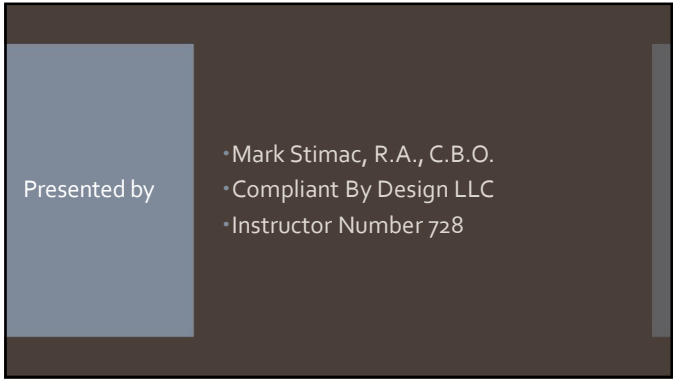
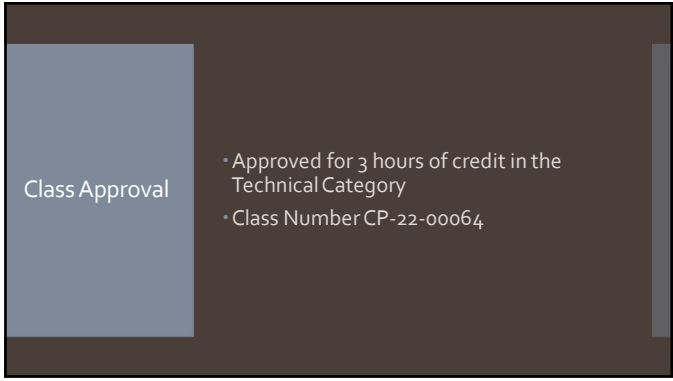


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3

Course Outline

- What is the Michigan Rehabilitation Code for Existing Buildings
- How do we get to the MRCEB
- What are the compliance options
- Overview of Classifications of work
- Overview of Change of Use
- Overview of Additions
- Overview of Performance Analysis

4

Course Outcomes

The Attendees will learn

- What requires the use of the MRCEB
- What are the compliance options of the MRCEB
- How to determine the classifications of work
- Determine the items of the building systems that have requirements in Level 1, 2, and 3 Alterations
- Determine the items of the building systems that have requirements for a Change of Use
- What is the Performance Compliance Method

5

MRCEB vs IEBC

From the Part 4 Rules of Public Act 230 of 1972
(Inside front cover of the Michigan Building Code)

- All references to the International Building Code, International Residential Code, International Energy Conservation Code, National Electrical Code, International Existing Building Code, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Rehabilitation Code for Existing Buildings, Michigan Mechanical Code, and Michigan Plumbing Code respectively.

6

Previously Chapter 34 of the Building Code 2012 MBC

CHAPTER 34 EXISTING BUILDINGS AND STRUCTURES 571		
Section		
3401	General	571
3402	Definitions	571
3403	Additions	571
3404	Alterations	572
3405	Repairs	573
3406	Fire Escapes	574
3407	Glass Replacement	574
3408	Change of Occupancy	574
3409	Historic Buildings	575
3410	Moved Structures	575
3411	Accessibility for Existing Buildings	575
3412	Compliance Alternatives	577

7

Previously Chapter 34 of the Building Code 2012 MBC

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

8

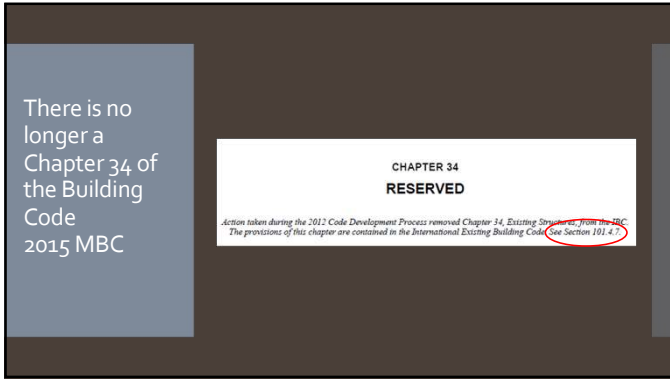
Previously Chapter 34 of the Building Code 2012 MBC

3401.6 Alternative compliance. Work performed in accordance with the *International Existing Building Code* shall be deemed to comply with the provisions of this chapter.

