

NFPA[®]

900

Building Energy Code

2019



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NFPA® 900

Building Energy Code

2019 Edition

This edition of NFPA 900, *Building Energy Code*, was prepared by the Technical Committee on Building Systems and released by the Correlating Committee on Building Code. It was issued by the Standards Council on November 5, 2018, with an effective date of November 25, 2018, and supersedes all previous editions.

This edition of NFPA 900 was approved as an American National Standard on November 25, 2018.

Origin and Development of NFPA 900

In late 2002, the Standards Council charged the Technical Committee on Building Systems with developing a new document, NFPA 900, *Building Energy Code*, to complement the *Comprehensive Consensus Codes*® (C3®). NFPA 900 incorporates the technical provisions of ASHRAE 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, and ASHRAE 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*, with administrative provisions and appropriate annexes, table of contents, definitions, references, index, and other information developed through the NFPA process to create a “stand-alone” building energy code.

The ASHRAE provisions, while incorporated into the document, cannot be modified by NFPA committees. They can be modified only through ASHRAE’s ANSI-accredited process.

The 2007 edition updated the references for the technical provision to the 2004 editions of both ASHRAE 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, and ASHRAE 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*.

The 2010 edition updated the references for the technical provisions to the 2007 editions of both ASHRAE 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, and ASHRAE 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*.

The 2013 edition made a few minor editorial revisions, but the committee determined that no substantive changes were required.

The 2016 edition made a few minor editorial revisions for clarity and updated the edition of a number of referenced standards, but the committee determined that no substantive changes were required.

The 2019 edition makes a few minor editorial revisions for clarity. The committee again determined that no substantive changes were required.

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NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

Committee Scope: This committee shall have primary responsibility for documents or portions of documents on the design and construction of every building or structure, including structural design methods and techniques, as well as the design of integrated building systems for health, safety, comfort, and convenience.

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NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

Committee Scope: This Committee shall have primary responsibility for documents on the application of various building systems and features that relate to convenience, health, comfort, and access to a building.

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NFPA 900

Building Energy Code

2019 Edition

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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex D. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex D.

Chapter 1 Administration

1.1 Scope. These regulations shall control the minimum energy-efficient requirements for the following:

- (1) The design, construction, reconstruction, alteration, repair, demolition, removal, inspection, issuance, and revocation of permits or licenses, installation of equipment related to energy conservation in all buildings and structures and parts thereof
- (2) The rehabilitation and maintenance of construction related to energy efficiency in existing buildings
- (3) The standards or requirements for materials to be used in connection therewith

1.2 Purpose. The purpose of the Code is to provide minimum design, construction, and maintenance requirements for the energy efficiency of all buildings, structures, and certain equipment within the jurisdiction as specifically regulated in this Code.

1.3 Application.

1.3.1 General.

1.3.1.1 The provisions of this Code shall apply to all buildings except low-rise residential buildings to the extent required by the standard referenced in Section 4.1.

1.3.1.2 The provisions of this Code shall apply to low-rise residential buildings to the extent required by the standard referenced in Section 5.1.

1.3.1.3 When constructed in accordance with NFPA 501, manufactured housing shall be exempt from the provisions of this Code.

1.4 Retroactivity. (Reserved)

1.5 Enforcement. This Code shall be administered and enforced by the authority having jurisdiction designated by the governing authority. (See Annex C for sample wording for enabling legislation.)

1.6 Code Title. The provisions in the following chapters of this document shall constitute and be known as NFPA 900, hereinafter referred to as “this Code” or “the Code.”

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this Code and shall be considered part of the requirements of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 501, *Standard on Manufactured Housing*, 2017 edition.

2.3 Other Publications.

2.3.1 ASHRAE Publications. ASHRAE, Inc., 1791 Tullie Circle, N.E., Atlanta, GA 30329-2305.

ANSI/ASHRAE/IES 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, 2016.

ASHRAE 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*, 2007, including addendum b.

2.3.2 Other Publications.

Merriam-Webster’s *Collegiate Dictionary*, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections. (Reserved)

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this Code. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. Merriam-Webster’s *Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3* Code. A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

3.2.4 Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.5* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.6 Shall. Indicates a mandatory requirement.

3.2.7 Should. Indicates a recommendation or that which is advised but not required.

3.3 General Definitions. (Reserved)

Chapter 4 Technical Provision for All Buildings Except Low-Rise Residential Buildings

4.1 Technical Provisions. The requirements of Chapter 4 shall be ANSI/ASHRAE/IES 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*.

NOTE: The ASHRAE provisions, while incorporated as a reference in the document, cannot be modified by NFPA committees. They can only be modified through ASHRAE's ANSI-accredited process.

Chapter 5 Technical Provision for Low-Rise Residential Buildings

5.1 Technical Provisions. The requirements of Chapter 5 shall be ASHRAE 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*.

NOTE: The ASHRAE provisions, while incorporated as a reference in the document, cannot be modified by NFPA committees. They can only be modified through ASHRAE's ANSI-accredited process.

Annex A Explanatory Material

Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

A.3.2.1 Approved. The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate

testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A.3.2.2 Authority Having Jurisdiction (AHJ). The phrase “authority having jurisdiction,” or its acronym AHJ, is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

A.3.2.3 Code. The decision to designate a standard as a “code” is based on such factors as the size and scope of the document, its intended use and form of adoption, and whether it contains substantial enforcement and administrative provisions.

A.3.2.5 Listed. The means for identifying listed equipment may vary for each organization concerned with product evaluation; some organizations do not recognize equipment as listed unless it is also labeled. The authority having jurisdiction should utilize the system employed by the listing organization to identify a listed product.

