

CITY OF EVANS, COLORADO

**ORDINANCE NO. 624-15**

AN ORDINANCE REPEALING AND RE-ENACTING MUNICIPAL CODE CHAPTER 15.20, ELECTRICAL CODE.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF EVANS, COLORADO:

Section 1. Chapter 15.20 of the Evans Municipal Code is repealed in its entirety and re-enacted to read as follows:

Chapter 15.20

2014 NATIONAL ELECTRIC CODE (NEC)

15.20.010 Document adopted by reference. The, *National Electrical Code*®, 2014 Edition, referred to in this Chapter as this *Code* or the *NEC*®, is hereby adopted by reference by the City of Evans. The *National Electrical Code*® is published by the National Fire Protection Association, One Batterymarch Park, Quincy, Massachusetts, 02269 and is referenced as NFPA 70. The City of Evans finds that *The National Electrical Code*® provides for the minimum standards to safeguard life, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance of electrical systems. To ensure the safety of the public, this *Code* is to be enforced as published or as amended in this Chapter. Enforcement and administrative procedures are also established in this Chapter.

**Amendments, Deletions, and Additions Designated.**

*NEC*® Articles 90.8(A), 110.14(A), 110.14(B), 210.11(C)(3), 210.52 (G), 230.70(A)(1), 250.118, 334.10, 342.10(B), 344.10(B), 348.60, 350.60, 408.4 and 422.12 of the *National Electrical Code*® are hereby amended; Annex H of the *NEC*® is hereby deleted; and Articles 210.52(J), 210.52(K), and 210.52(L) are added as set out in Sections 16.32.080 through 16.32.091.

15.20.020 Title for citation. The ordinance codified in this chapter may be known and cited as "the National Electric Code of the City of Evans, Colorado."

15.20.030 Purpose. The purpose of this code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation and maintenance or use of electrical systems.

15.20.040 Scope of provisions. The subject matter of the electrical code establishes comprehensive provisions, standards and regulations for materials, installation methods, inspection, and other matters relating to electrical systems in connection with the erection,

construction, enlargement, alteration, repair, moving, removal, conversion, demolition, occupancy, equipment, use, height, area and maintenance of buildings and structures.

15.20.050 Interpretation of provisions. This chapter shall be so interpreted and construed as to effectuate its general purpose to make uniform electrical regulations.

15.20.060 Applicability of regulations. This chapter shall apply to every building or structure, as defined in said ordinance, which is now in existence or which may hereafter be erected, constructed, altered, moved, demolished or repaired. Electrical systems lawfully in existence at the time of the adoption of this code may have their use, maintenance or repair continued if the use, maintenance or repair is in accordance with the original design and location and no hazard to life, health or property has been created by such electrical system.

15.20.070 NEC Article 90.8(A) is amended to read:

**90.8 Wiring Planning.**

- (A) Future Expansion and Convenience.** Plans and specifications that provide ample space in raceways, spare raceways, and additional spaces allow for future increases in electric power and communication circuits. Distribution centers located in readily accessible locations provide convenience and safety of operation.

*Provisions shall be provided in the initial electrical installations to allow for future additional loads, feeders and branch circuits. A minimum of three (3), full size breaker spaces shall be provided in each panelboard at the time of final inspection. In addition, a minimum of a one (1) inch spare conduit or adequate pull wire provision shall be provided from each flush mounted panelboard into the attic space and also into the basement or crawl space for future use.*

- (B) Number of Circuits in Enclosures.** It is elsewhere provided in this Code that the number of wires and circuits confined in a single enclosure be varyingly restricted. Limiting the number of circuits in a single enclosure minimizes the effects from a short circuit or ground fault.

15.20.080 Article 110.14(A), amended; Terminals

- 110.14(A) Terminals.** Connection of conductors to terminal parts shall ensure a thoroughly good connection without damaging the conductors and shall be made by means of pressure connectors (including set-screw type), solder lugs, or splices to flexible leads. *A listed oxide inhibitor compound shall be applied to all aluminum conductor terminations*

*per the manufacturer's installation instructions prior to terminating or landing a conductor to a lug or terminal. Connection by means of wire-binding screws or studs and nuts that have upturned lugs or the equivalent shall be permitted for 10 AWG or smaller conductors.*

Terminals for more than one conductor and terminals used to connect aluminum shall be so identified.

