ORDINANCE NO.

AN ORDINANCE AMENDING THE FORT WORTH ELECTRICAL CODE, BY ADOPTING THE 2020 NATIONAL ELECTRICAL CODE, WITH LOCAL AMENDMENTS; AMENDING SECTIONS 11-1 THROUGH 11-4 OF THE CODE OF THE CITY OF FORT WORTH (2015); REGULATING ERECTION, CONSTRUCTION, ENLARGEMENT, ALTERATION, REPAIR, MOVING, REMOVAL, DEMOLITION, CONVERSION, EQUIPMENT, DESIGN, QUALITY OF MATERIALS, USE AND MAINTENANCE OF ELECTRICAL EQUIPMENT IN THE CITY OF FORT WORTH, TEXAS; DEFINING CERTAIN TERMS; ESTABLISHING MINIMUM REQUIREMENTS FOR THE INSTALLATION, ALTERATION OR REPAIR OF ELECTRICAL SYSTEMS; PROVIDING FOR THE ISSUANCE OF PERMITS AND THE COLLECTION OF FEES THEREOF; PROVIDING FOR THE INSPECTION OF SUCH SYSTEMS; REQUIRING AND REGULATING LICENSES AND REGISTRATIONS FOR ELECTRICIANS AND PRESCRIBING THE FEES THEREFOR; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A SAVINGS CLAUSE; PROVIDING FOR A PENALTY CLAUSE; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE; PROVIDING FOR PUBLICATION IN PAMPHLET FORM; PROVIDING FOR PUBLICATION IN THE OFFICIAL NEWSPAPER AND PROVIDING AN EFFECTIVE DATE.

WHEREAS the Texas Electrical Safety and Licensing Act requires the Texas Department of Licensing and Regulation (TDLR) to adopt the revised National Electrical Code (NEC) as the electrical code for the State of Texas; and

WHEREAS on June 30, 2020, the Texas Commission of Licensing and Regulation published in the Texas Register their intent to adopt the 2020 NEC as the minimum standard for all electrical work in Texas. Electrical work in Texas started on or after November 1, 2020 must be installed in accordance with the 2020 NEC; and

WHEREAS adopting the 2020 NEC as the Fort Worth Electrical Code aligns City and State requirements for electrical work.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FORT WORTH, TEXAS:

SECTION 1.

Section 11-1 of the Code of the City of Fort Worth (2015) is amended to read as follows:

Sec. 11-1. 2020 EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED.

(a) The Electrical Code of the City of Fort Worth is hereby revised and amended to conform, with certain exceptions as specified below, to the 2020 edition of the National Electrical

Code of the National Fire Protection Association (NFPA), and the same as amended is hereby adopted as the City's Electrical Code. One (1) copy of the 2020 National Electrical Code marked as Exhibit "A", is incorporated herein by reference and shall be filed in the Office of the City Secretary for permanent record and inspection.

(b) This code shall serve as the electrical provisions of the *International Residential Code*, as adopted elsewhere.

(c) Any Errata corrections published by the National Fire Protection Association for the 2020 National Electrical Code (NFPA70), as they are discovered, are considered as part of this code.

SECTION 2.

That Section 11-2 of the Code of the City of Fort Worth (2015) is hereby amended to read as follows:

Sec. 11-2. Amendments.

The 2020 edition of the National Electrical Code is hereby amended as follows:

ARTICLE 100

Article 100, "Scope**"; amended to read as follows:*

Scope. This article contains only those definitions essential to the application of this Code. It is not intended to include commonly defined general terms or commonly defined technical terms from related codes and standards. In general, only those terms that are used in two or more articles are defined in Article 100. Definition are also found in XXX.2 section of other articles. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this Code, have the meanings indicated in this article. The provisions of this article shall also apply to other definitions listed elsewhere in this Code.

Interchangeability. Words used in the present tense include the future; words in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

Terms defined in other codes. Where terms are not defined in this code and are defined in other City adopted codes, such terms shall have meanings ascribed to them as in those codes.

Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

Part I of this article contains definitions intended to apply wherever the terms are used throughout this code. Part II contains definitions applicable to installations and equipment operating at over 1000 volts, nominal. Part III contains definitions applicable to Hazardous (Classified) Locations.

**Article 100, Part I; definitions are amended and new definitions are added to read as follows:*

BUILDING. A structure that stands alone or that is separated from adjoining structures by ~~firewalls~~ fire walls as defined by the building code.

