

ORDINANCE NO. _____

1 AN ORDINANCE REPEALING AND REPLACING ARTICLE 4 OF CITY CODE
2 CHAPTER 25-12 TO ADOPT THE 2014 NATIONAL ELECTRICAL CODE AND
3 LOCAL AMENDMENTS TO THE ELECTRICAL CODE.
4

5 BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:
6

7 PART 1. City Code Sections 25-12-111 (*Electrical Code*) and 25-12-112 (*Citations to*
8 *the Electrical Code*) are amended to read:
9

10 § 25-12-111 ELECTRICAL CODE.

11 (A) The National Electrical Code, [2011] 2014 edition, of the National Fire
12 Protection Association ([2011] 2014 Electrical Code) is adopted and incorporated into
13 this Electrical Code, including Annex H, with deletions and amendments in Sections 25-
14 12-113 (*Local Amendments to the Electrical Code - Administration*) and 25-12-114
15 (*Local Amendments to the Electrical Code - Technical*).

16 (B) The following provisions of the [2011] 2014 Electrical Code are deleted:

17 Section 80.2	Section 80.15
18 Section 80.19(C)	Section 80.19(D)
19 Section 80.19(E)	Section 80. 21
20 Section 80. 23(B)	Section 80.27
21 Section 80.29	Section 80.31
22 Section 80.33	Section 80.35
23 Section 110.12	[Section 110.26(E)(1)(a)]
24 Section 200.6(A)	Section 200.6(B)
25 [Section 210.12(B)]	[Section 21.24]
26 Section 225.32	Section 230.70(A)(1)
27 Section 230.70(A)(3)	Section 250.52(A)(3)
28 Section 250.119(A)	Section 300.3(C)(1)
29 [Section 300.5(A)]	Section 310.110
30 Article 320	Section 330.30(A)
31 <u>Section 330.30(B)</u>	<u>Section 330.30(C)</u>
32 Section 334.10(1)	Section 334.10.(2)
33 Section 334.10(3)	Section 338.10(A)
34 [Section 338.12(A)(2)]	[Section 340.10]
35 Article 394	Section 410.36(B)

(C) The city clerk shall file a copy of the [2014] 2014 Electrical Code with the official ordinances of the City.

§ 25-12-112 CITATIONS TO THE ELECTRICAL CODE.

As used in this title, the [~~The City Code,~~] “Electrical Code” is defined as the [2014] 2014 Electrical Code adopted by Section 25-12-111 (*Electrical Code*) as amended by Sections 25-12-113 (*Local Amendments to the Electrical Code - Administration*) and 25-12-114 (*Local Amendments to the Electrical Code – Technical*).

PART 2. City Code Section 25-12-113 (*Local Amendments to the Electrical Code – Administration*) is repealed and replaced with a new Section 25-12-113 to read as follows:

§ 25-12-113 LOCAL AMENDMENTS TO THE ELECTRICAL CODE – ADMINISTRATION.

The following provisions are local amendments to Annex H (*Administration and Enforcement*) of the 2014 National Electrical Code. Each provision in this Section is a substitute for the identically numbered provision deleted by Section 25-12-111(B) (*Electrical Code*) or is an addition to the Electrical Code.

80.2 Definitions.

Agent. A person designated by an electrical contractor to obtain an electric permit on behalf of the electrical contractor. An agent must be the owner or an employee of the electrical contractor.

Approved. Acceptable to the authority having jurisdiction, and cables, raceways, equipment, and apparatus shall be listed or labeled by a nationally recognized testing laboratory(NRTL) that maintains periodic inspection of production of labeled or listed equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner. An approved NRTL shall be recognized by the Occupational Safety and Health Administration (OSHA).

Authority Having Jurisdiction. The organization, office, or individual responsible for approving equipment, materials, and installation, or a procedure.

Chief Electrical Inspector. An electrical inspector designated by the building official to administer the requirements of this Code; the Chief Electrical Inspector must be an employee of the City; maintain a current Texas Department of Licensing and Regulation master electrical license and certification as a residential and commercial electrical

1 inspector, or electrical inspector general under the certification program established by
2 the International Code Council (ICC) or the International Association of Electrical
3 Inspectors (IAEI), and have at least 10 years of experience as an engineer, contractor, or
4 superintendent of electrical construction, or a combination thereof, with at least five years
5 of experience in a responsible supervisory capacity and five years of experience as an
6 electrical inspector.

7 **Citation.** A citation for violation of the Electrical Code issued by the director or building
8 official under the requirements of City Code Chapter 1-3 (*Citation Program*).

9 **Commercial Building or Structure.** A building or structure that is not included in the
10 definition of residential building or structure as provided under this section.

11 **Electrical Contractor.** A person engaged in electrical contracting under the Texas
12 Occupations Code, Chapter 1305 . For purposes of the Electrical Code, the term"
13 contractor" means electrical contractor.

14 **Electrical Contracting.** The business of designing, installing, erecting, repairing,
15 maintaining, or altering electrical wires or conductors to be used for light, heat, power, or
16 signaling purposes. The term includes the installation or repair of ducts, raceways, or
17 conduits for the reception or protection of wires or conductors and the installation or
18 repair of any electrical machinery, apparatus, or system used for electrical light, heat,
19 power, or signaling.

20 **Electrical Inspector.** An electrical inspector authorized by the building official to
21 perform electrical inspections under the requirements of this Code. An electrical
22 inspector must be an employee of the City; have a current Texas Department of Licensing
23 and Regulation Master Electrical License that was issued at least two years before the
24 date the inspector is hired by the City; and have a current certification as a residential and
25 commercial electrical inspector, or electrical inspector general under the certification
26 program established by the International Code Council (ICC), or the International
27 Association of Electrical Inspectors (IAEI), or obtain such certifications within one year
28 after the date of hire and maintain the certifications thereafter.