Annex B Supplemental Administrative Provisions

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

B.1 This annex, which is made up of material extracted from the 2018 edition of *NFPA 5000*, is written in code language and is intended to be available for adoption, with or without modification, by jurisdictions that wish to adopt this energy code, but that have no existing administrative mechanism for enforcement or that wish to adopt this as a “stand-alone code.”

The material in this annex is extracted from *NFPA 5000*. All chapter, section, or paragraph numbers referenced herein refer to those in *NFPA 5000*.

B.1.1 Scope. See Section 1.1 of main text.

B.1.2 Purpose. See Section 1.2 of main text.

B.1.3 Application. See Section 1.3 of main text.

B.1.4 Retroactivity. (Reserved)

B.1.5 Enforcement. See Section 1.5 of main text.

B.1.6 Code Title. See Section 1.6 of main text.

B.1.7 Equivalency.

B.1.7.1 General. Nothing in this *Code* shall prohibit methods of construction, materials, and designs not specifically prescribed in this *Code* where equivalent alternatives are approved by the authority having jurisdiction.

B.1.7.2 Approval of Alternatives. Alternative systems, methods, or devices approved as equivalent by the authority having jurisdiction shall be recognized as being in compliance with this *Code*.

B.1.7.3 Tests.

B.1.7.3.1 Whenever the authority having jurisdiction determines that there is insufficient evidence of proof of equivalency with the prescribed requirements of this *Code*, the authority having jurisdiction shall be authorized to require tests showing proof of equivalency.

B.1.7.3.2 Tests required by the authority having jurisdiction shall be provided by the owner at no expense to the jurisdiction.

B.1.7.3.3 Tests shall be conducted as specified in this *Code* or, where test methods are not specified in this *Code*, they shall be conducted as required by the authority having jurisdiction.

B.1.7.4 Approval. The authority having jurisdiction shall determine whether the proposed alternate methods of construction, materials, and designs are at least equivalent to the prescribed requirements of this *Code*.

B.1.8 Units.

B.1.8.1 SI Units. Metric units in this *Code* are in accordance with the modernized metric system known as the International System of Units (SI).

B.1.9 Enforcement.

B.1.9.1 Organization.

B.1.9.1.1 Creation of Department of Building and Safety. There is hereby created in the jurisdiction a department of building and safety that shall be under the control of the director of building and safety, who shall be the authority having jurisdiction.

B.1.9.1.2 Delegation of Authority. The authority having jurisdiction is hereby empowered to delegate authority and assignments to subordinate employees. Such employees shall have the authority to carry out duties and assignments, as delegated by the authority having jurisdiction.

B.1.9.1.3 Right of Entry. Whenever it is necessary to make an inspection to enforce any of the provisions of this *Code*, or whenever the authority having jurisdiction has reason to believe that there exists in any building, or upon any premises, a condition that makes such building or premises unsafe, as specified by 1.7.5.3.1.1, the authority having jurisdiction shall be authorized to enter such building or premises at reasonable times to inspect the same, or to perform any duty imposed on the authority having jurisdiction by this *Code*, under the following conditions:

- (1) The authority having jurisdiction shall first present proper credentials and request entry.

- (2) In the event that entry is refused, or the person authorized to grant entry is unavailable, the authority having jurisdiction shall have recourse to remedy provided by law to secure entry.

B.1.9.1.4 Concealed Work. The authority having jurisdiction is hereby authorized to order parts of any building or structure to be exposed for inspection when the building or part thereof is in an unsafe or a dangerous condition, when there is willful or negligent concealment of a violation of this *Code*, or when work subject to a required inspection has been covered prior to the required inspection. All costs incurred in making concealed work available for inspection shall be borne by the owner of the building or structure.

B.1.9.2 Board of Appeals.

B.1.9.2.1 Creation of Board of Appeals.

B.1.9.2.1.1 There is hereby established a board of appeals, consisting of at least five members, qualified by training and experience to rule on matters relating to building, who shall be appointed by the jurisdiction. The board shall select one of its members to serve as chair, and the authority having jurisdiction shall be an ex officio member without vote and shall act as secretary to the board.

B.1.9.2.1.2 Whenever the authority having jurisdiction rejects or refuses to approve the manner of proposed construction or the suitability of alternative materials and methods of construction, the owner of such building or structure or a duly authorized agent shall be permitted to request an appeal from the decision of the authority having jurisdiction by means of the board of appeals.

B.1.9.2.2 Term of Office. The jurisdiction shall appoint one member of the board of appeals for a term of 1 year, two members for a term of 2 years, and two members for a term of 3 years, and, thereafter, they shall be appointed for a term of 3 years. The authority shall fill vacancies for an unexpired term.

B.1.9.2.3 Quorum. Two-thirds, but not less than four members, of the board of appeals shall constitute a quorum. In varying the application of any provision of this *Code*, or in modifying an order of the authority having jurisdiction, a majority vote of the members present shall be required.

B.1.9.2.4 Meetings and Records. Meetings of the board shall be held at the call of the chair and at such other times as the board determines. All hearings before the board shall be open to the public. The board shall keep minutes of its proceedings showing the vote of each member on every question, or if the member is absent or fails to vote, indicating such actions. The board shall also keep records of its examinations and other official actions. Minutes and records of the board shall be public records.

B.1.9.2.5 Procedures. The board shall establish rules and regulations for its own procedures consistent with the provisions of this *Code* and applicable laws and statutes.

B.1.9.2.6 Appeals. An appeal of a decision shall be filed within 30 days from the date of the decision being appealed by filing with the authority having jurisdiction and the board of appeals a notice of appeal, specifying the grounds thereof. In the case of a building or structure that, in the opinion of the authority having jurisdiction, is unsafe or dangerous, the authority having jurisdiction shall be permitted to limit the time for such appeal to a shorter period. The authority having jurisdiction shall transmit to the board all the papers relating to the appeal and shall schedule a public hearing thereon.

