# INITIAL EXPRESS TERMSFOR PROPOSED BUILDING STANDARDSOF THE DIVISION OF THE STATE ARCHITECTREGARDING THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE,

# CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART **11**

# (DSA SS/CC 03-21)

The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific (Government Code Section 11346.2(a)(1)).

If using assistive technology, please adjust your settings to recognize underline, strikeout, italic and ellipsis.

## LEGEND for EXPRESS TERMS

* Existing California amendments appear upright
* Amended or new California amendments appear underlined
* Repealed California language appears ~~upright and in strikeout~~
* Ellipsis ( ...) indicate existing text remains unchanged

# INITIAL EXPRESS TERMS

The Division of the State Architect proposes to amend the 2019 edition of the California Green Building Standards Code (CALGreen) as presented on the following pages, including any necessary amendments.

**PROPOSED REPEALS, ADOPTIONS AND NEW AMENDMENTS**

**CHAPTER 2, DEFINITIONS**

**…**

**SECTION 202**

**DEFINITIONS**

…

**Item 1**

**AUTOMATIC LOAD MANAGEMENT SYSTEM (ALMS)**. A system designed to manage load across one or more Electric Vehicle Grid Interface to share electrical capacity and/or automatically manage bidirectional power at each connection point and/or provide other grid services.

**Notation: DSA-SS**

Authority: Education Code Section 17310 and 81142

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 81147.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147.

**Item 2**

**EV CAPABLE SPACE-** Vehicle space with electrical panel capacity and space to support a branch circuit and necessary raceways, both underground and/or surface mounted, to support future EV charging.

**Notation: DSA-SS**

Authority: Education Code Section 17310 and 81142

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 81147.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147.

**Item 3**

**NONWATER URINAL WITH DRAIN CLEANSING ACTION.** A nonwater 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.

**~~URINAL, HYBRID~~**~~. 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~~.

**Notation: DSA-SS**

Authority: Education Code Section 17310 and 81142

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 81147.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147.

**Item 4**

**OFF-STREET PARKING SPACES -** an area, other than a public street, public way, or other property (and exclusive of off-street parking spaces), permanently reserved or set aside for the loading or unloading of motor vehicles, including ways of ingress and egress and maneuvering areas. Whenever the term "loading space" is used, it shall, unless the context clearly requires otherwise, be construed as meaning off-street loading space. This excludes designated passenger loading/unloading.

**Notation: DSA-SS**

Authority: Education Code Section 17310 and 81142

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 81147.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147.

**Item 5**

~~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 per- sons 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.~~

**Notation: DSA-SS**

Authority: Education Code Section 17310 and 81142

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 81147.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147.

**Item 6
Chapter 5 NONRESIDENTIAL MANDATORY MEASURES**

**Division 5.1 – PLANNING AND DESIGN**

**…**

**SECTION 5.106, SITE DEVELOPMENT**

**…**

**5.106.5.3 Electric vehicle (EV) charging. [N]** Construction shall comply with Section5.106.5.3.1 and in accor­dance with regulations in the *California Building Code* and*,* the *California Electrical Code*. ~~or Section 5.106.5.3.2 to facilitate future installation of electric vehicle supply equipment (EVSE):~~ ~~When EVSE(s) is/are installed, it shall be~~ ~~in accor­dance with the~~ *~~California Building Code,~~* ~~the~~ *~~California Electrical Code~~* ~~and as follows:~~

**Exceptions:**

1**.** On a case-by-case basis where the local enforcing agency has determined ~~EV charging and infrastructure~~ compliance with this section is not feasible based upon one or more of the following conditions:

~~1~~a. Where there is insufficient electrical supply.

~~2~~b. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

2. Spaces accessible only by automated mechanical car parking systems are not required to comply with this code section.

**~~5.106.5.3.1~~ ~~Single charging space requirements. [N]~~** ~~When only a single charging space is required per Table 5.106.5.3.3, a raceway is required to be installed at the time of construction and shall be installed in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:~~

1. ~~The type and location of the EVSE.~~
2. ~~A listed raceway capable of accommodating a 208/240-volt dedicated branch circuit.~~
3. ~~The raceway shall not be less than trade size 1.”~~
4. ~~The raceway shall originate at a service panel or a subpanel serving the area, and shall terminate in close proximity to the proposed location of the charging equipment and into a listed suitable cabinet, box, enclosure or equivalent.~~
5. ~~The service panel or subpanel shall have sufficient capacity to accommodate a minimum of 40- ampere dedicated branch circuit for the future installation of the EVSE.~~

**5.106.5.3.~~2~~ 1 ~~Multiple~~ ~~charging space requirements~~ EV Charging spaces (EV capable).**

**[N]** EV capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following requirements: ~~[N] When multiple charging spaces are required per Table 5.106.5.3.3 raceway(s) is/~~ ~~are required to be installed at the time of construction and shall be installed in accordance with the~~ *~~California Electrical Code~~*~~. Construction plans and specifications shall include, but are not limited to, the following:~~

~~1.The type and location of the EVSE.~~

~~2~~ 1. ~~The~~ ~~r~~ Raceways ~~(s)~~ are required to be installed at the time of construction in accordance with the *California Electrical Code.* The raceway(s) shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the EV capable space ~~the charging equipment~~ and into a listed suitable cabinet~~(s),~~ box~~(es),~~ enclosure~~(s)~~ or equivalent. A common raceway may be used to serve multiple EV capable spaces.

