



# SAN DIEGO FIRE-RESCUE

## COMMUNITY RISK REDUCTION DIVISION

### TENT AND MEMBRANE STRUCTURES

#### I. PURPOSE

This guideline is intended to clarify current code requirements related to the erection, operation and maintenance of temporary tents and membrane structures.

#### II. SCOPE

This guideline is applicable to tents and membrane structures (tents) regulated by Chapter 31 of the California Fire Code and California Code of Regulations Title 19. The codes and regulations listed herein provide the minimum tent requirements in the City of San Diego:

- A. California Code of Regulations Title 19: State Fire Marshal Regulations
- B. California Fire Code, 2022 Edition
  - 1. Chapter 31: Tents, Temporary Special Event Structures and Other Membrane Structures

#### III. DEFINITIONS

**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. See Chapter 31 of the California Building Code.

**Temporary:** 180 days or less

**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

**Umbrella Structure:** A structure, enclosure, or shelter with or without sidewalls or drops, constructed of fabric or pliable material supported by a central pole or poles

#### IV. PERMITS

- A. Tents having an area in excess of 400 square feet shall not be erected, occupied, and/or operated for any purpose without first obtaining a permit and approval from the City of San Diego Fire-Rescue Department (SDFD).



# SAN DIEGO FIRE-RESCUE

## COMMUNITY RISK REDUCTION DIVISION

*Exceptions:* (1) Tents used exclusively for recreational camping purposes, (2) Tents open on all sides that comply with all of the following: (2.1) Individual tents having a maximum size of 700 square feet, (2.2) The aggregate area of multiple tents placed side by side without a fire break clearance of 12 feet, not exceeding 700 square feet total, (2.3) A minimum clearance of 12 feet to all structures and other tents, and (3) Funeral tents.

- B. An [Application for a Single Event Permit](#) and plans must be submitted to SDFD Special Events at least two weeks (10 business days) prior to the event or special use. The person responsible for the parcel and/or event, in which the tent will be used, shall be responsible for requesting the fire permit and inspection.

An invoice will be processed for the [permit fee](#). Payments shall be made to the City Treasurer upon receipt of the invoice.

### V. PLANS

Plans must include the following information:

- A. Exterior Site Plan:
1. Location of all tents
  2. Dimensions and total area of each tent or grouping of tents
  3. Location and type of generator, cooking, and/or heating units along with manufacturer cut sheets
  4. Distance between tents and from tents to buildings, property lines, on-site parking areas, cooking areas/food trucks, and generators
  5. Location and width of the fire access lane (minimum 20 feet)
  6. Location, width, and type of exit doors/openings located in sidewalls
- B. Floor Plan: (required when occupant load is 50 or more)
1. Tent company information
  2. Event host information
  3. Permit scope
  4. Intended use (e.g., dining, cooking, sales)
  5. Event location
  6. Dates and times of intended use
  7. Tent set-up date
  8. Respective occupant loads
  9. Placement of fire extinguishers



# SAN DIEGO FIRE-RESCUE

## COMMUNITY RISK REDUCTION DIVISION

10. Location and width of sidewalls, if any
  11. Location, width, and type of exit doors/openings located in sidewalls
  12. Location of exit, no smoking, occupant load, and other signage
  13. Location of emergency lighting fixtures and their power source
  14. Location, size, and height of stages and platforms tables and seating layout, including width of aisles between tables/seating areas
  15. Location and type of cooking and/or heating units along with manufacturer cut sheets
- C. Other Plan Information:
1. Completed Permit Application
  2. Provide California State Fire Marshal fire resistances certificates for the tent material
  3. Method and details of structural stability, including tent product and specification of materials
  4. Structural stability affidavit
  5. 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, paper/plastic/fabric wall coverings, artificial grass, hay bales, streamers, or other decorative materials that will be used
- D. Depending on the scope of the event or other considerations, the Inspector reviewing the application may need more information to complete an evaluation of the event and provide conditions of approval to mitigate the potential hazards.

### **VI. GENERAL REQUIREMENTS AND DISCLOSURE**

These general requirements are only excerpts from adopted codes; they do not represent code requirements in their entirety. These reproduced requirements have been consolidated with the intent to assist applicants in submitting permit applications. Questions associated with specific requirements should be directed to SDFD Special Events at (619) 533-4388.

