US Army Corps of Engineers ®
Savannah District

DEPARTMENT OF THE ARMY
FACILITIES STANDARDIZATION PROGRAM

COMMAND AND CONTROL FACILITIES (C2F) AND OTHER ARMY HEADQUARTERS

STANDARD DESIGN

UFC 4-140-03
24 March 2015

Revision 3.2 Dated 24 Mar 2015

COMMAND AND CONTROL FACILITIES AND OTHER ARMY HEADQUARTERS STANDARD DESIGN

TABLE OF CONTENTS

3.0 [DIVISION] [CORPS] [NUMBERED ARMY (#A)], [ARMY COMMAND (ACOM)] COMMAND & CONTROL FACILITY

3.1 GENERAL REQUIREMENTS

3.1.1 Facility Description
3.1.2 Facility Relationships
3.1.3 Accessibility Requirements
3.1.4 Building Areas
3.1.5 Adapt Build Model

3.2 FUNCTIONAL AND OPERATIONAL REQUIREMENTS

3.2.1 Functional Spaces

3.3 SITE FUNCTIONAL REQUIREMENTS

3.3.1 Site Design

3.4 SITE AND LANDSCAPE REQUIREMENTS

3.5 ARCHITECTURAL REQUIREMENTS

3.5.1 Finishes and Interior Specialties

3.6 STRUCTURAL REQUIREMENTS

3.7 THERMAL PERFORMANCE – NOT USED

3.8 PLUMBING REQUIREMENTS - OMITTED

3.9 COMMUNICATION AND SECURITY SYSTEMS

3.10 ELECTRICAL REQUIREMENTS

3.11 HEATING, VENTILATING AND AIR-CONDITIONING (HVAC)

3.11.1 Mechanical Design

3.12 ENERGY CONSERVATION REQUIREMENTS

3.13 FIRE PROTECTION REQUIREMENTS

3.13.1 Fire Protection and Life Safety

3.14 SUSTAINABLE DESIGN – NOT USED

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

ATTACHMENTS

PART I

GENERAL DESIGN REQUIREMENTS

COMMAND AND CONTROL FACILITIES

AND

OTHER ARMY HEADQUARTERS

Revision 3.2 Dated 24 Mar 2015

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COMMAND AND CONTROL FACILITIES AND OTHER ARMY HEADQUARTERS

1.0 GENERAL CRITERIA. This standard design implements the Army Standards for both Command and Control Facilities (C2F) and the Army headquarters (Army HQ), hereinafter referred to collectively as the Army Standards, or individually: the C2F Standard or the Army HQ Standard. The criteria contained in this standard design are applicable to the planning, design, construction, and reuse for all Command and Control Facilities (hereafter referred to as C2F) with emphasis on mission requirements for Army Division (DIV), Corps (CORPS), Army Service Component Commands (ASCC) including Numbered Armies (#A), and Army Command (ACOM) Headquarters. The criteria contained in this Standard Design are additionally applicable to the planning, design, construction and reuse for all Army headquarters (hereafter referred to as Army HQ) for Direct Reporting Units (DRU) and primarily Table of Distribution and Allowance (TDA) organizations with an O6 or general officer (GO) in a designated command position/billet that are not addressed in other standards (e.g. Brigade HQ). These standards apply only to Echelons Above Brigade (EAB). Use the specific criteria contained in this Standard Design in conjunction with the other criteria referenced in this document.

1.1 STANDARDIZATION: The U.S. Army Corps of Engineers, Savannah District (CESAS) is the Center of Standardization (COS) for C2F and Army HQ. This standard design has two parts. Part I provides guidance to facilities planners and USACE districts / design agents. Part II contains the actual design criteria presented as a Request for Proposal (RFP) Statement of Work (SOW) format for use in procuring DIV, CORPS, #A, ASCC, DRU and ACOM Headquarters C2F or Army HQ after programming objectives and area determinations have been established. Part II is intended for use in conjunction with MILCON Business Process (previously MILCON Transformation) templates for other parts of the SOW. In accordance with ER 1110-3-113, the COS maintains the criteria in this standard design. Recommend consulting the COS when starting a project.

1.1.1 APPLICABILITY. The facilities governed by this standard design include functional elements from category codes 13131 (Information Processing Center), 14161 (Emergency Operations Center (EOC)), 14162 (Sensitive Compartmented Information Facility (SCIF)) 14182 (Brigade HQ) and 61050 (Administrative Space) as defined by DA PAM 415-28, however are grouped under a single facility category code for each one. If there is a conflict between this standard design and the facility descriptions for these category codes, the criteria in the applicable Army Standard take precedence.

A. The C2F for DIV, CORPS, #A, ASCC, and ACOM Headquarters governed by this standard design are under the single facility category code of 14190. The C2F Army Standard is applicable.

B. The Army HQ for DRUs and primarily Table of Distribution and Allowance (TDA) organizations commanded by an O6, a general officer (GO) or civilian equivalent governed by this standard design will be grouped under a single facility category code, 610XX (final FCC determination being coordinated by the Office of the Chief of Staff for Installation Management (OACSIM)). The Army HQ Army Standard is applicable. The Standard may apply to organizations such as U.S. Army Training and Doctrination Command (TRADOC) Schools or Army Material Command (AMC) Research and Development activities when combining command and staff functions with mission functions in a single (TDA), or in multiple collocated TDAs. Personnel positions associated with mission activities (e.g., instructors, research staff) that have allocations against mission space in other facility categories will not be included in space programming for the Army HQ portion of the requirement. See Attachment B: SPACE PROGRAM DEVELOPMENT for programming instructions.

1.1.2 PREVIOUS CRITERIA / BACKGROUND. On May 22, 2006, the Department of the Army Facilities Standardization Program issued UFC 4-140-03, Command and Control Facilities Standard Design to cover requirements for Division and Corps HQ. This standard design expanded to include Echelons Above Corps (EAC) headquarters activities with command and control (C2) missions through Army Command (ACOM) Headquarters. The Assistant Chief of Staff Installation Management (ACSIM) tasked the US Army Corps of Engineers (USACE) with further revisions to this standard design through their Savannah District Center of Standardization. This tasking was to include other TDA organizations with an O6 or General Officer Commander that were previously governed by the criteria for General Purpose Administrative Buildings as contained in Army Regulation (AR) 405-70, Utilization of Real Property. The co-chairs for Facility Design Team (FDT) responsible for defining the operational requirements for C2F and Army HQ are assigned by OACSIM (DAIM-ODO) and HQDA-G3/5/7 (DAMO-CIR).

1.2 CORE REQUIREMENTS: This standard design defines the core requirements for C2F and Army HQ. It provides the baseline C2F for Division through ACOM HQ and the baseline Army HQ for DRUs and certain other TDAs; and it provides guidance when the Army assigns an echelon of command additional mission responsibilities or staffing augmentation.

1.2.1 VARIABILITY: While the quality of the building is the same for each command, the scope for TDA organization is always unique. Variability may occur for Table of Organization and Equipment (TOE) units as well, based on mission or structure differences when approved by the proponent. Planners and programmers determine the scope by each command's approved personnel and equipment authorization documents. As such, the C2F or Army HQ core addresses the space allocations and functional adjacencies that meet the basic mission requirement for a C2F or Army HQ, fully staffed in accordance with approved Army organization documents (e.g., Objective Table of Organization and Equipment (OTOE) with TDA Augmentation when present, or approved TDA). Other service personnel or host nation military or civilians may also affect the final scope for a specific project, subject to the approval of the Headquarters Department of the Army (HQDA) proponent.

1.2.2 SECURITY ZONES: As defined here, security zones are intended to aggregate spaces based on the relative sensitivity of operational activities for space planning purposes. They do not alter, waive or otherwise justify deviation from the applicable Anti-Terror / Force Protection (AT/FP), information security, physical security, communications security or other security requirements outlined in this standard design and the references in paragraph 3.20. Security zones are an integral part of the internal requirements of the facility. The standard recognizes four security zones.

A. SECURITY ZONE 1 (SZ 1): Limited access for physical and personal security purposes allowing access for support staff and limited public access.

B. SECURITY ZONE 2 (SZ 2): Controlled Access for operational and information security purposes with electronic access control for C2F, and when justified by a risk assessment for Army HQ.

C. SECURITY ZONE 3 (SZ 3): Restricted Access (OPEN STORAGE) for Authorized Operational Staff Only - Restricted access area for classified operational and information security and certified for Open Storage as indicated below. Access is through a centralized access control point with electronic or mechanical access control. Security classification levels are as follows:

1) **Operations Center (OC)** – Security Classification Level of up to TOP SECRET for C2F and up to SECRET for Army HQ.
2) **Network Operations Center (NOC)** – Security Classification Level of up to TOP SECRET for C2F and up to SECRET for Army HQ.

3) **Sensitive Compartmented Information Facility (SCIF)**– Security Classification Level of TOP SECRET - SENSITIVE COMPARTMENTED INFORMATION (TS-SCI), when required.
4) **Senior Leader Planning Room** – Security Classification Level of up to TOP SECRET.

Note to Planner: Tactical SCI Vehicle Area for all Deployable Units, only.

5) **Tactical SCI Vehicle Area (TSVA)** – Security Classification Level of TOP SECRET- SENSITIVE COMPARTMENTED INFORMATION
6) **Executive Conference Room** - Classification Level of up to TOP SECRET for C2F and up to SECRET for Army HQ.

Note to Planner: Security Zone 4 normally applies to C2Fs Outside Continental United States (OCONUS) only and to Army HQ for procurement activities worldwide. Security Zone 4 may not be located within each Command and requires validation through the proponent prior to the development of the RFP. When a Command has an approved requirement such as a procurement authority or for foreign national staff, or uncleared personnel, Security Zone 4 may be authorized.

D. SECURITY ZONE 4 (SZ 4): Connected with the organization, but must be physically and operationally isolated from all other activities in the other security zones. Electronic access control may be provided when validated by local security assessment. Locate SZ 4 on the first floor to the maximum extent feasible and provide positive access safeguards to prevent inadvertent entry.

1) **Authorized Operational Staff (Non-US) Only** – Controlled access area for staff augmentation not cleared for access into SZ 2 & 3, or that require separation from other SZ 1 spaces. Acoustic (STC) controls may be provided when validated by the Commander for foreign nationals. Theater requirements determine space provided for non-US staff habitually supporting the Command with security classification-level equivalency.

2) **Authorized Procurement Authority Only**. Those commands with Army procurement authority requiring regular contractor negotiations or deliberations to maintain a competitive environment require SZ 4 space, i.e., separation from other SZ 1 spaces. When such commands use SZ 4 space for contract sensitive discussions or to maintain Competitive Source Selection environment, provide Not More Than (NMT) two (2) interior conference rooms (24 PN) with acoustic and physical separation.

1.3 SPACE PLANNING CRITERIA: The maximum gross areas for the C2F or Army HQ, including space for mechanical and other utility equipment, shall not exceed the areas for the applicable size set forth in this standard design (see Attachments A through F, as applicable to the particular program). This standard design determines administrative areas within the building by assigning a type of workspace for authorized personnel based on AR 405-70 and the Army Standard. Calculate area in accordance with the TI 800-01. The type of workspace assigned establishes the net area required to accommodate the functions as shown in Table 1.1 in Attachment A. The table additionally provides the applicable circulation factor to determine the total net area allowed for that function within the total scope of the building. Table 1.1 shows individual workspace / workstation allowances used to create the facility space programs in Attachments C through E. Use Table 1.1 in Attachment A to develop space programs for programs not included in Attachments C through E. A line-by-line review of requirements documents for deployable headquarters and of authorization documents for non-deployable headquarters determine admin space type allowances, including private and open office spaces within the SCIF, OC, and NOC, based on AR 405-70 and the Army Standard. Interviews with non-deployable headquarters

personnel will support determination of requirements for special use space. Attachment B, which parallels the process used to determine the scope for the C2F Attachments C through E, provides the step-by-step process to determine the space program for Army HQ. The codes in this table are used in the facility programs in the attachments. Table 1.1 contains codes for private office space within the SCIF, NOC, and OC. *Planner note: the SCIF, NOC, and OC should have few private offices, if any at all. Coordinate the justification for inclusion of private offices with the COS to ensure validity of the requirement.*

1.4 SPECIAL USE SPACES: Special use spaces for C2F in Attachments C-E are based on AR 405-70 and the Army Standard. Directorate, division, and branch level review determined special use space allowances, including those within the SCIF, OC, and NOC, based on requirements documents for deployable headquarters and authorization documents for non-deployable headquarters using the criteria contained in the Army Standards. When required for Army HQ or for C2Fs for organizations not addressed in the attachments, determine the program using procedures in Attachment B. Table 1.1 in Attachment A uses “program codes” to indicate several special uses as defined in Part II. Table 1.1 provides the standard sizes for common types of special use spaces. The assigned space allowance establishes the net area required to accommodate the functions, as shown in Table 1.1. The table provides the applicable circulation factor for each workspace within a work area to determine the Total Net Area allowed for that function within the total scope of the building. The “program codes” indicate whether the various types of special use spaces are in the NOC (Network Operations Center), OC (Operations Center) SCIF (Sensitive Compartmented Information Facility), and Special Technical Operations (STO) facility. The programs in the attachments contain additional information based on the needs of the various organizations.

1.5 AUDIO VISUAL EQUIPMENT: The A/V equipment listed in Part II, Statement of Work, paragraph 3.19.2.C., is a representative list of equipment that may be included in each of the spaces listed therein. The final list of equipment for each of the spaces shall be coordinated and updated by the RFP preparer with USAISEC and the Facility Design Criteria being developed by USAISEC for each of the Headquarters Facilities, or with the using activity.

1.6 WAIVERS: Where warranted due to specific mission needs, additional space may be provided as long as the needs are validated and approved through the process outlined in the latest edition of AR 420-1.

2.0 COMMAND AND CONTROL FACILITIES AND ARMY HEADQUARTERS

2.1 FUNCTION: The facilities covered by this standard design provide space for the command and control functions and other headquarters functions of Modular Force Divisions through Army Commands across all military missions and operations as well as throughout unit deployments in support of reach operations. These headquarters provide space as well for any other activities commanded by an O6 or equivalent civilian or above that is not specifically included in another facility type (e.g., Brigade Headquarters). The buildings provide the physical space and the global information grid connectivity needed for normal operations, collaborative planning, and routine and secure telecommunications.

2.2 DIVISION HEADQUARTERS: The Division is the Army's primary warfighting modular headquarters, commanded by a Major General. The modular Division is a self-contained headquarters with two deployable command posts and organic signal support. The Division will not have any organic forces beyond the elements that make up the headquarters and the special troops battalion. The Division Headquarters is fully deployable. The primary task of the Division is to direct operations of its subordinate Brigade Combat Teams. The modular headquarters contains the resources needed to comprise the Joint Force Land Component (JFLC) for smaller contingencies. With appropriate joint augmentation, it can serve as a Joint Task Force (JTF) headquarters. It normally consists of a headquarters of 545 personnel (PN), including civilians and contractors, and an organic Special Troops Battalion to provide combat service support (not included in the PN count and not housed in the C2F). The total count is based on the Table of Organization and Equipment (OTOE) 87000R000 (Division Headquarters) Administrative or special space is provided for a Main Command Post (MCP), a Tactical Command Post (TAC) and elements of the signal company of the Special Troops Battalion. Add an additional 82 PN with the presence of a Mission Support Element (MSE) when the commander is the senior mission commander on the installation. The civilian positions include administrative assistants, documents custodians or other augmentation for each of the staff elements except for the Inspector General. These numbers are based on typical augmentations and do not reflect a specific authorization document. The civilian augmentation also provides a safety staff for the headquarters that is not addressed in the TOE documentation.

2.3 CORPS HEADQUARTERS: The Corps is a command and control headquarters commanded by a lieutenant general. The modular Corps is a self-contained headquarters with two deployable command posts and organic signal support. It has no organic brigades or subordinate TOE units beyond the elements that make up the headquarters and the special troops battalion. The Corps will not have any organic forces. The Corps Headquarters is fully deployable, , consists of a headquarters of up to 628 PN, and is capable of functioning as a Joint Task Force (JTF) or a Joint Force Land Component Command (JFLCC). The modular Corps Headquarters is similar in size to a Division, having the same number of deployable command posts. Base the total count on OTOE 52400R000. This improves the strategic flexibility to provide exactly the right capabilities to support the Joint Force Commander. Any modular brigade combat team or combat support brigade may be assigned to any Corps without extensive task organization or augmentation.

2.4 ARMY SERVICE COMMAND COMPONENT (ASCC): ASCCs are primarily operational organizations that serve as Army components for combatant commands. The combatant commander can designate an ASCC as a joint forces land component command or joint task force. The ASCCs include U.S. Army North, U.S. Army South, U.S. Army Europe, U.S. Army Central, U.S. Army Pacific, U.S. Army Africa, Eighth U.S. Army, U.S. Army Special Operations Command, Military Surface Deployment and Distribution Command, and Army Space and Missile Defense Command / Army Forces Strategic Command.

2.4.1 NUMBERED ARMY (#A): The Numbered Army, a type of ASCC, is a regionally focused Army theater-level MTOE headquarters that directly supports the Regional Combat Commanders (RCC). The staff size varies based on the RCC requirements. The Numbered Army is the primary vehicle for support to the entire region as well as Army, joint, and multinational forces deployed to a joint operational area (JOA). Typically, the armies will

have civilian augmentation (Tables of Distribution and Allowances (TDA)). The level of augmentation varies depending on the authorized strength of the TOE portion of the Army HQ, geographic locations and special missions from AR 10-87. The Objective Army, with a "typical" civilian augmentation, has a required strength of just over 1300 personnel including up to 200 personnel who require special operational space in the SCIF, Network Operations Center/Theater Network Operations Security Center (NOC) or Operation Center (OC).

2.4.2 Other ASCCs support Specified Commands and are TDA organizations tailored to their specific missions.

2.5 DIRECT REPORTING UNITS (DRUS): Direct reporting units consist of one or more units that have institutional or operational functions. These units provide broad, general support to the Army in a single, unique discipline not available elsewhere in the Army. The direct reporting units include the Army Network Enterprise Technology Command/9th Signal Command (Army), Army Medical Command, Army Intelligence and Security Command, Army Criminal Investigation Command, Army Corps of Engineers, Military District of Washington, Army Test and Evaluation Command, U.S. Military Academy, Army Reserve Command, Army Acquisition Support Center, and Army Installation Management Command. *See paragraph 2.8 below.*

2.6 ARMY COMMAND (ACOM) HEADQUARTERS: Army commands perform many Title 10 functions across multiple disciplines. The Army commands include the Army Materiel Command, Army Forces Command, and Army Training and Doctrine Command.

A. US ARMY MATERIAL COMMAND (AMC): The United States Army Materiel Command provides superior technology, acquisition, support and logistics to ensure dominant land force capability for soldiers, the United States, and our Allies.

B. US ARMY FORCES COMMAND (FORSCOM): The United States Army Forces Command trains, mobilizes, deploys, sustains, transforms, and reconstitutes assigned conventional forces, providing relevant and ready land power to combatant commanders. U.S. Army Forces Command (FORSCOM) is also an operational level Army force designated by the Secretary of the Army as the ASCC to U.S. Joint Forces Command (USJFCOM).

C. US ARMY TRAINING AND DOCTRINE COMMAND (TRADOC): The United States Army Training and Doctrine Command recruits, trains, and educates the Army's Soldiers; develops leaders; supports training in units; develops doctrine; establishes standards and builds the future Army.

