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Ordinance No. 023998

Council Bill No. B 254-19

AN ORDINANCE

repealing Article III of Chapter 6 of the City Code relating to the 2006 Edition of the International Code Council Electrical Code Administrative Provisions referencing the 2014 National Electrical Code and enacting in lieu thereof a new Article III adopting the 2006 Edition of the International Code Council Electrical Code Administrative Provisions and the 2017 Edition of the National Electric Code NFPA 70; 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 Article III of Chapter 6 of the Code of Ordinances, City of Columbia, Missouri, is hereby repealed and in lieu thereof a new Article III, relating to the 2006 Edition of the International Code Council Electrical Code Administrative Provisions and the 2017 Edition of the National Electric Code NFPA 70, is hereby enacted reading in words and figures as follows:

CHAPTER 6. BUILDINGS AND BUILDING REGULATIONS

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ARTICLE III. ELECTRICAL CODE

Sec. 6-31. Adoption by reference.

The 2006 Edition of the International Code Council Electrical Code Administrative Provisions and the 2017 Edition of the National Electric Code NFPA 70, published by the National Fire Protection Association, one (1) copy of each of which has been on file with the city clerk for a period of ninety (90) days prior to the adoption of this article, are hereby adopted by reference and made a part of the Code of Ordinances, City of Columbia, Missouri as fully as if set forth in their entirety. At least one (1) copy of the 2006 Edition of the International Code Council Electrical Code Administrative Provisions and one (1) copy of the 2017 Edition of the National Electric Code NFPA 70 shall remain on file in the office of the city clerk and shall be kept available for public use, inspection and examination.

Sec. 6-32. Amendments to the 2006 International Code Council Electrical Code Administrative Provisions.

The 2006 International Code Council Electrical Code Administrative Provisions 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. This section shall be known as the Electrical Code Administrative Provisions of the City of Columbia, Missouri and will be referred to as "this code."

101.4 Conductors. Conductors normally used to carry current shall be of copper unless otherwise provided in this code. Where the conductor material is not specified, the material and 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 registered architect.

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

SECTION 301 DEPARTMENT OF COMMUNITY DEVELOPMENT –
DIVISION OF BUILDING AND SITE DEVELOPMENT

301.1 Administration and enforcement. The administration and enforcement of this code shall be the duty of the director of community development who shall be referred to as the code official or the authority having jurisdiction in this code. The code official or authority having jurisdiction is 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, as may be necessary, to carry out the provisions of this code.

301.2 Emergency power. In case of an emergency, the director is hereby empowered to cause the discontinuance of electrical service to any electrical wiring, devices, appliances and equipment found to be immediately dangerous to life or property until such wiring, devices, appliances and equipment have been made safe in accordance with the minimum requirements of this code.

301.3 Restriction of employees. An employee connected with the Department of Community Development - Division of Building and Site Development shall not be engaged in or directly or indirectly connected with the furnishing of labor, materials or appliances for the construction, alteration or maintenance of a building, or the preparation of plans or of specifications therefore, unless the employee is the owner of the building; nor shall such

employee engage in any work which conflicts with employee's official duties or with the interest of the department.

302.9 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.

SECTION 304 ELECTRICAL CERTIFICATIONS

304.1 Electrical certifications. The director of community development shall select examinations, and authorize testing for electricians' licenses and certificates, to approve or disapprove applications for electricians' licenses and certificates, and to issue or revoke electricians' licenses or certificates. Within thirty (30) days after an application for examination as an electrician has been filed, the director shall act to approve, disapprove or schedule testing for such applicant. Any application not acted upon within thirty (30) days shall be deemed denied. Applicants scheduled for examination shall be notified of the date, time and place of examination at least three (3) days prior to the date of examination.

304.2 Certificate of competency. It shall be unlawful for any person to engage in the installation, alteration or repair of electrical wiring, equipment, apparatus or fixtures for light, heat or power purposes; installation or additions to sound, audio visual or communication equipment in or on any building, structure, or premises within the corporate limits of the City of Columbia, Missouri, unless issued a certificate of competency by the director, except as provided by Section 401.4 Exception 2. This shall not be construed to cover cases where the connected electrical load is not increased or where no new electrical wiring is required.