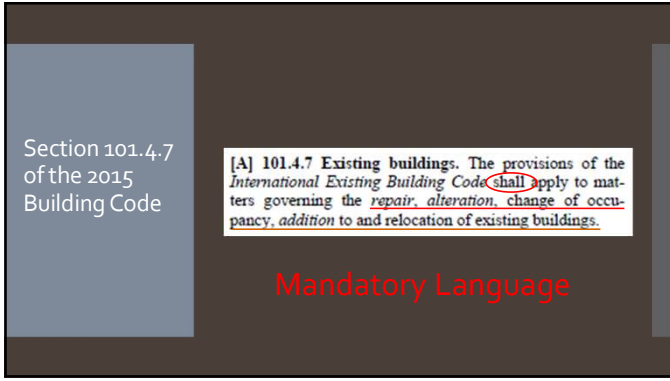
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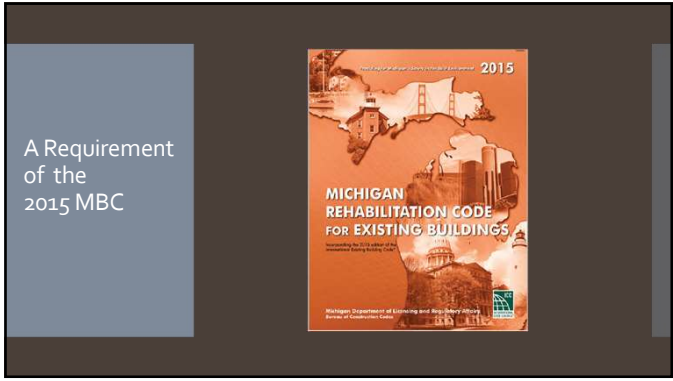
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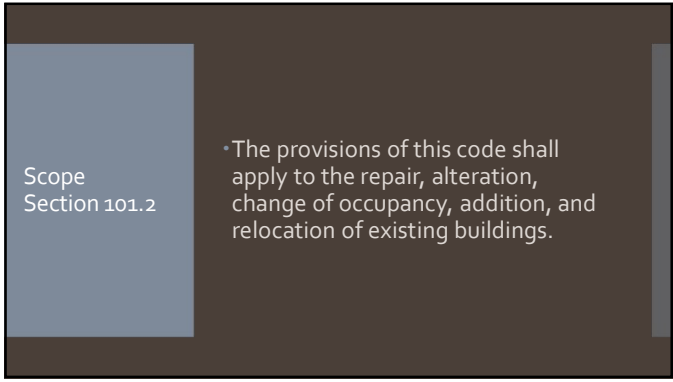
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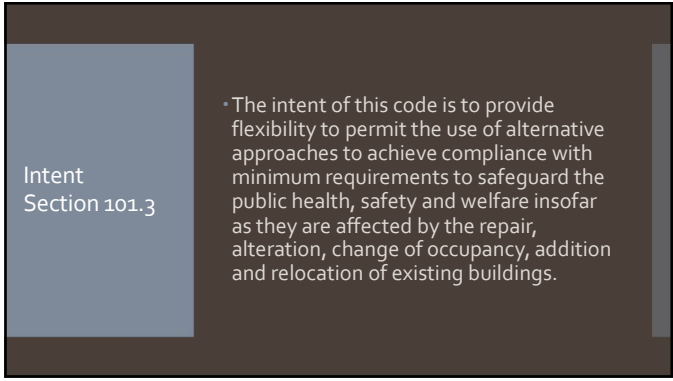
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13



14



15

Why do we need the MRCEB

- Religious facilities previously classified as A-4
- Restaurants previously classified as A-3
- Ambulatory Care Facilities in B occupancies
- Factories manufacturing upholstered furniture
- Furniture Stores selling upholstered furniture
- Storage facilities storing upholstered furniture
- Stair geometry changes
- Accessibility changes
- Other changes in the code

16

Buildings Not Previously Occupied Section 101.2 (Michigan)

•A building or portion of a building which has not been previously occupied or used for its intended purpose shall comply with the provisions of the Michigan building code for new construction.

17

Buildings Not Previously Occupied Section 101.4.1 (ICC)

•A building or portion of a building that has not been previously occupied or used for its intended purpose in accordance with the laws in existence at the time of its completion shall be permitted to comply with the provisions of the laws in existence at the time of its original permit unless such permit has expired. Subsequent permits shall comply with the International Building Code or International Residential Code, as applicable, for new construction.

18

Buildings Previously Occupied Section 101.4.2

- The legal occupancy of any building existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the International Fire Code, or the International Property Maintenance Code, or as is deemed necessary by the code official for the general safety and welfare of the occupants and the public

19

New Building Compliance Alternative Section 101.2 (Michigan)

- Repairs, alterations, change of occupancy, existing buildings to which additions are made, historic buildings, and relocated buildings complying with the provisions of the Michigan building code, the Michigan electrical code, the Michigan residential code, the Michigan mechanical code, and the Michigan plumbing code shall be considered to be in compliance with this code.

Applicant Option

20

Compliance Alternatives Section 301.1

- The repair, alteration, change of occupancy, addition or relocation of all existing buildings shall comply with one of the methods listed in Sections 301.1.1 through 301.1.3 as selected by the applicant. Sections 301.1.1 through 301.1.3 shall not be applied in combination with each other.

21

Compliance Alternatives

- Section 101.2 New Building
- Section 301.1.1 Prescriptive
- Section 301.1.2 Work Area
- Section 301.1.3 Performance

22

Prescriptive Compliance Method
Section 301.1.1

- Repairs, alterations, additions and changes of occupancy complying with Chapter 4 of this code in buildings complying with the International Fire Code shall be considered in compliance with the provisions of this code.

23

Work area compliance method
Section 301.1.2

- Repairs, alterations, additions, changes in occupancy and relocated buildings complying with the applicable requirements of Chapters 5 through 13 of this code shall be considered in compliance with the provisions of this code.

24

Performance compliance method
Section 301.1.3

- Repairs, alterations, additions, changes in occupancy and relocated buildings complying with Chapter 14 of this code shall be considered in compliance with the provisions of this code.

25

Prescriptive Compliance Method
Chapter 4

- The provisions of this chapter shall control the alteration, repair, addition and change of occupancy or relocation of existing buildings and structures, including historic buildings and structures as referenced in Section 301.1.1.

