

VILLAGE OF DOWNERS GROVE
Report for the Village Council Meeting

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| 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, 2017 Village Council meeting. At the meeting, Commissioner Waldack inquired about building code triggers for additional work. A staff report will be provided on Tuesday.

This item is scheduled for continued discussion at the June 20, 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

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ORDINANCE NO. _____

**AN ORDINANCE ADOPTING THE 2015
INTERNATIONAL MECHANICAL 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 7.1700.ART. is hereby amended to read as follows:

7.1700.ART. Article XVII. INTERNATIONAL MECHANICAL CODE

Section 2. That Section 7.1701. is hereby amended to read as follows:

7.1701. 2015 International Mechanical Code - Adoption.

The International Code Council ~~2006~~2015 International Mechanical Code, as promulgated by the International Code Council ("ICC"), being particularly the ~~2006~~2015 edition thereof, is hereby adopted for the purpose of establishing rules and regulations for the construction, alteration, removal, demolition, equipment, use and occupancy, location and maintenance of buildings and structures, including permits and penalties required for such purposes. The same is adopted in its entirety, save and 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, and shall control in the construction of all buildings and structures therein regulated within the Village. Said International Mechanical Code, as modified and amended, may be referred to for all purposes as the "Downers Grove International Mechanical Code" or the "Mechanical Code". At least one copy of said Code, including such amendments to it as shall be enacted, shall be filed in the office of the Village Clerk, and additional copies shall be available in the Community Development Department of the Village.

Section 3. That Section 7.1702. is hereby amended to read as follows:

7.1702. International Mechanical Code - Amendments.

The deletions from and modifications and amendments to the International Mechanical Code as referred in this Article are the following:

Section 101.1 is amended by deleting the same in its entirety and substituting in lieu thereof the following:

101.1 Title. These regulations shall be known as the Mechanical Code of the Village of Downers Grove, hereinafter referred to as "this code".

Section 101.2 is amended by adding the following at the end of the first paragraph:

"The installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems shall be regulated by the International Fuel Gas Code and this code"

~~**Section 101.2** is further amended to add the following exception"~~

~~———— Detached one- and two- family dwellings and multiple single- family dwellings (townhouses) not more than three stories high with separate means of egress and their accessory structures shall also~~

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~~comply with Chapters 12 through 23 of the International Residential Code.~~

Section 102.5 is amended by deleting the same in its entirety.

Section 102.6 is amended by deleting the same in its entirety.

Section 102.7 is amended by deleting the same in its entirety.

Section 103 is amended by deleting the same in its entirety and are addressed in Chapter 7, Article I of the Downers Grove Municipal Code.

Section 104 is amended by deleting the same in its entirety and addressed in Chapter 7, Article II of the Downers Grove Municipal Code.

Section 106 with the Exception of Section 106.2 is amended by deleting the same in its entirety and addressed in Chapter 7, Article III of the Downers Grove Municipal Code.

Section 108 with the Exception of Section 108.7 is amended by deleting the same in its entirety and addressed in Chapter 7, Article X of the Downers Grove Municipal Code.

Section 109 is amended by deleting the same in its entirety and are addressed in Chapter 7, Article IX of the Downers Grove Municipal Code.

Section 201.3 is amended by deleting the same in its entirety and substituting in lieu thereof the following:

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in the International Building Code, National Electrical Code, International Fire Code, International Fuel Gas Code or the State of Illinois Plumbing Code such terms shall have meanings ascribed to them as in those codes.

~~**Section 202** is amended by adding the following definitions:~~

~~———— **Combination Fire/Smoke Damper.** A listed device installed in ducts and air transfer openings designed to close automatically upon the detection of heat and resist the passage of flame and smoke. The device is installed to operate automatically and be controlled by a smoke detection system.~~

~~———— **Fire Damper.** A listed device installed in ducts and air transfer openings designed to close automatically upon detection of heat and to restrict the passage of flame. Fire dampers are classified for use in either static systems that will automatically shut down in the event of a fire, or in dynamic systems that continue to operate during a fire. A dynamic fire damper is tested and rated for closure under an elevated-temperature air flow.~~

~~———— **Make Up Air.** The amount or percentage of fresh air delivered or mixed with recirculating air on a normal cycle of air by volume.~~

~~———— **Occupiable Space.** An enclosed space intended for human activities, excluding those spaces intended primarily for other purposes, such as storage rooms and equipment rooms, that are only intended to be occupied occasionally and for short periods of time.~~

~~**Section 202** is further amended by amending the following definition:~~

~~———— **Smoke Damper.** A listed device that is designed to resist the passage of air and smoke. The device is arranged to operate automatically, controlled by a smoke detection system, and when required, is capable of being positioned from a remote command station.~~

Section 301.3 is amended by adding the following at the end of the paragraph:

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"and the applicable provisions of this code."

