

# UNIFIED FACILITIES CRITERIA (UFC)

## GENERAL BUILDING REQUIREMENTS



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**UNIFIED FACILITIES CRITERIA (UFC)**

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U.S. ARMY CORPS OF ENGINEERS

NAVAL FACILITIES ENGINEERING COMMAND (Preparing Activity)

AIR FORCE CIVIL ENGINEER SUPPORT AGENCY

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

Change No.	Date	Location

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This UFC supersedes UFC 1-200-01, dated 20 June 2005, including change 1, implemented December 2005.

## 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 more 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 Support Agency (AFCESA) 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:

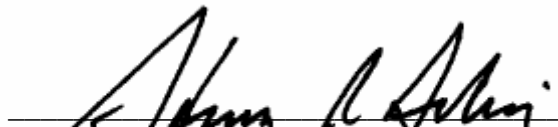
- Whole Building Design Guide web site <http://dod.wbdg.org/>.

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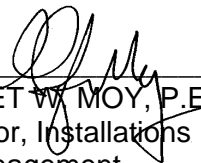
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## UNIFIED FACILITIES CRITERIA (UFC) REVISION SUMMARY SHEET

**Subject:** UFC 1-200-01, *DESIGN: GENERAL BUILDING REQUIREMENTS*

**Cancel:** UFC 1-200-01, *DESIGN: GENERAL BUILDING REQUIREMENTS*, dated 20 June 2005, and with Foreword revised on Dec 2005.

**Description of Change:** This update to UFC 1-200-01 represents another step in the joint Services effort to bring uniformity to the military use of existing commercial building codes. Technical representatives of each of the four Services developed this document to require the use of the International Building Code 2006 consistent with the scope of current military requirements and procedures. The International Building Code (IBC) 2003 was adopted with modifications as the basic building code for the Department of Defense, in the first UFC 1-200-01 published 31 July 2002. This revision of that document contains extensive modifications in the following areas:

- ❑ The document requires the use of the latest published version of the International Building Code (2006), and replaces the previous IBC 2003.
- ❑ Portions of the IBC chapter on Administration procedures were shortened in this revision.
- ❑ A section on substitutions was inserted directly referencing NFPA 54, NFPA 58, and NFPA 70, and UFC 3-600-01 instead of the International Fire Code.
- ❑ Modifications in deference to the continued use of the NFPA Fire and Life Safety Codes were retained and expanded.
- ❑ Increasing military requirements were incorporated and more references to other technical documents were identified for revised geotechnical, wind charts, live load data, energy conservation, and antiterrorism standards.

**Reasons for Change:** The existing guidance was inadequate for the following reasons:

- ❑ The existing UFC 1-200-01 required the use of the IBC 2003 which was revised and replaced in 2006 by the International Code Council.
- ❑ The existing UFC did not properly reference and identify recently updated and published commercial structural, seismic and wind data documents.
- ❑ The existing UFC did not properly reference and identify recently updated joint Service criteria in elevators and energy conservation.
- ❑ The existing UFC did not reflect recent changes in the Fire and Life Safety documents published by the NFPA.

**Impact:** The following direct benefits will result from the update of UFC 1-200-01:

- ❑ Creation of a single source reference for modifications to a commercial architectural and structural building code that provides guidance for the design of DoD facilities.
  - Reduces interpretation and ambiguity that could lead to design and construction conflicts;
  - Continues DoD reliance upon NFPA Fire and Life Safety codes, and where they are to be specifically used and applied.
  - Facilitates update and revision as better information becomes available.

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CANCELLED

## CHAPTER 1 INTRODUCTION

### 1-1 APPLICABILITY.

This UFC applies to the design and construction of all new and renovated facilities for the Department of Defense. It is applicable to all methods of project delivery, including both design-bid-build and design-build.

### 1-2 BUILDING CODE.

Except as indicated below, use the 2006 International Building Code (IBC-2006), as modified by Chapter 2, as the building code for the Department of Defense.

