

**Amendments and deletions to the 2015 Edition of the
International Residential Code**

Section 1.01 Title

This Chapter shall be known as the "Construction" Chapter of the Arlington City Code. Article I shall be known as the "Building Code" of the City of Arlington and shall incorporate the herein referenced and adopted Editions of the International Code, as published by the International Code Council, Inc.

Section 1.02 Adoption of Code

The International Building Code, 2015 Edition (hereinafter called "I.B.C."); the International Existing Building Code, 2015 Edition (hereinafter called "I.E.B.C."); the International Residential Code, 2015 Edition (hereinafter called "I.R.C."); and the International Energy Conservation Code, 2015 Edition (hereinafter called "I.E.C.C."); as published by the International Code Council, Inc. are hereby adopted and designated, together with the deletions, amendments and addenda hereinafter contained, as the Building Code of the City of Arlington, the same as though said I.B.C., I.E.B.C., I.R.C. and I.E.C.C. were copied at length herein. Copies of the I.B.C., I.E.B.C., I.R.C. and I.E.C.C. and their Appendices shall be kept on file in the Office of the City Secretary.

The adoption of the 2015 I.R.C. as stated herein except that Section R313 of the 2003 I.R.C., as amended and originally adopted on August 23, 2005 by Ordinance No. 05-068, to read as follows is maintained:

R313.1 Fire sprinkler system. All R3 and U occupancies are required to have an approved fire sprinkler system.

Exception: Buildings with an approved fire department access.

Section 1.03 Code Defined; Rule of Construction

This Building Code shall include all of the provisions of the I.B.C., I.E.B.C., I.R.C. and I.E.C.C. as adopted by Section 1.02 above and all other provisions contained herein. In the event a conflict is determined to exist between said I.B.C., I.E.B.C., I.R.C. and I.E.C.C. as adopted and the other provisions of this Chapter, the provisions of this Chapter control. Items regulated by permit located on residential lots that are not specifically referenced in the I.R.C. are regulated by the I.B.C or I.E.B.C.

Section 1.04 Amendments, Additions and Deletions

The adoption of the I.B.C, I.E.B.C., I.R.C. and I.E.C.C., as provided in Section 1.02 above, is modified and amended by the following:

- A. The addition thereto of Articles II, et seq., of this Chapter.
- B. The deletion in the entirety of the following provisions of the I.B.C., I.E.B.C., I.E.C.C., and I.R.C.:
1. Sections 105 I.B.C., 105 I.E.B.C and 105 I.R.C., entitled **Permits**;
 2. Section 107 I.B.C. entitled **Submittal Documents**, Section 106 I.E.B.C. entitled **Construction Documents** and Section 106 I.R.C. entitled **Construction Documents**.
 3. Sections 109 I.B.C., 108 I.E.B.C., 108 I.R.C. and 107 I.E.C.C, entitled **Fees**;
 4. Sections 110 I.B.C., 109 I.E.B.C. and 109 I.R.C., entitled **Inspections**;
 5. Sections 111 I.B.C., 110 I.E.B.C. and 110 I.R.C., entitled **Certificate of Occupancy**;
 6. Sections 113 I.B.C., 112 I.E.B.C., 112 I.R.C. and 109 I.E.C.C, entitled **Board of Appeals**;
 7. Sections 114 I.B.C., 113 I.E.B.C. and 113 I.R.C., entitled **Violations**;
 8. Sections 116 I.B.C. and 115 I.E.B.C. entitled **Unsafe Structures and Equipment**;
 9. Section 2503 I.B.C., entitled **Inspection**;
 10. and all of Chapters 34 through 43 of the I.R.C.
- D. The amendment of the following I.R.C. provisions:
1. The amendment of Section 101.1, entitled **Title**, to read as follows:

101.1 Title. These provisions shall be known as the Residential Code for One- and Two-family Dwellings of the City of Arlington, Texas, and shall be cited as such and will be referred to herein as “this code.”
 2. The amendment of Section 102.4, entitled **Referenced codes and standards**, to read as follows:

102.4 Referenced codes and standards. The codes, when specifically adopted, and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. Whenever amendments have been adopted to the referenced codes and standards, each reference to said code and standards shall be considered to reference the amendments as well. Any reference made to NFPA 70, or ICC Electrical Code shall mean the Electrical Code as adopted.

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

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing and manufacturer's instructions shall apply.

3. The amendment of Section 104.10.1, entitled **Flood hazard areas**, by deleting said section in its entirety.
4. The amendment of Section 105.3.1.1, entitled **Determination of substantially improved or substantially damaged existing buildings in flood hazard areas**, by deleting said section in its entirety.
5. The amendment of Section 106.1.4, entitled **Information for construction in flood hazard areas**, by deleting said section in its entirety.
6. The amendment of Section 110, entitled **CERTIFICATE OF OCCUPANCY**, by deleting said section in its entirety.
7. The amendment of Section R114, entitled **STOP WORK ORDER**, to read as follows:

SECTION 114 STOP WORK ORDER

114.1 Stop Work Order. Whenever any work is being done contrary to the provisions of this Code, the Building Official may order the work stopped by notice in writing served on any persons engaged in the doing or causing such work to be done. Any such person shall forthwith stop such work until:

- a. He or she is authorized by the Building Official to proceed with the work; or
- b. An appeal perfected pursuant to Section 2.06 of Article II has resulted in a waiver of the condition causing the stop order, or a finding that there is no cause for a stop order.

