2023 LA COUNTY GREEN BUILDING STANDARDS CODE RESIDENTIAL MANDATORY MEASURES, SHEET 1

NOT APPLICABLE RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, **CHAPTER 3 DIVISION 4.2 ENERGY EFFICIENCY** 4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities. **GREEN BUILDING** 4.304 OUTDOOR WATER USE When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the 4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with **SECTION 301 GENERAL** requirements of Section 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest whole number. A a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water parking space served by electric vehicle supply equipment or designed as an EV charging space shall count as at 4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Efficient Landscape Ordinance (MWELO), whichever is more stringent. least one standard automobile parking space only for the purpose of complying with any applicable minimum parking Commission will continue to adopt mandatory standards. **301.1 SCOPE.** Buildings shall be designed to include the green building measures specified as mandatory in space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details. the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION but are not required unless adopted by a city, county, or city and county as specified in Section 101.7. 1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code Regulations, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are 4.303 INDOOR WATER USE 4.106.4.2.2 Multifamily dwellings, hotels and motels 301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to available at: https://www.water.ca.gov/ 4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and additions or alterations of existing residential buildings where the addition or alteration increases the urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, 1. EV ready parking spaces with receptacles. building's conditioned area, volume, or size. The requirements shall apply only to and/or within the DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE specific area of the addition or alteration. a. Hotels and motels. Forty (40) percent of the total number of parking spaces shall be equipped **EFFICIENCY** Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving with low power Level 2 EV charging receptacles. The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final 4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE facilities or the addition of new parking facilities serving existing multifamily buildings. See Section completion, certificate of occupancy, or final permit approval by the local building department. See Civil b. Multifamily parking facilities. Forty (40) percent of the total number of parking spaces shall be 4.106.4.3 for application. Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential 4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in equipped with low power Level 2 EV charging receptacles. EV charging receptacles required by buildings affected and other important enactment dates. sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such this section shall be located in at least one assigned parking space per dwelling unit where Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing assigned parking is provided but need not exceed forty (40) percent of the total number of assigned lighting fixtures are not considered alterations for the purpose of this section. **4.303.1.1 Water Closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per parking spaces provided on the site. flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense 4.408 CONSTRUCTION WASTE REDUCTION. DISPOSAL AND RECYCLING Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or Specification for Tank-type Toilets. **Exception:** Areas of parking facilities served by parking lifts, including but not limited to improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. 4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 automated mechanical-access open parking garages as defined in the California Building Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume percent of the non-hazardous construction and demolition waste in accordance with either Section Code; or parking facilities otherwise incapable of supporting electric vehicle charging. of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1. of two reduced flushes and one full flush. 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and management ordinance. c. Receptacle power source. EV charging receptacles in multifamily parking facilities shall be other important enactment dates. **4.303.1.2 Urinals.** The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. provided with a dedicated branch circuit connected to the dwelling unit's electrical panel, unless The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush. determined as infeasible by the project builder or designer and subject to concurrence of the local 301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of 4.303.1.3 Showerheads. Excavated soil and land-clearing debris. individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential 2. Alternate waste reduction methods developed by working with local agencies if diversion or **Exception:** Areas of parking facilities served by parking lifts, including but not limited to buildings, or both. Individual sections will be designated by banners to indicate where the section applies **4.303.1.3.1 Single Showerhead.** Showerheads shall have a maximum flow rate of not more than 1.8 recycle facilities capable of compliance with this item do not exist or are not located reasonably automated mechanical-access open parking garages as defined in the California Building specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA Code; or parking facilities otherwise incapable of supporting electric vehicle charging. high-rise buildings, no banner will be used. WaterSense Specification for Showerheads. 3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility. d. Receptacle configurations. 208/240V EV charging receptacles shall comply with one of **4.303.1.3.2 Multiple showerheads serving one shower**. When a shower is served by more than one the following configurations: **SECTION 302 MIXED OCCUPANCY BUILDINGS 4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN**. Submit a construction waste management plan showerhead, the combined flow rate of all the 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 only in conformance with Items 1 through 5. The construction waste management plan shall be updated as 1. For 20-ampere receptacles, NEMA 6-20R **302.1 MIXED OCCUPANCY BUILDINGS.** In mixed occupancy buildings, each portion of a building allow one shower outlet to be in operation at a time. necessary and shall be available during construction for examination by the enforcing agency. 2. For 30-ampere receptacles, NEMA 14-30R shall comply with the specific green building measures applicable to each specific occupancy. 3. For 50-ampere receptacles, NEMA 14-50R 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, Note: A hand-held shower shall be considered a showerhead. 1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall reuse on the project or salvage for future use or sale. 2. EV ready parking spaces with EV chargers. comply with Chapter 4 and Appendix A4, as applicable. 4.303.1.4 Faucets. 