

# **FIRE PREVENTION MANUAL**

**INSPECTIONAL GUIDE 7**

**BUILDINGS UNDER CONSTRUCTION  
AND DEMOLITION**



# **DRAFT**

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## 1. RECORDS TO EXAMINE

- Units shall ensure that the required written permit from the Building Department authorizing construction, demolition or alteration is present at the site. It shall be unlawful to construct, alter, repair or demolish any building in the city until a written permit from the Commissioner of the Department of Buildings has been issued. Ref. Building Code Section 26-207
- Construction is defined by the building code as, “Any or all work or operations necessary or incidental to the erection, demolition, assembling or equipping of buildings, or any alterations and operations incidental thereto.” Ref. Building Code Sub-chapter 2 Definitions
- Fire Department permits and certificates shall be required and enforced as provided for in Chapter 4 of Title 27 of the Administrative Code.
- FDNY units inspecting sites shall also check if the DOB Permit and/or After Hours Variance Permit are posted. If the required permits are not available and/or the after hours work is not permitted, the Department of Buildings should be notified. Ref. Section 15 of this Guide
- Construction activities are normally limited to Monday through Friday, from 7:00 AM - 6:00 PM. However, where circumstances warrant it, the Department of Buildings will issue a permit variance for after hours or weekend work - 9:00 AM - 5:00 PM. The permit for after-hours or weekend work must be displayed to demonstrate that permission has been given.

## 2. STAIRWAYS

- All enclosed stairways and enclosed shafts (elevator, dumbwaiter, etc.) shall be maintained enclosed on all floors except the uppermost floor being demolished. Ref. Title 2 Board of Standards and Appeals Section 3-02 (3)
- During Construction, Alteration and /or Demolition of reinforced concrete buildings; all temporary stairs shall not extend more that 4 stories or 60 feet, whichever is less. Ref NYS Industrial Code § 23.2.7
- There shall be at all times, safe access to and egress from every building and every floor in every building in the course of demolition by means of an unobstructed hallway, stairways or ladder runs so enclosed or so located as to protect persons using them from falling materials. Ref. Title 2 Board of Standards and Appeals Section 3-02 (9)
- Units encountering stairways blocked during construction, alteration or demolition are instructed to immediately notify the administrative Battalion Chief and Department of Buildings Emergency Operations Center. Ref. Section 15 of this Guide.

### **3. REQUIRED SIGNS**

- A sign containing the name, address and telephone number of the general contractor and the owner of the premises shall be posted at the sites. Ref. 27-1009(a)
- A metal sign reading “STANDPIPE SIAMESE CONNECTION” with a red light over the sign shall be posted at the location of all Standpipe Siamese Connections. The red light must be lit at night. Ref. 27-1014(b)
- A metal sign reading “SPRINKLER SIAMESE CONNECTION” with a red light over the sign shall be posted at the location of all Sprinkler Siamese Connections. The red light must be lit at night. Ref. 27-1014(b)

### **4. RULES FOR OPEN FIRES AND SMOKING**

- Open fires and smoking are strictly prohibited in buildings under construction or demolition. "No Smoking" signs shall be prominently posted throughout all floors.

### **5. ACCUMULATIONS OF FLAMMABLE RUBBISH**

- Old lumber and other combustible debris in and around the site shall not be allowed to accumulate.
- Before demolition is started, the cellar and all floors shall be thoroughly cleared of all furniture and other combustible property and all fixtures and equipment which could cause voids in the fill shall be removed.
- Combustible waste material in excess of 15 cubic yards shall be removed daily before the close of the day's work.
- Violation orders issued for the removal of such materials shall include a stipulation to “Maintain premises free from such accumulations.” A follow-up inspection shall be conducted, and if the violating conditions still exist, a summons will be issued. Ref. BSA Rule 3-02(i)(18)

### **6. DEVICES USED FOR CURING AND DRYING**

The construction industry utilizes several types of drying devices for curing concrete and drying plaster that are generically referred to as salamanders. These include: coke salamanders, natural gas fueled salamanders, propane fueled salamanders, kerosene fueled salamanders and electric heaters.

