



# GLENDALE FIRE DEPARTMENT FIRE MARSHAL'S OFFICE



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**To: Contractors**

From: Chuck Jenkins, Fire Marshal

Subject: Contractor's Guide

Welcome to the Glendale Fire Department's Contractors Guide. This guide is provided by the Fire Marshal's Office as a service to the construction and design community. The purpose of the publication is to provide information regarding frequently asked fire code questions and issues. Additionally, the guide provides important inspection and testing information and Certificate of Occupancy requirements that will assist the fire inspector in completing an inspection and assisting you with finishing your project.

Our goal is to achieve compliance with the Glendale Fire Code by partnering and assisting you with the completion of your project within your deadlines. In order to be successful in this endeavor, communication is critical. If you communicate your issues to the fire inspector an early solution can generally be worked out that will satisfy everyone.

If you have any questions, please contact your fire inspector or call the Fire Marshal's Office at 623-930-4420.

# **FIRE SAFETY DURING CONSTRUCTION, ALTERATION OR DEMOLITION OF A BUILDING**

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## **APPROVED PLANS AND PERMITS MUST BE ON THE JOB SITE DURING CONSTRUCTION AND TESTING**

### **General Contractor**

The general contractor is responsible for the fire safety of all property under their control. Therefore, the general contractor will ultimately be held responsible for any fire code violations that may occur on the job site.

### **Fire Apparatus Access Roads**

**Fire apparatus access roads are required during construction** to allow emergency response vehicles onto the construction site for fire, emergency medical services, and technical rescue situations. Access roads **shall be in place prior to combustible construction materials being brought onto the site**. In some cases, depending on the circumstances, access roads may be required at an earlier stage of the project. Fire apparatus access roads shall have an **unobstructed width of not less than 20 feet** and an unobstructed vertical clearance of not less than 13 feet 6 inches. Additionally, drive through access or an **approved turn-around** per [Engineering Design & Construction Standard Detail G-954](#) shall be provided.

During construction, **temporary access roads** shall be provided and shall comply with the following minimum requirements. They shall be maintained throughout the construction project:

- The fire apparatus access road shall be an **all weather** driving surface, **graded to drain standing water** and engineered **to bear the imposed loads of fire apparatus** when the roads are wet. The minimum surface shall be **six inches of ABC compacted to 90 percent** over an approved base. Compaction test results shall be provided to the inspector *prior* to approval. Alternate methods may be approved when designed and sealed by a professional engineer and approved by the fire department.
- All fire apparatus access roads **shall be clearly marked at the entrance with an approved sign** approximately three feet by four feet. The lettering shall be red on a white background which states, **“EMERGENCY ACCESS ROAD”** and shall **include the address of the site**. If appropriate, the use of arrows may be approved by your inspector. Also, additional access road markings may be required throughout the project.
- All **open trenches** in a fire apparatus access road shall be **plated** at all times with steel plates capable of maintaining the integrity of the fire apparatus access road design.
- The access road **must reach to within 150 feet of all points of any building, combustible**

## **construction materials, and combustible debris storage areas.**

- The edges of the access road shall be marked. In cases where markings are not practical/possible or markings are not visible, curbing shall be installed.

### **Fire Hydrants**

Fire hydrants **shall be in place and operational prior to combustible construction materials being brought onto the site.** *Operational* means being fully tested, chlorinated, and approved. A hydrant shall be located within 150 feet of stored combustible construction materials, additional hydrants shall be installed in accordance with [Section 6.11 \(B\) \(4\) of the Engineering Design & Construction Standard.](#)

The use of temporary piping and hydrant systems, while discouraged, is acceptable provided the hydrant can operate at the required flow rate. **Plans for such a system must be submitted and approved prior to installation.**

### **Combustible Waste**

Combustible waste shall not be allowed to accumulate on any site except in approved containers. Waste material shall be removed from the building on a daily basis. Combustible debris, waste material, or trash shall not be burned on the construction site.

