



## MEMORANDUM

**TO:** Lombard Electrical Commission

**FROM:** William J. Heniff, AICP, Community Development Director *WJH*

**DATE:** August 26, 2015

**SUBJECT: BUILDING CODE AMENDMENTS – CHAPTER 150 OF THE VILLAGE CODE (ELECTRICAL CODE PROVISIONS)**

As part of the regular review of Village Code, attached for the Commission's review and consideration is a draft copy of the proposed amendments to the Village of Lombard's Building Code, Chapter 150 of the Village Code. The attached amendments for consideration focus upon those elements that are within the purview of the Electrical Commission.

The proposed amendments are to address to key aspects. First, staff is recommending adoption of the 2011 National Electrical Code (NEC), replacing the 2008 NEC. Second, observational issues and changes in the industry as it pertains to the National Electrical Code. Staff has reviewed the code from the perspective of public life and safety and then fine-tuned permissible elements to provide enhanced flexibility from a regulatory standpoint. These changes are also intended to reduce possible construction and business start-up costs while providing greater flexibility to electricians and plan reviewers in the approval process.

Staff will review the individual amendments at the meeting in greater detail.

### **ACTION REQUESTED**

Staff is placing the proposed amendments on the August 26, 2015 meeting of the Electrical Commission for consideration and recommends their approval.

## CHAPTER 150: BUILDING CODE

Section		150.055	Adoption by reference; amendments
	<b><i>General Provisions</i></b>		<b><i>National Electrical Code-2008<del>2011</del></i></b>
150.001	Title	150.060	Establishment of rules and regulations of electrical installation
150.002	Purpose	150.061	Definition
150.003	Scope	150.062	Electrical contractors and communications contractors must be registered; certificate of insurance
150.004	Interpretation		Permit required
150.005	Application and effect	150.063	Disconnection of electrical services
150.006	Building Division	150.064	Permit fees
150.007	Definitions, References	150.065	Adoption by reference Amendments, Additions & Deletions
150.008	Adoption of Certain Building Codes		
150.009	Materials of equivalent strength		<b><i>International Mechanical Code-2009</i></b>
150.010	Services for the handicapped	150.070	Adoption by reference; amendments
150.011	Held in Reserve		<b><i>International Fuel Gas Code-2009</i></b>
150.012	Held in Reserve		
150.013	Held in Reserve	150.071	Held in Reserve
150.014	Held in Reserve	150.072	Adoption by reference; amendments
150.015	Retaining walls		<b><i>Elevator Code</i></b>
150.016	Landscape walls		
150.017	Determination of wall as landscaping or retaining		
	<b><i>International Building Code-2009</i></b>		
150.030	Adoption by reference; amendments		
	<b><i>International Residential Code-2009</i></b>	150.075	Adoption by reference; amendments
150.035	Adoption by reference; amendments	150.076	Inspection required
	<b><i>Residential Use Special Requirements</i></b>	150.077	Certificate of inspection
150.040	Special Residential Requirements	150.078	Improper safety devices
150.041	Exceptions to Special Residential Requirements	150.079	Suspension of operation
		150.080	Handicapped requirements
			<b><i>Federal ADA Standard - Current</i></b>
	<b><i>International Energy Conservation Code-Current</i></b>	150.085	Adoption by reference
150.045	Adoption by reference; amendments		<b><i>Illinois Accessibility Code - Current</i></b>
	<b><i>Illinois State Plumbing Code-Current</i></b>	150.088	Adoption by reference
150.050	Adoption by reference; amendments		<b><i>International Property Maintenance Code-2009</i></b>
	<b><i>International Plumbing Code - 2009</i></b>	150.090	Title; scope
		150.091	Adoption by reference
		150.092	Additions and deletions

