



TENT, CANOPY, AND MEMBRANE STRUCTURE SUBMITTAL REQUIREMENTS

These guidelines are to be followed when a business, facility or organization proposes to install Tent, Canopy and Membrane Structure within the Lake Cities Fire Department Jurisdiction. This document shall assist in the preparation of a submittal for permit. These guidelines are not to be interpreted as containing all data required for proper design, installation, or approval.

All Tent, Canopy and Membrane Structure for the purposes of this guideline and the requirements of the Fire Department shall conform to the current adopted International Fire Code, and amendments by Hickory Creek, Shady Shores, Lake Dallas, and Corinth.

This guide does not replace, nor supersede any codes and/or ordinances adopted by Hickory Creek, Shady Shores, Lake Dallas, Corinth.

INCOMPLETE PERMIT APPLICATIONS WILL NOT BE REVIEWED.

SCOPE

The requirements that follow are intended for the temporary use of tents in or under which 10 or more persons may gather for any purpose, with the exception of:

- Tents used to cover or enclose private facilities on one- and two-unit family residential property.
- Tents used to conduct committal services on the grounds of a cemetery.
- Tents erected within a structural enclosure which is equipped with an overhead automatic sprinkler system.
- Tensioned membrane roof materials supported by rigid frames or installed on a mast and cable system provided such structures conform to adopted construction requirements.
- Tents which are part of mobile homes, recreational vehicles, or commercial coaches.

Temporary special event structures, Tents in excess of 400sqft or Canopies over 1200sqft shall not be erected, operated or maintained without obtaining a permit.

Tents erected for a period of more than 180 days within a 12-month period, on a single premise, are considered to be permanent. Permanent use of tents shall be submitted to the building department for approval.

Surge tents and similar temporary structures utilized by hospitals, health care facilities, and health departments to accommodate surgery on demand shall comply with the regulatory requirements of the Office of the Texas Department of State Health Services.

Before a permit is granted, a certificate of flame-resistant treatment must be provided in accordance with NFPA 701. Structures shall have a permanently attached label bearing the identification of size and fabric or material type.

DEFINITIONS

The following definitions are provided to facilitate the consistent application of these guidelines:

Tent: A structure, enclosure, umbrella structure or shelter, with or **without sidewalls (also called a canopy)** or drops, constructed of fabric or pliable materials supported in any manner except by air or the contents that it protects.

Membrane Structure- An air-inflated, air-supported, cable, or frame-covered structure as defined by the International Building code and not otherwise defined as a tent.

Air-Inflated Structure: A building where the shape of the structure is maintained by air pressurization of cells or tubes to form a barrel vault over the usable area.

Occupants of such a structure do not occupy the pressurized areas used to support the structure.

Air-Supported Structure: A structure wherein the shape of the structure is attained by air pressure and occupants of the structure are within the elevated pressure area.

Membrane- Covered Frame Structure: A non-pressurized structure in which a mast frame and cable system provides support and tension to the membrane weather barrier and the membrane imparts stability to the structure.

Membrane- Covered Frame Structure- A non-pressurized building wherein the structure is composed of a rigid framework to support a tension membrane which provides the weather barrier.

GENERAL SUBMITTAL REQUIREMENTS

1. Two copies are required, each submittal shall have a completed Lake Cities Fire Department Plan Review Permit Application. (Located on Lake Cities Fire Department website)
2. Plans approved by the Fire Code Official gives authorization for installation. Final approvals are subject to field verification. Any approval issued by the Fire Code Official does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances.
3. All fire department inspection forms and permits shall be kept on the job site until final inspection.
4. All installations shall comply with the approved plans. Any deviation from the approved plans requires a resubmittal to the Fire Code Official.

LOCATION

5. Tents shall not be located within 20-feet of property lines, buildings, other tents, parked vehicles, or internal combustion engines. For the purpose of determining required distances, support ropes and guy wires shall be considered as part of the tent.

Exceptions:

1. Separation distance between tents not used for cooking is not required when the aggregate floor area does not exceed 15,000 square feet.
2. Tents need not be separated from buildings when all the following conditions are met:
 - a. The aggregate floor area of the membrane structure or tent shall not exceed 10,000 square feet.
 - b. The aggregate floor area of the building and tent shall not exceed the allowable floor area including increases as indicated in the current International Building Code.
 - c. Required means of egress provisions are provided for the building and the tent including travel distances.
 - d. Fire apparatus access roads are provided.
6. Membrane structures having an area of 15,000 square feet or more shall be located not less than 50-feet from any other tent or structure as measured from the sidewall of the tent or membrane structure unless joined together by a corridor.
7. Type of structural stability and anchorage that will be used to withstand the elements of weather and prevent collapsing.