### **VII. USE PERIOD**

Tent structures shall not be erected for a period of more than 180 days within a 12-month period on a single premise.

### **VIII. STRUCTURAL STABILITY**

- A. Tents 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.



# **SAN DIEGO FIRE-RESCUE**

## **COMMUNITY RISK REDUCTION DIVISION**

- B. Water-filled vessels shall not be used to anchor a tent or membrane structure unless approved and in accordance with the tent or membrane structure manufacturer's instructions.
- C. The applicant shall complete and provide the SDFD's [Tent and Membrane Structure - Structural Stability Acknowledgement and Indemnification](#) as part of the permit submittal packet.
- D. Permits will not be approved until the Structural Stability Acknowledgement and Indemnification is received as part of the submittal. The Structural Stability Acknowledgement and Indemnification is not transferrable from application to application or from permit to permit.

### **IX. PORTABLE FIRE EXTINGUISHERS**

- A. Portable fire extinguishers shall be provided in accordance with the following:
  - 1. One Class 2-A-10B:C fire extinguisher shall be provided in every tent having a floor area between 500 square feet and 1,000 square feet plus one Class 2-A-10B:C fire extinguisher in each auxiliary adjacent tent
  - 2. One additional extinguisher shall be provided for each additional 2,000 square feet or fraction thereof
  - 3. At least one Class 2-A-10B:C fire extinguisher shall be provided with each generator or transformer
  - 4. At least one Class 2-A-10B:C fire extinguisher shall be provided in kitchen, dining areas, and at locations where flammable or combustible liquids or flammable gases are used, stored, or dispensed
  - 5. At least one 2-A:K (Class K) fire extinguisher shall be provided for any cooking operation involving combustible cooking media (vegetable or animal oils and fats)

### **X. ACCESS, LOCATION AND PARKING**

Fire apparatus access shall be provided with an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of 13 feet, 6 inches. Tents shall not be located within 20 feet of lot 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.



# SAN DIEGO FIRE-RESCUE

## COMMUNITY RISK REDUCTION DIVISION

### **XI. MEANS OF EGRESS**

- A. Exits shall be spaced at approximately equal intervals around the perimeter of the tent and shall be located such that all points are 100 feet or less from an exit.
- B. Tents or a usable portion thereof shall have not less than one exit and not less than the number of exits required in the following chart:

#### **MINMUM NUMBER OF MEANS OF EGRESS AND MEANS OF EGRESS WIDTHS**

Occupant Load	Minimum Number of Means of Egress	Minimum Width of Each Means of Egress (Tent)	Minimum Width of Each Means of Egress (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 <sup>a</sup>	7	120	96

For SI: 1 inch = 25.4 mm.

- a. When the occupant load exceeds 3,000, the total width of means of egress (in inches) shall be not less than the total occupant load multiplied by 0.2 inch per person.
- C. Exit openings from tents shall remain open unless covered by a flame-resistant curtain. The curtain shall comply with the following requirements:
  - 1. Curtains shall be free sliding on a metal support
  - 2. The metal support shall be not less than 80 inches above the floor level at the exit
  - 3. The curtains shall be so arranged that, when open, no part of the curtain obstructs the exit
  - 4. Curtains shall be of a color, or colors, that contrasts with the color of the tent
- D. Exit doors shall swing in the direction of exit travel.

### **X. EXIT SIGNS AND EGRESS ILLUMINTATION**

- A. Exits shall be clearly marked. Exit signs shall be installed at required exit doorways and where otherwise necessary to indicate clearly the direction of egress where the exit serves an occupant load of 50 or more.



# SAN DIEGO FIRE-RESCUE

## COMMUNITY RISK REDUCTION DIVISION

- B. Exit signs shall be either listed and labeled in accordance with UL 924 as the internally illuminated type and used in accordance with the listing or shall be externally illuminated by luminaires supplied in either of the following manners:
  - 1. Two separate circuits, one of which shall be separate from all other circuits, for occupant loads of 300 or less.
  - 2. Two separate sources of power, one of which shall be an approved emergency system, shall be provided where the occupant load exceeds 300. Emergency systems shall be supplied from storage batteries or from the on-site generator set, and the system shall be installed in accordance with the California Electrical Code. The emergency system provided shall have a minimum duration of 90 minutes when operated at full design demand.
- C. Means of egress shall be illuminated with light having an intensity of not less than 1 foot-candle at floor level while the tent is occupied. Fixtures required for means of egress illumination shall be supplied from a separate circuit or source of power.

