



## MEMORANDUM

**TO:** Board of Building Appeals Members

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

**DATE:** February 18, 2015

**SUBJECT: BUILDING CODE AMENDMENTS – CHAPTER 150 OF THE VILLAGE CODE**

As part of the regular review of Village Code, attached for the Board'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 proposed code amendments also include comments provided by the Fire Department as noted in the companion attached memorandum.

There are a number of significant changes that are being offered as part of this review, as follows:

### **Adoption of the 2012 International Building Code (IBC) and Related Companion Codes**

The Village adopted the 2009 code versions and is proposing the 2012 versions adoption of the following:

- International Building Code
- International Residential Code
- International Plumbing Code
- International Mechanical Code
- International Fuel Gas Code
- International Property Maintenance Code
- International Fire Code

Staff reviewed the 2012 versions of the relevant codes and finds that they are not fundamentally different than the 2009 versions. Greater discussion of this change will be provided to the members at the meeting itself.

### **Proposed Local Amendment Code Changes**

Through extensive review, staff is offering the following amendments in summation:

1. Type 3 construction will be allowed where permitted under the 2012 IBC. All height and area increases for sprinklers and frontage will be allowed.

2. Type 5 construction (type 5a for commercial and multifamily, 5b for single family houses and townhomes) will be permissible in some instances. Area increases as provided by the 2012 IBC (sprinkler and frontage) will also be allowed. Type 5 construction will only be allowed where Fire Department access to each area and level of any roofs (when maximum roof pitch does not exceed 5/12) is provided on the “structure”. Structure, as to be defined in the local amendments, can be made up of several attached “buildings” as it is proposed to be incorporated into the local amendments.
3. Clarity is provided to provide for type 2B construction for parking garage construction where unprotected structural members support only the parking structure (a past practice memorialized into code).
4. Type 5 construction will not be allowed for Group I (institutional) uses and Group R-4 (5-16 unit assisted care facilities) uses, as these types of uses usually are occupied by residents with more limited mobility issues and possibility the inability to self-evacuate.
5. In cases where Type 5 construction is permissible and used, NFPA 13 sprinkler requirements, instead of 13R will be required. NFPA 13 protected buildings are considered ‘fully sprinklered’ to provide both life safety and protection throughout the entire building, including unoccupied spaces (attics, closets, etc.). NFPA 13 provides protection to not only get people out to safety, but also to control or extinguish the fire – saving the building and its contents. While NFPA 13R is commonly regarded as a residential code requirement, there are some residential types of buildings that must be designed around NFPA 13 regulations. The amendment will not distinguish between these uses when Type 5 construction is used.
6. Other limitations pertaining to lightweight and engineered wood are made for Type 5A construction.
7. Winter design temperatures are added.
8. Lightweight wood trusses and “I” joists are only allowed in accessory structures or when covered with drywall and NFPA 13 sprinkler systems are installed in the entire building.
9. When selected changes in use occur, a fire alarm system installed within the complete building can be approved in lieu of a full sprinkler system.
10. One-story self-storage facilities shall not require automatic sprinkler systems when a one-hour fire barrier wall is established.
11. Residential closet lights will become optional. If one is provided it must meet one of the enumerated types and must still meet overall illumination requirements.
12. Minor amendments referencing the Community Development Director and the Building Official’s roles for clarity purposes within the adopted amendments.

**APPENDIX**

**As a supplement to the overview provided above, staff offers the following background information regarding our existing codes and conducted research relative to the proposed code amendments.**

**Building Construction Type**

The most significant change being contemplated pertains to permissible type of construction for selected types of structures. This review has been undertaken in response to ongoing changes in the construction industry and accepted code practices.