Failure to stop such work, in addition to penalties and remedies elsewhere set forth, shall void any appeal.

8. The amendment of Section 202, entitled **Definitions**, to revise the definition of **Townhouse** and add the definitions of **Glazing Area**, **Reclaimed Water**, and **Shall** to read as follows:

GLAZING AREA. Total area of the glazed fenestration measured using the rough opening and including sash, curbing or other framing elements that enclose conditioned space. Glazing area includes the area of glazed fenestration assemblies in walls bounding conditioned basements. For doors where the daylight opening area is less than 50 percent of the door area, the glazing area is the daylight opening area. For all other doors, the glazing area is the rough opening area for the door including the door and the frame.

RECLAIMED WATER or “Recycled Water” means domestic or municipal wastewater which has been treated to a quality suitable for beneficial use. Reclaimed or recycled water is non-potable water.

SHALL, as it applies to an act or duty to be performed by the Building Official pursuant to any section of this Building Code, is discretionary. Its use in all other applications in this Code shall be mandatory.

TOWNHOUSE. A single-family dwelling unit constructed in a group of attached units separated by property lines in which each unit extends from foundation to roof and with yard or public way on at least two sides.

9. The amendment of Table 301.2(1), entitled **CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA**, to fill in as follows:

GROUND SNOW LOAD	WIND DESIGN				SEISMI C DESIG N CATEG ORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDER-LAYMENT ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	SPEED ^d (MPH)	Topographic Effects ^k	Special Wind District ^l	Windborne Debris Zone ^m		Weathering a	Frost Line Depth ^b	Termite ^c					
5 lb/ft	115 (3 sec- gust)/ 76	No	No	No	A	Moderate	6"	Very Heavy	22 ^o F	No	Local Code	150	64.9 ^o F

fastest mile													
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10. The amendment of Section 301.2.4, **Floodplain construction**, to read as follows:

301.2.4 Construction in flood hazard areas. Permits for the construction, reconstruction, rehabilitation, addition or other improvements shall be performed in accordance with the provisions of SECTION 1612 FLOOD LOADS of the International Building Code, as amended.

11. The amendment of Section 302.1, entitled **Exterior walls**, by adding Exception 6, to read as follows:

6. Open metal carport structures may be constructed within zero (0) feet of the property line without fire-resistant or opening projection when the location of such is approved as required by other City ordinances.

11.5 The amendment of Section R302.2, entitled **Townhouses**, by adding Item 3 to read as follows:

3. The common wall shall be not less than two 1-hour fire-resistance-rated wall assemblies tested in accordance with ASTM E 119 or UL 263. Plumbing and mechanical equipment shall be allowed in such walls adjacent to the dwelling unit being served.

12. The amendment of Section 302.3, entitled **Two-family dwellings**, by adding Exception 3 to read as follows:

3. Two-family dwelling units that are also divided by a property line through the structure shall be separated as required for townhouses.

13. The amendment of Section 302.5.1, entitled **Opening protection**, to read as follows:

302.5.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 13/8 inches (35 mm)

in thickness, solid or honeycomb core steel doors not less than 13/8 inches (35 mm) thick, or 20-minute fire-rated doors.

14. The amendment of Section 302.7, entitled **Under stair protection**, to read as follows:

302.7 Under stair protection. Enclosed accessible space under stairs shall have walls, under stair surface and any soffits protected on the enclosed side with 5/8-inch (15.8 mm) fire-rated gypsum board or one-hour fire-resistive construction.

15. The amendment of Section 303.3, entitled **Bathrooms**, to amend the Exception to add the following sentence:

Exhaust air from the space shall be exhausted out to the outdoors unless the space contains only a water closet, a lavatory, or water closet and a lavatory may be ventilated with an approved mechanical recirculating fan or similar device designed to remove odors from the air.

16. The amendment of Section 305.1, entitled **Minimum height**, to add Exception 4 to read as follows:

4. In one- and two-family dwellings, beams or girders spaced not less than 4 feet (1219 mm) on center and projecting not more than 6 inches (152 mm) below the required ceiling height.

17. The amendment of SECTION 313, entitled **AUTOMATIC FIRE SPRINKLER SYSTEMS**, to read as follows:

SECTION 313 AUTOMATIC FIRE SPRINKLER SYSTEMS

313.1 Design and installation. Automatic fire sprinkler systems, when installed and/or repaired, shall comply with Section 903.3 of the 2015 Edition of the International Building Code as adopted.

