

407 -2011

# CERTIFIED COPY OF ORDER

STATE OF MISSOURI }  
County of Boone } ea.

October Session of the October Adjourned

Term. 20 11

In the County Commission of said county, on the 3<sup>rd</sup> day of October 20 11

the following, among other proceedings, were had, viz:

Now on this day the County Commission of the County of Boone does hereby adopt the Boone County Building Code, including: the International Building Code/2009; the International Residential Code/2009; the International Plumbing Code/2009; the International Mechanical Code/2009; the International Fuel Gas Code/2009; and, the National Electric Code/2008.

All codes are adopted as amended, including appendixes and referenced standards, as recommended by the Boone County Building Code Commission. All previous versions of the Boone County Building Code are considered to be repealed on the effective date of the code.

This order to take effect October 15, 2011.

Done this 3<sup>rd</sup> day of October, 2011.

ATTEST:

Wendy S. Noren  
Wendy S. Noren  
Clerk of the County Commission

Karen M. Miller  
Karen M. Miller  
District I Commissioner  
Skip Elkin  
Skip Elkin  
District II Commissioner  
Acting Presiding Commissioner

**2009 INTERNATIONAL CODES  
2008 ELECTRICAL CODE**

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**INTERNATIONAL BUILDING CODE 2009**

**COMMISSION ORDER NUMBER 407-2011**

Effective date: October 15, 2011

A COMMISSION ORDER ADOPTING AND GOVERNING THE DESIGN, CONSTRUCTION, ALTERATION, ENLARGEMENT, EQUIPMENT REPAIR, DEMOLITION, REMOVAL, CONVERSION, USE OR MAINTENANCE OF ALL BUILDINGS AND STRUCTURES; AND FURTHER PROVIDING FOR THE ISSUE OF SAID PERMITS, COLLECTING OF FEES, MAKING OF INSPECTIONS, AND PROVIDING PENALTIES FOR THE VIOLATION THEREOF.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

**SECTION 1. ADOPTION OF THE BUILDING CODE: ADDITIONS, INSERTIONS, DELETIONS AND CHANGES.**

Commission Order Number 407-2011, known as the "Building Code of Boone County, Missouri", that a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Resource Management and are being marked and designated as "The International Building Code – 2009 Edition", as published by the International Code Council, be and is hereby adopted as the Building Code of Boone County, Missouri for the control of buildings and structures as provided herein; and each and all of the regulations, provisions, penalties, conditions and terms of "The International Building Code – 2009 Edition", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

**SECTION 2. JURISDICTIONAL TITLE.**

0.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

0.1.1 Wherever "Department of Building Safety" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

0.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

0.2.1 Farm structure exemption: The provisions of this Code shall not be exercised so as to impose regulations or to require permits with respect to the erection, maintenance, repair, alteration or extension of farm buildings or farm structures further than seventy-five feet ( 75') from a dwelling provided that such buildings or structures are located on tracts of 20 acres or more and such buildings or structures are used exclusively for agricultural purposes. Farm dwellings shall conform to the provisions of this code as herein provided.

0.2.2 Manufactured home exemption: Manufactured homes, recreational vehicles or modular units which carry a seal as provided in Section 700.010 to 700.115 RSMo. shall be exempt from these provisions, provided that no alteration of the unit takes place once it has been placed upon a tract of land.

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0.2.3 Portable building exemption: Portable buildings as defined by Section 202.0 shall be exempt from these provisions. Portable buildings must comply with all setback requirements found in the zoning regulations. Portable buildings used to house hazardous materials (paint, gasoline, etc.) must be placed at least 10 feet from any property line and have a door that can be secured by a lock.

### SECTION 3. AMENDMENTS TO THE INTERNATIONAL BUILDING CODE - 2009.

The International Building Code - 2009 is amended by additions, deletions and changes including the changing of Articles, Sections, Sub-section titles and the addition of new sections and new sub-sections as follows:

SECTION 101.2 Exception 2: Existing buildings undergoing repair, alterations, or additions and change of occupancy shall be permitted to comply with the requirements of Chapter 34.

Section 101.4.3 Plumbing. Change last sentence to: The provisions of the Columbia/Boone County Health Department, the Boone County Regional Sewer District or the Missouri Department of Natural Resources shall apply to the disposal and/or treatment of sewage originating from any building constructed according to this code.

SECTION 101.4.4 Property maintenance. Delete

SECTION 103 DEPARTMENT OF BUILDING SAFETY. Delete.

### SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

SECTION 104.6 Right of entry: The code official shall have the authority to enter at any reasonable time any structure or premises for which a permit has been issued but has not received a certificate of occupancy in accordance with Section 110.0 and 111.0. Permit holders are required to provide means of access to all parts of structures subject to inspection, including the provision of ladders where required.

For all other structures or premises, when the code official has reasonable cause to believe that a code violation exists, the code official is authorized to enter the structure or premises at reasonable times to inspect subject to constitutional restrictions on unreasonable searches and seizures. If entry is refused or not obtained, the code official is authorized to pursue recourse as provided by law.

104.7 Department records: An official record shall be kept of all business and activities of the department specified in the provisions of this code, and all such records shall be open to public inspection at all appropriate times and according to reasonable rules to maintain the integrity and security of such records.

SECTION 106.1 Submitted documents: Construction documents, special inspection and structural observation programs, and other data shall be submitted in two or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the Chapter 327 RSMo. The construction documents shall be drawn to scale with sufficient clarity and detail dimensions to show the nature and character of the work to be performed including general construction, special inspections, construction observation programs, structural, mechanical and electrical work and calculations. Each sheet of each set of plans, each set of specifications, calculations and other data shall be legally sealed by a registered design professions as required by Chapter 327 RSMo. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

Buildings or structures exempt from these requirements are:

- (a) One-family dwellings.
- (b) Two-family dwellings.
- (c) A commercial or industrial building or structure buildings having less than 1200 square feet of floor area which provides for the employment, assembly, housing, sleeping or feeding of less than ten (10) persons.
- (d) Any one structure containing less than twenty thousand (20,000) cubic feet, except as provided in (b) and (c) above, and which is not a part or a portion of a project which contains more than one structure.

107.2.5 Site plan: There shall also be a site plan showing to scale the size and location of all new construction and all existing structures on the site; distances from lot lines; the established street grades and the proposed finished grades. It shall be drawn in accordance with an accurate boundary line survey and certifying as to the date the survey was made. In the case of demolition the site plan shall show all construction to be demolished and the location and size of all existing structures and construction that are to remain on the site or plot.

Add:

SECTION 105.8 Compliance with other Regulatory Agency Fire and Life Safety Codes: No permit shall be issued unless the plans and specifications or other required documentation for permit issuance has been approved by other Boone County regulatory agencies having jurisdiction for compliance with applicable fire and life safety codes. These provisions shall not apply to one and two family dwellings or residences.

Add:

SECTION 105.9 Compliance with other Regulatory Agency Fire and Life Safety Codes: No final inspection or periodic inspection made at the conclusion of a building phase shall be passed or approved unless similar inspections for compliance with applicable fire and life safety codes have been made and approved or passed by other Boone County regulatory agencies having jurisdiction. These provisions shall not apply to one and two family dwellings or residences.

SECTION 109.6 Delete in its entirety. Add: Refunds: In the case of a revocation of a permit or abandonment or discontinuance of a building project, the portion of the work actually completed shall be computed and any excess fee for the incomplete work shall be returned to the permit holder upon written request. All plan examination and permit processing fees and all penalties that have been imposed on

## 2009 International Building Code

the permit holder under the requirements of this code shall first be collected. The code official shall authorize the refunding of fees according to Boone County policies under the following additional circumstances:

1. The full amount of any fee paid hereunder which was erroneously paid or collected.
2. When no work has been done, the permit fee, less a processing fee of \$20.00 may be refunded to the original permittee.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the fee was paid.

Add:

SECTION 113.4 Court review: Any party before the board of appeals who is aggrieved by a decision of the board of appeals may seek redress or relief before the court of competent jurisdiction as permitted by law.

SECTION 114.4 Delete in its entirety. Insert: Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a building or structure in violation of an approved plan or directive of the building official or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

SECTION 115.3 Delete in its entirety. Insert: Unlawful continuance: Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe conditions, shall be guilty of a misdemeanor, punishable as provided by law.

SECTION 116 Delete in its entirety.

SECTION 202.0 Add:

Portable building - a structure constructed off-site and transported to the property by means of a truck or trailer; or one built from a pre-manufactured kit and placed on skids. Portable buildings may enclose no more than 160 sq. ft. of floor space, do not have interior finish, electrical service or plumbing fixtures. Portable buildings must comply with all setback requirements found in the zoning regulations. Portable buildings used to house hazardous materials (paint, gasoline, etc.) must be placed at least 10 feet from any property line and have a door that can be secured by a lock.

SECTION 903.2.1.2 Change Item 2. The fire area has an occupant load of 200 or more; or

SECTION 903.2.7 Group M: Delete item 4 in its entirety.

SECTION 915.1 General: Emergency Responder radio coverage shall be provided in all new high rise buildings, and other buildings specifically required by the authority having jurisdiction based on known substantiated problems associated with radio coverage, in accordance with section 510 of the International Fire Code.

1301.1.2: Use group R-2, R-3 and R-4 shall comply with this section or the requirements of International Energy Conservation Code. All buildings of Use Group R-2, R-3 and R-4 shall be insulated in accordance with the following:

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- Ceiling or roof -- R-38
- exterior wall-- R-15 for the assembly
- floor above unheated area or crawl space and ducts in ventilated attic or crawl space – R-19
- Walls separating one and two family dwellings from garage areas, walls facing ventilated attic spaces and finished exterior basement walls – R-13.
- Ducts in unheated area not exposed to outside ventilation – R-4.
  
- Joints in the building conditioned envelope that are sources of air leakage, such as around window and door frames, between wall cavities and window or door frames, between wall assemblies or their sill plates and foundations, between utility service penetrations through the building envelope, shall be properly sealed with compatible and durable caulking, gasketing, weather stripping or other materials in an approved manner. All exterior walls shall have a vapor retarder capable of reducing vapor transmission to less than 1 perm, installed on the inside or the warm surface side of the insulated wall or ceiling. Only those ceilings that are attached directly to the underside of the roof rafters, such as flat roofs or cathedral ceilings are required to install the vapor retarder. All windows shall have a maximum Thermal Transmittance (U) value of 0.55.

1604.1 General: Add the following to this paragraph: the following standard structural design criteria are established:

1. Roof Live Load, Minimum Unreduced = 20psf.
2. Snow Load (Ground Snow Load)  $P_g = 20$  psf.
3. Wind Loading (Basic wind speed (3 second gust)  $V = 90$  mph.
4. Seismic Loading;
  - a. Site Class D, default site class per 1613.5.2
  - b. Mapped Spectral response accelerations.
    - (1)  $S_s = 0.213$
    - (2)  $S_1 = 0.093$

1801.2 Design Basis: Add the following to this paragraph: The following standard design criteria are established:

1. Foundation Frost Depth, Minimum – 30” (refer to 1809.5.1).
2. Presumptive net allowable foundation bearing pressure = 1500 psf (refer to 1803.1 and 1806.2). Note that section 1803.5.11 and section 1803.5.12 requires a geological investigation if the structure has a seismic design category of C, D, E or F.

1808.6.2 Slab-on-ground foundations: Add: Exception: Slab-on-ground systems that have performed adequately in soil conditions similar to those encountered at the building site are permitted subject to the approval of the building official.

### 1811 Retaining Walls

1811.1 In addition to the other requirements as stated in this code the following provisions shall apply to retaining walls.

1811.2.1 Retaining Wall – Plan review and construction inspections process. Integral to the building foundation. The building code defines a retaining wall as a wall not laterally supported at the top that resists lateral soils load and other imposed loads. Retaining walls that are integral to the building

foundation must be approved by the Resource Management Department prior to the issuance of a building permit.

1811.2.2 Retaining Wall – less than four (4) feet in height measured from the bottom of the footing to the top of the wall. Detailed plans are not required. However, site plans at a minimum should indicate top and bottom of wall elevations, existing and proposed contours, drainage features, buildings and property lines, public easements, parking facilities and streets. Furthermore, the county retains the right to require additional design information regarding tiered retaining walls if there is a concern that the upper wall may impose a surcharge condition on the lower wall. These items will be required prior to the issuance of a building permit.

1811.2.3 Retaining Wall – Greater than four (4) feet in height. Detailed plans and calculations are required to be submitted to Resource Management Department. However, only the items mentioned above must be submitted prior to the issuance of a building permit. The following additional items must be submitted prior to the beginning of wall construction:

1. A typical section showing wall and footing dimensions, backfill slopes, steel / geotextile reinforcement details, weep hole locations and subsurface drainage systems.
2. Engineering calculations for the design of the wall, noting all assumptions such as concrete and steel reinforcement strengths, soil parameters, surcharges, bearing pressures, safety factors for bearing capacity, overturning, sliding external and internal stability and deep – seated shear failure.
3. Construction plans should specify the type of backfill to be used and any soil testing requirements if not granular. A geotechnical investigation and report is recommended but not required.

1811.2.4 Failure to submit the above information prior to the beginning of the way construction may result in the issuance of a stop work order by the Resource Management Department until such time the retaining wall design is reviewed and approved.

1811.2.5 First time submittals for plan review can take up to two (2) weeks for review. Additional submittals have a turn around time of one (1) week. The contractor should plan submittals accordingly to avoid unnecessary delays in construction.

1811.2.6 All plans, profiles, cross-sections and calculations must be prepared and sealed by a registered professional engineer licensed in the State of Missouri. The professional engineer is responsible for all aspects of the retaining wall design. The use of standard drawings from reputable manufacturer is allowable and even encouraged, but the professional engineer who seals the drawings and computations is responsible for the retaining wall design. In the absence of sufficient geotechnical information, the engineer shall be responsible for any design assumptions. Approval of the necessary plans and calculations will not transfer or share responsibility of the retaining wall design to the County of Boone.

1811.3 Following construction the engineer must submit a “certificate of conformance” indicating that the backfill and foundation material used met the requirements of the original design. This certificate must be signed and sealed by registered professional engineer license in the State of Missouri and, at a minimum, indicate the wall was inspected at the following specific milestones:

1811.3.1 For Concrete Walls

1. Footings prior to the pouring with reinforcement in place.



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2. Walls prior to pouring with reinforcement in place.
3. At the beginning of the backfill operation.
4. Following completion of the wall.

### 1811.3.2 For Modular Walls

1. Footings or bearing pads.
2. During backfill operation and for the first layer of soil reinforcement.
3. Following completion of the wall.

1811.3.3 The county retains the right to request additional special inspections for items such as: vicinity to public streets or permanent residences, excessive wall heights or potential for groundwater or surface run-off problems.

1811.4 Additional information. Retaining walls shall be designed to ensure stability against overturning, sliding, excessive foundation pressure and water uplift. Retaining walls shall be designed for a safety factor of 1.5 (Note: If the backfill or underlying soil is clay or clayey silt, the safety factor should be increased to 2.0) against lateral sliding and overturning and a bearing capacity of 3.0.

Retaining walls with grade difference in excess of thirty (30) inches are required to have a fence or guardrail protecting the public from injury. The fence or guardrail must be a minimum of thirty-six (36) inches in height in residential applications and forty-two (42) inches in commercial applications. The vertical balusters and bottom rail must be situated so that a four (4) inch sphere cannot pass between any portions of the fence. Horizontal balusters will not be permitted.

1811.5 The property owner (or the property owner's representative) must ensure that the retaining wall is properly designed and constructed. The property owner is responsible for maintenance and repairs of all retaining walls on the property. Developers are not allowed to construct retaining walls of any size within the public right-of-way without prior review and approval of the Resource management Department.

1811.6 All retaining walls must be installed, inspected and issued a certificate of conformance prior to the occupancy being issued or approved by the building official. The building official retains the right to waive this requirement under special circumstance.

3109.4 Residential swimming pools: Delete exception.

3109.4 Residential swimming pools. Residential swimming pools shall comply with Sections 3109.4.1 through 3109.5. Residential swimming pools shall be enclosed by a barrier consisting of metal chain link fence, wood, stone or masonry or other material approved by the building official. All swimming pool excavation sites are required to be enclosed by a temporary construction barrier during installation. A permanent barrier shall be installed upon completion of the pool structure.

