

## AMENDMENTS TO THE 2024 INTERNATIONAL BUILDING CODE

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### 4-2-2: AMENDMENTS TO THE 2024 INTERNATIONAL BUILDING CODE

The following sections of the 2024 International Building Code, adopted by reference as set forth in Section 4-2-1, are amended as follows:

#### CHAPTER 1 SCOPE AND ADMINISTRATION

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

A new **Section 101.1.1 International Code References** is added as follows:

**101.1.1 International Code References.** Within the technical codes and the referenced codes and standards therein, specific references to the following International Codes shall be deemed and interpreted to mean the specific City of Mesa Codes as listed herein:

1. International Building Code (IBC) is redefined as Mesa Building Code (MBC)
2. International Fire Code (IFC) is redefined as Mesa Fire Code (MFC)
3. International Residential Code (IRC) is redefined as Mesa Residential Code (MRC)
4. International Mechanical Code (IMC) is redefined as Mesa Mechanical Code (MMC)
5. International Fuel Gas Code (IFGC) is redefined as Mesa Fuel Gas Code (MFGC)
6. International Existing Building Code (IEBC) is redefined as Mesa Existing Building Code (MEBC)
7. International Plumbing Code (IPC) is redefined as Mesa Plumbing Code (MPC)
8. International Swimming Pool and Spa Code (ISPSC) is redefined as Mesa Swimming Pool and Spa Code (MSPSC)
9. International Energy Conservation Code (IECC) is redefined as Mesa Energy Conservation Code (MECC).

**Sections 101.4 through 116.5** are deleted in their entirety. Any reference to Sections 101.4 through 116.5 shall comply with the Mesa Administrative Code (Mesa City Code, Title 4, Chapter 1).

#### CHAPTER 2 DEFINITIONS

A new **Section 202 Definitions** is added as follows:

**EXISTING BUILDING.** A building erected prior to the date of adoption of the appropriate code, or one for which Certificate of Occupancy has been issued for at least one year.

**EXISTING STRUCTURE.** A structure erected prior to the date of adoption of the appropriate code, or one for which a legal structure permit has been closed for at least one year.

## CHAPTER 3 OCCUPANCY CLASSIFICATION AND USE

**308.5.4 Ten or Fewer Persons Receiving Care in a Dwelling Unit.** A facility such as the above within a dwelling unit and having 10 or fewer persons receiving custodial care shall be classified as a Group R-3 or R-5 occupancy as applicable.

**310.1 Residential Group R.** Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I.

**310.4 Residential Group R-3.** Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as R-1, R-2, R-4, R-5 or I, including:

Buildings that do not contain more than 2 dwelling units

Care facilities that provide accommodations for five or fewer persons receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Boarding houses (nontransient)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Congregate living facilities (transient) with 10 or fewer occupants

Boarding houses (transient)

Lodging houses (transient) with five or fewer guest rooms and 10 or fewer occupants

Hotels (nontransient) with five or fewer guest rooms

Motels (nontransient) with five or fewer guest rooms.

**310.4.1. Care Facilities Within a Dwelling.** Care facilities for five or fewer persons incapable of self-preservation receiving care that are within a single-family dwelling are permitting to comply with the International Residential Code and provide fire sprinklers in accordance with Section 903.3.1.3.

**310.5 Residential Group R-4.** Residential Group R-4 occupancies shall include buildings, structures or portions thereof for more than five but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. Building of Group R-4 shall be classified as one of the occupancy conditions indicated below. This group shall include, but not be limited to, the following:

Alcohol and drug centers

Assisted living facilities

Congregate care facilities

Group homes

Halfway houses

Residential board and care facilities

Social rehabilitation facilities

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3 or R-5, except as otherwise provided for in this code.

A new **Section 310.6 Residential Group R-5** is added as follows:

**310.6 Residential Group R-5.** Residential Group R-5 occupancies where the occupants are primarily permanent as detached one- and two-family dwellings and multiple single-family dwellings (townhouses) and their accessory structures conforming with the Mesa Residential Code. R-5 occupancies may include:

Buildings that do not contain more than 2 dwelling units

Care facilities that provide accommodations for five or fewer persons receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Boarding houses (nontransient)

Convents

Dormitories

Emergency services living quarters

Fraternities and sororities

Monasteries

Congregate living facilities (transient) with 10 or fewer occupants

Boarding houses (transient)

Lodging houses (transient) with five or fewer guest rooms and 10 or fewer occupants

Hotels (nontransient) with five or fewer guest rooms

Motels (nontransient) with five or fewer guest rooms.