Section 301.7 is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:

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

Section 301.8301.11 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

Section 301.13 is amended by deleting the exception.

Section 301.13.1 is deleted in its entirety.

Section 306.3.1 is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:

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

Section 306.4.1 is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:

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

Section 306.5.2 is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:

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

Section 307.2.2 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

Section 308.8 is amended by adding the following at the end of the paragraph:

———"and the International Residential Code."

Section 308.10 is amended adding the following at the end of the paragraph:

———"and the International Residential Code."

Section 511.1.1 is amended by deleting the words "ICC Electrical Code" in the exceptions and substituting in lieu thereof the following:

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

Section 512.2 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

Section 513.11 is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:

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

Section 513.12.1 is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:

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

~~**Section 602.2.1.1** is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:~~

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

~~**Section 602.3** is amended by deleting the same in its entirety and substituting in lieu thereof the following:~~

~~**602.3 Stud cavity and joist space plenums.** Stud wall cavities and the spaces between solid floor joists shall not be utilized for supply or return air plenums serving habitable spaces.~~

~~**Section 603.4.1** is hereby added as follows:~~

~~**603.4.1 Minimum fasteners.** Round metallic ducts shall be mechanically fastened by means of at least three sheet metal screws or rivets spaced equally around the joint.~~

~~**Section 607.1.1.1** is hereby added as follows:~~

~~**607.1.1.1 Ducts that penetrate non fire-resistance rated assemblies.** The space around a duct penetrating a non fire-resistance rated assembly shall comply with Section 716.6.3 of the International Building Code.~~

~~**Section 607.5.6** is hereby added as follows:~~

~~**607.5.6 Exterior walls.** Ducts and air transfer openings in fire-resistance rated exterior walls required to have protected openings in accordance with Section 704.14 of the International Building Code shall be protected with listed fire dampers installed in accordance with their listing.~~

~~**Section 908.5** is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:~~

~~"State of Illinois Plumbing Code as adopted and amended by the Village"~~

~~**Section 1002.1** is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:~~

~~"State of Illinois Plumbing Code as adopted and amended by the Village"~~

~~**Section 1002.2** is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:~~

~~"State of Illinois Plumbing Code as adopted and amended by the Village"~~

~~**Section 1002.3** is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:~~

~~"State of Illinois Plumbing Code as adopted and amended by the Village"~~

~~**Section 1005.2** is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:~~

~~"State of Illinois Plumbing Code as adopted and amended by the Village"~~

~~**Section 1006.6** is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:~~

~~"State of Illinois Plumbing Code as adopted and amended by the Village"~~

~~**Section 1008.2** is amended by deleting the words "International Plumbing Code" and substituting in lieu~~

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thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

Section 1009.3 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

Section 1101.4 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

~~**Section 1106.3** is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:~~

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

~~**Section 1106.4** is amended by deleting the words "ICC Electrical Code" and substituting in lieu thereof the following:~~

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

Section 1201.1 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State Plumbing Code as adopted and amended by the Village"

~~**Section 1204.1** is amended by deleting the exception.~~

Section 1206.2 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

Section 1206.3 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

Section 1301.6 is hereby added as follows:

1301.6 State of Illinois Regulations. All tank installations and removals shall also comply with the applicable regulations of the Office of the State Fire Marshall.

Section 1305.2.1 shall be deleted in its entirety and substituting in lieu thereof the following:

1305.2.1 Flood hazard. All fuel oil pipe, equipment and appliances located in flood hazard areas shall be located above the design flood elevation.

Section 1401.2 is amended by deleting the words "International Plumbing Code" and substituting in lieu thereof the following:

"State of Illinois Plumbing Code as adopted and amended by the Village"

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

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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

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|-----|-------------------------------------|-----------------|--|
| 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