



**NAVFAC SOUTHWEST
Criteria Program and Security and the
Architecture Working Groups**

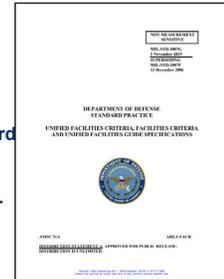
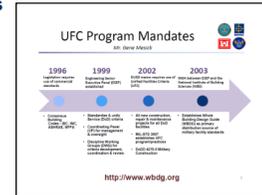
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Naval Facilities Engineering Systems Command
Facilities Criteria Office**

July 2022

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
- **DUSD Memo: Department of Defense Unified Facilities Criteria (2002)**
 - “..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 standard
- **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

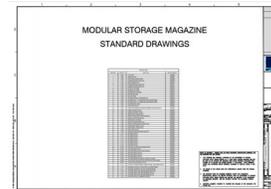


- **Applicability**
 - Provide facility planning, design, construction, operation and maintenance, sustainment, restoration, and modernization criteria for facilities owned by the DoD
- **Unified as much as possible**
 - Non-unified requirements typically = Service specific operational requirements
- **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 WBDG
 - 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*



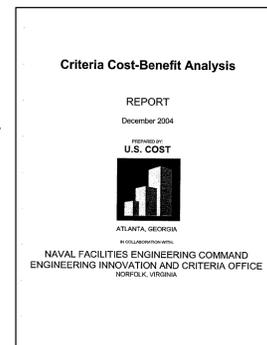
Unified Facility Criteria (UFC)

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Unified Facility Guide Specifications (UFGS)

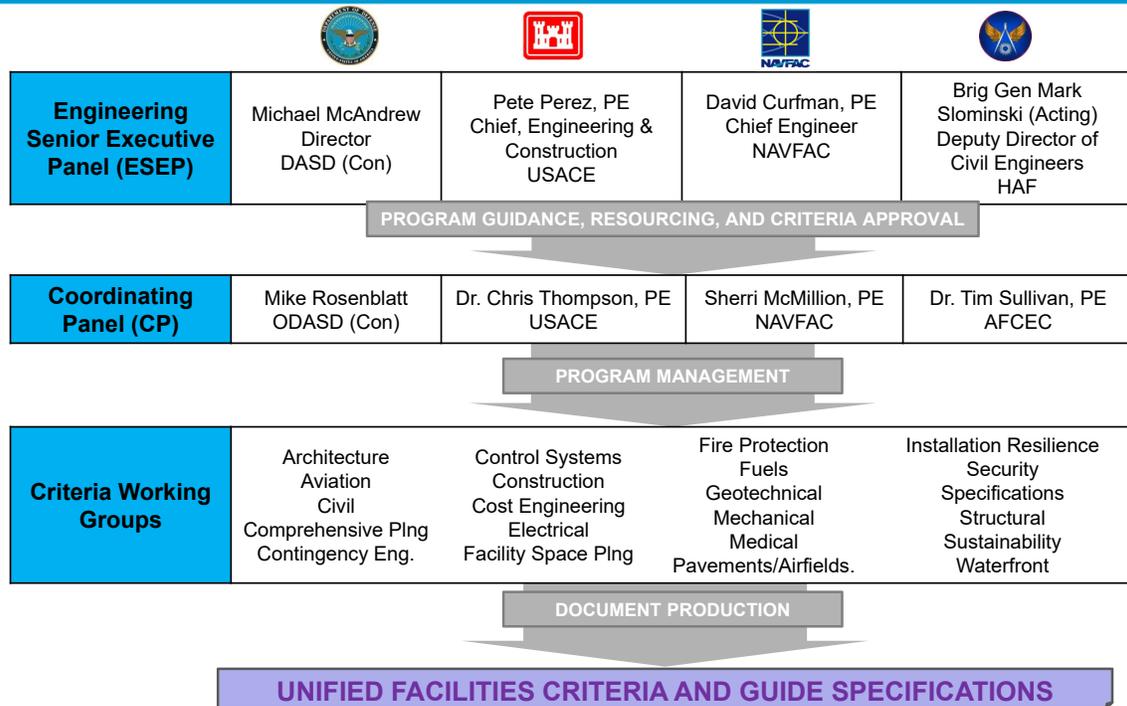
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- Reduces effort for 1391 development
- Reduces design and re-design costs
- Reduces construction costs
- Reduces Source Selection Board proposal variability
- Reduces change orders
- Reduces/balances O&M facility costs
- Reduces safety related costs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



