



STAFF REPORT

Report To: Board of Supervisors **Meeting Date:** February 21, 2019

Staff Contact: Lee Plemel, Community Development Director

Agenda Title: For Possible Action: To introduce, on first reading, Bill No. ____, an ordinance amending Title 15, Buildings and Construction, Chapter 15.05, Building Code, Section 15.05.020, Adoption and Administration of Building and Construction Codes, by adopting the 2018 editions of the International Building Code, Uniform Plumbing Code, International Residential Code, Uniform Mechanical Code, International Mechanical Code, International Energy Conservation Code, International Property Maintenance Code, International Existing Building Code, International Fuel Gas Code, International Swimming Pool and Spa Code, the 2017 edition of the National Electrical Code, and the 2018 Northern Nevada Amendments to these codes. (Lee Plemel, lplemel@carson.org)

Staff Summary: The International Code Council updates building and construction codes every three years, with the latest versions being the 2018 editions. Northern Nevada has traditionally adopted these codes every other code cycle, or every six years. Regional code officials as stakeholders in the building industry have been working on this adoption for over a year, and are recommending the adoption of the latest codes with certain amendments for the Northern Nevada region. It is recommended for the new codes to become effective as of July 1, 2019, with the ability of design professionals to use the new codes prior to that date.

Agenda Action: Ordinance - First Reading **Time Requested:** 10 minutes

Proposed Motion

I move to introduce, on first reading, Bill No. ____.

Board's Strategic Goal

Safety

Previous Action

N/A

Background/Issues & Analysis

The adoption of the new codes will create consistency in code adoption among communities in our region, including Washoe County, Lyon County and Douglas County. Washoe County, Reno and Sparks have already adopted the codes with the Northern Nevada Amendments, and Lyon County and Douglas County are scheduled to adopt the codes in February. It is recommended for the new codes to become effective as of July 1, 2019, in order to give design professionals time to prepare plans to the new codes, with the option to use the new codes prior to that date.

In addition to the adoption of the updated international and uniform codes and a few technical corrections, the Building Division is recommending to increase the size of accessory storage sheds that are exempt from

obtaining a building permit from 120 square feet to 200 square feet. This is consistent with the exemption for other surrounding counties in the region.

The administrative portion of the International Building Code (Sections 100-118) is incorporated into the Carson City Municipal Code in Title 15. All other international and uniform codes, including the Northern Nevada Amendments, are adopted by reference through the proposed ordinance.

Applicable Statute, Code, Policy, Rule or Regulation

CCMC Title 15; NRS Chapter 244; Article 2 of the Carson City Charter.

Financial Information

Is there a fiscal impact? No

If yes, account name/number:

Is it currently budgeted? No

Explanation of Fiscal Impact:

Alternatives

Make modifications to the 2018 Northern Nevada Amendments to the international and uniform codes that would apply in Carson City.

Attachments:

[Title15Ord-BuildingCodeAdoption.docx](#)

[Title 15 Combined Attachments.pdf](#)

Board Action Taken:

Motion: _____

- 1) _____
- 2) _____

Aye/Nay

(Vote Recorded By)

Summary: An ordinance updating Title 15, Chapter 15.05 of the Carson City Municipal Code, related to the adoption of the 2018 versions of the International Building Code and related building trade codes.

BILL NO. ____

ORDINANCE NO. 2019 - ____

AN ORDINANCE AMENDING TITLE 15, BUILDINGS AND CONSTRUCTION, CHAPTER 15.05, BUILDING CODE, SECTION 15.05.020, ADOPTION AND ADMINISTRATION OF BUILDING AND CONSTRUCTION CODES, BY ADOPTING THE 2018 EDITIONS OF THE INTERNATIONAL BUILDING CODE, UNIFORM PLUMBING CODE, INTERNATIONAL RESIDENTIAL CODE, UNIFORM MECHANICAL CODE, INTERNATIONAL MECHANICAL CODE, INTERNATIONAL ENERGY CONSERVATION CODE, INTERNATIONAL PROPERTY MAINTENANCE CODE, INTERNATIONAL EXISTING BUILDING CODE, INTERNATIONAL FUEL GAS CODE, INTERNATIONAL SWIMMING POOL AND SPA CODE, THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE, AND THE 2018 NORTHERN NEVADA AMENDMENTS TO THESE CODES.

The Board of Supervisors of Carson City do ordain:

SECTION I:

That Title 15 (Building and Construction), Chapter 15.05 (Building Code), Section 15.05.020 (Adoption and Administration of Building and Construction Codes) is hereby amended as follows (**bold, underlined** text is added, ~~stricken~~ text is deleted):

15.05.020 - Adoption and administration of Building and Construction Codes.

100	Adopted Codes
101	General
102	Applicability
103	Department of Building Safety
104	Duties and Powers of Building Official
105	Permits
106	Floor and Roof Design Loads
107	Submittal Documents
108	Temporary Structures and Uses
109	Fees

110	Inspections
111	Certificate of Occupancy
112	Service Utilities
113	Board of Appeals
114	Violations
115	Stop Work Order
116	Unsafe Structures and Equipment
117	Workmanship and Fabrication
118	Moving and Demolition

Carson City hereby adopts the following codes and appendices and the amended administrative provision from the International Building Code which are applicable to all of the adopted codes as follows:

SECTION 100 - ADOPTED CODES

100.10 Adopted codes. The following nationally recognized codes are hereby adopted by Carson City, together with the supplements, listed changes, additions and deletions as noted below:

1. [2012] **2018** Edition, International Building Code ("IBC"), chapters 2 through 34 and Appendices C, H, I and J as amended.
2. [2012] **2018** Edition, Uniform Plumbing Code ("UPC"), chapters 2 through 17 and IAPMO Installation Standards and Appendices A, B, C, D, E, G, H, I, J, K and L.
3. [2012] **2018** Edition, International Residential Code ("IRC"), chapters 2 through 43 and Appendices A, B, C, G, H, J and K as amended.
4. [2012] **2018** Edition, Uniform Mechanical Code ("UMC"), chapters 2 through 17 and Appendices B, C and F as amended.
5. [2012] **2018** Edition, International Mechanical Code ("IMC"), chapters 2 through 15 and Appendix A.
6. [2014] **2017** Edition, National Electrical Code ("NEC").
7. [2012] **2018** Edition, International Energy Conservation Code, ("IECC").
8. [2012] **2018** International Property Maintenance Code, ("IPMC"), chapters 2 through 7.
9. [2012] **2018** International Existing Building Code, ("IEBC"), chapters 1 through 15.
10. [2012] **2018** International Fuel Gas Code, ("IFGC"), chapters 2 through 7 and Appendices A, B and C.
11. [2012] **2018** International Swimming Pool and Spa Code, (ISPSA), chapters 2 through 11.
12. [2012] **2018** Northern Nevada Amendments.

[13.—2015 Northern Nevada Energy Code Amendments.]

100.20 Definition of words and terms. As used in the adopted codes and sections 100.010 to 116.10, inclusive, of the Carson City Code.

1. "Jurisdiction" and other similar terms shall be construed to mean Carson City.

Part 1—Scope and Application

SECTION 101 - GENERAL

101.1 Title. These regulations shall be known as the Building Code of Carson City, hereinafter referred to as "this code."

Any duty created by this code or based on this code runs to the public, and no private cause of action is created by a breach of such duty. No document, certificate, inspection or approval given pursuant to this code may be construed to be a representation or warranty of any kind, including without limitation a representation or warranty that a building or structure is complete, that it is in compliance with this code or any other law, that it was inspected, that it is safe or ready for occupancy or that it meets any particular degree of quality of workmanship. The amount and quality of inspection and other services provided is discretionary with the building official and may vary in response to the amount of staff, their work load, training and experience, funding and other pertinent factors affecting whether and how inspection is made or whether any hazard, deficiency or similar matter is observed.

101.2 Scope. The provisions of this code shall apply to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

Exception: Detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories above grade plane in height with a separate means of egress and their accessory structures shall comply with the International Residential Code.

101.2.1 Appendices. Provisions in the appendices shall not apply unless specifically adopted.

101.3 Intent. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations.

101.4 Referenced codes. The other codes listed in Sections 101.4.1 through 101.4.6 and referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference.

101.4.1 Gas. The provisions of the International Fuel Gas Code shall apply to the installation of gas piping from the point of delivery, gas appliances and related accessories as covered in this code. These requirements apply to gas piping systems extending from the point of delivery to the inlet connections of appliances and the installation and operation of residential and commercial gas appliances and related accessories.

101.4.2 Mechanical. The provisions of the International Mechanical Code and the Uniform Mechanical Code shall apply to the installation, alterations, repairs and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or appurtenances, including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators and other energy-related systems.

101.4.3 Plumbing. The plumbing provisions of the Uniform Plumbing Code shall apply to the installation, alteration, repair and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewage system and all aspects of a medical gas system.

101.4.4 Property maintenance. The provisions of the International Property Maintenance Code shall apply to existing structures and premises; equipment and facilities; light, ventilation, space heating, sanitation, life and fire safety hazards; responsibilities of owners, operators and occupants; and occupancy of existing premises and structures.

101.4.5 Fire prevention. The provisions of the International Fire Code shall apply to matters affecting or relating to structures, processes and premises from the hazard of fire and explosion arising from the storage, handling or use of structures, materials or devices; from conditions hazardous to life, property or public welfare in the occupancy of structures or premises; and from the construction, extension, repair, alteration or removal of fire suppression and alarm systems or fire hazards in the structure or on the premises from occupancy or operation.

101.4.6 Energy. The provisions of the International Energy Conservation Code shall apply to all matters governing the design and construction of buildings for energy efficiency.

SECTION 102 - APPLICABILITY

102.1 General. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

102.2 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

102.3 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

102.4 Referenced codes and standards. The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.4.1 and 102.4.2.

102.4.1 Conflicts. Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

102.4.2 Provisions in referenced codes and standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of the code or the International Codes listed in Section 101.4, the provisions of this code or the International Codes listed in Section 101.4, as applicable, shall take precedence over the provisions in the referenced code or standard.

102.5 Partial invalidity. In the event that any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

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

Part 2—Administration and Enforcement

SECTION 103 - BUILDING DIVISION

103.1 Creation of enforcement agency. The Building Division is hereby created and the official in charge thereof shall be known as the building official.

103.2 Appointment. The building official shall be appointed by the chief appointing authority of the jurisdiction.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the appointing authority, the building official shall have the authority to appoint a deputy building official, the related technical officers, inspectors, plan examiners and other employees. Such employees shall have powers as delegated by the building official.

SECTION 104 - DUTIES AND POWERS OF BUILDING OFFICIAL

104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code. For such purposes, the building official shall have the power to issue citations. The building official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

104.2 Applications and permits. The building official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

104.3 Notices and orders. The building official shall issue all necessary notices or orders to ensure compliance with this code.

104.4 Inspections. The building official shall make all of the required inspections, or the building official shall have the authority to accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The building official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

104.5 Identification. The building official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

104.6 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a structure or upon a premises a condition which is contrary to or in violation of this code which makes the structure or premises unsafe, dangerous or hazardous, the building official is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the building official shall first make a reasonable effort to locate the owner or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to the remedies provided by law to secure entry.

104.7 Department records. The building official shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records.

104.8 Liability. The building official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered liable personally and is hereby relieved from personal

liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties. Any suit instituted against an officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by legal representative of the jurisdiction until the final termination of the proceedings. The building official or any subordinate shall not be liable for cost in any action, suit, or proceeding that is instituted in pursuance of the provisions of this code.

104.9 Approved materials and equipment. Materials, equipment and devices approved by the building official shall be constructed and installed in accordance with such approval.

104.9.1 Used materials and equipment. The use of used materials which meet the requirements of this code for new materials is permitted. Used equipment and devices shall not be reused unless approved by the building official.

104.10 Modifications. Wherever there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, upon application of the owner or owner's representative, provided the building official shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of action granting modifications shall be recorded and entered in the files of the department of building safety.

104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.

104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

104.11.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

SECTION 105 - PERMITS

105.1 Required. Any owner or 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 done, shall first make application to the building official and obtain the required permit.

Permits for commercial buildings shall be issued only to persons in conformance with Nevada State Contractors law.

105.1.1 Annual permit. In lieu of an individual permit for each alteration to an already approved electrical, gas, mechanical or plumbing installation, the building official is authorized to issue an annual permit upon application therefore to any person, firm or corporation regularly employing one or more qualified trade persons in the building, structure or on the premises owned or operated by the applicant for the permit.

105.1.2 Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under such annual permit. The building official shall have access to such records at all times or such records shall be filed with the building official as designated.

105.2 Work exempt from permit. Exemptions from 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 this jurisdiction. 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 floor area does not exceed [420] **200** square feet (11 m²).
2. Fences not over 6 feet (1829 **mm**) high.
3. Oil derricks.
4. Retaining walls that are not over 4 feet (1219 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 on grade if the capacity does not exceed 5,000 gallons (18 925 L) and the ratio of height to diameter or width does not exceed 2:1.
6. Patios, decks, 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, counter tops 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 that are less than 24 inches (610 mm) deep, do not exceed 5,000 gallons (18 925 L) and are installed entirely above ground.
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 supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support of Group R-3 and U occupancies.
13. Nonfixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753 mm) in height.
14. Roofing repair if the roof is less than 100 square feet.
15. Door and window replacement when the opening size and location remain the same.
16. For glass only replacements (commercial store fronts) in an existing sash and frame, when minor in scope and located in the same elevation.

