

**SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**



FROM: FIRE

SUBMITTAL DATE:
November 27, 2013

SUBJECT: Introduction of Ordinance No. 787.7 that adopts the 2013 California Fire Code and find it exempt from CEQA. All Districts/All Districts [\$28,400]

RECOMMENDED MOTION: That the Board of Supervisors:

1. Find that the introduction and adoption of Ordinance No. 787.7 is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) as it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment; and
2. Introduce and adopt on successive weeks Ordinance No. 787.7, an ordinance amending Ordinance No. 787 in its entirety and replacing it with language adopting the 2013 California Fire Code as amended.

BACKGROUND:

Summary

Continued on next page

[Signature]
John R. Hawkins
County Fire Chief

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost:	POLICY/CONSENT (per Exec. Office)
COST	\$ 28,400	\$ 0	\$ 28,400	\$ 0	Consent <input type="checkbox"/> Policy <input checked="" type="checkbox"/>
NET COUNTY COST	\$	\$	\$	\$	

SOURCE OF FUNDS:	Budget Adjustment:
	For Fiscal Year: FY 13/14

C.E.O. RECOMMENDATION:

APPROVE

BY *[Signature]*
Tina Grande

County Executive Office Signature

MINUTES OF THE BOARD OF SUPERVISORS

FORM APPROVED COUNTY COUNSEL
BY: *[Signature]* 11/27/13
DATE: MICHELLE CLACK

Departmental Concurrence

- A-30
- Positions Added
- 4/5 Vote
- Change Order

SUBMITTAL TO THE BOARD OF SUPERVISORS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
FORM 11: Introduction of Ordinance No. 787.7 that adopts the 2013 California Fire Code and find it exempt from CEQA.

DATE: November 27, 2013

PAGE: Page 2 of 2

BACKGROUND:

Summary (continued)

On June 25, 2013 (Item 3-17), the Board of Supervisors ordered the initiation of Ordinance No. 787.7 to adopt the 2013 California Fire Code. The 2013 California Fire Code will take effect on January 1, 2014, and updates the 2010 California Fire Code to include requirements that increase fire resistance in buildings and homes.

Ordinance No. 787.7 adopts the 2013 California Fire Code with amendments pursuant to Health and Safety Code Sections 17958 and 17958.7, which allows the County to require more restrictive development standards based on findings related to local climatic, topographical and geological conditions. These findings are made in Section 1 of Ordinance No. 787.7 and in Attachment A, attached hereto and incorporated herein by reference.

Ordinance No. 787.7 cites specific sections in the 2013 California Fire Code that are being amended by the ordinance. Where Ordinance No. 787.7 amends a specific section by deleting it entirely and replacing it with new language, only the specific section referenced in Ordinance No. 787.7 is being amended. Those sections not specifically referenced remain in effect.

Ordinance No. 787.7 is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15061(b)(3) as it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment. The proposed ordinance amendment merely adopts the 2013 California Fire Code, as amended. Any actual project proposed by property owners will have to undergo its own CEQA analysis.

Impact on Citizens and Businesses

Ordinance No. 787.7 will provide citizens and businesses reasonable fire protection for life and property through the adoption of the 2013 California Fire Code with local amendments based upon the climatic, geological and topographical conditions unique to Riverside County. The amendments to the California Fire Code are necessary to assure the operational needs and safety of fire department personnel responding to emergency incidents in new and existing structures. Consideration was given to assure that new amendments to the California Fire Code for new construction were reasonably necessary while maintaining minimal impacts on citizens and businesses to develop within Riverside County

SUPPLEMENTAL:

Additional Fiscal Information

The estimated cost of administrative personnel and County Counsel time to prepare the amendments to Ordinance No. 787.7 is \$28,400. There is no additional fiscal impact associated with adoption of the 2013 California Fire Codes as these are regulatory requirements used in plan checking and permitting of future projects and maintenance provisions for existing structures and occupancies.

Contract History and Price Reasonableness

N/A

**SUMMARY OF ORDINANCE NO. 787.7
AN ORDINANCE OF THE COUNTY OF RIVERSIDE
AMENDING ORDINANCE NO. 787 AND ADOPTING
THE 2013 CALIFORNIA FIRE CODE AS AMENDED**

This summary is presented pursuant to California Government Code Section 25124(b): a certified copy of the full text of Ordinance No. 787.7 may be examined at the Office of the Clerk of the Board of Supervisors of the County of Riverside, located at 4080 Lemon Street, 1st Floor, Riverside, California.

Ordinance No. 787.7 amends Ordinance No. 787 to adopt the 2013 California Fire Code, California Code of Regulations, Title 24, Part 9, as amended, to govern the safeguarding of life and property from fire, explosion hazards and hazardous conditions and to regulate the issuance of permits and collection of fees. Pursuant to Health and Safety Code Sections 17958 and 17958.7, the County may adopt modifications or changes to the California Fire Code that are reasonably necessary because of the local climatic, geological and topographical conditions. Such modifications include, but are not limited to, prohibiting the ignition or launching of a sky lantern or similar device, allowing fire apparatus access roads for solar photovoltaic power generation facilities to be modified by the fire code official and requiring a fire command center for buildings larger than 300,000 square feet. Ordinance No. 787.7 will apply to the unincorporated area of Riverside County and would take effect 30 days after its adoption.

1 lands. Additionally, elevations within Riverside County range from three
2 hundred (300) feet below sea level to mountains over ten thousand
3 (10,000) feet. This variety in regions contributes to an increased
4 emergency response time, which necessitates cooperation between local
5 agencies.

6 F. Riverside County contains a large number of sensitive habitats for various
7 species and vegetation, consists of large open space areas between major
8 urban centers and includes landscapes varying from mountains and hills to
9 valleys and deserts. These conditions impact building and structure
10 location, which impedes emergency access and response.

11 G. Riverside County extends from Orange County to the State of Arizona
12 and is mixed with congested urban areas, rural lands and wild lands,
13 which increase Riverside County Fire Department response times to
14 emergencies.

15 H. Two major earthquake faults, the San Andreas Fault and the San Jacinto
16 Fault, bisect Riverside County and numerous minor faults exist throughout
17 it. As a result, a substantial amount of property and persons located in
18 Riverside County are likely to be impacted by earthquakes and will
19 require emergency response and rescue.

20 I. The topography within Riverside County extends from flat to twenty-five
21 (25) percent slope for habitable land, which causes buildings and
22 structures to be located in unique areas that impact emergency response
23 and access.