18. The amendment of Section 315.2.2, entitled **Alterations, repairs and additions**, to amend Exception 2 to read as follows:

2. Installation, alteration or repairs of electrical powered plumbing or mechanical systems are exempt from the requirements of this section.

19. The amendment of Section 315.5, entitled **Power source**, to read as

follows:

315.5 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection.

Exception: Hard-wiring of carbon monoxide alarms in existing areas shall not be required where the addition or alterations do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space or basement available which could provide access for hard wiring and interconnection without the removal of interior finishes.

20. The amendment of SECTION 322, entitled **FLOOD RESISTANT CONSTRUCTION**, to read as follows:

**SECTION 322
FLOOD RESISTANT CONSTRUCTION**

322.1 General. Construction in flood hazard areas. Permits for the construction, reconstruction, rehabilitation, addition or other improvements shall be performed in accordance with the provisions of SECTION 1612 FLOOD LOADS of the International Building Code, as amended.

{The remainder of this Section is deleted in its entirety}

21. The amendment of Section 401.2, entitled **Requirements**, to amend by adding a new paragraph following the existing paragraph to read as follows.

Section 401.2. Requirements.

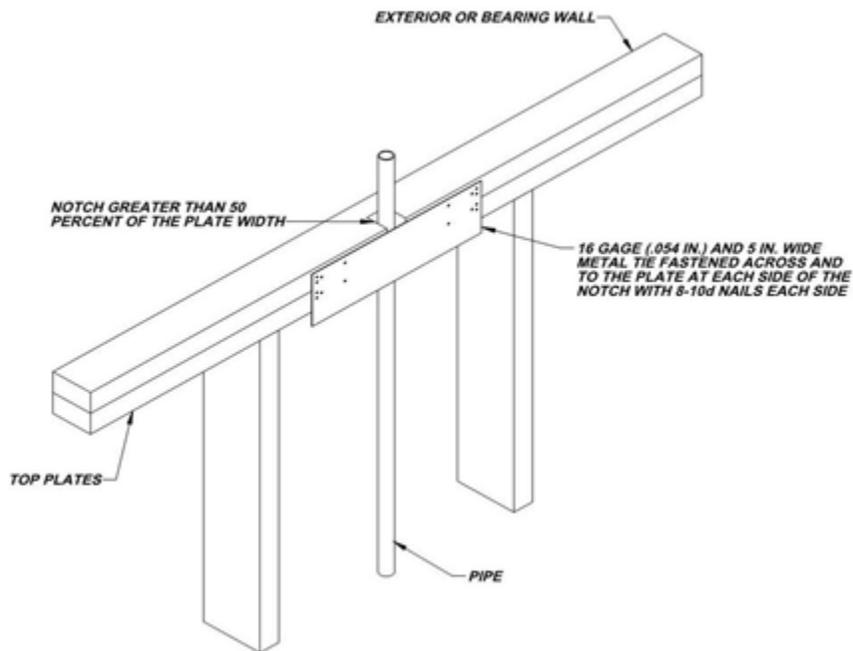
Foundation construction shall be capable of accommodating all loads in accordance with Section 301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice. Gravel fill used as footings for wood and precast concrete foundations shall comply with Section 403. Every foundation and/or footing, or any size addition to an existing post-tension foundation, regulated by this code shall be designed and sealed by a Texas-registered engineer.

22. The amendment of Section 602.6.1, entitled **Drilling and notching of top plate**, to read as follows:

602.6.1 Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie not less than 0.054 inch thick (1.37 mm) (16 Ga) and 5 inches (127 mm) wide shall be fastened across and to the plate at each side of the opening with not less than eight 10d (0.148 inch diameter) having a minimum length of 1 ½ inches (38 mm) at each side or equivalent. Fasteners will be offset to prevent splitting of the top plate material. The metal tie must extend a minimum of 6 inches past the opening. See Figure 602.6.1.

Exception: When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.

23. The amendment of Figure 602.6.1, entitled **TOP PLATE FRAMING TO ACCOMMODATE PIPING**, to appear as follows:



24. The amendment of Section 703.8.4.1, entitled **Size and spacing**, to add a second paragraph to read as follows:
In stud framed exterior walls, all ties shall be anchored to studs as follows:

1. When studs are 16 in (407 mm) o.c., stud ties shall be spaced no further apart than 24 in (737 mm) vertically starting approximately 12 in (381 mm) from the foundation;
or
 2. When studs are 24 in (610 mm) o.c., stud ties shall be spaced no further apart than 16 in (483 mm) vertically starting approximately 8 in (254 mm) from the foundation.
25. The amendment of Section 902.1, entitled **Roofing covering materials**, to read as follows:

902.1 Roofing covering materials. Roofs shall be covered with materials as set forth in Sections 904 and 905. Class A, B, or C roofing shall be installed. Class A, B, and C roofing required by this section to be listed shall be tested in accordance with UL 790 or ASTM E 108.