26

Prescriptive Compliance Methods

- SECTION 401 GENERAL
 - 401.1 Scope
 - 401.2 Building materials and systems
 - 401.2.1 Existing materials
 - 401.2.2 New and replacement materials
 - 401.2.3 Existing seismic force-resisting systems
 - 401.3 Dangerous conditions

27

Dangerous conditions
Section 401.3

- The building official shall have the authority to require the elimination of conditions deemed dangerous.

28

Definition of DANGEROUS

- Any building, structure or portion thereof that meets any of the conditions described below shall be deemed dangerous:
 - 1. The building or structure has collapsed, has partially collapsed, has moved off its foundation, or lacks the necessary support of the ground.
 - 2. There exists a significant risk of collapse, detachment or dislodgement of any portion, member, appurtenance or ornamentation of the building or structure under service loads.

29

Prescriptive Compliance Methods

- SECTION 402 ADDITIONS
- 402.1 General
- 402.2 Flood hazard areas
- 402.3 Existing structural elements carrying gravity load
 - 402.3.1 Design live load
- 402.4 Existing structural elements carrying lateral load
- 402.5 Smoke alarms in existing portions of a building

30

Additions
Section 402.1

- Additions to any building or structure shall comply with the requirements of the International Building Code for new construction. Alterations to the existing building or structure shall be made to ensure that the existing building or structure together with the addition are no less conforming to the provisions of the International Building Code than the existing building or structure was prior to the addition.

31

Additions
Section 402.1

- An existing building together with its additions shall comply with the height and area provisions of Chapter 5 of the International Building Code.

32

Prescriptive Compliance Methods

- SECTION 403 ALTERATIONS
- 403.1 General
- 403.2 Flood hazard areas
- 403.3 Existing structural elements carrying gravity load
- 403.4 Existing structural elements carrying lateral load
- 403.5 Bracing for unreinforced masonry parapets upon reroofing
- 403.6 Wall anchorage for unreinforced masonry walls in major alterations
- 403.7 Bracing for unreinforced masonry parapets in major alterations
- 403.8 Roof diaphragms resisting wind loads in high-wind regions
- 403.9 Voluntary seismic improvements
- 403.10 Smoke alarms
- 403.11 Refuge areas

33

Alterations
Section 403

- ...alterations to any building or structure shall comply with the requirements of the International Building Code for new construction. Alterations shall be such that the existing building or structure is no less conforming to the provisions of the International Building Code than the existing building or structure was prior to the alteration.

34

Prescriptive
Compliance
Methods

- SECTION 404 REPAIRS
- 404.1 General
- 404.2 Substantial structural damage to vertical elements of the lateral force-resisting system
- 404.3 Substantial structural damage to gravity loadcarrying components
- 404.4 Less than substantial structural damage
- 404.5 Flood hazard areas

35

Repairs
Section 404

- Buildings and structures, and parts thereof, shall be repaired in compliance with Sections 401.2 and 404. Work on nondamaged components that is necessary for the required repair of damaged components shall be considered part of the repair and shall not be subject to the requirements for alterations in this chapter.

36

Prescriptive Compliance Methods

- SECTION 405 FIRE ESCAPES
 - 405.1 Where permitted
 - 405.1.1 New buildings
 - 405.1.2 Existing fire escapes
 - 405.1.3 New fire escapes
 - 405.1.4 Limitations
 - 405.2 Location
 - 405.3 Construction
 - 405.4 Dimensions
 - 405.5 Opening protectives

37

Prescriptive Compliance Methods

- SECTION 406 GLASS REPLACEMENT AND REPLACEMENT WINDOWS
 - 406.1 Replacement glass
 - 406.2 Replacement window opening control devices
 - 406.3 Replacement window emergency escape and rescue openings

38

Prescriptive Compliance Methods

- SECTION 407 CHANGE OF OCCUPANCY
 - 407.1 Conformance
 - 407.2 Certificate of occupancy
 - 407.3 Stairways
 - 407.4 Structural

39

Prescriptive Compliance Methods

- SECTION 408 HISTORIC BUILDINGS
- 408.1 Historic buildings
- 408.2 Life safety hazards
- 408.3 Flood hazard areas
- SECTION 409 MOVED STRUCTURES
- 409.1 Conformance

40

Prescriptive Compliance Methods

- SECTION 410 ACCESSIBILITY FOR EXISTING BUILDINGS
- 410.1 Scope
- 410.2 Maintenance of facilities
- 410.3 Extent of application
- 410.4 Change of occupancy
- 410.4.1 Partial change in occupancy
- 410.4.2 Complete change of occupancy
- 410.5 Additions
- 410.6 Alterations
- 410.7 Alterations affecting an area containing a primary function
- 410.8 Scoping for alterations
- 410.9 Historic buildings

41

PA 478 of 2018 Amends PA 230 of 1972

- (1) Except as otherwise provided by the Michigan rehabilitation code for existing buildings, where an alteration affects the accessibility to, or contains, an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains serving the area of primary function. **The costs of providing the accessible route are not required to exceed 20% of the total costs of the alterations affecting the area of primary function.**
- (2) As used in this section, "alteration" and "primary function" mean those terms as defined in the Michigan rehabilitation code for existing buildings or as otherwise provided by the director by rule.

42

Classifications of Work Chapter 5

- 501.1 Scope. The provisions of this chapter shall be used in conjunction with Chapters 6 through 13 and shall apply to the alteration, repair, addition and change of occupancy of existing structures, including historic and moved structures

43

Classifications of Work Chapter 5

- 501.2 Work area. The work area, as defined in Chapter 2, shall be identified on the construction documents

44

Definition of Work Area

- That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code.