- **Coke salamanders** use wood / charcoal briquettes and there is no requirement for a certificate of fitness when these are used. Coke fired heaters are required to be kept at least 10 feet from combustible tarpaulins or other combustible enclosures. They must be on non-combustible platforms and fire extinguishers must be in place as stipulated in section 14 of this guide. A watch person must conduct hourly patrols of all floors where these heating devices are used and a log of such patrols must be maintained for FDNY inspection. Ref. NYC Administrative Code Section 27-4249

- **Kerosene fired heating salamanders** do not require an FDNY Certificate of Fitness. When the amount of kerosene stored exceeds 10 gallons, an FDNY permit is required. The kerosene must be stored in a metal, ventilated enclosure that is kept locked when not in actual use. Heaters or salamanders must be of a type approved by the Board of Standards and Appeals or the Underwriters Laboratories. Fueling of heaters or salamanders shall be accomplished through the use of approved safety cans with a maximum capacity of five gallons. Suitable fire extinguishers shall be in place as required in section 14 of this guide. Ref. RCNY Title 3 Sect. 24-03
- **Natural gas fired heaters** require an FDNY permit. Natural gas heaters are required to be operated under the supervision of a licensed plumber or a person with an FDNY Certificate of Fitness. The devices shall be inspected daily by the plumber or the Certificate of Fitness holder and a record of such inspection shall be maintained in a bound log book available for FDNY examination. The heaters shall be placed at least twenty feet from flammable liquids and ten feet from combustible temporary enclosures and tarpaulins. The heater shall be used only in well ventilated areas and shall be placed on a noncombustible foundation. A portable combustible gas leak detector shall be readily available on the premises. At least one portable 20 BC extinguisher shall be provided on each floor and not more than thirty feet from each heater in use or connected. Ref. RCNY Title 3 Sect. 11-05
- **LPG fired heaters** used for curing concrete, drying plaster and similar applications shall be prohibited in any occupied building. The use of LPG for curing or drying purposes shall be conducted under the supervision of a person holding a certificate of fitness. The certificate of fitness holder shall inspect the area where LPG containers and heaters are located at least on an hourly basis. The results of each inspection shall be recorded in a log book which shall be maintained on the premises and produced for inspection when requested by the FDNY. All rules concerning storage and use as defined by Title 3 Section 25-01 must be complied with. Ref. Title 3 Section 25-01
- **Electric heaters** may be found in use at construction sites for curing of concrete and drying plaster. There is no requirement for permits or certificates of fitness for such heaters. Units should ensure that such heaters are approved by a nationally recognized testing authority and that safe space of at least ten feet from any combustible tarpaulin is maintained.

## 7. SPRINKLER AND STANDPIPE REQUIREMENTS

- 7.1 STANDPIPES – Building Code Section 27-1014(b) requires a standpipe when in the course of erection or demolition, the building reaches a height of seventy-five feet with a floor system in place.
- Standpipes in buildings under construction and demolition shall be maintained as dry systems.
  - When demolition is started, the standpipe risers shall be capped above the outlet on the floor below the floor being demolished so as to maintain the standpipe system on all lower floors for Fire Department use.

- Standpipe systems that consist of two or more risers may utilize one of the risers to convey compressed air to any floor or portion of the premises upon application to and permission from the Fire Department.
- A metal sign at the siamese connection for the standpipe must be present reading "STANDPIPE SIAMESE CONNECTION" with a red light over the sign. The red light must be lit at night.

7.2 **SPRINKLERS** – In structures undergoing demolition which have existing sprinkler systems with siamese connections, such systems shall be maintained as a non-automatic sprinkler system. When demolition starts, the sprinkler risers shall be capped immediately below the floor being demolished so as to maintain the sprinkler system on all lower floors for Fire Department use.

