

VIRGINIA
CONSTRUCTION
CODE

PART I OF THE
VIRGINIA UNIFORM STATEWIDE
BUILDING CODE

2006

Effective May 1, 2008

PREFACE

Introduction

The Virginia Uniform Statewide Building Code (USBC) is a state regulation promulgated by the Virginia Board of Housing and Community Development, a Governor-appointed board, for the purpose of establishing minimum regulations to govern the construction and maintenance of buildings and structures.

The provisions of the USBC are based on nationally recognized model building and fire codes published by the International Code Council, Inc.. The model codes are made part of the USBC through a regulatory process known as incorporation by reference. The USBC also contains administrative provisions governing the use of the model codes and establishing requirements for the enforcement of the code by the local building departments and other code enforcement agencies.

In keeping with the designations of the USBC used previously, since the 2006 editions of the International Codes are incorporated by reference into this version of the USBC, it is known as the 2006 edition of the USBC.

Arrangement

The USBC is part of the Virginia Administrative Code (VAC), the official compilation of state regulations published under the authority and guidance of the Virginia Code Commission. Due to the difference in the section numbering system between the VAC and the model codes incorporated by reference into the USBC, the USBC utilizes a dual section numbering system. In the USBC, the VAC section numbers are listed first, followed by a section number matching the model code system. In this printing of the USBC, the VAC section numbers are omitted and only the model code numbering system is utilized. The version of the USBC containing both the VAC section numbers and the model code numbering is available from the Virginia Department of Housing and Community Development and may also be accessed through the website of the Virginia Code Commission or by subscription to the VAC.

Overview

The USBC is divided into three stand-alone parts. Part I contains regulations specific to the construction of new buildings and structures and alterations, additions and change of occupancy in existing buildings and structures and is known as the Virginia Construction Code. Part II contains optional regulations specific to the rehabilitation of existing buildings that may be used as an acceptable alternative to the Virginia Construction Code. Part II is known as the Virginia Rehabilitation Code. Part III of the USBC contains the regulations for the maintenance of existing structures which is enforced at the option of the local governments. It is known as the Virginia Maintenance Code.

State Pamphlets and Codes Purchased from ICC

The 2006 edition of the USBC is being made available in pamphlet form as in past editions of the USBC. In the state pamphlet version, a single line is placed in the margin to delineate changes between the 2003 edition of the USBC and the 2006 edition of the USBC.

New for the 2006 edition are versions of the Virginia Construction Code, Virginia Rehabilitation Code, Virginia Maintenance Code and a series of Virginia specific trade codes published by the International Code Council (ICC). In the ICC published versions, marginal markings are provided to distinguish between text which is part of the International Codes and text which is part of the state regulations. Double vertical lines in the margins within the body of the codes indicate state amendments to the International Codes. As in the standard printings of the International Codes, a single vertical line in the margins within the body of the code indicates a technical change from the previous edition of the International Codes. Deletions from the previous editions of the International Codes are indicated in the form of an arrow (→) in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted.

Technical Assistance

The local building departments and enforcing agencies may be contacted for further information concerning the USBC. Contact information for the Virginia Department of Housing and Community Development is below.



Virginia Department of Housing and Community Development
Division of Building and Fire Regulation
501 North 2nd Street
Richmond, Virginia 23219-1321
Phone: (804) 371-7150 – Email: usbc@dhcd.virginia.gov

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CHAPTER 1 ADMINISTRATION

SECTION 101 GENERAL

101.1 Short title. The Virginia Uniform Statewide Building Code, Part I, Construction, may be cited as the Virginia Construction Code. The term “USBC” shall mean the Virginia Construction Code unless the context in which the term is used clearly indicates it to be an abbreviation for the entire Virginia Uniform Statewide Building Code or for a different part of the Virginia Uniform Statewide Building Code.

101.2 Incorporation by reference. Chapters 2 – 35 of the 2006 International Building Code, published by the International Code Council, Inc., are adopted and incorporated by reference to be an enforceable part of the USBC. The term “IBC” means the 2006 International Building Code, published by the International Code Council, Inc. Any codes and standards referenced in the IBC are also considered to be part of the incorporation by reference, except that such codes and standards are used only to the prescribed extent of each such reference. In addition, any provisions of the appendices of the IBC specifically identified to be part of the USBC are also considered to be part of the incorporation by reference.

Note 1: The IBC references the whole family of International Codes including the following major codes:

- 2006 International Plumbing Code
- 2006 International Mechanical Code
- 2005 National Electrical Code
- 2006 International Fuel Gas Code
- 2006 International Energy Conservation Code
- 2006 International Residential Code

Note 2: The International Residential Code is applicable to the construction of detached one- and two-family dwellings and townhouses as set out in Section 310.

101.3 Numbering system. A dual numbering system is used in the USBC to correlate the numbering system of the Virginia Administrative Code with the numbering system of the IBC. IBC numbering system designations are provided in the catch-lines of the Virginia Administrative Code sections. Cross references between sections or chapters of the USBC use only the IBC numbering system designations. The term “chapter” is used in the context of the numbering system of the IBC and may mean a chapter in the USBC, a chapter in the IBC or a chapter in a referenced code or standard, depending on the context of the use of the term. The term “chapter” is not used to designate a chapter of the Virginia Administrative Code, unless clearly indicated.

101.4 Arrangement of code provisions. The USBC is comprised of the combination of (i) the provisions of Chapter 1, Administration, which are established herein, (ii) Chapters 2 – 35 of the IBC, which are incorporated by reference in Section 101.2, and (iii) the changes to the text of the incorporated chapters of the IBC that are specifically identified. The terminology “changes to the text of the incorporated chapters of the IBC that are specifically identified” shall also be referred to as the “state amendments to the IBC.” Such state amendments to the IBC are set out using corresponding chapter and section numbers of the IBC numbering system. In addition, since Chapter 1 of the IBC is not incorporated as part of the USBC, any reference to a provision of Chapter 1 of the IBC in the provisions of Chapters 2 - 35 of the IBC is generally invalid. However, where the purpose of such a reference would clearly correspond to a provision of Chapter 1 established herein, then the reference may be construed to be a valid reference to such corresponding Chapter 1 provision.

101.5 Use of terminology and notes. The term “this code,” or “the code,” where used in the provisions of Chapter 1, in Chapters 2 – 35 of the IBC or in the state amendments to the IBC means the USBC, unless the context clearly indicates otherwise. The term “this code,” or “the code,” where used in a code or standard referenced in the IBC means that code or standard, unless the context clearly indicates otherwise. The use of notes in Chapter 1 is to provide information only and shall not be construed as changing the meaning of any code provision. Notes in the IBC, in the codes and standards referenced in the IBC and in the state amendments to the IBC may modify the content of a related provision and shall be considered to be a valid part of the provision, unless the context clearly indicates otherwise.

101.6 Order of precedence. The provisions of Chapter 1 of this code supersede any conflicting provisions of Chapters 2 – 35 of the IBC and any conflicting provisions of the codes and standards referenced in the IBC. In addition, the state amendments to the IBC supersede any conflicting provisions of Chapters 2 – 35 of the IBC and any conflicting provisions of the codes and standards referenced in the IBC. Further, the provisions of Chapters 2 – 35 of the IBC supersede any conflicting provisions of the codes and standards referenced in the IBC.

101.7 Administrative provisions. The provisions of Chapter 1 establish administrative requirements, which include but are not limited to provisions relating to the scope of the code, enforcement, fees, permits, inspections and disputes. Any provisions of Chapters 2 – 35 of the IBC or any provisions of the codes and standards referenced in the IBC that address the same subject matter and impose differing requirements are deleted and replaced by the provisions of Chapter 1. Further, any administrative requirements contained in the state amendments to the IBC shall be given the same precedence as the provisions of Chapter 1. Notwithstanding the above, where administrative requirements of Chapters 2 – 35 of the IBC or of the codes and standards referenced in the IBC are specifically identified as valid administrative requirements in Chapter 1 of this code or in the state amendments to the IBC, then such requirements are not deleted and replaced.

Note: The purpose of this provision is to eliminate overlap, conflicts and duplication by providing a single standard for administrative, procedural and enforcement requirements of this code.

101.8 Definitions. The definitions of terms used in this code are contained in Chapter 2 along with specific provisions addressing the use of definitions. Terms may be defined in other chapters or provisions of the code and such definitions are also valid.

Note: The order of precedence outlined in Section 101.6 may be determinative in establishing how to apply the definitions in the IBC and in the referenced codes and standards.

SECTION 102 PURPOSE AND SCOPE

102.1 Purpose. In accordance with Section 36-99 of the Code of Virginia, the purpose of the USBC is to protect the health, safety and welfare of the residents of the Commonwealth of Virginia, provided that buildings and structures should be permitted to be constructed at the least possible cost consistent with recognized standards of health, safety, energy conservation and water conservation, including provisions necessary to prevent overcrowding, rodent or insect infestation, and garbage accumulation; and barrier-free provisions for the physically handicapped and aged.

102.2 Scope. This section establishes the scope of the USBC in accordance with Section 36-98 of the Code of Virginia. The USBC shall supersede the building codes and regulations of the counties, municipalities and other political subdivisions and state agencies. This code shall supersede the provisions of local ordinances applicable to single-family residential construction that (i) regulate dwelling foundations or crawl spaces, (ii) require the use of specific building materials or finishes in construction, or (iii) require minimum surface area or numbers of windows; however, this code shall not supersede proffered conditions accepted as a part of a rezoning application, conditions imposed upon the grant of special exceptions, special or conditional use permits or variances, conditions imposed upon a clustering of single-family homes and preservation of open space development through standards, conditions, and criteria established by a locality pursuant to subdivision 8 of Section 15.2-2242 of the Code of Virginia or subdivision A 12 of Section 15.2-2286 of the Code of Virginia, or land use requirements in airport or highway overlay districts, or historic districts created pursuant to Section 15.2-2306 of the Code of Virginia, or local flood plain regulations adopted as a condition of participation in the National Flood Insurance Program.

Note: Requirements relating to functional design are contained in Section 103.11 of this code.

102.2.1 Invalidity of provisions. To the extent that any provisions of this code are in conflict with Chapter 6 (Section 36-97 et seq.) of Title 36 of the Code of Virginia or in conflict with the scope of the USBC, those provisions are considered to be invalid to the extent of such conflict.

102.3 Exemptions. The following are exempt from this code:

1. Equipment and related wiring installed by a provider of publicly regulated utility service or a franchised cable television operator and electrical equipment and related wiring used for radio, broadcast or cable television,

telecommunications or information service transmission. The exemption shall apply only if under applicable federal and state law the ownership and control of the equipment and wiring is by the service provider or its affiliates. Such exempt equipment and wiring shall be located on either public rights-of-way or private property for which the service provider has rights of occupancy and entry; however, the structures, including their service equipment, housing or supporting such exempt equipment and wiring shall be subject to the USBC. The installation of equipment and wiring exempted by this section shall not create an unsafe condition prohibited by the USBC.

2. Manufacturing and processing machines, including all of the following service equipment associated with the manufacturing or processing machines.
 - 2.1. Electrical equipment connected after the last disconnecting means.
 - 2.2. Plumbing piping and equipment connected after the last shutoff valve or backflow device and before the equipment drain trap.
 - 2.3. Gas piping and equipment connected after the outlet shutoff valve.
3. Parking lots and sidewalks, which are not part of an accessible route.
4. Nonmechanized playground or recreational equipment such as swing sets, sliding boards, climbing bars, jungle gyms, skateboard ramps, and similar equipment where no admission fee is charged for its use or for admittance to areas where the equipment is located.
5. Industrialized buildings subject to the Virginia Industrialized Building Safety Regulations (13 VAC 5-91) and manufactured homes subject to the Virginia Manufactured Home Safety Regulations (13 VAC 5-95); except as provided for in Section 421.
6. Farm buildings and structures, except for a building or a portion of a building located on a farm that is operated as a restaurant as defined in Section 35.1-1 of the Code of Virginia and licensed as such by the Virginia Board of Health pursuant to Chapter 2 (Section 35.1-11 et. seq.) of Title 35.1 of the Code of Virginia. However, farm buildings and structures lying within a flood plain or in a mudslide-prone area shall be subject to flood-proofing regulations or mudslide regulations, as applicable.

SECTION 103 APPLICATION OF CODE

103.1 General. In accordance with Section 36-99 of the Code of Virginia, the USBC shall prescribe building regulations to be complied with in the construction and rehabilitation of buildings and structures, and the equipment therein.

103.2 When applicable to new construction. Construction for which a permit application is submitted to the local building department after May 1, 2008, shall comply with the provisions of this code, except for permit applications submitted during a one-year period after May 1, 2008. The applicant for a permit during such one-year period shall be permitted to choose whether to comply with the provisions of this code or the provisions of the code in effect immediately prior to May 1, 2008. This provision shall also apply to subsequent amendments to this code based on the effective date of such amendments. In addition, when a permit has been properly issued under a previous edition of this code, this code shall not require changes to the approved construction documents, design or construction of such a building or structure, provided the permit has not been suspended or revoked.

103.3 Change of occupancy. No change shall be made in the existing occupancy classification of any structure when the current USBC requires a greater degree of structural strength, fire protection, means of egress, ventilation or sanitation. When such a greater degree is required, the owner or the owner's agent shall make written application to the local building department for a new certificate of occupancy and shall obtain the new certificate of occupancy prior to the use of the structure under the new occupancy classification. When impractical to achieve compliance with this code for the new occupancy classification, the building official shall consider modifications upon application and as provided for in Section 106.3.

Exception: This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.

103.4 Additions. Additions to buildings and structures shall comply with the requirements of this code for new construction and an existing building or structure plus additions shall comply with the height and area provisions of Chapter 5. Further, this code shall not require changes to the design or construction of any portions of the building or structure not altered or affected by an addition, unless the addition has the effect of lowering the current level of safety.

Exception: This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.

103.5 Reconstruction, alteration or repair. The following criteria is applicable to reconstruction, alteration or repair of buildings or structures:

1. Any reconstruction, alteration or repair shall not adversely affect the performance of the building or structure, or cause the building or structure to become unsafe or lower existing levels of health and safety.
2. Parts of the building or structure not being reconstructed, altered or repaired shall not be required to comply with the requirements of this code applicable to newly constructed buildings or structures.
3. The installation of material or equipment, or both, that is neither required nor prohibited shall only be required to comply with the provisions of this code relating to the safe installation of such material or equipment.
4. Material or equipment, or both, may be replaced in the same location with material or equipment of a similar kind or capacity.

Exceptions:

1. This section shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.
2. Reconstructed decks, balconies, porches and similar structures located 30 inches (762 mm) or more above grade shall meet the current code provisions for structural loading capacity, connections and structural attachment. This requirement excludes handrails and guardrails.

103.6. Use of rehabilitation code. Compliance with Part II of the Virginia Uniform Statewide Building Code, also known as the “Virginia Rehabilitation Code,” shall be an acceptable alternative to compliance with this code for the rehabilitation of such existing buildings and structures within the scope of that code. For the purposes of this section, the term “rehabilitation” shall be as defined in the Virginia Rehabilitation Code.

103.7. Retrofit requirements. The local building department shall enforce the provisions of Section 3411, which require certain existing buildings to be retrofitted with fire protection systems and other safety equipment. Retroactive fire protection system requirements contained in the International Fire Code shall not be applicable unless required for compliance with the provisions of Section 3411.

103.8 Non-required equipment. The following criteria for non-required equipment is in accordance with Section 36-103 of the Code of Virginia. Building owners may elect to install partial or full fire alarms or other safety equipment that was not required by the edition of the USBC in effect at the time a building was constructed without meeting current requirements of the code, provided the installation does not create a hazardous condition. Permits for installation shall be obtained in accordance with this code. In addition, as a requirement of this code, when such non-required equipment is to be installed, the building official shall notify the appropriate fire official or fire chief.

103.8.1 Reduction in function or discontinuance of nonrequired fire protection systems. When a nonrequired fire protection system is to be reduced in function or discontinued, it shall be done in such a manner so as not to create a false sense of protection. Generally, in such cases, any features visible from interior areas shall be removed, such as sprinkler heads, smoke detectors or alarm panels or devices, but any wiring or piping hidden within the construction of the building may remain. Approval of the proposed method of reduction or discontinuance shall be obtained from the building official.

103.9 Equipment changes. Upon the replacement or new installation of any fuel-burning appliances or equipment in existing buildings, an inspection or inspections shall be conducted to ensure that the connected vent or chimney systems comply with the following:

1. Vent or chimney systems are sized in accordance with either the International Residential Code, the International Mechanical Code or the International Fuel Gas Code, depending on which is applicable based on the fuel source and the occupancy classification of the structure.
2. Vent or chimney systems are clean, free of any obstruction or blockages, defects or deterioration and are in operable condition.

Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are met.

103.10 Use of certain provisions of referenced codes. The following provisions of the IBC and of other indicated codes or standards are to be considered valid provisions of this code. Where any such provisions have been modified by the state amendments to the IBC, then the modified provisions apply.

1. Special inspection requirements in Chapters 2 – 35.
2. Chapter 34, Existing Structures, except that Section 3410, Compliance Alternatives, shall not be used to comply with the retrofit requirements identified in Section 103.7 and shall not be construed to permit noncompliance with any applicable flood load or flood-resistant construction requirements of this code.
3. Testing requirements and requirements for the submittal of construction documents in any of the ICC codes referenced in Chapter 35.
4. Section R301.2 of the International Residential Code authorizing localities to determine climatic and geographic design criteria.
5. Flood load or flood-resistant construction requirements in the IBC or the International Residential Code, including, but not limited to, any such provisions pertaining to flood elevation certificates which are located in Chapter 1 of those codes. Any required flood elevation certificate pursuant to such provisions shall be prepared by a land surveyor licensed in Virginia or an RDP.

103.11 Functional design. The following criteria for functional design is in accordance with Section 36-98 of the Code of Virginia. The USBC shall not supersede the regulations of other state agencies which require and govern the functional design and operation of building related activities not covered by the USBC including but not limited to (i) public water supply systems, (ii) waste water treatment and disposal systems, (iii) solid waste facilities. Nor shall state agencies be prohibited from requiring, pursuant to other state law, that buildings and equipment be maintained in accordance with provisions of this code. In addition, as established by this code, the building official may refuse to issue a permit until the applicant has supplied certificates of functional design approval from the appropriate state agency or agencies. For purposes of coordination, the locality may require reports to the building official by other departments or agencies indicating compliance with their regulations applicable to the functional design of a building or structure as a condition for issuance of a building permit or certificate of occupancy. Such reports shall be based upon review of the plans or inspection of the project as determined by the locality. All enforcement of these conditions shall not be the responsibility of the building official, but rather the agency imposing the condition.

Note: Identified state agencies with functional design approval are listed in the “Related Laws Package” which is available from DHCD.

103.12 Amusement devices and inspections. In accordance with Section 36-98.3 of the Code of Virginia, to the extent they are not superseded by the provisions of Section 36-98.3 of the Code of Virginia and the VADR, the provisions of the USBC shall apply to amusement devices. In addition, as a requirement of this code, inspections for compliance with the VADR shall be conducted either by local building department personnel or private inspectors provided such persons are certified as amusement device inspectors under the VCS.

103.13 State buildings and structures. This section establishes the application of the USBC to state-owned buildings and structures in accordance with Section 36-98.1 of the Code of Virginia. The USBC shall be applicable to all state-owned buildings and structures, with the exception that Sections 2.2-1159, 2.2-1160 and 2.2-1161 of the Code of Virginia shall provide the standards for ready access to and use of state-owned buildings by the physically handicapped.

Any state-owned building or structure for which preliminary plans were prepared or on which construction commenced after the initial effective date of the USBC, shall remain subject to the provisions of the USBC that were in effect at the time such plans were completed or such construction commenced. Subsequent reconstruction, renovation or demolition of such building or structure shall be subject to the pertinent provisions of this code.

Acting through the Division of Engineering and Buildings, the Virginia Department of General Services shall function as the building official for state-owned buildings. The Department shall review and approve plans and specifications, grant modifications, and establish such rules and regulations as may be necessary to implement this section. It shall provide for the inspection of state-owned buildings and enforcement of the USBC and standards for access by the physically handicapped by delegating inspection and USBC enforcement duties to the State Fire Marshal's Office, to other appropriate state agencies having needed expertise, and to local building departments, all of which shall provide such assistance within a reasonable time and in the manner requested. State agencies and institutions occupying buildings shall pay to the local building department the same fees as would be paid by a private citizen for the services rendered when such services are requested by the Department. The Department may alter or overrule any decision of the local building department after having first considered the local building department's report or other rationale given for its decision. When altering or overruling any decision of a local building department, the Department shall provide the local building department with a written summary of its reasons for doing so.

Notwithstanding any provision of this code to the contrary, roadway tunnels and bridges owned by the Virginia Department of Transportation shall be exempt from this code. The Virginia Department of General Services shall not have jurisdiction over such roadway tunnels, bridges and other limited access highways; provided, however, that the Department of General Services shall have jurisdiction over any occupied buildings within any Department of Transportation rights-of-way that are subject to this code.

Except as provided in Section 23-38.109 D of the Code of Virginia, and notwithstanding any provision of this code to the contrary, at the request of a public institution of higher education, the Virginia Department of General Services, as further set forth in this provision, shall authorize that institution of higher education to contract with a building official of the locality in which the construction is taking place to perform any inspection and certifications required for the purpose of complying with this code. The Department shall publish administrative procedures that shall be followed in contracting with a building official of the locality. The authority granted to a public institution of higher education under this provision to contract with a building official of the locality shall be subject to the institution meeting the conditions prescribed in Section 23-38.88 B of the Code of Virginia.

Note: In accordance with Section 36-98.1 of the Code of Virginia, roadway tunnels and bridges shall be designed, constructed and operated to comply with fire safety standards based on nationally recognized model codes and standards to be developed by the Virginia Department of Transportation in consultation with the State Fire Marshal and approved by the Virginia Commonwealth Transportation Board. Emergency response planning and activities related to the standards approved by the Commonwealth Transportation Board shall be developed by the Department of Transportation and coordinated with the appropriate local officials and emergency service providers. On an annual basis, the Department of Transportation shall provide a report on the maintenance and operability of installed fire protection and detection systems in roadway tunnels and bridges to the State Fire Marshal.

SECTION 104 ENFORCEMENT, GENERALLY

104.1 Scope of enforcement. This section establishes the requirements for enforcement of the USBC in accordance with Section 36-105 of the Code of Virginia. Enforcement of the provisions of the USBC for construction and rehabilitation shall be the responsibility of the local building department. Whenever a county or municipality does not have such a building department, the local governing body shall enter into an agreement with the local governing body of another county or municipality or with some other agency, or a state agency approved by DHCD for such enforcement. For the purposes of this section, towns with a population of less than 3,500 may elect to administer and enforce the USBC; however, where the town does not elect to administer and enforce the code, the county in which the town is situated shall

administer and enforce the code for the town. In the event such town is situated in two or more counties, those counties shall administer and enforce the USBC for that portion of the town which is situated within their respective boundaries.

Upon a finding by the local building department, following a complaint by a tenant of a residential rental unit that is the subject of such complaint, that there may be a violation of the unsafe structures provisions of Part III of the Virginia Uniform Statewide Building Code, also known as the “Virginia Maintenance Code,” the local building department shall enforce such provisions.

If the local building department receives a complaint that a violation of the Virginia Maintenance Code exists that is an immediate and imminent threat to the health or safety of the owner or tenant of a residential dwelling unit or a nearby residential dwelling unit, and the owner or tenant of the residential dwelling unit that is the subject of the complaint has refused to allow the local building official or his agent to have access to the subject dwelling, the local building official or his agent may present sworn testimony to a court of competent jurisdiction and request that the court grant the local building official or his agent an inspection warrant to enable the building official or his agent to enter the subject dwelling for the purpose of determining whether violations of the Virginia Maintenance Code exist. The local building official or his agent shall make a reasonable effort to obtain consent from the owner or tenant of the subject dwelling prior to seeking the issuance of an inspection warrant under this section.

The local governing body shall inspect and enforce the provisions of the Virginia Maintenance Code for elevators except for elevators in single and two-family homes and townhouses. Such inspection and enforcement shall be carried out by an agency or department designated by the local governing body.

104.2 Interagency coordination. When any inspection functions under this code are assigned to a local agency other than the local building department, such agency shall coordinate its reports of inspection with the local building department.

104.3 Transfer of ownership. If the local building department has initiated an enforcement action against the owner of a building or structure and such owner subsequently transfers the ownership of the building or structure to an entity in which the owner holds an ownership interest greater than 50%, the pending enforcement action shall continue to be enforced against the owner.

SECTION 105 LOCAL BUILDING DEPARTMENT

105.1 Appointment of building official. Every local building department shall have a building official as the executive official in charge of the department. The building official shall be appointed in a manner selected by the local governing body. After permanent appointment, the building official shall not be removed from office except for cause after having been afforded a full opportunity to be heard on specific and relevant charges by and before the appointing authority. DHCD shall be notified by the appointing authority within 30 days of the appointment or release of a permanent or acting building official.

Note: Building officials are subject to sanctions in accordance with the VCS.

105.1.1 Qualifications of building official. The building official shall have at least five years of building experience as a licensed professional engineer or architect, building, fire or trade inspector, contractor, housing inspector or superintendent of building, fire or trade construction or at least five years of building experience after obtaining a degree in architecture or engineering, with at least three years in responsible charge of work. Any combination of education and experience that would confer equivalent knowledge and ability shall be deemed to satisfy this requirement. The building official shall have general knowledge of sound engineering practice in respect to the design and construction of structures, the basic principles of fire prevention, the accepted requirements for means of egress and the installation of elevators and other service equipment necessary for the health, safety and general welfare of the occupants and the public. The local governing body may establish additional qualification requirements.

105.1.2 Certification of building official. An acting or permanent building official shall be certified as a building official in accordance with the VCS within one year after being appointed as acting or permanent building official.

Exception: A building official in place prior to April 1, 1983, shall not be required to meet the certification requirements in this section while continuing to serve in the same capacity in the same locality.

105.1.3 Noncertified building official. Except for a building official exempt from certification under the exception to Section 105.1.2, any acting or permanent building official who is not certified as a building official in accordance with the VCS shall attend the core module of the Virginia Building Code Academy or an equivalent course in an individual or regional code academy accredited by DHCD within 180 days of appointment. This requirement is in addition to meeting the certification requirement in Section 105.1.2.

105.1.4 Continuing education requirements. Building officials shall attend 16 hours every two years of continuing education and periodic training courses approved or required by DHCD. Additional continuing education hours shall not be required if more than one certificate is held.

105.2 Technical assistants. The building official, subject to any limitations imposed by the locality, shall be permitted to utilize technical assistants to assist the building official in the enforcement of the USBC. DHCD shall be notified by the building official within 60 days of the employment of, contracting with or termination of all technical assistants.

Note: Technical assistants are subject to sanctions in accordance with the VCS.

105.2.1 Qualifications of technical assistants. A technical assistant shall have at least three years of experience and general knowledge in at least one of the following areas: building construction; building, fire or housing inspections; plumbing, electrical or mechanical trades; or fire protection, elevator or property maintenance work. Any combination of education and experience that would confer equivalent knowledge and ability shall be deemed to satisfy this requirement. The locality may establish additional qualification requirements.

105.2.2 Certification of technical assistants. A technical assistant shall be certified in the appropriate subject area within 18 months after becoming a technical assistant. When required by local policy to have two or more certifications, a technical assistant shall obtain the additional certifications within three years from the date of such requirement.

Exception: A technical assistant in place prior to March 1, 1988 shall not be required to meet the certification requirements in this section while continuing to serve in the same capacity in the same locality.

105.2.3 Continuing education requirements. Technical assistants shall attend 16 hours every two years of continuing education and periodic training courses approved or required by DHCD. Additional continuing education hours shall not be required if more than one certificate is held.

105.3 Conflict of interest. The standards of conduct for building officials and technical assistants shall be in accordance with the provisions of the State and Local Government Conflict of Interests Act, Chapter 31 (Section 2.2-3100 et seq.) of Title 2.2 of the Code of Virginia.

105.4 Records. The local building department shall retain a record of applications received, permits, certificates, notices and orders issued, fees collected and reports of inspection in accordance with The Library of Virginia's General Schedule Number Six.

SECTION 106 POWERS AND DUTIES OF THE BUILDING OFFICIAL

106.1 Powers and duties, generally. The building official shall enforce this code as set out herein and as interpreted by the State Review Board.

106.2 Delegation of authority. The building official may delegate powers and duties except where such authority is limited by the local government. When such delegations are made, the building official shall be responsible for assuring that they are carried out in accordance with the provisions of this code.

106.3 Issuance of modifications. Upon written application by an owner or an owner's agent, the building official may approve a modification of any provision of the USBC provided the spirit and functional intent of the code are observed and public health, welfare and safety are assured. The decision of the building official concerning a modification shall be made in writing and the application for a modification and the decision of the building official concerning such modification shall be retained in the permanent records of the local building department.

Note: The USBC references nationally recognized model codes and standards. Future amendments to such codes and standards are not automatically included in the USBC; however the building official should give them due consideration in deciding whether to approve a modification.

106.3.1 Substantiation of modification. The building official may require or may consider a statement from an RDP or other person competent in the subject area of the application as to the equivalency of the proposed modification. In addition, the building official may require the application to include construction documents sealed by an RDP.

106.3.2 Use of performance code. Compliance with the provisions of a nationally recognized performance code when approved as a modification shall be considered to constitute compliance with this code. All documents submitted as part of such consideration shall be retained in the permanent records of the local building department.

SECTION 107 FEES

107.1 Authority for charging fees. In accordance with Section 36-105 of the Code of Virginia, fees may be levied by the local governing body in order to defray the cost of enforcement of the USBC.

107.1.1 Fee schedule. The local governing body shall establish a fee schedule incorporating unit rates, which may be based on square footage, cubic footage, estimated cost of construction or other appropriate criteria. A permit or any amendments to an existing permit shall not be issued until the designated fees have been paid, except that the building official may authorize the delayed payment of fees.

107.1.2 Refunds. When requested in writing by a permit holder, the locality shall provide a fee refund in the case of the revocation of a permit or the abandonment or discontinuance of a building project. The refund shall not be required to exceed an amount which correlates to work not completed.

107.2 Code Academy fee levy. In accordance with subdivision 7 of Section 36-137 of the Code of Virginia, the local building department shall collect a 1.75% levy of fees charged for building permits issued under this code and transmit it quarterly to DHCD to support training programs of the Virginia Building Code Academy. The foregoing levy shall remain effective until July 1, 2009, after which time the fee levy shall be increased to 2%. Localities which maintain individual or regional training academies accredited by DHCD shall retain such levy.

SECTION 108 APPLICATION FOR PERMIT

108.1 When applications are required. Application for a permit shall be made to the building official and a permit shall be obtained prior to the commencement of any of the following activities, except that applications for emergency construction, alterations or equipment replacement shall be submitted by the end of the first working day that follows the day such work commences. In addition, the building official may authorize work to commence pending the receipt of an application or the issuance of a permit.

1. Construction or demolition of a building or structure. Installations or alterations involving (i) the removal or addition of any wall, partition or portion thereof, (ii) any structural component, (iii) the repair or replacement of any required component of a fire or smoke rated assembly, (iv) the alteration of any required means of egress system, (v) water supply and distribution system, sanitary drainage system or vent system, (vi) electric wiring, (vii) fire protection system, mechanical systems or fuel supply systems or (viii) any equipment regulated by the USBC.
2. For change of occupancy, application for a permit shall be made when a new certificate of occupancy is required under Section 103.3.
3. Movement of a lot line that increases the hazard to or decreases the level of safety of an existing building or structure in comparison to the building code under which such building or structure was constructed.
4. Removal or disturbing of any asbestos containing materials during the construction or demolition of a building or structure, including additions.

108.2 Exemptions from application for permit. Notwithstanding the requirements of Section 108.1, application for a permit and any related inspections shall not be required for the following; however, this section shall not be construed to exempt such activities from other applicable requirements of this code. In addition, when an owner or an owner's agent requests that a permit be issued for any of the following, then a permit shall be issued and any related inspections shall be required.

