



# CITY COUNCIL STAFF REPORT

DATE: November 3, 2010

PUBLIC HEARING

SUBJECT: PROPOSED ORDINANCES ADOPTING AND AMENDING THE 2010 CALIFORNIA BUILDING STANDARDS CODE AND ADOPTING AND AMENDING THE 2010 CALIFORNIA FIRE CODE

FROM: David H. Ready, City Manager

BY: Building Official and Fire Chief

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## SUMMARY

The City Council will consider an ordinance to adopt the amended 2010 editions of the California Building Standards Code and an ordinance to adopt the amended 2010 edition of the California Fire Code to be in effect January 1, 2011.

## RECOMMENDATION:

- 1) Open the public hearing and receive public testimony;
- 2) Waive the reading of text in its entirety and read by title only and introduce on first reading Ordinance No. \_\_\_\_\_, "AN ORDINANCE OF THE CITY OF PALM SPRINGS, CALIFORNIA, ADDING ARTICLE VII TO CHAPTER 8.04. RELATING TO SWIMMING POOL SAFETY STANDARDS, ADOPTING AND AMENDING THE 2010 EDITIONS OF THE CALIFORNIA BUILDING CODE WITH APPENDICES C, I, AND J, THE 2010 CALIFORNIA RESIDENTIAL CODE, INCLUDING APPENDIX H, THE 2010 CALIFORNIA ELECTRICAL CODE, THE 2010 CALIFORNIA MECHANICAL CODE, THE 2010 PLUMBING CODE AND ADOPTING THE 2010 EDITIONS OF THE CALIFORNIA GREEN BUILDING STANDARDS, ENERGY, AND EXISTING BUILDING CODES; AND THE 1997 EDITION OF THE UNIFORM HOUSING CODE;"

ITEM NO. 1.C.

- 3) Waive the reading of text in its entirety and read by title only and introduce on first reading Ordinance No. \_\_\_\_\_, "AN ORDINANCE OF THE CITY OF PALM SPRINGS, CALIFORNIA, AMENDING AND RESTATING ARTICLE VI OF CHAPTER 8.04 OF THE PALM SPRINGS MUNICIPAL CODE RELATING TO THE ADOPTION AND AMENDMENT OF THE CALIFORNIA FIRE CODE, 2010 EDITION;" and
- 4) Adopt Resolution No. \_\_\_\_\_, "A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PALM SPRINGS, CALIFORNIA, FINDING THAT CERTAIN LOCAL CONDITIONS REQUIRE AMENDMENTS, ADDITIONS AND DELETIONS TO THE CALIFORNIA BUILDING CODE, 2010 EDITION, THE CALIFORNIA PLUMBING CODE, 2010 EDITION, THE CALIFORNIA ELECTRICAL CODE, 2010 EDITION, AND THE 2010 CALIFORNIA MECHANICAL CODE AND THE 2010 CALIFORNIA FIRE CODE. "

**BACKGROUND:**

The state's Health and Safety Code requires local governments to adopt the most recent editions of the model codes related to construction. The construction codes include: the California Building, Fire, Plumbing, Mechanical, Electrical Codes, and other related codes. If the City Council approves Ordinance No. \_\_\_\_\_, the most recent editions of the construction codes with the applicable amendments will be in effect within the City of Palm Springs as required by state law.

The state's Health and Safety Code (Section 17958) mandates that the California Building Standards Commission adopt and publish the California Building Standards Code (Title 24 California Code of Regulations [CCR] every three (3) years. The 2010 edition of the California Code of Regulations Title 24, which incorporates the below listed model codes, becomes effective statewide on January 1, 2011. If approved, Ordinance No. \_\_\_\_\_ would amend various sections of the Palm Springs municipal code by repealing references to the prior editions of the Construction Codes.

The list below identifies the model codes upon which the 2010 Title 24, CCR is based:

California Building Standards Code	Reference Model Code
2010 California Building Code	2009 International Building Code (ICC)
2010 California Residential Code	2009 International Residential Code (ICC)
2010 California Mechanical Code	2009 Uniform Mechanical Code (IAPMO)
2010 California Electrical Code	2008 National Electrical Code (NFPA)
2010 California Plumbing Code	2009 Uniform Plumbing Code (IAPMO)
2010 California Fire Code	2009 International Fire Code (ICC)
2010 California Existing Building Code	2009 International Existing Building Code (ICC)
2010 California Energy Code	
2010 California Green Building Code	
2010 California Historical Building Code	
1997 Uniform Housing Code (Title 25)	1997 Uniform Housing Code

These related codes are based upon and are consistent with the provisions found in the California Building Standards Code. The benefit of adopting these additional codes is to provide building and fire inspectors/officials and plan examiners with further clarification of the intent and the applicability of the California Building Standards Code when presented with a variety of construction issues.

**STAFF ANALYSIS:**

The Building Official and Fire Chief recommend that the City Council adopts the 2010 Codes that include editions of the California Building, Residential, Plumbing, Mechanical, Electrical, Fire and Existing Building Codes with the recommended changes and modifications. These changes and modifications are necessary due to local conditions in the City of Palm Springs, which include high winds, extreme temperatures, and the city's physical proximity to known active earthquake faults, are some of the local conditions necessitating these modifications to the codes. Staff believes that local amendments are of an administrative or procedural nature and concern themselves with subjects that are not covered by the Codes or are reasonably necessary to safeguard life and property within the City of Palm Springs.

There are two new codes being introduced by the California Building Standards Commission during this code adoption cycle and they are the following:

- 2010 California Green Building Standards Code (CALGreen)
- 2010 California Residential Code

The 2010 California Green Building Standards Code (CalGreen) covers commercial and residential construction in the public and private sectors as well as schools of all levels, hospitals and other public institutions. Among the new requirements under CALGreen,

every new building in California will have to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills and install low VOC materials. Separate indoor and outdoor water meters for nonresidential buildings and moisture-sensing irrigation systems for large landscape projects will be required. There will be mandatory inspections of energy systems, such as furnaces and air conditioners for nonresidential buildings over 10,000 square feet. According to the California Air Resources Board, the mandatory provisions will reduce greenhouse gas emissions by 3,000,000 metric tons by 2020.

While CALGreen does increase building costs in difficult economic times, the consensus among building industry professionals is that it would only slightly increase construction costs and estimated \$1500 per new residential home. For commercial construction the average premium for these green buildings standards is slightly less than 2%.

The 2010 California Residential Code (CRC) is modeled after the 2009 International Residential Code. The new Residential code pulls together all the requirements of the Building, Plumbing, Mechanical, and Electrical codes into one code. The biggest change in the CRC is the code will now require all new one- and two-family homes and town houses built in the state starting January 1, 2011, to be equipped with life-saving fire sprinkler systems. A recent report indicates that the average cost per square foot is \$1.61 for residential sprinkler systems (3000 sq. ft. = \$4830.00).

Article VII: In 1997, the City Council adopted Ordinance No 1541, consistent with AB 3305 establishing swimming pool safety standards into the code and proposed that Article VII of Chapter 8.04 be added to the Palm Springs Municipal Code, to codify swimming pool safety standards with all Building and Uniform Codes.

Existing state law has long provided certain safety and sanitation requirements for public swimming pools such as those at hotels or apartment complexes. Assembly Bill (AB) 3305, adopted by the state legislature and signed by the governor, enacted the Swimming Pool Safety Act to establish certain safety standards requiring swimming pool enclosures, safety pool covers or exit alarms, or other means of protection, for new pools at single family residences (three units or less). This ordinance provides swimming pool safety standards consistent with AB 3305, codifying Palm Springs Building Department's practices in implementing AB 3305 standards since January 1, 1998.

The requirements of AB 3305 apply to any new pool for a single family residence permitted on or after January 1, 1998. Ordinance No 1541 is based on standards developed by an advisory committee of the California Building Standards Commission. It provides for safety standards with at least equal protection as the state standards, as required, yet allows for some local determination.


AB 3305 requires that new swimming pools at single family residences must be enclosed by a fence or wall of no less than 60 inches in height. Any gates or openings

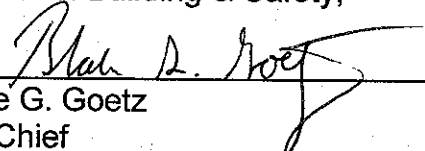
in the enclosure, such as the doors from the house when the building serves as part of the enclosure, must be self-closing and equipped with self-latching devices. Doors from a home providing direct access to the pool must be equipped with exit alarms. The establishment of this article will allow for appropriate local swimming pool safety standards that comply with AB 3305.

FISCAL IMPACT:

The cost for enforcing updated codes and providing staff training has been included in the annual Building Department's budget for FY 2010-2011.

  
Terry Tatum,  
Director of Building & Safety,

  
Thomas J. Wilson  
Assistant City Manager

  
Blake G. Goetz  
Fire Chief

  
David H. Ready  
City Manager

Attachments:

- Ordinance No \_\_\_\_\_
- Resolution No \_\_\_\_\_
- Cal Green Mandatory Requirements Check List

**CITY OF PALM SPRINGS  
PUBLIC HEARING NOTIFICATION**



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City Council  
Meeting Date: November 3, 2010  
Subject: Adoption of California Building Codes

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**AFFIDAVIT OF PUBLICATION**

I, Kathie Hart, Chief Deputy City Clerk, of the City of Palm Springs, California, do hereby certify that a copy of the attached Notice of Public Hearing was published in the Desert Sun on October 6 & 23, 2010.

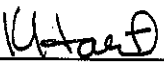
I declare under penalty of perjury that the foregoing is true and correct.

  
\_\_\_\_\_  
Kathie Hart, CMC  
Chief Deputy City Clerk

**AFFIDAVIT OF POSTING**

I, Kathie Hart, Chief Deputy City Clerk, of the City of Palm Springs, California, do hereby certify that a copy of the attached Notice of Public Hearing was posted at City Hall, 3200 E. Tahquitz Canyon Drive, on the exterior legal notice posting board and in the Office of the City Clerk on October 14, 2010.

I declare under penalty of perjury that the foregoing is true and correct.

  
\_\_\_\_\_  
Kathie Hart, CMC  
Chief Deputy City Clerk

NOTICE OF PUBLIC HEARING  
CITY COUNCIL  
CITY OF PALM SPRINGS

ADOPTION OF CALIFORNIA BUILDING CODES

NOTICE IS HEREBY GIVEN that the City Council of the City of Palm Springs, California, will hold a public hearing at its meeting of November 3, 2010. The City Council meeting begins at 6:00 p.m., in the Council Chamber at City Hall, 3200 E. Tahquitz Canyon Way, Palm Springs.

The purpose of this hearing is to consider adding Article VII relating to Swimming Pool Safety Standards to Chapter 8.04 of the Palm Springs Municipal Code and adoption of ordinances adopting by reference with amendments the 2010 edition of the California Fire Code, adopting and amending the 2010 California Building Code, the 2010 California Mechanical Code, the 2010 California Plumbing Code, the 2010 California Residential Code, including Appendix H, the 2010 California Electrical Code, the 2010 California Energy Code, the 2010 editions of the California Green Building Standards, and Existing Building Code; and the 1997 edition of the Uniform Housing Code.

**REVIEW OF INFORMATION:** The staff report and other supporting documents regarding this matter are available for public review at City Hall between the hours of 8:00 a.m. to 11:00 a.m. and 2:00 p.m. to 6:00 p.m., Monday through Thursday. Please contact the Office of the City Clerk at (760) 323-8204 if you would like to schedule an appointment to review these documents.

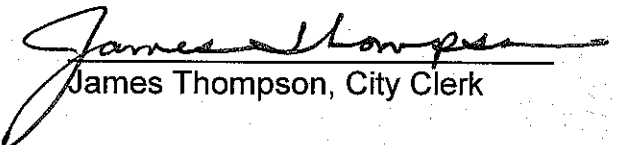
Response to this notice can be made verbally at the Public Hearing and/or in writing before the hearing. Written comments can be made to the City Council by letter (for mail or hand delivery) to:

James Thompson, City Clerk  
3200 E. Tahquitz Canyon Way  
Palm Springs, CA 92262

Any challenge of the proposed in court may be limited to raising only those issues raised at the public hearing described in this notice, or in written correspondence delivered to the City Clerk at, or prior, to the public hearing. (Government Code Section 65009(b)(2)).

An opportunity will be given at said hearing for all interested persons to be heard. Questions regarding this may be directed to Terry Tatum, Director of Building & Safety, at (760) 323-8242, extension 8723.

Si necesita ayuda con esta carta, porfavor llame a la Ciudad de Palm Springs y puede hablar con Nadine Fieger telefono (760) 323-8242, extension 8758.

  
James Thompson, City Clerk



# City of Palm Springs

Office of Sustainability

3200 E. Tahquitz Canyon Way • Palm Springs, California 92262  
Tel: (760) 323-8214 • Fax: (760) 322-8360 • Web: [www.palmspringsca.gov](http://www.palmspringsca.gov)

## MEMORANDUM

TO: Terry Tatum, Building Manager

FROM: Michele Mician, Sustainability Manager

SUBJECT: California Green Building Code

DATE: October 26, 2010

This serves as a response to your request for feedback regarding the Building Department's proposal to adopt the California Green Building Code. The Office of Sustainability recommends the California Green Building Code be proposed to Council for adoption including the voluntary measures as listed in the appendices.

The item was brought to the Sustainability Commission for feedback and action. At the October 19, 2010 regular meeting of the Sustainability Commission the adoption of the California Green Building Code as proposed by the building department was placed on the agenda for discussion and action. The Commission passed a unanimous resolution to support the building department staff's recommendation to City Council to adopt the California Green Building Code.

Please feel free to contact me with any questions at x.8214.

cc: David Ready, City Manager  
Tom Wilson, Assistant City Manager  
Jennifer Henning, Special Projects  
Sustainability Commission members

ORDINANCE NO.

AN ORDINANCE OF THE CITY OF PALM SPRINGS, CALIFORNIA, ADDING ARTICLE VII TO CHAPTER 8.04 RELATING TO SWIMMING POOL SAFETY STANDARDS, ADOPTING AND AMENDING THE 2010 EDITIONS OF THE CALIFORNIA BUILDING CODE WITH APPENDICES C, I, AND J, THE 2010 CALIFORNIA RESIDENTIAL CODE, INCLUDING APPENDIX H, THE 2010 CALIFORNIA ELECTRICAL CODE, THE 2010 CALIFORNIA MECHANICAL CODE, THE 2010 PLUMBING CODE AND ADOPTING THE 2010 EDITIONS OF THE CALIFORNIA GREEN BUILDING STANDARDS, ENERGY, AND EXISTING BUILDING CODES; AND THE 1997 EDITION OF THE UNIFORM HOUSING CODE.

CITY ATTORNEY SUMMARY

This Ordinance adopts the 2010 Editions of the California Building, Residential, Green Building Standards Code, Plumbing, Electrical, Mechanical, California Energy Code and Existing Building Codes, adopted by the State of California and amends the 2010 Edition of the California Building Code, Residential Code, Plumbing Code, Mechanical Code and Electrical Code. This Ordinance readopts the 1997 Edition of the Uniform Housing Code.

THE CITY COUNCIL OF THE CITY OF PALM SPRINGS ORDAINS:

SECTION 1. Article I of Chapter 8.04 of the Palm Springs Municipal Code is hereby amended and restated to read:

**ARTICLE I  
BUILDING CODES**

**Section:**

- 8.04.005 Citation of building Code.**
- 8.04.010 California Building Code- Adopted.**
- 8.04.015 California Building Code- Additions, amendments and deletions.**
- 8.04.016 California Residential Code- Adopted.**
- 8.04.017 California Residential Code- Additions, amendments and deletions.**
- 8.04.020 California Mechanical Code- Adopted.**
- 8.04.021 California Mechanical Code- Amended.**
- 8.04.030 California Plumbing Code- Adopted.**

- 8.04.031 California Plumbing Code- Amended.**
- 8.04.035 Uniform Housing Code- Adopted**
- 8.04.040 California Existing Building Code Appendix A-1-Adopted.**
- 8.04.050 California Electrical Code- Adopted**
- 8.04.055 California Electrical Code- Additions and Amendments**
- 8.04.065 California Energy Code- Adopted**
- 8.04.070 California Seismic Safety Commission Model Ordinance- Adopted.**
- 8.040.72 California Seismic Safety Commission Model Ordinance- Additions and Amendments.**
- 8.04.090 California Green Building Standards Code- Adopted.**

SECTION 2. Section 8.04.005 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.005 Citation of Building Code.

This chapter, the California Building Code, Volumes 1 & 2, 2010 edition; the California Residential Code, 2010 edition; the California Green Building Standards Code, 2010 edition; the Mechanical Code, 2010 edition; the California Plumbing Code, 2010 edition; the California Electrical Code, 2010 edition; the California Existing Building Code, 2010 edition; the California Energy Code, 2010 edition; the Uniform Housing Code, 1997 edition; and the California Seismic Safety Commission Model Ordinance, may be collectively referred to and cited as the "Palm Springs Building Code."

SECTION 3. Section 8.04.010 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.010 California Building Code - Adopted.

These certain documents, a copy of each of which are on file in the office of the City Clerk, being marked and designated as "California Building Code, Volumes 1 & 2, 2010 edition; and appendices C, I and J, including tables and indices thereto, except as hereinafter modified, are hereby adopted as the Building Code of the City of Palm Springs by reference, pursuant to the provisions of Section 50022.1 et seq. of California Government Code."

SECTION 4. Section 8.04.015 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.015 California Building Code - Additions, Amendments and Deletions.

The California Building Code adopted herein by reference is hereby amended by the following additions, deletions and amendments:

1) **Chapter 1 Division II, Scope and Administration**, Subsection 105.2, Work exempt from permit is amended as follows: Under "Building" list, items 2, 3, 4, 5, 6, 8, 9, 10, 11 and 12 are deleted.

2) Section 202 Definitions is amended by adding the following definitions:

**FIVE MINUTE FIRE DEPARTMENT RESPONSE TIME:** The Five-Minute Fire Department Response Time is defined as the time the fire station or response personnel receive notification of a call for emergency service, allowing one-minute for "firefighter turnout" and four-minutes for travel on paved streets. The Palm Springs Fire Department Five-Minute Response Time Map is identified in Appendix L.

**MID RISE BUILDING:** Every building of any type of construction or occupancy having floors used for human occupancy located 60 feet above the lowest floor level of fire department access at ground level to the top of the structure shall be enhanced with high-rise provisions as set forth in Section 508.1 of the California Fire Code.

**MODEL ROCKET:** shall mean any toy or educational device which weighs not more than 500 grams, including the engine and any payload that is propelled by model rocket engines.

**MODEL ROCKET ENGINE:** shall mean a commercially manufactured, non-reusable rocket propulsion device which is constructed of a nonmetallic casing and solid propellant, wherein all of the ingredients are self-contained so as not to require mixing or handling by the user and which have design and construction characteristics determined by the State Fire Marshal to provide a reasonable degree of safety to the user.

3) Add subsection 901.6.1.1 **Approval required.**

Prior to the removal of any fire protection system, approval shall be obtained from the fire code official.

4) Amend subsection 903.2 **Where required.**

Approved automatic sprinkler systems in new buildings and structures shall be provided in locations described in sections 903.2.1 through 903.2.20 as amended by this code. For purposes of this code subsection regarding building size, fire resistive construction shall not be considered for purposes of reducing the gross fire area of that building

(Exception: Group U Occupancies of non combustibile Construction)

An approved automatic fire sprinkler system shall be installed in every Group A Occupancy per section 903.2.1 including those that result from a change of use in an existing building or portion thereof.

- 5) Delete subsection 903.2.1.1 Group A-1
- 6) Delete subsection 903.2.1.2 Group A-2
- 7) Delete subsection 903.2.1.3 Group A-3
- 8) Delete subsection 903.2.1.4 Group A-4
- 9) Delete subsection 903.2.1.5 Group A-5

10) Amend subsection 1 of subsection 903.2.3 **Group E**.

1. Throughout all Group E fire areas greater than 3,000 square feet in area.

11) Amend Exception to subsection 903.2.3 **Group E**.

Exception: An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building has at least one exterior exit door at ground level and the fire area does not exceed 3,000 square feet

12) Amend subsection 1 and 3 of subsection 903.2.4 **Group F** to read as follows:

1. Where a Group F-1 fire area exceeds 3,000 square feet;

3. Where the combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 3,000 square feet.

13) Amend subsection 1, 3 and 5 of subsection 903.2.7 **Group M** to read as follows:

1. Where a Group M fire area exceeds 3,000 square feet;

3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 3,000 square feet.

5. The structure exceeds 3,000 square feet, contains more than one fire area containing a group M occupancy and is separate into two or more buildings by fire walls of less than 4-hour fire-resistance rating.

14) Amend subsection 1, 3 and 4 of subsection 903.2.9 **Group S-1** to read as follows:

1. A Group S-1 fire area exceeds 3,000 square feet;

3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 3,000 square feet.

4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 3,000 square feet.

15) Amend subsection 1, 2 and 4 of subsection 903.2.9.1 **Repair garages** to read as follows:

1. Buildings two or more stories in height, including basements, with a fire area containing a repair garage exceeding 3,000 square feet.

2. One-story buildings with a fire area containing a repair garage exceeding 3,000 square feet.

4. Group S-1 fire area used for repair of commercial trucks or buses where the fire area exceeds 3,000 square feet.

16) Amend subsection 903.2.10 **Group S-2**.

An automatic sprinkler system shall be provided throughout all buildings containing Group S-2 occupancy where one of the following conditions exists:

1. A Group S-2 fire area exceeds 3,000 square feet;

17) Amend subsection 1 of subsection 903.2.10.1 **Commercial parking garages**.

1. Where the fire area of the enclosed parking garage exceeds 3,000 square feet.

18) Add subsection 903.2.19 **Group B**. An automatic sprinkler system shall be provided throughout all new buildings containing a Group B occupancy that exceeds 3,000 square feet.

19) Add subsection 903.2.20 **Group F-2**. An automatic sprinkler system shall be provided throughout all new buildings containing a Group F-2 occupancy that exceeds 3,000 square feet.

20) Add Subsection 903.3.1.3.1 **Pilot Heads**. Pilot heads shall be required in attic areas every 1,000 square feet or portion thereof.

21) Amend subsection 903.4.3 **Floor control valves**.

Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in buildings three or more stories in height

unless otherwise approved by the Fire Chief. Valve locations will be determined and approved by the fire code official.

22) Add subsection 903.6.3 **Increased square footage.**

Any existing building or structure undergoing construction or alteration which adds square footage exceeding the total area as prescribed in section 903.2, said building shall require an approved automatic fire sprinkler system.

Exception: One and two-family dwellings adding gross floor area that results in the total floor area of the building where not more than 1,500 GPM fire flow is required. (1,500 GPM fire flow equals 3,600 square feet in Type V wood frame buildings)

23) Add subsection 907.2.11.6 **Smoke alarms** to read as follows:

Upon sale of any residential dwelling and factory-built housing, the seller shall have installed therein, permanently wired or battery powered approved detectors of products of combustion other than heat only, commonly known as smoke detectors. The smoke detectors are required to be State Fire Marshal approved and listed. The seller must obtain certification from the Palm Springs Fire Department of the installation and proper operation prior to close of sale of property. Smoke alarms shall be maintained as originally approved at the time of construction, or remodel.

24) Amend subsection 907.2.13 **High-rise buildings.**

High-rise buildings and buildings with a floor used for human occupancy located more than 60 feet above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and emergency voice/alarm communication systems in accordance with Section 907.2.12.3.

25) Amend subsection 907.2.19 **Deep Underground buildings.**

All underground buildings shall be equipped throughout with a manual fire alarm system, including an emergency voice/alarm communication system installed in accordance with section 907.6.2.2 of the 2010 California Fire Code.

26) Amend 912.2.1 **Visible location**

Fire department connections shall be located on the front access side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved by the fire code official. The location of the fire department connections shall be approved and installed as follows:

1. Within 50 feet of an approved roadway or driveway and arranged so that hose lines can be readily attached to the inlets without interference from any nearby objects including buildings, fences, posts, plantings, or other fire department connections and or otherwise approved by the fire code official.
2. Within 30 feet of an approved hydrant.
3. So that the inlet height shall not be less than 18 inches or more than 48 inches above grade.
4. Guard posts or other approved means may be required to protect fire department inlet connections from vehicular damage.
5. Fire department connection shall not be allowed in the rear of any building.
6. Fire department connections for NFPA 13R sprinkler systems shall be determined by the fire code official.

