

CITY OF ORLAND

BUILDING DEPARTMENT

815 Fourth Street
Orland, CA 95963
Telephone (530) 865-1606
Fax (530) 865-1632



2019 CALGreen+Tier 1 Checklist Residential

Applies to building permit applications received on or after January 1, 2020, for newly constructed hotels, motels, lodging houses, dwellings, dormitories, condominiums, shelters, congregate residences, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations with or without common toilet or cooking facilities including accessory buildings, facilities and uses thereto.

Detached "U" occupancy buildings are not subject to the requirements of CALGreen. (Residential additions or alterations that increase conditioned space are subject to CALGreen. See separate checklist. Repairs to existing structures are not subject to CALGreen at this time.)

Project Address: _____

Project Name: _____

Project Description: _____

Instructions:

1. The Owner or the Owner's agent shall employ a qualified CALGreen Inspector, listed by the City of Orland Building Department, to perform CALGreen Inspector services and to verify and assure the Owner and the Building Department that all required work described herein is properly planned and implemented in the project.
2. The CALGreen Inspector shall not be the design professional or contractor for the project and shall not have a financial interest in the project for which services are being provided except for the cost of providing said services.
3. The CALGreen Inspector, in collaboration with the owner and the design professional, shall initially complete **Column 2** of this checklist, sign and date the CALGreen Building Acknowledgements section at the end of this checklist and have the checklist printed on or attached to the approved plans for the project.
4. Prior to final inspection by the Building Department, the CALGreen Inspector, except where verification by City is noted, shall complete **Column 3** and provide verification of completion prior to final inspection by City staff.

Column 1 Feature or Measure	Column 2 Project Requirements <i>When checked, these items become a part of the approved plans and must be installed or incorporated in the project.</i>	Column 3 Verification <i>Complete after installation & prior to final inspection approval.</i>
<i>See Chapter 4 and Appendix A4 of the 2019 California Green Building Code and the local jurisdiction for complete descriptions of features or measures listed here.</i>	Mandatory & Tier 1 Prerequisites	Tier 1 electives <i>Applicant selects required elective measures</i>
4.1 AND A4.1 PLANNING AND DESIGN	<i>All checked items are required for the project</i>	<i>Select at least two (2) elective measures from A4.1</i>
Feature or Measure	Required	Electives
Site Selection		
<p>A4.103.1 Selection. A site which complies with at least one of the following characteristics is selected: (Support documentation required at application submittal.)</p> <ol style="list-style-type: none"> 1. An infill site is selected. 2. A greyfield site is selected. 3. An EPA-recognized and remediated Brownfield site is selected. <p>A4.103.2 Facilitate community connectivity by one of the following methods:</p> <ol style="list-style-type: none"> 1. Locate project within a 1/4-mile true walking distance of at least 4 basic services; 2. Locate project within 1/2-mile true walking distance of at least 7 basic services; 3. Other methods increasing access to additional resources. 		<p align="center">City Plan Check staff</p> <p align="center"><i>CALGreen Inspector</i></p>
Site Preservation		
<p>A4.104.1 Individuals with oversight authority on the project who have been trained in areas related to environmentally friendly development can teach green concepts to other members of the development staff and ensure that training is provided to all parties associated with the project.</p> <p>Prior to beginning the construction activities, all parties involved with the development process shall receive a written guideline and instruction specifying the green goals of the project.</p>		<i>CALGreen Inspector</i>

