

# The Chicago Construction Codes 2019

Municipal Code of Chicago

Title 14  
**B**

## CHICAGO **BUILDING CODE**

Based on the 2018 *International Building Code*®



## 2019 Chicago Building Code

(Reflecting ordinances adopted through July 24, 2019)

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CITY OF CHICAGO • OFFICE OF THE MAYOR



Mayor's Message

I am pleased to present the 2019 *Chicago Construction Codes*, which build on the City's 150-year-long legacy of innovation, adaptation and dedication in public safety by bringing our city's building regulations into the 21<sup>st</sup> century. Since establishing one of this nation's earliest building codes in 1875, Chicago has championed construction quality and safety, implementing the nation's first electrical code in 1883 and the first high-rise code for a major American city in 1975. After years of evolving to match the unique dense urban environment of our city, it is time for Chicago's building code to take on the framework, terminology and consensus-based standards that are used throughout the country. User-friendly and universal, this modern family of codes will help ensure that every building on every block of Chicago is built safe, sustainable and vibrant.

With these new codes, Chicago joins a host of other major cities in aligning with the International Codes. Not only will this streamline the permitting process, it will reduce barriers to cost-effective construction, foster sustainable design and construction, and facilitate innovation among the building community to continue Chicago's long-standing tradition for world-class architecture. Together with significant updates to our electrical and elevator codes implemented in 2018, and the full coordination of energy efficiency requirements with the building code, the updated *Construction Codes* bring safety and sustainability to the forefront of our efforts to maintain a resilient city.

As Chicagoans, it is our responsibility to ensure that the code addresses local contexts and successfully guides development and upkeep at every scale in every neighborhood. To improve the outdated one-size-fits-all approach of the previous code, this edition holds small buildings and high-rises to different standards, tightening requirements on high-rise buildings to accommodate innovations in engineering and materials while reducing barriers to rehabilitate and preserve the character of existing buildings that form the fabric of neighborhoods throughout the City.

I am pleased to acknowledge the city employees and many professionals from the private sector who contributed to the first full rewrite of the Chicago Building Code in 70 years. Commissioner Judith Frydland and Deputy Commissioner Grant Ullrich of the Department of Buildings ably led this monumental project with the support and assistance of the Departments of Fire, Health, Planning and Development, and the Mayor's Office for People with Disabilities, as well as the International Code Council and more than 150 volunteer technical experts and industry leaders. With this modernized code, the city's reputation for innovative design and world-renowned architecture can continue to thrive, and together, we can continue building a better Chicago community by community.

Sincerely,

Mayor



CITY OF CHICAGO



DEPARTMENT OF BUILDINGS

Commissioner's Message

The 2019 Chicago Construction Codes reflect the City of Chicago's commitment to enable safer, more cost-effective, sustainable, accessible, and innovative construction and rehabilitation of buildings in every neighborhood. Chicago has long been a leader in the field of building regulations, beginning with the establishment of one of the nation's first building codes in 1875 and the first electrical code in 1883. Though there have been amendments over the years, the Chicago Construction Codes represent the first full rewrite of the Chicago Building Code since 1949.

In addition to enhancing safety and quality of life for residents and visitors of the City of Chicago, our mission at the Department of Buildings is to ensure city government is a reliable partner in helping homeowners, businesses, and developers complete construction and renovation projects by improving consistency, communication, and customer service in the permitting and inspection processes. The 2019 codes streamline the permitting process and move Chicago closer to national standards in several significant areas including building planning, fire and life safety, enclosures and materials, structural, small residential, and rehabilitation of existing buildings. In being more closely aligned with model codes and national standards, the new codes will speak the same language as building regulations adopted throughout the United States and promote greater use of green technologies and best practices for sustainable building design and construction.

Similar to the city's new electrical and elevator codes, which were successfully implemented in 2018, the new Chicago Building Code and Chicago Building Rehabilitation Code retain several requirements from earlier codes that enhance building safety in Chicago's unique local conditions and urban density, such as stricter limits on the use of combustible materials in large buildings.

Since becoming Building Commissioner in 2015, I have been overwhelmed by the willingness of so many in Chicago's design, construction, and development communities to volunteer their time and resources to assist with development and implementation of important policy and program changes. The generosity and willingness to work toward consensus offered by so many of our industry partners, including those listed on the following pages, was essential to preparing and adopting the Chicago Construction Codes.

Because of continuing innovations in the construction industry, the Chicago Construction Codes will always remain a work in progress. I encourage you to reach out to the Department of Buildings if you have a suggestion for future changes or questions about how to apply any provision. We look forward to working with you.

Sincerely,

Judith Frydland  
Building Commissioner

# About the Chicago Construction Codes

## Overview

The *Chicago Construction Codes* (Titles 14A through 14X of the *Municipal Code of Chicago*) are intended to provide clear, consistent, and coordinated requirements for the construction and maintenance of buildings and property in the City of Chicago. The *Chicago Construction Codes* are based on up-to-date model codes and standards with carefully-considered amendments to reflect local conditions and building practices. The *Chicago Construction Codes* are administered by several departments, but primary responsibility for development and enforcement is assigned to the Department of Buildings. The International Code Council® (ICC®) publishes the *Chicago Construction Codes* in user-friendly print and electronic formats on behalf of the City of Chicago. The National Fire Protection Association (NFPA) publishes the *Chicago Electrical Code*.

