

**DOCKETED**

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# Electric Vehicle Charging Stations

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Accessibility Regulations for  
Public Buildings, Public Accommodations,  
Commercial Facilities, and Public Housing

California Building Code (CBC) Title 24 Part 2  
Effective January 1, 2017

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# CALGreen Mandatory Measures

## Infrastructure

### 2016 CALGreen Code

- Requires EV Infrastructure and EV Spaces for **new**:
  - Multifamily residential facilities
  - Nonresidential facilities
- EV Space: A space intended for future installation of EV charging equipment.
- No requirement for EV spaces to be constructed or available until EV chargers are installed for use.

## Multifamily Residential

- **Mandatory Measures (Private and Public Housing)**

Applies to new facilities of 17 dwelling units or more.

- EV spaces are calculated as 3% of parking spaces provided.
- At least one EV space shall be in a common use area and available for use by all residents.

- **Voluntary Measures: Tier 1 and Tier 2**

- EV spaces are calculated as 5% of parking spaces provided.

# CALGreen

## Nonresidential

### 2016 CALGreen EV Spaces Required

Parking Provided	Mandatory Measures EV Spaces Required	Voluntary Measures	
		EV Spaces Tier 1	EV Spaces Tier 2
0 - 9	0	0	1
10 - 25	1	2	2
26 - 50	2	3	4
51 - 75	4	5	6
76 - 100	5	7	9
101 - 150	7	10	12
151 - 200	10	14	17
201 and over	6% of spaces	8% of spaces	10% of spaces

# EV Charging Stations

## Understanding Scoping

- Accessibility for private housing addressed in CALGreen, not Chapter 11A; March 13, 1991 application date still applies for covered multifamily dwellings
- Accessibility for public housing addressed in Chapter 11B
- Process for applying Chapter 11B accessibility standards:
  1. Local zoning codes vary and designate number of parking spaces; many do not yet have EVCS zoning ordinances
  2. Based on number of parking spaces provided, apply CALGreen requirements to determine minimum number of charging spaces to provide.
  3. Apply accessibility requirements to charging and parking spaces separately.

# EV Charging

## Federal Accessibility Requirements

**State and Local Government Facilities,  
Public Accommodations, and Commercial Facilities,  
under the Americans with Disabilities Act (ADA)**

- If available for use by the general public, then the EVCS must be accessible to individuals with disabilities.
- No federal accessibility standards specific to the design of EVCS, even though accessibility to EVCS is required.
- Legal precedents specify that lack of explicit scoping or technical requirements does not relieve from obligation to provide access.

# EV Charging Stations

## Understanding Scoping

CBC Scoping provisions are consistent with the following guidance provided by the United States Access Board:

- An EV does not need to charge every time it's parked; therefore public and common use EVCS are charging spaces and not parking spaces.
- While an EV needs to be in a parked state to charge; charging, and not parking, is the primary purpose of an EVCS.
- **EV charging is a service** provided by the facility owner or public entity, and therefore must be accessible to individuals with disabilities.



# EV Charging Stations

## EV Chargers

**EV Chargers serving new EVCS must meet the following requirements whether or not the EVCS are accessible:**

- Operable parts on EV chargers must comply with the requirements of CBC 11B-309.4. (EV connectors are not required to meet 5-pound activating force requirements)
- All point-of-sale devices on EV chargers must comply with the required accessibility features of CBC 11B-812.10.3.

# EV Charging Stations

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## CBC Definitions

**Chapter 2 definitions in CBC that apply to EV charging:**

- DRIVE-UP ELECTRIC VEHICLE CHARGING STATION
- ELECTRIC VEHICLE (EV)
- ELECTRIC VEHICLE (EV) CHARGER
- ELECTRIC VEHICLE CHARGING SPACE (EV SPACE)
- ELECTRIC VEHICLE CHARGING STATION (EVCS)
- ELECTRIC VEHICLE CONNECTOR (EV CONNECTOR)

# EV Charging Stations

## CBC Chapter 11B

### Design of accessible EVCS when EV chargers are installed

- CBC 11B-228.3 provides scoping requirements to determine the required number of accessible EVCS.
- CBC 11B-812 provides technical requirements for the four types of accessible EV spaces: van, standard, ambulatory, and drive-up.
- In public housing facilities, EV spaces shall be accessible according to CBC Chapter 11B scoping and technical requirements unless assigned to a resident.

