

Chapter 19.16 RESIDENTIAL BUILDING CODE

Sections:

19.16.010 International Residential Code, 2021 Edition adopted.

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(a) The International Residential Code (I.R.C.) Chapters 1 through 10, 12 through 24, 33, and 44, and Appendices A, B, C, D, E, G, H, and J, are expressly referred to and adopted as the housing code of the city, and by this reference and adoption made a part of this chapter as if fully set forth herein, save and except those specific deletions, amendments, and additions made in subsection (b) of this section. One copy of said International Residential Code and appendices shall be filed and kept in the office of the city clerk.

(b) The following provisions designated “deletion” are deleted and excepted from the International Residential Code chapters and appendices adopted in subsection (a) of this section. The following provisions designated “addition” are added to the International Residential Code chapters and appendices adopted in subsection (a) of this section. The following provisions designated “amendment” are amendments to the International Residential Code chapters and appendices adopted in subsection (a) of this section.

(1) Amendments to Cross-References. The I.R.C. is amended by deleting all the references to the “ICC Electrical Code or NFPA 70” and replacing them with Electrical Code adopted under Chapter [19.12](#) KMC, by deleting all the references to the “International Fuel Gas Code” and all references to the “International Plumbing Code” and replacing them with Plumbing Code adopted under Chapter [19.14](#) KMC, and by deleting all the references to the “International Property Maintenance Code” and replacing them with Code for the Abatement of Dangerous Buildings adopted under Chapter [19.28](#) KMC.

(2) Addition. Section R301.1 (Application) of the I.R.C. is amended by adding an exception as follows:

Exception: Outbuildings 120 square feet or less.

(3) Amendment. Table R301.2(1) (Climatic and Geographic Design Criteria) of the I.R.C. is amended as follows:

TABLE NO. R301.2(1)
Climatic and Geographic Design Criteria

GROUND SNOW LOAD ^k	WIND SPEED ^d (MPH)	SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDERLAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
			Weathering ^a	Frost line Depth ^b	Termite ^c					
55 psi	120/110	B	Moderate	32"	No	14°	No	4-16-1990 Firm Map	550	45°F

WIND DESIGN			
Speed ^d (mph)	Topographic effects ^k	Special wind region ^l	Windborne debris zone ^m
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New Wind information needed

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

a. Weather may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e., "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map [Figure R301.2(3)]. The grade of masonry units shall be determined from ASTM C34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.

b. The frost line within the city is 32 inches below undisturbed soil where frost susceptible materials are present. Where footings are to be placed on compacted drainage materials that extend below 32 inches, the minimum depth of bury to the top of the footing shall be 12 inches.

c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

d. The wind loads for the area within the city are as follows:

1) Structures constructed within 300 feet from the waterfront shall be 120 mph, 3-second gust, exposure D.

2) Structures constructed between 300 feet and 600 from the waterfront shall be designed to 120 mph, 3-second gusts, exposed D or C. Exposure C must meet criteria as established in Section R301.2.1.4 Exposure category.

3) Any structure constructed further than 600 feet from the waterfront shall be designed to 110 mph, 3-second gusts, exposure D or C. Exposure C must meet criteria as established in Section R301.2.1.4 Exposure category.

Exceptions:

Lesser exposure categories may be granted by the city senior project engineer for site specific construction locations where the characteristics of the ground surface roughness that arise from natural topography and vegetation as well as from construction features, provide adequate buffering. The designated exposure by the city senior project engineer must be forwarded to the building official in writing.

e. The outdoor design dry-bulb temperature shall be selected from the columns of 97 1/2-percent values for winter from Appendix D of the International Plumbing Code. Deviations from the Appendix D temperatures shall be permitted to reflect local climates or local weather experience as determined by the building official.

f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.

g. The jurisdiction shall fill in this part of the table with (a) the date of the jurisdiction's entry into the National Flood Insurance Program (date of adoption of the first code or ordinance for management of flood hazard areas). (b) the dates(s) of the Flood Insurance Study and (c) the panel numbers and dates of all currently effective FIRMs and FBFMs or other flood hazard map adopted by the authority having jurisdiction, as amended.

h. In accordance with Section R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1 where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."

i. The jurisdiction shall fill in this part of the table with 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99 percent) value on the National Climatic Data Center data table "Air Freezing Index – USA Method (Base 32°F)" at www.ncdc.noaa.gov/fpsf.html.

