



## COMMUNITY DEVELOPMENT

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# **BUILDING CODES AND DESIGN CRITERIA**

Douglas County Board of County Commissioners adopted the following codes on June 6, 2019. **It will be effective for all submittals on or after April 2, 2024.**

### **Adopted Building Codes:**

- 2018 Northern Nevada Code Amendments [Northern Nevada Chapter International Code Council \(nnicc.org\)](http://www.nnicc.org)
- 2018 International Building Code (IBC)
- 2018 International Residential Code (IRC)
- 2018 Uniform Plumbing Code (UPC)
- 2018 Uniform Mechanical Code (UMC)
- 2017 National Electrical Code (NEC)
- 2018 International Energy Conservation Code (IECC)
- 2018 International Fuel Gas Code (IFGC)
- 2018 International Fire Code (IFC)
- 2018 International Urban Wildfire Interface Fire Code for the Lake Tahoe area (WUI)
- Hazard Map Link: <https://ascehazardtool.org/>

Amendments to these codes are available on the County website: [www.douglascountynv.gov](http://www.douglascountynv.gov) or [Douglas County Code Title 20-Appendix B](#) East Fork Fire Appendix (B1) Tahoe Douglas Fire Appendix (B2)

**\*\*Please see Ord 2023-1630 attached**

### **Site elevations of 5,999 Feet and under:**

- **Seismic Zone:** IBC = D / IRC = D2 & E for some site-specific areas
- **\*Wind Speed:** Minimum 120 MPH V ult' – Exposure C (see footnotes)
- **Ground Snow Load:** See snow load table- Appendix B per (ASCE7 Design Reduction allowed)
- **Frost Depth:** 18" (inches) minimum
- **Soil Bearing:** 1,500 PSF maximum or site specific

### **Site elevations 6,000 Feet and above:**

- **Seismic Zone:** IBC = D / IRC = D2 & E for some site-specific areas
- **\*Wind Speed:** Minimum 120 MPH V ult' – Exposure C  
(Exposure B may be used in areas between ¼ mile of the lakeshore & below the elevation of 7,200 feet)
- **Ground Snow Load:** See snow load table- Appendix B per (ASCE7 Design Reduction allowed)
- **Frost Depth:** 24" (inches) minimum
- **Ice Shields Required** above 6,000 feet elevation
- **Soil Bearing:** 1,500 PSF maximum or site specific

### **Single Family Dwelling (SFD) Design: Per Title [20.690.030\(Z\)](#).**

- Minimum Roof Pitch: 4:12 (inches) – Maximum Building Height: 35'-0" (feet)
- Minimum Size Dwelling: 20' minimum width 20' minimum depth
- Minimum Soffit Eaves (overhang): 18" (inches)
- 3 or more gable ends and building offsets recessed/alcove or similar features
- Minimum of 2-car off-street covered parking (carport or garage) **Required**

**\*Wind Speed:** Minimum basic wind speed for category I shall be 110 mph V ult'  
Minimum basic wind speed for risk category II shall be 120 mph V ult'  
Minimum basic wind speed for category III shall be 130 mph V ult'

**ORDINANCE 2023-1630**

**SUMMARY**

Ordinance 2023-1630, revising Title 20 of the Douglas County Code, including: (1) repealing the existing text of Chapters 20.800, 20.810 and 20.820 and replacing it with new text; and (2) repealing the existing text of Appendix B - Uniform Code Revisions and replacing it with new text, separated into Appendices B, B1, and B2. The new text for Chapter 20.800 is simplified, formally adopts the 2018 Northern Nevada Amendments to uniform codes, and removes County-specific uniform code revisions, which should have been located in Appendix B. The new text for Appendix B incorporates the revisions removed from Chapter 20.800, removes redundancies, updates references to uniform code sections, and modifies certain outdated or inconsistent standards. In addition, the new text for Appendix B now includes three sub-appendices. The first, "Appendix B," includes revisions to the building, residential, mechanical, electrical, energy conservation, existing building, and fuel gas codes. A new "Appendix B1" includes revisions to the fire and wildland-urban interface codes, applicable to the East Fork Fire Protection District. A new "Appendix B2" includes revisions to the fire and wildland urban interface codes, applicable to the Tahoe Douglas Fire Protection District.

**TITLE**

Ordinance 2023-1630, revising Title 20 of the Douglas County Code, including: (1) repealing the existing text of Chapters 20.800, 20.810 and 20.820 and replacing it with new text; and (2) repealing the existing text of Appendix B - Uniform Code Revisions and replacing it with new text, separated into Appendices B, B1, and B2.

**THE BOARD OF COUNTY COMMISSIONERS FOR THE COUNTY OF DOUGLAS, IN THE STATE OF NEVADA, DOES HEREBY ORDAIN AS FOLLOWS:**

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**SECTION I:** The existing text of Chapters 20.800, 20.810 and 20.820 of the Douglas County Code are hereby repealed and shall be replaced with the language that follows:

## **BUILDING AND CONSTRUCTION PERMITS**

### **Chapter 20.800 General Provisions**

#### **Sections:**

**20.800.010 Purpose.**

**20.800.020 Permit Policy and Procedures.**

**20.800.030 Specialized or uniform codes adopted.**

**20.800.040 Definition of words and terms.**

**20.800.050 Interpretation, conflict, and separability.**

**20.800.060 Validity of permit.**

**20.800.070 Emergency powers.**

**20.800.090 Enforcement, violations, and penalties.**

**20.800.100 Stop work orders.**

**20.800.110 Notice of correction.**

**20.800.120 Nonliability of county.**

#### **20.800.010 Purpose.**

The purpose of this part is to prescribe regulations governing conditions hazardous to life and property from fire or explosion; to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, encroachment of public rights-of-way, quality of materials, use and occupancy, location and maintenance of all buildings, structures, public and private utilities and infrastructure within Douglas County and certain specifically regulated equipment. The purpose of this part is not to create or otherwise establish or designate any particular class or group of persons who will or should be especially protected or benefited by the terms of this code.

#### **20.800.020 Permit Policy and Procedures**

It is the county's policy that the issuance of building and construction permits is subject to the control of the county pursuant to the Master Plan for the orderly, planned, efficient, and economical development of the county.

- A. The county issues the following building and construction permits: building, site improvement and encroachment. Requirements for such permits and procedures to obtain such permits are set forth in the nationally recognized codes adopted in section 20.800.040, as amended.
- B. Before issuing a permit, the property must be able to be used safely without danger to health or peril from fire, flood, slope instability or other menace, and that adequate public facilities and improvements exist or are proposed to be constructed and proper drainage, water, sewerage, and capital improvements such as schools, parks, recreation

facilities, transportation facilities are provided, and improvements comply with the provisions of this code.

**20.800.030 Specialized or uniform codes adopted.**

The board adopts the following nationally recognized codes together with the 2018 Northern Nevada Amendments to those codes along with Appendix B, B1 and B2 of Title 20 stating portions these codes being deleted, modified or amended.

