TITLE 20

APPENDIX B

Sections:

INTERNATIONAL BUILDING CODE REVISIONS.

110.3 Required inspections.

Section 110.3 of the International Building Code is amended to read as follows:

110.3 Required inspections. The building official, upon notification, shall make the inspections set forth in Sections 110.3.1 through 110.3.11. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

110.3.1 Footing and foundation inspection: Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C 94, the concrete need not be on the job. (Ord. 1399, 2013; Ord. 1131, 2005)

110.3.2 Concrete slab and under-floor inspection: Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the sub-floor. (Ord. 1399, 2013; Ord. 1131, 2005)

110.3.3 Lowest floor elevation: In flood hazard areas, upon placement of the lowest floor, including the basement, and prior to further vertical construction, the

elevation certification required in Section 1612.4 shall be submitted to the building official. (Ord. 1551; 2019; Ord. 1399, 2013; Ord. 1131, 2005)

110.3.4 Exterior shear-wall inspection: To be made prior to the application of exterior siding or cover. (Ord. 1399, 2013; Ord. 1131, 2005)

110.3.4.1 Frame inspection: Framing inspections shall be made after the structure is dried-in, exterior windows installed, roof deck or sheathing and weather protected, all framing has been completed along with all fire blocking, all penetrations have been installed and sealed, chimneys and vents to be concealed are complete and the rough electrical, plumbing, mechanical ducting, heating wires are completed and ready for required testing. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

110.3.5 Lath and gypsum board inspection: Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or gypsum board joints and fasteners are taped and finished. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

110.3.6 Weather-exposed balcony and walking surface waterproofing: Where balconies or other elevated walking surfaces are exposed to water from direct or blowing rain, snow or irrigation, and the structural framing is protected by an impervious moisture barrier, all elements of the impervious moisture barrier system shall not be concealed until inspected and approved. (Ord. 1551, 2019)

110.3.7 Fire-resistant penetrations: Protection of joints and penetrations in fire-resistance-rated assemblies shall not be concealed from view until inspected and approved. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

110.3.8 Energy efficiency inspections: Inspections shall be made to determine compliance with chapter 13 and shall include, but not limited to, inspections for: envelope insulation R and U values, penetration U value, duct system R value, and HVAC and water-heating equipment efficiency or provide a certification from the licensed contractor or certified insulation installer. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1211, 2007; Ord. 1131, 2005)

110.3.9 Other inspections: In addition to the inspections specified above, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the building department. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

110.3.10 Special inspections: For special inspections, see Chapter 17. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

110.3.11 Final inspection: The final inspection shall be made after all work required by the building permit is completed. (Ord. 1551, 2019; Ord. 1131, 2005)

112.4 Newly constructed separately owned multiple residential and commercial buildings.

Section 112 of the IBC is amended by adding a new subsection as follows:

Section 112.4. Construction of buildings for separately owned multiple commercial and residential condominiums on a single lot must comply with the following:

1. Each unit must have a separate electric meter and an accessible disconnect.
2. Each unit must have a separate water service and an accessible shut-off.
3. Each unit must have a separate heating system.
4. Where gas or propane is provided for use each unit must have a separate service and accessible shut-off. (Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 558, 1992)

202 Definitions. Section 202 of the IBC is amended to add the following definitions:

HIGH-RISE BUILDING. A building with an occupied floor located more than 55 feet (16,764 mm) above the lowest level of fire department vehicle access.

International Electrical Code. The Electrical Code, whether the National Electrical Code or the International Electrical Code, as amended and adopted by the local jurisdiction.

International Mechanical Code. The Mechanical Code, whether the Uniform Mechanical Code or the International Mechanical Code as amended and adopted by the local jurisdiction.

International Plumbing Code. The Plumbing Code, whether the Uniform Plumbing Code or the International Plumbing Code, as amended and adopted by the local jurisdiction.

International Fuel Gas Code. The Fuel Gas Code, whether NFPA 54 or the International Fuel Gas Code, as amended and adopted by the local jurisdiction.

Surcharge. A vertical load imposed on the retained soil that may impose a lateral force in addition to the lateral earth pressure of the retained soil. Examples include:

- Sloped retained soil.
- Structure footings supported by the retained soil.
- Adjacent vehicle loads supported by the retained soil. (Ord. 1551, 2019)

305.2 Group E, day care facilities. This group includes buildings and structures, or portions thereof occupied by more than six children older than 2 ½ years of age who receive educational, supervision or personal care services for fewer than 24 hours per day. (Ord. 1551, 2019)

305.2.2 Six or fewer children. A facility having six or fewer children receiving such day care shall be classified as part of the primary occupancy. (Ord. 1551, 2019)

305.2.3 Six or fewer children in a dwelling unit. A facility such as the above within a dwelling unit and having six or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code. (Ord. 1551, 2019)

308.2.5 Board of Health. All portions of a care facility which houses patients or residents which is classified by the State Board of Health as 'Category 2,' and which has an occupant load of more than 10 residents, is classified as an 'I-1' occupancy classification. (Ord. 1551, 2019)

308.5 Institutional Group I-4, day care facilities. Institutional Group I-4 occupancy shall include buildings and structures occupied by more than six persons of any age who receive custodial care for fewer than 24 hours per day by persons other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:

Adult day care
Child day care
(Ord. 1551, 2019)

308.5.1 Classification as Group E. A child day care facility that provides care for more than six but not more than 100 children 2 ½ years or less of age, where the rooms in which the children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E. (Ord. 1551, 2019)

308.5.3 Six or fewer persons receiving care. A facility having six or fewer persons receiving custodial care shall be classified as part of the primary occupancy. (Ord. 1551, 2019)

308.5.4 Six or fewer persons receiving care in a dwelling unit. A facility such as the above within a dwelling unit and having six or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the International Residential Code. (Ord. 1551, 2019)

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

Boarding houses (transient) with more than 10 occupants
Brothels
Congregate living facilities (transient) with more than 10 occupants Hotels (transient)
Motels (transient)

(Ord. 1551, 2019)

311.2 Moderate-Hazard storage, Group S-1. Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

Aerosol products, Levels 2 and 3
Aircraft hangar (storage and repair)
Bags: cloth, burlap and paper
Bamboos and rattan
Baskets
Belting: canvas and leather
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage
Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber
Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in Table 307.1(1) (see Section 406.8)
Photo engravings
Resilient flooring
Self-service storage facility (mini-storage) Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses

Wax candles
(Ord. 1551, 2019)

403.5.4 Smokeproof enclosures. Every required interior exit stairway serving floors more than 55 feet (16,764 mm) above the lowest level of fire department vehicle access shall be a smokeproof enclosure in accordance with Sections 909.20 and 1023.11. (Ord. 1551, 2019)

901.8. Automatic fire extinguishing systems--Special provisions.
Section 901 of the IBC is amended by adding new subsections as follows:

901.8. All buildings or structures outside the jurisdiction of the Tahoe-Douglas Fire Protection District having a total building area of 5,000 square feet or more, and all buildings or structures three stories high or in excess of 45 feet in height, whichever is less, must be provided with automatic fire sprinkler protection, except as provided for in this section. Exceptions. New buildings or structures designated as R-3, Group U and all single family occupancies less than 5,000 square feet outside of the Tahoe-Douglas Fire Protection District are exempted from the sprinkler system requirements. (Ord. 1604, 2022; Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 543, 1991; Ord. 517, 1990; Ord. 491, 1989; Ord. 437, 1985)

901.8.1. No other exceptions to the requirements of section 901.9 will be permitted except by the approval of the building official and fire marshal. If the building official or fire marshal do not approve, no exception will be allowed unless approved by majority of the building and fire board of appeals, if there is no board of appeals appointed, the applicant may appeal the decision to disapprove under section 901.9.4 and .5 to the board of county commissioners. In instances where buildings or structures are exempted from the requirements of section 901.9 by the approval of the building official and fire marshal or an affirmative vote of the board of appeals, the buildings or structures must be equipped with an acceptable alternate method of providing fire protection. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1237, 2008; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 491, 1989; Ord. 437, 1985)

901.8.2. Installation, inspection, maintenance and testing of sprinkler systems or any alternative extinguishing system approved pursuant to section 901.9.1 must meet the requirements set forth in the current edition of the National Fire Protection Association (NFPA) standard for the installation of sprinkler systems, NFPA 13, 13D, or 13R as applicable. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 491, 1989; Ord. 437, 1985)

901.8.3. Habitable space is defined for the purpose of this section as the total habitable floor area in square feet for all floor levels within the exterior walls. Addition

means to add additional habitable square footage to an existing structure. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1237, 2008; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 491, 1989; Ord. 437, 1985)

901.8.4. All new buildings or structures within the jurisdiction of the Tahoe-Douglas Fire Protection District must be provided with automatic fire sprinkler system as outlined in Chapter 9, Section 903.3 of the adopted edition of the International Fire and Building Codes, except for single family dwellings (R-3 and U occupancy) with less than 3,600 square feet of habitable space that meet fire flow requirements of the International Fire Code. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1237, 2008; Ord. 1211, 2007; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 573, 1992; Ord. 543, 1991; Ord. 517, 1990)

901.8.5. All existing buildings or structures within the jurisdiction of the Tahoe-Douglas Fire Protection District must be provided with an automatic fire sprinkler system as outlined in Chapter 9, Section 903.3 of the adopted edition of the International Fire and Building Codes, when changing use or when increasing the habitable space of a single family dwelling to more than 3,600 square feet. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1237, 2008; Ord. 1211, 2007; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 573, 1992; Ord. 543, 1991; Ord. 517, 1990)

901.8.6. No other exceptions to the requirement of sections 901.9.4 and 901.9.5 will be permitted except by an affirmative majority vote of the board of appeals or the board of county commissioners. To grant an exemption the board of appeals must either: (i) require the buildings of structures to have an alternative extinguishing system, or (ii) require an acceptable alternative method of providing fire protection which will provide additional safety for occupants, better access for the fire department and other improved fire safety conditions when the board makes the finding that the exemption is based on low risk to life safety and property value. No exemption is allowed by the board unless the building or structure meets the minimum requirements of the current adopted edition of the International Fire and Building Code. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1237, 2008; Ord. 1211, 2007; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 517, 1990)

901.8.7. Installation, inspection, maintenance and testing of sprinkler systems or any alternative extinguishing system approved pursuant to section 901.9.6 must meet the requirements as set forth in the current edition of the NFPA standard for the installation of sprinkler systems, NFPA 13, 13D, or 13R, as applicable. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 517, 1990)

901.8.8 Total building area is defined for the purpose of this section as the total floor area in square feet for all floor levels within the exterior walls, or under the horizontal projection of the roof of a building. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 573, 1992; Ord. 543, 1991; Ord. 517, 1990)

906. Portable Fire Extinguishers. Refer to the 2018 Edition of the International Fire Code as amended. (Ord. 1551, 2019)

910.2 Where required. Smoke and heat vents or a mechanical smoke removal system shall be installed as required by Sections 910.2.1 and 910.2.2.

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an approved automatic sprinkler system.
2. Automatic smoke and heat vents are not required within areas of buildings equipped with early suppression fast-response (ESFR) sprinklers unless the area of Group F-1 or S-1 occupancy protected with the ESFR sprinklers has an exit access travel distance of more than 250 feet (76 200mmn).

Smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of 50 (m x S)½ or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers. (Ord. 1551, 2019)

1010.1.10 Panic and fire exit hardware. Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than panic hardware or fire exit hardware.

Exceptions:

1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with panic hardware or fire exit hardware and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.

Electrical rooms with equipment rated 800 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with exit or exit access doors, shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel. (Ord. 1551, 2019)

1023.9.1 Interior exit stairways and Ramps.

Section 1023.9.1 of the IBC is amended by adding the following section:

1023.9.1 #7 All signs on doors leading to stairways that extend to the roof must be green in color. All other signs on doors leading to stairways must be red in color. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1211, 2007; Ord. 1131, 2005; Ord. 802, 1998; Ord.

711, 1995; Ord. 437, 1985)

1209.4 Baby Changing Tables. Diaper changing tables are required to be installed in both male, female and other restrooms, in permanent buildings that contain public restrooms as defined in chapter 29 of the 2018 IBC. Changing tables are required when any of the following occur: new buildings, tenant improvements, new restrooms, alteration of existing restrooms, new additions, change of uses that require updating existing restrooms with additions to those facilities. Shall meet the guidelines of 603.5, 309 and 902 of ANSI/ICC A117.1-2009.

Exception: A building or facility that does not have public restrooms or has been issued a permit or license which restricts the admission of children on the basis of age, shall be exempt from this requirement. (Ord. 1551, 2019)

1503.1 Weather protection.

Section 1503.1 of the IBC is amended by adding the following language:

Roof decks shall be covered with approved roof coverings secured to the building or structure in accordance with the provisions of this chapter. Roof coverings shall be designed, installed in accordance with this code and the approved manufacturer's instructions such that the roof covering shall serve to protect the building or structure. Roof ice build-up protection is required at an elevation of 6,000 feet and above throughout the County. (Ord. 1399, 2013; Ord. 1211, 2007; Ord. 1131, 2005)

1507 Requirements for Roof Coverings.

Section 1507 of the IBC is amended by adding the following language to section 1507.8 to apply to all structures within the jurisdiction of the Tahoe Douglas Fire Protection District. (Ord. 1211, 2007; Ord. 1131, 2005; Ord. 1112, 2005)

1608.2 Snow loads.

Section 1608.2 of the IBC is amended by adding the following table:

TABLE 1608.2.1 Ground Snow Loads P_g, for Northern Nevada Locations

Elevation In Feet	West of U.S. Hwy 395 Sierra Slope, Douglas, County, Pg (Pounds Per Square Foot)	East of U.S. Hwy 395 Douglas, County, Pg (Pounds Per Square Foot)
4500	40	40
5000	40	40
5100	40	40
5200	40	40
5300	40	40

5400	40	40
5500	40	40
6000	40	40
6500	190	190
7000	190	190
7500	190	190
8000	229	190
8500	243	190
9000	271	190
9500	300	190
10000	357	190

(Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 437, 1985)

1609.1.1 Determination of wind loads. Wind loads on every building or structure shall be determined in accordance with Chapter 26 to 30 of ASCE 7. The type of opening protection required, the basic design wind speed, V, and the exposure category for a site is permitted to be determined in accordance with section 1609 or ASCE 7. The wind speed in Douglas County shall be per the Special Wind Region Table 1609.3.2 Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

Exceptions:

1. Subject to limitations of section 1609.1.1.1, the provisions of ICC 600 shall be permitted for applicable Group R-2 and R-3 buildings.
2. Subject to the limitations of Section 1609.1.1.1, residential structures using the provisions of AWC WFCM.
3. Subject to the limitations of Section 1609.1.1.1 residential structures using the provisions of AISI S230.
4. Designs using NAAMM FP 1001.
5. Designs using TIA-222 for antenna-supporting structures and antennas, provided that the horizontal extent of Topographic Category 2 escarpments in Section 2.6.6.2 of TIA-222 shall be 16 times the height of the escarpment.
6. Wind tunnel tests in accordance with ASCE 49 and Sections 31.4 and 31.5 of ASCE 7.

The wind speeds in Figures 1609.3(1) through 1609.3(8) are basic design wind speeds, V, and shall be converted in accordance with Section 1609.3.1 to allowable stress design wind speeds, V_{asd}, when the provisions of the standards referenced in Exceptions 4 and 5 are used. The wind speed in Douglas County shall be per the Special Wind Region Table 1609.3.2. (Ord. 1551, 2019)

1609.1.1.1 Applicability. The provisions of ICC 600 are applicable only to buildings located within Exposure B or C as defined in section 1609.4. The wind speed

in Douglas County shall be per the Special Wind Region Table 1609.3.2. The provisions of ICC 600, AWC WFCM and AISI S230 shall not apply to buildings sited on the upper half of an isolated hill, ridge, or escarpment meeting all of the following conditions:

1. The hill, ridge or escarpment is 60 feet (18288 mm) or higher if located in Exposure B or 30 feet (9144 mm) or higher if located in Exposure C.
2. The maximum average slope of the hill exceeds 10 percent.
3. The hill, ridge or escarpment is unobstructed upwind by other such topographic features for a distance from the high point of 50 times the height of the hill or 2 miles (3.22 km), whichever is greater. (Ord. 1551, 2019)

1609.3 Basic design wind speed.

Section 1609.3 of the IBC, is amended by substituting the following language:

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). 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(5). The basic design wind speed, V, for use in the design of Risk Category III buildings and structures shall be obtained from Figures 1609.3(2) and 1609.3(6). 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(7). 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(8). No altitude density reduction shall be taken.

The basic design 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. Utilizing Special wind region Table 1609.3.2. (Ord. 1551, 2019; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994, Ord. 558, 1992)

TABLE 1609.3.2 SPECIAL WIND REGION DEFINED: MINIMUM BASIC WIND SPEEDS. For Douglas County, the design wind speed values shall be:

Risk Category	Ultimate Wind Speed V_{ult} (mph)	V_{asd} Wind Speed 3-sec gust (mph)
I	110	85
II & 2018 IRC	120	93
III	130	101
IV	135	104

Table notes:

a) Air density corrections to design wind pressures are prohibited.

The conversions from Vult to Vasd are based on Table 1609.3.1. (Ord. 1551, 2019)

1609.4 Exposure category.

Section 1609.4 of the IBC, first paragraph, is amended to read as follows:

An exposure of "C" shall be used as a minimum in the design of all structures within the County. All structures within ¼ mile from the shoreline at Lake Tahoe shall be designed as minimum exposure "C". Exposure B may be used for all structures in the Lake Tahoe basin area between ¼ mile of the lake and below the elevation of 7200 feet and meeting the requirements of exposure B. When applying the simplified wind load method, a single exposure category shall be used based upon the most restrictive for any given wind direction. (Ord. 1131, 2005)

1704.2 Special inspections and tests. Where application is made to the building official for construction as specified in Section 105, the owner or the owner's authorized agent, other than the contractor, shall employ one or more approved agencies to provide special inspections and tests during construction on the types of work specified in Section 1705 and identify the approved agencies to the building official. These special inspections and test are in addition to the inspections by the building official that are identified in Section 110.

Exceptions:

1. Special inspections and tests are not required for construction of a minor nature or as warranted by conditions in the jurisdiction as approved by the building official.
2. Unless otherwise required by the building official, special inspections and test are not required for Group R-3 occupancies as applicable in section 101.2 and Group U occupancies that are accessory to a residential occupancy including, but not limited to, those listed in Section 312.1.
3. Special inspections and test are not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.1.2 or the conventional light-frame constructions provisions of Section 2308.
4. The contractor is permitted to employ the approved agencies where the contractor is also the owner. (Ord. 1551, 2019)

1803.1 Geotechnical Investigations--General.

Section 1803.1 of the IBC is amended by adding the following sentence:

The building official may require a soils investigation and foundation engineering on construction sites sloping in excess of 15 percent. (Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 437, 1985)

1803.2 Investigations required. Geotechnical investigations shall be conducted in accordance with Sections 1803.3 through 1803.5.

Exception: The building official need not require a geotechnical investigation where satisfactory data from adjacent areas is provided by a licensed design professional

that demonstrates an investigation is not necessary for any of the conditions in Sections 1803.5.1 through 1803.5.6 and Sections 1803.5.10 and 1803.5.11. (Ord. 1551, 2019)

1803.6 Reporting. Where geotechnical investigations are required, a written report of the investigations shall be submitted to the building official by the permit applicant at the time of permit application. This geotechnical report shall include, but need not be limited to, the following information:

1. A plot showing the location of the soil investigations
2. A complete record of the soil boring and penetration test logs and soil samples.
3. A record of the soil profile.
4. Elevation of the water table, if encountered.
5. Recommendations for foundation type and design criteria, including but not limited to: bearing capacity of natural or compacted soil; provisions to mitigate the effects of expansive soils; mitigation of the effects of liquefaction, differential settlement, and varying soil strength; and the effects of adjacent loads
6. Expected total and differential settlement.
7. Deep foundation information in accordance with Section 1803.5.5.
8. Special design and construction provisions for foundations of structures founded on expansive soils, as necessary.
9. Compacted fill material properties and testing in accordance with Section 1803.5.8.
10. Controlled low-strength material properties and testing in accordance with Section 1803.5.9.
11. Where required by 1803.5.11, investigation of liquefaction hazards shall be performed in accordance with "Guidelines for Evaluating Liquefaction Hazards in Nevada;" investigation of hazards associated with surface displacement due to faulting or seismically induced lateral spreading or lateral flow shall be performed in accordance with "Guidelines for Evaluating Potential Surface Fault Rupture/Land Subsidence Hazards in Nevada." (Ord. 1551, 2019)

1807.2.1.1 Rockery retaining walls. Rockery retaining walls or rockery soil stabilization walls shall not be subject to surcharges, such as building foundations, adjacent retaining structures, slopes or vehicle surcharge unless approved by AHJ . Rockery walls over four feet in height shall be engineered and shall have special inspection. The special inspection shall verify all of the specified items listed below. Wall height is determined from the bottom of the footing to the adjacent grade at the top of the wall. Structures adjacent to rockery wall shall be set back a minimum distance equal to the height of the wall. As described above, drainage shall be provided behind all engineered rockery walls. A global stability analysis shall be performed for all rockery walls that are terraced. No single tier shall exceed 8 feet in height. The Engineer shall specify on the construction documents:

1. Type and quality of rock.
2. Unit weight, if design exceeds 155 pcf.
3. Rock size in approximate diameter
4. Rock placement
5. Voids greater than 3" shall be filled
6. Drainage swale and system
7. Embedment
8. Wall face slope (batter 6v:1H recommended)
9. Mechanically stabilized earth, if specified

A Global Stability Analysis shall include the following:

1. Shall be stamped by a licensed geotechnical engineer.
2. Shall include a seismic evaluation representative of the location.
3. All results of the analysis shall be included in the report. (Ord. 1551, 2019)

1808.6.1 Foundations. Foundations placed on or within the active zone of expansive soils shall be designed to resist differential volume changes and to prevent structural damage to the supported structure. Deflection and racking of the supported structure shall be limited to that which will not interfere with the usability and serviceability of the structure.

Foundation placed below where volume change occur or below expansive soil shall comply with the following provisions:

1. Foundations extending into or penetrating expansive soils shall be designed to prevent uplift of the supported structure.
2. Foundations penetrating expansive soils shall be designed to resist forces exerted on the foundation due to soil volume changes or shall be isolated from the expansive soil.

Post-tensioned slabs shall not be utilized in place of frost depth footing design unless super structure deflection and differential movement calculations are provided. The deflection calculations would need to show that the maximum combined frost and expansive soil heaving, as localized at slab edges, with resultant non-uniformly distributed deflections, as well as whole slab deflections would not result in super structure racking or excessive truss, roof or wall frame movement. (Ord. 1551, 2019)

1809.1 Footings and foundations.

Section 1809.1 of the IBC is amended to add the following:

Footings and foundations, unless otherwise specifically provided, shall be constructed of masonry, concrete or treated wood in conformance with International Building Code and shall in all cases extend below the frost line. Footings of concrete and masonry shall be of solid material. Foundations supporting wood shall extend at least 6 inches (152 mm) above the adjacent finish grade. (Ord. 1399, 2013; Ord. 1131, 2005)

1809.5: **Frost protection.**

Section 1809.5 (#1) of the IBC is amended to read:

Except where otherwise protected from frost, foundations and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extending below the frost line of the locality. Refer to 2018 Northern Nevada Amendments Appendix Table R201.2(1) for requirements of local Authorities Having Jurisdiction.
2. Constructing in accordance with ASCE 32.
3. Erecting on solid rock.

Exception: Free-standing buildings meeting all of the following conditions shall not be required to be protected:

1. Assigned to Risk Category I.
2. Area of 600 square feet (56 m^2) or less for light-frame construction or 400 square feet (37 m^2) or less for other than light-frame construction.
3. Eave height of 10 feet (3048 mm) or less.

Shallow foundations shall not bear on frozen soil unless such frozen condition is of a permanent character. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

Table 1809.7: Prescriptive Footings Supporting Walls of Light Frame Construction.

