



Legislation Text

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Ordinance Amending Chapter 15.22 “Green Building Code” of Title 15 “Buildings and Construction” of the South San Francisco Municipal Code to Adopt Local “Reach Codes” for Residential and Non-Residential Developments to Increase Building Efficiency and Increase Requirements Related to Electric Vehicle Charging Stations.

WHEREAS, most recently in 2022, the City of South San Francisco (“City”) adopted by reference the 2022 California Building Standards Code, including the Green Building Standards Code and Building Efficiency Energy Standards, and as amended and adopted by the California Building Standards Commission, pursuant to the requirements of Government Code section 50020 et seq.; and

WHEREAS, pursuant to sections 17922, 17958, 17958.5 and 17958.7 and 18941.5 of the Health and Safety Code, the City may make certain amendments to the California Building Standards Code, including provisions of the Green Building Standards Code and Building Efficiency Energy Standards, based upon express findings that such changes or modifications are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, the Green Building Standards Code is a part of the California Building Standards which improves public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices; and

WHEREAS, on June 9, 2021, the City Council adopted an ordinance amending Title 15 (Buildings and Construction) of the South San Francisco Municipal Code to adopt certain modifications and additions to the California Energy Code/Building Energy Efficiency Standards and the California Green Building Standards Code which serve as “Reach Codes” providing more stringent requirements than State codes and applicable to residential developments to increase building efficiency and increase requirements related to electric vehicle charging stations; and

WHEREAS, in October 2022, the City Council conducted a study session during a public meeting regarding potential building electrification and electric vehicle Reach Codes applicable to non-residential construction and the additional outreach conducted to the local business and development community regarding such proposal, and considered various local adoption options presented by City staff; and

WHEREAS, pursuant to the foregoing consideration and outreach, and because of the City's unique local climatic, geologic and topographic conditions, the City Council now desires to amend portions of the California Green Building Standards Code relating to all-electric buildings and electric vehicles, for residential and non-residential developments; and

WHEREAS, these proposed local amendments are to adopt a set of Reach Codes for residential and non-residential developments to better address local conditions, and establish energy standards that are more stringent than the statewide standards, based on express findings that such local amendments are reasonably necessary because of local climatic, geological or topographical conditions as set forth in this ordinance; and

WHEREAS, the proposed All-Electric Building Reach Code is intended to require buildings to achieve increased energy reductions and energy efficiency, and the proposed Electric Vehicle Reach Code is intended to ensure that new buildings can charge a greater number of electric vehicles beyond state code requirements and reduce greenhouse gas emissions; and

WHEREAS, based on the foregoing analyses and as described in the accompanying staff report, the City Council finds that local amendments to the California Green Building Standards Code contained in this ordinance are cost effective and will require buildings to be designed to consume no more energy than permitted by the California Energy Code;

WHEREAS, the City Council finds that each of the amendments, additions and deletions to the California Green Building Standards Code contained in this ordinance are reasonably necessary because of local climatic, geological or topographical conditions described in Section 1 below.

NOW THEREFORE, the City Council of the City of South San Francisco does hereby ordain as follows:

SECTION 1. Findings and Determinations

1. The foregoing Recitals and true and correct and are made a part of this ordinance.
2. The following local climatic, geologic and topographic conditions justify modifications to the California Energy Code/Building Energy Efficiency Standards and the California Green Building Standards Code.
 - A. The City Council of the City of South San Francisco finds that in order to best protect the health, safety and welfare of the citizens of the City of South San Francisco, the standards of building within the City must conform to state law except where local climatic, geological, and topographic conditions warrant more restrictive regulations.
 - B. Pursuant to Sections 17958.5 and 17958.7 (a) of the State of California Health and Safety Code, the governing body of the City of South San Francisco determines and finds that all the proposed modifications to the California Energy Code/Building Energy Efficiency Standards and the California Green Building Standards Code are reasonably necessary because of local climatic, geological and topographic conditions as discussed below.

I. Climatic: The City is located in Climate Zone 3 as established in the 2022 California Energy Code. Climate Zone 3 incorporates mostly coastal communities from Marin County to southern Monterey County including San Francisco. The City experiences precipitation averages 18.83 inches/year eighty percent (80%) falls during the months of November through April, and twenty percent (20%) from May through October. This is a dry period of at least five months each year. Humidity generally ranges from sixty two percent (62%) during daytime and eighty-six percent (86%) at night. It occasionally drops lower during the months of September through November.

