

California Building Standards Commission

A COMMISSION WITHIN **DGS**

and the
California Department of Housing and
Community Development
present

• • •

CAL Green®





Introduction

California Building Standards Commission

Michael L. Nearman

Deputy Executive Director

Enrique M. Rodriguez

Associate Construction Analyst

Department of Housing and Community Development

Kyle Krause

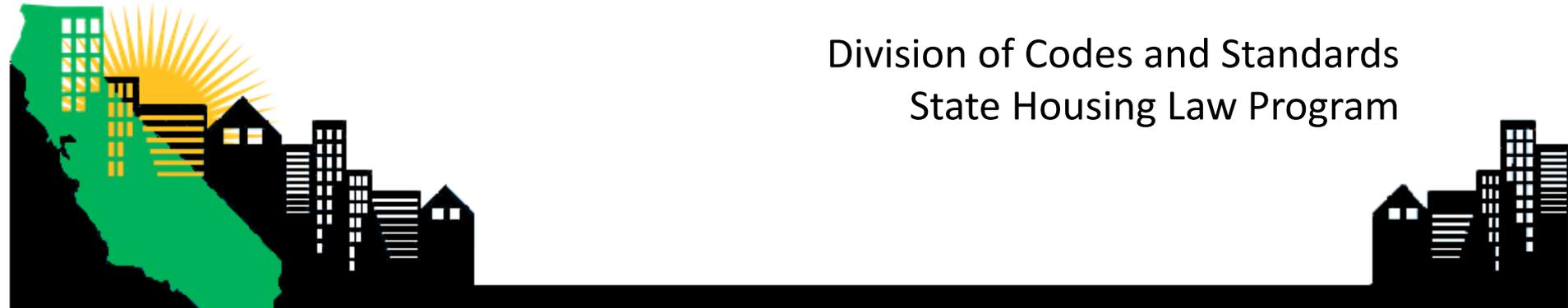
Program Manager

Stoyan Bumbalov

District Representative II

Division of Codes and Standards

State Housing Law Program



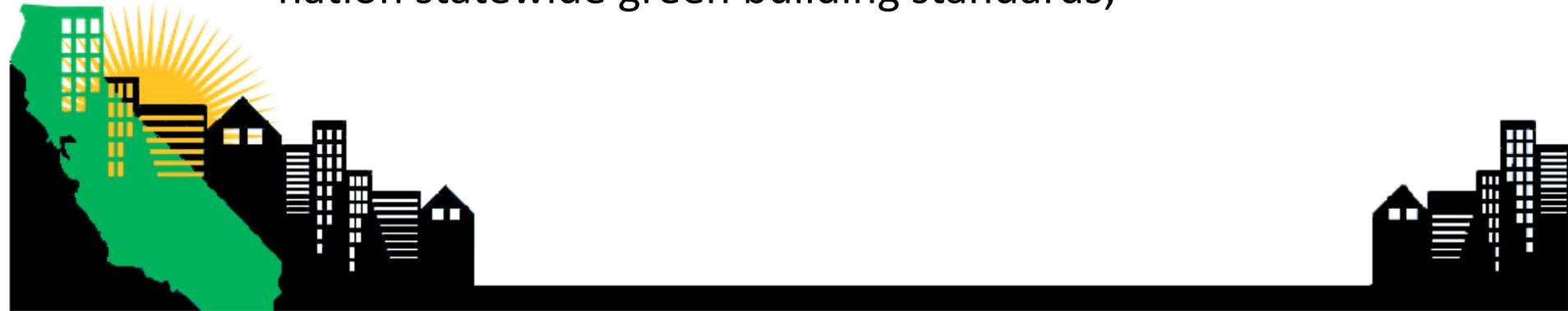
Workshop Goals

- Why CALGreen?
- Residential 2013
- Nonresidential 2013
- Current Activities
- Future Activities
- Q&A throughout



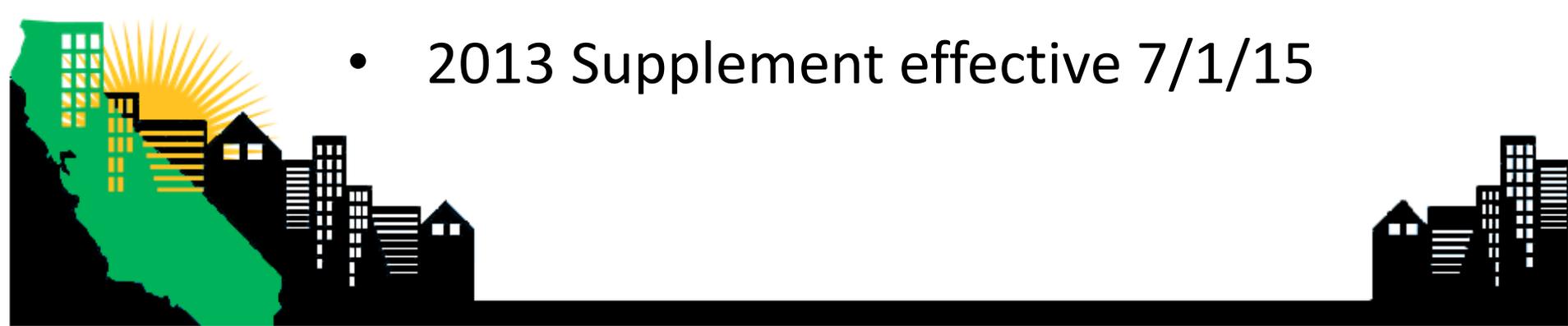
History Note

- Governor directs state agencies in 2007/2008 to develop green building standards for residential, commercial, and public building construction for the 2010 code adoption process
- EO S-20-04: Reduce grid-based electricity by 20% in state-owned buildings by 2015; reduce associated greenhouse gas emissions
- AB 32: Reduce GHG emissions to 1990 levels by 2020
- State agencies with authority to develop building codes worked together with industry stakeholders to develop the first-in-the-nation statewide green building standards;



History Note

- Result- CALGreen
 - 2008 Voluntary Code (effective 8/1/09)
 - 2010 First Mandatory Green Code (effective 1/1/11)
 - 2013 Mandatory Green Code (effective 1/1/14) with increased measures
 - 2013 Supplement effective 7/1/15



History Note

- Enforced like other California codes
- Does not require third party inspection or verification
- Maintains current relationship between enforcing agencies and builders
- Uniformity and Consistency
 - Jurisdictions using different programs
 - Coordinated with other California codes

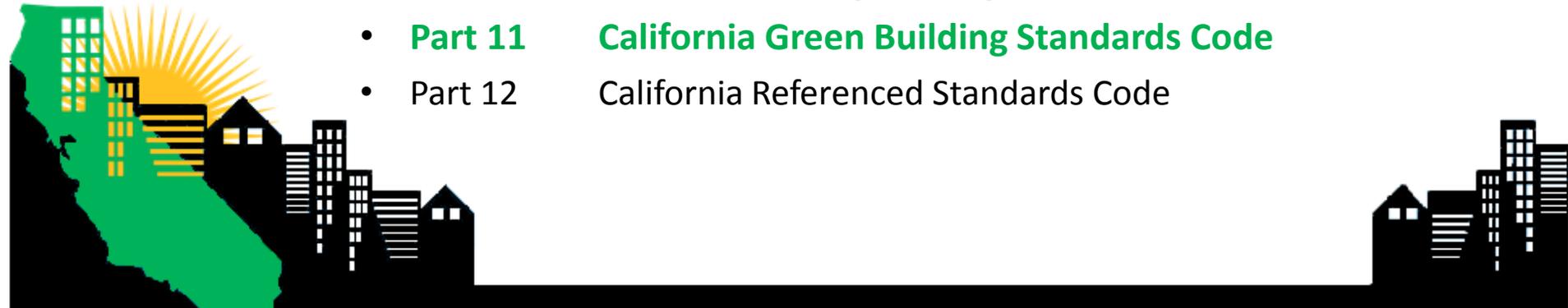




2013 California Building Standards Code

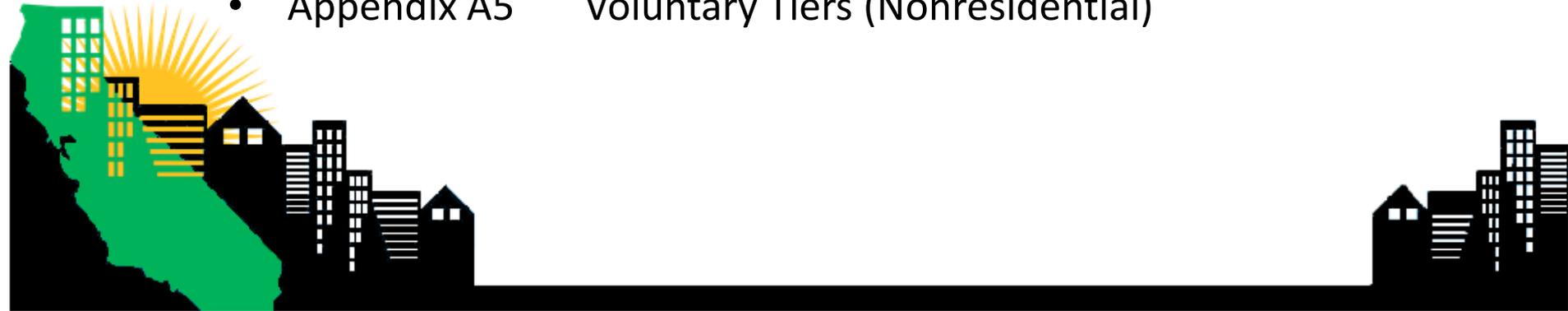
Title 24, California Code of Regulations

- Part 1 California Administrative Code
- Part 2 California Building Code
- Part 2.5 California Residential Code
- Part 3 California Electrical Code
- Part 4 California Mechanical Code
- Part 5 California Plumbing Code
- Part 6 California Energy Code
- Part 7 *Vacant*
- Part 8 California Historical Building Code
- Part 9 California Fire Code
- Part 10 California Existing Building Code
- **Part 11 California Green Building Standards Code**
- Part 12 California Referenced Standards Code