In consideration of the BOBA review, the following tables include:

- International Building Code, Section 503, which identifies the minimum construction type for structures by area, height and occupancy type.
- Definitions of Building Construction Types
- Analysis of Existing Regulations for selected comparable communities in the Chicago market

**SECTION 503 GENERAL BUILDING HEIGHT AND AREA LIMITATIONS**

**TABLE 503 ALLOWABLE BUILDING HEIGHTS AND AREAS<sup>a,b</sup>** Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane. Building area limitations shown in square feet, as determined by the definition of "Area, building," per story

GROUP		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
		HEIGHT (feet)	UL	160	65	55	65	55	65	50
STORIES(S) AREA (A)										
A-1	S	UL	5	3	2	3	2	3	2	1
	A	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
A-2	S	UL	11	3	2	3	2	3	2	1
	A	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000

A-3	S A	UL UL	11 UL	3 15,500	2 9,500	3 14,000	2 9,500	3 15,000	2 11,500	1 6,000
A-4	S A	UL UL	11 UL	3 15,500	2 9,500	3 14,000	2 9,500	3 15,000	2 11,500	1 6,000
A-5	S A	UL UL	UL UL	UL UL	UL UL	UL UL	UL UL	UL UL	UL UL	UL UL
B	S A	UL UL	11 UL	5 37,500	3 23,000	5 28,500	3 19,000	5 36,000	3 18,000	2 9,000
E	S A	UL UL	5 UL	3 26,500	2 14,500	3 23,500	2 14,500	3 25,500	1 18,500	1 9,500
F-1	S A	UL UL	11 UL	4 25,000	2 15,500	3 19,000	2 12,000	4 33,500	2 14,000	1 8,500
F-2	S A	UL UL	11 UL	5 37,500	3 23,000	4 28,500	3 18,000	5 50,500	3 21,000	2 13,000
H-1	S A	1 21,000	1 16,500	1 11,000	1 7,000	1 9,500	1 7,000	1 10,500	1 7,500	NP NP
H-2	S A	UL 21,000	3 16,500	2 11,000	1 7,000	2 9,500	1 7,000	2 10,500	1 7,500	1 3,000
H-3	S A	UL UL	6 60,000	4 26,500	2 14,000	4 17,500	2 13,000	4 25,500	2 10,000	1 5,000
H-4	S A	UL UL	7 UL	5 37,500	3 17,500	5 28,500	3 17,500	5 36,000	3 18,000	2 6,500
H-5	S A	4 UL	4 UL	3 37,500	3 23,000	3 28,500	3 19,000	3 36,000	3 18,000	2 9,000
I-1	S A	UL UL	9 55,000	4 19,000	3 10,000	4 16,500	3 10,000	4 18,000	3 10,500	2 4,500
I-2	S A	UL UL	4 UL	2 15,000	1 11,000	1 12,000	NP NP	1 12,000	1 9,500	NP NP
I-3	S A	UL UL	4 UL	2 15,000	1 10,000	2 10,500	1 7,500	2 12,000	2 7,500	1 5,000
I-4	S A	UL UL	5 60,500	3 26,500	2 13,000	3 23,500	2 13,000	3 25,500	1 18,500	1 9,000

GROUP	HEIGHT (feet)	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
		UL	160	65	55	65	55	65	50	40
STORIES(S) AREA (A)										
M	S A	UL UL	11 UL	4 21,500	2 12,500	4 18,500	2 12,500	4 20,500	3 14,000	1 9,000

R-1	S A	UL UL	11 UL	4 24,000	4 16,000	4 24,000	4 16,000	4 20,500	3 12,000	2 7,000
R-2	S A	UL UL	11 UL	4 24,000	4 16,000	4 24,000	4 16,000	4 20,500	3 12,000	2 7,000
R-3	S A	UL UL	11 UL	4 UL	4 UL	4 UL	4 UL	4 UL	3 UL	3 UL
R-4	S A	UL UL	11 UL	4 24,000	4 16,000	4 24,000	4 16,000	4 20,500	3 12,000	2 7,000
S-1	S A	UL UL	11 48,000	4 26,000	2 17,500	3 26,000	2 17,500	4 25,500	3 14,000	1 9,000
S-2	S A	UL UL	11 79,000	5 39,000	3 26,000	4 39,000	3 26,000	5 38,500	4 21,000	2 13,500
U	S A	UL UL	5 35,500	4 19,000	2 8,500	3 14,000	2 8,500	4 18,000	2 9,000	1 5,500