## Individual Titles

The requirements of each title of the *Chicago Construction Codes* are interrelated and not intended to be applied separately. In developing the *Chicago Construction Codes*, efforts have been made to avoid unnecessary duplication across different titles. The *Chicago Construction Codes* are also designed to interact with the Chicago Zoning Ordinance. In case of a conflict between the *Chicago Construction Codes* and the Chicago Zoning Ordinance, the stricter provision governs. There are currently eleven full or interim titles:

<b>A</b> Administrative Provisions	<b>B</b> Building Code	<b>C</b> Conveyance Device Code	<b>E</b> Electrical Code	<b>F</b> Fire Prevention Code (Interim)	<b>G</b> Fuel Gas Code (Interim)
<b>M</b> Mechanical Code (Interim)	<b>N</b> Energy Conservation Code	<b>P</b> Plumbing Code (Interim)	<b>R</b> Building Rehabilitation Code	<b>X</b> Existing Building Requirements	

The ***Chicago Construction Codes Administrative Provisions*** (Title 14A) establish uniform administrative procedures for each code in the *Chicago Construction Codes* series. These provisions establish the limits of the applicability of each code and describe how the codes are to be applied and enforced. These provisions also establish the powers and responsibilities of city employees, design professionals, construction professionals, and building owners with respect to application of the *Chicago Construction Codes*.

The ***Chicago Building Code*** (Title 14B) regulates the new construction of buildings and structures and other building- and property-related activities, including special inspections and tests, construction site safety, and building rehabilitation work, as specifically referenced in the other *Chicago Construction Codes*. The accessibility-related provisions of this code have been drafted to be consistent with the 2018 *Illinois Accessibility Code* and federal regulations for privately-funded construction.

The **Chicago Conveyance Device Code** (Title 14C) regulates the design, construction, installation, alteration, maintenance, and repair of conveyance devices, such as elevators, escalators, mechanical amusement riding devices, and their components.

The **Chicago Electrical Code** (Title 14E) regulates the installation and removal of electrical conductors, equipment, and raceways; signaling and communication conductors, equipment, and raceways; and optical fiber cables and raceways.

The **Chicago Fire Prevention Code** (Title 14F) regulates matters affecting or relating to protecting people and structures from the hazards of fire and explosion arising from the storage, handling, or use of specialized industrial processes, materials, or devices; conditions unusually hazardous to life, property, or public welfare in the use and occupancy of buildings or premises; and the maintenance and operation of fire protection and life safety systems. An interim version of this code, incorporating numerous fire-safety-related provisions of the *Municipal Code of Chicago* by reference, was adopted in April 2019. A comprehensively-updated code addressing fire prevention is expected in a future phase of code modernization.

The **Chicago Fuel Gas Code** (Title 14G) regulates the installation and operation of fuel gas (natural gas) piping from the point of utility delivery to the inlet connections of gas-fueled appliances and related accessories. An interim version of this code, incorporating existing fuel-gas-related provisions of the *Municipal Code of Chicago* by reference, was adopted in April 2019. A comprehensively-updated code addressing fuel gas is expected in a future phase of code modernization.

The **Chicago Mechanical Code** (Title 14M) regulates the installation, alteration, repair, and replacement of mechanical systems and equipment, including ventilating, heating, cooling, air-conditioning, and refrigeration systems, incinerators, and other energy-related systems. An interim version of this code, incorporating existing mechanical-system-related provisions of the *Municipal Code of Chicago* by reference, was adopted in April 2019. A comprehensively-updated code addressing mechanical systems is expected in a future phase of code modernization.

The **Chicago Energy Conservation Code** (Title 14N) regulates matters related to the design, construction, and rehabilitation of new and existing buildings for energy efficiency. This code has been drafted to be consistent with the 2019 Illinois amendments to the *International Energy Conservation Code*.

The **Chicago Plumbing Code** (Title 14P) regulates plumbing systems. An interim version of this code, incorporating existing plumbing-related provisions of the *Municipal Code of Chicago* by reference, was adopted in April 2019. A comprehensively-updated code addressing plumbing is expected in a future phase of code modernization.

The **Chicago Building Rehabilitation Code** (Title 14R) regulates the repair, alteration, change of occupancy, addition to, and relocation of existing buildings and structures. The accessibility-related provisions of this code have been drafted to be consistent with the 2018 *Illinois Accessibility Code* and federal regulations for privately-funded construction.

The **Chicago Minimum Requirements for EXisting Buildings** (Title 14X) regulate the condition and maintenance of existing buildings, existing structures, and outdoors areas, and establish the respective responsibilities of owners and occupants to comply with these requirements. This code also establishes minimum requirements for providing light, ventilation, space, security, electricity, plumbing, heating, cooling, sanitation, weather protection, and fire protection in occupied buildings, and requirements for the maintenance of vacant structures. These requirements apply both prospectively and retroactively.

Unlike the International Codes® family, the *Chicago Construction Codes* do not (and are not intended to) include a separate code for one- and two-family residential buildings. Instead, one- to three-unit residential buildings up to four stories (single-family homes to three flats) are regulated in most titles of the *Chicago Construction Codes* as Occupancy Group R-5. There are numerous Chicago-specific exceptions applicable to Group R-5 occupancies. Additionally, in the *Chicago Electrical Code*, requirements for residential occupancies are collected in Article 560, and requirements applicable to the rehabilitation of residential buildings up to four stories are in Article 570.

## Development and Adoption

In 2019, as part of a multi-year effort to comprehensively update regulations for the construction and maintenance of buildings, the City Council reorganized numerous building-related provisions of the *Municipal Code* into the *Chicago Construction Codes*. As part of this same effort, the City Council adopted new provisions aligned with the *International Building Code*® and *International Existing Building Code*®, which will be phased in between December 2019 and July 2020. Previously, in 2017 and 2018, the City Council adopted comprehensively-revised requirements for electrical installations and conveyance devices. In a future phase of this effort, the City of Chicago intends to update its requirements for mechanical systems, fuel gas, and plumbing, and adopt a comprehensively-revised fire prevention code.

The creation of the *Chicago Construction Codes* would not have been possible without the generous and continued support and encouragement of professionals and organizations working in the design, construction, and real estate industries. Numerous individuals contributed countless hours over several decades to lay the groundwork necessary for the comprehensive code modernization initiative launched by Commissioner Judy Frydland in 2015.

