

# IEBC<sup>®</sup>

INTERNATIONAL EXISTING  
BUILDING CODE<sup>®</sup>

## CODE AND COMMENTARY

2006



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2009



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## PREFACE

The principal purpose of the Commentary is to provide a basic volume of knowledge and facts relating to building construction as it pertains to the regulations set forth in the 2009 *International Existing Building Code*. The person who is serious about effectively designing, constructing and regulating existing buildings and structures will find the Commentary to be a reliable data source and reference to almost all components in the built environment.

Throughout all of this, strenuous effort has been made to keep the vast quantity of material accessible and its method of presentation useful. With a comprehensive yet concise summary of each section, the Commentary provides a convenient reference for regulations applicable to the construction of buildings and structures. In the chapters that follow, discussions focus on the full meaning of application and the consequences of not adhering to the code text. Illustrations and examples are provided to aid understanding; they do not necessarily illustrate the only methods of achieving code compliance.

The format of the Commentary includes the full text of each section, table and figure in the code, followed immediately by the commentary applicable to that text. At the time of printing, the Commentary reflects the most up-to-date text of the 2009 *International Existing Building Code*. As stated in the preface to the *International Existing Building Code*, the content of sections in the code that begin with a letter designation (i.e., Section [B]1301.2) are maintained by another code development committee. Each section's narrative includes a statement of its objective and intent, and usually includes a discussion about why the requirement commands the conditions set forth. Code text and commentary text are easily distinguished from each other. All code text is shown as it appears in the *International Existing Building Code*, and all commentary is indented below the code text and begins with the symbol ❖.

Readers should note that the Commentary is to be used in conjunction with the *International Existing Building Code* and not as a substitute for the code. **The Commentary is advisory only**; the code official alone possesses the authority and responsibility for interpreting the code.

Comments and recommendations are encouraged, for through your input, we can improve future editions. Please direct your comments to the Code and Standards Department in the Chicago District Office.

*The International Code Council would like to extend its thanks to Susan Gentry, Melvyn Green, Wayne Jewell, Ken Schoonover, Mark Stimac and the Structural Engineers Association of California (SEAOC) whose help as contributing authors made this document possible.*

This is a preview of "ICC IEBC-2009 Commen...". [Click here to purchase the full version from the ANSI store.](#)

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# Chapter 1: Scope and Administration

## General Comments

This chapter contains provisions for the scope and application (Part 1), and the enforcement and administration (Part 2) of subsequent requirements of the code. In addition to establishing the scope of the code, Chapter 1 identifies which buildings and structures come under its purview. Part 1, Scope and Application, includes Sections 101 and 102 that specifically address the scope and application of the code. Section 101 addresses the scope of the code as it applies to existing structures undergoing repairs, alterations, change of occupancy and additions or relocation. Section 102 establishes the applicability of the code and addresses existing structures. Part 2, Administration and Enforcement, includes the balance of the provisions of Chapter 1, which are related to the administration and enforcement of the provisions of the code. Section 103 establishes the department of building safety and the appointment of department personnel. Section 104 outlines the duties and authority of the code official with regard to permits, inspections and right of entry. It also establishes the authority of the code official to approve alternative materials, used materials and modifications. Section 105 states when permits are required and establishes the procedures for the review of applications and the issuance of permits. Section 106 describes the information that must be included on the submittal documents submitted with the application. Section 107 authorizes the code official to issue permits for temporary structures and uses. Section 108 establishes requirements for a fee schedule. Section 109 includes the inspection duties of the code official or an inspection agency that has been approved by the code official. Provisions for the issuance of certificates of occupancy are detailed in Section 110. Section 111 gives the code official the authority to approve utility connections. Section 112 establishes the board of appeals and the criteria for making applications for appeal. Administrative provisions for violations are addressed in Section 113, including provisions for unlawful acts, violation notices, prosecution and penalties. Section 114 describes procedures for stop work orders. Section 115 establishes the criteria for unsafe structures and equipment, and the procedures to be followed by the code official for abatement and for notification to the responsible party. Section 116 describes the emergency measures that address structures in danger of collapse. Section 117 authorizes the code official to have structures demolished that are dangerous, unsafe, insanitary or otherwise unfit for human habitation or occupancy. Each state's building code enabling legislation, which is grounded within the police power of the state, is the source of all authority to enact building codes. In terms of how it is used, police

power is the power of the state to legislate for the general welfare of its citizens. This power enables passage of such laws as building codes. If the state legislature has limited this power in any way, the municipality may not exceed these limitations. While the municipality may not further delegate its police power (e.g., by delegating the burden of determining code compliance to the building owner, contractor or architect), it may turn over the administration of the building code to a municipal official, such as a code official, provided that sufficient criteria are given to the code official to establish clearly the basis for decisions as to whether or not a proposed building conforms to the code.

Chapter 1 is largely concerned with maintaining "due process of law" in enforcing the building performance criteria contained in the body of the code. Only through careful observation of the administrative provisions can the code official reasonably hope to demonstrate that "equal protection under the law" has been provided. While it is generally assumed that the administration and enforcement section of a code is geared toward a code official, this is not entirely true. The provisions also establish the rights and privileges of the design professional, contractor and building owner. The position of the code official is merely to review the proposed and completed work, and to determine if the construction conforms to the code requirements. The design professional is responsible for the design of a safe structure. The contractor is responsible for constructing the structure in conformance with the plans.

During the course of construction, the code official reviews the activity to ascertain that the spirit and intent of the law are being met and that the safety, health and welfare of the public will be protected. As a public servant, the code official enforces the code in an unbiased, proper manner. Every individual is guaranteed equal enforcement of the provisions of the code. Furthermore, design professionals, contractors and building owners have the right of due process for any requirement in the code.

## Purpose

The code, as with any other code, is intended to be adopted as a legally enforceable document to safeguard health, safety, property and public welfare. A code cannot be effective without adequate provisions for its administration and enforcement. The code official charged with the administration and enforcement of building regulations has a great responsibility and with this responsibility comes authority. No matter how detailed the code may be, the code official must, to some extent, exercise his or her own judgment in determining code compli-



ance. The code official has the responsibility to establish that the homes in which the citizens of the community reside and the buildings in which they work are designed and constructed to be structurally stable, with adequate means of egress, light and ventilation, and to provide a minimum acceptable level of protection to life and property from fire.

A large number of existing buildings and structures do not comply with the current building code requirements for new construction. Although many of these buildings are potentially salvageable, rehabilitation is often cost prohibitive because they may not be able to comply with all the requirements for new construction. At the same

time, it is necessary to regulate construction in existing buildings that undergo additions, alterations, renovations, extensive repairs or change of occupancy. Such activity represents an opportunity to ensure that new construction complies with the current building codes and that existing conditions are maintained, at a minimum, to their current level of compliance or are improved as required. To accomplish this objective, and to make the rehabilitation process easier, this chapter allows for a controlled departure from full compliance with the technical codes, without compromising the minimum standards for the fire prevention and life safety features of the rehabilitated building.

## PART 1—SCOPE AND APPLICATION

### SECTION 101 GENERAL

**101.1 Title.** These regulations shall be known as the *Existing Building Code* of [NAME OF JURISDICTION], hereinafter referred to as “this code.”

❖ The purpose of this section is to identify the adopted regulations by inserting the name of the adopting jurisdiction into the code.

**101.2 Scope.** The provisions of the *International Existing Building Code* shall apply to the *repair, alteration, change of occupancy, addition* and relocation of *existing buildings*.

❖ This section establishes when the regulations contained in the code must be followed, whether all or in part. Something must happen (modification to an existing building or allowing an existing building or structure to become unsafe) for the code to be applicable. While such activity may not be as significant as for a new building, a fence is considered a structure and, therefore, its erection is within the scope of the code. The code is not a maintenance document requiring periodic inspections that will, in turn, result in an enforcement action, although periodic inspections are addressed by the *International Fire Code*® (IFC®).

**101.3 Intent.** The intent of this code is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to safeguard the public health, safety and welfare insofar as they are affected by the *repair, alteration, change of occupancy, addition* and relocation of *existing buildings*.

❖ The intent of the code is to set forth regulations that establish the minimum acceptable level to safeguard public health, safety and welfare. The intent becomes important in the application of sections such as Sections 102, 104.11 and 113, as well as any enforcement-oriented interpretive action or judgment. Like any code, the written text is subject to interpretation.

Interpretations should not be affected by economics or the potential impact on any party. The only considerations should be the protection of public health, safety and welfare.

**101.4 Applicability.** This code shall apply to the *repair, alteration, change of occupancy, addition* and relocation of all *existing buildings*, regardless of occupancy, subject to the criteria of Sections 101.4.1 and 101.4.2.

❖ All existing structures must comply with the provisions of the code when undergoing repair, alteration, change of occupancy, addition and relocation, subject to the criteria in Sections 101.4.1 and 101.4.2. Sections 101.4.1 and 101.4.2 contain provisions that are significantly different, based on whether or not the building has been previously occupied. Basically, if the building has not been previously occupied, it must comply with the requirements for new construction. This also applies to buildings undergoing alterations or additions.

**101.4.1 Buildings not previously occupied.** A building or portion of a building that has not been previously occupied or used for its intended purpose in accordance with the laws in existence at the time of its completion shall comply with the provisions of the *International Building Code* or *International Residential Code*, as applicable, for new construction or with any current permit for such occupancy.

❖ This section requires that all buildings that have not been previously occupied must comply with the *International Building Code*® (IBC®) or the *International Residential Code*® (IRC®). It also applies to any building that may have been completed and not occupied and used for its intended purpose. The building remains a new structure in terms of code compliance until such a time as it is occupied in whole or in part.

**101.4.2 Buildings previously occupied.** The legal occupancy of any building existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the *International Fire Code*, or the *International Property Maintenance Code*, or as is deemed

necessary by the *code official* for the general safety and welfare of the occupants and the public.

- ❖ This section allows for buildings that were legally occupied in part or in whole at the time the code was adopted to continue. There is a maintenance concern that is addressed by the requirement that the building comply with either the IFC or the *International Property Maintenance Code*® (IPMC®). These codes ensure that life safety systems, such as means of egress pathways and fire protection systems, are kept in place and able to protect the life and safety of the inhabitants of these existing structures.

**101.5 Compliance methods.** The *repair, alteration, change of occupancy, addition* or relocation of all *existing buildings* shall comply with one of the methods listed in Sections 101.5.1 through 101.5.3 as selected by the applicant. Application of a method shall be the sole basis for assessing the compliance of work performed under a single permit unless otherwise approved by the *code official*. Sections 101.5.1 through 101.5.3 shall not be applied in combination with each other. Where this code requires consideration of the seismic-force-resisting system of an *existing building* subject to *repair, alteration, change of occupancy, addition* or relocation of *existing buildings*, the seismic evaluation and design shall be based on Section 101.5.4 regardless of which compliance method is used.

**Exception:** Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code unless the building is undergoing more than a limited structural *alteration* as defined in Section 807.4.3. New structural members added as part of the *alteration* shall comply with the *International Building Code*. *Alterations of existing buildings in flood hazard areas* shall comply with Section 601.3.

- ❖ This section explains the options available to a designer or owner when dealing with construction related to existing buildings: prescriptive compliance method (see Section 101.5.1), work area compliance method (see Section 101.5.2) and performance compliance method (see Section 101.5.3). This section also provides procedures for the evaluation and design of seismic-force-resisting systems of existing buildings where consideration of seismic forces is required by the code by referencing Section 101.5.4.

There is one alternative to using these three compliance methods that allows for compliance with the laws in existence at the time the structure was originally built, unless the building has sustained substantial structural damage or is undergoing more than a limited structural alteration. Repairs and alterations in flood hazard areas have additional requirements to the laws in existence at the time the structure was originally built.

**101.5.1 Prescriptive compliance method.** *Repairs, alterations, additions* and changes of occupancy complying with Chapter 3 of this code in buildings complying with the *International*

*Fire Code* shall be considered in compliance with the provisions of this code.

- ❖ This section allows compliance in accordance with Chapter 3 of the code. This chapter is a duplication of Chapter 34, of Sections 3401 through 3409, of the IBC. There are also provisions from the other *International Codes*® (I-Codes®) dealing with system installations (electrical, energy, fuel gas, mechanical and plumbing) that have been duplicated in the code as well. These provisions are intended to prescribe specific minimum requirements for construction related to existing buildings, including additions, alterations, repairs, fire escapes, glass replacement, change of occupancy, historic buildings, moved structures and accessibility.

**101.5.2 Work area compliance method.** *Repairs, alterations, additions, changes in occupancy* and relocated buildings complying with the applicable requirements of Chapters 4 through 12 of this code shall be considered in compliance with the provisions of this code.

- ❖ This section allows compliance in accordance with Chapters 4 through 12 of the code. These chapters contain provisions that are based on a proportional approach to compliance where upgrades are triggered by the type and extent of the work.

**101.5.3 Performance compliance method.** *Repairs, alterations, additions, changes in occupancy* and relocated buildings complying with Chapter 13 of this code shall be considered in compliance with the provisions of this code.

- ❖ This section allows compliance in accordance with Chapter 13 of the code. This chapter is a duplication of Chapter 34, Section 3410 of the IBC. This chapter provides for evaluating a building based on fire safety, means of egress and general safety.

**101.5.4 Evaluation and design procedures.** The seismic evaluation and design shall be based on the procedures specified in the *International Building Code*, ASCE 31 or ASCE 41. The procedures contained in Appendix A of this code shall be permitted to be used as specified in Section 101.5.4.2.

- ❖ This section lists the documents that contain the provisions to be used for the seismic evaluation of an existing building, as well as the design of any needed repairs. Since the scope of these documents varies considerably, the following are brief descriptions.

***International Building Code*® (IBC®)**

The IBC is a comprehensive model building code with seismic provisions that are based, for the most part, on the National Earthquake Hazards Reduction Program's (NEHRP) *Recommended Provisions for Seismic Regulations for New Buildings and Other Structures*. The requirements are intended to minimize the hazard to life for all buildings, increase the expected performance of higher occupancy buildings as compared to ordinary buildings, and improve the capability of essential facilities to function during and after an

SCOPE AND ADMINISTRATION

earthquake. In addition to minimum seismic loading criteria, the earthquake design provisions include requirements for special inspection and testing, as well as material-specific design requirements. Achieving the intended performance depends on a number of factors, including the structural framing type, configuration and construction materials, for example.

