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## NEW CALIFORNIA BUILDING STANDARDS CODES SUMMARY OF CHANGES

California has recently adopted a new series of Building Standards Codes and they are now available for purchase. **All local jurisdictions will be required to enforce these new codes starting January 1, 2011.**

The following is a list of the new Building Standards Codes, reference document and a summary of the significant changes. **All projects submitted for permit application on or after January 1, 2011 will need to show complete conformance to these new codes.** Project review, approval and permit issuance may be slowed or rejected if they do conform to these new standards.

The following codes and references are the minimum now necessary for design and construction. Additional codes, references, reports and other State or Local laws may be applicable depending on the project design requirements and local conditions. **Note: The California Residential Code and the California Green Building Standards Code (CalGreen) are new documents not previously adopted in California.**

2010 CODES
California Building Code, Volumes 1 & 2
California Residential Code <b>(New)</b>
California Plumbing Code
California Mechanical Code
California Electrical Code
California Energy Code
<b>California Green Building Standards Code (New)</b>
California Fire Code
California Reference Standards Code

REQUIRED REFERENCE STANDARDS
ASCE 7-05 (2005 Minimum Design Loads for Buildings & Other Structures)
AISC 341-05 (2005 Seismic Provisions for Structural Steel Buildings)
AISC 358-05 (2005 Prequalified Connections for Special and Intermediate Moment Frames)
AISC 360-05 (2005 Specifications for Structural Steel Buildings – 13 <sup>th</sup> Edition)
ACI 318-08 (2008 Building Code Requirements for Structural Concrete)
ACI 530-08 (2008 Masonry Design)
AF&PA / NDS-2005 (Wood Design) & AF&PA / SDPWS-2005 (Wind & Seismic Design)

General information about the code development and adoption process may be found at the **California Building Standards Commission** website at: [www.bsc.ca.gov/default.htm](http://www.bsc.ca.gov/default.htm).

General purchase information may be found at the **International Code Council** website at: [www.iccsafe.org/ca2010](http://www.iccsafe.org/ca2010).

## SUMMARY OF CHANGES – 2010 CALIFORNIA CODES

### BUILDING CODE CHANGES - GENERAL SUMMARY OF ALL CODES:

1. California has adopted the nation's first green building code known as the **California Green Building Standards Code (CalGreen)**. These requirements are all new and have significant impact on all building types.
2. All structural design requirements require the use of additional supplemental **Reference Standards** from various professional organizations such as AISC, ASCE, ACI, etc.
3. The **disabled access** requirements for both multifamily and commercial occupancies have very few changes. See CBC Chapters 11A (Housing) & 11B (Commercial).
4. California has now adopted the **International Residential Code** with California amendments as the new **California Residential Code (CRC)**. Significant changes are now applicable to residential construction.
5. The 2010 **Energy Conservation Code** requirements are similar to the current 2008 regulations.
6. The **California Plumbing and Mechanical Codes (CPC & CMC)** are based on the current 2006 IAPMO **Uniform Plumbing and Uniform Mechanical Codes** and have minor changes.
7. **The California Electrical Code (CEC)** is based on the current 2008 **National Electric Code** and has minor changes.

### BUILDING CODE CHANGES – RESIDENTIAL OCCUPANCIES (\*NEW\* CALIFORNIA RESIDENTIAL CODE):

1. The **California Residential Code** is completely new and is a separate document applicable to detached one & two family dwellings. This Code covers all structural requirements for "conventional construction" and non-structural aspects of dwelling construction.
2. The requirements for Multi-family residential projects are found in the California Building Code.
3. **Residential Fire Sprinklers** are now required in all new residential construction. (CRC Section R313.2)
4. **Townhouses** (not more than three stories) are included in the Residential Code.
5. The **Occupancy Separation** between dwellings and a garage or carport is found in the CRC Sections R302.5 & R302.6.
6. New dwellings equipped with fire sprinklers, require a one-hour rated exterior property line firewall with no openings when less than three feet to the property line. (CRC Section R302.1)
7. **Guardrails** (guards) for all residential dwelling units (inside and outside) are required to be 42 inches in height. (CRC Section R312.2)
8. In addition to smoke alarms, **Carbon Monoxide** alarms are required in new dwellings units. (CRC Section R315)
9. **Exiting** from floors above or below the first floor has been revised to limit the maximum travel distance to 50 feet. (CRC Section R311.4)

### BUILDING CODE CHANGES – COMMERCIAL OCCUPANCIES:

1. Wall and opening protection, allowable areas and area increases, number of stories, and sprinkler requirements are found in the CBC Chapters 3, 4 and 5 and 9.
2. Mixed-use Occupancy requirements are located in the CBC Section 508.
3. **Type of Construction** requirements and designations are located in the CBC Chapter 6.
4. Fire rated wall terminology; construction and application are located in the CBC Chapter 7.
5. **Means of egress** are located in the CBC Chapter 10.

## BUILDING CODE CHANGES – STRUCTURAL PROVISIONS:

1. The structural design for residential dwellings is now found in the new **California Residential Code**. All other design is found in the **California Building Code**. Residential construction may use “conventional framing” (where structure is not irregular) per the CRC or engineered design using the CBC. (CRC Section R301.1.3)
2. All structural design methods refer to applicable reference standards published by the various corresponding technical committees or organizations such as AISC, ACI, ASCE, AF&PA/NDS, etc. Engineers must have these documents to design structures in wood, steel, concrete, masonry, etc.
3. All design forces, including seismic design forces, are established in the CRC Sections R301.2, R602, CBC Chapter 16 and ASCE 7-05.
4. Seismic design requires the determination of Site Classification and Seismic Design Categories per the CRC Section R301.2.2 and CBC Section 1613.
5. Seismic design methodology is per the CBC Section 1613 and ASCE 7-05 Chapter 12.
6. Seismic Base Shear, vertical and horizontal distribution and other seismic design requirements are found in the ASCE 7-05 Sections 12.8 through 12.14.
7. **Seismic Design Categories** in the CRC now include the new categories D0, D1 and D2. (CRC Section R301.2.2.1)
8. Assistance in the determination of Seismic Design Categories can be found on the USGS website at: <http://earthquake.usgs.gov/research/hazmaps/design>
9. Seismic design for steel buildings resides in the AISC publication: “Seismic Design for Steel Buildings”. *Note: Use of FEMA guidelines is not applicable.*
10. Seismic design for most structures in Southern California, including most new single-family dwellings not using the CRC, will require the use of a site-specific soils report. (CBC Sections 1802.2 & 1802.2.7)
11. The CRC requires a concrete strength of 3000 psi at 28 days for concrete foundation stem walls and retaining walls in Seismic Design Categories D0, D1 and D2. (CRC Section R404.1.2.3.1)
12. Flexible diaphragms are now considered with design provisions and restrictions in both the CBC Chapter 16 and ASCE 7-05.
13. **Conventional construction** is permitted with a significant number of restrictions and limitations in Seismic Design Categories D & E per the CRC Section 301.1.3 & CBC Section 2308.
14. Wood Truss design drawings require specific design and detail information as well as specific submittal requirements. (CBC Section 2303.4)

## BUILDING CODE CHANGES – CALIFORNIA GREEN BUILDING STANDARDS CODE (\*NEW\* CALGREEN):

1. The **CalGreen Code** is completely new and is a separate document applicable to all new residential and non-residential construction.
2. Establishes sustainable construction practices in planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency and environmental quality.
3. Sets minimum mandatory Green Building Standards and may include optional improved “tiers” (use of “tiers” is not mandatory in Elk Grove).