15.20.090 Article 110.14(B), amended; Splices.

**110.14(B) Splices.** Conductors shall be spliced or joined with splicing devices identified for the use or by brazing, welding, or soldering with a fusible metal or alloy. Soldered splices shall first be spliced or joined so as to be mechanically and electrically secure without solder and then be soldered. *A listed oxide inhibitor compound shall be applied to all aluminum conductor splices per the manufacturer's installation instructions prior to splicing aluminum conductors with wing nuts, split bolts, or other approved devices.* All splices and joints and the free ends of conductors shall be covered with an insulation equivalent to that of the conductors or with an identified insulation device.

Wire connectors or splicing means installed on conductors for direct burial shall be listed for such use.

15.20.100 Article 210.11(C)(3) amended; Bathroom Branch Circuits.

**210.11(C)(3) Bathroom Branch Circuits.** In addition to the number of branch circuits required by other parts of this section, at least one 120-volt, 20-ampere branch circuit shall be provided to supply bathroom receptacle outlet(s). Such circuits shall have no other outlets.

Exception: Where the 20-ampere circuit supplies a single bathroom, outlets for other equipment within the same bathroom shall be permitted to be supplied in accordance with 210.23(A)(1) and (A)(2). *A minimum of one lighting outlet (not required by this Code to be GFCI protected) shall be connected so as not to be protected by the GFCI personnel protection.*

15.20.110 Article 210.52(G) amended; Basements, Garages, and Accessory Buildings

**210.52(G) Basements, Garages, and Accessory Buildings.** For a one-family dwelling, at least one receptacle outlet shall be installed, in the areas specified in 210.52(G)(1) through (3). These receptacles shall be in addition to receptacles required for specific equipment.

- (1) **Garages.** In each attached garage, and in each detached garage with electric power. *The receptacle outlet shall at least 450 mm (18 inches) above and no more than 2.0 (6 1/2 feet) above the garage floor. All openings for receptacles, luminaires, heating, refrigeration, and motor loads shall be a minimum of 450 mm (18 inches) above the floor.* The branch circuit supplying this receptacle(s) shall not supply outlets outside of the garage. At least one receptacle outlet shall be installed for each car space.
- (2) **Accessory Buildings.** In each accessory building with electric power.
- (3) **Basements.** *In each separate unfinished portion of a basement, or where a portion of the basement is finished into one or more habitable rooms, each separate unfinished portion, in addition to those for specific equipment.*
  - (a) *In new construction and remodels, if all or any part of the walls of an unfinished basement are framed, the electrical receptacle outlets as required by NEC® 210.52, and switch and luminaire outlets as required by NEC® 210.70 shall be installed.*
  - (b) *If the walls, floors and ceilings will not be finished, the outlet devices are not required to be installed, however, the outlet boxes shall have blank cover plates installed on them prior to final inspection approval.*
  - (c) *If receptacle outlets are installed, they shall have GFCI protection for personnel, if floor covering is not installed at the time of final inspection.*

15.20.120 Article 210.52(J) Added; Framing in Basements.

**210.52 (J) Sump Pit Receptacle Outlets.** *A 125-volt, single-phase, 15- or 20-ampere receptacle outlet shall be installed adjacent to and within 18" of the sump pit as required by 16.28.460. This receptacle outlet shall be on a dedicated branch circuit and shall be GFCI protected.*

15.20.130 Article 210.52(L) Added; Igniters for gas-fired appliances.

**210.52(L) Igniters for gas-fired appliances.** The branch circuit supplying power

to an outlet for a gas-fired appliance with an igniter shall not be GFCI protected.

15.20.140 NEC Article 230.70(A)(1) amended; Readily Accessible Location.

**230.70(A)(1) Readily Accessible Location.** The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure or inside nearest the point of entrance of the service conductors.

*For a one-family dwelling, the service disconnecting means shall be located on the exterior of the structure adjacent to or combined with the utility meter enclosure.*

15.20.150 NEC Article 250.118 amended; Types of Equipment Grounding Conductors:

**250.118 Types of Equipment Grounding Conductors.**

The equipment grounding conductor run with or enclosing the circuit conductors shall be one or more or a combination of the following:

- (1) A copper, aluminum, or copper-clad aluminum conductor. This conductor shall be solid or stranded; insulated, covered, or bare; and in the form of a wire or a busbar of any shape.
- (2) Rigid metal conduit.
- (3) Intermediate metal conduit.
- (4) Electrical metallic tubing.
- (5) *Deleted in its entirety.*
- (6) *Deleted in its entirety.*
- (7) Flexible metallic tubing where the tubing is terminated in fittings listed for grounding and meeting the following conditions:
  - a. The circuit conductors contained in the tubing are protected by overcurrent devices rated at 20 amperes or less.
  - b. The combined length of flexible metal tubing in the same ground return path does not exceed 1.8 m (6 ft.).
- (8) Armor of Type AC cable as provided in 320.108.

