



# City of Columbia

701 East Broadway, Columbia, Missouri 65201

Department Source: Community Development - BSD

To: City Council

From: City Manager & Staff

Council Meeting Date: April 18, 2016

Re: Adoption of the 2015 International Code Council Family of Codes, with Amendments

## Executive Summary

The Building Construction Codes Commission (BCCC) has completed its review of the 2015 International Code Council family of codes and the 2014 National Electrical Code for adoption by the City. While the majority of the code changes in this cycle consist of clarifications and reformatting, there are several major code changes including required storm shelters for educational (K through 12 schools) and critical emergency operations use groups (911 call stations, fire, rescue, ambulance, and police stations), as well as new commercial and residential energy efficiency requirements. The Environment and Energy Commission (EEC) also has provided recommendations on the energy efficiency requirements in the International Residential Code (IRC) and the International Building Code (IBC).

## Discussion

The Building Construction Codes Commission is authorized by Chapter 6 of the City Code to "review the Building and other codes periodically for updating and recommending changes." After obtaining authorization to review the 2015 codes from the City Council in March 2015, the BCCC and its committees met frequently from May 2015 to January 2016, evaluating the effect of the new codes and recommending local amendments. BCCC members, representatives of the Building and Site Development Division of the Community Development Department, the Fire Department, and the Inspections Division of Boone County Resource Management attended the meetings.

The Environment and Energy Commission (EEC), following its charge in Chapter 2 of the City Code to "Act in an advisory capacity to the council in all matters pertaining to environmental protection, which could include questions of energy efficiency and conservation, and of changing technology," has reviewed the BCCC recommendations. The EEC has provided several recommended amendments to the energy efficiency requirements for single and two family construction and commercial structures, including multiple-family and institutional residential structures. A summary of the EEC recommendations is provided at the end of this discussion and in the attachments.

Below is a list of selected major code changes and other proposed amendments. All amendments appear in bold font/strikethrough in the attached proposed ordinances.



## Significant Code Changes

1. **Storm shelters.** The most significant change of this code cycle is the new storm shelter requirement (ICC 500) in the 2015 International Building Code (IBC). Because Central Missouri is in an area where the design wind speed for tornadoes is 250 mph [See attached Figure 304.2(1)] the 2015 IBC section 423 requires storm shelters to be constructed in accordance with ICC 500 for the following use groups;

**423.3 Critical emergency operations.** 911 call stations, emergency operations centers and fire, rescue, ambulance and police stations.

Exception: Buildings meeting the requirements for shelter design in ICC 500.

**423.4 Group E occupancies.** All group E occupancies with an occ. load of 50 or more.

Exceptions:

1. Group E daycare facilities.
2. Group E occupancies accessory to places of religious worship.
3. Buildings meeting the requirements for shelter design in ICC 500.

None of the existing buildings in the City would meet the requirements for shelter design in ICC 500 if they were built today.

The 2015 IBC is not clear how building additions may trigger the requirement for a storm shelter. According to an ICC representative, the authority having jurisdiction would determine the requirement for constructing a storm shelter for an addition on a case by case basis. An administrative policy would likely need to be established to clarify the issue.

There will be many additional structural, engineering, and procedural requirements for shelters designed in compliance with ICC 500. Because of the additional expense related to these requirements, the BCCC members want to make sure all stakeholders are aware of this major code change. The BCCC proposes no amendments to these new provisions.

2. **Energy efficiency.** As in the last code cycle the BCCC reviewed new energy code requirements and considered both the benefits of the new requirements and the associated expenses. The BCCC recommends adopting the 2015 Energy Code requirements with the following amendments.

### **Commercial**

- a. The 2015 International Energy Efficiency Code **Section C408** requires **System Commissioning**. All members agreed system commissioning, adjusting, and balancing is advisable. It is the opinion of the committee that the additional required plans and documentation are both cumbersome, time consuming, and expensive. Consensus was that system balancing, performance, and control can be achieved without these additional burdens and suggest the following amendments.