* NAVFAC 2004 Study: *Criteria Cost-Benefit Analysis* – Consultant: US Cost

UFC Program Organization

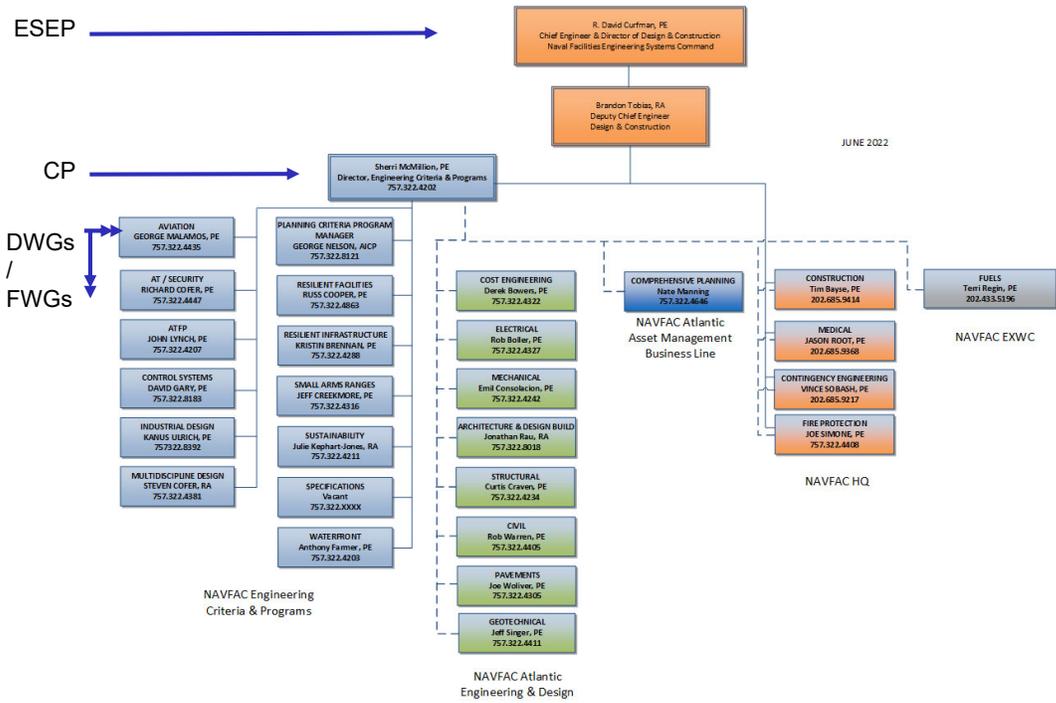


MIL-STD-3007G: Working Groups

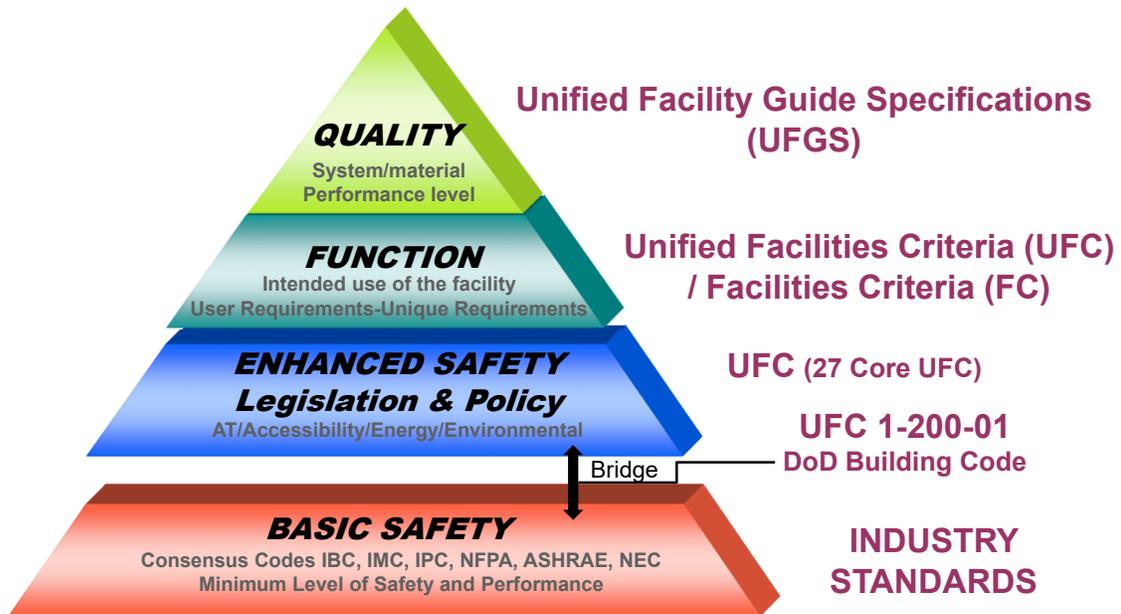


- **Working groups facilitate the development, coordination, review, approval and maintenance of unified facilities criteria and guide specifications.**
 - Every fiscal year, each Discipline and Functional Working Groups (DWG/FWG) identifies the criteria documents that need to be developed, revised, 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.

Naval Facilities Engineering System Command (NAVFAC) Criteria Program - Organizational Chart



Criteria Purpose & Strategy





