

VILLAGE OF DOWNERS GROVE
Report for the Village Council Meeting
7/11/2017

SUBJECT:	SUBMITTED BY:
Adoption of 2015 ICC Building and Fire Codes	Stan Popovich, AICP Director of Community Development

SYNOPSIS

Ordinances have been prepared adopting the International Code Council's (ICC) 2015 series of building and fire codes.

STRATEGIC PLAN ALIGNMENT

The goals for 2015-2017 include *Exceptional Municipal Services* and *Steward of Financial, Environmental and Neighborhood Sustainability*.

FISCAL IMPACT

N/A

UPDATE & RECOMMENDATION

This item was discussed at the June 13 and June 20, 2017 Village Council meetings. Based on Council direction, the requirement for residential sprinklers in new single-family and two-family (duplex) residential buildings has been removed from the 2015 IRC via local amendment. To provide enhanced protection in an IRC regulated residential building, the following local amendments are proposed:

- A heat detector is required in all attached garages. The heat detector must be hard wired and interconnected with other detection devices within the home
- In all areas of a garage that come into contact with a living space or attic, 5/8" drywall is required.

The Village will also provide new residential building applicants with an information packet regarding residential sprinklers.

Staff recommends approval at the July 11, 2017 Village Council meeting.

BACKGROUND

The Village's current building codes were adopted in October 2009. The building codes which were adopted at that time were the 2006 edition of the International Code Council (ICC) codes. Staff is proposing that the Village update to the 2015 edition of the ICC's building and fire codes. The specific codes targeted for adoption are:

- *2015 International Residential Code (IRC)* – governs construction of one- and two-family residential buildings and townhomes
- *2015 International Building Code (IBC)* – governs construction of all other use types
- *2015 International Property Maintenance Code (IPMC)* – governs maintenance of all existing buildings and properties
- *2015 International Fire Code (IFC)* – governs construction and maintenance of life safety systems in commercial and multi-family buildings
- *2015 International Fuel Gas Code (IFGC)* - governs installation of fuel-gas piping systems and fuel gas appliances
- *2015 International Mechanical Code (IMC)* - governs mechanical systems utilized to provide control of environmental conditions and related processes within buildings
- *2015 International Swimming Pool and Spa Code (ISPSC)* - governs aquatic recreation facilities, pools and spas

Staff has undertaken an extensive review process to examine the 2015 codes and determine differences between the current 2006 codes and local amendments with the proposed 2015 codes. In exploring the code changes, staff emphasized the following key concepts and strategies:

- Align with Long Range Plan goals
- Create clear and user friendly code requirements
- Reduce the number of local code amendments (42% reduction in the IRC and 55% reduction in IBC)
- Maintain consistency with existing ordinance provisions
- Maintain and provide code provisions that address local construction practices
- Align Village regulations with comparable communities

The principal change between the 2006 and 2015 IRC is the requirement to install fire sprinklers in newly constructed single family house. Some neighboring communities in the immediate area have removed this requirement from their building codes. A list of communities and fire districts in Illinois requiring sprinklers is attached.

Below is a brief summary of the major changes included in the 2015 model codes that are proposed for adoption.

2015 International Residential Code:

- All new one- and two-family dwellings and townhomes are required to have fire sprinklers. This does not affect existing one- and two-family dwellings undergoing renovations or additions.
- All exposed engineered wood floor framing needs to be covered with gypsum board unless sprinklers are provided. This would require a layer of drywall on the ceiling of an unfinished basement.
- When finishing an existing basement an emergency escape window is only required if there is a sleeping room.
- Smoke alarms for remodeling and additions are now allowed to be wirelessly interconnected.
- Smoke alarms required throughout existing dwelling unit as part of a remodeling project are allowed to be battery operated rather than hard-wired for power.

2015 International Building Code:

- Cross-Laminated Timber (CLT) is now permitted within exterior walls required to be of noncombustible construction, much in the same manner as fire-retardant-treated wood is allowed. The CLT must be covered on the exterior side with approved materials. CLT is regulated as Type IV construction, historically reserved for heavy timber.
- Excavation near foundations of adjacent structures now have basic requirements for providing protection to the adjacent structure.
- Certain Institutional occupancies have added sub-classifications to differentiate between the needs of individuals capable of self-preservation and those incapable, especially in situations such as assisted living facilities.
- Relaxed requirements for: Areas of Refuge in stairwells, number of allowable basement stories in podium style buildings, and dead end corridor length. However, developers would still be required to comply with the Illinois Accessibility Code.

2015 International Property Maintenance Code (IPMC)

- No major changes

2015 International Fire Code:

- Remove the restrictive amendments imposing limitations on waste oil and fresh oil storage.
- Require fire sprinklers in all new commercial buildings of all uses. This does not affect the triggers for the installation of fire sprinklers in existing commercial buildings.
- Require periodic evaluation of the fire sprinkler system in warehouse buildings to ensure it is adequately designed for any changes to what is being stored and the manner in which it is stored.
- Limit the use of NFPA 13R fire sprinkler systems (systems designed for residential buildings four stories and below that offer less protection than that provided for commercial structures) to buildings of Types I or II construction. This improves the quality of protection in residential buildings constructed of wood.
- Clarify an existing amendment which requires smoke detectors in residential buildings to be part of the building's fire alarm system.

2015 International Fuel Gas Code (IFGC)

- No major changes

2015 International Mechanical Code (IMC)

- No major changes

2015 International Swimming Pool and Spa Code (ISPSC)

- This is a new separate code book. In the 2006 family of ICC codes, swimming pools and spas were included in the IRC code as an appendix. The 2015 family of ICC codes creates a separate code book for swimming pools and spas.
- No major changes to the technical aspects of the code.

For the first time the National Multi-family Housing Council (NMHC), National Apartment Association, Building Owners and Managers Association, and the National Association of Home Builders are encouraging state and local jurisdictions to consider adopting the 2015 ICC Codes. The NMHC has stated that, "Many of the changes benefit apartment and commercial construction and taken as a whole these positive changes more than offset the changes that might increase construction costs."

On May 24, 2017, staff held an informational meeting regarding the proposed adoption of the 2015 ICC family of codes. Staff invited architects, builders and contractors to attend the meeting which highlighted some of the key technical changes from the existing codes to the 2015 codes. Fourteen individuals attended and participated in the discussion.

ATTACHMENTS

Ordinances

Communities and Jurisdictions requiring sprinklers

Sprinkler background information

VILLAGE OF DOWNERS GROVE COUNCIL ACTION SUMMARY

INITIATED: Community Development **DATE:** July 11, 2017
(Name)

RECOMMENDATION FROM: _____ **FILE REF:** _____
(Board or Department)

NATURE OF ACTION:

- Ordinance
- Resolution
- Motion
- Other

STEPS NEEDED TO IMPLEMENT ACTION:

Motion to Adopt "AN ORDINANCE ADOPTING THE 2015 INTERNATIONAL RESIDENTIAL CODE AND AMENDMENTS THERETO", as presented.



SUMMARY OF ITEM:

Adoption of the attached ordinance shall adopt the 2015 International Residential Code and amendments thereto.