27) The following is added to Section 1207.1; Purpose and Scope, is amended to read as follows: The purpose of this section is to establish uniform minimum noise insulation performance standards to protect persons within hotels, motels, dormitories, apartment houses, attached dwellings, and those detached single-family dwellings located within the airport 'N' zone overlay from the effects of excessive noise, including, but not limited to, hearing loss or impairment and interference with speech and sleep.

28) The following is added to Section 1505, Fire Classification: all wood, shakes or shingles, as defined in Section 1505, shall be pressure treated fire retardant with a minimum Class B rating.

29) Subsection 1509, Rooftop Structures, is amended by the addition of the following paragraph: All roof top equipment, unless exempted by the Building Official, shall be provided with an approved six (6) inch high platform equipped with a sheet metal cover. Design of the platform shall be as per City detail or approved equal.

30) The following is added to Appendix J, Grading:

For the purpose of administration and enforcement of this Appendix Chapter, Grading, the building official shall mean the director of public works or his or her designated representative.

31) The following is added to Appendix J, Section J104.1 "Submittal Requirements":

Grading Designation: Grading in excess of 2,000 cubic yards shall be performed in accordance with an approved grading plan prepared by a civil engineer, and shall be designated as "engineered grading". Grading involving less than 2,000 but more than 50 cubic yards shall be performed in accordance with an approved

grading plan prepared by an appropriate design professional as allowed by the building official, and shall be designated "regular grading" unless the permittee chooses to have the grading performed as engineered grading, or the building official determines that special conditions or unusual hazards exist, in which case grading shall conform to the requirements for engineered grading. Grading involving less than 50 cubic yards shall be exempt from the requirements for a grading plan, unless determined otherwise by the building official, in which case grading shall conform to the requirements for regular grading.

Exception: Grading in excess of 2,000 cubic yards which is primarily of a landscaping and "fine grading" nature, where no flood hazard is present, may be designated "regular grading" at the discretion of the building official.

32) The following is added to Appendix J, Section J104.2 "Site Plan Requirements":

An effective means of dust control, which shall include provisions or adequate watering during the grading process and provision for continuance of dust control after grading, until such time that the graded surface presents sufficient protective cover against wind or water erosion so that special dust control measures are no longer necessary.

Engineered Grading Requirements. Application for a grading permit shall be accompanied by two sets of plans and specifications, and a soils report meeting the requirements of Section J104.3. The plans and specifications shall be prepared and signed by an individual licensed to practice as a civil engineer by the California Board of Professional Engineers and Land Surveyors.

Specifications, when required, shall contain information covering construction and material requirements.

Plans shall be drawn to scale and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that they will conform to the provisions of this code and all relevant laws, ordinances, rules, and regulations. The first sheet of each set of plans shall give the location of the work, the name and address of the owners, and the person by whom they were prepared.

The plans shall include the following information:

1. General vicinity of the proposed site.
2. Property limits and accurate contours of existing ground and details of terrain and area drainage.

3. Limiting dimensions, elevations or finish contours to be achieved by the grading, and proposed drainage channels and related construction.
4. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as a part of, the proposed work, together with a hydrology study including a map showing the drainage area and the calculations of the estimated stormwater runoff of the area served by any drains.
5. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners that are within 15 feet of the property or that may be affected by the proposed grading operations.
6. Recommendations included in the soils report shall be incorporated in the grading plans or specifications. When approved by the building official, specific recommendations contained in the soils report, which are applicable to grading, may be included by reference.
7. The dates of the soils report together with the names, addresses and phone numbers of the firms or individuals who prepared the report.

Regular Grading Requirements. Application for a grading permit shall be accompanied by two sets of plans and specifications, and a soils report meeting the requirements of Section J104.3. The plans and specifications shall be prepared and signed by an individual appropriately licensed to practice civil engineering, architecture, or a similar field by the state of California, with experience preparing grading plans, or as allowed by the building official.

Plans and specifications for regular grading shall conform to the requirements for engineered grading; however, particular requirements may be waived at the discretion of the building official given the particular nature of proposed grading designated as "regular grading".

(Ord. 1767 § 1, 2010; Ord. 1735 § 3, 2008; Ord. 1731 § 3, 2007; Ord. 1641 § 1, 2003; Ord. 1618 § 3, 2002; Ord. 1571 § 3, 1999; Ord. 1522 § 3, 1995; Ord. 1414 § 3, 1992; Ord. 1336 § 3, 1989; Ord. 1296 § 3, 1988)

Exception: Grading in excess of 2,000 cubic yards which is primarily of a landscaping and "fine grading" nature, where no flood hazard is present, may be termed "regular grading" at the discretion of the Building Official.

33) The following paragraph is added to Appendix J, Section J104.2, Site Plan Requirements: An effective means of dust control, which shall include provisions or adequate watering during the grading provisions for adequate watering during the grading process and provision for continuance of dust control after grading,

until such time that the graded surface presents sufficient protective cover against wind or water erosion so that special dust control measures are no longer necessary."

SECTION 5. 8.04.16 of the Palm Springs Municipal Code is hereby added to read as follows:

"8.04.016 California Residential Code - Adopted.

That certain document, a copy of which is on file in the office of the City Clerk, being marked and designated as "California Residential Code, 2010 edition", is hereby adopted as the California Residential Code of the City of Palm Springs by reference, pursuant to the provisions of Section 50022.1 et seq., of the California Government Code"

SECTION 6. 8.04.17 of the Palm Springs Municipal Code is hereby added to read as follows:

"8.04.017 California Residential Code – Additions, Amendments and Deletions.

The California adopted herein by reference is hereby amended by the following additions, deletions and amendments:

1) Amending Section R 105.2. Work exempt from permit

**Building:** Work exempt from permit is amended as follows: Items 2, 3, 4, 5, 7, 8, and 9 are deleted.

2) Add subsection R313.1.2 **Townhouse increased square footage.**

Any existing building or structure undergoing construction or alteration which adds square footage exceeding the total area as prescribed in subsections 903.2 and 903.6.3 of the Palm Springs Fire Code, Article VI of the City Palm Springs Municipal Code, said building shall require an approved automatic fire sprinkler system.

Exception: One and two-family dwellings adding gross floor area that results in the total floor area of the building where not more than 1,500 GPM fire flow is required. (1,500 GPM fire flow equals 3,600 square feet in Type V wood frame buildings)

3) Add subsection R313.2.2 **Increased square footage.**

Any existing building or structure undergoing construction or alteration which adds square footage exceeding the total area as prescribed in the subsections

903.2 and 903.6.3 of the Palm Springs Fire Code, said building shall require an approved automatic fire sprinkler system.

Exception: One and two-family dwellings adding gross floor area that results in the total floor area of the building where not more than 1,500 GPM fire flow is required. (1,500 GPM fire flow equals 3,600 square feet in Type V wood frame buildings)

4) Subsection R801.2 Requirements, is amended:

Add the following paragraph to the end of subsection R801.2 "All rooftop equipment unless exempt by the Building Official, shall be provided with an approved six inch high platform equipped with a sheet metal cover. Design of the platform shall be as per City detail or approved equal."

5) The following is added to Section 905.7: Wood Shingles

"All wood shingles as defined in this section, shall be pressure treated, fire retardant with a minimum Class B rating."

6) The following is added to Section 905.8, Wood Shakes:

"All wood shakes as defined in this section shall be pressure treated, fire retardant with a minimum Class B rating."

SECTION 7. Section 8.04.020 of the Palm Springs Municipal Code is amended to read as follows:

"8.04.020 California Mechanical Code - Adopted.

That certain document, a copy of which is on file in the office of the City Clerk, being marked and designated as "California Mechanical Code, 2010 edition", and all appendices, tables and indices thereto, except as hereinafter modified, is hereby adopted as the Mechanical Code for the City of Palm Springs, by reference, pursuant to the provisions of Section 50022.1 et seq. of the California Government Code."

SECTION 8. Section 8.04.021 of the Palm Springs Municipal Code is hereby added to read as follows:

"8.04.021 California Mechanical Code- Amended.

Section 115.2 **Permit fees.** On buildings, structures, mechanical systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the scheduled as established by the applicable governing authority.

SECTION 9. Section 8.04.030 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.030 California Plumbing Code - Adopted.

That certain document, a copy of which is on file in the office of the City Clerk, being marked and designated as "California Plumbing Code, 2010 edition", including A, B, D, G, I and K, including tables and indices thereto, except as hereinafter modified, is hereby adopted as the Plumbing Code for the City of Palm Springs by reference, pursuant to the provisions of Section 50022.1 et seq. of the California Government Code."

SECTION 10. Section 8.04.031 of the Palm Springs Municipal Code is hereby added to read as follows:

8.04.031 California Plumbing Code, Amended

1) Section 103.4.1 Permit Fees: On buildings, structures, plumbing systems or alterations requiring a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.

2) Section 103.4.2 Plan Review Fees: Delete following verbiage: "When plans are incomplete or changed so as to require additional plan review, an additional plan review fee shall be charged at the rate shown in Table 1.1."

SECTION 11. Section 8.04.035 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.035 Uniform Housing Code - Adopted.

That certain document, a copy of which is on file in the office of the City Clerk, being marked and designated as "Uniform Housing Code, 1997 edition", and all appendices, tables and indices thereto, is hereby adopted as the Uniform Housing Code of the City of Palm Springs by reference, pursuant to the provisions of Section 50022.1 et seq. of the California Government Code."

SECTION 12. Section 8.04.040 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.040 California Existing Building Code Appendix A-1 - Adopted.

That certain document, a copy of which is on file in the office of the City Clerk, being marked and designated as "California Existing Building Code Appendix A-1, 2010 edition", is hereby adopted as the Existing Building Code of the City of Palm Springs by reference, pursuant to the provisions of Section 50022.1 et seq. of the California Government Code."

SECTION 13. Section 8.04.050 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.050 California Electrical Code - Adopted.

That certain document, a copy of which is on file in the office of the City Clerk, being marked and designated as "California Electrical Code, 2010 Edition", and all appendices, tables and indices thereto except as amended herein, is hereby adopted as the Electrical Code of the City of Palm Springs by reference, pursuant to all the provisions of Section 50022.1 et seq. of the California Government Code; and all of its provisions (except as hereinafter modified) shall regulate the installation, arrangement, alternative, repair, use, and generation of electric wiring, connections, fixture, apparatus, machinery, appliances, and other electric devices on premises within the City."

SECTION 14. Section 8.04.055 of the Palm Springs Municipal Code is hereby amended as follows:

"8.04.055 California Electrical Code - Additions and Amendments.

The California Electrical Code adopted herein by reference is hereby amended by the following additions and amendments:

1. Add the following to the end of Subsection 90-8(A):

**SERVICE LOAD.** The main switch and/or distribution panel of a single family dwelling or condominium occupancy shall have an adequate capacity and space to carry the calculated load, plus an 8 KW future with four (4) spare spaces at the time of final inspection. The 8 KW load is not to be reduced by any demand factor.

2. Add the following to the end of Subsection 310-2(B):

**ALUMINUM CONDUCTOR LIMITATIONS.** No aluminum wiring shall be used. **EXCEPTION:** Aluminum wiring in sizes 1/0 and larger may be used for main feed to sub-panels only and shall be enclosed in a raceway."

SECTION 15. Section 8.04.065 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.065 California Energy Code - Adopted.

That certain document, a copy of which is on file in the office of the City Clerk, being marked and designated as "California Energy Code, 2010 edition", is hereby adopted as the California Energy Code of the City of Palm Springs by reference, pursuant to the provisions of Section 50022.1 et seq., of the California Government Code"

SECTION 16. 8.04.090 of the Palm Springs Municipal Code is hereby amended to read as follows:

"8.04.090 California Green Building Standards Code - Adopted.

That certain document, a copy of which is on file in the office of the City Clerk, being marked and designated as "California Green Building Standards Code, 2010 edition", is hereby adopted as the California Green Building Standards Code of the City of Palm Springs by reference, pursuant to the provisions of Section 50022.1 et seq., of the California Government Code"

SECTION 17. Article VII of Chapter 8.04 of the Palm Springs Municipal Code is hereby added to read:

ARTICLE VII  
SWIMMING POOL SAFETY STANDARDS

- 8.04.700     General
- 8.04.710     Definitions
- 8.04.720     Requirements

**8.04.700 General:** The provisions of this article apply to the design and construction of barriers for swimming pools, spas and hot tubs provided for the use by no more than three families and their guests.

**8.04.710 Definitions:** For the purpose of this Article, certain terms, words and phrases are defined as follows:

Above Ground/On Ground Pool. See definition of swimming pool.

Barrier is a fence, wall, building wall, safety cover complying with American Society for Testing Materials (ASTM) Standard F 1346-91 or a combination thereof, which completely surrounds the swimming pool and obstructs access to the swimming pool, spa or hot tub. When approved by the enforcement agency,

barriers may also incorporate natural or manmade features, such as topography, geographically isolated areas which provide an effective access barrier to the pool area.

**GRADE.** is the underlying surface, such as earth or a walking surface.

**HOT TUB.** See definition of spa.

**IN-GROUND POOL.** See definition of swimming pool.

**SEPARATION FENCE** is a barrier which separates all doors of a dwelling unit or building accessory thereto with direct access to a swimming pool, spa or hot tub from that swimming pool, spa or hot tub.

**SPA** is a structure intended for recreational bathing, designed to contain water over 18 inches deep and outside dimensions not exceeding 160 square feet.

**SWIMMING POOL** is any structure intended for swimming or recreational bathing that is designed to contain water over 18 inches deep. This includes in-ground, above-ground and on-ground swimming pools and fixed-in-place wading pools, and excludes spas.

**SWIMMING POOL, OUTDOOR,** is any swimming pool which is totally outside the residential structure.

#### **8.04.720 Requirements:.**

**Outdoor Swimming Pool.** An outdoor swimming pool, hot tub or spa shall be provided with a barrier. With respect to the installation or construction of an outdoor swimming pool, spa or hot tub, the City may require, either prior to plastering and/or filling with water, that the barrier be installed, inspected and approved.

Outdoor swimming pools with electrically operated or manual tracking safety covers that comply with the ASTM Standard F 1346-91 shall not be required to provide other barriers. When electrically operated safety covers are provided, the control for the pool cover shall be mounted at least 54 inches above grade.

When barriers are required, the barrier shall comply with the following:

- a) The top of the barrier shall be at least 60 inches above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be two inches measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance at the bottom of the barrier may be increased to four inches when grade is a solid surface impenetrable by a

child, such as a concrete deck. Where the barrier is mounted on top of the above-ground pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be four inches when grade is a solid surface impenetrable by a child, such as a concrete deck. Where the barrier is mounted on top of the above-ground pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be four inches. When barriers have horizontal members, the tops of which are spaced less than 45 inches apart (1) the horizontal members shall be placed on the pool side of the barrier and (2) spacing between vertical members shall not exceed 1 ¼ inches in width. Any decorative design work on the side away from the swimming pool, such as protrusions, indentations or cutouts, which render the barrier easily climbable, is prohibited.

EXCEPTIONS: 1. For fencing composed of vertical and horizontal members, the spacing between vertical members may be increased up to four inches when the distance between the tops of horizontal members is 45 inches or more.

2. Existing fences surrounding property at pool area, which are at least 60 inches above grade, measured on the side of the barrier which faces away from the swimming pool, has a maximum vertical clearance between grade and the bottom of the barrier of two inches and has no openings that will allow the passage of a four inch diameter sphere are permitted.

b. Openings in the barrier for chain link fences shall not allow passage of a 1 ¾ inch diameter sphere. The wire size shall not be smaller than 11 gauge.

EXCEPTION: Maximum mesh size for chain link fences shall be as provided in paragraph 2 above unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than 1 ¾ inches.

c. Access gates shall comply with the requirements of Items a. and b. and shall be equipped to accommodate a locking device. Separation fence gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Gates other than separation fence gates are only required to have a self-latching device. Where the release mechanism of the self-latching devices is located less than 54 inches from grade, (1) the release mechanism shall be located on the pool side of the barrier at least three inches below the top of the gate, and (2) the gate and barrier shall have no opening greater than one-half inch within 18 inches of the release mechanism. Any gates other than pedestrian access shall be equipped with lockable hardware or padlocks and shall remain locked at all times when not in use.

d. Where a wall of a dwelling serves as part of the barrier, and contains door openings providing direct access to the pool, those door openings shall be protected by one of the following means:

- (1) A self-closing and self-latching device installed on all doors with the release mechanism located a minimum of 54 inches above the floor.
- (2) An alarm capable of providing a sound pressure level of not less than 85 dba when measured indoors at a distance of 10 feet. The alarm shall activate within 15 seconds after the door and its screen if present, are opened and shall sound continuously for a minimum of 10 seconds then automatically reset. The alarm shall be equipped with a manual reset, such as a touchpad or switch, located on the interior side of the wall not less than 54 inches above the threshold of the door to permit entry and exiting without activation of the alarm. The alarm shall automatically reset under all conditions. The alarm may be battery operated or connected to the building wiring.
- (3) Other means of protection may be acceptable so long as the degree of protection afforded is substantially the same as that afforded by any of the devices described above.

e. Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then (1) the ladder or steps shall be capable of being secured, locked or removed to prevent access or (2) the ladder or steps shall be surrounded by a barrier which meets the requirements of Items a. through d. When the ladder or steps are secured, locked or removed, any opening created shall be protected by a barrier complying with Items a. through d.

2. Spas & Hot Tubs. A spa or hot tub with a locking safety cover which complies with the ASTM Standard F 1346-91 shall not be required to provide other barriers. Where a locking safety cover is not provided, the spa or hot tub shall comply with the requirements of Section 1.

3. Indoor Swimming Pools. For an indoor swimming pool, protection shall comply with the requirements of Section 1.d.

SECTION 18. Section 15.04.050 is added to the Palm Springs Municipal Code to read:

15.04.050 Graywater Systems.

Nothing in this Chapter shall be deemed a limitation, restriction, or prohibition on any graywater system installed pursuant to the provisions of Appendix G of the

Plumbing Code, as adopted pursuant to Section 8.04.030 of this Code, as such provisions may be amended from time to time.

SECTION 19. OPERATIVE DATE. The provisions of this Ordinance shall become operative on January 1, 2011, which is the effective date of the 2010 edition of the California Building Standards Code, published by the State of California.

SECTION 20. EFFECTIVE DATE. The Mayor shall sign and the City Clerk shall certify to the passage and adoption of this Ordinance and shall cause the same, or the summary thereof, to be published and posted pursuant to the provisions of law and this Ordinance shall take effect thirty (30) days after passage.

SECTION 21. SEVERABILITY. If any section, subsection or clause of this ordinance shall be deemed to be unconstitutional or otherwise invalid, the validity of the remaining section, subsection and clauses shall not be affected thereby.

PASSED, APPROVED, AND ADOPTED THIS,

#### CERTIFICATION

STATE OF CALIFORNIA )  
COUNTY OF RIVERSIDE ) ss.  
CITY OF PALM SPRINGS )

I, JAMES THOMPSON, City Clerk of the City of Palm Springs, California, do hereby certify that Ordinance No. \_\_\_\_\_ is a full, true, and correct copy, and was introduced at an adjourned regular meeting of the Palm Springs City Council on \_\_\_\_\_, and adopted at a regular meeting of the City Council held on the \_\_\_\_\_, 2010, by the following vote:

AYES:  
NOES:  
ABSENT:  
ABSTAIN:

James Thompson, City Clerk  
City of Palm Springs, California

ORDINANCE NO. \_\_\_\_\_

AN ORDINANCE OF THE CITY OF PALM SPRINGS, CALIFORNIA, AMENDING AND SESTATING ARTICLE VI OF CHAPTER 8.04 OF THE PALM SPRINGS MUNICIPAL CODE, RELATING TO THE ADOPTION AND AMENDMENT OF THE CALIFORNIA FIRE CODE, 2010 EDITION.

**City Attorney's Summary**

*This ordinance adopts and amends the 2010 Edition of the California Fire Code, adopted by the State of California and effective on January 1, 2011.*

THE CITY COUNCIL OF THE CITY OF PALM SPRINGS ORDAINS:

SECTION 1. Article VI of Chapter 8.04 of the Palm Springs Municipal Code is hereby amended and restated to read:

**Article VI  
Fire Code**

**Sections**

**8.04.500**

**California Fire Code Adopted.**

**8.04.510**

**Additions, Deletions, and Amendments.**

**8.04.500**

**California Fire Code Adopted.**

That certain document, a copy of which is on file in the office of the City Clerk, entitled, "California Fire Code, 2010 Edition" including Appendix Chapter 4, Appendices A, B, BB, C, CC, E, F, G, H, I, J, K, L and M thereto, except as hereinafter modified, are hereby adopted as the *Fire Code of the City of Palm Springs* by reference, pursuant to the provisions of *Government Code* Section 50022.1 *et seq.*

**8.04.510 Additions, Deletions, and Amendments.**

The *California Fire Code*, 2010 Edition, adopted herein by reference, is amended by the following additions, deletions, and amendments:

- 1) Amend Chapter 1, Division II Administration, and Section 101.1 Title.

These regulations shall be known as the *Palm Springs Fire Code*, hereinafter referred to as "this code".

- 2) Amend subsection 101.4 Severability.

If any section, subsection, paragraph, sentence, clause or phrase of this ordinance is for any reason held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this ordinance, it being expressly declared that this ordinance and each section, subsection, paragraph, sentence, clause and phrase thereof would have been adopted, irrespective of the fact that one or more other section, subsection, paragraph, sentence, clause or phrase be declared invalid or unconstitutional.

3) Amend subsection 103.4 Liability.

Any liability against the Palm Springs Fire Department or any officer or employee shall be as provided for in *California Government Code* and case law. Fire suppression, investigation and rescue or emergency medical costs are recoverable in accordance with *California Health and Safety Code* Sections 13009 and 13009.1.

4) Amend subsection 109.3 Violation penalties.

The provisions of Title 1 of the *Palm Springs Municipal Code* shall be applicable to and govern the enforcement of this Title. Each day that a violation continues after due notice has been served shall be deemed a separate offense. The imposition of one (1) penalty for one (1) violation shall not excuse the violation, or permit it to continue. All such persons shall be required to correct or remedy such violations or defects within a reasonable time. The application of the above penalty shall not be held to prevent the enforced removal or correction of prohibited conditions.

5) Amend subsection 111.4 Failure to comply.

Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be in violation of this code.

6) Amend Section 202 General Definitions to include:

**FIVE MINUTE FIRE DEPARTMENT RESPONSE TIME:** The Five-Minute Fire Department Response Time is defined as the time the fire station or response personnel receive notification of a call for emergency service, allowing one-minute for "firefighter turnout" and four-minutes for travel on paved streets. The Palm Springs Fire Department Five-Minute Response Time Map is identified in Appendix "L".

**MID RISE BUILDING:** Every building of any type of construction or occupancy having floors used for human occupancy located 60 feet above the lowest floor level of fire department access at ground level to the top of the structure shall be

enhanced with high-rise provisions as set forth in Section 508.1 of the *California Fire Code*.

**MODEL ROCKET:** shall mean any toy or educational device which weighs not more than 500 grams, including the engine and any payload that is propelled by model rocket engines.

**MODEL ROCKET ENGINE:** shall mean a commercially manufactured, non-reusable rocket propulsion device which is constructed of a nonmetallic casing and solid propellant, wherein all of the ingredients are self-contained so as not to require mixing or handling by the user and which have design and construction characteristics determined by the State Fire Marshal to provide a reasonable degree of safety to the user.

7) Add Section 318 Parade floats.

8) Add subsection 318.1 Decorative materials.

Decorative materials on parade floats shall be non-combustible or flame retardant.

9) Add subsection 318.1.1 Combustible Clearance

A 12" minimum clearance of decorative materials shall be maintained around vehicle and/or generator exhaust pipe(s).

10) Add subsection 318.2 Fire protection.

Motorized parade floats and towing apparatus shall be provided with a minimum 2A 10B:C rated portable fire extinguisher readily accessible to the operator.

11) Add subsection 318.3 Portable Generators.

Portable generators shall be secured from tipping and subject to approval by the fire code official.

12) Add subsection 503.1.1.1 Gates.

When fences are installed that cause the distance from an approved fire department access road to exceed the maximum distance allowed in Section 503 herein, a gate shall be provided in the fence to maintain the required fire department access. The gate shall be a minimum four (4) feet in width and be equipped with a key box and/or lock accessible from both sides in accordance with Section 506 herein.

13) Amend subsection 503.2.3 Surface.

Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus (73,000 lbs. GVW) and shall be surfaced so as to provide all-weather driving capabilities.

14) Amend subsection 503.2.4 Turning radius.

The required turning radius of a fire apparatus access road shall be determined by the fire code official. Fire access road turns and corners shall be designed with a minimum inner radius of 25 feet and an outer radius of 43 feet.