UFC

(Unified Facility Criteria)
(200)
Planning, Design,
Construction, and
Maintenance

UFGS

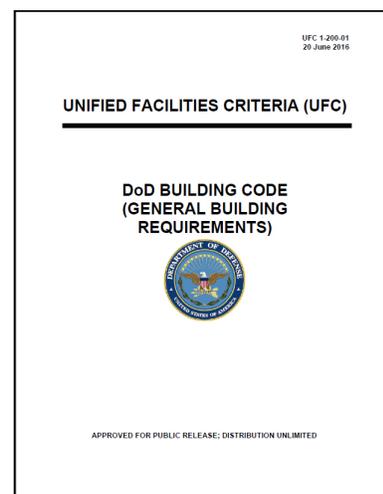
(Unified Facility Guide
Specifications) (776)
“Prescriptive Specifications”



UFC 1-200-01, DoD Building Code



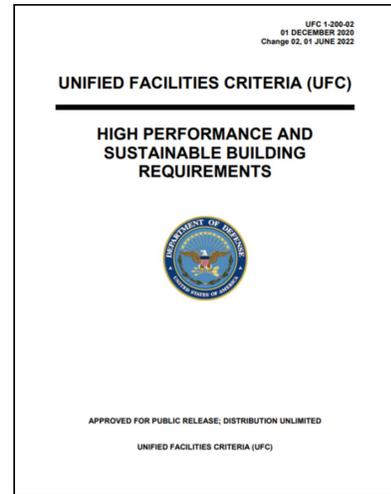
- **Purpose:**
 - Provide common requirements across DoD for safety, sustainability, durability, and functionality for DoD facilities.
- **Applicability**
 - This UFC applies to the planning, design, construction, sustainment, restoration, and modernization of DoD-owned facilities.
- **Lead Agency: Navy**
 - Point of contact: Jonathan Rau
- **Current Document Status:**
 - Published 2020 (www.wbdg.org)