B.1.9.2.7 Authority of the Board.

B.1.9.2.7.1 The board of appeals shall provide for reasonable interpretation of the provisions of this *Code* and rule on appeals from decisions of the authority having jurisdiction. The ruling of the appeals board shall ensure that the intent of the *Code* is complied with and public safety is secured.

B.1.9.2.7.2 The board shall be permitted to grant modifications through the procedures outlined for equivalency in Section 1.5.

B.1.9.2.7.3 A decision of the board to modify an order of the authority having jurisdiction shall be in writing and shall specify the manner in which such modification is made, the conditions upon which it is made, and the reasons therefor.

B.1.9.2.8 Decisions.

B.1.9.2.8.1 Every decision of the board shall be entered in the minutes of the board meeting. Every decision shall be promptly filed in the office of the authority having jurisdiction and shall be open for public inspection. A certified copy shall be sent by mail or messenger to the appellant, and a copy shall be publicly posted in the office of the authority having jurisdiction for 2 weeks after filing. The decision of the board shall be final, subject to such remedy as any aggrieved party might have through legal, equity, or other avenues of appeal or petition.

B.1.9.2.8.2 If a decision of the board reverses or modifies a refusal, order, or disallowance of the authority having jurisdiction, or varies the application of any provision of this *Code*, the authority having jurisdiction shall take action immediately in accordance with such decision.

B.1.9.3 Liability.

B.1.9.3.1 Any officer, employee, or member of the board of appeals charged with the enforcement or interpretation of this *Code*, acting for the applicable governing body in the discharge of his/her duties, shall not thereby render himself/herself personally liable. Further, all such persons shall be relieved from all personal liability for any damage they accrue to persons or property as a result of any act required or permitted in the discharge of their duties. Any suit brought against any officer or employee because of such act performed in the course of enforcement of any provision of this *Code* shall be defended by the legal counsel of the jurisdiction until the termination of the proceedings.

B.1.9.3.2 This *Code* shall not be construed to relieve the responsibility of or to lessen the responsibility of, any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects. Further, the *Code* enforcement agency or its parent jurisdiction shall not be held as assuming any such liability by reason of the inspections authorized by this *Code* or any permits or certificates issued under this *Code*.

B.1.9.4 Maintenance of Buildings and Property.

B.1.9.4.1 Buildings. The requirements contained in this *Code* for maintenance of buildings shall apply to all buildings and structures in existence on the date of enactment of this *Code* and those hereafter erected. All buildings and structures, and all parts thereof, shall be maintained in a safe condition, and all devices and safeguards required by this *Code* shall be maintained in operating condition. The requirements of this paragraph shall not be construed as permitting the removal or nonmaintenance of existing devices or safeguards, unless authorized by the authority having jurisdiction.

B.1.9.4.2 Existing Installations. Buildings in existence at the time of the adoption of this *Code* shall be permitted to have their existing use or occupancy continued if such use or occupancy was legal at the time of the adoption of this *Code*, provided that such continued use is not deemed an unsafe building or fire hazard.

B.1.9.5 Unsafe Buildings and Fire Hazards.

B.1.9.5.1 Descriptions.

B.1.9.5.1.1 Description of Unsafe Building. All buildings that are, or that hereafter become, characterized by the following shall be considered unsafe buildings:

- (1) Existence of unsanitary conditions
- (2) Deficiency in means of egress
- (3) Hazard from fire or natural or man-made threats
- (4) Dangers to human life or public welfare by reason of illegal or improper use, occupancy, or maintenance
- (5) Noncompliance with the provisions of codes applicable at time of construction
- (6) Significant damage by fire or explosion or other natural or man-made cause
- (7) Incomplete buildings for which building permits have expired or been revoked, excluding partially completed buildings with valid certificates of occupancy
- (8) Falling away, hanging loose, or loosening of any siding, block, or other building material, appurtenance, or part thereof of a building
- (9) Existence of unsanitary conditions by reason of inadequate or malfunctioning sanitary facilities or waste disposal systems
- (10) Existence of structurally unsafe conditions

B.1.9.5.1.2 Description of Building as a Fire Hazard. A building shall be deemed to be a fire hazard and unsafe under the following conditions:

- (1) When vacant and unguarded and open to unauthorized entry at door or window
- (2) When there is an accumulation of combustible dust, debris, or materials therein deemed to be a hazard by the authority having jurisdiction
- (3) When the building does not provide the exits or fire protection required herein for the most recent occupancy
- (4) When electrical or mechanical installations or systems create a hazardous condition

B.1.9.5.2 Authority of the Authority Having Jurisdiction Regarding Unsafe Buildings or Buildings that Are a Fire Hazard. All buildings deemed to be unsafe or to be a fire hazard by the authority having jurisdiction, based on 1.7.5.3.1, are hereby declared to be public nuisances and shall be demolished and removed from the premises concerned or shall be

made safe and sanitary in accordance with Chapter 15 of this *Code*.

B.1.9.5.3 Inspection of Unsafe Buildings. The authority having jurisdiction, on his/her own initiative or as a result of reports filed with the department of building and safety, shall examine or cause to be examined every building appearing to be or reported to be unsafe, and, if such is found to be an unsafe building as defined in 1.7.5.3.1.1, the authority having jurisdiction shall post the property on which the building is located and shall furnish the owner of such building with a written notice of violation. The manner of posting and furnishing written notice shall be as provided in 1.7.5.3.4 and 1.7.5.3.5, inclusive.

