

**City of Carson City  
Agenda Report**

**Date Submitted:** March 26, 2013

**Agenda Date Requested:** April 4, 2013

**Time Requested:** 30 minutes

**To:** Mayor and Board of Supervisors

**From:** Development Services - Building Division

**Subject Title:** Action to introduce, on first reading, Bill No. \_\_\_\_\_, an ordinance amending the Carson City Municipal Code Title 15, Buildings and Construction, Chapter 15.05 Building Code, Section 15.05.020, adoption and administration of building codes, by adopting the 2012 Editions of the International Building Code, International Residential Code, International Mechanical Code, Uniform Mechanical Code, Uniform Plumbing Code, International Fuel Gas Code, International Property Maintenance Code, International Existing Building Code, and International Swimming Pool and Spa Code, the 2011 Edition of the National Electric Code, the 2012 Northern Nevada Amendments, the 2011 Northern Nevada Energy Code Amendments; and other matters properly related thereto. (Kevin Gattis)

**Staff Summary:** The proposed language would modify the text of the Carson City Municipal Code by changing/adding to the format of the current ordinance by replacing the current amendments to the adopted codes with the 2012 Northern Nevada amendment package. Although submittals to the Building Division may conform with the proposed changes beforehand, September 1, 2013 would be the effective date of this ordinance and the change to the code.

**Type of Action Requested:**

Resolution

Ordinance (First Reading)

Formal Action/Motion

Other (Specify)

**Does This Action Require A Business Impact Statement:**  Yes  No

**Recommended Board Action:** I move to introduce, on first reading, Bill No. \_\_\_\_\_, an ordinance amending the Carson City Municipal Code Title 15, Buildings and Construction, Chapter 15.05 Building Code, Section 15.05.020, adoption and administration of building codes, by adopting the 2012 Editions of the International Building Code, International Residential Code, International Mechanical Code, Uniform Mechanical Code, Uniform Plumbing Code, International Fuel Gas Code, International Property Maintenance Code, International Existing Building Code, and International Swimming Pool and Spa Code, the 2011 Edition of the National Electric Code, the 2012 Northern Nevada Amendments, the 2011 Northern Nevada Energy Code Amendments; and other matters properly related thereto effective September 1, 2013.

**Explanation for Recommended Board Action:** The Board of Supervisors, pursuant to Carson City Municipal Code, is required to take action on all code amendments.

**Applicable Statute, Code, Policy, Rule or Regulation:** CCMC Title 15

**Fiscal Impact:** N/A

**Explanation of Impact:** N/A

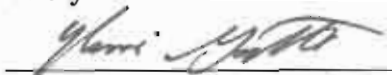
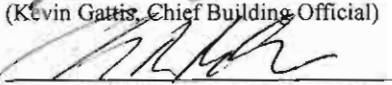
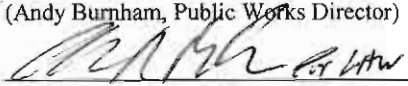
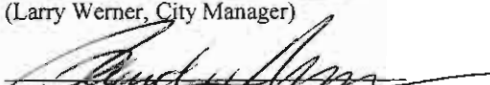
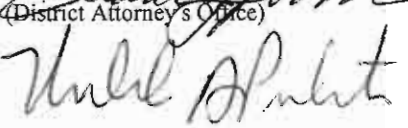
**Funding Source:** N/A

- Alternatives:** 1) Refer the matter back to the Building Division for further review, or  
2) Deny

**Supporting Material:** Ordinance, 2011 Northern Nevada Energy Code Amendments &  
2012 Northern Nevada Amendments

**Prepared By:** Kevin Gattis, Chief Building Official

**Reviewed By:**

 (Kevin Gattis, Chief Building Official)	Date: <u>3-26-13</u>
 (Andy Burnham, Public Works Director)	Date: <u>3-26-13</u>
 (Larry Werner, City Manager)	Date: <u>3-26-13</u>
 (District Attorney's Office)	Date: <u>3/26/13</u>
	Date: <u>3/26/13</u>

**Board Action Taken:**

Motion: \_\_\_\_\_

1) _____	Aye/Nay
2) _____	_____
	_____
	_____
	_____

\_\_\_\_\_  
(Vote Recorded By)

ORDINANCE NO. \_\_\_\_\_

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 2012 EDITION OF THE INTERNATIONAL BUILDING CODE, INTERNATIONAL RESIDENTIAL CODE, INTERNATIONAL MECHANICAL CODE, UNIFORM MECHANICAL CODE, UNIFORM PLUMBING CODE, INTERNATIONAL FUEL GAS CODE, INTERNATIONAL PROPERTY MAINTENANCE CODE, INTERNATIONAL EXISTING BUILDING CODE, INTERNATIONAL SWIMMING POOL AND SPA CODE, 2011 EDITION NATIONAL ELECTRICAL CODE, 2012 NORTHERN NEVADA AMMENDMENTS, 2011 NORTHERN NEVADA ENERGY CODE AMENDMENTS; AND OTHER MATTERS PROPERLY RELATED THERETO.

THE BOARD OF SUPERVISORS OF CARSON CITY DO ORDAIN:

SECTION I:

That Section 15.05.020 of the Carson City Municipal Code is hereby amended as follows:

**15.05.020 Adoption and administration of Building and Construction Codes.**

TABLE INSET:

100	Adopted Codes
101	General
102	Applicability
103	Department of Building Safety
104	Duties and Powers of Building Official
105	Permits
106	<u>Floor and Roof Design Loads</u>
10{6} 7	{Construction} <u>Submittal Documents</u>
10{7} 8	Temporary Structures and Uses

10 <del>8</del> 9	Fees
1 <del>09</del> 10	Inspections
11 <del>0</del> 1	Certificate of Occupancy
11 <del>1</del> 2	Service Utilities
11 <del>2</del> 3	Board of Appeals
11 <del>3</del> 4	Violations
11 <del>4</del> 5	Stop Work Order
11 <del>5</del> 6	Unsafe Structures and Equipment
11 <del>6</del> 7	Workmanship and Fabrication
11 <del>7</del> 8	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. ~~{2006}~~ 2012 Edition, International Building Code ("IBC"), chapters 2 through 34 and Appendices C, ~~{E,}~~ ~~{G,}~~ H, I and J as amended.
2. ~~{2006}~~ 2012 Edition, Uniform Plumbing Code ("UPC"), chapters 2 through 1~~6~~ 7 and IAPMO Installation Standards and Appendices A, B, C, D, E, G, H, I, J, K and L.
3. ~~{2006}~~ 2012 Edition, International Residential Code ("IRC"), chapters 2 through 4~~2~~ 3 and Appendices A, B, C, G, H, J and K ~~and L~~ as amended.
4. ~~{2006}~~ 2012 Edition, Uniform Mechanical Code ("UMC"), chapters 2 through 17 and Appendices ~~{A,}~~ B, ~~and~~ C and F as amended.
5. 2012 Edition, International Mechanical Code ("IMC"), chapters 2 through 15 and Appendix A.
6. ~~{2005}~~ 2011 Edition, National Electrical Code ("NEC"). ~~{, and Administrative Section, Article 80.}~~
7. 2009 Edition, International Energy Conservation Code, ("IECC").
8. ~~{2006}~~ 2012 International Property Maintenance Code, ("IPMC"), chapters 2 through 7.
9. ~~{2006}~~ 2012 International Existing Building Code, ("IEBC"), chapters 1 through 15.
10. 2012 International Fuel Gas Code, ("IFGC"), chapters 2 through 7 and Appendices A, B and C.
11. 2012 International Swimming Pool and Spa Code, (ISPSA), chapters 2 through 11.

12. ~~[2007]~~ 2012 Northern Nevada Amendments [~~except Sections 1214.3, 1214.3.1, 1214.3.2, and 1214.3.3.~~]
13. 2011 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, ~~[movement]~~ 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.~~7~~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 Electrical. The provisions of the ICC Electrical Code shall apply to the installation of electrical systems, including alterations, repairs, replacement, equipment, appliances, fixtures, fittings and appurtenances thereto.~~

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.~~5~~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.~~6~~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.~~7~~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. ~~Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.~~ 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 120 square feet (11 m<sup>2</sup>).
2. Fences not over 6 feet (1829) 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 10~~6~~ 7.
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 one 18-month extension when the permittee is unable to complete the permitted work within 18 months of permit issuance. No permit shall be extended more than once.

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 – ~~{CONSTRUCTION DOCUMENTS}~~ 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/m<sup>2</sup>), 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**

10~~6~~7.1 ~~{Submittal documents.}~~ General.

Submittal documents consisting of {C}construction documents, statement of special inspections, geotechnical report and other data shall be submitted in ~~{one}~~ 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. ~~[Submittals shall include construction inspection requirements as defined in Sections 106.3.4.1 and 109.3.9.]~~ 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

~~10[6.1]~~7.2.1 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.

~~10[6.1.1.1]~~ 7.2.2 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.

~~10[6.1.2]~~ 7.2.3 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.

~~10[6.1.3]~~ 7.2.4 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.

10[6.2] 7.2.5 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.

10[6] 7.3 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.

10[6] 7.3.1 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.

10[6] 7.3.2 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.

10[6] 7.3.3 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.

106.3.4 Design professional in responsible charge.

~~106.3.4.1 General.~~ 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.

~~[Where structural observation is required by Section 1709, the statement of special inspections shall name the individual or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur (see also duties specified in Section 1704).]~~

~~10[6] 7.3.4.[2] 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.

~~10[6] 7.4~~ 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.

~~10[6] 7.5~~ 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 ~~10[7] 8~~ - TEMPORARY STRUCTURES AND USES**

~~10[7] 8.1~~ 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.

~~10[7] 8.2~~ 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.

~~10[7] 8.3~~ 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 ~~{ICC}~~ National Electrical Code.

10{7} 8.4 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 10{8} 9 – FEES**

10{8} 9.1 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.