- (9) The copper sheath of mineral-insulated, metal/sheathed cable.
- (10) Type MC cable where listed and identified for grounding in accordance with the following:
  - a. The combined metallic sheath and grounding conductor of interlocked metal tape-type MC cable.
  - b. The metallic sheath or the combined metallic sheath and grounding conductors of the smooth or corrugated tube-type MC.
- (11) Cable trays as permitted in 392.3(C) and 392.7.
- (12) Cablebus framework as permitted in 370.3.
- (13) Other listed electrically continuous metal raceways and listed auxiliary gutters.
- (14) Surface metal raceways listed for grounding.

15.20.160 NEC Article 334.10 amended; Used Permitted.

**334.10 Used Permitted** Type NM, Type NMC and Type NMS cables shall be permitted to be used in the following:

- (1) One- and two-family dwellings and their attached or detached garages, and their storage buildings.
- (2) Multifamily dwellings permitted to be of Types III, IV, and V construction *up to 3 stories in height only and their accessory structures*, except as prohibited in 334.12.
- (3) *Deleted in its entirety.*
- (4) Cable trays in structures permitted to be Types III, IV, and V where the cables are identified for the use.

15.20.170 NEC Article 342.10(B), amended; Corrosive Environments.

**342.10(B) Corrosive Environments.** *IMC, elbows, couplings, and fittings shall be provided with approved supplementary corrosion protection where incased in concrete or in direct contact with the earth.*

15.20.180 NEC Article 344.10(B), amended: Corrosion Environments.

**344.10(B) Corrosive Environments.**

- (1) ***Stainless Steel and Red Brass RMC, Elbows, Couplings, and Fittings.*** *Stainless steel and red brass RMC elbows, couplings, and fittings shall be permitted to be installed in concrete, in direct contact with the earth, or in areas subject to severe corrosive influences where protected by corrosion protection and judged suitable for the condition.*
- (2) ***Supplementary Protection of Galvanized Steel and Aluminum RMC.*** *Galvanized steel and aluminum RMC shall be provided with approved supplementary corrosion protection where encased in concrete or in direct contact with the earth.*

15.20.190 NEC Article 348.60, amended Grounding and Bonding.

**348.60 Grounding and Bonding.** *Flexible Metallic Conduit shall not be permitted to be used as an equipment grounding conductor.*

*An equipment grounding conductor shall be installed in all flexible metallic conduits and shall be installed in accordance with 250.134(B).*

*Equipment bonding jumpers shall be installed in accordance with 250.102.*

15.20.200 NEC Article 350.60 Amended – Grounding and Bonding

**350.60 Grounding and Bonding.** *Liquidtight Flexible Metallic Conduit shall not be permitted to be used as an equipment grounding conductor.*

*An equipment grounding conductor shall be installed in all liquidtight flexible metallic conduits and shall be installed in accordance with 250.134(B).*

*Equipment bonding jumpers shall be installed in accordance 250.102.*

FPN: See 501.30(B), 502.30(B), and 503.30(B) for types of equipment grounding conductors.

15.20.210 NEC Article 408.40 Amended – Circuit Directory or Identification

**408.4 Circuit Directory or Circuit Identification.** Every circuit and circuit modification shall be legibly identified *in typewritten form* as to its clear, evident, and specific purpose or use *on all electrical equipment in all occupancies except residential construction. In other than new construction, and when approved by the AHJ, the identification may be legibly handwritten.* The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others. Spare positions that contain unused overcurrent devices or switches shall be

described accordingly. The identification shall be included in a circuit directory that is located on the face or inside of the panel door in the case of a panelboard, and located at each switch or circuit breaker in a switchboard. No circuit shall be described in a manner that depends on transient conditions of occupancy.

15.20.220 NEC Article 422.12 Amended – Central Heating Equipment.

**422.12 Central Heating Equipment.** Central heating equipment other than fixed electric space-heating equipment shall be supplied by an individual branch circuit.

*A combination switch/fuse holder unit such as a SSU or SSY shall be installed as the disconnecting means for central heating equipment such as gas, forced-air furnaces and unit heaters. The fuse shall be sized at 125% of the nameplate rating of the heating equipment.*

Exception No.1: Auxiliary equipment such as a pump, valve, humidifier, or electrostatic air cleaner directly associated with the heating equipment, shall be permitted to be connected to the same branch circuit.

