

REVISION RECORD FOR THE STATE OF CALIFORNIA

CHANGE WITHOUT REGULATORY EFFECT SUPPLEMENT

SEE THE HISTORY NOTE FOR EFFECTIVE DATE

August 17, 2019

2016 Title 24, Part 11, California Green Building Standards Code

General Information:

1. This supplement provides building standards adopted as a change without regulatory effect, which was approved by the California Building Standards Commission on July 17, 2019, and filed with the Secretary of State on July 18, 2019, (see History Note Appendix for effective date).
2. This supplement provides new or replacement blue supplement pages with building standards approved by the California Building Standards Commission for a change without regulatory effect to be inserted in the 2019 *California Green Building Standards Code* (Part 11, Title 24, *California Code of Regulations*). Existing Part 11 pages should be replaced by pages provided in this supplement. Instructions are provided below.
3. Health and Safety Code Section 18938.5 establishes that only building standards in effect at the time of the application for a building permit may be applied to the project plans and construction. This rule applies to both adoptions of building standards for Title 24 by the California Building Standards Commission, and local adoptions and ordinances imposing building standards.
4. Not all code text on the enclosed blue supplement pages is a new building standard. New, amended, or repealed building standards are identified by margin symbols. An explanation of margin symbols is provided in the front of the code.
5. You may wish to retain the superseded material with this revision record so that the prior wording of any section can be easily ascertained.

Title 24, Part 11

Remove Existing Pages

7 through 10
13 and 14
25 and 26
43 and 44
183 and 184

Insert Blue-Colored Pages

7 through 10
13 and 14
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Item No. 5570S163

CALIFORNIA GREEN BUILDING STANDARDS CODE – MATRIX ADOPTION TABLE

CHAPTER 2 – DEFINITIONS

(Matrix Adoption Tables are non-regulatory, intended only as an aid to the user.
See Chapter 1 for state agency authority and building applications.)

Adopting agency	BSC	BSC-CG	SFM	HCD			DSA		OSHPD				BSCC	DPH	AGR	DWR	CEC	CA	SL	SLC
				1	2	1/AC	AC	SS	1	2	3	4								
Adopt entire CA chapter		X		X				X												
Adopt entire chapter as amended (amended sections listed below)									X	X		X								
Adopt only those sections that are listed below																				
Chapter/Section																				
201																				
CALIFORNIA RESIDENTIAL CODE									†	†		†								
LOW-RISE RESIDENTIAL BUILDING									†	†		†								
PLANTS									†	†		†								
RESIDENTIAL BUILDING									†	†		†								
RESILIENT FLOORING									†	†		†								

The state agency does not adopt sections identified by the following symbol: †.

CHAPTER 2

DEFINITIONS

SECTION 201 GENERAL

201.1 Scope. Unless otherwise stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

201.3 Terms defined in other documents. Where terms are not defined in this code and are defined in the *California Building Standards Code* or other referenced documents, such terms shall have the meanings ascribed to them as in those publications.

201.4 Terms not defined. Where terms are not defined as specified in this section, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION 202 DEFINITIONS

Note: Definitions amended by the Emergency Supplement are effective July 23, 2015.

ADDITION. An extension or increase in floor area of an existing building or structure.

ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust a damper.

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

ALBEDO. Synonymous with solar reflectance, which is a ratio of the energy reflected back into the atmosphere to the energy absorbed by the surface, with 100 percent being total reflectance.

ALTERATION OR ALTER. Any construction or renovation to an existing structure other than repair for the purpose of maintenance or addition.

ARB (CARB). The California Air Resources Board.

ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.

ASSEMBLY (ASSEMBLY PRODUCT). An assembly (assembly product) includes or has been formulated using multiple materials.

AUTOMATIC. Automatic means capable of operating without human intervention.

A-WEIGHTED SOUND LEVEL (dba). The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as

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computed from sound spectral data to which A-weighting adjustments have been made.

BALANCE. To proportion flows within the distribution system, including submains, branches and terminals, according to design quantities.

BIORETENTION. A shallow depression that utilizes conditioned soil and vegetation for the storage, treatment or infiltration of storm water runoff.