10{8} 9.2 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 108.3, 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. For a residential project, .015; or
- b. 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:

TABLE INSET:

OTHER INSPECTIONS	FEES
<b>1. Inspection outside of normal business hours (Minimum charge--two hours)</b>	<b>\$65.00 per hour*</b>
<b>2. Reinspection fees assessed under provisions of Section 10<del>9</del>10.7</b>	<b>\$65.00 per hour*</b>
<b>3. Inspections for which no fee is specifically indicated (Minimum charge--one-half hour)</b>	<b>\$65.00 per hour*</b>
<b>4. Additional plan review required by changes, additions or revisions to plans (Minimum charge--one-half hour)</b>	<b>\$65.00 per hour*</b>
<b>5. For use of outside consultants for plan checking and inspections, or both actual costs**</b>	

\* 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**

TABLE INSET:

50 cubic yards (38.2 m <sup>3</sup> ) or less	No fee
51 to 100 cubic yards (40 to 76.5 m <sup>3</sup> )	\$23.50
101 to 1,000 cubic yards (77.2 to 764.6 m <sup>3</sup> )	\$37.00
1,001 to 10,000 cubic yards (765.3 to 7,645.5 m <sup>3</sup> )	\$49.25
10,001 to 100,000 cubic yards (7,646.3 to 76,455 m <sup>3</sup> )	\$49.25 for the first 10,000 cubic yards (7,645.5 m <sup>3</sup> ), plus \$24.50 for each additional 10,000 cubic yards (7,645.5 m <sup>3</sup> ) or fraction thereof
100,001 to 200,000 cubic yards (76,456 to 152,911 m <sup>3</sup> )	\$269.75 for the first 100,000 cubic yards (76,455 m <sup>3</sup> ), plus \$13.25 for each additional 10,000 cubic yards (7,645.5 m <sup>3</sup> )

	) or fraction thereof
200,001 cubic yards (152,912 m <sup>3</sup> ) or more	\$402.25 for the first 200,000 cubic yards (152,911 m <sup>3</sup> ), plus \$7.25 for each additional 10,000 cubic yards (7,645.5 m <sup>3</sup> ) or fraction thereof
<b>OTHER FEES</b>	
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

TABLE INSET:

50 cubic yards (38.2 m <sup>3</sup> ) or less	\$23.50
51 to 100 cubic yards (40 to 76.5 m <sup>3</sup> )	\$37.00
101 to 1,000 cubic yards (77.2 to 764.6 m <sup>3</sup> )	\$37.00 for the first 100 cubic yards (76.5 m <sup>3</sup> ), plus \$17.50 for each additional 100 cubic yards (76.5 m <sup>3</sup> ) or fraction thereof
1,001 to 10,000 cubic yards (765.3 to 7,645.5 m <sup>3</sup> )	\$194.50 for the first 1,000 cubic yards (764.6 m <sup>3</sup> ), plus \$14.50 for each additional 1,000 cubic yards (764.6 m <sup>3</sup> ) or fraction thereof
10,001 to 100,000 cubic yards (7,646.3 to 76,455 m <sup>3</sup> )	\$325.00 for the first 10,000 cubic yards (7,645.5 m <sup>3</sup> ), plus \$66.00 for each additional 10,000 cubic yards (7,645.5 m <sup>3</sup> ) or fraction thereof
100,001 yards (76,456 m <sup>3</sup> ) or more	\$919.00 for the first 100,000 cubic yards (76,455 m <sup>3</sup> ), plus \$36.50 for each additional 10,000 cubic yards (7,645.5 m <sup>3</sup> ) or fraction thereof
<b>OTHER INSPECTIONS</b>	<b>FEES</b>
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.

10[8]9.3 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.

10[8]9.4 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.

10[8]9.5 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.

10[8]9.6 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.

10[8]9.7 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 ~~1{09}~~ 10- INSPECTIONS

~~1{09}~~10.1 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.

~~1{09}~~10.2 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.

~~1{09}~~10.3 Required inspections. The building official, upon notification, shall make the inspections set forth in Sections 109.3.1 through 109.3.12.

~~1{09}~~10.3.1 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.

~~1{09}~~10.3.2 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.

~~1{09}~~10.3.3 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.

~~1{09}~~10.3.4 Exterior shear wall inspection. To be made prior to the application of exterior siding or cover.

~~1{09}~~10.3.5 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.

~~1{09}~~10.3.6 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.

1{09}10.3.7 Insulation inspection. Insulation inspection to be made after rough frame, plumbing, mechanical and electrical inspections have been approved.

1{09}10.3.8 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.

1{09}10.3.9 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.

1{09}10.3.10 Energy efficiency inspections. Inspections shall be made to determine compliance with Chapter 13 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.

1{09} 10.3.11 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.

1{09}10.3.12 Special inspections. For special inspections, see Section 17{04}.

1{09}10.3.13 Final inspection. The final inspection shall be made after all work required by the building permit is completed.

1{09}10.4 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.

1{09}10.5 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.

1{09}10.6 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.

~~11{09}~~10.7 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 11{01} 1- CERTIFICATE OF OCCUPANCY**

11{01}1.1 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

11{01}1.2 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.

11{0}1.3 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.

11{0}1.4 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 11{4}2 - SERVICE UTILITIES**

11{4}2.1 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.

11{4}2.2 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.

11{4}2.3 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 [referenced] 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 11{2}3- BOARD OF APPEALS**

11{2}3.1 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 {body} 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.

11{2}3.2 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.

11{2}3.3 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.

11{2}3.4 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 11{3}4 – VIOLATIONS**

11{3}4.1 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.

11{3}4.2 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.

11{3}4.3 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.

11{3}4.4 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 11{4}5 - STOP WORK ORDER**

11{4}5.1 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.

11{4}5.2 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.

11{4} 5.3 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 11{5}6- UNSAFE STRUCTURES AND EQUIPMENT**

11{5}6.1 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.

11{5}6.2 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.

11{5}6.3 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.

11{5}6.4 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.

11{5}6.5 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 11{6}7 - WORKMANSHIP AND FABRICATION**

11{6}7.1 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 11{7}8- MOVING AND DEMOLITION**

11{7}8.1 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 no other provisions of the Carson City Municipal Code are affected by this ordinance.

PROPOSED December 3, 2009

PROPOSED BY \_\_\_\_\_

PASSED \_\_\_\_\_ (Month) \_\_\_\_\_ (Day), 2009.



# 2011 NORTHERN NEVADA ENERGY CODE AMENDMENTS

## 2009 INTERNATIONAL ENERGY CONSERVATION CODE

**Published by the Northern Nevada Chapter of the International Code Council:  
March 30, 2012**

Carson City  
108 E Proctor St.  
Carson City, NV 89701

City of Sparks  
431 Prater Way  
Sparks, NV 89431

BANN  
5484 Corporate Dr.  
Suite 100  
Reno, NV 89511

City of Fernley  
595 Silver Lace Blvd.  
Fernley, NV 89408

Washoe County  
1001 E. Ninth Street  
Reno, NV 89512

City of Reno  
450 Sinclair Street  
Reno, NV 89505

ABC  
240 S Rock Blvd.  
Suite 121  
Reno, NV 89502

AGC  
5400 Mill Street  
Reno, NV 89502

Storey County  
110 Toll Road  
Virginia City, NV 89440

## PREFACE

This document comprises the Northern Nevada Amendments to the following code:

2009 International Energy Conservation Code as published by the International Code Council.

It was created by the organizations listed on the cover page with the support of the Northern Nevada Chapter of the International Code Council as a document to be adopted by reference. These provisions are not code unless adopted and codified by governmental jurisdictions. This document is available to be adopted as code by any jurisdiction without permission or approval from the organizations listed.

To obtain copies of this document, please contact the Northern Nevada Chapter of the International Code Council at PO Box 2481 Reno, NV 89505 or visit [nnicc.org](http://nnicc.org).

**Note:** Deleted language has been ~~stricken through~~.  
Added language has been underlined.

## TABLE OF CONTENTS

## 2009 International Energy Conservation Code

Section 101.4.3 Additions, alterations, renovations or repairs. . . .	4
Section 202 Definitions. . . . .	4
Section 303.1.3 Fenestration product rating . . . . .	5
Section 303.1.3.2 Construction site rating documentation . . . . .	5
Section 401.3 Certificate . . . . .	6
Section 402.2.9 Crawl space walls . . . . .	7
Section 403.2.2 Sealing (Mandatory) . . . . .	7
Section 403.2.2.1 Joints and seams. . . . .	8
Section 403.6 Equipment sizing (Mandatory). . . . .	8
Section 405.6.1 Minimum capabilities . . . . .	8
Section 503.2.5.1 Demand controlled ventilation . . . . .	9
Section 503.2.7 Duct and plenum insulation and sealing . . . . .	10
Section 505.2.1 Interior lighting controls. . . . .	11
Section 505.2.2 Additional controls. . . . .	11
Section 505.2.3 Daylight zone control. . . . .	11
Section 505.5.1 Total connected interior power . . . . .	12
Section 505.6.2 Exterior building lighting power . . . . .	13
Chapter 6. . . . .	14

## 2009 International Energy Conservation Code

### Section 101.4.3 Additions, alterations, renovations or repairs.



*Add the following exception to section 101.4.3:*

9. Relocations only of existing luminaries within an existing area enclosed by walls or floor to ceiling partitions.

## **Section 202 Definitions.**

*Amend section 202 to include the following definitions:*

**CASINO.** 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 areas 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.

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

**VAPOR RETARDER CLASS.** A measure of a material or assembly's ability to limit the amount of moisture that passes through that material or assembly. Vapor retarder class shall be defined using the desiccant method of ASTM E 96 as follows:

**Class I:** 0.1 perm or less.

**Class II:** 0.1 < perm ≤ 1.0 perm.

**Class III:** 1.0 < perm ≤ 10 perm.

## **Section 303.1.3 Fenestration product rating.**

*Amend section 303.1.3 to read as follows:*

**303.1.3 Fenestration product rating.** *U-factors of fenestration products (windows, doors and skylights) shall be determined in accordance with NFRC 100 by an accredited, independent laboratory, and labeled and certified by the manufacturer. Products lacking*

such a labeled *U*-factor shall be assigned a default *U*-factor from Tables 303.1.3(1) or 303.1.3(2) or ASHRAE 90.1 Tables A-8.1 A and B or Table 8.2. The solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer. Products lacking such a labeled *U*-factor shall be assigned a default *U*-factor from Tables 303.1.3(1) or 303.1.3(2) or ASHRAE 90.1 Tables A-8.1 A or Table 8.2. The solar heat gain coefficient (SHGC) of glazed fenestration products (windows, glazed doors and skylights) shall be determined in accordance with NFRC 200 by an accredited, independent laboratory, and labeled and certified by the manufacturer. Products lacking such a labeled SHGC shall be assigned a default SHGC from Table 303.1.3(3) or from ASHRAE 90.1 Tables A-8.1 B or Table 8.2.

*Add two new subsections to Section 303.1.3:*

**303.1.3.1 Fenestration rating documentation.** When required by the building official all fenestration products to be used in a project are to be listed in a fenestration schedule on the approved plans. This schedule shall include all of the following:

1. A list of all fenestrations, including, but not limited to, fixed and operable windows, skylights, sliding, swinging and overhead doors and glass block.
2. The manufacturer and model numbers for all non-default fenestration products, including NFRC CDP numbers.
3. For site-built windows, simulation report reference numbers provided by an NFRC certification for fenestration products.
4. The fenestration type, size, quantity, NFRC 100 certified *U*-factor or default *U*-factor. (If default *U*-factor is used, the schedule must also include a description of the key energy-efficiency features that are necessary to achieve that default *U*-factor.)
5. The solar heat gain coefficient for each fenestration proposed, using either the NFRC 200 certified value or the default value.

**303.1.3.2 Construction site rating documentation.** When required by the building official the following documentation shall be provided at the construction site prior to inspection of the thermal energy envelope:

1. All NFRC certified factory-built fenestration products shall be labeled with the NFRC certification label. This label is to remain intact on the fenestration unit until inspected by the jurisdiction having authority.
2. For rated site-built fenestration products, there shall be a separate NFRC label certificate for each type of fenestration product used in the project, signed by an independent, NFRC certified inspection agency. The label will display the following information:
  - a) The NFRC certification logo.
  - b) The name, address and authorized NFRC approved inspection agency
  - c) The product ratings (U-factor, solar heat gain coefficient and visible light transmittance).
  - d) The name, address, and permit number of the project.

- e) The product line information.
  - f) The names and addresses for the suppliers of the frame, the glazing and the contractor.
  - g) The printed name and signature of the inspector for the certified inspection agency.
3. For site-built fenestration products where default values were listed on the approved plans, the glazing contractor of record will provide the jurisdiction, a letter on company stationary, containing the following information:
- a) The name, address and permit number of the project.
  - b) An itemized list of documentation describing specific components used to construct each type of fenestration.
  - c) The signature of the owner or owner's agent of the glazing company, attesting to the fact that all products described and documentation submitted were used on that jobsite.

