

# **FIRE PREVENTION & PUBLIC SAFETY BUREAU**

**REQUIREMENT #07** 

# Fire Safety at Construction Sites

According to 2017 National Fire Protection Association (NFPA) Research Report, between 2010 and 2014, each year, fire departments in the US responded, to an estimated 3,750 fires in structures under construction. With annual "5 civilian deaths, 51 civilian injuries, and \$172 million in direct property damage." The report stated the leading cause of fires in structures under construction between 2010 and 2014 were due to; cooking equipment (27%), intentionally-set fires (13%), heating equipment (13%), and hot work (12%).

During construction, a building is at its most vulnerable state. Buildings under construction or renovation may have any of these conditions that support fire development and spread:

- Combustible material and waste material are present in significant amounts.
- Buildings under construction are generally unprotected. Fire protection systems, detection systems, and compartmentation are unavailable or incomplete.
- Hot work, such as; welding, cutting, soldering, brazing, and grinding are performed.
- Fire apparatus access and fire protection water supply may be limited or hampered due to conditions present at the construction site.
- Use of temporary heating and cooking devices.

This requirement is intended to prescribe minimum safeguards for new building construction and significant building alteration projects in order to provide a reasonable degree of safety to life and property from fire. The requirement is based on the provisions for fire safety during building construction and demolition as set forth in Chapter 33 of the 2017 Los Angeles Fire Code (LAFC); and 2016 edition of the NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations. This requirement shall not be construed to be in lieu of any other applicable State or Federal law or regulation related to construction site safety. The general contractor or other designee of the building owner shall be responsible for compliance with these standards. When the term "shall" is used in this document, it means a mandatory requirement.

Approved architectural plans shall be provided with a statement, in Fire Department General Notes, indicating that the "general contractor or other designee of the building owner shall comply with this bulletin, LAFC Chapter 33, LABC Chapter 33, and NFPA 241 for safeguarding during construction, alteration, and demolition."

A written Fire Protection Program (FPP) complying with Chapter 33 of the LAFC and NFPA 241 shall be developed for building projects that exceed 150,000 square feet, or exceeds 100,000 square feet for projects that exceed 30 feet in height. The FPP shall be developed prior to proceeding past foundation work for new buildings or commencement of demolition work in alteration projects. A hard copy of the FPP shall be available on site for Fire Department and Building and Safety review.

## A. Fire Protection Program

FPP shall be consistent with the fire safety precautions as specified in this Bulletin, LAFC and its referenced standards. The general contractor or other designee of the building owner is responsible for carrying out the provisions of the Fire Protection Plan and communicating it to all subcontractors. The Fire Protection Program shall include the following:

- 1. Name and Contact information of Fire Prevention Program Superintendent (FPPS) responsible for compliance with FPP.
- 2. Documentation of the training of the FPPS.
- 3. Procedures for reporting emergencies to the Fire Department.
- 4. Procedures for emergency notification, evacuation and/or relocation of all persons in the building under construction and on the site.
- 5. Site Security Plan.
- 6. Procedures for hot work operations, management of hazardous materials and removal of combustible debris and maintenance of emergency access roads.
- 7. Procedures for the use of temporary heating equipment.
- 8. Smoking and cooking policies, designated areas to be used when approved, and signage location in compliance with Section 3304.8 of the LAFC.
- 9. Floor plans identifying the locations of exits, exit stairs, exit routes, portable fire extinguishers, and standpipes.
- 10. Site plans identifying the designated exterior assembly areas for each evacuation route.
- 11. Site plans identifying required fire apparatus access roadways, fire hydrants location and Fire Department Connection (FDC).

## B. Site and Equipment Security

 Site Security: A strongly constructed fence or barricade at least 6 feet in height shall be erected around construction site. The fence or barricade shall not be easily scaled; opening shall be only for required authorized access to the construction site. Access point shall be through gate(s) that are locked when site is unattended. Such fence/barricade shall not obstruct access of fire responders and their equipment to the site. Security of large sites may be required to have additional security feature; such as, close circuit systems, motion detectors, and infrared beams.