Electrical:

Repairs and maintenance: Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.

Radio and television transmitting stations:

The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for a power supply and the installations of towers and antennas.

Temporary testing systems: A permit shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

Gas:

1. Portable heating appliance.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

Mechanical:

1. Portable heating appliance.
2. Portable ventilation equipment.
3. Portable cooling unit.

4. Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part that does not alter its approval or make it unsafe.
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds (5 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste or vent pipe, provided, however, that if any concealed trap, drain pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

105.2.1 Emergency repairs. Where equipment replacements and repairs must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the building official.

105.2.2 Repairs. Application or notice to the building official is not required for ordinary repairs to structures, replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

105.2.3 Public service agencies. A permit shall not be required for the installation, alteration or repair of generation, transmission, distribution or metering or other related equipment that is under the ownership and control of public service agencies by established right.

105.3 Application for permit. To obtain a permit, the applicant shall first file an application therefore in writing on a form furnished by the building division for that purpose. Such application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, 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 and other information as required in Section 107.
5. State the valuation of the proposed work.
6. Be signed by the applicant, or the applicant's authorized agent.
7. Give such other data and information as required by the building official.
8. Prior to issuance of a permit to move or demolish a building or structure, a minimum \$5,000.00 bond shall be posted to guarantee full compliance with all terms and conditions as specified on the application.
9. Exception: With approval of the building official, small structures that don't pose a hazard may be demolished without posting a bond.

105.3.1 Action on application. The building official shall examine or cause to be examined applications for permits and amendments thereto within a reasonable time after filing. If the application or the construction documents do not conform to the requirements of pertinent laws, the building official shall reject such application in writing, stating the reasons therefore. If the building official is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the building official shall issue a permit therefore as soon as practicable.

105.3.2 Time limitation of application. Applications for which no permit is issued within 180 days following the date of application shall expire by limitation, and plans and other data submitted for review may thereafter be returned to the applicant or destroyed by the building official. The building official may extend the time frame for action by the applicant for a period not exceeding 180 days on request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken. No application shall be extended more than once. In order to renew action on an application after expiration, the applicant shall resubmit plans and pay a new plan review fee.

105.4 Validity of permit. The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not prevent the building official from requiring the correction of errors in the construction documents and other data. The building official is also authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of this jurisdiction.

105.5 Expiration. Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. In order to renew action on a permit after expiration, the permittee shall pay a new full permit fee.

Any permittee holding an unexpired permit may apply for an extension of the 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 reasons. 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 shall be extended more than once.

All permits issued by the building official under the provisions of this code expire by limitation and become null and void 18 months after the date of issuance. Any permittee holding an unexpired permit may apply for an 18-month extension when the permittee is unable to complete the permitted work within 18 months of permit issuance or within 18 months of the granting of an extension. The building official is authorized to approve not more than two 18-month extensions to a valid permit. If the permittee is unable to complete the work within the time frame allowed by the two aforementioned extensions, the permittee may make application through the Carson City Building Division for a third or subsequent extension. The third or subsequent extension request may only be approved by the Board of Supervisors.

Exception: Permits of a minor nature (ex. Re-roofing, FAU change out, water heaters, electrical service changes, etc.) expire by limitation and become null and void 6 months after the date of issuance.

105.6 Suspension or revocation. The building official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

105.7 Placement of permit. The building permit or copy shall be kept on the site of the work until the completion of the project.

105.8 Essential Off-Site and On-Site Improvements. Before a building permit shall be issued, provisions shall be made for the installation of essential off-site improvements in the public right-of-way immediately adjacent to the property on which the permit applied for is applicable if such provisions are required by Section 11.12.081 of the Carson City Municipal Code. The building official may require that the general contractor take out all permits required for essential on-site and off-site improvements and that such permits are to be issued at the same time that the building permit is issued.

Such installation of essential improvements shall be completed before the occupancy of the improvement for which the permit was issued.

SECTION 106 - Floor And Roof Design Loads

106.1 Live loads posted. Where the live loads for which each floor or portion thereof of a commercial or industrial building is or has been designed to exceed 50 psf (2.40kN/m²), such design live loads shall be conspicuously posted by the owner in that part of each story in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

106.2 Issuance of certificate of occupancy. A certificate of occupancy required by Section 111 shall not be issued until the floor load signs, required by Section 106.1, have been installed.

106.3 Restrictions on loading. It shall be unlawful to place, or cause or permit to be placed, on any floor or roof of a building, structure or portion thereof, a load that is greater than permitted by this code.

SECTION 107 - SUBMITTAL DOCUMENTS

107.1 General. Submittal documents consisting of construction documents, statement of special inspections, geotechnical report and other data shall be submitted in two or more sets with each permit application. Revisions or additions to plans shall be made on the original drawings and new copies submitted. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. If the building official deems it necessary, plans, computations and specifications may be required to be prepared and designed by an engineer or architect licensed or registered by the state of Nevada to practice as such. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

The roof snow load for sites above 5,000 feet elevation is considered as exceeding the tables of limitation for wood-frame construction, and shall be designed in accordance with accepted engineering practice.

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.

107.2 Construction documents. Construction documents shall be in accordance with Sections 107.2.1 through 107.2.5

107.2.1 Information on construction documents. Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the building official. Construction documents shall be of sufficient 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 relevant laws, ordinances, rules and regulations, as determined by the building official. All plans shall be black line or blue line. Minimum paper size shall be 11×17 unless approved by the building official.

107.2.2 Fire protection system shop drawings. Shop drawings for the fire protection system(s) shall be submitted to indicate conformance with this code and the construction documents and shall be approved prior to the start of system installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9.

107.2.3 Means of egress. The construction documents shall show in sufficient detail the location, construction, size and character of all portions of the means of egress including the path of exit discharge to the public way in compliance with the provisions of this code. In other than occupancies in Groups R-2, R-3, and I-1, the construction documents shall designate the number of occupants to be accommodated on every floor, and in all rooms and spaces.

107.2.4 Exterior wall envelope. Construction documents for all buildings shall describe the exterior wall envelope in sufficient detail to determine compliance with this code. The construction documents shall provide details of the exterior wall envelope as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive membrane and details around openings. The construction documents shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the construction documents maintain the weather resistance of the exterior wall envelope. The supporting documentation shall fully describe the exterior wall system that was tested, where applicable, as well as the test procedure used.

107.2.5 Site plan. The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from lot lines, the established street grades and the proposed finished grades and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

107.3 Examination of documents. The building official shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.

107.3.1 Approval of construction documents. When the building official issues a permit, the construction documents shall be approved, in writing or by stamp, as "Reviewed for Code Compliance." One set of construction documents so reviewed shall be retained by the building official. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the building official or a duly authorized representative.

107.3.2 Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

107.3.3 Phased approval. The building official is authorized to issue a permit for the construction of foundations or any other part of a building or structure before the construction

documents for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a permit for the entire structure will be granted.

107.3.4 Design professional in responsible charge. When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the building permit application a registered design professional who shall act as the registered design professional in responsible charge. If the circumstances require, the owner shall designate a substitute registered design professional in responsible charge who shall perform the duties required of the original registered design professional in responsible charge. The building official shall be notified in writing by the owner if the registered design professional in responsible charge is changed or is unable to continue to perform the duties.

The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.

107.3.4.1 Deferred submittals. For the purposes of this section, deferred submittals are defined as those portions of the design that are not submitted at the time of the application and that are to be submitted to the building official within a specified period.

Deferral of any submittal items shall have the prior approval of the building official. The registered design professional in responsible charge shall list the deferred submittals on the construction documents for review by the building official.

Documents for deferred submittal items shall be submitted to the registered design professional in responsible charge who shall review them and forward them to the building official with a notation indicating that the deferred submittal documents have been reviewed and been found to be in general conformance to the design of the building. The deferred submittal items shall not be installed until the design and submittal documents have been approved by the building official.

107.4 Amended construction documents. Work shall be installed in accordance with the approved construction documents, and any changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

107.5 Retention of construction documents. One set of approved construction documents shall be retained by the building official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

SECTION 108 - TEMPORARY STRUCTURES AND USES

108.1 General. The building official is authorized to issue a permit for temporary structures and temporary uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The building official is authorized to grant extensions for demonstrated cause.

108.2 Conformance. Temporary structures and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure public health, safety and general welfare.

108.3 Temporary power. The building official is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the National Electrical Code.

108.4 Termination of approval. The building official is authorized to terminate such permit for a temporary structure or use and to order the temporary structure or use to be discontinued.

SECTION 109 - FEES

109.1 Payment of fees. A permit shall not be valid until the fees prescribed by law have been paid, nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

109.2 Determination of permit fees.

1. Except as otherwise provided in this section the amount of the fee for the issuance of a permit shall be determined as follows:
 - a. Except as otherwise provided in section 109.3, the Building Official shall estimate the total value of the project for which the permit is to be issued pursuant to the most recently published February version of the Building Valuation Data table, as published by the International Code Council in the publication "Building Safety Journal";
 - b. The Building Official shall multiply the estimated total value of the project by:
 - [a] **i.** For a residential project, .015; or
 - [b] **ii.** For a non-residential project; .01.
2. The amount of the fee for the issuance of a permit for residential construction project in which a standard plan will be used for more than one project in the same subdivision shall be determined as follows:

- a. For the first project to be constructed pursuant to the plan, pursuant to the method for determining the fee set forth in subsection 1; and
 - b. For the second and each subsequent project to be constructed pursuant to the plan, multiplying the amount of fee determined pursuant to subsection 1 by eighty percent (80%).
3. Forty percent (40%) of the fee determined pursuant to this section shall be due upon the submission of the plan to the Building Official for plan review and processing. The remaining sixty percent (60%) of the fee determined pursuant to this section shall be due prior to the issuance of a permit.
 4. The minimum permit fee shall be \$65.00.
 5. If a project requires inspection outside the time of ordinary business hours, reinspection pursuant to the provisions of Section 109.7, an inspection for which no fee is otherwise specified, additional plan review required by changes, additions or revisions to plans or the use of outside consultations for plan review or inspection, the fee for such services shall be determined pursuant to the following schedule:

OTHER INSPECTIONS	FEES
1. Inspection outside of normal business hours (Minimum charge — two hours)	\$65.00 per hour*
2. Reinspection fees assessed under provisions of Section [1040.7] 110.7	\$65.00 per hour*
3. Inspections for which no fee is specifically indicated (Minimum charge— one-half hour)	\$65.00 per hour*
4. Additional plan review required by changes, additions or revisions to plans (Minimum charge—one-half hour)	\$65.00 per hour*
5. For use of outside consultants for plan checking and inspections, or both actual costs**	

* Or the total hourly cost to the jurisdiction, whichever is the greatest. This cost shall include supervision, overhead, equipment, hourly wages and fringe benefits of the employees involved.

** Actual costs include administrative and overhead costs.

6. The fee for the review of a grading plan and the fee for the issuance of a grading permit shall be determined pursuant to the following schedule:

Grading Plan Review Fees ¹

50 cubic yards (38.2 m ³) or less	No fee
51 to 100 cubic yards (40 to 76.5 m ³)	\$23.50
101 to 1,000 cubic yards (77.2 to 764.6 m ³)	\$37.00

1,001 to 10,000 cubic yards (765.3 to 7,645.5 m ³)	\$49.25
10,001 to 100,000 cubic yards (7,646.3 to 76,455 m ³)	\$49.25 for the first 10,000 cubic yards (7,645.5 m ³), plus \$24.50 for each additional 10,000 cubic yards (7,645.5 m ³) or fraction thereof
100,001 to 200,000 cubic yards (76,456 to 152,911 m ³)	\$269.75 for the first 100,000 cubic yards (76,455 m ³), plus \$13.25 for each additional 10,000 cubic yards (7,645.5 m ³) or fraction thereof
200,001 cubic yards (152,912 m ³) or more	\$402.25 for the first 200,000 cubic yards (152,911 m ³), plus \$7.25 for each additional 10,000 cubic yards (7,645.5 m ³) or fraction thereof
OTHER FEES	
Additional plan review required by changes, additions or revisions to plans or to plans for which an initial review has been completed, per hour	\$65.00

1. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater.

Grading Permit Fees ¹

50 cubic yards (38.2 m ³) or less	\$23.50
51 to 100 cubic yards (40 to 76.5 m ³)	\$37.00
101 to 1,000 cubic yards (77.2 to 764.6 m ³)	\$37.00 for the first 100 cubic yards (76.5 m ³), plus \$17.50 for each additional 100 cubic yards (76.5 m ³) or fraction thereof
1,001 to 10,000 cubic yards (765.3 to 7,645.5 m ³)	\$194.50 for the first 1,000 cubic yards (764.6 m ³), plus \$14.50 for each additional 1,000 cubic yards (764.6 m ³) or fraction thereof
10,001 to 100,000 cubic yards (7,646.3 to 76,455 m ³)	\$325.00 for the first 10,000 cubic yards (7,645.5 m ³), plus \$66.00 for each additional 10,000 cubic yards (7,645.5 m ³) or fraction thereof

100,001 yards (76,456 m ³) or more	\$919.00 for the first 100,000 cubic yards (76,455 m ³), plus \$36.50 for each additional 10,000 cubic yards (7,645.5 m ³) or fraction thereof
OTHER INSPECTIONS	FEES
1. Inspections outside of normal business hours, per hour (minimum charge—two hours)	\$85.00
2. Reinspection per hour (minimum charge—one-half hour)	\$65.00
3. Inspections for which no fee is specifically indicated, per hour (minimum charge—one-half hour)	\$65.00

1. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater.