- A. The **International Building Code (IBC), 2018 Edition**, including section 113, and Appendices C, E, I and J as amended, except the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20.
- B. The **International Residential Code (IRC), 2018 Edition**, and Appendices A, B, C, G, H, J, K, P and Q as amended, except the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20.
- C. The **Uniform Mechanical Code ("UMC"), 2018 Edition**, including Appendix Chapter A, B and C as amended, except the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20
- D. The **Uniform Plumbing Code ("UPC"), 2018 Edition**, and the IAPMO Installation Standards and Appendices A, B, C, D, E, F, I, J and L except for the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20.
- E. The **National Electrical Code ("NEC"), 2017 Edition**, except for the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20.
- F. The **International Energy Conservation Code, 2018 Edition**, except the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20.
- G. The **International Existing Building Code, 2018 Edition**, except the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20.
- H. The **International Fuel Gas Code, 2018 Edition**, except the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20.
- I. The **International Mechanical Code, 2018 Edition**, except the portions deleted, modified or amended by the 2018 Northern Nevada Amendments and Appendix B of Title 20.
- J. The **International Fire Code (IFC), 2018 edition**, for the entirety of Douglas County, except the portions deleted, modified or amended by Appendix B1 (East Fork Fire Protection District) or Appendix B2 (Tahoe Douglas Fire Protection District) of Title 20.
- K. The **International Wildland Urban Interface Code (WUI), 2018 edition**, for the entirety of Douglas County, except the portions deleted, modified or amended by

Appendix B1 (East Fork Fire Protection District) or Appendix B2 (Tahoe Douglas Fire Protection District) of Title 20.

**20.800.040 Definition of words and terms.**

Wherever the term "International Plumbing Code" is used throughout any of the adopted specialized or uniform codes, that term is deleted and replaced with "2018 Uniform Plumbing Code."

**20.800.050 Interpretation, conflict, and separability.**

In the interpretation and application of code, the provisions of these codes are the minimum requirements for the promotion of health, safety, and general welfare of the public. These codes are not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. Where conflicts occur between the technical codes, those provisions providing the greater safety of life shall govern. In other conflicts where sanitation, life safety, or fire safety are not involved, the most restrictive provisions shall govern. Where in a specific case different sections of the technical codes specify different materials, methods of construction or other requirements, the most restrictive shall govern. When there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. When conflicts occur between specific provisions of this code and administrative provisions in a technical code which is then applicable within this jurisdiction, those provisions becoming the law most recently shall prevail.

**20.800.060 Validity of permit.**

- A. The issuance or granting of a permit or approval of plans, specifications and computations will not be construed to be a permit for, or an approval of, any violation of any of the provisions of these codes or other law. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction are not valid.
- B. The issuance of a permit based on plans, specifications and other data will not prevent the Building Official from requiring the correction of errors in the plans, specifications and other data, or from preventing building operations when in violation of these codes, other law.

**20.800.070 Emergency powers.**

In case of catastrophe, such as fire, earthquake, flood or explosion, the Building Official, in case of actual and immediate danger of failure or collapse of a building or structure or portions of the building or structures that endangers life or property, may order and require occupants to vacate immediately. The Building Official may, when necessary for the public safety, temporarily close sidewalks, streets, buildings, structures and places adjacent to buildings or structures and prohibit them from being used until emergency measures have been taken to remove all possible hazards of life and property.

### **20.800.090 Enforcement, violations, and penalties.**

The Building Official is established as the code enforcement agency for these codes.

- A. It is the duty of all officers and the Building Official of the county to enforce these regulations and to bring to the attention of the Director and District Attorney any violations.
- B. No owner, or agent of the owner, of any parcel of land or structure shall construct, erect, enlarge, alter, repair, move, improve, remove, convert or demolish, equip, use, occupy or maintain any building or structure or cause or permit the same to be done in violation of these codes.
- C. No person shall construct, alter, move, demolish or repair roads, utilities or drainage facilities in violation of these codes.
- D. Any person who fails to comply with, or violates, any of these regulations is guilty of a misdemeanor. Each person is guilty of a separate offense for each and every day during which a violation of any of the provisions of these codes is committed, continued or permitted.

### **20.800.100 Stop work orders.**

Whenever any work is being done contrary to the provision of these codes, or other pertinent laws or ordinances implemented through the enforcement of this code, the Building Official may order the work stopped by issuance of a written stop work order. The stop work order shall be served on any persons engaged in or causing the work to be done and shall be posted on site.

- A. Upon receiving a stop work order, all persons must stop work until authorized in writing by the Building Official to proceed.
- B. No person shall remove a posted stop work order until authorized in writing to do so by the Building Official.

### **20.800.110 Notice of correction.**

If the Building Official determines that any improvements required by a building permit or site improvement permit have not been or are not being constructed in accordance with the requirements of the permit and the work does not pose a threat to the health, safety and welfare of the public, or threatens the overall integrity of the project, the Building Official may issue a written notice of correction. The notice of correction must state the nature of the problem, the corrective action to be taken and the time frame in which the corrective action must be performed.

### **20.800.120 Nonliability of County.**

This chapter must not be construed to relieve from responsibility any party owning, operating, controlling or installing any improvement for damages to persons or property caused by any defect therein, nor shall the county be liable for any such damages by reason of the inspection authorized herein or the issuance of a certificate of occupancy.

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**SECTION II:** The existing text of Appendix B of the Douglas County Code is hereby repealed and shall be replaced with the language that follows:

**TITLE 20**

**APPENDIX B**

**Amendments to specialized and uniform codes and the 2018 Northern Nevada Amendments, as adopted in Douglas County Code, Title 20, Section 20.800.030**

**Sections:**

- International Building Code Revisions.**
- International Residential Code Revisions.**
- Uniform Mechanical Code Revisions.**
- Uniform Plumbing Code Revisions.**
- National Electrical Code Revisions.**
- International Energy Conservation Code Revisions.**
- International Existing Building Code Revisions.**
- International Fuel Gas Code Revisions.**

Revisions to the specialized and uniform codes in all sections are denoted in *italics* where possible and practical. Additional revisions and commentary are explained or provided within [brackets].

