

June 6, 2013

File Number 3200800

Ken Alex, Director
Governor's Office of Planning and Research
1400 10th Street
P.O. Box 3044
Sacramento, CA 95812-3044
ZEVfeedback@opr.ca.gov

SUBJECT: San Diego REVI Comments on the *Plug-In Electric Vehicles: Universal Charging Access Guidelines and Best Practices*

Dear Director Alex:

The San Diego Regional Electric Vehicle Infrastructure Working Group (REVI) is pleased to submit these comments regarding Plug-In Electric Vehicles (PEV): Universal Charging Access Guidelines and Best Practices (Guidelines) prepared by the Governor's Office of Planning and Research (OPR) and the Division of the State Architect (DSA). The REVI serves as the San Diego region's PEV Coordinating Council (PEVCC) and is developing a regional PEV readiness plan through California Energy Commission and San Diego Association of Governments (SANDAG) funding. Our member list is included as Attachment 1. The REVI is glad that OPR and DSA are updating the DSA 97-03 interim guidelines, and we appreciate the opportunity to provide comments for your consideration (Attachment 2).

The San Diego region has been at the forefront of PEV deployment and REVI members have experience addressing accessibility for electric vehicle (EV) charging station installations, particularly through the EV Project. In April 2012, the City of San Diego issued *Technical Policy 11B-1 on Accessibility to Electrical Vehicle Charging Stations (CSD-TP11B-1)* to address the uncertainty faced by charging station hosts and suppliers regarding accessibility (Attachment 3). Local jurisdictions have been using CSD-TP11B-1 as a best practice since its release, and it has enabled a significant increase in PEV charger installations.

The primary recommendation in our comments is to add flexibility to the ADVISORY for EVG-250.1 by making it consistent with CSD-TP11B-1 and allowing accessible EV charging stations at existing accessible parking spaces. Some REVI members went as far as suggesting that OPR replace its Guidelines with the City of San Diego's. The Guidelines state that accessible EV charging stations are not to be reserved exclusively for the use of persons with disabilities. The City's CSD-TP11B-1 allows for accessible EV chargers at existing accessible parking spaces with limitations. This flexibility has facilitated EV charging station installations at existing facilities that would otherwise not be able to accommodate an accessible EV charging station due to their mandated parking requirements. We provide more explanation for this, as well as other suggestions, in our attached comments.

Thank you for your consideration in developing these Guidelines. If you have any questions, please contact me at SANDAG, 401 B Street, Suite 800, San Diego, CA 92101; (619) 699-7387; or Susan.Freedman@sandag.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan Freedman". The signature is fluid and cursive, with a large loop at the end.

SUSAN FREEDMAN, CHAIR
San Diego Regional Electric Vehicle Infrastructure Working Group (REVI)

Attachments

1. San Diego REVI Member List
2. REVI Comments and Recommendations on Draft Guidelines
3. City of San Diego Technical Policy 11B-1: Accessibility to Electrical Vehicle Charging Stations

SAN DIEGO REGIONAL ELECTRIC VEHICLE INFRASTRUCTURE WORKING GROUP

REPRESENTATION	MEMBER	ALTERNATE
South County Subregion	Brendan Reed City of Chula Vista	Chris Helmer City of Imperial Beach
North County Coastal Subregion	Ramsey Helson City of Del Mar	Mike Grim City of Carlsbad
North County Inland Subregion	Kathy Winn City of Escondido	Vacant
East County Subregion	Kathy Valverde City of Santee	Scott Munzenmaier City of La Mesa
City of San Diego	Jacques Chirazi	Vacant
County of San Diego	Peter Livingston	Susan Freed
San Diego Association of Governments	Susan Freedman, Chair	Allison King
San Diego Regional Airport Authority	Paul Manasjan	Brett Caldwell
Caltans, District 11	Chris Schmidt	Vacant
Unified Port District of San Diego	Michelle White	Jenny Lybeck
San Diego Gas & Electric	Joel Pointon	Randy Shimka
California Center for Sustainable Energy	Mike Ferry, Vice Chair	Colin Santulli
University of California, San Diego	Dave Weil	Jim Ruby
Miramar College, Advanced Transportation Technology and Energy	Greg Newhouse	Vacant
San Diego Electric Vehicle Network	Randy Walsh	Vacant
National Electrical Contractors Association	Karen Prescott	Tim Dudek
International Brotherhood of Electrical Workers Local 569	Micah Mitrosky	Vacant
ADVISORY MEMBERS		
San Diego Air Pollution Control District	Mike Watt	Nick Cormier
Department of Defense	Chris Parry, US Navy	
Metropolitan Transit System	Claire Spielberg	
City of Coronado	Bill Cecil	
City of Encinitas	Diane Langager	
City of National City	Ray Pe	
City of Solana Beach	Dan King	
City of Vista	Lyn Dedmon	
Ecotality	Andy Hoskinson	
Car2go	Mike Cully	
Aerovironment	Charlie Botsford	
Coulomb Technologies	Colleen Quinn	
General Electric	David Wang	