Temperatures have been recorded as high as 106 degrees Fahrenheit. Average summer highs are in the 70-73 degree range. Summer prevailing winds are from the North-West direction. However, winds are experienced from virtually every direction at one time or another. Velocities are generally in the 5-10 mph range, gusting to 23 mph, particularly during the summer months. Extreme winds, up to 50 mph, have been known to occur. These local climatic conditions affect the acceleration intensity, and size of fires in the community. Times of little or no rainfall, of low humidity and high temperatures create extremely hazardous conditions, particularly as they relate to wood shake and shingle roof fires and conflagrations. Climate change is causing historic draughts, devastating wildfires, torrential storms, extreme heat, property damage, and threats to human health and food supplies. The State of California has outlined specific steps to reduce greenhouse gas emissions to prevent these negative impacts of changing climate including moving the State to 100 percent clean energy by 2045. This gives local governments the opportunity to achieve greenhouse gas emission reductions with a climate-positive impact by powering buildings from clean electricity. These climatic conditions along with the greenhouse emissions generated from structures in both the residential and nonresidential sectors requires exceeding the energy standards for building construction established in the 2022 California Buildings Standards Code. The City Council also adopted a Climate Action Plan that has a goal of achieving carbon neutrality by the year 2045. In order to achieve and maintain this goal, the City needs to adopt policies and regulations that reduce the use of fossil fuels that contribute to climate change, such as natural gas in buildings, in new development. Human activities, such as burning natural gas to heat buildings, releases greenhouse gases into the atmosphere and causes an overall increase in global average temperature. This causes sea levels to rise, affecting the City's shoreline and infrastructure.

II. Geologic: The City of South San Francisco is subject to earthquake hazard caused by its proximity to San Andreas fault. This fault runs from Hollister, through the Santa Cruz Mountains, epicenter of the 1989 Loma Prieta earthquake, then on up the San Francisco Peninsula, then offshore at Daly City near Mussel Rock. This is the approximate location of the epicenter of the 1906 San Francisco earthquake. The other fault is Hayward Fault. This fault is about 74 mi long, situated mainly along the western base of the hills on the east side of San Francisco Bay. Both of these faults are considered major Northern California earthquake faults which may experience rupture at any time. Thus, because the City is within a seismic area which includes these earthquake faults, the modifications and changes cited herein are designed to better limit property damage as a result of seismic activity and to establish criteria for repair of damaged properties following a local emergency.

III. Topographic: The City of South San Francisco is made up of open terrain with scattered obstructions having heights and widths generally less than 30 feet, including flat open country, grasslands, hillsides and bay exposure. Significant elevation changes are also present in this setting; highly combustible dry grass, weeds and brush are common in the hilly and open space areas adjacent to built-up locations six to eight months of each year. When these areas experience wildland fires, they immediately threaten nearby buildings. This condition is especially significant in developed areas of the City that interface and intermix with adjoining open space such as Sign Hill. The threat of wildland fires could be compounded by above-ground electrical power transmission lines suspended on poles and towers exist throughout the City. Additionally, South San Francisco's downtown and surrounding areas contain numerous historic and older buildings that are located very close together, which exacerbates the fire danger from dry conditions, wind, and shake/shingle roofs. The topography of the City also challenged by major development patterns, where major employment areas adjacent to major thoroughfares within the City have created added traffic congestion thereby reducing the response time capabilities of the various fire

agencies. The conditions within the City create hazardous conditions for which modifications to adopt stricter standards than prescribed in the California Green Building Standards Code and Energy Code are warranted.

3. Amendments to the California Building Standard Codes have been adopted in the past by the City Council based on specific findings of local geographic, topographic and climatic conditions; and the Council hereby reaffirms such findings and confirms that the facts on which such findings were based continue to exist.

4. The City Council finds that adoption of this ordinance is exempt from the California Environmental Quality Act (Public Resources Code §§ 21000 et seq., “CEQA,” and 14 Cal. Code Reg. §§ 15000 et seq., “CEQA Guidelines”) under the general rule that CEQA applies only to projects that have the potential for causing a significant effect on the environment, and in this case it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment (CEQA Guidelines § 15061(b)(3)). Adoption of the proposed ordinance would not be an activity with potential to cause significant effect on the environment because the proposed changes made to the California Green Building Standards Code and Energy Code herein are enacted to provide more protection to the environment, and do not directly facilitate new development, or changes in the type and intensity of land use.

SECTION II. AMENDMENT OF CODE. Chapter 15.22 [Green Building Standards Code Code] is hereby repealed and a new Chapter 15.22 is hereby added to read as follows:

A. Section 15.22.020 Amendments to the CALGreen Code.

The California Green Building Code (Cal. Code Regs. Title 24, Part 11) is amended as follows, with additions in underline and deletions in ~~striketrough~~. Chapter, section and table numbers used herein are those of the California Green Building Code. Sections and subsections not amended are not included below and shall remain in full force and effect.