RECORD OF ACTION TAKEN:

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ORDINANCE NO. _____

**AN ORDINANCE ADOPTING THE
2015 INTERNATIONAL RESIDENTIAL CODE AND AMENDMENTS THERETO**

BE IT ORDAINED by the Village Council of the Village of Downers Grove in DuPage County, Illinois, as follows: (Additions are indicated by shading/underline; deletions by ~~strikeout~~):

Section 1. That Section 7.1200.ART. is hereby amended to read as follows:

7.1200.ART. Article XII. INTERNATIONAL RESIDENTIAL CODE

Section 2. That Section 7.1201. is hereby amended to read as follows:

7.1201. 2015 International Residential Code - Adoption.

The ~~2006~~2015 International Residential Code, is hereby adopted for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use, occupancy, location and maintenance of one- and two- family dwellings as defined therein. The same is adopted in its entirety, except such portions as are hereinafter deleted, modified or amended, and is, together with such amendments, incorporated as fully as if set out at length herein. At least one copy of said Code, including amendments thereto, shall be filed in the office of the Village Clerk, and additional copies shall be available in the Community Development Department.

Section 3. That Section 7.1202. is hereby amended to read as follows:

7.1202. International Residential Code - Amendments.

The deletions from and modifications and amendments to the ~~2006~~2015 International Residential Code are the following:

Section R101.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R101.1 Title. These regulations shall be known as the Residential Code for One- and Two-family Dwellings of the Village of Downers Grove, and shall be cited as such and will be referred to herein as "this code".

Section R101.2 Scope is amended by deleting the phrase "Section P2904" in Exceptions #1 & #2 and substituting in lieu thereof "National Fire Code as adopted by the Village of Downers Grove".

Section 102.4.3. Illinois Plumbing Code is hereby added as follows:

Section 102.4.3. Illinois Plumbing Code. Whenever a reference is made to the International Plumbing Code, such reference shall be deemed to refer to the applicable section of the current Illinois State Plumbing Code, as adopted by the Village of Downers Grove.

Section R103 through Section R104 are amended by deleting the same in their entirety and addressed in Chapter 7, Article II of the Downers Grove Municipal Code.

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Section R105.1 is amended by deleting the same in its entirety and addressed in Chapter 7, Article III of the Downers Grove Municipal Code.

Subsection R105.2 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R105.2 Work exempt from permit. Permits shall not be required for the following. Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of the Village

1. One-story detached accessory structures, provided the floor area does not exceed one hundred (100) square feet and is not more than ten (10) feet from the highest point on the roof to grade.

2. Retaining walls that are not more than three feet in height measured from grade to the top of the wall.

3. Painting, papering, tiling, carpeting, cabinets, counter tops, fixture and appliance replacements.

4. Swings and other playground equipment.

5. Window awnings supported by an exterior wall and do not require additional support.

6. Windows that are the same size as the ones being replaced. Exception: Homes that have received historic designation by the Village Council.

7. Aluminum or vinyl siding replacement. Exception: Homes that have received historic designation by the Village Council.

8. Replacement water heaters, furnaces and air-conditioning units.

9. Re-roofing work involving the replacement of shingles only.

Section R105.3 through Section R105.3.1 are amended by deleting the same in their entirety and addressed in Chapter 7, Article III of the Downers Grove Municipal Code.

Section R105.3.1.1 is deleted in its entirety

Section R105.3.2 through Section ~~R105.8~~R105.9 are amended by deleting the same in their entirety and addressed in Chapter 7, Article III of the Downers Grove Municipal Code.

Section R106 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IV of the Downers Grove Municipal Code.

Section R108 is amended by deleting the same in its entirety and addressed in Chapter 7, Article VIII of the Downers Grove Municipal Code.

Section R109.1.1 is amended by deleting the phrase "or equipment and special requirements for wood foundations"

Section R109.1.1.1 is hereby added as follows:

R109.1.1.1 Approval of a spot survey. A spot survey indicating the top of foundation elevation and the foundation distances to lot lines must be submitted and approved by the building official prior to the commencement of framing on the foundation.

Section R109.1.3 is amended by deleting the reference to Table R301.2(1) and substitute in lieu thereof the following:

"local flooding data"

Section R109.1.5 is amended by deleting the same in its entirety and by substituting in lieu thereof the

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following:

R109.1.5 Types of inspections. In addition to the called inspections above, the building official may make or require any other inspections to ascertain compliance with this code and other laws enforced by the building official. Additional inspections required include but are not limited to:

1. Pre-construction, site management inspection
2. Foundation and drain tile prior to backfill
3. Any and all underground utilities
4. Rough framing, electrical, mechanical, plumbing systems
5. Plumbing stack test with water from the highest fixture
6. Insulation with required fire blocking and draft stopping in place
7. New or upgraded electrical service installations prior to activation of service
8. Concrete pours prior to placement of concrete for all exterior and interior slabs on grade, basement and garage floors, stoops, steps, porches, deck piers.

Section R109.1.5.2 is deleted in its entirety.

Section R109.1.6.1 is hereby added as follows:

R109.6.1. Agency approvals. Approval from the Downers Grove Sanitary District will be required as applicable to the type of project.

Section R110 is amended by deleting the same in its entirety and addressed in Chapter 7, Article VII of the Downers Grove Municipal Code.

Section R112 is amended by deleting the same in its entirety and addressed in Chapter 7, Article IX of the Downers Grove Municipal Code.

Section R113 is amended by deleting the same in its entirety and addressed in Chapter 7, Article X of the Downers Grove Municipal Code.

Section R114 is amended by deleting the same in its entirety and addressed in Chapter 7, Article V of the Downers Grove Municipal Code.

Chapter 2

Section R202 is amended by adding the following definitions:

Section R202 Definitions.

~~**ADHERED STONE OR MASONRY VENEER.** Stone or masonry veneer secured and supported through the adhesion of an approved bonding material applied to an approved backing.~~

~~**AIR-IMPERMEABLE INSULATION.** An insulation having an air permeance equal to or less than 0.02 at 75 Pa pressure differential tested in accordance with ASTM E2178 or E 283.~~

~~**FLOOD HAZARD AREA.** An area as defined by local flooding data.~~

~~**RESCHECK.** A proprietary software application for determining compliance with the International Energy Conservation Code.~~

~~**TERMITE RESISTANT MATERIAL.** Pressure-preservative treated wood in accordance with the AWPAs standards in Section R319.1, naturally durable termite-resistant wood, steel, concrete, masonry or~~

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other approved material.

~~VAPOR RETARDER CLASS.~~ A measure of the ability of a material or assembly to limit the amount of moisture that passes through that material or assembly. Vapor retarder class shall be defined using the desiccant method with Procedure A of ASTM E 96 as follows:

Class I: 0.1 perm or less

Class II: perm greater than .1 but less than or equal to 1.0 perm

Class III: perm greater than 1.0 but less than or equal to 10 perm

~~Section R202~~ is further amended by deleting the following definitions:

~~Section R202 Definitions.~~

~~CONFINED SPACE.~~

~~UNUSUALLY TIGHT CONSTRUCTION.~~

~~VAPOR RETARDER.~~

CHAPTER 3

~~Section R.301.1.1~~ is deleted in its entirety.

~~Section R301.1.3~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

~~R301.1.3. Engineered design.~~ When a building of otherwise conventional construction contains structural elements exceeding the limits of Section R301 or otherwise not conforming to this code, these elements shall be designed in accordance with accepted engineering practice. Engineered design in accordance with the International Building Code is permitted for all buildings and structures, and parts thereof, included in the scope of this code.