INFORMATION REQUIREMENTS FOR EACH TYPE

8. **Exterior Plans-** Include the following on the site plan:
 - a. Location of all tents.
 - b. Dimensions and area of each tent or grouping of tents.
 - c. Distance between tents and from tents to buildings, property lines, on-site parking areas, cooking areas/ food trucks, and generators.
9. **Interior Plans-** Include a plan of the tent interior showing the following:
 - a. placement of fire extinguishers.
 - b. location and width of sidewalls, if any.
 - c. location and width of exit doors/ openings located in sidewalls.
 - d. location of exit, no smoking, and other signage.
 - e. location of emergency lighting fixtures and their power source (battery, generator).
 - f. location, size, and height of stages and platforms.

- g. tables and seating layout, including width of aisles between tables/ seating areas.
- h. cooking equipment location and type of cooking equipment.

10. Additional Information

- a. Provide Texas State Fire Marshal fire retardant certificates for the tent material; these can be obtained from the tent company.
- b. Membrane structures, tents and canopies shall also have a permanently affixed label bearing the identification of size and fabric or material type.
- c. Indicate the maximum number of people occupying the tent at any one time.
- d. Decorative materials that are not fire resistant are prohibited in tents with 50 or more people; submit fire retardant certificates or similar documentation for any draperies, swags, paper/ plastic/ fabric wall coverings, artificial grass, hay bales, streamers, or other decorative materials that will be used.
- e. Open flame or other devices emitting flame, fire or heat or any flammable or combustible liquids, gas, charcoal or other cooking device or any other unapproved devices shall not be permitted inside or located within 20-feet of the tent or membrane structures while open to the public unless approved by the fire code official.

OCCUPANT LOAD

- 11. Calculating Occupant Load-** In areas with fixed seating, calculate the occupant load at one person per seat. In areas where fixed seating is not provided, the number of occupants shall be computed at the rate of one person per unit of area:
- a. Standing space (e.g., queueing and waiting areas) 5sq.ft.
 - b. Concentrated seating (e.g., non-fixed chairs only, dance floors) 7sq.ft.
 - c. Unconcentrated seating (e.g., tables and chairs) 15sq.ft.
- 12. Posting of Occupant Load-** Every tent classified as assembly occupancy (e.g., gathering space for social, religious, educational, recreational, and similar purposes) shall have the occupant load posted in a conspicuous location when the occupant load is 50 or more.

EGRESS

Exit Quantity and Location- Exits shall be spaced at approximately equal intervals around the perimeter of the tent or membrane structure and shall be located such that all points are within 100 feet from an exit.

See table requirements

| Occupant Load | Minimum Number of Required Exits | Minimum Width for Tent and Canopy | Minimum Width Membrane Structure |
|----------------------|---|--|---|
| 10 to 199 | 2 | 72" | 36" |
| 200 to 499 | 3 | 72" | 72" |
| 500 to 999 | 4 | 96" | 72" |
| 1,000 to 1,999 | 5 | 120" | 96" |
| 2,000 to 2,999 | 6 | 120" | 96" |
| Over 3,000 | 7 | 120" | 96" |

13. **Exit Openings-** Exit openings shall remain open unless covered by a flame-resistant curtain.

- a. Curtains shall be free sliding on a metal support that is a minimum of 80 inches above the floor.
- b. The curtains shall be arranged so that, when open, no part of the curtain obstructs the exit.
- c. Curtains shall be of a color, or colors, that contrast with the color of the tent.

14. **Exit Signs-** Exit signs shall be installed when occupant load is in excess of 50 people and be of an approved self-luminous type or internally or externally illuminated by lights supplied in the following manner:

15.

- a. Two separate circuits, one of which shall be separated from all other circuits, for occupant loads of 300 or less; or
- b. Two separate sources of power, one of which shall be an approved emergency system, shall be provided when the occupant load exceeds 300. Emergency systems shall be supplied from storage batteries or from the on-

site generator set and system shall be installed in accordance with the current International Electrical Code.

- c. Obtain electrical permit from local building department prior to the field inspection.

16. Means of Egress Illumination- Emergency lighting shall be provided at 50 or more persons. The means of egress shall be illuminated with light having an intensity of not less than 1 foot-candle at floor level while the structure is occupied. Fixtures required for means of egress illumination shall be supplied from a separate circuit or source of power.

17. Seating Arrangement- Where seating rows have 14 or fewer seats, the minimum clear aisle access-way width shall not be less than 12 inches measured as the clear horizontal distance from the back of the row ahead and the nearest projection of the row behind. Where any chair in the row does not have an automatic or self-rising seat, the measurements shall be made with the seat in the down position.

18. Aisles- The width of aisles in areas without fixed seating shall be in accordance with the following:

- a. In areas serving employees only, the minimum aisle width shall be 24 inches but not less than the width required by the number of employees served.
- b. In public areas, smooth-surfaced, unobstructed aisles having a minimum width of not less than 44 inches shall be provided from seating areas, and aisles shall be progressively increased in width to provide, at the points, not less than 1 foot of aisle width of each 50 persons served by such aisle at that point.