2.7 ARMY HQ INTERNAL ORGANIZATION (AND GENERALLY FOR C2F): Each organization authorized an Army HQ is unique. Develop a single consolidated space program for **all** intended building occupants to achieve maximum efficiency of shared and support (e.g., mechanical / electrical) spaces using the procedures outlined in Attachment B. Because each organization is unique, standard adjacency diagrams are not available. Figure 1 in Attachment A shows general relationships that can be used to create adjacency models during scoping, programming or planning charrettes or unit interviews. Each circle represents a group of functions typical in most organizations. Few organizations will have all of the functions listed in a given circle. In general, there is either a positive correlation or compatibility between the activities in a given circle. The activities encircled with dotted lines will not always be present. The command group circle includes the functions associated with the office of the commander and the commander's personal staff. The Security Zone 1 circle represents activities, which when present, are usually accommodated in SZ1. The Security Zone 1 and 2 circles include activities that may be in either, depending on the sensitivity or security classification of the mission and functions associated with the organization. The "mission / functional" designation listed in that circle indicates that many organizations will have divisions or directorates distinct to that organization based on their design mission and functions. Locate the supply / bulk storage / equipment maintenance / loading dock area, when authorized, away from the primary entrance and provide generally accessibility to SZ1 and SZ2. Consider

noise and circulation impacts on the adjacent areas. Adjacency to the command group is not required.

2.8 SIZE AND SPACE ALLOCATION: The C2F and Army HQ size and space allocations vary based on the type of headquarters for which it is intended and the needs of the using unit. The summary and detailed programs for C2Fs are included in Attachment C through E to Part II – Statement of Work. An electronic version of each program is available from the USACE COS website at http://mrsi.usace.army.mil/cos/SitePages/Home.aspx. Attachment B provides step-by-step processes for developing Army HQ space programs that may also be applied to C2F for activities not addressed in Attachments C through E.

2.9 RELATIONSHIP OF THE C2F TO OTHER OPERATIONS COMPLEX FACILITIES: Facility siting shall comply with installation zoning to improve activity compatibility. Other operational facilities associated with a C2F complex include Battalion Headquarters (BN HQ) for a Special Troops Battalion, Company Operations Facilities (COFs) for Headquarters, Signal, and Military Intelligence Companies, and a Tactical Equipment Maintenance Facility (TEMF) for vehicles and equipment associated with these organizations. The BN HQ, COF, and TEMF should be located adjacent to the C2F. Force Protection measures must be met. However, additional building hardening above the minimum requirements outlined in Force Protection directives are not required as long as established setback distances are met. Specific requirements for the BN HQ (CC 14183), the COF (CC 14185), the TEMF (CC 21410), and the organizational parking (CC 85210) are addressed in separate standard designs for those facilities. Refer to the Idealized Site Plan (Figure 2.11) for a graphic representation of the relationship between Operations Complex Facilities. The ideal overall C2F site shall provide an exterior ceremonial space, an antenna farm, a helipad, a loading and service area, parking for organizational vehicles, and a controlled access vehicle parking area. <REV>Also, another important site consideration is the need for potential sites to be measured in coordination with the DPW master planner, unit, and the Tactical Equipment Program of Record Manager during the initial project planning stage in order to properly capture future SCIF and/or OC/NOC tactical satellite line of site (LOS) orientation requirements associated with the C2F Tactical SCIF Vehicle Area (TSVA). This will identify requirements for a clear unobstructed satellite line of site (LOS) direction, which must include minimum/maximum angle from the horizon.</REV>

2.10 RELATIONSHIP OF THE ARMY HQ TO OTHER OPERATIONS COMPLEX FACILITIES: Facility siting shall comply with installation or community zoning to improve activity compatibility. The Army HQ may - *or may not* - be located in a complex. If the Army HQ has a complex associated with it, other operational facilities in an Army HQ complex may include BN HQ for a Special Troops Battalion, COFs for Headquarters, Signal, and Military Intelligence Companies, and a TEMF for vehicles and equipment associated with these organizations. In the case of Army Schools, there may also be instructional facilities. The BN HQ, COF, TEMF, and instructional facilities (when required) should be located adjacent to the Army HQ in these cases. Force Protection measures must be met. However, additional building hardening above the minimum requirements outlined in Force Protection directives are not required as long as established setback distances are met. Specific requirements for the BN HQ (CC 14183), the COF (CC 14185), the TEMF (CC 21410), and the organizational parking (CC 85210) are addressed in separate standard designs for those facilities. Refer to the Idealized Site Plan (Figure 2.11) for a graphic representation of the relationship between Operations Complex Facilities. The ideal overall Army HQ site shall provide an exterior ceremonial space, an antenna farm (when required), a helipad (when required), a loading and service area, parking for organizational vehicles, and a controlled access vehicle parking area.

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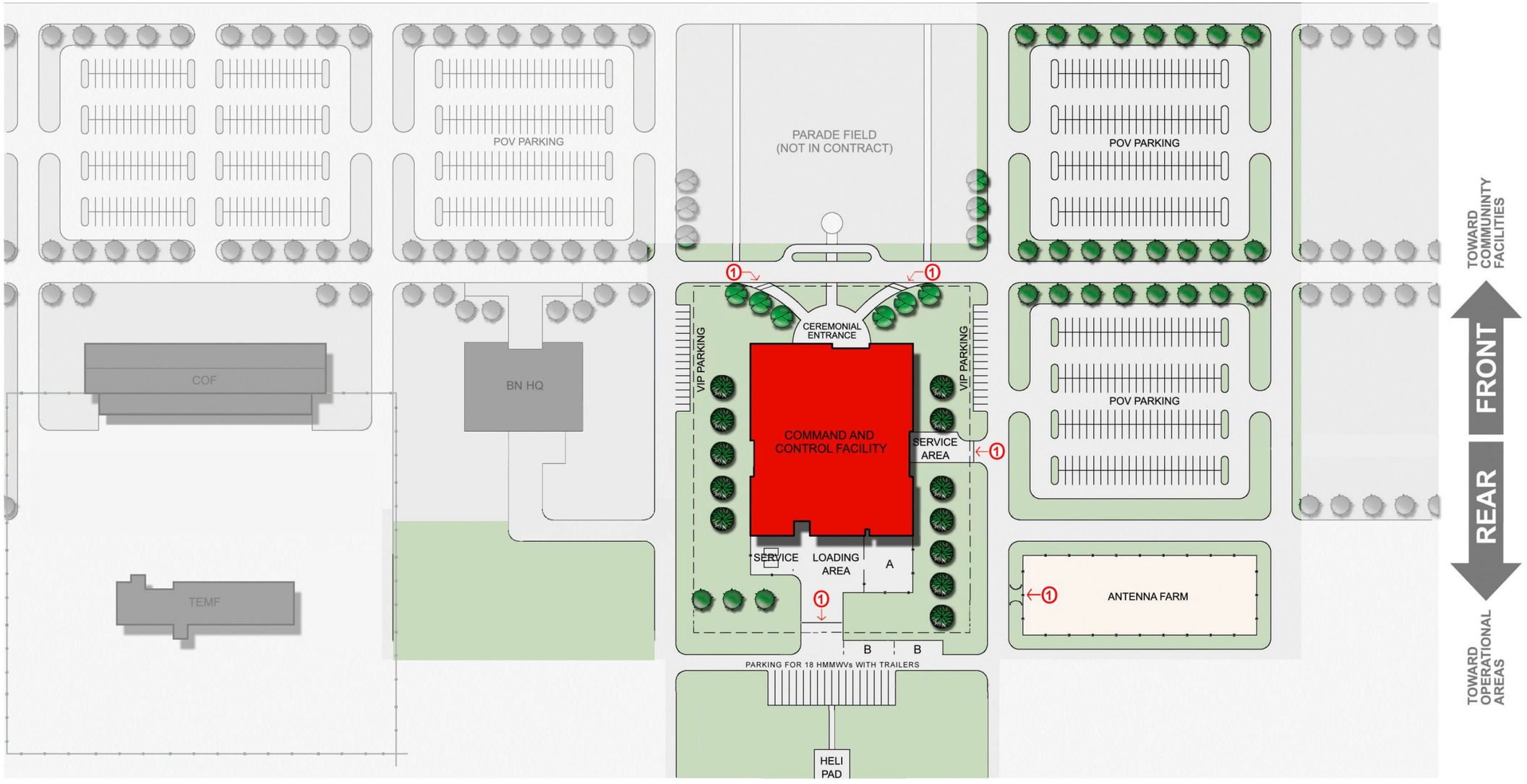
2.11 C2F SITE PLAN. The following is an example of an idealized site plan for the Command and Control Facility. This plan is only intended to serve as an example and shall not be presented to a proposer.

Figure 2.11: Idealized Site Plan



COMMAND AND CONTROL FACILITY
IDEALIZED SITE PLAN

SITE DESIGN ITEMS THAT ARE AN ESSENTIAL PART OF THE FACILITY ARE SHOWN IN COLOR

SITE DESIGN ITEMS THAT ARE AN OPTIONAL PART OF THE FACILITY ARE SHOWN IN GRAY TONES

① CONTROLLED ACCESS

A - TSVA-6 HMMWVs WITH TRAILERS
B - TACTICAL VEHICLE TRAILER INSPECTION

150 100 50 0 100 200 300

GRAPHIC SCALE: 1" = 150'-0"

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2.12 REFERENCES:

(1) AR 10-87 Organization and Functions Army Commands, Army Service Component Commands, and Direct Reporting Units.

(2) AR 405-70, Utilization of Real Property.

(3) AR 420-1, Army Facilities Management.

(4) DA PAM 415-28, Facility Guide To Army Real Property Category Codes.

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PART II

STATEMENT OF WORK

[Directions for use and editing: review and delete prior to delivery of completed Request For Proposal (RFP) to Design/Build Offeror.]

[This portion of the document contains scope and other specific design information about the Command and Control Facility or Army headquarters. It is organized in a manner that enables the planner/RFP preparer to delete selected item that do not apply to their specific project. The document should be used as follows:

(1) Paragraph 3.1: Modify the portions of the narrative in the brackets ([___]).

(2) Paragraph 3.2: Modify the portions of the narrative in the brackets ([___]).

(3) Paragraph 3.3: Modify the portions of the narrative in the brackets ([___]).The schematic layouts in the attachments are provided to illustrate required functional requirements and adjacencies for Division thru Numbered Army facilities. If revisions are required beyond the options indicated, the RFP Preparer shall contact the Center of Standardization.

(4) Paragraph 3.4 – 3.18: Modify the portions of the narrative in the brackets ([___]).

(5) Paragraph 3.19 : Modify the portions of the narrative in the brackets ([___]). The A/V equipment listed is representative of equipment that may be included in each of the spaces listed. The final list of equipment for each of the space shall be coordinated and updated by the RFP preparer in conjunction with the user and with the Facility Design Criteria being developed by USAISEC for each of the Headquarter Facilities.

(6) Paragraph 3.20: Keep this section in entirety.

In addition to paragraphs 1 - 6, use of this standard design may include information from Attachments A through F.

Attachment A	Programming Support Information
Attachment B	Space Program Development
Attachment C	Division/Corps (DIV/CORPS) Programming Requirements
Attachment D	Numbered Army (#A) Programming Requirements
Attachment E	Army Command (ACOM) Programming Requirements
Attachment F	Other Army Headquarters (Army HQ) Programming Requirements

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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 for a company operations facility should be consistent with the design and construction of an office/warehouse building.

Comparison of Military Facilities to Civilian Facilities

Military Facility	Civilian Facility
Command and Control Facilities (C2F) or Army headquarters (Army HQ)	Combination Corporate Office or Municipal Administration Building with Emergency Operations Center

It is the Army's objective that these buildings will have a 25-year useful design life before a possible re-use/re-purpose or renovation requirement, to include normal sustainment, restoration, modernization activities and a 50-year building replacement life. Therefore, the design and construction should provide an appropriate level of quality to ensure the continued use of the facility over that time period with the application of reasonable preventive maintenance and repairs that would be industry-acceptable to a major civilian sector project OWNER. The site infrastructure will have at least a 50-year life expectancy with industry-accepted maintenance and repair cycles.

The project site should be developed for efficiency and to convey a sense of unity or connectivity with the adjacent buildings and with the Installation as a whole.

Requirements stated in this contract 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 will expedite construction (panelization, pre-engineered, etc.) and shorten the schedule. **The intent of the Government is to emphasize the placement of funds into functional/operational requirements. Materials and methods should reflect this by choosing the lowest Type of Construction allowed by code for this occupancy/project allowing the funding to be reflected in the quality of interior/exterior finishes and systems selected.**

1.1 SECTION ORGANIZATION

This Section is organized under six (6) major “paragraphs”.

A. Paragraph 1 is intended to define the project objectives and to provide a comparison between the military facility(ies) and comparable “civilian” type buildings.
B. Paragraph 2 describes the scope of the project.
C. Paragraph 3 provides the functional, operational and facility specific design criteria for the specific facility type(s) included in this contract or task order.
D. Paragraph 4 provides the design and construction criteria applicable to all standard buildings.
E. Paragraph 5 provides the general technical requirements applicable to all standard buildings.
F. Paragraph 6 provides the requirements for the project, which are specific to the location and specific project.

2.0 SCOPE

2.1. COMMAND AND CONTROL FACILITIES AND OTHER ARMY HEADQUARTERS

Provide a headquarters and command operations facility (hereafter headquarters or HQ). This project type shall provide facilities to accommodate [Division][Corps][Numbered Army (#Army)][Army Service Component Command (ASCC)][Direct Reporting Unit][(other Army HQ)][Army Command (ACOM)] headquarters and command operations. It is intended to be similar to a combination corporate headquarters or municipal administration facility, and an emergency operations center in the civilian sector community. The maximum gross area for the HQ in the project is limited to [____] square feet (SF).

The project will include [an antenna farm,][a helipad,][Tactical Sensitive Compartmented Information (SCI) Vehicle Area (TSVA) for Tactical Vehicle parking,][and] loading and service areas.

[Corps, Division, and some other deployable command HQ also require other unit operational facilities such as Battalion HQ, Company Operations Facilities, and Tactical Equipment Maintenance Facilities. Requirements for these facilities are included in a separate solicitation and NOT in the scope of this project.] [Other support facilities included in the scope of this project consist of the following: _____. Requirements for these facilities are provided in Section 01 10 00, Paragraph 6.]

2.2. SITE:

Provide all site design and construction within the HQ limits of construction necessary to support the new buildings and supporting facilities. Supporting facilities include, but are not limited to, utilities, electric service, exterior and security lighting, fire protection and alarm systems, security fencing and gates, water, gas, sewer, 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. Repair / replace damage to existing sidewalks, pavements, curb and gutter, utilities, and / or landscaping within the construction limit, adjacent to the construction site, and along the Contractor's haul route resulting from the Contractor's construction activities at no additional cost to the Government. Prior to construction activities, the Contractor and Contracting Officer Representative shall perform an existing condition survey. At the completion of the Task Order, the Contractor and Contracting Officer representative shall perform a final condition survey to determine repair/replacement requirements.

Approximate area available for this (these) facility(ies) is shown on the drawings.

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

Coordinate with Government on GFGI item requirements and provide suitable structural support, brackets for projectors/VCRs/TVs, all utility connections and space with required clearances for all GFGI items. Fire extinguishers are GF/GI personal property, while fire extinguisher brackets and cabinets are Contractor furnished and installed CF/CI. Include tables/cabinets/ etc. for GFGI equipment that is not freestanding in furniture design. All computers along with related hardware, copiers, faxes, printers, video projectors, VCRs and TVs microwave ovens, and fire extinguishers are GFGI.

The following items are GFGI:

Computers and associated peripheral hardware

Printers

Interactive whiteboard, projectors, and manual projector screens.

Switches and servers for communications room

Modular workstations, conference room tables and chairs, credenzas, free standing shelving podiums and cabinets.

Break room furniture and vending machines.

[Additional GFGI items will be provided in the project task orders]

Facility Data (e.g., routers, switches, modems) equipment, facility telephone switch equipment, associated equipment racks/cabinets, and any required UPS systems; radio transmitting equipment, racks/cabinets and associated antenna and wiring (raceway to be provided by design); front end equipment and equipment racks associated with CATV/CCTV/Satellite TV, and separate front end audio equipment not associated with a Combined Mass Notification and Paging System.

2.4. FURNITURE REQUIREMENTS

Provide furniture design for all spaces listed in Chapter 3 and including any existing furniture and equipment to be re-used. Coordinate with the user to define requirements for furniture systems, movable furniture, storage systems, equipment, any existing items to be reused, etc. Early coordination of furniture design is required for a complete and usable facility.

The procurement and installation of furniture is NOT included in this contract. Furniture will be provided and installed under a separate furniture vendor/installer contract. The general contractor shall accommodate that effort with allowance for entry of the furniture vendor/installer onto this 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) of this project. The furniture vendor/installer contract will include all electrical pre-wiring and the whips for final connection to the building electrical systems however; the general contractor shall make the final connections to the building electrical systems under this contract. Furthermore, the general contractor shall provide all Information/Technology (IT) wiring (i.e. LAN, phone, etc.) up to and including the face plate of all freestanding and/or systems furniture desk tops as applicable, the services to install the cable and face plates in the furniture, the coordination with the furniture vendor/installer 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 (CF/CI). CF/CI furniture will require competitive open market procurement by the Contractor using the Furniture, Fixtures and Equipment (FF&E) package.

3.0 [DIVISION] [CORPS] [NUMBERED ARMY (#A)] [ARMY SERVICE COMPONENT COMMAND] [DIRECT REPORTING UNIT (DRU)] [ARMY COMMAND (ACOM)] [COMMAND & CONTROL FACILITY] [_____] HEADQUARTERS

3.1 GENERAL REQUIREMENTS: Provide a [Division][Corps][Numbered Army (#A)] [Army Service Component Command][Direct Reporting Unit (DRU)] [Army Command (ACOM)] [C2F][_____] headquarters: This project shall provide facilities to accommodate administrative and command operations. It is intended to be similar to a combination corporate headquarters or municipal administration facility with an emergency operations center in the civilian sector community.

3.1.1 FACILITY DESCRIPTION: The preferred arrangement is a multi-story, stand-alone facility organized around the central core consisting of stairs, elevators, men's and women's restrooms, telecommunication rooms and other support spaces such as break rooms, storage, recycle rooms, etc., as depicted in the preferred functional layout included with this RFP. General office space is broken into organizational elements and is grouped by security zones.

A. The Operations Center (OC),[and] [Network Operations Center (NOC)], [and Sensitive Compartmented Information Facility (SCIF)][, including the Special Technical Operations (STO) facility area,] must be collocated.[The SCIF must be accessible to tactical vehicles.] The OC,[and] [NOC], [and SCIF]must be structured to ensure survivability against local anticipated climatic conditions, such as earthquakes, tornados, hurricanes or flooding.

B. The program table included in this document assigns space for break rooms, storage rooms and conference rooms. The preferred locations and distribution of these spaces are [depicted in the layout included with this RFP][consistent with principles in Figure 1 in Attachment A][to be determined in the design charrette]. The Command Conference room shall be located adjacent to the Commander's suite, and shall not be consolidated with any other conference space.

3.1.2 FACILITY RELATIONSHIPS: Facility siting shall comply with installation zoning to improve activity compatibility. [Other operational facilities associated with a C2F complex include Battalion Headquarters (BN HQ) for a Special Troops Battalion, Company Operations Facilities (COFs) for Headquarters, Signal, and Military Intelligence Companies, and a Tactical Equipment Maintenance Facility (TEMF) for vehicles and equipment associated with these organizations. The BN HQ, COF, and TEMF should be located adjacent to the C2F. Force Protection measures must be met.] Building hardening above the minimum requirements outlined in Force Protection directives are not required as long as established setback distances are met. [Specific requirements for the Battalion HQ (CC 14183), the COF (CC 14185), the TEMF (CC 21410), and the organizational parking (CC 85210) are addressed in separate standard design documents for those facilities.][Refer to the Site Plan included with the RFP for a graphic representation of the relationship between Operations Complex facilities.]The idealized overall site shall provide an exterior ceremonial space, [an antenna farm,][a helipad,]a loading and service area, and controlled access parking for organizational vehicles.

