

UNIFIED FACILITIES CRITERIA (UFC)

INTERIOR DESIGN



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U.S. ARMY CORPS OF ENGINEERS (Preparing Activity)

NAVAL FACILITIES ENGINEERING COMMAND

AIR FORCE CIVIL ENGINEER CENTER

Record of Changes (changes are indicated by \1\ ... /1)

Change No.	Date	Location
1	20 Apr 2021	<ol style="list-style-type: none">1. <u>Updated CAD standard information in paragraph 4-4.</u>2. <u>Added reference to USACE Nomenclature document in paragraph 4-4.6.</u>3. <u>Added bulleted item c, link to USACE Nomenclature document, to paragraph 5-3.1.2.</u>4. <u>Added reference/link to USACE Nomenclature document in Appendix A.</u>
2	15 Jun 2021	<ol style="list-style-type: none">1. <u>Added paragraph prohibiting the use of brand names and proprietary information; added bulleted item c; and deleted last subparagraph in paragraph 4-5.1.</u>2. <u>Added reference to Pantone Color System in paragraph 4-5.1.1.</u>3. <u>Deleted paragraph 4-5.1.2.</u>4. <u>Deleted bulleted items d and p, requirements for manufacturer's contact information and dealer/vendor quotes in paragraph 5-4.7.</u>5. <u>Deleted paragraph 5-4.9 Manufacturers Source List.</u>

This UFC is a revision to UFC 3-120-10 dated 15 June 2006 including Change 1, July 2007.

FOREWORD

The Unified Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with [USD \(AT&L\) Memorandum](#) dated 29 May 2002. UFC will be used for all DoD projects and work for other customers where appropriate. All construction outside of the United States is also governed by Status of Forces Agreements (SOFA), Host Nation Funded Construction Agreements (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA). Therefore, the acquisition team must ensure compliance with the most stringent of the UFC, the SOFA, the HNFA, and the BIA, as applicable.

UFC are living documents and will be periodically reviewed, updated, and made available to users as part of the Services' responsibility for providing technical criteria for military construction. Headquarters, U.S. Army Corps of Engineers (HQUSACE), Naval Facilities Engineering Command (NAVFAC), and Air Force Civil Engineer Center (AFCEC) are responsible for administration of the UFC system. Defense agencies should contact the preparing service for document interpretation and improvements. Technical content of UFC is the responsibility of the cognizant DoD working group. Recommended changes with supporting rationale should be sent to the respective service proponent office by the following electronic form: [Criteria Change Request \(CCR\)](#). The form is also accessible from the Internet sites listed below.

UFC are effective upon issuance and are distributed only in electronic media from the following source:

- Whole Building Design Guide web site <http://www.wbdg.org/>.

Hard copies of UFC printed from electronic media should be checked against the current electronic version prior to use to ensure that they are current.

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UNIFIED FACILITIES CRITERIA (UFC) REVISION SUMMARY SHEET

Document: UFC 3-120-10, *Interior Design*

Superseding:

- UFC 3-120-10, *Interior Design*, dated 15 June 2006, including Change 1, July 2007

Description: This UFC is a coordinated compilation of interior design requirements, and references non-government standards to the greatest extent practicable. It provides a succinct reference for interior designers to ensure that all requirements are met.

Reasons for Document:

- Defines the requirements for interior design work on military construction and renovation projects.
- Relies on a list of industry and government standards, codes and references; and
- Provides DoD sources for standards and guidance not otherwise addressed.

Impact: Cost impacts are negligible; however, design delays should decrease as all requirements for all services are now in a single, consolidated document that has been coordinated with other elements of construction and renovation projects.

Unification Issues

- Each agency has its own procurement process for Furniture, Fixture & Equipment, as directed by the Departments of the Air Force, Army and Navy; refer to Part 5.
- Army and Navy have specific Data Sheet Templates that are required for FF&E procurement; refer to Appendix D.

TABLE OF CONTENTS

CHAPTER 1 INTRODUCTION	1
1-1 PURPOSE AND SCOPE	1
1-2 APPLICABILITY	1
1-2.1 Funding.....	1
1-3 GENERAL BUILDING REQUIREMENTS	2
1-4 REFERENCES	2
1-5 OVERVIEW OF MILITARY INTERIOR DESIGN	2
1-5.1 Structural Interior Design (SID).....	2
1-5.2 Furniture, Fixtures and Equipment (FF&E) Design.....	3
1-6 GLOSSARY	3
CHAPTER 2 TECHNICAL REQUIREMENTS	5
2-1 DESIGN REQUIREMENTS	5
2-2 INTERIOR DESIGNER QUALIFICATIONS	6
2-3 DESIGN CONSIDERATIONS	6
2-3.1 Cost Engineering	6
2-3.2 Life-Cycle Costs.....	6
2-3.3 Health and Safety Criteria.....	6
2-3.4 Interior Environmental Quality.....	7
2-3.5 Wayfinding.....	7
2-3.6 Sustainable Design.....	7
2-3.7 Overseas Projects	7
CHAPTER 3 INTERIOR DESIGN PROCESS	9
3-1 GENERAL	9
3-2 PLANNING AND PROGRAMMING	9
3-2.1 DD Form 1391	9
3-3 PROJECT DELIVERY PROCESS	9
3-3.1 Design-Bid-Build (DBB)	9
3-3.2 Design-Build (DB).....	10
3-4 FURNITURE, FIXTURES AND EQUIPMENT (FF&E) ACQUISITION STRATEGY	10
3-4.1 Contractor Furnished Contractor Installed (CFCI) FF&E Package.	11

3-4.2	Government Furnished Government Installed (GFGI) FF&E Package.	11
3-4.3	Government Furnished Contractor Installed (GFCI) FF&E Package. . .	12
3-5	DESIGN STAGES.	12
3-5.1	Schematic Design.....	12
3-5.2	Design Development.	12
3-5.3	Construction Documents.....	12
3-5.4	Project Review.....	13
3-6	CONSTRUCTION AND FF&E PACKAGE PROCUREMENT PHASES. 13	
3-7	POST OCCUPANCY.....	14
CHAPTER 4	STRUCTURAL INTERIOR DESIGN.....	15
4-1	GENERAL.	15
4-2	SPECIFIC MATERIAL CONSIDERATIONS.	15
4-2.1	Gypsum Board.....	15
4-2.2	Paint.	15
4-2.3	Carpet.....	16
4-2.4	Wallcovering.	16
4-2.5	Window Treatments.....	16
4-2.6	Interior Signage.	16
4-3	DESIGN ANALYSIS.....	16
4-4	INTERIOR DESIGN DRAWINGS.	16
4-4.1	Room Finish Schedule.....	17
4-4.2	Finish Schedule and Finish Legend.....	17
4-4.3	Interior Finish Plans.	17
4-4.4	Reflected Ceiling Plans.....	17
4-4.5	Interior Building Elevations, Sections and Details.....	17
4-4.6	Furniture Floor Plans.	18
4-4.7	Interior Signage Drawings.....	18
4-5	SPECIFICATIONS.....	18
4-5.1	Finish Schedule and Finish Legend.....	19
4-6	SID BINDER.	19
4-6.1	Finish Color Boards for SID Binder.....	20
4-7	LARGE SCALE PRESENTATION BOARDS.....	20

4-8	PERSPECTIVE SKETCHES, VIEWS AND RENDERINGS.	21
4-9	SID DESIGN SUBMITTAL REQUIREMENTS MATRIX.	21
CHAPTER 5 FURNITURE, FIXTURES AND EQUIPMENT INTERIOR DESIGN		23
5-1	GENERAL.	23
5-2	SOURCES OF SUPPLY FOR FF&E DESIGN.	23
5-2.1	Air Force BPAs and Contracts.	24
5-2.2	Navy BPAs.	24
5-3	FF&E DESIGN SUBMITTAL REQUIREMENTS.	24
5-3.1	Agency Specific Requirements.	25
5-4	FF&E PACKAGE COMPONENTS.	25
5-4.1	Design Analysis.	26
5-4.2	Point of Contact List.	26
5-4.3	Itemized Furniture Cost Estimate.	26
5-4.4	Item Code Legend.	26
5-4.5	Item Installation List.	26
5-4.6	Best Value Determination (BVD).	26
5-4.7	Data Sheets.	27
5-4.8	Furniture Material Boards.	28
5-4.9	Furniture Plans.	29
5-5	FF&E DESIGN SUBMITTAL REQUIREMENTS MATRIX.	29
APPENDIX A REFERENCES		31
APPENDIX B TABLES		35
APPENDIX C BEST PRACTICES		43
C-1	INTRODUCTION.	43
C-2	BEST PRACTICES.	43
C-2.1	Whole Building Design Guide.	43
C-2.2	Sustainability.	43
C-2.3	SID Items to Consider During Design.	44
C-2.4	FF&E Items to Consider During Design.	45
APPENDIX D TEMPLATE FORMS FOR INTERIOR DESIGN SUBMITTALS		47
APPENDIX E GLOSSARY		51

FIGURES

Figure D-1 Navy FF&E Data Sheet TEMPLATE 47
Figure D-2 Army FF&E Data Sheet TEMPLATE - Standard 48
Figure D-3 Army FF&E Data Sheet TEMPLATE - HNC 49

TABLES

Table B3-1 Design-Bid-Build Project Delivery Process 35
Table B3-2 Design-Build Pre-Award Project Delivery Process..... 37
Table B3-3 Design-Build Post Award Project Delivery Process 38
Table B4-1 SID Design Submittal Requirements Matrix..... 39
Table B5-1 FF&E Design Submittal Requirements Matrix..... 40

CHAPTER 1 INTRODUCTION

1-1 PURPOSE AND SCOPE.