<b><i>NFPA 101 Life Safety Code</i></b>		150.170	Title
150.102	Title; Scope	150.171	Held in Reserve
150.103	Adoption by Reference	150.172	Fire districts
<b><i>International Fire Code-2009</i></b>		150.173	Held in Reserve
150.104	Bureau of Fire Prevention	150.174	Fire flow requirements
150.105	Adoption by reference; amendments	150.175	Fire flow tests
150.106	Held in Reserve	<b><i>Smoke Detectors</i></b>	
150.107	Definitions	150.185	Detectors required
150.108	Explosives and blasting agents	150.190	Held in Reserve
150.109	Motor vehicle routes, transporting explosives, etc.	<b><i>Unsafe Structures; Dangerous or Abandoned Buildings</i></b>	
150.110	Flammable liquids	150.200	Issuance of stop order to remove illegal or unsafe conditions
150.111	Bulk storage	150.201	Treatment of dangerous and abandoned buildings
150.112	Motor vehicle routes, transporting hazardous chemicals, dangerous articles, L.P. Gas, combustible and flammable liquids	150.202	Emergency measures
150.113	Permit refusal	150.203	Temporary safeguards
<b><i>Building Permits; Fees</i></b>		150.204	Costs of emergency repairs
150.140	Permit required for erection, repair, or demolition of any building or structure; exceptions	150.205	Closing streets
150.141	Permit fees	150.206	Dangerous or abandoned buildings prohibited; abatement
150.142	Time limit for building permits	150.207	Procedures
150.143	Contractor Registration and Insurance Requirements	<b><i>Partial Occupancy</i></b>	
150.144	Deposit required for protection of public properties	150.220	Partial occupancy of buildings
150.145	Sewer and water repair deposits	150.221	Exterior of building
150.146	Application for building permits	150.222	Grading
150.147	Held in Reserve	150.223	Sidewalks to be in place
150.148	Starting permits	150.224	Stairways
150.149	Technical data required	150.225	Entrance doorway; front and rear
150.150	Submission of architectural plans	150.226	Hallways and corridors
150.151	Topographical survey	150.227	Fire protection
150.152	Engineering drawings	150.228	Heating and air-conditioning
150.153	Plat of survey	150.229	Plumbing services
150.154	Plot plan	150.230	Electrical wiring and fixtures
150.155	Floor area tabulation	150.231	Occupied floors
150.156	Handicapped requirements	150.232	Elevators
150.157	Issuance of building permits	150.233	Balconies or terraces
150.158	Construction deposit	150.234	Screens
150.159	Roofing contractors; proof of certification to be filed	150.235	Parking
150.160	Expedited permit review process and fees	<b><i>Occupancy</i></b>	
<b><i>Fire Safety and Sprinkler Regulations</i></b>		150.245	Permit required
		150.246	Issuance of certificate of occupancy or occupancy permit; filing of certified copies
		150.247	Building and occupancy of accessory buildings prohibited; exceptions

		150.323	Electrical requirement
		150.324	Prior existing pools
<b><i>Demolition, Moving of Buildings</i></b>			
150.260	Issuance of demolition permit restricted where private well or septic tank exists		<b><i>Inspection Requirements</i></b>
150.261	Permit required to move buildings	150.335	When requests for inspections to be made
150.262	Application for moving permits	150.336	Inspection of one- and two-family dwellings
150.263	Foundation plans	150.337	Platted survey for single- or two-family dwellings
150.264	Permit fee	150.338	Representative to be on site
150.265	Bond required	150.339	Buildings other than one- or two-family residences; inspections; platted survey
150.266	Warning lights required		Engineering inspections
150.267	Cutting Wires	150.340	
150.268	Backfilling and grading of former building site		
<b><i>Grade Changes</i></b>			<b><i>Radio Amplification Systems in Certain Buildings</i></b>
150.280	Permit required	150.350	Radio Coverage
150.281	Submission of topographical survey prerequisite to issuance of permit	150.351	Radio Amplification System Allowed
150.282	Deposit required	150.352	Acceptance Test Procedures
150.283	Drainage flow affected; property owner consent required; permit fees	150.353	Annual Test
150.284	Obstruction of storm water drainage course prohibited	150.354	Owner Responsibility for Compliance
150.285	Prohibited fill materials	150.355	Five Year Test
150.286	Nuisance declared	150.356	Inadequate Radio Coverage
150.287	Denial of permit	150.357	Qualifications of Testing Personnel
<b><i>Driveways</i></b>		150.358	Inspections
		150.359	Property Owner Maintenance Responsibilities
150.295	Definitions	150.360	Exemptions
150.298	Driveway openings; permit required	150.361	Permit Required
150.299	Commercial driveways; requirements	150.362	Failure to Comply
150.300	Location of driveways		<b><i>Administration; Enforcement</i></b>
150.301	Design specifications		
150.302	Driveway safety standards	150.365	Responsibility for enforcement and administration
150.303	Variations	150.366	Administrative review
<b><i>Buildings in Flood Prone Areas</i></b>		150.367	Held in Reserve
		150.368	Stop work orders
150.315	Designation of areas	150.369	Repealed Ord. 6113
150.316	Drainage plan; approval	150.999	Penalty
<b><i>Private Swimming Pools</i></b>			
150.317	Definitions		
150.318	Permit required		
150.319	Permit and inspection fees		
150.320	Location		
150.321	Fences and walls around pools		
150.322	Water supply and control		

