

## CALIFORNIA BUILDING STANDARDS COMMISSION

September 22, 2022  
CALGREEN EV WORKSHOP  
Agenda Items 2b

### DRAFT EXPRESS TERMS CALIFORNIA GREEN BUILDING STANDARDS CODE, (CALGreen), PART 11, CALIFORNIA BUILDING STANDARDS CODE, TITLE 24, CALIFORNIA CODE OF REGULATIONS

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

#### LEGEND for EXPRESS TERMS

- Existing amendments appear upright
  - Amendments appear underlined
  - Repealed California language appears ~~upright and in strikeout~~
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#### SECTION 5.106, SITE DEVELOPMENT

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*[Proposed amendments for Electric Vehicle regulations shown underlined below. Open for discussion]*

#### AGENDA ITEM 2b

**Rationale:** BSC-CG is proposing to renumber and amend code section from 5.106.5.4 to 5.106.5.5 and Electric vehicle (EV) charging: medium-duty and heavy-duty. [N] and related subsections for the advancement of EVSE for medium-duty and heavy-duty vehicles to add additional occupancies to include office buildings and manufacturing facilities.

The proposed changes to the building standards with statewide application will lead to substantial environmental benefits through reduction in energy use, GHG emissions, criteria pollutants, and fossil fuel dependency, leading to improved public health, and potentially result in significant cost savings (avoided costs) associated with future installation of EV charging stations at nonresidential buildings.

This measure will protect public health and safety, the environment, and the general welfare of California residents.

#### **5.106.5.4-5 Electric vehicle (EV) charging: medium-duty and heavy-duty. [N]**

Construction shall comply with Section 5.106.5.4-5.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores, retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces shall also comply with Section 5.106.5.4-5.1 for future installation of medium- and heavy-duty EVSE.

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**Exceptions:**

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:

- a. Where there is no local utility power supply.
- b. Where the local utility is unable to supply adequate power.
- c. 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.

When EVSE(s) is/are installed, it shall be in accordance with the *California Building Code*, the *California Electrical Code* and as follows:

**5.106.5.-4 5.1 Electric vehicle charging readiness requirements for warehouses, grocery stores and retail stores with planned off-street loading spaces [N]**

In order to avoid future demolition when adding EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s) or subpanel(s) shall be installed at the time of construction in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

1. The transformer, main service equipment and subpanels shall meet the minimum power requirement in Table 5.106.5.4-5.1 to accommodate the dedicated branch circuits for the future installation of EVSE.
2. The construction documents shall indicate one or more location(s) convenient to the planned off-street loading space(s) reserved for medium- and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s), as shown in Table 5.106.5.-4-5.1.
3. Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium- and heavy-duty EVSE will be located and shall terminate in close proximity to the potential future location of the charging equipment for medium- and heavy-duty vehicles.
4. The raceway(s) or busway(s) shall be of sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty ZEVs as shown in Table 5.106.5.4-5.1.

**TABLE 5.106.5.-5.1, Raceway Conduit and Panel power Requirements for Medium- and-Heavy-Duty EVSE [N]**

Building type	Building Size (sq. ft.)	Number of Off-street loading spaces	Additional capacity Required (kVa) for Raceway & Busway and Transformer & Panel
Grocery	...	...	...
Retail	...	...	...
Warehouse	...	...	...
<u>Manufacturing Facilities</u>	<u>10,000 to 50,000</u>	<u>1 or 2</u>	<u>200</u>
	<u>10,000 to 50,000</u>	<u>3 or Greater</u>	<u>400</u>
	<u>Greater than 50,000</u>	<u>1 or Greater</u>	<u>400</u>
<u>Office Buildings</u>	<u>10,000 to 135,000</u>	<u>1 or 2</u>	<u>200</u>
	<u>10,000 to 135,000</u>	<u>3 or Greater</u>	<u>400</u>
	<u>Greater than 135,000</u>	<u>1 or Greater</u>	<u>400</u>