109.3 Building permit valuations. The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. 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. Final building permit valuation shall be set by the building official.

109.4 Work commencing before permit issuance. Any person who commences any work on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary permits shall be subject to a fee established by the building official that shall be in addition to the required permit fees. An investigation fee, in addition to the permit fee, shall be collected whether or not a permit is then or subsequently issued. The investigation fee shall be equal to the amount of the permit fee. The payment of such investigation fee shall not exempt any person from compliance with all other provisions of this code nor from any penalty prescribed by law.

109.5 Related fees. The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a building permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

109.6 Refunds. The building official may authorize refunding of any fee paid hereunder which was erroneously paid or collected. The building official may authorize refunding of not more than eighty percent (80%) of the permit fee paid when no work has been done under a permit issued in accordance with this code.

The building official may authorize refunding of not more than eighty percent (80%) of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or cancelled before any plan review is done. The building official shall not authorize refunding of any fee paid except on written application filed by the original permittee not later than one hundred eighty (180) days after the date of fee payment.

109.7 Disaster Relief. After the occurrence of a natural disaster which results in the declaration of a major disaster by the Carson City board of supervisors, the building official may waive, reduce or rebate fees which would be due or which have been paid for permits, reviews or inspections, if the application or plans being submitted or the work being done results directly from the natural disaster.

SECTION 110 - INSPECTIONS

110.1 General. Construction or work for which a permit is required shall be subject to inspection by the building official and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the building official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection. The address of the building shall be posted by the contractor in the location designated by the building official.

110.2 Preliminary inspection. Before issuing a permit, the building official is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

110.3 Required inspections. The building official, upon notification, shall make the inspections set forth in Sections 110.3.1 through 110.3.13.

110.3.1 Footing and foundation inspection. Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with ASTM C 94, the concrete need not be on the job. Approved property corners shall be in place at time of foundation inspection unless otherwise approved by the building official.

110.3.2 Concrete slab and under-floor inspection. Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.

110.3.3 Lowest floor elevation. In flood hazard areas, upon placement of the lowest floor, including the basement, and prior to further vertical construction, the elevation certification required in Section 1612.5 shall be submitted to the building official.

110.3.4 Exterior shear wall inspection. To be made prior to the application of exterior siding or cover.

110.3.5 Roof Nail Inspection. Roof nail inspection to be made after the roof sheathing is fastened to the roof structural framing components and before the underlay and roof covering is installed. Roof nailing inspections will be done at the discretion of the building official based on diaphragm design and structural straps.

110.3.6 Frame inspection. Framing inspections shall be made after 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. The roof and walls shall be made weather tight prior to frame inspection.

110.3.7 Insulation inspection. Insulation inspection to be made after rough frame, plumbing, mechanical and electrical inspections have been approved.

110.3.8 Lath and gypsum board inspection. Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or gypsum board joints and fasteners are taped and finished.

110.3.9 Fire-resistant assemblies and penetrations. Fire-resistant assemblies and protection of joints and penetrations in fire-resistance-rated assemblies shall not be concealed from view until inspected and approved.

110.3.10 Energy efficiency inspections. Inspections shall be made to determine compliance with the current adopted Energy Conservation Code and shall include, but not be limited to, inspections for: envelope insulation R and U values, fenestration U-value, duct system R-value, and HVAC and water-heating equipment efficiency.

110.3.11 Other inspections. In addition to the inspections specified above, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the building division.

110.3.12 Special inspections. For special inspections, see Section 17 **of the International Building Code.**

110.3.13 Final inspection. The final inspection shall be made after all work required by the building permit is completed.

110.4 Inspection agencies. The building official is authorized to accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability.

110.5 Inspection requests. It shall be the duty of the holder of the building permit or their duly authorized agent to notify the building official when work is ready for inspection. It shall be the duty of the permit holder to provide access to and means for inspections of such work that are required by this code.

110.6 Approval required. Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the building official. The building official, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the permit holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the building official.

110.7 Reinspections. A reinspection fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made. This section is not to be interpreted as requiring reinspection fees for the first time a job is rejected for failure to comply with the requirements of the technical codes, but as controlling the practice of calling for inspections before the job is ready for such inspection or reinspection. Reinspection fees may be assessed when the inspection record card is not posted or otherwise available on the work site, the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested, or for deviating from plans requiring the approval of the building official.

To obtain a reinspection, the applicant shall pay the reinspection fee as set forth in the fee schedules in Section 108.2. In instances where reinspection fees have been assessed, additional inspection of the work will not be performed until the required fees have been paid.

SECTION 111 - CERTIFICATE OF OCCUPANCY

111.1 Use and occupancy. No building or structure shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the building official has issued a certificate of occupancy therefore as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. No final inspection or approvals by the building division, for use or occupancy of any structure permitted by this chapter, shall be granted until final inspections and approvals are obtained from all other city departments which have imposed requirements for the project.

Exception: Certificates of occupancy are not required for work exempt from permits under Section 105.2

111.2 Certificate issued. After the building official inspects the building or structure and finds no violations of the provisions of this code or other laws that are enforced by the department of building safety, the building official shall issue a certificate of occupancy that contains the following:

1. The building permit number.
2. The address of the structure.
3. The name and address of the owner.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
6. The name of the building official.
7. The edition of the code under which the permit was issued.
8. The use and occupancy, in accordance with the provisions of Chapter 3.
9. The type of construction as defined in Chapter 6.
10. The design occupant load.
11. If an automatic sprinkler system is provided, whether the sprinkler system is required.
12. Any special stipulations and conditions of the building permit.

111.3 Temporary occupancy. The building official is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the permit, provided that such portion or portions shall be occupied safely. The building official shall set a time period during which the temporary certificate of occupancy is valid.

111.4 Revocation. The building official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

SECTION 112 - SERVICE UTILITIES

112.1 Connection of service utilities. No person shall make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a permit is required, until released by the building official.

112.2 Temporary connection. The building official shall have the authority to authorize the temporary connection of the building or system to the utility source of energy, fuel or power.

112.3 Authority to disconnect service utilities. The building official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section 101.4 in case of emergency where necessary to eliminate an immediate hazard to life or property or when such utility connection has been made without the approval required by Section 112.1 or 112.2. The

building official shall notify the serving utility, and wherever possible the owner and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

SECTION 113 - BOARD OF APPEALS

113.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the building official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business. The board consists of five (5) members who are appointed by the board of supervisors as follows:

- a) One (1) architect registered by the state of Nevada;
- b) One (1) general building contractor licensed by the state of Nevada;
- c) One (1) mechanical engineer licensed by the state of Nevada;
- d) One (1) structural/civil engineer licensed by the state of Nevada; and
- e) One (1) electrical engineer licensed by the state of Nevada.

113.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall have no authority to waive requirements of this code.

113.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.

113.4 Terms. The terms of the members of the Board of Appeals shall be:

- a) For the member appointed as an architect registered by the state of Nevada, a term of 2 years. The initial term for this member shall begin January 1, 2008 and end January 1, 2010.
- b) For the member appointed as a general building contractor licensed by the state of Nevada, a term of 2 years. The initial term for this member shall begin January 1, 2008 and end January 1, 2010.
- c) Except as otherwise provided in this paragraph, for the member appointed as a mechanical engineer licensed by the state of Nevada, a term of 2 years. The initial term for this member shall begin January 1, 2008 and end January 1, 2011.
- d) Except as otherwise provided in this paragraph, for the member appointed as a structural/civil engineer licensed by the state of Nevada, a term of 2 years. The initial term for this member shall be a term of 3 years and shall begin January 1, 2008 and end January 1, 2011.
- e) Except as otherwise provided in this paragraph, for the member appointed as a electrical engineer licensed by the state of Nevada, a term of 2 years. The initial

term for this member shall be a term of 3 years and shall begin January 1, 2008 and end January 1, 2011.

SECTION 114 - VIOLATIONS

114.1 Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or equipment regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

114.2 Notice of violation. The building official is authorized to serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

114.3 Prosecution of violation. If the notice of violation is not complied with promptly, the building official is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

114.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law. Any person, firm or corporation violating any of the provisions of this code is deemed guilty of a misdemeanor, and each person is guilty of a separate offense for each and every day or portion thereof during which any violation of the provisions of this code is committed, continued or permitted. Upon conviction of any such violation such person shall be punished by a fine of not more than one thousand dollars (\$1,000.00), or by imprisonment for not more than six (6) months, or by both such fine and imprisonment.

The building official or his authorized inspectors or employees may issue misdemeanor citations for the violations.

SECTION 115 - STOP WORK ORDER

115.1 Authority. Whenever the building official finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the building official is authorized to issue a stop work order.

115.2 Issuance. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. Upon issuance

of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume.

115.3 Unlawful continuance. Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

SECTION 116 - UNSAFE STRUCTURES AND EQUIPMENT

116.1 Conditions. Structures or existing equipment that are or hereafter become unsafe, unsanitary or deficient because of inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the building official deems necessary and as provided for in this section. A vacant structure that is not secured against entry shall be deemed unsafe.

116.2 Record. The building official shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.

116.3 Notice. If an unsafe condition is found, the building official shall serve on the owner, agent or person in control of the structure, a written notice that describes the condition deemed unsafe and specifies the required repairs or improvements to be made to abate the unsafe condition, or that requires the unsafe structure to be demolished within a stipulated time. Such notice shall require the person thus notified to declare immediately to the building official acceptance or rejection of the terms of the order.

116.4 Method of service. Such notice shall be deemed properly served if a copy thereof is (a) delivered to the owner personally; (b) sent by certified or registered mail addressed to the owner at the last known address with the return receipt requested; or (c) delivered in any other manner as prescribed by local law. If the certified or registered letter is returned showing that the letter was not delivered, a copy thereof shall be posted in a conspicuous place in or about the structure affected by such notice. Service of such notice in the foregoing manner upon the owner's agent or upon the person responsible for the structure shall constitute service of notice upon the owner.

116.5 Restoration. The structure or equipment determined to be unsafe by the building official is permitted to be restored to a safe condition. To the extent that repairs, alterations or additions are made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions or change of occupancy shall comply with the requirements of Section 105.2.2 and Chapter 34.

SECTION 117 - WORKMANSHIP AND FABRICATION

117.1 Workmanship and Fabrication. All design, construction and workmanship shall be in conformity with accepted engineering and good trade practice and be of such character as to secure the results sought to be obtained by this code.

SECTION 118 - MOVING AND DEMOLITION

118.1 Moving and Demolition. Except as otherwise provided, it shall be unlawful for any person to move any existing building or structure of any kind or description into or within Carson City, or demolish a building or structure without a permit to move or demolish a building or structure as hereinafter provided. This section does not apply to mobile homes, trailers or other structures permanently affixed on wheels. Application for a permit to move or demolish a building or structure shall be filed as provided for in Section 105.3

SECTION II:

That the provisions of this ordinance shall be effective on July 1, 2019.

SECTION III:

That no other provisions of Title 15 of the Carson City Municipal Code are affected by this ordinance.

PROPOSED on _____, 2019.

PROPOSED by _____.

PASSED _____, 2019.

VOTE: AYES: SUPERVISORS: _____

NAYS: SUPERVISORS: _____

ABSENT: SUPERVISORS: _____

Robert Crowell, Mayor

ATTEST:

Aubrey Rowlatt
CLERK/RECORDER

This ordinance shall be in force and effect from and after the ____ day of _____,
2019.

2018 NORTHERN NEVADA AMENDMENTS TO THE
2018 International Building Code
2018 International Residential Code
2018 International Existing Building Code
2018 International Energy Conservation Code
2018 International Fuel Gas Code
2018 International Mechanical Code
2018 Uniform Mechanical Code
2018 Uniform Plumbing Code
2017 National Electric Code



Participating agencies in the production to this document

Carson City

108 E. Proctor St.
Carson City, NV 89701

City of Fernley

595 Silver Lace Blvd.
Fernley, NV 89408

City of Reno

1 E. First St.
Reno, NV 89501

City of Sparks

431 Prater Way
Sparks, NV 89431

Douglas County

1594 Esmeralda Ave
Minden, NV 89423

Lyon County

27 S. Main
Yerington, NV 89447

Pershing County

398 Main St.
Lovelock, NV 89419

Washoe County

1001 E. Ninth St.
Reno, NV 89512

Storey County

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Versagrade Inc

Western Pacific Electric

Preface

This document comprises proposed amendments to the following codes as published by the International Code Council, Inc, amended by the Participating Agencies listed above, with the support of the Northern Nevada Chapter of the International Code Council:

- 2018 Edition of the International Building Code
- 2018 Edition of the International Existing Building Code
- 2018 Edition of the International Energy Conservation Code
- 2018 Edition of the International Fuel Gas Code
- 2018 Edition of the International Mechanical Code
- 2018 Edition of the International Residential Code
- 2017 Edition of the National Electrical Code
- 2018 Edition of the Uniform Mechanical Code
- 2018 Edition of the Uniform Plumbing Code

This document is hereafter referenced as the 2018 Northern Nevada Code Amendment and is prepared to be adopted by reference by the local Authority Having Jurisdiction. These provisions are not considered to be or enacted as the code unless the provisions are adopted and codified by the local Authority Having Jurisdiction.

