

At CalGreen Energy Services we are specialists in the CalGreen Code.

It's all we do.

Many building departments in the state have yet not developed a methodology for reviewing and inspecting the California Green Building Standards Code requirements.

The lack of a clear process is confusing for permit techs, architects, and building inspectors.

This presentation provides a simple method for integrating the CalGreen Code review into your building department.

Our work with building departments from Beverly Hills to Paradise has given us a unique perspective on the challenges building departments face with the compliance for the CalGreen Code.

We hope this presentation provides some useful insight into how your department may simplify this process.

What's in it for CalGreen Energy Services?

Are we trying to sell something here?

So let's get this out of the way. No, we're not selling anything.

We're not doing this to promote our business, since building departments can't recommend the use of private sector companies.

So why?

- Ok, we do have an ulterior motive. The motive is that if building departments are more engaged in CalGreen, it will increase compliance and enforcement of the code.
- We believe the CalGreen Code is important to the future of California.
 While it has many flaws, it is a key participant in the State's plan to reduce water and energy consumption. In addition it provides many healthy and sustainable benefits to those who occupy these buildings.

Building Department CalGreen Code Problems



The CalGreen Code is too subjective.

It's true. Like many sustainable endeavors, it is sometimes hard to justify certain code requirements. Is "the greater good" reason enough?



Information Overload

The voluminous California
Building Code with its
never-ending revisions,
along with governmentmandated education and
training is simply overwhelming. No one can
keep up with it all.



Under-staffed and Inadequate Budget

There is simply not enough staff, nor enough of a budget, to do the job properly.



The Industry Doesn't Care

California Architects
ignore the CalGreen code
requirements. If building
designers don't care, why
should building
department staff?

Let's find a way to provide reasonable over-sight of the CalGreen Code compliance within the limitations of the building department.

This is the point of this presentation. Finding a way to manage the CalGreen process within the framework of your department. While this does present some additional work for your plans desk and inspectors, it does not need to be over-burdensome.

We will demonstrate a simple process that can be implemented to help your building department:

- Integrate CalGreen compliance into your permit review and inspection process.
- Show you how, and where, to use some of the industry standard CalGreen checklists.
- How to update your website, and literature, to inform your clients on your CalGreen requirements.
- What areas of the CalGreen Code should be given a higher priority.
- How to review the CalGreen Checklist and architectural plans for compliance.
- Issues to consider for the building inspection department when closing out a project.

The Building Department's Solution







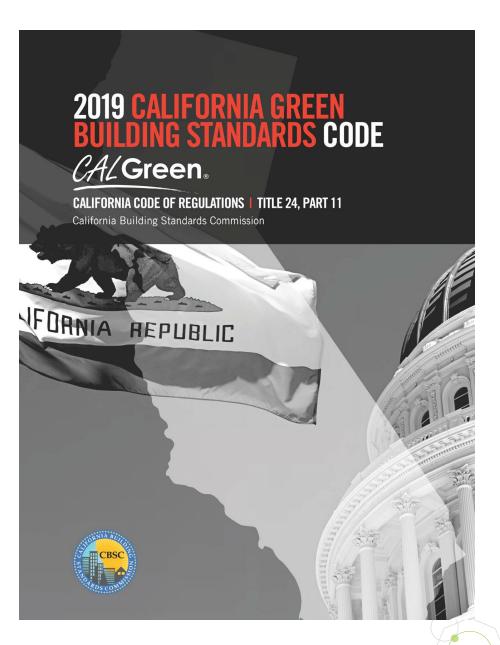
Make the decision to Lead the change in improve CalGreen your department. compliance.