Exceptions:

1. Class A roof assemblies include those with coverings of brick, masonry and exposed concrete roof deck.
 2. Class A roof assemblies include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible decks.
 3. Class A roof assemblies include minimum 16 ounces per square foot copper sheets installed over combustible decks.
 4. Class A roof assemblies include slate installed over underlayment over combustible decks.
 5. Non-classified roof coverings shall be permitted on one-story detached *accessory structures* used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 200 square feet.
26. The amendment of Chapter 11, entitled **Energy Efficiency**, by deleting it in its entirety and replacing with the following:

1101.1 Scope. This chapter regulates the energy efficiency for the design and construction of buildings regulated by this code.

1101.2 Compliance. Compliance shall be demonstrated by meeting the requirements of the residential provisions of 2015 International Energy Conservation Code.

27. The amendment of Section 1305.1.3, entitled **Appliances in attics**, to read as follows:

1305.1.3 Appliances in attics. Attics containing appliances shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) long measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present along all sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), or larger and large enough to allow removal of the largest appliance. A walkway to an appliance shall be rated as a floor as approved by the building official. As a minimum, for access to the attic space, provide one of the following:

1. A permanent stair.
2. A pull down stair with a minimum 300 lb (136 kg) capacity.
3. An *access* door from an upper floor level.

Exceptions:

1. The passageway and level service space are not required where the appliance can be serviced and removed through the required opening.
2. Where the passageway is unobstructed and not less than 6 feet (1829 mm) high and 22 inches (559 mm) wide for its entire length, the passageway shall be not more than 50 feet (15 250 mm) long.

28. The amendment of Section 1305.1.3.1, entitled **Electrical requirements**, to add a sentence to read as follows:

Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

29. The amendment of Section 1305.1.4.3, entitled **Electrical requirements**, to add a sentence to read as follows:

Low voltage wiring of 50 Volts or less shall be installed in a manner to prevent physical damage.

30. The amendment of Section 1411.3, entitled **Condensate disposal**, to read as follows:

1411.3 Condensate disposal. Condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to a sanitary sewer through a trap, by means of a direct or indirect drain. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge in a publicly exposed area such as into a street, alley, sidewalk or other areas so as to cause a nuisance.

Exceptions:

1. Condensate may discharge directly to a roof drain that connects to an underground storm sewer system,
 2. Condensate may discharge directly onto roofs covered with membrane type roof coverings where the condensate will drain to a roof drain that connects to an underground storm sewer system,
 3. Condensate may discharge to a landscaped area containing flowers and other bedding plants other than turf. There must be five square feet of landscaped area for each ton of refrigeration, or
 4. Condensate may discharge to a French drain consisting of a pit excavated below grade that is not less than 24 inches (610 mm) in any dimension. The pit shall be filled with coarse gravel and the drainpipe shall extend into the pit and be securely anchored. A single drain shall not receive the condensate discharge of more than 10 tons nominal of combined cooling capacity. The pit shall be covered with sod after inspection. The French drain shall not be located so that it will receive direct discharge from a roof or downspout.
31. The amendment of Section 1411.3.1, entitled **Auxiliary and secondary drain systems**, by amending Items 3 and 4 to read as follows:

3. An auxiliary drain pan without a separate drain line shall be installed under the coils on which condensation will occur. This pan shall be equipped with a water level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan. The pan shall be equipped with a fitting to allow for drainage. The auxiliary drain pan shall be constructed in accordance with Item 1 of this section. A water level detection device may be installed only with prior approval of the building official.
 4. A water level detection device conforming to UL 508 shall be installed in the primary drain line, the overflow drain line or the equipment-supplied drain pan, located at a point higher than the primary drain line connection and below the overflow rim of such pan. A water level detection device may be installed only with prior approval of the building official.
32. The amendment of Section 1411.3.1.1, entitled **Water-level monitoring devices**, to read as follows:
- 1411.3.1.1 Water-level monitoring devices.** On down-flow units and other coils that do not have secondary drain or provisions to install a secondary or auxiliary drain pan, a water-level monitoring device shall be installed inside the primary drain pan. This device shall shut off the equipment served in the event that the primary drain becomes restricted. Devices shall not be installed in the drain line. A water level detection device may be installed only with prior approval of the building official.
33. The amendment of Section 1502.4.1, entitled **Material and size**, to read as follows:
- 1502.4.1 Material and size.** Exhaust ducts shall have a smooth interior finish and shall be constructed of metal a minimum 0.016-inch (0.4mm) thick. The exhaust duct size shall be 4 inches (102 mm) nominal in diameter. The size of duct shall not be reduced along its developed length or at the point of termination.
34. The amendment of Section 1502.4.5.1, entitled **Specified length**, to read as follows:
- 1502.4.5.1 Specified length.** The maximum length of the exhaust duct shall be 35 feet (10668 mm) from the connection to the transition duct from the appliance to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in

accordance with Table M1502.4.5.1. The maximum length of the exhaust duct does not include the transition duct.