Deconstruction and Reuse of Existing Materials			
<p>A4.105.1 Existing buildings on the site are deconstructed and the salvaged materials (which must comply with current building standards) are reused.</p> <p>A4.105.2 Materials which can be easily reused include but are not limited to the following:</p> <ol style="list-style-type: none"> 1. Light fixtures 2. Plumbing fixtures 3. Doors and trim 4. Masonry 5. Electrical devices 6. Appliances 7. Foundations or portions of foundations 	<input type="checkbox"/>	<p align="center"><i>CALGreen Inspector</i></p> <p align="center"><input type="checkbox"/></p> <p align="center">Verify at least one</p> <p align="center"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </p>	
Site Development			
<p>4.106.2 Storm water drainage and retention during construction. Newly constructed projects which disturb less than one acre of land shall prevent the pollution of storm water runoff from the construction activities by complying with lawfully enacted storm water management and/or erosion control ordinances.</p>	<input checked="" type="checkbox"/>	<p align="center">City Building Inspector</p> <p align="center"><input type="checkbox"/></p>	
<i>Description of proposed measures:</i>	<i>Sheet:</i>	<i>Detail:</i>	
<p>A4.106.2 Soil analysis and protection. The soils at the building site are analyzed and protected as specified in this section.</p> <p>A4.106.2.1 Soil analysis. Soil analysis is performed by a licensed design professional and the findings utilized in the structural design of the building. (Support documentation required at application submittal.)</p> <p>A4.106.2.2 Soil protection. The effect of development on the building sites is evaluated and the soil is protected by one or more of the following:</p> <ol style="list-style-type: none"> 1. Natural drainage evaluation and erosion controls implemented to minimize erosion. 2. Site access is accomplished by minimizing the amount of cut and fill to install access roads/driveways. 3. Underground construction activities are coordinated to utilize the same trench, minimize disturbed soil, and soil is replaced using accepted compaction methods. <p>A4.106.2.3 Displaced topsoil is stockpiled for reuse in designated area and covered or protected from erosion. (Tier 1)</p>	<input checked="" type="checkbox"/>	<p align="center">City Plan Check staff</p> <p align="center"><input type="checkbox"/></p> <p align="center">City Building Inspector</p> <p align="center"><input type="checkbox"/></p> <p align="center">City Building Inspector</p> <p align="center"><input type="checkbox"/></p>	
<i>Description of proposed measures:</i>	<i>Sheet:</i>	<i>Detail:</i>	
<p>4.106.3 Grading and paving. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include swales, water collection and disposal systems, French drains, water retention gardens or other measures which keep surface water away from buildings and aid in groundwater recharge.</p>	<input checked="" type="checkbox"/>	<p align="center">City Building Inspector</p> <p align="center"><input type="checkbox"/></p>	
<i>Description of proposed measures:</i>	<i>Sheet:</i>	<i>Detail:</i>	

**2019 CALGreen+Tier 1 Checklist
Residential**

<p>A4.106.3 Landscape design. Post construction landscape designs accomplish one or more of the following:</p> <ol style="list-style-type: none"> 1. Areas disrupted during construction are restored to be consistent with native vegetation 2. Utilize at least 75 percent native Californian or drought tolerant plant and tree species appropriate for the climate zone region. 		<input type="checkbox"/> <input type="checkbox"/>	<p align="center">City Water Efficient Landscape Ordinance Staff</p> <input type="checkbox"/> <input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p align="center"><i>Sheet: Detail:</i></p>		
<p>A4.106.4 Water permeable surfaces. Permeable paving is utilized for not less than 20 percent of the total parking, walking, or patio surfaces. (Tier 1)</p> <p>Exception: Primary driveway, entry walkway and porch/landing or required accessible routes for persons with disabilities.</p>	<input checked="" type="checkbox"/>		<p align="center"><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p align="center"><i>Sheet: Detail:</i></p>		
<p>A4.106.5 Cool Roof. Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum Solar Reflectance Index (SRI).</p> <ul style="list-style-type: none"> • Low-rise Residential: Roof covering shall meet or exceed the values contained in Table A4.106.5.1(1). Zone 2 N/A • High-rise Residential, Hotels, and Motels: Roof covering shall meet or exceed the values contained in Table A4.106.5.1(3). 	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		<p align="center"><i>CALGreen Inspector</i></p> <input type="checkbox"/> <input type="checkbox"/>
<p>A4.106.6 Vegetated roof. Install a vegetated roof for at least 50% of the roof area.</p>		<input type="checkbox"/>	<p align="center"><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>A4.106.7 Reduction of heat island effect for nonroof areas. Reduce nonroof heat islands for 50% of sidewalks, patios, driveways or other paved areas by using one or more of the methods listed in #1 – 5.</p>		<input type="checkbox"/>	<p align="center"><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>4.106.4 Provide capability for electric vehicle charging in one- and two-family dwellings and in townhouses with attached private garages; and 10 percent of total parking spaces, as specified, for multifamily dwellings. Install a listed raceway to accommodate a dedicated 208/240 branch circuit. See 4.106.4.3.2 for EV space dimensions.</p>	<input checked="" type="checkbox"/>		<p align="center">City Plan Check staff</p> <input type="checkbox"/>
<p>A4.106.8 Electric vehicle (EV) charging. Dwellings shall comply with the following requirements for the future installation of electric vehicle supply equipment (EVSE)</p> <p>A4.106.8.1 Tier 1 for one- and two-family dwellings and townhouses with attached private garages. Install a dedicated 208/240 volt branch circuit, including an overcurrent protective device rated at 40 amperes minimum per dwelling unit.</p> <p>A4.106.8.2 Tier 1 for multifamily dwellings. Provide capability for future electric vehicle charging in 15 percent of total parking spaces, as specified.</p> <p>A4.106.8.3 New Hotels and Motels. If total number of parking spaces is more than 9, provide EV spaces in accordance with Table A4.106.8.3.1.</p>	<p align="center">As applicable</p> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		<p align="center"><i>CALGreen Inspector</i></p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p align="center"><i>Sheet: Detail:</i></p>		

