CHAPTER 1309

DEPARTMENT OF LABOR AND INDUSTRY

INTERNATIONAL RESIDENTIAL CODE

1309.0010 ADOPTION OF INTERNATIONAL RESIDENTIAL CODE (IRC) BY REFERENCE.

Subpart 1. **Generally.** The 2012 edition of the International Residential Code ("IRC") as promulgated by the International Code Council, Inc. ("ICC"), Washington, D.C., is incorporated by reference and made part of the Minnesota State Building Code except as qualified by the applicable provisions in Minnesota Rules, chapter 1300, and as amended in this chapter. Portions of this publication reproduce excerpts from the 2012 IRC, International Code Council, Inc., Washington, D.C., copyright 2012, reproduced with permission, all rights reserved. The IRC is not subject to frequent change and a

copy of the IRC, with amendments for use in Minnesota, is available in the office of the commissioner of labor and industry.

Subp. 2. **Mandatory chapters.** The 2012 IRC chapters 2 to 10, 44, section P2904, and Appendix K shall be administered by any municipality that has adopted the Minnesota State Building Code, except as qualified by the applicable provisions in Minnesota Rules, chapter 1300, and as amended by this chapter.

Subp. 3. **Replacement chapters.** The following 2012 IRC chapters are being deleted and replaced with the provisions listed below:

A. Chapter 1 of the 2012 IRC and any references to code administration in this code are deleted and replaced with Minnesota Rules, chapter 1300, Minnesota Building Code Administration.

B. Chapter 11 of the 2012 IRC and any references to residential or commercial energy in this code are deleted and replaced with Minnesota Rules, chapters 1322 and 1323, Minnesota Energy Code.

C. Chapters 12 to 24 of the 2012 IRC and any references to mechanical matters in this code are deleted and replaced with Minnesota Rules, chapter 1346, Minnesota Mechanical Code.

D. Chapters 25 to 33 of the 2012 IRC and any references to plumbing in this code are deleted and replaced with Minnesota Rules, chapter 4715, Minnesota Plumbing Code.

E. Chapters 34 to 43 of the 2012 IRC and references to electrical matters in this code, other than section R314 Smoke Alarms, are deleted and replaced with Minnesota Rules, chapter 1315, Minnesota Electrical Code.

Subp. 4. [Repealed, 39 SR 91]

Subp. 5. **Flood hazard or floodproofing provisions.** Any flood hazard or floodproofing provisions in the IRC, and any reference to those provisions, are deleted in their entirety. Requirements for floodproofing are located in chapter 1335, floodproofing regulations.

Subp. 6. **Elevator and platform lift provisions.** Any elevator and platform lift provisions in the IRC and any reference to those provisions are deleted in their entirety. Requirements for elevators or platform lifts are located in chapter 1307, elevators and related devices.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0020 REFERENCES TO OTHER ICC CODES.

Subpart 1. **Generally.** References to other codes and standards promulgated by the ICC in the 2012 IRC are modified in subparts 2 to 11.

Subp. 2. **Building code.** References to the International Building Code in this code mean the Minnesota Building Code, adopted pursuant to Minnesota Rules, chapter 1305, and Minnesota Statutes, section 326B.106, subdivision 1.

Subp. 3. **Residential code.** References to the IRC in this code mean the Minnesota Residential Code, adopted under Minnesota Rules, chapter 1309, and Minnesota Statutes, section 326B.106, subdivision 1.

Subp. 4. **Electrical code.** References to the ICC Electrical Code in this code mean the Minnesota Electrical Code, Minnesota Rules, chapter 1315, adopted under Minnesota Statutes, section 326B.35.

Subp. 5. **Fuel gas code.** References to the International Fuel Gas Code in this code mean the Minnesota Mechanical Code, Minnesota Rules, chapter 1346, adopted under Minnesota Statutes, section 326B.106, subdivision 1.

Subp. 6. **Mechanical code.** References to the International Mechanical Code in this code mean the Minnesota Mechanical Code, Minnesota Rules, chapter 1346, adopted under Minnesota Statutes, section 326B.106, subdivision 1.

Subp. 7. **Plumbing code.** References to the International Plumbing code in this code mean the Minnesota Plumbing Code, Minnesota Rules, chapter 4715, adopted under Minnesota Statutes, section 326B.106, subdivisions 1 and 2.

Subp. 8. **Private sewage disposal code.** References to the International Private Sewage Disposal Code in this code mean the Minnesota Pollution Control Agency's minimum standards and criteria for individual sewage treatment systems in Minnesota Rules, chapter 7080, adopted under Minnesota Statutes, chapters 103F, 103G, 115, and 116.

Subp. 9. **Energy conservation code.** References to the International Energy Conservation Code in this code mean the Minnesota Energy Code, adopted under Minnesota Rules, chapters 1322 and 1323.

Subp. 10. **Property maintenance code.** References to the International Property Maintenance Code in this code do not apply.

Subp. 11. **Accessibility code.** References to accessibility in this code mean the Minnesota Accessibility Code, Minnesota Rules, chapter 1341.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 5 s 32; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0030 ADMINISTRATIVE PROCEDURE CRITERIA.

Procedures relating to the administration and enforcement of this code under Minnesota Statutes, section 326B.101, are contained in Minnesota Rules, chapter 1300, Minnesota Building Code Administration. Minnesota Rules, chapter 1300, governs the application of this code.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0040 [Repealed, 39 SR 91]

Published Electronically: *January 26, 2015*

1309.0100 CHAPTER 1, ADMINISTRATION.

Subpart 1. **IRC chapter 1.** IRC chapter 1 is deleted and replaced with the following:

CHAPTER 1

ADMINISTRATION

This code shall be administered according to Minnesota Rules, chapter 1300.

Subp. 2. **Existing buildings and structures.** Additions, alterations, or repairs to existing buildings and structures meeting the scope of the International Residential Code shall be exempt from Minnesota Rules, chapter 1311, Minnesota Conservation Code for Existing Buildings.

Additions, alterations, or repairs to existing one- and two-family dwellings including townhouses may be made without requiring the existing building or structure to comply with all the requirements of this code provided that any addition or alteration conforms to this code. Repairs to existing buildings or structures may be made that are nonstructural and do not adversely affect any structural member or required fire-resistive element with the same methods and materials of which the building or structure is constructed.

Exception: The installation or replacement of glass shall be as required for new installations in accordance with IRC Section R308.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4*

Published Electronically: *February 23, 2009*

1309.0201 SECTION R201, GENERAL.

IRC Section R201.4 is amended to read as follows:

R201.4 Terms not defined. Where terms are not defined through the methods authorized by this chapter, the Merriam-Webster Collegiate Dictionary, available at www.m-w.com, shall be considered as providing ordinarily accepted meanings. The dictionary is incorporated by reference, is subject to frequent change, and is available through the Minitex interlibrary loan system.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; L 2007 c 140 art 4 s 61; art 13 s 4*

Published Electronically: *February 23, 2009*

1309.0202 SECTION R202, DEFINITIONS.

Subpart 1. **Modifications.** IRC Section R202 is amended by modifying the following definitions:

DWELLING.

SINGLE-FAMILY. Any building that contains one dwelling unit used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or occupied for living purposes.

TWO-FAMILY. Any building that contains two separate dwelling units with separation either horizontal or vertical on one lot that is used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or occupied for living purposes.

TOWNHOUSE. A single-family dwelling unit constructed in a group of two or more attached units in which each unit extends from the foundation to the roof and having open space on at least two sides of each unit. Each single-family dwelling unit shall be considered to be a separate building. Separate building service utilities shall be provided to each single-family dwelling unit when required by other chapters of the State Building Code.

Subp. 2. **Additional definitions.** IRC section R202 is amended by adding the following definitions:

CODE. For purposes of this chapter, "the code" or "this code" means the Minnesota Residential Code, Minnesota Rules, chapter 1309.

CRAWL SPACE. Areas or rooms with less than 6 feet 4 inches (1931 mm) ceiling height measured to the finished floor or grade below.

FLASHING. Approved corrosion-resistive material provided in such a manner as to deflect and resist entry of water into the construction assembly.

FLOOR AREA. The calculated square footage of the floor within the inside perimeter of the exterior walls of the building under consideration without deduction for hallways, stairways, closets, the thickness of interior walls, columns, or other features.

KICK-OUT FLASHING. Flashing used to divert water where the lower portion of a sloped roof stops within the plane of an intersecting wall cladding.