This UFC provides general guidance and outlines technical requirements that apply to both building-related and furniture-related interior design projects, new construction and renovation projects. The information provided in this UFC will be used by interior designers and architects that meet the interior designer qualifications and serves as the minimum interior design requirements. This UFC covers requirements for schematic design, design development and construction documents including drawings and specifications, procurement documentation and project presentations for Design-Bid-Build (DBB) and Design-Build (DB) projects.

Excellence in design is the primary goal for all projects. Reaching this goal requires a commitment by the Government and designers to a level of quality that includes the coordinated relationship of interior design with the building design, as well as the details of design that affect the users of the facilities. Quality interior design is value added to a project as it vitally improves facility operating efficiency, attractiveness, livability, functionality, life-cycle economics, and the productivity of the users. Project conditions may dictate the need for design that exceeds these minimum requirements.

1-2 APPLICABILITY.

This UFC applies to all agencies of the Department of Defense (DoD) and their contractors that prepare Structural Interior Design (SID) and Furniture, Fixtures and Equipment (FF&E) design packages for all DoD-owned facilities. These criteria are applicable in the fifty states, the District of Columbia, Puerto Rico, United States (U.S.) territories and possessions, and as far as practical, at installations in foreign countries. This UFC applies to all types of construction regardless of funding, including properties listed or eligible for listing on the National Register of Historic Places. Certain specialized facilities, such as health facilities, have more stringent requirements. See UFC or other criteria that are applicable to the respective specialized facility that is being designed. This UFC is applicable to the traditional architectural services customary for Design-Bid-Build design services and for Design-Build construction contracts.

1-2.1 Funding.

1-2.1.1 Design.

Design funds are associated with the type of funding for construction. When construction is funded under the Military Construction (MILCON) program, MILCON funds are used for the SID and typically the FF&E designs. Funding of the SID and FF&E design is dependent on the project execution method (DBB or DB) and could be funded with MILCON Planning and Design (P&D) funds for DBB or MILCON construction funds for DB. Typically when a using agency identifies the requirement for

furniture on DD Form 1391, this service will be provided from MILCON funds. When furniture is not listed on DD Form 1391, the FF&E design and review effort will be provided by the user with other funds. The design of FF&E for Facilities Sustainment, Restoration and Modernization (FSRM) projects is funded with Operations and Maintenance (O&M) funds. Non-Appropriated Funds (NAF) are used for the design of NAF projects. For projects whose construction is not associated with MILCON, either NAF or O&M funding could be used for the design of the FF&E package.

1-2.1.2 Construction.

Funding for the construction or renovation of a building may come from a broad range of sources. The most common sources in military programs are MILCON, NAF and O&M funds, but other funds may be used.

1-2.1.3 Furniture, Fixtures and Equipment Purchase and Installation.

FF&E is defined as movable personal property. In addition to the furniture funding, the user typically provides O&M or NAF funds to support the procurement, tracking, shipping, warehousing, installation, inspection, and other associated services.

1-3 GENERAL BUILDING REQUIREMENTS.

Comply with UFC 1-200-01 which provides applicability of model building codes and government unique criteria for typical design disciplines and building systems, as well as for accessibility, antiterrorism, security, high performance and sustainability requirements, and safety. Use this UFC in addition to UFC 1-200-01 and other UFCs and government criteria referenced therein.

1-4 REFERENCES.

Appendix A contains a list of references used in this document. The publication date of the code or standard is not included in this document. In general, the latest available issuance of the reference is used.

1-5 OVERVIEW OF MILITARY INTERIOR DESIGN.

Provide a Comprehensive Interior Design (CID) unless otherwise directed. A CID includes the SID and the FF&E design.

1-5.1 Structural Interior Design (SID).

The SID includes building-related design elements and components generally part of the building itself, such as walls, ceilings, floor coverings, primary window treatments (blinds, shades and drapery hardware), signage and built-in casework. The interior designer must be involved with the programming and space planning to help achieve the user's goals for space utilization and develop a furniture floor plan based on the

project program. In addition, the interior designer must determine the desired interior finish materials based on the respective aesthetic, durability and maintenance qualities, and characteristics applicable to each space within the facility. The SID will be designed by a qualified interior designer in accordance with Chapter 2 paragraph "Interior Designer Qualifications." See Chapter 4 for more detailed requirements for the SID.

1-5.2 Furniture, Fixtures and Equipment (FF&E) Design.

The design of the FF&E includes the layout, selection, specification and documentation of furniture, such as workstations, seating, tables, storage, filing, accessories, and artwork. The documentation facilitates furniture procurement and installation. The FF&E design is based on the furniture floor plan developed in the SID portion of the interior design. Items such as markerboards, bulletin boards and some primary window treatments may be specified in either the SID or the FF&E design. Secondary window treatments such as drapery, sheers and top treatments are typically included in the FF&E design. The FF&E will be designed by a qualified interior designer in accordance with Chapter 2 paragraph "Interior Designer Qualifications." See Chapter 5 for more information on FF&E interior design requirements.

1-6 GLOSSARY.

Appendix E contains acronyms, abbreviations, and terms.

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CHAPTER 2 TECHNICAL REQUIREMENTS

2-1 DESIGN REQUIREMENTS.

The interior designer must satisfy the following for each project:

- a. Provide a design in accordance with agency standards.
- b. Provide a design that is fully coordinated with architectural features, interior finish materials, furnishings, and building systems such as electrical (power, data, voice, audio visual and lighting), mechanical (Heating, Ventilation, & Air Conditioning (HVAC), fire protection and thermostats) and structural. Coordinate design with building maintenance and operations practices to include adequate space allowances for maintaining equipment. Comply with UFC 3-101-01.
- c. Provide a flexible interior design that accommodates changing functional requirements. DoD may own or lease a building from its time of construction until the end of its useful life and its functional requirements may change.
- d. Incorporate appropriate ergonomic principles in the facility and furniture design.
- e. Comply with agency requirements for advanced modeling, to include 3D visualization, Building Information Modeling (BIM), facility data, quantity take-off, geospatial, etc.
 - For Army requirements, refer to USACE Minimum Model Matrix (M3) and Project Execution Plan (PxP) which outline required model uses. Refer to [CAD BIM Technology Center \(Contract Requirements\)](#) for more information on M3 and PxP.
 - For Navy requirements, refer to [NAVFAC Building Information Management and Modeling \(BIM\)](#).
 - For Air Force requirements, follow the Army standards. Refer to USACE Minimum Model Matrix (M3) and Project Execution Plan (PxP) which outline required model uses. Refer to [CAD BIM Technology Center \(Contract Requirements\)](#) for more information on M3 and PxP.
- f. Provide a fully coordinated Comprehensive Interior Design (CID), unless otherwise directed, which includes:
 - Structural Interior Design (SID) and
 - Furniture, Fixtures and Equipment (FF&E) design.

2-2 INTERIOR DESIGNER QUALIFICATIONS.

Design and review must be performed by professional interior designers or architects with significant interior design experience. Qualification of designers is based on education, experience and examination. Interior designers or architects must have completed a program accredited by the Council for Interior Design Accreditation (CIDA) or equal accreditation program of academic training in interior design.

For contracted interior design services, the interior designer or architect must also have attained National Council for Interior Design Qualification (NCIDQ) certification or state licensure, certification or registration and must not be affiliated with a furniture dealership, vendor or manufacturer.

2-3 DESIGN CONSIDERATIONS.

Designers must consider interior design compatibility with the local environment, functional requirements, economy of construction, energy conservation, interior details, sustainable design and life cycle costs. Additionally, the interior design must be designed in harmony with the architectural character of existing facilities that are to remain, especially those that are considered historically or architecturally significant and must comply with the installation aesthetic. Design excellence must not add substantial project costs but balance the functionality, aesthetics, quality, sustainability and maintainability of facilities.

2-3.1 Cost Engineering.

Cost Engineering (CE) is an integral part of the design process. Comply with UFC 3-740-05.

2-3.2 Life-Cycle Costs.

Provide interior designs that achieve optimum life-cycle savings. Base design decisions on life-cycle cost considerations to determine an economical design for facilities. Take into account not only the initial construction costs but also the operating and maintenance costs of buildings, the associated impacts on productivity and the missions performed within the facility over their anticipated life. Conduct comparisons as needed to determine the most life-cycle cost effective materials, finishes, construction methods, furnishings and maintenance.

2-3.3 Health and Safety Criteria.

Design floor plans and specify building materials, furnishings and equipment with health and safety in mind. Designers must comply with the latest version of the International Building Code as modified by UFC 1-200-01, [NFPA 101](#), and [Occupational Safety and Health Administration \(OSHA\) Guidelines](#).

2-3.4 Interior Environmental Quality.

Designers must design an environment that is comfortable, welcoming and conducive to work or other prescribed activity. Contributing factors include proper HVAC, lighting, acoustics and furnishings. Acoustic design issues include speech privacy, sound isolation and sound masking; comply with UFC 3-450-01. Lighting, both artificial and daylight, is an important tool in shaping the ambiance of the environment; comply with UFC 3-530-01.