Code Format

- Chapter 1 Administration
- Chapter 2 Definitions
- Chapter 3 Green Building
- Chapter 4 Residential Mandatory Measures
- Chapter 5 Nonresidential Mandatory Measures
- Chapter 6 Referenced Organizations and Standards
- Chapter 7 Installer and Special Inspector Qualifications
- Chapter 8 Compliance Forms and Worksheets
- Appendix A4 Voluntary Tiers (Residential)
- Appendix A5 Voluntary Tiers (Nonresidential)



Chapter 1 - Administration

Purpose

- Minimize impact of building construction on the environment
 - Improve construction practices
 - Reduce greenhouse gases and air pollution
 - Improve indoor air quality

Scope

- Application
- Not intended to be identified as meeting the requirements of a point rated system

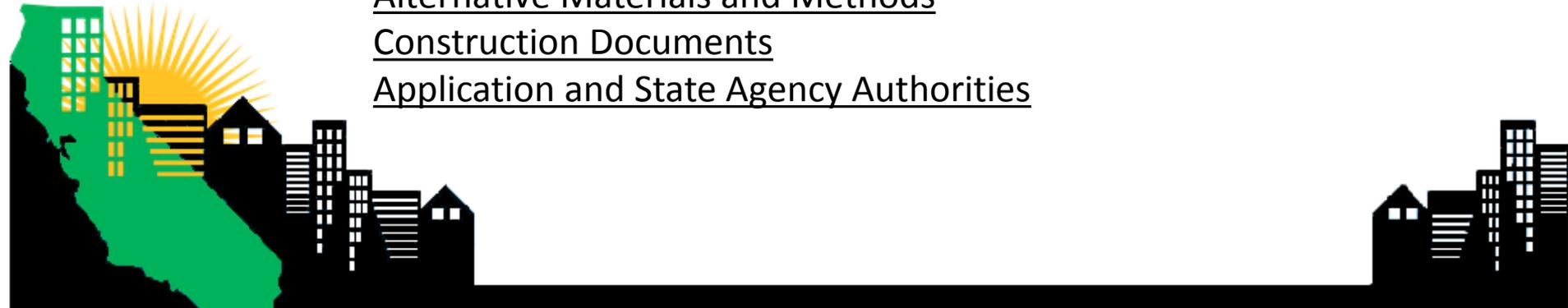
Local amendments based on findings

- Climate
- Topography
- Geology

Alternative Materials and Methods

Construction Documents

Application and State Agency Authorities





Department of Housing and Community Development Residential Measures

Department of Housing and Community Development
Kyle Krause
Program Manager

Stoyan Bumbalov
District Representative II

Division of Codes and Standards
State Housing Law Program



Chapter 1

Preface:

Please note the following effective dates throughout this presentation:

Left column:

2013 CALGreen (Current)

(effective 1/1/2014 - 12/31/2016)

Right column:

2013 Intervening Changes

(effective 7/1/2015- 12/31/16)



ADMINISTRATION

Chapter 1 – State-regulated buildings, structures and applications (HCD)

2013 Current

Scope - Residential occupancies

- Identifies application of CALGreen to ALL residential buildings.

2013 Intervening

- No Change



Chapter 2 – Definitions (HCD)

2013 Current

- Low-Rise Residential Building: Any building that is of Occupancy Group R and is three stories or less.
- High-Rise Residential Building: Any building that is of Occupancy Group R and is four stories or greater in height.
- These terms defined in Chapter 2

2013 Intervening

- Revised definition for **Electric Vehicle (EV)**: added “electric motorcycles” to list of vehicle types.
- New definition for **Electric Vehicle Charging Station(s) (EVCS)**: One or more spaces intended for charging electric vehicles.



Chapter 3 – Additions and Alterations (HCD)

2013 Current

- CALGreen provisions apply to additions or alterations of existing residential buildings **where the addition or alteration increases the building's conditioned area, volume, or size.**
- Applies to (or within) the area of the addition or alteration.

2013 Intervening

- No Change



Chapter 3 – Additions and Alterations (HCD)

2013 Current

- A “note” was added to alert code users to requirements in the California Civil Code requiring replacement of non-compliant plumbing fixtures and fittings with water-conserving fixtures and fittings by specified dates. (SB 407)

2013 Intervening

- No Change



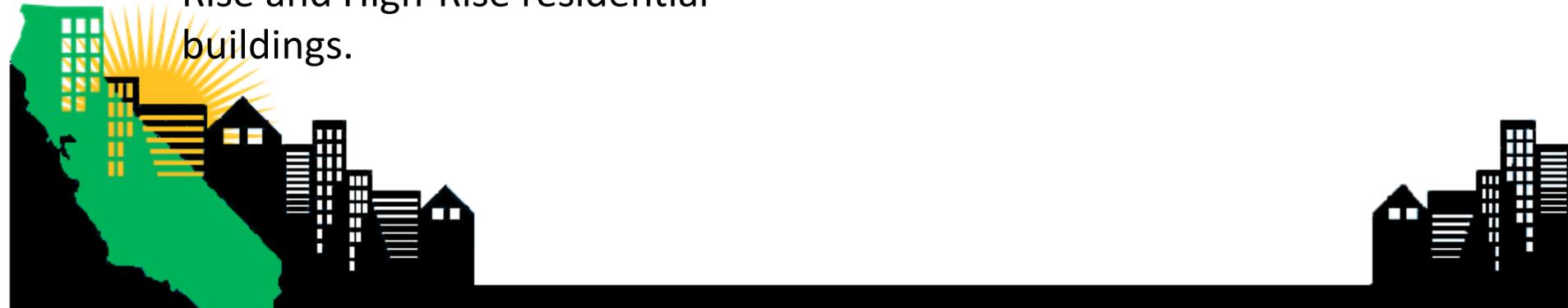
Chapter 3 – Low-Rise and High-Rise residential buildings (HCD)

2013 Current

- May apply to either Low-Rise or High-Rise residential buildings or to both.
- Banners designate when provisions apply only to Low-Rise (**LR**) or only to High-Rise (**HR**) residential buildings.
- No banner is used when provisions apply to both Low-Rise and High-Rise residential buildings.

2013 Intervening

- No Change



Chapter 3 – Tiers (HCD)

2013 Current

- Allows enforcing agencies to grant modifications to threshold levels of Tiers when there are “practical difficulties” with compliance.
- Co-adopted by HCD & BSC.

2013 Intervening

- No Change



Chapter 4 - Residential Mandatory Measures

Five Divisions:

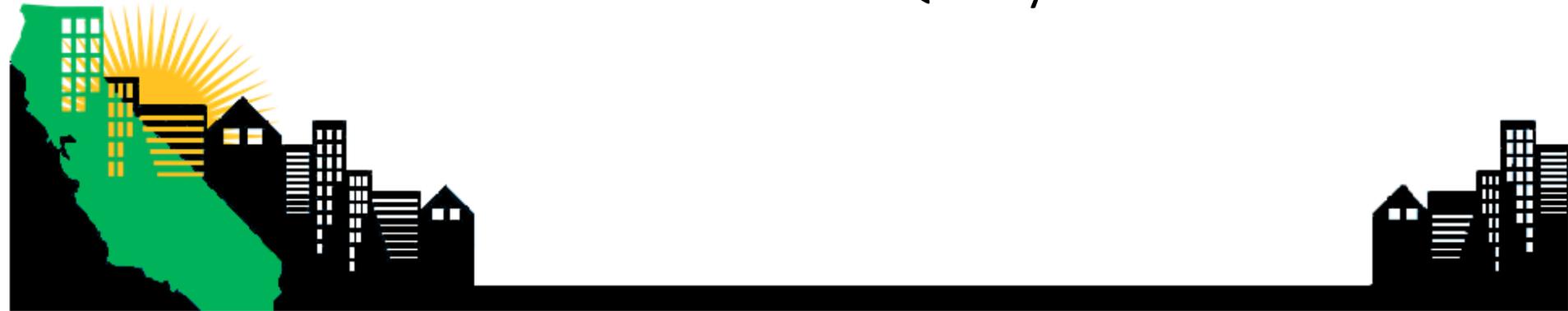
Division 4.1 - Planning and Design

Division 4.2 - Energy Efficiency

Division 4.3 - Water Efficiency and Conservation

Division 4.4 - Material Conservation and Resource
Efficiency

Division 4.5 - Environmental Quality



Chapter 4 - Division 4.1 Site Development

New Mandatory Provisions for Electric Vehicle Charging Infrastructure

Section 4.106.4 EV Charging for New Construction.

- Requires raceway, panel capacity, and area for charging station(s)

Exceptions :

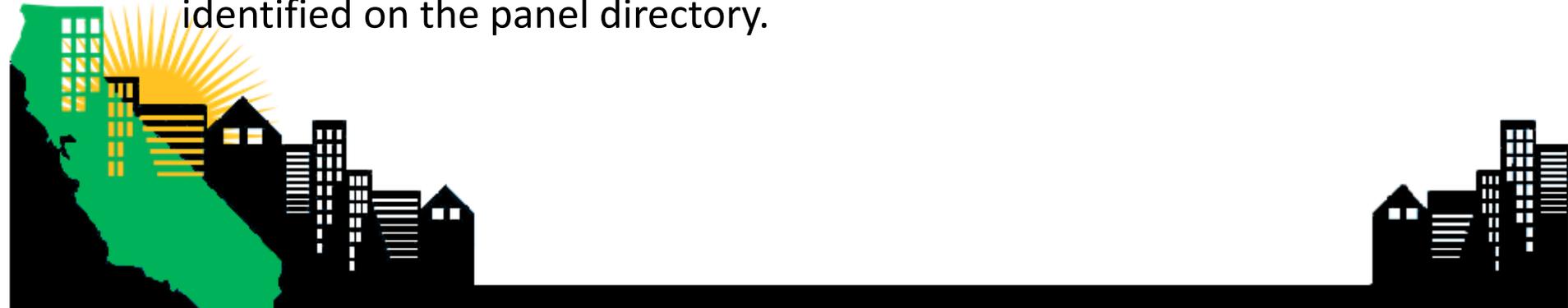
- Where there is no commercial power supply.
- Where there is substantiated evidence that compliance will alter the local utility infrastructure design requirements on the utility side of the meter, thereby, increasing the utility cost to homeowner or developer by more than \$400 per dwelling unit.