BUILDING CODE. Building Code shall mean the *International Building Code* as adopted by this jurisdiction.

ELECTRICAL CODE. Electrical Code shall mean the *National Electrical Code* as adopted by this jurisdiction. For the purpose of this code, all references to NFPA 70 shall be assumed to mean the Electrical Code as defined herein.

ENERGY CODE. Energy Code shall mean the *International Energy Conservation Code* as adopted by this jurisdiction.

ENGINEERING SUPERVISION. Supervision by a Qualified State of Texas Licensed Professional Engineer engaged primarily in the design or maintenance of electrical installations.

FIRE PREVENTION CODE (FIRE CODE). Fire Prevention Code, or Fire Code, shall mean the *International Fire Code* as adopted by this jurisdiction.

FUEL GAS CODE. Fuel Gas code shall mean the *International Fuel Gas Code* as adopted by this jurisdiction and shall be considered as part of the Plumbing Code. (See Plumbing Code.)

GROUPED (ATTACHED-OUTDOORS) (SAME LOCATION). Where this Code specifies that disconnects, overcurrent devices or equipment "shall be grouped", the equipment shall not be separated more than thirty (30) feet and shall be on the same wall facing the same cardinal orientation or elevation. This includes all service, service equipment, and all service disconnecting means.

HAZARDOUS LOCATION. (See Article 500.5). The location is not necessarily categorized in the *International Building Code* as a high hazard use group classification. The areas consist of

Class I, Divisions 1 and 2; Class II, Divisions 1 and 2; and Class III, Divisions 1 and 2.

MECHANICAL CODE. Mechanical Code shall mean the *International Mechanical Code* as adopted by this jurisdiction.

PLUMBING CODE. Plumbing Code shall mean the *International Plumbing Code* and the *International Fuel Gas Code* as adopted by this jurisdiction. The term "Plumbing Code" applies to both codes as one combined code.

RESIDENTIAL CODE. Residential Code shall mean the *International Residential Code* as adopted by this jurisdiction.

TECHNICAL CODES. The Fort Worth Building, Residential, Plumbing, Mechanical, Electrical, Sign, and Existing Building codes which regulate the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

ARTICLE 110.2

**Article 110.2; amended to read as follows:*

110.2 Approval. The conductors and equipment required or permitted by this *Code* shall be acceptable only if approved. Approval of equipment may be evident by listing and labeling of equipment by a Nationally Recognized Testing Lab (NRTL) with a certification mark of that laboratory or a qualified third party inspection agency approved by the AHJ.

Exception: Unlisted equipment that is relocated to another location within a jurisdiction or is field modified is subject to the approval by the AHJ. This approval may be by a field evaluation by a NRTL or qualified third party inspection agency approved by the AHJ.

Informational Note No. 1: See 90.7, Examination of Equipment for Safety, and 110.3, Examination, Identification, Installation, and Use of Equipment. See definitions of *Approved, Identified, Labeled*, and *Listed*.

Informational Note No. 2: Manufacturer's self-certification of equipment may not necessarily comply with US product safety standards as certified by a Nationally Recognized Testing Lab.

Informational Note No. 3: NFPA 790 and 791 provide an example of an approved method

for qualifying a third party inspection agency.

ARTICLE 110.80

**Articles 110.80; added to read as follows:*

110.80 Primary Power Source. The primary power source for all buildings shall be from an electrical utility provider. Power sources, such as generator power, that supply a service panel for uses without a building, such as gas compressor sites, shall be regulated by this code.

Exceptions No 1: Alternate, non-generator power sources, including but not limited to fuel cell power plants, wind generators, solar panels, etc. are permitted when approved by the code official and installed in accordance with the provisions of this code and other city codes.

Exception No 2: Temporary generator power is permitted for buildings that are connected to a normally active utility provider during periods of power outages, such as after a major storm. Any connection to the building power system shall be in compliance with this code.

Exception No 3: Generator power to buildings as a primary power source shall only be permitted when approved by the code official. Such approval shall take into consideration all hazards such as fuel delivery, storage and usage, as well as, noise nuisances, and compliance with all other applicable codes and ordinances of this city.

Use of alternate power sources, inclusive of generators, shall not be permitted when the proposed use is in violation of other codes and ordinances of this city.

When permitted, such power source and connection shall be in compliance with this code, the Building Code and Fire Code. The attachment cable to the building shall be considered to be a service entrance conductor.