**310.6.1. Care Facilities Within a Dwelling.** Care facilities for five or fewer persons incapable of self-preservation receiving care that are within a single-family dwelling are permitting to comply with the International Residential Code and provide fire sprinklers in accordance with Section 903.3.1.3.

A new **Section 310.7 Security Standard** is added as follows:

**310.7 Security Standard.**

**310.7.1 Requirement.** All main or front-entry doors of all dwelling units shall be arranged so that the occupant has a view of the area immediately outside the door without opening the door. Such view may be provided by a door viewer having a field of view of not less than one hundred eighty (180) degrees or through windows.

**CHAPTER 4 SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE**

**402.5 Automatic Sprinkler System.** Covered and open mall buildings and buildings connected shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, which shall comply with all of the following:

1. The automatic sprinkler system shall be complete and operative throughout occupied space in the mall building prior to occupancy of any of the tenant spaces. Unoccupied tenant spaces shall be similarly protected unless provided with approved alternative protection.
2. Sprinkler protection for the mall of a covered mall building shall be independent from that provided for tenant spaces or anchor buildings.
3. Sprinkler protection for the tenant spaces of an open mall building shall be independent from that provided for anchor buildings.
4. Sprinkler protection shall be provided beneath exterior circulation balconies located adjacent to an open mall.

5. Where tenant spaces are supplied by the same system, they shall be independently controlled.

**404.3 Automatic Sprinkler Protection.** An approved automatic sprinkler system shall be installed throughout the entire building.

**Exceptions:**

Where the ceiling of the *atrium* is more than 55 feet (16,764 mm) above the floor, sprinkler protection at the ceiling of the *atrium* is not required.

**410.6 Automatic Sprinkler System.** Stages shall be equipped with an automatic sprinkler system in accordance with Section 903.3.1.1. Sprinklers shall be installed under the roof and gridiron and under all catwalks and galleries over the stage. Sprinklers shall be installed in dressing rooms, performer lounges, shops and storerooms accessory to such stages.

**Exceptions:**

1. Sprinklers are not required under stage areas less than 4 feet (1,219 mm) in clear height that are utilized exclusively for storage of tables and chairs, provided that the concealed space is separated from the adjacent spaces by Type X gypsum board not less than 5/8-inch (15.9 mm) in thickness.
2. Sprinklers are not required within portable orchestra enclosures on stages.
3. Sprinklers are not required under catwalks and galleries where they are permitted to be omitted in accordance with Section 903.3.1.1.

**420.4 Automatic Sprinkler System.** Other than where preempted by Arizona State Law, Group I-1 and R occupancies shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.2.1. Quick-response or residential automatic sprinklers shall be installed in accordance with Sections 903.3.2. One- and two-family dwells shall be installed in accordance with Sections 903.3.1.3.

## **CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES**

**708.3 Fire-resistance Rating.** Fire partitions shall have a fire-resistance rating of not less than 1 hour except when required by Section 420.2 in a building that does not have an automatic sprinkler system the fire-resistance rating shall not be less than 2 hours.

**Exceptions:**

1. Corridor walls permitted to have a 1/2-hour fire-resistance rating by Table 1020.2.
2. Dwelling unit and sleeping unit separations in buildings of Types IIB, IIIB and VB construction shall have fire-resistance ratings of not less than 1/2 hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

## CHAPTER 9 FIRE PROTECTION AND LIFE SYSTEMS

**901.4.7.1 Access.** Automatic sprinkler system risers, fire pumps and controllers shall be provided with ready access. Where located in a fire pump room or automatic sprinkler system riser room, an exterior door shall be provided, and permitted to be locked provided that the key is available at all times.

A new **Section 901.6.1.1 Contractor Qualification** is added as follows:

**901.6.1.1 Contractor Qualification.** The fire code official shall validate contractor qualification and training at least once every 3 years.

**Sections 903.2 through 903.2.11.1.3** are deleted in their entirety.

A new **Section 903.2 Where Required** is added as follows:

**903.2 Where Required.** Approved automatic sprinkler systems shall be provided in the locations described in this Section.

**903.2.1 New Buildings or Structures.** All areas of new buildings or structures, and other locations required by this Chapter or the Mesa Fire Code, shall be provided with an automatic fire sprinkler system complying with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3 as applicable.