2-3.5 Wayfinding.

Provide methods of wayfinding throughout the facility, to include an interior signage package, and incorporating graphics, color and patterns as applicable. These design components must form a well-organized, comprehensive interior environment that guides users and visitors through the building to their destinations. Ensure that room numbering strategies used on the architectural and interior design plans align with wayfinding objectives. Comply with UFC 3-120-01.

2-3.6 Sustainable Design.

Sustainable design must comply with UFC 1-200-02. Refer to Appendix C-2.2 Best Practices for additional considerations and preferences. Interior design involves many sustainable requirements. Verify inclusion of all applicable requirements as early as possible in the design process.

2-3.7 Overseas Projects.

Overseas projects may have special interior design requirements based on availability of products and interior finish materials. Finish materials may need to be selected from products available within a certain geographical region. [The RAL Colour Standard](#) is an international color-matching system that can serve as a reference for painted and pre-finished interior finish materials. The [AMS-STD-595 Colors Used in Government Procurement](#) can also be used for this same purpose. It is recommended that special SID and FF&E requirements be identified early in the design process.

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CHAPTER 3 INTERIOR DESIGN PROCESS

3-1 GENERAL.

A CID which includes both SID and FF&E design services, will be developed and coordinated with the building design in accordance with applicable design guides, the project delivery process, user requirements and project scope of work. A stand-alone SID or FF&E design may be required depending on project requirements. The following information outlines the interior design process using industry standard design stages and does not reflect the specific submittal phases in terms of percentages and terminology for each agency and type of project. Verify actual submittal phases required on a project-by-project basis as each agency will have its own specific requirements. The project scope of work must reflect project specific requirements.

3-2 PLANNING AND PROGRAMMING.

An interior designer should be involved during the initial programming and DD Form 1391 development and preparation, including information gathering or planning charrettes at the beginning of a project. The designer contributions during the planning and programming stage ensure that all applicable interior design issues are considered and evaluated as part of defining the project scope.

3-2.1 DD Form 1391.

The interior designer should be involved with the development of the DD Form 1391 which provides an estimated cost for furniture based on the [FF&E Cost Estimating Guide](#) or other historical project data. When furniture is required as part of a project, it must be specifically identified on the DD Form 1391. Furniture is included on the DD Form 1391 as "Equipment from other Appropriations (Non-Add)". List the equipment as an O&M funded item, the Fiscal Year (FY) the funds are requested, and the line item cost. The FF&E budget must be verified by the O&M funding source. Any equipment included on the DD Form 1391 must be estimated separately from the furniture and added to the FF&E budget with applicable funding information.

3-3 PROJECT DELIVERY PROCESS.

The two main project delivery processes are Design-Bid-Build and Design-Build; other project delivery methods are possible.

3-3.1 Design-Bid-Build (DBB).

When the DBB project delivery process is used, the SID and FF&E design is typically developed by a single interior design source. The SID and FF&E portions of the interior design should be developed concurrently with the building design to ensure coordination with all building systems and construction documents. Provide a furniture plan for space planning and coordination with building systems when a FF&E design is

not required. Coordinate the completion of the FF&E design, procurement and installation with the user's Beneficial Occupancy Date (BOD). In some situations, a government interior designer or the contractor's interior designer performs the FF&E design instead of the Architect/Engineer (AE) interior designer who designed the SID portion of the project.

Refer to Appendix B for Table B3-1 Design-Bid-Build Project Delivery Process. The table outlines the stages the interior designer is involved during the DBB project delivery process, to include planning and programming, and design.

3-3.2 Design-Build (DB).

3-3.2.1 DB Pre-Award Development.

During the Request for Proposal (RFP) development, the interior designer will participate in the pre-design conference or design charrette to establish project requirements including interior material and finish requirements, space utilization, personnel requirements, SID and FF&E design requirements and FF&E acquisition strategy. The interior designer will develop the performance specifications for the SID and minimum furniture requirements for the FF&E design.

Refer to Appendix B for Table B3-2 Design-Build Pre-Award Project Delivery Process. The table outlines the interior design process and at what stage the designer is involved during the planning and programming efforts and DB RFP development.

3-3.2.2 DB Post Award.

The contractor's interior designer will meet with the government interior designer and user to review the DB RFP SID and FF&E design requirements and then complete the interior design.

Refer to Appendix B for Table B3-3 Design-Build Post Award Project Delivery Process. The table outlines the interior design process for DB after the construction contract has been awarded.

3-4 FURNITURE, FIXTURES AND EQUIPMENT (FF&E) ACQUISITION STRATEGY.

Verify the FF&E procurement methodology in coordination with the Government, facility design criteria and the project delivery process. Confirm what type of funds will be used to procure the FF&E package, for example, O&M or NAF funds. Coordinate the procurement method, format and schedule with the applicable contracting office for their specific requirements. Other items to consider are:

- a. Include applicable purchasing fees or other known additional costs.

- b. When Best Value Determinations (BVD) are performed, manufacturer's price quotes for backup and product mock-ups may be required, which may increase design fees and extend the design schedule.
- c. Confirm if expiring funds can be obligated prior to the completion of the FF&E package; project coordination will be impacted.
- d. Identify the project FF&E package funding source(s).
- e. Confirm the project procurement office's interpretation of procurement regulations and what type of documentation is required.

3-4.1 Contractor Furnished Contractor Installed (CFCI) FF&E Package.

The contractor may procure and install the FF&E package, known as CFCI. Project coordination is minimized since the user has only one point of contact for a turnkey project. The FF&E design is prepared by the AE interior designer, the interior designer on the contractor's team, or by a government interior designer. The Government will provide separate funding for the actual purchase of the FF&E package including shipping and installation. BVDs are required as an integral part of the design. The government interior designer must review the interior design deliverables to ensure the government procurement regulations and requirements are met.

Navy projects typically require the contractor to purchase the final approved FF&E package.

3-4.2 Government Furnished Government Installed (GFGI) FF&E Package.

The Government may procure and install the FF&E package independently of the building construction or renovation, known as GFGI. The FF&E design is prepared by an AE interior designer or by a government interior designer. The FF&E package is procured through DoD agencies or non-DoD Agencies, such as the General Services Administration (GSA), Fleet Logistics Command (FLC) and U.S. Army Engineering and Support Center Huntsville (HNC). In this case, the project delivery team must plan for extensive coordination between the building design, the FF&E design, changing construction schedules, and furniture delivery schedules. Other issues to consider in this acquisition strategy are:

- a. The procurement agency may not have the technical expertise to purchase large projects or understand the need to purchase FF&E packages without deviating from the design intent. Technical evaluations may need to be performed by the AE interior designer, the contractor's interior designer, or the appropriate government interior designer.
- b. Non-DoD procurement agencies may require an Interagency Agreement to procure the FF&E package.

3-4.3 Government Furnished Contractor Installed (GFCI) FF&E Package.

The Government may have the contractor install government furnished new or existing furniture as part of its scope of work, known as GFCI. This may be accomplished with either the Design-Build or Design-Bid-Build acquisition strategies. A FF&E design may be required for reconfiguration of existing furniture and for additional furniture to match existing furniture. Consider costs required for furniture inventory, storage, relocation, planning, phasing and temporary office space when planning to re-use existing furniture. The design team must research the availability of any new furniture required to match existing, and coordinate the construction schedule and new furniture delivery schedules.

3-5 DESIGN STAGES.

3-5.1 Schematic Design.

During the schematic design stage, also referred to as concept design stage, the interior designer will meet with representatives of the user and the building design team to determine the design concept. The schematic design must be described in the design analysis as required in the project delivery process. The schematic design must meet the user's functional, physical, and aesthetic needs. The interior designer will develop documents including adjacencies, space utilization, space planning, personnel requirements, furniture plan and FF&E item list. A cost estimate for planning purposes may be required. This stage is typically 15-35% design complete.

3-5.2 Design Development.

Upon approval of the schematic design, the interior designer will further develop the design. The designer will participate in the floor plan development and contribute to the interior architectural detailing. The designer will select the appropriate interior finish materials, develop furniture layout and specifications. Ensure architectural and engineering disciplines are coordinated with the interior design during design development through construction documents. Locations of equipment, casework, lighting, power and communication, electrical and fire protection panels, and sprinklers must be considered. This stage is typically 35-65% design complete.

During the DB RFP project delivery process the interior designer will participate in the pre-design conference or design charrette to establish the RFP SID and FF&E design requirements. During the DB Post Award project delivery process the interior designer will participate in the pre-design conference or design charrette to verify the RFP requirements before proceeding with design development.

3-5.3 Construction Documents.

During the final stages of a project, also referred to as final design, the interior designer will complete the SID and FF&E design in sufficient detail to ensure successful

execution. Coordinate specifications with the final drawings, schedules and details as well as furniture types and layouts with other disciplines. Coordinate placement of equipment such as motorized projection screens and computerized directory systems with electrical systems. Furniture that requires coordination with electrical systems includes, but is not limited to, systems furniture, powered high-density filing, and powered conference and training tables. Confirm furniture coordination with building elements such as power and communication sources, ceiling heights, column placement, lighting, wall switches, thermostats, alarm panels, and window placement. This stage is 65-100% design complete.

3-5.4 Project Review.

