

**ORDINANCE 2020-07**

**AN ORDINANCE ADOPTING THE NFPA 70 "NATIONAL ELECTRICAL CODE, 2017 EDITION," AS AMENDED**

**WHEREAS**, the City of Sandwich (the "City") desires to adopt the 2017 Edition of the NFPA 70, "National Electrical Code," as published by the National Fire Protection Association, Inc., in order to facilitate the safeguarding of life and property for the benefit of the citizens of the City of Sandwich, and

**WHEREAS**, certain of the provisions of these updated Codes shall be specifically modified for the City, as reflected within this ordinance; and

**WHEREAS**, the City wishes to incorporate this *Code* by means of modification of the current Section 18-96, Adopted, of the Sandwich Municipal Code.

**NOW THEREFORE BE IT HEREBY ORDAINED** by the City Council of the City of Sandwich, Illinois, as follows:

Section 1. That Section 18-96 be amended by repealing the existing Section 18-96 and replacing it with the following, in entirety:

**ELECTRICAL CODE**

**Sec. 18-96. Code adopted.**

There is hereby adopted by reference as the Electrical Code for the City of Sandwich, the NFPA 70, "NATIONAL ELECTRICAL CODE," 2017 EDITION, as published by the National Fire Protection Association, Inc., one copy of which is on file in the office of the city clerk of the City of Sandwich, Illinois, and has been on file for at least 30 days prior to the adoption of this ordinance. The Electrical Code for the City of Sandwich shall: apply to all buildings and structures in the incorporated limits of the City of Sandwich which are in existence at the time of the adoption hereof, or which may in the future be constructed and occupied, and provide for the issuance of permits and shall provide for all things and matters set forth in it as though they were set out fully here and shall be in all respect a self-existing document.

*Modifications to the NFPA 70 National Electrical Code, 2017 2015 Edition, shall be incorporated as follows:*

**CHAPTER 1**  
**General**  
**Article 110 Requirements for Electrical Installations**

**Part I. General**

Article 110.8 Wiring Methods is modified as follows:

**110.8 Wiring Methods.** Only wiring methods recognized as suitable are included in this *Code*. The recognized methods of wiring shall be permitted to be installed in any type of building or occupancy, except as otherwise provided in this *Code*. Where any wiring method or material permitted by NFPA 70 National Electrical Code (2017) shall have been prohibited by these amendments, such wiring method or materials shall be considered to be prohibited when referred to in any section or provision of NFPA 70 National Electrical Code (2017).

**CHAPTER 2**  
**Wiring and Protection**  
**Article 210 Branch Circuits**

**Part I. General Provisions**

Article 210.11 Branch Circuits Required, (C) Dwelling Units is amended by adding a new subparagraph (5) as follows:

**(5) Sump Pump Branch Circuits.** In addition to the number of branch circuits required by other parts of this section, at least one branch circuit shall be provided to supply the necessary loads to the sump pump(s) in accordance with the manufacturer's requirements. This circuit shall have no other outlets.

**Article 230 Services**

**Part IV. Service—Entrance Conductors**

Article 230.43 Wiring Methods for 1000 Volts, Nominal, or Less, the first paragraph is modified as follows:

**230.43 Wiring Methods for 1000 Volts, Nominal, or Less.** Service-entrance conductors shall be installed in accordance with the applicable requirements of this *Code* covering the type of wiring method used and shall be limited to the following methods, except where such methods have been prohibited by these amendments:

**Part V. Service Equipment – General**

Article 230.62 Service Equipment – Enclosed or Guarded, the first paragraph is modified as follows:

**230.62 Service Equipment — Enclosed or Guarded.** Energized parts of service equipment shall be enclosed as specified in 230.62(A) or guarded as specified in 230.62(B). Every service equipment enclosure and meter base enclosure shall be permanently marked or labeled with the address of the premises or unit which it serves.

## **Part VI. Service Equipment – Disconnecting Means**

Article 230.70 General, (A) Location, subparagraph (1) is modified as follows:

**(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. The service disconnect shall be located between the meter and the panel-board, and shall be located at or no more than five feet from the meter, inside or outside the building or structure. The service disconnect shall be located no more than six feet above grade or finished floor.

## **Article 250 Grounding and Bonding**

### **Part III. Grounding Electrode System and Grounding Electrode Conductor**

Article 250.50 Grounding Electrode System, first paragraph is modified as follows:

**250.50 Grounding 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 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. The grounding electrode conductor shall be connected to the domestic or fire suppression water service on the street side of the water meter and/or the sprinkler control system devices.