15) Amend subsection 503.2.5 Dead ends.

Dead-end fire apparatus roads in excess of 150 feet in length shall be provided with an approved area for turning around fire apparatus. The City of Palm Springs has two approved turn around provisions. One is a cul-de-sac with an outside turning radius of 43 feet from centerline. The other is a hammerhead turnaround meeting the Palm Springs Public Works and Engineering Department standard dated 9-4-02.

16) Add subsection 503.2.9 Aerial fire access roads.

Buildings or portions of buildings or facilities exceeding 30 feet in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

17) Add subsection 503.2.9 Width.

Fire apparatus access roads shall have a minimum unobstructed width of 26 feet in the immediate vicinity of any building or portion of building more than 30 feet in height.

18) Add subsection 503.2.10 Proximity to building.

At least one of the required access routes for buildings or facility exceeding 30 feet in height above the lowest level of fire department vehicle access shall be located within a minimum of 15 feet and a maximum of 30 feet from the building and shall be positioned parallel to one entire side of the building.

19) Amend subsection 503.6 Security gates.

Secured automated vehicle gates or entries shall utilize a combination of a Tomar Strobeswitch™, or approved equal, and an approved Knox key electric switch when required by the fire code official. Secured non-automated vehicle gates or entries shall utilize an approved padlock or chain (maximum link or lock shackle size of ¼ inch) when required by the fire code official.

Gate arms securing parking lots and parking structures shall be equipped with a fire department approved dual-keyed Knox key electric switch. When activated, the arm or arms shall open to allow fire and law enforcement access.

Approved security gates shall be a minimum of 14 feet in unobstructed drive width on each side with gate in open position.

In the event of a power failure, the gates shall be defaulted or automatically transferred to a fail safe mode allowing the gate to be pushed open without the use of special knowledge or any equipment. If a two-gate system is used, the override switch must open both gates.

If there is no sensing device that will automatically open the gates for exiting, a fire department approved Knox electrical override switch shall be placed on each side of the gate in an approved location.

A final field inspection by the fire code official or an authorized representative is required before electronically controlled gates may become operative. Prior to final inspection, electronic gates shall remain in a locked-open position.

20) Add subsection 506.1.2 Height.

The nominal height of Knox lock box installations shall be 5 feet above grade.

21) Amend subsection 508.1 General.

Where required by other sections of this code and in all buildings classified as high-rise or mid-rise buildings by the *California Building Code* and as amended by the *Palm Springs Municipal Code* for buildings over 60 feet in height to the top of the structure, a fire command center for fire department operations shall be provided. The fire command center shall be located adjacent to the main lobby and shall be accessible from fire department vehicular access or as approved by the fire code official.

22) Add Section 510.4 Palm Springs Fire Department Radio Communications.

23) Add subsection 510.4.1 Features and requirements.

All new buildings, four stories in height or taller and all subterranean levels of parking structures or existing altered buildings over 20% shall meet the City of Palm Springs Public Safety Radio System Coverage Specifications as stated in Chapter 11.03 of the *Palm Springs Municipal Code*.

24) Add subsection 901.6.1.1 Approval required.

Prior to the removal of any fire protection system, approval shall be obtained from the fire code official.

25) Amend subsection 903.2 Where required.

Approved automatic sprinkler systems in new buildings and structures shall be provided in locations described in Sections 903.2.1 through 903.2.20 as amended by this code. For purposes of this code subsection regarding building size, fire resistive construction shall not be considered for purposes of reducing the gross fire area of that building.

(Exception: Group U Occupancies of non combustible construction)

An approved automatic fire sprinkler system shall be installed in any building, regardless of gross fire area, which is built beyond a five-minute fire department emergency response time as defined in Section 202.

(Exception: Group U Occupancies of non combustible construction)

An approved automatic fire sprinkler system shall be installed in every Group A Occupancy per 903.2.1 including those that result from a change of use in an existing building or portion thereof.

26) Delete subsection 903.2.1.1 Group A-1

27) Delete subsection 903.2.1.2 Group A-2

28) Delete subsection 903.2.1.3 Group A-3

29) Delete subsection 903.2.1.4 Group A-4

30) Delete subsection 903.2.1.5 Group A-5

31) Amend #1 in subsection 903.2.3 Group E.

1. Throughout all Group E fire areas greater than 3,000 square feet in area.

32) Amend Exception to subsection 903.2.3 Group E.

Exception: An automatic sprinkler system is not required in any fire area or area below the level of exit discharge where every classroom throughout the building

has at least one exterior exit door at ground level and the fire area does not exceed 3,000 square feet.

33) Amend subsection 903.2.4 Group F-1 #1 & #3 to read as follows:

1. Where a Group F-1 fire area exceeds 3,000 square feet;
3. Where the combined area of all Group F-1 fire areas on all floors, including any mezzanines, exceeds 3,000 square feet.

34) Amend subsection 903.2.7 Group M #1 & #3 to read as follows:

1. Where a Group M fire area exceeds 3,000 square feet;
3. Where the combined area of all Group M fire areas on all floors, including any mezzanines, exceeds 3,000 square feet.
5. The structure exceeds 3,000 square feet, contains more than one fire area containing a group M occupancy and is separated into two or more buildings by fire walls of less than 4-hour fire-resistance rating.

35) Amend subsection 903.2.9 Group S-1 #1; #3 & #4 to read as follows:

1. A Group S-1 fire area exceeds 3,000 square feet;
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 3,000 square feet.
4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 3,000 square feet.

36) Amend subsection 903.2.9.1 Repair garages #1; #2 & #4 to read as follows:

1. Buildings two or more stories in height, including basements, with a fire area containing a repair garage exceeding 3,000 square feet.
2. One-story buildings with a fire area containing a repair garage exceeding 3,000 square feet.
4. A Group S-1 fire area used for the repair of commercial trucks or buses where the fire area exceeds 3,000 square feet.

37) Amend subsection 903.2.10 Group S-2.

An automatic sprinkler system shall be provided throughout all buildings containing Group S-2 occupancy where one of the following conditions exists:

1. A Group S-2 fire area exceeds 3,000 square feet;

38) Amend subsection 903.2.10.1, #1 Commercial parking garages.

1. Where the fire area of the enclosed parking garage exceeds 3,000 square feet;

39) Add Section 903.2.19 Group B. An automatic sprinkler system shall be provided throughout all new buildings containing a Group B occupancy that exceeds 3,000 square feet.

40) Add Section 903.2.20 Group F-2. An automatic sprinkler system shall be provided throughout all new buildings containing a Group F-2 occupancy that exceeds 3,000 square feet.

41) Add subsection 903.3.1.3.1 Pilot heads.

Pilot heads shall be required in attic areas every 1,000 square feet or portion thereof.

42) Amend subsection 903.3.8 Floor control valves.

Approved supervised indicating control valves shall be provided at the point of connection to the riser on each floor in buildings three or more stories in height unless otherwise approved by the fire code official. Valve locations will be determined and approved by the fire code official.

43) Add subsection 903.6.3 Increased square footage.

Any existing building or structure undergoing construction or alteration which adds square footage exceeding the total floor area as prescribed in Section 903.2, said building shall require an approved automatic fire sprinkler system.

Exception: One and two-family dwellings and manufactured homes adding gross floor area that results in the total floor area of the building where not more than 1,500 GPM fire flow is required within the five-minute fire department emergency response time as defined in Section 202. (1,500 GPM fire flow equals 3,600 square feet in Type V wood frame buildings).

44) Add subsection 907.2.11.5 Smoke alarms.

Upon sale of any residential dwelling and factory-built housing, the seller shall have installed therein, permanently wired or battery powered approved detectors of products of combustion other than heat only, commonly known as smoke detectors. The smoke detectors are required to be State Fire Marshal approved and listed. The seller must obtain certification from the Palm Springs Fire Department of the installation and proper operation prior to close of sale of property. Smoke alarms shall be maintained as originally approved at the time of construction, or remodel.

45) Amend subsection 907.2.13 High-rise buildings.

High-rise buildings and buildings with a floor used for human occupancy located more than 60 feet above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and emergency voice/alarm communication systems in accordance with Section 907.2.12.3.

46) Amend subsection 907.2.19 Deep Underground buildings.

All underground buildings shall be equipped throughout with a manual fire alarm system, including an emergency voice/alarm communication system installed in accordance with section 907.6.2.2

47) Amend subsection 912.2.1 Visible location.

Fire department connections shall be located on the front access side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access or as otherwise approved by the fire code official. The location of fire department connections shall be approved and installed as follows:

1. Within 50 feet of an approved roadway or driveway and arranged so that hose lines can be readily attached to the inlets without interference from any nearby objects including buildings, fences, posts, plantings, or other fire department connections and or otherwise approved by the fire code official.
2. Within 30 feet of an approved hydrant.
3. So that the inlet height shall not be less than 18 inches or more than 48 inches above grade.
4. Guard posts or other approved means may be required to protect fire department inlet connections from vehicular damage.
5. Fire department connection shall not be allowed in the rear of any building.
6. Fire department connections for *NFPA 13R* sprinkler systems shall be determined by the fire code official.

48) Delete "Exception" to subsection 914.2.1 Automatic sprinkler system.

49) Delete "Exception" to subsection 914.3.1 Automatic sprinkler system.

50) Add Section 3310 "Safe and Sane" and Dangerous Fireworks.

51) Add subsection 3310.1 Prohibition to read as follows:

The manufacture, sale, possession, storage, handling or use of "safe and sane" fireworks as currently defined in the *California Health and Safety Code* section 12529 or "dangerous fireworks" as currently defined in the *California Health and Safety Code* section 12505 or thereafter amended by state statute is prohibited in the City of Palm Springs. The provisions of this section do not apply to fireworks

displays conducted in accordance with the provisions of any permit issued by the Palm Springs Fire Department.

52) Add subsection 3310.2 Seizure of fireworks.

Any authorized City of Palm Springs fire code official, peace officer or other city official authorized to enforce the *Palm Springs Municipal Code* may seize, take, remove, or cause to be removed at the expense of the owner all prohibited fireworks and explosives. This will include all persons, firms or corporations, who manufacture, sell, possess, store, handle or use any prohibited fireworks or explosives as currently described in the *California Fire Code* sections 3309 and 3310.

53) Add Section 3311 Explosives.

54) Add subsection 3311.1 Prohibition.

The manufacture, sale, possession, storage, handling or use of non permitted "explosives" as currently defined in *Title 19 of the California Code of Regulations*, Section 1550 or thereafter amended by state law is prohibited in the City of Palm Springs.

55) Add Section 3312 Model Rockets.

56) Add subsection 3312.1 General to read as follows: The storage, handling, and use of model rockets shall be in accordance with *Title 19 of the California Code of Regulations*, Section 1020 *et seq.* and approved by the fire code official.

57) Add #4 to subsection 3404.2.11.2 Location.

4. The installation of underground combustible/flammable liquid tanks is hereby prohibited in all residential districts. The fire official may authorize installation of underground combustible/flammable liquid tanks in agricultural, commercial and manufacturing districts.

58) Amend subsection 3808.1 General.

Fire protection shall be provided for installations having LP-gas storage containers with a water capacity of more than 2,000 gallons.

59) Add subsection 3808.3 New Installation of Liquefied Petroleum Gas.

All new installation of liquefied petroleum gas with an aggregate capacity of 2,000 gallons or more shall be protected by an approved automatic fixed water spray system. The system shall protect the entire surface area of the tank and the cargo tanker transfer area. The system shall be calculated to provide a

minimum density of .25 gallons per minute per square foot with a one-hour duration water supply.

60) Add subsection 4603.8 Increase Hazard Class in Change of Use

An approved fire alarm system shall be installed in existing, non-sprinklered buildings when a change of use occurs resulting in a higher hazard classification than the previous occupancy.

61) DELETE subsection B104.2 in Appendix B.

62) Add Appendix "K" Palm Springs Fire Department Development Guidelines.

63) Add the following language to Appendix "K".

A copy of the Palm Springs Fire Department Development Guidelines is on file with the City Clerk.

64) Add Appendix "L" Palm Springs Fire Department Five Minute Response Time Map.

65) Add the following language to Appendix "L".

The Five-Minute Fire Department Response Time is the time the fire station or response personnel receive notification of a call for emergency service, allowing one-minute for "firefighter turnout" and four-minutes for travel on paved streets. The map, the Palm Springs Fire Department five-minute response time for emergency service, is on file with the City Clerk.

66) Add Appendix "M" City of Palm Springs Fire Hazard Severity Zone Map.

**SECTION 2. SEVERABILITY.** If any section, subsection, clause or phrase of this ordinance is for any reason held by a court of competent jurisdiction to be invalid, such a decision shall not affect the validity of the remaining portions of this ordinance. The City Council of the City of Palm Springs, hereby declares that it would have passed this ordinance and each section of subsection, sentence, clause and phrase thereof, irrespective of the clauses or phrases being declared invalid.

**SECTION 3. OPERATIVE DATE.** The provisions of this Ordinance shall become operative on January 1, 2011.

**SECTION 4. EFFECTIVE DATE.** This ordinance shall be in full force and effective thirty (30) days after passage.

SECTION 5. PUBLICATION. The City Clerk is hereby ordered and directed to certify to the passage of this Ordinance, and to cause the same or a summary thereof to be duly prepared according to law, to be published in accordance with law.

PASSED, APPROVED, AND ADOPTED THIS, \_\_\_\_ DAY OF \_\_\_\_\_, NEW YEAR.

\_\_\_\_\_  
STEPHEN P. POUCKET, MAYOR

ATTEST:

\_\_\_\_\_  
JAMES THOMPSON, CITY CLERK

CERTIFICATION

STATE OF CALIFORNIA )  
COUNTY OF RIVERSIDE ) ss.  
CITY OF PALM SPRINGS )

I, JAMES THOMPSON, City Clerk of the City of Palm Springs, California, do hereby certify that Ordinance No. \_\_\_\_ is a full, true, and correct copy, and was introduced at a regular meeting of the Palm Springs City Council on \_\_\_\_\_ and adopted at a regular meeting of the City Council held on \_\_\_\_\_ by the following vote:

AYES:  
NOES:  
ABSENT:  
ABSTAIN:

\_\_\_\_\_  
James Thompson, City Clerk  
City of Palm Springs, California

RESOLUTION NO.

OF THE CITY COUNCIL OF THE CITY OF PALM SPRINGS, CALIFORNIA, FINDING THAT CERTAIN LOCAL CONDITIONS REQUIRE AMENDMENTS, ADDITIONS AND DELETIONS TO THE CALIFORNIA BUILDING CODE, 2010 EDITION, THE CALIFORNIA RESIDENTIAL CODE, 2010 EDITION, THE CALIFORNIA PLUMBING CODE, 2010 EDITION THE CALIFORNIA ELECTRICAL CODE, 2010 EDITION AND THE 2010 CALIFORNIA MECHANICAL CODE AND THE 2010 CALIFORNIA FIRE CODE.

WHEREAS, the City Council is considering adoption of the 2010 edition of the California Building Code, California Residential Code, California Mechanical Code, California Plumbing Code, California Electrical Code, California Fire Code.

WHEREAS, modifications and changes of certain provisions in said Codes are considered reasonably necessary due to local conditions; and

WHEREAS, California Health and Safety Code Sections 17958, 17958.5 and 17958.7 govern the adoption by local governments of the various codes and certain provisions of other ordinances pertaining to methods of housing construction and said provisions require, among other things, that the adopting local government make express findings that such modifications and changes are needed before enacting said modifications and changes; and

WHEREAS, express findings of need due to local conditions have been determined by the City Council in the case of each modification and change of the Codes herein referred to.

THE CITY COUNCIL OF THE CITY OF PALM SPRINGS DOES HEREBY RESOLVE:

SECTION 1. That the set of express findings entitled "Express findings in connection with City of Palm Springs' amendments, deletions and additions to the California Building Standards Code (2010 editions of the California Building, Residential, Mechanical, Plumbing and Electrical Codes). Attached to this Resolution as Exhibit "A" and the set of express findings entitled "Express findings in connection with the City of Palm Springs amendments deletions and additions to the 2010 edition of the California Fire Code attached to this Resolution as Exhibit "B", shall constitute the official set of express findings of need for changes as

required by California Health and Safety Code Sections 17958, 17958.5 and 17958.7.

SECTION 2. The City Clerk shall forward directly to the California Building Standards Commission for filing therewith, a certified copy of this Resolution.

ADOPTED THIS 3rd day of November, 2010

David H. Ready, City Manager

ATTEST:

James Thompson, City Clerk

CERTIFICATION

STATE OF CALIFORNIA )  
COUNTY OF RIVERSIDE ) ss.  
CITY OF PALM SPRINGS )

I, JAMES THOMPSON, City Clerk of the City of Palm Springs, hereby certify that Resolution No. \_\_\_\_\_ is a full, true and correct copy, and was duly adopted at an adjourned meeting of the City Council of the City of Palm Springs on the 3<sup>rd</sup> day of November, 2010 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

James Thompson, City Clerk  
City of Palm Springs, California

## EXHIBIT "A"

A SUMMARY OF THE EXPRESS FINDINGS FOR LOCAL AMENDMENTS MADE TO THE CALIFORNIA BUILDING STANDARDS CODE 2010 EDITION, AS APPLICABLE TO CLIMATIC, TOPOGRAPHICAL, AND GEOLOGICAL CONDITIONS ONLY, ARE SET FORTH HEREIN.

### Section 1. Findings.

A. Climatic Conditions: Palm Springs has an arid desert climate with annual rainfall of is less than 6 inches. There are more than one hundred days a year when temperatures are 100 degrees or more. Hot, dry winds during the summer months along with seasonal Santa Ana winds are common to Palm Springs. These winds constitute a contributing factor which causes small fires originating in high density developments presently being constructed in Palm Springs, which spread quickly and create the need for an increased level of fire protection. This added protection, including, but not limited to, on-site fire protection systems, will supplement normal fire department response available in new development and provide immediate fire protection for life and safety of occupied single and multiple-occupancy buildings during fire occurrence;

### B. Geologic and Topographic:

1. Palm Springs is located in the desert that contains mountains, brush, and covered wild lands. Elevation ranges from 479 feet in the central business district 4,000 feet in the mountains in the most Southern boundaries of the city limits. Topography extends from flat to 15% slope for habitable land. Traffic and circulation congestion in the urban areas to buildings located in the commercial areas in the most Northern and Eastern boundaries of the city limits often place fire department response time to emergencies at risk. This condition makes the need for enhanced on-site fire protection systems for property occupants necessary; and
2. The San Andreas Fault is a major earthquake fault located only a few miles north of Palm Springs. In addition, there are numerous minor faults located throughout Riverside County which are subject to earthquakes. In addition, Palm Springs is subjected to high wind conditions, blowing sand, flooding, landslides and wildfires. The placement of existing and new development buildings along with fire department staffing constraints have made it difficult for the fire department to locate additional fire stations. These constraints challenge current staffing to concentrate fire companies and personnel to control fires in single and multi-story retail buildings, commercial, and industrial buildings, making enhanced, built-in fire protection systems necessary.

## Section 2. Code Amendments

HEADINGS ARE SHOWN IDENTIFYING EACH SPECIFIC CODE AFFECTED.

EACH MODIFICATION OR CHANGE OF A CODE PROVISION IS SUMMARIZED, FOLLOWED BY AN EXPRESS FINDING SO DESIGNATED.

### THE CALIFORNIA BUILDING CODE, 2010 EDITION

Express Finding for Subsections 903 and 903.2: These modifications require sprinkler systems in buildings at occupancy levels lower than those stipulated in the California Building Code. The active earthquake fault system that is located near this community possesses the capability of initiating a disaster that would quickly overrun the Fire Department's current resources. Providing additional built-in fire protection for the buildings allows more fires to be automatically extinguished without Fire Department assistance if a major earthquake were to occur.

Express Finding for Section 1207.1: This modification provides a minimum noise insulation performance standard to protect persons within detached single family dwellings from the effects of excessive noise which are located within the airport 'N' zone overlay.

Express Finding for Section 1505: This provision prohibits the use of untreated wood shingle or shakes roofs. Local fire conditions of high winds, high temperatures, and low humidity contribute to a local fire conflagration or problem. Lateral extension of fire between structures, which results from fire ignition of combustible roofs or surrounding areas, is a serious local concern.

Express Finding for Section 1509: This provision requires that, at the time of reroofing, rooftop equipment be provided with a six inch high platform with sheet metal cap, when not already present. Due to the extreme heat experienced in desert areas, reroofing is required more frequently than under normal conditions. Equipment platforms allow reroofing to take place without removing and reinstalling rooftop equipment, thereby reducing damage to that equipment and associated ductwork and electrical wiring.

Express Finding for Appendix J. Grading, Sections J 104.1 and 104.2: All modifications listed here apply to excavation and grading and consist of eliminating exemptions from permit controls, requiring a showing of method of dust control, and reducing the scope of "required" grading from 5,000 to 2,000 cubic yards (unless excepted). All of the above are deemed reasonable and necessary due to the fragile nature of the typical desert area topography and ultra-dry climate. The desert "crust" is thin and surface disturbances remain as

potential "sand blow" problems for a considerable period of time if abandoned without proper continuing attention. The problem may become completely out of control should a windstorm take place in an area where there has been insufficient watering.

#### THE CALIFORNIA RESIDENTIAL CODE, 2010 EDITION

Express Finding for subsection R313.1.2 and R313.2.2: These modifications require sprinkler systems. The active earthquake fault system that is located near this community possesses the capability of initiating a disaster that would quickly overrun the Fire Department's current resources. Providing additional built-in fire protection for the buildings allows more fires to be automatically extinguished without Fire Department assistance if a major earthquake were to occur.

Express Finding for subsection 801.2: This provision requires that, at the time of reroofing, rooftop equipment be provided with a six inch high platform with sheet metal cap, when not already present. Due to the extreme heat experienced in desert areas, reroofing is required more frequently than under normal conditions. Equipment platforms allow reroofing to take place without removing and reinstalling rooftop equipment, thereby reducing damage to that equipment and associated ductwork and electrical wiring.

Express Finding for subsections 905.7 and 905.8: This provision prohibits the use of untreated wood shingle or shakes roofs. Local fire conditions of high winds, high temperatures, and low humidity contribute to a local fire conflagration or problem. Lateral extension of fire between structures, which results from fire ignition of combustible roofs or surrounding areas, is a serious local concern.

#### THE CALIFORNIA ELECTRICAL CODE, 2007 EDITION

Express Finding for Subsection 90-8(A) - Service Load: This provision establishes standards which provide additional service capacity and distribution center spaces to allow for future additions requiring increased use of electricity. Reserve capacity and distribution center spaces are considered necessary due to increased electrical demand associated with special air conditioning and other requirements due to the extremes of temperature prevalent in desert areas.

Express Finding for Subsection 310-2(B) - Aluminum Conductor Limitations: This provision establishes limitation concerning the use of aluminum conductors. These more stringent requirements are established to minimize the fire hazard caused by the inherent characteristics of aluminum wiring under the extremes of temperature prevalent in desert areas.

## EXHIBIT "B"

### EXPRESS FINDINGS IN CONNECTION WITH CITY OF PALM SPRINGS' AMENDMENTS, DELETIONS AND ADDITIONS TO THE 2010 EDITION OF THE CALIFORNIA FIRE CODE.

A SUMMARY OF THE EXPRESS FINDINGS FOR LOCAL AMENDMENTS MADE TO THE CALIFORNIA FIRE CODE, AS APPLICABLE TO CLIMATIC, TOPOGRAPHICAL, AND GEOLOGICAL CONDITIONS ONLY, ARE SET FORTH HEREIN.

#### Section 1. Findings.

C. Climatic Conditions: Palm Springs has an arid desert climate with annual rainfall of is less than 6 inches. There are more than one hundred days a year when temperatures are 100 degrees or more. Hot, dry winds during the summer months along with seasonal Santa Ana winds are common to Palm Springs. These winds constitute a contributing factor which causes small fires originating in high density developments presently being constructed in Palm Springs, which spread quickly and create the need for an increased level of fire protection. This added protection, including, but not limited to, on-site fire protection systems, will supplement normal fire department response available in new development and provide immediate fire protection for life and safety of occupied single and multiple-occupancy buildings during fire occurrence;

#### D. Geologic and Topographic:

1. Palm Springs is located in the desert that contains mountains, brush, and covered wild lands. Elevation ranges from 479 feet in the central business district 4,000 feet in the mountains in the most Southern boundaries of the city limits. Topography extends from flat to 15% slope for habitable land. Traffic and circulation congestion in the urban areas to buildings located in the commercial areas in the most Northern and Eastern boundaries of the city limits often place fire department response time to emergencies at risk. This condition makes the need for enhanced on-site fire protection systems for property occupants necessary; and
2. The San Andreas Fault is a major earthquake fault located only a few miles north of Palm Springs. In addition, there are numerous minor faults located throughout Riverside County which are subject to earthquakes. In addition, Palm Springs is subjected to high wind conditions, blowing sand, flooding, landslides and wildfires. The placement of existing and new development buildings along with fire department staffing constraints have made it difficult for the fire department to locate additional fire stations. These

constraints challenge current staffing to concentrate fire companies and personnel to control fires in single and multi-story retail buildings, commercial, and industrial buildings, making enhanced, built-in fire protection systems necessary.