### **Fire Extinguishers**

Fire extinguishers sized for not less than ordinary hazard (2 A:10-B:C) are required in a buildings under construction, alteration or demolition **at each stairway on all floor levels** where combustible materials have accumulated **and in every storage and construction shed.** Extinguishers shall be installed in plain view in an accessible location, and away from hazardous areas. Additional extinguishers shall be provided where special hazards exist.

### **Asphalt Kettles**

Asphalt (tar) kettles and pots shall not be used inside or on the roof of a building or structure. **Kettles shall not be located within 20 feet of any combustible** material, combustible building surface or any building opening and within a controlled area identified by the use of traffic cones, barriers or other approved means. Roofing kettles and operating asphalt (tar) kettles shall not block emergency escape routes, gates, roadways or entrances. **There must be an attendant** within 100 feet of an operating kettle who is knowledgeable of the operations and hazards. The attendant shall have the kettle within sight during operation. Ladders or similar obstacles shall not form a part of the route between the attendant and the kettle.

A **portable fire extinguisher** with a minimum **40-B:C** rating shall be located **within 25 feet of each kettle** being utilized and an **additional minimum 3A:40-B:C rated fire extinguisher shall be on the roof being covered.**

### **Heaters**

All heaters used in structures must be designed and approved for inside use. Heaters shall not be used in areas where they will create a hazard. Adequate ventilation must be provided for fuel burning heaters. Heaters must be turned off, moved to a safe distance from any structure, and allowed to cool before fueling.

## **Hot Work**

**Any person using a torch or other flame-producing device** for removing paint, sweating pipe joints, applying roofing materials, or any other process requiring an open flame device in any building or structure **shall provide one approved fire extinguisher (minimum size 2A:20-B:C) within 30 feet.** Hot work areas shall not contain combustibles or shall be provided with appropriate shielding to prevent sparks, slag or heat from igniting exposed combustibles. **In all cases, a fire watch shall be maintained** in the vicinity of the operation **for no less than one-half hour after** the torch or flame-producing device has been used. The individuals responsible for performing the hot work and individuals responsible for providing the fire watch shall be trained in the use of portable fire extinguishers.

## **Knox Boxes**

A Knox box, padlock, key switch, or other Knox device may be required. Please take the following steps:

- In general, the Knox box shall be located in the area of the main entrance or in the area of the door for which the box is being provided (such as an owner's room or fire riser room). More than one Knox device may be required.
- Required Knox box or Knox device locations may be noted on the approved plans. If not, please coordinate with your fire inspector regarding location and number of devices required. Once approved, the applicant shall obtain a Knox Company order form from the Glendale Fire Marshal's Office by calling (623) 930-4420. Instructions are on the form.
- Keys are locked into the Knox device(s) by the fire inspector.

For security purposes, it is highly recommended that wall-mounted boxes be flush mounted. Early attention to this requirement will allow appropriate construction decisions to be made to facilitate the installation.

## **Fire Lane Signs**

When required, approved signs, curb markings or other approved notices shall be provided for access roads. Their location may be shown on the approved plans. If fire lane signs are not shown, please consult with your fire inspector for assistance in locating the signs. The signs shall be in accordance with [Engineering Design and Construction Standard Detail G-434](#).

All signs are to be installed perpendicular to the road and facing the direction of travel and may be required to be double sided.

## **Storage and Use of Flammable Liquids**

**A FIRE PERMIT is required** for the storage or use of flammable and combustible liquids and shall be in an area approved for flammable/combustible liquid storage. The storage of all flammable liquids must be in containers designed for their use. Flammable liquids **shall not be stored in buildings under construction.** All containers must be labeled with the liquid they contain and the words **FLAMMABLE – KEEP FIRE AND FLAME AWAY - KEEP 50 FEET FROM BUILDINGS.**

## **FIRE INSPECTION AND TESTING**

**\*\*\*\*APPROVED PLANS AND PERMITS MUST BE ON THE JOB SITE \*\*\*\*  
DURING CONSTRUCTION AND TESTING**

1. All requests for acceptance testing shall be made by calling the Glendale Fire Marshal's Office (623-930-4420) **at least 48 hours in advance**. Please be prepared to give the following information. It may be necessary to leave a message.