## **CHAPTER 3**

### **Wiring Methods and Materials**

#### **Article 300 General Requirements for Wiring Methods and Materials**

##### **Part I. General Provisions**

Article 300.5 Underground Installations is amended by adding a new subparagraph (L) as follows :

**(L) Grounding Conductor.** All conduit installed underground or within concrete shall contain a grounding conductor sized in accordance with Table 250.122, and said grounding conductor shall be bonded to the conduit system as described in this *Code*.

Article 300.6 Protection Against Corrosion and Deterioration, (A) Ferrous Metal Equipment, subparagraph (3) is modified as follows:

**(3) In Concrete or in Direct Contact with the Earth.** Ferrous metal raceways, cable armor, boxes, cable sheathing, cabinets, elbows, couplings, nipples, fittings, supports, and support hardware shall be permitted to be installed in concrete or in direct contact with the earth, or in areas subject to severe corrosive influences where made of material approved for the condition, or

where provided with corrosive protection approved for the condition. Aluminum conduit shall not be permitted to be installed in concrete or in direct contact with the earth. All aluminum conduit shall contain a grounding conductor sized in accordance with Table 250.122, and said grounding wire shall be bonded to the conduit system as described in this *Code*. Any conduit installed in concrete at or below grade shall be rigid metal conduit, intermediate metal conduit or plastic. All below grade installation shall have a ground conductor. All below grade nonmetallic conduit shall transition to metal conduit before the riser and the riser shall be metal.

## **Article 310 Conductors for General Wiring**

### **Part III. Construction Specifications**

Article 310.106 Conductors, the first paragraph of (B) Conductor Material is modified as follows:

**(B) Conductor Material.** Conductors in this article shall be of aluminum, copper-clad aluminum, or copper. Conductors of size 4/0 AWG and smaller shall be copper.

## **Article 312 Cabinets, Cutout Boxes, and Meter Socket Enclosures**

### **Part II. Construction Specifications**

Article 312.10 Material, (C) Nonmetallic Cabinets is modified as follows:

**(C) Nonmetallic Cabinets.** Nonmetallic cabinets are not permitted.

## **Article 314 Outlet, Device, Pull, and Junction Boxes; Conduit Bodes; Fittings; and Handhole Enclosures**

### **Part I. Scope and General**

Article 314.3 Nonmetallic Boxes, the first paragraph is modified as follows:

**314.3 Nonmetallic Boxes.** Nonmetallic boxes are not permitted.

## **Article 320 Armored Cable: Type AC**

This Article shall be deleted in its entirety. Type AC cable is not permitted.

## **Article 322 Flat Cable Assembles: Type FC**

This article shall be deleted in its entirety. Type FC cable is not permitted.

## **Article 324 Flat Conductor Cable: Type FCC**

This article shall be deleted in its entirety. Type FCC cable is not permitted.

## **Article 326 Integrated Gas Spacer Cable: Type IGS**

This article shall be deleted in its entirety. Type IGS cable is not permitted.

**Article 328 Medium Voltage Cable: Type MV**

This article shall be deleted in its entirety. Type MV cable is not permitted.

**Article 330 Metal-Clad Cable: Type MC**

This article shall be deleted in its entirety. Type MC cable is not permitted.

**Article 332 Mineral-Insulated, Metal-Sheathed Cable: Type MI**

This article shall be deleted in its entirety. Type MI cable is not permitted.

**Article 334 Nonmetallic-Sheathed Cable: Types NM, NMC, and NMS**

**Part I. General**

Article 334.6, the first paragraph is modified as follows:

**334.6 Listing Requirements.** Type NM and Type NMC cables and associated fittings shall be listed.

**Part II. Installation**

Article 334.10 is deleted and replaced as follows:

**334.10 Uses Permitted.** Type NMS cables are not permitted. Type NM and Type NMC cables shall be permitted to be used for low voltage (50 volts or less) wiring systems for cable tray installations and shall be identified for this use.

**334.12 Uses Not Permitted.** This section shall be deleted in its entirety.

**334.15 Exposed Work.** This section shall be deleted in its entirety.

**334.17 Through or Parallel to Framing Members.** This section shall be deleted in its entirety.

**334.23 In Accessible Attics.** This section shall be deleted in its entirety.

**334.24 Bending Radius.** This section shall be deleted in its entirety.

**334.30 Securing and Supporting.** This section shall be deleted in its entirety.

Article 334.40 is deleted and replaced as follows:

**334.40 Boxes and Fittings.**

(A) **Boxes of Insulating Material.** Nonmetallic outlet boxes are not permitted.

