



CITY OF LONG BEACH
 Department of Development Services
 BUILDING AND SAFETY BUREAU
2016 CALGREEN - NONRESIDENTIAL
PLAN REVIEW CHECKLIST



INFORMATION	PROJECT NO.:	EXPIRATION DATE:	STATUS:	
	PROJECT ADDRESS:	VALUATION:		
	WORK DESCRIPTION:			
	APPLICANT'S NAME:	TEL. NO.:		
	PLAN REVIEWER:	TEL. NO.:		
	ADDRESS:			
	EMAIL:	WEBSITE:		
	<p>Referenced Applicable Codes: 2016 California Green Building Standards Code (CALGreen), 2016 California Building Code (CBC), 2016 California Plumbing Code(CPC), 2016 California Mechanical Code (CMC), 2016 California Electrical Code(CEC), 2016 California Building Energy, and Long Beach Municipal Code (LBMC).</p> <p>Numbers within the parenthesis () refer to 2016 CALGreen and applicable codes. Comments with circled item numbers apply to this review. Provide a written response to each comment and show where and how it has been addressed.</p>			

CHAPTER 1 ADMINISTRATION

A General

1. Construction documents and other data shall be prepared by a registered design professional due to special conditions occurring in the design. (102.1)
2. Provide sufficient clarity to indicate the location, nature, and scope of the proposed green building feature. (102.2)
3. Plans shall indicate the method of verifying compliance with all applicable requirements from CALGreen. (102.3)
4. Third party or other methods shall demonstrate satisfactory conformance with mandatory measures. (102.3)
5. This project shall comply with the comments with asterisk "*" for exceeding the following threshold:
 - a. Addition ≥ 1,000 Square Feet or
 - b. Valuation of alteration ≥ \$200,000.
6. Similar to S (structural) sheets, all standard notes and details of proposed green building features shall be detailed onto the sheets titled as CG (CALGreen).
7. Obtain all approvals/clearances from the following department/bureau/agency noted below. It is necessary to apply immediately for the signoff or approval as it can take weeks or months for some departments/bureaus/agencies to review and approve the project. All required approvals or clearances must be secured prior to permit issuance.
 - a. Planning Bureau
 - b. Water Department

CHAPTER 3 GREEN BUILDING

B General

1. The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/ or building alterations with a permit valuation of \$200,000 or above.
2. In a mixed occupancy building, show how each portion of the building will comply with specific green building measures applicable to each occupancy. (302.1)
3. For shell buildings with future tenant improvement, provide a project summary that each phase of the project shall comply with code measures applicable to the building components and systems. (303.1)
4. *Add notes to plan:* CALGreen shall apply to initial tenant improvement (1st TI or occupancy) in shell buildings. (303.1.1)

CHAPTER 5 NONRESIDENTIAL MANDATORY MEASURES

Division 5.1 PLANNING AND DESIGN

C Site Development

1. For projects of one acre or less, develop a Storm Water Pollution Prevention Plan (SWPPP) conforming to the State Storm water NPDES Construction Permit as is required for projects over one acre. The plan should cover prevention of soil loss by storm water run-off and/or wind erosion, of sedimentation and/or of dust/particulate matter air pollution (5.106.1). *

Exception: If the site is already greater than 50% impervious, implement a storm water management plan resulting in a 25% decrease in rate and quantity.

2. Show bicycle parking and changing rooms in compliance with Sec. 5.106.4.1 and 5.106.4.2 (5.106.4).
 - a. For short-term bicycle parking, if the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 ft. of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a min of one two-bike capacity rack (5.106.4.1).
 - b. For long-term bicycle parking, provide secure bicycle parking for 5% of motorized vehicle parking capacity for new building with over 10 or more occupants or for additions or alterations that add 10 or more tenant vehicular parking spaces with a min of one space.
3. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2. Show designated parking locations on site plan. Mark parking spaces as "CLEAN AIR VEHICLE" PER Sec 5.106.5.2.1. *(if more than 10 occupants and more than 10 vehicle spaces added)
4. Comply with lighting power requirements in the *California Energy Code* and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1 – 4 as defined in Chapter 10 of the *California Administrative Code*, using the following strategies:
 - a. Shield all exterior luminaires or use cutoff luminaires.
 - b. Contain interior lighting within each source.
 - c. Allow no more than .01 horizontal foot candle 15 ft beyond the site.
 - d. Contain all exterior lighting within property boundaries.