Table 1809.7 of the IBC is amended to read as follows:

TABLE 1809.7 FOUNDATIONS FOR STUD BEARING WALLS
MINIMUM REQUIREMENTS [1, 2, 3, 4, 5]

Number of Stories Supported by the Foundations	Minimum Thickness of Foundation Wall (Inches)		Minimum Width of Footing (Inches)	Minimum Thickness of Footing (Inches)	Minimum Depth of Foundation Below Natural Surface of Ground and Finish Grade (Inches)
	Concrete	Unit Masonry			
1	8	8	16	8	18
2	8	8	16	8	18
3	10	10	18	10	18

1. Where unusual conditions or frost conditions are found, footings and foundations shall be as required in Section 1806.1.
2. The ground under the floor may be excavated to the elevation of the bottom of the footing.
3. Foundations may support a roof in addition to the stipulated number of floors. Foundations supporting roofs only, shall be as required for supporting one floor.
4. Foundations may support a roof in addition to the allowed number of floors. Foundations supporting roofs only must be the same as those required for supporting one floor.
5. Exterior non-bearing walls must be supported by a foundation. Foundations supporting exterior non-bearing walls must be the same as those required for supporting one floor. (Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641 1994; Ord. 558, 1992; Ord. 437, 1985)

1808.10 Weathered foundations.

Section1808 is amended by adding a new subsection1808.10 to read as follows:

1808.10 Any foundation which has weathered through two or more winters without any structure built on it to give protection must have an inspection by a structural or civil engineer licensed by the State of Nevada who must certify that the foundation is structurally sufficient to carry the load to be imposed on it, or certify specifications

necessary for repairs which may be required to bring it to an acceptable condition where it will adequately support the structure to be built upon it. (Ord. 1399, 2013; Ord. 1131, 2005)

2304.9.1: Fastener requirement.

Section 2304.9.1 of the IBC is amended to read as follows:

Connections for wood members shall be designed in accordance with the appropriate methodology in Section 2301.2. The number and size of nails connecting wood members shall not be less than that set forth in Table 2304.10.1. Roof trusses and rafter ties shall be fastened to the top plate at all points of bearing by approved truss ties. (Ord. 1551, 2019; Ord. 1131, 2005)

2901.1 Scope. The provisions of this chapter and the *Uniform Plumbing Code* shall govern the design, construction, erection and installation of plumbing components, appliances, equipment and systems used in *buildings* and structures covered by this code. Toilet and bathing rooms shall be constructed in accordance with Section 1209. The *International Fire Code,* the *International Property Maintenance Code* and the *International Plumbing Code* shall govern the use and maintenance of plumbing components, appliances, equipment and systems. The *International Existing Building code* and the *International Plumbing Code* shall govern the alteration, repair, relocation, replacement and addition of plumbing components, appliances, equipment and systems. (Ord. 1551, 2019)

2902.1 Minimum number of fixtures. Plumbing fixtures shall be provided in the minimum number as shown in Table 2902.1 based on the actual use of the building or space. Uses not shown in Table 2902.1 shall be considered individually by the code official. The number of occupants shall be determined by this code. Suitable toilet facilities shall be provided and maintained in a sanitary condition for the use of workers during construction. (Ord. 1551, 2019)

TABLE 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a]
(See Sections 2902.1.1 and 2902.2)

No.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 424.2 OF THE *INTERNATIONAL PLUMBING CODE*)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS (SEE SECTION 410 OF THE *INTERNATIONAL PLUMBING CODE)*	OTHER
			Male	Female	Male	Female			
1	Assembly	Theaters and other buildings for the performing arts and motion pictures[d]	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		Nightclubs, bars, taverns, dance halls and buildings for similar purposes[d]	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink

		Restaurants, banquet halls and food courts[d]	1 per 75	1 per 75	1 per 200	—	1 per 500	1 service sink
		Casino gaming areas	1 per 100 for the first 400 and 1 per 250 for the remainder exceeding 400	1 per 50 for the first 400 and 1 per 150 for the remainder exceeding 400	1 per 250 for the first 750 and 1 per 500 for the remainder exceeding 750	—	1 per 1,000	1 service sink
1	Assembly	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums[d]	1 per 125	1 per 65	1 per 200	—	1 per 500	1 service sink
		Passenger terminals and transportation facilities[d]	1 per 500	1 per 500	1 per 750	—	1 per 1,000	1 service sink
		Places of worship and other religious services[d]	1 per 150	1 per 75	1 per 200	—	1 per 1,000	1 service sink
		Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200 / 1 per 150	—	1 per 1,000	1 service sink
		Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities[f]	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200 / 1 per 150	—	1 per 1,000	1 service sink
2	Business	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial, ambulatory care and similar uses	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80	—	1 per 100	1 service sink[e]
3	Educational	Educational facilities	1 per 50		1 per 50	—	1 per 100	1 service sink
4	Factory and industrial	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100	—	1 per 400	1 service sink
5	Institutional	Custodial care facilities	1 per 10		1 per 10	1 per 8	1 per 100	1 service sink
		Medical care recipients in hospitals and nursing homes[b]	1 per room[c]		1 per room[c]	1 per 15	1 per 100	1 service sink
		Employees in hospitals and nursing homes[b]	1 per 25		1 per 35	—	1 per 100	—

		Visitors in hospitals and nursing homes	1 per 75	1 per 100	—	1 per 500	—
5	Institutional	Reformatories, detention centers and correctional centers[b]	1 per 15	1 per 15	1 per 15	1 per 100	1 service sink
		Employees in reformatories, detention centers and correctional centers[b]	1 per 25	1 per 35	—	1 per 100	—
		Adult day care and child day care	1 per 15	1 per 15	1	1 per 100	1 service sink
6	Mercantile	Retail stores, service stations, shops, sales-rooms, markets and shopping centers	1 per 500	1 per 750	—	1 per 1,000	1 service sink[e]
7	Residential	Hotels, motels, boarding houses (transient)	1 per sleeping unit	1 per sleeping unit	1 per sleeping unit	—	1 service sink
		Dormitories, fraternities, sororities and boarding houses (not transient)	1 per 10	1 per 10	1 per 8	1 per 100	1 service sink
		Apartment house	1 per dwelling unit	1 per dwelling unit	1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		One- and two- family dwellings and lodging houses with five or fewer guestrooms	1 per dwelling unit	1 per 10	1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit
		Congregate living facilities with 16 or fewer persons	1 per 10	1 per 10	1 per 8	1 per 100	1 service sink
8	Storage	Structures for the storage of goods, warehouses, storehouses and freight depots, low and moderate hazard	1 per 100	1 per 100	—	1 per 1,000	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.
b. Toilet facilities for employees shall be separate from facilities for inmates or care recipients.
c. A single-occupant toilet room with one water closet and one lavatory serving not more

than two adjacent patient sleeping units shall be permitted, provided that each patient sleeping unit has direct access to the toilet room and provisions for privacy for the toilet room user are provided.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
e. For business and mercantile classifications with an occupant load of 30 or fewer, a service sink shall not be required.
f. The required number and type of plumbing fixtures for outdoor swimming pools shall be in accordance with Section 609 of the International Swimming Pool and Spa Code.
g. Drinking fountains are not required for an occupant load of 30 or fewer.
h. For business and mercantile classifications with an occupant load of 30 or fewer, a service sink shall not be required.
i. In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets in assembly and educational occupancies. Urinals shall not be substituted for more than 50 percent of the required water closets in all other occupancies.
j. The minimum number of required drinking fountains shall comply with Table 2902.1 and Chapter 11. (Ord. 1551, 2019)

2903 Temporary toilets.

Chapter 29 of the IBC is amended by adding the following section:

Section 2903. During construction, unless alternative facilities are made available, temporary toilets must be provided on the basis of the following rate of toilets to the number of workers on the job at a ratio of one for each 30 workers. In addition, urinals must be provided on the basis of one for each 30 men. The toilets must be available within 300 feet of the structure under construction. (Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 558, 1992; Ord. 437, 1985).

3001 Elevators and conveying systems.

Section 3001.1 of the IBC is amended to read as follows:

The provisions of this chapter shall apply to the design, installation, operation, alteration and repair of elevators, dumbwaiters, escalators and moving walks and their hoist ways. Additional provisions may be required, regulated and enforced through chapter 618 of the Nevada Revised Statutes and NAC 618.400 - 618.507 by the State of Nevada Department of Business and Industry. When conflicts arise between the provisions of the International Building Code, chapter 30 and NRS chapter 618, the most restrictive shall govern. (Ord. 1131, 2005)

3102.7 Engineering design. The structure shall be designed and constructed to sustain dead loads; loads due to tension or inflation; live loads including wind, snow, flood and seismic loads and in accordance with Chapter 16.

Exception: Membrane structures intended to be in place for 30 days or less may be engineered to risk category I loads provided the installation and use are per the manufacturer's recommendations. (Ord. 1551, 2019)

3103 Temporary structures.

Section 3103.1 of the IBC is amended to add the following language:

Temporary construction facilities, which are located on site in conjunction with valid

building permits and occupied by job site personnel, which have connection only to electrical power, may be exempt from the provisions of section 3103. (Ord. 1399, 2013; Ord. 1211, 2007; Ord. 1131, 2005)

3315 Safety and security.

Chapter 33 of the IBC is amended by adding a new section as follows:

Section 3314.1. The building official may require fencing around the construction site to make the property safe for the public. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 437, 1985).

3316 Debris on construction site.

Chapter 33 of the IBC is amended by adding a new section as follows:

Section 3315.1. All debris on construction sites must be contained and removed periodically as required for safety and cleanliness. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 437, 1985)

International Building Code Appendix Amendments.

Appendix I105.2 Patio covers-Footings.

I105.2 of the IBC is amended to read as follows:

An unenclosed patio cover that projects 14 feet or less from the main structure is permitted to be supported on a concrete slab on grade without footings, provided the slab conforms to the provisions of Chapter 19 of this code, is not less than 3-1/2 inches (89 mm) thick, and further provided that the columns do not support loads in excess of 750 pounds (3.36 kN) per column. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

Appendix J103.2 Exemptions; Private Property Only

J103.2.1 is amended to read as follows: Grading up to one tenth (0.1) of an acre is an isolated, self-contained area, provided there is no danger to the public, and that such grading will not adversely affect adjoining properties. (Ord. 1399, 2013)

J109.2 Deleted (Ord. 1399, 2013)

J109.3 Deleted (Ord. 1399, 2013)

INTERNATIONAL RESIDENTIAL CODE REVISIONS

R202 Definitions. Section R202 shall be amended by adding the following definitions:

International Electrical Code. The Electrical Code, whether the National Electrical Code or the International Electrical Code, as amended and adopted by the local jurisdiction.

International Mechanical Code. The Mechanical Code, whether the Uniform Mechanical Code or the International Mechanical Code as amended and adopted by the local jurisdiction.

International Plumbing Code. The Plumbing Code, whether the Uniform Plumbing Code or the International Plumbing Code, as amended and adopted by the local jurisdiction.

International Fuel Gas Code. The Fuel Gas Code, whether NFPA 54 or the International Fuel Gas Code, as amended and adopted by the local jurisdiction.

Surcharge. A vertical load imposed on the retained soil that may impose a lateral force in addition to the lateral earth pressure of the retained soil. Examples include:

- Sloped retained soil.
- Structure footings supported by the retained soil.
- Adjacent vehicle loads supported by the retained soil. (Ord. 1551, 2019)

Table R301.2 (1): Climatic and geographic design criteria.

Table R301.2 (1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA
is replaced by the following:

TABLE R301.2(1)
CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

GROUND SNOW LOAD[o]	WIND DESIGN				SEISMIC DESIGN CATEGORY[f]	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP[e]	ICE BARRIER UNDERLAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
	Speed[d] (mph)	Topographic effects[k]	Special wind region[l]	Windborne debris zone[m]		Weathering[a]	Frost line depth[b]	Termite[c]					
SEE IBC TABLE 1608.2	SEE APPENDIX	NO	YES	NO	SEE APPENDIX	SEVERE	SEE APPENDIX	MODERATE TO HEAVY	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX

For SI: 1 pound per square foot = 0.0479 kPa, 1 mile per hour = 0.447 m/s.

a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(4). The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.
b. Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(5)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
e. The outdoor design dry-bulb temperature shall be selected from the columns of 97½ -percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local.

(Ord. 1551; 2019; Ord. 1131, 2005)

R309 Opening protection.

Section R309 of the IRC is amended by adding a new subsection as follows:

R309.6 Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with self closing solid wood doors not less than 1¾ inches in thickness, self closing solid or honeycomb core steel doors not less than 1¾ inches thick, or self closing 20-minute fire-rated doors. (Ord. 1399, 2013; Ord. 1131, 2005)

R309 Separation required.

Section R309 of the IRC is amended by adding a new subsection as follows:

R309.7 The garage shall be separated from the residence and its attic area by not less than ⅝ inch type "X" gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than ⅝ inch type "X" gypsum board of equivalent. Where the separation is a ceiling assembly, the structure supporting the separation shall also be protected by not less than ⅝ inch type "X" gypsum board or equivalent. (Ord. 1399, 2013; Ord. 1131, 2005)

R309 Driveways.

Section R309 of the IRC is amended by adding a new subsection as follows:

R309.8 For every private access from a public provided with a driveway, the driveway must not exceed a maximum gradient between vertical transitions of 14% (i.e., 1¾ vertical inches per horizontal foot), this maximum gradient shall be determined from the proposed finish garage floor elevation to the public-way or street access. The alignment must be safe and convenient to back a car out, or an adequate turnaround must be provided. (Ord. 1399, 2013; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 437, 1985)

R313.1 Townhouse automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in townhouses.

Exceptions:

1. An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.
2. An automatic residential fire sprinkler system shall not be required in townhouses less than 5,000 sq. ft. of living space unless the AHJ has

amended the International Fire Code to include provisions pertaining to townhouses in accordance with NRS 278.586. (Ord. 1551, 2019)

R313.2 One- and two-family dwellings automatic fire sprinkler systems. An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings.

Exceptions:

1. An automatic residential sire sprinkler system shall not be required when additions or alterations are made to existing building that do not have an automatic residential fire sprinkler system installed.
2. An automatic residential fire sprinkler system shall not be required in one- and two-family dwellings less than 5,000 sq. ft. of living space unless the AHJ has amended the International Fire Code to include provisions pertaining to one- and two- family dwellings in accordance with NRS 278.586. (Ord. 1551, 2019)

Table R403.1: Minimum footing and foundation requirements.

Table R403.1 of the IRC is amended to read as follows:

TABLE R403.1 MINIMUM FOOTING & FOUNDATION REQUIREMENTS [1, 2, 3, 4, 5]

Number of Stories Supported by the Foundations	Minimum Thickness of Foundation Wall (Inches)		Minimum Width of Footing (Inches)	Minimum Thickness of Footing (Inches)	Minimum Depth of Foundation Below Natural Surface of Ground and Finish Grade (Inches)
	Concrete	Unit Masonry			
1	8	8	16	8	18
2	8	8	16	8	18
3	10	10	18	10	18

1. Where unusual conditions or frost conditions are found, footings and foundations shall be as required in Section R403.1.4.1.
2. The ground under the floor may be excavated to the elevation of the bottom of the footing.
3. Foundations may support a roof in addition to the stipulated number of floors. Foundations supporting roofs only, shall be as required for supporting one floor.

4. Foundations may support a roof in addition to the allowed number of floors. Foundations supporting roofs only must be the same as those required for supporting one floor.
5. Exterior non-bearing walls must be supported by a foundation. Foundations supporting exterior non-bearing walls must be the same as those required for supporting one floor. (Ord. 1131, 2005, Ord. 802, 1998; Ord. 711, 1995; Ord. 641 1994; Ord. 558, 1992; Ord. 437, 1985)

R403.1.1 Minimum footing size.

Section R403.1.1 is amended by adding the following language:

Minimum footing dimension shall be specified in IBC Table 1809.7. There shall be a minimum of one #4 continuous reinforcing bar in the top of all foundation walls, and two #4 continuous reinforcing bar in the footing. When the footing and foundation wall are placed separately or when the foundation wall exceeds 24 inches in height, #4 vertical bars, at 48 inches on center (48" O/C) or 32 inches on center when using concrete block, shall be used to connect the footing with the foundation wall. When engineering data is provided, the footing and foundation wall steel requirements may be reduced. Foundation walls greater then 48 inches in height shall be designed by a Nevada professional engineer. (Ord. 1399, 2013; Ord. 1131, 2005)

R1007 Appliance emissions.

Chapter 10 of the IRC is amended by adding the following sections:

R1007.1 General. No person shall install any wood burning stove or fireplace insert that emits more than the emission standards set by this section. A permit shall not be issued to any person who wishes to install a wood burning stove or fireplace insert that does not meet the emission standards of this section. (Ord. 1131, 2005)

R1007.2 Certification. Each wood burning stove or fireplace insert shall bear a certification from the manufacturer that the appliance meets the emission standards set forth in this section. (Ord. 1131, 2005)

R1007.3 Standards. Wood burning stove and fireplace inserts certified to meet the emission standards set by United States Environmental Protection Agency under 40 CFR Part 60 are deemed in compliance with the requirements of this section. (Ord. 1399, 2013; Ord. 1131, 2005)

R1007.4 Required emissions. For wood burning stoves and fireplace inserts the minimum emissions are as follows: For non-catalytic appliances the emissions shall not exceed 7.5 grams, for catalytic equipped appliances the emissions shall not exceed 4.1 grams. (Ord. 1131, 2005)

Chapter 11 Energy Conservation is deleted in its entirety. For residential energy efficiency requirements, reference the residential amendments of the International Energy Conservation Code (IECC). (Ord. 1551, 2019)

M1503.6 Makeup air required. Exhaust hood systems capable of exhaust in excess of 600 cubic feet per minute (0.28 m^3/s) shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

Exception: Makeup air is not required for exhaust systems installed for the exclusive purpose of space cooling and intended to be operated only when windows or other air inlets are open. (Ord. 1551, 2019)

G2404.1 (301.1) Scope. This section shall govern the approval and installation of all equipment and appliances that comprise parts of the installations regulated by this code in accordance with Section G2401. (Ord. 1551, 2019)

G2404.1.1 Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern. (Ord. 1551, 2019; Ord. 1399, 2013)

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be no less than 1-1/2 times the proposed maximum working pressure, but not less than 25 psig (172.4 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe. This test shall be made before any fixtures, appliances or shut-off valves have been attached and before being concealed. (Ord. 1551, 2019)

G2417.4.2 (406.4.2) Test duration. Test duration shall be not less than 30 minutes. (Ord. 1551, 2019)

G2417.6.2 (406.6.2) Before turning gas on. During the process of turning gas on into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that all valves at unused outlets are closed and plugged or capped. In the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County, a manometer test shall be made after all valves, unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15) inches of water column shall be measured for at least fifteen (15) minutes, with no perceptible drop in pressure. (Ord. 1551, 2019)

G2417.6.2.1 (406.6.2.1) For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure. (Ord. 1551, 2019)

G2417.6.2.2 (406.2.2) For appliances or equipment requiring pounds of gas pressure. A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure. (Ord. 1551, 2019)

G2417.6.2.3 (406.2.3) Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer tester card for which the number is to be provided at the time of request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service. (Ord. 1551, 2019)

P2503.5.1 Rough plumbing. DWV systems shall be tested on completion of the rough piping installation by air with no evidence of leakage. Either test shall be applied to the drainage system in its entirety or in sections after rough piping has been installed, as follows:

1. Water test. Each section shall be filled with water to a point not less than 10 feet (1524 mm) above the highest fitting connection in that section, or to the highest point in the completed system. Water shall be held in the section under test for a period of 15 minutes. The system shall prove leak free by visual inspection.
2. Air test. The portion under test shall be maintained at a gauge pressure of 5 pounds per square inch (psi) (34 kPa) or 10 inches of mercury column (34 kPa). This pressure shall be held without introduction of additional air for a period of 15 minutes. (Ord. 1551, 2019)

P2503.8: Inspection and testing of backflow prevention devices.

Section P2503.7 of the IRC is amended to read as follows: Inspection and testing of backflow prevention devices shall comply with section P2503.7.1 and section P2503.7.2. (Ord. 1399, 2013; Ord. 1131, 2005)

P2503.8.1 Inspections.

Inspections shall be made of all backflow prevention assemblies to determine whether they are operable. (Ord. 1551, 2019; Ord. 1131, 2005)

P2503.8.2 Testing.

The owner of the premises or the responsible person shall have the backflow prevention assembly tested by a certified backflow assembly tester at the time of installation, repair or relocation and at least annually thereafter unless required more frequently by the water purveyor, or utility or the State Health Department. The periodic testing shall be performed in accordance with procedures referenced in the University of Southern California manual of Cross-Connection Control (Latest Edition) by a tester qualified in accordance with those standards and with the standards in the CA-NV section of the AWWA backflow prevention assembly testers and cross-connection control program. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

P2603.5: Freezing.

Section P2603.5 of the IRC is amended to read as follows:

In localities having a winter design temperature of 32ºF (0ºC) or lower as shown in Table R301.2 (1) of this code, a water, soil or waste pipe shall not be installed outside of a building, in exterior walls, in attics or crawl spaces, or in any other place subjected to freezing temperature unless adequate provision is made to protect it from freezing by insulation or heat or both. Water service pipe shall be installed not less than 6 inches (762 mm) deep below the frost line. (Ord. 1399, 2013; Ord. 1131, 2005)

P2603.5.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be a not less than twelve (12) inches (305 mm) below finished grade at the point of septic tank connection. Building sewers shall be not less than twelve (12) inches (305 mm) below grade. (Ord. 1551, 2019)

P2903.3.1: Maximum pressure.

Section P2903.3.1 of the IRC is amended to read as follows:

Maximum static pressure shall be 80 psi (551 kPa). When main pressure exceeds 65 psi (448 kPa), an approved pressure-reducing valve conforming to ASSE 1003 preceded by an adequate strainer shall be installed and the static pressure reduced to sixty one (61) pounds per square inch (421 kPa) or less. Where pressure regulators are required, the pressure regulator shall be installed between the source of water and after the meter and back-flow prevention device (if installed at the meter), and before all exterior and interior fixtures and outlets.

For potable water services up to and including one and one-half (1-½) inch regulators, provision shall be made to prevent pressure on the building side of the regulator from exceeding main supply pressure. Approved regulators with integral bypasses shall be acceptable. Each such regulator and strainer shall be accessibly located and shall have the strainer readily accessible for cleaning without removing the regulator or strainer body or disconnecting the supply piping. Pressure regulators shall not be the type that can be adjusted to provide static water pressure more than seventy five (75) pounds per square inch (518 kPa). (Ord. 1131, 2005)

P2903.7 Size of water-service mains, branch mains, and risers.

Section P2903.7 of the IRC is amended to read as follows:

The minimum size water service pipe shall be ¾ inch. The size of water service mains, branch mains and risers shall be determined according to water supply demand [gpm (L/m)], available water pressure [psi (kPa)] and friction loss due to the water meter and developed length of pipe [feet (m)], including equivalent length of fittings. The size of each water distribution system shall be determined according to the procedure outlined in this section or by other design methods conforming to acceptable engineering practice and approved by the administrative authority:

1. Obtain the minimum daily static service pressure [psi (kPa)] available (as determined by the local water authority) at the water meter or other source of supply at the installation location. Adjust this minimum daily static pressure [psi (kPa)] for the following conditions:

1.1. Determine the difference in elevation between the source of supply and the highest water supply outlet. Where the highest water supply outlet is located above the source of supply, deduct 0.5 psi (3.4 kPa) for each foot of difference in elevation. Where the highest water supply outlet is located below the source of supply, add 0.5 psi (3.4 kPa) for each foot of difference in elevation.

1.2. Where a water pressure reducing valve is installed in the water distribution system, the minimum daily static water pressure available is 80 percent of the minimum daily static water pressure at the source of supply or the set pressure downstream of the pressure reducing valve, whichever is smaller.

1.3. Deduct all pressure losses due to special equipment such as a backflow preventer, water filter and water softener. Pressure loss data for each piece of equipment shall be obtained through the manufacturer of such devices.

1.4. Deduct the pressure in excess of 8 psi (55 kPa) due to installation of the special plumbing fixture, such as temperature controlled shower and flushometer tank water closet. Using the resulting minimum available pressure, find the corresponding pressure range in Table P2903.7.

2. The maximum developed length for water piping is the actual length of pipe between the source of supply and the most remote fixture, including either hot (through the water heater) or cold water branches multiplied by a factor of 1.2 to compensate for pressure loss through fittings. Select the appropriate column in Table P2903.7 equal to or greater than the calculated maximum developed length.

3. To determine the size of water service pipe, meter and main distribution pipe to the building using the appropriate table, follow down the selected maximum developed length column to a fixture unit equal to, or greater than the total installation demand calculated by using the combined water supply fixture unit column of Table P2903.6. Read the water service pipe and meter sizes in the first left-hand column and the main distribution pipe to the building in the second left-hand column on the same row.