1. Installation of wiring and equipment that (i) operates at less than 50 volts, (ii) is for network powered broadband communications systems, or (iii) is exempt under Section 102.3(1), except when any such installations are located in a plenum, penetrate fire rated or smoke protected construction or are a component of any of the following.
 - 1.1. Fire alarm system.
 - 1.2. Fire detection system.
 - 1.3. Fire suppression system.
 - 1.4. Smoke control system.
 - 1.5. Fire protection supervisory system.
 - 1.6. Elevator fire safety control system.
 - 1.7. Access or egress control system or delayed egress locking or latching system.
 - 1.8. Fire damper.
 - 1.9. Door control system.
2. Detached accessory structures used as tool and storage sheds, playhouses or similar uses, provided the floor area does not exceed 150 square feet (14 m²) and the structures are not accessory to a Group F or H occupancy.
3. Detached pre-fabricated buildings housing the equipment of a publicly regulated utility service, provided the floor area does not exceed 150 square feet (14 m²).
4. Tents or air-supported structures, or both, that cover an area of 900 square feet (84 m²) or less, including within that area all connecting areas or spaces with a common means of egress or entrance, provided such tents or structures have an occupant load of 50 or less persons.
5. Fences and privacy walls not part of a building, structure or of the barrier for a swimming pool, provided such fences and privacy walls do not exceed six feet in height above the finished grade. Ornamental post caps shall not be considered to contribute to the height of the fence or privacy wall and shall be permitted to extend above the six feet height measurement.
6. Retaining walls supporting less than two feet of unbalanced fill. This exemption shall not apply to any wall impounding Class I, II or III-A liquids or supporting a surcharge other than ordinary unbalanced fill.
7. Swimming pools that have a surface area not greater than 150 square feet (13.95 m²), do not exceed 5,000 gallons (19 000 L) and are less than 24 inches (610 mm) deep.
8. Signs under the conditions in Section H101.2 of Appendix H.
9. Replacement of above-ground existing LP-gas containers of the same capacity in the same location and associated regulators when installed by the serving gas supplier.
10. Ordinary repairs that include the following.
 - 10.1. Replacement of windows and doors that are not required to be fire rated in Group R-2 where serving a single dwelling unit and in Groups R-3, R-4 and R-5.

- 10.2. Replacement of plumbing fixtures in all groups without alteration of the water supply and distribution systems, sanitary drainage systems or vent systems.
- 10.3. Replacement of general use snap switches, dimmer and control switches, 125 volt-15 or 20 ampere receptacles, luminaries (lighting fixtures) and ceiling (paddle) fans in Group R-2 where serving a single dwelling unit and in Groups R-3, R-4 and R-5.
- 10.4. Replacement of mechanical appliances provided such equipment is not fueled by gas or oil in Group R-2 where serving a single family dwelling and in Groups R-3, R-4 and R-5.
- 10.5. Replacement of an unlimited amount of roof covering or siding in Groups R-3, R-4 or R-5 provided the building or structure is not in an area where the design (3 second gust) wind speed is greater than 100 miles per hour (160 km/hr) and replacement of 100 square feet (9.29 m²) or less of roof covering in all groups and all wind zones.
- 10.6. Replacement of 100 square feet (9.29 m²) or less of roof decking in Groups R-3, R-4 or R-5 unless the decking to be replaced was required at the time of original construction to be fire-retardant-treated or protected in some other way to form a fire-rated wall termination.
- 10.7. Installation or replacement of floor finishes in all occupancies.
- 10.8. Replacement of Class C interior wall or ceiling finishes installed in Groups A, E and I and replacement of all classes of interior wall or ceiling finishes in other groups.
- 10.9. Installation of replacement cabinetry or trim.
- 10.10. Application of paint or wallpaper.
- 10.11. Other repair work deemed by the building official to be minor and ordinary which does not adversely affect public health or general safety.

Exception: Application for a permit may be required by the building official for the installation of replacement siding, roofing and windows in buildings within a historic district designated by a locality pursuant to Section 15.2-2306 of the Code of Virginia.

108.3 Applicant information, processing by mail. Application for a permit shall be made by the owner or lessee of the relevant property or the agent of either or by the Registered Design Professional, contractor or subcontractor associated with the work or any of their agents. The full name and address of the owner, lessee and applicant shall be provided in the application. If the owner or lessee is a corporate body, when and to the extent determined necessary by the building official, the full name and address of the responsible officers shall also be provided.

A permit application may be submitted by mail and such permit applications shall be processed by mail, unless the permit applicant voluntarily chooses otherwise. In no case shall an applicant be required to appear in person.

The building official may accept applications for a permit through electronic submissions provided the information required by this section is obtained.

108.4 Prerequisites to obtaining permit. In accordance with Section 54.1-1111 of the Code of Virginia, any person applying to the building department for the construction, removal or improvement of any structure shall furnish prior to the issuance of the permit, either (i) satisfactory proof to the building official that he is duly licensed or certified under the terms or Chapter 11 (Section 54.1-1000 et seq.) of Title 54.1 of the Code of Virginia to carry out or superintend the same, or (ii) file a written statement, supported by an affidavit, that he is not subject to licensure or certification as a contractor or subcontractor pursuant to Chapter 11 of Title 54.1 of the Code of Virginia. The applicant shall also furnish satisfactory proof that the taxes or license fees required by any county, city, or town have been paid so as to be qualified to bid upon or contract for the work for which the permit has been applied.

108.5 Mechanics' lien agent designation. In accordance with Section 36-98.01 of the Code of Virginia, a building permit issued for any one- or two-family residential dwelling shall at the time of issuance contain, at the request of the applicant, the name, mailing address, and telephone number of the mechanics' lien agent as defined in Section 43-1 of the Code of Virginia. If the designation of a mechanics' lien agent is not so requested by the applicant, the building permit shall at the time of issuance state that none has been designated with the words "None Designated."

108.6 Application form, description of work. The application for a permit shall be submitted on a form or forms supplied by the local building department. The application shall contain a general description and location of the proposed work and such other information as determined necessary by the building official.

108.7 Amendments to application. An application for a permit may be amended at any time prior to the completion of the work governed by the permit. Additional construction documents or other records may also be submitted in a like manner. All such submittals shall have the same effect as if filed with the original application for a permit and shall be retained in a like manner as the original filings.

108.8 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned six months after the date of filing unless such application has been pursued in good faith or a permit has been issued, except that the building official is authorized to grant one or more extensions of time if a justifiable cause is demonstrated.

SECTION 109 CONSTRUCTION DOCUMENTS

109.1 Submittal of documents. Construction documents shall be submitted with the application for a permit. The number of sets of such documents to be submitted shall be determined by the locality. Construction documents for one- and two-family dwellings may have floor plans reversed provided an accompanying site plan is approved.

Exception: Construction documents do not need to be submitted when the building official determines the proposed work is of a minor nature.

Note: Information on the types of construction required to be designed by an RDP is included in the "Related Laws Package" available from DHCD.

109.2 Site plan. When determined necessary by the building official, a site plan shall be submitted with the application for a permit. The site plan shall show to scale the size and location of all proposed construction, including any associated wells, septic tanks or drain fields. The site plan shall also show to scale the size and location of all existing structures on the site, the distances from lot lines to all proposed construction, the established street grades and the proposed finished grades. When determined necessary by the building official, the site plan shall contain the elevation of the lowest floor of any proposed buildings. The site plan shall also be drawn in accordance with an accurate boundary line survey. When the application for a permit is for demolition, the site plan shall show all construction to be demolished and the location and size of all existing structures that are to remain on the site.

Note: Site plans are generally not necessary for alterations, renovations, repairs or the installation of equipment.

109.3 Engineering details. When determined necessary by the building official, construction documents shall include adequate detail of the structural, mechanical, plumbing or electrical components. Adequate detail may include computations, stress diagrams or other essential technical data and when proposed buildings are more than two stories in height, adequate detail may specifically be required to include where floor penetrations will be made for pipes, wires, conduits, and other components of the electrical, mechanical and plumbing systems and how such floor penetrations will be protected to maintain the required structural integrity or fire-resistance rating, or both. All engineered documents, including relevant computations, shall be sealed by the RDP responsible for the design.

109.4 Examination of documents. The building official shall examine or cause to be examined all construction documents or site plans, or both, within a reasonable time after filing. If such documents or plans do not comply with the provisions of this code, the permit applicant shall be notified in writing of the reasons, which shall include any adverse construction document review comments or determinations that additional information or engineering details need to be submitted. The review of construction documents for new one- and two-family dwellings for determining compliance with the technical provisions of this code not relating to the site, location or soil conditions associated with the dwellings shall not be required

when identical construction documents for identical dwellings have been previously approved in the same locality under the same edition of the code and such construction documents are on file with the local building department.

109.4.1 Expedited construction document review. The building official may accept reports from an approved person or agency that the construction documents have been examined and conform to the requirements of the USBC and may establish requirements for the person or agency submitting such reports. In addition, where such reports have been submitted, the building official may expedite the issuance of the permit.

109.5 Approval of construction documents. The approval of construction documents shall be limited to only those items within the scope of the USBC. Either the word “Approved” shall be stamped on all required sets of approved construction documents or an equivalent endorsement in writing shall be provided. One set of the approved construction documents shall be retained for the records of the local building department and one set shall be kept at the building site and shall be available to the building official at all reasonable times.

109.6 Phased approval. The building official is authorized to issue a permit for the construction of foundations or any other part of a building or structure 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 or structure 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.

SECTION 110 PERMITS

110.1 Approval and issuance of permits. The building official shall examine or cause to be examined all applications for permits or amendments to such applications within a reasonable time after filing. If the applications or amendments do not comply with the provisions of this code or all pertinent laws and ordinances, the permit shall not be issued and the permit applicant shall be notified in writing of the reasons for not issuing the permit. If the application complies with the applicable requirements of this code, a permit shall be issued as soon as practicable. The issuance of permits shall not be delayed in an effort to control the pace of construction of new detached one- or two-family dwellings.

110.2 Types of permits. Separate or combined permits may be required for different areas of construction such as building construction, plumbing, electrical, and mechanical work, or for special construction as determined appropriate by the locality. In addition, permits for two or more buildings or structures on the same lot may be combined. Annual permits may also be issued for any construction regulated by this code. The annual permit holder shall maintain a detailed record of all construction under the annual permit. Such record shall be available to the building official and shall be submitted to the local building department if requested by the building official.

110.3 Asbestos inspection in buildings to be renovated or demolished; exceptions. In accordance with Section 36-99.7 of the Code of Virginia, the local building department shall not issue a building permit allowing a building for which an initial building permit was issued before January 1, 1985, to be renovated or demolished until the local building department receives certification from the owner or his agent that the affected portions of the building have been inspected for the presence of asbestos by an individual licensed to perform such inspections pursuant to Section 54.1-503 of the Code of Virginia and that no asbestos-containing materials were found or that appropriate response actions will be undertaken in accordance with the requirements of the Clean Air Act National Emission Standard for the Hazardous Air Pollutant (NESHAPS) (40 CFR Part 61, Subpart M), and the asbestos worker protection requirements established by the U.S. Occupational Safety and Health Administration for construction workers (29 CFR 1926.1101). Local educational agencies that are subject to the requirements established by the Environmental Protection Agency under the Asbestos Hazard Emergency Response Act (AHERA) shall also certify compliance with 40 CFR 763 and subsequent amendments thereto.

To meet the inspection requirements above, except with respect to schools, asbestos inspection of renovation projects consisting only of repair or replacement of roofing, floorcovering, or siding materials may be satisfied by a statement that the materials to be repaired or replaced are assumed to contain friable asbestos and that asbestos installation, removal, or encapsulation will be accomplished by a licensed asbestos contractor.

The provisions of this section shall not apply to single-family dwellings or residential housing with four or fewer units, unless the renovation or demolition of such buildings is for commercial or public development purposes. The provisions of this section shall not apply if the combined amount of regulated asbestos-containing material involved in the renovation or

demolition is less than 260 linear feet on pipes or less than 160 square feet on other facility components or less than 35 cubic feet off facility components where the length or area could not be measured previously.

An abatement area shall not be reoccupied until the building official receives certification from the owner that the response actions have been completed and final clearances have been measured. The final clearance levels for reoccupancy of the abatement area shall be 0.01 or fewer asbestos fibers per cubic centimeter if determined by Phase Contrast Microscopy analysis (PCM) or 70 or fewer structures per square millimeter if determined by Transmission Electron Microscopy analysis (TEM).

110.4 Fire apparatus access road requirements. The permit applicant shall be informed of any requirements for providing or maintaining fire apparatus access roads prior to the issuance of a building permit.

110.5 Signature on and posting of permits; limitation of approval. The signature of the building official or authorized representative shall be on or affixed to every permit. A copy of the permit shall be posted on the construction site for public inspection until the work is completed. Such posting shall include the street or lot number if one has been assigned, to be readable from a public way. In addition, each building or structure to which a street number has been assigned shall, upon completion, have the number displayed so as to be readable from the public way.

A permit shall be considered authority to proceed with construction in accordance with this code, the approved construction documents, the permit application and any approved amendments or modifications. The permit shall not be construed to otherwise authorize the omission or amendment of any provision of this code.

110.6 Abandonment of work. A building official shall be permitted to revoke a permit if work on the site authorized by the permit is not commenced within six months after issuance of the permit, or if the authorized work on the site is suspended or abandoned for a period of six months after the permit is issued; however, permits issued for plumbing, electrical and mechanical work shall not be revoked if the building permit is still in effect. It shall be the responsibility of the permit applicant to prove to the building official that authorized work includes substantive progress, characterized by approved inspections as specified in Section 113.3 of at least one inspection within a period of six months or other evidence that would indicate substantial work has been performed. Upon written request, the building official may grant one or more extensions of time, not to exceed one year per extension.

110.7 Single-family dwelling permits. The building official shall be permitted to require a three year time limit to complete construction of new detached single-family dwellings, additions to detached single-family dwellings and residential accessory structures. The time limit shall begin from the issuance date of the permit. The building official may grant extensions of time if the applicant can demonstrate substantive progress, characterized by approved inspections as specified in Section 113.3 of at least one inspection within a period of six months or other evidence that would indicate substantial work has been performed.

110.8 Revocation of a permit. The building official may revoke a permit or approval issued under this code in the case of any false statement, misrepresentation of fact, abandonment of work, failure to complete construction as required by Section 110.7 or incorrect information supplied by the applicant in the application or construction documents on which the permit or approval was based.

SECTION 111 RDP SERVICES

111.1 When required. In accordance with Section 54.1-410 of the Code of Virginia and under the general authority of this code, the local building department shall establish a procedure to ensure that construction documents under Section 109 are prepared by an RDP in any case in which the exemptions contained in Sections 54.1-401, 54.1-402 or Section 54.1-402.1 of the Code of Virginia are not applicable or in any case where the building official determines it necessary. When required under Section 54.1-402 of the Code of Virginia or when required by the building official, or both, construction documents shall bear the name and address of the author and his occupation.

Note: Information on the types of construction required to be designed by an RDP is included in the "Related Laws Package" available from DHCD.

111.2 Special inspection requirements. Special inspections shall be conducted when required by Section 1704. Individuals or agencies, or both, conducting special inspections shall meet the qualification requirements of Sections 1703

and 1704.1. The permit applicant shall submit a completed statement of special inspections with the permit application. The building official shall review, and if satisfied that the requirements have been met, approve the statement of special inspections as required in Sections 1704.1.1 and 1705 as a requisite to the issuance of a building permit. The building official may require interim inspection reports. The building official shall receive, and if satisfied that the requirements have been met, approve a final report of special inspections as specified in Section 1704.1.2. All fees and costs related to the special inspections shall be the responsibility of the building owner.

SECTION 112 WORKMANSHIP, MATERIALS AND EQUIPMENT

112.1 General. It shall be the duty of any person performing work covered by this code to comply with all applicable provisions of this code and to perform and complete such work so as to secure the results intended by the USBC.

112.2 Alternative methods or materials. In accordance with Section 36-99 of the Code of Virginia, where practical, the provisions of this code are stated in terms of required level of performance, so as to facilitate the prompt acceptance of new building materials and methods. When generally recognized standards of performance are not available, this section and other applicable requirements of this code provide for acceptance of materials and methods whose performance is substantially equal in safety to those specified on the basis of reliable test and evaluation data presented by the proponent. In addition, as a requirement of this code, the building official shall require that sufficient technical data be submitted to substantiate the proposed use of any material, equipment, device, assembly or method of construction.

112.3 Documentation and approval. In determining whether any material, equipment, device, assembly or method of construction complies with this code, the building official shall approve items listed by nationally recognized testing laboratories (NRTL), when such items are listed for the intended use and application, and in addition, may consider the recommendations of RDPs. Approval shall be issued when the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code and that the material, equipment, device, assembly or method of construction offered is, for the purpose intended, at least the equivalent of that prescribed by the code. Such approval is subject to all applicable requirements of this code and the material, equipment, device, assembly or method of construction shall be installed in accordance with the conditions of the approval and their listings. In addition, the building official may revoke such approval whenever it is discovered that such approval was issued in error or on the basis of incorrect information, or where there are repeated violations of the USBC.

112.3.1 Conditions of listings. Where conflicts between this code and conditions of the listing or the manufacturer's installation instructions occur, the provisions of this code shall apply.

Exception: Where a code provision is less restrictive than the conditions of the listing of the equipment or appliance or the manufacturer's installation instructions, the conditions of the listing and the manufacturer's installation instructions shall apply.

112.4 Used material and equipment. Used materials, equipment and devices may be approved provided they have been reconditioned, tested or examined and found to be in good and proper working condition and acceptable for use by the building official.

SECTION 113 INSPECTIONS

113.1 General. In accordance with Section 36-105 of the Code of Virginia, any building or structure may be inspected at any time before completion, and shall not be deemed in compliance until approved by the inspecting authority. Where the construction cost is less than \$2,500, however, the inspection may, in the discretion of the inspecting authority, be waived. The building official shall coordinate all reports of inspections for compliance with the USBC, with inspections of fire and health officials delegated such authority, prior to the issuance of an occupancy permit.

113.1.1 Equipment required. Any ladder, scaffolding or test equipment necessary to conduct or witness a requested inspection shall be provided by the permit holder.

113.1.2 Duty to notify. When construction reaches a stage of completion which requires an inspection, the permit holder shall notify the building official.

113.1.3 Duty to inspect. Except as provided for in Section 113.7, the building official shall perform the requested inspection in accordance with Section 113.6 when notified in accordance with Section 113.1.2.

113.2 Prerequisites. The building official may conduct a site inspection prior to issuing a permit. When conducting inspections pursuant to this code, all personnel shall carry proper credentials.

113.3 Minimum inspections. The following minimum inspections shall be conducted by the building official when applicable to the construction or permit:

1. Inspection of footing excavations and reinforcement material for concrete footings prior to the placement of concrete.
2. Inspection of foundation systems during phases of construction necessary to assure compliance with this code.
3. Inspection of preparatory work prior to the placement of concrete.
4. Inspection of structural members and fasteners prior to concealment.
5. Inspection of electrical, mechanical and plumbing materials, equipment and systems prior to concealment.
6. Inspection of energy conservation material prior to concealment.
7. Final inspection.

113.4 Additional inspections. The building official may designate additional inspections and tests to be conducted during the construction of a building or structure and shall so notify the permit holder.

113.5 In-plant and factory inspections. When required by the provisions of this code, materials, equipment or assemblies shall be inspected at the point of manufacture or fabrication. The building official shall require the submittal of an evaluation report of such materials, equipment or assemblies. The evaluation report shall indicate the complete details of the assembly including a description of the assembly and its components, and describe the basis upon which the assembly is being evaluated. In addition, test results and other data as necessary for the building official to determine conformance with the USBC shall be submitted. For factory inspections, an identifying label or stamp permanently affixed to materials, equipment or assemblies indicating that a factory inspection has been made shall be acceptable instead of a written inspection report, provided the intent or meaning of such identifying label or stamp is properly substantiated.

113.6 Approval or notice of defective work. The building official shall either approve the work in writing or give written notice of defective work to the permit holder. Upon request of the permit holder, the notice shall reference the USBC section that serves as the basis for the defects and such defects shall be corrected and reinspected before any work proceeds that would conceal such defects. A record of all reports of inspections, tests, examinations, discrepancies and approvals issued shall be maintained by the building official and shall be communicated promptly in writing to the permit holder. Approval issued under this section may be revoked whenever it is discovered that such approval was issued in error or on the basis of incorrect information, or where there are repeated violations of the USBC.

113.7 Approved inspection agencies. The building official may accept reports of inspections and tests from individuals or inspection agencies approved in accordance with the building official's written policy required by Section 113.7.1. The individual or inspection agency shall meet the qualifications and reliability requirements established by the written policy. Under circumstances where the building official is unable to make the inspection or test required by Section 113.3 or 113.4 within two working days of a request or an agreed upon date or if authorized for other circumstances in the building official's written policy, the building official shall accept reports for review. The building official shall approve the report from such approved individuals or agencies unless there is cause to reject it. Failure to approve a report shall be in writing within two working days of receiving it stating the reason for the rejection. Reports of inspections conducted by approved third-party inspectors or agencies shall be in writing, shall indicate if compliance with the applicable provisions of the USBC have been met and shall be certified by the individual inspector or by the responsible officer when the report is from an agency.

Note: Photographs, videotapes or other sources of pertinent data or information may be considered as constituting such reports and tests.

113.7.1 Third-party inspectors. Each building official charged with the enforcement of the USBC shall have a written policy establishing the minimum acceptable qualifications for third-party inspectors. The policy shall include the format and time frame required for submission of reports, any prequalification or pre-approval requirements before conducting a third-party inspection and any other requirements and procedures established by the building official.

113.7.2 Qualifications. In determining third-party inspector qualifications, the building official may consider such items as DHCD certification, other state and national certifications, state professional registrations, related experience, education and any other factors that would demonstrate competency and reliability to conduct inspections.

113.8 Final inspection. Upon completion of a building or structure and before the issuance of a certificate of occupancy, a final inspection shall be conducted to ensure that any defective work has been corrected and that all work complies with the USBC and has been approved, including any work associated with modifications under Section 106.3. The approval of a final inspection shall be permitted to serve as the new certificate of occupancy required by Section 116.1 in the case of additions or alterations to existing buildings or structures that already have a certificate of occupancy.

SECTION 114 STOP WORK ORDERS

114.1 Issuance of order. When the building official finds that work on any building or structure is being executed contrary to the provisions of this code or any pertinent laws or ordinances, or in a manner endangering the general public, a written stop work order may be issued. The order shall identify the nature of the work to be stopped and be given either to the owner of the property involved, to the owner's agent or to the person performing the work. Following the issuance of such an order, the affected work shall cease immediately. The order shall state the conditions under which such work may be resumed.

114.2 Limitation of order. A stop work order shall apply only to the work identified in the order, provided that other work on the building or structure may be continued if not concealing the work covered by the order.

SECTION 115 VIOLATIONS

115.1 Violation a misdemeanor; civil penalty. In accordance with Section 36-106 of the Code of Virginia, it shall be unlawful for any owner or any other person, firm or corporation, on or after the effective date of any code provisions, to violate any such provisions. Any locality may adopt an ordinance which establishes a uniform schedule of civil penalties for violations of specified provisions of the code which are not abated or remedied promptly after receipt of a notice of violation from the local enforcement officer.

Note: See the full text of Section 36-106 of the Code of Virginia for additional requirements and criteria pertaining to legal action relative to violations of the code.

115.2 Notice of violation. The building official shall issue a written notice of violation to the responsible party if any violations of this code or any directives or orders of the building official have not been corrected or complied with in a reasonable time. The notice shall reference the code section upon which the notice is based and direct the discontinuance and abatement of the violation or the compliance with such directive or order. The notice shall be issued by either delivering a copy to the responsible party by mail to the last known address or delivering the notice in person or by leaving it in the possession of any person in charge of the premises, or by posting the notice in a conspicuous place if the person in charge of the premises cannot be found. The notice of violation shall indicate the right of appeal by referencing the appeals section. When the owner of the building or structure, or the permit holder for the construction in question, or the tenants of such building or structure, are not the responsible party to whom the notice of violation is issued, then a copy of the notice shall also be delivered to the such owner, permit holder or tenants.

115.2.1 Notice not to be issued under certain circumstances. When violations are discovered more than two years after the certificate of occupancy is issued or the date of initial occupancy, whichever occurred later, or more than two years after the approved final inspection for an alteration or renovation, a notice of violation shall only be issued upon advice from the legal counsel of the locality that action may be taken to compel correction of the violation. When compliance can no longer be compelled by prosecution under Section 36-106 of the Code of Virginia, the building

official, when requested by the owner, shall document in writing the existence of the violation noting the edition of the USBC the violation is under.

115.3 Further action when violation not corrected. If the responsible party has not complied with the notice of violation, the building official shall submit a written request to the legal counsel of the locality to institute the appropriate legal proceedings to restrain, correct or abate the violation or to require the removal or termination of the use of the building or structure involved. In cases where the locality so authorizes, the building official may issue or obtain a summons or warrant. Compliance with a notice of violation notwithstanding, the building official may request legal proceedings be instituted for prosecution when a person, firm or corporation is served with three or more notices of violation within one calendar year for failure to obtain a required construction permit prior to commencement of work subject to this code.

Note: See Section 19.2-8 of the Code of Virginia concerning the statute of limitations for building code prosecutions.

115.4 Penalties and abatement. Penalties for violations of the USBC shall be as set out in Section 36-106 of the Code of Virginia. The successful prosecution of a violation of the USBC shall not preclude the institution of appropriate legal action to require correction or abatement of a violation.

SECTION 116 CERTIFICATES OF OCCUPANCY

116.1 General; when to be issued. A certificate of occupancy indicating completion of the work for which a permit was issued shall be obtained prior to the occupancy of any building or structure, except as provided for in this section generally and as specifically provided for in Section 113.8 for additions or alterations. The certificate shall be issued after completion of the final inspection and when the building or structure is in compliance with this code and any pertinent laws or ordinances, or when otherwise entitled. The building official shall, however, issue a certificate of occupancy within five working days after being requested to do so, provided the building or structure meets all of the requirements for a certificate.

Exception: A certificate of occupancy is not required for an accessory structure as defined in the International Residential Code.

116.1.1 Temporary certificate of occupancy. Upon the request of a permit holder, a temporary certificate of occupancy may be issued before the completion of the work covered by a permit, provided that such portion or portions of a building or structure may be occupied safely prior to full completion of the building or structure without endangering life or public safety.

116.2 Contents of certificate. A certificate of occupancy shall specify the following:

1. The edition of the USBC under which the permit is issued.
2. The group classification and occupancy in accordance with the provisions of Chapter 3.
3. The type of construction as defined in Chapter 6.
4. If an automatic sprinkler system is provided and whether or not such system was required.
5. Any special stipulations and conditions of the building permit and if any modifications were issued under the permit, there shall be a notation on the certificate that modifications were issued.

116.3 Suspension or revocation of certificate. A certificate of occupancy may be revoked or suspended whenever the building official discovers that such certificate was issued in error or on the basis of incorrect information, where there are repeated violations of the USBC after the certificate has been issued or when requested by the code official under Section 105.7 of the Virginia Maintenance Code. The revocation or suspension shall be in writing and shall state the necessary corrections or conditions for the certificate to be reissued or reinstated in accordance with Section 116.3.1.

116.3.1 Reissuance of reinstatement of certificate of occupancy. When a certificate of occupancy has been revoked or suspended, it shall be reissued or reinstated upon correction of the specific condition or conditions cited as the cause of the revocation or suspension and the revocation or suspension of a certificate of occupancy shall not be used as

justification for requiring a building or structure to be subject to a later edition of the code than that under which such building or structure was initially constructed.

116.4 Issuance of certificate for existing buildings or structures. Upon written request from the owner or the owner's agent, or as otherwise determined necessary by the building official, a certificate of occupancy shall be issued for an existing building or structure provided there are no current violations of the Virginia Maintenance Code or the Virginia Statewide Fire Prevention Code (13 VAC 5-51) and the occupancy classification of the building or structure has not changed. An inspection shall be performed prior to the issuance of the certificate and such buildings and structures shall not be prevented from continued use.

SECTION 117 TEMPORARY AND MOVED BUILDINGS AND STRUCTURES; DEMOLITION

117.1 Temporary building and structures. The building official is authorized to issue a permit for temporary buildings or structures. Such permits shall be limited as to time of service, but shall not be permitted for more than one year, except that upon the permit holder's written request, the building official may grant one or more extensions of time, not to exceed one year per extension. The building official is authorized to terminate the approval and order the demolition or removal of temporary buildings or structures during the period authorized by the permit when determined necessary.

117.2 Moved buildings and structures. Any building or structure moved into a locality or moved to a new location within a locality shall not be occupied or used until a certification of occupancy is issued for the new location. Such moved buildings or structures shall be required to comply with the requirements of this code for a newly constructed building or structure unless meeting all of the following requirements relative to the new location:

1. There is no change in the occupancy classification from its previous location.
2. The building or structure was in compliance with all state and local requirements applicable to it in its previous location and is in compliance with all state and local requirements applicable if originally constructed in the new location.
3. The building or structure did not become unsafe during the moving process due to structural damage or for other reasons.
4. Any alterations, reconstruction, renovations or repairs made pursuant to the move are in compliance with applicable requirements of this code.

117.3 Demolition of buildings and structures. Prior to the issuance of a permit for the demolition of any building or structure, the owner or the owner's agent shall provide certification to the building official that all service connections of utilities have been removed, sealed or plugged satisfactorily and a release has been obtained from the associated utility company. The certification shall further provide that written notice has been given to the owners of adjoining lots and any other lots that may be affected by the temporary removal of utility wires or the temporary disconnection or termination of other services or facilities relative to the demolition. In addition, the requirements of Chapter 33 of the IBC for any necessary retaining walls or fences during demolition shall be applicable and when a building or structure is demolished or removed, the established grades shall be restored.

SECTION 118 BUILDINGS AND STRUCTURES BECOMING UNSAFE DURING CONSTRUCTION

118.1 Applicability. This section applies to buildings and structures for which a construction permit has been issued under this code and construction has not been completed or a certificate of occupancy has not been issued, or both. In addition, this section applies to any building or structure that is under construction or that was constructed without obtaining the required permits under this edition or any edition of the USBC.

Note: Existing buildings and structures other than those under construction or subject to this section are subject to the Virginia Maintenance Code that also has requirements for unsafe conditions.

118.2 Repair or removal of unsafe buildings or structures. Any building or structure subject to this section that is either deteriorated, improperly maintained, of faulty construction, deficient in adequate exit facilities, a fire hazard or dangerous

to life or the public welfare, or both, or any combination of the foregoing, is an unsafe building or structure and shall be made safe through compliance with this code or shall be taken down and removed if determined necessary by the building official.

118.3 Inspection report and notice of unsafe building or structure. The building official shall inspect any building or structure reported to be unsafe and shall prepare a report to be filed in the records of the local building department. In addition to a description of any unsafe conditions found, the report shall include the occupancy classification of the building or structure and the nature and extent of any damages caused by collapse or failure of any building components. If the building or structure is determined by the building official to be unsafe, a notice of unsafe building or structure shall be issued in person to the owner and any permit holder. The notice shall describe any unsafe conditions and specify any repairs or improvements necessary to make the building or structure safe, or alternatively, when determined necessary by the building official, require the unsafe building or structure, or any portion of it, to be taken down and removed. The notice shall stipulate a time period for the repair or demolition of the unsafe building or structure and contain a statement requiring the person receiving the notice to determine whether to accept or reject the terms of the notice. If any persons to which the notice of unsafe building or structure is to be issued cannot be found after diligent search, as equivalent service, the notice shall be sent by registered or certified mail to the last known address of such persons and a copy of the notice posted in a conspicuous place on the premises.

118.4 Vacating the unsafe building or structure. If any portion of an unsafe building or structure has collapsed or fallen, or if the building official determines there is actual and immediate danger of any portion collapsing or falling, and when life is endangered by the occupancy of the unsafe building or structure, the building official shall be authorized to order the occupants to immediately vacate the unsafe building or structure. When an unsafe building or structure is ordered to be vacated, the building official shall post a notice at each entrance that reads as follows:

“This Building (or Structure) is Unsafe and its Occupancy (or Use) is Prohibited by the Building Official.”