The significant earthquake load concepts include the following:

1. The ground motions are based on a maximum considered earthquake (MCE), which has an approximate average return period of 2,500 years in most of the United States. The U.S. Geological Survey's (USGS) ground motion maps [Figures 1613.5(1) through 1613.5(14) of the IBC] provide spectral response accelerations at short periods ( $S_s$ ) and at a one-second period ( $S_1$ ). These levels of ground motion are also used in ASCE 31 and ASCE 41.
2. Design for the effect of two-thirds of the MCE: Considering the margin of safety of 1.5 inherent in seismic design practice, this achieves collapse prevention under MCE level ground motions. It is also intended that damage from the "design earthquake" ground motion would be repairable. For essential facilities (Occupancy Category IV) it is intended that damage from the "design earthquake" ground motion be relatively minor, and allow continued occupancy and function of the facility. For higher ground motions, the intent is that there be a low probability of structural collapse.
3. Occupancy category and importance factors: The IBC assigns buildings to one of the four occupancy categories that are summarized in Table 101.5.4(1). It is the intent to provide increasingly higher performance as the occupancy category increases from I through IV. This is achieved, in part, by applying an importance factor in determining the design load. The impor-

tance factor specified in ASCE 7 load provisions directly impacts the calculation of seismic (as well as wind and snow) loads. The magnitude of the design load varies in proportion to the importance factor and a higher value is assigned to buildings with an occupancy that warrants a higher level of performance.

4. Nonlinear seismic behavior is accounted for through the use of equivalent lateral forces that are reduced by a response modification factor ( $R$ ). This approximates the internal forces under the design earthquake. The corresponding building displacements, however, must be increased by the deflection amplification factor ( $C_d$ ) in meeting the drift limits. These factors are based on the type of seismic-force-resisting system that is provided and are located in the referenced ASCE 7 load standard.
5. Detailing and limitations on the seismic-force-resisting system are a function of a structure's seismic design category classification, which considers the seismicity at the site, type of soil present at the site and the nature of the building occupancy. Since several code and *Guidelines for the Seismic Retrofit of Existing Buildings* (GSREB) requirements use the seismic design category as a threshold, and neither document contains the criteria for determining a building's seismic design category, Figure 101.5.4(1) provides step-by-step instructions on how to determine a structure's seismic design category using the IBC seismic criteria.

Two levels of IBC seismic forces are used as the basis for the code requirements for seismic analysis and design. These two levels are either the full seismic force required by the IBC (see Section 101.5.4.1) or the reduced seismic force level, which is 75 percent of the full seismic forces of the IBC (see Section 101.5.4.2).

**Table 101.5.4(1)  
OCCUPANCY CATEGORIES AND IMPORTANCE FACTORS**

OCCUPANCY CATEGORY	NATURE OF OCCUPANCY	SEISMIC IMPORTANCE FACTOR FROM ASCE 7
I	Buildings and other structures that represent a low hazard to human life in the event of failure	1.0
II	Buildings and other structures except those listed in Categories I, III and IV	1.0
III	Buildings and other structures that represent a substantial hazard to human life in the event of failure	1.25
IV	Buildings and other structures designated as essential facilities	1.5



1. Determine the mapped MCE spectral response acceleration at short periods,  $S_s$ , and at A 1-second period,  $S_1$ , for the site from Figures 1613.5(1) through 1613.5(4).
2. Determine the (soil) site class in accordance with Table 1613.5.2.
3. Determine the site coefficients,  $F_a$  and  $F_v$ , from Tables 1613.5.3(1) and 1613.5.3(2), respectively.
4. Determine the design spectral response acceleration at short periods,  $S_{DS}$ , and at a 1-second period,  $S_{D1}$ , as follows:
 
$$S_{DS} = (2/3)(F_a)(S_s)$$

$$S_{D1} = (2/3)(F_v)(S_1)$$
5. Determine the seismic design category as prescribed by Tables 1613.5.6(1) and 1616.5.6(2). The highest (most restrictive) of the seismic design categories from the two tables is the category assigned to the building.

**Figure 101.5.4(1)**  
**DETERMINATION OF SEISMIC DESIGN CATEGORY**  
**USING THE INTERNATIONAL BUILDING CODE**

**ASCE 41-06, Seismic Rehabilitation of Existing Buildings.**

ASCE 41 is an updated version of FEMA 356, *Prestandard and Commentary for the Seismic Rehabilitation of Buildings*. FEMA 356 was essentially an updated version of FEMA 273, *NEHRP Guidelines for the Seismic Rehabilitation of Buildings*.

The significant concepts of ASCE 41 include the following:

1. ASCE 41 is an updated and standardized version of FEMA 356. It is a nationally applicable standard that provides detailed guidance on performing a seismic rehabilitation analysis and design, and includes an integrated commentary.

The significant concepts include the following:

1. Discrete rehabilitation objectives are established based on target building performance levels at various levels of ground motion (earthquake hazard). These are summarized in Figure 101.5.4(2), which is reproduced from the ASCE 41 Commentary. Note that this entire array of rehabilitation objectives is only available under a voluntary upgrade to the seismic-force-resisting system in accordance with Section 707.6. Otherwise, the required performance level is established by the code.
2. Two specific levels of ground motion based on USGS ground motion maps are defined in ASCE 41. Basic Safety Earthquake-2 (BSE-2) is the ground motion based on the MCE and the

		TARGET BUILDING PERFORMANCE LEVELS			
		Operational Performance Level (1-A)	Immediate Occupancy Performance Level (1-B)	Life Safety Performance Level (3-C)	Collapse Prevention Performance Level (5-E)
Earthquake Hazard Level	50%/50 year	a	b	c	d
	20%/50 year	e	f	g	h
	BSE-1 (approx. 10%/50 year)	i	j	k	l
	BSE-2 (approx. 2%/50 year)	m	n	o	p

**Notes:**

1. Each cell in the above matrix represents a discrete rehabilitation objective.
2. The rehabilitation objectives in the matrix above may be used to represent the three specific rehabilitation objectives defined in Sections 1.4.1, 1.4.2 and 1.4.3 as follows:  
 k + p = Basic safety objective (BSO)  
 k + p + any of a, e, i, b, f, j or n = enhanced objectives  
 o alone or n alone or m alone = enhanced objectives  
 k alone or p alone = limited objectives  
 c, g, d, h, l = limited objectives

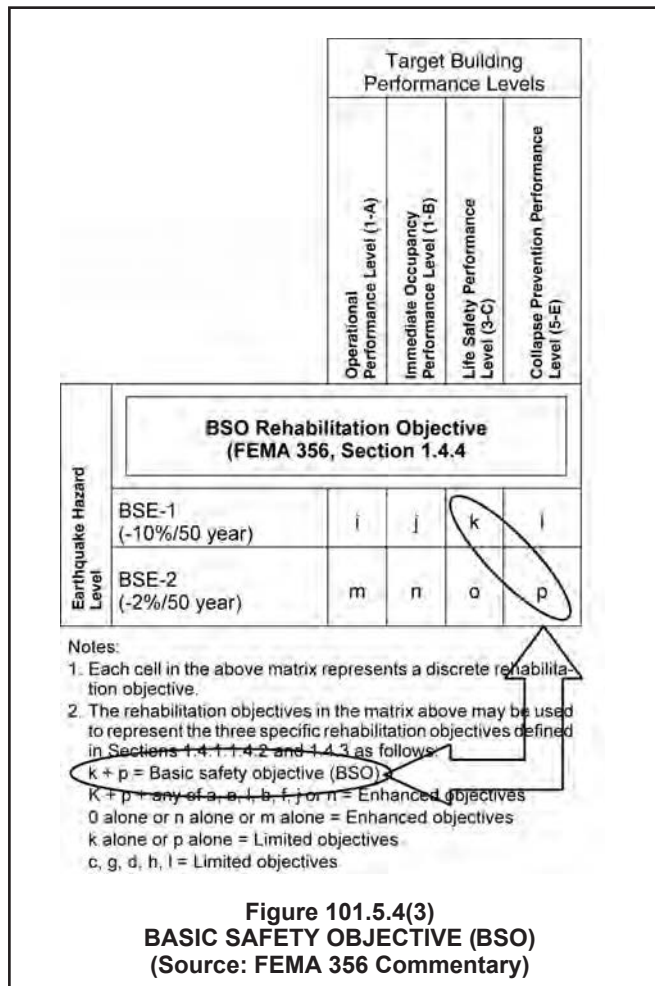
**Figure 101.5.4(2)**  
**FEMA 356 REHABILITATION OBJECTIVES**

mapped spectral response accelerations ( $S_s$  and  $S_1$ ) are the same as those used in the IBC, as well as ASCE 31. Basic Safety Earthquake-1 (BSE-1) is the lesser of 10 percent/50 year ground motion or two-thirds of the BSE-2. The latter is similar to the design ground motion level used in the IBC, assuring that BSE-1 ground motions are not larger than the design ground motions used for the design of new construction. BSE-1 and BSE-2 are identified in the left-hand (earthquake hazard level) column of Figure 101.5.4(2). ASCE 41 also provides procedures to establish other ground motions levels that may be of interest in rehabilitations.

3. ASCE 41, Section 1.4.1, establishes a rehabilitation objective that is referred to as the basic safety objective (BSO). The BSO requires the life safety performance level for BSE-1 and the collapse prevention performance level for BSE-2. This dual objective corresponds to entries k and p as illustrated in Figure 101.5.4(3). The BSO approximates the risk to life safety that

has traditionally been accepted in earthquake design and is comparable to the intended performance for new buildings under the IBC.

4. Systematic versus simplified rehabilitation methodologies. Figure 101.5.4(4), reprinted from the ASCE 41 commentary, provides an overview of the rehabilitation process under ASCE 41.



### ASCE 31, Seismic Evaluation of Existing Buildings.

This document is a consensus standard that was developed as a replacement for FEMA 310. It is an evaluation tool that provides a standardized process for identifying potential seismic deficiencies in existing buildings and includes an integrated commentary. It takes a three-tier approach to evaluation, starting with a screening phase (Tier 1) and proceeding through to a detailed evaluation phase (Tier 3), if required.

*The significant concepts include the following:*

1. Seismic demand is based on the MCE. The MCE mapped spectral response accelerations ( $S_s$  and  $S_1$ ) are based on ASCE 7 and are the same as those required in the IBC, as well as ASCE 41 ground motion maps.

2. The level of seismicity for a building is defined as low, moderate or high, based on the design short period spectral response acceleration ( $S_{DS}$ ) and design spectral response acceleration at a one-second period ( $S_{D1}$ ). These values are identical to the IBC design level ground motions.
3. The level of performance is established as either life safety (LS) or immediate occupancy (IO). Note that in complying with code requirements, Table 101.5.4.1 establishes the performance level that applies based on a building's occupancy classification.
4. ASCE 31 accounts for the nonlinear response to earthquake ground motions by applying pseudo-static lateral forces representing the forces required to impose the expected actual deformations of the structure in its yielded state under the design ground motion.

### Appendix A—Guidelines for the Seismic Retrofit of Existing Buildings (GSREB)

Seismic retrofit guidelines have been developed and utilized in the western United States for many years. The 1997 edition of the *Uniform Code for Building Conservation* (UCBC) included three appendix chapters (see A1, A2 and A3) dealing with seismic strengthening of specific building types. In 2000, these three chapters were combined with two new chapters (see A4 and A5) and published as a standalone document, the GSREB. The code has incorporated the GSREB in Appendix A. The applicability of each appendix chapter is stated in Section 101.5.4.2, Items 2.1 through 2.5. These chapters provide remedies for the following areas of concern in existing buildings:

- A1 Unreinforced Masonry Bearing Wall Buildings: This chapter applies to buildings with one or more unreinforced masonry bearing walls.
- A2 Reinforced Concrete and Reinforced Masonry Wall Buildings With Flexible Diaphragms: This chapter has requirements for wall anchorage systems for reinforced concrete or masonry walls that are laterally supported by flexible diaphragms.
- A3 Strengthening of Cripple Walls and Sill Plate Anchorage of Light, Wood-frame Residential Buildings: This chapter has requirements for perimeter foundations, sill plate connections and unbraced cripple walls.
- A4 Wood-frame Residential Buildings With Soft, Weak or Open-front Walls: This chapter has requirements for wood-frame multiunit residential buildings with soft, weak or open-front walls that are classified as Seismic Design Category C, D or E.
- A5 Concrete Buildings: This chapter has requirements for concrete buildings. It is intended for

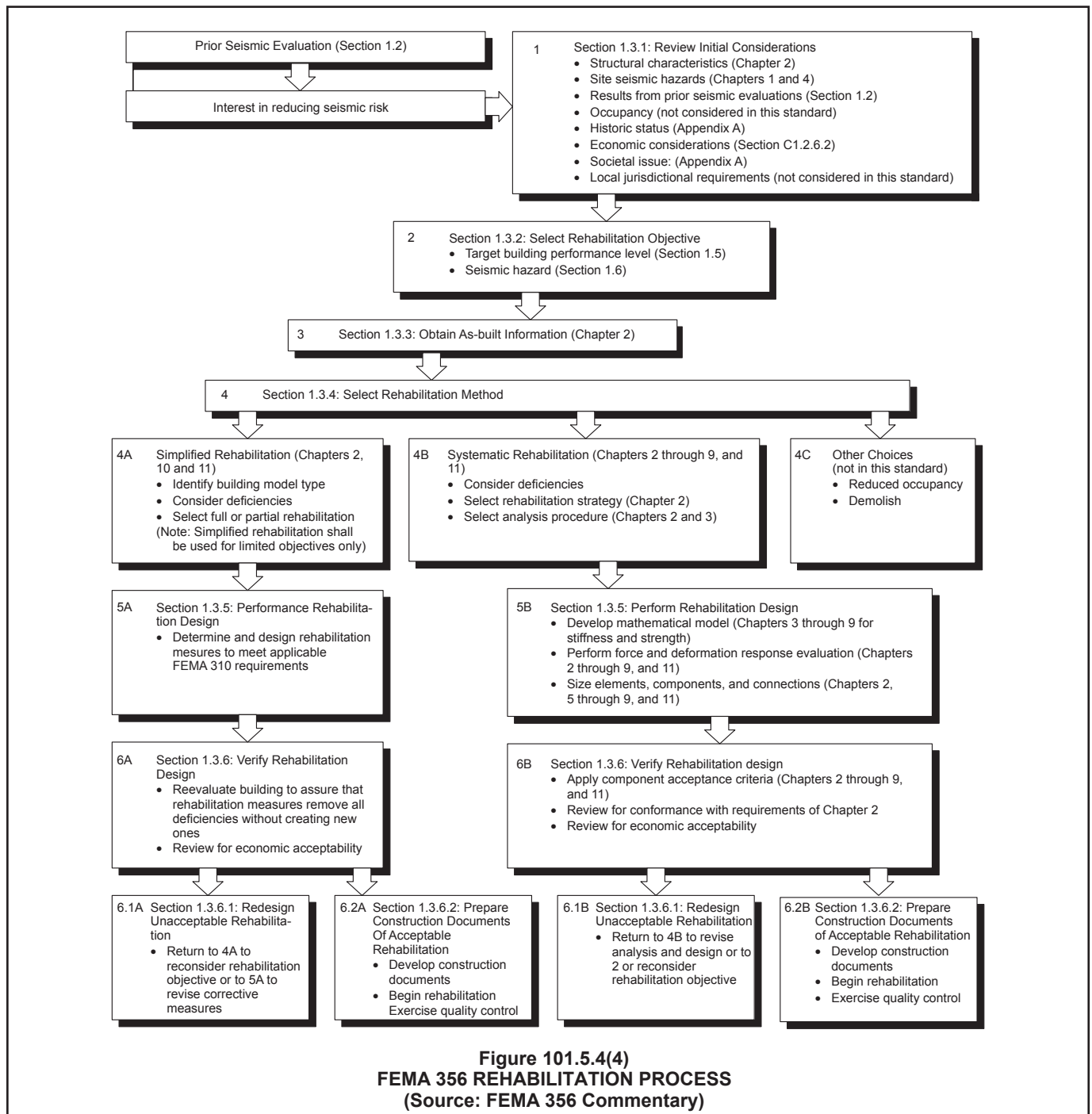
buildings classified as Seismic Design Category B, C, D or E.

