Division of the State Architect
CALIFORNIA DEPARTMENT OF GENERAL SERVICES

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2010 CALIFORNIA GREEN BUILDING STANDARDS CODE

Division of the State Architect – Structural Safety (DSA-SS)
(CCR, Title 24, Part 11)

APPLICATION MATRIX	Mandatory	Voluntary
DIVISION 5.1 - PLANNING AND DESIGN		
SITE DEVELOPMENT		
A5.106.4 Bicycle parking and changing rooms. Comply with Sections 5.106.4.1 through 5.106.4.3; or meet local ordinance or the University of California Policy on *Sustainable Practices*, whichever is stricter.		☒
A5.106.4.1 Short-term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 yards of the visitors' entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack.		☒
A5.106.4.2 Long-term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5% of tenant-occupant motorized vehicle parking capacity, with a minimum of one space. For public schools and community colleges provide secure bicycle parking for 15% of occupants (students, teachers, and staff). Acceptable parking facilities shall be convenient from the street and may include, but not be limited to: 1. Covered, lockable enclosures with permanently anchored racks for bicycles; 2. Lockable bicycle rooms with permanently anchored racks; and 3. Lockable, permanently anchored bicycle lockers.		☒
A5.106.4.3 Changing rooms. For buildings with over 10 tenant-occupants, provide changing/shower facilities for tenant-occupants only in accordance with Table A5.106.4.3, or document arrangements with nearby changing/shower facilities. For public schools and community colleges, provide changing/shower facilities for the "number of administrative/teaching staff" equal to the "number of tenant-occupants" shown in Table 5.106.4.3. TABLE A5.106.4.3		☒
A5.106.5.1 Designated parking for fuel efficient vehicles. Provide 10% of total designated parking spaces for any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles as follows: TABLE A5.106.5.1.1 – 10% of Total Spaces		☒
A5.106.5.1.3 Parking stall marking. Paint, in the paint used for stall striping, the following characters such that the lower edge of the last word aligns with the end of the stall striping and is visible beneath a parked vehicle: "CLEAN AIR VEHICLE"		☒
A5.106.5.1.4 Vehicle designations. Building managers may consult with local community Transit Management Associations (TMAs) for methods of designating qualifying vehicles, such as issuing parking stickers.		☒
A5.106.5.3 Electric vehicle charging. Provide facilities meeting Section 406.7 (Electric Vehicle) of the *California Building Code* and as follows:		☒
A5.106.5.3.1 Electric vehicle supply wiring. For each space required in Table A406.1.5.2, provide one 120 VAC 20 amp and one 208/240 V 40 amp, grounded AC outlets or panel capacity and conduit installed for future outlets. TABLE A5.106.5.3.1		☒
A5.106.6 Parking capacity. Design parking capacity to meet but not exceed minimum local zoning requirements.		☒
A5.106.6.1 Reduce parking capacity. With the approval of the enforcement authority, employ strategies to reduce on-site parking area by 1. Use of on street parking or compact spaces, illustrated on the site plan, or 2. Implementation and documentation of programs that encourage occupants to carpool, ride share or use alternate transportation. Strategies for programs may be obtained from local TMAs.		☒
A5.106.7 Exterior wall shading. Meet requirements in the current edition of the California Energy Code and select one of the following for wall surfaces: 1. Provide vegetative or man-made shading devices for east-, south-, and west-facing walls with windows, with 30% coverage to a height of 20 feet or top of exterior wall, whichever is less, for east and west walls. Calculate shade coverage on the summer solstice at 10 AM for east-facing walls and at 3 PM for west-facing walls. Plant V vegetative shade of species documented to shall reach desired coverage within 5 years of building occupancy.		☒