35. The deletion of Section 1502.4.5.2, **Manufacturer's instructions**, in its entirety.
36. The deletion of Section 1502.4.6, **Length identification**, in its entirety.
37. The amendment to Section 1502.4.7, **Exhaust duct required**, by deleting the Exception.
38. The amendment of Section 1503.4, entitled **Makeup air required**, to read as follows:

1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cubic feet per minute (0.19 m³/s) shall be provided with makeup air at a rate approximately equal to the difference between the exhaust air rate and 400 cubic feet per minute. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

Exception: Where all appliances in the house are of sealed combustion, power-vent, unvented, or electric, the exhaust hood system shall be permitted to exhaust up to 600 cubic feet per minute (0.28 m³/s) without providing makeup air. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.28 m³/s) shall be provided with a makeup air at a rate approximately equal to the difference between the exhaust air rate and 600 cubic feet per minute.

39. The amendment of Section 2005.2, entitled **Prohibited locations**, to read as follows:

2005.2 Prohibited locations. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that combustion air will not be taken from the living space. Access to such enclosure may be from the bedroom or bathroom when through a solid door, weather-stripped in accordance with the exterior door air leakage requirements of the *International Energy Conservation Code* and equipped with an approved self-closing device. Installation of direct-vent water heaters within an enclosure is not required

40. The deletion of Section 2408.3 (305.5), **Private garages**, in its entirety.

41. The amendment of Section 2415.2 (404.2), entitled **CSST**, to add a second paragraph to read as follows:

Both ends of each section of medium pressure gas piping shall identify its operating gas pressure with an *approved* tag. The tags are to be composed of aluminum or stainless steel and the following wording shall be stamped into the tag:

"WARNING: 1/2 to 5 psi gas pressure - Do Not Remove"

42. The amendment of Section 2415.2 (404.2), entitled **CSST**, to add an Exception to read as follows:

Exception: Corrugated stainless steel tubing (CSST) shall be a minimum of 1/2" (18 EDH).

43. The addition of Section 2415.7.4 (404.7.4), entitled **Additional protection of CSST piping**, to read as follows:

2415.7.4 (404.7.4) Additional protection of CSST piping. Where Corrugated Stainless Steel Tubing (CSST) piping is installed in exterior wall cavities, insulated wall cavities and/or insulated roof/ceiling assemblies, the CSST piping must be protected for its entire length with flexible metal conduit (per the UL-1 Standard or its equivalent), Schedule 40 steel pipe, or approved strike plates. The additional protection must extend a minimum of 18 inches (457.2 mm) beyond where the CSST piping exits the wall cavities and/or the roof/ceiling assemblies.

44. The addition of Section 2415.12 (404.12), entitled **Minimum burial depth**, to read as follows:

2415.12 (404.12) Minimum burial depth. Underground piping systems shall be installed a minimum depth of 18 inches (457 mm) below grade, except as provided for in Section 2415.12.1.

45. The deletion of Section 2415.12.1 (404.12.1), entitled **Individual outside appliances**, in its entirety.

46. The amendment of Section 2417.1 (406.1), entitled **General**, to read as follows:

2417.1 (406.1) General. Prior to acceptance and initial operation, all piping installations shall be inspected and pressure tested to determine that the materials, design, fabrication, and installation practices comply with the requirements of this code. The permit holder shall make the applicable tests prescribed in Sections 2417.1.1 through 2417.1.6 to determine compliance with the provisions of this code. The permit holder shall give reasonable advance notice to the building official when the piping system is ready for testing. The equipment, material, power and labor necessary for the inspections and test shall be furnished by the permit holder and the permit holder shall be responsible for determining that the work will withstand the test pressure prescribed in the following tests.

47. The amendment of Section 2417.4, entitled **Test pressure measurement**, to read as follows:

2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a monometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made.

48. The amendment of Section 2417.4.1, entitled **Test pressure**, to read as follows:

2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be no less than 3-psig (20 kPa gauge), or at the discretion of the Code Official, 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, irrespective of design pressure. For tests requiring a pressure of 3-psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½”), a set hand, 1/10 pound incrementation and pressure range not to exceed 6 psi for tests requiring a pressure of 3-psig. For tests requiring a pressure of 10-psig, diaphragm gauges shall utilize a dial with a minimum diameter of three and one-half inches (3 ½”), a set hand, a minimum of 2/10 pound incrementation and a pressure range not to exceed 20 psi. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa) (1/2 psi) and less than 200 inches of water column pressure (52.2 kPa) (7.5 psi), the test pressure shall not be less than ten (10) pounds per square inch (69.6 kPa). For piping carrying gas at a pressure that exceeds 200 inches of water column (52.2 kPa) (7.5 psi), the test pressure shall be not less than one and one-half times the proposed maximum working pressure.