After posting, occupancy or use of the unsafe structure shall be prohibited except when authorized to enter to conduct inspections, make required repairs or as necessary to demolish the building or structure.

118.5 Emergency repairs and demolition. To the extent permitted by the locality, the building official may authorize emergency repairs to unsafe buildings or structures when it is determined that there is an immediate danger of any portion of the unsafe building or structure collapsing or falling and when life is endangered. Emergency repairs may also be authorized when there is a code violation resulting in the immediate, serious and imminent threat to the life and safety of the occupants. The building official shall be permitted to authorize the necessary work to make the building or structure temporarily safe whether or not legal action to compel compliance has been instituted.

In addition, whenever an owner of an unsafe building or structure fails to comply with a notice to demolish issued under Section 118.3 in the time period stipulated, the building official shall be permitted to cause the unsafe building or structure to be demolished. In accordance with Sections 15.2-906 and 15.2-1115 of the Code of Virginia, the legal counsel of the locality may be requested to institute appropriate action against the property owner to recover the costs associated with any such emergency repairs or demolition and every such charge that remains unpaid shall constitute a lien against the property on which the emergency repairs or demolition were made and shall be enforceable in the same manner as provided in Articles 3 (Section 58.1-3940 et seq.) and 4 (Section 58.1-3965 et seq.) of Chapter 39 of Title 58.1 of the Code of Virginia.

Note: Building officials and local governing bodies should be aware that other statutes and court decisions may impact on matters relating to demolition, in particular whether newspaper publication is required if the owner cannot be located and whether the demolition order must be delayed until the owner has been given the opportunity for a hearing.

SECTION 119 APPEALS

119.1 Establishment of appeals board. In accordance with Section 36-105 of the Code of Virginia, there shall be established within each local building department a LBBCA. Whenever a county or a municipality does not have such a LBBCA, the local governing body shall enter into an agreement with the local governing body of another county or municipality or with some other agency, or a state agency approved by DHCD for such appeals resulting therefrom. Fees may be levied by the local governing body in order to defray the cost of such appeals. In addition, as an authorization in

this code, separate LBBCAs may be established to hear appeals of different enforcement areas such as electrical, plumbing or mechanical requirements. Each such LBBCA shall comply with the requirements of this section.

119.2 Membership of board. The LBBCA shall consist of at least five members appointed by the locality for a specific term of office established by written policy. Alternate members may be appointed to serve in the absence of any regular members and as such, shall have the full power and authority of the regular members. Regular and alternate members may be reappointed. Written records of current membership, including a record of the current chairman and secretary shall be maintained in the office of the locality. In order to provide continuity, the terms of the members may be of different length so that less than half will expire in any one-year period.

119.3 Officers and qualifications of members. The LBBCA shall annually select one of its regular members to serve as chairman. When the chairman is not present at an appeal hearing, the members present shall select an acting chairman. The locality or the chief executive officer of the locality shall appoint a secretary to the LBBCA to maintain a detailed record of all proceedings. Members of the LBBCA shall be selected by the locality on the basis of their ability to render fair and competent decisions regarding application of the USBC and shall to the extent possible, represent different occupational or professional fields relating to the construction industry. At least one member should be an experienced builder; at least one member should be an RDP, and at least one member should be an experienced property manager. Employees or officials of the locality shall not serve as members of the LBBCA.

119.4 Conduct of members. No member shall hear an appeal in which that member has a conflict of interest in accordance with the State and Local Government Conflict of Interests Act (Section 2.2-3100 et seq. of the Code of Virginia). Members shall not discuss the substance of an appeal with any other party or their representatives prior to any hearings.

119.5 Right of appeal; filing of appeal application. The owner of a building or structure, the owner's agent or any other person involved in the design or construction of a building or structure may appeal a decision of the building official concerning the application of the USBC to such building or structure and may also appeal a refusal by the building official to grant a modification to the provisions of the USBC pertaining to such building or structure. The applicant shall submit a written request for appeal to the LBBCA within 30 calendar days of the receipt of the decision being appealed. The application shall contain the name and address of the owner of the building or structure and in addition, the name and address of the person appealing, when the applicant is not the owner. A copy of the building official's decision shall be submitted along with the application for appeal and maintained as part of the record. The application shall be marked by the LBBCA to indicate the date received. Failure to submit an application for appeal within the time limit established by this section shall constitute acceptance of a building official's decision.

Note: To the extent that a decision of a building official pertains to amusement devices there may be a right of appeal under the VADR.

119.6 Meetings and postponements. The LBBCA shall meet within 30 calendar days after the date of receipt of the application for appeal, except that a longer time period shall be permitted if agreed to by all the parties involved in the appeal. A notice indicating the time and place of the hearing shall be sent to the parties in writing to the addresses listed on the application at least 14 calendar days prior to the date of the hearing, except that a lesser time period shall be permitted if agreed to by all the parties involved in the appeal. When a quorum of the LBBCA is not present at a hearing to hear an appeal, any party involved in the appeal shall have the right to request a postponement of the hearing. The LBBCA shall reschedule the appeal within 30 calendar days of the postponement, except that a longer time period shall be permitted if agreed to by all the parties involved in the appeal.

119.7 Hearings and decision. All hearings before the LBBCA shall be open meetings and the appellant, the appellant's representative, the locality's representative and any person whose interests are affected by the building official's decision in question shall be given an opportunity to be heard. The chairman shall have the power and duty to direct the hearing, rule upon the acceptance of evidence and oversee the record of all proceedings. The LBBCA shall have the power to uphold, reverse or modify the decision of the official by a concurring vote of a majority of those present. Decisions of the LBBCA shall be final if no further appeal is made. The decision of the LBBCA shall be by resolution signed by the chairman and retained as part of the record of the appeal. Copies of the resolution shall be sent to all parties by certified mail. In addition, the resolution shall contain the following wording:

“Any person who was a party to the appeal may appeal to the State Review Board by submitting an application to such Board within 21 calendar days upon receipt by certified mail of this resolution. Application forms are available from the Office of the State Review Board, 501 North Second Street, Richmond, Virginia 23219, (804) 371-7150.”

119.8 Appeals to the State Review Board. After final determination by the LBBCA in an appeal, any person who was a party to the appeal may further appeal to the State Review Board. In accordance with Section 36-98.2 of the Code of Virginia for state-owned buildings and structures, appeals by an involved state agency from the decision of the building official for state-owned buildings or structures shall be made directly to the State Review Board. The application for appeal shall be made to the State Review Board within 21 calendar days of the receipt of the decision to be appealed. Failure to submit an application within that time limit shall constitute an acceptance of the building official's decision. For appeals from a LBBCA, a copy of the building official's decision and the resolution of the LBBCA shall be submitted with the application for appeal to the State Review Board. Upon request by the office of the State Review Board, the LBBCA shall submit a copy of all pertinent information from the record of the appeal. In the case of appeals involving state-owned buildings or structures, the involved state agency shall submit a copy of the building official's decision and other relevant information with the application for appeal to the State Review Board. Procedures of the State Review Board are in accordance with Article 2 (Section 36-108 et seq.) of Chapter 6 of Title 36 of the Code of Virginia. Decisions of the State Review Board shall be final if no further appeal is made.

CHAPTER 2 DEFINITIONS

Add the following definitions to Section 202 of the IBC to read:

BUILDING REGULATIONS. Any law, rule, resolution, regulation, ordinance or code, general or special, or compilation thereof, heretofore or hereafter enacted or adopted by the Commonwealth or any county or municipality, including departments, boards, bureaus, commissions, or other agencies thereof, relating to construction, reconstruction, alteration, conversion, repair, maintenance, or use of structures and buildings and installation of equipment therein. The term does not include zoning ordinances or other land use controls that do not affect the manner of construction or materials to be used in the erection, alteration or repair of a building or structure.

CONSTRUCTION. The construction, reconstruction, alteration, repair, or conversion of buildings and structures.

DAY-NIGHT AVERAGE SOUND LEVEL (LDN). See Section 1202.1.

DHCD. The Virginia Department of Housing and Community Development.

EMERGENCY COMMUNICATION EQUIPMENT. See Section 902.1.

EMERGENCY PUBLIC SAFETY PERSONNEL. See Section 902.1

EQUIPMENT. Plumbing, heating, electrical, ventilating, air-conditioning and refrigeration equipment, elevators, dumbwaiters, escalators, and other mechanical additions or installations.

FARM BUILDING OR STRUCTURE. A building or structure not used for residential purposes, located on property where farming operations take place, and used primarily for any of the following uses or combination thereof:

1. Storage, handling, production, display, sampling or sale of agricultural, horticultural, floricultural or silvicultural products produced in the farm.
2. Sheltering, raising, handling, processing or sale of agricultural animals or agricultural animal products.
3. Business or office uses relating to the farm operations.
4. Use of farm machinery or equipment or maintenance or storage of vehicles, machinery or equipment on the farm.
5. Storage or use of supplies and materials used on the farm.
6. Implementation of best management practices associated with farm operations.

INDUSTRIALIZED BUILDING. A combination of one or more sections or modules, subject to state regulations and including the necessary electrical, plumbing, heating, ventilating and other service systems, manufactured off-site and transported to the point of use for installation or erection, with or without other specified components, to comprise a finished building. Manufactured homes shall not be considered industrialized buildings for the purpose of this code.

LOCAL BOARD OF BUILDING CODE APPEALS (LBBCA). See Section 119.1.

LOCAL BUILDING DEPARTMENT. The agency or agencies of any local governing body charged with the administration, supervision, or enforcement of this code, approval of construction documents, inspection of buildings or structures, or issuance of permits, licenses, certificates or similar documents.

LOCAL GOVERNING BODY. The governing body of any city, county or town in this Commonwealth.

LOCALITY. A city, county or town in this Commonwealth.

MANUFACTURED HOME. A structure subject to federal regulation, which is transportable in one or more sections; is eight body feet or more in width and 40 body feet or more in length in the traveling mode, or is 320 or more square feet when erected on site; is built on a permanent chassis; is designed to be used as a single-family dwelling, with or without a permanent foundation, when connected to the required utilities; and includes the plumbing, heating, air-conditioning, and electrical systems contained in the structure.

NIGHT CLUB. Any building in which the main use is a place of public assembly that provides exhibition, performance or other forms of entertainment; serves alcoholic beverages; and provides music and space for dancing.

SKIRTING. A weather-resistant material used to enclose the space from the bottom of the manufactured home to grade.

SOUND TRANSMISSION CLASS (STC) RATING. See Section 1202.1.

STATE REGULATED CARE FACILITY (SRCF). A building with an occupancy in Group R-2, R-3, R-4 or R-5 occupied by persons in the care of others where program oversight is provided by the Virginia Department of Social Services, the Virginia Department of Mental Health, Mental Retardation and Substance Abuse Services, the Virginia Department of Education or the Virginia Department of Juvenile Justice.

STATE REVIEW BOARD. The Virginia State Building Code Technical Review Board as established under Section 36-108 of the Code of Virginia.

TECHNICAL ASSISTANT. Any person employed by or under an extended contract to a local building department or local enforcing agency for enforcing the USBC. For the purposes of this definition, an extended contract shall be a contract with an aggregate term of 18 months or longer.

VADR. The Virginia Amusement Device Regulations (13 VAC 5-31).

VCS. The Virginia Certification Standards (13 VAC 5-21).

WORKING DAY. A day other than Saturday, Sunday or a legal local, state or national holiday.

Change the following definitions in Section 202 of the IBC to read:

BUILDING. A combination of materials, whether portable or fixed, having a roof to form a structure for the use or occupancy by persons, or property. The word “building” shall be construed as though followed by the words “or part or parts thereof” unless the context clearly requires a different meaning. “Building” shall not include roadway tunnels and bridges owned by the Virginia Department of Transportation, which shall be governed by construction and design standards approved by the Virginia Commonwealth Transportation Board.

For application of this code, each portion of a building which is completely separated from other portions by fire walls complying with Section 705 shall be considered as a separate building (see Section 503.1).

CANOPY. A structure or architectural projection of rigid construction over which a covering is attached that provides weather protection, identity or decoration and may be structurally independent or supported by attachment to a building on one end by not less than one stanchion on the outer end.

OWNER. The owner or owners of the freehold of the premises or lesser estate therein, a mortgagee or vendee in possession, assignee of rents, receiver, executor, trustee or lessee in control of a building or structure.

REGISTERED DESIGN PROFESSIONAL (RDP). An architect or professional engineer, licensed to practice architecture or engineering, as defined under Section 54.1-400 of the Code of Virginia.

STRUCTURE. An assembly of materials forming a construction for occupancy or use including stadiums, gospel and circus tents, reviewing stands, platforms, stagings, observation towers, radio towers, water tanks, storage tanks (underground and aboveground), trestles, piers, wharves, swimming pools, amusement devices, storage bins, and other structures of this general nature but excluding water wells. The word “structure” shall be construed as though followed by the words “or part or parts thereof” unless the context clearly requires a different meaning. “Structure” shall not include roadway tunnels and bridges owned by the Virginia Department of Transportation, which shall be governed by construction and design standards approved by the Virginia Commonwealth Transportation Board.

Delete the following definitions from Section 202 of the IBC:

AGRICULTURAL, BUILDING.

EXISTING STRUCTURE.

CHAPTER 3 USE AND OCCUPANCY CLASSIFICATION

Change exception 15 of Section 307.1 of the IBC to read:

15. The storage of black powder, smokeless propellant and small arms primers in Groups M, R-3 and R-5 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*, as amended in Section 307.9.

Add Section 307.9 to the IBC to read:

307.9 Amendments. The following changes shall be made to the *International Fire Code* (IFC) for the use of Exception 15 in Section 307.1:

1. Change Section 314.1 of the IFC to read as follows:

314.1 General. Indoor displays constructed within any building or structure shall comply with Sections 314.2 through 314.5.

2. Add new Section 314.5 to the IFC to read as follows:

314.5 Smokeless powder and small arms primers. Vendors shall not store, display or sell smokeless powder or small arms primers during trade shows inside exhibition halls except as follows:

1. The amount of smokeless powder each vender may store is limited to the storage arrangements and storage amounts established in Section 3306.5.2.1.
2. Smokeless powder shall remain in the manufacturer’s original sealed container and the container shall remain sealed while inside the building. The repackaging of smokeless powder shall not be performed inside the building. Damaged containers shall not be repackaged inside the building and shall be immediately removed from the building in such manner to avoid spilling any powder.

3. There shall be at least 50 feet separation between vendors and 20 feet from any exit.
4. Small arms primers shall be displayed and stored in the manufacturer's original packaging and in accordance with the requirements of Section 3306.5.2.3.
3. Change Exception 4 and add Exceptions 10 and 11 to Section 3301.1 of the IFC as follows:
 4. The possession, storage and use of not more than 15 pounds (6.75 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and any amount of small arms primers for hand loading of small arms ammunition for personal consumption.
 10. The display of small arms primers in Group M when in the original manufacturer's packaging.
 11. The possession, storage and use of not more than 50 pounds (23 kg) of commercially manufactured sporting black powder, 100 pounds (45 kg) of smokeless powder, and small arms primers for hand loading of small arms ammunition for personal consumption in Group R-3 or R-5, or 200 pounds (91 kg) of smokeless powder when stored in the manufacturer's original containers in detached Group U structures at least 10 feet (3048 mm) from inhabited buildings and are accessory to Group R-3 or R-5.
4. Change the definition of Smokeless Propellants in Section 3302.1 of the IFC as follows:

SMOKELESS PROPELLANTS. Solid propellants, commonly referred to as smokeless powders, or any propellants classified by DOTn as smokeless propellants in accordance with NA3178 (Smokeless Powder for Small Arms), used in small arms ammunition, firearms, cannons, rockets, propellant-actuated devices and similar articles.

5. Change Section 3306.4 of the IFC to read as follows:

3306.4 Storage in residences. Propellants for personal use in quantities not exceeding 50 pounds (23 kg) of black powder or 100 pounds (45 kg) of smokeless powder shall be stored in original containers in occupancies limited to Group R-3 and R-5 or 200 pounds (91 kg) of smokeless powder when stored in the manufacturer's original containers in detached Group U structures at least 10 feet (3048 mm) from inhabited buildings and are accessory to Group R-3 or R-5. In other than Group R-3 or R-5, smokeless powder in quantities exceeding 20 pounds (9 kg) but not exceeding 50 pounds (23 kg) shall be kept in a wooden box or cabinet having walls of at least one inch (25 mm) nominal thickness or equivalent.

6. Delete Sections 3306.4.1 and 3306.4.2 of the IFC.
7. Change Section 3306.5.1.1 of the IFC to read as follows:

3306.5.1.1 Smokeless propellant. No more than 100 pounds (45 kg) of smokeless propellants in containers of eight pounds (3.6 kg) or less capacity shall be displayed in Group M occupancies.

8. Delete Section 3306.5.1.3 of the IFC.
9. Change Section 3306.5.2.1 of the IFC as follows:

3306.5.2.1 Smokeless propellant. Commercial stocks of smokeless propellants shall be stored as follows:

1. Quantities exceeding 20 pounds (9 kg), but not exceeding 100 pounds (45 kg) shall be stored in portable wooden boxes having walls of at least one inch (25 mm) nominal thickness or equivalent.
2. Quantities exceeding 100 pounds (45 kg), but not exceeding 800 pounds (363 kg), shall be stored in storage cabinets having walls at least one inch (25 mm) nominal thickness or equivalent. Not more than 400 pounds (182 kg) shall be stored in any one cabinet, and cabinets shall be separated by a distance of at least 25 feet (7620 mm) or by a fire partition having a fire-resistance rating of at least one hour.

3. Storage of quantities exceeding 800 pounds (363 kg), but not exceeding 5,000 pounds (2270 kg) in a building shall comply with all of the following:
 - 3.1. The storage is inaccessible to unauthorized personnel.
 - 3.2. Smokeless propellant shall be stored in nonportable storage cabinets having wood walls at least one inch (25 mm) nominal thickness or equivalent and having shelves with no more than three feet (914 mm) of vertical separation between shelves.
 - 3.3. No more than 400 pounds (182 kg) is stored in any one cabinet.
 - 3.4. Cabinets shall be located against walls with at least 40 feet (12 192 mm) between cabinets. The minimum required separation between cabinets may be reduced to 20 feet (6096 mm) provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades must extend a minimum of 10 feet (3048 mm) outward, be firmly attached to the wall, and be constructed of steel not less than 0.25 inch thick (6.4 mm), 2-inch (51 mm) nominal thickness wood, brick, or concrete block.
 - 3.5. Smokeless propellant shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids, or oxidizing materials by a distance of 25 feet (7620 mm) or by a fire partition having a fire-resistance rating of 1 hour.
 - 3.6. The building shall be equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
4. Smokeless propellants not stored according to Item 1, 2, or 3 above shall be stored in a Type 2 or 4 magazine in accordance with Section 3304 and NFPA 495.

Change Section 308.5.2 of the IBC to read:

308.5.2 Child care facility. A facility other than family day homes under Section 310.4 that provides supervision and personal care on less than a 24-hour basis for more than five children 2½ years of age or less shall be classified as Group I-4.

Exception: A child day care facility that provides care for more than five but no more than 100 children 2½ years or less of age, when the rooms where such children are cared for are located on the level of exit discharge and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

Change occupancy classifications “R-1” and “R-4” and add new occupancy classification “R-5” to Section 310 of the IBC to read:

R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

Boarding houses (transient)
Hotels (transient)
Motels (transient)

Exceptions:

1. Non-proprietor occupied bed and breakfast and other transient boarding facilities not more than three stories above grade plane in height with a maximum of 10 occupants total are permitted to be classified as either Group R-3 or Group R-5 provided that smoke alarms are installed in compliance with Section 907.2.10.1.2 for Group R-3 or Section 313.1 of the *International Residential Code* for Group R-5.
2. Proprietor occupied bed and breakfast and other transient boarding facilities not more than three stories above grade plane in height, that are also occupied as the residence of the proprietor, with a

maximum of 5 guest room sleeping units provided for the transient occupants are permitted to be classified as either Group R-3 or R-5 provided that smoke alarms are installed in compliance with Section 907.2.10.1.2 for Group R-3 or Section 313.1 of the *International Residential Code* for Group R-5.

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code, or shall comply with the *International Residential Code* with the additional requirement to provide an automatic sprinkler system in accordance with Section 903.2.7.

Exception: Group homes licensed by the Virginia Department of Mental Health, Mental Retardation and Substance Abuse Services or the Virginia Department of Social Services that house no more than eight persons with one or more resident counselors shall be classified as Group R-2, R-3, R-4 or R-5. Not more than five of the persons may require physical assistance from staff to respond to an emergency situation.

R-5 Residential occupancies in detached one- and two-family dwellings, townhouses and accessory structures within the scope of the *International Residential Code*, also referred to as the “IRC.”

Add Section 310.3 to the IBC to read:

310.3 Group R-5. The construction of Group R-5 structures shall comply with the IRC. The amendments to the IRC set out in Section 310.6 shall be made to the IRC for its use as part of this code. In addition, all references to Section 101.2 in the IBC relating to the construction of such structures subject to the IRC shall be considered to be references to this section.

Add Section 310.3.1 to the IBC to read:

310.3.1 Additional requirements. Methods of construction, materials, systems, equipment or components for Group R-5 structures not addressed by prescriptive or performance provisions of the IRC shall comply with applicable IBC requirements.

Add Section 310.4 to the IBC to read:

310.4 Family day homes. Family day homes where program oversight is provided by the Virginia Department of Social Services shall be classified as Group R-2, R-3 or R-5.

Note: Family day homes may generally care for up to 12 children. See the DHCD Related Laws Package for additional information.

Add Section 310.5 to the IBC to read:

310.5 Radon-resistant construction in Group R-3 and R-4 structures. Group R-3 and R-4 structures shall be subject to the radon-resistant construction requirements in Appendix F in localities enforcing such requirements pursuant to Section R324 of the IRC.

Add Section 310.6 to the IBC to read:

310.6 Amendments to the IRC. The following changes shall be made to the IRC for its use as part of this code.

1. Add the following definitions to Section R202 to read:

AIR-IMPERMEABLE INSULATION. An insulation having an air permeance equal to or less than 0.02 L/s-m² at 75 Pa pressure differential tested according to ASTM E 2178 or E 283.

SUBSOIL DRAIN. A drain that collects subsurface water or seepage water and conveys such water to a place of disposal.

2. Change the definition of “Story Above Grade” in Section R202 to read:

STORY ABOVE GRADE. Any story having its finished floor surface entirely above grade, except that a basement shall be considered as a story above grade where the finished surface of the floor above the basement meets any one of the following:

1. Is more than 6 feet (1829 mm) above the grade plane.
2. Is more than 6 feet (1829 mm) above the finished ground level for more than 50% of the total building perimeter.
3. Is more than 12 feet (3658 mm) above the finished ground level at any point.

3. Change Section R301.2.1 to read:

R301.2.1 Wind limitations. Buildings and portions thereof shall be limited by wind speed, as defined in Table R301.2(1), and construction methods in accordance with this code. Basic wind speeds shall be determined from Figure R301.2(4). Where different construction methods and structural materials are used for various portions of a building, the applicable requirements of this section for each portion shall apply. Where loads for wall coverings, curtain walls, roof coverings, exterior windows, skylights, garage doors and exterior doors are not otherwise specified, the loads listed in Table R301.2(2) adjusted for height and exposure using Table R301.2(3) shall be used to determine design load performance requirements for wall coverings, curtain walls, roof coverings, exterior windows, skylights, garage doors and exterior doors. Asphalt shingles shall be designed for wind speeds in accordance with Section R905.2.6. Wind speeds for localities in special wind regions, near mountainous terrain and near gorges shall be based on elevation. Areas at 4,000 feet in elevation or higher shall use 110 V mph (48.4 m/s) and areas under 4,000 feet in elevation shall use 90 V mph (39.6 m/s). Gorge areas shall be based on the highest recorded speed per locality or in accordance with local jurisdiction requirements determined in accordance with Section 6.5.4 of ASCE 7.

4. Change Section R301.2.1.1 to read:

R301.2.1.1 Design criteria. Construction in regions where the basic wind speeds from Figure R301.2(4) equal or exceed 110 miles per hour (49m/s) shall be designed in accordance with one of the following:

1. American Forest and Paper Association (AF&PA) *Wood Frame Construction Manual for One- and Two-Family Dwellings* (WFCM); or
2. *Southern Building Code Congress International Standard for Hurricane Resistant Residential Construction* (SSTD 10); or
3. *Minimum Design Loads for Buildings and Other Structures* (ASCE-7); or
4. American Iron and Steel Institute (AISI), *Standard for Cold-Formed Steel Framing—Prescriptive Method For One- and Two-Family Dwellings (COFS/PM) with Supplement to Standard for Cold-Formed Steel Framing—Prescriptive Method For One- and Two-Family Dwellings*.
5. Concrete construction shall be designed in accordance with the provisions of this code.

5. Change Table R301.7 to read:

TABLE R301.7
ALLOWABLE DEFLECTION OF STRUCTURAL MEMBERS^{a,b,c,d}

STRUCTURAL MEMBER	ALLOWABLE DEFLECTION
Rafters having slopes greater than 3/12 with no finished ceiling attached to rafters	L/180
Interior walls and partitions	H/180
Floors and plastered ceilings	L/360
All other structural members	L/240

Exterior walls with plaster or stucco finish	H/360
Exterior walls—wind loads ^a with brittle finishes	H/240
Exterior walls—wind loads ^a with flexible finishes	H/120 ^d
Veneer masonry walls	L/600

Note: L = span length, H = span height.

- a. The wind load shall be permitted to be taken as 0.7 times the Component and Cladding loads for the purpose of determining deflection limits herein.
- b. For cantilever members, L shall be taken as twice the length of the cantilever.
- c. For aluminum structural members or panels used in roofs or walls of sunroom additions or patio covers, not supporting edge of glass or sandwich panels, the total load deflection shall not exceed L/60. For sandwich panels used in roofs or walls of sunroom additions or patio covers, the total load deflection shall not exceed L/120.
- d. Deflection for exterior walls with interior gypsum board finish shall be limited to an allowable deflection of H/180.

6. Change Section R302.1 to read:

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of dwellings and accessory buildings shall comply with Table R302.1.

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the fire separation distance.
2. Walls of dwellings and accessory structures located on the same lot.
3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from permits are not required to provide wall protection based on location on the lot. Projections beyond the exterior wall shall not extend over the lot line.
4. Detached garages accessory to a dwelling located within 2 feet (610 mm) of a lot line are permitted to have roof eave projections not exceeding 4 inches (102 mm).
5. Foundation vents installed in compliance with this code are permitted.

7. Add an exception to Section R303.8 to read:

Exception: Seasonal structures not used as a primary residence for more than 90 days per year, unless rented, leased or let on terms expressed or implied to furnish heat, shall not be required to comply with this section.

8. Add Section R303.8.1 to read:

R303.8.1 Nonowner occupied required heating. Every dwelling unit or portion thereof which is to be rented, leased or let on terms either expressed or implied to furnish heat to the occupants thereof shall be provided with facilities in accordance with Section R303.8 during the period from October 15 to May 1.

9. Add Section R303.9 to read:

R303.9 Insect screens. Every door, window and other outside opening required for ventilation purposes shall be supplied with approved tightly fitted screens of not less than 16 mesh per inch (16 mesh per 25 mm) and every screen door used for insect control shall have a self-closing device.

10. Add Section R306.5 to read:

R306.5 Water supply sources and sewage disposal systems. The water and drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public or private water-supply and a public or private sewer system. As provided for in Section 103.11 for functional design, water supply sources and sewage disposal systems are regulated and approved by the Virginia Department of Health and the Virginia Department of Environmental Quality.

Note: See also the Memorandums of Agreement in the “Related Laws Package” which is available from the Virginia Department of Housing and Community Development.

11. Change Section R310.1 to read:

R310.1 Emergency escape and rescue required. Basements and each sleeping room designated on the construction documents shall have at least one openable emergency escape and rescue opening. Such opening shall be directly to the exterior of the building or to a deck, screen porch or egress court, all of which shall provide access to a public street, public alley or yard. Where emergency escape and rescue openings are provided, they shall have a sill height of not more than 44 inches (1118 mm) above the floor. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with Section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside, except that tilt-out or removable sash designed windows shall be permitted to be used. Emergency escape and rescue openings with a finished height below the adjacent ground elevation shall be provided with a window well in accordance with Section R310.2.

Exceptions:

1. Dwelling units equipped throughout with an approved automatic sprinkler system installed in accordance with NFPA 13, 13R or 13D.
2. Basements used only to house mechanical equipment and not exceeding total floor area of 200 square feet (18.58 m²).

12. Change Section R310.1.1 to read:

R310.1.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.530 m²), including the tilting or removal of the sash as the normal operation to comply with sections R310.1.2 and R310.1.3.

Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet (0.465 m²).

13. Change Section R311.5.3.1 to read:

R311.5.3.1 Riser height. The maximum riser height shall be 8-1/4 inches (210 mm). The riser shall be measured vertically between the leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

14. Change Section R311.5.3.2 to read:

R311.5.3.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm). Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. Within any flight of stairs, the greatest winder tread depth at the 12 inch (305 mm) walk line shall not exceed the smallest by more than 3/8 inch (9.5 mm).

15. Change Section R311.5.5 to read:

R311.5.5 Stairway walking surface. The walking surface of treads and landings of stairways shall be level or sloped no steeper than one unit vertical in 48 inches horizontal (two-percent slope).

16. Change Section R317.1 to read:

R317.1 Two-family dwellings. Dwelling units in two-family dwellings shall be separated from each other by wall and/or floor assemblies having not less than a 1-hour fire-resistance rating when tested in accordance with ASTM E 119. Fire-resistance-rated floor-ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend to and be tight against the underside of the roof sheathing. Dwelling unit separation wall assemblies, which are constructed on a lot line, shall be constructed as required in Section R317.1 for townhouses.

Exceptions:

1. A fire-resistance rating of ½ hour shall be permitted in buildings located entirely on the same lot and equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. For two-family dwellings located on the same lot, wall assemblies need not extend through attic spaces when the ceiling is protected by not less than 5/8-inch (15.9 mm) Type X gypsum board and an attic draft stop constructed as specified in Section R502.12.1 is provided above and along the wall assembly separating the dwellings. The structural framing supporting the ceiling shall also be protected by not less than ½-inch (12.7 mm) gypsum board or equivalent.

17. Add Section R325 Radon-Resistant Construction.

18. Add Section R325.1 to read:

R325.1 Local enforcement of radon requirements. Following official action under Article 7 (Section 15.2-2280 et seq.) of Chapter 22 of Title 15.2 of the Code of Virginia by a locality in areas of high radon potential, as indicated by Zone 1 on the U.S. EPA Map of Radon Zones (IRC Figure AF101), such locality shall enforce the provisions contained in Appendix F.

Exception: Buildings or portions thereof with crawl space foundations which are ventilated to the exterior, shall not be required to provide radon-resistant construction.

19. Add Section R326 Swimming Pools, Spas and Hot Tubs.

20. Add Section R326.1 to read:

R326.1 Use of Appendix G for swimming pools, spas and hot tubs. In addition to other applicable provisions of this code, swimming pools, spas and hot tubs shall comply with the provisions in Appendix G.

21. Add Section R327 Patio Covers.

22. Add Section R327.1 to read:

R327.1 Use of Appendix H for patio covers. Patio covers shall comply with the provisions in Appendix H.

23. Add Section R328 Sound Transmission.

24. Add Section R328.1 to read:

R328.1 Sound transmission between dwelling units. Construction assemblies separating dwelling units shall provide airborne sound insulation as required in Appendix K.

25. Add Section R328.2 to read:

R328.2 Airport noise attenuation. This section applies to the construction of the exterior envelope of detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories high with separate means or egress within airport noise zones when enforced by a locality pursuant to Section 15.2-2295 of the Code of Virginia. The exterior envelope of such structures shall comply with Section 1207.4 of the state amendments to the IBC.

