FILE NO. 170202

LEGISLATIVE DIGEST

[Green Building Code - Requirements for Installation of Electric Vehicle Chargers]

Ordinance amending the Green Building Code to establish requirements for installation of electric vehicle charger infrastructure in new buildings or buildings undergoing major alterations; affirming the Planning Department's determination under the California Environmental Quality Act; making findings under the California Health and Safety Code; and directing the Clerk of the Board of Supervisors to forward this Ordinance to the California Building Standards Commission upon final passage.

Existing Law

The relevant provisions of the Green Building Code set forth requirements for installation of electric vehicle ("EV") charging infrastructure in new construction.

Amendments to Current Law

This proposal adds and amends certain definitions as follows. It defines "Electric Vehicle Charging Space" as a space intended for installation of EV charging equipment and charging of electric vehicles, and adds that this chapter does not require an EV Space to be reserved exclusively for EV charging.

It also amends the definition of "Electric Vehicle Charging Station," currently provided as one or more electric vehicle charging spaces served by electric vehicle charger(s) or other charging equipment allowing charging of electric vehicles, to comply with accessibility requirements. The proposed addition to the definition specifies that when the permitted length of time a vehicle may occupy an EV charging station differs from the permitted duration of stay in publicly accessible parking spaces in the same parking area, EV charging stations are not considered parking spaces. When the permitted duration of stay in a space served by EV charger(s) is the same as other publicly accessible parking spaces in the same parking area, EV charging stations may be considered parking spaces.

The proposal adds a definition for "Electric Vehicle Fast Charger," defining this as off-board charging equipment with a minimum direct current or alternating current power output of 24 kW, for the purpose of providing an electric vehicle charge in significantly less time than a standard Electric Vehicle Charger.

It also adds a definition for "Electric Vehicle Load Management System," defining this as an electronic system designed to allocate charging capacity among EV chargers.

Existing law requires new construction to include electrical capacity to support future installation of EV chargers. This proposal requires new construction as well as those Group R occupancies undergoing major alterations that involve electrical service upgrades to include electrical capacity and infrastructure, to facilitate future installation and use of EV Chargers

such that the building will be capable of providing electric vehicle charging services at 100% of parking spaces. This requirement is subject to certain exceptions. Existing exceptions include where there is no commercial power supply, and where the requirements would impose costs higher than $400 per dwelling unit on the owner or developer. This proposal modifies this cost-based exception to apply for instances where the requirements would impose costs higher than $400 per parking space. It would also add an exception for instances where a sponsor to a major alterations project can demonstrate that the requirements impose unreasonable hardship.

Existing law applicable to one and two-family dwellings and town-houses with attached private garages specifies that for each dwelling unit, there must be installed a listed raceway to accommodate a dedicated 208/240-volt branch circuit. This proposal requires one and two-family dwellings and town-houses with attached or adjacent private garages to install for each parking space a 40-Amp 208 or 240-volt branch circuit, including raceway, electrical panel capacity, overprotection devices, wire and termination point such as a receptacle.

For new multifamily dwellings, existing law requires that where 17 or more multifamily dwelling units are built on a site, 3% of spaces (and at least 1 space) must be capable of supporting future EV charging. This proposal requires that where 3 or more multifamily dwelling units are constructed on a building site or undergo major alterations, 100% of parking spaces must be capable of supporting future EV charging. The proposal further specifies the type of electrical infrastructure that must be installed to meet this requirement, and clarifies that this provision does not require that EV chargers be installed; rather, it provides the option to use Electric Vehicle Load Management Systems to provide Level 2 EV charging (40 amperes at 208 or 240 volts) at 100% percent of parking spaces.

Existing law requires that EV charging space locations be designated on construction documents, and that at least one EV space be located in common use areas available for use by all residents. It further requires that the EV space be located either adjacent to an accessible parking space, or on an accessible route. This proposal modifies this requirement for a common use EV space to apply only where parking spaces are provided for public use or common use by residents.

Existing law specifies that EV charging space dimensions must be at least 18 feet long and 9 feet wide, and that at least 1 of every 25 (and at least 1) should have a minimum 8-foot wide aisle. Such an aisle can be minimum 5 feet wide if the EV space width is 12 feet. Existing law also specifies that this EV space and aisle must have no greater than a 2.083% slope in any direction.

This proposal adds to this provision that notwithstanding any other requirements, when an EV charger is installed serving an accessible parking space, the space may be considered a parking space if the duration of stay is not subject to any limitations different from those generally applied to other publicly accessible parking spaces in the same parking area. If the duration of stay in an accessible space equipped with an EV charger is subject to limitations different from those generally applied to other publicly accessible parking spaces in the same parking area, the space is not a parking space.

