

780 CMR: MASSACHUSETTS AMENDMENTS TO THE *INTERNATIONAL EXISTING BUILDING CODE 2009***CHAPTER 34: EXISTING STRUCTURES****3401.1** Replace as follows:

**3401.1 Scope.** Chapter 34 of the *International Building Code 2009 (IBC 2009)* is deleted in its entirety. The alteration, repair, addition, and change of occupancy of existing buildings shall be controlled by the provisions of the *International Existing Building Code 2009 (IEBC 2009)* and its appendices, and as modified with Massachusetts Amendments as follows:

**101.1** Replace as follows:

**101.1 Title.** These regulations shall be known as the *Existing Building Code* of Massachusetts, referred to as “this code.”

**101.2** Replace as follows:

**101.2 Scope.** The provisions of this code shall apply to the repair, alteration, change of occupancy, addition, and relocation of existing buildings, except as otherwise required by section 102.2.2.

All references in this code to the *International Fuel Gas Code, International Plumbing Code, International Property Maintenance Code, International Fire Code, and the International Electrical Code*, are superseded as applicable by MA specialty codes per subsection 101.4 of the Massachusetts Amendments to the *International Building Code 2009*, unless noted otherwise further on within these amendments. In addition subsection 101.1 of the Massachusetts Amendments to the *International Building Code 2009*, 101.4 notes Massachusetts specialty codes as they apply to environmental protection, water pollution control, elevators, and accessibility. Reference elsewhere in this code to the *International Building Code* shall mean 780 CMR *Base Volume*. Reference elsewhere in this code to the existing buildings pertaining to the *International Residential Code* shall mean 780 CMR *One- and Two-family Dwelling* and the existing building provisions contained therein. The requirements in this code for construction of existing buildings in flood hazard areas and/or coastal dunes shall not apply and instead 780 CMR Appendix G shall apply.

**101.5.0** Add subsections:

**101.5.0 Compliance Alternatives.** Except for structural work, where compliance with the provisions of the code for new construction, required by this code, is impractical because of construction difficulties or regulatory conflicts, compliance alternatives may be accepted by the *building official*. Examples of compliance alternatives and archaic construction systems can be found at the FAQ link at [www.mass.gov/dps](http://www.mass.gov/dps). The *building official* may accept these compliance alternatives, archaic construction systems, or others proposed. If the compliance alternative involves fire protection systems the *building official* shall consult with the fire official.

**101.5.0.1 Submittals.** The application for a *building permit* shall be in accordance with subsection 107.2.1 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 107.2.1) and identify all items of non- or partial compliance with the requirements of this code, and compliance alternatives, if any are proposed, for approval by the *building official*. The *building official* shall respond to the acceptability of any proposed compliance alternatives within 30 days of the filing of the *building permit* application. Where proposed compliance alternatives are, in the opinion of the *building official*, unacceptable, or where issues of non-compliance remain, the permit applicant shall have the remedies prescribed by section 113 of the *International Building Code 2009* with the Massachusetts Amendments (780 CMR 113).

**101.5.1** Delete the text: ‘in buildings complying with the *International Fire Code*’

**101.5.4.0** Add subsection:

**101.5.4.0 Investigation and Evaluation.** For any proposed work regulated by this code and subject to subsection 107.6 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 107.6) as a condition of the issuance of a building permit the building owner shall cause the *existing building* (or portion thereof) to be investigated and evaluated in accordance with the provisions of this code. This may include, but not be limited to: evaluation of design gravity loads, lateral load capacity,

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egress capacity, fire protection systems, fire resistive construction, interior environment, hazardous materials, and energy conservation.

The investigation and evaluation shall be in sufficient detail to ascertain the effects of the proposed work on the *work area* under consideration and, the entire building or structure and its foundation if impacted by the proposed work.

The results of the investigation and evaluation, along with any proposed *compliance alternatives*, shall be submitted to the *building official* in written report form.

**101.5.4.1 Item 1.** Replace this Item as follows:

1. *The International Building Code 2009* with Massachusetts Amendments using 100% of the prescribed forces. For existing buildings with seismic force resisting systems found in Table 101.5.4.1.0, the values of  $R$ ,  $\Omega_0$ , and  $C_d$  from this table shall be used in the analysis. For seismic force resisting systems not found in Table 101.5.4.1.0, the values of  $R$ ,  $\Omega_0$ , and  $C_d$  used for analysis in accordance with Chapter 16 of the *International Building Code 2009* with Massachusetts Amendments, (780 CMR 16.00) shall be those specified for structural systems classified as “Ordinary” in accordance with Table 12.2-1 of ASCE 7, unless it can be demonstrated that the structural system satisfies the proportioning and detailing requirements for systems classified as “Intermediate” or “Special”.