ARTICLE 230.2

**Article 230.2(A); add a "Special Condition" 7 to read as follows:*

(7) In supplying electrical service to other than single family dwellings, two or more laterals or overhead service drops shall be permitted to a building and they shall be grouped together.

**Article 230.2(B)(2); amended to read as follows:*

(2) ~~A single building or other structure sufficiently large to make two or more services necessary.~~ Buildings two-hundred-fifty (250) feet or more in length measured in the most direct path along the exterior of the building shall be permitted one additional service location for each 200 linear feet of exterior wall or fraction thereof facing the same cardinal orientation or elevation. Service locations shall be separated by a minimum of

60 feet. All meters for each service shall be grouped at the same location.

ARTICLE 230.42

**Article 230.42(A); add two new paragraphs after item (2) to read as follows:*

230.42 Minimum Size and Ampacity.

(A) General. Service-entrance conductors …

(2) The minimum service-entrance conductor size shall have an ampacity not less than the maximum load to be served after the application of any adjustment or correction factors.

Service entrance conductors after the utility provider point of delivery or service point shall be subject to the requirements of this code and shall be sized based upon the overcurrent protection provided.

When the utility provider service conductors connect directly to the service equipment disconnecting means, the utility provider's service cables shall be subject to the requirements of this code and shall be sized based upon the service equipment overcurrent device.

ARTICLE 230.70

**Article 230.70(A): add a "Special Condition" 4 to read as follows:*

230.70 General. Means shall be provided to disconnect all ungrounded conductors in a building or other structure from the service conductors.

(A) Location. The service disconnecting means shall be installed in accordance with 230.70 (A) (1), (A) (2), ~~and~~ (A) (3), and (A) (4).

(4) Special Condition. Where more than one electrical service is installed, all disconnecting means shall be grouped in the same location in accordance with one of the following:

(1) All inside the building.

(2) All outside and attached to the building

ARTICLE 250.50

**Article 250.50; amended to read as follows:*

250.50 Grounded Electrode System. All grounding electrodes as described in 250.52(A)(1) through (A)(7) that are present at each building or structure served shall be bonded together to form the grounding electrode system.

Where a metal underground water pipe, as described in item 250.52(A)(1), is not present, a method of grounding as specified in 250.52(A)(2) through (4) below shall be used.

~~Where none of these grounding electrodes exist, one or more of the grounding electrodes specified in 250.52(A)(4) through (A)(8) shall be installed and used.~~

Exception: Concrete-encased electrodes of existing buildings or structures shall not be required to be part of the grounding electrode system where the steel reinforcing bars or rods are not accessible for use without disturbing the concrete. (For purposes of this provision, "existing buildings or structures" shall not include concrete foundation(s) permitted as part of any alteration(s), addition(s), or new foundation(s)).

ARTICLE 250.52

**Article 250.52 (A)(4); amended to add an exception to read as follows:*

250.52 Grounding Electrodes.

(A) Electrodes Permitted for Grounding.

(4) Ground Ring. A ground ring encircling the building or structure, in direct contact with the earth, consisting of at least 6.0 m (20 ft.) of bare copper conductor not smaller than 2 AWG.

Exception: In lieu of encircling the building, two ground rod or pipe electrodes, complying with item 250.52(A)(5), may be used when separated by at least 20 feet and connected with a minimum of 2 AWG bare copper conductor at least 30 inches deep.

**Article 250.52(A)(5); amended to read as follows:*

(5) Rod and Pipe Electrodes. Rod and pipe electrodes meeting the requirements listed in this section may be installed for electrical services on the following structures:

(1) Temporary services less than 200 amps.

(2) Separate structures, temporary in nature, temporary being 12 months or less, when supplied from another building or temporary service pole, with an electrical service less than 200 amps, and a metal underground water pipe is not present.

(3) Separate structures installed for permanent use, being 12 month or longer, and supplied

from another building or permanent service pole, with an electrical service less than 200 amps, and a metal underground water pipe is not present.

(4) Mobile home pedestals, less than 200 amps.

(5) For supplemental electrode see 250.53(D)(2).

Such rod and pipe electrodes shall not be less than 2.44 m (8 ft.) in length and shall consist of the following materials.

(a) Grounding electrodes of pipe or conduit shall not be smaller than metric designator 21 (trade size ¾) and, where of steel, shall have the outer surface galvanized or otherwise metal-coated for corrosion protection.

