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DPD 2012 Existing Bldg Code ORD  
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Version #1

**CITY OF SEATTLE**  
**ORDINANCE \_\_\_\_\_**  
**COUNCIL BILL 117868**

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AN ORDINANCE relating to the Seattle Existing Building Code, amending Chapter 22.110 of the Seattle Municipal Code and adopting by reference Chapters 2 through 5, 7 through 11, 13 through 16, A1, and A3 through A6 of the 2012 International Existing Building Code; amending certain of those chapters, and adopting a new Chapter 1 related to administration, permitting and enforcement; and repealing Sections 2-12 of Ordinance 123379.

**BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:**

Section 1. Section 22.110.010 of the Seattle Municipal Code is amended as follows:

**22.110.010 Adoption of International Existing Building Code**

The Seattle Existing Building Code consists of: (1) the following portions of the ((2009)) 2012 edition of the International Existing Building Code published by the International Code Council: Chapters 2 through 5, Chapters 7 through 11, Chapters 13 through 16, Chapter A1, and Chapters A3 through A6; ((10, Chapters 12, 13, 15, and Appendix A, together with Chapter 1 and)) (2) the amendments and additions to the 2012 International Existing Building Code adopted by City Council by Ordinance; and (3) Chapter 1 adopted by City Council by ordinance. One copy of the ((2009)) 2012 International Existing Building Code is filed with the City Clerk in C.F. ((310928)) 313185.

Section 2. Chapter 1 of the Seattle Existing Building Code is adopted to read as follows:

**CHAPTER 1**

**SCOPE AND ADMINISTRATION**

**SECTION 101**

**SCOPE AND APPLICATION OF CODE**

**101.1 Title.** This subtitle shall be known as the “International Existing Building Code.”

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

**Exception:** Buildings within the scope of the International Residential Code shall comply with the International Residential Code.

**101.3 Purpose.** The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, occupancy, location and maintenance of certain existing buildings and structures within the City and certain equipment in those buildings, as specifically regulated herein.

**101.3.1 Protection of the public.** The purpose of this code is to provide for and promote the health, safety and welfare of the general public, and not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code.

**101.4 Compliance.** Except as specifically provided in this code, additions, alterations, repairs and changes of occupancy to, and relocation of any building or structure shall comply with the requirements of the code for new construction. Except as specifically provided in this code, additions, alterations, repairs and changes of occupancy to, and relocation of shall be such that the existing building or structure is no less complying with the provisions of the International Building Code than the existing building or structure was prior to the alteration, addition, repair, change of occupancy or relocation.

1       **101.4.1** Unless approved by the code official, this code does not justify conditions in  
2 buildings or structures that do not comply with the codes in effect at the time the building or  
3 structure was built, including permitted additions, alterations, repairs, changes of occupancy  
4 and relocations.

5       **101.4.2 Buildings not previously occupied.** A building or portion of a building that has not  
6 been previously occupied or used for its intended purpose in accordance with the laws in  
7 existence at the time of its completion shall comply with the provisions of the International  
8 Building Code for new construction or with any current permit for such occupancy.

9       **101.4.3 Buildings previously occupied.** Buildings in existence at the time of the passage of  
10 this code that were legally constructed and occupied in accordance with the provisions of a  
11 prior code are permitted to have their existing occupancy continued, provided such  
12 occupancy is not unsafe.

13       **101.4.3.1 Establishing occupancy for the record.** An occupancy is permitted to be  
14 established for any date if:

- 15           1. The applicant can provide evidence satisfactory to the code official that the  
16           occupancy was in existence on that date, and
- 17           2. The building can be made to comply with the building code in effect on that  
18           date.

19       **101.5 Maintenance.** Buildings and structures, and parts thereof, shall be maintained in a safe  
20 and sanitary condition. Devices or safeguards required by this code shall be maintained in  
21 conformance with the code edition under which they were installed. The owner or the owner's  
22 designated agent shall be responsible for the maintenance of buildings and structures. To  
23 determine compliance with this subsection, the code official shall have the authority to require a  
24 building or structure to be reinspected. The requirements of this Chapter shall not provide the  
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1 basis for removal or abrogation of fire protection and safety systems and devices in existing  
2 buildings or structures.

3 **Exception:** The code official is authorized to modify the requirements of this subsection  
4 where all or a portion of a building is unoccupied, closed off and reasonably secure from  
5 unlawful entry.

6 **101.6 Internal Consistency.** If in any specific case, different sections of this code specify  
7 different materials, methods of construction or other requirements, the most restrictive governs.  
8 If there is a conflict between a general requirement and a specific requirement, the specific  
9 requirement applies.

10 **101.7 Referenced codes.** The codes and standards referenced in this code are considered part of  
11 the requirements of this code to the extent prescribed by each such reference. If differences  
12 occur between provisions of this code and referenced codes and standards, the provisions of this  
13 code apply.

14 **101.8 References to other codes.** Whenever an International, National or Uniform Code is  
15 referenced in this code, it means the Seattle edition of that code, including local amendments.  
16 References to the "Building Code", "Residential Code", "Fire Code", "Mechanical Code" and  
17 "Plumbing Code" mean the Seattle editions of those codes.

18 **101.9 Appendices.** Provisions in the appendices of the International Existing Building Code do  
19 not apply, with the exception of Chapters A1 and A3 through A6 of Appendix A, which are  
20 herein adopted.

21 **101.10 Metric units.** Wherever in this code there is a conflict between metric units of  
22 measurement and English units, the English units govern.

23 **101.11 Impracticality.** In cases where total compliance with all the requirements of this code is  
24 impractical, the applicant may arrange a pre-design conference with the design team and the  
25 code official. The applicant shall identify design solutions and modifications that conform to  
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1 Section 101.12 or 101.13. The code official may waive specific requirements in this code that  
2 the code official determines to be impractical.

3 **101.12 Modifications.** The code official may modify the requirements of this code for  
4 individual cases if the code official finds: (1) there are practical difficulties involved in carrying  
5 out the provisions of this code; (2) the modification is in conformity with the intent and purpose  
6 of this code; and (3) the modification will provide a reasonable level of fire protection and  
7 structural integrity when considered together with other safety features of the building or other  
8 relevant circumstances. The code official may, but is not required to, record the approval of  
9 modifications and any relevant information in the files of the code official or on the approved  
10 permit plans.

11 **101.13 Alternate materials, methods of construction and design.** This code does not prevent  
12 the use of any material, design or method of construction not specifically allowed or prohibited  
13 by this code, provided the alternate has been approved and its use authorized by the code official.

14 The code official may approve an alternate, provided the code official finds that the proposed  
15 alternate complies with the provisions of this code, and that the alternate, when considered  
16 together with other safety features of the building or other relevant circumstances, will provide at  
17 least an equivalent level of strength, effectiveness, fire resistance, durability, safety and  
18 sanitation.

19 The code official may require that sufficient evidence or proof be submitted to reasonably  
20 substantiate any claims regarding the use or suitability of the alternate. The code official may,  
21 but is not required to, record the approval of modifications and any relevant information in the  
22 files of the code official or on the approved permit plans.

23 **101.14 Unsafe conditions.** The code official shall have the authority to require the elimination  
24 of conditions deemed unsafe in accordance with International Building Code Section 102.  
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**SECTION 102**

**ADMINISTRATION**

**102.1 General.** Additions, alterations, repairs and changes of occupancy to and relocations of buildings and structures are subject to Chapter 1 of the Seattle Building Code.

Section 3. The following sections of Chapter 2 of the International Existing Building Code, 2012 Edition, are amended as follows:

**CHAPTER 2**

**DEFINITIONS**

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**SECTION 202**

**GENERAL DEFINITIONS**

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**APPROVED.** Acceptable to the code official.

**BSE-1 (BASIC SAFETY EARTHQUAKE).** Earthquake hazard level based on the smaller of:  
(1) an earthquake with a 10% probability of exceedance in 50 years; or (2) two-thirds of BSE-2 Earthquake Hazard Level.

**BSE-2 (BASIC SAFETY EARTHQUAKE).** Earthquake hazard level based on an earthquake with a 2% probability of exceedance in 50 years.

**CHANGE OF OCCUPANCY.** A change in the purpose or level of activity within a building ((that involves a change in application of the requirements of this code)).

**CODE OFFICIAL.** The ((officer or other designated authority charged with the administration and enforcement of this code)) Director of the Department of Planning and Development and authorized representatives.

1 **DAMAGE RATIO.** The ratio between the cost of work and the estimated replacement cost of  
2 the building, expressed as a percentage. The work includes repair of damage to structural and  
3 fire/life safety systems.

4 ~~((**[B] DANGEROUS.** Any building, structure or portion thereof that meets any of the conditions~~  
5 ~~described below shall be deemed dangerous:~~

- 6 1. ~~The building or structure has collapsed, has partially collapsed, has moved off its~~  
7 ~~foundation, or lacks the necessary support of the ground.~~
- 8 2. ~~There exists a significant risk of collapse, detachment or dislodgement of any portion,~~  
9 ~~member, appurtenance or ornamentation of the building or structure under service loads.))~~

10 **DESIGN BASIS EARTHQUAKE (DBE).** The lesser of an earthquake with a 10% chance of  
11 exceedance in 50 years or two-thirds of an earthquake with a 2% probability of exceedance in 50  
12 years.

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14 ~~**[B] EXISTING BUILDING; EXISTING STRUCTURE.** A building or structure erected prior~~  
15 ~~to the date of adoption of ((the appropriate)) this code, or one for which a ((legal building~~  
16 ~~permit)) valid Certificate of Occupancy has been issued, or one that has passed a final inspection.~~

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18 ~~((**[B] HISTORIC BUILDING.** Any building or structure that is listed in the State or National~~  
19 ~~Register of Historic Places; designated as a historic property under local or state designation law~~  
20 ~~or survey; certified as a contributing resource within a National Register listed or locally~~  
21 ~~designated historic district; or with an opinion or certification that the property is eligible to be~~  
22 ~~listed on the National or State Register of Historic Places either individually or as a contributing~~  
23 ~~building to a historic district by the State Historic Preservation Officer or the Keeper of the~~  
24 ~~National Register of Historic Places.))~~

1 **LANDMARK.** A building or structure: (1) that has been nominated for designation under SMC  
2 25.12.660 and the City Landmarks Preservation Board has not issued a determination regarding  
3 designation; (2) that has been designated for preservation by the City Landmarks Preservation  
4 Board under SMC 25.12.660; (3) that has been designated for preservation by the State of  
5 Washington; (4) that has been listed or determined eligible to be listed in the National Register of  
6 Historic Places; or (5) that is located in a landmark or special review district subject to a  
7 requirement to obtain a certificate of approval before making a change to the external appearance  
8 of a structure.

9 **LIFE SAFETY PERFORMANCE LEVEL.** A post-earthquake damage state that includes  
10 damage to structural elements, but the building retains a margin against partial or total collapse.  
11 Injuries may occur, but the overall risk of life-threatening injury as a result of structural damage  
12 is expected to be low.

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14 ~~((REPAIR. The restoration to good or sound condition of any part of an existing building for the~~  
15 ~~purpose of its maintenance.))~~

16 **RISK CATEGORY.** A categorization of buildings and other structures for determination of  
17 flood, wind, snow, ice and earthquake loads based on the risk associated with unacceptable  
18 performance, determined in accordance with Section 1604.5 of the International Building Code.

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20 **SUBSTANTIAL ALTERATION.** See Section 303.1.1.

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22 ~~((B) SUBSTANTIAL STRUCTURAL DAMAGE. A condition where:~~

- 23 ~~1. In any story, the vertical elements of the lateral force resisting system have suffered~~  
24 ~~damage such that the lateral load carrying capacity of the structure in any horizontal~~  
25 ~~direction has been reduced by more than 33 percent from its predamage condition; or~~







1 buildings complying with the International Fire Code shall be considered in compliance with  
2 the provisions of this code.

3 **301.1.2 Work area compliance method.** ~~((Repairs, a))~~ Alterations, additions, changes ~~((in))~~  
4 of occupancy and relocated buildings complying with the applicable requirements of  
5 Chapters 5 and 7 through 13 of this code shall be considered in compliance with the  
6 provisions of this code.

7 **301.1.3 Performance compliance method.** ~~((Repairs, a))~~ Alterations, additions, changes  
8 ~~((in))~~ of occupancy and relocated buildings complying with Chapter 14 of this code shall be  
9 considered in compliance with the provisions of this code.

## 10 SECTION 302

### 11 ADDITIONAL REQUIREMENTS FOR ALL COMPLIANCE METHODS

12 **302.1 Additional codes.** Regardless of compliance method, alterations, repairs, additions and  
13 changes of occupancy to, or relocation of, existing buildings and structures shall comply with the  
14 provisions for alterations, repairs, additions and changes of occupancy or relocation,  
15 respectively, in this code and the International Energy Conservation Code, International Fire  
16 Code, International Fuel Gas Code, International Mechanical Code, Uniform Plumbing Code,  
17 Seattle Boiler and Pressure Vessel Code and Seattle Electrical Code. Elevators and other  
18 conveyances shall comply with the International Building Code. Where provisions of the other  
19 codes conflict with provisions of this code, the provisions of this code shall take precedence.

20 **[W] 302.1.1 Fire prevention.** Except as specifically provided for in this Code, the provisions  
21 of the International Fire Code shall apply to matters affecting or relating to structures,  
22 processes and premises regarding:

- 23 1. The hazard of fire and explosion arising from the storage, handling or use of  
24 structures, materials or devices;  
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1           2. Conditions hazardous to life, property or public welfare in the occupancy of structures  
2           or premises; and

3           3. The construction, extension, repair, alteration or removal of fire suppression and alarm  
4           systems or fire hazards in the structure or on the premises from occupancy or  
5           operation.

6 **302.2 Safeguards during construction.** Regardless of compliance method, alterations,  
7 additions and changes of occupancy to, or relocation of, existing buildings and structures shall  
8 comply with the provisions of Chapter 15.

9 **302.3 Occupant load increases in Group A occupancies.** Regardless of which compliance  
10 method is used, when the occupant load in an existing Group A occupancy is increased, an  
11 automatic sprinkler system shall be installed in the fire area containing the Group A occupancy if  
12 a sprinkler system would be required by International Building Code Section 903.2.1 for new  
13 construction.

14       **Exception:** A sprinkler system is not required if all the following conditions are met:

- 15           1. The increase is either 50 occupants or less, or no more than 10 percent of the  
16           occupant load of the existing Group A occupancy, whichever is greater; and  
17           2. The existing means of egress system has adequate capacity to accommodate the  
18           additional occupant load; and  
19           3. The total occupant load in the Group A occupancy does not exceed one occupant per  
20           5 square feet; and  
21           4. The increase is not part of a substantial alteration.

22 **302.4 Unsafe building appendages.** Parapet walls, cornices, spires, towers, tanks, statuary and  
23 other appendages or structural members that are supported by, attached to, or a part of a building  
24 and that are in a deteriorated condition or are otherwise unable to sustain the design loads that  
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1 are specified in this code, are hereby designated as unsafe building appendages. All such unsafe  
2 building appendages are public nuisances and shall be abated in accordance with Section 101.14.

3 **302.5 Unreinforced masonry chimneys.** Whenever an unreinforced masonry chimney is  
4 altered or repaired, or when the building in which such a chimney is located undergoes  
5 substantial alteration, the chimney shall conform to rules promulgated by the code official.

### 6 **SECTION 303**

#### 7 **SUBSTANTIAL ALTERATION REQUIREMENTS FOR ALL COMPLIANCE**

#### 8 **METHODS**

9 **303.1 Substantial alterations or repairs.** Regardless of which compliance method is used, a  
10 building or structure to which substantial alterations or repairs are made shall conform with the  
11 requirements of this section and the following sections of the International Building Code:

- 12 1. Section 403 when applicable;
- 13 2. Special requirements for the Fire District found in Chapter 4 when applicable;
- 14 3. Section 717;
- 15 4. Chapter 8;
- 16 5. Section 903;
- 17 6. Sections 909.20.5, 909.20.6 and 909.21; and
- 18 7. Chapter 10.
- 19 8. Fire alarms shall be provided as required by the International Fire Code.

20 **303.1.1 Definition.** For the purpose of this section, substantial alteration or repair means any  
21 one of the following, as determined by the code official:

- 22 1. Repair of a building with a damage ratio of 60 percent or more.
- 23 2. Remodeling or an addition that substantially extends the useful physical or economic  
24 life of the building or a significant portion of the building, other than typical tenant  
25 remodeling.

1        3. A change of a significant portion of a building to an occupancy that is more  
2        hazardous than the existing occupancy, based on the combined life and fire risk as  
3        determined by the code official. The code official is permitted to use Table 303.1 as a  
4        guideline.

5        4. Reoccupancy of a building that has been substantially vacant for more than 24  
6        months in occupancies other than Group R-3.

7        5. A significant increase in the occupant load of an unreinforced masonry building.

8        **303.1.2 Seismic regulations.** Buildings or structures to which substantial alterations or  
9        repairs are made shall comply with Section 304.4.2. In addition, the code official is  
10       authorized to require testing of existing materials when there is insufficient evidence of  
11       structural strength or integrity.

12        **Exceptions:**

13        1. If an alteration is substantial only because it is a change to a more hazardous  
14        occupancy, compliance with this subsection is required only if the life hazard risk  
15        increases, as determined by the code official.

16        2. For Group R-3 Occupancies, when approved by the code official, the applicant is  
17        permitted to evaluate and strengthen portions of the building lateral support  
18        structure, such as foundations and cripple walls.

19        **303.1.3 Report.** A proposal for structural rehabilitation shall be submitted based on a  
20        comprehensive report prepared by a licensed structural engineer according to rules  
21        promulgated by the code official. The report shall include an investigation and structural  
22        analysis of the building based on Section 304.4.2. The report shall specify the building's  
23        seismic deficiencies, and propose measures that will provide an acceptable degree of seismic  
24        safety considering the nature, size and scope of the project. This requirement shall also apply  
25        to Section 101.14 as conditions require.

1        **303.1.4 Energy use regulations.** An alteration or repair described in Items 1, 2, or 4 of  
2        Section 303.1.1 shall comply with Section C101.4.7 of the International Energy Conservation  
3        Code.

4        **Exceptions:**

- 5            1. Existing residential buildings of three stories or less are not required to comply  
6            with this section.
- 7            2. A project that is defined as a substantial alteration primarily due to the seismic  
8            retrofitting of a building's unreinforced masonry walls shall not be required to  
9            comply with this section.

**Table 303.1**

<u>Occupancy</u>	<u>Description</u>	<u>Life</u>	<u>Fire</u>	<u>Combined Rating</u>
<u>A1</u>	<u>Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures</u>	<u>4</u>	<u>3</u>	<u>12</u>
<u>A2</u>	<u>Assembly uses intended for food and/or drink consumption</u>	<u>4</u>	<u>3</u>	<u>12</u>
<u>A3</u>	<u>Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A</u>	<u>4</u>	<u>3</u>	<u>12</u>
<u>A4</u>	<u>Assembly uses intended for viewing of indoor sporting events and activities with spectator seating</u>	<u>3</u>	<u>1</u>	<u>3</u>
<u>A5</u>	<u>Assembly uses intended for participation in or viewing outdoor activities</u>	<u>3</u>	<u>1</u>	<u>3</u>
<u>B</u>	<u>Office, professional or service-type transactions, including storage of records and accounts.</u>	<u>2</u>	<u>1</u>	<u>2</u>
<u>B</u>	<u>Eating &amp; drinking establishments with an occupant load of less than 50</u>	<u>2</u>	<u>1</u>	<u>2</u>
<u>B</u>	<u>Buildings or portions of buildings having rooms used for educational purposes beyond 12th grade</u>	<u>2</u>	<u>1</u>	<u>2</u>
<u>E</u>	<u>Any building used for educational purposes by six or more persons at any one time for educational purposes through the 12th grade</u>	<u>3</u>	<u>2</u>	<u>6</u>
<u>E</u>	<u>Day care centers for more than five children older than 2½ years of age</u>	<u>3</u>	<u>2</u>	<u>6</u>
<u>I4</u>	<u>Facilities that provide accommodations for less than 24 hours for more than five unrelated adults and provides supervision and personal care services; facilities that provide supervision and personal care on less than a 24-hour basis for more than five children 2½ years of age or less</u>	<u>4</u>	<u>3</u>	<u>12</u>
<u>F1</u>	<u>Moderate hazard factory and industrial</u>	<u>2</u>	<u>2</u>	<u>4</u>
<u>F2</u>	<u>Low-hazard factory and industrial</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>H1</u>	<u>Occupancies with a detonation hazard</u>	<u>5</u>	<u>4</u>	<u>20</u>
<u>H2</u>	<u>Occupancies which present a deflagration hazard or a hazard from accelerated burning</u>	<u>5</u>	<u>4</u>	<u>20</u>
<u>H3</u>	<u>Occupancies containing materials that readily support combustion or that pose a physical hazard</u>	<u>5</u>	<u>4</u>	<u>20</u>



<u>Occupancy</u>	<u>Description</u>	<u>Life</u>	<u>Fire</u>	<u>Combined Rating</u>
H4	Occupancies containing materials that are health hazards.	<u>5</u>	<u>4</u>	<u>20</u>
H5	Semiconductor fabrication facilities	<u>5</u>	<u>4</u>	<u>20</u>
I1	Buildings, structures or parts thereof housing more than 16 persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services	<u>3</u>	<u>3</u>	<u>9</u>
I2	Buildings and structures used for medical, surgical, psychiatric, nursing or custodial care on a 24-hour basis of more than 5 persons who are not capable of self-preservation; child care facilities that provide care on a 24-hour basis to more than five children 2 <sup>1</sup> / <sub>2</sub> years of age or less	<u>4</u>	<u>3</u>	<u>12</u>
I3	Jails, prisons, reformatories	<u>4</u>	<u>3</u>	<u>12</u>
M	Buildings used for display and sale of merchandise	<u>3</u>	<u>2</u>	<u>6</u>
R1	Residential occupancies where the occupants are primarily transient in nature	<u>3</u>	<u>3</u>	<u>9</u>
R2	Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature	<u>3</u>	<u>3</u>	<u>9</u>
R3	One- and two-family dwellings; family child day care homes; adult family homes	<u>2</u>	<u>1</u>	<u>2</u>
S1	Moderate hazard	<u>2</u>	<u>2</u>	<u>4</u>
S2	Low-hazard storage	<u>1</u>	<u>1</u>	<u>1</u>
U	Accessory character and miscellaneous structures	<u>1</u>	<u>1</u>	<u>1</u>

**SECTION 304**

**STRUCTURAL REQUIREMENTS FOR ALL COMPLIANCE METHODS**

**304.1 Structural provisions for alterations.** Alterations to any building or structure shall comply with the requirements of Sections 304.1.1 through 304.1.3.

**304.1.1 Existing structural elements carrying gravity load.** Any existing gravity load-carrying structural element for which an alteration causes an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the International Building Code for

1 new structures. Any existing gravity load-carrying structural element whose gravity load-  
2 carrying capacity is decreased as part of the alteration shall be shown to have the capacity to  
3 resist the applicable design gravity loads required by the International Building Code for new  
4 structures.

