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Sponsored by: Hosmer

First Reading: November 9, 2015

Second Reading: November 23, 2015

COUNCIL BILL NO. 2015 - 294

GENERAL ORDINANCE NO. 6242

AN ORDINANCE

1 AMENDING the Springfield City Code, Chapter 54, Fire Prevention and Protection,
2 Article II, Fire Prevention Code, Section 54-32, by amending Chapter 31 of
3 the International Fire Code (IFC), to amend Section 3103.4 and to add
4 Sections 3103.2.1, 3103.2.2, 3103.9, and 3103.13; including a savings
5 clause and a severability clause; and establishing an effective date.
6

7
8 WHEREAS, permanent structures have many complex technical requirements
9 established within the building code to ensure their structural integrity; and
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11 WHEREAS, tents are a useful temporary alternative to permanent structures in
12 some situations; and
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14 WHEREAS, the Building Code does not apply to temporary structures, but the
15 Fire Code has a section addressing the temporary use of tents and other membrane
16 structures; and
17

18 WHEREAS, the current Fire Code provides limited guidance on the anchorage
19 requirements for tents and membrane structures; and
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21 WHEREAS, proper anchorage of tents and membrane structures based on local
22 weather conditions is critical to life and safety; and
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24 WHEREAS, no nationally-recognized standard currently exists concerning proper
25 anchorage and general safety of such structures; and
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27 WHEREAS, there has been a history of property damage and personal injury due
28 to failure of tent anchoring systems; and
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30 WHEREAS, tent manufacturers provide guidance concerning proper anchoring of
31 many tent and membrane structures; and
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33 WHEREAS, if no manufacturer's guidelines are provided for proper anchoring of
34 a temporary structure, an engineered study concerning the anchoring needed for safe
35 installation of the structure is warranted; and

36
37 WHEREAS, training and approving of tent installers in the proper anchoring of
38 tents and membrane structures will improve the safety of tents and membrane
39 structures installed in the City of Springfield.
40

41 NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF
42 SPRINGFIELD, MISSOURI, as follows, that:
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44 Section 1 – The City Council hereby amends the Springfield City Code, Chapter
45 54, Fire Prevention and Protection, Article II, Fire Prevention Code, Section 54-32,
46 concerning amendments and additions to the IFC, by amending Section 3103.4,
47 Permits, by adding Sections 3103.2.1, Tent Vendor License; 3103.2.2, Master Tent
48 Installer; 3103.9, Tent Installation; and 3103.13, Limitations On Use of Tents, which
49 Sections shall read as set forth in “Exhibit A,” which is attached hereto and incorporated
50 herein as if copied verbatim.
51

52 Section 2 – Savings Clause. Nothing in this ordinance shall be construed to
53 affect any suit or proceeding now pending in any court or any rights acquired or liability
54 incurred nor any cause or causes of action occurred or existing, under any act or
55 ordinance repealed hereby. Nor shall any right or remedy of any character be lost,
56 impaired, or affected by this ordinance.
57

58 Section 3 – Severability Clause. If any section, subsection, sentence, clause or
59 phrase of this ordinance is for any reason held to be invalid, such decision shall not
60 affect the validity of the remaining portions of this ordinance. The Council hereby
61 declares that it would have adopted the ordinance and each section, subsection,
62 sentence, clause or phrase thereof, irrespective of the fact that any one or more
63 sections, subsections, sentences, clauses, or phrases be declared invalid.
64

65 Section 4 – This ordinance shall be in full force and effect from and after
66 passage.
67

68 Passed at meeting: November 23, 2015
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70
71 Robert L. Stephen
72 Mayor

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74 Attest: Antia J. Cotter, City Clerk
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76 Filed as Ordinance: November 23, 2015
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78 Approved as to form: Marianne Henderson, Assistant City Attorney
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81 Approved for Council action: Greg B. Burt, City Manager

EXPLANATION TO COUNCIL BILL NO: 2015- 294

FILED: 11-03-15

ORIGINATING DEPARTMENT: Fire

PURPOSE: To amend the Springfield City Code, Chapter 54, Fire Prevention and Protection; Article II, Fire Prevention Code, Section 54-32, by amending Chapter 31 of the International Fire Code to add Sections 3103.2.1, 3103.2.2, 3103.9, and 3103.13 and establishing an effective date.

BACKGROUND INFORMATION: Building Development Services (BDS) originally issued Tent permits and no inspections were performed at that time. The Springfield Fire Department (SFD) found that many tents were not erected in conformance with the adopted Fire Code, so the permitting process was moved to SFD and inspections were performed. There were significant improvements to many issues; however, there were serious concerns about how the tents were staked and ballasted.

In July 2014, SFD began the process of working with the tent vendors on establishing clear requirements for staking and ballasting tents. Based upon input from the industry, a final version of changes was developed and presented to City Council on March 23, 2015; however, a concern was raised by a user group so the Fire Department asked the Council to not vote on the matter and to allow SFD to work to address the remaining concerns. After that time, the SFD further refined the details and made some minor modifications. The exact additions to the codes that are being proposed are provided in "Exhibit A." The primary components of the changes include the requirement for the tent renters and installers to be trained and approved; the tent owner is required to request the permit; and the tents must be installed according to approved guidelines. SFD has worked with agencies within the industry to establish a training program for tent vendors.