# EV Charging Stations

## CBC 11B-228.3 Scoping

### Two exceptions to providing accessible EVCS

- EVCS not available to general public and intended for use by a designated vehicle or driver (example: EVCS that are assigned to an employee; EVCS serving public or private fleet vehicles).
- In public housing facilities, EVCS intended for use by an EV owner or operator at their residence (space can be provided and assigned to the EVCS owner).

# EV Charging Stations

## CBC 11B-228.3 Scoping

**TABLE 11B-228.3.2.1**

Total Number of EVCS at a Facility <sup>1</sup>	Minimum Number (by type) of EVCS Required to Comply with Section 11B-812 <sup>1</sup>		
	Van Accessible	Standard Accessible	Ambulatory
<b>1 to 4</b>	1	0	0
<b>5 to 25</b>	1	1	0
<b>26 to 50</b>	1	1	1
<b>51 to 75</b>	1	2	2
<b>76 to 100</b>	1	3	3
<b>101 and over</b>	1, plus 1 for each 300, or fraction thereof, over 100	3, plus 1 for each 60, or fraction thereof, over 100	3, plus 1 for each 50, or fraction thereof, over 100

Note: 1. Where an EV charger can simultaneously charge more than one vehicle, the number of EVCS provided shall be considered equivalent to the number of electric vehicles that can be simultaneously charged.

# EV Charging Stations

## CBC 11B-228.3 Scoping

### New Construction and Alterations of EVCS

- When new EVCS are added to a site with existing EVCS, the total number of new and existing EVCS is used to determine the number of accessible EVCS per Table 11B-228.3.2.1.
- Technical provisions apply only to new and altered EVCS; the CBC does not require existing EVCS to be altered to meet the new technical requirements.

# EV Charging Stations

## CBC 11B-228.3 Scoping

Table 11B-228.3.2.1. addresses four (4) types of accessible EVCS for determination on number/type per facility:

- Van Accessible
- Standard Accessible
- Ambulatory
- Drive-up

EVCS technical requirements are in CBC 11B-812.

# EV Charging Stations

## CBC 11B-812 Technical

### Van accessible EV space

Similar configuration to van accessible parking space

- 12 feet (144 inches) minimum width
- 18 feet (216 inches) minimum length
- Access aisle 5 feet (60 inches) minimum width located on passenger side with head-in parking (9 feet stall/8 feet access aisle is not permitted for EV space)
- Surface marking 12” high letters “EV CHARGING ONLY”

Arrangement allows for flexibility of parking dependent upon charging port location on the vehicle



# EV Charging Stations

## CBC 11B-812 Technical

### Standard accessible EV space

Similar configuration to standard accessible parking space:

- 9 feet (108 inches) minimum width
- 18 feet (216 inches) minimum length
- Access aisle 5 feet (60 inches) minimum width located on passenger or driver side of EV space
- Surface marking 12” high letters “EV CHARGING ONLY”

# EV Charging Stations

## CBC 11B-812 Technical

### **Ambulatory accessible EV space**

No comparable requirement in accessible parking

- 10 feet (120 inches) minimum width
- 18 feet (216 inches) minimum length
- No access aisle required
- Surface marking 12” high letters “EV CHARGING ONLY”

Additional width of space provides increased access for individuals with limited or temporary mobility challenges.

# EV Charging Stations

## CBC 11B-812 Technical

### Drive-up accessible EV space

Similar to motor fuel pump island at filling stations

- 17 feet wide (204 inches)
- 20 feet long (240 inches)
- No access aisle required, and no surface markings to define space
- All drive-up EVCS must meet the specified accessibility requirements

Per Chapter 2 Definition, use of a drive-up accessible EVCS is limited to 30 minutes maximum.