The purpose of this document is to provide a consistent area-wide application to the enforcement of the fire and life safety code sections noted in the International Fire Code, while still acknowledging necessary modifications to the nationally recognized fire and life safety document based upon the local needs of the community.

- Notes:
- Deleted language in the base code has been ~~stricken through~~.
 - Added language to the code section has been underlined.
 - The entire section amended has been shown for context.

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Amendments to the 2018 Edition of the International Building Code

Section 202 Definitions

Amend Section 202 to read as follows:

HIGH-RISE BUILDING. A building with an occupied floor located more than ~~75~~ 55 feet (~~22,860~~ 16,764 mm) above the lowest level of fire department vehicle access.

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

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

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

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

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

- Sloped retained soil.
- Structure footings supported by the retained soil.
- Adjacent vehicle loads supported by the retained soil.

Section 305.2 Group E, day care facilities

Amend Section 305.2 to read as follows:

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

305.2.1 Within Places of religious worship. Rooms and spaces within *places of religious worship* providing such day care during religious functions shall be classified as part of the primary occupancy.

305.2.2 ~~Five~~ Six or fewer children. A facility having ~~five~~ six or fewer children receiving such day care shall be classified as part of the primary occupancy.

305.2.3 ~~Five~~ Six or fewer children in a dwelling unit. A facility such as the above within a *dwelling unit* and having ~~five~~ six or fewer children receiving such day care shall be classified as a Group R-3 occupancy or shall comply with the *International Residential Code*

Section 308.2 Institutional Group I-1

Amend Section 308.2 to read as follows:

308.2 Institutional Group I-1. Institutional Group I-1 occupancy shall include buildings, structures or portions thereof for more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised environment and receive

custodial care. Buildings of Group I-1 shall be classified as one of the occupancy conditions specified in Section 308.2.1 or 308.2.2. 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

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

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

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

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

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

Section 308.5 Institutional Group I-4, day care facilities

Amend Section 308.5 to read as follows:

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

- Adult day care
- Child day care

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

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

308.5.3 ~~Five~~ Six or fewer persons receiving care. A facility having ~~five~~ six or fewer persons receiving *custodial care* shall be classified as part of the primary occupancy.

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

Section 310.2 Residential Group R-1

Amend Section 310.2 to read as follows:

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

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

Group 311.2 Moderate-hazard storage, Group S-1

Amend Section 311.2 to read as follows:

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

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

Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

Section 403.5.4 Smokeproof enclosures

Amend Section 403.5.4 to read as follows:

403.5.4 Smokeproof enclosures. Every required *interior exit stairway* serving floors more than ~~75~~ 55 feet (~~22-860~~ 16764 mm) above the lowest level of fire department vehicle access shall be a *smokeproof enclosure* in accordance with Sections 909.20 and 1023.11

Section 906 Portable Fire Extinguishers

Amend to Section 906 to read as follows:

Refer to the 2018 Editions of the International Fire Code and the 2018 Northern Nevada Fire Amendments.

Section 910.2 Where required

Amend Section 910.2 to read as follows:

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

Exceptions:

1. Frozen food warehouses used solely for storage of Class I and II commodities where protected by an *approved automatic sprinkler system*.
2. ~~Smoke and heat removal shall not be required in areas of buildings equipped with early suppression fast-response (ESFR) sprinklers.~~ Automatic smoke and heat vents are not required within areas of buildings equipped with early suppression fast-response (ESFR) sprinklers unless the area of Group F-1 or S-1 occupancy protected with the ESFR sprinklers has an exit access travel distance of more than 250 feet (76200mmn).
3. Smoke and heat removal shall not be required in areas of buildings equipped with control mode special application sprinklers with a response time index of $50 (m \times S)^{1/2}$ or less that are listed to control a fire in stored commodities with 12 or fewer sprinklers.

1010.1.10 Panic and fire exit hardware

Amend Section 1010.1.10 to read:

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

Exceptions:

1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.1.9.4, Item 2.

2. Doors provided with panic hardware or fire exit hardware and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.

Electrical rooms with equipment rated ~~1,200~~ 800 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with exit or exit access doors, shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

Section 1209.4 Baby Changing Tables

Amend Section 1209 by adding Section 1209.4 as follows:

1209.4 Baby Changing Tables. Diaper changing tables are required to be installed in both male, female and other restrooms, in permanent buildings that contain public restrooms as defined in chapter 29 of the 2018 IBC. Changing tables are required when any of the following occur: new buildings, tenant improvements, new restrooms, alteration of existing restrooms, new additions, change of uses that require updating existing restrooms with additions to those facilities. Shall meet the guidelines of 603.5, 309 and 902 of ANSI/ICC A117.1-2017.

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

Section 1503.6 Snow shedding and impact areas

Amend Section 1503 by adding Section 1503.6 as follows:

1503.6 Snow shedding and impact areas. Snow shedding onto adjacent properties is prohibited. Snow shed impact areas shall be designed to contain shedding snow from structures and prevent snow from encroaching onto adjacent properties when ground snow loads exceed 154 p_g when located in Washoe County or Carson City, or exceeds 69 p_g when located in Storey County. The roof and eaves of all structures shall be designed so that snow shed impact areas will not occur in or on required exits, parking areas, driveways, LPG storage tanks, walkways, and public areas.

Exception: The snow shed impact area may be reduced provided an engineered snow restraint system, designed in accordance with this code, is incorporated into the roof design and the roof drainage system.

Section 1608.2 Ground snow loads

Amend Section 1608.2 to read as follows:

1608.2 GROUND SNOW LOADS. THE GROUND SNOW LOADS TO BE USED IN DETERMINING THE DESIGN SNOW LOADS FOR ROOFS SHALL BE DETERMINED IN ACCORDANCE WITH TABLE 1608.2.1 ASCE 7 OR FIGURE 1608.2 FOR THE CONTIGUOUS UNITED STATES AND TABLE 1608.2 FOR ALASKA. SITE-SPECIFIC CASE STUDIES SHALL BE MADE IN AREAS DESIGNATED "CS" IN FIGURE 1608.2. GROUND SNOW LOADS FOR SITES AT ELEVATIONS ABOVE THE LIMITS INDICATED IN FIGURE 1608.2 AND FOR ALL SITES WITHIN THE CS AREAS SHALL BE APPROVED. GROUND SNOW LOAD DETERMINATION FOR SUCH SITES SHALL BE BASED ON AN EXTREME VALUE STATISTICAL ANALYSIS OF DATA AVAILABLE IN THE VICINITY OF THE SITE USING A VALUE WITH A 2-PERCENT ANNUAL PROBABILITY OF BEING EXCEEDED (50-YEAR MEAN RECURRENCE INTERVAL). SNOW LOADS ARE ZERO FOR HAWAII, EXCEPT IN MOUNTAINOUS REGIONS AS APPROVED BY THE BUILDING OFFICIAL. THE SNOW LOADS FOR ELEVATIONS ABOVE 4500 FEET SHALL BE TAKEN FROM TABLE 1608.2.1.

Table 1608.2.1 GROUND SNOW LOADS P_g , FOR NORTHERN NEVADA LOCATIONS

Add Table 1608.2.1 to read as follows:

**TABLE 1608.2.1
GROUND SNOW LOADS P_g , FOR NORTHERN NEVADA LOCATIONS**

Elevation In Feet	West of U.S. Hwy 395 Sierra Slope, Carson, Douglas, Reno, Washoe Counties, Pg (Pounds Per Square Foot)	East of U.S. Hwy 395 Carson, Douglas, Washoe Counties, Reno & Sparks Pg (Pounds Per Square Foot)	Lyon County Pg (Pounds Per Square Foot)	Storey County Pg(Pounds Per Square Foot)	All Nevada Counties, Lake Tahoe Basin Pg (Pounds Per Square Foot)
4500	30	30	10	10	
5000	30	30	30	10	
5100	41	31	31	10	
5200	52	33	31	10	
5300	64	34	34	10	
5400	75	35	35	10	
5500	86	37	37	50	
6000	142	43	43	70	220
6500	171	43	43	90	235
7000	200	57	57	90	250
7500	215	57	57	90	265
8000	229	86	86	90	280
8500	243	86	86	90	295
9000	271	114	114	114	330
9500	300	142	142	120	390
10000	357	142	142	142	420

1. Drift load design in the 30-psf zones may utilize ASCE 7 -10 table C7-1 ground snow values.
2. The final roof design loads shall not be less than 20 psf after all reductions are factored, except for Lyon County.
3. Intermediate values may be interpolated by proportion.

Section 1609.1.1 Determination of wind loads

Amend Section 1609.1.1 to read as follows:

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

Exceptions:

1. Subject to limitations of section 1609.1.1.1, the provisions of ICC 600 shall be permitted for applicable Group R-2 and R-3 buildings.
2. Subject to the limitations of Section 1609.1.1.1, residential structures using the provisions of AWC WFCM.
3. Subject to the limitations of Section 1609.1.1.1 residential structures using the provisions of AISI S230.
4. Designs using NAAMM FP 1001.

5. Designs using TIA-222 for antenna-supporting structures and antennas, provided that the horizontal extent of Topographic Category 2 escarpments in Section 2.6.6.2 of TIA-222 shall be 16 times the height of the escarpment.
6. Wind tunnel tests in accordance with ASCE 49 and Sections 31.4 and 31.5 of ASCE 7.

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

Section 1609.1.1.1 Applicability

Amend Section 1609.1.1.1 to read as follows:

1609.1.1.1 Applicability. The provisions of ICC 600 are applicable only to buildings located within Exposure B or C as defined in section 1609.4. The wind speed in the Carson City, City of Reno, the City of Sparks, Douglas, Pershing, Storey, Lyon and Washoe Counties shall be per the Special Wind Region Table 1609.3.2. The provisions of ICC 600, AWC WFCM and AISI S230 shall not apply to buildings sited on the upper half of an isolated hill, ridge, or escarpment meeting all of the following conditions:

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

Section 1609.3 Basic design wind speed

Amend Section 1609.3 to read as follows:

1609.3 Basic design wind speed. The basic design wind speed, V , in mph, for the determination of the wind loads shall be determined by figures 1609.3(1) through (8). The basic design wind speed, V , for use in the design of Risk Category II buildings and structures shall be obtained from Figures 1609.3(1) and 1609.3(5). The basic design wind speed, V , for use in the design of Risk Category III buildings and structures shall be obtained from Figures 1609.3(2) and 1609.3(6). The basic design wind speed, V , for use in the design of Risk Category IV buildings and structures shall be obtained from Figures 1609.3(3) and 1609.3(7). The basic design wind speed, V , for use in the design of Risk Category I buildings and structures shall be obtained from Figures 1609.3(4) and 1609.3(8). No altitude density reduction shall be taken.

The basic design wind speed, V , for the special wind regions indicated near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements. The basic design wind speeds, V , determined by the local jurisdiction shall be in accordance with Chapter 26 of ASCE 7. Utilizing Special wind region Table 1609.3.2.

TABLE 1609.2 SPECIAL WIND REGION DEFINED: MINIMUM BASIC WIND SPEEDS

Add Table 1609.3.2 to read as follows:

**TABLE 1609.3.2
SPECIAL WIND REGION DEFINED:
MINIMUM BASIC WIND SPEEDS**

For Carson City, City of Reno, City of Sparks, Douglas, Lyon, Pershing, Storey and Washoe Counties the design wind speed values shall be:

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

Table notes:

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

The conversions from V_{ult} to V_{asd} are based on Table 1609.3.1

Section 1704.2 Special inspections and tests

Amend Section 1704.2 to read as follows:

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

Exceptions:

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

Section 1803.2 Investigations required

Amend Section 1803.2 to read as follows:

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

Exception: The *building official shall be permitted to waive the requirement for* need not require a geotechnical investigation where satisfactory data from adjacent areas is provided by a licensed design professional available that demonstrates an investigation is not necessary for any of the conditions in Sections 1803.5.1 through 1803.5.6 and Sections 1803.5.10 and 1803.5.11.

Section 1803.6 Reporting

Amend Section 1803.6 to read as follows:

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

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

Section 1807 2.1.1 Rockery retaining walls

Amend Section 1807.2 adding Section 1807.2.1.1 as follows:

1807.2.1.1 Rockery retaining walls.

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

1. Type and quality of rock.
2. Unit weight, if design exceeds 155 pcf.
3. Rock size in approximate diameter
4. Rock placement

5. Voids greater than 3" shall be filled
6. Drainage swale and system
7. Embedment
8. Wall face slope (batter 6v:1H recommended)
9. Mechanically stabilized earth, if specified

A Global Stability Analysis shall include the following:

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

1808.6.1 Foundations

Amend Section 1808.6.1 to read as follows:

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

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

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

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

Section 1809.5 Frost protection

Amend Section 1809.5(1) to read as follows:

1809.5 Frost protection. Except where otherwise protected from frost, foundations and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

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

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

1. Assigned to Risk Category I.
2. Area of 600 square feet (56 m²) or less for light-frame construction or 400 square feet (37 m²) or less for other than light-frame construction.
3. Eave height of 10 feet (3048 mm) or less.