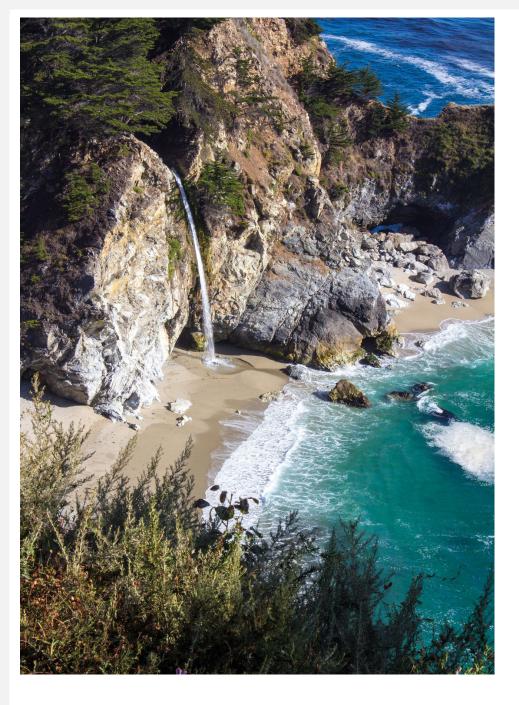
Sustainable design is important for the future of our kids. Let's decide to do something now!

Become the person in your department to step up and lead the way to better enforcement of the CalGreen Code.

Follow the simple steps in this presentation.

The following process, while not perfect, can get your department moving forward with CalGreen compliance.





Let's Get Started

Accept the Problems.

The previously noted problems are the reality of every building department in the state. We can't fix them, and likely neither can you. Let's just accept them and move on.

The Steps to Improve Compliance.

- 1. Publish, or link, to your preferred CalGreen Checklists on the Building Department's website. As a minimum, explain where they can be downloaded from the AIA or HCD websites.
- 2. Update your permit Plan Submittal Guidelines to include the 2019 CalGreen Checklist as a requirement for permit submittal.
- 3. Communicate to plan reviewers that they should check for the CalGreen Checklist on every submittal. If its not provided, note it on the permit review comments.
- 4. Inform building inspectors to review the CalGreen Checklist requirements that you have determined are a priority.

The following is a step by step explanation as to how to accomplish these items.

Step One

Publish, or link, to the current CalGreen Checklists on the Building Department's website.

Updating the city, or county, website seems to be a difficult challenge for many jurisdictions. Website design is frequently outsourced. As such, updates may incur costs that are not provided for in the building department's budget.

However, this is an important step in encouraging CalGreen compliance. It communicates to the architects that CalGreen Code compliance is a priority with your department. In addition, it eliminates any confusion as to how a project is to comply with the CalGreen Code in your jurisdiction.

As challenging as it may be for your department, updating your website with a link to your preferred CalGreen Checklist is the critical first step in improving compliance.

If updating the website is time or cost prohibitive, you can provide the website URL where the checklists can be downloaded. This information could be added to your Permit Submittal Guidelines document.



Green Building Program Forms & Checklists

The CALGreen applies to all newly constructed buildings as well as additions and certain alterations. Please use the customized checklists listed below to document compliance with CALGreen.

On this page

- Permits submitted on or after January 1, 2020: 2019 Checklist
- Permits submitted between January 1, 2017 and December 31, 2019:
 2016 Checklist
- Permits submitted between September 1, 2015 and December 31, 2016: 2015 Checklist »
- Permits submitted between January 2014 and August 31, 2015:
 2013 Checklist
- Permits submitted between January 2010 and December 2013: 2010 Checklist

2019 Green Building Checklist

Use these documents for Green Building permits submitted on or after January 1, 2020.

Number	Title
CNI-040	CALGreen Special Inspector Application Form (PDF: 27 kB)
CNI-041	CALGreen Special Inspection Agency Recognition List
CNI-043	CALGreen Special Inspector Project Verification Form (PDF: 30 kB)
CNI-042	Integrating CALGreen Special Inspection into the Building Permit Process
BPC-065	2019 CALGreen Checklist Residential New Construction (PDF: 413 kB)
BPC-066	2019 CALGreen Checklist Residential Additions and Alterations (PDF: 560 kB)
BPC-068	2019 CALGreen Checklist Nonresidential New Construction (PDF: 843 kB)
BPC-069	2019 CALGreen Checklist Nonresidential Additions and Alterations (PDF: 647 kB)

2016 Green Building Checklist

Use these documents for Green Building permits submitted between January 1, 2017 and December 31, 2019.

