Criteria Program Authority

- DoD Defense Standardization Program (DSP) – DoDI 4120.24
  - Established to promote standardization of materiel, facilities, and engineering practices
  - Maximize use of non-Government standards, commercial technologies, products, and practices

- Use commercial standards (1996)
  - IBC, IMC, ASHRAE, etc.

- Engineering Senior Executive Panel (ESEP) (est. 1999)
  - Standardize and Unify Service Criteria - Fullest extent practical
  - Coordinating Panel (CP) - Management & oversight
  - Discipline Working Groups (DWG) - Criteria development, coordination & review

  - “…are to be used by the Military Departments, the Defense Agencies, and DoD Field Activities…”

- MOA between ESEP and the National Institute of Building Sciences (NIBS)
  - Whole Building Design Guide (WBDG) as primary distribution source of DoD facility standards

- MIL-STD-3007 STANDARD PRACTICE FOR UFC, FC and UFGS
  - MIL-STD-3007 follows the requirements of the DSP program and establishes procedures for the use, development and maintenance of UFC, FC, and UFGS.
  - UFC/FC - Unified Facilities Criteria/Facilities Criteria
    - Planning, design, construction, operation and maintenance
  - UFGS - Unified Facilities Guide Specifications
    - Performance and prescriptive facility material and construction requirements

UFC, FC and UFGS Document Use

- Applicability
  - Provide facility planning, design, construction, operation and maintenance, sustainment, restoration, and modernization criteria for facilities owned by the DoD

- Unified as much as possible
  - Non-unified requirements typically = Service specific operational requirements

- DoD Military Construction Program
  - ~ $10B to $20B annually

- Facility Sustainment, Restoration and Modernization (FSRM) program

- Delivery Method – Design-Build (DB) & Design-Bid-Build (DBB)
  - In-house AE and contracted AE services
    - ~65% contracted AE services
  - DB methodology ~40% of the overall program
  - DBB ~60% (in recent years)
Criteria Documents/Resources - WBDG

- **UFC – Unified Facility Criteria**
  - 176 UFC & FC documents - 74% unified amongst the Services
- **UFGS – Unified Facility Guide Specifications**
  - 775 UFGS - 75% unified amongst the Services
- **Design-Build Criteria Documents**
  - DB Request for Proposal (RFP) Templates/Model FP Templates
- **Standard Designs**
  - USACE – Relies heavily on standard designs
  - Air Force – Building standard design library
  - Navy – Limited Standard Designs
- **Non-Government Standards Access (DoD)**
  - IHS/Markit – S&P Global
  - Robust access to industry standards – via WBDG Link
- **Criteria Change Request (CCRs)**
  - Available/links on the WDBG
  - CCR Link next to the document download
  - ~1,400 CCRs received in 2020
    - Anyone can submit a CCR
- **Lessons Learned – Feedback loop**
  - Needs improvement – varies by Service (Army/Navy/Air Force)
    - Facility Quality Assessments

Program Return on Investment*

**Unified Facility Criteria (UFC)**

130:1

**Unified Facility Guide Specifications (UFGS)**

750:1

- Reduces effort for 1391 development
- Reduces design and re-design costs
- Reduces construction costs
- Reduces Source Selection Board proposal variability
- Reduces change orders
- Reduces/balances O&M facility costs
- Reduces safety related costs
- Reduces government liability, risk and litigation
- Remains current with proven technologies

MIL-STD-3007G: Working Groups

- Working groups facilitate the development, coordination, review, approval and maintenance of unified facilities criteria and guide specifications.
  - Every fiscal year, each Discipline and Functional Working Groups (DWG/FWG) identifies the criteria documents that need to be developed, revised, changed, or consolidated.
  - Criteria document requirements are prioritized and submitted to the Coordinating Panel (CP).
  - CP is responsible for coordinating and consolidating DWG and FWG requirements and develops the integrated priority list of criteria documents included in the annual unified criteria program.
Criteria Purpose & Strategy

Unified Facility Guide Specifications (UFGS)

Unified Facilities Criteria (UFC) / Facilities Criteria (FC)

UFC (27 Core UFC)

UFC 1-200-01

DoD Building Code

INDUSTRY STANDARDS

FUNCTION

Intended use of the facility
User Requirements-Unique Requirements

QUALITY

System/material Performance level

ENHANCED SAFETY

Legislation & Policy

AT/Accessibility/Energy/Environmental

BASIC SAFETY

Consensus Codes IBC, IMC, IPC, NFPA, ASHRAE, NEC

Minimum Level of Safety and Performance
**UFC**
(Unified Facility Criteria)
(200)
Planning, Design, Construction, and Maintenance

**UFGS**
(Unified Facility Guide Specifications) (776)
“Prescriptive Specifications”

**DB RFP**
(Design Build Request for Proposal)
PTS "Performance Specifications"

---

**UFC 1-200-01, DoD Building Code**

**Purpose:**
- Provide common requirements across DoD for safety, sustainability, durability, and functionality for DoD facilities.