In 2017, the electrical industry took the lead in supporting a comprehensive overhaul of the *Chicago Electrical Code*, which was drafted by a dedicated team of technical experts with guidance from the reinvigorated Chicago Electrical Commission. In 2018, a new *Chicago Conveyance Device Code*, developed in consultation with elevator specialists and large building owners, was adopted. These successful efforts established a template for restarting efforts to align core provisions of the *Chicago Building Code* with the International Codes®.

In 2018, the Department of Buildings convened a distinguished cross section of industry leaders to launch the external phase of the consensus-based code development process. For several months, a dedicated team of volunteer architects and engineers, assigned to six subject-matter working groups, reviewed and debated draft provisions. A diverse group of stakeholder representatives provided regular feedback on their progress and provided insight on larger policy decisions. In all, more than 200 individuals contributed to the code development process and helped to build widespread support. The ordinance creating the *Chicago Construction Codes* was adopted by a unanimous vote of the City Council on April 10, 2019.

## Maintenance

The City of Chicago is committed to ensuring the *Chicago Construction Codes* remain clear, consistent, and up to date. The Department of Buildings periodically proposes amendments to the *Chicago Construction Codes* for consideration by the City Council. Suggestions for potential amendments may be sent to the attention of the Commissioner of Buildings, 121 North LaSalle Street, City Hall Room 906, Chicago, Illinois 60602 or [DOBCommissioner@cityofchicago.org](mailto:DOBCommissioner@cityofchicago.org). Information about recent amendments may be found on the Department of Buildings' web site.

The Department of Buildings will continue to engage with industry stakeholders to develop protocols for ensuring continued alignment with model codes in the years ahead.

## Section Numbering

The *Chicago Construction Codes* are part of the *Municipal Code of Chicago* and are subject to the general interpretive and organizational rules established in Chapter 1-4 of the *Municipal Code*. Provisions of the *Municipal Code* use a three-part numbering system, with each part separated by hyphens. The first part indicates the title in which the provision appears. The second part indicates the chapter within the title. The third part is a section designation:

[Title]-[Chapter]-[Section]

The *Chicago Construction Codes* have been assigned title designations from 14A to 14X, with the letter-portion of the title designation correlated to the subject matter. Not all letters are currently used. Provisions of the *Chicago Construction Codes* may either be referred to in the formal three-part *Municipal Code* style, 14B-2-203, or more informally as Section 203 of the *Chicago Building Code*.

## Italicized Terms

In each title of the *Chicago Construction Codes* (except the *Chicago Electrical Code* and *Chicago Conveyance Device Code*) italicized text is used to identify defined words and terms. Definitions, and additional rules governing code interpretation, are in Chapter 2 of each title.

## Marginal Markings

In titles based on model codes published by ICC, Chicago-specific amendments are indicated by marginal markings. Provisions added or modified by Chicago are indicated with a double-ruled line (| |) in the outer margin adjoining the text. Provisions deleted by Chicago are indicated with a carat (<) in the outer margin.

In the *Chicago Electrical Code*, Chicago-specific modifications and additions are indicated by shaded text. Chicago-specific deletions are indicated by a bullet (•) in the left-hand margin.

## Revisions History

All ordinances adopted by the City Council are published by the City Clerk in the *Journal of the Proceedings of the City Council of the City of Chicago* (Council Journal) after each council meeting. As part of ICC and NFPA's publication of the *Chicago Construction Codes*, the adoption and amendment history, along with a citation to the relevant page(s) of the Council Journal, is provided in a box beneath each section heading.

## Editor's Notes

When preparing this publication based on the ordinances adopted by the City Council, ICC occasionally identifies items which it believes to be typographic or editorial errors in the ordinance text. ICC reviews each of these items with the Department of Buildings. In the case of minor errors, such as clear spelling, capitalization, or punctuation errors, ICC has corrected the error in this text without note. Where any ambiguity exists, ICC will note the extent of any modification using an Editor's Note immediately following the affected provision. ICC's editorial revisions do not have the force of law. Where appropriate, the City Council will make corresponding corrections or clarifications through future legislation.

## Publisher's Errors

Pursuant to the adopting ordinances, individual titles of the *Chicago Construction Codes* may incorporate corrections to errors in the model code text identified by the model code publisher (errata). For specific information, review the ordinance provisions reproduced at the beginning of Chapter 1 of each code.

## Disclaimer

This publication may not reflect the most current legislation adopted by the City of Chicago and may unintentionally vary, in material ways, from the official legislation. The publisher has prepared and provides this document for informational purposes only, and this document should not be relied upon as the definitive authority for legislation adopted by the City of Chicago. The publisher makes no guaranty or warranty as to the accuracy or completeness of any information published in this document. The publisher further disclaims liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, or reliance on the publication of the *Chicago Construction Codes*.



# Acknowledgments

The City of Chicago gratefully acknowledges the many individuals and organizations who have contributed to the development and adoption of the *Chicago Construction Codes*. Comprehensively updating Chicago's construction requirements to better align with up-to-date model codes and standards used elsewhere in the United States while maintaining longstanding local requirements that are adapted to local conditions and practices has long been a goal of many working in the design and construction fields in Chicago. Over several decades, many committees, organizations, and individuals have studied how to accomplish this monumental task. The code modernization initiative launched in 2015 would not have been possible without the ground-work completed through these earlier efforts.

Every effort has been made to list all those who participated in the most recent efforts. Any errors or omissions in these acknowledgments are entirely unintended.

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## **NEW YORK CITY**

The City of Chicago also acknowledges the endless generosity of the New York City Department of Buildings and Fire Department in sharing material, insight, and moral support from their own efforts to adapt and apply national model codes to the realities of regulating construction in a city shaped by several centuries of dense urban development.

