

How to Obtain a Permit for Electric Vehicle Charging Systems

INFORMATION BULLETIN

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This information bulletin describes the permitting and inspection process for the installation of an Electric Vehicle Charging Stations (EVCS) on an existing site or building. All EVCS installations shall comply with applicable code requirements, City ordinances and regulations, historical requirements, [San Diego Municipal Code \(SDMC\)](#), and the [Land Development Code](#). Electric Vehicle (EV) supply equipment (EVSE) shall be listed and labeled by a [Nationally Recognized Testing Laboratory](#).

Permit Requirements

The following permits are required to be obtained for EVCS.

- An [Electrical Permit](#) is required for the installation of an EVCS
- A [Building Permit](#) is required where new building construction is proposed or additions or alterations are proposed to an existing structure. For the purposes of this Information Bulletin, simple re-stripping/marking/signage of an accessible parking space due to an EVCS does not trigger a building permit.

Submittal Requirements

1. Forms

1. [Project Contacts Form](#)

The Project Contact form (DS-345) must be submitted at the time of permit issuance for all permits other than EVCS that qualify for Simple Permits (See Section 2a below)

2. [Owner-Builder Verification \(DS-3042\)](#)

If the property owner is doing the work, a separate Owner-Builder Verification form (DS-3042) must be completed and signed by the owner.

3. [Circuit Card-Supplemental for Single Family Dwellings \(DS-1779\)](#)

A Circuit Card will be accepted in lieu of electrical plans for installation in residential private garages; load calculations shall be included on the Circuit Card. See Section IIB, Item 1 below for additional information.

2. Plans and Calculations

1. **Single-Family/Duplex/Townhouse**

EVCS installed for single dwelling unit, duplex or townhouses qualify for Simple Permits and do not require plans or calculations. In lieu of plans, a completed City of San Diego Circuit Card (DS- 1779A) will be required for residential private garages. Load calculations must be included on the Circuit Card. The Circuit Card must be provided at the site for the inspection staff.

2. **All other installations**

For all other EVCS installations, plans and calculations are required for review and approval prior to permit issuance. *Note that EVCS do not require the approval of an association.*

1. **Site Plan and Floor Plan**

A site plan and/or a floor plan (if located inside a building) must be provided showing the following information:

- Existing building (s) and structure (s).
- Existing parking spaces and proposed location of EVCS parking space(s).
- The dimensioned layout of existing accessible parking spaces, including access aisles.
- Location and layout of the proposed accessible EV charging station.
- Elevation of the charging unit sufficient to demonstrate compliance with the reach ranges for side or front approach to the unit as required in the California Building Code.
- All disconnect sizes, conduits and conductors, routing/sizes, and location of panel/sub- panels connected to the EVCS system and the meter panel.

2. **Accessibility Plans**

Plans must specify location and number of all existing and new EVCS, and show compliance with the accessibility standards of CBC, Chapters 11A and or 11B as applicable. Plans and sections must clearly identify accessible EVCS, accessible path of travel to the EVSE, maneuvering clearance and reach ranges at each EVSE, accessible route, access aisle, signage, surface material, and running and cross slopes.

Plans must show a table specifying total number of parking spaces, number of EVCS provided, number of standard, van, and ambulatory accessible spaces designated for charging electric vehicles are provided.

Note: For EVCS proposed for assigned parking spaces, accessibility plans are not required.

3. **Structural Calculations**

For all EVCS installations located inside of a building (floor or roof assembly overhead), structural plans, calculations and attachment details signed/stamped by a Licensed Civil or Structural Engineer must be submitted to justify for the attachment of the EVCS and ancillary equipment considering critical loading conditions for the following installations:

- The weight of each equipment associated with EV charging system is in excess of 400 pounds or
- The equipment is suspended from floor/roof above weighing in excess of 20 pounds or
- Floor or ground supported equipment with a center of mass more than 4 feet. Manufacturers' data sheet for the listed charging equipment above the floor/ground level. [ASCE 7-16 Section 13.1].

