CITY OF PALM DESERT
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2022 CALIFORNIA GREEN BUILDING NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST (#BLDG-CKL-23-0012)

Chapter 3 – Nonresidential Additions and Alterations Scope		
301.3	The provisions of individual sections of Chapter 5 apply to: • Newly buildings. • Building additions of 1,000 square feet or greater. • Building alterations with a permit valuation of $200,000 or above for: - *Occupancies within the authority of California Building Standards Commission.* - *Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.*	
301.3.2	**Waste Diversion**	A Construction Waste Management Plan is required for construction waste, disposal, and recycling (CGBC Section 5.408) for additions and alterations whenever a permit is required for work.
302.1	**Mixed Occupancy Buildings**	In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy. <u>*Exceptions:*</u> - *[HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable.* - *[HCD] For the purposes of CALGreen, live/work units, complying with Section 508.5 of the California Building Code, shall not be considered mixed occupancies. Live/work units shall comply with Chapter 4 and Appendix A4, as applicable.*
303.1	**Phased Projects**	For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply.
303.1.1	**Initial Tenant Improvements**	The provisions of this code shall apply only to the initial tenant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 nonresidential additions and alterations.

Division 5.1 – Planning and Design			
SECTION	**SCOPE**	**REQUIREMENTS**	
5.106.1	**Storm Water Pollution Prevention Plan (Less than One Acre)**	Newly constructed projects and additions which disturb less than one acre of land and are not part of a larger common plan of development or sale shall prevent the pollution of stormwater runoff from the construction activities through one or more of the following measures: • *Comply with a lawfully enacted stormwater management and/or erosion control ordinance (5.106.1.1)* • *Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMP's (5.106.1.2)*	Coordinate with Public Works

Division 5.1 – Planning and Design - Continued		
SECTION	**SCOPE**	**REQUIREMENTS**
5.106.2	**Storm Water Pollution Prevention Plan (One Acre or More)**	Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development or sale. *Note: Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development or sale must comply with the postconstruction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board.*
5.106.4 5.106.4.1	**Bicycle Parking Scope**	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**	If the new project or an addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet 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 nine or less visitor vehicular parking spaces.*
5.106.4.1.2	**Long Term**	For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.
5.106.4.1.3	**Additions Alteration**	For additions or alterations that add 10 or more tenant-occupant vehicular parking spaces, provide secure bicycle parking for 5 percent of the tenant vehicular parking spaces being added, with a minimum of one bicycle parking facility.
5.106.4.1.4	**New Shell Buildings**	For new shell buildings in phased projects provide secure bicycle parking for 5 percent of the anticipated tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.
5.106.4.1.5	**Parking Methods**	Acceptable bicycle parking facility for Sections 5.106.4.1.2, 5.106.4.1.3 and 5.106.4.1.4 shall be convenient from the street and shall meet one of the following: • *Covered, lockable enclosures with permanently anchored racks for bicycles;* • *Lockable bicycle rooms with permanently anchored racks; or* • *Lockable, permanently anchored bicycle lockers*

Division 5.1 – Planning and Design (Electric Vehicle Charging Requirements)		
SECTION	**SCOPE**	**REQUIREMENTS**
5.106.5.3	**New Construction**	Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.106.5.3.1 and shall be provided in accordance with regulations in the California Building Code and the California Electrical Code. *Exceptions:* *1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:* • *Where there is no local utility power supply.* • *Where the local utility is unable to supply adequate power.* • *Where there is evidence suitable to the local enforcement agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.* *2. Parking spaces accessible only by automated mechanical car parking systems are not required to comply with this code section.*

SECTION	SCOPE	REQUIREMENTS
5.106.5.3.1	EV Capable Spaces	EV capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following requirements:

TABLE 5.106.5.3.1

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE)[2]
0—9	0	0
10—25	4	0
26—50	8	2
51—75	13	3
76—100	17	4
101—150	25	6
151—200	35	9
201 and over	20 percent of total[1]	25 percent of EV capable spaces[1]

1. Calculation for spaces shall be rounded up to the nearest whole number.

2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.

1. Raceways complying with the California Electrical Code and no less than 1-inch (25 mm) diameter shall be provided and 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 EV capable space and into a suitable listed cabinet, box, enclosure or equivalent. A common raceway may be used to serve multiple EV capable spaces.

2. A service panel or subpanel(s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.

3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space.

4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective device space(s) as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."

Note: A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See Vehicle Code Section 22511.2 for further details.