Where a single EV charging space is required at residential building sites, existing law requires that a raceway be installed at the time of construction and comply with certain listed specifications. This proposal modifies these specifications to require installation of a full circuit with a minimum of 40-Amp 208 or 240 Volt capacity, including listed raceway, sufficient electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle.

Where multiple EV spaces are required at residential building sites, existing law provides that construction documents should indicate the raceway termination point and proposed location of future EV spaces and chargers; provide information on amperage of future EV supply equipment, raceway method(s), wiring schematics, anticipated EV load management system design(s), and electrical load calculations; and base plan design on a 40-ampere minimum branch circuit.

This proposal would add to the requirements for instances where multiple EV spaces are required at residential building sites to specify that for a minimum of 10% percent of EV spaces, and in no case less than 2 spaces when the total number of EV spaces is 2 or more, there must be installed a full circuit with minimum of 40-Amp 208 or 240 Volt capacity, including listed raceway, sufficient electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle. For an additional 10% of EV spaces, there must be installed either a full circuit with minimum of 40-Amp 208 or 240 Volt capacity, or a full listed raceway with pull string and sufficient electrical panel capacity for a minimum of 40-Amp 208 or 240 Volt capacity per circuit per EV space. The proposal specifies that this section does not require EV chargers or EV load management systems to be installed.

This proposal adds a new provision regarding EV fast charging spaces at residential building sites. It provides that installation of an EV fast charger may reduce the number of EV spaces required under other provisions by up to 5 EV spaces, provided that the project includes at least one EV space equipped with a full circuit able to deliver 40-Amp 208 or 240 Volt capacity to the EV space. The electrical panel board(s) provided at each parking level served by EV fast chargers shall have sufficient capacity to supply each EV fast charger with a minimum of 30 kW AC in addition to the capacity to serve any remaining EV spaces with a minimum of 8-amperes at 208 or 240-volts per EV space, with a minimum of 40 amperes per circuit.

For nonresidential building sites, this proposal requires that 100% of parking spaces provided for all types of parking facilities shall be EV spaces capable of supporting future EV charging equipment.

Where a single EV charging space is required at nonresidential building sites, existing law requires that a raceway be installed at the time of construction and comply with certain listed specifications. This proposal modifies these specifications to require installation of a full circuit with a minimum of 40-Amp 208 or 240 Volt capacity, including listed raceway, sufficient

electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle.

Where multiple EV spaces are required at nonresidential building sites, existing law provides that raceway installation take place at the time of construction, and construction documents should certain listed specifications.

Under this proposal, where multiple EV spaces are required at nonresidential building sites, a minimum of 10% of spaces, and no less than 2 when there are 2 or more, must include a full circuit with minimum of 40-Amp 208 or 240 Volt capacity, including listed raceway, sufficient electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle. For an additional 10% of spaces, there must be installed either a full circuit with minimum of 40-Amp 208 or 240 Volt capacity, including listed raceway, sufficient electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle; or a full listed raceway with pull string and sufficient electrical panel capacity for a minimum of 40-Amp 208 or 240 Volt capacity per circuit per EV Space. This proposal specifies that for all remaining EV spaces, electrical engineering design and construction documents shall indicate the raceway termination point to supply an EV charger with a 40-ampere minimum branch circuit, along with several other requirements. This proposal provides for several exceptions to these requirements, including where there is no commercial power supply; where implementation would generate for the developer a utility side cost of more than $400 per parking space; and where the project sponsor demonstrates unreasonable hardship in a major alteration.

This proposal adds a provision regarding EV fast charging spaces for nonresidential building sites. It states that installation of 1 EV fast charger may reduce the number of otherwise required EV spaces by up to 10, provided that the project includes at least one EV Space equipped with a full circuit able to deliver 40 Amps at 208 or 240 volts to the EV Space, including listed raceway, sufficient electrical panel capacity, overcurrent protection devices, wire, and suitable listed termination point such as a receptacle. The electrical panel board(s) provided at each parking level served by EV Fast Chargers shall have sufficient capacity to supply each Electric Vehicle fast charger with a minimum of 30 kW AC in addition to the capacity to serve any remaining EV spaces with a minimum of 8-amperes at 208 or 240 volts per EV Space simultaneously, with a minimum of 40 amperes per circuit.

Existing law provides that whether single or multiple EV charging space requirements apply is determined according to Table 5.106.5.3.3, subject to certain exceptions. This proposal deletes this provision, inserts requirements that construction documents indicate how many accessible EV charging stations are required according to Title 24 Chapter 11B Table 11B-228.3.2.1, and sets forth additional accessibility requirements.

n:\legana\as2017\1700264\01174351.docx