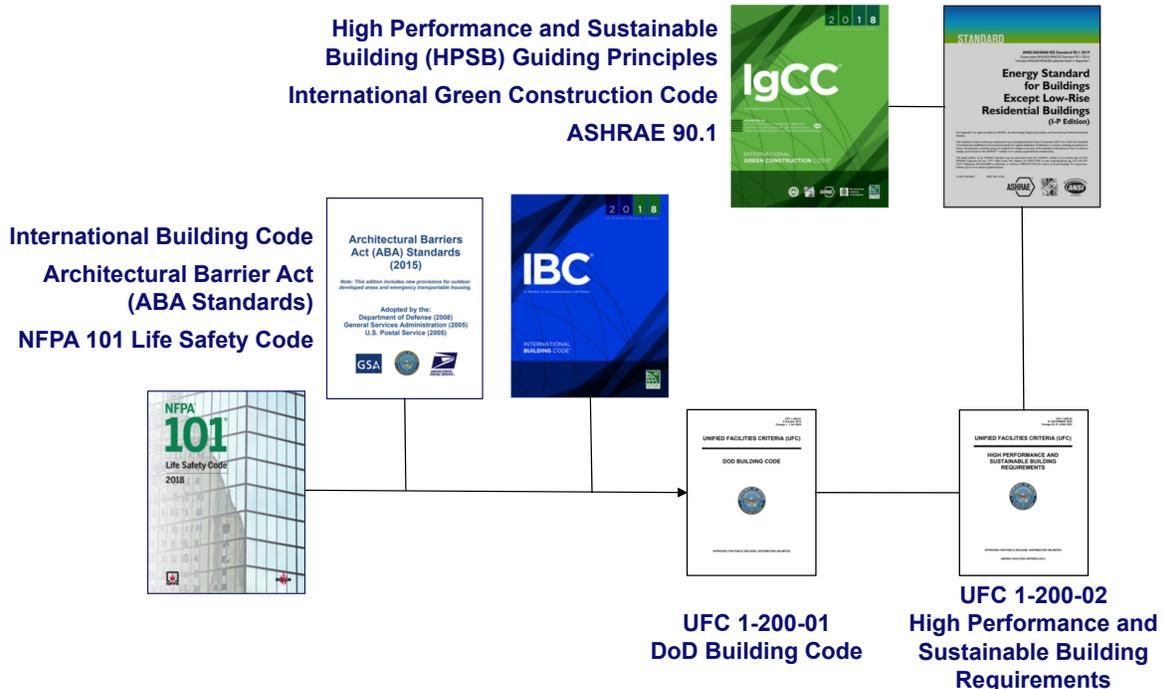
UFC 1-200-02, High Performance and Sustainable Building Requirements



- **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)



Policy and Code



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.



US Army Corps of Engineers

Security Engineering Unified Facility Criteria



<i>MULTIDISCIPLINE</i>	
4-020-01	Security Engineering Facilities Planning Manual
4-020-02	Security Engineering Facilities Design Manual
4-010-01	DoD Minimum Antiterrorism Standards for Buildings
4-010-02	ARCHIVED
4-010-03	Security Engineering: Physical Security Measures for High Risk Personnel
4-010-05	Sensitive Compartmented Information Facilities

<i>SITE DEVELOPMENT/BUILDING LAYOUT</i>	
4-022-01	Entry Control Facilities/Access Control Points
4-022-02	Selection and Application of Vehicle Barriers
4-022-03	Security Engineering: Fences and Gates
4-025-01	Security Engineering: Waterfront Security
4-026-01	Security Engineering Design to Resist Forced Entry
4-026-02	Design for Mitigating Acoustic Emanations
4-027-01	Design of Deployed Operational Bases to Mitigate Terrorist Attacks
4-028-01	Critical Infrastructure Planning Manual

Published Documents Available On the Whole Building Design Guide Website at:
<http://www.wbdg.org>