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table “Air Freezing Index – USA Method (Base 32°F)” at www.ncdc.noaa.gov/fpsf.html.

k. The ground snow load within the city is 55 pounds per square foot. The design snow load for roofs equal to or greater than a four-twelve pitch and not subject to snow drifting shall be 40 pounds per square foot.

k. In accordance with [Section R301.2.1.5](#), where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with “YES.” Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

l. In accordance with [Figure R301.2\(2\)](#), where there is local historical data documenting unusual wind conditions, the jurisdiction shall fill in this part of the table with “YES” and identify any specific requirements. Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

m. In accordance with [Section R301.2.1.2](#) the jurisdiction shall indicate the wind-borne debris wind zone(s). Otherwise, the jurisdiction shall indicate “NO” in this part of the table.

n. The jurisdiction shall fill in these sections of the table to establish the design criteria using Table 1a or 1b from [ACCA Manual J](#) or established criteria determined by the jurisdiction.

o. The jurisdiction shall fill in this section of the table using the Ground Snow Loads in [Figures R301.2\(3\)](#) and [R301.2\(4\)](#).

(4) Amendment. Category 2 (Exposure C) and Category 3 (Exposure D) of Section R301.2.1.4 (Exposure Categories) of the I.R.C. are amended to read as follows:

See amended Table R301.2(1) footnotes.

(5) Addition. Section R302.3 (Two-family dwellings) of the I.R.C. is amended by adding a new sentence to the end of the first paragraph to read as follows:

Three family dwellings (tri-plex dwellings) shall be constructed under provisions of Section 310.4 (Residential Group R-2) of the 2021 Edition of the I.B.C.

(6) Amendment. Table 302.6 (Dwelling/Garage Separation) of the I.R.C. is amended to read as follows:

Table 302.6
Dwelling/Garage Separation

Separation	Material
From the residence and attics	Not less than 5/8-inch gypsum board or equivalent applied to the garage side

Table 302.6

Dwelling/Garage Separation

Separation	Material
	<p style="text-align: center;">Or</p> <p style="text-align: center;">Not less than 1/2-inch gypsum board or equivalent applied to the garage side if equipped with automatic sprinkler system</p>
<p style="text-align: center;">From all habitable rooms above the garage</p>	<p style="text-align: center;">Not less than 5/8-inch Type X gypsum board or equivalent</p>
<p style="text-align: center;">Structure(s) supporting floor/ceiling assemblies used for separation Required by this section</p>	<p style="text-align: center;">Not less than 5/8-inch gypsum board or equivalent</p> <p style="text-align: center;">Or</p> <p style="text-align: center;">Not less than 1/2-inch gypsum board or equivalent if equipped with automatic sprinkler system</p>
<p style="text-align: center;">Garages located less than 3 feet from a dwelling unit on the same lot including attached garages</p>	<p style="text-align: center;">Not less than 1/2-inch gypsum board or equivalent applied to the interior side of the exterior walls and ceiling</p>

Note: All required gypsum board shall be fire continuous without gaps and fire taped.

(7) Amendment. Section R307.1 (Space required) of the I.R.C. is amended to read as follows:

R307.1 Space required. Fixtures shall be spaced in accordance with the Uniform Plumbing Code (2012 Edition).

(8) Addition. Section R308.6.9 (Testing and labeling) of the I.R.C. is amended by adding a new sentence to the end of the paragraph to read as follows:

Will accept literature provided on site to show skylights meet criteria of section in lieu of label adhered to skylight.

(9) Amendment. Section R309.5 (Fire sprinklers) of the I.R.C. is amended to read as follows:

R309.5 Fire sprinklers. Private garages **may** be protected by fire sprinklers where the garage wall has been designed based on Table R302.1(2), footnote a. Sprinklers in garages shall be connected to an

automatic sprinkler system that complies with NFPA 13D and as referenced in Section P2904. Garage sprinklers shall be residential sprinklers or quick-response sprinklers, designed to provide a density of 0.05 gpm/ft². Garage doors shall not be considered obstructions with respect to sprinkler placement.