**SAN DIEGO REVI COMMENTS AND RECOMMENDATIONS ON OPR'S AND DSA'S
PLUG-IN ELECTRIC VEHICLES: UNIVERSAL CHARGING ACCESS GUIDELINES AND BEST PRACTICES**

General Comments:

1. Recommended changes to specific language in the draft guidelines are provided here in BOLD RED. Removal of language is shown in STRIKETHROUGH.
2. The guidelines component and regulations component of the document should use consistent terminology and definitions.
3. Revise all existing parking stall figures to show the preferred location of the electric vehicle charging station and cord. Refer to the figures in City of San Diego's Technical Policy 11B-1: Accessibility to Electric Vehicle Charging Stations for clear examples. (Attached to these comments.)
4. Replace references to the 2013 California Building Code with "current edition of the California Building Code" where applicable.
5. Include definitions for all uses of the term "maximum extent feasible" and "available right-of-way."

Comment 1: Alter ADVISORY EVG-250.1 to offer more flexibility at existing sites.

Explanation

The City of San Diego Technical Policy 11B-1 (CSD-TP11B-1) allows for use of existing ADA spaces for EV charging. In this case, the space remains ADA first and EVSE second. Non PEV users of ADA spaces are encouraged, but not required, to park in other ADA spaces before taking an ADA space that also has access to an EV charger. CSD-TP11B-1 was created to address actual experiences faced by businesses and agencies interested in hosting EVSE at their sites, but were unable due to how the EVSE impacted their parking requirements (counts of stalls, etc.). Prior to this technical policy, the EV Project experienced uncertainty and hosts backing out of the project because the addition of EVSE could not be reconciled with mandatory parking requirements.

OPR is encouraged to allow for flexibility here, to answer challenges in finding locations for accessible EV charging stations. Less ideal options, other than using an existing ADA parking space at existing sites and locations, include:

1. Convert an existing ADA parking space to an accessible EV charging space, and remove signage and coloring for ADA parking. (This is not a likely solution as most parking lots cannot remove an ADA parking space without consequences due to number counts of parking spaces.)
2. Convert a standard parking space into an accessible EV charging space. (This is a challenging solution as many parking lots adhere to the exact number of parking spaces they are required to provide. They do not have an excess number of spaces to enlarge a standard parking space and thus take away a second parking space.)
3. Place an EV charger between an ADA parking space and a standard space to allow access by either a person with disabilities or a vehicle without the ADA placard. (This can be a solution in

some locations (including the parking structure at SANDAG’s office building); however, many large stores have the ADA parking spaces clustered together near the front of the building, so an adjacent standard space is not always available.)

Recommended Revision to ADVISORY: EVG-250-1

ADVISORY: EVG-250.1 General. While there is no positive requirement to provide electric vehicle charging stations, when they are provided a portion of them should be accessible. When co-located with parking spaces, electric vehicle charging is considered the primary function of these ~~stations~~ **spaces**, not parking. **For new construction, electric vehicle charging when co-located with parking spaces is considered the primary function of these stations, not parking. Accessible electric vehicle charging stations are not to be reserved exclusively for the use of persons with disabilities. They should not be identified with signage that would mistakenly indicate their use is only for vehicles with placards or license plates for individuals with disabilities. For installations at existing sites and locations, existing ADA spaces can also be used as electric vehicle charging stations if the site or location would fall out of compliance with its required parking counts by reconfiguring parking stall(s) into an accessible electric vehicle charging station. In this case, the space remains ADA first and an electric vehicle charging station second. Users of ADA spaces are encouraged, but not required, to park in other ADA spaces before utilizing an ADA space that provides access to an electric vehicle charging station. The space must continue to be identified with ADA signage.**

Comment 2: We support inclusion of a “programmatic” option in EVG-250.5.2 to address the difficulty in siting on-street electric vehicle charging, and the scope of a programmatic option should be determined at the local level.