24 J. In addition to earthquakes, a substantial amount of property and persons
25 located in Riverside County are likely to be impacted by landslides, wind
26 erosion, blown sand, flooding and wildfires because of the County's
27 unique climatic, geological and topographical conditions.
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1 K. The additional requirements included herein are necessary to properly
2 protect the health, safety and welfare of the residents and workers of
3 Riverside County.

4 L. Revenue shortages make it difficult to locate additional fire stations and
5 provide staffing sufficient to control fires in single and multi-story retail,
6 commercial and industrial buildings, making enhanced built in protection
7 necessary.

8 M. The sections of the California Fire Code may be referred to by the same
9 number used in said published compilation preceded by the words
10 "Riverside County Fire Code Section" or "International Fire Code
11 Section" or "Fire Code Section."

12 Section 2. PURPOSE. The purpose of this ordinance is to adopt the 2013 California
13 Fire Code, California Code of Regulations, Title 24, Part 9, as amended, to govern the safeguarding of
14 life and property from fire, explosion hazards and hazardous conditions and to regulate the issuance of
15 permits and collection of fees.

16 Section 3. AUTHORITY. This ordinance is adopted pursuant to Health and Safety
17 Code Sections 17958 and 17958.7 which allow a county to adopt modifications or changes to the
18 California Fire Code that are reasonably necessary because of local climatic, geological and
19 topographical conditions.

20 Section 4. APPLICATION. The provisions of the 2013 California Fire Code
21 including appendices, as amended by this ordinance, shall apply to the unincorporated area of Riverside
22 County.

23 Section 5. AMENDMENTS TO CALIFORNIA FIRE CODE. The 2013 California
24 Fire Code is adopted in its entirety except as to the following:

25 A. **DEFINITIONS.** Section 202 of the California Fire Code is amended to
26 add the following definitions:

27 BOARD OF SUPERVISORS. The Board of Supervisors for the County
28 of Riverside.

1 BUILDING OFFICIAL. The Director of the County of Riverside
2 Department of Building and Safety or the Director's designee(s).

3 CALIFORNIA FIRE CODE. The 2013 Fire Code part of the California
4 Building Standard Code, also known as California Code of Regulations,
5 Title 24, Part 9.

6 CALIFORNIA RESIDENTIAL CODE. California Code of Regulations,
7 Title 24, Part 2.5.

8 FIRE CHIEF. The Fire Chief of Riverside County or the Fire Chief's
9 designee.

10 FIRE PROTECTION ENGINEER. A professional engineer with the
11 education and experience to understand the engineering problems related
12 to safeguarding life and property from fire and fire-related hazards, to
13 identify, evaluate, correct or prevent present or potential fire and fire
14 related panic hazards in buildings, groups of buildings, or communities,
15 and to recommend the arrangement and use of fire resistant building
16 materials and fire detection and extinguishing systems, devices, and
17 apparatus in order to protect life and property.

18 HAZARDOUS FIRE AREA. Private or public land not designated as
19 state or local fire hazard severity zone (FHSZ) which is covered with
20 grass, grain, brush or forest and situated in a location that makes
21 suppression difficult resulting in great damage. Such areas are designated
22 on Hazardous Fire Area maps filed with the office of the Fire Chief.

23 SKY LANTERN. An airborne lantern typically made of paper, Mylar or
24 other lightweight material with a wood, plastic or metal frame containing a
25 candle, fuel cell or other heat source that provides buoyancy.

26 **B. DEPARTMENT OF FIRE PREVENTION**

27 A new Section 103.4.2 is added to Section 103.4 of the California Fire
28 Code to read as follows:

1 “103.4.2 Cost Recovery. Fire suppression, investigation, rescue or
2 emergency medical costs are recoverable in accordance with Health and
3 Safety Code Sections 13009 and 13009.1, as may be amended from time
4 to time. Additionally, any person who negligently, intentionally or in
5 violation of law causes an emergency response, including, but not limited
6 to, a traffic accident, spill of toxic or flammable fluids or chemicals is
7 liable for the costs of securing such emergency, including those costs
8 pursuant to Government Code Section 53150, et seq, as may be amended
9 from time to time. Any expense incurred by the Riverside County Fire
10 Department for securing such emergency shall constitute a debt of such
11 person and shall be collectable by Riverside County in the same manner
12 as in the case of an obligation under contract, express or implied.”

13 C. **GENERAL AUTHORITY AND RESPONSIBILITIES.**

14 1. A new Section 104.2.1 is added to Section 104.2 of the
15 California Fire Code to read as follows:

16 “104.2.1 Fees. Fees for services and permits shall be as set forth in
17 Riverside County Ordinance No. 671.”

18 2. A new Section 104.3.2 is added to Section 104.3 of the
19 California Fire Code to read as follows:

20 “104.3.2. Authority of the Fire Chief and Fire Department.

21 1. The Fire Chief is authorized and directed to enforce all
22 applicable State fire laws and provisions of this ordinance
23 and to perform such duties as directed by the Board of
24 Supervisors.

25 2. The Fire Chief is authorized to administer, interpret and
26 enforce this ordinance. Under the Fire Chief’s direction,
27 the Riverside County Fire Department is authorized to
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enforce ordinances of Riverside County pertaining to the following:

- a. The prevention of fires.
- b. The suppression or extinguishment of dangerous or hazardous fires.
- c. The storage, use and handling of hazardous materials.
- d. The installation and maintenance of automatic, manual and other private fire alarm systems and fire extinguishing equipment.
- e. The maintenance and regulation of fire escapes.
- f. The maintenance of fire protection and the elimination of fire hazards on land, in buildings, structures and other property, including those under construction.
- g. The maintenance of means of egress.
- h. The investigation of the cause, origin and circumstances of fire and unauthorized releases of hazardous materials.

3. The following persons are hereby authorized to interpret and enforce the provisions of this ordinance and to make arrests and issue citations as authorized by law:

- a. The Unit Chief, Peace Officers and Public Officers of the California Department of Forestry and Fire Protection.
- b. The Fire Chief, Peace Officers and Public Officers of the Riverside County Fire Department.

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- c. The Riverside County Sheriff and any deputy sheriff.
- d. The Police Chief and any police officer of any city served by the Riverside County Fire Department.
- e. Officers of the California Highway Patrol.
- f. Code Officers of the Riverside County Code Enforcement Department.
- g. Peace Officers of the California Department of Parks and Recreation.
- h. The law enforcement officer of the Federal Bureau of Land Management.”