Chapter 4 - Division 4.1 Site Development

Section 4.106.4.1 **New one- and two-family dwellings and townhouses with attached private garages.**

- **Install raceway** (conduit) of 1-inch inner diameter capable of accommodating a dedicated 208/240-volt branch circuit.
- Raceways must be **continuous at enclosed, inaccessible or concealed areas.**
- **Service panel** and/or subpanel is **required to have capacity for installation of a 40-ampere minimum dedicated branch circuit** and reserved space(s) for the branch circuit overcurrent protective device (breaker).
- Space(s) for the future overcurrent protective device is required to be identified on the panel directory.



Chapter 4 - Division 4.1 Site Development

Section 4.106.4.2 New multifamily dwellings.

- Applies to projects with **17 or more multifamily dwelling units** on a building site.
- Requires **3% of the total number of parking spaces, but no less than 1,** to **have capability for future electric vehicle charging.**
- Proposed locations and dimensions of electric vehicle charging stations **(EVCS) to be identified on construction plans.**
- Spaces for the future overcurrent protective device is required to be identified on the panel directory.
- IMPORTANT: **There is no mandatory requirement to build EVCS,** or identify the spaces on the ground, or to install chargers.



Chapter 4 - Division 4.1 Site Development

Section 4.106.4.2.1 EVCS Locations.

- Construction documents required to show EVCS location(s).
- At least one EVCS is required to be located in common use areas and available for use by all residents.
- **Two options when chargers are installed:**
 1. Locate EVCS adjacent to an accessible (CBC 11A) parking space which allows use of the charger from either space.
 2. Locate EVCS on an accessible route (as defined in CBC) to building.



Chapter 4 - Division 4.1 Site Development

Section 4.106.4.2.2 EVCS Dimensions and Slope.

- Length: **18 feet** minimum
- Width: **9 feet** minimum (except as noted below)
- **1 in 25 EVCS**, but not less than 1, **shall also have an 8-foot aisle.**
(A 5-foot aisle with a 12-foot wide space is also acceptable.)
- **Surface slope** for this EVCS **shall not exceed 1 unit vertical in 48 units horizontal** (2.083%).



Chapter 4 - Division 4.1 Site Development

Section 4.106.4.2.3 Single EVCS required.

- Requirements are similar to those for one- and two-family dwellings.
- **Install raceway** (conduit) capable of accommodating a 208/240-volt dedicated branch circuit.
- Raceway **not less than 1-inch inside diameter** from service panel to listed box.
- Construction documents must **identify the raceway termination point.**
- Service panel and/or subpanel shall have **capacity for installation of a 40-ampere minimum dedicated branch circuit** and reserved space(s) for the branch circuit overcurrent protective device (breaker).



Chapter 4 - Division 4.1 Site Development

Section 4.106.4.2.4 Multiple EVCS required.

- Construction documents must identify the raceway termination point, proposed location of future EVCS and chargers, raceway methods, wiring schematics, amperage of chargers, and load calculations.
- Information on construction documents help verify that electrical panel service capacity and electrical system, including on-site distribution transformers, have capacity to simultaneously charge all required EVCS at full rated amperage of the chargers.
- Plan design is based on a 40-ampere minimum branch circuit.
- Any underground, enclosed, inaccessible or concealed raceways and related components are required to be installed at time of original construction.



ENERGY EFFICIENCY

Chapter 4 - Division 4.2 General

2013 Current

- Scoping language provides recognition that the California Energy Commission (CEC) adopts mandatory energy efficiency standards for purposes of residential buildings.

2013 Intervening

- CEC will continue to develop and adopt mandatory standards.





California Energy Commission

Contact information

Residential Energy Efficiency Standards

California Energy Efficiency Hotline

Telephone: (916) 654-5106

1-800-772-3300 (toll free in CA)

Email: title24@energy.state.ca.us

Website: www.energy.ca.gov



Water Efficiency and Conservation

Chapter 4 - Division 4.3, Indoor Water Use

2013 Current

- Prescriptive requirements for water conserving fixtures and fittings identified.
- Consistent with Health and Safety Code, California Plumbing Code and California Energy Commission's Title 20 appliance efficiency standards.

2013 Intervening

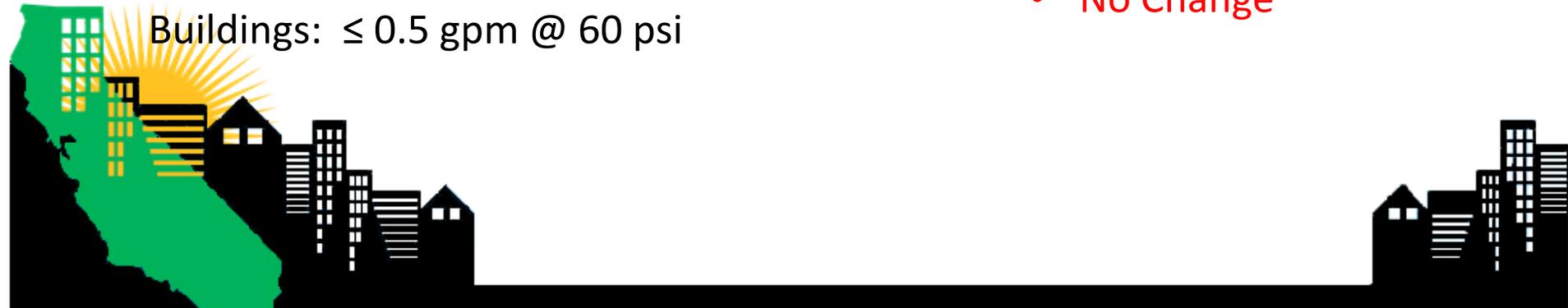
- No Change



Chapter 4 - Division 4.3, Indoor Water Use

2013 Current

- **Showerheads:** ≤ 2.0 gpm @ 80 psi
 - Multiple Showerheads: combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gpm @ 80 psi
 - **Lavatory Faucets:** ≤ 1.5 gpm @ 60 psi
 - Lavatory Faucets in Common and Public Use Areas of Residential Buildings: ≤ 0.5 gpm @ 60 psi
 - **Metering Faucets:** ≤ 0.25 gallons per cycle
 - **Kitchen Faucets:** ≤ 1.8 gpm @ 60 psi; temporary increase to 2.2 gpm allowed but shall default to 1.8 gpm.
 - **Waters Closets:** ≤ 1.28 gal/flush
 - **Urinals:** ≤ 0.5 gal/flush
- 2013 Intervening
- No Change



Chapter 4 - Division 4.3, Indoor Water Use

2013 Current

Multiple Showerheads Serving One Shower.

- Prescriptive water flow rate is 2.0 gpm @ 80 psi.
- Option for performance method has been repealed. 2.5 gpm @ 80 psi is no longer an option due to prescriptive requirement of 2.0 gpm @ 80 psi.

2013 Intervening

- No Change



Chapter 4 - Division 4.3, Indoor Water Use

2013 Current

2013 Intervening

Standards for plumbing fixtures and fittings

- Table 4.303.3 (Standards) repealed.
- Refers code user to referenced standards in the California Plumbing Code.

- No Change



Chapter 4 - Division 4.3, Outdoor Water Use

2013 Current

Irrigation Controllers

- Weather- or soil moisture-based
- Automatically adjust irrigation based on plant needs as weather conditions change.
- Can use rain sensors or communication system that accounts for local rainfall.

2013 Intervening

- No Change



Chapter 4 - Division 4.4

Construction Waste Reduction, Disposal and Recycling

2013 Current

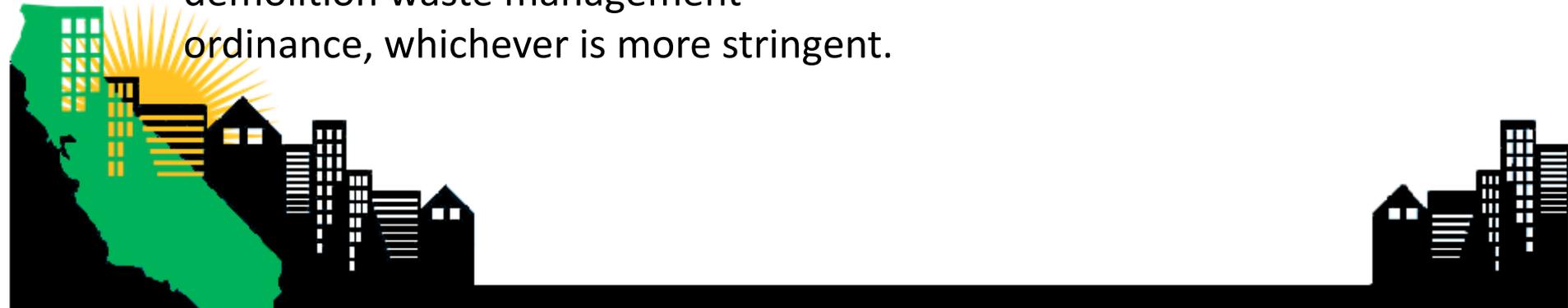
- Recycle and/or salvage a minimum of 50 percent of the nonhazardous construction and demolition waste.
Exceptions:
 - Excavated soil and land-clearing debris.
 - Alternate waste reduction methods
 - Isolated jobsites.

OR

- Meet a local construction and demolition waste management ordinance, whichever is more stringent.