# EV Charging Stations

## CBC 11B-812 Technical

### Access aisle requirements

- Must extend to full length of EV space minimum.
- Access aisle can be shared by two accessible EV spaces.
- Painted borderline around the perimeter of the access aisle, hatch lines 36” on center maximum within, and “NO PARKING” in 12” high letters visible from the adjacent vehicular way.
- Markings must contrast to vehicle surface, and the blue color required for identification of access aisles in accessible parking shall **not** be used.

# EV Charging Stations

## CBC 11B-812 Technical

### Accessible route requirements

- An accessible route shall be provided connecting the EV space to the EV charger that serves it.
- EVCS shall be designed so accessible routes are not obstructed by cables or other elements.
- EVCS that serve a particular building or facility shall be located on an accessible route to an accessible entrance.
- Where EVCS do not serve a particular building or facility, EVCS shall be located on an accessible route to an accessible pedestrian entrance of the EV charging facility.

# EV Charging Stations

## CBC 11B-812 Technical

### EV Charger requirements serving accessible EVCS spaces

- Charging cables cannot block the accessible route (may require cord storage).
- Clear floor space required at EV charger.
- Reach range requirements for operable parts.
- Operable parts requirements for maximum 5 lb. force (EV connectors are not required to meet 5-lb. activating force requirements).
- Point-of-sale devices must comply with of CBC 11B-812.10.3.

# EV Charging Stations

## CBC 11B-812 Technical

### EV Charger requirements serving accessible EVCS spaces

#### Location requirements:

- Adjacent to, and within the projected width of, the EV space it serves (if EV charger has one EV connector).
- Within the combined projected width of the EV spaces it serves (if EV charger has multiple EV connectors).
- Where EV space is parallel to vehicular way, EV charger shall be adjacent to, and 48” maximum from the head end or foot end of the EV space it serves.

# EV Charging Stations

## CBC 11B-812 Technical

### Identification for accessibility

#### Installations of 1-4 EVCS

- No identification signs required.
- While the accessible EV space is designed for accessibility, its use is available to everyone and not limited to those with access license plates or placards.

#### Installations of 5-25 EVCS

- One van accessible EV space shall be identified with an ISA; the standard accessible EV space shall not be required to be identified with an ISA.



FIGURE 11B-703.7.2.1  
INTERNATIONAL SYMBOL OF ACCESSIBILITY



# EV Charging Stations

## CBC 11B-812 Technical

### Identification for accessibility

Installations of 26 or more EVCS

- All required van accessible and all required standard accessible shall be identified by an ISA.

Ambulatory EVCS

- Not required to be identified with an ISA.

Drive-up EVCS

- Not required to be identified with an ISA.

# EV Charging Stations

## CBC 11B-812 Technical

### Identification for accessibility

- ISA sign shall be reflectorized with a minimum area of 70 square inches.
- Location of sign adjacent to EV space or at head end of EV space, mounted 60" AFF to bottom of sign, may be mounted on wall, or mounted 80" AFF if in circulation path.
- When signs are required, and if EV space is van accessible, then a sign stating "van accessible" shall be provided.