3. A new Section 104.12 is added to Section 104 of the California Fire Code to read as follows:

“104.12 Authority of the Fire Chief. Except upon National Forest Land, the Fire Chief is authorized to determine and announce the closure of any hazardous fire area or portion thereof. Any closure by the Fire Chief for a period of more than fifteen (15) calendar days must be approved by the Board of Supervisors within fifteen (15) calendar days of the Fire Chief’s original order of closure. Upon such closure, no person shall go in or be upon any hazardous fire area, except upon the public roadways and inhabited areas. During such closure, the Fire Chief shall erect and maintain at all entrances to the closed area sufficient signs giving notice of closure. This section shall not prohibit residents or owners of private property within any closed area, or their invitees, from going in or being upon their lands. This section shall not apply to any entry, in the course of duty, by a

1 peace officer, duly authorized public officer or fire department
2 personnel.”

3 D. **VIOLATIONS.**

4 Section 109.4 of the California Fire Code is deleted in its entirety.

5 E. **OPEN FLAMES.**

6 A new Section 308.1.6.3 is added to Section 308.1.6 of the California Fire
7 Code to read as follows:

8 “**308.1.6.3 Sky lanterns or similar devices.** The ignition or launching of
9 a Sky Lantern or similar device is prohibited.

10 **Exception:** Upon approval of the fire code official, Sky Lanterns may be
11 used as necessary for religious or cultural ceremonies provided that
12 adequate safeguards have been taken as approved by the fire code official
13 including, but not limited to, tethering Sky Lanterns to prevent them from
14 leaving the immediate area and constant attendance until the Sky Lantern
15 is extinguished.”

16 F. **FIRE SAFETY AND EVACUATION PLANS.**

17 Section 404.2 of the California Fire Code is amended to add the following:
18 “16. Windowless buildings having an occupant load of fifty (50) or
19 more.”

20 G. **FIRE APPARATUS ACCESS ROADS.**

21 1. Section 503.1.1 of the California Fire Code is amended to add the
22 following language:

23 “**Exception:** Where approved by the fire code official, fire
24 apparatus access roads may be modified or not required for solar
25 photovoltaic power generation facilities.”

26 2. Section 503.2.2 is deleted in its entirety and replaced with the
27 following:

1 “503.2.2 Authority. The fire code official shall be the only
2 authority authorized to designate fire apparatus access roads and
3 fire lanes and to modify the minimum fire lane access widths for
4 fire or rescue operations.”

- 5 3. Section 503.3 of the California Fire Code is deleted in its entirety
6 and replaced with the following:

7 “503.3 Marking. Fire apparatus access roads, where required,
8 shall be identified by curbs painted red on both the top and face
9 along the entire length of the fire apparatus access road. Where no
10 curbs exists or a rolled curb is installed, a six (6) inch wide red
11 strip shall be applied the full length of the fire apparatus access
12 road or approved posted signs shall be installed in accordance
13 with the Riverside County Fire Department Standards.

14 Exception: On school grounds this requirement shall be
15 implemented as approved by the fire code official.”

- 16 4. A new Section 503.7 is added to Section 503 of the California
17 Fire Code to read as follows:

18 “503.7 Loading areas and passenger drop-off areas. On private
19 properties, where fire apparatus access roads are utilized for
20 loading or unloading or utilized for passenger drop-off or pick-up,
21 an additional eight (8) feet of width shall be added to the minimum
22 required width for the fire apparatus access road.”

23 H. **ACCESS TO BUILDING OPENINGS AND ROOFS**

24 Section 504.1 of the California Fire Code is amended to add the
25 following language to the end of the first paragraph:
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1 “Where ground ladder access is the only means to reach the highest point
2 on the building, the finished grade on all exterior sides of buildings shall
3 be flat and free of any obstructions that would interfere with ground ladder
4 placement. This distance from the building to finished grade shall be
5 determined by the Fire Chief.”

6 I. **FIRE PROTECTION WATER SUPPLIES**

7 1. Section 507.5.5 of the California Fire Code is deleted in its entirety
8 and replaced with the following:

9 “**507.5.5 Clear space around hydrants.** A 3-foot (914 mm) clear
10 space shall be maintained around the circumference of fire
11 hydrants, Fire Department connections, exterior fire protection
12 system control valves, or any other exterior fire protection system
13 component that may require immediate access, except as otherwise
14 required or approved.”

15 2. A new Section 507.5.7 is added to Section 507 of the California
16 Fire Code to read as follows:

17 “**507.5.7 Fire hydrant size and outlets.** As determined by the fire
18 code official, fire hydrant sizes and outlets shall be based on the
19 following:

- 20 a. Residential Standard – one (1) four (4) inch outlet and
21 one (1) two and half (2 ½) inch outlet.
- 22 b. Super Hydrant Standard – one (1) four (4) inch outlet
23 and two (2) two and one half (2 ½) inch outlet.
- 24 c. Super Hydrant Enhanced – two (2) four (4) inch outlet
25 and one (1) two and one half (2 ½) inch outlet.”

26 3. A new Section 507.5.8 is added to Section 507 of the California
27 Fire Code to read as follows:
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1 “507.5.8 Fire hydrant street marker. Fire hydrant locations shall
2 be visually indicated in accordance with Riverside County Fire
3 Department Standard 06-11, as may be amended from time to time.
4 Any hydrant marker damaged or removed during the course of
5 street construction or repair shall be immediately replaced by the
6 contractor, developer or person responsible for removal or
7 damage.”

8 J. **FIRE COMMAND CENTER**

- 9 1. Section 508.1 of the California Fire Code is deleted in its entirety
10 and replaced with the following:

11 “508.1 General. Where required by other sections of this code
12 and in all buildings classified as high-rise buildings by the
13 California Building Code, in buildings greater than 300,000 square
14 feet in area and in Group I-2 occupancies having occupied floors
15 located more than 75 feet above the lowest level of fire department
16 vehicle access, a fire command center for fire department
17 operations shall be provided and comply with Sections 508.1.1
18 through 508.1.5.”

- 19 2. Section 508.1.3 of the California Fire Code is amended to add the
20 following:

21 “Exception: A fire command center solely required because a
22 building is greater than 300,000 square feet in area shall be a
23 minimum of 96 square feet (9 m²) with a minimum dimension of 8
24 feet (2438mm).”

- 25 3. Section 508.1.5 of the California Fire Code is amended to add the
26 following:

1 “**Exception:** A fire command center solely required because a
2 building is greater than 300,000 square feet in area shall comply
3 with NFPA 72 and contain the features set forth in Section 508.1.5
4 subsections 5, 8, 10, 12, 13 and 14. The features set forth in
5 Section 508.1.5 subsections 1, 2, 3, 4, 6, 7, 9, 11, 15, 16, 17, 18
6 and 19 shall be required when such building contains systems or
7 functions related to these features.”