When the design is performed by an AE, direct communication with the government reviewers (project manager, users, and interior designer) is required. This will avoid unnecessary submittal of plans and specifications due to misunderstandings. The reviewer's name, phone number and email address can be found on the comment sheets. The government reviewer(s) will provide comments regarding corrections or clarifications to be incorporated into contract documents at each design submittal. The interior designer will ensure that comments are incorporated into the subsequent submittal, or the reason for not incorporating the comment must be thoroughly documented in the AE's response to the comment. The Army and the Navy use a web-based government review management system called DrChecks, which will be used if indicated in the contract.

This same review process applies to projects designed by government interior designers.

3-6 CONSTRUCTION AND FF&E PACKAGE PROCUREMENT PHASES.

The interior designer or government construction representative will verify that equipment, architectural features, mechanical components and electrical devices are coordinated with the furniture plans and installed properly during building construction.

FF&E delivery and installation will be coordinated with the Government so it will be completed by the user's BOD. Note that a Construction Completion Date (CCD) may occur significantly before the user's BOD, depending on the procurement method selected. FF&E activities during this phase include procurement, tracking of orders, warehousing, delivery, assembly and installation, and verification that the FF&E received match the procurement documents, shop drawings and specifications. When FF&E design services are provided, the interior designer may be required to provide additional services in accordance with the project scope of work to include:

- a. Consultation during procurement, delivery and installation of FF&E;

- b. Evaluation of the FF&E submittal and assistance in reviewing deviations from the specified FF&E package to avoid installation of inferior or inappropriate FF&E items; and
- c. Quality Assurance of furniture and furniture installation to include walk through and punch list.

3-7 POST OCCUPANCY.

When required by the Government, conduct a Post Occupancy Evaluation (POE) of the project approximately one year after construction completion or as directed. POE is required to determine the effectiveness of the design. This evaluation involves inspection of the completed facility by a team composed of members of the project delivery team, the facility management office, and the user. The POE is also used by the project delivery team to improve the project delivery and design process.

CHAPTER 4 STRUCTURAL INTERIOR DESIGN

4-1 GENERAL.

The Structural Interior Design (SID) involves the design, selection and specification of applied finishes and building interior features including, but not limited to, walls, floors, ceilings, trims, doors, windows, window treatments, built-in items and installed equipment, lighting, and signage. The SID package includes furniture floor plans, finish schedules, color boards and any supporting interior elevations, details or plans necessary to communicate the building finish design and build out. The SID provides basic space planning for anticipated FF&E design requirements in conjunction with the functional layout of the building and design issues such as life safety, privacy, acoustics, lighting, ventilation, and accessibility.

4-2 SPECIFIC MATERIAL CONSIDERATIONS.

The following paragraphs address special considerations and issues for selecting and specifying materials and finishes, however, these do not cover all finishes normally incorporated into design projects.

For Air Force projects, refer to the individual base [Installation Facility Standards \(IFS\)](#) for additional guidance.

4-2.1 Gypsum Board.

Select gypsum board product appropriate for application in specific situations. Considerations for fire-resistance, high traffic areas, exposure to moisture, water resistance, and radio frequency shielding must be taken into account and coordinated with the overall function of the facility. Identify areas such as backsplashes in breakrooms and tiled walls at water fountains. Refer to UFC 3-101-01 and Unified Facility Guide Specifications (UFGS) 09 29 00 for additional information concerning product selection.

4-2.2 Paint.

Paint selection and specification will be based on the UFGS 09 90 00 Paints and Coatings. Each coating category is identified in the Master Painter's Institute (MPI) "Approved Products List" as either having been performance tested or categorized for intended use. Select paints and coatings from MPI's "Detailed Performance Standards" which are paints and coatings that have been tested to specific performance standards. Do not use MPI's "Intended Use" standards, as they have not been tested against the performance standards. Refer to the [Master Painters Institute \(MPI\)](#) "Architectural Painting Specification Manual" for more information.

4-2.3 Carpet.

Where carpet is required, each project has specific carpet requirements in regards to performance, aesthetics, functional use and maintenance. Refer to the UFGS 09 68 00 Carpeting for guidance on selections and discussion on standards and performance. The use of a multi-colored or patterned carpet is recommended due to superior soil hiding capabilities.

4-2.4 Wallcovering.

Breathable wall coverings are required where used on the interior face of exterior walls in environments with high humidity where mold frequently occurs. Refer to [Indoor Air Quality and Mold Prevention of the Building Envelope](#) on the WBDG web page for more information. Also refer to UFGS 09 72 00 Wallcoverings.

4-2.5 Window Treatments.

Maintain uniformity of window treatments and color for primary window treatments such as blinds and roller shades which are viewed from the outside of the building. Primary window treatments may be included in the SID and the construction documents. Secondary window treatments such as drapery, sheers and top treatments are specified as required on a project-by-project basis and are usually included in the FF&E package.

4-2.6 Interior Signage.

Ensure that interior signage schedules and details are incorporated into the contract documents. If room names are subject to frequent change, an interchangeable message strip will be used to facilitate removal and replacement. Signage typical drawings and schedules must be coordinated with UFGS 10 14 00.20 Interior Signage. Comply with UFC 3-120-01.

4-3 DESIGN ANALYSIS.

Provide a design analysis that describes the basis of design, building-related finishes and furniture floor plan development and features as it relates to the user's requirements and building design. Include topics that relate to installation standards, life safety, aesthetics and durability

4-4 INTERIOR DESIGN DRAWINGS.

Interior design building-related drawings must indicate the placement and extents of SID materials, finishes and colors and must be sufficiently detailed to define all interior work. Refer to the [A/E/C CAD Standard](#) for information such as \1\ level/layer assignments, electronic file naming, and standard symbology */1/*. Minimum required drawings may include, but are not limited to, the following list and those listed in UFC 3-101-01:

- a. Room Finish Schedule
- b. Finish Schedule and Finish Legend
- c. Interior Finish Plans
- d. Reflected Ceiling Plans
- e. Interior Building Elevations, Sections and Details
- f. Furniture Floor Plans
- g. Interior Signage

4-4.1 Room Finish Schedule.

The interior designer is responsible for selection, coordination and specification of interior finish materials. Provide a detailed Room Finish Schedule keyed to the Finish Schedule and Finish Legend, to include finish materials and colors for floors, walls, and ceilings, with special features noted on a per room basis. Obtain input from the user and the government architectural and interior design representatives. The interior design drawings must be fully coordinated with UFGS.

4-4.2 Finish Schedule and Finish Legend.

Provide a Finish Schedule or Finish Legend, or a Finish Schedule and Finish Legend on the drawings, or use UFGS 09 06 00 Schedule for Finishes. Refer to paragraph 4-5.1 for additional requirements.

4-4.3 Interior Finish Plans.

Provide Interior Finish Plans that indicate floor patterns, finish and color placement, material transitions and extents of interior finishes.

4-4.4 Reflected Ceiling Plans.

Provide Reflected Ceiling Plans that show the ceiling tile layout where applicable and all light fixtures, air diffusers, grilles, registers, and other ceiling mounted items.

4-4.5 Interior Building Elevations, Sections and Details

Provide Interior Building Elevations, Sections and Details that indicate material, color and finish placement, and wall patterns. Include casework sections and details, transition details, and critical dimensions.

4-4.6 Furniture Floor Plans.

Incorporate FF&E design requirements throughout the design process. The interior designer will work directly with the user to assess their needs and develop furniture requirements for each space within the facility. Develop the Furniture Floor Plans to show that the furniture necessary for the user's functional requirements can be accommodated within the spaces and satisfy applicable life safety codes. The Furniture Floor Plans will show the appropriate size and type of furniture and include critical and required clearances. Code furniture on Furniture Floor Plans to furniture legends. **V1** For Army projects, refer to USACE Furniture Item Description for Standard FF&E Nomenclature document. **/1/** The Furniture Floor Plans and documented user requirements serve as the basis for a fully integrated building design as well as the basis for the FF&E design. Coordinate equipment items to be included in the FF&E design with the Government.

The interior designer may not be responsible for specifying equipment, but in coordination with the architect and engineers is responsible for identifying the requirements for equipment items regarding space allocation and coordination with building systems. When the design of the FF&E package is included in the building design scope of work, the Furniture Floor Plans will be fully developed, along with the FF&E package. If the FF&E package is not included as part of the building design, ensure that the Furniture Floor Plans are clearly noted "Not in Contract." Furniture Floor Plans must be included throughout the design delivery process. Furniture must be coordinated with locations of items such as equipment and casework, lighting, power and communication, electrical and fire protection panels, and sprinklers.

4-4.7 Interior Signage Drawings.

Provide typical sign drawings, plans and details which indicate size, type, location and signage schedule for all signs. The sign symbol on the drawings must be keyed to the signage schedule, which includes the locations, messages, symbols, and other related information. Indicate the location of every sign and directory in the facility. Incorporate building or floor directories and directional signage for larger facilities based on project requirements. The typical sign drawings and schedule, including sign locations, may be included in the specification or as an attachment to the specifications instead of on the drawings.

4-5 SPECIFICATIONS.

Design-Bid-Build and Design-Build projects have differing specification requirements. In either case, the specifications must be as concise as possible, definitive, and free of ambiguities and omissions that may result in controversy and contractor claims for additional compensation. Unified Facilities Guide Specifications provide important information on government quality standards and submittal requirements and should be used as the basis for project specifications. These specifications are available on the

WBDG web page [Unified Facilities Guide Specifications](#). UFC 1-300-02 provides guidance on the preparation of specifications.