Shallow foundations shall not bear on frozen soil unless such frozen condition is of a permanent character.

Section 2901.1 Scope

Amend Section 2901.5 to read as follows:

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

Section 2902.1 Minimum number of fixtures

Amend Section 2902.1 to read as follows:

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

TABLE 2902.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

Amend Table 2902.1 to read as follows:

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

No.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 424.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS (SEE SECTION 410 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
			Male	Female	Male	Female			
1	Assembly	Theaters and other buildings for the performing arts and motion pictures ^d	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		Nightclubs, bars, taverns, dance halls and buildings for similar purposes ^d	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
		Restaurants, banquet halls and food courts ^d	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
		Casino gaming areas	1 per 100 for the first 400 and 1 per 250 for the remainder exceeding 400	1 per 50 for the first 400 and 1 per 150 for the remainder exceeding 400	1 per 250 for the first 750 and 1 per 500 for the remainder exceeding 750		—	1 per 1,000	1 service sink

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

No.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS ^h (URINALS SEE SECTION 424.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS (SEE SECTION 410 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
			Male	Female	Male	Female			
1	Assembly	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums ^d	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		Passenger terminals and transportation facilities ^d	1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink
		Places of worship and other religious services ^d	1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink
		Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
		Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities ^f	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,520 and 1 per 60 for the remainder exceeding 1,520	1 per 200	1 per 150	—	1 per 1,000	1 service sink
2	Business	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial, ambulatory care and similar uses	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	1 service sink ^e
3	Educational	Educational facilities	1 per 50		1 per 50		—	1 per 100	1 service sink
4	Factory and industrial	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100		—	1 per 400	1 service sink
5	Institutional	Custodial care facilities	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		Medical care recipients in hospitals and nursing homes ^b	1 per room ^c		1 per room ^c		1 per 15	1 per 100	1 service sink
		Employees in hospitals and nursing homes ^b	1 per 25		1 per 35		—	1 per 100	—
		Visitors in hospitals and nursing homes	1 per 75		1 per 100		—	1 per 500	—
		Prisons ^b	1 per cell		1 per cell		1 per 15	1 per 100	1 service sink

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

No.	CLASSIFICATION	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 424.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS (SEE SECTION 410 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
			Male	Female	Male	Female			
5	Institutional	Reformatories, detention centers and correctional centers ^b	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
		Employees in reformatories, detention centers and correctional centers ^b	1 per 25		1 per 35		—	1 per 100	—
		Adult day care and child day care	1 per 15		1 per 15		1	1 per 100	1 service sink
6	Mercantile	Retail stores, service stations, shops, sales-rooms, markets and shopping centers	1 per 500		1 per 750		—	1 per 1,000	1 service sink ^c
7	Residential	Hotels, motels, boarding houses (transient)	1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	—	1 service sink
		Dormitories, fraternities, sororities and boarding houses (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		Apartment house	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		One- and two-family dwellings and lodging houses with five or fewer guestrooms	1 per dwelling unit		1 per 10		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes
		Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage	Structures for the storage of goods, warehouses, storehouses and freight depots, low and moderate hazard	1 per 100		1 per 100		—	1 per 1,000	1 service sink

- The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.
- Toilet facilities for employees shall be separate from facilities for inmates or care recipients.
- A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted, provided that each patient sleeping unit has direct access to the toilet room and provisions for privacy for the toilet room user are provided.
- The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the

- minimum number of facilities required.
- e. For business and mercantile classifications with an occupant load of 30 or fewer, a service sink shall not be required.
 - f. The required number and type of plumbing fixtures for outdoor swimming pools shall be in accordance with Section 609 of the International Swimming Pool and Spa Code.
 - g. Drinking fountains are not required for an occupant load of 30 or fewer.
 - h. For business and mercantile classifications with an occupant load of ~~15~~ 30 or fewer, a service sink shall not be required.
 - i. In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets in assembly and educational occupancies. Urinals shall not be substituted for more than 50 percent of the required water closets in all other occupancies.
 - j. The minimum number of required drinking fountains shall comply with Table 2902.1 and Chapter 11.

Section 3102.7 Engineering design

Amend Section 3102.7 to read as follows:

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

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

Section I105.2 Footings

Amend Section I105.2 to read as follows:

I105.2 Footings. ~~In areas with a frost depth of zero, a~~ An unenclosed patio cover that projects 14 feet or less from the main structure shall be permitted to be supported on a concrete slab on grade without footing, provided that the slab conforms to the provisions of Chapter 19 of this code and is not less than 3½ inches (89 mm) thick, and the columns do not support loads in excess of 750 pounds (3.36 kN) per column.

Amendments to the 2018 Edition of the International Existing Building Code

Section 301.6 Baby changing tables

Amend Section 301 by adding Section 301.6 to read as follows:

301.6 Baby Changing Tables. Diaper changing tables are required to be installed in both male, female and other restrooms, in permanent buildings that contain public restrooms as defined in chapter 29 of the 2018 IBC. Changing tables are required when any of the following occur: new buildings, tenant improvements, new restrooms, alteration of existing restrooms, new additions, change of uses that require updating existing restrooms with additions to those facilities. Shall meet the guidelines of 603.5, 309 and 902 of ANSI/ICC A117.1-20117.

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

Section 902.1 High-rise buildings

Amend Section 902.1 to read as follows:

902.1 High-rise buildings. Any building having occupied floors more than ~~75~~ 55 feet (~~22 860~~ 16 764 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 902.1.1 and 902.1.2.

Amendments to the 2018 Edition of the International Energy Conservation Code

COMMERCIAL PROVISIONS

Section C102.1.1 Above code program

Amend Section C102.1.1 to read as follows:

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

Section C201.3 Terms defined in other codes

Amend Section C201.3 to read as follows:

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

Section C202 General Definitions

Amend Section C202 by adding the following definitions to read as follows:

C202 General Definitions

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

CASINO GAMING AREA. The space within a *casino* wherein gaming is conducted. The gaming area shall also include accessory uses within the same room(s) as, or substantially open to the gaming floor(s). Such areas shall include, but not be limited to lobbies, balconies, public circulation areas, assembly areas, restaurants, bars, lounges, food courts, retail spaces, mezzanines, convention pre-function areas, cashiers’ cages, players’ clubs, customer support, conservatories and promenades that share the same atmosphere, spillover lighting and theme lighting with the adjacent gaming floor area. For accessory areas situated on the perimeter of the gaming floor to be considered substantially open, the walls(s) or partitions(s) separating an accessory space from the gaming area must be a minimum of 50% open, as measured from the interior side of the accessory space, with no doors, windows and other obstructions, other than roll up security grills, installed within the opening.

Section C402.5.3 Rooms containing fuel-burning appliances

Amend Section C402.5.3 to read as follows:

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

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

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

Section 402.5.9 Air curtains

Amend Section 402.5 by adding 402.5.9 to read as follows:

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

Section 403.2.2 Ventilation (Mandatory)

Amend Section C403.2.2 Ventilation (Mandatory) to read as follows:

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

Section C403.6.1 Variable air volume and multiple-zone systems

Amend Section C403.6.1 to read as follows:

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

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

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

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

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

Section C403.6.6 Multiple-zone VAV system ventilation optimization control

Amend Section C403.6.6 to read as follows:

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

Exception:

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

Section 403.7.1 Demand control ventilation (Mandatory)

Amend Section C403.7.1 to read as follows:

C403.7.1 Demand control ventilation (Mandatory). Demand control ventilation (DCV) shall be provided for spaces larger than 500 square feet (46.5m²) and with an average occupant load of 25 people or greater per 1,000 square feet (93m²) of floor area, as established in Table 403.3.1.1 of the *International Mechanical Code* or Table 402.1 *Uniform Mechanical Code*, and served by systems with one or more of the following:

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

Exceptions:

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

Section C403.7.2 Enclosed parking garage ventilation controls (Mandatory)

Amend Section C403.7.2 to read as follows:

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

Exceptions:

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

Section C403.7.4 Energy recovery ventilation systems (Mandatory)

Amend Section C403.7.4 to read as follows

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

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

1. Where energy recovery systems are prohibited by the *International Mechanical Code* or *Uniform Mechanical Code*.
2. Laboratory fume hood systems that include not fewer than one of the following features:
 - 2.1. Variable-air-volume hood exhaust and room supply systems configured to reduce exhaust and makeup air volume to 50 percent or less of design value.
 - 2.2. Direct makeup (auxiliary) air supply equal to or greater than 75 percent of the exhaust rate, heated not warmer than 2°F (1.1°C) below room setpoint, with no humidification added, and no simultaneous heating and cooling used for dehumidification control.
3. Systems serving spaces that are heated to less than 60°F (15.5 °C) and that are not cooled.
4. Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site-solar energy.
5. Heating energy recovery in Climate Zones 1 and 2.
6. Cooling energy recovery in Climate Zones 3C, 4C, 5B, 5C, 6B, 7, and 8.
7. Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
8. Where the largest source of air exhausted at a single location at the building exterior is less than 75 percent of the design outdoor air flow rate.
9. Systems expected to operate less than 20 hours per week at an outdoor percentage covered by Table C403.7.4(1).
10. Systems exhausting toxic, flammable, paint or corrosive fumes or ducts.
11. Commercial kitchen hoods used for collecting and removing grease vapors and smoke.

Section C403.7.7 Shutoff dampers (Mandatory)

Amend Section C403.7.7 to read as follows:

C403.7.7 Shutoff dampers (Mandatory). Outdoor air intake and exhaust openings and stairway and shafts vents shall be provided with Class I motorized dampers. The dampers shall have an air leakage rate not greater than 4 cfm/ft² (20.3 L/s * m²) of damper surface area at 1.0inch water gauge (249 Pa) and shall be labeled by an approved agency when tested in accordance with AMCA 500D for such purpose.

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

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

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

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

Nonmotorized gravity dampers shall have an air leakage rate not greater than 20 cfm/ft² (101 L/s*m²) where not less than 24 inches (610 mm) in either dimension and 40 cfm/ft² (203.2 L/s*m²) where less than 24 inches (610 mm) in either dimension. The rate of air leakage shall be determined at 1.0 inch water gauge (249 Pa) when tested in accordance with AMCA 500D for such purpose. The dampers shall be labeled by an approved agency.

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

Amend Section C403.11.1 to read as follows:

C403.11.1 Duct and plenum insulation and sealing (Mandatory). Supply and return air ducts and plenums shall be insulated with not less than R-6 insulation where located in unconditioned spaces and where located outside of the building with not less than R-8 insulation in Climate Zones 1 through 4 and not less than R-12 insulation in Climate Zones 5 through 8. Where located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by not less thanR-8 insulation in Climate Zones 1 through 4 and not less than R-12 insulation in Climate Zones 5 through 8

Exceptions:

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

Ducts, air handlers and filter boxes shall be sealed. Joints and seams shall comply with Section 603.9 of the *International Mechanical Code* or Section 603.10, 603.11 of the *Uniform Mechanical Code*.

Section C403.11.2.1 Low-pressure duct systems (Mandatory)

Amend Section C403.11.2.1 to read as follows:

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

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

Section C403.11.2.2 Medium-pressure duct systems (Mandatory)

Amend Section C403.11.2.2 to read as follows:

C403.11.2.2 Medium-pressure duct systems (Mandatory). Ducts and plenums designed to operate at a static pressure greater than 2 inches water gauge (w.g.) (498 Pa) but less than 3 inches w.g. (747 Pa) shall be insulated and sealed in accordance with Section C403.11.1. Pressure classifications specific to the duct system shall be clearly indicated on the construction documents in accordance with the *International Mechanical Code or Uniform Mechanical Code*.

Section C406.6 Dedicated outdoor air systems

Amend Section C406.6 to read as follows:

C406.6 Dedicated outdoor air system. Buildings containing equipment or systems regulated by Section C403.3.4, C403.4.3, C403.4.4, C403.4.5, C403.6, C403.8.4, C403.8.5, C403.8.5.1, C403.9.1, C403.9.2, C403.9.3, C403.9.4 shall be equipped with an independent ventilation system designed to provide not less than the minimum 100-percent outdoor air to each individual occupied space, as specified by the *International Mechanical Code or Uniform Mechanical Code*.

Section C501.4 Compliance

Amend Section C501.4 to read as follows:

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

Chapter 6 Referencing Standards

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

AMCA

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

220-08(R2012): laboratory Methods for Testing Air Curtain Units for Aerodynamic Performance Rating ~~C402.5.6~~
C402.5.7

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

IAPMO

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

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

ICC

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

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

IFGC-18: International Fuel Gas Code C201.3, C501.4

RESIDENTIAL PROVISIONS

Section R102.1.1 Above code programs

Amend R102.1.1 to read as follows:

R102.1.1 Above code programs. The *code official* or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this code. Programs seeking approval must submit all requested supporting documentation, including program guidelines, protocols, calculations and program simulation performance software, if applicable, to the NNICC and/or jurisdictions for review for use as acceptable software. Buildings *approved* in writing by such an energy efficiency program shall be considered in compliance with this code. The requirements identified as “mandatory” in Chapter 4 shall be met.