Thank you.

# PREFACE TO THE MODEL CODE

## Introduction

The *International Building Code*® (IBC®) establishes minimum requirements for building systems using prescriptive and performance-related provisions. It is founded on broad-based principles that make possible the use of new materials and new building designs. This 2018 edition is fully compatible with all of the *International Codes*® (I-Codes®) published by the International Code Council® (ICC®), including the *International Energy Conservation Code*®, *International Existing Building Code*®, *International Fire Code*®, *International Fuel Gas Code*®, *International Green Construction Code*®, *International Mechanical Code*®, *International Plumbing Code*®, *International Private Sewage Disposal Code*®, *International Property Maintenance Code*®, *International Residential Code*®, *International Swimming Pool and Spa Code*®, *International Wildland-Urban Interface Code*®, *International Zoning Code*® and *International Code Council Performance Code*®.

The I-Codes, including this *International Building Code*, are used in a variety of ways in both the public and private sectors. Most industry professionals are familiar with the I-Codes as the basis of laws and regulations in communities across the U.S. and in other countries. However, the impact of the codes extends well beyond the regulatory arena, as they are used in a variety of nonregulatory settings, including:

- Voluntary compliance programs such as those promoting sustainability, energy efficiency and disaster resistance.
- The insurance industry, to estimate and manage risk, and as a tool in underwriting and rate decisions.
- Certification and credentialing of individuals involved in the fields of building design, construction and safety.
- Certification of building and construction-related products.
- U.S. federal agencies, to guide construction in an array of government-owned properties.
- Facilities management.
- “Best practices” benchmarks for designers and builders, including those who are engaged in projects in jurisdictions that do not have a formal regulatory system or a governmental enforcement mechanism.
- College, university and professional school textbooks and curricula.
- Reference works related to building design and construction.

In addition to the codes themselves, the code development process brings together building professionals on a regular basis. It provides an international forum for discussion and deliberation about building design, construction methods, safety, performance requirements, technological advances and innovative products.

## Development

This 2018 edition presents the code as originally issued, with changes reflected in the 2003 through 2015 editions and further changes approved by the ICC Code Development Process through 2017. A new edition such as this is promulgated every 3 years.

This code is intended to establish provisions that adequately protect public health, safety and welfare; that do not unnecessarily increase construction costs; that do not restrict the use of new materials, products or methods of construction; and that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

## Maintenance

The *International Building Code* is kept up to date through the review of proposed changes submitted by code enforcement officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The ICC Code Development Process reflects principles of openness, transparency, balance, due process and consensus, the principles embodied in OMB Circular A-119, which governs the federal government's use of private-sector standards. The ICC process is open to anyone; there is no cost to participate, and people can participate without travel cost through the ICC's cloud-based app, cdp-Access®. A broad cross section of interests are represented in the ICC Code Development Process. The codes, which are updated regularly, include safeguards that allow for emergency action when required for health and safety reasons.

In order to ensure that organizations with a direct and material interest in the codes have a voice in the process, the ICC has developed partnerships with key industry segments that support the ICC's important public safety mission. Some code development committee members were nominated by the following industry partners and approved by the ICC Board:

- American Institute of Architects (AIA)
- National Association of Home Builders (NAHB)
- National Association of State Fire Marshals (NASFM)

The code development committees evaluate and make recommendations regarding proposed changes to the codes. Their recommendations are then subject to public comment and council-wide votes. The ICC's governmental members—public safety officials who have no financial or business interest in the outcome—cast the final votes on proposed changes.

The contents of this work are subject to change through the code development cycles and by any governmental entity that enacts the code into law. For more information regarding the code development process, contact the Codes and Standards Development Department of the International Code Council.

While the I-Code development procedure is thorough and comprehensive, the ICC, its members and those participating in the development of the codes disclaim any liability resulting from the publication or use of the I-Codes, or from compliance or noncompliance with their provisions. The ICC does not have the power or authority to police or enforce compliance with the contents of this code.

## Coordination of the International Codes

The coordination of technical provisions is one of the strengths of the ICC family of model codes. The codes can be used as a complete set of complementary documents, which will provide users with full integration and coordination of technical provisions. Individual codes can also be used in subsets or as stand-alone documents. To make sure that each individual code is as complete as possible, some technical provisions that are relevant to more than one subject area are duplicated in some of the model codes. This allows users maximum flexibility in their application of the I-Codes.

## Adoption

The International Code Council maintains a copyright in all of its codes and standards. Maintaining copyright allows the ICC to fund its mission through sales of books, in both print and electronic formats. The ICC welcomes adoption of its codes by jurisdictions that recognize and acknowledge the ICC's copyright in the code, and further acknowledge the substantial shared value of the public/private partnership for code development between jurisdictions and the ICC.

The ICC also recognizes the need for jurisdictions to make laws available to the public. All I-Codes and I-Standards, along with the laws of many jurisdictions, are available for free in a nondownloadable form on the ICC's website. Jurisdictions should contact the ICC at [adoptions@iccsafe.org](mailto:adoptions@iccsafe.org) to learn how to adopt and distribute laws based on the *International Building Code* in a manner that provides necessary access, while maintaining the ICC's copyright.



# EFFECTIVE USE OF THE CHICAGO BUILDING CODE

The *Chicago Building Code* (CBC) is based on the 2018 edition of the *International Building Code*® (IBC®), a consensus-based model code that provides minimum requirements intended to safeguard the health, safety, and general welfare of users and occupants of buildings and other structures. As adopted, the CBC incorporates amendments to the model code which reflect local conditions and building practices. The CBC, like the IBC regulates the classification of occupancies and construction types; imposes risk-based limitations on the height and area of buildings and requirements for fire and life safety protection features; provides minimum standards for exiting, accessibility, sanitation, weather-resistance, and structural performance; and references related codes to address energy efficiency and electrical, mechanical, and plumbing systems. The CBC also includes provisions requiring independent verification of the installation and performance for certain materials and systems (see Chapter 17) and protecting the public and adjacent properties during construction activities (see Chapter 33).