Diaphragm gauges used for testing must display a current calibration and be in good working condition. The appropriate test must be applied to the diaphragm gauge used for testing

49. The amendment of Section 2417.4.2, entitled **Test duration**, to read as follows:

2417.4.2 (406.4.2) Test duration. The test duration shall be held for a length of time satisfactory to the Building Official, but in no case for be not less than fifteen (15) minutes. For welded piping, and for piping carrying gas at pressures in excess of fourteen (14) inches water column pressure (3.48 kPa), the test duration shall be held for a length of time satisfactory to the Building Official, but in no case for less than thirty (30) minutes.

50. The amendment of Section 2420.1 (406.1), entitled **General**, by adding a new Section 2420.1.4 to read as follows:

2420.1.4 Valves in CSST installations. Shutoff valves installed with corrugated stainless steel (CSST) piping systems shall be supported with an approved termination fitting, or equivalent support, suitable for the size of the valves, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration but in no case greater than 12-inches from the center of the *valve*. Supports shall be installed so as not to interfere with the free expansion and contraction of the system's piping, fittings, and valves between anchors. All valves and supports shall be designed and installed so they will not be disengaged by movement of the supporting piping.

51. The amendment of Section 2420.5.1 (409.5.1), entitled **Located within the same room**, to read as follows:

2420.5.1 (409.5.1) Located within the same room. The shutoff valve shall be located in the same room as the appliance. The shutoff valve shall be within 6 feet (1829 mm) of the appliance, and shall be installed upstream of the union, connector or quick connect device it serves. Such shutoff valves shall be provided with access. Appliance shutoff valves located in the firebox of a fireplace shall be installed in accordance with the appliance manufacturer's instructions. A secondary shutoff valve must be installed within 3 feet (914 mm) of the firebox if the appliance shutoff is located in the firebox.

52. The amendment of Section 2421.1 (410.1), entitled **Pressure regulators**, to add a second paragraph and an exception to read as follows:

Access to regulators shall comply with the requirements for access to appliances as specified in Section M1305.

Exception: A passageway or level service space is not required when the regulator is capable of being serviced and removed through the required attic opening.

53. The amendment of Section 2422.1.2.3 (411.1.3.3), by deleting Exception 1 and Exception 4.

54. The amendment of Section 2439.7.1 (614.8.1), entitled **Material and Size**, to add a sentence to read as follows:

The size of duct shall not be reduced along its developed length nor at the point of termination.

55. The deletion of Section 2439.7.4.2 (614.8.4.2), entitled **Manufacturer's instructions**, in its entirety.

56. The deletion of Section 2439.7.5 (614.8.5), entitled **Length identification**, in its entirety.

57. The amendment of Section 2439.7.6 (614.8.6), entitled **Exhaust duct required**, by deleting the Exception.

58. The amendment of Section 2445.2 (621.2), entitled **Prohibited use**, to add the following Exception to read as follows:

2445.2 (621.2) Prohibited use. One or more unvented room heaters shall not be used as the sole source of comfort heating in a dwelling unit.

Exception: Existing approved unvented room heaters may continue to be used in dwelling units, in accordance with the code provisions in effect when installed, when approved by the Building Official, unless an unsafe condition is determined to exist as described in Section 108.7 of the *International Fuel Gas Code*.

59. The amendment of Section 2448.1.1 (624.1.1), entitled **Installation requirements**, to read as follows:

2448.1.1 (624.1.1) Installation requirements. The requirements for water heaters relative to access, sizing, relief valves, drain pans and scald protection shall be in accordance with this code.

60. The amendment of Section 2503.8.2, entitled **Testing**, to read as follows:

2503.8.2 Testing. Reduced pressure principle backflow preventers, double check valve assemblies, double-detector check valve assemblies and pressure vacuum breaker assemblies shall be tested at the time of installation, immediately after repairs or relocation at regular intervals as required by applicable state or local provisions.

61. The amendment of Section 2603.5.1, entitled **Sewer depth**, to read as follows:

2603.5.1 Sewer depth. Building sewers that connect to private sewage disposal systems shall be not less than 12 inches below finished grade at the point of septic tank connection. Building sewers shall be not less than 12 inches below grade.

62. The amendment of Section 2801.6.1, entitled **Pan size and drain**, to read as follows:

2801.6.1 Pan size and drain. The pan shall be not less than 1 1/2 inches (38 mm) in depth and shall be of sufficient size and shape to receive all dripping or condensate from the tank or water heater. The pan shall be drained by an indirect waste pipe having a diameter of not less than 3/4 inch (19 mm). Piping for safety pan drains shall be of those materials listed in Table 605.4. Multiple pan drains may terminate to a single discharge piping system when approved by the administrative authority and permitted by the manufacturer's installation instructions and installed with those instructions.

63. The amendment of Section 2801.7, entitled **Water heaters installed in garages**, to add Exceptions to read as follows:

Exceptions:

1. Elevation of the ignition source is not required for appliances that are listed as flammable vapor ignition-resistant.
2. Electric water heaters.