#### 1-2.1 Substitutions.

All references in the International Building Code to the International Electrical Code shall be considered to be references to NFPA 70.

All references in the International Building Code to the International Fuel Gas Code shall be considered to be references to NFPA 54 and NFPA 58.

All references in the International Building Code to the International Fire Code shall be considered to be references to UFC 3-600-01.

1-2.2 The modifications to the International Building Code listed in Chapter 2 are based upon unique military requirements. In the case of conflicts between the International Building Code and the military criteria, use the military requirements.

### 1-3 OTHER CRITERIA.

Military criteria other than those listed in Chapter 2 may be applicable to specific types of structures, building systems, or building occupancies. Such structures, systems, or buildings must meet the additional requirements of the applicable military criteria.

#### 1-3.1 Government Criteria.

All construction must be in compliance with all Public Laws (P.L.), Executive Orders (E.O.), Code of Federal Regulations (CFR), Department of Defense Instructions (DODI) and Department of Defense Directives (DODD) or other higher authority documents as applicable, as listed in MIL-STD-3007F Appendix B

#### 1-3.2 Antiterrorism.

For antiterrorism requirements, refer to UFC 4-010-01, UFC 4-010-02 and Combatant Commander Antiterrorism construction standards.

#### 1-3.2 Sustainability.

Sustainability concepts must be incorporated into the design and construction of all facilities in accordance with the "Memorandum of Understanding for High Performance & Sustainable

Buildings" dated 24 January 2006 and in accordance with the latest instruction or policy statement issued by the applicable military service.

CANCELLED



## **CHAPTER 2 MODIFICATIONS TO THE INTERNATIONAL BUILDING CODE (IBC)**

### **2-1 CHAPTER 1 – ADMINISTRATION.**

Use Section 101, 102, 106, 109, and 111.

### **2-2 CHAPTER 2 – DEFINITIONS.**

Use Chapter 2. Definitions apply to terms used in the model code, and are not intended to replace definitions and terms in military documents.

### **2-3 CHAPTER 3 – USE AND OCCUPANCY CLASSIFICATION.**

Use Chapter 3 and UFC 3-600-01. If any conflict occurs between Chapter 3 and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.

### **2-4 CHAPTER 4 – SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY.**

Use UFC 3-600-01 in lieu of IBC Chapter 4.

### **2-5 CHAPTER 5 – GENERAL BUILDING HEIGHTS AND AREAS.**

Use Chapter 5, except as modified by UFC 3-600-01 for limitations on the use of Table 503.

### **2-6 CHAPTER 6 - TYPES OF CONSTRUCTION.**

Use Chapter 6 and UFC 3-600-01. If any conflict occurs between Chapter 6 and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.

### **2-7 CHAPTER 7 – FIRE-RESISTANCE-RATED CONSTRUCTION.**

Use Chapter 7 and UFC 3-600-01. If any conflict occurs between Chapter 7 and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.

### **2-8 CHAPTER 8 – INTERIOR FINISHES.**

Use Chapter 8 and UFC 3-600-01. If any conflict occurs between Chapter 8 and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.

### **2-9 CHAPTER 9 – FIRE PROTECTION SYSTEMS.**

Use UFC 3-600-01 in lieu of IBC Chapter 9.

### **2-10 CHAPTER 10 – MEANS OF EGRESS.**

Use UFC 3-600-01 in lieu of IBC Chapter 10.

2-11           **CHAPTER 11 – ACCESSIBILITY.**

Use Uniform Federal Accessibility Standards (UFAS) and Americans with Disabilities Act Accessibility Guide (ADAAG) in lieu of Chapter 11.

2-12           **CHAPTER 12 – INTERIOR ENVIRONMENT.**

Use Chapter 12, except as modified below:

2-12.1       Delete paragraph 1204.1, including the exception, and replace with the following:

“1204.1 Refer to applicable Unified Facilities Criteria and individual military service standards for temperature control criteria.”