45

Classifications of Work Chapter 5

- SECTION 502 REPAIRS
- The patching or restoration or replacement of damaged materials, elements, equipment or fixtures for the purpose of maintaining such components in good or sound condition
- Repairs shall comply with the provisions of Chapter 6.

46

Classifications of Work Chapter 5

- SECTION 503 ALTERATION—LEVEL 1
- the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.
- Level 1 alterations shall comply with the provisions of Chapter 7.

47

Classifications of Work Chapter 5

- SECTION 504 ALTERATION—LEVEL 2
- The reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.
- 504.2 Application. Level 2 alterations shall comply with the provisions of Chapter 7 for Level 1 alterations as well as the provisions of Chapter 8.

48

Classifications of Work Chapter 5

- SECTION 505 ALTERATION—LEVEL 3
- Where the work area exceeds 50 percent of the building area.
- Shall comply with the provisions of Chapters 7 and 8 for Level 1 and 2 alterations, respectively, as well as the provisions of Chapter 9.

49

Classifications of Work Chapter 5

- SECTION 506 CHANGE OF OCCUPANCY
- Where the activity is classified as a change of occupancy as defined in Chapter 2.
- Changes of occupancy shall comply with the provisions of Chapter 10.

50

Classifications of Work Chapter 5

- SECTION 507 ADDITIONS
- Where work is classified as an addition as defined in Chapter 2.
- Additions to existing buildings shall comply with the provisions of Chapter 11

51

Classifications of Work Chapter 5

- SECTION 508 HISTORIC BUILDINGS
- Shall apply to buildings classified as historic as defined in Chapter 2.
- Except as specifically provided for in Chapter 12, historic buildings shall comply with applicable provisions of this code for the type of work being performed

52

Classifications of Work Chapter 5

- SECTION 509 RELOCATED BUILDINGS
- Apply to relocated or moved buildings.
- Relocated buildings shall comply with the provisions of Chapter 13.

53

Classifications of Work Summary

- Repairs – Chapter 6
- Level 1 – Chapter 7
- Level 2 – Chapters 7 and 8
- Level 3 – Chapters 7, 8, and 9
- Change of Occupancy Chapter 10
- Additions – Chapter 11
- Historic Buildings – Chapter 12
- Relocated Buildings – Chapter 13.

54

Repairs
Chapter 6
601.1 Scope

- Repairs as described in Section 502 shall comply with the requirements of this chapter. Repairs to historic buildings need only comply with Chapter 12.

55

Conformance
Section 601.2

- The work shall not make the building less conforming than it was before the repair was undertaken.

56

BUILDING
ELEMENTS
AND
MATERIALS
SECTION 602

- 602.1 Existing building materials.
- 602.2 New and replacement materials.
- 602.3 Glazing in hazardous locations.

57

FIRE PROTECTION SECTION 603

- 603.1 General. Repairs shall be done in a manner that maintains the level of fire protection provided.

58

MEANS OF EGRESS SECTION 604

- 604.1 General. Repairs shall be done in a manner that maintains the level of protection provided for the means of egress.

59

ACCESSIBILITY SECTION 605

- 605.1 General. Repairs shall be done in a manner that maintains the level of accessibility provided.

60

STRUCTURAL SECTION 606

- 606.1 General.
- 606.2 Repairs to damaged buildings.
- 606.2.1 Repairs for less than substantial structural damage.
- 606.2.2 Substantial structural damage to vertical elements of the lateral force-resisting system.
- 606.2.2.1 Evaluation.
- 606.2.2.2 Extent of repair for compliant buildings.
- 606.2.2.3 Extent of repair for noncompliant Buildings
- 606.2.3 Substantial structural damage to gravity load-carrying components.
- 606.2.3.1 Lateral force-resisting elements.
- 606.2.4 Flood hazard areas.

61

ELECTRICAL SECTION 607

- 607.1 Material.
- 607.1.1 Receptacles.
- 607.1.2 Plug fuses.
- 607.1.3 Nongrounding-type receptacles.
- 607.1.4 Group I-2 receptacles.
- 607.1.5 Grounding of appliances.

62

MECHANICAL SECTION 608

- 608.1 General.
- 608.2 Mechanical draft systems for manually fired appliances and fireplaces.

63

PLUMBING SECTION 609

- 609.1 Materials.
- 609.2 Water closet replacement.

64

ALTERATIONS —LEVEL 1 CHAPTER 7

- include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.

65

Conformance 701.2

- An existing building or portion thereof shall not be altered such that the building becomes less safe than its existing condition.
- Exception: Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the International Building Code.

66

BUILDING ELEMENTS AND MATERIALS
Section 702

- 702.1 Interior finishes.
- 702.2 Interior floor finish.
- 702.3 Interior trim.
- 702.4 Window opening control devices.
- 702.5 Emergency escape and rescue openings.
- 702.6 Materials and methods.
- 702.6.1 International Fuel Gas Code.

67

FIRE PROTECTION
SECTION 703

- 703.1 General. Alterations shall be done in a manner that maintains the level of fire protection provided.

68

MEANS OF EGRESS
SECTION 704

- Alterations shall be done in a manner that maintains the level of protection provided for the means of egress.

69

ACCESSIBILITY SECTION 705

- A building, facility, or element that is accessible shall remain accessible in accordance with the requirements of the utilization of public facilities by physically limited, 1966 PA 1, MCL 125.1351 to 125.1356, and the Michigan building code, R 408.30401 to R 408.30499.