5 **304.1.1.1. Design live load.** Where the alteration does not result in increased design live  
6 load, existing gravity load-carrying structural elements shall be permitted to be evaluated  
7 and designed for live loads approved prior to the alteration. If the approved live load is  
8 less than that required by Section 1607 of the International Building Code, the area  
9 designed for the nonconforming live load shall be posted with placards of approved  
10 design indicating the approved live load. Where the alteration does result in increased  
11 design live load, the live load required by Section 1607 of the International Building  
12 Code shall be used.

13 **304.1.2 Existing structural elements carrying lateral load.** Except as permitted by Section  
14 304.1.3, the structure of the altered building or structure shall be shown to meet the  
15 requirements of Sections 1609 and 1613 of the International Building Code where:

- 16 1. The alteration increases design lateral loads in accordance with Section 1609 or 1613  
17 of the International Building Code; or  
18 2. The alteration results in a structural irregularity as defined in ASCE 7; or  
19 3. The alteration makes an existing structural irregularity more severe; or  
20 4. The alteration decreases the capacity of any existing lateral load-carrying structural  
21 element.

22 **Exceptions:**

- 23 1. Any existing lateral load-carrying structural element whose design lateral load  
24 with the alteration considered is no more than 10 percent greater than its design  
25 lateral load with the alteration ignored shall be permitted to remain unaltered. The  
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1           calculation of the design lateral load shall consider applicable load combinations  
2           with design lateral loads or forces in accordance with Sections 1609 and 1613 of  
3           the International Building Code. The calculation shall account for the cumulative  
4           effects of additions and alterations since original construction.

- 5           2. Buildings not defined as benchmark buildings according to ASCE 31 are  
6           permitted to meet the requirements of Section 304.4.2.

7           **304.1.3 Voluntary seismic improvements.** Alterations to existing structural elements or  
8           additions of new structural elements that are not otherwise required by this chapter and are  
9           initiated for the purpose of improving the performance of the seismic force-resisting system  
10           of an existing structure or the performance of seismic bracing or anchorage of existing  
11           nonstructural elements shall be permitted, if an engineering analysis is submitted  
12           demonstrating the following:

- 13           1. The altered structure and the altered nonstructural elements are no less conforming to  
14           the provisions of the International Building Code with respect to earthquake design  
15           than they were prior to the alteration.

16           **Exception:** Any existing lateral load-carrying structural element whose demand-  
17           capacity ratio with the alteration considered is no more than 10 percent greater  
18           than its demand-capacity ratio with the alteration ignored shall be permitted to  
19           remain unaltered. For purposes of calculating demand-capacity ratios, the demand  
20           shall consider applicable load combinations with design lateral loads or forces per  
21           Sections 1609 and 1613 of the International Building Code. For purposes of this  
22           exception, comparisons of demand-capacity ratios and calculation of design  
23           lateral loads, forces, and capacities shall account for the cumulative effects of  
24           additions and alterations since original construction.

- 25           2. New structural elements are detailed as required for new construction.

1           3. New or relocated nonstructural elements are detailed and connected to existing or  
2           new structural elements as required for new construction.

3           4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an  
4           existing structural irregularity more severe.

5 **304.2 Structural provisions for changes of occupancy.** When a change of occupancy results in  
6 a structure being reclassified to a higher risk category, the structure shall conform to the seismic  
7 requirements for a new structure of the higher risk category.

8           **Exception:** Specific seismic detailing requirements of Section 1613 of the International  
9           Building Code for a new structure shall not be required to be met where the seismic  
10           performance is shown to be equivalent to that of a new structure. A demonstration of  
11           equivalence shall consider the regularity, overstrength, redundancy and ductility of the  
12           structure.

13 **304.3 Structural provisions for additions.** Additions to any building or structure shall comply  
14 with the requirements of Sections 304.3.1 through 304.3.2.

15           **304.3.1 Existing structural elements carrying gravity load.** Any existing gravity load-  
16           carrying structural element for which an addition and its related alterations cause an increase  
17           in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced  
18           or otherwise altered as needed to carry the increased gravity load required by the  
19           International Building Code for new structures.

20           Any existing gravity load-carrying structural element whose gravity load-carrying  
21           capacity is decreased shall be considered an altered element subject to the requirements of  
22           Section 304.1.1. Any existing element that will form part of the lateral load path for any part  
23           of the addition shall be considered an existing lateral load-carrying structural element subject  
24           to the requirements of Section 304.3.2.

1           **[B] 304.3.1.1 Design live load.** Where the addition does not result in increased design  
2           live load, existing gravity load-carrying structural elements shall be permitted to be  
3           evaluated and designed for live loads approved prior to the addition. If the approved live  
4           load is less than that required by Section 1607 of the International Building Code, the  
5           area designed for the nonconforming live load shall be posted with placards of approved  
6           design indicating the approved live load. Where the addition does result in increased  
7           design live load, the live load required by Section 1607 of the International Building  
8           Code shall be used.

9           **304.3.2 Existing structural elements carrying lateral load.** Where the addition is  
10           structurally independent of the existing structure, existing lateral load-carrying structural  
11           elements shall be permitted to remain unaltered. Where the addition is not structurally  
12           independent of the existing structure, the existing structure and its addition acting together as  
13           a single structure shall comply with Section 304.4.1.

14           **Exception:** Any existing lateral load-carrying structural element whose demand-capacity  
15           ratio with the addition considered is no more than 10 percent greater than its demand-  
16           capacity ratio with the addition ignored shall be permitted to remain unaltered. For  
17           purposes of calculating demand-capacity ratios, the demand shall consider applicable  
18           load combinations with design lateral loads or forces in accordance with Sections 1609  
19           and 1613 of the International Building Code. For purposes of this exception, comparisons  
20           of demand-capacity ratios and calculation of design lateral loads, forces and capacities  
21           shall account for the cumulative effects of additions and alterations since original  
22           construction.

23           **[B] 304.4 ((301.1.4)) Seismic ((E))evaluation and design procedures.** The seismic evaluation  
24           and design shall be based on the procedures specified in the International Building Code, ASCE

1 31 or ASCE 41. The procedures contained in Appendix A of this code shall be permitted to be  
2 used as specified in Section 304.4.2 (~~(301.1.4.2)~~).

3 **[B] 304.4.1 (~~(301.1.4.1)~~) Compliance with IBC level seismic forces.** Where compliance  
4 with the seismic design provisions of the International Building Code is required, the  
5 procedures shall be in accordance with one of the following:

- 6 1. One-hundred percent of the values in the International Building Code. Where the  
7 existing seismic force-resisting system is a type that can be designated as  
8 “Ordinary,” values of  $R$ ,  $\Omega_0$  and  $C_d$  used for analysis in accordance with Chapter 16  
9 of the International Building Code shall be those specified for structural systems  
10 classified as “Ordinary” in accordance with Table 12.2-1 of ASCE 7, unless it can be  
11 demonstrated that the structural system will provide performance equivalent to that  
12 of a “Detailed,” “Intermediate” or “Special” system.
- 13 2. Compliance with ASCE 41 using both the BSE-1 and BSE-2 earthquake hazard  
14 levels and the corresponding performance levels shown in Table 304.4.1  
15 (~~(301.1.4.1)~~).

16 **[B] TABLE 304.4.1 (~~(301.1.4.1)~~)**

17 **PERFORMANCE CRITERIA FOR IBC-LEVEL SEISMIC FORCES**  
18 **OCCUPANCY**

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

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

**[B] 304.4.2 ((301.1.4.2)) Compliance with reduced IBC level seismic forces.** Where seismic evaluation and design is permitted to meet reduced International Building Code seismic force levels, the procedures used shall be in accordance with one of the following:

1. The International Building Code using 75 percent of the prescribed forces. Values of  $R$ ,  $\Omega_0$  and  $C_d$  used for analysis shall be as specified in Section 304.4.1 ((301.1.4.1)) of this code.
2. Structures or portions of structures that comply with the requirements of the applicable chapter in Appendix A as specified in Items 2.1 through 2.5 and subject to the limitations of the respective Appendix A Chapters shall be deemed to comply with this section.
  - 2.1. The seismic evaluation and design of unreinforced masonry bearing wall buildings in Risk Category I or II are permitted to be based on the procedures specified in Appendix Chapter A1.
  - 2.2. Reserved. ((Seismic evaluation and design of the wall anchorage system in reinforced concrete and reinforced masonry wall buildings with flexible

1 diaphragms in Risk Category I or II are permitted to be based on the  
2 procedures specified in Chapter A2.))

3 2.3. Seismic evaluation and design of cripple walls and sill plate anchorage in  
4 residential buildings of light-frame wood construction in Risk Category I or II  
5 are permitted to be based on the procedures specified in Chapter A3.

6 2.4. Seismic evaluation and design of soft, weak, or open-front wall conditions in  
7 multiunit residential buildings of wood construction in Risk Category I or II  
8 are permitted to be based on the procedures specified in Chapter A4.

9 2.5. Seismic evaluation and design of concrete buildings in all risk categories are  
10 permitted to be based on the procedures specified in Chapter A5.

- 11 3. Compliance with ASCE 31 based on the applicable performance level as shown in  
12 Table 304.4.2 (~~301.1.4.2~~). It shall be permitted to use the BSE-1 earthquake hazard  
13 level as defined in ASCE 41 (~~and subject to the limitations in Item 4 below~~). The  
14 design spectral response acceleration parameters  $S_{XS}$  and  $S_{X1}$  specified in ASCE 41  
15 shall not be taken less than 75 percent of the respective design spectral response  
16 acceleration parameters  $S_{DS}$  and  $S_{D1}$  defined by the International Building Code.
- 17 4. Compliance with ASCE 41 using the BSE-1 Earthquake Hazard Level and the  
18 performance level shown in Table 304.4.2 (~~301.1.4.2~~). The design spectral  
19 response acceleration parameters  $S_{XS}$  and  $S_{X1}$  specified in ASCE 41 shall not be  
20 taken less than 75 percent of the respective design spectral response acceleration  
21 parameters  $S_{DS}$  and  $S_{D1}$  defined by the International Building Code.



[B] TABLE 304.4.2 ((301.1.4.2))

PERFORMANCE CRITERIA FOR REDUCED IBC-LEVEL SEISMIC FORCES RISK  
CATEGORY

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

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

~~((301.2 Additional codes. Alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in this code and the International Energy Conservation Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code, International Residential Code and NFPA 70. Where provisions of the other codes conflict with provisions of this code, the provisions of this code shall take precedence.))~~

**SECTION 305**

**REPAIRS**

**305.1 Repairs.** Buildings and structures, and parts thereof, shall be repaired in compliance with this section. Work on nondamaged components that is necessary for the required repair of

1 damaged components shall be considered part of the repair and shall not be subject to the  
2 requirements for alterations except as specifically required in this chapter. Routine maintenance,  
3 ordinary repairs exempt from permit in accordance with International Building Code Section  
4 106.2, and abatement of wear due to normal service conditions shall not be subject to the  
5 requirements for repairs in this section.

6 **305.1.1 Determining repair levels.** Repairs shall be classified as repair of minor damage,  
7 repair of moderate damage, repair of significant damage, or repair of extensive damage.  
8 Required repair levels shall be based on the damage ratio as defined in Section 202. Repair  
9 levels shall be determined according to rules promulgated by the Director.

10 **305.1.2 Requirements for repair of minor damage.** Repair of buildings with damage  
11 ratios less than 10 percent shall comply with this Section 305.1.2. The code official is  
12 permitted to allow replacement in kind for minor repairs according to Section 401.2. For  
13 unreinforced masonry chimneys, see Section 302.5.

14 1. Damage to structural elements and fire/life safety systems shall be repaired.

15 2. New or replaced elements shall comply with current code requirements.

16 3. New or replaced structural elements shall be tied into new or existing structure in  
17 accordance with the structural engineer's recommendations and accepted practice.

18 4. All structural repairs shall be designed by a structural engineer licensed in the State of  
19 Washington.

20 5. Regardless of the amount of damage to the building, all parapets constructed of  
21 unreinforced masonry and other unsafe building appendages shall be evaluated.

22 Parapets and other appendages determined to be deficient shall either be:

23 (a) braced in accordance with ASCE 41 for life safety performance; or

24 (b) abated in accordance with Section 302.4.

1 Note: Many parapets function as required fire walls and are required to remain  
2 in place. There may also be restrictions on alteration and removal of parapets  
3 on landmarks.

4 6. Cracked concrete and masonry shall be repaired where required by FEMA 306, 307  
5 and 308.

6 7. Strengthening of the overall structure is not required.

7 8. Fire protection and life safety systems required when the building was built or altered  
8 shall be repaired in accordance with Section 101.5.

9 9. No portion of the building shall be altered so that the building becomes less safe than  
10 it was before the damage occurred, nor shall the work create an unsafe condition as  
11 defined in Section 101.14.

12 **305.1.3 Requirements for repair of moderate damage.** Repair of buildings with damage  
13 ratios of at least 10 percent and less than 30 percent shall comply with Section 305.1.2 and  
14 this Section 305.1.3.

15 All structures supporting and supported by the damaged portions of the building shall be  
16 repaired in accordance with items 1–6 below.

17 1. The capacity of existing structural elements supporting and supported by the damaged  
18 portion of the building shall not be reduced below the building's condition before the  
19 damage occurred.

20 2. The lateral loading to existing elements of the lateral force resisting systems shall not  
21 be increased beyond their capacity.

22 3. New work shall not introduce new irregularities, and shall not worsen existing  
23 irregularities.

24 4. New structural elements shall be detailed and connected to the existing structural  
25 elements as required by this code.

1           5. New or relocated nonstructural elements shall be detailed and connected to existing or  
2           new structural elements as required by this code.

3           6. The alterations shall not create an unsafe condition.

4           **305.1.4 Requirements for repair of significant damage.** Repair of buildings with damage  
5           ratios of at least 30 percent and less than 50 percent shall comply with Sections 305.1.2,  
6           305.1.3 and this Section 305.1.4.

7           1. The engineer shall submit a report identifying structural damage, and falling hazards  
8           to exitways, pedestrian walkways and public rights of way. The report shall also  
9           contain a statement acknowledging that compliance with this section may not satisfy  
10           the requirements for substantial alteration of Section 303.

11           2. All identified falling hazards in exits and exit discharges shall be mitigated so as to  
12           limit damage at primary means of egress.

13           3. The walls, roofs and floors of unreinforced masonry buildings shall comply with the  
14           sections of ASCE 31 or Table 305.1. For ASCE 31 use of 3/4 of the design basis  
15           earthquake values with a minimum value of 0.80 for  $S_{DS}$  and of 0.35 for  $S_{D1}$  is  
16           permitted.

17           **Exception:** If the tested mortar strength is less than the minimums indicated in Table  
18           305.1, item a, the structure shall comply with the full provisions of ASCE 31 or IEBC

19           4. Repair of damage for buildings subject to this Section 305.1.4 will be considered  
20           when determining whether Section 303 provisions for substantial alterations apply.

**TABLE 305.1**

**REQUIREMENTS FOR UNREINFORCED MASONRY BUILDINGS**

<u>Component</u>	<u>ASCE 31 Section</u>	<u>Appendix A Section</u>
a. <u>Masonry strength (mortar and anchor tests) for anchorage to masonry and for wall bracing</u>	<u>4.2.6.2.2</u>	<u>A106.3.3</u>
b. <u>Diaphragm shear transfer</u>	<u>4.2.6.3.2.6</u>	<u>A111.5</u>
c. <u>Out-of-plane transfer</u>	<u>4.2.6.3.5</u>	<u>A113.1</u>
d. <u>Wall bracing</u>	<u>4.2.6.3.4</u>	<u>A113.5</u>

**305.1.5 Requirements for repair of extensive damage.** Repair of buildings with damage ratios of at least 50 percent and less than 60 percent shall comply with Sections 305.1.2 through 305.1.4 and this Section 305.1.5.

1. The structure shall be repaired and designed to satisfy the requirements for life safety performance at the design basis earthquake.

2. A seismic evaluation report shall be submitted. The report shall comply with Section 304.4.2, rules promulgated by the code official, and the following requirements:

2.1 The report shall be prepared by a structural engineer registered in the State of Washington.

2.2 The report shall be based on ASCE 31 or ASCE 41 and the performance criteria in Table 304.4.2.

**Exception:** Unreinforced masonry buildings are permitted to comply with Appendix A1. The reduction of Section 305.1.4 item 3 is not allowed.

2.3 At a minimum, the report shall contain the information listed below. A previously-written report may be submitted if it satisfies the requirements of this section.

1                    2.3.1 An overall description of the building, including size (number of stories  
2                    and basements, approximate floor area) and the occupancies or uses in  
3                    the building.

4                    2.3.2 Identification of building deficiencies.

5                    2.3.3 A prioritized list of recommendations from the structural engineer on  
6                    how to address the identified deficiencies.

7                    2.3.4 The seismic evaluation report shall comply with rules promulgated by  
8                    the code official.

9                    **305.1.6 Requirements for repair of more than extensive damage.** Repair of buildings  
10                    with damage ratios of 60 percent or more shall comply with Section 303.

11 **305.2 Flood hazard areas.** For buildings and structures in flood hazard areas established in  
12 Section 1612.3 of the International Building Code, any repair that constitutes substantial  
13 improvement of the existing structure, as defined in Section 202, shall comply with the flood  
14 design requirements for new construction, and all aspects of the existing structure shall be  
15 brought into compliance with the requirements for new construction for flood design.

16                    For buildings and structures in flood hazard areas established in Section 1612.3 of the  
17 International Building Code, any repairs that do not constitute substantial improvement or repair  
18 of substantial damage of the existing structure, as defined in Section 202, are not required to  
19 comply with the flood design requirements for new construction.

## 20                    **SECTION 306**

### 21                    **LANDMARKS**

22 **[B] 306.1 Historic buildings—landmarks.** The provisions of this code relating to the  
23 construction, repair, alteration, addition, restoration and movement of structures, and change of  
24 occupancy shall be mandatory for landmarks.



1       **Exception:** Existing bleachers, grandstands and folding and telescopic seating shall comply  
2       with ICC 300.

3       **[B] 401.1.1 Compliance with other methods.** Alterations, ((repairs,)) additions and changes  
4       of occupancy to or relocation of, existing buildings and structures shall comply with the  
5       provisions of this chapter or with one of the methods provided in Section 301.1.

6       **Note:** All alterations, additions and changes of occupancy are also required to comply with  
7       Chapter 3.

8       **[B] 401.2 Building materials and systems.** Building materials and systems shall comply with  
9       the requirements of this section.

10       **[B] 401.2.1 Existing materials.** Materials already in use in a building in compliance with  
11       requirements or approvals in effect at the time of their erection or installation shall be  
12       permitted to remain in use unless determined by the ((building official)) code official to be  
13       unsafe per Section ((415)) 101.14.

14       **[B] 401.2.2 New and replacement materials.** Except as otherwise required or permitted by  
15       this code, materials permitted by the applicable code for new construction shall be used. Like  
16       materials shall be permitted for ((repairs and)) nonstructural alterations, provided no hazard  
17       to life, health or property is created, and they do not adversely affect any structural member  
18       or the fire-resistance rating of any part of the building or structure. When approved by the  
19       code official, minor structural alterations necessary to maintain the structural stability of the  
20       building or structure are permitted to be made with the same material of which the building  
21       or structure is constructed. Hazardous materials shall not be used where the code for new  
22       construction would not permit their use in buildings of similar occupancy, purpose and  
23       location.

24       ~~**[B] 401.2.3 Existing seismic force-resisting systems.** Where the existing seismic force-~~  
25       ~~resisting system is a type that can be designated ordinary, values of  $R$ ,  $\Omega_0$  and  $C_d$  for the~~



1 ~~existing seismic force resisting system shall be those specified by the International Building~~  
2 ~~Code for an ordinary system unless it is demonstrated that the existing system will provide~~  
3 ~~performance equivalent to that of a detailed, intermediate or special system.~~

4 ~~[B] 401.3 Dangerous conditions. The building official shall have the authority to require the~~  
5 ~~elimination of conditions deemed dangerous.))~~

## 6 SECTION 402

### 7 ADDITIONS

8 **[B] 402.1 General.** Additions to any building or structure shall comply with the requirements of  
9 the International Building Code for new construction. Alterations to the existing building or  
10 structure shall be made to ensure that the existing building or structure together with the addition  
11 are no less conforming to the provisions of the International Building Code than the existing  
12 building or structure was prior to the addition. An existing building together with its additions  
13 shall comply with the height and area provisions of Chapter 5 of the International Building Code.

14 Note: A significant addition to an existing building may be considered a substantial alteration  
15 in accordance with Section 303.

16 402.1.1 Fire walls. An existing nonconforming building to which an addition is made is  
17 permitted to exceed the height, number of stories and area specified for new buildings if a  
18 fire wall is provided, the existing building is not made more nonconforming, and the addition  
19 conforms to this code.

20 \*\*\*

21 402.3 Structural. Additions to existing buildings shall comply with Section 304.3.

22 ~~((**[B] 402.3 Existing structural elements carrying gravity load.** Any existing gravity load-~~  
23 ~~carrying structural element for which an addition and its related alterations cause an increase in~~  
24 ~~design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or~~

1 otherwise altered as needed to carry the increased gravity load required by the International  
2 Building Code for new structures.

3 Any existing gravity load-carrying structural element whose gravity load-carrying capacity is  
4 decreased shall be considered an altered element subject to the requirements of Section 403.3.

5 Any existing element that will form part of the lateral load path for any part of the addition shall  
6 be considered an existing lateral load-carrying structural element subject to the requirements of  
7 Section 402.4.

8 **[B] 402.3.1 Design live load.** Where the addition does not result in increased design live  
9 load, existing gravity load-carrying structural elements shall be permitted to be evaluated and  
10 designed for live loads approved prior to the addition. If the approved live load is less than  
11 that required by Section 1607 of the International Building Code, the area designed for the  
12 nonconforming live load shall be posted with placards of approved design indicating the  
13 approved live load. Where the addition does result in increased design live load, the live load  
14 required by Section 1607 of the International Building Code shall be used.

15 **[B] 402.4 Existing structural elements carrying lateral load.** Where the addition is structurally  
16 independent of the existing structure, existing lateral load-carrying structural elements shall be  
17 permitted to remain unaltered. Where the addition is not structurally independent of the existing  
18 structure, the existing structure and its addition acting together as a single structure shall be  
19 shown to meet the requirements of Sections 1609 and 1613 of the International Building Code.

20 **Exception:** Any existing lateral load-carrying structural element whose demand-capacity  
21 ratio with the addition considered is no more than 10 percent greater than its demand-  
22 capacity ratio with the addition ignored shall be permitted to remain unaltered. For purposes  
23 of calculating demand-capacity ratios, the demand shall consider applicable load  
24 combinations with design lateral loads or forces in accordance with Sections 1609 and 1613  
25 of the International Building Code. For purposes of this exception, comparisons of demand-

1 ~~capacity ratios and calculation of design lateral loads, forces and capacities shall account for~~  
2 ~~the cumulative effects of additions and alterations since original construction.))~~

3 \*\*\*

4 **402.6 Addition of dwelling units.** Automatic sprinkler systems are required when new  
5 dwelling units are added to buildings according to Items 1 through 5 below. This provision is  
6 permitted to be used to add one unit over the life of the building.