Exception: See Part 2, California Building Code Chapter 12, section 1205.6 for campus lighting requirements for parking facilities and walkways.

5. Design and develop construction site to keep surface water away from buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows (5.106.10).

Division 5.2 ENERGY EFFICIENCY

D General

1. Nonresidential buildings shall meet or exceed the minimum standard design required by the California Energy Standards (5.201.1):
 - a. Provide energy calculations, designs, and details for building or structure.
 - b. Add certificates of energy compliance (light and ventilation) and energy notes to plans.

Division 5.3 WATER EFFICIENCY AND CONSERVATION

E Indoor Water Use

1. Install separate meters for the uses described in Sections 503.1.1 through 503.1.3. (LBMC 18.47.080)
 - a. For buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows (5.303.1.1):
 - i. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day.
 - ii. For spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory or beauty salon or barber shop projected to consume more than 100 gal/day.
 - b. Any building within a project or space within a building that is projected to consume more than 1,000 gal/day (5.303.1.2).
2. Food waste disposers shall provide either of the following: (5.303.4.1)
 - a. Modulate the use of water to no more than 1 gpm when not in use;
 - b. Automatically shut off after no more than 10 minutes of inactivity.
3. Food waste disposers shall use no more than 8 gpm of water. (5.303.4.1)
4. Show references and specifications for plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) in compliance with the requirements of Section 5.303.3.
 - a. Water closets (toilets) – flushometer type
 - b. Water closets (toilets) – tank type
 - c. Urinals (wall-mounted)
 - d. Urinals (floor-mounted)
 - e. Showerheads (single)
 - f. Showerheads (multiple)
 - g. Nonresidential lavatory faucets
 - h. Kitchen faucets
 - i. Wash fountains
 - j. Metering faucets
 - k. Metering faucets for wash fountains

5. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/ or other shower outlets controlled by a single valve shall not exceed 2.0 gallon per minute at 80 psi or the shower shall be designed to only allow one showerhead to be in operation at a time.

F Outdoor Water Use

1. Develop a water budget for landscape irrigation use (5.304.1).
2. For outdoor water use in landscape areas equal to or greater than 500 square feet, comply with one of the following:
 - a. A local water efficient landscape ordinance or
 - b. The California Department of Water Resources Model Water Efficient Landscape Ordinance (MWEL0)
3. For outdoor water use in rehabilitated landscape projects equal to or greater than 2,500 square feet shall comply with Section 5.304.2, Item 1 or 2.
4. For outdoor water use in landscape areas 2,500 square feet or less may comply with the performance requirements of MWEL0 or conform to the prescriptive compliance measures contained in MWEL0's Appendix D.

Division 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

G Water Resistance and Moisture Management

1. 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 (5.407.1).
2. Employ moisture control measures by the following methods (5.407.2);
 - a. Prevent irrigation spray on structures.
 - b. Design exterior entries and openings to prevent water intrusion into buildings.

H Construction Waste Reduction, Disposal and Recycling

1. The construction meeting the threshold of Section LBMC18.67.020 shall comply with LBMC Chapter 18.67 (5.408.1, LBMC 18.47.070).

Note: See Information Bulletin BU-033 Waste Management Plan Information and Instruction Sheet.

I Building Maintenance and Operation

1. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (5.410.1).
2. For new buildings 10,000 square feet and over, building commissioning for all building systems covered by T24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in Section 5.410.2.
 - a. Documented before the design phase of the project begins the OPR shall include items listed in Section 5.410.4.
 - b. 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 and updated periodically to cover the systems listed in Section 5.410.2.2.
 - c. A commissioning plan describing how the project will be commissioned shall be started during the design phase of the building project and shall include items listed in Section 5.410.2.3.

- d. 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.
 - e. A Systems manual and systems operations training are required.
 - f. 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.
 - g. The training of the appropriate maintenance staff for each equipment type and/or system shall include items listed in Section 5.410.2.5.2.
 - h. A complete report of commissioning process activities undertaken through the design, construction and reporting recommendations for post construction phases of the building project shall be completed and provided to the owner or representative.
3. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet (5.410.4).
- a. 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 5.410.3.2.
 - b. Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.
 - c. Before a new space-conditioning system serving a building or space is operated for normal use, the system should be balanced in accordance with the procedures defined by national standards listed in Section 5.410.3.3.1.
 - d. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.
 - e. Provide the building owner with detailed operating and maintenance instructions and copies of warranties/guaranties for each system prior to final inspection.
 - f. Include a copy of all inspection verifications and reports required by the enforcing agency.