304.3 Types of certificates. The director is herein empowered to provide for the following types of certificates:

1. Electrical Contractor or Master Certificate (Type A)
2. Electrical Sign Contractor Certificate (Type B)
3. Journeyman Certificate, 8,000-Hrs (Type C-8 General)
4. Journeyman Certificate, 6,000-Hrs (Type C-6 General)

5. Sign Wireman Certificate (Type D)
6. Security-Fire Alarm Certificate (Type F)
7. Communication and Sound Certificate (Type G)
8. Maintenance Electrician Certificate (Type H)
9. Apprentice Electrician Certificate (Type E)

304.3.1 Requirements. Certificates will be issued to applicants who meet the following requirements:

Apprentice (Type E) Submit application stating name, address and telephone number and employer's signature. No fee required.

Journeyman (Type C-8)

1. Submit application to director of community development stating name, address, telephone number and type of certificate requested.
2. Prove 8,000 hours active employment as an apprentice electrician. Time in an appropriate electrical apprenticeship program or trade schools may be considered for credit toward 8,000 hours requirement.
3. List names, address and telephone number of all previous employers under which applicant worked as an apprentice electrician.
4. Successfully complete examination required by the director.

Journeyman (Type C-6)

1. Submit application to director of community development stating name, address, telephone number and type of certificate requested.
2. Prove 6,000 hours active employment as an apprentice electrician. Time in an appropriate electrical apprenticeship program or trade schools may be considered for credit toward 6,000 hours requirement.
3. List names, address and telephone number of all previous employers under which applicant worked as an apprentice electrician.
4. Successfully complete examination required by the director.

Contractor or Master (Type A)

1. Submit application to director of community development stating name, address, telephone number and type of certificate requested.
2. Prove 4,000 hours active employment as journeyman electrician C-8, 6,000 hours as journeyman electrician C-6 or be registered with the State of Missouri as a professional engineer or architect and be actively engaged in the business of electrical contracting.
3. List names, address and telephone number of all previous employers under which applicant worked as an apprentice or journeyman electrician.

4. Successfully complete examination required by the director.

General Security-Fire Alarm (Type F) Submit application to director of community development stating name, address, telephone number and type of certificate requested, along with a certificate or statement to install manufacture system.

Communication and Sound (Type G) Submit application to director of community development stating name, address, telephone number and type of certificate requested, along with a certificate or statement to install manufacture system.

(Type B, D, and H)

1. Submit application to director of community development stating name, address, telephone number and type of certificate requested.
2. List name, address and telephone number of all previous employers under which applicant worked in a capacity similar to that covered by the requested certificate.
3. Successfully complete examination required by the director.

304.4. Application for certificate. The director shall approve or disapprove the issuance of a certificate upon (1) the filing of the proper application, (2) completion of examination when required, (3) payment of the required fee. This section shall not apply to apprentice electricians.

304.5 Type of examination required. The type of examination required will be determined by the director and will be selected from the standard examination list as prepared and published by Thomson Prometric, 1260 Energy Lane, St. Paul, MN 55108, or the ICC National Standardized Examinations Program, www.iccsafe.org/contractor (1-877-STD-Exam), or any state issued and approved exam.

304.6 Reciprocity. The director shall grant reciprocity and issue a license to an applicant who meets the minimum qualifications set forth in this section.

An electrician who meets the following requirements shall be granted a journeyman electrician license: 6,000 hours of electrical experience with certification of satisfactory completion of the Thomson Prometric, ICC, or other electrical examination administered by a state of the United States of America.

An electrician who meets the following requirements shall be granted a master electrician license: 12,000 hours of electrical experience with certification of satisfactory completion of the Thomson Prometric, ICC, or other electrical examination administered by a state of the United States of America.

304.7 Work authorized by type of certificate. The scope of work authorized by each type of certificate shall be as follows:

1. The Electrical Contractor or Masters Certificate (Type A) shall authorize the grantee to engage in the business of contracting for the installation, repair,

altering, and making additions to electrical wiring, heating devices, lights, motors, fixtures, conduits, generators, appliances and appurtenances and to supervise construction or installation of same.