- 7 1. One unit is permitted to be added to a residential or commercial building without an  
8 automatic sprinkler system unless sprinklers are otherwise required by this section. If  
9 more than one unit is added, the new units shall be equipped with a sprinkler system.
- 10 2. In buildings that do not comply with the provisions of this code for number of stories,  
11 allowable area, height or type of construction before the unit is added, an automatic  
12 sprinkler system shall be provided in the new unit. The addition of the new unit shall not  
13 be allowed if it increases the nonconformity.
- 14 3. In buildings undergoing substantial alteration, an automatic sprinkler system shall be  
15 installed where required by this code for new construction.
- 16 4. One unit is permitted to be added to an existing duplex without an automatic sprinkler  
17 system where both of the following conditions are met:
  - 18 4.1 The project is considered a substantial alteration only because of the change of  
19 occupancy; and
  - 20 4.2 The building complies with the requirements for building height and number of  
21 stories for a Group R-2 occupancy.
- 22 5. Where one unit is added to an existing duplex, sprinklers are required in the new unit and  
23 not in the existing units where all of the following conditions are met:
  - 24 5.1 The existing duplex does not comply with the requirements for building height and  
25 story count for a Group R-2 occupancy;



1        4. Automatic sprinkler systems are required when new dwelling units are added to  
2        buildings according to Items 4.1 through 4.6 below. This exception is permitted to be  
3        used to add one unit over the life of the building.

4        4.1 One unit is permitted to be added to a residential or commercial building without  
5        an automatic sprinkler system unless sprinklers are otherwise required by this  
6        section. If more than one unit is added, the new units shall be equipped with a  
7        sprinkler system.

8        4.2 In buildings that do not comply with the provisions of this code for number of  
9        stories, allowable area, height or type of construction before the unit is added, an  
10       automatic sprinkler system shall be provided in the new unit. The addition of the  
11       new unit shall not be allowed if it increases the nonconformity.

12       4.3 In buildings undergoing substantial alteration, an automatic sprinkler system shall  
13       be installed where required by this code for new construction.

14       4.4 One unit is permitted to be added to an existing duplex without an automatic  
15       sprinkler system where both of the following conditions are met:

16       4.4.1 The project is considered a substantial alteration only because of the  
17       change of occupancy; and

18       4.4.2 The building complies with the requirements for building height and  
19       number of stories for a Group R-2 occupancy.

20       4.5 Where one unit is added to an existing duplex, sprinklers are required in the new  
21       unit and not in the existing units where all of the following conditions are met:

22       4.5.1 The existing duplex does not comply with the requirements for building  
23       height and story count for a Group R-2 occupancy;

24       4.5.2 The project is considered a substantial alteration only because of the  
25       change of occupancy;

1 4.5.3 The new unit is constructed as an addition to the duplex;

2 4.5.4 The new unit is separated from the existing duplex by a fire wall; and

3 4.5.5 The addition by itself complies with the requirements for a Group R-2  
4 occupancy.

5 4.6 A sprinkler system is not required when a Group U occupancy that is accessory to  
6 a Group R-3 occupancy is converted to a dwelling unit.

7 5. Ceilings in basements are permitted to project to within 6 feet 8 inches (2032 mm) of  
8 the finished floor, and beams, girders, ducts or other obstructions are permitted to  
9 project to within 6 feet 4 inches (1931 mm) of the finished floor.

10 6. Ceiling height in buildings in existence prior to October 17, 1979, shall be permitted  
11 to comply with rules promulgated by the code official.

12 \*\*\*

13 **403.3 Structural.** Alterations to existing buildings and structures shall comply with Section  
14 304.1.

15 ~~((**[B] 403.3 Existing structural elements carrying gravity load.** Any existing gravity load-~~  
16 ~~carrying structural element for which an alteration causes an increase in design gravity load of~~  
17 ~~more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed~~  
18 ~~to carry the increased gravity load required by the International Building Code for new~~  
19 ~~structures. Any existing gravity load carrying structural element whose gravity load carrying~~  
20 ~~capacity is decreased as part of the alteration shall be shown to have the capacity to resist the~~  
21 ~~applicable design gravity loads required by the International Building Code for new structures.~~

22 ~~**[B] 403.3.1 Design live load.** Where the alteration does not result in increased design live~~  
23 ~~load, existing gravity load carrying structural elements shall be permitted to be evaluated and~~  
24 ~~designed for live loads approved prior to the alteration. If the approved live load is less than~~  
25 ~~that required by Section 1607 of the International Building Code, the area designed for the~~  
26  
27  
28

1 nonconforming live load shall be posted with placards of approved design indicating the  
2 approved live load. Where the alteration does result in increased design live load, the live  
3 load required by Section 1607 of the International Building Code shall be used.

4 ~~[B] 403.4 Existing structural elements carrying lateral load.~~ Except as permitted by Section  
5 403.5, (1) where the alteration increases design lateral loads in accordance with Section 1609 or  
6 1613 of the International Building Code, or (2) where the alteration results in a structural  
7 irregularity as defined in ASCE 7 or (3) where the alteration makes an existing structural  
8 irregularity more severe, or (4) where the alteration decreases the capacity of any existing lateral  
9 load-carrying structural element, the structure of the altered building or structure shall be shown  
10 to meet the requirements of Sections 1609 and 1613 of the International Building Code.

11 ~~**Exception:** Any existing lateral load-carrying structural element whose design lateral load~~  
12 ~~with the alteration considered is no more than 10 percent greater than its design lateral load~~  
13 ~~with the alteration ignored shall be permitted to remain unaltered. The calculation of the~~  
14 ~~design lateral load, shall consider applicable load combinations with design lateral loads or~~  
15 ~~forces in accordance with Sections 1609 and 1613 of the International Building Code. The~~  
16 ~~calculation shall account for the cumulative effects of additions and alterations since original~~  
17 ~~construction.~~

18 ~~[B] 403.5 Voluntary seismic improvements.~~ Alterations to existing structural elements or  
19 additions of new structural elements that are not otherwise required by this chapter and are  
20 initiated for the purpose of improving the performance of the seismic force resisting system of an  
21 existing structure or the performance of seismic bracing or anchorage of existing nonstructural  
22 elements shall be permitted, provided that an engineering analysis is submitted demonstrating the  
23 following:

- 1 ~~1. The altered structure and the altered nonstructural elements are no less conforming to the~~  
2 ~~provisions of the International Building Code with respect to earthquake design than they~~  
3 ~~were prior to the alteration.~~
- 4 ~~2. New structural elements are detailed as required for new construction.~~
- 5 ~~3. New or relocated nonstructural elements are detailed and connected to existing or new~~  
6 ~~structural elements as required for new construction.~~
- 7 ~~4. The alterations do not create a structural irregularity as defined in ASCE 7 or make an~~  
8 ~~existing structural irregularity more severe.))~~

9 \*\*\*

## 10 SECTION 404

### 11 REPAIRS

12 **[B] 404.1 General.** Buildings and structures, and parts thereof, shall be repaired in compliance  
13 with Section 305. ~~((401.2 and Section 404. Work on nondamaged components that is necessary~~  
14 ~~for the required repair of damaged components shall be considered part of the repair and shall~~  
15 ~~not be subject to the requirements for alterations in this chapter. Routine maintenance required~~  
16 ~~by Section 401.2, ordinary repairs exempt from permit in accordance with Section 105.2, and~~  
17 ~~abatement of wear due to normal service conditions shall not be subject to the requirements for~~  
18 ~~repairs in this section.~~

19 **[B] 404.2 Substantial structural damage to vertical elements of the lateral force resisting**  
20 **system.** A building that has sustained substantial structural damage to the vertical elements of its  
21 lateral force resisting system shall be evaluated and repaired in accordance with the applicable  
22 provisions of Sections 404.2.1 through 404.2.3.

#### 23 **Exceptions:**



1 ~~1. Buildings assigned to Seismic Design Category A, B or C whose substantial structural damage~~  
2 ~~was not caused by earthquake need not be evaluated or rehabilitated for load combinations that~~  
3 ~~include earthquake effects.~~

4 ~~2. One and two family dwellings need not be evaluated or rehabilitated for load combinations~~  
5 ~~that include earthquake effects.~~

6 ~~[B] 404.2.1 Evaluation. The building shall be evaluated by a registered design professional, and~~  
7 ~~the evaluation findings shall be submitted to the building official. The evaluation shall establish~~  
8 ~~whether the damaged building, if repaired to its predamage state, would comply with the~~  
9 ~~provisions of the International Building Code for wind and earthquake loads.~~

10 ~~Wind loads for this evaluation shall be those prescribed in Section 1609 of the International~~  
11 ~~Building Code. Earthquake loads for this evaluation, if required, shall be permitted to be 75~~  
12 ~~percent of those prescribed in Section 1613 of the International Building Code.~~

13 ~~[B] 404.2.2 Extent of repair for compliant buildings. If the evaluation establishes compliance~~  
14 ~~of the predamage building in accordance with Section 404.2.1, then repairs shall be permitted~~  
15 ~~that restore the building to its predamage state, based on material properties and design strengths~~  
16 ~~applicable at the time of original construction.~~

17 ~~[B] 404.2.3 Extent of repair for noncompliant buildings. If the evaluation does not establish~~  
18 ~~compliance of the predamage building in accordance with Section 404.2.1, then the building~~  
19 ~~shall be rehabilitated to comply with applicable provisions of the International Building Code for~~  
20 ~~load combinations that include wind or seismic loads. The wind loads for the repair shall be as~~  
21 ~~required by the building code in effect at the time of original construction, unless the damage~~  
22 ~~was caused by wind, in which case the wind loads shall be as required by the International~~  
23 ~~Building Code. Earthquake loads for this rehabilitation design shall be those required for the~~  
24 ~~design of the predamage building, but not less than 75 percent of those prescribed in Section~~  
25 ~~1613. New structural members and connections required by this rehabilitation design shall~~

1 ~~comply with the detailing provisions of the International Building Code for new buildings of~~  
2 ~~similar structure, purpose and location.~~

3 ~~[B] 404.3 Substantial structural damage to gravity load carrying components. Gravity load-~~  
4 ~~carrying components that have sustained substantial structural damage shall be rehabilitated to~~  
5 ~~comply with the applicable provisions of the International Building Code for dead and live loads.~~  
6 ~~Snow loads shall be considered if the substantial structural damage was caused by or related to~~  
7 ~~snow load effects. Existing gravity load carrying structural elements shall be permitted to be~~  
8 ~~designed for live loads approved prior to the damage. Nondamaged gravity load carrying~~  
9 ~~components that receive dead, live or snow loads from rehabilitated components shall also be~~  
10 ~~rehabilitated or shown to have the capacity to carry the design loads of the rehabilitation design.~~  
11 ~~New structural members and connections required by this rehabilitation design shall comply with~~  
12 ~~the detailing provisions of the International Building Code for new buildings of similar structure,~~  
13 ~~purpose and location.~~

14 ~~[B] 404.3.1 Lateral force resisting elements. Regardless of the level of damage to vertical~~  
15 ~~elements of the lateral force resisting system, if substantial structural damage to gravity load-~~  
16 ~~carrying components was caused primarily by wind or earthquake effects, then the building shall~~  
17 ~~be evaluated in accordance with Section 404.2.1 and, if noncompliant, rehabilitated in~~  
18 ~~accordance with Section 404.2.3.~~

19 **Exceptions:**

20 ~~1. One and two family dwellings need not be evaluated or rehabilitated for load combinations~~  
21 ~~that include earthquake effects.~~

22 ~~2. Buildings assigned to Seismic Design Category A, B or C whose substantial structural damage~~  
23 ~~was not caused by earthquake need not be evaluated or rehabilitated for load combinations that~~  
24 ~~include earthquake effects.~~

1 ~~[B] 404.4 Less than substantial structural damage.~~ For damage less than substantial structural  
2 damage, repairs shall be allowed that restore the building to its predamage state, based on  
3 material properties and design strengths applicable at the time of original construction. New  
4 structural members and connections used for this repair shall comply with the detailing  
5 provisions of the International Building Code for new buildings of similar structure, purpose and  
6 location.

7 ~~[B] 404.5 Flood hazard areas.~~ For buildings and structures in flood hazard areas established in  
8 Section 1612.3 of the International Building Code, any repair that constitutes substantial  
9 improvement of the existing structure, as defined in Section 202, shall comply with the flood  
10 design requirements for new construction, and all aspects of the existing structure shall be  
11 brought into compliance with the requirements for new construction for flood design.

12 For buildings and structures in flood hazard areas established in Section 1612.3 of the  
13 International Building Code, any repairs that do not constitute substantial improvement or repair  
14 of substantial damage of the existing structure, as defined in Section 202, are not required to  
15 comply with the flood design requirements for new construction.))

## 16 SECTION 405

### 17 FIRE ESCAPES

18 ~~[B] 405.1 Where permitted.~~ ((Fire escapes shall be permitted only as provided for in Sections  
19 405.1.1 through 405.1.4.))

20 ~~[B] 405.1.1 New buildings.~~ Fire escapes shall not constitute any part of the required means  
21 of egress in new buildings.

22 ~~[B] 405.1.2 Existing fire escapes.~~ Existing fire escapes shall continue to be accepted as a  
23 component in the means of egress in existing buildings only. All fire escapes shall comply  
24 with the International Fire Code.

1 ~~((**[B] 405.1.3 New fire escapes.** New fire escapes for existing buildings shall be permitted~~  
2 ~~only where exterior stairs cannot be utilized due to lot lines limiting stair size or due to the~~  
3 ~~sidewalks, alleys or roads at grade level. New fire escapes shall not incorporate ladders or~~  
4 ~~access by windows.~~

5 ~~**[B] 405.1.4 Limitations.** Fire escapes shall comply with this section and shall not constitute~~  
6 ~~more than 50 percent of the required number of exits nor more than 50 percent of the~~  
7 ~~required exit capacity.~~

8 ~~**[B] 405.2 Location.** Where located on the front of the building and where projecting beyond the~~  
9 ~~building line, the lowest landing shall not be less than 7 feet (2134 mm) or more than 12 feet~~  
10 ~~(3658 mm) above grade, and shall be equipped with a counterbalanced stairway to the street. In~~  
11 ~~alleyways and thoroughfares less than 30 feet (9144 mm) wide, the clearance under the lowest~~  
12 ~~landing shall not be less than 12 feet (3658 mm).~~

13 ~~**[B] 405.3 Construction.** The fire escape shall be designed to support a live load of 100 pounds~~  
14 ~~per square foot (4788 Pa) and shall be constructed of steel or other approved noncombustible~~  
15 ~~materials. Fire escapes constructed of wood not less than nominal 2 inches (51 mm) thick are~~  
16 ~~permitted on buildings of Type V construction. Walkways and railings located over or supported~~  
17 ~~by combustible roofs in buildings of Type III and IV construction are permitted to be of wood~~  
18 ~~not less than nominal 2 inches (51 mm) thick.~~

19 ~~**[B] 405.4 Dimensions.** Stairs shall be at least 22 inches (559 mm) wide with risers not more~~  
20 ~~than, and treads not less than, 8 inches (203 mm) and landings at the foot of stairs not less than~~  
21 ~~40 inches (1016 mm) wide by 36 inches (914 mm) long, located not more than 8 inches (203~~  
22 ~~mm) below the door.~~

23 ~~**[B] 405.5 Opening protectives.** Doors and windows along the fire escape shall be protected with~~  
24 ~~3/4 hour opening protectives.))~~

25 \*\*\*

SECTION 407

CHANGE OF OCCUPANCY

**[B] 407.1 Conformance.** No change of occupancy shall be made in ~~((the use or occupancy of))~~ any building or portion thereof ~~((that would place the building in a different division of the same group of occupancy or in a different group of occupancies,))~~ unless such building is made to comply with the requirements of the International Building Code for the occupancy. ~~((such division or group of occupancy.))~~ Changes of occupancy in a building or portion thereof shall be such that the building is no less complying with the provisions of this code than the building or structure was prior to the change. Subject to the approval of the ~~((building official))~~ code official, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all of the requirements of this code for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

**Note:** Conditions arising after the adoption of this code, and conditions not legally in existence at the time of adoption of this code may trigger requirements based on International Fire Code Section 102.1, including building upgrades.

**Exception:**

1. Subject to the approval of the code official, an automatic sprinkler system is not required in dwelling units according to Items 1.1 through 1.6 below. This exception is permitted to be used for the change in occupancy for one dwelling unit over the life of the building.

1.1 The occupancy of one unit is permitted to be changed to a dwelling unit without an automatic sprinkler system unless sprinklers are otherwise required by this chapter. If more than one unit is changed, the new units shall be equipped with a sprinkler system.

1           1.2 In buildings that do not comply with the provisions of this code for number of  
2           stories, allowable area, height or type of construction before the occupancy of the  
3           unit is changed, an automatic sprinkler system shall be provided in the new unit.  
4           The change of occupancy shall not be allowed if it increases the nonconformity.

5           1.3 In buildings undergoing substantial alteration, an automatic sprinkler system shall  
6           be installed where required by this code for new construction.

7           1.4 The occupancy of one unit is permitted to be changed to a dwelling unit in an  
8           existing duplex without an automatic sprinkler system where both of the following  
9           conditions are met:

10           1.4.1 The project is considered a substantial alteration only because of the change  
11           of occupancy; and

12           1.4.2 The building complies with the requirements for building height and number  
13           of stories for a Group R-2 occupancy.

14           1.5 Where the occupancy of one unit is changed to a dwelling unit in an existing  
15           duplex, sprinklers are required in the new unit and not in the existing units where all  
16           of the following conditions are met:

17           1.5.1 The existing duplex does not comply with the requirements for building  
18           height and story count for a Group R-2 occupancy;

19           1.5.2 The project is considered a substantial alteration only because of the change  
20           of occupancy;

21           1.5.3 The new unit is constructed as an addition to the duplex;

22           1.5.4 The new unit is separated from the existing duplex by a fire wall; and

23           1.5.5 The addition by itself complies with the requirements for a Group R-2  
24           occupancy.

1           1.6 A sprinkler system is not required when a Group U occupancy that is accessory to a  
2           Group R-3 occupancy is converted to a dwelling unit.

3           **407.1.1 Conversion to residential occupancy.** Upon conversion of an existing building, or  
4           portion thereof, to residential occupancy International Building Code Sections 420, 1203 and  
5           2902 shall apply, and the elements of the dwelling unit envelope that are altered shall comply  
6           with the sound transmission control requirements of International Building Code Section  
7           1207.

8 **[B] 407.2 Certificate of occupancy.** A certificate of occupancy is required for changes in  
9 occupancy group, increases in the maximum occupant load in assembly occupancies, and  
10 changes in character of occupancy. ((shall be issued where it has been determined that the  
11 requirements for the new occupancy classification have been met.))

12 **[B] 407.3 Stairways.** ~~((An))~~ Subject to the approval of the code official, existing stairways shall  
13 not be required to comply with the requirements of Section 1009.5 and 1009.5.2 of the  
14 International Building Code where the existing space and construction does not allow a reduction  
15 in pitch or slope.

16 **[B] 407.4 Structural.** When a change of occupancy results in a structure being reclassified to a  
17 higher risk category, the structure shall comply with Section 304.2. ~~((conform to the seismic~~  
18 ~~requirements for a new structure of the higher risk category.~~

19 **Exceptions:**

- 20 1. ~~Specific seismic detailing requirements of Section 1613 of the International Building Code for~~  
21 ~~a new structure shall not be required to be met where the seismic performance is shown to be~~  
22 ~~equivalent to that of a new structure. A demonstration of equivalence shall consider the~~  
23 ~~regularity, overstrength, redundancy and ductility of the structure.~~
- 24 2. ~~When a change of use results in a structure being reclassified from Risk Category I or II to~~  
25 ~~Risk Category III and the structure is located where the seismic coefficient,  $S_{DS}$ , is less than~~

1     0.33, compliance with the seismic requirements of Section 1613 of the International Building  
2     Code is not required. )

3     **407.5 Substantial alterations.** Changes of occupancy that are substantial alterations shall  
4     comply with Section 303.

5   **SECTION 408**

6   **HISTORIC BUILDINGS AND LANDMARKS**

7     [**B**] **408.1 Historic buildings—landmarks.** Landmarks shall comply with Section 306 and  
8     Section 410. ((The provisions of this code relating to the construction, repair, alteration, addition,  
9     restoration and movement of structures, and change of occupancy shall not be mandatory for  
10    historic buildings where such buildings are judged by the building official to not constitute a  
11    distinct life safety.

12    [**B**] **408.2 Flood hazard areas.** Within flood hazard areas established in accordance with Section  
13    1612.3 of the International Building Code, where the work proposed constitutes substantial  
14    improvement as defined in Section 1612.2 of the International Building Code, the building shall  
15    be brought into compliance with Section 1612 of the International Building Code.

16    **Exception:** Historic buildings need not be brought into compliance that are:

- 17         1. Listed or preliminarily determined to be eligible for listing in the National Register of  
18         Historic Places;
- 19         2. Determined by the Secretary of the U.S. Department of Interior as contributing to the  
20         historical significance of a registered historic district or a district preliminarily  
21         determined to qualify as an historic district; or  
22         3. Designated as historic under a state or local historic preservation program that is  
23         approved by the Department of Interior.))





1 primary function area shall be accessible. The accessible route to the primary function area shall  
2 include toilet facilities, telephones or drinking fountains serving the area of primary function.

3 **Exceptions:**

- 4 1. The costs of providing the accessible route are not required to exceed 20 percent of the  
5 costs of the alterations affecting the area of primary function.
- 6 2. This provision does not apply to alterations limited solely to windows, hardware,  
7 operating controls, electrical outlets and signs.
- 8 3. This provision does not apply to alterations limited solely to mechanical systems,  
9 electrical systems, installation or alteration of fire protection systems and abatement of  
10 hazardous materials.
- 11 4. This provision does not apply to alterations undertaken for the primary purpose of  
12 increasing the accessibility of a facility.
- 13 5. This provision does not apply to altered areas limited to Type B dwelling and sleeping  
14 units.

15 **[B] 410.8 Scoping for alterations.** The provisions of Sections 410.8.1 through 410.8.14 shall  
16 apply to alterations to existing buildings and facilities.

17 **[B] 410.8.1 Entrances.** Accessible entrances shall be provided in accordance with Section  
18 1105.

19 **Exception:** Where an alteration includes alterations to an entrance, and the facility has an  
20 accessible entrance, the altered entrance is not required to be accessible, unless required  
21 by Section 410.7. Signs complying with Section 1110 of the International Building Code  
22 shall be provided.