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2. Use wall surfacing with minimum SRI 25 (aged), for 75% of opaque wall areas. Exceptions: Use of vegetated shade in Wildland-Urban Interface Areas as defined in Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) of the California		
5.106.8 Light pollution reduction. Comply with lighting power requirements in the California Energy Code, CCR, Part 6, and design interior and exterior lighting such that zero direct-beam illumination leaves the building site. Meet or exceed exterior light levels and uniformity ratios for lighting zones 1-4 as defined in Chapter 10 of the California Administrative Code, CCR, Part 1, using the following strategies: 1. Shield all exterior luminaires or provide cutoff luminaires per Section 132 (b) of the California Energy Code. 2. Contain interior lighting within each source. 3. Allow no more than .01 horizontal lumen foot candles to escape 15 feet beyond the site boundary. 4. Automatically control exterior lighting dusk to dawn to turn off or lower light levels during inactive periods. Exceptions: 1. Part 2, Chapter 12, Section 1205.6 for campus lighting requirements for parking facilities and primary walkways. 2. Emergency lighting and lighting required for nighttime security.	☒	
A5.106.9 Building orientation. Locate and orient the building as follows: 1. When site and location permit, orient the building with the long sides facing north and south. 2. Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind-driven materials such as dust, sand, snow, and leaves with building orientation and landscape features.		☒
A5.106.9.1 Building orientation and shading. Locate, orient and shade the building as follows: 1. Provide exterior shade for south-facing windows during the peak cooling season. [DSA-SS] In Public School and Community College buildings, shade may be provided by trees, solar shade structures, or other alternate methods.		☒
5.106.10 Grading and Paving. The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.	☒	
A5.106. 11 Heat island effect. Reduce non-roof heat islands by Section A5.106.11.1 and roof heat islands by A5.106.11.2.		☒
A5.106.11.1 Hardscape alternatives. Use one or a combination of strategies 1 through 3 for 50% of site hardscape or put 50% of parking underground. 1. Provide shade (mature within 5 years of occupancy). [DSA-SS] In Public School and Community College buildings, solar shade structures may be used in lieu of trees to provide required shade. 2. Use light colored/ high-albedo materials. 3. Use open-grid pavement system.		☒
A5.106.11.2 Cool roof. Use roofing materials having a minimum 3-year aged solar reflectance and thermal emittance or a minimum aged Solar Reflectance Index (SRI)[3] as shown in Table A5.106.11.2.1 or A5.106.11.2.2. TABLE A5.106.11.2.1		☒
DIVISION 5.2 - ENERGY EFFICIENCY		
GENERAL		
5.201.1 Scope. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.	☒	
A5.203.1.1 Energy efficiency – 15% above Title 24. Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 15% and meet the requirements of Division A45.6.		☒
A5.203.1.2 Energy efficiency – 30% above Title 24. Exceed California Energy Code requirements, based on the 2008 Energy Efficiency Standards, by 30% and meet the requirements of Division A45.6.		☒

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PRESCRIPTIVE MEASURES		
A5.204.1 ENERGY STAR equipment and appliances. All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable to that equipment or appliance.		☒
A5.204.2 Energy monitoring. Provide submetering or equivalent combinations of sensor measurements and thermodynamic calculations, if appropriate, to record energy use data for each major energy system in the building, including chillers, heat pumps, packaged AC systems, fans, pumps, cooling towers, boilers and other heating systems, lighting systems and process loads. This energy use data, once collected, shall be stored within a data management system.		☒
RENEWABLE ENERGY		
A5.211.1 On-site renewable energy. Use on-site renewable energy sources such as solar, wind, geothermal, low-impact hydro, biomass and bio-gas for at least 1 percent of the electric power calculated as the product of the building service voltage and the amperage specified by the electrical service overcurrent protection device rating or 1kW (whichever is greater), in addition to the electrical demand required to meet 1 percent of the natural gas and propane use. The building project's electrical service overcurrent protection device rating shall be calculated in accordance with the 2007 *California Electrical Code*. Natural gas or propane use is calculated in accordance with the 2007 *California Plumbing Code*.		☒
A5.211.1.2 Grid neutral. DSA-SS] Using the proposed annual electrical energy budget (kwh) as set forth by the Title 24, Part 6 of the California energy Code, and adding the additional annual energy consumption estimated for the appliances and equipment not covered by Title 24, Part 6 (e.g. kitchen and laundry equipment and appliances, swimming pool heaters and circulation pumps, industrial and art equipment, computers, etc.) calculate the site's annual electrical production and consumption ratio by dividing the proposed annual renewable electrical energy production (kwh) by the proposed annual electrical energy budget (kwh). The estimated plug loads shall be included in the annual electrical energy budget (kwh). Exceptions: 1. Existing buildings with one year of occupancy or greater shall use actual data of the annual electrical energy consumption of the facilities. Using the data logged for the facilities, calculate the site's annual electrical production and consumption ration by dividing the proposed annual renewable electrical energy production (kwh) by the actual annual electrical energy consumption (kwk). 2. The annual renewable electrical energy can be renewable energy produce3d off-site on a remote property owned by the applicant.		GRID Neutral Schools DIVISION OF THE STATE ARCHITECT DEPARTMENT OF GENERAL SERVICES ☒
A5.211.2.1 35% Grid neutral. A sites annual electrical production and consumption ratio is equal or greater than 0.35.		☒
A5.211.2.2 7 5% Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 0.75.		☒
A5.211.2.3 Grid neutral. A site's annual electrical production and consumption ratio is equal or greater than 1.		☒
A5.211.3 Green power. Using a calculation method approved by the California Energy Commission, calculate the renewable on-site energy system to meet the requirements of Section 511.1, expressed in kW. Factor in net-metering, if offered by local utility, on an annual basis.		☒
A5.211.4 Pre-wiring for future solar. Install conduit from the building roof or eave to a location within the building identified as suitable for future installation of a charge controller (regulator) and inverter.		☒
A5.211.4.1 Off grid pre-wiring for future solar. If battery storage is anticipated, conduit should run to a location within the building that is stable, weather-proof, insulated against very hot and very cold weather, and isolated from occupied spaces.		☒
ELEVATORS, ESCALATORS, AND OTHER EQUIPMENT		
A5.212.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide controls to reduce the energy demand of elevators for part of the day and escalators to reduce speed when no traffic is detected. Document the controls in the project specifications and commissioning plan. [DSA-SS] In Public School and Community College buildings, locate stairs conveniently to encourage their use in lieu of elevators or escalators.		☒
A5.212.1.1 Controls. Controls that reduce energy demand shall meet requirements of CCR, Title 8, Chapter 4, Subchapter 6 and shall not interrupt emergency operations for elevators required in CCR, Title 24, Part 2, *California Building Code.*		☒

