

**RESIDENTIAL CODE
NOTICE**

- This is an unofficial user-friendly copy of St. Louis County, Missouri Ordinance 24,427 for the adoption of the 2009 International Residential Code, with modifications. Said ordinance being approved by the County Executive on July 13, 2010.
- Official copies of St. Louis County ordinances, in total, including certified copies, may be obtained from the St. Louis County Clerk's Office, 41 South Central Avenue, Clayton, Missouri 63105 – Telephone: 314-615-7171

(Editorial Note: Ordinance to be in full force and effect November 1, 2010)

BILL NO. _____ 160 _____, 2010

ORDINANCE No. 24,427, 2010

Introduced by Councilmember Fraser

AN ORDINANCE

AMENDING TITLE XI SLCRO 1974 AS AMENDED, "PUBLIC WORKS AND BUILDING REGULATIONS," BY REPEALING AND RE-ENACTING CHAPTER 1116 "RESIDENTIAL CODE."

BE IT ORDAINED BY THE COUNTY COUNCIL OF ST. LOUIS COUNTY, MISSOURI, AS FOLLOWS:

SECTION 1. Title XI SLCRO 1974, as amended "Public Works and Building Regulations" is hereby amended by repealing and re-enacting Chapter 1116 "Residential Code" which shall read as follows:

**TITLE XI
PUBLIC WORKS AND BUILDING REGULATIONS**

**Chapter 1116
RESIDENTIAL CODE**

1116.010 Short Title. This Chapter shall be known and may be cited as the "Residential Code" of St. Louis County.

1116.020 Residential Code for One- and Two-Family Dwellings Adopted. A certain document, three copies of which are on file in the office of the Director of the St. Louis County Department of Highways & Traffic and Public Works and the office of the Administrative Director, being marked and designated as the International Residential Code for One- and Two-Family Dwellings, 2009 edition, including "APPENDIX G – SWIMMING POOLS, SPAS AND HOT TUBS" and "APPENDIX K – SOUND TRANSMISSION," as published by the International Code Council, is hereby adopted as the Residential Code of St. Louis County, for regulating and governing the construction, alteration, movement, enlargement, replacement, repair, equipment, location, removal and demolition of detached one and two-family dwellings and multiple single family dwellings (townhouses) not more than three stories in height with separate means of egress as here-in provided; providing for the issuance of permits and collection of fees therefore; and each and all of the regulations, provisions, penalties, conditions and terms of said International Residential Code on file in the office of the Director of the Department of Highways & Traffic and Public Works and the office of the Administrative Director are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and changes, if any, prescribed in this ordinance.

1116.030 General Administrative Definitions. Throughout the International Residential Code for One- and Two-Family Dwellings, 2009 edition, whenever the term "jurisdiction" appears it shall be deemed to mean "St. Louis County". Likewise, whenever the term "Department of Building Safety" appears it shall be deemed to mean "St. Louis County Department of Highways & Traffic and Public Works" whenever the terms "code official" or "building official" appear it shall mean the Director of St. Louis County Department

of Highways & Traffic and Public Works or the Director's duly authorized representative and when the terms "code," "this code," or "Residential Code" appear it shall be deemed to mean the International Residential Code for One- and Two-Family Dwellings, 2009 edition as adopted herein with the additions, deletions and changes as prescribed in this ordinance.

1116.040 References to other St. Louis County adopted codes. Throughout the International Residential Code, 2009 edition, wherever a reference appears to the "International Building Code" it shall mean the "Building Code" as adopted by Chapter 1115 SLCRO 1974 as amended with the additions, deletions and changes prescribed therein. Wherever a reference appears to the "International Existing Building Code" it shall mean the "Existing Building Code" as adopted by Chapter 1117 SLCRO 1974 as amended with the additions, deletions and changes prescribed therein. Wherever a reference appears to the "International Mechanical Code" it shall mean the "Mechanical Code" as adopted by Chapter 1108 SLCRO 1974 as amended with the additions, deletions and changes prescribed therein. Wherever a reference appears to the "International Fuel Gas Code" it shall mean the "Mechanical Code" as adopted by Chapter 1108 SLCRO 1974 as amended with the additions, deletions and changes prescribed therein. Wherever a reference appears to "NFPA 70" it shall mean the "Electrical Code" as adopted by Chapter 1102 SLCRO 1974 as amended with the additions, deletions and changes prescribed therein. Wherever a reference appears to the "International Plumbing Code" it shall mean the "Plumbing Code" as adopted by Chapter 1103 SLCRO 1974 as amended with the additions, deletions and changes prescribed therein. Wherever a reference appears to the "International Private Sewage Disposal Code" it shall mean the "Plumbing Code" as adopted by Chapter 1103 SLCRO 1974 as amended with the additions, deletions and changes prescribed therein. Wherever a reference appears to the "International Property Maintenance Code" it shall mean the "Property Maintenance Code" as adopted by Chapter 1110 SLCRO 1974 as amended with the additions, deletions and changes prescribed therein.

1116.050 Contracting with Municipalities and Fire Protection Districts for Code Enforcement Services.

1. The code official, with the approval of the County Executive, is hereby authorized to contract with municipalities and fire protection districts within St. Louis County, to provide appropriate enforcement of this code and further to collect fees for applicable permits and inspections issued or made pursuant to such contracts. Contracts shall be approved by the code official and the County Executive, and shall be approved as to legal form by the County Counselor. No contract shall be entered into until the municipality or fire protection district desiring to contract with St. Louis County for the enforcement of this code shall first have duly adopted appropriate legislation authorizing said contract (a certified copy to be attached to and made a part of the contract) and duly adopted a code identical in substance to this code.
2. Notwithstanding the provisions of subsection 1 of this section, the code official, on behalf of St. Louis County, is authorized to execute contracts on a temporary or project-by-project basis with municipalities, fire districts and other authorities having jurisdiction to provide code enforcement services within their political boundaries. No such contract shall provide for a term in excess of six months. Any such contract shall provide for fees for applicable plan review and inspection services, which fees shall be subject to approval by order of the County Council; and shall contain such other terms and conditions as are approved by the County Counselor.

1116.051 Municipal Zoning Approval for Buildings and Structures by Contracting Municipalities.

All plans for the construction or use of buildings and structures regulated by this code shall be reviewed and approved by the contracting municipality for compliance with the zoning or other local regulatory ordinances or provisions prior to issuance of a permit by the County.

1116.052 Exterior Fire Protection Features Approval by Contracting Fire Protection Districts. All plans for the construction of buildings and structures within a contracting fire protection district shall be reviewed and approved for compliance with exterior fire protection features prior to issuance of a building permit by the County.

1116.060 Code Review Committee Assignment. The Building Code Review Committee, as established in the Building Code, shall be responsible for considering updates and changes to this code. The Building Code Review Committee shall coordinate with the Mechanical Code Review Committee, the Electrical Code Review Committee and the Plumbing Code Review Committee as these committees are defined in making its recommendation to the Building Commission.

1116.100 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 1 Scope and Administration. The following provisions amend Chapter 1 Scope and Administration in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

R101.1 Title. These regulations shall be known as the Residential Code for One- and Two-Family Dwellings of St. Louis County, hereinafter referred to as “this code.”

R101.2 Scope. The provisions of the International Residential Code for One- and Two-Family Dwellings shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade in height with a separate means of egress and their accessory structures.

Exceptions:

1. Live/work units complying with the requirements of Section 419 of the International Building Code shall be permitted to be built as one- and two-family dwellings or townhouses. Fire suppression required by Section 419.5 of the International Building Code when constructed under the International Residential Code for One- and Two-family Dwellings shall conform to Section 903.3.1.3 of the International Building Code.
2. Existing buildings undergoing repair, alteration or additions, and change of occupancy shall be permitted to comply with the International Existing Building Code when the registered design professional declares on the construction documents that the design was completed entirely using the International Existing Building Code.

R101.4 Applicability of St. Louis County, Missouri Codes and Ordinances. Throughout this code, whenever the terms NFPA 70, International Plumbing Code, International Mechanical Code, International Property Maintenance Code, International Building Code, International Residential Code, International Existing Building Code, Zoning Ordinance or Flood Damage Prevention Ordinance appears it shall be deemed to mean the codes adopted by St. Louis County as listed in Chapter 43 Referenced Standards, of this code and as identified in Title XI, Chapters 1102, 1103, 1108, 1110, 1115, 1116, 1117, 1003, and 1008 SLCRO 1974 as amended, respectively.

R101.5 Reserved for future use.

R101.6 Reserved for future use.

R101.7 Reserved for future use.

R101.8 Correction of violations of other codes. Repairs or alterations mandated by any property, housing, or fire safety maintenance code or mandated by any licensing rule or ordinance adopted pursuant to law shall conform only to the requirements of that code, rule, or ordinance and shall not be required to conform to this code unless the code requiring such repair or alteration so provides.

R102.2.1 Licensing. Applicable licensing provisions of the Mechanical Code, the Electrical Code and the Plumbing Code shall apply to work regulated under this code.

R102.2.2 Compliance with county and municipal zoning and other applicable codes and ordinances. Subject to the provisions of this code, neither the granting of a permit, nor the approval of construction documents, nor inspections made by the code official, or the code official's authorized representative, during the erection, movement or demolition of a building or structure, or any alteration or addition thereto, shall in any way relieve the owner or tenant of such building, structure or property from complying with the requirements of this code, the Zoning Ordinance, or the zoning ordinance or other applicable laws of any municipality in St. Louis County.

R102.4 Referenced codes and standards. The codes and standards referenced in this code and listed in Chapter 44 shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

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

R102.4.1 Standards and guidelines for structural evaluation. The code official shall allow structural evaluation, condition assessment, and rehabilitation of buildings, structures, or individual structural members based on this code's appendix chapters, referenced standards, guidelines, or other approved standards and procedures.

R102.5 Delete

R102.5 Partial invalidity. In the event any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

R102.6 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the International Building Code, the International Property Maintenance Code or the International Fire Code, or as is deemed necessary by the building official for the general safety and welfare of the occupants and the public.

R102.6.1 Additions, alterations or repairs. Additions, alterations or repairs to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with all of the requirements of this code, unless otherwise stated. Additions, alterations or repairs shall not cause an existing structure to become unsafe or adversely affect the performance of the building.

R103.1 Creation of enforcement agency. SECTION R103 DEPARTMENT OF BUILDING SAFETY (Sections R103.1 through R103.3) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 103 DEPARTMENT OF BUILDING SAFETY in the International Building Code.

R104.1 General. SECTION R104 DUTIES AND POWERS OF CODE OFFICIAL (Sections R104.1 through R104.11.1) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL in the International Building Code.

R105.1 Required. SECTION R105 PERMITS (Sections R105.1 through R105.9) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 105 PERMITS in the International Building Code.

SECTION R106 Reserved for future use.

SECTION R107 CONSTRUCTION DOCUMENTS

R107.1 General. SECTION R106 CONSTRUCTION DOCUMENTS (Sections R106.1 through R106.5) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 107 CONSTRUCTION DOCUMENTS in the International Building Code.

SECTION R108 TEMPORARY STRUCTURES AND USES

R108.1 General. SECTION R107 TEMPORARY STRUCTURES AND USES (Sections R107.1 through R107.4) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 108 TEMPORARY STRUCTURES AND USES in the International Building Code.

SECTION R109 FEES

R109.1 Payment of fees. SECTION R108 FEES (Sections R108.1 through R108.6) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 109 FEES in the International Building Code.

SECTION R110 INSPECTIONS

R110.1 General. SECTION R109 INSPECTIONS (Sections R109.1 through R109.4) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 110 INSPECTIONS in the International Building Code.

SECTION R111 CERTIFICATE OF OCCUPANCY

R111.1 Use and occupancy. SECTION R110 CERTIFICATE OF OCCUPANCY (Sections R110.1 through R110.5) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 111 CERTIFICATE OF OCCUPANCY in the International Building Code.