Revised: 1/23/2020



**FIRE PREVENTION & PUBLIC SAFETY BUREAU** 

REQUIREMENT #07

- 2. **Guard service**: Guard service shall be provided to address fire risks and unauthorized access once combustible materials are on site. <u>FPPS</u> shall be responsible for the guard service. Guard(s) shall be trained on:
  - a. Emergency notification procedures
  - b. Function and operation of fire protection equipment
  - c. Fire hazards
  - d. Use of construction elevators, where provided
  - e. Fire watch
- 3. Equipment Security: Man lifts and construction cranes shall be powered off at the end of each working day and when unattended. Access to crane ladders shall be locked and secured to prevent their access at the end of each working day.

## C. Access and Parking

 Fire Department Access Roadways: All construction sites shall be accessible by Fire Department apparatus by means of roadways having an all-weather driving service of no less than 20 feet (28 feet if construction height is 28 feet or more) of unobstructed width. The roads shall have the ability to withstand the live loads of fire apparatus, and have a minimum of 13½ feet (13 feet 6 inches) of vertical clearance. Dead end fire access roads in excess of 150 feet in length shall be provided with approved turnarounds.

When approved by the Chief, temporary access roadways may be utilized until such time as permanent roadways are installed. As a minimum, the roadway shall consist of a compacted sub-base and 6 inches of road base material (Class 2 aggregate base rock) both compacted to a minimum 95%. The perimeter edges of the roadway shall be contained and delineated by curb and gutter or other approved method. The use of geotextile reinforcing fabric underlayment or soils lime-treatment may be required if so determined by the project civil engineer. Provisions for surface drainage shall also be provided where necessary. The integrity of the roadway shall be maintained at all times.

 Premises Identification: The address numbers of the property or project location shall be plainly visible and legible from the street or road fronting the property at the fire apparatus access point per section 505 of the LAFC or as otherwise approved by the Fire Department. 3. Vehicle Parking: All vehicles shall be parked a minimum of 20 feet from new buildings under construction.

Exceptions:

Vehicles that are temporarily parked for loading/unloading or other construction related operations. Such vehicles shall not be left unattended.

No parking shall be allowed on any Fire Department access roadway.

### D. Fire Protection Systems

- 1. Fire Hydrants: Where underground water mains and hydrants are required for the building(s) under construction, they shall be installed, completed, and in service prior to combustible construction materials are accumulating on site.
- 2. Standpipes: Where standpipes are required, the standpipes shall be installed when the progress of construction is no more than 35 feet in height above the lowest level of the fire department access. The Standpipe shall be installed in above grade and below grade levels. Standpipes shall be provided with Fire Department hose connections and outlets at accessible locations adjacent to all usable stairs. The standpipe system shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring. Each floor shall be provided with a 2½-inch valve outlet for Fire Department use. Where construction height requires installation of a Class III standpipe, fire pumps and water main connections shall be provided to serve the standpipe.
- 3. Fire Walls: When fire walls are required, the wall construction shall be completed (with all openings protected) at the location of the wall(s) that is two or more stories below current construction level. Opening protected shall be provided with self-closing and latching devices and kept closed during construction idle times; such as, night time, weekends, and holidays.
- 4. Fire Sprinkler Systems: Where fire walls are not provided and automatic fire sprinkler systems are required to be installed in the building being constructed, the fire sprinkler system shall be placed in service as soon possible. For buildings of Type I or II non-combustible construction, activation of the fire sprinkler system may be delayed until combustible finishes, furnishings or equipment are installed, and the building or area is not used for combustible storage or any other purpose.

Immediately upon the completion of sprinkler pipe installation on each floor level, the piping shall be hydrostatically tested and inspected. After inspection approval from the Department of Building and Safety, each floor level of sprinkler piping shall be connected to the system supply riser and placed into service with all sprinkler heads uncovered. Protective caps may be installed on the active sprinklers during the installation of drywall, texturing, and painting, but shall be



# **FIRE PREVENTION & PUBLIC SAFETY BUREAU**

## **REQUIREMENT #07**

removed immediately after this work is completed. For system activation notification, one exterior approved audible device, located on the exterior of the building in an approved location, shall be connected to each automatic sprinkler system water flow device prior to installation of the monitoring system. Such sprinkler water-flow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. For buildings equipped with fire sprinkler systems that are undergoing alterations, the sprinkler system(s) shall remain in service at all times except when system modifications are necessary. Fire sprinkler systems undergoing modifications shall be returned to service at the end of each workday unless otherwise approved by the Fire Department. The General contractor or his/her designee shall check the sprinkler control valve(s) at the end of each work day to confirm that the system has been restored to service.

