

PLANNING AND BUILDING DEPARTMENT BUILDING DIVISION

https://www.eldoradocounty.ca.gov/Land-Use/Building-Services

2016 CALGREEN NON-RESIDENTIAL CHECKLIST MANDATORY ITEMS

Project Address.		
DDOCE.		

PURPOSE:

The non-residential provisions of the 2016 CalGreen Code outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties; establishes the means of conserving water used indoors, outdoors and in wastewater conveyance; outlines means of achieving material conservation and resource efficiency; and outlines means of reducing the quantity of air contaminants.

INSTRUCTIONS:

- 1. The Owner or the Owner's agent shall employ a licensed professional experienced with the 2016 California Green Building Standards Codes to verify and assure that all required work described herein is properly planned and implemented in the project.
- 2. The licensed professional, in collaboration with the owner and the design professional shall initial **Column 2** of this checklist, sign and date **Section 1 Design Verification** at the end of this checklist and have the checklist printed on the approved plans for the project.
- 3. Prior to final inspection by the Building Division, the licensed professional 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 Inspector.

Project meets all of the requirements of Divisions 5.1 through 5.5.	Location On Plans	Field Inspectors' Verification
DIVISION 5.1 - PLANNING AND DESIGN		
Site Development		
5.106.1 Storm water pollution prevention. Newly constructed projects and additions which disturb less than one acre of land shall prevent the pollution of stormwater runoff from the construction activities through local ordinance in Section 5.106.1.1		
Or Best management practices (BMP) in Section 5.106.1.2.		
5.106.4 Bicycle parking. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2.		
5.106.4.1 Bicycle parking. [BSC-CG] Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.		
5.106.4.1.1 Short-term bicycle parking. If the new project or addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passersby, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.		
Exception: Additions or alterations which add nine or fewer visitor vehicular parking spaces.		

 5.106.4.1.2 Long-term bicycle parking. For buildings with 10 or more tenant-occupants or for additions or alterations that add 10 or more tenant vehicular parking spaces, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and shall meet one of the following: 1. Covered, lockable enclosures with permanently anchored racks for bicycles; 2. Lockable bicycle rooms with permanently anchored racks; or 3. Lockable, permanently anchored bicycle lockers. Note: Additional information on recommended bicycle accommodations may be obtained from Sacramento Area Bicycle Advocates. 5.106.5.2 Designated parking. In new projects or additions or alterations that add 10 or 	
more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2.	
5.106.5.2.1 Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: CLEAN AIR VANPOOL/EV	
Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.	
5.106.5.3 Electric vehicle (EV) charging. [N] Construction shall comply with Section 5.106.5.3.1 or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE).	
5.106.8 Light pollution reduction. [N] Outdoor lighting systems shall be designed and installed to comply with the following:	
 The minimum requirements in the California Energy Code for Lighting Zones 1–4 as defined in Chapter 10 of the California Administrative Code; and Backlight, Uplight and Glare (BUG) ratings as defined in IESNA TM-15-11; and Allowable BUG ratings not exceeding those shown in Table 5.106.8, or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent. 	
Exceptions: [N] 1. Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code 2. Emergency lighting 3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6. 4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8	
Alternate materials, designs and methods of construction Note: [N] See also California Building Code, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.	
5.106.10 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 those shown in Items 1–5. See exception for additions or alterations.	
DIVISION 5.3 - WATER EFFICIENCY AND CONSERVATION	
Indoor Water Use5.303.1Meters. Separate submeters or metering devices shall be installed for the uses	
described in Sections 503.1.1 and 503.1.2.	

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5.303.1.1 Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows:		
 For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day, including but not limited to, spaces used for laundry or cleaner, restaurant for food service, medical or dental office, laboratory or beauty salon or barber shop. 		
Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystem:		
a. Makeup water for cooling towers where flow through is greater than 500 gpm.		
b. Makeup water for evaporative coolers greater than 6 gpm.		
c. Steam and hot-water boilers with energy input more than 500,000 Btu/h.		
5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant within a new building or an addition that is projected to consume more than 1,000 gal/day.		
5.303.3 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:		
5.303.3.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank- Type Toilets.		
Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.		
5.303.3.2 Urinals.		
5.303.3.2.1 Wall-mounted urinals. The effective flush volume of wall- mounted urinals shall not exceed 0.125 gallons per flush.		
5.303.3.2.2 Floor-mounted urinals. The effective flush volume of floor- mounted urinals shall not exceed 0.5 gallons per flush.		
5.303.3.3 Showerheads.		
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.		
5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.		
Note: A hand-held shower shall be considered a showerhead.		
5.303.4 Commercial kitchen equipment.		
5.303.4.1 Food waste disposers. Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.		
Note: This code section does not affect local jurisdiction authority to prohibit or require disposer installation.		
5.303.5 Areas of additions or alteration. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alterations to the building.		