OCCUPANCY CLASSIFICATIONS

IRC-1 - Single-family dwelling

IRC-2 - Two-family dwellings

IRC-3 - Townhouses

IRC-4 - Accessory structures:

a. Garages;

b. Storage sheds; and

c. Similar structures.

SILL HEIGHT. The lowest part of the window opening of an operable window measured from the finished floor.

WATERPROOFING. Treatment of a surface or structure located below grade to resist the passage of water in liquid form, under hydrostatic pressure that bridges nonstructural cracks.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0300 SECTION R300, CLASSIFICATION.

IRC Chapter 3 is amended by adding a new section to read as follows:

R300.1 Occupancy classification. Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups in accordance with Table R300.1.

Table R300.1

Occupancy Classifications

IRC-1	Dwelling, single-family
IRC-2	Dwelling, two-family
IRC-3	Townhouse
IRC-4	Accessory structures

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4*

Published Electronically: *February 23, 2009*

1309.0301 SECTION R301, DESIGN CRITERIA.

Subpart 1. [Repealed, 39 SR 91]

Subp. 2. **IRC Table R301.2(1).** Table R301.2(1) is amended to read as follows:

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

ROOF SNOW LOAD[f]	WIND DESIGN		SEISMIC DESIGN CATEGORY[l]
	Speed[d] (mph)	Topographic effects[k]	
$p_f = 0.7 * p_g$	90	YES	A

SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP[e]
Weathering[a]	Frost line depth[b]	Termite[c]	
Severe	See MR part 1303.1600	See Footnote "c"	See MR chapter 1323

ICE BARRIER UNDERLAYMENT REQUIRED[h]	FLOOD HAZARDS[g]	AIR FREEZING INDEX[i]	MEAN ANNUAL TEMP[j]
Yes	See MR chapter 1335	See Table R403.3(2)	41.16

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

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

b. See Minnesota Rules, part 1303.1600 – Footing Depth for Frost Protection to verify whether the county requires Zone I or Zone II frost protection.

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

d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map [Figure R301.2(4)A]. Wind exposure category shall be determined on a site-specific basis in accordance with section R301.2.1.4.

e. See Minnesota Rules, chapter 1322 - Table R403.5.17 Climate Data Design Conditions to verify by city.

f. The ground snow loads to be used in determining the design snow loads for buildings and other structures are given in Minnesota Rules, part 1303.1700 - Ground Snow Load to verify by county. The roof snow load is a uniform load on the horizontal projection of the roof.

g. See Minnesota Rules, chapter 1335, Flood Proofing Regulations.

h. In accordance with sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1, and R905.8.3.1, where there has been a history of local damage from the effects of ice damming.

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

j. The jurisdiction shall fill in this part of the table with the mean annual temperature from the National Climatic Data Center data table "Average Mean Temperature Index" at http://www.esrl.noaa.gov/psd/data/usclimate/tmp.state.19712000.climo.

k. In accordance with section R301.2.1.5.

l. Assigned to allow the application of the least restrictive topographic provisions of the code.

Subp. 3. **IRC Figure R301.2(5).** Figure R301.2(5), Ground Snow Loads, Pg, for the United States (lb/ft^2), is deleted in its entirety.

Subp. 4. [Repealed, 39 SR 91]

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0302 SECTION R302, FIRE-RESISTANT CONSTRUCTION.

Subpart 1. **IRC section R302.2, Townhouses.** Section R302.2 is amended to read as follows:

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

Exception: A common 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E 119 or UL 263 is permitted for townhouses if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of the roof sheathing. Electrical installations shall be installed in accordance with

Minnesota Rules, chapter 1315. Penetrations of electrical outlet boxes shall be in accordance with section R302.4.

R302.2.1 Continuity. The fire-resistance-rated wall assembly separating townhouses shall be continuous from the foundation to the underside of the roof sheathing, roof deck, or roof slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed accessory structures. The separation shall extend through enclosed soffits, overhangs, and similar projections.

R302.2.2 Parapets. Parapets constructed in accordance with section R302.2.3 shall be constructed for townhouses as an extension of exterior walls or common walls in accordance with the following:

1. where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces; or

2. where roof surfaces adjacent to the wall or walls are at different elevations, and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

Exception: A parapet is not required in the two cases above when the roof is covered with a minimum class C roof covering, and the roof decking or sheathing is of noncombustible materials or approved fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of 5/8-inch (15.9 mm) type X gypsum board is installed directly beneath the roof decking or sheathing, supported by a minimum of nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a minimum distance of 4 feet (1219 mm) on each side of the wall or walls and there are no openings or penetrations in the roof within 4 feet (1219 mm) of the common walls.

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

TABLE R302.1(1) EXTERIOR WALLS

EXTERIOR WALL ELEMENT	MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls		
Fire-resistance-rated	1-hour - tested in accordance with ASTM E 119 or UL 263 with exposure from both sides	< 5 feet
Not fire-resistance-rated	0 hours	≥ 5 feet
Projections		

Fire-resistance-rated	1-hour on the underside[a]	≥ 2 feet to < 5 feet
Not fire-resistance-rated	0 hours	≥ 5 feet
Openings in walls		
Not allowed	N/A	< 3 feet
25% Maximum of Wall Area	0 hours	3 feet
Unlimited	0 hours	5 feet
Penetrations		
All	Comply with section R302.4	< 5 feet
	None required	5 feet

For SI: 1 foot = 304.8 mm

N/A = Not Applicable

[a] 1-hour on the underside equates to one layer of 5/8-inch type X gypsum sheathing. Openings are not allowed.

TABLE R302.1(2) EXTERIOR WALLS - DWELLINGS WITH FIRE SPRINKLERS

EXTERIOR WALL ELEMENT	MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls		
Fire-resistance-rated	1-hour - tested in accordance with ASTM E 119 or UL 263 with exposure from the outside	0 feet
Not fire-resistance-rated	0 hours	3 feet
Projections		
Fire-resistance-rated	1-hour on the underside[a]	2 feet
Not fire-resistance-rated	0 hours	3 feet
Openings in walls		
Not allowed	N/A	< 3 feet
Unlimited	0 hours	3 feet
Penetrations		
All	Comply with section R302.4	< 3 feet
	None required	3 feet

For SI: 1 foot = 304.8 mm

N/A = Not Applicable

[a] 1-hour on the underside equates to one layer of 5/8-inch type X gypsum sheathing. Openings are not allowed.

R302.2.3 Parapet construction. Parapets shall have the same fire-resistance rating as that required for the supporting wall or walls. On any side adjacent to a roof surface, the parapet shall have noncombustible faces for the uppermost 18 inches (457 mm), to include counterflashing and coping materials. Where the roof slopes toward a parapet at slopes greater than 2 units vertical in 12 units horizontal (16.7 percent slope), the parapet shall extend to the same height as any portion of the roof within a distance of 3 feet (914 mm), but in no case shall the height be less than 30 inches (762 mm).

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

Exceptions:

1. Foundations supporting exterior walls or common walls.

2. Structural roof and wall sheathing from each unit may fasten to the common wall framing.

3. Nonstructural wall and roof coverings.

4. Flashing at termination of roof covering over common wall.

5. Townhouses separated by a common 1-hour fire-resistance-rated wall as provided in section R302.2.

R302.2.5 Sound transmission. Townhouses constructed in accordance with section R302.2 shall comply with the sound transmission requirements of Appendix K.

Subp. 2. **IRC section R302.3, Two-family dwellings.** Section 302.3 is amended by adding a subsection to the end of the section to read as follows:

R302.3.2 Sound transmission. Two-family dwellings constructed in accordance with section R302.3 shall comply with the sound transmission requirements of Appendix K.

Subp. 3. **IRC section R302.5.1, Opening protection.** Section 302.5.1 is amended to read as follows:

R302.5.1 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 1-3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches (35 mm) thick, or 20-minute fire-rated doors.

Subp. 4. **IRC section R302.6.** Section R302.6 and Table R302.6 are amended to read as follows:

R302.6 Dwelling/garage fire separation. The garage shall be separated as required by Table R302.6. Openings in garage walls shall comply with section R302.5.