### XI. SOURCES OF IGNITION

- A. Smoking is not permitted in any tents and in any adjacent area where they or other highly flammable materials are kept. "No Smoking" signs shall be conspicuously posted in all tents open to the public and wherever otherwise specific by SDFD.
- B. 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 while open to the public unless approved by SDFD.
- C. Fireworks shall not be used within 100 feet of tents.

### XII. HEATING AND COOKING

- A. Heating or cooking equipment, tanks, piping, hoses, fittings, valves, tubing and other related components shall be installed as specified in the California Mechanical Code.

*Exception:* Operations such as warming of foods, cooking demonstrations, and similar operations that use solid flammables, butane, or other similar devices that do not pose an ignition hazard, shall be approved.



# **SAN DIEGO FIRE-RESCUE**

## **COMMUNITY RISK REDUCTION DIVISION**

- B. Gas, liquid, and solid fuel-burning equipment designed to be vented shall be vented to the outside air as specified in the California Fuel Gas Code and the California Mechanical Code. Such vents shall be equipped with approved spark arresters where required. Where vents or flues are used, all portions of the tent shall be not less than 12 inches from the flue or vent.
- C. Cooking and heating equipment shall not be located within 10 feet of exits or combustible materials.
- D. Tents with sidewalls or drops where cooking is performed shall be separated from other tents by not less than 20 feet.
- E. Outdoor cooking that produces sparks or grease-laden vapors shall not be performed within 20 feet of a tent.

### **XIII. LP-GAS**

LP-gas containers and tanks shall be located outside. Pressure relief devices shall be pointed away from the tent. Portable LP-gas containers, tanks, piping, valves, and fittings that are located outside and are being used to fuel equipment inside a tent shall be adequately protected to prevent tampering, damage by vehicles or other hazards and shall be in an approved location. Portable LP-gas containers shall be secured to prevent unauthorized movement.

### **XIV. GENERATORS**

- A. Must be grounded and use the identified grounding point on the generator.
- B. Generators and other internal combustion power sources shall be separated from tents by not less than 20 feet and shall be isolated from contact with the public by fencing, enclosure, or other approved means.
- C. Generator fuel shall be stored in an approved safety can away from any source of ignition or combustible materials.
- D. Refueling of generators shall only be done with the machine off and cooled down.

### **XV. HOUSEKEEPING**

- A. Combustible vegetation that could create a fire hazard shall be removed from the area occupied by a tent and from areas within 30 feet of such structures.



# SAN DIEGO FIRE-RESCUE

## COMMUNITY RISK REDUCTION DIVISION

- B. Hay, straw, shavings or similar combustible materials shall not be located within any tent containing an assembly occupancy. Sawdust and shavings utilized for a public performance or exhibit shall not be prohibited provided that the sawdust and shavings are kept damp. Combustible materials shall not be permitted under seats or stands at any time.
  
- C. The floor surface inside tents and the grounds outside and within a 30-foot perimeter shall be kept free of combustible waste and other combustible materials that could create a fire hazard. Such waste shall be stored in approved containers and removed from the premises not less than once a day during the period the tent is occupied by the public.

### **XVI. INSPECTIONS**

- A. Upon receiving permit approval and when the tent has been erected, an inspection may be conducted at the discretion of the Deputy Fire Marshal to verify that the tent is installed and furnished in compliance with the approved plans and adopted codes.
  
- B. If a tent is erected and occupied without first receiving permit approval from SDFD Special Events, the applicant will be solely liable for any injury to property or persons related to the unapproved tent installation and structural stability.

