

LAKE VILLA FIRE PROTECTION DISTRICT
FIRE PREVENTION CODE
2012 EDITION OF THE INTERNATIONAL FIRE CODE WITH
CERTAIN AMENDMENTS

ADOPTION OF THE INTERNATIONAL FIRE CODE 2012 EDITION

The regulations of the 2012 edition of the International Fire Code, as published by the International Code Council is hereby adopted as the regulations governing the safeguard of life and property from the hazards of fire and explosion arising from the storage, handling and use of hazardous substances, materials and devices; and from conditions hazardous to life or property in the use or occupancy of existing or proposed new buildings or premises in the Lake Villa Fire Protection District.

The 2012 International Fire Code, 2012 International Building Code are hereby adopted, by this reference thereto, to be in full force and effect within the Lake Villa Fire Protection District.

Exceptions and/or additions to the 2012 International Fire Code are as follows:

CHAPTER 1 - ADMINISTRATION

SECTION 101 – SCOPE AND ADMINISTRATION

101.1 Title

These regulations shall be known as the Lake Villa Fire Protection District, hereafter referred to as “this Code”.

SECTION 102 – APPLICABILITY

102.7 Referenced codes and standards

The codes and standards referenced in this Code, listed in Chapter 80 and Appendixes B, C,D,E,F,G and I are hereby incorporated into the Lake Villa Fire Prevention Code and shall be considered part of the requirements of this Code to the prescribed extent of each such reference. Where differences occur between the provisions of this Code and referenced standards, the more restrictive standard shall apply.

Section 103 – DEPARTMENT OF FIRE PREVENTION

103.1 General

A Fire Prevention Bureau is hereby established within the Lake Villa Fire Protection District under the supervision of the Fire Chief. The function of the Fire Prevention Bureau shall include, but not be limited to the implementation, administration and enforcement of the provisions of this Code along with other duties deemed necessary by the Chief in the interest of the Lake Villa Fire Protection District.

103.2 Appointment

The Fire Chief and Board of Trustees may designate an officer of the fire department as Lieutenant of Fire Prevention Bureau, who shall hold this office at the pleasure of the Fire Chief and District Board. The Chief of the Lake Villa Fire Protection District shall, by reason of said position, shall appoint personnel to assist in enforcing this Ordinance. Such appointments shall include, but be not limited to a Code Official, and as many inspectors, investigators, and public safety educators as may be needed. For the purposes of this Code, the Lt. of Fire Prevention Bureau is the same as the Code Official.

SECTION 104 – GENERAL AUTHORITY AND RESPONSIBILITIES

104.3 Right of Entry

Whenever it is necessary to make an inspection to enforce the provisions of this Code, or whenever the Code Official has reasonable cause to believe that there exists in a building or upon any premises any conditions or violations of this Code which make the building or premises unsafe, dangerous or hazardous, the Code Official shall have the authority to enter the building or premises at all reasonable times to inspect or to perform the duties imposed upon the Code Official by this Code. If such building or premises is occupied, the Code Official shall present credentials to the occupant and request entry. If such building or premises is unoccupied, the Code Official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the Code Official has recourse to every remedy provided by law to secure entry. No owner or occupant or any other person having charge, care or control of any building or premises shall fail or neglect, after proper demand is made as herein provided, to properly permit entry therein by the Fire Chief or his authorized representative for the purpose of inspection or examination under such exigent circumstances affecting the safety of persons and/or property, or to take such prudent action to extinguish a fire or abate a fire hazard.

104.8 Modifications

The Chief of the Lake Villa Fire Protection District may grant a variance regarding any of the provisions of this Code upon application in writing by the owner or lessee of the building or structure, or their duly authorized agent, where there are practical difficulties in the way of carrying out the strict letter of this Code, provided that the spirit of the Ordinance codified in this chapter shall be observed, public safety secured, and substantial justice done. If the Fire Chief decides to grant a variance, he may place conditions thereon. The decision of the Fire Chief in either granting or denying the variance shall be in writing and entered in the records of the Lake Villa Fire Protection District. A signed copy of the Fire Chief's decision shall be furnished to the applicant.

Section 105 – Permits and Fees

105.9 Site development and construction plan review

Each applicant for a building permit involving new construction, additions and/or alterations, subdivision improvements, Planned Unit Developments (PUD's), fire detection/suppression systems or any other item that will affect the Lake Villa Fire Protection District operation, shall submit to the Code Official for review and approval, two (2) sets of all required plans, documents and a complete description of work to be performed. The Code Official shall, within ten (10) business days, examine said plans and documents to determine compliance with the applicable codes, standards, ordinances and good fire safety practices. Once the plans are approved, the Code Official shall endorse them accordingly, and deliver said plans to the applicant and/or Building Official. If said plans are found to be unsatisfactory, then they shall be returned to the applicant and/or Building Official with a memorandum listing the specified deficiencies found. A copy of the list of deficiencies shall be delivered to the applicant and/or Building Official with a recommendation to reject the plans until corrected

105.9.1 Plan review and site inspection fee schedule

Each applicant shall pay the following plan review and site inspection fees for review and site inspection by the Lake Villa Fire Protection District. No part of said fees shall be refundable. Plan review fees shall include re-reviews, along with preliminary site visits up to a total of three (3) inspections for each category. Contact the Lake Villa Fire Protection District for the plan review and site inspection fee schedule. Submit three (3) sets of shop drawings and construction documents for plan review.

LIFE SAFETY PLAN REVIEW—Minimum of \$400.00

Includes submittal fee, plan review for first 10,000 square feet, final inspection by fire department, and additional inspections.

Additional \$110.00 for each additional 10,000 square feet or part thereof.

Special use buildings add an additional 50% to base fee.

No additional charge for typical floors of a building.

FIRE ALARM PLAN REVIEW—Minimum of \$300.00

Includes submittal fee, plan review for first 15,000 square feet, and acceptance test up to six zones.

Additional \$.02 for each additional square foot of plan review.

Additional \$35.00 for each additional zone tested.

Additional \$110.00 for each system retest for any reason.

AUTOMATIC SPRINKLER SYSTEM REVIEW—Minimum of \$300.00

Includes sprinkler system plan submittal and review.

Greater than 100 sprinkler heads, additional \$1.25 for each sprinkler head.

Additional \$110.00 for each system retest for any reason.

FIRE PUMP REVIEW—Minimum of \$150.00

Includes pump plan submittal, review, test witness.

Additional \$110.00 for each system retest for any reason.

STANDPIPE REVIEW—\$150.00 per standpipe connection

CLEAN AGENT SYSTEM REVIEW—Minimum of \$200.00

Includes plan review, submittal fee, and acceptance test for one system.

An additional \$100.00 will be charged for each system tested not included in the original fee.

KITCHEN HOOD AND DUCT SYSTEM REVIEW—Minimum of \$200.00

Includes plan review, submittal fee, and acceptance test for one system.

An additional \$100.00 will be charged for each system tested not included in the original fee.

TENTS/OTHER MEMBRANE STRUCTURES OVER 400 SQ. FT.—
Temporary or permanent—\$125.00

Includes plan review, submittal fee, and site inspection.

Any of the above review fees may be charged 50 percent less of the above fee at the discretion of the Lake Villa Fire Protection District based on the extent of work being performed.

BURN PERMIT—Minimum \$150.00

Open burning for ecological purposes will be \$.05 per square foot (minimum \$150.00).

UNDERGROUND TANK REMOVAL

\$150.00 fee for each tank being removed.

FIREWORKS DISPLAY - \$50.00 includes inspection and final safety check

ANNUAL FIRE PREVENTION INSPECTIONS

First Re-Inspection—no charge for a follow-up re-inspection for any violations found.

Second Re-Inspection—\$50.00 fee for a third inspection for any outstanding violations.

Third Re-Inspection—\$100.00 fee for a fourth inspection for any outstanding violations.

Court Costs:

If, after the fourth inspection, it appears that none of the outstanding violations have been tended to, at the discretion of the Lake Villa Fire Prevention Bureau, a ticket will be issued to recoup costs. Any court costs incurred by the Lake Villa Prevention Bureau will be assessed to the property owner in violation.

105.9.2 Third Party Consultants

The District reserves the right to send out any plan review to a third-party consultant. The third-party consultant shall invoice all review fees directly to the contractor or building owner.

105.9.3 New development contribution fee

The Lake Villa Fire Protection District has adopted a formula for new residential developments in assessing contribution fees in developing areas. The developer contribution fee per dwelling unit is as follows:

1. One (1) bedroom	\$300.00
2. Two (2) bedroom	\$400.00
3. Three (3) bedroom	\$500.00
4. Four (4) bedroom (or more)	\$600.00
5. Five (5) Bedroom	\$700.00

Any future expansion or increase in density, following approval of the preliminary plat, will be subject to the contribution payment schedule. Payment will be due at a time agreed upon by both parties prior to the issuance of any building permits.

The Lake Villa Fire Protection District may require a capital contribution for buildings or developments that have a profound impact on emergency operations as deemed necessary by the Fire Chief. Such contributions shall include, but not be limited to senior citizen developments, multi-story buildings, large commercial retail projects, large commercial buildings, use or storage of hazardous materials, etc. The Fire District only extends property tax and is not a benefactor of sales tax. This contribution will assist in offsetting full-service costs incurred.

Section 108 – BOARD OF APPEALS

108.1 Board of Appeals established

Whenever the Code Official shall disapprove an application or refuse to grant permission or when it is claimed that the true intent and meaning of the Ordinance have been misconstrued or wrongly interpreted, the applicant or person affected may appeal the decision of the Code Official to the Chief of the Lake Villa Fire Protection District by written notice filed in the Lake Villa Fire Protection District Chief's office within five (5) days from the date of the decision being appealed. The said Chief shall render a decision on said

appeal within fifteen (15) days of said notice. If the Chief's decision does not resolve the matter, the applicant or person affected may appeal to the Lake Villa Fire Protection District Board of Trustees by written notice filed in the Lake Villa Fire Protection District's administrative offices within ten (10) days of the Chief's decision. The Board of Trustees shall call a hearing on said appeal within forty-five (45) days of said notice of appeal filing, and shall render a decision within ten (10) days after completing such hearings. Nothing herein shall restrict the Code Official from seeking immediate enforcement of the regulation of this Ordinance in Court where the hazard involved requires such action.

Section 109 – VIOLATIONS

109.4 Violation Penalties

Any person, firm, or corporation who shall violate any provision of this Code or shall fail to comply with any of the requirements thereof or shall erect, construct, alter or repair a building or structure in violation of an approved plan or directive from the Code Official, or of a permit or Certificate of Occupancy issued under the provisions of this Code, shall be guilty of a misdemeanor, punishable by a fine of not less than \$100.00 and not more than \$750.00. Each day the violation continues after due notice has been served shall be deemed a separate offense.

Section 111 – STOP WORK ORDER

111.4 Failure to comply

Any *person* who shall continue any work after having been served with a stop work order, except such work as that *person* is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than \$100.00 dollars or more than \$750.00 dollars for each offense payable to the Lake Villa Fire Protection District

111.5 Injunctive Relief

As an alternative or in conjunction with the position of other penalties as provided in other provisions of this Code, the District may elect to seek injunctive relief from a Court of equity requiring compliance with the Code, demolition of the offending structure or removal of the offending condition. The District shall be entitled to an award of reasonable attorney's fees and all costs of litigation, including court costs, deposition fees and expert witness fees incurred in enforcing this Ordinance through this provision.

CHAPTER 2- ABBREVIATIONS AND DEFINITIONS

SECTION 201 - GENERAL

201.1 ABBREVIATIONS:

1. The abbreviation NFPA shall mean “National Fire Protection Association”.
2. The abbreviation IBC shall mean “International Building Code 2012 Edition”.
3. The abbreviation IFC shall mean the “International Fire Code, 2012 Edition”.
4. The abbreviation LSC shall mean the “NFPA #101, Life Safety Code, 2015 Edition”.

Chapter 3 – GENERAL PRECAUTIONS AGAINST FIRE

Section 301- GENERAL

301.3 Items not specifically covered

Whenever or wherever a condition is found in any building, lot, or premises, that in the opinion of the Code Official is not specifically covered by the provisions of this Chapter, but that requires correction or removal for the protection of the occupants or the public, the Code Official shall order such conditions be corrected or removed and the owner or occupant of such buildings, lots, or premises shall comply with such orders.

Section 304 COMBUSTIBLE WASTE MATERIAL

304.1 Waste accumulation prohibited.

Combustible waste material creating a fire hazard shall not be allowed to accumulate in buildings or structures or upon premises.

304.2 Storage

Storage of combustible rubbish shall not produce conditions that will create a nuisance or a hazard to the public health, safety, or welfare.

Section 305 IGNITION SOURCES

305.1 Proper Clearance

Clearance between ignition sources, such as luminaires, heaters, flame-producing devices, and combustible materials, shall be maintained in an *approved* manner.

305.5 Portable Heaters

Portable heaters shall be designed and located so that they cannot be easily overturned, and heaters shall be designed to shut off if overturned. The Code Official may prohibit the use of portable heaters in occupancies or situations in which such use or operation would present an undue danger to the life or property of others.

305.6 Heating and lighting apparatus

Proper clearance (a minimum of 36 inches) shall be maintained between lighting and heat producing equipment and combustibles so that continuous operation at full capacity will not increase the temperature of the surrounding combustibles to their flash point or ignition temperature.

CHAPTER 4- PREMISES IDENTIFICATION

401.1 ADDRESS IDENTIFICATION: New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. The Arabic numbers are to be a minimum of six (6) inches in height with a minimum stroke width of one-half ($\frac{1}{2}$) inch (12.7 mm). Where required by the Code Official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building cannot be viewed from the public way, a monument, pole or other sign or means shall be used to identify the structure. Address identification shall be maintained.

401.2 INTERIOR ROOM NUMBERS: New and existing buildings shall have an approved room and suite numbers identification placed in positions that are plainly legible and visible. Numbers shall contrast with their background; interior suite and room numbers shall be Arabic numeral or alphabet letters. Interior room and suite numbers shall be a minimum of 1.25 (1 $\frac{1}{4}$) inches (31.75 mm) high with a brush stroke width of 0.25 ($\frac{1}{4}$) inches (6.35 mm).

CHAPTER 5 - FIRE SERVICE FEATURES

Section 503 - FIRE APPARATUS ACCESS ROADS

503.1.4 Approval

The location of the fire apparatus roads or fire lanes shall be reviewed and approved by the Lake Villa Fire Protection District.

503.2.1 Dimensions

Fire apparatus access roads shall have an unobstructed width of not less than twenty (20) feet, exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than fifteen (15) feet.

503.2.3 Surfaces

Fire apparatus access roads or fire lanes shall have a solid surface capable of supporting the appropriate fire apparatus. Fire apparatus roads shall be pitched in such a manner as to allow the runoff of water and eliminate the potential of standing water. It shall be the responsibility of the property owner to maintain the surface in a usable condition at all times, including the removal of snow.

Section 506 - KEY BOXES

506.1 When required

A key box shall be required in any building that is required by this code to have fire suppression, fire protective signaling or a fire detection system. The Code Official shall require a minimum of one key lock box to be installed at a height not to exceed six (6) feet, in an accessible location. The key lock box shall be of an approved type listed in accordance with UL 1037 and shall contain keys to gain access as required by the Code Official.

506.1.1 Locks

The Code Official shall first approve any lock installed on gates or similar barriers.

506.1.3 Contents of Key Box

All required key boxes shall contain a key to all areas required by the code official

506.2 Key lock box maintenance

The operator of the building shall immediately notify the Code Official and provide the new key when a lock is changed or re-keyed. The key to such lock shall be secured in the key lock box. The users shall be responsible for the proper installation and maintenance of such key lock boxes, at their expense, and shall agree to indemnify and hold harmless the Lake Villa Fire Protection District, and their officers, employees and agents from any liability with respect to such key lock boxes.

Section 511 - ELEVATORS

511.1 When Required

Provide elevator service for new multi-level buildings that exceed 1,000 square feet of floor area in accordance with State of Illinois Accessibility Code requirements for elevators.

Exception: One and two-family residences, unless covered elsewhere in this Code.

511.1– Elevator car requirements

Elevator cars are to accommodate the ambulance stretcher. In the buildings two stories in height or more, at least one elevator shall be of such a size and arrangement to accommodate a 24-inch by 84-inch ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services (Star of Life). The symbol shall not be less than 3 inches high and shall be placed inside on both sides of the hoist way doorframe. The inside handrail shall be set at the maximum thirty-six (36) inch height allowed under ADA standards to better accommodate the stretcher. The cab size is to be minimum a 5' x 7' platform and minimum 2500 lb capacity with a 42" side slide door.

511.3 ELEVATOR PHONE: All required emergency elevator phones shall directly dial the Lake Villa Fire Protection District Communications Center (FoxComm E9-1-1 Dispatch) via the phone number designated by the Code Official. (847-587-3100). Pre-recorded messages should contain the following information:

1. Building name and address
2. Elevator number or location within the building
3. All messages shall be clear, concise and in the English language.
4. Messages shall be repeated and allow for voice override/two-way communication.

511.4 AREA OF RESCUE ASSISTANCE COMMUNICATION: All required areas of rescue assistance shall have two-way communication which is directly connected to FoxComm E9-1-1 Dispatch (847-587-3100) or other approved 24-hour watch company. The message sent to the dispatcher will provide the following information:

1. Building name and address
2. Stairwell number, floor area or location within the building
3. All messages shall be clear, concise and in the English language.
4. Messages shall be repeated and allow for voice override/two-way communication.

CHAPTER 6 - BUILDING SERVICES AND SYSTEMS

SECTION 609 - COMMERCIAL KITCHEN HOODS

609.4 Required kitchen hood fire suppression systems

All required commercial or other occupancy kitchen exhaust hood and duct system shall be protected with an approved wet chemical fire suppression system installed and maintained per NFPA 17, and UL 300 Standard. Every required automatic fire suppression system, when activated shall transmit a fire alarm signal via an approved fire alarm system.

609.5 Maintenance

Commercial kitchen exhaust systems shall be cleaned to remove deposits of residue and grease in the system at intervals specified in the cleaning schedule required to be submitted in accordance with the mechanical code listed in Chapter 80. Thorough cleaning of ducts, hoods and fans shall require scraping, brushing or other positive cleaning methods.

609.6 Cleaning Schedule

Where a cleaning schedule is not on file, the Code Official shall require a schedule to be submitted, indicating the method of cleaning and the time intervals between cleanings.

CHAPTER 9 FIRE PROTECTION SYSTEMS

901.2 Construction documents

The fire code official shall have the authority to require construction documents and calculations for all fire protection systems and to require permits be issued for the installation, rehabilitation, or modification of any fire protection system. Construction documents for fire protection systems shall be submitted for review and approval prior to system installation. Two sets of plans, specifications, and calculations shall be submitted for all fire protection system permit review.

1. Fire alarm submittals shall comply with NFPA 72
2. Fire sprinkler submittals shall comply with NFPA 13
3. All other fire protection system submittals shall comply with the appropriate NFPA standard.
4. Payment for plan reviews, and required system inspections required by the District and this code, shall be paid to the District at the time that the plans are submitted for review.

SECTION 903 – AUTOMATIC SPRINKLER SYSTEMS

903.3.1.4 Warehouse and storage buildings

Unknown specification use and occupancy for new warehouse building (use Groups S or F) with a ceiling roof height of 25 feet or greater to be protected with ESFR (Early Suppression Fast Response) fire sprinkler system or hydraulically calculated system for

Class IV commodities with rack storage calculated to the greatest storage height. All sprinkler systems shall be electronically supervised by a fire alarm system.

903.4.1 Reporting directly to an approved Communication Center.

Where required by the Code Official to protect from hazards to life and property, all fire alarm systems shall connect directly to an authorized central receiving station approved by the Code Official. The method of connection shall be of a type approved by the Fire Chief or his designee.

903.4.2.1 Strobe lights

A strobe light shall be installed on the exterior of all occupancies protected by a fire sprinkler system. The strobe light shall be located directly over the fire department connection and next to the 10-inch exterior bell or in a location approved by the Code Official.

903.4.3.1 Sprinkler control valves

All new and existing sprinkler control valves shall be equipped with electronic supervision (tamper switches) in accordance with NFPA 72. All new tamper switches installed shall have the capability to self-restore.

903.4.4 Low temperature monitoring.

Fire pump rooms, fire sprinkler riser rooms, and standpipe riser rooms, which are heated by an individual heat source dedicated to the room, shall be provided with a listed room temperature supervisory signal-initiating device, operating as required by Section 17.16.5 of NFPA 72, and supervised by the building fire alarm system.

903.4.5 Multi-tenant occupancies.

In new multi-tenant, one-story buildings protected by an automatic sprinkler system, the sprinklers in each tenant space shall be zoned separately from the sprinklers in other tenant spaces located in the building. Supervised tenant space control valves and waterflow devices shall be provided for each tenant space and shall be located at the front or the rear of each tenant space consistently throughout the building. An exterior visible notification appliance shall be provided over the main entrance of each tenant space which indicates that the waterflow device serving the tenant space has activated. The appliance shall be a weatherproof appliance, with a clear lens, and shall be not less than 75cd. The visual appliance shall be red in color.

903.8 Sprinkler riser and/or fire pump room access door

Provide an outside access door to the sprinkler riser room and/or fire pump room. The door shall be labeled with minimum 4-inch letters.

903.9 Separation of sprinkler riser and/or fire pump room

Provide a minimum one (1) hour fire separation for the sprinkler riser room and/or the fire pump room.

903.10 Hydraulic calculations

Provide a minimum 10% or 5 psi minimum safety factor in the fire protection system hydraulic calculation. The system demand shall be 5 psi minimum below the seasonal low water flow test supply. The safety factor will allow for low pressures in the water supply. By each hydraulic calculated area, on each drawing, provide a copy of the hydraulic nameplate. This will make it easier to check the hydraulics of the sprinkler system for future building or storage changes.

903.14 Fire hose valves – Warehouse and/or storage Fire Areas

In all warehouse storage areas exceeding 50,000 square feet, and where storage exceeds twelve (12) feet high, provide inside 2 ½" fire hose valves with 1 ½" reducer to a 1 ½" connection. Locate the valves at each door entrance to the warehouse and/or storage area. Provide additional 2 ½" fire hose valves so that no portion of the warehouse and/or storage area is more than 120' maximum travel distance to a fire hose valve. Show the location of all obstructions and/or racks on the drawings.

Fire hose valves system piping shall be:

1. A separate riser piping system.
2. The 2 ½" valves shall be supplied by a minimum of 4" with 2 ½" drops to each valve.
3. Where system pressures exceed 100 psi, provide Potter reduced pressure field adjustable type valves.

903.15 Large warehouse system check valves

Provide a check valve in each sprinkler riser on large warehouse systems. This will prevent multiple sprinkler system riser flow switches from activating (backwards) when large volumes of water are flowing through another riser.

SECTION 905 – STANDPIPE SYSTEMS

905.3 Required installations

All required standpipe systems shall be supplied by a separate riser. The supply riser shall be hydraulically designed to supply 2 ½" hose drops. The riser system shall be equipped with a separate control valve and flow switch. The standpipe shall be a 2 ½" gated connection with a 1 ½" reducer and all locations shall be approved by the Code Official. All standpipe and sprinkler risers shall have separate control valves and flow switches per floor.

905.3.1 Building height

Class III standpipe systems shall be installed throughout buildings or structures (1) in all newly constructed buildings so that all areas in excess of 120 feet from the nearest point of entry to the building shall be covered by a standpipe; (2) in all areas of existing structures which have been remodeled or added to in such a manner that those areas are located in excess of 120 feet from the nearest point of entry to the building; (3) in all newly constructed buildings or structures more than two (2) stories in height or more than two (2) stories below the highest level of fire department vehicle access so that all areas on

those floors are within 120 feet of a standpipe; and (4) in all buildings or structures more than two (2) stories in height or more than two (2) stories below the highest level of fire department vehicle access which have been remodeled or added to in such a manner so that those areas are located in excess of 120 feet from the nearest standpipe. The standpipes shall be provided with a 2½" to 1½" reducer and cap with no fire hose. There shall be an approved fire department connection at grade and hose connections located at each floor level.

905.12 Piping design

The riser piping, supply piping and the water service piping shall be sized to maintain a residual pressure of at least 65 psi (448kPa) at the topmost outlet of each riser. The piping size shall be based on the capacity of the automatic water supply system or, whereas automatic water supply is neither required nor provided to maintain the residual pressure of 65 psi, the pipe size shall be on a pressure of 150 psi available at the fire department connection.

905.13 Riser sizing

The riser size shall be based on the hydraulic calculations for a minimum flow of 500 gallons per (gpm) (378 L/min.).

Exceptions:

1. Where only 1 ½" valves are provided, the riser(s) shall be sized to provide a minimum flow of 100 gpm (378 L/min).
2. In buildings where, limited area sprinkler systems are supplied with water from a common standpipe riser, the riser shall be sized to satisfy total demand.
3. For occupancies Use Group B, I, R1, or R2 in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3, each riser shall be sized for a minimum flow of 250 gpm (945 L/min.).
4. Risers that are sized in accordance with the pipe schedule requirements of NFPA 14 listed in Chapter 35 are not subject to this requirement.

905.14 System pipe sizing

The system piping, including the horizontal or common feeder lines, shall be sized for a minimum flow of 500 gpm (1892 L/min.). Where more than one standpipe riser is required or provided, all common system piping shall be sized for a minimum flow of 500 gpm (1892 L/min.) for the first riser plus 250 gpm (945 L/min.) for each additional riser, and the total shall not be required to exceed 1,250 gpm (4731 L/min.).

Exception:

1. Where only 1 ½" valves are provided, the supply piping shall be sized for a minimum flow of 100 gpm (378 L/min.) for each riser, and the total shall not be required to exceed 500 gpm (1892 L/min.).
2. In buildings where, limited area sprinkler systems are supplied with water from a common standpipe riser, the supply piping shall be sized for a minimum flow of 500 gpm (1892 L/min.) plus the sprinkler demand for first riser, plus 250 gpm (945

L/min.) for each additional riser, and the total shall be required to exceed 1,250 gpm (4731 L/min.).

3. For occupancies in Use Group B, I, R-1, or R2 in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3, all common supply piping shall be sized for a minimum flow of 250 gpm (945 L/min.) for the first riser plus 250 gpm (945L/min.) for each additional riser, and the total shall not be required to exceed 750 gpm (2838 L/min.).

Section 906 – PORTABLE FIRE EXTINGUISHERS

906.1 Where required

Portable fire extinguishers shall be installed in the following locations.

1. In new existing Group A, B, E, F, H, I, M, R-1,R-2, R-4 and S occupancies.
2. Within 30 feet (9144 mm) of commercial cooking equipment.
3. In areas where flammable or combustible liquids are stored, used, or dispensed.
4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315.1
5. Where required by the sections indicated in Table 906.1
6. Special-hazard areas, including but not limited to laboratories, computer rooms, and generator rooms, where required by the Code Official.
7. Where deemed necessary by the Code Official based on plan reviewing, inspections of occupancies, or protection of processes and/or activities
8. Fire extinguishers shall be a minimum 10-pound (4A:40-B: C) ABC Dry Chemical type unless approved otherwise by the Code Official. All fire extinguishers shall have location signs and current service tags.

SECTION 907 – FIRE ALARM AND DETECTION SYSTEMS

907.1.3 Equipment

Systems and their components shall be listed and approved for the purpose for which they are installed. New fire alarm control panels shall be addressable unless otherwise approved by the Code Official. The equipment shall be capable of having the audio signal silence without resetting the fire alarm control panel. All fire alarm systems must remain operational and in good working order at all times. It is the responsibility of the building owner and/or tenant to keep the fire alarm in operation and in good working order. Any alarm signal shall be transmitted to an authorized central answering station approved by the Code Official.

907.2 Where required – new buildings, structures and retroactive in existing buildings

An approved manual, automatic, or manual and automatic fire alarm system shall be provided in any commercial or industrial structure or occupancy and any residential structure with four units or greater regardless of the Use Group in accordance with sections 907.2.1 through 907.2.23. Fire alarm systems shall be maintained in full operating condition at all times whether the building or structure is occupied or vacant unless permission to disconnect is received from the Code Official. All fire alarm control panels or full function annunciator panels shall be installed within 10 feet of the main entrance, or in a location approved by the Code Official. Occupant notification shall be in accordance with section 907.5 unless other requirements are provided by another

section of this code. Where automatic sprinkler protection is installed in accordance with section 903.3.1.1 or 903.3.1.2 is provided and connected to the building fire alarm system, automatic heat detection required by this section shall not be required. An approved automatic fire detection system shall be installed in all Use Groups, not provided with an automatic sprinkler system, in accordance with the provisions of this code, NFPA 72.

An existing commercial or industrial structure or occupancy and any residential structure with four units or greater regardless of the Use Group shall add an approved fire alarm system for the entire structure or occupancy regardless of building separation, fire-rated assemblies, and type of construction and that meet any of the criteria listed below, shall provide fire protection as detailed in 907.2:

1. Any new single expansion equal to or greater than 2,500 square feet or multiple expansions where the total of all expansions is equal to or greater than 2,500 square feet on the same building will be considered as one expansion project. The gross square footage will be added and calculated in order to determine the size of the entire building which will require the addition of the fire alarm as described in Section 907.2 and District Code.
2. A project that entails a change in Use Group for any part of the building.

907.2.1 Group A

A manual/automatic fire alarm shall be installed in accordance with NFPA 72 in Group A occupancies. .

907.2.2 Group B

A manual/automatic fire alarm system shall be installed in accordance with NFPA 72 in group B occupancies.

907.2.3 Group E

A manual/automatic fire alarm system shall be installed in group E occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

907.2.4 Group F

A manual/automatic fire alarm system shall be installed in accordance with NFPA 72 in group F occupancies.

907.2.5 Group H

A manual/automatic fire alarm system shall be installed in Group H occupancies.

907.2.7 Group M and S

A manual/automatic fire alarm system shall be installed in accordance with NFPA 72 in group M and S occupancies.

907.2.8.1 Group (R-1) Manual fire alarm system

Delete: Exception 2

907.2.9.1 Group (R-2) Manual fire alarm system

Delete: Exception 2

907.2.9.4 An automatic smoke detection system shall be provided as required by Section 907.2.8.2 and its exception

907.2.10.1 Group R-4) Manual fire alarm system.

Delete: Exception 2

907.3 FIRE SAFETY FUNCTIONS

907.3.1 Duct Smoke Detectors

Shall be provided with remote L.E.D. and test switches for all detectors that are obstructed or located above the ceiling. The L.E.D. test switches shall be located on the wall or ceiling directly below (or as close as possible) to the unit it serves. Duct Smoke detectors installed in ducts shall be listed for the air velocity, temperature and humidity present in the duct. Duct smoke detectors shall be connected to the building's fire alarm control unit when a fire alarm system is required by Section 907.2. Activation of a duct smoke detector shall initiate an approved signal and shall perform the intended fire safety function in accordance with this code and the International Mechanical Code. Duct smoke detectors shall not be used as a substitute for required open area detection. Duct detectors shall be installed inside the building in a temperature-controlled environment.

907.3.5 Where required in existing one and two-family dwellings

All existing one and two-family residences shall have installed therein smoke detectors in accordance with Illinois Smoke Detector Act. Every single-family residence shall have at least one smoke detector installed on every story, including basements, but not including unoccupied attics. Smoke detectors shall be installed in each room used for sleeping purposes and within fifteen (15) feet of the entrances of all rooms used for sleeping purposes. The signal shall be clearly audible within each room used for sleeping purposes over background noise levels with all intervening doors closed. In single-family residences with split-levels, a smoke detector installed on the upper level shall suffice for the adjacent lower level if the lower level is less than one full story below the upper level. However, if there is an intervening door between the adjacent levels, a smoke detector shall be installed on each level.

907.3.6 Alterations, repairs, and additions

When interior alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with smoke alarms located as required for new dwellings; the smoke alarms shall be interconnected and hard-wired.

Exceptions:

1. Smoke alarms in existing areas shall not be required to be interconnected and hard-wired where the alterations or repairs do not result in the removal of interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space, or basement available which could provide access for hard wiring and interconnection without the removal of interior finishes.
2. Repairs to the exterior surfaces of dwellings are exempt from the requirements of this section.

907.3.7 Mounting of detectors

All smoke detectors shall be mounted on the ceiling at least six (6)" from the wall, or on the wall six (6) to twelve (12)" from the ceiling, except that all smoke detectors in interior common stairwells shall be on the uppermost ceiling.

907.3.8 Responsibility for installation

In single family and two-family residences, it shall be the responsibility of the owner of the building or structure to supply and install all required smoke detectors. The owner shall be responsible for making reasonable efforts to test and maintain smoke detectors in interior common stairwells.

907.3.9 Maintenance of detectors

It shall be the responsibility of the tenant to test and provide general maintenance for the smoke detectors within the tenant's dwelling unit and to notify the owner or an authorized agent of the owner, in writing, of any deficiencies, which the tenant cannot correct. The owner shall be responsible for providing the tenant with written information regarding smoke detector testing and maintenance.

907.3.10 Battery replacement

The tenant shall be responsible for replacement of any required batteries in the smoke detectors in the tenant's dwelling unit, except that the owner shall ensure that such batteries are in operating condition at the time the tenant takes possession of the dwelling unit. The tenant shall provide the owner or the authorized agent of the owner with access to the dwelling unit to correct any deficiencies in the smoke detector(s), which have been reported in writing to the owner or authorized agent of the owner.

907.3.11 Low-voltage system

At the option of the owner of the building or structure, a low-voltage, standard central smoke detection system may be installed in a single-family residence or two-family residence in lieu of battery-powered smoke detectors or hard-wired smoke detectors, provided that such low-voltage standard central smoke detection system meets the requirements for such a system set forth in the Ordinance codified in this Chapter or is otherwise approved by the Code Official.

907.3.12 Existing Multi-family (three or more dwelling units) buildings

All multi-family buildings whether existing or constructed hereafter, shall have installed therein hard-wired smoke detectors as provided in this subsection.

907.3.13.1 Smoke detector locations

1. Each room used for sleeping purposes.
Exception: Existing multi-family buildings and structures have the option to install battery powered smoke detectors in lieu of hard-wired in sleeping areas. Hard-wire smoke detectors with battery backup are preferred.
2. In the immediate vicinity (minimum of 15 feet) of all entrances to rooms used for sleeping purposes.
3. Within 15 feet of any furnace.
4. A smoke detector shall be installed in each interior common stairwell (at the top of the stairs).
5. A smoke detector shall be installed in each interior common corridor or hallway at intervals of not more than thirty (30) feet.
6. A smoke detector shall be installed within each laundry room, boiler, electrical and other service room, and each tenant and building maintenance storage room. The Code Official is authorized to require an approved alternative type of detector be installed where, during normal operation, products or combustion or other conditions are present in sufficient quantity to actuate a smoke detector.

907.3.13.2 Access for maintenance

The tenant shall provide the owner or authorized agent of the owner with access to the dwelling unit to check, clean, test, maintain, repair and replace all smoke detectors therein.

907.3.13.3 Low voltage standard smoke detection system locations

The low-voltage, standard central smoke detection system shall be installed in all interior common stairwells, interior common corridors or hallways, laundry rooms, boiler, electrical and other service rooms, and tenant and building maintenance and storage rooms. The smoke detection devices connected to the low-voltage; standard central smoke detection system shall be located as provided in 907.3.9.1.

907.3.13.4 Hard wired smoke detector locations

A hard-wired smoke detector with battery back-up shall be installed in each room used for sleeping purposes. When more than one smoke detector is installed, all smoke detectors shall be so wired so that the actuation of one detector shall activate all the detectors in the dwelling unit.

907.3.13.5 Annunciator and panel control box

Each smoke detection device connected to the low-voltage, standard central smoke detection system shall be connected to an annunciator and a panel control box.

1. The annunciator shall have a visual indicator of alarm location and be installed in

the entrance or on the exterior of each building or structure at the entrance, in a waterproof enclosure, as directed by the Code Official.

2. There shall be American with Disability Act (ADA) compliant horn/strobes installed in the interior common corridors, hallways, and stairwells leading to the dwelling units, which are clearly audible within such dwelling units over background noise levels with all intervening doors closed.

907.3.13.6 Fire alarm supervision

All new low-voltage, standard central smoke detection system installations shall be connected directly to an approved supervising station in accordance with NFPA 72 at the time the system is placed into operation.

907.3.13.7 Responsibility Maintenance

In multi-family buildings or structures, it shall be the responsibility of the owner of the building or structure or authorized agent of the owner thereof to install, maintain, repair, and replace, if necessary, the low-voltage, standard central smoke detection system required hereby.

907.3.13.8 Maintenance and testing

The owner or authorized agent of the owner shall also be responsible for the continuous maintenance of such system through no less than an annual inspection and testing thereof performed under a written maintenance agreement with a reliable firm actively engaged in the servicing of such systems. A copy of each maintenance agreement shall be accompanied by a written report and a copy of such report shall be promptly delivered to "The Compliance Engine.". Further, the current maintenance agreement and latest report shall be made available at all reasonable times for inspection by duly authorized personnel of the Lake Villa Fire Protection District.

907.3.13.8.1 Maintenance Fines

If maintenance and testing is not in compliance annually, a fine of 150.00 will be issued, payable within 60 days. It is the responsibility of the owner to have such system tested by a certified agency.

907.3.13.9 Heat detection device

Where a heat detection device or combination heat and smoke detection device will be more effective than a smoke detector as a result of conditions within the area in which the device is located, the heat detection device or combination heat and smoke detection device shall be installed in place of a smoke detector at the direction of the Code Official. The combination heat and smoke detection device shall bear the testing label of a nationally recognized, independent testing laboratory and shall meet the requirements of NFPA 72.

907.5.2.1 Audible alarms

Audible alarm notification appliances shall be provided and sound a distinctive sound that is not used to be used for any purpose other than that of a fire alarm. The audible alarm notification appliances shall provide a sound pressure level of 15 decibels (dBA) above

the average ambient sound level or five dBA above the maximum sound level having duration of at least 60 seconds, whichever is greater, in every space within the building. The minimum sound pressure levels shall be: 70 dBA in occupancies in group R and I-1; 90 dBA in mechanical equipment rooms; and 60 dBA in other occupancies. The maximum sound pressure level for audible alarm notification appliances shall be 120 dBA at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than 105 dBA, visible alarm notification appliances shall be provided in accordance with NFPA 72 and audio alarm appliances shall not be required.

Exception: Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in critical care areas of group I-2.

907.5.2.4 Visual Alarms/Panel Identification: An exterior weather resistant strobe shall be installed at the entrance providing access to the fire alarm control or annunciator panel and/or key box.

907.6.5 Monitoring

Fire alarm system required by this chapter as amended by the District or the International Building Code, shall be monitored at an UL listed central station in accordance with NFPA 72. The means to transmit fire alarm signals shall be a private wireless radio network in Fire alarm control units shall have the capability of transmitting alarm, supervisory (where applicable), and trouble signals to the central monitoring station. The equipment shall be capable of having the audio silence without resetting the fire alarm control panel. All fire alarm systems must remain operational and in good working order at all times.

A person, business or corporation residing or having a place of business within the Fire District who fails to comply with requirements specified in the Section as it pertains to installation of an approved means of transmitting a fire alarm signal shall be deemed to be in violation of this Section, and shall be subject to a fine of not less than One Hundred Dollar (\$100.00) per week of non-compliance, as measured from Midnight on Monday through one (1) minute prior to Midnight on the following Sunday, regardless of weekday, weekend or holiday designation.

Exceptions: Monitoring by a supervising station shall not be required for

1. Single- and multiple- station smoke alarms required by 907.2.11
2. Automatic sprinkler systems in one- and two-family dwellings.

907.10 False fire alarm activation

False fire alarm: Any alarm signal which indicates the existence of an emergency situation, when in fact no such emergency exists, and shall include any alarm signal generated by any fire protection system by whatever means, but shall not include alarms from the following causes:

1. Fire which causes structural damage to the protected premises.
2. Earthquake causing structural damage to the protected premises.
3. Tornado winds causing structural damage to the protected premises.
4. Flooding to the protected premises due to overflow of natural drainage.
5. Lightning causing physical damage to the protected premises.
6. Telephone line malfunction verified in writing by an authorized telephone company supervisor within seven calendar days of the occurrence.
7. Electrical service interruption verified in writing by an authorized local power

company supervisor within seven calendar days of the occurrence.

907.10.1 False fire alarm service charge

1. No fee shall be assessed for the first two (2) false fire alarms at the same premise during a calendar year.
2. The third false alarm within the same calendar year: No fines will be assessed, but a warning letter will be issued.
3. The fourth false alarm within the same calendar year: A fine of \$100.00 is assessed.
4. The fifth false alarm within the same calendar year: A fine of \$150.00 is assessed.
5. The sixth or greater fire alarm within the same calendar year: A fine of \$200.00 is assessed.

907.10.2 False Alarm Payment Time Frame: A false alarm charge shall be for the fourth false alarm transmitted and responded to in any capacity by the Lake Villa Fire Protection District during any calendar year, whether caused by malfunctioning, or intentionally or negligently misused or abused facilities or equipment, or inadequately maintained, and which results in a fire suppression and/or rescue apparatus and equipment being unnecessarily called to the property in response thereto, All false alarm charges shall be paid to the Lake Villa Fire Protection District within sixty (60) calendar days of the date of an invoice for such charges.

- A. **Joint and Several Liability:** More than one user may be charged under this Ordinance for a single false alarm, and the user(s) so charged are jointly and severally liable for any citations and fines due under this Ordinance
- B. **Additional Fine:** That, in addition to the fines set forth above, if any user refuses to pay or fails to pay within sixty (60) days of notice of the fine, the user will be deemed to have further violated this Ordinance and will incur an additional fine of not less than seventy five (\$75), nor more than five hundred dollars (\$500) for each offense plus all legal fees and all costs caused by enforcement. Such fees and costs shall include, but not be limited to, staff costs of inspection or re-inspection, legal fees, and staff cost of enforcement. A separate offense shall be deemed committed for each day on which a violation occurs or continues.
- C. **Failure to pay** Failure to pay any, which is reduced to judgement, could result in a lien filed against the fire alarm user's property.
- D. **No Liability:** The Lake Villa Fire Protection District assumes no liability for:

1. Any defects in the operation of a system.
 2. Failure or neglect to respond appropriately upon receipt of an alarm.
 3. Failure or neglect of any person in connection with the installation, operation or maintenance of any system.
 4. The transmission of alarm signals, pre-recorded alarm messages, or the relaying of such signals and messages.
- E. **Waiver of Fines**: The Fire Chief and his designees are hereby permitted to waive the fees due under this Ordinance in case of demonstrated financial hardship, intergovernmental cooperation, or in cases where systems have been repaired or replaced and are operating properly. Requests for the waiver of fees must be made in writing to the Code Official, who shall make the initial determination as to the validity of the waiver request.
- F. **Right of Appeal**: Appeal Procedure: All users who are assessed fines in accordance with Section with this Ordinance or denied a waiver of fine pursuant to (D-Waiver of Fines) of this Ordinance shall have the right to appeal their fine before the Fire Chief of the District in accordance with the appeal procedure established in Section 108.
- G. **False Alarm Revenue**: All revenue from the charges assessed pursuant to this Ordinance shall be deposited in the general fund of the Lake Villa Fire Protection District.

907.10.3 Newly installed fire alarm allowance

The provisions of this ordinance for false fire alarms and alarm malfunctions shall not apply to any newly installed alarm system for a period of thirty(30) days from the date that the system was placed in service by a Fire Department official, but shall apply from the expiration of the initial thirty (30) day period following installation.

907.10.4 Out of service alarm.

If the fire alarm system gives two (2) or more false fire alarms within a twelve hour period, the Lake Villa Fire Protection District reserves the right to have one of its authorized officers place the fire alarm system out-of-service and required a fire watch at its discretion. Any fire alarm placed out-of-service under this section must be repaired and placed back in service within the time period specified by the Lake Villa Fire Protection District.

907.10.5 Local government allowance

Units of local government such as schools and park districts may receive special

consideration for alarms caused by circumstances listed in Section 907.10.

907.10.5 Intentional false alarms

No person shall intentionally turn in a fire alarm when, in fact, such person knows that no fire exists. No person shall activate any fire alarm system or any fire suppression system for purposes other than emergency, maintenance, or prescribed testing. If the false alarm is given intentionally, then a fine of \$500.00 dollars will be assessed.

SECTION 912 FIRE DEPARTMENT CONNECTIONS

912.1 Fire Department connections.

The Fire Department connection to the sprinkler system shall be a 2 ½ Siamese.

912.2 Fire Department connection distance from hydrant.

Fire department connections shall be located within 100 feet of a fire hydrant supplied by a municipal water system.

CHAPTER 10 MEANS OF EGRESS

1006.3 Emergency power for illumination

The power supply for means of egress illumination shall normally be provided by the premises' electrical supply. In the event of power supply failure, an emergency electrical system shall automatically illuminate the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors exit enclosures and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than the level of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1024.1, in buildings required to have two or more exits.
5. Exterior landings, as required by Section 1008.1.5, for exit discharge doorways in buildings required to have two or more exits.
6. All rooms containing the building fire sprinkler riser(s), fire pump(s), and fire alarm control panel(s) shall be provided with approved emergency lighting.
7. Conference rooms, training rooms, break or lunchrooms, and restrooms that accommodate more than one occupant.

CHAPTER 56 EXPLOSIVES AND FIREWORKS

SECTION 5604 - EXPLOSIVE MATERIALS STORAGE AND HANDLING

5604.1 – Explosive materials storage and handling

The storage of explosive materials is prohibited within the Lake Villa Fire Protection District.

SECTION 5605 – MANUFACTURE, ASSEMBLY AND TESTING OF EXPLOSIVES, EXPLOSIVE MATERIALS AND FIREWORKS

3305.1 General

The manufacturing, assembly and testing of explosives, ammunition, blasting agents and fireworks is prohibited in the Lake Villa Fire Protection District.

SECTION 5608 - FIREWORKS

DISPLAY

5608.2 Permit application

A permit shall be required for the possession, display or discharge of fireworks or pyrotechnical displays. The permit application shall include the applicant's name, address, and age; the date and place of the proposed discharge of fireworks or pyrotechnical display; the nature and quantities of fireworks to be discharged or displayed; and the applicant's experience, if any, in discharge of fireworks or pyrotechnical displays. Also included shall be plans for the display, inspections of the display site, and demonstrations of the display operation. Such permit shall be applied for a minimum of fifteen (15) days prior to the proposed date of display.

Upon receipt of the application, the Code Official, or designee, shall inspect the location of the proposed discharge of fireworks or pyrotechnical display. If, in the judgment of the Code Official, or designee it would not be hazardous to any property or persons to allow such discharge of fireworks or pyrotechnical displays, given the resources of the Fire Department available for the requested date, the Code Official shall approve the application and issue a permit for the discharge of fireworks or pyrotechnical display. Fees in accordance with Section 105.9.1 shall apply.

A representative of the Lake Villa Fire Protection District shall be on site for final safety check. In addition, a staffed fire engine will be required for standby at the display.

A permit granted hereunder shall not be transferable, nor shall any such permit be extended beyond the dates set out therein.

SECTION 5610 – FIREWORKS VIOLATIONS

5610.1 General

A person shall not possess, manufacture, store, offer or expose for sale, sell at retail or discharge any fireworks within Lake Villa Fire Protection District.

Exception: Where approved for the supervised display of fireworks in accordance with Section 5608 of this Code.

5610. 2 Fines for violations

Any person, firm, partnership, association or corporation found violating any of the provisions of this chapter shall be fined not less than one hundred and fifty dollars (\$100.00), but not more than seven hundred and fifty dollars (\$750.00). All fines shall be paid to the Lake Villa Fire Protection District.

