

# Construction Checklist

City of Palestine Fire Department

Fire Marshal's Office



Revised 04/01/2022

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This checklist refers to items that are critical to the site and plan review processes. By following the criteria for the Construction and Certificate of Occupancy sections in this guideline, you will be aware of what is expected from you as the builder. This list is not meant to be all-inclusive as special needs and considerations do arise. The following information was developed to help with the more common needs and occupancies. Also, items within this checklist may not apply to your specific development. As the architect, developer, or contractor, you should be versed in applicable codes, however, an officer of this division will be happy to assist you with any needs or questions you may have.

### **Site Review**

- Assess the Fire Department's ability to access the property, including driveway widths and any turn radius for dead end streets.
- Assess the need for fire hydrants.
- Assess the need for fire lanes that will allow access from the roadway to and around the structure.
- Site plans should be approved by the Site Plan Committee before Plans Review submittal.

### **Plan Review**

- The Fire Marshal's Office will examine your construction plans to ensure fire related issues discussed during the site review were addressed/corrected.
- Examine the construction plans for any fire protection needs such as:
  - o Automatic Sprinkler System (Plan submittal required and permit)
  - o Fire Alarm System (Plan submittal required and permit)
  - o Kitchen Vent-A-Hood Fire Extinguishing System (Plan submittal and permit)
  - o Fire Extinguishers
- Fire Hydrants should be indicated showing their location and distance from the proposed structure. Any existing and proposed water mains (including the main sizes) should be documented.

- Fire Lanes shall be marked in accordance with City specifications.
- Building permits are issued by the City of Palestine Building Department. This is done following a complete plan review by all Departments.

## **Construction**

### ***Access and Addresses***

- A hard surface of either concrete or asphalt access to the construction site shall be provided prior to the beginning of any phase of vertical building construction on the project.
- Fire Department access shall not exceed 10 percent in grade unless approved by the Fire Marshal. (8-degree angle of approach design specification/NFPA)
- Construction location shall be properly addressed during construction with a current set of construction plans on site at all times.
- The owner or his designee shall provide the Fire Department with emergency phone numbers prior to site construction.
- Upon completion of the project, the address shall be placed in a position to be plainly legible and visible from the street or road fronting the property, so as to be easily seen by personnel in the event of an emergency.
  - o Numbers shall be of contrasting color (from the structure) and visible from the roadway.
  - o Address numbers shall be Arabic numerals or alphabet letters.
  - o Numbers shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of 0.5 inch (12.7 mm).

### ***Fire Hydrants***

- Locations of fire hydrant(s) shall be approved by both the Fire Department and City Engineering Division.
- Fire hydrants shall be installed at such locations that no part of any structure shall be more than 400 feet (122 m) from a fire hydrant. This measurement is calculated as the distance along the right-of-way of a public street as the supply hose is deployed from the fire truck.

- o Exceptions are to Group R-3 and Group U occupancies and to buildings that are fully sprinkled with approved automatic sprinkler systems installed in accordance with this code the distance requirement will be 600 feet (183 m).
- A 3-foot (914 mm) clear space shall be maintained around the circumference of fire hydrants except as otherwise required or approved.
- Fire hydrants must be serviceable (wet), accepted by the City Water Utilities Department, and accessible during all phases of combustible construction on the project.
- The calculated fire flow modeling of fire hydrants and fire mains shall be submitted to the Fire Marshal's Office and Engineering Division for approval.
- The steamer connection on all fire hydrants shall face the drive surface. Please indicate direction on construction plans.
- All fire hydrant steamer connections are to be Storz connections.
- If bollard protection is required, it shall be in compliance with the Fire Code.
  - o Constructed of steel not less than 4 inches (102 mm) in diameter and concrete filled.
  - o Spaced no more than 4 feet (1219 mm) between posts on center.
  - o Set no less than 3 feet (914 mm) deep in concrete footing of not less than a 15-inch (381 mm) diameter.
  - o Set with the top of the posts not Less than 3 feet (914 mm) above ground.
  - o Located not less than 3 feet (914 mm) from the protected object.
- Proper grading and elevation around fire hydrants must be provided at the time of final inspection.
- Vegetation and landscaping shall be placed in a manner as not to obstruct or impede a fire hydrant from either view or use.

### ***Fire Lanes and Turnarounds***

- All fire lanes are to be marked in accordance with City specifications.
  - o Red striping shall be 6 inches (153 mm) wide on the ground. The faces and tops of all affected curbing are to be painted.