SECTION R112 SERVICE UTILITIES

R112.1 Connection of service utilities. SECTION R111 SERVICE UTILITIES (Sections R111.1 through R111.3) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 112 SERVICE UTILITIES in the International Building Code.

SECTION R113 BOARD OF APPEALS

R113.1.General. SECTION R112 BOARD OF APPEALS (Sections R112.1 through R112.4) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 113 BOARD OF APPEALS in the International Building Code.

SECTION R114 VIOLATIONS

R114.1 Unlawful acts. SECTION R113 VIOLATIONS (Sections R113.1 through R113.4) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 114 VIOLATIONS in the International Building Code.

SECTION R115 STOP WORK ORDER

R115.1 Authority. SECTION R114 STOP WORK ORDER (Sections R114.1 through R114.2) in the International Residential Code, 2009 edition is deleted in its entirety and adopted in lieu thereof is SECTION 115 STOP WORK ORDER in the International Building Code.

SECTION R116 UNSAFE STRUCTURES AND EQUIPMENT

R116.1 Conditions. SECTION 116 UNSAFE STRUCTURES AND EQUIPMENT (Sections 116.1 through 116.5) in the International Building Code, 2009 edition is adopted as part of this code.

SECTION R117 EMERGENCY MEASURES

R117.1 Imminent danger. SECTION 117 EMERGENCY MEASURES (Sections 117.1 through 117.6) of the Building Code is adopted as part of this code.

SECTION R118 UNFIT BUILDINGS AND STRUCTURES

R118.1 Inspections. SECTION 118 UNFIT BUILDINGS AND STRUCTURES (Sections 118.1 through 118.8.3) of the Building Code is adopted as part of this code.

1116.200 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 2 Definitions. The following provisions amend Chapter 2 Definitions in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

R201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the International Building Code, International Property Maintenance Code, International Mechanical Code, NFPA 70, International Plumbing Code, International Energy Conservation Code or the International Fire Code, such terms shall have the meanings ascribed to them as in those codes.

SECTION R202 DEFINITIONS

Such definitions set out in the International Residential Code, 2009 edition, are made part of this code. In addition, the following words or terms shall have the definitions ascribed to them herein.

AFFECTED PARTIES. The owner, occupant, lessee, mortgagee, agent and all other persons having an interest in the structure or its premises as shown by the records of the Recorder of Deeds as of the date said structure is declared to be a public nuisance by the code official.

BOARD OF APPEALS. The Building Commission created in Article IV, Section 4.330 of the St. Louis County Charter.

BUILDING CODE OFFICIAL. The CODE OFFICIAL as defined herein.

BUILDING CODE REVIEW COMMITTEE. The Committee established by, and acting in accordance with the Building Code, Title XI, Chapter 1115 SLCRO 1974 as amended.

BUILDING COMMISSION. The Building Commission created in Article IV, Section 4.330 of the St. Louis County Charter.

BUILDING OFFICIAL. The CODE OFFICIAL as defined herein.

CODE OFFICIAL. The Director of the Department of Highways & Traffic and Public Works or the Director's duly authorized representative.

ELECTRICAL CODE REVIEW COMMITTEE. The Committee established by, and acting in accordance with the Electrical Code.

FLOOD HAZARD AREA. An area that has been determined to be prone to flooding in accordance with Section 1612 of the International Building Code or Section R322 of the International Residential Code.

MECHANICAL CODE REVIEW COMMITTEE. The Committee established by, and acting in accordance with the Mechanical Code.

PLUMBING CODE REVIEW COMMITTEE. The Committee established by, and acting in accordance with the Plumbing Code.

STORY ABOVE GRADE. Any story having its finished floor surface entirely above grade, except that a basement shall be considered as a story above grade plane where the finished surface of the floor above the basement is:

1. More than 6 feet (1829 mm) above grade plane.
2. More than 6 feet (1829 mm) above the finished ground level for more than 50 percent of the total building perimeter.
3. More than 12 feet (3658 mm) above the finished ground level at any point.

WORKMANSHIP. Work executed in a skilled manner by an individual to impart quality to anything in the process of being made, produced, constructed, altered, repaired, installed, or assembled.

ZONING ORDINANCES. St. Louis County Zoning Ordinance, Title X, Chapter 1003 SLCRO 1974 as amended.

1116.300 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 3 Building Planning. The following provisions amend Chapter 3 Building Planning in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, subsection or clause number in the code is hereby enacted and added thereto.

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

GROUND SNOW LOAD (lbs / ft ²)	WIND DESIGN		SEISMIC DESIGN CATEGORY ^f	SUBJECT TO DAMAGE FROM			WINTER DESIGN TEMP ^e	ICE BARRIER UNDER-LAYMENT REQUIRED ^h	FLOOD HAZARDS ^g	AIR FREEZING INDEX ⁱ	MEAN ANNUAL TEMP ^j
	SPEED ^d (mph)	Topographic effects ^k		Weathering ^a	Frost line depth ^b	Termite ^c					
20	90	NO	C	Severe	30 inches	Slight to Moderate	2 ^o F	NO	May 24, 1985	1500 days	54 ^o F

For SI: 1 pound per square foot = 0.0479 kN/m², 1 mile per hour = 1.609 km/h.

- a. Weathering may require a higher strength concrete or grade of masonry than necessary to satisfy the structural requirements of this code. The weathering column shall be filled in with the weathering index (i.e. "negligible," "moderate" or "severe") for concrete as determined from the Weathering Probability Map. The grade of masonry units shall be determined from ASTM C 34, C 55, C 62, C 73, C 90, C 129, C 145, C 216 or C 652.
- b. The frost line depth may require deeper footings than indicated in Figure R403.3(1). The jurisdiction shall fill in the frost line depth column with the minimum depth of footing below finish grade.
- c. The jurisdiction shall fill in this part of the table to indicate the need for protection depending on whether there has been a history of local subterranean termite damage.

- d. The jurisdiction shall fill in this part of the table with the wind speed from the basic wind speed map. Wind exposure category shall be determined on a site-specific basis in accordance with Section R301.2.1.4.
- e. The jurisdiction has selected the outdoor design dry-bulb temperature from the columns of 99.6 percent values for winter from the 2001 ASHRAE Fundamentals Handbook. Additional design temperature criteria can be found in Section M1401.3 .
- f. The jurisdiction shall fill in this part of the table with the seismic design category determined from Section R301.2.2.1.
- g. Flood hazard areas shall be established by the Flood Damage Prevention ordinance.
- h. In accordance with Sections R905.2.7.1, R905.4.3.1, R905.5.3.1, R905.6.3.1, R905.7.3.1 and R905.8.3.1, where there has been a history of local damage from the effects of ice damming, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall fill in this part of the table with "NO."
- i. The jurisdiction shall fill in this part of the table with the 100-year return period air freezing index (BF-days) from Figure R403.3(2) or from the 100-year (99%) value on the National Climatic Data Center data table "Air Freezing Index - USA Method (Base 32°)" 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° Fahrenheit)" at www.ncdc.noaa.gov/fpsf.html.
- k. In accordance with Section R301.2.1.5, where there is local historical data documenting structural damage to buildings due to topographic wind speed-up effects, the jurisdiction shall fill in this part of the table with "YES." Otherwise, the jurisdiction shall indicate "NO" in this part of the table.

R301.2.4 Flood plain construction. Buildings and structures constructed in whole or part in flood hazard areas (including A or V Zones) as established in Table R301.2(1) shall be designed and constructed in accordance with Section R322, the Flood Damage Prevention Ordinance, and the Zoning Ordinance.

Exception: Buildings and structures located in whole or part in identified floodways shall be designed and constructed in accordance with ASCE 24.

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

Exceptions:

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

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 or 2-hour fire-resistance-rated wall as provided in Section R302.2.

R303.3 Bathrooms. Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet (0.3 m²), one-half of which must be openable.

Exception: The glazed areas shall not be required where artificial light and a mechanical ventilation system are provided. The minimum ventilation rates shall be 50 cubic feet per minute (24 L/s) for intermittent ventilation or 20 cubic feet per minute (10 L/s) for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside or to an attic gable vent or ventilated soffit.

R303.4.2 Exhaust openings. Exhaust air shall not be directed below 6 feet 8 inches (2032 mm) onto a walkway.

R305.1 Minimum height. 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).

Exceptions:

1. For rooms with sloped ceilings, at least 50 percent of the required floor area of the room must 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 fixtures as shown in Figure R307.1. 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.
3. Beams and girders spaced not less than 4 feet (1219 mm) on center may project not more than 6 inches (152 mm) below the required ceiling height.

R306.5 Rough-ins. Within unfinished areas, rough-ins for drain waste vent only or for water supply only are permitted.

R306.6 Hose bibb. Every dwelling shall provide one outside frost-proof hose bibb. Hose bibbs shall be protected from backflow in accordance with the International Plumbing Code.

R306.7 Floor drain. A floor drain shall be installed within 15 feet of and in the same room as the heating/cooling system(s) or hot water heater(s). The floor drain installations shall comply with the International Plumbing Code.

R309.3 Flood hazard areas. For buildings located in flood hazard areas as established by Table R301.2(1), garage floors shall be constructed in accordance with this section, the Flood Damage Prevention Ordinance, and the Zoning Ordinance:

1. Elevated to or above the design flood elevation as determined in Section R322; or
2. Located below the design flood elevation provided they are at or above grade on at least one side, are used solely for parking, building access or storage, meet the requirements of Section R322 and are otherwise constructed in accordance with this code.

R310.6 Alterations and additions. All unfinished areas and reconfigured space converted to sleeping rooms and unfinished basement spaces being converted to habitable space shall have emergency escape and rescue openings.

Exception: Unfinished basement spaces being converted to habitable space other than sleeping rooms when smoke detectors, in addition to those required by R313.1.1, are installed in each room/space of the basement and a detector is installed on the level above, if not already existing, along the path of egress between the basement stair and the egress door to the exterior. The smoke detectors shall be interconnected, hard wired, and equipped with battery back-up.

R310.7 Bathrooms in unfinished basements. Bathrooms or bathroom rough-ins shall not be permitted within unfinished basements on new construction unless an emergency escape and rescue opening is provided to allow for future conversion to habitable space.

R311.3 Floors and landings at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel. Exterior landings shall be permitted to have a slope not to exceed $\frac{1}{4}$ unit vertical in 12 units horizontal (2-percent).

Exceptions:

1. Exterior balconies less than 60 square feet (5.6 m²) and only accessible from a door are permitted to have a landing less than 36 inches (914 mm) measured in the direction of travel.
2. Openings protected by a guard shall not be required to have an exterior landing.

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 $7\frac{3}{4}$ inches (196 mm) below the top of the threshold.

Exception: A landing is not required where a stairway of four or fewer risers is located on the exterior side of the door, provided the door does not swing over the stairway.

R311.7.4.1 Riser height. The maximum riser height shall be $8\frac{1}{4}$ inches (210 mm). The riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than $\frac{3}{8}$ inch (9.5 mm).

R311.7.4.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than $\frac{3}{8}$ inch (9.5 mm). Consistently shaped winders at the walkline shall be allowed within the same flight of stairs as rectangular treads and do not have to be within $\frac{3}{8}$ inch (9.5 mm) of the rectangular tread depth.

Winder treads shall have a minimum tread depth of 9 inches (229 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walkline shall not exceed the smallest winder tread by more than $\frac{3}{8}$ inch (9.5 mm).

R312.3 Opening limitations. Required guards shall not have openings from the walking surface to the required guard height which allow passage of a sphere 4 inches (102 mm) in diameter. Guards shall not have an ornamental pattern that would provide a ladder effect.

Exceptions:

1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches (153 mm) in diameter.
2. Guards on the open sides of stairs shall not have openings which allow passage of a sphere 4 3/8 inches (111 mm) in diameter.

R313.1 Townhouse automatic fire sprinkler systems. Effective January 1 ,2012, an automatic residential fire sprinkler system shall be installed in townhouses of more than four attached dwelling units.

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 the International Plumbing Code.