**C408.2 Mechanical systems and service hot water heating systems commissioning and completion requirements. Amend as follows;**

Prior to the final mechanical and plumbing inspections, the registered design professional or approved agency ~~shall~~ **should** provide evidence of mechanical system commissioning and completion in accordance with the provisions of this section.

**C408.3.1 Functional testing. Amend as follows.**

Prior to passing final inspection, the registered design professional ~~shall~~ **should** provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the construction documents and manufacturer's instructions.

- b. As in the last code cycle the BCCC voted to keep the amendment to IBC 1301.1.2 for R-2, R-3, and R-4 use groups (attached). This amendment prescribes insulation values, thermal envelope sealing, and thermal transmittance values for windows.

**Residential One and Two Family**

- a. **N1101.3 Scope.** Add the attached figure labeled 2015 Residential Energy Code Requirements and make it a prescriptive means of code compliance. The committee believes building to this diagram both meets the intent of the code and simplifies the requirements for builders and inspection staff. Consensus was that simplification would translate to more consistent compliance, energy efficiency and affordability.
- b. **N1102.2.9 Basement walls. Amend first sentence as follows;** Walls associated with ~~conditioned~~ **finished** basements shall be insulated from the top of the basement wall down...  
This is applicable only to the foundation wall portions of unfinished basements. To insulate these walls before it is determined what the use will be and where plumbing, mechanical, and electrical components will be located leads to excess cost and duplication of work. This amendment is in line with the goal of affordability.
- c. **N1102.4.1.2 Testing. Amend as follows (Amended portion in bold font);** The building or dwelling unit shall be blower door tested **as deemed necessary by the building official** and verified as having an air leakage rate...Because dwellings never fail the blower door test when constructed per the prescriptive code requirements the blower door test is unnecessary. When, through un-craftsman-like work, compliance with prescriptive code requirements is questionable, the blower door test may be



required. Because blower door testing is several hundred dollars this amendment is in line with the goal of affordability.

- d. **N1102.4.4 Rooms containing fuel burning appliances. Delete.** This section requires rooms “where open combustion air ducts provide combustion air to open combustion fuel-burning appliances” (Typically 80% efficiency gas furnaces and water heaters) to be isolated from the building thermal envelope by means of insulation and fully gasketed doors. The committee believes this requirement, in conjunction with the requirement to bring combustion air into the room, may cause unintended negative consequences such as **freezing** of water pipes or builders using less efficient electric equipment. The committee also believes isolating this room from the thermal envelope entails unnecessary expense.
- e. **Appendix U (Appendix RB in the International Energy Conservation Code) Solar Ready Provisions.** This appendix is not mandatory unless adopted by the adopting ordinance. The BCCC believes the provisions of this appendix will only add unnecessary construction documentation requirements and does not propose adoption of this appendix.

- 3. **Accessibility.** The BCCC is proposing two accessibility amendments to IBC chapter 11 as follows;

**1104.4 Multistory buildings and facilities. Amend exception 1 as follows (Amended portion in bold font);**

**Exceptions:**

- 1. An accessible route is not required **in private buildings or facilities that are less than three stories or** to stories and mezzanines that have an aggregate area of not more than 3,000 square feet and are located above and below accessible levels. This exception shall not apply to:
  - 1.1 Multiple tenant facilities of group M occupancies containing five or more tenant spaces used for sales and rental of goods and where at least one such tenant space is located on a floor level above or below the accessible levels;
  - 1.2 Stories or mezzanines containing offices of health care providers (Group B or I);
  - 1.3 Passenger transportation facilities and airports (Group A-3 or B) or;
  - 1.4 Government Buildings.

This language intends to conform with the ADA which states;

**Exceptions:**

- 1. In private buildings or facilities that are less than three stories or that have less than 3000 square feet per story, an accessible route shall not be required to connect



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stories provided that the building or facility is not a shopping center, a shopping mall, the professional office of a health care provider, a terminal, depot or other station used for specified public transportation, an airport passenger terminal, or other type of facility as determined by the Attorney General.