TABLE R302.6 DWELLING/GARAGE SEPARATION

SEPARATION	MATERIAL
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side. Vertical separation between the garage and the residence attic shall extend to the roof sheathing or rafter blocking.
From all habitable rooms above the garage	Not less than 5/8-inch type X gypsum board or equivalent.
Structural members supporting floor/ceiling assemblies or garage ceiling used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent applied to the garage side of structural members supporting the floor/ceiling assemblies or garage ceiling. Structural members include, but are not limited to: walls, columns, beams, girders, and trusses.
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area. This provision does not apply to garage walls that are perpendicular to the adjacent dwelling unit wall.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0305 SECTION R305, CEILING HEIGHT.

IRC section R305 is amended to read as follows:

R305.1 Minimum height, new buildings. Habitable space, hallways, bathrooms, toilet rooms, laundry rooms, and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). The required height shall be measured from the finish floor to the lowest projection from the ceiling.

Exceptions:

1. For rooms with sloped ceilings, at least 50 percent of the required floor area of the room shall have a ceiling height of at least 7 feet (2134 mm) and no portion of the required floor area may have a ceiling height of less than 5 feet (1524 mm).

2. Bathrooms shall have a minimum ceiling height of 6 feet 8 inches (2032 mm) at the center of the front clearance area for water closets, bidets, or sinks. The ceiling height above fixtures shall be such that the fixture is capable of being used for its intended purpose. A shower or tub equipped with a showerhead shall have a minimum ceiling height of 6 feet 8 inches (2032 mm) above a minimum area 30 inches (762 mm) by 30 inches (762 mm) at the showerhead.

R305.1.1 Basements, new buildings. Portions of basements that do not contain habitable space, hallways, bathrooms, toilet rooms, and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).

Exception: Beams, girders, ducts, or other obstructions may project to within 6 feet 4 inches (1931 mm) of the finished floor.

R305.2 Alterations to existing building basements. Alterations to portions of existing basements shall comply with the provisions of this section.

R305.2.1 Minimum ceiling height, existing buildings. Alterations to existing basements or portions thereof shall have a ceiling height of not less than 6 feet 4 inches (1931 mm), including beams, girders, ducts, or other obstructions.

R305.2.1.1 Bathroom plumbing fixture clearance. Bathrooms shall have a minimum ceiling height of 6 feet 4 inches (1931 mm) at the center of the front clearance area for water closets, bidets, or sinks. A shower or tub equipped with a showerhead shall have a minimum ceiling height of 6 feet 4 inches (1931 mm) above a minimum area 30 inches (762 mm) by 30 inches (762 mm) at the wall where the showerhead is placed. The ceiling may have slopes or soffits that do not infringe on the height required for the plumbing fixture.

R305.2.2 Minimum stairway headroom, existing buildings. Alterations to existing basement stairways shall have a minimum headroom in all parts of the stairway not less than 6 feet 4 inches (1931 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway.

Exception: Where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4-3/4 inches (121 mm).

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0307 SECTION R307, TOILET, BATH, AND SHOWER SPACES.

IRC section R307.1 is amended to read as follows:

R307.1 Space required. Plumbing fixtures shall be installed in accordance with Minnesota Rules, chapter 4715, Minnesota Plumbing Code.

Statutory Authority: *MS s 326B.02; 326B.101; 326B.106*

History: *39 SR 91*

Published Electronically: *January 26, 2015*

1309.0309 SECTION R309, GARAGES AND CARPORTS.

Subpart 1. **IRC section R309.1, Floor surface.** Section R309.1 is amended to read as follows:

R309.1 Floor surface. Garage floor surfaces may be concrete, asphalt, sand, gravel, crushed rock, or natural earth.

Subp. 2. **IRC section R309.2, Carports.** Section R309.2 is amended to read as follows:

R309.2 Carports. Carports shall be open on at least two sides. Carport floor surfaces may be concrete, asphalt, sand, gravel, crushed rock, or natural earth. Carports not open on at least two sides shall be considered a garage and shall comply with the provisions of this section for garages.

Subp. 3. **IRC section R309.4, Automatic garage door opening systems.** Section R309.4 is amended to read as follows:

R309.4 Automatic garage door opening systems. All automatic garage door opening systems that are installed, serviced, or repaired for garages serving residential buildings shall comply with the provisions of Minnesota Statutes, sections 325F.82 and 325F.83.

Subp. 4. **IRC section R309.5, Fire sprinklers.** Section R309.5 is amended to read as follows:

R309.5 Fire sprinklers. Attached garages of two-family dwellings and townhouses shall be protected by fire sprinklers and installed in compliance with section R313.3.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0310 SECTION R310, EMERGENCY ESCAPE AND RESCUE OPENINGS.

IRC section R310.1 is amended to read as follows:

R310.1 Emergency escape and rescue required. Basements, habitable attics, and every sleeping room shall have at least one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but not be required in adjoining areas of the basement. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches (1118 mm) measured from the finished floor to the bottom of the clear opening. Where a door opening having a threshold below the adjacent ground elevation serves as an emergency escape and rescue opening and is provided with a bulkhead enclosure, the bulkhead enclosure shall comply with section R310.3. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well in accordance with section R310.2. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way.

Exceptions:

1. Basements used only to house mechanical equipment and not exceeding total floor area of 200 square feet (18.58 m^2).

2. Basements or basement bedrooms when the building is protected with an automatic sprinkler system installed in accordance with IRC section P2904 or NFPA 13D.

3. Basements or basement bedrooms that comply with all of the following conditions:

A. constructed prior to August 1, 2008;

B. undergoing an alteration or repair; and

C. the entire basement area, when all portions of the means of egress to the level of exit discharge, and all areas on the level of exit discharge that are open to the means of egress

is protected with an automatic sprinkler system in accordance with IRC section P2904 or NFPA 13D.

R310.1.1 Minimum opening area. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.530 m^2).

Exception: Grade floor openings shall have a minimum net clear opening of 5 square feet (0.465 m^2).

R310.1.2 Minimum opening height. The minimum net clear opening height shall be 24 inches (610 mm).

R310.1.3 Minimum opening width. The minimum net clear opening width shall be 20 inches (508 mm).

R310.1.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools, or special knowledge.

Exception: Windows with approved window opening control devices and installed in accordance with ASTM F 2090. The devices shall not require the use of keys or tools to operate.

R310.1.5 Replacement windows. Replacement windows installed in buildings regulated by the International Residential Code shall be exempt from the maximum sill height requirements of section R310.1, including subsections R310.1.1, R310.1.2, and R310.1.3, if the replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.

R310.1.5.1 Licensed facilities. Windows in rooms used for foster care or day care licensed or registered by the state of Minnesota shall comply with the provisions of section R310.1.5, or all of the following conditions, whichever is more restrictive:

1. Minimum of 20 inches in clear opening width;
2. Minimum of 20 inches in clear opening height;
3. Minimum of 648 square inches (4.5 square feet) clear opening; and
4. Maximum of 48 inches from the floor to the sill height.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0311 SECTION R311, MEANS OF EGRESS.

Subpart 1. **IRC section R311.3.2, Floor elevations for other exterior doors.** Section 311.3.2 is amended to read as follows:

R311.3.2 Floor elevations for other exterior doors. Doors other than the required egress door shall be provided with landings or floors not more than 7-3/4 inches (196 mm) below the top of the threshold.

Exception: A landing is not required if a stairway less than 30 inches (762 mm) in height is located on the exterior side of the door, provided the door does not swing over the stairway. The stairway height shall be measured vertically from the interior floor surface to the finished grade.

Subp. 2. **IRC section R311.7.1, Stairways.** Section R311.7.1 is amended to read as follows:

R311.7.1 Stairways. All stairways serving a dwelling or accessory structure, or any part thereof, shall comply with this section. This shall include exterior stairs from a dwelling or garage to grade and those stairs serving decks, porches, balconies, sun rooms, and similar structures.

Exceptions:

1. Stairs serving attics or crawl spaces.

2. Stairs that only provide access to plumbing, mechanical, or electrical equipment.

Subp. 3. **IRC section R311.7.2, Headroom.** Section R311.7.2 is amended to read as follows:

R311.7.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2032 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway.

Exceptions:

1. Where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4-3/4 inches (121 mm).

2. The minimum headroom for existing buildings shall be in accordance with section R305.2.2.

Statutory Authority: *MS s 14.388; 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; 33 SR 807; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0312 [Repealed, 32 SR 12]

1309.0312 SECTION R312, GUARDS AND WINDOW FALL PROTECTION.

Subpart 1. **IRC section R312.1.1, Where required.** Section R312.1.1 is amended as follows:

R312.1.1 Where required. Guards shall be located along the open sides of floors, stairs, ramps, and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below. Insect screening shall not be considered as a guard.