23 **[B] 410.8.2 Elevators.** Altered elements of existing elevators shall comply with ASME  
24 A17.1 and ICC A117.1. Such elements shall also be altered in elevators programmed to  
25 respond to the same hall call control as the altered elevator.

1 **[B] 410.8.3 Platform lifts.** Platform (wheelchair) lifts complying with ICC A117.1 and  
2 installed in accordance with ASME A18.1 shall be permitted as a component of an accessible  
3 route.

4 **[B] 410.8.4 Stairs and escalators in existing buildings.** In alterations, change of occupancy  
5 or additions where an escalator or stair is added where none existed previously and major  
6 structural modifications are necessary for installation, an accessible route shall be provided  
7 between the levels served by the escalator or stairs in accordance with Sections 1104.4 and  
8 1104.5 of the International Building Code.

9 **[B] 410.8.5 Ramps.** Where slopes steeper than allowed by Section 1010.3 of the  
10 International Building Code are necessitated by space limitations, the slope of ramps in or  
11 providing access to existing facilities shall comply with Table 410.8.5.

12 **B] TABLE 410.8.5**

13 **RAMPS**

14

SLOPE	MAXIMUM RISE
15 Steeper than 1:10 but not steeper than 1:8	3 inches
16 Steeper than 1:12 but not steeper than 1:10	6 inches

17

18 For SI: 1 inch = 25.4 mm.

19 **[B] 410.8.6 Performance areas.** Where it is technically infeasible to alter performance areas  
20 to be on an accessible route, at least one of each type of performance area shall be made  
21 accessible.

22 **[B] 410.8.7 Accessible dwelling or sleeping units.** Where Group I-1, I-2, I-3, R-1, or R-2  
23 ((or R-4)) dwelling or sleeping units are being altered or added, the requirements of Section  
24 1107 of the International Building Code for Accessible units apply only to the quantity of  
25 spaces being altered or added.  
26

1       **[B] 410.8.8 Type A dwelling or sleeping units.** Where more than 20 Group R-2 dwelling or  
2 sleeping units are being altered or added, the requirements of Section 1107 of the  
3 International Building Code for Type A units apply only to the quantity of the spaces being  
4 altered or added.

5       **[B] 410.8.9 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-  
6 2, or R-3 (~~or~~ R-4) dwelling or sleeping units are being added, the requirements of Section  
7 1107 of the International Building Code for Type B units apply only to the quantity of the  
8 spaces being added. Where Group I-1, I-2, R-1, R-2, or R-3 (~~or~~ R-4) dwelling or sleeping  
9 units are being altered and where the work area is greater than 50 percent of the aggregate  
10 area of the building, the requirements of Section 1107 of the International Building Code for  
11 Type B units apply only to the quantity of the spaces being altered.

12       **[B] 410.8.10 Jury boxes and witness stands.** In alterations, accessible wheelchair spaces are  
13 not required to be located within the defined area of raised jury boxes or witness stands and  
14 shall be permitted to be located outside these spaces where the ramp or lift access restricts or  
15 projects into the means of egress.

16       **[B] [W] 410.8.11 Toilet rooms.** Where it is technically infeasible to alter existing toilet and  
17 bathing rooms to be accessible, an accessible family or assisted-use toilet or bathing room  
18 constructed in accordance with Section 1109.2.1 of the International Building Code is  
19 permitted. The family or assisted-use toilet or bathing room shall be located on the same  
20 floor and in the same area as the existing toilet or bathing rooms. The number of toilet  
21 facilities and water closets required by the International Building Code is permitted to be  
22 reduced by one, in order to provide accessible features.

23       **[B] 410.8.12 Dressing, fitting and locker rooms.** Where it is technically infeasible to  
24 provide accessible dressing, fitting or locker rooms at the same location as similar types of  
25 rooms, one accessible room on the same level shall be provided. Where separate-sex  
26

1 facilities are provided, accessible rooms for each sex shall be provided. Separate-sex  
2 facilities are not required where only unisex rooms are provided.

3 **[B] 410.8.13 Fuel dispensers.** Operable parts of replacement fuel dispensers shall be  
4 permitted to be 54 inches (1370 mm) maximum, measuring from the surface of the vehicular  
5 way where fuel dispensers are installed on existing curbs.

6 **[B] 410.8.14 Thresholds.** The maximum height of thresholds at doorways shall be 3/4 inch  
7 (19.1 mm). Such thresholds shall have beveled edges on each side.

8 \*\*\*

9 Section 6. The following sections of Chapter 5 of the International Existing Building  
10 Code, 2012 Edition, are amended as follows:

11  
12 **CHAPTER 5**

13 **CLASSIFICATION OF WORK**

14 **SECTION 501**

15 **GENERAL**

16 **501.1 Scope.** The provisions of this chapter shall be used in conjunction with Chapters ~~((6))~~ 7  
17 through ~~((13))~~ 11 and 13 shall apply to the alteration, ~~((repair,))~~ addition and change of  
18 occupancy of existing structures, including ~~((historic and))~~ moved structures, as referenced in  
19 Section 301.1.2. The work performed on an existing building shall be classified in accordance  
20 with this chapter.

21 **Note:** All alterations, additions and changes of occupancy are required to comply with  
22 Section 302.

23 **501.1.1 Compliance with other alternatives.** Alterations, ~~((repairs,))~~ additions and changes  
24 of occupancy to existing structures shall comply with the provisions of Chapters 3 and ~~((6))~~ 7  
25 through ~~((13))~~ 11 or with one of the alternatives provided in Section 301.1.

1 \*\*\*

2 **SECTION 502**

3 **REPAIRS**

4 **502.1** (~~Scope. Repairs, as defined in Chapter 2, include the patching or restoration or~~  
5 ~~replacement of damaged materials, elements, equipment or fixtures for the purpose of~~  
6 ~~maintaining such components in good or sound condition with respect to existing loads or~~  
7 ~~performance requirements.~~

8 **502.2**) **Application.** Repairs shall comply with Section 305 ~~the provisions of Chapter 6.~~

9 (~~502.3 Related work. Work on nondamaged components that is necessary for the required~~  
10 ~~repair of damaged components shall be considered part of the repair and shall not be subject to~~  
11 ~~the provisions of Chapter 7, 8, 9, 10 or 11.~~)

12 \*\*\*

13 **SECTION 505**

14 **ALTERATION—LEVEL 3**

15 **[W] 505.1 Scope.** Level 3 alterations apply where the work area exceeds 50 percent of the  
16 ((aggregate)) floor area of the building.

17 \*\*\*

18 **((SECTION 508**

19 **HISTORIC BUILDINGS**

20 **508.1 Scope.** Historic building provisions shall apply to buildings classified as historic as  
21 defined in Chapter 2.

22 **508.2 Application.** Except as specifically provided for in Chapter 12, historic buildings shall  
23 comply with applicable provisions of this code for the type of work being performed.)

24 \*\*\*

1 Section 7. The following sections of Chapter 7 of the International Existing Building  
2 Code, 2012 Edition, are amended as follows:

3  
4 **CHAPTER 7**

5 **ALTERATIONS—LEVEL 1**

6 **SECTION 701**

7 **GENERAL**

8 **701.1 Scope.** Level 1 alterations as described in Section 503 shall comply with the requirements  
9 of this chapter. (~~Level 1 alterations to historic buildings shall comply with this chapter, except~~  
10 ~~as modified in Chapter 12.~~)

11 \*\*\*

12 **SECTION 702**

13 **BUILDING ELEMENTS AND MATERIALS**

14 \*\*\*

15 **702.4 Materials and methods.** All new work shall comply with the materials and methods  
16 requirements in the International Building Code, International Energy Conservation Code,  
17 International Mechanical Code, and (~~International~~) Uniform Plumbing Code, as applicable, that  
18 specify material standards, detail of installation and connection, joints, penetrations, and  
19 continuity of any element, component, or system in the building.

20 **[FG] 702.4.1 International Fuel Gas Code.** The following sections of the International Fuel  
21 Gas Code shall constitute the fuel gas materials and methods requirements for Level 1  
22 alterations.

- 23 1. All of Chapter 3, entitled "General Regulations," except Sections 303.7 and 306.  
24 2. All of Chapter 4, entitled "Gas Piping Installations," except Sections 401.8 and 402.3.  
25 2.1. Sections 401.8 and 402.3 shall apply when the work being performed increases  
26 the load on the system such that the existing pipe does not meet the size required

1 by code. Existing systems that are modified shall not require resizing as long as  
2 the load on the system is not increased and the system length is not increased even  
3 if the altered system does not meet code minimums.

4 3. All of Chapter 5, entitled "Chimneys and Vents."

5 4. All of Chapter 6, entitled "Specific Appliances."

6 \*\*\*

7 **SECTION 706**

8 **STRUCTURAL**

9 **[B] 706.1 General.** Where alteration work includes replacement of equipment that is supported  
10 by the building or where a reroofing permit is required, the provisions of this section and Section  
11 304.1 shall apply.

12 \*\*\*

13 ~~((**B] 706.3 Additional requirements for reroof permits.** The requirements of this section shall~~  
14 ~~apply to alteration work requiring reroof permits.~~

15 ~~**[B] 706.3.1 Bracing for unreinforced masonry bearing wall parapets.** Where a permit is~~  
16 ~~issued for reroofing for more than 25 percent of the roof area of a building assigned to~~  
17 ~~Seismic Design Category D, E or F that has parapets constructed of unreinforced masonry, the~~  
18 ~~work shall include installation of parapet bracing to resist the reduced International Building~~  
19 ~~Code level seismic forces as specified in Section 301.1.4.2 of this code, unless an evaluation~~  
20 ~~demonstrates compliance of such items.~~

21 ~~**[B] 706.3.2 Roof diaphragms resisting wind loads in high-wind regions.** Where roofing~~  
22 ~~materials are removed from more than 50 percent of the roof diaphragm or section of a~~  
23 ~~building located where the basic wind speed is greater than 90 mph or in a special wind~~  
24 ~~region, as defined in Section 1609 of the International Building Code, roof diaphragms,~~  
25 ~~connections of the roof diaphragm to roof framing members, and roof to wall connections~~



1 shall be evaluated for the wind loads specified in the International Building Code, including  
2 wind uplift. If the diaphragms and connections in their current condition are not capable of  
3 resisting at least 75 percent of those wind loads, they shall be replaced or strengthened in  
4 accordance with the loads specified in the International Building Code.))

5 ((SECTION 707

6 **ENERGY CONSERVATION**

7 **707.1 Minimum requirements.** Level 1 alterations to existing buildings or structures are  
8 permitted without requiring the entire building or structure to comply with the energy  
9 requirements of the International Energy Conservation Code or International Residential Code.  
10 The alterations shall conform to the energy requirements of the International Energy  
11 Conservation Code or International Residential Code as they relate to new construction only.))

12  
13 Section 8. The following sections of Chapter 8 of the International Existing Building  
14 Code, 2012 Edition, are amended as follows:

15 **CHAPTER 8**

16 **ALTERATIONS—LEVEL 2**

17 **SECTION 801**

18 **GENERAL**

19 \*\*\*

20 **801.3 Compliance.** All new construction elements, components, systems, and spaces shall  
21 comply with the requirements of the International Building Code.

22 **Exceptions:**

- 23 1. Windows may be added without requiring compliance with the light and ventilation  
24 requirements of the International Building Code.  
25  
26  
27  
28

1           ~~((2. Newly installed electrical equipment shall comply with the requirements of Section~~  
2           ~~808.))~~

3           3. The length of dead-end corridors in newly constructed spaces shall only be required to  
4           comply with the provisions of Section 805.6.

5           4. The minimum ceiling height of the newly created habitable and occupiable spaces and  
6           corridors shall be 7 feet (2134 mm).

7           5. Automatic sprinkler systems are required when new dwelling units are added to  
8           buildings according to Items 5.1 through 5.6 below. This exception is permitted to be  
9           used to add one unit over the life of the building.

10          5.1 One unit is permitted to be added to a residential or commercial building without  
11          an automatic sprinkler system unless sprinklers are otherwise required by this  
12          section. If more than one unit is added, the new units shall be equipped with a  
13          sprinkler system.

14          5.2 In buildings that do not comply with the provisions of this code for number of  
15          stories, allowable area, height or type of construction before the unit is added, an  
16          automatic sprinkler system shall be provided in the new unit. The addition of the  
17          new unit shall not be allowed if it increases the nonconformity.

18          5.3 In buildings undergoing substantial alteration, an automatic sprinkler system shall  
19          be installed where required by this code for new construction.

20          5.4 One unit is permitted to be added to an existing duplex without an automatic  
21          sprinkler system where both of the following conditions are met:

22                 5.4.1 The project is considered a substantial alteration only because of the change  
23                 in occupancy; and

24                 5.4.2 The building complies with the requirements for building height and number  
25                 of stories for a Group R-2 occupancy.  
26

1            5.5 Where one unit is added to an existing duplex, sprinklers are required in the new  
2            unit and not in the existing units where all of the following conditions are met:

3            5.5.1 The existing duplex does not comply with the requirements for building  
4            height and story count for a Group R-2 occupancy;

5            5.5.2 The project is considered a substantial alteration only because of the change  
6            in occupancy;

7            5.5.3 The new unit is constructed as an addition to the duplex;

8            5.5.4 The new unit is separated from the existing duplex by a fire wall; and

9            5.5.5 The addition by itself complies with the requirements for a Group R-2  
10           occupancy.

11           5.6 A sprinkler system is not required when a Group U occupancy that is accessory to  
12           a Group R-3 occupancy is converted to a dwelling unit.

13           6. Ceilings in basements are permitted to project to within 6 feet 8 inches (2032 mm) of  
14           the finished floor, and beams, girders, ducts or other obstructions are permitted to  
15           project to within 6 feet 4 inches (1931 mm) of the finished floor.

16           7. Ceiling height in buildings in existence prior to October 17, 1979, shall be permitted to  
17           comply with rules promulgated by the code official.

18           \*\*\*

19           **SECTION 804**

20           **FIRE PROTECTION**

21           **[W] 804.1 Scope.** The requirements of this section shall be limited to work areas in which Level  
22           2 alterations are being performed, and where specified they shall apply throughout the floor on  
23           which the work areas are located or otherwise beyond the work area.  
24

1     **Exception:** The fire code official may modify or waive the fire protection requirements for  
2     Level 2 alteration projects in which the fire protection requirements constitute an excessive  
3     burden.

4     **804.1.1 Corridor ratings.** Where an approved automatic sprinkler system is installed  
5     throughout the story, the required fire-resistance rating for any corridor located on the story  
6     shall be permitted to be reduced in accordance with the International Building Code. In order  
7     to be considered for a corridor rating reduction, such system shall provide coverage for the  
8     stairwell landings serving the floor and the intermediate landings immediately below.

9                                     \*\*\*

10    **804.4 Fire alarm and detection.** An approved fire alarm system shall be installed in accordance  
11    with Sections 804.4.1 through 804.4.3. Where automatic sprinkler protection is provided in  
12    accordance with Section 804.2 and is connected to the building fire alarm system, automatic heat  
13    detection shall not be required.

14    An approved automatic fire detection system shall be installed in accordance with the  
15    provisions of this code and NFPA 72. Devices, combinations of devices, appliances, and  
16    equipment shall be approved. The automatic fire detectors shall be smoke detectors, except that  
17    an approved alternative type of detector shall be installed in spaces such as boiler rooms, where  
18    products of combustion are present during normal operation in sufficient quantity to actuate a  
19    smoke detector.

20    **804.4.1 Occupancy requirements.** A fire alarm system shall be installed in accordance with  
21    Sections 804.4.1.1 through 804.4.1.7. Existing alarm-notification appliances shall be  
22    automatically activated throughout the building. Where the building is not equipped with a  
23    fire alarm system, alarm-notification appliances within the work area shall be provided and  
24    automatically activated.

25    **Exceptions:**

- 1 1. Occupancies with an existing, previously approved fire alarm system.
- 2 2. Where selective notification is permitted, alarm-notification appliances shall be
- 3 automatically activated in the areas selected.

4 **804.4.1.1 Group E.** A fire alarm system shall be installed in work areas of Group E  
5 occupancies as required by the International Fire Code for existing Group E occupancies.

6 **804.4.1.2 Group I-1.** A fire alarm system shall be installed in work areas of Group I-1  
7 residential care/assisted living facilities as required by the International Fire Code for  
8 existing Group I-1 occupancies.

9 **804.4.1.3 Group I-2.** A fire alarm system shall be installed in work areas of Group I-2  
10 occupancies as required by the International Fire Code for existing Group I-2  
11 occupancies.

12 **804.4.1.4 Group I-3.** A fire alarm system shall be installed in work areas of Group I-3  
13 occupancies as required by the International Fire Code for existing Group I-3  
14 occupancies.

15 **804.4.1.5 Group R-1.** A fire alarm system shall be installed in Group R-1 occupancies as  
16 required by the International Fire Code for existing Group R-1 occupancies.

17 **804.4.1.6 Group R-2.** A fire alarm system shall be installed in work areas of Group R-2  
18 apartment buildings as required by the International Fire Code for existing Group R-2  
19 occupancies.

20 ~~(804.4.1.7 Group R-4. A fire alarm system shall be installed in work areas of Group R-4  
21 residential care/assisted living facilities as required by the International Fire Code for  
22 existing Group R-4 occupancies.))~~

23 **804.4.2 Supplemental fire alarm system requirements.** Where the work area on any floor  
24 exceeds 50 percent of that floor area, Section 804.4.1 shall apply throughout the floor.

**Exception:** Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the work area.

**804.4.3 Smoke alarms.** Individual sleeping units and individual dwelling units in any work area in Group R and I-1 occupancies shall be provided with smoke alarms in accordance with the International Fire Code.

**Exception:** Interconnection of smoke alarms outside of the work area shall not be required.

**SECTION 805**  
**MEANS OF EGRESS**

\*\*\*

**805.3 Number of exits.** The number of exits shall be in accordance with Sections 805.3.1 through 805.3.3.

**805.3.1 Minimum number.** Every story utilized for human occupancy on which there is a work area that includes exits or corridors shared by more than one tenant within the work area shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the International Building Code. In addition, the exits shall comply with Sections 805.3.1.1 and 805.3.1.2.

**805.3.1.1 Single-exit buildings.** Only one exit is required from buildings and spaces of the following occupancies:

1. In Group A, B, E, F, M, U and S occupancies, a single exit is permitted in the story at the level of exit discharge when the occupant load of the story does not exceed 50 and the exit access travel distance does not exceed 75 feet (22 860 mm).
2. Group B, F-2, and S-2 occupancies not more than two stories in height that are not greater than 3,500 square feet per floor (326 m<sup>2</sup>), when the exit access travel distance

1 does not exceed 75 feet (22 860 mm). The minimum fire-resistance rating of the exit  
2 enclosure and of the opening protection shall be 1 hour.

- 3 3. Open parking structures where vehicles are mechanically parked.
- 4 4. In community residences for the developmentally disabled, the maximum occupant  
5 load excluding staff is 12.
- 6 5. Groups R-1 and R-2 not more than two stories in height, when there are not more  
7 than four dwelling units per floor and the exit access travel distance does not exceed  
8 50 feet (15 240 mm). The minimum fire-resistance rating of the exit enclosure and of  
9 the opening protection shall be 1 hour.

10 **Exception:** The exit access travel distance shall not be more than 125 feet (38 100  
11 mm) in buildings protected throughout with an approved automatic sprinkler  
12 system in accordance with Section 903.3.1.1 or 903.3.1.2.

- 13 6. In multilevel dwelling units in buildings of occupancy Group R-1 or R-2, an exit  
14 shall not be required from every level of the dwelling unit provided that one of the  
15 following conditions is met:
- 16 6.1. The travel distance within the dwelling unit does not exceed 75 feet (22 860  
17 mm); or
- 18 6.2. The building is not more than three stories in height and all third-floor space is  
19 part of one or more dwelling units located in part on the second floor; and no  
20 habitable room within any such dwelling unit shall have a travel distance that  
21 exceeds 50 feet (15 240 mm) from the outside of the habitable room entrance door  
22 to the inside of the entrance door to the dwelling unit.
- 23 7. In Group R-2, H-4, H-5 and I occupancies and in rooming houses and child care  
24 centers, a single exit is permitted in a one-story building with a maximum occupant  
25 load of 10 and the exit access travel distance does not exceed 75 feet (22 860 mm).
- 26  
27  
28

1 8. In buildings of Group R-2 occupancy that are equipped throughout with an automatic  
2 fire sprinkler system, a single exit shall be permitted from a basement or story below  
3 grade if every dwelling unit on that floor is equipped with an approved window  
4 providing a clear opening of at least 5 square feet (0.47 m<sup>2</sup>) in area, a minimum net  
5 clear opening of 24 inches (610 mm) in height and 20 inches (508 mm) in width, and  
6 a sill height of not more than 44 inches (1118 mm) above the finished floor.

7 9. In buildings of Group R-2 occupancy of any height with not more than four dwelling  
8 units per floor; with a smokeproof enclosure or outside stair as an exit; and with such  
9 exit located within 20 feet (6096 mm) of travel to the entrance doors to all dwelling  
10 units served thereby.

11 10. In buildings of Group R-3 occupancy equipped throughout with an automatic fire  
12 sprinkler system, only one exit shall be required from basements or stories below  
13 grade.

14 11. In Group R-2 and R-3 occupancies, one means of egress is permitted within and  
15 from individual dwelling units with a maximum occupant load of 20 where the  
16 dwelling unit is equipped throughout with an automatic sprinkler system in  
17 accordance with Section 903.3.1.1 or 903.3.1.2.

18 **805.3.1.2 Fire escapes ((required.))** Fire escapes shall not constitute any part of the  
19 required means of egress in new buildings. Existing fire escapes shall continue to be  
20 accepted as a component in the means of egress in existing buildings only. All fire  
21 escapes shall comply with the International Fire Code.