**1109.5.1 Minimum number (Drinking fountains). Amend as follows; ~~No fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons.~~**

As the code is written a minimum of two drinking fountains is always required because the maximum height for wheelchair accessibility is 34" and the minimum for standing persons is 36" the BCCC. The BCCC voted that if the plumbing code only required one drinking fountain it could meet the standard for wheelchair accessibility. The intent was to limit cost. Note: **Staff has some concerns regarding this amendment; a member of Great Plains ADA Center has stated the proposed amendment is in direct conflict with ADA requirements.**

4. **Existing structures.** Chapter 34 **Existing Structures** has been removed from the IBC. The provisions of this chapter are now contained in the International Existing Building Code (IEBC). IBC section 101.4.7 states, "The provisions of the International Existing Building Code shall apply to matters governing the repair, alteration, change of occupancy, addition, to and relocation of existing buildings." The IEBC goes into much greater detail and clarification than Chapter 34 provided without changing the intent of the provisions.
5. Also of note are;
  - A. The BCCC recommendation to adopt appendices R and S in the 2015 International Residential Code. These appendices establish requirements for "Light Straw-Clay Construction" and "Strawbale Construction".
  - B. The BCCC recommendation to add a commission member "Experienced in Energy Conservation". (IBC amendment section 113.1.2)

## **EEC Recommendations**

The Environment and Energy Commission has made a number of recommendations regarding energy efficiency that differ from the BCCC recommendations, which are summarized below and in the attachments to this report.

The EEC recommendations would make the following changes to the draft ordinance:



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1. Revise the proposed 2015 Residential Energy Code Requirements diagram to require mandatory air leakage testing, state a target air leakage rate, and require blower door and duct pressure tests; require termite barriers.
2. Revise Table 301.2(1) to rate Missouri as “moderate to heavy” termite risk rather than “very heavy” risk as recommended by the BCCC (moderate to heavy is the rating given to Missouri in the published code);
3. Amend the International Residential Code N1102.4.1.2 to require blower door (air leakage) testing (currently it is not recommended a requirement by BCCC);
4. Amend IBC 1301.1.2 to change required insulation values for use groups R-2, R-3, and R-4 (housing other than 1 or 2 family) from R38 to R49 for ceiling or roof and R15 to R20 for exterior walls; require slab insulation rated R10 and require a termite barrier in accordance with R318.3j; and change window “U” value (thermal transmittance rating) from 0.55 to 0.40.
5. Adopt Appendix U, Solar Ready Provisions, as part of the International Residential Code.

## Fiscal Impact

Short-Term Impact: None

Long-Term Impact: None

## Vision & Strategic Plan Impact

### Vision Impacts:

Primary Impact: Environment, Secondary Impact: Health, Social Services & Affordable Housing, Tertiary Impact: Not Applicable

### Strategic Plan Impacts:

Primary Impact: Not Applicable, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

### Comprehensive Plan Impacts:

Primary Impact: Livable & Sustainable Communities, Secondary Impact: Not applicable, Tertiary Impact: Not Applicable



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## Legislative History

Date	Action
03/02/15	REP33-15 Council authorized the Building Construction Codes Commission to review the 2015 International Codes.
07/20/15	R 120-15 Council directed the City Clerk to place on file for a period of ninety days the 2015 International code Council family of codes and the 2014 National Electric Code.

## Suggested Council Action

Adopt the 2015 International Code Council family of Codes (International Residential Code, International Building Code, International Energy Conservation Code, International Existing Buildings Code, International Plumbing, Mechanical, and Fuel Gas Codes, International Fire Code) and the 2014 National Electric Code to be in full force and effect on October 1, 2016.