R313.2 One- and two-family dwellings automatic fire systems.

A builder of single family dwellings or residences or multi-unit dwellings of four or fewer units shall offer to any purchaser on or before the time of entering into the purchase contract the option, at the purchaser's cost, to install or equip fire sprinklers in the dwelling, residence or unit. No purchaser of such a single-family dwelling, residence or multi-unit dwelling shall be denied the right to choose or decline to install a fire sprinkler system in such dwelling or residence being purchased.

R313.2.1 Design and installation. Automatic residential fire sprinkler systems shall be designed and installed in accordance with the International Plumbing Code.

NOTE: Sections R313.1 and R313.2 will be reviewed by St. Louis County three years from the date this ordinance becomes effective.

R322.1 General. Buildings and structures constructed in whole or part in flood hazard areas (including A or V Zones) as established in Table R301.2 (1) shall be designed and constructed in accordance with the provisions contained in this section, the Flood Damage Prevention ordinance, and the Zoning Ordinance.

Exception: Buildings and structures located in whole or part in identified floodways shall be designed and constructed in accordance with ASCE 24.

R322.1.5 Lowest floor. The lowest floor shall be the floor of the lowest enclosed area, including basement, but excluding any unfinished flood-resistant enclosure that is useable solely for vehicle parking, building access or limited storage provided that the floor level of such enclosure is constructed entirely above grade and such enclosure is not built so as to render the building or structure in violation of this section.

R322.1.7 Protection of water supply and sanitary sewage systems. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems in accordance with the plumbing provisions of this code. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into systems and discharges from systems into floodwaters in accordance with the International Plumbing Code.

R322.2.1 Elevation requirements.

1. Buildings and structures in flood hazard areas not designated as Coastal A Zones shall have the lowest floors elevated to or above the design flood elevation.

2. Buildings and structures in flood hazard areas designated as Coastal A Zones shall have the lowest floors elevated to or above the base flood elevation plus 1 foot (305 mm), or to the design flood elevation, whichever is higher.
3. In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including basement) elevated at least as high above the highest adjacent grade as the depth number specified in feet on the FIRM, or at least 2 feet (610 mm) if a depth number is not specified.
4. Basement floors that are partially or completely below grade shall be elevated to or above the design flood elevation.

Exception: Enclosed areas below the design flood elevation whose floors are at or above grade on all sides, shall meet the requirements of Section R323.2.2.

1116.400 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 4 Foundations. The following provisions amend Chapter 4 Foundations in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

R404.1.2.2 Reinforcement for foundation walls. Concrete foundation walls shall be laterally supported at the top and bottom. Horizontal reinforcement shall be provided in accordance with Table R404.1.2(1). Vertical reinforcement shall be provided in accordance with Table R404.1.2(2), R404.1.2 (3), R404.1.2(4), R404.1.2(5), R404.1.2(6), R404.1.2(7) or R404.1.2(8). Vertical reinforcement for flat basement walls retaining 4 feet (1219 mm) or more of unbalanced backfill is permitted to be determined in accordance with Table R404.1.2(9). For basement walls supporting above-grade concrete walls, vertical reinforcement shall be the greater of that required by Tables R404.1.2(2) through R404.1.2(8) or by Section R611.6 for the above-grade wall. In buildings assigned to Seismic Design Category D₀, D₁ or D₂, concrete foundation walls shall also comply with Section R404.1.4.2.

Exceptions:

1. Where unstable soil or ground water conditions do not exist, plain concrete foundation walls may be constructed a minimum of 8 inches (203 mm) thick where the wall height from the top of the footing to the top of the wall does not exceed 8 feet (2438 mm) and when the unbalanced backfill height from the top of the basement slab to the finished grade immediately adjacent to the wall does not exceed 7 feet (2134 mm). A minimum of two No. 4 horizontal reinforcing bars shall be provided in the top and bottom of plain concrete foundation walls. A minimum of two No. 5 reinforcing bars shall be provided around all window and door openings in plain concrete foundation and basement walls. Bars shall extend a minimum 24 inches (610 mm) beyond the corners of the openings.
2. Where unstable soil or ground water conditions do not exist, plain concrete foundation walls may be constructed a minimum of 10 inches (254 mm) thick where the wall height from the top of the footing to the top of the wall does not exceed 9 feet (2743 mm) and when the unbalanced backfill height from the top of the basement slab to the finished grade immediately adjacent to the wall does not exceed 8 feet (2438 mm). A minimum of two No. 5 reinforcing bars shall be placed horizontally in the top, middle, and bottom of the foundation wall.
3. Where unstable soil or ground water conditions do not exist, plain concrete foundation walls may be constructed a minimum of 10 inches (254 mm) thick where the wall height from the top of the footing to the top of the wall does not exceed 8 feet (2438 mm) and when the

unbalanced backfill height from the top of the basement slab to the finished grade immediately adjacent to the wall does not exceed 8 feet (2438 mm). A minimum of two No. 5 reinforcing bars shall be placed horizontally in the top, middle, and bottom of the foundation wall.

R405.1 Concrete or masonry foundations. Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone drains shall extend at least 1 foot (305 mm) beyond the outside edge of the footing and 6 inches (152 mm) above the top of the footing and be covered with an approved filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper, and the drainage tiles or perforated pipe shall be placed on a minimum of 2 inches (51 mm) of washed gravel or crushed rock at least one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.

Exceptions:

1. A drainage system is not required when the foundation is installed on well-drained ground or sand-gravel mixture soils according to the Unified Soil Classification System, Group I Soils, as detailed in Table R405.1.
2. Drains provided as detailed in Section R405.1.2 are approved as an alternate method to meet the requirements of this section.

R405.1.1 Precast concrete foundation. Precast concrete walls that retain earth and enclose habitable or useable space located below-grade that rest on crushed stone footings shall have a perforated drainage pipe installed below the base of the wall on either the interior or exterior side of the wall, at least one foot (305 mm) beyond the edge of the wall. If the exterior drainage pipe is used, an approved filter membrane material shall cover the pipe. The drainage system shall discharge into an approved sewer system or to daylight.

R405.1.2 Soil evaluations. An evaluation of the soil for the presence or absence of ground water is required. The evaluation report shall be based on either a subsurface soil investigation or satisfactory data from adjacent areas together with an inspection of the excavation prior to pouring concrete.

R405.1.2.1 Groundwater present. Provide drain tile, perforated pipe, or other approved foundation drainage system, such as a water channel system, around the perimeter of the outside of the foundation and inside the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump.

R405.1.2.2 No ground water present. Provide drain tile, perforated pipe, or other approved foundation drainage system, such as a water channel system, around the perimeter of the outside of the foundation or inside of the foundation. Drain discharge shall be by gravity to daylight or be connected to a basement floor sump.

R405.1.2.3 Filter membranes. An approved filter membrane shall be placed over the top of the joints/pipe perforations. The tile/pipe shall be placed on 2 inches minimum gravel or crushed stone and have 6 inches minimum cover.

R405.1.2.4 Drainage system. The drainage system shall discharge by gravity to daylight or be connected to an approved sump. The sump shall be a minimum of 15 inches in diameter and a minimum of 18 inches deep and be provided with a fitted cover. A sump pump shall be provide if the basement is finished or partially finished with pump discharge by an approved method.

1116.500 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 5 Floors. The following provisions amend Chapter 5 Floors in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

R502.2.2.3 Deck lateral load connection. The lateral load connection required by Section R502.2.2 shall be permitted to be in accordance with Figure R502.2.2.3. Hold-down tension devices shall be installed in not less than two locations per deck, and each device shall have an allowable stress design capacity of not less than 1500 pounds (6672 N).

Exception: All decks that are 100 square feet or less.

R502.11.1 Design. Wood trusses shall be designed in accordance with approved engineering practice. The design and manufacture of metal plate connected wood trusses shall comply with ANSI/TPI 1. The truss design drawings shall be prepared and sealed by a Missouri Registered Professional Engineer.

R502.11.4 Truss design drawings. Truss design drawings, prepared in compliance with Section R502.11.1, shall be submitted to the building official and approved prior to the issuance of the building permit. Truss design drawings shall include, at a minimum, the information specified below:

1. Slope or depth, span, and spacing.
2. Location of all joints.
3. Required bearing widths.
4. Design loads as applicable:
 - 4.1. Top chord live load;
 - 4.2. Top chord dead load;
 - 4.3. Bottom chord live load;
 - 4.4. Bottom chord dead load;
 - 4.5. Concentrated loads and their points of application; and
 - 4.6. Controlling wind and earthquake loads.
5. Adjustments to lumber and joint connector design values for conditions of use.
6. Each reaction force and direction.
7. Joint connector type and description, e.g., size, thickness or gauge, and the dimensioned location of each joint connector except where symmetrically located relative to the joint interface.
8. Lumber size, species and grade for each member.
9. Connection requirements for:
 - 9.1. Truss-to-girder-truss;

- 9.2. Truss ply-to-ply; and
- 9.3. Field splices.
- 10. Calculated deflection ratio and/or maximum description for live and total load.
- 11. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss drawing or on supplemental documents.
- 12. Required permanent truss member bracing location.

1116.600 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 6 Wall Construction. The following provisions amend Chapter 6 Wall Construction in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, subsection or clause number in the code is hereby enacted and added thereto.

R602.3 Design and construction. Exterior walls of wood-frame construction shall be designed and constructed in accordance with the provisions of this chapter and Figures R602.3(1) and R602.3.(2) or in accordance with AF&PA's NDS. Components of exterior walls shall be fastened in accordance with Tables R602.3(1) through R602.3(4). Structural wall sheathing shall be fastened directly to structural framing members. Exterior wall coverings shall be capable of resisting the wind pressures listed in Table R301.2(2) adjusted for height and exposure using Table R301.2(3). Wood structural panel sheathing used for exterior walls shall conform to the requirements of Table R602.3(3).

Studs shall be continuous from support at the sole plate to a support at the top plate to resist loads perpendicular to the wall. The support shall be a foundation or floor, ceiling or roof diaphragm or shall be designed in accordance with accepted engineering practice.

Exceptions:

- 1. Jack studs, trimmer studs and cripple studs at openings in walls that comply with Tables R502.5(1) and R502.5(2).
- 2. Headers adjacent to the top plate at openings in a wall.

**TABLE R602.3(1)
Fastener Schedule For Structural Members**

Modify the following rows within the table to read as follows (Rows not amended by this code amendment and shown in the code as published are adopted without amendments)

Other wall sheathing ^h				
Item	Description of Building Materials	Description of Fastener	Spacing of Fasteners	
			Edges (inches) ⁱ	Intermediate supports ^{c,e} (inches)
34	1/2" structural cellulosic fiberboard sheathing	1/2" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1 1/4" long	3	6
35	25/32" structural cellulosic fiberboard sheathing	1 3/4" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1 1/2" long	3	6
36	1/2" gypsum sheathing	1 1/2" galvanized roofing nail; staple galvanized, 1 1/2" long; 1 1/4" screws, Type W or S; or 1 1/8" screws, pan head or button head	7	7

Other wall sheathing ⁿ				
Item	Description of Building Materials	Description of Fastener	Spacing of Fasteners	
			Edges (inches) ⁱ	Intermediate supports ^{c,e} (inches)
37	5/8" gypsum sheathing	1 3/4" galvanized roofing nail; staple galvanized, 1 5/8" long; 1 5/8" screws, Type W or S; or 1 1/4" screws, pan head or button head	7	7

R602.10.1.1 Braced wall panels. Braced wall panels shall be constructed in accordance with the intermittent bracing methods specified in Section R602.10.2, or the continuous sheathing methods specified in Sections R602.10.4, R602.10.5, and R602.10.10. With the exception of the bracing method detailed in Section R602.10.10, mixing of bracing methods shall be permitted as follows:

1. Mixing bracing methods from story to story is permitted.
2. Mixing bracing methods from braced wall line to braced wall line within a story is permitted, except that continuous sheathing methods shall conform to the additional requirements of Sections R602.10.4 and R602.10.5.
3. Mixing bracing methods within a braced wall line is permitted only in Seismic Design Categories A and B, and detached dwellings in Seismic Design Category C. The length of required bracing for the braced wall line with mixed sheathing types shall have the higher bracing length requirement, in accordance with Tables R602.10.1.2(1) and R602.10.1.2(2), of all types of bracing used.