Subp. 2. **IRC section R312.2, Window fall protection.** Section R312.2 is amended to read as follows.

R312.2 Window fall protection. Window fall protection shall be provided in accordance with sections R312.2.1 and R312.2.2.

R312.2.1 Window sills. In dwelling units, where the lowest part of the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the window opening shall be a minimum of 36 inches (914 mm) above the

finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch diameter (102 mm) sphere where such openings are located within 36 inches (914 mm) of the finished floor.

Exceptions:

1. Windows with openings that will not allow a 4-inch diameter (102 mm) sphere to pass through the opening when the window is in its largest opened position.

2. Openings that are provided with window fall prevention devices that comply with ASTM F 2090.

3. Windows that are provided with window opening control devices that comply with section R312.2.2.

4. Replacement windows.

R312.2.2 Window opening control devices. Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by section R310.1.1.

Statutory Authority: *MS s 326B.02; 326B.101; 326B.106*

History: *39 SR 91*

Published Electronically: *January 26, 2015*

1309.0313 SECTION R313, AUTOMATIC FIRE SPRINKLER SYSTEMS.

IRC section R313 is amended to read as follows:

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

Exception: An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

R313.1.1 Design and installation. Automatic residential fire sprinkler systems for townhouses shall be designed and installed in accordance with IRC section P2904 or NFPA 13D.

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

Exceptions:

1. Detached one-family dwelling, less than 4500 square feet of floor area. Floor area shall include all floors and basements, excluding garages.

2. An automatic residential fire sprinkler system shall not be required if additions, alterations, or repairs are made to existing buildings that do not have an automatic residential sprinkler system installed.

R313.2.1 Design and installation. Automatic residential fire sprinkler systems shall be designed and installed in accordance with IRC section P2904 or NFPA 13D.

R313.3 Installation requirements. When an automatic sprinkler system is required in two-family dwellings, it shall be installed in accordance with IRC section P2904 or NFPA 13D.

Automatic sprinkler systems required in two-family dwellings and townhouse buildings shall be installed in accordance with the following:

1. Attached garages are required to have one dry head sprinkler located within 5 lineal feet of each door installed in the common wall separating the dwelling unit and the attached garage;

2. Attached covered patios, covered decks, covered porches, and similar structures are required to have automatic sprinklers with a minimum of one dry head for every 20 lineal feet (6.096 m) of common wall between the dwelling unit and the covered patio, covered deck, covered porch, or similar structure.

Exception: Attached roofs of covered patios, covered decks, covered porches, or similar structures that do not exceed 40 square feet (3,716 m^2) of floor area.

R313.4 State-licensed facilities. One- and two-family dwellings and townhouse buildings containing facilities required to be licensed or registered by the state of Minnesota shall be provided with an automatic sprinkler system required by the applicable licensing provisions of that agency or according to this part, whichever is more restrictive.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0314 SECTION R314, SMOKE ALARMS.

IRC section R314.3.1 is amended to read as follows:

R314.3.1 Alterations, repairs, and additions. An individual dwelling unit shall be equipped with smoke alarms located as required for new dwellings when:

1. alterations, repairs (including installation or replacement of windows or doors), or additions requiring a permit occur; or

2. one or more sleeping rooms are added or created in existing dwellings.

Exceptions:

1. Work involving the exterior surfaces of dwellings, such as the replacement of roofing or siding, or the addition of an open porch or deck, or chimney repairs.

2. Installation, alteration, or repairs of plumbing, electrical, or mechanical systems.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0315 [Repealed, 32 SR 12]

1309.0315 SECTION R315, CARBON MONOXIDE ALARMS.

IRC section R315.1, Carbon monoxide alarms, is amended to read as follows:

R315.1 Carbon monoxide alarms. For new construction, every one-family dwelling unit, two-family dwelling unit, and each townhouse dwelling unit shall have an approved and operational carbon monoxide alarm installed when one of the following conditions occur:

1. Fuel-fired appliances are installed; or
2. Have attached garages.

R315.1.1 Installation. Carbon monoxide alarms shall be installed outside and not more than 10 feet from each separate sleeping area or bedroom. Alarms shall be installed on each level containing sleeping areas or bedrooms.

Statutory Authority: *MS s 326B.02; 326B.101; 326B.106*

History: *39 SR 91*

Published Electronically: *January 26, 2015*

1309.0316 [Repealed, 32 SR 12]

Published Electronically: *February 23, 2009*

1309.0317 [Repealed, 39 SR 91]

Published Electronically: *January 26, 2015*

1309.0318 [Repealed, 39 SR 91]

Published Electronically: *January 26, 2015*

1309.0322 [Repealed, 32 SR 12]

Published Electronically: *February 23, 2009*

1309.0323 SECTION R323, STORM SHELTERS.

IRC section R323 is deleted in its entirety.

Statutory Authority: *MS s 326B.02; 326B.101; 326B.106*

History: *39 SR 91*

Published Electronically: *January 26, 2015*

1309.0402 SECTION R402, MATERIALS.

IRC Table R402.2 is amended to read as follows:

TABLE R402.2 MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF CONCRETE

TYPE OR LOCATION OF CONCRETE CONSTRUCTION	MINIMUM SPECIFIED COMPRESSIVE STRENGTH[a] (f'_c)		
	Weathering Potential[b]		
	Negligible	Moderate	Severe
Footings[g]	5,000	5,000	5,000
Basement walls, foundations, and other concrete not exposed to the weather	2,500	2,500	2,500[c]
Basement slabs and interior slabs on grade, except garage floor slabs	2,500	2,500	2,500[c]
Basement walls, foundation walls, exterior walls, and other vertical concrete work exposed to the weather	2,500	3,000[d]	3,000[d]
Porches, carport slabs, and steps exposed to the weather, and garage floor slabs	2,500	3,000[d, e, f]	3,500[d, e, f]

For SI: 1 pound per square inch = 6.895 kPa.

a. Strength at 28 days psi.

b. See Table R301.2(1) for weathering potential.

c. Concrete in these locations that may be subject to freezing and thawing during construction shall be air-entrained concrete in accordance with Footnote d.

d. Concrete shall be air-entrained. Total air content (percent by volume of concrete) shall be not less than 5 percent or more than 7 percent.

e. See section R402.2 for maximum cementitious materials content.

f. For garage floors with a steel-troweled finish, reduction of the total air content (percent by volume of concrete) to not less than 3 percent is permitted if the specified compressive strength of the concrete is increased to not less than 4,000 psi.

g. Compressive strength (f'_c) of 2,500 psi, with an approved admixture that provides a water and vapor resistance at least equivalent to 5,000 psi concrete.

Statutory Authority: *MS s 326B.02; 326B.101; 326B.106*

History: *39 SR 91;*

Published Electronically: *January 26, 2015*

1309.0403 SECTION R403, FOOTINGS.

Subpart 1. **IRC section R403.1.4.1.** Section R403.1.4.1 is amended to read as follows:

R403.1.4.1 Frost protection. Footings shall not bear on frozen soil. Foundation walls, piers, and other permanent supports of buildings and structures not otherwise protected from frost shall be protected by one or more of the following methods:

1. Extended below the frost line specified in Table R301.2(1);
2. Constructing in accordance with section R403.3;
3. Constructing in accordance with ASCE 32;
4. Erected on solid rock; or
5. Constructing in accordance with Minnesota Rules, chapter 1303.

Exception: Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

Subp. 2. **IRC section R403.1.6.** IRC Section R403.1.6 is amended to read as follows:

R403.1.6 Foundation anchorage. Sill plates and walls supported directly on continuous foundations shall be anchored to the foundation in accordance with this section.

Wood sole plates at all exterior walls on monolithic slabs, wood sole plates of braced wall panels at building interiors on monolithic slabs, and all wood sill plates shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. Bolts shall be at least 1/2-inch (12.7 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into concrete or grouted cells of concrete masonry units. A nut and washer shall be tightened on each bolt. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than 7 bolt diameters from each end of the plate section. Interior bearing wall sole plates on monolithic slab foundation that are not part of a braced wall panel shall be positively anchored with approved fasteners. Sill plates and sole plates shall be protected against decay and termites where required by sections R317 and R318. Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in section R505.3.1 or R603.1.1. When vertical reinforcing is required by other sections of this code, the foundation anchor bolts shall align with the reinforcing. All anchor bolts installed in masonry shall be grouted in place with at least 1-inch (25 mm) of grout between the bolt and the masonry.

