SOUTHERN NEVADA

AMENDMENTS

TO THE

2009 UNIFORM PLUMBING & MECHANICAL CODE

First Printing: December 17, 2010

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PREFACE

This document was developed by the Southern Nevada Building Officials' Uniform Plumbing Code Committee and presents recommended amendments to the 2009 *Uniform Plumbing Code* (UPC) as published by the International Association of Plumbing and Mechanical Officials.

Participation in the 2009 Uniform Plumbing Code Committee was open to all interested parties. However, voting on amendment proposals was limited to one vote each for the seven Southern Nevada municipalities (Clark County, Henderson, Las Vegas, North Las Vegas, Boulder City, Pahrump, and Mesquite), the Clark County School District, and three industry representatives. All Uniform Plumbing Code Committee proceedings were conducted in accordance with Robert's Rules of Order.

The recommended amendments contained herein are not code unless adopted and codified by governmental jurisdictions. These amendments are not intended to prevent the use of any material or method of construction not specifically prescribed herein, provided any alternates have been approved and their use authorized by the Building Official. This document may be copied and used in whole or in part without permission or approval from the organizations listed on the cover page.

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Chapter 1 Administration.

Delete Chapter 1, with the exception of Sections 101.1, 101.2 and 103.1.3 and revise Section 103.1.3, as follows:

103.1.3 Plumbing Licensing Provision. Provision for licensing shall be determined by the Administration Provision of Authority Having Jurisdiction.

Section 205 Definitions.

Add a new definition to Section 205 to be placed in alphabetical order, as follows:

Combustible Construction - Combustible construction shall mean work within any building or structure classified as Type III, Type IV or Type V as defined in the Building Code. Plastic piping is not permitted in Type I and Type II buildings.

Section 311.4 Prohibited Fittings and Practices.

Revise Section 311.4 by deleting the second sentence and adding a new exception, as follows:

311.4 Except as hereinafter provided in Sections 908.0, 909.0 and 910.0, no vent pipe shall be used as a soil or waste pipe, nor shall any soil or waste pipe be used as a vent.

> **Exception:** Single stack DWV systems may be used provided they are designed by a Nevada registered Mechanical Engineer and approved by the authority having jurisdiction.

Section 402.2 Water Closets.

Revise Section 402.2 in its entirety, as follows:

402.2 Water Closets. Water closets, either flush tank, flushometer tank, or flushometer valve operated, shall have an average consumption of 1.6 gallons (6.1 liters) of water per flush. A timing device or other mechanism which will automatically flush a water closet periodically or continually is prohibited.

Section 402.3 Urinals.

Revise Section 402.3 in its entirety, as follows:

402.3 Urinals. Urinals shall have an average water consumption of 1 gallon (3.8 liters) of water per flush. A timing device or other mechanism which will automatically flush a urinal periodically or continually is prohibited.

Section 411.2 Location of Floor Drains.

Add a new Section, 411.2.4, as follows:

411.2.4 All Fire Pump rooms shall be provided with a (3) inch (76 mm) minimum floor drain which must be connected to an approved trap primer.

Section 412.1 Minimum Number of required Fixtures.

Delete Sections 412.2 through 412.6 and Table 4-1 in their entirety and revise Section 412.1, as follows:

412.1 Minimum Number of Required Fixtures. Plumbing fixtures shall be provided for the type of occupancy and in the minimum number as required by the currently adopted Building Code.

Section 413.1 Limitation of Hot Water Temperature for Public Lavatories.

Add a new Exception to Section 413.1, as follows:

413.1 Limitation of Hot Water Temperature for Public Lavatories. Hot water delivered from public use lavatories shall be limited to a maximum temperature of 120ºF (49ºC) by a device that conforms to ASSE 1070 or CSA B125.3. The water heater thermostat shall not be considered a control for meeting this provision.

Exception: An ASSE 1017 listed device may be acceptable when the maximum temperature setting for the device is 120ºF.

Section 414.5 The Limitation of Hot Water in Bathtubs and Whirlpool Bathtubs.

Add a new Exception to Section 414.5, as follows:

414.5 The Limitation of Hot Water in Bathtubs and Whirlpool Bathtubs. The maximum hot water temperature discharging from the bathtub and whirlpool bathtub filler shall be limited to 120ºF (49ºC) by a device that conforms to ASSE 1070 or CSA B125.3. The water heater thermostat shall not be considered a control for meeting this provision.

Exception: An ASSE 1017 listed device may be acceptable when the maximum temperature setting for the device is 120ºF.

Section 416.3 Limitation of Water Temperature in Bidets.

Add a new Exception to Section 416.3, as follows:

416.3 Limitation of Water Temperature in Bidets. The maximum hot water temperature discharging from a bidet shall be limited to 110ºF (43ºC) by a device that conforms to ASSE 1070 or CSA B125.3. The water heater thermostat shall not be considered a control for meeting this provision.

Exception: An ASSE 1017 listed device may be acceptable when the maximum temperature setting for the device is 120ºF. In no case shall the setting for the bidet exceed 110°F.

Section 509.3.1 Access to Appliances on Roofs.

Revise Section 509.3.1, as follows:

509.3.1 Gas utilization appliances located on roofs or other elevated locations shall be accessible by permanent roof access ladders, as follows:

(1) Each ladder shall have side railings which extend at least thirty (30) inches (762 mm) above the roof or parapet wall.