- Fire Permit number
- Exact address including suite number
- Name of project/occupancy
- Purpose for requiring an inspection
- A call back phone number, name of company & person's name

You will receive a confirmation of the date and time slot (morning or afternoon) for the scheduled inspection.

2. Approved plans bearing **A RED FIRE DEPARTMENT STAMP** shall be on the job site at all times. **No inspections or tests will be conducted without them**. The front page as well as the fire protection sheets will bear a red fire dept. stamp.

3. Examples of **separate plan submittals for fire permits** are for FIRE SPRINKLER MONITORING, FIRE ALARM SYSTEMS, and KITCHEN HOOD EXTINGUISHING SYSTEMS.

4. Fire protection systems shall be pre-tested by the contractor and all corrections made **prior** to calling for an acceptance inspection.

5. The permit fee is calculated to include primary tests or inspections. An additional charge equal to the original permit fee or \$207.61, whichever is less, will be charged for excessive inspections on the same item. **Scheduled inspections not canceled prior to the day of the scheduled test will be counted as an inspection.**

6. Acceptance test inspections are for the system covered by the permit. This may include the entire building, only a portion of the building, or a piece of equipment. **If it is necessary or you choose to test a single system in phases** requiring more than the allotted inspections for the permit, additional inspection fees may apply. It is recommended you **consult with your inspector** and discuss an inspection strategy.

7. Unless otherwise approved in writing through the alternate means and methods section of the fire code, all systems shall be designed and installed in accordance with the Glendale Building and Fire Code and the approved standards. This is **not** always the most current edition of the standard or code. It is the contractor's responsibility to use the proper adopted standard.

8. Click here for a [list of current adopted codes and amendments](#).

### **Sprinkler Systems**

A minimum of three separate inspections is required prior to approval of new sprinkler systems and **final fire approval**.

### **Underground Hydrostatic Two-Hour Pressure Test**

- Systems shall be pre-tested by the contractor.
- Tested hydrostatically at 200 psi for 2 hours (pressure test gauge at lowest end of the system being tested).
- **All joints must be fully exposed.**
- Thrust blocks (kickers) or other approved mechanical restraints must be in place and visible.
- Where ductile iron pipe is used, all pipe and fittings shall be encased in a polyethylene tube in accordance with the [Engineering Design and Construction Standard, Chapter 6](#). **A flush** will be conducted and **WITNESSED BY A FIRE INSPECTOR** after approval of the underground pressure test. **All check valves must be in full open position.**

#### **\*\*\*\* IMPORTANT NOTE \*\*\*\***

It is highly recommended you consult with your city inspector who witnesses and conducts chlorination and bacteria tests of underground water lines to **coordinate the testing required by the Fire Marshal's Office and the city inspectors**. If necessary.

- **The contractor** completing the work **shall provide** the Glendale Fire Department with a completed and signed (by the sub-contractor and general contractor) **Contractor's Material and Test Certificate for Underground Pipe (NFPA 13)**.

### **Overhead Hydrostatic Two-Hour Pressure Test and Rough-in Inspection**

- Systems shall be pre-tested by the contractor.
- Tested at 200 psi for two hours with all system **piping visible from floor level**. *NO sheet rock or ceiling tile can be installed prior to the testing or inspection of the piping systems without the approval of the fire inspector. You will be required to remove any obstructions to viewing the complete piping system before an inspection will be conducted* (Glendale Fire Code Section 106.3). Click here for current [amendments](#) to adopted codes.
- **The contractor** completing the work **shall provide** the Glendale Fire Department with a completed and signed (by the sub-contractor and general contractor) **Contractor's Material and Test Certificate for Overhead Pipe (NFPA 13)**.

### **Final Inspection**

The completed Contractors Material and Test Certificates shall be provided to the fire inspector prior to final inspection which includes:

- **Visual inspection of the entire system** (drywall and ceiling panels shall be in place).
- **Exterior bell tests**, including **third party monitoring**, with the installation of over 20 heads.