70

REROOFING SECTION 706

- 706.1 General.
- 706.2 Structural and construction loads.
- 706.3 Recovering versus replacement.
- 706.4 Roof recovering.
- 706.5 Reinstallation of materials.
- 706.6 Flashings.

71

STRUCTURAL SECTION 707

- Where alteration work includes replacement of equipment that is supported by the building or where a reroofing permit is required, the provisions of this section shall apply.

72

**STRUCTURAL
SECTION 707**

- 707.2 Addition or replacement of roofing or replacement of equipment.
- 707.3 Additional requirements for reroof permits.
 - 707.3.1 Bracing for unreinforced masonry bearing wall parapets.
 - 707.3.2 Roof diaphragms resisting wind loads in high-wind regions.

73

**ENERGY
CONSERVATION
SECTION 708**

- Level 1 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only

74

**ALTERATIONS
—LEVEL 2
CHAPTER 8**

- Level 2 alterations include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.

75

ALTERATIONS
—LEVEL 2
CHAPTER 8

- Level 2 alterations as described in Section 504, shall comply with the requirements of this chapter.
- Exception: Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 705.2 shall be permitted to comply with Chapter 7.

76

Alteration
Level 1
compliance

- In addition to the requirements of this chapter, all work shall comply with the requirements of Chapter 7

77

Compliance
Section 801.3

- All new construction elements, components, systems, and spaces shall comply with the requirements of the International Building Code.

78

SPECIAL USE AND OCCUPANCY SECTION 802

- Alteration of buildings classified as special use and occupancy as described in the International Building Code shall comply with the requirements of Section 801.1 and the scoping provisions of Chapter 1 where applicable.

Chapter 4 of the Michigan Building Code

79

BUILDING ELEMENTS AND MATERIALS SECTION 803

- 803.1 Scope.
- 803.2 Vertical openings.
- 803.3 Smoke compartments.
- 803.4 Interior finish.
- 803.5 Guards.
- 803.6 Fire-resistance ratings.

80

FIRE PROTECTION SECTION 804

- The requirements of this section shall be limited to work areas in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

81

FIRE PROTECTION SECTION 804

- 804.1 Scope.
- 804.2 Automatic sprinkler systems.
- 804.3 Standpipes.
- 804.4 Fire alarm and detection.

82

MEANS OF EGRESS SECTION 805

- 805.1 Scope. The requirements of this section shall be limited to work areas that include exits or corridors shared by more than one tenant within the work area in which Level 2 alterations are being performed, and where specified they shall apply throughout the floor on which the work areas are located or otherwise beyond the work area.

83

MEANS OF EGRESS SECTION 805

- 805.2 General.
- 805.3 Number of exits.
- 805.4 Egress doorways.
- 805.5 Openings in corridor walls.
- 805.6 Dead-end corridors.
- 805.7 Means-of-egress lighting.
- 805.8 Exit signs.
- 805.9 Handrails
- 805.10 Refuge areas.
- 805.11 Guards.

84

ACCESSIBILITY
SECTION 806

- 806.1 General. A building, facility, or element that is altered shall comply with this section and Section 410.

85

STRUCTURAL
SECTION 807

- 807.1 General.
- 807.2 New structural elements.
- 807.3 Minimum design loads.
- 807.4 Existing structural elements carrying gravity loads.
- 807.5 Existing structural elements resisting lateral loads.
- 807.6 Voluntary lateral force-resisting system alterations.

86

ELECTRICAL
SECTION 808

- 808.1 New installations.
- 808.2 Existing installations.
- 808.3 Residential occupancies.

87

MECHANICAL SECTION 809

- 809.1 Reconfigured or converted spaces.
- 809.2 Altered existing systems.
- 809.3 Local exhaust.

88

PLUMBING SECTION 810

- 810.1 Minimum fixtures. Where the occupant load of the story is increased by more than 20 percent, plumbing fixtures for the story shall be provided in quantities specified in the International Plumbing Code based on the increased occupant load.

89

ENERGY CONSERVATION SECTION 811

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

90

ALTERATIONS
—LEVEL 3
CHAPTER 9

- Level 3 alterations apply where the work area exceeds 50 percent of the building area.

91

Compliance
Section 901.2

- In addition to the provisions of this chapter, work shall comply with all of the requirements of Chapters 7 and 8. The requirements of Sections 803, 804 and 805 shall apply within all work areas whether or not they include exits and corridors shared by more than one tenant and regardless of the occupant load.

92

Special Use
and
Occupancy
buildings
Section 902

- 902.1 High-rise buildings.
- 902.2 Boiler and furnace equipment rooms.

93

BUILDING ELEMENTS AND MATERIALS Section 903

- *903.1 Existing shafts and vertical openings.
- *903.3 Interior finish.

94

FIRE PROTECTION Section 904

- *904.1 Automatic sprinkler systems.
- *904.2 Fire alarm and detection systems.

95

MEANS OF EGRESS SECTION 905

- *905.1 General. The means of egress shall comply with the requirements of Section 805 except as specifically required in Sections 905.2 and 905.3.

96

MEANS OF EGRESS SECTION 905

- 905.2 Means-of-egress lighting.
- 905.3 Exit signs.

97

ACCESSIBILITY SECTION 906

- A building, facility or element that is altered shall comply with section 410.