B.1.9.5.4 Notice of Violation. At least 14 days prior to posting a noncomplying building, the authority having jurisdiction shall give the owner of the premises written notice by certified mail, addressed to the owner's last known address. If proof of service by certified mail is not completed by signed return receipt, a copy of the written notice shall be affixed to the structure concerned, and such procedure shall be considered proper service, and the time for compliance stipulated in the notice shall commence with the date on which such notice is so affixed. This written notice shall state the defects that constitute a violation of this *Code* and prescribe the action to be taken by the owner of the building to comply with the *Code* and the time within which compliance must be accomplished. Such time shall be reasonable under the circumstances of the case and shall be subject to reasonable extension, when requested in writing, for reasons that the authority having jurisdiction considers as justifying an extension of time. All extensions of time shall be by written approval of the authority having jurisdiction. In addition, this written notice shall explain the right of appeal of the decision of the authority having jurisdiction to the board of appeals and shall state that, unless there is compliance with the instructions in the notice of violation or an appeal is filed, a public hearing before the board of appeals will be initiated by the authority having jurisdiction after the time period for compliance has expired.

B.1.9.5.5 Recording of Notice of Violation.

B.1.9.5.5.1 If the owner of the property has not complied with the requirements as stated in the notice of violation within the time specified, the authority having jurisdiction shall file an appropriate instrument in the office of the clerk of the circuit court, to be recorded in the public records of the jurisdiction in which the violation occurred, indicating that violations of this *Code*, and of 1.7.5.3.4 thereof, exist upon the property involved.

B.1.9.5.5.2 The recording of the notice of violation shall constitute legal notice to all concerned, as well as to any subsequent purchasers, transferees, grantees, mortgagees, lessees, and all persons claiming or acquiring interest in the property.

B.1.9.5.5.3 When the violation specified in the notice of violation has been corrected and the filing fees incurred have been paid, the authority having jurisdiction shall file a certificate attesting that the violation has been corrected.

B.1.9.5.6 Posting Notice of Violation. The authority having jurisdiction shall post a signed notice in a conspicuous location on the building that has been determined to be unsafe, but not before 14 days after the notice of violation provided in 1.7.5.3.4

has been served. The posted notice shall be dated and shall read as follows:

WARNING: UNSAFE BUILDING

This building is unsafe based on the provisions of 1.7.5.3 of *NFPA 5000*.

This building shall be vacated and shall not be occupied. Action to repair or remove this building shall be taken by the owner as prescribed by written notice previously served. **THIS NOTICE SHALL NOT BE REMOVED EXCEPT BY THE AUTHORITY HAVING JURISDICTION.**

B.1.9.5.7 Emergency Action.

B.1.9.5.7.1 When, in the opinion of the authority having jurisdiction, an imminent danger exists, the authority having jurisdiction shall be authorized to order the occupants to vacate, or temporarily close for use or occupancy, the rights-of-way, sidewalks, streets, or adjacent buildings or nearby areas. The authority having jurisdiction shall have the authority to institute such other temporary safeguards as deemed necessary. The authority having jurisdiction shall be authorized to employ the necessary labor and materials to perform the required work. The authority having jurisdiction shall promptly notify the local emergency services of buildings posted as unsafe and ordered to be vacated. The authority having jurisdiction shall also notify the emergency services when unsafe conditions have been remedied and the building is safe for occupancy and use.

B.1.9.5.7.2 Costs incurred in the performance of emergency work shall be paid by the governmental authority having jurisdiction. Upon recording in the public records of the county in which such emergency work was completed, a certificate, executed by the authority having jurisdiction, certifying the amount expended and the reasons therefor shall be issued, and the cost shall become a lien against the property on which such emergency work was required.

B.1.9.5.8 Appeal and Review. The owner of, or anyone having an interest in, a building that has been determined to be unsafe, concerning which a notice of violation has been served by the authority having jurisdiction as stated in the notice of violation, shall be permitted to appeal to the board of appeals, and such appeal shall be filed in accordance with the provisions of 1.7.3.6 and 1.7.3.7 prior to the expiration of the time allowed for compliance specified in such notice. In no case shall the appeal period be less than 15 days.

B.1.9.6 Building Permits, Plans and Specifications, and Inspections.

B.1.9.6.1 Permits.

B.1.9.6.1.1 Permits Required.

(A) Permits shall be required for plumbing, air-conditioning, heating, and ventilating systems; elevators, escalators, and transporting assemblies; and gas, sprinkler, roofing, electrical, and show/ride installations.

(B) A previously issued lawful permit shall be valid on the terms of the *Code* under which it was issued, provided that no such permit shall be subject to the limitations specified in 1.7.6.1.

B.1.9.6.1.2 Other Jurisdictions. Permits required for work to be accomplished under the jurisdiction of other departments

shall be issued only on presentation of written proof of compliance with 1.7.2 of this *Code*.

B.1.9.6.2 Applications.

B.1.9.6.2.1 Application Requirements. To obtain a permit, the applicant shall first file an application therefor in writing on a form supplied for that purpose by the department of building and safety. Such application shall include the following:

- (1) Identification and description of the work to be covered by the permit for which application is made
- (2) Description of the land on which the proposed work is to be done by lot, block, tract, and street address, or similar description that specifically identifies the location of the proposed building or work
- (3) Indication of the use or occupancy of all parts of the building
- (4) Construction documents as required in 1.7.6.3
- (5) Valuation of the proposed work
- (6) Signature of the permittee or his/her authorized agent
- (7) Provision of other information as required by the authority having jurisdiction

B.1.9.6.2.2 Requirements for Relocation of Buildings. Application for permit for relocating a building within the jurisdiction shall be submitted in the form that the authority having jurisdiction requests. The application shall be accompanied by plans or other data that, in the opinion of the authority having jurisdiction, are necessary to show compliance with this *Code* and the zoning and other regulations of the jurisdiction. A physical examination of the structure shall be made by the authority having jurisdiction before it issues a permit for relocation. (See also 1.7.6.6.)