As previously noted, the scope and other thresholds include references to seismic criteria that correspond to the IBC as well (e.g., seismic design category). The GSREB is also based on IBC forces that require the use of a response modification coefficient (*R*) (see commentary, Section 101.5.4.1).

**101.5.4.1 Compliance with IBC level seismic forces.** Where compliance with the seismic design provisions of the *International Building Code* is required, the procedures shall be in accordance with one of the following:

*International Building Code* is required, the procedures shall be in accordance with one of the following:

1. One-hundred percent of the values in the *International Building Code*. Where the existing seismic force-resisting system is a type that can be designated as “Ordinary,” values of *R*,  $\Omega_0$ , and *C<sub>d</sub>* used for analysis in accordance with Chapter 16 of the *International Building Code* shall be those specified for structural systems classified as “Ordinary” in accordance with Table 12.2-1 of ASCE 7, unless it is demonstrated that the structural system will



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provide performance equivalent to that of a “Detailed,” “Intermediate” or “Special” system.

2. Compliance with ASCE 41 using both the BSE-1 and BSE-2 earthquake hazard levels and the corresponding performance levels shown in Table 101.5.4.1.

❖ Where the code requires the use of IBC level seismic forces, it intends to provide a level of earthquake performance that is comparable to new construction. The level of performance is typically a function of the building’s occupancy classification (see commentary, Section 101.5.4 and Table 101.5.4.1).

One difficulty in applying the seismic requirements intended for new buildings to existing structures is the use of the response modification coefficient (*R*) in calculating the design seismic force. Under the IBC, the value of *R* that is obtained from the ASCE 7 standard is directly linked to the level of detailing required for any seismic-force-resisting system. Systems are characterized as ordinary, intermediate or special based on the extent of ductile detailing that is provided. In areas of moderate or higher seismicity (as reflected by a structure’s seismic design category) the use of most ordinary systems, those with limited ductility, are typically restricted or prohibited. In an existing building, the system detailing is in place and the problem is in selecting an *R*-value that is consistent with the construction of that system. For this reason, Item 1 restricts *R*-values to be no greater than those listed for an ordinary system; unless there is clear evidence that a higher level of detailing has been provided.

By contrast, ASCE 31 and ASCE 41 avoid the previously discussed problem with assuming an *R*-value by instead considering the ductility of individual components. In Item 2, the code equates the use of full IBC seismic forces to the performance levels shown in Table 101.5.4.1 where ASCE 41 is used. The dual requirements listed in Table 101.5.4.1 are for BSE-1 and BSE-2 ground motions, which are discussed in the commentary to Section 101.5.4.

**TABLE 101.5.4.1  
PERFORMANCE CRITERIA FOR IBC LEVEL SEISMIC FORCES**

OCCUPANCY CATEGORY (Based on IBC Table 1604.5)	PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-1 EARTHQUAKE HAZARD LEVEL	PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-2 EARTHQUAKE HAZARD LEVEL
I	Life safety (LS)	Collapse prevention (CP)
II	Life safety (LS)	Collapse prevention (CP)
III	Note a	Note a
IV	Immediate occupancy (IO)	Life safety (LS)

a. Acceptable criteria for Occupancy Category III shall be taken as 80 percent of the acceptance criteria specified for Occupancy Category II performance levels, but need not be less than the acceptance criteria specified for Occupancy Category IV performance levels.

❖ The performance levels listed in this table are comparable to those achieved under the IBC earthquake re-

quirements. Note a requires that Occupancy Category III criteria are 80 percent of those required for Occupancy Category IV. This is analogous to the use of the seismic importance factor for new construction under the IBC. Note b addresses interpolation where ASCE 31 is used. The ASCE 31 checklists are sufficiently conservative for the initial screening phase so that the less restrictive LS performance level will not significantly compromise the overall seismic performance goals for Occupancy Category III buildings.

**101.5.4.2 Compliance with reduced IBC level seismic forces.** Where seismic evaluation and design is permitted to meet reduced *International Building Code* seismic force levels, the procedures used shall be in accordance with one of the following:

1. The *International Building Code* using 75 percent of the prescribed forces. Values of *R*,  $\Omega_o$  and *C<sub>d</sub>* used for analysis shall be as specified in Section 101.5.4.1 of this code.
2. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A as specified in Items 2.1 through 2.5 shall be deemed to comply with this section.
  - 2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Occupancy Category I or II are permitted to be based on the procedures specified in Appendix Chapter A1.
  - 2.2. Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible diaphragms in Occupancy Category I or II are permitted to be based on the procedures specified in Chapter A2.
  - 2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in residential buildings of light-frame wood construction in Occupancy Category I or II are permitted to be based on the procedures specified in Chapter A3.
  - 2.4. Seismic evaluation and design of soft, weak, or open-front wall conditions in multiunit residential buildings of wood construction in Occupancy Category I or II are permitted to be based on the procedures specified in Chapter A4.
  - 2.5. Seismic evaluation and design of concrete buildings in all occupancy categories are permitted to be based on the procedures specified in Chapter A5.
3. Compliance with ASCE 31 based on the applicable performance level as shown in Table 101.5.4.2. It shall be permitted to use the BSE-1 earthquake hazard level as defined in ASCE 41 and subject to the limitations in Item 4 below.
4. Compliance with ASCE 41 using the BSE-1 Earthquake Hazard Level and the performance level shown in Table 101.5.4.2. The design spectral response acceleration parameters *S<sub>XS</sub>* and *S<sub>XI</sub>* specified in ASCE 41 shall not be



taken less than 75 percent of the respective design spectral response acceleration parameters  $S_{DS}$  and  $S_{D1}$  defined by the *International Building Code*.

- ❖ The lateral-force-resisting systems in most older buildings are difficult, if not impossible, to upgrade to the same level of performance that is required of new construction. Where the code permits the use of this reduced seismic force level, it provides a means of achieving some improvement in earthquake performance of older buildings without making such efforts cost prohibitive. It also permits a building that is relatively close to current earthquake standards to comply outright. Item 1 establishes this level as 75 percent of the earthquake loads that are required in the design of new structures. The same issues with the *R*-value determination discussed in the commentary to Section 101.5.4.1 occurs here, as well.

The same approach is used in Appendix A (GSREB) and it is similar to the approach that has been used under FEMA 178. Therefore, Item 2 clarifies that Appendix A is a permitted alternative (see commentary, Section 101.5.4). Items 3 and 4 equate these reduced seismic forces to the level of performance required by Table 101.5.4.2 for only the BSE-1 in ASCE 31 or ASCE 41, respectively.

**TABLE 101.5.4.2  
PERFORMANCE CRITERIA FOR REDUCED IBC  
LEVEL SEISMIC FORCES**

OCCUPANCY CATEGORY (Based on IBC Table 1604.5)	PERFORMANCE LEVEL FOR USE WITH ASCE 31	PERFORMANCE LEVEL FOR USE WITH ASCE 41 BSE-1 EARTHQUAKE HAZARD LEVEL
I	Life safety (LS)	Life safety (LS)
II	Life safety (LS)	Life safety (LS)
III	Notes a, b	Note a
IV	Immediate occupancy (IO)	Immediate occupancy (IO)

- Acceptable criteria for Occupancy Category III shall be taken as 80 percent of the acceptance criteria specified for Occupancy Category II performance levels, but need not be less than the acceptance criteria specified for Occupancy Category IV performance levels.
- For Occupancy Category III, the ASCE 31 screening phase checklists shall be based on the life safety performance level.

- ❖ Items 3 and 4 of Section 101.5.4.2 reference the values in Table 101.5.4.2 to use for compliance with reduced IBC level seismic forces. The performance levels listed in this table are to allow for compliance by designing for seismic forces that are less than what is required by the IBC for those instances where the code allows this reduced level of compliance, such as for repairs. These performance levels are consistent with Item 1 of Section 101.5.4.2 that allows using 75 percent of the IBC-prescribed seismic forces.

**101.6 Safeguards during construction.** All construction work covered in this code, including any related demolition, shall comply with the requirements of Chapter 14.

- ❖ The fundamental rationale behind this section is to establish that reasonable safety precautions, in accordance with Chapter 14, be provided during all phases of construction and demolition. Chapter 14 also covers the protection of adjacent public and private properties.

**101.7 Appendices.** The *code official* is authorized to require rehabilitation and retrofit of buildings, structures or individual structural members in accordance with the appendices of this code if such appendices have been individually adopted.

- ❖ This section describes one of the more unique aspects of the code in that any appendix referenced in the code becomes a part of the code without the jurisdiction having to specifically adopt it. For example, in Chapter 7, voluntary alterations to lateral-force-resisting systems are allowed when conducted in accordance with Appendix A. Therefore, Appendix A, having been specifically referenced, is enforceable without having to be specifically adopted by the local jurisdiction. Any appendices not specifically referenced in the code must be individually adopted to be legally enforced.

**101.8 Correction of violations of other codes.** *Repairs or alterations* mandated by any property, housing, or fire safety maintenance code or mandated by any licensing rule or ordinance adopted pursuant to law shall conform only to the requirements of that code, rule, or ordinance and shall not be required to conform to this code unless the code requiring such *repair or alteration* so provides.

- ❖ This section is intended to keep the requirements of other codes or ordinances intact and separate from the requirements of the code.

## SECTION 102 APPLICABILITY

**102.1 General.** Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where in any specific case different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

- ❖ In cases where the code establishes a specific requirement for a certain condition, that requirement is applicable even if it is less restrictive than a general requirement elsewhere in the code. Also, the most restrictive code requirement is to apply where there may be different requirements in the code for a specific installation.



**102.2 Other laws.** The provisions of this code shall not be deemed to nullify any provisions of local, state, or federal law.

❖ In some cases, other laws enacted by the jurisdiction, or the state or federal government may be applicable to a condition that is also governed by a requirement in the code. In such circumstances, the requirements of the code are in addition to that other law that is still in effect, although the code official may not be responsible for its enforcement.

**102.3 Application of references.** References to chapter or section numbers or to provisions not specifically identified by number shall be construed to refer to such chapter, section, or provision of this code.

❖ In a situation where the code may make reference to a chapter or section number or to another code provision without specifically identifying its location in the code, assume that the referenced section, chapter or provision is in the code and not in a referenced code or standard.

**102.4 Referenced codes and standards.** The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall govern.

**Exception:** Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing shall govern.

❖ A referenced code, standard or portion thereof is an enforceable extension of the code as if the content of the standard were included in the body of the code. For example, Section 101.5.4 references ASCE 31 in its entirety for the seismic evaluation and design of an existing building. In those cases where the code references only portions of a standard, the use and application of the referenced standard is limited to those portions that are specifically identified. For example, Item 4, Section 303.5 references structural irregularity as defined in ASCE 7. Therefore, it is only these portions of ASCE 7 that are applicable to this specific code requirement with respect to ASCE 7. Lastly, if conflicts between the requirements of the code and a referenced standard occur, the requirements of the code govern regardless of which requirement is more restrictive. The exception deals with possible conflicts between code requirements and the conditions of an equipment listing. If the code conflicts with or deviates from the conditions of the listing, this may or may not mean that the code violated the listing. For example, the listing for an appliance might allow a particular application of an appliance that is expressly prohibited by the code. In this case, the code has not violated the listing, but instead has simply limited the application allowed by the listing. The intent is for the highest level of safety to prevail.

**102.5 Partial invalidity.** In the event that any part or provision of this code is held to be illegal or void, this shall not have the

effect of making void or illegal any of the other parts or provisions.

❖ Only invalid sections of the code (as established by the court of jurisdiction) can be set aside. This is essential to safeguard the application of the code text to situations where a provision is declared illegal or unconstitutional. This section preserves the legislative action that put the legal provisions in place.

## PART 2—ADMINISTRATION AND ENFORCEMENT

### SECTION 103 DEPARTMENT OF BUILDING SAFETY

**103.1 Creation of enforcement agency.** The Department of Building Safety is hereby created, and the official in charge thereof shall be known as the *code official*.

❖ This section creates the building department and describes its composition (see Section 109 for a discussion of the inspection duties of the department). Appendix A of the IBC contains qualifications for the employees of the building department involved in the enforcement of the code. If a jurisdiction desires to establish these qualifications for its employees, Appendix A must be specifically referenced in the adopting ordinance.