BROWNFIELD SITE. Real property, the expansion, redevelopment or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant, with certain legal exclusions and additions.

Note: See the full text at the EPA's website.

1 BTU/HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, the amount of heat required to melt a ton (2,000 pounds) of ice at 32° Fahrenheit.

BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements.

BUILDING ENVELOPE. The ensemble of exterior and demising partitions of a building that enclose conditioned space.

CALIFORNIA BUILDING CODE. The current version of the *California Building Code*.

CALIFORNIA ELECTRICAL CODE. The current version of the *California Electrical Code*.

CALIFORNIA ENERGY CODE. The current version of the *California Energy Code*, unless otherwise specified.

CALIFORNIA MECHANICAL CODE. The current version of the *California Mechanical Code*.

CALIFORNIA PLUMBING CODE. The current version of the *California Plumbing Code*.

CALIFORNIA RESIDENTIAL CODE. The current version of the *California Residential Code*.

CHLOROFLUOROCARBON (CFC). A class of compounds primarily used as refrigerants, consisting of only chlorine, fluorine and carbon.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) HIGHWAY. A metric similar to the day-night average sound level (Ldn), except that a 5 decibel (dB) adjustment is added to the equivalent continuous sound exposure level for evening hours (7 p.m. to 10 p.m.) in addition to the 10 dB nighttime adjustment used in the Ldn.

COMPACT DISHWASHER. A dishwasher that has a capacity of less than eight place settings plus six serving pieces as specified in ANSI/AHAM DW-1.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a).

Note: See CCR, Title 17, Section 93120.1.

CONDITIONED FLOOR AREA. The floor area (in square feet) of enclosed conditioned space on all floors of a building, as measured at the floor level of the exterior surfaces of exterior walls enclosing the conditioned space.

CONDITIONED SPACE. A space in a building that is either directly conditioned or indirectly conditioned.

CONDITIONED SPACE, DIRECTLY. An enclosed space that is provided with wood heating, is provided with mechanical heating that has a capacity exceeding 10 Btu/hr-ft², or is provided with mechanical cooling that has a capacity exceeding 5 Btu/hr-ft², unless the space-conditioning system is designed for a process space. (See Process Space.)

CONDITIONED SPACE, INDIRECTLY. Enclosed space, including but not limited to, unconditioned volume in atria, that (1) is not directly conditioned space; and (2) either (a) has a thermal transmittance area product (UA) to directly conditioned space exceeding that to the outdoors or to unconditioned space and does not have fixed vents or openings to the outdoors or to unconditioned space, or (b) is a space through which air from directly conditioned spaces is transferred at a rate exceeding three air changes per hour.

COOL PAVEMENT(S). Includes, but is not limited to, high albedo pavements and coatings, vegetative surfaces, porous or pervious pavements that allow water infiltration, and pavements shaded by trees and other sources of shade.

COOLING EQUIPMENT. Equipment used to provide mechanical cooling for a room or rooms in a building.

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

DAY-NIGHT AVERAGE SOUND LEVEL (L_{dn}). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10 p.m. to 7 a.m.).

DECIBEL (dB). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

DEMAND HOT WATER RECIRCULATION SYSTEM. A hot water recirculation system requiring manual activation and equipped with a thermostat that will automatically shut

off the recirculation pump when the water temperature reaches a preset level at the point of use.

DEVELOPMENT FOOTPRINT. The total area of the building footprint, hardscape, access roads and parking.

DEWATERING. Pumping of uncontaminated or treated groundwater for construction activities.

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.

DISPOSAL. The management of solid waste through land-filling or transformation at permitted solid waste facilities.

DIVERSION. Activities which reduce or eliminate the amount of solid waste from solid waste disposal for purposes of this code.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the *California Electrical Code*, off-road, self-propelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

ELECTRIC VEHICLE (EV) CHARGER. Off-board charging equipment used to charge an electric vehicle.

ELECTRIC VEHICLE CHARGING SPACE (EV SPACE). A space intended for future installation of EV charging equipment and charging of electric vehicles.