**334.80 Ampacity.** This section shall be deleted in its entirety.

**III. Construction Specifications**

**334.100 Construction.** This section shall be deleted in its entirety.

**334.108 Equipment Grounding.** This section shall be deleted in its entirety.

**334.112 Insulation.** This section shall be deleted in its entirety.

**334.116 Sheath.** This section shall be deleted in its entirety.

**Article 336 Power and Control Tray Cable: Type TC**

**II. Installation**

Article 336.10 is deleted and replaced as follows:

**336.10 Uses Permitted.** Type TC tray cable shall be permitted to be used for low voltage systems (50 volts or less) only.

**Article 338 Service-Entrance Cable: Types SE and USE**

This Article shall be deleted in its entirety. Types SE and USE cable are not permitted.

**Article 340 Underground Feeder and Branch-Circuit Cable: Type UF**

**II. Installation**

Article 340.10 is deleted and replaced as follows:

**340.10 Uses Permitted.** Type UF cable shall be permitted for use underground, including direct burial in the earth. For underground requirements, see 300.5.

**Article 352 Rigid Polyvinyl Chloride Conduit: Type PVC**

**II. Installation**

Article 352.10, first paragraph is modified as follows:

**352.10 Uses Permitted.** The use of PVC conduit shall be permitted in accordance with 352.10 (B), (D), (G) and (J) only.

Article 352.10 Uses Permitted is amended by adding a new subparagraph (J) as follows:

**(J) Under Concrete Slabs.** Any PVC conduit installed under concrete shall have a ground conductor. All below grade nonmetallic conduit shall transition to metal conduit before the riser and the riser shall be metal.

#### **Article 356 Liquidtight Flexible Nonmetallic Conduit: Type LFNC**

This Article shall be deleted in its entirety. Type LFNC cable is not permitted.

#### **Article 358 Electrical Metallic Tubing: Type EMT**

### **II. Installation**

Article 358.42, first paragraph is modified as follows:

**358.42 Couplings and Connectors.** Couplings and connectors used with EMT shall be made up tight. Where buried in masonry or concrete, they shall be concretetight type. Where installed in wet locations, they shall comply with 314.15. Only set-screw and compression type fittings shall be used.

#### **Article 362 Electrical Nonmetallic Tubing: Type ENT**

### **Part II. Installation**

Article 362.10 is deleted and replaced as follows:

**362.10 Uses Permitted.** The use of ENT and fittings shall only be permitted to be installed on cable tray with the sole purpose of encapsulating a fiber optic cable and low voltage wiring. ENT shall not be used in any other application.

#### **Article 372 Cellular Concrete Floor Raceways**

This Article shall be deleted in its entirety. Cellular Concrete Floor Raceways are not permitted.

#### **Article 378 Nonmetallic Wireways**

This Article shall be deleted in its entirety. Nonmetallic Wireways are not permitted.

#### **Article 380 Multioutlet Assembly**

This Article shall be deleted in its entirety. Multioutlet Assemblies are not permitted.

**Article 382 Nonmetallic Extensions**

This Article shall be deleted in its entirety. Nonmetallic Extensions are not permitted.

**Article 394 Concealed Knob-and-Tube Wiring**

This Article shall be deleted in its entirety. Concealed Knob-and-Tube Wiring is not permitted.

**Article 396 Messenger-Supported Wiring**

This Article shall be deleted in its entirety. Messenger-Supported Wiring is not permitted.

**Article 398 Open Wiring on Insulators**

This Article shall be deleted in its entirety. Open Wiring on Insulators is not permitted.

**CHAPTER 4  
Equipment for General Use  
Article 404 Switches**

**Part I. Installation**

Article 404.14 Rating and Use of Switches, (C) CO/ALR Snap Switches is modified as follows:

**404.14 Rating and Use of Snap Switches.**

**(C) CO/ALR Snap Switches.** CO/ALR snap switches shall not be permitted.

**Article 410 Luminaires, Lampholders, and Lamps**

**Part III. Provisions at Luminaire Outlet Boxes, Canopies, and Pans**

Article 410.30 Metal or Nonmetallic Poles Supporting Luminaires, (B) is amended by adding a new subparagraph (7) as follows:

(7) A separate grounding electrode shall be required in each pole base for grounding and bonding of metallic poles as recognized by 250-52(A)(5)(b) and the metallic pole shall be bonded to the grounding electrode as recognized by 410.30(B)(5).

**CHAPTER 5  
Special Occupancies  
Article 550 Mobile Homes, Manufactured Homes, and Mobile Home Parks**

**Part I. General**



Article 550.4 General Requirements is amended by adding a new subparagraph (E) as follows:

**(E) Inspection Access.** All electrical wiring, luminaires, equipment and appurtenances related to electrical installations within or on mobile and manufactured homes shall be made accessible for inspection.