98

STRUCTURAL SECTION 907

- 907.1 General.
- 907.2 New structural elements.
- 907.3 Existing structural elements carrying gravity loads.
- 907.4 Existing structural elements resisting lateral loads.
 - 907.4.1 Evaluation and analysis.
 - 907.4.2 Substantial structural alteration.
 - 907.4.3 Seismic Design Category F.
 - 907.4.4 Limited structural alteration.
 - 907.4.5 Wall anchors for concrete and masonry buildings.
 - 907.4.6 Bracing for unreinforced masonry parapets.

99

ENERGY CONSERVATION SECTION 908

- Level 3 alterations to existing buildings or structures are permitted without requiring the entire building or structure to comply with the energy requirements of the International Energy Conservation Code or International Residential Code. The alterations shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction only

100

CHANGE OF OCCUPANCY CHAPTER 10

- The provisions of this chapter shall apply where a change of occupancy occurs, as defined in Section 202.
- CHANGE OF OCCUPANCY. A change in the use of the building or a portion of a building. A change of occupancy shall include any change of occupancy classification, any change from one group to another group within an occupancy classification or any change in use within a group for a specific occupancy classification.

101

CHANGE OF OCCUPANCY CHAPTER 10

- 1001.2 Certificate of occupancy.
- 1001.3 Certificate of occupancy required.

102

SPECIAL USE AND OCCUPANCY SECTION 1002

- Where the character or use of an existing building or part of an existing building is changed to one of the following special use or occupancy categories as defined in the International Building Code, the building shall comply with all of the applicable requirements of the International Building Code:

103

SPECIAL USE AND OCCUPANCY SECTION 1002

- 1. Covered and open mall buildings.
- 2. Atriums.
- 3. Motor vehicle-related occupancies.
- 4. Aircraft-related occupancies.
- 5. Motion picture projection rooms.
- 6. Stages and platforms.
- 7. Special amusement buildings.
- 8. Incidental use areas.
- 9. Hazardous materials.
- 10. Ambulatory care facilities.
- 11. Group I-2 occupancies.

104

BUILDING ELEMENTS AND MATERIALS SECTION 1003

- Building elements and materials in portions of buildings undergoing a change of occupancy classification shall comply with Section 1012.

105

FIRE PROTECTION SECTION 1004

- Fire protection requirements of Section 1012 shall apply where a building or portions thereof undergo a change of occupancy classification or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code.

106

MEANS OF EGRESS SECTION 1005

- Means of egress in portions of buildings undergoing a change of occupancy classification shall comply with Section 1012.

107

ACCESSIBILITY SECTION 1006

- Accessibility in portions of buildings undergoing a change of occupancy classification shall comply with the provisions of section 410.4.

108

STRUCTURAL SECTION 1007

- 1007.1 Gravity loads.
- 1007.2 Snow and wind loads.
- 1007.3 Seismic loads.
 - 1007.3.1 Compliance with International Building Code-level seismic forces.
 - 1007.3.2 Access to Risk Category IV.

109

ELECTRICAL SECTION 1008

- 1008.1 Special occupancies.
- 1008.2 Unsafe conditions.
- 1008.3 Service upgrade.
- 1008.4 Number of electrical outlets.

110

MECHANICAL SECTION 1009

- Where the occupancy of an existing building or part of an existing building is changed such that the new occupancy is subject to different kitchen exhaust requirements or to increased mechanical ventilation requirements in accordance with the International Mechanical Code, the new occupancy shall comply with the respective International Mechanical Code provisions.

111

PLUMBING SECTION 1010

- 1010.1 Increased demand.
- 1010.2 Food-handling occupancies.
- 1010.3 Interceptor required.
- 1010.4 Chemical wastes.
- 1010.5 Group I-2.

112

OTHER REQUIREMENTS SECTION 1011

- Light and ventilation shall comply with the requirements of the International Building Code for the new occupancy.

113

CHANGE OF OCCUPANCY CLASSIFICATION SECTION 1012

- The provisions of this section shall apply to buildings or portions thereof undergoing a change of occupancy classification. This includes a change of occupancy classification within a group as well as a change of occupancy classification from one group to a different group or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code.

114

CHANGE OF OCCUPANCY CLASSIFICATION SECTION 1012

- Such buildings shall also comply with Sections 1002 through 1011. The application of requirements for the change of occupancy shall be as set forth in Sections 1012.1.1 through 1012.1.4. A change of occupancy, as defined in Section 202, without a corresponding change of occupancy classification shall comply with Section 1001.

115

Compliance with Chapter 9 Section 1012.1.1

- The requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1012.1.1.1 and 1012.1.1.2.
- 1012.1.1.1 Change of occupancy classification without separation.
- 1012.1.1.2 Change of occupancy classification with separation.

116

CHANGE OF OCCUPANCY CLASSIFICATION SECTION 1012

- 1012.2 Fire protection systems.
- 1012.3 Interior finish.
- 1012.4 Means of egress, general.
- 1012.5 Heights and areas.
- 1012.6 Exterior wall fire-resistance ratings.
- 1012.7 Enclosure of vertical shafts.
- 1012.8 Accessibility.

117

ADDITIONS
CHAPTER 11

- An addition to a building or structure shall comply with the International Codes as adopted for new construction without requiring the existing building or structure to comply with any requirements of those codes or of these provisions, except as required by this chapter. Where an addition impacts the existing building or structure, that portion shall comply with this code.

118

ADDITIONS
CHAPTER 11

- 1101.2 Creation or extension of nonconformity.
- 1101.3 Other work.

119

HEIGHTS AND
AREAS
Section 1102

- 1102.1 Height limitations.
- 1102.2 Area limitations.
- 1102.3 Fire protection systems.