4. To determine the size of each water distribution pipe, start at the most remote outlet on each branch (either hot or cold branch) and, working back toward the main distribution pipe to the building, add up the water supply fixture unit demand passing

through each segment of the distribution system using the related hot or cold column of Table P2903.6. Knowing demand, the size of each segment shall be read from the second left-hand column of the same table and a maximum developed length column selected in Steps 1 and 2, under the same or next smaller size meter row. In no case does the size of any branch or main need to be larger than the size of the main distribution pipe to the building established in Step 3.

5. The size of pipes from the hot water heater and all hot water branches shall not less than the minimum size necessary to meet the water supply requirements, as outlined in this section.

6. All above determinations shall be clearly noted on the plans, specifications, drawings or a worksheet submitted to the Administrative Authority whenever pipes from the hot water heater exceed one half (½) inch in diameter. (Ord. 1131, 2005)

P3002.2.2 Building sewer. In no event shall building sewer be less than four (4) inches in diameter. (Ord. 1551, 2019)

P3005.4 Drain pipe sizing.

Section P3005.4 of the IRC is amended to read as follows:

Drain pipes shall be sized according to drainage fixture unit (d.f.u.) loads. The size of the drainage piping shall not be reduced in size in the direction of flow. The following general procedure is permitted to be used:

1. Draw an isometric layout or riser diagram denoting fixtures on the layout.

2. Assign d.f.u. values to each fixture group plus individual fixtures using Table P3004.1.

3. Starting with the top floor or most remote fixtures, work downstream toward the building drain accumulating d.f.u. values for fixture groups plus individual fixtures for each branch. Where multiple bath groups are being added, use the reduced d.f.u. values in Table P3004.1, which take into account probability factors of simultaneous use.

4. Size branches and stacks by equating the assigned d.f.u. values to pipe sizes shown in Table P3005.4.1.

5. Determine the pipe diameter and slope of the building drain and building sewer based on the accumulated d.f.u. values, using Table P3005.4.2, but in no event shall the building sewer be less than four (4) inches in diameter. (Ord. 1131, 2005)

P3012 Private sewage disposal system.

Section P3012 of the IRC is added. (Ord. 1551, 2019; Ord. 1399, 2013)

P3012.1 Private system. Whenever a private sewage disposal system is required, the type, size, construction and its location of the system must comply with the requirements of the State of Nevada Bureau of Health Protection. Examination and approval of any proposed private sewage disposal system by the State of Nevada Bureau of Health Protection or the authorized county inspector may be required before

issuance of any permit. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

P3012.2 Fees.

A fee set by resolution of the board must be paid when application is made for a private sewage disposal system. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

E3601.2 Number of services.

Section E3601.2 of the IRC is amended by adding a subsection to read as follows:

Properties determined to be one acre or less shall only be supplied by one service, unless special permission is granted by the building official in the form of a waiver. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

E3601.6.1 Marking of service equipment and disconnects.

Service disconnects shall be permanently marked as a service disconnect. Service equipment shall be listed for that purpose. Individual meter socket enclosures shall not be considered service equipment. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

E3601.6.2 Service disconnect location. The service disconnecting means shall be installed at a readily accessible location outside of a building or structure inside nearest the point of entrance of the service conductors. The disconnecting means may be located independent of the building or structure served, in direct line of sight, but not to exceed thirty (30) feet.

Exception: The service disconnecting means may be installed within a building when an external remote shunt trip switch is provided. All shunt trip switches shall be located at seven feet (7') above finish grade at a location approved by the fire department. All shunt trip switches shall be located within twelve inches (12") equilateral triangle, red in color. (Ord. 1551, 2019)

E3601.8 Service group.

Section E3601 of the IRC is amended by adding a subsection to read as follows:

E3601.8 Service group. Multiple services, which supply more than one building or structure on the same property, shall be grouped together with distances between panels not to exceed 10 feet of separation, unless special permission is granted by the building official in the form of a waiver. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1131, 2005)

E3705.6.1 Edison fuses. Plug fuses of the Edison-based shall be used only for replacement in existing installations where there is no evidence of overfusing or tampering. In any existing building where alterations or additions are made to any of the premises wiring, all fuse holders shall be made to comply with the requirements for a Type S fuse holder through the installation of a tamper proof (rejection type) base. (Ord. 1551, 2019)

E3901.2.2 Wall space.

1. Any space 2 ft. (610mm) or more in width, including space measured around corners, and that is unbroken along the floor line by doorways and similar opening, fireplaces, and fixed cabinets that do not have countertops or similar work surfaces.
2. The space occupied by fixed panels in exterior walls, excluding sliding panels.
3. The space created by fixed room dividers such as railings and freestanding bar-type counters.

Exception No. 1: The space behind operable doors.

Exception No. 2: Vestibules, hallways, and similar areas less than 5 ft. wide in bedrooms. (Ord. 1551, 2019)

E3902.2 Garage and accessory building receptacles. 125-volt, single-phase, 15 or 20 ampere receptacles installed in garages and grade-level portions of unfinished accessory buildings used for storage or work areas shall have ground-fault circuit-interrupter protections for personnel.

Exception: Single receptacle for a fixed in place heating appliance only (example: fuel-fired FAU, heat pump or water heater) when located within an attached garage. (Ord. 1551, 2019)

Section E3902.17 is deleted. (Ord. 1551, 2019)

E4209.4 Accessibility.

Section E4209.4 of the IRC is amended to read as follows:

Hydromassage bathtub electrical equipment access shall not be from a crawl space. The electrical equipment shall be accessible without damaging the building structure or interior and exterior building finish, no access shall be allowed through the under floor. (Ord. 1551, 2019; Ord. 1399, 2013; Ord. 1211, 2007; Ord. 1131, 2005)

AH105.2 Footings. For patio covers supported on a concrete slab-on-grade without footings, the slab shall conform to the provisions of Section R506, shall be not less than 3.5 inches (89 mm) thick and the columns shall not support live or dead loads in excess of 750 pounds (3.34 kN) per column. (Ord. 1551, 2019)

UNIFORM MECHANICAL CODE REVISIONS

107 Appeals.

Section 107 of the UMC is deleted and amended by substituting the following language:

The building official's determination of the suitability of alternate materials or other means of construction may be appealed to the building and fire board of appeals in accordance with section 20.810.040. (Ord. 1551, 2019; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 641, 1994; Ord. 441, 1985)

104 Permits.

Section 104 of the UMC is amended by adding the following language:

A separate permit is not required under this code if a valid building permit has been issued under the IBC or IRC for the permitted structure. (Ord. 1551, 2019; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 441, 1985)

104.5 Fees.

Section 104.5 of the UMC is amended by adding the following language:

Fees are computed on the basis of the work to be performed as set by resolution of the board. (Ord. 1551, 2019; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 441, 1985)

304.3 Access to appliances on roofs. Appliances located on roofs or other elevated locations above 30 inches shall be accessible. (Ord. 1551, 2019)

304.3.1 Access. Buildings exceeding 15 feet (4572 mm) in height shall have an inside means of access to the roof unless other means acceptable to the Authority Having Jurisdiction are used. (Ord. 1551, 2019)

304.3.1.1 Access Type. The inside means of access shall be a permanent, or foldable inside stairway or ladder, terminating in an enclosure, scuttle, or trap door. Such scuttles or trap doors shall be not less than 22 inches by 24 inches (559 mm by 610 mm) in size, shall open easily and safely under all conditions, especially snow; and shall be constructed so as to permit access from the roof side unless deliberately locked on the inside.

Not less than 10 feet (3048 mm) of clearance shall be between the access opening and the edge of the roof or similar hazard or rigidly fixed rails or guards not less than 42 inches (1067 mm) in height shall be provided on structures are utilized in lieu of guards or rails, they shall be not less than 42 inches (1067 mm) in height. (Ord. 1551, 2019)

403.7.2 Enclosed parking garages. Mechanical ventilation systems for enclosed parking garages shall operate continuously.

Exceptions:

1. Mechanical ventilation systems for enclosed parking garages shall be permitted to operate intermittently where the system is designed to operate automatically upon detection of vehicle operation or presence of occupants by approved automatic detection devices.
2. Automatic carbon monoxide sensing devices shall be permitted to be employed to modulate the ventilation system to maintain a maximum average concentration of carbon monoxide of 50 parts per million during an eight-hour period, with a concentration of not more than 200 parts per million for a period not exceeding one hour. Automatic carbon monoxide sensing devices installed to modulated parking garages ventilation systems shall be approved. (Ord. 1551, 2019)

504.4.2.1 Length Limitation. Unless otherwise permitted or required by the dryer manufacturer's instructions and approved by the Authority Having Jurisdiction, domestic dryer moisture exhaust ducts shall not exceed a total combined horizontal and vertical length of 14 feet (4267 mm), including two 90- degree (1.57 rad) elbows. Two (2) feet (610 mm) shall be deducted for each 90-degree (1.57 rad) elbow in excess of two. The maximum length of a clothes dryer exhaust duct shall not exceed 35 feet (10 668 mm) from the dryer location to the wall or roof termination. The maximum length of the duct shall be reduced 2.5 (762 mm) for each 45-degree (0.8 rad) bend and 5 feet (1524 mm) for each 90-degree (1.6 rad) bend. The maximum length of the exhaust duct does not include the transition duct.

Exceptions:

1. Where the make and model of the clothes dryer to be installed is known and the manufacture's installation instructions for the clothes dryer are provided to the Authority Having Jurisdiction, the maximum length of the exhaust duct, including any transition duct, shall be permitted to be in accordance with the dryer manufacture's installation instructions.
2. Where large-radius 45-degree (0.8 rad) and 90-degree (1.6 rad) bends are installed, determination of the equivalent length of clothes dryer exhaust duct for each bend by engineering calculation in accordance with ASHRAE Fundamentals Handbook shall be permitted. (Ord. 1551, 2019)

505.10 Makeup Air. Makeup air shall be provided to replenish air exhausted by the ventilator system. Exhaust hood systems capable of exhausting in excess of 600 cfm (0.28 m3/s) shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system. Makeup air intakes shall be located so as to avoid recirculation of contaminated air within enclosures. (Ord. 1551, 2019)

508.3.5.4.1 Evaporative cooling systems. Evaporative cooling systems will comply with this chapter. Evaporative coolers shall not be used for makeup air units on commercial kitchen hoods and kitchen ventilation systems.

Exception: Evaporative cooling systems that are part of a listed heating air system for kitchen make up air systems. The temperature differential between the makeup air and the air in the conditioned space shall not exceed 10ºF (6ºC) except where the added heating and cooling load of makeup air do not exceed the capacity if the HVAC system. (Ord. 1551, 2019)

511.2.2.2 Capture and Containment Test. The permit holder shall verify the capture and containment performance of Type I hoods. A field test shall be conducted with all appliances under the hood at operating temperatures, all the hoods operating at design airflows, and with all sources of replacement air operating at design airflows for the restaurant. Capture and containment shall be verified by observing smoke or steam produced by actual cooking operation or by simulating cooking using devices such as smoke candles or smoke puffers. Smoke bombs shall not be used.

Exception: Capture and containment test not required if hood is UL and NFPA listed and manufacturer data lists the individual equipment below hood. (Ord. 1551, 2019)

604.1 General. Supply-air ducts, return air-ducts, and plenum of a heating or cooling system shall be insulated to achieve the minimum thermal (R) value in accordance with the 2018 International Energy Conservation Code Section 403.2.1 for residential and 503.2.7 for commercial. (Ord. 1551, 2019)

608.1 Air-moving systems and smoke detectors. Air-moving systems supplying air in excess of 2000 cubic feet per minute (ft. 3 /min) (0.9439 m 3 /s) to enclosed spaces within buildings shall be equipped with an automatic shutoff. Automatic shutoff shall be accomplished by interrupting the power source of the air-moving equipment upon detection of smoke in the main return-air duct or plenum upstream of any filters, exhaust air connections, outdoor air connections, or decontamination equipment and appliances served by such equipment. Duct smoke detectors shall comply with UL 268A and shall be installed in accordance with the manufacturer's installation instructions. Such devices shall be compatible with the operating velocities, pressures, temperatures, and humidities of the system. Where fire-detection or alarm systems are provided for the building, the smoke detectors shall be supervised by such systems in an approved manner.

Exceptions:

1. Where the space supplied by the air-moving equipment is served by a total coverage smoke-detection system in accordance with the fire code, interconnection to such system shall be permitted to be used to accomplish the required shutoff.
2. Automatic shutoff is not required where occupied rooms served by the

air-handling equipment have direct exit to the exterior and the travel distance does not exceed 100 feet (30 480 mm).

3. Automatic shutoff is not required for Group R, Division 3 and Group U Occupancies.
4. Automatic shutoff is not required for approved smoke control systems or where analysis demonstrates shutoff would create a greater hazard, such as shall be permitted to be encountered in air-moving equipment supplying specialized portions of Group H Occupancies. Such equipment shall be required to have smoke detection with remote indication and manual shutoff capability at an approved location. (5) Smoke detectors that are factory installed in listed air moving equipment shall be permitted to be used in lieu of smoke detectors installed in the main supply-air duct served by such equipment. (Ord. 1551, 2019)

609.0 Performance test for automatic shut-offs. Upon completion and before final approval of the air-moving system, provide with the required smoke detectors, a performance test shall be performed to verify compliance of detector installation to manufacturer's instructions and system compatibility as specified in this chapter. The permittee shall furnish the necessary test equipment and devices required to perform the tests and shall provide the jurisdiction with an accurate, completed, and signed test report. The report shall provide the jurisdiction a form containing equivalent information. At the discretion of the Authority Having Jurisdiction, the performance test may be required to be witnessed by the Authority Having Jurisdiction or performed by an approved third-party testing agency. (Ord. 1551, 2019)

902.1 Appliance emissions.

Section 902.1 of the UMC is amended to read as follows:

No person shall install any wood burning stove or fireplace insert that emits more than the emission standards set by this section. A permit shall not be issued to any person who wishes to install a wood burning stove or fireplace insert that does not meet the emission standards of this section.

A. Each wood burning stove or fireplace insert shall bear a certification from the manufacturer that the appliance meets the emission standards set forth in this section.

B. Wood burning stove and fireplace inserts certified to meet the emission standards set by United States Environmental Protection Agency under 40 CFR Part 60 are deem in compliance with the requirements of this section.

C. For wood burning stoves and fireplace inserts the minimum emissions are as follows: For non-catalytic appliances the emissions shall not exceed 7.5 grams, for catalytic equipped appliances the emissions shall not exceed 4.1 grams.

Any person failing to provide the statement required under this section or installing a wood burning heater, stove, or fireplace insert without a permit is guilty of a misdemeanor pursuant to section 20.800.090. (Ord. 1131, 2005; Ord. 802, 1998; Ord.

675, 1994; Ord. 641, 1994; Ord. 502, 1990; Ord. 489, 1989)

939.1 Sauna heaters. (Ord. 1551, 2019)

939.2 General. Sauna heaters shall be listed and installed in accordance with the manufacturer's installation instructions. Approved guards or barriers shall be installed to prevent accidental contact with the sauna heater. Ventilation shall be provided in accordance with its listing and combustion air for gas-fired sauna heaters shall comply with chapter 7. (Ord. 1551, 2019)

1001.1 Applicability. For boilers and water heaters less than 120 gallon capacity, or a BTU input rating less than 200,000, or less than 160 pounds per square inch of pressure, see Chapter 5 of the Uniform Plumbing Code. For all other units, contact the Mechanical Compliance Section of the Nevada Division of Industrial Relations, part of the Department of Business and Industry. (Ord. 1551, 2019)

1301.1 Applicability. The regulations of this chapter shall govern the installation of fuel gas piping in or in connection with a building, structure or within the property lines of premises up to 5 pounds-force per square inch (psi) (34 kPa), other than service pipe.

Fuel oil piping systems shall be installed in accordance with NFPA 31. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern. (Ord. 1551, 2019)

1313.3 Test pressure. This inspection shall include an air, CO2, or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than 25 psi (172.4 kPa) gauge pressure. Test pressures shall be held for a length of time satisfactory to the Authority Having Jurisdiction but in no case less than 30 minutes with no perceptible drop in pressure. For welded piping, and for piping carrying gas at pressures in excess of 14 inches water column (3.5 kPa) pressure, the test pressure shall be not less than 60 psi (414 kPa) and shall be continued for a length of time satisfactory to the Authority Having Jurisdiction, but in no case for less than 30 minutes. These tests shall be made using air, CO2, or nitrogen pressure and shall be made in the presence of the Authority Having Jurisdiction. Necessary apparatus for conducting tests shall be furnished by the permit holder. Test gauges used in conducting test shall be in accordance with Section 318.0. (Ord. 1551, 2019)

1313.5.1 Turning Gas On. During the process of turning gas on into a system of new gas piping or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that all valves at unused outlets are closed and plugged or capped. During the process of turning gas on into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of

service; in the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County a manometer test shall be made after all valves, unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15) inches of water column shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure.

Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer tester card for which the number is to be provided at the time of request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service. (Ord. 1551, 2019)

UNIFORM PLUMBING CODE REVISIONS

713.2 Engineered private sewage system.

Subsection 713.2 is added to read as follows:

If a private sewage disposal system needs or requires an engineered design because of high ground water or percolation problems, an application for its approval must be submitted to the State of Nevada Bureau of Health Protection. After the application and the engineered system are approved by the State of Nevada Bureau of Health Protection, the applicant must secure a letter of approval from the agency. Upon submitting the letter of approval to the building official, the permit for the structure may be issued. Only after the State of Nevada Bureau of Health Protection has issued a written approval for the completion of the engineered system, the building official may issue a certificate of occupancy for the structure it serves. Douglas County assumes no responsibility whatsoever for the engineered system. (Ord. 1551, 2019; Ord. 1131, 2005)

107.1.2 Appeals. The building official's determination of the suitability of alternate materials or other means of construction may be appealed to the building and fire board of appeals in accordance with section 20.810.040. (Ord. 1551, 2019; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 558, 1992; Ord. 439, 1985)

104.1 Permit required.

Section 104.1 of the UPC is amended by adding the following language:

A separate permit is not required under this code if a valid building permit has been issued under the IBC or IRC for the permitted structure. (Ord. 1551, 2019; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 558, 1992; Ord. 439, 1985)

104.5 Fees.

Section 104.5 of the UPC is amended by deleting the schedule of fees and substituting the following language:

Plumbing permit fees must be computed on the basis of the work to be performed as set by resolution of the board. (Ord. 1551, 2019; Ord. 1131, 2005; Ord. 802, 1998; Ord. 711, 1995; Ord. 439, 1985)

216.0 Definitions. Non-Combustible material. Materials that, when tested in accordance with ASTM E136, have at least three of four specimens tested meeting all of the following criteria:

1. The recorded temperature of the surface and interior thermocouples shall not at any time during the test rise more than 54ºF (30ºC) above the furnace temperature at the beginning of the test.
2. There shall not be flaming from the specimen after the first 30 seconds.
3. If the weight loss of the specimen during testing exceeds 50 percent, the recorded temperature of the surface and interior thermocouples shall not

at any time during the test rise above the furnace air temperature at the beginning of the test, and there shall not be flaming of the specimen. (Ord. 1551, 2019)

Section 312.7 Fire-Resistant Construction. Fire-Resistant Construction. Piping penetrations of fire-resistance-rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the building code. (Ord. 1551, 2019)

Section 422.0 Minimum Number of Required Fixtures. This section is intentionally deleted. (Ord. 1551, 2019)

Table 422.1 Minimum Plumbing Facilities. This table is intentionally deleted. (Ord. 1551, 2019)

603.2 Approval of devices or assemblies.

Section 603.2 of the UPC is amended to read as follows:

The owner of the premises or the responsible person shall have the backflow prevention assembly tested by a certified backflow assembly tester at the time of installation, repair or relocation and at least annually thereafter unless required more frequently by the water purveyor, or utility and/or the State Health Department. The periodic testing shall be performed in accordance with procedures referenced in the University of Southern California manual of Cross-Connection Control (Ninth Edition) by a tester qualified in accordance with those standards and with the standards in the CA-NV section of the AWWA backflow prevention assembly testers and cross-connection control program. (Ord. 1551, 2019; Ord. 1131, 2005)

604.7 Materials.

Section 604.7 of the UPC is amended as follows:

All malleable iron water fittings shall be galvanized. All galvanized water pipe and fittings shall be kept at least six (6) inches above final grade. (Ord. 1551, 2019; Ord. 1131, 2005)

608.2 Excessive water pressure.

Section 608.2 of the UPC is amended to read as follows:

Where local static water pressure is in excess of sixty-five (65) pounds per square inch (448 kPa), an approved type pressure regulator preceded by an adequate strainer shall be installed and the static pressure reduced to sixty-one (61) pounds per square inch (421 kPa) or less. Where pressure regulators are required, the pressure regulator shall be installed between the source of water and after the meter and back-flow prevention device (if installed at the meter), and before all exterior and interior fixtures and outlets.

For potable water services up to and including one and one-half (1-½) inch (40 mm) regulators, provision shall be made to prevent pressure on the building side of the regulator from exceeding main supply pressure. Approved regulators with integral bypasses shall be acceptable. Each such regulator and strainer shall be accessibly located and shall have the strainer readily accessible for cleaning without removing the regulator or strainer body or disconnecting the supply piping. Pressure regulators shall not be the type that can be adjusted to provide static water pressure more than seventy-five (75) pounds per square inch (518 kPa). All pipe size determinations shall be based on eighty (80) percent of the reduced pressure when using Table 6-5. (Ord. 1131, 2005)

609.1 Installation.

Section 609.1 of the UPC is amended to read as follows:

All water piping shall be adequately supported in accordance with Table 313.3. Burred ends shall be reamed to the full bore of the pipe or tube. Changes in direction shall be made by the appropriate use of fittings, except that changes in direction in copper or copper alloy tubing may be made with bends, provided that such bends are made with bending equipment which does not deform or create a loss in the cross-sectional area of the tubing. Changes in direction are allowed with flexible pipe and tubing without fittings in accordance with the manufacturer's instructions. Provisions shall be made for expansion in hot-water piping. All piping, equipment, appurtenances, and devices shall be installed in a workmanlike manner in conformity with the provisions and intent of the code. Building supply yard piping shall be at least six (6) inches (152 mm) below the average local frost depth. (Ord. 1551, 2019; Ord. 1131, 2005)

610.1 Size of potable water piping.

Section 610.1 of the UPC is amended to read as follows:

The size of each water meter and each potable water supply pipe from the meter or other source of supply to the fixture supply branches, risers, fixtures, connections, outlets, or other uses shall be based on the total demand and shall be determined according to the methods and procedures outlined in this section. The size of pipes from the hot water heater and all hot water branches shall not exceed the minimum size necessary to meet the water supply requirements, as outlined in this section. Other than systems sized by the use of Table 6-5, the system shall be designed to assure that the maximum velocities allowed by the code and the applicable standard are not exceeded. (Ord. 1131, 2005)

610.7 Water pipe sizing.

Section 610.7 of the UPC is amended to read as follows:

610.7 On any proposed water piping installation sized using Table 6-5, the following conditions shall be determined:

1. Total number of fixture units as determined from Table 6-4, Equivalent Fixture Units, for the fixtures to be installed.

2. Developed length of supply pipe from meter to most remote outlet.

3. Difference in elevation between the meter and other source of supply and the highest fixture or outlet.

4. Pressure in the street main or other source of supply at the locality where the installation is to be made.

5. In localities where there is a fluctuation of pressure in the main throughout the day, the water piping system shall be designed on the basis of the minimum pressure available.