(2) Each ladder shall be a minimum of fourteen (14) inches (356 mm) in width.

(3) Each ladder rung shall be spaced at a maximum of fourteen (14) inches (356 mm) on center.

(4) Each ladder shall have a minimum of a six (6) inch (152 mm) toe space.

(5) Each ladder shall have intermediate horizontal landings whenever the ladder height exceeds eighteen feet (5486 mm) above finished grade. Landings shall be placed at eighteen foot (5486 mm) intervals, maximum.

Exceptions:

1. Permanent exterior ladders providing roof access need not extend closer than eight (8) feet (2438 mm) to the finish grade.
2. A portable ladder may be used for access for Group R Division 3 and 4 and U occupancies.

3. Permanent ladders for equipment access need not be provided at parapets or walls less than thirty (30) inches (762mm) in height.

Section 510.6 Gas vents.

Add a new Exception to Section 510.6.2, item #1, as follows:

510.6.2 A gas vent shall terminate in accordance with one of the following:

(1) Above the roof surface with a listed cap or listed roof assembly. Gas vents twelve (12) inches (300 mm) in size or smaller with listed caps shall be permitted to be terminated in accordance with Figure 5-2, provided they are at least eight (8) feet (2.4 m) from a vertical wall or similar obstruction. Other gas vents shall terminate not less than two (2) feet (0.6 m) above the highest point where they pass through the roof and at least two (2) feet (0.6 m) exceeding any portion of a building within ten (10) feet (3.1 m).

Exception: A single-family residence having gas vents twelve (12) inches (300 mm) in size or smaller with listed caps shall be permitted to be terminated in accordance with Figure 5-2, provided they are at least four (4) feet (1.2 m) from a vertical wall or similar obstruction.

Items (2) through (6) remain unchanged.

Section 603.3 General Requirements.

Revise Section 603.3.3, as follows:

603.3.3 The premise owner or responsible person shall have the backflow prevention assembly tested by a certified backflow assembly tester at the time of installation, repair, or relocation and not less than on an annual schedule thereafter, or more often when required by the Authority Having Jurisdiction. The certified tester shall leave a copy of their backflow certification on site along with a copy of the certification of each device tested. These documents shall be recorded into the permanent record at the time of installation. The periodic testing shall be performed in accordance with the procedures referenced in Table 14-1 by a tester qualified in accordance with those standards.

Section 603.4.12 Potable Water Supply to Carbonators.

Revise Section 603.4.12, as follows:

603.4.12 Potable Water Supply to Carbonators. Potable water supply to carbonators shall be protected by a listed reduced pressure principle backflow preventer as approved by the authority having jurisdiction.

Section 604.0 Materials.

Add a new Section 604.1.1, as follows:

604.1.1 Plastic piping shall be limited to buildings defined as combustible construction by this code.

Section 608.5 Relief Valves.

Revise Section 608.5 Relief Valves, as follows:

608.5 Relief Valves. Relief valves located inside a building shall be provided with a drain, not smaller than the relief valve outlet, of galvanized steel, hard- drawn copper piping and fittings, CPVC, flexible corrugated connectors complying with 604.12, or listed relief valve drain tube with fittings that will not reduce the internal bore of the pipe or tubing (straight lengths as opposed to coils) and shall extend from the valve to the outside of the building with the end of the pipe not more than two (2) feet (610 mm) nor less than six (6) inches (152 mm) above the ground or the flood level of the area receiving the discharge and pointing downward. Temperature and Pressure Relief (T & P) drains shall discharge to the exterior of the building unless structural conditions or the manufacturers listing prevent this termination. T & P drains may discharge through an air gap into a secondary clothes washer port, or through an air gap in a floor sink or a floor drain provided they are located in normally unoccupied areas. No part of such drain pipe shall be trapped or subject to freezing. The terminal end of the drain pipe shall not be threaded.

Section 701.0 Materials.

Revise Section 701.0 by adding a new Section 701.1.2.1 Materials, as follows:

701.1.2.1 Materials. Plastic piping used for drainage waste and vent systems shall be limited to buildings defined as combustible construction by this code.

Section 704.3 Fixture Connections (Drainage)

Revise Section 704.3, as follows:

704.3 Pot sinks, scullery sinks, dishwashing sinks, silverware sinks, commercial dishwashing machines and other similar fixtures shall be indirectly connected to the drainage systems by means of an air gap.

Section 707.10 Cleanouts

Add a new Exception to Section 707.10, as follows:

707.10 Cleanout fittings shall be not less in size than those given in Table 7-6.

Exception: Where a 2-1/2" (inch) cleanout is required, a 2" (inch) cleanout may be used for horizontal branch waste lines.

Section 710.1 Drainage of Fixtures Located Below the Next Upstream Manhole or Below the Main Sewer level.

Delete Section 710.1, in its entirety and replace, as follows:

710.1 Drainage Piping servicing fixtures which have flood level rims located below the elevation of the next upstream manhole cover of the public or private sewer serving such drainage piping shall be protected from backflow of sewage by installing an approved type backwater valve; Other than a single dwelling unit served by an individual sewer, fixtures above such elevation shall not discharge through the backwater valve.