26. Change Section R401.4 to read:

R401.4 Soil tests. Where quantifiable data created by sound soil science methodologies indicate expansive, compressible, shifting or unknown soil characteristics are likely to be present, the building official shall determine whether to require a soil test to determine the soil's characteristics at a particular location. This test shall be made by an approved agency using an approved method.

27. Change Section R403.1 to read:

R403.1 General. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings, wood foundations, or other approved structural systems which shall be of sufficient design to accommodate all loads according to Section R301 and to transmit the resulting loads to the soil within the limitations as determined from the character of the soil. Footings shall be supported on undisturbed natural soils or engineered fill.

Exception: One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, not exceeding 256 square feet (23.7824 m²) of building area, provided all of the following conditions are met:

1. The building eave height is 10 feet or less.
2. The maximum height from the finished floor level to grade does not exceed 18 inches.
3. The supporting structural elements in direct contact with the ground shall be placed level on firm soil and when such elements are wood they shall be approved pressure preservative treated suitable for ground contact use.
4. The structure is anchored to withstand wind loads as required by this code.
5. The structure shall be of light-frame construction with walls and roof of light weight material, not slate, tile, brick or masonry.

28. Change Section R404.1 to read as follows and delete Tables R404.1(1), R404.1(2) and R404.1(3):

R404.1 Concrete and masonry foundation walls. Concrete and masonry foundation walls shall be selected and constructed in accordance with Section R404 or in accordance with ACI 318, ACI 332, NCMA TR68-A or ACI 530/ASCE 5/TMS 402 or other approved structural standards.

29. Change Section R408.1 to read:

R408.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement) shall have ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than 1 square foot (0.0929 m²) for each 150 square feet (14 m²) of under-floor space area. One such ventilating opening shall be within 3 feet (914 mm) of each corner of the building.

Exception: When the exposed earth is covered with a continuous vapor barrier, the minimum net area of ventilation openings shall be not less than 1 square foot (0.0929 m²) for each 1500 square feet (139 m²) of under-floor space area. Joints of the vapor retarder shall overlap by 6 inches (152 mm).

30. Change Section R408.2 to read:

R408.2 Openings for under-floor ventilation. Ventilation openings shall be covered for their height and width with any of the following materials provided that the least dimension of the covering shall not exceed ¼ inch (6.4 mm):

1. Perforated sheet metal plates not less than 0.070 inch (1.8 mm) thick.

2. Expanded sheet metal plates not less than 0.047 inch (1.2 mm) thick.
3. Cast-iron grill or grating.
4. Extruded load-bearing brick vents.
5. Hardware cloth of 0.035 inch (0.89 mm) wire or heavier.
6. Corrosion-resistant wire mesh, with the least dimension being 1/8 inch (3.2 mm).

31. Add Section R502.2.2.1 to read:

R502.2.2.1 Deck ledger connection to band joist. For residential applications and a total design load of 50 psf, the connection between a pressure preservative treated southern pine (or approved decay-resistant species) deck ledger and a two-inch nominal band joist bearing on a sill plate or wall plate shall be constructed with 1/2-inch lag screws or bolts with washers per Table R502.2.2.1.

32. Add Table R502.2.2.1 to read:

**TABLE R502.2.2.1
FASTENER SPACING FOR A RESIDENTIAL SOUTHERN PINE DECK LEDGER
AND A 2-INCH NOMINAL SOLID-SAWN BAND JOIST (50 PSF TOTAL LOAD)^c**

JOIST SPAN (ft)	6' AND LESS	6'-1" TO 8'	8'-1" TO 10'	10'-1" TO 12'	12'-1" TO 14'	14'-1" TO 16'	16'-1" TO 18'
On-Center Spacing of Fasteners ^{d,e}							
1/2" x 4" Lag Screw ^{a,b}	30	23	18	15	13	11	10
1/2" Bolt with washers	36	36	34	29	24	21	19

- a. The maximum gap between the face of the ledger board and face of the house band joist shall be 1/2 inch.
- b. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- c. Ledgers shall be flashed to prevent water from contacting the house band joist.
- d. Lag screws and bolts shall be staggered as set out in Section R502.2.2.1.1.
- e. Deck ledger shall be 2x8 PPT No. 2 Southern Pine (minimum) or other approved method and material as established by standard engineering practice.

33. Add Section R502.2.2.1.1 to read:

R502.2.2.1.1 Placement of lag screws or bolts in residential deck ledgers. The lag screws or bolts shall be placed two inches in from the bottom or top of the deck ledgers and two inches in from the ends. The lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger.

34. Change Section R506.2.1 to read:

R506.2.1 Fill. Fill material shall be free of vegetation and foreign material and shall be natural nonorganic material that is not susceptible to swelling when exposed to moisture. The fill shall be compacted to assure uniform support of the slab, and except where approved, the fill depth shall not exceed 24 inches (610 mm) for clean sand or gravel and 8 inches (203 mm) for earth.

Exception: Material other than natural material may be used as fill material when accompanied by a certification from an RDP and approved by the building official.

35. Change Section R506.2.2 to read:

R506.2.2 Base. A 4-inch-thick (102 mm) base course consisting of clean graded sand, gravel or crushed stone passing a 2-inch (51 mm) sieve shall be placed on the prepared subgrade when the slab is below grade.

Exception: A base course is not required when the concrete slab is installed on well drained or sand-gravel mixture soils classified as Group I according to the United Soil Classification System in accordance with Table R405.1. Material other than natural material may be used as base course material when accompanied by a certification from an RDP and approved by the building official.

36. Replace Section R602.10, including all subsections, with the following:

R602.10 Wall bracing. The use of this section is subject to the following clarification of cross-references:

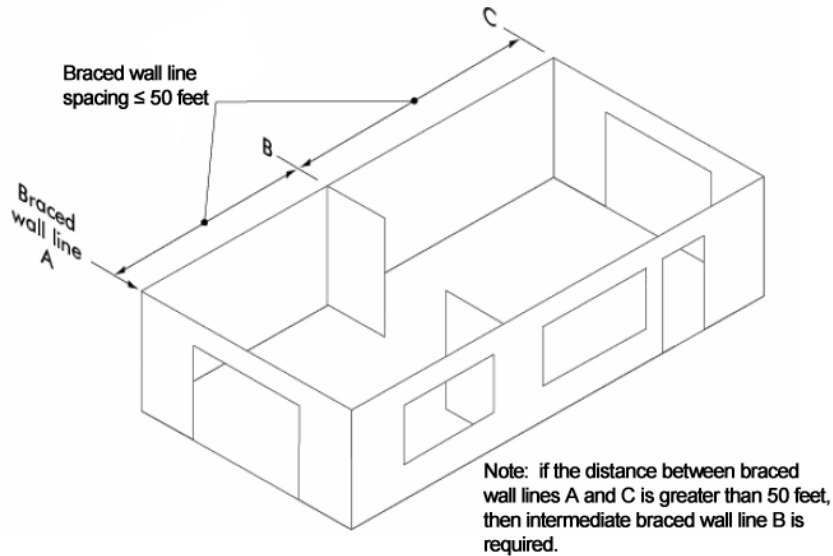
1. In Sections R301.2.2.1.1 and R301.2.2.4.1, delete the references to Table R602.10.1.
2. In Section R301.3, delete the exception to Item 1.
3. References to Table R602.10.1 in all other provisions of the IRC except those in Items 1 and 2 above shall be references to Table R602.10.1.5 of this section.
4. In Section R403.1.6, delete the sentence which reads, “In Seismic Design Categories D0, D1 and D2, anchor bolts shall be spaced at 6 feet (1829 mm) on center and located within 12 inches (304 mm) of the ends of each plate section at interior braced wall lines when required by Section R602.10.9 to be supported on a continuous foundation.” In addition, all references to Figure R602.10.5 in Section R403.1.6 shall be references to Figure R602.10.3.3(1) of this section.
5. Change the reference in Section R502.2.1 from Section R602.10.8 to Section R602.10.5 of this section.

All new buildings, additions and conversions shall be braced in accordance with this section. Where a building, or portion thereof, does not comply with one or more of the bracing requirements in this section, those portions shall be designed and constructed in accordance with the International Building Code. For structures in areas where the wind speed from Table R301.2(1) is 110 mph or greater, an engineered design is required.

The building official may require the permit applicant to identify and locate on the construction documents the bracing methods utilized.

R602.10.1 Braced wall lines. Braced wall lines shall be straight lines through the building plan at each level provided with braced wall panels to resist lateral load. The percentage, location and construction of braced wall panels shall be as specified in this section.

R602.10.1.1 Spacing of braced wall lines. In each story, spacing of parallel braced wall lines shall not exceed 50 feet (15 240 mm) as shown in Figure R602.10.1.1. When braced wall lines exceed a spacing of 50 feet (15 240 mm), intermediate braced wall line(s) shall be provided. Each end of a braced wall line shall intersect perpendicularly with other braced wall lines or their projections.



For SI: 1 foot = 305 mm

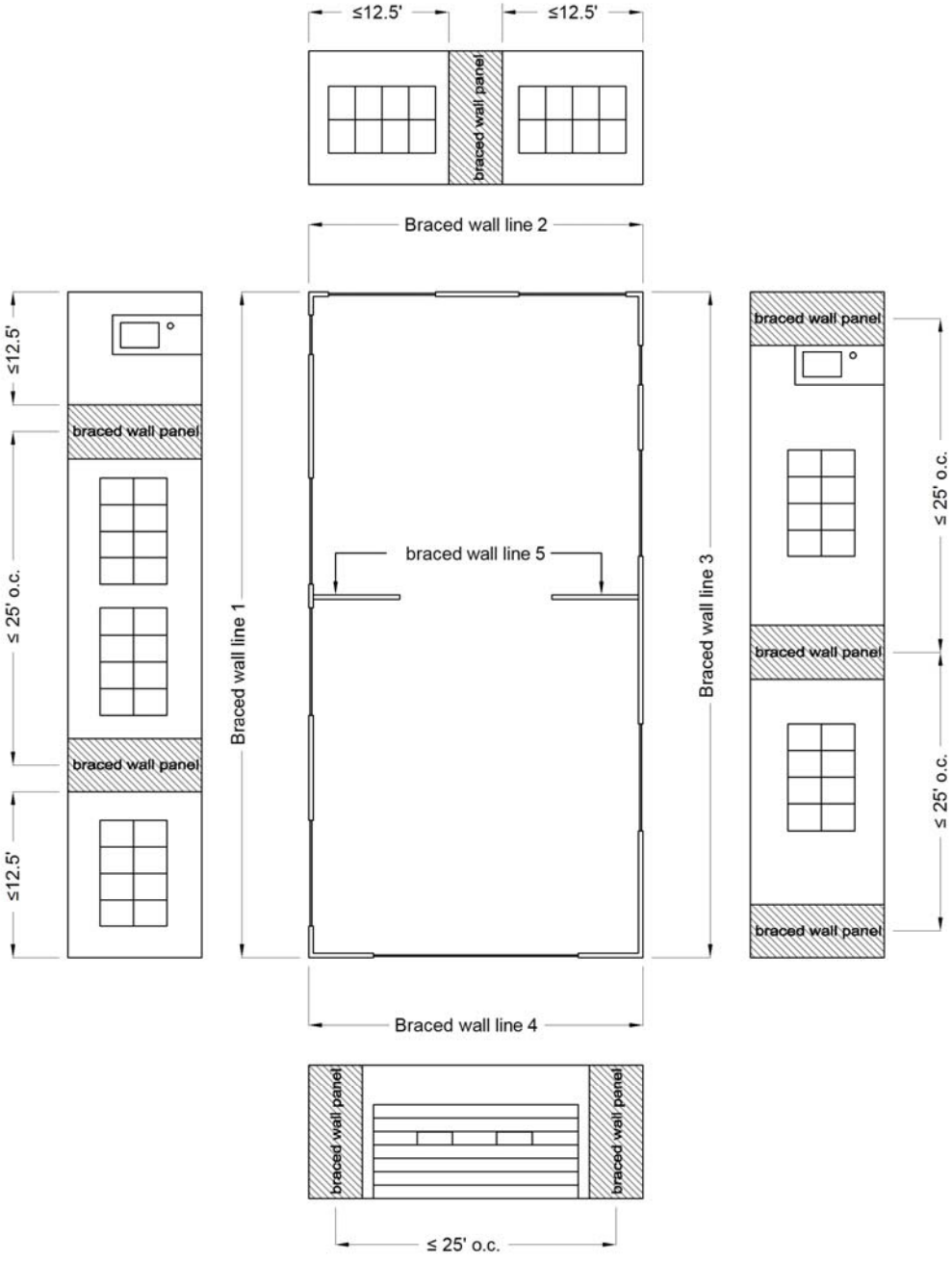
FIGURE R602.10.1.1
BRACED WALL LINE SPACING

R602.10.1.2 Braced wall panels. Braced wall panels shall be full-height sections of wall constructed along a braced wall line to resist lateral loads in accordance with the intermittent bracing methods specified in Section R602.10.2 or the continuous sheathing methods specified in Section R602.10.3. Mixing of bracing methods shall be permitted as follows:

1. Mixing bracing methods from story to story shall be permitted.
2. Mixing bracing methods from braced wall line to braced wall line within a story shall be permitted, except that continuous sheathing methods shall conform to the additional requirements of Section R602.10.3.
3. Mixing intermittent bracing methods along a braced wall line shall be permitted for single-family dwellings in Seismic Design Categories A, B and C and townhouses in Seismic Design Categories A and B. The required percentage of bracing for the braced wall line with mixed methods shall use the higher bracing percentage, per Table R602.10.1.5, of all methods used.

R602.10.1.3 Braced wall panel location. Braced wall panels shall be located at least every 25 feet (7620 mm) on center and shall begin no more than 12.5 feet (3810 mm) from each end of a braced wall line or its projection as shown in Figure R602.10.1.3(1) and Figure R602.10.4, but not less than the percentages given in Table R602.10.1.5. Braced wall lines with continuous sheathing shall conform to the additional requirements of Section R602.10.3.3.

All braced wall panels shall be permitted to be offset out-of-plane from the designated braced wall line up to 4 feet (1219 mm) provided the total out-to-out offset in any braced wall line is not more than 8 feet (2438 mm) as shown in Figure R602.10.1.3(2).



For SI: 1 foot = 305 mm

FIGURE R602.10.1.3(1)
BRACED WALL PANELS AND BRACED WALL LINES

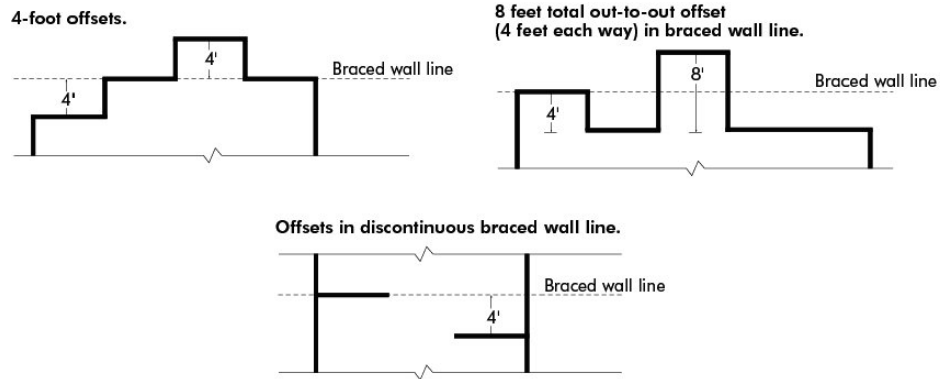
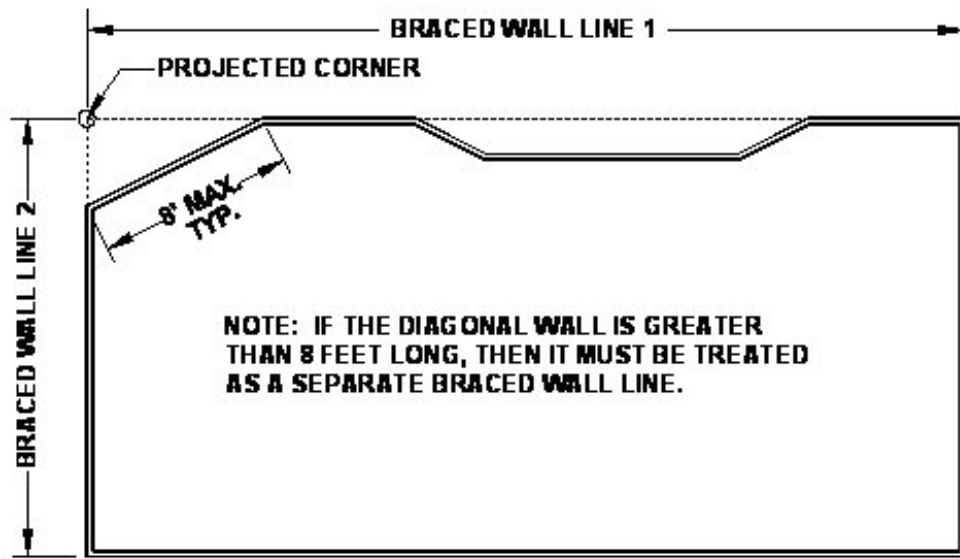


FIGURE R602.10.1.3(2)
OFFSETS PERMITTED FOR BRACED WALL PANELS ALONG A BRACED WALL LINE

R602.10.1.4 Angled walls. The walls of a braced wall line shall be permitted to angle out of plane for a maximum diagonal length of 8 feet (2438 mm). Where the angled wall occurs at a corner, the length of the braced wall line shall be measured from the projected corner as shown in Figure R602.10.1.4. Where the diagonal length is greater than 8 feet (2438 mm), it shall be considered its own braced wall line.

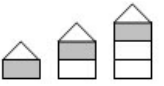







For SI: 1 foot = mm

FIGURE R602.10.1.4
ANGLED CORNERS

R602.10.1.5 Minimum required percentage of bracing. The minimum required percentage of bracing along each braced wall line shall be in accordance with Table R602.10.1.5 and shall be the greater of that required by the Seismic Design Category or the design wind speed.

TABLE R602.10.1.5^{a,b,c}
 MINIMUM REQUIRED PERCENTAGE OF WALL BRACING

SEISMIC DESIGN CATEGORY (SDC) OR WIND SPEED	FLOOR		MINIMUM REQUIRED PERCENTAGE OF FULL-HEIGHT BRACING PER WALL LINE			
			Braced wall line spacing less than or equal to 35'		Braced wall line spacing greater than 35' and less than or equal to 50'	
			Methods WSP, CS-WSP, CS-G, CS-PF	All other methods ^d	Methods WSP, CS-WSP, CS-G, CS-PF	All other methods ^d
SDC A, B or wind speed ≤100 mph		One-story house or top floor of a two- or three-story house.	16%	16%	23%	23%
		First floor of a two-story or second floor of a three-story house.	16%	25%	23%	36%
		First floor of a three-story house.	25%	35%	36%	50%
SDC C or wind speed <110 mph		One-story house or top floor of a two- or three-story house.	16%	25%	23%	36%
		First floor of a two-story house or second floor of a three-story house.	30%	45%	43%	64%
		First floor of a three-story house.	45%	60%	64%	86%

For SI: 1 foot = 305 mm

- Foundation cripple wall panels shall be braced in accordance with Section R602.10.8.
- Methods of bracing shall be as described in Sections R602.10.2 and R602.10.3.
- The total amount of bracing required for a given braced wall line shall be the product of the minimum required percentage and all the applicable adjustment factors described in Sections R602.10.4, R602.10.7 and R602.10.8.
- For Method GB, the percentage required shall be doubled for one-sided applications.

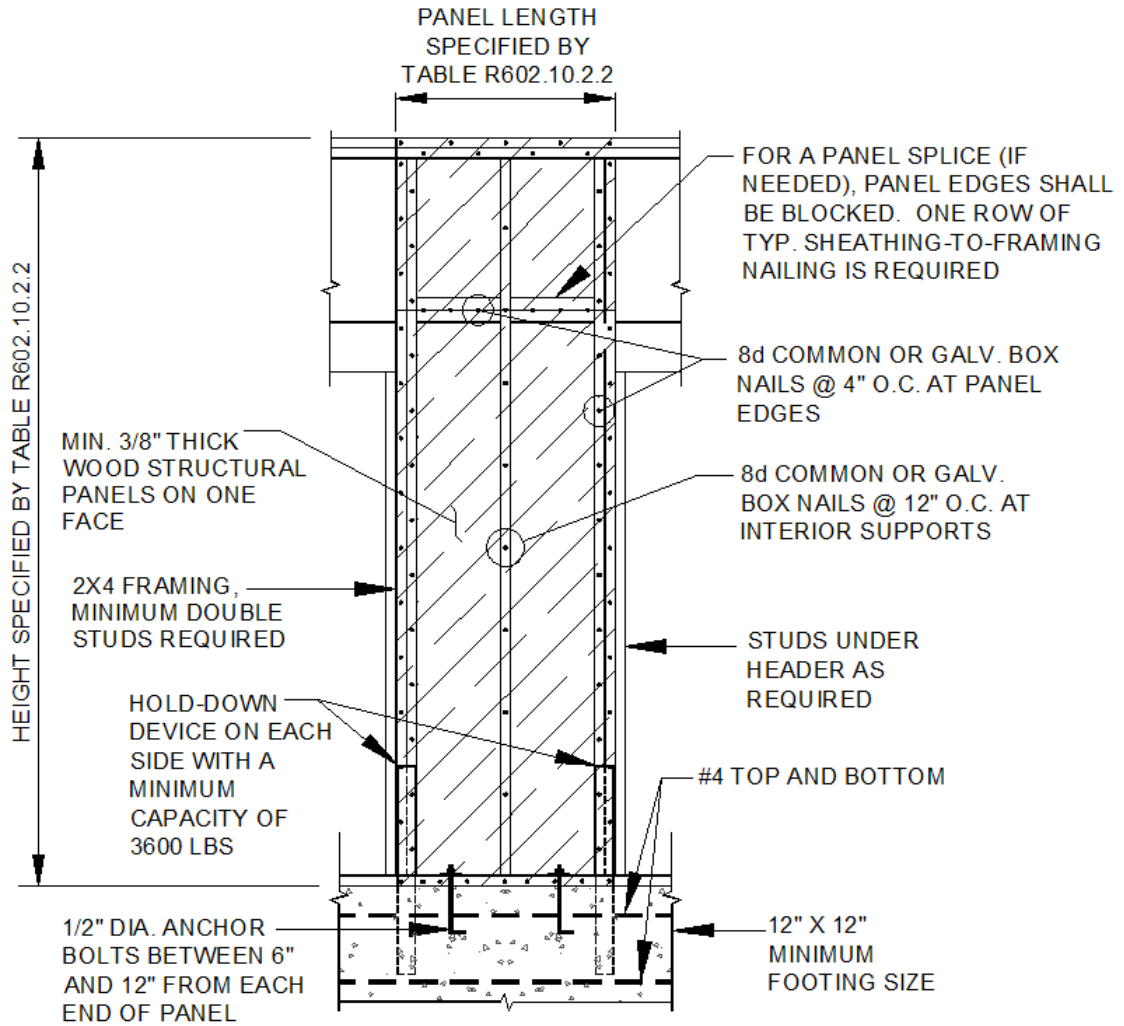
R602.10.2 Intermittent bracing methods. Intermittent braced wall panels shall comply with this section. The location of each panel shall be identified on the construction documents.

R602.10.2.1 Intermittent braced wall panels. Intermittent braced wall panels shall be constructed in accordance with one of the methods listed in Table R602.10.2.1.

TABLE R602.10.2.1
INTERMITTENT BRACING METHODS

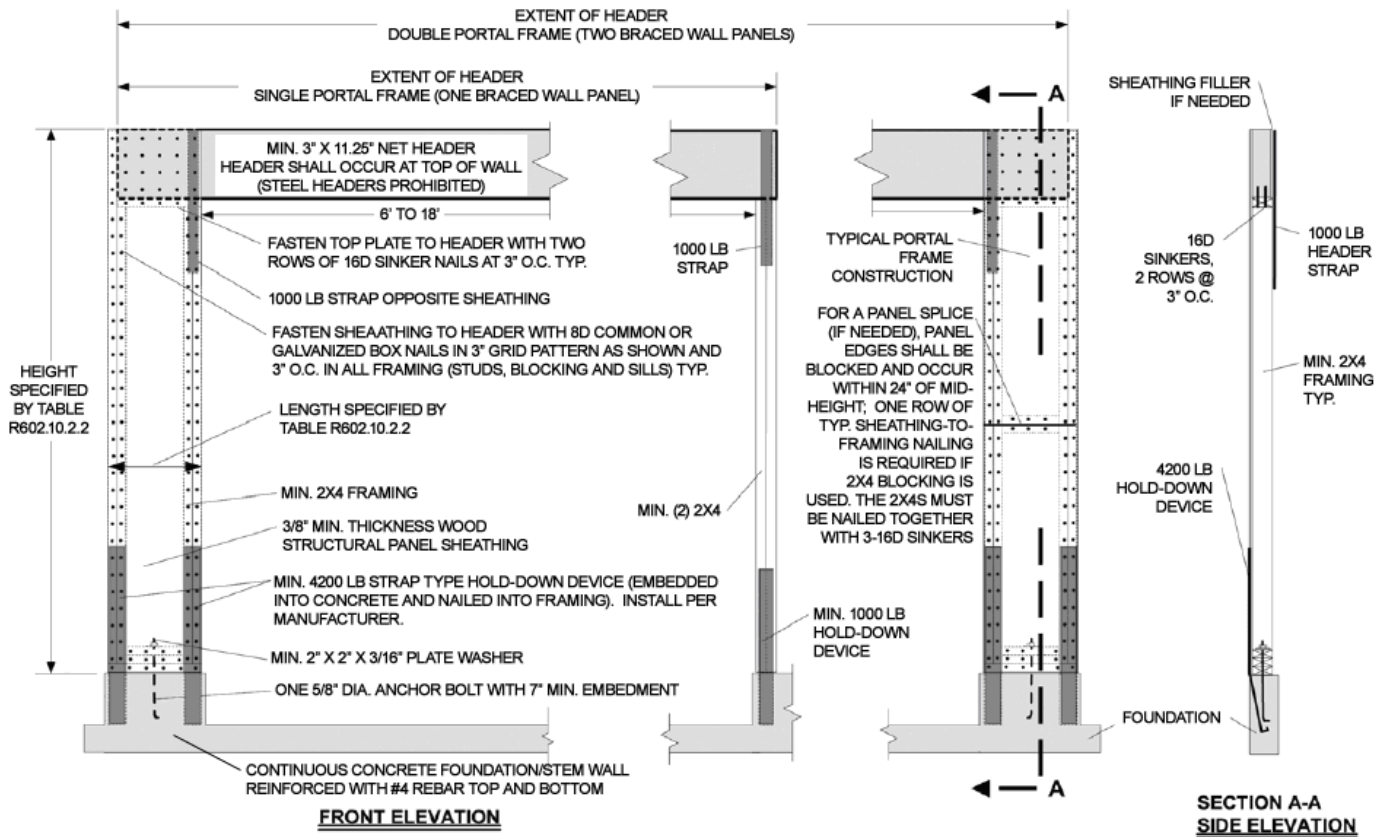
METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA
LIB	Let-in-bracing	1x4 wood or approved metal straps at 45° to 60° angles		Wood: 2-8d nails per stud Metal: per manufacturer
DWB	Diagonal wood board at 24" spacing	5/8"		2-8d (2 1/2" x 0.113") nails or 2 staples, 1 3/4" per stud
WSP	Wood structural panel	3/8"		6d common (2" x 0.113") nails at 6" spacing (panel edges) and at 12" spacing (intermediate supports) or 16 ga. x 1 3/4" staples: at 3" spacing (panel edges) at 6" spacing (intermediate supports)
SFB	Structural fiberboard sheathing	1/2" or 25/32" for 16" stud spacing only		1 1/2" galvanized roofing nails or 8d common 2 1/2" x 0.131" nails at 3" spacing (panel edges) at 6" spacing (intermediate supports)
GB	Gypsum board	1/2"		Nails at 7" spacing at panel edges including top and bottom plates; for exterior sheathing nail size, see Table R602.3(1); for interior gypsum board nail size, see Table R702.3.5
PBS	Particleboard sheathing	3/8" or 1/2" for 16" stud spacing only		1 1/2" galvanized roofing nails or 8d common (2 1/2" x 0.131) nails at 3" spacing (panel edges) at 6" spacing (intermediate supports)
PCP	Portland cement plaster	See Section R703.6		1 1/2", 11 gage, 7/16" head nails at 16" spacing or 7/16", 16 gage staples at 6" spacing
HPS	Hardboard panel siding	7/16"		0.092" dia., 0.225" head nails with length to accommodate 1 1/2" penetration into studs at 4" spacing (panel edges), at 8" spacing (intermediate supports)
ABW	Alternate braced wall	See Figure R602.10.1(1)		See Figure R602.10.2.1(1)
IPF	Intermittent portal frame	See Figure R602.10.2.1(2)		See Figure R602.10.1(2)

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm



For SI: 1 foot = 305 mm, 1 inch = 25.4 mm, 1 pound = 4.45 N

FIGURE R602.10.2.1(1)
METHOD ABW: ALTERNATE BRACED WALL PANEL





For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 pound = 4.45 N

FIGURE R602.10.2.1(2)
METHOD IPF: INTERMITTENT PORTAL FRAME BRACED WALL PANEL

R602.10.2.2 Minimum length of intermittent braced wall panels. The minimum length of each intermittent braced wall panel shall comply with Table R602.10.2.2. For Methods DWB, WSP, SFB, GB, PBS, PCP and HPS, each panel shall cover at least three studs where studs are spaced 16 inches (406 mm) on center or at least two studs where studs are spaced 24 inches (610 mm) on center. Only those full-height braced wall panels complying with the length requirements of Table R602.10.2.2(1) shall be permitted to contribute towards the minimum required percentage of bracing.

Exception: For Methods DWB, WSP, SFB, PBS, PCP and HPS, panel lengths less than the dimensions shown in Table R602.10.2.2 shall be permitted provided the effective lengths in accordance with Table R602.10.2(2) are used in place of actual lengths when determining compliance with the percentage of bracing required by Table R602.10.1.5.

TABLE R602.10.2.2(1)
MINIMUM LENGTH OF INTERMITTENT BRACED WALL PANELS^{a,b}

BRACING METHOD	FLOOR	HEIGHT OF INTERMITTENT BRACED WALL PANEL				
		8'	9'	10'	11'	12'
DWB, WSP, SFB, GB ^c , PBS, PCP, HPS	All	48"	48"	48"	53"	58"
ABW	All	28"	32"	34"	38"	42"
IPF	 One-story house	16"	16"	16"	18"	20"
	 First floor of a two-story house	24"	24"	24"	27"	29"

For SI: 1 foot = 305 mm, 1 inch = 25.4 mm

- Interpolation shall be permitted.
- When determining compliance with the percentage of bracing required by Table R602.10.1.5, the effective length of Method LIB shall be equivalent to 48" (1219 mm) provided it complies with the Table R602.10.2.1.
- Gypsum board applied to both sides of the braced wall panel; where the gypsum board is applied to one side, the required length shall be doubled.

TABLE R602.10.2(2)
EFFECTIVE LENGTHS FOR BRACE WALL PANELS
WHEN DETERMINING PERCENTAGE OF BRACING^a

ACTUAL LENGTH OF BRACED WALL PANEL	WALL HEIGHT		
	8'	9'	10'
48"	48"	48"	48"
42"	36"	36"	N/A
36"	27"	N/A	N/A

For SI: 1 inch = 25.4 mm

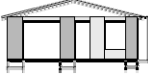

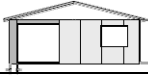
- Interpolation shall be permitted.

R602.10.2.3 Adhesive attachment of sheathing in Seismic Design Category C. Adhesive attachment of wall sheathing shall not be permitted in Seismic Design Category C.

R602.10.3 Continuous sheathing methods. Braced wall lines with continuous sheathing constructed in accordance with this section shall be permitted.