29 **Electrical Work.** The installing, maintaining, altering, repairing or erecting of any
30 electrical wiring apparatus, raceways, or equipment used in connection therewith,
31 whether inside or outside of any building or structure, lot or premises, under the terms
32 and provisions of this code.

33 **License.** An electrical license issued by the Texas Department of Licensing and
34 Regulation (TDLR).

1 **Offer to Perform.** Any written or verbal communication, proposal, or advertisement that
2 meets the definition of "offer to perform" under Section 73.10 of the Texas
3 Administrative Code.

4 **Replacement.** The action or process of replacing something of like design.

5 **Residential Building or Structure.** Single-family, two-family, and multi-family
6 dwelling units of five stories or less in height and located in a residential zone.

7 **Texas Department of Licensing and Regulation:** The State of Texas Department
8 responsible for the administration and enforcement of Title 8, Occupations Code Chapter
9 1305 and 16 Texas Administrative Code, Chapter 73.

10
11 **80.15 Electric Board.** The Electric Board is established in Chapter 2-1, Article 25
12 (*Electric Board*) of the City Code.

13
14 **80.19(C) Issuance of Permits.**

15 **(1) Standard Permits.**

- 16 (a) Except as provided in Section 80.19(C)(5) (*Homestead Permit*), the building
17 official may issue an electrical permit only to an electrical contractor who is
18 registered with the City as an electrical contractor, (*see Section 80.36(C)*).
- 19 (b) The building official shall review the application, plans specifications, and
20 other data filed by an applicant for a permit. Other departments may review
21 the plans as necessary to verify compliance with applicable laws.
- 22 (c) The building official shall issue a permit to an applicant if the building official
23 finds that the work described in an application for a permit and in the plans,
24 specifications, and other support data filed with the application conform to the
25 requirements of this Code and other applicable laws and ordinances and that the
26 required fees have been paid.
- 27 (d) When the building official issues a permit, the building official shall either
28 endorse the plans and specifications in writing or stamp "REVIEWED" on the
29 plans and specifications. A person shall not change, modify, or alter the
30 reviewed plans and specifications without authorization from the building
31 official. All work regulated by the Electrical Code shall be done in accordance
32 with the reviewed plans.
- 33 (e) All buildings, structures, or tenant finish-outs in excess of 5,000 square feet
34 shall require a drawing stamped by a licensed professional electrical engineer.
35 Buildings, structures, or tenant finish-outs of 5,000 square feet or less shall
36 require a drawing with the signature and license number of the qualifying

1 master electrician of record for a State of Texas licensed electrical contractor, or
2 stamped by a licensed professional electrical engineer. Projects employing
3 meter module units shall have signed approval data indicating type and location
4 from Austin Energy Meter Services prior to electrical plan review submittal.

- 5 (f) The building official may issue a permit for the construction of part of an
6 electrical system before the plans and specifications for the entire system have
7 been submitted or approved if adequate information and detailed statements
8 have been filed that comply with the requirements of this Code. The holder of a
9 permit issued under this Section shall proceed at the permit holder's own risk,
10 without assurance that the permit for the entire building, structure, or building
11 service will be granted.

12 (2) **Permit Required.** Except as specified in Section 80.19(C)(3), no electrical system
13 regulated by this Code shall be installed, altered, repaired, replaced or remodeled
14 unless an electrical permit has been obtained. In addition an electrical permit shall
15 be required to remove an Austin Energy meter seal.

16 (3) **Exempt Work.**

- 17 (a) An electrical permit is not required for the following:
- 18 (i) replacement of an approved cable or cord and plug connected motor or
19 Portable appliance;
 - 20 (ii) replacement of components for approved equipment or for a fixed
21 approved appliance of the same type and rating, in the same location;
 - 22 (iii) temporary holiday decorative lighting;
 - 23 (iv) replacement of a snap, single, three-way, four-way or dimmer switch,
24 receptacle, ceiling paddle fan, or luminaire, when the maximum
25 voltage is 480 and the maximum ampacity is 30;
 - 26 (v) reinstallation of a receptacle with a ground-fault circuit interrupter
27 receptacle, a tamper-resistance receptacle, an arc-fault circuit interrupter
28 receptacle, or a weather-resistance receptacle;
 - 29 (vi) replacement of an overcurrent protection device, or fuse of the same
30 voltage and amperage, and in the same location, when the service will not
31 be de-energized;
 - 32 (vii) repair or replacement of an electrode or transformer of the same size and
33 capacity for a sign or gas tube system;
 - 34 (viii) replacement of insulating material to a splice;

- 1 (ix) removal of electrical wiring;
- 2 (x) temporary wiring for experimental purposes in a suitable experimental
3 laboratory;
- 4 (xi) the wiring for a temporary theater, motion picture, or television stage set;
- 5 (xii) installation or repair of an electrical device, appliance, apparatus,
6 equipment, or electrical wiring operating at less than 25 volts and not
7 capable of supplying more than 50 watts of energy;
- 8 (xiii) installation or repair of a low-energy power, control and signal circuit of
9 Class II and Class III as defined in the National Electrical Code;
- 10 (xiv) the following activities, if performed in connection with the transmission
11 of electrical energy: the installation, alteration, or repair of electrical
12 wiring, apparatus, or equipment; or the generation, transmission,
13 distribution, or metering of electrical energy;
- 14 (xv) the operation of signals or the transmission of intelligence by a public or
15 private utility in the exercise of its function as a serving utility; or
- 16 (xvi) buildings or structures which are owned and occupied by the State or
17 Federal government, except for the electrical service.
- 18 (b) Exempt work must comply with the Electrical Code and other applicable laws.
- 19 **(4) Emergency Repair Permits.** An applicant for a permit to make emergency
20 electrical repairs on non-exempt work shall identify the emergency on the permit
21 application.
- 22 **(5) Homestead Permit.** A person who is not licensed to perform electrical work may
23 perform electrical work at his or her homestead if all of the following requirements
24 are met:
- 25 (a) the residence is the person's homestead and principal residence;
- 26 (b) the electrical work does not include the main electric service;
- 27 (c) the person has not secured a homestead permit for another residence within the
28 prior 12 month period;
- 29 (d) the person has owned and occupied the property as of January 1 of the tax year
30 in which the person applies for a homestead permit;
- 31 (e) a person must obtain a homestead permit and pay required permit fees before
32 beginning any electrical, mechanical, or plumbing work. A person must apply