B.1.9.6.2.3 Requirements for Demolition of Buildings and Structures. Application for permits for the work of demolition of buildings or structures shall be accepted only from persons or firms qualified to do the work. The qualifications of persons or firms permitted to demolish a building or structure shall be in accordance with the requirements of the jurisdiction providing for qualification and certification of construction tradespeople.

B.1.9.6.3 Construction Documents.

B.1.9.6.3.1 Requirements for Construction Documents.

(A) Each application for a permit shall be accompanied by a minimum of two sets of construction documents and calculations when required by the authority having jurisdiction.

(B) When compliance with this *Code* can be determined without the submittal or review of plans, specifications, and calculations, the authority having jurisdiction shall be permitted to issue a permit without construction documents and calculations being submitted for review.

(C) The construction documents shall be prepared by a registered design professional where required by statutes of the jurisdiction in which the construction site is located.

(D) Unless otherwise provided in 1.7.6.3.1.5, plans shall be drawn to scale, shall be identified by name of designer and owner on every sheet, and shall be mechanically reproduced prints on substantial paper or cloth. A plot plan shall show all occupied and unoccupied parts of the lot or lots and shall delineate the accessible route(s) between structures and

features that are required to be accessible in accordance with Chapter 12 of this *Code*. The use, name, and occupancy of all parts of the building shall be shown, including all foundations, wall sections, floor plans, elevations, and structural details. Mechanical, plumbing, electrical, fire sprinkler, and fire alarm details shall be shown on the plans and represent the designs for those disciplines, along with such other information to show clearly the nature, character, and location of the proposed work.

(E) Construction documents for all buildings shall indicate required smoke-resistant-rated and fire resistance-rated construction and how the required structural integrity, fire resistance ratings, and smoke resistance will be maintained where a joint or penetration of a required fire- or smoke-resistant wall, floor, or partition will be made for electrical, gas, or mechanical work; plumbing and communications conduits; pipes; and systems. Construction documents shall also indicate in sufficient detail how the fire integrity will be maintained where required fire-resistant floors intersect the exterior walls.

(F) The construction documents and shop drawings submitted to the authority having jurisdiction shall contain sufficient detail for evaluation of the protected hazards and the effectiveness of the system. The shop drawings for the installation of fire protection systems shall be submitted for review and approval prior to the installation of a fire protection system.

B.1.9.6.3.2 Examination of Construction Documents.

(A) The authority having jurisdiction shall examine all construction documents and applications for permits and amendments thereto for their compliance with this *Code*. If the applications or the construction documents do not conform to the requirements of this *Code*, the authority having jurisdiction shall reject such application for a building permit in writing, stating the reasons therefor. Construction documents that are rejected shall be returned for corrections. If, upon examination, the application and construction documents are found to comply with the requirements of this *Code*, the construction documents shall be signed by the authority having jurisdiction or its deputy and shall be stamped "approved."

(B) When practical difficulties are involved in carrying out the requirements of this *Code*, the authority having jurisdiction shall be permitted to grant modifications for individual cases. Such permission shall require, first, a finding that a special individual reason makes strict compliance impractical and, second, that the modification is in conformance with the intent and purpose of the *Code*. Fire protection and structural integrity shall not be lessened.

B.1.9.6.3.3 Partial Approval.

(A) Pending the completion of checking of construction documents, and on payment of the fee required, the authority having jurisdiction, at its discretion, shall be permitted to authorize the issuance of a partial permit for site preparation, excavation, and construction; foundation, structural, or show/rise installations; or any combination thereof. The holder of such partial permit shall proceed at his/her own risk and without assurance that a completion permit will be granted.

(B) Whenever there is a delay in approval of construction documents under special circumstances, the authority having jurisdiction shall be permitted to allow the builder to place tool sheds, materials, batterboards, and construction equipment on the site prior to actual construction, or to permit exploratory

uncovering of concealed structural elements of existing buildings for design information, pending completion of construction documents for proposed alterations.

(C) The construction documents for each phase shall be complete in themselves, so that review and inspection can properly be made. Preliminary plans of the total building shall be submitted with the construction documents, and with sufficient detail, so that proper evaluation can be made. Areas and items not included in the phase to be permitted shall be shown as not included.

(D) Deferred submittal of construction documents shall be approved by the authority having jurisdiction prior to the issuance of a building permit. The registered design professional (RDP) for design shall identify all deferred submittals in writing with the application for permit. Construction documents for deferred submittal items shall be reviewed by the RDP for design for general conformance to the RDP's design and then submitted to the authority having jurisdiction. Deferred submittal items shall not be installed until their performance requirements and construction documents have been approved by the authority having jurisdiction.

B.1.9.6.3.4 Approved Construction Documents.

(A) The authority having jurisdiction shall retain one set of the approved construction documents and calculations. The other set shall be kept at the building site, open to inspection at all times when the offices of the jurisdiction are open.

(B) After permit issuance, all changes and deviations from the approved construction documents shall be submitted and approved by the authority having jurisdiction prior to implementing the changes on site.

(C) Approved construction documents and amendments thereto that are retained by the authority having jurisdiction shall become public record, provided that they shall be considered as confidential records of their author, that they shall be open to the public only for inspection, and that the authority having jurisdiction shall permit bona fide owners or designers employed by such owners to inspect the construction documents when not available from their author. Upon written application, the authority having jurisdiction shall permit the construction documents to be copied by the owner in the event of the author's death or the inability of the author to supply copies of the construction documents.