3.1.3 ACCESSIBILITY REQUIREMENTS: The facility shall be accessible to the physically handicapped.

3.1.4 BUILDING AREAS: Gross areas of the facility shall be computed according to <REV> UFC 3-101-01, Section 2-2, Building Area Calculations.</REV> Maximum gross area

limits indicated in Paragraph 2.0, SCOPE, may not be exceeded. A smaller overall gross area is permissible if all established net area program requirements are met.

<REV> </REV>

3.1.5 ADAPT BUILD MODEL: Not applicable.

3.2 FUNCTIONAL AND OPERATIONAL REQUIREMENTS

3.2.1 FUNCTIONAL SPACES: Net area requirements for functional spaces are included in the [drawings][space program]. If net area requirements are not indicated, the space shall be sized to accommodate the required function, comply with code requirements, comply with overall gross area limitations and other requirements of the RFP (for example, area requirements for corridors, stairs, and mechanical rooms will typically be left to the discretion of the Offeror).

A. GENERAL: The headquarters shall consist of three broad categories of space: administrative space, secure operational space / special space, and building support space. These are described below and more fully in the programmatic requirements Attachment [DIVISION/CORPS] [NUMBERED ARMY (#A)] [ARMY COMMAND (ACOM)] [DRU / TDA HQ].

1) **Administrative Space:** Grouped by function, these spaces consist of the following: Command Group and Personal Staff, Coordinating and Special Staff. The following administrative space may be located in all security zones.

a) **Private offices:** Provide private offices for staff principles as outlined in the programmatic requirements in Attachment [DIVISION/CORPS] [NUMBERED ARMY (#A)] [ARMY COMMAND (ACOM)] [DRU / TDA HQ].

[Note to RFP preparer: Utilize the 8'-0" x 8'-0" workstation for Army Commands. Utilize the 6'-0" x 8'-0" workstation for all other headquarters.]

b) **Open office areas:** The program for open office areas is predicated on a [6'-0" X 8'-0" with a 100% circulation factor][8'-0" X 8'-0" with a 60% circulation factor] workstation.

c) **Admin support spaces**: Provide centralized areas for photocopier, laser printer, and fax machine with waste and paper recycling receptacles and storage cabinets or closets for paper and general office supplies in each office area.

2) **Secure Operational and Special Spaces:** Secure operational spaces include: Operations Center (OC), [Sensitive Compartmented Information Facility (SCIF),] and [Network Operations Center (NOC)]. Special spaces include spaces that require the installation of special equipment, such as planning rooms, briefing room, lobby and storage / receiving associated with secure operational areas.

3) **Building Support Spaces:** Building support spaces include mechanical, electrical, telecommunications, circulation, storage and receiving, recyclable storage room, restrooms and similar support areas[, as depicted in the layouts included with this RFP].

B. SECURITY ZONES: The building is organized around [three][four] security zones as described below. Security zones are intended to aggregate spaces based on the

relative sensitivity of operational activities for space planning purposes. It does not alter, waive, or otherwise justify deviation from applicable Anti-Terrorism / Force Protection (AT/FP), information security, physical security, communications security, or other security requirements outlined in this standard design and the references in paragraph 3.20. These zones are first delineated by physical security access considerations, with secondary consideration for information handling / classification limitations. All primary spaces (see paragraph 3.2.1.C.) and common areas (see paragraph 3.2.1.D.) are within one or more of the security zones. The Space Program will designate applicable security zones. The following paragraphs provide an overview of the security zones.

[Note to RFP preparer: CHOOSE THE FOLLOWING PARAGRAPH FOR ALL C2F. However, inclusion of this paragraph for DRU / TDA HQ will be determined on a case by case basis. DRU / TDA HQ typically do NOT require OPEN STORAGE throughout the building, and in many cases, may not have a need for OPEN STORAGE in any portion of the facility. The mission drives the requirement for OPEN STORAGE. See approved mission statements for the specific DRU / TDA HQ to determine the need for construction IAW AR 380-5.]

[However, note that other than the SCIF, whose requirements are defined below, the entire C2F building, all staff sections, shall be designed and constructed in accordance with AR 380-5 to support an internal configuration of OPEN STORAGE up to a level of SECRET, or as otherwise indicated below.]

1) **Security Zone 1 (SZ 1):** Limited access for physical and personal security purposes allowing access for support staff and limited public access. This zone may include, but is not limited to: Ceremonial / Screening Area, Briefing / Conference Room, Command Group, Reenlistment, Command LNO, Chaplain, Surgeon / Medical, Legal, Inspector General, Public Affairs, Sustainment, Special Staff (except Red Team), Safety activities, and general admin space.

2) **Security Zone 2 (SZ 2):** Controlled Access for operational and information security purposes[with electronic access control]. This zone includes, but is not limited to: Intel, Movement & Maneuver, Fires, Protection (except PMO), Command and Control.

3) **Security Zone 3 (SZ 3):** Authorized Operational Staff Only - Restricted access area for classified operational & information security and certified for OPEN STORAGE to SECRET. The number of access points to each of the spaces in SZ 3 shall be limited to the fewest number possible to accommodate operational requirements with electronic access control. The extent of the Security Zone 3 perimeter shall be as depicted on the drawings included with this RFP. The SCIF shall be designed and constructed (with a provided independent electronic access control system) for accreditation in accordance with ICS 705-1 and Office of the Director of National Intelligence – Intelligence Community Standard Number 2009-705-1. Excluding the SCIF, all other areas identified below shall be designed and constructed as a “secure room” in accordance with AR 380-5. The required Security Level for each area shall be as follows:

[Note to RFP preparer: Except for SCIFs and TSVA, select SECRET for DRU / TDA HQ unless the proponent has validated the requirement for TOP SECRET. Select TOP SECRET for ACOM or equivalent C2Fs. For other C2Fs, select levels as validated in the requirements analysis or planning charrette.]

a) **Operations Center (OC)** – Security Classification Level of [TOP

SECRET][SECRET].

b) **[Not Used.]** [**Network Operations Center (NOC)** – Security Classification Level of [TOP SECRET][SECRET]].

c) **[Not Used.][Sensitive Compartmented Information Facility (SCIF)** – Security Classification Level of TOP SECRET - SENSITIVE COMPARTMENTED INFORMATION.]

d) **[Not Used.][C2F Senior Leader Planning Room (War Room)** – Security Classification Level of TOP SECRET.]

e) **Executive Conference Room** - Classification Level of [TOP SECRET][SECRET].

[Note to RFP preparer: Tactical SCI Vehicle Area for all Deployable Units]

f) **[Not Used][Tactical SCI Vehicle Area (TSVA)** – Security Classification Level of TOP SECRET-SENSITIVE COMPARTMENTED INFORMATION]

[Note to RFP preparer: Coordinate need and location of Security Zone 4 with user for OCONUS or headquarters employing foreign national staff or for headquarters authorized as Procurement Agents or having Source Selection missions.]

4) **[Not Used][Security Zone 4 (SZ 4):** Authorized Foreign National (Non-US) Operational Staff Area – Area for augmentation staff not cleared for access into other security zones, i.e. space for non-US staff habitually supporting the Command with security classification level equivalency determined by theater requirements. SZ 4 shall be located on the first floor to the maximum extent feasible. Provide access safeguards to prevent unauthorized or inadvertent entry of SZ 4 personnel into other areas of the facility, specifically SZ 1 through SZ 3, as determined by the commander and/or local security officer. SZ 1 through SZ 3 personnel with work-related requirements are typically afforded access to SZ 4.]

5) **[Not Used][Security Zone 4 (SZ 4):** Authorized area for Army Materiel Command, Medical Command, Army Corps of Engineers, and Special Operations Headquarters designated as Procurement Agents. When the Army designates an organization as a procurement activity, and confers contract negotiation authority, or designates it as Command Procurement or Source Selection Authority, space is provided up to the security classification level required NTE SECRET. SZ 4 shall be located on first floor to the maximum extent feasible with separate access directly from the Lobby Area after clearing the reception desk and security screen. Provide access safeguards to prevent unauthorized or inadvertent entry of SZ 4 visitors (usually contractors or vendors) into SZ 1 through SZ 3, as well as unauthorized or inadvertent entry of unauthorized SZ 1 through SZ 3 personnel into SZ 4 during sensitive procurement activities, such as source selection.]

6) **See Figure 1 in Attachment A for adjacency concepts.** [See the C2F Adjacency Matrix in the Attachment [DIVISION/CORPS] [NUMBERED ARMY (#A)] [ARMY COMMAND (ACOM)] [DRU / TDA HQ for the particular office functions included in each security zone and for description of the security zones.]

C. PRIMARY SPACES:

1) **Main Lobby / Reception Area (SZ 1):** An entry lobby shall be provided in a location that allows it to serve as an access control area for the building and to support access to and egress from the briefing room. The space shall be designed to accommodate card readers, metal detectors and visitor pass issue. [For C2F, the space shall be large enough that a population equal to the capacity of the briefing room can be accommodated in the space without interfering with access control operations for the remainder of the building.][For DRU / TDA HQ, base the size and capacity of the lobby on the total capacity of the building. As a planning factor, allow 2,000 NSF for buildings with a capacity of 2,000 PN or more. For smaller buildings, allow 500 NSF plus one (1) NSF per person over 500 PN, rounded up in increments of 25 NSF. For buildings with a capacity of more than 2,500 PN, add one (1) NSF per person over 2,500 PN, rounded up in increments of 25 NSF.] A workstation area for a minimum of two (2) persons shall be provided for security access control. This area shall be centrally located and have a clear line of sight for visual control of the primary entrance and main lobby. Work area shall be provided with voice and LAN connectivity, visual monitoring, and key control storage. Provide an air lock entry vestibule from the exterior to comply with energy conserving mandates. Also provide a security office area, adjacent to the reception area and staff duty office, with direct access to the main lobby. This area shall consist of: reception counter with gated access, an open office area to accommodate (2) workstations, and (1) private office.

2) **Operations Center (OC) (SZ 3).** The Operations Center is a secure area with restricted access. The OC is similar to an emergency operations center in a city or county. Each representative of the various staff agencies shall have a workstation connected to all critical networks. The OC shall accommodate Government furnished audio-visual display television screens and monitors (wall of knowledge). In addition to the main floor, the OC provides areas adjacent to the floor for smaller collaborative meetings and a mezzanine area for observers. The OC shall be located with proximity to the G-3 and isolated from non-operational traffic to the extent possible. It should have access to a loading area to assist in transferring equipment to vehicles or trailers during deployments.

   a) [The C2F OC shall consist of a two-story space with unobstructed site lines to visual displays.]Careful consideration shall be taken in the planning of the acoustical properties of the OC. Non-parallel walls are recommended to aid in the diffusion of sound. If the shape of the structure does not offer the appropriate room sound characteristics, sound diffusing absorption material shall also be used to control echo and reverberation. The OC shall be column free to the greatest extent feasible to maintain clear lines of sight to visual displays. Space for marker boards shall be provided below the visual displays. Diffused daylight may be provided in the space through clerestory (non-operable) windows or similar architectural elements, provided anti-terrorism/force protection requirements are met. Where windows are provided, “automatic blackout shading control systems” shall be provided. All lighting shall be zoned and interfaced to a control system (refer to paragraph 3.10.C.2).) Provide sound insulation in accordance with paragraph 3.5.E.

   b) The main floor (non-sloping) shall be on one level, with raised access flooring to accommodate changing the equipment and the room layout. If tiered/stadium seating is installed, it should be the type that can be removed to support reconfiguration and/or re-purposing of the space. The bottom edge of any display screen and/or monitor (wall of knowledge) shall be at an appropriate height from floor surface to ensure unobstructed site

lines to visual displays. In addition, this area shall be free of support columns. Refer to the program for required number and size of workstations. These workstations shall be sized to accommodate at least two individuals each, in a lecture-style arrangement, with clear sight lines to the wall of knowledge. Provide collaborative, multi-purpose OC Planning Rooms adjacent to the OC.

c) Space for observers shall be provided on a second floor / balcony or mezzanine at the rear of the room with access provided in a manner that minimizes traffic through operational areas. The balcony / mezzanine area shall be a minimum of 15'-0" deep and span across the entire length of the OC.

d) The OC shall be constructed to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.D.

e) The OC shall be constructed to meet requirements for [TOP SECRET][SECRET] classification and shall be constructed in accordance with Section III, subparagraph 7-13 (b) of AR 380-5 with electronic access control at each entrance. Provide sound insulation in accordance with paragraph 3.5.E.

3) **[Not Used.] [Network Operations Center (NOC) (SZ 3):** The Network Operations Center is a secure area with restricted access. The NOC is the area where G-6 personnel and personnel from supporting activities perform network control operations. It directly supports the SCIF and the OC as well as providing general support to the internal telecommunications of the rest of the building. The Network Operations Center (NOC) is subdivided to include both open office space and a computer equipment / server room. The equipment room shall have racks mounted on the raised access floor, anchored through the floor to the concrete sub-floor, with underfloor cable trays. This space shall also accommodate secure communication cabinets as defined in the Information Systems Facility Design Criteria (FDC). The NOC shall be close to the OC and antenna farm to minimize cable lengths. **]**

a) The NOC shall be constructed to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.E.

b) The NOC shall be constructed to meet requirements for [TOP SECRET][SECRET] and constructed in accordance with Section III, subparagraph 7-13 (b) of AR 380-5 with electronic access control at each entrance. Provide sound insulation in accordance with paragraph 3.5.E.

[Note to RFP preparer: Check space program as to whether the Army HQ requires SCIF space.]

4) **[Not Used.][COMSEC Room.** Provide a COMSEC Room in conjunction with the NOC. Construction shall meet SECURE ROOM standards per AR 380-40.]

5) **[Not Used.][Sensitive Compartmented Information Facility (SCIF) (SZ3).** The SCIF is a secure area with restricted access that stores and processes classified information. The SCIF shall be designed and constructed for accreditation in accordance with ICS 705-1 and Office of the Director of National Intelligence – Intelligence Community Standard Number 2009-705-1 for TOP SECRET/Sensitive Compartmented Information (TS/SCI). [Additionally, a Special Technical Operations (STO) facility shall be included within the C2F

SCIF, and consists of a STO Office, Open Office Area to support three (3) workstations, and a STO VTC/Conference Room and shall be designed and constructed in accordance with Joint Air Force-Army-Navy (JAFAN) Manual 6/9 for use as a Special Access Program Facility (SAPF).] Continuous radio frequency (RF) shielding shall be provided at all perimeter walls with construction in accordance with ICS 705-1 "Standard Acoustic Wall Construction", in accordance with paragraph 3.5.E. Furthermore, all conference / teleconference rooms and the STO facility, due to the possibility of amplified audio, shall meet Sound Group 4 performance criteria - STC 50 or better, in accordance with paragraph 3.5.E. SCIFs will be accredited by the Defense Intelligence Agency (DIA). The SCIF shall be classified for open storage. This portion of the facility is supervised by, and primarily supports the G-2 staff section. With the exception of the Break Room and those areas identified above, all other subdivided internal SCIF areas shall be isolated from each other by ICS 705-1 "Standard Wall – Non Discussion" type construction with access controlled by proximity electronic card readers (touch / keypad).

a) Provide physical space for all necessary power, telecommunications, and HVAC equipment to support the secure (TS/SCI) video teleconference equipment found in the Joint Worldwide Intelligence Communications System (JWICS) assigned to the C2F.

b) The SCIF shall be constructed to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.G.

c) Provide an access vestibule at the SCIF entrance, a Security Office within the SCIF with necessary provision for remote monitoring, intercom, and duress switch to accommodate visitor announcement / identification. A dedicated workstation shall also be provided directly adjacent to the Security Office to support INDOC.

d) Provide sound insulation in accordance with paragraph 3.5.E.**]**

6) **[Not Used.][C2F Senior Leader Planning Room (War Room) (SZ 3).** A secure Senior Leader Planning Room, as depicted on the drawings included with this RFP, shall be located within the Operations Center and have the ability to view the main OC area, but shall be isolated visually (one way windows) and acoustically from the remainder of the OC. Security Classification shall meet OPEN STORAGE up to TOP SECRET. Space shall be provided for a minimum of 12 General Officers or equivalent with full secure and non-secure connectivity. Acoustic separation from activities conducted elsewhere in Security Zone 3 shall be provided. The Senior Leader Planning room shall be equipped for secure and non-secure video teleconferencing capability (VTC), data, voice, and LAN (NIPR/SIPR) connectivity and be constructed to meet requirements for TOP SECRET classification in accordance with Section III, subparagraph 7-13 (b) of AR 380-5 with electronic access control at each entrance. The Senior Leader Planning Room shall be constructed to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.C. Provide sound insulation in accordance with paragraph 3.5.E.**]**

7) **Conference Rooms (SZ 1, 2 and 4):** Even though they are individually assigned to staff sections in the program, multi-purpose conference space shall be grouped for shared use. Except for the Command Conference Room and Executive Conference Rooms, multi-purpose conference space allocations shall be grouped into centrally located areas on each floor. Multi-purpose conference space shall be provided in all security zones. All conference spaces in SZ 1, 2,

and 4 shall be equipped for secure and non-secure video teleconferencing capability (VTC), data, voice, and LAN (NIPR/SIPR) connectivity and shall be constructed in accordance with Section III, subparagraph 7-13 (b) of AR 380-5. All conference rooms shall be constructed to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.A. Provide sound insulation in accordance with paragraph 3.5.E.

[Note to RFP preparer: Select TOP SECRET for C2F and SECRET for Army HQ.]

a) The Executive Conference Room located in the Command Suite (SZ 1) shall be constructed to [TOP SECRET][SECRET] requirements and shall be equipped for secure and non-secure VTC, data, voice, and LAN (NIPR/SIPR) connectivity capability and constructed in accordance with Section III, subparagraph 7-13 (b) of AR 380-5. Construction shall include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.A. Provide sound insulation in accordance with paragraph 3.5.E.

8) **Conference Rooms (SZ 3):**

[Note to RFP preparer: Check space program as to whether the Army HQ requires SCIF space.]

a) [Not Used.] [SCIF Conference Room shall be in the SCIF but physically separated from the main SCIF area, and, due to the possibility of amplified audio, shall meet Sound Group 4 performance criteria - STC 50 or better. The room shall be equipped for secure and non-secure VTC, data, voice, and LAN (NIPR/SIPR) connectivity and constructed in accordance with ICS 705-1. Provide all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.A. Provide sound insulation in accordance with paragraph 3.5.E.]

b) [Four (4)][_____] Operations Center Planning Rooms within the OC, [including the Situational Awareness Room (SAR),] shall be located as depicted on the drawings included with this RFP, and shall have the ability to view the main OC area, but also to be isolated visually (one way windows) and audibly from the OC. The rooms provide work space cleared for open storage of classified material and are used for classified meetings. These rooms shall be equipped for secure and non-secure video-teleconferencing (VTC) equipment, data, voice, and LAN (NIPR/SIPR) connectivity capability and constructed in accordance with Section III, subparagraph 7-13 (b) of AR 380-5 with electronic access control at each entrance. Construct all OC Planning Rooms to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.B. Provide sound insulation in accordance with paragraph 3.5.E.

[Note to RFP preparer: Check space program as to whether the Army HQ requires SCIF space.]

9) **[Not Used.]SCIF Offices / Open Offices (SZ 3):** Offices, as depicted on the drawings included with this RFP, shall be in the SCIF but physically separated from the main SCIF area. These rooms shall be equipped for secure and non-secure data, voice, and LAN (NIPR/SIPR/JWICS) connectivity capability and

constructed in accordance ICS 705-1 and shall have electronic access control at each entrance. Construct offices to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.B. Provide sound insulation in accordance with paragraph 3.5.E.

10) **General Purpose, Multi-Functional Team Rooms (SZ 1, SZ 2):** Team Rooms shall be equipped for non-secure data, voice, and LAN connectivity capability. Provide sound insulation in accordance with paragraph 3.5.E.