1 for a homestead permit in person and must file an affidavit stating that the
2 location at which the work is to be done is the person's homestead;

3 (f) person who has obtained a homestead permit may not allow or cause any person
4 to perform electrical, mechanical, or plumbing work under the permit. The
5 building official may suspend or revoke a homestead permit if work done under
6 the permit is performed by anyone other than the person who obtained the
7 permit;

8 (g) a person may not transfer a permit to another person;

9 (h) a person performing electrical, mechanical, or plumbing work under a
10 homestead permit shall present a picture identification to verify that the person
11 is authorized to perform work under the homestead permit when requested by
12 the building official or his designee; and

13 (i) a homestead permit shall not be issued for electrical, mechanical, or plumbing
14 work on a mobile, modular or manufactured home unless the homeowner owns
15 the land on which the mobile, modular or manufactured home is located. A
16 homestead permit shall not be issued if the mobile, modular or manufactured
17 home is located in a mobile home park, mobile home community or other
18 commercial premises.

19
20 **80.19(D) Registered Industrial Plant Program.** Electrical work may be performed in a
21 facility operating under the registered industrial plant program authorized by the Building
22 Code, other than a health care facility or public school, without obtaining the City permits
23 required by Section 80.19(C) provided all of the following conditions are met:

24 (1) The work is limited to the repair, modification, or installation of equipment or
25 branch circuits. Work involving sub-panels, panels, electrical service, or other
26 similar work requires permits issued under Section 80.19;

27 (2) The work is performed by an electrical contractor employee with the proper license
28 classification or licensed master electrician employed by the facility, and in
29 accordance with Section 80.40 (*Supervision*);

30 (3) The work is inspected by a certified electrical inspector who was approved by the
31 City before performing inspections under this program. The inspector must be a
32 licensed master electrician licensed by the Texas Department of Licensing and
33 Regulation and a certified commercial electrical inspector by the International
34 Code Council or the International Association of Electrical Inspectors; and

35 (4) The facility shall maintain records on all work performed under this program in
36 accordance with the Building Code. Records must include:

- (a) a description and location of the work;
- (b) the name and license number of each person performing the work; and
- (c) the name of the approved inspector, dates of inspection, results of inspections, and a statement signed by the approved inspector testifying that the finished work complies with all the applicable provisions of this Code.

80.19(E) Permit and Registration Fees. Permit and registration fees are established by separate ordinance.

80.19(H) Time Limitation on Application; Permit Expiration and Reactivation. Time limits on permit applications and requirements for permit expiration and reactivation, including an administrative review fee for expired permits, are set forth in Chapter 25-12, Article 13 (Administration of Technical Codes).

80.19(I) Special Inspections Program. Electrical work may be performed under this program in occupied residential and commercial buildings or structures within the zoning jurisdiction of the City.

(1) Participation in this program is subject to the following requirements of this subsection:

(a) A contractor participating in the program shall:

- (1) register with the City annually under this program and pay a special inspection program registration fee established per the requirements of Section 80.19(E);
- (2) submit a completed compliance form to the building official for each permit, no later than one business day from the completion of the permitted electrical work; and
- (3) obtain permit as required in Section 80.19(C)(2), no later than one business day from the work start date.

(b) Scope of work under the program may not:

- (1) include the disconnection, reconnection, or repair of an electrical service;
- (2) involve penetration of a fire rated wall or component;
- (3) require an electrical rough inspection; or

1 (4) include more than one standalone electrical permit.

2 (c) The building official shall randomly inspect the electrical work performed for one
3 out of five residential permits and one out of ten commercial permits, and the
4 electrical contractor shall provide access to the permitted work.
5

6 **80.21 Plan Review Fees.** The council shall establish plan review fees under a separate
7 ordinance.
8

9 **80.36 Licenses and Registration.**

10 (A) **License Required.** Except as provided in Subsection 80.19(C)(5)(*Homestead*
11 *Permit*), an electrical license is required to perform electrical work.

12 (B) **License Display.** A licensee shall be in possession of the licensee's license at
13 all times when performing electrical work and shall display the license on request of the
14 building official or owner of the premises or property on which the licensee is working,
15 offering to work, or has worked. A licensee shall present a picture identification to verify
16 identity.

17 (C) **Registration.** To perform or offer to perform electrical contracting in the
18 jurisdiction of the City, a person must register with the City as an electrical contractor in
19 accordance with the requirements of this subsection.

20 (1) To register as a City electrical contractor, the contractor shall be a
21 licensed electrical contractor in accordance with the requirements of the Texas
22 Occupations Code, Chapter 1305, and the Texas Administrative Code, Chapter
23 73.

24 (2) At the time of registration, an electrical contractor shall designate the
25 name of the licensed master electrician of record employed by the contractor in
26 accordance with the following requirements.

27 (a) The electrical contractor may designate him or herself as the
28 master electrician of record.

29 (b) The master electrician of record shall not have a City electrical
30 contractor's registration for more than one contracting business.

31 (c) The master electrician of record shall appear in person to register
32 the electrical contracting business.

33 (e) Except as otherwise provided in this Subsection, an electrical
34 contractor must employ a licensed master electrician as the master
35 electrician of record at all times.

1 (3) An electrical contractor may designate a maximum of three agents to
2 obtain electric permits on behalf of the contractor under the contractor's
3 registration.

4 (4) An employee of an electrical contractor registered with the City under
5 this section need not be a registered electrical contractor in order to perform
6 electrical work that is associated with an electrical permit issued to the
7 contractor.