### **Exceptions:**

Unless the use of the facility otherwise requires automatic fire sprinkler protection, fire sprinkler systems shall not be required for the following:

1. R-3 and R-5 other than care facilities with persons incapable of self-preservation in accordance Section 203.9.3.1.
2. R-4 condition 1.
3. Other buildings or structures accessory to and located on the same lot with R-3, R-4, or R-5 occupancies.
4. Detached non-residential buildings not exceeding 500 square feet (46.5 m<sup>2</sup>) in floor area and not closer than 5 feet (1,524 mm) to any building or property line.
5. Detached gazebos, ramadas, and canopies not greater than 5,000 square feet (465 m<sup>2</sup>) in roof area, with no combustible storage, portable heating devices, or cooking beneath, and not closer than 5 feet to any building, property line, or other shade canopy.
6. Detached non-combustible or NFPA 701 compliant gazebos, ramadas, and canopies not greater than 5,000 square feet (465 m<sup>2</sup>) in roof area, with no combustible storage and not closer than 5 feet to any building, property line, or other shade canopies.

7. Detached restroom facilities associated with golf courses, parks and similar uses.
8. Noncombustible portable storage containers used for storage purposes.
9. Exterior covered/enclosed walkways of Type I, II or III construction, with no combustibile storage beneath, and with enclosing walls that are at least 50 percent open with fire code official approval.

**903.2.2 Group H-5 Occupancies.** An automatic sprinkler system shall be installed throughout buildings containing Group H-5 occupancies. The design of the sprinkler system shall not be less than that required under the Mesa Building Code for the occupancy hazard classifications in accordance with Table 903.2.2. Where the design area of the sprinkler system consists of a corridor protected by one row of sprinklers, the maximum number of sprinklers required to be calculated is 13.

<b>TABLE 903.2.2 GROUP H-5 AUTOMATIC SPRINKLER SYSTEM DESIGN CRITERIA</b>	
<b>Location</b>	<b>Occupancy Hazard Classification</b>
Fabrication areas	Ordinary Hazard Group 2
Service corridors	Ordinary Hazard Group 2
Storage rooms without dispensing	Ordinary Hazard Group 2
Storage rooms with dispensing	Extra Hazard Group 2
Corridors	Ordinary Hazard Group 2

**903.2.3 Change of Occupancy.** Where conditions exceed Section 102.3, an existing building or portion thereof undergoing a change of occupancy shall provide an automatic sprinkler system complying with the requirements of this chapter and Mesa Existing Building Code.

**Exception:**

Where approved by the fire code official, a change of occupancy shall be permitted without complying with the requirements of this code and the International Mesa Existing Building Code, provided that the new or proposed use or occupancy is less hazardous, based on life and fire risk, than the existing use or occupancy.

**903.2.4 Additions.** All additions to existing buildings shall be provided with an automatic fire protection system throughout the existing building and addition compliant with Section 903.3 as applicable.

**Exceptions:**

1. Additions of 1,000 sq. ft. (93 m<sup>2</sup>) or less to existing buildings without fire sprinklers. The aggregate of multiple additions shall not exceed 1,000 sq. ft. (93 m<sup>2</sup>).
2. Additions to R-3, R-4 Condition 1 and R-5 occupancies, not including care facilities with persons incapable of self-preservation in accordance Section 203.9.3.1.

**Section 903.2.11.3** is deleted in its entirety.

**903.3.1.1.1 Exempt Locations.** With fire code official approval, automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is damp, of fire-resistance rated construction or contains electrical equipment.

1. A room or space where sprinklers constitute a serious life or fire hazard because of the nature of the contents.
2. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
3. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.
4. Fire service access elevator machine rooms and machinery spaces.
5. Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008 of the International Building Code.

A new **Section 903.3.1.1.4 Minimum Design Requirement** is added as follows:

**903.3.1.1.4 Minimum Design Requirement.** The minimum design requirement for fire sprinkler systems shall be as determined by the Mesa Fire Code or as defined in Section 903.3.1.1.4 whichever is greater.

**903.3.3.1.1.4.1 Shell Buildings.** The minimum fire sprinkler system design for shell buildings shall be Ordinary Group II as defined in 903.3.1.1.

**903.3.3.1.1.4.2 Buildings with Roof Structure over 20 feet (6,096 mm).** The minimum design requirements for Group H, F and S-1 buildings with the roof structure over 20 feet (6,096 mm) above the finished floor shall be Extra Hazard Group I as defined in Chapter 32 and Section 903.3.1.1.