2013 Intervening

- No Change



Chapter 4 - Division 4.4

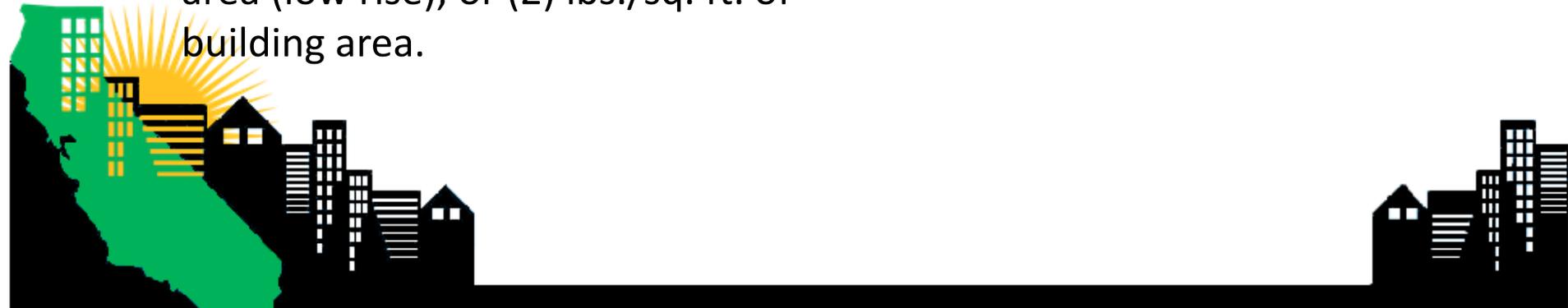
Construction Waste Reduction, Disposal and Recycling

2013 Current

- Submit a construction waste management plan in conformance with five specified items.
- Utilize a waste management company which can document 50% diversion.
- Verify the total combined weight of construction and demolition waste disposed of in landfills, does not exceed four (4) lbs./sq. ft. of building area (low rise), or (2) lbs./sq. ft. of building area.

2013 Intervening

- No Change



Chapter 4 - Division 4.4

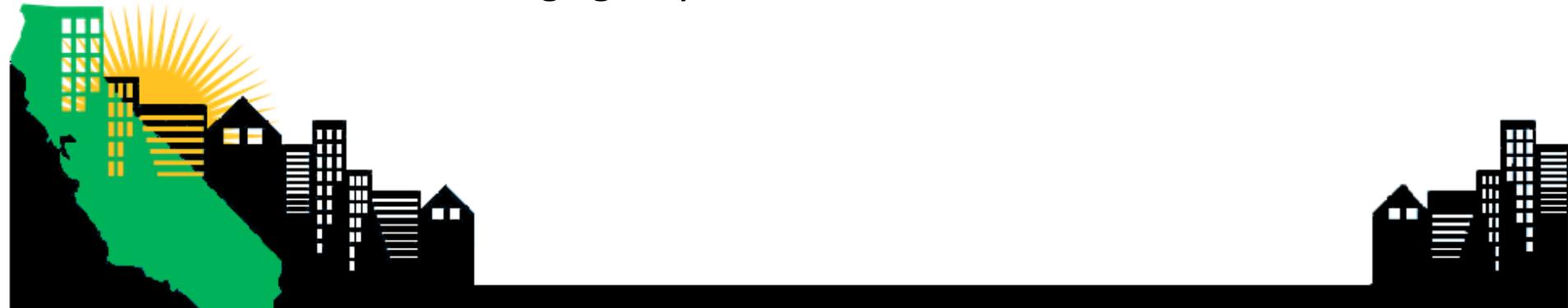
Construction Waste Reduction, Disposal and Recycling

2013 Current

- Provide documentation to local enforcing agency demonstrating 50 percent reduction of construction and demolition waste.
- Sample worksheets and documentation forms are available on HCD's website.
- Additional forms and documentation may be acceptable to the local enforcing agency.

2013 Intervening

- No Change



Chapter 4 - Division 4.4

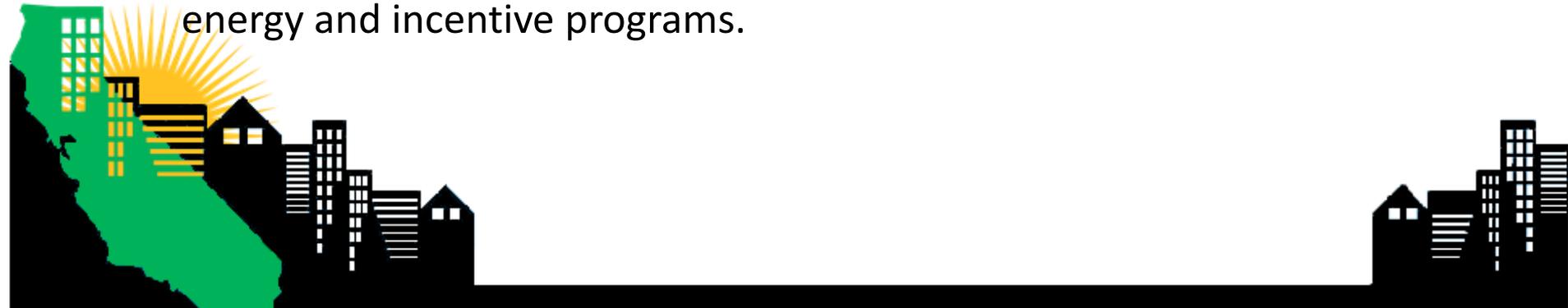
Building Maintenance and Operation

2013 Current

- Requires educational materials, operation and maintenance manuals to be provided to ensure buildings and equipment are properly maintained.
- Requires additional information be provided, e.g., landscape and irrigation design and controllers, public transportation options, recycling opportunities, solar energy and incentive programs.

2013 Intervening

- No Change



Chapter 4 - Division 4.5, Fireplaces

2013 Current

- Requires gas fireplaces to be direct-vent sealed-combustion type.
- Requires woodstoves and pellet stoves to comply with EPA Phase II emission limits.
- Woodstoves, pellet stoves and fireplaces shall also comply with local ordinances.

2013 Intervening

- No Change



Chapter 4 - Division 4.5, Pollutant Control

2013 Current

- Requires covering of duct openings and protection of mechanical equipment from water, dust and debris.

2013 Intervening

- No Change



Chapter 4 - Division 4.5, Pollutant Control

2013 Current

2013 Intervening

Finish Material Pollutant Control

- Limits pollutants from the off-gassing of finish materials inside a residence.
- Tables identify limits on the emissions of VOCs in adhesives sealants and chinks; and paints and coatings (including aerosol products).
- VOC limitations are also included for carpet, carpet cushions and carpet pad adhesives.

- No Change



Chapter 4 - Division 4.5, Pollutant Control

2013 Current

2013 Intervening

Carpet systems

- VOC limitations for carpet, carpet cushions and carpet pad adhesives.

- No Change



Chapter 4 - Division 4.5, Pollutant Control

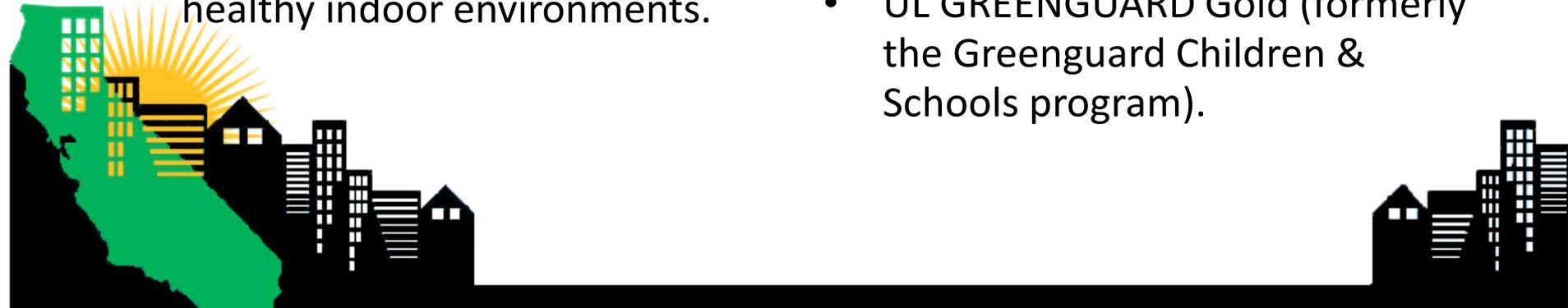
2013 Current

Resilient flooring systems

- At least 80% of areas where resilient flooring is installed to comply with specified VOC limits and criteria.
- Responds to the Governor's Executive Order B-18-12 directing state agencies to implement CALGreen's relevant and feasible voluntary measures to ensure healthy indoor environments.

2013 Intervening

- Updates to titles of Compliance Standards.
- (CDPH) "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350).
- UL GREENGUARD Gold (formerly the Greenguard Children & Schools program).



Chapter 4 - Division 4.5, Pollutant Control

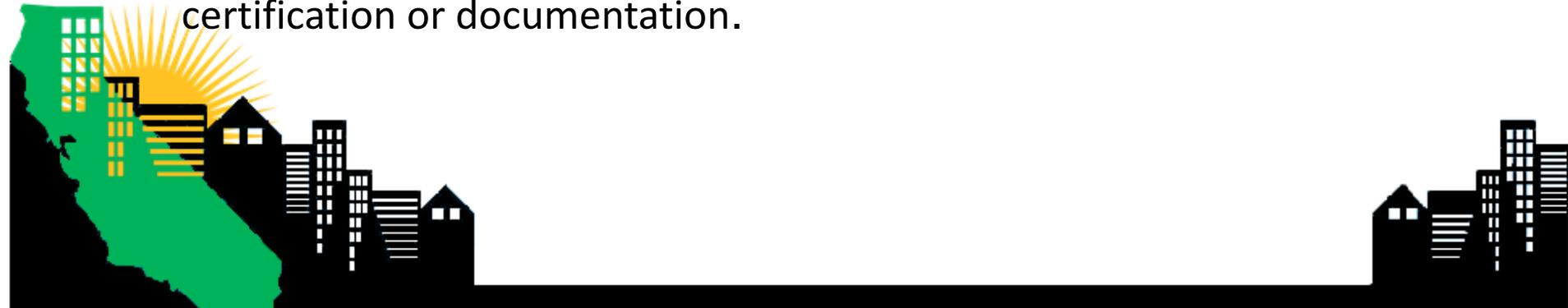
2013 Current

Composite wood products

- A table addressing the formaldehyde limits for composite wood products was developed based on maximum allowable limits established by the California Air Resources Board (ARB).
- Ensures these formaldehyde levels are met by including a mandatory verification component which requires certification or documentation.

