# TENTS AND TEMPORARY MEMBRANE STRUCTURES

Revised 1/1/2020

## ROCHESTER FIRE DEPARTMENT

Fire Marshal's Office



If you have any questions or comments regarding the information contained within, or if you need assistance interpreting these requirements, please contact:

Rochester Fire Department Fire Marshal's Office 201 4<sup>th</sup> Street SE #10 Rochester, Minnesota 55904 Tel: (507) 328-2800 Fax: (507) 328-2829

www.rochestermn.gov/fire/

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#### **PURPOSE**

To provide plan submittal and other general requirements regarding the temporary use of tents, canopies and other similar structures.

#### SCOPE

Tents and membrane structures having an area in excess of 400 square feet (37 m<sup>2</sup>) shall not be erected, operated or maintained for any purpose without first obtaining a permit and approval from the Rochester Fire Department. (2015 MSFC 3101.2)

#### **DEFINITIONS (2015 MSFC Chapter 2)**

**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.

**Tent** A tent is a temporary structure, enclosure or shelter constructed of fabric or pliable material supported by any manner except by air or the contents it protects.

**Membrane Structure** A membrane structure is an air-inflated, air-supported, cable, or frame-covered structure as defined by the *International Building Code* and not otherwise defined as a tent or canopy. See Chapter 31 of the *International Building Code*.

**Temporary Use** A period of not more than 180 days within a 12-month period on a single premise. (2015 MSFC Chapter 31)

#### **GUIDELINES**

#### I. Permitting and Fees

A revocable permit from the Rochester Fire Marshal's Office is required prior to the assembly of tents and membrane structures having an area in excess of 400 square feet (37 m2).

A permit application must be submitted to the Rochester Fire Marshal's Office for approval. Once approval is granted, set up of the structures may begin. The permit will be issued once an inspection by a fire department employee. The permit must remain on site with the temporary membrane structure at all times until the structure is dismantled.

Fees are required for permits and subsequent inspections. The fee amount is based on the current approved RFD Fee Schedule. <u>Tent Permit Application fee: \$75.00 plus Permit Fee of \$75</u>

Membrane structures erected for an extended period of time, such as seasonal greenhouses, fireworks sales tent, or any other temporary uses, etc., must contact Rochester/Olmsted County Planning and Zoning at 507-328-7100 for a Conditional Use Permit for a temporary structure. A fire department permit is also required.

**Permit responsibility.** When temporary structure applications are submitted together with City special event applications, the responsibility for the temporary structure permit falls upon the applicant of the City Special Event. If these applications are submitted separately, then the applicant of the temporary structure, not the applicant of the special event, is responsible for the temporary structure permit.

#### **II. Plan Submittal Requirements**

In order for a permit to be issued, construction plans must be submitted to the Division of the Fire Marshal and subsequently reviewed and approved. The applicant must submit for approval a detailed drawing of the structure, its layout, location, separations from other structures, purpose (e.g., retail use, public assembly), and the permit application. When the submittal has been approved, the required fees will be collected and an inspection may be scheduled. Permits are issued upon inspection approval.

The submittal package for a temporary structure must consist of the documents:

- 1. Completed permit application
- 2. Signed installer certification
- 3. Installer/User Certification
- 4. Flammability certification(s) for the fabric/membrane of the temporary structure.
- 5. Site maps/diagrams including (minimum site plan size is 8½-x 11-inches):
  - a. Overall site plan showing entire site and general locations of all temporary structures
  - b. Detailed site plan to include the following: i. Locations and dimensions of all temporary structures
    - ii. Locations and dimensions of lot lines within 50 feet of all sides of the temporary structure
    - iii. Uses within all temporary structures
    - iv. Proposed locations of any furniture (tables, chairs, stages, etc.) or related items
    - v. Locations of all fire extinguishers
    - vi. Locations and dimensions of all required aisles and exits
    - vii. Locations and distances to all permanent structures within 50 feet of all sides of the temporary structures
    - viii. Locations of all adjacent vegetation and/or other combustible materials
    - ix. Locations of fire lanes/fire department access roads
    - x. Locations, sizes and types of any flammable/combustible liquid/gas tanks
    - xi. Locations and types of any/all heating equipment
    - xii. Locations and types of all electrical equipment

The permit for the use of tents or temporary membrane structures on a single premise shall not exceed a period of 180 days within a 12-month period. All temporary structures shall be removed prior to the expiration date documented on the issued permit.