22 ~~((When more than one exit is required, an existing or newly constructed fire escape~~  
23 ~~complying with Section 805.3.1.2.1 shall be accepted as providing one of the required~~  
24 ~~means of egress.~~



1        **805.3.1.2.1 Fire escape access and details.** Fire escapes shall comply with all of the  
2 following requirements:

3            1. ~~Occupants shall have unobstructed access to the fire escape without having to pass~~  
4            ~~through a room subject to locking.~~

5            2. ~~Access to a new fire escape shall be through a door, except that windows shall be~~  
6            ~~permitted to provide access from single dwelling units or sleeping units in Group~~  
7            ~~R-1, R-2 and I-1 occupancies or to provide access from spaces having a maximum~~  
8            ~~occupant load of 10 in other occupancy classifications.~~

9            2.1. ~~The window shall have a minimum net clear opening of 5.7 square feet (0.53~~  
10            ~~m<sup>2</sup>) or 5 square feet (0.46 m<sup>2</sup>) where located at grade.~~

11            2.2. ~~The minimum net clear opening height shall be 24 inches (610 mm) and net~~  
12            ~~clear opening width shall be 20 inches (508 mm).~~

13            2.3. ~~The bottom of the clear opening shall not be greater than 44 inches (1118 mm)~~  
14            ~~above the floor.~~

15            2.4. ~~The operation of the window shall comply with the operational constraints of~~  
16            ~~the International Building Code.~~

17            3. ~~Newly constructed fire escapes shall be permitted only where exterior stairs cannot~~  
18            ~~be utilized because of lot lines limiting the stair size or because of the sidewalks,~~  
19            ~~alleys, or roads at grade level.~~

20            4. ~~Openings within 10 feet (3048 mm) of fire escape stairs shall be protected by fire~~  
21            ~~assemblies having minimum 3/4-hour fire resistance ratings.~~

22            **Exception:** ~~Opening protection shall not be required in buildings equipped~~  
23            ~~throughout with an approved automatic sprinkler system.~~

1           ~~5. In all buildings of Group E occupancy, up to and including the 12th grade,~~  
2           ~~buildings of Group I occupancy, rooming houses and child care centers, ladders of~~  
3           ~~any type are prohibited on fire escapes used as a required means of egress.~~

4           ~~**805.3.1.2.2 Construction.** The fire escape shall be designed to support a live load of~~  
5           ~~100 pounds per square foot (4788 Pa) and shall be constructed of steel or other approved~~  
6           ~~noncombustible materials. Fire escapes constructed of wood not less than nominal 2~~  
7           ~~inches (51 mm) thick are permitted on buildings of Type V construction. Walkways and~~  
8           ~~railings located over or supported by combustible roofs in buildings of Types III and IV~~  
9           ~~construction are permitted to be of wood not less than nominal 2 inches (51 mm) thick.~~

10          ~~**805.3.1.2.3 Dimensions.** Stairs shall be at least 22 inches (559 mm) wide with risers not~~  
11          ~~more than, and treads not less than, 8 inches (203 mm). Landings at the foot of stairs~~  
12          ~~shall not be less than 40 inches (1016 mm) wide by 36 inches (914 mm) long and~~  
13          ~~located not more than 8 inches (203 mm) below the door.))~~

14          **805.3.2 Mezzanines.** Mezzanines in the work area and with an occupant load of more than 50  
15          or in which the travel distance to an exit exceeds 75 feet (22 860 mm) shall have access to at  
16          least two independent means of egress.

17          **Exception:** Two independent means of egress are not required where the travel distance to  
18          an exit does not exceed 100 feet (30 480 mm) and the building is protected throughout with  
19          an automatic sprinkler system.

20          **805.3.3 Main entrance—Group A.** All buildings of Group A with an occupant load of 300  
21          or more shall be provided with a main entrance capable of serving as the main exit with an  
22          egress capacity of at least one-half of the total occupant load. The remaining exits shall be  
23          capable of providing one-half of the total required exit capacity.

1       **Exception:** Where there is no well-defined main exit or where multiple main exits are  
2       provided, exits shall be permitted to be distributed around the perimeter of the building  
3       provided that the total width of egress is not less than 100 percent of the required width.

4                       \*\*\*

5                       **SECTION 806**

6                       **ACCESSIBILITY**

7                       \*\*\*

8       **806.3 Accessible dwelling units and sleeping units.** Where Group I-1, I-2, I-3, R-1, or R-2 (~~or~~  
9       ~~R-4~~) dwelling or sleeping units are being added, the requirements of Section 1107 of the  
10      International Building Code for accessible units and Chapter 9 of the International Building  
11      Code for visible alarms apply only to the quantity of spaces being added.

12                      \*\*\*

13      **806.5 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, or R-3  
14      (~~or R-4~~) dwelling or sleeping units are being added, the requirements of Section 1107 of the  
15      International Building Code for Type B units and Chapter 9 of the International Building Code  
16      for visible alarms apply only to the quantity of the spaces being added.

17                      **SECTION 807**

18                      **STRUCTURAL**

19      **[B] 807.1 General.** Structural elements and systems within buildings undergoing Level 2  
20      alterations shall comply with this section and Section 304.

21                      \*\*\*

22      (~~[B] 807.4 Existing structural elements carrying gravity loads.~~ Alterations shall not reduce  
23      the capacity of existing gravity load-carrying structural elements unless it is demonstrated that  
24      the elements have the capacity to carry the applicable design gravity loads required by the  
25      International Building Code. Existing structural elements supporting any additional gravity loads

1 as a result of the alterations, including the effects of snow drift, shall comply with the  
2 International Building Code.

3 **Exceptions:**

- 4 1. Structural elements whose stress is not increased by more than 5 percent.  
5 2. Buildings of Group R occupancy with not more than five dwelling or sleeping units used  
6 solely for residential purposes where the existing building and its alteration comply with  
7 the conventional light frame construction methods of the International Building Code or  
8 the provisions of the International Residential Code.

9 ~~[B] 807.5 Existing structural elements resisting lateral loads.~~ Alterations affecting the  
10 demands or capacities of existing elements of the lateral load-resisting system shall be evaluated  
11 using the wind provisions of the International Building Code and the reduced IBC level seismic  
12 forces. Any existing lateral load-resisting structural elements whose demand-capacity ratio with  
13 the alteration considered is more than 10 percent greater than its demand-capacity ratio with the  
14 alteration ignored shall be brought into compliance with those wind and seismic provisions. In  
15 addition, the alteration shall not create a structural irregularity prohibited by ASCE 7 unless the  
16 entire structure complies with Section 301.1.4.2. For the purposes of this section, comparisons of  
17 demand-capacity ratios and calculation of design lateral loads, forces and capacity shall account  
18 for the cumulative effects of additions and alterations since the original construction.

19 ~~[B] 807.6 Voluntary lateral force-resisting system alterations.~~ Alterations of existing  
20 structural elements and additions of new structural elements that are initiated for the purpose of  
21 increasing the lateral force-resisting strength or stiffness of an existing structure and that are not  
22 required by other sections of this code shall not be required to be designed for forces conforming  
23 to the International Building Code, provided that an engineering analysis is submitted to show  
24 that:

- 25 1. The capacity of existing structural elements required to resist forces is not reduced;

2. ~~The lateral loading to existing structural elements is not increased either beyond its capacity or more than 10 percent;~~
3. ~~New structural elements are detailed and connected to the existing structural elements as required by the International Building Code;~~
4. ~~New or relocated nonstructural elements are detailed and connected to existing or new structural elements as required by the International Building Code; and~~
5. ~~A dangerous condition as defined in this code is not created. Voluntary alterations to lateral force-resisting systems conducted in accordance with Appendix A and the referenced standards of this code shall be permitted.))~~

((SECTION 808

**ELECTRICAL**

~~**808. New installations.** All newly installed electrical equipment and wiring relating to work done in any work area shall comply with the materials and methods requirements of Chapter 7.~~

~~**Exception:** Electrical equipment and wiring in newly installed partitions and ceilings shall comply with all applicable requirements of NFPA 70.~~

~~**808.2 Existing installations.** Existing wiring in all work areas in Group A-1, A-2, A-5, H and I occupancies shall be upgraded to meet the materials and methods requirements of Chapter 7.~~

~~**808.3 Residential occupancies.** In Group R-2, R-3 and R-4 occupancies and buildings regulated by the International Residential Code, the requirements of Sections 808.3.1 through 808.3.7 shall be applicable only to work areas located within a dwelling unit.~~

~~**808.3.1 Enclosed areas.** All enclosed areas, other than closets, kitchens, basements, garages, hallways, laundry areas, utility areas, storage areas and bathrooms shall have a minimum of two duplex receptacle outlets or one duplex receptacle outlet and one ceiling or wall-type lighting outlet.~~

~~**808.3.2 Kitchens.** Kitchen areas shall have a minimum of two duplex receptacle outlets.~~

1 ~~808.3.3 Laundry areas.~~ Laundry areas shall have a minimum of one duplex receptacle outlet  
2 located near the laundry equipment and installed on an independent circuit.

3 ~~808.3.4 Ground fault circuit interruption.~~ Newly installed receptacle outlets shall be  
4 provided with ground fault circuit interruption as required by NFPA 70.

5 ~~808.3.5 Minimum lighting outlets.~~ At least one lighting outlet shall be provided in every  
6 bathroom, hallway, stairway, attached garage, and detached garage with electric power, and to  
7 illuminate outdoor entrances and exits.

8 ~~808.3.6 Utility rooms and basements.~~ At least one lighting outlet shall be provided in utility  
9 rooms and basements where such spaces are used for storage or contain equipment requiring  
10 service.

11 ~~808.3.7 Clearance for equipment.~~ Clearance for electrical service equipment shall be  
12 provided in accordance with the NFPA 70.))

## 13 SECTION 809

### 14 MECHANICAL

15 ~~809.1 Mechanical systems.~~ Mechanical systems shall comply with the International Mechanical  
16 Code. ((Reconfigured or converted spaces. All reconfigured spaces intended for occupancy  
17 and all spaces converted to habitable or occupiable space in any work area shall be provided with  
18 natural or mechanical ventilation in accordance with the International Mechanical Code.

19 ~~Exception:~~ Existing mechanical ventilation systems shall comply with the requirements of  
20 Section 809.2.

21 ~~809.2 Altered existing systems.~~ In mechanically ventilated spaces, existing mechanical  
22 ventilation systems that are altered, reconfigured, or extended shall provide not less than 5 cubic  
23 feet per minute (cfm) (0.0024 m<sup>3</sup>/s) per person of outdoor air and not less than 15 cfm (0.0071  
24 m<sup>3</sup>/s) of ventilation air per person; or not less than the amount of ventilation air determined by  
25 the Indoor Air Quality Procedure of ASHRAE 62.

1 ~~809.3 Local exhaust.~~ All newly introduced devices, equipment, or operations that produce  
2 airborne particulate matter, odors, fumes, vapor, combustion products, gaseous contaminants,  
3 pathogenic and allergenic organisms, and microbial contaminants in such quantities as to affect  
4 adversely or impair health or cause discomfort to occupants shall be provided with local  
5 exhaust.))

6 **SECTION 810**

7 **PLUMBING**

8 **810.1 Minimum fixtures.** Where the occupant load of the story is increased by more than 20  
9 percent, plumbing fixtures for the story shall be provided in quantities specified in the  
10 International Building Code ((Plumbing Code)) based on the increased occupant load.

11 ~~((SECTION 811~~

12 ~~ENERGY CONSERVATION~~

13 ~~811.1 Minimum requirements.~~ Level 2 alterations to existing buildings or structures are  
14 permitted without requiring the entire building or structure to comply with the energy  
15 requirements of the International Energy Conservation Code or International Residential Code.  
16 The alterations shall conform to the energy requirements of the International Energy  
17 Conservation Code or International Residential Code as they relate to new construction only.))

18  
19 Section 9. The following sections of Chapter 9 of the International Existing Building  
20 Code, 2012 Edition, are amended as follows:  
21  
22  
23  
24  
25  
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28





1 **Exceptions:**

- 2 1. Furnace and boiler equipment of low-pressure type, operating at pressures of 15 pounds  
3 per square inch gauge (psig) (103.4 KPa) or less for steam equipment or 170 psig (1171  
4 KPa) or less for hot water equipment, when installed in accordance with manufacturer  
5 recommendations.
- 6 2. Furnace and boiler equipment of residential R-3 type with 200,000 British thermal units  
7 (Btu) ( $2.11 \times 10^8$  J) per hour input rating or less is not required to be enclosed.
- 8 3. Furnace rooms protected with automatic sprinkler protection.

9 **902.2.1 Emergency controls.** Emergency controls for ((~~boilers and~~)) furnace equipment  
10 shall be provided in accordance with the International Mechanical Code in all buildings  
11 classified as day nurseries, children's shelter facilities, residential childcare facilities, and  
12 similar facilities with children below the age of 2-1/2 years or that are classified as Group I-2  
13 occupancies, and in group homes, teaching family homes, and supervised transitional living  
14 homes in accordance with the following:

- 15 1. Emergency shutoff switches for furnaces ((~~and boilers~~)) in basements shall be located at  
16 the top of the stairs leading to the basement; and
- 17 2. Emergency shutoff switches for furnaces ((~~and boilers~~)) in other enclosed rooms shall be  
18 located outside of such room.

19 **SECTION 903**

20 **BUILDING ELEMENTS AND MATERIALS**

21 \*\*\*

22 **903.2 Fire partitions in Group R-3.** Fire separation in Group R-3 occupancies shall be in  
23 accordance with Section 903.2.1.

24 **903.2.1 Separation required.** Where the work area is in any attached dwelling unit in Group  
25 R-3 or any multiple single-family dwelling (townhouse), walls separating the dwelling units  
26

1 that are not continuous from the foundation to the underside of the roof sheathing shall be  
2 constructed to provide a continuous fire separation using construction materials consistent  
3 with the existing wall or complying with the requirements for new structures. All work shall  
4 be performed on the side of the dwelling unit wall that is part of the work area.

5 **Exception:** Where alterations (~~or repairs~~) do not result in the removal of wall or ceiling  
6 finishes exposing the structure, walls are not required to be continuous through concealed  
7 floor spaces.

8 \*\*\*

9 **SECTION 906**

10 **ACCESSIBILITY**

11 \*\*\*

12 **906.2 Type B dwelling or sleeping units.** Where four or more Group I-1, I-2, R-1, R-2, or R-3  
13 (~~or R-4~~) dwelling or sleeping units are being altered or added, the requirements of Section 1107  
14 of the International Building Code for Type B units and Chapter 9 of the International Building  
15 Code for visible alarms apply only to the quantity of the spaces being altered or added.

16 **SECTION 907**

17 **STRUCTURAL**

18 **[B] 907.1 General.** Where buildings are undergoing Level 3 alterations including structural  
19 alterations, the provisions of this section and Section 304 shall apply.

20 ~~[[B] 907.2 New structural elements. New structural elements shall comply with Section 807.2.~~

21 ~~[B] 907.3 Existing structural elements carrying gravity loads. Existing structural elements~~  
22 ~~carrying gravity loads shall comply with Section 807.4.~~

23 ~~[B] 907.4 Existing structural elements resisting lateral loads. All existing elements of the~~  
24 ~~lateral force resisting system shall comply with this section.~~

25 **Exceptions:**

1 1. Buildings of Group R occupancy with no more than five dwelling or sleeping units used  
2 solely for residential purposes that are altered based on the conventional light frame  
3 construction methods of the International Building Code or in compliance with the  
4 provisions of the International Residential Code.

5 2. Where such alterations involve only the lowest story of a building and the change of  
6 occupancy provisions of Chapter 10 do not apply, only the lateral force-resisting  
7 components in and below that story need comply with this section.))

8 **[B] 907.2 ((907.4.1)) Evaluation and analysis.** An engineering evaluation and analysis that  
9 establishes the structural adequacy of the gravity and lateral load-carrying elements of the altered  
10 structure shall be prepared by a registered design professional and submitted to the code official.  
11 The registered design professional shall submit to the code official a seismic evaluation report of  
12 the existing building based on one of the procedures specified in Section 304.4.2. This seismic  
13 evaluation report shall not be required for buildings in compliance with the benchmark building  
14 provisions of ASCE 31, Section 3.2.

15 ~~((**[B] 907.4.2 Substantial structural alteration.** Where more than 30 percent of the total~~  
16 ~~floor and roof areas of the building or structure have been or are proposed to be involved in~~  
17 ~~structural alteration within a five-year period, the evaluation and analysis shall demonstrate~~  
18 ~~that the altered building or structure complies with the International Building Code for wind~~  
19 ~~loading and with reduced IBC level seismic forces. The areas to be counted toward the 30~~  
20 ~~percent shall be those areas tributary to the vertical load-carrying components, such as joists,~~  
21 ~~beams, columns, walls and other structural components that have been or will be removed,~~  
22 ~~added or altered, as well as areas such as mezzanines, penthouses, roof structures and in-filled~~  
23 ~~courts and shafts.~~

1 ~~[B] 907.4.3 Limited structural alteration.~~ Where the work does not involve a substantial  
2 structural alteration, the existing elements of the lateral load-resisting system shall comply  
3 with Section 807.5.))

4 ~~[B] 907.3 ((907.4.4)) Wall anchors for concrete and masonry buildings.~~ For any building  
5 assigned to Seismic Design Category D, E or F with a structural system consisting of concrete  
6 or reinforced masonry walls with a flexible roof diaphragm or unreinforced masonry walls  
7 with any type of roof diaphragm, the alteration work shall include installation of wall anchors  
8 at the roof line to resist the reduced IBC-level seismic forces, unless an evaluation  
9 demonstrates compliance of existing wall anchorage.

10 ~~(([B] 907.4.5 Bracing for unreinforced masonry parapets. Parapets constructed of  
11 unreinforced masonry in buildings assigned to Seismic Design Category D, E or F shall have  
12 bracing installed as needed to resist the reduced IBC level seismic forces, unless an evaluation  
13 demonstrates compliance of such items.))~~

14 ~~((SECTION 908~~

15 ~~ENERGY CONSERVATION~~

16 ~~908.1 Minimum requirements.~~ Level 3 alterations to existing buildings or structures are  
17 permitted without requiring the entire building or structure to comply with the energy  
18 requirements of the International Energy Conservation Code or International Residential Code.  
19 The alterations shall conform to the energy requirements of the International Energy  
20 Conservation Code or International Residential Code as they relate to new construction only.))

21  
22 Section 10. The following sections of Chapter 10 of the International Existing Building  
23 Code, 2012 Edition, are amended as follows:  
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**CHAPTER 10**  
**CHANGE OF OCCUPANCY**  
**SECTION 1001**  
**GENERAL**

6  
7

**1001.1 Scope.** The provisions of this chapter shall apply where a change of occupancy occurs, as defined in Section 202, including:

- 8
1. Where the occupancy classification is not changed; or
  2. Where there is a change in occupancy classification or the occupancy group designation changes.

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**Note:** Changes of occupancy that are substantial alterations as determined by Section 303.1.1 are required to comply with Section 303.

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**1001.2 Change in occupancy with no change of occupancy classification.** A change in occupancy, as defined in Section 202, with no change of occupancy classification shall not be made to any structure that will subject the structure to any special provisions of the applicable International Codes, including the provisions of Sections 1002 through 1011, without the approval of the code official. A certificate of occupancy shall be issued where it has been determined that the requirements for the change in occupancy have been met.

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**1001.2.1 ((Repair and alteration)) Alteration with no change of occupancy classification.**  
Any ((repair or)) alteration work undertaken in connection with a change of occupancy that does not involve a change of occupancy classification shall conform to the applicable requirements for the work as classified in Chapter ((4)) 5 and to the requirements of Sections 1002 through 1011.

23

**((Exception: As modified in Section 1205 for historic buildings.))**

24

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1 **1001.4 Certificate of occupancy required.** A certificate of occupancy is required for changes in  
2 occupancy group, increases in the maximum occupant load in assembly occupancies, and  
3 changes in character of occupancy. ((shall be issued where a change of occupancy occurs that  
4 results in a different occupancy classification as determined by the International Building  
5 Code.))

6 \*\*\*

7 **SECTION 1007**

8 **STRUCTURAL**

9 **1007.1 Structural.** Buildings or portions thereof subject to a change of occupancy shall comply  
10 with Section 304.2.

11 ~~(( [B] 1007.1 Gravity loads. Buildings or portions thereof subject to a change of occupancy~~  
12 ~~where such change in the nature of occupancy results in higher uniform or concentrated loads~~  
13 ~~based on Table 1607.1 of the International Building Code shall comply with the gravity load~~  
14 ~~provisions of the International Building Code.~~

15 ~~**Exception:** Structural elements whose stress is not increased by more than 5 percent.~~

16 ~~[B] 1007.2 Snow and wind loads. Buildings and structures subject to a change of occupancy~~  
17 ~~where such change in the nature of occupancy results in higher wind or snow risk categories~~  
18 ~~based on Table 1604.5 of the International Building Code shall be analyzed and shall comply~~  
19 ~~with the applicable wind or snow load provisions of the International Building Code.~~

20 ~~**Exception:** Where the new occupancy with a higher risk category is less than or equal to 10~~  
21 ~~percent of the total building floor area. The cumulative effect of the area of occupancy~~  
22 ~~changes shall be considered for the purposes of this exception.~~

23 ~~[B] 1007.3 Seismic loads. Existing buildings with a change of occupancy shall comply with the~~  
24 ~~seismic provisions of Sections 1007.3.1 and 1007.3.2.~~

1 ~~[B] 1007.3.1 Compliance with the International Building Code level seismic forces.~~

2 ~~Where a building or portion thereof is subject to a change of occupancy that results in the~~  
3 ~~building being assigned to a higher risk category based on Table 1604.5 of the International~~  
4 ~~Building Code; or where such change of occupancy results in a reclassification of a building~~  
5 ~~to a higher hazard category as shown in Table 1012.4; or where a change of a Group M~~  
6 ~~occupancy to a Group A, E, I-1, R-1, R-2 or R-4 occupancy with two-thirds or more of the~~  
7 ~~floors involved in Level 3 alteration work, the building shall comply with the requirements for~~  
8 ~~International Building Code level seismic forces as specified in Section 301.1.4.1 for the new~~  
9 ~~risk category.~~

10 **Exceptions:**

- 11 1. ~~Group M occupancies being changed to Group A, E, I-1, R-1, R-2 or R-4 occupancies~~  
12 ~~for buildings less than six stories in height and in Seismic Design Category A, B or C.~~
- 13 2. ~~Where approved by the code official, specific detailing provisions required for a new~~  
14 ~~structure are not required to be met where it can be shown that an equivalent level of~~  
15 ~~performance and seismic safety is obtained for the applicable risk category based on~~  
16 ~~the provision for reduced International Building Code level seismic forces as specified~~  
17 ~~in Section 301.1.4.2.~~
- 18 3. ~~Where the area of the new occupancy with a higher hazard category is less than or~~  
19 ~~equal to 10 percent of the total building floor area and the new occupancy is not~~  
20 ~~classified as Risk Category IV. For the purposes of this exception, buildings occupied~~  
21 ~~by two or more occupancies not included in the same Risk category, shall be subject to~~  
22 ~~the provisions of Section 1604.5.1 of the International Building Code. The cumulative~~  
23 ~~effect of the area of occupancy changes shall be considered for the purposes of this~~  
24 ~~exception.~~

1           4. Unreinforced masonry bearing wall buildings in Risk Category III when assigned to  
2           Seismic Design Category A or B shall be allowed to be strengthened to meet the  
3           requirements of Appendix Chapter A1 of this code [Guidelines for the Seismic  
4           Retrofit of Existing Buildings (GSREB)].

5    ~~[B] 1007.3.2 Access to Risk Category IV.~~ Where a change of occupancy is such that  
6    compliance with Section 1007.3.1 is required and the building is assigned to Risk Category  
7    IV, the operational access to the building shall not be through an adjacent structure, unless  
8    that structure conforms to the requirements for Risk Category IV structures. Where  
9    operational access is less than 10 feet (3048 mm) from either an interior lot line or from  
10   another structure, access protection from potential falling debris shall be provided by the  
11   owner of the Risk Category IV structure.)