(b) Rod-type grounding electrodes of stainless steel and copper or zinc coated steel shall be at least 15.87 mm (5/8 in.) in diameter, unless listed.

ARTICLE 310.14(A)(3)

**Article 310.14(A)(3); add a sentence after the first paragraph to read as follows:*

310.14 Ampacities for Conductors Rated 0 Volts – 2000 Volts.

(3) Temperature Limitations of Conductors. No conductor shall be used in such a manner that it's operating temperature exceeds that designated for the type of insulated conductor involved. In no case shall conductors be associated together in such a way, with respect to the type of circuit, the wiring method, employed or the number of conductors, that the limiting temperature of any conductor is exceeded. Where NM and NMC other cables, conductors and wiring methods listed in Chapter 3 are installed in an attic outside the building thermal envelope, the ambient temperature shall be considered to exceed 140°F.

ARTICLE 334.10

**Article 334.10; amended to read as follows:*

334.10 Uses Permitted. Type NM and Type NMC cables shall be permitted to be used in the following:

(1) One- and two-family dwellings.

(2) Multifamily dwellings ~~permitted to be~~ of Types III, IV, and V construction when of wood stud wall framing, except as prohibited in 334.12. When exceeding three (3) stories, as determined by the Building Code, an approved automatic sprinkler system is required throughout.

Exceptions: 1. Usage is permitted for multifamily dwellings of any construction type, with any wall framing material, in buildings not exceeding four (4) stories, as

determined by the Building Code, when provided with an approved automatic sprinkler system.

2. Usage is permitted for multifamily dwellings of any construction type, with any wall framing material in buildings not exceeding five (5) stories, as determined by the Building Code, after the switchboard or panelboard of all individual dwelling units, when provided with an approved automatic sprinkler system.

(3) Other structures ~~permitted to be~~ of Types III, IV, and V construction when of wood stud wall framing, except as prohibited in 334.12. When exceeding three (3) stories, as determined by the Building Code, an approved automatic sprinkler system is required throughout.

Exceptions: 1. Usage is permitted for hotel/motel uses of any construction type, with any wall framing material, in buildings not exceeding four (4) stories, when provided with an approved automatic sprinkler system.

2. Usage is permitted in detached one (1) story commercial buildings not exceeding 5,000 square feet of any construction type with any wall framing material.

Cables shall be concealed within walls, floors, or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire-rated assemblies.

(4) Cable trays ~~in structures permitted to be Types III, IV, or V~~ where the cables are identified for the use.

ARTICLE 408.4

**Article 408.4 (A); Amend to read as follows:*

404.8 Field Identification Required

(A) Circuit Directory or Circuit Identification. Every circuit and circuit modification shall be legibly identified as to its clear, evident, and specific purpose or use. 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, inside of, or in an approved location adjacent and permanently affixed to the panel door in the case of a panelboard and at each switch or circuit breaker in a switchboard or switchgear. No circuit shall be described in a manner that depends on transient conditions of occupancy.

ARTICLE 410.118

**Article 410.118; amended to read as follows:*

410.118 Access to Other Boxes. Luminaires recessed in ceilings, floors, or walls shall not be used to access outlet, pull, or junctions boxes or conduit bodies, unless the box or conduit body is an integral part of the listed luminaire.

Exception: Removable luminaires with a minimum measurement of 559 mm x 559 mm (22 in. x. 22 in.) shall be permitted to be used as access to outlet, pull, junction boxes or conduit bodies.

ARTICLE 422.31 PART III

**Article 422.31(B); Amend to read as follows:*

422.31 Disconnection of Permanently Connected Appliances.
(B) Appliances Rated over 300 Volt-Amperes. For permanently connected appliances rated over 300 volt-amperes, a disconnecting means shall be provided and shall be located within sight from and readily accessible to the appliance it serves. ~~the~~ A branch-circuit switch or circuit breaker shall be permitted to serve as the disconnecting means where the switch or circuit breaker is within sight from and is readily accessible to the appliance it serves or ~~be~~ is capable of being locked in the open position in compliance with 110.25 and is readily accessible to the appliance it serves.

Informational Note 1: For appliances employing unit switches, see 422.34.