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DIVISION 5.3 - WATER EFFICIENCY AND CONSERVATION		
INDOOR WATER USE		
5.303.2 20% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 20% reduction in potable water use shall be demonstrated by one of the following methods: 1. Each plumbing fixture and fitting shall meet the 20% reduced flow rate specified in Table 5.303.2, or 2. A calculation demonstrating a 20% reduction in the building "water use baseline" as established in Table 5.303.1 shall be provided. TABLE 5.301.1 – INDOOR WATER USE BASELINE TABLE 5.303.2 – FIXTURE FLOW RATES	☒	
A5.303.2.1 30% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 30% shall be provided. The reduction shall be based on the maximum allowable water use per plumbing fixture and fitting as required by the California Building Standards Code. The 30% reduction in potable water use shall be demonstrated by one of the following methods. 1. Each plumbing fixture and fitting shall meet the 30% reduced flow rate specified in Table A5.303.2.2, or 2. A calculation demonstrating a 30% reduction in the building "water use baseline" as established in Table A5.303.2.1 shall be provided. TABLE A5.303.2.1 - WATER USE BASELINE[5] TABLE A5.303.2.2 - FIXTURE FLOW RATE		☒
A5.303.3 Appliances. 1. Clothes washer shall have a maximum water factor (WF) that will reduce the use of water by 10 percent below the California Energy Commission's WF standards for commercial clothes washers located in Title 20 of the California Code of Regulations. 2. Dishwashers shall meet the following water use standards: a. Residential—5.8 gallons per cycle. b. Commercial—refer to Table A5.303.3. TABLE A5.303.3 - COMMERCIAL DISHWASHER WATER USE 3. Ice makers shall be air cooled. 4. Food steamers shall be connection-less or boiler-less.		☒
5.303.4 Wastewater reduction. Each building shall reduce by 20% wastewater by one of the following methods: 1. The installation of water-conserving fixtures (water closets, urinals) meeting the criteria established in sections 5.303.2 or A5.303.3.	☒	
5.303.6 Plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards referenced in Table 5.503.6. TABLE 5.303.6 - STANDARDS FOR PLUMBING FIXTURES AND FIXTURE FITTINGS	☒	
OUTDOOR WATER USE		
A5.304.1 Water budget. A water budget shall be developed for landscape irrigation use that conforms to the local water efficient landscape ordinance or to the California Department of Water Resources Model Water Efficient Landscape Ordinance where no local ordinance is applicable.		☒
A5.304.3 Potable water reduction. Provide water efficient landscape irrigation design that reduces the use of potable water beyond the initial requirements for plant installation and establishment by 5%. Calculations for the reduction shall be based on the water budget developed pursuant to section A5.304.1. Methods used to accomplish the requirements of this section must be designed to the requirements of the California Building Standards Code and shall include, but not be limited to, the following: 1. Plant coefficient. 2. Irrigation efficiency and distribution uniformity. 3. Use of captured rainwater. 4. Use of recycled water. 5. Water treated for irrigation purposes and conveyed by a water district or public entity.		☒