R602.10.1.2 Length of bracing. The length of bracing along each braced wall line shall be the greater of that required by the design wind speed and braced wall line spacing in accordance with Table R602.10.1.2(1) as adjusted by the factors in the footnotes or the Seismic Design Category and braced wall line length in accordance with Table R602.10.1.2(2) as adjusted by the factors in Table R602.10.1.2(3) or braced wall panel location requirements of Section R602.10.1.4. Only walls that are parallel to the braced wall line shall be counted toward the bracing requirement of that line, except angled walls shall be counted in accordance with Section R602.10.1.3. In no case shall the minimum total length of bracing in a braced wall line, after all adjustments have been taken, be less than 48 inches (1219 mm) total.

Exception: Structures braced using Section R602.10.10.

R602.10.10 Simplified bracing method for one- and two-family dwellings when the entire structure is sheathed with wood structural panels and located in wind exposure A or B. The construction documents shall detail the locations and widths of all braced wall panels in accordance with this section.

R602.10.10.1 Wood structural sheathing. The building exterior walls shall be sheathed with 7/16 inch (11.1 mm) or thicker plywood or OSB wood structural panels. The wood structural panels shall be applied to all exterior walls, gable ends, and band boards. All vertical joints between panels shall be blocked. Horizontal joints in braced wall panels shall be blocked.

R602.10.10.2 Braced wall panel locations. Braced wall panels shall be located in every exterior braced wall line in accordance with the following criteria:

1. The outside edge of the first braced wall panel meeting the width established in Table R602.10.10.3 shall be a maximum of 12.5 feet (3810 mm) or less from each end of the braced wall line. The outside stud of the first braced wall panels closest to the end of the braced wall line shall be secured with a hold-down device securing the end stud to the foundation with a minimum uplift design value of 800 pounds.

Exception: The 800 pound hold-down device is not required when the braced wall panel is placed at the end of the braced wall line and there is a 24 inch (610) wide full height sheathed wall placed 90 degrees to the end of the braced wall line and panel.

2. The centerline spacing of braced wall panels in a braced wall line may not exceed 25 feet (7620 mm).

R602.10.10.3 Braced wall panel widths. Braced wall panel locations shall be shown on the floor plans or the elevation views and meet the widths established in Table R602.10.10.3.

**TABLE 602.10.10.3
SIMPLIFIED BRACING PANEL WIDTHS**

		WIDTH OF SOLID PANEL ^{a, b}			
		8' wall height	9' wall height	10' wall height	12' wall height
Plywood/OSB Panel	3:1	32"	36"	40"	48"
Simplified Portal Wall ^c	6:1	16" ^d	18" ^d	20" ^d	24" ^d

- a. Linear interpolation is permitted
- b. Wall height is the vertical distance from the bottom of the sole/sill plate to the top of the double top plate. An additional 2 inch (50.8 mm) variation in height is allowed for pre-cut stud framing.
- c. The Simplified Portal Wall, if applicable, shall be constructed in accordance with the applicable detail in Figure R602.10.10.3. The designer shall provide this detail on the construction documents.
- d. The Simplified Portal Wall width assumes the beam is placed under the top plate of the wall. A smaller width may be calculated for a lower top of beam height using the 6:1 height to width ratio.

R602.10.10.4 Corner framing. The exterior wall corners shall be constructed in accordance with the applicable detail in Figure R602.10.10.4.

Exception: Braced wall panels located in accordance with Section R602.10.10.2.

R602.10.10.5 Braced wall line spacing. When the perpendicular distance between the exterior braced wall lines exceeds 50 feet (15240 mm), the registered design professional shall include the following certification on the drawings:

The interior and exterior wall configuration braces the structure in accordance with or equivalent to the lateral bracing provisions of Section R602.10 of the International Residential Code, 2009 edition or Section 2305 of the International Building Code, 2009 edition.

R602.10.10.6 Maximum wall height. Wall height may not exceed 12 feet (3658 mm) (12 feet 2 inches (3708 mm) actual). Walls greater than 12 feet (3658 mm) in height shall be designed and detailed by the registered design professional to resist wind loads in both the longitudinal and transverse directions.

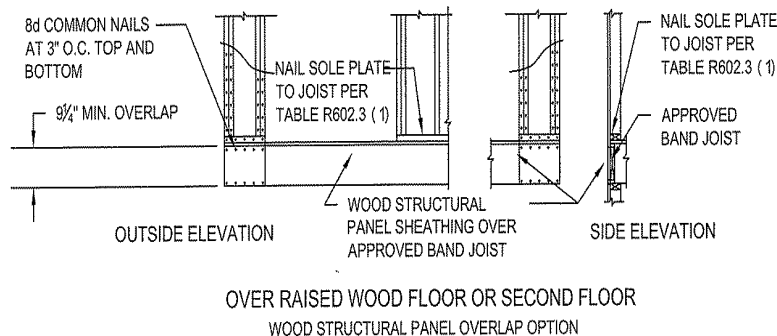
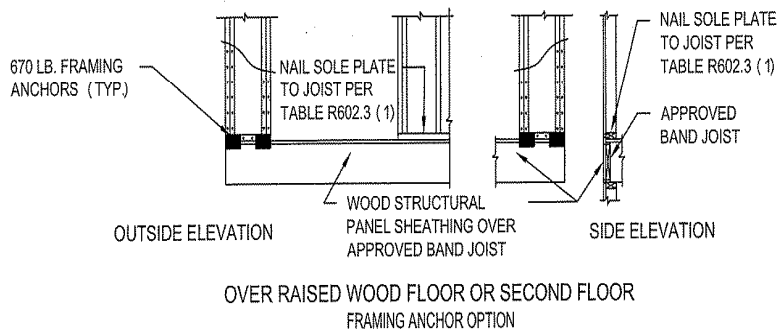
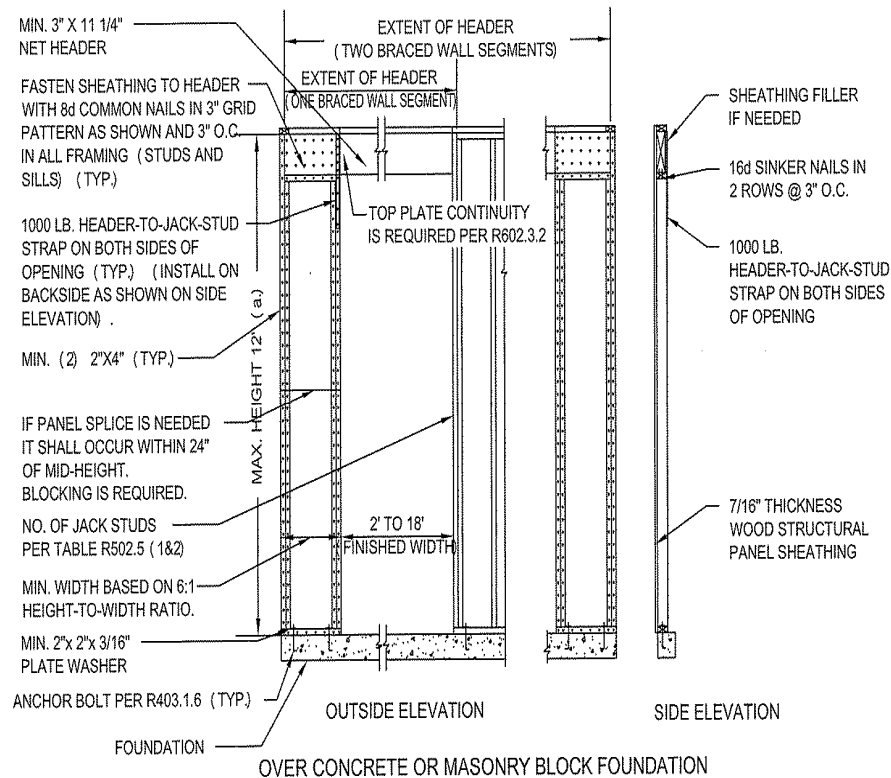
Section R612.2 Window sills. Delete

Section R612.3 Wind fall prevention devices. Delete

Section R612.4 Window opening limiting devices. Delete

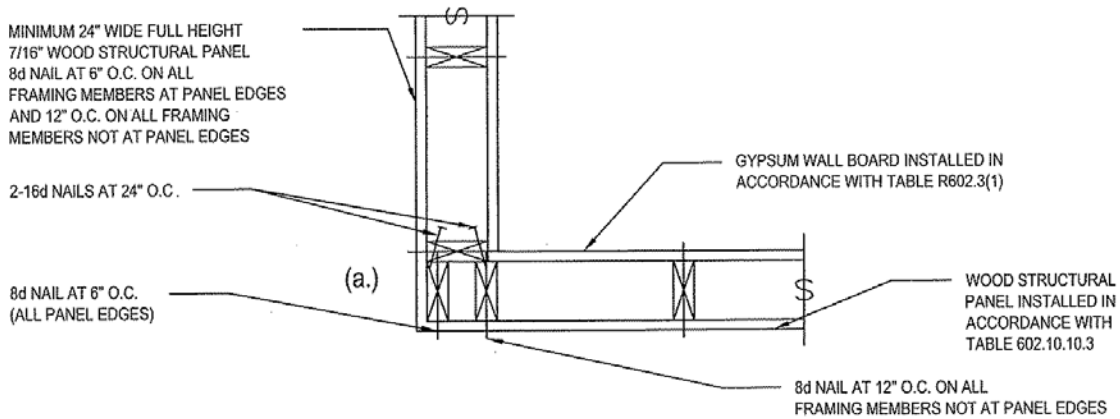
Section R612.4.1 General requirements. Delete