**101.4.1.0** Insert Table 101.5.4.1.0

**TABLE 101.5.4.1.0**

<b>BASIC SEISMIC-FORCE-RESISTING SYSTEM</b>	<b><math>R</math></b>	<b><math>\Omega_0</math></b>	<b><math>C_d</math></b>
<b>Bearing Wall Systems</b>			
Steel concentrically braced frame (CBF) with diagonal <sup>3</sup> or X-bracing			
CBF per 6 <sup>th</sup> Edition SBC <sup>2</sup> except for Section 9.5 of 1992 AISC Seismic Provisions	3.5	2	3.5
Otherwise <sup>4</sup>	3	3	3
Steel CBF with V, Inverted V or K bracing			
V or Inverted V bracing per 6 <sup>th</sup> Edition SBC <sup>2</sup>	3	3	3
V or Inverted V bracing, otherwise <sup>4</sup>	3	3	3
K bracing	1.25	1.25	1.25
Reinforced concrete shear walls with boundary elements and without coupling beams, in accordance with 780 CMR 1113.5.1.4a, 5 <sup>th</sup> Edition	5	2.5	5
Reinforced concrete shear walls with reinforcing steel less than required by, or with spacing greater than permitted by Section 11.9.9 of ACI 318-08	1.5	1.5	1.5
Unreinforced concrete shear walls	1.25	1.25	1.25
Reinforced masonry shear walls			
Class A <sup>5</sup>	4.5	2.5	3.5
Class B <sup>6</sup>	2.25	2.25	2.25
Class C <sup>7</sup>	1.25	1.25	1.25
Unreinforced masonry shear walls	1.25	1.25	1.25
Light-framed walls sheathed with wood structural panels or diagonal sheathing	4	2.5	3
Other light-framed walls <sup>10</sup>	2	2	2
<b>Building Frame Systems</b>			
Steel concentrically braced frame (CBF) with diagonal <sup>3</sup> or X-bracing			
CBF per 6 <sup>th</sup> Edition SBC <sup>2</sup> except for Section 9.5 of 1992 AISC Seismic Provisions	4	2	3.5
Otherwise <sup>4</sup>	3	3	3
Steel CBF with V, Inverted V or K bracing			
V or Inverted V bracing per 6 <sup>th</sup> Edition SBC <sup>2</sup>	3	3	3
V or Inverted V bracing, otherwise <sup>4</sup>	3	3	3
K bracing	1.5	1.5	1.5
Reinforced concrete shear walls with boundary elements and without coupling beams, in accordance with 780 CMR 1113.5.1.4a, 5 <sup>th</sup> Edition	6	2.5	5
Reinforced concrete shear walls with reinforcing steel less than required by, or with spacing greater than permitted by Section 11.9.9 of ACI 318-08	1.5	1.5	1.5
Unreinforced concrete shear walls	1.5	1.5	1.5

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**Table 101.5.4.1.0 - continued**