## **§ 150.060 ESTABLISHMENT OF RULES AND REGULATIONS OF ELECTRICAL INSTALLATION.**

The National Electrical Code (~~2008~~ 2011 Edition), as hereby amended and as modified by this Chapter, shall establish the rules and regulations of electrical installations in the Village.

## **§ 150.061 DEFINITION**

For the purpose of this Chapter the following definitions shall apply unless the context clearly indicates or requires a different meaning.

Electrical Contractor as used in this Chapter means any person, firm or corporation engaged in the business of installing or altering, by contract or otherwise, electrical equipment for the utilization of electricity supplied for light, heat or power or other installations covered in Article 90.2, Scope of the National Electrical Code (~~2008~~2011 Edition); but "electrical contractor" does not include employees of such contractor who perform or supervise such work.

Communications Contractor is one that installs only Class 2 or Class 3 type wiring as defined in Articles 725.1 and 725.2 of the National Electrical Code (~~2008~~2011 Edition) (NEC), and only that portion of the wiring system between the load side of a Class 2 or Class 3 power source and the connected equipment.  
(Ord. 5481, Passed 5/6/04; Ord. 6522, passed 9/16/10)

## **§ 150.062 ELECTRICAL CONTRACTORS AND COMMUNICATIONS CONTRACTORS MUST BE REGISTERED; CERTIFICATE OF INSURANCE.**

It is unlawful for any person, firm or corporation to engage in the business of Electrical Contractor or Communications Contractor within the Village of Lombard, without being registered in the manner hereinafter set forth.

(A) Registration. Any person, firm or corporation desiring to engage in the business of an Electrical Contractor or Communications Contractor shall:

(1) Furnish a copy of current registration or license issued by any City, Village or Town in the State of Illinois that was obtained only after the passage of a recognized written test.

(2) Homeowner. A homeowner shall be registered by application to the Village. Said registration shall be restricted to allow work only on the homeowners' personal and primary residence. A qualification test shall be passed in order to secure this registration and permits to install, modify or revise an electrical service or service conductors. No electrical work shall be allowed under this provision in commercial, industrial or multifamily residential occupancies. Work done on these type occupancies shall be performed only by a registered Electrical Contractor.

(B) Use of Permit Issued to Another. It shall be unlawful for any person to install, alter or repair any electrical wires or apparatus by authority of a permit issued to and for the use of some other person.

(C) Permit for Person Not Entitled to One. It shall be unlawful for any registered Electrical or Communications Contractor to secure or furnish a permit for the installation, alteration, and repair of electrical wires and apparatus to any person not entitled to such permit under the regulations of this Chapter.

(D) Revocation of Permits. The Community Development Director or his/her designee is authorized to revoke any permit or certificate obtained by fraud, misrepresentation, or in any way contrary to the provisions of the electrical regulations of this Chapter, for installation, alteration, repair and use of any electrical conductors, electrical equipment, signaling & communications conductors and equipment, and fiber optic cables and raceways.