#### III. Inspections

A Fire Inspector from the Fire Marshal's Office is required to conduct an inspection for the approval of the temporary structure installation and permit application prior to the structure being occupied. Fire inspections are not required for tents that do not require a permit (additional fees may apply). Fire inspections are scheduled by calling the Rochester Fire Marshal's Office at 507-328-2800, and making an appointment. Inspection scheduling is subject to personnel availability. A minimum of three (3) business days is needed between the inspection scheduling and inspection date, although it is strongly recommended that inspections be scheduled as far in advance as possible to ensure any desired inspection date, and to have time to make any corrections necessary in order to meet code requirements. The temporary structure installer as well as a representative of the noted structure user shall be present on site for the duration of the fire inspection. This is to ensure that all stakeholders are able to communicate any necessary information at the same time.

Prior to the Fire Inspector's arrival for the inspection, the temporary structure shall be installed completely and compliant with all applicable fire code requirements and plan review comments. A copy of the permit submittal package shall be shall be available to the inspector.

Once the installation has been approved by the inspector, the inspector will sign the permit which then allows the temporary structure to be used.

#### IV. General Installation Requirements

**Locations, separations and clearances.** Other than as excepted by Section 3103.8.2 of the 2015 MSFC, temporary structures shall not be located within 20 feet of property lines, buildings, other tents or membrane structures, parked vehicles, or internal combustion engines. For the purpose of determining required distances, support ropes and guy wires are considered to be part of the structure. Multiple structures may be connected or adjacent to each other provided the exceptions listed in Section 3103.8.2 Sub. 1, and Sub. 2.

Heating and cooking equipment which produces sparks or grease laden vapors is not allowed inside, or within 20 feet of temporary structures. The installation of approved heating and cooking equipment inside shall not be within 10 feet of exits or combustible materials and shall be vented to the outside by approved means. Structures where cooking is performed shall be separated from other structures by a minimum of 20 feet.

LP gas cylinders shall be stored outside. Safety relief valves shall be pointed away from the tent or membrane structure. Containers 500 gallons or less shall have a minimum separation distance not less than 10 feet between the container and the structure. Containers over 500 gallons shall have a minimum separation between the container and structure not less than 25 feet. Containers shall be secured in a manner to prevent movement or damage.

Flammable and combustible liquids shall not be used within temporary structures and shall be stored a minimum of 50 feet from temporary structures. Refueling of internal combustion engines such as generators shall not occur within 20 feet of the structure.

Three feet minimum clearances shall be maintained between the fabric of the structure and all contents located within the structure.

**Flame resistance.** A label shall be permanently affixed to the structure identifying the flame-retardant properties of the material.

Before a permit is granted, the tent contractor, owner or agent shall provide documentation to the Rochester Fire Marshal's Office, a certificate executed by an approved testing laboratory, certifying that all portions of the structure, as well as any tarpaulins, floor coverings (including sawdust), bunting, combustible decorative materials and effects are composed of flame-resistant materials or are treated with a flame retardant and meet the requirements of NFPA 701, and that such flame resistance is effective for the period specified by the permit.

**Open or exposed flames and fireworks.** Open flame sources including any/all cooking appliances, candles, "sterno" canisters, any/all heating appliances, flame effects and similar items may not be located inside or within 20 feet of structures unless specifically approved by the Division of the Fire Marshal. Fireworks, pyrotechnics and other similar effects are not allowed inside or within 100 feet of any temporary structure.

Smoking. No smoking signs shall be posted throughout the temporary structure. No smoking signs shall include the wording "NO SMOKING BY ORDER OF THE FIRE DEPARTMENT" The lettering of "NO SMOKING" shall be block letters at least 1-½-inches in height with a ¼-inch stroke. "BY ORDER OF THE FIRE DEPARTMENT" shall be in block letters ¾-inches tall with a ⅓-inch stroke. All letters shall be red on a white background. An example of a typical no smoking sign is shown in Figure 1.