**INTERNATIONAL RESIDENTIAL CODE 2009**

**COMMISSION ORDER NUMBER 407-2011**

Effective date: October 15, 2011

A COMMISSION ORDER ADOPTING AND GOVERNING THE FABRICATION, ERECTION, CONSTRUCTION, ENLARGEMENT, ALTERATION, REPAIR, LOCATION AND USE OF ONE AND TWO FAMILY DWELLINGS, THEIR APPURTENANCES AND ACCESSORY STRUCTURES IN THE JURISDICTION OF BOONE COUNTY, MISSOURI: AND PROVIDING FOR THE ISSUANCE OF PERMITS THEREFORE PROVIDING PENALTIES FOR THE VIOLATION THEREOF, AND REPEALING ALL ORDINANCES AND PARTS OF ORDINANCES IN CONFLICT THEREWITH.

Be it ordained by the Boone County Commission of the jurisdiction of Boone County, Missouri as follows:

**SECTION 1. ADOPTION OF THE INTERNATIONAL RESIDENTIAL CODE FOR ONE AND TWO FAMILY DWELLINGS: ADDITIONS, INSERTIONS, DELETIONS AND CHANGES.**

That a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Planning and Building Inspection and are being marked and designated as "International Residential Code For One and Two Family Dwellings – 2009", as published by the International Code Council, is hereby adopted as the Residential Building Code of Boone County, Missouri for the control of residential structures as provided herein; and each and all of the regulations, provisions, penalties, conditions and terms of "International Residential Code For One and Two Family Dwellings – 2009", are hereby referred to, adopted and made part hereof, including all listed appendices, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

The following sections of the International Residential Code for One- and Two-Family Dwellings of 2009 are hereby repealed, amended or modified as follows:

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

100.1.1 Wherever "Department of Building Inspection" appears in this code, it shall read "Resource Management Department of Boone County, Missouri".

100.1.2 Wherever "Chief Appointing Authority of the jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

**R101.1 Title:** These provisions shall be known as the “Residential Code for One- and Two-Family Dwellings of *The County of Boone*” and shall be cited as such and will be referred to herein 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 and removal of detached one and two family dwellings and multiple single

## 2009 International Residential Code

family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures.

Note: the provisions of this code do not apply to agricultural buildings or structures. Where the construction of agricultural buildings or structures requires a building permit, such structures shall be designed and built in accordance with the provisions of the International Building Code or other standards approved by the Building Official.

SECTION R103 DEPARTMENT OF BUILDING SAFETY. Delete.

### SECTION R 103 RESOURCE MANAGEMENT DEPARTMENT

R103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

R103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

R103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

R104.10.1 Areas prone to flooding. The building official shall not grant modifications to any provisions related to areas prone to flooding as established by Table R301.2 (1) without the granting of a variance to such provisions by the Zoning Board of Adjustment.

R105.2(1) One story detached accessory structures, provided the floor area does not exceed 160 square feet. Such buildings must comply with all setback requirements found in the zoning regulations. Such buildings used to house hazardous materials (paint, gasoline, etc.) must be placed at least 10 feet from any property line and have a door that can be secured by a lock.

R105.2 No.2. Fences not over twelve (12) feet high.

R106.1 Submittal documents. Construction documents, special inspection and structural observation programs, and other data may be required to be submitted in one or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

R112.2.1 Determination of substantial improvements in areas prone to flood: (Delete)

R112.2.2 Criteria for issuance of a variance for areas prone to flooding: (Delete)

R112.3 Qualifications: (Delete)

## 2009 International Residential Code

R113.4 Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair a building or structure in violation of an approved plan or directive of the building official or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

### R202 DEFINITIONS

#### ACCESSORY STRUCTURE (Delete)

Add: ACCESSORY STRUCTURE. A structure not greater than three thousand (3,000) square feet and not more than three (3) stories or exceeding twenty-four (24) feet in height with separate means of egress, and shall not exceed the height of the main structure, the use of which is incidental to that of the main building and which is located on the same lot.

Attic, Habitable. Add: 4. The occupiable space is provided with an egress door in accordance with Section R311.2 or by a ramp in accordance with Section R311.8 or a stairway in accordance with Section R311.7.

Table R301.2(1) – The following values shall be inserted into Table R301.2(1):

Ground Snow Load – 20 lbs/sq. ft.

Wind Speed – 90

Topographic Effects - No

Seismic Design Category – B

Weathering – Yes; Severe;

Frost Line Depth – Yes; 30 inches

Termite – Moderate to Heavy

Decay - Slight to Moderate

Winter Design Temperature - + 4° Fahrenheit

Ice Barrier Underlayment Required – No

Flood Hazards – 6/2/1983 – date of original adoption of flood regulations

3/17/2011 – date of Flood Insurance Rate Map

Air Freezing Index – 0 to 1000

Mean Annual Temperature – 55° Fahrenheit

R301.9 Sediment control: all sites are subject to providing on-site sediment control structures to minimize to the maximum extent practical the erosion of soil from the building site. Acceptable practices include, but are not limited to use of silt fences, straw bales and rock check dams. Failure to provide and maintain such sediment control devices could result in inspections being withheld, issuance of a stop work order or even revocation of the building permit.

R302.1 Exterior walls: Add exception #6: a detached accessory garage or shed located not less than three (3) feet from any side lot line.

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

R302.6 Dwelling/garage separation: Replace one-half (1/2) inch gypsum board with five-eighth (5/8) inch gypsum board in referenced Table R302.6 Dwelling /garage fire separation. Add last sentence to paragraph of R302.6: The garage shall be completely separated from the residence and its attic area by means of five-eighth (5/8) inch gypsum board or equivalent applied to the garage side.

R307.3 Water closet: All water closets shall be spaced at least fifteen (15) inches from the centerline of the fixture to any wall or plumbing fixture, except the centerline of the water closet may be spaced twelve (12) inches if located next to a bathtub.

R311.7.4.1 Riser Height. Change the first sentence to read: The maximum riser height shall be seven and seven-eighth (7 7/8) inches (200 mm). The rest of the paragraph remains as stated.

R313 Delete in its entirety: Add: Automatic Fire Sprinkler Systems: A builder of a single-family dwelling or residences or multi-unit dwelling 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 an automatic fire sprinkler system in the dwelling, residence or unit. Notwithstanding any provision of law to the contrary, no purchaser of such a single-family dwelling, residence, or multi-unit dwelling shall be denied the right to choose or decline to install an automatic fire sprinkler system in such dwelling or residence being purchased by any code, ordinance, rule, regulations, order or resolution by any county or other political subdivision. Any county or other political subdivision shall provide in any such code, ordinance, rule, regulations order or resolution the mandatory option for purchasers to have the right to choose and the requirement that the builders offer to purchasers the option to purchase an automatic fire sprinkler system in connection with the purchase of any single-family dwelling, residence, or multi-unit dwelling of four or fewer units.

R314.4 Delete in its entirety: Add: Power source: In new construction, required smoke detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source. In addition to the required primary power source, required smoke detectors shall receive power from a battery when the primary power source is interrupted. Smoke detectors may be battery operated when installed in existing buildings, or in buildings without commercial power, or in buildings which undergo alterations, repairs or additions as regulated by Section R314.3.1.

R315.2 Where required in existing dwellings. Change to: Where work requiring a permit occurs inside an existing dwelling that has an attached garage or inside an existing dwelling within which fuel-fired appliances exist, a carbon monoxide alarm shall be provided in the immediate vicinity of the bedrooms.  
R322 Flood Resistant Construction. Delete in its entirety. All construction must comply with the Boone County Zoning Regulations – Section 22 Floodplain Management.

Table R401.4.1 PRESUMPTIVE LOAD-BEARING VALUES OF FOUNDATION MATERIALS:  
Load-Bearing pressure (pounds per square foot) column, change value for clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH) from 1,500 to 2,000 leaving footnote b.

Figure R403.1(1) Concrete and Masonry foundation details: A monolithic slab with integral footing shall have the following: a #4 reinforcement bar spaced a minimum of forty-eight (48) inches on centers to provide connection of footing to slab. The vertical rods shall extend to within four (4) inches of the bottom of the footing and be turned to provide a horizontal leg that extends a minimum of twelve (12) inches into the slab.

## 2009 International Residential Code

R403.1.8 Foundations on expansive soils: Foundation and floor slabs for buildings located on expansive soils shall be designed in accordance with Section 1808.6 of the International Building Code. The rest of the section remains as stated.

R404.1 Concrete and masonry foundation walls. Add additional paragraph: Drawings showing options labeled as alternative 1.1 through 4 are intended to be alternative methods to comply with the 2009 International Residential Code Section R404.1.2 Concrete foundation walls and subsections for connection of foundation to floor; and option labeled as drawing 4 is intended to be in compliance with 2009 International Residential Code Section R404.1.2 Concrete foundation walls and subsections for reinforcement in walls and connection of foundation walls to floor.

NOTE: Drawings as stated above are on file in the office of the building official.

R404.4 Retaining Walls: Change twenty-four (24) inches (610 mm) to read forty-eight (48) inches (1219 mm); rest of the paragraph remains as stated.

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, 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 one (1) foot (305 mm) beyond the outside edge of the footing and six (6) inches (152 mm) above the top of the footing and be covered with an approved filter membrane material and shall include a drain tile pipe as shown in figure R405.1. The drain pipe can be placed directly on top of the footing. The top of open joints of the drainage tiles or perforated pipe shall be protected with strips of building paper, and the drainage tiles or perforated pipe shall be placed directly on the top of the footing or placed on a minimum of two (2) inches (51mm) of washed gravel or crushed rock at least one size larger than the tile joint opening or perforation and covered with not less than six (6) inches (152 mm) of the same material. Foundation Drainage figure R405.1 as adopted, shall be considered to satisfy the provisions of this subsection.

NOTE: Foundation Figure R405.1 as stated above is on file in the office of the building official.

R502.11.4 Truss design drawings. Truss design drawings, prepared in compliance with Section R502.11.1 shall be available on-site at the time of inspection and shall be provided to the building official at that time. Truss design drawings shall be provided with the shipment of trusses delivered to the job site. Truss design drawings shall include, at a minimum, the information specified below: (remainder of section unchanged).

R612.2 Window sills. Delete.

R802.3.1 Ceiling joist and rafter connections. Add last sentence to second paragraph: Rafter ties shall be spaced not more than four (4) feet (1219mm) on center.

Chapter 11 Energy Efficiency: N1102.1 Insulation and fenestration criteria. The building thermal envelope shall meet the requirements listed below.

REPLACE Table N1102.1 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT with:

### BUILDING AREA AND REQUIRED INSULATION VALUE

1. Ceiling or roof – R-38.
2. Exterior wall – R-15.5 for the assembly.
3. Floor above unheated area or crawl space and ducts in ventilated attic or crawl space – R-19.
4. Walls separating one and two-family dwellings from garage areas, walls facing ventilated attic spaces and finished exterior basement walls- R-13.
5. All windows shall have a maximum Thermal Transmittance (U) value of 0.35.
6. Skylights shall have a maximum U-0.60.
7. M Wall - R-5, or R-10 when more than half the insulation is on the interior.
8. Basement walls or crawl space walls – R-10 if continuous insulation, or R-13 if framing cavity insulation.
9. All slab-on-grade with embedded heating systems must have a minimum of R-5 insulation installed beneath the slab. Insulation shall have a sufficient compressive strength to bear the weight of the structure and be of a type approved for underground installation. Insulation shall be required under the full heated area of the slab, except where the slab bears on footings, and within twelve (12) inches of any opening in the slab to the interior space.
10. All exterior walls shall have a vapor retarder, capable of reducing vapor transmission to less than 1 perm, installed on the inside of the warm surface side of the insulated wall or ceiling. Only those ceilings that are attached directly to the underside of the roof rafters, such as flat roofs or cathedral ceiling, are required to install the vapor retarder.

N1102.2.8 Slab-on-grade floors. Delete.

Table N1102.4.2 Air Barrier and insulation inspection: Under heading, “component” line item for “recessed lighting,” in “criteria” column remove the word “airtight.”

N1103.1.1 Programmable thermostat: change last sentence: The thermostat should initially be programmed with a heating temperature set point no higher than 70°F (21°C) and a cooling temperature set point no lower than 78°F (26°C).

N1103.2 Ducts

N1103.2.2 Sealing. Change to: 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 tightness is not required if the air handler and all ducts are located within conditioned space.

N1104.1 Lighting equipment: A minimum of fifty percent (50%) of the lamps in permanently installed lighting fixtures should be high efficiency lamps.

M1411.3.1 Auxiliary and secondary drain systems: #3 Add sentence to paragraph: Only one water level detection device conforming to UL 508 that will shut off the equipment served prior to overflow of the pan is required by this section.

M1501.1 Outdoor discharge: t first exception as number 1 and add exception number 2: Air may be discharged into a soffit vent if composed of approved materials as determined by the building official.

M1506.2 Recirculation of air: Add exception: air may be exhausted into a soffit vent if composed of approved materials as determined by the building official.

M2103.2.2 Suspended floor installations. Add exception: For direct contact plate systems, no insulation is required as long as space below s habitable.

## 2009 International Residential Code

G2414.5.2 Copper tubing: Copper tubing shall comply with standard Type K or L of ASTM B 88 or ASTM B 280.

Copper and brass tubing shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters). Natural gas supplied by Ameren UE in Boone County exceeds this level therefore copper or brass shall not be used with natural gas.

G2415.12 Add to last sentence: Any underground gas piping allowed by this section shall only be approved for gas that is less dense than the atmospheric pressure and shall be installed in accordance with G2415.12.1.

G2415.12.2 Delete in its entirety.

G2417.4.1 Test pressure: the test pressure to be used shall be not less than one and one-half (1.5) times the proposed maximum working pressure, but not less than thirty (30) psig, irrespective of design pressure. (Rest of section remains as stated.)

P2602.1.1 Public water supply. A public water supply is considered available when any portion of a lot is within 300 feet of a public water main to which connection is practical and is permitted by the governmental agency or utility responsible for the water main.

P2602.1.2 Public sewer system. A public sewer system is considered to be available when any portion of a lot is within 225 feet of a sanitary sewer system to which connection is practical and is permitted by the governmental agency or utility responsible for the sanitary sewer.

P2603.6 Freezing: a water, soil or waste pipe shall not be installed outside of a building, or concealed in outside walls, or in any place subjected to freezing temperature, unless adequate provision is made to protect such pipe from freezing by insulation, heat or both. Water pipes shall not be installed in an exterior wall cavity in one and two family dwellings. For purposes of this section exterior wall cavities shall mean all walls that rain can fall upon. Water service piping shall be installed below recorded frost penetration but not less than thirty (30) inches below grade.

P2603.6.1 Sewer depth: Building sewers that connect to private sewage disposal systems shall be a minimum of thirty (30) inches below finished grade at the point of septic tank connection. Building sewers shall be a minimum of thirty (30) inches below grade.

P2604.3 Backfilling: Delete last sentence which reads: Loose earth shall be carefully placed in the trench in 6-inch (152mm) layers and tamped in place.

P2705.1 #5 Water closets, lavatories and bidets: Amend first sentence to read: all water closets shall be spaced fifteen (15) inches from the centerline of the fixture to any wall or plumbing fixture except the centerline of the water closet may be spaced twelve (12) inches if located next to the bathtub. Rest of the paragraph remains as stated.

P2903.5 Water hammer: Add exception: a water-hammer arrestor is not needed in water distribution systems using PEX piping or systems using a combination of PEX and copper.

P2905.4 Water service pipe: Where this section references one hundred sixty (160) pounds per square inch replace with two hundred (200) pounds per square inch.



## 2009 International Residential Code

P3005.2.4 Change of direction: Cleanouts shall be installed at each fitting with a change of direction more than 45 degrees (0.79 rad) horizontal to horizontal in the building sewer, (rest of the paragraph remains as stated).

P3111.1 Type of fixtures: Add exception: Residential food waste grinders shall be allowed to discharge into a combination waste and vent system provided an air admittance valve is installed.

P3113.1 Size of vents: Add sentence to paragraph: At least one (1) vent shall be three (3) inch unreduced in size extending from the main building drain through the roof.

P3201.2 Trap seals and trap seal protection: Delete.

Except as stated in sections E3608.1.1 Exception, E3609.6.1 and E3609.7 of this ordinance, Chapters 34 through 43 of the International Residential Code are superseded by the requirements as stated in the 2008 National Electrical Code (NEC 70-2008).

E3608.1.1 Exception: When a concrete-encased electrode and /or ground ring are not available for use in a grounding electrode system, a rod or other electrode as specified in E3608.1.4 Rod and pipe electrodes and E3608.1.5 Plate electrodes can be used as a substitute. The second rod electrode shall not be connected in series with the first rod electrode except where there exists a metal water pipe in contact with earth for ten (10) feet or more, for one- and two- family dwellings a single grounding electrode placed at the outside of the building at the nearest point of the service disconnect shall be permitted to fill the requirements of this section.