(E) Certificate of Insurance. Refer to Contractor Registration and Insurance Requirements §150.143.  
(Ord. 6522, passed 9/16/10; Ord. 6832, passed 5/17/13)

## **§ 150.063 PERMIT REQUIRED**

No person shall install any electrical conduits, electrical wires, electrical equipment, apparatus or communications, data, computer or fiber optics cables, conduits, equipment or apparatus in any building or structure, for which a permit is required, until such permit shall have been secured. In case

any work is begun without a permit authorizing said work, the Community Development Director or his/her designee shall have the power to stop said work and order all persons engaged therein to stop and desist until the proper permit is secured.

Underground installations in the parkway area require an additional permit (Right-of-Way Permit) from the Village of Lombard Public Works Department.

(Ord. 6522, passed 9/16/10)

#### **§150.064 DISCONNECTION OF ELECTRICAL SERVICES**

(A) If any person violates the provisions of this Chapter or maintains any electrical wiring or apparatus or communication, data, computer, or fiber optic cable or equipment found to be dangerous to life and property, the Community Development Director ~~of or~~ his/her designee is hereby empowered to cut-off or otherwise disconnect current to said electrical wires or apparatus.

(B) Any person having been stopped from installing electrical work as outlined in Section 150.063 shall, when securing the permit to continue, pay double the permit fees as a penalty.

(Ord. 6522, passed 9/16/10)

#### **§ 150.065 PERMIT FEES**

All fees for inspection shall be in accordance with schedules under Section 150.140.

#### **§ 150.066 ADOPTION BY REFERENCE AMENDMENTS, ADDITIONS, AND DELETIONS**

(A) The National Electrical Code (~~2008~~ 2011 Edition), as amended, is adopted by reference as modified by this Chapter.

In the event any provisions, articles, wording, and the like, of the National Electrical Code (~~2008~~ 2011 Edition), as amended, are in conflict with any ordinances, amendments, and/or addendums, as recognized and approved by the Electrical Commission of the Village of Lombard and/or as adopted by the Village of Lombard, or in conflict with the state law, the most restrictive provisions, articles, wording, and the like, shall prevail.

Wiring methods and/or materials listed by the National Electrical Code (~~2008-2011~~ Edition), but amended, deleted, prohibited or requiring Special Expressed Written Permission (SEWP) by this Chapter as noted in Subsections (B), (C), (D) below shall be considered to be amended, deleted, prohibited or requiring Special Expressed Written Permission (SEWP) where ever and there after mentioned or referenced in the National Electrical Code (~~2008-2011~~ Edition).

(B) The following articles, or portions thereof, of the National Electric Code (~~2008-2011~~ Edition) shall be deleted for the purpose of this Chapter:

~~Section 230.40, Ex.3  
Delete Exception No.3~~

Section 230.41, Ex.(4)  
Aluminum wire not allowed

Article 320  
Armored Cable: Type AC

Article 322  
Flat Cable Assemblies: Type FC

Article 324  
Flat Conductor Cable: Type FCC

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

Article 334  
Nonmetallic Sheathed Cable: Type NM, NMC, & NMS

Article 338  
Service Entrance Cable: Type SE & USE

Article 362  
Electrical Nonmetallic Tubing: Type ENT

~~Article 378  
Nonmetallic Wireways~~

~~Article 382  
Nonmetallic Extensions~~

~~Article 388  
Surface Nonmetallic Raceways~~

Article 394  
Concealed Knob & Tube

~~Article 396~~~~Messenger Supported Wiring~~~~Article 398~~~~Open Wiring on Insulators~~~~Table 310.15 (B) (6)~~~~120/240 Volt, 3-wire, Single Phase Dwelling Services and Feeders~~~~Delete entire table~~

~~(C) Special Expressed Written Permission: Construction allowed by the following Articles of the National Electrical Code (2008 Edition) shall be permitted with the Special Expressed Written Permission (SEWP) of the Chief Electrical Inspector of the Building Division, and only in those instances where the conditions and standards that may be applicable to such construction are safe and existent, as determined by the Chief Electrical Inspector.~~