The specific modifications to the changes initially recommended by SFD are covered in Section 3102.13.1.1 and Section 3102.13.1.2. These sections allow tents that are installed for seven days or less to be installed to a lower standard but they will not be allowed to be occupied with wind speeds greater than 30 mph. The lower standard is based upon calculations where there is adequate uplift anchoring to withstand a 45 mph wind, but only enough lateral anchoring to withstand a 30 mph wind. This standard recognizes that the tents may begin to blow over at a 30 mph wind but should not blow away entirely until a wind in excess of 45 mph occurs.

REMARKS: Currently, there are no nationally recognized standards for the installation of tents. Using the proposed alternatives such as an engineered study or the guidelines by the Industrial Fabrics Association International are the best alternatives currently available. As national standards are developed, the City will move to those standards. SFD believes that the interim steps are prudent and acceptable, and have worked to address the concerns raised by the industry and users, while maintaining an appropriate level of safety for the community.

Submitted by:



David Hall Fire Chief

Approved by:



Greg Burris, City Manager

2012 International Fire Code Amendments/Addendums

NOTE: Language to be added is underlined. Language to be deleted is ~~stricken~~.

3103.2.1 Tent Vendor License.

3103.2.1.1 All vendors renting tents for use in the City of Springfield must obtain a one-time no-cost tent vendor license through the Fire Department.

3103.2.1.2 To obtain the license, the owner or his designated employee must

1. Successfully pass a no-cost training course provided by the Fire Department, which will cover the relevant sections of the City's Fire Code as well as the permitting and installation requirements; and
2. Hold a valid business license for the City of Springfield.

3103.2.2 Master Tent Installer.

3103.2.2.1 Every individual who installs commercial tents greater than 200 square foot must be approved as a Master Tent Installer.

3103.2.2.2 To become approved, the individual must

1. Successfully complete a tent installation course approved by the *Fire Code Official*;
2. Successfully pass a no-cost written examination provided by the Fire Department, which will cover *The Industrial Fabrics Association International (IFAI) Procedural Handbook For the Safe Installation & Maintenance of Tentage*, the guidelines for the ballasting of tents commonly referenced as *The Clemson Study* within the industry, RSMo Chapter 310, the current Fire Code as adopted by the City of Springfield, and any other materials deemed appropriate by the *Fire Code Official*. Only those chapters that relate to tent safety will be covered, including but not limited to Chapter 31, exit lighting, fire extinguishers, etc;
3. Hold a valid business license for the City of Springfield; and
4. Carry the minimum General Liability insurance required by the City for Master licenses.

3103.2.2.3 The approval is valid for three years from the date of issuance, but may be revoked for cause.

3103.2.2.4 An approved master tent installer must be on-site and directly oversee the installation of every commercial tent greater than 200 square foot in size.

3103.2.2.5 Once the tent is installed, the master tent installer must sign the assurance statement on the permit, including emergency contact information, and securely fasten it in a conspicuous place on the tent.

3103.4 Permits. Permits shall be required as set forth in Sections 105.6 and 105.7 and will be obtained from the Fire Department by the owner of the tent or his designee, except where two or more tents will be used as part of an event with a valid City of Springfield Special Event Permit, then the event organizer may apply for the permit.

3103.4.1 Permit application must have a site plan noting the location of the tent and an approved staking/ballasting plan.

1. The tent user will be required to submit a layout plan for the setup within the tent. This must be provided to the Fire Department no later than at the time of the inspection. The permit holder is required to notify the tent user of this requirement.

3103.9 Tent Installation.

3103.9.1 All commercial grade tents must be installed in accordance with one of the following:

1. Wind-rated tents: manufacturer's recommendations – documentation must be provided to the Fire Department
2. Non-rated tents: manufacturer's recommendations that comply with *The IFAI Procedural Handbook For the Safe Installation & Maintenance of Tentage* – Manufacturer's recommendations must be provided to the Fire Department
3. Non-rated tents: *The IFAI Procedural Handbook For the Safe Installation & Maintenance of Tentage* and the provisions contained within this code.
4. Non-rated tents: an engineered study by a professional engineer – engineered study must be provided to the Fire Department. (This is used when the manufacturer does not provide instructions and/or when the instructions for a non-wind rated tent conflict with the *The IFAI Procedural Handbook For the Safe Installation & Maintenance of Tentage*.)

3103.9.2 Inspections.

1. All tents, ballasting, and tie-downs will be inspected for defects, wear and tear, and damage prior to the installation of each tent. Those with visible damage will not be erected.