2013 Intervening

- Table has been updated to reflect current limits.
- No changes to verification components.



Chapter 4 - Division 4.5, Interior Moisture Control

2013 Current

Concrete slab foundations

- Requires installation of vapor retarders in slab-on-grade foundations.
- Requires a 4" thick base of 1/2" or larger clean aggregate as a capillary break.
- Allows equivalent methods or engineered designs to be used.

2013 Intervening

- No change



Chapter 4 - Division 4.5, Interior Moisture Control

2013 Current

Moisture content of building materials

Moisture content shall be determined by:

- Moisture meter (probe-type or contact-type)

OR

- Equivalent moisture verification methods approved by the enforcing agency.

2013 Intervening

- No change



Chapter 4 - Division 4.5, Interior Moisture Control

2013 Current

Bathroom exhaust fans

- Fans must be controlled by a humidity control.
- Humidity control not required to be integral part of fan.
- Fans must be capable of (automatic or manual) adjustment between relative humidity levels of $\leq 50\%$ to maximum of 80% .

2013 Intervening

- No change



Residential Voluntary Measures

Appendix A4

Tier 1 and Tier 2

Scope

- The measures contained in the Appendix are not mandatory unless adopted by a city, county, or city and county.
- In order to meet one of the tier levels - designers, builders, or property owners are required to incorporate additional green building measures necessary to meet the threshold of each level.



Appendix A4

Prerequisite Measures

- Tier 1 and Tier 2 thresholds require compliance with the mandatory provisions of this code and incorporation of the required prerequisite measures listed for Tier 1 and Tier 2.
- Prerequisite measures are also identified in the Residential Application Checklist.
- Additional prerequisite measures may be included by the enforcing agency to address specific local environmental conditions and may be listed in the Innovative Concepts and Local Environmental Conditions portions of the checklist.



Appendix A4

Elective Measures

- In addition to the mandatory requirements and prerequisite measures, Tier 1 and Tier 2 buildings must incorporate a specified number of elective measures.



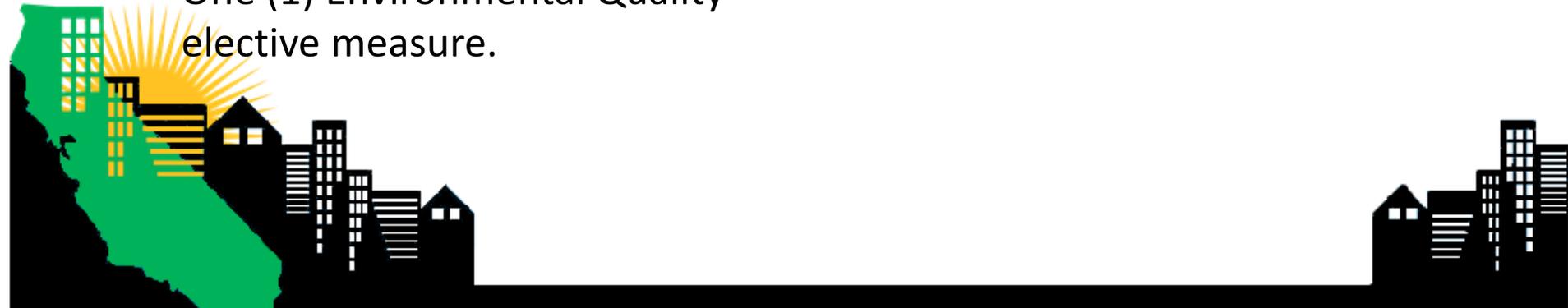
Appendix A4 Number of Electives for Tier 1

2013 Current Tier 1 Electives:

- Two (2) Planning and Design elective measures.
- All 2010 Energy Efficiency electives repealed and replaced with 2013 prerequisites.
- At least two (2) electives needed for Water Efficiency.
- Two (2) Material Conservation and Resource Efficiency elective measures.
- One (1) Environmental Quality elective measure.

2013 Intervening

- Prerequisite measures added for Electric Vehicle Charging.
(A4.106.8)
- Applicable to one- and two-family dwellings, townhouses and multifamily buildings.



Appendix A4

Tier 2

Note:

The measures necessary to achieve Tier 2 status are very stringent. Cities, counties, and cities and counties considering adoption of Tier 2 (as mandatory) should carefully consider the stringency of each measure and ensure that the measures are achievable in their location.



Appendix A4

Revisions to Division A4.1 Planning and Design

New prerequisite: Electric vehicle charging (A4.106.8)



Appendix A4

Division A4.2 Energy Efficiency

- The California Energy Commission (CEC) has developed and will be maintaining provisions related to energy efficiency in CALGreen.
- Due to the organization of the California Energy Code, voluntary energy efficiency provisions related to residential buildings will be added to the following Divisions:
 - A4.2 Provisions related to Low-Rise residential buildings
 - A5.2 Provisions related to High-Rise residential and hotel/motel buildings



Appendix A4.2, Energy Efficiency

2013 Current **Tier 1** Prerequisites

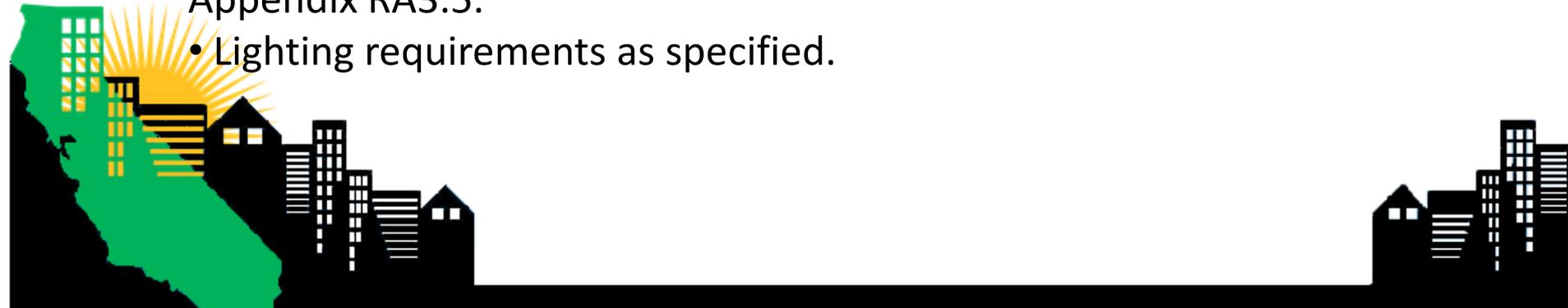
New Construction Low-Rise

Energy Budget no greater than 85 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by Compliance Software, PLUS

- Energy design rating computed by Compliance Software.
- Quality Insulation Installation as specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5.
- Lighting requirements as specified.

2013 Intervening

- No Change



Appendix A4.2, Energy Efficiency

2013 Current **Tier 1** Prerequisites Additions and alterations Low-Rise

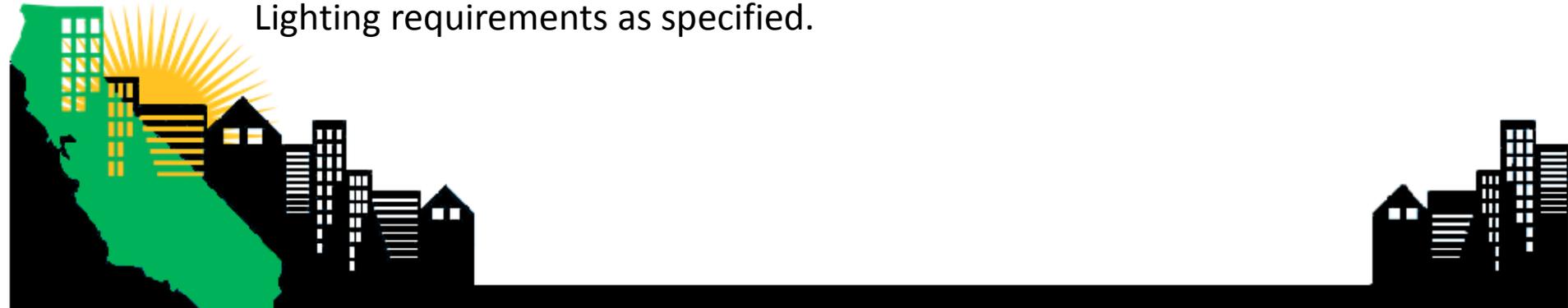
1. One and only one mechanical system -- no greater than 95 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by certified Compliance Software OR
2. Two or more mechanical systems--no greater than 90 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by certified Compliance Software.

AND

Lighting requirements as specified.