All above determinations shall be clearly noted on the plans, specifications, drawings or a worksheet submitted to the Administrative Authority whenever pipes from the hot water heater exceed one half (½) inch in diameter. (Ord. 1131, 2005)

712.1 Media. The piping of the plumbing, drainage and venting systems shall be tested with water or air. The authority having jurisdiction shall be permitted to require the removal of cleanouts, etc., to ascertain whether the pressure has reached all parts of the system. After the plumbing fixtures have been set and their traps filled with water, they shall be submitted to a final test. (Ord. 1551, 2019)

717.1 Size of building sewers; General.

Section 717.1 of the UPC is amended to read as follows:

The minimum size of any building sewer shall be determined on the basis of the total number of fixture units drained by such sewer, in accordance with Table 717.1, but in no event shall be less than the building drain or four (4) inches in diameter. No building sewer shall be smaller than the building drain. For alternate methods of sizing building sewers, see Appendix C. (Ord. 1551, 2019; Ord. 1131, 2005)

723.1 Building Sewer Test; General. Building sewers shall be tested by plugging the end of the building sewer at its points of connection with the public sewer or private sewage disposal system and completely filling the building sewer with water from the lowest to highest point thereof, or by approved equivalent low-pressure air test. The building sewer shall be watertight. (Ord. 1551, 2019)

1101.6 Subsoil drains.

Section 1101.6.1 of the UPC is amended to read as follows:

Where required by the geotechnical engineer or the building official, subsoil drains shall be provided around the perimeter of buildings having basements, cellars, or crawl spaces or floors below grade. Such subsoil drains may be positioned inside or outside of the footing, shall be of perforated or open-jointed approved drain tile or pipe not less than three (3) inches (80 mm) in diameter, and shall be laid in gravel, slag, crushed rock, approved three-quarter (¾) inch (19.1 mm) crushed recycled glass aggregate, or other approved porous material with a minimum of four (4) inches (102 mm)

surrounding the pipe on all sides. Filter media shall be provided for exterior subsoil piping. (Ord. 1551, 2019; Ord. 1131, 2005)

1107.2 Methods of Testing storm Drainage Systems. Except for outside leaders and perforated or open-jointed drain tile, the piping of storm drain systems shall be tested upon completion of the rough piping installation or air, and proved tight. The authority having jurisdiction shall be permitted to require the removal of cleanout plugs to ascertain whether the pressure has reached parts of the system. One of the following test methods shall be used in accordance with Section 1109.2.1 through Section 1109.2.3. (Ord. 1551, 2019)

1201.1 Installation. The regulations of this chapter shall govern the installation of fuel gas piping in or in connection with a building, structure or within the property lines of premises up to 5 pounds-force per square inch (34 kPa), other than service pipe. Fuel oil piping systems shall be installed in accordance with NFPA31. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern. (Ord. 1551, 2019)

1208.6.1.3 Snow Hazard. Protection of utilities shall be per requirements of local utility. (Ord. 1551, 2019)

1213.3 Test Pressure. This inspection shall include an air, CO2, or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than 25 psi (172.4 kPa) gauge pressure. Test pressures shall be held for a length of time satisfactory to the Authority Having Jurisdiction, but in no case less than 30 minutes with no perceptible drop in pressure. For welded piping, and for piping carrying gas at pressures in excess of 14 inches water column pressure (3.5 kPa), the test pressure shall be not less than 60 psi (414 kPa) and shall be continued for a length of time satisfactory to the Authority Having Jurisdiction, but in no case for less than 30 minutes. These tests shall be made using air, CO2, or nitrogen pressure and shall be made in the presence of the Authority Having Jurisdiction. Necessary apparatus for conducting tests shall be furnished by the permit holder. Test gauges used in conducting tests shall be in accordance with Section 318.0. (Ord. 1551, 2019)

1213.5.1 Turning Gas On. During the process of turning gas on into a system of new gas piping or into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that the valves at unused outlets are closed and plugged or capped. (Ord. 1551, 2019)

Chapter 14, **Firestop protection,** of the UPC is repealed. (Ord. 1551, 2019; Ord. 1131, 2005)

NATIONAL ELECTRICAL CODE REVISIONS

Article 80.2 Definitions.[1]

Article 80.2 of the NEC is amended by amending the following language:

Authority having jurisdiction. The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

Electrical inspector. An individual authorized to perform electrical inspections by the building official. (Ord. 1131, 2005)

Article 80.13 Authority. [1]

Article 80.13 of the NEC is amended by amending the following language:

Where used in this article, the term authority having jurisdiction shall include the building official or other individuals designated by the building official. This code shall be administered and enforced by the building official as designated by the governing authority as follows.

1. The authority having jurisdiction shall be permitted to render interpretations of this code in order to provide clarification to its recommendations, as permitted by 90.4.

2. When the use of electrical equipment or its installation is found to be dangerous to human life or property, the authority having jurisdiction shall be empowered to have the premises disconnected from its source of electrical supply.

The remainder of Article 80.13 will remain as adopted. (Ord. 1131, 2005)

Article 80.15 Electrical board.[1] Article 80.15 is repealed. (Ord. 1131, 2005)

Article 80.19 Permits and approvals.[1]

Article 80.19 subsection (C) Issuance of Permits is amended by adding the following: (3) Or such items designated in writing by the building official. (Ord. 1131, 2005)

Article 80.19 (D) Annual permits[1] subsection is repealed. (Ord. 1131, 2005)

Article 80.19 (F) Inspections and approvals [1] subsection is amended to read as follows:

1. Upon the completion of any installation of electrical equipment that has been made under a permit, it shall be the duty of the person, firm, or corporation making the installation to notify the electrical inspector having jurisdiction, who shall inspect the work within a reasonable time.

2. Where the inspector finds the installation to be in conformity with the statutes of all applicable local ordinances and all rules and regulations, the inspector shall issue to the person, firm or corporation making the installation a certificate of approval,

authorizing the connection to be supplied of electricity. When a certificate of temporary approval is issued authorizing the connection of an installation, such certificates shall be issued to expire at a time to be stated therein and shall be revocable by the electrical inspector for cause.

3. When any portion of the electrical installation within the jurisdiction of an electrical inspector is to be hidden from view by the permanent placement of parts of the building, the person, firm, or corporation installing the equipment shall notify the electrical inspector, and such equipment shall not be concealed until it has been approved by the electrical inspector. Where the concealment of the equipment proceeds continuously, the person, firm, or corporation installing the equipment shall give the electrical inspector due notice in advance, and inspections shall be made periodically during the progress of work.

4. If, upon inspection, any installation is found not to be fully in conformity with the provisions of Article 80, and all applicable ordinances, rules, and regulations, the electrical inspector making the inspection shall at once forward to the person, firm, or corporation making the installation a written correction notice stating the defects that have been found to exist. (Ord. 1131, 2005)

Article 80.19 (H) Applications and extensions[1] subsection is repealed. (Ord. 1131, 2005)

Article 80.23 Notice of violation, penalties.[1]

Article 80.23 subsection (B) Responsibility of the Authority Having Jurisdiction is repealed. (Ord. 1131, 2005)

Article 80.25 Connection to electrical supply.[1]

Article 80.25 is amended to read as follows: Connections to the electrical supply shall be conformed to Article 80.25 (A) through (C).

A. Authority. It shall be unlawful for any person, firm, or corporation to make connection to a supply of electricity or to supply electricity to any electrical equipment installation for which a permit is required or that has been disconnected or ordered to be disconnected.

B. Special Consideration. By special permission of the authority having jurisdiction, temporary power shall be permitted to be supplied to the premises for specific needs of the construction project. The building official shall determine what needs are permitted under this prevision.

C. Disconnection. Where a connection is made to an installation that has not been inspected, as outlined in the proceeding paragraphs of this section, the supplier of the electricity shall immediately report such connection to the authority having jurisdiction. If, upon subsequent inspection, it is found that the installation is not in conformity with the provisions of Article 80, the building official shall notify the person, firm, or corporation making the installation to rectify the defects and, if such work is not completed within (15) business days, the building official shall have the authority to

cause the disconnection of the portion of the installation that is not in conformity. (Ord. 1131, 2005)

Article 80.27 Inspector's qualifications.[1]

Article 80.27 is amended to read as follows:

A. Certification. All electrical inspectors shall be certified by a nationally recognized inspector certification program accepted by the building official. The certification program shall specifically qualify the inspector in electrical inspections. No person shall be employed as an Electrical Inspector unless that person is the holder of an electrical inspector's certification.

B. Experience. Electrical Inspector applicants shall demonstrate the following:

1. Having demonstrated knowledge of the standard materials and methods used in the installation of electrical equipment.

2. Be well versed in the approved methods of construction for safety to persons and property.

3. Be well versed in the statutes of all related electrical work and the National Electrical Code, as approved by the American National Standard Institute.

C. Revocation and Suspension of Authority. The building official shall have the authority to revoke an inspector's authority to conduct inspections within a jurisdiction. (Ord. 1131, 2005)

Article 80.29 Liability for damages.[1]

Article 80.29 is amended to read as follows:

Article 80 shall not be construed to affect the responsibility or liability of any party owning, designing, operating, controlling, or installing any electrical equipment for damages to persons or property caused by a defect therein, nor shall Douglas County or any of its employees be held as assuming any such liability by reason of the inspection, reinspection, or other examination authorized. (Ord. 1131, 2005)

[1] Informative Annex H Administration and Enforcement.

Article 90.2 Scope.

Article 90.2(D) of the N.E.C. is added to read as follows:

90.2(D) Exempted work. An electrical permit shall not be required for the following:

1. Repair or replacement of fixed motors, transformers or fixed approved appliances of the same type and rating in the same location.

2. Temporary decorative lighting.

3. Repair or replacement of current-carrying parts of any switch, contactor or control device.

4. Reinstallation of attachment plug receptacles, but not the outlets.

5. Repair or replacement of any overcurrent device of the required capacity in the same location.

6. Repair or replacement of electrodes or transformers of the same size and capacity for signs or gas tube systems.

7. Removal of electrical wiring.

8. The wiring for temporary (not to exceed 90 days) theater, motion picture or television stage sets and scenery.

9. Electrical wiring, devices, appliances, apparatus or equipment operating at less than 25 volts.

10. Temporary Carnivals and circus equipment.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. (Ord. 1131, 2005)

Article 210.52(A)(2) Wall Spacing. As used in this section, a wall space shall include any of the following:

1. Any space 600 mm (2 ft.) or more in width (including space measured around corners) and unbroken along the floor line by doorways and similar openings, fireplaces, and fixed cabinets that do not have countertops or similar work surfaces.
2. The space occupied by fixed panels in walls, excluding sliding panels.
3. The space afforded by fixed room dividers, such as free-standing bar-type counters or railings.

Exceptions:

1. The space behind operable doors.
2. Vestibules, hallways, and similar areas less than 5 ft. wide in bedrooms. (Ord. 1551, 2019)

Article 225.32 Location. The disconnecting means shall be attached to the outside of the building or structure served or where the conductors pass through the building or structure. The disconnecting means shall be at a readily accessible location nearest the point of entrance of the conductors. For the purposes of this section, the requirements in 203.6 shall be utilized.

Exceptions:

1. For installations under single management, where documented safe switching procedures are established and maintained for disconnection, and where the installation is monitored by qualified individuals, the disconnecting means shall be permitted to be located elsewhere on the premises.
2. For buildings or other structures qualifying under the provisions of Article 685, the disconnecting means shall be permitted to be located elsewhere on the premises.
3. For towers or poles used as lighting standards, the disconnecting means shall be permitted to be located elsewhere on the premises.

4. For poles or similar structures used only for support of signs installed in accordance with Article 600, the disconnecting means shall be permitted to be located elsewhere on the premises.
5. The disconnecting means shall be located independent of the building or structure served, in direct line of sight, but not to exceed thirty feet (30').
6. The service disconnecting means may be installed within a building when an external remote shunt switch is provided. All shunt trip switches shall be located at seven feet (7') above finish grade at a location approved by the fire department. All shunt trip switches shall be located within a twelve inch (12") equilateral triangle, red in color. (Ord. 1551, 2019)

Article 230.2 Number of services.

Article 230.2 is amended to read as follows:

With the exception of 230.4, a building or other structure served shall be supplied by only one service unless permitted in Article 230.2 (A) through sets of conductors, 1/0 AWG and larger, running to the same location and conducted together at the supply end shall be considered to be supplying one service. (Ord. 1131, 2005)

Article 230.2(D)4 Residential or agricultural properties.

Article 230.2(D)4 is added to read as follows: Residential or agricultural properties determined to be one-acre or less shall only be supplied by one service, unless special permission has been granted by the building official.

Exception: An accessory dwelling approved by the County, with the electrical service installed per Article 230.62. (Ord. 1551, 2019; Ord. 1131, 2005)

Article 230.63 Group.

Article 230.63 is added to read as follows: Multiple services, which supply more than one building or structure on the same property, shall be grouped together with a distance between panels not to exceed 10-feet of separation.

Exception: As determined by the building official, commercial or industrial properties with multi structures where each structure is supplied by a separate service may not be required to have all services centrally located and grouped. (Ord. 1131, 2005)

Article 230.64 Identification.

Article 230.64 is added to read as follows:

Service equipment that is grouped in centralized locations to comply with Article 230.63 shall have a permanent affixed plaque identifying the structure or equipment served. The disconnecting means shall be readily identified by a 6-inch equilateral triangle, red in color that complies with the Fire Code, as adopted by the County. (Ord. 1131, 2005)

Article 230.70(A)(1) Readily Accessible Location. The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure nearest the point of entrance of the service conductors. The disconnecting means may be located independent of the building or structure served, in direct line of sight, but not to exceed thirty feet (30').

Exception: The service disconnecting means may be installed within a building when an external remote shunt switch is provided. All shunt trip switches shall be located at seven feet (7') above finish grade at a location approved by the fire department. All shunt trip switches shall be located within a twelve inch (12") equilateral triangle, red in color. (Ord. 1551, 2019)

Article 240.51(B) Edison-Base Fuses; Replacement Only. Plug fuses of the Edison-base type shall be used only for replacements in existing installations where there is no evidence of overfusing or tampering. In any existing building where alterations or additions are made to aby of the premises wiring, all fuse holders shall comply with Article 240.54. (Ord. 1551, 2019)

Article 250.118(4) Types of Equipment Grounding Conductors.

(4) Electrical metallic tubing with the exception of where the metallic raceway is subject to either damage or likely to be disturbed in the future under normal operating conditions, this determination shall be made by the Authority Having Jurisdiction.

FPN: An example of "subject to damage" is a surface installed conduit running along a traffic path. An example of "likely to be disturbed" is a surface installed conduit running across a rooftop, where future re-roofing operations will require the conduit to shifted, damaged, removed or relocated. (Ord. 1551, 2019)

Article 250.120 Equipment Grounding Conductor Installation. All raceways installed on roofs shall contain an equipment grounding conductor sized per Table 250.122 installed with the circuit conductors.

Exception: Low voltage, communication and similar type systems unless required elsewhere in the Code. (Ord. 1551, 2019)

Article 314.17(C) Nonmetallic Boxes and Conduit Bodies. Nonmetallic boxes and conduit bodies shall be suitable for the lowest temperature-rated conductor entering the box. Where nonmetallic boxes and conduit bodies are used with messenger-supported wiring, open wiring on insulators, or concealed knob-and-tube wiring, the conductors shall enter the box through individual holes. Where flexible tubing is used to enclose the conductors, the tubing shall extend from the last insulating support to not less than 6 mm (1/4 in.) inside the box and beyond any cable clamp. Where non-metallic sheathed cable or multiconductor Type UF cable is used, the sheath shall extend not less than 6 mm (1/4 in.) inside the box and beyond any cable clamp. In all instances, all permitted wiring methods shall be secured to the boxes.

Exception: where non-metallic sheathed cable or multiconductor Type UF cable is used with boxes mounted in walls or ceilings, and where the cable is fastened within 200 mm (8 in.) of the box measured along the sheath and where the sheath extends through a cable knockout not less than 6 mm (1/4 in.), securing the cable to the box shall not be required. Multiple cable entries shall be permitted in a single cable knockout opening. (Ord. 1551, 2019)

Article 358.12 Uses Not Permitted. EMT shall not be used under the following conditions:

1. Where subject to severe physical damage.
2. For the support of luminaires or other equipment except conduit bodies no larger than the largest trade size of the tubing.
3. In direct contact with earth. (Ord. 1551, 2019)

Article 680.73 Accessibility.

Article 680.73 is amended to read as follows:

Hydromassage bathtub electrical equipment access shall be on the same floor level as the bathtub. The electrical equipment shall be accessible without damaging the building structure or interior and exterior building finish, no access shall be allowed through the underfloor. (Ord. 1131, 2005)

Article 700.12 General Requirements. Current supply shall be such that, in the event of failure of the normal supply to, or within, the building or group of buildings concerned, emergency lighting, emergency power, or both shall be available within the time required for the application but not to exceed 10 seconds. The supply system for emergency purposes, in addition to the normal services to the building and meeting the general requirements of this section, shall be one or more of the types of systems described in 700.12(A) through (E). Unit equipment in accordance with 700.12(F) shall satisfy the applicable requirements of this article.

In selecting an emergency source of power, consideration shall be given to the occupancy and the type of service to be rendered, whether of minimum duration, as for evacuation of a theater, or longer duration, as for supplying emergency power and lighting due to an indefinite period of current failure from trouble either inside or outside the building.

Equipment shall be designed and located so as to minimize the hazards that might cause complete failure due to flooding, fires, icing, and vandalism.

Equipment for sources of power as described in 700.12(A) through (E) shall be installed either in spaces fully protected by approved automatic fire suppression systems (sprinklers, carbon dioxide systems, and so forth) or in spaces with a 2-hour fire rating where located within the following:

1. Assembly occupancies for more than 1000 persons.

2. Buildings above 55 feet in height with any of the following occupancy classes- assembly, educational, residential, detention and correctional, business, and mercantile.
3. Health care occupancies where persons are not capable of self-preservation.
4. Educational occupancies with more than 300 occupants. (Ord. 1551, 2019)

INTERNATIONAL ENERGY CONSERVATION CODE REVISIONS

IECC – Commercial Provisions

Section C102.1.1 Above code programs. Amend section C102.1.1 to read as follows:

Section C102.1.1 Above code programs. The code official or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this code. Programs seeking approval must submit all requested supporting documentation, including program guidelines, protocols, calculations and program simulation performance software, if applicable, to the NNICC and/or jurisdiction for review for use as acceptable software. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this code. The requirements identified as "mandatory" in Chapter 4 shall be met. (Ord. 1551, 2019; Ord. 1460, 2016)

Section C201.3 Terms defined in other codes. Terms that are defined in this code but are defined in the International Building Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, Uniform Mechanical Code, International Plumbing Code, Uniform Plumbing Code, or the International Residential Code shall have the meanings ascribed to them in those codes. (Ord. 1551, 2019)

Section C202 Definitions. Amend section C202 to include the following definitions:

AIR CURTAIN. A device, installed at the building entrance, that generates and discharges a laminar air stream intended to prevent the infiltration of external, unconditioned air into the conditioned spaces, or the loss of interior, conditioned air to the outside.

CASINO. A structure that houses a business with a Non-restricted Gaming License from the Nevada Gaming Commission and State Gaming Control Board. It includes the gaming area(s) as well as the adjacent area(s) within the building envelope.

CASINO GAMING AREA. The space within a casino wherein gaming is conducted. The gaming area shall also include accessory uses within the same room(s) as, or substantially open to the gaming floor(s). Such areas shall include, but not be limited to lobbies, balconies, public circulation areas, assembly areas, restaurants, bars, lounges, food courts, retail spaces, mezzanines, convention pre-function areas, cashiers' cages, players' clubs, customer support, conservatories and promenades that share the same atmosphere, spillover lighting and theme lighting with the adjacent gaming floor area.

For accessory areas situated on the perimeter of the gaming floor to be considered substantially open, the walls(s) or partitions(s) separating an accessory space from the gaming area must be a minimum of 50% open, as measured from the interior side of the accessory space, with no doors, windows and other obstructions, other than roll up security grills, installed within the opening.

LUMINAIRE. A complete lighting unit consisting of a light source, such as a lamp or lamps, together with parts designed to position the light source and connect it to the power supply. It may also include parts to protect the light source, ballast, or distribute the light. A lampholder itself is not a luminaire.

OCCUPANT SENSOR (LIGHTING). A device that detects the presence or absence of people within an area and causes lighting to be regulated accordingly. The term "occupant sensor" applies to a device that controls indoor lighting systems. When the device is used to control outdoor lighting systems, it is defined as a motion sensor. This definition also applies to "occupancy sensor" and "occupant-sensing device". (Ord. 1460, 2016)

Section C402.5.3 Rooms containing fuel-burning appliances. In Climate Zones 3 through 8, where combustion air is supplied through openings in an exterior wall to a room or space containing a space-conditioning fuel-burning appliance, one of the following shall apply:

1. The room or space containing the appliance shall be located outside of the building thermal envelope.
2. The room or space containing the appliance shall be enclosed and isolated from conditioned spaces inside of the building thermal envelope. Such rooms shall comply with all of the following:
   2.1. The walls, floors and ceilings that separate the enclosed room or space from conditioned spaces shall be insulated to be not less than equivalent to the insulation requirement of below-grade walls as specified in Table C402.1.3 or C402.1.4.
   2.2. The walls, floors and ceilings that separate the enclosed room or space from conditioned spaces shall be sealed in accordance with Section C402.5.1.1.
   2.3. The doors into the enclosed room or space shall be fully gasketed.
   2.4. Water lines and ducts in the enclosed room or space shall be insulated in accordance with Section 403.
   2.5. Where an air duct supplying combustion air to the enclosed room or space passes through conditioned space, the duct shall be insulated to an R-value not less than R-8.

Exception: Fireplaces and stoves complying with Sections 901 through 905 of the International Mechanical Code, Section 911, 912, 913 of the Uniform Mechanical Code, and Section 2111.14 of the International Building Code. (Ord. 1551, 2019)

Section C402.5. Air leakage (Mandatory). Amend Section C402.5 to read as follows:

C402.5. Air leakage (Mandatory). The thermal envelope of buildings shall comply with Sections C402.5.1 through C402.5.9. (Ord. 1551, 2019; Ord. 1460, 2016)

Section C402.5.7 Vestibules. Add the following exception to C402.5.7:

7. Doors that have an air curtain with a velocity of not less than 6.56 feet per second (2 m/s) at the floor that have been tested in accordance with ANSI/AMCA 220 and installed in accordance with manufacturer's instructions. Manual or automatic controls shall be provided that will operate the air curtain with the opening and closing of the door. Air curtains and their controls shall comply with Section C408.2.3. (Ord. 1551, 2019; Ord. 1460, 2016)

Section C402.5.9 Air curtains. Add the following section to C402.5:

C402.5.9 Air curtains. Where doorway, passageway or pass-thru openings in the building thermal envelope are intended to be normally opened to the exterior environment, an approved air curtain tested in accordance with ANSI/AMCA 220 shall be used to separate conditioned air from the exterior. (Ord. 1551, 2019; Ord. 1460, 2016)

Section C403.2.2 Ventilation (Mandatory). Ventilation, either natural or mechanical, shall be provided in accordance with Chapter 4 of the International Mechanical Code and Uniform Mechanical Code. Where mechanical ventilation is provided, the system shall provide the capability to reduce the outdoor air supply to the minimum required by Chapter 4 of the International Mechanical Code and Uniform Mechanical Code. (Ord. 1551, 2019)

Section C403.6.1 Variable air volume and multiple-zoned systems. Supply air systems serving multiple zones shall be variable air volume (VAV) systems that have zone controls configured to reduce the volume of air that is reheated, re-cooled or mixed in each zone to one of the following:

1. Twenty percent of the zone design peak supply for systems with DDC and 30 percent for other systems.
2. Systems with DDC where all of the following apply:
3. The outdoor airflow rate required to meet the minimum ventilation requirements of Chapter 4 of the International Mechanical Code and Uniform Mechanical Code.
4. Any higher rate that can be demonstrated to reduce overall system annual energy use by offsetting reheat/re-cool energy losses through reduction in outdoor air intake for the system as approved by the code official.

5. The airflow rate required to comply with applicable codes or accreditation standards such as pressure relationships or minimum air change rates.

Exception: The following individual zones or entire air distribution systems are exempted are from the requirement for VAV control:

1. Zones or supply air systems where not less than 75 percent of the energy for reheating or for providing warm air in mixing systems is provided from a site-recovered, including condenser heat, or site-solar energy source.
2. Systems that prevent reheating, re-cooling, mixing or simultaneous supply of air that has been previously cooled, either mechanically or through the use of economizer systems, and air that has been previously mechanically heated. (Ord. 1551, 2019)

Section C403.6.6 Multiple-zone VAV system ventilation optimization control. Multiple-zone VAV systems with direct digital control of individual zone boxes reporting to a central control panel shall have automatic controls configured to reduce outdoor air intake flow below design rates in response to changes in system ventilation efficiency (Ev) as defined by the International Mechanical Code and Uniform Mechanical Code.