The executive official in charge of the building department is named the “code official” by this section. In actuality, the person who is in charge of the department may hold a different title, such as building commissioner, building inspector or construction official. For the purpose of the code, that person is referred to as the “code official.”

**103.2 Appointment.** The *code official* shall be appointed by the chief appointing authority of the jurisdiction.

❖ This section establishes the code official as an appointed position of the jurisdiction.

**103.3 Deputies.** In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the *code official* shall have the authority to appoint a deputy *code official*, the related technical officers, inspectors, plan examiners, and other employees. Such employees shall have powers as delegated by the *code official*.

❖ This section provides the code official with the authority to appoint other individuals to assist with the administration and enforcement of the code. These individuals have the authority and responsibility as designated by the code official. Such appointments, however, may be exercised only with the authorization of the chief appointing authority.

### SECTION 104 DUTIES AND POWERS OF CODE OFFICIAL

**104.1 General.** The *code official* is hereby authorized and directed to enforce the provisions of this code. The *code official*

shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies, and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

- ❖ The duty of the code official is to enforce the code, and he or she is the “authority having jurisdiction” for all matters relating to the code and its enforcement. It is the duty of the code official to interpret the code and to determine compliance. Code compliance will not always be easy to determine and will require judgement and expertise, particularly when enforcing the provisions of Sections 104.10 and 104.11. In exercising this authority, however, the code official cannot set aside or ignore any provision of the code.

**104.2 Applications and permits.** The *code official* shall receive applications, review construction documents, and issue permits for the *repair, alteration, addition, demolition, change of occupancy*, and relocation of buildings; inspect the premises for which such permits have been issued; and enforce compliance with the provisions of this code.

- ❖ The code enforcement process is normally initiated with an application for a permit. The code official is responsible for processing applications and issuing permits for the modification of buildings in accordance with the code.

**104.2.1 Preliminary meeting.** When requested by the permit applicant or the *code official*, the *code official* shall meet with the permit applicant prior to the application for a construction permit to discuss plans for the proposed work or *change of occupancy* in order to establish the specific applicability of the provisions of this code.

**Exception:** *Repairs and Level 1 alterations.*

- ❖ The preliminary meeting is an important aspect of any repair, alteration, change of occupancy, addition or relocation of any building. At this phase in a project, it is considerably less expensive to make changes or corrections. Possible problem issues can be identified and solutions devised ahead of time resulting in fewer correction notices and rework being required. The exception recognizes that a preliminary meeting would not be necessary for a repair or alteration level for one project based on the fact that this level of work is not complicated or involved.

**104.2.1.1 Building evaluation.** The *code official* is authorized to require an *existing building* to be investigated and evaluated by a registered design professional based on the circumstances agreed upon at the preliminary meeting. The design professional shall notify the *code official* if any potential nonconformance with the provisions of this code is identified.

- ❖ This section authorizes the code official to have an existing structure investigated and evaluated by a design professional. Existing structures may have some structural problems that are not immediately visible. The ability to call in an experienced design profes-

sional to aid in the proper evaluation of an existing structure is invaluable.

**104.3 Notices and orders.** The *code official* shall issue all necessary notices or orders to ensure compliance with this code.

- ❖ An important element of code enforcement is the necessary advisement of deficiencies and correction, which is accomplished through written notices and orders. The code official is required to issue orders to abate illegal or unsafe conditions. Section 115.3 contains additional information for these notices.

**104.4 Inspections.** The *code official* shall make all of the required inspections, or the *code official* shall have the authority to accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The *code official* is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

- ❖ The code official is required to make inspections as necessary to determine compliance with the code or to accept written reports of inspections by an approved agency. The inspection of the work in progress or accomplished to date is another significant element in determining code compliance. While a department does not have the resources to inspect every aspect of all work, the required inspections are those that are dictated by administrative rules and procedures based on many parameters, including available inspection resources. In order to expand the available resources for inspection purposes, the code official may approve an agency that, in his or her opinion, is objective and competent, has adequate equipment to perform any required tests, and employs experienced personnel educated in conducting, supervising and evaluating tests and inspections. When unusual, extraordinary or complex technical issues arise relative to building safety, the code official has the authority to seek the opinion and advice of experts. Since this usually involves the expenditure of funds, the approval of the jurisdiction’s chief executive (or similar position) is required. A technical report from an expert requested by the code official can be used to assist in the approval process.

**104.5 Identification.** The *code official* shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

- ❖ This section requires the code official (including, by definition, all authorized designees) to carry identification in the course of conducting the duties of the position. This removes any question as to the purpose and authority of the inspector.

**104.6 Right of entry.** Where it is necessary to make an inspection to enforce the provisions of this code, or where the *code official* has reasonable cause to believe that there exists in a structure or upon a premises a condition which is contrary to or in violation of this code which makes the structure or premises unsafe, *dangerous*, or hazardous, the *code official* is authorized

to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises be unoccupied, the *code official* shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the *code official* shall have recourse to the remedies provided by law to secure entry.

❖ The first part of this section establishes the right of the code official to enter the premises in order to make the permit inspections required by Section 109.3. Permit application forms typically include a statement in the certification signed by the applicant (who is the owner or owner's agent) granting the code official the authority to enter areas covered by the permit in order to enforce code provisions related to the permit. The right to enter other structures or premises is more limited. First, to protect the right of privacy, the owner or occupant must grant the code official permission before an interior inspection of the property can be conducted. Permission is not required for inspections that can be accomplished from within the public right-of-way. Second, such access may be denied by the owner or occupant. Unless the inspector has reasonable cause to believe that a violation of the code exists, access may be unattainable. Third, code officials must present proper identification (see Section 104.5) and request admittance during reasonable hours—usually the normal business hours of the establishment—to be admitted. Fourth, inspections must be aimed at securing or determining compliance with the provisions and intent of the regulations that are specifically within the established scope of the code official's authority.

Searches to gather information for the purpose of enforcing the other codes, ordinances or regulations are considered unreasonable and are prohibited by the Fourth Amendment to the U.S. Constitution. "Reasonable cause" in the context of this section must be distinguished from "probable cause," which is required to gain access to property in criminal cases. The burden of proof establishing reasonable cause may vary among jurisdictions. Usually, an inspector must show that the property is subject to inspection under the provisions of the code; that the interests of the public's health, safety and welfare outweigh the individual's right to maintain privacy and that such an inspection is required solely to determine compliance with the provisions of the code.

Many jurisdictions do not recognize the concept of an administrative warrant and may require the code official to prove probable cause in order to gain access upon refusal. This burden of proof is usually more substantial, often requiring the code official to stipulate in advance why access is needed (usually access is restricted to gathering evidence for seeking an indictment or making an arrest); what specific items or information is sought; its relevance to the case against the

individual subject; how knowledge of the relevance of the information or items sought was obtained and how the evidence sought will be used. In all such cases, the right to privacy must always be weighed against the right of the code official to conduct an inspection to verify that public health, safety and welfare are not in jeopardy. Such important and complex constitutional issues should be discussed with the jurisdiction's legal counsel. Jurisdictions should establish procedures for securing the necessary court orders when an inspection is deemed necessary following a refusal.

**104.7 Department records.** The *code official* shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records.

❖ In keeping with the need for an efficiently conducted business practice, the code official must keep official records pertaining to permit applications, permits, fees collected, inspections, notices and orders issued. Such documentation provides a valuable resource of information if questions arise regarding the department's actions with respect to a building. The code does not require that construction documents be kept after the project is complete. It requires that other documents be kept for the length of time mandated by a jurisdiction's, or its state's, laws or administrative rules for retaining public records.

**104.8 Liability.** The *code official*, member of the Board of Appeals, or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. Any suit instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representative of the jurisdiction until the final termination of the proceedings. The *code official* or any subordinate shall not be liable for cost in any action, suit, or proceeding that is instituted in pursuance of the provisions of this code.

❖ The code official, other department employees and members of the appeals board are not intended to be held liable for those actions performed in accordance with the code in a reasonable and lawful manner. The responsibility of the code official in this regard is subject to local, state and federal laws that may supersede this provision. This section further establishes that code officials (or subordinates) must not be liable for costs in any legal action instituted in response to the performance of lawful duties. These costs are to be borne by the state, county or municipality. The best way to be certain that the code official's action is a



“lawful duty” is always to cite the applicable code section on which the enforcement action is based.

**104.9 Approved materials and equipment.** Materials, equipment, and devices approved by the *code official* shall be constructed and installed in accordance with such approval.

❖ The code is a compilation of criteria with which materials, equipment, devices and systems must comply to be suitable for a particular application. The code official has a duty to evaluate such materials, equipment, devices and systems for code compliance and, when compliance is determined, approve the same for use. The materials, equipment, devices and systems must be constructed and installed in compliance with, and all conditions and limitations considered as a basis for, that approval. For example, the manufacturer’s instructions and recommendations are to be followed if the approval of the material was based, even in part, on those instructions and recommendations. The approval authority given the code official is a significant responsibility and is a key to code compliance. The approval process is first technical and then administrative and must be approached as such. For example, if data to determine code compliance are required, such data should be in the form of test reports or engineering analysis and not simply taken from a sales brochure.

**104.9.1 Used materials and equipment.** The use of used materials that meet the requirements of this code for new materials is permitted. Used equipment and devices shall be permitted to be reused subject to the approval of the *code official*.

❖ The code criteria for materials and equipment have changed over the years. Evaluation of testing and materials technology has permitted the development of new criteria that the old materials may not satisfy. As a result, used materials are required to be evaluated in the same manner as new materials. Used materials, equipment and devices must be specifically approved by the code official as being equivalent to that required by the code if they are to be used again in a new installation.

**104.10 Modifications.** Wherever there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases upon application of the owner or owner’s representative, provided the code official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of action granting modifications shall be recorded and entered in the files of the Department of Building Safety.

❖ The code official may amend or make exceptions to the code as needed where strict compliance is impractical. Only the code official has authority to grant modifications. Consideration of a particular difficulty is to be based on the application of the owner and a demonstration that the intent of the code is accomplished.

This section is not intended to permit setting aside or ignoring a code provision; rather, it is intended to provide for the acceptance of equivalent protection. Such modifications do not, however, extend to actions that are necessary to correct violations of the code. In other words, a code violation or the expense of correcting one cannot constitute a practical difficulty.

**104.10.1 Flood hazard areas.** For *existing buildings* located in *flood hazard areas* for which *repairs, alterations and additions* constitute *substantial improvement*, the code official shall not grant modifications to provisions related to flood resistance unless a determination is made that:

1. The applicant has presented good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render compliance with the flood-resistant construction provisions inappropriate.
2. Failure to grant the modification would result in exceptional hardship.
3. The granting of the modification will not result in increased flood heights, additional threats to public safety, extraordinary public expense nor create nuisances, cause fraud on or victimization of the public or conflict with existing laws or ordinances.
4. The modification is the minimum necessary to afford relief, considering the flood hazard.
5. A written notice will be provided to the applicant specifying, if applicable, the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation and that construction below the design flood elevation increases risks to life and property.

❖ This section addresses additional requirements for all buildings and structures in designated flood hazard areas. These areas are commonly referred to as “flood plains” and are shown on a community’s Flood Insurance Rate Map (FIRM), prepared by the Federal Emergency Management Agency (FEMA), or other adopted flood hazard map. Through the adoption of the code, communities meet a significant portion of the flood plain management regulation requirements necessary to participate in the National Flood Insurance Program (NFIP). To participate in the NFIP, a jurisdiction must adopt, in addition to the flood-resistant requirements found in the code, Appendix G, Flood-Resistant Construction, of the IBC, or a flood plain management ordinance that contains, at a minimum, the provisions contained in Appendix G. In either case, flood plain management requirements must be applied for all existing buildings located in flood hazard areas for buildings undergoing repairs, alterations and additions that constitute substantial improvements. The code official may grant modifications to the provisions of this section for any of the five reasons listed in Section 104.10.1.

**104.11 Alternative materials, design and methods of construction, and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design, or method of construction shall be approved where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability, and safety.

❖ The code is not intended to inhibit innovative ideas or technological advances. A comprehensive regulatory document, such as a building code, cannot envision and then address all future innovations in the industry. As a result, a performance code must be applicable to and provide a basis for the approval of an increasing number of newly developed, innovative materials, systems and methods for which no code text or referenced standards yet exist. The fact that a material, product or method of construction is not addressed in the code is not an indication that such material, product or method is intended to be prohibited. The code official is expected to apply sound technical judgement in accepting materials, systems or methods that, while not anticipated by the drafters of the current code text, can be demonstrated to offer equivalent performance. By virtue of its text, the code regulates new and innovative construction practices while addressing the relative safety of building occupants. The code official is responsible for determining if a requested alternative provides the equivalent level of protection of public health, safety and welfare as required by the code.

**104.11.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

❖ When an alternative material or method is proposed for construction, it is incumbent upon the code official to determine whether this alternative is, in fact, an equivalent to the methods prescribed by the code. Reports providing evidence of this equivalency are required to be supplied by an approved source, meaning a source that the code official finds to be reliable and accurate. The ICC Evaluation Service is an example of an agency that provides research reports for alternative materials and methods.

**104.11.2 Tests.** Whenever there is insufficient evidence of compliance with the provisions of this code or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the code official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be

retained by the code official for the period required for retention.

❖ To provide the basis on which the code official can make a decision regarding an alternative material or method, sufficient technical data, test reports and documentation must be provided for evaluation by the code official. If evidence, satisfactory to the code official, indicates that the alternative material or construction method is equivalent to that required by the code, the code official may approve it. Any such approval cannot have the effect of waiving any requirements of the code. The burden of proof of equivalence lies with the applicant who proposes the use of alternative materials or methods.

The code official must require the submission of any appropriate information and data to assist in the determination of equivalency. This information should be submitted before a permit can be issued. The type of information required includes test data in accordance with referenced standards, evidence of compliance with the referenced standard specifications and design calculations. A research report issued by an authoritative agency is particularly useful in providing the code official with the technical basis for evaluation and approval of new and innovative materials and methods of construction. The use of authoritative research reports can greatly assist the code official by reducing the time-consuming engineering analysis necessary to review these materials and methods. Failure to adequately substantiate a request for the use of an alternative is a valid reason for the code official to deny a request. Any tests submitted in support of an application must have been performed by an agency approved by the code official based on evidence that the agency has the technical expertise, test equipment and quality assurance to properly conduct and report the necessary testing. The test reports submitted to the code official must be retained in accordance with the requirements of Section 104.7.