Reinforced masonry shear walls			
Class A <sup>5</sup>	5	2.5	4
Class B <sup>6</sup>	2.25	2.25	2.25
Class C <sup>7</sup>	1.5	1.5	1.5
Unreinforced masonry shear walls	1.5	1.5	1.5
Light-framed walls sheathed with wood structural panels or diagonal sheathing	4	2.5	3
Other light-framed walls <sup>10</sup>	2.5	2.5	2.5
<b>Moment Resisting Frame Systems</b>			
Steel moment frames			
Special Moment Frame per 6 <sup>th</sup> Edition SBC <sup>2</sup>	8	3	5.5
Ordinary Moment Frame per 6 <sup>th</sup> Edition SBC <sup>2</sup>	3.5	3.5	3.5
Moment frame, otherwise <sup>4</sup>	3	3	3
Reinforced concrete moment frames			
Class A <sup>8</sup>	5	3	4.5
Class B <sup>9</sup>	2.5	2.5	2.5
<b>Dual Systems (See ASCE 7, Section 12.2.5.1)</b>			
Steel concentrically braced frame (CBF) with steel moment frames (MF)			
CBF and Special Moment Frame, per 6 <sup>th</sup> Edition SBC <sup>2</sup>	5	2.5	4.5
CBF and Moment Frame per 1 <sup>st</sup> through 5 <sup>th</sup> Editions SBC <sup>2</sup> , except V, Inverted V or K Braced Frames	3.5	2.5	3.5
CBF and Moment Frame per 1 <sup>st</sup> through 5 <sup>th</sup> Editions SBC <sup>2</sup> , with V, Inverted V or K Braced Frames	3	2.5	3
Otherwise	1.5	1.5	1.5
Reinforced concrete shear walls with boundary elements and without coupling beams, in accordance with 780 CMR 1113.5.1.4a, 5 <sup>th</sup> Edition, with reinforced concrete moment frames, Class A <sup>8</sup>	6	2.5	5
Ordinary reinforced concrete shear walls, as defined in 8 <sup>th</sup> Edition SBC, with reinforced concrete moment frames, Class A <sup>8</sup>	5.5	2.5	4.5
Notes:			
1. Systems of previous editions of the State Building Code that meet the ductility requirements of the 8 <sup>th</sup> Edition of the Code are not included in this table.			
2. SBC refers to 780 CMR Commonwealth of Massachusetts State Building Code.			
3. A diagonal brace is one that frames from a beam-to-column connection diagonally to another beam-to-column connection or to a column at its base plate.			
4. The seismic resistance of the frame shall be based on its seismic connections being subject to two times the computed forces and moments resulting from seismic load.			
5. Class A reinforced masonry shear walls have a minimum total area of reinforcement in the vertical and horizontal direction at least 0.0020 times the gross cross-sectional area of the wall, with a minimum area in each direction at least 0.0007 times the gross cross-sectional area of the wall. Maximum spacing of reinforcing steel bars in grouted cells or bond courses is 6'-0" in one direction and 4'-0" in the other direction, but not more than 1/3 of the length or height of the wall, whichever is less, in each direction. Class A walls satisfy other requirements for reinforced masonry of the base code.			
6. Class B reinforced masonry shear walls satisfy all requirements for Class A walls, except that spacing limits for reinforcing steel bars are exceeded.			
7. Class C reinforced masonry shear walls satisfy all requirements for reinforced masonry of the base code.			
8. Class A reinforced concrete moment frames satisfy requirements of Sections 1113.5.1, 1113.5.1.1, 1113.5.1.2 and 1113.5.1.3 of 780 CMR 5 <sup>th</sup> Edition and Sections 11.12.1.1 and 11.12.1.2 of ACI 318-83 for reinforcing of beam to column joints.			
9. Class B reinforced concrete moment frames do not satisfy requirements for Class A reinforced concrete moment frames.			
10. Wood siding over horizontal or diagonal boards, plaster on wood or metal lath, and stucco on metal lath may be used to resist in-plane shear, where the walls are anchored to floors and to the floor or roof construction above such that they can transfer the shear between floors and to the foundation. Gypsum sheathing, lath, wall board, drywall, fiberboard and particle board are not permitted to resist in-plane shear unless originally designed in accordance with 780 CMR for that purpose.			

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**101.5.4.2** Add these exceptions to Item 1.**Exceptions:**

1. *The International Building Code 2009* with Massachusetts Amendments using 50% of prescribed forces when directed here by sections 807.4.3
2. *The International Building Code 2009* with Massachusetts Amendments using
  - a. 50 % of prescribed forces when directed here by Section 1003.3.1 and when the vertical addition increases the building area less than or equal to 30%.
  - b. 75% of prescribed forces when directed here by section 1003.3.1 and when the vertical addition increases the building area more than 30% but less than 50%.

**101.9** Add subsection:

**101.9 Cumulative Effects of Alterations, Additions, or Changes of Occupancy on Structural Elements.** As noted in several sections of this code, evaluation of structural elements and their connections shall consider the cumulative effects of alterations, additions, or changes of occupancy since original construction. Alterations, additions, or changes in occupancy that meet all of the following criteria, are exempt from consideration of cumulative effects on structural elements:

1. Structural work does not involve more than 2% of the total tributary area of horizontal framing members of any existing framed floor or roof.
2. Structural work does not alter shear walls above the foundation.
3. Structural work does not alter columns or diagonal braces.
4. Structural work does not create an opening in any framed floor or roof that has an area more than 2% of the framed floor or roof.
5. Structural work does not alter any floor or roof diaphragm and its connections such that in-plane shear resistance is reduced by more than 5%.
6. Structural work does not remove or reconfigure lateral load resisting frames, or foundations supporting them.

**101.10** Add subsection:

**101.10 Masonry Walls.** For alterations to buildings with masonry walls, all masonry walls shall comply with the provisions of Appendix A1 as modified by Massachusetts Amendments, where any of the following conditions exist:

1. the work area exceeds 50% of the aggregate area of the building, or
2. an occupancy increase of more than 25% and to a total of 100 or more, or
3. a change of occupancy to a relative hazard category of 1 or 2 per Table 912.5, or educational occupancies K to 12, or
4. a Level 2 Alteration, as defined by section 404, to an Occupancy Category IV per ASCE 7.

**102.2** Replace as follows:

**102.2 Other Laws and Specialty Codes.** The provisions of this code shall not be deemed to nullify any provisions of local, state, or federal law, or the regulations pursuant to specialty codes listed in section 101.4 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 101.4).

**102.2.1** Add subsection:

**102.2.1 Fire Protection Systems.** Notwithstanding other provisions of this code, the requirements of this section are applicable in existing buildings. In case of conflict, between regulations of 780 CMR, the more restrictive requirement applies.