Exceptions:

1. VAV systems with zonal transfer fans that recirculate air from other zones without directly mixing it with outdoor air, dual-duct dual-fan VAV systems, and VAV systems with fan-powered terminal units.
2. Systems where total design exhaust airflow is more than 70 percent of the total design outdoor air intake flow requirements. (Ord. 1551, 2019)

Section C403.7.1 Demand control ventilation (Mandatory). Demand control ventilation (DCV) shall be provided for spaces larger than 500 square feet (46.5m^2) and with an average occupant load of 25 people or greater per 1,000 square feet (93m^2) of floor area, as established in Table 403.3.1.1 of the International Mechanical Code and Table 402.1 Uniform Mechanical Code, and served by systems with one or more of the following:

1. An air-sided economizer.
2. Automatic modulating control of the outdoor air damper.
3. A design outdoor airflow greater than 3,000 cfm (1416 L/s).

Exceptions:

1. Systems with energy recovery complying with Section C403.7.4.
2. Multiple-zone systems without direct digital control of individual zones communicating with a central control panel.
3. Systems with a design outdoor airflow less than 1,200 cfm (566 L/s).
4. Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirements is less than 1,200 cfm (566 L/s).
5. Ventilation provided only for process loads. (Ord. 1551, 2019)

Section C403.7.2 Enclosed parking garage ventilation controls (Mandatory). Enclosed parking garages used for sorting or handling automobiles operating under their own power shall employ contamination-sensing devices and automatic controls configured to stage fans or modulate fan average airflow rates to 50 percent or less of design capacity, or intermittently operate fans less than 20 percent of the occupied time or as required to maintain acceptable contaminant levels in accordance with International Mechanical Code and Uniform Mechanical Code provisions. Failure of contamination-sensing devices shall cause the exhaust fans to operate continuously at design airflow.

Exceptions:

1. Garages with a total exhaust capacity less than 22,500 cfm (10 620 L/s) with ventilation systems that do not utilize heating or mechanical cooling.
2. Garages that have a garage area to ventilation system motor nameplate power ratio that exceeds 1125 cfm/hp (710 L/kW) and do not utilize heating or mechanical cooling. (Ord. 1551, 2019)

Section C403.7.4 Energy recovery ventilation systems (Mandatory). Where the supply airflow rate of a fan system exceeds the values specified in Tables C403.7.4(1) and C403.7.4(2), the system shall include an energy recovery system. The energy recovery system shall be configured to provide a change in the enthalpy of the outdoor air supply of not less than 50 percent of the difference between the outdoor air and return air enthalpies, at design conditions. Where an air economizer is required, the energy recovery system shall include a bypass or controls that permit operation of the economizer as required by Section C403.5.

Exception: An energy recovery ventilation system shall not be required in any of the following conditions:

1. Where energy recovery systems are prohibited by the International Mechanical Code and Uniform Mechanical Code.
2. Laboratory fume hood systems that include not fewer than one of the following features:
   2.1. Variable-air-volume hood exhaust and room supply systems configured to reduce exhaust and makeup air volume to 50 percent or less of design value.
   2.2. Direct makeup (auxiliary) air supply equal to or greater than 75 percent of the exhaust rate, heated not warmer than 2ºF (1.1ºC) below room setpoint, with no humidification added, and no simultaneous heating and cooling used for dehumidification control.
3. Systems serving spaces that are heated to less than 60ºF (15.5ºC) and that are not cooled.
4. Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site-solar energy.
5. Heating energy recovery in Climate Zones 1 and 2.
6. Cooling energy recovery in Climate Zones 3C, 4C, 5B, 5C, 6B, 7, and 8.
7. Systems requiring dehumidification that employ energy recovery in series with

the cooling coil.

8. Where the largest source of air exhausted at a single location at the building exterior is less than 75 percent of the design outdoor air flow rate.
9. Systems expected to operate less than 20 hours per week at an outdoor percentage covered by Table C403.7.4(1).
10. Systems exhausting toxic, flammable, paint or corrosive fumes or ducts.
11. Commercial kitchen hoods used for collecting and removing grease vapors and smoke. (Ord. 1551, 2019)

Section C403.7.7 Shutoff dampers (Mandatory). Outdoor air intake and exhaust openings and stairway and shafts vents shall be provided with Class I motorized dampers. The dampers shall have an air leakage rate not greater than 4 cfm/ft.^{2} (20.3 L/s * m^2) of damper surface area at 1.0inch water gauge (249 Pa) and shall be labeled by an approved agency when tested in accordance with AMCA 500D for such purpose.

Outdoor air intake and exhaust dampers shall be installed in automatic controls configured to close when the systems or spaces served are not in use or during unoccupied period warm-up and setback operation, unless the systems served require outdoor or exhaust air in accordance with the International Mechanical Code and Uniform Mechanical Code, or the dampers are opened to provide intentional economizer cooling.

Stairway and shaft vent dampers shall be installed with automatic controls configured to open upon the activation of any fire alarm initiating device of the building's fire alarm system or the interruption of power to the damper.

Exception: Nonmotorized gravity dampers shall be an alternative to motorized dampers for exhaust and relief openings as follows:

1. In buildings less than three stories in height above grade plane.
2. In buildings of nay height located in Climate Zones 1,2or 3.
3. Where the design exhaust capacity is not greater than 300 cfm (142 L/s).

Nonmotorized gravity dampers shall have an air leakage rate not greater than 20 cfm/ft.^{2} (101 L/s*m^2) where not less than 24 inches (610 mm) in either dimension and 40 cfm/ft.^{2} (203.2 L/s*m^2) where less than 24 inches (610 mm) in either dimension. The rate of air leakage shall be determined at 1.0 inch water gauge (249 Pa) when tested in accordance with AMCA 500D for such purpose. The dampers shall be labeled by an approved agency. (Ord. 1551, 2019)

Section C403.11.1 Duct and plenum insulation and sealing (Mandatory).

Supply and return air ducts and plenums shall be insulated with not less than R-6 insulation where located in unconditioned spaces and where located outside of the building with not less than R-8 insulation in Climate Zones 1 through 4 and not less than R-12 insulation in Climate Zones 5 through 8. Where located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by not less thanR-8 insulation in Climate Zones 1 through 4 and not less than R-12 insulation in Climate Zones 5 through 8

Exceptions:

1. Where located within equipment.
2. Where the design temperature difference between the interior and exterior of the duct or plenum is not greater than 15°F (8°C).

Ducts, air handlers and filter boxes shall be sealed. Joints and seams shall comply with Section 603.9 of the International Mechanical Code and Section 603.10, 603.11 of the Uniform Mechanical Code. (Ord. 1551, 2019)

Section C403.11.2.1 Low-pressure duct systems (Mandatory). Longitudinal and transverse joints, seams and connections of supply and return ducts operating at a static pressure less than or equal to 2 inches water gauge (w.g.) (498 Pa) shall be securely fastened and sealed with welds, gaskets, mastics, (adhesives), mastic-plus-embedded-fabric systems or tapes installed in accordance with the manufacturer's instructions. Pressure classifications specific to the duct system shall be clearly indicated on the construction documents in accordance with the International Mechanical Code and Uniform Mechanical Code.

Exception: Locking-type longitudinal joints and seams, other than the snap-lock and button-lock types, need not be sealed as specified in this section. (Ord. 1551, 2019)

Section 403.11.2.2 Medium-pressure duct systems (Mandatory). Ducts and plenums designed to operate at a static pressure greater than 2 inches water gauge (w.g.) (498 Pa) but less than 3 inches w.g. (747 Pa) shall be insulated and sealed in accordance with Section C403.11.1. Pressure classifications specific to the duct system shall be clearly indicated on the construction documents in accordance with the International Mechanical Code and Uniform Mechanical Code. (Ord. 1551, 2019)

Section 406.6 Dedicated outdoor air system. Buildings containing equipment or systems regulated by Section C403.3.4, C403.4.3, C403.4.4, C403.4.5, C403.6, C403.8.4, C403.8.5, C403.8.5.1, C403.9.1, C403.9.2, C403.9.3, C403.9.4 shall be equipped with an independent ventilation system designed to provide not less than the minimum 100-percent outdoor air to each individual occupied space, as specified by the International Mechanical Code and Uniform Mechanical Code. (Ord. 1551, 2019)

Section C408.2 Mechanical systems commissioning and completion requirements. Amend section C408.2 to read as follows:

C408.2 Mechanical systems commissioning and completion requirements.

Prior to passing the final mechanical inspection, the registered design professional shall provide evidence of mechanical systems commissioning and completion in accordance the provisions of this section.

A properly licensed contractor that is the designer and has prepared the mechanical or plumbing drawing for the project may perform the commissioning as required in C408.2.1 and C408.2.4 of this code. The contractor shall be required to carry insurance in the form of Professional Liability or Error and Omissions Insurance.

Construction document notes shall clearly indicate provisions for commissioning and completion requirements in accordance with this section and are permitted to refer to specifications for further requirements. Copies of all documentation shall be given to the owner and made available to the code official upon request in accordance with sections C408.2.4 and C408.2.5.

Exception: The following systems are exempt from the commissioning requirements:

1. Mechanical systems in buildings where the total mechanical equipment capacity is less than 480,000 Btu/h (140 690 W) cooling capacity and 600,000 Btu/h (175 860 W) heating capacity.
2. Systems included in section C403.3 that serve dwelling units and sleeping units in hotels, motels, boarding houses or similar units. (Ord. 1460, 2016)

Section C408.2.5 Documentation requirements. Amend section C408.2.5 to read as follows:

C408.2.5 Documentation requirements. The construction documents shall specify that the documents described in this section be provided to the building owner and the Building Official prior to receipt of the Certificate of Occupancy. (Ord. 1460, 2016)

Chapter 5 Referenced Standards

Add the following reference standards to Chapter 5:

IAPMO International Association of Plumbing & Mechanical Officials
5001 E. Philadelphia Street
Ontario, CA 91761

Standard reference number	Title	Reference in code section number
UMC-2012	Uniform Mechanical Code®	C201.3, C303.2, C402.2.10, C403.2.2, C403.5
UPC-2012	Uniform Plumbing Code®	C201.3

(Ord. 1460, 2016)

Section C501.4 Compliance. Alterations, repairs, additions and changes of occupancy to, or relocation of, existing buildings and structures shall comply with the provisions for alterations, repairs, additions and changes of occupancy or relocation, respectively, in this code and in the International Building Code, International Existing Building Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, Uniform Mechanical Code, International Plumbing Code, Uniform Plumbing Code, International Property Maintenance Code, International Private Sewage Disposal Code and NFPA 70. (Ord. 1551, 2019)

Amend Chapter 6 by adding the following to read as follows:

205-12: Energy Efficiency Classification for Fans C403.8.3

220-08(R2012): laboratory Methods for Testing Air Curtain Units for Aerodynamic Performance Rating C402.5.7

500D-12: Laboratory Methods for Testing Dampers for Rating C403.7.7
IAPMO

UMC-18: Uniform Mechanical Code C201.3, C403.2.2, C403.6, C406.6.6, C403.7.1, C403.7.2, C403.7.4, C403.7.5, C403.7.7, C403.11.1, C403.11.2.1, C403.11.2.2, C406.6, C501.4

UPC-18: Uniform Plumbing Code C201.3, C501.4

ICC

IBC-18: International Building Code C201.3, C303.1.1, C303.2, C402.5.3, C402.5.4, C501.4,

IFC-18: International Fire Code C201.3, C501.4 **IFGC-18:**

International Fuel Gas Code C201.3, C501.4
(Ord. 1551, 2019)

IECC – Residential Provisions

Section R102.1.1 Above code programs. Amend section R102.1.1 to read as follows:

R102.1.1 Above code programs. The code official or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this code. Programs seeking approval must submit all requested supporting documentation, including program

guidelines, protocols, calculations and program simulation performance software, if applicable, to the NNICC and/or jurisdictions for review for use as acceptable software. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this code. The requirements identified as "mandatory" in Chapter 4 shall be met. (Ord. 1460, 2016)

Section R401.3 Certificate. Amend section R401.3 to read as follows:

R401.3 Certificate. (Mandatory) The builder shall provide a final certificate to the owner. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. (Ord. 1551, 2019; Ord. 1460, 2016)

Section R402.4.1.2 Testing. Amend section R402.4.1.2 to read as follows:

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascal's). Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather-stripping or other infiltration control measures;
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures;
3. Interior doors, if installed at the time of test, shall be open;
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed;
5. Heating and cooling systems, if installed at the time of test, shall be turned off; and supply and return registers, if installed at the time of test, shall be fully open.
6. Supply and return registers, where installed at the time of the test, shall be fully open. (Ord. 1551, 2019; Ord. 1460, 2016)

Section R403.3.2 Sealing (Mandatory). Amend section R403.3.2 to read as follows:

R403.3.2 Sealing (Mandatory). Ducts air handlers and filter boxes shall be sealed. Joints and seams shall comply with either the International Mechanical Code or International Residential Code, as applicable.

Exceptions:

1. Air-impermeable spray foam products shall be permitted to be applied without additional joint seals.
2. Where a duct connection is made that is partially inaccessible, three screws or rivets shall be equally spaced on the exposed portion of the joint so as to prevent a hinge effect.
3. Continuously welded and locking type longitudinal joints and seams in ducts operating at static pressures less the 2 inches of water column (500 pa) pressure classification shall not require additional closure systems.

Duct tightness shall be verified by either of the following:

1. Postconstruction test: Total leakage shall be less than or equal to 6 cfm (169.9 L/Min) or Total leakage to outside shall be less than or equal to 4 cfm (113.3 L/Min) per 100 square feet (9.29M2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.
2. Rough-in test: Total leakage shall be less than or equal to 6 cfm (169.9 L/Min) per 100 square feet (9.29M2) of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 5 cfm (141.6 L/Min) per 100 square feet (9.29 m2) of the conditioned floor area.

Exception: The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope. (Ord. 1551, 2019; Ord. 1460, 2016)

Section 403.3.4 Duct Leakage (prescriptive). The total leakage of the ducts, where measured in accordance with Section R403.3.4, shall be as follows:

1. Rough-in test: The total leakage shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m^2) of conditional floor area where the air handler is installed at the time of the test. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 3 cubic feet per minute (85 L/min) per 100 square feet (9.29 m^2) of conditioned floor area.

2. Postconstruction test: Total leakage shall be less than or equal to 5 cubic feet per minute (cfm) (141.6 L/min) or total leakage to outside shall be less than or equal to 3.5 cfm (99.1 L/min) 100 square feet (9.29 m^2) of conditioned floor area. (Ord. 1551, 2019)

Section R403.6 Mechanical ventilation (Mandatory). Amend section R403.6 to read as follows:

Section R403.6 Mechanical ventilation (Mandatory). The building (dwelling) shall be provided with ventilation that complies with the requirements of the International Residential Code or International Mechanical Code, as applicable, or with other approved means of ventilation. The mechanical system shall have a readily accessible on-off control switch allowing control of the mechanical system. Utilization of outside air temperature sensors, carbon dioxide sensors, humidity sensors or similar intermittent controls to activate the outside air mechanical equipment is permitted. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating. (Ord. 1551, 2019; Ord. 1460, 2016)

Section R406 Energy Rating Index Compliance. Add following section R406 to Chapter 4:

SECTION R406 ENERGY RATING INDEX COMPLIANCE ALTERNATIVE

R406.1 Scope. This section establishes criteria for compliance using an Energy Rating Index (ERI) analysis. (Ord. 1460, 2016)

R406.2 Mandatory requirements. Compliance with this section requires that the mandatory provisions identified in Sections R401.2 and R403.5.3 be met. The building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table 402.1.2 or 402.1.4 of the 2009 International Energy Conservation Code.

Exception: Supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6. (Ord. 1460, 2016)

R406.3 Energy Rating Index. The Energy Rating Index (ERI) shall be a numerical integer value that is based on a linear scale constructed such that the ERI reference design has an Index value of 100 and a residential building that uses no net purchased energy has an Index value of 0. Each integer value on the scale shall represent a 1-percent change in the total energy use of the rated design relative to the total energy use of the ERI reference design. The ERI shall consider all energy used in the residential building. (Ord. 1460, 2016)

R406.3.1 ERI reference design. The ERI reference design shall be configured such that it meets the minimum requirements of the 2006 International Energy Conservation Code prescriptive requirements.

The proposed residential building shall be shown to have an annual total normalized modified load less than or equal to the annual total loads of the ERI reference design. (Ord. 1460, 2016)

R406.4 ERI-based compliance. Compliance based on an ERI analysis requires that the rated design be shown to have an ERI less than or equal to 63. (Ord. 1460, 2016)

R406.5 Verification by approved agency. Verification of compliance with Section R406 shall be completed by an approved third party. (Ord. 1460, 2016)

R406.6 Documentation. Documentation of the software used to determine the ERI and the parameters for the residential building shall be in accordance with Sections R406.6.1 through R406.6.3. (Ord. 1460, 2016)

R406.6.1 Compliance software tools. Documentation verifying that the methods and accuracy of the compliance software tools conform to the provisions of this section shall be provided to the code official. (Ord. 1460, 2016)

R406.6.2 Compliance report. Compliance software tools shall generate a report that documents that the ERI of the rated design complies with Sections R406.3 and R406.4. The compliance documentation shall include the following information:

1. Address or other identification of the residential building.
2. An inspection checklist documenting the building component characteristics of the rated design. The inspection checklist shall show results for both the ERI reference design and the rated design, and shall document all inputs entered by the user necessary to reproduce the results.
3. Name of individual completing the compliance report.
4. Name and version of the compliance software tool.

Exception: Multiple orientations. Where an otherwise identical building model is offered in multiple orientations, compliance for any orientation shall be permitted by documenting that the building meets the performance requirements in each of the four (north, east, south and west) cardinal orientations. (Ord. 1460, 2016)

R406.6.3 Additional documentation. The code official shall be permitted to require the following documents:

1. Documentation of the building component characteristics of the ERI reference design.
2. A certification signed by the builder providing the building component characteristics of the rated design.

3. Documentation of the actual values used in the software calculations for the rated design. (Ord. 1460, 2016)

R406.6.3.1 Calculation software tools. Calculation software, where used, shall be in accordance with Sections R406.6.3.1 through R406.6.3.3. (Ord. 1551, 2019; Ord. 1460, 2016)

R406.6.3.2 Minimum capabilities. Calculation procedures used to comply with this section shall be software tools capable of calculating the ERI as described in Section R406.3, and shall include the following capabilities:

1. Computer generation of the ERI reference design using only the input for the rated design. The calculation procedure shall not allow the user to directly modify the building component characteristics of the ERI reference design.
2. Calculation of whole building, as a single zone, sizing for the heating and cooling equipment in the ERI reference design residence in accordance with Section R403.7.
3. Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating and air-conditioning equipment based on climate and equipment sizing.
4. Printed code official inspection checklist listing each of the rated design component characteristics determined by the analysis to provide compliance, along with their respective performance ratings. (Ord. 1551, 2019; Ord. 1460, 2016)

R406.6.4 Specific approval. Performance analysis tools meeting the applicable sections of Section R406 shall be approved. Tools are permitted to be approved based on meeting a specified threshold for a jurisdiction. The code official shall approve tools for a specified application or limited scope. (Ord. 1551; Ord. 1460, 2016)

R406.6.5 Input values. When calculations require input values not specified by Sections R402, R403, R404 and R405, those input values shall be taken from an approved source. (Ord. 1551, 2019; Ord. 1460, 2016)

Chapter 5 Referenced Standards

Add the following reference standards to Chapter 5:

IAPMO International Association of Plumbing & Mechanical Officials
5001 E. Philadelphia Street
Ontario, CA 91761

Standard reference number	Title	Reference in code section number
UMC-2012	Uniform Mechanical Code®	R201.3, R303.2, R402.2.10, R403.2.2, R403.5
UPC-2012	Uniform Plumbing Code®	R201.3

(Ord. 1460, 2016)

INTERNATIONAL EXISTING BUILDING CODE REVISIONS

Section 301.6 Baby Changing Tables. Diaper changing tables are required to be installed in both male, female and other restrooms, in permanent buildings that contain public restrooms as defined in chapter 29 of the 2018 IBC. Changing tables are required when any of the following occur: new buildings, tenant improvements, new restrooms, alteration of existing restrooms, new additions, change of uses that require updating existing restrooms with additions to those facilities. Shall meet the guidelines of 603.5, 309 and 902 of ANSI/ICC A117.1-2009.

Exceptions: A building or facility that does not have public restrooms or has been issued a permit or license which restricts the admission of children on the basis of age, shall be exempt from this requirement. (Ord. 1551, 2019)

Section 902.2 High-rise buildings. Any building having occupied floors more than 55 feet (16,764 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 902.1.1 and 902.1.2. (Ord. 1551, 2019)

INTERNATIONAL FUEL GAS CODE REVISIONS

301.1.2 LP-Gas Installations. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern. (Ord. 1551, 2019)

301.16 Snow hazard. Protection of utilities shall be per requirements of the local utility. (Ord. 1551, 2019)

Section 406.4.1 Test pressure. The test pressure to be used shall be no less than 1-1/2 times the proposed maximum working pressure, but not less than 25 psig (20 172.4 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe. This test shall be made before any fixtures, appliances or shut-off valves have been attached and before being concealed. (Ord. 1551, 2019)

Section 406.4.2 Test Duration. Test duration shall be not less than 30 minutes. (Ord. 1551, 2019)

Section 406.6.2 Before Turning Gas On. During the process of turning gas on into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that all valves at unused outlets are closed and plugged or capped. In the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County, a manometer test shall be made after all valves, unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15) inches of water column shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure. (Ord. 1551, 2019)

405.6.2.1 For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure. (Ord. 1551, 2019)

406.2.2 For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure. (Ord. 1551, 2019)

406.2.3 Manometer testing. Manometer testing shall be performed by a person holding a valid manometer tester card for which the number is to be provided at the time of request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service. (Ord. 1551, 2019)

INTERNATIONAL MECHANICAL CODE REVISIONS

Section 401.2 Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. (Ord. 1551, 2019)

Section 505.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 600 cfm (0.28 m3/s) shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system. (Ord. 1551, 2019)

Section 508.1 Makeup air. Makeup air shall be supplied during the operation of commercial kitchen exhaust systems that are provided for commercial cooking appliances. The amount of makeup air supplied to the building from all sources shall be approximately equal to the amount of exhaust air for all exhaust systems for the building. The makeup air shall not reduce the effectiveness of the exhaust system. Makeup air shall be provided by gravity or mechanical means or both. Mechanical makeup air systems shall be automatically controlled to start and operate simultaneously with the exhaust system. Makeup air intake opening locations shall comply with Section 401.4. (Ord. 1551, 2019)

Section 508.1.1 Makeup air temperature. The temperature differential between makeup air and the air in the conditioned space shall not exceed 10ºF (6ºC) except where the added heating and cooling loads of the makeup air do not exceed the capacity of the HVAC system. (Ord. 1551, 2019)

Section 508.1.2 Air balance. Design plans for a facility with a commercial kitchen ventilation system shall include a schedule or diagram indicating the design outdoor air balance. The design outdoor air balance shall indicate all exhaust and replacement air for the facility, plus the net exfiltration if applicable. The total replacement air airflow rate shall equal the total exhaust airflow rate plus the net exfiltration. (Ord. 1551, 2019)

Section 508.1.3 Evaporative Cooling Systems Used as Makeup Air. Evaporative coolers shall not be used for make-up air units on commercial kitchen hoods and kitchen ventilation systems.

Exception: Evaporative cooling systems that are a listed assembly with tempered air for kitchen make-up air systems. (Ord. 1551, 2019)

Section 603.2 Duct sizing. Ducts installed within a single dwelling unit shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculations methodologies or other approved methods. Ducts installed within all other buildings shall be sized in accordance with the ASHRAE Handbook of Fundamentals or other equivalent computation procedure. (Ord. 1551, 2019)

INTERNATIONAL FIRE CODE REVISIONS

Section 102.7 Referenced codes and standards.

Section 102.7 is amended to read:

102.7 Referenced codes and standards. The codes and standards referenced in this code shall be the most current that are listed in Chapter 80, and such codes and standards shall be considered to be part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Section 102.7.1 and 102.7.2. (Ord. 1545, 2019)

103 Department of fire prevention.

Section 103.1 of the IFC is amended by adding the following two subsections:

(b) Except as otherwise provided the IFC shall be enforced by the department of fire prevention of the fire district having jurisdiction in the county, which is established and operated under the supervision of the chief of each fire district.