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DIVISION 5.4 - MATERIAL CONSERVATION AND RESOURCE EFFICIENCY		
EFFICIENT FRAMING SYSTEMS		
A5.404.1 Wood framing. Employ advanced wood framing techniques, or OVE, as recommended by the U.S. Department of Energy's Office of Building Technology, State and Community Programs and as permitted by the enforcing agency.		☒
MATERIAL SOURCES		
A5.405.4 Recycled content. Use materials, equivalent in performance to virgin materials, with post-consumer or pre-consumer recycled content value (RCV) for a minimum of 10% of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.		☒
ENHANCED DURABILITY AND REDUCED MAINTENANCE		
A5.406.1.1 Service life. Use materials, equivalent in performance to virgin materials, with postconsumer or preconsumer recycled content value (RCV) for a minimum of 10 percent of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.		☒
A5.406.1.3 Recyclability. Select materials that can be reused or recycled at the end of their service life in the project.		☒
WATER RESISTANCE AND MOISTURE MANAGEMENT		
5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by *California Building Code* Section 1403.2 (Weather Protection) and California Energy Code Section 150 (Mandatory Features and Devices), manufacturer's installation instructions, or local ordinance, whichever is more stringent.	☒	
5.407.2 Moisture control. Employ moisture control measures by the following methods.	☒	
5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures.	☒	
5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings.	☒	
CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING		
5.408.1 Construction waste diversion. Establish a construction waste management plan for the diverted materials, or meet local construction and demolition waste management ordinance, whichever is more stringent.	☒	
5.408.2 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan for approval by the enforcement agency that: 1. Identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project, or salvage for future use or sale. 2. Determines if materials will be sorted on-site or mixed. 3. Identifies diversion facilities where material collected will be taken. 4. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.	☒	
5.408.2.1 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 5.408.2 items 1 thru 4. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency. Exception: Jobsites in areas where there is no mixed construction and demolition debris (C&D) processor or recycling facilities within a feasible haul distance shall meet the requirements as follows: 1. The enforcement agency having jurisdiction shall at its discretion, enforce the waste management plan and make exceptions as deemed necessary.	☒	
5.408.2.2 Isolated jobsites. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.	☒	
5.408.3 Construction waste reduction of at least 50%. Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Calculate the amount of materials diverted by weight or volume, but not by both.	☒	

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Exceptions: 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.		
A5.408.3.1 Enhanced construction waste reduction. Divert to recycle or salvage non-hazardous construction and demolition debris generated at the site for at least an 80% reduction. Exceptions: 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.		☒
LIFE CYCLE ASSESSMENT		
A5.409.1 Materials and system assemblies. Select materials assemblies based on life cycle assessment of their embodied energy and/or green house gas emission potentials.		☒
BUILDING MAINTENANCE AND OPERATION		
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 and metals.	☒	
A5.410.2 Commissioning. 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 project requirements. Commissioning shall be performed in accordance with this section by personnel trained and certified in commissioning by a nationally recognized organization. Commissioning requirements shall include as a minimum: 1. Owner's Project Requirements. 2. Basis of Design. 3. Commissioning measures shown in the construction documents. 4. Commissioning Plan. 5. Functional Performance Testing. 6. Post Construction Documentation & Training. 7. Commissioning Report. All building systems and components covered by Title 24, Part 6, as well as process equipment and controls, and renewable energy systems shall be included in the scope of the Commissioning Requirements.		☒
A5.410.2.1 Owner's Project Requirements (OPR). The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. At a minimum, this documentation shall include the following: 1. Environmental and Sustainability Goals. 2. Energy Efficiency Goals. 3. Indoor Environmental Quality Requirements. 4. Equipment and Systems Expectations. 5. Building Occupant and O&M Personnel Expectations.		☒
A5.410.2.2 Basis of Design (BOD). A written explanation of how the design of the building systems meets the Owner's Project Requirements shall be completed at the design phase of the building project, and updated as necessary during the design and construction phases. At a minimum, the Basis of Design document shall cover the following systems: 1. Heating, Ventilation, Air Conditioning (HVAC) Systems and Controls. 2. Indoor Lighting System and Controls. 3. Water Heating System. 4. Renewable Energy Systems.		☒
A5.410.2.3 Commissioning plan. A commissioning plan shall be completed to document how the project will be commissioned and shall be started during the design phase of the building project. The Commissioning Plan shall include the following at a minimum: 1. General Project Information. 2. Commissioning Goals. 3. Systems to be commissioned. Plans to test systems and components shall include at a minimum:		☒