<p>A4.106.9 Bicycle parking. Comply with Sections A4.106.9.1 through A4.106.9.3 or meet local ordinance, whichever is more stringent.</p> <p>Exception: Spaces may be reduced as approved by enforcing agency, due to building site characteristics, including but not limited to, isolation from other development.</p> <p>A4.106.9.1 Short-term bicycle parking. Provide permanently anchored bicycle racks within 100 ft. of the visitor's entrance for 5% of visitor motorized vehicle parking capacity with a minimum of one 2-bike capacity.</p> <p>A4.106.9.2 Long-term bicycle parking for multifamily buildings. Provide on-site conveniently reached bicycle parking facilities for at least one bicycle per every 2 dwelling units</p> <p>A4.106.9.3 Long-term bicycle parking for hotel and motel buildings. Provide one on-site conveniently reached bicycle parking facilities for every 25,000 sq. ft., but not less than 2.</p>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p align="center"><i>Sheet: Detail:</i></p>		
<p>A4.106.10 Light pollution reduction. Outdoor lighting systems shall be designed and installed to comply with the following:</p> <ol style="list-style-type: none"> 1. The minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of California Administrative Code; and 2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11; and 3. Allow BUG ratings not exceeding those shown in Table A4.106.10 <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Luminaires that qualify as exceptions in the California Energy Code, 2. Emergency lighting 3. One and two family dwellings 		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p align="center">CALGreen Inspector</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p align="center"><i>Sheet: Detail:</i></p>		
<p>Innovative Concepts and Local Environmental Conditions</p>			
<p>A4.108.1 Items in this section are necessary to address innovative concepts or local environmental conditions These items must be approved by the Building Department prior to listing here.</p>			<p align="center">Chief Building Official</p>
<p>Item 1:</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.2 ENERGY EFFICIENCY			
Performance Approach General	<i>All checked items are required</i>	<i>Select all measures verified in the completed project</i>	
4.201 Energy Performance. Comply with minimum requirements of 2019 California Energy Code and the City adopted ALL-Electric Building design ordinance.	<input checked="" type="checkbox"/>		<i>City Building Inspector</i> <input type="checkbox"/>
4.3 and A4.3 WATER EFFICIENCY AND CONSERVATION			
Indoor Water Use	<i>All checked items are required</i>	<i>Select at least two (2) elective measure from A4.3</i>	<i>Select all measures verified in the completed project</i>
4.303.1 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:			CALGreen Inspector
4.303.1.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush.	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4.303.1.2 Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush (0.125 for wall-mounted urinals).	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4.303.1.3 Showerheads.			
4.303.1.3.1 Single Showerheads. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi.	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4.303.1.3.2 Multiple Showerheads. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi., or the shower shall be designed to allow only one shower outlet to be in operations at a time.	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4.303.1.4 Faucets.			
4.303.1.4.1 Residential lavatory faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gpm at 60 psi nor be less than 0.8 gpm at 20 psi.	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4.303.1.4.2 Lavatory faucets in common and public use areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside dwellings or sleeping units) in residential buildings shall not exceed 0.5 gpm at 60psi.	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4.303.1.4.3 Metering faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4.303.1.4.4 Kitchen faucets. The maximum flow rate of kitchen faucets may not exceed 1.8 gpm at 60 psi (May temporarily increase to 2.2 gpm). Note: Aerators OK if complying faucets not available.	<input checked="" type="checkbox"/>		<input type="checkbox"/>