Section R401.3 Certificate (Mandatory)

Amend Section R401.3 to read as follows:

R401.3 Certificate (Mandatory). ~~A permanent~~ The Builder shall provide a final certificate to the owner. a certificate shall be completed by the builder or other approved party and posted on a wall in the space where the furnace is located, a utility room or an approved location inside the building. Where located on an electrical panel, the certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall indicate the predominant R-values of insulation installed in or on ceilings, roofs, walls, foundation components such as slabs, *basement walls*, crawl space walls and floors and ducts outside *conditioned spaces*; U-factors of fenestration and ~~the solar heat gain coefficient (SHGC) of fenestration,~~ and the results from any required duct system and *building* envelope air leakage testing performed on the *building*. Where there is more than one value for each component, the certificate shall indicate the value covering the largest area. The certificate shall indicate the types and efficiencies of heating, cooling and service water heating equipment.

~~Where a gas-fired unvented room heater, electric furnace or baseboard electric heater is installed in the residence, the certificate shall indicate “gas-fired unvented room heater, electric furnace” or “baseboard electric heater,” as appropriate. An efficiency shall not be indicated for gas-fired unvented room heaters, electric furnaces and electric baseboard heaters.~~

Section R402.4.1.2 Testing

Amend Section R402.4.1.2 to read as follows:

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour, ~~in Climate Zones 1 and 2, and 3 air changes per hour in Climate Zones 3 through 8.~~ Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascal's). Where required by the *Code Official*, testing shall be conducted by an *approved* third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *Code Official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*.

During testing:

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

Section R403.3.4 Duct leakage (prescriptive)

Amend section R403.3.2 to read as follows:

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

1. Rough-in test: The total leakage shall be less than or equal to 4 cubic feet per minute (113.3 L/min) per 100 square feet (9.29 m²) of conditional floor area where the air handler is installed at the time of the test. Where the air handler is not installed at the time of the test, the total leakage shall be less than or equal to 3 cubic feet per minute (85 L/min) per 100 square feet (9.29 m²) of conditioned floor area.
2. Postconstruction test: Total leakage shall be less than or equal to ~~4 cubic feet per minute (113.3 L/min)~~ 5 cubic feet per minute (cfm) (141.6 L/min) or total leakage to outside shall be less than or equal to 3.5 cfm (99.1 L/min) 100 square feet (9.29 m²) of conditioned floor area.

Section R403.6 Mechanical ventilation (Mandatory)

Amend Section R403.6 to read as follows:

R403.6 Mechanical ventilation (Mandatory). The building shall be provided with ventilation that complies with the requirements of the *International Residential Code* or *International Mechanical Code*, as applicable, or with other *approved* means of ventilation. The mechanical system shall have a readily accessible on-off control switch allowing control of the mechanical system. Utilization of outside air temperature sensors, carbon dioxide sensors, humidity sensors or similar intermittent controls to 7activate the outside air mechanical equipment is permitted. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.

Amendments to the 2018 Edition of the International Residential Code

R202 Definitions

Amend **Section R202** adding the following definitions, to read as:

Section R202 Definitions.

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

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

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

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

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

- Sloped retained soil.
- Structure footings supported by the retained soil.
- Adjacent vehicle loads supported by the retained soil.

Table R301.2 (1) Climatic and Geographic Design Criteria

Amend Table R301.2 (1) to read as follows:

TABLE R301.2(1) CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA													
GROUND SNOW LOAD ^a	WIND DESIGN				SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^g	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ⁱ	AIR FREEZING INDEX ^j	MEAN ANNUAL TEMP ^k
	Speed ^d (mph)	Topographic effects ^e	Special wind region ^l	Windborne debris zone ^m		Weathering ^a	Frost line depth ^b	Termite ^c					
SEE IBC TABLE 1608.2.1	SEE APPENDIX	NO	YES	NO	SEE APPENDIX	SEVERE	SEE APPENDIX	MODERATE TO HEAVY	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX

MANUAL J DESIGN CRITERIA

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

- a. Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate" or "severe" for concrete as determined from Figure R301.2(4). The grade of masonry units shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C216 or C652.
- b. Where the frost line depth requires deeper footings than indicated in Figure R403.1(1), the frost line depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.
- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(5)A]. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The outdoor design dry-bulb temperature shall be selected from the columns of 97¹/₂-percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local

weather experience as determined by the building official. [Also see Figure R301.2(1).]

- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.
- h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
- i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."
- j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Air Freezing Index-USA Method (Base 32°F)."
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- l. In accordance with Figure R301.2(5)A, where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with "YES" and identify any specific requirements. Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- m. In accordance with Section R301.2.1.2 the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate "NO" in this part of the table.
- ~~n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual J or established criteria determined by the jurisdiction.~~
- o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in Figure R301.2(6).

R313.1 Townhouse automatic fire sprinkler systems

Amend Section R313.1 to read as follows:

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

Exceptions:

1. An automatic residential fire sprinkler system shall not be required when *additions* or *alterations* are made to existing *townhouses* that do not have an automatic residential fire sprinkler system installed.
2. An automatic residential fire sprinkler system shall not be required in *townhouses* less than 5,000 sq. ft. of living space unless the AHJ has amended the International Fire Code to include provisions pertaining to *townhouses* in accordance with NRS 278.586.

R313.2 One- and two-family dwellings automatic fire sprinkler systems

Amend Section R313.2 to read as follows:

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

Exceptions:

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

Chapter 11-Energy Conservation

For residential energy efficiency requirements, reference the residential amendments of the International Energy Conservation Code (IECC)

M1503.6 Makeup air required

Amend Section M1503.6 to read as follows:

M1503.6 Makeup air required. Exhaust hood systems capable of exhaust in excess of ~~400~~ 600 cubic feet per minute (~~0.19~~ 0.28 m³/s) shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

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

G2404.1.1 (301.1.2) LP-Gas installations

Add Section G2404.1.1(301.1.2) to Section G2404.1 (303.1) Scope, to read as follows:

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

G2404.1.1 (301.1.2) LP-Gas Installations. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.

G2404.12 (301.17) Snow hazard

Add Section 2404.12 (301.17) to Section G2404 (301) General, to read as:

G2404.12 (301.17) Snow hazard. On any new gas installation or reconnecting the gas service of an existing installation, gas meters above 5,800 feet in elevation in Carson City, Storey County and Washoe County must be protected from falling, sliding and accumulating of snow, unless the gas meter is installed in a protected location such as under an engineered deck, roof or shed. Engineered decks, roofs, or sheds shall be enclosed on all sides when used to protect gas meters on the snow shedding sides of a structure as approved by the gas utility.

G2417.4.1 (406.4.1) Test pressure

Amend Section G2417.4.1 (406.4.1) to read:

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be no less than 1-1/2 times the proposed maximum working pressure, but not less than ~~3~~ 25 psig (~~20~~ 172.4 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the *pipng* greater than 50 percent of the specified minimum yield strength of the pipe. This test shall be made before any fixtures, appliances or shut-off valves have been attached and before being concealed.

G2417.4.2 (406.4.2) Test duration

Amend Section G2417.2 (406.4.2) to read:

G2417.4.2 (406.4.2 Test duration). Test duration shall be not less than ~~10 minutes~~ 30 minutes.

G2417.6.2 (406.6.2) Before turning gas on

Amend Section G2417.6.2 (406.6.2) to read:

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

G2417.6.2.1 (406.6.2.1) For medium pressure gas systems

Add Section G2417.6.2.1 (406.6.2.1) to Section G2417.6.2 (406.6.2) Before turning gas on, to read as:

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

G2417.6.2.2 (406.2.2) For appliances or equipment requiring pounds of gas pressure.

Add Section G2417.6.2.2 (406.6.2.2) to Section G2416.6.2 (406.6.2) Before turning gas on, to read:

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

G2417.6.2.3 (406.2.3) Manometer testing

Add Section G2417.6.2.3 (406.2.3) to Section G2416.6.2 (406.6.2) Before turning gas on, to read:

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

P2503.5.1 Rough plumbing

Amend Section P2503.5.1 to read:

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

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

P2603.5.1 Sewer depth

Amend Section P2603.5.1 to read:

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

P3002.2.2 Building sewer

Add Section P3002.2.2 to Section P3002.2 Building sewer, to read:

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

E3601.6.2 Service disconnect location

Amend Section E3601.6.2 to read as:

E3601.6.2 Service disconnect location. The service disconnecting means shall be installed at a readily accessible location ~~either outside of a building or structure inside nearest the point of entrance of the service conductors. Service disconnecting means shall not be installed in bathrooms. Each occupant shall have access to the disconnect serving the dwelling unit in which they reside.~~ The disconnecting means may be located independent of the building or structure served, in direct line of sight, but not to exceed thirty (30) feet.

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

E3705.6.1 Edison fuses

Add Section E3705.6.1 to Section E3705.6 Fuses and fixed trip circuit breakers, to read:

E3705.6.1 Edison Fuses. Plug fuses of the Edison-based shall be used only for replacement in existing installations where there is no evidence of overfusing or tampering. In any existing building where alterations or additions are

made to any of the premises wiring, all fuse holders shall be made to comply with the requirements for a Type S fuse holder through the installation of a tamper proof (rejection type) base.

E3901.2.2 Wall space

Section E3901.2.2 is amended to read:

E3901.2.2 Wall Space.

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

Exception No. 1: The space behind operable doors.

Exception No. 2: Vestibules, hallways, and similar areas less than 5 ft wide in bedrooms.

E3902.2 Garage and accessory building receptacles

Amend Section E3902.2 to read:

Section E3902.2 Garage and accessory building receptacles. 125-volt, single-phase, 15 or 20 ampere receptacles installed in garages and grade-level portions of unfinished accessory buildings used for storage or work areas shall have ground-fault circuit-interrupter protections for personnel. [210.8(A)(2)]

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

E3902.17 Arc-fault circuit-interrupter protection for branch circuit extensions or modifications

Section E3902.17 is deleted:

~~**E3902.17 Arc-fault circuit interrupter protection for branch circuit extensions or modifications.** Where branch circuit wiring is modified, replaced or extended in any of the areas specified in Section E3902.12, the branch circuit shall be protected by one of the following:~~

- ~~1. A combination type AFCI located at the origin of the branch circuit.~~
- ~~2. An outlet branch-circuit type AFCI located at the first receptacle out of the existing branch circuit.~~

~~**Exception:** AFCI protection shall not be required where the extension of the existing conductors is not more than 6 feet (1.8 m) in length and does not include any additional outlets or devices. [201.12(B) Exception]~~

AH105.2 Footings

Amend Section AH105.2 to read:

AH105.2 Footings. ~~In areas with a frost depth of zero as specified in Table R301.2(1),~~ For patio covers supported on a concrete slab-on-grade without footings, the slab shall conform to the provisions of Section R506, shall be not less than 3.5 inches (89 mm) thick and the columns shall not support live or dead loads in excess of 750 pounds (3.34 kN) per column.

Amendments to the 2017 Edition of the National Electrical Code

210.52(A)(2) Wall Spacing

Amend Section 210.52(A)(2) of Section **210.52(A) General Provisions** to read as follows:

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

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

Exceptions

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

225.32 Locations

Amend Section 225.32 to read as follows:

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

Exceptions

1. *For installations under single management, where documented safe switching procedures are established and maintained for disconnection, and where the installation is monitored by qualified individuals, the disconnecting means shall be permitted to be located elsewhere on the premises.*
2. *For buildings or other structures qualifying under the provisions of Article 685, the disconnecting means shall be permitted to be located elsewhere on the premises.*
3. *For towers or poles used as lighting standards, the disconnecting means shall be permitted to be located elsewhere on the premises.*
4. *For poles or similar structures used only for support of signs installed in accordance with Article 600, the disconnecting means shall be permitted to be located elsewhere on the premises.*
5. The disconnecting means shall be located independent of the building or structure served, in direct line of sight, but not to exceed thirty feet (30').
6. The service disconnecting means may be installed within a building when an external remote shunt switch is provided. All shunt trip switches shall be located at seven feet (7') above finish grade at a location approved by the fire department. All shunt trip switches shall be located within a twelve inch (12") equilateral triangle, red in color.

230.70(A)(1) Readily Accessible Location

*Amend Section 230.70(A)(1) of Section **230.70 General** to read as follows:*

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

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

240.51(B) Replacement Only

*Amend Section 240.51(B) of Section **240.51 Edison-Base Fuses** to read:*

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

250.118(4) Types of Equipment Grounding Conductors

Amend Section 250.118(4) of Section 250.118 Types of Equipment Grounding Conductors to read as follows:

250.118 Types of Equipment Grounding Conductors

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

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

250.120 Equipment Grounding Conductor Installation

Amend Section 250.120 to read as follows:

250.120 Equipment Grounding Conductor Installation. ~~An equipment grounding conductor shall be installed in accordance with 250.120(A), (B), and (C).~~ All raceways installed on roofs shall contain an equipment grounding conductor sized per Table 250.122 installed with the circuit conductors.

***Exception:** Low voltage, communication and similar type systems unless required elsewhere in the Code.*

314.17(C) Nonmetallic Boxes and Conduit Bodies

Amend Section 314.17(C) of Section **314.17 Conductors entering Boxes, Conduit Bodies, or Fittings** to read as follows:

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

Exception: where non-metallic sheathed cable or multiconductor Type UF cable is used with ~~single-gang boxes not larger than a nominal size 57 mm x 100 mm (2 1/4 in. x 4 in.)~~ mounted in walls or ceilings, and where the cable is fastened within 200 mm (8 in.) of the box measured along the sheath and where the sheath extends through a cable knockout not less than 6 mm (1/4 in.), securing the cable to the box shall not be required. Multiple cable entries shall be permitted in a single cable knockout opening.