Exception No 2: Permanently connected air-conditioning equipment shall be permitted to be connected to the same branch circuit.

*Exception No. 3. A door chime transformer shall be permitted to be connected to the same branch circuit.*

15.20.240 Permits and Approvals

- (A) **Permits Required.** No person, whether or not required to be licensed by the Colorado State Electrical Board as an Electrical Contractor, Master Electrician, Journeyman Electrician or Residential Wireman, shall install, alter, or repair any electrical wiring, apparatus or equipment unless a permit for such electrical work has been issued. A permit must be obtained for each separate project. Application for permits shall be made on forms provided by the Building Inspection Division and the required permit fee shall accompany each application.
- (B) **Homeowner Permit.** Any person who obtains a permit to personally install electrical work on their own property or residence shall be required to sign a notarized affidavit stating that they are knowledgeable of the requirements of the *National Electrical Code*® and that they will be personally responsible for performing the installation of the electrical work outlined on the permit application.



(C) Working without permit; penalty. Any person who commences any electrical work for which a permit is required without first having obtained such permit shall be subject to punishment as provided in Chapter 1.16, and, in addition, shall be obligated to pay a permit fee equal to twice the regular permit fee. However, the foregoing provision regarding punishment and payment of double fees shall not apply to emergency electrical work when it appears to the satisfaction of the chief electrical inspector that such work was urgently necessary and that it was not practical to obtain a permit before the commencement of the work. The foregoing exculpatory provision shall apply only if the person required to obtain the permit does apply for the permit as soon as practical following the installation of the electrical work.

(D) Application.

- (1) Activity authorized by a permit issued under this *Code* shall be conducted by the permittee or the permittee's agents or employees in compliance with all requirements of this *Code* applicable thereto and in accordance with the approved plans and specifications. No permit issued under this *Code* shall be interpreted to justify a violation of any provision of this *Code* or any other applicable law or regulation. Any addition or alteration of approved plans or specifications shall be approved in advance by the authority having jurisdiction, as evidence by the issuance of a new or amended permit.
- (2) A copy of the permit shall be posted or otherwise readily accessible at each work site or carried by the permit holder as specified by the authority having jurisdiction.

(E) **Content.**

Permits shall be issued by the authority having jurisdiction and shall contain the following:

- (1) Operation or activities for which the permit is issued.
- (2) Address or location where the operation or activity is to be conducted.
- (3) Name and address of the permittee.
- (4) Permit number and date of issuance.
- (5) Name of licensed Electrical Contractor (if applicable).
- (6) Inspection requirements.

(F) **Issuance of Permits.** The authority having jurisdiction shall be authorized to establish and issue permits, certificates, notices, and approvals, or orders pertaining to electrical safety hazards, except that no permit shall be required to execute any of the classes of electrical work specified in the following:

- (1) Installation or replacement of equipment such as lamps and of electric utilization equipment approved for connection to suitable permanently installed receptacles. Replacement of flush or snap switches, fuses, circuit breakers, lamp sockets, and receptacles, and other minor maintenance and repair work, such as replacing worn cords and tightening connections on a wiring device.
- (2) The process of manufacturing, testing, servicing, or repairing electric equipment or apparatus.
- (3) Installation of equipment and circuits operating at less than 50 volts, unless required by the International Fire Code® for fire alarm systems; however, all work installed under this exception shall meet the applicable requirements of *NEC*® Article 720, Article 725, Article 760, Article 770, Article 800, Article 810, Article 820, and/or Article 830 and is subject to inspection by the authority having jurisdiction.

**Note:** This exception shall not be applicable to *NEC*® Article 411--- Lighting Systems Operating at 30 Volts or Less.

(G) **Permit Fee Schedule.** The permit fee schedule as adopted by the Evans City Council through resolution is adopted for all electrical permits issued under the scope of this *Code*.

(H) **Inspection and Approvals.**

- (1) Upon the completion of any installation of electrical equipment that has been made under a permit, it shall be the duty of the person, firm, or corporation making the installation to notify the Electrical Inspector having jurisdiction, who shall inspect the work within a reasonable time.
- (2) Where the Electrical Inspector finds the installation to be in conformity with this *Code*, local ordinances and all rules and regulations of the Colorado State Electrical Board, the Inspector shall issue to the person, firm, or corporation making the installation a certificate of approval, authorizing the connection to the supply of electricity and shall send written notice of such authorization to the electric utility company. This connection to the utility company's supply shall be revocable by the Electrical Inspector for cause.