E3609.6.1 Water heater Bonding jumper: The interior metal water piping bonding shall include a bonding jumper between the hot and cold waterlines at the water heater fixture if the entire system is copper excluding the service.

E3609.6.1 Bonding other metal piping: Delete “including gas piping” from section.

E3902.11 Arc-fault circuit-interrupter protection. Delete.

## APPENDIX G SWIMMING POOLS, SPAS AND HOT TUBS

Appendix G is adopted with the following amendments:

AG105.1 Application. The provisions of this chapter shall control the design of barriers for residential swimming pools, spas and hot tubs. These design controls are intended to provide protection against potential drowning and near-drowning by restricting access to swimming pools, spas and hot tubs. Barriers are to be constructed of metal chain link fence, wood, stone or masonry or other material approved by the building official.

AG105.2.11 All swimming pool excavation sites are required to be enclosed by a temporary construction barrier during installation. Any temporary construction barrier shall comply with the design standards of AG105.2. A permanent barrier shall be installed upon completion of the pool structure.

AG105.5 Barrier exceptions: Change listed reference from Section AG107 to Section AG108.

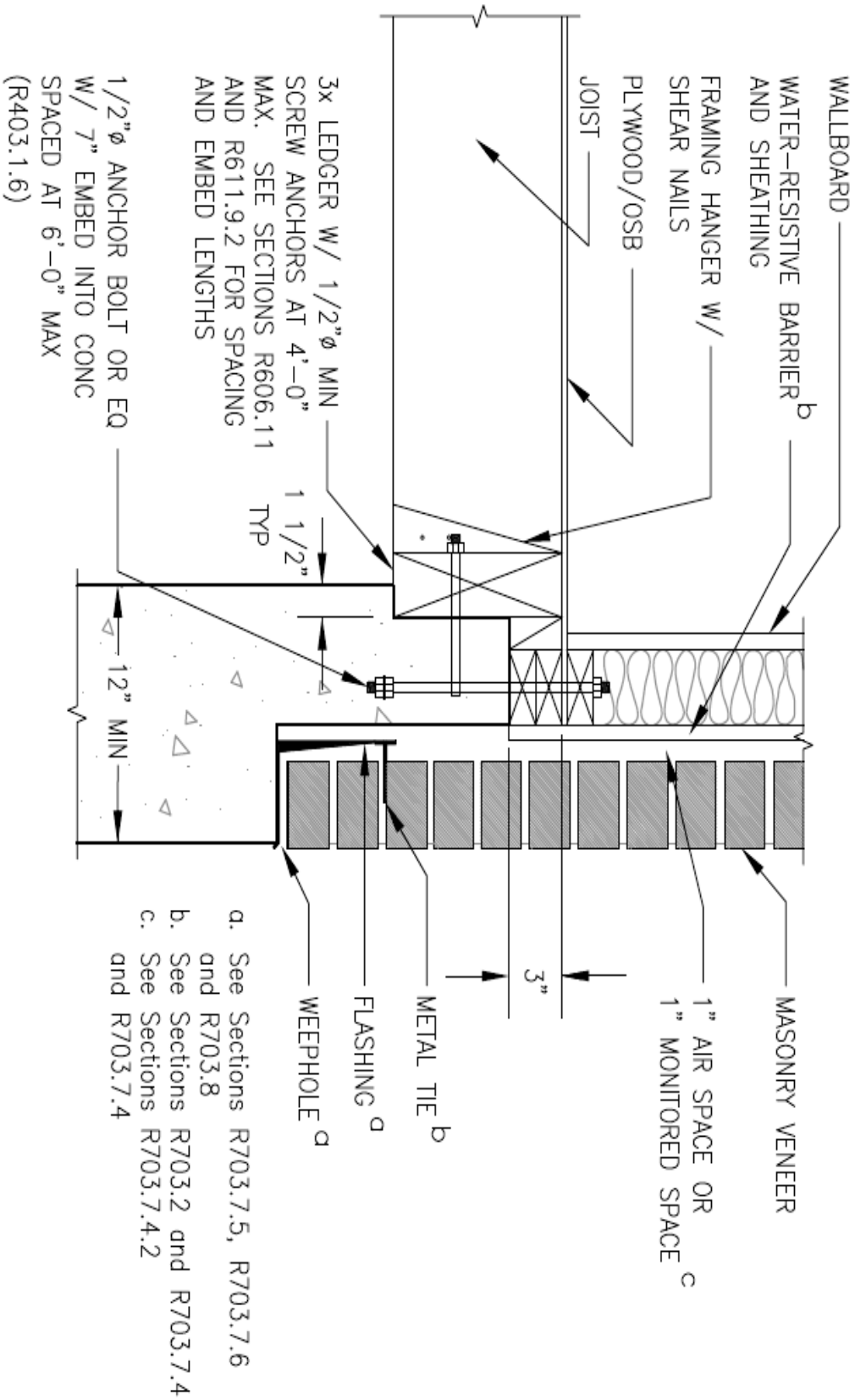
# ALTERNATIVE 1.1

## Joist Perpendicular to Wall w/ Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\*This figure is provided as an example. This in not an all inclusive list of code requirements.



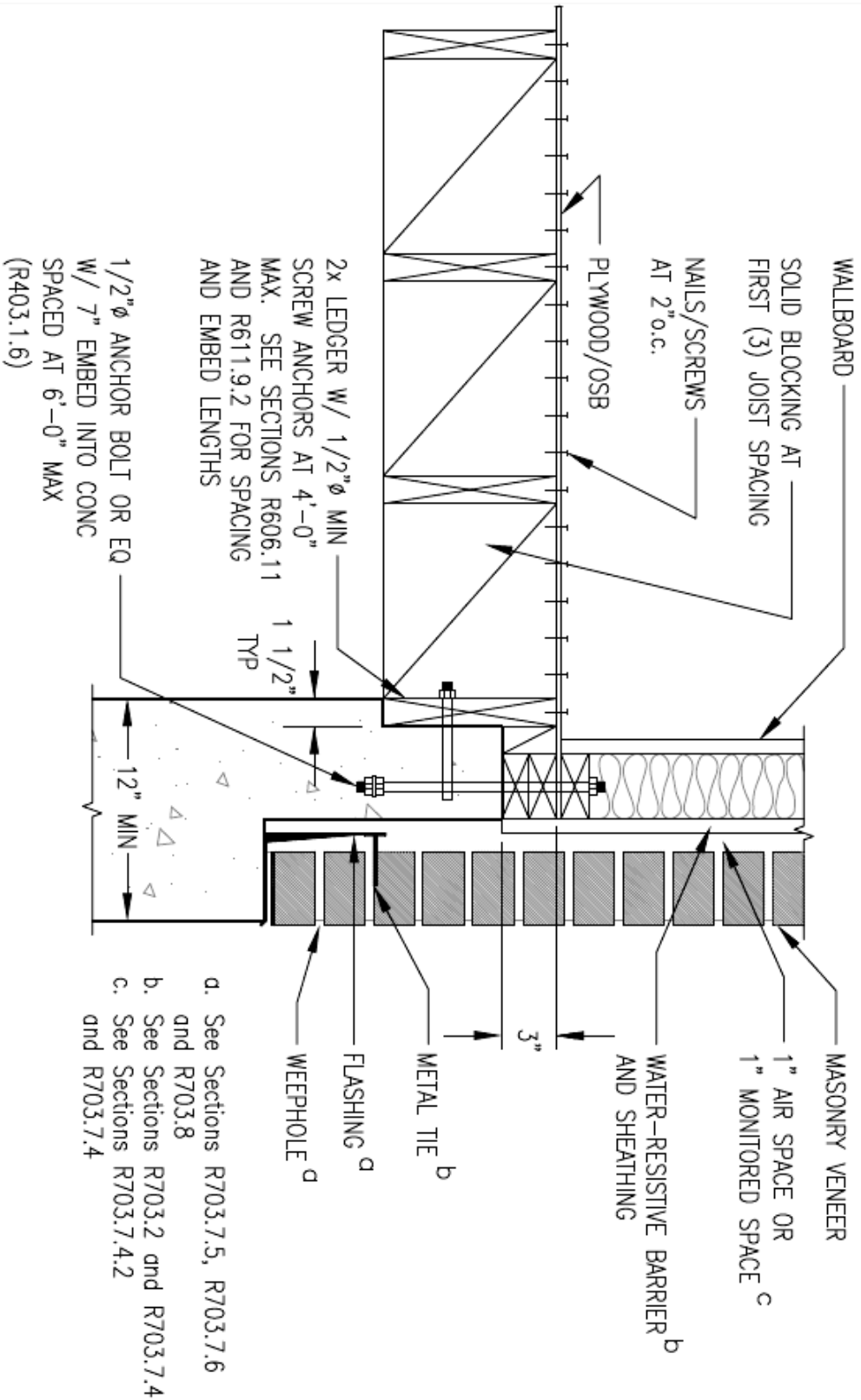
# ALTERNATIVE 1.2

## Joist Parallel to Wall w/ Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
 Section R404.1 Concrete and Masonry Foundation Walls

\*This figure is provided as an example. This is not an all inclusive list of code requirements.