Section 801.2.2 Food and Beverage Handling Establishments.

Revise Section 801.2.2, as follows:

801.2.2 For walk-in coolers, floor drains shall be permitted to be connected to a separate drainage line discharging into an outside receptor. The flood level rim of the receptor shall be not less than six (6) inches (152 mm) lower than the lowest floor drain. Such floor drains shall be trapped and individually vented. Cleanouts shall be provided at every ninety (90) degree (1.6 rad) turn and shall be accessibly located. Such waste shall discharge through an airgap into a trapped and vented receptor, except that full-size airgap is required where the indirect waste pipe may be under vacuum.

Section 801.2.4 Floor Sinks.

Revise Section 801.2 by adding a new Section 801.2.4 Floor Sinks, as follows:

801.2.4 Floor Sinks. Floor sinks shall be installed flush with the finished floor and shall be accessible for cleaning.

Section 804.1 Indirect Waste Receptors.

Revise Section 804.1 by adding a new second paragraph, as follows:

When any indirect waste piping other than the discharge from the clothes washer is terminated into a washer box, a double port clothes washer box shall be used. The second port shall be permanently connected to the vertical receptor standpipe via a wye branch fitting or a listed multiport clothes washer box may be used. The clothes washer shall discharge through an air break into the primary receptor standpipe. All other indirect waste piping shall discharge into the secondary port through an air gap.

Section 903.0 Materials.

Revise Section 903.1 by adding a new section 903.1.2.1, as follows:

903.1.2.1 Plastic piping used for drainage waste and vent systems shall be limited to buildings defined as combustible construction by this code.

Section 1009.0 Gravity Grease Interceptors.

Delete Sections 1009.0 through 1017.2, retain Table 10-3 and add new Sections 1009.0, 1010.0, 1011.0, 1012.0 and 1013.0, as follows:

1009.0 - Gravity Grease interceptors

1009.1 General. A grease interceptor shall be provided for proper handling of liquid wastes containing grease. A grease interceptor as described in these standards shall be installed in any business establishment with kitchen facilities including restaurants, cafes, lunch counters, cafeterias, supermarkets, convenience stores, bakeries, bars and clubs, hotels, hospitals, sanitariums, factory or school kitchens, or any other commercial establishment where grease may be introduced into the sewer system.

Special consideration shall be given to every fish, fowl and animal slaughterhouse or establishment; every fish, fowl and meat packing or curing establishment; every soap factory, tallow rendering, fat rendering and hide curing establishment; or any other establishment from which considerable amounts of grease are likely to be discharged into the sewer system. Written application describing exact operation and anticipated volumes of grease shall be made to the Sanitation Authority Having Jurisdiction to determine the standards for such systems.

1009.2 Fixtures. The waste discharge from fixtures and equipment which may contain grease from the businesses set out previously shall be drained through a grease interceptor or grease interceptors. Fixtures such as, but not limited to, the following are included: scullery sinks, pot and pan sinks, dishwashing machines, soup kettles and similar cooking equipment, trash compactors, floor drains in grease generating areas, and trash can wash areas.

1009.3 Prohibited fixtures. The waste lines from toilets, urinals, and other similar fixtures shall not drain through a grease interceptor.

1009.4 Location.

(1) Grease interceptors shall be so installed and connected that they shall be at all times easily accessible for inspection, cleaning and removal of the intercepted grease.

(2) Grease interceptors shall be placed as close as practical to the fixtures served.

(3) Grease interceptors shall be located on the exterior of buildings unless specifically approved otherwise in writing by the health district.

(4) Grease interceptors shall be so located as to be accessible for service without the use of ladders or the removal of bulky equipment.

(5) Location of all grease interceptors shall be shown on the approved plans.

(6) Each grease interceptor shall serve only one business establishment. Multiple business connections to a single interceptor are not permitted. Unless approved by the sanitation authority in writing.

(7) An accessible hose bib shall be located within 25 feet (7620 mm) of every grease interceptor.

1009.5 Size.

(1) Grease interceptors shall be sized in accordance with Table 10-3. Interceptors shall not be more than one size larger than required in Table 10-3.

> NOTE: For situations not covered by Table 10-3, a submittal showing the interceptor size and calculations shall be approved by the sanitation authority prior to building official plan approval. For business establishments other than commercial restaurants, a specific submittal shall be approved by the sanitation authority prior to building official plan approval. Such designs shall be prepared by a Nevada Registered Engineer.

(2) All grease interceptors shall have a minimum of two compartments with a minimum of 3 inch (76.2 mm) diameter fittings designed for grease retention. The fittings shall be installed in the following manner: A sanitary tee shall be installed at the inlet, a sanitary tee on the inlet side of the interceptor baffle, and a sanitary tee installed at the outlet.

(3) There shall be adequate access for cleaning all areas of the separator. A minimum of one access point into each compartment within the separator shall be provided. In addition, no access points shall be further apart than 10 feet (3048 mm) regardless of the number of compartments. Separator covers shall be of gas-tight construction. Interceptor covers shall have a minimum opening dimension of twenty (20) inches (508 mm) in diameter.

(4) All waste shall enter the grease interceptor through the inlet pipe.