(D) At the time a certificate of occupancy is issued, an updated set of construction documents shall be submitted, and a permit fee shall be paid to reflect increased costs.

B.1.9.6.3.5 Multitenant Buildings.

(A) Buildings that are to be completed in phases due to occupancy by tenants shall be permitted to be completed by the owner to a "rough-in" status. The individual tenant area shall then have a permit issued, and, upon completion of all work, a certificate of occupancy shall be issued for that area only. The authority having jurisdiction shall approve the certificate of occupancy by stages before starting construction and shall be permitted to require special conditions to provide safety during the completion.

(B) Buildings that will later be occupied by multiple tenants (lessees) shall be permitted to have certain areas constructed to an unfinished rough-in condition without affecting the certificate of occupancy issued for the finished portions of the build-

ings. Future construction to accommodate individual tenants shall be approved upon submittals of acceptable construction documents for permit purposes. Certificates of occupancy shall be granted on a case-by-case basis when *Code* compliance has been achieved.

B.1.9.6.4 Permit Fees.

B.1.9.6.4.1 Fee Requirements. Any person requiring a building permit, in addition to filing an application therefor and before such permit is issued, shall pay such permit fee and plan check fee as required by the jurisdiction.

B.1.9.6.4.2 Basis of Permit Fee. The jurisdiction shall establish a fee schedule listing all applicable fees and the method of their calculation. The authority having jurisdiction shall be permitted to require an estimate of cost and other descriptive data as a basis for determining the permit fee.

B.1.9.6.5 Conditions of Permit.

B.1.9.6.5.1 Permit. When construction documents and application for permit have been approved and the required fee has been paid, the authority having jurisdiction shall issue a permit for the work. With each permit, the authority having jurisdiction shall issue a permit bearing the legal description of the property, the nature of the work being done, the names of the owner and builder or contractor, and other pertinent information. The permit shall be posted and maintained in legible condition in a conspicuous place within the construction area during the entire time period the work authorized by the permit is in progress.

B.1.9.6.5.2 Compliance with the Code.

(A) Issuing or granting of a permit or approval of construction documents by the authority having jurisdiction shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of this *Code*. No permit presuming to give authority to violate or cancel any of the provisions of this *Code* shall be valid, except insofar as the performance of the work that it authorizes is lawful.

(B) When construction documents have been approved, the issuance of a permit shall not prevent the authority having jurisdiction from thereafter requiring correction of errors in such construction documents, or from preventing building operations being carried on thereunder in violation of this *Code* or of any other regulations of the jurisdiction applicable thereto. Compliance with this *Code* is the responsibility of the owner or his/her authorized agent.

B.1.9.6.5.3 Time Limitation.

(A) Permits shall expire if the work authorized by such permit is not commenced within 6 months from the date of the permit, or, if after commencing, the work is suspended or abandoned for a period of 6 months at any time during construction operations. The authority having jurisdiction shall be permitted to extend such permit for a period of 90 days from the date of expiration if the work has not commenced, or for a period of 90 days from the date of the last recorded inspection if written application for such extension is received and approved by the authority having jurisdiction prior to the date of expiration of the initial permit, and provided that the proposed work complies with all requirements of the *Code* in effect at the time of such renewal.

(B) A previously issued lawful permit shall be valid under the terms of the *Code* under which it was issued, provided that such permit shall be subject to the limitations specified in 1.7.6.5.3.

(C) Before the work for which a building permit has become void can be recommended, a new permit shall be required. The work for which the new permit is issued shall conform to the provisions of this *Code* at the time of reissuance of the permit. The fee shall be based on the amount of work remaining to be done.

B.1.9.6.6 Inspection.

B.1.9.6.6.1 Inspection Requirements.

(A) Before issuing a permit, the authority having jurisdiction shall be permitted to inspect any building or structure for which an application has been received for a permit to enlarge, alter, repair, relocate, demolish, or change the occupancy thereof. The authority having jurisdiction shall inspect all buildings and structures from time to time during the work for which a permit was issued and on completion of the work. The authority having jurisdiction shall cause to be kept a record of every inspection and of all violations of this *Code* and of the correction and disposition of such violations.

(B) Before a permit for moving a building or structure within or into the jurisdiction is issued, the authority having jurisdiction shall be authorized to inspect such building or structure for the purpose of ascertaining that the building being relocated complies with the requirements of this *Code* and all other applicable laws or regulations of the jurisdiction.

(C) All construction or work for which a permit is required shall be subject to mandatory inspections by the authority having jurisdiction, as prescribed in 1.7.6.6.3, and certain types of construction shall have quality assurance, as specified in Chapter 40. Prior to issuance of a certificate of occupancy, a final inspection shall be made by the authority having jurisdiction of all construction or work for which a permit has been issued.

(D) When required by the authority having jurisdiction, it shall make an inspection of materials or assemblies at the place of manufacture or fabrication. A record shall be maintained of every such inspection and of all violations of this *Code* noted during the inspection.

(E) The authority having jurisdiction shall make or cause to be made the inspections required in 1.7.6.6.1. Written reports of inspectors employed by approved inspection services shall be permitted, provided that, after investigation, the authority having jurisdiction is satisfied as to the qualifications and reliability of the inspection service. Costs of such inspections shall be borne by the owner. No certificate called for by any of these requirements shall be based on such reports, unless the reports are in writing and are certified by the officer of the agency who made the inspection. Reports issued by inspection services engaged by the owner or the registered design professional of a building shall be promptly forwarded to the authority having jurisdiction for its information and records.

(F) Work requiring a building permit shall not be commenced until the permit holder or the holder's agent shall have posted the building permit in accordance with the requirements of 1.7.6.5.1. This permit shall be maintained in such position by the permit holder until the certificate of occupancy has been issued by the authority having jurisdiction.