2-12.2       For Navy and Marine Corps bachelor housing facilities, delete paragraphs 1207.2, 1207.3, 1208.3 and 1208.4, and refer to UFC 4-721-10 for air-borne and structure-borne sound transmission criteria, for minimum room sizes, and for dwelling unit criteria.

2-13           **CHAPTER 13 – ENERGY EFFICIENCY.**

Delete Chapter 13 and comply with Energy Policy Act of 2005, and UFC 3-400-01.

2-14           **CHAPTER 14 – EXTERIOR WALLS.**

Use Chapter 14.

2-15           **CHAPTER 15 – ROOF ASSEMBLIES AND ROOFTOP STRUCTURES.**

Use Chapter 15.

2-16           **CHAPTER 16 – STRUCTURAL DESIGN.**

Use Chapter 16, except as modified below:

2-16.1       Use UFC 3-310-01 for structural loading data.

2-16.2       When UFC 3-310-04 is published, use UFC 3-310-04 and Chapter 16 for seismic design.

2-17           **CHAPTER 17 – STRUCTURAL TESTS AND INSPECTIONS.**

Use Chapter 17, except as modified below:

2-17.1       In Paragraph 1704.1 General, add the following after the first paragraph:

“When the construction contractor is required by the Government to

provide special inspections as part of his work, the contractor shall retain third-party quality assurance agencies to conduct the special inspections required by the IBC. The inspecting agency shall provide reports of the special inspections directly to the government.”

2-18           **CHAPTER 18 – SOILS AND FOUNDATIONS.**

Use Chapter 18.

2-19           **CHAPTER 19 – CONCRETE.**

Use Chapter 19.

2-20           **CHAPTER 20 – ALUMINUM.**

Use Chapter 20.

2-21           **CHAPTER 21 – MASONRY.**

Use Chapter 21.

2-22           **CHAPTER 22 – STEEL.**

Use Chapter 22.

2-23           **CHAPTER 23 – WOOD.**

Use Chapter 23

2-24           **CHAPTER 24 – GLASS AND GLAZING.**

Use Chapter 24.

2-25           **CHAPTER 25 – GYPSUM BOARD AND PLASTER.**

Use Chapter 25.

2-26           **CHAPTER 26 – PLASTIC.**

Use Chapter 26.

2-27           **CHAPTER 27 – ELECTRICAL.**

Use Chapter 27. See Paragraph 1-2.1.

2-28           **CHAPTER 28 – MECHANICAL SYSTEMS.**

Use Chapter 28 and UFC 3-410-02N for Navy and Marine Corps facilities. For Army and Air Force facilities delete Chapter 28 and use UFC 3-410-01FA.

**2-29 CHAPTER 29 – PLUMBING SYSTEMS.**

Use Chapter 29 and UFC 3-420-01.

**2-30 CHAPTER 30 – ELEVATOR AND CONVEYING SYSTEMS.**

Use Chapter 30, UFC 3-600-01, and ITG 01-01. When UFC 3-490-06 is published, use Chapter 30, UFC 3-600-01, and UFC 3-490-06.

**2-31 CHAPTER 31 – SPECIAL CONSTRUCTION.**

Use Chapter 31.

**2-32 CHAPTER 32 – ENCROACHMENT INTO THE PUBLIC RIGHT-OF-WAY.**

Use Chapter 32.

**2-33 CHAPTER 33 – SAFEGUARDS DURING CONSTRUCTION.**

Delete the chapter.

**2-34 CHAPTER 34 – EXISTING STRUCTURES.**

Use Chapter 34, except as modified below. Use Section 3410 with UFC 3-600-01. If any conflict occurs between Section 3410 and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.

2-34.1 Existing buildings inside the United States, its territories and possessions must comply with ICSSC RP6 / NISTIR 6762 in addition to Chapter 34. Refer to individual military service standards for specific seismic requirements for existing buildings outside the United States.

2-34.2 Seismic evaluation of existing buildings must be in accordance with ASCE/SEI 31-03. Rehabilitation of existing buildings for seismic loads must be in accordance with ASCE/SEI 41-06.