64. The amendment of Section 2804.6.1, entitled **Requirements for discharge piping**, to amend the first sentence and items 1 through 5 to read as follows:

2804.6.1 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.

Exception: Multiple relief devices may be installed to a single T & P discharge piping system when approved by the administrative authority and permitted by the manufactures installation instructions and installed with those instructions.

5. Discharge to an indirect waste receptor or to the outdoors.

[remainder unchanged]

65. The amendment of Section 2902.5.3, entitled **Lawn irrigation systems**, to read as follows:

2902.5.3 Lawn irrigation systems. The potable water supply system to lawn irrigation systems shall be protected as provided for in the Irrigation Chapter.

66. The amendment of Section 2906.2, entitled **Lead content**, to read as follows:

2906.2 Lead content. Pipe and fittings used in the water-supply system shall have a maximum of less than 0.25% lead in accordance with NSF 372.

- 66.5. The addition of new Section 2906.6.1, entitled **Push type fittings**, to read as follows:

2906.6.1 Push type fittings. Push type fittings are prohibited for direct burial unless listed for such use.

67. The amendment of Section 3003.9.2, entitled **Solvent cementing**, by deleting the Exception.
68. The deletion of Section 3111, entitled **COMBINATION WASTE AND VENT**, in its entirety.
69. The amendment of Section 3112.2, entitled **Installation**, to read as follows:

3112.2 Installation. Traps for island sinks and similar equipment shall be roughed in above the floor and may be vented by extending the vent as high as possible, but not less than the drainboard height and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye-branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or may be connected to other vents at a point not less than six (6) inches (152 mm) above the flood level rim of the fixtures served. Drainage fittings shall be used on all parts of the vent below the floor level and a minimum slope of one-quarter (1/4) inch per foot (20.9 mm/m) back to the drain shall be maintained. The return bend used under the drain-board shall be a one (1) piece fitting or an assembly of a forty-five (45) degree (0.79 radius), a ninety (90) degree (1.6 radius) and a forty-five (45) degree (0.79 radius) elbow in the order named. Pipe sizing shall be as elsewhere required in this Code. The island sink drain, upstream of the return vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent.

70. The deletion of Section 3112.3, entitled **Vent installation below the fixture flood level rim**, in its entirety.
71. The amendment of Appendix Q, entitled **RESERVED**, to read as follows:

**APPENDIX Q
SWIMMING POOLS, SPAS AND HOT TUBS**

**SECTION Q101
GENERAL**

Q101.1 General. The provisions of this appendix shall control the design and construction of swimming pools, spas and hot tubs installed in or on the lot of a one- and two-family dwelling.

SECTION Q102 PERMITS AND INSPECTIONS

Q 102.1 Permit Required. A permit shall be required to construct and/or erect a swimming pool. A permit may only be issued to a registrant as set out in Article IV of the Construction Chapter.

Q 102.2 Submittal required. An application for a permit to construct and/or erect a swimming pool shall be accompanied by the following:

1. Two (2) site plans indicating the location of the proposed swimming pool and the associated swimming pool decks on the lot that have been stamped by the electrical service provider,
2. Lot grading plans, including surface drain inlets and discharges, for both before and after construction,
3. The plans for pool barrier compliance, and
4. Any additional information that may be required by the Building Official.

Q 102.3 Inspection required. After an application for a permit to construct and/or erect a swimming pool has been issued in accordance with Article IV of the Construction Chapter, the following inspections are required as a minimum as applicable:

1. Belly steel inspection,
2. Electrical bonding inspection,
- 2.1. Pool entrapment protection system,
3. Underground electrical inspection,
4. Underground plumbing and gas piping inspection, and
5. Final inspection to include verification of swimming pool barrier compliance (prior to plastering the swimming pool).

Q 102.4 Lot grading and surface drainage. The construction and/or erection of a swimming pool may not alter the lot grading or drainage patterns intended by the lot's approved grading plan and/or the subdivision's approved grading and drainage plans. The point of discharge of collected surface drains and rain gutters may not exit onto adjacent properties as a concentrated point of discharge.

Q 102.5 It shall be unlawful for the registrant to permit or cause the swimming pool to be filled with water before the existence of a lawful swimming pool barrier is inspected and approved.

SECTION Q 103 DEFINITIONS

Q 103.1 General. For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2.

ABOVE-GROUND/ON-GROUND POOL. See “Swimming pool.”

BARRIER. A fence, wall, building wall or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

HOT TUB. See “Swimming pool.”

IN-GROUND POOL. See “Swimming pool.”

POOL DECK. A flat walking surface consisting of wood, stone, brick, concrete or other similar material located within 5 feet (1524 mm) of the water’s edge of a swimming pool.

RESIDENTIAL. That which is situated on the premises of a detached one- or two-family dwelling or a one-family townhouse not more than three stories in height.

SELF-CLOSING GATE. A gate which closes or shuts automatically without the aid of human, electrical, solar or battery power after being opened.