Section 202 DEFINITIONS

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AFFORDABLE HOUSING. Residential buildings that entirely consist of units below market rate and whose rents or sales prices are governed by local agencies to be affordable based on area median income.

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AUTOMATIC LOAD MANAGEMENT SYSTEM (ALMS). A control system designed to manage load across one or more electric vehicle supply equipment (EVSE), circuits, panels and to share electrical capacity and/or automatically manage power at each connection point. ALMS systems shall be designed to deliver no less than 3.3 kVa (208/240 volt, 16-ampere) to each EV Capable, EV Ready or EVCS space served by the ALMS, and meet the requirements of California Electrical Code Article 625. The connected amperage to the building site for the EV charging infrastructure shall not be lower than the required connected amperage per California Green Building Standards Code, Title 24 Part 11.

DIRECT CURRENT FAST CHARGING (DCFC). A parking space provided with electrical infrastructure that meets the following conditions:

- i. A minimum of 48 kVa (480 volt, 100-ampere) capacity wiring.
- ii. Electric vehicle supply equipment (EVSE) located within three (3) feet of the parking space providing a minimum capacity of 80-ampere.

ELECTRIC VEHICLE CHARGING STATION (EVCS). ~~One or more electric vehicle charging spaces served by electric vehicle charger(s) or other charging equipment allowing charging of electric vehicles. Electric vehicle charging stations are not considered parking spaces. A parking space that includes installation of electric vehicle supply equipment (EVSE) at an EV Ready space. An EVCS space may be used to satisfy EV Ready space requirements. EVSE shall be installed in accordance with the California Electrical Code, Article 625.~~

ELECTRIC VEHICLE (EV) READY SPACE. ~~[HCD] A vehicle space which is provided with a branch circuit; any necessary raceways, both underground and/or surface mounted; to accommodate EV charging, terminating in a receptacle or a charger.~~

ELECTRIC VEHICLE (EV) CAPABLE SPACE. ~~A vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways, both underground and/or surface mounted, to support EV charging.~~

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). ~~The conductors, including the ungrounded, grounded and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.~~

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LEVEL 2 ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). ~~[HCD] The 208/240 Volt 40-ampere branch circuit, and the electric vehicle charging connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.~~

LEVEL 2 EV CAPABLE. A parking space provided with electrical infrastructure that meets the following requirements:

- i. Conduit that links a listed electrical panel with sufficient capacity to a junction box or receptacle located within three (3) feet of the parking space.
- ii. The conduit shall be designed to accommodate at least 8.3 kVa (208/240 volt, 40-ampere) per parking space. Conduit shall have a minimum nominal trade size of 1 inch inside diameter and may be sized for multiple circuits as allowed by the California Electrical Code. Conduit shall be installed at a minimum in spaces that will be inaccessible after construction, either trenched underground or where penetrations to walls, floors, or other partitions would otherwise be required for future installation of branch circuits, and such additional elements deemed necessary by the Building Official. Construction documents shall indicate future completion of conduit from the panel to the parking space, via the installed inaccessible conduit.
- iii. The electrical panel shall reserve a space for a 40-ampere overcurrent protective device space(s) for EV

charging, labeled in the panel directory as “EV CAPABLE.”

- iv. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.
- v. The parking space shall contain signage with at least a 12” font adjacent to the parking space indicating the space is EV Capable.

LEVEL 1 EV READY. A parking space that is served by a complete electric circuit with the following requirements:

- i. A minimum of 2.2 kVa (110/120 volt, 20-ampere) capacity wiring.
- ii. A receptacle labeled “Electric Vehicle Outlet” or electric vehicle supply equipment located within three (3) feet of the parking space. If EVSE is provided the minimum capacity of the EVSE shall be 16-ampere.
- iii. Conduit oversized to accommodate future Level 2 EV Ready (208/240 volt, 40-ampere) at each parking space.

LEVEL 2 EV READY. A parking space that is served by a complete electric circuit with the following requirements:

- i. A minimum of 8.3 kVa (208/240 volt, 40-ampere) capacity wiring.
- ii. A receptacle labeled “Electric Vehicle Outlet” or electric vehicle supply equipment located within three (3) feet of the parking space. If EVSE is provided the minimum capacity of the EVSE shall be 30-ampere.