ELECTRIC VEHICLE CHARGING STATION (EVCS). One or more electric vehicle charging spaces served by electric vehicle charger(s) or other charging equipment allowing charging of electric vehicles. Electric vehicle charging stations are not considered parking spaces.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

EMBODIED ENERGY. The energy used for raw material extraction, transportation, manufacturing, assembly, installation and disposal during the life of a product, including the potential energy stored within the product.

ENERGY BUDGET. The sum of the annual TDV energy consumption for energy use components included in the performance compliance approach for the Standard Design Building, as established in the Alternative Calculation Method Reference Manual approved by the Energy Commission and calculated by Compliance Software certified by the Energy Commission.

Energy Commission.

ENERGY COMMISSION. The California State Energy Resources Conservation and Development Commission.

ENERGY DESIGN RATING. The sum of the annual TDV energy consumption for energy use components included in the performance compliance approach for the Standard Design Building (Energy Budget) and the annual time dependent valuation (TDV) energy consumption for lighting and components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics) and accounting for the annual TDV energy offset by an on-site renewable energy system. The Design Rating is calculated by Compliance Software certified by the Energy Commission.

ENERGY EQUIVALENT (NOISE) LEVEL (L_{eq}). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time period of interest.

ENFORCING AGENCY. The designated department or agency as specified by statute or regulation.

EUTROPHICATION. The excessive growth of aquatic plants, especially algae, producing bacteria which consume nearly all of the oxygen required to sustain fauna and other flora.

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF). [DSA-SS] An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which are two major influences on the amount of water that needs to be applied to the landscape.

EXFILTRATION. The uncontrolled outward air leakage from inside a building, including leakage through cracks and interstices, around windows and doors, and through any other exterior partition or duct penetration.

EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.

FLOOR AREA RATIO. Gross square footage of all structures on a site divided by gross square footage of the site.

FOOTPRINT AREA. [DSA-SS] The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections.

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

GEOTHERMAL. Renewable energy generated by deep-earth water or steam.

GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference compound with a GWP of one.

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GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). The 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995); or its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column “SAR (100-yr)” of Table 2.14.; the AR4 GWP values are found in column “100 yr” of Table 2.14.

GRAYWATER. Pursuant to *Health and Safety Code* Section 17922.12, “graywater” means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. “Graywater” includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.

Note: For the purpose of applying the standards contained in this code, “Graywater,” as defined above, has the same meaning as “gray water,” “grey water,” and “greywater.”

GREEN BUILDING. A holistic approach to design, construction, and demolition that minimizes the building’s impact on the environment, the occupants and the community.

GREENFIELDS. Sites that are not previously developed or graded and remain in a natural state, able to support agriculture, open space or habitat.

Note: Previously developed sites are those that previously contained buildings, roadways or parking lots or were graded or altered by direct human activities.

GREYFIELD SITE. Any site previously developed with at least 50 percent of the surface area covered with impervious material.

HALON. Any of a class of chemical compounds derived from hydrocarbons by replacing one or more hydrogen atoms with bromine atoms, and other hydrogen atoms with other halogen atoms (chlorine, fluorine, iodine).

HAZARDOUS WASTE.

(a) A waste, defined as a “hazardous waste” in accordance with Section 25117 of the *Health and Safety Code*, or a combination of wastes, which because of its quantity, concentration or physical, chemical or infectious characteristics may do either of the following:

- (1) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.
- (2) Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed.

(b) Unless expressly provided otherwise, “hazardous waste” includes extremely hazardous waste and acutely hazardous waste.

HEAT ISLAND EFFECT. “Heat island effect” and “urban heat islands” refer to measurable elevated temperatures in developed areas as compared to more rural surroundings.

Temperatures in developed areas are affected by absorption of heat by hardscapes and radiation of heat into surrounding areas resulting in local climate changes. Heat islands are influenced by geographic location and by local weather patterns, with effects changing on a daily or seasonal basis.

HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is: (A) a chlorofluorocarbon, a hydrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any compound or blend of compounds, with a GWP value equal to or greater than 150, or (B) any ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, §82.3 (as amended March 10, 2009).

HIGH-RISE RESIDENTIAL BUILDING. For the purposes of *CALGreen*, any building that is of Occupancy Group R and is four stories or greater in height.