8 **(D) Vehicle Display of License.** City registered electrical contractors shall identify
9 all vehicles used in the performance of electrical work in accordance with the
10 requirements of Section 1305.166 (*Display of License*) of the State of Texas Title 8,
11 Occupations Code Chapter 1305 and Section 73.51 (*Electrical Contractor's*
12 *Responsibilities*) of 16 Texas Administrative Code Chapter 73. Information displayed
13 shall be:

- 14 (1) printed in letters and numbers that are at least two inches high and in a
15 color that contrasts with the color of the background surface, and the
16 numbers shall be preceded by the letters "TECL";
- 17 (2) permanently affixed in conspicuous places on both sides of the vehicle;
18 and
- 19 (3) the assigned vehicle numbers are limited to use for one company.
20

21 **80.37 Suspension of Registration.** This section applies to an electrical contractor
22 registered in the City as an electrical contractor.

23 (A) Except as provided in Subsection 80.37(C), if an electrical contractor violates
24 Section 80.39 (*Offenses*) three times within a 12 month period, the building official may,
25 by written notice, return receipt request, suspend the City registration of an electrical
26 contractor. The first suspension under this Section shall be for six months from the date
27 that a notice of suspension is received. Subsequent suspensions shall be for one year
28 from the date that a notice of suspension is received.

29 (B) The building official may suspend the registration of an electrical contractor
30 after each occurrence of the following offenses: Section 80.39(A)(2) (causing injury);
31 Section 80.39(A)(9) (contracting to perform, or causing to be performed, electrical work
32 without required license and registration); Section 80.39(A)(15) (tampering with an
33 electric meter to commit theft of service); and Section 80.39(A)(18) (endangering person
34 or property).

35 (C) An action by the building official under this section may be appealed to the
36 Electrical Board.

1 (D) Enforcement action taken under this section is not an exclusive remedy for a
2 violation.
3

4 **80.39 Offenses.**

5 (A) No person, including but not limited to a permittee, licensee, or contractor,
6 shall:

- 7 (1) permit an unlawful or fraudulent use of an electrical permit;
- 8 (2) perform, or cause to be performed, electrical work that causes injury to
9 person or property;
- 10 (3) supervise, perform, or cause to be performed, electrical work in violation
11 of the supervision requirements set forth in this Code;
- 12 (4) perform electrical work for which a license or permit is required without
13 the required correct classification of license or permit;
- 14 (5) perform electrical work in violation of restrictions imposed on a
15 restricted license;
- 16 (6) display, cause, permit to be displayed, or possess an instrument
17 purporting to be a license to perform electrical work that is false, expired,
18 suspended, or altered;
- 19 (7) fail or refuse to display a license to perform electrical work in response to
20 a request from the building official;
- 21 (8) permit the use of a license to perform electrical work by, a person other
22 than the person to whom the license was issued;
- 23 (9) contract for, or cause to be performed, electrical work requiring a permit
24 by a person or contractor without the registration and license required by
25 this Code;
- 26 (10) employ a person not licensed as a master electrician/contractor,
27 journeyman electrician, residential wireman, or apprentice electrician to
28 perform electrical work that requires an electrical license under this
29 Code;
- 30 (11) request the building official to perform inspections of incomplete work or
31 work that has not been properly reviewed by the permit holder or the
32 designated supervisor, on three or more occurrences in a 12 month
33 period;
34

- 1 (12) advertise or otherwise represent to the public that the person is a City
2 registered electrical contractor or licensed electrician of a particular class
3 or type or that the person is authorized or willing to perform functions or
4 services that may only be performed under this Code by City registered
5 electrical contractor or a licensed electrician of a particular class or type,
6 unless the person possesses a license of the required class or type issued
7 under this Code;
- 8 (13) employ a person to perform electrical work for which the person is not
9 qualified under this Code;
- 10 (14) supervise a person who is performing electrical work for which the
11 person is not qualified under this Code;
- 12 (15) tamper or interfere with the proper action or registration of an electrical
13 meter to commit theft of service, as that offense is described in the Texas
14 Penal Code;
- 15 (16) obtain a permit for a business other than the business identified on the
16 permittee's City's electrical contractor registration;
- 17 (17) perform electrical work under a permit for a business other than the
18 business identified on the permit authorizing the electrical work;
- 19 (18) perform, or cause to be performed, electrical work in a manner that
20 endangers a person or property;
- 21 (19) fail to provide notification of the change of a business address or contact
22 information provided on the application for a City registration on or
23 before the 10th day after the change occurs;
- 24 (20) refuse to provide picture identification when requested by the building
25 official; or
- 26 (21) fail to comply with the requirements of this Code.

27 (B) A person who violates the requirements of this Section commits an offense. An
28 offense under this Section is a Class C misdemeanor, punishable by a fine not to exceed
29 \$500 for each offense. Each day a person commits an offense or remains in violation of a
30 provision of this Section is a separate offense.

31 (C) Eligibility for reinstatement of a registration is not a defense to prosecution
32 under this section for performing electrical work without a license.

33 (D) Proof of a culpable mental state is not required for conviction of an offense
34 under this Section.

1
2 **80.40 Supervision.**

3 (A) There shall be at least one licensed journeyman electrician, licensed master
4 electrician or licensed residential wireman on each site requiring an electrical permit to
5 provide supervision of the electrical work.

6 (B) The permit holder is responsible for electrical work performed under a permit,
7 but fulltime supervision, management, direction, and control may be provided by either
8 the permit holder or an employee or contractor of the permit holder. A residential
9 wireman may only supervise residential projects.

10 (C) The ratio of the licensed master electrician, licensed journeyman electrician, or
11 residential wireman to licensed apprentice electricians shall not exceed one licensed
12 master electrician, licensed journeyman electrician or residential wireman to five licensed
13 apprentice electricians.