**102.2.1.1** Add subsection:

**102.2.1.1 Major Alterations.** When existing buildings or portions thereof undergo additions or alterations, M.G.L. c. 148, § 26G may apply with respect to automatic sprinkler requirements. The requirements of this statute are enforced by the fire official. Applicability of these requirements can be found at the Department of Fire Services web site [www.mass.gov/dfs](http://www.mass.gov/dfs).

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**102.2.1.2** Add subsection:

**102.2.1.2 Other Cases Where Required.** Fire protection systems are required for the following cases:

1. Carbon monoxide alarms are required and shall be selected and installed in accordance with the applicable requirements of 527 CMR and/or 248 CMR and Chapter 9 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 9.00).
2. Existing buildings or portions thereof when changed in use to an A-2 Nightclub occupancy shall be protected with an automatic fire suppression system. Where the A-2 Nightclub occupancy is created in a mixed use building, the A-2 Nightclub occupancy, including all ingress and egress portions shall require automatic fire suppression when the occupant load is 50 or greater; additionally in such mixed use, the A-2 Nightclub occupancy shall be separated from adjacent uses by one hour horizontal and vertical fire separation assemblies in accordance with the applicable provisions of Chapter 7 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 7.00).
3. Notwithstanding the provisions of this code, automatic fire suppression systems are required in municipalities which have adopted the provisions of M.G.L. c. 148, § 26H or I; also *see* M.G.L. c. 143, § 97A, and M.G.L. c. 148, § 26G½ relative to statutory prospective and retroactive sprinkler requirements for A-2 nightclubs and similar uses.

**102.2.1.3** Add subsection:

**102.2.1.3 Change in Commodity or Storage Arrangement.** Existing buildings, or portions thereof, in which there is a change in occupancy classification, commodity classification, or storage arrangement, as defined by NFPA 13, requires an evaluation of the existing sprinkler system for compliance with NFPA 13 and NFPA 25.

In enforcing the provisions of this section the *building official* may require or accept engineering or other evaluations of the fire protection systems in order to identify possible noncompliant conditions and acceptable solutions. If the evaluation determines that alterations are necessary, the *building official* shall order the abatement of such conditions.

**102.2.2** Add subsection:

**102.2.2 Existing Hazardous Conditions.** This section shall apply to all existing buildings

**102.2.2.1 Existing Non Conforming Means of Egress.** The following conditions shall be corrected in all existing buildings:

1. Less than the number of *means of egress* serving every space and/or story, required by Chapter 10 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 10.00);
2. Any required *means of egress* component which is not of sufficient width to provide adequate exit capacity in accordance with section 1005.1 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 1005.1);
3. Any means of egress which is not so arranged as to provide safe and adequate *means of egress*, including exit signage and emergency lighting in accordance with Chapter 10 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 10.00); or
4. Where the occupant load of an existing Group A-2 Nightclub use is 50 or greater, the main entrance/exit door shall be a minimum 72 inches (nominal) width. This main entrance/exit door shall consist of a pair of side-hinged swinging type doors without a center mullion and shall be equipped with panic hardware (*see* Chapter 10 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 10.00)). As an alternative, or where construction, regulations or other conditions exist which would preclude the installation of said main entrance/exit door and associated exit access, the owner shall cause the existing means of egress system to be evaluated by a *registered design professional*. Such evaluation shall determine whether the existing means of egress is sufficient to accommodate the occupant load or whether the existing means of egress requires improvement to accommodate safely the occupant load. If the existing means of egress is insufficient to accommodate the occupant load, such inadequate means of egress will, as a minimum, be deemed in violation of this code. Calculation methodologies based on alternative approaches to life safety may be utilized in order to effect said egress evaluation.

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If not corrected, the *building official* shall cite each deficiency in writing as a violation. Said citation shall order the abatement of the non conformance and shall include such a time element as the *building official* deems necessary for the protection of the occupants thereof, or as otherwise provided for by statute.

**102.2.2.2 Exit Order for Hazardous Means of Egress.** In any *existing building* or structure not provided with exit facilities as herein prescribed and in which the exits are deemed hazardous or dangerous to life and limb, the *building official* shall declare such building dangerous and unsafe in accordance with the provisions of section 116 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 116). Any person served with any *such* order shall have the remedy prescribed in section 116 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 116).

**102.2.2.3 Fire Escapes.** Fire escapes shall be permitted in accordance with section 305.

**102.2.2.4 Testing and Certification of Egress Structures.** All exterior bridges, steel or wooden stairways, fire escapes and egress balconies and their structural anchorage shall be examined and/or tested, and certified for structural adequacy and safety every five years, by a *registered design professional*, or others qualified and acceptable to the *building official*; said professional or others shall then submit an affidavit to the *building official*.