Division 5.1 – Planning and Design (EV Charging Requirements) – Continued		
SECTION	**SCOPE**	**REQUIREMENTS**
5.106.5.3.2	**EV Charging Stations (EVCS)**	EV capable spaces shall be provided with EVSE to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 may be provided with EVSE in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be provided. One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is accumulatively supplied to the EV charger. The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV capable spaces without EVSE by five and reduce
5.106.5.3.3	**ALMS**	ALMS (Automatic Load Management System) shall be permitted for EVCS. When ALMS is installed, the required electrical load capacity specified in Section 5.106.5.3.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs.
5.106.5.4	**EV Charging Medium to Heavy Duty**	Construction shall comply with Section 5.106.5.4.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores and retail stores with planned off-street loading spaces shall also comply with Section 5.106.5.4.1 for future installation of medium- and heavy-duty EVSE. *Exceptions: On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:* • *Where there is no local utility power supply.* • *Where the local utility is unable to supply adequate power.* • *Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.*
5.106.5.1	**EV Ready Readiness:** **Warehouses Grocery Retail** **Off-Street Loading Spaces**	In order to avoid future demolition when adding EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s) or subpanel(s) shall be installed at the time of construction in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following: *The transformer, main service equipment and subpanels shall meet the minimum power requirement in Table 5.106.5.4.1 to accommodate the dedicated branch circuits for the future installation of EVSE.* *The construction documents shall indicate one or more location(s) convenient to the planned off-street loading space(s) reserved for medium- and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s), as shown in Table 5.106.5.4.1.* *Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium- and heavy-duty EVSE will be located and shall terminate in close proximity to the potential future location of the charging equipment for medium- and heavy-duty vehicles.* *The raceway(s) or busway(s) shall be of sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty ZEVs as shown in Table 5.106.5.4.1.*

Division 5.1 – Light Pollution

SECTION	SCOPE	REQUIREMENTS
5.106.8	**Light Pollution Reduction**	Outdoor lighting systems shall be designed and installed to comply with the following: 1. *The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and* 2. *Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8);* 3. *Uplight and Glare ratings as defined in California Energy Code (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* 5. *Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.* *Exceptions:* 1. *Luminaires that qualify as exceptions in Sections 130.2(b) and 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.* 5. *Luminaires with less than 6,200 initial luminaire lumens.*

Division 5.1 – Grading and Paving

SECTION	SCOPE	REQUIREMENTS	
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, but are not limited to, the following: 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.* Exception: Additions and alterations not altering the drainage path	Coordinated with the Land Development Division

Division 5.1 - Landscaping

SECTION	SCOPE	REQUIREMENTS	
5.106.12 **5.106.12.2** **5.106.12.3**	**Landscaping**	Shade Trees Surface Parking Areas Hardscapes Areas Landscaping Areas	Coordinated with the Planning Division

Division 5.2 – Energy Efficiency		
California Energy Code. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.		
Division 5.2 – Water Efficiency and Conservation (Meters)		
SECTION	**SCOPE**	**REQUIREMENTS**
5.301	The provisions of this chapter shall establish the means of conserving water used indoors, outdoors and in wastewater conveyance.	
5.303.1	**Meters**	Separate submeters or metering devices shall be installed for the uses described in Sections 5.303.1.1 and 5.303.1.2.
5.303.1.1	**(N) Buildings or Addition Over 50,000sqft**	For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/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. *Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:* • *Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).* • *Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).* • *Steam and hot-water boilers with energy input more than 500,000 Btu/h (147 kW).*
5.303.1.2	**Excess Consumption**	A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.
Division 5.3 – Water Efficiency and Conservation (Indoor Use)		
5.303.3	Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:	
SECTION	**SCOPE**	**REQUIREMENTS**
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 US EPA WaterSense Specification for Tank-Type Toilets.
5.303.3.2	**Urinals**	Wall-Mounted Urinals (5.303.3.2.1) - The effective flush volume of wall-mounted urinals shall not exceed **0.125 gallons** per flush. Floor-Mounted Urinals (5.303.3.2.2) - The effective flush volume of floor-mounted or other urinals shall not exceed **0.5 gallons** per flush.
5.303.3.3	**Showerheads**	Single Showerhead (5.303.3.3.1) - Showerheads shall have a maximum flow rate of not more than **1.8 gallons per minute at 80 psi**. Showerheads shall be certified to the performance criteria of the US EPA WaterSense Specification for Showerheads. Multiple Showerheads Serving One Shower (5.303.3.3.2) - 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 1.8 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*.