**CHAPTER 7**  
**Special Conditions**  
**Article 760 Fire Alarm Systems**

**Part I. General**

Article 760.3 Other Articles, first paragraph is modified as follows:

**760.3 Other Articles.** Circuits and equipment shall comply with 760.3(A) through (N). Only those sections of Article 300 referenced in this article shall apply to fire alarm systems.

Article 760.3 Other Articles is amended by adding a new subparagraph (N) as follows:

**(N) Abandoned Fire Alarm Wiring and Equipment.** All abandoned fire alarm wiring and associated equipment shall be removed.

**Part II. Non-Power-Limited Fire Alarm (NPLFA) Circuits**

Article 760.53 Multiconductor NPLFA Cables, subparagraph (1) In Raceways, Exposed on Ceilings or Sidewalls, or Fished in Concealed Spaces is modified as follows:

**(1) In Raceways, Exposed on Ceilings or Sidewalls, or Fished in Concealed Spaces.** Cables shall be installed in raceway to a height of 3 m (10 ft.) or exposed on the surface of the ceiling and sidewalls above a height of 3 m (10 ft.) or fished in concealed spaces in a metal raceway. Cable splices or terminations shall be made in listed fittings, boxes, enclosures, fire alarm devices, or utilization equipment. Where installed exposed, cables shall be adequately supported and installed in such a way that maximum protection against physical damage is afforded by building protection such as baseboards, door frames, ledges, and so forth. Where located within 3 m (10 ft.) of the floor, cables shall be securely fastened in a metal raceway to the building structure.

**Part III. Power-Limited Fire Alarm (PLFA) Circuit**

Article 760.130 Wiring Methods and Materials on Load Side of the PLFA Power Source, (B) PLFA Wiring Methods and Materials, subparagraphs (1) In Raceways, Exposed on Ceilings or Sidewalls, or Fished in Concealed Space, and (2) Passing Through a Floor or Wall are modified as follows:

**(1) In Raceways, Exposed on Ceilings or Sidewalls, or Fished in Concealed Spaces.** Cable splices or terminations shall be made in listed fittings, boxes, enclosures, fire alarm devices, or utilization equipment. Where installed exposed, cables shall be adequately supported and installed

in such a way that maximum protection against physical damage is afforded by building construction such as baseboards, door frames, ledges, and so forth. Where located 3m (10 ft.) of the floor, cables shall be securely fastened in a metal raceway to the building structure.

**(2) Passing Through a Floor or Wall.** Cables shall be installed in metal raceways or rigid nonmetallic conduit where passing through a floor or wall, unless adequate protection can be afforded by building construction such as detailed in 760.130(B)(1) or unless an equivalent solid guard is provided.

## **CHAPTER 8**

### **Communications Systems**

#### **Article 800 Communications Circuits**

#### **Part V. Installation Methods Within Buildings**

Article 800.133 Installation of Communications Wires, Cables, and Equipment, first paragraph is modified as follows:

**800.133 Installation of Communications Wires, Cables, and Equipment.** Communications wires and cables from the protector to the equipment or, where no protector is required, communications wires and cables attached to the outside or inside of the building shall comply with 800.133 (A) through (C).

Article 800.133 Installation of Communications Wires, Cables, and Equipment is amended by adding a new subparagraph (C) as follows:

**(C) Orientation.** Communications wires and cables shall be run perpendicular or parallel to the wall or roof framing systems. All changes in direction shall be done at a 90° angle.

Section 2. That all other ordinances or parts of laws in conflict herewith are hereby expressly repealed.

Section 3. That if any section, subsection, sentence, clause or phrase of this legislation is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The City of Sandwich hereby declares that it would have passed this law, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 4. That nothing in this ordinance or in the Codes hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 1 of this law; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this legislation.

Section 5. That this Ordinance shall, by authority of the City Council of the City of Sandwich, Illinois, be published in pamphlet form. From and after ten days after said publication, this Ordinance shall be in full force and effect.

PASSED BY THE CITY COUNCIL of the City of Sandwich, Illinois, at a regular meeting thereof held on the 11th day of May, 2020, and approved by me as Mayor on the same day.

AYES: Aldermen Chmielewski, Kelleher, Killey, Kreinbrink, Robinson & Surratt  
NAYS: Aldermen Dell & Redden  
ABSENT: None

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Richard W. Robinson, Mayor

Attest:

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Denise Ii, City Clerk

PUBLISHED BY ME IN PAMPHLET FORM BY AUTHORITY OF THE CITY COUNCIL OF THE CITY OF SANDWICH, ILLINOIS, THIS 12th DAY OF MAY, 2020.

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Denise Ii, City Clerk