**Section 401.3 Certificate.**

*Amend section 401.3 to read as follows:*

**401.3 Certificate.** ~~A permanent~~ The builder shall provide to the owner a certificate shall be posted on or near the electrical distribution panel approved by the jurisdiction. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall be completed by the builder or registered design professional. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, *basement wall*, crawlspace wall and/or floor) and ducts outside conditioned spaces and U-factors for fenestration. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. ~~Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters.~~

**Section 402.2.9 Crawl space walls.**

*Amend section 402.2.9 to read as follows:*

**402.2.9 Crawl space walls.** As an alternative to insulating floors over crawl spaces, crawl space walls shall be permitted to be insulated when the crawl space is not vented to the outside. Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the floor to the finished grade level and then vertically and/or

horizontally for at least an additional 24 inches (610 mm). Exposed earth in unvented crawl space foundations shall be covered with a continuous Class I vapor retarder ~~in accordance with the International Building Code~~. All joints of the vapor retarder shall overlap by 6 inches (153 mm) and be sealed or taped. The edges of the vapor retarder shall extend at least 6 inches (153 mm) up the stem wall and shall be attached to the stem wall.

#### **Section 403.2.2 Sealing (Mandatory).**

*Amend section 403.2.2 to read as follows:*

**403.2.2 Sealing (Mandatory).** All ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with Section 403.2.2.1 M1601.4.1 of the International Residential Code.

Duct tightness shall be verified by either of the following:

1. Post construction test: Leakage to outdoors shall be less than or equal to 8 cfm (226.5 L/min) per 100 ft<sup>2</sup> (9.29 m<sup>2</sup>) of *conditioned floor area* or a total leakage less than or equal to 12 cfm (12 L/min) per 100 ft<sup>2</sup> (9.29 m<sup>2</sup>) of *conditioned floor area* when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.

2. Rough-in test: Total leakage shall be less than or equal to 6 cfm (169.9 L/min) per 100 ft<sup>2</sup> (9.29 m<sup>2</sup>) of *conditioned floor area* when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the roughed in system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 4 cfm (113.3 L/min) per 100 ft<sup>2</sup> (9.29 m<sup>2</sup>) of *conditioned floor area*.

**Exceptions:** Duct tightness test is not required if the air handler and all ducts are located within *conditioned space*.

#### **Section 403.2.2.1 Joints and seams.**

*Add the following subsection to Section R403.2.2:*

**403.2.2.1 Joints and seams.** Joints of duct systems shall be made substantially airtight by means of tapes, mastics, liquid sealants, gasketing or other approved closure systems. Closure systems used with rigid fibrous glass ducts shall comply with UL181A and shall be marked 181A-P for pressure-sensitive tape, 181A-M for mastic or 181 A-H for heat-sensitive tape. Closure systems used with flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked 181B-FX for pressure-sensitive tape or

181B-M for mastic. Duct connections to flanges of air distribution system equipment or sheet metal fittings shall be mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked 181B-C. Crimp joints for round metal ducts shall have a contact lap of at least 1½ inches (38 mm) and shall be mechanically fastened by means of at least three sheet-metal screws or rivets equally spaced around the joint. Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer' installation instructions. Joints between plastic ducts and plastic fittings shall be made in accordance with the manufacturer's installation instructions.

**Exceptions:**

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

**Section 403.6 Equipment sizing (Mandatory).**

*Amend section 403.6 to read as follows:*

**403.6 Equipment sizing (Mandatory).** Heating and cooling equipment shall be sized in accordance with ~~Section M1401.3 of the International Residential Code~~ ACCA manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculations methodologies.

**Section 405.6.1 Minimum capabilities.**

*Amend section 405.6.1 to read as follows:*

**405.6.1 Minimum capabilities.** Calculation procedures used to comply with this section shall be software tools capable of calculating the annual energy consumption of all building elements that differ between the *standard reference design* and the *proposed design* and shall include the following capabilities:

1. Computer generation of the *standard reference design* using only the input for the *proposed design*. The calculation procedure shall not allow the user to directly modify the building component characteristics of the *standard reference design*.

2. Calculation of whole-building (as a single *zone*) sizing for the heating and cooling equipment in the *standard reference design* residence in accordance with ~~Section M1401.3 of the International Residential Code~~ ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies.

3. Calculations that account for the effects of indoor and outdoor temperatures and part-load ratios on the performance of heating, ventilating and air-conditioning equipment based on climate and equipment sizing.

4. Printed *code official* inspection checklist listing each of the *proposed design* component characteristics from Table 405.5.2(1) determined by the analysis to provide compliance, along with their respective performance ratings (e.g., *R*-value, *U*-factor, SHGC, HSPF, AFUE, SEER, EF, etc.).

#### **Section 503.2.5.1 Demand controlled ventilation.**

*Amend section 503.2.5.1 to read as follows:*

**503.2.5.1 Demand controlled ventilation.** Demand control ventilation (DCV) is required for spaces larger than 500 ft<sup>2</sup> (50m<sup>2</sup>) and with an average occupant load of 40 people per 1000 ft<sup>2</sup> (93 m<sup>2</sup>) of floor area (as established in ~~Table 403.3 of the International Mechanical Code~~) and served by systems with one or more of the following:

1. An air-side economizer;
2. Automatic modulating control of the outdoor air damper; or
3. A design outdoor airflow greater than 3,000 cfm (1400 L/s).

#### **Exceptions:**

1. Systems with energy recovery complying with Section 503.2.6.
2. Multiple-zone systems without direct digital control of individual zones communicating with a central control panel.
3. System with a design outdoor airflow less than 1,200 cfm (600 L/s).
4. Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1,200 cfm (600 L/s).

#### **Section 503.2.7 Duct and plenum insulation and sealing**

*Amend section 503.2.7 to read as follows:*

**503.2.7 Duct and plenum insulation and sealing.** All supply and return air ducts and plenums shall be insulated with a minimum of R-5 insulation when located in unconditioned spaces and a minimum of R-8 insulation when located outside the building. When located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by a minimum of R-8 insulation.

**Exceptions:**

1. When located within equipment.
2. When the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15°F (8°C).

All ducts, air handlers and filter boxes shall be sealed. Joints and seams shall comply with Section 603.9 of the International Mechanical Code. All longitudinal and transverse joints, seams and connections in metallic and nonmetallic ducts shall be constructed as specified in SMACNA HVAC Duct Construction Standards—Metal and Flexible and NAIMA Fibrous Glass Duct Construction Standards. All joints, longitudinal and transverse seams and connections in ductwork shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems, liquid sealants or tapes. Closure systems used to seal ductwork listed and labeled in accordance with UL 181A shall be marked “181A-P” for pressure-sensitive tape, “181 A-M” for mastic or “181 A-H” for heat-sensitive tape. Closure systems used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked “181B-FX” for pressure-sensitive tape or “181B-M” for mastic. Duct connection to flanges of air distribution system equipment shall be sealed and mechanically fastened. Mechanical fasteners for use with flexible nonmetallic air ducts shall comply with UL 181B and shall be marked “181B-C.” Closure systems used to seal metal ductwork shall be installed in accordance with the manufacturer’s installation instructions. Unlisted duct tape is not permitted as a sealant on any metal ducts.

**Exception:** Continuously welded and locking-type longitudinal joints and seams in ducts operating at static pressures less than 2 inches of water column (500 Pa) pressure classification shall not require additional closure systems.

**Section 505.2.1 Interior lighting controls.**

*Add the following exception to section 505.2.1:*

**505.2.1 Interior lighting controls.** Each area enclosed by walls or floor-to-ceiling partitions shall have at least one manual control for the lighting serving that area. The

required controls shall be located within the area served by the controls or be a remote switch that identifies the lights served and indicates their status.

**Exceptions:**

1. Areas designated as security or emergency areas that must be continuously lighted.
2. Lighting in stairways or corridors that are elements of the means of egress.
3. Normally unoccupied areas, such as restrooms, janitor closets, storage closets and similar spaces controlled by local occupancy sensors.

**Section 505.2.2 Additional controls.**

*Amend Section 505.2.2 to read as follows:*

**505.2.2 Additional controls.** Each area that is required to have a manual control shall have additional controls that meet the requirements of Sections 505.2.2.1, 505.2.2.2 and 505.2.2.3.

**Section 505.2.2.3 Daylight zone control.**

*Add two exceptions to Section 505.2.2.3:*

**505.2.2.3 Daylight zone control.** Daylight zones, as defined by this code, shall be provided with individual controls that control the lights independent of general area lighting. Contiguous daylight zones adjacent to vertical fenestration are allowed to be controlled by a single controlling device provided that they do not include zones facing more than two adjacent cardinal orientations (i.e., north, east, south, and west). Daylight zones under skylights more than 15 feet (4572 mm) from the perimeter shall be controlled separately from daylight zones adjacent to vertical fenestration.

**Exceptions:**

1. Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.
2. Where automatic dimming controls are provided for the electric lighting within the daylight zones, no separate manual control for the daylight zone shall be required.
3. In areas where daylight zones overlap, only one control shall be required to control both zones, unless the areas include more than two adjacent cardinal orientations.



**Section 505.5.1 Total connected interior lighting power.**

*Amend Section 505.5.1 exception 7 and add new exception:*

**505.5.1 Total connected interior lighting power.** The total connected interior lighting power (watts) shall be the sum of the watts of all interior lighting equipment as determined in accordance with Sections 505.5.1.1 through 505.5.1.4.

**Exceptions:**

1. The connected power associated with the following lighting equipment is not included in calculating total connected lighting power.
  - 1.1. Professional sports arena playing field lighting.
  - 1.2. *Sleeping unit* lighting in hotels, motels, boarding houses or similar buildings.
  - 1.3. Emergency lighting automatically off during normal building operation.
  - 1.4. Lighting in spaces specifically designed for use by occupants with special lighting needs including the visually impaired visual impairment and other medical and age-related issues.
  - 1.5. Lighting in interior spaces that have been specifically designated as a registered interior historic landmark.
  - 1.6. Casino gaming areas.
2. Lighting equipment used for the following shall be exempt provided that it is in addition to general lighting and is controlled by an independent control device:
  - 2.1. Task lighting for medical and dental purposes.
  - 2.2. Display lighting for exhibits in galleries, museums and monuments.
3. Lighting for theatrical purposes, including performance, stage, film production and video production.
4. Lighting for photographic processes.
5. Lighting integral to equipment or instrumentation and is installed by the manufacturer.
6. Task lighting for plant growth or maintenance.
7. Advertising signage or directional signage, including signage for business identification or promotion, location maps and directories and sports scoreboards.
8. In restaurant buildings and areas, lighting for food warming or integral to food preparation equipment.

9. Lighting equipment that is for sale.
10. Lighting demonstration equipment in lighting education facilities.
11. Lighting *approved* because of safety or emergency considerations, inclusive of exit lights.
12. Lighting integral to both open and glass enclosed refrigerator and freezer cases.
13. Lighting in retail display windows, provided the display area is enclosed by ceiling-height partitions.
14. Furniture mounted supplemental task lighting that is controlled by automatic shutoff.
15. Theme elements in theme/amusement parks and casinos.

**Section 505.6.2 Exterior building lighting power.**

*Amend Section 505.6.2 to read as follows:*

**505.6.2 Exterior building lighting power.** The total exterior lighting power allowance for all exterior building applications is the sum of the base site allowance plus the individual allowances for areas that are to be illuminated and are permitted in Table 505.6.2(2) for the applicable lighting *zone*. Tradeoffs are allowed only among exterior lighting applications listed in Table 505.6.2(2), Tradable Surfaces section. The lighting zone for the building exterior is determined from Table 505.6.2(1) unless otherwise specified by the local jurisdiction. Exterior lighting for all applications (except those included in the exceptions to Section 505.6.2) shall comply with the requirements of Section 505.6.1.