### Occupancy Classification / Chapter 3 of the IBC Explanation

**Assembly Group A:** uses intended for the gathering together of persons for the purposes such as civic, social or religious functions, recreation, food or drink consumption or awaiting transportation. A room of less than 50 persons used for assembly but is accessory to a different occupancy shall be considered that different occupancy. Assembly area less than 750 s.f. which is accessory to a different occupancy is not considered assembly. Assembly rooms which are accessory to Group E are not considered as Group A. Religious educational rooms and auditoriums with occupant loads less than 100 persons which are accessory to churches are considered A-3. Group A is divided into five sub groups, **A-1** usually with fixed seating, intended for production and viewing of the performing arts or motion pictures, **A-2** uses intended for food and/or drink consumption, **A-3** uses intended for worship, recreation or amusement and other assembly uses not otherwise classified, **A-4** uses intended for viewing of indoor sporting events and activities with spectator seating, **A-5** uses intended for participation in or viewing outdoor activities

**Business Group B:** Assembly occupancies less than 50 persons and/or uses intended for office, professional or service-type transactions, including storage of records and accounts.

**Educational Group E:** uses intended by 6 or more persons at any one time for educational purposes through the 12<sup>th</sup> grade. Daycare uses for educational, supervision or personal care services for more than 5 children older than 2 1/2yrs

**Factory Industrial Group F:** uses intended for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair or processing operations that are not classified Group H hazardous or Group S storage. Group is divided into two sub groups, **F-1 Moderate**

#### Hazard and F-2 Low Hazard

**High-Hazard Group H:** uses intended for manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed by code. Group H is divided into five sub groups, **H-1** detonation hazard, **H-2** accelerated burning, **H-3** materials that readily support combustion or pose a physical hazard, **H-4** materials are health hazards, **H-5** semiconductor fabrication facilities and comparable R&D areas which HPM's are used.

**Institutional Group I:** uses intended in which people are cared for or live in a supervised environment, having physical limitations because of health or age are harbored for medical treatment or other care or treatment or in which the liberty of the occupants is restricted. Group I is divided into four sub groups, **I-1** houses more than 16 persons, on a 24 hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff,

**I-2** used for medical, surgical, psychiatric, nursing or custodial care on a 24 hr. basis of more than five persons who are not capable of self-preservation. Less than five people shall be considered an R-3, **I-3** is inhabited by more than five persons who are under restraint or security and is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupant's control.

**Mercantile Group M:** uses intended for the display and sale of merchandise, and involve stocks of goods, wares or merchandise incidental to such purposes and accessible to the public.

**Residential Group R:** uses intended for sleeping purposes. Group R is divided into four sub groups, **R-1** occupants are transient in nature, **R-2** occupancies containing sleeping units or more than two dwelling units where the occupants are more permanent in nature, **R-3** one and two family dwelling, or adult and child care facilities that provide accommodation for five or fewer persons of any age for less than 24 hrs, **R-4** are intended for occupancy as residential care/assisted living facilities including more than five but not more than sixteen occupants, excluding staff.

**Storage Group S:** uses intended for storage that is not classified as a hazardous occupancy. Group S is divided into two sub groups, **S-1 Moderate-Hazard storage** and **S-2 Low-Hazard storage**

**Utility and Miscellaneous Group U:** uses intended for structures of an accessory character and not classified in any specific occupancy.

**NOTE: R-3 Occupancy:**

**Town Houses** are occupancies where the development is owned by others but the individual plot of real estate that the dwelling is seated is owned by the occupant.

**Condominiums** are occupancies where the development is owned by others including the individual plot of real estate but the interior of the dwelling unit from wall to wall is owned by the occupant.

**Construction Types - Definitions**

**TYPE I-A--Fire Resistive Non-combustible** (Commonly found in high-rise buildings and Group I occupancies).

- 3 Hr. Exterior Walls\*
- 3 Hr. Structural Frame
- 2 Hr. Floor/Ceiling Assembly
- 1 ½ Hr. Roof Protection

**TYPE I-B--Fire Resistive Non-Combustible** (Commonly found in mid-rise office & Group R buildings).

- 2 Hr. Exterior Walls\*
- 2 Hr. Structural Frame
- 2 Hr. Ceiling/Floor Separation
- 1 Hr. Ceiling/Roof Assembly

**TYPE II-A--Protected Non-Combustible** (Commonly found in newer school buildings).

- 1 Hr. Exterior Walls
- 1 Hr. Structural Frame
- 1 Hr. Floor/Ceiling/Roof Protection

**TYPE II-B--Unprotected Non-Combustible** (Most common type of non-combustible construction used in commercial buildings).