## SECTION 105 PERMITS

**105.1 Required.** Any owner or authorized agent who intends to *repair*, add to, alter, relocate, demolish, or change the occupancy of a building or to *repair*, install, add, alter, remove, convert, or replace any electrical, gas, mechanical, or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the *code official* and obtain the required permit.

❖ This section contains the administrative rules governing the issuance, suspension, revocation or modification of building permits. It also establishes how and by whom the application for a building permit is to be made, how it is to be processed, fees and what information it must contain or have attached to it.

In general, a permit is required for all activities that are regulated by the code or its referenced codes (see Section 101.4) and these activities cannot begin until

the permit is issued, unless the activity is specifically exempted by Section 105.2. Only the owner or a person authorized by the owner can apply for the permit. Note that this section indicates a need for a permit for a change in occupancy, even if no work is contemplated. Although the occupancy of a building or portion thereof may change and the new activity is still classified in the same group, different code provisions may be applicable. The means of egress, structural loads, and light and ventilation provisions are examples of requirements that are occupancy sensitive. The purpose of the permit is to cause the work to be reviewed, approved and inspected to determine compliance with the code.

**105.1.1 Annual permit.** In lieu of an individual permit for each *alteration* to an already approved electrical, gas, mechanical, or plumbing installation, the *code official* is authorized to issue an annual permit upon application therefor to any person, firm, or corporation regularly employing one or more qualified trade persons in the building, structure, or on the premises owned or operated by the applicant for the permit.

❖ In some instances, such as large buildings or industrial facilities, the repair, replacement or alteration of electrical, gas, mechanical or plumbing systems occurs on a frequent basis and this section allows the code official to issue an annual permit for this work. This relieves both the building department and the owners of such facilities from the burden of filing and processing individual applications for this activity; however, there are restrictions on who is entitled to these permits. They can be issued only for work on a previously approved installation and only to an individual or corporation that employs persons specifically qualified in the trade for which the permit is issued. If tradespeople who perform the work involved are required to be licensed in the jurisdiction, then only those persons would be permitted to perform the work. If trade licensing is not required, then the code official needs to review and approve the qualifications of the persons who will be performing the work. The annual permit can apply only to the individual property that is owned or operated by the applicant.

**105.1.2 Annual permit records.** The person to whom an annual permit is issued shall keep a detailed record of *alterations* made under such annual permit. The *code official* shall have access to such records at all times, or such records shall be filed with the *code official* as designated.

❖ The work performed in accordance with an annual permit must be inspected by the code official, so it is necessary to know the location of such work and when it was performed. This can be accomplished by having records of the work available to the code official either at the premises or in his or her office, as determined by the official.

**105.2 Work exempt from permit.** Exemptions from permit requirements of this code shall not be deemed to grant authori-

zation for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Permits shall not be required for the following:

**Building:**

1. Sidewalks and driveways not more than 30 inches (762 mm) above grade and not over any basement or story below and that are not part of an accessible route.
2. Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.
3. Temporary motion picture, television, and theater stage sets and scenery.
4. Shade cloth structures constructed for nursery or agricultural purposes, and not including service systems.
5. Window awnings supported by an exterior wall of Group R-3 or Group U occupancies.
6. Movable cases, counters, and partitions not over 69 inches (1753 mm) in height.

**Electrical:**

**Repairs and maintenance:** Minor *repair* work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

**Radio and television transmitting stations:** The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for power supply, the installations of towers, and antennas.

**Temporary testing systems:** A permit shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

**Gas:**

1. Portable heating appliance.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

**Mechanical:**

1. Portable heating appliance.
2. Portable ventilation equipment.
3. Portable cooling unit.
4. Steam, hot, or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part that does not alter its approval or make it unsafe.
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.



### Plumbing:

1. The stopping of leaks in drains, water, soil, waste, or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste, or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work, and a permit shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, provided such *repairs* do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.

❖ Section 105.1 essentially requires a permit for any activity involving work on a building and its systems and other structures. This section lists those activities that are permitted to take place without first obtaining a permit from the building department. Note that in some cases, such as Items 4 and 5, the work is exempt only for certain occupancies. It is further the intent of the code that even though work may be exempted for permit purposes, it must still comply with the code and the owner is responsible for proper and safe construction for all work being done. Work exempted by the codes adopted by reference in Section 101.4 is also included here.

**105.2.1 Emergency repairs.** Where equipment replacements and *repairs* must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the *code official*.

❖ This section recognizes that, in some cases, emergency replacement and repair work must be done as quickly as possible and it is not practical to take the time necessary to apply for and obtain approval. A permit for the work must be obtained the next day that the building department is open for business. Any work performed before the permit is issued must be done in accordance with the code and corrected if not approved by the code official.

**105.2.2 Repairs.** Application or notice to the *code official* is not required for ordinary *repairs* to structures and items listed in Section 105.2. Such *repairs* shall not include the cutting away of any wall, partition, or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary *repairs* include *addition* to, *alteration* of, replacement, or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent, or similar piping, electric wiring, or mechanical or other work affecting public health or general safety.

❖ This section distinguishes between what might be termed by some as repairs, but are in fact alterations, hence causing the code to be applicable and ordinary repairs, which are maintenance activities, to not require a permit.

**105.2.3 Public service agencies.** A permit shall not be required for the installation, *alteration*, or *repair* of generation, transmission, distribution, or metering or other related equipment that is under the ownership and control of public service agencies by established right.

❖ Utilities that supply electricity, gas, water, telephone, television cable, etc., are not required to obtain permits for work involving the transmission lines and metering equipment that they own and control to their point of delivery. They are typically regulated by other laws that give them specific rights and authority in this area. Any equipment or appliances installed or serviced by such agencies that are not owned by them and under their full control is not exempt from a permit.

**105.3 Application for permit.** To obtain a permit, the applicant shall first file an application therefor in writing on a form furnished by the Department of Building Safety for that purpose. Such application shall:

1. Identify and describe the work in accordance with Chapter 3 to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address, or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by construction documents and other information as required in Section 106.3.
5. State the valuation of the proposed work.
6. Be signed by the applicant or the applicant's authorized agent.
7. Give such other data and information as required by the *code official*.

❖ This section requires that a written application for a permit be filed on forms provided by the building department and details the information required on the application. Permit forms will typically have sufficient space to write a very brief description of the work to be accomplished, which is sufficient only for small jobs. For larger projects, the description will be augmented by construction documents as indicated in Item 4. As required by Section 105.1, the applicant must be the owner of the property or an authorized agent of the owner, such as an engineer, architect, contractor, tenant or other. The applicant must sign the application, and permit forms typically include a statement that if the applicant is not the owner, he or she has permission from the owner to make the application.

**105.3.1 Action on application.** The *code official* shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform to the requirements of pertinent laws, the *code official* shall reject such application in writing, stating the reasons therefor. If the

*code official* is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the *code official* shall issue a permit therefor as soon as practicable.

❖ This section requires the code official to act with reasonable speed on a permit application. In some instances, this time period is set by state or local law. The code official must refuse to issue a permit when the application and accompanying documents do not conform to the code. In order to ensure effective communication and due process of law, the reasons for denial of an application for a permit are required to be in writing. Once the code official determines that the work described conforms with the code and other applicable laws, the permit must be issued upon payment of the fees required by Section 108.

**105.3.2 Time limitation of application.** An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the *code official* is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

❖ Typically, an application for a permit is submitted and goes through a review process that ends with the issuance of a permit. If a permit has not been issued 180 days after the date of filing, however, the application is considered abandoned, unless the applicant was diligent in efforts to obtain the permit. The code official has the authority to extend this time limitation (in increments of 90 days), provided there is reasonable cause. This would cover delays beyond the applicant's control, such as prerequisite permits or approvals from other authorities within the jurisdiction or state. The intent of this section is to limit the time between the review process and the issuance of a permit.

**105.4 Validity of permit.** The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the *code official* from requiring the correction of errors in the construction documents and other data. The *code official* is also authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of this jurisdiction.

❖ This section states the fundamental premise that the permit is only a license to proceed with the work. It is not a license to violate, cancel or set aside any provisions of the code. This is significant because it means that, despite any errors or oversights in the approval process, the permit applicant, not the code official, is responsible for code compliance. Also, the permit can be suspended or revoked in accordance with Section 105.6.

**105.5 Expiration.** Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The *code official* is authorized to grant, in writing, one or more extensions of time for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

❖ The permit becomes invalid under two distinct situations—both based on a 180-day period. The first situation is when no work has ever started 180 days from the issuance of the permit. The second situation is when the authorized work has stopped for 180 days. The person who was issued the permit should be notified, in writing, that the permit is invalid and what steps must be taken to reinstate it and restart the work. The code official has the authority to extend this time limitation (in increments of 180 days), provided the extension is requested in writing and there is reasonable cause, typically events beyond the permit holder's control.

**105.6 Suspension or revocation.** The *code official* is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate, or incomplete information or in violation of any ordinance or regulation or any of the provisions of this code.

❖ A permit, in reality, is a license to proceed with the work. The code official, however, can suspend or revoke permits shown to be based, all or in part, on any false statement or misrepresentation of fact. A permit can also be suspended or revoked if it was issued in error, such as an omitted prerequisite approval or code violation indicated on the construction documents. An applicant may subsequently apply for a reinstatement of the permit with the appropriate corrections or modifications made to the application and construction documents.

**105.7 Placement of permit.** The building permit or copy shall be kept on the site of the work until the completion of the project.

❖ The permit, or copy thereof, is to be kept on the job site until the work is complete and made available to the code official or representative to conveniently make required entries thereon.

## SECTION 106 CONSTRUCTION DOCUMENTS

**106.1 General.** Submittal documents consisting of construction documents, special inspection and structural observation programs, investigation and evaluation reports, and other data shall be submitted in two or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where



special conditions exist, the *code official* is authorized to require additional construction documents to be prepared by a registered design professional.

**Exception:** The *code official* is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code.

❖ This section establishes the requirement to provide the code official with submittal documents, including construction drawings, specifications and other documents that describe the structure or system for which a permit is sought. It describes the information that must be included in the documents, who must prepare them and procedures for approving them.

A detailed description of the work for which the application is made must be submitted. When the work can be briefly described on the application form and the services of a registered design professional are not required, the code official may utilize judgment in determining the need for detailed documents. An example of work that may not involve the submission of detailed construction documents is the replacement of an existing 60-amp electrical service with a 200-amp service. These provisions are intended to reflect the minimum scope of information needed to determine code compliance. The code official should establish a consistent policy of the number of sets required by the jurisdiction and make this information readily available to applicants.

This section also requires the code official to determine that any state professional registration laws be complied with as they apply to the preparation of construction documents.

**106.2 Construction documents.** Construction documents shall be in accordance with Sections 106.2.1 through 106.2.5.

❖ This section describes, in detail, the minimum requirements for the construction documents portion of the submittal documents. Sections 106.2.1 through 106.2.5 contain the minimum information to be provided on the construction documents. The following subsections specify the detailed information that must be shown on the submitted construction documents. When specifically allowed by the code official, documents can be submitted in electronic form.

**106.2.1 Construction documents.** Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the *code official*. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *code official*. The work areas shall be shown.

❖ The construction documents are required to be of a quality and detail such that the code official can determine that the work conforms to the code and other ap-

plicable laws and regulations. General statements on the documents, such as "All work must comply with the *International Existing Building Code*," are not an acceptable substitute for showing the required information.

**106.2.2 Fire protection system(s) shop drawings.** Shop drawings for the fire protection system(s) shall be submitted to indicate conformance with this code and the construction documents and shall be approved prior to the start of system installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9 of the *International Building Code*.

❖ Since the fire protection contractor(s) may not have been selected at the time a permit was issued for the construction of a building, detailed shop drawings for fire protection systems are not available. Because they provide the information necessary to determine code compliance, as specified in the appropriate referenced standard in Chapter 9 of the IBC, they must be submitted and approved by the code official before the contractor can begin installing the system. For example, the professional responsible for the design of an automatic sprinkler system should determine that the water supply is adequate, but will not be able to prepare a final set of hydraulic calculations if the specific materials and pipe sizes, lengths and arrangements have not been identified. Once the installing contractor is selected, specific hydraulic calculations can be prepared. Factors such as classification of the hazard, amount of water supply available and the density or concentration to be achieved by the system are to be included with the submission of the shop drawings. Specific data sheets identifying sprinklers, pipe dimensions, power requirements for smoke detectors, etc., should also be included with the submission.

**106.2.3 Means of egress.** The construction documents for *Alterations—Level 2*, *Alterations—Level 3*, *additions* and changes of occupancy shall show in sufficient detail the location, construction, size and character of all portions of the means of egress in compliance with the provisions of this code. The construction documents shall designate the number of occupants to be accommodated in every *work area* of every floor and in all affected rooms and spaces.

❖ The complete means of egress system is required to be indicated on the plans to permit the code official to initiate a review and identify pertinent code requirements for each component. Additionally, requiring such information to be reflected in the construction documents requires the designer not only to become familiar with the code, but also to be aware of egress principles, concepts and purposes. The need to ensure that the means of egress leads to a public way is also a consideration during the plan review. Such an evaluation cannot be made without the inclusion of a site plan, as required by Section 106.2.5.

Information essential for determining the required capacity of the egress components (see Section 1005 of the IBC) and the number of egress components required from a space (see Sections 1015.1 and 1020.1 of the IBC) must be provided. The designer must be

aware of the occupancy of a space and properly identify that, along with its resultant occupant load, on the construction documents. In occupancies in Groups I-1, R-2 and R-3, the occupant load can be readily determined with little difference in the number so that the designation of the occupant load on the construction documents is not required.

**106.2.4 Exterior wall envelope.** Construction documents for all work affecting the exterior wall envelope shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. The construction documents shall provide details of the exterior wall envelope as required, including windows, doors, flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves, or parapets, means of drainage, water-resistive membrane, and details around openings.

The construction documents shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the construction documents maintain the wind and weather resistance of the exterior wall envelope. The supporting documentation shall fully describe the exterior wall system which was tested, where applicable, as well as the test procedure used.

❖ This section specifically identifies details of exterior wall construction that are critical to the weather resistance of the wall and requires those details to be provided on the construction documents. Where the weather resistance of the exterior wall assembly is based on tests, the submitted documentation is to describe the details of the wall envelope and the test procedure that was used. This provides the code official with enough information necessary to determine code compliance.