358.12 Uses Not Permitted

Amend Section 358.12 to read as follows:

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

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

700.10(D) Fire Protection

Amend Section 700.10(D) of Section **700.10 Wiring, Emergency System** to read as follows:

700.10(D) Fire Protection. Emergency systems shall meet the additional requirements in (D)(1) through (D)(3) in the following occupancies:

1. Assembly occupancies for not less than 1000 persons
2. Buildings above ~~23 m (75 ft)~~ 55 ft in height
3. Health care occupancies where persons are not capable of self-preservation.
4. Educational occupancies with more than 300 occupants

700.12 General Requirements

Amend Section 700.12 to read as follows:

700.12 General Requirements. Current supply shall be such that, in the event of failure of the normal supply to, or within, the building or group of buildings concerned, emergency lighting, emergency power, or both shall be available

within the time required for the application but not to exceed 10 seconds. The supply system for emergency purposes, in addition to the normal services to the building and meeting the general requirements of this section, shall be one or more of the types of systems described in 700.12(A) through (E). Unit equipment in accordance with 700.12(F) shall satisfy the applicable requirements of this article.

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

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

Equipment for sources of power as described in 700.12(A) through (E) shall be installed either in spaces fully protected by approved automatic fire suppression systems (sprinklers, carbon dioxide systems, and so forth) or in spaces with a ~~1-hour~~ 2-hour fire rating where located within the following:

1. Assembly occupancies for more than 1000 persons.
2. Buildings above ~~23 m (75 ft)~~ 55 feet in height with any of the following occupancy classes- assembly, educational, residential, detention and correctional, business, and mercantile
3. Health care occupancies where persons are not capable of self-preservation
4. Educational occupancies with more than 300 occupants

Amendments to the 2018 Edition of the International Fuel Gas Code

Section 301.1.2 LP-Gas Installations

Add new subsection 301.1.2 to section 301.1:

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

Section 301.16 Snow Hazard

Add new section 301.16 to 301:

301.16 Snow hazard. Protection of utilities shall be per requirements of the local utility.

Section 406.4.1 Test Pressure

Amend section 406.4.1 to read as follows:

406.4.1 Test pressure. The test pressure to be used shall be no less than 1-1/2 times the proposed maximum working pressure, but not less than 3 25 psig (20 172.4 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the *pipng* greater than 50 percent of the specified minimum yield strength of the pipe. This test shall be made before any fixtures, appliances or shut-off valves have been attached and before being concealed.

Section 406.4.2 Test Duration

Amend section 406.4.2 to read as follows:

406.4.2 Test duration. Test duration shall be not less than 30 minutes, 1/2 hour for each 500 cubic feet (14 m³) of pipe volume or fraction thereof ~~When testing a system having a volume less than 10 cubic feet (0.28 m³) or a system in a single family dwelling, the test duration shall be not less than 10 minutes. The duration of the test shall not be required to exceed 24 hours.~~

Section 406.6.2 Before Turning Gas On

Amend Section 406.6.2 to read as follows and add new subsections 405.6.2.1 thru 405.6.2.3:

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

405.6.2.1 For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between

the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

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

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

Amendments to the 2018 Edition of the International Mechanical Code

Section 401.2 Ventilation Required

Amend Section 401.2 to read as follows:

401.2 Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. ~~Where the air infiltration rate in a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2-inch water column (50 Pa) in accordance with Section 402.4.1.2 of the *International Energy Conservation Code*, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403.~~

Section 505.4 Makeup Air Required

Amend Section 505.2 to read as follows:

505.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of ~~400~~ 600 cfm (~~0.19~~ 0.28 m³/s) shall be provided with *makeup air* at a rate approximately equal to the *exhaust air* rate. Such *makeup air* systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

Section 508.1.3 Evaporative Cooling Systems Used as Makeup Air

Add new subsection 508.1.3 to 508.1:

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

508.1.1 Makeup air temperature. The temperature differential between *makeup air* and the air in the conditioned space shall not exceed 10°F (6°C) except where the added heating and cooling loads of the *makeup air* do not exceed the capacity of the HVAC system.

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

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

Exception: Evaporative cooling systems that are a listed assembly with tempered air for kitchen make-up air systems.

Section 603.2 Duct Sizing

Amend Section 603.2 to read as follows:

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

Amendments to the 2018 Edition of the Uniform Mechanical Code

Section 304.3 Access to Appliances on Roofs

Amend Section 304.3 to read as follows:

Section 304.3 Access to Appliances on Roofs. Appliances located on roofs or other elevated locations above 30 inches shall be accessible. [NFPA 54:9.4.3.11]

304.3.1 Access. Buildings exceeding 15 feet (4572 mm) in height shall have an inside means of access to the roof unless other means acceptable to the Authority Having Jurisdiction are used [NFPA 54:9.4.3.2]

3-4.3.1.1 Access Type. The inside means of access shall be a permanent, or foldable inside stairway or ladder, terminating in an enclosure, scuttle, or trap door. such scuttles or trap doors shall be not less than 22 inches by 24 inches (559 mm by 610 mm) in size, shall open easily and safely under all conditions, especially snow; and shall be constructed so as to permit access from the roof side unless deliberately locked on the inside.

Not less than 610 feet (1829.3048 mm) of clearance shall be between the access opening and the edge of the roof or similar hazard or rigidly fixed rails or guards not less than 42 inches (1067 mm) in height shall be provided on structures are utilized in lieu of guards or rails, they shall be not less than 42 inches (1067 mm) in height. [NFPA 54:9.4.3.1]

Section 403.7.2 Enclosed Parking Garages

Amend Section 403.7.2 to read as follows:

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

Exceptions:

~~(1) Mechanical ventilation systems shall be permitted to operate intermittently where the system is designed to operate automatically upon detection of vehicle operation or the presence of occupants by approved automatic detection devices.~~ Mechanical ventilation systems for enclosed parking garages shall be permitted to operate intermittently where the system is designed to operate automatically upon detection of vehicle operation or presence of occupants by approved automatic detection devices.

~~(2) Approved automatic carbon monoxide sensing devices shall be permitted to be employed to modulate the ventilation system to not exceed a maximum average concentration of carbon monoxide of 50 parts per million during an eight-hour period, with a concentration of not more than 200 parts per million for a period not exceeding one hour. Automatic carbon monoxide sensing devices installed to modulated parking garage ventilation systems shall be approved in accordance with Section 301.2.~~ Automatic carbon monoxide sensing devices shall be permitted to be employed to modulate the ventilation system to maintain a maximum average concentration of carbon monoxide of 50 parts per million during an eight-hour period, with a concentration of not more than 200 parts per million for a period not exceeding one hour. Automatic carbon monoxide sensing devices installed to modulated parking garages ventilation systems shall be approved.

Section 504.4.2.1 Length Limitation

Amend Section 504.4.2.1 to read as follows:

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

Exceptions:

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

Section 505.10 Makeup Air

Amend Section 505.10 to read as follows:

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

Section 508.3.5.4 Evaporative Cooling Systems Used as Make Up Air Systems

Add Section 508.3.5.4 to read as follows:

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

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

Section 511.2.2.2 Capture and Containment Test

Amend Section 511.2.2.2 to read as follows:

Section 511.2.2.2 Capture and Containment Test. The permit holder shall verify the capture and containment performance of the Type I hoods. A field test shall be conducted with the all appliances under the hood at operating temperatures, with the outdoor air providing makeup air for all the hoods operating and with the source of recirculated air providing conditioning for the space in which the hood operating in located at design airflows, and

with all sources of replacement air operating at design airflows for the restaurant. Capture and containment shall be verified by observing smoke or steam produced by actual or simulated cooking operation or by simulating cooking using devices such as smoke candles or smoke puffers. Smoke bombs shall not be used [ASHRAE 154:4.8.2-4.7.2]

Exception: Capture and containment test not required if hood is UL and NFPA listed and manufacturers data lists the individual equipment below hood.

Section 604.1 General

Amend Section 604.1 to read as follows:

604.1 General. ~~Air ducts conveying air at temperatures exceeding 140°F (60°C) shall be insulated to maintain an insulation surface temperature of not more than 140°F (60°C). Factory made air ducts and insulations intended for installation on the exterior of ducts shall be legibly printed with the name of the manufacturer, the thermal resistance (R) value at installed thickness, flame spread index and smoke developed index of the composite material. Internal duct liners and insulation shall be installed in accordance with SMACNA HVAC Duct Construction Standards—Metal and Flexible. Supply air ducts, return air ducts, and plenum of a heating or cooling system shall be insulated to achieve the minimum thermal (R) value in accordance with the 2018 International Energy Conservation Code Section 403.2.1 for residential and 503.2.7 for commercial.~~

Exceptions:

- ~~1. Factory installed plenums, casings, or ductwork furnished as a part of HVAC equipment tested and rated in accordance with approved energy efficiency standards.~~
- ~~2. Ducts or plenums located in conditioned spaces where heat gain or heat loss will not increase energy use.~~
- ~~3. For runouts less than 10 feet (3048 mm) in length to air terminals or air outlets, the rated R value of insulation need not exceed R-3.5 (R-0.6).~~
- ~~4. Backs of air outlets and outlet plenums exposed to unconditioned or indirectly conditioned spaces with face areas exceeding 5 square feet (0.5 m²) need not exceed R-2; those 5 square feet (0.5 m²) or smaller need not be insulated.~~
- ~~5. Ducts and plenums used exclusively for evaporative cooling systems.~~

Section 608.1 Air-Moving Systems and Smoke Detectors

Add Section 608.1 to read as follows:

608.1 Air-Moving Systems and Smoke Detectors. Air-moving systems supplying air in excess of 2000 cubic feet per minute (ft³ /min) (0.9439 m³ /s) to enclosed spaces within buildings shall be equipped with an automatic shutoff. Automatic shutoff shall be accomplished by interrupting the power source of the air-moving equipment upon detection of smoke in the main ~~supply~~ return-air duct or plenum upstream of any filters, exhaust air connections, outdoor air connections, or decontamination equipment and appliances ~~air duct~~ served by such equipment. Duct smoke detectors shall comply with UL 268A and shall be installed in accordance with the manufacturer's installation instructions. Such devices shall be compatible with the operating velocities, pressures, temperatures, and humidities of the system. Where fire-detection or alarm systems are provided for the building, the smoke detectors shall be supervised by such systems in an approved manner.

Exceptions:

1. Where the space supplied by the air-moving equipment is served by a total coverage smoke-detection system in accordance with the fire code, interconnection to such system shall be permitted to be used to accomplish the required shutoff.

2. Automatic shutoff is not required where occupied rooms served by the air-handling equipment have direct exit to the exterior and the travel distance does not exceed 100 feet (30 480 mm).
3. Automatic shutoff is not required for Group R, Division 3 and Group U Occupancies.
4. Automatic shutoff is not required for approved smoke control systems or where analysis demonstrates shutoff would create a greater hazard, such as shall be permitted to be encountered in air-moving equipment supplying specialized portions of Group H Occupancies. Such equipment shall be required to have smoke detection with remote indication and manual shutoff capability at an approved location. (5) Smoke detectors that are factory installed in listed air moving equipment shall be permitted to be used in lieu of smoke detectors installed in the main supply-air duct served by such equipment.

Section 609.0 Performance Test for Automatic Shutoffs

Add Section 609.0 to read as follows:

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

Section 939.0 Sauna Heaters

Add Section 939.1 to Section 939.0 Sauna Heaters to read as follows:

939.0 Sauna Heaters.

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

Section 1301.1 Applicability

Amend Section 1301.1 to read as follows:

1301.1 Applicability. The regulations of this chapter shall govern the installation of fuel gas piping in or in connection with a building, structure or within the property lines of premises up to 5 pounds-force per square inch (psi) (34 kPa) for natural gas and 10 psi (69 kPa) for undiluted propane, other than service pipe.

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

Section 1313.3 Test Pressure

Amend Section 1313.3 to read as follows:

1313.3 Test Pressure. This inspection shall include an air, CO₂, or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than ~~10~~ 25 psi (~~69~~ 172.4 kPa) gauge pressure. Test pressures shall be held for a length of time satisfactory to the Authority Having Jurisdiction but in no case less than ~~15~~ 30 minutes with no perceptible drop in pressure. For welded piping, and for piping carrying gas at pressures in excess of 14 inches water column (3.5 kPa) pressure, the test pressure shall be not less than 60 psi (414 kPa) and shall be continued for a length of time satisfactory to the Authority Having Jurisdiction, but in no case for less than 30 minutes. ~~For CSST carrying gas at pressures in excess of 14 inches water column (3.5 kPa) pressure, the test pressure shall be 30 psi (207 kPa) for 30 minutes.~~ These tests shall be made using air, CO₂, or nitrogen pressure and shall be made in the presence of the Authority Having Jurisdiction. Necessary apparatus for conducting tests shall be furnished by the permit holder. Test gauges used in conducting test shall be in accordance with Section ~~1303.3.3.1 through Section 1303.3.3.4~~ 318.0.