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a. A detailed explanation of the original design intent, b. Equipment and systems to be tested, including the extent of tests, c. Functions to be tested, d. Conditions under which the test shall be performed, e. Measurable criteria for acceptable performance. 4. Commissioning Team Information. 5. Commissioning Process Activities, Schedules & Responsibilities – plans for the completion of Commissioning Requirements listed in A5.410.2.4 through A5.410.2.6 shall be included.		
A5.410.2.4 Functional performance testing. Functional performance tests shall demonstrate the correct installation and operation of each component, system, and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.		☒
A5.410.2.5 Documentation and training. A Systems Manual and Systems Operations Training are required.		☒
A5.410.2.5.1 Systems manual. Documentation of the operational aspects of the building shall be completed within the Systems Manual and delivered to the building owner and facilities operator. At a minimum, the Systems Manual shall include the following: 1. Site Information, including facility description, history and current requirements. 2. Site Contact Information. 3. Basic Operations & Maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log. 4. Major Systems. 5. Site Equipment Inventory and Maintenance Notes.		☒
A5.410.2.5.2 Systems operations training. The training of the appropriate maintenance staff for each equipment type and/or system shall include, as a minimum, the following: 1. System/Equipment overview (what it is, what it does and what other systems and/or equipment it interfaces with). 2. Review and demonstration of servicing/preventive maintenance, 3. Review of the information in the Systems Manual. 4. Review of the record drawings on the system/equipment.		☒
A5.410.2.6 Commissioning report. A complete report of commissioning process activities undertaken through the design and construction and reporting recommendations for post-construction phases of the building project shall be completed and provided to the owner.		☒
A5.410.3 Testing and adjusting. Testing and adjusting systems shall be required for buildings less than 10,000 square feet.		☒
A5.410.3.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include at a minimum, as applicable to the project: 1. HVAC systems and controls 2. Indoor and outdoor lighting and controls 3. Water heating systems 4. Renewable energy system.		☒
A5.410.3.3 Procedures. Perform testing and adjusting procedures in accordance with industry best practices and applicable national standards on each system.		☒
A5.410.3.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards (2003); the National Environmental Balancing Bureau Procedural Standards (1983); or Associated Air Balance Council National Standards (1989).		☒
A5.410.3.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.		☒
A5.410.3.5 Operation and maintenance manual. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.		☒
DIVISION 5.5 ENVIRONMENTAL QUALITY		
POLLUTANT CONTROL		
A5.504.1.1 Temporary ventilation. Provide temporary ventilation during construction in accordance with Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, and Chapter 4 of CCR, Title 8, and as follows:		☒