Section 2. Code Amendments.

Amendments to the 2010 Editions of the California Fire Code are found reasonably necessary based on the climatic and/or geographic conditions cited in Section 1 of this Resolution and are listed as follows:

<u>Code Section</u>	<u>Findings in Section 1</u>
101	Climatic, Topographic
103	Climatic, Topographic
109	Climatic, Topographic
111	Climatic, Topographic
202	Climatic, Geologic #2
318	Climatic, Geologic #2
503	Climatic
506	Climatic, Geologic #2
508	Topographic #2
510	Geologic #1 & #2
901	Geologic #2
903	Climatic, Geologic #2
907	Climatic, Geologic #2
912	Climatic, Geologic #2
914	Climatic, Geologic #2
3310	Geologic #2
3311	Geologic #2
3312	Climatic
3404	Climatic
3808	Climatic
4603	Climatic, Geologic #2
Appendix B	Climatic, Geologic #2
Appendix K	Climatic, Geologic #2
Appendix L	Climatic, Geologic #2
Appendix M	Climatic

The aforementioned amendments have been incorporated in detail in Ordinance  
No. \_\_\_\_\_.

Adopted this \_\_\_ day of

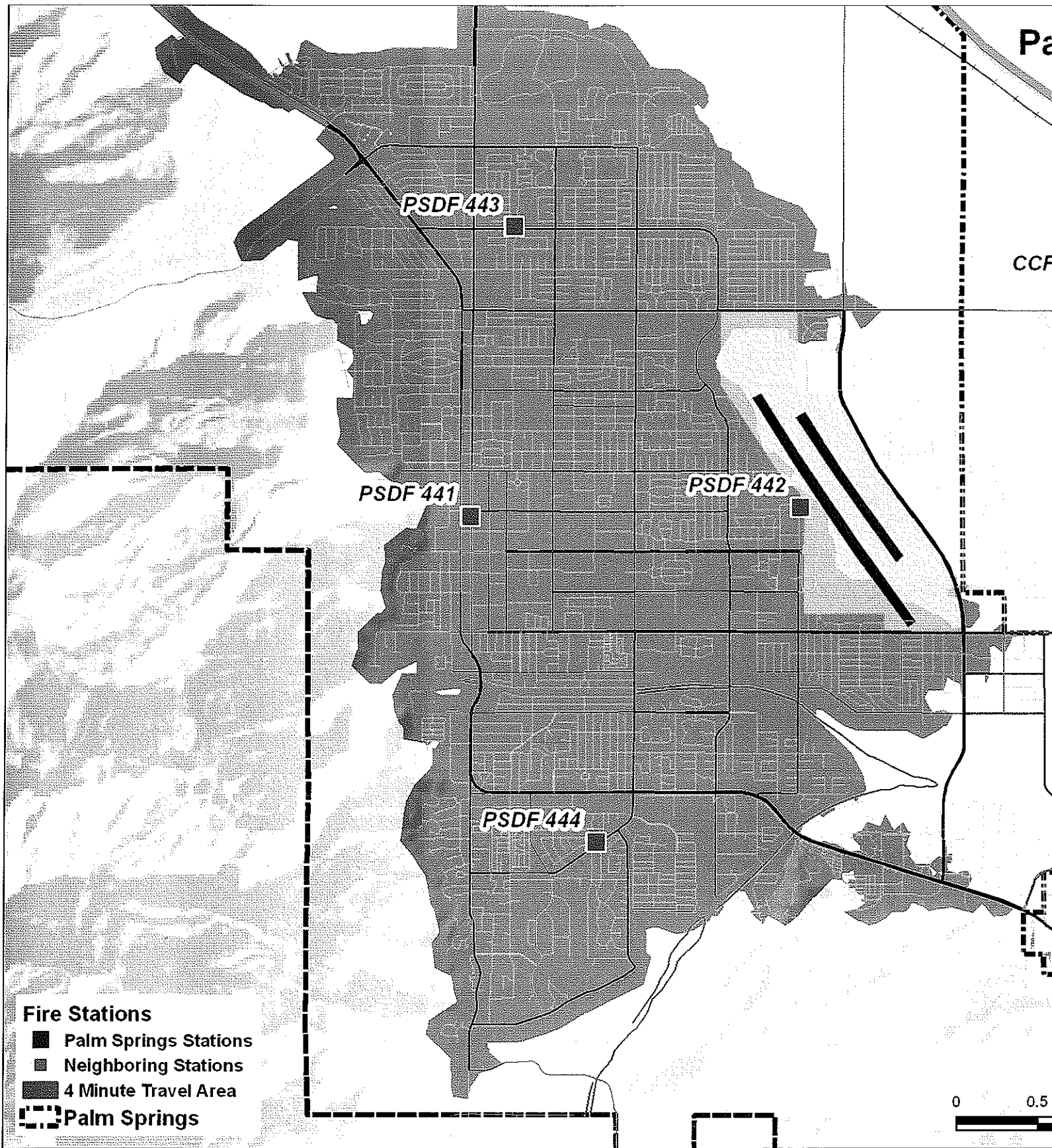
AYES:  
NOES:  
ABSENT:

ATTEST: CITY OF PALM SPRINGS, CALIFORNIA

By \_\_\_\_\_

City Clerk City Manager

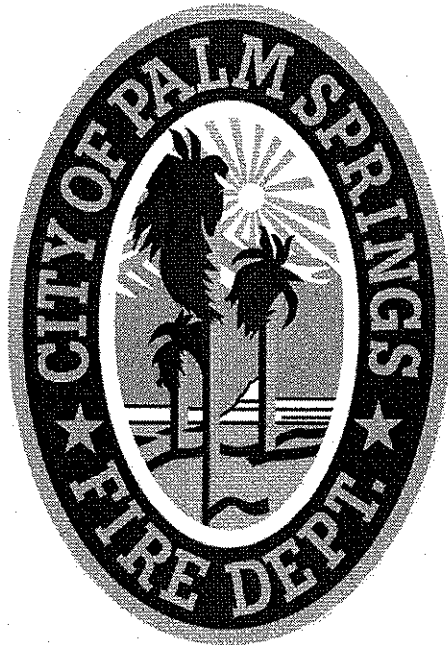
REVIEWED & APPROVED \_





2010 California Fire Code  
Appendix K

## PALM SPRINGS FIRE DEPARTMENT DEVELOPMENT GUIDELINES



PALM SPRINGS FIRE DEPARTMENT  
300 NORTH EL CIELO ROAD  
PALM SPRINGS, CA, 92262

### FIRE PREVENTION BUREAU CONTACTS

DEPUTY CHIEF/FIRE MARSHAL	SCOTT VENTURA	(760) 323-8187	<a href="mailto:scott.ventura@palmspringsca.gov">scott.ventura@palmspringsca.gov</a>
PLANS EXAMINER II	BOB ROSE	(760) 323-8184	<a href="mailto:robert.rose@palmspringsca.gov">robert.rose@palmspringsca.gov</a>
FIRE PREVENTION SECRETARY	JANET VINES-MOTT	(760) 323-8186	<a href="mailto:janet.vines-mott@palmspringsca.gov">janet.vines-mott@palmspringsca.gov</a>

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## SCOPE

This guideline has been developed to assist development applicants, architects and contractors in determining the minimum requirements for fire protection systems, emergency access/gates, and fire apparatus access roads. It will provide the minimum design, installation, testing, and inspection procedures in the City of Palm Springs based on the following:

- Palm Springs Municipal Code, Chapter 8.04 of Title 8 and Chapter 11.02 of Title 11.
- California Fire Code 2010 Edition – CCR Title 24, Part 9, adopted as hereinafter modified including Appendix Chapter 4, Appendix A, B, BB, C, CC, E, F, G and H, I, J, K and L.
- California Code of Regulations (CCR) - Title 19.
- California Building Code 2010 Edition - CCR Title 24, Part 2.
- FM – Factory Mutual Global
- National Fire Protection Association Standards - adopted and/or most recent Editions including but not limited to:

NFPA 11:	Standard for Low-, Medium-, and High-Expansion Foam
NFPA 12:	Standard on Carbon Dioxide Extinguishing Systems
NFPA 12A:	Standard on Halon 1301 Fire Extinguishing Systems
NFPA 13:	Standard for the Installation of Sprinkler Systems
NFPA 13D:	Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes
NFPA 13R:	Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height
NFPA 14:	Standard for the Installation of Standpipe and Hose Systems
NFPA 15:	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16:	Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems
NFPA 17:	Standard for Dry Chemical Extinguishing Systems
NFPA 17A:	Standard for Wet Chemical Extinguishing Systems
NFPA 20:	Standard for the Installation of Stationary Pumps for Fire Protection
NFPA 22:	Standard for Water Tanks for Private Fire Protection
NFPA 24:	Standard for the Installation of Private Fire Service Mains and their Appurtenances
NFPA 25:	Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
NFPA 30:	Flammable and Combustible Liquids Code
NFPA 30A:	Code for Motor Fuel Dispensing Facilities and Repair Garages
NFPA 30B:	Code for the Manufacture and Storage of Aerosol Products
NFPA 32:	Standard for Drycleaning Plants
NFPA 33:	Standard for Spray Application Using Flammable or Combustible Materials
NFPA 37:	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

- NFPA 51: Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes
- NFPA 51B: Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
- NFPA 52: Vehicular Gaseous Fuel Systems Code
- NFPA 54: National Fuel Gas Code
- NFPA 55: Compressed Gases and Cryogenic Fluids Code
- NFPA 58: Liquefied Petroleum Gas Code
- NFPA 59A: Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)
- NFPA 72: National Fire Alarm Code®
- NFPA 80: Standard for Fire Doors and Other Opening Protectives
- NFPA 86: Standard for Ovens and Furnaces
- NFPA 88A: Standard for Parking Structures
- NFPA 92B: Standard for Smoke Management Systems in Malls, Atria, and Large Spaces
- NFPA 96: Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
- NFPA 110: Standard for Emergency and Standby Power Systems
- NFPA 111: Standard on Stored Electrical Energy Emergency and Standby Power Systems
- NFPA 140: Standard on Motion Picture and Television Production Studio Soundstages, Approved Production Facilities, and Production Locations
- NFPA 160: Standard for the Use of Flame Effects Before an Audience
- NFPA 204: Standard for Smoke and Heat Venting
- NFPA 221: Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls
- NFPA 232: Standard for the Protection of Records
- NFPA 241: Standard for Safeguarding Construction, Alteration, and Demolition Operations
- NFPA 400: Hazardous Materials Code
- NFPA 407: Standard for Aircraft Fuel Servicing
- NFPA 409: Standard on Aircraft Hangars
- NFPA 410: Standard on Aircraft Maintenance
- NFPA 434: Code for the Storage of Pesticides
- NFPA 520: Standard on Subterranean Spaces
- NFPA 560: Standard for the Storage, Handling, and Use of Ethylene Oxide for Sterilization and Fumigation
- NFPA 664: Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities
- NFPA 704: Standard System for the Identification of the Hazards of Materials for Emergency Response
- NFPA 720: Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment
- NFPA 731: Standard for the Installation of Electronic Premises Security Systems
- NFPA 750: Standard on Water Mist Fire Protection Systems
- NFPA 853: Standard for the Installation of Stationary Fuel Cell Power Systems
- NFPA 909: Code for the Protection of Cultural Resources Properties - Museums, Libraries, and Places of Worship
- NFPA 914: Code for Fire Protection of Historic Structures
- NFPA 1123: Code for Fireworks Display
- NFPA 1126: Standard for the Use of Pyrotechnics Before a Proximate Audience
- NFPA 1141: Standard for Fire Protection Infrastructure for Land Development in Suburban and Rural Areas
- NFPA 1142: Standard on Water Supplies for Suburban and Rural Fire Fighting

NFPA2001: Standard on Clean Agent Fire Extinguishing Systems

- UL – Underwriters Laboratories Inc.

The Authority Having Jurisdiction in determining compliance with the above codes and standards shall be the Palm Springs Fire Department. The fire code official may waive or modify these requirements based on unforeseen circumstances or other mitigating factors.

## **WATER AGENCY/DISTRICT CONTACTS SERVICING PALM SPRINGS**

<u>Service Area</u>	<u>Service Area</u>
<b>Palm Springs south of Interstate 10</b>	<b>Palm Springs north of Interstate 10</b>
<b>Desert Water Agency</b> 1200 S. Gene Autry Trail Palm Springs, CA 92264 (760) 323-4971 <a href="http://www.dwa.org">www.dwa.org</a>	<b>Mission Springs Water District</b> 66575 2 <sup>nd</sup> Street Desert Hot Springs, CA 92240 (760) 329-6448 <a href="http://www.ms wd.org">www.ms wd.org</a>

### **1.0 WATER AGENCY/DISTRICT REQUIREMENTS**

- 1.1 Contractors or developers will contact the Water Agency/District and request the following information to facilitate designing private fire service mains and fire sprinkler systems:
- Water service size, material type and schedule.
  - Length of service, fittings and valves installed.
  - Water meter manufacturer, model and size (if fire service is metered)
  - Backflow manufacturer, model, size and arrangement.
- 1.2 The Water Agency/District will assist the Fire Prevention Bureau in providing flow information for water mains or fire hydrants:
- Static pressures.
  - Dynamic/residual pressures.
  - Gallons per minute.
  - Water main size and configuration.
  - Fire Hydrant Identification Numbers used in testing and street address or location description. Indicate Fire Hydrant Identification Number where pressure readings were taken.
  - The Fire Prevention Bureau attempts to conduct water flow capability tests and static pressure readings once each week with a Water Agency/District representative. Contractors are required to call 760-323-8186 to request water hydrant flow tests and static pressure readings.

**2.0 PLANS AND PERMITS**

2.1 When there are significant changes in occupancy, water supply, storage heights, type and quantity of storage, storage configurations, Tenant Improvements or any other changes which may affect the fire sprinkler system design, the owner, tenant or contractor shall submit plans and secure permits.

2.2 Complete plans for private fire service mains or fire sprinkler systems should be submitted for approval well in advance of installation. Plan reviews can take up to 20 working days. Submit a minimum of four (4) sets of drawings for review. Upon approval, the Fire Prevention Bureau will retain two sets.

2.3 Plans shall be submitted to:

**City of Palm Springs  
Building and Safety Department  
3200 E. Tahquitz Canyon Way  
Palm Springs, CA 92262**

**Counter Hours: Monday - Thursday, 8:00 AM – 11:00AM & 2:00 PM – 6:00 PM**

A minimum \$208.00 deposit for Plan Check and Inspection Fees is required at the time of Plan Submittal. The final fee is based on fees established by Resolution of the Palm Springs City Council.

2.4 Complete listings and manufacturer's technical data sheets for all system materials shall be included with plan submittals. All system materials shall be UL listed or FM approved for fire protection service and approved by the Fire Prevention Bureau prior to installation.

2.5 Plans shall indicate all necessary engineering features, including all hydraulic reference nodes, pipe lengths and pipe diameters as required by the appropriate codes and standards. Plans and supportive data (calculations and manufacturer's technical data sheets) shall be submitted with each plan submittal. Complete and accurate legends for all symbols and abbreviations shall be provided on the plans.

The contractor shall submit a copy of their California Contractors License, Workers Compensation Insurance Certificate and Palm Springs Business License with each submittal. Contractors License and Workers Compensation Insurance shall be verified with the Contractor's License Board. The following contractors shall install the appropriate system components:

- (A) General Engineering Contractor.
- (C-16) Fire Protection Contractor.
- (C-34) Pipeline Contractor.
- (C-36) Plumbing Contractor.

2.6 "As Built Drawings and Calculations" will be required when there is a significant deviation from approved drawings and calculations.

2.7 The Fire Prevention Bureau will determine the fire flow requirements, number of fire hydrants, and hydrant spacing.

**3.0 PRIVATE FIRE SERVICE MAIN**

3.1 NFPA 24 shall establish the minimum requirements for the installation of private fire service mains and their appurtenances supplying automatic sprinkler systems, open sprinkler systems, water spray fixed systems, foam systems, private hydrants, monitor nozzles or standpipe systems with reference to water supplies, private hydrants and hose houses.

3.2 Private fire service mains shall be not less than eight (8) inches in diameter when serving private fire hydrants and fire sprinkler systems.

3.3 Piping with a minimum rating of class 200 installed to NFPA 24 standards is required for all private fire service mains.

3.4 All thrust blocks on private fire service mains, private fire hydrant lines and fire sprinkler laterals shall be calculated as required by NFPA 24, or use Water Agency/District Drawings. Calculations shall be submitted and the resulting dimensions of thrust blocks shall be shown on the plans. Restrained Joint Systems are allowed in lieu of thrust blocks. Minimum design working pressure shall be 200 PSI. Special design considerations may be required with high static pressures or lines in which fire pumps are installed.

3.5 Private fire service mains when supplying three (3) or more fire hydrants shall be designed with a looped water supply.

3.6 In order to isolate the fire sprinkler underground lateral from any private fire hydrant system, a non-indicating listed underground gate valve with an approved roadway box shall be required.

3.7 Non-indicating listed underground gate valves with approved roadway boxes shall be required to sectionalize no more than two commercial buildings, three residential buildings or two private fire hydrants in private fire service mains. Any deviation will require the Fire Prevention Bureau approval.

3.8 On site fire hydrants and Fire Department Connections located less than three (3) feet behind the face of a curb or when no curb is provided shall be protected by guard posts set in concrete to the following specifications:

- Constructed of steel not less than 4 inches in diameter and concrete filled.
- Spaced not more than 4 feet between posts on center.
- Set not less than 3 feet deep in a concrete footing of not less than a 15-inch diameter.
- Set with the top of the posts not less than 3 feet above ground.
- Located not less than 3 feet from the fire hydrants, post indicator valves and Fire Department connections.
- All guard posts shall be painted yellow. (Rust-Oleum safety yellow #2149 or equivalent).

- 3.9 The installing contractor shall provide a completed **"Contractors Material & Test Certificate for Underground Piping"** as required by NFPA 24 (2010 edition).

#### **Double Check Detector Assemblies (Private)**

- 3.10 All Double Check Detector Assemblies shall be UL listed/FM approved for fire protection service in compliance with NFPA 24.
- 3.11 All Double Check Detector Assemblies shall be installed with two tamper switches and electrically monitored at a UL listed central station service, when there are:
- 20 or more fire sprinkler heads.
  - Fire sprinkler monitoring, fire alarm or security systems are installed.
- 3.12 All Double Check Detector Assemblies shall be provided with a chain and breakaway security lock. A key shall be kept in the spare sprinkler head box and KNOX key box.
- 3.13 Reduced pressure zone assemblies or reduced pressure detector assemblies shall not be installed in private fire service mains and fire sprinkler systems.

#### **Fire Department Connections**

- 3.14 Fire Department Connections shall be installed at apparatus access roads in locations approved by the Fire Prevention Bureau. Check with the Fire Prevention Bureau prior to plan submittal. The Fire Department Connection shall extend between 30" and 36" above finished grade.
- 3.15 Fire Department Connections shall be visible, accessible, and installed in approved locations downstream of all Double Check Detector Assemblies. Fire Department connections shall be located within 30 feet of a public fire hydrant. Exceptions may be made by the fire code official.
- 3.16 Fire Department Connections shall be equipped with KNOX locking protective caps. Contact the Fire Prevention Bureau Secretary at (760) 323-8186 for a KNOX Application Form.
- 3.17 When the total sprinkler system demand, including hose allowance, is less than 1,000 G.P.M., the Fire Department Connection riser shall be 4" in nominal diameter and shall have a standard 2-way threaded 2 ½" connection.
- 3.18 When the total sprinkler system demand, including hose allowance, is 1,000 GPM to 1,199 G.P.M., the Fire Department Connection riser shall be 6" in nominal diameter and shall have a standard 3-way threaded 2 ½" connection.
- 3.19 When the total sprinkler system demand, including hose allowance, is greater than 1,200 G.P.M., the Fire Department Connection riser shall be 6" in nominal diameter and shall have a standard 4-way threaded 2 ½" connection.
- 3.20 In a building complex, where two or more buildings are served, or identification of which building is served by separate Fire Department Connections; the Fire Prevention Bureau will require signs of substantial construction to be posted at each Fire Department

Connection identifying the respective buildings served. The minimum letter size shall be 1" on a contrasting background.

- 3.21 Fire Department Connections shall be painted red (Rust-Oleum Safety Red # 2163 or equivalent).
- 3.22 Fire Department Connection piping shall be ductile iron from the private fire service main to the Fire Department Connection check valve above ground. The pipe from the Fire Department Connection check valve to the Fire Department Connection shall be galvanized steel pipe. The NFPA 13R Fire Department Connection piping shall be copper from the private fire service main.

### **Fire Hydrants (Private)**

- 3.23 Commercial fire hydrants with 4" x 2 1/2" x 2 1/2" outlets are required when fire flow demand is 1,500 GPM or greater. Residential fire hydrants with 4" x 2 1/2" outlets are required when the fire flow demand is less than 1500 GPM. Existing residential fire hydrants that are located within 250' of a residential property line do not need to be upgraded to commercial fire hydrants if that hydrant/s can provide the required fire flow.
- 3.24 Private fire hydrants shall be painted red (Rust-Oleum Safety Red # 2163 or equivalent).
- 3.25 Blue reflective markers shall be installed to identify location of fire hydrants. These markers shall be visible from both directions of vehicle travel.
- 3.26 Hydraulic calculations shall be provided for all private fire hydrant systems. Calculations shall be calculated back to the point of the flow test. The fire hydrant system shall meet the fire flow requirements as required by the California Fire Code (2010 Edition).
- 3.27 When the private fire service main serves both fire sprinkler system(s) and private fire hydrant(s), the hydraulic calculation shall include the fire hydrant flow rate with associated private fire hydrant(s) and fire sprinkler flow rate for a minimum design of 20 PSI residual pressure for the fire hydrant (s).

### **Water Plans and Water Main Installation (Private)**

- 3.28 Provide the following notes on private the fire service water main plans:

#### ***FIRE DEPARTMENT NOTES:***

1. *The installation of the private fire service mains shall comply with:*
  - *NFPA 24*
  - *California Building Code (2010 Edition).*
  - *California Fire Code (2010 Edition).*
  - *Palm Springs Fire Prevention Development Guidelines, Appendix K*
2. *No combustibles shall be delivered to building job site prior to the water mains and fire hydrants being operational.*
3. *The following inspections are required:*
  - *Thrust block pre-pour, trench, and backfill inspection.*
  - *Underground hydrostatic test - 200 PSI for two hours.*

- *Underground flush.*
- *Underground final. A completed and signed "Contractors Material & Test Certificate for Underground Piping" form per NFPA 24 (2010 Edition)*
- *All inspections will be conducted on Tuesdays or Thursdays. Sprinkler contractors must request inspections through the project Superintendents.*

**TO SCHEDULE INSPECTIONS CALL the Fire Prevention Bureau at (760) 323-8186 AT LEAST 48 HOURS PRIOR TO THE REQUESTED INSPECTION DATE AND TIME.**

4. *All Double Check Detector Assemblies shall be installed with two tamper switches and electrically monitored at a UL listed central receiving station service, when there are:*
  - *20 or more fire sprinkler heads.*
  - *Fire alarms or security systems installed.*
5. *Ductile iron underground piping shall be installed beginning five feet from a building and continue into the building.*
6. *No joints shall be installed under the building.*
7. *The civil engineer who designed the water system hereby certifies that this water system is in accordance with the requirements as prescribed by the Fire Prevention Bureau, the California Fire Code (2010 Edition) and NFPA 24.*
8. *Breakaway spools or breakaway bolts are required.*

#### **4.0 FIRE SPRINKLER SYSTEMS - NFPA 13**

##### **Controls**

- 4.1 All control valves shall be UL Listed indicating valves.
- 4.2 All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures, and water-flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit and monitored at a UL listed central station service.
- 4.3 An approved audible sprinkler flow alarm (Wheelock horn/strobe with WBB back box or equal) shall be provided on the exterior of the building in an approved location. A second horn/strobe shall be installed in the interior of the building in a normally occupied location. In multiple suite buildings, additional interior horn/strobes shall be installed in all suites with 50 or more occupant load. Power shall be provided from a fire alarm control unit.
- 4.4 A dedicated electrical circuit with a circuit breaker lock shall be required for the listed fire alarm control unit.