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LOW POWER LEVEL 2 EV READY. A parking space that is served by a complete electric circuit with the following requirements:

- i. A minimum of 4.1 kVA (208/240 Volt, 20-ampere) capacity wiring.
- ii. A receptacle labeled “Electric Vehicle Outlet” or electric vehicle supply equipment located within three (3) feet of the parking space. If EVSE is provided the minimum capacity of the EVSE shall be 16-ampere.
- iii. Conduit oversized to accommodate future Level 2 EV Ready (208/240 volt, 40-ampere) at each parking space.

LOW POWER LEVEL 2 ELECTRIC VEHICLE (EV) CHARGING RECEPTACLE. ~~[HCD] A 208/240 Volt 20- ampere minimum branch circuit and a receptacle for use by an EV driver to charge their electric vehicle or hybrid electric vehicle.~~

OFF-STREET LOADING SPACES. [BSC-CG, DSA-SS] An area, other than a public street, public way, or other property (and exclusive of off-street parking spaces), permanently reserved or set aside for the loading or

unloading of motor vehicles, including ways of ingress and egress and maneuvering areas. Whenever the term "loading space" is used, it shall, unless the context clearly requires otherwise, be construed as meaning off-street loading space. This excludes designated passenger loading/unloading.

CHAPTER 3 GREEN BUILDING

SECTION 301 GENERAL

301.1 Scope.

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301.1.1 Additions and alterations.

[HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration. (No change to existing California amendment.)

The mandatory provisions of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See ~~Section 4.106.4.3 for application.~~

NOTE: Repairs including, but not limited to, resurfacing, restriping, and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.

CHAPTER 4 RESIDENTIAL MANDATORY MEASURES

DIVISION 4.1, PLANNING AND DESIGN

SECTION 4.106 SITE DEVELOPMENT

4.106.4 Electric vehicle (EV) charging for new construction. Residential construction shall comply with Section 4.106.4.1 or 4.106.4.2, and 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625. For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s). Calculation for spaces shall be rounded up to the nearest whole number.

Exceptions:

1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
 1. Where there is no local utility power supply or the local utility is unable to supply adequate power.
 2. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 4.106.4, may increase construction cost by an average of \$4,500 per parking space for market rate housing or \$400 per parking space for affordable housing. EV infrastructure shall be

provided up to the level that would not exceed this cost for utility service. Adversely impact the construction cost of the project.

2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities and without electrical panel upgrade or new panel installation. Detached ADUs, attached ADUs, and JADUs without additional parking but with electrical panel upgrades or new panels must have reserved breakers and electrical capacity according to the requirements of 4.106.4.1.
3. Multifamily residential R-2 building projects that receive valid entitlements from the City of South San Francisco within six (6) months of the effective date of the enabling ordinance shall provide, based on the total number of parking spaces, at least five percent (5%) with EVCS Level 2 EV Ready, twenty-five percent (25%) with Low Power Level 2 EV Ready, and ten percent (10%) with Level 2 EV Capable according to 2022 California Green Building Standards Code requirements.

4.106.4.1 New One- and two-family dwellings and town-houses with private garages.

4.106.4.1.1 New Construction. One parking space provided shall be a Level 2 EV Ready space. If a second parking space is provided, it shall be provided with a Level 1 EV Ready space. For each dwelling unit, install a listed raceway to accommodate a dedicated 208-240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the *California Electrical Code*.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as “EV CAPABLE”. The raceway termination location shall be permanently and visibly marked as “EV CAPABLE”.

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4.106.4.2 New Multifamily dwellings, hotels and motels and with new residential parking facilities. Requirements apply to parking spaces that are assigned or leased to individual dwelling units, as well as unassigned residential parking. Visitor or common area parking is not included.

4.106.4.2.1 New Construction. Fifteen percent (15%) of dwelling units with parking spaces shall be EVCS with Level 2 EV Ready. ALMS shall be permitted to reduce load when multiple vehicles are charging. Eighty-five percent (85%) of dwelling units with parking spaces shall be provided with a Low Power Level 2 EV Ready space. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section 1109A. EVCS shall comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B.

Note: The total number of EV spaces should be one-hundred percent (100%) of dwelling units or one-hundred percent (100%) of parking spaces, whichever is less.

When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Sections 4.106.4.2.1 and 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as a future EV

charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details.

4.106.4.2.1 Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20 sleeping units or guest rooms.

The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

- 1. EV Capable.** Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as “EV CAPABLE” in accordance with the *California Electrical Code*.

Exceptions:

1. When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV capable spaces.
2. When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable spaces, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed.

Notes:

- a. Construction documents are intended to demonstrate the project’s capability and capacity for facilitating future EV charging.
- b. There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

- 2. EV Ready.** Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

4.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms.