**Applicability**
- This UFC applies to the planning, design, construction, sustainment, restoration, and modernization of DoD-owned facilities.

**Lead Agency: Navy**
- Point of contact: Jonathan Rau

**Current Document Status:**
- Published 2020 ([www.wbdg.org](http://www.wbdg.org))
• **Purpose:**
  – Provides minimum requirements and guidance to achieve high performance and sustainable buildings.

• **Applicability**
  – This UFC applies to all planning, design and construction, comprehensive replacement, SRM, repair, operations and maintenance, and affixed equipment installation in new and existing buildings, regardless of funding source.
  – Lead Agency: Navy
  – Point of contact: Julie Kephart-Jones

• **Current Document Status:**
  – Change 2 Published June 2022
  (www.wbdg.org)

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**Policy and Code**

High Performance and Sustainable Building (HPSB) Guiding Principles
International Green Construction Code
ASHRAE 90.1

International Building Code
Architectural Barrier Act (ABA Standards)
NFPA 101 Life Safety Code

UFC 1-200-01
DoD Building Code

UFC 1-200-02
High Performance and Sustainable Building Requirements
UFC Core Documents

• UFC 1-200-01 DoD Building Code

  • UFC 1-200-02: High Performance and Sustainable Building Requirements
  • UFC 3-101-01: Architecture
  • UFC 3-110-03: Roofing
  • UFC 3-120-10: Interior Design
  • UFC 3-190-06 Protective Coatings and Paint
  • UFC 3-201-01: Civil Engineering
  • UFC 3-201-02: Landscape Architecture
  • UFC 3-210-10: Low Impact Development
  • UFC 3-220-01: Geotechnical Engineering
  • UFC 3-230-01 Water Storage and Distribution
  • UFC 3-240-01: Wastewater Collection
  • UFC 3-301-01: Structural Engineering
  • UFC 3-401-01: Mechanical Engineering
  • UFC 3-410-01: Heating: Ventilating and Air Conditioning
  • UFC 3-420-01: Plumbing Systems
  • UFC 3-490-06: Design: Elevators
  • UFC 3-501-01: Electrical Engineering
  • UFC 3-520-01: Interior Electrical Systems
  • UFC 3-530-01: Design: Interior and Exterior Lighting and Controls
  • UFC 3-540-01: Engine-Driven Generator Systems for Prime and Standby Power Applications
  • UFC 3-550-01: Exterior Electrical Power Distribution
  • UFC 3-560-01: Electrical Safety O&M
  • UFC 3-580-01: Telecommunications Building Cabling Systems Planning and Design
  • UFC 3-600-01: Fire Protection Engineering for Facilities
  • UFC 4-010-01: DoD Minimum Antiterrorism Standards for Buildings
  • UFC 4-010-06: Cybersecurity of Facility-Related Control Systems
  • UFC 4-021-01: Design and O&M: Mass Notification Systems

“...provide requirements for the majority of traditional building systems that are prevalent on DoD facility construction projects.”

DoD Security Engineering Working Group (SEWG)

– U.S. Army Corps of Engineers (USACE) Protective Design Center (PDC)
– Naval Facilities Engineering System Command (NAVFAC) (Chair)
– Air Force Civil Engineer Center (AFCEC)
– Members of the “Joint” services & other DoD agencies
  • OSD, Navy, Marine Corp, Air Force, Army, Defense Threat Reduction Agency, DMFO, various others…
– DoD Engineers, Architects, & security professionals involved in security engineering
  • Achieve a balance between operational requirements, security operations and facility requirements.
### Security Engineering Unified Facility Criteria

#### MULTIDISCIPLINE

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>4-020-01</td>
<td>Security Engineering Facilities Planning Manual</td>
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<tr>
<td>4-020-02</td>
<td>Security Engineering Facilities Design Manual</td>
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<td>4-010-01</td>
<td>DoD Minimum Antiterrorism Standards for Buildings</td>
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<td>4-010-03</td>
<td>Security Engineering: Physical Security Measures for High Risk Personnel</td>
</tr>
<tr>
<td>4-010-05</td>
<td>Sensitive Compartmented Information Facilities</td>
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#### SITE DEVELOPMENT/BUILDING LAYOUT