HOT WATER RECIRCULATION SYSTEM. A hot water distribution system that reduces the time needed to deliver hot water to fixtures that are distant from the water heater, boiler or other water heating equipment. The recirculation system is comprised of hot water supply and return piping with shutoff valves, balancing valves, circulating pumps, and a method of controlling the circulating system.

HOTEL OR MOTEL. (HCD-1) Any building containing six or more guest rooms intended or designed to be used, or which are used, rented or hired out to be occupied or which are occupied for sleeping purposes by guests.

HYDROCHLOROFLUOROCARBON (HCFC). A class of compounds primarily used as refrigerants or foam expansion agents, consisting of only hydrogen, chlorine, fluorine, and carbon.

HYDROFLUOROCARBON (HFC). A class of compounds primarily used as refrigerants or foam expansion agents, consisting of only hydrogen, fluorine, and carbon.

IESNA. Illuminating Engineering Society of North America.

INERT SOLIDS OR INERT WASTE. A non-liquid solid waste including, but not limited to, soil and concrete, that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board pursuant to Division 7 (commencing with Section 13000) of the *California Water Code* and does not contain significant quantities of decomposable solid waste.

INFILL SITE. A site in an urbanized area that meets criteria defined in *Public Resources Code* Section 21061.3.

INFILTRATION. An uncontrolled inward air leakage from outside a building or unconditioned space, including leakage through cracks and interstices, around windows and doors and through any other exterior or demising partition or pipe or duct penetration.

INTERIOR BUILDING. The inside of the weatherproofing system.

KITCHEN. That portion in a residential dwelling unit that is a room or area used for cooking, food storage and preparation and washing dishes, including associated counter tops and cabinets, refrigerator, stove, ovens and floor area.

LANDSCAPE WATER METER. [HCD] An inline device installed at the irrigation supply point that measures the flow

treated to remove waste matter, attaining a quality that is suitable to use the water again.

RESIDENTIAL BUILDING. See “LOW-RISE RESIDENTIAL BUILDING” or “HIGH-RISE RESIDENTIAL BUILDING.”

RESILIENT FLOORING. Refers to nontextile flooring materials which have a relatively firm surface, yet characteristically have “give” and “bounce back” to their original surface profile from the weight of objects that compress its surface. Resilient flooring materials are made in various shapes and sizes including both tile and roll form. Common types of resilient flooring include but are not limited to:

1. Vinyl composition tile.
2. Vinyl tile and sheet flooring.
3. Linoleum tile and sheet.
4. Cork tile and sheet flooring.
5. Rubber tile and sheet flooring.
6. Polymeric poured seamless flooring.
7. Other types of non-textile synthetic flooring.

RE-USE. The use, in the same form as it was produced, of a material which might otherwise be discarded.

SCHRADER ACCESS VALVES. Access fittings with a valve core installed.

SHORT RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.0 times the pipe diameter.

SINGLE OCCUPANT SPACES. Private offices, workstations in open offices, reception workstations, and ticket booths.

SOLAR ACCESS. The ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in determination of annual solar access.

SOLAR REFLECTANCE. A measure of the fraction of solar energy that is reflected by a surface (measured on a scale of zero to one).

SOLAR REFLECTANCE INDEX (SRI). A measure of a material surface’s ability to reflect solar heat, as shown by a small temperature rise. It includes both solar reflectance and thermal emittance and is quantified such that a standard black surface (solar reflectance 0.05, thermal emittance 0.90) is zero and a standard white surface (solar reflectance 0.80, thermal emittance 0.90) is 100.

SOLID WASTE.

- (a) All putrescible and nonputrescible solid, semisolid and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated or chemically fixed sewage

sludge which is not hazardous waste, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes.

- (b) “Solid waste” does not include any of the following wastes:

- (1) Hazardous waste, as defined in *Public Resources Code* Section 40141.
- (2) Radioactive waste regulated pursuant to the Radiation Control Law (Chapter 8, commencing with Section 114960, of Part 9 of Division 104 of the *Health and Safety Code*).
- (3) Medical waste regulated pursuant to the Medical Waste Management Act (Part 14 commencing with Section 117600) of Division 104 of the *Health and Safety Code*). Untreated medical waste shall not be disposed of in a solid waste landfill, as defined in *Public Resources Code* Section 40195.1. Medical waste that has been treated and deemed to be solid waste shall be regulated pursuant to this division.