~~Article 330~~~~Metal Clad Cable: Type MC~~~~Article 340~~~~Type UF~~~~Article 352~~~~Type RNC (See also Subsection (D))~~~~Article 388~~~~Surface Nonmetallic Raceways~~~~Article 392~~~~Cable Trays (See also Subsection (D))~~

~~(C) Certain constructions recognized by the National Electrical Code (NEC) shall only be permitted with the Special Expressed Written Permission (SEWP) of the Building Division of the Community Development Department.~~

~~(D)~~ The following Articles or Sections the National Electric Code (2008–2011 Edition) are amended as follows:

Section 110.14 Electrical Connections. (Add the following:)

- (A) Terminals. The use of stab type screwless pressure terminals of the conductor push-in type is prohibited.
- (B) Splices. The use of device terminals for splicing is strictly prohibited.

Section 110.26 Spaces About Electric Equipment. (Add the following:)

(A) Dead Front Assemblies – When in the judgment of the ~~Chief~~ Electrical Inspector or his/her designee, the conditions of the installation or the equipment being installed or modified require additional clearances at front, sides or rear of electrical equipment, such additional clearances shall be provided.

~~Section 210.6~~ ~~Branch Circuit Voltage Limitations.~~ (Add the following:)

~~(C) 277 volts to ground. Luminaires shall be mounted not less than 8' above the finished floor, measured at their lowest point.~~

~~Wall switching shall not exceed 150 volts to ground. All switching mechanisms shall be in listed enclosures. Wiring in concealed spaces shall be in conduit (in listed enclosures). All wall switching shall be installed only in one of the following methods:~~

~~Low voltage relay switches, panel board switches, SWD rated circuit breakers or approved 277 volt switching mechanisms shall be installed in listed enclosures. All wiring shall be in conduit unless Class 2, accessible and approved by the Electrical Inspector.~~

Section 210.19 Conductors – Minimum Ampacity and Size. (Add the following:)

- (1) General. All branch circuits shall be wired with copper conductors only.

Article 210III. Required Outlets

Section 210.52 (G) (3) Where an installation includes a sump pump or pumps and an ejector pump or pumps, each pump shall be provided an Individual Branch Circuit (dedicated circuit) compliant with Section 210.21(B)(1), (2) and (3). That is, a receptacle with a rating of not less than the branch circuit rating (usually 20 amperes) and compliant with Section 210.8, (GFCI protected) and with Section 406.11, TR (Tamper Resistant). Where in wet locations Section 406.9(B) WR (Weather Resistant) outlets are required in addition to "In Use" covers.

Section 230.1 Scope. (Add the following:)

Whenever a service is revised or replaced, all current pertinent provisions of this Chapter shall apply.

~~In residential occupancies, the laundry circuit required by Article 210.11 (C)(2) of the National Electrical Code (2008 Edition) shall be provided.~~



All service and feeder conductors shall be copper. It is intended that all electrical conductors be copper.

~~Section 230.42 Size and Rating. (Add the following:)~~

~~(A) General. Service conductors shall be all copper. 100 ampere services requires AWG 3 copper conductors, 200 ampere service requires AWG 3/0 copper conductors.~~

Section 230.43 Wiring Methods for 600 Volts, Nominal, or Less. (Delete the following methods:)

(1) Open Wiring on insulators; (2) TYPE IGS Cable; (5) Electrical metallic tubing; (6) Electrical Nonmetallic Tubing; (7) Service-entrance cables; (13) Type MC cable; (14) Mineral-insulated, metal-sheathed cable; (15) Flexible metal conduit and LFMC, Liquidtight flexible metal conduit; (16) Liquid tight flexible nonmetallic conduit; (17) High density polyethylene conduit (HDPE); (18) Nonmetallic underground conduit with conductors (NUCC); (19) Reinforced thermosetting resin conduit (RTRC)

Section 230.70 General.

(A) Location. (1) Readily Accessible Location. (Amend to read as follows:) The service disconnecting means shall be installed at a readily accessible location either outside of a building or structure, or inside nearest the point of entrance of the service conductors, in any case within five (5) feet of conduit and conductor entrance to the building.