(10) Amendment. Section R313.1 (Townhouse automatic fire sprinkler systems) of the I.R.C. is amended to read as follows:

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

(11) Amendment. Section R313.2 (One- and two-family dwellings automatic fire systems) of the I.R.C. is amended to read as follows:

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

(12) Amendment. Section R403.1.3 (Seismic reinforcing) of the I.R.C. is amended to read as follows:

R403.1.3 Seismic reinforcing. Concrete footings located in Seismic Design Category B, as established in Table R301.2(1), shall have a minimum reinforcement of two (2) No. 5 bar or three (3) No. 4 bar located a minimum of 3 inches (76mm) clear from the bottom of the footing.

In Seismic Design Category B between a concrete footing and stem wall, a minimum of one (1) No. 4 bar shall be installed at not more than 32 inches (812.5mm) on center. The vertical bar shall extend to 3 inches (76mm) clear of the bottom of the footing, have a standard bend and extend to 3 inches (76mm) clear of the top of the stem wall.

In Seismic Design Category B where a grouted masonry stem wall is supported on a concrete footing and stem wall, a minimum of one No. 4 bar shall be installed at not more than 32 inches (812.5mm) on center. The vertical bar shall extend to 3 inches (76mm) clear of the bottom of the footing and have a standard bend.

In Seismic Design Category B masonry stem walls without solid grout and vertical reinforcing are prohibited.

(13) Amendment. Section R403.1.3.1 (Foundations with stem walls) of the I.R.C. is amended to read as follows:

R403.1.3.1 Foundations with stem walls. Foundations with stem walls shall have installed a minimum of one No. 4 bar within 6 inches (152.5mm) of the footing and one No. 4 bar 12 inches (305mm) on center thereafter.

(14) Amendment. Section R404.3 (Wood sill plates) of the I.R.C. is amended to read as follows:

R404.3 Wood sill plates. Wood sill plates shall be minimum 2-inch nominal X 6-inch nominal (38.1 mm X 139.7 mm) and shall be bolted to the foundation or foundation wall with not less than ten (10) inch by one half (1/2) inch nominal diameter steel bolts embedded at least seven (7) inches into the concrete or in fully grouted cells of reinforced masonry and spaced not more than four (4) feet zero (0) inches apart and by following the prescriptive design of the Wood Frame Construction Manual (WFCM) 2012 Edition, Chapter 3 and as required in R301.2.1.1 of the I.R.C. There shall be a minimum of two bolts per board with one bolt located within twelve (12) inches of each end of each board. Wood sill plates must be treated material specified in section R317 of the I.R.C.

(15) Addition. Section R703.3.2 (Horizontal siding) of the I.R.C. is amended by adding a new sentence to read as follows:

Exterior type plywood siding with a grooved pattern shall not be installed horizontally as the weather resistant siding.

(16) Addition. Section R802.10.2 (Design) of the I.R.C. is amended by adding a new sentence to read as follows:

The minimum depth from roof sheathing to wall plate at exterior walls to be twelve (12) inches (304.8mm) for habitable spaces.

(17) Addition. Section G2406 (Appliance location) of the I.R.C. is amended by adding a new Section G2406.4 to read as follows:

G2406.4 Liquefied petroleum gas facilities. Liquefied petroleum gas facilities shall not be located in any pit, basement, crawlspace, or interior stairways, in boiler, heater, or electric meter rooms. LPG facilities means appliances, tanks, containers, container valves, regulating equipment, meters, and/or appurtenances for the storage and supply of LPG for any building structure or premises.

(18) Deletion and Addition. Section G2407.11 (Combustion air ducts) of the I.R.C. is amended by deleting the exception under subsection 1 in its entirety and adding subsections 9 and 10 to read as follows:

9. Heating appliances using LPG shall have two combustion air openings. The lower opening shall be at floor level or below and shall be sloped down toward the exterior. These systems shall be continuously ducted to outside the building.

10. Use of under floor areas for supply of combustion air to LPG burning appliances is prohibited.

(19) Amendment. Section G2445 (Unvented room heaters) of the I.R.C. is deleted in its entirety and replaced with the following:

G2445 Unvented room heaters. Unvented room heaters shall not be used.

(Ord. 1736 § 4, 2013)