**Exceptions:** Lighting used for the following exterior applications is exempt when equipped with a control device independent of the control of the nonexempt lighting:

1. Specialized signal, directional and marker lighting associated with transportation;
2. Advertising signage or directional signage, including signage for business identification and promotion, location maps and directories and sports scoreboards;
3. Integral to equipment or instrumentation and is installed by its manufacturer;
4. Theatrical purposes, including performance, stage, film production and video production;
5. Athletic playing areas;

- 6. Temporary lighting;
- 7. Industrial production, material handling, transportation sites and associated storage areas;
- 8. Theme elements in theme/amusement parks and casinos; and
- 9. Used to highlight features of public monuments and registered historic landmark structures or buildings.

**Chapter 6 Referenced Standards**

*Revise the reference standards in Chapter 6 to include the organization ACCA (Air Conditioning Contractors of America) as follows:*

**ACCA**      Air Conditioning Contractors of America  
 2800 Shirlington Road, Suite 300  
 Arlington, VA 22206

Standard reference number	Title	Referenced in code section number
Manual D-95	Residential Duct Systems	
Manual J-02	Residential Load Calculations Eight Edition	403.6
Manual S	Residential Equipment Selection	

# 2012 NORTHERN NEVADA AMENDMENTS

2012 INTERNATIONAL BUILDING CODE

2012 INTERNATIONAL RESIDENTIAL CODE

2012 INTERNATIONAL MECHANICAL CODE

2012 INTERNATIONAL FUEL GAS CODE

2012 UNIFORM MECHANICAL CODE

2012 UNIFORM PLUMBING CODE

2011 NATIONAL ELECTRICAL CODE

**Published by the Northern Nevada Chapter of the International Code Council:  
February 4, 2013**

ABC  
240 S Rock Blvd.  
Suite 121  
Reno, NV 89502

AGC  
5400 Mill Street  
Reno, NV 89502

BANN  
5484 Corporate Drive  
Suite 100  
Reno, NV 89511

BAWN  
806 Randell Dr.  
Carson City, NV 89702

Carson City  
108 E Proctor Street  
Carson City, NV 89701

City of Fernley  
595 Silver Lace Blvd.  
Fernley, NV 89408

City of Reno  
1 E First Street  
Reno, NV 89501

City of Sparks  
431 Prater Way  
Sparks, NV 89431

Lyon County  
27 S Main  
Yerington, NV 89447

Storey County  
110 Toll Road  
Virginia City, NV 89440

Washoe County  
1001 E Ninth Street  
Reno, NV 89512

## PREFACE

This document comprises the Northern Nevada Amendments to the following codes:

2012 International Building Code as published by the International Code Council.

2012 International Residential Code as published by the International Code Council.

2012 International Mechanical Code as published by the International Code Council.

2112 International Fuel Gas Code as published by the International Code Council.

2012 Uniform Mechanical Code as published by the International Association of Plumbing and Mechanical Officials.

2012 Uniform Plumbing Code as published by the International Association of Plumbing and Mechanical Officials.

2011 National Electrical Code as published by the National Fire Protection Association.

It was created by the organizations listed on the cover page with the support of the Northern Nevada Chapter of the International Code Council as a document to be adopted by reference. These provisions are not code unless adopted and codified by governmental jurisdictions. This document is available to be adopted as code by any jurisdiction without permission or approval from the organizations listed.

To obtain copies of this document, please contact the Northern Nevada Chapter of the International Code Council at PO Box 2481 Reno, NV 89505 or visit [nnicc.org](http://nnicc.org).

**Note:** Deleted language has been ~~stricken through~~.

Added language has been underlined.

Where space allows the entire section is shown for context.

# TABLE OF CONTENTS

## 2012 International Building Code

Section 202 Definitions . . . . .	6
Section 305.2 Group E, Day Care Facilities. . . . .	6
Section 308.3 Institutional Group I-1 . . . . .	7
Section 308.6 Institutional Group I-4 Day Care Facilities . . . . .	7
Section 310.3 Residential Group R-1 . . . . .	8
Section 311.2 Moderate-hazard Storage, Group S-1. . . . .	8
Section 403.5.4 Smokeproof Enclosures . . . . .	9
Section 906 Portable Fire Extinguishers . . . . .	9
Section 910.1 General (Smoke and Heat Removal). . . . .	9
Section 910.3.2.2 Sprinklered Buildings. . . . .	10
Table 1016.2 Exit Access Travel Distance . . . . .	10
Section 1016.4 Group F-1 and S-1 Increase. . . . .	11
Section 1503.7 Snow Shedding and Impact Areas. . . . .	11
Section 1608.2 Ground Snow Loads . . . . .	11
Table 1608.2.1 Ground Snow Loads Pg for Northern Nevada Locations. . . . .	12
Section 1609.3 Basic Wind Speed . . . . .	13
Section 1704.2 Special Inspections . . . . .	13
Section 1803.2 Investigations Required . . . . .	14
Section 1803.6 Reporting . . . . .	14
Section 1808.6.1 Foundations . . . . .	15
Section 1807.2.1.1 Rockery Retaining Walls . . . . .	15
Section 1809.5 Frost Protection. . . . .	16
Section 2901.1 Scope. . . . .	16
Section 2901. Minimum Number of Fixtures . . . . .	16
Table 2902.1 Minimum Number of Required Plumbing Fixtures. . . . .	16
Section 3102.7 Engineering Design. . . . .	20
Section 3401.6 Alternative Compliance. . . . .	20
Section I105.2 Footings. . . . .	20

## 2012 International Residential Code

Section R202 Definitions . . . . .	21
Table R301.2(1) Climatic and Geographic Design Criteria. . . . .	21
Section R302.2 Townhouses. . . . .	22
Section R302.2.4 Structural Independence . . . . .	22
Section R303.4 Mechanical Ventilation. . . . .	23
Section R313.1 Townhouse Automatic Fire Sprinkler System . . . . .	23
Section R313.2 One and Two Family dwellings Automatic Fire Systems . . . . .	23
Section R315.1 Carbon Monoxide Alarms. . . . .	23
Section R315.3 Where required in Existing Buildings. . . . .	23
Section R903.5 Snow Shedding and Impact Areas. . . . .	24
Chapter 11 . . . . .	24
Section M1503.4 Makeup Air Required. . . . .	24
Section M1901.3 Prohibited Location. . . . .	24
Section G2404.11 LP-Gas Installations. . . . .	25
Section G2404.11 Snow Hazard . . . . .	25
Section G2417.4.1 Test Pressure. . . . .	25
Section G2417.4.2 Test Duration. . . . .	25
Section G2417.6.2 Turning Gas On. . . . .	25
Section P2503.5.1 Rough Plumbing. . . . .	26
Section P2603.5.1 Sewer Depth. . . . .	26

Section P3002.2 Building Sewer . . . . .	27
Section P3004.1 DWV System Load. . . . .	27
Section E3601.6.2 Service Disconnect Location. . . . .	27
Section E3705.6.1 Edison Fuses . . . . .	27
Section E3902.13 AFCI Branch Circuit Extensions or Modifications . . . . .	28
Section E3908.18 Bonding Other Enclosures. . . . .	28
Section AH105.2 Footings . . . . .	28

### 2012 International Mechanical Code

Section 401.2 Ventilation Required . . . . .	29
Section 505.2 Makeup Air Required. . . . .	29
Section 508.1.2 Evaporative Cooling Systems Used As Makeup Air . . . . .	29
Section 603.2 Duct Sizing. . . . .	30

### 2012 International Fuel Gas Code

Section 301.1.2 LP-Gas Installations . . . . .	31
Section 301.16 Snow Hazard . . . . .	31
Section 406.4.1 Test Pressure. . . . .	31
Section 406.4.2 Test Duration. . . . .	31
Section 406.6.2 Before Turning Gas On. . . . .	32

### 2012 Uniform Mechanical Code

Section 304.1 General. . . . .	33
Section 304.2.4 Guards . . . . .	33
Section 323.0 Installation of Gaseous Hydrogen Systems . . . . .	33
Section 403.7 Exhaust Ventilation. . . . .	34
Table 403.7 Minimum Exhaust Ventilation. . . . .	34
Section 504.3.1.2 Length Limitations . . . . .	34
Section 505.3 Makeup Air . . . . .	35
Section 508.5.5 Evaporative Cooling Systems. . . . .	35
Section 511.2.4 Performance Test . . . . .	35
Section 603.7 Plastic Ducts and Fittings . . . . .	36
Section 604.1 General (Insulation of Ducts). . . . .	36
Section 609.0 Performance Test for Automatic Shutoffs. . . . .	37
Section 936.0 Sauna Heaters. . . . .	37
Section 1105.2 Volume of Occupied Space. . . . .	37
Section 1105.3 Industrial occupancies and refrigerated Rooms . . . . .	38
Section 1105.4.3 Mixing. . . . .	39
Section 1302.1 Installation. . . . .	40
Section 1316.9 Test Pressure . . . . .	40
Section 1316.11.1 Turning Gas On . . . . .	40

### 2012 Uniform Plumbing Code

Section 205.0 Combustible Material . . . . .	42
Section 216.0 Non Combustible Materials. . . . .	42
Section 218.0 Penetration Firestop System. . . . .	42
Section 222.0 T Rating . . . . .	42

Section 312.7 Fire-Resistant Construction. . . . .	43
Section 422.0 Minimum Number of Required Fixtures. . . . .	43
Table 422.1 Minimum Plumbing Facilities. . . . .	43
Section 609.1 Installation . . . . .	43
Section 712.1 Media. . . . .	43
Section 717.1 General (Size of Building Sewers). . . . .	43
Section 723.1 General (Building Sewer Test). . . . .	44
Section 1109.2 Methods of Testing Storm Drainage Systems . . . . .	44
Section 1202.1 Installation. . . . .	44
Section 1208.6.1.3 Snow Hazard. . . . .	44
Section 1213.3 Test Pressure . . . . .	45
Section 1213.5.1 Turning Gas On. . . . .	45
Chapter 15 Firestop Protection . . . . .	46

### 2011 National Electrical Code

Article 210.12(B) Branch Circuit Extensions or Modifications . . . . .	47
Article 225.32 Location. . . . .	47
Article 230.70(A)(1) Readily Accessible Location . . . . .	48
Article 240.51(B) Replacement Only . . . . .	48
Article 250.96(A) General. . . . .	48
Article 314.17(C) Nonmetallic Boxes and Conduit Bodies . . . . .	48

### Appendix

IRC Table R301.2.1. . . . .	50
-----------------------------	----



## 2012 International Building Code

### Section 202 Definitions.

*Amend Section 202 to include the following definitions:*

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

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

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

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

*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.

### 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 1/2 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 308.3 Institutional, Group I-1

*Add new subsection to 308.3:*

**308.3 Institutional Group I-1.** This occupancy shall include buildings, structures or portions thereof for more than 16 persons who reside on a 24 hour basis in a supervised environment and receive *custodial care*. The persons receiving care are capable of self preservation. This group shall include, but not be limited to, the following:

- Alcohol and drug centers
- Assisted living facilities
- Congregate care facilities
- Convalescent facilities
- Group homes*
- Halfway houses
- Residential board and *custodial care* facilities
- Social rehabilitation facilities

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

**308.3.2 Six to sixteen persons receiving care.** A facility such as above, housing not fewer than six and not more than 16 persons receiving such care, shall be classified as Group R-4.