**106.2.5 Site plan.** The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from lot lines, the established street grades, and the proposed finished grades; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The *code official* is authorized to waive or modify the requirement for a site plan when the application for permit is for *alteration, repair or change of occupancy*.

❖ Certain code requirements are dependent on the structure's location on the lot and the topography of the site. As a result, a scaled site plan containing the data listed in this section is required to permit review for compliance. The code official can waive the requirement for a site plan when it is not required to determine code compliance, such as work involving only interior alterations or repairs.

**106.3 Examination of documents.** The *code official* shall examine or cause to be examined the submittal documents and

shall ascertain by such examinations whether the construction or occupancy indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.

❖ The requirements of this section are related to those found in Section 105.3.1 regarding the action of the code official in response to a permit application. The code official can delegate the review of the submittal documents to subordinates as provided for in Section 103.3.

**106.3.1 Approval of construction documents.** When the *code official* issues a permit, the construction documents shall be approved in writing or by stamp as "Reviewed for Code Compliance." One set of construction documents so reviewed shall be retained by the *code official*. The other set shall be returned to the applicant, shall be kept at the site of work, and shall be open to inspection by the *code official* or a duly authorized representative.

❖ The code official must stamp or otherwise endorse as "Reviewed for Code Compliance" the construction documents on which the permit is based. One set of approved construction documents must be kept on the construction site to serve as the basis for all subsequent inspections. To avoid confusion, the construction documents on the site must be the documents that were approved and stamped. This is because inspections are to be performed with regard to the approved documents, not the code itself. Additionally, the contractor cannot determine compliance with the approved construction documents unless they are readily available. Unless the approved construction documents are available, the inspection should be postponed and work on the project halted.

**106.3.2 Previous approval.** This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been issued and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

❖ If a permit is issued and construction proceeds at a normal pace and a new edition of the code is adopted by the legislative body, requiring that the building be constructed to conform to the new code is unreasonable. This section provides for the continuity of permits issued under previous codes, as long as such permits are being "actively prosecuted" subsequent to the effective date of the ordinance adopting this edition of the code.

**106.3.3 Phased approval.** The *code official* is authorized to issue a permit for the construction of foundations or any other part of a building before the construction documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for the foundation or other parts of a building shall proceed at the holder's own risk with the building

operation and without assurance that a permit for the entire structure will be granted.

❖ The code official has the authority to issue a partial permit to allow for the practice of “fast tracking” a job. Any construction under a partial permit is “at the holder’s own risk” and “without assurance that a permit for the entire structure will be granted.” The code official is under no obligation to accept work or issue a complete permit in violation of the code, ordinances or statutes, simply because a partial permit had been issued. Fast tracking places an unusual administrative and technical burden on the code official. The purpose is to proceed with construction while the design continues for other aspects of the work. Coordinating and correlating the code aspects into the project in phases requires attention to detail and project tracking so that all code issues are addressed. The coordination of these submittals is the responsibility of the registered design professional in responsible charge.

**106.3.4 Deferred submittals.** For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the *code official* within a specified period.

Deferral of any submittal items shall have the prior approval of the *code official*. The registered design professional in responsible charge shall list the deferred submittals on the construction documents for review by the *code official*.

Submittal documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the *code official* with a notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until their deferred submittal documents have been approved by the *code official*.

❖ Often, especially on larger projects, details of certain building parts are not available at the time of permit issuance because they have not yet been designed; for example, exterior cladding, prefabricated items such as trusses and stairs, and the components of fire protection systems. The design professional in responsible charge must identify on the submittal documents the items to be included in any deferred submittals. Documents required for the approval of deferred items must be reviewed by the design professional in responsible charge for compatibility with the design of the building, forwarded to the code official with a notation that this is the case and approved by the code official before installation of the items. Sufficient time must be allowed for the approval process. Note that deferred submittals differ from the phased permits described in Section 106.3.3 in that they occur after the permit for the building is issued and are not for work covered by separate permits.

**106.4 Amended construction documents.** Work shall be installed in accordance with the reviewed construction documents, and any changes made during construction that are not

in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

❖ Any amendments to the approved construction documents must be filed before constructing the amended item. In the broadest sense, amendments include all addenda, change orders, revised drawings and marked-up shop drawings. Code officials should maintain a policy that all amendments be submitted for review. Otherwise, a significant amendment may not be submitted because of misinterpretation, resulting in an activity that is not approved and that causes a needless delay in obtaining approval of the finished work.

**106.5 Retention of construction documents.** One set of approved construction documents shall be retained by the *code official* for a period of not less than the period required for retention of public records.

❖ A set of the approved construction documents must be kept by the code official as may be required by state or local laws, but for a period of not less than 180 days after the work is complete. Questions regarding an item shown on the approved documents may arise in the period immediately following completion of the work and the documents should be available for review. See Section 104.7 for requirements to retain other records that are generated as a result of the work.

**106.6 Design professional in responsible charge.** When it is required that documents be prepared by a registered design professional, the *code official* shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The *code official* shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties. The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building. Where structural observation is required, the inspection program shall name the individual or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur.

❖ At the time of permit application and at various intervals during a project, the code requires detailed technical information to be submitted to the code official. This will vary depending on the complexity of the project, but typically includes the construction documents with supporting information, applications utilizing the phased approval procedure in Section 106.3.3, and reports from engineers, inspectors and testing agencies as required in Chapter 17 of the IBC. Since these documents and reports are prepared by numerous individuals, firms and agencies, it is necessary to have a



single person charged with the responsibility for coordinating their submittal to the code official. This person is the point of contact for the code official for all information relating to the project. Otherwise, the code official could waste time and effort attempting to locate the source of accurate information when trying to resolve an issue, such as a discrepancy in plans submitted by different designers.

The requirement that the owner engage a person to act as the design professional in responsible charge is applicable to projects where the construction documents are required by law to be prepared by a registered design professional (see Section 106.1) and when required by the code official. The person employed by the owner to act as the design professional in responsible charge must be identified on the permit application, but the owner can change the designated person at any time during the course of the review process or work, provided the code official is so notified in writing.

## SECTION 107 TEMPORARY STRUCTURES AND USES

**107.1 General.** The *code official* is authorized to issue a permit for temporary uses. Such permits shall be limited as to time of service but shall not be permitted for more than 180 days. The *code official* is authorized to grant extensions for demonstrated cause.

❖ In the course of construction or other activities, structures that have a limited service life are often necessary. This section contains the administrative provisions that permit such temporary structures without full compliance with the code requirements for permanently occupied structures.

This section allows the code official to issue permits for temporary structures or uses. The applicant must specify the time period desired for the temporary structure or use, but the approval period cannot exceed 180 days. Structures or uses that are “temporary” but are anticipated to be in existence for more than 180 days are required to conform to code requirements for permanent structures and uses. The code official is authorized to grant time extensions if the applicant can provide a valid reason for the extension. A typical example would be circumstances that have occurred beyond the applicant’s control. This provision is not intended to be used to circumvent the 180-day limitation.

**107.2 Conformance.** Temporary uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

❖ This section prescribes those categories of the code that must be complied with, despite the fact that the structure will be removed or the use discontinued at

some time in the future. These criteria are essential for measuring the safety of any use, temporary or permanent. Therefore, the application of these criteria to a temporary structure cannot be waived.

“Structural strength” refers to the ability of the temporary structure to resist anticipated live, environmental and dead loads (see Chapter 16 of the IBC). It also applies to anticipated live and dead loads imposed by a temporary use in an existing structure.

“Fire safety” provisions are those required by Chapters 8, 9 and 10 of the IBC invoked by virtue of the structure’s size, use or location on the property.

“Means of egress” refers to full compliance with Chapter 10 of the IBC.

“Accessibility” refers to full compliance with Chapter 11 of the IBC for making buildings accessible to physically disabled persons, a requirement that is repeated in Section 1103.1 of the IBC.

“Light, ventilation and sanitary” requirements are those imposed by Chapter 12 of the IBC or applicable sections of the *International Plumbing Code*® (IPC®) or *International Mechanical Code*® (IMC®).

**107.3 Temporary power.** The *code official* is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in NFPA 70.

❖ Commonly, the electrical service on most construction sites is installed and energized long before all of the wiring is completed. This procedure allows the power supply to be increased as construction demands; however, temporary permission is not intended to waive the requirements set forth in the NFPA 70. Construction power from the permanent wiring of the building does not require the installation of temporary ground-fault circuit-interrupter (GFCI) protection or the assured equipment grounding program, because the building wiring installed as required by the code should be as safe for construction use as it would be for use after the completion of the building.

**107.4 Termination of approval.** The *code official* is authorized to terminate such permit for a temporary use and to order the temporary use to be discontinued.

❖ This section provides the code official with the necessary authority to terminate the permit for a temporary use. The code official can order that a temporary structure be removed or a temporary use be discontinued if conditions of the permit have been violated or the structure or use poses an imminent hazard to the public, in which case the provisions of Section 116 become applicable. This text is important because it allows the code official to act quickly when time is of the essence in order to protect public health, safety and welfare.

## SECTION 108 FEES

**108.1 Payment of fees.** A permit shall not be valid until the fees prescribed by law have been paid. Nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

❖ The code anticipates that jurisdictions will establish their own fee schedules. It is the intent that the fees collected by the department for building permit issuance, plan review and inspection be adequate to cover the costs to the department in these areas.

This section requires that all fees be paid prior to permit issuance or release of an amendment to a permit. Since department operations are intended to be supported by fees paid by the user of department activities, it is important that these fees are received before incurring any expense. This philosophy has resulted in a common practice of having fees paid prior to plan review and inspection.

**108.2 Schedule of permit fees.** On buildings, electrical, gas, mechanical, and plumbing systems or *alterations* requiring a permit, a fee for each permit shall be paid as required in accordance with the schedule as established by the applicable governing authority.

❖ The jurisdiction inserts its desired fee schedule at this location. The fees are established by law, such as in an ordinance adopting the code (see page ix of the code for a sample), a separate ordinance or legally promulgated regulation, as required by state or local law. Fee schedules are often based on a valuation of the work to be performed. This concept is based on the proposition that the valuation of a project is related to the amount of work to be expended in the plan review, inspections and administering the permit, plus an excess to cover the department overhead.

**108.3 Building permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work including materials and labor for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment, and permanent systems. If, in the opinion of the *code official*, the valuation is underestimated on the application, the permit shall be denied unless the applicant can show detailed estimates to meet the approval of the *code official*. Final building permit valuation shall be set by the *code official*.

❖ As indicated in Section 108.2, jurisdictions usually base their fees on the value of the work being performed. This section, therefore, requires the applicant to provide this figure, which is to include the total value of the work, including materials and labor, for which the permit is sought. If the code official believes that the value provided by the applicant is underestimated, the permit is to be denied unless the applicant can substantiate the value by providing detailed estimates of the work to the satisfaction of the code official. For the construction of new buildings, the building valua-

tion data referred to in Section 108.2 can be used by the code official as a yardstick against which to compare the applicant's estimate.

**108.4 Work commencing before permit issuance.** Any person who commences any work before obtaining the necessary permits shall be subject to an additional fee established by the *code official* that shall be in addition to the required permit fees.

❖ The code official will incur certain costs (ie., inspection time and administrative) when investigating and citing a person who has commenced work without having obtained a permit. The code official is, therefore, entitled to recover these costs by establishing a fee imposed on the responsible party, in addition to that collected when the required permit is issued. Note that this is not a penalty, as described in Section 113.4, for which the person can also be liable.

**108.5 Related fees.** The payment of the fee for the construction, *alteration*, removal, or demolition of work done in connection to or concurrently with the work authorized by a building permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

❖ The fees for a building permit may be in addition to other fees required by the jurisdiction or others for related items such as sewer connections, water service taps, driveways and signs. It cannot be construed that the building permit fee includes these other items.

**108.6 Refunds.** The *code official* is authorized to establish a refund policy.

❖ This section allows for a refund of fees, which may be full or partial, typically resulting from the revocation, abandonment or discontinuance of a construction project for which a permit has been issued and fees have been collected. The refund of fees should be related to the cost of enforcement services not provided because of the termination of the project. The code official, when authorizing a fee refund, is authorizing the disbursement of public funds. Therefore, the request for a refund must be in writing and for good cause.

## SECTION 109 INSPECTIONS

**109.1 General.** Construction or work for which a permit is required shall be subject to inspection by the *code official*, and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the *code official* nor the jurisdiction shall be liable for expense entailed in the

removal or replacement of any material required to allow inspection.

❖ The inspection function is one of the more important aspects of building department operations. This section authorizes the code official to inspect the work for which a permit has been issued and requires that the work to be inspected remain accessible to the code official until inspected and approved. Any expense incurred in removing or replacing material that conceals an item to be inspected is not the responsibility of the code official or the jurisdiction. As with the issuance of permits (see Section 105.4), approval as a result of an inspection is not a license to violate the code and an approval in violation of the code does not relieve the applicant from complying with the code and is not valid.

**109.2 Preliminary inspection.** Before issuing a permit, the *code official* is authorized to examine or cause to be examined buildings and sites for which an application has been filed.

❖ The code official is granted authority to inspect the site before permit issuance. This may be necessary to verify existing conditions that impact on the plan review and permit approval. This section provides the code official with the right of entry authority that otherwise does not occur until after the permit is issued (see Section 104.6).

**109.3 Required inspections.** The *code official*, upon notification, shall make the inspections set forth in Sections 109.3.1 through 109.3.9.

❖ The code official is required to verify that the work is completed in accordance with the approved construction documents. It is the responsibility of the permit holder to notify the code official when the item is ready for inspection. The inspections that are necessary to provide such verification are listed in the following sections, with the caveat in Section 109.3.8 that special inspections, in addition to those listed here, may be required depending on the work involved.

**109.3.1 Footing or foundation inspection.** Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready-mixed in accordance with ASTM C 94, the concrete need not be on the job.

❖ It is necessary for the code official to inspect the soil upon which the footing or foundation is to be placed. This inspection also includes any reinforcing steel, concrete forms and materials to be used in the foundation, except for ready-mixed concrete that is prepared off site.

**109.3.2 Concrete slab or under-floor inspection.** Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories, and other ancillary equipment

items are in place but before any concrete is placed or floor sheathing installed, including the sub floor.