**2019 CALGreen+Tier 1 Checklist
Residential**

<p>A4.303.1 Kitchen faucets and dishwashers. Kitchen faucets shall have a maximum flow rate not greater than 1.5 gallons per minute at 60 psi. (May temporarily increase to 2.2 gpm). Note: Aerators OK if complying faucets not available.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>A4.303.2 Alternate water sources for nonpotable applications. Alternate nonpotable water sources are used for indoor potable water reduction. Alternate nonpotable water sources shall be installed in accordance with the California Plumbing Code.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>A4.303.3 Appliances. Dishwashers and clothes washers in residential buildings shall comply with the following:</p> <p>Install at least one qualified ENERGY STAR appliance with maximum water use as follows:</p> <ol style="list-style-type: none"> 1. Standard Dishwashers – 4.25 gallons per cycle. 2. Compact Dishwashers – 3.5 gallons per cycle 3. Clothes washers – water factor of 6 gallons per cubic feet of drum capacity. 		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>A4.303.4 Nonwater urinals and waterless toilets. Nonwater urinals or composting toilets are installed.</p> <p>Note: Check with local jurisdiction on plumbing code requirements.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>A4.303.5 Hot Water Recirculation. One- and two-family dwellings shall be equipped with a demand hot water recirculation system.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>Outdoor Water Use <i>See City of Orland Municipal Code</i></p>			<p>All Outdoor Water Use verified by City Water Efficient Landscape Ordinance Staff</p>
<p>4.304.1 Water budget. A water budget shall be developed for landscape irrigation. Reduce the use of potable water to a quantity that does not exceed 0.55 of ETo times the landscape area. (Support documentation required at application submittal.)</p> <p>Automatic irrigation systems installed at the time of final inspection shall be weather-based or soil-based with rain sensor.</p> <p>Note: See City of Orland Water Efficient Landscape Ordinance</p>	<input checked="" type="checkbox"/>		<input type="checkbox"/>
<p>A4.304.1 Rainwater systems. A rainwater capture, storage and re-use system is designed and installed to use rainwater generated by at least 65% of the available roof area (per California Plumbing Code).</p>		<input type="checkbox"/>	<input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p><i>Sheet: Detail:</i></p>		
<p>A4.304.2 Potable water elimination. A landscape design is installed which does not utilize potable water. (Support documentation required at application submittal.)</p>		<input type="checkbox"/>	<input type="checkbox"/>

A4.304.3 Irrigation metering device. For new water service connections, landscaped irrigated areas more than 2,500 sq. ft. shall be provided with separate submeters or metering devices for outdoor potable water use.			<input type="checkbox"/>
WATER REUSE SYSTEMS			
A4.305.1 Graywater. Alternate plumbing piping is installed to permit the discharge from the clothes washer or other fixtures to be used for an irrigation system in compliance with the California Plumbing Code.		<input type="checkbox"/>	<i>CALGreen Inspector</i> <input type="checkbox"/>
A4.305.2 Recycled water piping. Based upon projected availability, dual water piping is installed for future use of recycled water at interior and exterior locations. Interior piping for use of recycled water for water closets, urinals and floor drains. Exterior piping to transport recycled water from the point of connection to the structure.		<input type="checkbox"/>	<i>CALGreen Inspector</i> <input type="checkbox"/>
A4.305.3 Recycled water for landscape irrigation. Recycled water is used for landscape irrigation.		<input type="checkbox"/>	<i>CALGreen Inspector</i> <input type="checkbox"/>
Innovative Concepts and Local Environmental Conditions			
A4.306.1 Innovative concepts and local environmental conditions. Items in this section are necessary to address innovative concepts or local environmental conditions. These items must be approved by the Building Department prior to listing here.			Chief Building Official
Item:		<input type="checkbox"/>	<input type="checkbox"/>
<p>4.4 and A4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY</p>			
	<i>All checked items are required</i>	<i>Select at least two (2) elective measures from A4.4</i>	<i>Select all measures verified in the completed project</i>
Foundation Systems			
A4.403.2 Reduction in cement use. Cement use in foundation mix design is reduced by not less than a 20 percent. (Tier 1) Note: As allowed by the enforcing agency, any design cement mix must be authorized and approved by Architect of Record.	<input checked="" type="checkbox"/>		City Building Inspector <input type="checkbox"/>
Efficient Framing Techniques			
A4.404.1 Lumber size. Beams and headers and trimmers are the minimum size to adequately support the load.		<input type="checkbox"/>	<i>CALGreen Inspector</i> <input type="checkbox"/>
A4.404.2 Building dimensions & layouts. Building dimensions and layouts are designed to minimize waste in at least 80% of the structure. <ol style="list-style-type: none"> 1. Building design dimensions in 2' increments 2. Windows & doors are located at regular 16" or 24" o.c. stud positions. 3. Other methods acceptable by enforcing agency. 		<input type="checkbox"/>	<i>CALGreen Inspector</i> <input type="checkbox"/>