Informational Note 2: The following means of access considered to constitute readily accessible when conforming to the additional access requirements of the I-codes

1. A permanent stair
2. A pull down stair with a minimum 300 lb. (136kg) capacity.
3. An access door from an upper floor level

ARTICLE 440.6

******Article 440.6; add a sentence at the end to read as follows:*

440.6 Ampacity and Rating. The size of conductors for equipment covered by this article shall be selected from Table 310.16 through Table 310.19 or calculated in accordance with 310.14 as applicable. The required ampacity of conductors and rating of equipment shall be determined according to 440.3(A) and 440.3(B). *Branch circuits to AC condensing units 2 tons or larger shall be a minimum of 10 AWG copper conductors. See also attic temperatures in Articles 310.14(A)(3).*

ARTICLE 500.8

**Article 500.8(A); amended to read as follows:*

500.8 Equipment.

(A) Suitability. Suitability of identified equipment shall be determined by one of the following:

(1) Equipment listing or labeling

(2) Evidence of equipment evaluation from a qualified testing laboratory or inspection agency concerned with product evaluation

(3) Evidence acceptable to the authority having jurisdiction such as a manufacturer's self-evaluation or an ~~owner's~~ engineering judgment signed and sealed by a qualified Registered Professional Engineer in the State of Texas.

ARTICLE 505.7

**Article 505.7(A); amended to read as follows:*

505.7 Special Precaution.

(A) Implementation of Zone Classification System. Classification of areas, engineering and design, selection of equipment and wiring methods, installation, and inspection shall be performed by a qualified ~~persons~~ licensed Professional Engineer in the State of Texas.

ARTICLE 550.1

** Article 550.1; amended to delete 550.1.4 to read as follows:*

Site requirements.

550.1.1 Applicability The provisions of this Article apply to the construction and maintenance of all mobile home and manufactured home parks.

550.1.2 All electrical wiring, power distribution lines, and telephone lines in a mobile home or manufactured home park shall be installed underground and in compliance with this code.

550.1.3 Street lights. Each internal street shall be provided with street lighting. Light standards shall have a height and spacing to ensure an average illumination level of not less than 0.2 foot candles.

~~**550.1.4** Mobile Home Park regulations were first adopted in May 18, 1970 (with retroactive provisions), Ordinance 6293. Recreational Vehicle Park regulations were first adopted by Ordinance 6372, effective October 12, 1970. Under Ordinance 12264, City Code Chapter 21, Mobile Home Parks as deleted and the provisions moved to the Fire Code Appendix. Such Appendix was continued thru Ordinances 14652, 14688, and 16027.~~

ARTICLE 551.1

**Article 551.1; amended to delete 551.1.1.7 to read as follows:*

551.1.1 Site requirements. The following provisions shall apply to Recreational Vehicle Parks and Recreational Vehicle lots that occur in Mobile Home and Manufactured Home Parks.

551.1.1.1 Applicability. The provisions of this Article apply to the construction and maintenance of all recreational vehicle parks.

551.1.1.2 All electrical wiring, main power distribution lines, and telephone lines shall be installed underground.

551.1.1.3 Individual electrical connections provided at recreational vehicle spaces shall include an approved disconnecting device and over current protective equipment.

551.1.1.4 Recreational Vehicle lots in Recreational Vehicle Parks and in Mobile Home or Manufactured Home Parks shall be master metered. Power releases shall not be permitted for individual lots.

551.1.1.5 Street lights. Each internal street shall be provided with street lighting. Light standards shall have a height and spacing to ensure an average illumination level of not less than 0.2 foot candles.

551.1.1.6 Service and Auxiliary Buildings. This section shall apply to all service buildings, recreation buildings, management offices, repair shops, storage areas, sanitary facilities, laundry facilities, indoor recreation areas, commercial buildings supplying essential goods or services for park tenants, and other similar buildings in recreational vehicle parks.

Illumination levels shall be maintained, as a minimum, as follows:

a. General seeing tasks: Five (5) foot candles.

b. Laundry room work area: Forty (40) foot candles.

c. Toilet room, in front of mirrors: Forty (40) foot candles.

~~**551.1.1.7** Mobile Home Park regulations were first adopted in May 18, 1970 (with retroactive provisions), Ordinance 6293. Recreational Vehicle Park regulations were first adopted by Ordinance 6372, effective October 12, 1970. Under Ordinance 12264, City Code Chapter 21, Mobile Home Parks as deleted and the provisions moved to the Fire Code Appendix. Such Appendix was continued thru Ordinances 14652, 14688, and 16027.~~

ARTICLE 600.6

** Article 600.6(A)(1) Exception No. 1 add a sentence to read as follows:*

Exception No.1: A disconnect shall not be required for branch circuits(s) or feeder conductor(s) passing through the sign where not accessible and enclosed in a Chapter 3 listed raceway or metal-jacketed cable identified for the location. The conductor(s) shall not serve the sign body or sign enclosure where passing through.