**102.2.2.5 Unsafe Lighting and/or Ventilation.** In any existing building, or portion thereof, in which (a) the lighting or ventilation do not meet the applicable provisions in Chapter 12 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 12.00), and (b) which, in the opinion of the *building official*, are dangerous, or hazardous, to the health and safety of the occupants, the *building official* shall order the abatement of such conditions to render the building or structure occupiable or habitable as applicable for the posted use and occupant load.

In enforcing the provisions of this section the *building official* may require or accept engineering or other evaluations of the lighting and/or ventilation systems in order to evaluate possible dangerous or hazardous conditions and acceptable solutions.

Where full compliance with 780 CMR for new construction is not practical for structural and/or other technical reasons, the *building official* may accept compliance alternatives, or engineering or other evaluations which adequately address the building or structure livability for the posted use and occupant load.

**PART 2 – ADMINISTRATION AND ENFORCEMENT** and all sections contained within it, replace with:

**PART 2 – ADMINISTRATION AND ENFORCEMENT.** For administration and enforcement provisions refer to sections 103 through 116 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 103 through 116).

**202** Add two definitions as follows:

**COMPLIANCE ALTERNATIVE.** An alternative life-safety construction feature which meets or exceeds the requirements or intent of a specific provision of 780 CMR. The *building official* is authorized to approve or disapprove compliance alternatives. Compliance alternatives are only permitted for existing buildings.

**HOUSE MUSEUM.** A *house museum* is an *historic building* or structure. The principal use of such must be as an exhibit of the building or the structure itself which is open to the public not less than 12 days per year, although additional uses, original and/or ancillary to the principal use shall be permitted within the same building up to maximum of 40% of the gross floor area. All entries into the *house museum* list shall be certified by the Massachusetts Historical Commission. The list can be found at <http://www.sec.state.ma.us/mhc/>

**302.2** Replace the text with ‘See 780 CMR Appendix G.’

34.00: continued

**302.3** After the first sentence, add this sentence:

The cumulative effect of the load increase since original construction shall be considered.

**303.2** Replace the text with ‘See 780 CMR Appendix G.’

**303.3** After the first sentence, add this sentence:

The cumulative effect of the load increase since original construction shall be considered.

**303.4** Replace the first occurrence of the word “with” with the word “where”.

**303.6** Replace as follows:

**303.6 Means of Egress Capacity Factors.** For means of egress capacity refer to section 102.2.2.1

**304.5** Replace the text with ‘See 780 CMR Appendix G.’

**305.1** Add a second sentence as follows:

Existing fire escapes shall comply with the testing and certification requirements of section 102.2.2.4.

**307.6, 307.7, and 307.9** Delete these subsections.

**310.1** Replace as follows:

**310.1 Scope.** Accessibility requirements shall be in accordance with 521 CMR.

**310.2 to 310.9** Delete these sections.

**405.1:** Add to the end of the first sentence, this phrase:

“and where required by a change of occupancy classification in accordance with section 912.1.1”

**503.2** Add subsection:

**503.2 Major Alterations.** Automatic sprinkler systems may be required in buildings undergoing major alterations per section 102.2.1.1

**504.1** Replace as follows:

**504.1 General.** Repairs shall be done in a manner that maintains the level of protection provided for the means of egress, and in accordance with section 102.2.2.1.

**505.1** Replace this subsection:

**505.1 General.** Accessibility requirement shall be in accordance with 521 CMR.

**507 and 509** Delete these sections.

**603.2** Add section:

**603.2 Major Alterations.** In addition to the requirement in section 603 automatic sprinkler systems may be required in buildings undergoing major alterations per section 102.2.1.1

**604.1** Replace this section:

**604.1 General.** Alterations shall be done in a manner that maintains the level of protection provided for the means of egress, and in accordance with section 102.2.2.1.

**605.1 through 605.1.14** Replace as follows:

**605.1 General.** Accessibility requirements shall be in accordance with 521 CMR. Elevator and platform lift installation requirements are per 524 CMR.

**605.2** Delete.

**606.2** Replace ‘reproofing’ with ‘reroofing’

34.00: continued

**606.2** To exceptions 1 and 2, add a second sentence as follows:

The cumulative effects since original construction shall be considered.

**606.2.1** Replace ‘D, E, or F’ with ‘B, C, D, E, or F’

**606.3.1** Replace ‘D, E, or F’ with ‘B, C, D, E, or F’

**606.3.1** Add this exception:

**Exception.** Masonry parapets with a height to thickness ratio of 2.5 or less. The height of the parapet shall be measured from the level of where the unreinforced masonry walls are connected to the roof diaphragm.

**606.3.2** Replace ‘Where roofing...90 mph or in a special wind region, as defined in section 1609 of the *International Building Code*’ with ‘Where roofing materials are removed from the entire roof diaphragm of a building or section of a building located where one of the following conditions apply:

1. the basic wind speed is greater than 90 mph and the occupancy category is type III or type IV as defined in Table 1604.5 of the *International Building Code 2009* with Massachusetts Amendments, (780 CMR 1604, Table 1604.5).
2. the basic wind speed is greater than or equal to 105 mph.