Section R612.4.2 Operation for emergency escape. Delete

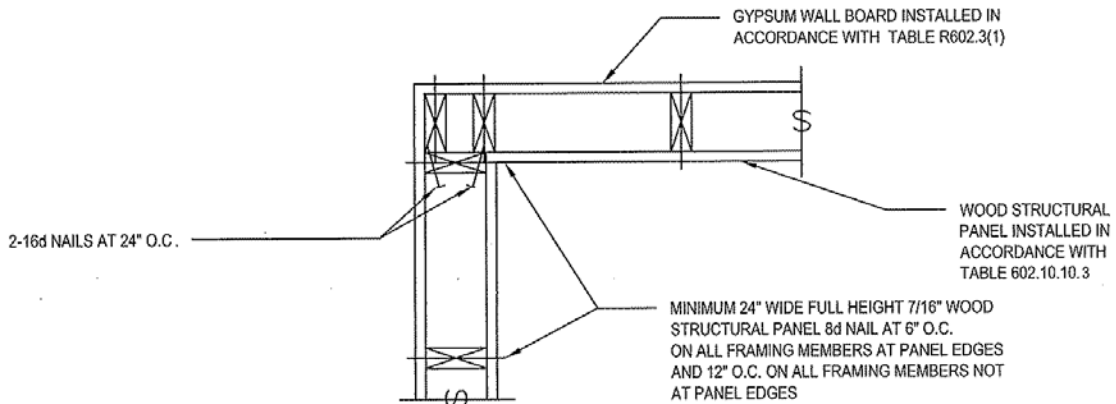


**FIGURE R602.10.10.3
 SIMPLIFIED PORTAL WALL**

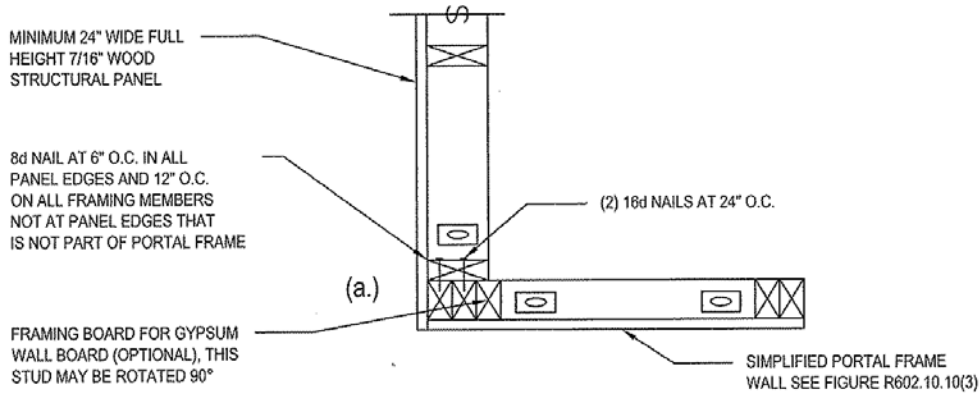
- a. CRIPPLE WALL FRAMING CONSISTING OF STUD FRAMING, SINGLE BOTTOM PLATE, AND DOUBLE TOP PLATE MAY BE ADDED TO THE TOP OF THE NARROW PORTAL WALL AS LONG AS THE COMBINED HEIGHT OF THE TWO WALLS IS LESS THAN OR EQUAL TO 12 FEET AND THE TWO WALLS ARE STRAPPED TOGETHER ON THE INTERIOR SIDE WITH A 16 GAUGE METAL 1 1/2 INCH WIDE BY 21 INCH LONG STRAP. A MINIMUM 10 INCHES OF THE STRAP SHALL BE CONNECTED TO EACH WALL OR GABLE TRUSS WITH 9 - 16D NAILS FOR A TOTAL OF 18-16D NAILS IN THE ENTIRE STRAP. STRAPS SHALL BE LOCATED AT EACH END OF THE CONNECTED WALLS OR WALL AND GABLE TRUSS WHERE SPACE ALLOWS FOR THE 10 INCH LENGTH OF STRAP. THE SPACING BETWEEN THE STRAPS MAY NOT EXCEED 4 FEET ON CENTER. THE STRAPS SHALL NOT BE BENT HORIZONTALLY TO ACCOMMODATE WOOD FRAMING. IF APPLICABLE, NAILERS SHALL BE ADDED TO ONE OF THE WALLS OR GABLE END USING A MINIMUM OF 9-16D NAILS TO CREATE THE VERTICAL PLANE NEEDED TO MOUNT THE STRAP.



OUTSIDE CORNER DETAIL



INSIDE CORNER DETAIL



CORNER DETAIL

USED IN CONJUNCTION WITH SIMPLIFIED PORTAL WALL

FIGURE R602.10.10.4
SIMPLIFIED BRACING EXTERIOR CORNER FRAMING

a. END STUD INDICATED ON THE ABOVE DETAILS MAY BE SHIFTED 7/16" TO ALLOW STUD FACE TO BE ALIGNED WITH SHEATHING, OR AN OPTIONAL NON-STRUCTURAL FILLER PANEL MAY BE USED.

1116.800 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 8 Roof-Ceiling Construction. The following provisions amend Chapter 8 Roof-Ceiling Construction in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

R802.10.1 Truss design drawings. Truss design drawings, prepared in compliance with Section R802.10.2, shall be submitted to the building official and approved prior to the issuance of the building permit. Truss design drawings shall include, at a minimum, the information specified below.

1. Slope or depth, span, and spacing.
2. Location of all joints.
3. Required bearing widths.
4. Design loads as applicable:
 - 4.1. Top chord live load;
 - 4.2. Top chord dead load;
 - 4.3. Bottom chord live load;
 - 4.4. Bottom chord dead load;
 - 4.5. Concentrated loads and their points of application; and
 - 4.6. Controlling wind and earthquake loads.
5. Adjustments to lumber and joint connector design values for conditions of use.
6. Each reaction force and direction.
7. Joint connector type and description, e.g., size, thickness or gauge, and the dimensioned location of each joint connector except where symmetrically located relative to the joint interface.
8. Lumber size, species and grade for each member.
9. Connection requirements for:
 - 9.1. Truss-to-girder-truss;
 - 9.2. Truss ply-to-ply; and
 - 9.3. Field splices.
10. Calculated deflection ratio and/or maximum description for live and total load.
11. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss drawing or on supplemental documents.
12. Required permanent truss member bracing location.

R802.10.2 Design. Wood trusses shall be designed in accordance with approved engineering practice. The design and manufacture of metal-plate-connected wood trusses shall comply with ANSI/TPI 1. The truss design drawings shall be prepared and sealed by a Missouri Registered Professional Engineer.

R802.10.2.1 Applicability limits. The provisions of this section shall control the design of truss roof framing when snow controls for buildings not greater than 60 feet (18 288 mm) in length perpendicular to the joist, rafter or truss span, not greater than 36 feet (10 973 mm) in width parallel to the joist, rafter or truss span, not greater than two stories in height with each story not greater than 10 feet (3048 mm) high, and roof slopes not smaller than 3:12 (25-percent slope) or greater than 12:12 (100-percent slope). Truss roof framing constructed in accordance with the provisions of this section shall be limited to sites subjected to a maximum design wind speed of 110 miles per hour (49 m/s), Exposure A, B or C, and a maximum ground snow load of 70 psf (3352 Pa). For consistent loading of all truss types, roof snow load is to be computed as: 0.7 p_g.

1116.900 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 9 Roof Assemblies. The following provisions amend Chapter 9 Roof Assemblies in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

R905.2.8.2 Valleys. Valley linings shall be installed in accordance with the manufacturer's installation instructions before applying shingles. Valley linings of the following types shall be permitted:

1. For open valleys (valley lining exposed) lined with metal, the valley lining shall be at least 24 inches (610 mm) wide and of any of the corrosion-resistant metals in Table R905.2.8.2.
2. For open valleys, valley lining of two plies of mineral surface roll roofing, complying with ASTM D 3909 or ASTM D 6380 Class M, shall be permitted. The bottom layer shall be 18 inches (457 mm) and the top layer a minimum of 36 inches (914 mm) wide.
3. For closed valleys (valley covered with shingles), valley lining of one ply of smooth roll roofing complying with ASTM D 6380, or two plies of smooth roll roofing complying with ASTM D 226 Type I, ASTM D 4869 Type I or ASTM D 6757 and at least 36 inches wide (914 mm) or valley lining as described in Item 1 or 2 above shall be permitted. Self-adhering polymer modified bitumen underlayment complying with ASTM D 1970 shall be permitted in lieu of the lining material.

R907.1 General. Materials and methods of application used for re-covering or replacing an existing roof covering shall comply with the requirements of Chapter 9. Structural calculations are required when the reroofing results in a 5 percent or more increase in force in any of the roof structure supporting elements, unless the increased force on the structural element is still in compliance with the code for new structures. The calculations shall include verification of the prevention of ponding instability.

Exception: Reroofing shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section R905 for roofs that provide positive roof drainage.

1116.1000 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 10 Chimneys and Fireplaces. The following provisions amend Chapter 10 Chimneys and Fireplaces in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

R1006.1.1 Factory-built fireplaces. Exterior combustion air ducts for factory-built fireplaces shall be a listed component of the fireplace or equivalent and shall be installed according to the fireplace manufacturer's instructions.

116.1100 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 11 Energy Efficiency. The following provisions amend Chapter 11 Energy Efficiency in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, subsection or clause number in the code is hereby enacted and added thereto.

Section N1101.9 Certificate. Delete

**TABLE N1102.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a**

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT ^b U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE ^k	FLOOR R-VALUE	BASEMENT ^c WALL R-VALUE	SLAB ^d R-VALUE AND DEPTH	CRAWL SPACE ^c WALL R-VALUE
1	1.2	0.75	0.35 ^l	30	13	3/4	13	0	0	0
2	0.65 ⁱ	0.75	0.35 ^l	30	13	4/6	13	0	0	0
3	0.50 ⁱ	0.65	0.35 ^{e, j}	30	13	5/8	19	13 ^l	0	5 ^m
4 except Marine	0.40	0.60	NR	30	13	5/10	19	13 ^l	10, 2 ft	5 ^m
5 and Marine 4	0.35	0.60	NR	38	20 or 13 + 5 ^h	13/17	30 ^g	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	20 or 13 + 5 ^h	15/19	30 ^g	10/13	10, 4 ft	10/13
7 and 8	0.35	0.60	NR	49	21	19/21	30 ^g	10/13	10, 4 ft	10/13

- a. R-values are minimums. U-factors and solar heat gain coefficient (SHGC) are maximums. R-19 batts compressed in to nominal 2 x 6 framing cavity such that the R-value is reduced by R-1 or more shall be marked with the compressed batt R-value in addition to the full thickness R-value.
- b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
- c. The first R-value applies to continuous insulation, the second to framing cavity insulation; either insulation meets the requirement.
- d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less, in zones 1 through 3 for heated slabs.
- e. There are no SHGC requirements in the Marine Zone.
- f. Basement wall insulation is not required in warm-humid locations as defined by Figure N1101.2 and Table N1101.2.
- g. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- h. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25% or less of the exterior, R-5 sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- i. For impact-rated fenestration complying with Section R301.2.1.2, the maximum U-factor shall be 0.75 in zone 2 and 0.65 in zone 3.
- j. For impact-resistant fenestration complying with Section R301.2.1.2 of the International Residential Code, the maximum SHGC shall be 0.40.
- k. The second R-value applies when more than half the insulation is on the interior.
- l. Unfinished basements may have a total of 20% of the total basement wall area exposed above the outside finished grade/ground level as un-insulated concrete foundation walls. The foundation wall area above the outside grade/ground level that may be un-insulated is determined by the formula 0.20 times the basement wall height of all walls (including insulated exterior frame walls for walkout basements and walls common to both basement and attached garages) times the perimeter of these basement walls. Exposed foundation wall area above the outside finished grade/ground level exceeding 20% of the total basement wall area shall be insulated with R-5 insulation. When required in unfinished areas, the basement foundation wall insulation shall extend down to the basement floor slab or to a minimum of 24 inches below the outside finished grade when the grade is above the floor slab elevation.
- m. Naturally vented crawl space wall R-value may be 0.

N1102.2.3 Access hatches and doors. Access doors from conditioned spaces to unconditioned spaces (e.g., attics and crawl spaces) shall be insulated to a level equivalent to the insulation on the surrounding surfaces. Access shall be provided to all equipment which prevents damaging or compressing the insulation. A wood framed or equivalent baffle or retainer is required to be provided when loose fill insulation is installed, the purpose of which is to prevent the loose fill insulation from spilling into the living space when the attic access is opened and to provide a permanent means of maintaining the installed R-value of the loose fill insulation.

N1102.4.1 Building thermal envelope. The building thermal envelope shall be durably sealed to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. The following shall be caulked, gasketed, weatherstripped or otherwise sealed with an air barrier material, suitable film or solid material.

1. Openings between window and door assemblies and their respective jambs and framing.
2. Utility penetrations.
3. Walls and ceilings separating the garage from conditioned spaces.
4. Behind tubs and showers on exterior walls.
5. Common walls between dwelling units.
6. Rim joists junction.
7. Other sources of infiltration.

Section N1102.4.2 Air sealing and insulation. Delete

Section N1102.4.2.1 Testing option. Delete

Section N1102.4.2.2 Visual inspection option. Delete

Section N1102.4.3 Fireplaces. Delete

N1103.2.1 Insulation. Supply ducts in attics shall be insulated to a minimum of R-4.

N1103.2.2 Sealing. Ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with Section M1601.4.

Exception: Duct sealing and tightness test is not required if the air handler and most ducts are located within conditioned space.

1116.1300 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 13 General Mechanical System Requirements. The following provisions amend Chapter 13 General Mechanical System Requirements in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

M1305.1.4.1 Ground clearance. Equipment and appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than 2 inches (50.8 mm) above the adjoining ground. Such support shall be in accordance with the manufacturer's installation

instructions. Appliances suspended from the floor shall have a clearance of not less than 6 inches (152 mm) from the ground.