**308.3.3 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 308.6 Institutional Group I-4, Day Care Facilities

*Amend section to 308.6 to read as follows:*

**308.6 Institutional Group I-4, day care facilities.** This group 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

**308.6.1 Classification as Group E.** A child day care facility that provides care for more than ~~five~~ six but no more than 100 children 2 1/2 years or less of age, where the rooms in which the children are cared for are located on a *level of exit discharge* serving such rooms and each of these child care rooms has an *exit* door directly to the exterior, shall be classified as Group E.

**308.6.2 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.

**308.6.3 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.

**308.6.4 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 310.3 Residential Group R-1**

*Amend 310.3 to read as follows:*

**310.3 Residential Group R-1.** Residential 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*)

### **Section 311.2 Moderate-hazard storage, Group S-1**

*Amend section 311.2 to read as follows:*

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

Aerosols, Levels 2 and 3

Aircraft hangar (storage and repair)

Bags: cloth, burlap and paper

Bamboos and rattan

Baskets

Belting: canvas and leather

Books and paper in rolls or packs

Boots and shoes

Buttons, including cloth covered, pearl or bone

Cardboard and cardboard boxes

Clothing, woolen wearing apparel

Cordage

~~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-serve storage (mini-storage)  
Silks  
Soaps  
Sugar  
Tires, bulk storage of

#### **Section 403.5.4 Smokeproof Enclosures**

*Amend section 403.5.4 to read as follows:*

**403.5.4 Smokeproof enclosures.** Every required exit stairway serving floors more than ~~75~~ 55 feet (~~22 860~~ 16 764 mm) above the lowest level of fire department vehicle access shall be a smokeproof enclosure in accordance with Sections 909.20 and 1022.10.

#### **Section 906 Portable Fire Extinguishers**

*Delete entire section.*

#### **Section 910.1 General (Smoke and Heat Removal)**

*Amend 910.1 to read as follows:*

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

**Exceptions:**

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

## Section 910.3.2.2 Sprinklered Buildings

Amend section 910.3.2.2 to read as follows and add subsections 910.3.2.2.1 thru 910.3.2.2.3:

**910.3.2.2 Sprinklered buildings.** Where installed in buildings equipped with an approved automatic sprinkler system, smoke and heat vents shall be designed ~~to operate automatically in accordance with Sections 910.3.2.2.1 through 910.3.2.2.3.~~

**910.3.2.2.1 Automatic operation.** Smoke and heat vents shall be designed to operate automatically.

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

**910.3.2.2.3 Early suppression fast-response (ESFR) sprinkler system.** Smoke and heat vents installed in areas of buildings with early suppression fast-response (ESFR) sprinklers shall be equipped with a standard-response operating mechanism with a minimum temperature rating of 360°F (182°C) or 100°F (56°C) above the operating temperature of the sprinklers, whichever is higher.

## Table 1016.2 Exit Access Travel Distance

Amend Table 1016.2 to read as follows:

**TABLE 1016.2  
EXIT ACCESS TRAVEL DISTANCE<sup>a</sup>**

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250 <sup>b</sup>
I-1	Not Permitted	250 <sup>c</sup>
B	200	300 <sup>c</sup>
F-2, S-2, U	300	400 <sup>c</sup>
H-1	Not Permitted	75 <sup>c</sup>
H-2	Not Permitted	100 <sup>c</sup>
H-3	Not Permitted	150 <sup>c</sup>
H-4	Not Permitted	175 <sup>c</sup>
H-5	Not Permitted	200 <sup>c</sup>
I-2, I-3, I-4	Not Permitted	200 <sup>c</sup>

For SI: 1 foot = 304.8 mm.

- a. See the following sections for modifications to exit access travel distance requirements:
- Section 402.8: For the distance limitation in malls.
  - Section 404.9: For the distance limitation through an atrium space.
  - Section 407.4: For the distance limitation in Group I-2.
  - Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
  - Section 411.4: For the distance limitation in Special Amusement Buildings.
  - Section 1015.4: For the distance limitation in refrigeration machinery rooms.

- Section 1015.5: For the distance limitation in refrigerated rooms and spaces.
- Section 1016.4: For increased limitation in Groups F-1 and S-1.
- Section 1021.2: For buildings with one exit.
- Section 1028.7: For increased limitation in assembly seating.
- Section 1028.7: For increased limitation for assembly open-air seating.
- Section 3103.4: For temporary structures.
- Section 3104.9: For pedestrian walkways.
- b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems in accordance with Section 903.3.1.2 are permitted.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1

### **Section 1016.4 Group F-1 and S-1 Increase**

*Add new section 1016.4 to 1016:*

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

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

### **Section 1503.7 Snow Shedding and Impact Areas**

*Add new section 1503.7 to section 1503.*

**1503.7 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<sub>g</sub> when located in Washoe County or Carson City, or exceeds 69 p<sub>g</sub> 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.

**Table 1608.2.1 Ground Snow Loads  $p_g$ , For Northern Nevada Locations.**

Add Table 1608.2.1 to section 1608.2.

**Table 1608.2.1**

**GROUND SNOW LOADS  $p_g$ , FOR NORTHERN NEVADA LOCATIONS.**

	WEST of U.S. Hwy 395 Sierra slope	EAST of U.S. Hwy 395			
	Carson, Douglas, Washoe, Reno	Carson, Douglas, Washoe Counties, Reno & Sparks	Lyon County	Storey County	All Nevada Counties Lake Tahoe Basin
<b>Elevation In Feet</b>	$p_g$ (Pounds Per Square Foot)	$p_g$ (Pounds Per Square foot)	$p_g$ (Pounds Per Square foot)	$p_g$ (Pounds Per Square foot)	$p_g$ (Pounds Per Square foot)
4500	30	30	10	10	
5000	30	30	30	10	
5100	41	31	31	10	
5200	52	33	33	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	142	390
10000	357	142	142	142	420

1. Drift load design in the 30-psf zones may utilize ASCE 7 -05 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 1609.3 Basic wind speed.

*Amend section 1609.3 to read as follows:*

**1609.3 Basic wind speed.** The ultimate design wind speed,  $V_{ult}$ , in mph, for the determination of the wind loads shall be determined by Figures 1609A, 1609B and 1609C. The ultimate design wind speed,  $V_{ult}$ , for use in the design of Risk Category II buildings and structures shall be obtained from Figure 1609A. The ultimate design wind speed,  $V_{ult}$ , for use in the design risk of Category III and IV buildings and structures shall be obtained from Figure 1609B. The ultimate design wind speed,  $V_{ult}$ , for use in the design of Risk Category I buildings and structures shall be obtained from Figure 1609C. The ultimate design wind speed  $V_{ult}$ , for the special wind regions indicated near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements. The ultimate design wind speeds,  $V_{ult}$ , determined by the local jurisdiction shall be in accordance with section 26.5.1 of ASCE 7.

In non-hurricane-prone regions, when ultimate design wind speed,  $V_{ult}$  is estimated from regional climate data, the ultimate design wind speed,  $V_{ult}$ , shall be determined in accordance with Section 26.5.3 of ASCE 7.

Minimum basic wind speed for risk category II shall be 130 mph  $V_{ult}$  for the Cities of Reno and Sparks and for the Counties of Carson, Douglas and Washoe. Minimum basic wind speed for risk category II shall be 115 mph  $V_{ult}$  for Lyon and Storey Counties.

Minimum basic wind speed for risk category III & IV shall be 140 mph  $V_{ult}$  for the Cities of Reno and Sparks and for the Counties of Carson, Douglas and Washoe. Minimum basic wind speed for risk category III & IV shall be 120 mph  $V_{ult}$  for Lyon and Storey Counties.

Minimum basic wind speed for risk category I shall be 120 mph  $V_{ult}$  for the Cities of Reno and Sparks and for the Counties of Carson, Douglas and Washoe. Minimum basic wind speed for risk category I shall be 105 mph  $V_{ult}$  for Lyon and Storey Counties. No altitude density reduction shall be taken.

## Section 1704.2 Special Inspections

*Amend section 1704.2 to read as follows:*

**1704.2 Special inspections.** Where application is made for construction as described in this section, the owner or the *registered design professional in responsible charge* acting as the owner's agent shall employ one or more *approved agencies* to perform inspections during construction on the types of work listed under Section 1705. These inspections are in addition to the inspections identified in Section 110.

### **Exceptions:**

1. *Special inspections* 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* 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 are not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.7 or the conventional light-frame construction provisions of Section 2308

## 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 investigation shall be submitted to the building official by the owner or authorized agent at the time of permit application. The 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 1808.6.1 Foundations

*Amend section 1808.6.1 to read as follows:*

**1808.6.1 Foundations.** Footings or 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 occurs 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 1807.2.1.1 Rockery Retaining Walls

*Add new subsection 1807.2.1.1 to 1807.2.1:*

**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 by differential height of adjacent grades. Structures adjacent to rockery wall shall be set back a minimum distance equal to the height of the wall. Drainage shall be provided behind all engineered rockery walls. A global stability analysis shall be performed for all rockery walls that are terraced, or greater than eight 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

## Section 1809.5 Frost Protection

*Amend section 1809.5 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. Frost depth for Carson, Douglas, Storey & Washoe Counties and the Cities of Reno and Sparks shall be twenty-four inch deep (24"). Lyon County shall have an 18" frost depth;
2. Constructing in accordance with ASCE 32; or
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*, in accordance with Section 1604.5;
2. Area of 600 square feet (56 m<sup>2</sup>) or less for lightframe construction or 400 square feet (37 m<sup>2</sup>) or less for other than light-frame construction; and
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 2901.1 to read as follows:*

2901.1 Scope. The provisions of this chapter and the International Plumbing Code shall govern the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing equipment or systems. Toilet and bathing rooms shall be constructed in accordance with Section 1210. Plumbing systems and equipment shall be constructed, installed and maintained in accordance with the International Plumbing Code. ~~Private sewage disposal systems shall conform to the International Private Sewage Disposal Code.~~

## 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 for the type of occupancy and in the minimum number shown in Table 2902.1. Types of occupancies not shown in Table 2902.1 shall be considered individually by the *building official*. The number of occupants shall be determined by this code. Occupancy classification shall be determined in accordance with Chapter 3. 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 2902.2 and 2902.3)

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS <sup>h</sup> (URINALS SEE SECTION 410.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS <sup>g, f</sup> (SEE SECTION 410.1 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
				MALE	FEMALE	MALE	FEMALE			
1	Assembly	A-1 <sup>d</sup>	Theaters and other buildings for the performing arts and motion pictures	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		A-2 <sup>d</sup>	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
			Restaurants, banquet halls and food courts	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
	Assembly (continued)	A-3 <sup>d</sup>	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink
		Places of worship and other religious services	1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink	
1	Assembly (continued)	A-4	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
		A-5	Stadiums, amusement parks, bleachers and grandstands for outdoor 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

*(continued)*

**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES <sup>a</sup>**

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS <sup>1</sup> (URINALS SEE SECTION 410.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS <sup>2,1</sup> (SEE SECTION 410.1 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
				MALE	FEMALE	MALE	FEMALE			
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial 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
3	Educational	E	Educational facilities	1 per 50		1 per 50		—	1 per 100	1 service sink
4	Factory and industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100		1 per 100		See Section 411 of the International Plumbing Code	1 per 400	1 service sink
5	Institutional	I-1	Residential care	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		I-2	Hospitals, ambulatory nursing home patients <sup>b</sup>	1 per room <sup>c</sup>		1 per room <sup>c</sup>		1 per 15	1 per 100	1 service sink
			Employees, other than residential care <sup>b</sup>	1 per 25		1 per 35		—	1 per 100	—
			Visitors, other than residential care	1 per 75		1 per 100		—	1 per 500	—
		I-3	Prisons <sup>b</sup>	1 per cell		1 per cell		1 per 15	1 per 100	1 service sink
		I-3	Reformatories, detention centers and correctional centers <sup>b</sup>	1 per 15		1 per 15		1 per 15	1 per 100	1 service sink
			Employees <sup>b</sup>	1 per 25		1 per 35		—	1 per 100	1 service sink
	I-4	Adult day care and child care	1 per 15		1 per 15		—	1 per 100	1 service sink	
6	Mercantile	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		—	1 per 1,000	1 service sink
7	Residential	R-1	Hotels, motels, boarding houses (transient)	1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	—	1 service sink
		R-2	Dormitories, fraternities, sororities and boarding house (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		R-2	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