- o White letters shall be 4 inches (102 mm) in height and read as follows: FIRE LANE - NO PARKING. This should be spaced every 20-25 feet on the top of the red stripe.
- The minimum access roadway width of 20 feet (6096 mm) and clearance height of 13 feet, 6 inches (4115 mm) shall be provided on any designated fire lane.
- Turning radius requirements shall be provided by the Fire Marshal's Office.
- The design of fire department turnarounds must be approved by the Fire Department and Engineering Division. (Examples can be found in Appendix D of the 2018 International Fire Code.)

### ***Fire Extinguishers***

- The fire extinguisher requirement may change with occupancy/hazard classification.
- A 5-pound (2.3 kg) minimum 2A-10BC rating is required. As a general rule, there should be 1 fire extinguisher for every 1,500 square feet of floor. In most occupancies, fire extinguishers should be placed so that the user should have to travel no more than 75 feet (15.24 m) of travel to any unit.
- All fire extinguishers are to be mounted in a visible and accessible location that is located in the path of egress when possible.
- Fire extinguishers are to be mounted no closer than 4 inches (102 mm) to the finished floor and no higher than 5 feet (1524 mm) above the finished floor to the top of the unit.
- All fire extinguishers are required to have a current inspection tag in place showing "who" performed the inspection and "when" the inspection was performed. Inspections are to be performed by a licensed company whose tag clearly indicates their State FL number.

### ***Fire Protection Equipment***

- All fire protection systems shall meet the applicable NFPA standard referenced in the International Codes.

- A permit is required prior to the construction/installation of all fire protection equipment.
- Plans are to be submitted to the Fire Marshal's Office for approval prior to the issue of any permit for fire protection equipment.
- A copy of both the designer and installer's license shall be on file in the Fire Marshal's Office prior to the issue of an installation permit.
- An acceptance test is required on all fire protection equipment prior to the issue of a Certificate of Occupancy for the building.
- All fire protection equipment shall always have a current inspector's tag.

### ***Automatic Fire Sprinklers***

- All fire sprinkler systems shall meet the criteria of the 2018 International Fire Code, and all applicable provisions of NFPA 13, 13R, and 13D.
- Plan submittal with required approval and permits must be secured through the City of Palestine Building Inspection Department.
- All system inspections and test should be scheduled through the Fire Marshal's Office.
- Please allow a 48 hour notice for final inspections.
- Upon installation of the system, provide a signed, legible copy of the installation/inspection certificate to the Fire Marshal's Office.
- Two sets of drawings are required when submitted for approval. One copy will be returned to you upon approval. The plans should include the following:
  - o A designer or engineer's seal on the plans
  - o Piping locations
  - o Pipe sizes
  - o Hanger details and locations
  - o Sprinkler head details and locations, showing walls and any other obstructions.
  - o Riser specifications including valves, gauges, and fire department connection.
  - o Hydraulic calculations
  - o Building classifications and construction type
- Sprinkler plans are not required to be submitted simultaneously with the building plans. However, the plans must be submitted and approved prior to the start of sprinkler construction.

- Fire department connection shall be located no more than 100 feet (18.26 m) from a fire hydrant and remain unobstructed at all times.
  - The location of the fire department connections shall be remote and approved. The FDC will need to be hydrostatically tested.
  - The FD hose connection shall be 5-inch Storz with 30-degree angle.
  - A minimum of 3 feet (914 mm) of clear space shall be maintained around the fire department connection at all times.
  - A metal sign with raised letters at least 1 inch (25 mm) in size shall be mounted on all fire department connections.
  - The hose connections shall be covered utilizing "Knox" FDC caps. (Part # 3090.)
- The fire sprinkler system functional test is to be witnessed by a member of the Palestine Fire Marshal's Office and monitored prior to any inventory being stored inside the building.
  - Newly installed systems require a 2-hour at 200-psi hydrostatic test.
  - Existing systems require a 2-hour at 150-psi hydrostatic test.
  - The hydrostatic acceptance test shall be witnessed and approved by a member of the City of Palestine Fire Marshal's Office.
  - Sprinkler piping and hangers shall not be covered and/or concealed by any means prior to being inspected and approved by a member of the Fire Marshal's Office. This includes drop grid ceiling tiles.
  - The underground water supply line to the sprinkler riser shall be hydrostatically tested with results provided to the Fire Marshal's Office before the system is approved. This test is witnessed by the Fire Marshal's Office.
- Modifications to an existing system require a hydraulic recalculation when more than 10 heads are added to an existing system. A copy of those calculations is to be provided to the Fire Marshal's Office.
- All sprinkler systems are to be supervised as specified by Code.
  - The alarm shall detect any changes to the water flow and tamper switches on the system.