(5) Grease interceptors shall be so designed that they will not become air bound. Each interceptor shall be properly vented with a relief vent located on the outlet side of the interceptor.

(6) Cleanouts shall be installed in the drainage piping inlet and outlet side of each grease interceptor and the outlet side of each sample box.

(7) Each fixture discharging into a grease interceptor shall be individually trapped and vented in an approved manner.

(8) Each grease interceptor shall have an approved water seal of not less than two (2) inches (50.8 mm) in depth or the diameter of its outlet whichever is greater.

(9) When grease interceptors are located in areas of pedestrian or vehicle travel, the design of the interceptor shall be adequate to support the imposed load. Structural calculations to verify its adequacy may be required.

(10) A sample box shall be provided on the outlet side of each grease interceptor down stream of the required cleanout and vent.

1009.6 Water Test. A water test shall be applied to the level of the top of the interceptor inlet opening through the outlet opening or discharge side of the sample box. Interceptors shall show no leakage from section seams, pinholes or other imperfections. Any leakage below this level is cause for rejection.

(1) **Backfill**. Interceptors shall not be backfilled until the inspection has been made to verify there are no leaks.

1010.0 Sand/Oil Interceptors.

1010.1 Where Required. An interceptor shall be provided for the proper handling of liquid wastes containing oil (of petroleum origin), sand, inert solids or any other similar substances.

NOTE: A sand/oil interceptor is not intended for the disposal of hazardous waste or as a backup system for accidental spills.

Interceptors as described in these standards shall be installed in, but not limited to, the following locations: car washes, motor vehicle, boat or airplane storage yards, gasoline and diesel service stations, repair garages or any other similar facility which may introduce sand and oil into the sewer system.

Submittal of a written application describing the exact facility operation and the types and anticipated volumes of waste to be generated may be required by the building official.

1010.2 Fixtures. The waste discharge from fixtures and equipment which may contain sand, oil-based wastes and inert solids shall drain only through an interceptor. This requirement includes, but is not limited to, the following: floor drains, floor sinks, special processing equipment, trench drains, and area drains.

1010.3 Prohibited Fixtures. The waste line from toilets, urinals, lavatories and other similar fixtures, which discharge domestic wastes only, shall not drain through the interceptor.

1010.4 Location.

(1) Sand/ oil interceptors shall be so installed and connected that they shall be at all times accessible for inspection, cleaning and removal of the intercepted waste.

(2) Sand / oil interceptors shall be placed as close as practical to the fixtures served.

(3) Sand/ oil interceptors shall be located on the exterior of buildings unless specifically approved otherwise in writing by the sanitation authority.

(4) Sand/ oil interceptors shall be located as to be accessible for service without the use of ladders or the removal of bulky equipment.

(5) Location of all sand/oil interceptors shall be shown on the approved plans.

(6) Each sand/ oil interceptor shall serve only one business establishment. Multiple business connections to a single sand/ oil interceptor are not permitted unless approved by the sanitation authority in writing.

1010.5 Size and Design.

(1) All sand/oil interceptors shall be a minimum of three hundred (300) gallons (40 cubic feet) (1136 l) of total liquid capacity with a minimum floating liquid capacity of 55 gallons (208 l).

(2) All sand/oil interceptors shall have a minimum of two compartments with a minimum of 3 inch (76.2 mm) diameter fittings designed for retention. The fittings shall be installed in the following manner: a 90^0 long sweep shall be installed at the interceptor inlet, a sanitary tee shall be installed on the inlet side of the interceptor baffle, and a sanitary tee installed at the outlet.

(3) There shall be adequate access for cleaning all areas of the separator. A minimum of one (1) access point into each compartment within the separator shall be provided. In addition, no access points shall be further apart than ten (10) feet (3048 mm) regardless of number of compartments. Access covers shall have a minimum opening dimension of twenty (20) inches (508 mm) in diameter. Separator covers shall be of gas-tight construction.

(4) The sand/oil interceptor shall be properly vented and designed to prevent it from becoming air bound in accordance with this code.

(5) Each business establishment for which a sand/oil interceptor is required shall be provided with an interceptor which shall serve that establishment only and no others. Separate owners or lessees within a large business or establishment shall require separate interceptors.

(6) Each sand/oil interceptor shall have a water seal of not less than six (6) inches (152 mm).

(7) When separators are located in areas of foot or vehicle traffic, the design of the separator shall be adequate for the imposed load. Structural calculations performed by a Nevada Registered Engineer to verify adequacy may be required.

(8) Any private or public wash rack or slab used for cleaning machinery or machine parts, shall drain to a sand/oil separator, and shall be adequately protected against storm or surface water intrusion.

(9) Design standards other than those listed above may be acceptable. Redwood baffles shall not be used for new or existing interceptors. Any alternate design shall be prepared by a Nevada Registered Engineer and submitted for review and approval by the sanitation authority and the building official.

(10) Cleanouts shall be installed in the drainage piping inlet and outlet side of each sand/oil interceptor and the outlet side of each sample box.

(11) A sample box shall be provided on the outlet side of the interceptor down stream of the required cleanout and vent.

1010.6 Water Test. A water test shall be applied to the level of the top of the interceptor inlet opening through the outlet opening or discharge side of the sample box. Interceptors shall show no leakage from section seams, pinholes or other imperfections. Any leakage below this level is cause for rejection.

