



Village of Clarendon Hills

Electric Code Amendments

AMENDMENTS TO NATIONAL ELECTRIC CODE: The National Electrical Code 2005 as adopted, effective January 1, 2007, is revised and amended as follows:

- (1) Section 210.8(A) (Page 70-47) - Delete the heading "Dwelling Units" and insert "All Occupancies".
- (2) Section 210.8(A) (Page 70-47), Now labelled "All Occupancies" - Insert "self-diagnostic type" before and "(LED)" after the phrase "ground fault interrupter protection for personnel".
- (3) Section 210.8(A)(3) (Page 70-47) - Amend in its entirety to read, "All 15 and 20 ampere receptacles installed outdoors shall have ground fault interruption protection."
- (4) Section 210.52 (A) (page 70-52), Labelled "General Provisions" - Add the following new paragraph: "(4) All floor receptacles shall have ground-fault circuit interrupter protection."
- (5) Section 220.82 (Page 70-83), Labelled "Optional Calculation—Dwelling Unit"- Add the following new subsection: "(d) All single family units having living space less than two thousand square (2,000) feet shall utilize a minimum one hundred (100) ampere service excluding the requirements of electrical heating, if any. Dwellings having living space greater than two thousand (2,000) square feet shall utilize a minimum of two hundred (200) ampere service exclusive of electrical heating."
- (6) Section 230.70 (Page 70-77), Labelled "Service Equipment—Disconnecting Means" -Delete the language in paragraph (A)(1), and insert the following paragraph "Readily Accessible Location. The service disconnection means shall be installed at a readily accessible location outside of a building or structure nearest the point of entrance of the service conductors. The door from any room containing a three-phase, commercial service shall be equipped with panic bar hardware and shall swing out in the direction of egress from the room."
- (7) Section 250.4(A)(1) (Page 70-101), Labelled "Electrical System Grounding" - Add the following two sentences: "No electrical installation shall rely on a ground rod or rods as means of grounding when a water utility system connection exists on the property. The grounding electrode shall be to the street side of the water meter."
- (8) Section 250.62 (Page 70-103), Labelled "Grounding Electrode Conductor Material" -Delete the first sentence and insert the following sentence: "Conductors in this article shall be of copper only."
- (9) Section 250.64 (page 70-103), Labelled "Grounding Electrode Conductor Installation" - Delete paragraph (A), labeled "Aluminum or Copper-Clad Aluminum Conductors" in its entirety.
- (10) Table 250.66 (page 70-104), Labelled "Grounding Electrode Conductor for Alternating-Current Systems" -Delete all references to and standards for "Aluminum or Copper-Clad

Aluminum”.

- (11) Section 310.2(B) (Page 70-133), Labelled "Conductor Material" -Delete this subsection and insert the sentence "Conductors in this article shall be of copper only."
- (12) Table 310.5 (Page 70-134) – Insert “12” as the minimum conductor size (AWG) in the position corresponding with “0-2000 volts” and “Copper”.
- (13) Section 314.27(D) (Page 70-166), Labelled “Boxes at Ceiling-Suspended (Paddle) Fan Outlets” - Add before first sentence: “Fan-rated boxes are required in all bedrooms.”
- (14) Section 320.10 (Page 70-169), Labelled "Uses Permitted" - Delete this section in its entirety and insert the following paragraph: "Armored cable may be used only for concealed work in dry locations, except as permitted in REVISED Section 333-11. Armored cable may be run or fished in the air voids of concrete masonry block or tile walls where such walls are not subject to moisture or dampness; it may be run or fished in existing walls or partitions where it is not possible to install conduit or EMT; it may run in existing floors or ceiling where it is not possible to install conduit or EMT."
- (15) Section 320.15 (Page 70-169), Labelled "Exposed Work" - Delete the wording after "Exposed Work" in its entirety and insert the following paragraph:
“ARMORED CABLE may be used for exposed work:
 - (1) In lengths not more than 24 inches long at termination where flexibility is necessary;
 - (2) In accessible, but not habitable, attics and roof spaces, see 33-12;
 - (3) In lengths not to exceed five feet below the basement ceiling joists where it is necessary to connect to a cabinet or a junction box.”
- (16) Section 324.10 (Page 70-172), Labelled "Uses Permitted" - Delete this section and as a substitute insert the following sentence: "Flat conductor cable (Type FCC) shall be prohibited."
- (17) Section 326.10 (Page 70-174), Labelled "Uses Permitted" - Delete this section and as a substitute insert the following sentence: "Integrated gas spacer cable (Type IGS) shall be prohibited."
- (18) Section 328.10 (Page 70-175), Labelled "Uses Permitted" - Delete this section and as a substitute insert the following sentence: "Medium voltage cable (Type MV) shall be prohibited."
- (19) Section 332.10 (Page 70-177), Labelled "Uses Permitted" Delete this section and as a substitute insert the following sentence: "Mineral-insulated, metal-sheathed cable (Type MI) shall be prohibited."
- (20) Section 334.10 (Page 70-179), Labelled "Uses Permitted" - Delete this section and as a