11) **General Purpose Storage Room (All SZ):** Storage space shall be provided for storage of equipment and / or transit cases for tactical computers and peripherals. Distribute storage space in all security zones as depicted on the drawings included with this RFP.

12) **[Not Used][C2F Command Briefing Room: (SZ 2)** (See 'other functional admin areas' on the facility program): Provide a Command Briefing Room near the entryway. The room is used for operations briefings and other large meetings for staff, visitors, and other personnel in conjunction with operations, planning and exercises. It is also used for combined staff activities and for briefing groups requiring controlled building access; or for dissemination of unclassified or filtered information (i.e., press release). The space should be located such that it can be secured by procedural modifications over short periods of time. The briefing room shall have a raised platform area for presenters and a level floor in seating areas. The Command Briefing Room shall be equipped for secure and non-secure data, voice, and LAN (NIPR/SIPR) connectivity capability and constructed in accordance with ICS 705-1 Temporary Secure Working Area (TSWA) and Section III, subparagraph 7-13 (b) of AR 380-5 to meet requirements for SECRET classification. Construct the Command Briefing Room to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.F. Provide sound insulation in accordance with paragraph 3.5.E.**]**

13) **[Not Used][HQ Briefing Room: (SZ 1)** (See 'other functional admin areas' on the facility program): Provide a HQ Briefing Room near the entryway. The room is used for operations briefings and other large meetings for staff, visitors, and other personnel in conjunction with operations, planning and exercises. It is also used for combined staff activities and for briefing groups requiring controlled building access; or for dissemination of unclassified or filtered information (i.e., press release). The space should be located such that it can be secured by procedural modifications over short periods of time. The HQ Briefing Room shall be equipped for secure and non-secure data, voice, and LAN (NIPR/SIPR) connectivity capability. Construct the HQ Briefing Room to include all necessary infrastructure and blocking for the GFGI equipment listed in paragraph 3.19.2.F. Provide sound insulation in accordance with paragraph 3.5.E.**]**

14) **Provide Audio Visual (A/V) Control Rooms** [as shown on layouts]. Size and height of rooms are based upon the specific equipment required and number of operators. This space shall have a one-way window for operator observation. The A/V Control room shall be sized to support the A/V equipment for lighting, audio and VTC presentations as well as the AV operator control equipment. [Refer to the "Information Systems Facility Design Criteria (FDC)" manual developed by USAISEC for additional information.] This space shall be acoustically isolated from all adjacent areas in accordance with paragraph 3.5.E.

15) **Office and Administrative Areas:** The design of the administrative space shall emphasize open floor plans (predicated on the use of systems furniture) and minimize permanent private office space. A similar preference for flexibility exists

for private offices within the staff sections, with the exception of the command section offices. The command section offices shall be constructed to provide privacy and sound control in accordance with paragraph 3.5.E. The intent for the command section offices is to provide a more permanent type of construction, but still to minimize load-bearing walls so as to accommodate future reconfiguration.

16) **Conference Rooms.** All boundaries between security zones and all conference rooms shall be constructed in accordance with AR 380-5 and meet physical security boundary requirements.

17) **Command Suite.** The Command Suite is a dedicated Work Area with special purpose space (e.g., executive conference room, private latrine and shower for CDR, DCDR, and CSM, reception area, limited service kitchen, [and visiting GO private office with dedicated GO workstation]. The kitchen located in the Command Suite is intended to serve as a service area for organizing and presenting food and beverages for distinguished visitors, ceremonies, or command gatherings. It is not intended to provide the capability to prepare or cook food. As such, it is limited to refrigerators, microwaves, counter space, cabinetry storage and coffee service.

18) **Printer / Copier Stations:** This is dedicated floor space within an open office space or work area for copiers, printers, plotters, faxes or other printing/reproduction equipment with waste and paper recycling receptacles and supply cabinet for paper storage in each staff section. Printing and reproduction is limited to non-secure data.

19) **Message Center.** Construct the Message Center to provide adequate security for mail storage and distribution. Structural requirements are as follows: Provide doors with suitable locks and door hinges. Lock shall be a key-operated, mortised, or rim-mounted lock; have a dead bolt throw of one inch; be of double cylinder design; have five pin tumbler cylinders; with two of mushroom or spool-type drive pin design; have 10,000 key changes; have no master key and contain hardened saw resistant steel inserts if the bolt is visible when locked. The strike shall be made of steel. A high security padlock and hasp may be used in lieu of above. Mount the hinges inside to prevent their removal from the outside. Door hinges mounted on the outside shall have non-removable or spot welded pins. Access doors shall be of sheet metal material not less than 16 gauge in thickness, or a solid wooden door covered on the outside with a steel plate not less than 12 gauge in thickness. Ground level windows shall have bars. Cover above ground level windows with wire mesh security screen. Walls and ceilings shall be constructed of material to prevent forcible entry. Minimum requirements shall be to provide expanded steel fabric behind gypsum board walls and ceiling. Provide provisions for ICIDS (Internal Commercial Intrusion Detection System) in facilities that are not operational on a 24-hour basis. AT/FP requirements for Mail Rooms as specified in UFC 4-010-01 are not applicable for the Message Center.

20) **Distribution Room.** Provide distribution area(s) for receiving and storage of bulk shipment(s) of consumable supplies and material, and for staging of equipment, when necessary. This area shall be immediately adjacent to an exterior loading / service area with direct double door access to the outside, and have close proximity to an interior freight elevator.

21) **[Not Used][Distributed / Computer-Based Training Room(DT / CBT Room)]:** Provide a dedicated, computer-enabled, digital-training room with a maximum

of two (2) six (6)-person stations. Equip with Classroom XXI technology for Soldier skills or small group training using computer terminal linkage with training and Knowledge centers across the Global Information Grid (GIG). DT / CBT Room shall not exceed 572 NSF.

22) **File Storage Area:** Provide a file storage area for each open office area. [Provide one (1) file storage area for the SCIF.]

23) **Telecommunications Space.** See paragraph 3.9.B.

24) **Lactation Room.** Provide a space within the facility that can serve as a lactation room. This room shall include a lockable door; counter top with base cabinet storage, a sink, electrical outlets, voice and network connections. Provide 'IN USE' status notification mechanism. When there are no nursing mothers on staff, the room may be used as a break room. (See concept drawing in Attachment F.)

[Note to RFP preparer: Provide the following only at a C2F or Army HQ not located on a military installation.]

25) **[Omitted] [Food Concession:** Provide a roughed out area for food services. Seating accommodations predicated on concessionaire agreements or contracts, with NO Government furnished furniture**.]**

26) **[Omitted] [Health Room:** Provide a health room with NMT three (3) GP Workstations and a separate GP Storage Room dedicated to medical supplies and equipment storage with lockable door**.]**

27) **[Omitted] [Prayer Room:** Provide a prayer room (non- denominational)**.]**

D. COMMON AREAS:

1) **Break Rooms (SZ 1, 2):** Break Rooms shall be consolidated on each floor for efficiency and shall be accessible from Security Zone 1. Provide contractor furnished, contractor installed minimum 20 LF base and wall cabinets, sink, recessed space for a minimum of two (2) vending machines and a refrigerator (vending machines and refrigerator are not in contract). Provide plumbing for one of the vending machines, which will dispense brewed hot drinks. Provide one 4'-0" x 6'-0" wall-mounted bulletin board per Break Room. One (1) Break Room shall be located in close proximity to the [Command][HQ] Briefing Room.

2) **Break Rooms (adjacent toSZ 3):** Locate one (1) Break Room immediately adjacent to the SZ 3 work area. Provide contractor furnished, contractor-installed, minimum 20 LF base and wall cabinets, sink, and a refrigerator (refrigerator is not in contract). Provide one 4'-0" x 6'-0" wall-mounted bulletin board in the Break Room.

[Note to RFP preparer: Male to Female ratios shall be filled in prior to issuing RFP. Each Command will need to provide the actual ratio of male to female employees in their Headquarters Facility]

3) **Restrooms, Shower Rooms, and Lockers (SZ 1 and 2):** Provide restrooms on each floor. Quantity of water closets, urinals and lavatories will be based on a [80%] [__%] male to [20%] [__%] female ratio. Provide ten showers for every 250 persons to a maximum of 30 showers. In addition, provide a single shower in each of the Command Group private restrooms (Commander, Command

Sergeant Major, and Deputy Commanders). Due to providing custodial staff clearance to Security Zone 3, restrooms are not authorized within these areas and shall be provided outside of, but in close proximity to, the SZ 3 perimeter . Provide three (3) lockers per shower in all areas. Minimum locker size shall be 12" (w) x 18" (d) x 36" (h).

4) **Miscellaneous Spaces:** Mechanical rooms, server rooms, electrical rooms, telecommunications rooms, and maintenance area for facility support staff (non-custodial) shall be provided as required. Exterior access shall be provided for mechanical and electrical rooms located on the first floor. All telecommunications rooms shall have interior access. Maintenance area shall be located on the first floor adjacent to loading / service area and include (1) private office and supply storage room. Mechanical, electrical and telecommunications rooms shall be keyed separately for access by respective Installation maintenance personnel.

5) **Vestibule:** See paragraph 3.2.1.C.1) Main Lobby and paragraph 3.2.1.C.5) SCIF.

6) **Corridors:** The minimum corridor width shall be in accordance with the applicable criteria, but not less than 72" at primary circulation corridor(s). Provide abuse-resistant wall material / finish and corner guard protection at corridors to applicable height.

7) **Stairs:** The minimum stair width shall be in accordance with the applicable criteria. Stair construction shall be in accordance with the applicable criteria.

8) **Janitor's Closet:** Provide, as a minimum, a janitor closet on each floor with a mop sink, mop rack and space for buckets, vacuum and storage for janitorial supplies. Preferred location is near restrooms.

9) **Mechanical, Electrical, and Telecommunications Rooms:** Provide Telecommunications Rooms for voice and data. Provide a minimum of one room on each floor, located as near the center of the building as practicable, and stacked between floors.

10) **Vending:** Locate a vending area [near the lobby on each floor][in each break room][as indicated].

11) **Recyclables Storage:** Provide recyclables storage room(s) per sustainable design requirements.

E. SPACE ALLOCATION TABLES:

1) Attachment A provides the allocation table for administrative / workstation space, special space and special use space.

3.3 SITE FUNCTIONAL REQUIREMENTS

A. SITE DESIGN: The following site requirements are applicable to a [DIVISION/CORPS] [NUMBERED ARMY (#A)] [ARMY COMMAND (ACOM)] [DRU / TDA] HQ.

B. OVERALL SITE ORGANIZATION: The overall site features shall include parking for privately owned and organizational vehicles, [an access controlled fenced, enclosed antenna farm], [a helipad], [loading and service areas], [an access controlled Tactical SCI Vehicle Area (TSVA) for Tactical Vehicle parking] and an area near the rear

entrance to the [NOC/OC/SCIF] area for storing transit cases for equipment. [This area also includes a securable enclosed space for staging equipment for loading and holding equipment when it is offloaded from tactical vehicles.]

C. DRIVE/ENTRANCE: A ceremonial drive and entrance area shall be provided on the community side (front door) of the facility. The ceremonial approach driveway shall provide a means for visitors and VIPs to be dropped off near the main entrance. The driveway shall be provided with a means of controlling access (e.g., mechanical gates with access control system) in accordance with anti-terrorism and force protection requirements.

D. PARKING: All parking areas shall be located in accordance with anti-terrorism and force protection requirements.

[Note to RFP preparer: 15 VIP parking spaces is minimum required per the Army Standard, Additional VIP spaces can be provided, but they must come out of the overall total.]

1) **Privately Owned Vehicle (POV), Very Important People (VIP) and Visitor Parking:** The required number of spaces including POV, VIP and Visitor Parking shall be equal to 90% of the total number of personnel working in the facility. All parking areas shall be located within a quarter mile radius of the facility. Fifteen (15) [__] spaces shall be provided for visitor and VIP parking. Provide NMT four (4) [__] spaces for Government vehicles. Parking for Visitors / VIP / POVs shall be provided on the community side of the facility. The VIP parking shall be provided along the entrance driveway and/or the area in closest proximity to the facility.

2) **[Not Used][Parking Area for non SCIF Ready tactical vehicles:** A parking area for [18] [__] HMMWVs with Trailers (High Mobility Multi-purpose Wheeled Vehicles) and [__] General Officer non-tactical vehicles shall be provided. This area shall be adjacent and in close proximity to the Tactical SCIF Operations Area (TSVA)].

[Note to RFP preparer: Tactical SCI Vehicle Area for all Deployable Units]

3) **[Not Used] [Tactical SCIF Vehicle Area (TSVA) (SZ 3):** A secure parking area to accommodate [12] [__] HMMWV's with trailers, MRAP (Mine-Resistant Ambush-Protected) vehicles, or other large tactical vehicles, as utilized by the unit, in addition to space for [4] [__] shelters shall be located in the secure area and immediately adjacent to the interior SCIF. Size the gate width, approach/turning radii and parking spaces for MRAP vehicles. Furthermore, this area shall also be <REV>located to have an unobstructed exposure from SE to SW for direct satellite communication, </REV> and shall also be provided with the following features:

a) A perimeter fence consisting of 6 -foot high chain link fabric topped by a single outrigger with three-strand barbed wire anti-climber, non-sensored, designed in accordance with STD 872-90-03, FE-6 chain link security fence details. Provide organizational vehicle and personnel gates in accordance with paragraph 3.3.E. Loading and Service Area.

b) Rigid concrete pavement designed to support HMMWV's or other large tactical vehicles, as utilized by the unit, with trailers. The quantity of

pavement shall be sufficient to accommodate both the number of vehicles identified at 3.3.1.C.3) above as well as the required vehicles turning radius.

c) A 10-foot wide zone clear of trees and shrubs is required on each side of the fence. The clear zone should require minimal maintenance, and the area 5 feet each side of the fence should be provided with gravel and treated to discourage vegetation growth.

d) Refer to paragraphs 3.9.A.1) & 3.10.A.3) for data and power connections.

e) Provide 6-inch high concrete wheel stops for each parking stall 6 feet from the exterior wall of the C2F to prevent damage to the building by vehicle impact.

f) Provide access control and intrusion detection system (IDS) security infrastructure as required by paragraph 3.9.G. Provide intercom between gate and <REV>SCIF Special Security Office (SSO)</REV>.

g) No aboveground transformers, generators, or mechanical equipment shall be located in this area].

h) <REV>Storm drain inlets or other underground utilities that run from the TSVA to outside the area's fenced perimeter will need to be secured to prevent intruder access to the area.</REV>

E. LOADING DOCK AND SERVICE AREA**:** Provide the loading dock and service areas to facilitate preparation for deployment, for receiving bulk shipment of supplies and material, and for service of installed equipment when necessary. Control access to these areas by a mechanically operated vehicle gate with an electronic card reader. One loading area shall be located in the back of the building, in a fenced area, immediately adjacent to the NOC function. Separate this area from the remainder of the building, especially for food service and waste. During times of higher security, all package and other deliveries funnel through this space.

3.4 SITE AND LANDSCAPE REQUIREMENTS

[Note to RFP preparer: Verify with user that an Antenna Farms is required.]

A. [NOT USED.][ANTENNA FARM: A secure space shall be provided for an antenna farm, which shall be sited in compliance with Communication Electronics – Life Cycle Management Command (CE-LCMC) alignment requirements. The antenna farm shall be provided with the following features:

1) A minimum 2,500, up to a maximum 10,000 square foot, enclosed area directly adjacent to the building (actual size, location and arrangement shall be coordinated with the user).

2) An antenna platform shall be provided in this area to facilitate performance and connectivity pursuant to the user and site requirements.

3) Under no circumstances are antennas to be mounted on the building or its structure.

4) Provide a 6-foot high type FE-6 fence with vehicle and personnel gates. The area shall have drive-through capability and a personnel gate located on the side adjacent to the C2F.

5) The paved surface inside the enclosed area shall be constructed of a pervious material that supports sustainable design initiatives and allows vehicular traffic.

6) A pathway system for telecommunications connectivity and power through underground pathways sized for required connectivity of each antenna from the antenna farm to the appropriate SZ-3 area of the facility for power and telecommunications.

7) Provide lightning protection and grounding in accordance with paragraph 3.10.C.1).c)

8) Directional connectivity to the correct satellites shall be required and shall be provided by the user during the initial design phase.]

B. EXTERIOR FENCED AREAS: All secured fenced areas shall be provided with both manually operated personnel gates and 25-foot wide organizational vehicle gates at entrances. Access to all gates in these areas shall be by electronic card readers (touch / keypad) and equipped with intrusion detection systems and monitored by GFGI Closed Circuit Television Cameras (CCTV). Personnel emergency egress is required for these areas. Entrance shall be designed and configured to allow accommodation for tactical vehicle and trailer inspection area prior to entry into the controlled security line without impeding authorized traffic ingress/egress.

[Note to RFP preparer: Choose This paragraph if project requires a Heliport]

C. [NOT USED][HELIPAD:] The limited-use helipad shall be positioned in keeping with local air traffic and safety considerations. The helipad shall be no less than 350' from the building, sized (150' x 150') and constructed in accordance with UFC 3-260-01, Chapter 4.4.]

D. FUEL STORAGE TANK(S): Fuel storage tank(s), where required, shall be located in close proximity to the standby generator(s) and sized to provide the required hours of continuous emergency operation without refueling. The fuel tank(s) and generator(s) shall be located in a secure area outside of the building with the generator(s) in a weatherproof enclosure.

E. EXTERIOR LIGHTING / POWER: Exterior area lighting systems shall be provided as described in paragraph 3.10.B.Exterior Lighting. Exterior power provisions (consisting of a WP/GFCI power receptacle(s)) to accommodate GFGI equipment shall be provided at exterior of main building entry / courtyards as required by user.

3.5 ARCHITECTURAL REQUIREMENTS

A. GENERAL: C2F and similar Army HQ will typically be very prominent facilities on an installation or other selected site. As such, the building architecture merits prominence and distinction in design as a higher echelon of Army headquarters. Select building

materials accordingly, and ensure that they are durable and easily maintainable. Do not use exterior materials that require periodic repainting or similar refinishing processes. Material exposed to weather shall be factory pre-finished, integrally colored or provided with intrinsic weathering finish.

B. OPENINGS:

1) **Building Entrance:** Provide attractive entry features such as canopies and glass wall surfaces, ensuring compliance with Anti-Terrorism / Force Protection requirements.

2) **Windows:**

a) Provide insulated, high efficiency window systems, with thermally broken frames. Provide windows for natural lighting and in all office areas to the greatest extent possible while ensuring compliance with AT/FP and physical security requirements. Areas where classified material (both physical and electronic format) is handled, stored, processed, or discussed shall 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 C2F spaces, and includes most private offices and conference rooms in other HQ. When fixed windows are provided in rooms authorized for SIPRNET, the following potential problem areas must be addressed: Ensure TEMPEST is mitigated by using TEMPEST approved equipment and shielded or fiber optic cabling; provide window curtains and/or blinds, or application of a one-way film to the window glazing; and provide curtains that can be drawn across windows where audio from classified VTC sessions have the potential of being transmitted through window glazing.

b) Windows are not authorized in SZ 3 areas.

3) **Doors:**

a) **Storefronts (Main Entrance Doors):** Provide aluminum storefront doors and frames with anodized finish, fully glazed for entry into lobbies or corridors. Provide doors complete with frames, framing members, subframes, transoms, sidelights, trim, applied muntins, and accessories. Framing systems shall have thermal-break design.

b) **Exterior Insulated Hollow Metal Doors & Frames:** Provide insulated hollow metal exterior doors for entry to all spaces other than corridors, lobbies, or main entrance doors.

c) **Interior Metal Doors:** Provide metal doors at utility rooms, janitor closets, and stairwells.

d) **Solid Core Wood Doors:** Provide flush solid core wood doors for all occupied rooms and spaces, including private offices/office areas, conference rooms, classrooms, storage rooms, break rooms, and restrooms.

e) **Sound Attenuation:** All doors shall meet the sound insulation requirements specified in Paragraph 3.5.E. If not otherwise specified, the minimum door rating shall be STC 33.

f) **Door Hardware:** All hardware shall conform to ANSI/BMHA standards for Grade 1.