Explanation

- The interpretation of “programmatic basis” should be left to the discretion of the public entity because in some cases it could refer to just a few blocks, a neighborhood or an entire city.
- Include a definition for “maximum extent feasible.”

Recommended Revision to ADVISORY: EVG-250.5.2

The required total number of electric vehicle charging stations complying with EVG-250.2 and EVG-250.3 may be provided on a combined basis using both on-site locations **owned or controlled by a state or local governmental jurisdiction** and on-street locations within a public right-of-way owned or controlled by a state or local governmental jurisdiction. On-street electric vehicle charging stations within the public right of way shall be integrated with on street parking to the maximum extent feasible. **Maximum extent feasible is defined as _____.**

Comment 3: Provide clarification to EVG-250.6 to denote the purpose as Path of Travel and defining “cost of compliance” and “path of travel” using the definitions provided in 2013 CBC 11B-202.4 (pages 17-19 of OPR draft).

Explanation

The narrative, EXCEPTION, and ADVISORY are difficult to comprehend at times and should be written clearer.

Recommended changes:

1. Revise the opening narrative to read, **“Path of travel provisions for alterations at existing facilities solely for the purpose of installing electric vehicle charging stations shall be limited to the actual scope of work of the project and shall not be required to comply with section 11B-202.4 of the current edition of the California Building Code.”**
2. Revise the EXCEPTION to read, **“EXCEPTION: Alterations solely for the purpose of installing EV charging stations at sites where vehicle parking or storage is the sole and primary use of the facility shall comply with the current edition of the California Building Code section 11B-202.4 Path of Travel Requirements in Alterations, Additions and Structural Repairs to the maximum extent feasible. The cost of compliance with 11B-202.4 shall be limited to twenty percent of the adjusted construction costs of the work directly associated with the installation of the electric vehicle charging equipment. For the purposes of this exception, the adjusted construction costs of alterations, structural repairs or additions shall not include the cost of alterations to path of travel elements required to comply with 11B-202.4.**

Adjusted construction costs are determined on a three-year period. If an area has been altered without providing an accessible path of travel to that area, and subsequent alterations of that area or a different area on the same path of travel are undertaken within three years of the original alteration, the total cost of alterations to the areas on that path of travel during the preceding three-year period shall be considered in determining whether the cost of making that path of travel accessible is disproportionate.

3. Omit the last sentence of ADVISORY EVG-250.6 (page 8): ~~“For projects with basic costs above the CBC valuation threshold of \$139,964, the cost above which path of travel alterations would become disproportionate has been aligned with the federal requirements of twenty percent (20%).”~~ It creates unnecessary confusion regarding projects valued under \$139,964.

Comment 4: For EVG-812.3, insert language stating that an access aisle shared between an accessible parking space and an EV charging station that enables use of the EV charger from the accessible space can be counted as an accessible EV charger as long as the EV charger's cord does not impede the accessible path of travel. Include figures to identify where the electric vehicle charging station and its cord should be located in this situation.

Explanation

Placing an EV charger between an ADA parking space and a standard space allows access by either a person with disabilities or a vehicle without the ADA placard. This set-up offers flexibility for utilization of the EV charging station. The City of San Diego Technical Policy 11B-1 allows for this.



THE CITY OF SAN DIEGO

Development Services

Division of Building, Construction & Safety

Technical Policy 11B-1

Subject: Accessibility to Electrical Vehicle Charging Stations

Code Section: N/A

Code Edition: 2010 California Building Code

Issue Date: April 19, 2012

Approved by: Signed copy on file
Afsaneh Ahmadi, Chief Building Official P.E.