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<thead>
<tr>
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<tbody>
<tr>
<td>4-022-01</td>
<td>Entry Control Facilities/Access Control Points</td>
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<tr>
<td>4-022-02</td>
<td>Selection and Application of Vehicle Barriers</td>
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<td>Security Engineering: Fences and Gates</td>
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<td>4-025-01</td>
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<td>4-026-01</td>
<td>Security Engineering Design to Resist Forced Entry</td>
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<tr>
<td>4-026-02</td>
<td>Design for Mitigating Acoustic Emanations</td>
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<tr>
<td>4-027-01</td>
<td>Design of Deployed Operational Bases to Mitigate Terrorist Attacks</td>
</tr>
<tr>
<td>4-028-01</td>
<td>Critical Infrastructure Planning Manual</td>
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</tbody>
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Published Documents Available On the Whole Building Design Guide Website at: [http://www.wbdg.org](http://www.wbdg.org)

### Security Engineering Unified Facility Criteria

#### STRUCTURAL/WEAPONS EFFECTS

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<thead>
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<tbody>
<tr>
<td>4-023-01</td>
<td>Structural Design to Resist Explosives Effects for New Buildings</td>
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<tr>
<td>4-023-02</td>
<td>Retrofit of Existing Buildings to Resist Explosive Effects</td>
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<tr>
<td>4-023-03</td>
<td>Design of Buildings to Resist Progressive Collapse</td>
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<tr>
<td>4-023-04</td>
<td>Design of Windows to Resist Blast, Ballistic, and Forced Entry</td>
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<tr>
<td>4-023-06</td>
<td>Design of Mail Rooms, Delivery Points, and Building Entrances to Resist Explosive Effects</td>
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<tr>
<td>4-023-07</td>
<td>Design to Resist Direct Fire Weapons Effects</td>
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<tr>
<td>4-023-08</td>
<td>Design to Resist Indirect Fire Weapons Effects</td>
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<td>4-023-10</td>
<td>Design for Safe Havens</td>
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#### ELECTRICAL

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<td>Mass Notification Systems, Design and O&amp;M</td>
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<td>Security Engineering: Design of Electronic Security Systems</td>
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<td>4-026-03</td>
<td>Design of Shielding for Reducing Electronic Emanations</td>
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#### CHEMICAL/BIOLOGICAL

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<tr>
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<tr>
<td>4-024-01</td>
<td>Procedures for Designing Airborne Chemical, Biological, and Radiological Collective Protection for Buildings</td>
</tr>
<tr>
<td>4-024-05</td>
<td>Design to Protect Against Waterborne Chemical, Biological, and Radiological Contaminants</td>
</tr>
</tbody>
</table>

Published Documents Available On the Whole Building Design Guide Website at: [http://www.wbdg.org](http://www.wbdg.org)
Policy for SCIF and SAPF

ICS 705-1 Physical and Technical Security Standards for Sensitive Compartmented Information Facilities
IC Tech Spec – for ICD/ICS 705, Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities

DoDM 5105.21 Vol 1-3, Sensitive Compartmented Information (SCI) Administrative Security Manuals
DoDM 5205.07 Vol 1-4, Special Access Program (SAP) Security Manuals

UFC 4-010-05 Sensitive Compartmented Information Facilities Planning, Design and Construction
UFC 4-021-02 Electronic Security Systems

DoD Architectural Working Group

- USACE (Chair)
- NAVFAC
- AFCEC
- Members of the “Joint” services and other DoD agencies
  - OSD, Navy, Marine Corp, Air Force, Army, CNIC Housing, MWR, various others…
- DoD Architects
  - Achieve a balance between operational requirements, regulatory requirements, and code compliance.
### Architectural Unified Facility Criteria