B.1.9.6.6.2 Inspection of Structural Units. Where a building or part thereof is a structural unit, the integral parts of which have been built or assembled prior to incorporation into the building, such building or part thereof shall conform to the requirements of this *Code*. Inspections shall be made by the authority having jurisdiction as required in this *Code* for the materials and types of construction used in the prefabricated assemblies. The inspection shall be permitted to be waived during prefabrication if the approved agency certifies to the compliance of the construction with this *Code* and supplies evidence of such compliance in writing by an RDP or an approved agency or laboratory.

B.1.9.6.6.3 Mandatory Inspections.

(A) Work requiring mandatory inspections shall not be covered or concealed in any manner without first obtaining the approval of the authority having jurisdiction.

(B) Work shall not be done on any part of a building or structure beyond the stage of work indicated in each of the successive mandatory inspections until inspection has been completed and written approval has been given by the authority having jurisdiction or its deputy.

(C) The permit holder or permit holder's agent shall notify the authority having jurisdiction of the time when a given stage of construction will be ready for inspection. The authority having jurisdiction shall then make such called inspection and other inspection as necessary, and it either shall approve in writing that stage of the construction as completed or shall notify the permit holder or permit holder's agent specifically wherein the work fails to comply with the provisions of this *Code*.

▲ (D) Inspections shall be conducted for each building element as described in the following:

- (1) **Insulation.** Inspections for insulation shall be made before lathing, wallboard, or other finishes are applied.
- (2) **Electrical Systems.** Inspections for electrical systems shall be made in accordance with the requirements of Chapter 52.
- (3) **Mechanical Systems.** Inspections for mechanical systems shall be made in accordance with the requirements of Chapter 50.
- (4) **Plumbing Systems.** Inspections for plumbing systems shall be made in accordance with the requirements of Chapter 53.
- (5) **Special Inspections.** Special inspections shall be made immediately after completion and at such intervals during the progress of the work as required by the authority having jurisdiction.
- (6) **Other Inspections.** Other inspections shall be permitted. Prefabricated assemblies shall be permitted to be inspected at the place of manufacture.
- (7) **Final Inspection.** A final inspection shall be made when the building or structure is completed and is ready for use or occupancy.

(E) Requests for final inspections shall be made to the office of the authority having jurisdiction, and a reasonable time shall be allowed for such inspection to be made. Rejection or refusal to approve the work for reasons of incompleteness, violation of the provisions of this *Code*, or inadequacy of the construction shall nullify the request for final inspection. The work shall be made to comply with the *Code*, and the request for inspection shall be repeated as required herein.

B.1.9.6.6.4 Inspection Reports. The authority having jurisdiction shall keep a record of all inspections made, results, plans filed, surveys made, and certificates of occupancy issued.

B.1.9.6.7 Certificate of Occupancy.

B.1.9.6.7.1 Certificate Requirements.

(A) No building hereafter erected, altered, enlarged, or relocated, or for which a change of occupancy has been made, shall be used in whole or in part until a certificate of occupancy has been issued by the authority having jurisdiction certifying that the building and occupancy are in accordance with the provisions of this *Code* and all other laws and regulations applying thereto. When the building or part thereof complies with the provisions of all pertinent laws and regulations, the authority having jurisdiction shall issue the certificate of occupancy for the building or part thereof. A certificate of occupancy for places of assembly shall indicate thereon, and make record of, the number of persons for whom such certificate is issued. In all manufacturing, commercial, storage, or warehouse occupancies, the design live loads shall be plainly posted.

(B) When, in the opinion of the authority having jurisdiction, any building rehabilitated, altered, or enlarged, or any combination thereof, is in compliance with this *Code*, the owner shall be issued a certificate of compliance affirming substantial compliance with the requirements of this *Code*, in lieu of a certificate of occupancy.

B.1.9.6.7.2 Existing Occupancy. The authorized occupancy of any structure existing on the date of adoption of this *Code* shall be permitted to continue without change, except as is specifically covered in this *Code* or as is deemed necessary by the authority having jurisdiction for the general safety and welfare of the occupants and public.

B.1.9.6.7.3 Temporary Certificate of Occupancy. A temporary certificate of occupancy shall be permitted to be issued by the authority having jurisdiction for the use of parts of a building prior to completion of the entire building.

B.1.9.6.7.4 Connection of Services. It shall be unlawful for a public service corporation or agency to begin utility service to a building or structure, including temporary service for use during building construction or testing operations, until such connection of service has been approved by the authority having jurisdiction.

B.1.9.6.7.5 Conditions of Certificate of Occupancy. Certificate of occupancy shall be conditioned upon the following:

- (1) The completed project meets the conditions of the construction permit; the approved construction documents, including all amendments; and all prior approvals.
- (2) All required fees have been paid.
- (3) All necessary inspections have been completed, and the completed project meets the requirements of this *Code*.
- (4) All violations have been corrected, and any assessed penalties have been paid.
- (5) All protective devices and equipment required to be installed by this *Code* will continue to be operational, as required by this *Code*.
- (6) All quality assurance programs required by Chapter 40 have been completed.

B.1.9.7 Stop-Work Orders and Revocation of Permit or Certificate.

B.1.9.7.1 Stop-Work Orders. Whenever any work is being done contrary to provisions of this *Code*, the authority having jurisdiction shall be authorized to order such work stopped. Such work shall immediately stop until authorized by the authority having jurisdiction to proceed.

B.1.9.7.1.1 Written notice of violations leading to the stop-work order shall be mailed or given to the permit holder or permit holder's agent. Upon issuance of a stop-work order, the work cited shall immediately cease according to the time limitation specified on the order.