- (3) When any portion of the electrical installation within the jurisdiction of an Electrical Inspector is to be hidden from view by the placement of parts of the building, the person, firm, or corporation installing the electrical equipment or system shall notify the Electrical Inspector, and such electrical equipment or system shall not be concealed until it has been approved by the Electrical Inspector or until two (2) work days have elapsed from the time of the notification, provided that on large installations, where the concealment of equipment and systems proceeds continuously, the person, firm, or corporation installing the equipment and systems shall give the electrical inspector due notice in advance, and inspections shall be made periodically during the progress of the work.
- (4) If, upon inspection, any installation is found not to be fully in conformity with the provisions of this *Code*, and all applicable statutes, ordinances, rules, and regulations, the inspector making the inspection shall at once forward to the person, firm, or corporation making the installation a written notice stating the defects that have been found to exist.

(I) **Revocation of permits.** Revocation of permits shall conform to the following:

- (1) The authority having jurisdiction shall be permitted to revoke a permit or approval issued if any violation of this *Code* is found upon inspection or in case there have been false statements or misrepresentations submitted in the application or plans on which the permit or approval was based.
- (2) Any attempt to defraud or otherwise deliberately or knowingly design install, service, maintain, operate, sell, represent for sale, falsify records, reports, or applications, or other related activity in violation of the requirements prescribed by this *Code* shall be in violation of this *Code*. Such violations shall be cause for immediate suspension or revocation of any related certificates or permits issued by this jurisdiction. In addition, any such violation shall be subject to any other criminal or civil penalties as available by the ordinances of the City of Evans and statutes of the State of Colorado.
- (3) Revocation shall be constituted when the permittee is duly notified by the authority having jurisdiction.
- (4) Any person who engages in any business, operation, or occupation, or uses any premises, after the permit issued therefore has been suspended or revoked pursuant to the provisions of this *Code*, and before such suspended permit has been reinstated or a new permit

issued, shall be in violation of this *Code*.

- (5) A permit shall be predicated upon compliance with the requirement of this *Code* and shall constitute written authority issued by the authority having jurisdiction to install electrical work. Any permit issued under this *Code* shall not take the place of any other license or permit required by other regulations or ordinances of the City of Evans.
- (6) The authority having jurisdiction shall be permitted to require an inspection prior to the issuance of a permit.
- (7) A permit issued under this *Code* shall continue until revoked or for the period of time designated on the permit. The permit shall be issued to one person or business only and for the location or purpose described in the permit. Any change that affects any of the conditions of the permit shall require a new or amended permit.

#### 15.20.250 Violation—Penalty

Notice of Violations and penalties shall conform to (A) and (B).

##### **(A) Violations.**

- (1) Whenever the authority having jurisdiction determines that there are violations of this *Code*, a written notice shall be issued to confirm such findings.
- (2) Any order or notice issued pursuant to this *Code* shall be served upon the owner, operator, occupant, or other person responsible for the condition or violation, either by personal service or mail or be delivering the same to, and leaving it with, some person of responsibility upon the premises. For unattended or abandoned locations, a copy of such order or notice shall be posted on the premises in a conspicuous place at or near the entrance to such premises and the order or notice shall be mailed by registered or certified mail, with return receipt requested, to the last known address of the owner, occupant, or both.

##### **(B) Penalties.**

- (1) Any person who fails to comply with the provisions of this *Code* or who fails to carry out an order made pursuant to this *Code* or violates any condition attached to a permit, approval, or certificate shall be subject to the penalties established by the City of Evans as provided in Chapter 1.16.

- (2) Failure to comply with the time limits of an abatement notice or other corrective notice issued by the authority having jurisdiction shall result in each day that such violation continues being regarded as a new and separate offense.
- (3) Any person, firm, or corporation who shall willfully violate any of the applicable provisions of this article shall be punished pursuant to the provisions of Chapter 1.16.

Section 4. This ordinance after its passage on final reading, shall be numbered, recorded, published and posted as required by the City Charter and the adoption, posting and publication shall be authenticated by the signature of the Mayor and City Clerk, and by the Certificate of Publication. This ordinance shall become effective upon final passage.

PASSED AND APPROVED at a regular meeting of the City Council of the City of Evans on this 2nd day of June, 2015.



CITY OF EVANS, COLORADO

By: [Signature]  
Mayor

ATTEST:

[Signature]  
City Clerk

PASSED, APPROVED, AND ADOPTED ON SECOND READING 15<sup>th</sup> day of June, 2015.



CITY OF EVANS, COLORADO

By: [Signature]  
Mayor

ATTEST:

[Signature]  
City Clerk