19. Seats per row

- a. **Dual Access:** For rows of seating served by aisles or doorways at both ends, there shall not be more than 100 seats per row. The minimum clear width of 12 inches between rows shall increase by 0.3 inch for every additional seat beyond 14 seats, but the minimum clear width is not required to exceed 22 inches.
- b. **Single Access:** For rows of seating served by an aisle or doorway at only one end of the row, the minimum clear width of 12 inches between rows shall be increased by 0.6 inch for every additional seat beyond seven seats, but the minimum clear width is not required to exceed 22 inches. Distance is measured as the clear horizontal distance from the back of the row ahead and the nearest projection of the row behind.

20. **Doors-** Exit doors shall swing in the direction of exit travel. To avoid hazardous air and pressure loss in air supported membrane structures, such doors shall be automatic closing against operating pressures. Opening force at the door edge shall not exceed 15 pounds.

21. **Maintenance of Means of Egress-** The required width of exits, aisles, and passageways shall be maintained at all times to a public way. Guy wires, guy ropes, and other support members shall not cross a means of egress at a height of less than 8-feet. The surface of means of egress shall be maintained in an approved manner.

HAZARDS

22. **Fire Extinguishers-** One minimum 2-A:10-B:C fire extinguisher shall be provided every 75 feet of travel distance. The top of the portable fire extinguisher shall be mounted between 3 and 5 feet above the floor.

23. **Flame and Heat Sources-** Open flame or other devices emitting flame, fire, sparks, or heat or any other unapproved devices shall not be permitted inside or located within 20-feet of the tent while open to the public. Devices using charcoal, wood, and other solid fuel are not permitted inside or near tents. Cooking equipment and approved quantities of flammable gas or liquid/ gel fuel for the cooking equipment may be allowed in the tent as approved by the Fire Code Official. Spare fuel shall be stored at least 20-feet from the tent.

24. **Smoking-** Smoking shall not be permitted in tents or membrane structures. Approved "**NO SMOKING**" signs shall be conspicuously posted throughout the structure.

25. **Fireworks-** Fireworks shall not be used within 100 feet of tents or membrane structures.

26. **Vegetation Removal-** Combustible vegetation shall be removed from the area occupied by a tent or membrane structure and from areas within 30-feet of such structures.

27. **Waste Material-** The floor surface inside tents or membrane structures and the ground outside and within a 30-foot perimeter shall be kept clear of combustible waste. Such waste shall be stored in approved containers until removed from the premises.

28. **Combustible Materials-** Hay, straw, shavings, or similar combustible materials shall not be located within the tent or membrane structure containing an assembly occupancy, except the materials necessary for the daily feeding and care of animals.
29. **Sawdust and Shavings-** utilized for a public performance or exhibit shall not be prohibited provided the sawdust and shavings are kept damp. Combustible materials shall not be permitted under any seating at any time.
30. **Spot Lighting-** Spot or effect lighting shall only be by electricity, and all combustible construction located within 6 feet of such equipment shall be protected with approved noncombustible insulation not less than 9.25 inches thick.
31. **Safety Film-** Motion pictures shall not be displayed in structures unless the motion picture film is safety film.
32. **Standby Personnel-** A fire watch may be required when, in the opinion of the fire code official, it is essential for public safety in a tent or membrane structure used as a place of assembly or any other use where people congregate.
33. **Clearance-** There shall be a minimum clearance of at least 3-feet between the fabric envelope and all contents located inside the tent or membrane structure.

ADDITIONAL REQUIREMENTS for TEMPORARY AIR-SUPPORTED and AIR-INFLATED MEMBRANE STRUCTURES

34. **Door Operation-** During high winds of 50 miles per hour or more or in snow conditions, the use of doors in air supported structures shall be controlled to avoid excessive air loss. Doors shall not be left open.
35. **Fabric Envelope Design and Construction-** Air supported, and air-inflated structures shall have the design and construction of the fabric envelope and the method of anchoring be in accordance with Architectural Fabric Structures Institute ASI 77.
36. **Blowers-** An air-supported structure used as a place of assembly shall be furnished with not less than 2 blowers, each of which has adequate capacity to maintain full inflation pressure with normal leakage. The design of the blower shall be so as to provide integral limiting pressure at the design pressure specified by the manufacturer.

ADDITIONAL INFORMATION

37. Inspection shall be scheduled for field inspection by the Fire Code Official upon completion of the installation.
38. Approved plans shall be on site during the construction and inspection of the Tent or Membrane Structure.
39. Emergency Exits and Lighting shall be test for operation if they are required.
40. Verification all exit doors or openings, fire extinguishers, occupancy load signs and no smoking signs are all in place.

NOTE:

41. If it does not meet the requirements or fails, there may be a re-inspection fee and may not be allowed to be use until corrections have been made to the Tent or Membrane Structure.

The issuance of a Fire Department Construction Permit from the Lake Cities Fire Department does not relieve the applicant of any permits required by the Cities of Hickory Creek, Shady Shores, Lake Dallas, or Corinth Building Department.

Submit Plans To
Lake Cities Fire Department
3501 FM 2181 Suite B Corinth, TX 76210
Phone: 940-279-4590 Fax: 940-497-3455