C. RAISED FLOOR SYSTEM: Raised flooring, for cable management system shall be provided in the entire facility (including all telecommunication equipment rooms and telecommunications room) with the exception of the mechanical rooms, electrical rooms, restroom and shower areas and other utility type spaces. Raised flooring may also be used for underfloor HVAC distribution systems if life cycle cost analysis proves it to be cost effective.

D. ELEVATORS. Elevators shall be multiple stop 4500-pound service / hospital type, in accordance with ASME 17.1, Safety Code for Elevators and Escalators (latest edition). Elevators shall be provided with pads to protect the interior wall surfaces of the cab. A minimum ceiling height of 9 feet is required.

E. SOUND INSULATION: Due to the possibility of amplified audio, provide sound insulation for all classrooms and conference rooms, to include the Operations Center (OC), Planning Rooms, Briefing Room and Executive Conference Room, 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 shall 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 offices, team rooms, A/V control rooms, and walls separating security zones. The sound insulation system shall 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 shall meet a Noise Criteria (NC) 30 rating in accordance with ASHRAE Fundamentals Handbook.

F. SOUND MASKING: A sound masking system may be included at open office areas to enhance speech privacy and reduce distractions. If included, the sound-masking system shall be designed to meet ASTM standards for speech privacy and shall be UL-listed for use in plenums. This system shall be both low voltage and energy efficient, use digital masking, and the overall sound level produced shall have spatial and spectral uniformity.

3.5.1 FINISHES AND INTERIOR SPECIALTIES: NOT USED

3.6 STRUCTURAL REQUIREMENTS

[Note to RFP preparer: Typical Army HQ shall be designed as Occupancy Category II unless a higher classification is required by User.]

A. GENERAL

1) [The C2F shall be designed as an “Essential Facility” in accordance with both ASCE-7 and IBC 2009 for wind, seismic, and snow design.][The Army HQ shall

be designed as a(n) "_____" in accordance with both ASCE-7 and IBC 2009 for wind, seismic, and snow design.]

B. DESIGN LOADS

1) **Live Loads.** Design live loads per the IBC.

2) **Raised Access Floor Loading.** The raised flooring system shall be designed to accommodate safe loadings of up to 1500 lbs.

3) **Progressive Collapse Avoidance.** Where a building is three stories or more in height, design shall conform to Unified Facilities Criteria UFC 4-023-03, Design of Buildings to Resist Progressive Collapse, 14 July 2009 Including Change 1, dated 27 January 2010.

4) **Modifications to Existing Structures.** Structural modifications may be required in the renovation of existing structures. The structural design shall fully comply with the applicable criteria.

5) **ATFP Requirements.** Antiterrorism / Force Protection measures shall comply with UFC 4-010-01.

6) **Foundations / Slabs-on-Grade.** The foundation is site specific and must be designed upon known geotechnical considerations. Design the foundations as recommended by the geotechnical investigation. Coordinate the need for a vapor barrier with the architectural floor finishes and requirements of the geotechnical report. Reinforce slabs-on-grade and provide a minimum thickness of five (5) inches. Design floor slab thickness and reinforcing for the loads associated with the function of the specific area considered, but not less than five (5) inches.

7) **Construction Materials.** Construction materials shall be as required by applicable criteria.

8) **Design Analysis.** Computer generated calculations must identify the program name, source, and version. Provide input data, including loads, loading diagrams, node diagrams, and adequate documentation to illustrate the design. The schematic models used for input must show, as a minimum, nodes/joints, element/members, materials/properties, and all loadings, induced settlements/deflections, etc., and a list of load combinations. Results must include an output listing for maximum / minimum stresses / forces and deflections for each element and the reactions for each loading case and combination. All calculations shall be performed by a registered engineer and checked by an engineer other than the design engineer.

3.7 THERMAL PERFORMANCE – NOT USED

3.8 PLUMBING REQUIREMENTS– NOT USED

3.9 COMMUNICATION AND SECURITY SYSTEM

A. GENERAL: **For both AV / IT / VTC / Phone and Electronic Security System (ESS), operation concept development must precede building design.** Coordinate AV / IT / VTC and Phone systems with USAISEC and the local installation NEC. Coordinate any changes with ISEC and the NEC, and provide site redlines to ensure the AV / IT / VTC / Phone systems designers are aware of any changes. Installation of AV / IT / VTC / Phone and Electronic Security System (ESS) usually require establishing Joint

Occupancy agreements in relation to the beneficial occupancy date and the occupant/system ready date.

B. EXTERIOR COMMUNICATION SERVICES

1) **[Omitted] [Data Connections for TSVA**. Provide DIA/DAC-2A2 approved Protective Distribution System (PDS) from the permanent SCIF to the TSVA for each SCIF-ready vehicle. Weatherproof tactical interface boxes (TIB) are required for each vehicle and shall be designed and provided to prevent damage from the vehicles. A TIB shall be provided for secure vehicle system connections, non-secure NIPRnet, Telephone, and IDS. Connectors for all systems shall be included in the TIBs that match the current Tactical Vehicle connections. The TIBs shall be connected into the underground pathway system that provides access to the building SCIF. Connection to all data networks (including NIPRNET, SIPRNET, NSANET/TDN-2, and/or any other network required) shall be established through single mode fiber optic cabling unless otherwise specified. Pathways terminating in the SCIF shall terminate in the SCIF server rooms. Connection requirements shall be coordinated with the User.]

2) Outside plant connectivity shall be designed and allocated in accordance with U. S. Army Information Systems Engineering Command (USAISEC), guidance consistent with the Army Installation Information Infrastructure I3A Criteria. HQ facilities shall be connected to a minimum of two distribution nodes with single mode fiber optic cabling, and shall be considered as an Area Distribution Node (ADN) for engineering purposes. The HQ shall be connected to the two distribution nodes by physically diverse paths. The fiber optic cabling shall be sized to support the common user systems and C2 critical systems. Minimum cabling size shall be 48 strands of single mode fiber to each distribution node for the common user systems, and 48 strands single mode fiber to each distribution node for the C2 critical systems.

3) The criteria in the FDC will govern where conflicts occur between the information contained herein and the information contained in the FDC.

4) Provide two (2) three-inch conduits with weatherheads for antenna connection at location(s) that has been coordinated with the user for local radio operation. Conduit shall be terminated inside the building at location(s) as required by the user.

C. INTERIOR TELECOMMUNICATIONS: Refer to the “Information Systems Facility Design Criteria (FDC)” developed by USAISEC for additional information concerning telecommunications design. The criteria in the FDC will govern where conflicts occur between the information contained herein and the information contained in the FDC.

1) **Telecommunications Space.** Telecommunications infrastructure and cabling shall be designed and allocated in accordance with U. S. Army Information Systems Engineering Command (USAISEC), National Security Agency (NSA), and Defense Information Systems Agency (DISA) guidance consistent with TIA/EIA-569-B and the Information Infrastructure Architecture (I3A) Technical Criteria. The approximate size for all telecommunications spaces within a facility shall be 2 to 4 percent of the net building area. The exact percentage of space allocated for telecommunications will be based upon the Information Systems Facility Design Criteria (FDC) developed by USAISEC for the specific facility. Examples of telecommunications spaces within an HQ are shown below. Multiple quantities of each type of room may be required and/or some room types may be combined based on the operational and security requirements of the

building tenant. All telecommunications spaces within the HQ shall only be accessed from inside the building. No exterior access shall be provided.

a) **Entrance (Communications) Room (ER).** A space in which the joining of inter or intra building telecommunications backbone facilities takes place. An entrance room may also serve as an equipment room. The Entrance Room (also known as the Communications Room) shall be the main telecommunications entry point (service entry) for the facility. The ER will accommodate the equipment (e.g., data and voice switches, patch panels, etc.) used to transport, transition, and terminate all telecommunication services from the Network Enterprise Center (NEC), other local networks, and circuits. These rooms shall have the following requirements.

(1) UPS power shall be provided for all active telecommunications equipment.

(2) Generator back up power shall be provided in all Entrance Rooms for all active telecommunications equipment.

(3) All ERs shall be conditioned space and shall have individual temperature and humidity controls.

(4) A double door (72 in wide x 90 in high) without doorsill and center post is required to facilitate movement of large equipment into and out of the room.

(5) All ERs shall have anti-static floor throughout.

b) **Telecommunications Equipment Rooms (TER).** The TER is an environmentally controlled centralized space for telecommunication equipment that usually houses a main or intermediate cross-connect. The TER also houses equipment such as data switches, servers, and radios and typically connects the ER to the Telecommunications Rooms. A separate TER shall be provided for TS/SCI equipment within the SCIF for JWICS and special mission networks as required. Each TER shall have an equipment area, operations area, and maintenance/staging area. These rooms shall have the following requirements.

(1) UPS power shall be provided for all active telecommunications equipment.

(2) Generator back up power shall be provided in all Telecommunications Equipment Rooms for all active telecommunications equipment.

(3) All TERs shall be conditioned space and shall have individual temperature and humidity controls.

(4) A double door (72 in wide x 90 in high) without doorsill and center post is required to facilitate movement of large equipment into and out of the room.

(5) All TERs shall have anti-static floor throughout.

c) **Audio/Visual (A/V) Control Rooms.** Each A/V control room shall contain an operations area and an equipment area. The operations area will contain the A/V control system workstations. The equipment area will contain all the

centralized A/V equipment required to interface with and control all briefing and conference rooms. The operations area shall be acoustically isolated, to the greatest extent possible, from the A/V equipment area as well as any other adjacent operational areas. There shall be at least two A/V control rooms per HQ (one for TS/SCI and one for all other classification levels). See paragraph 3.9.F Audio/Visual Systems for more information. These rooms shall have the following requirements.

(1) UPS power shall be provided for all active telecommunications equipment.

(2) Generator back up power shall be provided in all A/V Control Rooms for all active telecommunications equipment.

(3) All A/V Control Rooms shall be conditioned space and shall have individual temperature and humidity controls.

(4) All A/V Control Rooms shall have anti-static floor throughout.

d) **Telecommunications Rooms (TR).** TRs are used for the termination of horizontal cables to the user work areas and termination of cables and equipment to the backbone wiring systems within the building. There may be multiple types of TRs depending on the access area and associated classification level (e.g., one type containing Secret and below, one type containing TS/SCI and below to service the SCIF, etc.). TRs that house equipment of multiple classification levels will require more square footage than single classification TRs since they must be sized to meet RED/BLACK separation requirements. There shall be at least one TR of each required type per floor and TRs shall be vertically stacked to facilitate vertical backbone cable distribution throughout the C2F. More than one TR per floor is required if the total copper cable length to a work area exceeds 90 meters. These rooms shall have the following requirements.

(1) UPS power shall be provided for all active equipment.

(2) Generator back up power shall be provided in all A/V Control Rooms for all active telecommunications equipment.

(3) All TRs shall be conditioned space and shall have individual temperature and humidity controls.

(4) All TRs shall have anti-static floor throughout.

2) **Telecommunications Pathways.**

a) Provide cable tray pathways throughout the facility to support the systems required for the construction of the facility as well as for the user's computer networks, A/V systems, telecommunication systems and other specialized electronic systems. All telecommunications pathways shall be designed, furnished, and installed in accordance with (IAW) U. S. Army Information Systems Engineering Command (USAISEC), National Security Agency (NSA), and Defense Information Systems Agency (DISA) guidance consistent with TIA/EIA-569-B and the Information Infrastructure Architecture (I3A) Technical Criteria and shall meet the separation requirements of NSTISSAM, TEMPEST/2-95A, MIL-HDBK-232A, ICS 705-1, and JAFAN 6/9 as applicable. A separate cable tray system for each security level is

recommended – unclassified (BLACK), SECRET/Top Secret (RED), and TS/SCI (YELLOW). Use of the BLACK cable tray system for any non-C4I/IT systems (e.g., access control, alarms, etc.) shall be coordinated with USAISEC. RED or YELLOW cable tray systems shall not be used for any non-C4I/IT systems. Some C4I/IT systems (e.g., DRSN, NSTS) may require a separate, dedicated pathway.

b) A Protected Distribution System (PDS) is required if any cabling that carries classified data traverses an area with a lower classification (e.g., SECRET or higher classification data traversing an unclassified area, or SCI data traversing a SECRET or an unclassified area). The PDS shall be designed and built to meet requirements of NSTISSI 7003. The word "shall" shall be substituted for the word "should" or “will” in the referenced publication NSTISSI 7003. Specifications Section 27 05 28.39, Surface Raceways for Communications Systems shall be incorporated into this project. (This section can be obtained at the following URL: ftp://ftp.usace.army.mil/pub/sas/Surface_Raceways/). Surface mounted raceway shall be used instead of the surface mounted conduit unless otherwise directed by the local NEC or Physical Security Officer. All PDS and classified cable pathway systems shall be approved by the Designated Approving Authority (DAA) and the Certification Authority (CA).

3) **Telecommunication Cabling.** All telecommunications cabling shall be designed, furnished, and installed in accordance with (IAW) U. S. Army Information Systems Engineering Command (USAISEC), National Security Agency (NSA), and Defense Information Systems Agency (DISA) guidance consistent with TIA/EIA-569-B and the Information Infrastructure Architecture (I3A) Technical Criteria , labeled IAW TIA/EIA 606-A, and shall meet the separation requirements of NSTISSAM, TEMPEST/2-95A, MIL-HDBK-232A, with ICS 705-1 and JAFAN 6/9 as applicable. Cable connectors and jacket colors shall be site specific. The number and type of connectors shall be defined by the User. Connectors shall be keyed based on network configuration or classification.

a) **Backbone (Vertical) Cabling.** All backbone cabling (i.e., cabling between the ER and TER and between the TER and TRs) shall be terminated at both ends between each room. Data backbone cabling shall be fiber and voice backbone cabling shall be Category 6 (or latest I3A Criteria specified category). Site-specific security requirements may dictate that all cabling between the TER and SCIF or TRs and SCIF be fiber optic.

b) **Horizontal Cabling.** Cabling from outlets will terminate in the Telecommunication Rooms (TRs). Consolidation points shall be utilized in major areas of the facility between the TRs and the outlets to facilitate flexibility. All horizontal cables shall be terminated in the serving telecommunications room. Telecommunications cabling shall be copper (Category 6 or latest I3A Criteria specified category) for all voice connections. Data cabling will be a User specified combination of copper and/or fiber. Unclassified copper cabling shall be Unshielded Twisted Pair (UTP) and classified copper cabling shall be Shielded Twisted Pair (STP). Shielded cabling shall be used for all non-classified and classified cables in the SCIF.

4) **Telecommunications Outlets.** Telecommunications outlets shall be provided throughout the facility per user requirements. Exact location and quantity of outlets will be determined during the design phase. The following minimum

outlet configurations shall be provided for each workstation and each 80 square feet of other floor area with the exception of mechanical rooms, electrical rooms, storage rooms, TRs, corridors, etc.: for non-SCIF areas provide one unclassified telephone/data outlet containing one voice and two data jacks and one Secret/TS outlet containing two data jacks; for SCIF areas provide one unclassified telephone/data outlet containing one voice and two data jacks, one Secret/TS outlet containing two data jacks, and one TS/SCI outlet containing two data jacks. Outlets shall be a user specified combination of Cat 6 rated RJ-45 connectors and/or multi-mode fiber connectors as specified in the FDC. Mechanical rooms, electrical rooms, storage rooms, TRs, etc. shall receive one wall-mounted unclassified outlet per room containing one voice (Cat 6 UTP) jack. A minimum of six (6) additional wall mounted outlets (location TBD) per 10,000 square feet shall be provided for courtesy and convenience requirements. Each workstation in the SCIF, OC, and NOC shall have three computers. The STO facility shall have four computers.

D. SATELLITE / CABLE TV (CATV).

1) For additional information concerning Satellite/CATV design, refer to the "Information Systems Facility Design Criteria (FDC)" developed by USAISEC. The criteria in the FDC will govern where conflicts occur between the information contained herein and the information contained in the FDC.

2) Satellite/ (CATV) shall be provided in the Command Suite, all staff principal offices, PAO and CMO areas, all conference rooms (minimum two outlets), multi-purpose rooms, and in each of the open office areas. Additionally, (CATV) shall be provided in the Senior Leader Planning Room (War Room), Briefing Room, OC, NOC, and SCIF. The system shall consist of cabling, pathways, and outlets. All building systems shall conform to applicable criteria to include I3A Technical Criteria and the UFC 3-580-01 Telecommunications Bldg Cabling Systems Planning/Design. Satellite/HDTV cables that enter or leave an open storage area, (SCIF) require isolation (SM Fiber) to prevent EMI bleed across copper.

E. AUDIO/VISUAL SYSTEMS

1) For additional information concerning audio-visual system design, refer to the "Information Systems Facility Design Criteria (FDC)" developed by USAISEC.

2) **Critical Construction Activities Required Prior to Proceeding with AV/VI Actions**. AV/VI systems are an integral part of the operation of a C2F. They also are dependent upon other C2F systems for operation and certification. Provision shall be made as early as possible, but at least 6 months in advance of the scheduled beneficial occupancy date, for joint occupancy by the General Construction Contractor and the AV/VI Systems Contractor so that a complete and usable facility is available at the conclusion of the construction process. The following items or systems must be completed prior to joint occupancy by the AV/VI Systems Contractor in order to ensure full integration, accreditation and testing of the AV/VI systems:

a) Door locks.

b) Physical IDS.

c) Card access.

d) Power requirements locked in.

e) OSP/ISP Design reviewed by ISEC.

f) Telecommunications maintenance hole and duct system installed.

g) OSP cabling installed / (schedule) and tested.

h) ISP cabling installed / (schedule) and tested.

i) Loading docs / elevators (operational).

j) Telecommunications rooms complete including: walls, electric, climate control, grounding, equipment racks, patch panels, cabling, doors and locks.

k) CATV contracted and installed (usually separate from construction).

l) SIPRNET PDS completed and accepted.

3) **Video teleconferencing (VTC).**

a) Provisions for secure and non-secure VTC shall be provided in the Briefing Room and all conference rooms. Provisions generally consist of a power connection and two RJ45 SIPRNET outlets.

b) Provide all necessary power, telecommunications, and HVAC equipment to support the secure (TS/SCI) video teleconference equipment found in the Joint Worldwide Intelligence Communications System (JWICS) assigned to the C2F located within the SCIF.

F. GFGI - A/V EQUIPMENT. Provisions (consisting of a power receptacle and conduit for signal wiring) for GFGI A/V Equipment shall be provided in each conference room and training room.

1) **Paging systems.** A zoned paging system shall be provided throughout the facility and integrated with the telephone system.

G. SECURITY INFRASTRUCTURE (SECURITY EQUIPMENT NIC). The security infrastructure shall be installed to support Government-furnished equipment including proximity card readers, duress switches, motion detectors, contact switches, and CCTV cameras.

1) **Intrusion Detection and Security Systems.** Provisions for user-provided Integrated ICIDS intrusion detection and security systems are required for all exterior building entrances, all interior entrances to secure areas, secure conference rooms, secure communications rooms, server rooms, secure AV rooms, briefing room, and all other secure and restricted areas of the building, including the SIPRNet room, and the site, as indicated in paragraph 3.3.1.C.3).f). The C2F headquarters OC, NOC, SCIF and STO facility shall also have provisions. Provisions shall include rooms/cabinets, power circuits, communications connections, and raceways and signal wiring for user installed devices. System requirements shall be coordinated with the Installation Security Office.

2) **TEMPEST Requirements.** TEMPEST Requirements shall be met on a per site basis dependent on the facility zone type and the equipment NSTISSAM level.