**INTERNATIONAL BUILDING CODE (IBC) REVISIONS.**

**105.1 *Permits* required.**

Any owner or owner's authorized agent who intends to construct, enlarge, alter, repair, move, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be performed, shall first make application to the building official *for each building or structure* and obtain the required permit *from the community development department. A single permit may be issued covering building, plumbing, electrical work for a single structure.*

**105.2 *Work exempt from permit.***

Exemptions from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of *Douglas County*. Permits shall not be required for the following:

**Building:**

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the *projected* floor area does not exceed 200 square feet (18.58 m<sup>2</sup>).
2. Fences not over 7 feet (2,134 mm) in height.
3. Oil derricks.
4. Retaining walls which are not over 4 feet (1,219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
5. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons (18,927 L) and the ratio of height to diameter or width *does not exceed 2 to 1*.
6. *Platforms*, sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade, and not over any basement or story below and are not part of an accessible route.
7. Painting, papering, tiling, carpeting, cabinets, countertops and similar finish work.
8. Temporary motion picture, television and theater stage sets and scenery.
9. Prefabricated swimming pools accessory to a Group R-3 occupancy *in which the pool walls are entirely above the adjacent grade and if the capacity does not exceed 5,000 gallons (18,927 L)*.
10. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.
11. Swings and other playground equipment accessory to detached one- and two-family dwellings.
12. Window awnings in Group R-3 and U Occupancies, supported by an exterior wall, that do not project more than 54 inches (1,372 mm) from the exterior wall and do not require additional support.
13. Nonfixed and movable fixtures, cases, counters, and partitions not over 5 feet 9 inches (1,753 mm) in height.
14. *Non-structural work up to \$2,000 valuation or a re-roof up to ten roofing squares in any 12-month period for Group R-3 and Group U occupancies.*

**Note:** *Unless otherwise exempted, separate plumbing, electrical and mechanical permits will be required for the above exempted items.*

*Exemption from the permit requirements of this code does not grant authorization for any work to be done in a manner in violation of the provisions of this code or any other local, state, or federal requirements.*

[There are no revisions to the subsections of 105.2 related to Electrical, Gas, Mechanical, and Plumbing requirements.]



### **105.3 Application for permit.**

To obtain a permit, *the property owner or authorized representative shall first file with the department a complete permit application therefor, digitally or on a form furnished by the community development department.* Such application shall:

1. Identify and describe the work to be covered by the permit for which the application is made.
2. *Provide a legal description of the land on which the proposed work is to be done, Assessor's Parcel Number or APN, and the street address or similar description that will readily identify and definitely locate the proposed building or work.*
3. Indicate the use or occupancy for which the proposed work is intended.
4. Be accompanied by construction documents, *plans, diagrams, computations, specifications,* and other information *or data,* as required in Section 107, *drawn to scale and with clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations. For applications involving design review which are located within the towns of Genoa, Gardnerville or Minden, the plans must be reviewed by the respective town.*
5. State the valuation proposed work.
6. Be signed by the applicant, or the applicant's authorized agent *or representative.*
7. Give such other data and information required by the building official.

#### **105.3.3 Comprehensive permit.**

*The Building Official may require that a comprehensive permit be taken out by the general contractor on all construction covered by the adopted construction codes. Before the permit is issued, the name, addresses and contractor's license numbers of all sub-contractors to be used by the general contractor may be required by the building official.*

#### **105.5 Expiration of permits.**

Every permit issued *by the building official expires and becomes void if the building or work authorized by the permit is not commenced within 180 days from the date of the permit issuance.*

1. *Any permittee holding an unexpired permit may apply for an extension of time within which work may commence under that permit when the permittee is unable to commence work within the time required by this section for good and satisfactory reason. The building official may extend the time for action by the permittee for a period not exceeding 180 days on written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. No permit may be extended more than once, unless approved by the Community Development Director.*
2. *A permit issued by the building official for new single-family dwelling and duplex construction and additions to single family and duplex structures is valid for a maximum of five (5) years. The permit expires and becomes void after a period of*

*three (3) years where the building official has not conducted an inspection and approved the framing for the structure. Where the framing is approved within three (3) years of issuance, the permit remains valid for a period not to exceed five (5) years from the date of issuance. Before work can be recommenced on a project which has not been completed or issued a certificate of occupancy, a new permit must be obtained. A fee in the amount of one-fourth (1/4) that required for a new permit for the work is required, provided the framing has been approved by the building official, no changes have been made or will be made in the original plans and specifications for the work, and provided that the plans were approved under the prevailing adopted codes. A fee in the amount of one-half (1/2) that required for the original new permit fee for the work is required where the framing has not been approved by the building official, no changes have been made or will be made in the original plans and specifications for the work, and provided that the plans were approved under the prevailing, current adopted codes.*

- 3. Except as provided in section 2, above, a permit issued by the building official expires and becomes void after a period of two years from the date of issuance. Where a 180-day extension has been granted for commencement of work, the permit expires after a period of two years and six months from the date of issuance. Before work can be recommenced, a new permit must be obtained. A fee in the amount of one-half that required for a new permit for the work is required where no changes have been made or will be made in the original plans and specifications for the work, and provided that the plans were approved under the prevailing adopted codes.*
- 4. All EZ permits are valid for a period of 180 days. Should the permit expire, a one-time extension can be applied for in writing and must approved by the building official. This extension would be good for an addition 180 days and is free of charge. Should the permit expire, a new permit must be obtained before any work can commence for a fee of one-fourth (1/4) of the original permit fee providing no changes to the scope of work and that the original permit was issued under the current adopted codes.*
- 5. An application for which no permit is issued within 180 days following the date of notification that the permit is ready to issue will expire, and plans and other data submitted for review must be returned to the applicant or destroyed by the building official. The building official may extend the time for action by the applicant for a period not exceeding 180 days on written request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken. No application may be extended more than once. In order to renew action on an application after expiration, the applicant must pay a fee of one-half (1/2) that required for the original new permit fee. A resubmittal of plans is not required provided that the plans were approved under the prevailing, current adopted codes.*

### **105.8 Permits issuance.**

*The application, plans, construction documents, computations and other data filed by an owner or owner's authorized agent must be reviewed by the building official. The plans may also be reviewed by other departments to verify compliance with any applicable laws under their jurisdiction. If the building official finds that the work described in an application and the accompanying plans, construction documents and other data filed conform to the requirements of this code and other pertinent laws and ordinances, and that the required fees have been paid, the building official must issue a permit to the applicant.*

- 1. When the building official determines that the permit may be issued, he must endorse the approval in writing or stamp any required plans and construction documents "approved." The approved plans and construction documents must not be changed, modified or altered without authorizations from the department, and all work regulated by this code must be done in accordance with the approved plans.*
- 2. The building official may issue a permit for the construction of part of a building or structure before the entire plans and construction documents for the whole building or structure have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. Permits must be limited to work permitted.*
- 3. Permits for commercial work may be issued only to contractors and subcontractors licensed pursuant to chapter 624 of the Nevada Revised Statutes (NRS).*

### **105.9 On-site and off-site improvements.**

*Prior to issuance of a permit, on-site and off-site improvements required by the approving agencies must be installed or secured pursuant to Douglas County Code section 20.720.120.*

- 1. On-site improvements may be required by the building official to meet requirements of this code, whichever is more stringent. All grading and revegetation must be completed prior to final inspection and the issuance of the certificate of occupancy. If grading and on-site improvements are impossible to complete because of inclement weather conditions or snow on the ground, security in the form permitted by Douglas County Code chapter 20.720 must be posted prior to issuance of a temporary certificate of occupancy. Completion of deferred improvements shall be made in accordance with an approved deferral agreement.*
- 2. Effect of failure to construct. The building official must deny final approval and acceptance and refuse to allow final public utility connection to any building or dwelling unless off-site and on-site improvements are either completed or adequately secured. Failure to construct the improvements within 90 days after the weather permits will result in automatic forfeiture of the security.*
- 3. Modification of requirements of inadequate drainage. When determined by the building official that area drainage facilities are inadequate and that the installation*

*of additional improvements would improve the public health welfare and safety, the building official may require that additional work be completed.*

### **107.1 General.**

Submittal documents consisting of construction documents, statement of special inspections, geotechnical reports and other data shall be submitted in two or more sets with each permit application. The construction documents, *as defined below*, shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

**Exception:** The building official is authorized to waive the submission of construction documents, and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that review of construction documents is not necessary to obtain compliance with this code.