2013 Intervening

- No Change



Appendix A4.2, Energy Efficiency

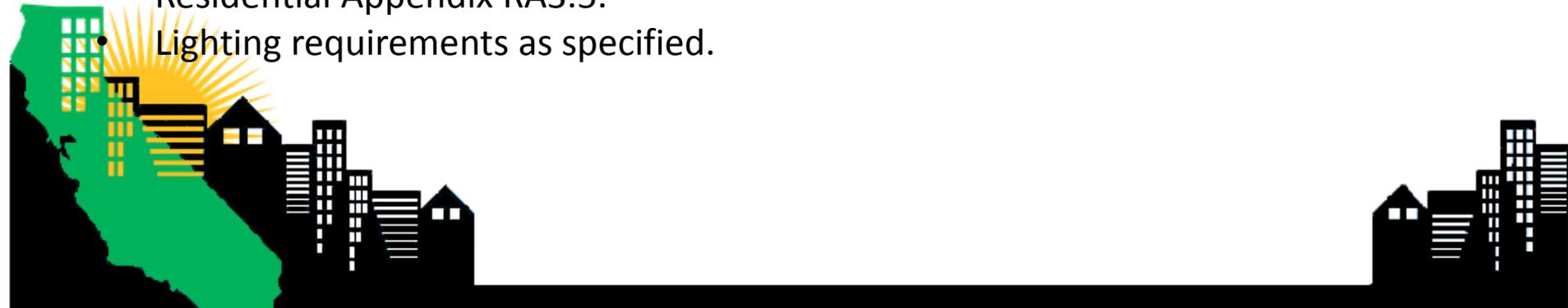
2013 Current **Tier 2** Prerequisites

New construction Low-Rise

- Energy Budget no greater than 70 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by Compliance Software PLUS
- Energy design rating computed by Compliance Software.
- Quality Insulation Installation as specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5.
- Lighting requirements as specified.

2013 Intervening

- No Change



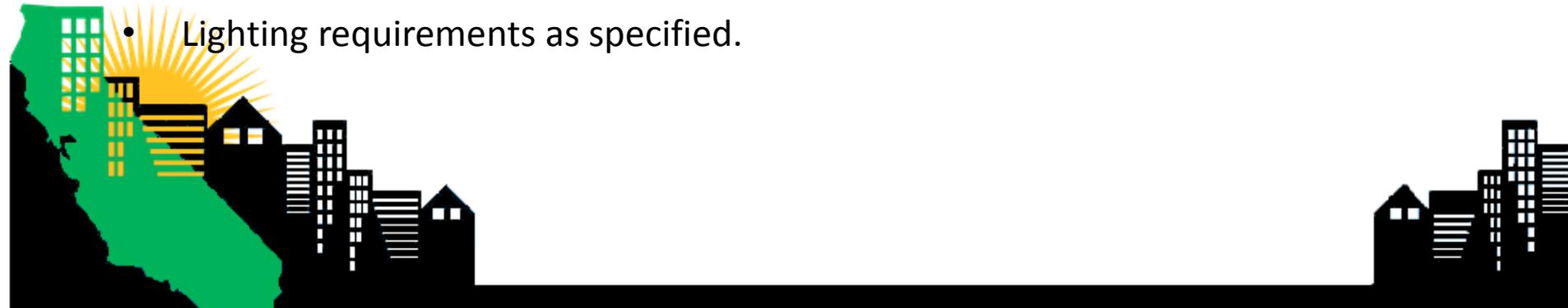
Appendix A4.2, Energy Efficiency

2013 Current **Tier 2** Prerequisites: Additions and alterations Low-Rise

1. Only one mechanical system -- no greater than 90 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by certified Compliance Software, OR
 2. Two or more mechanical systems -- no greater than 85 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by certified Compliance Software.
- Lighting requirements as specified.

2013 Intervening

- No Change



Appendix A4

Division A4.3 Water Efficiency and Conservation

- No changes to tier or elective measures.



Appendix A4

Division A4.4 Material Conservation and Resource Efficiency

- No changes to tier or elective measures.



Appendix A4

Division A4.5 Environmental Quality

- Updates to titles of Compliance Standards.
- (CDPH) “Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers,” Version 1.1, February 2010 (also known as Specification 01350).
- UL GREENGUARD Gold (formerly the Greenguard Children & Schools program).



Appendix A4

Division A4.6 Tier 1 and Tier 2

A4.601.4.2 Prerequisite and elective measures for Tier 1

A4.601.5.2 Prerequisite and elective measures for Tier 2

- Listings of prerequisite measures and required number of electives have been revised to reflect changes within the Chapter 4 and Appendix A4 text.

A4.602 Residential Occupancies Application Checklist

- Modified to reflect changes within Chapter 4 and Appendix A4.



Proposed Changes 2015 Code Adoption Cycle (Results in 2016 Codes)

- Implementation of new legislative mandates.
- Response to direction from Administration related to drought emergency.
- Proposed changes, including adoption of new provisions, through review of green/sustainable building codes and standards.
- Review and evaluation of issues identified by stakeholders.
- Any nonsubstantive or editorial changes to provide further clarity.
- Maintain consistency between codes.



Changes 2015 Triennial Cycle

- Review and evaluation of new model codes
 - 2015 “International” Codes, including Green Construction Code
 - 2014 National Electrical Code
 - 2015 IAPMO Plumbing and Mechanical Codes
- Review and evaluation of non-model codes
 - CALGreen
 - Revisiting actual implementation of electric vehicle charging requirements
 - Construction waste requirements
 - Indoor/Outdoor water use
 - Composite wood and formaldehyde limits
 - California Energy Code



Executive Order B-29-15

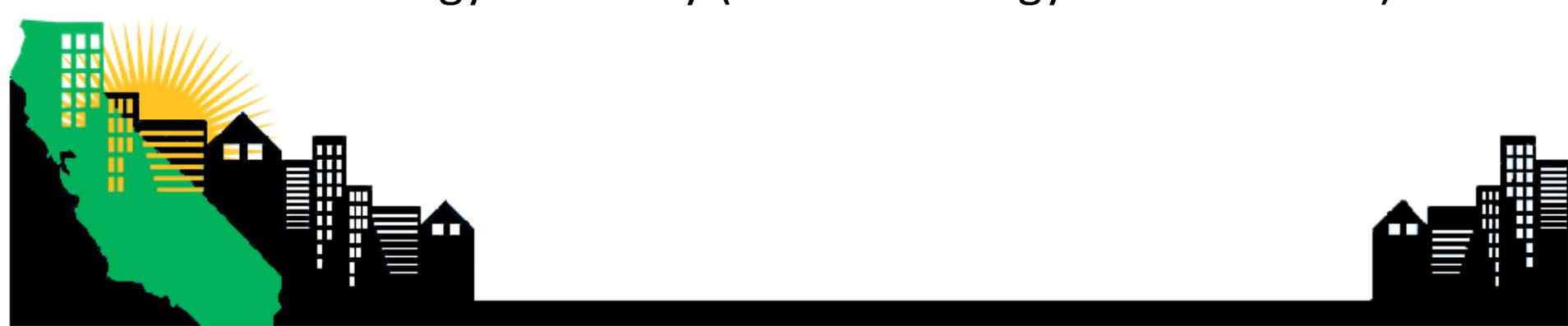
- Issued by Governor Brown on April 1, 2015:
 - Tasks State Water Resources Control Board to implement, until February 28, 2016, mandatory water reductions to reduce urban water use by 25 percent.
 - Prohibits outdoor irrigation with potable water for new homes unless drip or micro spray irrigation systems are used.
 - Update standards for toilets and faucets and outdoor landscaping in residential communities and taking action with noncompliant communities.
 - Tasks the Department of Water Resources to update the Model Water Efficient Landscape Ordinance to increase water use efficiency for new and existing outdoor landscaping in residential communities and taking action with noncompliant communities.
 - Tasks the Energy Commission to adopt emergency regulations to improve water efficiency of water fixtures (toilets, faucets, urinals) in new and existing buildings.



Proposed Changes 2015 Code Adoption Cycle (2016 CALGreen Code)

Items under consideration and discussion include:

- Electric vehicle (EV) charging – possible changes to mandatory measures resulting from Div. of State Architect development of regulations related to accessibility for EV chargers and charging spaces.
- Energy - Energy Commission has proposed a voluntary “Tier 3” level for energy efficiency (zero net energy homes or ZNE).



Proposed Changes 2015 Code Adoption Cycle (2016 CALGreen Code)

- Indoor water conservation – voluntary elective measures for 0.125 gpf urinals; hybrid urinals; leak detection devices.
- Outdoor water conservation – mandatory installation of low water use irrigation systems when irrigation systems are installed.



Proposed Changes 2015 Code Adoption Cycle (2016 CALGreen Code)

Construction waste reduction –

- Mandatory increase to 65 percent (from 50%)
- Voluntary Tier 1 increase to 75 percent (from 65%)
- Voluntary Tier 2 increase to 85 percent (from 75%)
- Mandatory requirement for universal waste plan



Proposed Changes 2015 Code Adoption Cycle (2016 CALGreen Code)

Construction waste reduction and resource efficiency –

- Mandatory installation of reinforcement in residential ground floor bathrooms to facilitate future installation of grab bars.
- Voluntary Tier 1 -- Visitability (entrance, bathroom, hallways)
- Voluntary Tier 2 – Newly constructed one- and two-family homes and townhouses to comply with Universal Design Ordinance.





HCD Contact Information

California Department of Housing and Community Development

State Housing Law Program

2020 West El Camino Avenue

Sacramento CA 95833

Telephone: (916) 445-9471

FAX: (916) 327-4712

Website: www.hcd.ca.gov

Questions: Use "Feedback/Comment" form





Search

This Site California

HOME

FINANCIAL ASSISTANCE

CODES & STANDARDS

HOUSING POLICY DEVELOPMENT



Director

State Department of Housing
and Community Development

Claudia Cappio



Governor

Visit His Webpage

Edmund G. Brown Jr.



