



2019 CALGreen

NONRESIDENTIAL MANDATORY MEASURES CHECKLIST

(With Supplement effective July 1, 2021)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :
GREEN BUILDING			
301.3	Application	<ul style="list-style-type: none"> ▪ Applies to nonresidential projects that meet one of the following: new construction, building additions of 1,000 square feet or greater, or building alterations with a permit valuation of \$200,000 or more. ▪ Requirements for additions and alterations only apply to the portion of the building being added or altered. 	
PLANNING AND DESIGN (Site Development)			
5.106.1	Storm Water Pollution Prevention Plan	Newly constructed projects and additions which disturb less than one acre of land and are not part of larger common plan of development or sale 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.	
5.106.2		For projects that disturb one or more acres of land or disturb less than or more land but are part of a larger common plan of development or sale comply with the postconstruction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit.	
5.106.4	Bicycle Parking	<p>Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet local ordinance, whichever is stricter.</p> <p>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 ft of the visitors' entrance, readily visible to passers-by, 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 9 or fewer visitor vehicular parking spaces.</p> <p>5.106.4.1.2 Long-Term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupants vehicular parking spaces with a minimum of one space.</p> <p>5.106.4.1.3 For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5% of the tenant-occupants vehicular parking spaces being added, with a minimum of one bicycle parking facility.</p> <p>5.106.4.1.4 For new shell buildings in phased projects, provide secure bicycle parking for 5% of the anticipated tenant-occupants vehicular parking spaces with a minimum of one bicycle parking facility.</p> <p>5.106.4.1.4 Acceptable parking facilities shall be convenient from the street and shall meet one of the following:</p> <ol style="list-style-type: none"> 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. 	
5.106.5.2	Designated Parking	<p>5.106.5.2 Designated parking for clean air vehicles. 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 per Table 5.106.5.2.</p> <p>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</p> <p>Note: Vehicles bearing Clean Air Vehicle stickers from expired HOV lane programs may be considered eligible for designated parking spaces.</p>	
5.106.5.3	Electric Vehicle (EV) Charging	<p>New 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).</p> <p>5.106.5.3.1 Single charging space requirements. [N] When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the <i>California Electrical Code</i>. Construction plans and specifications shall include, but are not limited to, the following:</p> <ol style="list-style-type: none"> 1. The type and location of the EVSE. 	

NONRESIDENTIAL MANDATORY MEASURES with Supplement effective July 1, 2021 (continued)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :
		<ol style="list-style-type: none"> 2. A listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. 3. The raceway shall not be less than trade size 1". 4. The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into a listed suitable cabinet, box, enclosure or equivalent. 5. The service panel or subpanel shall have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the future installation of the EVSE. <p>5.106.5.3.2 Multiple charging spaces requirements. [N] When multiple charging spaces are required per Table 5.106.5.3.3 raceway(s) is/are required to be installed at the time of construction and shall be installed in accordance with the <i>California Electrical Code</i>. Construction plans and specifications shall include, but are not limited to, the following:</p> <ol style="list-style-type: none"> 1. The type and location of the EVSE. 2. The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into listed suitable cabinet(s), box(es), enclosure(s) or equivalent. 3. Plan design shall be based upon 40-ampere minimum branch circuits. 4. Electrical calculations shall substantiate the design of the electrical system, to include the rating of equipment and any on-site distribution transformers and have sufficient capacity to simultaneously charge all required EVs at its full rated amperage. 5. The service panel or subpanel(s) shall have sufficient capacity to accommodate the required number of dedicated branch circuit(s) for the future installation of the EVSE. <p>5.106.5.3.3 EV charging space calculation. [N] Use Table 5.106.5.3.3 to determine if single or multiple charging space requirements apply for the future installation of EVSE.</p> <p>5.106.5.3.4 Identification [N]. The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."</p> <p>5.106.5.3.5 [N] Future charging spaces qualify as designated parking as described in Section 5.106.5.2 Designated parking for clean air vehicles.</p>	
5.106.8	Light Pollution Reduction	<p>New 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 <i>California Energy Code</i> for Lighting Zones 0–4 as defined in Chapter 10, section 10-14 of the <i>California Administrative Code</i>; and 2. Backlight (B) rating as defined in IES TM-15-11 (shown in table A-1 in Chapter 8); 3. Uplight and Glare ratings as defined in <i>California Energy Code</i> (shown in Tables 130.2-A and 130.2-B in Chapter 8) and 4. Allowable BUG ratings not exceeding those shown in Table 5.106.8[N], or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent. <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Luminaires that qualify as exceptions in Sections 130.2 and 140.7 of <i>California Energy Code</i> 2. Emergency lighting 3. Building façade meeting the requirements in Table 140.7-B of the <i>California Energy Code</i>, 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. 5. Luminaires with less than 6,200 initial luminaire lumens. <p>5.106.8.1 Facing – Backlight. Luminaires within 2MH of a property lines shall be oriented so that the nearest property line is behind the fixture, and shall comply with the backlight rating specified in Table 5.106.8. Exception: Corners. If two property lines (or two segments of the same property line) have equidistant points to the luminaire, then the luminaire may be oriented so that the intersection of the two lines (corner) is directly behind the luminaire. The luminaire shall still use the distance to the nearest point(s) on the property lines to determine the required backlight rating.</p> <p>5.106.8.2 Facing – Glare. For luminaire covered by Section 5.106.8.1, if a property line also exists within or extends into the front hemisphere within 2MH of the luminaire then the luminaire shall comply with the more stringent glare rating specified in Table 5.106.8.</p>	