~~Section R301.2.1.1~~ is deleted in its entirety.

Table R301.2(1) is hereby amended as follows:

Table R301.2(1)

Climatic and Geographic Design Criteria

Ground-Snow-Level	Wind-Speed	Seismic-Design-Categor-y	Subject to Damage From			Winter-Desig-n-Temp	Ice-Barrier-Underlay-ment-Required	Flood-Hazar-ds	Air-Freezin-g-Index	Mean-Annual-Temp
			Wear-ing	Frost-line-depth	Termit-e					

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25-psf	90 MPH (3-second gust at 33 feet above- grade)	B	Severe	42"	Moderate to Heavy	-4 degrees	Yes	Village- Zone s	2000	50- degrees
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Ground Snow Load	Wind Design			Seismic Design Category	Subject to Damage From			Winter Design Temp	Ice Barrier Underlayment	Flood Hazards	Air Freezing Index	Mean Annual Temp
	Speed (mph)	Topographic Effects	Wind Borne Debris Zone		Weathering	Frost Line Depth	Termite					
25 psf	115 mph ultimate design wind speed	No	No	A	Severe	42"	Moderate to Heavy	-4° F	Yes	Chapter 26 of the Downers Grove Municipal Code	1750	49.4 (Wheaton 3 SE)

~~Section R301.2.1.2 is deleted in its entirety.~~

~~Table R301.2.1.2. is deleted in its entirety.~~

~~Section R301.2.1.4 shall be amended by deleting condition #1 and condition #4.~~

~~Section R301.2.2.1.2 through Section 301.2.2.4.5 are hereby deleted in their entirety.~~

~~Section R301.2.4 first paragraph is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~**R301.2.4 Floodplain construction.** Buildings or structures constructed in whole or in part in flood hazard areas as determined by local flooding data, shall be designed and constructed in accordance with Section 26.1303.B. of the Village of Downers Grove Municipal Code.~~

~~Table 301.5 shall be amended by modifying "sleeping room" use live load "30" as follows: "40"~~

~~Section R302.1 Exception #2 shall be amended as follows:~~

~~**R302.1 Exceptions:**~~

~~2. Detached garages accessory to a dwelling located within five (5) feet of a lot line are permitted to have roof eave projections not exceeding eighteen (18) inches.~~

~~Section R302.2 Townhouses is amended by deleting the phrase "Section P2904" in #1 & #2 and substituting in lieu thereof "National Fire Code as adopted by the Village of Downers Grove".~~

~~Section R302.5.1 is amended by adding the following to the end of the paragraph:~~

~~"...and self-latching device."~~

~~Section R302.5.2 is amended by adding the following to the end of the paragraph:~~

~~"...and shall be covered with a minimum of ½" gypsum board."~~

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Section R302.14 is amended by deleting the phrase "Section N1102.4.5 of this code" and substituting in lieu thereof the following:

"International Energy Conservation Code as Adopted by the Village of Downers Grove."

Section R303.1 Habitable Rooms Exception 1 is amended by adding the following to the end of the paragraph:

"...and the Illinois Amendments of the International Energy Conservation Code as adopted by the Village of Downers Grove."

Section R303.4 Mechanical Ventilation is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

Section R303.4 Mechanical Ventilation. Mechanical ventilation shall be provided as identified in the Illinois Amendments of the International Energy Conservation Code as adopted by the Village of Downers Grove.

Section R305.1 Exception #5 is hereby added as follows:

R305.1 Exceptions:

54. Crawl spaces containing utilities requiring maintenance and servicing shall have a minimum clear height of thirty (30) inches from the slush coat to the bottom of the floor joists.

Section R309.1R302.5.1 is amended by adding the following to the end of the paragraph:

"The door shall be self closing and self latching."

Table R302.6 is amended as follows:

Deletion of all references of "1/2-inch" and substituting "5/8-inch Type X and deletion all references of "3 feet" and substituting "ten feet (10)".

Section R309.1.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R309.1.1 Duct penetration. Ducts in the garage penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage sheet steel or other approved material and shall have no openings into the garage and shall be covered with a minimum of ½ inch gypsum board.

Section R309.1.1.1 is hereby added as follows:

R309.1.1.1 Separation from heating units. A common door between the garage and the main house heating unit shall not be permitted.

Section R309.1.1.2 is hereby added as follows:

R309.1.1.2 Installation of garage heaters. Heaters installed in garages shall be installed per the provisions of Section 304 of the 2006 International Mechanical Code as adopted and amended.

Subsection R309.2, is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

Garages located less than ten (10) feet from a dwelling unit on the same lot shall be protected with not less than ½ inch gypsum board applied to the interior side of exterior walls that are within this area. Openings in these walls shall be regulated by Section R309.1.

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~~Section R309.3.1~~**R309.1.1** is hereby added as follows:

~~R309.3.1~~**R309.1.1 Gas curb.** The garage floor surface shall be a minimum of 6 inches below the adjacent top of foundation for the common walls with the living space. A six (6)-inch high by four (4)-inch wide concrete gas curb may be poured against the common walls in lieu of the six (6) inch difference in elevation. Exception: Existing garage slabs without a gas curb can be replaced without installing a new gas curb.

~~Section R3109.2~~ is amended by deleting the words "3 feet (914mm)" and by substituting in lieu thereof the following:

—————"10 feet"

~~Section R3109.2~~ is further amended by deleting the last sentence of the paragraph.

~~Section R309.6~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

—————**R309.6 Automatic garage door openers.** Automatic garage door openers, if provided, shall be listed in accordance with UL 325 and wired in accordance with the provisions of the National Electrical Code as adopted and amended by the Village.

~~Section R310.1~~ is amended by deleting the first three sentences in their entirety and by substituting in lieu thereof the following:

—————**R310.1 Emergency escape and rescue required.** Basements and every sleeping room shall have at least one (1) operable emergency and rescue opening. Such opening shall open directly into a public street, public alley, yard or court. Where basements contain one (1) or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room and a minimum of one (1) in the main area that can be accessed without passing through a room subject to locking.

~~Section R310.2.2~~ is hereby added as follows:

—————**R310.2.2 Window well covers.** All window wells shall be covered by a metal grate type or reinforced fiberglass cover capable of supporting a weight of two hundred fifty (250) lbs. The cover shall be easily removable from the inside without the use of keys, tools, or special knowledge.

~~Section R311.5.8.1~~ is amended by adding the following sentence at the end of the paragraph:

—————"Spiral stairways shall not be part of a required means of egress."

~~Section R312.1~~ is amended by adding the following sentence at the end of the first paragraph:

—————"Decorative planter boxes, and built-in seating that do not comply with these height requirements shall not be substituted for providing the required guard."

~~Section R313~~ is amended to read as follows:

~~SECTION R313~~ ———

~~SMOKE ALARMS AND CARBON MONOXIDE ALARMS~~

~~Section R313.1.1~~ Design and Installation is amended by deleting the phrase "Section P2904 or".

~~Section R313.2~~ and its subsections are amended by deleting the same in their entirety.

~~Section R313.2.1~~ is amended to add the following condition:

—————3. Installation, alteration, or repairs of plumbing or mechanical systems that do not result in the removal of interior wall or ceiling finishes exposing the structure, are exempt from the requirements

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of this section.

