

BUILDING DIVISION REQUIREMENTS

An electrical permit is required for installation of electric vehicle chargers. Following is a listing of the general requirements for electric vehicle charging equipment based on the 2022 California Electrical Code, 2022 California Building Code, 2022 CalGreen and Sunnyvale Municipal Code. This brochure is intended to provide general information, contact the Building Safety Division for any questions or additional information.

Pre-Wiring in New Construction

The Sunnyvale Municipal Code requires that new construction provide pre-wiring for electric vehicle chargers as described below. Pre-wiring shall include the installation of a 40-Ampere dedicated 208/240V branch circuit with circuit breaker, minimum 1 inch conduit (CalGreen 4.106.4.1), appropriately sized conductors, and adequate electrical capacity to serve the chargers. At the electric panel directory, the circuit breaker shall be identified as “EV Capable”. The pre-wired parking spaces must meet the accessibility requirements described in the next section below.

- Residential garages/carports attached to individual dwelling units (typically single-family detached and townhouses) shall be pre-wired for a Level 2 electric vehicle charger. (CalGreen 4.106.4.1)
- **Residential shared parking facilities with less than 20 units:** 10% of total number of parking spaces shall be EV Capable spaces which support future Level 2 electric vehicle charger; 25% of total number of parking spaces shall be EV Ready spaces which are equipped with low power level 2 EV charging receptacles. (CalGreen 4.106.4.2.1)
- **Residential shared parking facilities with 20 or more than 20 units:** 5% of the total number of parking spaces shall be equipped with Level 2 electrical vehicle charger. 10% of total number of parking spaces shall be EV Capable spaces which support future Level 2 electric vehicle charger; 25% of total number of parking spaces shall be EV Ready spaces which are equipped with low power level 2 EV charging receptacles. (CalGreen 4.106.4.2.2)
- **Non-Residential parking facilities:** Numbers of EV capable spaces shall be provided according to Table 5.106.5.3.1 of California Green Building Code.
- **Non-Residential parking facilities for warehouses, grocery stores and retail stores:** Number of EV Capable spaces shall be provided according to Table 5.106.5.4.1 of California Green Building Code.

General Installation Requirements

- The electric vehicle charging system shall be listed by a nationally recognized testing laboratory (i.e., UL) in compliance with UL 2202 “Standard for Electric Vehicle (EV) Charging System Equipment.” (CEC 90.7)
- The electric vehicle charging system shall be installed in accordance with manufacturer’s guideline and shall be suitable for the environment (indoor/outdoor). If installed indoors, the charging station shall be labeled “Ventilation Not Required” in a location clearly visible after installation. (CEC 625.52(A)&(B))
- Provide size of the existing electrical panel, existing load on the panel, and proposed load/circuits from the electric vehicle charging system to determine if there is adequate capacity in the existing panel. (CEC 220)
- If installed indoors, the electric vehicle charging coupling (the nozzle) shall be located between 18” and 48” above the finished floor. If installed outdoors, the electric vehicle charging coupling (the nozzle) shall be located between 24” and 48” above the finished grade. (CEC 625.50)
- If the electric vehicle charging equipment is in an area subject to vehicular damage, an adequate barrier must be installed (e.g. 4” diameter steel pipe filled with concrete, a minimum of 40” above the finished floor/grade, installed in a footing measuring 12” in diameter and 3’ deep). (CEC 110.27)
- If the project site is in an AE or AO flood zone, the charging equipment shall be elevated or designed per the flood requirement (SMC 16.62). Flood zone information is available at the One-Stop Permit Center located at City Hall.

Multi-Family Installation Requirements

- A sign shall be posted at the electric vehicle charging spaces stating “Electric Vehicle Charging Only.”

- Accessibility Requirements (CBC Chapter 11B)
 - In each group of charging stations, one space shall be provided with an accessible loading area (a minimum of 5' wide and 18' in length and stripped). The words "NO PARKING" shall be painted on the surface within each access aisle in letters a minimum of 12 inches in height. These spaces do not need to include signage dedicating them for disabled access use. These spaces shall not be counted as accessible parking spaces, as required by California Building Code. (CBC 11B 208.2)
 - Operational controls and receptacles for the charging station controls (i.e. on/off buttons, payment readers, etc.) shall be located between 15" and 48" from the finished floor/grade. The controls shall be located a maximum of 24" behind a curb or any other obstruction and on an accessible path.
 - Electric Vehicle chargers that serve a particular building or facility shall be located on an accessible route to an entrance. (CBC 11B-812.5.1)

Single-Family Residential Installation Requirements

- If the electric vehicle charging system will be located outside of the garage or carport, review and approval by the Planning Division may be required prior to issuance of the building permit.
- If a separate meter will be installed for the electric vehicle charger, it shall be 48" and 66" above the ground. Additionally, if a single mast will continue to be used to serve the meters, ensure that the service entrance conductors shall be sized for the sum of the two meters, based on the table below (CEC Table 310.15(b)(7) and Chapter 9 Table 1):

SERVICE ENTRANCE CONDUCTORS SIZE AND RATING			
Service or Feeder Rating	Copper Conductors	Aluminum or Copper-Clad Aluminum	Minimum Conduit Size
100 Amps	#4 AWG	#2 AWG	1 ¼ inch
125 Amps	#2 AWG	#1/0 AWG	1 ¼ inch
150 Amps	#1 AWG	#2/0 AWG	1 ¼ inch
200 Amps	#2/0 AWG	#4/0 AWG	1 ½ inch

PERMIT PROCESS

Building Permit Review

1. Building permits for chargers in single-family detached residential buildings are available on-line at Sunnyvale.ca.gov or at the One-Stop Permit Center. For all other locations, permits can be obtained at the One-Stop Permit Center, between the hours of 8 a.m. to 12:30 p.m. and 1 to 5 p.m. Monday through Friday.

Inspections

2. A minimum of one final inspection is required after the electric vehicle charger is installed. However, additional inspections may be required depending on the scope of work (i.e. underground conduit installation, footing for pedestals, etc.).
The manufacturer’s installation guidelines shall be available for the building inspector at the job site during the inspection.

Building Permit Application Requirements

- A completed Building Permit Worksheet application.
- Type of electric vehicle charging system
- Non-residential and multi-family locations, provide a site plan showing the following:
 - site plan showing the location of the electric vehicle chargers and accessibility requirements
 - electrical plan showing how the new charging units will be powered
- If the main electrical panel is to be relocated, provide a letter of approval from PG&E for approval of the new location.
- Contact the Building Safety Division at planchecksubmittals@sunnyvale.ca.gov for a plan check submittal checklist for multi-family and nonresidential projects.

NOTE:

- EVCS permits do not require association approval.
- No discretionary use permit is required, and permit approval will be limited to health and safety review.