Introduced by \_\_\_\_\_

First Reading \_\_\_\_\_

Second Reading \_\_\_\_\_

Ordinance No. \_\_\_\_\_

Council Bill No. B 112-16

### **AN ORDINANCE**

repealing Article II of Chapter 9 of the City Code relating to the 2012 Edition of the International Fire Code and enacting in lieu thereof a new Article II adopting the 2015 Edition of the International Fire Code; and fixing the time when this ordinance shall become effective.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF COLUMBIA, MISSOURI, AS FOLLOWS:

SECTION 1. Article II of Chapter 9 of the Code of Ordinances, City of Columbia, Missouri, relating to the 2012 Edition of the International Fire Code, is hereby repealed and in lieu thereof a new Article II, relating to the 2015 Edition of the International Fire Code, is hereby enacted reading in words and figures as follows:

#### **CHAPTER 9. FIRE PREVENTION AND PROTECTION**

...

#### **ARTICLE II. FIRE CODE**

Sec. 9-21. Adopted.

The 2015 Edition of the International Fire Code, published by the International Code Council, Inc., including Appendices A, B, C, D and I, one copy of which has been on file with the city clerk for a period of ninety (90) days prior to the adoption of this article, is hereby adopted by reference and made a part of the Code of Ordinances, City of Columbia, Missouri as fully as if set forth in its entirety. At least one (1) copy of the 2015 Edition of the International Fire Code shall remain on file in the office of the city clerk and shall be kept available for public use, inspection and examination.

Sec. 9-22. - 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 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 Columbia, Missouri, and hereinafter referred to as "this code."

*101.2.2* Appendices A, D and I are hereby adopted as published. Appendices B and C are hereby adopted as amended.

*Section 103.0 Fire Prevention:*

*103.1 Director.* The administration and enforcement of this ordinance shall be the duty of the director of community development and the fire chief, who are designated as the code officials for purposes of this code. The code officials are 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 director and the chief as may be necessary to carry out the provisions of this code.

*103.2 Appointment: Delete*

*103.4 Liability.* Any officer or employee charged with the enforcement of this code, while acting on behalf of the city, shall not thereby render such individual liable personally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of any act performed 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 proceedings. The officer or employee shall not be liable for costs in any action, suit or proceeding that is instituted pursuant to the provisions of this code; and any officer or employee acting within the scope of employment and 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. Nothing contained herein shall be deemed a waiver of the immunities and protection afforded to the city or officers and employees pursuant to state and federal law.

*105.6.49 Fire Performance Art.* An operational permit is required to use open flames defined as Fire Performance Art under amended code section 316.

*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 105.7.16.

*108.1 Application for appeal.* Any aggrieved person shall have the right to appeal a decision of the code official to the Building Construction Codes Commission (BCCC). An application for appeal shall be filled in accordance with the procedures set out in section 112 of the 2009 edition of the International Building Code as amended by section 6-17 of the Code of Ordinances. The application shall be filed on a form obtained from the code official.

*108.2 Limitation on authority:* Delete.

*108.3 Qualifications:* Delete.

*109.4 Violation penalties.* Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof, shall be guilty of a misdemeanor and upon conviction thereof, shall be punished by a fine of not more than one thousand dollars (\$1,000.00) or by imprisonment not exceeding one (1) year, or by both such fine and imprisonment. Each day that a violation continues shall be deemed a separate offense.

*111.4 Failure to comply:* Delete.

*308.1.4 Open-flame cooking devices.* Charcoal burner and other open flame cooking devices shall not be operated on combustible balconies or within ten (10) feet of combustible construction.

*Exceptions:*

1. One- and two-family dwellings.
2. Apartment buildings and condominiums.
3. Where buildings, balconies and decks are protected by an automatic sprinkler system.

*Section 319 Fire Performance Art:*

*319.1 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.

*319.2 Permits.* A permit in accordance with 105.6.32 shall be secured from the fire code official prior to the date of the fire performance art taking place.

*319.3 Space considerations.* A ten (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 ten (10) foot ceiling height is required.

*319.4 Extinguishing agents.* At minimum, 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.

319.4.1 One (1) 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.

319.4.2 One (1) listed fire blanket shall be provided for every five (5) performers.

319.5 *Personal safety.* A five (5) gallon open-topped bucket of water will be provided for each fire performance area.