~~Section R313.4~~ is hereby added as follows:

~~Section R313.4 Carbon Monoxide Detection.~~ Every dwelling unit shall be equipped with at least one approved carbon monoxide alarm within fifteen (15) feet of every room used for sleeping purposes. The carbon monoxide alarm may be combined with the smoke detecting devices provided that the combined unit emits an alarm in a manner that clearly differentiates the hazards. The carbon monoxide alarms may be either battery powered, plug-in with battery back-up, or wired into the structure's AC power line with a secondary battery back-up.

~~Section R314.4~~ is amended by deleting the exception.

~~Section R314.8~~ is hereby added as follows:

~~R314.8 Heat alarms.~~ Heat alarms shall be installed in all new attached garages.

~~Section R314.8.1~~ is hereby added as follows:

~~R314.8.1 General.~~ Heat alarms shall be UL Listed and comply with NFPA 72.

~~Section R314.8.2~~ is hereby added as follows:

~~R314.8.2 Interconnection of heat alarm.~~ The alarm device shall be interconnected in such a manner that the actuation of any alarm device will activate all of the alarm devices in the individual dwelling unit and attached garage.

~~Section R314.8.3~~ is hereby added as follows:

~~R314.8.3 Power source.~~ Heat alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and, where primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection.

~~Section R317.2~~ exception shall be amended to delete the words "Chapters 33 through 42" and by substituting in lieu thereof the following:

~~"the National Electrical Code as adopted and amended by the Village"~~

~~Section R318.1~~ shall be amended to delete Exception #3.

~~Section R319.1~~~~R317.1~~ Condition #1 shall be amended to add the following to the beginning of Condition #1:

"Structural members for all exterior decks and porches, "

~~Section R319.1~~~~R317.1~~ shall further be amended to delete Condition #2 and by substituting in lieu thereof the following:

2. All wood framing members that rest on concrete or masonry exterior foundation walls.

~~Section R319.1.3~~ shall be deleted in its entirety.

~~Section R320.5~~ shall be deleted in its entirety.

~~Section R321.1~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

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~~———— **R321.1 Premises identification.** Buildings shall have mounted address numbers placed in a position that is plainly legible from the street fronting the property. Where the distance from the street to the building does not allow for the numbers to be easily viewed, alternative signage shall be provided subject to the review and approval of the Building Official. Address numbers shall be a minimum of four (4) inches high with a minimum stroke width of .5 inches in Arabic font and contrast with their background.~~

~~**Section R324.1** is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~———— **R324.1 General.** Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established by local flooding data shall be designed and constructed in accordance with the provisions contained in this section and the Village of Downers Grove Municipal Code Chapter 26.~~

~~**Section R324.3 through Section 324.3.6** shall be deleted in their entirety.~~

CHAPTER 4

Section R401.1 is amended to delete the last sentence of the first paragraph.

Section R401.1 is further amended to delete the exceptions.

Section R401.1 is further amended to delete the last paragraph of the section.

Section R401.2 is amended by deleting the words "wood and" from the last sentence.

Section R401.2.1 shall be added as follows:

R401.2.1 Weather-related construction methods. All concrete preparation, placement, and protection for footings, foundations, and flatwork with temperature conditions below freezing shall be in accordance with accepted industry standards and the protection provisions of ACI 318 when applicable.

Section R402.1 through Section R402.1.2 are deleted in their entirety.

~~**Section R402.3.1** is hereby added as follows:-~~

~~**R402.3.1 Precast concrete foundation materials.** Materials used to produce precast concrete foundations shall meet the following requirements:~~

- ~~1. — All concrete used in the manufacture of precast concrete foundations shall have a minimum compressive strength of 5,000 psi at 28 days. Concrete exposed to a freezing and thawing environment shall be air entrained with a minimum total air content of 5 percent.~~
- ~~2. — Structural reinforcing steel shall meet the requirements of ASTM A 615, A 706 or A 996, the minimum yield strength of the reinforcing steel shall be 40,000 psi Grade 40. Steel reinforcement for precast concrete foundation walls shall have a minimum concrete cover of 3.4 inch.~~
- ~~3. — Panel to panel connections shall be made with Grade II Steel fasteners.~~
- ~~4. — The use of non-structural fibers shall conform to ASTM C 1116.~~
- ~~5. — Grout used for bedding precast concrete foundations placed upon concrete footings shall meet ASTM C 1107.~~

Section R403.1 is amended by deleting the words "fully grouted masonry", **crushed stone footings** and "wood foundations".

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Table R403.1 is amended to delete "Masonry footings".

Section R403.1.1 is amended by deleting the phrase "masonry footings"

Section R403.1.1 is further amended by deleting the last sentence of the section.

Figure R403.1(2) and Figure R 403.1(3) are deleted in their entirety.

Section R403.1.1.2 is added as follows:

R403.1.1.2 Open deck and gazebo piers. One-story wood deck structures without roofs, and free-standing gazebo type structures with roofs, shall be permitted to be constructed on concrete piers. The piers shall be spaced in accordance with proper structural design for the anticipated loading conditions. All wood supporting columns shall be anchored to the piers with galvanized post base anchors.

Section R403.1.1.3 is added as follows:

R403.1.1.3 Screen rooms and Three-season room foundations. Screen rooms and three-season rooms shall be supported on a minimum of an eight (8) inch wide continuous frost depth trench-type foundation. Alternate foundation designs shall be submitted by a State of Illinois licensed design professional. The submittal shall be sealed by the design professional of record.

Section R403.1.1.4 is added as follows:

R403.1.1.4 StoopExterior-stair foundations. When constructed of concrete, stone or masonry materials, the main entry ~~stair~~ stair exceeding three (3) risers in height shall be supported on a minimum of a continuous perimeter trench type foundation 42" deep. All other exterior ~~stair~~ stair shall be supported on a minimum of wing walls tied with reinforcing bars to the main foundation or 8" diameter concrete piers, 42" deep. Alternate foundation designs shall be submitted by a State of Illinois licensed design professional. The submittal shall be sealed by the design professional of record.

Section R403.1.2 is amended by deleting the same in its entirety.

Section R403.1.3 is amended by deleting the same in its entirety.

Section R403.1.4.2 is amended by deleting the same in its entirety.

Section R403.1.5.1 is added as follows:

~~———— R403.1.5.1 Reinforcement of stepped foundations. Where stepped footings support continuous concrete foundations walls, a minimum of two (2) No. 4 steel reinforcing bars shall run continuously through the foundations wall for a minimum distance of one (1) foot beyond the ends of the footing break in both directions.~~

Section R403.1.6 is hereby amended to delete the words "In Seismic Design Categories".

Section R403.1.6 is further amended to add the following at the end of the second paragraph:

~~———— "Only steel shims and grout shall be permitted to fill sill plate gaps. No wood or loose shims shall be permitted."~~

Section R403.1.6.1 is amended by deleting the same in its entirety.

Section R403.2, is amended by deleting the same in its entirety.

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Section R403.3 is amended by deleting the same in its entirety.

Figure R403.3(1), (2) (3) and (4) are amended by deleting the same in their entirety.

Table R403.3(1) is amended by deleting the same in its entirety.

Section R403.3.1 through Section 403.3.4 R403.3.3 are amended by deleting the same in their entirety.

Section R404.1 is amended by deleting the number "3.5 inches (89 mm)" and substituting in lieu thereof the following:

—————"4.0 inches"

Section R404.1.1, Section R404.1.2, Section R404.1.4 and Section R404.1.5.1 are amended by deleting the words "In Seismic Design Categories D"

Section R404.1.8 is amended by deleting the same in its entirety.