- When system monitoring is required, **a separate permit from the Fire Department is required for the monitoring of the sprinkler system.** Permit must be obtained prior to testing.
- A **hydraulic calculation data plate** (NFPA 13) must be installed on all calculated systems. The use of magic markers, embossed tape labels, or metal impression labels is NOT allowed. **Stamped or engraved metal or rigid plastic** plates are required.
- **Sprinkler head box(es)** shall be properly installed, stocked with sprinkler heads, wrench, and a NFPA 25 booklet. The number of heads and boxes shall be in accordance with NFPA 13.
- Supervision of all valves.
- System shall be fully operational.
- All signage shall be installed.
- Main drain test witnessed by fire inspector.
- Inspectors test and timed water flow alarm test witnessed by fire inspector.
- Pressure drop test across the backflow device, if installed.
- Other tests or inspections that may be required.

### **Fire Alarm Systems**

- All tests shall be requested by the contractor named on the fire alarm permit.
- **The entire system shall be fully installed and pre-tested** prior to scheduling a witness of the test.
- The permit fee is calculated to include primary tests or inspections. An additional charge equal to the original permit fee or \$207.61, whichever is less, will be charged for excessive inspections on the same item. **Scheduled inspections not canceled prior to the day of the scheduled test will be counted as an inspection.**
- Tests performed after normal duty hours will be charged the current scheduled rate for a minimum of 2 hours.
- All control panels, initiating and signaling devices, power supplies and auxiliary devices shall be tested in the presence of the inspector.
- All devices shall be tested in accordance with manufacturers' recommendations. **It shall be the responsibility of the installer to provide and be ready with the equipment and supplies necessary to conduct the test. This includes heat guns, approved canned smoke, ladders and other necessary devices required for testing of the entire system.**
- A copy of the approved plans shall be *permanently* maintained at the fire alarm panel.
- An approved simplified floor plan of the areas served by the alarm panel shall be posted near the enunciator panel. Zone descriptions and /or devices shall correspond with the floor plan. Consult with the fire inspector.
- A Certificate of Completion and an Inspection and Testing Form (NFPA 72) shall be completed and provided to the Glendale Fire Department prior to acceptance.

### **Kitchen Hood Systems**

Kitchen hood systems shall be installed in accordance with the Glendale Fire Code.

- The permittee shall perform all tests.

\*Testing includes:

- All actuation components including remote manual pull stations, mechanical or electrical devices, detectors, actuators, etc., shall be checked for proper operation during the inspection in accordance with the manufacturers' listed procedures.
- All utilities shall be supplied to the equipment being protected by cooking equipment prior

to testing.

- **Upon activation of the system, the makeup air supply to a hood shall be shut down and hood exhaust fans shall continue to run unless shutdown is required by the extinguishing system** or unless another component of the system requires shutdown. (NFPA 96)
- **If the building has a fire alarm system, the kitchen system must be electronically connected to provide a SUPERVISORY signal.**

## **CERTIFICATE OF OCCUPANCY**

All requests for **Fire Final Inspections** shall be called in to the Glendale Fire Marshal's Office, (623) 930-4420, no later than **48 hours** prior to the date required.

**Approved plans** bearing the Fire Department stamp and all **permits** must be available at the job site at all times from the start of construction through final inspection. **The fire inspector will give you paperwork for each inspection** conducted at your project. Keep this paperwork on the job site. You may be required to provide documentation that an inspection has been completed and **it is expected that you will be able to provide the paperwork** at the final inspection.

**In order to obtain Fire Department sign off on the Certificate of Occupancy, the following minimum conditions must be met:**

- All automatic fire protection and life safety systems and equipment including sprinklers, fire alarms, smoke control, emergency lighting, etc. must be installed, tested and in full operation and all fire department permits shall be signed off. If third party monitoring is required it shall be operational.
- All occupancies shall have proper fire extinguishers required for the occupancy. Consult with your fire inspector.
- All paving must be completed and signage must be installed. Addresses must be posted and, if required, a graphic directory must be installed. Separate building identification, if required, shall be installed. Consult with your fire inspector.