4-5.1 Finish Schedule and Finish Legend.

¶ Per 2017 NDAA – Section 888, the use of brand names or brand-name or equivalent descriptions, or proprietary specifications or standards is prohibited in Department of Defense solicitations unless a justification for such specification is provided and approved in accordance with section 2304(f) of title 10, United States Code. ¶

The interior designer must provide all finish and color selections including finish code, ¶ materials, textures, patterns, and general color ¶ for all interior finishes and specialties which will be exposed to view in the finished construction. The Government will direct which of the following methods to use.

- a. The UFGS 09 06 00 Schedules for Finishes guide specification may be used to document finish and color selections. This specification has been fully integrated as a reference in all UFGSs that require a ¶ material, color and finish reference.
- b. If the UFGS 09 06 00 is not used, provide a Finish Schedule or Finish Legend, or a Finish Schedule and Finish Legend on the drawings associated with the Room Finish Schedule as per 4-4.2. ¶
- c. When proprietary information cannot be included on the drawings, additional requirements shall be set forth for the contractor to submit complete color boards for the entire project, prior to the submittal and approval of individual finish submittals. This shall be reviewed and approved by the DOR to verify overall building coordination and aesthetic. ¶

¶ ¶

4-5.1.1 Federal Standard Colors.

The current [AMS-STD-595 Colors Used in Government Procurement](#) ¶ or the Pantone Color System ¶ is to be used when required by installation specific criteria. The use of this standardized method of defining colors and finishes varies on a project-by-project basis.

¶ ¶

4-6 SID BINDER.

SID binder or binders must display actual interior finish color samples proposed for the project. Color boards are required at various submittal phases as noted in the project scope of work. Submit SID information and samples in three ring binder with pockets

on the inside of the covers. When samples are numerous or thick, use more than one binder. Each binder must have a table of contents and be labeled on the outside spine and front cover with the following information: Structural Interior Design (SID), design stage, date, design firm, project title and number, location and volume number. Include a copy of the Room Finish Schedule, UFGS 09 06 00 Schedules for Finishes or the Finish Schedule and Finish Legend, and Interior Finish Plans. Provide 8 ½ inch x 11 inch or 11 inch x 17 inch binders; large format color boards and color boards with fold outs can also be used. Coordinate the SID binder format and any specific requirements with the project scope of work. The SID binder may be electronic except for the finish boards with actual finishes. Also provide an electronic copy of the SID binder to include the finish boards to keep on file with the drawings and specifications.

4-6.1 Finish Color Boards for SID Binder.

Finish color boards must be sturdy enough to support samples. When required, use page protectors that are strong enough to keep pages from tearing out. Anchor large or heavy samples with mechanical fasteners, Velcro, or double-faced foam tape rather than rubber cement or glue. Label finish samples with the finish codes used in the contract documents. Samples that are difficult to attach, or large samples, such as ceiling tiles or flooring samples can be provided separately from the color board in a loose sleeve. Samples must be labeled with the finish code so they can be identified independently if removed from the binder. Manufacturer name and number may be included.

Provide actual samples of finishes that indicate true color, pattern and texture. Finish samples must be large enough to show a complete pattern or design where practical. Also provide a color illustration of materials or fabrics when necessary to show large overall patterns. For example, if the specified carpet has a large pattern, provide a color photocopy showing the overall pattern in addition to the carpet sample with representative colors.

4-7 LARGE SCALE PRESENTATION BOARDS.

In addition to the SID binder, large-scale finish color boards may be required for presentations. Boards must be sufficiently rigid to support heavy samples. Finish materials must be labeled to fully coordinate with the contract documents. Finish samples must represent true color, pattern, and texture. Samples must be large enough to indicate any pattern repeats where practical. Provide a label or title block identifying the design stage, project title and location, design firm, construction contract numbers, and date. Separate boards must be submitted for interior finishes. A copy of the Room Finish Schedule and Finish Schedule and Finish Legend must be attached to the back of the board or provided in a separate binder that is labeled the same as the SID binder.

4-8 PERSPECTIVE SKETCHES, VIEWS AND RENDERINGS.

Provide perspective sketches, views and renderings when required by the project scope of work.

4-9 SID DESIGN SUBMITTAL REQUIREMENTS MATRIX.

See Appendix B for Table B4-1 SID Design Submittal Requirements Matrix. The table indicates what components are typically included in each submittal. The submittal phases are representative and will vary due to the project delivery process. The project scope of work will define the SID requirements, submittals, and number of submittals on a project-by-project basis. SID submittals should run concurrent with architectural submittals.

Resubmittal of the SID binder is not required if there are no changes from the previous design submittal. Provide updated cover and spine for insertion into the previously submitted SID binder. If only minor changes are required, resubmit applicable coded samples (tape ready for application), updated binder cover and spine, corrected Room Finish Schedule, UFGS 09 06 00 Schedules for Finishes or Finish Schedule and Finish Legend, Interior Finish Plans, and Design Analysis. If major changes to the color boards are required, resubmit with color samples of all proposed interior finishes, updated binder cover and spine, corrected Room Finish Schedule, UFGS 09 06 00 Schedules for Finishes or Finish Schedule and Finish Legend, Interior Finish Plans, and Design Analysis.

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CHAPTER 5 FURNITURE, FIXTURES AND EQUIPMENT INTERIOR DESIGN

5-1 GENERAL.

The Furniture, Fixtures and Equipment (FF&E) design includes the selection, specification, color coordination and procurement documentation of the required items necessary to meet the functional, operational, sustainability, and aesthetic needs of the facility. The FF&E package includes information required for purchasing and installing the furniture such as drawings, specifications, finishes and cost estimates. The interior designer will select and specify colors, fabrics, and furniture finishes to coordinate with the SID interior finish materials. The selection of furniture style, function and configuration will be coordinated with the user's requirements. Examples of FF&E items are workstations, seating, tables, storage, filing, accessories, and artwork. Items such as markerboards, tackboards, and presentation screens are typically included in the SID but can also be included in the FF&E design if necessary. Secondary window treatments such as draperies, sheers and top treatments are specified as required on a project-by-project basis and are included as part of the FF&E design. Criteria for furniture selection will include functional and ergonomic considerations, maintenance, durability, sustainability, comfort and cost. Also, the designer may have to consider reuse of and coordination with existing furniture.

The FF&E budget, the user's program requirements and the furniture plans will be the basis for the FF&E design. The designer will work directly with the user to assess their needs and develop a list of furniture required for each space within the facility. The FF&E package will be developed and coordinated with the building design as required by the project delivery process and the acquisition strategy. The designer will coordinate product lead times with the construction completion dates. Refer to Chapter 3 Interior Design Process.

Equipment not included in MILCON construction may or may not be included in the FF&E package, depending on the funding used. The user may provide specifications for specialized equipment. The Army and Air Force do not include equipment in their FF&E package. The Navy typically includes equipment in their FF&E packages where appropriate.

For Navy projects refer to [NAVFAC Collateral Equipment \(FF&E\) Criteria & Templates](#) for additional information.

5-2 SOURCES OF SUPPLY FOR FF&E DESIGN.

Federal Acquisition Regulations ([FAR Part 8](#)) directly affects the interior design process by outlining the required sources of supplies and services and their use. Of particular importance to the process of developing and procuring FF&E design is paragraph 8.002, Priorities for Use of Mandatory Government Sources.

FF&E items are typically specified through government sources of supply such as [GSA Schedules](#), [Federal Prison Industries, Inc. \(UNICOR\)](#), [GSA Global Supply Catalog](#), [Ability One](#), or Air Force and Navy Blanket Purchase Agreements (BPA)s when applicable. Additional sources include [GSA Advantage](#), or Air Force Non-Appropriated Funds Purchasing Office (AFNAFPO). These government sources of supply may not be available for overseas facilities; coordinate with the government project delivery team and the project scope of work.

If open market procurement of an item is necessary, the interior designer is required to prepare adequate written justification, giving reasons why the item(s) must be procured through the open market. Coordinate requirement with the appropriate purchasing office or contracting officer.

5-2.1 Air Force BPAs and Contracts.

For information on the Air Force's Systems Furniture and Modular Furniture mandatory contracts, contact the Air Force Furnishings Commodity Council at AF.FCC.Systems.Furni@us.af.mil.

Additionally, the AF mandatory BPA's for Executive case goods, seating and files are located on [GSA Advantage](#).

5-2.2 Navy BPAs.

Consult with Navy interior designer for current NAVSUP BPA vendor list. See [NAVFAC Collateral Equipment \(FF&E\) Criteria & Templates](#).

5-3 FF&E DESIGN SUBMITTAL REQUIREMENTS.

The FF&E package is used for purchasing furniture for new or renovated facilities. It can also become the record and resource document for facilities management personnel to reference for repairing or replacing furniture and reordering additional items.

Information and samples are to be submitted in 8 1/2 inch x 11 inch (216 mm x 279 mm) format using three ring binders with pockets on the inside of the covers. When there are numerous pages with thick samples, use more than one binder. Fold out items must have a maximum spread of 25 1/2 inches (635 mm). Each binder must have a table of contents and be labeled on the outside spine and front cover with the following information: Furniture, Fixtures and Equipment (FF&E), design stage, date, design firm, project title and number, location and volume number. All pages in the binder will include the project name and location, project number, and design submittal phase. Binder information may be electronic except for the finish board with actual finishes. Also include an electronic copy of the binder information to include the finish board.