Step One - Continued

Which CalGreen Checklists to Use?

Many building departments publish their own checklist. This allows them to emphasize, or minimize, requirements specific to their locale. Furthermore, it can help architects understand the items they need to focus on for their permit plans. It gives them a simple road map to follow for design and permit compliance.

Is this a perfect system? No. A perfect system would require designers to incorporate every last detail of the CalGreen Code in their plans. Is that ever likely to happen? Probably not in the foreseeable future. Many jurisdictions have taken this practical approach. Plan reviewers and building inspectors have a simple compliance list that they can learn, review, and inspect. It reduces compliance confusion for all concerned.

The concept for the CalGreen Checklist format was developed from the LEED certification process. While the processes are quite different, the Building Standards Commission felt the checklist would help simplify the CalGreen permit process.



2019 CALGREEN RESIDENTIAL CHECKLIST

MANDATORY ITEMS - Version 1.01.20

COMMUNITY DEVELOPMENT DEPARTMENT - BUILDING DIVISION KIRK BALLARD, BUILDING OFFICIAL ONE NORTH SAN ANTONIO ROAD • LOS ALTOS, CA 94022-3088 (650) 947-2752 • FAXEMAIL- BUILDING@LOSALTOSCA.GOV • WWW.LOSALTOSCA.GOV

PURPOSE:

The 2019 CALGreen Code applies to all newly constructed hotels, motels, lodging houses, dwellings, dormitories, condominiums, shelters, congregate residences, employee housing, factory-built housing and other types of dwellings with sleeping accommodations and new accessory buildings associated with such uses. This section also applies to additions and alterations where there is an increase in conditioned space and specifies that these requirements only apply to the specific area of the addition or alteration. Existing site and landscaping improvements that are not otherwise disturbed are not subject to the requirements of CALGreen.

oject Name:	 	 	 	 			
ject Address:			 		 _		
niect Description							

Instructions (for projects of 300 sq. ft. or more):

- The owner or owner's agent shall emptoy a licensed qualified green-point rater (<u>www.buildigreen.org</u>) experienced with
 the 2019 California Green Building Standards Codes to verify and assure that all required work described herein is properly
 planned and implemented in the project.
- The green-point rater, in collaboration with the design professional shall review Column 2 of this checklist, and initial all
 applicable measures, sign and date Section 1 Design Verification at the end of this checklist, prior to submittal.
 Applicant to include these pages into the construction plans as well as provide (2) separate 8-1/2" x 11"
- PRIOR TO FINAL INSPECTION BY THE BUILDING DEPARTMENT, the Green-Point Rater shall complete Column 3 and sign and Date Section 2 Implementation Verification at the end of this checklist and submit the completed form to the Building Department.

	COLUMN 2	COLUMN 3
MANDATORY FEATURE OR MEASURE	Project	Verification
	Requirements Rater to initial applicable measures prior to submitting forms	Rater to verify during construction as applicable to project
Planning and Design –		
Site Development		
4.106.2 A plan is developed and implemented to manage storm water drainage during construction		
4.106.3 Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.		
4.106.4 Provide capability for electric vehicle charging for one- and two-family dwellings: townhouses with attached private garages; multifamily dwellings; and hotels/motels in accordance with Section 4.106.4.1, 4.106.4.2 or 4.106.4.3 as applicable.		

The Los Altos CalGreen Checklist

Step One - Continued

"We don't' have the budget/expertise to create our own checklist."

There are three readily available checklists you can use for your department.

The first is the 2019 CalGreen Residential Occupancies Application Checklist published by the California Department of Housing and Community Development (HCD). This is for residential projects only and can be used both for new construction, or additions and alterations. You can link or download the checklist here:

https://www.hcd.ca.gov/building-standards/calgreen/cal-green-forms.shtml

Another alternative is the checklists published by the California branch of the American Institute of Architects. The AIA has published both residential and non-residential checklists. These checklists are located here: https://aiacalifornia.org/calgreen-checklists/

The CalGreen Code itself includes both residential and non-residential checklists. While these checklists cannot be linked to or downloaded, they can quite easily be recreated using a Word or Excel program.