**903.3.1.2.3 Attics.** Attic protection shall be provided as follows:

1. Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system.
2. Where fuel-fired equipment is installed in an unsprinklered attic, not fewer than one quick-response intermediate temperature sprinkler shall be installed above the equipment.
3. Attics not required by Item 1 to have sprinklers shall comply with one of the following:



- 3.1. Provide automatic sprinkler system protection.
- 3.2. Construct the attic using noncombustible materials.
- 3.3. Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the International Building Code.
- 3.4. Fill the attic with noncombustible insulation.

The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the exterior wall, or the top of the highest parapet, whichever yields the greatest distance. For the purpose of this measurement, required fire vehicle access roads shall include only those roads that are necessary for compliance with Section 503.

4. Group R4, Condition 2 occupancy attics not required by Item 1 to have sprinklers shall comply with one of the following:
  - 4.1. Provide automatic sprinkler system protection.
  - 4.2. Provide a heat detection system throughout the attic that is arranged to activate the building fire alarm system.
  - 4.3. Construct the attic using noncombustible materials.
  - 4.4. Construct the attic using fire-retardant-treated wood complying with Section 2303.2 of the International Building Code.
  - 4.5. Fill the attic with noncombustible insulation.

A new **Section 903.3.1.2.4 Required Fire Protection Systems** is added as follows:

**903.3.1.2.4 Required Fire Protection Systems.** For the purpose of inspection, testing, or maintenance of fire protection systems in R-1 and R-2 occupancies, there shall be an exterior door for access to the fire sprinkler riser. The dimensions of the door be a minimum of 30 inches (762 mm) wide and in no case require service personnel to enter a private dwelling or garage to access the riser.

**903.3.1.3 NFPA 13D Sprinkler Systems.** Automatic sprinkler systems installed in one- and two-family dwellings; Group R-3, R-4, and R-5, and townhouses shall be permitted to be installed throughout in accordance with NFPA 13D.

**903.3.5 Water Supplies.** Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow as required by Mesa Standard Details. For connections to public

waterworks systems, the water supply test used for design of fire protection systems shall be adjusted to account for seasonal and daily pressure fluctuations based on information from the water supply authority and as approved by the fire code official.

A new **Section 903.3.5.3 Detectible Underground Locator Device** is added as follows:

**903.3.5.3 Detectible Underground Locator Device.** Underground nonmetallic water and irrigation system piping larger than 2 inches (50.8 mm) in diameter shall be installed with insulated copper tracer wire or other approved conductor located adjacent to the piping. Access shall be provided to the tracer wire or the tracer wire shall terminate above ground at each end of the nonmetallic piping. The tracer wire size shall not be not less than 12 AWG and the insulation type shall be suitable for direct burial.

**903.3.6 Hose Threads.** Fire hose threads and fittings used in connection with automatic sprinkler systems shall be National Standard Thread.

A new **Section 903.3.7.1. Fire Department Connection Sizing** is added as follows:

**903.3.7.1. Fire Department Connection Sizing.** The size of the fire department connection and piping is dependent on the automatic sprinkler design flow. The maximum design flow for a 2-½ inch Siamese connection is 500 GPM (1892.71 LPM). For design flows greater than 500 GPM (1892.71 LPM) not including hose stream demands, install a single 2-½ inch (63.5 mm) Siamese connection and 5-inch (127 mm) Storz connection.

A new **Section 903.3.10 Safety Factor** is added as follows:

**903.3.10 Safety Factor.** All fire sprinkler designs shall have a 10 percent (pressure) safety margin.

A new **Section 903.3.11 Remodel** is added as follows:

**903.3.11 Remodel.** Fire sprinkler design drawings shall not be required for tenant improvements, other than Group H, high-pile, or rack storage, when 15 or less sprinklers are relocated or added where approved by the fire code official.

A new **Section 903.3.12 Freeze Protection** is added as follows:

**903.3.12 Freeze Protection.** Exterior sprinkler piping with a minimum of 2 inches (50.8 mm) may be used in lieu of freeze protection required by Section 903.3.1.1.

**903.4.1 Electronic Supervision.** Valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit.

**Exceptions:**

1. Automatic sprinkler systems protecting one- and two-family dwellings, other than R-3 with incapable of self-preservation and R-4 Condition 1.
2. Backflow prevention devices, serving limited area sprinkler system supply piping shall be locked in the open position.

3. Remotely located backflow prevention devices, including test valves, shall be locked in the open position where approved by the fire code official.
4. Groups R-1 and R-2 occupancies containing 15 or less dwelling or sleeping units and not exceeding an aggregate area of 12,000 square feet.
5. Jockey pump control valves that are sealed or locked in the open position.
6. Trim valves to pressure switches in dry, preaction and deluge sprinkler systems that are sealed or locked in the open position.
7. Underground key or hub gate valves in roadway boxes.