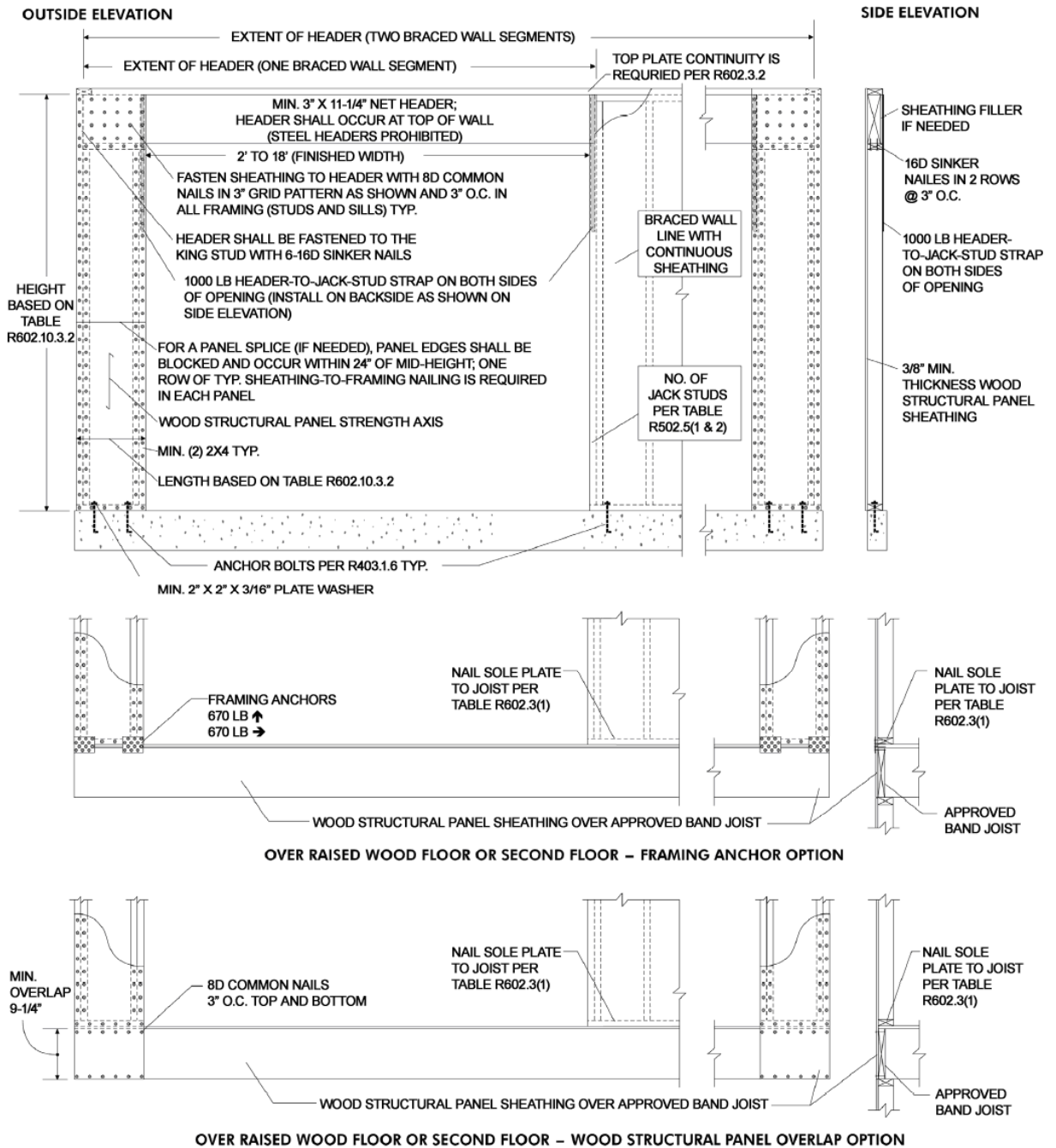
R602.10.3.1 Continuous sheathing braced wall panels. Continuous sheathing methods require structural panel sheathing to be used on all sheathable surfaces of a braced wall line including areas above and below openings and gable end walls. Braced wall panels shall be constructed in accordance with one of the methods listed in Table R602.10.3.1.

TABLE R602.10.3.1
CONTINUOUS SHEATHING METHODS

METHOD	MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA
CS-WSP	Wood structural panel	3/8"		6d common (2" x 0.113") nails at 6" spacing (panel edges) and at 12" spacing (intermediate supports) or 16 ga. x 1 1/4 staples: at 3" spacing (panel edges) and 6" spacing (intermediate supports)
CS-G ^a	Wood structural panel supporting roof load only adjacent garage openings	3/8"		See Method CS-WSP
CS-PF ^b	Continuous portal frame	See Figure R602.10.3.1		See Figure R602.10.3.1

For SI: 1 inch = 25.4 mm

- a. Applies to one wall of a garage only.
- b. The number of continuous portal frame panels in a braced wall line shall not exceed four. Continuous portal frame panels shall not be stacked vertically in multi-story buildings.



For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 pound = 4.45 N

NOT TO SCALE

FIGURE R602.10.3.1
METHOD CS-PF: CONTINUOUS PORTAL FRAME BRACED WALL PANELS

R602.10.3.2 Length of braced wall panels with continuous sheathing. Braced wall panels along a braced wall line with continuous sheathing shall be full-height with a length based on the adjacent clear opening height in accordance with Table R602.10.3.2. Where a panel has an opening on either side of differing heights, the taller opening shall govern when determining the panel length from Table R602.10.3.2. Only those full-height braced wall panels complying with the length requirements of Table R602.10.3.2 shall be permitted to contribute towards the minimum required percentage of bracing per Table R602.10.1.5. For Method CS-PF, wall height shall be measured from the top of the header to the bottom of the bottom plate as shown in Figure R602.10.4.3.1.

TABLE R602.10.3.2
LENGTH REQUIREMENTS FOR BRACED WALL PANELS
IN A BRACED WALL LINE WITH CONTINUOUS SHEATHING^a

METHOD	ADJACENT CLEAR OPENING HEIGHT	WALL HEIGHT				
		8'	9'	10'	11'	12'
CS-WSP	64"	24"	27"	30"	33"	36"
	68"	26"	27"	30"	33"	36"
	72"	28"	27"	30"	33"	36"
	76"	29"	30"	30"	33"	36"
	80"	31"	33"	30"	33"	36"
	84"	35"	36"	33"	36"	36"
	88"	39"	39"	36"	38"	36"
	92"	44"	42"	39"	41"	36"
	96"	48"	45"	42"	43"	39"
	100"		48"	45"	47"	42"
	104"		51"	48"	48"	44"
	108"		54"	51"	51"	47"
	112"			54"	53"	50"
	116"			57"	56"	53"
	120"			60"	58"	55"
	124"				61"	58"
	128"				63"	61"
132"				66"	64"	
136"					66"	
140"					69"	
144"					72"	
CS-G	≤120"	24"	27"	30"	33"	36"
CS-PF	≤120"	16"	18"	20"	22"	24"

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm

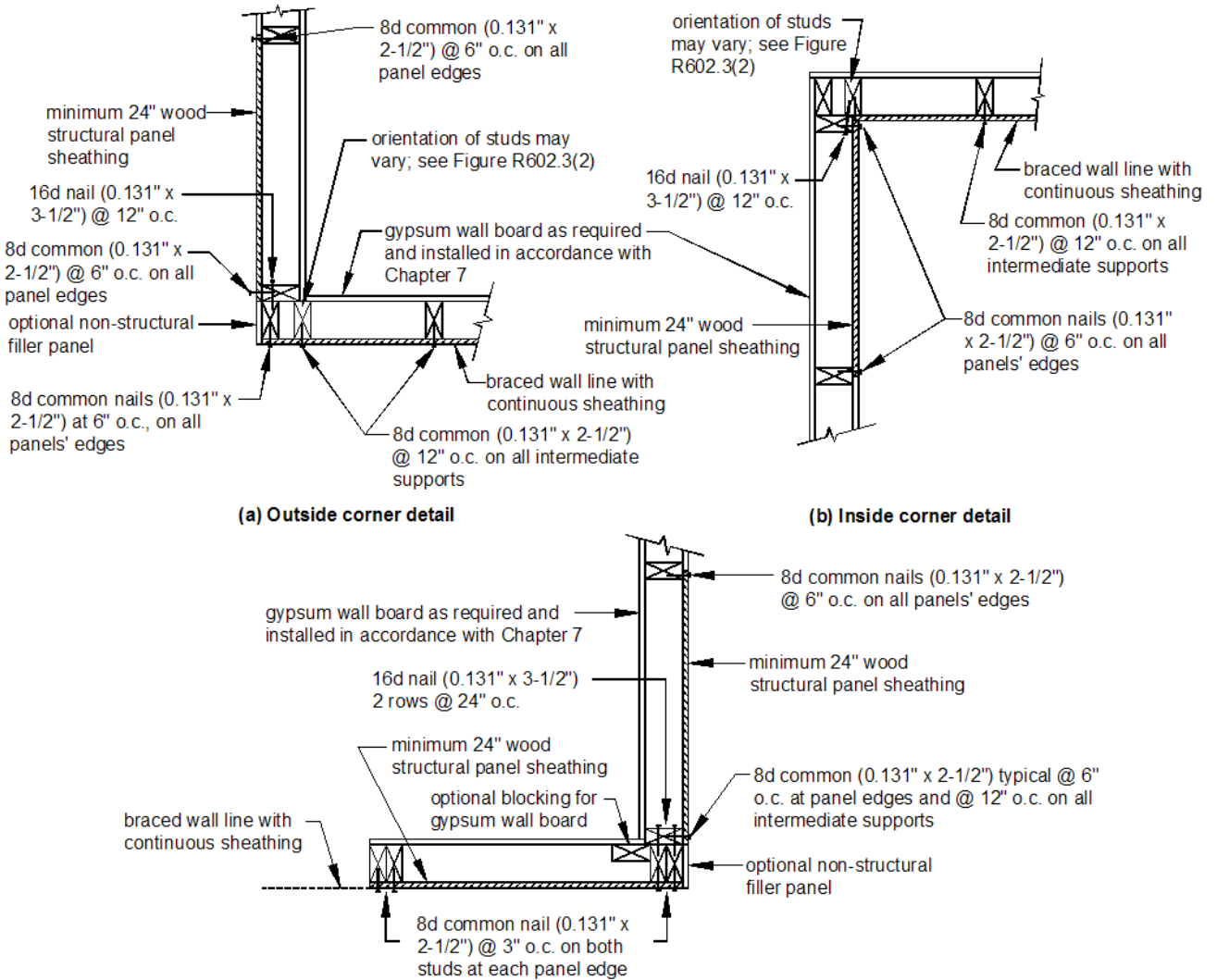
a. Interpolation shall be permitted.

R602.10.3.3 Braced wall panel location and corner construction. Full-height wall panels complying with the length requirements of Table R602.10.3.2 shall be located at each end of a braced wall line with continuous sheathing and at least every 25 feet (7620 mm) on center.

A minimum 24 inch (610 mm) wood structural panel corner return shall be provided at both ends of a braced wall line with continuous sheathing in accordance with Figures R602.10.3.3(1) and R602.10.3.3(2). In lieu of the corner return, a hold-down device with a minimum uplift design value of 800 lb (3560 N) shall be fastened to the corner stud and to the foundation or framing below in accordance with Figure R602.10.3.3(3).

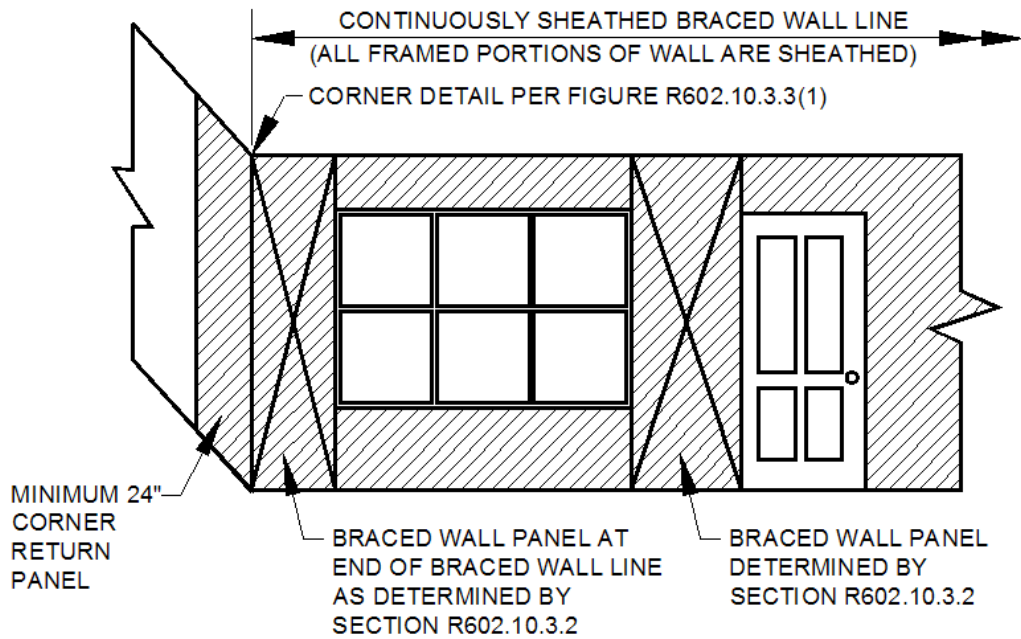
Exception: The first braced wall panel shall be permitted to begin 12.5 feet (3810 mm) from each end of the braced wall line provided one of the following is satisfied:

1. A minimum 24 inch (610 mm) long, full-height wood structural panel is provided at both sides of a corner constructed in accordance with Figures R602.10.3.3(1) and R602.10.3.3(4), or
2. The braced wall panel closest to the corner shall have a hold-down device with a minimum uplift design value of 800 lb (3560 N) fastened to the stud at the edge of the braced wall panel closest to the corner and to the foundation or framing below in accordance with Figure R602.10.3.3(5).



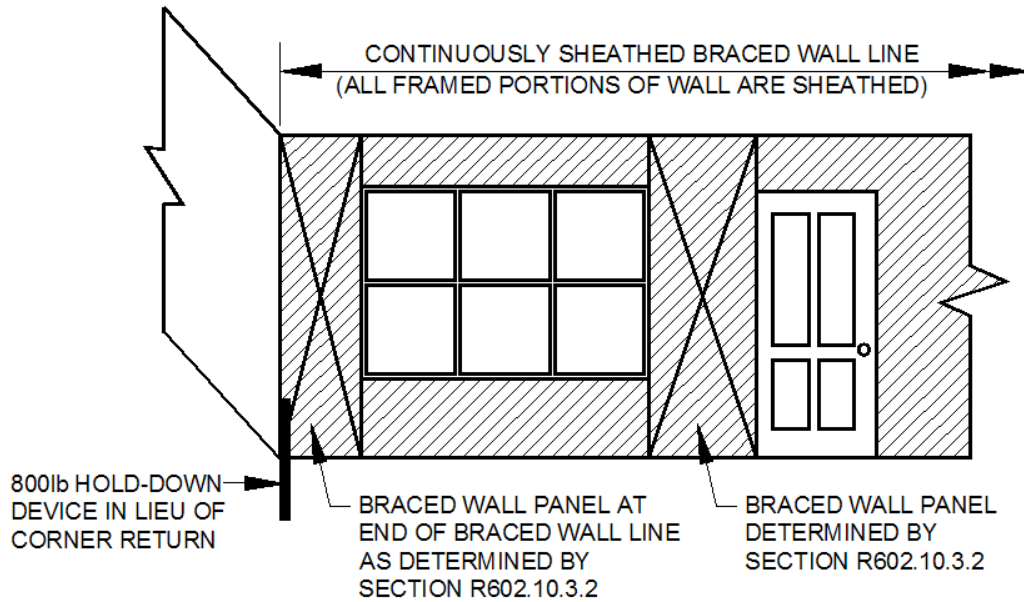
For SI: 1 inch = 25.4 mm, 1 foot = 305 mm

FIGURE R602.10.3.3(1)
TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING



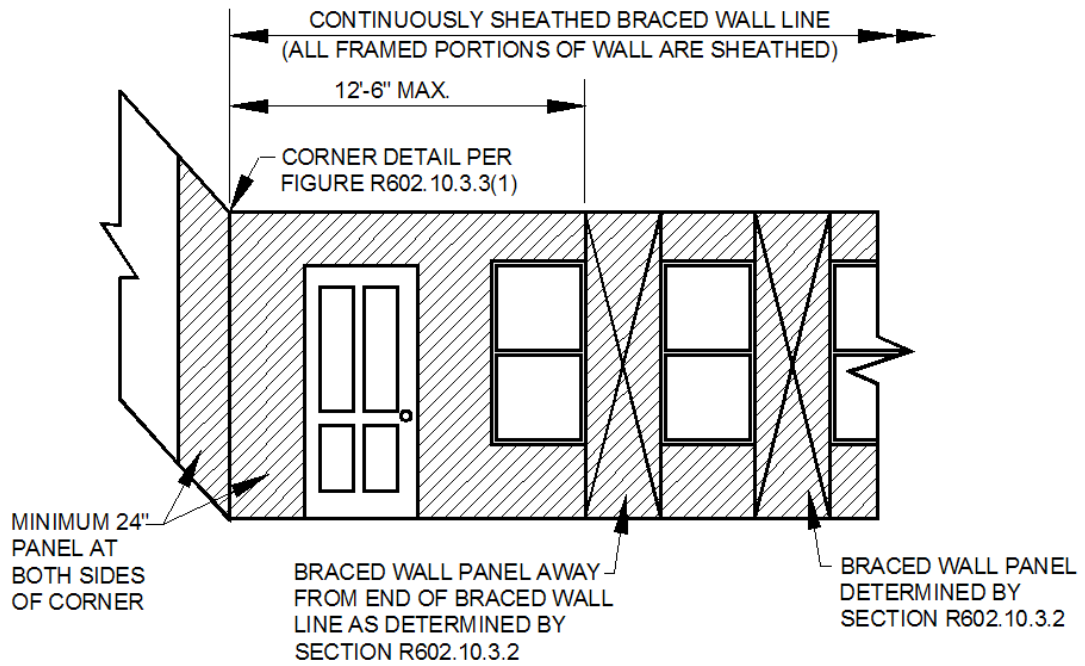
For SI: 1 foot = 305 mm

FIGURE R602.10.3.3(2)
BRACED WALL LINE WITH CONTINUOUS SHEATHING WITH CORNER RETURN PANEL



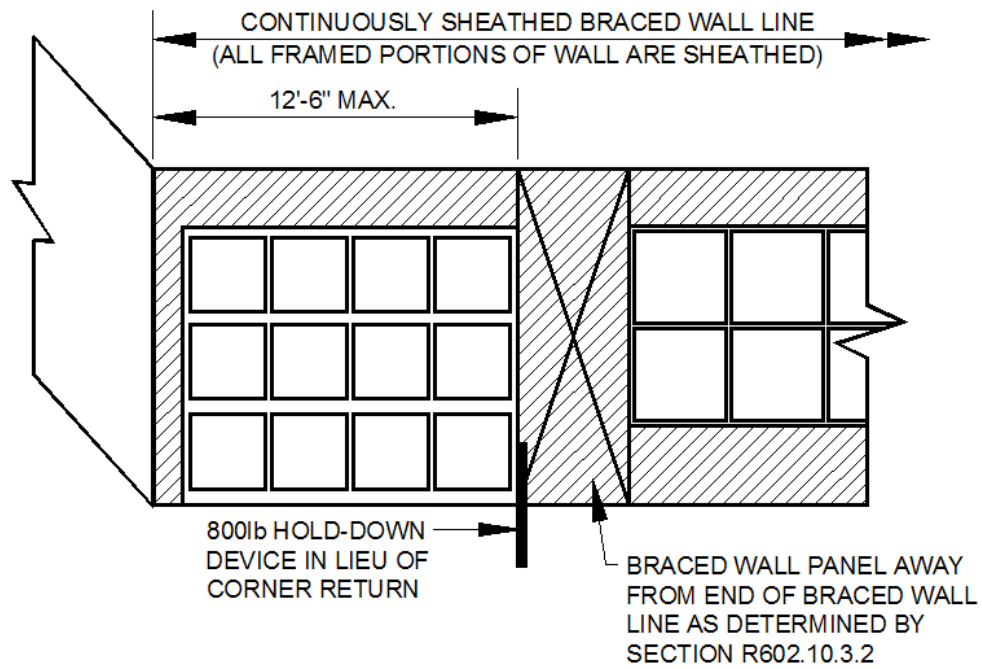
For SI: 1 foot = 305 mm, 1 pound = 4.45 N

FIGURE R602.10.3.3(3)
BRACED WALL LINE WITH CONTINUOUS SHEATHING WITHOUT CORNER RETURN PANEL



For SI: 1 foot = 305 mm

FIGURE R602.10.3.3(4)
BRACED WALL LINE WITH CONTINUOUS SHEATHING – FIRST BRACED WALL PANEL AWAY FROM END OF WALL LINE WITHOUT HOLD-DOWN



For SI: 1 foot = 305 mm, 1 pound = 4.45 N

FIGURE R602.10.3.3(5)
BRACED WALL LINE WITH CONTINUOUS SHEATHING – FIRST BRACED WALL PANEL AWAY FROM END OF WALL LINE WITH HOLD-DOWN

R602.10.4 Braced wall panel finish material. Braced wall panels shall have ½-inch thick gypsum board installed on the side of the wall opposite the bracing material and fastened in accordance with Table R702.3.5.

Exceptions:

1. Braced wall panels that are constructed in accordance with Methods GB, ABW, IPF and CS-PF.
2. When an approved interior finish material with an in-plane shear resistance equivalent to gypsum board is installed.
3. For Methods DWB, WSP, SFB, PBS, PCP, and HPS, interior gypsum board may be partially or entirely omitted provided the minimum required percentage of bracing in Table R602.10.1.5 is multiplied by an adjustment factor of 1.5.

R602.10.5 Braced wall panel connections. Braced wall panels shall be connected to floor/ceiling framing or foundations as follows:

1. Where framing is perpendicular to a braced wall panel above or below, a rim joist or blocking shall be provided along the entire length of the braced wall panel in accordance with Figure R602.10.5(1). Fastening of wall plates to framing, rim joist or blocking shall be in accordance with Table R602.3(1).
2. Where framing is parallel to a braced wall panel above or below, a rim joist, end joist or other parallel framing member shall be provided directly above and below the panel in accordance with Figure R602.10.5(2). Where a parallel framing member cannot be located directly above and below the panel, full-depth blocking at 16 inch (406 mm) spacing shall be provided between the parallel framing members to each side of the braced wall panel in accordance with Figure R602.10.5(2). Fastening of blocking and wall plates shall be in accordance with Table R602.3(1).
3. Connections of braced wall panels to concrete or masonry shall be in accordance with Section R403.1.6.

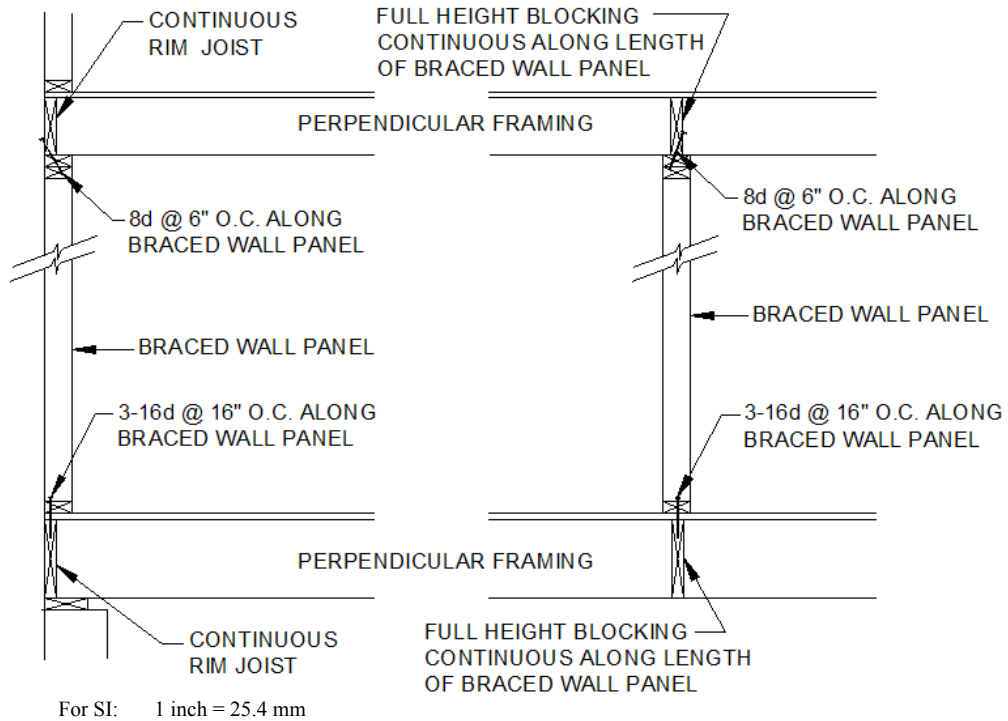


FIGURE R602.10.5(1)
BRACED WALL PANEL CONNECTION WHEN PERPENDICULAR TO FLOOR/CEILING FRAMING

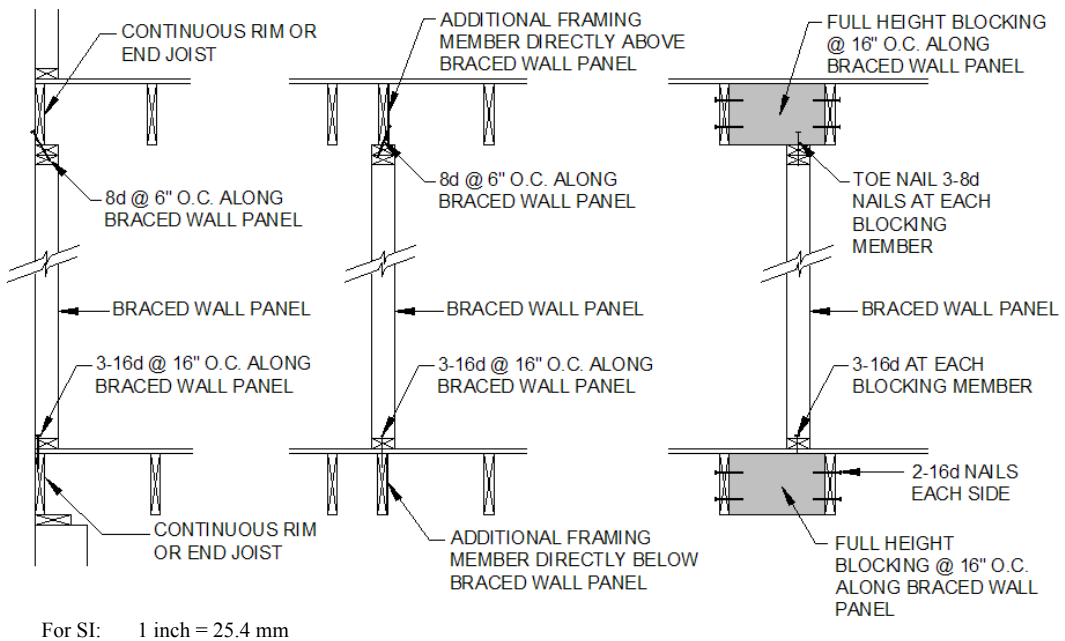
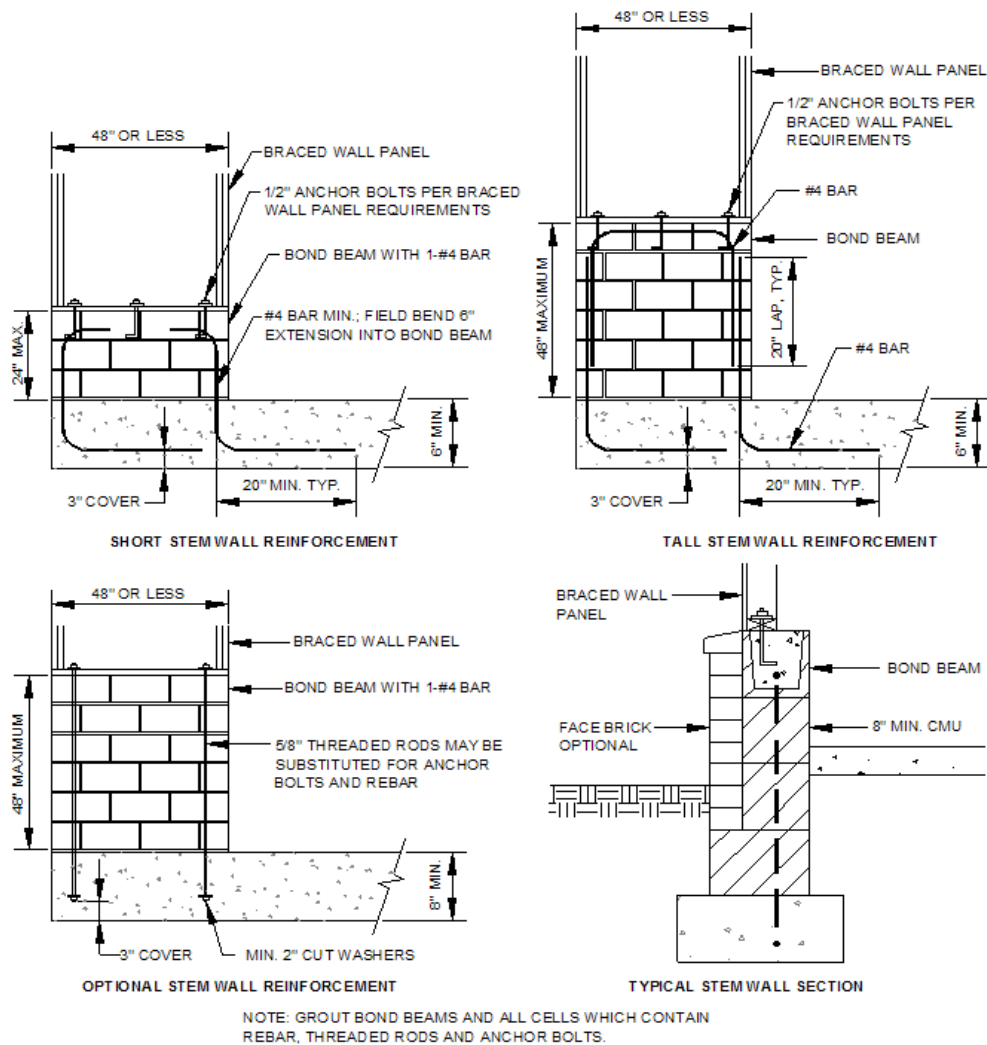


FIGURE R602.10.5(2)
BRACED WALL PANEL CONNECTION WHEN PARALLEL TO FLOOR/CEILING FRAMING

R602.10.6 Braced wall panel support. Braced wall panels shall be supported as follows:

1. Braced wall panels shall be permitted to be supported on cantilevered floor joists meeting the cantilever limits of Section R502.3.3 provided joists are blocked at the nearest bearing wall location.
2. Elevated post or pier foundations supporting braced wall panels shall be designed in accordance with accepted engineering practice.
3. Masonry stem walls supporting braced wall panels with a length of 48 inches (1220 mm) or less shall be reinforced in accordance with Figure R602.10.6. Masonry stem walls supporting braced wall panels with a length greater than 48 inches (1220 mm) shall be constructed in accordance with Section R403.1. Braced wall panels constructed in accordance with Methods ABW and IPF shall not be permitted to attach to masonry stem walls.



For SI: 1 inch = 25.4 mm, 1 foot = 305 mm

FIGURE R602.10.6
MASONRY STEM WALLS SUPPORTING BRACED WALL PANELS

R602.10.7 Panel joints. All vertical joints of braced wall panel sheathing shall occur over and be fastened to common studs. Horizontal joints in braced wall panels shall occur over and be fastened to common blocking of a minimum 1-½ inch (38 mm) thickness. Panel joints for Method IPF shall be constructed in accordance with Figure R602.10.2.1(2). Panel joints for Method CS-PF shall be constructed in accordance with Figure R602.10.3.1.

Exception: Blocking at horizontal joints shall not be required in braced wall panels constructed using Methods WSP, SFB, GB, PBS or HPS where the percentage of bracing required by Table R602.10.1.5 is multiplied by an adjustment factor of 2.0.