(continued)

**MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES \***

No.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS <sup>d</sup> (URINALS SEE SECTION 410.2 OF THE INTERNATIONAL PLUMBING CODE)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAINS <sup>e,f</sup> (SEE SECTION 410.1 OF THE INTERNATIONAL PLUMBING CODE)	OTHER
				MALE	FEMALE	MALE	FEMALE			
7	Residential	R-3	One- and two-family dwellings	1 per dwelling unit		1 per 10		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		R-3	Congregate living facilities with 16 or fewer persons	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		R-4	Residential care/assisted living facilities	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage	S-1 S-2	Structures for the storage of goods, warehouses, storehouses and freight depots, low and moderate hazard	1 per 100		1 per 100		See Section 411 of the International Plumbing Code	1 per 1,000	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.

b. Toilet facilities for employees shall be separate from facilities for inmates or patients.

c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient rooms shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.

d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

e. The minimum number of required drinking fountains shall comply with Table 2902.1 and Chapter 11.

f. Drinking fountains are not required for an occupant load of  $\pm 30$  or fewer.

g. For business and mercantile occupancies with an occupant load of  $\pm 30$  or fewer, service sinks shall not be required.

h. 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.

## 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 3401.6 Alternative Compliance

*Amend section 3401.6 to read as follows:*

**3401.6 Alternative compliance.** Work performed in accordance with the International Existing Building Code shall be deemed to comply with the provisions of this chapter. This Section applies only when the Authority Having Jurisdiction adopts the International Existing Building Code.

## Section I105.2 Footings

*Amend section I104.2 Footings 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 footings, provided the slab conforms to the provisions of Chapter 19 of this code, is not less than 3 1/2 inches (89 mm) thick and further provided that the columns do not support loads in excess of 750 pounds (3.36 kN) per column.

# 2012 International Residential Code

## Section R202 Definitions.

Amend Section R202 to include the following definitions:

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

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

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

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

Amend Section R202 to read as follows:

**Whole-House Mechanical Ventilation System.** An exhaust system, supply system, or combination thereof that is designed to mechanically exchange indoor air for outdoor air when operating continuously or through a programmed intermittent schedule to satisfy the whole-house ventilation rate. ~~For definition applicable in Chapter 11, See Section N1101.9.~~

## Table R301.2 (1)

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

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

GROUND SNOW LOADS	WIND DESIGN		SEISMIC DESIGN CATEGORY <sup>f</sup>	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP <sup>e</sup>	ICE BARRIER UNDERLAYMENT REQUIRED <sup>h</sup>	FLOOD HAZARDS <sup>g</sup>	AIR FREEZING INDEX <sup>i</sup>	MEAN ANNUAL TEMP <sup>j</sup>
	Speed <sup>d</sup> (mph)	Topograph- ic effects <sup>k</sup>		Weathering <sup>a</sup>	Frost line depth <sup>b</sup>	Termite <sup>c</sup>					
<u>SEE</u> <u>IBC</u> <u>Table</u> <u>1608.2.1</u>	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	<u>SEE</u> <u>IBC</u> <u>1809.5</u>	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX	SEE APPENDIX

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

a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line depth may require deeper footings than indicated in Figure R403.1(1). 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(4)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.

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 all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.

h. In accordance with Sections R905.2.7.1, 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)" at [www.ncdc.noaa.gov/fpsf.html](http://www.ncdc.noaa.gov/fpsf.html).

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)" at [www.ncdc.noaa.gov/fpsf.html](http://www.ncdc.noaa.gov/fpsf.html).

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.

## Section R302.2 Townhouses

*Amend Section R302.2 to read as follows:*

**R302.2 Townhouses.** Each *townhouse* shall be considered a separate building and shall be separated by fire-resistance rated wall assemblies meeting the requirements of Section R302.1 for exterior walls.

### **Exceptions:**

1. A common 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. Electrical installations shall be installed in accordance with Chapters 33 through 42. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4.
2. Where the building is equipped throughout with an automatic sprinkler system, a common 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with Chapters 34 through 43. Penetrations of electrical outlet boxes shall be in accordance with Section R302.4.

## Section R302.2.4 Structural Independence

*Amend Section R302.2.4 to read as follows:*

**R302.2.4 Structural independence.** Each individual *townhouse* shall be structurally independent.

### **Exceptions:**

1. Foundations supporting *exterior walls* or common walls.
2. Structural roof and wall sheathing from each unit may fasten to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. *Townhouses* separated by a common ~~1-hour~~ fire-resistance-rated wall as provided in Section R302.2.

## Section R303.4 Mechanical Ventilation

*Delete section R303.4.*

~~**R303.4 Mechanical ventilation.** Where the air infiltration rate of a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2 inch w.e (50 Pa) in accordance with Section N1102.4.1.2, the dwelling unit shall be provided with whole-house mechanical ventilation in accordance with Section M1507.3.~~

## Section R313.1 Townhouse Automatic Fire Sprinkler Systems

*Delete entire section.*

~~**R313.1 Townhouse automatic fire sprinkler systems.** An automatic residential fire sprinkler system shall be installed in townhouses.  
Exception: 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.  
**R313.1.1 Design and installation.** Automatic residential fire sprinkler systems for townhouses shall be designed and installed in accordance with Section P2904.~~

## Section R313.2 One- and two-family Dwellings Automatic Fire Systems

*Delete entire section.*

~~**R313.2 One- and two-family dwellings automatic fire systems.** An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings.  
Exception: An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system.  
**R313.2.1 Design and installation.** Automatic residential fire sprinkler systems shall be designed and installed in accordance with Section P2904 or NFPA 13D.~~

## Section R315.1 Carbon Monoxide Alarms

*Amend Section R315.1 to read as follows:*

**R315.1 Carbon monoxide alarms.** For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in *dwelling units* within which fuel-fired *appliances* are installed and in dwelling units that have attached garages with a communicating opening.

## Section R315.3 Where Required in Existing Dwellings

*Amend Section R315.3 to read as follows:*

**R315.3 Where required in existing dwellings.** Where work requiring a *permit* occurs in existing dwellings, ~~that have attached garages or in existing dwellings within which fuel-fired appliances exist~~, carbon monoxide alarms shall be provided in accordance with Section R315.1 for the following:

1. Mechanical or gas work requiring a *permit* in which fuel-fired appliances are being replaced or installed.
2. Addition and/or renovation of attached garages with communicating openings requiring building permit.

## **Section R903.5 Snow Shedding and Impact Areas**

*Add new section R903.5 to Section R903:*

**R903.5 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 exceed 154 p<sub>g</sub> when located in Washoe County or Carson City, or exceeds 69 p<sub>g</sub> 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.

## **Chapter 11 Energy Efficiency**

*Delete entire chapter.*

### **Section M1503.4 Makeup Air Required**

*Amend Section M1503.4 to read as follows:*

**M1503.4 Makeup air required.** Exhaust hood systems capable of exhausting in excess of 400 ~~600~~ cubic feet per minute (~~0.19~~ 0.28 m<sup>3</sup>/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 M1901.3 Prohibited Location**

*Amend Section M1901.3 to read as follows:*

**M1901.3 Prohibited location.** Cooking appliances designed, tested, listed and labeled for use in commercial occupancies shall not be installed within dwelling units or within any area where domestic cooking operations occur. Unless approved by the Building official.

## Section G2404.1.1 LP-Gas Installations

*Add new subsection G2404.1.1 to G2404.1:*

**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.

## Section G2404.11 Snow Hazard

*Add new section G2404.11 to G2404:*

**G2404.11 (301.16) Snow hazard.** On any new gas installation or reconnecting the gas service of an existing installation, gas meters above 5000 feet in elevation in Storey County or 6225 feet in elevation in Carson City 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.

## Section G2417.4.1 Test Pressure

*Amend Section G2417.4.1 to read as follows:*

**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.

## Section G2417.4.2 Test Duration

*Amend Section G2417.4.2 to read as follows:*

**G2417.2 (406.4.2 Test duration).** Test duration shall be not less than ~~10 minutes~~ 30 minutes.

## Section G2417.6.2 Turning Gas On

*Amend Section G2417.6.2 to read as follows and add new subsections G2417.6.2.1 thru G2417.6.2.3:*

**G2417.6.2 (406.6.2) 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 (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.

**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.** 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.

## **Section P2503.5.1 Rough Plumbing**

*Amend Section P2503.5.1 to read as follows:*

**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 (3048 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.

## **Section P2603.5.1 Sewer Depth**

*Amend Section P2603.5.1 to read as follows:*

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

## Section P3002.2 Building Sewer

*Add new subsection P3002.2.1 to P3002.2:*

**P3002.2 Building sewer.** Building sewer piping shall be as shown in Table P3002.2. Forced main sewer piping shall conform to one of the standards for ABS plastic pipe, copper or copper-alloy tubing, PVC plastic pipe or pressure-rated pipe listed in Table P3002.2.

**P3002.2.1 Building sewer.** In no event shall building sewer be less than four (4) inches in diameter.

## Section P3004.1 DWV System Load

*Amend Section P3004.1 to read as follows:*

**P3004.1 DWV system load.** The load on DWV-system piping shall be computed in terms of drainage fixture unit (dfu) values in accordance with Table P3004.1. Minimum building sewer size shall be four (4) inches in diameter.

## Section E3601.6.2 Service Disconnect Location

*Amend Section E3601.6.2 to read as follows:*

**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 a twelve inch (12") equilateral triangle, red in color.

## Section E3705.6.1 Edison Fuses

*Add new subsection E3705.6.1 to E3705.6:*

**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.

## Section E3902.13 Arc-fault Circuit Interrupter Protection for Branch Circuit Extensions or Modifications.

*Delete Section E3902.13.*

~~**E3902.13 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.~~

## Section E3908.18 Bonding Other Enclosures

*Amend Section E3908.18 to read as follows:*

**E3908.18 Bonding other enclosures.** Metal raceways, cable armor, cable sheath, enclosures, frames, fittings and other metal noncurrent-carrying parts that serve as grounding conductors, with or without the use of supplementary equipment grounding conductors, shall be effectively bonded where necessary to ensure electrical continuity and the capacity to conduct safely any fault current likely to be imposed on them. Any nonconductive paint, enamel and similar coating shall be removed at threads, contact points and contact surfaces, or connections shall be made by means of fittings designed so as to make such removal unnecessary. The Authority Having Jurisdiction shall require a supplementary grounding conductor where a metallic raceway is subject to damage or is likely to be disturbed.

FPN: An example of 'subject to damage' might be a surface mounted conduit along a traffic path in a warehouse. An example of 'likely to be disturbed' might be conduit across a rooftop, where re-roofing operations will require the conduit to be removed.