B.1.9.7.1.2 When the violation(s) has been corrected, the authority having jurisdiction shall provide the permit holder or permit holder's agent written notice that the violation(s) has been corrected and that the stop-work order has been lifted.

B.1.9.7.1.3 Any person continuing work after being served a stop-work order, except work to correct the cited violation(s) or work not included within the scope of the stop-work order, shall be subject to the provisions of 1.7.7.2 and other penalties as prescribed by law.

B.1.9.7.2 Revocation of Permit. The authority having jurisdiction shall be hereby granted authority to revoke a permit or approval issued under the provisions of this *Code* when any false statement or misrepresentation of fact is made in the application, or on the plans on which the permit or approval was based, or for failure to honor any stop-work order issued under 1.7.7.1 of this *Code*.

B.1.9.7.2.1 The authority having jurisdiction shall notify the contractor or owner or owner's agent in writing that the permit is revoked. Work performed by person or persons in or about the building or structure, except work required for the correction of violations, shall be prohibited. Any person continuing work after having a permit suspended, except work to correct the cited violation(s), shall be subject to the provisions of 1.7.5.3.4 and 1.7.5.3.5 and any other penalties prescribed by law. If, in the judgment of the authority having jurisdiction, there is imminent danger that requires immediate action, the permit shall be permitted to be revoked verbally, and written notice shall be served later.

B.1.9.7.2.2 When a permit has been revoked, it shall not be reinstated until all violations leading to the revocation of the permit have been corrected. Written notice of reinstatement shall be given to the permit holder when requested.

B.1.9.7.3 Revocation of Certificate. When any building or part thereof is being used contrary to the provisions of this *Code*, or any other laws or regulations of the jurisdiction, the authority having jurisdiction shall be authorized to revoke a certificate of occupancy and order such use or occupancy discontinued and the building or part thereof vacated. The authority having jurisdiction shall provide written notice of the revocation of the certificate to the person(s) using or causing to be used such buildings or parts thereof. Continued use of the building or part thereof after the certificate of occupancy has been revoked shall be in violation of this *Code* and subject to the penalties prescribed by law.

Annex C Sample Ordinance Adopting NFPA 900

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

C.1 The following sample ordinance is provided to assist a jurisdiction in the adoption of this *Code* and is not part of this *Code*.

ORDINANCE NO. _____

An ordinance of the [jurisdiction] adopting the 2019 edition of NFPA 900, *Building Energy Code*, and documents listed in Chapter 2 of that *Code*, prescribing regulations governing conditions hazardous to life and property from fire or explosion; providing for the issuance of permits and collection of fees; repealing Ordinance No. _____ of the [jurisdiction] and all other ordinances and parts of ordinances in conflict therewith; providing a penalty; providing a severability clause; and providing for publication; and providing an effective date.

BE IT ORDAINED BY THE [governing body] OF THE [jurisdiction]:

SECTION 1 That NFPA 900, *Building Energy Code*, and documents adopted by Chapter 2, three (3) copies of which are on file and are open to inspection by the public in the office of the [jurisdiction's keeper of records] of the [jurisdiction], are hereby adopted and incorporated into this ordinance as fully as if set out at length herein, and from the date on which this ordinance shall take effect, the provisions thereof shall be controlling within the limits of the [jurisdiction]. The same are hereby adopted as the *Code* of the [jurisdiction] for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion and providing for issuance of permits and collection of fees.

SECTION 2 Any person who shall violate any provision of this *Code* or standard hereby adopted or fail to comply therewith; or who shall violate or fail to comply with any order made thereunder; or who shall build in violation of any detailed statement of specifications or plans submitted and approved thereunder; or fail to operate in accordance with any certificate or permit issued thereunder; and from which no appeal has been taken; or who shall fail to comply with such an order as affirmed or modified by a court of competent jurisdiction, within the time fixed herein, shall severally for each and every such violation and noncompliance, respectively, be guilty of a misdemeanor, punishable by a fine of not less than \$ _____ nor more than \$ _____ or by imprisonment for not less than _____ days nor more than _____ days or by both such fine and imprisonment. The imposition of one penalty for any violation shall not excuse the violation or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time; and when not otherwise specified the application of the above penalty shall not be held to prevent the enforced removal of prohibited conditions. Each day that prohibited conditions are maintained shall constitute a separate offense.

SECTION 3 Additions, insertions, and changes — that the 2019 edition of NFPA 900, *Building Energy Code*, is amended and changed in the following respects:

[List Amendments]

SECTION 4 That ordinance No. _____ of [jurisdiction] entitled [fill in the title of the ordinance or ordinances in effect at the present time] and all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 5 That if any section, subsection, sentence, clause, or phrase of this ordinance is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of the remaining portions of this ordinance. The [governing body] hereby declares that it would have passed this ordinance, and each section, subsection, clause, or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, and phrases be declared unconstitutional.

SECTION 6 That the [jurisdiction's keeper of records] is hereby ordered and directed to cause this ordinance to be published.

[NOTE: An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.]

SECTION 7 That this ordinance and the rules, regulations, provisions, requirements, orders, and matters established and adopted hereby shall take effect and be in full force and effect [time period] from and after the date of its final passage and adoption.

Annex D Informational References

D.1 Referenced Publications. The documents or portions thereof listed in this annex are referenced within the informational sections of this code and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

D.1.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 5000®, *Building Construction and Safety Code*®, 2018 edition.

D.1.2 Other Publications. (Reserved)

D.2 Informational References. (Reserved)

D.3 References for Extracts in Informational Sections.

NFPA 5000®, *Building Construction and Safety Code*®, 2018 edition.

Index

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