The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

- 1. EV Capable.** Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as “EV CAPABLE” in accordance with the *California Electrical Code*.

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of

parking spaces required by Section 4.106.4.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed over the five (5) percent required.

Notes:

- a. ~~Construction documents shall show locations of future EV spaces.~~
 - b. ~~There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.~~
- 2. EV Ready.** ~~Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.~~

Exception: ~~Areas of parking facilities served by parking lifts.~~

- 3. EV Chargers.** ~~Five (5) percent of the total number of parking spaces shall be equipped with Level 2 EVSE. Where common use parking is provided, at least one EV charger shall be located in the common use parking area and shall be available for use by all residents or guests.~~

When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes and installed EVSE shall have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical capacity to the required EV capable spaces.

4.106.4.32.2.1 Electric vehicle charging stations (EVCS).

Electric vehicle charging stations required by Section 4.106.4.2.2, ~~Item 3~~, shall comply with Section 4.106.4.3.2.2.1.

Exception: Electric vehicle charging stations serving public accommodations, public housing, motels, and hotels shall not be required to comply with this section. See *California Building Code*, Chapter 11B, for applicable requirements.

4.106.4.3.12.2.1.1 Location.

EVCS shall comply with at least one of the following options:

1. The charging space shall be located adjacent to an accessible parking space meeting the requirements of the *California Building Code*, Chapter 11A, to allow use of the EV charger from the accessible parking space.
2. The charging space shall be located on an accessible route, as defined in the *California Building Code*, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the *California Building Code*, Chapter 11B, are not required to comply with Section 4.106.4.3.12.2.1.1 and Section 4.106.4.3.22.2.1.2, Item 3.

4.106.4.3.22.2.1.2 Electric vehicle charging stations (EVCS) Dimensions.

The charging spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486 mm).

2. The minimum width of each EV space shall be 9 feet (2743 mm).
3. One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).
 - a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

Exception: Where the City's Municipal or Zoning Code permits parking space dimensions that are less than the minimum requirements stated in this section 4.106.4.3.2, and the compliance with which would be infeasible due to particular circumstances of a project, an exception may be granted while remaining in compliance with California Building Code Section Table 11B-228.3.2.1 and 11B-812, as applicable.

4.106.4.2.2.1.3 Accessible EV spaces. In addition to the requirements in Sections 4.106.4.2.2.1.1 and 4.106.4.2.2.1.2, all EVSE, when installed, shall comply with the accessibility provisions for EV chargers in the *California Building Code*, Chapter 11B: EV ready spaces and EVCS in multifamily developments shall comply with *California Building Code*, Chapter 11A, Section 1109A.

4.106.4.4 Direct current fast charging stations. One DCFC may be substituted for up to five (5) EVCS to meet the requirements of 4.106.4.1 and 4.106.4.2. Where ALMS serve DCFC stations, the power demand from the DCFC shall be prioritized above Level 1 and Level 2 spaces.

4.106.4.2.3 EV space requirements.

1. **Single EV space required.** Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the location or the proposed location of the EV space. Construction documents shall identify the raceway termination point, receptacle or charger location, as applicable. The service panel and/or subpanel shall have a 40-ampere minimum dedicated branch circuit, including branch circuit overcurrent protective device installed, or space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space, at the time of original construction in accordance with the *California Electrical Code*.

2. **Multiple EV spaces required.** Construction documents shall indicate the raceway termination point and the location of installed or future EV spaces, receptacles, or EV chargers. Construction documents shall also provide information on amperage of installed or future receptacles or EVSE, raceway method (s), wiring schematics and electrical load calculations. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space at the time of original construction in accordance with the *California Electrical Code*.

4.106.4.2.4 Identification.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as “EV CAPABLE” in accordance with the *California Electrical Code*.

4.106.4.2.5 Electric Vehicle Ready Space Signage.

Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings.

When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or altered, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE.

Notes:

1. Construction documents are intended to demonstrate the project’s capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

SECTION 5.106 SITE DEVELOPMENT

5.106.5.3 Electric vehicle (EV) charging.

~~[N]~~ Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.106.5.3.1 and shall be provided in accordance with regulations in the *California Building Code* and the *California Electrical Code*. Accessible EVCS shall be provided in accordance with the *California Building Code Chapter 11B Section 11B-228.3*. For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s). Calculation for spaces shall be rounded up to the nearest whole number.

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:

- a. Where there is no local utility power supply.
- b. Where the local utility is unable to supply adequate power.
- c. Where there is evidence suitable to the local enforcement agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may increase construction cost by an average of \$4,500 per parking space. EV infrastructure shall be provided up to the level that would not exceed this cost for utility service. ~~adversely impact the construction cost of the project.~~

2. Parking spaces accessible only by automated mechanical car parking systems are not required to comply with this code section.