1116.1400 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 14 Heating and Cooling Equipment. The following provisions amend Chapter 14 Heating and Cooling Equipment in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

M1401.3 Sizing. Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies. The design temperatures for St. Louis County shall be in accordance with Table M1401.3.

**TABLE M1401.3
DESIGN TEMPERATURES**

	Outdoor	Indoor
Winter	DB 2°F	DB 70°F
Summer	DB 95°F WB 76°F	DB 78°F

Section M1411.3.1.1 Water level monitoring devices. Delete

M1411.6 Tamper-resistant port caps. Refrigerant circuit access ports located outdoors shall be fitted with tamper-resistant caps.

1116.1500 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 15 Exhaust Systems. The following provisions amend Chapter 15 Exhaust Systems in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

M1502.4.4.1 Specified length. The maximum length of the exhaust duct shall be 35 feet (10668 mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.4.4.1.

Exception: The total developed length of dryer exhaust ducts may be up to a maximum of 55 feet (16764 mm) when cleanouts and signage are provided. Cleanouts shall be provided for every 15 feet (4572 mm) of length, within 12 inches (305 mm) of the second elbow and at every elbow thereafter. Permanent signage shall be provided to identify each cleanout location. Permanent signage shall also be provided at the dryer exhaust connection to inform occupants of the periodic inspection and cleaning requirements.

M1503.1 General. All kitchens shall be equipped with means of mechanical exhaust directly over, or adjacent to, a range or cook top. The mechanical exhaust system may be of the recirculating type or may exhaust directly to the outside. Recirculating systems shall be equipped with the appropriate filtration for grease removal and odor control and must be capable of operating in a moist environment. Either type of system shall be a listed exhaust system. With either type, the mechanical exhaust system shall be allowed to run on an intermittent basis. Exhaust systems shall be installed in accordance with Sections M1503, M1505 and M1507.3. Range hoods shall discharge to the outdoors through a single-wall duct. The duct serving the hood shall have a smooth interior surface, shall be air tight and shall be equipped with a backdraft damper. Ducts serving range hoods shall not terminate in an attic or crawl space or areas inside the building.

Exception: Where installed in accordance with the manufacturer's installation instructions, and where mechanical or natural ventilation is otherwise provided, listed and labeled ductless range hoods shall not be required to discharge to the outdoors.

M1503.4 Makeup air required. Exhaust hood systems capable of exhausting in excess of 600 cubic feet per minute (0.19 m³/s) shall be provided with makeup air at a rate approximately equal to the exhaust air rate. Such makeup air systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

1116.1600 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 16 Duct Systems. The following provisions amend Chapter 16 Duct Systems in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

**TABLE M1601.1.1(2)
GAGES OF METAL DUCTS AND PLENUMS USED FOR HEATING AND COOLING**

TYPE OF DUCT	SIZE (inches)	MINIMUM THICKNESS (inch)	EQUIVALENT GALVANIZED SHEET GAGE
Round ducts and enclosed rectangular ducts	14 or less	0.013	30
	over 14	0.016	28
Exposed rectangular ducts	14 or less	0.016	28
	over 14	0.019	26

1116.1800 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 18 Chimneys and Vents. The following provisions amend Chapter 18 Chimneys and Vents in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

M1801.1 Venting required. Fuel-burning appliances shall be vented to the outdoors in accordance with their listing and label and manufacturer's installation instructions except appliances listed and labeled for unvented use. Venting systems shall consist of approved chimneys or vents, or venting assemblies that are integral parts of labeled appliances. Gas-fired appliances shall be vented in accordance with Chapter 24.

Exception: Unvented appliances where the manufacturer's instructions require a window to be opened during operation of the appliance shall not be installed.

1116.2000 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 20 Boilers and Water Heaters. The following provisions amend Chapter 20 Boilers and Water Heaters in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

M2006.3 Temperature and pressure-limiting devices. Pool heaters shall have temperature and pressure-relief valves.

1116.2100 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 21 Hydronic Piping. The following provisions amend Chapter 21 Hydronic Piping in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code

section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

M2101.11 Joints between different piping materials. Joints between different materials shall be made with approved adapter fittings. Joints between different metallic piping materials shall be made with approved dielectric fittings or brass converter fittings.

1116.2400 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 24 Fuel Gas. The following provisions amend Chapter 24 Fuel Gas in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

G2408.4 (305.7) Clearances from grade. Equipment and appliances installed at grade level shall be supported on a level concrete slab or other approved material extending not less than 2 inches (50.8 mm) above adjoining grade or shall be suspended not less than 6 inches (152 mm) above adjoining grade. Such supports shall be installed in accordance with the manufacturer's installation instructions.

G2439.5.5.1 (614.6.5.1) Specified length. The maximum length of the exhaust duct shall be 35 feet (10 668 mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with Table G2439.5.5.1.

Exception: The length of the dryer exhaust shall be permitted to be in accordance with M1502.4.4.1.

1116.2500 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 25 Plumbing Administration. The following provisions amend Chapter 25 Plumbing Administration in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P2501.1 Scope. The International Plumbing Code regulates plumbing administration.

All other sections of Chapter 25 - Plumbing Administration in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.2600 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 26 General Plumbing Requirements. The following provisions amend Chapter 26 General Plumbing Requirements in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P2601.1 Scope. The International Plumbing Code regulates general plumbing requirements.

All other sections of Chapter 26 – General Plumbing Requirements in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.2700 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 27 Plumbing Fixtures. The following provisions amend Chapter 27 Plumbing Fixtures in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P2701.1 Scope. The International Plumbing Code regulates plumbing fixtures.

All other sections of Chapter 27 – Plumbing Fixtures in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted and not adopted as part of this code.

1116.2800 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 28 Water Heaters. The following provisions amend Chapter 28 Water Heaters in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P2801.1 Scope. The International Plumbing Code regulates water heaters.

All other sections of Chapter 28 – Water Heaters in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not made a part of this code.

1116.2900 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 29 Water Supply and Distribution. The following provisions amend Chapter 29 Water Supply and Distribution in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P2901.1 Scope. The International Plumbing Code regulates water supply and distribution.

All other sections of Chapter 29 – Water Supply and Distribution in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not made a part of this code.

1116.3000 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 30 Sanitary Drainage. The following provisions amend Chapter 30 Sanitary Drainage in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P3001.1 Scope. The International Plumbing Code regulates sanitary drainage.

All other sections of Chapter 30 – Sanitary Drainage in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3100 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 31 Vents. The following provisions amend Chapter 31 Vents in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P3101.1 Scope. The International Plumbing Code regulates plumbing vents.

All other sections of Chapter 31 – Vents in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3200 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 32 Traps. The following provisions amend Chapter 32 Traps in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P3201.1 Scope. The International Plumbing Code regulates plumbing traps.

All other sections of Chapter 32 – Traps in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3300 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 33 Storm Drainage. The following provisions amend Chapter 33 Storm Drainage in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

P3301.1 Scope. The International Plumbing Code regulates storm drainage.

All other sections of Chapter 33 – Storm Drainage in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3400 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 34 General Requirements (Electrical). The following provisions amend Chapter 34 General Requirements (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E3401.1 Scope. NFPA 70 regulates general requirements for electrical work.

All other sections of Chapter 34 – General Requirements (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3500 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 35 Electrical Definitions. The following provisions amend chapter 35 Electrical Definitions in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E3501.1 Scope. NFPA 70 regulates definitions applicable to electrical systems and inspection requirements.

All other sections of Chapter 35 – Electrical Definitions (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3600 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 36 Services (Electrical). The following provisions amend Chapter 36 Services (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E3601.1 Scope. NFPA 70 regulates electrical services.

All other sections of Chapter 36 – Services (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3700 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 37 Branch Circuit and Feeder Requirements (Electrical). The following provisions amend Chapter 37 Branch Circuit and Feeder Requirements (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E3701.1 Scope. NFPA 70 regulates electrical branch circuit and feeder requirements.

All other sections of Chapter 37 – Branch Circuit and Feeder Requirements (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3800 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 38 Wiring Methods (Electrical). The following provisions amend Chapter 38 Wiring Methods (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E3801.1 Scope. NFPA 70 regulates electrical wiring methods.

All other sections of Chapter 38 – Wiring Methods (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.3900 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 39 Power and Lighting Distribution (Electrical). The following provisions amend Chapter 39 Power and Lighting Distribution (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E3901.1 Scope. NFPA 70 electrical regulates power and lighting distribution.

All other sections of Chapter 39 – Power and Lighting Distribution (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.4000 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 40 Devices and Luminaries (Electrical). The following provisions amend Chapter 40 Devices and Luminaries (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E4001.1 Scope. NFPA 70 regulates electrical devices and luminaries.

All other sections of Chapter 40 – Devices and Luminaries (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.4100 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 41 Appliance Installation (Electrical). The following provisions amend Chapter 41 Appliance Installation (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E4101.1 Scope. NFPA 70 regulates electrical appliance installation.

All other sections of Chapter 41 – Appliance Installation (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.4200 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 42 Swimming Pools (Electrical). The following provisions amend Chapter 42 Swimming Pools (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E4201.1 Scope. NFPA 70 regulates electrical requirements for swimming pools.

All other sections of Chapter 42 – Swimming Pools (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.4300 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - CHAPTER 43 Class 2 Remote-Control, Signaling and Power-Limited Circuits (Electrical). The following provisions amend Chapter 43 Class 2 Remote-Control, Signaling and Power-Limited Circuits (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

E4301.1 Scope. NFPA 70 regulates electrical class 2 remote-control, signaling and power-limited circuits.

All other sections of Chapter 43 – Class 2 Remote-Control, Signaling and Power-Limited Circuits (Electrical) in the International Residential Code for One- and Two-Family Dwellings, 2009 edition are deleted in their entirety and not adopted as part of this code.

1116.4400 Amendments to the International Residential Code for One- and Two-Family Dwellings, 2009 edition - Chapter 44 – Referenced Standards. The following provisions amend Chapter 44 Referenced Standards in the International Residential Code for One- and Two-Family Dwellings, 2009 edition. Each code section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

ANSI - American National Standards Institute. Delete Referenced Standards as shown below. (Standards not deleted by this amendment and shown in the code as published are adopted without amendments)

ANSI	American National Standards Institute 25 West 43rd Street, Fourth Floor New York, NY 10036	
Standard reference number	Title	Referenced in code section number
[A118.10-99]	[Specification for Load Bearing, Bonded, Waterproof Membranes for Thin-set Ceramic Tile and Dimension Stone Installation]	[P2709.2]
[Z21.22-99 (R2003)]	[Relief Valves for Hot Water Supply Systems-with Addenda Z21.22a-2000 (R2003) and 21.22b-2001 (R2003)]	[P2803.2, P2803.7]
[Z124.1-95]	[Plastic Bathtub Units]	[Table P2701.1]
[Z124.2-95]	[Plastic Shower Receptors and Shower Stalls]	[Table P2701.1]
[Z124.3-95]	[Plastic Lavatories]	[Table P2701.1, P2711.1, P2711.2]
[Z124.4-96]	[Plastic Water Closet Bowls and Tanks]	[Table P2701.1, P2712.1]
[Z124.6-97]	[Plastic Sinks]	[Table P2701.1]

ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. - Amend Referenced Standards. Items shown in [brackets] are deleted.:

ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. 1791 Tullie Circle, NE Atlanta, GA 30329	
Standard reference number	Title	Referenced in code section number
34-2004	Designation and Safety Classification of Refrigerants	M1411.1
ASHRAE-2005	ASHRAE Fundamentals Handbook-2005	N1102.1.3, [P3001.2, P3101.4, P3103.2]

ASME - American Society of Mechanical Engineers. Delete all Referenced Standards except the following:

ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016-5990	
Standard reference number	Title	Referenced in code section number
A17.1/CSA B44-2007	Safety Code for Elevators and Escalators	R321.1
A18.1-2005	Safety Standard for Platforms and Stairway Chair Lifts	R321.2
B1.20.1- 1983 (R2003)	Pipe Threads, General Purpose (Inch)	G2414.9
B16.33-2002 (R2006)	Manually Operated Metallic Gas Valves for Use in Gas Piping Systems up to 125 psig (Sizes 1/2 through 2)	Table G2420.1.1
B16.44-02	Manually Operated Metallic Gas Valves For Use in Above-ground Piping Systems up to 5 psi	Table G2420.1.1
B36.10M-2004	Welded and Seamless Wrought-steel Pipe	G2414.4.2
BPVC-2004	ASME Boiler and Pressure Vessel Code	G2452.1, M2001.1.1
CSD-1-2004	Controls and Safety Devices for Automatically Fired Boilers	G2452.1, M2001.1.1

ASSE American Society of Sanitary Engineering
901 Canterbury, Suite A
Westlake, OH 44145

Delete all Referenced Standards.