H. RAISED ACCESS FLOORING SIGNAL GROUNDS**.** All areas provided with raised access flooring shall have signal grounds provided in a grid pattern under all raised floor areas. The signal reference ground subsystem shall use a multi-point grounding topology in accordance with higher-frequency grounding and be in accordance with MIL-188-124B, MIL-HDBK-419A, and the latest version of IEEE 1100.

I. GROUNDING**.** The ground counterpoise shall be provided around the perimeter of the antenna farm and the building perimeter and shall be utilized for grounding incoming service, building steel, telephone service, piping, lightning protection, and internal grounding requirements. Ground straps shall be provided where required by function and will be connected to the building grounding system. Grounding points shall be provided under each raised access floor in accordance with paragraph 3.9(h). Additional grounding may be provided based on project requirements and in all areas where standby power is provided. Systems shall conform to MIL-HDBK – 419A, NFPA 70 National Electrical Code, local codes, and the US Army I3A Criteria. The earth electrode subsystem and the fault-protection ground subsystem shall be compliant with the latest versions of the NEC (NFPA 70), MIL-188-124B, MIL-HDBK 419A, and IEEE 1100. The neutral-to-ground bonding scheme shall be in strict accordance with the NEC.

J. HARMONICS. Total voltage and current harmonic distortion shall comply with the FDC and IEEE Harmonic Standard 519-1992.

K. FIRE DETECTION AND ALARM

1) A fire alarm and detection system shall be provided for this facility. It shall comply with the requirements of UFC 3-600-01 and NFPA 72. The system shall be addressable, fully compatible with, and integrated with, the local installation wide central monitoring system.

2) Server rooms are the only areas of the facility that house MISSION CRITICAL electronic equipment installations as identified in section 6-8 of UFC 3-600-01, and are the only areas considered to be “information technology areas” as defined by NFPA 75. Server rooms are to be protected as information technology areas in accordance with NFPA 75, except as modified by UFC 3-600-01 and herein. Server rooms that utilize raised floor systems shall have smoke detectors installed in the space beneath the flooring panels in accordance with NFPA 75. Under-floor detectors shall be connected to the fire alarm system and shall be wired so as to immediately cut power to the electronic equipment in the protected room upon activation. Shutdown devices shall be supervised by the fire alarm control panel in accordance with NFPA 75.

3) All initiating devices shall be connected to signal line circuits (SLC) utilizing Class A Style 6 wiring. All alarm appliances shall be connected to notification appliance circuits (NAC) utilizing Class A wiring. A looped conduit system shall be provided so that if the conduit and all conductors within are severed at any point, all NAC and SLC shall remain functional.

4) Break-glass pull stations shall not be used.

5) Over-voltage and surge protection shall be provided at the input power of all panels.

L. MASS NOTIFICATION SYSTEM (MNS). A mass notification system shall be provided as required by UFC 4-010-01.

3.10 ELECTRICAL REQUIREMENTS

A. EXTERIOR ELECTRICAL DISTRIBUTION SYSTEM

1) Provide underground power connections to the facility.

2) Provide automatic start exterior standby generator(s) in accordance with paragraph 3.10.C.1).e). Locate the generator(s) in a secure area outside of the building in weatherproof enclosures. Provide fuel storage tanks for standby generator in accordance with paragraph 3.4.D).

[Note to RFP preparer: Tactical SCI Vehicle Area for all Deployable Units]

3) **[Omitted.][Power Connections for Tactical SCIF Vehicle Area.** Provide underground systems for power connectivity to the TSVA. Power shall be capable of accommodating user power requirements to each SCIF vehicle, as determined by the Government for manned and unmanned platform support without using the platform's onboard power. 40% of the vehicles shall have a load of 100 Amps and 60% of the vehicles shall have a load of 60 Amps. Connection points shall be designed for ease of serviceability, with the appropriate MIL - STD connectors and shall prevent damage from the vehicles. Connection requirements shall be coordinated with the User.]

B. EXTERIOR LIGHTING

1) **General**: Exterior area lighting systems shall be provided for courtyards, sidewalks, service yards, uncovered storage areas, and parking areas. Exterior area lighting systems shall consist of color corrected high intensity discharge (HID) lighting units mounted on poles and located within the clear zone and on the primary facility. In addition, fluorescent lamps can be utilized around the building perimeter. Illumination levels shall be 50 lx for areas adjacent to the primary facility and 5 lx for parking areas. Lighting circuits shall be controlled by a time switch and/or photocell to allow the flexibility of turning off lights after a set time. Exterior lighting circuits shall be provided as required.

[Note to RFP preparer: Choose this paragraph if project requires a Heliport]

2) **[Omitted] [Helipad:** The heliport shall be provided with appropriate lighting and controls in accordance with UFC 3-260-01.]

C. INTERIOR ELECTRICAL

1) **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 that is practical for the load to be served.

2) **Nonlinear Loads.** The effect of nonlinear loads such as computers and other electronic devices shall be considered and accommodated as necessary. These loads generate harmonics, which can overload conventionally sized conductors or equipment and thereby cause safety hazards and premature failures. Circuits serving such devices shall be equipped with a separate neutral conductor not

shared with other circuits. Panelboards and any dry type transformers shall be rated accordingly.

3) Lightning Protection System and Transient Voltage Surge Protection shall be in accordance with NFPA 780 and other referenced criteria. The extent of transient voltage surge suppression shall be determined by the designer based on industry standards.

4) **Receptacles.** Power Receptacles shall be provided 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 shall be accessibly located adjacent to each voice, data, and CATV outlet. Power poles shall not be used. Convenience duplex receptacles shall be provided, with at least one in each room and in corridors on maximum 40-foot centers. Each workstation in the SCIF, OC, and NOC shall have three computers. Each workstation in the STO facility shall have four computers.

[Note to RFP preparer: In the Stand-by Power System paragraph, choose the first bracketed section for C2Fs and the second for all other HQ.]

5) **Stand-by Power System.** Stand-by power system includes generator(s) and automatic transfer switches. The number of generators shall be selected based upon the total load served and size of commercially available units. [For C2F, the standby power system shall be sized to accommodate ALL building and site loads and provide a minimum of 72 hours of continuous emergency operation. Automatic transfer switches shall be provided in accordance with the NEC for life safety and other loads and shall be equipped with isolation/bypass feature for ease of maintenance. At least one generator shall be designated to serve emergency and life safety loads that include, but shall not be limited to, one elevator, emergency egress and exit lighting, fire alarm system, all loads located in the OC, NOC, SCIF , and Command Suite.][For Army HQ, the standby power system shall be sized to accommodate ONLY functionally critical areas of the building, i.e. OC, [NOC,][SCIF,]executive conference room in the command suite, telecommunications rooms, server rooms, and audio visual control rooms; and as required by all applicable life safety codes. Automatic transfer switches shall be provided in accordance with the NEC for life safety and other loads and shall be equipped with isolation/bypass feature for ease of maintenance. Provide capability for a minimum of 48 hours of continuous emergency operation.]

6) **Uninterruptible Power Source (UPS) Systems.** UPS to serve the OC, [NOC,] [SCIF,] server rooms, telecommunication rooms, audio visual control rooms, and the executive conference room shall be provided. Unit(s) shall have a minimum of five (5) minutes of capacity at full load to allow for generator override or orderly shutdown of critical loads if the generator power fails to go on line. Unit(s) shall have isolation/bypass capabilities for maintenance and shall utilize leak proof maintenance-free sealed lead-acid batteries with suspended electrolyte.

7) Provide a minimum of 25% spare circuit and load capacity at all levels of the power distribution system including the stand-by power system.

D. INTERIOR LIGHTING. Lighting and lighting controls shall comply with the recommendations of the Illumination Engineering Society of North America (IESNA) and the requirements of ASHRAE 90.1. Lighting shall be compatible with security cameras and security requirements.

1) **Interior Lighting.** Interior ambient illumination shall provide a generally glare free, high quality lighting environment and conform to IESNA RP-1-04.

2) **Interior Lighting Controls.** Provide lighting controls throughout the facility capable of controlling multiple zones and presets as stated in the FDC. Local manual controls shall supplement automatic controls in offices and specialized areas including all conference rooms, and the OC, NOC, and SCIF areas. Control panel, occupancy, vacancy, and day lighting sensors shall be provided where applicable. Building scheduling control capabilities with local over rides shall also be included.

3) **Special Lighting Circuits.** All conference rooms and classrooms shall have a circuit for general lighting, a circuit to focus light on the speaker, and a dimmable circuit to focus light over student desks (or conference table) without glare on audio-video displays. The OC, NOC, and SCIF areas shall have a circuit for general lighting and a dimmable circuit to focus light over the general work area without glare on audio-video displays. Dimming ballasts shall be capable of dimming to 5 percent. A single lighting system with control capability of meeting all these requirements may be used. The lamp temperature range shall be coordinated with the video camera light sensitivity utilized in all video teleconferencing rooms.

4) **Video Teleconferencing Room Lighting:** Lighting shall have special diffusers so as not to wash out the participants and not impinge on the screens/displays. Controls shall include a central control system with a control interface that also has the capability of being controlled by the A/V equipment.

5) Emergency egress and exit lighting shall be provided throughout the facility in accordance with NFPA 101 and shall be powered from the stand-by power system referenced in paragraph 3.10.C.1)e) above.

3.11 HEATING, VENTILATING AND AIR-CONDITIONING (HVAC)

A. GENERAL: The entire facility shall be heated and air conditioned, except that mechanical rooms, electrical rooms and similar utility spaces may be heated and ventilated. All equipment/materials shall be installed in accordance with the manufacturer's instructions and/or recommendations.

B. EXTERIOR EQUIPMENT: No aboveground mechanical equipment (chillers, refrigeration equipment, condensers, air-handling equipment, and similar equipment) and miscellaneous equipment (including transformers and generators) shall be physically located within secure vehicle parking areas. Aboveground mechanical equipment will be secure to force protection and security standards and will blend into the architectural design of the building.

C. EXTERIOR CONSTRUCTION: Use sustainable, low maintenance finish materials for exposed mechanical equipment.

D. DESIGN DATA: The outdoor design temperature for comfort cooling shall be the 1 percent dry bulb and the corresponding mean coincident wet bulb temperature for the locale. The outdoor design temperature for heating shall be the 99 percent dry bulb temperature for the locale. The indoor design relative humidity for cooling design calculations shall be 50 percent. Actual internal equipment loads (i.e. heat dissipation) for finalized HVAC system sizing purposes shall be acquired from the USER or applicable point-of-contact (POC), and is the responsibility of the Designer of Record. For baseline purposes, estimated internal equipment loads (i.e. heat dissipation) shall be as follows: For the NOC, OC, and SCIF and Telecommunication areas, use Table I: Equipment Loads. For all rooms / areas with the exception of the Classroom /

Training area, it shall be assumed that each personnel / workstation area, cubicle, and office space is assigned a personal computer (desktop), for HVAC load calculation purposes. Unless otherwise indicated, the peak quantity of personnel within the Conference room / areas shall be based on one person per 20 square feet of floor area.

[Note to RFP preparer: TABLE I: EQUIPMENT LOADS FOR PLANNING, choose the first bracketed table for C2Fs and the second for all other HQ.]

1) **[TABLE I: Equipment Loads for Planning (C2F)]**

NOC/OC/SCIF Areas	
Room Description	Watts / ft^2
SCIF (Open Office)	4.7
SIGINT	11.5
G2 Data/Server Room (SCIF)	97.0
STO FAC (C2F Only)	3.1
OC (Open Office)	5.5
Network Management Area (NOC)	5.8
GEOSPATIAL	4.0
Server Room (OC)	21.1
Server Room (NOC)	95.5
Targeting Office	11.9
Conference Room / VTC	1.8
STO/VTC (C2F Only)	2.0
C41M	12.0
SIGINT Leadership	5.5
Fusion Chief Coll Mgmt	4.1
Printer/Copier/Files	18.6
Telecomm Entrance / Equipment Room	73.9
Automated Information Systems	6.0
SIPRNET	54.2
NIPRNET	55.3
Distributed / Computer-Based Training (DT/CBT)	2.8

2) **[TABLE I: Equipment Loads for Planning (Army HQ)]**

NOC/OC/SCIF Areas	
Room Description	Watts / ft^2
SCIF	2.9
Conference Room / VTC (SCIF)	3.0
JWICS Equipment Closet (SCIF)	2.5
Secure Equipment Room (NOC)	1.4
Server Room (NOC)	40.6
Command Center (OC)	5.2

Conference Room / VTC	3.4
Distributed / Computer-Based Training (DT/CBT)	2.8
Telecomm Entrance / Equipment Room	23.4
Telecomm Room / SIPRNET Room	6.0
A/V Control Room	33.1

3) **Table II: Indoor Design Data**

Heating	
General Indoor Design Temperature	70°F
Unoccupied Space Design Temperature	55°F
OC, SCIF , Telecomm. Rooms	72°F
***NOC and *Server Rooms	72°F/45% RH plus/minus 5%
Mechanical Rooms (freeze protection)	40°F
Cooling	
General Indoor Design Temperature	75°F
OC, SCIF , Telecomm Rooms	72°F
*NOC and *Server Rooms	72°F/45% RH plus/minus 5%
***Areas in which humidity control (i.e. humidification, reheat, etc.) may be required.	

E. AIR HANDLING EQUIPMENT:

1) The following areas shall each be provided and served by an independent and dedicated air–handling system: Operations Center (OC), SCIF, Briefing Room, Command Suite, Main Entrance Telecommunications Room, Telecommunication Equipment Rooms, Telecommunication Rooms, NOC, UPS Room, and Server Rooms. Individual temperature control shall be provided for each of the above listed areas/rooms. Equipment redundancy shall be provided for each of the above listed areas/rooms and also for other associated areas (i.e. AV Controls, etc.) as indicated/addressed in Table III: Redundancy/Reliability Matrix.

2) The NOC and all Server rooms shall be served and conditioned utilizing computer room air conditioning (CRAC) units. Humidity control is required in the NOC and all Server rooms. CRAC's shall be designed for continuous use.

F. OFFICE SPACE ON RAISED FLOOR SYSTEMS: Consider at least the following two systems in the LCCA:

1) **Under Floor Air Distribution (UFAD) system.** Conform to ASHRAE Underfloor Air Distribution (UFAD) Design Guide.

2) **Conventional Variable-Air-Volume (VAV) system.**

G. HVAC SYSTEM REQUIREMENTS FOR ADMINISTRATIVE AREAS: The capability of extending the regularly-scheduled operating hours of the HVAC systems shall be provided. Provide HVAC provisions for accommodating the Duty Officer's 24/7 occupancy pattern. Provisions shall consider the normal after-hour shut-down of the main building heating/cooling system. Administrative areas shall be temperature-controlled by the DDC System. Temperature setpoint adjustment shall be accomplished via DDC System by authorized personnel not on site. Occupant setpoint-adjustable thermostats shall not be used.

H. MULTIPURPOSE (TEAM) ROOMS. CONFERENCE ROOMS AND TRAINING ROOMS: Provide separate individual temperature control zone for each room. Provide blank zone temperature sensor with remote temperature setpoint via the DDC system by authorized personnel.

I. UNINTERRUPTIBLE POWER SOURCE (UPS): HVAC systems serving UPS rooms shall be designed and provided to maintain appropriate interior environmental conditions (temperature, humidity, and pressure), and to limit hydrogen gas accumulation to less than an explosive mixture. Design of HVAC systems shall meet the system manufacturer's requirements and applicable code requirements such as OSHA, NFPA 1, NFPA 111, NFPA 70, etc. Ventilation/exhaust system shall be provided as required and shall be an independent and dedicated system which is separate from all other building systems. Air recirculation within the battery area is not allowed, and where required, mechanical components of the ventilation system shall be explosion-proof. Appropriate alarms and automatic controls shall be provided to automatically detect and sound audible alarm upon malfunction of the ventilation system. A malfunction of the ventilation system shall prevent the battery charging system from operating. Design features of the battery area/room shall address all requirements such as ventilation, fire protection, and hazardous material reporting, disposal, and spill control.

J. PLUMBING SYSTEMS

1) An emergency eyewash station shall be provided and located within the area of the UPS system.

K. REDUNDANCY / RELIABILITY: If the HVAC system or a component of the main primary HVAC system fails resulting in an inoperative system, the redundant HVAC equipment shall be designed, configured, and capable of automatic switch-over to providing 100% of the load. HVAC systems and component redundancy shall be provided and comply with the following Table III matrix:

1) Table III: Redundancy/Reliability Matrix

REDUNDANCY/RELIABILITY MATRIX			
Category	**Equipment or Area Served**	**Battery Back-Up for Controls (see note 4)**	**Requirement**
Central Equipment and Associated Controls	Cooling and Refrigeration Equipment	Yes	100% Dedicated redundancy is required (See Note 7)
	[Heating Equipment]	[Yes]	[100% Dedicated redundancy is required (See Note 7)]
	Sump Pumps, Sewage Ejectors, and Lift Stations (as required)	Yes	Duplex, with each pump sized at 100 percent.
Air-handling Equipment and Associated Controls	OC (COIC)	Yes	100% Dedicated redundancy is required
	SCIF	Yes	
	NOC and Server Rooms	Yes	
	Entrance (Communications) Room, Telecommunications Equipment Rooms and Telecommunications Rooms	Yes	
	Command Suite	Yes	
	AV Control associated with the OC (COIC), SCIF and ,NOC, Command Suite	Yes	
	UPS Rooms	Yes	
	Briefing	No	No airside redundancy required.
	Other Spaces	No	No airside redundancy required.
Piping	General	NA	Provide isolation valves at equipment, riser feeds, and pipe branches serving two or more pieces of equipment.
	Server Rooms, Entrance (Communications) Room Telecommunications Equipment Rooms, Telecommunications Rooms OC (COIC) and NOC, Command Suite, SCIF , AV Control associated with the OC (COIC), UPS Rooms	NA	Provide 100% redundant cooling [and heating] piping feeds utilizing separate, remote pathways from the redundant cooling [and heating] source equipment to air-handling equipment serving these areas. Provide valves to allow selection and isolation of independent piping feeds.

Notes:

1. Where redundancy requirements dictate the use of packaged equipment for an area or combination of areas, two (2) separate sets of packaged equipment, each at 100% capacity, are required to be provided.
2. The HVAC system must be capable of isolating non-critical areas in the event of failure of central equipment.
3. HVAC Equipment is not required to be on UPS.
4. Controls must have battery back-up or non-volatile memory to facilitate automatic re-start upon restoration of stand-by 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-hrs/day, 7-days/week, and an additional and separate cooling [and heating] system shall be provided to serve as the required 100% capacity backup.
6. Areas and systems requiring 100% dedicated redundancy shall 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 shall produce an audible and visual alarm for the occupants.
7. Applicable only to the equipment serving the critical areas listed in the “Air-handling Equipment and Associated Controls” category where 100% dedicated redundancy is indicated to be required.
8. [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.]

3.12 ENERGY CONSERVATION REQUIREMENTS

A. ENERGY CONSERVATION. Provide in accordance with the following paragraph of the RFP Statement of Work (SOW): Paragraph 5.0 GENERAL TECHNICAL REQUIREMENTS, subparagraph ENERGY CONSERVATION.

B. SCHEDULES: the following facility load schedules shall be used in energy simulations for purposes of documenting compliance with energy performance requirements.