2. An Electrical Sign Contractor Certificate (Type B) shall authorize the grantee to engage in the business of contracting for the fabrication, installation, repair, alteration or making additions to electrical signs, and to make the electrical connections thereto within five (5) feet of the work authorized to be installed. Any electrical sign contractor personally performing electrical sign work shall be a certificated sign wireman.
3. An Electrical Journeyman, Type C-8 shall authorize the grantee to perform electrical work under persons or firms holding contractor license (Type A).
4. An Electrical Journeyman, Type C-6 shall authorize the grantee to perform electrical work under persons or firms holding contractor license (Type A).
5. A Sign Wireman Certificate (Type D) shall authorize the grantee to perform electrical work on any electrical sign and to make connections to or disconnections from the power source within five (5) feet of an electrical sign.
6. Security-Fire Alarm Certificate (Type F) shall authorize the grantee to engage in the business of contracting and to install, repair and make alterations on burglar and fire alarm equipment and to make electrical connections thereto within five (5) feet of the equipment authorized to be installed.
7. Communication and Sound Certificate (Type G) shall authorize the grantee to engage in the business of contracting and to install, repair and make alterations on communication and sound equipment and to make electrical connections thereto within five (5) feet of the equipment authorized to be installed.
8. A Maintenance Certificate (Type H) shall authorize the grantee to perform electrical routine maintenance only, on equipment applicable to grantee's trade and for a specified employer. In addition, with 6,000 hours the grantee shall be authorized to take the journeyman electric exam.
9. An Apprentice Electrical Certificate (Type E) shall authorize the grantee to perform electrical work only when under the immediate supervision of an electrician holding a Type C, D, G or H Certificate. The ratio shall not exceed three apprentices to one master or journeyman electrician.

304.9 Insurance requirements. It shall be unlawful for any person holding a Type A, B, F or G Certificate to engage in work authorized by such certificate in the corporate limits of the city without first having filed with the city business license administrator a certificate of comprehensive liability insurance with a minimum of \$100,000 per claim bodily injury, \$100,000 per claim property damage with \$300,000 aggregate per occurrence. Such insurance shall insure the proper construction, erection, and maintenance of the electrical work in accordance with the provisions of this code and shall insure the city from any and all claims or demands for damages by reason of any negligence of the electrical contractor or contractor's agents, or by reason of defects in the construction, or damages resulting

from any part thereof. The city requires a thirty (30) day cancellation notice from the insurance company.

304.10 Work allowed under license. No person who has obtained an Electrical Contractor's Certificate (Type A) shall allow his/her name to be used by another person for the purpose of obtaining permits, or for doing business or work under such license. Every person licensed shall notify the director of the address of licensee's place of business, if any, and the name under which such business is carried on, and shall give immediate notice to the board of any change in either.

No individual, firm, partnership or corporation shall engage in the business of installing, repairing or altering electrical systems unless the electrical work performed in the course of such business is under the general supervision of a licensed master electrician, and under the direct supervision of a licensed master electrician or licensed journeyman electrician, employed on such installation or alteration full-time to assure proper and accurate work as prescribed by this code.

304.11 Re-examination. Any person, who fails to pass the examination, as prescribed by the director, may apply for re-examination.

304.12 License Fees. Electrical contractors with Type A, B, F or G Certificate shall pay annual business license fees to the city in an amount to be determined under the provisions of chapter 13 of the Code of Ordinances.

304.13 Certificate Issuance. All applicants approved by the director for Journeyman certificate shall pay a thirty dollar (\$30.00) fee prior to the issuance of the certificate. Master certificates shall require a payment of ninety dollars (\$90.00) prior to the issuance of the certificate. Certificates issued in September, October, and November of the renewal year are not required to pay a renewal fee in December.

304.14 Certificate Renewal. All certificated electricians holding Type A, B, C, D, F, G and H certificates shall renew their certificate every three (3) years and pay a renewal fee of thirty dollars (\$30.00) for a Journeyman certificate, and ninety dollars (\$90.00) for a Master certificate.