5.303.6 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code and in Chapter 6 of this code.		
Outdoor Water Use		
5.304.1 Scope. The provisions of Section 5.304 Outdoor Water Use reference the mandatory Model Water Efficiency Landscape Ordinance (MWELO) contained within Chapter 2.7, Division 2, Title 23, California Code of Regulations. See Link: MWELO Submittal Form		
DIVISION 5.4 - MATERIAL CONSERVATION AND RESOURCE EFFI	CIENCY	
Weather Resistance and Moisture Management		
5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code, Section 1403.2 and California Energy Code, Section 150, manufacturer's installation instructions or local ordinance, whichever is more stringent. ¹		
5.407.2 Moisture control. Employ moisture control measures by the following methods;		
5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent irrigation spray on structures.		
5.407.2.2 Entries and openings. Design exterior entries and openings to prevent water intrusion into buildings as follows.		
5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:		
 An installed awning at least 4 feet in depth. The door is protected by a roof overhang at least 4 feet in depth. The door is recessed at least 4 feet. Other methods which provide equivalent protection. 		
5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.		
Construction Waste Reduction, Disposal and Recycling		
5.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent, or (See Link EDC Ordinance 5033)		
Building Maintenance and Operation		
5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials including organic waste for recycling.		
5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30 percent or more in floor area, shall provide recycling areas on site.		
Exception: Additions within a tenant space resulting in less than a 30-percent increase in the tenant space floor area.		

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 5.410.2 Commissioning. [N] For new buildings 10,000 square feet and over, building commissioning for all building systems covered by Title 24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. All occupancies other than I-occupancies and L-occupancies shall comply with the California Energy Code as prescribed in California Energy Code Section 120.8. For I- occupancies which are not regulated by OSHPD or for I-occupancies and L- occupancies which are not regulated by the California Energy Code Section 100.0 Scope; all requirements in sections 5.410.2 through 5.410.2.6 shall apply. Commissioning requirements shall include items listed in Section 5.410.2. Exceptions: Unconditioned warehouses of any size Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses 		
3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.		
4. Open parking garages of any size, or open parking garage areas of any size, within a structure.		
5.410.2.1 Owner's Project Requirements (OPR). [N] Documented before the design phase of the project begins the OPR shall include items listed in Section 5.410.2.1.		
5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project to cover the systems listed in Section 5.410.2.2.		
5.410.2.3 Commissioning plan. [N] A commissioning plan describing how the project will be commissioned shall include items listed in Section 5.410.2.3.		
5.410.2.4 [N] Functional performance testing shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications.		
5.410.2.5 Documentation and training. [N] A Systems manual and systems operations training are required.		
5.410.2.5.1 Systems manual. [N] The systems manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in Section 5.410.2.5.1.		
5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and shall include items listed in Section 5.410.2.5.2.		
5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.		
5.410.4 Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet. Applies to new systems serving additions or alterations.		
5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed in Section 5.410.4.2.		
5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with applicable standards on each system as determined by the enforcing agency.		
5.410.4.3.1 HVAC balancing. Before a new space-conditioning system serving a building or space is operated for normal use, balance in accordance with the procedures defined by national standards listed in Section 5.410.4.3.1 or as approved by the enforcing agency.		

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.	
5.410.4.5 Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.	
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.	
DIVISION 5.5 - ENVIRONMENTAL QUALITY	
Fireplaces	
5.503.1 Fireplaces. Install only a direct-vent sealed-combustion gas or sealed wood- burning fireplace or a sealed woodstove and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150.	
5.503.1.1 Woodstoves. Woodstoves shall comply with US EPA New Source Performance Standards (NSPS) emission limits, where applicable, and shall have a permanent label indicating they are certified to meet the emission limits.	
Pollutant Control	
5.504.1 Temporary ventilation. If the HVAC system is used during construction, use return air filters with a MERV of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy. Applies to additions or alterations.	
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.	
5.504.4 Finish material pollutant control. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6.	
5.504.4.1 Adhesives, sealants, caulks. Adhesives and sealants used on the project shall meet the requirements of the following standards.	
1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2.	
2. Aerosol adhesives and smaller unit sizes of adhesives and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.	
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply.	
5.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product- Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520, et seq.).	
5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency.	