**701.1** Replace the exception as follows:

**Exception.** Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of 521 CMR.

**704.1.2** Add subsection:

**704.1.2 Major Alterations.** In addition to the requirement in section 704, automatic sprinkler systems may be required in buildings undergoing major alterations per section 102.2.1.1

**704.2.2** Add this exception:

**Exception.** R-2 structures of three units, undergoing Level 2 renovations, are exempt from the requirements of this section provided that:

1. The work area is on a single unit and,
2. No other building permits for Level 2 work have been issued for the building in the previous two years.

**704.2.2 Item 3., 704.2.3, and 704.2.4 Item 2.** Delete the word ‘municipal’

**704.2.5** Replace as follows:

**704.2.5 Supervision.** Fire sprinkler systems required by this section shall be supervised in accordance with Chapter 9 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 9.00).

**704.4.1.1 through 704.4.1.7, and 704.4.3** Replace ‘*International Fire Code*’ with ‘Chapter 9 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 9.00)’.

**705.2** Replace as follows:

**705.2 General.** For means of egress capacity refer to section 102.2.2.1.

**705.2** Delete Exceptions 1. and 2.

**705.3.1** Replace as follows:

**705.3.1 Minimum Number.** The minimum number of exits shall be in accordance with section 102.2.2.1

**705.3.1.1** Delete.

**705.3.1.2** Replace subsection as follows:

**705.3.1.2 Fire Escapes Required.** Refer to section 102.2.2.

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**705.3.3** Add a last sentence as follows:

Group A-2 Nightclubs with an occupant load of 50 or greater shall be provided with a main entrance/exit door having a minimum width of 72 inches nominal in accordance with 102.2.2.1.

**705.4.4** Add a last sentence as follows:

The required entrance and exit doors in Group A-2 Nightclubs with an occupant load of 50 or greater shall be provided with approved panic hardware in accordance with 102.2.2.1.

**706.1** Replace this subsection:

**706.1 General.** Accessibility requirements shall be in accordance with 521 CMR.

**706.2 to 706.5** Delete these sections.

**707.4** Add this as a second sentence to Exception 1:

The cumulative effect of the stress increase since original construction shall be considered for the purposes of this exception.

**707.5.1** Add subsection:

**707.5.1 Irregularities.** Where the alteration results in a structural irregularity as defined in ASCE 7, the lateral load-resisting structural elements shall comply with the structural requirements specified in section 807.4.

**708** Delete.

**710** Delete.

**802.1** Replace this section as follows:

**802.1 High-rise buildings.** High-rise building as defined by section 202 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 202) shall comply with the requirements of Sections 802.1.1.

**802.1.2** Delete.

**804.1** Add this as a second sentence:

In addition to the requirements in section 804, automatic sprinkler systems may be required in buildings undergoing major alterations per section 102.2.1.1

**804.1.1** Delete the word 'municipal' which occurs in two locations.

**804.2.1** Delete Exception 2.

**807.4.3:** At the end of this section add these two sentences:

For the purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with sections 1609 and 1613 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 1609 and 1613). For purposes of this section, comparisons of demand-capacity ratios and calculation of design lateral loads, forces, and capacities shall account for the cumulative effects of *additions* and alterations since original construction.

**902.1** Add items 10. and 11. and the note as follows:

10. Day care. (*see* Chapter 3 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 3.00) for classification)

11. Group homes.

**Note.** Also *see* section 912 when change of occupancy classification occurs

**904.1** Add a second sentence as follows:

In addition to the requirements in section 912 automatic sprinkler systems may be required in buildings undergoing major alterations per section 102.2.1.1

34.00: continued

**906.1** Replace this section as follows:

**906.1 General.** Accessibility in portions of buildings undergoing a change in occupancy classification shall comply with 521 CMR.

**907.1** Add this as a second sentence to the exception:

The cumulative effect of the stress increase since original construction shall be considered for the purposes of this exception.

**908** Delete.

**910** Delete.

**912.8** Replace in its entirety as follows:

**912.8 General.** Accessibility requirement shall be in accordance with 521 CMR.

**1002.3** Delete.

**1003.2** To exception 1 add a second sentence as follows:

The cumulative effect of the stress increase since original construction shall be considered.

**1003.3.1** Add a second sentence as follows:

Where the addition increases the building area less than 50%, the evaluation and analysis shall demonstrate compliance with reduced *International Building Code 2009* seismic force levels as specified in section 101.5.4.2.