(c) In all portions or sections within the boundaries of Douglas County where local fire protection districts have been formed for the purpose of fire protection, enforcement of the chapter shall be effected by the fire chief of the local district. (Ord. 1131, 2005; Ord. 802, 1998, Ord. 641, 1994; Ord. 438, 1985)

103.3 Authority of fire personnel to exercise powers of peace officers.

Section 103.3 of the IFC is amended by adding the following subsection language:

103.3.1 The chief and members of the department of fire prevention have the powers of a peace officer in performing their duties pursuant to this code including the authority to issue citations for the violation of any and all provisions of the Douglas County Fire Code. (Ord. 1131, 2005; Ord. 802, 1998; Ord. 438, 1985)

Section 105.6.51 Fire Fighter Air Replenishment Systems.

Section 105.6.51 is added to Section 105.6 Required operational permits, to read:

105.6.51 Fire Fighter Air Replenishment Systems. An operational permit is required to maintain a Fire Fighter Air Replenishment System. (Ord. 1545, 2019)

Section 105.6.52 Emergency responder radio coverage system.

Section 105.6.52 is added to Section 105.6 Required operational permits, to read as follows:

105.6.52 Emergency responder radio coverage system. An operational permit is required for the operation and maintenance of an emergency radio coverage system and related equipment, as specified in Section 510. (Ord. 1545, 2019)

Section 105.6.53 is added to Section 105.6 Required operational permits, to read:

105.6.53 Vacation Home Rentals. Vacation Home Rentals require an operational permit and Life Safety Inspection from the fire protection district having jurisdiction over the property prior to the issuance or renewal of a Vacation Home Rental permit by the Community Development Department. (Ord. 1545, 2019)

Section 105.7.26 Fire fighter air replenishment systems.

Section 105.7.26 is added to Section 105.7 Required construction permits, to read:

A construction permit is required for installations of or modification to a Fire Fighter Air Replenishment System. The construction permit application shall include documentation of an acceptance and testing plan as specified in Section L103.2. (Ord. 1545, 2019)

108.2 Fire protection systems and equipment.

Section 108.2 of the IFC is amended by adding the following subsection language:

108.2. All fire sprinkler systems, fire alarm systems, portable fire extinguishers, smoke detection systems, and other fire protective or extinguishing systems or appliances installed or required to be installed in a building which has a commercial or industrial occupancy shall have an annual maintenance inspection performed by a fire protection firm which is licensed by the Nevada State Fire Marshal. All costs for maintenance or repair shall be the responsibility of the property owner. A written report shall be forwarded to the fire protection agency having jurisdiction indicating the adequacy or inadequacy of the system. (Ord. 1545, 2019; Ord. 1131, 2005; Ord. 802, 1998)

109.1 Appeals.

Section 109 of the IFC is deleted and amended by adding the following language:

In order to determine the suitability of alternate materials or other means of construction an appeal may be made to the Planning Commission, who shall be the final authority on such appeal. (Ord. 1545, 2019; Ord. 1131, 2005)

Section 202 General Definitions.

The following definitions are amended or added is Section 202 General Definitions to read:

DCECO. Douglas County Emergency Communications Officials, which is composed of Douglas County Public Safety Communications appointee, Douglas County Sheriff's office appointee, Tahoe Douglas Fire Marshal, East Fork Fire Marshal, and the Douglas County Building Official.

HIGH-RISE BUILDING. A building with an occupied floor located more than 55 feet (16,764 mm) above the lowest level of fire department vehicle access.

Institutional Group I-1. This occupancy shall include buildings, structures or parts thereof for more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised environment and receive custodial care. All portions of a care facility which houses patients or residents which is classified by the State Board of Health as 'Category 2,' and which has an occupant load of more than 10 residents, is classified as an 'I-1' occupancy classification. This group shall include, but not be limited to, the following:

Alcohol and drug centers
Assisted living facilities
Congregate care facilities
Group homes
Half-way houses
Residential board and care facilities
Social rehabilitation facilities

Condition 1. This occupancy condition shall include buildings in which all persons receiving custodial care who, without any assistance, are capable of responding to an emergency to complete building evacuation.

Condition 2. This occupancy shall include buildings in which there are any persons requiring custodial care who require limited verbal or physical assistance while responding to an emergency situation to complete building evacuation.

Six to 16 persons receiving custodial care. A facility housing not fewer than six and not more than 16 persons receiving custodial care shall be classified as group R-4.

Five or fewer persons receiving care. A facility such as the above with five or fewer persons receiving such care shall be classified as Group R-3 or shall comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or *International Residential Code* Section P2904.

Institutional Group I-4, day care facilities. This group shall include buildings and structures occupied by more than six persons of any age who receive custodial care for less than 24 hours by persons other than parents or guardians, relatives by blood, marriage, or adoption, and in a place other than the home of the person cared for. This group shall include, but not be limited to, the following:

Adult day care
Child day care

Classification as Group E. A child day care facility that provides care for more than six but no more than 100 children 21/2 years or less of age, where the rooms in which the children are cared for are located on a *level of exit discharge* serving such rooms and each of these child care rooms has an *exit* door directly to the exterior, shall be classified as Group E.

Within a place of religious worship. Rooms and spaces within places of religious worship providing such care during religious functions shall be classified as part of the

primary occupancy.
Six or fewer occupants receiving care. A facility having six or fewer persons receiving custodial care shall be classified as part of the primary occupancy.
Six or fewer occupants receiving care in a dwelling unit. A facility such as the above within a dwelling unit and having six or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code.*

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

Boarding houses (transient) with more than 10 occupants
Brothels
Congregate living facilities (transient) with more than 10 occupants
Hotels (transient)
Motels (transient)

Residential Group R-3. Residential occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:
Boarding houses (nontransient)
Boarding houses (transient)
Buildings that do not contain more than two *dwelling units*
Care facilities that provide accommodations for six or fewer persons receiving care
Congregate living facilities (nontransient) with 16 or fewer occupants
Congregate living facilities (transient) with 10 or fewer occupants
Convents
Dormitories
Fraternities and sororities
Monasteries
Lodging houses (transient) with five or fewer guest rooms and 10 or fewer occupants

Moderate-hazard storage, Group S-1. Buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:
Aerosols, Levels 2 and 3
Aircraft hangar (storage and repair)
Bags: cloth, burlap and paper
Bamboos and rattan
Baskets
Belting: canvas and leather
Books and paper in rolls or packs
Boots and shoes
Buttons, including cloth covered, pearl or bone
Cardboard and cardboard boxes
Clothing, woolen wearing apparel
Cordage

Furniture
Furs
Glues, mucilage, pastes and size
Grains
Horns and combs, other than celluloid
Leather
Linoleum
Lumber
Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials *listed* in Table 5003.1.1(1) (see Section 406.8 of the *International Building Code*)
Photo engravings
Resilient flooring
Self-serve storage (mini-storage)
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

Low-hazard storage, Group S-2
Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic trim, such as knobs, handles or film wrapping. Storage uses shall include, but not be limited to, storage of the following:
Asbestos
Beverages up to and including 16-percent alcohol in metal, glass or ceramic containers
Cement in bags
Chalk and crayons
Dairy products in nonwaxed coated paper containers
Dry boat storage (indoor)
Dry cell batteries
Electrical coils
Electrical motors
Empty cans
Food products
Foods in noncombustible containers
Fresh fruits and vegetables in nonplastic trays or containers
Frozen foods
Glass Glass bottles, empty or filled with noncombustible liquids
Gypsum board

Inert pigments
Ivory
Meats
Metal cabinets
Metal desks with plastic tops and trim
Metal parts
Metals
Mirrors
Oil-filled and other types of distribution transformers
Parking garages, open or enclosed
Porcelain and pottery
Stoves
Talc and soapstones
Washers and dryers.

SPECIAL HAZARD FOR EMERGENCY SERVICE COMMUNICATIONS. Construction features which have been found to limit communications as determined by DCECO.

Unwanted alarm. Any alarm that occurs that is not the result of a potentially hazardous condition. (Ord. 1545, 2019; Ord. 1444, 2015; Ord. 1401, 2013)

Section 307.4.3 Portable outdoor fireplaces.

Section 307.4.3, of Section 307.4 Location, is amended to read:

307.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with manufacturer's instructions and shall not be operated within 15 feet (3048 mm) of a structure or combustible material.

Exception: Portable outdoor fireplaces used in one and two family dwellings shall be used in accordance with manufacturer's instructions. (Ord. 1545, 2019)

Section 308.1.6.3 Sky lanterns.

Section 308.1.6.3, of Section 308.1.6 Open-flame devices, is amended to read:

308.1.6.3 Sky lanterns. Sky lanterns are prohibited. (Ord. 1545, 2019)

Section 315.4.2 Height (Outside Storage).

Section 3.15.4.2 of the IFC is amended by adding the following subsection*:*

315.4.3 Pallets and Firewood. In the Tahoe Douglas Fire Protection District the storage height for scrap pallets and all firewood shall be a maximum height of 10 feet (3048 mm) and such materials shall be stored and secured in a manner to assure stability and prevent the materials from slipping, sliding, toppling, collapsing, or falling. (Ord. 1401, 2013)

Section 319.4.1 Fire protection for cooking equipment.

Section 319.4.1, of Section 319.4 Fire protection, is amended to read:

319.4.1 Fire protection for cooking equipment. Cooking equipment shall be protected by automatic fire extinguishing systems in accordance with Sections 607.2 and 904.12. (Ord. 1545, 2019)

Section 320 Natural Gas Meter Protection.

Section 320 Natural Gas Meter Protection and Section 320.1 General are added to read as follows:

320.1 General. A protective cover shall be provided over natural gas meter assemblies serving buildings, or portions thereof, located at an elevation of 5,800 feet (1767.48 m) or higher. The protective cover shall be designed to be equal to or greater than the Building Design Load (as determined by the Building Department having jurisdiction). The cover shall be approved by the natural gas supplier, shall be installed over the meter assembly, and securely supported to the ground or diagonally to the building wall. When supported to the ground, the footing of the supports shall extend a minimum of 6-inches (152.4 mm) below finished grade. Pre-cast concrete piers may be used in lieu of poured footings, provided they are placed on stable soil. (Ord. 1545, 2019)

Section 403.12.3.2 Training.

Section 403.12.3.2, of Section 403.12.3 Crowd managers, is amended to read as follows:

403.12.3.2 Training. Training for crowd managers shall be in compliance with the latest International Code Council or National Fire Protection Associations standards or guidelines. (Ord. 1545, 2019)

Section 503.4 Obstruction of fire apparatus access.

Section 503.4 of the IFC is amended by adding the following subsection:

503.4.2 In addition to the penalty or code violation contained in title 20, and in addition to the regulation set forth in title 10, "Vehicles and Traffic", vehicles in violation of this subsection may be cited or towed at the owner's expense. The sheriff's office is given concurrent jurisdiction with any fire chief in Douglas County to enforce the provisions of this title. (Ord. 1545, 2019; Ord. 1131, 2005; Ord. 802, 1998; Ord. 438, 1985)

Section 505.1 Address Identification.

Section 505.1 is amended to read:

505.1 Address identification. New and existing buildings shall be provided with approved maintained all-weather address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetic letters. Numbers shall not be spelled out. Each character shall be not less than a nominal height of 6-inches with a minimum

½-inch stroke for residential occupancies and 12-inches with a 1-inch stroke in commercial occupancies, unless otherwise approved by the fire code official. Where required by fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole, or other sign or means shall be used to identify the structure. Address identification shall be maintained. (Ord. 1545, 2019)

Section 507.3 Fire Flow.

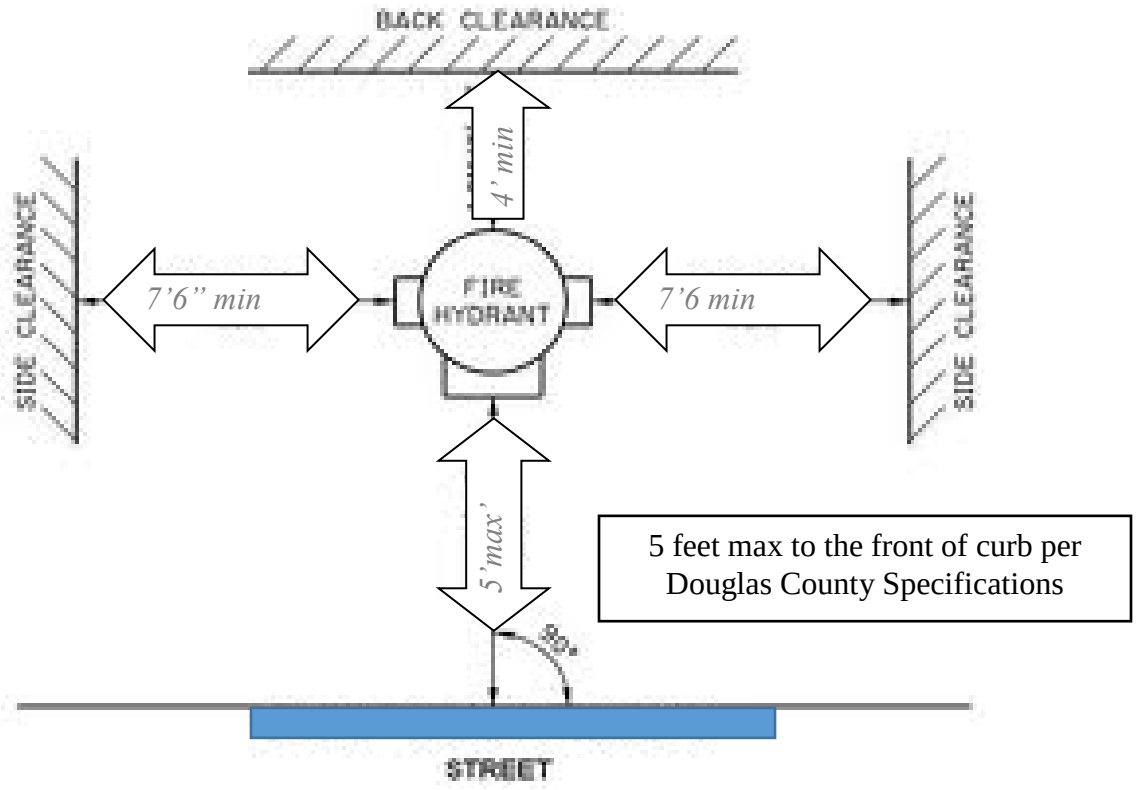
Section 507.3 of the IFC is deleted and amended substituting the following language:

507.3 Fire flow. Fire flow requirements for buildings or portions of buildings and facilities shall be determined by an *approved* method.

Subject to the approval of the fire authority, if the *required* fire flow is not available for adequate fire protection, an approved automatic fire sprinkler system shall be installed throughout the building or buildings. The sprinkler system must meet the requirements of the appropriate N.F.P.A. standard. The provisions of this paragraph do not apply if a fire sprinkler system is otherwise required by this chapter or the adopted codes. (Ord. 1401, 2013)

Section 507.5.5 Clear Space Around Hydrants.

Section 507.5.5 of the IFC is deleted and amended substituting the following language:



507.5.5 Clear space around hydrants. A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants, except as otherwise required or *approved*. In addition, a minimum clear space of seven and one half feet (2286 mm) shall be maintained to both sides directly in front of the pumper connection. This requirement shall apply to any public or private property. In Tahoe Douglas Fire Protection District a minimum of four feet (1219 mm) shall also be maintained clear to the rear of any fire hydrant. This requirement shall apply to any public or private property. (Ord. 1545, 2019; Ord. 1401, 2013)

Section 508.1.6 Required features.

Section 508.1.6 of Section 508.1 General is amended to read:

508.1.6 Required features. The fire command center shall comply with NFPA 72 and shall contain the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. Fire detection and alarm system annunciator.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for the air distribution systems.

6. The fire fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking *interior exit stairway* doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, *means of egress, fire protection systems*, fire-fighter air-replenishment systems, fire-fighting equipment and fire department access, and the location of *fire walls, fire barriers, fire partitions, smoke barriers* and smoke partitions.
13. An *approved* Building Information Card that includes, but is not limited to, all of the following information:

13.1. General building information that includes: the number of floors in the building above and below grade, use, and occupancy classification (for mixed uses, identify the different types of occupancies on each floor) and the estimated building population during the day, night, and weekend;
13.2. Building emergency contact information that includes: a list of the building's emergency contacts including, but not limited to, building manager, building engineer and their respective work phone number, cell phone number and e-mail address;
13.3. Building construction information that includes: type of building construction including but not limited to floors, walls, columns and roof assembly;
13.4. *Exit access stairway* and *exit stairway* information that includes: number of exit *access stairways* and *exit stairways* in building; each *exit access stairway* and *exit stairway* designation and floors served; location where each *exit access stairway* and *exit stairway* discharges, *interior exit stairways* that are pressurized; *exit stairways* that are provided with emergency lighting; each *exit stairway* that allows reentry; *exit stairways* providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms, and control spaces; location of sky lobby; and location of freight elevator banks;
13.5. Building Services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator and locations of natural gas service.
13.6. *Fire protection system* information that includes: location of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers and location of

different types of *automatic sprinkler systems* installed including but not limited to dry, wet, and pre-action;

13.7. Hazardous material information that includes: location and quantity of hazardous material;

14. Work table.

15. Generator supervision devices, manual start and transfer features.

16. Public address system, where specifically required by other sections of this code.

17. Elevator fire recall switch in accordance with ASME A17.1/CSA B44.

18. Elevator emergency or standby power selector switch(es), where emergency or standby power is provided.

19. HVAC. The central control station shall be provided with heating, cooling, and ventilation (HVAC) systems that are independent of any other building system or area. HVAC for the central control station shall be connected to the emergency power system.

20. Lighting. Lighting shall provide adequate illumination and shall be on emergency service with additional battery backup emergency lighting.

21. Inside Telephone Line. A telephone connected to the premise's telephone exchange shall be provided. A current premise's telephone directory shall be placed next to this telephone.

22. Disconnect. The main switch for disconnecting the utility power and any alternate power sources shall be in the fire command center. Switches shall be covered to prevent utility power feeds and any alternate power sources before entering the building. After the switch is operated, no live electrical panels, conductors, or feeds within the premises shall remain energized excluding the emergency electrical circuits. (Ord. 1545, 2019)

Section 510 Emergency Responder Radio Coverage.

Section 510 of the IFC is revised and amended as set forth below:

510.1 Emergency responder radio coverage in new buildings.

All new and existing buildings that create a special hazard for emergency services communications, shall have approved radio coverage for emergency responders within the building based upon the existing coverage levels of the public safety communication systems of the jurisdiction at the exterior of the building. This section shall not require improvement of the existing public safety communication systems.

Exceptions:

1. Where authorized in writing by DCECO, a wired communication system in accordance with Section 907.2.13.2 shall be permitted to be installed or maintained in lieu of an approved radio coverage system.

2. Where it is determined by the DCECO that the radio coverage system is not needed.

3. In facilities where emergency responder radio coverage is required and such systems, components or equipment required could have a negative impact on the

normal operations of that facility, the DCECO shall have the authority to accept an automatically activated emergency responder radio coverage system. (Ord. 1444; 2015)

510.2 Emergency responder radio coverage in existing buildings.
Existing buildings shall be provided with approved radio coverage for emergency responders as required in Section 1103.2, including but not limited to the authority to enter any building to determine radio coverage per Section 104.3 and right of entry to field test radio communications per 510.6.3. (Ord. 1444; 2015)

510.3 Permits required.
Permits shall be required to install, modify, and operate an emergency radio coverage system and related equipment, as follows:

(1) A construction permit for the installation of or modification to emergency responder radio coverage systems and related equipment is required as specified in Section 105.7.6. Maintenance performed in accordance with this code is not considered a modification and does not require a permit.

(2) An operational permit is for the operation and maintenance of an emergency radio coverage system and related equipment as specified in Section 105.7.6. (Ord. 1545, 2019; Ord. 1444; 2015)

510.4 Technical requirements.
Systems, components, and equipment required to provide emergency responder radio coverage system shall comply with Sections 510.4.1 through 510.4.2.8. (Ord. 1545, 2019; Ord. 1444; 2015)

510.4.1 Radio signal strength.
The building shall be considered to have acceptable emergency responder radio coverage when signal strength measurements in 95 percent of all areas on each floor of the building meet the signal strength requirements in Sections 510.4.1.1 and 510.4.1.2. (Ord. 1444; 2015)

510.4.1.1 Minimum signal strength into the building.
A minimum signal strength of -80 dBm shall be receivable within the building. (Ord. 1444; 2015)

510.4.1.2 Minimum signal strength out of the building.
A minimum signal strength of -80 dBm shall be received by the agency's radio system when transmitted from within the building. (Ord. 1444; 2015)

510.4.2 System design.
The emergency responder radio coverage system shall be designed in accordance with Sections 510.4.2.1 through 510.4.2.8. (Ord. 1545, 2019; Ord. 1444; 2015)

510.4.2.1 Amplification systems allowed.

Buildings and structures which cannot support the required level of radio coverage shall be equipped with a radiating cable system, a distributed antenna system with Federal Communications Commission (FCC)-certified signal boosters, or other system approved by the DCECO in order to achieve the required adequate radio coverage. (Ord. 1444; 2015)

510.4.2.2 Technical criteria.

The DCECO shall maintain a document providing the specific technical information and requirements for the emergency responder radio coverage system. This document shall contain, but not be limited to, the various frequencies required, the location of radio sites, effective radiated power of radio sites, and other supporting technical information. (Ord. 1444; 2015)

510.4.2.3 Secondary power.

Emergency responder radio coverage systems shall be provided with an approved secondary source of power. The secondary power supply shall be capable of operating the emergency responder radio coverage system for a period of at least 24 hours. When primary power is lost, the power supply to the emergency responder radio coverage system shall automatically transfer to the secondary power supply. (Ord. 1444; 2015)

510.4.2.4 Signal booster requirements.

If used, signal boosters shall meet the following requirements:

1. All signal booster components shall be contained in a National Electrical Manufacturer's Association (NEMA) 4-type waterproof cabinet.
2. Battery systems used for the emergency power source shall be contained in a NEMA 4-type waterproof cabinet.
3. The signal booster system and battery system shall be electrically supervised and monitored by a supervisory service, or when approved by the DCECO, shall sound an audible signal at a constantly attended location.
4. Equipment shall have FCC certification prior to installation. (Ord. 1444; 2015)

510.4.2.6 Additional frequencies and change of frequencies.

The emergency responder radio coverage system shall be capable of modification or expansion in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC. (Ord. 1545, 2019; Ord. 1444; 2015)

510.5 Installation requirements.

The installation of the public safety radio coverage system shall be in accordance with Sections 510.5.1 through 510.5.4. (Ord. 1545, 2019; Ord. 1444; 2015)

510.5.1 Approval prior to installation.

Amplification systems capable of operating on frequencies licensed to any public safety agency by the FCC shall not be installed without prior coordination and approval of the DCECO. (Ord. 1444; 2015)

510.5.2 Minimum qualifications of personnel.

The minimum qualifications of the system designer and lead installation personnel shall include:

1. A valid FCC-issued general radio operators license; and
2. Certification of in-building system training issued by a nationally recognized organization, school or a certificate issued by the manufacturer of the equipment being installed.

These qualifications shall not be required where demonstration of adequate skills and experience satisfactory to the DCECO is provided. (Ord. 1444; 2015)

510.5.3 Acceptance test procedure.

When an emergency responder radio coverage system is required, and upon completion of installation, the building owner shall have the radio system tested by an independent special inspector, pursuant to Section 104.7.2 and provide the qualifications of the inspector and the results of the testing to DCECO to determine its acceptability. The standard of the two-way coverage on each floor of the building is a minimum of 90 percent. The test procedure shall be conducted as follows:

1. Each floor of the building shall be divided into a grid of 20 approximately equal test areas.
2. The test shall be conducted using a calibrated portable radio of the latest brand and model used by the agency talking through the agency's radio communications system.
3. Failure of a maximum of two nonadjacent test areas shall not result in failure of the test.
4. In the event that three of the test areas fail the test, in order to be more statistically accurate, the floor shall be permitted to be divided into 40 equal test areas. Failure of a maximum of four nonadjacent test areas shall not result in failure of the test. If the system fails the 40-area test, the system shall be altered to meet the 90 percent coverage requirement.
5. A test location approximately in the center of each test area shall be selected for the test, with the radio enabled to verify two-way communications to and from the outside of the building through the public agency's radio communications system. Once the test location has been selected, that location shall represent the entire test area. Failure in the selected test location shall be considered failure of that test area. Additional test locations shall not be permitted.
6. The gain values of all amplifiers shall be measured and the test measurement results shall be kept on file with the building owner so that the measurements can be verified during annual tests. In the event that the measurement results become lost,

the building owner shall be required to rerun the acceptance test to reestablish the gain values.