- A metal sign must be present at the siamese connection for the sprinkler system reading "SPRINKLER SIAMESE CONNECTION" with a red light over the sign. The red light must be lit at night. Ref. Bldg. Code 27- 1014(b)

**Note:** Some buildings have been built with partial sprinkler protection. These building's sprinkler systems were supplied by either a roof tank or the city main and in some cases a combination of both. There never was a siamese connection required because the number of heads in any given fire area did not exceed thirty-six. These buildings are not required to maintain the sprinkler system during demolition of the building. However, if the building is over seventy-five feet high, the standpipe system must be maintained as a dry system.

7.3 **Removal of damaged sprinkler systems in buildings undergoing demolition or gut rehabs** - the Department of Buildings and FDNY have established a uniform procedure, known as a Technical Policy and Procedure Notice (TPPN # 3/07), to process variance requests for the removal of damaged existing sprinkler systems in buildings undergoing demolition or gut rehab.

- Requests for variance to remove a damaged or inoperable sprinkler system in connection with demolition or gut rehabs shall be filed with the Department of Buildings as an Alteration Type II in accordance with the following procedure:
  1. The filed application shall include a complete report prepared by a professional engineer or architect describing the extent of the damage and attesting as to why the system cannot be restored.
  2. Upon review of such report, the DOB examiner shall issue an objection stating "Removal of the existing sprinkler system requires review and concurrence by the Fire Department." The examiner shall enter "FDNY concurrence is required prior to removal of sprinkler system" as a required item to be satisfied prior to plan approval.
  3. The applicant shall proceed to file the variance with the FDNY, Bureau of Fire Prevention. The FDNY reviews the variance request, orders a site inspection and recommends any necessary safety measures as a condition to granting the variance.

4. FDNY safety measures will include maintenance of the existing standpipe system if one is present. The maintenance of twenty-four hour fire guard and watch person provisions, strict compliance with all FDNY rules concerning portable firefighting appliances, removal of flammable rubbish and debris as well as prohibitions against smoking and open fires at the site shall be complied with. Failure to comply will result in a forthwith violation order.
5. The applicant must submit FDNY's recommendations to the DOB plan examiner along with proof of satisfactorily meeting all safety measures imposed by the FDNY.
6. Upon satisfactory review of the submission, the plan examiner may approve the application, at which time the applicant can proceed with the DOB permit.
7. FDNY units inspecting sites where the sprinkler system has been removed must examine a copy of the variance. A copy of the variance must be maintained at the site. Failure to produce the required variance will result in a forthwith violation order. Units encountering sites where sprinkler systems with siamese connections were removed without the proper variance are instructed to immediately issue a summons for failure to comply with the New York City Administrative Code Section 27-1014 and notify the DOB to respond to the location.

## **8. ELEVATOR IN READINESS**

- If construction reaches over seventy-five feet in height, at least one elevator shall be kept in readiness at all times for use by the Fire Department in accordance with Building Code § 27-1014 (a), RCNY Title 2, BSA Chapter 3 Construction § 3-02.

## **9. FLOOR OPENINGS AND VERTICAL SHAFTS**

- Every opening used for the removal of debris in every floor except the top working floor shall be provided with a tight enclosure from floor to floor, equivalent to that afforded by planking not less than two inches thick. As an alternative in buildings not more than six stories in height, such openings may be protected by a tight temporary covering equivalent to that afforded by planks not less than two inches in thickness and laid close. Whenever such covering has been temporarily removed to permit debris removal, floor openings shall be protected by guard rails. No person shall be permitted access to within a horizontal distance of twenty feet from the opening through which debris is being dropped. Such covering shall be promptly replaced in position upon the ceasing of such work and at the end of each work day. Ref. FP Directive 9-66
- The aggregate floor area of openings in any floor of a building in the course of demolition shall not exceed twenty-five (25) percent of the entire floor area of such floor. Ref. BSA Rule Sect. 3-02 (15)
- All enclosed vertical shafts and stairs shall be maintained enclosed at all floors except the uppermost floor being demolished, and all work on the uppermost floor shall be completed before stair and shaft enclosures on the floor below are disturbed. Ref. Building Code Section 27-1039(6)