**2019 CALGreen+Tier 1 Checklist
Residential**

<p>A4.404.3 Building systems. Use pre-manufactured building systems to eliminate solid sawn lumber whenever possible.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>A4.404.4 Pre-cut materials and details. Material lists are included in the plans which specify material quantity and provide direction for on-site cuts. (Support documentation required at application submittal.)</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>Material Sources</p>			
<p>A4.405.1 Prefinished building materials. One or more of the following building materials, that do not require additional resources for finishing are used:</p> <ol style="list-style-type: none"> 1. Exterior trim not requiring paint or stain. 2. Windows not requiring paint or stain. 3. Siding or exterior wall coverings which do not require paint or stain. 		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>A4.405.2 Concrete floors. Floors that do not require additional coverings are used including but not limited to stained, natural, or stamped concrete floors.</p> <p>A4.405.3.1 Recycled content. Use materials, equivalent in performance to virgin materials, with total (combined) recycled content value (RCV) for not less than 10% of the total material cost of the project. (Tier 1)</p> <p>NOTE: Check with local jurisdiction to see if alternate calculation methods can be proposed/accepted.</p> <p>For the purposes of this section, materials used as components of the structural frame shall not be used to calculate recycled content.</p> <p>A4.405.3.1.1 Total material costs: The total material cost is the total estimated or actual cost of materials and assembly products used in the project. The required total recycled content value for the project (in dollars) shall be determined by Equation A4.4-1 or A4.4-2</p> <p>Equation A4.4-1 Simplified method: To obtain the total cost of the project multiply the square footage of the structure by the square foot valuation established by the enforcing agency. The total material cost is 45% of the total cost of the project.</p> <p>Equation A4.4-2 Detailed method: To obtain the total cost of the project, add the estimated and/or actual costs of materials. The total estimated costs shall not include fees, labor and installation costs, overhead, appliances, equipment, furniture or furnishings.</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>

<p>A4.405.3.1.2 Determination of total recycled content value (RCV). Total RCV may be determined either by dollars or percentage as noted below.</p> <p>Equation A4.4-4 Total RCV (in dollars): Total recycled content value of the materials (RCVm) and/or assemblies (RCVa) in dollars. The result may be directly compared to Equations 4.4-1 or A4.4-2 to determine compliance with Tier 1 prerequisite.</p> <p>Equation A4.4-5 Total RCV (by percentage): Total recycled content value (percent) = [Total Recycled Content Value (dollars) ÷ Total Material Costs (dollars)] x 100. The result of this calculation may be directly compared for compliance with Tier 1 prerequisite.</p> <p>A4.405.3.1.3 Determination of recycled content value of materials (RCVm). The recycled content value of each material (RCVm) is calculated by multiplying the cost of material, as defined by recycled content. See equations A4.4-6 and A4.4-7.</p> <p>Equation A4.4-6 RCVm (dollars) = Material costs (dollars) x RCm (percent)</p> <p>Equation A4.4-7 RCm (percent) = Postconsumer percentage + (1/2) preconsumer content percentage.</p> <p>Note: If the manufacturer does not separately identify the pre- consumer and post-consumer recycled content of a material but reports it as a total single percentage, 1/2 of the total shall be considered preconsumer and 1/2 shall be considered postconsumer.</p> <p>A4.405.3.1.4 Determination of recycled content value of assemblies (RCVa). The recycled content value of assemblies (RCVa) is calculated by multiplying the total cost of assembly by the total recycled content of the assembly (RCa), and shall be determined by Equation A4.4-8</p>	<p align="center"> <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> </p>		<p align="center"><i>CALGreen Inspector</i></p> <p align="center"><input type="checkbox"/></p> <p align="center"><input type="checkbox"/></p> <p align="center"><input type="checkbox"/></p> <p align="center"><input type="checkbox"/></p>
<p>A4.405.4 Use of building materials from rapidly renewable sources. One or more of the following materials manufactured from rapidly renewable sources or agricultural by-products is used.</p> <ol style="list-style-type: none"> 1. Insulation 2. Bamboo or cork 3. Engineered products 4. Agricultural based products. 5. Other products acceptable to enforcing agency. <p>(Support documentation required at application submittal.)</p>		<p align="center"><input type="checkbox"/></p>	<p align="center"><i>CALGreen Inspector</i></p> <p align="center"><input type="checkbox"/></p>
Enhanced Durability and Reduced Maintenance			
<p>4.406.1 Rodent proofing. Annular spaces around pipes, electric cables, conduits, or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the enforcing agency.</p>	<p align="center"><input checked="" type="checkbox"/></p>		<p align="center"><i>CALGreen Inspector</i></p> <p align="center"><input type="checkbox"/></p>
Water Resistance and Moisture Management			
<p>A4.407.1 Drainage around foundation. Install foundation and landscape drains which discharge to a dry well, sump, bioswale or other approved location.</p>		<p align="center"><input type="checkbox"/></p>	<p align="center"><i>CALGreen Inspector</i></p> <p align="center"><input type="checkbox"/></p>
<p><i>Description of proposed measures:</i></p>	<p align="center"><i>Sheet: Detail:</i></p>		