# EV Charging Stations

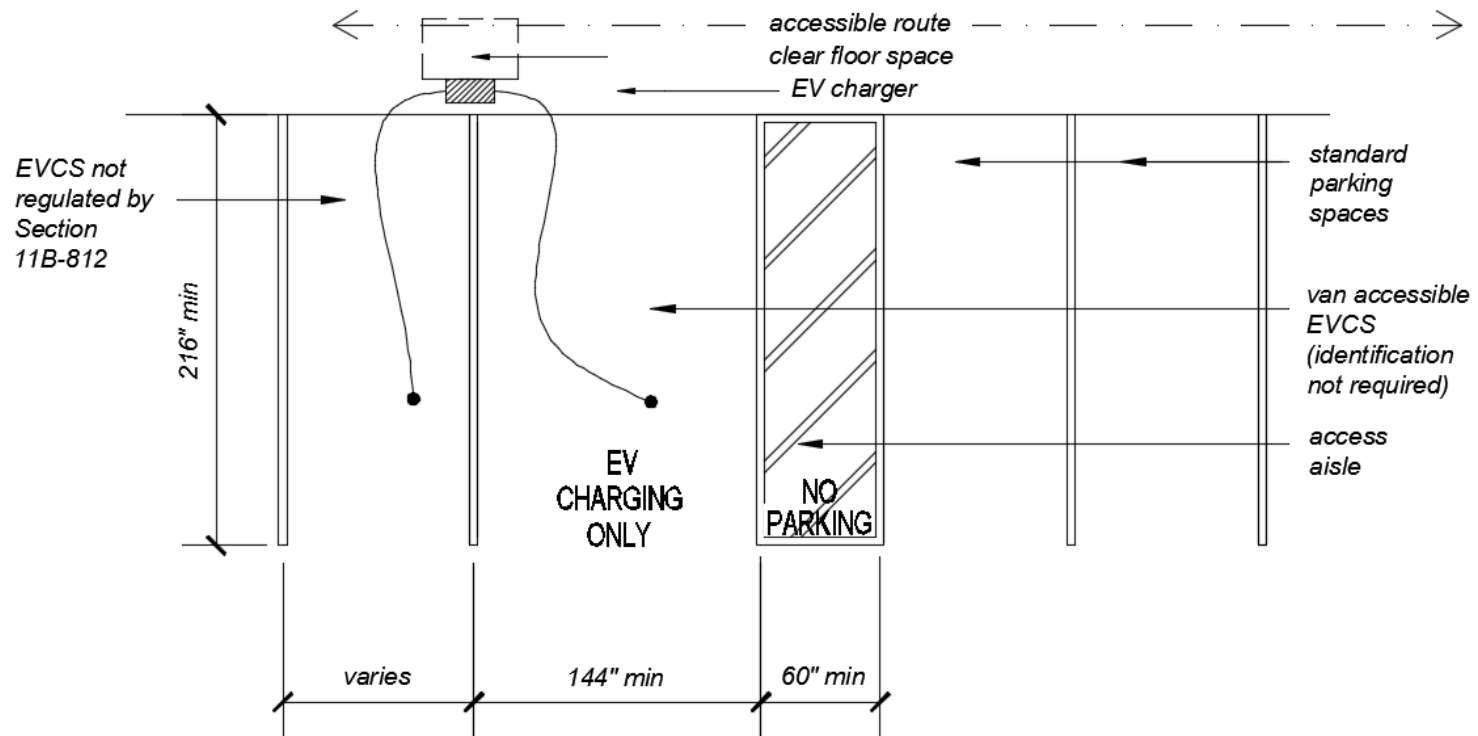
## Time Limits for Charging

If properly signed per local ordinance, EV charging time limits can be applied to **all** users:

- Per the California Department of Motor Vehicles, EVCS are “zones reserved for special types of vehicles”, in which right to park for unlimited periods of time does not apply.
- Vehicles displaying accessible license plates or placards may **not** park for unlimited periods of time in an accessible EVCS identified by an ISA where the length of time is restricted or metered.