substitute insert the following sentence: "Nonmetallic-sheathed cable (Types NM, NMC and NMS) shall be prohibited."

- (21) Section 338.10 (Page 70-182), Labelled "Uses Permitted" - Delete this section and as a substitute insert the following sentence: "Service entrance cable (Types SE and USE) shall be prohibited."
- (22) Section 340.1 (Page 70-183), Labelled "Scope" - Add the following sentence: "Underground feeder and branch-circuit cable shall be a listed Type UF copper cable in sizes No. 14 through No. 4/0".
- (23) Section 340.10 (Page 70-163), Labelled "Uses Permitted" - Delete subsection (4) in its entirety.
- (24) Section 352.10 (Page 70-190), Labelled "Uses Permitted" - Delete (A), (B), (C), (D), (E), (F) and (H). Paragraph (G) remains as written.
- (25) Section 354.10 (Page 70-195), Labelled "Uses Permitted" - Add subsection: "(5) Nonmetallic underground conduit with conductors used for direct burial under streets, highways, and parking lots shall be placed at a depth at least thirty-six inches (36") below grade."
- (26) Section 362.10 (Page 70-200), Labelled "Uses Permitted" - Delete this section and as a substitute insert the following sentence: "Electrical nonmetallic tubing (ENT) shall be prohibited."
- (27) Section 394.10 (Page 70-224), Labelled "Uses Permitted" - Delete this section and as a substitute insert the following sentence: "Concealed knob and tube wiring shall be prohibited."
- (28) Section 396.10 (Page 70-225), Labelled "Uses Permitted" - Delete this section and as a substitute insert the following sentence: "Messenger supported wiring shall be prohibited."
- (29) Section 398.10 (Page 70-226), Labelled "Uses Permitted" - Delete this section and as a substitute insert the following sentence: "Open wiring on insulators shall be prohibited."
- (30) Section 410.22 (Page 70-257), Labelled "Fixture Wiring—General" - Add two sentences: "Fixtures in continuous rows shall be grounded with a conductor routed from fixture to fixture with grounding lug or screw. Aligning clips are not acceptable."
- (31) Section 410.66(A) (Page 70-261), Labelled "Clearance" - Delete the language in subsection (1) and insert: "Recessed fixtures that are not identified for contact with insulation shall not be used."
- (32) Section 430.14 (Page 70-289), Labelled "Location of Motors" - Add paragraph: "(C) Provide ventilation for circulating pump motor for hydromassage bathtubs."

- (33) Section 680.71 (Page 70-542) - Add the sentence: “Provide ground-fault circuit interrupter circuit breaker in electrical panel for hydromassage bathtub.”
- (34) Section 700.9(B) (Page 70-564) - Add subsection: “(5) Do not connect emergency lights or exit signs with any other light fixture. Provide entirely separate raceway system.”