SPECIAL LANDSCAPE AREA (SLA). [DSA-SS] An area of the landscape dedicated solely to edible plants, planting areas used for educational purposes, recreational areas, areas irrigated with recycled water, water features using recycled water, and where turf provides a playing surface or gathering space.

STANDARD DISHWASHER. A dishwasher that has a capacity equal to or greater than eight place settings plus six serving pieces as specified in ANSI/AHAM DW-1.

SUBMETER. A meter installed subordinate to a site meter. Usually used to measure water intended for one purpose, such as landscape irrigation. For the purposes of *CALGreen*, a dedicated meter may be considered a submeter.

SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units.

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

TEST. A procedure to determine quantitative performance of a system or equipment.

THERMAL EMITTANCE. The relative ability of a surface to radiate absorbed heat (measured on a scale of 0 to 1).

TIME DEPENDENT VALUATION (TDV) ENERGY. The time varying energy caused to be used by the building to provide space conditioning and water heating and for specified buildings lighting. TDV energy accounts for the energy used at the building site and consumed in producing and in delivering energy to a site, including, but not limited to, power generation, transmission and distribution losses.

DEFINITIONS

ULTRA-LOW EMITTING FORMALDEHYDE (ULEF) RESINS. Resins formulated such that average formaldehyde emissions are consistently below the Phase 2 emission standards in Section 93120.2, as provided in Section 93120.3(d) of Title 17, California Code of Regulations. [BSC] See CCR, Title 17, Section 93120.1(a).

UNIVERSAL WASTE. [BSC-CG, DSA-SS] The wastes listed below are subject to regulation pursuant to Chapter 23 of Title 22, *California Code of Regulations*, and shall be known as “universal wastes.”

- (1) Batteries, as described in Title 22 CCR, Section 66273.2, Subsection (a);
- (2) Electronic devices, as described in Title 22 CCR, Section 66273.3, Subsection (a);
- (3) Mercury-containing equipment, as described in Title 22 CCR, Section 66273.4, Subsection (a);
- (4) Lamps, as described in Title 22 CCR, Section 66273.5, Subsection (a);
- (5) Cathode ray tubes, as described in Title 22 CCR, Section 66273.6, Subsection (a);
- (6) Cathode ray tube glass, as described in Title 22 CCR, Section 66273.7, Subsection (a); and
- (7) Aerosol cans, as specified in Health and Safety Code, Section 25201.16.

URINAL, HYBRID. [BSC-CG] A urinal that conveys waste into the drainage system without the use of water for flushing; and automatically performs a drain-cleansing action after a predetermined amount of time.

VANPOOL VEHICLE. Eligible vehicles are limited to any motor vehicle, other than a motortruck or truck tractor, designed for carrying more than 10 but not more than 15 persons including the driver, which is maintained and used primarily for the nonprofit work-related transportation of adults for the purposes of ridesharing.

Note: Source: Vehicle Code, Division 1, Section 668.

VAPOR BARRIER. Material that has a permeance of one perm or less and that provides resistance to the transmission of water vapor.

VEGETATED SPACE. Vegetated spaces include, but are not limited to, native, undisturbed areas; rehabilitation of previously disturbed areas with landscaping; green belts; and recreation facilities that include landscaping, such as golf courses.

VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

Note: Where specific regulations are cited from different agencies, such as South Coast Air Quality Management District (SCAQMD), California Air Resources Board (ARB or CARB), etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.

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 used for perimeter and inlet controls.

ZEV. Any vehicle certified to zero-emission standards.

CHAPTER 4

RESIDENTIAL MANDATORY MEASURES

Division 4.3 – WATER EFFICIENCY AND CONSERVATION

SECTION 4.301 GENERAL

4.301.1 Scope. The provisions of this chapter shall establish the means of conserving water used indoors, outdoors and in wastewater conveyance.

SECTION 4.302 DEFINITIONS

4.302.1 Definitions. Reserved.

SECTION 4.303 INDOOR WATER USE

4.303.1 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

4.303.1.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single showerhead. 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 U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 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.