14 (D) An inspection request shall not be forwarded to the building official unless the
15 designated supervisor has reviewed the work.

16
17 **80.41 Special Requirements for Installations below Regulatory Flood Datum.**

18 (A) For the purpose of this Section, regulatory flood datum (RFD) has the meaning
19 assigned in Section 1612 (*Flood Loads*) of the Building Code.

20 (B) A lighting circuit, switch, receptacle, and luminaire operating at a maximum of
21 120 volts to ground may be installed below the RFD if the circuit can be de-energized by
22 automatic operating electrical disconnect equipment. The electrical circuit must be de-
23 energized before water is present on the floor of the affected areas. If any equipment is
24 flooded, its particular circuit shall not be re-energized until the circuit and equipment
25 have been approved by the wiring and equipment manufacturer for reuse after
26 submergence in water or replaced and approved for use by the building official.

27 (C) Except for a switch, receptacle, and luminaire, all other electrical equipment
28 permanently installed below the RFD must be of the submersible type rated by the
29 equipment manufacturer for submergence for not less than 72 hours for a head of water
30 above the equipment to the RFD.

31 (D) An electrical wiring system installed below the RFD must be suitable for
32 continuous submergence in water. Only a submersible type splice will be permitted
33 below the RFD. A conduit located below the RFD must be installed so that it will be self-
34 draining if subject to flooding.

1 (E) Electrical power equipment and components of elevator systems must be
2 located above the RFD. An automatic type elevator must be provided with a home station
3 located above the RFD to which the elevator will automatically return after use.

4 (F) An electrical unit heater installed below the RFD must be capable of being
5 disconnected as outlined in Subsection (B). An electrical control on a gas or oil furnace
6 located below the RFD shall not exceed 120 volts to ground and the control circuits must
7 be automatically de-energized before water is present on the floor of the affected area.

8 (G) Sump pumping equipment of any type must be provided with a float operated
9 warning alarm that acts independently of any other float actuating device used to start and
10 stop pumping equipment. A building and structure utilizing sump-pumping equipment
11 must have automatic starting standby electrical generating equipment located above the
12 RFD. The standby generating equipment must be capable of remaining in continuous
13 operation at 125 percent of the anticipated duration of the design flood.

14 (H) A control center, privately owned transformer, distribution and main lighting
15 panel, and switchgear, in addition to other stationary equipment, must be located above
16 the RFD. Portable or moveable electrical equipment may be located below the RFD if the
17 equipment can be disconnected by a single plug or socket assembly of the submersible
18 type and rated for not less than 72 hours for the head of water above the assembly to the
19 RFD.

20 (I) All components of emergency lighting systems installed below the RFD must
21 be located so that a component of the emergency lighting system is not within reach of
22 personnel working at floor level in the area where an emergency lighting system is used
23 unless the emergency lighting circuit(s) are provided with ground-fault circuit
24 interrupters having a maximum leakage current to ground sensitivity of 5 milliamperes.

25 (J) The building official shall verify that all incoming main city power service
26 equipment, including all metering equipment, is located two feet above the RFD before
27 releasing electrical utilities or issuing a certificate of occupancy.

28
29 **PART 3.** City Code Section 25-12-114 (*Local Amendments to the Electrical Code –*
30 *Technical*) is repealed and replaced with a new Section 25-12-114 to read as follows:

31
32 **§ 25-12-114 LOCAL AMENDMENTS TO THE ELECTRICAL CODE –**
33 **TECHNICAL.**

34 The following provisions are local amendments to the 2014 National Electrical Code.
35 Each provision in this Section is a substitute for the identically numbered provision
36 deleted by Section 25-12-111(B) (*Electrical Code*) or is an amendment to the Electrical
37 Code.
38

1 **110.12 Mechanical Execution of Work.**

2 (A) **Neat and Workmanlike.** All electrical work shall be installed in a neat and
3 workmanlike manner. For the purpose of this Code, workmanlike manner is defined as,
4 but not limited to:

- 5 (1) skillfully installed per the requirements of this Code;
- 6 (2) equipment, raceways, and cables shall be installed parallel or
7 perpendicular to the building or structure's structural members;
- 8 (3) where raceways or cables are grouped, cables or raceways shall remain
9 straight, parallel or perpendicular to the building or structure's structural
10 members;
- 11 (4) cable shall be cut to length to prevent sagging or looping, except
12 moderate sagging where flexibility is required; and
- 13 (5) all boxes, cabinets, enclosures, and devices shall be installed level,
14 parallel or perpendicular to the building or structure's structural
15 members.

16 (B) **Unused Openings.** Unused openings, other than those intended for the
17 operation of equipment, those intended for mounting purposes, or those permitted as part
18 of the design for listed equipment, shall be closed to afford protection substantially
19 equivalent to the wall of the equipment. Where metallic plugs or plates are used with
20 nonmetallic enclosures, they shall be recessed at least 6 mm (1/4 in.) from the outer
21 surface of the enclosure.

22 (C) **Integrity of Electrical Equipment and Connections.** Internal parts of
23 electrical equipment, including busbars, wiring terminals, insulators, and other surfaces,
24 shall not be damaged or contaminated by foreign materials such as paint, plaster,
25 cleaners, abrasives, or corrosive residues. There shall be no damaged parts that may
26 adversely affect safe operation or mechanical strength of the equipment such as parts that
27 are broken, bent, cut, or deteriorated by corrosion, chemical action, or overheating.

28 (D) **Removal of Abandoned Raceways.** All abandoned raceway systems shall be
29 removed and the remaining raceway system(s) shall be supported in accordance with this
30 Code, when the ceiling grid or support walls are remodeled during the remodeling of a
31 building or structure. For the purpose of this Code, abandoned raceways are raceways not
32 in use, not terminated to boxes, cabinets, or equipment or not identified for future use
33 with a tag.