Division 5.3 – Water Efficiency and Conservation (Indoor Use) - Continued		
SECTION	**SCOPE**	**REQUIREMENTS**
5.303.3.4.1	**Nonresidential Lavatory Faucets**	Lavatory faucets shall have a maximum flow rate of not more than **0.5 gallons** per minute at 60 psi.
5.303.3.4.2	**Kitchen Faucets**	Kitchen faucets shall have a maximum flow rate of not more than **1.8 gallons** per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed **2.2 gallons** per minute at 60 psi, and must default to a maximum flow rate of **1.8 gallons** per minute at 60 psi.
5.303.3.4.3	**Wash Fountains**	Wash fountains shall have a maximum flow rate of not more than **1.8 gallons** per minute/20 [rim space (inches) at 60 psi].
5.303.3.4.4	**Metering Faucets**	Metering faucets shall not deliver more than **0.20 gallons** per cycle.
5.303.3.4.5	**Metering Faucets for Wash Fountains**	Metering faucets for wash fountains shall have a maximum flow rate of not more than **0.20 gallons per cycle/20** [rim space (inches) at 60 psi]. *Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.*
5.303.3.4.6	**Pre-Rinse Spray Valve**	When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.1(h)(4) Table H-2, Section 1605.3(h)(4)(A), and Section 1607(d)(7), and shall be equipped with an integral automatic shutoff.
5.303.4.1	**Food Waste Disposers**	Commercial Kitchens – 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	**Additions Alterations Scope**	The provisions of Sections 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.
Division 5.3 – Water Efficiency and Conservation (Outdoor Water Use)		
5.304.1	**Outdoor Potable Water Use**	Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water.
Division 5.4 – Material Conservation and Resource Efficiency		
5.401.1	The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials and building commissioning or testing and adjusting.	
SECTION	**SCOPE**	**REQUIREMENTS**
5.407.1	**Weather Protection**	Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local ordinance, whichever is more stringent.

Division 5.4 – Material Conservation and Resource Efficiency - Continued		
SECTION	**SCOPE**	**REQUIREMENTS**
5.407.2.1 **5.407.2.2**	**Moisture Control**	Employ moisture control measures by the following methods.: • Sprinklers • Design/maintain landscape irrigation systems to prevent spray on structures. • Entries and Openings • Flashing
5.408.1	**Construction Waste Reduction**	The City of Palm Desert adopted the State of California's 2022 Green Building Standards Code as part of Palm Desert Municipal Ordinance 1388. This Code and Ordinance requires that builders/contractors recycle and/or salvage a **minimum of 65%** of the non-hazardous construction and demolition debris or meet a local construction and demolition waste management ordinance, whichever is more stringent. This applies to newly constructed non-residential buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above. Failure to comply with Ordinance 1388 may result in fines AND/OR penalties. Failure to provide documentation from salvage, recycling and waste facilities may result in a final inspection not being issued.
5.408.1.1	**Construction Waste Management Plan**	A Construction Waste Management Plan is required within the City of Palm Desert for all permittable and applicable work. During the permit issuance process, the City's Permit Center will provide a CWMP to coordinate with Burrtec Waste Disposal for documentation. This form can also be found at: https://www.palmdesert.gov/our-city/departments/permit-center/applications-and-forms
5.408.1.4	**Documentation**	Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1 through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.
5.408.2	**Universal Waste**	Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, 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 of 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: https://dtsc.ca.gov/universalwaste/*
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. For a phased project, such material may be stockpiled on site until the storage site is developed. Exception: Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.

Division 5.4 – Building Maintenance & Operation		
SECTION	**SCOPE**	**REQUIREMENTS**
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 non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.
5.410.1.1	**Recycling By Occupants "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.*
5.410.2	**Commissioning**	**[N]** For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. *Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements.*
5.410.4	**Testing and Adjusting**	<u>New Buildings Less Than 10,000 Square Feet</u> 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.
Division 5.5 – Environmental Quality		
5.501.1	The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of a building's installers, occupants, and neighbors.	
SECTION	**SCOPE**	**REQUIREMENTS**
5.503.1	**Fireplaces**	Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed wood-stove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.
5.503.1.1	**Woodstoves**	Woodstove and pellet stoves shall comply with US EPA New Source Performance Standards (NSPS) emission limits as applicable and shall have a permanent label indicating they are certified to meet the emission limits.