The 2010 California Building Code (CBC) requires public accommodations and services to be made accessible to persons with disabilities. The 2010 CBC includes accessibility standards for card readers at gasoline fuel-dispensing facilities but does not include regulations for accessibility at electric vehicle (EV) charging stations. The Division of the State Architect has developed a guideline titled "Interim Disabled Access Guidelines for Electrical Vehicle Charging Stations" and published Policy #97-03 (see copy attached). City of San Diego Technical Policy 11B-1 has been adapted from the State guidelines and State standards for access to card-reader devices at fuel-dispensing equipment to ensure uniform and consistent enforcement by review and inspection staff.

When the CBC requires that parking in existing or new construction be accessible, the required parking is designed to serve the building and shall be used exclusively for parking of appropriately identified vehicles. Accessible EV charging stations provide a service available to disabled and non-disabled persons using electric vehicles and are provided based on an availability basis.

This policy applies to the installation of EV Charging Stations in both new and existing construction.

EV charging stations located in non-public areas and used to charge vehicles managed by fleet services such as rental car agencies, EV car dealerships etc. are not required to be accessible since they do not serve persons with disabilities.

I. Where Required:

1. **New Construction.** When provided in conjunction with new buildings or parking facilities such as surface parking lots or parking garages, the accessible EV charging station(s) must be located in close proximity (DSA recommends within 200 ft) to a major facility, public way or a major path of travel on the site.

Accessible EV charging stations not provided in conjunction with accessible parking spaces need not be provided immediately adjacent to the major facilities on the site since the primary purpose of the stations is to provide the charging as a service, parking is not intended to be the primary use of the EV charging stations.

An accessible path of travel is required from the accessible EV charging station to other services provided at the site such as buildings, parking facilities, etc.

2. **Existing sites.** When provided at existing sites, the accessible charging station need not be located in close proximity to other services at the site.

An accessible path of travel connecting the accessible EV charging station to a major facility, public way or major path of travel on the site is required to the extent that the cost of providing such path does not exceed 20% of the cost of the EV equipment and installation of all EV charging stations at the site over a three-year period, when such valuation does not exceed the threshold amount referenced in CBC Section 1134, Exception 1.

In lieu of providing detailed information on the plans to demonstrate compliance with the CBC accessibility requirements for the existing parking and path of travel, the following two notes can be added to the plan(s) to certify that the existing facilities complies with the CBC. The notes shall be as follows.

- a. Add and sign the following certification note "I am the designer/owner in responsible charge of this EV charging station project; I have inspected the proposed location for the proposed accessible EV charging station and have determined that the accessible route of travel to the EV charging station shown on the site plan complies as an accessible route of travel as is required by the California Building Code. Signature: _____

Print Name: _____
Date: _____."; and

- b. "If the Building Inspector determines noncompliance with the above statement he/she shall require complete, detailed plans clearly showing all existing non-complying conditions and the proposed modifications to meet current accessibility provisions for the parking space and accessible route of travel to the EV charging station to the extent required by the California Building Code. The revised plans must be resubmitted to the Structural review section for approval."

Accessible EV charging stations in existing accessible parking spaces: When the CBC requires that parking in existing or new parking facilities be accessible, the required parking is designed to serve the building and shall be used exclusively for parking of appropriately identified vehicles. Accessible EV charging stations provide a service available to disabled and non-disabled persons using electric vehicles and are provided based on an availability basis.

When a new accessible EV charging station is installed in an existing accessible parking space, not less than one additional EV charging station shall be provided.

Not more than one accessible EV charging station shall be located in an existing accessible parking space unless more than one accessible EV charging station is required.

When more than one accessible EV charging station is required and are placed in existing accessible parking spaces, the EV charging stations shall be reasonably distributed throughout the parking lot or parking structure.

When an EV charging station is placed in conjunction with an existing accessible parking space the identification sign required in subsection (d) below shall be omitted.

II. **Specifications for Disabled Accessible EV Charging Stations:**

Vehicular spaces provided for accessible EV charging stations shall allow for persons with disabilities to exit an electric vehicle, to access the charging unit and place the charging cable on the vehicle. While the space designated for the accessible EV charging station is not required to be striped and identified as is required for accessible parking spaces, the space shall be designed to comply with the following requirements.