** Article 600.6(A)(1) Exception No. 3 added to read as follows:*

Exception No.3. A disconnect shall not be required at the point of entry to a sign body, sign enclosure, or pole for branch circuit conductor(s). The conductors shall be enclosed in a Chapter 3 listed raceway or metal-jacketed cable identified for the location. The conductor(s) shall be routed to a device box which contains the disconnect. A field-applied permanent warning label that is visible during servicing shall be applied to the raceway at or near the point of entry into the sign enclosure or sign body. The warning label shall comply with 110.21(B) and state the following: "Danger. This raceway contains energized conductors." The marking shall include the location of the disconnecting means for the energized conductor(s). The disconnecting means shall be capable of being locked in the open position in accordance with 110.25.

ARTICLE 600.10

**Article 600.10; amended and expanded to 600.10.1 and 600.10.2 to read as follows:*

600.10. Portable or Mobile Signs.

Interior - Shall be those signs that are small in nature, usually hung from hooks in the wall or ceiling with an electrical cord for plug in or direct connection to an electrical source. These signs shall not be permitted to be installed in an outside location.

Exterior - Shall be those signs that are set on the exterior, usually but not always in the parking lot, limited in size as described in the Zoning and Sign Code, some of which may have wheels installed to permit the towing behind a vehicle.

600.10.1. Interior

(A) Support. Portable or mobile signs shall be adequately supported and readily moveable without the use of tools.

(B) Attachment Plug. An attachment plug shall be provided for each portable or mobile sign

(C) Wet or Damp Location. Portable or mobile signs in wet or damp locations shall comply with 600.10 (C)(1) and (C)(2)

(1) Cords. All cords shall be junior hard-service or hard-service types as designated in

Table 400.4 and have an equipment grounding conductor.

(2) Ground-Fault Circuit Interrupter. The manufacturer of portable or mobile signs shall provide listed ground-fault circuit-interrupter protection for personnel. The ground-fault circuit-interrupter shall be an integral part of the attachment plug or shall be located in the power-supply cord within 300mm (12in.) of the attachment plug.

(D) Dry Location. Portable or mobile signs in dry locations shall meet the following:

(1) Cords shall be SP-2, SPPE-2, SPT-2, or heavier, as designated in Table 400.1

(2) The cord shall not exceed 4.5 m (15Ft) in length

600.10.2. Exterior.

(A) Exterior portable or mobile signs shall not be illuminated by any electrical source. Those signs equipped with an electrical cord shall have it removed.

(B) Signs shall be adequately secured to prevent overturning by wind.

ARTICLE 696 – ELECTRIFIED FENCES

**add new article with subsection as follows:*

696.1 Scope

This article applies to the installation and maintenance of *electrified fences* containing more than two energized strands and having a minimum height of more than twenty four (24) inches measured from grade to the highest strand.

Exception No 1. Battery-charged fences regulated under state law (Local government code section 250.009) shall not require compliance with this section.

696.2 Definitions

Protective Barrier. Permanent fence or wall that restricts direct access to the energized portions of an electrified fence. Permanent shall mean not being able to be removed, lifted or relocated without the use of a tool or equipment.

Electrified Fence. A fence energized with an electrical current.

Secure Area. The area bounded by the e*lectrified fence*.

696.3 Permits Required. An electrical permit is required for the installation, repair, and alteration

of electrified fences. A separate permit is required for the installation of a p*rotective barrier*.

Exceptions:
1. The repair and replacement of *electrified fence* conductive strands, and posts or poles for electrified fence systems.

2. *Electrified fences* installed on agriculturally zoned property as defined in the Fort Worth Zoning Code.

696.3.1 Plan Submittal. Electrical permit applications for *electrified fences* shall include two complete sets of the following:

1. Site plan showing the location of the *protective barrier* and the *electrified fence* on the property in relationship to property lines, walkways and exiting buildings.

2. Fence details showing both the *electrified fence* and *protective barrier*, including all gates.

3. Electrical details showing the equipment, wiring diagrams, grounding, and other information to insure compliance with the Fort Worth Electrical Code.