Division 5.5 – Environmental Quality (Pollutant Control) - Continued		
SECTION	**SCOPE**	**REQUIREMENTS**
5.504.1	**Temporary Ventilation**	The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. 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 percent based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction
5.504.3	**Duct Protection**	Covering of Duct Openings and Protection of Mechanical Equipment During Construction. At the time of rough installation and during storage on the construction site 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, sealants, and caulks 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. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below. 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 VOC limits in Table 1 of the ARB Architectural Suggested Control Measures as shown in Table 4.504.3 unless the more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as Flat, Nonflat, or Nonflat-High Gloss coating, based on its gloss as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.
5.504.4.3.1	**Aerosol Paints and Coatings**	Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

Division 5.5 – Environmental Quality (Pollutant Control) - Continued		
SECTION	**SCOPE**	**REQUIREMENTS**
5.504.4.3.2	**Verification**	Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following: - *Manufacturer's product specification* - *Field verification of on-site product containers*
5.504.4.4	**Carpet Systems**	All carpet 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 (Emission testing method for California Specification 01350). *See California Department of Public Health's website for certification programs and testing labs.* *https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx*
5.504.4.4.1	**Carpet Cushion**	All 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 (Emission testing method for California Specification 01350). *See California Department of Public Health's website for certification programs and testing labs.* *https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx*
5.504.4.4.2	**Carpet Adhesive**	All carpet adhesives 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 ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.) Those materials not exempted under the ATCM must meet the specified emission limits, as shown 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**	Where resilient flooring is installed, at least 80 percent 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 (Emission testing method for California Specification 01350). *See California Department of Public Health's website for certification programs and testing labs.* *https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material*

Division 5.5 – Environmental Quality (Pollutant Control) - Continued		
SECTION	**SHEET**	**REQUIREMENTS**
5.504.4.6.1	**Verification of Compliance**	Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.
5.504.4.7	**Thermal Insulation**	Comply with 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 (Emission testing method for California Specification 01350). *See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material*
5.504.4.7.1	**Verification of Compliance**	Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.
5.504.4.8	**Acoustical Ceilings and Wall Panels**	Comply with 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 (Emission testing method for California Specification 01350). *See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material*
5.504.4.8.1	**Verification of Compliance**	Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.
5.504.5.3 **5.504.5.3.1**	**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 Minimum Efficiency Reporting Value (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. Exception: Existing mechanical equipment. Labeling: Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.
5.504.7	**Environmental Tobacco Smoke (ETS) Control**	Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows 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, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.
Division 5.5 – Environmental Quality (Interior Moisture Control)		
5.505.1	**Indoor Moisture Control**	Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see Section 5.407.2 of this code.

Division 5.506 – Environmental Quality (Indoor Air Quality)		
SECTION	**SCOPE**	**REQUIREMENTS**
5.506.1	**Outside Air Delivery**	For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the California Energy Code, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.
5.506.2	**Carbon Dioxide 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, Section 120.1(c)(4)
Division 5.507 - Environmental Comfort		
5.507.4	**Acoustical Control**	Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E90 and ASTM E413 or Outdoor-Indoor Sound Transmission Class (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. *Exception: Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.*
5.507.4.1	**Exterior Noise Transmission** **Prescriptive Method**	Wall and roof-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: - Within the 65 CNEL noise contour of an airport. *Exceptions:* - *Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.* - *Ldn or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.* - *Within the 65 CNEL or Ldn noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.*
5.507.4.1.1	**Noise Exposure** **Not Readily Available**	Buildings exposed to a noise level of 65 dB Leq-1-hr 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).
5.507.4.2	**Performance Method**	For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source 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 (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.
5.507.4.2.2	**Documentation**	An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record

Division 5.507 - Environmental Comfort		
SECTION	**SCOPE**	**REQUIREMENTS**
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**. *Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: http://www.toolbase.org/PDF/CaseStudies/stc_icc_ratings.pdf*
Division 5.508 - Outdoor Air Quality		
5.508.1	**Ozone Depletion and Greenhouse Gas 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	**Chloro-fluorocarbons (CFCs)**	Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.
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.
END		

History Note Appendix

2022 California Green Building Standards Code
California Code of Regulations, Title 24, Part 11

HISTORY:

For prior history, see the History Note Appendix to the California Green Building Standards Code, 2019 Edition, effective January 1, 2020.

(BSC 03/21, HCD 03/21, DSA-SS 03/21, CEC 04/21) Repeal, amend and add provisions in the 2022 California Green Building Standards Code for residential, nonresidential and public-school buildings. Effective on January 1, 2023.

Erratum to correct editorial errors throughout Chapters 2, 4, 5, A4 and A5, effective January 1, 2023.

(REV 05/10/23:JKF)