Section R404.2 through Section R404.2.6, is~~are~~ amended by deleting the same in its~~their~~ entirety.

Section R404.2.1, is amended by deleting the same in its entirety.

Section R404.2.2, is amended by deleting the same in its entirety.

Section R404.2.3, is amended by deleting the same in its entirety.

Table R404.2.3 is amended by deleting the same in its entirety.

Table R404.2.4 is amended by deleting the same in its entirety.

Table R404.2.5 is amended by deleting the same in its entirety.

Section R404.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

R404.3. Wood sill plates. Wood sill plates shall be a minimum of two (2)-inch by four (4)-inch nominal lumber. Sill plate anchorage shall be in accordance with Sections R403.1.6 and R602.11. Sill plates shall be of naturally durable or pressure-treated wood.

Section R404.4 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

—————"R404.4 Insulating concrete form foundation walls. Insulating concrete form (ICF) foundation walls shall be designed and constructed in accordance with the provisions of this section or in accordance with the provisions of ACI 318. Project drawings, typical details and specifications are required to bear the seal of a State of Illinois licensed architect or structural engineer responsible for the design."

Section R404.4.1 is hereby amended to delete the words "In Seismic Design Categories".

Section R404.4.7.2 is amended by deleting the same in its entirety.

Section R405.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

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~~———— **R405.1 Concrete or masonry foundations.** Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. A continuous perforated pipe, six (6) inch minimum diameter, shall be placed on a minimum of two (2) inches of washed gravel and covered with not less than six (6) inches of the same material. A sump pit and pump shall be provided. The sump pump discharge shall be in accordance with Section 13.7 of the Downers Grove Municipal Code.~~

~~Section R405.1 is further amended by deleting the exception.~~

~~Section R405.2 through Section R406.3.4 **R405.2.3** are amended by deleting the same in their entirety.~~

~~**Section R406.3 through Section R406.3.4** are amended by deleting the same in their entirety.~~

~~Section R407.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~———— **R407.3 Structural requirements.** The columns shall be restrained to prevent lateral displacement at the bottom and top end. Wood columns shall not be less in nominal size than four (4) inches by four (4) inches and steel columns shall not be less than three (3) inch diameter standard pipe or approved equivalent. No loose steel shims shall be permitted at the top or bottom ends. Shims must be welded or bolted through to the steel beam being supported.~~

~~Section R407.3 is further amended by deleting the exception.~~

~~Section R408.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~**R408.3 Unvented crawl space.** Ventilation openings in under-floor spaces specified in Sections R408.1 and R408.2 shall not be required where:~~

- ~~1. A two (2) inch minimum concrete slush coat floor slab is provided and one of the following is provided for the under-floor space.

 - ~~1.1 Continuously operated mechanical exhaust ventilation at a rate equal to one (1) cfm for each fifty (50) square feet of crawlspace floor area, including an air pathway to an adjacent conditioned space, and perimeter walls insulated in accordance with the International Energy Conservation Code.~~
 - ~~1.2 Conditioned air supply sized to deliver at a rate equal to one (1) cfm for each fifty (50) square feet of under-floor area, including a return air pathway to an adjacent conditioned space, and perimeter walls insulated in accordance with the International Energy Conservation Code.~~~~

~~Section R408.4 is amended to add the following at the end of the first paragraph:~~

~~"A minimum of thirty (30) inch (30") vertical clearance is required for access requirements where mechanical equipment is located under floors."~~

~~Section R408.7 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~———— **R408.7 Flood resistance.** For buildings located in areas prone to flooding as established by local flooding data.~~

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~~Section R502.6~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

~~— **R502.6 Bearing.** The ends of each joist, beam or girder shall have not less than one and a half (1.5) inches of bearing on wood or metal and not less than three (3) inches on masonry or concrete. Bearing for engineered lumber products must meet the requirements of the manufacturer.~~

~~Section R502.7~~ is amended by deleting the exception.

~~Section R502.7.1~~ is amended to add the following at the end of the first paragraph:

~~— "Bridging split in nailing must be removed and replaced."~~

~~Section 506.1~~, is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

~~**R506.1 General.** Concrete slab-on-grade floors and exterior slabs shall be designed and constructed in accordance with the provisions of this section or ACI 332. Floors, shall be a minimum of 4.0 inches thick (for expansive soils, see Section R403.1.8). The specified compressive strength of concrete shall be set forth in Section R402.2.f.~~

~~**Exception:** Crawl space floors shall consist of a minimum of 2 inches of concrete on a vapor retarder as specified in 506.2.3 on a base as specified in Section 506.2.2. If plumbing fixtures are located on the floor directly above the crawl space area, a floor drain shall be installed per the State of Illinois Plumbing Code.~~

~~Section R506.2~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

~~— **R506.2 Base.** A four (4) inch thick base course consisting of CA-6 type gravel, or three-fourths (3/4) inch crushed stone shall be placed and machine compacted on the prepared subgrade for all slabs.~~

~~Section R506.2.3~~ is amended by deleting the Exception #1.

CHAPTER 6

~~Section R602.5~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

~~— **R602.5 Interior nonbearing walls.** Interior nonbearing walls shall be permitted to be constructed with studs at sixteen (16) inches on center. Interior nonbearing walls shall be capped with at least a single top plate. Interior nonbearing walls shall be fire blocked in accordance with Section R602.8.~~

~~Section R602.7.2~~ is amended by deleting the last sentence of the paragraph.

~~Section R602.8.1~~ is amended by deleting "Batts or blankets or mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place shall be permitted as an acceptable fire block."

~~Section 602.8.1.1~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

~~— **R602.8.1.1 Unfaced fiberglass.** When piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction.~~

~~Section R602.8.1.3~~ is hereby added as follows:

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~~———— **R602.8.1.3 Draftstopping.** For draftstopping requirements see Section R502.12.~~

~~**Section R602.10** shall be amended to delete the phrase “For buildings in Seismic Design Categories D”~~

~~**Table R602.10.1** shall be amended to delete Seismic Design Categories C and D~~

~~**Section R602.10.2.2** is amended by deleting the same in its entirety.~~

~~**Table R602.10.6** shall be amended to delete Seismic Design Categories C and D~~

~~**Section R602.10.9, Section R602.10.11, Section R602.10.11.3 through Section R602.11.3** are amended by deleting the same in their entirety.~~

~~**Section R606.1.1** is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~———— **R606.1.1 Professional registration required.** When the empirical design provisions of ACI 530/ASCE 5/TMS 402 Chapter 5 or the provision of this section are used to design masonry; project drawings, typical details and specifications are required to bear the seal of a State of Illinois licensed architect or structural engineer.~~

~~**Section R606.4.2** is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~R606.4.2 Support at foundation. Cavity wall or masonry veneer construction must be supported on a foundation wall of equal width of the wall system above. Alternate foundation designs shall be submitted by a State of Illinois licensed design professional. The submittal shall be sealed by the design professional of record.~~

~~**Figure R606.11(2) and Figure R606.11(3)** are amended by deleting the same in their entirety.~~

~~**Section R606.12 through Table R606.12.4.2** are amended by deleting the same in their entirety.~~

~~**Section R606.16** is hereby added as follows:~~

~~———— **R606.16 Weep holes.** See section 703.7.6 for weep hole requirements.~~

~~**Section R607.1.3** is amended by deleting the same in its entirety.~~

~~**Section R607.3** shall be amended to add Condition #3 as follows~~

~~———— 3. ———— See section 703.7.4 for wall tie spacing requirements.~~

~~**Section R611.1** is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~———— **R611.1 General.** Insulating concrete form (ICF) walls shall be designed and constructed in accordance with the provisions of this section or in accordance with the provisions of ACI 318. Project drawings, typical details and specifications and required to bear the seal of a State of Illinois licensed architect or structural engineer responsible for the design.~~

~~**Section R611.2** is amended by deleting the second paragraph.~~

~~**Section R611.6.1** is amended by deleting “In Seismic Design Categories D”~~

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~~Section R611.6.2~~ is amended by deleting the same in its entirety.