2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or 2. [HCD] For purposes of CALGreen, live/work units, complying with Section 419 of the California bulk mixed (single stream) a. Hotels and motels. Ten (10) percent of the total number of parking spaces shall be equipped Building Code, shall not be considered mixed occupancies. Live/Work units shall comply with 4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall Identify diversion facilities where the construction and demolition waste material collected will be with Level 2 EV chargers. At least fifty (50) percent of the required EV chargers shall be equipped Chapter 4 and Appendix A4, as applicable. not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall with J1772 connectors. not be less than 0.8 gallons per minute at 20 psi. 4. Identify construction methods employed to reduce the amount of construction and demolition waste DIVISION 4.1 PLANNING AND DESIGN b. Multifamily parking facilities. Ten (10) percent of the total number of parking spaces shall be 4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory Specify that the amount of construction and demolition waste materials diverted shall be calculated **ABBREVIATION DEFINITIONS:** equipped with Level 2 EV chargers. At least fifty (50) percent of the required EV chargers shall be faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential by weight or volume, but not by both. equipped with J1772 connectors. Where common use parking or unassigned parking is provided, Department of Housing and Community Development buildings shall not exceed 0.5 gallons per minute at 60 psi. EV chargers shall be located in common use or unassigned parking areas and shall be available California Building Standards Commission 4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the for use by all residents or guests. Division of the State Architect, Structural Safety 4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver enforcing agency, which can provide verifiable documentation that the percentage of construction and OSHPD Office of Statewide Health Planning and Development more than 0.2 gallons per cycle. demolition waste material diverted from the landfill complies with Section 4.408.1. Where low power Level 2 EV charging receptacles or Level 2 EV chargers are installed beyond Low Rise the minimum required, an automatic load management system (ALMS) may be used to reduce **4.303.1.4.4 Kitchen Faucets.** The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons Note: The owner or contractor may make the determination if the construction and demolition waste the maximum required electrical capacity to each space served by the ALMS. The electrical system AA Additions and Alterations per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not materials will be diverted by a waste management company. and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall **4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR].** Projects that generate a total combined **CHAPTER 4** have a minimum capacity of 40 amperes, and installed EV chargers shall have a capacity of not weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 less than 30 amperes. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in RESIDENTIAL MANDATORY MEASURES 4.106.4.2.2.1 Electric vehicle charging stations (EVCS). Electric vehicle charging stations required by Section 4.106.4.2.2, Item 2, with EV chargers installed shall **4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE.** Projects that generate a total combined 4.303.1.4.5 Pre-rinse spray valves. comply with Section 4.106.4.2.2.1.1. weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance **SECTION 4.102 DEFINITIONS** Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 per square foot of the building area, shall meet the minimum 65% construction waste reduction 4.102.1 DEFINITIONS Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels (d)(7) and shall be equipped with an integral automatic shutoff. shall not be required to comply with this section. See California Building Code. Chapter 11B, for applicable The following terms are defined in Chapter 2 (and are included here for reference) FOR REFERENCE ONLY: The following table and code section have been reprinted from the California **4.408.5 DOCUMENTATION**. Documentation shall be provided to the enforcing agency which demonstrates FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) and Section compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4... pervious material used to collect or channel drainage or runoff water. 4.106.4.2.2.1.1 Electric vehicle charging stations (EVCS) spaces with EV chargers installed; dimensions WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also EVCS spaces shall be designed to comply with the following: 1. Sample forms found in "A Guide to the California Green Building Standards Code TABLE H-2 used for perimeter and inlet controls. (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in The minimum length of each EVCS space shall be 18 feet (5486 mm). documenting compliance with this section. 4.106 SITE DEVELOPMENT The minimum width of each EVCS space shall be 9 feet (2743 mm). STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY 2. Mixed construction and demolition debris (C & D) processors can be located at the California 4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation One in every 25 EVCS spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum Department of Resources Recycling and Recovery (CalRecycle). and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the VALUES MANUFACTURED ON OR AFTER JANUARY 28, 2019 management of storm water drainage and erosion controls shall comply with this section. EVCS space is 12 feet (3658 mm). Surface slope for this EVCS space and the aisle shall not exceed 1 4.410 BUILDING MAINTENANCE AND OPERATION unit vertical in 48 units horizontal (2.083 percent slope) in any direction. These EVCS spaces shall also PRODUCT CLASS **4.410.1 OPERATION AND MAINTENANCE MANUAL.** At the time of final inspection, a manual, compact 4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less comply with at least one of the following: MAXIMUM FLOW RATE (gpm) [spray force in ounce force (ozf)] disc, web-based reference or other media acceptable to the enforcing agency which includes all of the than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre following shall be placed in the building: or more, shall manage storm water drainage during construction. In order to manage storm water drainage a. The EVCS space shall be located adjacent to an accessible parking space meeting the requirements Product Class 1 (≤ 5.0 ozf) during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking 1. Directions to the owner or occupant that the manual shall remain with the building throughout the property, prevent erosion and retain soil runoff on the site. life cycle of the structure. b. The EVCS space shall be located on an accessible route, as defined in the California Building Code. Product Class 2 (> 5.0 ozf and \leq 8.0 ozf) 1.20 2. Operation and maintenance instructions for the following: Chapter 2, to the building. 1. Retention basins of sufficient size shall be utilized to retain storm water on the site. a. Equipment and appliances, including water-saving devices and systems, HVAC systems, 1.28 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar **Exception:** Electric vehicle charging stations designed and constructed in compliance with the *California* Product Class 3 (> 8.0 ozf) photovoltaic systems, electric vehicle chargers, water-heating systems and other major disposal method, water shall be filtered by use of a barrier system, wattle or other method approved Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1. Title 20 Section 1605.3 (h)(4)(A): Commercial prerinse spray values manufactured on or after January appliances and equipment. 