**2019 CALGreen+Tier 1 Checklist
Residential**

<p>A4.407.2 Roof drainage. Install gutter and downspout systems to route water at least 5 feet away from the foundation or connect to landscape drains which discharge to a dry well, sump, bioswale, rainwater capture system or other approved on-site location.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p><i>Sheet: Detail:</i></p>		
<p>A4.407.3 Flashing details. Provide flashing details on the building plans and comply with accepted industry standards or manufacturers instructions.</p>		<input type="checkbox"/>	<p>City Plan Check staff</p> <input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p><i>Sheet: Detail:</i></p>		
<p>A4.407.4 Material protection. Protect building materials delivered to the construction site from rain and other sources of moisture.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>A4.407.6 Door protection. Exterior doors to the dwelling are protected by min. 4 ft. to prevent water intrusion.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p><i>Description of proposed measures:</i></p>	<p><i>Sheet: Detail:</i></p>		
<p>A4.407.7 Roof overhangs. A permanent overhang or awning at least 2 feet in depth is provided at all exterior walls.</p>		<input type="checkbox"/>	<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>

Construction Waste Reduction, Disposal and Recycling			
<p>4.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction waste in accordance with Section 4.408.2, 4.408.3, or 4.408.4.</p> <p>(Support documentation required at application submittal.) (See 4.408.5)</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Excavated soil and land-clearing debris 2. Alternate waste reduction methods 3. Isolated job sites <p>4.408.2 Construction waste management plan. Submit a construction waste management plan that:</p> <ol style="list-style-type: none"> 1. Identifies the construction waste materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale. 2. Determines if construction waste materials will be sorted on-site or bulk mixed. 3. Identifies diversion facilities where construction waste material collected will be taken. 4. Identifies construction methods employed to reduce the amount of construction and demolition waste generated. 5. Specifies that the amount of construction waste materials diverted shall be calculated by weight or volume, but not by both. <p>4.408.3 Waste management company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction waste material diverted from the landfill complies with A4.408.1 Tier 1 (see below).</p> <p>Note: The owner or contractor shall make the determination if the construction waste material will be diverted by a waste management company.</p> <p>4.408.4 Waste Stream reduction alternative (Low-Rise Residential).</p> <p>Generate a total combined weight of construction and demolition waste that does not exceed 3.4 pounds per square foot of the building area. (2 pounds per square feet for high-rise residential)</p>	<input checked="" type="checkbox"/>		<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>
<p>A4.408.1 Enhanced construction waste reduction. At least 65% of nonhazardous construction and demolition debris generated at the site is diverted to recycle or salvage. (Tier 1)</p> <p>A4.408.1.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with this section. Documentation shall be compliance with Section 4.408.5.</p>	<input checked="" type="checkbox"/>		<p><i>CALGreen Inspector</i></p> <input type="checkbox"/>