A new **Section 903.4.1.1 Backflow Preventors** is added as follows:

**903.4.1.1 Backflow Preventors.** In occupancies required to be equipped with a fire alarm system, the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.

**905.5 Location of Class II standpipe hose connections.** Where required by the *fire code official*, Class II standpipe hose connections shall be located so that all portions of the building are within 30 feet (9,144 mm) of a nozzle attached to 100 feet (30,480 mm) of hose. Class II standpipe hose connections shall be located where they will have ready access.

**905.6 Location of Class III standpipe hose connections.** Class III standpipe systems shall have hose connections located as required for Class I standpipes in Section 905.4. Where required by the fire code official, shall have Class II hose connections as required in Section 905.5.

**912.3 Fire Hose Threads.** Fire hose threads used in connection with standpipe systems shall be National Standard Thread (NST).

**912.6 Backflow Protection.** The potable water supply to automatic sprinkler and standpipe systems shall be protected against backflow as required by the Mesa Standard Details.

## **CHAPTER 10 MEANS OF EGRESS**

**1020.2.1 Hoistway Protection.** Elevator hoistway doors in elevators hoistway enclosures required to be fire-resistance rated shall be protected in accordance with Section 716. Elevator hoistway doors shall also be protected in accordance with Section 3006.3.

## **CHAPTER 11 ACCESSIBILITY**

**1101.1 Scope.** The provisions of this chapter and Arizona Revised statutes, ARS sections 41-1492 through 41-1492.12 shall control the design and construction of facilities for accessibility for individuals with disabilities.

### **Exceptions:**

1. This Chapter shall not apply to private clubs or establishments exempted from coverage under Title II of the Civil Rights Act of 1964 (42 United States Code Section 2000[a][e]).
2. This Chapter shall not apply to religious functional areas of religious facilities owned, operated, and maintained by religious organizations or entities controlled by religious organizations, including altar areas, baptismal fonts and areas, choir lofts, etc., but not including main assembly areas such as naves and sanctuaries.

A new **Section 1101.2 Public Accommodations** is added as follows:

**1101.2 Public Accommodations.** Where the requirements of this Chapter or the ICC/ANSI A117.1 are at variance from the requirements set forth in Title 41, Chapter 9, Article 8, Arizona Revised Statutes and its implementing rules, the State Statute and implementing rules shall govern.

A new **Section 1101.3 Provisions for Children** is added as follows:

**1101.3 Provisions for Children.** Facilities and areas of facilities intended primarily for occupancy by children aged 3 through 12 shall be permitted to be designed and constructed as an equivalent facilitation in accordance with ADA guidelines for accessible design for children as promulgated in the Federal Register, Vol. 63, No. 8, Tuesday, January 13, 1998. Such equivalent facilitation shall be permitted without requiring approval of a modification.

A new **Section 1101.4 Copy of Laws and Standards** is added as follows:

**1101.4 Copy of Laws and Standards.** A copy of all laws, rules, guidelines, and standards cited by this Chapter shall be available in the office of the City Clerk in order to allow persons an adequate opportunity to be informed of the applicable requirements.

**1102.1 Design.** Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1 and in accordance with provisions State of Arizona Attorney General Administrative Rules R10-3-401 through R-10-3-404 (2010 ADA Standards for Accessible Design, referred to as “2010 Standards”, adopted by the U.S. Department of Justice), whichever standard provides the greatest degree of accessibility.

**1103.2.5 Construction Sites.** Structures, sites and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage or construction trailers are not required to comply with this chapter. The public portions of temporary sales offices/trailers are required to be accessible. There shall be accessible parking and an accessible route from the accessible parking aisle to the sales office/trailer and throughout the public portion of the sales office/trailer, including the design center. Accessible toilet rooms shall be provided according to this code.

## **CHAPTER 16 STRUCTURAL DESIGN**

**1609.3 Basic Design Wind Speed.** The basic design wind speed, V, in mph, for the determination of the wind loads shall be determined by Figures 1609.3(1) through (8) or by using the following

wind speeds: Risk Category - 100 mph; Risk Category II - 105 mph; Risk Category III - 110 mph; Risk Category IV - 115 mph.

The basic design wind speed,  $V$ , for use in the design of Risk Category I buildings and structures shall be obtained from Figures 1609.3(4) and 1609.3(1) or 100 mph.