- 5. Fire Alarm Systems: Fire alarm systems shall be maintained operational at all times during building alterations. When an alteration requires modification to a portion of the fire alarm system, the affected area of the system requiring work shall be isolated and the remainder of the system shall be kept in service. The Fire Department shall be notified when it is necessary to shut down a fire alarm system, a fire watch or other mitigation approved by the Fire Department shall be implemented by the general contractor until the system is returned to full service.
- 6. Fire Extinguishers: Portable fire extinguishers shall be provided and shall be mounted on a wall or post at each usable stairway and such that the travel distance to any extinguisher does not exceed 75 feet, with maximum area coverage of 3,000 square feet for each extinguisher. Mounting height to the top of the extinguisher shall not exceed 5 feet. Extinguishers shall not have less than a 2A10BC rating or as otherwise directed by the Fire Department. The general contractor shall ensure that an adequate number of individuals are trained in the proper use of portable fire extinguishers.
- 7. Smoking: Smoking is prohibited anywhere inside or on the roof of new buildings under construction or in the project work area of buildings undergoing alteration. Smoking shall be allowed only in approved designated areas. Such designated areas shall comply with all applicable State regulation, be at least 25 feet from the building, and be provided with suitable non-combustible ash trays.

#### Exception:

At least 10 feet from the building if all property lines are not more than 20 feet from building.

A suitable number of 'No Smoking' signs shall be posted in conspicuous locations throughout the construction site to ensure that smoking is controlled.

8. Cooking: Cooking shall be prohibited except in approved designated cooking areas separated from combustible materials by a minimum of 10 feet. Cooking equipment shall be placed and used in such a manner so that it is secured against overturning or displacement. Cooking areas shall be designated by approved signs, which state the following:

#### WARNING!

#### DESIGNATED COOKING AREA – COOKING OUTSIDE OF A DESIGNATED COOKING AREA IS PROHIBITED

9. Emergency Notification: Provisions shall be provided at the construction site for emergency notification of the Fire Department. Instructions shall be issued for the immediate notification of the Fire Department in the case of a fire. When telephone service is used, the street address of the construction site shall be posted adjacent to the telephone.

#### E. Exit Requirements

- 1. **Minimum Number of Exits:** All new buildings under construction shall have a least one unobstructed exit. All exits shall be identified in the FPP.
- 2. Multi-Story Buildings: Each level above the first story in new multi-story buildings shall be provided with at least two usable exit stairs after the floor decking is installed. The stairways shall be continuous and discharge to grade level. Stairways serving more than two floor levels shall be enclosed (with openings adequately protected) after exterior walls/windows are in place. Exit stairs in new and in existing occupied buildings shall be illuminated at all times and maintained clear of debris and construction materials at all times.

#### Exception:

For new multi-story buildings, one of the required exit stairs may be obstructed on no more than two contiguous floor levels for the purposes of stairway construction (i.e., installation of gypsum board, painting, flooring, etc.).

 Assembly Points: Designated exterior assembly points shall be established for all construction personnel to relocate to upon evacuation. The assembly points shall also be identified in the FPP.



## F. Flammable and Combustible Liquids

- 1. **Storage Areas:** The following requirements shall apply to storage areas for flammable and combustible liquids:
  - a. Storage areas shall be kept free of weeds and extraneous combustible material.
  - b. Open flames and smoking shall be prohibited in storage areas.
- Containers: Metal containers for Class I or II liquids shall be in accordance with the Department of Transportation (DOT) requirements or shall be of an approved design. Discharge devices shall not cause an internal pressure on the container. Individual containers shall not be interconnected and shall be kept closed when not in use.
- Secondary Containment: Secondary containment or a means of spill control, drainage control, and diking shall be required for containers and tanks as approved by the Fire Department and, if applicable, local hazardous materials program agency.
- Marking: Tanks and containers shall be marked with the name of the product and "FLAMMABLE — KEEP FIRE AND FLAME AWAY." Tanks (i.e., containers in excess of 60 gallons) shall also be labeled "KEEP 50 FEET FROM BUILDINGS."
- Tank Installation Plans/Permit: Plans for the installation/use of any aboveground storage tank (i.e., container greater than 60 gallons) shall be submitted to the Los Angeles Fire Department (LAFD), Fire Development Services (FDS) Section and, if applicable, the Certified Unified Program Agency (CUPA) for review and permit prior to the proposed tank arriving at the site.
- 6. **Fueling of Equipment:** Fueling operations shall be conducted in an approved manner by trained and designated personnel and only in specified, well vented areas. Internal combustion engines and associated equipment shall be shut down and allowed to cool sufficiently prior to refueling.