The CBC applies to the construction of all building types, from garden sheds to skyscrapers, including one- and two-family dwellings, which in some jurisdictions are regulated under a separate residential code. In the CBC, one- to three-unit residential buildings up to four stories above grade, intended primarily for nontransient residents, are classified as Group R-5 and several special rules or exceptions have been added to address this occupancy type.

While the CBC is based on an up-to-date model code, which incorporates detailed references to many traditional and recent building materials and technologies, the code is not intended to discourage innovation. Where a specific material, design, or method of construction is not provided for in this code, Chapter 10 of the *Chicago Construction Codes Administrative Provisions* provides several options for obtaining project-specific approval.

## Arrangement and Format of the Chicago Building Code

Before applying the requirements of the CBC, it is helpful to understand its arrangement and format. The CBC, like the IBC and other model codes published by ICC, is arranged to follow sequential steps that generally occur during a plan review or inspection. The CBC is organized as follows:

Chapters	Subjects
1–2	Administration requirements and definitions
3	Use and occupancy classifications
4, 31	Special requirements for specific occupancies or elements
5–6	Height and area limitations based on type of construction
7–9	Fire resistance and fire and life safety protection requirements
10	Exiting
11	Specific requirements to provide access and usability for people with disabilities
12	Minimum standards for indoor environmental conditions
13	Requirements for energy efficiency
14–15	Requirements for exterior walls and roofs
16–26	Structural components—performance and stability
32	Construction crossing property lines
33	Work site safety and operations
35	Listing of referenced standards
36	Appendices

The following is a chapter-by-chapter synopsis of the scope and intent of the provisions of the *Chicago Building Code*:

**Chapter 1 Scope and Purpose.** This chapter identifies the scope and purpose of the CBC. Users should also refer to the *Chicago Construction Codes Administrative Provisions* for general administrative requirements applicable to all types of construction activities.

**Chapter 2 Definitions and Measurements.** Definitions for specialized terms used throughout the code are provided in Chapter 2. Words and terms that are defined in Chapter 2 appear in italics in the body of the code. The chapter also provides rules on how to determine the meaning of words that are not specifically defined as well as interpretive rules on tense, gender, and number. Users are referred to the latest edition of Merriam Webster's Collegiate Dictionary for terms that are not defined in any of the *Chicago Construction Codes*. Section 203 provides additional detail about how to measure building height and building area.

**Chapter 3 Occupancy Classification and Use.** Chapter 3 provides for the classification of occupancies within a building based on the purpose for which the area will be used. Section 302 identifies the groups into which all occupancies must be classified. Sections 303 through 312 identify the occupancy characteristics of each group classification. In some sections, specific group classifications having requirements in common are collectively organized so that one term applies to all. For example, Groups A-1, A-2, A-3, A-4, and A-5 are individual groups for assembly-type occupancies. The general term, "Group A," however, includes each of these groups. Other groups include Business (B), Educational (E-1, E-2), Factory/Industrial (F-1, F-2), High Hazard (H-1, H-2, H-3, H-4, H-5), Institutional (I-1, I-2, I-3, I-4), Mercantile (M), Residential (R-1, R-2, R-3, R-4, R-5), Storage (S-1, S-2), and Miscellaneous/Utility (U).

Classifying the occupancy or occupancies of a building correctly is critical to applying the subsequent chapters of the code. Occupancy classification, together with the height, area, and construction type determinations provided for in Chapters 5 and 6 and the special occupancy provisions in Chapter 4, are necessary to determine the relative risk or hazard created by a building. This determination is used to ensure a reasonable level of life safety protection for building occupants.

Over the useful life of a building, the activities in the building are likely to evolve. Changes of use after initial occupancy that introduce additional risks may require modifications to building features or systems. Requirements for changes of occupancy are addressed in the *Chicago Building Rehabilitation Code*.

**Chapter 4 Special Detailed Requirements Based on Use and Occupancy.** Chapter 4 contains supplemental requirements for protecting designated uses and occupancies which include special features or pose special risks. Chapter 4 contains provisions that may alter requirements found elsewhere in the code; however, the general requirements of the code also apply unless specifically exempted within this chapter. For example, Section 403 allows the reduction of required fire-resistance ratings for some building elements in high-rise buildings, overriding the general requirements in Chapter 6.

This chapter includes requirements for buildings and conditions that occur in multiple occupancy groups, such as high-rise buildings, underground buildings, and atriums. Special uses may also be closely associated with specific occupancy classifications, such as for Group H (High Hazard).

Additional provisions apply to special use areas such as motor vehicle-related occupancies, aircraft-related occupancies, and special amusement buildings. Special facilities are also addressed, including stages, platforms, and motion picture projector rooms. Finally, unique considerations for several types of residential and institutional occupancies are addressed, including ambulatory care facilities, dwelling units, sleeping units, and live/work units.

**Chapter 5 General Building Heights and Areas.** Chapter 5 contains provisions that regulate the minimum type of construction based on the height (in feet and in stories), area, and occupancy of a building. Increases to basic height and area limits (including allowances for basements, mezzanines, and equipment platforms) are based on open frontage for fire department access, fire-resistance rated separations, and the type of sprinkler protection provided (Sections 503 through 506). These thresholds are reduced for buildings over three stories in height in accordance with Sections 506.2.3 and 506.2.4. The chapter also requires the protection and/or separation of incidental uses (Table 509), accessory occupancies (Section 508.2), and mixed uses in the same building (Sections 506.2.2, 506.2.4, 508.3, and 508.4).