1. *Construction Documents, include but are not limited to:*
  - a. *Plans, specifications, engineering calculations, diagrams, soil investigation reports, special inspection and structural observation programs and other data constitute the submittal documents and must be submitted with each application for a permit. When plans are not prepared by an architect or engineer, the building official may require the applicant submitting the plans or other data to demonstrate that state law does not require that the plans be prepared by a licensed architect or engineer. The Building Official may require plans, computations and specifications to be prepared and designed by an engineer or architect licensed by the State of Nevada even if not required by state law.*
  - b. *All electrical, mechanical and plumbing design for occupancies exceeding 5,000 square feet with the exceptions of:*
    - i. *B-occupancy not exceeding 10,000 square feet,*
    - ii. *S-occupancy not exceeding 30,000 square feet*
    - iii. *R-3 occupancy per IRC area and height limitations, and*
2. *U-1 occupancy per IRC area and height limitations. All plans, specifications, reports and other documents prepared by a registered professional must be stamped or sealed and signed in accordance with Nevada State law for the following documents:*
  - a. *All plans for new structures or buildings except for U-1 and R-3 occupancies.*



1. Final building permit valuation shall be set by the building official. *The Building Official may use the International Code Councils Building Valuation Data Chart and/or the Douglas County Assessor's approved area multipliers to assist in the determination of the final valuation.*

#### **110.3.4 Frame inspection.**

Framing inspections shall be made after *the building is dried in*, the roof deck or sheathing, all framing, fire-blocking and bracing are in place and pipes, chimneys and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes and ducts are approved.

#### **112.4 Newly constructed multiple-unit residential and commercial buildings.**

*Construction of multiple commercial and residential (R-3 structures) 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.*

#### **308.3 Institutional Group I-2.**

Institutional Group I-2 occupancy shall include buildings and structures used for medical care on a 24-hour basis for more than five persons who are incapable of self-preservation. This group shall include, but not be limited to, the following:

- Foster care facilities
- Detoxification facilities
- Hospitals
- Nursing homes
- Psychiatric hospitals

*All portions of a care facility which houses patients or residents which are classified by the State Board of Health as a 'Category 2 resident', and which has an occupant load of more than 10 residents, is classified as an 'I-2' occupancy classification.*

#### **308.5 Institutional Group I-4, day care facilities.**

Institutional Group I-4 occupancy shall include buildings and structures occupied by more than *three (3)* 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

**308.5.1 Classification as Group E.**

A child day care facility that provides care for more than *six (6)* 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.

**308.5.3 Three or fewer persons receiving care.**

A facility having *three* or fewer persons receiving custodial care shall be classified as part of the primary occupancy.

**308.5.4 Three or fewer persons receiving care in a dwelling unit.**

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

**310.4 Residential Group R-3.**

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

- Buildings that do not contain more than two dwelling units
- Care facilities that provide accommodations for *three (3) or more* persons receiving care
- Congregate living facilities (nontransient) with 16 or fewer occupants
- Boarding houses (nontransient)
- Convents
- Dormitories
- Fraternities and sororities
- Monasteries
- Congregate living facilities (transient) with 10 or fewer occupants
- Boarding houses (transient)
- Lodging houses (transient) with five or fewer guest rooms and 10 or fewer occupants

**310.5 Residential Group R-4.**

Residential Group R-4 occupancy shall include buildings, structures or portions thereof for more than five but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. Buildings of Group R-4 shall be classified as one of the occupancy conditions specified in Section 310.5.1 or 310.5.2. This group shall include, but not be limited to, the following:

Alcohol and drug centers  
Assisted living facilities  
Congregate care facilities  
Group homes  
Halfway houses  
Residential board and care facilities  
Social rehabilitation facilities  
*Reintegration facilities*  
*Transitional living facilities*

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

#### **403.5.3 Stairway door operation.**

Stairway doors other than the exit discharge doors shall be permitted to be locked from the stairway side. Stairway doors that are locked from the stairway side shall be capable of being unlocked simultaneously without unlatching upon a signal from the fire command center *or an activation of any fire alarm initiating device within the building or a failure of both the primary and backup power supplies.*

#### **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.

**[The entirety of SECTION 903 – AUTOMATIC SPRINKLER SYSTEMS is deleted, with the exception of Section 903.2, which is amended as set forth below.]**

#### **903.2 Where required.**

*Approved automatic sprinkler systems in all new structures built under the requirements of the International Building Code greater than 5,000 square feet or greater than 2 stories in height, shall be required to install an automatic fire sprinkler system in accordance with NFPA 13 or NFPA 13R. This requirement applies to all A, B, E, F, H, I, M, S and U Occupancies. This requirement shall be in addition to any other requirements as listed in IFC Section 102.5, NFPA 1142 or this Code. The system shall be installed by a contractor licensed in the State of Nevada. This requirement shall apply to any addition that increases the square footage to greater than 5,000 square feet, in accordance with NRS 278.586. Fire areas may be separated in accordance with IBC 707.3.10 or as required.*

#### **Exception:**

*Airport towers and open parking garages complying with IBC 406.5 are exempt from this requirement.*



**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 not less than 60 seconds, whichever is greater, in every occupiable space within the building. *The minimum sound pressure level of audible alarm notification appliances shall be 90 dBA in mechanical equipment rooms and 80 dBA in all other occupancies.*

**907.5.2.3 Visible alarms.**

Visible alarm notification appliances shall be provided in accordance with Sections 907.5.2.3.1 through 907.5.2.3.3.

**Exceptions:**

1. Visible alarm notification appliances are not required in alterations, except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.
2. Visible alarm notification appliances shall not be required in exits as defined in Chapter 2.
3. Visible alarm notification appliances shall not be required in elevator cars.
4. Visual alarm notification appliances are not required in critical care areas of Group I-2, Condition 2 occupancies that are in compliance with Section 907.2.6, Exception 2.
5. *Visible alarm notification appliances are not required in storage rooms, electrical rooms and mechanical rooms that are not normally occupied and are less than 400 square feet.*
6. *Visible alarm notification appliances are not required in janitor closets.*

**1010.1.9.12 Stairway doors.**

Interior stairway means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.

