ATTACHMENT A
Tents, Canopies, and Membrane Structures

A.1 HOW TO USE THIS ATTACHMENT

This attachment contains information related to temporary tents/canopies when proposed as part of a special event or similar use. For purposes of this attachment, the term "tent" includes tents; canopies; EZ-Ups and similar portable or pop-up structures; awnings; membrane structures; and air-inflated/supported structures.

In addition to the generic event information listed in the "Submittal Requirements" section in Guideline S-01, the information in the "Additional Submittal Requirements" section of this attachment must be provided with your permit application.

The "Technical Information" section outlines information and safety provisions that apply to tents in general. The specifications and code provisions for many of the items listed as submittal requirements can be found here, so review of the entire attachment is recommended as you prepare your special event application. As you organize and set up your event, go over the information in this attachment with the crew, operational personnel, and other responsible parties to facilitate a successful fire safety inspection and a safe and code-compliant event.

A.2 ADDITIONAL SUBMITTAL REQUIREMENTS

In addition to the standard special event information listed under the "Submittal Requirements" section in Guideline S-01, the information listed in this "Additional Submittal Requirements" section shall be provided as part of the application for all events that include a tent:

- **over 400 square feet with one or more side walls**; tents with sidewalls that are not separated by at least *20* feet shall be considered a single tent for determination of area
- **over 700 square feet without sidewalls**; tents without sidewalls that are not separated by at least *12* feet shall be considered a single tent for determination of area

Depending on the scope of the event or other considerations, the inspector reviewing the project may need more information in order to complete an evaluation of the event and provide conditions of approval to mitigate the potential hazards.

Exterior Plans

Include the following on the site plan:

- Location of all tents
- Dimensions and area of each tent or grouping of tents
- Distance between tents and from tents to buildings, property lines, on-site parking areas, cooking areas/food trucks, and generators

Interior Plans

Include a plan of the tent interior showing the following:

- placement of fire extinguishers
- location and width of sidewalls, if any
- location and width of exit doors/openings located in sidewalls

- location of exit, no smoking, and other signage
- location of emergency lighting fixtures and their power source (battery, generator)
- location, size, and height of stages and platforms
- tables and seating layout, including width of aisles between tables/seating areas

Other Information

- Provide California State Fire Marshal fire retardant registration for the tent material; these can be obtained from the tent company
- Indicate the maximum number of people occupying the tent at any one time
- Decorative materials that are not fire resistant are prohibited in tents with 50 or more people; submit fire retardant registrations 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

TECHNICAL INFORMATION

A.3 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.

Tents erected for a period of more than 180 days within a 12-month period, on a single premises, 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 Department of Health Care Access and Information (HCAI).

A.4 DEFINITIONS

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

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 Structure: An air-inflated, air-supported cable or frame covered structure as defined by the California Building Code and not otherwise defined as a tent.

Tent: A structure, enclosure, umbrella structure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported in any manner except by air or the contents it protects.

A.5 GENERAL REQUIREMENTS

Tents shall comply with the following requirements.

A.5.1 LOCATION

- 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 California 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.
- 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.

A.5.2 STRUCTURAL STABILITY

- Tents or membrane structures and their appurtenances shall be designed and installed to withstand the elements of weather and prevent collapsing. Documentation of structural stability shall be furnished to the fire code official.

A.5.3 OCCUPANT LOAD

- **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:
  Standing space (e.g., queueing and waiting areas) *5 sq.ft.*
  Concentrated seating (e.g., non-fixed chairs only, dance floors) *7 sq.ft.*
  Unconcentrated seating (e.g., tables and chairs) *15 sq.ft.*
- **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.

A.5.4 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.

Occupant Load	Minimum Number of Exits	Minimum Width of Each Exit	
		Tent or Canopy	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”

- **Exit Openings**—Exit openings shall remain open unless covered by a flame-resistant curtain.
  - Curtains shall be free sliding on a metal support that is a minimum of 80 inches above the floor.
  - The curtains shall be arranged so that, when open, no part of the curtain obstructs the exit.
  - Curtains shall be of a color, or colors, that contrast with the color of the tent.
- **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:
  - Two separate circuits, one of which shall be separated from all other circuits, for occupant loads of 300 or less; **or**

  - 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 California Electrical Code.

  Obtain electrical permit from local building department prior to the OCFA inspection.
- **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.
- **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.
- **Aisles**—The width of aisles in areas without fixed seating shall be in accordance with the following:
  - 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.
  - 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.
- **Seats per row**
  - 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 increased by 0.3 inch for every additional seat beyond 14 seats, but the minimum clear width is not required to exceed 22 inches.
  - 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.
- **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.
- **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.

A.5.5 HAZARDS

- **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.
- **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 inspector. Spare fuel shall be stored at least 20 feet from the tent.
- **Smoking**—Smoking shall not be permitted in tents or membrane structures. Approved "NO SMOKING" signs shall be conspicuously posted throughout the structure.
- **Fireworks—**Fireworks shall not be used within 100 feet of tents or membrane structures.
- **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.
- **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.
- **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. 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 stands of seats at any time.
- **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.
- **Safety Film—**Motion pictures shall not be displayed in structures unless the motion picture film is safety film.
- **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.
- **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.

A.5.6 ADDITIONAL REQUIREMENTS for TEMPORARY AIR-SUPPORTED and AIR-INFLATED MEMBRANE STRUCTURES

- **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.
- **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 FSAAS.
- **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 to provide integral limiting pressure at the design pressure specified by the manufacturer.