Tables 504.3, 504.4, and 506.2 establish general limits for building size based on the building's use and the materials with which it is constructed. From reviewing these tables, the relationship among occupancy classification, allowable heights and areas, and types of construction is apparent. Respective to each group classification, the greater the fire-resistance rating of structural elements, as represented by the type of construction, the greater the floor area and height allowances. The greater the potential fire hazard, indicated as a function of the occupancy classification, the lesser the height and area allowances for a particular construction type. For most occupancies, a building fully-equipped with an automatic sprinkler system is granted increases in the height and area limits.

**Chapter 6 Types of Construction.** This chapter provides for the classification of buildings, based on the materials used and the fire-resistance rating of assemblies, into nine construction types: IA, IB, IIA, IIB, IIIA, IIIB, IV, VA, and VB. Type IA generally requires non-combustible materials and the highest fire-resistance ratings, while Type VB allows combustible materials and requires the fewest fire-resistance-rated structural elements. Table 602 provides additional fire-resistance rating requirements for exterior walls based on proximity to lot lines and other buildings. Sections 603 and 604 provide limited exceptions for the use of combustible materials in Type I and II buildings and in the exterior walls of Type III and IV buildings. Section 605 provides requirements for the construction of basements in all construction types.

**Chapter 7 Fire and Smoke Protection Features.** Chapter 7 provides the criteria by which the combustibility and fire-resistance rating of materials and assemblies may be determined for purposes of compliance with this code. The chapter also provides specifications for a range of assemblies intended to limit the passage of fire and/or smoke within a building. The later sections of the chapter provide performance data for a number of traditional materials and assemblies, and detail methods for calculating fire-resistance ratings under some circumstances.

**Chapter 8 Interior Finishes.** This chapter contains performance requirements for controlling the growth and spread of fire and smoke within buildings by restricting interior finishes and decorative materials. Past fire experience has shown that interior finishes and decorative materials are key elements in the development and spread of fire. The provisions of Chapter 8 require that materials used as interior finishes and decorations to meet certain flame-spread index or flame-propagation criteria based on the relative fire hazard associated with the occupancy or function of a space.

**Chapter 9 Fire Protection and Life Safety Systems.** Chapter 9 prescribes the minimum requirements for active systems intended for the following functions: detecting a fire or related hazard, alerting the building occupants or fire department, controlling smoke, and controlling or extinguishing a fire. Generally, the requirements are based on the equivalent risk of the building based on size, use, and construction materials. Requirements for periodic testing and maintenance of these systems are found in the *Chicago Fire Prevention Code*.

**Chapter 10 Means of Egress.** The criteria in Chapter 10 regulating the design of the means of egress (exiting system) are the primary method for protection of people in buildings by providing for timely and safe relocation or evacuation of building occupants and facilitating simultaneous access by emergency personnel. Both prescriptive and performance language is used in this chapter to establish the basic approach to determination of a safe exiting system for any occupancy type. The chapter addresses the three portions of the means of egress (exit access, exit, and exit discharge) sequentially and includes design and construction requirements for individual egress components. The chapter details the minimum size, arrangement, number, and protection of egress components. Section 1029 includes special egress rules for assembly-type occupancies.

**Chapter 11 Accessibility.** Chapter 11 sets forth requirements for accessibility of buildings and their associated sites for people with physical disabilities. The fundamental philosophy of the code on the subject of accessibility is that everything is required to be accessible. This is reflected in the basic applicability requirement (see Section 1103.1). The code's scoping requirements then address the conditions under which accessibility is not required in terms of exceptions to this general mandate. While this code contains scoping provisions for accessibility (what, where, and how many) it relies on ICC A117.1, *Accessible and Usable Buildings and Facilities*, to set technical standards (in other words, how). For user convenience, ICC A117.1 is reproduced at the end of this publication.

There are many accessibility issues that not only benefit people with disabilities but also provide benefits to people without disabilities. This type of requirement can be set forth in the code as generally applicable without necessarily identifying it as an accessibility-related issue. Such an issue is considered as having been "mainstreamed." For example, visible alarm requirements are located with other alarm requirements in Chapter 9 and means of egress and ramp requirements are addressed in Chapter 10.

Appendix E (mandatory) provides supplemental information about accessibility requirements found in the 2010 *ADA Standards for Accessible Design* that may not be addressed through traditional building permitting process but nonetheless must be met to provide an accessible facility.

**Chapter 12 Indoor Environment.** Chapter 12 establishes minimum standards for the interior environment of a building. These standards address the minimum dimensions of habitable spaces, minimum temperature levels, and minimum light and ventilation features. The chapter also provides requirements for the configuration and finishes in public toilet and bathing rooms, and for protection against rodents.

**Chapter 13 Energy Efficiency.** This chapter refers users to the requirements of the *Chicago Energy Conservation Code* to ensure buildings are designed to minimum standards of efficiency.

**Chapter 14 Exterior Walls.** This chapter addresses requirements for exterior walls of buildings. Minimum standards for wall covering materials, installation of wall coverings, and the ability of the wall to provide weather protection are specified. This chapter also requires exterior walls that are close to lot lines or that are bearing walls for certain types of construction to provide the minimum fire-resistance rating specified in Chapters 6 and 7.

**Chapter 15 Roof Assemblies and Rooftop Structures.** Chapter 15 provides standards for both roof assemblies and structures constructed above the roofs of buildings. The criteria address roof construction and coverings, including the weather-protective barrier at the roof and, in most circumstances, a fire-resistance rating. Many provisions of the chapter are prescriptive in nature and based on decades of experience with a range of traditional roofing materials. The chapter also addresses newer products, such as photovoltaic shingles. Sections 1510 and 1513 address unoccupied and occupiable rooftop structures, respectively. Section 1514 addresses vegetative roofs and roof gardens.