34 (E) **Removal of Abandoned Wiring Systems.** Each abandoned wiring system
35 shall be removed from all buildings and structures. When a building, structure, or portion

1 thereof, is being remodeled, the remaining wiring system(s) shall be supported in
2 accordance with this Code. For the purpose of this Code, abandoned wiring is electrical
3 conductors, signaling and communications conductors, and cables not in use, not
4 terminated in a box, cabinet, or equipment or not identified for future use with a tag.
5

6 **200.6 Means of Identifying Grounded Conductors.**

7 **(A) Sizes Smaller than 8 AWG.** An insulated grounded conductor smaller than 8
8 AWG shall be identified by one of the following means:

- 9 (1) A continuous white outer finish.
- 10 (2) A continuous gray outer finish.
- 11 (3) Three continuous white stripes along the conductor's entire length on
12 other than green insulation.
- 13 (4) Wires that have their outer covering finished to show a white or gray
14 color but have colored tracer threads in the braid identifying the source of
15 manufacture shall be considered as meeting the provisions of this section.
- 16 (5) The grounded conductor of a mineral-insulated, metal-sheathed cable
17 shall be identified at the time of installation by distinctive marking at its
18 terminations.
- 19 (6) A single-conductor, sunlight-resistant, outdoor-rated cable used as a
20 grounded conductor in photovoltaic power systems, as permitted by
21 690.31, shall be identified at the time of installation by distinctive white
22 marking at all terminations.
- 23 (7) Fixture wire shall comply with the requirements for grounded conductor
24 identification as specified in 402.8.
- 25 (8) For aerial cable, the identification shall be as above, or by means of a
26 ridge located on the exterior of the cable so as to identify it.

27 **(B) Sizes 8 AWG and Larger.** An insulated grounded conductor of 8 AWG or
28 larger shall be identified by one of the following means:

- 29 (1) A continuous white outer finish.
- 30 (2) A continuous gray outer finish.
- 31 (3) Three continuous white or gray stripes along the conductor's entire
32 length on other than green insulation.

- 1 (4) At the time of installation, by a distinctive white or gray marking at its
2 terminations. This marking shall encircle the conductor or insulation.
3

4 **225.32 Location.** For outside feeder and branch circuit disconnect requirements, see
5 Subsection 230.70(A)(1) of this code.
6

7 *Exception No. 1: For towers or poles used as lighting standards, the disconnecting*
8 *means shall be permitted to be located elsewhere on the premises.*
9

10 *Exception No. 2: For poles or similar structures used only for support of signs*
11 *installed in accordance with Article 600, the disconnecting means shall be permitted*
12 *to be located elsewhere on the premises.*
13

14 **230.54(H) Identification of Conductors at Weather Head.** All service entrance
15 conductors shall be identified within 12 inches of a rain-tight service head.
16

17 **230.70(A)(1) Readily Accessible Location.** The service disconnecting means shall be
18 installed at a readily accessible location outside of the building or structure.

19 *Exception: Commercial Buildings and Structures. Where the customer is the only*
20 *customer served by the utility transformer, the service disconnecting means shall be*
21 *located on the first floor of the building or structure nearest the point of entrance of*
22 *the service conductors. The disconnecting means shall be accessible from an exterior*
23 *entrance and not exceeding 25 feet inside the building or structure.*
24

25 **250.52(A)(3) Concrete-Encased Electrode.** All new buildings or structures having a
26 concrete footing or foundation shall have a concrete encased electrode as the primary
27 grounding system. The electrode shall comply with all the requirements of Article 250
28 (*Grounding and Bonding*), including but not limited to the following requirements:

- 29 (a) The electrode shall be a minimum of 20 feet of ½ inch or larger reinforcing bar
30 encased in a minimum of 2 inches of concrete located near the bottom of the
31 beam. A reinforcing bar may be turned upward in an exterior wall, a minimum
32 of 8 inches (readily identifiable), and sleeved above the finished floor. The
33 reinforcing bar shall be in close proximity of the service disconnecting means.
34

35 **250.68(A)(1) Concrete Encased Electrode Accessibility.** Concrete encased electrode
36 accessibility for the electric utility district (EUD) locations (having no wall rough-in
37 inspection) shall require a grounding inspection port for termination of the grounding
38 electrode conductor. The inspection port enclosure shall be accessible from the exterior
39 wall of the building or structure and a minimum size of 4 inches X 4 inches X 2 ½ inches
40 and identified as “Ground Port” on the cover plate or door of the port.

1
2 **250.119 Identification of Equipment Grounding Conductors.**
3

4 **(A) Conductors Sizes 8 AWG and Larger.** Marking of conductors at each
5 accessible point is approved for conductor size 8 AWG and larger. Equipment grounding
6 conductors 8 AWG and larger shall comply with 250.119(A)(1) and (A)(2).

- 7 (1) An insulated or covered conductor 8 AWG and larger shall be permitted,
8 at the time of installation, to be permanently identified as an equipment
9 grounding conductor at each end and at every point where the conductor
10 is accessible.

11 *Exception: Conductors 8 AWG and larger shall not be required to be*
12 *marked in conduit bodies that contain no splices or unused hubs.*

- 13 (2) Identification shall encircle the conductor and shall be accomplished by
14 one of the following:

- 15 (a) Stripping the insulation or covering from the entire exposed length.
16 (b) Coloring the insulation or covering green at the termination.
17 (c) Marking the insulation or covering with green tape or green
18 adhesive labels at the termination.
19

20 **300.3(C)(1) Conductors of Different Systems.** Service, feeders or branch circuit
21 conductors of different systems shall not occupy the same wireway, raceway, junction
22 box, pull box, or outlet box. For separate voltage systems, a junction box cover or pull
23 box cover shall be permanently identified as follows:

- 24 (a) Emergency systems shall be permanently identified red in color.
25 (b) 277 and 480-volt systems shall be identified yellow in color.
26 (c) 240 volt three phase delta systems where the “high leg” to ground is present
27 shall be permanently identified orange in color.
28

29 **300.11(D) Suspended Ceilings.** Cables, raceways, or boxes shall not be supported, or
30 attached to the framing members (grid) of suspended ceiling systems.
31

32 **Table 310.106(A) Minimum Size of Conductors.** No.14 AWG copper shall be
33 permitted for residential use only. Aluminum or copper-clad aluminum shall not be
34 smaller than No. 8 AWG.
35

1 **310.110 Conductor Identification.**

2 (A) Color coding of conductors shall be as follows:

3 (1) Single phase 120/240 volt wiring systems.