### **Fire Sprinkler Risers (NFPA 13)**

- 4.5 When more than one fire sprinkler riser is served by a single private fire service main lateral, a separate system riser with a UL Listed indicating control valve, riser check valve and water flow indicator is required for each fire sprinkler riser.
- 4.6 In multi-story buildings, each floor shall have a sectional riser with a UL Listed indicating control valve, riser check valve and water flow indicator.
- 4.7 In order to provide access to the riser for future maintenance and repair, all fire sprinkler system riser locations shall provide with a minimum 18" clearance to each side and to the front of the riser. If a riser is to be concealed by means of a wall or closet, access to the riser shall be provided by means of a door with minimum dimensions of 2'-6" x 6'-8".

### **Piping and Hangers (NFPA 13)**

- 4.8 Threaded steel pipe shall have a minimum wall thickness of "Dyna-Thread" or Schedule 30 for branch lines less than 2 1/2" and Schedule 40 for all other piping.
- 4.9 Rolled groove and welded steel pipe shall have a minimum wall thickness of Schedule 10.
- 4.10 The discharge area for the main drain and inspector's test valve shall be protected with a concrete splash pad to prevent damage to landscaping during periodic testing or other appropriate means.
- 4.11 Trapeze hangers shall be installed according to NFPA 13. The acceptable trapeze methods as outlined in NFPA 13 shall be Schedule 10, Schedule 40 or angles. All other methods will not be accepted unless a structural engineer or the architect of record provides to the Fire Prevention Bureau calculations and diagrams wet stamped and signed for each application.
- 4.12 Where a beam or joist thickness will not accommodate a fastener of a required length, a through bolt with the required diameter of the bolt and washer will be acceptable. All-thread rod is not acceptable for the required bolt.
- 4.13 Lag bolts and screws are not acceptable for seismic bracing.
- 4.14 Seismic sway bracing shall use Schedule 40 pipe as a minimum.

### **Design (NFPA 13)**

- 4.15 For commercial and industrial "Shell Buildings", with the potential for high-pile storage and/or wherein no specific end use is identified at the time of plan check, the sprinkler system shall provide a minimum density of .45 GPM/square foot for a 2,000 square foot design area. 286 deg. F sprinkler heads shall be used in these buildings. Roof coverage over mezzanine areas shall also be built to this standard. Any deviation from this requirement will require the Fire Prevention Bureau approval.

- 4.16 It is incumbent upon the sprinkler system designer to advise the building owner that the above density and design area are minimums for shell buildings; and that increases in sprinkler protection may be required based on future occupancy hazard classification, storage commodity classification, and storage configuration according to NFPA 13 and the California Fire Code (2010 Edition).
- 4.17 When a shell building is built without a hard lid or T-bar ceiling, the upright fire sprinklers shall be designed to the unfinished ceiling height and the density and design area for the required floor area.
- 4.18 Fire sprinkler design shall be limited to 90 percent of the available water supply.
- 4.19 *Non-combustible construction* shall be as defined by the California Building Code (2010 Edition). Wood frame construction shall be considered combustible construction regardless of materials used for surface covering.
- 4.20 Sprinklers with a temperature rating of not less than an intermediate temperature rating are required in all main electrical panel and meter rooms. No combustible materials shall be stored in these rooms.
- 4.21 Light fixtures, soffits and other potential obstructions shall not interfere with the spray patterns of fire sprinklers. The sprinkler contractor shall insure that the type and location of potential obstructions is considered in the design and installation of the system. The sprinkler contractor is responsible for coordinating and resolving conflicts in coverage patterns.
- 4.22 Fire sprinklers shall not be installed directly below automatic smoke and heat vents.
- 4.23 Inspector Test valve access panels and doors to fire sprinkler riser rooms shall have a signs with an appropriate description.
- 4.24 All electrical rooms, upright sprinklers at the roof or in the attic space, non-conditioned rooms or exterior sprinkler heads shall be 200 – 212 degree Fahrenheit heads.
- 4.25 If the attic space is less than 36 inches height, all upright fire sprinkler heads shall be to TYCO CC-2, AP or equal heads per NFPA 13, Section 8.15.1.6

**Plans (NFPA 13)**

- 4.26 Complete detailed work sheets and computer hydraulic calculations as required by NFPA 13 shall be included with all submittals for hydraulically designed sprinkler systems. Calculations shall extend to the point at which the water supply data was determined.
- 4.27 Water supply curves and system demand curves, including underground friction loss, hose allowance, and applicable in-rack sprinkler demand, shall be plotted on semi-logarithmic graph paper or computer generated graphs. Sprinkler system design, including hose demand, shall be limited to 90 percent of the available water supply. Water supply data may be obtained from the Fire Prevention Bureau by calling 760-323-8186.

- 4.28 If installed piping is six (6) inches or larger, structural load calculations will be required for the structural elements/systems supporting the load.
- 4.29 Provide separate drawings for the piping plan and reflective ceiling plan.
- 4.30 Provide a fire sprinkler legend including sprinkler symbol, Manufacturer, Sprinkler Identification Number (SIN), model, style, K-factor, degree, finish, escutcheon and quantity.
- 4.31 Provide the occupancy type of each room, ceiling heights and ceiling slopes with direction, slope pitch and ceiling height at the beginning of the slope as applicable.
- 4.32 Provide soffit and ceiling pocket details including widths, depths and heights.
- 4.33 Provide Seismic Bracing Calculations on the drawings per NFPA 13 using **Cp of 0.74 and I/r Ratio of 200**. Separate Seismic Bracing Calculations shall be provided for lateral and longitudinal braces and each pipe size. Show details of the seismic bracing and branch line restraints on the drawings. Piping individually supported by rods less than 6 in. long measured between the top of the pipe and the point of attachment to the building structure shall not be used in lieu of seismic lateral bracing.
- 4.34 Hydraulic Plate information shall be included on the drawings.
- 4.35 Provide calculations of the Number of Sprinklers to Calculate and the Number of Sprinklers on a Branch Line and list Assumed Remote Area Sq. Ft.
- 4.36 Mark on the drawings the Most Hydraulically Demanding Remote Area; and Zone of Influence for lateral and longitudinal seismic bracing.
- 4.37 In order to provide access to the riser for future maintenance and repair, all fire sprinkler system riser locations shall provide with a minimum 18" clearance to each side and to the front of the riser. If a riser is to be concealed by means of a wall or closet, access to the riser shall be provided by means of a door with minimum dimensions of 2'-6" x 6'-8".
- 4.38 The location of the Fire Department Connection shall be within thirty (30) feet of a public commercial fire hydrant with 4"x2½"x2½" outlets.
- 4.39 All Fire Department Connections shall have KNOX locking protective caps. Contact the fire prevention secretary at (760) 323-8186 for a KNOX application form.
- 4.40 Pipe Schedule Design shall not be used in existing systems, extension of existing systems and new systems.
- 4.41 Provide the following notes on fire sprinkler plans:

**FIRE DEPARTMENT NOTES (NFPA 13)**

1. *The installation of the sprinkler systems or modifications to existing sprinkler systems shall comply with:*

- NFFPA 13.
  - California Fire Code (2010 Edition)
  - California Building Code (2010 Edition)
  - The City of Palm Springs Municipal Code Chapter 11.02 of Title 11.
  - Palm Springs Fire Department Development Guidelines, Appendix K
2. The Fire Prevention Bureau will require the following inspections and tests as a minimum:
- Fire sprinkler piping weld inspection.
  - Overhead installation and hydrostatic test – 200 PSI for two hours.
  - Fire sprinkler system final inspection. A completed and signed **"Contractors Material and Test Certificate for Aboveground Piping"** form per NFFPA 13 is required.
  - All inspections will be conducted on Tuesdays or Thursdays. Sprinkler contractors must request inspections through the project Superintendents.

**TO SCHEDULE INSPECTIONS CALL the Fire Prevention Bureau at (760) 323-8186 AT LEAST 48 HOURS PRIOR TO THE REQUESTED INSPECTION DATE AND TIME.**

3. A dedicated electrical circuit with a circuit breaker lock shall be required for the listed fire alarm control unit.
4. All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures, and water-flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit and monitored at a UL listed central station service.
5. An approved audible sprinkler flow alarm (Wheelock horn/strobe with WBB back box or equal) shall be provided on the exterior of the building in an approved location. A second horn/strobe shall be installed in the interior of the building in a normally occupied location. In multiple suite buildings, additional interior horn/strobes shall be installed in all suites with 50 or more occupant load. Power shall be provided from a fire alarm control unit.
6. The fire sprinkler branch lines shall be restrained against excessive vertical and lateral movement by use of a wrap-around U-hook or by other approved means per NFFPA 13 (2010).

## **5.0 FIRE SPRINKLER SYSTEMS (NFFPA 13R)**

### **Design (NFFPA 13R)**

- 5.1 The sprinkler contractor shall calculate the friction loss for all pipes, meters, valves, fittings and other appurtenances when designing the hydraulic calculations for the NFFPA 13R fire sprinkler system.
- 5.2 Fire sprinkler design shall be limited to 90% of the available water supply.

- 5.3 Fire sprinkler systems shall require a single 2 ½" Fire Department Connection when the building exceeds 2,000 Sq. Ft. or more than one story.
- 5.4 An inspector's test valve must be provided from a remote portion of the system. Orifice size to be the same as the smallest sprinkler in the system. This valve shall be a full port ball valve with signed access panel and a copper stub outside the wall.
- 5.5 Access panels for fire sprinkler risers and Inspector Test valves and doors for fire sprinkler riser rooms shall have a signs with an appropriate description.
- 5.6 Fire sprinkler protection is required in entrance foyers.
- 5.7 Fire sprinkler protection is required in any sized bathroom when a walk-in closet must exit through a bathroom.
- 5.8 Garages, attics and outside mechanical and/or electrical rooms shall use commercial Quick Response fire sprinkler heads with a 200 – 212 deg. F temperature rating. Garage fire sprinkler spacing shall be 130 Sq. Ft. Garage fire sprinklers shall be designed for a flow rate of 13 GPM with a 4.2 K factor head and 14.8 GPM for a 5.6K factor head.
- 5.9 Pilot heads shall be installed in attic areas based on one head per 1,000 square feet, or fraction thereof and the highest priority is over the Forced Air Units.
- 5.10 Fire sprinkler protection is required for carports, garages, casitas and similar structures, regardless of construction, unless physically separated by a minimum of 15 feet from dwellings or other structures.
- 5.11 Minimum piping size shall be one (1) inch nominal.
- 5.12 Light fixtures, soffits and other potential obstructions shall not interfere with the spray patterns of sprinkler heads. The sprinkler contractor shall insure that the type and location of potential obstructions is considered in the design and installation of the system. The sprinkler contractor is responsible for coordinating and resolving conflicts in coverage patterns.
- 5.13 All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures, and water-flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit and monitored at a UL listed central station service.
- 5.14 An approved audible sprinkler flow alarm (Wheelock horn/strobe with WBB back box or equal) shall be provided on the exterior of the building in an approved location.
- 5.15 A dedicated electrical circuit with a circuit breaker lock shall be required for the listed fire alarm control unit.
- 5.16 Additional exterior horn/strobes shall be required when there are more than four dwelling units per building.
- 5.17 Contractor shall provide a spare head box with sprinkler wrench and three spare sprinkler heads of each type, unless there is less than three heads of that type.

### **Plans (NFPA 13R)**

- 5.18 Piping shall be detailed on drawing from public water main to riser including pipe sizes, pipe types, pipe lengths, all fittings, all valves, water meter manufacturer and model, back flow device manufacturer, model and size and elevations of house finished floor relative to fire hydrant outlet where pressures were taken.
- 5.19 Provide a riser detail on the drawing, including a flow control valve with a tamper switch.
- 5.20 Provide an Inspector Test detail on drawing.
- 5.21 Provide a table on the drawings for piping support spacing and one and two point sprinkler head vertical restraint spacing.
- 5.22 Provide a fire sprinkler legend including sprinkler symbol, Manufacturer, Sprinkler Identification Number (SIN), model, style, K-factor, degree, finish, escutcheon and quantity.
- 5.23 Provide occupancy type of each room, ceiling heights and ceiling slopes with direction, slope pitch and ceiling height at the beginning of the slope as applicable.
- 5.24 Provide soffit and ceiling pocket details including widths, depths and heights.
- 5.25 Provide beam details including widths, heights and spacing.
- 5.26 Design a looped fire sprinkler piping system where possible.
- 5.27 Provide location of required horn/strobes.
- 5.28 Provide the following notes on fire sprinkler plans:

### ***FIRE DEPARTMENT NOTES (NFPA 13R)***

1. *The installation of the sprinkler system or modifications to existing sprinkler systems shall comply with:*
  - *NFPA 13R*
  - *California Building Code (2010 Edition).*
  - *California Fire Code (2010 Edition).*
  - *The City of Palm Springs Municipal Code Chapter 11.02 of Title 11.*
  - *Palm Springs Fire Department Development Guidelines, Appendix K*
2. *The Fire Prevention Bureau will require the following inspections and tests as a minimum:*
  - *Overhead installation and hydrostatic test – 200 PSI for two hours.*
  - *Fire sprinkler system final inspection. A completed and signed "Contractors Material and Test Certificate for Aboveground Piping" form per NFPA 13R is required.*

***TO SCHEDULE INSPECTIONS, call the building department on the morning of the inspection between 7:00 a.m. and 7:30 a.m. (760) 323-8242 Extension "0".***

3. *A dedicated electrical circuit with a circuit breaker lock shall be required for the listed fire alarm control unit.*
4. *All valves controlling the water supply for automatic sprinkler systems, pumps, tanks, water levels and temperatures, critical air pressures, and water-flow switches on all sprinkler systems shall be electrically supervised by a listed fire alarm control unit and monitored at a UL listed central station service.*
5. *An approved audible sprinkler flow alarm (Wheelock horn/strobe with WBB back box or equal) shall be provided on the exterior of the building in an approved location. A second horn/strobe shall be installed in the interior of the building in a normally occupied location.*

## **6.0 FIRE SPRINKLER SYSTEMS (NFPA 13D)**

### **Design (NFPA 13D)**

- 6.1 A full port ball valve shall be installed at one- and two-family Dwelling units as a shut-off valve for both domestic and fire sprinkler water supply. A shut-off valve shall be installed for the domestic water supply after the fire sprinkler system take-off.
- 6.2 Fire sprinkler system design shall be limited to 90 percent of the available water supply.
- 6.3 Fire sprinkler systems shall be combined domestic and fire sprinkler service to the dwelling. Hydraulic calculations shall include 5 GPM domestic water demand at the domestic water take-off. Hydraulic calculations shall be performed with a computer hydraulic program.
- 6.4 The water flow switch on the fire sprinkler system shall be electrically monitored at a UL listed central station service when the dwelling has an approved household fire alarm or security system.
- 6.5 An inspector's test valve must be provided from a remote portion of the system. Orifice size to be the same as the smallest sprinkler in the system. This valve shall be a full port ball valve with signed access panel and a copper stub outside the wall.
- 6.6 Access panels for fire sprinkler risers and Inspector Test valves shall have a signs with an appropriate description.
- 6.7 Fire sprinkler protection is required in entrance foyers.
- 6.8 Fire sprinkler protection is required in any sized bathroom when a walk-in closet must exit through a bathroom.
- 6.9 Garages, attics and outside mechanical rooms shall use commercial Quick Response fire sprinkler heads with a 200 – 212 deg. F temperature rating. Garage fire sprinkler spacing shall be 130 Sq. Ft. Garage fire sprinklers shall be designed for a flow rate of 13 GPM with a 4.2 K factor head and 14.8 GPM for a 5.6K factor head.

- 6.10 Pilot heads shall be installed in attic areas based on one head per 1,000 square feet, or fraction thereof and the highest priority is over the Forced Air Units.
- 6.11 All listed equipment and materials shall be installed in accordance with the terms of their listings and the manufacturer's instructions.
- 6.12 Fire sprinkler protection is required for carports, garages, casitas and similar structures, regardless of construction, unless physically separated by a minimum of 15 feet from dwellings or other structures.
- 6.13 Piping systems shall be tested in accordance with the California Plumbing Code for multipurpose piping and NFPA 13D and manufacturer's listing and recommendations for fire sprinkler piping.
- 6.14 Minimum piping size shall be one (1) inch nominal.
- 6.15 Light fixtures, soffits and other potential obstructions shall not interfere with the spray patterns of sprinkler heads. The sprinkler contractor shall insure that the type and location of potential obstructions is considered in the design and installation of the system. The sprinkler contractor is responsible for coordinating and resolving conflicts in coverage patterns.
- 6.16 Water Flow Switch and Alarm. On non-combination systems, a water flow switch shall be installed in every dwelling unit fire sprinkler system. The system shall include:
1. An approved audible sprinkler flow alarm (Wheelock horn/strobe # MT4-115-WH-VFR with WBB back box or equal) shall be provided on the exterior of the building in an approved location. The horn/strobe shall be outdoor-rated.
  2. Residential Smoke Alarms (Kidde SM120X Relay / Power Supply Module connected to multi-station Kidde smoke alarms or equal and fire sprinkler flow switch) shall be interconnected so that operation of any smoke alarm or fire sprinkler flow switch causes all smoke alarms within the dwelling to sound and activate the exterior horn/strobe. The wiring of this system shall be in accordance with Kidde SM120X Relay / Power Supply Module manual and Figure 2 (see attached). The **"120 volt device wired to turn on when alarm sounds"** is the **exterior horn/strobe**. The **"pull for fire"** device is the **fire sprinkler flow switch**.
- 6.17 Contractor shall provide a spare head box with sprinkler wrench and two spare sprinkler heads of each type, unless there is less than two heads of that type.

#### Plans (NFPA13D)

- 6.18 Piping shall be detailed on drawing from public water main to riser including pipe sizes, pipe types, pipe lengths, all fittings, all valves, water meter manufacturer and model, back flow device manufacturer, model and size and elevations of house finished floor relative to fire hydrant outlet where pressures were taken.
- 6.19 Provide a riser detail on the drawing.

- 6.20 Provide an Inspector Test detail on drawing.
- 6.21 Provide a table on the drawings for piping support spacing and one and two point sprinkler head vertical restraint spacing.
- 6.22 Provide a fire sprinkler legend including sprinkler symbol, Manufacturer, Sprinkler Identification Number (SIN), model, style, K-factor, degree, finish, escutcheon and quantity.
- 6.23 Provide occupancy of each room, ceiling heights and ceiling slopes with direction, slope pitch and ceiling height at the beginning of the slope as applicable.
- 6.24 Provide soffit and ceiling pocket details including widths, depths and heights.
- 6.25 Provide beam details including widths, heights and spacing.
- 6.26 Design a looped fire sprinkler piping system where possible.
- 6.27 Provide the following notes on fire sprinkler plans:

***FIRE DEPARTMENT NOTES (NFPA 13D)***

- 1. *The installation of fire sprinkler systems or modifications to existing fire sprinkler systems shall comply with:*
  - *NFPA 13D*
  - *California Residential Code (2010 Edition)*
  - *California Fire Code (2010 Edition)*
  - *The City of Palm Springs Municipal Code Chapter 11.02 of Title 11.*
  - *Palm Springs Fire Department Development Guidelines*
- 2. *The Fire Prevention Bureau will require the following inspections and tests as a minimum:*
  - *Overhead installation and hydrostatic test – 200 PSI for two hours.*
  - *Final fire sprinkler and underground inspections.*

***TO SCHEDULE INSPECTIONS, CALL THE BUILDING DEPARTMENT on the morning of the inspection between 7:00 a.m. and 7:30 a.m. (760) 323-8242 Extension "0".***

- 3. Water Flow Switch and Alarm. A water flow switch shall be installed in every dwelling unit fire sprinkler system. The system shall include:
  - An approved audible sprinkler flow alarm (Wheelock horn/strobe # MT4-115-WH-VFR with WBB back box or equal) shall be provided on the exterior of the building in an approved location. The horn/strobe shall be outdoor-rated.
  - Residential Smoke Alarms (Kidde SM120X Relay / Power Supply Module connected to multi-station Kidde smoke alarms or equal and fire sprinkler

flow switch) shall be interconnected so that operation of any smoke alarm or fire sprinkler flow switch causes all smoke alarms within the dwelling to sound and activate the exterior horn/strobe. The wiring of this system shall be in accordance with Kidde SM120X Relay / Power Supply Module manual and Figure 2 (see attached). The "**120 volt device wired to turn on when alarm sounds**" is the **exterior horn/strobe**. The "**pull for fire**" device is the **fire sprinkler flow switch**.

## 7.0 INSPECTIONS AND TESTS

- 7.1 Buildings must pass all the fire protection systems inspections prior to a certificate of occupancy.
- 7.2 The Inspection, Testing and Maintenance of Water-Based Fire Protection Systems shall comply with California Code of Regulations (CCR) Title 19.
- 7.3 The Fire Prevention Bureau shall require completed "**Contractors Material and Test Certificate for Underground Piping**" per NFPA 24 and "**Contractors Material and Test Certificate for Aboveground Piping**" per NFPA 13 and NFPA 13R at the time of fire sprinkler final inspection. Aboveground sprinkler system piping and underground piping will not pass final inspection until **the Fire Prevention Bureau receives all certificates**. NFPA 13D fire sprinkler systems are exempt from the above certificates.
- 7.4 The Fire Prevention Bureau will require the following inspections and test as a minimum:
- THRUST BLOCK PRE-POUR, TRENCH AND BACKFILL INSPECTION  
All private fire service mains shall have an inspection of the areas where the thrust blocks are to be poured prior to their installation.
  - UNDERGROUND AND HYDROSTATIC TEST  
All thrust blocks and joints exposed with center loading are acceptable. Hydrostatic test is required at 200 PSI for two hours. All valves, Fire Department Connections, fire hydrants and fire sprinkler service mains shall be installed. Private fire service mains shall be complete and installed per approved plans.
  - UNDERGROUND FLUSH  
Complete flushing of underground system shall be completed before any connection to the overhead sprinkler piping. Flushing shall be performed according to NFPA 24, Section 10.10.2 and referenced in NFPA 13, 13D and 13R.
  - FIRE SPRINKLER PIPING WELD INSPECTION  
**PRIOR TO INSTALLATION**, all pipes with welded fittings shall be inspected for compliance with NFPA 13. Any pipe with welded fittings installed prior to inspection, shall be removed and inspected on the ground. Provide at this inspection, copies of certified records, as outlined in NFPA 13 to the Fire Prevention Bureau.
  - OVERHEAD INSTALLATION AND HYDROSTATIC TEST

Hydrostatic test at 200 PSI for two hours is required and **ALL AREAS MUST BE VISIBLE**. Contractor shall schedule inspections before insulating, dry walling or installation of ceilings occurs. Inspection shall review compliance with approved plans, spacing, hangers, seismic bracing, etc. All areas must remain visible for any corrections from this inspection. **A REINSPECTION OF CORRECTIONS WILL BE REQUIRED.**

The following is required prior to walk-through:

- **Approved drawings and hydraulic calculations available on site**
- **Water service to sprinkler riser shall be installed and live**
- **All HVAC registers shall be installed**
- **All electrical shall be installed for lights, ceiling fans and smoke detectors**

- **FINAL SPRINKLER AND UNDERGROUND INSPECTIONS**

**ALL CORRECTIONS FROM PREVIOUS INSPECTIONS MUST BE COMPLETED AND SIGNED OFF.**

7.5 A complete approved set of sprinkler system and private fire service main plans stamped approved (wet stamp and signature) by the Fire Prevention Bureau shall be kept on the job site at all times. **INSPECTIONS WILL NOT BE CONDUCTED WITHOUT THE APPROVED PLANS.**

7.6 The permit and inspection record card (Job Card) shall be available with the approved plans at the job site. **INSPECTIONS WILL NOT BE CONDUCTED WITHOUT THE APPROPRIATE INSPECTION RECORD CARD (Job Card).**

7.7 Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this guideline or of other ordinances of the jurisdiction shall not be valid.