304.15 Expiration and revocation of certificate. All certificates of competency issued by the director shall be valid from the date of issuance until the renewal date as listed in section 304.14, or when revoked by the director. Business licenses required of electricians, contractors, and contracting master electricians shall expire annually in accordance with the provisions of Chapter 13 of the Code of Ordinances.

The director may revoke any certificate if obtained through non-disclosure, misstatement, or misrepresentation of a material fact, or if a penalty has been imposed upon a certificate holder under the provisions of this code. Before a certificate may be revoked, the certificate holder shall have notice in writing enumerating the charges against the certificate holder, and be entitled to a hearing by the director, not sooner than five (5) days from receipt of the

notice. The certificate holder shall be given an opportunity to present testimony, oral or written, and shall have the right to cross-examination. All testimony shall be given under oath. The director shall have the power to administer oaths. The decision of the director shall be based upon the evidence produced at the hearing and made a part of the record thereof. Any person aggrieved by a decision of the director may appeal to the circuit court as provided in chapter 536 of the Revised Statutes of Missouri. A person whose certificate has been revoked shall not be permitted to apply for renewal within one year of the date of revocation.

401.4 Exceptions to work authorized. No permit to install or perform any work authorized by Type A, B, F, or G license shall be granted to any person other than a contractor, except as follows: All electrical permits may be issued to the general contractor on behalf of the master electrical contractor for new one and two family dwellings and building alteration or building additions for one and two family dwellings. All electrical work must be performed by an electrician licensed by the City of Columbia, or as allowed by ordinance.

Exception No. 1. Electricians holding a Type C-6 or C-8 certificate who are regular employees of the firm or corporation for which the work is to be performed, may obtain a permit to do electrical work on the premises of the firm or corporation provided the work is not associated with work requiring a building permit.

Exception No. 2. A permit may be issued to any person to do work in a single family dwelling used exclusively for living purposes, including the usual accessory buildings and quarters in connection with such building, provided that the person is a bona fide owner of the dwelling, will occupy the dwelling for a period of not less than one year, will personally purchase all materials and perform all labor authorized by the permit, and that the applicant shall file an affidavit certifying that these conditions will be met before the issuance of the permit. Any person obtaining a permit under this section shall not be issued another permit within two (2) years.

Work performed under any permit shall be subject to all applicable regulatory provisions of this code.

404.2 The director of community development shall issue a permit for proposed work set forth in the application if in compliance with this and all other ordinances and regulations of the City of Columbia, Missouri, and upon payment of fees set forth hereinafter. In no case shall the fees for permits be less than the following:

For alterations of or extensions to existing wiring, or any other electrical permit	\$35.00
For each service entrance panel 225 amperes or less	\$35.00
For each service entrance panel over 225 amperes	\$0.175/Amp
For each sub-panel	\$25.00

For each circuit (whether 2-wire, 3-wire or 3-phase)	
For first fifteen	\$2.35 each
For all over fifteen	\$2.19 each
For each connection of hot air or hot water heating plant	\$7.00 each
For installation of or addition to sound, audio-visual or Communication equipment	\$35.00
Swimming pool	\$75.00
Re-inspection fees will be charged in accordance with the Building Code of Columbia, Missouri.	
First failed inspection	\$35.00
Failed re-inspection of prior correction notice	\$70.00

In addition to persons authorized hereunder, an application for permit may be submitted by a general contractor or the owner of a new one- or two-family dwelling. Fees may be paid at the date of application or through billing by the finance department. Failure to pay any billed fee within thirty (30) days of billing shall nullify any permit for which billing was made and work shall cease until fees are actually received by the city. Permit revocation and work stoppage are remedial steps which may be taken in addition to any other remedy for collection authorized by law.

1003.1 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.