4 (A) (B) (N)

5 RED-----BLACK-----WHITE

6 (2) Three phase four wire 120/208 volt wiring systems.

7 (A) (B) (C) (N)

8 RED-----BLACK----BLUE---WHITE

9 (3) Three phase three and four wire 120/240 volt delta wiring systems.

10 (A) (B) (C) (N)

11 RED-----ORANGE----BLACK--WHITE

12 (4) 277/480 wye or 480 volt delta wiring systems.

13 (A) (B) (C) (N)

14 BROWN-----YELLOW-----PURPLE-----GRAY

15 (B) Color coding of conductors shall be consistent throughout each system. Color
16 coding of conductors also apply to Metal-Clad Cable Type (MC), including the return
17 conductor from a switch to the outlet. The three phase color code shall be maintained for
18 all circuits originating from a three phase power source.

19 *Exception No. 1: Branch circuit conductors supplied by 120/208 volt or*
20 *120/240 volt single phase.*

21 *Exception No. 2: When NM Cable is an approved wiring method: Color coding*
22 *of branch circuit conductors is not required.*

23 (C) Color code shall be maintained throughout the metering and service distribution
24 equipment.

25
26 **330.12(3) Uses Not Permitted.** Type MC cable shall not be used as a service or feeder
27 entering a surface mounted electrical cabinet or panelboard for MC cable smaller than
28 No. 8 AWG.

29
30 **330.30 Securing and Supporting.**

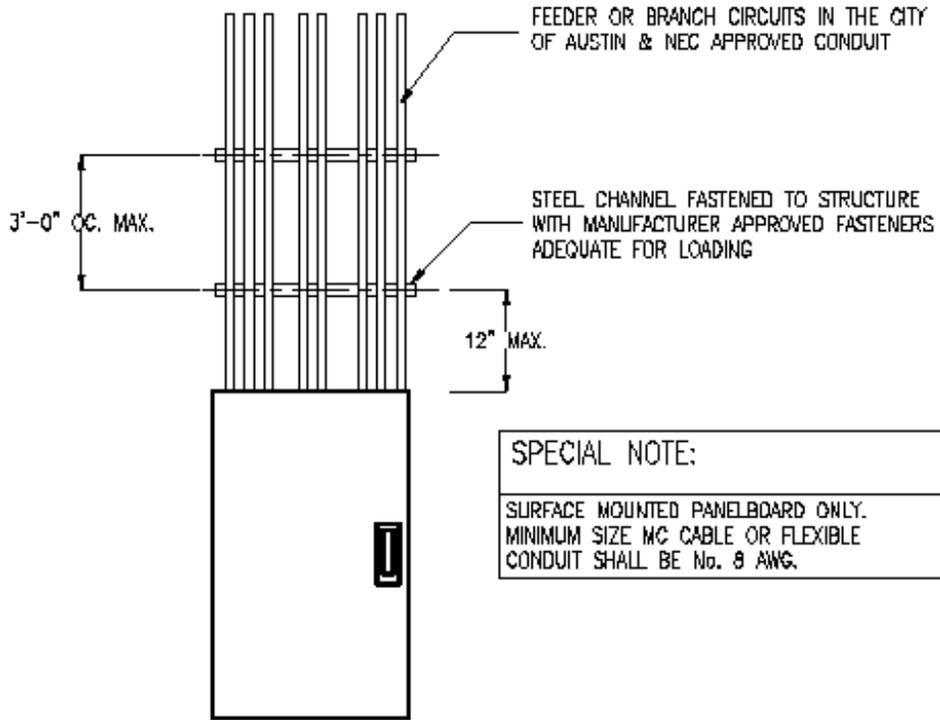
1 **(A) General.** Type MC cable shall be installed in a workmanlike manner. See
2 definition workmanlike manner in Subsection 110.12 of this Code. Type MC cable shall
3 be installed in compliance with this Code, including Figures 1 and 2, and the National
4 Electrical Code. When installed in a surface mounted panel type MC cable shall not be
5 smaller than No. 8 AWG.

6 **(B) Securing.** Type MC cable shall be supported and secured at intervals not
7 exceeding 6 feet (1.83m) where concealed, 3 feet (0.915m) where exposed, and within 12
8 inches (305 mm) of a connection to every panelboard or terminal/box.

9 **(C) Supporting.** Bundling of cables is limited to three cables for each support ring.
10 If more than three cables are required in an exposed location, the cable shall be racked
11 together and uniformly spaced in parallel runs supported by steel channel. Steel channel
12 shall be designed and listed for the application. Cables shall be fastened to the channel
13 with metal cable clamps designed for the channel used.