3. Projects that receive valid entitlements from the City of South San Francisco within six (6) months of the effective date of the enabling ordinance shall provide, based on the total number of parking spaces shown below in Table 5.106.5.3.1. Calculation for spaces shall be rounded up to the nearest whole number.

The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.

TABLE 5.106.5.3.1

<u>TOTAL NUMBER OF ACTUAL PARKING SPACES</u>	<u>NUMBER OF REQUIRED EV CAPABLE SPACES</u>	<u>NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) ²</u>
<u>0-9</u>	<u>0</u>	<u>0</u>
<u>10-25</u>	<u>4</u>	<u>0</u>
<u>26-50</u>	<u>8</u>	<u>2</u>
<u>51-75</u>	<u>13</u>	<u>3</u>
<u>76-100</u>	<u>17</u>	<u>4</u>
<u>101-150</u>	<u>25</u>	<u>6</u>
<u>151-200</u>	<u>35</u>	<u>9</u>
<u>201 and over</u>	<u>20 percent of total¹</u>	<u>25 percent of EV capable spaces ¹</u>

5.106.5.3.1 Nonresidential Occupancy Class B Offices - Shared Parking Space.

5.106.5.3.1.1 New Construction. Twenty percent (20%) of parking spaces shall be EVCS with Level 2 EV Ready. ALMS shall be permitted to reduce load when multiple vehicles are charging. Thirty percent (30%) of parking spaces provided shall be Level 2 EV Capable.

5.106.5.3.1 EV-capable spaces.

[N] EV-capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following requirements:

1. Raceways complying with the *California Electrical Code* and no less than 1-inch (25 mm) diameter shall be provided and shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the EV capable space and into a suitable listed cabinet, box, enclosure or equivalent. A common raceway may be used to serve multiple EV-capable spaces.

2. A service panel or subpanel(s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volts, 40-ampere minimum branch circuits for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.

3 The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV-capable space.

4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective device space (s) as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

Note: A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See Vehicle Code Section 22511.2 for further details.

TABLE 5.106.5.3.1

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) ²
0-9	0	0
10-25	4	0
26-50	8	2
51-75	13	3
76-100	17	4
101-150	25	6
151-200	35	9
201 and over	20 percent of total ¹	25 percent of EV capable spaces ¹

1. Calculation for spaces shall be rounded up to the nearest whole number.

2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.

...

5.106.5.3.2 Electric vehicle charging stations (EVCS).

EV capable spaces shall be provided with EVSE to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 may be provided with EVSE in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be provided.

One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is accumulatively supplied to the EV charger.

The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV capable spaces without EVSE by five and reduce proportionally the required electrical load capacity to the service panel or subpanel.

5.106.5.3.2 Hotel and Motel Occupancies - Shared Parking Facilities.

5.106.5.3.2.1 New Construction. Five percent (5%) of parking spaces provided shall be EVCS with Level 2 EV Ready. ALMS shall be permitted to reduce load when multiple vehicles are charging. Twenty-five percent (25%) of parking spaces provided shall be Low Power Level 2 EV Ready space. Ten percent (10%) of parking spaces provided shall be Level 2 EV Capable.

5.106.5.3.3 All Other Nonresidential Occupancies - Shared Parking Facilities.

5.106.5.3.3.1 New Construction. Ten percent (10%) of parking spaces provided shall be EVCS with Level 2 EV Ready. ALMS shall be permitted to reduce load when multiple vehicles are charging. Ten percent (10%) of parking spaces provided shall be Level 2 EV Capable.

5.106.5.3.3 Use of automatic load management systems (ALMS).

ALMS shall be permitted for EVCS. When ALMS is installed, the required electrical load capacity specified in Section 5.106.5.3.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs.

5.106.5.3.4 Direct current fast charging stations. One DCFC may be substituted for up to five (5) EVCS to meet the requirements of 5.106.5.3.1, 5.106.5.3.2, and 5.106.5.3.3. Where ALMS serve DCFC stations, the power demand from the DCFC shall be prioritized above Level 1 and Level 2 spaces.

5.106.5.3.4 Accessible EVCS.

When EVSE is installed, accessible EVCS shall be provided in accordance with the *California Building Code Chapter 11B Section 11B-228.3*.