SECTION 1101 BUILDING CONSTRUCTION CODES COMMISSION

1101.1 Board of appeals established. Delete in its entirety.

1101.3 Appeals. The applicant for an electrical permit, the holder of an electrical permit, or the owner or agent of a building or structure wherein electrical work is to be installed may appeal a decision of the code official or authority having jurisdiction refusing to grant modification of the provisions of the Electrical Code covering the manner of installation, or materials to be used in the installation, to the building construction codes commission. The applicant for an electrical certification may appeal a decision of the director to deny or revoke certification to the building construction codes commission. Application for appeal shall be filed in accordance with the procedures set out in Section 113 of the Building Code of Columbia, Missouri.

1102 Membership. Delete in its entirety.

1103 Procedures. Delete in its entirety.

1201.1.1 Adoption. Except as otherwise provided in this code, electrical systems and equipment shall be designed and constructed in accordance with the most recent International Residential Code or National Electrical Code NFPA 70 adopted by the city, as amended.

Sec. 6-33. Amendments to 2017 Edition of National Electric Code NFPA 70.

The 2017 Edition of the National Electric Code NFPA 70 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:

90.2.1 Title. This section shall be known as the Electrical Code of the City of Columbia, Missouri and will be referred to as "this code."

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. (A) Dwelling Units. shall be amended as follows:

"(2) Garages, and accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use" shall have the following exceptions added:

Exception 1 to (2): Receptacles in locations that are not readily accessible. (e.g., on the ceiling of a garage).

Exception 2 to (2): 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).

"(3) Outdoors" shall have the following exception added:

Exception 2 to (3): GFCI receptacles located in exterior soffits and used for seasonal decorative lighting are not required to be readily accessible.

"(5) Unfinished portions or areas of the basement not intended as habitable rooms" shall have the following exception added:

Exception 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).

"(7) Sinks – where receptacles are installed within 1.8 m (6 ft) from the top inside edge of the bowl of the sink" shall have the following exception added:

Exception 1 to (7): Where the receptacles are installed within 1.8 m (6 feet) of the outside edge of the sink:

- (a) Receptacles installed for specific appliances such as clothes washers, refrigerators, garbage disposals, dishwashers, and microwave ovens shall not be required to be GFCI protected where located within 6 feet of laundry, utility, kitchen or wet bar sink in a dwelling.
- (b) 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).

210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. (D) Kitchen Dishwasher Branch circuit. Delete this section.

210.12 Arc-Fault Circuit-Interrupter Protection. (A) Dwelling Units. The first sentence shall be amended to read as follows: All 120-volt, single phase, 15- and 20-ampere branch circuits supplying outlets installed in dwelling unit bedrooms and for smoke detectors shall be protected by a listed arc-fault circuit interrupter, combination-type, installed to provide protection of the branch circuit.

210.12 Arc-Fault Circuit-Interrupter Protection. (A) Dwelling Units. A second exception shall be added to the end of the section as follows:

Exception: Arc-Fault circuit interrupter protection is not required in one and two-family dwellings which are regulated by the International Residential Code.

210.12(B) Dormitory Units. The following sentence shall be added to the end of the section: This requirement applies to sleeping units in fraternities and sororities.

210.52 Dwelling unit receptacle outlets (C) Countertops and Work Surface (5) Receptacle outlet location shall be amended as follows:

Exception to (5): To comply with the following conditions (1) and (2), receptacle outlets shall be permitted to be mounted not more than 300 mm (12 in.) below the countertop or work surface. Placement of the receptacle is allowed no more than 12 inches below the countertop, and anywhere the countertop extends beyond its support base.

- (1) Construction for the physically impaired
- (2) On island and peninsular countertops or work surface where the surface is flat across its entire surface (no backsplashes, dividers, etc.) and there are

no means to mount a receptacle within 500 mm (20 in) above the countertop or work surface, such as an overhead cabinet

210.52 Dwelling Unit Receptacle Outlets. (E) Outdoor Outlets. (3) Balconies, Decks, and Porches. The following sentence shall be added at the end of the section: A receptacle is not required at an existing structure.

210.63 Heating, Air-Conditioning, and Refrigeration Equipment Outlet. The following exception shall be added at the end of the section:

Exception No. 2: A receptacle outlet shall not be required for rooftop and exterior equipment on one- and two-family dwellings.