NONRESIDENTIAL MANDATORY MEASURES with Supplement effective July 1, 2021 (continued)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :																						
5.106.10	Grading and Paving	<p>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, but are not limited to, the following:</p> <ol style="list-style-type: none"> 1. Swales. 2. Water collection and disposal systems. 3. French drains. 4. Water retention gardens. 5. Other water measures which keep surface water away from buildings and aid in groundwater recharge. <p>Exceptions: Additions and alterations not altering the drainage path.</p>																							
ENERGY EFFICIENCY																									
5.201.1	Scope	Building meets or exceeds the requirements of the <i>California Building Energy Efficiency Standards</i> .																							
WATER EFFICIENCY AND CONSERVATION (Indoor Water Use)																									
5.303.1	Meters	<p>Separate meters shall be installed for the uses described in Sections 5.303.1.1 and 5.303.1.2.</p> <p>5.303.1.1 New buildings or additions in excess of 50,000 square feet. Separate submeters shall be installed as follows:</p> <ol style="list-style-type: none"> 1. 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 cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop. 2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems: <ol style="list-style-type: none"> a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s) b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s) c. Steam and hot-water boilers with energy input more than 500,000 Btu/h (147 kW) <p>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 (3800 L/day).</p>																							
5.303.3	Water Conserving Plumbing Fixtures and Fittings	<p>Plumbing fixtures (water closets and urinals) and fittings (showerheads, faucets and pre-rinse spray valves) shall comply with the following:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Plumbing fixtures & fittings</th> <th style="text-align: left;">Maximum</th> </tr> </thead> <tbody> <tr> <td>Water closets</td> <td>1.28 gallons/flush</td> </tr> <tr> <td>Showerheads</td> <td>1.8 gpm @ 80 psi</td> </tr> <tr> <td>Kitchen faucets</td> <td>1.8 gpm @ 60 psi</td> </tr> <tr> <td>Nonresidential lavatory faucets</td> <td>0.5 gpm @ 60 psi</td> </tr> <tr> <td>Wash fountains</td> <td>1.8 gpm/20" rim space @ 60 psi</td> </tr> <tr> <td>Metering faucets</td> <td>0.20 gallons/cycle</td> </tr> <tr> <td>Metering faucets for wash fountain</td> <td>0.20 gallons/cycle</td> </tr> <tr> <td>Urinals</td> <td>0.125 gallons/flush for wall-mounted type and 0.5 gallons/flush for floor-mounted or other type</td> </tr> <tr> <td>Commercial food waste disposer</td> <td>1 gpm no load or 10 minutes auto off, 8 gpm max.</td> </tr> <tr> <td>Pre-rinse spray valves (with an integral automatic shut off)</td> <td>1.00 gpm for Product Class 1 (\leq 5.0 ozf) 1.20 gpm for product Class 2 ($>$ 5.0 ozf and \leq 8.0 ozf) 1.28 gpm for Product Class 3 ($>$ 8.0 ozf)</td> </tr> </tbody> </table>	Plumbing fixtures & fittings	Maximum	Water closets	1.28 gallons/flush	Showerheads	1.8 gpm @ 80 psi	Kitchen faucets	1.8 gpm @ 60 psi	Nonresidential lavatory faucets	0.5 gpm @ 60 psi	Wash fountains	1.8 gpm/20" rim space @ 60 psi	Metering faucets	0.20 gallons/cycle	Metering faucets for wash fountain	0.20 gallons/cycle	Urinals	0.125 gallons/flush for wall-mounted type and 0.5 gallons/flush for floor-mounted or other type	Commercial food waste disposer	1 gpm no load or 10 minutes auto off, 8 gpm max.	Pre-rinse spray valves (with an integral automatic shut off)	1.00 gpm for Product Class 1 (\leq 5.0 ozf) 1.20 gpm for product Class 2 ($>$ 5.0 ozf and \leq 8.0 ozf) 1.28 gpm for Product Class 3 ($>$ 8.0 ozf)	
Plumbing fixtures & fittings	Maximum																								
Water closets	1.28 gallons/flush																								
Showerheads	1.8 gpm @ 80 psi																								
Kitchen faucets	1.8 gpm @ 60 psi																								
Nonresidential lavatory faucets	0.5 gpm @ 60 psi																								
Wash fountains	1.8 gpm/20" rim space @ 60 psi																								
Metering faucets	0.20 gallons/cycle																								
Metering faucets for wash fountain	0.20 gallons/cycle																								
Urinals	0.125 gallons/flush for wall-mounted type and 0.5 gallons/flush for floor-mounted or other type																								
Commercial food waste disposer	1 gpm no load or 10 minutes auto off, 8 gpm max.																								
Pre-rinse spray valves (with an integral automatic shut off)	1.00 gpm for Product Class 1 (\leq 5.0 ozf) 1.20 gpm for product Class 2 ($>$ 5.0 ozf and \leq 8.0 ozf) 1.28 gpm for Product Class 3 ($>$ 8.0 ozf)																								
5.303.4	Commercial Kitchen Equipment	<p>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.</p>																							
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 <i>California Plumbing Code</i> , and shall meet the applicable standards referenced in Table 1701.1 of the <i>California Plumbing Code</i> and in Chapter 6 of this code.																							