2019 CALGREEN RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIS' SECTION A4 602

ffective January 1, 2020

	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD			
FEATURE OR MEASURE		Prerequisites and Electives ¹		Enforcing Agency	Installer or Designer	Third Party	
	Mandatory	Tier 1	Tier 2	All	All	All	
PLANNING AND DESIGN							
Site Selection							
A4.10.3.1 A site which complies with at least one of the following characteristics is selected: 1. An infill site is selected. 2. A greyfield site is selected. 3. An EPA-recognized Brownfield site is selected.							
A4.103.2 Facilitate community connectivity by one of the following methods: 1. Locate project within a 1/4-mile true walking distance of at least 4 basic services;		П	П	П	П		
Locate project within 1/2-mile true walking distance of at least 7 basic services; or				L	L		
Other methods increasing access to additional resources.							
Site Preservation							
A4.10.4.1 An individual with oversight responsibility for the project has participated in an educational program promoting environmentally friendly design or development and has provided training or instruction to appropriate entities.							
Deconstruction and Reuse of Existing Materials							
A4.105.2 Existing buildings are disassembled for reuse or recycling of building materials. The proposed structure utilizes at least one of the following materials which can be easily reused: 1. Light fixtures 2. Plumbing fixtures 3. Doors and trim 4. Masony 5. Electrical devices 6. Appliances 7. Foundations or portions of foundations							
Site Development							
4.106.2 A plan is developed and implemented to manage storm water drainage during construction.	⊠			⊏	⊏		
4.106.3 Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.	Ø						
4.106.4 Provide capability for electric vehicle charging for one- and two-family dwellings; townhouses with attached private garages; multifamily dwellings; and hotels/motels in	⊠			⊏	⊏		
accordance with Section 4.106.4.1, 4.106.4.2, or 4.106.4.3, as applicable.	Δ.			_	_		

¹ Green building measures listed in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7

The HCD CalGreen Checklist

Step One - Continued

"Which checklist is better?" or "Which should we use?"

The answer to these questions are subjective. We will offer our opinion.

The HCD residential checklist, while quite long, is easily understood. It is also self-explanatory. This is an all-inclusive checklist that includes not just the mandatory measures, but also the Tier 1 and 2 requirements.

The AIA checklists are just a reprint of the various code sections. In our opinion this does a poor job of clarifying the specific requirements for your project. They do have the benefit of both residential and commercial checklists. Architects like them because they are published by the AIA.

The checklists in the CalGreen Code are, perhaps, the worst. They simply list the required code section numbers only. There is no explanation of the requirements.

The best checklists are the ones created by your building department. If you can't do it in-house, consider engaging a CalGreen specialist to help.



2019 CALIFO RESIDENTIAL MA

CHAPTER 3 **GREEN BUILDING**

SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

> 301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

> Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seg., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building

ABBREVIATION DEFINITIONS:

Department of Housing and Community Development California Building Standards Commission Division of the State Architect, Structural Safety OSHPD LR Office of Statewide Health Planning and Developmen Additions and Alterations

CHAPTER 4

RESIDENTIAL MANDATORY MEASURES DIVISION 4.1 PLANNING AND DESIGN

SECTION 4.102 DEFINITIONS

4.102.1 DEFINITIONS

The following terms are defined in Chapter 2 (and are included here for reference)

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or simila pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials. such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.

4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes

The AIA Residential CalGreen Checklist

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Step Two

Update your permit Plan Submittal Instructions to include the 2019 CalGreen Checklist as a requirement for permit submittal.

Most building departments have a Plan Submittal Instructions form or Guidelines. If you don't, consider creating one. It will minimize permit intake issues.

If you have a Plan Submittal Instructions form, add to it the requirement to submit the CalGreen Mandatory Measures Checklist at the time of permit submittal. Also clarify where the appropriate checklists can be downloaded (refer to Step One).