Note: For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

5.106.5.4 Electric vehicle (EV) charging readiness: medium-duty and heavy-duty. [N]

Construction shall comply with Section 5.106.5.4.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores and retail stores with planned off-street loading spaces shall also comply with Section 5.106.5.4.1 for future installation of medium- and heavy-duty EVSE. Accessible EVCS shall be provided in accordance with the *California Building Code Chapter 11B Section 11B-228.3*. For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

Exceptions:

1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:

- a. Where there is no local utility power supply.
- b. Where the local utility is unable to supply adequate power.
- c. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may increase construction cost by an average of \$4,500 per parking space. EV infrastructure shall be provided up to the level that would not exceed this cost for utility service. ~~adversely impact the construction cost of the project.~~

When EVCS(s) are installed, it shall be in accordance with the *California Building Code*, the *California Electrical Code* as follows:

5.106.5.4.1 Electric vehicle charging readiness requirements for Warehouses, grocery stores and retail stores with planned off-street loading spaces.

[N] In order to avoid future demolition when adding EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s) or subpanel(s) shall be installed at the time of construction in accordance with the *California Electrical Code*. Construction plans and specifications shall include, but are not limited to, the following:

2. The transformer, main service equipment and subpanels shall meet the minimum power requirement in Table 5.106.5.4.1 to accommodate the dedicated branch circuits for the future installation of EVSE.
3. The construction documents shall indicate one or more location(s) convenient to the planned off-street

loading space(s) reserved for medium- and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s), as shown in Table 5.106.5.4.1.

4. Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium- and heavy-duty EVSE will be located and shall terminate in close proximity to the potential future location of the charging equipment for medium- and heavy-duty vehicles.
5. The raceway(s) or busway(s) shall be of sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty EVs as shown in Table 5.106.5.4.1.

TABLE 5.106.5.4.1, Raceway Conduit and Panel power Requirements for Medium-and-Heavy-Duty EVSE [N]

Building type	Building Size (sq. ft.)	Number of Off-street loading spaces	Additional capacity Required (kVa) for Raceway & Busway and Transformer & Panel
Grocery	10,000 to 90,000	1 or 2	200
Grocery	Greater than 90,000	3 or Greater	400
Grocery	Greater than 90,000	1 or Greater	400
Retail	10,000 to 135,000	1 or 2	200
Retail	10,000 to 135,000	3 or Greater	400
Retail	Greater than 135,000	1 or Greater	400
Warehouse	20,000 to 256,000	1 or 2	200
Warehouse	20,000 to 256,000		
		3 or Greater	400
	Greater than 256,000	1 or Greater	400

B. Section 15.22.021 Amendments to the CALGreen Code.

The California Green Building Code (Cal. Code Regs. Title 24, Part 11) is amended as follows, with additions in underline and deletions in ~~striketrough~~. Chapter, section and table numbers used herein are those of the California Green Building Code. Sections and subsections not amended are not included below and shall remain in full force and effect.

CHAPTER 2 - DEFINITIONS

ADDITION. An extension or increase in floor area of an existing building or structure.

ALL-ELECTRIC BUILDING. A building that contains no combustion equipment or plumbing for combustion equipment serving space heating (including fireplaces), water heating (including pools and spas), cooking appliances (including barbeques), and clothes drying, within the building or building property lines,

and instead uses electric heating appliances for service.

ALTERATION OR ALTER. Any construction or renovation to an existing structure other than repair for the purpose of maintenance or addition.

COMBUSTION EQUIPMENT. Any equipment or appliance used for space heating, water heating, cooking, clothes drying and/or lighting that uses *fuel gas*.

COMMERCIAL FOOD HEAT-PROCESSING EQUIPMENT. Any equipment used in a food establishment for heat-processing food or utensils and that produces grease vapors, steam, fumes, smoke, or odors that are required to be removed through a local exhaust ventilation system, as defined in the California Mechanical Code.

ELECTRIC HEATING APPLIANCE. A device that produces heat energy to create a warm environment by the application of electric power to resistance elements, refrigerant compressors, or dissimilar material junctions, as defined in the California Mechanical Code.

FUEL GAS. A gas that is natural, manufactured, liquefied petroleum, or a mixture of these.

NEWLY CONSTRUCTED (or NEW CONSTRUCTION). A newly constructed building (or new construction) does not include additions, alterations or repairs.

PROCESS EQUIPMENT. Equipment for which sustained temperatures typically in excess of three hundred fifty degrees Fahrenheit are required and demonstrably not achievable with commercial electric equipment.

CHAPTER 5 - NONRESIDENTIAL MANDATORY MEASURES

Division 5.1 PLANNING AND DESIGN

SECTION 5.106 - SITE DEVELOPMENT

.....

5.106.13 All-electric buildings. New construction buildings and qualifying alteration projects shall comply with Section 5.106.13.1 or 5.106.13.2 so that they do not use *combustion equipment* or are ready to facilitate future electrification.