Division 5.5 ENVIRONMENTAL QUALITY

J Fireplaces

1. 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).
2. Woodstoves shall comply with US EPA Phase II mission limits (5.503.1.1).

K Pollutant Control

1. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling 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 or debris which may collect in the system (5.504.3).
2. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.
 - a. Adhesives and sealants used on the project shall meet the requirements of the following standards (5.504.4.1).
 - i. 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.
 - ii. 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.
 - b. Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply.
 - i. 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).

- ii. Verification of compliance with this section shall be provided at the request of the enforcing agency.
- c. 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.
 - i. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.
 - ii. All carpet adhesive shall meet the requirements of Table 5.504.4.1.
- 3. 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 ARB's Air Toxics Control Measure (ATCM) for Composite Wood. Materials not exempted under the ATCM must meet the specified emission limits in Table 5.504.4.5.
 - a. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following.
 - i. Product certifications and specifications
 - ii. Chain of custody certifications
 - iii. Product labeled and invoiced as meeting the Composite Wood Products regulations.
 - iv. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association.
 - v. Other methods acceptable to the enforcing agency
 - 4. For 80% of floor area receiving resilient flooring, installed resilient flooring shall meet at least one of the following:
 - a. Resilient Floor Covering Institute (RFCI) FloorScore Program;
 - b. VOC-emission limits and testing requirements per California Department of Public Health's 2010 Standard Method for the Testing and Evaluation Chambers, Version 1.1, Feb 2010;
 - c. Collaborative for High Performance Schools California (CA_CHPS) Criteria Interpretation for EQ 7.0 and EQ 7.1.; or
 - d. Certified under UL GREENGUARD Gold.
 - 5. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits. (5.504.4.6.1)
 - 6. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 8. (5.504.5.3).

L Interior Moisture Control

- 1. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Part 2, Sections 1203 and Chapter 14. (5.505.1)

M Indoor Air Quality and Exhaust

- 1. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 of the 2016 *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8. (5.506.1)
- 2. 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 latest edition of the *California Energy Code*, CCR, Title 24, Part 6, Section 120(c)(4). (5.506.2).

N Environmental Comfort

- 1. Employ building assemblies and components with Sound Transmission Class (STC) values or Outdoor-Indoor Sound Transmission Class (OITC) using either of the following: (5.507.4)



- a. *Prescriptive Method.* Wall and roof-ceiling assemblies (envelope) shall meet 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 following locations: (5.507.4.1)
 - i. Within the 65 CNEL noise contour of an airport
 - ii. Within the 65 CNEL or L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source.
- b. *Performance Method.* Wall and roof-ceiling assemblies making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (L_{eq} -1Hr) of 50 dBA in occupied areas during any hour of operation. (5.507.4.2)
 - i. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the Architect or Engineer of record. (5.507.4.2.2)
- 2. Walls and floor-ceiling assemblies separating tenant spaces and tenant spaces from public spaces shall have an STC of at least 40. (5.507.4.3)
- 3. Buildings exposed to a noise level of 65 dB L_{eq} -1Hr during any hour shall have buildings, additions or alteration exterior wall and roof-ceiling assemblies exposed to 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). (5.507.4.1.1)

O Outdoor Air Quality

- 1. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.
 - a. Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.
 - b. Install HVAC, refrigeration and fire suppression equipment that does not contain Halons.

Division 7 INSTALLER AND SPECIAL INSPECTOR

P Qualifications

- 1. Provide documents to show HVAC system installers trained and certified in the proper installation of HVAC systems (702.1).
- 2. Special inspectors must be qualified and able to demonstrate competence in the discipline they are inspecting (702.2)

Q Verifications

- 1. Provide construction documents, plans, specifications of builder or installer certification, inspection reports, or other methods acceptable to the department for verification and compliance. (703.1)
- 2. Add notes to plan:
 - a. Fixture flow rate form (Worksheet WS-4) shall be available on field for verification.
 - b. Self certification field installation form shall be submitted to inspectors before final inspection.

ADDITIONAL WRITTEN COMMENTS

No.	Comment	Code Sec. No.