(1) **Backfill**. Interceptors shall not be backfilled until the inspection has been made to verify there are no leaks.

1011.0 Maintenance of interceptors.

1011.1 Grease and sand/oil interceptors shall be maintained in efficient operating condition by periodic removal of the accumulated grease or sand/oil. No such collected grease, sand/oil, or any material collected from the interceptor shall be introduced into any drainage piping, public or private sewers. The materials removed from interceptors shall be handled and disposed of in a proper manner in accordance with published health district and sanitation authority requirements. Illegal dumping of waste into the sewer shall not be allowed.

1011.2 Maintenance records for each installed interceptor shall be maintained on the premises at all times and presented to a duly authorized agent of the sanitation authority upon request.

1011.3 The Authority Having Jurisdiction shall have the authority to mandate the installation of additional equipment or devices and enforce a maintenance program.

1012.0 Abandoned interceptors. Abandoned interceptors shall be cleaned and filled as required by Section 722.0 of the Plumbing Code for abandoned sewers and sewage disposal facilities.

1013.0 Existing Buildings. Whenever an existing building has a change in use which requires an interceptor or whenever there is an increase in the total number of drainage fixture units served by an existing interceptor, one or more interceptors shall be installed in the drainage system serving the building meeting the requirements of Section 1009 and 1010.

Section 1101.3 Material Uses.

Revise Section 1101.3 by adding a new Section 1101.3.1, as follows:

1101.3.1 Plastic piping used for rainwater systems shall be limited to buildings defined as combustible construction by this code.

Section 1101.5.1 Subsoil Drains.

Revise Section 1101.5.1, as follows:

1101.5.1 Where required by the geotechnical engineer or the authority having jurisdiction, subsoil drains shall be provided around the perimeter of buildings having basements, cellars, or crawl spaces or floors below grade. Such subsoil drains may be positioned inside or outside of the footing, shall be of perforated, or open-jointed approved drain tile or pipe not less than three (3) inches (80 mm) in diameter, and shall be laid in gravel, slag, crushed rock, approved three-quarter (3/4) inch (19.1 mm) crushed recycled glass aggregate, or other approved porous material with a minimum of four (4) inches (102 mm) surrounding the pipe on all sides. Filter media shall be provided for exterior subsoil piping.

Section 1101.9 Filling Stations and Motor Vehicle Washing Establishments.

Delete Section 1101.9, Filling Stations and Motor Vehicle Washing Establishments, in its entirety.

Section 1101.10 Paved Areas.

Delete Section 1101.10, Paved Areas, in its entirety.

Section 1103.0 Traps on Storm drains and Leaders.

Delete Section 1103.0, Traps on Storm drains and Leaders, in its entirety.

Section 1104.3 Combining Storm with Sanitary Drainage.

Delete Section 1104.3, Combining Storm with Sanitary Drainage, in its entirety.

Section 1203.3 Fuel gas.

Revise Section 1203.3 by adding a new Section 1203.3.1, as follows:

1203.3.1 Dry Gas – A gas having a moisture and hydrocarbon dew point below any normal temperature to which the gas piping is exposed. Southern Nevada shall be considered a dry gas condition area unless specified by the local gas purveyor.

Section 1211.1.6 Piping Underground Beneath Buildings.

Delete Section 1211.1.6 in its entirety and replace, as follows:

1211.1.6 Piping Underground Beneath Buildings. No gas piping shall be installed in or on the ground under any building or structure unless installed in gastight conduit, and all exposed gas piping shall be kept at least six (6) inches (152 mm) above grade or structure. The term "building or structure" shall include structures such as porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances. All gas piping under a slab shall be capable of being removed and replaced.

The conduit shall be of material approved for installation underground beneath buildings and not less than Schedule 40 pipe. The interior diameter of the conduit shall be not less than one-half (1/2) inch (15 mm) larger than the outside diameter of the gas piping.

The conduit shall extend to a point at least (12) inches (305 mm) beyond any area where it is required to be installed or to the outside wall of a building, and the outer ends shall not be sealed. Where the conduit terminates within a building, it shall be readily accessible and the space between the conduit and the gas piping shall be sealed to prevent leakage of gas into the building.

Exception: Products listed for such use.

Section 1211.3.2 Connections.

Revise item (4) in Section 1211.3.2, as follows:

1211.3.2 Connections. Where gas piping is to be concealed, unions, tubing fittings, bushings, and compression couplings made by combinations of fittings shall not be used. Connections shall be of the following types:

(1) Pipe fittings such as elbows, tees, and couplings.

(2) Joining tubing by brazing (see Section 1209.5.8.2).

(3) Fittings listed for use in concealed spaces that have been demonstrated to sustain, without leakage, any forces due to temperature expansion or contraction, vibration, or fatigue based on their geographic location, application or operation.

(4) Where necessary to insert fittings in gas pipe that has been installed in a concealed location, the pipe shall be reconnected by welding, flanges, or with right and left couplings.

Section 1214.3 Test Pressure.