1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf)[113 grams-force(gf)] b. Roof and yard drainage, including gutters and downspouts. 4.106.4.2.2.1.2 Accessible electric vehicle charging station spaces. 3. Compliance with a lawfully enacted storm water management ordinance. Space conditioning systems, including condensers and air filters. In addition to the requirements in Section 4.106.4.2.2.1.1, all EV chargers, where installed, shall comply with the 4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial Landscape irrigation systems. Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and e. Water reuse systems. EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section 1109A. are part of a larger common plan of development which in total disturbs one acre or more of soil. Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the 3. Information from local utility, water and waste recovery providers on methods to further reduce California Plumbing Code. resource consumption, including recycle programs and locations. (Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html) 4.106.4.2.3 Reserved. Public transportation and/or carpool options available in the area. 5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent **4.303.3 Standards for plumbing fixtures and fittings.** Plumbing fixtures and fittings shall be installed in **4.106.3 GRADING AND PAVING.** Construction plans shall indicate how the site grading or drainage system will 4.106.4.2.4 Reserved. accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table and what methods an occupant may use to maintain the relative humidity level in that range. manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface 1701.1 of the California Plumbing Code. 6. Information about water-conserving landscape and irrigation design and controllers which conserve water include, but are not limited to, the following: 4.106.4.2.5 Electric vehicle ready space signage. Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans 7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its Swales THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A feet away from the foundation. 2. Water collection and disposal systems CONVENIENCE FOR THE USER. 8. Information on required routine maintenance measures, including, but not limited to, caulking, French drains painting, grading around the building, etc. 4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing Water retention gardens TABLE - MAXIMUM FIXTURE WATER USE 9. Information about state solar energy and incentive programs available. 5. Other water measures which keep surface water away from buildings and aid in groundwater 10. A copy of all special inspections verifications required by the enforcing agency or this code. Where new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or **FIXTURE TYPE FLOW RATE** 11. Information from the Department of Forestry and Fire Protection on maintenance of defensible altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or space around residential structures. **Exception**: Additions and alterations not altering the drainage path. altered shall be EV capable spaces to support future Level 2 electric vehicle supply equipment. The service panel SHOWER HEADS (RESIDENTIAL) 1.8 GMP @ 80 PSI 12. Information and/or drawings identifying the location of grab bar reinforcements. or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for 4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Section 4.106.4.1 future EV charging purposes as "EV CAPABLE." **4.410.2 RECYCLING BY OCCUPANTS.** Where 5 or more multifamily dwelling units are constructed on a or 4.106.4.2. Electric vehicle supply equipment (EVSE) shall comply with the California Electrical Code. MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 LAVATORY FAUCETS (RESIDENTIAL) building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, LAVATORY FAUCETS IN COMMON & PUBLIC corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling 1. On a case-by-case basis, where the local enforcing agency has determined EV charging and 1.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future 0.5 GPM @ 60 PSI USE AREAS ordinance, if more restrictive. infrastructure are not feasible based upon one or more of the following conditions: 1.1 Where there is no local utility power supply or the local utility is unable to supply adequate 1.8 GPM @ 60 PSI KITCHEN FAUCETS **Exception:** Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use. 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of 1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional METERING FAUCETS 0.2 GAL/CYCLE local utility infrastructure design requirements, directly related to the implementation of Section **4.106.5 Low-impact development (LID).** New development or alterations to existing developed sites shall comply WATER CLOSET 1.28 GAL/FLUSH 4.106.4, may adversely impact the construction cost of the project. with Chapter 12.84 of Title 12 of the Los Angeles County Code. 2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional URINALS 0.125 GAL/FLUSH parking facilities. **DIVISION 4.5 ENVIRONMENTAL QUALITY 4.106.6 Cool roof for reduction of heat island effect.** Roofing materials shall comply with the solar reflectance and thermal emittance requirements of this Section. **SECTION 4.501 GENERAL** 4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each **4.106.6.1 Solar reflectance.** Roofing materials shall have a minimum 3-year aged solar reflectance equal 4.501.1 Scope dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway to or greater than the values specified in Table 4.106.6(1) and Table 4.106.6(2). The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors. service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the Solar reflectance values shall be based on the aged reflectance value of the roofing product or the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or equation in Section A4.106.5.1 if the Cool Roof Rating Council (CRRC) testing for aged solar reflectance is **SECTION 4.502 DEFINITIONS** concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere not available. 5.102.1 DEFINITIONS 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit The following terms are defined in Chapter 2 (and are included here for reference) **4.106.6.2 Thermal emittance.** Roofing materials shall have a CRRC initial or aged thermal emittance overcurrent protective device. equal to or greater than the values specified in Table 4.106.6(1) and Table 4.106.6(2). **AGRIFIBER PRODUCTS.** Agrifiber products include wheatboard, strawboard, panel substrates and door Exemption: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements. installed in close proximity to the proposed location of an EV charger at the time of original construction in **4.106.6.3 Solar Reflectance Index alternative.** Roofing materials having a Solar Reflectance Index (SRI) accordance with the California Electrical Code. equal to or greater than the values specified in Table 4.106.6(1) and Table 4.106.6(2) may be used as an **COMPOSITE WOOD PRODUCTS.** Composite wood products include hardwood plywood, particleboard and alternative to compliance with the 3-year aged solar reflectance and thermal emittance values. medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, **4.106.4.1.1 Identification.** The service panel or subpanel circuit directory shall identify the overcurrent structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section location shall be permanently and visibly marked as "EV CAPABLE". **DIRECT-VENT APPLIANCE.** A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