NONRESIDENTIAL MANDATORY MEASURES with Supplement effective July 1, 2021 (continued)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :
WATER EFFICIENCY AND CONSERVATION (Outdoor Water Use)			
5.304.1	Outdoor Potable Water Use in Landscape Areas	Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO).	
MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Weather Resistance and Moisture Management)			
5.407.1	Weather Protection	Provide a weather-resistant exterior wall and foundation envelope as required by <i>California Building Code</i> , Section 1402.2 (Weather Protection), manufacturer's installation instructions or local ordinance, whichever is more stringent.	
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: 1. An installed awning at least 4 feet in depth. 2. The door is protected by a roof overhang at least 4 feet in depth. 3. The door is recessed at least 4 feet. 4. Other methods which provide equivalent protection. 5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.	
MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Construction Waste Reduction, Disposal & Recycling)			
5.408.1	Construction Waste Management	Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition 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.	
5.408.1.1	Construction Waste Management Plan	Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that complies with Items 1 through 4 of this section.	
5.408.1.2	Waste Management Company	Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section. Exceptions to Sections 5.408.1.1 and 5.408.1.2: 1. Excavated soil and land-clearing debris 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist. 3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets	
5.408.1.3	Waste Stream Reduction Alternative	The combined weight of new construction disposal that does not exceed 2 lbs/sqft of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.	
5.408.1.4	Documentation	Provide documentation of the waste management plan that meets the requirements listed in Sections 5.408.1.1 through 5.408.1.3, and the plan is accessible to the enforcement authority.	
5.408.2	Universal Waste	Additions and alterations to a building or tenant space shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents. Note: Refer to the Universal Waste Rule link at: http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEARA_REGS_UWR_FinalText.pdf	
5.408.3	Excavated Soil and Land Clearing Debris	100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. Exception: Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.	