**1003.3.3** Replace '807.7' with '707.6'.

**1003.3.4** Add subsection:

**1003.3.4 Irregularities.** Where the addition results in a structural irregularity as defined in ASCE 7, all lateral load-resisting structural elements shall comply with *The International Building Code 2009* wind provisions and the reduced *International Building Code 2009* level seismic forces as specified in section 101.5.4.2.

**1003.4** To exception 1 add a second sentence as follows:

The cumulative effect of the stress increase since original construction shall be considered.

**1003.5** Replace the text with 'See 780 CMR Appendix G.'

**1005.1** Replace this subsection as follows:

**1005.1 Minimum Requirements.** Accessibility requirements shall be in accordance with 521 CMR.

**1101.1** Replace this section as follows:

**1101.1 Scope.** It is the intent of this chapter to provide means for the preservation of *historic buildings* as certified by the Massachusetts Historical Commission. There is no obligation for owners of historic buildings to use the provisions of this chapter. *This chapter* shall preempt all other regulations of 780 CMR governing the reconstruction, *renovation*, alteration, change of use and occupancy, repair, maintenance and additions for the conformity of historic buildings and structures to 780 CMR, with the exception of section 113 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 113) for appeals, or unless otherwise specified. In case of fire or other casualty to a *historic building*, said building may be rebuilt, in total or in part, using such techniques and materials as are necessary to restore it to its original condition and use group. If a building or structure as a result of proposed work would become eligible for certification as a *historic building* and the Massachusetts Historical Commission so certifies by affidavit, and such affidavit is submitted to the *building official* with the permit application, then the *building official* shall have the authority to allow the work to proceed under the provisions of this chapter

**1101.3** Replace all references to 'museum' with '*house museum*'

34.00: continued

**1102.5** Replace this subsection as follows:

**1102.5 Replacement.** Replacement of existing or missing features using original materials shall be permitted. Partial replacement for repairs that match the original in configuration, height, and size shall be permitted. Such replacements shall not be required to meet the materials and methods requirements of section 501.2. Individual components of an existing building system may be repaired or replaced in kind without requiring the system to comply with the code for new construction.

**1102.5** Delete the Exception.

**1103.1** Replace as follows:

**1103.1 Scope.** Historic buildings undergoing alterations, or that are moved shall comply with section 1103.

**1103.2** Replace as follows:

**1103.2 General.**

**1103.2.1 Maximum Occupancy.** *House museum* occupancy shall be limited by the actual structural floor load capacity as certified by a qualified Massachusetts *registered professional engineer* or *architect* or in accordance with Chapter 10 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 10.00), whichever is less. Said floor load shall be posted in accordance with the procedures set forth in Chapter 1 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 1.00). The owner shall submit evidence of this certification and related computations to the *building official* upon request.

**1103.3** Replace as follows:

**1103.3 Means of Egress.** Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be approved, provided that, in the opinion of the *building official*, there is sufficient width and height for a person to pass through the opening or traverse the means of egress. When approved by the *building official*, the front or main exit doors need not swing in the direction of the path of exit travel, provided that other approved means of egress having sufficient capacity to serve the total occupant load are provided.

Where one or more floors of a *house museum* are limited to one *means of egress*, the occupancy load shall be computed as follows:

1. **Floors below the First Story.** Not more than one occupant per 100 square feet of gross floor area with a maximum occupancy of 49.
2. **First Story.** Not more than one occupant per 50 square feet of gross floor area.
3. **Second Story and Above.** Not more than one occupant per 100 square feet of gross floor area, or 30 occupants per 22 inch unit of egress width, whichever condition results in the lesser occupancy load.

**1103.12** Replace as follows:

**1103.12 Fire Protection Equipment.** Fire protection equipment shall be provided for *house museums* according to the following requirements:

1. **Manual Fire Extinguishing Equipment.** All use groups, other than R-3 and R-4, shall have approved manual fire extinguishing equipment, as determined by the head of the local fire department.
2. **Fire Alarm Systems.** Use groups R-1, R-2 and R-3 shall conform to the requirements of section 907 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 907), as applicable. All other use groups shall comply with section 1103.12 items 2.(a) and (b) of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 1103.12 items 2.(a) and (b)).

(a) **Locations.** Provide smoke detectors in accordance with manufacturers listing and spacing requirements, but not less than one, for every 1200 square feet of floor area per level. In addition, all lobbies, common corridors, hallways and exitway access and discharge routes shall be provided with approved smoke detectors installed in accordance with the manufacturers listing and spacing requirements but not more than 30 feet spacing between detectors. All required smoke detectors shall have an alarm audible throughout the structure or building.

34.00: continued

(b) **Single Station and Multiple Station Smoke Detection Devices.** As required by Chapter 9 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 9.00).

3. **Manual Pull Stations.** A manual fire alarm pull station shall be provided in the natural path of egress in all use groups except R-3 and R-4. Manual pull stations shall be connected to the building fire warning system in conformance with NFPA 72.