4. Energizer Output Certification Form as prescribed in section 696.8.

696.4 Fee. At the time of permit application, an electrical permit fee of one hundred seventy dollars ($170.00) shall be paid.

696.5. Location Restrictions. *Electrified fences* shall not be installed at the following locations:

a. Within five (5) feet of a building exit.

b. Within thirty (30) feet of a hazardous material storage or handling areas.

c. On roof tops or within buildings.

d. All residential uses

696.6 Electrified Fence Height. *Electrified fences* shall be restricted to a maximum height of two (2) feet above the height of the *protective barrier*.

696.7 Electrical Equipment Standards. Electrical equipment, wiring, and grounding

shall comply with the provisions of this Code and the following standards:

1. The energizer output shall comply with section 22.108 of the International Electrotechnical Commission (IEC) 60335-2-76 Standard.

2. Energizers shall provide pulsed power.

3. AC current shall not be used to energize any electrified fence.

4. The energizer shall be powered by a DC battery not to exceed 12 volts. A trickle charger and solar panels may be used to recharge the battery but shall not directly energize the fence.

5. All ground system cables shall be properly insulated.

6. The electrified fence grounding system shall not be connected to any plumbing systems.

7. Each energizer shall be connected to its own ground system and shall not be connected to any other grounding system.

696.8 Energizer Output Certification. The applicant shall sign a form provided by the City of Fort Worth certifying that the electrified fence energizer output characteristics comply with section 22.108 of the IEC 6335-2-76 International Standard.

696.9 Protective Barrier. The perimeter of the *secure area* shall be protected by an additional non-electrified fence meeting the following standards:

1. The p*rotective barrier* shall be a permanent fence or wall at least six (6) feet in height above the adjacent grade, subject to the limitations of the City of Fort Worth Zoning Ordinance

2. Openings in the *protective barrier* shall not allow for the passage of a two (2) inch sphere. The maximum vertical clearance between grade and the bottom of the *protective barrier* shall be two (2) inch.

   Exception: At rolling gates, the maximum vertical clearance between grade and the bottom of the *protective barrier* shall be four (4) inches.

3. The *protective barrier* shall be separated from the *electrified fence* by a minimum of six (6) inches and a maximum of twelve (12) inches.

   Exception: Conductive stands installed at gates installed in *protective barriers* shall be separated from the gate by a maximum of twelve (12) inches.

696.10 Warning Signs. *Electrified fences* shall be clearly marked with warning signs. The warning signs shall be placed on the *protective barrier* at each entrance to the *secure area* and at intervals not to exceed thirty (30) feet along the entire perimeter of the fence line. Warning signs

shall be located not less than five (5) feet above the adjacent walking surface.

696.10.1 Graphics. Warning signs shall be printed on both sides in both English and Spanish with the following text: "WARNING ELECTRIC FENCE" and contain the international symbol for electrical shock hazard. Signs shall be reflective with a minimum 2 inch letter height, minimum stroke of ½ inch and have a contrasting background.

696.11 Key Switch. A Fort Worth Fire Department permitted and approved key switch shall be installed to provide secure access to the electrical power disconnect switch by public safety personnel. The key switch shall be located at the main entry point to the property in a location approved by the Fire Official.

696.12 Commercial Business Hours of Activation. An *electrified fence* shall not be energized during the hours of normal business operation. However, where businesses are operating continuously on a twenty four (24) hour basis the conductors of an *electrified fenc*e shall not be energized unless all authorized persons within or entering the *secure area* have been informed of the electrified fence location.

696.13 Registration. *Electrified fences* permitted and installed after the effective date of this ordinance must be registered through the City of Fort Worth Planning and Development Department. The registration must be renewed annually from the date of permit issuance. The following information must be provided at the time of registration application:

1. Business Name
2. Address of Property
3. Contact Person / Representative
4. Address and phone number of contact person

Furthermore, an applicant for renewal must provide a notarized statement from a registered electrician or fence contractor specializing in the installation of electrified fences, certifying that the electrified fence and equipment is currently operating in conformance with the provisions of this Code.

696.13.1 Registration Renewal Fee. An annual registration renewal fee of $120 shall be charged for the registration of *electrified fences*.

696.13.2 Barrier Fence Inspection. As part of the registration renewal process, a Building Ordinance Inspection shall be scheduled and approved verifying the integrity of the *Protective Barrier*.