~~R611.7.1.2~~ is amended by deleting the first and second paragraphs in their entirety and by substituting in lieu thereof the following:

~~————— R611.7.1.2 Vertical steel. Above-grade concrete walls shall have reinforcement in accordance with Sections R611.3, R611.4, or R611.5 and R611.7.2.~~

~~R611.7.1.3~~ is amended by deleting the second and third paragraph.

~~Section R611.7.4~~ is amended by deleting “Table R611.7 (11) shall be used to determine the minimum amount of solid wall length for townhouses in Seismic Design Category C, and all buildings in Seismic Design Categories D.”

~~Table R611.8(2), Figure R611.8(6), Figure R611.8(7), Section R611.8.1.1 through Section R611.9.1~~ are amended by deleting the same in their entirety.

~~Section R613.7~~ is amended by deleting the same in its entirety.

CHAPTER 7

Section R702.3.2.1 is hereby added as follows:

R702.3.2.1 Concealment of framing. All framing of finished rooms, closets, storage areas, and under stairways shall have a minimum of one half (1/2) inch thick gypsum board applied.

Section R703.2 is amended by deleting the last sentence.

Section ~~R703.3.1~~**R703.5.2** is amended by adding at the end of the paragraph the following sentence:

"All panels shall contain an approved rated siding grade mark. All panels shall be decorative in appearance such as T1-11 siding."

~~Section R703.4~~ is amended by adding at the end of the paragraph the following sentence:

~~—————~~"Siding materials shall not be nailed directly to studs unless the material is a structural rated panel designed for this purpose."

~~Section R703.7~~ is amended by deleting Exception #2.

~~Table R703.7(2)~~ is amended by deleting the same in its entirety.

~~Section R703.7.2~~ is amended by deleting the same in its entirety.

~~Section R703.7.4.1~~ is amended by deleting the exception.

Section R704 is hereby added as follows:

R704 Weather caulking. All exterior openings in the exterior weather protective membrane shall be caulked with an elastic, non-hardening and firmly adhering material, the intersections of all wood to masonry, or dissimilar materials shall be caulked.

CHAPTER 8

Section R801.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the

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following:

R801.3 Roof drainage. All dwellings and accessory buildings of four hundred (400) square feet or larger shall have a controlled method of water disposal from roofs that will collect and discharge roof drainage to the ground surface at least five (5) feet from foundation walls, or to an approved drainage system, or in a manner as reviewed and approved by the building official.

~~Section R802.5.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~———— **R802.5.1 Purlins.** Purlins shall be engineered by the design professional of record.~~

~~Table R802.5.1(7) is amended by deleting the same in its entirety.~~

~~Table R802.5.1(8) is amended by deleting the same in its entirety.~~

~~Section R802.7.1 is amended by deleting the exception.~~

~~Section R803.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~———— **R803.1 Lumber sheathing.** Allowable spans for lumber used as roof sheathing shall conform to Table R803.1. Spaced lumber sheathing for wood shingle and shake roofing shall conform to the requirements of Sections R905.7 and R905.8.~~

~~Section R803.2.4 shall be added as follows:~~

~~———— **R803.2.4 Sheathing supports.** Sheathing clip supports or other methods approved by the design professional of record shall be used when framing centers exceed sixteen (16) inches o.c.~~

~~Section R806.1 is amended by amending the "1/8 inch minimum" and by substituting in lieu thereof the following:~~

~~———— "1/16 inch minimum"~~

~~Section R806.2 shall be amended to delete the last sentence of the first paragraph in its entirety and and by substituting in lieu thereof the following:~~

~~———— "As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling."~~

~~Section R806.4 is amended by deleting Exception #3.~~

CHAPTER 9

Section R903.4.1 Secondary (emergency overflow) drains or scuppers shall be modified to replace "Section 1106 and 1108 of the International Plumbing Code, as applicable" with "State of Illinois Plumbing Code as adopted and amended by the Village"

Section R903.4.2 is hereby added as follows:

R903.4.2 Gutters and downspouts.

1. Gutters and downspouts shall be installed on all dwelling units and accessory buildings that are four hundred (400) square feet or larger unless omission is specifically permitted by the building official.
2. ~~Downspouts shall not be connected to the sanitary sewer system or to the footing draitile system unless specifically permitted by the building official. All outlets shall discharge into the front and~~

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- rear yards through an open splash block or as otherwise permitted by the building official.
3. ~~Gutter and downspout material shall consist of the following:~~
- ~~a. 16 ounce, hard, cornice tempered copper~~
 - ~~b. 26 gauge galvanized sheet metal with a 1.25 ounce total weight psf zinc coating~~
 - ~~c. Aluminum with a minimum gauge of .019~~
 - ~~d. Vinyl or other material when permitted by the building official.~~

~~Section R905.2.4.2 is hereby added as follows:~~

~~**R905.2.4.2 Fire resistance of asphalt shingles.** Asphalt shingles shall be of Class C label or better per the requirements of Section 1505 of the International Building Code.~~

~~Section R905.2.7.2 is amended by deleting the same in its entirety.~~

~~Section R905.3.3.3 is amended by deleting the same in its entirety.~~

Section ~~R907.7~~**R908.7** is hereby added as follows:

R907.7~~R908.7~~ **Ventilation.** When re-covering or replacing an existing roof, the roof shall be ventilated in accordance with the requirements of Section R806.

CHAPTER 10

~~Section R1001.3 through Section R1001.3.2 are amended by deleting the same in their entirety.~~

~~Section R1001.4 through Section R1001.4.1 are amended by deleting the same in their entirety.~~

~~Section R1002.4 is amended by deleting the same in its entirety.~~

~~Section R1003.3 through Section R1003.4.1 are amended by deleting the same in their entirety.~~

~~Section R1003.11.3 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~**R1003.11.3 Gas appliances.** Flue lining systems for gas appliances shall be in accordance with the International Mechanical Code.~~

Section **R1004.1.1** is hereby added as follows:

R1004.1.1 Insulated fire boxes. When a factory-built fireplace is installed on an outside wall, the frame cavity surrounding the firebox shall be insulated in the same manner as the adjacent wall areas. The product's rating for clearance to combustibles shall be maintained. A minimum of 1/2" gypsum board shall be installed over combustible materials extending from the bottom of the firebox to the firestop located above the appliance.

Section **R1005.4.1** is hereby added as follows:

R1005.4.1 Chimney enclosures. Portions of the chimney which pass through habitable spaces or closets shall be enclosed in a drywall chase to avoid personal contact, contact with combustible material, and damage to the chimney.