- (a) **Number of Accessible EV Charging Stations Required:** Not less than one EV charging station shall be accessible to persons with disabilities.

When the number of EV charging stations proposed exceeds 25, they shall be provided at a rate of one accessible EV charging station for every 25 stations proposed. Not more than a total of 4 accessible EV charging stations is required on the same site.

- (b) **Dimensions for Accessible EV Charging Stations:** The EV charging station shall include a space to place the electric vehicle that is not less than 9 foot wide by 18 feet deep to accommodate the vehicle. The space shall also include a 5 ft wide access aisle that extends the full depth of the vehicular space and located on the passenger side of the vehicle. Alternatively, the access aisle can be located between an accessible parking space and an accessible EV charging station. See figures 1, 2 and 3 for possible configurations.

- (c) **Identification for Accessible EV Charging Stations:**

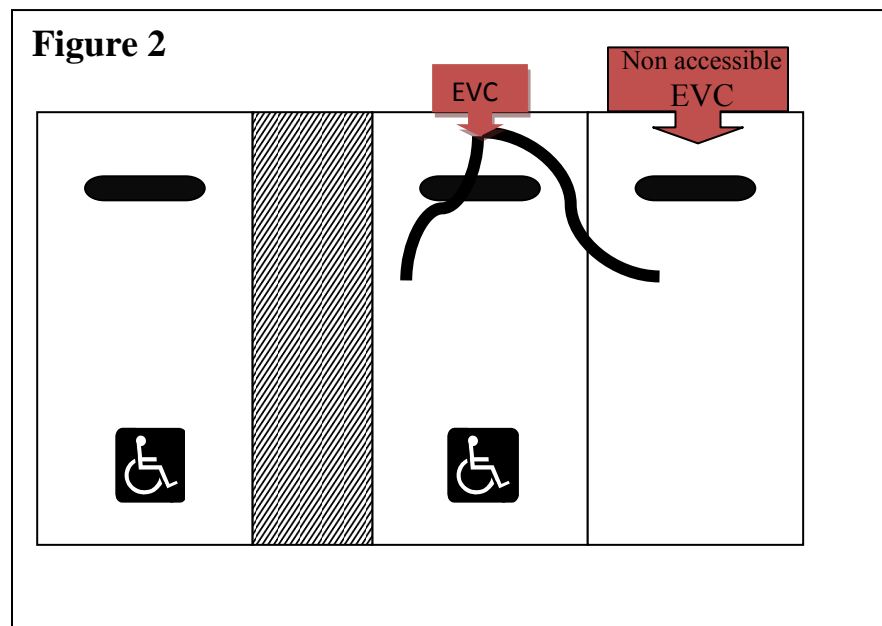
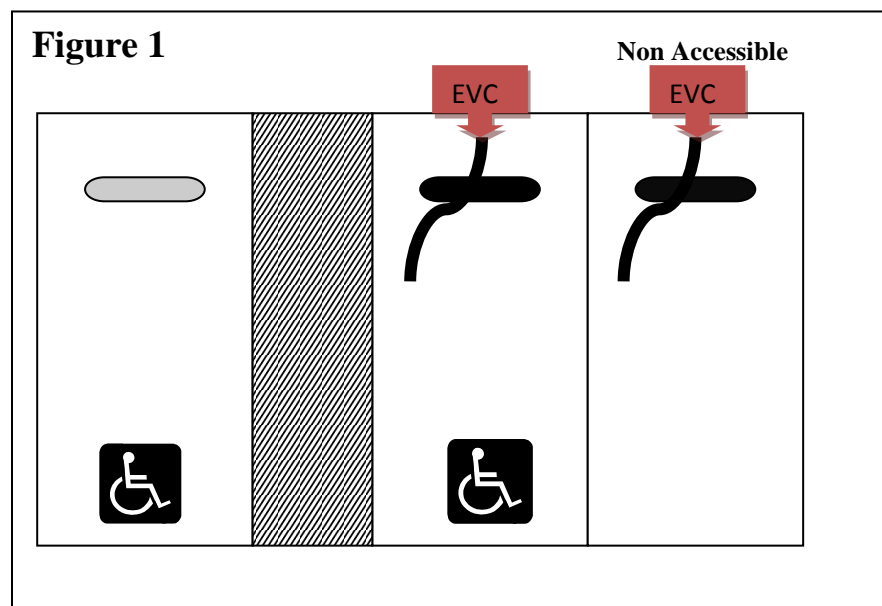
The accessible EV charging station shall be identified.