8 **K. MECHANICAL REFRIGERATION.**

9 Section 606.10.1.2 of the California Fire Code is deleted in its entirety and
10 and replaced with the following:

11 “**606.10.1.2 Manual Operation.** When required by the fire code official,
12 automatic crossover valves shall be capable of manual operation. The
13 manual valves shall be located in an approved location immediately
14 outside of the machinery room in a secure metal box or equivalent and
15 marked as Emergency Controls.”

16 **L. AUTOMATIC SPRINKLER SYSTEMS.**

17 1. Section 903.2 of the California Fire Code is deleted in its entirety
18 and replaced with the following:

19 “**903.2 Where required.** In all new buildings and structures
20 which are 3,600 square feet or greater an approved automatic
21 sprinkler system shall be provided regardless of occupancy
22 classification. Where the California Fire Code is requiring more
23 restrictive requirements in Sections 903.2.1, 903.2.1.1, 903.2.1.2,
24 903.2.1.3, 903.2.1.4, 903.2.1.5, 903.2.2, 903.2.3, 903.2.4, 903.2.5,
25 903.2.5.2, 903.2.6, 903.2.7, 903.2.8, 903.2.9, 903.2.10, 903.2.11.6
26 903.2.16, 903.2.18, the more restrictive requirement shall take
27 precedence. The following exceptions in the California Fire Code
28 shall not be allowed:

- a. Exception in Section 903.2.3
- b. Exception in Section 903.2.6
- c. Exception in Section 903.2.11.3

One and two-family dwellings shall have an automatic fire sprinkler system regardless of square footage in accordance with the California Residential Code. Fire sprinkler systems shall be installed in mobilehomes, manufactured homes and multifamily manufactured homes with two dwelling units in accordance with Title 25 of the California Code of Regulations.”

2. A new Section 903.3.5.3 is added to Section 903 of the California Fire Code to read as follows:

“903.3.5.3 Hydraulically calculated systems. The design of hydraulically calculated fire sprinkler systems shall not exceed 90% of the water supply capacity.”

M. **DESIGNATION OF HIGH-PILED STORAGE AREAS.**

A new Section is added to Section 3204.2 of the California Fire Code to read as follows:

“3204.2.1 Minimum requirements for client leased or occupant owned warehouses. Designs of an automatic sprinkler system for client leased or occupant owned buildings containing high pile storage shall be based on the requirements of NFPA 13. The responsible fire protection engineer shall perform a survey of the building to determine commodity classification, storage configuration, building height and other information related to the development of an appropriate sprinkler system design. The fire protection engineer shall also make reasonable efforts to meet with the building owner or operator to understand seasonal or customer related fluctuations to the stored commodities, storage

1 height, and configuration. The sprinkler design shall be based on
2 the most demanding requirements determined through the onsite
3 survey and discussions with the building owner or operator. The
4 technical report shall describe the basis for determining the
5 commodity and sprinkler design selection, how the
6 commodities will be isolated or separated, and include referenced
7 design document(s), including NFPA 13 or the current applicable
8 factory mutual data sheets. If a specific fire test is used as the
9 basis of design, a copy of the fire test report shall be provided at
10 the time of plan review.”

11 N. **FIRE HAZARD SEVERITY ZONES.**

12 A new Section 4904.3 is added to Section 4904 of the California Fire
13 Code to read as follows:

14 **“4904.3 High Fire Hazard Severity Zone Maps.** In accordance with
15 Government Code Sections 51175 through 51189, Very High Fire Hazard
16 Severity Zones are designated as shown on a map titled Very High Fire
17 Hazard Severity Zones, dated April 8, 2010 and retained on file at the
18 office of the Fire Chief, which supersedes other maps previously adopted
19 by Riverside County designating high fire hazard areas.”

20 Section 6. APPENDICES TO CALIFORNIA FIRE CODE. The appendices to the
21 California Fire Code are adopted in their entirety except as to the following:

22 A. **Appendix B.**

23 Exception 1 of Section B105.2 of Appendix B is deleted in its entirety and
24 replaced with the following:

25 “1. A reduction in required fire-flow of up to 50 percent, as approved, is
26 allowed when the building is provided with an approved automatic
27 sprinkler system installed in accordance with Section 903.3.1.1 or
28 903.3.1.2. The resulting fire-flow shall not be less than 1,500 gallons per
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1 minute (5678 L/min) for the prescribed duration as specified in Table
2 B105.1.”

3 B. Appendix C.

4 Section C102.1 is deleted in its entirety and replaced with the following:

5 “C102.1 Fire hydrant locations. Fire hydrants shall be provided at street
6 intersections and along required fire apparatus access roads and adjacent
7 public streets.”

8
9 C. Appendix D. Appendix D shall not be adopted.

10 D. Appendix I. Appendix I shall not be adopted.

11 E. Appendix J. Appendix J shall not be adopted.

12 F. Appendix K. Appendix K shall not be adopted.
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14 Section 7. VIOLATION AND PENALTIES. It shall be unlawful for any person,
15 firm, corporation or association of persons to violate any provision of this ordinance, or to violate the
16 provisions of any permit granted pursuant to this ordinance. Punishments and penalties for violations
17 shall be in accordance with Ordinance No. 725 and Health and Safety Code Sections 17995 through
18 17995.5.

19 Section 8. SEVERABILITY. If any provision, clause, sentence or paragraph of this
20 ordinance or the application thereof to any person or circumstances shall be held invalid, such invalidity
21 shall not affect the other provisions of this ordinance which can be given effect without the invalid
22 provision or application, and to this end, the provisions of this ordinance are hereby declared to be
23 severable.”
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Attachment A

Local Amendment Justification/Statement of Reason

Building Standards Law allows local amendments in accordance with the following:

For purposes of this subdivision, a county may make reasonably necessary modifications to the requirements, adopted pursuant to Section 17922, contained in the provisions of the code and regulations on the basis of local conditions.

§17958.7. (a) Except as provided in Section 17922.6, the governing body of county, before making any modifications or changes pursuant to Section 17958.5, shall make an express finding that such modifications or changes are reasonably necessary because of local climatic, geographical or topographical conditions. Such a finding shall be available as a public record. A copy of those findings, together with the modification or change expressly marked and identified to which each such finding refers, shall be filed with the California Building Standards Commission. No modification or change shall become effective or operative for any purpose until the finding and the modification or change have been filed with the California Building Standards Commission.

Chapter 1 – Scope and Administration:

Section 103.4.2: This section has been carried over from the previous Ordinance No. 787 and has been re-worded to meet the current language of the California Fire Code.

Section 104.2.1: This section has been carried over from the previous Ordinance No. 787. This amendment is necessary for recovery costs to coincide with Riverside County Ordinance 671.