Section **R1005.4.2** is hereby added as follows:

R1005.4.2 Installation of firestops. Firestops shall be installed inside of the chase enclosing the factory-built chimney. The firestop device shall be as provided by the manufacturer for use with that specific chimney being installed. The firestops shall be placed at a minimum at the level of each ceiling

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that the chimney passes through or when located on an outside wall, at the points equivalent to each ceiling line. All installations shall meet the requirements of the manufacturer's installation guidelines.

Section R1005.4.3 is hereby added as follows:

R1005.4.3. Insulating of chase. When the enclosing fireplace chase is located on an outside wall or adjacent to an unheated area, it shall be insulated in the same manner as the adjacent walls up to the firestop. The insulation shall then be covered with 1/2 inch drywall.

Chapter 11 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

See the 2012~~current~~ International Energy Conservation Code as adopted and amended by the Village.

CHAPTERS 12 through 23 - Residential Mechanical

~~**Section M1201.1** is hereby amended to delete "24" and by substituting in lieu thereof the following:
"23"~~

~~**Section M1201.2** is hereby amended to delete "24" and by substituting in lieu thereof the following:
"23"~~

Section M1405.1, Section M1406.1, Section M1406.2, and Section M1407.1 are hereby amended to delete the phrase "Chapters 3334 through 4243 of this code" and by substituting in lieu thereof the following:

"the applicable provisions of the National Electrical Code as adopted and amended by the Village."

~~**Section M1413.2** is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~**M1413.2 Protection of potable water.** The potable water system shall be protected from backflow in accordance with the provisions of the State of Illinois Plumbing Code.~~

Section M1601.1.1 is amended by deleting Condition #7 and its subsections in their entirety and by substituting in lieu thereof the following:

7. Stud wall cavities and the spaces between solid floor joists shall not be used for air plenums serving habitable spaces. Supply and return air shall be conveyed in a ducted system.

~~**Section M1601.4** is amended by deleting the same in its entirety and by substituting in lieu thereof the following:~~

~~**M1601.4 Under floor plenums.** An under floor space used as a supply plenum to a habitable space shall not be permitted.~~

~~**Section M1801.1 and Section M2001.1.1** are amended by deleting reference to "Chapter 24" and by substituting in lieu thereof the following:~~

~~"the International Fuel Gas Code."~~

Section M2004.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

M2004.1 General. Water heaters used to supply both potable hot water and hot water for space heating shall be installed in accordance with this chapter, the manufacturer's installation instructions, the

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Energy Conservation Code, the ~~International Fuel Gas Code~~, and the National Electrical Code, and the State of Illinois Plumbing Code as adopted and amended by the Village.

~~Section M2005.1~~ shall be amended to delete reference to "Chapter 24" and by substituting in lieu thereof the following:

— "The International Fuel Gas Code."

~~Section M2005.3~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

— ~~M2005.3 Electric water heaters.~~ Electric water heaters shall also be installed in accordance with the applicable provisions of the Energy Conservation Code, and the National Electrical Code, as adopted and amended by the Village.

~~Chapter 24~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

— See the International Fuel Gas Code as adopted and amended by the Village.

~~Chapter 25 through Chapter 32~~ are amended by deleting the same in their entirety and by substituting in lieu thereof the following:

— See the State of Illinois Plumbing Code as adopted and amended by the Village.

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~~Chapter 33 through Chapter 42~~ are amended by deleting the same in their entirety and by substituting in lieu thereof the following:

— See the National Electrical Code as adopted and amended by the Village.

Chapter 44 Referenced Standards is amended by deleting "International Plumbing Code" and substituting in lieu thereof the following:

"Current Illinois Plumbing Code as adopted by the Village"

The following appendices are adopted by reference as amended:

APPENDIX F

AF101.1 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

AF101.1 General. This appendix contains requirements for new construction in accordance with the Radon Resistant Construction Act (420 ILCS 52/1, et. seq.)

AF102 is amended by deleting the same in its entirety.

AF103 is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

AF103 REQUIREMENTS

AF103.1 General. The construction techniques intended to resist radon entry and prepare the building for post-construction radon mitigation shall be in accordance with 32 Ill. Admin. Code 422.150 "Mitigation Standard for New Residential Construction".

APPENDIX G

~~AG106.2~~ is amended by deleting the same in its entirety and by substituting in lieu thereof the following:

— ~~AG106.2 Suction Fittings.~~ Pool and spa suction outlets shall have a cover that conforms to ANSI/ASME A112.19.8-2007 on every drain/gate.

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APPENDIX K

Section 4. That all ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

Section 5. That this ordinance shall be in full force and effect from and after its passage and publication in the manner provided by law.

Mayor

Passed:

Published:

Attest: _____

Village Clerk

Communities and Fire Districts Requiring Sprinklers

No.	CITY	DATE	COMMERCIAL/RESIDENTIAL SQUARE FEET
1	Long Grove (Municipality)	April, 1988	0/13D
2	Barrington Fire Protection District	September, 1997	0/13D
3	Lake Barrington	December, 1997	0/13D
4	Wheeling	July, 2000	0/13D plus manufactured homes
5	Clarendon Hills	August, 2000	2000/13D
6	Village of Barrington	December, 2000	0/13D
7	Park Ridge	March, 2001	0/13D
8	West Dundee	August, 2001	4,000/13D - all 1-2 family new con.
9	Glenside	2001	13D/3,000 square feet
10	Hoffman Estates	January, 2002	1,000 for all use groups & 13D
11	Glen Ellyn	March, 2002	0/13D
12	Round Lake Beach	March, 2002	0/13D
13	Streamwood	June, 2002	1,000 Commercial/13D
14	LaGrange Park	Aug-03	0/A, E, H, I R1, R2; 2,000/13D
15	Mount Prospect	June, 2003	0/13D + condo conversions & mfg. homes
16	Berkeley	November, 2003	A,E,H,P,R,S - 0/13D / M,B,I - 3000
17	Rolling Meadows	2003	4,000 square feet
18	Matteson Fire Department	January, 2004	0/13D
19	Countryside Fire Protection District	March, 2004	0/13D
20	Huntley Fire Protection District	July, 2004	0/13D
21	North Maine Fire Protection District	July, 2004	0/13D
22	Indian Creek (Countryside FPD)	Feb-00	0/13D
23	Skokie	October, 2004	5,000/13D
24	Long Grove Fire Protection District	November, 2004	13D
25	Hickory Hills	January, 2005	0/13D/multi-family retrofit
26	Justice	February, 2005	0/13D
27	Des Plaines	March, 2005	0/13D
28	Libertyville (Municipality)	March, 2005	1,000/13D
29	Sunnycrest FPD (Flossmoor)	January, 2005	13D
30	Bedford Park Fire Department	July, 2005	0/13D
31	Roselle	Dec-08	13D
32	St. Charles/Countryside FPD	August, 2005	On Hold
33	Oak Forest	August, 2005	0/13D/ +50% Commercial
34	Lincolnwood	October, 2005	5,000/13D
35	Libertyville Fire Protection District	November, 2005	0/13D
36	Bridgeview	November, 2005	0/13D, mfg homes,
37	River Forest	March, 2006	5000/13D + 50 % single-family
38	Glenwood	June, 2006	0/13D + 50% assessed valuation retrofit/ownership changes
39	Palos Hills	August, 2006	0/13D/ Apartment to Condo
40	Villa Park	August/October, 2006	(Hold) 1,500/13D/End 2013
41	Prospect Heights	December, 2006	0/13D
42	Northbrook	February, 2007	5,000/13D plus Townhomes
43	Bellwood	January, 2007	0/13D + 50% Retrofit Apartment to Condo
44	Lake Bluff	March, 2007	0/13D, 75% Additions
45	Lake Zurich Rural Fire Protection District	April, 2007	13D
46	Lincolnshire/Riverwoods Fire Protection District	May, 2007	13D
47	Orland FPD	2007	Unincorporated No Water Supply, 5,000
48	Highwood	August, 2007	0/13D
49	Lisle-Woodridge FPD	October, 2007	5,000 sq. ft.
50	Alsip	October, 2007	0/13D
51	Palatine Rural FPD	November, 2007	0/13D
52	Chicago Ridge	December, 2007	0/13D