7.8 All inspections for NFPA 13 (Commercial) systems will be conducted on Tuesdays or Thursdays. Sprinkler contractors must request inspections through the project Superintendents. **TO SCHEDULE INSPECTIONS CALL the Fire Prevention Bureau at (760) 323-8186 AT LEAST 48 HOURS PRIOR TO THE REQUESTED INSPECTION DATE AND TIME.**

7.9 All inspections for NFPA 13R and NFPA 13D systems must be requested and scheduled by the project Superintendents. **TO SCHEDULE INSPECTIONS, CALL THE BUILDING DEPARTMENT on the morning of the inspection between 7:00 a.m. and 7:30 a.m. (760) 323-8242 Extension "0".**

## **8.0 EMERGENCY ACCESS & GATES**

### **General**

8.1 This section has been developed to assist development applicants, architects, contractors, and building/business owners in determining the minimum requirements for Knox Key Switches on powered access gates, Knox Boxes for non powered gates, Knox

Box Vaults for residential & commercial facilities and minimum access gate requirements for fire department access during emergency responses.

### **Plans**

- 8.2 Plan submittals must identify all access gates and locations of Knox access switches and Knox boxes.

### **Gate Access Requirements**

- 8.3 The installation of security gates across a fire apparatus access road shall be approved by the fire chief during the plan check review. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained at all times.

8.4 A Knox key operated switch shall be installed at every automatic gate. Secured automated vehicle gates or entries shall utilize a combination of a Tomar Strobeswitch™, or approved equal, and an approved Knox key electric switch when required by the fire code official. Secured non-automated vehicle gates or entries shall utilize an approved padlock or chain (maximum link or lock shackle size of ¼ inch) when required by the fire code official.

- 8.5 In the event of a power failure, the gates shall be defaulted or automatically transferred to a fail safe mode allowing the gate to be pushed open without the use of special knowledge or any equipment. If a two-gate system is used, the override switch must open both gates.

- 8.6 Gate arms securing parking lots and parking structures shall be equipped with a fire department approved dual-keyed Knox key electric switch. When activated, the arm or arms shall open to allow fire and law enforcement access.

- 8.7 If there is no sensing device that will automatically open the gates for exiting, a fire department approved Knox electrical override switch shall be placed on each side of the gate in an approved location.

- 8.8 Approved security gates shall be a minimum of 14 feet in unobstructed drive width on each side with gate in open position. An unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm) shall be provided and maintained at all times.

### **Building Access Requirements**

- 8.10 Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire-fighting purposes a Knox Box Vault will be required.

- 8.11 Knox Box locations shall be mounted at 5 feet above grade. Show locations of Knox access controls on plan elevation views. Show requirement in plan notes. Contact the Fire Department at (760) 323-8186 for a Knox application form.

- 8.12 The key box shall be of an approved type and shall contain keys to gain necessary access as required by the fire code official.

- 8.13 Secured emergency access gates serving apartment, town home or condominium complex courtyard must provide a key box in addition to association or facility locks. The nominal height of Knox lock box installations shall be 5 feet above grade.

### **Inspection Requirements**

- 8.14 A final field inspection by the fire code official or an authorized representative is required before electronically controlled gates may become operative. Prior to final inspection, electronic gates shall remain in a locked-open position.
- 8.15 A final field inspection by the fire code official or an authorized representative for the installation of Knox Box Vaults is required at time of final inspection.

## **9.0 FIRE APPARATUS ACCESS ROADS**

### **General**

- 9.1 This section has been developed to assist development applicants, architects, contractors, and building/business owners in determining the minimum requirements for the design of fire apparatus access roads for consistency with the best practices of the fire code in the interest of public safety.

### **Plans**

- 9.2 Detailed fire apparatus access roads shall be submitted to the Fire Department for review and approval prior to construction. Plans shall include certification from a Registered Professional Engineer stating the roads are of all weather construction and capable of supporting fire apparatus weighing 73,000 lbs G.V.W.

### **Requirements**

- 9.3 Private streets shall have a minimum width of at least 20 feet, pursuant to California Fire Code 503.2.1 however, a greater width for private streets may be required by the City engineer to address traffic engineering, parking, and other issues. The Palm Springs Fire Department requirements for two-way private streets, is a minimum width of 24 feet, unless otherwise allowed by the City engineer. No parking shall be allowed in either side of the roadway. The following text, developed in concert with Engineering, Planning, and Fire is proposed as alternative text for the Circulation Element, page 4-5:
- **Local.** Primarily provides access to individual parcels of land. Minimum right-of-way is 50 feet. In Estate, Very Low and Low Density Residential neighborhoods, street widths may be reduced to 28 feet (curb face to curb face) provided that 1) additional off street parking is provided as determined by the City Engineer, the Fire Chief and Director of Planning, 2) rolled or wedge curb is provided such that vehicles may park partially out of the traveled way, and 3) pedestrian pathways or sidewalks, separated from the curb by a minimum five foot parkway, are provided.
  - **Private Streets.** Private streets provide access to individual parcels of land in planned development communities approved with privately maintained access. Access may be restricted. Private street widths shall be established based on a

hierarchy of primary and secondary streets and parking conditions such that uninterrupted traffic flow, pedestrian safety, and emergency access is assured.

- **Private Primary Streets** are typically the main access street in a private development or main 'ring road'. Private Primary Streets may provide access to individual parcels in a planned development as well as receive traffic from Secondary Private Streets or other parcels that do not front the street. Private Primary Streets shall be either a minimum of 32 feet wide (curb face to curb face) to accommodate on-street parking on one side and emergency access, or 36 feet wide (curb face to curb face) with on-street parking on two sides.
- **Private Secondary Streets** provide access to individual parcels in a planned development and do not receive traffic from other streets or other parcels that do not front that street. Private Secondary Streets may range in width from 28 to 32 feet (curb face to curb face) provided that 1) additional off-street (guest) parking is provided in the area of the Secondary Street as determined by the Planning Commission, 2) rolled or wedge curb is provided such that vehicles may park partially out of the traveled way, and 3) pedestrian pathways or sidewalks, separated from the curb by a minimum five foot parkway, are provided. If all three of these conditions are NOT provided, private secondary streets shall be a standard minimum 32 feet with parking on one side only.
- **Designated fire lanes** in private developments shall be not less than 24 feet wide (curb face to curb face) with no parking on either side.
- **Reduced Roadway Width:** Areas with reduced roadway width (such as entry and exit gates, entry and exit approach roads, traffic calming areas) that are under 36 feet wide require red painted curb to maintain minimum 24 foot clear width. Red curb shall be stenciled "NO PARKING" and "FIRE LANE" with white paint.

- 9.4 The grade of the fire apparatus access road shall within the limits be within the limits established by the fire code official based on the fire department's apparatus. No grade shall exceed 12%. Grade transitions shall not exceed maximum angle of approach and angle of departure based on the fire department's apparatus as determined by the Fire Chief.
- 9.5 A secondary access shall be provided for all developments with 30 or more dwelling units.
- 9.6 Dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with approved provisions for the turning around of fire apparatus. The City of Palm Springs has two approved turn around provisions. One is a cul-de-sac with an outside turning radius of 45 feet from centerline. The other is a hammerhead turnaround meeting the Palm Springs Public Works and Engineering Department standard dated 9-4-02.
- 9.7 Fire department access roads/driveways shall be provided so that no portion of the exterior wall of the first floor of any building will be more than 150 feet from such roads.

- 9.8 When fences are installed that cause the distance from an approved fire department access road to exceed the maximum distance allowed in Section 503 herein, a gate shall be provided in the fence to maintain the required fire department access. The gate shall be a minimum four (4) feet in width and be equipped with a key box and/or lock accessible from both sides in accordance with Section 506 herein.
- 9.9 Mid Rise/High Rise: High-rise and mid-rise buildings shall be accessible on a minimum of two sides. Street access shall not be less than 15 feet or more than 30 feet from the building. Landscaping or other obstructions shall not be placed or maintained around structures in a manner so as to impair or impede accessibility for fire fighting and rescue operations.

### **Construction Requirements**

- 9.10 Access for firefighting equipment shall be provided to the immediate job site at the start of construction and maintained until all construction is complete. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13'6". Fire Department access roads shall have an all weather driving surface and support a minimum weight of 73,000 lbs.

## **10.0 SOLAR PHOTOVOLTAIC INSTALLATION**

### **General**

- 10.1 This section has been developed with safety as the principal objective. The intent of this section is to assist development applicants, architects, contractors, and building/business owners with information that will aid in the designing, building, and installation of solar photovoltaic systems in a manner that meet the objectives of both the solar photovoltaic industry and the Palm Springs Fire Department.

### **Plans**

- 10.2 Plan submittals for solar photovoltaic systems are to include all necessary markings for emergency responders to isolate the solar electric system. Approved plans are required prior to construction of a solar photovoltaic system.

### **Markings**

- 10.3 Photovoltaic (PV) systems must be marked. Marking is needed to provide emergency responders with appropriate warning and guidance with respect to working around and isolating the solar electric system. This can facilitate identifying energized electrical lines that connect the solar modules to the inverter, as these should not be cut when venting for smoke removal.
- 10.4 Materials used for marking must be weather resistant. It is recommended that Underwriters Laboratories Marking and Labeling System 969 (UL 969) be used as standard to determine weather rating. (UL listing of markings is not required).

## **Main Service Disconnect**

- 10.5 For residential applications, the marking is to be placed within the main service disconnect. If the main service disconnect is operable with the service panel closed, the marking is to be placed on the outside cover.
- 10.6 For commercial application, the marking is to be placed adjacent to the main service disconnect in a location clearly visible from the location where the lever is operated.

### **10.6.1 Marking Content and Format**

- 10.6.1.1 MARKING CONTENT: CAUTION: SOLAR ELECTRIC SYSTEM
- 10.6.1.2 RED BACKGROUND
- 10.6.1.3 WHITE LETTERING
- 10.6.1.4 MINIMUM 3/8" LETTER HEIGHT
- 10.6.1.5 ALL CAPITAL LETTERS
- 10.6.1.6 ARIAL OR SIMILAR FONT, NON-BOLD
- 10.6.1.7 REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT

## **CAUTION: SOLAR ELECTRIC SYSTEM**

### **Marking for Direct Current Conduit, Raceways, Enclosures, Cable Assemblies, and Junction Boxes**

- 10.7 Marking is required on all interior and exterior DC conduit, raceways, enclosures, cable assemblies, and junction boxes to alert the Fire Service to avoid cutting them. Marking is to be placed on all interior and exterior DC conduit, raceways, enclosures, and cable assemblies, every 10 feet, at turns and above and/or below penetrations and all DC combiner and junction boxes.

#### **10.7.1 Marking Content and Format**

- 10.7.1.1 MARKING CONTENT: CAUTION: SOLAR CIRCUIT
- 10.7.1.2 RED BACKGROUND
- 10.7.1.3 WHITE LETTERING
- 10.7.1.4 MINIMUM 3/8" LETTER HEIGHT
- 10.7.1.5 ALL CAPITAL LETTERS
- 10.7.1.6 ARIAL OR SIMILAR FONT, NON-BOLD
- 10.7.1.7 REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (durable adhesive materials may meet this requirement)

## **CAUTION: SOLAR CIRCUIT**

## **Inverters**

- 10.8 The inverter is a device used to convert DC electricity from the solar system to AC electricity for use in the building's electrical system or the grid. No markings are required for the inverter.

## **Access, Pathways and Smoke Ventilation**

- 10.9 Access and spacing requirements are required in order to:
- Ensure access to the roof
  - Provide pathways to specific areas of the roof
  - Provide for smoke ventilation opportunities area
  - Provide emergency egress from the roof
- 10.10 Designation of ridge, hip, and valley does not apply to roofs with 2-in-12 or less pitch. All roof dimensions are measured to centerlines.
- 10.11 Roof access points are to be defined as areas where ladders are not placed over openings (i.e., windows or doors) and are located at strong points of building construction and in locations where they will not conflict with overhead obstructions (i.e., tree limbs, wires, or signs).

## **Residential Systems - Single and Two-Unit Residential Dwellings**

- 10.12 Plan reviews are required if a system is to be installed on the roof area of a residential building.

### **10.12.1 Access/Pathways**

- a. Residential Buildings with hip roof layouts: Modules should be located in a manner that provides one (1) three-foot (3') wide clear access pathway from the eave to the ridge on each roof slope where modules are located. The access pathway should be located at a structurally strong location on the building (such as a bearing wall). (See Example 1)
- b. Residential Buildings with a single ridge: Modules should be located in a manner that provides two (2) three-foot (3') wide access pathways from the eave to the ridge on each roof slope where modules are located. (See Example 2)
- c. Hips and Valleys: Modules should be located no closer than one and one half (1.5) feet to a hip or a valley if modules are to be placed on both sides of a hip or valley. If the modules are to be located on only one side of a hip or valley that is of equal length then the modules may be placed directly adjacent to the hip or valley. (See Example 3)

### **10.12.2 Smoke Ventilation**

- a. The modules are to be located no higher than three feet (3') below the ridge.

## **Commercial Buildings and Residential Housing consisting of Three (3) or More Units**

10.13 If the roof configuration is similar to residential (such as in the case of townhouses, condominiums, or single family attached buildings), the local fire department may make a determination to apply the residential access and ventilation requirements. (See Examples 5,6,7,8)

### 10.13.1 Access

- a. There should be a minimum six foot (6') wide clear perimeter around the edges of the roof. Exception: If either axis of the building is 250 feet or less, there should be a minimum four feet (4') wide clear perimeter around the edges of the roof.

10.13.2 Pathways should be established in the design of the solar installation. Pathways should meet the following requirements:

- a. Should be over structural members
- b. Centerline axis pathways should be provided in both axis of the roof. Centerline axis pathways should run on structural members or over the next closest structural member nearest to the center lines of the roof
- c. Should be straight line not less than 4 feet (4') clear to skylights and/or ventilation hatches
- d. Should be straight line not less than 4 feet (4') clear to roof standpipes
- e. Should provide not less than 4 feet (4') clear around roof access hatch with at least one not less than 4 feet (4') clear pathway to parapet or roof edge

### 10.13.3 Smoke Ventilation

- a. Arrays should be no greater than 150 by 150 feet in distance in either axis
- b. Ventilation options between array sections should be either:
  1. A pathway 8 feet (8') or greater in width
  2. 4 feet (4') or greater in width pathway **and** bordering on existing roof skylights or ventilation hatches
  3. 4 feet (4') or greater in width pathway **and** bordering four feet (4') x 8 feet 8' "venting cutouts" every 20 feet (20') on alternating sides of the pathway

## **Location of Direct Current (DC) Conductors**

10.14 Conduit, wiring systems, and raceways for photovoltaic circuits should be located as close as possible to the ridge or hip or valley and from the hip or valley as directly as possible to an outside wall to reduce trip hazards and maximize ventilation opportunities.

10.15 Conduit runs between sub arrays and to DC combiner boxes should use design guidelines that minimize total amount of conduit on the roof by taking the shortest path

from the array to the DC combiner box. The DC combiner boxes are to be located such that conduit runs are minimized in the pathways between arrays.

- 10.16 To limit the hazard of cutting live conduit in venting operations, DC wiring should be run in metallic conduit or raceways when located within enclosed spaces in a building and should be run, to the maximum extent possible, along the bottom of load-bearing members.

### **Non-Habitable Buildings**

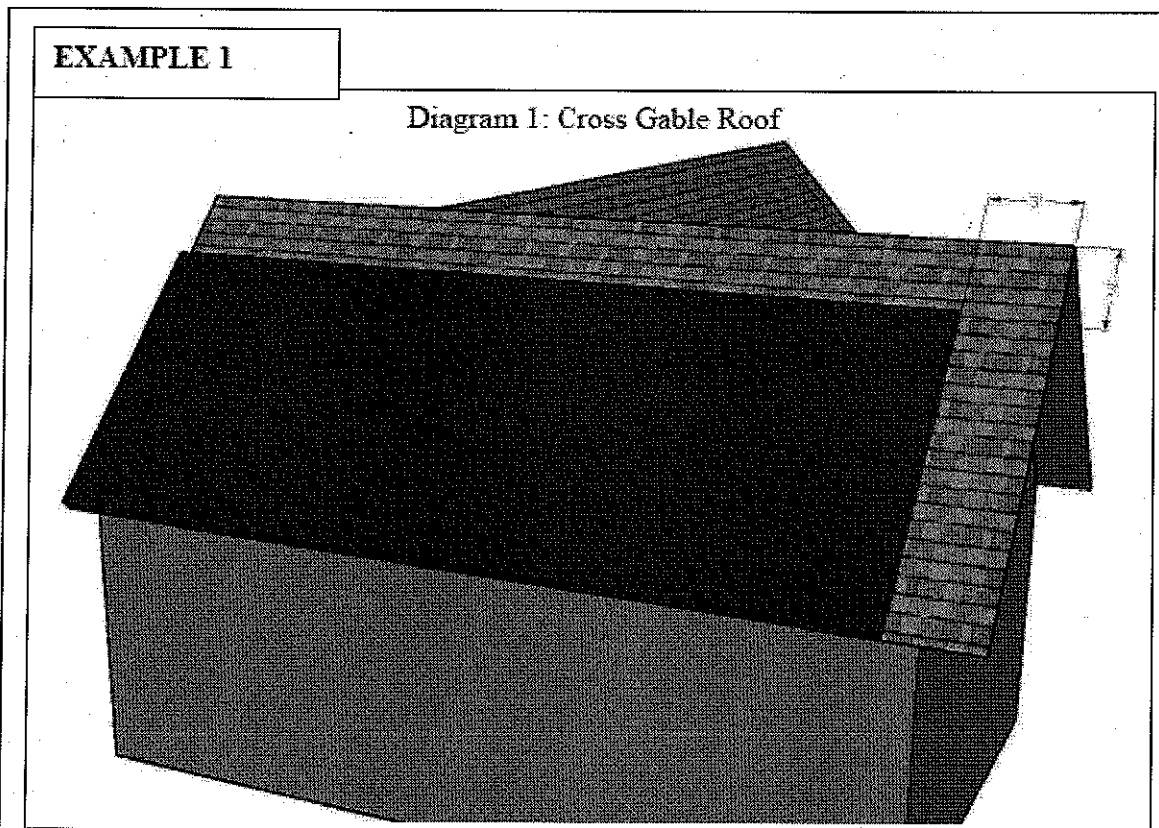
- 10.17 This guideline does not apply to non-habitable structures. Examples of non-habitable structures include, but are not limited to, parking shade structures, solar trellises, etc.

### **Ground Mounted Photovoltaic Arrays**

- 10.18 Setback requirements do not apply to ground-mounted, freestanding photovoltaic arrays. A clear brush area of ten feet (10') is required for ground mounted photovoltaic arrays.