## Section AH105.2 Footings

*Amend Section AH105.2 to read as follows:*

~~**AH105.2 Footings.** In areas with a frostline depth of zero as specified in Table R301.2(1), An unenclosed patio cover shall be permitted to be supported on a slab on grade without footings, provided the slab conforms to the provisions of Section R506, is not less than 3.5 inches (89 mm) thick and the columns do not support live and dead loads in excess of 750 pounds (3.34 kN) per column.~~

## 2012 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 505.2 Makeup Air Required

*Amend Section 505.2 to read as follows:*

**505.2 Makeup air required.** Exhaust hood systems capable of exhausting in excess of ~~400~~ 600 cfm (~~0.19~~ 0.28 m<sup>3</sup>/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 508.1.2 Evaporative Cooling Systems Used As Makeup Air

*Add new subsection 508.1.2 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 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.

## 2012 International Fuel Gas Code

### Section 301.1.2 LP-Gas Installations

*Add new subsection 301.1.2 to section 301.1:*

**301.1 Scope.** This chapter 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 101.2.

**301.1.1 Other fuels.** The requirements for combustion and dilution air for gas-fired appliances shall be governed by Section 304. The requirements for combustion and dilution air for appliances operating with fuels other than fuel gas shall be regulated by the *International Mechanical Code*.

**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.** On any new gas installation or reconnecting the gas service of an existing installation, gas meters above 5000 feet in elevation in Storey County or 6225 feet in elevation in Carson City 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.

### 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 m<sup>3</sup>) of pipe volume or fraction thereof When testing a system having a volume less than 10 cubic feet (0.28 m<sup>3</sup>) or a system in a

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

**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.

## 2012 Uniform Mechanical Code

### Section 304.1 General

*Add new subsections 304.1.1 and 304.1.2 to section 304.1:*

**304.1 General.** Equipment and appliances shall be accessible for inspection, service, repair, and replacement without removing permanent construction. Clearance shall be maintained to:

- (1) Clean heating surfaces.
- (2) Replace filters, blowers, motors, burners, controls, and vent connections.
- (3) Lubricate moving parts.
- (4) Adjust and clean burners, pilots, and the proper functioning of explosion vents, where provided. [NFPA 54:9.2.1] Unless otherwise specified, not less than 30 inches (762 mm) in depth, width, and height of working space shall be provided.

**Exception:** Unit heaters and room heaters shall be permitted to be installed with an 18 inches (457 mm) minimum depth working space. A platform shall not be required for unit heaters or room heaters. The operating instructions shall be attached to the appliance where they are capable of being read easily.

**304.1.1 Working Space.** Unless otherwise specified, not less than 30 inches (762 mm) in depth, width, and height of working space shall be provided.

**304.1.2 Platforms.** Where the installations of equipment or appliances are at an elevation of more than 30 inches (762 mm) above grade, a level platform shall be provided.

### Section 304.2.4 Guards

*Add new section 304.2.4 to 304.2:*

**304.2.4 Guards.** Guards shall be installed where the installation of equipment or appliances are at an elevation of more than 30 inches (762 mm) above grade and the appliance or equipment is located within 10 feet (3048 mm) of a roof edge of a platform. The guards shall be not less than 42 inches (1067 mm) in height and shall extend not less than 30 inches (762 mm) beyond the end of the equipment or appliance. Openings between guards shall prevent the passage of a 21 inch (533 mm) diameter sphere.

### Section 323.0 Installation of Gaseous Hydrogen Systems

*Add new section to Chapter 3:*

**323.0 Installation of Gaseous Hydrogen Systems.** All Hydrogen systems shall comply with NFPA 2 Chapter 13 Hydrogen Technology Code, Building Code, and the Fire Code.

## Section 403.7 Exhaust Ventilation

*Add new subsections 403.7.1, 403.7.1.1 and 403.7.1.2 to 403.7*

**403.7 Exhaust Ventilation.** Exhaust airflow shall be provided in accordance with the requirements in Table 403.7. Exhaust makeup air shall be permitted to be a combination of outdoor air, recirculated air, and transfer air.

**403.7.1 Alternative Exhaust Ventilation for Enclosed Parking Garages.** 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.

**403.7.1.1 Minimum Exhaust Rate.** Ventilation systems shall be capable of providing 14,000 cfm (6607.3 L/s) of exhaust air for each operating vehicle. The number of operating vehicles shall be determined based on 2.5 percent of the parking spaces and not less than one vehicle.

**403.7.1.2 Automatic Carbon Monoxide Sensing Devices.** 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.

## Table 403.7 Minimum Exhaust Rates

*Amend Table 403.7 note 7:*

**Notes:** 7 Exhaust rate is not required for enclosed parking garages having a floor area of 1000 square feet (92.9 m<sup>2</sup>) or less and used for the storage of five or less motorized vehicles. Exhaust is not required if two or more sides comprise walls that are at least 50% open to the outside.

## Section 504.3.1.2 Length Limitations

*Amend section 504.3.1.2 to read as follows:*

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

**Exceptions:**

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

**Section 505.3 Makeup Air**

*Amend section 505.3 to read as follows:*

**505.3 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 m<sup>3</sup>/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 508.5.5 Evaporative Cooling Systems**

*Add new subsection 508.5.5 to section 508.5:*

**508.5.5 Evaporative Cooling Systems.** Evaporative cooling systems will comply with this chapter. 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 511.2.4 Performance Test**

*Add new subsection 511.2.4 to 511.2:*

**511.2 Airflow.** The air velocity through a duct shall be not less than 500 feet per minute (ft/min) (2.54 m/s) and not exceed 2500 ft/min (12.7 m/s).

**511.2.1 Exceptions.** Transition duct sections that do not exceed 3 feet (914 mm) in length and do not contain grease traps shall be permitted to be connected to hoods and exhaust fans that do not meet this velocity. [NFPA 96:8.2.1.2]

**511.2.2 Exhaust-Air Volumes.** Exhaust air volumes for hoods shall be of sufficient level to provide for capture and removal of grease-laden cooking vapors. Test data, performance tests approved by the Authority Having Jurisdiction, or both, shall be provided, displayed, or both, upon request.

**Exception:** Lower exhaust air volumes shall be permitted during no-load cooking conditions, provided they are sufficient to capture and remove flue gases and residual vapors from cooking equipment. [NFPA 96:8.2.2]

**511.2.3 Operation.** A hood exhaust fan(s) shall continue to operate after the extinguishing system has been activated, unless fan shutdown is required by a listed component of the ventilation system or by the design of the extinguishing system. The hood exhaust fan shall not be required to start upon activation of the extinguishing system where the exhaust fan and cooking equipment served by the fan have previously been shut down. [NFPA 96:8.2.3]

**511.2.4 Performance Test.** Upon completion and before final approval of the installation of a ventilation system serving commercial food heat-processing equipment, a performance test shall be performed to verify the rate of airflow and proper operation as specified in this chapter or manufacturer's listing. 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 be on 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 603.7 Plastic Ducts and Fittings

*Add new section 603.7 to section 603.0:*

**603.7 Plastic ducts and fittings.** Plastic ducts shall be constructed of PVC having a minimum pipe stiffness of 8 psi (55kPa) at 5-percent deflection when tested in accordance with ASTM D 2412. Plastic duct fittings shall be constructed of either PVC or high-density polyethylene. Plastic duct fittings shall be utilized in underground installations only. The maximum design temperature for systems utilizing plastic duct and fittings shall be 150°F (66°C).

## Section 604.1 General (Insulation of Ducts)

*Amend section 604.1 to read as follows:*

**604.1 General.** Supply-air ducts, return air-ducts, and plenum of a heating or cooling system shall be insulated to achieve the minimum thermal (R) value in accordance with SMACNA HVAC Duct Construction Standards Metal and Flexible, the 2009 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 m<sup>2</sup>) need not exceed R-2 (R-0.4); those 5 square feet (0.5 m<sup>2</sup>) or smaller need not be insulated.~~
- ~~(5) Ducts and plenums used exclusively for evaporative cooling systems.~~

## Section 609.0 Performance Test for Automatic Shutoffs

*Add new section 609.0 to Chapter 6:*

**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 936.0 Sauna Heaters

*Add new section 936.0 to chapter 9:*

### **936.0 Sauna Heaters.**

**936.1 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 1105.2 Volume of Occupied Space

*Amend section 1105.2 to read as follows and add new subsections 1105.2.1 thru 1105.2.4:*

**1105.2 Volume of Occupied Space-Refrigerant Concentration Limit.** The quantity concentration of refrigerant in a ~~single complete discharge of an~~ independent circuit of a high-probability systems shall not exceed the amounts shown in Table 1102.2, ~~based on:~~ The volume of the ~~smallest, enclosed,~~ occupied space shall be determined in accordance with Section 1105.2.1 through 1105.2.3. ~~The volume of the smallest, enclosed, occupied space shall be used to determine the permissible quantity of refrigerant in a system that is located in, serves, or passes through such space. In accordance to this section, occupied space shall include those rooms that are occupied occasionally for short periods of tie such as storage rooms, equipment rooms other than refrigeration machinery rooms, or a room which is capable of being entered with a door that is capable of being closed after entry~~

### **Exceptions:**

(1) Listed equipment containing no more than 6.6 pounds (3kg) of refrigerant, regardless of the refrigerant safety classification provided the equipment is installed in accordance with its listing and the manufacturer's installation instructions.



(2) Listed equipment for use in laboratories with more than 100 square feet (9.29m<sup>2</sup>) of space per person, regardless of the refrigerant safety classification, provided that the equipment is installed in accordance with its listing and the manufacturer's installation instructions.

(3) Institutional occupancies where in accordance with Section 1105.6. [ASHRAE 15:7.2]

(1) Where the airflow to an enclosed space served by a portion of an air duct system cannot be shut off or reduced below one quarter of its maximum, the cubical contents of the entire space served by that portion of the air duct system shall be used to determine the permissible quantity of refrigerant in the system.

(2) (4) Refrigerated process or storage areas that comply Industrial occupancies and refrigerated rooms where in accordance with the requirements of Section 1105.3.

**1105.2.1 Volume Calculations.** The volume used to convert from refrigerant concentration limits to refrigerating systems quantity limits for refrigerants in Section 1105.2 shall be based on the volume of space to which refrigerant dispersed in the event of a refrigerant leak. [ASHRAE 15:7.3]

**1105.2.2 Nonconnecting Spaces.** Where a refrigerating system or part thereof is located in one or more enclosed occupied spaces that do not connect through permanent openings of HVAC ducts, the volume of the smallest occupied space shall be used to determine the refrigerant quantity limit in the system. Where different stories and floor levels connect through an open atrium mezzanine arrangement, the volume to be used in calculating the refrigerant quantity limit shall be determined by multiplying the floor area of the lowest space by 8.2 feet (2499mm). [ASHRAE 15:7.3.1] Where the air flow to an enclosed space served by a portion of an air-duct system cannot be shut off or reduced below one-quarter of its maximum, the cubical contents of the entire space served by that portion of the air-duct system shall be used to determine the permissible quantity of refrigerant in the system.