Figure 1 - No Smoking Sign Example

**Occupant load**. The following table shall be used to determine the occupant load:

**Table 1 - Occupant Load Factors** 

Use/Occupancy of Temporary Structure	Occupant Load Factor (Floor area in sq. ft per occupant)
Assembly – Concentrated Use (Chairs only-not fixed)	7
Assembly – Unconcentrated Use (With tables and chairs)	15
Assembly – Standing space only¹	5
Retail / Mercantile	30

<sup>&</sup>lt;sup>1</sup>When this factor is used, the entire space within the walls of the temporary structure must be free of tables, chairs, other furniture and related obstructions.

Occupant loads shall be posted in a conspicuous place, near the main exit. Signs shall be of an approved legible permanent design.

**Exits.** The minimum number of and width of exits shall be as follows:

**Table 2 - Minimum Exit Requirements** 

Capacity	Min. # of Exits	Min Width per Exit for Tents	Min Width per Exit for Membrane Structures
10 to 199	2	72	36
200 to 499	3	72	72
500 to 999	4	96	72
1000 to 1999	5	120	96
2000 to 2999	6	120	96
Over 3000 <sup>2</sup>	<b>7</b> <sup>2</sup>	120 <sup>2</sup>	96 <sup>2</sup>

<sup>&</sup>lt;sup>2</sup>The total width of all exits shall not be less than the total occupant load multiplied by 0.2 inches per person. Exiting through other nearby tents is an unacceptable configuration.

**Exit distribution.** Exits shall be spaced at equal intervals around the perimeter and located so no point within the tent is over 100 feet from an exit. This measurement is determined by the path of travel a person would be required to follow to reach the exit. Exiting from one tent into or through an adjacent tent is not an acceptable configuration.

**Exit covers.** Openings in the structure shall remain open unless covered by a flame-resistant curtain. Curtains are to be free sliding on a metal support, and when open, shall not obstruct the exit width. Curtains shall be a color that contrasts with the tent.

**Aisles.** The minimum width of any public aisle is 44 inches. Aisles for employees only, may be 24 inches wide, but not less than the width required by the number of employees served. Aisles in seating areas shall progressively increase in width to provide, at all points, not less than 1 foot of width for each 50 persons served by such aisle at that point.

**Exit signs and illumination.** An exit sign shall be provided for each exit when the occupant load exceeds 50. Exit signs shall be illuminated by either an approved self-luminous type or shall be internally or externally illuminated by fixtures supplied in an approved manner. Means of egress shall be illuminated in an approved manner, with light having not less than 1 foot-candle at the floor level while the structure is occupied.

**Maintenance of exits.** The required clear width of all exits, aisles, and passageways to a public way shall be maintained from any obstacles at all times. Support ropes, guy wires and other support members shall not cross a means of egress at a height of less than 8 feet over the entire clear width of the exit.

**Portable Fire Extinguishers**. Fire extinguishers and other fire-protection appliances shall be provided in every tent, canopy, and temporary membrane structure as follows. Fire extinguishers may not be removed from adjacent businesses to provide protection for the structure.

**Table 3 - Minimum Fire Extinguisher Quantities** 

From	То	Quantity
(square feet)	(square feet)	(each)
1	200	1
201	500	2
501	1000	3
1001	3000	4
3001	5000	5
5001	7000	6
7001	9000	7
9001	11000	8

For each additional 2000 square feet or fraction thereof add one additional 2A:10BC extinguisher.

A least one 40BC rated fire extinguisher shall be provided for each kitchen, mess hall, power generator, or transformer and at locations where flammable or combustible liquids are used, stored, or dispensed.

The locations of these hazards shall be in accordance with location guidance found elsewhere in this document as well as applicable codes and standards. Fire extinguishers shall be located no closer than 10 feet to a hazard and no further than 50 feet from the hazard. All fire extinguishers shall be mounted at approximately waist high. Final locations and heights will be determined by the fire inspector.

**Housekeeping.** Weeds, combustible vegetation and other combustible waste shall be removed from and kept free from inside and within 30 feet of the structure. Such waste shall be stored in approved containers until removed from the premises. If the structures are placed over grasses, the grasses shall be watered and live and cut to a length of no more than 4 inches in height.