5.106.13.1 New construction. All newly constructed buildings shall be *all-electric buildings*. Newly constructed buildings exclude alterations to existing buildings and tenant improvements.

Exceptions:

1. If the applicant establishes that there is not an all-electric prescriptive compliance pathway for the building system under the California Building Energy Efficiency Standards, and that the building is not able to achieve the performance compliance standard applicable to the building under the Energy Efficiency Standards using commercially available technology and an approved calculation method, then the local enforcing agency may grant a modification. The applicant shall comply with Section

5.106.13.2.

2. Nonresidential buildings containing kitchens located in a place of public accommodation, as defined in the California Building Code Chapter 2, may apply to the local enforcing agency for a modification to install *commercial food heat-processing equipment* served by *fuel gas*. The local enforcing agency may grant the modification if they find:

A business-related need to cook with *combustion equipment*; and

- a. The need cannot be achieved equivalently with an *electric heating appliance*; and
 - b. The applicant has installed energy efficient equipment based on Energy Star or California Energy Wise qualifications, as available.
 - c. The applicant shall comply with Section 5.106.13.2.
3. Critical facilities back-up power necessary to protect public health or safety in the event of an electric grid outage.
 4. Process equipment for industrial, laboratories and medical uses.
 5. Nonresidential building projects that receive valid entitlements from the City of South San Francisco within six (6) months of the effective date of the enabling ordinance are not required to be designed and constructed as all-electric. If the Director of Economic & Community Development or his or her designee grants a modification pursuant to this Exception, the applicant shall comply with the pre-wiring provision of Section 5.106.13.2.

Inactive *Fuel Gas Infrastructure* may be extended to spaces that are anticipated to qualify for the exceptions contained in this chapter. The inactive *Fuel Gas Infrastructure* shall not be activated, have a meter installed, or otherwise used unless the exceptions specified in this chapter have been confirmed as part of the issuance of a building permit. If the *Fuel Gas Infrastructure* is no longer serving one of the exceptions contained in this chapter, it shall either be capped, otherwise terminated, or removed by the entity previously entitled to the exception, in a manner pursuant to all applicable Codes.

South San Francisco shall have the authority to approve alternative materials, design and methods of construction or equipment per California Building Code Section 104.

5.106.13.2 Requirements for *combustion equipment*.

Where *combustion equipment* is allowed per Exceptions under 5.106.13.1, the construction drawings shall indicate electrical infrastructure and physical space accommodating the future installation of an *electrical heating appliance* in the following ways, as certified by a registered design professional or licensed electrical contractor:

1. Branch circuit wiring, electrically isolated and designed to serve all electrical heating appliances in accordance with manufacturer requirements and the California Electrical Code, including the appropriate voltage, phase, minimum amperage, and an electrical receptacle or junction box within five feet of the appliance that is accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors; and
2. Labeling of both ends of the unused conductors or conduit shall be with “For Future Electrical Appliance”; and

3. Reserved circuit breakers in the electrical panel for each branch circuit, appropriately labeled (e.g. "Reserved for Future Electric Range"), and positioned on the opposite end of the panel supply conductor connection; and
4. Connected subpanels, panelboards, switchboards, busbars, and transformers shall be sized to serve the future electrical heating appliances. The electrical capacity requirements shall be adjusted for demand factors in accordance with the California Electric Code; and
5. Physical space for future electrical heating appliances, including equipment footprint, and if needed a pathway reserved for routing of ductwork to heat pump evaporator(s), shall be depicted on the construction drawings. The footprint necessary for future electrical heating appliances may overlap with non-structural partitions and with the location of currently designed combustion equipment.

SECTION III. SEVERABILITY

In the event any section or portion of this ordinance shall be determined invalid or unconstitutional, such section or portion shall be deemed severable and all other sections or portions hereof shall remain in full force and effect.

SECTION IV. PUBLICATION AND EFFECTIVE DATE

This Ordinance shall become effective thirty (30) days from and after its adoption. Pursuant to the provisions of Government Code Section 36933, a summary of this Ordinance shall be prepared by the City Attorney. At least five (5) days prior to the Council meeting at which this Ordinance is scheduled to be adopted, the City Clerk shall: (1) publish the summary, and (2) post in the City Clerk's office a certified copy of this Ordinance. Within fifteen (15) days after the adoption of this ordinance, the City Clerk shall: (1) publish the summary, and (2) post in the City Clerk's office a certified copy of the full text of this Ordinance along with the names of those City Council members voting for and against this Ordinance or otherwise voting.