Building Maintenance and Operation			
<p>4.410.1 Operation and maintenance manual. At the time of final inspection, a manual which includes all of the following shall be placed in the building:</p> <ol style="list-style-type: none"> 1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure. 2. Operation and maintenance instructions for; equipment and appliances, roof and yard drainage, space conditioning systems, landscape irrigation systems, and water reuse systems. 3. Information on local recycle programs and locations. 4. Public transportation and/or carpool options available in the area. 5. Educational material on the positive impacts of interior relative humidity between 30-60%. 6. Information about water-conserving landscape and irrigation design and controllers which conserve water. 7. Instructions for maintaining gutters and downspouts and importance of diverting water at least 5ft. away from the foundation. 8. Information on required routine maintenance measures including caulking, painting, grading around the house, etc. 9. Information about state solar energy and incentive programs available. 10. A copy of all special inspection verifications required by the enforcing agency or this code. 	<input checked="" type="checkbox"/>		<p>CALGreen Inspector</p> <input type="checkbox"/>
<p>4.410.2 Recycling by Occupants. Where 5 or more Multi-family dwelling units are constructed on a building site, provide readily accessible area(s) for depositing recyclable materials.</p>	<input checked="" type="checkbox"/>		<p>CALGreen Inspector</p> <input type="checkbox"/>
Innovative Concepts and Local Environmental Conditions			
<p>A4.411.1 Innovative concepts and local environmental conditions. Items in this section are necessary to address innovative concepts or local environmental conditions.</p>			Chief Building Official
Item:		<input type="checkbox"/>	<input type="checkbox"/>
<p>4.5 and A4.5 ENVIRONMENTAL QUALITY</p> <p><i>All checked items are required</i> <i>Select at least one (1) elective measure from A4.5</i> <i>Select all measures verified in the completed project</i></p>			
Fireplaces			
<p>4.503.1 Fireplaces. Install only a direct-vent or sealed-combustion gas fireplace. Wood-pellet stove shall comply with EPA New Source Performance Standards (NSPS) or local ordinances. (Support documentation may be required at application submittal.)</p>	<input checked="" type="checkbox"/>		<p>CALGreen Inspector</p> <input type="checkbox"/>

Pollutant Control			<i>*All by CALGreen Inspector</i>
4.504.1 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, during storage on the site and until final startup of the HVAC 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 water, dust and debris, which may enter the system.	<input checked="" type="checkbox"/>		<input type="checkbox"/>
A4.504.1 Compliance with formaldehyde limits. Use composite wood products made with either California Air Resources Board approved no- added formaldehyde resins or ultra-low emitting formaldehyde resins.		<input type="checkbox"/>	<i>CALGreen Inspector</i> <input type="checkbox"/>
4.504.2 Finish material pollutant control. Finish materials shall comply with this section: 4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits in <i>CALGreen</i> Table 4.504.1 or 4.504.2 as applicable. 4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits in <i>CALGreen</i> Table 4.504.3. 4.504.2.3 Aerosol paints and other coatings shall be compliant with product weighted MIR Limits for ROC and other toxic compounds and BAAQMD (Bay Area Air Quality Management District) VOC limits. 4.504.2.4 If requested by enforcing agency, documentation shall be provided to verify that compliant VOC limit finish materials have been used.	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A4.504.2 Resilient flooring systems. At least 90% of the resilient flooring systems installed in the building shall comply with the VOC- emission limits defined in at least one of the 4 listed criteria in Section A4.504.2 (Tier 1) (supercedes 4.504.4) Note: Documentation must be provided that verifies that finish materials are certified to meet the pollutant emission limits in this section.	<input checked="" type="checkbox"/>		<input type="checkbox"/>
4.504.3 Carpet systems. Carpet and carpet systems shall meet the testing and product requirements of one of the listed items, 1 – 4 in Section 4.504.3. 4.504.3.1 All carpet cushion installed shall meet the requirements of the Carpet and Rug Institute’s Green Label program. 4.504.3.2 All carpet adhesive shall meet the requirements of Table 4.504.1	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A4.504.3 Thermal insulation. Install thermal insulation in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List. (Tier 1) Note: Documentation must be provided that verifies that finish materials are certified to meet the pollutant emission limits in this section.	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<p>4.504.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard (MDF) products use on the interior or exterior shall meet the requirements for formaldehyde as specified in the ARB's Air Toxics Control Measure for Composite Wood as shown in Table 4.504.5</p> <p>4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency.</p>	☒		☐
Interior Moisture Control			
<p>4.505.2 Concrete slab foundations. Concrete slab foundations required to have a vapor retarder by the California Building Code, Chapter 19, or the California Residential Code, Chapter 5, shall comply with this section.</p> <p>4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:</p> <ol style="list-style-type: none"> 1. A 4" thick base of ½" or larger clean aggregate w/vapor barrier in direct contact with concrete 2. Other methods approved by the enforcing agency. 3. A slab design specified by a licensed designed professional. 	☒		City Building Inspector ☐
<i>Description of proposed measures:</i>	<i>Sheet: Detail:</i>		
<p>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:</p> <ol style="list-style-type: none"> 1. By a probe-type or contact-type moisture meter or other equivalent methods approved by the enforcing agency. 2. Readings shall be taken at a point 2 ft. to 4 ft. from the grade stamped end of each piece to be verified. 3. Minimum 3 random reading shall be performed on wall and floor framing with documentation provided to enforcing agency. 	☒		<i>CALGreen Inspector</i> ☐
Indoor Air Quality and Exhaust			
<p>4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:</p> <ol style="list-style-type: none"> 1. Fans shall be ENERGY STAR compliant and ducted to terminate outside the buildings. 2. Unless functioning as a whole house ventilation system, fans must be humidity controlled. Controls must be capable of adjustment between 50-80% humidity range. Humidity control may be a separate component to the exhaust fan and is not required to be integral or built in. <p>Note: A bathroom is a room which contains a bathtub, shower, or combination shower/tub.</p>	☒		<i>CALGreen Inspector</i> ☐
<p>A4.506.2 Construction filter (High-Rise Residential). Provide filters on return air openings rated at MERV 8 or higher during construction.</p>		☐	<i>CALGreen Inspector</i> ☐
<p>A4.506.3 Direct-vent appliances. Direct-vent heating and cooling equipment shall be utilized if the equipment will be located in the conditioned space or install the space heating and water heating equipment in an isolated mechanical room.</p>		☐	<i>CALGreen Inspector</i> ☐