Hay, straw, trash, and other combustible materials shall not be stored within 30 feet of the tent unless being used for the care and daily feeding of animals. Sawdust/shavings utilized for public performance or exhibits shall not be used within structures unless the sawdust/shavings are kept damp.

## **ATTACHMENTS**

Tent and Canopies Permit Application

Installer and User Certification

Temporary Structure Setup and Daily Checklist

Temporary Structure Worksheet

Site Plan Example

Blank Site Plan

	· · · · · · · · · · · · · · · · · · ·							
TENTS & CANOPIES PERM		CATIO	N PTŘE TDĚPT:					
USER INFORMA	TION							
Business Name	Daytime	Phone	е					
Business Address	After Hou	urs Ph	ione					
City, State, Zip	Fax							
Email Address								
INSTALLER INFORI	MATION							
Business Name	Daytime	Phone	е					
Business Address	After Hou	urs Ph	ione					
City, State, Zip	Fax							
Email Address								
TENT OR CANOPY INSTALLATION L	OCATION	N INFC	DRMATION					
Business Name								
Business Address								
City, State, Zip								
Location on Property								
Is this tent/canopy application part of a City of Rocheste	er Special	Event	s Application?					
If yes, what is the event name and event date?								
What are the daily hours of operation for the tent?	AM/PM	to	AM/PM					
INSTALLATION/USE/REMOVAL DATES		END						
Dates planned for Tent/Canopy INSTALLATION:		and						
Dates planned for Tent/Canopy USE:		and						
Dates planned for Tent/Canopy REMOVAL:		and						
Responsible Party (Please Print)	Title							
OFFICE USE ONLY	Date							
Permit								
Permit Fee								
Reception No.:	_	_						

# A COPY OF THIS APPLICATION SHALL REMAIN ON SITE ALONG WITH THE PERMIT

#### **INSTALLER CERTIFICATION OF COMPLIANCE**

	I will install the tent in full conformance with the installation requirements as outlined in the RFD Temporary Membrane Structures, Tents and Canopies document and the 2009 International Fire Code.
Initial	the 2000 memanonal rine code.
 Initial	I will instruct the User of the tent or canopy in the daily use of the Tent Installation Checklist. I will document this instruction by obtaining a duly executed User Certification of Compliance form as outlined in the Temporary Membrane Structures, Tents and Canopies document. A copy of this sign formed will be posted with the Rochester Fire Department Permit. I will explain each of the checklist requirements and the appropriate corrective actions.
iiiiiiai	I have submitted certifications executed by approved testing laboratories validating the fire resistive properties in accordance with NFPA 701 of all elements of the
 Initial	structure, as well as of any floor coverings, tarps and combustible decorative
 Initial	I understand that this certification is being made in conformance with the 2009 International Fire Code and related RFD amendments.
a.	I understand that installation of a tent or canopy that does not comply with the requirements as outlined in the Minnesota Temporary Membrane Structures, Tents and Canopies document and the 2009 International Fire Code is a violation of local law.
Initial	iaw.
Signed: _	Date Official of Installing Company
Printed Na	ame:
	USER CERTIFICATION OF COMPLIANCE
 Initial	I have read and understand the installation and periodic surveillance requirements as outlined in the Temporary Membrane Structures, Tents and Canopies document as
Initial	I agree to abide by codes, standards and polices as outlined in the Temporary Membrane Structures, Tents and Canopies document and the 2009 International
	I agree to conduct, or have conducted by a designated employee, a daily self-inspection of the tent installation utilizing the Tent Installation Checklist provided in the Temporary Membrane Structures, Tents and Canopies document.
Initial Initial	I agree not to occupy or use the tent unless it fully meets the requirements for installation and passes the Tent Installation Checklist without exception.
Signed:	Date
	Representative of User
Printed Na	ame:

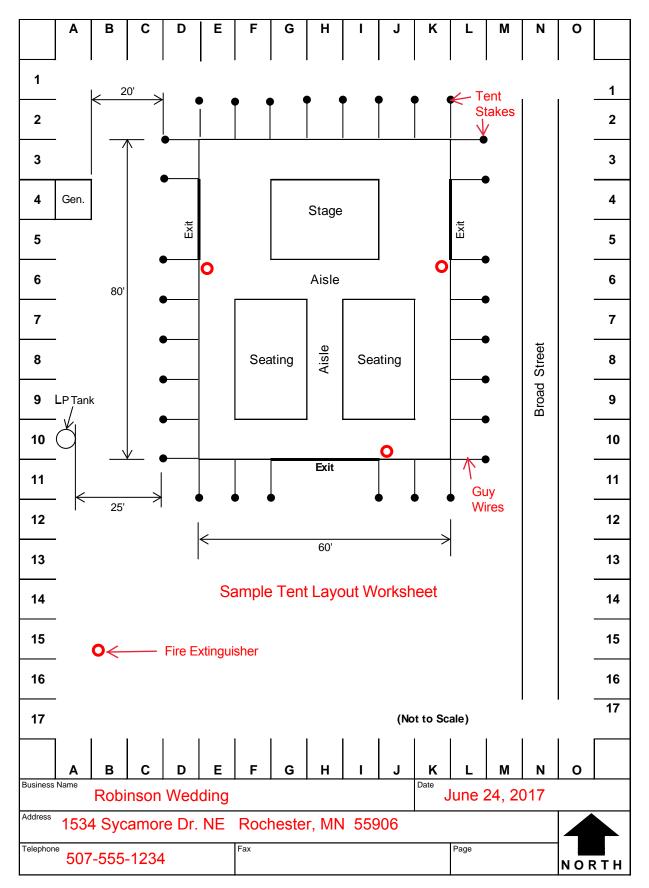
#### TEMPORARY STRUCTURE SETUP AND DAILY CHECKLIST

NO	ITEM TO VERIFY	YES	CORRECTIVE ACTION
	Is structure at least 20 feet from any property lines?		Do not occupy or use structure. Structure needs to be relocated a minimum of 20 feet from any property lines.
	Is structure within 20 feet of any building?		Do not occupy or use structure. Structure needs to be relocated a minimum of 20 feet from any building.
	Is structure within 20 feet of another structure?		Evaluate all structures within 20 feet of each other as a single structure meeting all applicable requirements.
	Is structure within 20 feet of parking?		Restrict parking or relocate structure at least 20 feet from parking.
	Is structure within 20 feet of any internal combustion engines?		Do not use internal combustion engine until relocated at least 20 feet from structure.
	Are "No Smoking" signs posted inside and outside?		Do not occupy or use structure unless no smoking signs are posted and enforced.
	Are fireworks and unapproved open flames prohibited inside and outside the structure?		Do not occupy or use structure unless fire works and all unapproved open flames are prohibited in the structure and within 20 feet of exterior of structure.
	Are all points in the structure within 100 feet of an exit?		Do not occupy or use structure unless sufficient nearby exits are provided.
	Are exits open and uncovered?		Do not occupy or use structure unless all required exits are functional.
	Are all aisles at least 44 inches wide? Do aisles increase in width where required?		Do not occupy or use structure unless proper aisle widths are maintained.
	Is the Occupant Load posted appropriately?		Do not occupy or use structure unless the correct occupant load is posted appropriately.
	Ensure "Exit" signs are posted and clearly visible.		Do not occupy or use structure unless required "Exit" signs are provided.
	Ensure "Exit" signs are illuminated.		Do not use or occupy structure unless illuminated exits are provided.
	Ensure emergency lighting is provided.		Do not use or occupy structure unless emergency lighting is provided.
	Is a label permanently affixed to the structure bearing the identification of size and material type?		Do not use or occupy structure unless label is present.
	Ensure that exit signs have either two separate circuits or two sources of power depending on occupant load.		Do not use or occupy structure until a minimum of two circuits or sources of power are provided as required. Typically this is accomplished through the use of AC Powered Exit signs with internal battery backup.
	2A:10BC Fire extinguishers are provided (see information packet for minimum number required).		Do not use or occupy structure until sufficient, properly sized, fire extinguishers are provided.
	At least one 40BC rated fire extinguisher shall be provided for each kitchen, mess hall, power generator, or transformer and at locations where flammable or combustible liquids are used, stored, or dispensed.		Do not use or operate any of these hazards unless appropriate fire extinguishers are provided as described in Temporary Membrane Structures, Tents and Canopies document and applicable codes.
	Weeds and other combustible vegetation shall be removed from within 30 feet of the structure area.		Do not use or occupy the structure unless combustible vegetation has been removed from the specified area.
	The floor surface inside, including the grounds adjacent to or within 30 feet outside of temporary tents, canopies, and membrane structures, shall be kept free of combustible waste.		Do not use or occupy the structure unless combustible waste is removed or stored in proper containers.
	Such waste shall be stored in approved containers until removed from the premises.		Do not use or occupy the structure unless trash containers have been emptied from the previous day.
Insį	pection performed by:		Date:

nspection performed by:	Date:	

STEP	TEMPO	DRARY STRUCTUR	E WORKSHEE	Т					
1	USE and OCCUPANT LOAD FA (OLF). Use this OLF in the appro	**	of use for each tent and	circle in the c	corresponding Occu	upant Load Factor			
	TENT	USE	OCCUPANT LOAD FACTOR (OLF) (Sq. ft/person)						
	Concentrated assembly use (c	hairs only, not fixed, no furniture	7						
	Unconcentrated assem	bly use (tables and chairs)	15						
	Standing space only assembly	use (no obstructions permitted)	5						
	Retail and	all other uses.		30					
2		e length and width of each tent in vide the total square footage by t							
	Tent 1	X	=	_ /	=				
	Length	Width	Area	Div.	OLF	Occupant Load			
	Tent 2	Χ	=	_ /	=				
	Length	Width	Area	Div.	OLF	Occupant Load			
	Tent 3	X	=	_ /	=				
	Length	Width	Area	Div.	OLF	Occupant Load			
3	exit utilizing the table below. No	e Occupant Load for each tent, on the common tent of the common tent o	a Tent and a Membrane	Structure for	r exiting purposes is	s that a			
	Occupant Load (From Step 2	) Required Number of Exits		Minimum widt	h of each exit (inch	es)			
				Tent	Memb	rane			
	1 - 9	1		72	36	3			
	10 - 199	2		72	36	5			
	200 - 499	3		72	2 72				
	500 - 999	4		96	72				
	1000 - 1999	5		96	96				
	2000 - 2999	6		120	96				
	Over 3000*	7		120*	96*				
	*The total width of all exits shall nearby tents is an unacceptable		int load multiplied by 0.2 inches per person. Exiting through other						
4	<b>EXITING SUMMARY</b> Using Number of Exits and Minimum V	g the occupant loads calculated i /idth of each Exit Provide the sur			etermine the corres	ponding Required			
	Tent 1								
	Required Number of Exits		Width of Each Exit						
	Tent 2								
	Required Number of Exits		Width of Each Exit						
	Tent 3								
	Required Number of Exits		Width of Each Exit						
5	FIRE EXTINGUISHERS Ut	ilizing the square footage of each		riate number	of fire extinguishers	s for each tent.			
	Size of Tent (Sq. Ft.)	Minimum required number	of fire extinguishers	Fir	re Extinguisher Su	ummary			
	1 - 200		1	Tent 1					
	201 - 500		2						
	501 - 1000	;	3	Total Number of Fire Extinguishers					
	1001 - 3000	4	4	Tent 2					
	3001 - 5000		5						
	5001 - 7000		6	Tot	tal Number of Fire I	Extinguishers			
	7001 - 9000		7	Tent 3					
	9001 - 11000		В						
	Add 1 additional 2A:10BC exting	uisher for each additional 2000 s	sq. ft or fraction thereof.	Total Number of Fire Extinguishers					

Remember Emergency Lighting, Exit Signs, No Smoking Signs, Fire Extinguishers, etc. Permit will  $\underline{NOT}$  be issued if all required items are not present at the time of the inspection.



	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	
1																1
2																2
3																3
4																4
5																5
6																6
7																7
8																8
9																9
10																10
11																11
12																12
13																13
14																14
15																15
16																16
17																17
Business	A Name	В	С	D	E	F	G	н	ı	J	<b>K</b> Date	L	М	N	0	
Address																
Telephone	е					Fax						Page				
															N O F	RTH