**Exceptions:**

1. Stairway discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3.
3. *In stairways serving buildings other than high-rise buildings, doors are permitted to be locked on the side opposite the egress side, provided that the doors can be opened from the egress side. Doors must automatically unlock upon the activation of a fire alarm system or a fire sprinkler waterflow alarm, or for a power failure. Exit discharge doors must remain unlocked.*

4. Stairway exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single exit stairway where permitted in Section 1006.3.3.
5. Stairway exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the dwelling unit is from a single exit stairway where permitted in Section 1006.3.3.

#### **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 1½ 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 (23 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. *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.*

#### **1503.1 General.**

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 *and installed* in accordance with this code and the manufacturer's approved 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.*

**Table 1608.2.1 Ground Snow Loads  $P_g$ , For Northern Nevada Locations  
[From 2018 Northern Nevada Amendments]**

Elevation In Feet	West of U.S. Hwy 395 <i>Eastern Sierra Slope, Douglas County, Pg (Pounds Per Square Foot)</i>	<i>West of U.S. Hwy 395 and East of Hwy 88, Douglas, County, Pg (Pounds Per Square Foot)</i>	East of U.S. Hwy 395 <i>Douglas County, Pg (Pounds Per Square Foot)</i>	All Nevada Counties, Lake Tahoe Basin Pg (Pounds Per Square Foot)
4500	30	30	30	-
5000	30	30	30	-
5100	41	31	31	-
5200	52	33	33	-
5300	64	34	34	-
5400	75	35	35	-
5500	86	40	37	-
6000	142	52	43	220
6500	171	64	43	235
7000	200	76	57	250
7500	215	88	57	265
8000	229	100	86	280
8500	243	-	86	295
9000	271	-	114	330
9500	300	-	142	390
10000	357	-	142	420

**1609.4.4 Douglas County Exposure Category.**

*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.*

**1803.1 General.**

Geotechnical investigations shall be conducted in accordance with Section 1803.2 and reported in accordance with Section 1803.6. Where required by the building official or where geotechnical investigations involve in-situ testing, laboratory testing or engineering calculations, such investigations shall be conducted

by a registered design professional. *The building official may require a soils investigation and foundation engineering on construction sites sloping in excess of 15 percent.*

**1808.10 Weathered foundations.**

*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.*

**1809.1 General.**

Shallow foundations shall be designed and constructed in accordance with Sections 1809.2 through 1809.13. *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.*

**Table 1809.7: Prescriptive Footings Supporting Walls of Light-Frame Construction. 1, 2, 3, 4, 5**

Number of floors Supported by the Foundation	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			Below 5999 ft. Elevation	Above 6000 ft. Elevation
1	8	8	16	8	18	24
2	8	8	16	8	18	24
3	10	10	18	10	18	24

**Footnotes:**

- 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.*

## INTERNATIONAL RESIDENTIAL CODE (IRC) REVISIONS

### **R105.1 Permits required.**

Any owner or owner's authorized agent who intends to construct, enlarge, alter, repair, move, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be performed, shall first make application to the building official *for each building or structure* and obtain the required permit *from the community development department*. *A single permit may be issued covering building, plumbing, electrical work for a single structure.*

### **R105.2 Work exempt from permit.**

Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of *Douglas County*. Permits shall not be required for the following:

#### **Building:**

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the *projected* floor area does not exceed 200 square feet (18.58 m<sup>2</sup>).
2. Fences not over 7 feet (2,134 mm) in height.
3. Retaining walls that are not over 4 feet (1,219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
4. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons (18,927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
5. *Platforms, sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade and not over any basement or story below and are not part of an accessible route.*
6. Painting, papering, tiling, carpeting, cabinets, countertops and similar finish work.
7. Prefabricated swimming pools *accessory to a Group R-3 Occupancy in which the pool walls are entirely above the adjacent grade and if the capacity does not exceed 5,000 gallons (18,927 L).*
8. Swings and other playground equipment *accessory to detached one- and two-family dwellings.*
9. Window awnings supported by an exterior wall *of Group R-3 and Group U Occupancies when projecting not more than 54 inches (1,372 mm) from the exterior wall and do not require additional support.*
10. *Non-fixed and movable cases, counters, and partitions not over 5 feet 9 inches (1,753 mm) in height.*

11. *Non-structural work up to \$2,000 valuation or a re-roof up to ten roofing squares in any 12-month period for Group R-3 and Group U occupancies.*

**Note:** *Unless otherwise exempted, separate plumbing, electrical and mechanical permits will be required for the above exempted items. Exemption from the permit requirements of this code does not grant authorization for any work to be done in a manner in violation of the provisions of this code or any other local, state, or federal requirements.*

[There are no additional revisions to the subsections of 105.2 related to Electrical, Gas, Mechanical, and Plumbing requirements, and those subsections shall remain in effect.]

### **R105.3 Application for permit.**

To obtain a permit, *the property owner or authorized representative shall first file with the building department a complete permit application therefor, digitally or on a form furnished by the community development department. The application must contain the following information:*

1. Identify and describe the work to be covered by the permit for which the application is made.
2. *Provide a legal description of the land on which the proposed work is to be done, Assessor's Parcel Number or APN, and the street address or similar description that will readily identify and definitely locate the proposed building or work.*
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by construction documents, *plans, diagrams, computations, specifications, and other information or data, as required in Section R106.1, drawn to scale and with clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations. For applications involving design review which are located within the towns of Genoa, Gardnerville or Minden, the plans must be reviewed by the respective town.*
5. State the valuation proposed work.
6. Be signed by the applicant or the applicant's authorized agent *or representative.*
7. Give such other data and information required by the building official.

### **R105.3.3 Comprehensive permit.**

*The Building Official may require that a comprehensive permit be taken out by the general contractor on all construction covered by the adopted construction codes. Before the permit is issued, the name, addresses and contractor's license numbers of all sub-contractors to be used by the general contractor may be required by the building official.*

### **R105.5 Expiration of permits.**

*Every permit issued by the building official expires and becomes void if the building or*

*work authorized by the permit is not commenced within 180 days from the date of the permit issuance.*