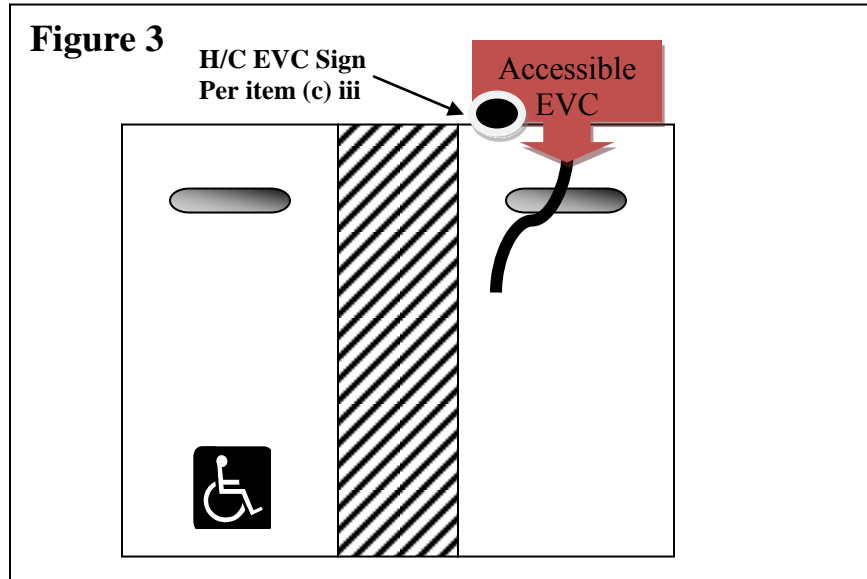
- (i) The accessible EV charging station and its access aisle need not be striped or provided with signage as required for an accessible parking space.
- (ii) When an EV charging unit is installed in an existing accessible parking space, the signage at the accessible parking space shall remain in conformance with the requirements of the CBC.
- (iii) To identify an accessible EV charging station an informational sign must be posted which reads, "Parking for EV Charging Only; This Space Designed for Disabled Access; Use Last." When an EV charging station is placed in conjunction with an accessible parking space this sign shall be omitted.

(d) **Disabled Access to Accessible EV Charging Equipment:**

Charging equipment serving accessible EV charging stations shall be accessible.

- (i) The charging equipment, and when applicable card readers, must meet all applicable reach range provisions of CBC Section 1118B and Ch 11C for a 30 by 48 inch wheelchair space used for side or front approach.
- (ii) A clear path of travel measuring not less than 36 inches in clear width shall be provided to access the charging equipment.





Interim Disabled Access Guidelines for Electrical Vehicle Charging Stations

97-03

Effective 4-30-97

Revised 6-5-97

This policy is applicable to projects under DSA jurisdiction only. DSA's Access Compliance jurisdiction encompasses state-funded buildings, facilities and universities, as well as publicly-funded elementary schools, secondary schools, and community colleges. Local jurisdictions may or may not adopt similar methods of administering current code requirements, determining equivalent facilitation, or defining acceptable parameters as necessary in enforcing the existing California Building Standards Code as allowed under Government Code Section 4451(f)] of the California Code of Regulations.

Issue: In state funded projects with electrical vehicle, charging stations must be accessible. Electric Vehicles are being slowly introduced to the consumer market over the next three years as a result of an agreement between auto makers and the State of California. The zero emission vehicles as well as the equipment to charge them are continuing to develop and change at a rapid pace. Yet to successfully serve new electric vehicle customers, public charging is essential. Public charging sites that are developed now are likely to see significant technology changes before electric vehicles are fully commercialized. Based on a rule adopted by the California Air Resources Board, beginning in 2003, 10% of vehicles sold in California must be zero emission.

Public charging stations will be installed in public places such as shopping centers, parking lots and garages of companies or municipalities. They are provided as a convenient charging location for Electric Vehicle owners while they work or shop. Full charging of an Electric Vehicle takes between two to three hours.