Section 104.3.2: This section was carried over from the existing Ordinance No. 787. It is imperative that cooperation in enforcement be disseminated to other law enforcement entities within the Riverside County area because of its vast topography and diversity. This gives the Riverside County Fire Department greater enforcement capabilities due to logistics and the presence of these other agencies across the County of Riverside.

Section 104.12: This section is carried over from the existing Ordinance No. 787 and grants authority to the Fire Chief, in cooperation with the Board of Supervisors, for closures into any hazardous fire areas due to any climatic events such as, but not limited to, "red flag warnings", damaging weather events, dry conditions as determined by the Fire Chief and other matters related to.

Section 109.4: This section is not adopted as existing requirement in Ordinance No. 787 requires punishments and penalties for violations to be in accordance with Health and Safety Code Sections 17995 through 17995.5.

Chapter 2 – Definitions:

Board of Supervisors: This definition has been carried over from the previous Ordinance No. 787. This definition was added to designate that this title meant the Board of Supervisors for the County of Riverside whenever the wording appears in this Ordinance.

Building Official: This definition has been carried over from the previous Ordinance No. 787. This definition was added to designate that this title meant the Director of the County of Riverside Department of Building Safety or the Director's designee(s) whenever the wording appears in this Ordinance or the 2013 California Fire Code.

California Fire Code: This definition has been carried over from the previous Ordinance No. 787. This definition was added to define the code as part of the California Building Standard Code also known as California Code of Regulations, Title 24, Part 9

California Residential Code: This definition has been carried over from the previous Ordinance No. 787. This definition was added to define the code as California Code of Regulations, Title 24, Part 2.5.

Attachment A

Fire Chief: This definition has been carried over from the previous Ordinance No. 787. This definition was added to designate that this title meant the Fire Chief of Riverside County whenever the wording was to appear in the California Fire Code or this Ordinance. This is to distinguish obligatory authority to the Fire Chief or any of the designated representatives for fire prevention measures and declarations in enforcing this Ordinance

Hazardous Fire Area: This section has been carried over from the previous Ordinance No. 787. This definition is provided due to requirements required pursuant to Government Code Sections (C),51178 and 51189 51179. (a) A local agency shall designate, by ordinance, very high fire hazard severity zones in its jurisdiction within 120 days of receiving recommendations from the director pursuant to subdivisions. This definition provides clarity into the description of what constitutes these topographical areas and provides maps as required by state law for public view and designation.

Fire Protection Engineer: This section has been carried over from the previous Ordinance No. 787. This was added to give guidance when requiring section 3204.2 of Ordinance 787 in what a Fire Protection Engineer scope of practice is and how it relates to the requirement of the section.

Sky Lantern: This new definition was added to correlate with added Section 308.1.6.3 to prohibit sky lanterns and similar devices. The California State Fire Marshal's office issued Information Bulletin 12-005 indicating that there is a serious fire and safety hazard associated with sky lanterns, which include the potential to start an unintended fire on or off the property from which they are released. They are known to travel significant distances from the point of release. The National Association of State Fire Marshals Resolution 2013-3 recommends imposing State level bans on their sale and use. Multiple fires have been reported to be linked to the use of sky lanterns including, but not limited to, a recycling plant fire in Smethwick, England which caused approx. \$9M in damage and a wildfire in Shell Beach on the mountain above Pirates Code in San Luis Obispo County, CA. The added definition is consistent with proposed amendment by Orange County Fire Authority.

Chapter 3 – General Requirements

Section 308.1.6: This new section was added to prohibit sky lanterns and similar devices. The California State Fire Marshal's office issued Information Bulletin 12-005 indicating that there is a serious fire and safety hazard associated with sky lanterns, which include the potential to start an unintended fire on or off the property from which they are released. They are known to travel significant distances from the point of release. The National Association of State Fire Marshals Resolution 2013-3 recommends imposing State level bans on their sale and use. Multiple fires have been reported to be linked to the use of sky lanterns including, but not limited to, a recycling plant fire in Smethwick, England which caused approx. \$9M in damage and a wildfire in Shell Beach on the mountain above Pirates Code in San Luis Obispo County, CA. This is similar to the proposed amendment by Orange County Fire Authority.

Chapter 4 – Emergency Planning and Preparedness

Section 404.2 #16: This section has been carried over from the previous Ordinance No. 787. Due to the difficulty of access as well as evacuation issues in regards to these type of structures and topographical, geographical issues of where these structures may be located, it is necessary to provide provisions that will help in evacuation procedures to help ensure better fluidity of exiting.

Chapter 5 – Fire Service Features

Section 503.1.1: The new exception was added to correlate with a code amendment proposal to the 2015 International Fire Code for fire apparatus access requirements to photovoltaic facilities. The following justification is taken from the proposed amendment to the International Fire Code.

"Exception two (other exceptions are existing and renumbered) is provided to address photovoltaic panel system/array power generation facilities. The 2012 IFC does not specifically require or exempt these

types of facilities. This proposal intends to provide additional guidance to afford jurisdictions avenues to determine if a fire apparatus road is needed for hazard mitigation or if it can be exempted.

Section 503 is specifically scoped to "buildings and facilities". Power generation sites that utilize a ground mounted photovoltaic system/array would not be considered a building. However, they would be considered a facility as defined in Section 202 and are therefore subject to Section 503.

A ground mounted photovoltaic panel system/array is also considered a structure as defined in IFC Section 202. Although, where ground mounted photovoltaic panel systems/arrays are mounted on a support structure and the support structure does not create or allow for a use below (e.g. parking, lunch/shade structures, etc.), the structure should be considered equipment.

Therefore, sound rational judgment should be made if IFC, Section 503 is to be applied to a solar generation facility. Not all conditions or facilities of similar type or function necessitate fire apparatus access roads and not all structures are subject to IFC Section 503. The IFC is not clear in its application or scope when applying Section 503 to equipment, specifically ground mounted photovoltaic systems/arrays. However, when other buildings or structures are located on the site, an evaluation and/or classification of the use may require fire apparatus access. Thus, consideration must be given to the purpose of fire apparatus access roads within these facilities and how the section would be applied.

It is important to note that Section 503 does provide exceptions for length, dimensions, and other specifications based on conditions such as terrain, climate, or other similar concerns.

Several issues arise when applying Section 503 to ground mounted photovoltaic systems/arrays. When considering the issues listed below, one should also consider other available code requirements that provide for appropriate hazard mitigation and risk reduction. Issues for consideration include:

1. Risk/hazard to be mitigated
2. Risk/hazard to firefighters or other emergency responders
3. Interest of public safety and welfare
4. Economics
5. Intended access use
6. Fuel load of the facility and adjacent areas that impact the facility
7. Array configuration (tightly spaced, access aisles, height)
8. Actual hazard to public safety and welfare"

Section 503.2.2: This section was relocated to Section 503.2.2 from the previous Ordinance No. 787, Section 503.8 to correlate with the current California Fire Code section.