Exceptions:

1. Foundation anchor straps spaced as required to provide equivalent anchorage to 1/2-inch diameter (12.7 mm) anchor bolts. When vertical reinforcing is required by other sections of this code, the foundation anchor straps shall align with the reinforcing.

2. Walls 24 inches (609.6 mm) total length or shorter connecting offset braced wall panels shall be anchored to the foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels according to Figure R602.10.5 at corners.

3. Walls 12 inches (304.8 mm) total length or shorter connecting offset braced wall panels shall be permitted to be connected to the foundation without anchor bolts. The wall shall be attached to adjacent braced wall panels according to Figure R602.10.5 at corners.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0404 SECTION R404, FOUNDATION AND RETAINING WALLS.

Subpart 1. **IRC section R404.1.** Section R404.1 is amended to read as follows:

R404.1 Concrete and masonry foundation walls. Concrete foundation walls shall be selected and constructed in accordance with the provisions of section R404.1.2. Masonry foundation walls shall be selected and constructed in accordance with the provisions of section R404.1.1. Concrete and masonry foundation walls shall be laterally supported at the top and bottom. Foundation walls that meet all of the following shall be considered laterally supported:

1. Full basement floor shall be 3.5 inches (89 mm) thick concrete slab poured tight against the bottom of the foundation wall.

2. Floor joists and blocking shall be connected to the sill plate at the top of wall with an approved connector with listed capacity meeting the top of wall reaction in Table R404.1(1). Maximum spacing of floor joists shall be 24 inches on center. Spacing of blocking shall be in accordance with Table R404.1(1).

3. Bolt spacing for the sill plate shall be no greater than the requirements in Table R404.1(1).

4. The floor shall be blocked perpendicular to the floor joists. Blocking shall be full depth within three joist spaces of the foundation wall. Floor sheathing shall be fastened to blocking in accordance with Table R602.3(1).

5. Where foundation walls support unbalanced load on opposite sides of the building, such as a daylight basement, the rim board shall be attached to the sill with a 20-gage metal angle clip at 24 inches on center, with five 8d nails per leg, or an approved connector supplying 230 pounds per lineal foot capacity.

Exception: Cantilevered concrete and masonry foundation walls that do not have permanent lateral support at the top shall be constructed according to Table R404.1.1(5), Table R404.1.1(6), or Table R404.1.1(7).

Subp. 2. **IRC Table R404.1(1).** Section R404.1 is amended by adding Table R404.1(1) as follows:

TABLE R404.1(1)

MAXIMUM ANCHOR BOLT AND BLOCKING SPACING FOR SUPPORTED FOUNDATION WALL

Max. Wall Height	Max. Unbalanced Backfill Height	Soil Classes	Soil Load (pcf/ft)	Top of Wall Reaction (plf)[b]	1/2" diameter Anchor Bolt Spacing (inches)[a]	Spacing of Blocking Perpendicular To Floor Joists (inches)
		GW, GP, SW, & SP	30	250	72	60
8'-0"	**7'-4"**	GM, GC, SM-SC, & ML	45	370	72	40
		SC, MH, ML-CL, & I-CL	60	490	48	30
		GW, GP, SW, & SP	30	320	72	48
9'-0"	**8'-4"**	GM, GC, SM-SC, & ML	45	480	48	32
		SC, MH, ML-CL, & I-CL	60	640	40	24

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm

[a] Sill plate shall be 2 x 6 minimum. Anchor bolt shall be minimum 0.5" diameter cast-in-place with 7" embed. Anchor bolt shall have a 2" diameter by 0.125" thick washer tightened and countersunk 0.25" into the top of the sill plate.

[b] Minimum load to be used for sizing of accepted anchors or fasteners if bolts are not used.

Subp. 3. [Repealed, 39 SR 91]

Subp. 4. [Repealed, 39 SR 91]

Subp. 5. [Repealed, 39 SR 91]

Subp. 6. **IRC Table R404.1.1(5).** Section R404 is amended by adding a new table as follows:

TABLE R404.1.1(5)

CANTILEVERED CONCRETE AND MASONRY FOUNDATION WALLS

Maximum Wall Height[j] (feet)	Maximum Unbalanced Backfill Height[e] (feet)	Minimum Vertical Reinforcement Size and Spacing for 8-Inch Nominal Wall Thickness[a,b,c,e,f,i,k]		
		Soil Classes[d]		
		GW, GP, SW, and SP	GM, GC, SM, SM-SC, and ML	SC, MH, ML-CL, and inorganic CL
4	3	None required	None required	None required

	4	None required	None required	No. 4 @ 72 in. o.c.
5	3	None required	None required	None required
	4	No. 4 @ 72 in. o.c.	No. 4 @ 56 in. o.c.[h]	No. 4 @ 40 in. o.c.[g]
	5	No. 4 @ 72 in. o.c.	No. 4 @ 56 in. o.c.[h]	No. 4 @ 40 in. o.c.[g]

a. Mortar shall be Type M or S and masonry shall be laid in running bond. Minimum unit compressive strength is 1,900 psi.

b. Alternative reinforcing bar sizes and spacings having an equivalent cross-sectional area of reinforcement per lineal foot of wall shall be permitted provided the spacing of the reinforcement does not exceed 72 inches.

c. Vertical reinforcement shall be Grade 60 minimum. The distance from the face of the soil side of the wall to the center of vertical reinforcement shall be no greater than 2.5 inches.

d. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.

e. Interior concrete floor slab-on-grade shall be placed tight to the wall. The exterior grade level shall be 6 inches minimum below the top of wall. Maximum height from top of slab-on-grade to bottom of floor joists is 10 feet, 0 inches. Unbalanced backfill height is the difference in height of the exterior finish ground levels and the top of the interior concrete slab-on-grade.

f. Minimum footing size of 20 inches by 8 inches shall be placed on soil with a bearing capacity of 2,000 psf. Minimum concrete compressive strength of footing shall be 3,000 psi.

g. Provide propped cantilever wall: top of footing shall be 16 inches below the bottom of the concrete floor slab minimum.

h. Provide #5 Grade 60 dowels, 1 foot, 6 inches long, to connect footing to wall. Embed dowel 5 inches into footing. Place dowels in center of wall thickness spaced at 32 inches on center maximum. No dowels are required where length of the foundation wall between perpendicular walls is two times the foundation wall height or less.

i. This table is applicable where the length of the foundation wall between perpendicular walls is 35 feet or less, or where the length of the foundation laterally supported on only one end by a perpendicular wall is 17 feet or less.

j. Maximum wall height is measured from top of the foundation wall to the bottom of the interior concrete slab-on-grade.

k. Install foundation anchorage per section R403.1.6.

Subp. 7. **IRC Table R404.1.1(6).** Section R404 is amended by adding a new table as follows:

TABLE R404.1.1(6)

CANTILEVERED CONCRETE AND MASONRY FOUNDATION WALLS

Maximum Wall Height[j] (feet)	Maximum Unbalanced Backfill Height[e] (feet)	Minimum Vertical Reinforcement Size and Spacing for 10-Inch Nominal Wall Thickness[a,b,c,e,f,i,k]		
		Soil Classes[d]		
		GW, GP, SW, and SP	GM, GC, SM, SM-SC, and ML	SC, MH, ML-CL, and inorganic CL
4	3	None required	None required	None required
	4	None required	None required	None required
5	3	None required	None required	None required
	4	None required	No. 4 @ 72 in. o.c.	No. 4 @ 64 in. o.c.[g]
	5	No. 4 @ 72 in. o.c.	No. 4 @ 72 in. o.c.	No. 4 @ 56 in. o.c.[g]
6	3	None required	No. 4 @ 72 in. o.c.	No. 4 @ 72 in. o.c.
	4	No. 4 @ 72 in. o.c.	No. 4 @ 72 in. o.c.	No. 4 @ 64 in. o.c.[h]
	5	No. 4 @ 64 in. o.c.[h]	No. 4 @ 40 in. o.c.[g,h]	No. 5 @ 48 in. o.c.[g,h]
	6	No. 4 @ 64 in. o.c.[h]	No. 4 @ 40 in. o.c.[g,h]	No. 5 @ 48 in. o.c.[g,h]

a. Mortar shall be Type M or S and masonry shall be laid in running bond. Minimum unit compressive strength is 1,900 psi.

b. Alternative reinforcing bar sizes and spacings having an equivalent cross-sectional area of reinforcement per lineal foot of wall shall be permitted provided the spacing of the reinforcement does not exceed 72 inches.