The basic design wind speed,  $V$ , for use in the design of Risk Category II buildings and structures shall be obtained from Figures 1609.3(1) and 1609.3(2) or 105 mph.

The basic design wind speed,  $V$ , for use in the design of Risk Category III building and structures shall be obtained from Figures 1609.3(2) and 1609.3(3) or 110 mph.

The basic design wind speed,  $V$ , for use in the design of Risk Category IV buildings and structures shall be obtained from Figures 1609.3(3) and 1609.3(4) or 115 mph.

The basic wind speed,  $V$ , for the special wind regions indicated near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements. The basic design wind speeds,  $V$ , determined by the local jurisdiction shall be in accordance with Chapter 26 of ASCE 7.

## **CHAPTER 17 SPECIAL INSPECTIONS AND TESTS**

**1704.6.1 Structural Observations for Structures.** Structural observations shall be provided for those structures where one or more of the following conditions exist:

1. The structure is classified as Risk Category III or IV.
2. The structure is a high-rise building.
3. The structure is assigned to Seismic Design Category E, and is greater than two stories above grade plane.
4. Such observation is required by the registered design professional responsible for the structural design.
5. Such observation is specifically required by the building official.
6. The structure contains elevated post-tensioned concrete floors or roofs.
7. The building height is greater than 75 feet (22,860 mm).
8. The structure is greater than three stories above grade plane.

A new **Section 1704.6.2 Statement of Observations** added as follows:

**1704.6.2 Statement of Observations.** Where observations are required, the construction documents shall show a statement of observations. This statement shall identify the frequency and

extent of observations. The frequency and extent shall be acceptable to the building official based on the complexity and scope of work on the permit.

A new **Section 1704.6.3 Procedures** is added as follows:

**1704.6.3 Procedures.** The registered design professional responsible for structural observation shall personally visit the site prior to completion of the Certificate of Compliance and periodically during the course of construction requiring structural observation as set forth in the inspection and observation program for each project.

The registered design professional responsible for performing structural observation shall complete a signed written report after each site visit. A copy of each report shall be kept on the job site for review by an inspector at all times until the inspector has issued final approval. Any and all deviations from the approved plans or specifications shall be immediately reported to the contractor for correction and then, if uncorrected, shall be reported to the registered design professional in responsible charge and to the building official.

In addition to individual reports, the registered design professional responsible for structural observation shall file with the building official a written monthly progress report indicating the dates of each site visit, the observations performed, any deviations noted from approved plans and specifications and any resulting instructions or change orders issued to the contractor.

A new **Section 1704.6.3 Procedures** is added as follows:

**1704.6.4 Certificate of Compliance.** Upon completion of the portions of the work requiring structural observation, a Certificate of Compliance shall be issued to the building official under the seal and signature of the registered design professional responsible for such observation. A Certificate of Occupancy will not be issued until the building official receives all required observation reports and the Certificate of Compliance.

The Certificate of Compliance for structural observation shall read as follows:

“I certify to the best of my knowledge the structural requirements of the Mesa Building Code and approved plans and specifications have been complied with insofar as the portion of the work requiring structural observation is concerned, except for those deviations that have been previously reported. A guarantee that the contractor has constructed the building in full accord with the plans and specifications is neither intended nor implied.”

A new **Section 1704.7 Electrical Observations** is added as follows:

**1704.7 Electrical Observations.** The owner shall employ the registered design professional responsible for the electrical design, or another registered design professional who is familiar with the electrical design and is acceptable to the building official to perform visual observation of complex electrical equipment and systems for general conformance to the approved plans and specifications, including but not limited to, placement and interconnection of equipment. Electrical observation shall be performed at significant stages of the construction and when the installation is complete and ready to be inspected. Electrical Observations are in addition to the inspections required by Section 110 and the special inspections required by Section 1705.22, and shall be provided when one of the following conditions exist:

1. Installation or alteration of that portion of health care facility electrical systems which falls within the scope of Article 517 of the National Electrical Code, including such systems installed in facilities where outpatient surgical procedures are performed.
2. Installations or alteration of electrical systems over 600v.
3. Installation or alteration of electrical systems within locations classified as hazardous by provisions of the National Electrical Code, except for gasoline dispensing installations and systems located within storage garages, repair garages or lubrication rooms.
4. When such observation is required by the registered design professional responsible for the electrical design.
5. When such observation is specifically required by the building official.

**1704.7.1 Statement of Observations.** Where observations are required, the construction documents shall show a statement of observations. This statement shall identify the frequency and extent of observations. The frequency and extent shall be acceptable to the building official based on the complexity and scope of work on the permit.