- o All alarm systems shall be approved and tested prior to approval to ensure complete and proper operation .
- o Verification of alarm connection to an alarm company shall be submitted in writing by a representative of the alarm company to the Fire Marshal's Office.
- o Alarm companies must meet current NFPA 72 Standards.
- o Any building protected by a sprinkler system shall have a UL approved electric or hydraulic warning device (a bell or a horn) installed on the outside of the structure to proximate the fire department connection.
- Sprinkler heads are to be free of any foreign material, properly spaced and unobstructed. All concealed spaces are to be properly protected.
- No storage permitted closer than 18 inches (457 mm) from the bottom plane of sprinkler heads.
- All sprinkler valves, test drains, shutoff, etc. are required to be labeled in accordance with NFPA guidelines.
- The fire sprinkler control valves shall be secured by one of the following methods.
  - o Chain and padlock
  - o Locked inside a room that is designated and identified on the door accordingly
  - o Locked inside a cage or other approved area that can be adequately secured and supervised.
- The underground portion of the system falls under the jurisdiction of the building department and any required permits or inspections must be obtained from them .

### ***Fire Alarms***

- All fire alarm systems shall meet the criteria of the 2018 International Building Code, International Fire Code and all applicable provisions of NFPA and the Life Safety Code.
- Plan submittal with required approval and permits must be secured through the City of Palestine Fire Marshal's Office by submitting plans to 504 North Queen.
- All system inspections and test should be scheduled through the Fire Marshal's Office.
- Please allow a 48 hour notice before testing.
- Upon completion of the system, the Fire Marshal's Office is to be provided with a signed, legible copy of the installation/inspection certificate.

- Two sets of drawings are required when submitted for approval. One copy will be returned to you with notations and approval. The plans submitted should include the following:
  - Designer seal on plans
  - A copy of the Texas Fire Alarm license for both the designer and installer must be on file in the Fire Marshal's Office before permits are approved.
  - Specifications and UL listing of all components to be installed
  - Battery back-up calculations for system
  - Where 10 or more devices are attached to a single zone, voltage drop calculations should be included.
  - All fire alarm systems and zones are to be properly labeled in accordance with NFPA 72.
  - Power supply for fire alarm system shall be a dedicated and marked circuit.
  - A zone map is required, indicating the location of devices and wire.
  - All alarm systems shall be inspected and test prior to approval to ensure complete and proper operation.
- Where the fire alarm is required to be monitored, it shall meet the following criteria:
  - Verification of alarm connection to an alarm company shall be submitted in writing by a representative of the alarm company to the Fire Marshal.
  - Alarm companies must meet current NFPA 72 Standards.

### ***Kitchen Fire Extinguishing Systems***

Any extinguishing system designed to provide protection for a cooking area is reviewed by the Fire Marshal's Office. Systems shall be designed in accordance with the appropriate NFPA standard, 2018 International Building, Fire Codes and any applicable ordinances.

- System inspections and test should be scheduled through the Fire Marshal's Office. Please allow a 48 hour notice before testing.
- Upon completion of the system, the Fire Marshal's Office is to be provided with a signed, legible copy of the installation/inspection certificate.
- Exhaust ducts are to be inspected by the Building Official for proper installation.

- o Exhaust ducts with angles greater than 70 degrees are required to have a clean-out access door.
- o All exhaust ducts are required to be seamless (crimped edges, screws, spot welding, etc. are not permitted).
- Kitchen hood fire extinguishing systems must meet the current state guidelines for fire protection (currently UL300) during any of the following:
  - o New construction
  - o Remodel construction that involves the kitchen area
  - o Any modification to an existing fire extinguishing system
  - o Any change of a cooking appliance (unless replacement is an exact duplication)
  - o Following any incident on the property where a fire occurred
- An acceptance test is required upon completion and before a final Certificate of Occupancy is issued. The system will be tested for, but not limited to:
  - o A "blow-down" test of the extinguisher agent nozzles
  - o All power appliances (gas, electrical, etc.) is to automatically shut down during system activation
  - o Automatic activation of system upon separation of fusible links
  - o Proper ventilation and damper control

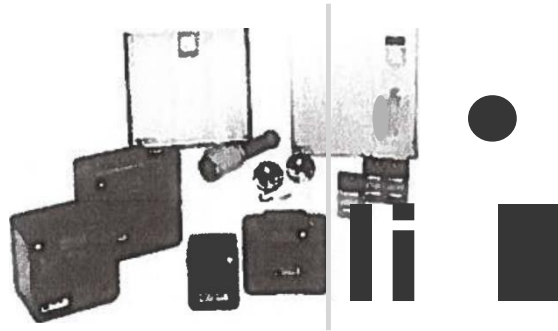
***KeyBox (IFC 506.1 & 506.2)***

These boxes are used to access building entrance keys, interior keys, access codes, access cards, and floor plans of the occupancy to permit access to the facility prior to arrival of key-holders to provide emergency access without delay, forced entry damage, or personal injury, thereby reducing the total loss incurred to the occupant.