NONRESIDENTIAL MANDATORY MEASURES with Supplement effective July 1, 2021 (continued)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :
MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Building Maintenance and Operation)			
5.410.1	Recycling by Occupants	<p>Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.</p> <p>5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site. Exception: addition within a tenant space resulting in less than a 30% increase in the tenant space floor area.</p>	
5.410.2	Commissioning	<p>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. Commissioning requirements shall include items listed in Section 5.410.2.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Unconditioned warehouses of any size 2. 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 sqft 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. <p>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.</p> <p>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.</p> <p>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.</p> <p>5.410.2.4 Functional Performance Testing. [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.</p> <p>5.410.2.5 Documentation and Training. [N] A Systems manual and systems operations training are required.</p> <p>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.</p> <p>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.</p> <p>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.</p>	
5.410.4	Testing and Adjusting	<p>Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.</p> <p>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.</p> <p>5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with applicable standards on each system as determined by the enforcing agency.</p> <p>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.</p> <p>5.410.4.4 Reporting.</p>	

NONRESIDENTIAL MANDATORY MEASURES with Supplement effective July 1, 2021 (continued)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :
		<p>After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.</p> <p>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.</p> <p>5.410.4.5.1 Inspection and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.</p>	
ENVIRONMENTAL QUALITY (Fireplaces)			
5.503.1	General	Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace or a sealed woodstove or pellet stove, and refer to residential requirements in the <i>California Energy Code</i> , Title 24, Part 6, Subchapter 7, Section 150.	
5.503.1.1	Woodstoves	Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable.	
ENVIRONMENTAL QUALITY (Pollutant Control)			
5.504.1.3	Temporary Ventilation	If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (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, or, if building is occupied during alteration, at the conclusion of construction. 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 5.504.4.4.	
5.504.4.1	Adhesives, Sealants and Caulks	<p>Adhesives and sealants used on the project shall meet the requirements of the following standards.</p> <ol style="list-style-type: none"> 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. 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 <i>California Code of Regulations</i>, Title 17, commencing with Section 94507. 	
5.504.4.3	Paints and Coatings	<p>Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply.</p> <p>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).</p> <p>5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency.</p>	
5.504.4.4	Carpet Systems	<p>5.504.4.4 Carpet and 5.504.4.4.1 Carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (also known as Specification 01350).</p> <p>5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.</p>	
5.504.4.5	Composite Wood Products	<p>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.</p> <p>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.</p> <ol style="list-style-type: none"> Product certifications and specifications Chain of custody certifications 	