c. Vertical reinforcement shall be Grade 60 minimum. The distance from the face of the soil side of the wall to the center of vertical reinforcement shall be no greater than 2.5 inches.

d. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.

e. Interior concrete slab-on-grade shall be placed tight to the wall. The exterior grade level shall be 6 inches minimum below the top of wall. Maximum height from top of slab-on-grade to bottom of floor joists is 10 feet, 0 inches. Unbalanced backfill height is the difference in height of the exterior finish ground levels and the top of the interior concrete slab-on-grade.

f. Minimum footing size of 20 inches by 8 inches shall be placed on soil with a bearing capacity of 2,000 psf. Minimum concrete compressive strength of footing shall be 3,000 psi.

g. Provide propped cantilever wall: top of footing shall be 16 inches below the bottom of the concrete floor slab minimum.

h. Provide #5 Grade 60 dowels, 1 foot, 6 inches long, to connect footing to wall. Embed dowel 5 inches into footing. Place dowels in center of wall thickness spaced at 32 inches on center maximum. No dowels are required where length of the foundation wall between perpendicular walls is two times the foundation wall height or less.

i. This table is applicable where the length of the foundation wall between perpendicular walls is 35 feet or less, or where the length of the foundation laterally supported on only one end by a perpendicular wall is 17 feet or less.

j. Maximum wall height is measured from top of the foundation wall to the bottom of the interior concrete slab-on-grade.

k. Install foundation anchorage per section R403.1.6.

Subp. 8. **IRC Table R404.1.1(7).** Section R404 is amended by adding a new table as follows:

TABLE R404.1.1(7)

CANTILEVERED CONCRETE AND MASONRY FOUNDATION WALLS

Maximum Wall Height[j] (feet)	Maximum Unbalanced Backfill Height[e] (feet)	Minimum Vertical Reinforcement Size and Spacing for 12-Inch Nominal Wall Thickness[a,b,c,e,f,i,k]		
		Soil Classes[d]		
		GW, GP, SW, and SP	GM, GC, SM, SM-SC, and ML	SC, MH, ML-CL, and inorganic CL
4	3	None required	None required	None required
	4	None required	None required	None required
5	3	None required	None required	None required
	4	None required	None required	No. 4 @ 72 in. o.c.
	5	No. 4 @ 72 in. o.c.	No. 4 @ 72 in. o.c.	No. 4 @ 72 in. o.c.
6	3	None required	None required	None required
	4	None required	None required	No. 4 @ 72 in. o.c.
	5	No. 4 @ 72 in. o.c.	No. 4 @ 56 in. o.c.[h]	No. 4 @ 40 in. o.c.[g]
	6	No. 4 @ 72 in. o.c.	No. 4 @ 56 in. o.c.[g]	No. 4 @ 32 in. o.c.[g,h]
7	3	None required	None required	None required
	4	None required	No. 4 @ 72 in. o.c.	No. 4 @ 72 in. o.c.
	5	No. 4 @ 72 in. o.c.	No. 4 @ 56 in. o.c.[h]	No. 4 @ 40 in. o.c.[g]
	6	No. 4 @ 48 in. o.c.[h]	No. 5 @ 48 in. o.c.[g,h]	No. 6 @ 48 in. o.c.[g,h]
	7	No. 4 @ 48 in. o.c.[h]	No. 5 @ 40 in. o.c.[g,h]	No. 6 @ 48 in. o.c.[g,h]

a. Mortar shall be Type M or S and masonry shall be laid in running bond. Minimum unit compressive strength is 1,900 psi.

b. Alternative reinforcing bar sizes and spacings having an equivalent cross-sectional area of reinforcement per lineal foot of wall shall be permitted provided the spacing of the reinforcement does not exceed 72 inches.

c. Vertical reinforcement shall be Grade 60 minimum. The distance from the face of the soil side of the wall to the center of vertical reinforcement shall be no greater than 3 inches.

d. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.

e. Interior concrete slab-on-grade shall be placed tight to the wall. The exterior grade level shall be 6 inches minimum below the top of wall. Maximum height from top of slab-on-grade to bottom of floor joists is 10 feet, 0 inches. Unbalanced backfill height is the difference in height of the exterior finish ground levels and the top of the interior concrete slab-on-grade.

f. Minimum footing size of 20 inches by 8 inches shall be placed on soil with a bearing capacity of 2,000 psf. Minimum concrete compressive strength of footing shall be 3,000 psi.

g. Provide propped cantilever wall: top of footing shall be 16 inches below the bottom of the concrete floor slab minimum.

h. Provide #5 Grade 60 dowels, 1 foot, 6 inches long, to connect footing to wall. Embed dowel 5 inches into footing. Place dowels in center of wall thickness spaced at 32 inches on center maximum. No dowels are required where length of the foundation wall between perpendicular walls is two times the foundation wall height or less.

i. This table is applicable where the length of the foundation wall between perpendicular walls is 35 feet or less, or where the length of the foundation laterally supported on only one end by a perpendicular wall is 17 feet or less.

j. Maximum wall height is measured from top of the foundation wall to the bottom of the interior concrete slab-on-grade.

k. Install foundation anchorage per section R403.1.6.

Subp. 9. **IRC section R404.1.3.** Section R404.1.3 is amended by adding the following exception to condition 2:

Exception: Cantilevered concrete and masonry foundation walls constructed in accordance with Table R404.1.1(5), R404.1.1(6), or R404.1.1(7).

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0406 SECTION R406, FOUNDATION WATERPROOFING AND DAMPPROOFING.

Subpart 1. **IRC section R406.1.** Section R406.1 is deleted in its entirety.

Subp. 2. **IRC section R406.2.** Section R406.2 is amended to read as follows:

R406.2 Concrete and masonry foundation waterproofing. Exterior foundation walls that retain earth and enclose below grade interior spaces, floors, and crawl spaces shall be waterproofed. Waterproofing shall be installed at a minimum from the top of the footing to the finished grade or in accordance with the manufacturer's installation instructions. Walls shall be waterproofed in accordance with one of the following:

1. 2-ply hot-mopped felts.
2. 55 pound (25 kg) roll roofing.

3. 6-mil (0.15 mm) polyvinyl chloride.
4. 6-mil (0.15 mm) polyethylene.
5. 40-mil (1 mm) polymer-modified asphalt.
6. 60-mil (1.5 mm) flexible polymer cement.
7. 1/8-inch cement based, fiber reinforced, waterproof coating.
8. 60-mil (1.5 mm) solvent free liquid applied synthetic rubber.

Exception: Organic solvent-based products such as hydrocarbons, chlorinated hydrocarbons, ketones, and esters shall not be used for ICF walls with expanded polystyrene form material. Use of plastic roofing cements, acrylic coatings, latex coatings, mortars, and pargings to seal ICF walls is permitted. Cold-setting asphalt or hot asphalt shall conform to Type C of ASTM D 449. Hot asphalt shall be applied at a temperature of less than 200° F (90° C).

All joints in membrane waterproofing shall be lapped and sealed with an adhesive compatible with the membrane.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0506 [Repealed, 32 SR 12]

Published Electronically: *February 23, 2009*

1309.0602 SECTION R602, WOOD WALL FRAMING.

Subpart 1. **IRC Table R602.3.1.** Table R602.3.1 is amended to read as follows:

TABLE R602.3.1

MAXIMUM ALLOWABLE LENGTH OF WOOD WALL STUDS EXPOSED TO

WIND SPEEDS OF 90 MPH OR LESS[b,c,d,e,f,g,h,i]

Where conditions are not within the parameters

of footnotes b, c, d, e, f, g, h, and i,

design is required.