The requirements of the FF&E package must be coordinated with the government interior designer as well as with the contracting specialists or designated contracting official. The project scope of work must reflect project specific requirements. Comply with the following requirements unless otherwise directed.

5-3.1 Agency Specific Requirements.

5-3.1.1 Navy Projects.

Coordinate the procurement documents with the government interior designer and Collateral Equipment Manager. See [NAVFAC Collateral Equipment \(FF&E\) Criteria & Templates](#) for Navy information.

5-3.1.2 Army Projects.

Provide non-proprietary, project specific salient characteristics for the items specified.

- a. HNC Purchased Furniture - Refer to UFGS 01 33 16.00 10 Design Discipline Design Requirements for Interior Design for specific requirements for furniture that will be purchased by the U.S. Army Engineering and Support Center Huntsville.
- b. Contractor Furnished Contractor Installed (CFCI) Furniture - Include specification UFGS 12 50 00.13.10 Furniture and Furniture Installation or a comparable specification in the contract documents. Specification to include non-proprietary, project specific, salient characteristics for furniture items. A FF&E package is required as an attachment to UFGS 12 50 00.13.10 but may not be required for other comparable specifications. When including a FF&E attachment, omit unit, extended or shipping costs on data sheets. Cost estimate should only be provided for review purposes and not included with the solicitation documents. \1\
- c. Utilize the USACE Standard FF&E Nomenclature document. See [USACE Furniture Item Descriptions and Standard Nomenclature](#) for Army information. /1/

5-3.1.3 Air Force Projects.

For CFCI furniture follow project CFCI requirements and provide non-proprietary, project specific salient characteristics for the items specified.

5-4 FF&E PACKAGE COMPONENTS.

Provide the following components:

5-4.1 Design Analysis.

Provide a design analysis that describes the design objectives as they relate to the selection of furniture, finishes and colors and the furniture plan development and features and how project specific requirements are met. Include design decisions made to fully coordinate the SID and the FF&E design, including function, safety and ergonomic considerations, durability, sustainability and aesthetics.

5-4.2 Point of Contact List.

Provide a comprehensive list of Points of Contacts (POCs). This includes appropriate project team members, user contacts, interior design representatives, contractors and installers involved in the project. In addition to name, address, phone number and email, include each contact's job description.

5-4.3 Itemized Furniture Cost Estimate.

Provide an itemized cost estimate of furniture keyed to the plans and the data sheets. Organize by and include furniture item code and item name so the estimate can also be used as the item code legend. Base the estimate on applicable pricing to include GSA, Navy BPAs, and Air Force BPAs and contracts. The estimate must include percentage allowances for general contingency, shipping, inflation and installation costs, listed as separate line items. Consult with the government interior designer for any additional costs to be included. Installation and freight quotes from vendors should be used in lieu of a percentage allowance when available.

5-4.4 Item Code Legend.

Provide a consolidated list of all FF&E items in the package with the item code and name of each item. Organize item codes by product category such as workstations, seating and tables.

5-4.5 Item Installation List.

The Item Code Legend may be expanded to be used as an Item Installation List. Indicate quantity per room, model number and manufacturer of each furniture item. This provides a quick reference for managing larger furniture installations.

5-4.6 Best Value Determination (BVD).

The purpose of the BVD is to provide a contracting officer with the proper documentation to assist in determining that the FF&E package meets the FAR. A complete and well-written BVD is the first step in ensuring the FF&E package will be purchased as designed. Coordinate with the contracting officer and government interior designer on the procurement source of supply and associated BVD requirements to be incorporated into the FF&E package. Provide BVDs for orders over the current Micro-

Purchase Threshold. Typically, furniture must be evaluated through market research and price comparisons. The documentation will list the types of furniture, the three or more required vendors considered for the item, the price of the three or more considered, and a brief statement why the selected furniture items are the “best value” to the Government. For Navy projects also see [NAVFAC Collateral Equipment \(FF&E\) Criteria & Templates](#) for additional information.

5-4.7 Data Sheets.

One data sheet will be prepared for each item specified in the design. This form identifies all information required to order each individual item. The data sheet typically includes:

- a. Item Code and Name
- b. General Services Administration (GSA) Schedule Information:
 - Federal Supply Category (FSC) Group and Part number and Special Item Number (SIN)
 - GSA contract number and expiration date
 - GSA contractor name, ordering address, phone number, and email or website
- c. Provide BPA and contract information for applicable Air Force and Navy projects:
 - BPA and contract number, and expiration date
 - BPA and contractor name, address (ordering and payment), phone number, and email or website

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- d. Federal Stock information (if applicable)
- e. Product specification information, manufacturer’s item name, series, model number, dimensions and description to include minimum quality standards, construction materials and methods, configuration, features, options, warranty and any critical dimensions
- f. Finish and fabric information coded to the finish color boards
- g. Illustration must be close to the actual item specified or it must be noted that it is representative or similar
- h. Quantity by room number and name

- i. Total quantity of items
- j. Unit cost
- k. Total cost
- l. Shipping costs
- m. Special Instructions for ordering such as packaging information, mounting height information, and installation coordination notes (can be included in description)
- n. Interior Design Source contact – whether it be the AE interior designer, or the government interior designer

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The goal is to provide this information on one page, however, if necessary, a second page may be used for additional detailed specifications. Open market justifications and any other critical procurement information must be indicated. The Data Sheets are to be organized by product category in the binder and keyed to the Item Code Legend. Refer to Appendix D for examples of agency specific data sheets.

5-4.8 Furniture Material Boards.

The finish and fabric samples on the boards must be labeled and keyed to the item codes and names used on the Data Sheets and the Furniture Plans.

5-4.8.1 Finish Color Boards.

Provide Finish Color Boards with actual finishes and fabric samples. Color boards must be in 8 1/2 inch x 11 inch (216 mm x 279 mm) format and must be sturdy enough to support the samples. When needed, use page protectors that are strong enough to keep pages from tearing out. Large samples in protective sleeves must be labeled with the item code so they can be identified independently if removed from the binder. Samples must indicate true color, pattern, and texture. Use photographs or color photocopies of materials or fabrics to show large overall patterns in conjunction with samples to show the true colors. Samples must be large enough to show a complete pattern or design where practical. Provide a label or header identifying the design stage, project title and location, design firm, construction contract numbers, and date on each board.

5-4.8.2 Furniture Presentation Boards.

Large-scale Furniture Presentation Boards may also be required for presentations to illustrate typical products proposed for the project and their associated finishes and fabrics samples. Boards must be sufficiently rigid to support heavy samples. Samples must represent true color, pattern, and texture and must be large enough to indicate any

pattern repeats where practical. Color photocopies of artwork and plants are acceptable. Provide a label or title block identifying the design stage, project title and location, design firm, construction contract numbers, and date on each board.

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5-4.9 Furniture Plans.

Provide furniture plans to indicate locations of all furniture, equipment and accessories. Also provide furniture power, voice and data plans, panel plans and legends. Furniture plans must include composite and area plans; area plans must have key plans. Identify these items with an item code that is keyed to the Data Sheets and the finish color boards. Each drawing sheet shall include a legend listing all furniture item codes and names. Provide to scale as required by scope of work. Typically, furniture plans will be the same scale as the architectural drawings. Some projects may require furniture plans for individual rooms or areas to show furniture in sufficient detail for installation. Examples of this include enlarged plans for systems furniture or individual room drawings where typical room configurations are repeated throughout a project. Refer to the [A/E/C CAD Standard](#) for drawing requirements. The furniture plans will be included in both the SID drawings and in the FF&E package.

5-4.9.1 Systems Furniture.

Systems furniture must be designed using product and features available from three or more manufacturers to ensure open competition. Provide large scaled plans and elevations/isometrics (minimum 1/2 inch = 1 foot – 0 inches) (.5 mm = 305 mm showing workstation typical configurations which clearly identify major workstation components to include but not be limited to panels, storage, worksurfaces, accessories (such as monitor arms and keyboard trays), and task lighting. Include location of all power, voice and data outlets and indicate height on panels by note or symbol. Refer to UFGS 12 59 00 Systems Furniture for specifications or [NAVFAC Collateral Equipment \(FF&E\) Criteria & Templates](#) for Navy Performance Criteria Documents.

5-4.9.2 Artwork Placement Plans.

If the artwork locations and item codes cannot be clearly shown on the furniture plans, provide separate artwork placement plans. Ensure that mounting heights and special installation instructions are indicated on the plans and on the Data Sheets.

5-5 FF&E DESIGN SUBMITTAL REQUIREMENTS MATRIX.

Refer to Appendix B for Table B5-1 FF&E Design Submittal Requirements Matrix. The table indicates what components are typically included in each submittal. The submittal phases are representative and will vary due to the project delivery process. The project scope of work will define the FF&E package requirements, submittals, and number of submittals on a project-by-project basis.

Resubmittal of the FF&E binder is not required if there are no changes from the previous design submittal. Provide updated cover and spine for insertion into the previously submitted FF&E binder. If only minor changes are required, resubmit applicable coded samples (tape ready for application), updated binder cover and spine, and corrected FF&E components. If major changes to the color boards are required, resubmit with color samples of all proposed finishes, updated binder cover and spine, and corrected FF&E components.