1) Schedules: General Admin Areas and TeleComm Areas

Hr	Occupancy			Lighting			Plug Loads (Desktop, Laptops, Computers Only)			Comm Rm Equipment		
	Wk	Sat	Sun	Wk	Sat	Sun	Wk	Sat	Sun	Wk	Sat	Sun
1	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
2	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
3	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
4	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
5	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
6	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
7	0	0	0	0.3	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
8	0.2	0	0	0.95	0.05	0.05	0.44	0.3	0.3	0.8	0.8	0.8
9	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	0.95	0.8	0.8
10	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	0.95	0.8	0.8
11	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	0.95	0.8	0.8
12	0.5	0	0	0.95	0.05	0.05	0.65	0.3	0.3	0.95	0.8	0.8
13	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	0.95	0.8	0.8
14	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	0.95	0.8	0.8
15	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	0.95	0.8	0.8
16	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	0.95	0.8	0.8
17	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	0.95	0.8	0.8
18	0.1	0	0	0.15	0.05	0.05	0.37	0.3	0.3	0.8	0.8	0.8
19	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
20	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
21	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
22	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
23	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8
24	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	0.8	0.8	0.8

2) **Schedules: NOC/OC/SCIF Areas**

Hr	Occupancy			Lighting			Plug Loads (Desktop, Laptops, Computers Only)			Server Equipment		
	Wk	Sat	Sun	Wk	Sat	Sun	Wk	Sat	Sun	**Wk**	**Sat**	**Sun**
1	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
2	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
3	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
4	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
5	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
6	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
7	0	0	0	0.3	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
8	0.2	0	0	0.95	0.05	0.05	0.44	0.3	0.3	**0.8**	**0.8**	**0.8**
9	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	**0.95**	**0.8**	**0.8**
10	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	**0.95**	**0.8**	**0.8**
11	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	**0.95**	**0.8**	**0.8**
12	0.5	0	0	0.95	0.05	0.05	0.65	0.3	0.3	**0.95**	**0.8**	**0.8**
13	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	**0.95**	**0.8**	**0.8**
14	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	**0.95**	**0.8**	**0.8**
15	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	**0.95**	**0.8**	**0.8**
16	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	**0.95**	**0.8**	**0.8**
17	0.95	0	0	0.95	0.05	0.05	0.95	0.3	0.3	**0.95**	**0.8**	**0.8**
18	0.1	0	0	0.15	0.05	0.05	0.37	0.3	0.3	**0.8**	**0.8**	**0.8**
19	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
20	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
21	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
22	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
23	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**
24	0	0	0	0.05	0.05	0.05	0.3	0.3	0.3	**0.8**	**0.8**	**0.8**

3) **Schedules: NOC/OC/SCIF Areas Only**

	SCIF Equipment (Printers, Copiers, Shredders, etc.)			CPOF Equipment and TV's (OC)			TSVA Parking		
HR	Wk	Sat	Sun	Wk	Sat	Sun	Wk	Sat	Sun
1	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
2	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
3	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
4	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
5	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
6	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
7	0	0	0	0.3	0.3	0.3	0	0	0
8	0	0	0	0.3	0.3	0.3	0	0	0
9	0.1	0	0	0.44	0.3	0.3	0	0	0
10	0.1	0	0	0.44	0.3	0.3	0	0	0
11	0.1	0	0	0.44	0.3	0.3	0	0	0
12	0.1	0	0	0.44	0.3	0.3	0	0	0
13	0.1	0	0	0.44	0.3	0.3	0	0	0
14	0.1	0	0	0.44	0.3	0.3	0	0	0
15	0.1	0	0	0.44	0.3	0.3	0	0	0
16	0.1	0	0	0.44	0.3	0.3	0	0	0
17	0.1	0	0	0.44	0.3	0.3	0	0	0
18	0	0	0	0.3	0.3	0.3	0	0	0
19	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
20	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
21	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
22	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
23	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95
24	0	0	0	0.3	0.3	0.3	0.95	0.95	0.95

4) **Schedules: Exterior Lighting**

Parking, Walkway, and Bldg Facade Lighting		
Wk	Sat	Sun
0.95	0.95	0.95
0.95	0.95	0.95
0.95	0.95	0.95
0.95	0.95	0.95
0.95	0.95	0.95
0.95	0.95	0.95
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0.95	0.95	0.95
0.95	0.95	0.95
0.95	0.95	0.95
0.95	0.95	0.95
0.95	0.95	0.95
0.95	0.95	0.95

3.13 FIRE PROTECTION REQUIREMENTS

A. STANDARDS AND CODES. All fire protection and life safety features shall be in accordance with UFC 3-600-01 and the criteria referenced therein. The facility shall be classified as MISSION CRITICAL and shall be provided with complete sprinkler protection.

B. QUALIFICATIONS OF FIRE PROTECTION ENGINEER. The design of the fire protection features shall be by a qualified fire protection engineer meeting one of the conditions indicated in UFC 3-600-01.

C. FIRE PROTECTION AND LIFE SAFETY ANALYSIS. A fire protection and life safety design analysis shall be provided for this project. The analysis shall be submitted with the preliminary design submittal. The analysis shall include classification of occupancy (both per the IBC and NFPA 101); type of construction; height and area limitations (include calculations for allowable area increases); life safety provisions (exit travel distances, common path distances, 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, etc.; analysis of automatic suppression systems and protected areas; water supplies; smoke control systems; fire alarm system, including connection to the base-wide system; fire detection system; standpipe systems; fire extinguishers; interior finish ratings; and other pertinent fire protection data. The submittal shall 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 necessary to exhibit compliance with life safety code requirements.

D. SPRINKLER SYSTEM. The facility shall be fully protected with automatic sprinkler systems. All floors and all areas of the facilities shall be protected. The sprinkler system design shall be in accordance with UFC 3-600-01 and NFPA 13. The sprinkler hazard classifications shall be in accordance with UFC 3-600-01, NFPA 13, and other applicable criteria. Design densities, design areas and exterior hose streams shall be in accordance with UFC 3-600-01. The sprinkler systems shall be designed and all piping sized with computer generated hydraulic calculations. The exterior hose stream demand shall be included in the hydraulic calculations. A complete sprinkler system design, including sprinklers, branch lines, floor mains and risers, shall be shown on the drawings. The sprinkler system plans shall include node and pipe identification used in the hydraulic calculations. All sprinkler system drains, including main drains, test drains, and auxiliary drains, shall be routed to a 2-foot by 2-foot splash block at exterior grade or other approved location.

1) **Sprinkler Service Main and Riser.** The sprinkler service main shall be a dedicated line from the distribution main. Sprinkler service and domestic service shall not be combined. The required electrical connection shall be made to the tamper switch on the PIV. The conductor shall be routed to and connected to the building fire alarm control panel (FACP). The ground floor entry penetration shall be sleeved per NFPA 13 requirements for seismic protection. The sprinkler entry riser shall include a double check backflow preventer, a fire department connection, and a wall hydrant for testing of backflow preventer. The sprinkler system shall include an indicating control valve for each sprinkler system riser, a flow switch reporting to the FACP, and an exterior alarm bell. All control valves shall be OS&Y gate type and shall be provided with tamper switches connected to the FACP. Facilities with multiple floors shall be provided with floor control valves for each floor. The floor control valve assembly shall be in accordance with UFC 3-600-01, Figure 4-1.

2) **Exterior Hose Stream.** Exterior hose stream demand shall be in accordance with UFC 3-600-01. This shall be 250 gpm for light hazard and 500 gpm for ordinary hazard. Exterior hose stream demand shall be included in the sprinkler system hydraulic calculations.

3) **Backflow Preventer.** At minimum, a double check backflow preventer shall be provided on the fire water main serving the building. Some installations and private water utilities contractors may require more elaborate back flow preventer assemblies (reduced-pressure zone type, double check detector type, etc.). The assembly shall be located within the building unless otherwise required by the installation or utilities contractor. An exterior, wall-mounted test header with 2.5" hose connections and OS&Y valve shall be provided to allow testing of the backflow preventer at design flow, as required by NFPA 13.

4) **Fire Department Connection.** A fire department connection shall be provided and shall be located to be directly accessible to the fire department.

5) **NOC, Server Rooms, Telecommunication Equipment Rooms, Entrance Communication Room and other information technology equipment areas.** Provide each area with a separate supervised zone-control valve assembly situated in an accessible location near the zone boundary. Provide a flow switch in the pipe serving each zone and wire to disconnect electric power from equipment up[on sprinkler flow.

E. ELEVATORS. The fire protection features of elevators, hoist ways, machine rooms and lobbies shall be in accordance with UFC 3-600-01, ASME A17.1, NFPA 13 and NFPA 72.

F. SYSTEM COMPONENTS AND HARDWARE. Materials for the sprinkler system, fire pump system, and hose standpipe system shall be in accordance with NFPA 13 and NFPA 20.

G. PROTECTION OF PIPING AGAINST EARTHQUAKE DAMAGE. Sprinkler and fire pump piping systems shall be protected against damage from earthquakes. Seismic protection shall include both 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.

H. FIRE WATER SUPPLY. [Fire flow test data is provided in the appendix.][The geographic district will provide the fire flow test data for preliminary fire protection system design. The contractor shall verify fire flow data by conducting necessary fire flow tests at the project site during project. The fire protection engineer shall base the design of the fire protection system on the results of these tests.]

I. FIRE PUMP. The requirement for a fire pump installation shall be determined by the fire protection engineer based on fire flow test data from the project site and fire protection system design requirements for the project. If required a complete fire pump installation shall be provided for the facility. It shall comply with the requirements of UFC 3-600-01, NFPA 13 and NFPA 20. Fire pump design analysis and drawings shall be submitted as part of the design requirements.

J. FIRE DETECTION AND ALARM. A fire alarm and detection system shall be provided. It shall comply with the requirements of UFC 3-600-01 and NFPA 72. The system shall

be addressable and fully compatible with and integrated with the local base-wide central monitoring system.

K. BUILDING CONSTRUCTION. Construction shall comply with requirements of UFC 3-600-01, the International Building Code, NFPA 101, and NFPA 75.

1) **Fire Extinguishers Cabinets and Brackets**. Fire Extinguisher cabinets and brackets shall be provided when fire extinguishers are required by UFC 3-600-01 and NFPA 101. Placement of cabinets and brackets shall be in accordance with NFPA 10. Semi-recessed cabinets shall be provided in finished areas and brackets shall be provided in non-finished areas (such as utility rooms, storage rooms, shops, and vehicle bays). Fire extinguishers shall not be provided in this contract.

2) **Interior Wall and Ceiling Finishes**. Interior wall and ceiling finishes and movable partitions shall conform to the requirements of UFC 3-600-01 and NFPA 101.

3) Server rooms and other portions of the facility which house MISSION CRITICAL electronic equipment installations (as defined in section 6-8 of UFC 3-600-01), shall be separated from surrounding occupancies by fire-resistance rated construction in accordance with NFPA 75.

3.14 SUSTAINABLE DESIGN – NOT USED

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. GENERAL: All electrical hook-ups, data outlets, structural support, wall brackets and additional infrastructure as required to support the GFGI equipment listed below shall be provided.

3.19.1 FURNISHINGS

[RFP Preparer should contact using activity for a detailed, descriptive and quantifiable list of equipment. The list shall also be coordinated with the Facility Design Criteria Manual developed by USAISEC for each unique facility.]

A. FURNISHINGS: The criteria contained in Table 3.19.1.B (following page) describe the furnishing requirements for all room types for these facilities. Furnishings, other than installed equipment, are to be Government furnished and Government installed (GFGI) unless otherwise specified in this document. All computers and related hardware, copiers, faxes, printers, video projectors, VCRs and TVs and other items indicated in the Equipment List above are GFGI. The following furnishings list is provided for coordination of room and office layouts to ensure suitability for their intended function. Large interior spaces such as open office areas can be subdivided into smaller areas by using office partitions, storage units and file cabinets or similar devices. In general, the interior design shall provide a comfortable, efficient and flexible work environment. The Room Furnishings Chart on the following pages provides typical furnishings associated with each category of space in the facility program.

B. ROOM FURNISHINGS CHART

Table 3.19.1.B Room Furnishings Chart				
Room Type	**Description**	**Min. SF**	**Comments**	**Furniture Description**
CG	Ops Area CG Jump Station	36	OPEN WORKSTATION	General-purpose workstation.
DS	Special Use Ops Area Shift Console	16	WORK COUNTER	Walk-up work counter.
P1	Senior Executive Office	400	PRIVATE OFFICE	U-shaped desk unit with executive single pedestal desk w/ center drawer, box/box/file pedestal, full modesty panel; executive bridge 42” min.; credenza unit w/ two drawer lateral file and hutch unit w/ door storage, one wardrobe cabinet, one 5-shelf bookcase, one 4-drawer lateral file, one conference table, eight conference chairs, two guest chairs, one executive chair.
P2, A2	Executive Office	300	PRIVATE OFFICE	U-shaped desk unit with executive single pedestal desk w/ center drawer, box/box/file pedestal, full modesty panel; executive bridge 42” min.; credenza unit w/ two drawer lateral file and hutch unit w/ door storage, one wardrobe cabinet, one 5-shelf bookcase, one 4-drawer lateral file, one conference table, four conference chairs, two guest chairs, one executive chair.
P3, S3, N3, A3	Executive Office (small)	200	PRIVATE OFFICE	U-shaped desk unit with executive single pedestal desk w/ center drawer, box/box/file pedestal, full modesty panel; executive bridge 42” min.; credenza unit w/ two drawer lateral file and hutch unit w/ door storage, one 5-shelf bookcase, one 4-drawer lateral file, two guest chairs, one executive chair.
P4, S4, N4, A4	Office	150	PRIVATE OFFICE	L-shaped executive desk unit with single pedestal desk w/ center drawer and storage pedestal w/ box/box/file configuration, full modesty panel; executive return (min. 42”) with storage pedestal file/file configuration and hutch unit w/ door storage, one 4-drawer lateral file, two guest chairs, one task chair.
P5, S5, N5, A5	Office (small)	110	PRIVATE OFFICE	L-shaped executive desk unit with single pedestal desk w/ center drawer and storage pedestal w/ box/box/file configuration, full modesty panel; executive return (min. 42”) with storage pedestal file/file configuration and hutch unit w/ door storage, one 4-drawer lateral file, one guest chair, one task chair.

Table 3.19.1.B Room Furnishings Chart				
Room Type	**Description**	**Min. SF**	**Comments**	**Furniture Description**
P6	Visiting GO Office	300	PRIVATE OFFICE	U-shaped desk unit with executive single pedestal desk w/ center drawer, box/box/file pedestal, full modesty panel; executive bridge 42" min.; credenza unit w/ two drawer lateral file and hutch unit w/ door storage, one wardrobe cabinet, one 5-shelf bookcase, one 4-drawer lateral file, one conference table, four conference chairs, two guest chairs, one executive chair.
OR, SO, NS, A	Open Workstation (Regular)	[48] [64]	OPEN WORKSTATION	*[Note to preparer – Use 48 SF workstation with 36 SF filing space for everything but ACOM level. Use 64 SF /48 SF for ACOM.]* Systems furniture workstation with work surfaces, file pedestals, overhead storage, task lighting, and personal storage tower. Min. [36] [48] SF filing space.
[CC	Command Conference Room (Only for EAC)	1600	60 PN COMMAND CONFERENCE/VTC ROOM	Conference Table with 25 conference chairs and 35 side chairs, (4) Buffet Credenzas.]
EC	Executive Conference Room	805	EXECUTIVE CONFERENCE / VTC ROOM	Conference Table with 15 conference chairs and 20 side chairs, (2) Buffet Credenzas.
CB	Command/Briefing Room	2250	150 PN CONFERENCE ROOM / BRIEFING / VTC ROOM	Executive Training Tables w/ 54 conference chairs and 92 side chairs.
CL	Conference Room	805	35 PN VTC CONFERENCE ROOM	Conference Table with 15 conference chairs and 20 side chairs. (2) Buffet Credenzas.
CM	Conference Room	572	24 PN CONFERENCE ROOM	Conference Table with 16 conference chairs and 8 side chairs. (1) Buffet Credenza.
CS	Conference Room	255	12 PN CONFERENCE / VTC ROOM	Conference Table with 8 conference chairs and 4 side chairs. (1) Buffet Credenza.
BR	Break Room	108	BREAK ROOM	Contractor furnished, contractor installed minimum 20 LF base and wall cabinets, dishwasher and space for a full size refrigerator with ice-maker. (2) Break room tables, and (8) chairs. Provide one 4'-0" X 6'-0" wall mounted bulletin board.

Table 3.19.1.B Room Furnishings Chart				
Room Type	**Description**	**Min. SF**	**Comments**	**Furniture Description**
CE	Entry Lobby/ Screening	VARIES UP TO 2000	SCREENING/ LOBBY	Metal detectors Systems furniture open office area / pass issue desk, approximately 96SF, for two staff members
CT	Command Toilet	54	COMMAND TOILET	Contractor furnished, contractor installed lavatory, water closet, and shower.
DC	Distribution Room / Message Center	250		Provide 24” deep, 36” high counter equivalent to the length of the room.
FC	Files	88	FILE ROOM	40 linear feet of file space Minimum of 40 linear feet of 4-drawer lateral file cabinet; ((1) 36”w, 4-drawer file cabinet = 12 LF).
KT	Kitchenette	96	ONE PER COMMAND SUITE AND ONE PER COMMAND BRIEFING ROOM	Contractor furnished, contractor installed minimum 20 LF base and wall cabinets (lockable), dishwasher. Provide space for a full size refrigerator with ice-maker, microwave, and two vending machines (not in the contract).
PC	Printer/Copier	96	PRINTER/COPIER	Contractor furnished, contractor installed minimum 8 LF base and wall cabinets to accommodate laser printer, fax machine, and supply storage.
RA	Reception	250	RECEPTION AREA FOR COMMAND/GO SUITE	Individual systems furniture executive open office areas, approximately 48SF each, for seven staff members and minimum 4 lounge chairs and 1 side table.
ST	General Purpose Storage Room	96	SUPPLIES/STORAGE ROOM	(1) 6-shelf steel shelving unit measuring approximately 48” W X 16” D X 72” tall for every 20 SF of storage room space.
TE	Team Room	VARIES <REV> FROM 120 to 150 SF </REV>	8 PN TEAM ROOM	<REV>Conference Table with 6 conference chairs and 2 side chairs.</REV>
			<REV></REV>	<REV></REV>

Table 3.19.1.B Room Furnishings Chart				
Room Type	**Description**	**Min. SF**	**Comments**	**Furniture Description**
SC	Service Concessions	1500	<REV>FOOD & OTHER SVCS CONCESSION AREA</REV>	None.
[PR	Prayer Room	120	ONLY AT C2F NOT ON A MILITARY INSTALLATION	Small, square table with 4 chairs.]
SP	Senior Leadership Planning Room	500	18 PN ROOM	Modular Conference Tables with 18 conference chairs and (2) Buffet Credenza.
OP	OC Planning Room	500	20 PN ROOM	Modular Conference Tables with 20 chairs and (2) Buffet Credenza. SAR Room: Modular Conference Tables with 12 conference chairs.
OC	OC	VARIES	COLLABORATIVE WOK AREA SIMILAR TO EMERGENCY OPERATIONS CENTER W/SMALLER ADJOINING MEETING / PLANNING ROOMS	75 total systems furniture workstations, 30"D x 60"W, with 42"-48"H powered panels, with one mobile box/file pedestal with cushion, and task chair per workstation as indicated on standard floor plans.

Table 3.19.1.B Room Furnishings Chart				
Room Type	**Description**	**Min. SF**	**Comments**	**Furniture Description**
SCIF	Sensitive Compartmented Information Facility	VARIES	OPEN OFFICE WITH MULTIPLE SMALLER COLLABORATIVE WORK AREAS, AND ONE PRIVATE OFFICE	90-92 total systems furniture workstations, 30"D x 60"W, with 42"-48"H powered panels, with one mobile box/file pedestal with cushion, and task chair per workstation as indicated on standard floor plans. 8 total systems furniture workstations, approx. 48 SF, with work surfaces, file drawers and overhead storage as indicated on standard floor plans. 1 U-shaped desk unit with executive single pedestal desk w/ center drawer, box/box/file pedestal, full modesty panel; executive bridge 42" min.; credenza unit w/ two drawer lateral file and hutch unit w/ door storage, one 5-shelf bookcase, one 4-drawer lateral file, two guest chairs, one executive chair. 8 total heavy-duty steel shelving units, 24"D x 48"W each, and 4 workbenches located in Automated Information Systems room. Provide cell phone storage locker(s) to accommodate 100 individual phones adjacent to primary SCIF entry at corridor side.
NOC	Network Operations Center	VARIES	OPEN OFFICE WITH WORKSTATIONS AND SERVER ROOM	20 total systems furniture workstations, approx. 48 SF, with work surfaces, file drawers and overhead storage as indicated on standard floor plans. Space for GFGI communication racks, equipment, and 3 each workbenches in server room.
DT / CBT	Distributed / Computer-Based Training Room	572	CLASSROOM TRAINING ROOM	Two (2) each six (6)-person stations.
FC	File Storage	88	FILE ROOM	File drawers
LC	Lactation Room	64	LACTATION ROOM	One (1) chair, one (1) small table, base cabinet with counter top and sink, and space for a full-size refrigerator with icemaker.