ROOF SPANS UP TO 22' SUPPORTING A ROOF ONLY

Maximum Wall Height (feet)	Exposure Category[h,i]	On-Center Spacing (inches)			
		24	16	12	8

10	B	2x6	2x4	2x4	2x4
	C	2x6	2x6	2x4	2x4
12	B	2x6	2x6	2x4	2x4
	C	2x6	2x6	2x6	2x4
14	B	2x6	2x6	2x6	2x4
	C	2x6	2x6	2x6	2x6
16	B	2x8	2x6	2x6	2x6
	C	2x8	2x6	2x6	2x6
18	B	2x8	2x8	2x6	2x6
	C	2x8	2x8	2x6	2x6
20	B	2x8	2x8	2x8	2x6
	C	NA[a]	2x8	2x8	2x6
24	B	NA[a]	2x8	2x8	2x8
	C	NA[a]	NA[a]	2x8	2x8

ROOF SPANS GREATER THAN 22' AND UP TO 26' SUPPORTING A ROOF ONLY

Maximum Wall Height (feet)	Exposure Category[h,i]	On-Center Spacing (inches)			
		24	16	12	8
10	B	2x6	2x6	2x4	2x4
	C	2x6	2x6	2x6	2x4
12	B	2x6	2x6	2x6	2x4
	C	2x8	2x6	2x6	2x6
14	B	2x6	2x6	2x6	2x6
	C	2x8	2x8	2x6	2x6
16	B	2x8	2x6	2x6	2x6
	C	2x8	2x8	2x6	2x6
18	B	2x8	2x8	2x6	2x6
	C	NA[a]	2x8	2x8	2x6
20	B	NA[a]	2x8	2x8	2x6
	C	NA[a]	NA[a]	2x8	2x8

24	B	NA[a]	NA[a]	2x8	2x8
	C	NA[a]	NA[a]	NA[a]	2x8

ROOF SPANS GREATER THAN 26' AND UP TO 30' SUPPORTING A ROOF ONLY

Maximum Wall Height (feet)	Exposure Category[h,i]	On-Center Spacing (inches)			
		24	16	12	8
10	B	2x6	2x6	2x4	2x4
	C	2x6	2x6	2x6	2x4
12	B	2x6	2x6	2x6	2x4
	C	2x8	2x6	2x6	2x6
14	B	2x8	2x6	2x6	2x6
	C	2x8	2x8	2x6	2x6
16	B	2x8	2x6	2x6	2x6
	C	2x8	2x8	2x8	2x6
18	B	2x8	2x8	2x6	2x6
	C	NA[a]	2x8	2x8	2x8
20	B	NA[a]	2x8	2x8	2x6
	C	NA[a]	NA[a]	2x8	2x8
24	B	NA[a]	NA[a]	2x8	2x8
	C	NA[a]	NA[a]	NA[a]	2x8

ROOF SPANS GREATER THAN 30' AND UP TO 34' SUPPORTING A ROOF ONLY

Maximum Wall Height (feet)	Exposure Category[h,i]	On-Center Spacing (inches)			
		24	16	12	8
10	B	2x6	2x6	2x4	2x4
	C	2x6	2x6	2x6	2x4

12	B	2x6	2x6	2x6	2x4
	C	2x8	2x6	2x6	2x6
14	B	2x8	2x6	2x6	2x6
	C	2x8	2x8	2x6	2x6
16	B	2x8	2x8	2x6	2x6
	C	NA[a]	2x8	2x8	2x6
18	B	2x8	2x8	2x6	2x6
	C	NA[a]	NA[a]	2x8	2x8
20	B	NA[a]	2x8	2x8	2x6
	C	NA[a]	NA[a]	2x8	2x8
24	B	NA[a]	NA[a]	2x8	2x8
	C	NA[a]	NA[a]	NA[a]	2x8

a. Design required.

b. Applicability of these tables assumes the following: SPF#2 or better, Ground snow = 60 psf, Roof snow = 42 psf, Component and Cladding Zone 4 - 50 square feet (Exposure B = 14.3 psf, Exposure C = 18.4 psf), eaves not greater than 2.0 feet in dimension.

c. The exterior of the wall shall be continuously sheathed in accordance with one of the materials listed in items 32 to 38 in Table R602.3(1), including the prescribed fastening. All wall bracing requirements shall be in accordance with section R602.10.

d. Studs shall be continuous full height. Where studs do not extend full height due to a wall opening, full height studs shall be provided on each side of the opening, equal in number to the spacing of the required full height studs multiplied by half the width of the opening, plus one stud. Where multiple openings occur adjacent to one another, framing between openings shall include the total of all full height studs required for both openings combined.

e. Full depth blocking is required at 10-foot spacing maximum.

f. Utility, standard, stud, and No. 3 grade lumber of any species are not permitted.

g. This table is based on a maximum allowable deflection limit of L/120.

Subp. 2. **IRC section R602.10.11.** Section R602.10.11 is amended to read as follows:

R602.10.11 Cripple wall bracing. Cripple walls shall be constructed in accordance with section R602.9 and braced in accordance with this section. Cripple walls shall be braced with the length and method of bracing used for the wall above in accordance with Tables R602.10.3(1) and R602.10.3(3), and the applicable adjustment factors in Table R602.10.3(2) or R602.10.3(4), respectively, except that the length of cripple wall bracing shall be multiplied by a factor of 1.15.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0612 SECTION R612, EXTERIOR WINDOWS AND DOORS.

IRC section R612.1 is amended to read as follows:

R612.1 General. This section prescribes performance and construction requirements for exterior windows and doors installed in walls. Windows and doors shall be installed in accordance with the fenestration manufacturer's written installation instructions. Window and door openings shall be flashed in accordance with section R703.8. Written installation instructions shall be provided by the fenestration manufacturer for each window or door.

Statutory Authority: *MS s 326B.02; 326B.101; 326B.106*

History: *39 SR 91*

Published Electronically: *January 26, 2015*

1309.0613 [Repealed, 39 SR 91]

Published Electronically: *January 26, 2015*

1309.0702 SECTION R702, INTERIOR COVERING.

Subpart 1. **IRC Table R702.1(3).** Table R702.1(3) is amended to read as follows:

TABLE R702.1(3)

CEMENT PLASTER PROPORTIONS, PARTS BY VOLUME

COAT	CEMENT PLASTER TYPE	CEMENTITIOUS MATERIALS				VOLUME OF AGGREGATE PER SUM OF SEPARATE VOLUMES OF CEMENTI-TIOUS MATERIALS[b]
		Portland Cement Type I, II or III or Blended Cement Type IP, I(PM), IS or I(SM)	Plastic Cement	Masonry Cement Type M, S or N	Lime	
First	Portland or blended	1			3/4 - 1-1/2[a]	2-1/2 - 4
	Masonry			1		2-1/2 - 4
	Plastic		1			2-1/2 - 4
Second	Portland or blended	1			3/4 - 1-1/2	3 - 5
	Masonry			1		3 - 5
	Plastic		1			3 - 5

Finish	Portland or blended	1			3/4 - 2	1-1/2 - 3
	Masonry			1		1-1/2 - 3
	Plastic		1			1-1/2 - 3

For SI: 1 inch = 25.4 mm, 1 pound = 0.545 kg.

a. Lime by volume of 0 to 3/4 shall be used when the plaster will be placed over low-absorption surfaces such as dense clay tile or brick.

b. The same or greater sand proportion shall be used in the second coat than used in the first coat.

Subp. 2. **IRC section R702.7 Vapor retarders.** Section R702.7 is amended to read as follows:

R702.7 Vapor retarders. A Class I or II vapor retarder is required on the interior side of frame walls in Climate Zones 6 and 7. Class II vapor retarders are permitted only when specified on the construction documents.

Statutory Authority: *MS s 326B.02; 326B.101; 326B.106*

History: *39 SR 91*

Published Electronically: *January 26, 2015*

1309.0703 SECTION R703, EXTERIOR COVERING.

Subpart 1. [Repealed, 32 SR 12]

Subp. 2. [Repealed, 32 SR 12]

Subp. 2a. **IRC section R703.2 Water-resistive barrier.** Section R703.2 is amended to read as follows:

R703.2 Water-resistive barrier. One layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D 226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). The water-resistive barrier shall overlap the flashings required in section R703.8 not less than 2 inches (51 mm). Where joints occur in the water-resistive barrier or flashing, the joints shall be lapped not less than 6 inches (152 mm). The felt or other approved material shall be continuous up to the underside of the rafter or truss top chord and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in section R703.1.

Exception: Omission of the water-resistive barrier is permitted in the following situations:

1. In detached accessory buildings.

2. Under exterior wall finish materials as permitted in Table R703.4.

3. Under paperbacked stucco lath when the paper backing is an approved water-resistive barrier.

Subp. 3. **IRC section R703.6.** Section R703.6 is amended to read as follows:

R703.6 Exterior plaster. Installation of these materials shall be in compliance with ASTM C 926 and ASTM C 1063 and provisions of this code.