ASTM - ASTM International. Amend Referenced Standards. Items shown in [brackets] are deleted. (Standards not deleted by this amendment and shown in the code as published are adopted without amendments.):

ASTM	ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428	
Standard reference number	Title	Referenced in code section number
A53/A53M-06a	Specification for Pipe, Steel, Black and Hot-dipped, Zinc-coated Welded and Seamless	G2414.4.2, Table M2101.1, [Table 2905.4, Table P2905.5, Table P3002.1(1)]
[A 74-06]	[Specification for Cast Iron Soil Pipe and Fittings]	[Table P3002.1(1), Table 3002.1(2), Table P3002.2, Table P3002.3, P3005.2.9 Table P3302.1]
[A 312/A 312M-06]	[Specification for Seamless and Welded Austenitic Stainless Steel Pipes]	[Table P2905.4, Table P2905.5, Table P2905.6, P2905.12.2]
[A 778-01]	[Specification for Welded Unannealed Austenitic Stainless Steel Tubular Products]	[Table P2904.4, Table P2905.5, Table P2905.6]
[A 888-07a]	[Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Application]	[Table P3002.1(1), Table P3002.1(2), Table P3002.2, Table 3002.3, P3005.2.9, Table P3302.1]
[B 32-04]	[Specification for Solder Metal]	[P3003.10.3, P3003.11.3]
B 42-02e01	Specification for Seamless Copper Pipe, Standard Sizes	Table M2101.1 [, Table P2905.4, Table P2905.5, Table P3002.1(1)]
B 43-98 (2004)	Specification for Seamless Red Brass Pipe, Standard Sizes	G2413.5.2, Table M2101.1 [, Table P2905.4, Table P3002.1(1)]

ASTM	ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428	
Standard reference number	Title	Referenced in code section number
B 75-02	Specification for Seamless Copper Tube	Table M2101.1 [, Table P2905.4, Table P2905.5, Table P3002.1(1), Table P3002.1(2), Table P3002.2]
B 88-03	Specification for Seamless Copper Water Tube	G2414.5.2, Table M2101.1 [, Table P2905.4, Table P2905.5, Table P3002.1(1), Table P3002.1(2), Table P3002.2]
B 251-02e01	Specification for General Requirements for Wrought Seamless Copper and Copper-alloy Tube	Table M2101.1 [, Table P2905.4, Table P2905.5, Table P3002.1(1), Table P3002.1(2), Table P3002.2]
B 302-02	Specification for Threadless Copper Pipe, Standard Sizes	Table M2101.1 [, Table P2905.4, P2905.5, Table P3002.1(1)]
B 306-02	Specification for Copper Drainage Tube (DWV)	Table M2101.1 [, Table P3002.1(1), Table P3002.1(2), Table P3002.2]
B 370-03	Specification for Copper Sheet and Strip for Building Construction	[Table P2701.1.] Table R905.2.8.2, Table R905.10.3(1)
[B 447-00]	[Specification for Welded Copper Tube]	[Table P2904.4, Table P2905.5]
B 813-00e01	Specification for Liquid and Paste Fluxes for Soldering Applications of Copper and Copper Alloy Tube	Table M2101.1 [, P2904.14, P3003.3.4, P3003.10.3, P3003.11.3]
[B 828-02]	[Practice for Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings]	[P2905.14, P3003.10.3, P3003.11.3]
[C 4-04e01]	[Specification for Clay Drain Tile and Perforated Clay Drain Tile]	[Table P3302.1]
[C 14-07]	[Specification for Concrete Sewer, Storm Drain, and Culvert Pipe]	[Table P3002.2]
[C 76-07]	Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe	[Table P3002.2]
[C 296-(2004e01)]	[Specification for Asbestos Cement Pressure Pipe]	[Table P2905.4]
[C 425-04]	[Specification for Compression Joints for Vitrified Clay Pipe and Fittings]	[Table P3002.2, P3003.15, P3003.18]
[C 428-97 (2006)]	[Specification for Asbestos-cement Nonpressure Sewer Pipe]	[Table P3002.2]
[C 443-05a]	[Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets]	[P3003.7, P3003.18]
[C 508-04]	Specification for Asbestos-cement Underdrain Pipe]	[Table P3302.1]
[C564-03a]	[Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings]	[P3003.6.2, P3003.6.3, P3003.18]
[C 700-07]	[Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated]	[Table P3002.2, Table P3002.3, Table P3302.1]
[C 1173-06]	[Specification for Flexible Transition Couplings for Underground Piping Systems]	[P3003.3, P3003.7, P3003.8.1, P3003.14.1, P3003.15, P3003.17.2, P3003.18]
[C 1277-06]	[Specification for Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings]	[P3003.6.3]
[C 1440-03]	[Specification for Thermoplastic Elastomeric (TPE) Gasket Materials for Drain, Waste and Vent (DWV), Sewer , Sanitary and Storm Plumbing Systems	[P3003.18]
[C 1460-04]	[Specification for Shielded Transition Couplings for Use with Dissimilar DWV Pipe and Fittings Above Ground]	[P3003.18]
[C 1461-06]	[Specification for Mechanical Couplings Using Thermoplastic Elastomeric (TPE) Gaskets for Joining Drain, Waste and Vent (DWV) Sewer, Sanitary and Storm Plumbing Systems for Above and Below Ground Use]	[P3003.18]
D 226-06	Specification for Asphalt-saturated (Organic Felt) Used in Roofing and Waterproofing	R703.2, R905.2.3, R905.2.8.2, R905.3.3, R905.4.3, R 905.5.3, R905.6.3, R905.7.3,

ASTM		ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428
Standard reference number	Title	Referenced in code section number
		R905.8.3, R905.8.4, Table 905.9.2
[D 1527-99(2005)]	[Specification for Acrylonitrile-butadiene-styrene (ABS) Plastic Pipe, Schedules 40 and 80]	[Table P2905.4]
[D 1785-06]	[Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120]	[Table P2905.4]
[D 1869-95(2005)]	[Specification for Rubber Rings for Asbestos-cement Pipe]	[P2904.17, P3003.4, P3003.18]
[D 2104-03]	[Specification for Polyethylene (PE) Plastic Pipe, Schedule 40]	[Table P2905.4]
[D 2235-04]	[Specification for Solvent Cement for Acrylonitrile-butadiene-styrene (ABS) Plastic Pipe and Fittings]	[P2905.9.1.1, P3003.2, P3003.8.2]
[D 2239-03]	[Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter]	[Table P2905.4]
[D 2241-05]	[Specification for Poly (Vinyl Chloride) (PVC) Pressure-rated Pipe (SDR-Series)]	[Table P2905.4]
[D 2282-05]	[Specification for Acrylonitrile-butadiene-styrene (ABS) Plastic Pipe (SDR-PR)]	[Table P2905.4]
[D 2464-06]	[Specification for Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80]	[Table P2905.6]
[D 2466-06]	[Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40]	[Table P2905.6]
[D 2467-06]	[Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80]	[Table P2905.6]
[D 2468-96a]	[Specification for Acrylonitrile-butadiene-styrene (ABS) Plastic Pipe Fittings, Schedule 40]	[Table P2905.6]
[D 2564-04e01]	[Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems]	[P2905.9.1.3, Table P3002.2, P3003.9.2, P3003.14.2]
[D 2609-02]	[Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe]	[Table P2905.6]
[D 2657-07]	[Standard Practice for Heat Fusion-joining of Polyolefin Pipe Fittings]	[P2905.3.1, P3003.17.1]
[D 2661-06]	[Specification for Acrylonitrile-butadiene-styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings]	[Table P3002.1(1), Table P3002.21(2), Table P3002.2, Table P3002.3, P3003.3.2, P3003.8.2]
[D 2665-07]	[Specification for Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings]	[Table P3002.1(1), Table P3002.1(2), Table P3002.2, Table P3002.3]
[D 2672-96a(2003)]	[Specification for Joints for IPS PVC Pipe Using Solvent Cement]	[Table P2905.4]
[D 2729-04e01]	[Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings]	[P3302.1, Table P3302.1, Table AO103.10]
[D 2737-03]	[Specification for Polyethylene (PE) Plastic Tubing]	[Table P2905.4]
[D 2751-05]	[Specification for Acrylonitrile-butadiene-styrene (ABS) Sewer Pipe and Fittings]	[Table P3002.2, Table P3002.3]
D 2846/D 2846M-06	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-water Distribution Systems	Table M2101.1, [Table P2904.9.1.2, Table P2905.4, P2905.5, Table P2905.6]
[D 2855-96 (2002)]	[Standard Practice for Making Solvent-cemented Joints with Poly (vinyl Chloride) (PVC) Pipe and Fittings]	[P3003.9.2, P3003.14.2]
[D 2949-01ae01]	[Specification for 3.25-in. Outside Diameter Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste and Vent Pipe and Fittings]	[Table P3002.1(1), Table P3002.1(2), Table P3002.2, Table P3002.3]
[D 3034-06]	[Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings]	[Table P3002.2, Table P3002.3]
[D 3212-96a (2003)e01]	[Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals]	[P3003.3.1, P3003.8.1, P3003.9.1, P3003.14.1, P3003.17.2]

ASTM	ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428	
Standard reference number	Title	Referenced in code section number
[D 3311-06a]	[Specification for Drain, Waste and Vent (DWV) Plastic Fittings Patters]	[P3002.3]
[D 4068-01]	[Specification for Chlorinated Polyethylene (CPE) Sheeting for Concealed Water Containment Membrane]	[P2709.2, P2709.2.2]
[D 4551-96 (2001)]	[Specification for Poly (Vinyl) Chloride (PVC) Plastic Flexible Concealed Water-containment Membrane]	[P2709.2, P2709.2.1]
D 4869-05e01	Specification for Asphalt-saturated (Organic Felt) Underlayment Used in Steep Slope Roofing	R905.2.3, R905.2.8.2, R905.4.3, R905.5.3, R905.6.3, R905.7.3, R905.8.3
D 6757-07	Standard Specification for Inorganic Underlayment for Use with Steep Slope Roofing Products	R905.2.3, R905.2.8.2
[F 405-05]	[Specification for Corrugated Polyethylene (PE) Tubing and Fittings]	[Table P3302.1, Table AO103.10]
[F 409-02]	[Specification for Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings]	[Table P2701.1, P2702.2, P2702.3]
[F 437-06]	[Specification for Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80]	[Table P2905.6]
[F 438-04]	[Specification for Socket-type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40]	[Table P2905.6]
[F 439-06]	[Specification for Socket-type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80]	[Table P2905.6]
[F 441/F 441M-02]	[Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80]	[Table P2905.4, Table P2905.5]
[F 442/F 442M-99(2005)]	[Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR)]	[Table P2905.4, Table P2905.5]
[F 477-07]	[Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe]	[P2905.17, P3003.18]
[F 493-04]	[Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings]	[P2905.9.1.2]
[F 628-06e01]	[Specification for Acrylonitrile-butadiene-styrene (ABS) Schedule 40 Plastic Drain, Waste and Vent Pipe with a Cellular Core]	[Table P3002.1(1), Table P3002.1(2), Table P3002.2, Table P3002.3, P3003.3.2, P3003.8.2]
[F 656-02]	[Specification for Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings]	[P2905.9.1.3, P3003.9.2, P3003.14.2]
[F714-06a]	[Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter]	[Table P3002.2]
F 876-00	Specification for Cross-linked Polyethylene (PEX) Tubing	Table M2101.1 [, Table P2905.4, Table P2906.5]
F 877-07	Specification for Cross-linked Polyethylene (PEX) Plastic Hot- and Cold-water Distribution Systems	Table M2101.1 [, Table P2905.4, Table P2905.5, Table P2905.6]
[F 891-04]	[Specification for Coextruded Poly (Vinyl Chloride) (PVC) Plastic Pipe with a Cellular Core]	[P2905.6, Table P3002.1(1), Table P3002.1(2), Table P3002.2, Table P3302.1]
F 1281-07	Specification for Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene (PEX-AL-PEX) Pressure Pipe	Table M2101.1 [, Table P2905.4, Table P2905.5, Table P2905.6, P2505.11.1]
F 1282-06	Specification for Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe	Table M2101.1 [, Table P2905.4, Table P2905.5, Table P2905.6, P2905.11.1]
[F 1412-01e01]	[Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage]	[Table P3002.1(2), Table P3002.2, Table P3002.3, P3003.16.1]
[F 1488-03]	[Specification for Coextruded Composite Pipe]	[Table P3002.1(1), Table P3002.1(2), Table P3002.2, Table AO103.10]
F 1807-07	Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9	Table M2101.1 [, Table P2905.6]