Delete Section 1214.3.1 in its entirety and replace, as follows:

1214.3.1 This inspection shall be made after all piping authorized by the permit has been installed and after all portions thereof which are to be covered or concealed are so concealed and before any fixtures, appliance, or shutoff valve has been attached thereto. This inspection shall include an air, CO2 or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than ten (10) pounds per square inch (68.9 kPa) gauge pressure, or at the discretion of the Administrative Authority, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope gauge. Test pressures shall be held for a length of time satisfactory to the Administrative Authority, but in no case for less than fifteen (15) minutes, with no perceptible drop in pressure. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches (356 mm) water column pressure, the test pressure shall not be less than sixty (60) pounds per square inch (413.4 kPa) and shall be continued for a length of time satisfactory to the Administrative Authority, but in no case for less than thirty (30) minutes. These tests shall be made using air, CO2, or nitrogen pressure only and shall be made in the presence of the Administrative Authority. All necessary apparatus for conducting tests shall be furnished by the permit holder. Test gauges used in conducting tests shall comply with Section 319.0, Test Gauges.

Chapter 13 Health Care Facilities and Medical Gas and Vacuum Systems

Delete Chapter 13, Health Care Facilities and Medical Gas and Vacuum Systems, in its entirety.

Chapter 15 Firestop Protection

Delete Chapter 15, Firestop Protection, in its entirety.

Chapter 16 Part 1 - Gray Water Systems

Delete Chapter 16, Part 1 - Gray Water Systems, Sections 1601 through 1612 in their entirety.

Section 1613.0 Reclaimed Water Systems - General.

Revise Section 1613.0 (A), as follows:

1613.0 Reclaimed Water Systems - General.

(A) The provisions of Part II of this chapter shall not be allowed in residential buildings and shall apply to the installation, construction, alteration, and repair of reclaimed water systems intended to supply uses such as water closets urinals, trap primers for floor drains, floor sinks, irrigation, industrial processes, water features and other uses approved by the Authority Having Jurisdiction. Potable water supplied as makeup water in these systems shall be protected against back-pressure and back-syphonage in accordance with Sections 602.0 and 603.0.

Appendix F Firefighter Breathing Air Replenishment Systems

Delete Appendix F, Firefighter Breathing Air Replenishment Systems, in its entirety.

Appendix K Private Sewage Disposal Systems

Delete Appendix K, Private Sewage Disposal Systems, in its entirety.

SOUTHERN NEVADA

AMENDMENTS

TO THE

2009 UNIFORM MECHANICAL CODE

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PREFACE

This document was developed by the Southern Nevada Building Officials' Uniform Mechanical Code Committee and presents recommended amendments to the 2009 *Uniform Mechanical Code* (UMC) as published by the International Association of Plumbing and Mechanical Officials.

Participation in the 2009 Uniform Mechanical Code Committee was open to all interested parties. However, voting on amendment proposals was limited to one vote each for the seven Southern Nevada municipalities (Clark County, Henderson, Las Vegas, North Las Vegas, Boulder City, Pahrump, and Mesquite), the Clark County School District, and three industry representatives. All Uniform Mechanical Code Committee proceedings were conducted in accordance with Robert's Rules of Order.

The recommended amendments contained herein are not code unless adopted and codified by governmental jurisdictions. These amendments are not intended to prevent the use of any material or method of construction not specifically prescribed herein, provided any alternates have been approved and their use authorized by the Building Official. This document may be copied and used in whole or in part without permission or approval from the organizations listed on the cover page.

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Chapter 1 Administration.

Delete Chapter 1 in its entirety, except for Section 101.0 Title and Section 101.2 Purpose.

Section 205.0 Definitions.

Add a new definition to Section 205.0, as follows:

Combustible Construction - Combustible construction shall mean work within any building or structure classified as Type III, Type IV, or Type V as defined in the Building Code. Plastic piping is not permitted in Type I and Type II buildings.

Section 303.1.1 Plastic Pipe Use.

Add a new Section 303.1.1, Plastic Pipe Use, as follows:

303.1.1 Plastic Pipe Use. Plastic materials listed for use in mechanical equipment are acceptable as an alternate to other approved materials for use in installations in combustible construction only.

Exceptions:

(1) Approved plastic control tubing of mechanical equipment may be used in buildings or structures of all construction classifications when installed in accordance with their listings.

(2) When restricted by other sections of this code.

Section 309.2 Condensate Control.

Revise Section 309.2, as follows:

309.2 Condensate Control. When a cooling coil or cooling unit is located in an attic or furred space where damage may result from condensate overflow an additional watertight pan of corrosion-resistant metal shall be installed beneath the cooling coil or unit top to catch the overflow condensate due to a clogged primary condensate drain or one of the following methods may be used:

(1) One pan with a standing overflow and a separate secondary drain may be provided in lieu of the secondary drain pan.

(2) One pan with a standing overflow and a water level detection device in lieu of the secondary drain pan. The water level detection device shall conform to UL 508 and shall shut off the equipment served in the event that the primary drain is blocked. The device shall be installed in the overflow drain line or in the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of the drain pan.

Exception: Fuel-fired appliances that automatically shut down operation in the event of a stoppage in the condensate drainage system.

The additional pan or the standing overflow shall be provided with a drain pipe, minimum 3/4 inch (19.1 mm) nominal pipe size, discharging at a point that can be readily observed.

This requirement is in addition to the requirements in Sections 309.3 and 309.4.