12   **((SECTION 1008**

13   **ELECTRICAL**

14    **1008.1 Special occupancies.** Where the occupancy of an existing building or part of an existing  
15    building is changed to one of the following special occupancies as described in NFPA 70, the  
16    electrical wiring and equipment of the building or portion thereof that contains the proposed  
17    occupancy shall comply with the applicable requirements of NFPA 70 whether or not a change  
18    of occupancy group is involved:

- 19        1. Hazardous locations.
- 20        2. Commercial garages, repair, and storage.
- 21        3. Aircraft hangars.
- 22        4. Gasoline dispensing and service stations.
- 23        5. Bulk storage plants.
- 24        6. Spray application, dipping, and coating processes.
- 25        7. Health care facilities.



1 ~~8. Places of assembly.~~

2 ~~9. Theaters, audience areas of motion picture and television studios, and similar locations.~~

3 ~~10. Motion picture and television studios and similar locations.~~

4 ~~11. Motion picture projectors.~~

5 ~~12. Agricultural buildings.~~

6 ~~**1008.2 Unsafe conditions.** Where the occupancy of an existing building or part of an existing~~  
7 ~~building is changed, all unsafe conditions shall be corrected without requiring that all parts of the~~  
8 ~~electrical system comply with NFPA 70.~~

9 ~~**1008.3 Service upgrade.** Where the occupancy of an existing building or part of an existing~~  
10 ~~building is changed, electrical service shall be upgraded to meet the requirements of NFPA 70~~  
11 ~~for the new occupancy.~~

12 ~~**1008.4 Number of electrical outlets.** Where the occupancy of an existing building or part of an~~  
13 ~~existing building is changed, the number of electrical outlets shall comply with NFPA 70 for the~~  
14 ~~new occupancy.))~~

15 **SECTION 1009**

16 **MECHANICAL**

17 ~~**1009.1 Mechanical requirements.** Mechanical equipment and systems shall comply with the~~  
18 ~~International Mechanical Code. ((Where the occupancy of an existing building or part of an~~  
19 ~~existing building is changed such that the new occupancy is subject to different kitchen exhaust~~  
20 ~~requirements or to increased mechanical ventilation requirements in accordance with the~~  
21 ~~International Mechanical Code, the new occupancy shall comply with ((the intent of)) the~~  
22 ~~respective International Mechanical Code provisions.))~~





1 portion shall comply with all of the requirements of Chapter 9 for the new occupancy  
2 classification and with the requirements of this chapter.

3 **1012.1.2 Fire protection and interior finish.** The provisions of Sections 1012.2 and 1012.3  
4 for fire protection and interior finish, respectively, shall apply to all buildings undergoing a  
5 change of occupancy classification.

6 **1012.1.3 Change of occupancy classification based on hazard category.** The relative  
7 degree of hazard between different occupancy classifications shall be determined in  
8 accordance with the categories specified in Tables 1012.4, 1012.5 and 1012.6. Such a  
9 determination shall be the basis for the application of Sections 1012.4 through 1012.7.

10 **1012.1.4 Accessibility.** All buildings undergoing a change of occupancy classification shall  
11 comply with Section 1012.8.

12 **1012.2 Fire protection systems.** Fire protection systems shall be provided in accordance with  
13 Sections 1012.2.1 and 1012.2.2.

14 **1012.2.1 Fire sprinkler system.** Where a change in occupancy classification occurs that  
15 requires an automatic fire sprinkler system to be provided based on the new occupancy in  
16 accordance with Chapter 9 of the International Building Code, such system shall be provided  
17 throughout the area where the change of occupancy occurs.

18 **Exception:** Subject to the approval of the code official, an automatic fire sprinkler system is  
19 not required in dwelling units according to Items 1 through 6 below. This exception is  
20 permitted to be used for the change in occupancy for one dwelling unit over the life of the  
21 building.

- 22 1. The occupancy of one unit is permitted to be changed to a dwelling unit without an  
23 automatic sprinkler system unless sprinklers are otherwise required by this chapter.  
24 If more than one unit is changed, the new units shall be equipped with a sprinkler  
25 system.

- 1           2.   In buildings that do not comply with the provisions of this code for number of  
2            stories, allowable area, height or type of construction before the occupancy of the  
3            unit is changed, an automatic sprinkler system shall be provided in the new unit.  
4            The change of occupancy shall not be allowed if it increases the nonconformity.
- 5           3.   In buildings undergoing substantial alteration, an automatic sprinkler system shall  
6            be installed where required by this code for new construction.
- 7           4.   The occupancy of one unit is permitted to be changed to a dwelling unit in an  
8            existing duplex without an automatic sprinkler system where both of the following  
9            conditions are met:
- 10           4.1.   The project is considered a substantial alteration only because of the change  
11            in occupancy; and
- 12           4.2.   The building complies with the requirements for building height and number  
13            of stories for a Group R-2 occupancy.
- 14           5.   Where the occupancy of one unit is changed to a dwelling unit in an existing  
15            duplex, sprinklers are required in the new unit and not in the existing units where all  
16            of the following conditions are met:
- 17           5.1.   The existing duplex does not comply with the requirements for building  
18            height and story count for a Group R-2 occupancy;
- 19           5.2.   The project is considered a substantial alteration only because of the change  
20            in occupancy;
- 21           5.3.   The new unit is constructed as an addition to the duplex;
- 22           5.4.   The new unit is separated from the existing duplex by a fire wall; and
- 23           5.5.   The addition by itself complies with the requirements for a Group R-2  
24            occupancy.





1 ~~**[B] 1103.3.1 Vertical addition.** Any element of the lateral force-resisting system of an~~  
2 ~~existing building subjected to an increase in vertical or lateral loads from the vertical addition~~  
3 ~~shall comply with the International Building Code wind provisions and the IBC level seismic~~  
4 ~~forces specified in Section 301.1.4.1 of this code.~~

5 ~~**[B] 1103.3.2 Horizontal addition.** Where horizontal additions are structurally connected to~~  
6 ~~an existing structure, all lateral force-resisting elements of the existing structure affected by~~  
7 ~~such addition shall comply with the International Building Code wind provisions and the IBC~~  
8 ~~level seismic forces specified in Section 301.1.4.1 of this code.~~

9 ~~**[B] 1103.3.3 Voluntary addition of structural elements to improve the lateral force-**~~  
10 ~~**resisting system.** Voluntary addition of structural elements to improve the lateral force-~~  
11 ~~resisting system of an existing building shall comply with Section 807.6.~~

12 ~~**[B] 1103.4 Snow drift loads.** Any structural element of an existing building subjected to~~  
13 ~~additional loads from the effects of snow drift as a result of an addition shall comply with the~~  
14 ~~International Building Code.~~

15 **Exceptions:**

- 16 1. ~~Structural elements whose stress is not increased by more than 5 percent.~~  
17 2. ~~Buildings of Group R occupancy with no more than five dwelling units or sleeping units~~  
18 ~~used solely for residential purposes where the existing building and the addition comply~~  
19 ~~with the conventional light-frame construction methods of the International Building~~  
20 ~~Code or the provisions of the International Residential Code.))~~

21 \*\*\*



1 ((SECTION 1106

2 ENERGY CONSERVATION

3 ~~1106.1 Minimum requirements. Additions to existing buildings shall conform to the energy~~  
4 ~~requirements of the International Energy Conservation Code or International Residential Code as~~  
5 ~~they relate to new construction.))~~

6 SECTION 1106

7 ADDITION OF DWELLING UNITS

8 1106.1 Automatic sprinkler systems. Automatic sprinkler systems are required when new  
9 dwelling units are added to buildings according to Items 1 through 5 below. This provision is  
10 permitted to be used to add one unit over the life of the building.

- 11 1. One unit is permitted to be added to a residential or commercial building without an  
12 automatic sprinkler system unless sprinklers are otherwise required by this section. If more  
13 than one unit is added, the new units shall be equipped with a sprinkler system.
- 14 2. In buildings that do not comply with the provisions of this code for number of stories,  
15 allowable area, height or type of construction before the unit is added, an automatic  
16 sprinkler system shall be provided in the new unit. The addition of the new unit shall not  
17 be allowed if it increases the nonconformity.
- 18 3. In buildings undergoing substantial alteration, an automatic sprinkler system shall be  
19 installed where required by this code for new construction.
- 20 4. One unit is permitted to be added to an existing duplex without an automatic sprinkler  
21 system where both of the following conditions are met:
- 22 4.1 The project is considered a substantial alteration only because of the change in  
23 occupancy; and
- 24 4.2 The building complies with the requirements for building height and number of  
25 stories for a Group R-2 occupancy.
- 26

1 5. Where one unit is added to an existing duplex, sprinklers are required in the new unit and  
2 not in the existing units where all of the following conditions are met:

3 5.1 The existing duplex does not comply with the requirements for building height and  
4 story count for a Group R-2 occupancy;

5 5.2 The project is considered a substantial alteration only because of the change in  
6 occupancy;

7 5.3 The new unit is constructed as an addition to the duplex;

8 5.4 The new unit is separated from the existing duplex by a fire wall; and

9 5.5 The addition by itself complies with the requirements for a Group R-2 occupancy.

10 **1106.1.1 Fire walls.** An existing nonconforming building to which an addition is made is  
11 permitted to exceed the height, number of stories and area specified for new buildings if a  
12 fire wall is provided, the existing building is not made more nonconforming, and the addition  
13 conforms to this code.

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15  
16 Section 12. The following sections of Chapter 13 of the International Existing Building  
17 Code, 2012 Edition, are amended as follows:

18 **CHAPTER 13**

19 **RELOCATED OR MOVED BUILDINGS**

20 **SECTION 1301**

21 **GENERAL**

22 **1301.1 Nonresidential buildings or structures.** Nonresidential buildings or structures moved  
23 into or within the city shall comply with standards adopted by the code official. The code  
24 official is authorized to require an inspection of the building before or after moving. The permit  
25 holder shall correct all deficiencies identified by the inspection. The code official is authorized  
26

1 to require that a bond or cash deposit in an amount sufficient to abate or demolish the building be  
2 posted prior to issuance of a permit. See Section 106 of the International Building Code for  
3 information required on plans. Any moved building that is not in complete compliance with  
4 standards for moved buildings within 18 months from the date of permit issuance and is found to  
5 be a public nuisance may be abated. Moved buildings and structures shall also comply with the  
6 International Energy Conservation Code.

7 **1301.2 Residential buildings or structures.** Residential buildings or structures moved into or  
8 within the city are not required to comply with all of the requirements of this code if the original  
9 occupancy classification of the building or structure is not changed. Compliance with all of the  
10 requirements of this chapter will be required if the moved residential buildings or structures  
11 undergo substantial alteration. Work performed on new and existing foundations shall comply  
12 with all of the requirements of this code for new construction.

13 ~~((1301.1 Scope. This chapter provides requirements for relocated or moved structures.~~

14 ~~**1301.2 Conformance.** The building shall be safe for human occupancy as determined by the~~  
15 ~~International Fire Code and the International Property Maintenance Code. Any repair, alteration,~~  
16 ~~or change of occupancy undertaken within the moved structure shall comply with the~~  
17 ~~requirements of this code applicable to the work being performed. Any field fabricated elements~~  
18 ~~shall comply with the requirements of the International Building Code or the International~~  
19 ~~Residential Code as applicable.))~~

20 **((SECTION 1302**

21 **REQUIREMENTS**

22 ~~**1302.1 Location on the lot.** The building shall be located on the lot in accordance with the~~  
23 ~~requirements of the International Building Code or the International Residential Code as~~  
24 ~~applicable.~~

1 ~~[B] 1302.2 Foundation.~~ The foundation system of relocated buildings shall comply with the  
2 International Building Code or the International Residential Code as applicable.

3 ~~[B] 1302.2.1 Connection to the foundation.~~ The connection of the relocated building to the  
4 foundation shall comply with the International Building Code or the International Residential  
5 Code as applicable.

6 ~~[B] 1302.3 Wind loads.~~ Buildings shall comply with International Building Code or  
7 International Residential Code wind provisions as applicable.

8 **Exceptions:**

- 9 1. ~~Detached one and two family dwellings and Group U occupancies where wind loads at~~  
10 ~~the new location are not higher than those at the previous location.~~  
11 2. ~~Structural elements whose stress is not increased by more than 10 percent.~~

12 ~~[B] 1302.4 Seismic loads.~~ Buildings shall comply with International Building Code or  
13 International Residential Code seismic provisions at the new location as applicable.

14 **Exceptions:**

- 15 1. ~~Structures in Seismic Design Categories A and B and detached one and two family~~  
16 ~~dwellings in Seismic Design Categories A, B and C where the seismic loads at the new~~  
17 ~~location are not higher than those at the previous location.~~  
18 2. ~~Structural elements whose stress is not increased by more than 10 percent.~~

19 ~~[B] 1302.5 Snow loads.~~ Structures shall comply with International Building Code or  
20 International Residential Code snow loads as applicable where snow loads at the new location  
21 are higher than those at the previous location.

22 **Exception:** ~~Structural elements whose stress is not increased by more than 5 percent.~~

23 ~~[B] 1302.6 Flood hazard areas.~~ If relocated or moved into a flood hazard area, structures shall  
24 comply with Section 1612 of the International Building Code.

1 ~~[B] 1302.7 Required inspection and repairs.~~ The code official shall be authorized to inspect, or  
2 to require approved professionals to inspect at the expense of the owner, the various structural  
3 parts of a relocated building to verify that structural components and connections have not  
4 sustained structural damage. Any repairs required by the code official as a result of such  
5 inspection shall be made prior to the final approval.))

6  
7 Section 13. The following sections of Chapter 14 of the International Existing Building  
8 Code, 2012 Edition, are amended as follows:

9  
10 **CHAPTER 14**

11 **PERFORMANCE COMPLIANCE METHODS**

12 **SECTION 1401**

13 **GENERAL**

14 ~~[B] 1401.1 Scope.~~ The provisions of this chapter shall apply to the alteration, ((repair,)) addition  
15 and change of occupancy of existing structures, including ((historic and)) moved structures, as  
16 referenced in Section 301.1.3. The provisions of this chapter are intended to maintain or increase  
17 the current degree of public safety, health and general welfare in existing buildings and  
18 structures while permitting ((repair,)) alteration, addition and change of occupancy without  
19 requiring full compliance with Chapters 4, 5, 7 through 11, and 13, except where compliance  
20 with other provisions of this code is specifically required in this chapter. Alterations, additions  
21 and changes of occupancy shall also comply with Chapter 3.

22 ~~[B] 1401.1.1 Compliance with other methods.~~ Alterations, ((repairs,)) additions and  
23 changes of occupancy to existing structures shall comply with the provisions of this chapter  
24 or with one of the methods provided in Section 301.1.

25 ~~[B] 1401.2 Applicability. ((Structures existing prior to [DATE TO BE INSERTED BY THE~~  
26 ~~JURISDICTION. NOTE: IT IS RECOMMENDED THAT THIS DATE COINCIDE WITH~~

1 ~~THE EFFECTIVE DATE OF BUILDING CODES WITHIN THE JURISDICTION]~~, in which  
2 ~~there is work involving additions;))~~ Additions, alterations ((~~or~~)) and changes of occupancy shall  
3 be made to conform to the requirements of this chapter or the provisions of Chapter 4 or  
4 Chapters 5, 7 through 11, and 13. The provisions of Sections 1401.2.1 through 1401.2.5 shall  
5 apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E,  
6 F, M, R and S. These provisions shall not apply to buildings with occupancies in Group H or I.

7 **[B] 1401.2.1 Change in occupancy.** Where an existing building is changed to a new  
8 occupancy classification and this section is applicable, the provisions of this section for the  
9 new occupancy shall be used to determine compliance with this code.

10 **[B] 1401.2.2 Partial change in occupancy.** Where a portion of the building is changed to a  
11 new occupancy classification and that portion is separated from the remainder of the building  
12 with fire barrier or horizontal assemblies having a fire-resistance rating as required by Table  
13 508.4 of the International Building Code or Section R317 of the International Residential  
14 Code for the separate occupancies, or with approved compliance alternatives, the portion  
15 changed shall be made to conform to the provisions of this section.

16 Where a portion of the building is changed to a new occupancy classification and that  
17 portion is not separated from the remainder of the building with fire barriers or horizontal  
18 assemblies having a fire-resistance rating as required by Table 508.4 of the International  
19 Building Code or Section R317 of the International Residential Code for the separate  
20 occupancies, or with approved compliance alternatives, the provisions of this section which  
21 apply to each occupancy shall apply to the entire building. Where there are conflicting  
22 provisions, those requirements which secure the greater public safety shall apply to the entire  
23 building or structure.

24 **[B] 1401.2.3 Additions.** Additions to existing buildings shall comply with the requirements  
25 of the International Building Code, International Residential Code, and this code for new  
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1 construction. The combined height and area of the existing building and the new addition  
2 shall not exceed the height and area allowed by Chapter 5 of the International Building Code.

3 Where a fire wall that complies with Section 706 of the International Building Code is  
4 provided between the addition and the existing building, the addition shall be considered a  
5 separate building.

6 **[B] 1401.2.4 Alterations ((and-repairs)).** An existing building or portion thereof that does  
7 not comply with the requirements of this code for new construction shall not be altered ((or  
8 repaired)) in such a manner that results in the building being less safe or sanitary than such  
9 building is currently. If, in the alteration ((or repair)), the current level of safety or sanitation  
10 is to be reduced, the portion altered ((or repaired)) shall conform to the requirements of  
11 Chapters 2 through 12 and Chapters 14 through 33 of the International Building Code.

12 **[B] 1401.2.5 Accessibility requirements.** All portions of the buildings proposed for change  
13 of occupancy shall conform to the accessibility provisions of Section 410.

14 **[B] 1401.3 Acceptance.** For ((repairs,)) alterations, additions, and changes of occupancy to  
15 existing buildings that are evaluated in accordance with this section, compliance with this section  
16 shall be accepted by the code official.

17 **[B] 1401.3.1 Hazards.** Where the code official determines that an unsafe condition exists as  
18 provided for in Section ((415)) 101.14, such unsafe condition shall be abated in accordance  
19 with Section ((415)) 101.14.

20 **[B] 1401.3.2 Compliance with other codes.** Buildings that are evaluated in accordance with  
21 this section shall comply with Chapter 3 ((the International Fire Code and International  
22 Property Maintenance Code)).

23 **[B] 1401.3.3 Compliance with flood hazard provisions.** In flood hazard areas, buildings  
24 that are evaluated in accordance with this section shall comply with Section 1612 of the  
25  
26  
27  
28

1 International Building Code if the work covered by this section constitutes substantial  
2 improvement.

3 **[B] 1401.4 Investigation and evaluation.** For proposed work covered by this chapter, the  
4 building owner shall cause the existing building to be investigated and evaluated in accordance  
5 with the provisions of Sections 1401.4 through 1401.9.

6 ~~**[B] 1401.4.1 Structural ((analysis. The owner shall have a structural analysis of the existing**~~  
7 ~~building made to determine adequacy of structural systems for the proposed alteration,~~  
8 ~~addition or change of occupancy. The analysis shall demonstrate that the building with the~~  
9 ~~work completed is capable of resisting the loads specified in Chapter 16 of the International~~  
10 ~~Building Code.))~~ Alterations, additions and changes of occupancy to existing structures shall  
11 comply with Section 304.

12 **[B] 1401.4.2 Submittal.** The results of the investigation and evaluation as required in Section  
13 1401.4, along with proposed compliance alternatives, shall be submitted to the code official.

14 **[B] 1401.4.3 Determination of compliance.** The code official shall determine whether the  
15 existing building, with the proposed addition, alteration, or change of occupancy, complies  
16 with the provisions of this section in accordance with the evaluation process in Sections  
17 1401.5 through 1401.9.

18 \*\*\*

19  
20 Section 14. The following sections of Chapter 15 of the International Existing Building  
21 Code, 2012 Edition, are amended as follows:



1                                   **CHAPTER 15**  
2                                   **CONSTRUCTION SAFEGUARDS**  
3                                   **SECTION 1501**  
4                                   **GENERAL**

5                                   \*\*\*

6 **[B] 1501.3 Alterations, ((repairs)) and additions.** Required exits, existing structural elements,  
7 fire protection devices and sanitary safeguards shall be maintained at all times during alterations,  
8 ((repairs,)) or additions to any building or structure.

9           **Exceptions:**

- 10           1. Where such required elements or devices are being altered ((or repaired)), adequate  
11           substitute provisions shall be made.  
12           2. Maintenance of such elements and devices is not required when ((When)) the existing  
13           building is not occupied.

14                                   \*\*\*

15 **[B] 1501.6 Protection of pedestrians.** The protection of the public and of the sidewalks, streets  
16 and other public property during construction or demolition shall be provided as required by the  
17 Street Use Ordinance, Seattle Municipal Code Title 15. ((Pedestrians shall be protected during  
18 construction and demolition activities as required by Sections 1501.6.1 through 1501.6.7 and  
19 Table 1501.6. Signs shall be provided to direct pedestrian traffic. ))

((TABLE 1501.6

**PROTECTION OF PEDESTRIANS**

HEIGHT OF CONSTRUCTION	DISTANCE OF CONSTRUCTION TO LOT LINE	TYPE OF PROTECTION REQUIRED
8 feet or less	Less than 5 feet	Construction railings
	5 feet or more	None
More than 8 feet	Less than 5 feet	Barrier and covered walkway
	5 feet or more, but not more than one-fourth the height of construction	Barrier and covered walkway
	5 feet or more, but between one-fourth and one-half the height of construction	Barrier
	5 feet or more, but exceeding one-half the height of construction	None

For SI: 1 foot = 304.8 mm.

~~[B] 1501.6.1 Walkways.~~ A walkway shall be provided for pedestrian travel in front of every construction and demolition site unless the applicable governing authority authorizes the sidewalk to be fenced or closed. Walkways shall be of sufficient width to accommodate the pedestrian traffic, but in no case shall they be less than 4 feet (1219 mm) in width. Walkways shall be provided with a durable walking surface. Walkways shall be accessible in accordance with Chapter 11 of the International Building Code and shall be designed to support all imposed loads and in no case shall the design live load be less than 150 pounds per square foot (psf) (7.2 kN/m<sup>2</sup>).

~~[B] 1501.6.2 Directional barricades.~~ Pedestrian traffic shall be protected by a directional barricade where the walkway extends into the street. The directional barricade shall be of sufficient size and construction to direct vehicular traffic away from the pedestrian path.

~~[B] 1501.6.3 Construction railings.~~ Construction railings shall be not less than 42 inches (1067 mm) in height and shall be sufficient to direct pedestrians around construction areas.

1 ~~[B] 1501.6.4 Barriers.~~ Barriers shall be a minimum of 8 feet (2438 mm) in height and shall be  
2 placed on the side of the walkway nearest the construction. Barriers shall extend the entire length  
3 of the construction site. Openings in such barriers shall be protected by doors which are normally  
4 kept closed.

5 ~~[B] 1501.6.4.1 Barrier design.~~ Barriers shall be designed to resist loads required in Chapter 16  
6 of the International Building Code unless constructed as follows:

7 1. Barriers shall be provided with 2 x 4 top and bottom plates.