ARTICLE 710.15

Article 710.15(A); delete informational note and amend to read as follows:

710.15(A) Supply Output. Power supply to premises wiring systems fed by stand-alone or isolated microgrid power sources shall ~~be permitted to have less capacity than the calculated load. The capacity of the sum of all sources of the stand-alone supply shall be equal to or greater than the load posed by the largest single utilization equipment connected to the system. Calculated general lighting loads shall not be considered as a single load~~ have adequate capacity to meet calculated load in accordance with Article 220.

~~Informational Note: For general-use loads the system capacity can be calculated using the sum of the capacity of the firm sources, such as generators and ESS inverters. For specialty loads intended to be powered directly from a variable source, the capacity can be calculated using the sum of the variable sources, such as PV or wind inverters, or the combined capacity of both firm and variable sources.~~

SECTION 3.

That Section 11-3 of the Code of the City of Fort Worth (2015), as amended, is hereby amended to read as follows:

Sec. 11-3 Effect of Conflict with Other Ordinances.

This chapter shall be cumulative of all provisions of ordinances of the Code of the City of Fort Worth, Texas (2015), affecting Electrical Code provisions, as amended, and shall not repeal any of the provisions of such ordinances, except in those instances where provisions of such ordinances are in direct conflict with the provisions of this ordinance.

SECTION 4.

That Section 11-4 of the Code of the City of Fort Worth (2015), as amended, is hereby added to read as follows:

Sec. 11-4 Penalty for violation.

Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine not to exceed Two Thousand Dollars ($2,000.00) for all violations involving fire safety, or public health and sanitation and shall be fined not more than Five Hundred Dollars ($500.00) for all other violations of this ordinance. Each day or any portion thereof during which any violation of this ordinance occurs or continues shall be deemed a separate offense and upon conviction thereof shall be punishable as herein provided.

SECTION 5.

This article shall be cumulative of all provisions of ordinances of the Code of the City of Fort Worth, Texas (2015), affecting Electrical Code provisions, as amended, and shall not repeal any of the provisions of such ordinances, except in those instances where provisions of such ordinances are in direct conflict with the provisions of this ordinance.

SECTION 6.

It is hereby declared to be the intention of the City Council that the sections, paragraphs, sentences, clauses, and phrases of this ordinance are severable, and, if any phrase, clause, sentence, paragraph, or section of this ordinance shall be declared void, ineffective, or unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such voidness, ineffectiveness, or unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this ordinance, since the same would have been enacted by the City Council without the incorporation in this ordinance of any such void, ineffective, or unconstitutional phrase, clause, sentence, paragraph, or section.

SECTION 7.

Any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punishable by a fine not to exceed Two Thousand Dollars ($2,000.00) for all violations involving fire safety, or public health and sanitation and shall be fined not more than Five Hundred Dollars ($500.00) for all other violations of this ordinance. Each day or any portion thereof during which any violation of this ordinance occurs or continues shall be deemed a separate offense and upon conviction thereof shall be punishable as herein provided.

SECTION 8.

All rights and remedies of the City of Fort Worth, Texas are expressly saved as to any and all violations of the previous Electrical Code, or any other ordinances affecting construction and fire safety, which have accrued at the time of the effective date of this ordinance: and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this ordinance but may be prosecuted until final disposition by the courts.

SECTION 9.

A copy of the 2020 National Electrical Code, together with the local amendments contained in this ordinance, shall be filed in the office of the City Secretary for permanent record and inspection.

SECTION 10.

The Department of Development Services of the City of Fort Worth, Texas, is hereby authorized to publish this ordinance in pamphlet form for general distribution among the public,

and the operative provisions of this ordinance as so published shall be admissible in evidence in all courts without further proof than the production thereof, as provided in Chapter XXV, Section 3, of the Charter of the City of Fort Worth, Texas.

SECTION 11.

The City Secretary of the City of Fort Worth, is hereby directed to publish the caption and Sections 1, 7, 9, 11 and 12 of this ordinance for two (2) days in the official newspaper of the City of Fort Worth, Texas as authorized by Section 2, Chapter XXV of the Charter of the City of Fort Worth, Texas and by Section 52.013 (a) of the Texas Local Government Code.

SECTION 12.

This ordinance shall take effect upon January 1, 2021.

APPROVED AS TO FORM AND LEGALITY:

Melinda Ramos, Sr. Assistant City Attorney	Mary Kayser, City Secretary

ADOPTED: _____

EFFECTIVE: _____