ADDITIONAL LOCAL STANDARDS AND SPECIFICATIONS (Section 22.4 of Village Code):

- A. Fuses: It shall be unlawful for any person to overfuse any conductor, motor, or apparatus in excess of the maximum allowed by the electrical regulations of this Code for such conductor, motor or apparatus, or to install any substitute in lieu of an approved fuse or device, so as to remove or reduce the factor of safety of the same.
- B. Conduit: Only heavy wall rigid metal conduit or intermediate metallic conduit shall be used in all poured concrete on or below grade.
- (1) Conduits smaller than three-quarter inch (3/4”) in concrete are not permitted.
 - (2) EMT is not permitted in concrete or outdoors.
 - (3) PVC #40, rigid galvanized or intermediate conduit may be used for underground service.
- C. Commercial Service: Minimum service size for commercial building shall be one hundred (100) amp, single phase or three (3) phase.
- D. Metallic Protection: Low voltage (not to exceed 50 volts) may be installed in plenums without metallic protection (except where passing through partitions or subject to mechanical injury) when cable listed by Underwriters' Laboratories, Inc. (UL) for this purpose is utilized.
- E. Twin Or Tandem Breakers: Twin or tandem breakers are not acceptable for new work.
- F. Prints: Prints involving hazardous areas must be approved before installation.
- G. Overcurrent Protection: Overcurrent protection shall be required in all underground conductors.
- H. Plaster Rings: Plaster rings must be installed on all concealed ceiling openings on new work.
- I. Construction Plans: Where new construction or alteration work involves electrical work of any type, the construction plans shall include a complete wiring plan that contains the following information:

- (1) Number and locations of outlets.
 - (2) Size of wire and insulation type conduit.
 - (3) Number of circuits and their ampere rating.
 - (4) Location of service entrance equipment.
 - (5) Location of major appliances.
 - (6) Size of existing service.
 - (7) Location of all panel boards and cabinets.
 - (8) Sizes of all motors and power-consuming equipment and their ratings.
 - (9) Electrically heated homes shall have the location and wattage of all heating equipment and the corresponding circuits.
 - (10) Specifications and locations for all exit and emergency lights.
 - (11) Provide schedule on lighting and power panels.
- J. Village Review And Approval: All plans must be reviewed and approved by the Village. All installations must be approved by the Electrical Inspector in the field.
- K. Panel Circuit Directory Card: Every electrical panel shall contain a panel circuit directory card identifying all circuits.
- L. Ground Electrode Clamp: An approved nonferrous metal tag shall be attached to the ground electrode clamp giving warning against its removal.
- M. Commercial Wiring: All commercial wiring shall be minimum No. 12 gauge wire, except low-voltage wiring.
- N. Thin Wall/Aluminum Heavy Wall Conduit: Thin wall (EMT) conduit shall not be used for electrical services. Aluminum heavy wall conduit, if used, shall be installed above grade only.
- O. Underground PVC Service: Underground electrical service shall be permitted in PVC #80 located at least thirty-two inches (32") below grade. No PVC shall emerge from the ground or concrete slab or encasement. PVC shall convert to galvanized rigid conduit prior to its emergence.

- P. Switches: All rooms with multiple entrances or exits which are more than six feet (6') apart shall utilize 3-way or 4-way switches unless an alternate arrangement is approved by the Building Inspector.
- Q. Service Run Location: Service runs should not be located on chimneys or on fire or parapet walls.

AMENDMENTS TO ADMINISTRATIVE PROVISIONS: The 2006 International Code Council Electrical Code-Administrative Provisions as adopted, effective January 1, 2007, are hereby revised and amended as follows:

- (1) Section 101.1 - Insert: "Village of Clarendon Hills"
- (2) Section 404.2. Schedule of permit fees.- Insert: "See Schedule S22 of the Clarendon Hills Village Code"
- (3) Section 404.5. Refunds. - Delete entire section.
- (4) Chapter 11. Means of Appeal. - Delete entire chapter.
- (5) Section 1202.2. Nonmetallic-sheathed cable. - Delete this section and as a substitute insert the following sentence: "The use of nonmetallic-sheathed cable (Types NM, NMC and NMS) shall be prohibited."

Any questions concerning the local amendments and/or the National Electrical Code can be directed to the Community Development Department at (630) 286-5410