R602.10.8 Cripple wall bracing. Cripple walls shall be braced with a percentage and type of bracing as required for the wall above in accordance with Table R602.10.1.5 with the following modifications for cripple wall bracing:

1. The bracing percentage as determined from Table R602.10.1.5 shall be multiplied by an adjustment factor of 1.15, and
2. The wall panel spacing shall be decreased from 25 feet (7620 mm) to 18 feet (5486 mm).

Cripple walls shall be permitted to be redesignated as the first story walls for purposes of determining wall bracing requirements. If the cripple walls are redesignated, the stories above the redesignated story shall be counted as the second and third stories respectively.

37. Change Section R613.2 to read:

R613.2 Window sills. In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 18 inches (457 mm) above the finished floor of the room in which the window is located. Glazing between the floor and 18 inches (457 mm) shall be fixed or have openings through which a 4-inch-diameter (102 mm) sphere cannot pass.

Exceptions:

1. Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position.
2. Openings that are provided with window guards that comply with ASTM F 2006 or F 2090.

38. Change Section R806.4 and add Table R806.4 to read:

R806.4 Unvented attic assemblies. Unvented attic assemblies (spaces between the ceiling joists of the top story and the roof rafters) shall be permitted if all the following conditions are met:

1. The unvented attic space is completely contained within the building thermal envelope.
2. No interior vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly.
3. Where wood shingles or shakes are used, a minimum ¼ inch (6 mm) vented air space separates the shingles or shakes and the roofing underlayment above the structural sheathing.
4. In climate zones 5, 6, 7 and 8, any air-impermeable insulation shall be a vapor retarder, or shall have a vapor retarder coating or covering in direct contact with the underside of the insulation.
5. Either Items a, b or c shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.

- a. Air-impermeable insulation only. Insulation shall be applied in direct contact to the underside of the structural roof sheathing.
- b. Air-permeable insulation only. In addition to the air-permeable installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing as specified in Table R806.4 for condensation control.
- c. Air-impermeable and air-permeable insulation. The air-impermeable insulation shall be applied in direct contact to the underside of the structural roof sheathing as specified in Table R806.4 for condensation control. The air-permeable insulation shall be installed directly under the air-impermeable insulation.

**TABLE R806.4
INSULATION FOR CONDENSATION CONTROL**

CLIMATE ZONE	MINIMUM RIGID BOARD OR AIR-IMPERMEABLE INSULATION R-VALUE ^a
2B and 3B tile roof only	0 (none required)
1, 2A, 2B, 3A, 3B, 3C	R-5
4C	R-10
4A, 4B	R-15
5	R-20
6	R-25
7	R-30
8	R-35

a. Contributes to but does not supersede Chapter 11 energy requirements.

39. Change Section M1502.6 to read:

M1502.6 Duct length. The maximum length of a clothes dryer exhaust duct shall not exceed 35 feet (10 668 mm) from the dryer location to the wall or roof termination. The maximum length of the duct shall be reduced 2.5 feet (762 mm) for each 45-degree (0.8 rad) bend and 5 feet (1524 mm) for each 90-degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Exceptions:

- 1. Where the make and model of the clothes dryer to be installed is known and the manufacturer’s installation instructions for the dryer are provided to the building official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer’s installation instructions.
- 2. Where large-radius 45-degree (0.8 rad) and 90-degree (1.6 rad) bends are installed, determination of the equivalent length of clothes dryer exhaust duct for each bend by engineering calculation in accordance with the ASHRAE Fundamentals Handbook shall be permitted.

40. Change Section M1701.1 to read as follows and delete the remainder of Chapter 17:

M1701.1 Scope. Solid-fuel-burning appliances shall be provided with combustion air, in accordance with the appliance manufacturer’s installation instructions. Oil-fired appliances shall be provided with combustion air in accordance with NFPA 31. The methods of providing combustion air in this chapter do not apply to fireplaces, fireplace stoves and direct-vent appliances. The requirements for combustion and dilution air for gas-fired appliances shall be in accordance with Chapter 24.

41. Add Section M1801.1.1 to read:

M1801.1.1 Equipment changes. Upon the replacement or new installation of any fuel-burning appliances or equipment in existing buildings, an inspection or inspections shall be conducted to ensure that the connected vent or chimney systems comply with the following:

1. Vent or chimney systems are sized in accordance with this code.
2. Vent or chimney systems are clean, free of any obstruction or blockages, defects or deterioration and are in operable condition.

Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are met.

42. Change Section G2411.1 to read:

G2411.1 Gas pipe bonding. Each above-ground portion of a gas piping system that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path. Gas piping shall be considered to be bonded where it is connected to appliances that are connected to the equipment grounding conductor of the circuit supplying that appliance.

CSST gas piping systems shall be bonded to the electrical service grounding electrode system at the point where the gas service piping enters the building. The bonding conductor size shall be not less than #6 AWG copper wire or equivalent.

43. Add Section G2415.17 to read:

404.17 Isolation. Metallic piping and metallic tubing that conveys fuel gas from an LP-gas storage container shall be provided with an approved dielectric fitting to electrically isolate the underground portion of the pipe or tube from the above ground portion that enters a building. Such dielectric fitting shall be installed above ground, outdoors.

44. Add Section G2425.1.1 to read:

G2425.1.1 Equipment changes. Upon the replacement or new installation of any fuel-burning appliances or equipment in existing buildings, an inspection or inspections shall be conducted to ensure that the connected vent or chimney systems comply with the following:

1. Vent or chimney systems are sized in accordance with this code.
2. Vent or chimney systems are clean, free of any obstruction or blockages, defects or deterioration and are in operable condition.

Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are met.

45. Change Section P2602.1 to read:

P2602.1 General. The water and drainage system of any building or premises where plumbing fixtures are installed shall be connected to a public or private water-supply and a public or private sewer system. As provided for in Section 103.11 of Part I of the Virginia Uniform Statewide Building Code (13 VAC 5-63) for functional design, water supply sources and sewage disposal systems are regulated and approved by the Virginia Department of Health and the Virginia Department of Environmental Quality.

Note: See also the Memorandums of Agreement in the “Related Laws Package” which is available from the Virginia Department of Housing and Community Development.

46. Change Section P2903.5 to read:

P2903.5 Water hammer. The flow velocity of the water distribution system shall be controlled to reduce the possibility of water hammer. A water-hammer arrestor shall be installed where quick-closing valves are utilized, unless otherwise approved. Water hammer arrestors shall be installed in accordance with manufacturer’s specifications. Water hammer arrestors shall conform to ASSE 1010.

47. Add Section P3002.2.1 to read:

P3002.2.1 Tracer wire. Nonmetallic sanitary sewer piping that discharges to public systems shall be locatable. An insulated copper tracer wire, 18 AWG minimum in size and suitable for direct burial or an equivalent product, shall be utilized. The wire shall be installed in the same trench as the sewer within 12 inches (305 mm) of the pipe and shall be installed from within five feet of the building wall to the point where the building sewer intersects with the public system. At a minimum, one end of the wire shall terminate above grade in an accessible location that is resistant to physical damage, such as with a cleanout or at the building wall.

48. Replace Section P3007, Sumps and Ejectors, with the following:

**SECTION P3007
SUMPS AND EJECTORS**

P3007.1 Building subdrains. Building subdrains that cannot be discharged to the sewer by gravity flow shall be discharged into a tightly covered and vented sump from which the liquid shall be lifted and discharged into the building gravity drainage system by automatic pumping equipment or other approved method. In other than existing structures, the sump shall not receive drainage from any piping within the building capable of being discharged by gravity to the building sewer.

P3007.2 Valves required. A check valve and a full open valve located on the discharge side of the check valve shall be installed in the pump or ejector discharge piping between the pump or ejector and the gravity drainage system. Access shall be provided to such valves. Such valves shall be located above the sump cover required by Section P3007.3.2 or, where the discharge pipe from the ejector is below grade, the valves shall be accessibly located outside the sump below grade in an access pit with a removable access cover.

P3007.3 Sump design. The sump pump, pit and discharge piping shall conform to the requirements of Sections P3007.3.1 through P3007.3.5.

P3007.3.1 Sump pump. The sump pump capacity and head shall be appropriate to anticipated use requirements.

P3007.3.2 Sump pit. The sump pit shall be not less than 18 inches (457 mm) in diameter and 24 inches (610 mm) deep, unless otherwise approved. The pit shall be accessible and located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, concrete, steel, plastic or other approved materials. The pit bottom shall be solid and provide permanent support for the pump. The sump pit shall be fitted with a gastight removable cover adequate to support anticipated loads in the area of use. The sump pit shall be vented in accordance with Chapter 31.

P3007.3.3 Discharge piping. Discharge piping shall meet the requirements of Section P3007.2.

P3007.3.4 Maximum effluent level. The effluent level control shall be adjusted and maintained to at all times prevent the effluent in the sump from rising to within 2 inches (51 mm) of the invert of the gravity drain inlet into the sump.

P3007.3.5 Ejector connection to the drainage system. Pumps connected to the drainage system shall connect to the building sewer or shall connect to a wye fitting in the building drain a minimum of 10 feet (3048 mm) from the base of any soil stack, waste stack or fixture drain. Where the discharge line connects into horizontal drainage piping, the connection shall be made through a wye fitting into the top of the drainage piping.

P3007.4 Sewage pumps and sewage ejectors. A sewage pump or sewage ejector shall automatically discharge the contents of the sump to the building drainage system.

P3007.5 Macerating toilet systems. Macerating toilet systems shall comply with CSA B45.9 or ASME A112.3.4 and shall be installed in accordance with the manufacturer's installation instructions.

P3007.6 Capacity. A sewage pump or sewage ejector shall have the capacity and head for the application requirements. Pumps or ejectors that receive the discharge of water closets shall be capable of handling spherical solids with a diameter of up to and including 2 inches (51 mm). Other pumps or ejectors shall be capable of handling spherical solids with a diameter of up to and including 1 inch (25.4 mm). The minimum capacity of a pump or ejector based on the diameter of the discharge pipe shall be in accordance with Table 3007.6.

Exceptions:

1. Grinder pumps or grinder ejectors that receive the discharge of water closets shall have a minimum discharge opening of 1.25 inches (32 mm).
2. Macerating toilet assemblies that serve single water closets shall have a minimum discharge opening of 0.75 inch (19 mm).

**TABLE P3007.6
MINIMUM CAPACITY OF SEWAGE PUMP OR SEWAGE EJECTOR**

DIAMETER OF DISCHARGE PIPE (inches)	CAPACITY OF PUMP OR EJECTOR
2	21
2½	30
3	46

For SI: 1 inch = 25.4 mm, 1 gallon per minute = 3.785 L/m

49. Change the title of Chapter 32 to read:

**CHAPTER 32
TRAPS AND STORM DRAINAGE**

50. Add Section P3202, Storm Drainage, to read:

**SECTION P3202
STORM DRAINAGE**

P3202.1 Scope. The provisions of this section shall govern the materials, design, construction and installation of storm drainage.

P3202.2 Subsoil drains. Subsoil drains shall be open-jointed, horizontally split or perforated pipe conforming to one of the standards listed in Table P3202.2. Such drains shall not be less than 4 inches (102 mm) in diameter. Where the building is subject to backwater, the subsoil drain shall be protected by an accessibly located backwater valve. Subsoil drains shall not be required to have either a gas-tight cover or vent. The sump and pumping system shall comply with Section P3202.3.

**TABLE P3202.2
SUBSOIL DRAIN PIPE**

MATERIAL	STANDARD
Asbestos-cement pipe	ASTM C 508
Cast-iron pipe	ASTM A 74, ASTM A 888, CISPI 301
Polyethylene (PE) plastic pipe	ASTM F 405, CSA B182.1, CSA B182.6, CSA B182.8
Polyvinyl chloride (PVC) plastic pipe (type sewer pipe, PS25, PS50 or PS100)	ASTM D 2729, ASTM F 891, CSA B182.2, CSA B182.4
Stainless steel drainage systems, Type 316L	ASME A112.3.1
Vitrified clay pipe	ASTM C 4, ASTM C 700

P3202.3 Pumping system. The sump pump, pit and discharge piping shall conform to Section P3202.3.1 through P3202.3.4.

P3202.3.1 Pump capacity and head. The sump pump shall be of a capacity and head appropriate to anticipated use requirements.

P3202.3.2 Sump pit. The sump pit shall not be less than 18 inches (457 mm) in diameter and 24 inches (610 mm) deep, unless otherwise approved. The pit shall be accessible and located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, steel, plastic, cast-iron, concrete or other approved material, with a removable cover adequate to support anticipated loads in the area of use. The pit floor shall be solid and provide permanent support for the pump.

P3202.3.3 Electrical. Electrical outlets shall meet the requirements of Chapters 33 through 42.

P3202.3.4 Piping. Discharge piping shall meet the requirements of Sections P3002.1, P3002.2, P3002.3 and P3003. Discharge piping shall include an accessible full flow check valve. Pipe and fittings shall be the same size, or larger than, pump discharge tapping.

51. Add Section E3501.8 to read:

E3501.8 Energizing service equipment. The building official shall give permission to energize the electrical service equipment of a one- or two-family dwelling unit when all of the following requirements have been approved:

1. The service wiring and equipment, including the meter socket enclosure, shall be installed and the service wiring terminated.
2. The grounding electrode system shall be installed and terminated.
3. At least one receptacle outlet on a ground fault protected circuit shall be installed and the circuit wiring terminated.
4. Service equipment covers shall be installed.
5. The building roof covering shall be installed.
6. Temporary electrical service equipment shall be suitable for wet locations unless the interior is dry and protected from the weather.

52. Add the following referenced standards to Chapter 43:

Standard reference number	Title	Referenced in code section number
ASTM C4-03	Specification for Clay Drain Tile and Perforated Clay Drain Tile	P3202.3
ASTM C508-00	Specification for Asbestos-Cement Underdrain Pipe	P3202.3
ASTM D2729-96a	Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings	P3202.3
ASTM E2178-03	Standard Test Method for Air Permeance of Building Materials	R202
ASTM F405-97	Specification for Polyethylene (PE) Tubing and Fittings	P3202.3
CSA B182.1-02	Plastic Drain and Sewer Pipe and Pipe Fittings	P3202.3
CSA B182.6-02	Profile Polyethylene Sewer Pipe and Pipe Fittings	P3202.3
CSA B182.8-02	Profile Polyethylene Storm Sewer and Drainage Pipe and Fittings	P3202.3

CHAPTER 4

SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

Add Section 407.8 to the IBC to read:

407.8 Special locking arrangement. Means of egress doors shall be permitted to contain locking devices restricting the means of egress in areas in which the clinical needs of the patients require restraint of movement, where all of the following conditions are met:

1. The locks release upon activation of the fire alarm system or the loss of power.
2. The building is equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1.
3. A manual release device is provided at a nursing station responsible for the area.
4. A key-operated switch or other manual device is provided adjacent to each door equipped with the locking device. Such switch or other device, when operated, shall result in direct interruption of power to the lock – independent of the control system electronics.
5. All staff shall have keys or other means to unlock the switch or other device or each door provided with the locking device.

Add Section 407.9 to the IBC to read:

407.9 Emergency power systems. Emergency power shall be provided for medical life support equipment, operating, recovery, intensive care, emergency rooms, fire detection and alarm systems in any Group I-2 occupancy licensed by the Virginia Department of Health as a hospital, nursing home or hospice facility.

Change Section 408.2 of the IBC to read:

408.2 Other occupancies. Buildings or portions of buildings in Group I-3 occupancies where security operations necessitate the locking of required means of egress shall be permitted to be classified as a different occupancy. Occupancies classified as other than Group I-3 shall meet the applicable requirements of this code for that occupancy provided provisions are made for the release of occupants at all times. Where the provisions of this code for occupancies other than Group I-3 are more restrictive than the provisions for Group I-3 occupancies, the Group I-3 occupancy provisions shall be permitted to be used.

Means of egress from detention and correctional occupancies that traverse other use areas shall, as a minimum, conform to requirements for detention and correctional occupancies.

Exception: It is permissible to exit through a horizontal exit into other contiguous occupancies that do not conform to detention and correctional occupancy egress provisions but that do comply with requirements set forth in the appropriate occupancy, as long as the occupancy is not a high-hazard use.

Add a new Section 408.3.4 to the IBC to read as follows and renumber existing Sections 408.3.4, 408.3.5 and 408.3.6 to become Sections 408.3.5, 408.3.6 and 408.3.7 respectively:

408.3.4 Ships ladders. Ships ladders in accordance with Section 1009.12 shall be permitted from facility observation or control rooms.

Change Section 408.3.6 of the IBC to read:

408.3.6 Sallyports. A sallyport shall be permitted in a means of egress where there are provisions for continuous and unobstructed passage through the sallyport during an emergency egress condition. A sallyport is a security vestibule with two or more doors where the intended purpose is to prevent continuous and unobstructed passage by allowing the release of only one door at a time.

Add Section 408.3.8 to the IBC to read:

408.3.8 Guard tower doors. A hatch or trap door not less than 16 square feet (.929 m²) in area through the floor and having minimum dimensions of not less than 2 feet (609.6 mm) in any direction shall be permitted to be used to access guard towers.

Add Section 408.5.1 to the IBC to read:

408.5.1 Noncombustible shaft openings in communicating floor levels. Where vertical openings are permitted without enclosure protection in accordance with Section 408.5, noncombustible shafts such as plumbing chases shall also be permitted without enclosure protection. Where additional stories are located above or below, the shaft shall be permitted to continue with fire and smoke damper protection provided at the fire resistance rated floor/ceiling assembly between the non-communicating stories.

Change Section 408.8 of the IBC to read:

408.8 Windowless buildings. For the purposes of this section, a windowless building or portion of a building is one with nonopenable windows, windows not readily breakable or without windows. Windowless buildings shall be provided with an engineered smoke control system to provide a tenable environment for exiting from the smoke compartment in the area of fire origin in accordance with Section 909 for each windowless smoke compartment.

Add Section 415.1.1 to the IBC to read:

415.1.1 Flammable and combustible liquids. Notwithstanding the provisions of this chapter, the storage, handling, processing, and transporting of flammable and combustible liquids shall be in accordance with the mechanical code and the fire code listed in Chapter 35 of this code. Regulations governing the installation, repair, upgrade, and closure of underground and aboveground storage tanks under the Virginia State Water Control Board regulations 9 VAC 25-91 and 9 VAC 25-580 are adopted and incorporated by reference to be an enforceable part of this code. Where differences occur between the provisions of this code and the incorporated provisions of the State Water Control Board regulations, the provisions of the State Water Control Board regulations shall apply.

Add IBC Section 421 Manufactured Homes and Industrialized Buildings

Add Section 421.1 to the IBC to read:

421.1 General. The provisions of this section shall apply to the installation or erection of manufactured homes subject to the Virginia Manufactured Home Safety Regulations (13 VAC 5-95) and industrialized buildings subject to the Virginia Industrialized Building Safety Regulations (13 VAC 5-91).

Add Section 421.2 to the IBC to read:

421.2 Site work for manufactured homes. The installation of a manufactured home is generally subject to the requirements of the Virginia Manufactured Home Safety Regulations (13 VAC 5-95). Under those regulations, the building official is responsible for assuring that the installation complies with the manufacturer's installation instructions and any special conditions or limitations of use stipulated by the label. To the extent that any aspect of the installation is not provided for in the manufacturer's installation instructions, then the installation shall comply with applicable requirements of this code. In the case where the manufacturer's installation instructions for a manufactured home are not available, the NCSBCS/ANSI A225.1 standard, 1994 edition, may be substituted for the manufacturer's installation instructions. Foundations, stoops, decks, porches, alterations and additions associated with manufactured homes are subject to the requirements of this code and all administrative requirements of this code for permits, inspections and certificates of occupancy are also applicable. The requirements of the IRC shall be permitted to be used for the technical requirements for such construction work. In addition, Appendix E of the IRC entitled, "Manufactured Housing Used As Dwellings," shall be an acceptable alternative to this code for construction work associated with the installation of manufactured homes and for additions, alterations and repairs to manufactured homes.

Add Section 421.3 to the IBC to read:

421.3 Wind load requirements for manufactured homes. Manufactured homes shall be anchored to withstand the wind loads established by the federal regulation for the area in which the manufactured home is installed. For the purpose of this code, Wind Zone II of the federal regulation shall include the cities of Chesapeake, Norfolk, Portsmouth, and Virginia Beach.

Add Section 421.4 to the IBC to read:

421.4 Skirting requirements for manufactured homes. As used in this section, “skirting” means a weather-resistant material used to enclose the space from the bottom of the manufactured home to grade. Manufactured homes installed or relocated shall have skirting installed within 60 days of occupancy of the home. Skirting materials shall be durable, suitable for exterior exposures and installed in accordance with the manufacturer's installation instructions. Skirting shall be secured as necessary to ensure stability, to minimize vibrations, to minimize susceptibility to wind damage and to compensate for possible frost heave. Each manufactured home shall have a minimum of one opening in the skirting providing access to any water supply or sewer drain connections under the home. Such openings shall be a minimum of 18 inches (457 mm) in any dimension and not less than 3 square feet (.28 m²) in area. The access panel or door shall not be fastened in a manner requiring the use of a special tool to open or remove the panel or door. On-site fabrication of the skirting by the owner or installer of the home shall be acceptable, provided that the material meets the requirements of this code.

Add Section 421.5 to the IBC to read:

421.5 Site work for industrialized buildings. Site work for the erection and installation of an industrialized building is generally subject to the requirements of the Virginia Industrialized Building Safety Regulations (13 VAC 5-91) and the building official has certain enforcement responsibilities under those regulations. To the extent that any aspect of the erection or installation of an industrialized building is not covered by those regulations, this code shall be applicable. In addition, all administrative requirements of this code for permits, inspections and certificates of occupancy are also applicable. The requirements of the IRC shall be permitted to be used for any construction work that is subject to this code where the industrialized building would be classified as a Group R-5 building.

Add Section 421.6 to the IBC to read:

421.6 Relocated industrialized buildings; alterations and additions. Industrialized buildings constructed prior to January 1, 1972 shall be subject to Section 117 when relocated. Alterations and additions to existing industrialized buildings shall be subject to pertinent provisions of this code. Building officials shall be permitted to require the submission of plans and specifications for the model to aid in the evaluation of the proposed alteration or addition. Such plans and specifications shall be permitted to be submitted in electronic or other available format acceptable to the building official.

CHAPTER 7

FIRE-RESISTANCE-RATED CONSTRUCTION

Add Section 701.2 to the IBC to read:

701.2 Fire-resistance assembly marking. Concealed fire walls, vertical fire separation assemblies, fire barriers, fire partitions and smoke barriers shall be designated above ceilings and on the inside of all ceiling access doors which provide access to such fire rated assemblies by signage having letters no smaller than 1 inch (25.4 mm) in height. Such signage shall indicate the fire-resistance rating of the assembly and the type of assembly and be provided at horizontal intervals of no more than 8 feet (2438 mm).

Note: An example of suggested formatting for the signage would be “ONE HOUR FIRE PARTITION.”

Delete Sections 707.14.1 and 707.14.2 of the IBC, including all subsections of Section 707.14.2.

Add exception 4 to Section 715.4.3 of the IBC to read:

4. Horizontal sliding doors in smoke barriers that comply with Section 408.3 are permitted in smoke barriers in occupancies in Group I-3.

Add an exception to Section 715.5.4 of the IBC to read:

Exception: Security glazing protected on both sides by an automatic sprinkler system shall be permitted in doors and windows in smoke barriers in Group I-3 occupancies. Individual panels of glazing shall not exceed 1,296 square inches (0.84 m²), shall be in a gasketed frame and installed in such a manner that the framing system will deflect without breaking (loading) glazing before the sprinkler system operates. The sprinkler system shall be designed to wet completely the entire surface of the affected glazing when actuated.

Change Section 716.5.3 of the IBC to read:

716.5.3 Shaft enclosures. Shaft enclosures that are permitted to be penetrated by ducts and air transfer openings shall be protected with approved fire and smoke dampers installed in accordance with their listing.

Exceptions:

1. Fire and smoke dampers are not required where steel exhaust subducts are extended at least 22 inches (559 mm) vertically in exhaust shafts, provided there is a continuous airflow upward to the outside.
2. Fire dampers are not required where penetrations are tested in accordance with ASTM E119 as part of the fire-resistance rated assembly.
3. Fire and smoke dampers are not required where ducts are used as part of an approved smoke control system in accordance with Section 909.
4. Fire and smoke dampers are not required where the penetrations are in parking garage exhaust or supply shafts that are separated from other building shafts by not less than 2-hour fire-resistance-rated construction.
5. Smoke dampers are not required where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

CHAPTER 9

FIRE PROTECTION SYSTEMS

Add the following definitions to Section 902 of the IBC to read:

EMERGENCY COMMUNICATION EQUIPMENT. Emergency communication equipment includes, but is not limited to, two-way radio communications, signal booster, bi-directional amplifiers, radiating cable systems or internal multiple antenna, or a combination of the foregoing.

EMERGENCY PUBLIC SAFETY PERSONNEL. Emergency public safety personnel includes firefighters, emergency medical personnel, law-enforcement officers and other emergency public safety personnel routinely called upon to provide emergency assistance to members of the public in a wide variety of emergency situations, including, but not limited to, fires, medical emergencies, violent crimes and terrorist attacks.

Change the following definition in Section 902 of the IBC to read:

AUTOMATIC FIRE-EXTINGUISHING SYSTEM. An approved system of devices and equipment which automatically detects a fire and discharges an approved fire-extinguishing agent onto or in the area of a fire and shall include among other systems an automatic sprinkler system, unless otherwise expressly stated.

| Change Section 903.2.1.2 of the IBC to read:

903.2.1.2 Group A-2. An automatic sprinkler system shall be provided for Group A-2 occupancies where one of the following conditions exists:

1. The fire area exceeds 5,000 square feet (465 m²);
2. The fire area has an occupant load of 100 or more in night clubs or 300 or more in other Group A-2 occupancies; or
3. The fire area is located on a floor other than the level of exit discharge.

Change Item 2 of Section 903.2.1.3 of the IBC to read:

2. In Group A-3 occupancies other than churches, the fire area has an occupant load of 300 or more.

Change Section 903.2.7 of the IBC to read:

903.2.7 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area, except in the following R-2 occupancies when the necessary water pressure or volume, or both, for the system is not available:

Exceptions:

1. Buildings which do not exceed two stories, including basements which are not considered as a story above grade, and with a maximum of 16 dwelling units per fire area. Each dwelling unit shall have at least one door opening to an exterior exit access that leads directly to the exits required to serve that dwelling unit.
2. Buildings where all dwelling units are not more than two stories above the lowest level of exit discharge and not more than one story below the highest level of exit discharge of exits serving the dwelling unit and a two-hour fire barrier is provided between each pair of dwelling units. Each bedroom of a dormitory or boarding house shall be considered a dwelling unit under this exception.

Add Section 903.3.1.2.2 to the IBC to read:

903.3.1.2.2 Attics. Sprinkler protection shall be provided for attics in buildings of Type III, IV or V construction in Group R-2 occupancies that are designed, or developed and marketed to senior citizens, 55 years of age or older and in Group I-1 occupancies in accordance with Section 6.7.2 of NFPA 13R.

Change Section 903.4.2 of the IBC to read:

903.4.2 Alarms. Approved audible devices shall be connected to every automatic sprinkler system. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Alarm devices shall be provided on the exterior of the building in an approved location. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system. Group R-2 occupancies that contain 16 or more dwelling units or sleeping units; or any dwelling unit or sleeping unit two or more stories above the lowest level of exit discharge; or any dwelling unit or sleeping unit more than one story below the highest level of exit discharge of exits serving the dwelling unit or sleeping unit, shall provide a manual fire alarm box at an approved location to activate the suppression system alarm.

Add an exception to Section 905.2 of the IBC to read:

Exception: The residual pressure of 100 psi for 2½ inch hose connection and 65 psi for 1½ inch hose connection is not required in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 and where the highest floor level is not more than 150 feet above the lowest level of fire department vehicle access.

Change Section 906.1 of the IBC to read:

906.1 General. Portable fire extinguishers shall be provided in occupancies and locations as required by the *International Fire Code*.

Exceptions:

1. Group R-2 occupancies.
2. In Group I-3 occupancies, portable fire extinguishers shall be permitted to be located at staff locations and the access to such extinguishers shall be permitted to be locked.

Change Section 907.2.1.1 of the IBC to read:

907.2.1.1 System initiation in Group A occupancies with an occupant load of 1,000 or more and in certain night clubs. Activation of the fire alarm in Group A occupancies with an occupant load of 1,000 or more and in night clubs with an occupant load of 300 or more shall initiate a signal using an emergency voice/alarm communications system in accordance with NFPA 72.

Exception: Where approved, the prerecorded announcement is allowed to be manually deactivated for a period of time, not to exceed 3 minutes, for the sole purpose of allowing a live voice announcement from an approved, constantly attended location.

Change Section 907.2.9 of the IBC to read:

907.2.9 Group R-2. A manual fire alarm system shall be installed in Group R-2 occupancies.

Exceptions:

1. A fire alarm system is not required in buildings not more than two stories in height where all dwelling units or sleeping rooms and contiguous attic and crawl spaces are separated from each other and public or common areas by at least 1-hour fire partitions and each dwelling unit or sleeping room has an exit directly to a public way, exit court or yard.
2. Manual fire alarm boxes are not required throughout the building when the following conditions are met:
 - 2.1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or Section 903.3.1.2; and
 - 2.2. The notification appliances will activate upon sprinkler flow.

Change Section 907.9.2 of the IBC to read:

907.9.2 Audible alarms. Audible alarm notification appliances shall be provided and shall sound a distinctive sound that is not to be used for any purpose other than that of a fire alarm. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupied space within the building. The minimum sound pressure levels shall be: 70 dBA in occupancies in Groups R and I-1; 90 dBA in mechanical equipment rooms and 60 dBA in other occupancies. The maximum sound pressure level for audible alarm notification appliances shall be 120 dBA at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than 105 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

Exceptions:

1. Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in critical-care areas of Group I-2 occupancies.
2. Sound pressure levels in Group I-3 occupancies shall be permitted to be limited to only the notification of occupants in the affected smoke compartment.

Change Section 909.6 of the IBC to read:

909.6 Pressurization method. When approved by the building official, the means of controlling smoke shall be permitted by pressure differences across smoke barriers. Maintenance of a tenable environment is not required in the smoke control zone of fire origin.

Add IBC Section 913 In-Building Emergency Communications Coverage

Add Section 913.1 to the IBC to read:

913.1 General. In-building emergency communication equipment to allow emergency public safety personnel to send and receive emergency communications shall be provided in new buildings and structures in accordance with this section.

Exceptions:

1. Buildings of Use Groups A-5, I-4, within dwelling units of R-2, R-3, R-4, R-5, and U.
2. Buildings of Type IV and V construction without basements.
3. Above grade single story buildings of less than 20,000 square feet.
4. Buildings or leased spaces occupied by federal, state, or local governments, or the contractors thereof, with security requirements where the building official has approved an alternative method to provide emergency communication equipment for emergency public safety personnel.
5. Where the owner provides technological documentation from a qualified individual that the structure or portion thereof does not impede emergency communication signals.

Add Sections 913.2, 913.2.1, 913.2.2 and 913.2.3 to the IBC to read:

913.2 Where required. For localities utilizing public safety wireless communications, new buildings and structures shall be equipped throughout with dedicated infrastructure to accommodate and perpetuate continuous emergency communication.

913.2.1 Installation. Radiating cable systems, such as coaxial cable or equivalent shall be installed in dedicated conduits, raceways, plenums, attics, or roofs, compatible for these specific installations as well as other applicable provisions of this code.

913.2.2 Operations. The locality will assume all responsibilities for the installation and maintenance of additional emergency communication equipment. To allow the locality access to and the ability to operate such equipment, sufficient space within the building shall be provided.