**Chapter 16 Structural Design.** Chapter 16 prescribes minimum structural load requirements for use in the design and construction of buildings and structural components. It includes minimum design loads, assignment of risk categories, and permitted design methodologies. Standards are provided for minimum design loads (live, dead, snow, wind, rain, flood, ice, and earthquake) as well as the required load combinations. The application of these loads and adherence to the serviceability criteria will enhance the protection of life and property. The chapter references and relies upon many nationally-recognized design standards. A key standard is the American Society of Civil Engineers' *Minimum Design Loads and Associated Criteria for Buildings and Other Structures* (ASCE 7). Chicago-specific values for rain, seismic, snow, and wind design criteria are provided in this chapter.

**Chapter 17 Special Inspections and Tests.** This chapter provides a variety of procedures and criteria for testing materials and assemblies, labeling materials and assemblies, and special inspection of structural assemblies. This chapter expands on the city inspection provisions in Chapter 5 of the *Chicago Construction Codes Administrative Provisions* by requiring independent private (special) inspections where indicated and, in some cases, structural observation. It also spells out responsibilities for the owner, contractor, design professionals, and special inspectors. Proper assembly of structural components, proper quality of materials used, and proper application of materials are essential to ensuring that a building, once constructed, complies with the structural and fire-resistance requirements of the code and the approved design. To verify this compliance often requires frequent or continuous inspection and testing. This chapter establishes standards for special inspection, testing, and making results and records available to the building official as part of the construction process.

**Chapter 18 Soils and Foundations.** Chapter 18 provides criteria for geotechnical and structural considerations in the selection, design, and installation of foundation systems. This chapter includes requirements for soils investigation and site preparation for receiving a foundation, including the presumptive and allowed load-bearing values for various types of soils. Section 1808 addresses the basic requirements for all foundation types. Later sections address foundation requirements that are specific to shallow foundations and deep foundations.

**Chapter 19 Concrete.** This chapter establishes minimum accepted practices for the design and construction of buildings and structural components using concrete—both plain and reinforced. Chapter 19 relies primarily on reference to the American Concrete Institute (ACI) standard 318, *Building Code Requirements for Structural Concrete*. This chapter also includes references to additional standards. Structural concrete must be designed and constructed to comply with this code and all listed standards. There are specific sections of the chapter addressing concrete slabs, anchorage to concrete, and shotcrete.

**Chapter 20 Aluminum.** Chapter 20 contains standards for the structural use of aluminum in buildings. Nonstructural uses of aluminum are not addressed in this chapter.

**Chapter 21 Masonry.** This chapter provides comprehensive and practical requirements for masonry construction. The provisions of Chapter 21 require minimum accepted practices and the use of standards for the design and construction of masonry structures. The provisions address material specifications and test methods; types of wall construction; criteria for engineered and empirical designs; and required details of construction. Masonry design methodologies including allowable stress design, strength design, and empirical design are covered by this chapter. Also addressed are masonry fireplaces and chimneys, masonry heaters, and glass unit masonry. Fire-resistant construction using masonry is also required to comply with Chapter 7. Masonry foundations are also subject to the limitations of Chapter 18.

**Chapter 22 Steel.** Chapter 22 provides requirements for the design and construction of structural steel (including composite construction), cold-formed steel, steel joists, steel cable structures, and steel storage racks and reuse of existing cast iron elements. This chapter specifies appropriate design and construction standards for these types of structures. It also provides a road map of the applicable technical requirements for steel structures.

**Chapter 23 Wood.** This chapter provides minimum requirements for the design of structures that use wood or wood-based products. The chapter is organized around three design methodologies: allowable stress design (ASD), load and resistance factor design (LRFD), and conventional light-frame construction. Included in this chapter are references to design and manufacturing standards for various wood and wood-based products; general construction requirements; design criteria for lateral force-resisting systems; and specific requirements for the application of the three design methods.

**Chapter 24 Glass and Glazing.** This chapter establishes regulations for the use of glass and glazing that, when installed in buildings, are subject to wind, snow, and dead loads. Engineering and design requirements are included in this chapter. Additional structural requirements are found in Chapter 16. Another topic addressed by this chapter is glass and glazing used areas where occupant impact is likely. Section 2406 identifies hazardous locations where glazing must be either safety glazing or protected to prevent human impact. Safety glazing must meet stringent standards and be appropriately marked or identified. Additional requirements are provided for glass and glazing in guards, handrails, elevator hoistways, and elevator cars, as well as in athletic facilities.

**Chapter 25 Gypsum Board, Gypsum Panel Products, and Plaster.** Chapter 25 contains the provisions and referenced standards that regulate the design, construction, and quality of gypsum board, gypsum panel products, and plaster. It also addresses gypsum concrete. These represent the most common interior and exterior finish materials in the building industry. This chapter primarily addresses quality-control related issues with regard to material specifications and installation requirements. Most products are manufactured under the control of industry standards. Use of products appropriate for the specific application is important to ensuring products will provide the intended fire resistance and weather protection.

**Chapter 26 Plastic.** This chapter provides standards addressing the use of plastics in building construction including foam plastic insulation, foam plastics used as interior finish and trim, and plastic veneers used on the inside or outside of a building. Sections 2606 through 2611 address the use of light-transmitting plastics in various configurations such as walls, roof panels, skylights, signs, and as glazing. Requirements for use of fiber-reinforced and fiberglass-reinforced polymers are also contained in this chapter. Additionally, requirements specific to the use of wood-plastic composites and plastic lumber are contained in this chapter. Some plastics exhibit rapid flame spread and heavy smoke density characteristics when exposed to fire. Exposure to the heat generated by a fire can cause some plastics to deform, which can affect their performance. The requirements and limitations of this chapter are intended to control the use of plastic and foam plastic products such that they do not compromise the safety of building occupants.