210.64 Electrical service areas. In other than 1- and 2-family dwellings, at least one 125-volt, single phase, 15- or 20-ampere-rated receptacle outlet shall be installed in an accessible location within 7.5 m (25 feet) of the indoor electrical service equipment. The required receptacle outlet shall be located within the same room or area as the service equipment.

Part II. Branch Circuit Load Calculations. 220.14 Other Loads – All Occupancies. (J) Dwelling Occupancies. This section shall be amended to read as follows:

In multi-family dwellings and in guest rooms or guest suites of hotels and motels, the outlets specified in (J)(1), (J)(2), and (J)(3) are included in the general lighting load calculations of 220.12. No additional load calculations shall be required for such outlets.

- (1) All general-use receptacle outlets of 20-ampere rating or less, including receptacles connected to the circuits in 210.11(C)(3)
- (2) The receptacle outlets specified in 210.52(E) and (G)
- (3) The lighting outlets specified in 210.70(A) and (B)

In one-family and two-family dwellings the requirements specified in (J)(4), (J)(5), (J)(6) shall be met.

- (4) In one-family and two-family dwellings, a 15-amp rated general purpose circuit shall be limited to a maximum of eight receptacle outlets or openings, or eight lighting outlets or openings, or any combination of receptacle outlets and lighting outlets totaling not more than eight.
- (5) In one-family and two-family dwellings, a 20-amp rated general purpose circuit shall be limited to a maximum of ten receptacle outlets or openings, or ten lighting outlets or openings, or any combination of receptacle outlets and lighting outlets totaling not more than ten.
- (6) In one-family and two-family dwellings, the small appliance circuits serving the kitchen countertop and similar areas, shall be limited to not more than two receptacle outlets or openings for the first two such circuits; the third and

succeeding small appliance circuits shall be limited to not more than three receptacle outlets or openings per circuit.

- (7) In one-family and two-family dwellings, the microwave receptacle outlet shall be a dedicated 20-amp rated circuit, and shall share with no other outlets.

230.50 Protection Against Physical Damage. (B) All Other Service-Entrance Conductors. (1) Service Entrance Cables. (3) "Schedule 80 PVC conduit" shall be deleted and "40 rigid nonmetallic conduit or equivalent" shall be inserted.

250.52 Grounding Electrodes. (A) Electrodes Permitted for Grounding. (3) Concrete-Encased Electrode. The following exception shall be added at the end of the section:

Exception 1 to (3): Buildings governed by the International Residential Code are exempt from the requirement that a concrete-encased electrode serve as part of the grounding electrode system.

250.53. Grounding Electrode System Installation. (A) Rod, Pipe, and Plate Electrodes. (2) Supplemental Electrode Required. 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 twelve (12) inches above the electrical cables or conduit in all underground installations of 50 volts or more.

300.5 Underground Installations. (D) Protection from Damage. (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, RTRC-XW, Schedule 80 PVC conduit, or equivalent.

300.11 Securing and Supporting. (B) Wiring Systems Installed Above Suspended Ceilings. (2) Non-Fire Rated Assemblies The following exception shall be added at the end of the section:

Exception: One 3/4 inch raceway or smaller, with maximum conductor fill (for example, twelve #12 AWG), shall be permitted to be supported by the ceiling support wires.

314.23 Supports. (B) Structural Mounting. (1) Nails and Screws: The following sentence shall be added to the end of the section: 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. Item (2) in this subsection which reads "Exposed in dropped or suspended ceilings in other than one- and two-family and multi-family dwellings." shall be deleted in its entirety.

334.12 *Uses not permitted. (B) Types NM and NMS.* The following exception shall be added at the end of the section:

Exception 1 to (B): Type NMS cable shall be permitted in wet or damp locations.

334.15 *Exposed Work. (B) Protection from Physical Damage:* Cable shall be protected from physical damage where necessary by rigid metal conduit, intermediate 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 Celsius (140 degrees Fahrenheit) conductor temperature rating. The 90 degree Celsius (194 degree Fahrenheit) rating shall be permitted to be used for ampacity derating purposes, provided the final derated ampacity does not exceed that for a 60 degrees Celsius (140 degrees Fahrenheit) rated conductor. The ampacity of Types NM, NMC, and NMS cable installed in cable 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).