Resolution: Representatives of the Division of State Architect, California Electric Transportation Coalition, Edison EV, The California Building Officials, Department of Rehabilitation and members of the disabled community have held meetings for the purpose of developing interim guidelines to address the issue of disabled access to these charging stations. The following guidelines have been developed and agreed upon by these organizations:

ARE EV CHARGING STATIONS REQUIRED TO BE ACCESSIBLE?

Yes. EV Charging Stations are required to be accessible because they offer a service to the general public. When EV charging is coupled with regular parking, the EV charging is considered the primary service. (See Item V for further discussions.)

WHAT PERCENTAGE OF THE EV CHARGING STATIONS MUST BE MADE ACCESSIBLE?

The following table shall be used in determining the required number of accessible charging stations:

# of charging stations provided at a site	# of accessible charging stations required
1 to 25	1
50	2
51 to 75	3

WHAT PERCENTAGE OF THE EV CHARGING STATIONS MUST BE MADE ACCESSIBLE?

The following table shall be used in determining the required number of accessible charging stations:

# of charging stations provided at a site	# of accessible charging stations required
76 to 100	4

WHAT SPECIFICATIONS MUST THE ACCESSIBLE EV CHARGING STATION COMPLY WITH?

- A 9 foot wide space by 18 feet deep space is required. An access aisle of 5 feet on the passenger side is required. One in every eight accessible charging stations, but not less than one, shall be van accessible with a 8 foot access aisle.
- The accessible EV charging station and its access aisle need not be striped or provided with signage as required for an accessible parking space. An information sign must be posted which reads, "Parking for EV Charging Only; This Space Designed for Disabled Access; Use Last."

MUST ACCESSIBLE EV CHARGING STATIONS BE RESERVED EXCLUSIVELY FOR THE USE OF PERSONS WITH DISABILITIES?

No. The primary function of these stations is the charging of Electric Vehicles. Parking is not intended to be the primary use of the charging station.

ARE THERE ANY RESTRICTIONS RELATIVE TO THE LOCATION OF THE ACCESSIBLE EV CHARGING STATIONS?

For installations associated with new construction, the accessible charging station must be located in close proximity to a major facility, public way or a major path of travel on the site. Note: 200 feet is the maximum distance recommended. However, the charging stations need not be provided immediately adjacent to the major facilities since, again, the primary purpose of the stations is to provide the charging as a service, and parking is not intended to be the primary use of the stations.

For installations at existing sites, the accessible charging station need not be located in close proximity to other services at the site.

IS AN ACCESSIBLE PATH OF TRAVEL REQUIRED FROM THE ACCESSIBLE EV CHARGING STATION TO OTHER SERVICES PROVIDED AT THE SITE?

Yes, for installations associated with new construction. As for other facilities on the site, an accessible path of travel is required between facilities.

For installation at an existing site, an accessible path of travel is required to the extent that the cost of providing such path does not exceed 20% of the cost of the EV equipment and installation of all EV charging stations at the site, when such valuation does not exceed the threshold amount referenced in Exception 1 of Section 1134 of Title 24. The accessible path of travel shall connect to a major facility, public way or major path of travel on the site.

WHAT SPECIFICATIONS MUST THE CHARGING EQUIPMENT MEET?

The charging equipment must meet all applicable reach range provisions of Section 1118B of Title 24. A clear path of travel measuring 36 inches in clear width to the charging equipment is required.

DOES THE INSTALLATION OF CHARGING STATIONS AT AN EXISTING SITE TRIGGER PATH OF TRAVEL IMPROVEMENTS SUCH AS PRIMARY ENTRANCE TO OTHER FACILITIES, RESTROOMS, TELEPHONES, OR DRINKING FOUNTAINS?

No, unless the above features are located in the parking lot, are accessed directly from the parking lot and designed for use with the parking lot.

HOW DOES THE THREE-YEAR VALUATION ACCUMULATION APPLY TO THESE INSTALLATIONS?

The valuation of other improvements at the site over the last three years need not be added to the cost of the installation to determine application of the exception referenced in item VI above. The cost of installation of other EV charging stations at the site over a three-year period must be used in determining compliance with the exception.

Approving Authority:



Michael J. Mankin, AIA
Manager, Access Compliance Program