APPENDIX A REFERENCES

Note: The most recent edition of referenced publication applies, unless otherwise specified.

A/E/C CAD STANDARD

<http://www.wbdg.org/ffc/army-coe/cad-bim-technology-center>

CAD BIM TECHNOLOGY CENTER

<https://cadbimcenter.erdcdren.mil/default.aspx?p=a&t=1&i=14>

FF&E SOURCES OF SUPPLY

Ability One, <http://abilityone.gov/>

Federal Acquisition Regulations (FAR) PART 8,
<https://www.acquisition.gov/?q=browsefar>

Federal Prison Industries, Inc. (UNICOR),
https://www.unicor.gov/Shopping/viewCat_m.asp?iStore=UNI

GSA Advantage, <https://www.gsaadvantage.gov>

GSA Global Supply Catalog, <https://www.gsaglobalsupply.gsa.gov>

GSA Schedules,
<https://www.gsaelibrary.gsa.gov/ElibMain/ScheduleList%3bjsessionid=www.gsaelibrary.gsa.gov-881f:403294b2:c56e211b4174c7c3>

MISCELLANEOUS

AMS-STD-595, *Colors Used in Government Procurement*,
<http://standards.sae.org/amsstd595/>

Master Painters Institute (MPI), *Architectural Painting Specification Manual*,
www.paintinfo.com

The RAL Colour Standard, <http://allral.com/>

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 101, *Life Safety Code*, <http://www.nfpa.org/>

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

<https://www.osha.gov>

TRI-SERVICES

NAVFAC Collateral Equipment (FF&E) Criteria & Templates,
<http://www.wbdg.org/ffc/navy-navfac/collateral-equipment>

UNIFIED FACILITIES CRITERIA

<http://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc>

UFC 1-200-01, *DoD Building Code (General Building Requirements)*

UFC 1-200-02, *High Performance and Sustainable Building Requirements*

UFC 1-300-02, *Unified Facilities Guide Specifications (UFGS) Format Standard*

UFC 3-101-01, *Architecture*

UFC 3-120-01, *Design: Sign Standards*

UFC 3-450-01, *Noise and Vibration Control*

UFC 3-530-01, *Design: Interior and Exterior Lighting Systems and Controls*

UFC 3-600-01, *Design: Fire Protection Engineering for Facilities*

UFC 3-740-05, *Handbook: Construction Cost Estimating*

UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFGS)

<http://www.wbdg.org/ffc/dod/unified-facilities-guide-specifications-ufgs>

UNITED STATES DEPARTMENT OF THE AIR FORCE

Air Force Installation Facilities Standards (IFS), <http://www.wbdg.org/ffc/af-afcec/installation-facilities-standards-ifs>

UNITED STATES DEPARTMENT OF THE ARMY

USACE Furniture Item Description for Standard FF&E Nomenclature,
<https://www.wbdg.org/ffc/army-coe/policies-and-guidance-army-design-and-construction/furniture-item-descriptions-nomenclature-effort> /1/

UNITED STATES DEPARTMENT OF THE NAVY

NAVFAC Building Information Management and Modeling (BIM) & Facility Electronic Operation and Maintenance Support Information (eOMS) Program,
<http://www.wbdg.org/ffc/navy-navfac/bim-eomsi>

NAVFAC Collateral Equipment (FF&E) Criteria & Templates,
<http://www.wbdg.org/ffc/navy-navfac/collateral-equipment>

WHOLE BUILDING DESIGN GUIDE, A PROGRAM OF THE NATIONAL INSTITUTE OF BUILDING SCIENCES

Whole Building Design Guide, <http://www.wbdg.org>

Criteria Change Request, <http://cms.wbdg.org/ccrs/new?ufc=3-120-10>

Indoor Air Quality and Mold Prevention of the Building Envelope
<http://www.wbdg.org/resources/indoor-air-quality-and-mold-prevention-building-envelope>

OMB Circular A131 Value Engineering, <http://wbdg.org/ffc/fed/omb-circulars/a131>

USD (AT&L) Memorandum, http://www.wbdg.org/FFC/DOD/ufc_implementation.pdf

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APPENDIX B TABLES

Table B3-1 Design-Bid-Build Project Delivery Process

INTERIOR DESIGN PROCESS (AE or Govt.)	DBB BUILDING DESIGN PROCESS							
	Planning and Programming Phase	Schematic Design	Design Development	Construction Documents	Construction Award	Construction	Beneficial Occupancy	Post Occupancy Evaluation
PLANNING AND PROGRAMMING								
Planning and Programming Charrette/Conference								
Generate Programming Documents								
Develop DD1391 & FF&E Cost Estimate								
DESIGN								
Pre-Design Conference/Design Charrette								
Establish SID/FF&E Requirements								
Establish/Verify FF&E Acquisition Strategy								
Structural Interior Design								

INTERIOR DESIGN PROCESS (AE or Govt.)	DBB BUILDING DESIGN PROCESS (continued)							
	Planning and Programming Phase	Schematic Design	Design Development	Construction Documents	Construction Award	Construction	Beneficial Occupancy	Post Occupancy Evaluation
FF&E Pre-Design Conference (May Complete during Pre-Design Conference/Design Charrette)						*		
FF&E Submittal						*		
Obtain Funding from Funding Source						*		
Field Verification & Review of SID Finish Submittals with Contracting Officer								
Procurement of Furniture								
Furniture Delivery and Installation								
Quality Assurance Review of FF&E								
Photography of Complete Interior								
Post Occupancy Evaluation								

* Applies to Navy Only

Table B3-2 Design-Build Pre-Award Project Delivery Process

INTERIOR DESIGN PROCESS (AE or Govt.)	DB SOLICITATION PROCESS				
	Planning and Programming Phase	Schematic Design	Design Development	Construction Documents	Construction Award
PLANNING AND PROGRAMMING					
Planning and Programming Conference					
Generate Programming Documents					
Develop DD1391 & FF&E Cost Estimate					
RFP DEVELOPMENT					
Pre-Design Conference/Design Charrette					
Establish SID/FF&E Requirements					
Establish/Verify FF&E Acquisition Strategy					
Generate SID Performance Specifications					
Generate FF&E Minimum Furniture Requirements					
Advertise and Award Design-Build Request for Proposal					

Table B3-3 Design-Build Post Award Project Delivery Process

INTERIOR DESIGN PROCESS (AE or Govt.)	DB DESIGN AND CONSTRUCTION PROCESS				
	Design Development	Construction Documents	Construction	Beneficial Occupancy	Post Occupancy Evaluation
Pre-Design Conference/ Design Charrette					
Verify SID/FF&E Requirements					
SID/FF&E Design					
Contractor Obtain Authorization to Procure through Govt. Sources					
Procurement of Furniture					
Furniture Delivery and Installation					
Photography of Complete Interior					
Post Occupancy Evaluation					

Table B4-1 SID Design Submittal Requirements Matrix

SID COMPONENTS	Schematic Design	Design Development	Construction Documents
Design Analysis			
Furniture Floor Plan			
Room Finish Schedule			
Other Drawings such as Interior Finish Plans, Elevations, Signage			
Specifications			
Finish Schedules and Legends, or UFGS 09 06 00 Schedules for Finishes			
SID Binder			
Large Scale Presentation Boards (if required)			
Perspective Sketch(s) or View(s) (if required). One will be approved for the interior rendering.			
Interior Color Rendering(s) (if required)			
Hard Copy and Electronic File of Design Documents and SID Binder			

Table B5-1 FF&E Design Submittal Requirements Matrix

FF&E COMPONENTS	Schematic Design	Design Development	Construction Documents	DBB - During Construction
Design Analysis				*
Point of Contact List				*
Itemized Furniture Cost Estimate				*
Item Code Legend (required) or Item Installation List (if required)				*
Best Value Determination Form - appropriate sample form for established procurement method and source of supply (if required)				*
Best Value Determination Forms for All Items (if required)				*
Data Sheet (sample form only)				
Data Sheet (all items)				*
Finish Color Boards				*
Furniture Presentation Boards (if required)				

* Applies to Navy Only

FF&E COMPONENTS (continued)	Schematic Design	Design Development	Construction Documents	DBB - During Construction
Manufacturers Source List (if required)				*
Perspective Sketch(s) or View(s) (if required). One will be approved for the interior rendering.				*
Interior Color Rendering(s) (if required)				*
Furniture Plans with Conventional and Systems Furniture				*
Artwork Placement Plans (if required)				*
System Furniture Panel Plans (if required)				*
System Furniture Power, Voice and Data Plans to include Legend				*
System Furniture Workstation Typical Plans and Elevations/Isometrics				*
Building Power, Voice and Data Plans to include Legend and Audio/Visual Information				*
Hard Copy and Electronic Files of Design Documents and Finish Color Boards				*

* Applies to Navy Only

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APPENDIX C BEST PRACTICES

C-1 INTRODUCTION.

This appendix identifies background information, good interior design practices, and DoD preferences. The interior designer is expected to review and interpret this guidance and apply the information according to the needs of the project.

C-2 BEST PRACTICES.

C-2.1 Whole Building Design Guide.