Section 1313.5.1 Turning Gas On

Amend Section 1313.5.1 to read as follows:

1313.5.1 Turning Gas On. During the process of turning gas on into a system of new gas piping or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that all valves at unused outlets are closed and plugged or capped. [NFPA 54:8.2.2]

1313.5.1.1 During the process of turning gas on into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of service; in the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County a manometer test shall be made after all valves, unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15) inches of water column shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

1313.5.1.2 For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

1313.5.1.3 For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure.

1313.5.1.4 Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer tester card for which the number is to be provided at the time of request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service.

Amendments to the 2018 Edition of the Uniform Plumbing Code

Section 216.0 Definition Non-Combustible Material

Amend Section 216.0 to read as follows:

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

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

Section 218.0 Definition Penetration Firestop System

Delete Section 218.0 as follows:

218.0 Definitions. ~~Penetration Firestop System.~~ ~~A specific assemblage of field-assembled materials, or a factory-made device, which has been tested to a standard test method and, where installed properly on penetrating piping materials, is capable of maintaining the fire resistance rating of assemblies penetrated.~~

Section 222.0 Definitions “T” Rating

Delete Section 222.0 as follows:

222.0 Definitions. ~~T Rating.~~ ~~The time period that the penetration firestop system, including the penetrating item, limits the maximum temperature rise of 325° (163°C) above its initial temperature through the penetration on the non-fire side, where tested in accordance with ASTM E 814 or UL 1479.~~

Section 312.7 Fire-Resistant Construction

Amend Section 312.7 to read as follows:

312.7 Fire-Resistant Construction. Piping penetrations of fire-resistance-rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the building code. ~~and Chapter 15, “Firestop Protection.”~~

Section 422.0 Minimum Number of Required Fixtures

Delete Section 422.0 to read:

~~Section 422.0 Minimum Number of Required Fixtures.~~

Table 422.1 Minimum Plumbing Facilities

Delete Table 422.1 as follows:

Table 422.1 Minimum Plumbing Facilities

Section 609.1 Installation

Amend Section 609.1 to read as follows:

609.1 Installation. Water piping shall be adequately supported in accordance with Table 313.3. Burred ends shall be reamed to the full bore of the pipe or tube. Changes in direction shall be made by the appropriate use of fittings, except that changes in direction in copper or copper alloy tubing shall be permitted to be made with bends, provided that such bends are made with bending equipment that does not deform or create a loss in the cross-sectional area of the tubing. Changes in direction are allowed with flexible pipe and tubing without fittings in accordance with the manufacturer's instructions. Provisions shall be made for expansion in hot-water piping. Piping, equipment, appurtenances, and devices shall be installed in a workmanlike manner in accordance with the provisions and intent of the code. Building supply yard piping shall be not less than ~~12~~ 6 inches (~~305~~ 152mm) below the average local frost depth. The cover shall be not less than 12 inches (305 mm) below finish grade.

Section 712.1 Media

Amend Section 712.1 to read as follows:

712.1 Media. The piping of the plumbing, drainage and venting systems shall be tested with water or air ~~except that plastic piping shall not be tested with air.~~ The authority Having Jurisdiction shall be permitted to require the removal of cleanouts, etc., to ascertain whether the pressure has reached all parts of the system. After the plumbing fixtures have been set and their traps filled with water, they shall be submitted to a final test.

Section 717.1 General (Size of Building Sewers)

Amend Section 717.1 to read as follows:

717.1 General. The minimum size of a building sewer shall be determined on the basis of the total number of fixture units drained by such sewer, in accordance with Table 717.1. No building sewer shall be smaller than the building drain ~~or less than four (4) inches in diameter.~~ For alternate methods of sizing building sewers, see Appendix C.

Section 723.1 General (Building Sewer Test)

Amend Section 723.1 to read as follows:

723.1 General. Building sewers shall be tested by plugging the end of the building sewer at its points of connection with the public sewer or private sewage disposal system and completely filling the building sewer with water from the lowest to highest point thereof, or by approved equivalent low-pressure air test. ~~Plastic DWV piping systems shall not be tested by the air test method.~~ The building sewer shall be watertight.

Section 1107.2 Methods of Testing Storm Drainage Systems

Amend Section 1107.2 to read as follows:

1107.2 Methods of Testing Storm Drainage Systems. Except for outside leaders and perforated or open-jointed drain tile, the piping of storm drain systems shall be tested upon completion of the rough piping installation by water or

air, ~~except that plastic pipe shall not be tested with air,~~ and proved tight. The Authority Having Jurisdiction shall be permitted to require the removal of cleanout plugs to ascertain whether the pressure has reached parts of the system. One of the following test methods shall be used in accordance with Section 1109.2.1 through Section 1109.2.3.

Section 1201.1 Installation

Amend Section 1201.1 to read as follows:

1201.1 Installation. The regulations of this chapter shall govern the installation of fuel gas piping in or in connection with a building, structure or within the property lines of premises up to 5 pounds-force per square inch (34 kPa) ~~for natural gas and 10 psi (69 kPa) for undiluted propane,~~ other than service pipe. Fuel oil piping systems shall be installed in accordance with NFPA31. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.

Section 1208.6.1.3 Snow Hazard

Add Section 1208.6.1.3 to 1208.6 to read as follows:

1208.6.1.3 Snow Hazard: Protection of utilities shall be per requirements of local utility.

Section 1213.3 Test Pressure

Amend Section 1213.3 to read as follows:

1213.3 Test Pressure. This inspection shall include an air, CO₂, or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than ~~40~~ 25 psi (~~69~~ 172.4 kPa) gauge pressure. Test pressures shall be held for a length of time satisfactory to the Authority Having Jurisdiction, but in no case less than ~~15~~ 30 minutes with no perceptible drop in pressure. For welded piping, and for piping carrying gas at pressures in excess of 14 inches water column pressure (3.5 kPa), the test pressure shall be not less than 60 psi (414 kPa) and shall be continued for a length of time satisfactory to the Authority Having Jurisdiction, but in no case for less than 30 minutes. These tests shall be made using air, CO₂, or nitrogen pressure and shall be made in the presence of the Authority Having Jurisdiction. Necessary apparatus for conducting tests shall be furnished by the permit holder. Test gauges used in conducting tests shall be in accordance with Section 318.0.

Section 1213.5.1 Turning Gas On

Amend Section 1213.5.1 to read as follows:

1213.5.1 Turning Gas On. During the process of turning gas on into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of service, the entire system shall be inspected to determine that there are no open fittings or ends and that the valves at unused outlets are closed and plugged or capped. [NFPA 54:8.2.2]

1213.5.1.1 During the process of turning gas on into a system of new gas piping or into a system or portion of a gas system that has been restored after an interruption of service; in the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County a manometer test shall be made after all valves, unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least

eleven (11) to fifteen (15) inches of water column shall be measured for at least fifteen (15) minutes, with no perceptible drop in pressure.

1213.5.1.2 For medium pressure gas systems: Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.

1213.5.1.3 For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance's normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure.

1213.5.1.4 Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer tester card for which the number is to be provided at the time of request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service.

Chapter 14 Firestop Protection

Delete Chapter 14 as follows:

~~Chapter 14 Firestop Protection~~

2018 Northern Nevada Amendments Appendix

Appendix Table R301.2(1)

Carson City

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
See IBC Table 1608.2.1	120	No	Yes	No	D2	Severe	24"	Moderate To Heavy	9°F	Yes above 5500'	Varies. See Engineering Dept	444	50.2°F

~~Manual J Design Criteria~~

City of Fernley

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
See IBC Table 1608.2.1	115	No	No	No	D1	Severe	18"	Moderate To Heavy	11°F	No	(a)06/04/2003 (b)11/20/1998 Firm	594	49.4°F

~~Manual J Design Criteria~~

City of Reno

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
See IBC Table 1608.2.1	120	No	Yes	No	D2	Severe	24"	Moderate To Heavy	17°F	Yes above 5300'	See RMC 18.12.1701	594	49.4°F

~~Manual J Design Criteria~~

City of Sparks

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
See IBC Table 1608.2.1	120	No	Yes	No	D2	Severe	24"	Moderate To Heavy	17°F	No	See SMC 15.11	594	49.4°F

Manual J Design Criteria

Douglas County

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
See IBC Table 1608.2.1	120	No	Yes	No	D2	Severe	18" < 6000' 24" > 6000'	Moderate To Heavy	4°F	Yes above 5300'	Douglas County Title 20 Chapter 20.50	647	48.8°F

Manual J Design Criteria

Lyon County

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
See IBC Table 1608.2.1	115	No	No	No	D1	Severe	18"	Moderate To Heavy	11°F	No	Lyon Co. Title 12	445	51.2°F

Manual J Design Criteria

Pershing County

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
See IBC Table 1608.2.1	See IBC 1609.3.2				D2	Severe	36"	Slight To None	1°F	Yes above 5300'	June 4, 2003	594	49.4°F

Manual J Design Criteria

Storey County

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
See IBC Table 1608.2.1	115	No	No	No	D1	Severe	18"	Moderate To Heavy	18°F	Yes above 5500'	See SCC 15.20	594	49.4°F

Manual J Design Criteria

Washoe County

Ground Snow Load ^o	Wind Design				Seismic Design Category ^f	Subject to Damage From			Winter Design Temp ^e	Ice Barrier Underlayment Required ^h	Flood Hazards ^g	Air Freezing Index ⁱ	Mean Annual Temp ^j
	Speed ^d (MPH)	Topographic Effects ^k	Special Wind Region ^l	Windbourne Debris Zone ^m		Weathering ^a	Frost Line Depth ^b	Termite ^c					
	120	No	Yes	No	D2	Severe	24"	Moderate To Heavy	17°F	Yes above 5300'	See WCC Chapter 110	594	49.4°F

Manual J Design Criteria

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

- Where weathering requires a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code, the frost line depth strength required for weathering shall govern. The weathering column shall be filled in with the weathering index, "negligible," "moderate," or "severe" for concrete as determined from Figure R301.2(4). The grade of masonry unit shall be determined from ASTM C34, C55, C62, C73, C90, C129, C145, C, the urisidc216 or C652.
- Where the frostline depth requires deeper footings than indicated in Figure R403.1(1), the frostline depth strength required for weathering shall govern. The jurisdiction shall fill in the frost line depth column with the minimum depth footing below finish grade.
- The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(5)A]. wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The outdoor design dry-bulb temperature shall be selected from the columns of 97 1/2 -percent values for winter from Appendix D of the *International Plumbing Code*. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official [Also see Figure R301.2(1).]
- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction’s entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas), (b) the date(s) of the Flood Insurance Study and (c) the panel numbers and dates of the currently effective FIRMS and FBFMs or other flood hazard amp adopted by the authority having jurisdiction, as amended.
- h. In accordance with Sections R905.1.2, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1, and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in the part of this table with “Yes.” Otherwise, the jurisdiction shall indicate “No.”
- i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table “Air Freezing Index- USA Method (Base 32°F).”
- j. The jurisdiction shall fill in this part of the table with the mean annual temperature form the National Climatic Data Center data table “Air Freezing Index- USA Method (Base 32°F.)
- k. In accordance with Section R301.2.1.5, where there is local historic data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with “yes.” Otherwise, the jurisdiction shall indicate “No” in this part of the table.
- l. In accordance with Figure R301.2.5(A), where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with “Yes” and identify any specific requirements. Otherwise, the jurisdiction shall indicate “No” in this part of the table.
- m. In accordance with Section R301.2.1.2 the jurisdiction shall indicate the wind-borne debris zone(s). Otherwise, the jurisdiction shall indicate “No” in this part of the table.
- ~~n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from ACCA Manual 3 or established by the jurisdiction.~~
- o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in Figure R301.2(6).



GOVERNOR'S OFFICE OF ENERGY

October 31, 2018

Northern Nevada International Code Council
Attn: Mark Meranda, Chair
431 Prater Way
Sparks, NV 89431

Dear Mr. Miranda,

Please accept this letter as the Governor's Office of Energy (GOE) acknowledgement of amendments to the 2018 International Energy Conservation Code (IECC) developed by the Northern Nevada Chapter of the International Code Council. The GOE has determined that these proposed amendments either meet or exceed the 2018 IECC and therefore are found to be acceptable.

As you are aware, the GOE adopted the 2018 IECC as the statewide minimum standard for the conservation of energy and energy efficiency in buildings effective June 26, 2018. However, the governing body of a local government that is authorized by law to adopt and enforce a building code may make amendments to the code, which will not materially lessen the effective energy savings requirements of the code and are deemed necessary to support code compliance and enforcement, pursuant to NRS 701.220.

The proposed code amendments were reviewed by appointed energy code councils, local building officials, building inspectors, energy raters, engineers and builders. The results of the review process are incorporated into the proposed code amendments. GOE staff participated in the Northern Nevada ICC 2018 IECC Committee meetings to increase understanding of the code amendments being considered. GOE reviewed the revisions regarding the amendments to the energy code and has determined that it will not reduce the effective energy savings requirements and will also support effective compliance and enforcement of the code.

Thank you for the opportunity to participate in this important process. If you have any questions, please contact Robin Isaacs, Energy Programs Manager at (775) 687-1850 ext. 7324 or via email at risaacs@energy.nv.gov.

Best Regards,

Angela Dykema
Director