120

STRUCTURAL SECTION 1103

- 1103.1 Compliance with the International Building Code.
- 1103.2 Additional gravity loads.
- 1103.3 Lateral force-resisting system.
 - 1103.3.1 Vertical addition.
 - 1103.3.2 Horizontal addition.
 - 1103.3.3 Voluntary addition of structural elements to improve the lateral force-resisting system.
- 1103.4 Snow drift loads.
- 1103.5 Flood hazard areas.

121

Smoke alarms in existing portions of a building Section 1104.1

- Where an addition is made to a building or structure of a group R or I-1 occupancy, the existing building shall be provided with smoke alarms as required by the Michigan building code or the Michigan residential code as applicable.

122

ACCESSIBILITY SECTION 1105

- Accessibility provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of, primary function shall comply with the requirements of Sections 705, 806 and 906, as applicable

123

ACCESSIBILITY
SECTION 1105

- 1105.2 Accessible dwelling units and sleeping units.
- 1105.3 Type A dwelling or sleeping units.
- 1105.4 Type B dwelling or sleeping units.

124

ENERGY
CONSERVATION
SECTION 1106

- Additions to existing buildings shall conform to the energy requirements of the International Energy Conservation Code or International Residential Code as they relate to new construction.

125

HISTORIC
BUILDINGS
CHAPTER 12

- Any building or structure that is one or more of the following:
 1. Listed, or certified as eligible for listing, by the State Historic Preservation Officer or the Keeper of the National Register of Historic Places, in the National Register of Historic Places.
 2. Designated as historic under an applicable state or local law.
 3. Certified as a contributing resource within a National Register, state designated or locally designated historic district.

126

Scope
Section 1201.1

- It is the intent of this chapter to provide means for the preservation of historic buildings. Historical buildings shall comply with the provisions of this chapter relating to their repair, alteration, relocation and change of occupancy.

127

Report
Section 1201.2

- A historic building undergoing repair, alteration, or change of occupancy shall be investigated and evaluated. If it is intended that the building meet the requirements of this chapter, a written report shall be prepared and filed with the code official by a registered design professional when such a report is necessary in the opinion of the code official.

128

REPAIRS
SECTION 1202

- 1202.1 General.
- 1202.2 Unsafe conditions.
- 1202.3 Relocated buildings.
- 1202.4 Replacement.

129

FIRE SAFETY SECTION 1203

- * 1203.1 Scope.
- * 1203.2 General.
- * 1203.3 Means of egress.
- * 1203.4 Transoms.
- * 1203.5 Interior finishes.
- * 1203.6 Stairway enclosure.
- * 1203.7 One-hour fire-resistant assemblies.
- * 1203.8 Glazing in fire-resistance-rated systems.
- * 1203.9 Stairway railings.
- * 1203.10 Guards.
- * 1203.11 Exit signs
- * 1203.12 Automatic fire-extinguishing systems.

130

ALTERATIONS SECTION 1204

* 1204.1 Accessibility requirements. The provisions of Sections 705, 806 and 906, as applicable, shall apply to facilities designated as historic structures that undergo alterations, unless technically infeasible. Where compliance with the requirements for accessible routes, entrances or toilet rooms would threaten or destroy the historic significance of the building or facility, as determined by the code official, the alternative requirements of Sections 1204.1.1 through 1204.1.4 for that element shall be permitted.

131

CHANGE OF OCCUPANCY SECTION 1205

* Historic buildings undergoing a change of occupancy shall comply with the applicable provisions of Chapter 10, except as specifically permitted in this chapter. When Chapter 10 requires compliance with specific requirements of Chapter 7, Chapter 8 or Chapter 9 and when those requirements are subject to the exceptions in Section 1202, the same exceptions shall apply to this section.

132

CHANGE OF OCCUPANCY SECTION 1205

- 1205.2 Building area.
- 1205.3 Location on property.
- 1205.4 Occupancy separation.
- 1205.5 Roof covering.
- 1205.6 Means of egress.
- 1205.7 Door swing.
- 1205.8 Transoms.
- 1205.9 Finishes.
- 1205.10 One-hour fire-resistant assemblies.
- 1205.11 Stairways and guards.
- 1205.12 Exit signs.
- 1205.13 Exit stair live load.
- 1205.14 Natural light.
- 1205.15 Accessibility requirements.

133

STRUCTURAL SECTION 1206

- 1206.1 General. Historic buildings shall comply with the applicable structural provisions for the work as classified in Chapter 5.
- Exception: The code official shall be authorized to accept existing floors and approve operational controls that limit the live load on any such floor.
- Conditions determined by the code official to be dangerous shall be remedied. No work shall be required beyond what is required to remedy the dangerous condition.

134

RELOCATED OR MOVED BUILDINGS CHAPTER 13

- This chapter provides requirements for relocated or moved structures, including relocatable buildings as defined in Chapter 2.

135

Conformance
Section 1301.2

- The building shall be safe for human occupancy as determined by the International Fire Code and the International Property Maintenance Code. Any repair, alteration, or change of occupancy undertaken within the moved structure shall comply with the requirements of this code applicable to the work being performed. Any field-fabricated elements shall comply with the requirements of the International Building Code or the International Residential Code as applicable.

136

REQUIREMENTS
Section 1302

- 1302.1 Location on the lot.
- 1302.2 Foundation.
- 1302.3 Wind loads.
- 1302.4 Seismic loads.
- 1302.5 Snow loads.
- 1302.6 Flood hazard areas.
- 1302.7 Required inspection and repairs.