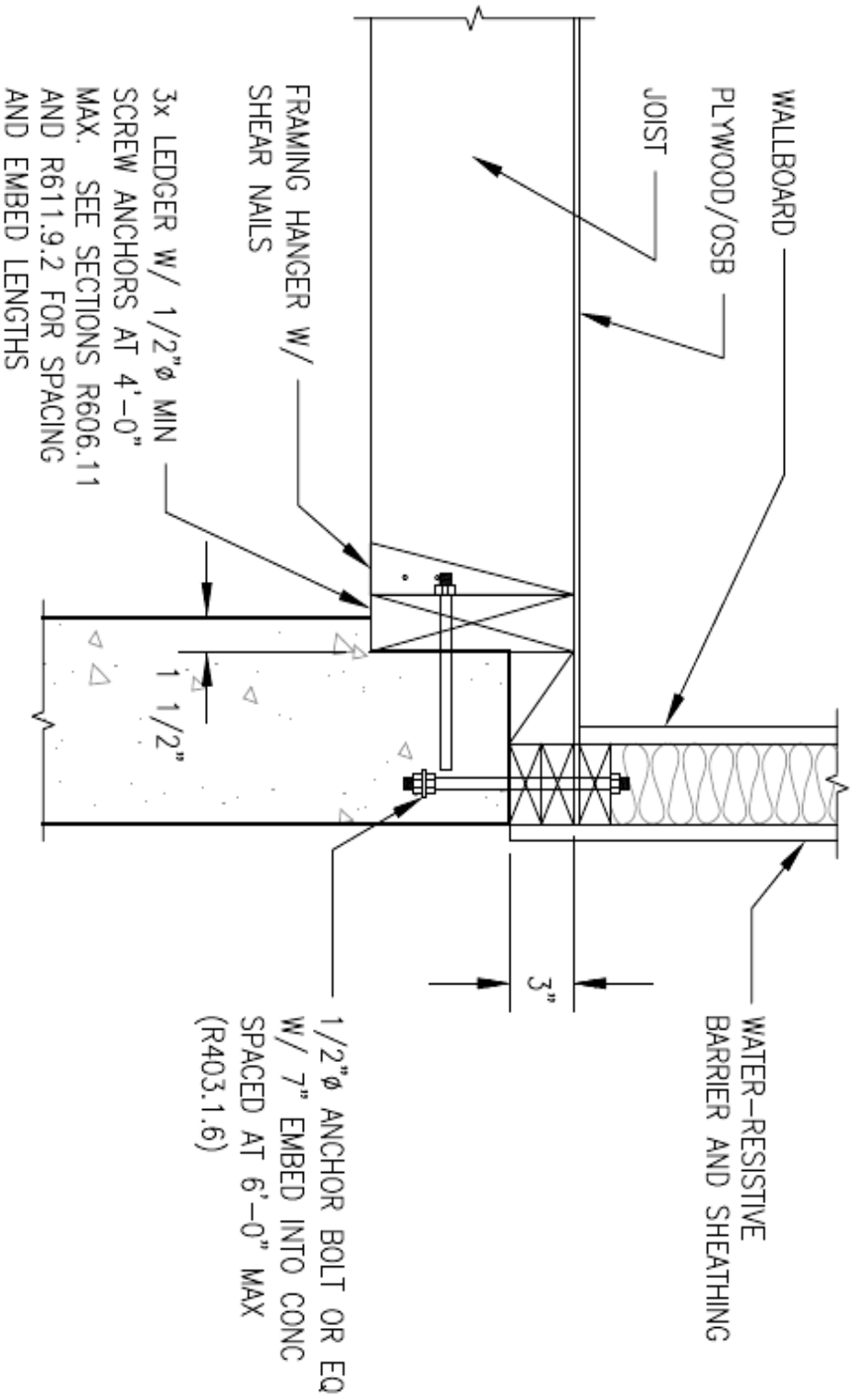
# ALTERNATIVE 1.3

## Joist Perpendicular to Wall W/O Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



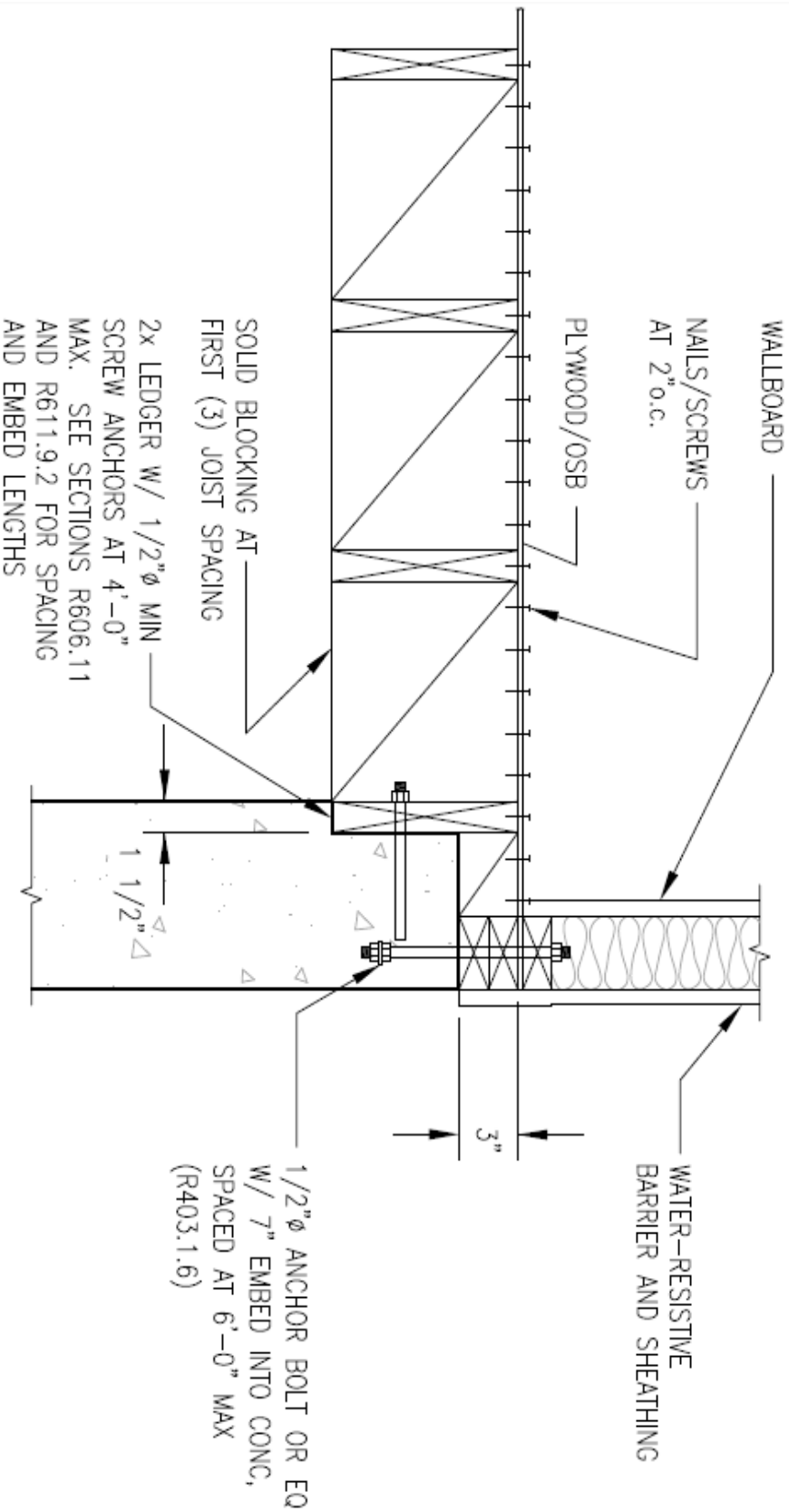
# ALTERNATIVE 1.4

## Joist Parallel to Wall w/o Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



# ALTERNATIVE 2.1

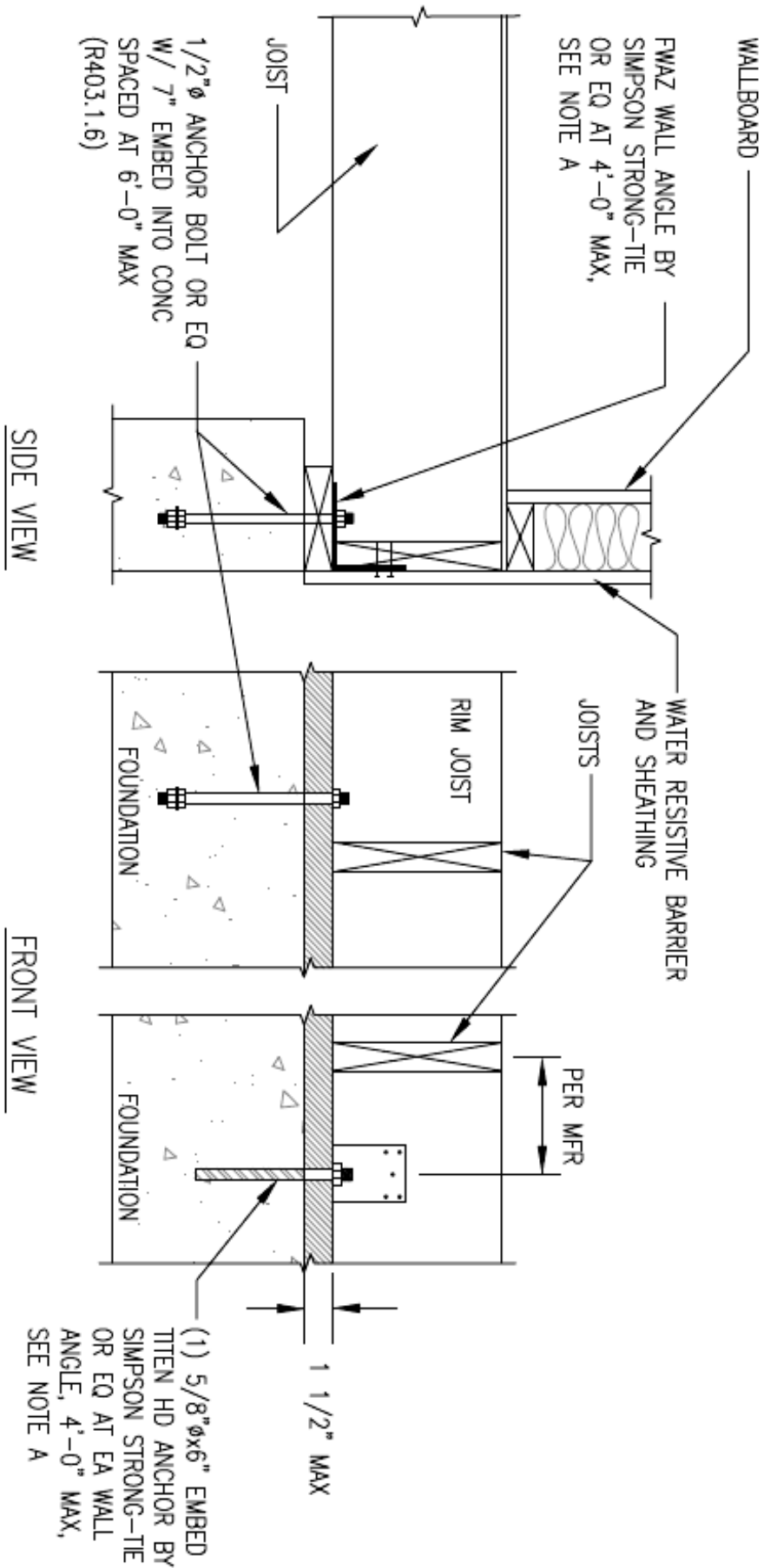
## Joist Perpendicular to Wall

2009 IRC

Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.

NOTE A: Refer to the manufacturers tables for required spacing and placement of FWAZ wall angles



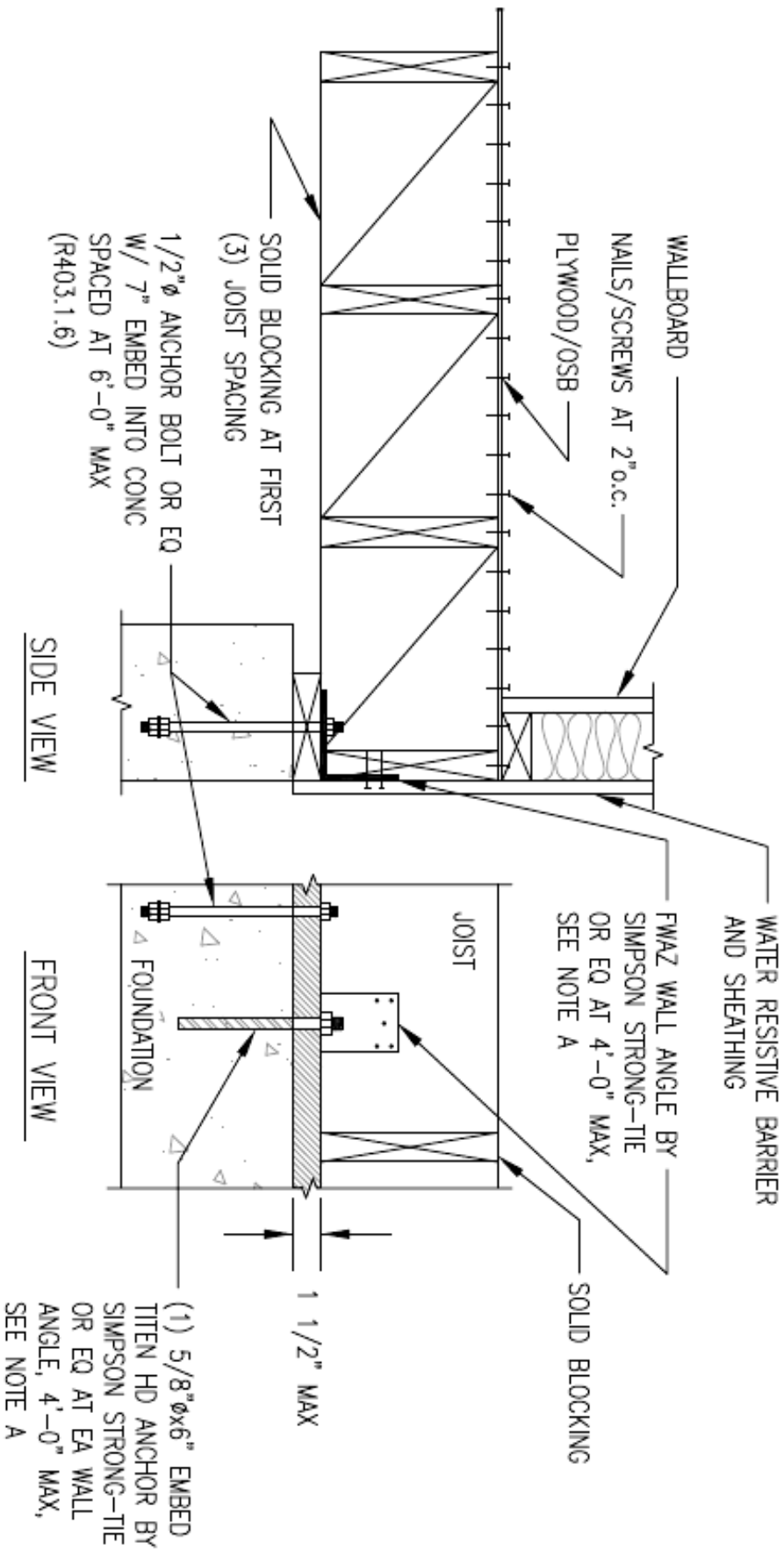
# ALTERNATIVE 2.2 Joist Parallel to Wall

2009 IRC

Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.

NOTE A: Refer to the manufacturers tables for required spacing and placement of FWAZ wall angles



# ALTERNATIVE 2.3

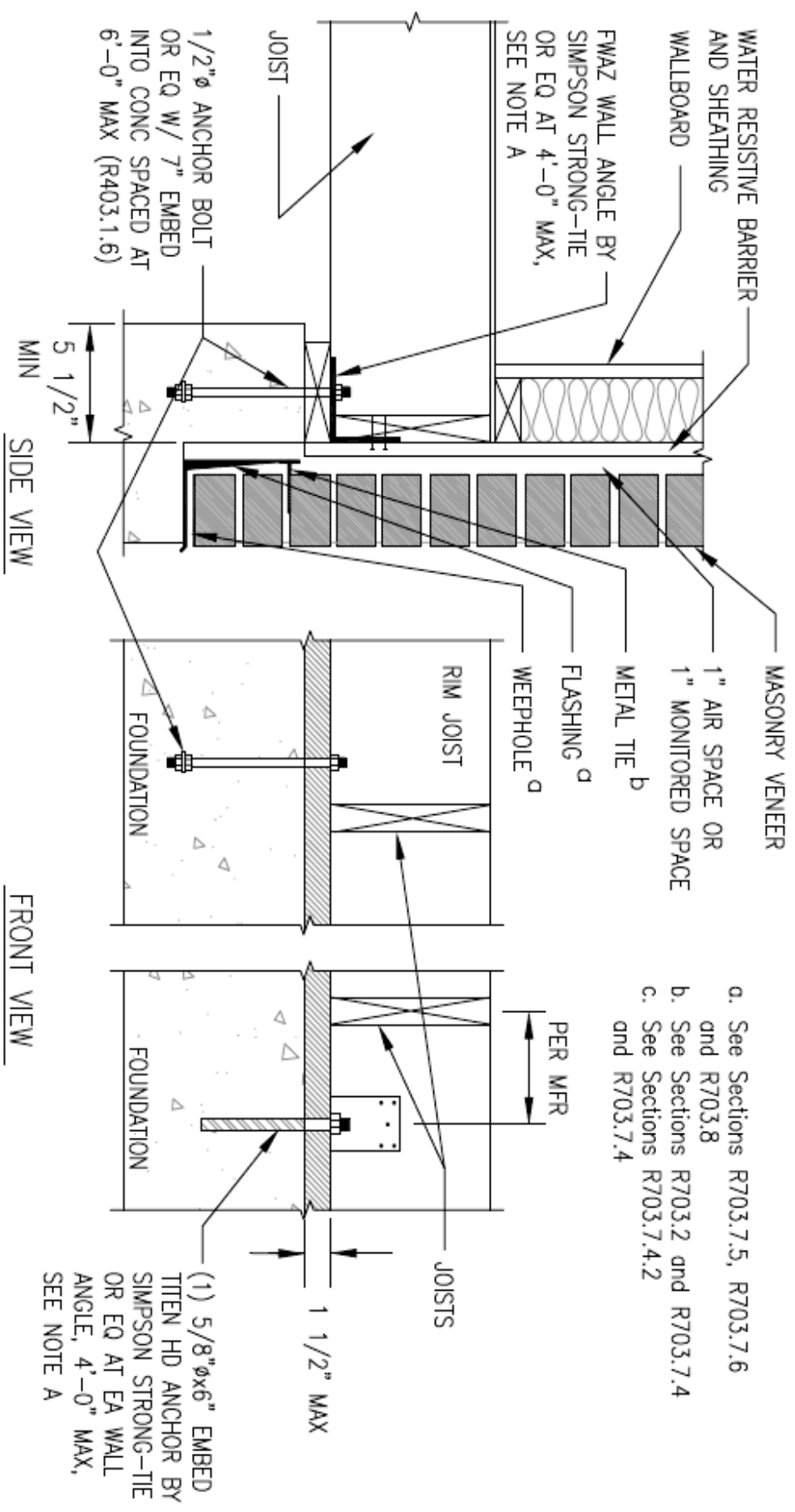
## Joist Perpendicular to Wall w/ Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
 Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.

NOTE A: Refer to the manufacturers tables for required spacing and placement of FWAZ wall angles



- a. See Sections R703.7.5, R703.7.6 and R703.8
- b. See Sections R703.2 and R703.7.4
- c. See Sections R703.7.4.2 and R703.7.4



# ALTERNATIVE 2.4

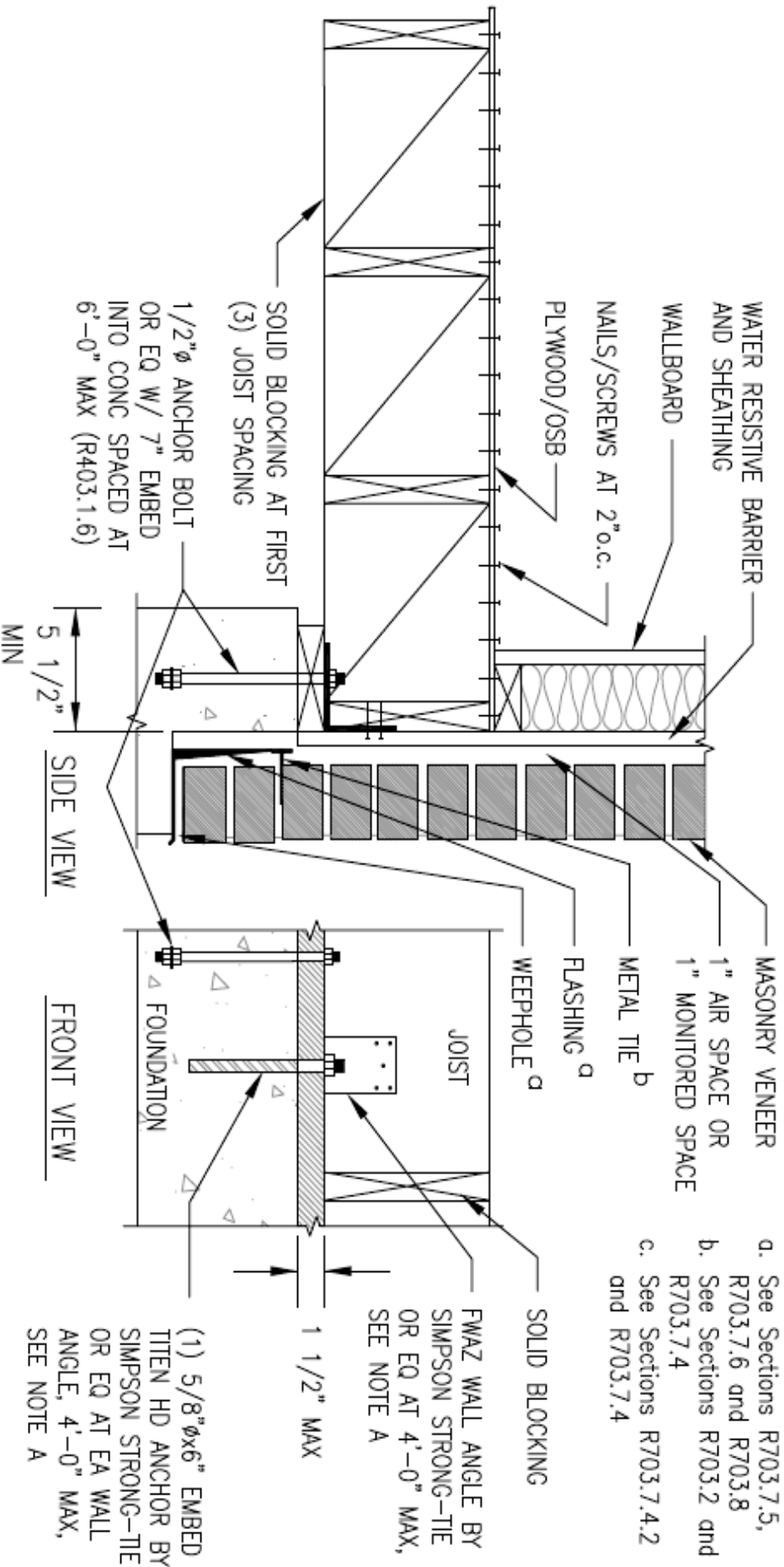
## Joist Parallel to Wall w/ Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
 Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.