- All buildings within the City shall be equipped with a rapid entry key lock box. However, this shall not apply to owner-occupied one- and two-family dwellings.
- All commercial and industrial properties within the City protected by fences, gates, and related barriers presently secured by a padlock, electronically operated or automatic gates, or

other control circuits, shall be equipped with high a high-security padlock or key switch as approved by the Fire Marshal.

- Key lock boxes, high-security padlocks and key switches, and the locks and keys used in these devices, shall be UL (Underwriters Laboratories) certified and approved by the Fire Marshal.
- The key lock box shall contain labeled keys; easily identified in the field to provide access into the property and/or building, and to any locked areas within the building as may be further directed by the Fire Marshal.
- The key box made by "Knox" company is the approved key box system for the city.



- A final Certificate of Occupancy will not be issued prior to all of the required keys, codes, cards, and plans for the building shall being secured in the key box by a member of the Fire Marshal's Office.
- The contents of the key box should be kept current at all times; access to the key box requires the presence of the Fire Department.

## **CERTIFICATE OF OCCUPANCY**

Once your site and building plans have been reviewed and approved, a representative of the Fire Marshal's Office will be assigned to your construction project. This inspector will be your primary contact should you encounter problems or need clarification on some aspect of your project. They will periodically check on the construction progress doing routine inspections and perform any acceptance tests as they are required. Once your project has been completed, they will also sign for your temporary and final Certificates of Occupancy. Occasionally, a concern arises that can only be resolved with a variance or some form of written permission. In such an instance, only the Fire Marshal can authorize such a change. At any time during your project, you may contact the Fire Marshal if you feel your concerns have not been answered adequately.

- A temporary Certificate of Occupancy (CO) can be issued once the structure has been completed. The purpose of a temporary certificate is to allow the owner to place fixtures and inventory inside the building. Before a temporary CO is issued, the following criteria (where applicable) must have been met.
  - o Fire hydrants have been installed.
  - o The fire sprinkler system must be in operation (and supervised), having been tested and with a current inspector's tag in place.
  - o The fire alarm system must be in operation with all tests completed and with a current inspector's tag in place.
  - o The kitchen hood fire protection system must be operational with all acceptance tests completed and a current inspector's tag in place.
  - o Fire extinguishers must be mounted in their designated places.
- Your permanent Certificate of Occupancy inspection is done after every aspect of the construction project has been completed. The building is complete, inventory and staff are in place, and you are ready to open for business.

**NOTE:** Any business that operates without first receiving a Certificate of Occupancy is in violation of City of Palestine codes and ordinances. During this final fire inspection, the officer is looking for any unsafe or improper conditions. Once this inspection has been completed and

any needed corrections made; the Fire Marshal's Office will approve your Certificate of Occupancy.

Frequently encountered problems include:

- All designated exit lights must be working properly
- Exit corridors should be unobstructed with no locked/blocked doorways
- Address is to be properly identified on the building
- Fire lanes must be completed
- Any hazardous materials or gases are to be properly stored

## **Projects with Special Considerations**

All plans for new construction shall be submitted to the City of Palestine Building Inspection Department. Please contact the Fire Marshal's Office for assistance and scheduling of a pre-development meeting should your project include any of the following:

- High Rise Building
- Large Malls or Shopping Centers
- Large Warehouses
- Apartment Complexes
- Cinema Centers
- Projects involving large quantities of storage and/or hazardous materials and/or flammable liquids.

## **Contact Information**

Telephone Numbers  
(Area code 903)

731-8464 or 731-8465	Fire Marshal's Office
731-8417	Building Inspection
731-8429	Utility Taps
731-8419	Planning & Zoning

## **Online Information**

<a href="http://www.cityofpalestinetx.com">www.cityofpalestinetx.com</a>	City of Palestine
<a href="http://www.knoxbox.com">www.knoxbox.com</a>	Knox Box information
<a href="http://www.nfpa.org">www.nfpa.org</a>	National Fire Protection Association
<a href="http://www.iccsafe.org">www.iccsafe.org</a>	Source for the International Codes