8 2. The barrier material shall be a minimum of 3/4 inch (19.1 mm) boards or 1/4 inch (6.4  
9 mm) wood structural use panels.

10 3. ~~Wood structural use panels shall be bonded with an adhesive identical to that for exterior~~  
11 ~~wood structural use panels.~~

12 4. ~~Wood structural use panels 1/4 inch (6.4 mm) or 1/16 inch (23.8 mm) in thickness shall~~  
13 ~~have studs spaced not more than 2 feet (610 mm) on center.~~

14 5. ~~Wood structural use panels 3/8 inch (9.5 mm) or 1/2 inch (12.7 mm) in thickness shall have~~  
15 ~~studs spaced not more than 4 feet (1219 mm) on center, provided a 2 inch by 4 inch (51~~  
16 ~~mm by 102 mm) stiffener is placed horizontally at mid-height where the stud spacing~~  
17 ~~exceeds 2 feet (610 mm) on center.~~

18 6. ~~Wood structural use panels 5/8 inch (15.9 mm) or thicker shall not span over 8 feet (2438~~  
19 ~~mm).~~

20 ~~[B] 1501.6.5 Covered walkways.~~ Covered walkways shall have a minimum clear height of 8  
21 feet (2438 mm) as measured from the floor surface to the canopy overhead. Adequate lighting  
22 shall be provided at all times. Covered walkways shall be designed to support all imposed loads.  
23 In no case shall the design live load be less than 150 psf (7.2 kN/m<sup>2</sup>) for the entire structure.

24 **Exception:** Roofs and supporting structures of covered walkways for new, light frame  
25 construction not exceeding two stories above grade plane are permitted to be designed for a  
26

1 live load of 75 psf (3.6kN/m<sup>2</sup>) or the loads imposed on them, whichever is greater. In lieu of  
2 such designs, the roof and supporting structure of a covered walkway are permitted to be  
3 constructed as follows:

- 4 1. Footings shall be continuous 2 x 6 members.
- 5 2. Posts not less than 4 x 6 shall be provided on both sides of the roof and spaced not more  
6 than 12 feet (3658 mm) on center.
- 7 3. Stringers not less than 4 x 12 shall be placed on edge upon the posts.
- 8 4. Joists resting on the stringers shall be at least 2 x 8 and shall be spaced not more than 2  
9 feet (610 mm) on center.
- 10 5. The deck shall be planks at least 2 inches (51 mm) thick or wood structural panels with  
11 an exterior exposure durability classification at least 23/32 inch (18.3 mm) thick nailed  
12 to the joists.
- 13 6. Each post shall be knee braced to joists and stringers by 2 x 4 members 4 feet (1219  
14 mm) long.
- 15 7. A 2 x 4 minimum curb shall be set on edge along the outside edge of the deck.

16 **[B] 1501.6.6 Repair, maintenance and removal.** Pedestrian protection required by Section  
17 1501.6 shall be maintained in place and kept in good order for the entire length of time  
18 pedestrians may be endangered. The owner or the owner's agent, upon the completion of the  
19 construction activity, shall immediately remove walkways, debris and other obstructions and  
20 leave such public property in as good a condition as it was before such work was commenced.

21 **[B] 1501.6.7 Adjacent to excavations.** Every excavation on a site located 5 feet (1524 mm) or  
22 less from the street lot line shall be enclosed with a barrier not less than 6 feet (1829 mm) high.  
23 Where located more than 5 feet (1524 mm) from the street lot line, a barrier shall be erected  
24 where required by the code official. Barriers shall be of adequate strength to resist wind pressure  
25 as specified in Chapter 16 of the International Building Code.))

1 **[B] 1501.7 Facilities required.** Sanitary facilities shall be provided during construction or  
2 demolition activities in accordance with the ((International)) Uniform Plumbing Code.

## 3 SECTION 1502

### 4 PROTECTION OF ADJOINING PROPERTY

5 **[B] 1502.1 Protection required.** Adjoining public and private property shall be protected from  
6 damage during construction and demolition work. Protection shall be provided for footings,  
7 foundations, party walls, chimneys, skylights and roofs. Provisions shall be made to control  
8 water runoff and erosion during construction or demolition activities. ~~((The person making or  
9 causing an excavation to be made shall provide written notice to the owners of adjoining  
10 buildings advising them that the excavation is to be made and that the adjoining buildings should  
11 be protected. Said notification shall be delivered not less than 10 days prior to the scheduled  
12 starting date of the excavation.))~~ When the existing grade of a site is altered by filling,  
13 excavating, dredging or moving of earth materials, the owner shall protect all adjoining property  
14 during construction from encroachment or collapse by sloping the sides of the temporary grading  
15 at a slope that is safe and not more than one horizontal to one vertical. In addition, adjoining  
16 property shall be protected from encroachment or collapse by sloping the sides of the permanent  
17 grading at a slope not greater than two horizontal to one vertical. The code official is authorized  
18 to approve temporary or permanent slopes that are steeper based on a design by an experienced  
19 geotechnical engineer.

20 In areas of known unsuitable soils, the code official is authorized to require slopes that are  
21 less steep to assure protection of adjoining property.

## 22 SECTION 1503

### 23 TEMPORARY USE OF STREETS, ALLEYS AND PUBLIC PROPERTY

24 **[B] 1503.1 General.** Temporary use of streets, alleys and public property shall comply with the  
25 Street Use Ordinance, Seattle Municipal Code Title 15. ~~((Storage and handling of materials.~~

1 The temporary use of streets or public property for the storage or handling of materials or  
2 equipment required for construction or demolition, and the protection provided to the public shall  
3 comply with the provisions of the applicable governing authority and this chapter.

4 ~~[B] 1503.2 Obstructions.~~ Construction materials and equipment shall not be placed or stored  
5 so as to obstruct access to fire hydrants, standpipes, fire or police alarm boxes, catch basins or  
6 manholes, nor shall such material or equipment be located within 20 feet (6.1 m) of a street  
7 intersection, or placed so as to obstruct normal observations of traffic signals or to hinder the  
8 use of public transit loading platforms.

9 ~~[B] 1503.3 Utility fixtures.~~ Building materials, fences, sheds or any obstruction of any kind shall  
10 not be placed so as to obstruct free approach to any fire hydrant, fire department connection,  
11 utility pole, manhole, fire alarm box or catch basin, or so as to interfere with the passage of water  
12 in the gutter. Protection against damage shall be provided to such utility fixtures during the  
13 progress of the work, but sight of them shall not be obstructed.))

14 \*\*\*

15 SECTION 1505

16 MEANS OF EGRESS

17 \*\*\*

18 [F] 1505.2 Maintenance of means of egress. Required means of egress shall be maintained at  
19 all times during construction, demolition, remodeling or alterations and additions to any  
20 building.

21 **Exception:** Existing means of egress need not be maintained where approved ((Approved))  
22 temporary means of egress systems and facilities are provided.

23 \*\*\*

**SECTION 1507**

**AUTOMATIC SPRINKLER SYSTEM**

**[F] 1507.1 Completion before occupancy.** In portions of a building where an automatic sprinkler system is required by this code, it shall be unlawful to occupy those portions of the building until the automatic sprinkler system installation has been tested and approved, ~~((except as provided in Section 110.3))~~ unless approved by the code official.

\*\*\*

**SECTION 1510**

**DEMOLITION**

**1510.1 Construction documents.** Construction documents and a schedule for demolition shall be submitted where required by the code official. Where such information is required, no work shall be done until such construction documents or schedule, or both, are approved.

**1510.2 Pedestrian protection.** The work of demolishing any building shall not be commenced until pedestrian protection is in place as required by this chapter and the Street Use Ordinance, Seattle Municipal Code Title 15.

**1510.3 Means of egress.** A horizontal exit shall not be destroyed unless and until a substitute means of egress has been provided and approved.

**1510.4 Surface condition and fill.** The site shall be left level and free of debris upon completion of demolition, and all holes shall be filled or protected with secure fences. Holes are permitted to be filled with concrete, rocks or other nondecaying material no larger than 12 inches (305 mm) in diameter. Wood and other organic material shall not be buried on the site.

Leaving the site level means:

1. The grade conforms to that existing on all sides;
2. Surface water will drain off;
3. Surface is smooth; and

1 4. Broken sections of the foundation or other material are not exposed.

2 The site shall be seeded upon completion of the demolition if it is to be left vacant for more  
3 than 6 months.

4 **1510.5 Water accumulation.** Provision shall be made to prevent the accumulation of water or  
5 damage to any foundations on the premises or the adjoining property.

6 **1510.6 Utility connections.** Service utility connections shall be discontinued and capped in  
7 accordance with requirements of the governing utility or agency including, but not limited to,  
8 Seattle Public Utilities, Seattle Department of Transportation, Seattle Fire Department, Seattle  
9 City Light, Puget Sound Energy and Qwest Communications.

10 **1510.7 Fire safety during demolition.** Fire safety during demolition shall comply with the  
11 applicable requirements of this code and the applicable provisions of Chapter 56 of the  
12 International Fire Code.

13 **1510.8 Removal of hazardous and combustible materials.** All asbestos and other hazardous  
14 material shall be removed prior to demolition, in accordance with regulations of the  
15 Environmental Protection Agency, the Puget Sound Clean Air Agency and other pertinent  
16 agencies. Combustible waste shall be removed in accordance with the Fire Code. During  
17 demolition, streets and sidewalks shall be left clean at the end of each day's operation.

18 **1510.9 Welding and cutting.** Welding and cutting shall be performed in accordance with the  
19 International Fire Code.

20 **1510.10 Erosion and sediment control.** Provision shall be made to stabilize ground conditions  
21 to eliminate dust and erosion. Demolition sites shall comply with the Seattle Stormwater Code,  
22 Seattle Municipal Code (SMC) Title 22, Subtitle VIII, and the Seattle Grading Code, SMC  
23 Chapter 22.170.

24 **1510.11 Drainage.** If the demolition will result in a change of drainage patterns, the flow of all  
25 watercourses, including streams, ditches, drains, combined sewers and runoff, intercepted during



1 the progress of the work, shall be returned to the condition present before the demolition or as  
2 specified on the permit, and in accordance with the Seattle Stormwater Code and Seattle Grading  
3 Code, SMC Title 22, Subtitle VIII, and SMC Chapter 22.170, respectively.

4 **1510.12 Foundations and footings.** All concrete or masonry floors, foundations, footings,  
5 basement walls and retaining walls not to be reused shall be removed to 18 inches (457 mm)  
6 below final grade. All concrete floors left in place shall be broken so as to allow water to drain  
7 through unless the floors are to be used.

8 **1510.13 Engineer's report.** The code official is permitted to require a structural engineer's  
9 analysis of proposed demolition or any portions of a structure remaining after demolition.

10 **1510.14 Underground tanks.** When demolition occurs, all underground tanks on the site shall  
11 either be removed or filled, as required by the International Fire Code.

## **SECTION 1511**

### **SITE WORK**

14 **1511.1 Excavation and fill.** Excavation and fill for buildings and structures shall be constructed  
15 or protected so as not to endanger life or property. Stumps and roots shall be removed from the  
16 soil to a depth of not less than 12 inches (305 mm) below the surface of the ground in the area to  
17 be occupied by the building. Wood forms which have been used in placing concrete, if within the  
18 ground or between foundation sills and the ground, shall be removed before a building is  
19 occupied or used for any purpose. Before completion, loose or casual wood shall be removed  
20 from direct contact with the ground under the building.

21 **1511.1.1 Slope limits.** Slopes for permanent fill shall be not steeper than one unit vertical in  
22 two units horizontal (50-percent slope). Cut slopes for permanent excavations shall be not  
23 steeper than one unit vertical in two units horizontal (50-percent slope). Deviation from the  
24 foregoing limitations shall be permitted only upon the presentation of a soil investigation  
25 report acceptable to the code official.

1 **1511.1.2 Surcharge.** No fill or other surcharge loads shall be placed adjacent to any building  
2 or structure unless such building or structure is capable of withstanding the additional loads  
3 caused by the fill or surcharge. Existing footings or foundations which can be affected by any  
4 excavation shall be underpinned adequately or otherwise protected against settlement and  
5 shall be protected against later movement.

6 **1511.1.3 Fill supporting foundations.** Fill to be used to support the foundations of any  
7 building or structure shall comply with International Building Code Section 1804.5. Special  
8 inspections of compacted fill shall be in accordance with International Building Code Section  
9 1705.6.

## 10 SECTION 1512

### 11 CONSTRUCTION MATERIAL MANAGEMENT

12 **1512.1 Storage and handling of materials.** Materials stored and handled on site during  
13 construction shall comply with the manufacturer's printed instructions. Where manufacturer's  
14 printed instructions are not available, approved standards or guidelines shall be followed.

15 **1512.2 Construction phase moisture control.** Porous or fibrous materials and other materials  
16 subject to moisture damage shall be protected from moisture during construction. Material  
17 damaged by moisture or that is visibly colonized by fungi either prior to delivery or during  
18 construction shall be cleaned and dried or, where damage cannot be corrected by such means,  
19 shall be removed and replaced.

20 \*\*\*

21 Section 15. The following sections of Appendix Chapter A1 of the International Existing  
22 Building Code, 2012 Edition, are amended as follows:

1                   **Appendix A: Guidelines for the Seismic Retrofit of Existing Buildings**

2   **CHAPTER A1**

3                   **SEISMIC STRENGTHENING PROVISIONS FOR UNREINFORCED MASONRY**

4   **BEARING WALL BUILDINGS**

5   \*\*\*

6   **SECTION A103**

7   **DEFINITIONS**

8   \*\*\*

9  
10 **[B] POINTING.** ~~((The partial reconstruction of the bed joints of an unreinforced masonry wall~~  
11 ~~as defined in UBC Standard 21-8.))~~ The process of removal of deteriorated mortar from between  
12 masonry units and placement of new mortar. Also known as repointing or tuckpointing for  
13 purposes of this chapter.

14 **REPOINTING.** See Pointing.

15   \*\*\*

16 **TUCKPOINTING.** See Pointing.

17   \*\*\*

18   **SECTION A104**

19   **SYMBOLS AND NOTATIONS**

20 For the purpose of this chapter, the following notations supplement the applicable symbols and  
21 notations in the building code.

22   \*\*\*

23  $V_{test}$  = Load at incipient cracking for each in-place shear test ((per UBC Standard 21-6))  
24 performed in accordance with Section A106.3.3.1, pounds (kN).

25   \*\*\*

**SECTION A105**

**GENERAL REQUIREMENTS**

\*\*\*

**[B] A105.3 Requirements for plans.** The following construction information shall be included in the plans required by this chapter:

1. Dimensioned floor and roof plans showing existing walls and the size and spacing of floor and roof-framing members and sheathing materials. The plans shall indicate all existing and new crosswalls and shear walls and their materials of construction. The location of these walls and their openings shall be fully dimensioned and drawn to scale on the plans.
2. Dimensioned wall elevations showing openings, piers, wall classes as defined in Section A106.3.3.8, thickness, heights, wall shear test locations, cracks or damaged portions requiring repairs, the general condition of the mortar joints, and if and where pointing is required. Where the exterior face is veneer, the type of veneer, its thickness and its bonding and/or ties to the structural wall masonry shall also be noted.
3. The type of interior wall and ceiling materials, and framing.
4. The extent and type of existing wall anchorage to floors and roof when used in the design.
5. The extent and type of parapet corrections that were previously performed, if any.
6. Repair details, if any, of cracked or damaged unreinforced masonry walls required to resist forces specified in this chapter.
7. All other plans, sections and details necessary to delineate required retrofit construction.
8. The design procedure used shall be stated on both the plans and the permit application.
9. Details of the anchor prequalification program required by ~~((UBC Standard 21-7))~~ Section A107.5.3, if used, including location and results of all tests.

\*\*\*

## SECTION A106

### MATERIALS REQUIREMENTS

\*\*\*

**[B] A106.2 Existing materials.** Existing materials used as part of the required vertical load-carrying or lateral force-resisting system shall be in sound condition, or shall be repaired or removed and replaced with new materials. All other unreinforced masonry materials shall comply with the following requirements:

1. The lay-up of the masonry units shall comply with Section A106.3.2, and the quality of bond between the units has been verified to the satisfaction of the ~~((building-official))~~ code official;
2. Concrete masonry units are verified to be load-bearing units complying with ~~((UBC Standard 21-4))~~ ASTM C90 or such other standard as is acceptable to the ~~((building offieial))~~ code official; and
3. The compressive strength of plain concrete walls shall be determined based on cores taken from each class of concrete wall. The location and number of tests shall be the same as those prescribed for tensile-splitting strength tests in Sections A106.3.3.3 and A106.3.3.4, or in Section A108.1.

The use of materials not specified herein or in Section A108.1 shall be based on substantiating research data or engineering judgment, with the approval of the ~~((building offieial))~~ code official.

#### **[B] A106.3 Existing unreinforced masonry.**

**[B] A106.3.1 General.** Unreinforced masonry walls used to carry vertical loads or seismic forces parallel and perpendicular to the wall plane shall be tested as specified in this section. All masonry that does not meet the minimum standards established by this chapter shall be

1 removed and replaced with new materials, or alternatively, shall have its structural functions  
2 replaced with new materials and shall be anchored to supporting elements.

3 **[B] A106.3.2 Lay-up of walls.**

4 **[B] A106.3.2.1 Multiwythe solid brick.** The facing and backing shall be bonded so that  
5 not less than 10 percent of the exposed face area is composed of solid headers extending  
6 not less than 4 inches (102 mm) into the backing. The clear distance between adjacent  
7 full-length headers shall not exceed 24 inches (610 mm) vertically or horizontally. Where  
8 the backing consists of two or more wythes, the headers shall extend not less than 4  
9 inches (102 mm) into the most distant wythe, or the backing wythes shall be bonded  
10 together with separate headers with their area and spacing conforming to the foregoing.  
11 Wythes of walls not bonded as described above shall be considered veneer. Veneer  
12 wythes shall not be included in the effective thickness used in calculating the height-to-  
13 thickness ratio and the shear capacity of the wall.

14 **Exception:** Where  $S_{DI}$  is not more than 0.3, (~~Veneer~~) veneer wythes anchored as  
15 specified in the building code and made composite with backup masonry may be used  
16 for calculation of the effective thickness(~~(- where  $S_{DI}$  exceeds 0.3)~~).

17 **[B] A106.3.2.2 Grouted or ungrouted hollow concrete or clay block and structural**  
18 **hollow clay tile.** Grouted or ungrouted hollow concrete or clay block and structural  
19 hollow clay tile shall be laid in a running bond pattern.

20 **[B] A106.3.2.3 Other lay-up patterns.** Lay-up patterns other than those specified in  
21 Sections A106.3.2.1 and A106.3.2.2 above are allowed if their performance can be  
22 justified.

23 **[B] A106.3.3 Testing of masonry.**

24 **[B] A106.3.3.1 Mortar tests.** The quality of mortar in all masonry walls shall be  
25 determined by performing in-place shear tests in accordance with the following:  
26  
27  
28

1. The bed joints of the outer wythe of the masonry ((~~should~~)) shall be tested in shear by laterally displacing a single brick relative to the adjacent bricks in the same wythe. The head joint opposite the loaded end of the test brick ((~~should~~)) shall be carefully excavated and cleared. The brick adjacent to the loaded end of the test brick ((~~should~~)) shall be carefully removed by sawing or drilling and excavating to provide space for a hydraulic ram and steel loading blocks. Steel blocks, the size of the end of the brick, ((~~should~~)) shall be used on each end of the ram to distribute the load to the brick. The blocks ((~~should~~)) shall not contact the mortar joints. The load ((~~should~~)) shall be applied horizontally, in the plane of the wythe. The load recorded at first movement of the test brick as indicated by spalling of the face of the mortar bed joints is  $V_{test}$  in Equation A1-3.
2. Alternative procedures for testing shall be used where in-place testing is not practical because of crushing or other failure mode of the masonry unit (see Section A106.3.3.2).

**[B] A106.3.3.2 Alternative procedures for testing masonry.** The tensile-splitting strength of existing masonry,  $f_{sp}$ , or the prism strength of existing masonry,  $f'_m$ , may be determined in accordance with one of the following procedures:

1. Wythes of solid masonry units shall be tested by sampling the masonry by drilled cores of not less than 8 inches (203 mm) in diameter. A bed joint intersection with a head joint shall be in the center of the core. The tensile-splitting strength of these cores should be determined by the standard test method of ASTM C 496. The core should be placed in the test apparatus with the bed joint 45 degrees from the horizontal. The tensile-splitting strength should be determined by the following equation:

$$f_{sp} = \frac{2P}{\pi a_n} \quad \text{(Equation A1-1)}$$

- 1           2. Hollow unit masonry constructed of through-the-wall units shall be tested by  
2           sampling the masonry by a sawn square prism of not less than 18 inches square  
3           (11 613 mm<sup>2</sup>). The tensile-splitting strength should be determined by the standard  
4           test method of ASTM E 519. The diagonal of the prism should be placed in a  
5           vertical position. The tensile-splitting strength should be determined by the  
6           following equation:

7           
$$f_{sp} = \frac{0.494P}{a_n} \qquad \qquad \qquad \text{(Equation A1-2)}$$

- 8           3. An alternative to material testing is estimation of the  $f_m$  of the existing masonry.  
9           This alternative should be limited to recently constructed masonry. The  
10           determination of  $f_m$  requires that the unit correspond to a specification of the unit  
11           by an ASTM standard and classification of the mortar by type.

12           **[B] A106.3.3.3 Location of tests.** The shear tests shall be taken at locations  
13           representative of the mortar conditions throughout the entire building, taking into account  
14           variations in workmanship at different building height levels, variations in weathering of  
15           the exterior surfaces, and variations in the condition of the interior surfaces due to  
16           deterioration caused by leaks and condensation of water and/or by the deleterious effects  
17           of other substances contained within the building. The exact test locations shall be  
18           determined at the building site by the engineer or architect in responsible charge of the  
19           structural design work. An accurate record of all such tests and their locations in the  
20           building shall be recorded, and these results shall be submitted to the building department  
21           for approval as part of the structural analysis.

22           **[B] A106.3.3.4 Number of tests.** The minimum number of tests per class shall be as  
23           follows:

- 24           1. At each of both the first and top stories, not less than two tests per wall or line of  
25           wall elements providing a common line of resistance to lateral forces.



2. At each of all other stories, not less than one test per wall or line of wall elements providing a common line of resistance to lateral forces.
3. In any case, not less than one test per 1,500 square feet (139.4 m<sup>2</sup>) of wall surface and not less than a total of eight tests.