4.303.1.4 Faucets.

4.303.1.4.1 Residential lavatory faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum

flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory faucets in common and public use areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.25 gallons per cycle.

4.303.1.4.4 Kitchen faucets. The maximum flow rate of kitchen faucets shall not exceed 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.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.2 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code*.

SECTION 4.304 OUTDOOR WATER USE

4.304.1 Outdoor potable water use in landscape areas. After December 1, 2015, new residential developments with an aggregate landscape area equal to or greater than 500 square feet shall comply with one of the following options:

1. A local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELo), whichever is more stringent; or
2. Projects with aggregate landscape areas less than 2,500 square feet may comply with the MWELo's Appendix D Prescriptive Compliance Option.

Notes:

1. The Model Water Efficient Landscape Ordinance (MWELo) and supporting documents are available at: <http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>
2. A water budget calculator is available at: <http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>

SECTION 4.305 WATER REUSE SYSTEMS (Reserved)

adopted by the Department of Water Resources (DWR) per Government Code Section 65595 (c).

2. The California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELo) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, *California Code of Regulations*.

5.304.3 Outdoor water use in rehabilitated landscape projects equal to or greater than 2,500 square feet. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review shall comply with Section 5.304.2, Item 1 or 2.

5.304.4 Outdoor water use in landscape areas of 2,500 square feet or less. Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of MWELo or conform to the prescriptive compliance measures contained in MWELo's Appendix D.

5.304.5 Graywater or rainwater use in landscape areas. For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2,500 square feet of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Appendix D Section (5).

Notes:

1. DWR's Model Water Efficient Landscape Ordinance, definitions and supporting documents are available at the following link: <http://water.ca.gov/wateruseefficiency/landscapeordinance/>
2. A water budget calculator is available at the following link: <http://water.ca.gov/wateruseefficiency/landscapeordinance/>
3. The MWELo prescriptive compliance measure Appendix D may be found at the following link: <http://water.ca.gov/wateruseefficiency/landscapeordinance/>. In addition, a copy of MWELo Appendix D may be found in Chapter 8 of this code.

5.304.6 Outdoor potable water use in landscape areas [DSA-SS]. For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELo) commencing with Section 490 of Chapter

2.7, Division 2, Title 23, *California Code of Regulations*, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.

Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of the MWELo.

5.304.6.1 Newly constructed landscapes. [DSA-SS] New construction projects with an aggregate landscape area equal to or greater than 500 square feet.

5.304.6.2 Rehabilitated landscapes. [DSA-SS] Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

**SECTION 5.305
WATER REUSE SYSTEMS
(Reserved)**

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HISTORY NOTE APPENDIX

California Green Building Standards Code Title 24, Part 11, California Code of Regulations (CCR)

For prior history, see the History Note Appendix to the *California Green Building Standards Code*, 2013 Edition, effective January 1, 2014.

1. (BSC 04/15, HCD 07/15, DSA-SS 07/15, CEC 01/15) Repeal, amend and add provisions in the 2016 *California Green Building Standards Code* for residential, nonresidential and public school buildings. Effective on January 1, 2017.
2. Errata to correct editorial errors within the preface as well as throughout various chapters in this code. Effective January 1, 2017.
3. 2016 Intervening Update (BSC 03/16 and HCD 03/16), Adopted by the California Building Standards Commission on June 20, 2017, published on January 1, 2018, effective on July 1, 2018.
4. 2016 Intervening Update (OSHDP 05/16) Adopted by the California Building Standards Commission on August 14, 2017, published on January 1, 2018, effective on July 1, 2018.
5. (BSC 01/19 CWoRE and HCD 01/19 CWoRE) Change without Regulatory Effect to delete specified recycled water building standards declared invalid as ordered by the Superior Court of California, County of Los Angeles (Case No. BS171958—see Building Standards Commission Information Bulletin 19-02: Invalidated AB 2282 Recycled Water Building Standards and HCD’s Information Bulletin 2019-02: Invalidated AB 2282 Recycled Water Building Standards). These rulemakings were approved by the California Building Standards Commission on July 17, 2019, filed with the Secretary of State on July 18, 2019, effective August 17, 2019.



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