NONRESIDENTIAL MANDATORY MEASURES with Supplement effective July 1, 2021 (continued)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :
		<ol style="list-style-type: none"> 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	<p>Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (also known as Specification 01350).</p> <p>5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.</p>	
5.504.5.3	Filters	<p>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 13. MERV 13 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.</p> <p>Exceptions: Existing mechanical equipment.</p> <p>5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.</p>	
5.504.7	Environmental Tobacco Smoke (ETS) Control	<p>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.</p>	
ENVIRONMENTAL QUALITY (Indoor Moisture Control)			
5.505.1	Indoor Moisture Control	Buildings shall meet or exceed the provisions of 2019 <i>California Building Code</i> , CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls).	
ENVIRONMENTAL QUALITY (Indoor Air Quality)			
5.506.1	Outside Air Delivery	For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 of the <i>California Energy Code</i> and Chapter 4 of CCR, Title 8 or the applicable local code, whichever is more stringent.	
5.506.2	Carbon Dioxide (CO ₂) Monitoring	For buildings or additions equipped with demand control ventilation, CO ₂ sensors and ventilation controls shall be specified and installed in accordance with the requirements of the <i>California Energy Code</i> , Section 120.1(c)(4).	
ENVIRONMENTAL QUALITY (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	Prescriptive Method	<p>Wall and floor-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered 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:</p> <ol style="list-style-type: none"> 1. Within the 65 CNEL noise contour of an airport. 2. Within the 65 CNEL or L_{dn} noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan. <p>Also applies to addition envelope or altered envelope.</p> <p>5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{eq}-1Hr during any hour of operation shall have building, addition, or alteration 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.</p>	
5.507.4.2	Performance Method	<p>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 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. Also applies to addition envelope or altered envelope.</p> <p>5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior. Also applies to addition envelope or altered envelope.</p> <p>5.507.4.2.2 Documentation of compliance.</p>	

NONRESIDENTIAL MANDATORY MEASURES with Supplement effective July 1, 2021 (continued)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :
		<p>An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.</p> <p>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.</p>	
ENVIRONMENTAL QUALITY (Outdoor Air Quality)			
5.508.1	Ozone Depletion and Greenhouse Gas Reductions	<p>Installations of HVAC, refrigeration, and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.</p> <p>5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration & fire suppression equipment that do not contain CFCs.</p> <p>5.508.1.2 Halons. Install HVAC, refrigeration & fire suppression equipment that do not contain Halons.</p>	
5.508.2	Supermarket Refrigerant Leak Reduction	<p>New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 sqft 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 facility and the replacement of existing refrigeration systems in existing facilities.</p> <p>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.</p>	
5.508.2.1	Refrigerant Piping	<p>Piping compliant with the <i>California Mechanical code</i> shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than ¼", flared tubing connection and short radius elbows shall not be used in refrigerant systems except as noted below.</p> <p>5.508.2.1.1 Treaded pipe. Threaded connections are permitted at the compressor rack.</p> <p>5.508.2.1.2 Copper pipe. Copper tubing with an OD less than ¼" may be used in systems with a refrigerant charge of 5 pounds or less.</p> <p>5.508.2.1.2.1 Anchorage. ¼" OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils.</p> <p>5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil. Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.</p> <p>5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.</p>	
5.508.2.2	Valves	<p>Valves and fittings shall comply with the <i>California Mechanical Code</i> and as follows:</p> <p>5.508.2.2.1 Pressure relief valves. For vessel containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet the pressure relief valve.</p> <p>5.508.2.2.1.1 Pressure detection. A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.</p> <p>5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use.</p> <p>5.508.2.2.2.1 Valves caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.</p> <p>5.508.2.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place.</p> <p>5.508.2.2.2.2.1 Chain tethers. Chain tethers to fit over the stem are required for valves designed to have seal caps.</p>	

NONRESIDENTIAL MANDATORY MEASURES with Supplement effective July 1, 2021 (continued)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet ¹ :
		Exceptions: Valves with seal caps that are not removed from the valve during stem operation.	
5.508.2.3	Refrigerated Service Cases	Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances. 5.508.2.3.1 Coil coating. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.	
5.508.2.4	Refrigerant Receivers	Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device that indicates the level of refrigerant in the receiver.	
5.508.2.5	Pressure Testing	The systems shall be pressure tested during installation prior to evacuation & charging. 5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum. 5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same gauge. 5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.	
5.508.2.6	Evacuation	The system shall be evacuated after pressure testing prior to charging. 5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and hold down for 30 minutes. 5.508.2.6.2 Second vacuum. Pull a system vacuum to a minimum of 500 microns and hold for 30 minutes. 5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.	

Notes:

- [N]: Indicates code section applies only to newly constructed buildings.
- This check list is intended only as an aid to the user and may not contain complete code language. Refer to 2019 CALGreen Chapter 5 for complete code language.

Footnotes:

- 1 Indicate N/A if not applicable.