338.10 *Uses Permitted. (B) Branch Circuits or Feeders. (4) Installation Methods for Branch Circuits and Feeders. (a) Interior Installations.* In addition the provisions of this article, Type SE service-entrance cable used for interior wiring shall comply with the installation requirements of Part II of Article 334, excluding 334.80.

404.2. *Switch Connections. (C) Switches Controlling Lighting Loads:* Delete in its entirety.

404.9 *Provisions for General-Use Snap Switches. (B) Grounding:* The following exception shall be added at the end of the section:

Exception No. 4 to (B): In one- and two-family dwellings, switches mounted to non-metallic boxes with non-metallic face plates shall not be required to be effectively grounded.

404.10 *Mounting of Snap Switches. (B) Box Mounted.* The following sentence shall be added to the end of the section: The requirement for machine-threaded screws shall not apply to plastic outlet boxes.

406.4 *General Installation requirements. (D) Replacements.* The following exception shall be added at the end of the section:

Exception No. 1: Soffit receptacles and/or lighting.

406.5 *Receptacle Mounting.* The following sentence shall be added to the end of the first paragraph: The requirement for machine-threaded screws shall not apply to plastic outlet boxes.

406.9 *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 runoff.

- (B) *Wet Locations.*

- (1) *Receptacles of 15- and 20-amperes in a wet location.* Receptacles of 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.

406.12 *Tamper-Resistant Receptacles.* Item (1) "Dwelling units in all areas specified in 210.52 and 550.13" shall be deleted in its entirety.

406.12 *Tamper-Resistant Receptacles.* Item (5) shall be amended to read as follows: Waiting rooms and the like in clinics, medical and dental offices and outpatient facilities.

410.24 *Connection of Electric-Discharge and LED Luminaires. (B) Access to Boxes.* Delete in its entirety.

422.16 *Flexible Cords. (B) Specific Appliances. (2) Built-in Dishwashers and Trash Compactors.* Item (6) shall be amended to read as follows:

- (6) The receptacle for a built-in dishwasher shall be permitted in the space adjacent to the space occupied by the dishwasher. The receptacle serving a built-in dishwasher shall be permitted in the space occupied by the dishwasher unless manufacturer instructions require the plug to be in an adjacent cabinet.

422.16 Flexible Cords. (B) Specific Appliances. A new subsection (5) shall be added as follows:

- (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. The following exception shall be added at the end of the section:

Exception No. 3: Cord-and-plug connected appliances.

547.5 Wiring Methods. (F) *Separate Equipment Grounding Conductor.* The following sentence shall be added at the end of the section: Aluminum equipment grounding conductors shall not be permitted underground in agricultural buildings or areas.

590.4 General. (D) *Receptacles.* (2) *Receptacles in Wet Locations.* Delete in its entirety.

600.6 Disconnects. (A) *Location.* (1) *At Point of Entry to a Sign:* Disconnects for signs and for outline lighting shall be located at the point where the feeder or branch circuits(s) enters the sign enclosure or pole, and shall disconnect all ungrounded conductors where they enter the sign enclosure or pole. The disconnect shall open all ungrounded conductors where it enters the enclosure of the sign or pole.

680.43 Indoor Installations. Exception No. 2 shall be deleted in its entirety.

680.74 Bonding. Delete the last sentence of subsection (B).

700.10 Wiring, Emergency System. (A) *Identification.* A new Item (3) shall be added to this section to read as follows:

- (3) Examples: Components may be permanently marked "red" or "emergency system."

SECTION 2. The repeal of Article III of Chapter 6 of the Code of Ordinances, City of Columbia, Missouri, relating to the NFPA 70 2014 National Electrical 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, 2019.

PASSED this 3rd day of September, 2019.

ATTEST:



City Clerk



Mayor and Presiding Officer

APPROVED AS TO FORM:



City Counselor