# EV Charging Stations

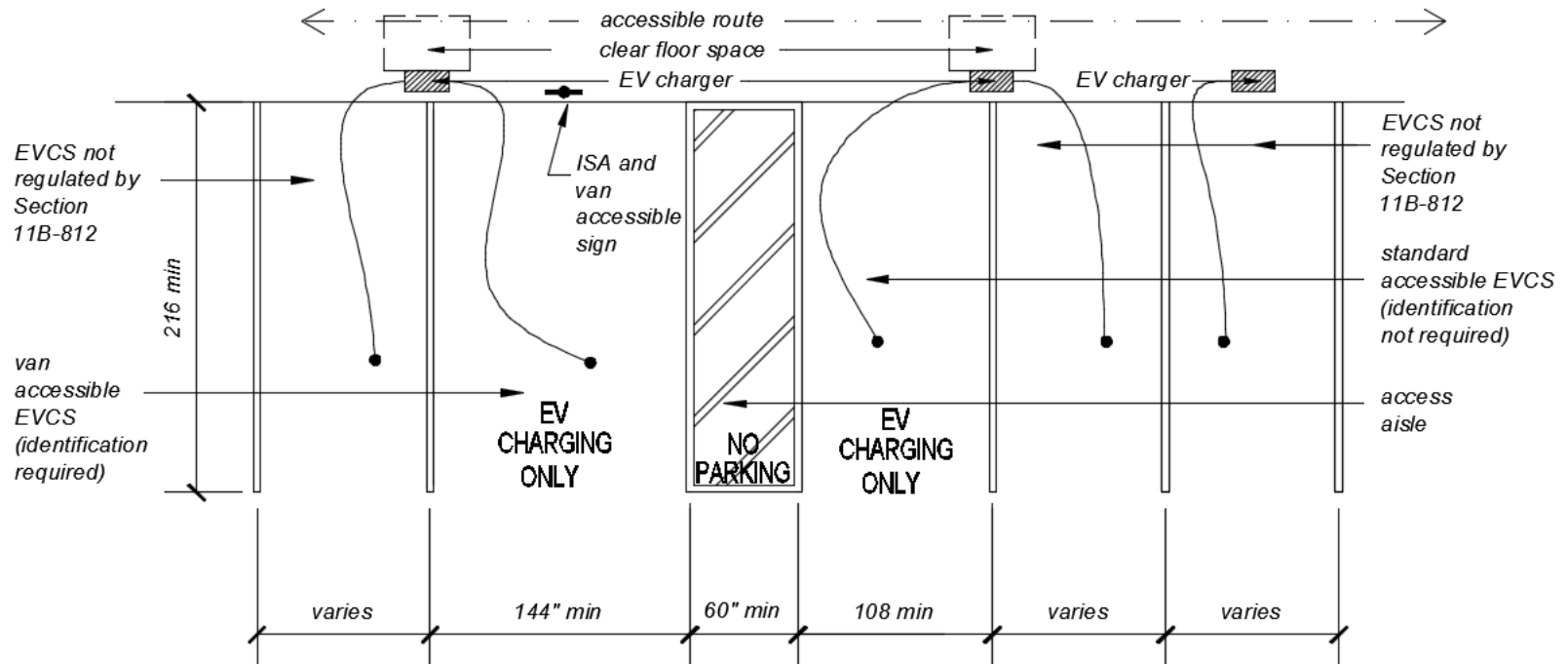
## Sample Layout



**Two EVCS: one van accessible EV spaces required**

# EV Charging Stations

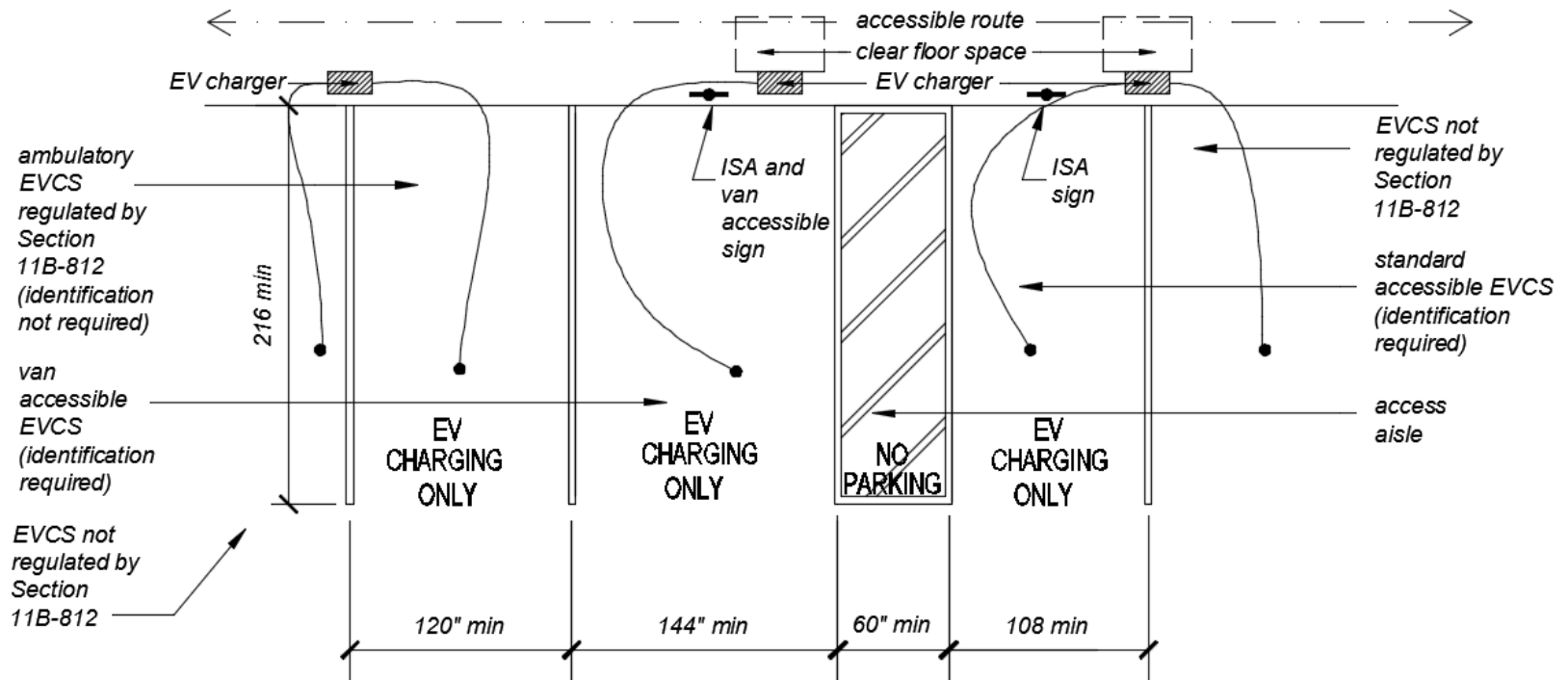
## Sample Layout



**Five EVCS: two accessible EV spaces required**

# EV Charging Stations

## Sample Layout



**26 EVCS: three accessible EV spaces required**

# EV Charging Stations

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## Alterations

While installing EVCS is an electrical project, it is **not** considered exempt from CBC 11B-202.4 Path of Travel Improvements (POTIs), because the installation of EVCS affects the “usability” of the facility.

# EV Charging Stations

## Path of Travel Improvements

### CBC 11B-202.4 Exception 10:

- When installing new EVCS at existing facilities where vehicle fueling, charging, parking or storage is a primary function, POTIs are limited to 20% of cost of work directly associated with the installation of EVCS. (example: EVCS in a parking structure when the parking structure does not serve a specific building)
- Alterations where installing new EVCS at existing facilities where vehicle fueling, charging, parking or storage is **not** a primary function, POTIs are not required. (example: EVCS serving a specific building)



# EV Charging Stations

## Alterations

- When applying CBC 11B-202.4 to a facility alteration improvements to parking areas to current CBC are required; improvements to EVCS are not.
- While an EV needs to be in a parked state to recharge; charging is the primary purpose of an EVCS. EVCS are not parking spaces; therefore, EVCS are not considered a “site arrival point.”

## DSA EVCS Webpage

<https://www.dgs.ca.gov/DSA/Resources/Page-Content/Resources-List-Folder/Access-Compliance-Reference-Materials>

Then click on: Electric Vehicle Charging Station Accessibility

### Includes:

Federal Resources and CBC Requirements

EVCS Fact Sheet Summary

EVCS PowerPoint (Video coming soon)

EVCS Frequently Asked Questions (FAQs)



# Thank You!

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