7. As part of the installation a spectrum analyzer or other suitable test equipment shall be utilized to ensure spurious oscillations are not being generated by the subject signal booster. The results from this test shall be held by the building owner and a copy kept on site so the measurements can be verified during annual tests. This test shall be conducted at time of installation and subsequent annual inspections. (Ord. 1444; 2015)

510.5.4 FCC compliance.

The emergency responder radio coverage system installation and components shall also comply with all applicable federal regulations including, but not limited to, FCC 47 CFR Part 90.219. (Ord. 1444; 2015)

510.6 Maintenance.

The emergency responder radio coverage system shall be maintained operational at all times in accordance with Sections 510.6.1 through 510.6.4. (Ord. 1545, 2019; Ord. 1444; 2015)

510.6.1 Testing and proof of compliance.

The emergency responder radio coverage system shall be inspected and tested annually or whenever structural changes occur including additions or remodels that could materially change the original field performance tests. Testing shall consist of the following:

1. In-building coverage test as described in Sections 510.4 and 510.5.4.

2. Signal boosters shall be tested to ensure that the gain is the same as it was upon initial installation and acceptance.

3. Backup batteries and power supplies shall be tested under load of a period of one hour to verify that they will properly operate during an actual power outage. If within the 1-hour test period the battery exhibits symptoms of failure, the test shall be extended for additional 1-hour periods until the integrity of the battery can be determined.

4. All other active components shall be checked to verify operation within the manufacturer's specifications.

5. At the conclusion of the testing, a report, which shall verify compliance with Section 510.4, shall be submitted to the DCECO. (Ord. 1444; 2015)

510.6.2 Additional frequencies.

The building owner shall modify or expand the emergency responder radio coverage system at their expense in the event frequency changes are required by the FCC or additional frequencies are made available by the FCC. Prior approval of a public safety radio coverage system on previous frequencies does not exempt this section. (Ord. 1444; 2015)

510.6.4 Field testing.

Personnel from the individual agencies participating in DCECO shall have the right to enter onto the property at any reasonable time to conduct field testing to verify the required level of radio coverage. (Ord. 1545, 2019; Ord. 1444; 2015)

Section 704.3 Fireplace Enclosures and Flue Shafts.

Section 704 of the IFC is amended by adding the following subsection:

704.3 Fireplace enclosures and flue shafts. In Tahoe Douglas Fire Protection District the interior of any firewood-burning fireplace enclosure and flue shaft constructed of combustible framing materials shall be completely lined with taped 5/8" type "X" drywall. (Ord. 1401, 2013)

Section 901.4.6.2 Marking on access door.

Section 901.4.6.2 is amended to read:

901.4.6.2 Marking on access door. Access doors for automatic sprinkler system riser rooms and fire pump rooms shall be labeled with a maintained approved all-weather sign. The lettering shall be in contrasting color to the background. Letters shall have a minimum height of 2 inches (51 mm) with a minimum stroke of 3/8 inch (10 mm). (Ord. 1545, 2019)

Section 901.6 Inspection, testing and maintenance.

Section 901.6 is amended to read:

901.6 Inspection, testing and maintenance. Fire detection and alarm systems, emergency alarm systems, gas detection systems, fire-extinguishing systems, mechanical smoke exhaust systems and smoke and heat vents, and commercial kitchen hood ventilation systems shall be maintained in an operative condition at all times and shall be replaced or repaired where defective. Nonrequired *fire protection systems* and equipment shall be inspected, tested and maintained or removed. Air systems for fire-suppression breathing apparatus shall be maintained at the same frequency as other high-rise life safety systems. (Ord. 1545, 2019)

Section 901.11 Problematic unwanted fire alarms.

Section 901.11 is added to Section 901 GENERAL, to read:

901.11 Problematic unwanted fire alarms. Problematic unwanted fire alarms are a violation of this code. When a fire alarm system is required by this code, it shall be the responsibility of the property owner or owner's authorized agent to maintain the system and properly educate occupants, tenants, and/or employees in accepted behavioral practices that will minimize or eliminate false and/or nuisance alarms. This includes nuisance activations in response to predictable environmental stimuli such as but not limited to cooking fumes, smoking, and construction activities. Where unwanted alarms become repetitive, the fire code official is authorized to charge fees or issue administrative citations to the property owner in accordance with the fee schedule or administrative code as established by the applicable governing authority. (Ord. 1545, 2019)

Section 903.2 Where Required.

Section 903.2 of the IFC is deleted and amended substituting the following language:

903.2 Where required. *Approved automatic sprinkler systems* in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.3.3, Table 903.2.1 and Table 903.2.2.

Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries and standby engines, provided those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour *fire barriers* constructed in accordance with Section 707 of the *International Building Code* or not less than 2-hour *horizontal assemblies* constructed in accordance with Section 711 of the *International Building Code,* or both. (Ord. 1545, 2019; Ord. 1401, 2013)

Section 903.2.1.2 Group A-2.

Section 903.2.1.2 is amended to read:

903.2.1.2 Group A-2. An *automatic sprinkler system* shall be provided for Group A-2 occupancies and throughout all stories from the Group A-2 occupancy to and including the levels of exit discharge serving that occupancy where one of the following conditions exists:

1. The *fire area* exceeds 5,000 square feet (464 m2).
2. The *fire area* has an *occupant load* of 100 or more.
3. The *fire area* is located on a floor other than a *level of exit discharge* serving such occupancies.

Occupancies containing a casino, regardless of occupancy classification, must be designed and built with a sprinkler system classified as an Ordinary Hazard Group 2. (Ord. 1545, 2019)

Table 903.2.1 Required Automatic Sprinklers.

Section 903.2 of the IFC is amended by adding the following Table 903.2.1:

Table 903.2.1[a]
(Commercial Structures)
Required Automatic Sprinklers by Fire Area and Height For A, B, E, F, H, I, M, S and U Occupancies
Sprinklers are required when any one of the listed conditions is met, or when otherwise required by this Code.

Fire Jurisdiction	Fire Area [b, c]	Height [d]	Response Time
East Fork Fire Protection District (Douglas County)	>5000 square feet	3 stories or greater	-
Tahoe Douglas Fire Protection District (Douglas County)	All	-	-

a. This table is in addition to any other automatic sprinkler requirements in this code.
b. Fire areas may be separated according to IBC 707.3.10.
c. Any addition or remodel that increases the fire area will be included in the calculation for the total square footage.
d. Airport towers and open parking garages complying with IBC 406.5 are exempt from this table.
e. A one-time increase of 360 square feet of fire area is permitted. (Ord. 1545, 2019; Ord. 1401, 2013)

Table 903.2.2 Required Automatic Sprinklers IRC Structures.

Section 903.2 of the IFC is amended by adding the following Table

Table 903.2..8.2[a, f]
(Residential Structures)
Required Automatic Sprinklers by Fire Area and Response Location For Structures Designed and Constructed with the International Residential Code. Sprinklers are required when any one of the listed conditions is met, or when otherwise required by this Code.

Fire Jurisdiction	Fire Flow/Water Source Availability	Type of Structure [(f)]	Fire Area In square feet[(b)]	High Wildland Fire Hazard Classification Area	Building Height
East Fork Fire Protection District		New	All 5,000 sq. ft. or larger[d]	All	__
East Fork Fire Protection District		Existing	c, e	__	__
Tahoe Douglas Fire Protection District	Remodel Addition	Existing	>3,600 e, g, h		2 Stories and a basement or 3 stories or greater
Tahoe Douglas Fire Protection District	__	New	h	All	__

a. For Tahoe-Douglas Fire Protection District this table is in addition to any other automatic sprinkler requirements in this code.
b. Any addition or remodel that increases the fire area will be included in the calculation for the total square footage. The use of firewalls and fire barriers shall not be allowed to be used to reduce the size of fire areas.
c. A one-time increase in the fire area is permitted provided said increase is ≤ 50% of the structures existing permitted fire area square footage.
d. Any addition or remodel that increases the fire area to ≥ 5,000 square feet.
e. See section 907.2.10.2.1 for alarm requirements for existing structures.
f. Accessory structures are exempt from this table.
g. A one-time increase of 360 square feet of fire area is permitted.
h. Fire Flow Initiate Program as alternate means of providing Fire Flow. (Ord. 1604, 2022; Ord. 1545, 2019; Ord. 1401, 2013)

Section 903.2.3 Group E.

Section 903.2.3 of the IFC is deleted and amended substituting the following language:

903.2.3 Group E. An *automatic sprinkler system* shall be provided for Group E occupancies as follows:

1. Throughout all Group E *fire areas* greater than 12,000 square feet (1115 m2) in area.
2. The Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.

   Exception: An *automatic sprinkler system* is not required in any area below the lowest *level of exit discharge* serving that area where every classroom throughout the building has at least one exterior *exit* door at ground level.
3. The Group E fire area has an occupant load of 300 or more.

   Exception: In buildings where every classroom has not fewer than one exterior exit door at ground level, an automatic sprinkler system is not required in any area below the lowest.
4. Daycare facilities where there is occupancy from 12:00 am- 6:00 am and care for 7 or more children.

In high schools where automatic fire sprinkler systems are provided, the automatic fire sprinkler systems for automotive and woodworking shops must be designed to Ordinary Hazard, Group 1 automatic fire sprinkler systems criteria, or as required by the Authority Having Jurisdiction. (Ord. 1545, 2019; Ord. 1401, 2013)

Section 903.2.8.1.1 Exemption for Manufactured Homes.

Notwithstanding any provision of section 903.2, approved automatic sprinkler systems are not required in any manufactured home less than 5,000 square feet outside of the Tahoe-Douglas Fire Protection District.

For the purposes of this section, the term "manufactured home" has the meaning ascribed to it in NRS 489.113. (Ord. 1604, 2022; Ord. 1580, 2021)

Section 903.3.1.1 NFPA 13 Sprinkler Systems.

Section 903.3.1.1 of the IFC is deleted and amended substituting the following language:

903.3.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an *automatic sprinkler system* in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Section 903.3.1.1.1 or 903.1.1.2. An R-1 or R-2 occupancy that has more than two stories must have an NFPA 13 system installed. (Ord. 1545, 2019; Ord. 1401, 2013)

Section 903.3.1.2 NFPA 13R Sprinkler System.

Section 903.3.1.2 of the IFC is deleted and amended substituting the following language:

903.3.1.2 NFPA 13R sprinkler systems. *Automatic sprinkler systems* in Group R

occupancies up to and including two stories in height shall be permitted to be installed throughout in accordance with NFPA 13R. An R-1 or R-2 occupancy that has more than two stories shall have an N.F.P.A. 13 system installed. (Ord. 1401, 2013)

Section 903.4 Sprinkler System Supervision and Alarms.

Section 903.4 of the IFC is deleted and amended substituting the following language:

903.4 Sprinkler system supervision and alarms. All valves controlling the water supply for *automatic sprinkler systems*, pumps, tanks, water levels and temperatures, critical air pressures and water-flow 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*.
2. Limited area systems in accordance with Section 903.3.8.
3. *Automatic sprinkler systems* installed in accordance with NFPA 13R where a common supply main is used to supply both domestic water and the *automatic sprinkler system*, and a separate shutoff valve for the *automatic sprinkler system* is not provided.
4. Jockey pump control valves that are sealed or locked in the open position.
5. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position. This exception will not apply to any of the above-mentioned control valves if they are located in a building equipped with any fire alarm or protection system that is required to be monitored by a central station fire alarm company.
6. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.
7. Trim valves to pressure switches in dry, pre-action and deluge sprinkler systems that are sealed or locked in the open position. (Ord. 1545, 2019; Ord. 1401, 2013)

Section 903.4.2 Alarms.

Section 903.4.2 of the IFC is deleted and amended substituting the following language:

903.4.2 Alarms. An approved alarm notification appliance shall be connected to each *automatic sprinkler system*. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Approved alarm notification appliances shall be provided on the exterior of the building and within each tenant space on the interior of the building and in an approved location. When residential (single family dwelling) automatic sprinkler systems are provided, water flow activation shall provide occupant notification at all occupied levels and sleeping units, with minimum audible notification level of 75 dba sound pressure at pillow height. Where a fire alarm system is installed, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system. (Ord. 1545, 2019; Ord. 1401, 2013)

Section 903.4.3 Floor control valves.

Section 903.4.3 is amended to read as follows:

903.4.3 Floor control valves. Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in multi-story facilities. (Ord. 1545, 2019)

Section 906.2 General requirements.

Section 906.2 is amended to read as follows:

906.2 General requirements. Portable fire extinguishers shall be selected, installed, and maintained in accordance with this section and NFPA 10.

Exceptions:

1. Travel distance to reach an extinguisher shall not apply to the spectator seating portions of Group A-5 occupancies.
2. Thirty-day inspections shall not be required, and maintenance shall be allowed to be annually for dry-chemical or halogenated agent portable fire extinguishers that are supervised by a listed and approved electronic monitoring device, provided that all of the following conditions are met:
    - 2.1 Electronic monitoring shall confirm that extinguishers are properly positioned, properly charged and unobstructed.
    - 2.2 Loss of power or circuit continuity to the electronic monitoring device shall initiate a trouble signal.
    - 2.3 The extinguishers shall be installed inside of a building or cabinet in a noncorrosive environment.
    - 2.4 Electronic monitoring devices and supervisory circuits shall be tested annually when extinguisher maintenance is performed.
    - 2.5 A written log of required hydrostatic test dates for extinguishers shall be maintained by the owner to verify that hydrostatic tests are conducted at the frequency required by NFPA 10.
3. In Group I-3, portable fire extinguishers shall be permitted to be located at staff locations.

Carbon dioxide, wet chemical, halogenated agent, AFFF and FFFP portable fire extinguishers shall be internally examined in accordance with NFPA 10. All other portable fire extinguishers shall be internally examined annually. (Ord. 1545, 2019)

Section 907.2.9.4 Automatic smoke detection systems in Group R-4.

Section 907.2.9.4 is added to Section 907.2.9, to read:

907.2.9.4 Automatic smoke detection system in Group R-4. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be installed in *corridors*, waiting areas open to *corridors* and *habitable spaces* other than *sleeping units* and kitchens.

Exceptions:

1. Smoke detection in *habitable spaces* is not required where the facility is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1.
2. An automatic smoke detection system is not required in buildings that do not have interior *corridors* serving *sleeping units* and where each *sleeping unit* has a *means of egress* door opening directly to an exit or to an exterior *exit access* that leads directly to an exit. (Ord. 1545, 2019)

Section 907.2.10.2.1 Alternative to single- and multiple-station smoke alarms.

Section 907.2.10.2.1 is added to 907.2.10.2 Groups R-2, R-3, R-4 and I-1, to read:

907.2.10.2.1 Alternative to single- and multiple-station smoke alarms. Fire alarm in place of single and multiple-station smoke alarms may be replaced by an NFPA 72 Household compliant fire alarm system. Plans shall be submitted to the local fire authority and permit obtained prior to installation. All fire alarm installation contractors shall be required to be licensed by both the Nevada State Contractors Board and Nevada State Fire Marshal (F license). (Ord. 1545, 2019)

Section 907.5.2.1.1 Average Sound Pressure.

Section 907.5.2.1.1 of the IFC is deleted and amended substituting the following language:

907.5.2.1.1 Average sound pressure. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above the average ambient sound level or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater, in every occupiable space within the building. The minimum sound pressure levels shall be 90 dBA in mechanical equipment rooms and 80 dBA in all other occupancies. (Ord. 1401, 2013)

Section 910.1 General (Smoke and Heat Removal).

Section 910.1 of the IFC is deleted and amended substituting the following language:

910.1 General. Where required by this code or otherwise installed, smoke and heat vents or mechanical smoke exhaust systems and draft curtains shall conform to the requirements of this section.

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an *approved automatic sprinkler system*.
2. Automatic smoke and heat vents are not required within areas of buildings equipped with early suppression fast-response (ESFR) sprinklers unless the area of a Group F-1 or S-1 occupancy protected with the ESFR sprinklers has an exit access travel distance of more than 250 feet (76 200 mm). (Ord. 1401, 2013)

Section 910.2.2 High-piled combustible storage.

Section 910.2.2 is amended to read:

910.2.2 High-piled combustible storage. Smoke and heat removal required by Table 3206.2 for buildings and portions thereof containing high-piles combustible storage shall be installed in accordance with Section 910.3 in unsprinklered buildings. In buildings and portions thereof containing high-piled combustible storage equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, a smoke and heat removal system shall be installed in accordance with 910.3 or 910.4. Smoke and heat vents shall be activated by manual controls only per Section 910.4.4. In occupied portions of a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 where the upper surface of the story is not a roof assembly, a mechanical smoke removal system in accordance with 910.4 shall be installed. (Ord. 1545, 2019)

Section 910.3.2.2 Sprinklered Buildings.

Section 910.3.2.2 of the IFC is deleted and amended substituting the following language and adding subsections 910.3.2.2.1 thru 910.3.2.2.3:

910.3.2.2 Sprinklered buildings. Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed in accordance with Sections 910.3.2.2.1 through 910.3.2.2.3. (Ord. 1401, 2013)

910.3.2.2.1 Automatic operation. Smoke and heat vents shall be designed to operate automatically. (Ord. 1401, 2013)

910.3.2.2.2 Control mode sprinkler system. Smoke and heat vents installed in areas of buildings with a control mode sprinkler system shall have operating elements with a higher temperature classification than the automatic fire sprinklers in accordance with NFPA 13. (Ord. 1401, 2013)

910.3.2.2.3 Early suppression fast-response (ESFR) sprinkler system.

Smoke and heat vents installed in areas of buildings with early suppression fast-response (ESFR) sprinklers shall be equipped with a standard-response operating mechanism with a minimum temperature rating of 360ºF (182ºC) or 100ºF (56ºC) above the operating temperature of the sprinklers, whichever is higher. (Ord. 1401, 2013)

Section 912.4.1 Service Area.

Section 912.4 of the IFC is amended to add subsection 912.4.1:

912.4.1 Service area. A sign indicating the buildings address or areas serviced by a sprinkler or standpipe system shall be permanently mounted and maintained on all fire department connections when required by the fire code official. (Ord. 1401, 2013)

Section 912.5.1 Service area.

Section 912.5.1 is added to Section 912.5 Signs, to read:

912.5.1 Connection sign. An approved all-weather sign indicating the buildings address or areas serviced by a sprinkler or standpipe system shall be permanently

mounted and maintained on all fire department connections when required by the fire code official. (Ord. 1545, 2019)

Section 913.4 Valve Supervision.

Section 913.4 of the IFC is deleted and amended substituting the following language:

913.4 Valve supervision. Where provided, the fire pump suction, discharge and bypass valves, and the isolation valves on the backflow prevention device or assembly shall be supervised open by one of the following methods.

1. Central-station, proprietary or remote-station signaling service.
2. Local signaling service that will cause the sounding of an audible signal at a constantly attended location. (Ord. 1401, 2013)

Section 1016.4 Group F-1 and S-1 Increase.

Section 1016 of the IFC is amended to add section 1016.4:

1016.4 Group F-1 and S-1 increase. The maximum exit access travel distance shall be 400 feet (122 m) in Group F-1 or S-1 occupancies where all of the following are met:

1. The portion of the building classified as Group F-1 or S-1 is limited to one story in height, and
2. The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm), and
3. The building is equipped throughout with an automatic fire sprinkler system in accordance with Section 903.3.1.1. (Ord. 1401, 2013)

Section 1023.9.1 Signage requirements

Section 1023.9.1 is amended to read:

1023.9.1 Signage requirements. Stairway identification signs shall comply with all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the interior exit stairway and ramp shall be not less than 1 ½ inches (38 mm) in height.
3. The number designating the floor level shall be not less than 5 inches (127 mm) in height and located in the center of the sign.
4. Other lettering and numbers shall be not less than 1 inch (25 mm) in height.
5. Characters and their background shall have a non-glare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
6. Where signs required by Section 1023.9 are installed in the interior exit stairways and ramps of buildings subject to Section 1025, the signs shall be made of the same materials as required by Section 1025.4.
7. The background color of the sign shall be green if roof access is available from the

signed stairway. The background color of the signs shall be red if roof access is not available from the signed stairway. (Ord. 1545, 2019)

Chapter 11 Construction Requirements for Existing Buildings.

Chapter 11 of the IFC is deleted in its entirety (Ord. 1401, 2013)

Section 2809.1 General (Exterior Storage).

Section 2809.1 of the IFC is deleted and amended substituting the following language:

2809.1 General. Exterior storage of finished lumber products, fire wood, chips, hogged material and associated raw products shall comply with Sections 2809.1 through 2809.5. (Ord. 1401, 2013)

Section 2809.2 Size of Piles.

Section 2809.2 of the IFC is deleted and amended substituting the following language:

2809.2 Size of piles. Exterior lumber storage shall be arranged to form stable piles with a maximum height of 25 feet (6096 mm). Piles shall not exceed 150,000 cubic feet (4248 m^3) in volume. (Ord. 1401, 2013)

Section 3704.4.2.2.7.4 Stationary tank storage—Restricted locations.

Section 3704.4.2.2.7.4 of the IFC is amended by adding the following language:

3704.4.2.2.7.4 Stationary tank storage--Restricted locations. The storage of Class I and Class II liquids in aboveground tanks outside of buildings is permitted in accordance with Sections 20.660.150.K and 20.664.160. (Ord. 1131, 2005; Ord. 802, 1998)

Section 3903.2 Prohibited occupancies.

Section 3903.2 is amended to read:

3903.2 Prohibited occupancies. Extraction processes utilizing flammable gases or flammable liquids shall not be located in a building containing a Group A, E, I or R occupancy. (Ord. 1545, 2019)

Section 3903.3 Location.

Section 3903.3 is amended to read:

3903.3 Location. The extraction equipment and extraction processes utilizing hydrocarbon solvents shall be located in a room or area dedicated to extraction. For other than CO_2 and nonhazardous extraction process, the marijuana extraction equipment and process shall be located in a room of noncombustible construction dedicated to the extraction process and the room shall not be used for any other purpose. (Ord. 1545, 2019)

Section 3903.5 Use of flammable and combustible liquids.

Section 3903.5 is amended to read:

3903.5 Use of flammable and combustible liquids. Extraction and post oil processing operations, including dispensing of flammable liquids between containers, shall be performed in one of the following locations:

1. A chemical fume hood in accordance with Chapter of NFPA 45.
2. A room with an approved exhaust system installed in accordance with the International Mechanical Code or Uniform Mechanical Code.

Electrical equipment used within the hazardous exhaust fume hood shall be rated for use in flammable atmospheres. Heating of flammable or combustible liquids over an open flame is prohibited.

Exception 1: The use of a heating element not rated for flammable atmospheres, where documentation from the manufacture, or approved testing laboratory indicates the element is rated for heating of flammable liquids.

Exception 2: Unheated processes at atmospheric pressure using less than 16 oz. (473 ml) of flammable liquids shall not be required to comply with 3903.5(1) or 3903.5(2). (Ord. 1545, 2019)

Section 3903.5.1 Electrical components.

Section 3903.5.1 is added to Section 3903.5 Use of flammable and combustible liquids, to read:

3903.5.1 Electrical components. All electrical components within the chemical fume hood or exhausted enclosure shall be approved permanent wiring, interlocked such that the exhaust system shall be in operation for lighting and components to be used. (Ord. 1545, 2019)

Section 3903.6 Liquified petroleum gas.

Section 3903.6 is amended to read:

3903.6 Liquefied petroleum gas. Liquefied petroleum gases (LPG) shall not be released to the atmosphere except where released in accordance with Section 7.3 of NFPA 58. LPG liquid piping systems shall be in compliance with NFPA 58. (Ord. 1545, 2019)

Section 3903.6.1 Exhaust.

Section 3903.6.1 is added to Section 3903.6 Liquefied petroleum gas, to read:

3903.6.1 Exhaust. An approved exhaust system shall be provided for LPG extractions. (Ord. 1545, 2019)

Section 3903.6.1.1 Installation.

Section 3903.6.1.1 is added to Section 3903.6 Liquefied petroleum gas, to read:

3903.6.1.1 Installation. The exhaust systems shall be installed and maintained in accordance with the International Mechanical Code or Uniform Mechanical Code as adopted by the Authority Having Jurisdiction. (Ord. 1545, 2019)

Section 3903.6.1.2 Processes.

Section 3903.6.1.2 is added to Section 3903.6 Liquefied petroleum gas, to read:

3903.6.1.2 Processes. All LPG extraction operations, including processes for off-gassing spent plant material and oil retrieval, shall be conducted within a chemical fume hood, enclosure, or room in compliance with the International or Uniform Mechanical Code as adopted by the Authority Having Jurisdiction. (Ord. 1545, 2019)

Section 3903.6.2 Electrical bonding and grounding.