This step will make it clear to architects and builders that this is a requirement for permit submittal. Most architects will review the Plan Submittal Guidelines at the beginning of project. If the CalGreen checklist is listed there, they are more likely to make an effort to include the requirements, and the checklist, in the design. The result will be fewer backcheck comments, and fewer inspection issues.



BULLETIN #238 03/10/2020 SUBJECT TO CHANGE

FOR SINGLE-FAMILY AND DUPLEX RESIDENCES

Planning, Building and Code Enforcement Code Enforcement

Single-Family/Duplex Plan Submittal Instructions

REFERENCE

2019 California Building Code

This bulletin is for projects that involve new construction or structural changes and that need to go through Plan Review.

If your project involves only minor or no structural changes, you likely qualify for Over-the-Counter permit service.

Very simple projects and appliance installations qualify for online permit issuance at www.sjpermits.org.

Learn which permit service to use by reading our bulletin, How to Get a Building Permit. This bulletin outlines the common plans, calculations, and forms you may need to provide if you are

- building a new home
- constructing an addition
- making structural changes as you remodel a room

GENERAL INSTRUCTIONS FOR PLANS AND CALCULATIONS

Anyone can prepare plans, however, they must be drawn to scale and clearly show the scope of work being proposed. If any portion of a structure deviates from conventional framing, the Building Division may require that the plans, drawings, specifications or calculations for that portion be prepared by or under the direct supervision of a registered engineer or architect. This professional must also stamp and sign the sheets pertaining to this work.

Follow these plan submittal requirements:

	Item As Applicable to Your Project	Reviewed by				
PLAN SET REQUIREMENTS Submit 4 sets of	Plans showing changes to site or exterior of building	Planning Division				
	Building, electrical, mechanical and plumbing plans	Building Division				
all plans	Flood zone, geologic hazards, grading, changes to curb or right of way	Public Works				
Sheet size: 18" X 24"	Fire prevention requirements in plans	Fire Department				
Plan preparer is to sign all plans. Architect or Engineer is to stamp and sign all pages and wet sign/wet stamp the cover page for Plan Sets and Calculations.	Put plans, as applicable, in this order: Cover Sheet with project description Site Plan, Grading Plan, Landscape Plan Architectural Plan, Elevations Structural Plan, Details Electrical Plan Mechanical Plan Plumbing Plan Title 24 Energy Documents Measures Checklist" Plans can be combined for simple projects it clarity is maintained.					
CALCULATION REQUIREMENTS Submit 2 sets Preparer, Architect or Engineer is to sign and stamp all documents	Required calculations may include: Structural calculations, vertical and lateral loads Title 24 Energy Calculations and forms for: New construction or alteration of the existing bu CF-1R and MF-1R forms completed, signed, and p CF-6R and Insulation Certificate attached to plan Performance Analysis and Backup forms	rinted on plans				

Development Services Permit Center San José City Hall

200 E. Santa Clara St. San José, CA 95113 408-535-3555

w.sanjoseca.gov/permitcenter

continued >

San Jose Plan Submittal Instructions

\\Pbce-building2\Building Division Collateral\BULLETINS

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Step Three

Communicate to plan reviewers that they should check for the CalGreen Checklist on every submittal. If its not provided, note it on the permit review comments.

Your plan checkers are probably over-worked. Adding a new level of review may be challenging. The argument for this extra effort is the importance of sustainable design to the future of Californians. The CalGreen Code is far from perfect, but it does make a reasonable attempt to improve the living environment, and conservation of precious resources.

Encourage the plans desk staff to review the CalGreen Code. It's accessible online.

Have an internal discussion as to which CalGreen items will be a priority for your department. Make sure these items are understood by both reviewers and the inspection division.

If your department uses third-party plan reviewers make sure you instruct them as to how you want them to review CalGreen. Don't leave it up to them! Third-party plan review, and building inspectors, need to be on the same page.



Step Three - Continued

What CalGreen code issues should be considered as a priority?