Section 503.3: This section has been carried over from the previous Ordinance No. 787. This section is further enhancement to Section 503.1 in ensuring proper identification of the Fire Lanes.

Section 503.7: This section has been carried over from the previous Ordinance No. 787. This section provides additional width for apparatus access roads where utilized for loading/unloading or passenger drop off/pick up to prevent interference with operational access needs.

Section 504.1: This section has been carried over from the previous Ordinance No. 787. This section is amended to ensure that the site has a flat finished surface for ground ladder access which is not currently addressed in code and due to Riverside County's diverse topography is necessary to provide means for first responders to safely deploy ladders for rescue operations.

Section 507.5.5: This new amendment was added to include other exterior fire protection water supply appliances such as Fire Department connections, and other exterior fire protection system control valves, or any other exterior fire protection system component that may require immediate access.

Section 507.5.7: This section was amended to define the size and quantities of outlets for residential standard, super hydrant standard, and super hydrant enhanced fire hydrants and that they shall be required as determined by the Fire Code Official.

Section 507.5.8: The section was amended to give direction to reference Riverside County Fire Department Std. 06-11 for specific requirements for the installation of blue reflective markers for fire hydrants.

Section 508.1: This section has been amended to require fire command centers for structures larger than 300,000 square feet in size. To put into context the Fire Command Center would be triggered when the buildings are approximately 2.5 times the typical Costco Warehouse store and approximately two times the size of a typical Walmart Supercenter. Large structures of this size pose numerous challenges to emergency responders due to the large amounts of fuel loads from the storage, manufacturing and/or processing of flammable/combustible commodities and other processes within the building. Challenges include wide distribution of smoke throughout the structure, difficulty for firefighters to locate and reach the fire and difficulty in search and evacuation of the public, employees and firefighters. These structures typically require numerous fire protection, early suppression and detection systems that may include, but are not limited to, fire pumps, multiple fire sprinkler systems, advanced fire alarm systems, smoke control systems, and refrigeration gas detection system(s). During a fire, the incident commander must have the ability to readily identify the status of the various suppression and detection systems and have access to other building information details that may include, but not limited to, building floor plans, high-pile/rack storage details, smoke control/ventilation systems, fire sprinkler zoning details, mechanical refrigeration equipment and piping details, and hazardous materials data sheets along with quantities and storage/use locations. A fire command center provides a centralized location for the incident commander to review details about the building and the incident and to effectively coordinate emergency responders and suppression activities with increased efficiency and speed. The Riverside County Fire Department has experienced several incidents in buildings with and without Fire Command Centers. Incident Commanders found that having detailed information on built in fire protection systems and controls, building schematics and hazardous materials storage plans were vital towards mitigating the event. When this information was not available, firefighting personnel were forced to operate upon assumptions and much less information. In addition, this increased efficiency and speed results in facilities returning to operation more expeditiously after incidents or false alarms thereby reducing loss of revenue for the business.

Section 606.10.1.2: This section has been amended to specify the location of manual crossover valves when manual operation is required by the Fire Code Official. The amendment specifies that the manual valves shall be located in an approved location immediately outside of the machinery room, in a secure metal box or equivalent and marked as Emergency Controls. This is to ensure that the valves are in readily accessible location(s) for access during an emergency.

Section 903.2: This section has been carried over from the previous Ordinance No. 787. The amendment requires a base square footage requirement for all new commercial, industrial, and residential occupancies other than one- and two-family dwellings. Though the amendment includes a reference to the requirement for one- and two-family dwellings, the authority for residential fire sprinkler requirements resides in Title 24, Part 2.5 [2013 California Residential Code].

Automatic sprinkler systems have been successfully used to protect industrial and commercial buildings and their occupants for more than 100 years. Historically the place which has offered the least amount of fire protection to occupants was and still is their own home. This was brought to light in 1973 by the Report of the National Commission on Fire Prevention and Control, America Burning. At the time of the report approximately 8,000 people died in structure fires every year in the United States. Nine out of ten of those victims died in their home.

In the 25 years since America Burning was published the number of lives lost in fires in the United States has decreased to approximately 4,000 per year. Unfortunately 8 out of 10 victims still died in a residential structure fire. While residential sprinkler installations are increasing, it is estimated that less than 3 % of the one and two family homes in the United States have them installed.

Another aspect of the residential fire problem involves the demographics of residential fire fatalities. Children 4 years of age and under and adults 60 years of age and older are more likely to die in a fire than other segments of the population. For adults over 60, the risk increases significantly with age. Because these high-risk groups may depend on assistance to exit the dwelling, "anything less than automatic suppression may not be enough to save them".

Another group that can benefit from the use of residential sprinklers is firefighters. The majority of firefighter deaths and injuries on the fire ground occur at residential fires. National Fire Administration. It shows that approximately 73% of firefighter fire ground injuries occur at residential fires. Twice as many firefighters are injured each year performing fire ground duties as there are fire injuries to the civilian population (43,000 vs. 23,100 in 1998) from reported fires.

It is important to recognize that, in addition to their fast-response characteristics, residential sprinklers have a special water distribution pattern. Because the effective control of residential fires often depends on a single sprinkler in the room of fire origin, the water distribution pattern of residential sprinklers is required to be more uniform than that of standard spray sprinklers, which in large areas can rely upon the overlapping patterns of several sprinklers to make up for voids. Additionally, residential sprinklers are required to wet sofas, drapes, and similar furnishings at the periphery of the room. In their discharge patterns, therefore, the sprinklers must not only be capable of delivering water to the walls of the areas where they are installed, but high enough up on the walls to prevent the fire from getting "above" the sprinklers. The water delivered close to the ceiling not only protects the portion of the wall close to the ceiling, but also enhances the capacity of the spray to cool gases at the ceiling level, thus reducing the likelihood of excessive sprinkler openings.

AWWA Research Foundation has published the following report: Impact of Fire Flow on Distribution System Water Quality, Design, and Operation. This report concludes the following:

"Water-efficient fire suppression technologies exist that use less water than conventional standards. In particular, the universal application of automatic sprinkler systems provides the most proven method for reducing loss of life and property due to fire, while at the same time providing faster response to the fire and requiring significantly less water than conventional fire-fighting techniques. It is recommended that the universal application of automatic fire sprinklers be adopted by local jurisdictions."

Aside from firefighting and explosion fatalities, there has never been a multiple loss of life in a fully sprinklered building due to fire or smoke. All fire protection features have a reliability factor. Walls and shafts can be breached by means of poke-throughs and building alterations. Exit doors can be blocked or locked.