4. **Electrical Plans and Calculations**

Electrical plans and calculations must be signed and stamped by a California registered Electrical Engineer or the licensed Electrical Contractor (C-10) who is responsible for the design and installation of the system. The electrical plans shall include the following information:

- Single-line diagrams showing the system, point of connection to the power supply and the charging unit(s)
- Electrical load calculations
- Fault current calculations
- Electrical panel schedule
- Manufacturers' data sheet for the listed charging equipment
- Amperage supplied to charge the electric vehicle

Charging an EVCS adds a significant and continuous load to electrical services and will impact the regional electrical distribution system. Therefore, it is important to provide accurate electrical load calculations. It is recommended that the customer consult with the local electrical purveyor prior to installation.

Future Installations

Where the scope of work includes only pre-wiring for a future installation of a EVCS, only an electrical permit is required to be obtained and compliance with the accessibility standards of CBC, Chapters 11A and/or 11B for EV charging stations need not be provided (although highly recommended) and will not be reviewed or inspected.

The scope of work for a future installation must be limited to conduit/wiring and the termination of conduit/wiring to a junction box. A separate permit will be required to be submitted for the installation of the actual charging station (EVCS).

When the scope for a future installation includes the termination of the wiring to a receptacle or a charging system (pedestal), then the project will be reviewed as an EVCS.

Options for Service

- EVCS in a residential private garage (single dwelling unit, duplex or townhouse only) do not require plan review and can apply for permits through the online [portal](#) by selecting **Simple Permits**.

**Note that historical designated resources and projects in historic districts do not qualify for Simple Permits—MEP and must be submitted as a Standalone Electrical permit with plans.*

- EVCS that do not require a building permit can submit through the online [portal](#) by selecting **Electrical Permit**
- EVCS that require a building permit can submit through the online [portal](#) by select **Building Permit**.

Fees

The following fees are required to be paid prior to review unless otherwise indicated below. For your convenience, DSD offers on-line payments through [OpenDSD](#). Payment may also be made in person by cash, check, debit card, Visa or MasterCard credit cards. Checks shall be in the exact amount, drawn on US banks, and made payable to the "City Treasurer."

The following fees are for the EVCS installation only. Any alterations or building additions are subject to the fees described in [Information Bulletin 501 – Construction Permits - Structures](#). Any additional electrical equipment (switchgears, transformers, etc.) will also be subject to the fees described in [Information Bulletin 103 – Fee Schedule for Mechanical, Electrical and Plumbing/Gas](#).

1. **Single Dwelling Unit, Duplex or Townhouse Installations**

Inspection (per EVCS)\$217.00

2. **Future Installations**

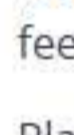
See Information Bulletin 103 for fees for conduit/j-boxes and circuits.

3. **All Other Installations**

Where multiple EVCS are proposed and they are identical to each other, only one plan check fee will be charged as listed below. Inspection fees will be charged per each EVCS. Hourly charges may be added for additional plan reviews and/or inspections. Fees are as follows:

Plan Check (per unique EVCS).....\$290.00

Inspection (per EVCS).....\$217.00

 **Plan check, inspection and records fees are non-refundable.** Inspection fees may be refundable. See the Refund Policy noted within [Refund Application Form DS-721](#) to learn more.

Inspections

Provide the following at the time of inspection:

- Access shall be provided to all equipment including the electrical service equipment that supplies power to the EVCS.
- Inspectors are not authorized to open energized electrical equipment. A responsible person shall be present to open any live electrical equipment for inspection.
- In addition to all plans and calculations, the EVCS manufacturer's installation instructions shall be provided on site. All plans and documents listed above must be provided for residential private garages on site.
- When applicable, the approved set of plans must be available on site.

References

- [California Electrical Code \(CEC\)](#)

Checklist for Electric Vehicle Charging Stations

For all EVCS, other than those installing single-family, duplex and townhomes, submit the following documents per the checklist below. EVCS shall comply with applicable sections of the [California Electrical Code Appendix A](#) (CEC) including Article 625. EVCS will be listed by UL or another nationally recognized testing laboratory. Note that all EVCS installations must be completed by a licensed electrical contractor (C-10).

Submittal Documents Required

- Project Contact (Form DS-345)** – The Project Contact form (DS-345) must be submitted.
- Plan Requirements**

Provide the following documents in your electronic plan submittal.