Section 504.3 Moisture Exhaust Ducts.

Revise Section 504.3.1 by adding a new exception, as follows:

504.3.1 Moisture Exhaust Ducts. Moisture exhaust ducts shall terminate on the outside of the building and shall be equipped with a back-draft damper. Screens shall not be installed at the duct termination. Ducts for exhausting clothes dryers shall not be connected or installed with sheet metal screws or other fasteners which will obstruct the flow. Clothes dryer moisture exhaust ducts shall not be connected to a gas vent connector, gas vent or chimney and shall only serve clothes dryers. Clothes dryer moisture exhaust ducts under positive pressure shall not extend into or through ducts or plenums.

Exception: When moisture exhaust ducts terminate vertically through a roof, backdraft dampers are not required.

Section 504.3.2.2 Length Limitation.

Revise Section 504.3.2.2 by adding a new exception, as follows:

504.3.2.2 Length Limitation. 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 (4,263 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.

Exception: Lengths may be increased when justified by calculations prepared by a Nevada Licensed Mechanical Engineer.

Section 510.7.2 Interior Installations.

Add a new Section 510.7.2.4, as follows:

510.7.2.4 Unless specifically listed, the structural supports for a duct enclosure shall be outside the enclosure.

Section 511.2.5 Performance Test.

Add a new Section 511.2.5, as follows:

511.2.5 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 supplied by the jurisdiction or on a form containing equivalent information. At the discretion of the building official, the performance test may be required to be witnessed by the Authority Having Jurisdiction, performed by an approved third party testing agency.

Section 609.0 Automatic Shutoffs.

Revise Section 609.0 by adding a new paragraph following the exceptions, as follows:

Upon completion and before final approval of the air-moving system provided 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 be on a form supplied by the jurisdiction or on a form containing equivalent information. At the discretion of the building official, the performance test may be required to be witnessed by the Authority Having Jurisdiction, performed by an approved third party testing agency.

Section 802.6.2 Gas Vents.

Add a new Exception to Section 802.6.2, item (1), as follows:

802.6.2 A gas vent shall terminate in accordance with one of the following:

(2) Above the roof surface with a listed cap or listed roof assembly. Gas vents twelve (12) inches (300 mm) in size or smaller with listed caps shall be permitted to be terminated in accordance with Figure 5-2, provided they are at least eight (8) feet (2.4 m) from a vertical wall or similar obstruction. Other gas vents shall terminate not less than two (2) feet (0.6 m) above the highest point where they pass through the roof and at least two (2) feet (0.6 m) exceeding any portion of a building within ten (10) feet (3.1 m).

Exception: A single-family residence having gas vents twelve (12) inches (300 mm) in size or smaller with listed caps shall be permitted to be terminated in accordance with Figure 5-2, provided they are at least four (4) feet (1.2 m) from a vertical wall or similar obstruction.

The remainder of the section remains unchanged.

Section 904.10 Access to Appliances and Air Moving Systems on Roofs.

Revise Section 904.10, as follows:

904.10 Access to Appliances and Air Moving Systems on Roofs.

904.10.1 Appliances and air moving systems located on roofs or other elevated locations shall be accessible by permanent roof access ladders, as follows:

(6) Each ladder shall have side railings which extend at least thirty (30) inches (762 mm) above the roof or parapet wall.

(7) Each ladder shall be a minimum of fourteen (14) inches (356 mm) in width.

(8) Each ladder rung shall be spaced at a maximum of fourteen (14) inches (356 mm) on center.

(9) Each ladder shall have a minimum of a six (6) inch (152 mm) toe space.

(10) Each ladder shall have intermediate horizontal landings whenever the ladder height exceeds eighteen feet (5486 mm) above finished grade. Landings shall be placed at eighteen foot (5486 mm) intervals, maximum.

Exceptions:

(1) Permanent exterior ladders providing roof access need not extend closer than eight (8) feet (2438 mm) to the finish grade.

(2) A portable ladder may be used for access for a Group R Division 3 and 4 and U occupancies.

(3) Permanent ladders for equipment access need not be provided at parapets or walls less than thirty (30) inches (762mm) in height.

Chapter 10 Steam and Hot Water Boilers

Delete Chapter 10 in its entirety except Section 1001.0 and revise Section 1001.0, as follows:

1001.0 Applicability. For boilers and water heaters less than 120 gallon capacity, or a BTU input rating less than 200,000, or less than 160 pounds per square inch of pressure, see Chapter 5 of the Uniform Plumbing Code. For all other units, contact the Mechanical Section of the Nevada Division of Occupational Safety and Health, part of the Office of Business and Industrial Relations.

Table 11-1 Refrigerant Groups, Properties and Allowable Quantities.

Revise Table 11-1, by adding a new footnote #16, as follows:

[16] For occupancy Group I, Division 1 and Division 2, the quantity of refrigerant in each system is limited to 50 percent of the respective amount listed in this table. Exceptions: Kitchens, laboratories and mortuaries.

Table 11-2 Permissible Refrigeration Systems.