NOTE A: Refer to the manufacturers tables for required spacing and placement of FWAZ wall angles



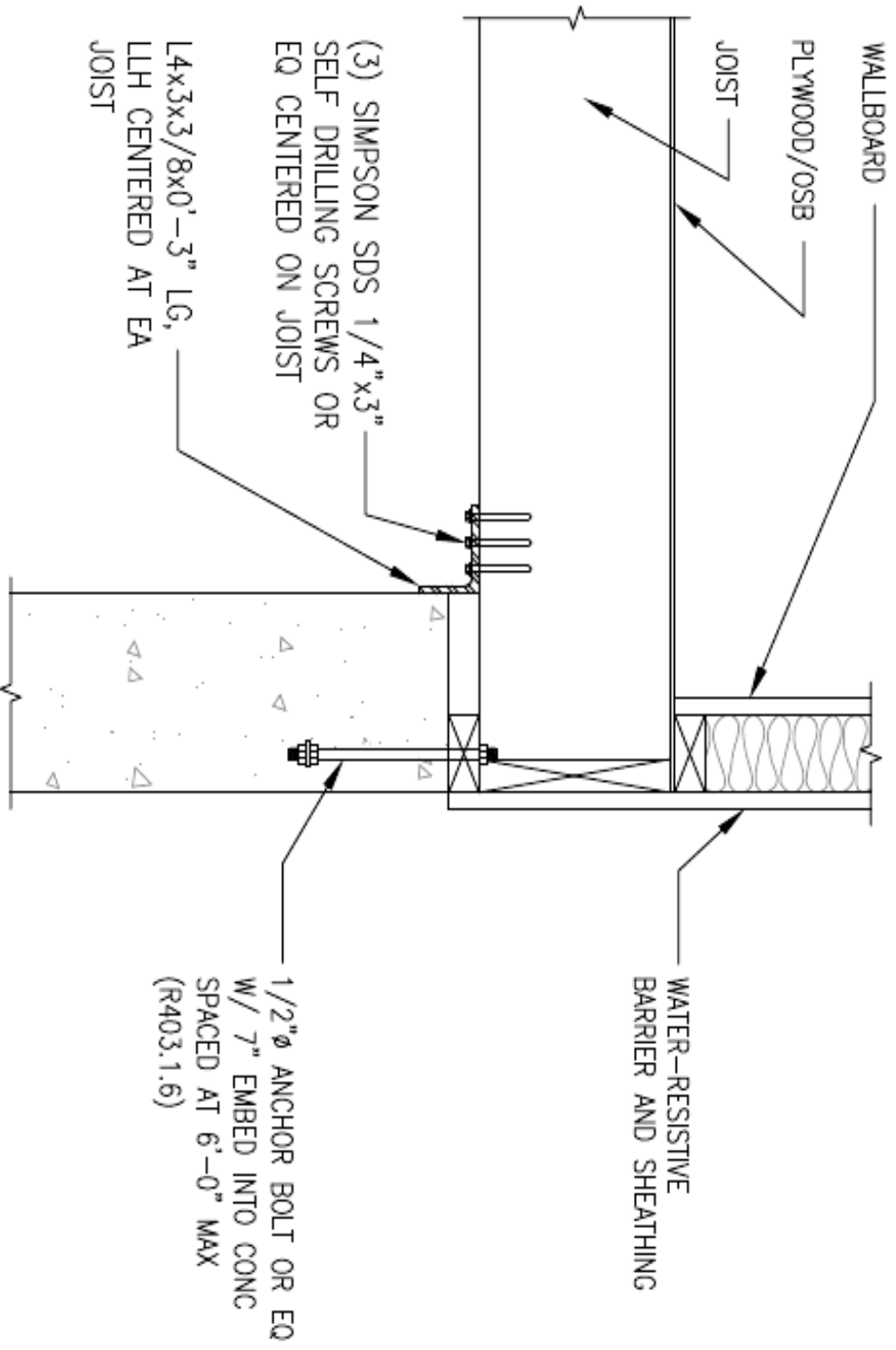
# ALTERNATIVE 3.1

## Joist Perpendicular to Wall W/O Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



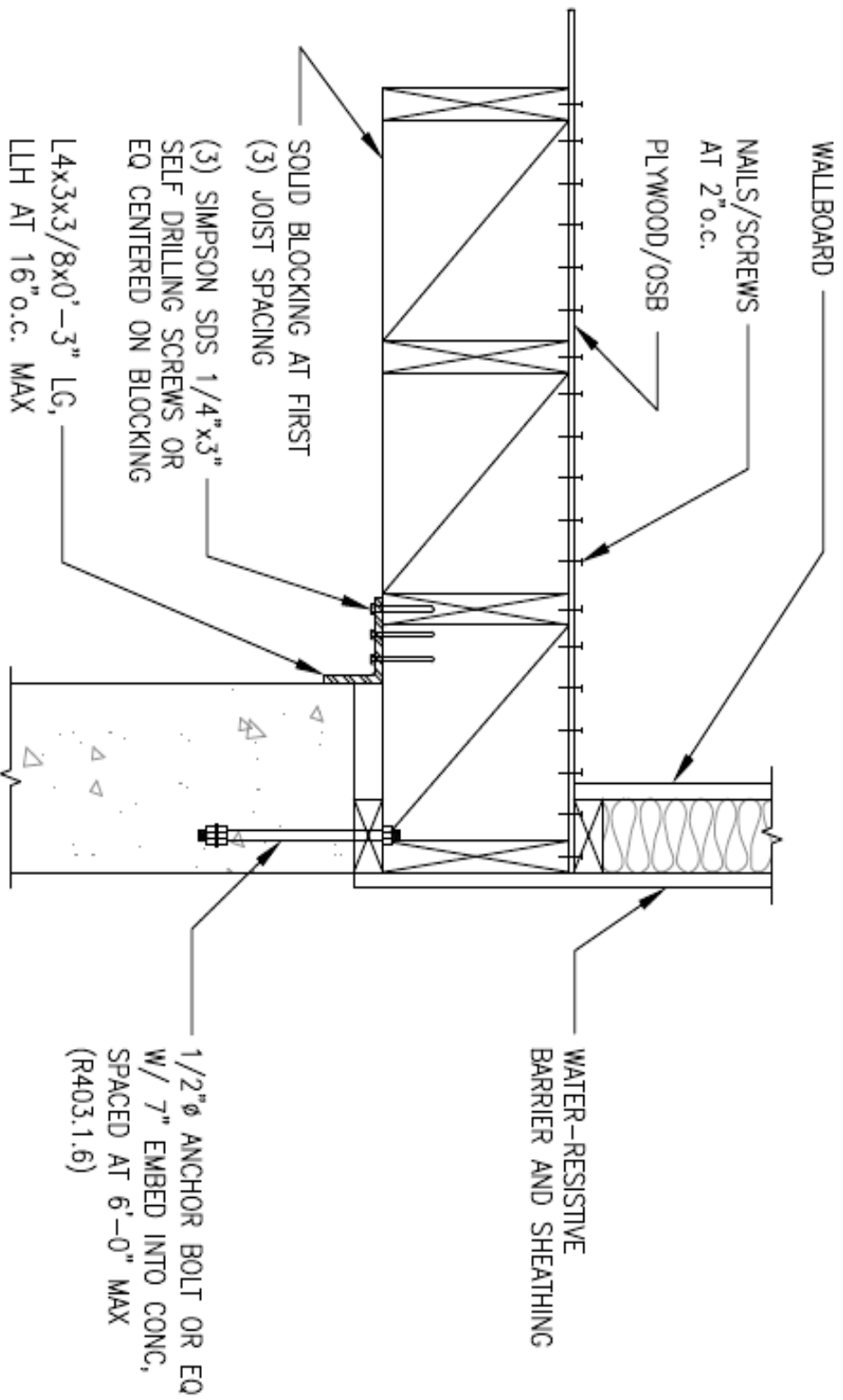
# ALTERNATIVE 3.2

## Joist Parallel to Wall w/o Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



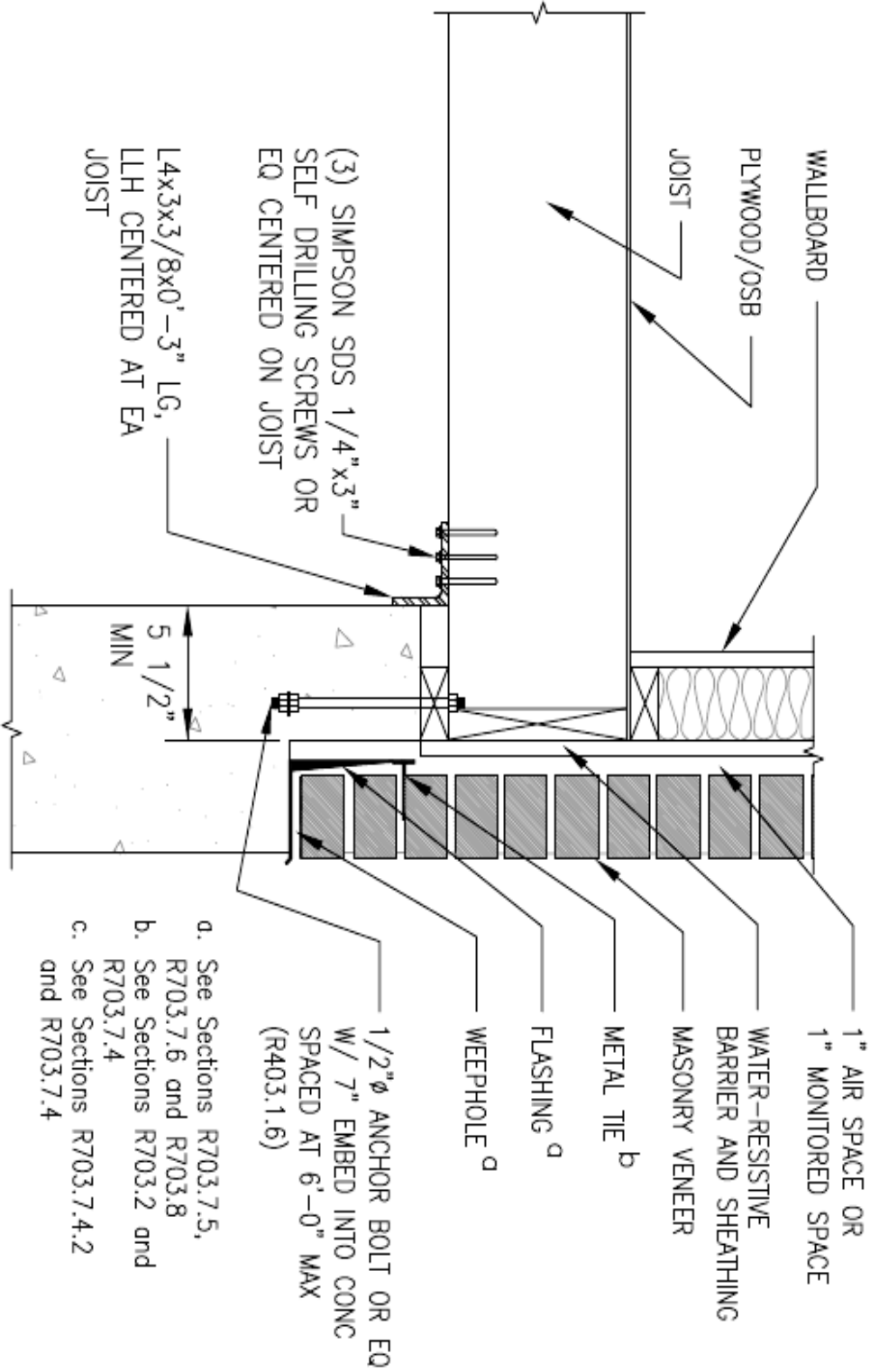
# ALTERNATIVE 3.3

## Joist Perpendicular to Wall W/ Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
 Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



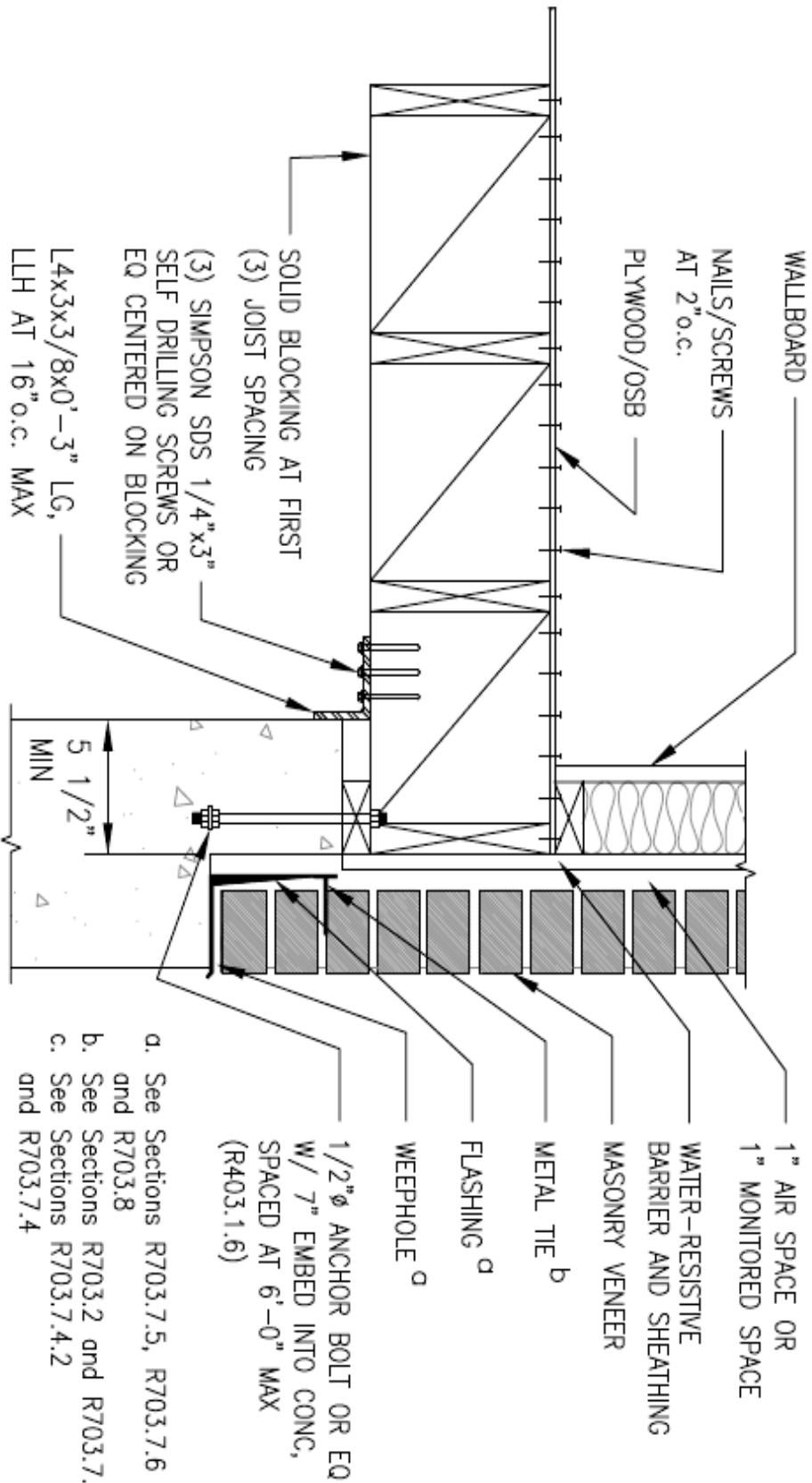
# ALTERNATIVE 3.4

## Joist Parallel to Wall w/ Brick

2009 IRC

Section R404 Foundations and Retaining Walls  
Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.