Security Engineering Unified Facility Criteria



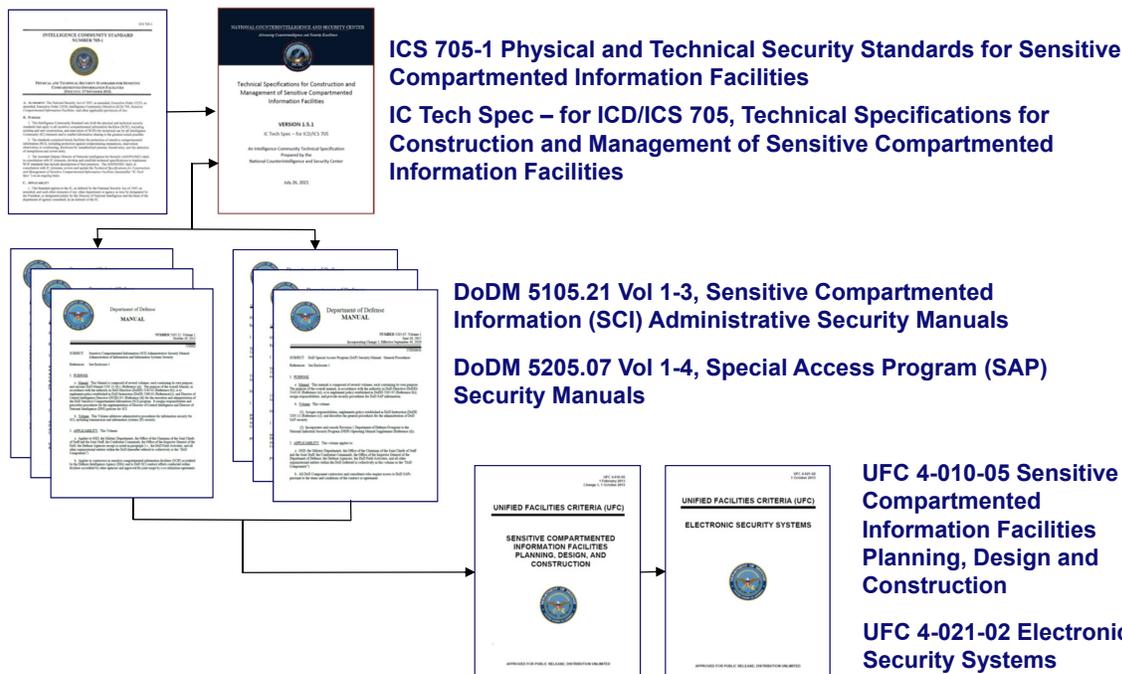
<i>STRUCTURAL/WEAPONS EFFECTS</i>	
4-023-01	Structural Design to Resist Explosives Effects for New Buildings
4-023-02	Retrofit of Existing Buildings to Resist Explosive Effects
4-023-03	Design of Buildings to Resist Progressive Collapse
4-023-04	Design of Windows to Resist Blast, Ballistic, and Forced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

<i>ELECTRICAL</i>	
4-021-01	Mass Notification Systems, Design and O&M
4-021-02NF	Security Engineering: Design of Electronic Security Systems
4-026-03	Design of Shielding for Reducing Electronic Emanations

<i>CHEMICAL/BIOLOGICAL</i>	
4-024-01	Procedures for Designing Airborne Chemical, Biological, and Radiological Collective Protection for Buildings
4-024-05	Design to Protect Against Waterborne Chemical, Biological, and Radiological Contaminants

Published Documents Available On the Whole Building Design Guide Website at:
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Policy for SCIF and SAPF



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.



US Army Corps of Engineers

Architectural Unified Facility Criteria



Architectural Working Group	
1-200-01	DoD Building Code
1-200-03	Off-Site & Modular Construction
3-101-01	Architecture
3-110-03	Roofing
3-120-01	Design: Sign Standards
3-120-10	Interior Design
3-190-06	Protective Coatings and Paints
3-201-02	Landscape Architecture
4-141-04	Emergency Operation Center Planning and Design
4-171-06N	Navy Operational Support Center

Architectural Working Group	
4-179-02	Small Arms Ranges
4-179-03F	Air Force Indoor Small Arms Firing Range
4-214-03	Central Vehicle Wash Facilities
4-215-01	Armories and Arms Rooms
4-440-01	Warehouses and Storage Facilities
4-610-01	Administrative Facilities
4-610-04	Legal Facilities
4-610-04F	Air Force Legal Facilities
4-711-01	Family Housing

Published Documents Available On the Whole Building Design Guide Website at:
<http://www.wbdg.org>