**[B] A106.3.3.5 Minimum quality of mortar.**

1. Mortar shear test values,  $v_{to}$ , in pounds per square inch (kPa) shall be obtained for each in-place shear test in accordance with the following equation:

$$v_{to} = (V_{test}/A_b) - P_{D+L} \quad \text{(Equation A1-3)}$$

2. Individual unreinforced masonry walls with  $v_{to}$  consistently less than 30 pounds per square inch (207 kPa) shall be entirely pointed prior to retesting.
3. The mortar shear strength,  $v_t$ , is the value in pounds per square inch (kPa) that is exceeded by 80 percent of the mortar shear test values,  $v_{to}$ .
4. Unreinforced masonry with mortar shear strength,  $v_t$ , less than 30 pounds per square inch (207 kPa) shall be removed, pointed and retested or shall have its structural function replaced, and shall be anchored to supporting elements in accordance with Sections A106.3.1 and A113.8. When existing mortar in any wythe is pointed to increase its shear strength and is retested, the condition of the mortar in the adjacent bed joints of the inner wythe or wythes and the opposite outer wythe shall be examined for extent of deterioration. The shear strength of any wall class shall be no greater than that of the weakest wythe of that class.

**[B] A106.3.3.6 Minimum quality of masonry.**

1. The minimum average value of tensile-splitting strength determined by Equation A1-1 or A1-2 shall be 50 pounds per square inch (344.7 kPa). The minimum value of  $f_m$  determined by categorization of the masonry units and mortar should be 1,000 pounds per square inch (6895 kPa).

1           2. Individual unreinforced masonry walls with average tensile-splitting strength of  
2           less than 50 pounds per square inch (344.7 kPa) shall be entirely pointed prior to  
3           retesting.

4           3. Hollow unit unreinforced masonry walls with estimated prism compressive  
5           strength of less than 1,000 pounds per square inch (6895 kPa) shall be grouted to  
6           increase the average net area compressive strength.

7           **[B] A106.3.3.7 Collar joints.** The collar joints shall be inspected at the test locations  
8           during each in-place shear test, and estimates of the percentage of adjacent wythe  
9           surfaces that are covered with mortar shall be reported along with the results of the in-  
10          place shear tests.

11          **[B] A106.3.3.8 Unreinforced masonry classes.** Existing unreinforced masonry shall be  
12          categorized into one or more classes based on shear strength, quality of construction,  
13          state of repair, deterioration and weathering. A class shall be characterized by the  
14          allowable masonry shear stress determined in accordance with Section A108.2. Classes  
15          shall be defined for whole walls, not for small areas of masonry within a wall.

16          **[B] A106.3.3.9 Pointing.** Deteriorated mortar joints in unreinforced masonry walls shall  
17          be pointed ~~((according to UBC Standard 2-1-8))~~ in accordance with the following  
18          requirements.

19            1. **Joint preparation.** The deteriorated mortar shall be cut out by means of a  
20            toothing chisel or nonimpact power tool to a depth at which sound mortar is  
21            reached but not less than 3/4-inch (19 mm). Care shall be taken not to damage the  
22            brick edges. After cutting is complete, all loose material shall be removed with a  
23            brush, air stream, or water stream.

24            2. **Mortar preparation.** The mortar mix shall be proportioned as required by the  
25            registered design professional. The pointing mortar shall be prehydrated by first  
26

1 thoroughly mixing all ingredients dry and then mixing again, adding only enough  
2 water to produce a damp workable mix which will retain its form when pressed  
3 into a ball. The mortar shall be kept in a damp condition for one and one-half  
4 hours; then sufficient water shall be added to bring it to a consistency that is  
5 somewhat drier than conventional masonry mortar.

6 3. **Packing.** The joint into which the mortar is to be packed shall be damp but  
7 without freestanding water. The mortar shall be tightly packed into the joint in  
8 layers not exceeding 1/4-inch (6.4 mm) in depth until it is filled; then it shall be  
9 tooled to a smooth surface to match the original profile.

10 Nothing shall prevent pointing of any deteriorated masonry wall joints before ((the  
11 tests are made)) testing in accordance with Section A106.3.3 is performed, except as  
12 required in Section A107.1.

13 **SECTION A107**  
14 **QUALITY CONTROL**

15 \*\*\*

16 **[B] A107.3 Existing wall anchors.** Existing wall anchors used as all or part of the required  
17 tension anchors shall be tested in pullout according to ((~~UBC Standard 21-7~~)) Section A107.5.1.  
18 The minimum number of anchors tested shall be four per floor, with two tests at walls with joists  
19 framing into the wall and two tests at walls with joists parallel to the wall, but not less than 10  
20 percent of the total number of existing tension anchors at each level.

21 **[B] A107.4 New bolts.** All new embedded bolts shall be subject to periodic special inspection in  
22 accordance with the building code, prior to placement of the bolt and grout or adhesive in the  
23 drilled hole. Five percent of all bolts that do not extend through the wall shall be subject to a  
24 direct-tension test, and an additional 20 percent shall be tested using a calibrated torque wrench.

1 Testing shall be performed in accordance with (~~UBC Standard 21-7~~) Section A107.5. New  
2 bolts that extend through the wall with steel plates on the far side of the wall need not be tested.  
3 **Exception:** Special inspection in accordance with the building code may be provided during  
4 installation of new anchors in lieu of testing.

5 All new embedded bolts resisting tension forces or a combination of tension and shear forces  
6 shall be subject to periodic special inspection in accordance with the building code, prior to  
7 placement of the bolt and grout or adhesive in the drilled hole. Five percent of all bolts resisting  
8 tension forces shall be subject to a direct-tension test, and an additional 20 percent shall be tested  
9 using a calibrated torque wrench. Testing shall be performed in accordance with (~~UBC Standard~~  
10 ~~21-7~~) Section A107.5. New through-bolts need not be tested.

11 **[B]A107.5 Tests of anchors in unreinforced masonry walls.**

12 **[B]A107.5.1 Direct tension testing of existing anchors and new bolts.** The test apparatus  
13 shall be supported by the masonry wall. The distance between the anchor and the test  
14 apparatus support shall not be less than one half the wall thickness for existing anchors and  
15 75 percent of the embedment for new embedded bolts. Existing wall anchors shall be given a  
16 preload of 300 pounds (1335 N) prior to establishing a datum for recording elongation. The  
17 tension test load reported shall be recorded at 1/8 inch (3.2 mm) relative movement between  
18 the existing anchor and the adjacent masonry surface. New embedded tension bolts shall be  
19 subject to a direct tension load of not less than 2.5 times the design load but not less than  
20 1,500 pounds (6672 N) for five minutes (10 percent deviation).

21 **[B]A107.5.2 Torque testing of new bolts.** Bolts embedded in unreinforced masonry walls  
22 shall be tested using a torque-calibrated wrench to the following minimum torques:

23 1/2-inch-diameter (13 mm) bolts: 40 foot pounds (54.2 N-m)

24 5/8-inch-diameter (16 mm) bolts: 50 foot pounds (67.8 N-m)

25 3/4-inch-diameter (19 mm) bolts: 60 foot pounds (81.3 N-m)

1 [B]A107.5.3 Prequalification test for bolts and other types of anchors. This section is  
2 applicable when it is desired to use tension or shear values for anchors greater than those  
3 permitted by Table A1-E. The direct-tension test procedure set forth in Section A107.5.1 for  
4 existing anchors shall be used to determine the allowable tension values for new embedded  
5 through bolts, except that no preload is required. Bolts shall be installed in the same manner  
6 and using the same materials as will be used in the actual construction. A minimum of five  
7 tests for each bolt size and type shall be performed for each class of masonry in which they  
8 are proposed to be used. The allowable tension values for such anchors shall be the lesser of  
9 the average ultimate load divided by a factor of safety of 5.0 or the average load at which 1/8  
10 inch (3.2 mm) elongation occurs for each size and type of bolt and class of masonry.

11 The test procedure for prequalification of shear bolts shall comply with ASTM E 488 or  
12 another approved procedure.

13 The allowable values determined in this manner shall be permitted to exceed those set  
14 forth in Table A1- E.

15 [B]A107.5.4 Reports. Results of all tests shall be reported. The report shall include the test  
16 results as related to anchor size and type, orientation of loading, details of the anchor  
17 installation and embedment, wall thickness, and joist orientation.

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24 **[B] TABLE A1-E**  
25 **STRENGTH VALUES OF NEW MATERIALS USED IN CONJUNCTION WITH**  
26 **EXISTING CONSTRUCTION**

NEW MATERIALS OR CONFIGURATION OF MATERIALS		STRENGTH VALUES
Horizontal diaphragms	Plywood sheathing applied directly over existing straight sheathing with ends of plywood sheets bearing on joists or rafters and edges of plywood located on center of individual sheathing boards.	675 lbs. per ft.
Crosswalls	Plywood sheathing applied directly over wood studs; no value should be given to plywood applied over existing plaster or wood sheathing.	1.2 times the value specified in the current building code.
	Drywall or plaster applied directly over wood studs.	The value specified in the current building code.
	Drywall or plaster applied to sheathing over existing wood studs.	50 percent of the value specified in the current building code.
Tension bolts <sup>c</sup>	Bolts extending entirely through unreinforced masonry wall secured with bearing plates on far side of a three-wythe- minimum wall with at least 30 square inches of area. <sup>b,c</sup>	5,400 lbs. per bolt. 2,700 lbs. for two-wythe walls.
Shear bolts <sup>c</sup>	Bolts embedded a minimum of 8 inches into unreinforced masonry walls; bolts should be centered in 2-1/2-inch-diameter holes with drypack or nonshrink grout around the circumference of the bolt.	The value for plain masonry specified for solid masonry in the current building code; no value larger than those given for 3/4-inch bolts should be used.
Combined tension and shear bolts	Through-bolts—bolts meeting the requirements for shear and for tension bolts. <sup>b,c</sup>	Tension—same as for tension bolts. Shear—same as for shear bolts.
	Embedded bolts—bolts extending to the exterior face of the wall with a 2-1/2-inch round plate under the head and drilled at an angle of 22-	Tension—3,600 lbs. per bolt. Shear—same as for shear bolts.

	1/2 degrees to the horizontal; installed as specified for shear bolts. <sup>a,b,c</sup>	
Infilled walls	Reinforced masonry infilled openings in existing unreinforced masonry walls; provide keys or dowels to match reinforcing.	Same as values specified for unreinforced masonry walls.
Reinforced masonry <sup>d</sup>	Masonry piers and walls reinforced per the current building code.	The value specified in the current building code for strength design.
Reinforced concrete <sup>d</sup>	Concrete footings, walls and piers reinforced as specified in the current building code.	The value specified in the current building code for strength design.

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm<sup>2</sup>, 1 pound = 4.4 N.

- a. Embedded bolts to be tested as specified in Section A107.4.
- b. Bolts to be 1/2 inch (12.7 mm) minimum in diameter.
- c. Drilling for bolts and dowels shall be done with an electric rotary drill; impact tools should not be used for drilling holes or tightening anchors and shear bolt nuts.
- d. No load factors or capacity reduction factor shall be used.
- e. Other bolt sizes, values and installation methods may be used, provided a testing program is conducted in accordance with ~~((UBC Standard 21-7))~~ Section A107.5.3. The ~~((useable))~~ strength value shall be determined by multiplying the calculated allowable value, ~~((as))~~ determined ~~((by UBC Standard 21-7))~~ in accordance with Section A107.5.3, by 3.0, and the useable value shall be limited to a maximum of 1.5 times the value given in the table. Bolt spacing shall not exceed 6 feet (1829 mm) on center and shall not be less than 12 inches (305 mm) on center.

**SECTION A108**  
**DESIGN STRENGTHS**

\*\*\*

**[B] A108.2 Masonry shear strength.** The unreinforced masonry shear strength,  $v_m$ , shall be determined for each masonry class from one of the following equations:

1. The unreinforced masonry shear strength,  $v_m$ , shall be determined by Equation A1-4 when the mortar shear strength has been determined by Section A106.3.3.1.

$$v_m = 0.56v_t + \frac{0.75P_D}{A} \quad \text{(Equation A1-4)}$$

The mortar shear strength values,  $v_t$ , shall be determined in accordance with Section A106.3.3. ((5 and shall not exceed 100 pounds per square inch (689.5 kPa) for the determination of  $v_m$ ))

2. The unreinforced masonry shear,  $v_m$ , shall be determined by Equation A1-5 when tensile-splitting strength has been determined in accordance with Section A 106.3.3.2, Item 1 or 2.

$$V_m = 0.8f_{sp} + 0.5 \frac{P_D}{A} \quad \text{(Equation A1-5)}$$

3. When  $f_m$  has been estimated by categorization of the units and mortar in accordance with Section 2105.2.2.1 of the International Building Code, the unreinforced masonry shear strength,  $v_m$ , shall not exceed 200 pounds per square inch (1380 kPa) or the lesser of the following:

a)  $2.5\sqrt{f'_m}$  or

b) 200 psi or

$$c) v + 0.75 \frac{P_D}{A} \quad \text{(Equation A1-6)}$$

For SI: 1 psi = 6.895 kPa.

where:

$v = 62.5$  psi (430 kPa) for running bond masonry not grouted solid.



1            $v = 100$  psi (690 kPa) for running bond masonry grouted solid.

2            $v = 25$  psi (170 kPa) for stack bond grouted solid.

3                                   \*\*\*

4           Section 16. The following sections of Appendix Chapter A5 of the International Existing  
5 Building Code, 2012 Edition, are amended as follows:

6                                   **CHAPTER A5**

7                           **EARTHQUAKE HAZARD REDUCTION IN**  
8                           **EXISTING CONCRETE BUILDINGS**

9                                   \*\*\*

10                           **SECTION A506**

11                           **TIER 2 ANALYSIS PROCEDURE**

12                                   \*\*\*

13 **[B] A506.3 Analysis procedure.** A structural analysis shall be performed for all structures in  
14 accordance with the requirements of the building code, except as modified in Section A506. The  
15 response modification factor,  $R$ , shall be selected based on the type of seismic force-resisting  
16 system employed and shall comply with the requirements of Section 304.4.1 (~~(301.1.4.1)~~).

17     **[B] A506.3.1 Mathematical model.** The three-dimensional mathematical model of the  
18 physical structure shall represent the spatial distribution of mass and stiffness of the structure  
19 to an extent that is adequate for the calculation of the significant features of its distribution of  
20 lateral forces. All concrete and masonry elements shall be included in the model of the  
21 physical structure.

22           **Exception:** Concrete or masonry partitions that are isolated from the concrete frame  
23 members and the floor above.

24           Cast-in-place reinforced concrete floors with span-to-depth ratios less than three-to-one  
25 may be assumed to be rigid diaphragms. Other floors, including floors constructed of precast  
26

1 elements with or without a reinforced concrete topping, shall be analyzed in conformance to  
2 the building code to determine if they must be considered semi-rigid diaphragms. The  
3 effective in-plane stiffness of the diaphragm, including effects of cracking and discontinuity  
4 between precast elements, shall be considered. Parking structures that have ramps rather than  
5 a single floor level shall be modeled as having mass appropriately distributed on each ramp.  
6 The lateral stiffness of the ramp may be calculated as having properties based on the  
7 uncracked cross section of the slab exclusive of beams and girders.

8 **[B]. A506.3.2 Component stiffness.** Component stiffness shall be calculated based on the  
9 approximate values shown in Table 6-5 of ASCE 41.

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11  
12 Section 17. The following sections of Appendix Chapter A6 of the International Existing  
13 Building Code, 2012 Edition, are amended as follows:

14 **CHAPTER A6**  
15 **REFERENCED STANDARDS**

16 \*\*\*

17 **ASTM**

- 18 ASTM International  
19 100 Barr Harbor Drive  
20 West Conshohocken, PA 19428-2959  
21 A653/A653M—08 Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-  
22 Iron Alloy-Coated (Galvannealed) by Hot-Dip Process . . . . . A304.2.6  
23 C90—2003 Standard Specification for Load-bearing Concrete Masonry Units. . . . . A505.2.3  
24 C496—96 Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete  
25 Specimens . . . . . A104, A106.3.3.2

1 E 488-10 Test Method for Strength of Anchors in Concrete and Masonry Elements...A107.5

2 E519—00e1 Standard Test Method for Diagonal Tension (Shear) in Masonry Assemblages. . . .  
3 ..... A104, A106.3.3.2

4 \*\*\*

5 Section 18. Sections 2-12 of Ordinance 123379 are repealed.

6 Section 19. During the transition period, an applicant who submits a valid and fully  
7 complete building permit application may elect to have the application considered under the  
8 provisions of Ordinance 123379 rather than this Ordinance. The transition period begins on the  
9 effective date of this Ordinance and extends through the later of: (a) October 11, 2013; or (b) the  
10 60th day following the effective date of this Ordinance (unless the 60th day is a Saturday,  
11 Sunday, or federal or City holiday, in which case the 60th day shall be deemed to be the next day  
12 that is not a Saturday, Sunday, or federal or City holiday).

13 Section 20. The provisions of this ordinance are declared to be separate and severable.  
14 The invalidity of any clause, sentence, paragraph, subdivision, section or portion of this  
15 ordinance, or the invalidity of the application thereof to any person, owner, or circumstance shall  
16 not affect the validity of the remainder of this ordinance, or the validity of its application to other  
17 persons, owners, or circumstances.

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Section 21. This ordinance shall take effect and be in force 30 days after its approval by the Mayor, but if not approved and returned by the Mayor within ten days after presentation, it shall take effect as provided by Seattle Municipal Code Section 1.04.020.

Passed by the City Council the \_\_\_\_ day of \_\_\_\_\_, 2013, and signed by me in open session in authentication of its passage this \_\_\_\_ day of \_\_\_\_\_, 2013.

\_\_\_\_\_  
President \_\_\_\_\_ of the City Council

Approved by me this \_\_\_\_ day of \_\_\_\_\_, 2013.

\_\_\_\_\_  
Michael McGinn, Mayor

Filed by me this \_\_\_\_ day of \_\_\_\_\_, 2013.

\_\_\_\_\_  
Monica Martinez Simmons, City Clerk

(Seal)

**FISCAL NOTE FOR NON-CAPITAL PROJECTS**

<b>Department:</b>	<b>Contact Person/Phone:</b>	<b>CBO Analyst/Phone:</b>
DPD	Maureen Traxler/233-3892	Melissa Lawrie/684-5805

**Legislation Title:**

AN ORDINANCE relating to the Seattle Existing Building Code, amending Chapter 22.110 of the Seattle Municipal Code and adopting by reference Chapters 2 through 5, 7 through 11, 13 through 16, A1, and A3 through A6 of the 2012 International Existing Building Code; amending certain of those chapters, and adopting a new Chapter 1 related to administration, permitting and enforcement; and repealing Sections 2-12 of Ordinance 123379.

**Summary of the Legislation:**

This legislation adopts the 2012 Seattle Existing Building Code, consisting of the 2012 International Existing Building Code and Seattle amendments.

**Background:**

This legislation is one of seven coordinated bills that regulate construction and use of buildings in Seattle. Six are prepared by the Department of Planning and Development (DPD): the Seattle Building, Residential, Mechanical, Fuel Gas, Energy and Existing Building codes. The seventh bill adopts the 2012 Plumbing Code, which is administered by Public Health – Seattle & King County. These codes are the current state and national standards for building construction. A related bill adopting the 2012 Seattle Fire Code is being heard by the City Council Public Safety, Civil Rights and Technology Committee.

New editions of these codes are adopted by the State every 3 years, and State law requires local jurisdictions to enforce them. Seattle adds local amendments to the State codes. A list of the most significant Seattle amendments is attached.

X  **This legislation does not have any financial implications.**

**Other Implications:**

- a) **Does the legislation have indirect financial implications, or long-term implications?**  
No
- b) **What is the financial cost of not implementing the legislation?**  
There is no cost if the legislation is not implemented.

- c) **Does this legislation affect any departments besides the originating department?**  
Departments that will build or alter buildings or mechanical systems will be required to meet updated construction standards. However, state law requires all cities and counties to adopt the state codes. The Seattle amendments are enhancements of the state codes.
- d) **What are the possible alternatives to the legislation that could achieve the same or similar objectives?**  
The alternative is to adopt the state codes only, without Seattle amendments.
- e) **Is a public hearing required for this legislation?**  
No.
- f) **Is publication of notice with *The Daily Journal of Commerce* and/or *The Seattle Times* required for this legislation?**
- g) No.
- h) **Does this legislation affect a piece of property?**  
No.
- i) **Other Issues:**

**List attachments to the fiscal note below:**

Attachment 1: Changes in 2012 Seattle Existing Building Code

## Attachment 1

### Changes in 2012 Seattle Existing Building Code

#### Highlights of changes

Significant changes in format are proposed for the 2012 Seattle Existing Building Code (SEBC), but there are few, if any, technical changes that will have a major impact on construction. In the past, most alterations and additions to existing buildings complied with Chapter 34 of the Seattle Building Code (SBC). The 2012 code will refer all existing building projects to the SEBC which includes all the provisions that have been in the SBC plus two alternative compliance methods. The 2009 SEBC also contains the three compliance methods but was infrequently used because most applicants chose to use SBC Chapter 34.

*The most significant changes between the 2012 SEBC, and the 2009 SBC with 2009 SEBC are listed here.*

- 101.9 Appendix chapters that cover seismic strengthening of unreinforced masonry buildings, buildings of lightweight wood, and concrete buildings are adopted.
- Chapter 3 Many new sections are added to chapter 3, so they will apply to all three compliance methods. Most of these sections are existing sections that are in 2009 SBC Chapter 34.
- 303.1.4 Energy efficiency upgrades are required for buildings undergoing substantial alteration.
- 304 The provisions for structural design are revised so that all compliance methods are required to use the structural design provisions from SBC Chapter 34.
- 805.3.1 Exceptions are added to make the SEBC no more stringent than the SBC.
- 1512 Construction materials are required to be protected from moisture during building construction.



City of Seattle  
Office of the Mayor

July 16, 2013

Honorable Sally J. Clark  
President  
Seattle City Council  
City Hall, 2<sup>nd</sup> Floor

Dear Council President Clark:

I am pleased to transmit the attached proposed Council Bill that adopts the 2012 Seattle Existing Building Code. It is one of seven coordinated bills that regulate construction and use of buildings in Seattle. Six are prepared by the Department of Planning and Development (DPD): the Seattle Building, Residential, Mechanical, Fuel Gas, Energy and Existing Building codes. The seventh bill adopts the 2012 Plumbing Code, which is administered by Public Health – Seattle & King County. These codes are the current state and national standards for building construction. A related bill adopting the 2012 Seattle Fire Code is being heard by the City Council Public Safety, Civil Rights and Technology Committee.

These codes are adopted by the State, and State law requires local jurisdictions to enforce them. Seattle adds local amendments to the State codes. (A list of the most significant Seattle amendments is attached to the fiscal note for this legislation.) The Construction Codes Advisory Board (CCAB) has reviewed these proposed ordinances. CCAB, which consists of representatives of the general public, and design, development and construction industries, has devoted countless hours to reviewing and discussing these proposals. Drafts of the Seattle Existing Building Code were made available for public comment in September 2012 and March 2013. There is substantial consensus about this ordinance.

Thank you for your consideration of this legislation. Adoption of the new codes will provide additional flexibility of building design and will enhance safety for the citizens of Seattle. Should you have questions, please contact Maureen Traxler at 233-3892.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael McGinn".

Michael McGinn  
Mayor of Seattle

cc: Honorable Members of the Seattle City Council