**Exception.** Historic buildings which are provided with an approved automatic fire-extinguishing system throughout shall not be required to be provided with manual fire extinguishing equipment. Smoke detection devices shall not be required in occupancies other than Use Groups R-1, R-2, and R-3.

**1103.12.1 Supervision.** Fire alarm systems required by this section shall be supervised in accordance with the requirements of Chapter 9 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 9.00).

**Exception.** Residential single and multiple station smoke detectors.

**1104.1** Replace this section as follows:

**1104.1 Accessibility Requirements.** For accessibility requirements refer to 521 CMR.

**1104.1.1 through 1104.1.4** Delete.

**1105.15** Replace this section as follows:

**1105.15 Accessibility requirements.** For accessibility requirements refer to 521 CMR.

**1106.1** Replace this section as follows:

**1106.1 General.** Historic buildings shall comply with the applicable structural provisions for the work as classified in Chapter 4.

**Exceptions**

1. The *building official* shall be authorized to accept existing floors and approve operational controls that limit the live load on any such floor.
2. *House museums* need not comply with the wind load and seismic load requirements of this code.

**1301.2** Replace the first sentence with ‘Structures in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of Chapters 4 through 12.’

**1301.3.4** Add section:

**1301.3.4 Peer review.** At the discretion of the *building official*, the owner shall engage a *registered design professional* to review the performance compliance evaluation and methodologies proposed to determine compliance with this section. The *registered design professional* shall prepare a written report to the *building official* summarizing the results of their review. Items identified by the *registered design professional* as needing modification in order to be in compliance with this section shall be addressed to the satisfaction of the *building official* prior to the issuance of a building permit.

**1301.6.14** Replace ‘*International Fire Code*’ with ‘524 CMR’.

**1301.6.14.1** Replace ‘*International Fire Code*’ with ‘524 CMR’.

**1301.6.17** Add note as follows:

**Note.** Automatic sprinklers required by M.G.L. c. 148 § 26G need not be considered “Required sprinklers” for the purposes of this section.

**1401.1** Add two notes at the end of this section:

**Note 1.** As applicable, Department of Environmental Protection (DEP) Regulations, 310 CMR 7.09: *U Dust, Odor, Construction and Demolition*, and the requirements of M.G.L. c. 111 § 150A, addressing disposal of demolition debris, must be satisfied.

**Note 2.** As applicable, 527 CMR, in conjunction with M.G.L. c. 148 § 27A must be satisfied if fire protection systems are to be dismantled, shut-off, or modified.

34.00: continued

**1401.4.1** Add section:

**1401.4.1 Removal of Waste Material.** Material shall not be dropped by gravity or thrown outside the exterior walls of a building during demolition or erection, Chutes shall be provided for the removal of such materials. Where the removal of any material will cause an excessive amount of dust, such material shall be wet down to prevent the creation of a nuisance.

**Exception.** The requirements of this section may be waived based on site conditions if approved by the *building official*.

**1401.5** Replace ‘the *International Plumbing Code*’ with ‘the requirements of DPH and 248 CMR, as applicable’.

**1407.1** Replace ‘section 110.3’ with ‘Chapter 1 of the *International Building Code 2009* with Massachusetts Amendments (780 CMR 1)’.

**1408 and 1409** Delete these sections.

**Appendix A106.2** Add subsection 4 as follows:

4. The values contained in Table A106.2 shall be used as material property values of the existing material listed therein, unless values are specified by other provisions in this chapter, or values are used, based on available historical information for a particular type of masonry construction, prevailing codes, and assessment of existing conditions.

**A106.2** Insert TABLE A106.2 MATERIAL PROPERTY VALUES

**TABLE A106.2 MATERIAL PROPERTY VALUES**

Symbol/ Notation	Description	Maximum Value	Notes
$f'_m$	See Section A104	300 psi	Per section A108.3
$E_m$	Elastic Modulus in Compression	550,000 psi	Based on $f'_m = 1,000$ psi
$f'_{sp}$	See Section A104	0 psi	-
$v_m$	Masonry with running bond lay-up	20 psi	-
$v_m$	Masonry, fully grouted, with a lay-up other than running bond	20 psi	-
$v_m$	Masonry, partially grouted or ungrouted, with a lay-up other than running bond	10 psi	-

**Table A1-A** Replace the value ‘0.067’ with ‘0.033’ and at two locations replace the value ‘0.133’ with ‘.067’.

**Table A1-B** Replace the value ‘0.13’ with ‘0.067’.

**Table A1-F** Replace the value ‘0.13’ with ‘0.067’.

**Table A1-G** Replace the value ‘0.13’ with ‘0.067’ and at two locations replace ‘#’ with ‘≤’.

**Appendix B.** For requirements *see* 521 CMR.

**Resource A.** This resource may be used with the approval of the *building official*.

NON-TEXT PAGE