- 1. Any permittee holding an unexpired permit may apply for an extension of time within which work may commence under that permit when the permittee is unable to commence work within the time required by this section for good and satisfactory reason. The building official may extend the time for action by the permittee for a period not exceeding 180 days on written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. No permit may be extended more than once, unless approved by the Community Development Director.*
- 2. A permit issued by the building official for new single-family dwelling and duplex construction and additions to single family and duplex structures is valid for a maximum of five (5) years. The permit expires and becomes void after a period of three (3) years where the building official has not conducted an inspection and approved the framing for the structure. Where the framing is approved within three (3) years of issuance, the permit remains valid for a period not to exceed five (5) years from the date of issuance. Before work can be recommenced on a project which has not been completed or issued a certificate of occupancy, a new permit must be obtained. A fee in the amount of one-fourth (1/4) that required for a new permit for the work is required, provided the framing has been approved by the building official, no changes have been made or will be made in the original plans and specifications for the work, and provided that the plans were approved under the prevailing adopted codes. A fee in the amount of one-half (1/2) that required for the original new permit fee for the work is required where the framing has not been approved by the building official, no changes have been made or will be made in the original plans and specifications for the work, and provided that the plans were approved under the prevailing, current adopted codes.*
- 3. Except as provided in section 2, above, a permit issued by the building official expires and becomes void after a period of two years from the date of issuance. Where a 180-day extension has been granted for commencement of work, the permit expires after a period of two years and six months from the date of issuance. Before work can be recommenced, a new permit must be obtained. A fee in the amount of one-half that required for a new permit for the work is required where no changes have been made or will be made in the original plans and specifications for the work, and provided that the plans were approved under the prevailing adopted codes.*
- 4. All EZ permits are valid for a period of 180 days. Should the permit expire, a one-time extension can be applied for in writing and must approved by the building official. This extension would be good for an addition 180 days and is free of charge. Should the permit expire, a new permit must be obtained before any work can commence for a fee of one-fourth (1/4) of the original permit fee providing no changes to the scope of work and that the original permit was issued under the*



*current adopted codes.*

- 5. An application for which no permit is issued within 180 days following the date of notification that the permit is ready to issue will expire, and plans and other data submitted for review must be returned to the applicant or destroyed by the building official. The building official may extend the time for action by the applicant for a period not exceeding 180 days on written request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken. No application may be extended more than once. In order to renew action on an application after expiration, the applicant must pay a fee of one-half (1/2) that required for the original new permit fee. A resubmittal of plans is not required provided that the plans were approved under the prevailing, current adopted codes.*

***R105.10 Permits issuance.***

*The application, plans, construction documents, computations and other data filed by an owner or owner's authorized agent for a permit must be reviewed by the building official. The plans may also be reviewed by other departments to verify compliance with any applicable laws under their jurisdiction. If the building official finds that the work described in an application and the accompanying plans, construction documents and other data filed conform to the requirements of this code and other pertinent laws and ordinances, and that the required fees have been paid, the building official must issue a permit to the applicant.*

- 1. When the building official determines that the permit may be issued, he must endorse the approval in writing or stamp any required plans and construction documents "approved." The approved plans and construction documents must not be changed, modified or altered without authorizations from the department, and all work regulated by this code must be done in accordance with the approved plans.*
- 2. The building official may issue a permit for the construction of part of a building or structure before the entire plans and construction documents for the whole building or structure have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. Permits must be limited to work permitted.*
- 3. Permits for commercial work may be issued only to contractors and subcontractors licensed pursuant to chapter 624 of the Nevada Revised Statutes (NRS).*

***R105.11 On-site and off-site improvements.***

*Prior to issuance of a permit, on-site and off-site improvements required by the approving agencies must be installed or secured pursuant to Douglas County Code section 20.720.120.*

- 1. On-site improvements may be required by the building official to meet requirements of this code, whichever is more stringent. All grading and*

*revegetation must be completed prior to final inspection and the issuance of the certificate of occupancy. If grading and on-site improvements are impossible to complete because of inclement weather conditions or snow on the ground, security in the form permitted by Douglas County Code chapter 20.720 must be posted prior to issuance of a temporary certificate of occupancy. Completion of deferred improvements shall be made in accordance with an approved deferral agreement.*

- 2. Effect of failure to construct. The building official must deny final approval and acceptance and refuse to allow final public utility connection to any building or dwelling unless off-site and on-site improvements are either completed or adequately secured. Failure to construct the improvements within 90 days after the weather permits will result in automatic forfeiture of the security.*
- 3. Modification of requirements of inadequate drainage. When determined by the building official that area drainage facilities are inadequate and that the installation of additional improvements would improve the public health welfare and safety, the building official may require that additional work be completed.*

**R106.5 Retention of plans, construction documents.**

*One set of approved and stamped plans, construction documents and computations must be retained by the department in accordance with county records retention policies, and one set of approved stamped plans, construction documents and computation must be kept on the site of the building or work at all times when the work authorized is in progress.*

**R108.2 Schedule of permit fees.**

On buildings, structures, electrical, gas, mechanical, and plumbing systems or alterations requiring a permit, a fee for each permit *and any additional fees* shall be paid as *passed by resolution of the Board of County commissioners.*

- 1. When submittal documents are required by section R105.3 a plan review fee must be paid at the time the documents are submitted. The plan review fee is sixty-five percent (65%) of the building permit fee. The plan review fees specified in this subsection are separate fees from and in addition to the permit fees required in 109.2, and associated technology fee. When submittal documents are incomplete or changes are numerous or substantial an additional plan review is required or when the project involves deferred submittal items, an additional plan review fee must be charged in accordance with the fee schedule.*

**R108.3 Building permit valuations.**

*The applicant for a permit shall provide an estimated project value at time of application. Valuations shall include total value of work, including; materials and labor, all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire-*

*extinguishing systems and any other permanent equipment. If, in the opinion of the Building Official, the valuation is underestimated on the application, the permit shall be denied, unless the applicant can show detailed estimates to meet the approval of the Building Official.*

- 1. Final building permit valuation shall be set by the building official. The Building Official may use the International Code Councils Building Valuation Data Chart and/or the Douglas County Assessor's approved area multipliers to assist in the determination of the final valuation.*

**R302.6 Dwelling-garage fire separation.** The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with section R302.5. Attachment of gypsum board shall comply with table R702.3.5. The wall separation provisions of Table R302.6 shall not apply to garage walls that are perpendicular to the adjacent dwelling unit wall.

**TABLE R302.6  
DWELLING-GARAGE SEPARATION**

<b>SEPARATION</b>	<b>MATERIAL</b>
From the residence and attics	Not less than <i>a 1-hour listed assembly</i> applied to the garage side wall from garage slab to bottom of roof decking
From habitable rooms above the garage	Not less than <i>a 1-hour listed assembly applied to the garage interior</i>
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

**Exception:** *When automatic fire sprinklers are installed within the living space and the garage of any single or multi-family residence in accordance with Section P2904 of this code or NFPA 13D, then a 1/2 hour listed assembly may be substituted for a 1-hour listed assembly.*

**R309.8 Driveways.** *For every private access from a public way provided with a driveway, the driveway must not exceed a maximum gradient between vertical transitions of 14% (i.e., 1 3/4 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.*

**R313.1 Townhouse automatic fire sprinkler systems. NRS 278.586 (6) b.**  
*changes the definition of a townhouse to a unit that shares a common wall with two or more units. It further deems townhouses as not a "Residential dwelling unit". Therefore, all townhouses shall be constructed under the International Building Code.*