## **10. REQUIREMENTS FOR DEBRIS REMOVAL CHUTES**

- When chutes are used for the removal of materials, they shall be braced throughout their height.
- Chutes up to seventy-five feet high may be constructed of wood or 3/16 inch steel.
- Chutes exceeding seventy-five feet in height constructed of combustible material shall be covered on the exterior with corrugated steel sheeting, and all structural supports for the chute shall be of non-combustible material. Ref. FP Dir. 9-66; NYC Adm. Code, Title 27, Construction and Maintenance, § 27-1019 "Removal and storage material"

## **11. REQUIREMENTS FOR SITE SAFETY MANAGERS**

- Site safety managers are required whenever there is construction of a building that is 15 or more stories or 200 feet or more in height.
- Site safety managers are required whenever a construction project is equal to or exceeds 100,000 square feet of lot coverage, regardless of height.
- When a sidewalk shed is required for the alteration of the facade of a major building, a site safety manager is required.
- A site safety manager is also required whenever designated by the Commissioner of the Department of Buildings.
- Site safety managers must be certified by the Buildings Department.
- Site safety managers must maintain a log of inspections they have conducted.
- When the building reaches a height of 75 feet, the site safety manager shall ensure that an elevator in readiness or personnel hoist is kept in readiness for Fire Department use.
- When the building reaches a height of 75 feet, the site safety manager shall ensure that the standpipe system shall be available and in readiness at all times for Fire Department use and that valves are in place at each story below the construction floor.
- The site safety manager shall ensure that the siamese hose connections are free from obstruction and marked by a sign reading "Standpipe Siamese Connection" and by a red light.
- The site safety manager shall ensure that all openings and holes in floors are covered as required.
- The site safety manager shall ensure that floors and stairs are maintained clean of excess debris.
- The site safety manager shall ensure that combustible waste material and debris have been removed from the site.
- The site safety manager shall ensure that rules against open fires and smoking are enforced.

- The site safety manager must be present at the site at all times during construction (working hours). If the site safety manager is not present a certified alternate must be present in case of his/her absence and log entries made indicating same. Ref. Local Law 45 of 1983; RCNY Title 1 Appendix A “ The Department of Buildings Manual for Site Safety Programs” and § 26-01 “Filing of Site Safety Programs and Designation of Site Safety Managers”

## 12. REQUIREMENTS FOR FIRE GUARDS

- Fire guards require a Certificate of Fitness from the FDNY.
- Fire guards are required at sites when construction, alteration, or demolition exceeds 10,000 square feet when fronting one street or 20,000 square feet when fronting two streets or whenever the building exceeds seventy-five feet in height.
- When the construction, alteration or demolition site exceeds 10,000 square feet, or 20,000 square feet and is completely enclosed by a substantial fence, the area limitations shall be increased by 50% to therefore require one fire guard per 15,000 square feet when fronting one street or one fire guard per 30,000 square feet when fronting two streets.
- Fire guards shall be on duty when operations are not in progress. Therefore, when construction workers quit for the day, fire guards must be present on site from end of the construction workers day until 2400 hours. Between 2400 hours and 0800 hours, fire guards are not required to be present. During these hours, a competent Watch Person shall be present.
- Fire guards must maintain a log of their inspections/patrols of the building site. Patrols should be conducted hourly and cover all areas of the building.
- Fire guards must enter in the log the condition of all fire suppression/firefighting equipment at the site including the standpipe and/or sprinkler and presence of fire extinguishers on each floor. In lieu of extinguishers, casks of water may be provided.
- The log must be present for FDNY inspection at the site and contain the results of inspections, any deficiencies discovered and the name of the fire guard who conducted the inspections. Ref. BSA Chapter 3 Construction § 3-02(e) (4) (ii); FP Dir. 6-68; RCNY Title 2

## 13. REQUIREMENTS FOR WATCH PERSON SERVICE

- Watch person service is to be conducted by a competent person. No certificate of fitness or other documentation is required by the FDNY.
- A competent watch person shall be on duty during all hours when operations are not in progress or fire guards are not present.
- A single watch person shall be present when a building being constructed or demolished occupies an area of 5,000 square feet up to 40,000 square feet. If the area is greater than 40,000 square feet, an additional watch person shall be on the premises.