Building constructed of non-combustible materials but these materials have no fire resistance.

**TYPE III-A--Protected Combustible** (Also known as "ordinary" construction with brick or block walls and a wooden roof or floor assembly which is 1 hour fire protected).

- 2 Hr. Exterior Walls\*
- 1 Hr. Structural Frame
- 1 Hr. Floor/Ceiling/Roof Protection

**TYPE III-B--Unprotected Combustible** (Also known as "ordinary" construction; has brick or block walls with a wooden roof or floor assembly which is not protected against fire. These buildings are frequently found in "warehouse" districts of older cities.)

- 2 Hr. Exterior Walls\*
- No fire resistance for structural frame, floors, ceilings, or roofs.

**TYPE IV--Heavy Timber** (also known as "mill" construction; to qualify all wooden members must have a minimum nominal dimension of 8 inches.)

- 2 Hr. Exterior Walls\*
- 1 Hr. Structural Frame or Heavy Timber
- Heavy Timber Floor/Ceiling/Roof Assemblies

**TYPE V-A--Protected Wood Frame** (Commonly used in the construction of newer apartment buildings; there is no exposed wood visible.)

- 1 Hr. Exterior Walls
- 1 Hr. Structural Frame
- 1 Hr. Floor/Ceiling/Roof

**TYPE V-B--Unprotected Wood Frame** (Examples of Type V-N construction are single family homes and garages. They often have exposed wood so there is no fire resistance.)

- Note exceptions in the building code for fire resistance ratings of exterior walls and opening protection.

<b>Minimum Construction Types for Selected Chicago Area Communities</b>		
<b>Municipality</b>	<b>Adopted Code</b>	<b>Construction Type Limitations</b>
Lombard	2009 IBC Type I, II, and IV allowed (All other types prohibited)	Type IIB only in Industrial district, Type III A and B not allowed, Type IV allowed, and Type V not allowed
Wheaton	2012 IBC No Restrictions on cons. type	Follow 2012 IBC Height and area requirements
Oak Brook	2009 IBC No Restrictions on const. type	Follow 2009 IBC Height and area requirements
Schaumburg	2012 IBC No Restrictions on const. type	Follow 2012 Height and area requirements
Orland Park	2012 IBC No Restrictions on const. type	Follow 2012 IBC Height and area requirements
Elmhurst	2003 IBC Type I and Type II Approved Type 4 (Allowed only by Building Official Approval or Church) (Type 3 and 5 prohibited)	All elements of all buildings shall be non-combustible. All buildings to Type 1A, 1B, 2A, or 2B. Elements listed in Table 601 are of non-combustible material.
Arlington Heights	2009 IBC No Restrictions on const. type	Follow 2009 IBC Height and area requirements
Glenview	2006 IBC No Restrictions on const. type	Follow 2006 IBC Height and area requirements
Bolingbrook	2006 IBC All types allowed, but have restrictions for Type V	-Prohibit Type V over 12,000 s.f. (Type Va) -Type 5 only allowed: Full NFPA 13 Fire Sprinkler system including concealed spaces like flooring ceiling assemblies, attic spaces, etc. (Instead of 13R)
Downers Grove	2006 IBC Type III, and IV restricted, and Type V not allowed	1. Type V-A and V-B is not permitted for all use groups governed by this code in all zoning districts. 2. Type III-A, III-B, and IV shall be limited to no more than thirty-five (35) feet in story height as defined by this code above the lowest level of Fire Department vehicle access for all use groups. 3. Type III-A, III-B, shall not be permitted in the downtown business (DB) and downtown transition (DT) zoning districts.
Tinley Park	2006 IBC All construction types approved, but with restrictions on Type V	-Allow all construction types as long as they are sprinkled. -3,000s.f. Commercial, non-combustible does not need to be sprinkled. -Type 5 allowed on multi-family housing as long as building is sprinkled (Hotels and motels not allowed to be Type V construction.

Staff will provide a further discussion of the proposed amendments at the meeting.