**R313.2 One- and two-family dwellings automatic fire sprinkler systems.**  
*An automatic residential fire sprinkler system shall be installed within the Tahoe Douglas Fire District in all newly constructed one- and two-family dwellings and within the East Fork Fire District in all newly constructed one- and two-family dwellings greater than 5,000 sq. ft. of living space. This requirement shall apply to any addition that increases the living space to greater than 3,600 square feet within the Tahoe Douglas Fire District or to greater than 5,000 square feet within the East Fork Fire District. In the event a fire sprinkler system is required, it shall also be required in any attached garage.*

**Table R403.1: Minimum footing and foundation requirements.** <sup>1, 2,</sup>  
<sup>3, 4, 5</sup> [Replacing Tables R403.1(1) through R403.1(3)]

Number of floors Supported by the Foundation	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			Below 5999 ft. Elevation	Above 6000 ft. Elevation
1	8	8	16	8	18	24
2	8	8	16	8	18	24
3	10	10	18	10	18	24

Footnotes:

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.

**R403.1.1 Minimum footing size.**

*Minimum footing dimension shall be specified in Table R403.1. 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 than 48 inches in height shall be designed by a Nevada professional engineer.*

**SECTION R1007  
APPLIANCE EMISSIONS**

**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.*

**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.*

**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.*

**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.*

**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.*

**P2603.5: Freezing.**

In localities having a winter design temperature of 32°F (0°C) 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 *30 inches (762 mm)* deep and not less than 6 inches (152 mm) below the frost line.

**P2903.3.1: Maximum pressure.**

*Maximum static pressure shall be 80 psi (551 kPa). When the main pressure exceeds 65 psi (448 kPa), an approved pressure-reducing valve conforming to American Society of Sanitary Engineering (ASSE) 1003 shall be installed, preceded by an adequate strainer 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).*

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

*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 caused by 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:

- a) 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.
  - b) 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.
  - c) 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.
  - d) 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 (1/2) inch in diameter.*

#### **P2904.1.1 Required sprinkler locations.**

Sprinklers shall be installed to protect all areas of a dwelling unit.

##### **Exceptions:**

1. Attics, crawl spaces and normally unoccupied concealed spaces that do not contain fuel-fired appliances do not require sprinklers. In attics, crawl spaces and normally unoccupied concealed spaces that contain fuel-fired equipment, a sprinkler shall be installed above the equipment; however, sprinklers shall not be required in the remainder of the space.
2. Clothes closets, linen closets and pantries not exceeding 24 square feet (2.2 m<sup>2</sup>) in area, with the smallest dimension not greater than 3 feet (915 mm) and having wall and ceiling surfaces of gypsum board.
3. Bathrooms not more than 55 square feet (5.1 m<sup>2</sup>) in area.
4. *Carports*; exterior porches; unheated entry areas, such as mud rooms, that are adjacent to an exterior door, and similar areas.

#### **P3005.4 Drain pipe sizing.**

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.*

**SECTION P3012**  
**PRIVATE SEWAGE DISPOSAL SYSTEM**

**P3012.1. General.**

*Whenever a private sewage disposal system is required, the type, size, construction and location of the individual sewage disposal system shall be designed in accordance with Nevada Administrative Code (NAC), sections 444.750 through 444.8396. Examination and approval of any proposed private sewage disposal system is required before issuance of any permit. An engineered denitrification system will be required for all new and failed existing systems in locations where the septic density exceeds the allowed density limit per NDEP regulations.*

**P3012.2 Operational duties.**

*Operational duties of individual sewage disposal system (ISDS) shall be the duty of the property owner, and any person occupying private property under lease or by permission of the owner, on which is located a building or structure intended for human occupancy whose sole means of sewage disposal is a septic tank or ISDS, to properly operate and maintain such system in good working condition, free of odor, at all times. Any continued violation of this section shall constitute grounds for discontinuance or revocation of any permit issued for such system and for revocation or suspension of any certificate of occupancy for the building or structure served.*

**P3012.3 Fees.**

*A fee set by resolution of the board must be paid when application is made for a private sewage disposal system.*

**E3601.2 Number of services.**

*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.*

**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.*

**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.*

**E4209.4 Accessibility.**

Hydromassage bathtub electrical equipment shall be accessible without damaging the building structure or building finish, *and no access shall be allowed through the under floor or crawl space.* Where the hydromassage bathtub is cord- and plug-connected with the supply receptacle accessible only through a service access opening, the receptacle shall be installed so that its face is within direct view and not more than 12 inches (305 mm) from the plane of the opening.

## UNIFORM MECHANICAL CODE (UMC) REVISIONS

### **104.1 Permits Required.**

It shall be unlawful for a person, firm, or corporation to make an installation, alteration, repair, replacement, or remodel a mechanical system regulated by this code except as permitted in Section 104.2 or to cause the same to be done without first obtaining a separate mechanical permit for each separate building or structure. *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.*

### **104.5 Fees.**

*Fees are computed on the basis of the work to be performed as set by resolution of the board.*

### **1001.1 Applicability.**

The requirements of this chapter shall apply to the construction, installation, operation, repair and alteration of boilers and pressure vessels. Low-pressure boilers shall comply with this chapter and Section 904.0.

#### **Exceptions:**

- (1) Listed and approved *boilers and* water heaters with a nominal capacity *less than* 120 gallons (454 L), *or* having a heat input *less than* 200,000 British thermal units per hour (Btu/h) (58.6 kW), *or* with *less than* 160 pounds-force per square inch (psi) (1103 kPa) of pressure, shall comply with 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.

[The remaining exceptions remain in effect without modification.]

## **UNIFORM PLUMBING CODE (UPC) REVISIONS**

### **104.1 Permits required.**

It shall be unlawful for a person, firm, or corporations to make an installation, alteration, repair, replacement, or remodel a plumbing system regulated by this code except as permitted in Section 104.2 or to cause the same to be done without first obtaining a separate plumbing permit for each separate building or structure. *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.*

### **104.5 Fees.**

*Plumbing permit fees must be computed on the basis of the work to be performed as set by resolution of the board.*

### **603.2 Approval of devices and assemblies.**

*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 (tenth 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.*

### **604.7 Malleable Iron Fittings.**

*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.*

### **608.2 Excessive water pressure.**

*Where local static water pressure is in excess of sixty-five (65) pounds force per square inch (psi, 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 610.4.*

**610.1 Size.**

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 610.4, the system shall be designed to assure that the maximum velocities allowed by the code and the applicable standard are not exceeded.*

# NATIONAL ELECTRICAL CODE (NEC) REVISIONS

## Article 90 Introduction

### 90.2 Scope.

#### **(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.*

## Article 100 Definitions

***Electrical inspector.*** *An individual authorized to perform electrical inspections by the Building Official.*

## Article 230 Services

### 230.2 Number of Services.

#### **(B) Special Occupancies**

By special permission *of the building official*, additional services shall be permitted for *any* of the following:

- (1) Multiple-occupancy buildings where there is no available space for service equipment accessible to all occupants
- (2) A single building or other structure sufficiently large to make two or more services necessary

- (3) *Residential or agricultural properties determined to be one-acre or less*
- (4) *Accessory dwellings approved by the County, with the electrical service installed per 230.62*

**230.63 Grouping.**

*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.*

**230.64 Identification.**

*Service equipment that is grouped in centralized locations to comply with 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.*

**Article 680 Swimming Pools, Fountains, and Similar Installations**

**680.73 Accessibility.**

*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.*

**Informative Annex H – Administration and Enforcement**

**80.13 Authority.**

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 authority having jurisdiction, 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 any 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 subsection (2) is deleted.  
Subsections (3) through (15) shall remain in effect.]