137

PERFORMANCE
COMPLIANCE
METHODS
CHAPTER 14

- The provisions of this chapter shall apply to the alteration, repair, addition and change of occupancy of existing structures, including historic and moved structures, as referenced in Section 301.1.3. The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in existing buildings while permitting repair, alteration, addition and change of occupancy without requiring full compliance with Chapters 5 through 13, except where compliance with other provisions of this code is specifically required in this chapter.

138

Applicability
Section 1401.2
(Michigan)

Structures existing before November 6, 1974, 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 5 to 13 of the code. The provisions in sections 1401.2.1 to 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in groups A, B, E, F, I-2, M, R, and S. This rule shall not apply to buildings with occupancies in group H or I-1, I-3, or I-4.

139

Acceptance
Section 1401.3

For repairs, alterations, additions, and changes of occupancy to existing buildings that are evaluated in accordance with this section, compliance with this section shall be accepted by the code official.

140

Investigation and evaluation
Section 1401.4

For proposed work covered by this chapter, the building owner shall cause the existing building to be investigated and evaluated in accordance with the provisions of Sections 1401.4 through 1401.9.

141

Evaluation
Section 1401.5

- The evaluation shall be comprised of three categories: fire safety, means of egress, and general safety, as defined in Sections 1401.5.1 through 1401.5.3.

142

Evaluation process
Section 1401.6

- The evaluation process specified herein shall be followed in its entirety to evaluate existing buildings in Groups A, B, E, F, M, R, S and U. For existing buildings in Group I-2, the evaluation process specified herein shall be followed and applied to each and every individual smoke compartment. Table 1401.7 shall be utilized for tabulating the results of the evaluation. References to other sections of this code indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined.

143

Evaluation process
Section 1401.6

- In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in Section 1401.6.16, the score for each occupancy shall be determined, and the lower score determined for each section of the evaluation process shall apply to the entire building, or to each smoke compartment for Group I-2 occupancies.

144

Evaluation process
Section 1401.6

- * 1401.6.1 Building height and number of stories.
- * 1401.6.2 Building area.
- * 1401.6.3 Compartmentation.
- * 1401.6.4 Tenant and dwelling unit separations.
- * 1401.6.5 Corridor walls.
- * 1401.6.6 Vertical openings.
- * 1401.6.7 HVAC systems.
- * 1401.6.8 Automatic fire detection.
- * 1401.6.9 Fire alarm systems.
- * 1401.6.10 Smoke control.

145

Evaluation process
Section 1401.6

- * 1401.6.11 Means of egress capacity and number.
- * 1401.6.12 Dead ends.
- * 1401.6.13 Maximum exit access travel distance to an exit.
- * 1401.6.14 Elevator control.
- * 1401.6.15 Means-of-egress emergency lighting.
- * 1401.6.17 Automatic sprinklers.
- * 1401.6.18 Standpipes.

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Evaluation process
Section 1401.6

- * 1401.6.19 Incidental uses.
- * 1401.6.20 Smoke compartmentation.
- * 1401.6.21 Patient ability, concentration, smoke compartment location and ratio to attendant.

147

Building score
Section 1401.7

- After determining the appropriate data from Section 1401.6, enter those data in Table 1401.7 and total the building score.

148

Safety scores
Section 1401.8

- The values in Table 1401.8 are the required mandatory safety scores for the evaluation process listed in Section 1401.6.

OCCUPANCY	FIRE SAFETY (MFS)	MEANS OF EGRESS (MME)	GENERAL SAFETY (MGS)
A-1	20	31	31
A-2	21	32	32
A-3	22	33	33
A-4, E	29	40	40
B	30	40	40
F	24	34	34
I-2	19	34	34
M	23	40	40
R	21	38	38
S-1	19	29	29
S-2	29	39	39

149

Evaluation of building safety
Section 1401.9

- The mandatory safety score in Table 1401.8 shall be subtracted from the building score in Table 1401.7 for each category. Where the final score for any category equals zero or more, the building is in compliance with the requirements of this section for that category.
- Where the final score for any category is less than zero, the building is not in compliance with the requirements of this section.

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SUMMARY SHEET-BUILDING CODE TABLE 14.01.7

The image shows a detailed summary sheet titled "SUMMARY SHEET-BUILDING CODE TABLE 14.01.7". It contains a grid of information organized into columns. The first column lists various building categories and codes (e.g., S101, S102, S103, S104, S105, S106, S107, S108, S109, S110, S111, S112, S113, S114, S115, S116, S117, S118, S119, S120, S121, S122, S123, S124, S125, S126, S127, S128, S129, S130, S131, S132, S133, S134, S135, S136, S137, S138, S139, S140, S141, S142, S143, S144, S145, S146, S147, S148, S149, S150, S151, S152, S153, S154, S155, S156, S157, S158, S159, S160, S161, S162, S163, S164, S165, S166, S167, S168, S169, S170, S171, S172, S173, S174, S175, S176, S177, S178, S179, S180, S181, S182, S183, S184, S185, S186, S187, S188, S189, S190, S191, S192, S193, S194, S195, S196, S197, S198, S199, S200). The subsequent columns contain numerical values and codes, likely representing different regulatory requirements or standards. The bottom portion of the table is partially obscured by a dark overlay.

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Summary

• Mr. CEB gives us a way to evaluate work proposed to take place on older buildings and to determine that the results will comply with a minimum level of safety for the intended occupancy even though the building will not comply with the requirements for a new building.

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