913.2.3 Inspection. In accordance with Section 113.3, all installations shall be inspected prior to concealment.

Add Section 913.3 to the IBC to read:

913.3 Acceptance test. Upon completion of installation, after providing reasonable notice to the owner or their representative, emergency public safety personnel shall have the right during normal business hours, or other mutually agreed upon time, to enter onto the property to conduct field tests to verify that the required level of radio coverage is present at no cost to the owner. Any noted deficiencies shall be provided in an inspection report to the owner to the owner or the owner's representative.

CHAPTER 10
MEANS OF EGRESS

Change Section 1004.3 of the IBC to read:

1004.3 Posting of occupant load. Every room or space that is an assembly occupancy and where the occupant load of that room or space is 50 or more shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

Change Exception 3 of Section 1007.3 of the IBC to read:

3. The clear width of 48 inches (1219 mm) between handrails and the area of refuge is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Change Section 1007.4 of the IBC to read:

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings and facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Change Section 1007.6.2 of the IBC to read:

1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1021. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exceptions:

1. Areas of refuge located within a vertical exit enclosure.
2. Areas of refuge where the area of refuge and areas served by the area of refuge are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Change Item 2 of Section 1008.1.8.3 of the IBC to read:

2. In buildings in occupancy Groups B, F, M and S, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1. The locking device is readily distinguishable as locked,
 - 2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background,
 - 2.3. The use of the key-operated locking device is revokable by the building official for due cause.

Change Section 1008.1.8.6 of the IBC to read:

1008.1.8.6 Delayed egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy including Group A-3, airport facilities, except Group A, E and H occupancies in buildings which are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted.

5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 SECONDS.

Exception: Where approved, such sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 30 SECONDS.

6. Emergency lighting shall be provided at the door.

Add Section 1008.1.8.8 to the IBC to read:

1008.1.8.8 Locking arrangements in correctional facilities. In occupancies in Groups A-3, A-4, B, E, F, I, M and S within penal facilities, doors in means of egress serving rooms or spaces occupied by persons whose movements must be controlled for security reasons shall be permitted to be locked if equipped with egress control devices which shall unlock manually and by at least one of the following means:

1. Actuation of an automatic fire suppression system required by Section 903.2.
2. Actuation of a key-operated manual alarm station required by Section 907.2.
3. A signal from a central control station.

Add Section 1008.1.10 to the IBC to read:

1008.1.10 Locking certain residential sliding doors. In dwelling units of Group R-2 buildings, exterior sliding doors which are one story or less above grade, or shared by two dwelling units, or are otherwise accessible from the outside, shall be equipped with locks. The mounting screws for the lock case shall be inaccessible from the outside. The lock bolt shall engage the strike in a manner that will prevent it from being disengaged by movement of the door.

Exception: Exterior sliding doors which are equipped with removable metal pins or charlie bars.

Add Section 1008.1.11 to the IBC to read:

1008.1.11 Door viewers in certain residential buildings. Entrance doors to dwelling units of Group R-2 buildings shall be equipped with door viewers with a field of vision of not less than 180 degrees.

Exception: Entrance doors having a vision panel or side vision panels.

Change Exception 4 of Section 1009.3 of the IBC to read:

4. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 8.25 inches (210 mm); the minimum tread depth shall be 9 inches (229 mm); the minimum winder tread depth at the walk line shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than 0.75 inch (19.1 mm) but not more than 1.25 inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).

Add Exception 6 to Section 1009.3 of the IBC to read:

6. Stairways in penal facilities serving guard towers, observation stations and control rooms not more than 250 square feet (23 m²) in area shall be permitted to have risers not exceeding 8 inches (203 mm) in height and treads not less than 9 inches (229 mm) in depth.

Change Exception 2 of Section 1009.3.3 of the IBC to read:

2. Solid risers are not required for occupancies in Group I-3. There are no restrictions on size of the opening in the riser.

Add Section 1009.12 to the IBC to read:

1009.12 Ships ladders. Ships ladders are permitted as an element of a means of egress to and from facility observation or control rooms not more than 250 square feet (23 m²) in area which serves not more than 3 occupants and for access to unoccupied roofs.

Ships ladders shall have a maximum projected tread of 5 inches (127 mm), a minimum tread depth of 8.5 inches (216 mm), a minimum tread width of 15 inches (612 mm) and a maximum riser height of 9.5 inches (241 mm).

Handrails shall be provided on both sides of ships ladders.

Change Exception 4 of Section 1011.1 of the IBC to read:

4. Exit signs are not required in dayrooms, sleeping rooms or dormitory spaces in occupancies in Group I-3.

Add Exception 5 to Item 2 of Section 1014.2 of the IBC to read:

5. A maximum of one exit access is permitted to pass through kitchens, store rooms, closets or spaces used for similar purposes provided such a space is not the only means of exit access.

Change Table 1015.1 of the IBC to read:

TABLE 1015.1
SPACES WITH ONE MEANS OF EGRESS

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E ^a , F, M, U	50
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

a. Day care maximum occupant load is 10.

Change Exception 2 of Section 1015.2.1 of the IBC to read:

2. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the exit doors or exit access doorways shall not be less than one-fourth of the length of the maximum overall diagonal dimension of the area served.

Change Table 1017.1 of the IBC to read:

TABLE 1017.1
CORRIDOR FIRE-RESISTANCE RATING

OCCUPANTY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system ^b
H-1, H-2, H-3	All	1	1
H-4, H-5	Greater than 30	1	1
A, B, E, F, M, S, U	Greater than 30	1	0
R	Greater than 10	1	0.5
I-2 ^a , I-4	All	Not Permitted	0
I-1, I-3	All	Not Permitted	0

- a. For requirements for occupancies in Group I-2, see Section 407.3.
b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

CHAPTER 11 ACCESSIBILITY

Add an exception to Section 1101.2 of the IBC to read:

Exception: Wall-mounted visible alarm notification appliances in Group I-3 occupancies shall be permitted to be a maximum of 120 inches (3048 mm) above the floor or ground, measured from the bottom of the appliance. Such appliances shall otherwise comply with all applicable requirements.

Add Section 1106.8 to the IBC to read:

1106.8 Identification of accessible parking spaces. In addition to complying with applicable provisions of this chapter, all accessible parking spaces shall be identified by above grade signs. A sign or symbol painted or otherwise displayed on the pavement of a parking space shall not constitute an above grade sign. All above grade parking space signs shall have the bottom edge of the sign no lower than 4 feet (1219 mm) nor higher than 7 feet (2133 mm) above the parking surface. All disabled parking signs shall include the following language: PENALTY, \$100-500 Fine, TOW-AWAY ZONE. Such language may be placed on a separate sign and attached below existing above grade disabled parking signs, provided that the bottom edge of the attached sign is no lower than four feet above the parking surface.

Change Item 1 of Section 1110.1 of the IBC to read:

1. Accessible parking spaces required by Section 1106.1.

CHAPTER 12 INTERIOR ENVIRONMENT

Add the following definitions to Section 1202.1 of the IBC:

DAY-NIGHT AVERAGE SOUND LEVEL (LDN). A 24-hour energy average sound level expressed in dBA, with a 10 decibel penalty applied to noise occurring between 10 p.m. and 7 a.m.

SOUND TRANSMISSION CLASS (STC) RATING. A single number characterizing the sound reduction performance of a material tested in accordance with ASTM E90-90, "Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions."

Add Section 1203.4.4 to the IBC to read:

1203.4.4 Insect screens in occupancies other than Group R. Every door, window and other outside opening for natural ventilation serving structures classified as other than a residential group containing habitable rooms, food preparation areas, food service areas, or any areas where products to be included or utilized in food for human

consumption are processed, manufactured, packaged, or stored, shall be supplied with approved tightly fitting screens of not less than 16 mesh per inch (16 mesh per 25 mm) and every screen door used for insect control shall have a self-closing device.

Exception: Screen doors shall not be required for out swinging doors or other types of openings which make screening impractical, provided other approved means, such as air curtains or insect repellent fans are provided.

Add Section 1203.4.5 to the IBC to read:

1203.4.5 Insect screens in Group R occupancies. Every door, window and other outside opening required for natural ventilation purposes which serves a structure classified as a residential group shall be supplied with approved tightly fitted screens of not less than 16 mesh per inch (16 mesh per 25 mm) and every screen door used for insect control shall have a self-closing device.

Change Section 1207.1 of the IBC to read:

1207.1 Scope. Sections 1207.2 and 1207.3 shall apply to common interior walls, partitions and floor/ceiling assemblies between adjacent dwelling units or between dwelling units and adjacent public areas such as halls, corridors, stairs or service areas. Section 1207.4 applies to the construction of the exterior envelope of Group R occupancies within airport noise zones and to the exterior envelope of Group A, B, E, I and M occupancies in any locality in whose jurisdiction a United States Master Jet Base is located or any adjacent locality when such requirements are enforced by a locality pursuant to Section 15.2-2295 of the Code of Virginia.

Add Section 1207.4 to the IBC to read:

1207.4 Airport noise attenuation standards. Where the Ldn is determined to be 65 dBA or greater, the minimum STC rating of structure components shall be provided in compliance with Table 1207.4. As an alternative to compliance with Table 1207.4, structures shall be permitted to be designed and constructed so as to limit the interior noise level to no greater than 45 Ldn. Exterior structures, terrain and permanent plantings shall be permitted to be included as part of the alternative design. The alternative design shall be certified by an RDP.

Add Table 1207.4 to the IBC to read:

TABLE 1207.4
AIRPORT NOISE ATTENUATION STANDARDS

LDN	STC OF EXTERIOR WALLS AND ROOF/CEILING ASSEMBLIES	STC OF DOORS AND WINDOWS
65-69	39	25
70-74	44	33
75 or greater	49	38

CHAPTER 14 EXTERIOR WALLS

Change Section 1405.12.2 of the IBC to read:

1405.12.2 Window sills. In Occupancy Groups R-2 and R-3, one- and two-family and multiple-family dwellings, where the opening of the sill portion of an operable window is located more than 72 inches (1829 mm) above the finished grade or other surface below, the lowest part of the clear opening of the window shall be a minimum of 18 inches (457 mm) above the finished floor surface of the room in which the window is located. Glazing between the floor and a height of 18 inches (457 mm) shall be fixed or have openings such that a 4-inch (102 mm) diameter sphere cannot pass through.

Exception: Openings that are provided with window guards that comply with ASTM F 2006 or F 2090.

CHAPTER 16 STRUCTURAL DESIGN

Change Section 1609.3 of the IBC to read:

1609.3 Basic wind speed. The basic wind speed, in mph, for the determination of the wind loads shall be determined by Figure 1609. Wind speeds for localities in special wind regions, near mountainous terrains, and near gorges shall be based on elevation. Areas at 4,000 feet in elevation or higher shall use 110 V mph (48.4 m/s) and areas under 4,000 feet in elevation shall use 90 V mph (39.6 m/s). Gorge areas shall be based on the highest recorded speed per locality or in accordance with local jurisdiction requirements determined in accordance with Section 6.5.4 of ASCE 7.

In nonhurricane-prone regions, when the basic wind speed is estimated from regional climatic data, the basic wind speed shall be not less than the wind speed associated with an annual probability of 0.02 (50-year mean recurrence interval), and the estimate shall be adjusted for equivalence to a 3-second gust wind speed at 33 feet (10 m) above ground in Exposure Category C. The data analysis shall be performed in accordance with Section 6.5.4.2 of ASCE 7.

Add Section 1612.1.1 to the IBC to read:

1612.1.1 Elevation of manufactured homes. New or replacement manufactured homes to be located in any flood hazard zone shall be placed in accordance with the applicable elevation requirements of this code.

Exception: Manufactured homes installed on sites in an existing manufactured home park or subdivision shall be permitted to be placed so that the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches (914 mm) in height above grade in lieu of being elevated at or above the base flood elevation provided no manufactured home at the same site has sustained flood damage exceeding 50% of the market value of the home before the damage occurred.

CHAPTER 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS

Change Section 1703.1 of the IBC to read:

1703.1 Approved agency. An approved agency responsible for laboratory testing or special inspections, or both, must comply with the qualification, certification and experience requirements of ASTM E 329 or the alternatives listed herein.

Change Section 1703.1.1 of the IBC to read:

1703.1.1 Independent. An approved agency shall be objective and competent. The agency shall also disclose possible conflicts of interest so that objectivity can be confirmed. The special inspector and their agents shall be independent from the person, persons or contractor responsible for the physical construction of the project requiring special inspections.

Change Section 1703.1.3 of the IBC to read:

1703.1.3 Personnel. An approved agency shall employ experienced personnel educated in conducting, supervising and evaluating tests or inspections, or both. Upon request by the building official, documentation shall be provided demonstrating the applicable agency's accreditation as noted in ASTM E 329 and individuals' resumes indicating pertinent training, certifications and other qualifications for special inspection personnel associated with the proposed construction requiring special inspections. The building official may prescribe the manner of qualification documentation and frequency of updating information regarding agency or individual inspector approval.

Firms providing special inspection services or individual inspectors seeking approval of alternative certifications or qualifications, or both, listed in ASTM E 329 may submit documentation demonstrating equivalency. This

documentation may include evidence of meeting other recognized standards or alternative certifications to demonstrate that the minimum qualifications, certification and experience intended by ASTM E 329 have been met. The building official may, if satisfied that equivalency has been demonstrated, approve the credentials of the firm or individual.

Change Section 1704.1 of the IBC to read:

1704.1 General. Where application is made for construction as described in this section, the owner shall employ one or more special inspectors to provide inspections during construction on the types of work listed under Section 1704. All individuals or agents performing special inspection functions shall operate under the direct supervision of an RDP in responsible charge of special inspection activities; also known as the “special inspector.” The special inspector shall ensure that the individuals under their charge are performing only those special inspections or laboratory testing that are consistent with their knowledge, training and certification for the specified inspection or laboratory testing.

Exceptions:

1. Special inspections are not required for work of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by the laws of this Commonwealth and regulations governing the professional registration and certification of engineers or architects.
3. Unless otherwise required by the building official, special inspections are not required for occupancies in Group R-3, R-4 or R-5 and occupancies in Group U that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.

Change Section 1704.1.1 of the IBC to read:

1704.1.1 Statement of special inspections. The permit applicant shall submit a statement of special inspections prepared by the RDP in responsible charge in accordance with Section 111.1. This statement shall be in accordance with Section 1705.

Exceptions:

1. A statement of special inspections is not required for structures designed and constructed in accordance with the conventional construction provisions of Section 2308.
2. The statement of special inspections is permitted to be prepared by a qualified person approved by the building official for construction not designed by a registered design professional.

Change category “11” of Table 1704.4 of the IBC to read:

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD ^a	IBC REFERENCE
11. Inspect formwork for shape, location and dimensions of the concrete member being formed, shoring and reshoring.	-	X	ACI 318: 6.1, 6.2	1906

CHAPTER 18 SOILS AND FOUNDATIONS

Change the exception to Section 1803.5 of the IBC to read:

Exception: Compacted fill material less than 12 inches (305 mm) in depth need not comply with an approved report, provided it is a natural non-organic material that is not susceptible to swelling when exposed to moisture and it has been compacted to a minimum of 90 percent Modified Proctor in accordance with ASTM D 1557. The compaction

shall be verified by a qualified inspector approved by the building official. Material other than natural material may be used as fill material when accompanied by a certification from an RDP and approved by the building official.

CHAPTER 27

ELECTRICAL

Change Section 2701.1 of the IBC to read:

2701.1 Scope. This chapter governs the electrical components, equipment and systems used in buildings and structures covered by this code. Electrical components, equipment and systems shall be designed and constructed in accordance with this code and NFPA 70. Any reference in this code to the *ICC Electrical Code* shall be considered to be references to NFPA 70.

Add Section 2701.1.1 to the IBC to read:

2701.1.1 Changes to NFPA 70. The following change shall be made to NFPA 70:

1. Change Sections 334.10(2) and 334.10(3) of NFPA 70 to read:
 - (2) Multifamily dwellings not exceeding four floors above grade and multifamily dwellings of any height permitted to be of Types III, IV and V construction except in any case as prohibited in 334.12.
 - (3) Other structures not exceeding four floors above grade and other structures of any height permitted to be of Types III, IV and V construction except in any case as prohibited in 334.12. In structures exceeding four floors above grade, cables shall be concealed within walls, floors or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire-rated assemblies.

For the purpose of Items 2 and 3 above, the first floor of a building shall be that floor that has 50 percent or more of the exterior wall surface area level with or above finished grade. One additional level that is the first level and not designed for human habitation and used only for vehicle parking, storage or similar use shall be permitted.

Add Section 2701.1.2 to the IBC to read:

2701.1.2 Temporary connection to dwelling units. The building official shall give permission to energize the electrical service equipment of a one- or two-family dwelling unit when all of the following requirements have been approved:

1. The service wiring and equipment, including the meter socket enclosure, shall be installed and the service wiring terminated.
2. The grounding electrode system shall be installed and terminated.
3. At least one receptacle outlet on a ground fault protected circuit shall be installed and the circuit wiring terminated.
4. Service equipment covers shall be installed.
5. The building roof covering shall be installed.
6. Temporary electrical service equipment shall be suitable for wet locations unless the interior is dry and protected from the weather.

| Add Section 2701.1.3 to the IBC to read:

2701.1.3 Assisted living facility generator requirements. Generators installed to comply with regulations for assisted living facilities licensed by the Virginia Department of Social Services shall be permitted to be optional standby systems.

Change Section 2702.2.17 of the IBC to read:

2702.2.17 Group I-2 and I-3 occupancies. Emergency power shall be provided in accordance with Section 407.8 for Group I-2 occupancies licensed by the Virginia Department of Health as a hospital, nursing or hospice facility. Emergency power shall be provided for doors in Group I-3 occupancies in accordance with Section 408.4.2.

CHAPTER 28 MECHANICAL SYSTEMS

Change Section 2801.1 of the IBC to read:

2801.1 Scope. Mechanical appliances, equipment and systems shall be constructed and installed in accordance with this chapter, the *International Mechanical Code* and the *International Fuel Gas Code*. Masonry chimneys, fireplaces and barbecues shall comply with the *International Mechanical Code* and Chapter 21 of this code.

Exception: This code shall not govern the construction of water heaters, boilers and pressure vessels to the extent which they are regulated by the Virginia Boiler and Pressure Vessel Regulations (16 VAC 25-50). However, the building official may require the owner of a structure to submit documentation to substantiate compliance with those regulations.

Add IBC Section 2802 Heating Facilities.

Add Section 2802.1 to the IBC to read:

2802.1 Required heating in dwelling units. Heating facilities shall be required in every dwelling unit or portion thereof which is to be rented, leased or let on terms, either expressed or implied, to furnish heat to the occupants thereof. The heating facilities shall be capable of maintaining the room temperature at 65°F (18°C) during the period from October 15 to May 1 during the hours between 6:30 a.m. and 10:30 p.m. of each day and not less than 60°F (16°C) during other hours when measured at a point three feet (914 mm) above the floor and three feet (914 mm) from the exterior walls. The capability of the heating system shall be based on the outside design temperature required for the locality by this code.

Add Section 2802.2 to the IBC to read:

2802.2 Required heating in nonresidential structures. Heating facilities shall be required in every enclosed occupied space in nonresidential structures. The heating facilities shall be capable of producing sufficient heat during the period from October 1 to May 15 to maintain a temperature of not less than 65°F (18°C) during all working hours. The required room temperature shall be measured at a point three feet (914 mm) above the floor and three feet (914 mm) from the exterior walls.

Processing, storage and operation areas that require cooling or special temperature conditions and areas in which persons are primarily engaged in vigorous physical activities are exempt from these requirements.

Add Section 2803, Amendments, to the IBC and add Section 2803.1 to the IBC to read:

2803.1 Changes to the *International Mechanical Code*. The following changes shall be made to the *International Mechanical Code*:

1. Add the following definitions to Section 202 of the *International Mechanical Code*:

BREATHING ZONE. The region within an occupied space between planes 3 and 72 inches (75 and 1800 mm) above the floor and more than 2 feet (600 mm) from the walls of the space or from fixed air-conditioning equipment.

NET OCCUPIABLE FLOOR AREA. The floor area of an occupiable space defined by the inside surfaces of its walls but excluding shafts, column enclosures and other permanently enclosed, inaccessible and unoccupiable areas. Obstructions in the space such as furnishings, display or storage racks and other obstructions, whether temporary or permanent, shall not be deducted from the space area.

OCCUPIABLE SPACE. An enclosed space intended for human activities, excluding those spaces intended primarily for other purposes, such as storage rooms and equipment rooms, that are only intended to be occupied occasionally and for short periods of time.

ZONE. One occupiable space or several occupiable spaces with similar occupancy classification (see Table 403.3), occupant density, zone air distribution effectiveness and zone primary airflow rate per unit area.

2. Replace Section 403 of the *International Mechanical Code* to read:

SECTION 403 MECHANICAL VENTILATION

403.1 Ventilation system. Mechanical ventilation shall be provided by a method of supply air and return or exhaust air. The amount of supply air shall be approximately equal to the amount of return and exhaust air. The system shall not be prohibited from producing negative or positive pressure. The system to convey ventilation air shall be designed and installed in accordance with Chapter 6.

403.2 Outdoor air required. The minimum outdoor airflow rate shall be determined in accordance with Section 403.3. Ventilation supply systems shall be designed to deliver the required rate of outdoor airflow to the breathing zone within each occupiable space.

Exception: Where the registered design professional demonstrates that an engineered ventilation system design will prevent the maximum concentration of contaminants from exceeding that obtainable by the rate of outdoor air ventilation determined in accordance with Section 403.3, the minimum required rate of outdoor air shall be reduced in accordance with such engineered system design.

403.2.1 Recirculation of air. The outdoor air required by Section 403.3 shall not be recirculated. Air in excess of that required by Section 403.3 shall not be prohibited from being recirculated as a component of supply air to building spaces, except that:

1. Ventilation air shall not be recirculated from one dwelling to another or to dissimilar occupancies.
2. Supply air to a swimming pool and associated deck areas shall not be recirculated unless such air is dehumidified to maintain the relative humidity of the area at 60 percent or less. Air from this area shall not be recirculated to other spaces where 10 percent or more of the resulting supply airstream consists of air recirculated from these spaces.
3. Where mechanical exhaust is required by Note b in Table 403.3, recirculation of air from such spaces shall be prohibited. All air supplied to such spaces shall be exhausted, including any air in excess of that required by Table 403.3.
4. Where mechanical exhaust is required by Note h in Table 403.3, mechanical exhaust is required and recirculation is prohibited where 10 percent or more of the resulting supply airstream consists of air recirculated from these spaces.

403.2.2 Transfer air. Except where recirculation from such spaces is prohibited by Table 403.3, air transferred from occupiable spaces is not prohibited from serving as makeup air for required exhaust systems in such spaces as kitchens, baths, toilet rooms, elevators and smoking lounges. The amount of

transfer air and exhaust air shall be sufficient to provide the flow rates as specified in Section 403.3. The required outdoor airflow rates specified in Table 403.3 shall be introduced directly into such spaces or into the occupied spaces from which air is transferred or a combination of both.

403.3 Outdoor airflow rate. Ventilation systems shall be designed to have the capacity to supply the minimum outdoor airflow rate determined in accordance with this section. The occupant load utilized for design of the ventilation system shall not be less than the number determined from the estimated maximum occupant load rate indicated in Table 403.3. Ventilation rates for occupancies not represented in Table 403.3 shall be those for a listed occupancy classification that is most similar in terms of occupant density, activities and building construction; or shall be determined by an approved engineering analysis. The ventilation system shall be designed to supply the required rate of ventilation air continuously during the period the building is occupied, except as otherwise stated in other provisions of the code.

With the exception of smoking lounges, the ventilation rates in Table 403.3 are based on the absence of smoking in occupiable spaces. Where smoking is anticipated in a space other than a smoking lounge, the ventilation system serving the space shall be designed to provide ventilation over and above that required by Table 403.3 in accordance with accepted engineering practice.

Exception: The occupant load is not required to be determined, based on the estimated maximum occupant load rate indicated in Table 403.3 where approved statistical data document the accuracy of an alternate anticipated occupant density.

403.3.1 Zone outdoor airflow. The minimum outdoor airflow required to be supplied to each zone shall be determined as a function of occupancy classification and space air distribution effectiveness in accordance with Sections 403.3.1.1 through 403.3.1.3.

403.3.1.1 Breathing zone outdoor airflow. The outdoor airflow rate required in the breathing zone (V_{bz}) of the occupiable space or spaces in a zone shall be determined in accordance with Equation 4-1.

$$V_{bz} = R_p P_z + R_a A_z \quad \text{(Equation 4-1)}$$

where:

- A_z = zone floor area: the net occupiable floor area of the space or spaces in the zone.
- P_z = zone population: the number of people in the space or spaces in the zone.
- R_p = people outdoor air rate: the outdoor airflow rate required per person from Table 403.3
- R_a = area outdoor air rate: the outdoor airflow rate required per unit area from Table 403.3

403.3.1.2 Zone air distribution effectiveness. The zone air distribution effectiveness (E_z) shall be determined using Table 403.3.1.2.

TABLE 403.3.1.2
ZONE AIR DISTRIBUTION EFFECTIVENESS^{a,b,c,d,e}

Air Distribution Configuration	E_z
Ceiling or floor supply of cool air	1.0 ^f
Ceiling or floor supply of warm air and floor return	1.0
Ceiling supply of warm air and ceiling return	0.8 ^g
Floor supply of warm air and ceiling return	0.7
Makeup air drawn in on the opposite side of the room from the exhaust and/or return	0.8
Makeup air drawn in near to the exhaust and/or return location	0.5

For SI: 1 foot = 304.8 mm, 1 foot per minute = 0.00506 m/s, °C = [(°F) – 32]/1.8.

- a. “Cool air” is air cooler than space temperature.
- b. “Warm air” is air warmer than space temperature.
- c. “Ceiling” includes any point above the breathing zone.
- d. “Floor” includes any point below the breathing zone.
- e. “Makeup air” is air supplied or transferred to a zone to replace air removed from the zone by exhaust or return systems.
- f. Zone air distribution effectiveness of 1.2 shall be permitted for systems with a floor supply of cool air and ceiling return, provided that low-velocity displacement achieves unidirectional flow and thermal stratification.
- g. Zone air distribution effectiveness of 1.0 shall be permitted for systems with a ceiling supply of warm air, provided that supply air temperature is less than 15° F above space temperature and provided that the 150 foot-per-minute supply air jet reaches to within 4.5 feet of floor level.

403.3.1.3 Zone outdoor airflow. The zone outdoor airflow rate (V_{oz}), shall be determined in accordance with Equation 4-2.

$$V_{oz} = V_{bz}/E_z \quad \text{(Equation 4.2)}$$

403.3.2 System outdoor airflow. The outdoor air required to be supplied by each ventilation system shall be determined in accordance with Sections 403.3.2.1 through 403.2.3 as a function of system type and zone outdoor airflow rates.

403.3.2.1 Single zone systems. Where one air handler supplies a mixture of outdoor air and recirculated return air to only one zone, the system outdoor air intake flow rate (V_{ot}) shall be determined in accordance with Equation 4-3.

$$V_{ot} = V_{oz} \quad \text{(Equation 4-3)}$$

403.3.2.2 100-percent outdoor air systems. Where one air handler supplies only outdoor air to one or more zones, the system outdoor air intake flow rate (V_{ot}) shall be determined using Equation 4-4.

$$V_{ot} = \sum_{\text{all zones}} V_{oz} \quad \text{(Equation 4-4)}$$

403.3.2.3 Multiple zone recirculating systems. Where one air handler supplies a mixture of outdoor air and recirculated return air to more than one zone, the system outdoor air intake flow rate (V_{ot}) shall be determined in accordance with Sections 403.3.2.3.1 through 403.3.2.3.5.

403.3.2.3.1 Primary Outdoor Air Fraction. The primary outdoor air fraction (Z_p) shall be determined for each zone in accordance with Equation 4-5.

$$Z_p = V_{oz}/V_{pz} \quad \text{(Equation 4-5)}$$

where:

V_{pz} = Primary airflow: The airflow rate supplied to the zone from the air-handling unit at which the outdoor air intake is located. It includes outdoor intake air and recirculated air from that air-handling unit but does not include air transferred or air recirculated to the zone by other means. For design purposes, V_{pz} shall be the zone design primary airflow rate, except for zones with variable air volume supply and V_{pz} shall be the lowest expected primary airflow rate to the zone when it is fully occupied.

403.3.2.3.2 System ventilation efficiency. The system ventilation efficiency (E_v) shall be determined using Table 403.3.2.3.2 or Appendix A of ASHRAE 62.1.

TABLE 403.3.2.3.2
SYSTEM VENTILATION EFFICIENCY^{a,b}

Max(Z_p)	E_v
0.15	1.0
0.25	0.9
0.35	0.8
0.45	0.7
0.55	0.6
0.65	0.5
0.75	0.4
> 0.75	0.3

- a. Max(Z_p) is the largest value of Z_p calculated using Equation 4-5 among all the zones served by the system.
- b. Interpolating between table values shall be permitted.

403.3.2.3.3 Uncorrected outdoor air intake. The uncorrected outdoor air intake flow rate (V_{ou}) shall be determined in accordance with Equation 4-7.

$$V_{ou} = D \sum_{\text{all zones}} R_p P_z + \sum_{\text{all zones}} R_a A_z \quad \text{(Equation 4-7)}$$

where:

D = Occupant diversity: the ratio of the system population to the sum of the zone populations, determined in accordance with Equation 4-8.

$$D = P_s / \sum_{\text{all zones}} P_z \quad \text{(Equation 4-8)}$$

where:

P_s = System population: The total number of occupants in the area served by the system. For design purposes, P_s shall be the maximum number of occupants expected to be concurrently in all zones served by the system.