319.5.1 *Spotter.* One (1) 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.

319.6 *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.

319.6.1 *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.

319.7 *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.

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

319.9 *Smoking.* Smoking is prohibited by within fifty (50) feet of the performance area and fuel storage. No smoking signs shall be posted accordingly.

507.3 *Fire flow.* Fire hydrants in areas zoned as single family or duplex shall be spaced no greater than every five hundred (500) feet and shall be capable of flowing a minimum of eight hundred (800) gallons of water per minute for a minimum of four (4) hours. In all other areas, fire hydrants shall be spaced no greater than every three hundred (300) feet and

shall be capable of flowing a minimum of one thousand five hundred (1,500) gallons of water per minute for a minimum of four (4) hours; as measured by an approved route around the exterior of the facility or building, onsite fire hydrants and mains shall be provided where required by the code official.

507.5.1 Delete

604.6 *Emergency lighting equipment*: Delete.

609.3.5 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.

903.2.1.2 *Group A-2*. An automatic fire sprinkler system shall be provided for Group A-2 occupancies where one of the following conditions exists:

1. The fire area exceeds five thousand (5,000) square feet (465m<sup>2</sup>);
2. The fire area has an occupancy load of two hundred (200) or more; or
3. The fire area is located on a floor other than the level of exit discharge.

903.2.8.3 *Fraternity and sorority houses*. Each fraternity and sorority house and fraternity and sorority annex with sixteen (16) or more occupants existing on March 16, 2009 shall install at a minimum an automatic fire sprinkler system, designed and installed under the current edition of the National Fire Protection Association Standard 13R, in accordance with Section 903.3 of the 2006 International Fire Code, no later than June 1, 2016.

New fraternity and sorority houses and fraternity and sorority annexes and such houses and annexes that undergo renovation of their space, shall install at a minimum an NFPA 13R fire sprinkler system.

Existing fraternity and sorority houses and fraternity and sorority annexes that cannot be compliant by June 1, 2016 must submit to the fire chief, or the chief's designee, a plan to achieve compliance and receive approval of such plan prior to June 1, 2016. The fire chief, or the chief's designee, will review the plan, establish a benchmark, identify additional interim safety measures required and, if approved, establish a new deadline not to exceed three (3) years, or no later than June 1, 2019. Additional interim safety measures may include, but are not limited to, the following:

- a. Occupancy restrictions,
- b. Special event restrictions,
- c. Alarm system enhancements,
- d. Monthly fire alarm battery checks and certification by governing board president and secretary, or equivalent (adult governing board or advisor, not student leadership),
- e. Fire watch, and/or

f. Temporary sprinkler system.

Written quarterly reports to the fire chief, or the chief's designee, will be required to be submitted by any fraternity or sorority who receives an extension.

If the fraternity or sorority disagrees with the determination of the fire chief, a written request for review and a variance from the requirements established by the fire chief may be requested by the fraternity or sorority from the city council. Compliance with the requirements of this section shall not be stayed pending review of the request by the city council.

For purposes of this section, "fraternity and sorority house" means any building used as a dwelling and occupied by and maintained exclusively or primarily for college, university or professional school students who are affiliated with a social, honorary or professional organization recognized currently or in the past by a college, university or professional school

*904.1.1.* Certification of service personnel shall include those who install and service water based fire protection systems. At least one person employed by the company providing the service shall possess either UL or NICET Level 1 certification for the system they are working on.

*912.4.1 (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.

*1013.2 Floor level exit signs in groups A1, A2 over 5,000 square feet or greater than 200 occupants, and R-1.* Illuminated exit signs in A1, A2 and R-1 use groups shall be placed above exit doors and to the side of exit doors eighteen (18) inches from the floor. The floor level exit signs shall be protected by a guard to prevent physical damage. This amendment shall not be retroactive in nature, and shall not apply to structures prior to January 1, 2007.

*1013.6.2 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 City Fire Marshall.

This amendment shall not be retroactive in nature, and shall not apply to structures constructed prior to January 1, 2003.