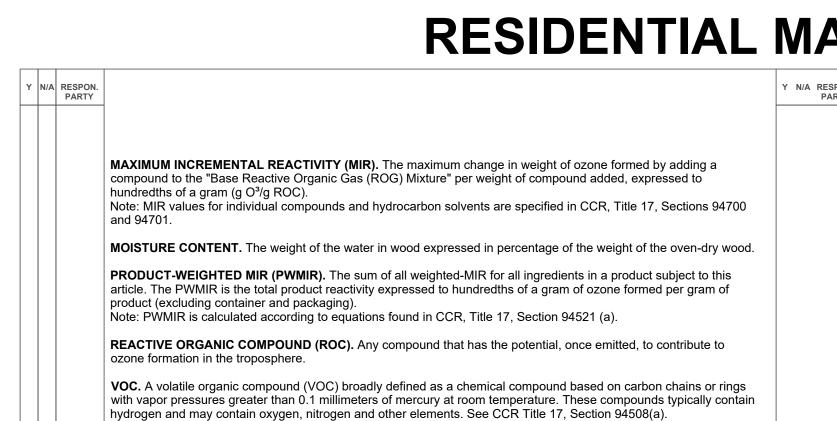
DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING VERIFICATION WITH THE FULL CODE.

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2023 LA COUNTY GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 2