Section 230.71 Maximum Number of Disconnects. (Replace NEC text with the following:)

(A) General. The service disconnecting means for each service permitted by Section 230.2, or for each set of service-entrance conductors permitted by Section 230.40, Exception Nos. 1, 3, 4 or 5, shall consist of one main switch or circuit breaker. There shall be no more than six (6) main disconnects grouped in any one location. For the purpose of this section, disconnecting means installed as part of listed equipment and used solely for the following shall not be considered a service disconnecting means:

- (1) Power monitoring equipment
- (2) Surge-protective device(s)
- (3) Control circuit of the ground-fault protection system

(4) Power-operable ~~service~~ disconnecting means

Section 250.64 Grounding Electrode Conductor Installation. (Delete (A) and (B) and replace with the following:)

(A) Only Copper grounding and bonding conductors are allowed.

(B) Securing and Protection from Physical Damage. A grounding electrode conductor or its enclosure shall be securely fastened to the surface on which it is carried. All grounding electrode conductors shall be in an approved raceway. The following raceways shall be approved: rigid metal conduit, intermediate metal conduit, rigid nonmetallic conduit (Schedule 80) for exterior use; electrical metallic tubing or cable armor for interior use. (C), (D), (E), & (F), (Retain NEC text.)

Article 340 (Add the following:)

UF & BC Cable: Type UF

Approved for use only in exterior underground installations without Special Expressed Written Permission (SEWP); all other uses require SEWP. Article 340 otherwise applies entirely.

Article 348 (Add the following:)

Flexible Metal Conduit: Type FMC

Not approved for use as a general wiring method. Article 348 otherwise applies entirely.

Article 350 (Add the following:)

Liquidtight Flexible Metal Conduit: Type LFMC

Not approved for use as a general wiring method. Article 350 otherwise applies entirely.

Article 352 (Add the following:)

Rigid Nonmetallic conduit: Type RNC

Not approved for use as a general wiring method. Approved for use only in exterior underground installations without Special Expressed Written Permission (SEWP); all other uses require (SEWP). Article 352 otherwise applies entirely.

~~Article 356 (Add the following:)~~

~~Liquidtight Flexible Nonmetallic conduit: Type LFNC~~

~~Not approved as a general wiring method. Approved for use only in exterior installations and as listed and marked as suitable for the purpose. Article 356 otherwise applies entirely.~~

Article 366 (Add the following:)



Auxiliary gutters: Metal only are allowed.  
Article 366 otherwise applies entirely.

~~Article 392 (Add the following:)~~

~~— Cable Trays~~

~~— Section 392.3 Uses Permitted. (Amend first sentence to read:)~~

~~Cable trays shall be permitted to be used as a support system for (Delete: Service conductors, feeders, branch circuits) communications circuits, and signaling circuits unless conductors are installed in conduit. Article 392 otherwise applies entirely.~~

Section 410.2 Definitions.

Closet Storage Space: (Add the following:)

In residential occupancies, all clothes closets over six (6) square feet shall have an approved (listed for use) luminaire installed.

Section 545.4 Manufactured Building –  
Wiring methods.

(Replace (A) and (B) with the following):

Only wiring methods and materials previously approved by this Chapter shall be authorized for use in manufactured buildings, except that those constructions which require Special Expressed Written Permission (SEWP) for use may be considered on a case by case basis.

Section 600.21 Ballasts, Transformers and Electronic Power Supplies.

(A) Accessibility. (Add the following:)

A code approved enclosure designed for that purpose including a self contained disconnecting means or a disconnecting means installed within (3) three feet and in sight is required.

Section 605.3 (Add after code text:)

~~The separation of tele-communications, data, video and other Class 1, Class 2 or Class 3 wiring systems from electric light, power and other wiring formats as listed in Article 800; 800.133 (A) (1) (C) and elsewhere throughout National Electrical Code (2008 Edition) shall be maintained.~~

~~Optional components or alternate methods may be required.~~

(Ord. 3267, passed 6/21/90; Ord. 5481, passed 5/6/04; Ord. 6522, passed 9/16/10; Ord. 6832, passed 5/17/13)