403.3.2.3.4 Outdoor air intake flow rate. The outdoor air intake flow rate (V_{ot}) shall be determined in accordance with Equation 4-9.

$$V_{ot} = V_{ou} / Ev \quad \text{(Equation 4-9)}$$

TABLE 403.3
MINIMUM VENTILATION RATES

OCCUPANCY CLASSIFICATION	People Outdoor Airflow Rate in Breathing Zone Cfm/person	Area Outdoor Airflow Rate in Breathing Zone R _a cfm/ft ^{2a}	Default Occupant Density #/1000 ft ^{2a}	Exhaust Airflow Rate Cfm/ft ^{2a}
Correctional Facilities				
Cells				
without plumbing fixtures	5	0.12	25	–
with plumbing fixtures [§]	5	0.12	25	1.0
Dining halls (See Food and Beverage Service)	–	–	–	–
Guard stations	5	0.06	15	–
Day room	5	0.06	30	–
Booking/waiting	7.5	0.06	50	–
Dry cleaners, laundries				
Coin-operated dry cleaner	15	–	20	–
Coin-operated laundries	7.5	0.06	20	–
Commercial dry cleaner	30	–	30	–
Commercial laundry	25	–	10	–
Storage, pick up	7.5	.12	30	–
Education				
Auditoriums	5	0.06	150	–
Corridors (See Public Spaces)	–	–	–	–
Media center	10	0.12	25	–
Sports locker rooms [§]	–	–	–	0.5
Music/theater/dance	10	0.06	35	–
Smoking lounges [§]	60	–	70	–
Daycare (through age 4)	10	0.18	25	–
Classrooms (ages 5-8)	10	0.12	25	–
Classrooms (age 9 plus)	10	0.12	35	–
Lecture classroom	7.5	0.06	65	–
Lecture hall (fixed seats)	7.5	0.06	150	–
Art classroom [§]	10	0.18	20	0.7
Science laboratories [§]	10	0.18	25	1.0
Wood/metal shops [§]	10	0.18	20	0.5
Computer lab	10	0.12	25	–
Multi-use assembly	7.5	0.06	100	–
Locker/dressing rooms [§]	–	–	–	0.25
Food and beverage service				
Bars, cocktail lounges	7.5	0.18	100	–
Cafeteria, fast food	7.5	0.18	100	–
Dining rooms	7.5	0.18	70	–
Kitchens (cooking) ^b	–	–	–	0.7

2006 VIRGINIA CONSTRUCTION CODE (Part I of the Virginia Uniform Statewide Building Code) – Effective May 1, 2008

OCCUPANCY CLASSIFICATION	People Outdoor Airflow Rate in Breathing Zone Cfm/person	Area Outdoor Airflow Rate in Breathing Zone R _a cfm/ft ^{2a}	Default Occupant Density #/1000 ft ^{2a}	Exhaust Airflow Rate Cfm/ft ^{2a}
Hospitals, nursing and convalescent homes				
Autopsy rooms ^b	–	–	–	0.5
Medical procedure rooms	15	–	20	–
Operating rooms	30	–	20	–
Patient rooms	25	–	10	–
Physical recovery	15	–	20	–
Recovery and ICU	15	–	20	–
Hotels, motels, resorts and dormitories				
Multi-purpose assembly	5	0.06	120	–
Bathrooms/Toilet – private ^g	–	–	–	25/50 ^f
Bedroom/living room	5	0.06	10	–
Conference/meeting	5	0.06	50	–
Dormitory sleeping areas	5	0.06	20	–
Gambling casinos	7.5	0.18	120	–
Lobbies/pre-function	7.5	0.06	30	–
Offices				
Conference rooms	5	0.06	50	–
Office spaces	5	0.06	5	–
Reception areas	5	0.06	30	–
Telephone/data entry	5	0.06	60	–
Main entry lobbies	5	0.06	10	–
Private dwellings, single and multiple				
Garages, common for multiple units ^b	–	–	–	0.75
Garages, separate for each dwelling ^b	–	–	–	100 cfm/car
Kitchens ^b	–	–	–	25/100 ^f
Living areas ^c	0.35 ACH but not less than 15 cfm/person	–	Based upon number of bedrooms, first bedroom 2; each additional bedroom: 1	–
Toilet rooms and bathrooms ^g	–	–	–	20/50 ^f
Public spaces				
Corridors	–	0.06	–	–
Elevator car	–	–	–	1.0
Shower room (per shower head) ^g	–	–	–	50/20 ^f
Smoking lounges ^b	60	–	70	–
Toilet rooms - public ^g	–	–	–	50/70 ^e
Places of religious worship	5	0.06	120	–
Courtrooms	5	0.06	70	–
Legislative chambers	5	0.06	50	–
Libraries	5	0.12	10	–
Museums (children's)	7.5	0.12	40	–
Museums/galleries	7.5	0.06	40	–
Retail stores, sales floors and showroom floors				
Sales (except as below)	7.5	0.12	15	–
Dressing rooms	–	–	–	0.25
Mall common areas	7.5	0.06	40	–
Shipping and receiving	–	0.12	–	–
Smoking lounges ^b	60	–	70	–
Storage rooms	–	0.12	–	–
Warehouses (See Storage)	–	–	–	–
Specialty shops				
Automotive motor-fuel dispensing stations ^b	–	–	–	1.5
Barber	7.5	0.06	25	0.5
Beauty and nail salons ^{b,h}	20	0.12	25	0.6
Embaling room ^b	–	–	–	2.0
Pet shops (animal areas) ^b	7.5	0.18	10	0.9
Supermarkets	7.5	0.06	8	–
Sports and amusement				
Disco/dance floors	20	0.06	100	–
Bowling alleys (seating areas)	10	0.12	40	–
Game arcades	7.5	0.18	20	–
Ice arenas without combustion engines	–	0.30	–	0.5
Gym, stadium, arena (play area)	–	0.30	–	–
Spectator areas	7.5	0.06	150	–
Swimming pools (pool and deck area)	–	0.48	–	–
Health club/aerobics room	20	0.06	40	–
Health club/weight room	20	0.06	10	–

2006 VIRGINIA CONSTRUCTION CODE – EFFECTIVE MAY 1, 2008

OCCUPANCY CLASSIFICATION	People Outdoor Airflow Rate in Breathing Zone Cfm/person	Area Outdoor Airflow Rate in Breathing Zone R_a cfm/ft ^{2a}	Default Occupant Density #/1000 ft ^{2a}	Exhaust Airflow Rate Cfm/ft ^{2a}
Storage				
Repair garages, enclosed parking garages ^{b,d}	–	–	–	0.75
Warehouses	–	0.06	–	–
Theaters				
Auditoriums (See Education)	–	–	–	–
Lobbies	5	0.06	150	–
Stages, studios	10	0.06	70	–
Ticket booths	5	0.06	60	–
Transportation				
Platforms	7.5	0.06	100	–
Transportation waiting	7.5	0.06	100	–
Workrooms				
Bank vaults/safe deposit	5	0.06	5	–
Darkrooms	–	–	–	1.0
Copy, printing rooms	5	0.06	4	0.5
Meat processing ^c	15	–	10	–
Pharmacy (prep. area)	5	0.18	10	–
Photo studios	5	0.12	10	–
Computer (without printing)	5	0.06	4	–

For SI: 1 cubic foot per minute = 0.0004719 m³/s, 1 ton = 908 kg, 1 cubic foot per minute per square foot = 0.00508 m³/(s m²),
 $C = [(F) - 32]/1.8$, 1 square foot = 0.0929 m².

- a. Based upon net occupiable floor area
- b. Mechanical exhaust required and the recirculation of air from such spaces is prohibited (see Section 403.2.1, Item 3).
- c. Spaces unheated or maintained below 50° F are not covered by these requirements unless the occupancy is continuous.
- d. Ventilation systems in enclosed parking garages shall comply with Section 404.
- e. Rates are per water closet or urinal. The higher rate shall be provided where periods of heavy use are expected to occur, such as, toilets in theaters, schools, and sports facilities. The lower rate shall be permitted where periods of heavy use are not expected.
- f. Rates are per room unless otherwise indicated. The higher rate shall be provided where the exhaust system is designed to operate intermittently. The lower rate shall be permitted where the exhaust system is designed to operate continuously during normal hours of use.
- g. Mechanical exhaust is required and recirculation is prohibited except that recirculation shall be permitted where the resulting supply airstream consists of not more than 10 percent air recirculated from these spaces (see Section 403.2.1, Items 2 and 4).
- h. For nail salons, the required exhaust shall include ventilation tables or other systems that capture the contaminants and odors at their source and are capable of exhausting a minimum of 50 cfm per station.

403.4 Exhaust Ventilation. Exhaust airflow rate shall be provided in accordance with the requirements in Table 403.3. Exhaust makeup air shall be permitted to be any combination of outdoor air, recirculated air and transfer air, except as limited in accordance with Section 403.2.

403.5 System operation. The minimum flow rate of outdoor air that the ventilation system must be capable of supplying during its operation shall be permitted to be based on the rate per person indicated in Table 403.3 and the actual number of occupants present.

403.6 Variable air volume system control. Variable air volume air distribution systems, other than those designed to supply only 100-percent outdoor air, shall be provided with controls to regulate the flow of outdoor air. Such control system shall be designed to maintain the flow rate of outdoor air at a rate of not less than that required by Section 403.3 over the entire range of supply air operating rates.

403.7 Balancing. The ventilation air distribution system shall be provided with means to adjust the system to achieve at least the minimum ventilation airflow rate as required by Sections 403.3 and 403.4. Ventilation systems shall be balanced by an approved method. Such balancing shall verify that the ventilation system is capable of supplying and exhausting the airflow rates required by Sections 403.3 and 403.4.

3. Change Section 404.2 of the *International Mechanical Code* to read:

404.2 Minimum ventilation. Automatic operation of the system shall not reduce the ventilation airflow rate below 0.05 cfm per square foot (0.00025 m³/s·m²) of the floor area and the system shall be capable of producing a ventilation rate of 0.75 cfm per square foot (0.0035 m³/s·m²) of floor area.

4. Change Section 504.6.1 of the *International Mechanical Code* to read:

504.6.1 Maximum length. The maximum length of a clothes dryer exhaust duct shall not exceed 35 feet (10668 mm) from the dryer location to the outlet terminal. The maximum length of the duct shall be reduced 21/2 feet (762 mm) for each 45 degree (0.79 rad) bend and 5 feet (1524 mm) for each 90 degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Exception: Where the make and model of the clothes dryer to be installed is known and the manufacturer's installation instructions for such dryer are provided to the code official, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacturer's installation instructions.

5. Change Section 507.2.2 of the *International Mechanical Code* to read:

507.2.2. Type II hoods. Type II hoods shall be installed where cooking or dishwashing appliances produce heat, steam, or products of combustion and do not produce grease or smoke, such as steamers, kettles, pasta cookers and dishwashing machines.

Exceptions:

1. Under-counter-type commercial dishwashing machines.
 2. A Type II hood is not required for dishwashers and potwashers that are provided with heat and water vapor exhaust systems that are supplied by the appliance manufacturer and are installed in accordance with the manufacturer's instructions.
 3. A single light-duty electric convection, bread, retherm, steamer or microwave oven designed for countertop installation. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.
 4. A Type II hood is not required for the following electrically heated appliances: toasters, steam tables, popcorn poppers, hot dog cookers, coffee makers, rice cookers, egg cookers, holding/warming ovens. The additional heat and moisture loads generated by such appliances shall be accounted for in the design of the HVAC system.
6. Change Section 701.1 of the *International Mechanical Code* to read as follows and delete the remainder of Chapter 7:

701.1 Scope. Solid-fuel-burning appliances shall be provided with combustion air in accordance with the appliance manufacturer's installation instructions. Oil-fired appliances shall be provided with combustion air in accordance with NFPA 31. The methods of providing combustion air in this chapter do not apply to fireplaces, fireplace stoves and direct-vent appliances. The requirements for combustion and dilution air for gas-fired appliances shall be in accordance with the *International Fuel Gas Code*.

7. Add Section 801.1.1 to the *International Mechanical Code* to read:

801.1.1 Equipment changes. Upon the replacement or new installation of any fuel-burning appliances or equipment in existing buildings, an inspection or inspections shall be conducted to ensure that the connected vent or chimney systems comply with the following:

1. Vent of chimney systems are sized in accordance with this code.
2. Vent or chimney systems are clean, free of any obstructions or blockages, defects or deterioration and are in operable condition.

Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are met.

Add Section 2804.1 to the *IBC* to read:

2804.1 Changes to the *International Fuel Gas Code*. The following changes shall be made to the *International Fuel Gas Code*:

1. Change Section 301.1 of the *International Fuel Gas Code* to read:

301.1 Scope. This code shall apply to the installation of fuel gas piping systems, fuel gas utilization equipment, and related accessories as follows:

1. Coverage of piping systems shall extend from the point of delivery to the connections with gas utilization equipment. (See “point of delivery.”)
2. Systems with an operating pressure of 125 psig (862 kPa gauge) or less.

Piping systems for gas-air mixtures within the flammable range with an operating pressure of 10 psig (69 kPa gauge) or less.

LP-Gas piping systems with an operating pressure of 20 psig (140 kPa gauge) or less.

3. Piping systems requirements shall include design, materials, components, fabrication, assembly, installation, testing and inspection.
4. Requirements for gas utilization equipment and related accessories shall include installation, combustion and ventilation air and venting.

This code shall not apply to the following:

1. Portable LP-Gas equipment of all types that are not connected to a fixed fuel piping system.
2. Installation of farm equipment such as brooders, dehydrators, dryers, and irrigation equipment.
3. Raw material (feedstock) applications except for piping to special atmosphere generators.
4. Oxygen-fuel gas cutting and welding systems.
5. Industrial gas applications using gases such as acetylene and acetylenic compounds, hydrogen, ammonia, carbon monoxide, oxygen, and nitrogen.
6. Petroleum refineries, pipeline compressor or pumping stations, loading terminals, compounding plants, refinery tank farms, and natural gas processing plants.
7. Integrated chemical plants or portions of such plants where flammable or combustible liquids or gases are produced by chemical reactions or used in chemical reactions.
8. LP-Gas installations at utility gas plants.
9. Liquefied natural gas (LNG) installations.
10. Fuel gas piping in power and atomic energy plants.
11. Proprietary items of equipment, apparatus, or instruments such as gas generating sets, compressors, and calorimeters.
12. LP-Gas equipment for vaporization, gas mixing, and gas manufacturing.
13. Temporary LP-Gas piping for buildings under construction or renovation that is not to become part of the permanent piping system.
14. Installation of LP-Gas systems for railroad switch heating.
15. Installation of LP-Gas and compressed natural gas (CNG) systems on vehicles.

16. Except as provided in Section 401.1.1, gas piping, meters, gas pressure regulators, and other appurtenances used by the serving gas supplier in the distribution of gas, other than undiluted LP-Gas.

17. Building design and construction, except as specified herein.

2. Change Section 310.1 of the *International Fuel Gas Code* to read:

310.1 Gas pipe bonding. Each above-ground portion of a gas piping system that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path. Gas piping shall be considered to be bonded where it is connected to appliances that are connected to the equipment grounding conductor of the circuit supplying that appliance.

CSST gas piping systems shall be bonded to the electrical service grounding electrode system at the point where the gas service piping enters the building. The bonding conductor size shall be not less than #6 AWG copper wire or equivalent.

3. Add Section 404.8.3 to the *International Fuel Gas Code* to read:

404.8.3 Coating application. Joints in gas piping shall not be coated prior to testing and approval.

4. Add Section 404.17 to the *International Fuel Gas Code* to read:

404.17 Isolation. Metallic piping and metallic tubing that conveys fuel gas from an LP-gas storage container shall be provided with an approved dielectric fitting to electrically isolate the underground portion of the pipe or tube from the above ground portion that enters a building. Such dielectric fitting shall be installed above ground, outdoors.

5. Add Section 505.1.1 to the *International Fuel Gas Code* to read:

505.1.1 Equipment changes. Upon the replacement or new installation of any fuel-burning appliances or equipment in existing buildings, an inspection or inspections shall be conducted to ensure that the connected vent or chimney systems comply with the following:

1. Vent or chimney systems are sized in accordance with this code.
2. Vent or chimney systems are clean, free of any obstruction or blockages, defects or deterioration and are in operable condition.

Where not inspected by the local building department, persons performing such changes or installations shall certify to the building official that the requirements of Items 1 and 2 of this section are met.

CHAPTER 29

PLUMBING SYSTEMS

Change Section 2901.1 of the IBC to read:

2901.1 Scope. The provisions of this chapter and the *International Plumbing Code* shall govern the design and installation of all plumbing systems and equipment, except that as provided for in Section 103.11 for functional design, water supply sources and sewage disposal systems are regulated and approved by the Virginia Department of Health and the Virginia Department of Environmental Quality. The approval of pumping and electrical equipment associated with such water supply sources and sewage disposal systems shall, however, be the responsibility of the building official.

Note: See also the Memorandum of Agreement in the “Related Laws Package” which is available from DHCD.

Add Section 2901.1.1 to the IBC to read;

2901.1.1 Changes to the *International Plumbing Code*. The following changes shall be made to the *International Plumbing Code*:

1. Change Section 310.4 to read:

310.4 Water closet compartment. Each water closet utilized by the public or employees shall occupy a separate compartment with walls or partitions and a door enclosing the fixtures to ensure privacy.

Exceptions:

1. Water closet compartments shall not be required in a single-occupant toilet room with a lockable door.
2. Toilet rooms located in day care and child-care facilities and containing two or more water closets shall be permitted to have one water closet without an enclosing compartment.
3. Water closet compartments or partitions shall not be required in toilet facilities for inmates in I-3 occupancies.

2. Delete Sections 311 and 311.1.

3. Change Category 5 of Table 403.1 to read:

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
5	Institutional	I-3	Prisons ^b	1 per cell		1 per cell		1 per 15	1 per 100	
		I-3	Reformatories, detention centers, and correctional centers ^b	1 per 15		1 per 15		1 per 15	1 per 100	
		I-3	Employees	1 per 25		1 per 35		—	1 per 100	—

4. Delete Section 701.9.

5. Add Section 703.6 to read:

703.6 Nonmetallic building sewer location. Nonmetallic sanitary sewer piping installed and located within six feet (1829 mm) of finished grade that discharges to public systems shall be locatable. An insulated copper tracer wire, 18 AWG minimum in size and suitable for direct burial or an equivalent product, shall be utilized. The wire shall be installed in the same trench as the sewer within 12 inches (305 mm) of the pipe and shall be installed to within 5 feet (1524 mm) of the building wall where the building sewer intersects with the public system. The ends of the wire shall terminate above grade in an accessible location that is not subject to physical damage, such as with a cleanout or at the building wall. Only one accessible location is required to be provided for the wire terminations on either end of each sewer installation.

CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS

Change Section 3002.4 of the IBC to read:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings four or more stories above grade plane or four or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate a

24-inch by 84-inch (610 mm by 2134 mm) ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame on the designated and alternate landing floors required to be established by ASME A17.1.

Exception: Elevators in multistory dwelling units or guest rooms.

Add Section 3006.7 to the IBC to read:

3006.7 Machine-room-less designs. Where machine-room-less designs are utilized they shall comply with the provisions of ASME A17.1 and incorporate the following:

1. Where the elevator car-top will be used as a work platform, it shall be equipped with permanently installed guards on all open sides. Guards shall be permitted to be of collapsible design, but otherwise must conform to all applicable requirements of this code for guards.
2. Where the equipment manufacturer's procedures for machinery removal and replacement depend on overhead structural support or lifting points, such supports or lifting points shall be permanently installed at the time of initial equipment installation.
3. Where the structure that the elevator will be located in is required to be fully sprinklered by this code, the hoistway that the elevator machine is located in shall be equipped with a fire suppression system as a machine room in accordance with NFPA 13. Smoke detectors for the automatic initiation of Phase I Emergency Recall Operation, and heat detectors or other approved devices that automatically disconnect the main line power supply to the elevators, shall be installed within the hoistway.

CHAPTER 31 SPECIAL CONSTRUCTION

Change Section 3109 to read:

SECTION 3109 SWIMMING POOLS, SWIMMING POOL ENCLOSURES AND SAFETY DEVICES

Change Section 3109.3 to read:

3109.3 Public swimming pools. Public swimming pools shall be designed and constructed in conformance with ANSI/NSPI-1 or ANSI/NSPI-2, as applicable, and shall be completely enclosed by a fence at least 4 feet (1290 mm) in height or a screen enclosure. Openings in the fence shall not permit the passage of a 4-inch-diameter (102 mm) sphere. The fence or screen enclosure shall be equipped with self-closing and self-latching gates.

CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Delete IBC Sections 3305 and 3305.1.

CHAPTER 34 EXISTING STRUCTURES

Change Section 3401.1 of the IBC to read:

3401.1 Scope. The provisions of this chapter and the applicable requirements of Chapter 1 shall control the alteration, repair, addition and change of occupancy of existing structures.

Delete IBC Sections 3401.2 and 3401.3.

Delete IBC Section 3403.

Change Section 3405.1 of the IBC to read:

3405.1 Standards for replacement glass. In accordance with Section 36-99.2 of the Code of Virginia, any replacement glass installed in buildings constructed prior to the first edition of the USBC shall meet the quality and installation standards for glass installed in new buildings as are in effect at the time of installation. In addition, as a requirement of this code, the installation or replacement of glass in buildings constructed under any edition of the USBC shall be as required for new installations.

Delete IBC Section 3406.

Delete IBC Section 3408.

Change Section 3410.2 of the IBC to read:

3410.2 Applicability. When specifically requested by an owner or an owner's agent in structures where there is work involving additions, alterations or changes of occupancy, the provisions in Sections 3410.2.1 through 3410.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, M, R, S and U. These provisions shall not apply to buildings with occupancies in Group H or I.

Add an exception to Section 3410.2.1 of the IBC to read:

Exception: Plumbing, mechanical and electrical systems in buildings undergoing a change of occupancy shall be subject to any applicable requirements of Section 103.3 of this code.

Add IBC Section 3411 Retrofit Requirements.

Add Section 3411.1 to the IBC to read:

3411.1 Scope. In accordance with Section 103.7 and as setout herein, the following buildings are required to be provided with certain fire protection equipment or systems or other retrofitted components.

Add Section 3411.2 to the IBC to read:

3411.2 Smoke detectors in colleges and universities. In accordance with Section 36-99.3 of the Code of Virginia, college and university buildings containing dormitories for sleeping purposes shall be provided with battery-powered or AC-powered smoke detector devices installed therein in accordance with this code in effect on July 1, 1982. All public and private college and university dormitories shall have installed such detectors regardless of when the building was constructed. The chief administrative office of the college or university shall obtain a certificate of compliance with the provisions of this subsection from the building official of the locality in which the college or university is located or in the case of state-owned buildings, from the Director of the Virginia Department of General Services. The provisions of this section shall not apply to any dormitory at a state-supported military college or university which is patrolled 24 hours a day by military guards.

Add Section 3411.3 to the IBC to read:

3411.3 Smoke detectors in certain juvenile care facilities. In accordance with Section 36-99.4 of the Code of Virginia, battery-powered or AC-powered smoke detectors shall be installed in all local and regional detention homes, group homes, and other residential care facilities for children and juveniles which are operated by or under the auspices of the Virginia Department of Juvenile Justice, regardless of when the building was constructed, by July 1, 1986, in accordance with the provisions of this code that were in effect on July 1, 1984. Administrators of such homes and facilities shall be responsible for the installation of the smoke detector devices.

Add Section 3411.4 to the IBC to read:

3411.4 Smoke detectors for the deaf and hearing-impaired. In accordance with Section 36-99.5 of the Code of Virginia, smoke detectors providing an effective intensity of not less than 100 candela to warn a deaf or hearing-impaired individual shall be provided, upon request by the occupant to the landlord or proprietor, to any deaf or hearing-impaired occupant of any of the following occupancies, regardless of when constructed:

1. All dormitory buildings arranged for the shelter and sleeping accommodations of more than 20 individuals;
2. All multiple-family dwellings having more than two dwelling units, including all dormitories, boarding and lodging houses arranged for shelter and sleeping accommodations of more than five individuals; or
3. All buildings arranged for use of one-family or two-family dwelling units.

A tenant shall be responsible for the maintenance and operation of the smoke detector in the tenant's unit.

A hotel or motel shall have available no fewer than one such smoke detector for each 70 units or portion thereof, except that this requirement shall not apply to any hotel or motel with fewer than 35 units. The proprietor of the hotel or motel shall post in a conspicuous place at the registration desk or counter a permanent sign stating the availability of smoke detectors for the hearing impaired. Visual detectors shall be provided for all meeting rooms for which an advance request has been made.

Add Sections 3411.5, 3411.5.1 and 3411.5.2 to the IBC to read:

3411.5 Assisted living facilities (formerly known as adult care residences or homes for adults). Existing assisted living facilities licensed by the Virginia Department of Social Services shall comply with this section.

3411.5.1. Fire protective signaling system and fire detection system. A fire protective signaling system and an automatic fire detection system meeting the requirements of the USBC, Volume I, 1987 Edition, Third Amendment, shall be installed in assisted living facilities by August 1, 1994.

Exception: Assisted living facilities that are equipped throughout with a fire protective signaling system and an automatic fire detection system.

3411.5.2. Single and multiple station smoke detectors. Battery or AC-powered single and multiple station smoke detectors meeting the requirements of the USBC, Volume I, 1987 Edition, Third Amendment, shall be installed in assisted living facilities by August 1, 1994.

Exception: Assisted living facilities that are equipped throughout with single and multiple station smoke detectors.

Add Section 3411.6 to the IBC to read:

3411.6 Smoke detectors in buildings containing dwelling units. AC-powered smoke detectors with battery backup or an equivalent device shall be required to be installed to replace a defective or inoperative battery-powered smoke detector located in buildings containing one or more dwelling units or rooming houses offering to rent overnight sleeping accommodations, when it is determined by the building official that the responsible party of such building or dwelling unit fails to maintain battery-powered smoke detectors in working condition.

Add Section 3411.7 to the IBC to read:

3411.7 Fire suppression, fire alarm and fire detection systems in nursing homes and facilities. Fire suppression systems as required by the edition of this code in effect on October 1, 1990, shall be installed in all nursing facilities licensed by the Virginia Department of Health by January 1, 1993, regardless of when such facilities or institutions were constructed. Units consisting of certified long-term care beds located on the ground floor of general hospitals shall be exempt from the requirements of this section.

Fire alarm or fire detector systems, or both, as required by the edition of this code in effect on October 1, 1990, shall be installed in all nursing homes and nursing facilities licensed by the Virginia Department of Health by August 1, 1994.

Add Section 3411.8 to the IBC to read:

3411.8 Fire suppression systems in hospitals. Fire suppression systems shall be installed in all hospitals licensed by the Virginia Department of Health as required by the edition of this code in effect on October 1, 1995, regardless of when such facilities were constructed.

Add Section 3411.9 to the IBC to read:

3411.9 Identification of handicapped parking spaces by above grade signs. All parking spaces reserved for the use of handicapped persons shall be identified by above grade signs, regardless of whether identification of such spaces by above grade signs was required when any particular space was reserved for the use of handicapped persons. A sign or symbol painted or otherwise displayed on the pavement of a parking space shall not constitute an above grade sign. Any parking space not identified by an above grade sign shall not be a parking space reserved for the handicapped within the meaning of this section. All above grade handicapped parking space signs shall have the bottom edge of the sign no lower than four feet (1219 mm) nor higher than seven feet (2133 mm) above the parking surface. Such signs shall be designed and constructed in accordance with the provisions of Chapter 11 of this code. All disabled parking signs shall include the following language: PENALTY, \$100-500 Fine, TOW-AWAY ZONE. Such language may be placed on a separate sign and attached below existing above grade disabled parking signs, provided that the bottom edge of the attached sign is no lower than four feet above the parking surface.

Add Section 3411.10 to the IBC to read:

3411.10 Smoke detectors in hotels and motels. Smoke detectors shall be installed in hotels and motels as required by the edition of VR 394-01-22, USBC, Volume II, in effect on March 1, 1990, by the dates indicated, regardless of when constructed.

Add Section 3411.11 to the IBC to read:

3411.11 Sprinkler systems in hotel and motels. By September 1, 1997, an automatic sprinkler system shall be installed in hotels and motels as required by the edition of VR 394-01-22, USBC, Volume II, in effect on March 1, 1990, regardless of when constructed.

Add Section 3411.12 to the IBC to read:

3411.12 Fire suppression systems in dormitories. An automatic fire suppression system shall be provided throughout all buildings having a Group R-2 fire area which are more than 75 feet (22 860 mm) or six stories above the lowest level of exit discharge and which are used, in whole or in part, as a dormitory to house students by any public or private institution of higher education, regardless of when such buildings were constructed, in accordance with the edition of this code in effect on August 20, 1997 and the requirements for sprinkler systems under the edition of the NFPA 13 standard referenced by that code. The automatic fire suppression system shall be installed by September 1, 1999. The chief administrative office of the college or university shall obtain a certificate of compliance from the building official of the locality in which the college or university is located or in the case of state-owned buildings, from the Director of the Virginia Department of General Services.

Exceptions:

1. Buildings equipped with an automatic fire suppression system in accordance with Section 903.3.1.1 or the 1983 or later editions of NFPA 13.
2. Any dormitory at a state-supported military college or university which is patrolled 24 hours a day by military guards.
3. Application of the requirements of this section shall be modified in accordance with the following:

- 3.1. Building systems, equipment or components other than the fire suppression system shall not be required to be added or upgraded except as necessary for the installation of the fire suppression system and shall only be required to be added or upgraded where the installation of the fire suppression system creates an unsafe condition.
- 3.2. Residential sprinklers shall be used in all sleeping rooms. Other sprinklers shall be quick response or residential unless deemed unsuitable for a space. Standard response sprinklers shall be used in elevator hoist ways and machine rooms.
- 3.3. Sprinklers shall not be required in wardrobes in sleeping rooms that are considered part of the building construction or in closets in sleeping rooms, when such wardrobes or closets (i) do not exceed 24 square feet (2.23 m²) in area, (ii) have the smallest dimension less than 36 inches (914 mm), and (iii) comply with all of the following:
 - 3.3.1. A single station smoke detector monitored by the building fire alarm system is installed in the room containing the wardrobe or closet that will activate the general alarm for the building if the single station smoke detector is not cleared within five minutes after activation.
 - 3.3.2. The minimum number of sprinklers required for calculating the hydraulic demand of the system for the room shall be increased by two and the two additional sprinklers shall be corridor sprinklers where the wardrobe or closet is used to divide the room. Rooms divided by a wardrobe or closet shall be considered one room for the purpose of this requirement.
 - 3.3.3. The ceiling of the wardrobe, closet or room shall have a fire resistance rating of not less than 1/2 hour.
- 3.4. Not more than one sprinkler shall be required in bathrooms within sleeping rooms or suites having a floor area between 55 square feet (5.12 m²) and 120 square feet (11.16 m²) provided the sprinkler is located to protect the lavatory area and the plumbing fixtures are of a noncombustible material.
- 3.5. Existing standpipe residual pressure shall be permitted to be reduced when the standpipe serves as the water supply for the fire suppression system provided the water supply requirements of NFPA 13 - 94 are met.
- 3.6. Limited service controllers shall be permitted for fire pumps when used in accordance with their listing.
- 3.7. Where a standby power system is required, a source of power in accordance with Section 701-11 (d) or 701-11 (e) of NFPA 70 - 96 shall be permitted.

Add Section 3411.13 to the IBC to read:

3411.13 Fire extinguishers and smoke detectors in SRCF's. SRCF's shall be provided with at least one approved type ABC portable fire extinguisher with a minimum rating of 2A10BC installed in each kitchen. In addition, SRCF's shall provide at least one approved and properly installed battery operated smoke detector outside of each sleeping area in the vicinity of bedrooms and bedroom hallways and on each additional floor.

Add Section 3411.14 to the IBC to read:

3411.14 Smoke detectors in adult day care centers. Battery-powered or AC-powered smoke detector devices shall be installed in all adult day care centers licensed by the Virginia Department of Social Services, regardless of when the building was constructed. The location and installation of the smoke detectors shall be determined by the provisions of this code in effect on October 1, 1990. The licensee shall obtain a certificate of compliance from the building official of the locality in which the center is located, or in the case of state-owned buildings, from the Director of the Virginia Department of General Services.

Add Section 3411.15 to the IBC to read:

3411.15 Posting of occupant load. Every room or space that is an assembly occupancy and where the occupant load of that room or space is 50 or more, shall have the occupant load of the room or space as determined by the building official posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

CHAPTER 35 REFERENCED STANDARDS

Change the referenced standards in Chapter 35 of the IBC as follows (standards not shown remain the same):

Standard reference number	Title	Referenced in code section number
ANSI/NSPI-1-2003	American National Standard for Public Swimming Pools	3109.3
ANSI/NSPI-2-1999	American National Standard for Public Swimming Pools	3109.3
ASTM E 329-02	Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction	1703.1, 1703.1.3
NFPA 13-07	Installation of Sprinkler Systems	707.2, 903.3.1.1, 903.3.2, 903.3.5.1.1, 903.3.5.2, 904.11, 905.3.4, 907.8, 3104.5, 3104.9
NFPA 13D-07	Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes	903.3.1.3, 903.3.5.1.1
NFPA 13R-07	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height	903.3.1.2, 903.3.5.1.1, 903.3.5.1.2, 903.4
NFPA 14-07	Installation of Standpipe and Hose Systems	905.2, 905.3.4, 905.4.2, 905.8
NFPA 70-05	National Electrical Code	2701.1
NFPA 72-07	National Fire Alarm Code	901.6, 903.4.1, 904.3.5, 907.2, 907.2.1.1, 907.2.10, 907.2.10.4, 907.2.11.2, 907.2.11.3, 907.2.12.2.3, 907.2.12.3, 907.4, 907.5, 907.9.2, 907.10, 907.14, 907.16, 907.17, 911.1, 3006.5
NFPA 704-07	Identification of the Hazards of Materials for Emergency Response	414.7.2, 415.2

APPENDIX F RODENT PROOFING

The following provisions of Appendix F of the IBC are part of this code:

F101.2 Foundation wall ventilation openings.

F101.6 Pier and wood construction. (Includes all provisions.)

APPENDIX H

SIGNS

The following provisions of Appendix H of the IBC are part of this code:

H101.2 Signs exempt from permits.

H102 Definitions. (Includes all definitions.)

H103 Location. (Includes Section H103.1.)

H105 through H114. (Includes all provisions.)

APPENDIX I

PATIO COVERS

The following provisions from Appendix I of the IBC are part of this code:

I101 through I104 (Includes all provisions.)