The California Residential Code is requiring that all one and two family dwellings be protected by sprinklers. It is still imperative, based on the geographical, topographical, climatic diversity of Riverside County, to continue to protect all structures greater than 3,600 sq. ft. by Fire Sprinklers, to ensure faster suppression to those occupancies that would not normally be required to be protected which would exhaust a number resources including water which climatically is so precious to our environment as a whole. It will provide for less run off into ground water due to suppression activities and less pollutants into the environment.

Mobile homes are a part of the American landscape. In 2007 alone, more than 95,000 manufactured homes were shipped nationwide. Manufactured housing also accounts for approximately 10 percent of the single-family structures in the United States. Despite the fact that we drive by them, respond to medical calls in them, and sometimes live in them, we often overlook mobile homes when it comes to training and prefire planning. However, as the deaths of two firefighters in Craigsville, West Virginia, showed, mobile homes can pose significant, and sometimes deadly, challenges. The burning mobile home is a less-than-stable platform, making search and possible rescue of occupants even more dangerous. The exterior walls are flimsy compared with those of most site-built homes. The narrow halls complicate search. If the first-due engine pulls up and the mobile home is burning from end to end, the firefighting strategy has already been decided. The fire must be knocked down in order to move in. If the

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home is in a mobile home park, again, protecting exposures is vital. Radiant heat can ignite the homes nearby. Fire sprinklers can prevent the flashover from occurring and in many cases put the fire out and save valuable resources in the process, such as water, personnel, and environmental clean up, limited displacement into County shelter(s), and less inconvenience to the family. The mobile home, because of its construction defects, requires fast water.

The U.S. Fire Administration says mobile homes account for 17,700 fires, hundreds of deaths and \$155 million in property losses during a typical year. An estimated 345 people die in mobile home fires and another 765 are injured each year, according to the agency's website. The roof, for example, burns through more quickly than a typical residential roof and is not safe for firefighters. Mobile home fires can quickly grow out of control, because there's not as much wallboard and drywall, and there are fewer walls to keep the fire from spreading.

Consider the benefits: Consider this: a single firefighter using a normal 1-1/2" fire hose can be applying between 175-400 gallons of water per minute when attempting to extinguish a fire. On the other hand, a single fire sprinkler will be flowing only 18- to 40- gallons of water per minute. This means that over a 5-minute period, the following quantities of water are used:

Fire-fighter with 1-1/2" hose:

175 gpm x 5 minutes = 875 gallons of water

400 gpm x 5 minutes = 2,000 gallons of water

Fire sprinkler system:

18 gpm x 5 minutes = 90 gallons of water

40 gpm x 5 minutes = 200 gallons of water

A residential fire sprinkler is a fast response sprinkler, making the time of activation much less than that of a conventional fire sprinkler. Additionally, the special discharge characteristics of a residential sprinkler allow it to throw water within 28 inches of the ceiling. This high wall-wetting pattern, along with the fast response, helps the residential sprinkler control or suppress typical residential fires using water flows much lower than those associated with traditional commercial sprinkler systems.

The record for automatic fire sprinklers is based on the simple fact that there has never been a multiple death of building occupants from a fire developing in a building protected by an automatic fire sprinkler system properly installed and maintained in accordance with nationally recognized standards (NFPA 13, 13D, 13R, and NFPA 25).

Section 903.3.5: The section has been added to codify the long standing Department requirement that all hydraulically calculated fire sprinkler systems shall not exceed 90% of the water supply capacity. The 10% buffer in the hydraulic calculation is a common engineering business practice that gives some flexibility to account for system water pressures that may decrease as additional demands are placed on the water system from additional construction or as the system ages.

Section 3204.2: This section has been carried over from the previous Ordinance No. 787. By requiring client leased or occupant owned warehouses to have a technical report completed by a fire protection engineer, it will minimize problems concerning commodity and sprinkler protection. By having an engineer complete a technical report for the proposed or existing building it will provide greater certainty that adequate protection for the commodities that are proposed will be sufficient. By not having adequate sprinkler protection, it could be detrimental to the building and could also cause loss of life in the event of a fire. Geographically this can be a significant problem due to the seismic activity that Riverside County experiences. The Engineer can assess the adequate protection for the correct commodity classifications, ensure the correct seismic provisions are in place for the type of system to be installed, and provide a professional assurance to a very volatile type of occupancy. It takes a vast number of resources to extinguish a fire of this type. By adding this requirement, it will ensure an added level of safety.

Section 4904.3: This section has been carried over from the previous Ordinance No. 787. This section was required under State Law, Section 51178.5.

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Within 30 days after receiving a transmittal from the director that identifies very high fire hazard severity zones, a local agency shall make the information available for public review. The information shall be presented in a format that is understandable and accessible to the general public, including, but not limited to, maps.

Section B-105.2 of Appendix B, Exception 1: This section has been carried over from the previous Ordinance No. 787. The amended Ordinance No. 787 text has been moved from the body of Section B-105.2 to Exception 1 to properly correlate to the percentage reduction in fire flow for sprinkler systems. This allows the fire department to still have adequate fire flow mitigation with sprinkler protection and not jeopardize main distribution systems by inadequately under sizing them and have costly upgrades for future projects. With the geographical diversity that the County has it is mandatory that this requirement be added to ensure adequate water in the event of a fire.

Section C102.1: This new amendment has been added to clarify the additional location of fire hydrants to be at intersections. This requirement has been standard policy within the county for many years.

Appendix Chapter D: This chapter is not mandatory and not adopted and has been carried over from the previous Ordinance No. 787.

Appendix Chapter I: This chapter is not mandatory and not adopted and has been carried over from the previous Ordinance No. 787.

Appendix Chapter J: This chapter is not mandatory and has not been adopted.

Appendix Chapter K: This Chapter is not mandatory and has not been adopted.

FINDINGS

I. Climatic Conditions:

- A. Riverside County is located in Southern California and covers a vast and varied geographic area. The base climate in western Riverside County consists of semi-arid Mediterranean weather patterns. Eastern Riverside County is a desert area with Mohave Desert temperatures and weather patterns. Those two primary areas are divided by the San Bernardino Mountain Range. Both areas outside of the mountain terrain annually experience extended periods of high temperatures with little or no precipitation. Hot, dry winds, which may reach speeds of 70 M.P.H. or greater, are common to the area. Examples are: Santa Ana/ Foehn winds, afternoon surface-heating generated winds, and prevailing desert winds.