~~3~~ 2. Panel capacity at time of construction for each EV capable space shall be ~~Plan design shall be based upon~~ a 208/240 volts, 40-ampere minimum branch circuit~~s~~.

~~4~~ 3 ~~Electrical calculations shall substantiate the design of the electrical system, to include the rating of~~ The electrical system ~~equipment~~ and any on-site distribution transformers ~~and~~ shall have sufficient capacity to ~~simultaneously charge~~ supply ~~all required~~ ~~EVs~~ full rated amperage at each EV capable space. ~~its full rated amperage.~~

~~5~~ 4 The service panel or subpanel(s) shall have sufficient capacity to accommodate ~~the required number of~~ dedicated branch circuits ~~(s~~) to each EV capable space for the future installation of the EV charger ~~EVSE~~.

5.The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) ~~for future EV charging~~ as “EV CAPABLE”. The raceway termination location shall be permanently and visibly marked as “EV CAPABLE”.

Note: EV capable spaces and spaces with EVSE installed shall count toward the total parking spaces required by the local enforcement agency.

**5.106.5.3.2 EV charging spaces with Level 2 EVSE.**

EV capable charging spaces are required to be provided with Level 2 EVSE as indicated by Table 5.106.5.3.1. When EVSE is installed beyond the minimum required by Table 5.106.5.3.1, the following is permitted.

1. ALMS may be used to reduce the maximum required load capacity to each EV capable space served by an ALMS-enabled charger. ALMS must be designed to deliver at least 3.3 kW simultaneously to each electric vehicle charging space (EVCS) served by the ALMS and must meet the requirements of *California Electrical Code*. ALMS shall not be used to reduce the minimum required load capacity to EV capable spaces without EVSE installed.
2. One Direct Current Fast Charger (DCFC) may be installed to substitute for the installation of five or fewer Level 2 EV chargers and reduce the load capacity for each EV capable space with a Level 2 EVSE for which the DCFC charger substitutes. The installed DCFC shall be rated at 50 kW minimum. A minimum of one Level 2 EV charger shall be installed.

**5.106.5.3.2.1 Accessible EVCS.** When EVCS is installed, accessible EVCS shall be provided in accordance with the *California Building Code* Chapter 11B, Section 11B-228.3.

**5.106.5.3.2.2 EVCS signs.** Refer to the *California Vehicle Code* Section 22511.

**~~5.106.5.3.3. Charging space calculation~~**~~. [N] Table 5.106.5.3.3 shall be used to determine if single or multiple charging space requirements apply for the future installation of EVSE.~~

**~~Exceptions:~~** ~~On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure is not feasible based upon one or more of the following conditions:~~

~~1. Where there is insufficient electrical supply.~~

~~2. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3 may adversely impact the construction cost of the project.~~

**~~TABLE 5.106.5.3.3~~**

| **~~TOTAL NUMBER OF~~** **~~ACTUAL PARKING SPACES~~** | **~~NUMBER OF REQUIRED EV CHARGING SPACES~~** |
| --- | --- |
| ~~0-9~~ | ~~0~~ |
| ~~10-25~~ | ~~2~~ |
| ~~26-50~~ | ~~3~~ |
| ~~51-75~~ | ~~5~~ |
| ~~76-100~~ | ~~7~~ |
| ~~101-150~~ | ~~10~~ |
| ~~151-200~~ |  ~~14~~ |
| ~~201 and over~~ |  ~~8 percent of total~~~~1~~ |

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

**Table 5.106.5.3.~~3~~1**

| TOTAL NUMBER OF ACTUAL PARKING SPACES | NUMBER OF REQUIRED EV CAPABLE SPACES  | NUMBER OF REQUIRED EV CHARGING SPACES WITH LEVEL 2 EVSE |
| --- | --- | --- |
| 0-9 | 0 | 0 |
| 10-25 | ~~2~~ 4  | 0  |
| 26-50 |  ~~4~~ 8  | 2 |
| 51-75 | ~~7~~ 13  | 3 |
| 76-100 | ~~9~~ 17  | 4 |
| 101-150 | ~~13~~ 25 | 6 |
| 151-200 | ~~18~~ 35  | 9 |
| 201 and over | ~~10~~ 20 percent of total parking spaces1 | 25 percent of EV capable spaces  |

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

**…**

**~~5.106.5.3.4 [N] Identification.~~** ~~The service panel or subpanel(s) circuit directory shall identify the reserved overcurrent protective device space(s) for future EV charging as “EV CAPABLE”. The raceway termination location shall be permanently and visible marked as “EV CAPABLE”.~~

**~~5.106.5.3.5 [N] Future charging spaces.~~** ~~Future charging spaces qualify as designated parking~~~~as described in Section 5.106.5.2 Designated parking for clean air vehicles.~~

~~Note: Future electric vehicle charging spaces shall be considered parking spaces and shall count for the total parking spaces required by the local enforcing agencies.~~

**Notation: DSA-SS**

Authority: Education Code Sections 17310 and 81142.