ASTM	ASTM International 100 Barr Harbor Drive West Conshohocken, PA 19428	
Standard reference number	Title	Referenced in code section number
	Cross-linked Polyethylene (PEX) Tubing	
[F 1866-07]	[Specification for Poly (Vinyl Chloride) (PVC) Plastic Schedule 40 Drainage and DWV Fabricated Fittings]	[Table P3002.3]
F 1960-07	Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) Tubing	Table M2101.1 [, Table P2905.6]
[F 1974-04]	[Specification for Metal Insert Fittings for Polyethylene/Aluminum/Polyethylene and Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene Composite Pressure Pipe]	[P2505.11.1, Table P2905.6]
[F 1986-01(2006)]	[Multilayer Piper Type 2, Compression Joints for Hot and Cold Drinking Water Systems]	[Table P2905.4, Table P2905.5, Table P2905.6]
[F 2080-05]	[Specification for Cold-expansion Fittings with Metal Compression-sleeves for Cross-linked Polyethylene (PEX) Pipe]	[P2905.6]
F 2098-04e1	Standard Specification for Stainless Steel Clamps for SDR9 PEX Tubing to Metal Insert Fittings	Table M2101.4 [, Table P2905.6]
[F 2159-05]	[Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing]	[P2905.6]
[F 2262-05]	[Standard Specification for Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene Tubing OD Controlled SDR9]	[Table P2905.4, Table P2905.5]
F 2389-06	Standard for Pressure-rated Polypropylene (PP) Piping Systems	Table M2101.1 [, Table P2905.4, Table 2905.5, Table P2905.6, P2905.10.1]
[F 2434-05]	[Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for Polyethylene/Aluminum/Cross-linked Polyethylene (PEX-AL-PEX) Tubing]	[Table P2905.6]

AWS American Welding Society
550 N. LeJuene Road
Miami, FL 33126

Delete all Referenced Standards.

AWWA American Water Works Association
6666 West Quincy Avenue
Denver, CO 80235

Delete all Referenced Standards.

CISPI Cast Iron Soil Pipe Institute
5959 Shallowford Road, Suite 419
Chattanooga, TN 37421

Delete all Referenced Standards.

CSA - Canadian Standards Association. Delete all Referenced Standards except the following:

CSA	Canadian Standards Association 5060 Spectrum Way Mississauga, Ontario, Canada L4N 5N6	
Standard reference number	Title	Referenced in code section number
CSA Requirement 3-	Manually Operated Gas Valves for Use in House Piping Systems	Table G2420.1.1

CSA	Canadian Standards Association 5060 Spectrum Way Mississauga, Ontario, Canada L4N 5N6	
Standard reference number	Title	Referenced in code section number
88		
CSA 8-93	Requirements for Gas Fired Log Lighters for Wood Burning Fireplaces – with Revisions through January 1999	G2433.1
O325-07	Construction Sheathing	R503.2.1
O437-Series-93	Standards on OSB and Waferboard (Reaffirmed 2006)	R503.2.1, R803.2.1
101/I.S.2/A440-08	Specifications for Windows, Doors and Unit Skylights	N1102.4.4, R308.6.9, R612.6
CAN/CSA B137.10M-02	Cross-linked Polyethylene/Aluminum/Polyethylene Composite Pressure Pipe Systems	Table M2101.1

GOVERNMENT OF ST. LOUIS COUNTY, MISSOURI. Add the following St. Louis County Codes, Ordinances and Standards:

GOVERNMENT OF ST. LOUIS COUNTY, MISSOURI		St. Louis County Department of Highways & Traffic and Public Works 41 S. Central Ave. St. Louis, MO 63105
Standard reference number	Title	Referenced in code section number
Electrical Code – Title XI Chapter 1102 SLCRO 1974, as amended	Electrical Code	E3401.1, E3501.1, E3601.1, E3701.1, E3801.1, E3901.1, E4001.1, E4101.1, E4201.1, E4301.1, R102.2.1, R107.3, R201.3, R202, AG101.3
Existing Building Code – Title XI Chapter 1117 SLCRO 1974 as amended	Existing Building Code	R101.2, R101.4, AG101.3
Plumbing Code – Chapter 1103 SLCRO 1974, as amended	Plumbing Code	G2402.3, P2501.1, P2601.1, P2701.1, P2801.1, P2901.1, P3001.1, P3101.1, P3201.1, P3301.1, R101.4, R102.2.1, R201.3, R202, Table R301.2(1), R306.6, R306.7, R322.1.7, R903.4.1, AG101.3
	Private Sewage Disposal Code See Plumbing Code	R322.1.7
Zoning Ordinance – Title X, Chapter 1003 SLCRO 1974 as amended	Zoning Ordinance	R102.2.2, R202, R301.2.4, R309.3, R322.1

ICC - International Code Council. Amend Referenced Standards. Items shown in [brackets] are deleted. (Standards not amended by this code amendment and shown in the code as published are adopted without amendments.):

ICC	International Code Council, Inc. 500 New Jersey Avenue, NW 6 th Floor Washington, DC 20001	
Standard reference number	Title	Referenced in code section number
IBC-09	International Building Code	G2402.3, R101.2, R101.4, R103.1, R104.1, R105.1, R107.1, R108.1, R109.1, R110.1, [R110.2], R111.1, R112.1, R113.1, R114.1, R115.1, R116.1, R117.1, R118.1, R201.3, R202, R301.1, R301.1.3, R301.2.2.1.1, R301.2.2.1.2, R301.2.2.4, R301.3, R308.5, R320.1, R321.3, R322.1, R403.1.8, R802.1.3.4, R905.10.3, AG101.3, Table AH107.4(1), AH107.4.3

ICC	International Code Council, Inc. 500 New Jersey Avenue, NW 6 th Floor Washington, DC 20001	
Standard reference number	Title	Referenced in code section number
IMC-09	International Mechanical Code®	G2402.3, R101.4, R102.2.1, R201.3, R202, AG101.3
[IPC-09]	[International Plumbing Code®]	[G2402.3, R301.2(1), R903.4.1, AO102.6]
IPMC-09	International Property Maintenance Code®	[R102.7,] R101.4, R102.6, R201.3
[IPSDC-09]	[International Private Sewage Disposal Code®]	[R322.1.7, A1101.1]

NFPA - National Fire Protection Association. Delete Referenced Standards as shown below. Items shown in [brackets] are deleted. (Standards not deleted by this amendment and shown in the code as published are adopted without amendments):

NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, MA 02269	
Standard reference number	Title	Referenced in code section number
[13D-07]	[Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes]	[P2904.1, P2904.2, P2904.6.1, R313.2.1]
[70-08]	[National Electrical Code]	[E3401.1, E3401.2, Table E4303.2, E4304.3, E4304.4]

NSF National Sanitation Foundation
789 Dixboro Road
Ann Arbor, MI 48105

Delete all Referenced Standards.

1116.4500 Adoption and Amendments to the International Residential Code for One- and Two Family Dwellings, 2009 edition, Appendix G Swimming Pools, Spas and Hot Tubs. Appendix G Swimming Pools, Spas and Hot Tubs in the International Residential Code for One- and Two-Family Dwellings, 2009 edition is adopted and amended by the following provisions. Each appendix section that corresponds to one of the following provisions is hereby deleted where so noted or amended to read as set forth below. Each appendix provision set out below without a corresponding section, sub-section or clause number in the code is hereby enacted and added thereto.

AG101.3 Applicability of referenced standards. The standards referenced in this appendix shall be considered part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between the provisions of the International Existing Building Code, International Building Code, International Mechanical Code, NFPA 70, International Plumbing Code and the referenced standards, the provisions of the codes adopted by St. Louis County shall apply.

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

AG105.2 Outdoor swimming pool. An outdoor swimming pool, including an in-ground, above-ground or on-ground pool, hot tub or spa shall be surrounded by a barrier which shall comply with the following:

1. The top of the barrier shall be at least 48 inches (1219 mm) above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches (51 mm) measured on the side of the barrier

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

2. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.
3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
4. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1¾ inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1¾ inches (44 mm) in width.
5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1¾ inches (44 mm) in width.
6. Maximum mesh size for chain link fences shall be a 2¼-inch (57 mm) square unless the fence has slats fastened at the top or the bottom which reduce the openings to not more than 1¾ inches (44 mm).
7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1¾ inches (44 mm).
8. Access gates shall comply with the requirements of Section AG105.2, Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the gate, the release mechanism and openings shall comply with the following:
 - 8.1. The release mechanism shall be located on the pool side of the gate at least 3 inches (76 mm) below the top of the gate; and
 - 8.2. The gate and barrier shall have no opening larger than ½ inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.
9. Where a wall of a dwelling serves as part of the barrier, one of the following conditions shall be met:
 - 9.1. The pool shall be equipped with a powered safety cover in compliance with ASTM F 1346; or
 - 9.2. Doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and/or its screen, if present, are opened. The alarm shall be listed and labeled in accordance with UL 2017. The deactivation switch(es) shall be located at least 54 inches (1372 mm) above the threshold of the door; or
 - 9.3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable as long as the degree of protection afforded is not less than the protection afforded by Item 9.1 or 9.2 described above.

10. Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then the ladder or steps shall be surrounded by a barrier which meets the requirements of Section AG105.2, Items 1 through 9.
11. There shall be a clear zone of at least 4 feet (1219 mm) between the barrier for or on a pool, spa, or hot tub and any permanent structures or pool equipment that can be used to climb the barrier.

SECTION 2. If any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional; such decision shall not affect the validity of the remaining portions of this ordinance. The St. Louis County Council hereby declares that it would have passed this ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

SECTION 3. Nothing in this ordinance or in the Codes hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 2 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

SECTION 4. The Administrative Director of the County Council is hereby ordered and directed to cause this ordinance to be published and kept available for public viewing.

SECTION 5. This ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect on the 1st day of the month following 90 calendar days from and after the date of its adoption by the County Council and approval by the County Executive.

ADOPTED: JUNE 29, 2010

BARBARA FRASER
CHAIR, COUNTY COUNCIL

APPROVED: JULY 13, 2010

CHARLIE A. DOOLEY
COUNTY EXECUTIVE

ATTEST: GENEVIEVE M. FRANK
ADMINISTRATIVE DIRECTOR

APPROVED AS TO LEGAL FORM:

Patricia Redington
COUNTY COUNSELOR