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Figure 1 - Panel board Installation - MC Cable Strapping Requirements

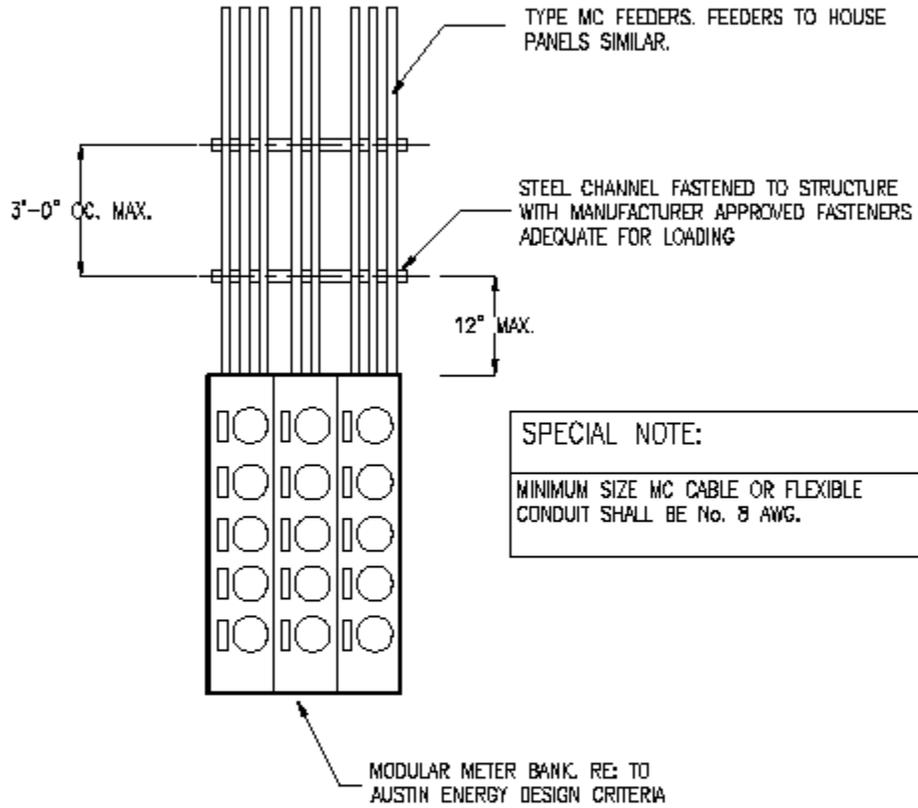


SPECIAL NOTE:
SURFACE MOUNTED PANELBOARD ONLY.
MINIMUM SIZE MC CABLE OR FLEXIBLE
CONDUIT SHALL BE No. 8 AWG.

Not To Scale

1
2
3
4

Figure 2-Modular Meter Bank Feeder Detail



Not To Scale

1
2
3
4
5

1
2 **334.10 Uses Permitted.** Type NM, Type NMC, and Type NMS cables shall be permitted
3 to be used only in the following:

4 (1) one and two-family dwellings and their attached or detached garages and
5 storage buildings.

6 (2) multifamily dwellings and their associated uses permitted to be of Types III, IV,
7 and V construction, except as prohibited in 334.12; and

8 (3) for existing structures legally constructed with non-metallic sheathed cable, the
9 non-metallic sheathed cable may remain as a wiring method provided that the existing
10 structure is:

- 11 a. a remodel of a type III, IV, or V construction;
- 12 b. two stories or less in height; and
- 13 c. supplied by a 120/240-volt single-phase electrical service;
- 14 d. not used for areas or equipment regulated by Chapters 5, 6, and 7 of the
15 Electrical Code.
16

17 **338.10 Uses Permitted.**

18 (A)(1) Permitted Building and Structure Types. See Section 334.10 of this code.
19

20 **404.1(A) Switch Rating.** Switches, All snap switches shall have a minimum rating of 20
21 amperes.

22 *Exception: one-family, two-family, and multifamily dwellings.*
23

24 **406.1(A) Receptacle Rating.** Receptacles, all receptacles shall have a minimum rating of
25 20 ampere.

26 *Exception: one-family, two-family, and multifamily dwellings.*
27

28 **410.36(B) Suspended Ceiling.** Luminaire support, framing members of suspended
29 ceilings shall not be used to support luminaries. Each luminaire shall have two support
30 wires installed, one on each end, at diagonal corners. Luminaries in fire rated ceilings
31 shall be supported on all four corners. All electrical equipment installed above the
32 suspended ceiling shall be supported by independent support. Support wire shall be the
33 same gauge/size as the ceiling support wire or larger. Support wire shall be secured at
34 both ends and shall be identified from other support wires in the ceiling.
35

1 **680.13 Emergency Switch for Pools.**

2
3 (A) A clearly labeled emergency shutoff switch shall be installed to disconnect all
4 ungrounded conductors for pool equipment and underwater lighting systems, as defined
5 in the National Electrical Code. The switch shall be installed in a place that is readily
6 accessible, within sight, and not less than 5 feet from the waters edge.

7 (B) The sign for the shut-off switch shall be red in color, with letters capable of
8 being read from a distance of 50 feet. Sign material shall be plastic, metal or similar
9 durable material. The sign shall read "Emergency Shut Off."

10 (C) The emergency shut off switch shall be red in color and of the mushroom type,
11 push to de-energize.

12 *Exception: 1 and 2 family dwellings units.*

13
14 **680.23(A)(4) Voltage Limitation.** Underwater luminaire, all underwater lighting systems
15 in permanently installed pools, spas, hot tubs, fountains and similar installations shall be
16 a listed lighting system of 16 volt or less.

17
18 **680.41 Emergency Switch for Spas and Hot Tubs.**

19 (A) A clearly labeled emergency shutoff switch shall be installed to disconnect all
20 ungrounded conductors for spa or hot tub equipment and underwater lighting systems, as
21 defined by the National Electrical Code. The switch shall be installed in a place that is
22 readily accessible, within sight, and not less than 5 feet from the waters edge.

23 (B) The sign for the shut-off switch shall be red in color, with letters capable of
24 being read from a distance of 50 feet. Sign material shall be plastic, metal or similar
25 durable material. The sign shall read "Emergency Shut Off."

26 (C) The emergency shut off switch shall be red in color and of the mushroom type,
27 push to de-energize.

28 *Exception: 1 and 2 family dwellings units.*

29
30 **PART 2.** This ordinance takes effect on _____.

31
32 **PASSED AND APPROVED**

33
34 _____, §
35 _____, §
36 _____, §
37

1
2
3
4
5

Mayor

APPROVED: _____

ATTEST: _____

City Attorney

City Clerk

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