**1704.7.2 Procedures.** The registered design professional responsible for electrical observation shall personally visit the site prior to completion of the Certificate of Compliance and periodically during the course of construction requiring electrical observation as set forth in the inspection and observation program for each project.

The registered design professional responsible for performing electrical observation shall complete a signed written report after each site visit. A copy of each report shall be kept on the job site for review by an inspector at all times until the inspector has issued final approval. Any and all deviations from the approved plans or specifications shall be immediately reported to the contractor for correction and then, if uncorrected, shall be reported to the registered design professional in responsible charge and to the building official.

In addition to individual reports, the registered design professional responsible for electrical observation shall file with the building official a written monthly progress report indicating the dates of each site visit, the observations performed, any deviations noted from approved plans and specifications and any resulting instructions or change orders issued to the contractor.

**1704.7.3 Certificate of Compliance.** Upon completion of the portions of the work requiring electrical observation, a Certificate of Compliance shall be issued to the building official under the seal and signature of the registered design professional responsible for such observation. A Certificate of Occupancy will not be issued until the building official receives all required observation reports and the Certificates of Compliance.

The Certificate of Compliance for electrical observation shall read as follows:

“I certify to the best of my knowledge the electrical requirements of the Mesa Building Code and approved plans and specifications have been complied with insofar as the portion of the work requiring electrical observation is concerned, except for those deviations that have been previously reported. A guarantee that the contractor has constructed the building in full accord with the plans and specifications is neither intended nor implied.”

A new **Section 1705.21 Plumbing Special Inspections** is added as follows:

**1705.21 Plumbing Special Inspections.** The types of equipment or installations noted below shall be tested or inspected by a special inspector.

1. Medical Gas and Vacuum Systems.
2. Special cases – Work which, in the opinion of the building official, involves unusual hazards or conditions.

**Exception:**

The building official may waive the requirement for special inspection if the construction is of a minor nature.

A new **Section 1705.22 Electrical Special Inspections** is added as follows:

**Section 1705.22 Electrical Special Inspections.** The types of equipment or installations noted below shall be tested or inspected by a special inspector.

1. Ground-fault protection performance tests for equipment provided with ground-fault protection.
2. Switchboards, panelboards, motor control centers and other equipment rated at 1,000 amperes or more, or over 600 volts.
3. Transformers rated 100 KVA or more, single phase; or 300 KVA or more, three phase.
4. Conductors that supply equipment rated at 1,000 amperes or more, or over 600 volts.
5. Emergency and standby power systems, including switchboards, panelboards, distribution boards, transfer equipment, power source, conductors, fire pumps and exhaust and ventilation fans.
6. Selective Coordination - This includes verification of the installation in accordance with the required selective coordination study.
7. Special cases – Work which, in the opinion of the building official, involves unusual hazards or conditions.

**Exception:** The building official may waive the requirement for special inspection if the construction is of a minor nature.



## CHAPTER 18 SOILS AND FOUNDATIONS

A new **Section 1803.5.13 Post-tensioned Slabs on Ground** is added as follows:

**1803.5.13 Post-tensioned Slabs on Ground.** A geotechnical investigation is required for the design of all post-tensioned slabs on ground. The investigation report shall include all soil parameters as outlined in PTI DC-10.5. Information required on the drawings include, but is not limited to, slab type, soil parameters, bearing value and depth, coefficient of subgrade friction, soil subgrade modulus,  $e_m$  and  $y_m$  for expansive soils and all special inspection requirements.

## CHAPTER 19 CONCRETE

A new **Section 1907.1.1 Post-tensioned Slabs on Ground** is added as follows:

**1907.1.1 Post-tensioned Slabs on Ground.** All post-tensioned slabs on ground shall be permanently stamped, marked or otherwise identified in a conspicuous location indicating the slab is a post-tensioned slab. Conspicuous locations include, but are not limited to, entrance porches, slabs at garage doors or patio slabs.

## CHAPTER 21 MASONRY

A new **Section 2111.15 Fireplace Restrictions** added as follows:

**2111.15 Fireplace Restrictions.** Refer to the Mesa Mechanical Code, Section 932 for additional restrictions on masonry and factory-built fireplaces.

## CHAPTER 29 PLUMBING SYSTEMS

### Table 2902.1 Minimum Number of Required Plumbing Fixtures

**Footnote e.** For businesses and mercantile classifications with an occupant load of 100 or fewer, a service sink shall not be required.