3.19.2 EQUIPMENT:

A. EQUIPMENT IN CONFERENCE ROOMS
1) [Projection Screen with projector (at least 72 inches wide)]
2) [VCR]
3) [DVD]
4) [Control console for integrated video system]
5) [Smart podium with control of video system]
6) [Smart white board that is integrated with video system]
7) [PA System with hardwired microphones]
8) [Adjustable lighting levels]
9) [Video conference secure and non-secure VTC capabilities]
10) [White boards and map rails]
11) [Electrically controlled shades]
12) [___]

B. EQUIPMENT IN MULTI-PURPOSE ROOMS, PLANNING ROOMS, SCIF OFFICES AND SMALL OPEN OFFICES.
1) [White boards and map rails.]
2) [___]

C. EQUIPMENT IN SENIOR LEADERSHIP WAR ROOM.
1) [Projection Screen with projector (at least 72 inches wide).]
2) [VCR]
3) [DVD]
4) [Control console for integrated video system]
5) [Smart podium with control of video system.]
6) [Smart white board that is integrated with video system.]
7) [PA System with hardwired microphones.]
8) [Adjustable lighting levels.]
9) [Video conference secure and non-secure VTC capabilities.]
10) [Each station shall have connectivity to network phones, analog phones, secure and unsecured networks.]
11) [White boards and map rails.]
12) [Electrically controlled shades]
13) [___]

D. EQUIPMENT IN OC.
1) [Integrated video display wall using either rear projection cubes or narrow bezel LOC flat panels (Wall of Knowledge).]
2) [Large projection screen with projector.]
3) [VCR]
4) [DVD]
5) [Control console for integrated video system]
6) [Smart podium with control of video system.]
7) [Smart white board that is integrated with video system.]
8) [PA System with hardwired microphones.]
9) [Adjustable lighting levels.]
10) [Video conference secure and non-secure VTC capabilities.]
11) [Each station shall have connectivity to network phones, analog phones, secure and unsecured networks.]
12) [White boards and map rails.]
13) [Electrically controlled shades]
14) [___]

E. EQUIPMENT IN THE NOC.
1) [Cabinets to support the User's computer networks, video integration system, communication systems and other specialized electronic systems.]
2) [Large-screen projectors and/or monitors/displays.]
3) [___]

F. EQUIPMENT IN THE BRIEFING ROOM.
1) [Projection Screen with projector (at least 96" wide.]
2) [VCR]
3) [DVD]
4) [Control console for integrated video system.]
5) [Smart podium with control of video system.]
6) [Smart white board that is integrated with video system.]
7) [PA system with hardwired microphones.]
8) [Adjustable lighting levels.]
9) [Video conference secure and non-secure VTC capabilities.]
10) [White boards and map rails.]
11) [Electrically controlled shades]
12) [___]

G. EQUIPMENT IN THE SCIF (JWICS SECURE VTC AREA).
1) [Projection screen with projector (at least 60 inches wide).]
2) [VCR]
3) [DVD]
4) [Control console for integrated video system.]
5) [Smart podium with control of video system.]
6) [Smart white board that is integrated with video system.]
7) [PA system with hardwired microphones.]
8) [Adjustable lighting levels.]
9) [Video conference secure and non-secure capabilities.]
10) [White boards and map rails.]
11) [Electrically controlled shades (if there are exterior windows in the SCIF)]
12) [1- Shredder, 120Volt/20A Dedicated Circuit (STO Office)]
13) [1 - Comms Equipment, 120Volt/20A Dedicated Circuit (STO Office)]
14) [4 – Workstation, 120Volt/2A each (STO Office)]
15) [1 –VTCoIP, 120Volt/0.33A (STO Office)]
16) [2 - VoIP Phone, 120Volt/0.12A each (STO Office)]
17) [1 – Scanner, 120Volt/0.8A (STO Office) each]
18) [1 – Printer, 120Volt/7.2A (STO Office)]
19) [1 - Workstation, 120Volt/2A (STO VTC Room)]
20) [1 - VoIP Phone, 120Volt/0.12A (STO VTC Room)]
21) [1 - 46in Display VDT, 120Volt/2A (STO VTC Room)]
22) [___]

H. [CENTRAL AUDIO VISUAL CONTROL ROOM]
1) [Cabinets to support the User's computer networks, video integration system, communication systems and other specialized electronic systems.]
2) [___]

I. [AUDIO VISUAL CONTROL ROOMS]
1) [Specialized video integration control systems require cabinet space (on average two 72-inch tall cabinets per VTC with an operations desk and space for mounting control monitors for each VTC.]
2) [Cabinets to support the User's computer networks, video integration system, communication systems and other specialized electronic systems.]
3) [___]

J. [CLASS ROOMS]
1) [The space requires two video projectors and two 10 ft wide motor operated projection screens. The instructor workstation and projection screens are located at the front of the room. An unobstructed view to the front of the room by all students is required. The instructor has digital access to each student computer. The instructor station has a computer, document camera, projector control, lighting and a sound system. Each student must have a networked computer on a desk. Rooms are generally square in plan and a wall at least 30 ft long is

optimal. A communication rack is required for the Video Teletraining (VTT) function in each classroom.]

3.20 FACILITY SPECIFIC REFERENCES

A. APPLICABLE INDUSTRY CRITERIA:

1) 10 CFR 436 Sub Part A Methodology and Procedures for Life Cycle Cost Analyses.

2) American National Standards Institute (ANSI/Telecommunications Industry Association (TIA/Electronic Industry Association (EIA)
   a) ANSI/EIA/TIA 568A Commercial Building Telecommunications Cabling Standard and all applicable Addendums)
   b) EIA/TIA 568-B Commercial Building Telecommunications Cabling Standards (Addendums 561-B.1, 568-B.2, 568-B.2-1)
   c) ANSI/TIA/EIA 569-B, Commercial Building Standards for Telecommunications Pathways and Spaces
   d) ANSI/TIA/EIA 569-B.1, Commercial Building Standards for Telecommunications Pathways & Spaces, Part 1 General Requirements
   e) ANSI/TIA/EIA 569-B.2, Commercial Building Standards for Telecommunications Pathways & Spaces, Part 2 Balanced Twisted Pair Cabling Components
   f) ANSI/TIA/EIA 569-B.3, Commercial Building Standards for Telecommunications Pathways & Spaces, Part 3 Optical Fiber Cabling Components
   g) ANSI/EIA/TIA 606A Administration Standard for Commercial Telecommunications Infrastructure
   h) ANSI/IESNA RP-1-04. American National Standard Practice for Office Lighting

3) ASHRAE
   a) ASHRAE Underfloor Air Distribution (UFAD) Design Guide, 2003
   b) ASHRAE 55 Thermal Environmental Conditions for Human Occupancy
   c) ASHRAE Hdbk-IP Handbook, Refrigeration I-P Edition
   d) ASHRAE Hdbk-IP Handbook, HVAC Applications I-P Edition
   e) ASHRAE Hdbk-IP Handbook, HVAC Systems and Equipment I-P Edition

4) ASME B31.1 Power Piping
5) Clean Air Act Amendment of 1990
6) Costing for MILCON Design (March 1996)
7) Discount Factors for Life-Cycle Cost Analysis, Annual Supplement to NIST Handbook 135
8) DOE Guidance on Life Cycle cost Analysis Required by Executive Order 13123
9) Energy Star Program
10) Executive Order 12902: Energy Efficiency and Water Conservation at Federal Facilities
11) Executive Order 13123: Greening the Government through Efficient Energy Management
12) Federal Energy Management Program (FEMP)
13) IEEE Standard 519-1992, IEEE Recommended Practice and Requirements for Harmonic Control in Electrical Power Systems
14) Information Systems Facility Design Criteria (FDC) developed by USAISEC for [Division] [Corps] [Numbered Army] [ACOM]
15) JAFAN 6/9 – Physical Security Standards for Special Access Program Facilities, 23 March 2004
16) Memorandum of Agreement (MOA) on Criteria/Standards for Economic Analyses/Life Cycle

17) NEMA PE 1 Uninterruptible Power Systems

18) NFPA 110 Emergency and Standby Power Systems

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

20) Testing and Balancing Bureau

21) Unified Facilities Criteria UFC
   a) UL 1008 Transfer Switch Equipment
   b) UL 1440 Transient Voltage Surge Suppressors
   c) UL 1778 Uninterruptible Power Systems

22) USAISEC Lightning Protection, Power Quality analysis, Grounding, Bonding, and Shielding, V1.0, Nov 2006, or latest version

B. APPLICABLE MILITARY CRITERIA:

1) Army Regulation (AR)
   a) AR 190-51, Security of Unclassified Army Property (Sensitive and Nonsensitive)
   b) AR 380-381 Special Access Programs (SAPS) and Sensitive Activities
   c) AR 380–5, Information Security Program
   d) AR 380-40 Policy For Safeguarding And Controlling Communications

2) Department of Defense (DOD)
   a) DoD MIL-STD-188-124B, Grounding, Bonding, and Shielding for Common Long Haul/Tactical Communication Systems Including Ground Based Communications-Electronics Facilities and Equipments, Notice 3, 18 December 2000
   b) DoD MIL-HDBK-419A, Grounding, Bonding, and Shielding for Electronic Equipments and Facilities, Volume 1, Theory, Volume II, Applications, 29 December 1987
   c) DOD Unified Facilities Criteria Memorandum, 29 May 2002
   d) DoD 5105.21-M-1 Sensitive Compartmented Information Administrative Security Manual
   e) DoD Regulation 5200.1-R, Information Security Program, Appendix 7 – Physical Security for Vault and Secure Room Construction Standards

3) National Security Telecommunications and Information Systems Security (NSTISS)
   a) NSTISSI NO 7003, National Security Telecommunications and Information Systems Security Instruction, Protected Distribution System (PDS).
   b) NSTISSAM/2-95, National Security Telecommunications and Information Systems Security Advisory Memorandum, Red/Black Installation Guidance

4) MIL-HDBK-232A, Red/Black Engineering-Installation Guidelines

5) Military Standard (MIL-STD)-3007B, Standard Practice for Unified Facilities Criteria (UFC) and Unified Facilities Guide Specifications, 1 April 2002

6) Office of the Director of National Intelligence
   a) Office of the Director of National Intelligence – Intelligence Community Directive Number 705 Sensitive Compartmented Information Facilities
   b) Office of the Director of National Intelligence – Intelligence Community Standard (ICS) Number 705-1 Physical and Technical Security Standards for Sensitive Compartmented Information Facilities
   c) Office of the Director of National Intelligence – Intelligence Community Standard (ICS) Number 705-2 Standards for the Accreditation and Reciprocal Use of Sensitive Compartmented Information
   d) Office of the Director of National Intelligence – Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities IC Tech Spec–for ICD/ICS 705

7) SECURITY-- (COMSEC) MATERIAL

8) TB- 380-41 Procedures for Safeguarding, Accounting and Supply Control of COMSEC Material

9) Technical Manual (TM) 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities, 15 February 2002

10) Unified Facilities Criteria UFC
   a) UFC 3-260-01, Airfield and Heliport Design.UFC 3-580-01 Telecommunications Bldg Cabling Systems Planning/Design Manual 22 June 2007
   b) UFC 4-140-03 Department Of The Army Facilities Standardization Program Command And Control Facilities And Other Army Headquarters Standard Design

C. GLOSSARY:

COMMAND AND CONTROL FACILITIES and other ARMY HEADQUARTERS	
#A	Numbered Army
ACOM	Army Command (FORSCOM, etc.)
ACSIM	Assistant Chief of Staff for Installation Management.
ADAAG	Americans with Disabilities Act Accessibility Guidelines
ADN	Area Distribution Node
AMC	U. S. Army Materiel Command
AR-(10-8, etc.)	Army Regulation
Army Standard	The Army Standard for Echelons Above Brigade (EAB) Command and Control Facilities (C2F). Current edition is 12 March 2008. The Army Standard for Army headquarters is XX XXXXXX 2012.
ASCC	Army Service Component Command
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
AT/FP	Anti-Terrorism/ Force Protection
BN HQ	Battalion Headquarters
C2F	Command and Control Facility
C2IN	Command and Control Information
C4I	Command, Control, Communications, Computers and Intelligence
CA	Certification Authority
CATV	Cable Television
CBT	Computer-Based Training
CCTV	Closed-Circuit Television
CE-LCMC	Communication Electronics- Life Cycle Management Command
CESAS	U.S. Army Corps of Engineers, Savannah District
Classroom XXI	A fully networked multimedia classroom with interoperable video tele-training, internet access, and full distance learning capability. The classroom is specified in the GIB and ACES GENERAL INSTRUCTION BUILDING (GIB) and ARMY CONTINUING EDUCATION SYSTEM (ACES) Standard Design Criteria authored by the U. S. Corps of Engineers, Norfolk District.
CMO	Civilian Military Operations, Command Management Office, Chief Medical Officer
COF	Company Operations Facility
COIC	Combined Operations and Intelligence Center
COS	Center of Standardization
CRAC	Computer Room Air Conditioning
DA	Department of the Army

DA PAM	Department of Army Pamphlet
DAA	Designated Approving Authority
DAC	Department of the Army Civilian
DAIM-FDC	Department of the Army, Assistant Chief of Staff for Installation Management, Construction Division.
DAIM-ZS	Department of the Army, Assistant Chief of Staff for Installation Management, Plans and Operations Directorate.
DAMO-CIR	Department of the Army, Assistant Chief of Staff for Installation Management, Resource Analysis and Integration.
DCI	Director of Central Intelligence
DDC	Direct Digital Control
DIA	Defense Intelligence Agency
DIA/DAC-2A2	Defense Intelligence Agency/Directorate of Administration of Counterintelligence
DISA	Defense Information Systems Agency
DOIM	Directorate of Information Management
DRSN	Defense RED Switch Network
DRU	Direct Reporting Unit
DT/CBT	Distributed/Computer-Based Training Program
EAB	Echelons Above Brigade
EAC	Echelons Above Corps
EMI Bleed	Electromagnetic Interference (causing information to migrate).
EMT	Electrical Metallic Tubing
ER	Entrance (Communications) Room
ER-(1110-3-13 etc.)	Engineer Regulation (followed by number. Available at: http://www.usace.army.mil/publications/eng-regs/)
FACP	Fire Alarm Control Panel
FB-6 Fence	Fence utilizing green knitted fabric for visual screening.
FE-6 Fence	Fence detailed in U. S. Army Corps of Engineers Protective Design Center web site (https://pdc.usace.army.mil/library/drawings/fencehttps://pdc.usace.army.mil/library/drawings/fence)
FDC	Facility Design Criteria
FDT	Facility Design Team (for this C2F Standard Design)
FORSCOM	U. S. Army Forces Command
FY06, FY08, etc.	Fiscal Year
G-2, G-3, etc.	Designation of general staff sections within the C2F
GFGI	Government Furnished, Government Installed.
GP Briefing Room	General Purpose Briefing Room
gpm	Gallons Per Minute
HMMWV	High-Mobility Multi-Purpose Wheeled Vehicle.
HQDA-G3/5/7	Headquarters, Dept. of the Army, G-3, G-5 and G-7 sections
IAW	In Accordance With
ICD	Intelligence Community Directive
ICS	Intelligence Community Standard
IT	Information Technology
ICIDS	Integrated Commercial Intrusion Detection System
IESNA	Illumination Engineering Society of North America

IEEE	Institute of Electrical and Electronics Engineers, Inc.
JAFAN 6/9	Joint Army Force-Army-Navy Physical Security Standards for Special Access Program Facilities.
JFLC	Joint Force Land Component
JFLCC	Joint Force Land Component Command
JOA	Joint Operational Area
JTF	Joint Task Force
JWICS	Joint Worldwide Intelligence Communications System
LCCA	Life-Cycle Cost Analysis
LEED-NC	Leadership in Energy and Environmental Design. The LEED-NC Version 2.0 is the current Green Building Rating System.
LMOC	Logistics and Movement Operations Center
MNS	Mass Notification System
MILCON	Military Construction
MM Fiber	Multi-mode Fiber
MTOE	Modified Table of Organization and Equipment
NAC	Notification Appliance Circuits
NFPA	National Fire Protection Agency
NIC	Not In Contract
NIPR	Non-Classified Internet Protocol Router
NMT	Not More Than
NLT	Not Less Than
NOC	Network Operations Center
NSA	National Security Agency
NSF	Net Square Footage (area)
NSTISSAM	National Security Telecommunications and Information Systems Security Advisory Memorandum
NSTISSI	National Security Telecommunications and Information Systems Security Instruction
NSTS	National Secure Telephone System
NTE	Not To Exceed
OACSIM	Office of the Assistant Chief of Staff for Installation Management.
OC	Operations Center
ODNI	Office of the Director of National Intelligence
OPEN STORAGE	Storage of classified information within an accredited facility while the facility is occupied by unauthorized personnel.
OS&Y	Outside stem & yoke (a type of plumbing gate valve)
OTOE	Objective Table of Organization and Equipment
PAO	Public Affairs Office
PDS	Protective Distribution System
PIV	Pressure Indicator Valve
POV	Privately-owned vehicle
RCC	Regional Combat Commanders
RFP	Request for Proposal
RH	Relative humidity
SA	Secretary of the Army
SAP	Special Access Program. Construction Standards are specified in AR 25-2, AR 380-5, DODI 8500.2, NSTISSAM TEMPEST/2-95A, ICS 705-1, DCI Special Access Programs (SAP) Policy, and JAFAN 6/9.

SCIF	Sensitive Compartmented Information Facility. Construction Standards are specified in AR 25-2, AR 380-5, DODI 8500.2, NSTISSAM TEMPEST/2-95A and ICS 705-1.
SIPR	Secret Internet Protocol Router
SM Fiber	Single-Mode Fiber
SLC	Single Line Circuits
SOW	Scope of Work
STC	Sound transmission coefficient
STO	Special Technical Operations. Construction Standards are specified in AR 25-2, AR 380-5, DODI 8500.2, NSTISSAM TEMPEST/2-95A, ICS 705-1 , DCI Special Access Programs (SAP) Policy, and JAFAN 6/9.
STP	Shielded Twisted Pair
SZ 1, SZ 2, etc.	Security Zone 1, 2, etc.
TDA	Table of Distribution and Allowance
TEMF	Tactical Equipment Maintenance Facility
TER	Telecommunications Equipment Room
TIA/EIA-(569-B, etc.)	Telecommunications Industry Association/Electronic Industries Alliance
TIB	Tactical Interface Box
TR	Telecommunications Room
TRADOC	U. S. Army Training and Doctrine Command
TS	TOP SECRET
TS/SCI	TOP SECRET /Sensitive Compartmented Information
TSVA	Tactical SCI Vehicle Area
UFAD	Underfloor Air Distribution
UFC	Unified Facilities Criteria
UPS	Un-interrupted Power Supply
USAISEC	U. S. Army Information Systems Engineering Command
USJFCOM	U. S. Joint Forces Command
UTP	Unshielded Twisted Pair
VAV	Variable air volume
VTC	Video tele-conferencing
VTP	Video tele-training