### **Examples of Photovoltaic Layouts**

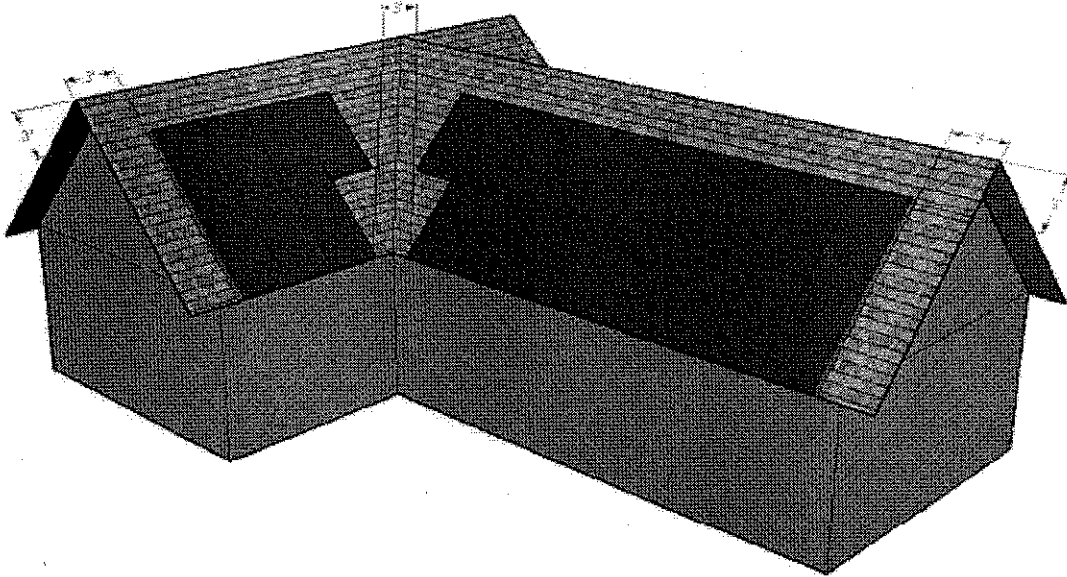
Example #1 Cross Gable Roof



10.19 Example #2 Cross Gable with Valley

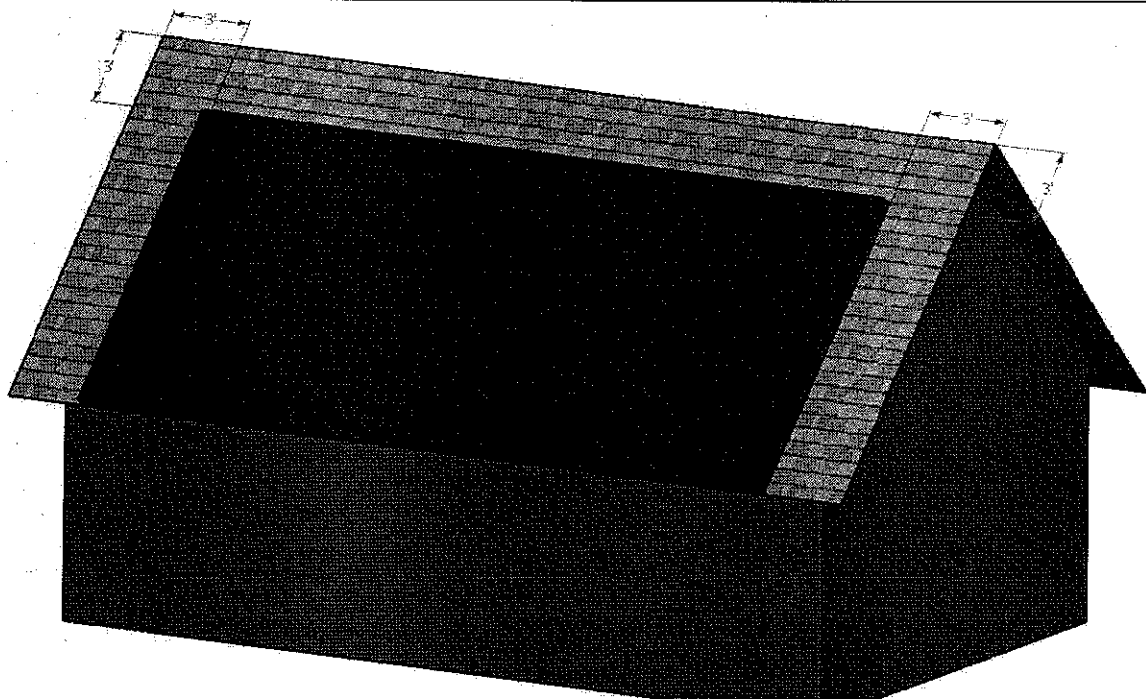
**EXAMPLE 2**

Diagram 2: Cross Gable with Valley



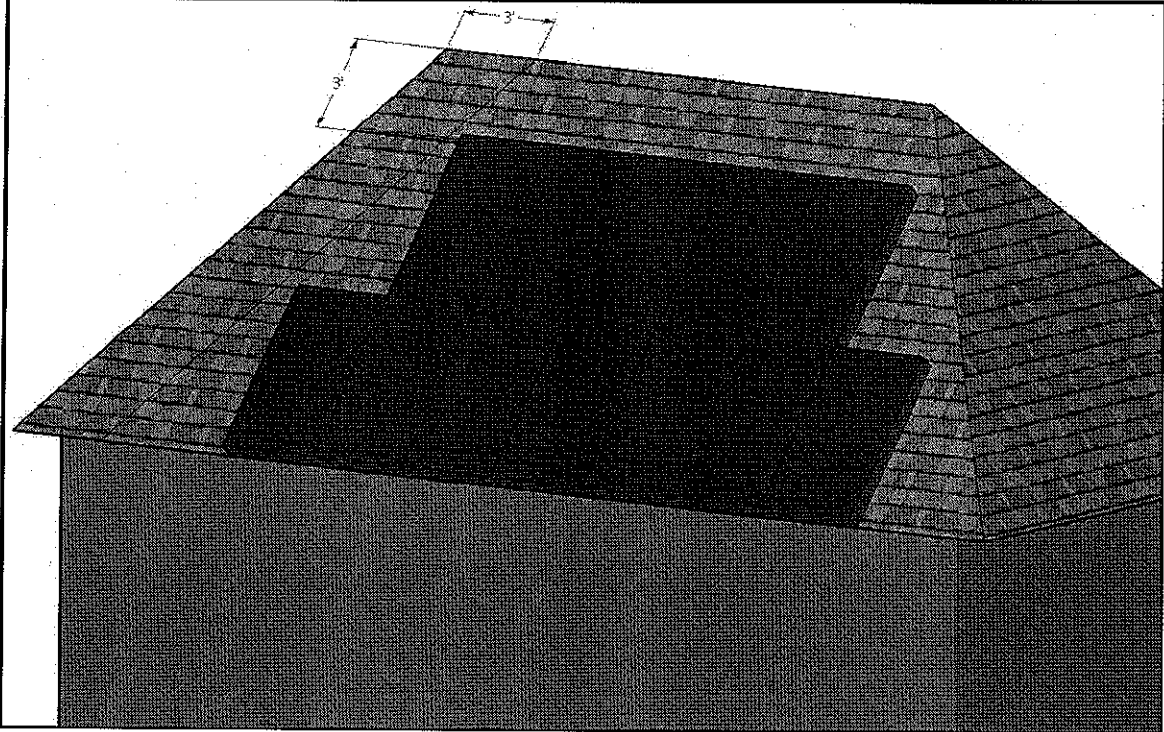
10.20 Example #3 Full Gable

**EXAMPLE 3**



10.21 Example #4 Full Hip Roof

**EXAMPLE 4**

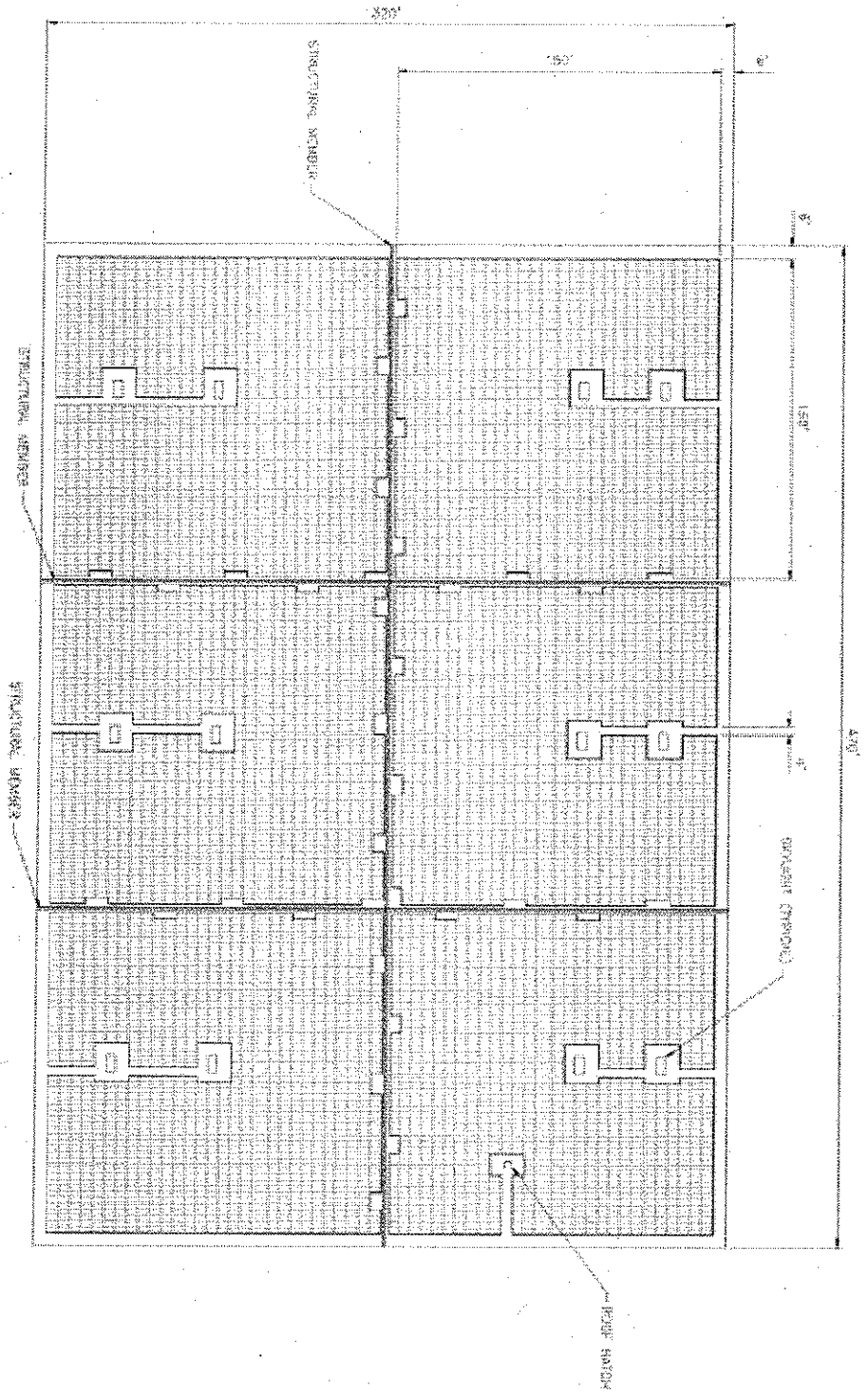




10.23 Example #6

**EXAMPLE 6**

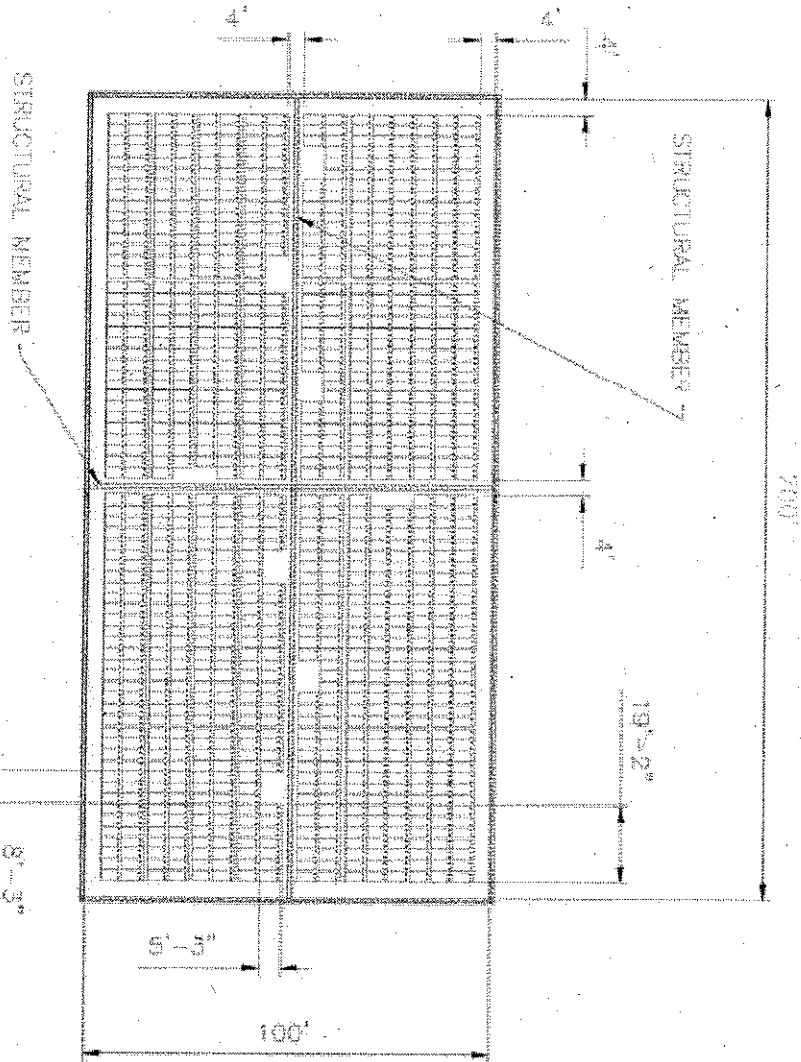
SOLAR APPRAY EXAMPLE - LARGE COMMERCIAL  
4' WALKWAYS WITH 8" X 4' VENTING OPPORTUNITIES EVERY 20'



10.24 Example #7

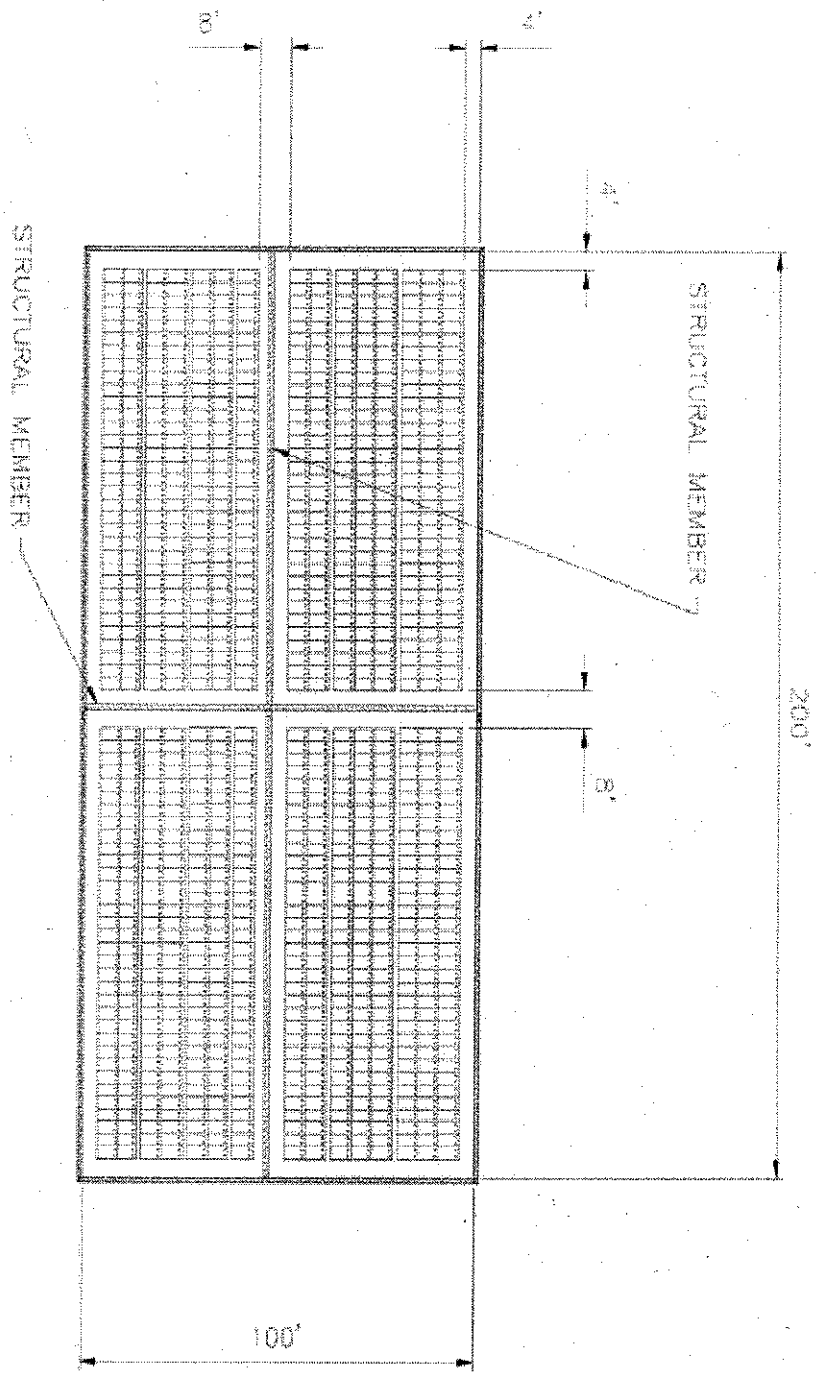
EXAMPLE 7

SOLAR ARRAY EXAMPLE - SMALL COMMERCIAL  
4' WALKWAYS WITH 8' X 4' VENTING OPPORTUNITIES EVERY 20' ALONG WALKWAY.



**EXAMPLE 8**

SOLAR ARRAY EXAMPLE - SMALL COMMERCIAL  
8' WALKWAYS

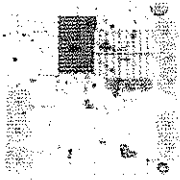





## COMPARISON CHART


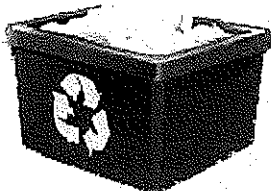



The 2010 California Green Building Standards Code (CalGreen) covers commercial and residential construction in the public and private sectors as well as schools of all levels, hospitals and other public institutions. Among the new requirements under CALGreen, every new building in California will have to reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills and install low VOC materials. Separate indoor and outdoor water meters for nonresidential buildings and moisture-sensing irrigation systems for large landscape projects will be required. There will be mandatory inspections of energy systems, such as furnaces and air conditioners for nonresidential buildings over 10,000 square feet. According to the California Air Resources Board, the mandatory provisions will reduce greenhouse gas emissions by 3,000,000 metric tons by 2020.

CATEGORIES	2010 California Green Building Standards Code (Non-Residential)	LEED® USGBC v3 Certification LEED® Certified = 26-32 points LEED® Silver = 33-38 points LEED® Gold = 39-51 points LEED® Platinum = 52-69 points
<b>SITE PLANNING</b>	Requires storm water drainage and retention during construction. Section 4.106.2	Requires Construction Activity Pollution Prevention
	Site Selection. Appendix Section A5.103	1 point for Site Selection
	Community Connectivity. Appendix Section A5.103.1	1 point for Development Density & Community Connectivity
	Brownfield Redevelopment. Appendix Section A5.103.2.1	1 point for Brownfield Redevelopment
		1 point for Alternative Transportation: Public Transportation Access
	Bicycle storage and changing rooms. Section 5.106.4	1 point for Alternative Transportation: Bicycle Storage & Changing Rooms
	Fuel efficient vehicle provisions. Appendix Section A5.106.5.1	1 point for Alternative Transportation: Low Emitting & Fuel Efficient Vehicles
	Reduction of parking capacity. Appendix Section A5.106.6.1	1 point for Alternative Transportation: Parking Capacity
		1 point for Site Development: Protect or Restore Habitat
	Site Preservation. Appendix Section A5.104	1 point for Site Development: Maximize Open Space
	Storm water runoff rate and quantity. Appendix Section A5.106.2.1	1 point for Storm water Design: Quantity Control
	Storm water runoff quality. Appendix Section A5.106.2.2	1 point for Storm water Design: Quality Control
	Heat island effect non-roof. Appendix Section A5.106.11.1	1 point for Heat Island Effect: Non-Roof
	Heat island effect roof. Appendix Section A5.106.11.2	1 point for Heat Island Effect: Roof
Light pollution reduction. Section 5.106.8	1 point for Light Pollution Reduction	
<b>ENERGY EFFICIENCY</b>	<b>Tier 1</b> – Appendix Section A5.203.1.1 15% Above 2008 California Energy Code. <b>Tier 2</b> – Appendix Section A5.203.1.2 30% Above 2008 California Energy Code.	1 point for 10.5% above current standards. Increases up to 10 points if you go 42% above current standards.
	All appliances have to be ENERGY STAR. Appendix Section A5.204.1	
	Requires building commissioning. Section 5.410.2	Requires fundamental commissioning. 1 point for enhanced commissioning.
	Requires optimum building orientation and shading. Appendix Section A5.106.9	
	Requires onsite renewable energy and is specified in Appendix Section A5.211.1	1 point for onsite renewable energy.
	Reduce energy demand of elevators. Appendix Section A5.212.1	
	Requires the design of steel framing for maximum energy efficiency. Appendix Section A5.213.1	
	Requires use of HVACs and fire suppression systems that do not use HFCs and Halons. Section 5.508.1	1 point for Enhanced Refrigerant Management
	Requires electronic measurement and verification as part of commissioning. Section 5.410.2	1 point for Measurement & Verification
Requires participation in a green power program offered by local utility. Appendix Section A5.211.3	1 point for Green Power	


# COMPARISON CHART

(CONTINUED)

WATER		
	Requires 20% reduction in water use. Section 5.303.2.20	1 point for 20% water use reduction. 1 point for 30% water use reduction.
	<b>Tier 1</b> - Section A5.304.4.1 - Reduce the use of potable water to a quantity that does not exceed 60% of ETo times the landscaped area. <b>Tier 2</b> - Section A5.303.4.2 - Reduce the use of potable water to a quantity that does not exceed 55% of ETo times the landscaped area.	1 point for 50% water use reduction for landscaping. 1 additional point for 100% water use reduction for landscaping.
	Requires water sub meter for indoor and outdoor water uses. Section 5.303.1.1	
	Requires reduction of water use by appliances that use water. Appendix Section A5.303.3	
	Requires wastewater reduction generated by the building. Section 5.303.4	1 point for wastewater building sewage conveyance by 50%.
	Requires building to be dual plumbed for potable and recycled water systems. Appendix Section A5.303.5	
MATERIALS AND RESOURCES		
	Requires onsite storage and collection of recyclables. Section 5.410.1	Requires onsite storage and collection of recyclables.
	Deconstruction and Reuse of Existing Structures. Section 5.408	1 point to maintain 75% of existing walls, floors and roofs. Additional point for maintaining 95% of existing walls, floors and roofs.
	Requires diverting at least 50% construction waste from landfills or meet local land ordinance, whichever is more stringent. Section 5.408.3	1 point for diverting 50% construction waste from landfills. Additional point for diverting 75%.
	Requires 100% of trees, stumps, rocks and associated vegetation to be used or recycled. Section 5.408.4	
	Requires minimum reuse of 5% of building materials. Appendix Section A5.405.3	1 point for reusing 5% of building materials. Additional point for reusing 10% of building materials.
	<b>Tier 1</b> - 10% use of recycled materials. Appendix Section A5.405.4 <b>Tier 2</b> - 15% use of recycled materials. Appendix Section A5.405.4.1	1 point for use of 10% recycled materials. Additional point for use of 20% recycled materials.
	If comparable, use materials from California or within 500 miles from site for 10% of materials value. Appendix Section A5.405.1	1 point for using regional materials in 10% of the project. Additional point for using regional materials in 20% of the project.
	Requires use of 2.5% of rapidly renewable materials. Appendix Section A5.405.2.2	1 point for using rapidly renewable materials for 2.5% of all building materials.
		1 point for using 50% certified wood.
	Requires use of cement and concrete made with recycled products. Appendix Section A5.405.5.2.1	
	If comparable, use materials with enhanced durability. Appendix Section A5.406	
	Requires water resistance and moisture management of the building. Section 5.407.2	
	Permit use of advanced wood framing techniques that meet Title 24, Part 2. Appendix Section A5.404.1	
	Select materials assemblies based on Life Cycle Assessment. Appendix Section A5.409.1	
Deconstruction and Reuse of Existing Structures at least 75% of existing building material. Appendix Section A5.105.1.1	1 point for Building Reuse: Maintain 50% of Interior Non-Structural Elements	
ENVIRONMENTAL QUALITY		
	Requires outside air ventilation that meets Title 24, Part 6 and Chapter 4 of CCR, Title 8 or local ordinance. Section 5.506.1	Requires that you must meet the Indoor air quality requirements of ASHRAE 62.1-2004.
	Requires ETS control. Section 5.504.7	Requires Environmental Tobacco Smoke (ETS) Control
	Requires outside air ventilation that meets Title 24, Parts 6 and 8 or local ordinance.	1 point for outdoor air delivery monitoring system.
		1 point for increased ventilation that is 30% above ASHRAE 62.1-2004.
	Requires CO2 monitoring in accordance with Title 24, Part 6.	
	Requires temporary ventilation during construction. Appendix A5.504.1.1	1 point for indoor air quality management plan during construction.
	Requires building flush-out post-construction. Appendix Section A5.504.2	1 point for indoor air quality management plan before occupancy.
	Requires finish material pollutant control. Section 5.504.4	1 point for reducing the quantity of indoor air contaminants.

## COMPARISON CHART

(CONTINUED)

ENVIRONMENTAL QUALITY (Continued)		
	Requires low emitting paints and coatings. Section 5.504.4.3	1 point for low emitting indoor air contaminants for paints and coatings.
	Requires low emitting carpet systems. Section 5.504.4.4	1 point for low emitting indoor air contaminants for carpet systems.
	Requires low-emitting resilient floor systems. Section 5.504.4.6	
	Requires low-emitting thermal insulation. Appendix Section A5.504.4.8	
	Requires low emitting acoustical wall and ceiling panels. Appendix Section A5.504.4.9	
	Requires low-emitting composite wood, including agrifiber products and adhesives. Section 5.504.4.5	1 point for low emitting indoor air contaminants for composite wood and agrifiber products.
	Requires indoor pollutant source control at entryways and in specified rooms. Appendix Section A5.504.5.1	1 point for Indoor pollutant source and chemical control.
	Requires lighting controllability by occupants. Appendix Section A5.507.1.1.1	1 point for controllability of lighting systems.
	Requires thermal comfort control by occupants. Appendix Section A5.507.1.1.2	1 point for controllability of thermal comfort systems.
	Requires thermal comfort design complying with ASHRAE 55-2004. Appendix Section A5.507.1	1 point for thermal comfort design.
	Requires post-occupancy verification of indoor environmental quality. Appendix Section A5.504.2	1 point if you provide verification of thermal comfort design.
	Requires daylight spaces meeting Title 24, Part 6 and provide views for 90% of building occupants. Appendix Section A5.507.2	1 point if you provide 75% of spaces with daylight and views. Additional point if you do 90% of the spaces with daylight and views.
	Requires acoustical control for exterior and interior sound control. Section 5.507.4	
		1-4 points for innovation and design process.
		1 point for use of a LEED accredited professional on your project.

Mandatory

Voluntary

Unknown

California Building Standards Commission (CBSC) proposals were supported by two organizations that have programs similar to the USGBC's, California Green Builder and Green Building Initiative/Global Green. However, there were several organizations that expressed concerns that CBSC did not agree with. It's worth noting that CBSC did have a lot of support for their positions. For example, they stated that the code does not have a verification system, but in fact the code will be subjected to the long-standing, successful enforcement infrastructure that the state has established to enforce its health, safety, fire, energy, and structural building codes. The existing enforcement practices will make verification of the Green Code for local building inspectors a simple transition.

On the inferiority issue, the state has not worked on a comparison, and these organizations did not provide information to substantiate their claims. However, the building industry did state that the residential provisions are at least equal to existing programs. Lastly, many stakeholders have stated that the code will provide clarity to the marketplace and not confusion.