Rev. 10/2023



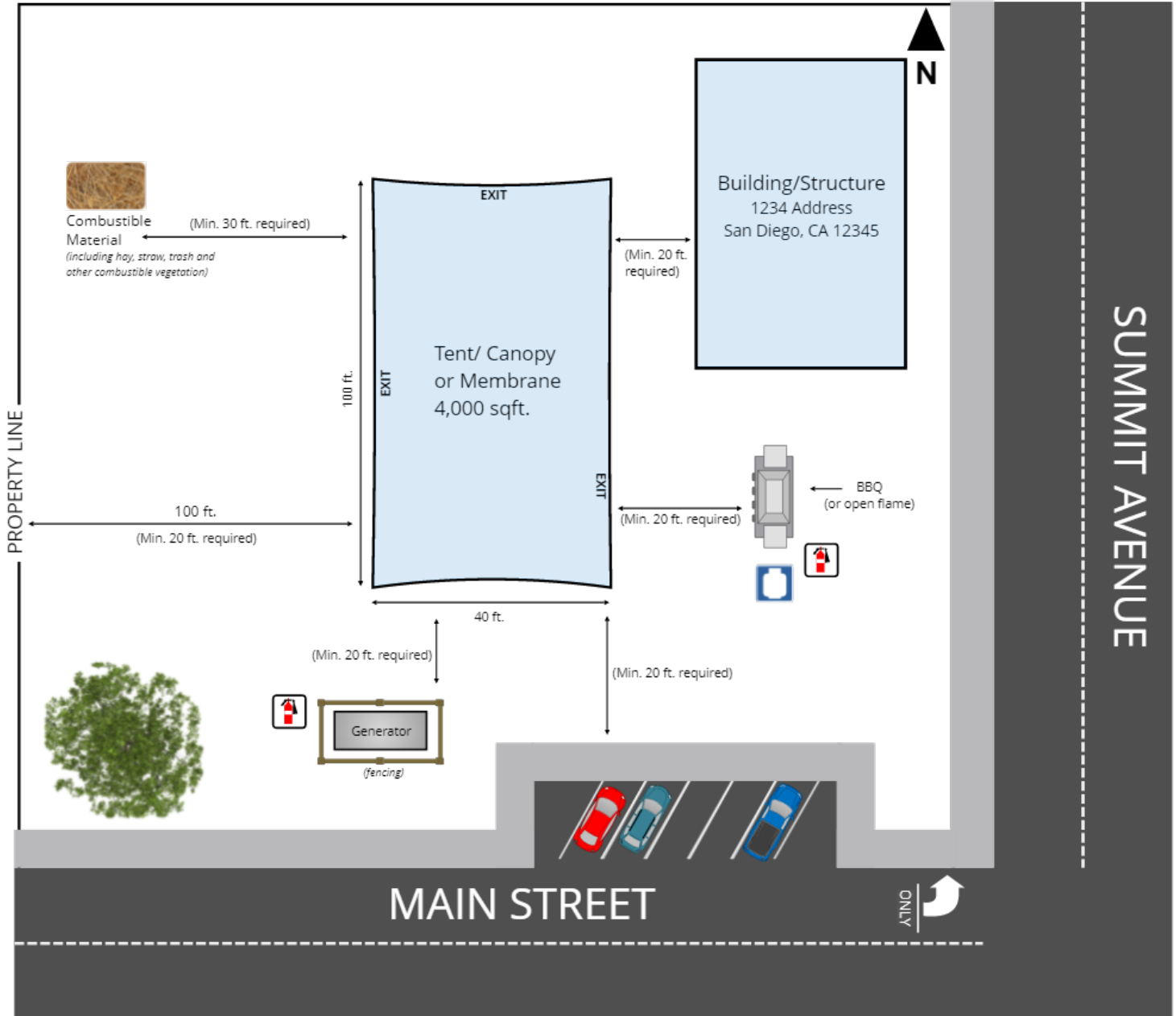




# SAN DIEGO FIRE-RESCUE

COMMUNITY RISK REDUCTION DIVISION

## TENT AND MEMBRANE STRUCTURES (Exterior Site Plan Example)



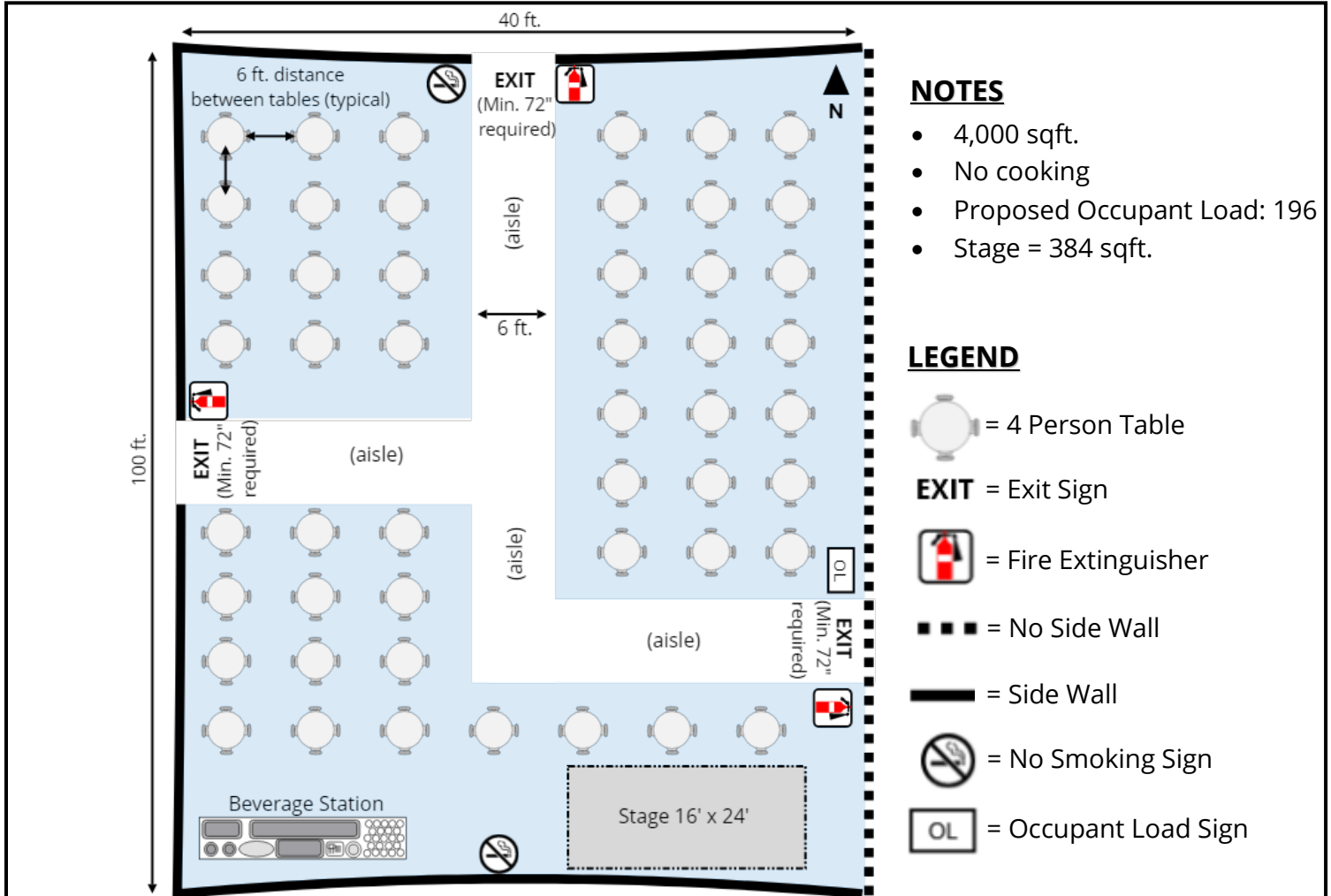


# SAN DIEGO FIRE-RESCUE

## COMMUNITY RISK REDUCTION DIVISION

### TENT AND MEMBRANE STRUCTURES

(Floor Plan Example)



#### NOTES

- 4,000 sqft.
- No cooking
- Proposed Occupant Load: 196
- Stage = 384 sqft.

#### LEGEND

- = 4 Person Table
- = Exit Sign
- = Fire Extinguisher
- = No Side Wall
- = Side Wall
- = No Smoking Sign
- = Occupant Load Sign

MINIMUM NUMBER OF MEANS OF EGRESS AND MEANS OF EGRESS WIDTHS FROM TEMPORARY MEMBRANE STRUCTURES AND TENTS

TABLE 3103.12.2

OCCUPANT LOAD	MINIMUM NUMBER OF MEANS OF EGRESS	MINIMUM WIDTH OF EACH MEANS OF EGRESS (inches)	
		Tent	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 <sup>a</sup>	7	120	96

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a. When the occupant load exceeds 3,000, the total width of means of egress (in inches) shall be not less than the total occupant load multiplied by 0.2 inch per person.