The WBDG provides up-to-date information on integrated design of facilities. It is a valuable resource for information on sustainable design, accessibility, aesthetics, cost effective design, functional requirements, historical preservation, productivity and security. The WBDG provides access to all Construction Criteria Base (CCB) criteria, standards and codes for the DoD Military Departments, National Aeronautics and Space Administration (NASA), and others. These include UFC, UFGS, Performance Technical Specifications (PTS), design manuals, and specifications. For approved government employees, it also provides access to non-government standards. Additionally, it contains information on and links to “Building Types” such as armories, aviation facilities, educational facilities, healthcare facilities, libraries, office buildings, parking facilities, and warehouses.

C-2.2 Sustainability.

Many sustainable elements are required in a project, and each project is different. Interior designers must take the initiative to influence nearly every sustainable goal of a project. The following list illustrates a few examples of how interior design is critical to good sustainable design, and complying with required criteria:

- a. Integrated Design (participate early to ensure compliance with all applicable sustainable requirements)
- b. Commissioning (verify the systems to be commissioned, and if they affect systems furniture or other interior elements such as lighting, under-floor HVAC (energy, ventilation, thermal comfort), and fenestrations (affects color and texture of finishes and shading))
- c. Energy (Energy Star or FEMP labeled equipment, such as task lighting)
- d. Interior Environmental Quality
 - Ventilation/thermal comfort (see Commissioning above)

- Daylighting (location of offices/furniture, reflective surfaces, glare control, dimming controls, etc.)
- Indoor Air Quality (material off-gassing specifications, moisture control of exterior wall, entry way systems)
- Occupant Health and Wellness (part of early integrated design discussion)

e. Impact of Materials

- Recycled content (specification of materials)
- Biobased content (specification of materials)
- Storage/collection of recycled materials (layout consideration)

Refer to UFGS 01 33 29 for Third Party Certification (TPC). Verify the appropriate TPC for each individual project.

C-2.3 SID Items to Consider During Design.

1. Limit the number of similar colors for each material. This will assist the facility management office during maintenance and repairs.
2. In building renovation and addition projects, new interior finishes and colors must be compatible with existing where they occur in areas that are adjacent to occupied areas. More flexibility in selections can be exercised in areas not adjacent to existing occupied areas. Where it is necessary that existing materials be matched closely, include both a manufacturer and color reference for the contractor to prepare his bid, and the requirement to match the existing materials for the actual construction process.
3. Uniformity of window covering color and material must be maintained to the maximum extent possible within a building.
4. Solid surface material colors must not be too dark since they show water marks and scratches. Countertops at sinks must be light to medium range in color to help hide water spotting.
5. Color of ceramic and porcelain tile grout must be at a minimum a medium range color to help hide soiling.
6. Finish colors of fire extinguisher cabinets, receptacle bodies and plates, fire alarms/warning lights, emergency lighting, and other miscellaneous items must be coordinated with the building interior design. Color of equipment items on ceilings (such as speakers, smoke detectors, and grills) shall match the ceiling color.

7. Specifications must not be proprietary.
8. Provide finish and color selections that help hide soiling and are easy to maintain.

C-2.4 FF&E Items to Consider During Design.

1. Coordination is required with the contracting office to ensure that the FF&E package is procurable.
2. The interior designer is to provide a FF&E design which includes all services and information necessary for a complete and procurable package. The designer shall ensure that the FF&E design and building-related design schemes are coordinated.
3. Specify furniture from within a manufacturer's family wherever possible while ensuring aesthetic, quality and functionality are not compromised.
4. Provide furniture from manufacturer's standard product line as shown in the most recent published price list or amendment. Custom products are not recommended.
5. Specify seating upholstery that meets the following Wyzenbeek Abrasion Testing unless otherwise noted: 55,000 minimum double rubs for regular use areas and 100,000 minimum double rubs for high use areas. HNC requires the use of seating upholstery that meets 100,000 minimum double rubs.
6. Specify a topical or inherent soil retardant treatment on fabric where appropriate.
7. Furniture specified and furniture layout must allow access to building power and communication where required.
8. Coordinate furniture layout with locations of SIPRNET and NIPRNET, and other secure communications as applicable. Ensure required SIPRNET and NIPRNET separation requirements are met.
9. Furniture must not block windows or negatively impact the perimeter heating and cooling systems.
10. Furniture layout must allow for easy access to HVAC equipment for routine maintenance.
11. Existing furniture must be inventoried for reuse and incorporated into the furniture layout when applicable. Any new furniture required must be compatible with and complementary to the existing furniture.

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APPENDIX D TEMPLATE FORMS FOR INTERIOR DESIGN SUBMITTALS

Figure D-1 Navy FF&E Data Sheet TEMPLATE

NAVAL FACILITIES ENGINEERING COMMAND		SHEET/PAGE: DATE:	
PROJECT:		ITEM CODE:	
BASE/CITY/STATE:			
ITEM NAME:			
BPA CONTRACT #:		EXPIRATION DATE:	
GSA CONTRACT #:		ORDERING ADDRESS:	
MANUFACTURER:		ORDERING ADDRESS:	
LOCAL REP CONTACT INFO:			
ANY VARIANCE OR MODIFICATION OF THIS SPECIFICATION WILL BE COORDINATED THROUGH THE NAVFAC INTERIOR DESIGNER			
NAVFAC ID CONTACT:			
PROJECT ID CONTACT:			
DESCRIPTION:	QTY:	UNIT COST:	TOTAL COST:
MODEL #:			
SIZE:			
FINISH:			
FABRIC:			
FREIGHT/SHIPPING: FOB ORIGIN (if applicable)			
TOTAL:			
ROOM LOCATIONS:		REMARKS:	
QTY:	ROOM NUMBER:		
ITEM PHOTO/FINISH SAMPLES			
FINISHES / FABRICS SHOWN ARE FOR GENERAL REPRESENTATION AND MAY NOT DEPICT AN EXACT COLOR MATCH.			

Figure D-2 Army FF&E Data Sheet TEMPLATE - Standard

DATA SHEET

ITEM NAME:

ITEM CODE:

MANUFACTURER:

CONTRACTOR:

CONTRACT #:

CONTRACT EXP:

FSC GROUP:

SIN:

PRODUCT NAME:

PRODUCT #:

DIMENSIONS:

FINISH:

FABRIC:

DESCRIPTION:



ROOM LOCATION:	<u>Room #</u>	<u>Room Name</u>	<u>Quantity</u>
			0

TOTAL QUANTITY: 0

UNIT COST: 0

TOTAL COST: 0

Project Name
Project Number

Figure D-3 Army FF&E Data Sheet TEMPLATE - HNC

DATA SHEET

ITEM NAME:

ITEM CODE:

MANUFACTURER:

CONTRACTOR:

CONTRACT #:

CONTRACT EXP:

FSC GROUP:

SIN:

PRODUCT NAME:

PRODUCT #:

DIMENSIONS:

FINISH:

FABRIC:

DESCRIPTION:



ROOM LOCATION:	<u>Room #</u>	<u>Room Name</u>	<u>Quantity</u>
			0

TOTAL QUANTITY: 0

SPECIAL INSTRUCTIONS:

ALTERNATE MANUFACTURERS:

Project Name
Project Number

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APPENDIX E GLOSSARY

AE	Architect/Engineer
A/E/C	Architecture/Engineering/Construction CAD Standard
AFCEC	Air Force Civil Engineer Center
AFCFS	Air Force Corporate Facilities Standards
AFNAFPO	Air Force Non-Appropriated Funds Purchasing Office
BIA	Bilateral Infrastructure Agreement
BPA	Blanket Purchase Agreement
BIM	Building Information Modeling
BOD	Beneficial Occupancy Date
BVD	Best Value Determination
CAD	Computer-Aided Design
CCD	Construction Completion Date
CCR	Criteria Change Request
CE	Cost Engineering
CFCI	Contractor Furnished Contractor Installed
CID	Comprehensive Interior Design
CIDA	Council for Interior Design Accreditation
DB	Design-Build
DBB	Design-Bid-Build
DD	Department of Defense Forms Management Program is administered by the Directives Division (DD) of the Executive Services Directorate
DoD	Department of Defense
FAR	Federal Acquisition Regulations
FF&E	Furniture, Fixtures and Equipment

FLC	Fleet Logistics Command
FSC	Federal Supply Category
FSRM	Facilities Sustainment, Restoration and Modernization
FY	Fiscal Year
GFCI	Government Furnished Contractor Installed
GFGI	Government Furnished Government Installed
GSA	General Services Administration
HNC	U.S. Army Engineering and Support Center Huntsville
HNFA	Host Nation Funded Construction Agreements
HVAC	Heating, Ventilation and Air-Conditioning
HQUSACE	Headquarters, U.S. Army Corps of Engineers
M3	Minimum Model Matrix
MILCON	Military Construction
MPI	Master Painter's Institute
NAF	Non-Appropriated Funds
NASA	National Aeronautics and Space Administration
NAVFAC	Naval Facilities Engineering Command
NFPA	National Fire Protection Association
NCIDQ	National Council for Interior Design Qualification
O&M	Operations and Maintenance
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
P&D	Planning and Design
POC	Point of Contact

POE	Post Occupancy Evaluation
PTS	Performance Technical Specifications
PxP	Project Execution Plan
RFP	Request for Proposal
SID	Structural Interior Design
SIN	Special Item Number
SOFA	Status of Forces Agreement
TPC	Third Party Certification
UFC	Unified Facilities Criteria
UFGS	Unified Facilities Guide Specifications
UNICOR	Federal Prison Industries, Inc. (also known as FPI)
U.S.	United States
VE	Value Engineering
WBDG	Whole Building Design Guide