*1103.4.2 Three to five stories. (Add Exception 5.):*

5. 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.

*1104.16.5 Materials and strength. (Add Exception):*

Exception: If the existing fire escape stairway does not serve an assembly occupancy and is less than or equal to 30 inches wide than it shall support a live load of 40 pounds per square foot and a concentrated load of 300 pounds as for catwalks in IBC Table 1607.1.

*1104.20 Common path of egress travel. (Add Exception):*

Exception: R-2 occupancies that meet the following:

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.

*3103.2 Approval required.* Tents and membrane structures having an area in excess of four hundred (400) square feet (37 m<sup>2</sup>) shall not be erected, operated or maintained for any purpose without first obtaining a permit from the community development department and inspection from the fire code official.

Exceptions to permit and inspection:

1. Tents used exclusively for recreational camping purposes.

Exceptions to inspections (permit required):

1. Tents which comply with all of the following:
  - 1.1. Individual tents having a maximum size of one thousand (1,000) square feet (92.9 m<sup>2</sup>) and erected for less than three (3) days.
  - 1.2. The aggregate area of multiple tents placed side by side without a fire break clearance of twelve (12) feet (3,658 mm), not exceeding one thousand (1,000) square feet (92.9 m<sup>2</sup>) total and erected for less than three (3) days.

*3103.8.2 Location.* Tents or membrane structures shall not be located within twenty (20) feet (6096 mm) of buildings, other tents or membrane structures, or internal combustion engines for generators. For the purpose of determining required distances, support ropes and guy wires shall be considered as part of the temporary membrane structure or tent.

Exceptions:

1. Membrane structures or tents need not be separated from buildings when all of the following conditions are met:
  - 1.1. The aggregate floor area of the membrane structure or tent shall not exceed ten thousand (10,000) square feet (929 m<sup>2</sup>).
  - 1.2. The aggregate floor area of the building and membrane structure or tent shall not exceed the allowable floor area including increases as indicated in the International Building Code.
  - 1.3. Required means of egress are provided for both the building and the membrane structure or tent including travel distances.
  - 1.4. Fire apparatus access roads are provided in accordance with Section 503.

*3103.8.6 Fire break.* An unobstructed fire break passageway or fire road not less than twelve (12) feet (3658 mm) wide and free from guy ropes or other obstructions shall be maintained on all sides of all tents and membrane structures where separation is required per Section 3103.8.2 unless otherwise approved by the fire code official.

*3103.12.7 Means of egress illumination.* (Add exception):

Exception: Tents used during daylight hours and open on all sides are not required to provide means of egress illumination unless required by the fire code official.

*5601.3 Prohibited explosives.* Add the following prohibited explosive: *Fireworks.* The possession, manufacture, storage, sale and use of fireworks are prohibited, except where allowed under section 16-234 of the Code of Ordinances.

*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 three thousand six hundred (3,600) square feet (344m<sup>2</sup>) shall be eight hundred (800) gallons per minute (3785L/min) for a minimum of four (4) hours.

*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 five hundred (1,500) gallons per minute for a minimum of four (4) hours. The code official may use table B105.1 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-1 (Single family) and R-2 (Duplex) developments and 300 feet in all other zoning districts. Fire hydrant spacing for buildings that are required by the 2012 edition of the International Building Code to have a fire flow greater than or equal to 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 five hundred (1,500) gallons per minute for a minimum of four (4) hours shall be placed within one hundred (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 2. The repeal of Article II of Chapter 9 of the Code of Ordinances, City of Columbia, Missouri, relating to the 2012 Edition of the International Fire Code shall not affect any offense or act committed or done or any penalty or forfeiture incurred before the effective date of this ordinance.

SECTION 3. This ordinance shall be in full force and effect from and after October 1, 2016.

PASSED this \_\_\_\_\_ day of \_\_\_\_\_, 2016.



ATTEST:

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor and Presiding Officer

APPROVED AS TO FORM:

\_\_\_\_\_  
City Counselor