1. **Site/Floor Plan**

A site plan and/or a floor plan (if located inside a building) must be provided showing the following information:

- Existing building(s) and structure(s)
- Existing parking spaces and proposed location of EVCS parking space(s)
- Dimensioned layout of existing accessible parking spaces, including access aisles
- Location and layout of proposed accessible EV charging station
- Elevation of the charging unit sufficient to demonstrate compliance with the reach ranges for side or front approach to the unit by persons with disabilities as required in the California Building Code
- All disconnects sizes, conduits and conductors routing/sizes, and location of panel/sub-panels connected to the EVCS system and the meter panel.

2. **Electrical Plans**

Electrical plans and calculations must be signed and stamped by a California registered Electrical Engineer or the licensed Electrical Contractor (C-10) who is responsible for the design and installation of the system. The electrical plans shall include the following information:

- Single-line diagram showing the electrical single line drawing showing the main service, sub panels and disconnecting means (as applicable) and the proposed EV charging unit(s). Include/show the size of all overcurrent protection devices (in amperes) for the main service, sub panels, disconnects and EV charger circuit supplies. Show conduit sizes and types, and conductor sizes and types.
- Electrical load calculations shall include existing and proposed load(s) that demonstrate that the electrical service and/or distribution equipment is not overloaded.
Note: Unless all electrical equipment and overcurrent protective devices are listed for use at 100% of rated load, the calculated load on this equipment shall not exceed 80% of the nameplate rating of the equipment or the over-current protection device (OCPD).
- Electrical panel schedule
- Identify the electrical system infrastructure equipment weight of the electrical system if needed for the EVCS installation.
- Manufacturers' data sheets for the specified and listed charging and power control system management equipment. If proposed to be located outdoors, the listing for outdoor use shall be included.
- Amperage and voltage supplied to charge the electric vehicle
 - Provide a trenching detail, if trenching, is required with the following information provided:
 - Where more than three conduits are installed in a trench provide details for the duct bank configuration.
 - Provide supporting calculations, using an approved method, for the ampacity of the conductors in the duct bank.
 - Provide the thermal resistivity of the soil (RHO), based upon a soils report or other approved method. Provide manufacturer's details and instructions for the duct bank configuration.
 - EVCS has an appropriate NEMA rated enclosure (CEC 110.28) and the wiring method complies with CEC 625.9(A) through (F).

- Based on proposed EVCS location, determine if cord length will reach a vehicle's charging inlet without excessive slack and does not exceed 25' in length (CEC 625.17).

- All enclosures shall have a mounting height between 36" and 48". Connector height shall be between 36" and 48" from the ground (CEC 625.29) unless otherwise indicated by the manufacturer.

- Ensure sufficient space exists around electrical equipment for safe operation and maintenance (CEC 110.26); The minimum required space is 30" wide, 3' deep and 6'6" high and will be higher depending upon system voltage.

- EVCS shall be installed per the requirements of Chapter 3 of the CEC. Conductors shall be sized to support 125% of the rated equipment load (CEC 625.21) unless permitted otherwise.

3. **Architectural Plans**

Architectural plans shall show the following information:

- Construction plans shall show compliance with the CBC Section 11B-228 and Section 11B-812.
- Signage for EVCS (International Symbol of Accessibility (ISA) signage for accessible spots shall be provided in compliance with Section 11B-812.8)
- For a facility with public and common use, provide the minimum required number of EVCS units per Section 11B-812.
 - Alternative:** If the installation of Accessible EVCS per CBC 11B-228.3 creates an unreasonable hardship or is technically infeasible, accessible stations may be installed at existing accessible parking spaces containing the International Symbol of Accessibility (ISA) on the site
- When the number of accessible stations installed equals 100% of the existing Accessible Parking Spaces required by Chapter 11B - Table 11B-208.2, no additional accessible charging stations will be required for the existing parking facility.
- Where rated assemblies are penetrated (through or membrane), an appropriate and listed assembly penetration shall be provided at the time of review and must be made available to the inspector at the time of installation. *NOTE: It is not permissible to route conductors or raceways through required stair shafts or exit passageways.*

Previous Versions of this Information Bulletin

This section contains previous versions of this Information Bulletin by the last day they were effective.

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