Revise Table 11-2 and add new footnotes #3 and #4, as follows:

Table 11-2

Permissible Refrigeration Systems[1]

Occupancy Group[4] and Division	High - Probability System	Low Probability System	Machinery Room
A-1	Group A1 only	Any	Any
A-2	Group A1 only	Any	Any
A-3	Group A1 only	Any	Any
A-4	Group A1 only	Any	Any
A-5	Group A1 only	Any	Any
B	Group A1 only[2]	Any	Any
E	Group A1 only	Any	Any
F-1	Group A1 only	Any	Any
F-2	Any[2]	Any	Any
H-1	Any	Any	Any
H-2	Any	Any	Any
H-3	Any	Any	Any
H-4	Any	Any	Any
H-5	Group A1 only	Any	Any
I-1	Group A1 only[3]	Any	Any
I-2	Group A1 only[3]	Any	Any
I-3	Group A1 only[3]	Any	Any
I-4	Group A1 only[3]	Any	Any
M	Group A1 only[2]	Any	Any
R-1	Group A1 only	Any	Any
R-2	Group A1 only	Any	Any
R-3	Group A1 only	Any	Any
R-4	Group A1 only	Any	Any
S-1	Group A1 only[2]	Any	Any
S-2	Any[2]	Any	Any
U	Any	Any	Any

Notes:

[1] See Section 1105.0.

[2] Any refrigerant may be used within a high-probability system when the room of space complies with Section 1105.3.

[3] The allowable quantities shown in Table 11-1 shall be reduced by 50 percent for all institutional occupancies except kitchens, laboratories, and mortuaries. (ASHRAE Safety Standard for Refrigeration Systems 15-2007 Section 7.2.1.)

[4] Occupancy classifications are defined in the Building Code

Section 1302 Fuel Gas.

Revise Section 1302.2 by adding a new Section 1303.2.1, as follows:

1303.2 Fuel Gas – Natural, manufactured, liquefied petroleum, or a mixture of these.

1303.2.1 Dry Gas – A gas having a moisture and hydrocarbon dew point below any normal temperature to which the gas piping is exposed. Southern Nevada shall be considered a dry gas condition area unless specified by the local gas purveyor.

Section 1312.1.6 Piping Underground Beneath Buildings.

Revise Section 1312.1.6 in its entirety, as follows:

1312.1.6 Piping Underground Beneath Buildings. No gas piping shall be installed in or on the ground under any building or structure unless installed in gastight conduit, and all exposed gas piping shall be kept at least six (6) inches (152 mm) above grade or structure. The term "building or structure" shall include structures such as porches and steps, whether covered or uncovered, breezeways, roofed porte-cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances. All gas piping under a slab shall be capable of being removed and replaced.

The conduit shall be of material approved for installation underground beneath buildings and not less than Schedule 40 pipe. The interior diameter of the conduit shall be not less than one-half (1/2) inch (15 mm) larger than the outside diameter of the gas piping.

The conduit shall extend to a point at least (12) inches (305 mm) beyond any area where it is required to be installed or to the outside wall of a building, and the outer ends shall not be sealed. Where the conduit terminates within a building, it shall be readily accessible and the space between the conduit and the gas piping shall be sealed to prevent leakage of gas into the building.

Exception: Products listed for such use.

Section 1312.3.2 Connections.

Revise Section 1312.3.2, item 4, as follows:

1312.3.2 Connections. Where gas piping is to be concealed, unions, tubing fittings, bushings, and compression couplings made by combinations of fittings shall not be used. Connections shall be of the following types:

(1) Pipe fittings such as elbows, tees, and couplings.

(2) Joining tubing by brazing (see Section 1209.5.8.2).

(3) Fittings listed for use in concealed spaces that have been demonstrated to sustain, without leakage, any forces due to temperature expansion or contraction, vibration, or fatigue based on their geographic location, application or operation.

(4) Where necessary to insert fittings in gas pipe that has been installed in a concealed location, the pipe shall be reconnected by welding, flanges, or right and left couplings.

Section 1316.3 Test Pressure.

Delete Sections 1316.3.2 and 1316.3.3 and revise Sections 1316.3 and 1316.3.1 in their entirety, as follows:

1316.3 Final Piping Inspection

1316.3.1 This inspection shall be made after all piping authorized by the permit has been installed and after all portions thereof which are to be covered or concealed are so concealed and before any fixtures, appliance, or shutoff valve has been attached thereto. Gas valves may be installed when permitted by the manufacturer to withstand test pressures. This inspection shall include an air, CO2 or nitrogen pressure test, at which time the gas piping shall stand a pressure of not less than ten (10) pounds per square inch (68.9 kPa) gauge pressure, or at the discretion of the Authority Having Jurisdiction, the piping and valves may be tested at a pressure of at least six (6) inches (152 mm) of mercury, measured with a manometer or slope gauge. Test pressures shall be held for a length of time satisfactory to the Authority Having Jurisdiction, but in no case for less than fifteen (15) minutes, with no perceptible drop in pressure. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches (356 mm) water column pressure, the test pressure shall not be less than sixty (60) pounds per square inch (413.4 kPa) and shall be continued for a length of time satisfactory to the Authority Having Jurisdiction, but in no case for less than thirty (30) minutes. These tests shall be made using air, CO2, or nitrogen pressure only and shall be made in the presence of the Administrative Authority. All necessary apparatus for conducting tests shall be furnished by the permit holder. Test gauges used in conducting tests shall comply with Section 1304.3.2.