4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. 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. Woodstoves,

4.504 POLLUTANT CONTROL
4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, 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 water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

pellet stoves and fireplaces shall also comply with applicable local ordinances.

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

- 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 Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and tricloroethylene), 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 1 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.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless 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 a 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.

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) 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

4.504.2.4 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:

1. Manufacturer's product specification. 2. Field verification of on-site product containers.

(Less Water and Less Exempt Compounds in Gra	ms per Liter)
ARCHITECTURAL APPLICATIONS	VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER. THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

Less Water and Less Exempt Compounds in Gr	ams per Liter)
SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR

ARCHITECTURAL COATINGS_{2,3}

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS1	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

TABLE 4.504.5 - FORMALDEHYDE LIMITS ₁		
MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION		
PRODUCT CURRENT LIMIT		
HARDWOOD PLYWOOD VENEER CORE 0.05	٢	
HARDWOOD PLYWOOD COMPOSITE CORE 0.05		
PARTICLE BOARD 0.09 MEDIUM DENSITY FIBERBOARD 0.11		
THIN MEDIUM DENSITY FIBERBOARD2 0.13		
VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED		
BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH		
93120.12. 2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).		
DIVISION 4.5 ENVIRONMENTAL QUALITY (continued) 4.504.3 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.		
4.504.3.1 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.		
4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1. 4.504.4. RESULENT ELOOPING SYSTEMS. Where regilient fleering is installed, at least 20% of fleer area requiring.		
4.504.4 RESILIENT FLOORING SYSTEMS. 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 (Emission testing method for California Specification 01350)		
See California Department of Public Health's website for certification programs and testing labs. hhtps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.		
4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5		
4.504.5.1 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:		
 Product certifications and specifications. Chain of custody certifications. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.). Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards. Other methods acceptable to the enforcing agency. 		
4.505 INTERIOR MOISTURE CONTROL 4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code.		
4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.		
4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:		
 A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06. 		
 Other equivalent methods approved by the enforcing agency. A slab design specified by a licensed design professional. 		
4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:		
 Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified. 		
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to		
enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure. 4.506 INDOOR AIR QUALITY AND EXHAUST		
 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following: 1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 		
Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control. Humidity controls shall be capable of adjustment between a relative humidity range less than or		
equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment. b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in) Notes:		
 For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination. Lighting integral to bathroom exhaust fans shall comply with the <i>California Energy Code</i>. 		
4.507 ENVIRONMENTAL COMFORT 4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:		
 The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential 		

YES NOT APPLICABLE RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER,

INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

- 1. State certified apprenticeship programs.
- 2. Public utility training programs. 3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
- 4. Programs sponsored by manufacturing organizations. 5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

- 1. Certification by a national or regional green building program or standard publisher.
- 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
- 3. Successful completion of a third party apprentice training program in the appropriate trade. 4. Other programs acceptable to the enforcing agency.

- Special inspectors shall be independent entities with no financial interest in the materials or the
- project they are inspecting for compliance with this code.
- 2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

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