### G. Other Combustible Materials

1. Combustible Material Storage: Combustible construction materials shall be stored a minimum of 30 feet from buildings under construction or undergoing remodel. Exceptions:

- a.) Construction sites where each dimension is less than 300 feet long, combustible construction material may be stored at a minimum distance equal to 10% of the longest dimension of the site.
- b.) Materials that are staged for installation on a floor level shall not exceed 72 hours.
- c.) When approved by the Fire Department, materials may be stored in parking garages of Type I construction if the automatic fire sprinkler system is in service and vertical openings are protected.
- 2. Combustible Debris: Wood, cardboard, packing material, lumber, and similar combustible debris shall not be accumulated within buildings. Such debris, rubbish, and waste material shall be removed from and around the building on a daily basis and disposed of in a dumpster or trash cans outside of the building. No dumpster or trash cans shall be placed/or stored within 30 feet of the building. All trash chutes shall be of non-combustible material.

## Exception:

Construction sites where each dumpster or trash can may be placed or stored from the building at a minimum distance equal to 10% of the longest dimension of the site.

3. **Oily Rags:** Oily rags and similar material shall be stored in metal or other approved containers equipped with tight-fitting covers.

## H. Compressed Gases

- 1. **Protection of Gas Containers:** Gas containers/cylinders shall be protected as follows:
  - a. Combustible materials shall be kept a minimum of 10 feet from gas containers.
  - b. Cylinders shall be protected against physical damage.
  - c. Cylinders shall be stored upright and secured to prevent falling.
  - d. Cylinders shall not be placed near elevators, unprotected platform edges or other areas where they would drop more than 2 feet.
  - e. Cylinders shall not be placed in areas where they may be damaged by falling objects.
  - f. When cylinders are not in use, valve protective caps shall be in place.
  - g. Ropes, chains or slings shall not be used to suspend gas cylinders, unless the cylinder was manufactured with appropriate lifting attachments.
- 2. **Separation:** Gas cylinders shall be separated from incompatible material based on their hazard classes.

Revised: 1/23/2020



# FIRE PREVENTION & PUBLIC SAFETY BUREAU

**REQUIREMENT #07** 

- 3. Marking: Gas cylinders shall be marked with the name of the contents.
- I. Liquefied Petroleum Gas (LP-Gas)
- 1. **Use in Buildings:** Propane containers may be used in buildings under construction or undergoing major renovation as a fuel source for temporary heating for curing concrete, drying plaster and similar applications in accordance with the following:
  - a. Heating elements (other than integral heater-container units) shall be located at least 6 feet from any LP-Gas container.
  - b. Integral heater-container units specifically designed for the attachment of the heater to the container, or to a supporting standard attached to the container, may be used provided they are designed and installed so as to prevent direct or radiant heat application to the LP-Gas container.
  - c. Blower and radiant type units shall not be directed toward any LP-Gas container within 20 feet.
  - d. Heat producing equipment shall be installed with clearance to the combustibles in accordance with the manufacturer's installation instructions.
  - e. Cylinders shall comply with DOT cylinder specifications and shall be secured in an upright position.
  - f. Regulators shall be approved for use with LP-Gas. Fittings shall be designed for at least 250 p.s.i.g. service pressure.
  - g. Hose shall be designed for a working pressure of at least 350 p.s.i.g. (unless limited to 5 p.s.i.g.) and shall be a maximum of 6 feet in length.
  - h. Portable heaters shall be equipped with an approved automatic device to shut off the flow of gas to the main burner and to the pilot in the event of flame extinguishment or combustion failure. Portable heaters with an input of more than 50,000 Btu/hr. shall be equipped with either a pilot that must be proved before the main burner can be turned on or an approved electronic ignition system.
- Occupied Buildings: In addition to the above, for LP-Gas storage/use in buildings undergoing alteration and that are fully or partially occupied, the following shall also apply:
  - a. Specific approval must be obtained from the Fire Department prior to bringing LP-Gas containers on-site.
  - b. The maximum water capacity of individual containers shall be 5-gallon water capacity and the number of containers in the building shall not exceed the

number of workers assigned to using the LP-Gas.

c. Containers having a water capacity greater than 2½ pounds (1 quart) shall not be left unattended.