❖ The code official must be able to inspect the soil and any required under-slab drainage, waterproofing or dampproofing material, as well as reinforcing steel, conduit, piping and other service equipment embedded in or installed below a slab prior to placing the concrete. Similarly, items installed below a floor system other than concrete must be inspected before they are concealed by the floor sheathing or subfloor.

**109.3.3 Lowest floor elevation.** For *additions* and *substantial improvements to existing buildings in flood hazard areas*, upon placement of the lowest floor, including basement, and prior to further vertical construction, the elevation documentation required in the *International Building Code* shall be submitted to the *code official*.

❖ Where a structure is located in a flood hazard area, as established in Section 1612.3 of the IBC, the code official must be provided with certification that either the lowest floor elevation (for structures located in flood hazard areas not subject to high-velocity wave action) or the elevation of the lowest horizontal structural member (for structures located in flood hazard areas subject to high-velocity wave action) is in compliance with Section 1612 of the IBC. This certification must be submitted prior to any construction proceeding above this level.

**109.3.4 Frame inspection.** Framing inspections shall be made after the roof deck or sheathing, all framing, fire blocking, and bracing are in place and pipes, chimneys, and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes, and ducts are approved.

❖ This section requires that the code official be able to inspect the framing members, such as studs, joists, rafters and girders, and other items such as vents and chimneys, that will be concealed by wall construction. Rough electrical work, plumbing, heating wires, pipes and ducts must have already been approved in accordance with the applicable codes prior to this inspection.

**109.3.5 Lath or gypsum board inspection.** Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

**Exception:** Gypsum board that is not part of a fire-resistance-rated assembly or a shear assembly.

❖ In order to verify that lath and gypsum board is properly attached to framing members, it is necessary for the code official to be able to inspect before the plaster or joint finish material is applied. This is required only for gypsum board that is part of either a fire-resistant assembly or a shear wall.

**109.3.6 Fire and smoke-resistant penetrations.** Protection of joints and penetrations in fire-resistance-rated assemblies,



smoke barriers and smoke partitions shall not be concealed from view until inspected and approved.

- ❖ The code official must have an opportunity to inspect joint protection and penetration protection as required by Sections 712 and 713 of the IBC for fire- and smoke-resistance-rated assemblies before it is concealed from view.

**109.3.7 Other inspections.** In addition to the inspections specified above, the *code official* is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the Department of Building Safety.

- ❖ Any item regulated by the code is subject to inspection by the code official to determine compliance with the applicable code provision and no list can include all items in a given building. This section, therefore, gives the code official the authority to inspect any regulated items.

**109.3.8 Special inspections.** Special inspections shall be required in accordance with the *International Building Code*.

- ❖ Special inspections are to be provided by the owner for the types of work required in Section 1704 of the IBC. The code official is to approve special inspectors and verify that the required special inspections have been conducted.

**109.3.9 Final inspection.** The final inspection shall be made after all work required by the building permit is completed.

- ❖ Upon completion of the work for which the permit has been issued and before the issuance of the certificate of occupancy required by Section 110.3, a final inspection is to be made. All violations of the approved construction documents and permit are to be noted and the holder of the permit is to be notified of the discrepancies.

**109.4 Inspection agencies.** The *code official* is authorized to accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

- ❖ As an alternative to the code official conducting the inspection, he or she is permitted to accept inspections of and reports by approved inspection agencies. Appropriate criteria on which to base approval of inspection agencies can be found in Section 1703 of the IBC.

**109.5 Inspection requests.** It shall be the duty of the holder of the building permit or their duly authorized agent to notify the *code official* when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for any inspections of such work that are required by this code.

- ❖ It is the responsibility of the permit holder or other authorized person, such as the contractor performing the work, to arrange for the required inspections when completed work is ready and to allow for sufficient time for the code official to schedule a visit to the site to prevent work from being concealed prior to being inspected. Access to the work to be inspected must be provided, including any special means such as a ladder.

**109.6 Approval required.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the *code official*. The *code official*, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed or shall notify the permit holder or an agent of the permit holder wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the *code official*.

- ❖ This section establishes that work cannot progress beyond the point of a required inspection without the code official's approval. Upon making the inspection, the code official must either approve the completed work or notify the permit holder or other responsible party of that which does not comply with the code. Approvals and notices of noncompliance must be in writing, as required by Section 104.4, to avoid any misunderstanding as to what is required. Any item not approved cannot be concealed until it has been corrected and approved by the code official.

## SECTION 110 CERTIFICATE OF OCCUPANCY

**110.1 Altered area use and occupancy classification change.** No altered area of a building and no relocated building shall be used or occupied, and no change in the existing occupancy classification of a building or portion thereof shall be made until the code official has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction.

- ❖ This section establishes that a building or structure that has been repaired, altered, relocated or has experienced a change of occupancy cannot be occupied until a certificate of occupancy is issued by the code official, which reflects the conclusion of the work allowed by the building permit. Also, no change in occupancy of an existing building is permitted without first obtaining a certificate of occupancy for the new use.

The tool that the code official uses to control the uses and occupancies of various buildings and structures within the jurisdiction is the certificate of occupancy. It is unlawful to use or occupy a building or structure unless a certificate of occupancy has been issued for that use. Its issuance does not relieve the building owner from the responsibility for correcting any code violation that may exist.

**110.2 Certificate issued.** After the *code official* inspects the building and finds no violations of the provisions of this code or other laws that are enforced by the Department of Building Safety, the *code official* shall issue a certificate of occupancy that shall contain the following:

1. The building permit number.
2. The address of the structure.

3. The name and address of the owner.
  4. A description of that portion of the structure for which the certificate is issued.
  5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
  6. The name of the *code official*.
  7. The edition of the code under which the permit was issued.
  8. The use and occupancy in accordance with the provisions of the *International Building Code*.
  9. The type of construction as defined in the *International Building Code*.
  10. The design occupant load and any impact the *alteration* has on the design occupant load of the area not within the scope of the work.
  11. If fire protection systems are provided, whether the fire protection systems are required.
  12. Any special stipulations and conditions of the building permit.
- ❖ The code official is required to issue a certificate of occupancy after a successful final inspection has been completed and all deficiencies and violations have been resolved. This section lists the information that must be included on the certificate. This information is useful to both the code official and owner because it indicates the criteria under which the structure was evaluated and approved at the time the certificate was issued. This is especially important when later applying Chapter 13 to existing structures.

**110.3 Temporary occupancy.** The *code official* is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely. The *code official* shall set a time period during which the temporary certificate of occupancy is valid.

- ❖ The code official is permitted to issue a temporary certificate of occupancy for all or a portion of a building prior to the completion of all work. Such certification is to be issued only when the building or portion in question can be safely occupied prior to full completion. The certification is intended to acknowledge that some building features may not be completed even though the building is safe for occupancy, or that a portion of the building can be safely occupied while work continues in another area. This provision precludes the occupancy of a building or structure that does not contain all of the required fire protection systems and means of egress. Temporary certificates should be issued only when incidental construction remains, such as site work and interior work, that is not regulated by the code and exterior decoration not necessary to the integrity of the building envelope. The code official

should view the issuance of a temporary certificate of occupancy as substantial an act as the issuance of the final certificate. Indeed, the issuance of a temporary certificate of occupancy offers a greater potential for conflict because once the building or structure is occupied, it is very difficult to remove the occupants through legal means. The certificate must specify the time period for which it is valid.

**110.4 Revocation.** The *code official* is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

- ❖ The code official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of the code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure, or portion thereof, is in violation of any ordinance or regulation or any of the provisions of the code.

This section is needed to give the code official the authority to revoke a certificate of occupancy for the reasons indicated in the code text. The code official may also suspend the certificate of occupancy until all of the code violations are corrected.

## SECTION 111 SERVICE UTILITIES

**111.1 Connection of service utilities.** No person shall make connections from a utility, source of energy, fuel, or power to any building or system that is regulated by this code for which a permit is required, until approved by the *code official*.

- ❖ This section establishes the authority of the code official to approve utility connections to a building for items such as water, sewer, electricity, gas and steam; and to require their disconnection when hazardous conditions or emergencies exist.

The approval of the code official is required before a connection can be made from a utility to a building system that is regulated by the applicable code, including those referenced in Section 101.4. This includes utilities supplying water, sewer, electricity, gas and steam services. For the protection of building occupants, including workers, such systems must have final inspection approvals, except as allowed by Section 111.2 for temporary connections.

**111.2 Temporary connection.** The *code official* shall have the authority to authorize the temporary connection of the building or system to the utility source of energy, fuel, or power.

- ❖ The code official is permitted to issue temporary authorization to make connections to the public utility system prior to the completion of all work. This acknowledges that, because of seasonal limitations, time constraints, or the need for testing or partial oper-



ation of equipment, some building systems may be safely connected even though the building is not suitable for final occupancy. The temporary connection and utilization of connected equipment should be approved when the requesting permit holder has demonstrated to the code official's satisfaction that public health, safety and welfare will not be endangered.

**111.3 Authority to disconnect service utilities.** The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or when such utility connection has been made without the approval required by Section 111.1 or 111.2. The code official shall notify the serving utility and, wherever possible, the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

❖ When an immediate hazard to life or property exists, the code official has the authority to order the disconnection of the utility services. This can also occur when the utility service has been connected without the necessary approvals required by the code. Whenever possible, the building owner and the building occupant or occupants should be notified prior to the disconnection of the services. Then, at the first practical opportunity, the code official is to formally notify the building owner, in writing, of the disconnection activities. As with all administrative functions, all aspects of due process must be followed.

## SECTION 112 BOARD OF APPEALS

**112.1 General.** In order to hear and decide appeals of orders, decisions, or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business.

❖ This section provides an aggrieved party with a material interest in the decision of the code official a process to appeal such a decision before a board of appeals. This provides a forum, other than the court of jurisdiction, in which to review the code official's actions.

This section literally allows any person to appeal a decision of the code official. In practice, this section has been interpreted to permit appeals only by those aggrieved parties with a material or definitive interest in the decision of the code official. An aggrieved party may not appeal a code requirement per se. The intent of the appeal process is not to waive or set aside a code requirement; rather, it is intended to provide a means of reviewing a code official's decision on an interpretation or application of the code or to review the equivalency of protection to the code requirements. The members of

the appeals board are appointed by the "governing body" of the jurisdiction, typically a council or administrator, such as a mayor or city manager, and remain members until removed from office. The board must establish procedures for electing a chairperson, scheduling, conducting meetings and administration. Note that Appendix B of the IBC contains complete, detailed requirements for creating an appeals board, including the number of members, qualifications and administrative procedures. Jurisdictions desiring to utilize these requirements must include Appendix B of the IBC in their adopting ordinance.

**112.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. The board shall have no authority to waive requirements of this code.

❖ This section establishes the grounds for an appeal, which claims that the code official has misinterpreted or misapplied a code provision. The board is not allowed to set aside any of the technical requirements of the code; however, it is allowed to consider alternative methods of compliance with the technical requirements (see Section 104.11).

**112.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.

❖ It is important that the decisions of the appeals board are based purely on the technical merits involved in an appeal. It is not the place for policy or political deliberations. The members of the appeals board are, therefore, expected to have experience in building construction matters.

## SECTION 113 VIOLATIONS

**113.1 Unlawful acts.** It shall be unlawful for any person, firm, or corporation to *repair*, alter, extend, add, move, remove, demolish, or change the occupancy of any building or equipment regulated by this code or cause same to be done in conflict with or in violation of any of the provisions of this code.

❖ Violations of the code are prohibited, and form the basis for all citations and correction notices.

**113.2 Notice of violation.** The *code official* is authorized to serve a notice of violation or order on the person responsible for the *repair*, *alteration*, *extension*, *addition*, moving, removal, demolition, or change in the occupancy of a building in violation of the provisions of this code or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

❖ The code official is required to notify the person responsible for the erection or use of a building found to

be in violation of the code. The section that is allegedly being violated must be cited so that the responsible party can respond to the notice.

**113.3 Prosecution of violation.** If the notice of violation is not complied with promptly, the *code official* is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct, or abate such violation or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

❖ The code official must pursue, through the use of legal counsel of the jurisdiction, legal means to correct the violation. This is not optional.

Any extensions of time so that the violations may be corrected voluntarily must be for a reasonable, bona fide cause or the code official may be subject to criticism for "arbitrary and capricious" actions. In general, it is better to have a standard time limitation for the correction of violations. Departures from this standard must be for a clear and reasonable purpose, usually stated in writing by the violator.

**113.4 Violation penalties.** Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who *repairs* or alters or changes the occupancy of a building or structure in violation of the approved construction documents or directive of the *code official* or of a permit or certificate issued under the provisions of this code shall be subject to penalties as prescribed by law.

❖ Penalties for violating provisions of the code are typically contained in state law, particularly if the code is adopted at that level and the building department must follow those procedures. If there is no such procedure already in effect, one must be established with the aid of legal counsel.

## SECTION 114 STOP WORK ORDER

**114.1 Authority.** Whenever the *code official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a *dangerous* or unsafe manner, the *code official* is authorized to issue a stop work order.

❖ This section provides for the suspension of work for which a permit was issued, pending the removal or correction of a severe violation or unsafe condition identified by the code official.

Normally, correction notices, issued in accordance with Section 109.6, are used to inform the permit holder of code violations. Stop work orders are issued when enforcement can be accomplished no other way or when a dangerous condition exists.

**114.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property involved or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the

conditions under which the cited work will be permitted to resume.

❖ Upon receipt of a violation notice from the code official, all construction activities identified in the notice must immediately cease, except as expressly permitted to correct the violation.

**114.3 Unlawful continuance.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

❖ This section states that the work in violation must terminate and that all work, except that which is necessary to correct the violation or unsafe condition, must cease as well. As determined by the municipality or state, a penalty may be assessed for failure to comply with this section.

## SECTION 115 UNSAFE BUILDINGS AND EQUIPMENT

**115.1 Conditions.** Buildings, structures or equipment that are or hereafter become unsafe, shall be taken down, removed or made safe as the code official deems necessary and as provided for in this code.

❖ This section describes the responsibility of the code official to investigate reports of unsafe structures and equipment, and provides criteria for such determination.

"Unsafe structures" are defined as buildings or structures that are insanitary, deficient in light and ventilation or adequate exit facilities, constitute a fire hazard or are otherwise dangerous to human life.