R703.6.1 Lath. All lath and lath attachments shall be of corrosion-resistant materials. Expanded metal or woven wire lath shall be attached with 11 gage nails having a 7/16-inch (11.1 mm) head or 16 gage staples, spaced at no more than 6 inches (152 mm) or as otherwise approved. Nails or staples shall penetrate wood framing support members not less than 3/4-inch (19 mm).

R703.6.1.1 Control joints and expansion joints. Provisions for the control of expansion shall be determined by the exterior plaster application designer. ASTM C 1063 sections 7.11.4 - 7.11.4.4 do not apply.

R703.6.2 Plaster. Plastering with portland cement plaster shall be not less than three coats when applied over metal lath or wire lath and shall be not less than two coats when applied over masonry, concrete, pressure-preservative treated wood, or decay-resistant wood as specified in section R317.1 or gypsum backing. If the plaster surface is completely covered by veneer or other facing material or is completely concealed, plaster application need be only two coats, provided the total thickness is as set forth in Table R702.1(1).

On wood-frame construction with an on-grade floor slab system, exterior plaster shall be applied to cover, but not extend below, lath, paper, and screed.

R703.6.2.1 Weep screeds. A minimum 0.019-inch (0.5 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic weep screed, with a minimum vertical attachment flange of 3-1/2 inches (89 mm) shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 1063. The weep screed shall be placed a minimum of 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas and shall be of a type that will allow trapped water to drain to the exterior of the building. The weather-resistant barrier shall lap the attachment flange. The exterior lath shall cover and terminate on the attachment flange of the weep screed.

R703.6.3 Water-resistive barriers. Water-resistive barriers shall be installed as required in section R703.2 and, where applied over wood-based sheathing, shall include two layers of a water-resistive vapor-permeable barrier. Each layer shall meet both of the following requirements:

1. A water resistance of not less than that of 60-minute Grade D paper; or a minimum hydrostatic head of 23-31/32 inches (60.9 cm) when tested in accordance with hydrostatic pressure test method AATCC 127-2008; or a minimum water transudation time of 60 minutes when tested in accordance with ASTM D-779.

2. A water vapor permeance of not less than that of No. 15 felt; or a minimum permeance rating of 8.5 gr/h.ft.^{2} in Hg (US perm) (4.9 x 10^{10}kg/Pa.s.m^2) when tested in accordance with Procedure B of ASTM E96.

Exception: One layer of water-resistive barrier complying with R703.2 is permitted when a drainage space that allows bulk water to flow freely behind the cladding is provided.

R703.6.4 Application. Each coat shall be kept in a moist condition for at least 48 hours prior to application of the next coat.

Exception: Applications installed in accordance with ASTM C 926. The second coat is permitted to be applied as soon as the first coat has attained sufficient rigidity to receive the second coat.

R703.6.5 Curing. The finish coat for two-coat cement plaster shall not be applied sooner than seven days after application of the first coat. For three-coat cement plaster, the second coat shall not be applied sooner than 48 hours after application of the first coat, except as required in section R703.6.4. The finish coat for three-coat cement plaster shall not be applied sooner than seven days after application of the second coat.

Subp. 3a. [Repealed, 39 SR 91]

Subp. 4. [Repealed, 32 SR 12]

Subp. 5. [Repealed, 32 SR 12]

Subp. 6. [Repealed, 32 SR 12]

Subp. 7. [Repealed, 32 SR 12]

Subp. 8. [Repealed, 32 SR 12]

Subp. 8a. **Section R703.7.4.2.** IRC Section R703.7.4.2 is amended to read as follows:

R703.7.4.2 Air space. The veneer shall be separated from the sheathing by an air space of a minimum of a nominal 1 inch (25 mm) but nor more than 4-1/2 inches (114 mm).

Exception: One layer of water-resistive barrier complying with Section R703.2 is permitted when a drainage space that allows bulk water to flow freely behind the cladding is provided.

Subp. 8b. **Section R703.7.4.3.** IRC Section R703.7.4.3 is amended to read as follows:

R703.7.4.3 Mortar or grout fill. As an alternate to the air space required by Section R703.7.4.2, mortar or grout shall be permitted to fill the air space. When the 1-inch (25.4 mm) space is filled with mortar, a weather-resistant membrane or building paper as described in Section R703.2 or R703.6.3 is required over studs or sheathing. When filling the air space, it is permitted to replace the sheathing and weather-resistant membrane or asphalt-saturated felt paper with a wire mesh and approved paper or an approved paper-backed reinforcement attached directly to the studs.

R703.7.4.4 Masonry veneer on sheathed substrates. On sheathed substrates, a corrosion-resistant, self-furring expanded metal lath shall be installed over the weather-resistant membrane or building paper with appropriate fasteners as described in Section R703.6.1. Fasteners shall penetrate wood supports a minimum of one inch.

Subp. 9. **IRC section R703.8.** Section R703.8 is amended to read as follows:

R703.8 Flashing. Approved corrosion-resistant flashing shall be applied shingle-fashion in such a manner as to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashing shall be installed at all of the following locations:

1. Exterior window and door openings. Flashing shall be installed at the head and sides of exterior window and door openings and shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage. Flashing at exterior window and door openings shall be installed in accordance with at least one of the following:

(a) the fenestration manufacturer's installation and flashing instructions. When flashing is not addressed in the fenestration manufacturer's instructions, it shall be installed in accordance with the flashing manufacturer's instructions;

(b) in accordance with the flashing design or method of a registered design professional; and

(c) in accordance with other approved methods.

2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.

3. Under and at the ends of masonry, wood, or metal copings and sills.

4. Continuously above all projecting wood trim.

5. Where exterior porches, decks, or stairs attach to a wall or floor assembly of wood-frame construction.

6. At wall and roof intersections.

7. At built-in gutters.

8. Where exterior material meets in other than a vertical line.

9. Where the lower portion of a sloped roof stops within the plane of an intersecting wall cladding in such a manner as to divert water away from the assembly in compliance with section R903.2.1.

10. At the intersection of the foundation and rim joist framing when the exterior wall covering does not lap the foundation insulation.

R703.8.1 Pan flashing of windows and doors. Pan flashing shall be installed in accordance with the fenestration manufacturer's installation and flashing instructions. Where flashing instructions or details are not provided, pan flashing shall be installed at the sill of exterior window and door openings. Pan flashing shall be sealed or sloped in such a manner as to direct water to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage.

Exceptions:

1. Windows or doors installed in accordance with the manufacturer's installation instructions which include an alternate flashing method.

2. Windows or doors in detached accessory structures.

3. Skylights, bow or bay windows.

4. Doors required to meet accessibility requirements that would prevent the installation of pan flashing.

5. Repairs or replacement of existing windows and doors.

6. When a method is provided by a registered design professional.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *27 SR 1475; 32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0802 [Repealed, 39 SR 91]

Published Electronically: *January 26, 2015*

1309.0806 [Repealed, 39 SR 91]

Published Electronically: *January 26, 2015*

1309.0903 SECTION R903, WEATHER PROTECTION.

IRC section R903.2.1 is amended as follows:

R903.2.1 Locations. Flashings shall be installed at wall and roof intersections, wherever there is a change in roof slope or direction and around roof openings. A kick-out flashing shall be installed to divert the water away from where the eave of a sloped roof intersects a vertical sidewall. The kick-out flashing on the roof shall be a minimum of 2-1/2 inches (63.5 mm) long. Where flashing is of metal, the metal shall be corrosion-resistant with a thickness of not less than 0.019 inch (0.5 mm) (No. 26 galvanized sheet).

R903.2.1.1 Existing buildings and structures. Kick-out flashings shall be required in accordance with section R903.2.1 when simultaneously re-siding and re-roofing existing buildings and structures.

Exception: Kick-out flashings are not required when only re-roofing existing buildings and structures.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.0905 SECTION R905, REQUIREMENTS FOR ROOF COVERINGS.

Subpart 1. **IRC section R905.2.1.** Section R905.2.1 is amended as follows:

R905.2.1 Sheathing requirements. Asphalt shingles shall be fastened to solidly sheathed decks or 1-inch thick nominal wood boards.

Subp. 2. **IRC section R905.2.8.5.** Section R905.2.8.5 is deleted in its entirety.

Statutory Authority: *MS s 16B.59; 16B.61; 16B.64; 326B.02; 326B.101; 326B.106; 326B.13*

History: *32 SR 12; L 2007 c 140 art 4 s 61; art 13 s 4; 39 SR 91*

Published Electronically: *January 26, 2015*

1309.4300 [Repealed, 39 SR 91]

Published Electronically: *January 26, 2015*