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1. Ventilation during construction shall be achieved through openings in the building shell using fans to produce a minimum of three air changes per hour. 2. During dust-producing operations, protect supply and return HVAC system openings from dust. 3. The permanent HVAC system shall only be used during construction if necessary to condition the building 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% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy. 4. If the building is occupied during demolition or construction, meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3.		
A5.504.1.2 Additional IAQ measures. Employ additional measures as follows: 1. When using generators to generate temporary power, use generators meeting the requirements of CCR, Title 13, Chapter 9, or local ordinance, whichever is more stringent. 2. Protect on-site absorbent materials from moisture. Remove and replace any materials wit 3. Store odorous and high VOC-emitting materials off-site, without packaging, for a sufficient period to allow odors and VOCs to disperse. 4. When possible, once materials are on the jobsite, install odorous and high VOC-emitting materials prior to those that are porous or fibrous. 5. Clean oil and dust from ducts prior to use.		☒
A5.504.2 IAQ Post-construction. After all interior finishes have been installed, flush out the building by supplying continuous ventilation with all air handling units at their maximum outdoor air rate and all supply fans at their maximum position and rate for at least 14 days. 1. During this time, maintain an internal temperature of at least 60°F, and relative humidity no higher than 60%. If extenuating circumstances make these temperature and humidity limits unachievable, the flush out may be conducted under conditions as close as possible to these limits, provided that documentation of the extenuating circumstances is provided in writing. 2. Occupancy may start after 4 days, provided flush-out continues for the full 14 days. During occupied times, the thermal comfort conditions of Title 24 must be met. 3. For buildings that rely on natural ventilation, exhaust fans and floor fans must be used to improve air mixing and removal during the 14-day flush out, and windows should remain open. 4. Do not "bake out" the building by increasing the temperature of the space. 5. (If continuous ventilation is not possible, flush-out air volume must total the equivalent of 14 days of maximum outdoor air.) The air volumes for each period are then calculated and summed, and the flush out continues until the total equals the target air volume.		☒
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.	☒	
5.504.4.1 Adhesives, sealants, and 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. TABLE 5.504.4.1 - ADHESIVE AND SEALANT VOC LIMIT[1]	☒	
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the		

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ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, 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 5.504.4.3, 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 5.504.4.3 shall apply.	☒	
5.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-Weighted MIR Limits for ROC in section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, 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. TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2, 3]	☒	
5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of the following: 1. Carpet and Rug Institute's Green Label Plus Program. 2. California Department of Public Health Standard Practice for the testing of VOCs (Specification 01350). 3. Department of General Services, California Gold Sustainable Carpet Standard. 4. Scientific Certifications Systems Sustainable Choice.	☒	
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.	☒	
5.504.4.4.2 Carpet adhesive. All carpet adhesive 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 for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 5.504.4.5. TABLE 5.504.4.5 - FORMALDEHYDE LIMITS[1]	☒	
A5.504.4.5.1 Early compliance with formaldehyde limits. Where complying composite wood product is readily available for non-residential occupancies, meet requirements before the compliance dates indicated in Table 5.504.4.5 or use composite wood products made with either CARB-approved no-added formaldehyde (NAF) resins or CARB-approved ultra-low emitting formaldehyde (ULEF) resins.		☒
5.504.4.6 Resilient flooring systems. For 50% of floor area receiving resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RFCI) Floor Score program. Documentation shall be provided that verifies that finish materials are certified to meet the pollutant emission limits.	☒	
A5.504.4.7 Resilient flooring systems. For 80% of floor area to schedule to receive resilient flooring, install resilient flooring complying with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the FloorScore program of the Resilient Floor Covering Institute.		☒
A5.504.4.8 Thermal insulation. Comply with Chapter 12-13 (Standards For Insulating Material) in Title 24, Part 12, the *California Referenced Standards Code*, and with the VOC-emission limits defined in the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List Documentation shall be provided that verifies that finish materials are certified to meet the pollutant emission limits.		☒
A5.504.4.8.1 Thermal insulation, No-Added Formaldehyde. Install No-Added Formaldehyde thermal insulation in addition to meeting the 2009 Collaborative for High Performance Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering institute (RFCI) Floor Score program.		☒
A5.504.4.9 Acoustical ceilings and wall panels. Comply with Chapter 8 in Title 24, Part 2, the *California Building Code*, and with the VOC-emission limits defined in the 2009 Collaborative for High Performances Schools (CHPS) criteria and listed on its Low-emitting Materials List or certified under the Resilient Floor Covering institute (AFCO) Floor Score program.		☒
A5.504.5 Hazardous particulates and chemical pollutants. Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas.		☒