**2-35 CHAPTER 35 – REFERENCED STANDARDS.**

Use Chapter 35 and Appendix A of this UFC.

**2-36 APPENDICES.**

Delete Appendix A through Appendix K.

## APPENDIX A REFERENCES

### GOVERNMENT PUBLICATIONS

ADAAG, *Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities*, U.S. Architectural and Transportation Barriers Compliance Board, 1331 F Street, N.W. Suite 1000, Washington, D.C. 20004-1111, <http://www.access-board.gov/ada-aba/final.pdf>

ICSSC RP6 / NISTIR 6762, *Standards of Seismic Safety for Existing Federally Owned and Leased Buildings*, January 2002, <http://fire.nist.gov/bfrlpubs/build01/PDF/b01056.pdf>

ITG 01-01, *Elevator Design*, 01 March 2001, [http://www.wbdg.org/ccb/NAVFAC/INTCRIT/fy01\\_01.pdf](http://www.wbdg.org/ccb/NAVFAC/INTCRIT/fy01_01.pdf)

MIL-STD-3007F, *Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications*, 15 February 2006, <http://www.wbdg.org/pdfs/milstd3007.pdf>

UFAS, *Uniform Federal Accessibility Standards*, U.S. Architectural and Transportation Barriers Compliance Board, 1331 F Street, N.W. Suite 1000, Washington, D.C. 20004-1111, <http://www.access-board.gov/ufas/ufas-html/ufas.htm>

UFC 3-310-01, *Structural Load Data*, 25 May 2005, <http://www.wbdg.org>

UFC 3-310-04, *Design: Seismic Design for Buildings*, <http://www.wbdg.org>

UFC 3-400-01, *Energy Conservation*, 5 July 2002, <http://www.wbdg.org>

UFC 3-410-01FA, *Heating, Ventilating, and Air Conditioning, with Change 1*, 15 May 2003, <http://www.wbdg.org>

UFC 3-410-02N, *Heating, Ventilating, Air Conditioning and Dehumidifying Systems*, 8 June 2005, <http://www.wbdg.org>

UFC 3-420-01, *Plumbing Systems, including Changes 1&2*, October 2006, <http://www.wbdg.org>

UFC 3-490-06, *Elevators*, <http://www.wbdg.org>

UFC 3-600-01, *Fire Protection Engineering for Facilities*, 26 September 2006, <http://www.wbdg.org>

UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings, including Change 1*, 22 January 2007, <http://www.wbdg.org>

UFC 4-010-02, *DoD Minimum Antiterrorism Standoff Distances for Buildings (FOUO)*, including Change 1, 19 January 2007, <http://www.wbdg.org>

UFC 4-721-10, *Design: Navy and Marine Corps Bachelor Housing*, 31 July 2002, <http://www.wbdg.org>

## NON-GOVERNMENT PUBLICATIONS

ASCE/SEI 31-03, *Seismic Evaluation of Existing Buildings*, American Society of Civil Engineers, 1801 Bell Drive, Reston, VA 20191-4400, <http://www.asce.org>

ASCE/SEI 41-06, *Seismic Rehabilitation of Existing Buildings*, American Society of Civil Engineers, 1801 Bell Drive, Reston, VA 20191-4400, <http://www.asce.org>

*International Building Code*, 2006, International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001, <http://www.iccsafe.org>

NFPA-54, *National Fuel Gas Code*, 2006, National Fire Protection Association, 1 Batterymarch Park Quincy, Massachusetts, 02169, <http://www.nfpa.org>

NFPA-58, *Liquefied Petroleum Gas Code*, 2004, National Fire Protection Association, 1 Batterymarch Park Quincy, Massachusetts, 02169, <http://www.nfpa.org>

NFPA-70, *National Electric Code*, 2005, National Fire Protection Association, 1 Batterymarch Park Quincy, Massachusetts, 02169, <http://www.nfpa.org>

NFPA-101, *Life Safety Code*, 2006, National Fire Protection Association, 1 Batterymarch Park Quincy, Massachusetts, 02169, <http://www.nfpa.org>