SELF-CLOSING AND SELF-LATCHING DEVICE. A device that causes a gate to automatically close and latch without human, electrical, solar or battery power.

SPA, NONPORTABLE. See “Swimming pool.”

SPA, PORTABLE. A nonpermanent structure intended for recreational bathing, in which all controls, water-heating and water-circulating equipment are an integral part of the product.

SWIMMING POOL. Any structure intended for swimming or recreational bathing that contains water over 24 inches (610 mm) deep. This includes in-ground, above-ground and on-ground swimming pools, hot tubs and spas.

SWIMMING POOL, INDOOR. A swimming pool which is totally contained within a structure and surrounded on all four sides by walls of said structure.

SWIMMING POOL, OUTDOOR. Any swimming pool which is not an indoor pool.

SECTION Q 104 SWIMMING POOLS

Q 104.1 In-ground pools. In-ground pools shall be designed and constructed in conformance with ANSI/NSPI-5 as listed in Section Q108.

Q 104.2 Above-ground and on-ground pools. Above-ground and on-ground pools shall be designed and constructed in conformance with ANSI/NSPI-4 as listed in Section Q108.

SECTION Q 105 SPAS AND HOT TUBS

Q 105.1 Permanently installed spas and hot tubs. Permanently installed spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI-3 as listed in Section Q 108.

Q 105.2 Portable spas and hot tubs. Portable spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI-6 as listed in Section Q108.

SECTION Q 106 BARRIER REQUIREMENTS

Q 106.1 Application. The provisions of this chapter shall control the design of barriers for residential swimming pools, spas and hot tubs. These design controls are intended to provide protection against potential drownings and near-drownings by restricting access to swimming pools, spas and hot tubs.

Q 106.2 Outdoor swimming pool. An outdoor swimming pool, including an in-ground, above-ground or on-ground pool, hot tub or spa shall be provided with a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier which faces

away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches (51 mm) measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an above-ground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches (102 mm).

2. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.
3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.

Exception: When the horizontal members are part of a fence that is at least 6 feet (1829 mm) in height, the horizontal members need not be on the pool side of the barrier.

5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.
6. Maximum mesh size for chain link fences shall be a 1.25-inch (32 mm) square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches (44 mm).

7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1.75 inches (44 mm).
8. Access gates shall comply with the requirements of Section Q 106.2, Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the gate, the release mechanism and openings shall comply with the following:
 - 8.1. The release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate, and
 - 8.2. The gate and barrier shall have no opening greater than 0.5 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.
 - 8.3. Driveway access gates across a paved or improved surface intended for regular vehicle access shall not be located in a swimming pool barrier.
9. Where a wall of a dwelling serves as part of the barrier one of the following conditions shall be met:
 - 9.1. All doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and its screen, if present, are opened. The alarm shall sound continuously for a minimum of 30 seconds immediately after the door is opened and be capable of being heard throughout the house during normal household activities. The alarm shall automatically reset under all conditions. The alarm system shall be equipped with a manual means, such as touchpad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last for not more than 15 seconds. The deactivation switch(es) shall be located at least 54 inches (1372 mm) above the threshold of the door; or

- 9.2. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable so long as the degree of protection afforded is not less than the protection afforded by Item 9.1 described above.
10. Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure and the means of access is a ladder or steps, then:
 - 10.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access, or
 - 10.2. The ladder or steps shall be surrounded by a barrier which meets the requirements of Section Q 106.2, Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch-diameter (102 mm) sphere.

Q 106.3 Indoor swimming pool. All walls surrounding an indoor swimming pool shall comply with Section Q 106.2, Item 9.

Q 106.4 Prohibited locations. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

Q 106.5 Barrier exceptions. Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in Section Q 108, shall be exempt from the provisions of this appendix.

SECTION Q 107 ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS

Q 107.1 General. Suction outlets shall be designed and installed in accordance with ANSI/APSP-7.

SECTION Q 108 ABBREVIATIONS

Q 108.1 General

ANSI-American National Standards Institute, 11 West 42nd Street,
New York, NY 10036

ASTM-American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103

NSPI-National Spa and Pool Institute, 2111 Eisenhower Avenue, Alexandria, VA 22314

**SECTION Q 109
STANDARDS**

Q 109.1 General

ANSI/NSPI

ANSI/NSPI-3
Standard for Permanently Installed Residential Spas Q 105.1

ANSI/NSPI-4 Standard for Above-ground/On-ground Residential Swimming Pools..... Q 104.2

ANSI/NSPI-5
Standard for Residential In-ground Swimming Pools. Q 104.1

ANSI/NSPI-6 Standard for Residential Portable Spas..... Q 105.2

ASME/ANSI
112.19.8-2007 Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, Hot Tubs and Whirlpool Bathing Appliances ... Q 107.1

ANSI/APSP-7-06
Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins..... Q 107.1

ASTM

ASTM F 1346-91 Standard Performance Specifications for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs. Q 105.2, Q 105.5