Secretary

Business, Consumer Services,
and Housing Agency

Anna M. Caballero



IMPORTANT INFORMATION

Drought Resources

Proposition 41
Veterans Program

California
Statewide
Housing

National
Disaster
Resilience



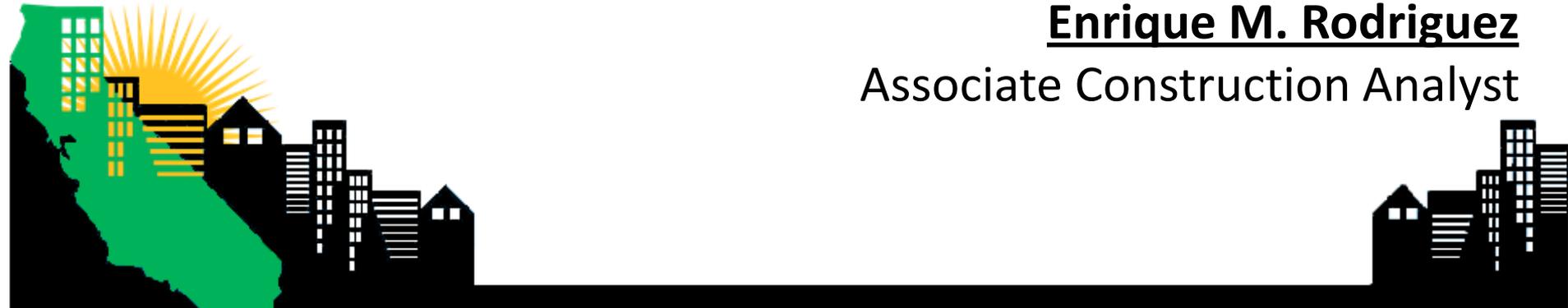
Online Services

- File A Complaint Online
- Mobilehome & Special Occupancy (RV) Parks Listing

California Building Standards Commission Nonresidential Measures

Enrique M. Rodriguez

Associate Construction Analyst



Chapter 3 - Green Building

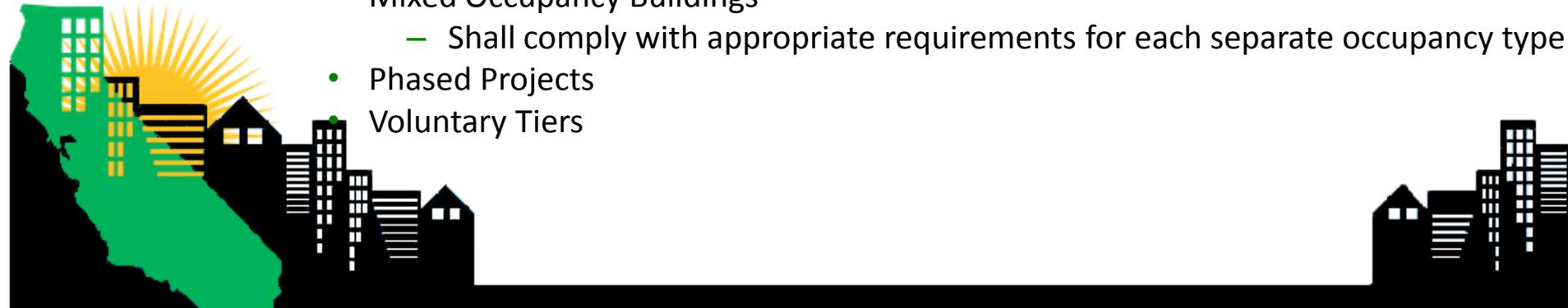
- Scope 2013

Newly constructed non-residential buildings, alterations and additions

301.3 Nonresidential additions and alterations [BSC]. The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of \$200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [**N**] or to additions and alterations [**A**]. When the code section applies to both, no banner will be used.

- New section references Civil Code Section 1101.3 for non-compliant plumbing fixtures
- Mixed Occupancy Buildings
 - Shall comply with appropriate requirements for each separate occupancy type
- Phased Projects
- Voluntary Tiers



Chapter 5- Nonresidential

- Mandatory Measures
 - Planning and Design – Division 5.1
 - Energy Efficiency – Division 5.2
 - Water Efficiency and Conservation – Division 5.3
 - Material Conservation and Resource Efficiency – Division 5.4
 - Environmental Quality – Division 5.5



Chapter 5- Nonresidential

Preface:

**Please note the following
effective dates throughout this
presentation:**

Left column:

2013 Current (effective 1/1/2014)

Right column:

2013 Intervening (effective 7/1/2015)



Chapter 5-Division 5.1

Site Development

2013 Current

- Stormwater pollution prevention BMP (Best management practices), also applies to additions
- Bicycle parking (short term & Long Term) also applies to additions or alterations
- Designated parking, also applies to additions or alterations

2013 Intervening

- No change
- No change
- No change



Chapter 5- Division 5.3 Site Development

2013 Current

None

2013 Intervening

- ***New sections***
- “Single Electric vehicle (EV) charging space requirements
- “Multiple Electric vehicle (EV) charging space requirements
- EV charging calculation
- Identification w/ future charging designated spaces



Chapter 5- Division 5.1

Site Development

2013 Current

- IESNA 2011 BUG Ratings mandatory as of July 1, 2012 with clarification that it applies to new construction only. Fixed code references
- Grading and paving, with exception for Additions and alterations not altering the drainage path

2013 Intervening

- No change
- No change



Chapter 5- Division 5.2

Energy Efficiency mandatory measures regulated by the
California Energy Commission

- Mandatory provisions are found in Part 6 of Title 24

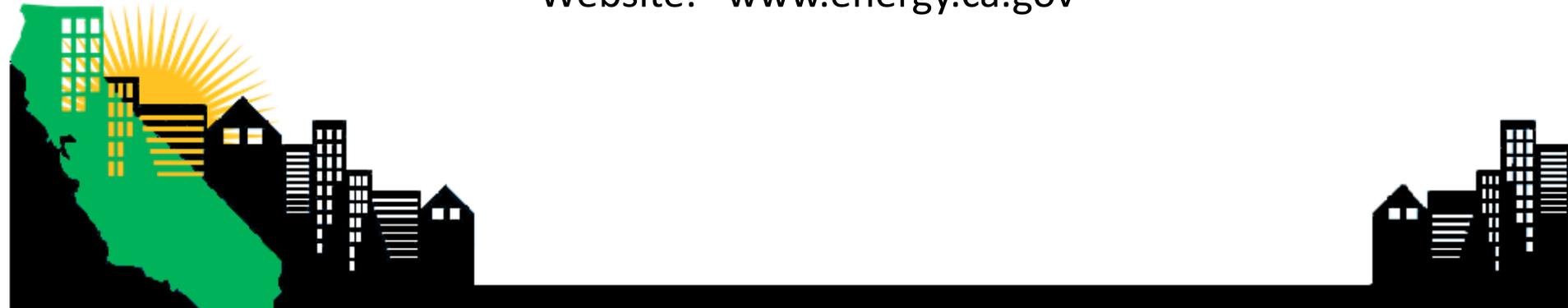
California Energy Efficiency Hotline

Telephone: (916) 654-5106

1-800-772-3300 (toll free in CA)

Email: title24@energy.state.ca.us

Website: www.energy.ca.gov



Chapter 5- Division 5.3 Indoor Water Use

2013 Current

- Separate water submeters and submeters for subsystems- also applies to additions over 50,000 sf
- “*Water Reduction*”: Comply with reduced flow rates in table 5.303.2.3 with an exception for performance 20% reduction via baseline table and also applicable to areas of additions and alterations

2013 Intervening

- No Change
- Section was repealed along with the performance approach. A new section “Faucets and Fountains” was added that gives prescriptive only flow rates for fixtures in table 5.303.2.3



Chapter 5- Division 5.3 Indoor Water Use-Continued

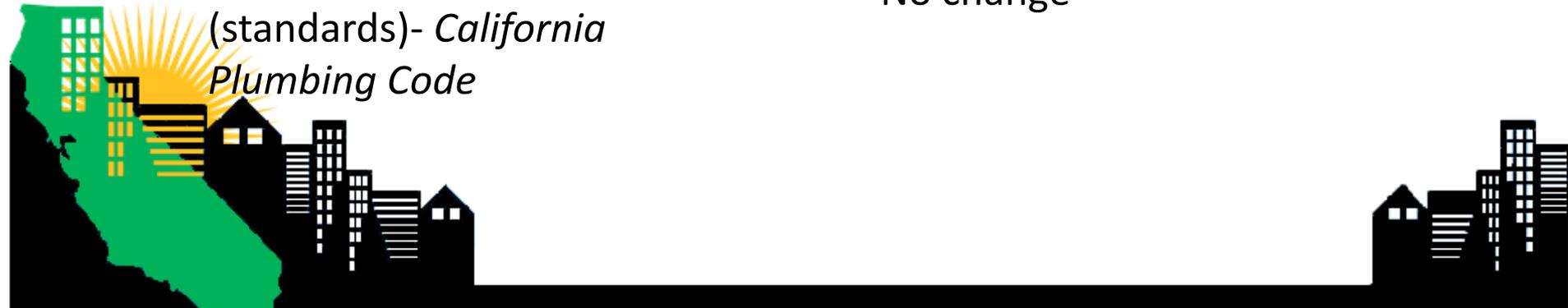
2013 Current

- “Water conserving plumbing fixtures and fittings”: Prescriptive reduced flow rates for: Water Closets, Urinals, and Showerheads
- Waste water reduction- new construction only
- Plumbing fixtures and fittings

(standards)- *California Plumbing Code*

2013 Intervening

- No change
- ***New section*** “Faucets and Fountains” 5.303.3.4 that gives prescriptive only flow rates
- Section was repealed
- No change



Chapter 5- Division 5.3

Outdoor Water Use

2013 Current

- Water budget- applies to new building, additions or alterations
- Separate submeter for outdoor potable water use (with clarifications) area 1,000-5,000 sq ft- applies to additions or alterations

2013 Intervening

- No Change
- No Change



Chapter 5- Division 5.3

Outdoor Water Use

2013 Current

- Irrigation design 1,000-2,500 sq ft applies to additions or alterations
- Irrigation controllers - weather or soil moisture-based irrigation controllers

2013 Intervening

- No Change
- No Change



Chapter 5- Division 5.4

Water Resistance & Moisture Management

2013 Current

- Exterior weather protection by Title 24 or local ordinance
- Design for moisture control
 - Sprinklers
 - Entries and openings