**Chapter 27 Electrical.** Chapter 27 refers to the *Chicago Electrical Code* for most requirements related to electrical systems and equipment. Section 2702 provides supplemental scoping information for emergency and standby power systems correlated with requirements for life safety systems and conveyance devices found elsewhere in this code.

**Chapter 28 Mechanical Systems.** Chapter 28 refers to the *Chicago Mechanical Code* and *Chicago Fuel Gas Code* for scoping and technical requirements related to mechanical equipment and systems.

**Chapter 29 Plumbing Systems.** Chapter 29 refers to the *Chicago Plumbing Code* for scoping and technical requirements related to plumbing facilities and systems.



**Chapter 30 Conveyance Devices.** This chapter provides scoping requirements for the installation of elevators and other conveyance devices in buildings and requirements related to the construction of hoistways and machine rooms. The *Chicago Conveyance Device Code* establishes the technical requirements for these devices, where provided.

**Chapter 31 Special Construction.** Chapter 31 contains regulations pertaining to a range of specialized structures and architectural features. Permanent membrane and air-supported structures are addressed in Section 3102. Tents and similar temporary structures are addressed in Section 3103. Pedestrian walkways and tunnels connecting two buildings are addressed in Section 3104. Structures as varied as awnings, marquees, fences, telecommunication towers, and automatic vehicular gates are also addressed.

**Chapter 32 Encroachment Into the Public Way.** Buildings and structures occasionally are designed to extend over a property line and over or under the public way. This chapter provides general guidance on such encroachments, which are subject to further regulation by the Chicago Department of Transportation (CDOT). Encroachments that are less than 12 feet above grade are subject to further limitations because of the potential to interfere with egress or fire department access. Provisions for temporary weather-protection vestibules are in Section 3202.4.

**Chapter 33 Work Site Safety and Operations.** Chapter 33 provides safety requirements applicable to the construction, rehabilitation, and demolition of structures. These requirements are intended to protect the public from injury and adjoining property from damage. In addition, this chapter provides for the progressive installation and operation of exit stairways and standpipe systems to facilitate emergency response during construction.

**Chapter 34 Reserved.**

**Chapter 35 Referenced Standards.** The CBC contains numerous references to current industry standards for materials and methods of construction. Chapter 35 contains a comprehensive list of all standards that are referenced in the CBC. The standards are part of this code to the extent of the reference to the standard, however this code controls in case of a conflict. Compliance with the referenced standards is necessary for compliance with this code. By incorporating these industry standards for materials and products, code compliance can be more readily determined by city employees, contractors, designers, and owners.

Chapter 35 is organized in a manner that makes it easy to locate specific standards. It lists all of the referenced standards, alphabetically, by acronym of the organization that creates the standard. Each organization's standards are then listed in alphabetical or numeric order based upon the standard identification. The list also contains the title of the standard, the edition (date) of the standard referenced; and any addenda included as part of the incorporation. For the convenience of users, the publisher has included a list of the section or sections of this code that reference each standard.

**Chapter 36 Appendices.** The following appendices are mandatory provisions of the *Chicago Building Code*:

**Appendix D Fire Limits.** Within the fire limits, which roughly correspond with the downtown zoning districts, stricter regulations apply to combustible construction and hazardous activities in order to limit conflagration risk in this area of the city with significant density, numerous high-rise buildings, and intensely-concentrated development.

**Appendix E Supplementary Accessibility Requirements.** Appendix E includes scoping requirements contained in the 2010 *ADA Standards for Accessible Design* that are not included in Chapter 11 and not otherwise mentioned or mainstreamed throughout the code. Items in this appendix address subjects not typically addressed in building codes (for example, beds, room signage, and transportation facilities).

**Appendix S Optional Smoke Control Systems.** Because Chicago has not traditionally required smoke control systems in buildings to the extent provided in the IBC the model code provisions on smoke control systems have been relocated to this appendix. Where a smoke control system is provided, it must comply with the technical requirements in this appendix.

**ICC A117.1—2009 Accessible and Usable Buildings and Facilities.** This American National Standard is intended to establish uniformity in the technical design criteria of building codes and other regulations with respect to making sites, facilities, buildings, and elements accessible to and usable by people with such physical disabilities as the inability to walk, difficulty walking, reliance on walking aids, blindness and visual impairment, deafness and hearing impairment, incoordination, reaching and manipulating disabilities, lack of stamina, difficulty reacting to and inter-

preting sensory information, and extremes of physical size. Because its technical criteria are extensively referenced in Chapter 11, the entire standard has been reproduced in this publication for the convenience of users.

## Important Differences Between the Chicago Building Code and the IBC

The *Chicago Building Code* is based on the IBC however readers should pay close attention to each local amendment. These amendments, which are clearly marked in the text of this publication, reflect legislative intent to depart from the model code provision. Many amendments reflect long-standing local practices that differ from practices which may be followed in jurisdictions that have a longer history enforcing the IBC or one of its predecessor model codes.

**Definitions and Measurements.** Users should pay particular attention to the Chicago amendments to definitions in Chapter 2 and provisions on measuring height and area added as Section 203. Users should also be aware that the definition of “approved” has been changed to require a form of approval apart from the ordinary permitting process.

**Hazardous Occupancies and Operations.** Until a fully-revised *Chicago Fire Prevention Code* is adopted by the city council, some specialized industrial occupancies, classified as hazardous by this code or specifically regulated by the *International Fire Code*® (IFC®) should be reviewed in advance of permitting with the Fire Prevention Bureau of the Chicago Fire Department. For some of these occupancies and uses, hazardous occupancy regulations of the *Municipal Code of Chicago* remain in effect. Pursuant to Section 14F-13-1300.1 of the interim *Chicago Fire Prevention Code*, the Fire Department may elect, by written order, to enforce select provisions of the IFC in addition to or in place of these older requirements, during the interim period.



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