Environmental Comfort			
<p>4.507.2. Heating and air-conditioning system design. Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods: (Support documentation required at application submittal.)</p> <ol style="list-style-type: none"> 1. Establish heat loss and heat gain values according to ANSI/ACCA Manual J-2016, ASHRAE handbooks or other equivalent methods. 2. Size duct systems according to ANSI/ACCA 1 Manual D – 2016, ASHRAE handbooks or other equivalent methods. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S – 2014 or other equivalent methods. <p>Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.</p>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		City Plan Check staff <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<i>Description of proposed measures:</i>		<i>Sheet:</i>	<i>Detail:</i>
Innovative Concepts and Local Environmental Conditions			
A4.509.1 Items in this section are necessary to address innovative concepts or local environmental conditions.			Chief Building Official
Item:		<input type="checkbox"/>	<input type="checkbox"/>
INSTALLER AND CALGREEN INSPECTOR QUALIFICATIONS			<i>Select all measures verified in the completed project</i>
Qualifications			
702.1 Installer training. HVAC system installers are trained and certified in the proper installation of HVAC systems.	<input checked="" type="checkbox"/>		CALGreen Inspector <input type="checkbox"/>
702.2 Special inspection. The CALGreen Inspector for this project is listed by the local jurisdiction as an Approved CALGreen Inspector and is qualified and able to demonstrate competence in the discipline they inspect and verify.	<input checked="" type="checkbox"/>		City Plan Check staff <input type="checkbox"/>
Verifications			
703.1 Verification. Verification of compliance with this code may include construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.	<input checked="" type="checkbox"/>		CALGreen Inspector <input type="checkbox"/>

CALGreen Building Acknowledgments

Project Address: _____

Project Description: _____

Section 1 - Design Verification

Complete all lines of Section 1- "Design Verification" and submit the completed checklist (Columns 1 and 2) with the plans and building permit application to the Building Department.

The owner, design professional and the local jurisdiction Approved CALGreen Inspector have reviewed the plans and certify that the items checked above are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2019 California Green Building Standards Code as amended by the local jurisdiction.

_____ Owner's Signature	_____ Date
_____ Owner Name (Please Print)	
_____ Design Professional's Signature	_____ Date
_____ Design Professional's Name (Please Print)	
_____ Signature of Listed CALGreen Inspector	_____ Date
_____ Listed CALGreen Inspector's Name (Please Print)	_____ Phone
_____ CALGreen Inspector's E-mail Address	

Section 2 - Implementation Verification

Complete, sign and submit the completed checklist, including Column 3, together with all original signatures on Section 2 – "Implementation Verification" to the Building Department prior to final inspection.

I have inspected the work have received sufficient documentation to verify and certify that the project identified above was constructed in accordance with this Green Building Checklist and in accordance with the requirements set forth in the 2019 California Green Building Standards Code as amended by the local jurisdiction.

_____ Listed Approved CALGreen Inspector Signature	_____ Date
_____ CALGreen Inspector's Name (Please Print)	_____ Phone (if different than above)
_____ CALGreen Inspector's E-mail Address (if different than above)	