Architectural Unified Facility Criteria

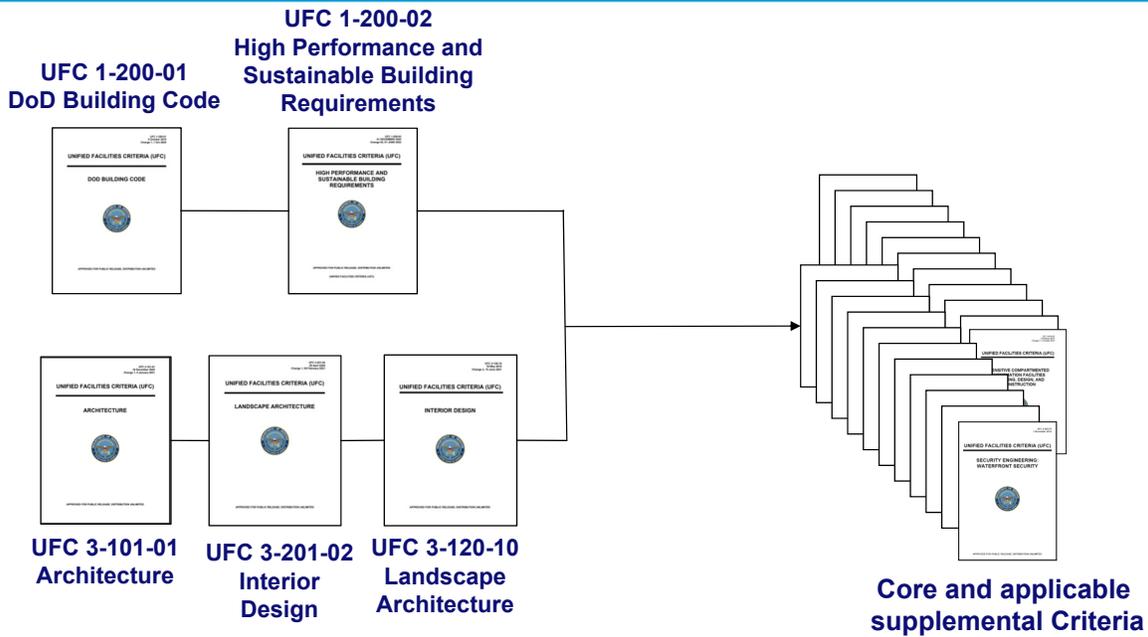


Architectural Working Group	
4-720-01	Lodging Facilities
4-721-02F	Air Force Level I Confinement Facility
4-721-10N	Navy and Marine Corps Unaccompanied Housing
4-722-01	Design: Dining Facilities
4-722-01N	Navy and Marine Corps Dining Facilities
4-730-01	Family Service Centers
4-730-10	Fire Stations
4-740-02	Fitness Centers
4-740-06	Youth Centers
4-740-14	Child Development Centers

Architectural Working Group	
4-740-14N	Navy and Marine Corps Child Development Centers
4-740-15	Continuous Child Care Facility
4-740-20	Libraries
4-750-07	Recreational Aquatic Facilities
4-760-10N	Navy Museums and Historic Resource Facilities

Published Documents Available On the Whole Building Design Guide Website at:
<http://www.wbdg.org>

Architectural Project Criteria



Whole Building Design Guide - WBDG

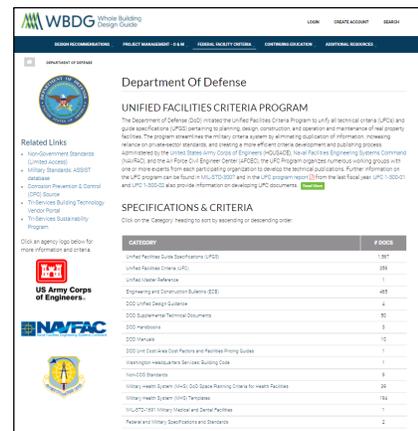


• Repository for DoD Criteria Documents

- 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

TITLE	DATE	CHANGE DATE	VIEW	CCR
UFC 1-200-01 DoD Building Code, with Change 1	10-08-2019	10-01-2020	PDF	CCR
UFC 1-200-02 High Performance and Sustainable Building Requirements	12-01-2020	01-03-2022	PDF	CCR
UFC 1-201-01 Non-Permanent DoD Facilities in Support of Military Operations	01-01-2013		PDF	CCR

- 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?