All unsafe buildings must either be demolished or made safe and secure as deemed appropriate by the code official.

**115.2 Record.** The *code official* shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.

❖ The code official must file a report on each investigation of unsafe conditions, stating the occupancy of the structure and the nature of the unsafe condition. This report provides the basis for the notice described in Section 115.3.

**115.3 Notice.** If an unsafe condition is found, the *code official* shall serve on the owner, agent, or person in control of the structure a written notice that describes the condition deemed unsafe and specifies the required *repairs* or improvements to be made to abate the unsafe condition, or that requires the unsafe building to be demolished within a stipulated time. Such notice shall require the person thus notified to declare immediately to the *code official* acceptance or rejection of the terms of the order.

❖ When a building or structure is deemed unsafe, the code official is required to notify the owner or agent of the building as the first step in correcting the problem. Such notice must describe the necessary repairs and

improvements to correct the deficiency or must require the unsafe building or structure to be demolished in a specified time in order to provide for public health, safety and welfare. Additionally, such notice requires the immediate response of the owner or agent. If the owner or agent is not available, public notice of such declaration should suffice for the purposes of complying with this section (see Section 115.4). The code official may also determine that immediate work is necessary to correct an unsafe condition and seek a lien against the building or structure to compensate the municipality for the cost of remedial action.

**115.4 Method of service.** Such notice shall be deemed properly served if a copy thereof is delivered to the owner personally; sent by certified or registered mail addressed to the owner at the last known address with the return receipt requested; or delivered in any other manner as prescribed by local law. If the certified or registered letter is returned showing that the letter was not delivered, a copy thereof shall be posted in a conspicuous place in or about the structure affected by such notice. Service of such notice in the foregoing manner upon the owner's agent or upon the person responsible for the structure shall constitute service of notice upon the owner.

❖ The notice must be delivered personally to the owner. If the owner or agent cannot be located, additional procedures are established, including posting the unsafe notice on the premises in question. Such action may be considered the equivalent of personal notice; however, it may or may not be deemed by the courts as representing a "good faith" effort to notify. Therefore, in addition to complying with this section, public notice through the use of newspapers and other postings in a prominent location at the government center should be used.

**115.5 Restoration.** The building or equipment determined to be unsafe by the *code official* is permitted to be restored to a safe condition. To the extent that *repairs, alterations, or additions* are made or a *change of occupancy* occurs during the restoration of the building, such *repairs, alterations, additions, or change of occupancy* shall comply with the requirements of this code.

❖ This section provides that unsafe structures may be restored to a safe condition. This means that the cause of the unsafe structure notice can be abated without the structure being required to comply fully with the provisions for new construction. Any work done to eliminate the unsafe condition, as well as any change in occupancy that may occur, must comply with the code.

## SECTION 116 EMERGENCY MEASURES

**116.1 Imminent danger.** When, in the opinion of the *code official*, there is imminent danger of failure or collapse of a building that endangers life, or when any building or part of a

building has fallen and life is endangered by the occupation of the building, or when there is actual or potential danger to the building occupants or those in the proximity of any structure because of explosives, explosive fumes or vapors, or the presence of toxic fumes, gases, or materials, or operation of defective or *dangerous* equipment, the *code official* is hereby authorized and empowered to order and require the occupants to vacate the premises forthwith. The *code official* shall cause to be posted at each entrance to such structure a notice reading as follows: "This Structure Is Unsafe and Its Occupancy Has Been Prohibited by the *Code Official*." It shall be unlawful for any person to enter such structure except for the purpose of securing the structure, making the required *repairs*, removing the hazardous condition, or of demolishing the same.

❖ If the code official has determined that failure or collapse of a building or structure is imminent, failure has occurred that results in a continued threat to the remaining structure or adjacent properties or any other unsafe condition as described in this section exists in a structure, the code official is authorized to require the occupants to vacate the premises and to post such buildings or structures as unsafe and unoccupiable. Unless authorized by the code official to make repairs, secure or demolish the structure, it is illegal for anyone to enter the building or structure. This will minimize the potential for injury.

**116.2 Temporary safeguards.** Notwithstanding other provisions of this code, whenever, in the opinion of the *code official*, there is imminent danger due to an unsafe condition, the *code official* shall order the necessary work to be done, including the boarding up of openings, to render such structure temporarily safe whether or not the legal procedure herein described has been instituted; and shall cause such other action to be taken as the *code official* deems necessary to meet such emergency.

❖ This section recognizes the need for immediate and effective action in order to protect the public. This section empowers the code official to cause the necessary work to be done to minimize the imminent danger temporarily without regard for due process. This section has to be viewed critically insofar as the danger of structural failure to which the code official has responded must be "imminent"; that is, readily apparent and immediate.

**116.3 Closing streets.** When necessary for public safety, the *code official* shall temporarily close structures and close or order the authority having jurisdiction to close sidewalks, streets, public ways, and places adjacent to unsafe structures, and prohibit the same from being utilized.

❖ The code official is authorized to temporarily close sidewalks, streets and adjacent structures as needed to protect the public from the unsafe building or structure when an imminent danger exists. Since the code official may not have the direct authority to close sidewalks, streets and other public ways, the agency having such jurisdiction (e.g., the police or highway department) must be notified.



**116.4 Emergency repairs.** For the purposes of this section, the code official shall employ the necessary labor and materials to perform the required work as expeditiously as possible.

❖ The cost of emergency work may have to be paid initially by the jurisdiction. The important principle here is that the code official must act immediately to protect the public when warranted, leaving the details of costs and owner notification for later.

**116.5 Costs of emergency repairs.** Costs incurred in the performance of emergency work shall be paid by the jurisdiction. The legal counsel of the jurisdiction shall institute appropriate action against the owner of the premises where the unsafe structure is or was located for the recovery of such costs.

❖ The cost of emergency repairs is to be paid by the jurisdiction, with subsequent legal action against the owner to recover such costs. This does not preclude, however, reaching an alternative agreement with the owner.

**116.6 Hearing.** Any person ordered to take emergency measures shall comply with such order forthwith. Any affected person shall thereafter, upon petition directed to the appeals board, be afforded a hearing as described in this code.

❖ Anyone ordered to take an emergency measure or to vacate a structure because of an emergency condition must do so immediately.

Thereafter, any affected party has the right to appeal the action to the appeals board to determine whether the order should be continued, modified or revoked.

It is imperative that appeals to an emergency order occur after the hazard has been abated, rather than before, to minimize the risk to the occupants, employees, clients and public.

## SECTION 117 DEMOLITION

**117.1 General.** The *code official* shall order the owner of any premises upon which is located any structure that in the *code official's* judgment is so old, dilapidated, or has become so out of *repair* as to be *dangerous*, unsafe, insanitary, or otherwise unfit for human habitation or occupancy, and such that it is unreasonable to *repair* the structure, to demolish and remove such structure; or if such structure is capable of being made safe by *repairs*, to *repair* and make safe and sanitary or to demolish and remove at the owner's option; or where there has been a cessation of normal construction of any structure for a period of more than two years, to demolish and remove such structure.

❖ This section describes the conditions where the code official has the authority to order the owner to remove the structure. Conditions where the code official may give the owner the option of repairing the structure are also in this section. The code official should carefully document the condition of the structure prior to issuing a demolition order to provide an adequate basis for ordering the owner to remove the structure.

**117.2 Notices and orders.** All notices and orders shall comply with Section 113.

❖ Before the code official can pursue action to demolish a building in accordance with Section 117.1 or 117.3, it is imperative that all owners and any other persons with a recorded encumbrance on the property be given proper notice of the demolition plans. See Section 113 for notice and order requirements.

**117.3 Failure to comply.** If the owner of a premises fails to comply with a demolition order within the time prescribed, the *code official* shall cause the structure to be demolished and removed, either through an available public agency or by contract or arrangement with private persons, and the cost of such demolition and removal shall be charged against the real estate upon which the structure is located and shall be a lien upon such real estate.

❖ When the owner fails to comply with a demolition order, the code official is authorized to take action to have the building razed and removed. The costs are to be charged as a lien against the real estate. To reduce complaints regarding the validity of demolition costs, the code official should obtain competitive bids from several demolition contractors before authorizing any contractor to raze the structure.

**117.4 Salvage materials.** When any structure has been ordered demolished and removed, the governing body or other designated officer under said contract or arrangement aforesaid shall have the right to sell the salvage and valuable materials at the highest price obtainable. The net proceeds of such sale, after deducting the expenses of such demolition and removal, shall be promptly remitted with a report of such sale or transaction, including the items of expense and the amounts deducted, for the person who is entitled thereto, subject to any order of a court. If such a surplus does not remain to be turned over, the report shall so state.

❖ The governing body may sell any valuables or salvageable materials for the highest price obtainable. The costs of demolition are then to be deducted from any proceeds from the sale of salvage. If a surplus of funds remains, it is to be remitted to the owner with an itemized expense and income account. If no surplus remains, this must also be reported.

### Bibliography

The following resource materials are referenced in this chapter or are relevant to the subject matter addressed in this chapter.

ASCE 7-05, *Minimum Design Loads for Buildings and Other Structures*. Reston, VA: American Society of Civil Engineers, 2005.

ASCE 31-03, *Seismic Evaluation of Existing Buildings*. Reston, VA: American Society of Civil Engineers, 2003.

ASCE 41-06, *Seismic Rehabilitation of Existing Buildings*. Reston, VA: American Society of Civil Engineers, 2006.



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- FEMA 178, *NEHRP Handbook for the Seismic Evaluation of Buildings*. Washington, DC: Federal Emergency Management Agency, 2001.
- FEMA 273, *NEHRP Guidelines for the Seismic Rehabilitation of Existing Buildings*. Washington, DC: Federal Emergency Management Agency, 2001.
- FEMA 310, *Handbook for Seismic Evaluation of Buildings—A Prestandard*. Washington, DC: Federal Emergency Management Agency, 2001.
- FEMA 356-00, *Prestandard and Commentary for the Seismic Rehabilitation of Buildings Guidelines for the Seismic Retrofit of Existing Buildings*. Washington, DC: Federal Emergency Management Agency, 2000.
- IBC-09, *International Building Code*. Washington, DC: International Code Council, 2009.
- IFC-09, *International Fire Code*. Washington, DC: International Code Council, 2009.
- IMC-09, *International Mechanical Code*. Washington, DC: International Code Council, 2009.
- IPC-09, *International Plumbing Code*. Washington, DC: International Code Council, 2009.
- IPMC-09, *International Property Maintenance Code*. Washington, DC: International Code Council, 2009.
- IRC-09, *International Residential Code*. Washington, DC: International Code Council, 2009.
- Legal Aspects of Code Administration*. Washington, DC: International Code Council, 2003.
- NEHRP, *Recommended Provisions for Seismic Regulations for New Buildings and Other Structures*. Washington, DC: National Earthquake Hazards Reduction Program.
- NFPA 70-08, *National Electrical Code*. Quincy, MA: National Fire Protection Association, 2008.
- Rhyne, Charles S. *Survey of the Law and Building Codes*. Washington DC: The American Institute of Architects and the National Association of Home Builders, 1960.
- UCBC, *Uniform Code for Building Conservation*. Washington, DC: International Code Council, 2009.

# Chapter 2: Definitions

## General Comments

All terms defined in the code are listed alphabetically in Chapter 2. The user should be familiar with the terms in this chapter because 1) definitions are essential to the correct interpretation of the code, and 2) the user might not be aware that a particular term encountered in the text has the special definition found herein.

Section 201.1 contains the scope of the chapter. Section 201.2 establishes the interchangeability of the terms in the code. Section 201.3 establishes the use of terms defined in other codes. Section 201.4 establishes the use of undefined terms, and Section 202 lists terms and their definitions according to the code.

## Purpose

Codes, by their very nature, are technical documents. As such, literally every word, term and punctuation mark can add to or change the meaning of the intended result. This is even more so with a performance-based code where the desired result often takes on more importance than the specific words. Furthermore, the code, with its broad scope of applicability, includes terms inherent in a variety of construction disciplines. These terms often have multiple meanings depending on the context or discipline being used at the time. For these reasons, it is necessary to maintain a consensus on the specific meaning of terms contained in the code. Chapter 2 performs this function by stating clearly what specific terms mean for the purpose of the code.

## SECTION 201 GENERAL

❖ This section contains language and provisions that are supplemental to the use of Chapter 2. It gives guidance to the use of the defined words relevant to tense, gender and plurality. Finally, this section provides direction on how to apply terms that are not defined in the code.

**201.1 Scope.** Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

❖ Unless otherwise expressly stated, the following words and terms shall, for the purposes of the code, have the meanings shown in this chapter.

**201.2 Interchangeability.** Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

❖ While the definitions contained or referenced in Chapter 2 are to be taken literally, gender and tense are interchangeable; thus, any grammatical inconsistencies with the code text will not hinder the understanding or enforcement of the requirements.

**201.3 Terms defined in other codes.** Where terms are not defined in this code and are defined in the other *International Codes*, such terms shall have the meanings ascribed to them in those codes.

❖ When a word or term appears in the code and that word or term is not defined in this chapter, other refer-

ences may be used to find its definition, such as the *International Building Code*® (IBC®), *International Residential Code*® (IRC®), *International Fire Code*® (IFC®), *International Plumbing Code*® (IPC®), *International Mechanical Code*® (IMC®), *International Fuel Gas Code*® (IFGC®), *International Code Council Performance Code*® for Buildings and Facilities® (ICC PC®), *International Private Sewage Disposal Code*® (IPSDC®), *International Property Maintenance Code*® (IPMC®), *International Energy Conservation Code*® (IECC®), *International Wildland-Urban Interface Code*™ (IWUIC™) and *International Zoning Code*® (IZC®). These codes contain additional definitions (some parallel and duplicative) which may be used in the enforcement of the code or in the enforcement of the other codes by reference.

**201.4 Terms not defined.** Where terms are not defined through the methods authorized by this chapter, such terms shall have ordinarily accepted meanings such as the context implies.

❖ Words or terms not defined within the *International Code*® (I-Codes®) series are intended to be applied based on their "ordinarily accepted meanings." The intent of this statement is that a dictionary definition may suffice, provided it is in context. Sometimes the construction terms used in the code are not specifically defined in the code or even in a dictionary. In such a case, the definitions contained in the referenced standards (see Chapter 15) and published textbooks on the subject in question are good resources.