Section 3903.6.2 is added to Section 3903.6 Liquefied petroleum gas, to read:

3903.6.2 Electrical bonding and grounding. All conductive equipment and conductive objects within the exhaust room shall be bonded and grounded with a resistance of less than 1.0 x 106 ohms in accordance with NFPA 70. (Ord. 1545, 2019)

Section 3903.6.2.1 Classified areas.

Section 3903.6.2.1 is added to Section 3903.6.2 Electrical bonding and grounding, to read:

3903.6.2.1 Classified areas. The area within a hood or enclosure used of LPG extractions shall be classified as a Class 1, Division 1 hazardous location in accordance with NFPA 70. Areas adjacent to Class 1, Division 1 locations shall be classified in accordance with NFPA 70. (Ord. 1545, 2019)

Section 3903.6.2.2 Interlocks.

Section 3903.6.2.2 is added to Section 3903.6.2 Electrical bonding and grounding, to read:

3903.6.2.2 Interlock. All electrical components within the extraction room shall be interlocked with the hazardous exhaust system such that room lighting and other extraction room electrical equipment will only operate when the exhaust system is in operation. (Ord. 1545, 2019)

Section 3903.6.2.3 Emergency power.

Section 3903.6.2.3 is added to Section 3903.6. Electrical bonding and grounding, to read:

3903.6.2.3 Emergency Power. An automatic emergency power system shall be provided for the following items, when installed:

1. Extraction room lighting
2. Extraction room ventilation system
3. Solvent gas detection system (Ord. 1545, 2019)

Section 3903.6.2.4 Gas detection systems.

Section 3903.6.2.4 is added to Section 3903.6.2 Electrical bonding and grounding, to read:

3903.6.2.4 Gas detection systems. Gas detection systems shall be provided with constant non-interlocked power. (Ord. 1545, 2019)

Section 3903.7 Carbon dioxide extraction.

Section 3903.7 is added to Section 3903 Processing and Extraction, to read:

3903.7 Carbon dioxide extraction. Carbon Dioxide extraction shall comply with sections 3903.7.1, 3903.7.2, and 3903.7.3. (Ord. 1545, 2019)

Section 3903.7.1 Storage and handling.

Section 3903.7.1 is added to Section 3903.7 Carbon dioxide extraction, to read:

3903.7.1 Storage and handling. All CO2 compressed gas cylinders shall be secured in approved method to prevent falling. (Ord. 1545, 2019)

Section 3903.7.2 CO_2 gas detection

Section 3903.7.2 is added to Section 3903.7 Carbon dioxide extraction, to read:

3903.7.2 CO_2 Gas Detection. An approved, listed CO_2 detection system complying with 5307.4.3 shall be installed in the CO2 extraction room. Auto-calibrating and self-zeroing devices or detectors shall be prohibited. (Ord. 1545, 2019)

Section 3903.7.3 CO_2 discharge.

Section 3903.7.3 is added to Section 3903.7 Carbon dioxide extraction, to read:

3903.7.3 CO_2 discharge. The extraction equipment pressure relief devices and blow-off valves shall be piped to the exterior of the building. (Ord. 1545, 2019)

Section 3903.8 Means of egress.

Section 3903.8 is added to Section 3903 Processing and Extraction, to read:

3903.8 Means of Egress. For extraction rooms using hazardous materials, each room shall be provided with at least one exit access door complying with the following:

1. The door shall swing in the direction of egress travel.
2. The door shall be provided with a self-closing or automatic closing device.
3. The door shall be equipped with panic or fire exit hardware.
4. The exit access travel distance cannot be increased as allowed in Section 1017.2.2 for extraction/cultivation facilities. (Ord. 1545, 2019)

Section 3903.9 Signage.

Section 3903.9 is added to Section 3903 Processing and Extraction, to read:

3903.9. Signage. The NFPA 704 hazard rating diamond sign, minimum 10" in size, and no smoking signs shall be posted on the exterior of the extraction room door. (Ord. 1545, 2019)

Section 3903.9.1 Safety data sheets.

Section 3903.9.1 is added to Section 303.9 Signage, to read:

3903.9.1 Safety data sheets. All applicable safety data sheets (SDS) shall be posted in the approved location. (Ord. 1545, 2019)

Section 3903.9.2 Warning signage.

Section 3903.9.2 is added to Section 3903.9 Signage, to read:

3903.9.2 Warning signage. Applicable hazard warning signage shall be posted throughout the facility as applicable for emergency equipment. (Ord. 1545, 2019)

Section 3904.4 Site inspection.

Section 3904.4 is amended to read:

3904.4 Site inspection. Prior to the operation of the extraction equipment, the engineer of record or *approved* professional, as *approved* in Section 3904.2, shall inspect the site of the extraction process once equipment has been installed for compliance with the technical report and the building analysis. The engineer of record or *approved* professional shall provide a report of findings to the *fire code official* prior to the approval of the extraction process. The field inspection report authored by the engineer of record shall include the serial number of the equipment used in the process and shall confirm that the equipment installed is the same model and type of equipment identified in the technical report. (Ord. 1545, 2019)

Section 3904.5 Change of extraction medium.

Section 3904.5 is added to Section 3904 Systems and Equipment, to read:

3904.5 Change of Extraction Medium. Where the medium of extraction or solvent is changed from the material indicated in the technical report or as required by the manufacturer, the technical report shall be revised at the cost of the facility owner and submitted for review and approval by the fire code official prior to the use of the equipment with the new medium or solvent. (Ord. 1545, 2019)

Section 5601.1.3 Fireworks.

Section 5601.1.3 of the IFC is deleted and amended substituting the following language:

5601.1.3 Fireworks. The possession, manufacture, storage, sale, handling and use of fireworks are prohibited.

Exceptions:

1. Storage and handling of fireworks as allowed in Section 5604.
2. Manufacture, assembly and testing of fireworks as allowed in Section 5605.
3. The use of fireworks for fireworks displays as allowed in Section 5608. (Ord. 1401, 2013)
4.

Section 5601.1.6 Exploding Targets.

Section 5601.1 of the IFC is amended by adding subsection 5601.1.6:

5601.1.6 Exploding targets. The possession, manufacture, sale, and use of exploding targets, including binary exploding targets, are prohibited. (Ord. 1401, 2013)

Section 6101.1 Scope.

Section 6101.1 of the IFC is deleted and amended substituting the following language:

6101.1 Scope. Storage, handling and transportation of liquefied petroleum gas (LP-gas) and the installation of LP-gas equipment pertinent to systems for such uses shall comply with this chapter and NFPA 58. Properties of LP-gases shall be determined in accordance with Appendix B of NFPA 58. In the event of a conflict between any provision in this chapter and the regulations of the Board for the Regulation of Liquefied Petroleum Gas, the regulations of the Board take precedence. (Ord. 1401, 2013)

APPENDIX B FIRE-FLOW REQUIREMENTS FOR BUILDINGS

Appendix B is adopted in whole in accordance with 2018 Edition of the International Fire Code Section 101.2. (Ord. 1545, 2019)

Section B102 Definitions.

The following definition is added in Section B102 Definitions to read:

Special Fire Protection Problem Facilities. Special Fire Protection Problem Facilities are those facilities that consist of uses similar to fires that may result in large size fires or fires with high heat release such as bulk flammable liquid storage, bulk flammable gas storage, large varnish and paint factories, some plastics manufacturing and storage, aircraft hangars, distilleries, refineries, lumberyards, grain elevators, chemical plants, coal mines, tunnels, subterranean structures, storage facilities, and warehouses using high rack/piled storage for flammables or pressurized aerosols. (Ord. 1545, 2019)

Section B103.3 Areas without water supply systems.

Section B103.3 is amended to read:

B103.3 Areas without water supply systems. For information regarding water supplies for fire-fighting purposes in rural and suburban areas in which adequate and reliable water supply systems do not exist, the fire code official is authorized to utilize the International Wildland-Urban Interface Code or NFPA 1142 where the site is not considered as a "special fire protection problem" as defined in Section B102. (Ord. 1545, 2019)

Section B105.2.

Section B105.2 of the IFC is deleted and amended substituting the following language:

B105.2 Buildings other than one-and two-family dwellings.

The minimum fire-flow and flow duration for buildings other than one-and two-family *dwellings* shall be as specified in Table B105.1.

> **Exception:** A reduction in required fire-flow of up to 50 percent, as *approved*, is allowed when the building is provided with an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resulting fire-flow shall not be less than 1,500 gallons per minute (5678 L/min) for the prescribed duration as specified in Table B105.1. (Ord. 1401, 2013)

Table B105.2 Required Fire Flow for Buildings Other Than One- and Two-Family Dwellings, Group R-3 and R-4 Buildings and Townhouses

Table B105.2 of Appendix B Fire-Flow Requirements for Buildings is amended to read as follows:

TABLE B105.2
REQUIRED FIRE FLOW FOR BUILDINGS OTHER THAN ONE- AND TWO-FAMILY DWELLINGS, GROUP R-3 AND R-4 BUILDINGS AND TOWNHOUSES

AUTOMATIC SPRINKLER SYSTEM (DESIGN STANDARD)	MINIMUM FIRE FLOW (gallons per minute)	FLOW DURATION (hours)
No auto sprinkler system	Value in Table B105.1(2)	Duration in Table B105.1(2)
Section 903.3.1.1 of the International Fire Code	50 % of the value in Table B105.1(2)	Duration in Table B105.1(2) at the reduced flow rate
Section 903.3.1.2 of the International Fire Code	50 % of the value in Table B105.1(2)[a]	Duration in Table B105.1(2) at the reduced flow rate

For SI: 1 gallon per minute = 3.785 L/m.

a. The reduced flow rate shall be not less than 1,500 gallons per minute. (Ord. 1545, 2019)

APPENDIX C FIRE HYDRANT LOCATIONS AND DISTRIBUTION

Appendix C is adopted in whole in accordance with 2018 Edition of the International Fire Code Section 101.2.1. (Ord. 1545, 2019)

Section C102.2 Distance to a Fire Department Connection (FDC).

Section C102.2 is added to Section C102 Number of Fire Hydrants for a building to read:

C102.2 Distance to a Fire Department Connection (FDC). The maximum distance from a fire hydrant to a fire department connection (FDC) supplying fire sprinklers and/or standpipes shall not exceed 100 feet, or as determined by the fire code official. (Ord. 1545, 2019)

APPENDIX D FIRE APPARATUS ROADS

Appendix D is adopted in whole in accordance with 2018 Edition of the International Fire Code Section 101.2.1. (Ord. 1545, 2019)

APPENDIX L REQUIREMENTS FOR FIRE FIGHTER AIR REPLENISHMENT SYSTEMS

Appendix L is adopted in whole in accordance with 2018 Edition of the International Fire Code Section 101.2.1. (Ord. 1545, 2019)

INTERNATIONAL WILDLAND URBAN INTERFACE CODE ("WUI") REVISIONS (FOR THE TAHOE DOUGLAS FIRE PROTECTION DISTRICT)

Section 101.2 Scope.

Section 101.2 of the WUI is deleted and amended substituting the following language:

101.2 Scope. The provisions of the Wildland Urban Interface Code shall apply to the construction, alteration, movement, repair, maintenance and use of any building, structure or premises and to the management of fuels on undeveloped lots and on unmodified portions of large lots within the *wildland-urban interface areas* in this jurisdiction.

Buildings or conditions in existence at the time of the adoption of this code are allowed to have their use or occupancy continued, if such condition, use or occupancy was legal at the time of the adoption of this code, provided such continued use does not constitute a distinct danger to life or property.

Buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new buildings or structures. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 105.3 Alternative materials, design and methods.

Section 105.3 is amended to read:

105.3 Alternative materials, design, and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method shall be approved where the fire chief finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

Where the alternative material, design or method is not approved, the fire chief shall respond in writing, stating the reasons why the alternative was not approved. (Ord. 1546, 2019)

Section 106 Appeals.

Section 106.1 of the WUI is deleted and amended substituting the following language:

106.1 General. To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions of this code see *International Fire Code* section 109 as adopted by the Authority Having Jurisdiction. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 106.2 of the WUI "Limitations on Authority: is deleted. (Ord. 1546, 2019)

Section 302.3 Review of Wildland-Urban Interface Areas.

Section 302.3 of the WUI is deleted and amended substituting the following language:

302.3 Review of Wildland-Urban Interface Areas. The code official shall reevaluate and recommend modification to the *wildland-urban interface areas* in accordance with Section 302.1 as deemed necessary by the code official. (Ord. 1401, 2013)

Section 402.2.2 Water Supply.

Section 402.2.2 is amended to read:

Section 402.2.2 Water Supply. Individual structures hereinafter constructed or relocated into or within wildland-urban interface areas shall be provided with a conforming water supply in accordance with Section 404.

Exceptions:

1. Structures constructed to meet the requirements for the class of ignition-resistant construction specified in Table 503.1 for a nonconforming water supply.
2. Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m^2).
3. Agricultural buildings constructed for the storage of harvested crops or agricultural commodities, without electrical or fuel gas services. (Ord. 1546, 2019)

Section 404.1 General.

Section 404.1 is amended to read:

404.1 General. Where provided in order to qualify as a conforming water supply for the purpose of Table 503.1 or as required for new subdivisions in accordance with Section 402.1.2, an *approved* water source shall have an adequate water supply for the use of the fire protection service to protect buildings and structures from exterior fire sources or to suppress structure fires within the *wildland-urban interface area* of the jurisdiction in accordance with this section.

Exception: Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m^2), and agricultural buildings constructed for the storage of harvested crops or agricultural commodities without electrical or fuel gas services. (Ord. 1546, 2019)

Section 404.5 Adequate Water Supply.

Section 404.5 is amended to read:

404.5 Adequate water supply. Adequate water supply shall be determined for purposes of initial attack and flame front control as follows:

1. One- and two-family dwellings. The required water supply for one-and two-family dwellings having a fire flow calculation area that does not exceed 3,600 square feet (334 m^2) shall be 1,000 gallons per minute (63.1 L/s) for a minimum duration of 30 minutes. The required fire flow supply for one- and two-family dwellings having a flow calculation area in excess of 3,600 square feet (334 m^2) shall be 1,500 gallons per minute (95 L/s) for a minimum duration of 30 minutes.

Exception: A reduction in required flow rate of 50 percent, as approved by the code official, is allowed where the building is provided with an approved automatic sprinkler system.

2. Buildings other than one- and two-family dwellings. The water supply required for buildings other than one- and two-family dwellings shall be as approved by the code official but shall not be less than 1,500 gallons per minute (95 L/s) for a duration of 2 hours.

Exception: A reduction in required flow rate of up to 50 percent, as approved by the code official, is allowed where the building is provided with an approved automatic sprinkler system. The resulting water supply shall not be less than 1,500 gallons per minute (94.6 L/s). (Ord. 1546, 2019)

Section 501.2 Objective.

Section 501.2 of the WUI is deleted and amended substituting the following language:

501.2 Objective. The objective of this chapter is to establish minimum standards to locate, design and construct buildings and structures or portions thereof for the protection of life and property, to resist damage from wildfires, and to mitigate building and structure fires from spreading to wildland fuels. The minimum standards set forth in this chapter vary with the critical *fire weather*, slope and fuel type to provide increased protection, above the requirements set forth in the *International Building Code* and the *International Residential Code*, from the various levels of hazards. (Ord. 1401, 2013)

Section 502.1 General.

Section 501.1 is deleted and amended substituting the following language:

502.1 General. The fire hazard severity of building sites for all buildings hereafter constructed, modified or relocated into *wildland-urban interface areas* shall be established in accordance with Table 502.1 or Appendix C or the map developed by the Authority Having Jurisdiction as determined by the code official. (Ord. 1546, 2019; Ord. 1401, 2013)

Table 503.1 Ignition-Resistant Construction

Table 503.1 is amended to read as follows:

IGNITION-RESISTANT CONSTRUCTION [a]

DEFENSIBLE SPACE [c]	FIRE HAZARD SEVERITY					
	Moderate Hazard		High Hazard		Extreme Hazard	
	Water supply [d]		Water supply [b]		Water supply [b]	
	Conforming[d]	Nonconforming[e]	Conforming[d]	Nonconforming[a]	Conforming[d]	Nonconforming [e]
Nonconforming	IR 2	IR 1	IR 1	IR 1 N.C.	IR 1 N.C.	Not Permitted
Conforming	IR 3	IR 2	IR 2	IR 1	IR 1	IR 1 N.C.
1.5 x Conforming [f]	Not Required	IR 3	IR 3	IR 2	IR 2	IR 1

a. Access shall be in accordance with Section 403.
b. Subdivisions shall have a conforming water supply in accordance with Section 402.1.
   IR 1= Ignition-resistant construction in accordance with Section 504.
   IR 2= Ignition-resistant construction in accordance with Section 505.
   IR 3= Ignition-resistant construction in accordance with Section 506.
   N.C.= Exterior walls shall have a fire-resistance rating of not less than 1 hour and the exterior surfaces of such walls shall be noncombustible. Usage of log wall construction is allowed.
c. Conformance based on Section 603.
d. Conformance based on Section 404.
e. A nonconforming water supply is any water system or source that does not comply with Section 404, including situations where there is not water supply for structure protection or fire suppression.
f. Only with the approval of the fire code official. (Ord. 1546, 2019)

Section 504.2 Roof Covering.

Section 504.2 of the WUI is deleted and amended substituting the following language:

504.2 Roof covering. Roofs shall have a Class A rating when tested in accordance with ASTM E108 or UL 790. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends and ridge line shall be fire-stopped to preclude entry of flames or embers, or have one layer of 72-pound (32.4 kg) mineral-surfaced, nonperforated cap sheet complying with ASTM D 3909 installed over the combustible decking. Roof coverings consisting of shakes or shingles made of wood are not approved as part of any Class A roof assembly.

Exceptions:

1. Class A roof assemblies include those with coverings of brick, masonry or an

exposed concrete roof deck.

2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile or slate installed on noncombustible decks or ferrous, copper or metal sheets installed without a roof deck on noncombustible framing.
3. Class A roof assemblies include a minimum 16 oz/sq. ft. (0.0416 kg/m^2) copper sheets installed over combustible decks. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 504.7.1 Underfloor Areas.

Section 504.7.1 of the WUI is deleted and amended substituting the following language:

504.7.1 Underfloor areas. When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 504.5.

Exception: When approved by the code official, unenclosed underfloor areas are allowed and are to be kept free of all combustible materials. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 504.10.1 Vent Locations.

Section 504.10.1 of the WUI is amended to read:

504.10.1 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Ember-resistant gable end and dormer vents shall be located at least 10 feet (3048 mm) from lot lines. Underfloor ventilation openings shall be located as close to grade as practical.

Exceptions:

1. Listed vents complying with ASTM E2886.
   1.1 The Ember Intrusion Test shall have no flaming ignition of the cotton material.
   1.2 There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test. The maximum temperature of the unexposed side of the vent shall not exceed 662 degrees Fahrenheit (350 degrees Celsius).
2. The fire code official may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 505.2 Roof covering.

Section 505.2 of the WUI is amended to read:

505.2 Roof Covering. Roofs shall have a roof assembly that complies with not less than a Class A rating when tested in accordance with ASTM E108 or UL 790. For roof coverings where the profile allows a space between the roof covering and roof decking,

the space at the eave ends shall be fire stopped to preclude entry of flames or embers, or have one layer of 72-pound mineral-surfaced, nonperforated cap sheet complying with ASTM D3909 installed over the combustible decking. (Ord. 1546, 2019)

Section 505.10.1 Vent Locations.

Section 505.10.1 of the WUI is amended to add the following exception:

505.10.1 Vent locations. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Ember-resistant gable end and dormer vents shall be located at least 10 feet (3048 mm) from lot lines. Underfloor ventilation openings shall be located as close to grade as practical.

Exceptions:

1. Listed vents complying with ASTM E2886.
   - 1.1 The Ember Intrusion Test shall have no flaming ignition of the cotton material.
   - 1.2 There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test. The maximum temperature of the unexposed side of the vent shall not exceed 662 degrees Fahrenheit (350 degrees Celsius).
2. The fire code official may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 603.2.1 Responsible Party.

Section 603.2.1 is amended to add new subsection 603.2.1.1 to 603.2.1:

603.2.1 Responsible party. Persons owning, leasing, controlling, operating or maintaining buildings or structures requiring defensible spaces are responsible for modifying or removing non-fire-resistive vegetation on the property owned, leased or controlled by said person. (Ord. 1401, 2013)

603.2.1.1 Adjacent land. Property owners of land that is directly adjacent to property containing buildings or structures requiring defensible space are responsible for modifying or removing non-fire-resistive vegetation on their own property. Nothing in this provision shall be deemed to require an owner of real property to perform any work on land that he or she does not own. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 603.2.2 Trees (Defensible Space).

Section 603.2.2 of the WUI is deleted and amended substituting the following language:

603.2.2 Trees. Trees are allowed within the *defensible space*, provided the horizontal distance between crowns of adjacent trees and crowns of trees and structures, overhead electrical facilities or unmodified fuel is not less than 10 feet (3048 mm) or an acceptable distance as determined by the code official. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 604.4 Trees (Maintenance of Defensible Space).

Section 604.4 of the WUI is deleted and amended substituting the following language:

604.4 Trees. Tree crowns extending to within 10 feet (3048 mm) of any structure shall be pruned to maintain a minimum clearance of 10 feet (3048 mm) or an acceptable distance as determined by the code official. Tree crowns within the *defensible space* shall be pruned to remove limbs located less than 10 feet (3048 mm) above the ground surface adjacent to the trees; or an acceptable distance as determined by the code official. (Ord. 1546, 2019; Ord. 1401, 2013)

Section 604.4.1 Chimney Clearance.

Section 604.1 of the WUI is deleted and amended substituting the following language:

604.4.1 Chimney clearance. Portions of tree crowns that extend to within 10 feet (3048 mm) of the outlet of a chimney shall be pruned to maintain a minimum clearance of 10 feet (3048 mm). (Ord. 1401, 2013)

Section 604.5 Non-combustible Area.

Section 604 of the WUI is amended to add new subsection 604.5:

604.5 Non-combustible area. The area extending from the base of any structure to 5 feet beyond the base of such structure shall be composed entirely of non-combustible material or fire resistive vegetation. (Ord. 1401, 2013)

Section 607.1 General.

Section 607.1 of the WUI is deleted and amended substituting the following language:

607.1 General. Firewood and combustible material shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. When required by the code official, storage of firewood and combustible material stored in the *defensible space* shall be located a minimum of 30 feet (9144 mm) from structures and separated from the crown of trees by a minimum horizontal distance of 15 feet (4572 mm).

Exception: Approved fire-resistance-rated coverings used in accordance with their listing and as approved and allowed by the Fire Code Official. (Ord. 1546, 2019; Ord. 1401, 2013)

Section B101.1 Scope.

Section B101.1 of the WUI is deleted and amended substituting the following language:

B101.1 Scope. Where required vegetation management plans shall be submitted to the code official and the State Forester Fire Warden for review and approval as part of the plans required for a permit. (Ord. 1546, 2019; Ord. 1401, 2013)

Section B101.2 Plan Content.

Section B101.2 of the WUI is deleted and amended substituting the following language:

B101.2 Plan content. Vegetation management plans shall describe all actions that will be taken to prevent a fire from being carried toward or away from the building. A vegetation management plan shall include at least the following information:

1. A copy of the defensible space plan.
2. Methods and timetables for controlling, changing or modifying areas on the property. Elements of the plan shall include removal of slash, snags, vegetation that may grow into overhead electrical lines, other ground fuels, ladder fuels and dead trees, and the thinning of live trees.
3. A plan for maintaining the proposed fuel-reduction measures. (Ord. 1401, 2013)

Section B102 Defensible Space Plans.

Section B102 of the WUI is amended to add the following sections: (Ord. 1401, 2013)

SECTION B102 DEFENSIBLE SPACE PLANS

B102.1 General. Where required, defensible space plans must be submitted to the code official for review and approval as part of the plans required for a permit. (Ord. 1401, 2013)

B102.2 Plan content. A defensible space plan shall include at least the following information:

1. Property boundaries.
2. Current and proposed structures on the property.
3. Trees and vegetation taller than 3 feet in height.
4. Individual plants or brush fields 20 square feet or larger in area.
5. Tree drip lines.
6. Roads and driveways abutting the property. (Ord. 1546, 2019; Ord. 1401, 2013)