These climatic conditions cause extreme drying of vegetation and common building materials. Frequent periods of drought and low humidity add to the fire danger. This predisposes the area to large destructive fires (conflagration) which necessitates rapid identification, locating and extinguishment of all fires in the smallest stage possible. In addition to directly damaging or destroying buildings, these fires are also prone to disrupt utility services throughout the County. Obstacles generated by a strong wind, such as fallen trees, street lights and utility poles, will greatly impact the response time to reach an incident scene. During these winds, the inability to use aerial type firefighting apparatus would further decrease our ability to stop fires in large buildings and place rescue personnel at increased risk of injury.

- B. Although Riverside County occasionally experiences periods of significant drought, the County can also experience periods of substantial rainfall. Annual rainfall varying from three (3) inches in Blythe to over thirty three (33) inches in Pine Cove. When Riverside County does experience heavy rain, or rain over a period of days or weeks, many areas of the County are subject to flooding. Runoff from rain drains either naturally into rivers, washes, and creeks or into flood control facilities. Flash flooding is also a common problem, especially in the Coachella Valley and the easterly portions of the county. Flash flooding is typically associated with short duration, high intensity precipitation events often associated with summer thunderstorms. Such events can occur even during a drought.
- C. Water demand in densely populated Southern California far exceeds the quantity supplied by natural precipitation; and although the population continues to grow, the already-taxed water supply does not. California is projected to increase in population by nearly 10 million over the next quarter of a century with 50 percent of that growth centered in Southern California. Due to storage capacities and consumption, and a limited amount of rainfall future water allocation is not fully dependable. This necessitates the need for additional and on-site fire protection features. It would also leave tall buildings vulnerable to uncontrolled

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fires due to a lack of available water and an inability to pump sufficient quantities of available water to floors in a fire.

- D. These dry climatic conditions and winds contribute to the rapid spread of even small fires originating in high-density housing or vegetation. These fires spread very quickly and create a need for increased levels of fire protection. The added protection of fire sprinkler systems and other fire protection features such as identification and notification will supplement normal fire department response by providing immediate protection for the building occupants and by containing and controlling the fire spread to the area of origin. Fire sprinkler systems will also reduce the use of water for firefighting by as much as 50 to 75 percent.

II. Topographical conditions

- A. Natural: The topographical conditions of Riverside County varies from three hundred (300) feet below sea-level, flat desert communities, to mountains over ten thousand (10,000) feet in Alpine-like areas of the San Bernardino Mountain Range. In between these areas, developable slopes of 25 percent and greater generally occur throughout the foothills. Riverside County extends from Orange County to the State of Arizona and is mixed with congested urban areas, rural lands and wild lands. A large number of sensitive habitats for various animal species and vegetation consist within large open space areas between major urban centers that impact building and structure location, which impedes emergency access and response. This variety in regions contributes to an increased emergency response time, which necessitates cooperation between local agencies.
- B. Traffic and circulation congestion is an artificially created, obstructive topographical condition, which is common throughout Riverside County.
- C. These topographical conditions combine to create a situation, which places fire department response time to fire occurrences at risk, and makes it necessary to provide automatic on-site fire-extinguishing systems and other protection measures to protect occupants and property.

III. Geological Conditions

Located within Riverside County are several known active and potentially active earthquake faults, including the San Andreas, San Jacinto, and Elsinore Fault. In the event of an earthquake, the location of the epicenter as well as the time of day and season of the year would have a profound effect on the number of deaths and casualties, as well as property damage.

The major form of direct damage from most earthquakes is damage to construction. Bridges are particularly vulnerable to collapse, and dam failure may generate major downstream flooding. Buildings vary in susceptibility, dependent upon construction and the types of

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soils on which they are built. Earthquakes destroy power and telephone lines; gas, sewer, or water mains; which, in turn, may set off fires and/or hinder firefighting or rescue efforts. The hazard of earthquakes varies from place to place, dependent upon the regional and local geology. Ground shaking may occur in areas 65 miles or more from the epicenter (the point on the ground surface above the focus). Ground shaking can change the mechanical properties of some fine grained, saturated soils, where upon they liquefy and act as a fluid (liquefaction).

- A. Previous earthquakes in southern California have been accompanied by disruption of traffic flow and fires. A severe seismic event has the potential to negatively impact any rescue or fire suppression activities because it is likely to create obstacles similar to those indicated under the high wind section above. With the probability of strong aftershocks there exists a need to provide increased protection for anyone on upper floors of buildings.
- B. Road circulation features located throughout the County also make amendments reasonably necessary. Located through the County are major roadways, highways and flood control channels that create barriers and slow response times. Hills, slopes, street and storm drain design accompanies with occasional heavy rainfall, causes roadway flooding and landslides and at times may make an emergency access route impassable. There are areas in Riverside County that naturally have extended emergency response times that exceed the 5 minute goal.

California Health and Safety Code Section 17958.7 requires that the modification or change be expressly marked and identified as to which each finding refers. Therefore the Board of Supervisors finds that the following table sets forth the 2013 California Fire Code sections that have been modified and the associated local climatic, geological and/or topographical conditions described above supporting the modification.

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Code Section	Title (Clarification)	Findings I, II, III
103.4.2	Cost Recovery	Administrative
104.2.1	Fees	Administrative
104.3.2	Authority of the Fire Chief and Fire Department	Administrative
104.12	Authority of the Fire Chief	Administrative
109.4	Violation penalties	Administrative
202	General definitions	Administrative
308.1.6.3	Sky lanterns or similar devices	I & III
404.2	Fire safety and evacuation plans	Administrative
503.1.1	Fire apparatus access roads (Exception)	I, II & III
503.2.2	Fire apparatus access roads (Authority)	I, II & III
503.3	Fire apparatus access roads (Marking)	I, II & III
503.7	Loading areas and passenger drop-off areas	I, II & III
504.1	Access to building openings and roofs	I, II & III
507.5.5	Clear space around hydrants	I, II & III
507.5.7	Fire hydrant size and outlets	I, II & III
507.5.8	Fire hydrant street marker	I, II & III
508.1	Fire command center	I, II & III
606.10.1.2	Manual operation	II & III
903.2	Where required (Sprinklers)	I, II & III
903.3.5.3	Hydraulically calculated systems	I & II
3204.2.1	Min. requirements for client leased or occupant owned warehouses	I, II & III
4904.3	High fire hazard severity zone maps	Administrative
B105.2	Buildings other than one- and two-family dwellings (Exception 1)	I, II & III
C102.1	Fire hydrant locations	I, II & III
App. Ch. D	Fire apparatus access roads	Administrative
App. Ch. I	Fire protection systems - noncompliant conditions	Administrative
App. Ch. J	Building information sign	Administrative
App. Ch. K	Temporary haunted houses, ghost walks, and similar amusement uses	Administrative