## J. Hot Work

Hot work includes any work involving operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, or any other similar activity. The use of hot work equipment shall be in accordance with chapter 35 of the LAFC and the following requirements, including a pre-site inspection, fire watch and post inspection procedures.

- 1. **Pre-Site Inspection:** An inspection of the hot work site shall be conducted by the General Contractor or his/her designee prior to hot work operations to ensure that:
  - a. The hot work site is clear of combustibles or that combustibles are protected;
  - Exposed construction is of noncombustible materials or that combustible materials are protected;
  - c. Openings are protected;
  - d. There are no exposed combustibles on the opposite side of partitions, walls, ceilings, floors, etc.;
  - e. Fire extinguishers are available, fully charged and operable; and
  - f. Fire watch personnel are assigned, equipped and trained.
- 2. Fire Watch: The sole duty of hot work fire watch personnel shall be to watch for the occurrence of fire during and after hot work operations. Individuals designated to fire watch duty shall have fire extinguishing equipment readily available and shall be trained in the use of such equipment. Personnel assigned to fire watch shall be responsible for extinguishing spot fires and communicating an alarm. Hot work conducted in areas with vertical and horizontal fire exposures that cannot be observed by a single individual shall have additional personnel assigned to fire watches to ensure that all exposed areas are monitored.
- 3. **Post-Work Inspection**: The fire watch shall be maintained a minimum of 30 minutes after the conclusion of the work to look out for leftover sparks, slag or smoldering combustibles.
- High Winds: Outdoor hot work and hot work on floors, where exterior skin is not in place, shall NOT be performed during high wind days or the area where hot work is preformed is shield from the high winds.

## K. Special Equipment

1. **Motorized Equipment:** Motorized equipment, including internal-combustionpowered construction equipment, shall be used in accordance with the following;

Revised: 1/23/2020



**FIRE PREVENTION & PUBLIC SAFETY BUREAU** 

REQUIREMENT #07

- a. Fuel for equipment shall be stored in an approved area outside of the building.
- b. Equipment shall not be refueled while in operation.
- c. Equipment shall be located so that exhausts do not discharge against combustible materials.
- d. When possible, exhausts should be piped to the outside of the building.
- Temporary Heating Equipment: Temporary heaters, such as those that are LP-Gas fueled, shall be listed and shall be installed, used, and maintained in accordance with the manufacturer's instructions (See LP-Gas storage and use requirements, above). Heating devices shall be secured properly and kept clear from combustible materials. Refueling operations shall be conducted in an approved manner.
- 3. Asphalt and Tar Kettles: Asphalt kettles shall not be located within 20 feet of any combustible material, combustible building surface or building opening. With the exception of thermostatically controlled kettles, an attendant shall be within 100 feet of a kettle when the heat source is operating. Ladders or similar obstacles shall not form a part of the route between the attendance and the kettle. Kettles shall be equipped with tight-fitting covers. A minimum 20-B:C rated portable fire extinguisher shall be located within 30 feet of each asphalt kettle when the heat source is operating. Minimum 20-B:C rated portable fire extinguishers shall also be located on roofs during asphalt coating operations.

APPROVED BY:

2-12-20

Kristin Crowley, Fire Marshal Fire Prevention and Public Safety Bureau

Attachment

## FIRE PREVENTION CHECKLIST

This Checklist may be used to evaluate fire safety of a construction site. The list is not meant to be a comprehensive list, but includes factors that should be considered in the FPP.

FIRE PLANNING	Yes	No	N/A
Has the owner designated a person to be the fire prevention program superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project? (LAMC 57.3308.1)			
Has the fire prevention program superintendent developed and maintained an approved pre-fire plan in cooperation with the fire chief? (LAMC 3308.2)			
Have the fire chief and fire code official been notified of changes affecting the pre-fire plan? (LAMC 57.3308.2)			
Have personnel been trained in the use of fire protection equipment by the fire prevention program superintendent? (LAMC 57.3308.3)			
Has the fire prevention superintendent determined that all fire protection equipment is maintained and serviced in accordance with the code? (LAMC 57.3308.4)			
SITE ACCESS TO EMERGENCY RESPONDERS			
Have approved vehicle access for firefighting been provided to all construction and demolition sites? (LAMC 57.3310.1)			
Have approved signage/marking been provided with the words NO PARKING –FIRE LANE on all fire access roads? (LAMC 57.503.3)			
Do approved fire access roads have a minimum 13 ½ feet (13 feet 6 inches) overhead clearance? (LAMC 57.503.1.6)			
Have required key boxes been provided as required by the inspector? (LAMC 57.3310.2)			
Has a suitable location at the site been designated as a command post and provided with plans, emergency information, keys communications and equipment as needed? (NFPA 241-7.5.1)			۵
HYDRANTS			
Are approved water supplies for fire protection, either temporary or permanent, made available prior to combustible material arriving on the site? (LAMC 57.3312.1)			