Of course ALL code items are supposed to be complied with. The reality is, building department staff exercise judgement every day. And rightly so. Here's a list of CalGreen Code items you may consider for your priority list:

- Managing storm water during construction (CG 4.106.2)
- Electric vehicle charging stations (CG 4.106.4)
- Plumbing fixture flow rates (CG 4.303.1)
- Outdoor potable water use in landscape areas (CG 4.304.1)
- Rodent proofing (CG 4.406.1)
- Direct vent fireplaces (CG 4.503.1)
- Vapor retarder for slab-on-grade foundations (CG 4.505.2)
- Humidity controlled sensors for bathroom exhaust fans (CG 4.506.1)

It's a rather short priority list which is partly the point. CalGreen doesn't have to be complicated. These items can be quickly reviewed by the plans techs and easily inspected by the inspection division.

We have left out Construction Waste Management as most jurisdictions have a separate process for this.

Note that we have left out VOCs in the priority list. There is little empirical evidence that VOCs cause long-term health problems in buildings. In addition, it is almost impossible to verify compliance. Most of the generally available materials meet current CalGreen requirements. In our opinion, trying to verify VOC compliance takes an inordinate amount of time, for very little benefit. YMMV.

Step Three - Continued

How to review the CalGreen Checklist and permit plans.

First, It is important to understand the intent of the CalGreen Checklist. It is specifically intended to demonstrate to plan reviewers that the architect has incorporated the CalGreen requirements into the project design documents.

In other words, each item on the checklist should have a detail, design or note on the permit plans addressing each requirement. The checklist itself is NOT a design document. There MUST be information on the plans that demonstrates compliance with each checklist item.

As a plan reviewer, you should verify that each checklist item on the priority list is indicated on the permit plans. If any are missing, these would be added to your comment list.

Note that some checklist are written so that the checklist author must state on the checklist which drawing or note contains the requirement. Some checklists also require you to explain how the design meets the requirement, or why it is not applicable. This makes it easy for plan reviewers to quickly locate and review the item. See the City of Santa Rosa's CalGreen Checklist for a good example of this. This is another benefit to creating your own checklist – requiring the location and description of the measure so it may be found and reviewed quickly.

			Effective 01/01/2020		
<u>Column 1</u> Feature or Measure	Column 2 Project Requirements Must be incorporated into the project unless the measure is not applicable (N/A).	Column 3 Verification To Be Provided By: Completed by City plan review staff during plan review.			
4.5 ENVIRONMENTAL QUALITY					
Fireplaces					
4.503.1 Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits.	⊠ or □ N/A				
Description of proposed measure(s) or explanation of why it is not applic	able (N/A):				
Pollutant Control					
4.504.1 Duct openings and other related air distribution component openings shall be covered during construction.	⊠ or □ N/A				
Description of proposed measure(s) or explanation of why it is not applic	able (N/A):				
4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	⊠ or □ N/A				

Santa Rosa's Checklist with requirement for description of proposed measure

Step Four

Inform building inspectors to review the CalGreen Checklist requirements that you have determined are a priority.

The priority items shown on the previous slide would add perhaps 15 to 20 minutes to a site inspection. This assumes none of these items are being reviewed under separate code requirements, such as plumbing fixture flow rates (also under the California Plumbing Code), electric vehicle charging (also under the California Electrical Code) and outdoor use of potable water (also under MWELO state Executive Order). If so, the added review time may be less.

Some additional time would be required if any of the items were deficient. None of these items should require additional materials, training, or education, to understand and inspect.

Depending on location and workload this may, or may not, have a significant impact on your inspection process. This should be evaluated with your inspection division.

To state the obvious, the California Green Building Standards Code carries the same force of law as the rest of the California Building Codes.

Jurisdictions have some obligation to verify compliance.





Summary

The California Green Building Standards Code is the state's plan for sustainability. This benefits all Californians. The building industry has an obligation to ensure it is complied with. The California Green Building Standards Code is an integral part of California's long-term plan for sustainability, energy efficiency and conservation of resources.

Our hope is that this presentation will help some of you to move forward with a clear plan for CalGreen compliance – from permit review to close-out inspection.

CalGreen is THE sustainable code for the state. It will help provide a healthier and brighter future for us all.