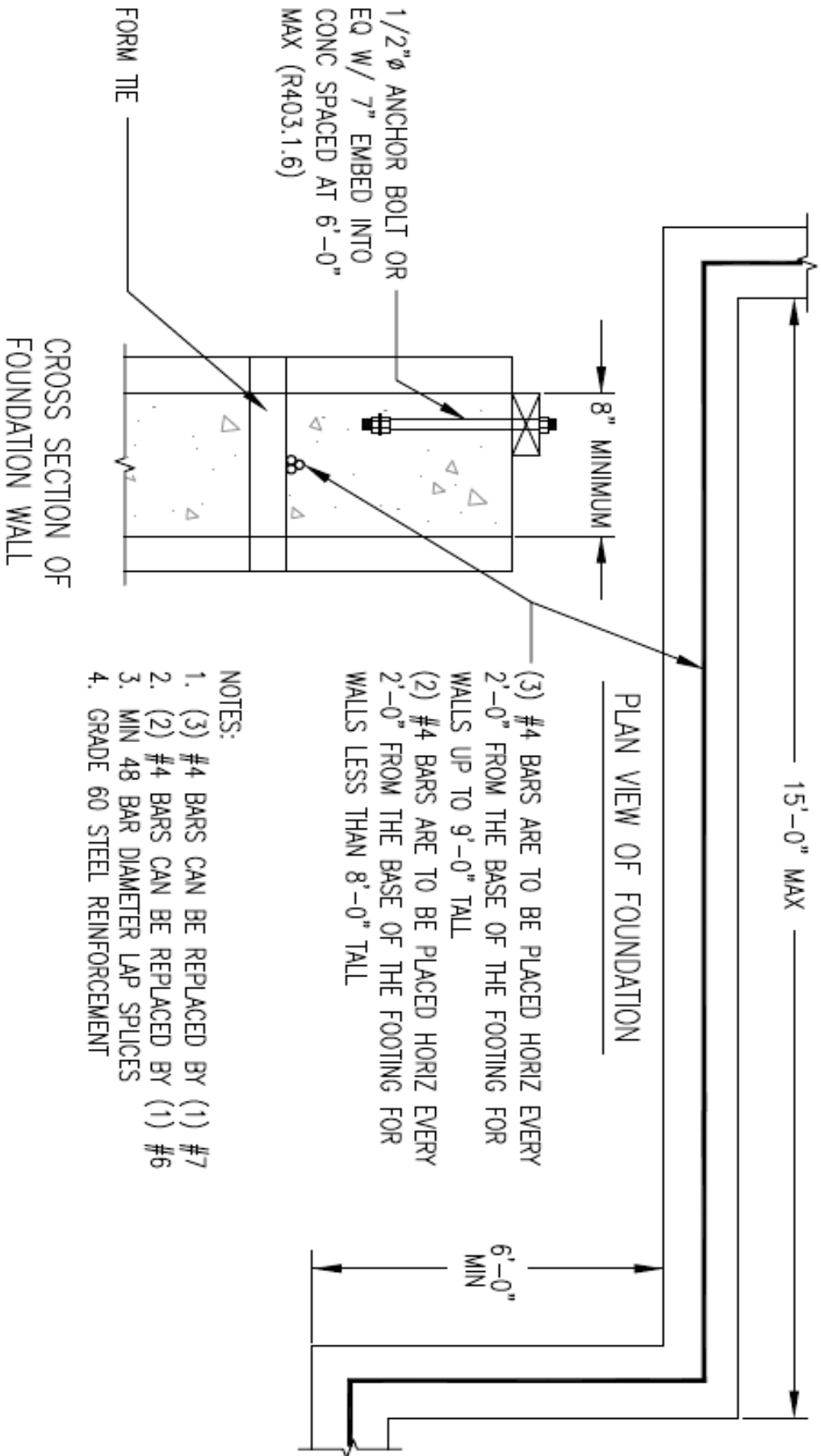


# ALTERNATIVE 4

2009 IRC

Section R404 Foundations and Retaining Walls  
 Section R404.1 Concrete and Masonry Foundation Walls

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



# FOUNDATION DRAINAGE

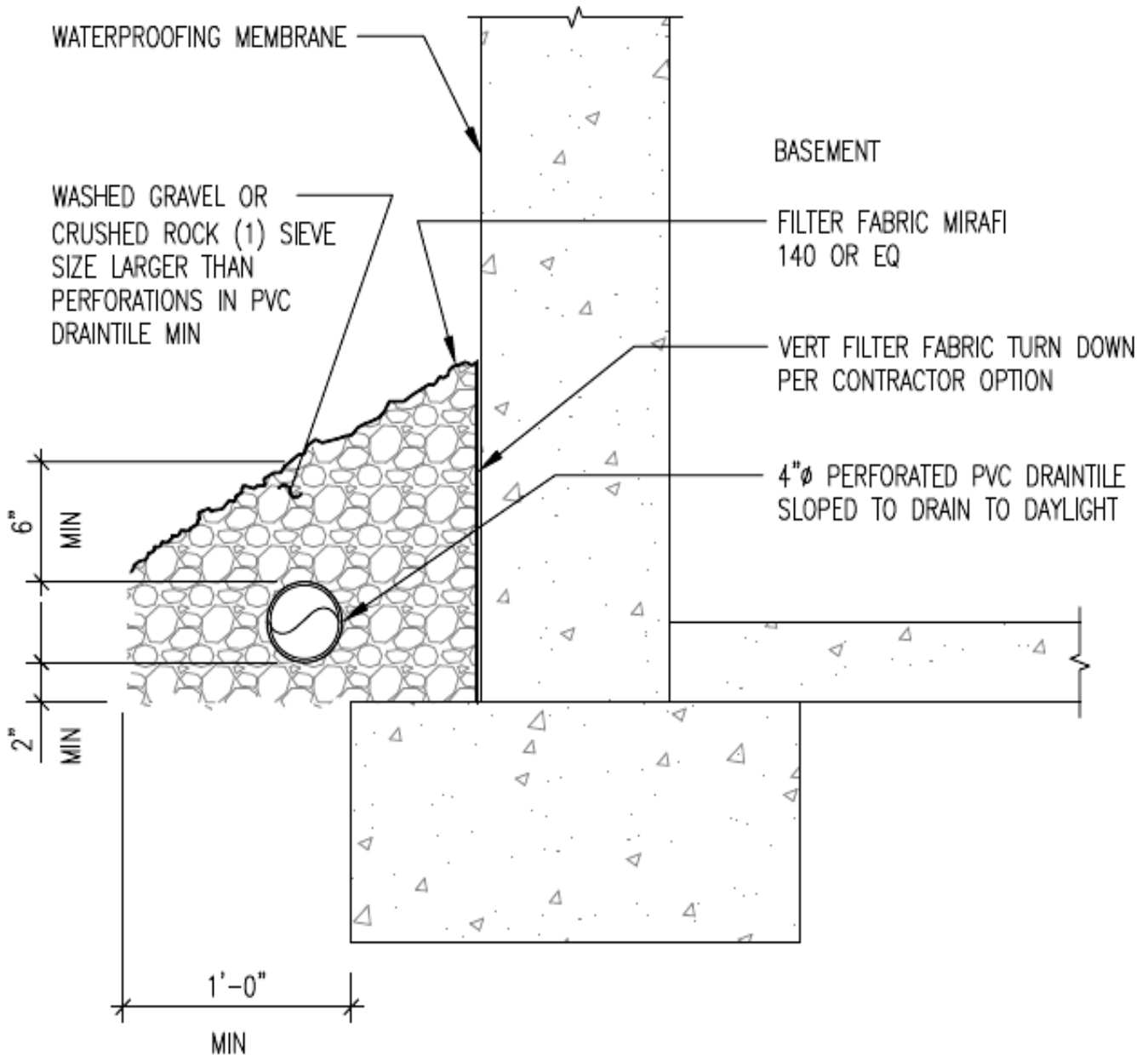
## FIGURE R405.1

2009 IRC

Section R405 Foundation Drainage

Section R406 Foundation Waterproofing and Dampproofing

\* This figure is provided as an example. This is not an all inclusive list of code requirements.



**TABLE # 1**  
**ALTERNATE CONCRETE REINFORCEMENT EQUIVALENTS**  
**FOR TABLE R-404.1.1(5) CONCRETE FOUNDATION WALLS**

CODE REQUIREMENT	EQUIVALENT 1/2" BAR
#5 @ 36 inches	#4 @ 23 inches
#5 @ 37 inches	#4 @ 24 inches
#5 @ 38 inches	#4 @ 24 inches
#5 @ 39 inches	#4 @ 25 inches
#5 @ 40 inches	#4 @ 26 inches
#5 @ 41 inches	#4 @ 26 inches
#5 @ 43 inches	#4 @ 28 inches
#5 @ 46 inches	#4 @ 29 inches
#5 @ 47 inches	#4 @ 30 inches
#5 @ 48 inches	#4 @ 31 inches
#6 @ 19 inches	#4 @ 8 inches
#6 @ 22 inches	#4 @ 9 inches
#6 @ 24 inches	#4 @ 10 inches
#6 @ 27 inches	#4 @ 12 inches
#6 @ 28 inches	#4 @ 12 inches
#6 @ 30 inches	#4 @ 13 inches
#6 @ 32 inches	#4 @ 14 inches
#6 @ 33 inches	#4 @ 14 inches
#6 @ 34 inches	#4 @ 15 inches
#6 @ 35 inches	#4 @ 15 inches
#6 @ 35 inches	#4 @ 15 inches
#6 @ 36 inches	#4 @ 16 inches
#6 @ 37 inches	#4 @ 16 inches
#6 @ 38 inches	#4 @ 17 inches
#6 @ 39 inches	#4 @ 17 inches
#6 @ 43 inches	#4 @ 19 inches
#6 @ 44 inches	#4 @ 19 inches
#6 @ 45 inches	#4 @ 20 inches
#6 @ 47 inches	#4 @ 21 inches
#6 @ 48 inches	#4 @ 21 inches
#7 @ 30 inches	#4 @ 9 inches
#7 @ 31 inches	#4 @ 10 inches
#7 @ 35 inches	#4 @ 11 inches
#7 @ 38 inches	#4 @ 12 inches
#7 @ 39 inches	#4 @ 12 inches
#7 @ 41 inches	#4 @ 13 inches
#7 @ 47 inches	#4 @ 15 inches
#7 @ 48 inches	#4 @ 15 inches



**INTERNATIONAL PLUMBING CODE 2009**

**COMMISSION ORDER NUMBER 407-2011**

Effective date: October 15, 2011

A COMMISSION ORDER ESTABLISHING THE MINIMUM REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND CONSTRUCTION OF PLUMBING SYSTEMS, BY PROVIDING REASONABLE SAFEGUARDS FOR SANITATION TO PROTECT THE PUBLIC HEALTH AGAINST THE HAZARDS OF INADEQUATE, DEFECTIVE OR UNSANITARY PLUMBING INSTALLATIONS; KNOWN AS THE PLUMBING CODE OF BOONE COUNTY, MISSOURI.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

**SECTION 1. ADOPTION OF THE PLUMBING CODE:**

That a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Resource Management being marked and designated as the "International Plumbing Code/2009", as published by the International Code Council, Inc., be and is hereby adopted as the Plumbing Code of Boone County, Missouri for the control of buildings and structures as herein provided; and each and all of the regulations, provisions, penalties, conditions and terms of "International Plumbing Code/2009", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

**SECTION 2. JURISDICTIONAL TITLE.**

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

100.1.1 Wherever "Department of Plumbing Inspection" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

100.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

**SECTION 3. AMENDMENTS TO THE INTERNATIONAL PLUMBING CODE/2009:**

The International Plumbing Code/2009, is amended by additions, deletions and changes, including the changing of Articles, Sections, Sub-sections and Subsection titles, and the addition of new Sections and new Sub-Sections reads as follows:

101.2.1 Appendices. Appendices B, C, D, E, F and G are adopted as part of this code.

**SECTION 103 DEPARTMENT OF PLUMBING INSPECTION. Delete.**

## 2009 International Plumbing Code

### SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

103.4 Liability: No change.

106.6.3 Fee Refunds: The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. Not more than 75% of the permit fee paid when no work has been done under a permit issued in accordance with this code.
3. Not more than 75% of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The code official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee not later than 180 days after the date of fee payment.

108.4 Delete in its entirety.

Add:

108.4 Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall install plumbing work in violation of an approved plan or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

108.5 Stop work orders: Delete last sentence. Insert: Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe conditions, shall be guilty of a misdemeanor, punishable as provided by law.

109.2 Delete in its entirety.

Add:

109.2 Membership of the board: The board of appeals as established in Section 113 of the International Building Code / 2009 shall serve as the board of appeals for the International Plumbing Code.

109.2.1 Delete in its entirety.

109.2.2 Delete in its entirety.

## 2009 International Plumbing Code

109.2.3 Delete in its entirety.

109.2.4 Delete in its entirety.

109.2.5 Delete in its entirety.

109.2.6 Delete in its entirety.

109.3 Delete in its entirety.

109.4 Delete in its entirety.

109.4.1 Delete in its entirety.

109.5 Delete in its entirety.

109.6 Delete in its entirety.

109.6.1 Delete in its entirety.

109.6.2 Delete in its entirety.

109.7 Delete in its entirety.

305.6.1 Delete.

Add:

305.6.1 Sewer Depth: Building sewers that connect to private sewage disposal systems shall be a minimum of eighteen (18) inches below finished grade at the point of septic tank connection. Building sewers shall be a minimum of eighteen (18) inches below grade.

405.3.1.1 Water closets, urinals, lavatories, bidets: All water closets shall be spaced at least fifteen (15) inches from the centerline of the fixture to and wall or plumbing fixture except the centerline of the water closet may be spaced twelve (12) inches) if located next to the bathtub.

410.1 Add exception: In business, mercantile and storage occupancies where drinking fountains are required, the following exceptions are permitted to substitute for one hundred percent (100%) of the required drinking fountains if the required number is not greater than one (1):

1. A water cooler or bottled water dispenser;
2. Individual bottles of water;
3. A break room sink, bar sink or kitchen sink provided all sinks have an approved standard faucet per IPC 424.1.

Add:

602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply shall be utilized. A potable public supply system shall be considered available to a lot if the lot is located within 300 feet of the public water main.

606.1 Location of full-open valves. Full open valves shall be installed in the following locations:

## 2009 International Plumbing Code

1. On the building water service pipe from the public water supply near the curb.
2. On the water distribution supply pipe at the entrance into the structure.
3. On the discharge side of every water meter.  
Exception: Water meters not located inside a building.
4. On the base of every water riser pipe in occupancies other than multiple-family residential occupancies which are two (2) stories or less in height and in one- and two-family residential occupancies.
5. On the top of every water down-feed in occupancies other than one- and two-family residential occupancies.
6. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.
7. On the water supply pipe to a gravity or pressurized water tank.
8. On the water supply pipe to every water heater.

701.2 Delete in its entirety.

Add:

701.2 Sewer required: Every building in which plumbing fixtures are installed and every premises having drainage piping shall be connected to a public sewer, where available, or where a public sewer is not available, a private sewage disposal system in accordance with the requirements of the Columbia/Boone County Health Department or the Missouri Department of Natural Resources.

Add:

701.2.1 A public sewer system shall be considered available if any part of a lot is within 225 feet of a sanitary sewer system to which connection is practical and is permitted by the governmental agency or utility responsible for the sanitary sewer.

Add:

904.1 Roof extension. All open vent pipes that extend through a roof shall be terminated at least 12 inches above the roof, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet above the roof.

**INTERNATIONAL MECHANICAL CODE 2009**

**COMMISSION ORDER NUMBER: 407-2011**

Effective date: October 15, 2011

A COMMISSION ORDER ESTABLISHING THE MINIMUM REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND CONSTRUCTION OF MECHANICAL SYSTEMS, BY PROVIDING REASONABLE SAFEGUARDS TO PROTECT THE PUBLIC HEALTH AND SAFETY AGAINST THE HAZARDS OF INADEQUATE, DEFECTIVE OR UNSAFE MECHANICAL SYSTEMS AND INSTALLATIONS; KNOWN AS THE MECHANICAL CODE OF BOONE COUNTY, MISSOURI.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

**SECTION 1. ADOPTION OF THE MECHANICAL CODE:**

That a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Resource Management being marked and designated as "International Mechanical Code/2009", as published by the International Code Council, Inc., be and is hereby adopted as the Mechanical Code of Boone County, Missouri for the control of buildings and structures as herein provided; and each and all of the regulations, provisions, penalties, conditions and terms of "The International Mechanical Code/2009", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

**SECTION 2. JURISDICTIONAL TITLE.**

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

100.1.1 Wherever "Department of Mechanical Inspection" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

100.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

**SECTION 3. AMENDMENTS TO THE INTERNATIONAL MECHANICAL CODE/2009:**

The International Mechanical Code/2009 is amended by additions, deletions and changes, including the changing of Articles, Sections, Sub-sections and Subsection titles, and the addition of new Sections and new Sub-Sections reads as follows:

101.2 Scope Exception 2: Mechanical systems in existing buildings undergoing repair, alterations or additions and change of occupancy shall be permitted to comply with the International Building Code or other applicable codes.

## 2009 International Mechanical Code

101.2.1 Appendices. Appendix A is adopted as part of this code.

SECTION 103 DEPARTMENT OF MECHANICAL SAFETY. Delete.

### SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

103.4 Liability: No change.

106.3.1 Construction Documents. Add to exception: Buildings or structures exempt from these requirements are as follows:

- a. One-Family dwellings.
- b. Two family dwellings.
- c. Commercial or industrial buildings having less than 1200 square feet of floor space, or which provide for the employment, sleeping, assembly, housing or eating of not more than nine (9) persons.
- d. Any structure containing less than twenty-thousand cubic feet, except as provided above.
- e. Any building or structure used exclusively for farm purposes.

106.5.2 Fee schedule. The fees for mechanical work shall be as approved by the Boone County Commission.

106.5.3 Delete in its entirety.

Add:

106.5.3 Fee Refunds: The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. When no work has been done, the permit fee, less a processing fee of 25% of the original fee may be refunded to the original permittee.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the fee was paid.

108.4 Delete in its entirety. Insert: Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair mechanical equipment or systems in violation of an approved plan or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

## 2009 International Mechanical Code

108.5 Delete last sentence. Insert: Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be guilty of a misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

109.2 Delete in its entirety. Insert:

109.2 Membership of the board: The board of appeals as established in Section 113 of the International Building Code / 2009 shall serve as the board of appeals for the International Mechanical Code.

109.2.1 Delete in its entirety.

109.2.2 Delete in its entirety.

109.2.3 Delete in its entirety.

109.2.4 Delete in its entirety.

109.2.5 Delete in its entirety.

109.2.6 Delete in its entirety.

109.3 Delete in its entirety.

109.4 Delete in its entirety.

109.4.1 Delete in its entirety.

109.5 Delete in its entirety.

109.6 Delete in its entirety.

109.6.1 Delete in its entirety.

109.6.2 Delete in its entirety.

109.8 Delete in its entirety.

**INTERNATIONAL FUEL GAS CODE 2009**

**COMMISSION ORDER NUMBER: 407-2011**

Effective date: October 15, 2011

A COMMISSION ORDER ESTABLISHING THE MINIMUM REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND CONSTRUCTION OF FUEL GAS SYSTEMS AND GAS FIRED-APPLIANCES, BY PROVIDING REASONABLE SAFEGUARDS TO PROTECT THE PUBLIC HEALTH AND SAFETY AGAINST THE HAZARDS OF INADEQUATE, DEFECTIVE OR UNSAFE FUEL GAS SYSTEMS AND GAS FIRED APPLIANCES; KNOWN AS THE FUEL GAS CODE OF BOONE COUNTY, MISSOURI.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

**SECTION 1. ADOPTION OF THE FUEL GAS CODE:**

That a certain document, one (1) copy of which is on file in the office of Building Official of the Boone County Department of Planning and Building Inspection being marked and designated as "International Fuel Gas Code/2009", as published by the International Code Council, Inc., be and is hereby adopted as the Fuel Gas Code of Boone County, Missouri for the control of buildings and structures as herein provided; and each and all of the regulations, provisions, penalties, conditions and terms of "The International Fuel Gas Code/2009", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

**SECTION 2. JURISDICTIONAL TITLE.**

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "County of Boone, Missouri".

100.1.1 Wherever "Department of Inspection" appears in this code, it shall read "Department of Resource Management of Boone County, Missouri".

100.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Boone County Commission of Boone County, Missouri".

**SECTION 3. AMENDMENTS TO THE INTERNATIONAL FUEL GAS CODE/2009:**

The International Fuel Gas Code/2009 is amended by additions, deletions and changes, including the changing of Articles, Sections, Sub-sections and Subsection titles, and the addition of new Sections and new Sub-Sections reads as follows:

101.2 Scope Exception 2: As an alternative to the provisions of this code, fuel-gas piping systems, fuel-gas utilization equipment and related accessories in existing buildings that are undergoing repairs, alterations, changes in occupancy or construction of additions shall be permitted to comply with the International Building Code or other applicable codes.



101.3 Appendices. Appendices A, B and C are adopted as part of this code.

SECTION 103 DEPARTMENT OF INSPECTION. Delete.

## SECTION 103 RESOURCE MANAGEMENT DEPARTMENT

103.1 Enforcement Agency. The Resource Management Department previously created by the Boone County Commission is the enforcement agency for this code. The Director of Resource Management shall be known as the building official. The building official is hereby authorized and directed to administer and enforce all provisions of this code.

103.2 Appointment. The Director of Resource Management shall be appointed by the Boone County Commission.

103.3 Deputies. In accordance with the prescribed procedures of this jurisdiction and with the concurrence of the Boone County Commission, the Director of Resource Management shall have the authority to appoint a deputy building official, any related technical officers, inspectors, plan examiners and other employees. Such employees shall have the powers as delegated by the building official.

103.4 Liability: No change.

106.3.1 Construction Documents. Add to exception: Buildings or structures exempt from these requirements are as follows:

- f. One-Family dwellings.
- g. Two family dwellings.
- h. Commercial or industrial buildings having less than 1200 square feet of floor space, or which provide for the employment, sleeping, assembly, housing or eating of not more than nine (9) persons.
- i. Any structure containing less than twenty-thousand cubic feet, except as provided above.
- j. Any building or structure used exclusively for farm purposes.

106.5.2 Fee schedule. The fees for mechanical work shall be as approved by the Boone county Commission.

106.5.3 Delete in its entirety.

Add:

106.5.3 Fee Refunds: The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. When no work has been done, the permit fee, less a processing fee of 25% of the original fee may be refunded to the original permittee.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the fee was paid.

108.4 Delete in its entirety. Insert: Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, construct, alter or repair mechanical equipment or systems in violation of an approved plan or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a

## 2009 International Fuel Gas Code

misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

108.5 Delete last sentence. Insert: Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be guilty of a misdemeanor, punishable as provided by law. Each day that a violation continues shall be deemed a separate offense.

109.2 Delete in its entirety. Insert:

109.2 Membership of the board: The board of appeals as established in Section 113 of the International Building Code / 2009 shall serve as the board of appeals for the International Fuel Gas Code Code.

109.2.1 Delete in its entirety.

109.2.2 Delete in its entirety.

109.2.3 Delete in its entirety.

109.2.4 Delete in its entirety.

109.2.5 Delete in its entirety.

109.2.6 Delete in its entirety.

109.3 Delete in its entirety.

109.4 Delete in its entirety.

109.4.1 Delete in its entirety.

109.5 Delete in its entirety.

109.6 Delete in its entirety.

109.6.1 Delete in its entirety.

109.6.2 Delete in its entirety.

403.4.3 Copper and brass. Copper and brass pipe shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters). Natural gas supplied by Ameren UE in Boone County exceeds this level therefore copper or brass shall not be used with natural gas. Threaded copper, brass and aluminum-alloy pipe shall not be used with gases corrosive to such metals.

403.5.2 Copper and brass tubing. Copper tubing shall comply with standard Type K of ASTM B 88 or ASTM B 280.

Copper and brass tubing shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters). Natural gas supplied

## 2009 International Fuel Gas Code

by Ameren UE in Boone County exceeds this level therefore copper or brass shall not be used with natural gas.

404.12 Piping underground beneath buildings. Add last sentence to paragraph which states: Any underground gas piping allowed by this section shall only be approved for gas that is less dense than the atmospheric pressure and shall be installed in accordance with section 404.12.1 and shall always terminate or vent to the outside.

404.12.2 Delete in its entirety.

406.4.1 Test pressure. The test pressure to be used shall not be less than one and one half (1-1/2) times the proposed maximum working pressure, but not less than 30 psig, irrespective of design pressure.

**NATIONAL ELECTRIC CODE 2008**

**COMMISSION ORDER NUMBER 407-2011**

Effective date: October 15, 2011

A COMMISSION ORDER ESTABLISHING THE MINIMUM REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND CONSTRUCTION OF ELECTRICAL SYSTEMS, BY PROVIDING REASONABLE SAFEGUARDS TO PROTECT THE PUBLIC HEALTH AGAINST THE HAZARDS OF INADEQUATE, DEFECTIVE OR UNSAFE ELECTRICAL INSTALLATIONS; KNOWN AS THE ELECTRICAL CODE OF BOONE COUNTY, MISSOURI.

BE IT ORDAINED BY THE COUNTY COMMISSION OF BOONE COUNTY, MISSOURI, AS FOLLOWS:

**SECTION 1. ADOPTION OF THE ELECTRICAL CODE:**

That a certain document, three (3) copies of which are on file in the office of Building Official of the Boone County Resource Management being marked and designated as "The National Electrical Code 2008", as published by the National Fire Protection Association, be and is hereby adopted as the Electrical Code of Boone County, Missouri for the control of buildings and structures as herein provided; and each and all of the regulations, provisions, penalties, conditions and terms of "The National Electrical Code 2008", are hereby referred to, adopted and made part hereof, as is more fully set out in this Ordinance, with the additions, insertions, deletions and changes as hereinafter prescribed.

**SECTION 2. AMENDMENTS TO THE NATIONAL ELECTRICAL CODE 2008:**

The National Electrical Code 2008 is amended by additions, deletions and changes, including the changing of Articles, Sections, Sub-sections and Subsection titles, and the addition of new Sections and new Sub-Sections reads as follows:

ADD:

90.10. Plans and specifications: Plans and specifications shall be required for all work involving commercial, industrial, multiple family and buildings used for purposes of public assembly, or as determined by the building official.

90.11. Violation penalties: Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall install, alter or repair electrical wiring in violation of this Code or without a proper permit shall be guilty of a misdemeanor and punishable by fine, or by imprisonment, or by both as directed by a court of law. Each day that a violation continues shall be deemed a separate offense,

90-12. Means of appeal: The owner of a building or structure or any other person may appeal a decision of the building official. Application for appeal may be filed in the office of the Resource Management Department.

90.13. Membership of the Board of Appeals: For the purposes of the Electrical Code, the board of appeals appointed under Section 113 of the ICC International Building Code/2009 (Boone County Building

Code) as adopted, shall serve as the board of appeals for matters referred to it for consideration under the Electrical Code.

Article 100

Add:

**Agriculture or Farming Activity:** An agricultural activity shall be defined as the cultivating of the soil, producing of crops and the raising of animals for food or fiber and including horticulture, beekeeping, aquaculture, silviculture and forestry. Concentrated animal feeding operations must conform to the Missouri Department of Natural Resource's regulations pertaining to waste water management and odor control. The raising and keeping of horses for any purpose other than the production of food and fiber is not considered agricultural activity.

**Switch, Transfer:** Change to read – An automatic or non-automatic device for transferring one or more load conductor connections from one power source to another. The transfer switch on activation shall disconnect all current carrying conductors to include the neutral to prevent back-feed to the utility.

110.5. Delete in its entirety. Insert: **Conductors.** Conductors normally used to carry current shall be of copper unless otherwise provided for in this code. Where the conductor material is not specified, the sizes given in this code shall apply to copper conductors. Where other materials are used, the size shall be changed accordingly. Aluminum and copper-clad aluminum will be approved as outside feeders of 100 amperes or larger and must terminate nearest the point of entrance of the feeder; or as designed and recommended by a registered professional engineer or a registered architect.

(FPN) For aluminum and copper-clad aluminum conductors, see Sections 250.120 (B), 310-14.

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel: (A) Dwelling Units. (5);

Exception No. 1 to (5): Receptacles that are not readily accessible.

Exception No. 2 to (5): A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is cord and plug connected in accordance with 400.7(A)(6), (A7) or (A8),

Exception No. 3 to (5): A receptacle supplying only a permanently installed fire alarm or burglar alarm system shall not be required to have ground-fault circuit-interrupter protection.

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel: (A) Dwelling Units. (7);

Laundry, utility and wet bar sinks – where the receptacles are installed within 1.8 m (6 ft.) of the outside edge of the sink. Dedicated circuits receptacles installed for specific appliances such as clothes washers, refrigerators and microwaves shall not be required to be GFCI-protected where located within 6 feet of laundry, utility or wet bar sinks in a dwelling. A duplex receptacle may be used for a single appliance provided the duplex receptacle is located behind the appliance which, in normal use, is not easily moved and the receptacle is not readily accessible for the use of power tools. This receptacle must be marked "Not GFCI protected." Receptacles installed under the exceptions to 210.8 (A) (7) shall not be considered as meeting the requirements of 210.52 (G).

210.12 Arc-Fault Circuit Interrupter Protection. (B) Delete.

210.52 Dwelling unit receptacle outlets (C) Countertops (5) Receptacle outlet location. Exception to (5):

Delete the second sentence to the first paragraph that reads; "Receptacles mounted below a countertop in accordance with this exception shall not be located where the countertop extends more than 150mm (6 inches) beyond its support base." The rest of the section remains as stated. This definition is to allow the placement of the receptacle no more than 12 inches below the countertop, and anywhere the countertop extends beyond its support base.

## 2008 National Electrical Code

210.63 Heating, Air-condition and Refrigeration Equipment Outlet: Existing exception to be shown as Exception No. 1: and add: Exception No. 2: Rooftop and exterior equipment on one- and two-family dwellings.

230.50 Protection Against Physical Damage. (B) (1) (3) Schedule 40 rigid nonmetallic conduit or equivalent.

230.70(A)(1). Add: Inside the nearest point of entrance is defined as the first full stud space inside structure.

250.50 Grounding Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are present at each building or structure served shall be bonded together to form the grounding electrode system. Where none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used, except where there exists a metal water pipe in contact with earth for 10 feet or more, for one- and two-family dwellings, a single grounding electrode as required by the serving electrical utility shall be permitted to fill the requirements of Article 250.50.

250.94 Delete in its entirety.

300.5 Underground Installations: (D) protection from Damage: (3) Service conductors: Warning tape shall be installed a minimum of six (6) inches below grade and not less than six (6) inches above the electrical cables or conduit in all underground installations of 50 volts or more.

300.5 D (4) Enclosure and Raceway Damage: Where the enclosure or raceway is subject to physical damage, the conductors shall be installed in rigid metal conduit, intermediate metal conduit, Schedule 40 rigid nonmetallic conduit, or equivalent.

300.9 Raceways in Wet Locations Above Grade: Delete in its entirety.

314.23 (B)(1) Nails and Screws: Add last sentence to paragraph: Screws may be installed through the interior sides of a nonmetallic box to mount or fasten the box in place regardless of its listing and labeling provided the heads of the screws are covered or coated with a nonmetallic material.

334.12 Uses Not Permitted. (A) Types NM, NMC and NMS. Types NM, NMC and NMS cables shall not be permitted as follows: Delete the following in its entirety: (2) "Exposed in dropped or suspended ceilings in other than one- and two-family and multi-family dwellings."

334.12 (B) types NM and NMS. Types NM and NMS cables shall not be used under the following conditions or in the following locations. Exception: Type NMS cable shall be permitted in wet or damp locations.

334.15 (B0) Protection from Physical Damage: Where schedule 80 PVC is stated in paragraph, replace with schedule 40 PVC or better. Cable shall be protected from physical damage where necessary by rigid metal conduit, electrical metallic tubing, Schedule 40 PVC conduit or other approved means. Where passing through a floor, the cable shall be enclosed in rigid metal conduit, intermediate metal conduit, electrical metallic tubing, Schedule 40 PVC conduit or other approved means extending at least 150 mm (6 inches) above the floor.

334.80 Ampacity. The ampacity of Types NM, NMC and NMS cable shall be determined in accordance with 310.15. The ampacity shall be in accordance with the 60 degrees C (143 degrees F) conductor temperature rating. The 90 degree C (194 degree F) rating shall be permitted to be used for ampacity derating purposes, provided the final derated ampacity does not exceed that for a 60 degree C (140 degree F) rated conductor. The ampacity of Types NM, NMC and NMS cable installed in cable tray shall be determined in accordance with 392.11.

Where more than two NM cables containing two or more current-carrying conductors are installed, without maintaining spacing between the cables, through the same opening in wood framing that is to be fire- or draft-stopped using thermal insulation, caulk or sealing foam. The allowable ampacity of each conductor shall be adjusted in accordance with Table 310.15 (B)(2)(a). The rest of 334.80 is deleted in its entirety.

342.30 (C), 344.30 (C), 352.30 (C), 355.30 (C), 358.30(C), Securing and Supporting Unsupported Raceways. For each referenced section, delete the first half of the first sentence that states: "Where oversized concentric or eccentric knockouts are not encountered," Rest of the paragraph remains as stated.

#### 406.8 Receptacles in Damp or Wet Locations

(A) Damp locations. A receptacle installed outdoors in a location protected from the weather or in other damp locations shall have an enclosure for the receptacle that is weatherproof when the receptacle is covered (attachment plug cap not inserted and receptacle covers closed.)

An installation suitable for wet locations shall also be considered suitable for damp locations.