[**80.15 Electrical Board** is deleted.]

### **80.19 Permits and approvals.**

#### **(C) Issuance of Permits.**

The authority having jurisdiction shall be authorized to establish and issue permits, certificates, notices, and approvals, or orders pertaining to electrical safety hazards pursuant to 80.23, except that no permit shall be required to execute any of the classes of electrical work specified in the following:

- (1) Installation or replacement of equipment such as lamps and of electric utilization equipment approved for connection to suitable permanently installed receptacles
- (2) Replacement of flush or snap switches, fuses, lamp sockets, and receptacles, and other minor maintenance and repair work, such as replacing worn cords and tightening connections on a wiring device
- (3) The process of manufacturing, testing, servicing, or repairing electrical equipment or apparatus
- (4) *Such items designated in writing by the Building Official.*

[**(D) Annual Permits** is deleted.]

#### **(F) Inspections and approvals.**

- (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 the supply 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 the 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.

[Subsection (4) is deleted.]

- (5) 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.

[(H) **Applications and Extensions** is deleted.]

### **80.25 Connection to Electricity Supply.**

#### **(A) Authorization.**

*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 provision.

#### **(E) 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.

### **80.27 Inspector's Qualifications.**

#### **(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 certificate of qualification.

**(B) Experience.**

Electrical Inspector applicants shall demonstrate the following:

- (1) Have a 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.

[Subsection (4) is deleted.]

[(C) **Recertification** is deleted.]

**(D) Revocation and Suspension of Authority.**

The *Building Official* shall have the authority to revoke an inspector's authority to conduct inspections within a jurisdiction.

**80.29 Liability for damages.**

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.

# INTERNATIONAL ENERGY CONSERVATION CODE (IECC) REVISIONS

## IECC – Commercial Provisions

### Section C202 Definitions.

**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 lamp holder 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".*

### **C402.5. Air leakage—thermal envelope (Mandatory).**

The thermal envelope of buildings shall comply with Sections C402.5.1 through C402.5.9. [The remainder of Section C402.5 is deleted.]

### **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 or owner's authorized agent and made available to the code official upon request in accordance with sections C408.2.4 and C408.2.5.

**Exceptions:** 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 (140.7 kW) cooling capacity and 600,000 Btu/h (175.8 kW) *heating capacity*.
2. *Systems included in section C403.3 that serve dwelling units and sleeping units in hotels, motels, boarding houses or similar units.*

**C408.2.5 Documentation requirements.** The construction documents shall specify that the documents described in this section be provided to the building owner or owner's authorized agent *and the Building Official prior to* receipt of the certificate of occupancy.

## **IECC – Residential Provisions**

### **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 than 2 inches of water column (500 pa) pressure classification shall not require additional closure systems.*

### **R403.3.3 Duct testing (Mandatory).**

Ducts shall be pressure tested to determine air leakage by one of the following methods:

- 1. Rough-in test: Total leakage shall be less than or equal to 6 cfm (169.9 L/Min) per 100 square feet (9.29M<sup>2</sup>) 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 m<sup>2</sup>) of the conditioned floor area.*
- 2. Post-construction 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 (9.29M<sup>2</sup>) 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.*

***Exception:*** *The total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope. [Exception 2 is deleted.]*

A written report of the results of the test shall be signed by the party conducting the test and provided to the code official.

#### **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 Coefficients 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 R-value of R-6*.

#### **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.*

##### **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.*

#### **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*.

##### **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.*

##### **R406.6.5 Input values.**

Where calculations require input values not specified by Sections R402, R403, R404, and R405, those input values shall be taken from *ANSI/RESNET/ICC 301 current edition with addendums*.

## Chapter 6 Referenced Standards

### **IAPMO**

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

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<i>Standard reference number</i>	<i>Title</i>	<i>Reference in code section number</i>
<i>UMC-2018</i>	<i>Uniform Mechanical Code®</i>	<i>R201.3, R303.2, R402.2.10, R403.2.2, R403.5</i>
<i>UPC-2018</i>	<i>Uniform Plumbing Code®</i>	<i>R201.3</i>

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## **INTERNATIONAL FUEL GAS CODE (IFGC) REVISIONS**

***406.2.1 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.*

## **TITLE 20**

### **APPENDIX B1**

#### **East Fork Fire Protection District Amendments to the IFC and WUI Codes.**

##### **INTERNATIONAL FIRE CODE (IFC) REVISIONS**

For the East Fork Fire Protection District, Douglas County incorporates by reference into this Appendix B1 of Title 20, all those revisions to the 2018 International Fire Code set forth in East Fork Fire Protection District Resolution 2023R-011, recorded in the official records of Douglas County, Nevada as Document Number 2024-1004234.

##### **INTERNATIONAL WILDLAND URBAN INTERFACE CODE (WUI) REVISIONS**

For the East Fork Fire Protection District, Douglas County incorporates by reference into this Appendix B1 of Title 20, all those revisions to the 2018 International Wildland Urban Interface Code set forth in East Fork Fire Protection District Resolution 2023R-012, recorded in the official records of Douglas County, Nevada as Document Number 2024-1004234.



## **TITLE 20**

### **APPENDIX B2**

#### **Tahoe Douglas Fire Protection District Amendments to IFC and WUI Codes.**

##### **INTERNATIONAL FIRE CODE (IFC) REVISIONS**

For the Tahoe Douglas Fire Protection District, Douglas County incorporates by reference into this Appendix B2 of Title 20, all those revisions to the 2018 International Fire Code set forth in Tahoe Douglas Fire Protection District Resolution 012-2023, recorded in the official records of Douglas County, Nevada as Document Number 2024-1004455.

##### **INTERNATIONAL WILDLAND URBAN INTERFACE CODE (WUI) REVISIONS**

For the Tahoe Douglas Fire Protection District, Douglas County incorporates by reference into this Appendix B2 of Title 20, all those revisions to the 2018 International Wildland Urban Interface Code set forth in Tahoe Douglas Fire Protection District Resolution 012-2023, recorded in the official records of Douglas County, Nevada as Document Number 2024-1004455.