**1105.2.3 Plenums.** Where the space above a suspended ceiling is not a part of the air supply or return system, it shall not be included in calculating the refrigerant quantity limit of the system. [ASHRAE 15:7.3.2.2]

**1105.4 Institutional Occupancies.** The amount of refrigerant shown in Table 11.2.2 shall be reduced by 50 percent for areas of institutional occupancies. The amount of Group A2, B2, A3, and B3 refrigerants shall not exceed 550 pounds (249.5kg) in occupied areas and machinery rooms of institutional occupancies [ASHRAE 15:7.2.1]

## **Section 1105.3 Industrial Occupancies and Refrigerated Rooms**

*Amend section 1105.3 to read as follows:*

**1105.3 Refrigerated Process and Storage Areas Industrial Occupancies and Refrigerated Rooms.** Refrigerant quantities in evaporators and piping within rooms or spaces used exclusively for processing or storage of materials under refrigerated conditions in industrial occupancies and refrigerated rooms shall not be limited, provided that existing is provided where in accordance

with the building code and in accordance with section 1105.3.1 through Section 1105.3.3 following:

(1) 1105.3.2 Sealed. The refrigerated room or space is sealed from other portions of the building by vapor tight construction and tight fitting gasketed doors. The space containing the machinery is separated from other occupancies or spaces by tight construction with tight-fitting doors.

**Exception:** Adjoining refrigerated rooms.

(2) Access is restricted to authorized personnel.

(3) The floor area per occupant is not less than 100 square feet (9.29m<sup>2</sup>).

**Exception:** The floor area shall not apply where the space is provided with egress directly to the outdoors or into approved building exits.

(4) 1105.3.1 Refrigerant room. The refrigerated room or space is equipped with a refrigerant vapor detection and alarm system that is in accordance with Section 1121.0. Refrigerant detectors are installed with the sensing location and alarm level in accordance with section 1107.4.

(5) Open flames and surfaces exceeding 800°F (427°C) shall not be permitted where a Group A2, B2, A3, or B3 refrigerant, other than ammonia is used.

(6) 1105.3.3 Lower Flammability Limit. Where the quantity of a Group A2, B2, A3, or B3 refrigerant, other than an ammonia, in an independent circuit will exceed 25 percent of the lower flammability limit where released to the surrounding room, the following shall be provided:

(1) Electrical equipment shall comply with the requirements of the electrical code for Class I, Division 2.

(2) The refrigerant vapor detection system required by Section 1105.3.1 shall automatically deenergize electrical power within the space at vapor concentrations at or above 25 percent of the lower flammability limit. Electrical equipment shall comply with Class I, Division 2 of NFPA 70 where the quantity of a Group A2, B2, A3, or B3 refrigerant, other than ammonia in an independent circuit, exceeds 25 percent of the lower flammability limit (LFL) upon release to the space based on the volume in accordance with Section 1105.2

(7) Refrigerant containing parts in systems exceeding 100 horsepower (74.6 kW) compressor drive power.

**Exceptions:**

(1) Evaporators used for refrigeration or dehumidification.

(2) Condensers used for heating. [ASHRAE 15:7.2.2]

### Section 1105.4.3 Mixing

*Add new subsection 1105.4.3 to 1105.4:*

**1105.4.3 Mixing.** Refrigerants, including refrigerant blends, with different designations as in accordance with Table 1102.2 shall not be a mixed system.

**Exception:** Addition of a second refrigerant is permitted where specified by the equipment manufacture to improve oil return at low temperatures. The refrigerant and amount added shall be in accordance with the manufactures instructions. [ASHRAE 15:7.5.1.7]

## Section 1302.1 Installation

*Amend 1302.1 to read as follows:*

**1302.1 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 (psi) (34 kPa), other than service pipe. Fuel oil piping systems shall be installed in accordance with NFPA 31. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.

## Section 1316.9 Test Pressure

*Amend section 1316.9 to read as follows:*

**1316.9 Test Pressure.** This inspection shall include an air, CO<sub>2</sub>, 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.

## Section 1316.11.1 Turning Gas On

*Amend section 1316.11.1 to read as follows and add subsections 1316.11.1 thru 1316.11.4:*

**1316.11.1 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]

**1316.11.1.1** 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.

**1316.11.1.2 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.

**1316.11.1.3 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.

**1316.11.1.4 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.

## 2012 Uniform Plumbing Code

### Section 205.0 Combustible Material

*Amend section 205.0 to read as follows:*

**205.0 Definitions. Combustible Material.** ~~As pertaining to materials adjacent to or in contact with heat producing appliances, vent connectors, gas vents, chimneys, steam and hot water pipes, and warm air ducts, shall be materials made of or surfaces with wood, compressed paper, plant fibers, or other materials that are capable of being ignited and burned. Such material shall be considered combustible even though flame proofed, fire retardant treated, or plastered. [NFPA 54:3.3.6.3] Any material not defined as noncombustible material.~~

### Section 216.0 Non Combustible Materials

*Add new definition to section 216.0:*

**216.0 Definitions. Non Combustible Materials.** Materials that, when tested in accordance with ASTM E 136, 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 Penetration Firestop System

*Delete Penetration Firestop System from 218.0 definitions.*

**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 T Rating

*Delete T Rating from 222.0 definitions.*

**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 nonfire 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 in its entirety.*

~~Section 422.0, Minimum Number of Required Fixtures. Delete Section 422.0 in its entirety.~~

## Table 422.1 Minimum Plumbing Facilities

*Delete Table 422.1 in its entirety.*

## 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 313.1. 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 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 ~~42~~ 6 inches (305 ~~152~~ mm) 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 1109.2 Methods of Testing Storm Drainage Systems**

*Amend section 1109.2 to read as follows:*

**1109.2 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 1202.1 Installation**

*Amend section 1202.1 to read as follows:*

**1202.1 Installation.** The regulations of this chapter shall govern the installation of fuel gas piping in or in connection with a building, structure or within the property lines of premises up to 5 pounds-force per square inch (34 kPa), other than service pipe. Fuel oil piping systems shall be installed in accordance with NFPA31. Whenever there is a conflict between this code and NFPA 54 and NFPA 58 as adopted by the Nevada LP-Gas Board for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.

### **Section 1208.6.1.3 Snow Hazard**

*Add new subsection 1208.6.1.3 to section 1208.6.1:*

**1208.6.1.3 Snow hazard.** On any new gas installation or reconnecting the gas service of an existing installation, gas meters above 5000 feet in elevation in Storey County or 6225 feet in elevation in Carson City 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.

### **Section 1213.3 Test Pressure**

*Amend section 1213.3 to read as follows:*

**1213.3 Test Pressure.** This inspection shall include an air, CO<sub>2</sub>, 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 ~~45~~ 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, CO<sub>2</sub>, 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 and add subsections 1213.5.1.1 thru 1213.5.1.4:*

**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 15 Firestop Protection**

*Delete Chapter 15 in its entirety.*

# 2011 National Electrical Code

## Article 210.12 (B) Branch Circuit Extensions or Modifications

*Delete Article 210.12(B)*

~~210.12(B) Branch Circuit Extensions or Modifications— Dwelling Units. In any of the areas specified in 210.12 (A), where branch circuit wiring is modified, replaced, or extended, the branch circuit shall be protected by one of the following:~~

- ~~(1) A listed combination type AFCI located at the origin of the branch circuit~~
- ~~(2) A listed outlet branch circuit type AFCI located at the first receptacle outlet of the existing branch circuit~~

## Article 225.32 Location

*Amend Article 225.32 to read as follows:*

**225.32 Location.** The disconnection 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 purpose of this section, the requirements in 230.6 shall be permitted to be utilized.

**Exception No. 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 disconnected means shall be permitted to be located elsewhere on the premises.

**Exception No. 2:** For buildings or other structures qualified under the provisions of Article 685, the disconnecting means shall be permitted to be located elsewhere on the premises.

**Exception No. 3:** For towers or poles used as lighting standards, the disconnecting means shall be permitted to be located elsewhere on the premises.

**Exception No. 4:** For poles or similar structure 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.

**Exception No. 5:** 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 No. 6:** 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 a twelve inch (12'') equilateral triangle, red in color.

## Article 230.70(A)(1) Readily Accessible Location

*Amend Article 230.70(A)(1) to read as follows:*

**230.70(A)(1) Readily Accessible Location.** The service disconnection means shall be installed outside of a building or other structure at a readily accessible location 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'). ~~at a readily accessible location either outside of a building or structure or inside nearest the point of entrance of the service conductors.~~

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 a twelve inch (12") equilateral triangle, red in color.

## Article 240.51(B) Replacement Only

*Amend Article 240.51(B) to read as follows:*

**240.51(B) Replacement Only.** 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 comply with Section 240.54.

## Article 250.96(A) General

*Amend Article 250.96(A) to read as follows:*

**250.96(A) General** Metal raceways, cable trays, cable armor, cable sheath, enclosures, frames, fittings, and other metal non-current-carrying parts that are to serve as ground conductors, with or without the use of supplementary equipment grounding conductors, shall be effectively bonded where necessary to ensure electrical continuity and the capacity to conduct safely any fault current likely to be imposed on them. Any nonconductive paint, enamel, or similar coating shall be removed at threads, contact points, and contact surfaces or be connected by means of fittings designed so as to make such removal unnecessary. The Authority Having Jurisdiction shall require a supplementary grounding conductor where a metallic raceway is subject to damage or likely to be disturbed.

FPN: An example of 'subject to damage' might be a surface mounted conduit along a traffic path in a warehouse. An example of 'likely to be disturbed' might be conduit across a rooftop, where re-roofing operations will require the conduit to be removed.

## Article 314.17(C) Non Metallic Boxes and Conduit Bodies

*Amend Article 314.17(C) 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 support wiring, open wiring on insulators, or concealed knob-and-tube wiring, the conductors shall enter the boxes through individual holes. Where flexible tubing is used to enclose the conductors, the tubing shall extend from the last insulated support to not less than 6 mm (1/4 in.) inside the box and beyond any cable clamp. Where nonmetallic-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 secure to the boxes.

**Exception:** Where nonmetallic-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 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 cables entries shall be permitted in a single cable knockout opening.

## APPENDIX

### International Residential Code Table R301.2(1) Climate and Geographic Design Criteria

#### Carson City:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termites	Decay					
SEE IBC Table 1608.2.1	100	E	Severe	24"	Moderate To Heavy	None To Slight	10° F	Yes Above 5500'	Varies. See Engineering Department	500	50° F

#### City of Fernley:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP	Radon Potential Zone
			Weathering	Frost Line Depth	Termites	Decay						
SEE IBC Table 1608.2.1	90	D1	Severe	18"	Moderate To Heavy	None To Slight	10° F	None Required	(a) 06/04/2003 (b) 11/20/1998 FIRM	594	49.4° F	Moderate Zone 3

#### City of Reno:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termites	Decay					
SEE IBC Table 1608.2.1	100	D2	Severe	24"	Moderate To Heavy	None To Slight	10° F	Yes Above 5300'	See RMC 18.12.1701	594	49.4° F

#### City of Sparks:

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termites	Decay					
SEE IBC Table 1608.2.1	100	D2	Severe	24"	Moderate To Heavy	None To Slight	7° F	None Required	See SMC 15.11	594	49.4° F

**Lyon County:**

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	90	D2	Severe	18"	Moderate To Heavy	None To Slight	10° F	None Required	Lyon Co. Title 12	500	50° F

**Storey County:**

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	100	D2	Severe	24"	Moderate To Heavy	None To Slight	10°F	Yes Above 5500'	Yes See SCC 15.20	594	49.4

**Washoe County:**

GROUND SNOW LOAD	WIND SPEED (MPH)	SEISMIC DESIGN CATEGORY	SUBJECT TO DAMAGE FROM				WINTER DESIGN TEMP	ICE SHIELD UNDER-LAYMENT REQUIRED	FLOOD HAZARDS	AIR FREEZING INDEX	MEAN ANNUAL TEMP
			Weathering	Frost Line Depth	Termite	Decay					
SEE IBC Table 1608.2.1	100	D2	Severe	24"	Moderate To Heavy	None To Slight	10° F	Yes Above 5300'	See WCC Chapter 110	594	49.4° F