<table>
<thead>
<tr>
<th>Architectural Working Group</th>
<th>Architectural Working Group</th>
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<tbody>
<tr>
<td>1-200-01 DoD Building Code</td>
<td>4-179-02 Small Arms Ranges</td>
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<tr>
<td>1-200-03 Off-Site &amp; Modular Construction</td>
<td>4-179-03F Air Force Indoor Small Arms Firing Range</td>
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<td>3-101-01 Architecture</td>
<td>4-214-03 Central Vehicle Wash Facilities</td>
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<td>3-110-03 Roofing</td>
<td>4-215-01 Armories and Arms Rooms</td>
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<td>3-120-01 Design: Sign Standards</td>
<td>4-440-01 Warehouses and Storage Facilities</td>
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<tr>
<td>3-120-10 Interior Design</td>
<td>4-610-01 Administrative Facilities</td>
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<td>3-190-06 Protective Coatings and Paints</td>
<td>4-610-04 Legal Facilities</td>
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<tr>
<td>3-201-02 Landscape Architecture</td>
<td>4-610-04F Air Force Legal Facilities</td>
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<td>4-141-04 Emergency Operation Center Planning and Design</td>
<td>4-711-01 Family Housing</td>
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<td>4-171-06N Navy Operational Support Center</td>
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### Architectural Unified Facility Criteria

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<tr>
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<td>4-720-01 Lodging Facilities</td>
<td>4-740-14N Navy and Marine Corps Child Development Centers</td>
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<td>4-721-02F Air Force Level I Confinement Facility</td>
<td>4-740-15 Continuous Child Care Facility</td>
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<td>4-721-10N Navy and Marine Corps Unaccompanied Housing</td>
<td>4-740-20 Libraries</td>
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<td>4-722-01 Design: Dining Facilities</td>
<td>4-750-07 Recreational Aquatic Facilities</td>
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<tr>
<td>4-722-01N Navy and Marine Corps Dining Facilities</td>
<td>4-760-10N Navy Museums and Historic Resource Facilities</td>
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<td>4-730-01 Family Service Centers</td>
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<td>4-730-10 Fire Stations</td>
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<td>4-740-02 Fitness Centers</td>
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<td>4-740-14 Child Development Centers</td>
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Architectural Project Criteria

UFC 1-200-01
DoD Building Code

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

UFC 3-101-01
Architecture

UFC 3-201-02
Interior Design

UFC 3-120-10
Landscape Architecture

Core and applicable supplemental Criteria

Whole Building Design Guide - WBDG

- Repository for DoD Criteria Documents
  - MIL-STD 3007
    - Other policy references
  - UFC, FC & UFGS
  - Standard Drawings
  - DOD Supplemental Technical Documents
  - DB RFP Templates
  - Non-Government Standards
    - Industry Standards (ICC, NFPA, ASTM, etc.)
  - Design-Build Training (5 Modules)
  - Other resources

- Great Search Engine
  - Good place to start, lots of resources!
Criteria Change Request - CCR

- **WBDG**
  - UFC and UFGS documents

<table>
<thead>
<tr>
<th>TITLE</th>
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<th>CHANGE DATE</th>
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<th>CCR</th>
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<td>10-01-2020</td>
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<td>01-09-2022</td>
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<td>01-01-2013</td>
<td>01-20-2012</td>
<td>PDF</td>
<td>CCR</td>
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</table>

- **Routes to Criteria Managers**
  - **Reviewed – Approve/Disapprove – UFC changes and revisions**
    - Changes or revisions may not happen immediately
      - Depends on urgency/complexity of the issue/timing of the document
    - Not intended for project level determinations.
  - ~1400 CCR in FY21

Non-Government Standards

- **WBDG Access**
  - Non-Government Standards
  - One-time validation process
    - Pay close attention to instructions
    - Be patient as validation occurs
  - Enter your email address (.mil)
  - Navy (NAVFAC) ● - option button

- **IHS Market – Current vendor/provider**
  - Engineering Workbench
  - Pretty robust number of standards available
  - Predominance of what we may reference in UFC and UFGS
    - However - not all standards may be available
Waivers and Exemptions

• MIL-STD 3007, Appendix A - Waiver and Exemption Process
  – Waiver provides authority to deviate from a UFC or FC requirement for a specific period (Typically a year)
  – Exemption - provides authority to deviate from a UFC or FC requirement indefinitely
  – Waiver and Exemption Template – 10 questions
  – Some UFC or FC requirements may be based on legislation. Some may have different regulatory authorities.
  – Avoid if possible.
    • A criteria/code compliant design solution should be the objective.

Summary – Criteria Program Overview

• Implements Legislation and Policy from Public Law and Higher Headquarters/Higher Authority
• Robust set of documents
  – Challenging to keep them updated and current
• Reach out to TDCs, TDLs and Criteria Managers
• Use CCR process to improve criteria.
• WBDG – Comprehensive source/repository
  – Search Function!
• SQUASH any requests for Waivers and Exemptions!
  – Design a “UFC/code compliant” solution
Questions?