A receptacle shall be considered to be in a location protected from weather where located under roofed open porches, canopies, marquees and the like, and will not be subjected to a beating rain or water run-off. The rest of 406.8 (A) is deleted in its entirety.

#### (B) Wet Location.

- 1) 15- and 20- ampere receptacles in wet locations. 15- and 20- ampere, 125- and 250- volt receptacles installed in a wet location shall have an enclosure that is weather-proof whether or not the attachment plug cap is inserted. Weatherproof "in-use or bubble" covers not required. The rest of 406.8 (B) is deleted in its entirety.

406.11 Delete in its entirety.

410.24 (B) Access to Boxes. Delete.

422.16 (B) Specific Appliances (5) Storage-type Water Heaters: Storage type water heaters shall be permitted to be cord and plug connected with a flexible cord rated at 30 amperes. Cord will not be required to be listed for this use.

440.14 Location: Add: Exception No. 3: Cord and plug connected appliances.

#### Article 545. Manufactured Building.

##### ADD:

545.14. Release from liability: Due to the fact that the Boone County Resource Management is unable to properly inspect wiring, outlets, junction boxes, etc., in manufactured buildings, the owner is responsible for insuring that all electrical components are in compliance with this code.

## 2008 National Electrical Code

Article 550. Mobile Homes and Mobile Home Parks.

ADD:

550.34. Release from liability: Due to the fact that the Boone County Resource Management is unable to properly inspect wiring, outlets, junction boxes, etc. in manufactured buildings, the owner is responsible for insuring that all electrical components are in compliance with this code.



**ORDINANCE NUMBER 14K**  
**Proposal Number 34**  
Effective date: October 6, 2011

A BOARD OF DIRECTORS ORDER ADOPTING THE 2009 EDITION OF THE INTERNATIONAL FIRE CODE, REGULATING AND GOVERNING THE SAFEGUARDING OF LIFE AND PROPERTY FROM FIRE AND EXPLOSION HAZARDS ARISING FROM THE STORAGE, HANDLING AND USE OF HAZARDOUS SUBSTANCES, MATERIALS AND DEVICES, AND FROM CONDITIONS HAZARDOUS TO LIFE OR PROPERTY IN THE OCCUPANCY OF BUILDINGS AND PREMISES IN THE BOONE COUNTY FIRE PROTECTION DISTRICT; PROVIDING FOR THE ISSUANCE OF PERMITS AND COLLECTION OF FEES THEREFORE; REPEALING ORDINANCE NO. 14-J OF THE BOONE COUNTY FIRE PROTECTION DISTRICT AND ALL OTHER ORDINANCES AND PARTS OF THE ORDINANCES IN CONFLICT THEREWITH.

**AN ORDINANCE**

Enacting in lieu thereof a new Article adopting the 2009 edition of the International Fire Code; and fixing the time when this ordinance shall become effective.

BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE BOONE COUNTY FIRE PROTECTION DISTRICT, COLUMBIA, MISSOURI AS FOLLOWS:

**SECTION 1. ADOPTION OF THE INTERNATIONAL FIRE CODE:**

Pursuant to the authority granted by Section 321.600(12) of the Revised Statues of the State of Missouri, the Board of Directors of the Boone County Fire Protection District does herby adopt this Ordinance Number 14K known as the "International Fire Code" that a certain document, three (3) copies of which are on file in the office of the Boone County Fire Protection District, being marked and designated as the International Fire Code, 2009 edition, including Appendix Chapters Appendices B, C, D, E, F, G, H, I and J as published by the International Code Council, be and is hereby adopted as the Fire Code of the Boone County Fire Protection District, in the State of Missouri regulating and governing the safeguarding of life and property from fire and explosion hazards arising from the storage, handling and use of hazardous substances, materials, and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises as herein 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 Fire Code on file in the office of the Boone County Fire Protection District are hereby referred to, adopted, and made a part hereof, as is fully set out in this ordinance, with the additions, insertions, deletions and changes, if any, prescribed.

**SECTION 2. JURISDICTIONAL TITLE.**

100.1 Wherever (name of jurisdiction) appears in this code, it shall read "Boone County Fire Protection District".

100.1.1 Wherever "Department of Inspection" appears in this code, it shall read "Fire and Life Safety Bureau of the Boone County Fire Protection District".

## 2009 International Fire Code

100.1.2 Wherever "Chief Appointing Authority of the Jurisdiction" appears in this Code, it shall read "Board of Directors of the Boone County Fire Protection District".

### Amendments

The code adopted by this article is hereby amended by substituting the following sections in lieu of those sections with corresponding numbers in the 2009 edition of the International Fire Code, or where there is no corresponding section in the code; the following sections shall be enacted as additions to the code:

101.1 Title: These regulations shall be known as the Fire Code of the Boone County Fire Protection District, Columbia, Missouri, and hereinafter referred to as "this code." Section

### 103.0 Fire Prevention

Director: The administration and enforcement of this ordinance shall be the duty of the Fire Chief, who is hereby authorized to take such action as may be reasonably necessary to enforce the provisions of this code. Such persons may be appointed and authorized as assistants or representatives of the chief as may be necessary to carry out the provisions of this code.

103.2: Appointment: Delete

103.4 Relief from personal responsibility: the code official, officer or employee charged with the enforcement of this code, while acting for the jurisdiction, shall not thereby render himself liable personally, and is hereby relieved from all personal liability for any damage occurring to persons or property as a result of any act required or permitted in the discharge of official duties. Any suit instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code shall be defended by the legal representative of the jurisdiction until the final termination of the costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code; and any officer of the Boone County Fire Protection District and the Boone County Planning and Building acting in good faith and without malice, shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith.

105.6.33 Fire Performance Art. An operational permit is required to use open flames defined as Fire Performance Art under section 316 of this code.

105.7 Required construction permits. The building code official is authorized to issue construction permits for work as set forth in Sections 105.7.1 through 105.7.14.

108.1 Application for Appeal: Any aggrieved person shall have the right to appeal a decision of the code official to the Boone County Fire Protection District Board of Directors.

108.2 Limitation on Authority: Delete

108.3 Qualifications: Delete

109.3 Delete in its entirety.

Insert:

## 2009 International Fire Code

109.3 Violation Penalties. Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a misdemeanor and punishable by a fine of not more than five hundred (500) dollars. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

### 111.4 Failure to Comply: Delete

111.4 Failure to Comply: Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than one hundred (100) dollars and not more than five hundred (500) dollars.

308.1.4 Open-flame cooking devices - Charcoal burner and other open flame cooking devices shall not be operated on combustible balconies or within 10 feet of combustible construction. Exceptions: A. One-and-two family dwellings. B. Apartment buildings and condominiums. C. Where buildings, balconies and decks are protected by an automatic sprinkler system.

## Section 318 Fire Performance Art

318.1 General. Fire Performance Art shall be defined as any act (fire juggling, fire eating, etc.) in a public or private place, which utilizes fire for entertainment purposes, outside of a protective housing or in ways in which it travels through the air (by one person or multiple persons). These acts do not include pyrotechnics or other open flame devices as regulated by other code sections or permits.

318.2 Permits. A permit in accordance with 105.6.33 shall be secured from the fire code official prior to the date of the fire performance art taking place.

318.3 Space considerations. A 10-foot distance shall be maintained between the fire-involved item and the any member of an audience, any combustible decoration, and any combustible item within the immediate performance area. A minimum 10-foot ceiling height is required.

318.4 Extinguishing Agents. At minimum of one (1) 2A-10BC multipurpose fire extinguisher shall be required for every five (5) performers at each performance. Additional fire extinguishers may be required by the code official based upon the unique circumstances of the performance and occupancy.

318.4.1 One wet towel for each active fire performer shall be provided to extinguish the fire implement. The towel shall be white in color to differentiate its use from other colors that may be used to clean up flammable or combustible liquid spills. Towels used for cleaning up flammable or combustible liquid spills shall be stored in a metal container with a tight fitting lid.

318.4.2 One listed fire blanket shall be provided for every five (5) performers.

318.5 Personal Safety. A five gallon open-topped bucket of water will be provided for each fire performance area.

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318.5.1 Spotter. One trained spotter shall be provided for each performance. The spotter shall be positioned between the active fire performer and the audience. Spotters should be trained in the proper use of fire extinguishers. The spotter may be a performer who is not engaged in the current performance. The fire code official may require additional spotters based on the unique circumstances of the performance and occupancy.

318.6 Fuels. Approved common fuels used for fire performance art include:

- Denatured Alcohol Lamp Oil (odorless and smokeless)
- Kerosene (For outdoor performances only)
- Stove Fuel
- "Shell Sol T" brand fuel
- "Allume Fue" brand fuel
- "Fire Water" brand fuel

Gasoline is prohibited under any circumstances.

318.6.1 Fuel Quantities and Storage. All fuels shall be stored in their original container(s) with the caps in place when not in use. The maximum quantity of fuel on the site shall be one (1) U.S. gallon per performer.

318.7 Wicks. Wick material shall consist of cotton wrapped in Kevlar to prevent the breakdown of the cotton as it burns. Synthetic wick material shall be avoided.

318.8 Clothing. It is recommended that the clothing worn by the performers be made of fire resistive materials such as natural fibers or Nomex™/PBI.

318.9 Smoking. Smoking is prohibited within 50 feet of the performance area and fuel storage. No smoking signs shall be posted accordingly.

505.1.2 (add the words) Each exterior egress doorway on a building shall have a letter affixed to upper left hand corner of the exterior face of the door beginning with the main entrance door and working clockwise around the building. The letters shall be of a reflective material, blue in color, a minimum of six (6) inches tall with a minimum stroke of .5 inches.

507.3 Fire Flow. Fire hydrants in areas zoned as single family, duplex or agricultural shall be spaced no greater than every five hundred (500) feet and shall be capable of flowing a minimum of five hundred (500) gallons of water per minute for a minimum of two (2) hours. In all other areas, fire hydrants shall be spaced no greater than every three hundred (300) feet and shall be capable of flowing one thousand (1,000) gallons per minute for a minimum of two (2) hours; as measured by an approved route around the exterior of the facility or building, on site fire hydrants and mains shall be provided where required by the code official.

507.3.1 Where the water district authority cannot meet the minimum standards in section 507.3 and or section B105.1, alternative safety measures will need to be presented to the code official for consideration.

507.3.2 All subdivisions except those classified as administrative surveys or Minor Plats containing three or less lots, shall have a centralized water supply system to all lots provided by the governmental

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agency having jurisdiction over the water supply service in the geographic area in which the subdivision is located or by a private business organization licensed and regulated by the Missouri Public Service Commission to provide public water supply service in such geographic area. All water supply mains shall be constructed to meet the minimum fire flows as stated in section

507.3 and B105.1 and be no less than six inches in diameter.

507.3.3 Local water supply jurisdictions may require additional hydrants or require hydrants in a plat with fewer than three lots. Fire hydrant requirements that are imposed by the local water supply jurisdiction which are more restrictive will be governed by said jurisdiction and meet their minimum requirements.

507.5.1 Delete

510.1 Emergency responder radio coverage in buildings shall be provided in all new high-rise buildings and other buildings specifically required by the authority having jurisdiction based on known substantiated problems associated with radio coverage.

609.4 Existing fire suppression systems not meeting the UL 300 criteria shall be upgraded to UL 300 compliant systems within three (3) years of the adoption of this code.

704.1 Enclosure. (add exception) Exception: Where any structure has previously received a certificate of compliance or a certificate of occupancy has been maintained accordingly and complies with the following:

- A. Smoke detectors shall be installed in all shafts and corridors, if such exist.
- B. Shaft and corridor smoke detectors shall receive their primary power from the building wiring and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection.
- C. All smoke detectors in shafts and corridors, if such exist, shall be interconnected such that the actuation of one alarm will actuate all the alarms in the shafts and corridors.
- D. Any structure in compliance with the provisions of section 704.1 shall maintain such compliance.

This exception shall not apply to structures that are renovated, remodeled or altered in excess of fifty (50) percent of the current value of the structure.

903.4.2 (add the words) Alarms. A combination horn strobe shall be installed above the Fire Department Connection (FDC) on all sprinkler systems.

912.3.1 (add the words) Locking fire department connection caps. Fire department connections (FDC) shall be a four (4) inch Storz™ connection and shall utilize a Knox™ locking FDC cap.

1011.1 Illuminated Exit Signs - Where required. (add the words)

Illuminated exit signs in A1, A2, R-1 and R-2 use groups shall be placed above exit doors and to the side of exit doors 18 inches from the floor. The floor level exit signs shall be protected by a guard to prevent

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physical damage. This amendment shall not be retroactive in nature, and shall not apply to structures built prior to September 13, 2007.

### 1011.5.2 Exit sign illumination. (add the words)

Internally illuminated exit signs shall not use incandescent light bulbs relying upon a filament for the source of illumination. This amendment shall be applicable under the following conditions:

In all new and remodeled construction where illuminated exit signs are required or provided: and when exit signs are replaced or deemed inoperable by the jurisdiction having authority; and where an exit sign is installed in new locations in existing buildings, upon order of the Fire Marshall or said designee.

This provision shall not be retroactive in nature, and shall not apply to structures built prior to September 13, 2007

1018.1 Corridors (add exception) Exception. Where any structure has previously received a certificate of compliance or a certificate of occupancy, has been maintained accordingly and complies with the following:

- A. Smoke detectors shall be installed in all shafts and corridors, if such exist.
- B. Shaft and corridor smoke detectors shall receive their primary power from the building wiring and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection.
- C. All smoke detectors in shafts and corridors, if such exist, shall be interconnected such that the actuation of one alarm will actuate all the alarms in the shafts and corridors.

This exception shall not apply to structures that are renovated, remodeled or altered in excess of fifty (50) percent of the current value of the structure.

### 1020. 1 General. (add exception)

Exception. Where any structure has previously received a certificate of compliance or a certificate of occupancy, has been maintained accordingly and complies with the following:

- A. Smoke detectors shall be installed in all shafts and corridors, if such exist.
- B. Shaft and corridor smoke detectors shall receive their primary power from the building wiring and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection.
- C. All smoke detectors in shafts and corridors, if such exist, shall be interconnected such that the actuation of one alarm will actuate all alarms in the shafts and corridors.
- D. Existing windows in a sleeping room shall not be eliminated.

This exception shall not apply to structures that are renovated, remodeled or altered in excess of fifty (50) percent of the current value of the structure.

### 1021.2 Buildings with one exit. (add exception)

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Where any structure has previously received a certification of compliance or a certificate of occupancy, has been maintained accordingly and complies with the following:

- A. Smoke detectors shall be installed in all shafts and corridors, if such exist.
- B. Shaft and corridor smoke detectors shall receive their primary power from the building wiring and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection.
- C. All smoke detectors in shafts and corridors, if such exist, shall be interconnected such that the actuation of one alarm will actuate all the alarms in the shafts and corridors.

This exception shall not apply to structures that are renovated, remodeled or altered in excess of fifty (50) percent of the current value of the structure.

**B105.1 One and Two Family Dwellings:** The minimum fire flow requirements for one and two family dwellings having a fire area which does not exceed five thousand (5000) square feet shall be five hundred (500) gallons per minute for a minimum of two (2) hours. Where the residence exceeds five thousand (5000) square feet, the fire flow requirements shall be one thousand (1000) gallons per minute for a minimum of two (2) hours. Where the water district authority cannot meet the minimum standards, alternative safety measures will need to be presented to the fire code official for consideration.

**B105.2 Buildings other than one- and two-family dwellings.** The minimum fire flow and flow duration for buildings other than one and two-family dwelling units shall be one thousand (1,000) gallons per minute for a minimum of two (2) hours. The code official may use table B105.1 and provisions allowed in Appendix B to determine fire flows under special circumstances.

**C105.1 Fire Hydrant spacing.** Fire hydrants shall have a maximum spacing of 500 feet in all R-S (single family), R-D (duplex) and agricultural zoning districts and 300 feet in all other zoning districts. Fire hydrant spacing for buildings that are required by the 2009 edition of the International Building Code to have a fire flow greater than or equal to six thousand (6,000) gallons per minute shall be regulated by Table C105.1

**C105.1.2 Fire hydrant spacing.** A fire hydrant capable of flowing a minimum of one thousand (1,000) gallons per minute for a minimum of two hours shall be placed within 100 feet of any fire department connection (FDC). This hydrant shall be placed so that it does not impede access to the building or area by responding fire department equipment.

**SECTION 3.** This ordinance shall be in full force and effect from and after October 6, 2011.

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David Griggs  
CHAIRMAN OF THE BOARD OF DIRECTORS

ATTEST TO:

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Secretary to the Board of Directors