	Yes	No	N/A
Is free access from the street to fire hydrants and to outside connections for standpipes, sprinklers or other extinguishing equipment, whether permanent or temporary provided and maintained at all times? (NFPA 241-7.5.8.1)			
Are protective pedestrian walkways allowing access to hydrants? (NFPA 241-7.5.8.2)			
STANDPIPES			
Is at least one standpipes provided for use during construction prior to construction exceeding 40 feet (12 192 mm) in height above lowest level having fire department access? (LAMC 57.3313.1)			
Have standpipes been maintained operable within buildings that are being demolished? (LAMC 57.3313.2)			
FIRE SPRINKLERS			
Have fire sprinkler valves been checked for operation when they are regularly turned off during period of construction? (LAMC 57.3314.2)			
Are fire sprinklers placed into service as soon as practicable? (NFPA 241-8.7.3.1)			
PORTABLE FIRE EXTINGUISHERS			
<ul> <li>Have portable fire extinguishers sixed for not less than ordinary hazards been provided at the following locations?</li> <li>At each stairway on all floor levels where combustible materials have accumulated.</li> <li>In every storage and construction shed.</li> <li>Additional portable fire extinguishers shall be provided where special hazards exist including, but not limited to, the storage and use of flammable and combustible liquids.</li> </ul>			
FIRE REPORTING			
Have readily accessible emergency telephone facilities been provided in an approved location at the construction site? (LAMC 57.3309.1)			
MEANS OF EGRESS			
Has at least one stair been provided for egress with temporary lighting and signage in buildings that have been constructed 50 feet (15 240 mm) in height or more than four stories? (LAMC 57.3311)			

TEMPORARY HEATING EQUIPMENT	Yes	No	N/A
Are all temporary heating devices listed, installed and refueled in accordance with the Los Angeles Fire Code and the Los Angeles Mechanical Code? (LAMC 57.3303)			
SMOKING			
Have approved smoking areas been established in accordance with Section 310 of the Los Angeles Fire Code? (LAMC 57.3304.1)			
COMBUSTIBLE WASTE			
Has all combustible debris, rubbish and waste been removed from the building to avoid accumulation? (LAMC 57.3304.2.1)			
Has all combustible debris, rubbish and waste been removed at the end of each shift? (LAMC 57.3304.2.2)			
Are all rubbish containers with a capacity of 5.33 cubic feet (40 gallons) (015 m <sup>2</sup> ) used for temporary storage of combustible debris, rubbish and waste material provided with tight-fitting or self-losing lids? And made of the following materials? (LAMC 57.3304.2.3)			
<ul> <li>Noncombustible materials.</li> </ul>			
<ul> <li>Materials that meet a peak rate of heat release not exceeding 300 kW/m2 when tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m<sup>2</sup> in the horizontal orientation.</li> </ul>			
Are materials susceptible to spontaneous ignition, such as oily rags, stored in listed disposal containers? (LAMC 57.3304.2.4)			
HOT WORK			
Has a special permit been issued for welding and/or hot work operations? (LAMC 57.105.8 & 57.3501.2)			
Are all compressed gas cylinders and fuel containers stored and used in accordance with LAFC Chapter 53 and NFPA 55? (LAMC 57.3501.4)			
Are all oxygen-fuel gas systems with two or more manifold cylinders of oxygen installed per NFPA 51? (LAMC 57.3501.4)			
Are hot work areas kept clear of combustibles or provided with appropriate shielding to prevent sparks, slag or heat from igniting exposed combustibles? (LAMC 57.3504.1.1)			
Is a fire watch provided during hot work activities and for not less than 30 minutes after the conclusion of the work? (LAMC 57.3504.2.1)			