- Watch persons shall know the location of the nearest fire alarm box and transmit an alarm to the FDNY immediately upon any indication of fire. Ref. Admin. Code 27-1024; RCNY Title 3, Fire Department § 11-01 "Buildings in the Course of Construction and Buildings Undergoing Demolition" Section 14

#### **14. REQUIREMENTS FOR PORTABLE FIRE APPLIANCES**

- For each 2,500 square feet of construction or 5,000 square feet of demolition of floor area on each floor, provide a 40 gallon water cask with 4 buckets or one 2½ gallon water type extinguisher. A building that has a permit for alteration must comply with the more stringent requirement of one portable fire appliance per 2,500 square feet per appliance.
- Each construction shed must have one 2½ gallon water type extinguisher.
- Provide one 2½ gallon water type extinguisher on each floor where wood scaffold has been erected to a height greater than 40 feet. This extinguisher shall be readily accessible to the scaffold. Ref. FP Directive 5-64, BSA Rules 2.4; 6.20 and C19-1610.(a)

#### **15. DOB RESOURCES AVAILABLE TO FIELD UNITS**

- The New York City Department of Buildings (DOB) has the following resources that are available to units for inspections and consultations concerning conditions that may be discovered during the inspection of buildings under construction or demolition. There are three methods of contacting DOB: **1)** Emergency Notification, **2)** Priority A-8 Referral, **3)** Telephone Consultation (non-emergency)

##### **1. EMERGENCY NOTIFICATIONS**

All Emergency Notifications from FDNY to DOB shall be via Fire Dispatch, in accordance with FDNY Fire Dispatch Operations Advisory Number 05-06 and FDNY All Borough Circular 3/88.

For Normal Business Days: 0800 - 2200

Saturday & Sunday: 0800 - 1600

Call 212-566-3415 or 212-566-3431 Emergency Operations Center

After Business Hours, to contact Car 93 (DOB Emergency Response Team), try

- Skytel Pager 888-463-2838
- OEM

##### **2. PRIORITY A-8 REFERRAL**

FDNY Referrals to DOB for conditions not requiring an Emergency Notification, yet requiring a Priority Response, shall be done as follows:

- For those Borough Commands that currently participate in the High Priority A-8 Program in which complaints are directly entered into Building Information System (BIS), they shall utilize that method of referral.
- For those Borough Commands that do not yet utilize the High Priority A-8 Program, conditions shall continue to be referred utilizing existing methods. Ref. FP Information Bulletin 10

**3. TELEPHONE CONSULTATIONS (Non-Emergency)**

Fire Officers that wish to consult with the Department of Buildings staff during normal business hours may call the **Borough Inspection Managers:**

**Manhattan:** 212-566-5047    **Queens:** 718-286-0675    **Bronx:** 718-579-6919

**Brooklyn:** 718-802-4035    **Staten Island:** 718-816-2210

• **Building Enforcement and Safety Team (BEST Squad)**

The Building Enforcement and Safety Team works to ensure the safe and lawful construction of major buildings (over 75 feet in height), demolitions, excavations and residential construction sites by enforcing the building code with proactive inspections.

The BEST Squad:

- Performs periodic safety inspections of construction sites.
- Conducts scheduled safety inspections for demolitions in progress.
- Responds to and investigates complaints received.
- Conducts active inspection sweeps of new residential building sites.
- Is located at Municipal Building - One Centre Street, 23rd Floor  
Telephone number - 212-669-7043  
Office hours - 0830 - 1530, Monday through Friday.