3103.9.3 Staking.

1. All stakes will be installed in accordance with *The IFAI Procedural Handbook For the Safe Installation & Maintenance of Tentage*.
2. All stakes will have the heads painted the following color so as to indicate the length of the stake in the following manner:
 - i. Red: 32" – 39"
 - ii. Yellow: >40" but not more than 47"
 - iii. Green: 48" or more
3. Embedment – regardless of actual length, stake embedment will be considered the following based upon color:
 - iv. Red: 28"
 - v. Yellow: 34"
 - vi. Green: 36"
4. Maximum stake exposure – the maximum amount of stake exposed above the ground is:
 - vii. Red: 4"
 - viii. Yellow: 6"
 - ix. Green: 12"
5. Tie downs/guys should be attached within 2" of the ground, and in no case, can be more than 4" from the ground, regardless of the amount of stake above ground.
6. All stakes must be at least 1" in diameter.
7. Stakes are to be driven vertically between 0 and 15 degrees. .
8. In no case will a stake be less than one-half the height of the upright and no more than the height of the upright from the leg, except as otherwise provided in this code.
9. If heads of stakes are unpainted, stakes will be presumed to be 32" (thirty-two inches) in length.

3103.9.4 Knots.

1. Only knots approved in the *The IFAI Procedural Handbook For the Safe Installation & Maintenance of Tentage* will be used, unless the tent is wind-rated or is approved by an engineered study by a professional engineer

3103.9.5 Ballasting.

1. All tents will be ballasted either according to *The Clemson Study* provided by the IFAI or by an engineered study by a professional engineer
2. Unless a tent is certified by its manufacturer as a wind-rated tent and documentation is provided, installations must meet the non-wind rated ballasting.

3. Concrete ballasts must be permanently marked with the weight of the block and must weigh at least 125 pounds.
4. No more than two ballasting blocks may be used to provide the required weight per leg/pole. When two ballasting blocks are used, they must use a load equalizing device. Effective January 1, 2016
 - x. Exception - More than two ballasting blocks may be used when a connecting system approved by the *Fire Code Official* is used where they are positively locked so as to act as a single anchor.
5. Ballasting may not be accomplished by the use of containers using water to create the weight

3103.9.6 Tie-Downs Serving as Guy Ropes.

1. The working load of tie-downs will be rated as provided in *The IFAI Procedural Handbook For the Safe Installation & Maintenance of Tentage.*
2. The rated strength of tie-downs must meet or exceed twice the ballasting/staking required.
3. Tie downs must be rated for at least 3000# working load limit.
4. Ropes must be at least ½" in diameter.
5. Ratchet type straps must be clearly marked by the original manufacturer for the approved working load limit rating.
6. Ratchet straps must have a positive locking hook system to prevent it from accidentally becoming unsecured from the stake, grommet, or other securing device.

3103.9.7 Tent legs/Anchor points.

1. Every leg/anchor point must have the appropriate staking/ballasting.
2. All jump ropes must be properly secured.

3103.9.8 Tensioning.

1. All non-wind rated tents must be anchored and tensioned to a minimum of 7.5 pounds per square foot of uplift loads and 5 pounds per square foot of lateral loads unless otherwise provided in this code.

3103.9.9 Additional requirements.

1. The owner of the tent will provide all required safety items, including fire extinguishers, exit lighting, and other items required by this code or the *Fire Code Official.*
2. The owner of the tent will provide any heaters that are used within a tent and their use must be approved by the *Fire Code Official.*
3. Every tent must have the owner's name and contact information securely fastened in a conspicuous location on the tent.

3103.13 Limitations On Use Of Tents. No tents shall be occupied:

3103.13.1 Wind. Tents must be immediately evacuated when wind speeds or gusts are above 45 mph unless, except:

3103.13.1.1 Tents that are erected for a period of 7 days or less and when wind speeds are predicted by the National Weather Service to be less than 45 mph from the time the tent is erected until it is set to be removed, and anchored and tensioned to the following as a minimum rather than Section 3103.9.5(1) and 3103.9.8, shall be evacuated when wind speeds or gusts are above 30 mph.

<u>Ballasting</u>	<u>Without Sidewalls</u>	<u>With Sidewalls</u>
<u>100 sq ft or less</u>	<u>4.5 lbs/sq ft</u>	<u>14 lbs/sq ft</u>
<u>>100 sq ft but not more than 900 sq ft</u>	<u>10.0 lbs/sq ft</u>	<u>18 lbs/sq ft</u>

3103.13.1.2 Tents that are erected for a period of 7 days or less and when wind speeds are predicted by the National Weather Service to be less than 45 mph from the time the tent is erected until it is set to be removed, and staked to the following as a minimum rather than Section V, paragraph 3h above.

<u>Staking</u>	<u>Without Sidewalls</u>		<u>With Sidewalls</u>	
	<u>Stake Color</u>	<u>Distance from tent</u>	<u>Stake Color</u>	<u>Distance from tent</u>
<u>100 sq ft or less</u>	<u>Red or unpainted</u>	<u>1'</u>	<u>Yellow</u>	<u>3'</u>
<u>>100 sq ft but not more than 400 sq ft</u>	<u>Yellow</u>	<u>1'</u>	<u>Yellow</u>	<u>3'</u>

3103.13.2 Storms. Tents must be immediately evacuated when it is within an area covered by a severe thunder storm or tornado warning.