	Yes	No	N/A
Has at least one portable fire extinguisher complying with LAFC Section 906 and with a minimum 2-A:20-B:C rating provided within 30 feet (9144 mm) of the location of the hot work operation? (LAMC 57.3504.2.6)			
CUTTING AND WELDING			
Are operations involving cutting and welding in accordance with LAFC Chapter 35? (LAMC 57.3304.6)			
FLAMMABLE AND COMBUSTIBLE LIQUIDS			
Are storage areas for flammable and combustible liquids kept clear of combustible vegetation and waste materials? (LAMC 57.3305.3)			
Are class I and II liquids kept in approved safety containers? (LAMC 57.3305.5)			
Have leaking vessels been removed or taken out of service and spills cleaned up and disposed of properly? (LAMC 57.3305.6)			
Are Class I and Class II liquids stored at least 50 feet (15 m) away from structures and to a maximum of 60 gal (227 L)? (NFPA 241-5.5.1.2)			
Have areas for storage of flammable and combustible liquids been provided with signage posted for "No Smoking"? (NFPA 241-5.5.1.5)			
FLAMMABLE GASES			
Are flammable gas piping systems being cleaned and purged in accordance to NFPA 56, LAFC Chapter 53 and LAFC Chapter 61? (LAMC 57.3306)			
Is storage and handling of combustible and flammable gases in accordance with NFPA 54, <i>National Fuel gas Code</i> , and NFPA 58 <i>Liquefied Petroleum Gas Code</i> ? (NFPA 241-5.5.3.1)			
Have areas for storage of flammable gases been provided with signage posted for "No Smoking"? (NFPA 241-5.5.1.5			
EXPLOSIVE MATERIALS			
Are explosive materials stored, used and handled per LAFC Chapter 53? (LAMC 57.3307.1)			
Are blasting operations conducted in accordance with LAFC Chapter 56? (LAMC 57.3307.2)			
Are approved fire hoses for use by demolition personnel maintained at the demolition site whenever explosives are used for demolition? (LAMC 57.3307.3)			

MOTORIZED CONSTRUCTION EQUIPMENT	Yes	No	N/A
<ul> <li>Are internal-combustion-powered construction equipment being used in accordance with all the following conditions? (LAMC 57.3316) <ul> <li>Equipment shall be located so that exhausts do not discharge against combustible material.</li> <li>Exhausts shall be piped to the outside of the building.</li> <li>Equipment shall not be refueled while in operation.</li> <li>Fuel for equipment shall be stored in an approved area outside of the building.</li> </ul> </li> </ul>			
SAFEGUARDING ROOFING OPERATIONS			
Are asphalt and tar kettles operated in accordance with LAFC Section 303?			
Is at least one multipurpose portable fire extinguisher with a minimum of 3A 40-B:C rating provided on the roof being covered or repaired? (LAMC 57.3317.3)			
Is there a fire watch during and 2 hours thereafter torch-applied roofing operations? (NFPA 241-5.1.3.2)		D	
SITE SECURITY AND ARSON			
Has a guard service been provided for the construction or demolition site? (NFPA 241-7.2.5.1)			
Have security fences been provided securing the construction or demolition site? (NFPA 241-7.2.5.4)			
Are all entrances (e.g. doors and windows) to the structure under construction, alteration, or demolition secured? (NFPA 241-7.2.5.5)			
COMBUSTIBLE FORMS			
Have combustible forms been removed as soon as stripping has begun? (NFPA 241-8.2.3)			
Are areas designated for the storage of combustible forms kept clear of other combustible building materials? (NFPA 241-8.2.4)			
Have additional portable extinguishers or charged hose lines been provided to protect the additional combustible loading during forming and stripping? (NFPA 241-8.2.5)			
CONSTRUCTION MATERIAL AND EQUIPMENT STORAGE			
Is temporary storage of equipment to be installed, combustible construction materials, or combustible packing materials in a protected structure? (NFPA 241-8.3.2)			

	Yes	No	N/A
Is yard storage of equipment to be installed or combustible construction materials located no closer than 30 feet (9 m) from the structure that is under construction? (NFPA 241-8.3.3)			
FIRE CUTOFFS			
Are fire doors with approved closing devices and hardware installed? (NFPA 241-8.6.1.2)			
Are walls provided to separate the occupied portion of the structure from the portion of the structure undergoing alteration, construction, or demolition operations when such operations are considered as having a higher level of hazard than the occupied portion of the building? (NFPA 241-8.6.2.1)			٥