5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4.	
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.	
5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.	
5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4.5.	
 5.504.4.5.3 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following: 1. Product certifications and specifications. 2. Chain of custody certifications. 3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.). 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards. 5. Other methods acceptable to the enforcing agency. 	
 5.504.4.6 Resilient flooring systems. For 80 percent of floor area receiving resilient flooring, install resilient flooring which meets one of the following: 1. Certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; 2. Compliant with the VOC-emission limits and testing requirements specified in the California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, 	1
Version 1.1, February 2010; 3. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and 7.1 (formerly EQ. 2.2) dated July 2012 and listed in the CHPS High Performance Product Database; or 4. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children's & Schools Program).	
5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a MERV of 8. MERV 8 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.	
5.504.7 Environmental tobacco smoke (ETS) control. Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows where outdoor areas are provided for smoking and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University or campus of the University of California, whichever are more stringent.	
Indoor Moisture and Radon Control	
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.1. ¹	
Air Quality and Exhaust	
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 of the California Energy Code and Chapter 4 of CCR, Title 8 or the applicable local code, whichever is more stringent. ¹	
5.506.2 Carbon dioxide (CO2) monitoring. For buildings or additions equipped with demand control ventilation, CO2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, CCR, Section 120(c)(4).	

Environmental Comfort	
5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E90 and ASTM E413 or OITC determined in accordance with ASTM E1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.	
5.507.4.1 Exterior noise transmission, prescriptive method. Wall and floor-ceiling assemblies exposed to the noise source making up the building envelope shall have exterior wall and roof ceiling assemblies meeting a composite STC rating of at least 50 or a composite OITC rating of no less than 40 with exterior windows of a minimum STC of 40 or OITC of 30 in the locations described in Items 1 and 2. Also applies to addition envelope or altered envelope.	
5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB Leq-1Hr during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). Also applies to addition or alteration exterior wall. OR	
5.507.4.2 Performance method. For buildings located as defined in Sections A5.507.4.1 or A5.507.4.1.1, wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation. Also applies to addition envelope or altered envelope.	
5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the project to mitigate sound migration to the interior. Also applies to addition envelope or altered envelope.	
5.507.4.2.1 Documentation of compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.	
5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.	
Outdoor Air Quality	
5.508.1 Ozone depletion and global warming reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.	
5.508.1.1 CFCs. Install HVAC and refrigeration equipment that does not contain CFCs. ¹	
5.508.1.2 Halons. Install fire suppression equipment that does not contain Halons. ¹	
5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global- warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.	
Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO2), and potentially other refrigerants.	

^{1.} These measures are currently required elsewhere in statute or in regulation.

CALGREEN SIGNATURE DECLARATIONS

SECTION 1 - DESIGN VERIFICATION	
Complete all lines of Section 1 - "Design Verification" and submit the completed checand building permit application to the Building Department. The owner and design professional responsible for compliance with CalGreen Stanthat the items checked above are hereby incorporated into the project plans and accordance with the requirements set forth in the 2016 California Green Building Stantham	dards have revised the plans and certify will be implemented into the project in
Owner's Signature	Date
Owner's Name (Please Print)	
Design Professional's Signature	Date
Design Professional's Name (Please Print)	
Signature of License Professional Responsible for CalGreen Compliance	Date
Name of License Professional responsible for GalGreen compliance (Please Print)	Phone
SECTION 2 - IMPLEMENTATION VERIFICATION	
Complete, sign and submit the completed checklist, including column 3, together the Building Dept. prior to Building Dept. final inspection.	with all original signatures on Section 2 to
I have inspected the work and have received sufficient documentation to verify an was constructed in accordance with this Green Building Checklist and in accordance California Green Building Standards Code as adopted by the County.	
Signature of License Professional Responsible for CalGreen Compliance	Date
Name of License Professional responsible for GalGreen compliance (Please Print)	Phone
Email Address for License Professional responsible for CalGreen Compliance)	