**290.2 Separate Facilities.** Exception 2 amended as follows:

**Exception 2.** Separate toilet facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 25 or fewer.

**2902.6 Small Occupancies.** Drinking fountains shall not be required for an occupant load of 50 or fewer.

## CHAPTER 30 ELEVATORS AND CONVEYING SYSTEMS

**3005.2 Temperature Control.** Elevator machine rooms, machinery spaces that contain the driving machine, and control rooms or spaces that contain the operation or motion controller for elevator operation shall be provided with an independent air-conditioning system to protect against the overheating of the electrical equipment. The system shall be capable of maintaining temperatures not greater than 90 degrees to ensure safe and normal operation of the elevator.

**3006.2 Elevator Hoistway Door Protection Required.** Elevator hoistway doors shall be protected in accordance with Section 3006.3 where an elevator hoistway connects more than three

stories, is required to be enclosed within a shaft enclosure in accordance with Section 712.1.1 and any of the following conditions apply:

1. The building is not protected throughout with an automatic sprinkler system in accordance with Section 903.1.1 or 903.1.2.
2. The building contains a Group I-1, Condition 2 occupancy.
3. The building contains a Group I-2 occupancy.
4. The building contains a Group I-3 occupancy.
5. The building is a high rise and the elevator hoistway is more than 75 feet (22,860 mm) in height. The height of the hoistway shall be measured from the lowest floor to the highest floor of the floors served by the hoistway.

**Exceptions:**

1. Protection of elevator hoistway doors is not required where the elevator serves only open parking garages in accordance with Section 406.5.
2. Protection of elevator hoistway doors is not required at the levels of exit discharge, provided that the levels of exit discharge is equipped with an automatic sprinkler system in accordance with Section 903.1.1.
3. Protection of elevator hoistway doors is not required on levels where the elevator hoistway doors open to the exterior.

**Section 3006.2.1** is deleted in its entirety.

**3006.3 Rated Corridors.** Where corridors are required to be fire-resistance rated in accordance with Section 1020.2, elevator hoistway openings that open into such corridors shall be protected in accordance with Section 3006.4.

**3006.4 Elevator Hoistway Door Protection.** Where Section 3006.2 requires protection of the elevator hoistway doors, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway doors from each floor with *fire partitions* in accordance with Section 708. In addition, doors protecting openings in the fire partitions shall comply with Section 716.2.2.1. Penetrations of the fire partitions by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1.
2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway doors from each floor by smoke partitions in accordance with Section 710. In addition, doors protecting openings in the smoke partitions shall comply with Sections 710.5.2.2,

710.5.2.3 and 716.2.6.1. Penetrations of the smoke partitions by ducts and air transfer openings shall be protected as required for corridors in accordance with Section 717.5.4.1.

3. Additional doors or other devices shall be provided at each elevator hoistway door in accordance with Section 3002.6. Such doors or other devices shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. The elevator hoistway shall be pressurized in accordance with Section 909.21.
5. A smoke-protective curtain assembly for hoistways shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such curtain assemblies shall comply with the smoke and draft control requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal. Such curtain assemblies shall be equipped with a control unit listed to UL 864. Such curtain assemblies shall comply with Section 2.11.6.3 of ASME A17.1/CSA B44. Installation and maintenance shall be in accordance with NFPA 105.

**3006.5 Means of Egress.** Elevator lobbies shall be provided with not less than one means of egress complying with Chapter 10 and other provisions in this code. Egress through an enclosed elevator lobby shall be permitted in accordance with Item 1 of Section 1016.2. Electrically locked exit access doors providing egress from elevator lobbies shall be permitted in accordance with Section 1010.2.14.

## **CHAPTER 32 ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY**

**3201.1 Scope.** The provisions of the City of Mesa Code, Title 9, Public Ways and Property shall govern encroachments into the public right-of-way.

**Sections 3201.2 through 3202.4** are deleted in their entirety.

## **CHAPTER 35 REFERENCED STANDARDS**

**NFPA** (National Fire Protection Association):

11 – 24	Low Medium- and High-Expansion Foam
13 – 25	Installation of Sprinkler Systems
13D – 25	Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes
13R – 25	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height
14 – 24	Installation of Standpipe, Private Hydrants and Hose Systems
20 – 25	Installation of Stationary Pumps for Fire Protection
72 – 25	National Fire Alarm Code

110 – 25	Emergency and Standby Power Systems
111 – 25	Standard on Storage Electrical Energy Emergency and Standby Power Systems
211 – 24	Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances