



MOUNT PROSPECT FIRE DEPARTMENT

112 E. NORTHWEST HIGHWAY, MOUNT PROSPECT, ILLINOIS 60056

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Contractor's Guidelines

Mount Prospect Fire Department has developed this document as a guideline for general commercial building construction, fire alarm system design, sprinkler, kitchen hood mechanical and wet chemical suppression systems. All documents submitted must comply with all the applicable codes and local ordinances listed below. Before documents are finished and submitted for review, we encourage preplanning consultations to discuss projects and to help facilitate a prompt plan review and subsequent approval.

Please ensure the Fire Prevention Bureau is contacted at 847-818-5253, forty eight hours (48 hrs) in advance for all inspections.

Adopted Codes and Local Ordinances

Village of Mount Prospect Fire Prevention Code--www.mountprospect.org

Please take into account the changes to the nationally recognized codes.

International Building Code, 2012 edition

International Fire Code, 2012 edition

International Mechanical Code; 2012 edition

NEPA 10, Standard for Portable Fire Extinguisher, 2010 edition

NEPA 13, Standard for the Installation of Automatic Sprinklers, 2013 edition

NEPA 13D, Standard for the Installation of Automatic Sprinkler Systems in One and Two-Family Dwellings and Manufactured Homes, 2013 edition

*NEPA 13R, **NOT PERMITTED***

NEPA 14, Standard for the Installation of Standpipe and Hose Systems, 2010 edition

NEPA 17A, Standard for the Installation of Wet Chemical Extinguishing Systems, 2002 edition

NEPA 20, Standard for the Installation of Stationary Pumps for Fire Protection, 2010 edition

NEPA 24, Standard for the Installation of Private Fire Service Mains and Their Appurtenances, 2010 edition

NEPA 30, Flammable and Combustible Liquids Code, 2012 edition

NEPA 37, Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines, 2010 edition

NEPA 45, Standard on Fire Protection for Laboratories Using Chemicals, 2011 edition

NEPA 51B, Standard for Fire Prevention During Welding, Cutting and Other Hot Work, 2009 edition

NEPA 72, National Fire Alarm Code, 2013 edition

NEPA 90A Standard for the Installation of Air-Conditioning and Ventilation Systems, 2002 edition

NEPA 90B Standard for the Installation of Warm Air Heating and Air-Conditioning and Ventilation Systems, 2012 edition

NEPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operation, 2011 edition

NEPA 110, Standard for Emergency and Standby Power Systems, 2010 edition

NEPA 111, Standard on Stored Electrical Energy Emergency and Standby Power Systems, 2010 edition

All other NFPA standards adopted by reference in chapter 45 of the International Fire Code, 2012 edition



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Submittal Process

All document submittals and any revised submittals must be directed to the Mount Prospect Building Division located at **50 South Emerson Street**. All submittals shall include six (4) complete sets.

Prior to the start of construction, all permits must be posted at the job site.

- Submit sprinkler shop drawings, hydraulic calculations, and equipment cut sheets. (Specific requirements for sprinkler systems are listed in detail in a separate document.)
Village of Mount Prospect Fire Prevention Code, section 24.202 (N)
- If your building is two (2) stories or greater and/or the building is arranged or constructed to exceed one hundred fifty feet (150') from any entrance to the most remote portion to the building, submit standpipe shop drawings and calculations.
Village of Mount Prospect Fire Prevention Code, section 24.203
- Submit fire alarm shop drawings with point to point wiring diagrams, battery load calculations, and equipment cut sheets. (Specific requirements for alarm systems are listed in detail in a separate document.)
Village of Mount Prospect Fire Prevention Code, section 24.204
- Submit complete kitchen drawings that show all the equipment located under the exhaust hood. (Specific requirements for kitchen hood mechanical systems and kitchen hood suppression systems will be listed in a separate document.)
Village of Mount Prospect Fire Prevention Code, section 24.206 (f)
- Prior to conducting work on any fire suppression system or fire alarm system, please post permit in a visible location at the construction site.
Village of Mount Prospect Fire Prevention Code, section 24.202 (n) (2) (4)
- A "certificate of occupancy" or "business license" shall not be issued and no movement of supplies and or equipment into the building shall be permitted until the fire suppression and/or fire alarm system(s) is functional, certified and monitored by a listed central station.
Village of Mount Prospect Fire Prevention Code, section 24.201(D)

Construction Documents

(Section 1)



Egress Analysis

The following comments below apply to the complete egress plan that must be submitted with your building plans:

- Indicate the location of all exit signs and all exit signs with direction arrows on the submitted egress plans.
IFC, section 1011.1
- Provide egress capacity calculations for the entire building. The calculations shall reflect the egress width per occupant served. Include the corridor component width, aisle way width, exit component width, and any stair component width.
NFPA 101, 7.3.3
IFC, section 1005.3
- Provide the travel distances from the most remote areas of the building, leading to the exits, measured from the most remote point subject to occupancy along the centerline of the natural path of travel around bends, corners, furnishings or other obstructions, with a one foot clearance there from, and ending at the exit location.
NFPA 101, 7.6.2
IFC, section 1016
- Indicate the amount of travel distance needed to reach a common path of travel from the most remote point subject to occupancy along the centerline of the natural path of travel around any bends, corners, furnishings or other obstructions, with a one foot clearance there from, and ending at the exit location.
NFPA 101, Table A.7.6.1
IFC, table 1016.2
- Provide occupant load calculations for all areas of the building. Include the floor area in square footage and the number of occupants served by that space. Specify the factor used to calculate the occupant load of each area.
NFPA 101, Table 7.3.1.2
IFC, table 1004.1.2
- The main exit shall be of sufficient width to accommodate one half the total occupant load of the building. (Assembly occupancies only)
NFPA 101, 12.3.3
IFC, section 1028.2
- Exit discharge shall be at grade or provide direct access to grade and shall be of required width and size to provide all occupants with a safe access to a public way. Provide details of the exit discharge to ensure that exit discharge is sufficient.
NFPA 101, 7.7.1
IFC, section 1027
- Proper access and egress routes must be illustrated on the submitted drawings. Access and egress routes shall be maintained so that any individual is able to without undue hindrance, on personal initiative at any time, from an occupied position to the exits.
NFPA 101, 12.2.5.4.2
IFC, section 1014
- Seating layouts must be provided with the submitted drawings. Approval of the seating layouts will be required. Submit plans drawn to scale showing the arrangement of furnishings or equipment.
NFPA 101, 12.2.5.9
IFC, section 1028



Exit Signs

- All existing and new buildings, rooms or spaces required to have more than one exit or exit access and all required means of egress shall be indicated with approved signs, in accordance with Life Safety Code 101, the signs shall read "EXIT" and be visible from the exit access indicating the direction and way of egress. Sign placement shall be such that any point in the exit access shall not be more than one hundred feet from the nearest visible sign.

Village of Mount Prospect Fire Prevention Code, section 24.106 (A)



Use cutout arrows to mark exit route.

- All exit signs shall be located at exit doors or exit access areas, so as to be readily visible.

Village of Mount Prospect Fire Prevention Code, section 24.106(A)

Fire Sprinkler Rooms

- All new sprinkler risers shall be located in a separate room with a minimum of one (1) hour construction.

Village of Mount Prospect Fire Prevention Code, section 24.202 (H) (1)

- The fire pump shall be located in a minimum of two-hour construction and provided with emergency lighting.

Village of Mount Prospect Fire Prevention Code, section 24.202 (H) (1)

- Rooms containing fire protection control equipment shall be provided with direct access from the exterior, and interior of the building. Entrance doors shall bear a sign on the exterior of the door with four-inch high letters indicating, "Sprinkler Room." Rooms designated as sprinkler rooms shall contain emergency lighting and shall not be used for any other purpose.

Village of Mount Prospect Fire Prevention Code, section 24.202 (H) (2)



SPRINKLER ROOM
4" letters

Fire Extinguishers

- The placement and distribution of fire extinguishers must fully comply with NFPA 10, 2010 edition, Standard for Portable Fire Extinguishers.
- All new fire extinguishers shall be of an approved type with a minimum rating of 3A-40-BC. Every extinguisher shall be installed in a location visible to occupants and general public and must be easily accessible.

Village of Mount Prospect Fire Prevention Code, section 24.105 (B)

- All extinguishers shall be securely mounted to the wall or structural member of the building. The top of the fire extinguisher shall not exceed five feet (5') in height above the finished floor and the bottom of the extinguisher shall be a minimum of two feet (2') above the finished floor

Village of Mount Prospect Fire Prevention Code, section 24.105 (C)

- Every extinguisher shall be provided with adequate markings indicating the location of the extinguisher. When extinguishers are mounted to structural members of the building, a one foot (1') wide red stripe shall be applied to the structural member a minimum of ten feet (10') above the finished floor.

Village of Mount Prospect Fire Prevention Code, section 24.105 (D)

Address Signs

- Address signs must be visible on the front as well as on the back of the building.

Village of Mount Prospect Fire Prevention Code, section 24.114



- Building addresses must be visible using numbers contrasting in color to its background, white if on glass. Addresses shall be a minimum of four inches (4") in height.
Village of Mount Prospect Fire Prevention Code, section 24.114

Knox Boxes

- All new Knox boxes will be mailed to the Fire Prevention Bureau and will then be taken to the site to ensure that the owner/occupant understands the installation requirements.
Village of Mount Prospect Fire Prevention Code, section 24.104
- A Knox box shall be installed on all buildings having an automatic fire alarm or fire suppression system that is supervised by a listed supervising agency and/or in those buildings, which contain a passenger elevator.
Village of Mount Prospect Fire Prevention Code, section 24.104(A)
- Keys shall be provided to allow access to all areas of the building necessary to mitigate any foreseen emergency conditions that the fire department will need to protect.
Village of Mount Prospect Fire Prevention Code, section 24.104(B)
- All keys shall be labeled. A card with information regarding the location of the fire alarm panel will be given to the owner/occupant to be completed.
Village of Mount Prospect Fire Prevention Code, section 24.104(C)
- All new Knox boxes shall be mounted **six feet high** and located on the front of the building (the front is the building's side where the location is addressed). All Knox boxes shall be mounted adjacent to the front door of the occupancy(s) unless otherwise approved by the Fire Prevention Bureau.
Village of Mount Prospect Fire Prevention Code, section 24.104(F)
- A single Knox box may be provided to serve multiple tenants provided the Knox box can be installed in a location to accommodate Fire Department operations and the Knox box is large enough to accommodate all keys for each tenant space.
Village of Mount Prospect Fire Prevention Code, section 24.104(G) (1)
- Signage shall be provided above each Knox box serving multiple tenants. The signage shall be one inch (1") contrasting numbers and identify the tenant space served by each Knox box.
Village of Mount Prospect Fire Prevention Code, section 24.104(G) (2)
- All new residential condominiums shall provide a Knox box of sufficient size to accommodate keys for each unit.
Village of Mount Prospect Fire Prevention Code, section 24.104(H)



Fire Lanes

- All fire lanes shall be a minimum of twenty feet (20') in width, and thirteen feet (13') in height.
Village of Mount Prospect Fire Prevention Code, section 24.103(C)
- Fire lanes shall be provided for all buildings when any part of the building is set back more than one hundred fifty feet (150') from a public road or for buildings which exceed thirty feet (30') in height and set back over fifty feet (50') from a public road, private road or access road.
Village of Mount Prospect Fire Prevention Code, section 24.103(B)





- Every fire lane shall be posted as such with a sufficient quantity of signs as deemed appropriate by the Fire Official. The Fire Official may also require painting and striping of the fire lane when deemed as necessary. The cost of the signs, markings and installation shall be the responsibility of the building owner.
Village of Mount Prospect Fire Prevention Code, section 24.103(F)

- Gates or other barriers shall not be installed on any new or existing fire lane without written approval from the Fire Official. All gates permitted by the Fire Official desired to be locked in the closed position shall be provided with a locking device approved by the Fire Official. Electric operated gates shall be required to have a key operated switch approved by the Fire Official. Where deemed necessary by the Fire Official, electric gates installed on fire lanes are required to be provided with an electronic device that will automatically open upon activation of Mount Prospect emergency vehicles traffic pre-emption signal.
Village of Mount Prospect Fire Prevention Code, section 24.103 (H)

Fire Hydrants

- The design, construction and installation of hydrants must be approved by Public Works. The fire department only comments on the location of the hydrants. Contact Public Works for all hydrant construction requirements.

- Hydrants shall be provided around the perimeter of the building at a maximum of two hundred fifty-foot (250') spacing measured along access roads. Such hydrants shall be installed not more than fifty feet (50') nor less than twenty-five feet (25') from the building.
Village of Mount Prospect Fire Prevention Code, section 24.205

- Hydrants shall be provided to ensure at least one hydrant is within one hundred (100') of the fire department connection. (Fire department connections are required to be located on the front side of the building).
Village of Mount Prospect Fire Prevention Code, section 24.205 (A) (2)

- The property owner shall provide and maintain hydrant markers for all new and existing hydrants located on private property. These markers shall be provided to identify the hydrant during snow accumulation. The Fire Chief prior to installation shall approve the type of hydrant marker.
Village of Mount Prospect Fire Prevention Code 24.205 (C)



Hydrant Marker

Stairwell Markings and Occupant Load Signs

- All existing stairways serving two (2) or more stories shall be provided with signage within the stair enclosure at each floor landing and at the entrance door to each stair enclosure. It shall indicate each story or level, the terminus of the top and bottom of the stair enclosure, identification of the stair and roof access or no roof access. All interior stair signage shall be visible when the door is in the open or closed position, and shall be permanently attached to the structure. The sign structure shall have letter dimensioning no less than four (4) inches in height with contrasting colors to the background.
Village of Mount Prospect Fire Prevention Code, section 24.112 (A)





High Rack Storage Areas

- All areas containing rack storage (as defined in NFPA 13), in excess of 10 feet in height shall clearly label the storage rack's approved maximum allowable material storage height. Signage shall be provided at frequent intervals and visible from ground level.

Village of Mount Prospect Fire Prevention Code, section 24.113 (B)

- Where smoke and heat vents are required to be installed in buildings, smoke and heat vents shall be designed to operate automatically by fusible link with manual capabilities. Where the building is protected by an automatic sprinkler system the fusible link must have a temperature rating at least 100 degrees higher than the temperature of the installed automatic fire sprinklers.

Village of Mount Prospect Fire Prevention Code, section 24.110 (F)

- Smoke and heat vents shall be connected to an operation control panel to allow for remote manual activation by fire department personal. This panel shall be installed in an accessible location approved by the Mount Prospect Fire Department.

Village of Mount Prospect Fire Prevention Code, section 24.110 (F)

- Operating instructions, a complete smoke and heat vent diagram for the building and other applicable information shall be framed and mounted within three (3') of the smoke and heat vent operational control panel.

Village of Mount Prospect Fire Prevention Code, section 24.110 (F)

- All new and existing smoke and heat vent devices shall be labeled on the interior and exterior to correspond to the manual annunciation zone display at the alarm panel. The labels shall be clearly visible with two inch (2") contrasting numbers.

Village of Mount Prospect Fire Prevention Code, section 24.110 (F)



Fire Alarm Documents (Section 2)

Wiring

- Provide complete wire counts with point-to-point details on the plan view for each circuit.
NFPA 72, 74.4
- Indicate the location of the end of line resistors.
NFPA 72, section 4.7
- All wiring shall be provided in conduit up to seven feet above finished floor or where subject to mechanical damage as indicated by NFPA 70, Article 760.
NFPA 72, section 4.4.1.2

Fire Alarm Equipment and Components

- Provide UL listing and cut sheets on all fire alarm equipment and devices.
NFPA 72, section 4.7

Fire Alarm Control Panels

- Locate the fire alarm panel adjacent to the front entrance. The fire alarm panel capable of performing all necessary functions shall be easily accessible and visibly located within ten (10) feet from the main entrance in the building. The exact location of the fire alarm control panel and controls shall be reviewed and approved by the Mount Prospect Fire Prevention Bureau.
Village of Mount Prospect Fire Prevention Code, section 24.204 (C)
- In buildings four stories or greater the central control station shall include controls for the following: one and two way voice systems; fire detection and alarm annunciator panels; status indicators and controls for air handling systems; controls for unlocking all stairway doors; sprinkler valve and water flow annunciator panels.
NFPA 72, section 6.1.1
- The alarm system shall be connected to an approved UL listed central station and transmit both fire and trouble signals. Combination burglar and fire alarm systems, automatic dialers and radio transmitted monitoring signals shall be prohibited. The fire department recommends Northwest Central Dispatch. **A certificate of occupancy will not be granted until this connection has been made and tested.**
Village of Mount Prospect Fire Prevention Code, section 24.204 A (4)
- Provide a sequence of operation chart with written operating instructions to perform the necessary features of the fire alarm panel. The operating instructions, a complete fire alarm zone map, and other applicable information shall be framed and mounted within one foot of the fire alarm control panel. Central station and building contact phone numbers shall be provided inside the alarm control panel.
Village of Mount Prospect Fire Prevention Code, section 24.204 (C)



Manual Pull Stations

- Manual pull stations shall be located not more than five (5) feet from each exit. Manual fire alarm boxes shall be distributed throughout the protected area so that they are unobstructed and readily accessible. They shall be located in the normal path of exit from the area with manual fire alarm boxes at each exit on each floor. Additional manual fire alarm boxes shall be provided so travel distance to the nearest fire alarm box will not be in excess of 200 feet measured horizontally on the same floor.
NFPA 72, sections 17.14.8.4 and 17.14.8.5



Visual Appliances

- Visible notification appliances shall be installed in accordance with table 7.5.4.3.1(a) of NFPA 72, using either, a single visible notification appliance, two (2) visible notification appliances located on opposite walls, or more than two (2) in the field of view that flash in synchronization.

NFPA 72, section 18

- Provide a white strobe directly above the fire department connection. The strobe shall be approved for outdoor use and emit a minimum of 75 candela of light. The strobe shall operate upon activation of the sprinkler water flow alarm.

Village of Mount Prospect Fire Prevention Code, section 24.202 (K) (6)



Outdoor strobe to be placed above fire dept. connection

Smoke Detectors

- Provide construction details of the ceiling. This is to verify that the smoke detectors are spaced in accordance with code and standard requirements.

NFPA 72, section 7.4.5

- For residential occupancies provide a single station smoke detector for each level, including the basement. A detector must also be provided in each room used for sleeping purposes. Also a detector must be provided on the wall or ceiling outside the sleeping room (s).

IFC, section 907.2.10

- Provide a single station smoke detector on every story (level) of the dwelling unit including the basement for the R-3 Use Group.

IFC, section 907.2.10

Village of Mount Prospect Fire Prevention Code, section 24.204 (A) (3a)

- All required duct detectors shall be provided with a remote testing and reset device located five feet (5) above the finished floor directly below the duct detector. All new and existing HVAC equipment containing smoke detection devices shall be labeled to correspond to the fire alarm annunciation displayed at the alarm panel. The labels shall be clearly visible from the floor level. Corresponding two-inch numbers shall also be permanently provided on each roof top unit. In buildings protected throughout by automatic sprinklers, the duct detector activation may send a supervisory signal to the building's fire alarm panel.

Village of Mount Prospect Fire Prevention Code, 24.204



Backup Power Supply

- Provide battery backup for single station smoke detectors in Use Groups R-2, R-3 and R-1 where an emergency electrical system is not provided.

IFC, section 10

- The secondary power supply shall have sufficient capacity to operate the fire alarm system under normal (non-alarm) load for a minimum of 24 hours and, at the end of that period, shall be capable of operating all alarm notification devices used for evacuation for five minutes.

NFPA 72, section 7.2.1

- Provide stand-by power battery calculations with all construction documents submittals.

NFPA 72, section 7.2.1 and 7.41.0



Acceptance Testing

- Final approval is subject to on-site field inspection and full alarm system test witnessed by the Fire Prevention Bureau. The contractor shall provide a minimum of two alarm system personnel, a pair of two-way radios, and all necessary equipment to provide complete testing of each alarm system device.
Village of Mount Prospect Fire Prevention Code, section 24.204 (H) (1)
- Upon completion of the fire alarm system, all alarm notification devices and circuits, alarm notification appliances and circuits, supervisory-signal initiating devices and circuits, signaling line circuits and primary and secondary power supplies shall be subjected to a 100 percent acceptance test in accordance with NFPA 72 4.5.1.
Village of Mount Prospect Fire Prevention Code, section 24.204 (H)
- Provide a copy of the test certification to the Fire Prevention Bureau.
Village Fire Prevention Code, section 24.204 (H)
NFPA 72, section 4.5.1.2
International Building Code, sections 901.5, 907.16, 909.20.6.3
- A copy of approved **stamped plans** shall be maintained on the job site. Deviations from the approved plans shall require approval from the Mount Prospect Fire Prevention Bureau.
- A written record of completion shall be provided to the fire official prior to scheduling the acceptance testing.
Village of Mount Prospect Fire Prevention Code, section 24.204(H) (2)



Sprinkler System Documents (Section 3)

Protection and Installation of Non-residential Sprinklers per NFPA 13

- Provide sprinkler protection in all rooms and areas.
Village of Mount Prospect Fire Prevention Code, section 24.202 (D) (2)
- Where sprinkler systems protect more than one tenant, a separate water flow and control valve shall be provided for each tenant space.
Village of Mount Prospect Fire Prevention Code, section 24.202 (E)
- Sprinklers shall be installed under ducts, decks, overhead doors, and other obstructions over four feet.
NFPA 13, section 8.5.5.3.1
- Provide wet and/or dry inspector’s test connections discharging directly to the outside. Discharge into a floor drain or sink is not permitted.
Village of Mount Prospect Fire Prevention Code, section 24.202 (I)
- For **commercial** buildings the two-inch drain must discharge to the outside.
Village of Mount Prospect Fire Prevention Code, section 24.202 (I)
- For **commercial** buildings all new sprinkler systems or modifications to existing systems shall be hydraulically designed with a minimum of 5 psi safety factor. **Hydraulic calculations shall be provided with all plans submitted.**
Village of Mount Prospect Fire Prevention Code, section 24.202 (N)
- All new sprinkler control valves shall be located within five feet above the finished floor.
 - An OS&Y or other approved indicator control valve shall be provided at each floor with a water flow switch.
 - Sprinklers protecting electrical rooms shall be provided with a separate control valve located outside the entrance to the electrical room.
 Village of Mount Prospect Fire Prevention Code, section 24.202 (J)

Fire Department Connection

- Indicate the location of the fire department connection on the site plan.
NFPA 13, section 22.11
- A five (5) inch storz coupling must be provided for the fire department connection.
Village of Mount Prospect Fire Prevention Code, section 24.202 (K) (1)
- The fire department connection shall be located on the front of the building.
Village of Mount Prospect Fire Prevention Code, section 24.202 (K) (2)
- Bushes or other landscaping shall not obstruct the fire department connection.
Village of Mount Prospect Fire Prevention Code, section 24.202 (K) (3)
- Provide a ball drip on the fire department connection piping. It shall be located between the check valve and the fire department connection at the lowest point in the piping.
NFPA 13, section 8.16.2
- The fire department connection hose threads shall be prescribed by the fire code official.
IFC, section 903.3.6



Outdoor strobe to be placed above fire department connection



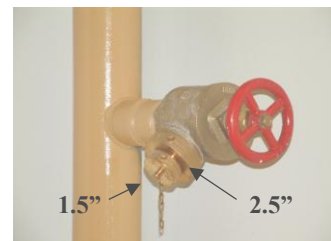
- Provide a sign mounted above the fire department connection. The sign shall read “Fire Department Connection” and/or “Standpipe”. Where the building or group of buildings is served by more than one connection, a sign shall be provided to indicate the area in which the fire department connection serves.
Village of Mount Prospect Fire Prevention Code, section 24.202 (K) (4)
- Provide a white strobe directly above the fire department connection. The strobe shall be approved for outdoor use and emit a minimum of 75 candela of light.
Village of Mount Prospect Fire Prevention Code, section 24.202 (K) (6)

Buildings that Require Fire Pumps

- The fire pump shall be located in a minimum two (2) hour rated room and be provided with emergency lighting. Provide room construction details.
Village of Mount Prospect Fire Prevention Code, section 24.202 (H) (1)
- Rooms containing fire protection control equipment shall be provided with the direct access from the exterior and interior of the building, and rooms designated as a sprinkler room shall not be used for any other purpose.
Village of Mount Prospect Fire Prevention Code, section 24.202 (H) (2)
- The fire pump suction pressure shall not fall below 20 psi minimum.
Village of Mount Prospect Fire Prevention Code, section 24.204 (G) (1)
- Provide an OS&Y gate valve on the fire pump suction piping and fire pump test header.
NFPA 20, section 4.5.1
- Provide an outside hose valve test header.
Village of Mount Prospect Fire Prevention Code, section 24.202 (J)
- Fire pumps shall be required to be equipped with a low suction alarm.
 - The alarm must sound an audible bell and transmit a signal to a UL listed central station when the available municipal water pressure drops to 20 psi. The alarm shall continue to sound and send a signal until the situation has been corrected.
 - Each low suction alarm must be provided with a low suction alarm panel monitored by the building’s fire alarm system.
 - The low suction alarm panel must be located in the fire pump room in an accessible location.
 - The low suction alarm panel must be monitored by the building’s fire alarm system for voltage integrity.
Village of Mount Prospect Fire Prevention Code, section 24.204 (G)

Buildings that Require Standpipes

- Buildings two (2) stories or greater and/or those buildings arranged or constructed to exceed one hundred fifty feet (150') from any entrance to the most remote portion to the building shall be provided with standpipes throughout the building in accordance with NFPA 14 unless modified.
Village of Mount Prospect Fire Prevention Code, section 24.203 (A)
- **Standpipes** shall be located on the intermediate landings of all stairwells in buildings required to be equipped with a standpipe. All areas shall be capable of being reached within one hundred and fifty feet (150') from each hose outlet. The distance shall be measured along the normal path of unobstructed travel.
Village of Mount Prospect Fire Prevention, section 24.203 (B)
- **Hose valve:** All hose valves shall be two and one-half inches (2.5”) with (1.5”) reducer cap. The threads of the hose valve shall be National Standard Thread.
Village of Mount Prospect Fire Prevention, section 24.203 (D)



- **System Design:** Standpipes shall be designed in accordance with NFPA 14 unless otherwise amended by the Village of Mount Prospect Fire Prevention Bureau. All standpipes shall be hydraulically designed to deliver the required water flow of 500 gpm with 100 psi of residual pressure at the most remote outlet and 250 gpm for each additional outlet not to exceed 1,000 gpm. The sprinkler demand shall be included as part of the overall standpipe system demand. **Exception:** Three story buildings not exceeding 15,000 square feet of building area and buildings two stories or less may base the standpipe design with 150 psi and 1,000 gpm available at the fire department connection. The sprinkler system design shall be based on NFPA 13 with an additional 500 gpm added to the required inside hose demand.

Village of Mount Prospect Fire Prevention Code, section 24.203 (F)

- **Standpipe control valves:** A separate control valve shall be provided to permit isolating the sprinkler system without interrupting the water supply to the standpipe system.

Village of Mount Prospect Fire Prevention Code, section 24.203 (C)

- **Pressure regulating devices:** The fire official prior to installation shall review the installation of pressure-regulating devices. The fire official will evaluate the need for pressure regulating devices based on available pressure and overall operation of the fire department. When pressure-regulating devices are required, the fire official shall specify the type of pressure regulating device. It shall be the owner's responsibility to ensure all pressure-regulating devices are maintained for the life of the system in accordance with NFPA 14.

Village of Mount Prospect Fire Prevention Code, section 24.203 (I)

- **Flow test:** Prior to system acceptance a flow test shall be conducted at the hydraulically most remote outlet to verify the system is capable of meeting the required flows.

Village of Mount Prospect Fire Prevention Code, section 24.203 (J)

Sprinkler System Acceptance Testing

- Before any sprinkler piping is concealed, such as in walls or above hung ceilings, the sprinkler contractor shall notify the Mount Prospect Fire Prevention Bureau 48 hours in advance so that the fire department can inspect the system's piping for conformance with code requirements and reviewed plans.

Village of Mount Prospect Fire Prevention Code, section 24.202 (M)

- Hydrostatically test the underground and overhead systems' piping with water at not less than 200 psi for two (2) hours. On dry pipe systems, also provide an air hydrostatic test.

NFPA 13, sections 25.2.1.1 and 25.2.1.5

Village of Mount Prospect Fire Prevention Code, section 24.202 (P)

- When the systems are complete, provide a two (2) inch main drain test. Complete a two (2) inch main drain test form and provide a copy to the Fire Prevention Bureau.

NFPA 13, section 25.2.3.4

- When the systems are complete, provide wet and dry pipe system inspector's tests. Dry pipe systems shall deliver water to the inspector's test connection within sixty (60) seconds, and ninety (90) for a wet system. Complete an inspector's test and dry pipe trip test report, and provide a copy to the Fire Prevention Bureau.

NFPA 13, sections 25.2.3.2

- Provide a certificate from the installing contractor after all underground mains have been flushed before connection is made to the sprinkler system piping. Failure to have the Fire Prevention Bureau witness the flushing will require the system to be re-flushed and sprinkler piping dismantled.

NFPA 13, section 10.10.2.1

- A complete fire pump discharge acceptance test must be performed and witnessed by the Fire Prevention Bureau.

NFPA 20, section 5.4.2



Residential Sprinkler Systems

- For residential homes where sprinkler protection is required, sprinklers may **not** be omitted from garages.
Village of Mount Prospect Fire Prevention Code, section 24.202 (D) (3)
- Provide a scaled site plan showing all existing and new underground piping, pipe sizes, fire hydrant locations and site of water flow test.
NFPA 13D, section 4.5
- Provide sprinkler protection in all areas as required.
NFPA 13 D, section 8.3.1, Village of Mount Prospect Fire Prevention Code, section 24.202 (B)
- The Village of Mount Prospect will approve the use of a one inch M70 water meter and an ASSE 1015 double check backflow prevention device or a M40 meter with a double detector check and meter by-pass. The Village of Mount Prospect Plumbing Inspector and Water Superintendent must review and approve the details of the water meter and double check backflow prevention device. Questions regarding backflow prevention can be directed to the Village of Mount Prospect Plumbing Inspector at (847) 818-5293. Hydraulic calculations that reflect the approved meter and backflow prevention device will be required.
Village of Mount Prospect Fire Prevention Code, section 24.202 (O)
- Provide at least three (3) spare sprinklers. Provide at least one of each sprinkler type, temperature rating, and orifice size in the spare sprinkler cabinet.
NFPA 13 6.2.9.5
- Each sprinkler system shall have a ½-inch or larger drain and test connection with valve on the system side of the control valve. The inspectors test connection shall contain an orifice equal to or smaller than the smallest sprinkler installation in the system.
NFPA 13D, sections 7.2.1
- Verify that the flow test is a recent seasonal low water flow test. Include date, time and location of test.
NFPA 13D, section 10.4.2
- Before any sprinkler piping is concealed, such as in walls or above hung ceilings, the sprinkler contractor shall notify the Fire Prevention Bureau 48 hours in advance so the fire department can inspect the system's piping for conformance with code requirements and reviewed plans.
Village of Mount Prospect Fire Prevention Code, section 24.202 (M)
- Provide a hydraulic graph sheet showing supply and demand curves.
NFPA 13D, section 8.4.8
- Only when approved by the fire official, may sprinkler piping be installed in areas potentially subjected to freezing where the sprinkler piping is fully insulated with a value of R38, completely framed in and boxed in using ¾ inch plywood securely screwed, caulked and draft stopped to the structural members. Additional means to supply heat to the area may also be required by the fire official.
Village of Mount Prospect Fire Prevention Code, section 24.202 (Q)

Residential Sprinkler Testing

- All new required fire sprinkler systems shall be hydrostatically tested at a minimum of 200 psi for two hours.
Village of Mount Prospect Fire Prevention Code, section 24.202 (P)
- Subject to final on-site field inspection and testing by the Mount Prospect Fire Prevention Bureau.
Village of Mount Prospect Fire Prevention Code, Chapter 24.202 (M)
- Sprinkler control valve in single family dwelling shall have signage stating "Fire Sprinkler Control Valve Do Not Shut".
Village of Mount Prospect Fire Prevention Code, Chapter 24.202 (F)



Kitchen Hood Mechanical Systems & Wet Chemical Suppression Systems (Section 4)

Kitchen Hood Mechanical Systems

- Provide complete kitchen equipment drawings that show all the equipment located under the exhaust hood.
NFPA 17A, section 4-2
- All external joints and seams shall be welded liquid-tight.
NFPA 96 section 4-5.2.1
International Mechanical Code, section 506.3.3, 507.7
- The fan motor shall be located outside the exhaust air stream.
NFPA 96, section 5-1.2.1, International Mechanical Code, section 506.3.1.1
- The exhaust duct terminate above the roof, shall have a minimum of forty inches above the roof surface.
International Mechanical Code, section 506.3.13.1
- Kitchen exhaust fans shall be provided with a UL listed hinge assembly.
Village of Mount Prospect Fire Prevention Code, section, 24.206 (B)
- Access panels shall be of the same material and thickness as the duct. Access panels shall have a gasket or sealant that is noted for 815 degrees Celsius, and shall be grease tight. Fasteners used to secure the access panels, such as bolts, weld studs, latches, or wing nuts, shall be carbon steel or stainless steel, and shall not penetrate duct walls.
NFPA 96, section 4-3.4.4
- A grease duct servicing a Type I hood that penetrates a ceiling, wall, or floor shall be enclosed from the point of penetration to the outlet terminal. The enclosure shall be separated from the duct by a minimum of six-inches and a maximum of twelve inches and shall serve a single grease exhaust duct system.
International Mechanical Code, section 506.3.11
- The amount of makeup air supplied shall be approximately equal to the amount of exhaust air. The makeup air shall not reduce the effectiveness of the exhaust system and be provided by gravity or mechanical means or both.
International Mechanical Code, section 508.1
- Fire extinguishers shall be provided for hazards where there is a potential for fires involving combustible cooking media (vegetable or animal oils and fats). Provide a portable fire extinguisher in the kitchen area within thirty- (30) feet of the hood to be protected.
NFPA 10, section 3-7.1, 3-7.2
- Provide a set of as-built drawings and a letter from the installing contractor stating that the kitchen hood ducts and related equipment have been installed in accordance with all code requirements.
Village Requirement 24.206 (C)
NFPA 96, section 7-9.1
NFPA 17A, section 4-2.5
- Subject to final inspection and system testing witnessed by the Fire Prevention Bureau.
Village Requirement 24.206 (C)
NFPA 96, section 8-2
International Mechanical Code, section 507.17
- A performance test shall be conducted upon completion and before final approval of the installation of a ventilation system serving commercial food heat-processing equipment. The test shall verify the rate of airflow and proper operation as specified in this chapter. **The permit holder shall furnish the necessary test equipment and devices required to perform the tests.**
International Mechanical Code, section 507.17



Wet Chemical Suppression Systems

- Provide a layout of the kitchen equipment to be protected. Include all dimensions of hood and associated equipment.
NFPA 17A, section 4-2.3
- The owner, architect and/or contractor shall submit drawings and details of the mechanical exhaust hood system components for review.
NFPA 96, section 7-9.1
NFPA 17A, section, 4-2
- Provide manufacturers catalog cut sheets for all devices to be used.
Village of Mount Prospect Fire Prevention Code, section, 24.202 (N) (2)
- System piping shall be steel or stainless steel. Galvanized pipe and fittings shall not be used.
NFPA 17A, section 2-5.1
- Where the system pipe penetrates the duct or hood, the penetration shall have a liquid-tight continuous external weld, or shall be sealed by a listed device.
NFPA 96, section 2-1.2
- Provide details on the type of nozzles used, flow numbers, pipe sizes, cylinder size, etc.
NFPA 17A, section 4-2.3
- Discharge nozzles shall be listed and provided with caps or disks.
NFPA 17A, section 2-3.1.4, 2-4.1
- Semi-annual maintenance shall be provided. A copy of the maintenance report shall be sent to the Fire Prevention Bureau.
NFPA 17A, section 5-3
- Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned to bare metal at frequent intervals prior to surfaces becoming heavily contaminated with grease or oily sludge. A properly trained, qualified, and certified company or person(s) acceptable to the authority having jurisdiction in accordance with Table 8-3.1 shall inspect the entire exhaust system. A certificate showing date of inspection or cleaning shall be maintained on the premises.
NFPA 96, section 8-3.1, 8-3.1.2
- Provide a fusible link above each cooking appliance.
NFPA 17A, section 3-6.1.2
- Upon activation of any cooking equipment fire extinguishing system, all sources of fuel and power to all equipment protected by the system shall be shut down. Gas appliances not requiring protection, but located under the same ventilation equipment shall also be shut off.
NFPA 17A, section 2-4.3.1
- Shut off valves for gas piping shall be prohibited in all concealed locations and all spaces used as plenum. Shut off valves shall be plainly marked with an identification tag by the installer.
International Mechanical Code, section 1307
- Indicate connecting the system to the building fire alarm panel.
NFPA 17A, section 3-2.1.5



- Manual pull stations shall be located not more than five feet above the floor and not less than ten feet from the hood. The pull station shall be located near the exit in an accessible location.
NFPA 17A, section 5.2.1.1
- Each pre-engineered automatic dry and wet chemical extinguishing system shall be tested in accordance with UL 300 and listed and labeled for its intended application. Other types of extinguishing systems, including engineered dry and wet chemical fire extinguishing system, shall be listed and labeled for specific use as protection for commercial cooking operations. Provide documentation that the system is listed by an approved agency.
International Mechanical Code, section 509
- The contractor shall provide the Mount Prospect Fire Department with a certificate stating that the fire protection systems are installed in full compliance with NFPA standards and Village of Mount Prospect code requirements and that all acceptance tests have been conducted.
NFPA 17A, section 4-3.1
- Subject to final inspection and system discharge test witnessed by the Mount Prospect Fire Department.
Village Requirement
NFPA 17A, section 4-3.2
International Building Code, section 904.4
- Upon completion provide a set of as-built drawings.
Village Requirement 6.721 (B) (5)
NFPA 96, section 7-9.1
NFPA 17A, section 4-2.4