Exterior door protection:
with options for compliance

- Added “flashing” section

2013 Intervening

- No change
- No change
- No change



Chapter 5- Division 5.4

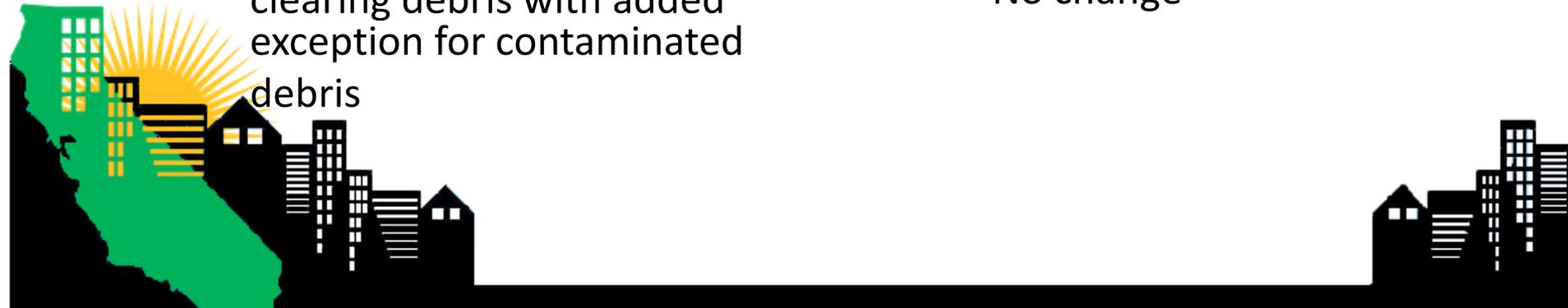
Construction Waste Reduction, Disposal & Recycling

2013 Current

- Construction waste reduction of 50% including demolition waste
- Waste management plan required, or meet local ordinance added options. Applies to demolition waste
- Exception for isolated jobsites
- Waste stream reduction alternative and documentation
- Recycle or reuse 100% of land clearing debris with added exception for contaminated debris

2013 Intervining

- No change



Chapter 5- Division 5.4 Building Maintenance and Operation

2013 CALGreen

- Recycling by occupants with added clarification for ordinance
- New Section: Clarifies requirements for Additions only with 30% increase and added an additional exception

2013 Intervening

- No change
- No change



Chapter 5- Division 5.4

Building Maintenance and Operation

2013 Current

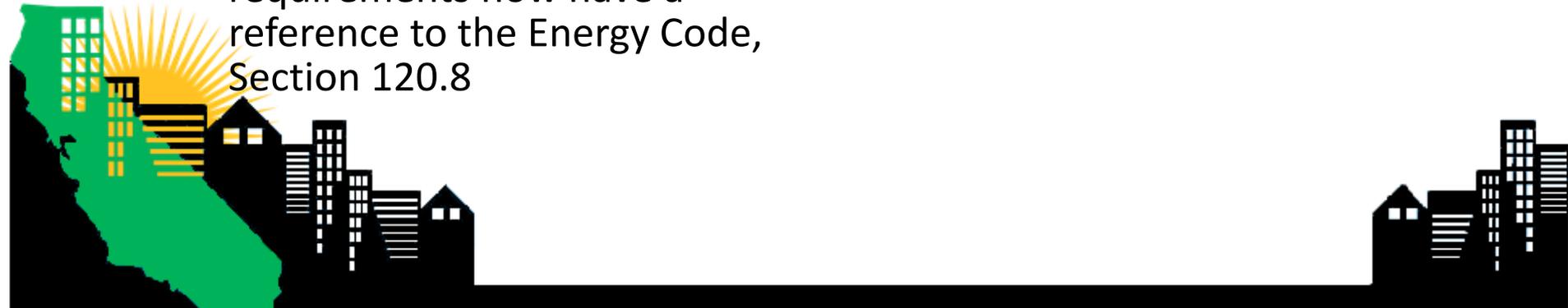
- Building commissioning for new buildings, 10,000 sq ft and over with added exceptions for
 - Dry warehouses
 - Some tenant improvements

Clarified requirements for new construction only

Note: All energy related requirements now have a reference to the Energy Code, Section 120.8

2013 Intervening

- Further clarifies the exception for dry warehouses with added exceptions for open parking garages
- ***New Informational Notes:*** for IAS AC476 for CX certification criteria and functional performance testing



Chapter 5- Division 5.4 Building Maintenance and Operation

2013 Current

- Testing and adjusting of systems for new buildings less than 10,000 sq ft or for new buildings or new systems designed to serve an addition or an alteration
 - HVAC balancing and reporting
 - Operation & Maintenance (O&M) manual and inspections/reports

2013 Intervening

- No change
- No change
- No Change



Chapter 5- Division 5.5

ENVIRONMENTAL QUALITY

2013 Current

- Fireplaces-Direct vent
- Temporary ventilation if HVAC is used for temporary construction ventilation(replace filters)- areas of additions or alterations
- Covering of duct openings and protection of equipment during construction

2013 Intervening

- No change
- No change
- No change



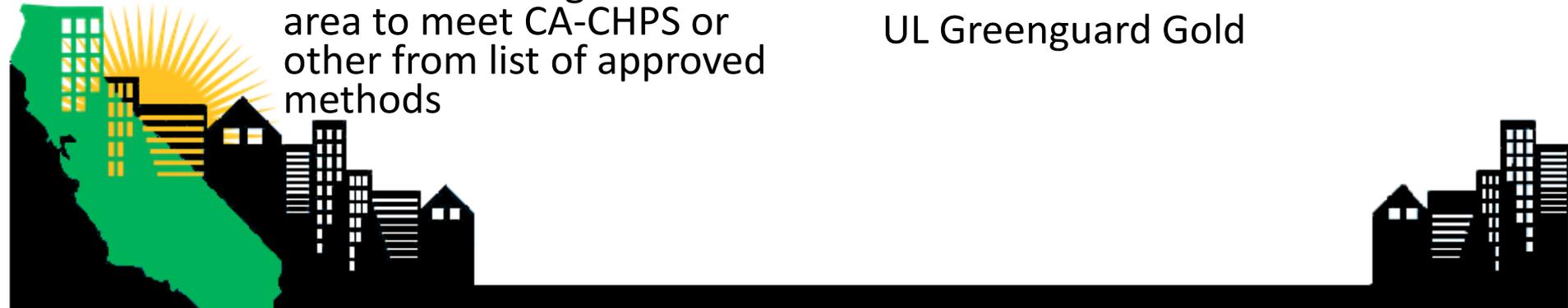
Chapter 5- Division 5.5 ENVIRONMENTAL QUALITY

2013 Current

- Finish materials-(adhesives, sealants, caulks, paints and coatings) to meet VOC emission limits and testing requirements
- Carpet systems-all carpet to meet CA-CHPS or other from list of approved methods
- Composite wood products to meet the formaldehyde limits in table
- Resilient flooring 80% of floor area to meet CA-CHPS or other from list of approved methods

2013 Intervening

- No change
- Editorial update to CA-CHPS
- No change
- Editorial update to CA-CHPS and UL Greenguard Gold



Chapter 5- Division 5.5 ENVIRONMENTAL QUALITY

2013 Current

- Filters (MERV 8)
- Filters Referenced Standards with Exception for small, H.E. ductless units and existing mechanical equipment
- Filter labeling requirements

2013 Intervening

- No Change
- No change
- No change



Chapter 5- Division 5.5 ENVIRONMENTAL QUALITY

2013 Current

- Outside air delivery
 - Ventilation- per Energy Code or Title 8
- CO² monitoring per Energy Code also applies to additions

2013 Intervening

- No change

- No change



Chapter 5- Division 5.5

ENVIRONMENTAL QUALITY

2013 Current

- Acoustical control based on ASTM E90 and ASTM E413
- Exterior noise transmission
With added performance & prescriptive methods- applies to additions or altered envelope
 - Interior sound transmission wall and floor with STC40
 - Ozone depletion and greenhouse gas reductions no GFC's or Halons

2013 Intervening

- No change
- No change
- No change
- No change



Chapter 5- Division 5.5 ENVIRONMENTAL QUALITY

2013 Current

- Supermarket refrigerant
 - Leak reduction
 - Refrigerant piping
 - Valves
 - Refrigerated service cases
 - Refrigerant receivers
 - Pressure testing
 - Evacuation

2013 Intervening

- No change



NONRESIDENTIAL VOLUNTARY MEASURES

- Appendix A5
 - The measures contained in the appendix are not mandatory unless adopted by a city, county, or city and county. Appendix provisions may also be used voluntarily by designers, builders, and property owners.
 - *CALGreen* Tier 1 and Tier 2 are intended for adoption by cities, counties, and cities and counties to help California meet its goals for greenhouse gas emission reduction.





2013 CALGreen Contacts and Resources

Purchasing Information for 2013 CALGreen
(loose-leaf or eCode)

Telephone: 1-888-ICC-SAFE (422-7233)

FAX: 1-866-891-1695

Website: www.iccsafe.org



California Building Standards Commission

- **Use the web! www.bsc.ca.gov**
 - Newly reformatted CBSC website for easier access to code information
 - Rulemaking Process
 - Code Cycles
 - Current Codes
 - Guidebooks and other resources
 - Information Bulletins
 - Meeting Notices



Home

Welcome to the California Building Standards Commission

2015 TRIENNIAL CODE ADOPTION CYCLE

CODE ZONE AHEAD *NOW UNDER WAY...*

CBSC is authorized by **California Building Standards Law** to administer the many **processes** related to the development, adoption, approval, publication, and implementation of California's building codes.

The **California Building Standards Code**, Title 24 serves as the basis for the design and construction of buildings in California. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and reliability are paramount to the development of building codes during each **Triennial and Intervening Code Adoption Cycle**.

California's building codes are published in their entirety every three (3) years. Intervening Code Adoption Cycles produce Supplement pages half-way (18 months) into

GOVERNOR Visit His Webpage
Edmund G. Brown Jr.

SECRETARY
California Government Operations Agency
Marybel Batjer

ACTING DIRECTOR
Department of General Services
Esteban Almanza

BSC Executive Director
Jim McGowan

Current Code

[Click here to access all parts of the 2013 current code](#)

Education & Outreach

Are there any questions?



Nonresidential: cbsc@dgs.ca.gov

Residential: www.hcd.ca.gov