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A5.504.5.1 Entryway systems. Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors. 1. Qualifying entryways are those that serve as regular entry points for building users. 2. Acceptable entryway systems include, but are not limited to, permanently installed grates, grilles or slotted systems that allow cleaning underneath. 3. Roll-out mats are acceptable only when maintained regularly by janitorial contractors as documented in service contract, or by in-house staff as documented by written policies and procedures.		☒
A5.504.5.2 Isolation of pollutant sources. In rooms where activities produce hazardous fumes or chemicals, such as garages, janitorial or laundry rooms, and copy or printing rooms, exhaust them and isolate them from their adjacent rooms. 1. Exhaust each space with no air recirculation in accordance with ASHRAE 62.1, Table 6-4 to create negative pressure with respect to adjacent spaces with the doors to the room closed. 2. For each space, provide self-closing doors and deck to deck partitions or a hard ceiling. 3. Install low-noise, vented range hoods for all cooking appliances and in laboratory or other chemical mixing areas.		☒
5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 8.	☒	
A5.504.5.3.1 Filters. In mechanically ventilated buildings, provide regularly student occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 11.		☒
INDOOR MOISTURE CONTROL		
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24,Sections 1203 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures not applicable to low-rise residential occupancies, see Section 5.407.2 of this code.	☒	
INDOOR AIR QUALITY		
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 (Requirements For Ventilation) of the California Energy Code, CCR, Title 24, Part 6, or the applicable local code, whichever is more stringent, and Chapter 4 of CCR, Title 8.	☒	
ENVIRONMENTAL COMFORT		
A5.507.1 Lighting and thermal comfort controls. Provide controls in the workplace as described in Sections A5.507.1.1 and A5.507.1.2.		☒
A5.507.1.1 Single-occupant spaces. Provide individual controls that meet energy use requirements in the 2007 California Energy Code in accordance with Sections A5.507.1.1.1 and A5.507.1.1.2.		☒
A5.507.1.1.1 Lighting. Provide individual task lighting and/or day lighting controls for at least 90 percent of the building occupants.		☒
A5.507.1.1.2 Thermal comfort. Provide individual thermal comfort controls for at least 50 percent of the building occupants. 1. Occupants shall have control over at least one of the factors of air temperature, radiant temperature, air speed and humidity as described in ASHRAE 55-2004. 2. Occupants inside 20 feet of the plane of and within 10 feet either side of operable windows can substitute windows to control thermal comfort. The areas of operable window must meet the requirements of Section 121 (Requirements For Ventilation) of the *California Energy Code*.		☒
A5.507.1.2 Multi-occupant spaces. Provide lighting and thermal comfort system controls for all shared multi-occupant spaces, such as classrooms and conference rooms.		☒
A5.507.2 Daylight. Provide day lit spaces as required for top lighting and side lighting in the 2007 *California Energy Code*. In constructing a design, consider the following: 1. Use of light shelves and reflective room surfaces to maximize daylight penetrating the rooms. 2. Means to eliminate glare and direct sun light, including through skylights. 3. Use of photo sensors to turn off electric lighting when daylight is sufficient. 4. Not using diffuse day lighting glazing where views are desired.		☒
A5.507.3 Views. Achieve direct line of sight to the outdoor environment via vision glazing between 2' 6" and 7'		

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6" above finish floor for building occupants in 90 percent of all regularly occupied areas as demonstrated by plan view and section cut diagrams.		☒
A5.507.3.1 Interior office spaces. Entire areas of interior office spaces may be included in the calculation if at least 75 percent of each area has direct line of sight to perimeter vision glazing.		☒
A5.507.3.2 Multi-occupant spaces. Include in the calculation the square footage with direct line of sight to perimeter vision glazing. Exceptions to Sections 807.3 and 807.4: Copy/printing rooms, storage areas, mechanical spaces, restrooms, auditoria and other intermittently or infrequently occupied spaces or spaces where daylight would interfere with use of the space.		☒
A5.507.5 Acoustical control. [DSA-SS] Public Schools and Community Colleges unoccupied, furnished classrooms must have a maximum background noise level of no more than 45 dBA LAeq, and a maximum (unoccupied, furnished) reverberation of 0.6-second time for classrooms with less than 10,000 cubic feet and a maximum (unoccupied, furnished) reverberation of 0.7-second time for classroom volumes with between 10,000 cubic feet and 20,000 cubic feet.		☒
A5.508.1 Outdoor Air Quality Installations of HVAC, refrigeration and fire suppression equipment shall comply with 5.508.1.1 & 5.508.1.2. 5.508.1.1 Chlorofluorocarbons (CFCs) Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs. 5.508.1.2 Halons Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.	☒	