Communities and Fire Districts Requiring Sprinklers

53	Pleasantview FPD	January, 2008	Single exit subdivision
54	Country Club Hills	January, 2008	0/13D
55	Park Forest	September, 2008	0-13D
56	Newport Township FPD (Wadsworth)	January, 2009	0/13D
57	Green Oaks	February, 2009	13D
58	Riverside	March, 2009	13D
59	Palos Heights FPD	June, 2009	13D
60	Lake Zurich	September, 2009	13D
61	Palos Fire Protection District	October, 2009	13D/5,000†
62	Crest Hill	December, 2009	0 sqft commercial/ all 13D
63	Normal	January, 2010	13D
64	Burlington Fire Protection District	April, 2010	13D
65	Riverwoods	April, 2010	13D
66	Wilmette	May, 2010	13D/Lightweight Construction
67	Aurora	May, 2010	13D/5,000†
68	Forest Park	May, 2010	0 Sq Ft / 13D
69	St Charles	July, 2010	13D effective 2012
70	Oak Brook	January, 2011	13D
71	Palos Park	March, 2011	NFPA 13D, 5,000†
72	Schaumburg	May, 2011	13D, 1,000 Sq Ft, High Rise Retrofit, Apartment to Condo
73	Central Stickney FPD	June, 2011	0/13D, 2009 IFC with Amendments
74	Glencoe	Jan., 2012	0 sq. ft./13D
75	Flossmoor	March, 2012	13D
76	Norwood Park FPD	April, 2012	2009 IRC/ICC /13D/ 1000 Sq.Ft.
77	Harwood Heights	April, 2012	2009 ICC/IRC/13D/1000 Sq.Ft.
78	Norridge	April, 2012	2009 ICC/IRC/13D/1000 Sq.Ft.
79	South Holland	April, 2012	2009 IRC/13D
80	Manhattan FPD	April, 2012	13D
81	Wood Dale	May, 2012	13D
82	Gurnee	June, 2012	0/13D, 2012 IRC
83	Blue Island	July, 2012	13D
84	Milan	August, 2012	13D, 2012 IRC
85	Vernon Hills	October, 2012	1,000 square feet/13D Lightweight Construction/ 2012 IRC All 13D
86	Elgin	October, 2012	2012 IRC/Future Plats
87	Homewood	October, 2012	5,000 sq. ft.
88	Warren Waukegan FPD	November, 2012	0/13D 2012 IRC
89	Niles	January, 2013	13D
90	Hazelcrest	February, 2013	13D
91	Roselle Fire District	March, 2013	13D
92	Westchester	November, 2013	13D
93	Addison	December, 2013	2012 IRC/13D
94	Riverdale	January, 2014	13D
95	Evanston	February, 2014	2012 IRC/13D LSC 101 2012
96	Elmwood Park	September, 2014	2012 IRC/NFPA 13D
97	Westmont	October, 2014	2012 IRC/NFPA 13D/2016
98	Western Springs	October, 2014	2012 IRC/13D
99	Barrington Countryside FPD	October, 2014	0/13D 2012 IBC
100	Brookfield	January, 2015	2015 IRC/13D
101	Oak Park	January, 2015	2009 IRC/13D

Sprinkler Background Information

General Information

- Residential fire sprinklers are designed for life safety, not property protection
- New homes are typically not safer than older homes because new homes tend to be constructed with lightweight materials, have open floor plans so smoke spreads more rapidly and new furnishings are typically synthetic materials
- Since 2009, model building codes have required fire sprinklers in one and two family dwellings
- Some insurance companies offer discounts for fire sprinklers

Sprinkler system costs

Reported costs of residential fire sprinklers in new single family home construction vary depending on the source and region of the country:

- In 2013, the Northern Illinois Fire Sprinkler Advisory Board (NIFSAB) reported that costs averaged \$2.38 per square foot.
- In 2015, the Village of Westmont collected quotes from qualified sprinkler contractors as part of their 1-year grace period procedures. During that year, 14 applicants opted out of installing residential sprinkler systems and submitted quotes. Their data for these homes which ranged in size from 2,841 sq.ft to 5,866 sq.ft is as follows:
 - Cost range (per sq. ft.): \$1.69 - \$3.68
 - Cost range (per system): \$7,400 - \$13,170
- In 2016, the National Association of Homebuilders (NAHB) reported that the average cost per system nationwide was about \$6,000.

What is a complete residential sprinkler system?

Complete systems typically include sprinkler coverage in all habitable rooms, including but not limited to kitchens, family rooms, basements, and bedrooms. Sprinkler protection is not required in small bathrooms, closets, garages, porches, unused attics and crawl spaces and concealed spaces.

Sprinkler system elements are:

- Sprinkler heads
- Supply lines
- Shut-off valves
- Back-flow devices (to protect domestic water)
- Pressure gauge
- Water flow switch and local alarm bell (optional)
- Outside Horn and Strobe (optional)

What happens if there is a fire and the house is equipped with sprinklers?

Sprinklers only respond to heat, not smoke. Unlike in movies, sprinklers do not all activate together; only the sprinkler closest to the fire will activate. In approximately 90% of home fires, the fire is controlled by a single sprinkler head, flowing at 13 gallons per minute.

The intent of a single family sprinkler system is to control the fire, allowing occupants time to escape; complete extinguishment is not the intended purpose of a home sprinkler system. When functioning properly, a home sprinkler system will keep the fire under control and prevent it from spreading. After firefighters arrive, they will perform clean up operations and turn off the water supply to the sprinkler system, to prevent any additional water damage.

Fire and Sprinkler Statistics

Data compiled by the National Fire Incident Reporting System within FEMA identify the following statistics on fires and sprinklers.

- 83% of fire deaths occur in one and two family dwellings
- The risk of dying in a home fire decreases by about 80% when fire sprinklers are present
- The risk of dying in a home fire decreases by about 50% with smoke alarms alone
- In communities which require fire sprinklers (some for at least 15 years) they have documented: 80% fewer civilian deaths, 70% less property damage, and 65% fewer firefighter injuries
- 90% of the time fires are contained by the operation of a single fire sprinkler

History of fires in single family home

In the past five years (July 2012 through July 2017) the Village of Downers Grove has experienced 38 fires in single family homes.

- 17 resulted in damages of \$100,000 or more
- 13 resulted in damages of \$10,000 to \$99,999
- 8 resulted in damages under \$10,000
- 1 fire resulted in a fatality