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 8114.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147

**Item 7**

**5.106.12 Shade trees. [DSA-SS]** Shade trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2, and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6.

**5.106.12.1 Surface parking areas.** Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 50% of the parking area within 15 years.

**~~Exception:~~** ~~Walks, hardscape areas covered by solar photovoltaic shade structures, and hardscape areas covered by shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not included in the total area calculation.~~

**Exceptions:** Surface parking area covered by solar photovoltaic shade structures or shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, shall be permitted in whole or in part in lieu of shade tree plantings.

**5.106.12.2 Landscape areas.** Shade trees plantings, minimum #10 container size or equal, shall be installed to provide shade over 20% of the landscape area within 15 years.

**Exception:** Playfields for organized sport activity are not included in the total area calculation.

**5.106.12.3 Hardscape areas.** Shade trees plantings, minimum #10 container size or equal, shall be installed to provide shade over 20% of the hardscape area within 15 years.

**~~Exception:~~** ~~Walks, and hardscape areas covered by solar photovoltaic shade structures, and hardscape areas covered by shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, are not included in the total area calculation.~~

**Exceptions:**

1. Walks and hardscape areas covered by solar photovoltaic shade structures or shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5, shall be permitted in whole or in part in lieu of shade tree plantings.
2. Designated and marked play areas of organized sport activity are not included in the total area calculation.

**Notation: DSA-SS**

Authority: Education Code Sections 17310 and 81142.

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 8114.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147

**Item 8**

**CHAPTER 5 NONRESIDENTIAL MANDATORY MEASURES**

**Division 5.5 – ENVIRONMENTAL QUALITY**

**…**

**SECTION 5.504, POLLUTANT CONTROL**

**…**

**5.504.4.7 Thermal insulation.** Comply with the requirements of the California Department of Public Health, “Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers,” Version 1.2, January 2017 (Emission testing method for California Specification 01350).

See [California Department of Public Health’s website](https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material) for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

**5.504.4.7.1 Verification of compliance.** Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.

**Notation: DSA-SS**

Authority: Education Code Sections 17310 and 81142.

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 8114.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147

**Item 9**

**5.504.4.8 Acoustical ceilings and wall panels.** Comply with the requirements of the California Department of Public Health, “Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers,” Version 1.2, January 2017 (Emission testing method for California Specification 01350).

See [California Department of Public Health’s website](https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material) for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

**5.504.4.8.1 Verification of compliance.** Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.

**Notation: DSA-SS**

Authority: Education Code Sections 17310 and 81142.

Reference(s): Education Code Sections 17280 through 17317, and 81130 through 81147.

**Notation: DSA-SS/CC**

Authority: Education Code Section 81053.

Reference(s): Education Code Sections 81052, 81053, and 81130 through 81147.

**Item 10**

**…**

**SECTION 5.506, INDOOR AIR QUALITY**

**…**

**5.506.3 Carbon dioxide (CO2) monitoring in classrooms. (DSA-SS)** Each public K-12 school classroom, as listed in Table 120.1-A of the California Energy Code, shall be equipped with a carbon dioxide monitor that meets the following requirements:

1. The device must be a hard-wired monitor mounted to the wall between three and six feet above the floor and at least five feet away from doors and operable windows.
2. The monitor shall display the carbon dioxide readings through a display on the device. If the monitor is integral to an Energy Management Control System (EMCS), the carbon dioxide readings shall be available to and regularly monitored by facility personnel.
3. The monitor shall provide a notification through a visual indicator on the monitor when the carbon dioxide levels in the classroom have exceeded 1,100 ppm. If integral to an EMCS, notification to facility personnel shall be provided through a visual and/or audible indicator when the carbon dioxide levels in the classroom have exceeded 1,100 ppm.
4. The monitor or EMCS devices used to measure carbon dioxide levels shall maintain a record of previous data that includes at least the maximum carbon dioxide concentration measured.
5. The monitor or EMCS devices used to measure carbon dioxide levels shall have the capacity to measure carbon dioxide levels with a range of 400 ppm to 2000 ppm or greater.
6. The monitor or EMCS devices used to measure carbon dioxide levels shall bear certification by the manufacturer of accuracy within 75 ppm at 1,000 ppm carbon dioxide concentration and bear certification by the manufacturer for a requirement of calibration no more frequently than once every five years.

**Notation: DSA-SS**

Authority: Education Code Sections 17310.

Reference(s): Education Code Sections 17280 through 17317.