**RESIDENTIAL MANDATORY MEASURES CHECKLIST**

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 4.1 - PLANNING AND DESIGN (Site Development)</b>				
4.106.2	Storm Water Drainage and Retention During Construction	Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction.	✓	✓
4.106.3	Surface Drainage	Site shall be planned and developed to keep surface water from entering buildings.	✓	✓
<b>Division 4.2 - ENERGY EFFICIENCY</b>				
4.201.1	Scope	The Department of Housing and Community Development's mandatory green building standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the California Energy Commission, (Part 6, Title 24). The most recent set of changes to the CEC's Energy Efficient Standards for Residential Buildings took effect on January 1, 2010.		
<b>Division 4.3 - WATER EFFICIENCY AND CONSERVATION (Indoor Water Use)</b>				
4.303.1	20% Savings	A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by at least 20% shall be provided. The 20% reduction shall be demonstrated by one of the following methods: 1. Prescriptive Approach: Toilets ≤ (1.28 gal/flush); Showerheads ≤ (2.0 gpm @ 80psi); Kitchen Faucets ≤ (1.8 gpm @ 60psi); Lavatory Faucets ≤ (1.5 gpm @ 60psi) 2. Performance Approach: A calculation demonstrating a 20% reduction of indoor potable water shall be performed using the baseline values set forth in Table 4.303.1. The calculation will be limited to the total water usage of water closets, lavatory faucets and showerheads within the dwelling.	✓	✓
4.303.2	Multiple Showerheads Serving One Shower	When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum flow rates specified in the 20% reduction column in Table 4.303.2 or the shower shall be designed to only allow one showerhead to be in operation at a time.  <b>Exception:</b> The max flow rate for showerheads when using the calculation method specified in Section 4.303.1, Item 2 is 2.5 gpm @ 80psi.	✓	✓
<b>Division 4.3 - WATER EFFICIENCY AND CONSERVATION (Outdoor Water Use)</b>				
4.304.1	Irrigation Controllers	Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following: 1. Controllers shall be weather - or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather changes. 2. Weather-based controllers without integral rain sensors or communication systems that account for rainfall shall have a separate wired or wireless rain sensor that connects or communicates with the controller(s).		✓
<b>Division 4.4 - MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY (Enhanced Durability &amp; Reduced Maintenance)</b>				
4.406.1	Joints and Openings	Openings in the building envelope separating conditioned space from unconditioned space needed to accommodate gas, plumbing, electrical lines and necessary penetrations must be sealed in compliance with the California Energy Code		✓
<b>Division 4.4 - MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY (Construction Waste Reduction, Disposal &amp; Recycling)</b>				
4.408.1	Construction Waste Reduction of at least 50%	Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent.  <b>Exceptions:</b> 1. Excavated soil and land-clearing debris. 2. Alternative waste reduction methods developed by working agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.	✓	✓
4.408.2	Construction Waste Management Plan	Where a local jurisdiction does not have a construction and demolition waste management ordinance, a construction waste management plan shall be submitted for approval to the enforcing agency.	✓	
4.408.2.2	Isolated Jobsites	The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.	✓	

**RESIDENTIAL MANDATORY MEASURES CHECKLIST** (continued)

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 4.4 – MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY (Building Maintenance &amp; Operation)</b>				
4.410.1	Operation and Maintenance Manual	At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which covers 10 specific subject areas shall be placed in the building. CBIA and HCD staff will develop a generic manual for use by the building industry to assist compliance with this section.		✓
<b>Division 4.5 – ENVIRONMENTAL QUALITY (Fireplaces)</b>				
4.503.1	General	Any installed gas appliance shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with US EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with local ordinances.	✓	✓
<b>Division 4.5 – ENVIRONMENTAL QUALITY (Pollutant Control)</b>				
4.504.1	Covering of Duct Openings and Protection of Mechanical Equipment During Construction	At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered.		✓
4.504.2.1	Adhesives, Sealants and Caulks	Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply: 1. Adhesives, adhesives bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 4.504.1 or 4.504.2 as applicable. Such products shall also comply with Rule 1168 prohibition on the use of certain toxic components (chloroform, ethylene, dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products as specified in subsection 2 below. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.		✓
<b>Division 4.5 – ENVIRONMENTAL QUALITY (Pollutant Control)</b>				
4.504.2.2	Paints and Coatings	Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measures as shown in Table 4.504.3 unless the more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in 4.504.3 shall comply.		✓
4.504.2.3	Aerosol Paints and Coatings	Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Section 94522(c) and (d)(2) of the California Code of Regulations, Title 17 commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.		✓
4.504.3	Carpet Systems	All carpet installed in the building interior shall meet the testing and product requirements of one of the following: 1. Carpet and Rug Institute's Green Label Plus Program 2. California Department of Public Health Standard Practice for testing of VOC's (Specification 01350) 3. Department of General Services, California Gold Sustainable Carpet Standard 4. Scientific Certifications Systems Indoor Advantage Gold		✓
4.504.3.1	Carpet Cushion	All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label Program.		✓
4.504.3.2	Carpet Adhesive	All carpet adhesives shall meet the requirements of Table 4.504.1.		✓
4.504.4	Resilient Flooring Systems	Where resilient flooring is installed at least 50% of the floor area receiving resilient flooring shall comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RCFI) FloorScore Program.		✓

**RESIDENTIAL MANDATORY MEASURES CHECKLIST** (continued)

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 4.5 – ENVIRONMENTAL QUALITY (Pollutant Control)</b>				
4.504.5	Composite Wood Products	Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxic Control Measure for Composite Wood (17 CCR 93120 etseq.), by or before the dates specified in those section as shown in Table 4.504.5. <b>Definition of Composite Wood Products:</b> Composite wood products include hardwood plywood, particle board, and medium density fiber board. Composite wood products does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glue laminated timber as specified in "Structural Glue Laminated Timber" (ANSI A190.1-2002) or prefabricated wood I-Joists.		✓
<b>Division 4.5 – ENVIRONMENTAL QUALITY (Interior Moisture Control)</b>				
4.505.2	Concrete Slab Foundations	Concrete slab foundations required to have a vapor retarder by California Building Code, CCR, Title 24, Part 2, Chapter 19 shall comply with this section.		✓
4.505.2.1	Capillary Break	A capillary break shall be installed in compliance with at least one of the following: 1. A 4 inch (101.6mm) thick base of ½ inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design which will address bleeding, shrinkage and curing shall be used. American Concrete Institute, ACI 302.2R-06. 2. Other equivalent methods approved by the enforcing agency. 3. A slab design specified by a licensed design professional.		✓
4.505.3	Moisture Content of Building Materials	Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19% moisture content. Moisture content shall be verified in compliance with the following: 1. Moisture content shall be determined with either a probe-type or a contact-type moisture meter. 2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the graded/stamped end of each piece to be verified. 3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.		✓
<b>Division 4.5 – ENVIRONMENTAL QUALITY (Indoor Air Quality &amp; Exhaust)</b>				
4.506.1	Bathroom Exhaust Fans	Mechanical exhaust fans which exhaust directly from bathrooms shall comply with the following: 1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidistat which shall be readily accessible. a) Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. <b>Note:</b> For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination.		✓
<b>Division 4.5 – ENVIRONMENTAL QUALITY (Environmental Comfort)</b>				
4.507.1	Openings	Whole house exhaust fans shall have insulated louvers or covers which close when the fan is off. Covers or louvers shall have a minimum insulation value of R-4.2.		✓
4.507.2	Heating and Air Conditioning System Design	Heating and air conditioning systems shall be sized, designed, and equipment is selected using the following methods: 1. The heat loss and heat gain is established according to ACCA Manual J, ASHRAE handbooks or other equivalent design software or methods. 2. Duct systems are sized according to ACCA 29-D Manual D, ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ACCA 36-S Manual S or other equivalent design software or methods. <b>Exception:</b> Use of alternate design temperatures necessary to ensure the systems function are acceptable.	✓	
<b>Chapter 7 – INSTALLER &amp; SPECIAL INSPECTOR QUALIFICATIONS</b>				
702.1	Installer Training [HCD]	HVAC system installers shall be trained and certified. Examples of acceptable HVAC training and certification programs include but are not limited to the following: 1. State certified apprenticeship programs. 2. Public utility training programs. 3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4. Programs sponsored by manufacturing organizations. 5. Other programs acceptable to the enforcing agency.	✓	✓

## NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 5.1 – PLANNING AND DESIGN (Site Development)</b>				
5.106.1	Storm Water Pollution Prevention Plan	For newly constructed projects of less than one acre, develop a Storm Water Pollution Prevention Plan (SWPPP) that has been designed, specific to its site, conforming to the State Storm water NPDES Construction Permit or local ordinance, whichever is stricter, as is required for projects one acre or more. The plan should cover prevention of soil loss by storm water run-off and/or wind erosion, of sedimentation, and/or of dust/particulate matter air pollution.	✓	✓
5.106.4	Bicycle Parking and Changing Rooms	Comply with Sections 5.106.4.1 and 5.106.4.2; or meet local ordinance or the University of California Policy on Sustainable Practices, whichever is stricter. 5.106.4.1 Short-Term bicycle parking. 5.106.4.2 Long-Term bicycle parking.	✓	✓
5.106.5.2	Designated Parking	Provide designated parking for any combination of low-emitting, fuel efficient, and carpool/van pool vehicles per Table 5.106.5.2.	✓	✓
5.106.8	Light Pollution Reduction	Comply with lighting power requirements in the California Energy Code, CCR, Part 6, and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1-4 as defined in Chapter 10 of the California Administrative Code, CCR, Part 1, using the following strategies: 1. Shield all exterior luminaires or provide cutoff luminaires per Section 132 (b) of the California Energy Code. 2. Contain interior lighting within each source. 3. Allow no more than .01 horizontal lumen footcandles to escape 15 feet beyond the site boundary. 4. Automatically control exterior lighting dusk to dawn to turn off or lower light levels during inactive periods. <b>Exceptions:</b> 1. Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and walkways. 2. Emergency lighting and lighting required for nighttime security.	✓	✓
5.106.10	Grading and Paving	The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.	✓	✓
<b>Division 5.2 – ENERGY EFFICIENCY</b>				
5.201.1	Scope	For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.  <b>Note:</b> It is the intent of this code to encourage buildings to achieve exemplary performance in the area of energy efficiency. For the purposes of energy efficiency standards, the California Energy Commission believes specifically, a green building should achieve at least a 15% reduction in energy usage when compared to the State's mandatory energy efficiency standards.		
<b>Division 5.3 – WATER EFFICIENCY AND CONSERVATION (Indoor Water Use)</b>				
5.303.1	Meters	Separate meters or metering device shall be installed for the uses described in Sections 503.1.1 and 503.1.2.	✓	
5.303.1.1	Buildings in excess of 50,000 square feet	Separate submeters shall be installed as follows: 1. For each individual leased, rented, or other tenant space within the building projected to consume more than 100 gal/day. 2. For spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop projected to consume more than 100 gal/day.	✓	
5.303.1.2	Excess consumption	Any building within a project or space within a building that is projected to consume more than 1,000 gal/day.	✓	
5.303.2	Twenty percent savings	A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fittings as required by the California Building Standards Code. The 20% reduction in potable water use shall be demonstrated by one of the following methods. 1. Each plumbing fixture and fitting shall meet the 20% reduced flow rate specified in Table 5.303.2.3, or 2. A calculation demonstrating a 20% reduction in the building "water use baseline" as established in Table 5.303.2.2 shall be provided.	✓	

**NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST** (continued)

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 5.3 – WATER EFFICIENCY AND CONSERVATION (Indoor Water Use)</b>				
5.303.2.1	Multiple showerheads serving one shower	When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum flow rates specified in the 20% reduction column contained in Table 5.303.2.2 or the shower shall be designed to only allow one showerhead to be in operation at a time.	✓	
5.303.4	Wastewater reduction	Each building shall reduce by 20% wastewater by one of the following methods: 1. [DSA-SS] The installation of water-conserving fixtures (water closets, urinals) meeting the criteria established in sections 5.303.2 or 5.303.3 or 2. Utilizing non-potable water systems (captured rainwater, graywater, and municipally treated wastewater (recycled water) complying with the current edition of the California Plumbing Code or other methods described in Section A5.304).	✓	
5.303.6	Plumbing fixtures and fittings	Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards referenced in Table 5.503.6.	✓	
<b>Division 5.3 – WATER EFFICIENCY AND CONSERVATION (Outdoor Water Use)</b>				
5.304.1	Water budget	A water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the California Department of Water Resources Model Water Efficient Landscape Ordinance where no local ordinance is applicable. <b>Note:</b> Prescriptive measures to assist in compliance with the water budget are listed in Sections 492.5 through 492.8, 492.10 and 492.11 of the ordinance, which may be found at: <a href="http://www.owue.water.ca.gov/landscape/ord/ord.cfm">http://www.owue.water.ca.gov/landscape/ord/ord.cfm</a>	✓	
5.304.2	Outdoor potable use	For new water service for landscaped areas between 1000 square feet and 5000 square feet (the level at which Water Code §535 applies), separate meters or submeters shall be installed for indoor and outdoor potable water use.	✓	
5.304.3	Irrigation design	In new nonresidential construction with between 1000 and 2500 square feet of landscaped area (the level at which the MLO applies), install irrigation controllers and sensors which include the following criteria, and meet manufacturer's recommendations.	✓	
5.304.3.1	Irrigation controllers	Automatic irrigation system controllers installed at the time of final inspection shall comply with the following: 1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change. 2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input. <b>Note:</b> More information regarding irrigation controller function and specifications is available from the Irrigation Association at: <a href="http://www.irrigation.org/SWAT/industry/ia-tested.asp">http://www.irrigation.org/SWAT/industry/ia-tested.asp</a>		✓
<b>Division 5.4 – MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY (Water Resistance and Moisture Management)</b>				
5.407.1	Weather protection	Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1403.2 (Weather Protection) and California Energy Code Section 150, (Mandatory Features and Devices), manufacturer's installation instructions, or local ordinance, whichever is more stringent.	✓	
5.407.2	Moisture control	Employ moisture control measures by the following methods. <b>5.407.2.1 Sprinklers.</b> Design and maintain landscape irrigation systems to prevent spray on structures. <b>5.407.2.2 Entries and openings.</b> Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings. <b>Notes:</b> 1. Use features such as overhangs and recesses, and flashings integrated with a drainage plane. 2. Use non-absorbent floor and wall finishes within at least two feet around and perpendicular to such openings.	✓	
<b>Division 5.4 – MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY (Construction Waste Reduction, Disposal &amp; Recycling)</b>				
5.408.1	Construction Waste diversion	Establish a construction waste management plan for the diverted materials, or meet local construction and demolition waste management ordinance, whichever is more stringent.	✓	

**NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST** (continued)

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 5.4 – MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY</b> <b>(Construction Waste Reduction, Disposal &amp; Recycling)</b>				
5.408.2	Construction waste management plan	Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan for approval by the enforcement agency that: 1. Identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale. 2. Determines if materials will be sorted on-site or mixed. 3. Identifies diversion facilities where material collected will be taken. 4. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.	✓	
5.408.2.1	Documentation	Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.408.2 items 1 thru 4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency. <b>Exception [DSA-SS]:</b> Jobsites in areas where there is no mixed construction and demolition debris (C&D) processor or recycling facilities within a feasible haul distance shall meet the requirements as follows: 1. The enforcement agency having jurisdiction shall at its discretion, enforce the waste management plan and make exceptions as deemed necessary.	✓	
5.408.2.2	Isolated jobsites	The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility. <b>Notes:</b> 1. Sample forms found in Chapter 8 may be used to assist in documenting compliance with the waste management plan. 2. Mixed construction and demolition debris (C&D) processors can be located at <a href="http://www.ciwmmb.ca.gov/ConDemo/">http://www.ciwmmb.ca.gov/ConDemo/</a> .	✓	
5.408.3	Construction waste reduction of at least 50 percent	Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Calculate the amount of materials diverted by weight or volume, but not by both. <b>Exceptions:</b> 1. Excavated soil and land-clearing debris 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.		✓
5.408.4	Excavated soil and land clearing debris	100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.		✓
<b>Division 5.4 – MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY</b> <b>(Building Maintenance and Operation)</b>				
5.410.1	Recycling by occupants	Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals.		✓
5.410.1.1	Sample ordinance	Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the Public Resources Code. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act). <b>Note:</b> A sample ordinance for use by local agencies may be found in Appendix A of the document at the California Integrated Waste Management's web site at: <a href="http://www.ciwmmb.ca.gov/Publications/LocalAsst/31000012.doc">http://www.ciwmmb.ca.gov/Publications/LocalAsst/31000012.doc</a> .	✓	
5.410.2	Commissioning	For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. Commissioning requirements shall include: 1. Owner's Project Requirements. 2. Basis of Design. 3. Commissioning measures shown in the construction documents. 4. Commissioning Plan. 5. Functional Performance Testing. 6. Documentation & Training. 7. Commissioning Report. All building systems and components covered by Title 24, Part 6, as well as process equipment and controls, and renewable energy systems shall be included in the scope of the Commissioning Requirements.		

**NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST** (continued)

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 5.4 – MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY</b>				
<b>(Building Maintenance and Operation)</b>				
5.410.2.1	Owner's or Owner representative's Project Requirements (OPR)	The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following: 1. Environmental and Sustainability Goals. 2. Energy Efficiency Goals. 3. Indoor Environmental Quality Requirements. 4. Project program, including facility functions and hours of operation, and need for after hours operation. 5. Equipment and Systems Expectations. 6. Building Occupant and O&M Personnel Expectations.		
5.410.2.2	Basis of Design (BOD)	A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project, and updated as necessary during the design and construction phases. The Basis of Design document shall cover the following systems: 1. Heating, Ventilation, Air Conditioning (HVAC) Systems and Controls. 2. Indoor Lighting System and Controls. 3. Water Heating System. 4. Renewable Energy Systems. 5. Landscape Irrigation Systems. 6. Water Reuse Systems.		
5.410.2.3	Commissioning plan	Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned and shall be started during the design phase of the building project. The Commissioning Plan shall include the following: 1. General Project information. 2. Commissioning Goals. 3. Systems to be commissioned. Plans to test systems and components shall include: a. An explanation of the original design intent. b. Equipment and systems to be tested, including the extent of tests, c. Functions to be tested, d. Conditions under which the test shall be performed, e. Measurable criteria for acceptable performance. 4. Commissioning Team Information. 5. Commissioning Process Activities, Schedules & Responsibilities – plans for the completion of Commissioning Requirements listed in A5.410.4.4 through A5.410.4.6 shall be included.		
5.410.2.4	Functional performance testing	Functional performance tests shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.		
5.410.2.5	Documentation and training	A Systems Manual and Systems Operations Training are required, including Occupational Safety and Health Act (OSHA) requirements in California Code of Regulations (CCR), Title 8, Section 5142, and other related regulations.		
5.410.2.5.1	Systems manual	Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner or representative and facilities operator. The Systems Manual shall include the following: 1. Site Information, including facility description, history and current requirements. 2. Site Contact Information. 3. Basic Operations & Maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log 4. Major Systems. 5. Site Equipment Inventory and Maintenance Notes. 6. A copy of all special inspection verifications required by the enforcing agency or this code. 7. Other Resources & Documentation.		
5.410.2.5.2	Systems operations training	The training of the appropriate maintenance staff for each equipment type and/or system shall be documented in the commissioning report and shall include the following: 1. System/Equipment overview (what it is, what it does and what other systems and/or equipment it interfaces with). 2. Review and demonstration of servicing/preventive maintenance. 3. Review of the information in the Systems Manual. 4. Review of the record drawings on the system/equipment.		
5.410.2.6	Commissioning report	A complete report of commissioning process activities undertaken through the design, construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner or representative.		

**NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST** (continued)

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 5.4 – MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY</b>				
<b>(Building Maintenance and Operation)</b>				
5.410.4	Testing and adjustment	Testing and adjusting of systems shall be required for buildings less than 10,000 square feet.	<input type="checkbox"/>	<input type="checkbox"/>
5.410.4.2	Systems	Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include at a minimum, as applicable to the project: 1. HVAC systems and controls 2. Indoor and outdoor lighting and controls 3. Water heating systems 4. Renewable energy systems 5. Landscape Irrigation Systems 6. Water Reuse Systems.	<input type="checkbox"/>	<input type="checkbox"/>
5.410.4.3	Procedures	Perform testing and adjusting procedures in accordance with industry best practices and applicable standards on each system as determined by the building official.	<input type="checkbox"/>	<input type="checkbox"/>
5.410.4.3.1	HVAC balancing	In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; or Associated Air Balance Council National Standards or as approved by the building official.	<input type="checkbox"/>	<input type="checkbox"/>
5.410.4.4	Reporting	After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.	<input type="checkbox"/>	<input type="checkbox"/>
5.410.4.5	Operation and maintenance (O & M) manual	Provide the building owner or representative with detailed operating and maintenance instructions and copies of guarantees/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.	<input type="checkbox"/>	<input type="checkbox"/>
5.410.4.5.1	Inspection and reports	Include a copy of all inspection verifications and reports required by the enforcing agency.		<input checked="" type="checkbox"/>
<b>Division 5.5 – ENVIRONMENTAL QUALITY (Fireplaces)</b>				
5.503.1	General	Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5.503.1.1	Woodstoves	Woodstoves and pellet stoves shall comply with US EPA Phase II emission limits.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Division 5.5 – ENVIRONMENTAL QUALITY (Pollutant Control)</b>				
5.504.3	Covering of duct openings and protection of mechanical equipment during construction	At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.		<input checked="" type="checkbox"/>
5.504.4	Finish material pollutant control	Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.		<input checked="" type="checkbox"/>
5.504.4.1	Adhesives, sealants and caulks	Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards. 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene), except for aerosol products as specified in subsection 2, below. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507. <b>Note:</b> Title 17 may be found at <a href="http://ccr.oal.ca.gov/">http://ccr.oal.ca.gov/</a>		<input checked="" type="checkbox"/>

**NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST** (continued)

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 5.5 – ENVIRONMENTAL QUALITY (Pollutant Control)</b>				
5.504.4.3	Paints and coatings	Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3, shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat, or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.		✓
5.504.4.3.1	Aerosol paints and coatings	Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in sections 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.		✓
5.504.4.3.2	Verification	Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following: 1. Manufacturers product specification. 2. Field verification of on-site product containers.		✓
5.504.4.4	Carpet systems	All carpet installed in the building interior shall meet the testing and product requirements of one of the following: 1. Carpet and Rug Institute's Green Label Plus Program 2. California Department of Public Health Standard Practice for the testing of OCs (Specification 01350) 3. NSF/ANSI 140 at the Gold level 4. Scientific Certifications Systems Sustainable Choice		✓
5.504.4.4.1	Carpet cushion	All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.		✓
5.504.4.4.2	Carpet adhesive	All carpet adhesive shall meet the requirements of Table 5.504.4.1.		✓
5.504.4.5	Composite wood products	Hardwood plywood, particleboard, and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 5.504.4.5		✓
5.504.4.5.2	Documentation	Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following. 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Other methods acceptable to the enforcing agency.		✓
5.504.4.6	Resilient flooring systems	For 50% of floor area receiving resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High performance Schools (CHPS) criteria and listed on its Low-emitting Materials List (or Product Registry) or certified under the Resilient Floor Covering Institute (RFCI) FloorScore program.		✓
5.504.4.6.1	Verification of compliance	Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits. <b>Notes:</b> 1. CHPS Low-emitting Materials List may be found at <a href="http://www.chpsregistry.com/live">www.chpsregistry.com/live</a> or <a href="http://www.chps.net/dev/Drupal/node/381">http://www.chps.net/dev/Drupal/node/381</a> . 2. Products certified under the FloorScore program may be found at: <a href="http://www.rfci.com/int_FS-ProdCert.htm">http://www.rfci.com/int_FS-ProdCert.htm</a> 3. Products certified under the Greenguard Children & Schools program and compliant with CHPS criteria may be found at: <a href="http://www.greenguard.org/Default.aspx?tabid=135">http://www.greenguard.org/Default.aspx?tabid=135</a> .		✓
5.504.5.3	Filters	In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 8.		✓
5.504.7	Environmental tobacco smoke (ETSA) control	Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and in buildings; or as enforced by ordinances, regulations, or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations, or policies are not in place, post signage to inform building occupants of the prohibitions.		✓

**NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST** (continued)

SECTION	CREDIT	REQUIREMENTS	PC	INSP
<b>Division 5.5 – ENVIRONMENTAL QUALITY (Indoor Moisture Control)</b>				
5.505.1	Indoor moisture control	Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.	✓	
<b>Division 5.5 – ENVIRONMENTAL QUALITY (Indoor Air Quality)</b>				
5.506.1	Outside air delivery	For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, or the applicable local code, whichever is more stringent, and Chapter 4 of CCR, Title 8.	✓	
5.506.2	Carbon dioxide (CO <sub>2</sub> ) monitoring	For buildings equipped with demand control ventilation, CO <sub>2</sub> sensors and ventilation controls shall be specified and installed in accordance with the requirements of the current edition of the California Energy Code, CCR, Title 24, Part 6, Section 121(c).	✓	
<b>Division 5.5 – ENVIRONMENTAL QUALITY (Environmental Comfort)</b>				
5.507.4	Acoustical control	Employ building assemblies and components with Sound Transmission coefficient (STC) values determined in accordance with ASTM E90 and ASTM E413.	✓	
5.507.4.1	Exterior noise transmission	Wall and roof-ceiling assemblies making up the building envelope shall have an STC of at least 50, and exterior windows shall have a minimum STC of 30 for any of the following building locations: 1. Within 1000 ft. (300 m.) of right of ways of freeways. 2. Within 5 mi. (8 km.) of airports serving more than 10,000 commercial jets per year. 3. Where sound levels at the property line regularly exceed 65 decibels, other than occasional sound due to church bells, train horns, emergency vehicles and public warning systems. <b>Exception:</b> Buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures, and utility buildings.	✓	
5.507.4.2	Interior sound	Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40. <b>Note:</b> Examples of assemblies and their various STC ratings may be found at: <a href="http://www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf">http://www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf</a> .	✓	
<b>Division 5.5 – ENVIRONMENTAL QUALITY (Outdoor Air Quality)</b>				
5.508.1	Ozone depletion and greenhouse gas reductions	Installations of HVAC, refrigeration, and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.  <b>5.508.1.1 Chlorofluorocarbons (CFCs.)</b> Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs. <b>5.508.1.2 Halons.</b> Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.	✓	

For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by **trained personnel** with experience on projects of comparable size and complexity.

Building Commissioning is a systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated, and maintained to meet the owner's project requirements.

