INITIAL STATEMENT OF REASONS FOR PROPOSED BUILDING STANDARDS OF THE CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT REGARDING THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11 (HCD 04/22)

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENE/FITS

Government Code Section 11346.2(b)(1) requires a statement of specific purpose of each adoption, amendment, or repeal and the problem the agency intends to address and the rationale for the determination by the agency that each adoption, amendment, or repeal is reasonably necessary to carry out the purpose and address the problem for which it is proposed. The statement shall enumerate the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute.

The California Department of Housing and Community Development (HCD) proposes to adopt mandatory and voluntary green building standards for occupancies within its authority, and further proposes to make amendments and clarifications to the 2022 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11 (CALGreen Code). The intent of the code continues to be: (1) reducing greenhouse gas (GHG) emissions from buildings; (2) promoting environmentally responsible, cost-effective, healthier places to live and work; and (3) responding to the directives by the Governor in 2008 to develop a green building code.

The 2022 CALGreen Code, effective January 1, 2023, included mandatory requirements for installation of low power Level 2 electric vehicle (EV) charging receptacles and EV chargers in specified percentages of parking spaces in multifamily developments and hotels/motels. These proposals were detailed in HCD's rulemaking documents (Initial Statement of Reasons Background, Recommended Solutions and Statutory Requirements related to EV Charging, pages 1-3; and Additional 15-day Express Terms; (see section Technical, Theoretical, and Empirical Study, Report, or Similar Documents of this document) for the 2021 Triennial Code Adoption Cycle (HCD 03/21 approved December 16, 2021, by the California Building Standards Commission).

The proposed building standards continue to further enhance or increase the amount of EV charging capacity with special focus on multifamily dwellings. This is in response to input from stakeholders during development of the initial 2022 CALGreen Code, as well as HCD focus group meetings held on July 11, 2022, and August 22, 2022; and the CALGreen Electric Vehicle Workgroup meetings on April 14, 2022, June 16, 2022, and August 18, 2022, convened by HCD, the California Building Standards Commission (CBSC) and the Division of the State Architect (DSA).

HCD is proposing to repeal a requirement for 10 percent of parking spaces in multifamily buildings to be EV capable (infrastructure only without electrical service), which eliminates a requirement that did not result in actual access to EV charging. HCD is further proposing

to increase percentages of EV Ready with receptacles for EV charging from 25 percent to 40 percent of parking spaces; and increase requirements for Level 2 EV chargers from 5 percent to 10 percent of parking spaces for newly constructed multifamily dwellings. This proposal will help increase EV charging opportunities for residents in newly constructed multifamily dwellings and provide increased access to consistent and convenient home charging. HCD has also incorporated stakeholder suggestions for EV charging at multifamily dwellings as part of the Tier 1 and Tier 2 voluntary proposals. This provides an incremental approach to facilitate EV charging that allows for evaluation of effectiveness of the regulations and a method for designers and builders to adapt to new regulations. The proposed voluntary measures allow local government to adopt more restrictive requirements as appropriate for their jurisdiction.

Recently, the California Air Resources Board (CARB) adopted their Advanced Clean Cars II Regulation and estimates that as a result there will be approximately 5.7 million zero-emission vehicles (ZEVs) on California roads by 2030. By 2035, CARB's Advanced Clean Cars II regulation will result in 12.6 million ZEVs on California roads. CARB staff anticipates that ZEV drivers will continue primarily relying on home charging and supplement their home charging with public charging stations. Currently, most ZEV drivers have higher incomes and may live in single-family homes and may not rely on public charging. However, some former ZEV drivers have not kept their vehicles, citing issues with charging availability as a major reason.

For California to reach their climate goals, the issue of a lack of charging needs to be addressed. The California Energy Commission (CEC) was tasked with analyzing future charging needs to support ZEVs. CEC's analysis, documented in the "Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment," found California will require approximately 179,973 to 267,620 Level 1 and Level 2 chargers in multifamily dwellings to support 5 million ZEVs on the road by 2030. Using the latest population and housing estimates for California, it is estimated that 33 percent of residents live in multifamily dwellings. HCD's proposal of 40 percent EV Ready with receptacles for charging and 10 percent Level 2 electric vehicle supply equipment (EVSE); chargers in newly constructed multifamily dwellings will help address that issue by providing ZEV drivers with access to consistent and convenient home charging. This proposal would lead to an estimated 43,710 total installed EV Ready (receptacles) and EVSE (chargers) parking spaces with EV charging capabilities in multifamily dwellings when combined with existing similar parking spaces in these types of buildings by the end of 2025. This is an important step forward, but still leaves a large gap towards what CEC projects is needed by 2030.

The proposed changes to the building standards with statewide application will also lead to substantial environmental benefits through the reduction of GHG emissions, criteria pollutants, and fossil fuel dependency. This will lead to improved public health, and potentially result in significant cost savings (avoided costs) associated with future retrofits and installation of EV charging stations at multifamily dwellings and hotels and motels. This rulemaking also continues to support HCD's mission to promote safe, affordable homes and vibrant, inclusive, sustainable communities for all Californians; and HCD's vision that every California resident can live, work, and play in healthy communities of opportunity.

The following sections provide further detail on HCD's proposed adoption of building standards on a section-by-section basis and provides cost analysis information. HCD has incorporated cost analyses and carbon reduction metrics supplied by CARB in this ISOR.

ITEM 1
Chapter 2 Definitions, Section 202 Definitions.

Rationale: HCD proposes to adopt and amend definitions in this section to clarify terms used in section 4.106.4.2 and section A4.106.8.2. There is no anticipated fiscal impact.

ELECTRIC VEHICLE CHARGING STATION (EVCS).

Rationale: HCD proposes continued adoption of the above referenced definition with amendment. A reference to receptacles has been added to recognize it as a component serving EVCS. HCD also proposes repeal of unnecessary text and outdated text related to EVCS and consideration as parking spaces due changes in the Vehicle Code section 22511.2. This amendment is coordinated with CBSC and DSA. There is no anticipated fiscal impact.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).

Rationale: HCD proposes continued adoption of the above referenced definition with amendment. A reference to personnel protection system has been added to update the definition to match the definition in the California Electrical Code. This amendment is coordinated with CBSC and DSA. There is no anticipated fiscal impact.

LEVEL 2 ELECTRIC VEHICLE SUPPLY EQUIPMENT.

Rationale: HCD proposes continued adoption of the above referenced definition with repeal of the duplicative acronym since the acronym is used in the definition for “electric vehicle supply equipment.” This amendment is coordinated with CBSC and DSA. There is no anticipated fiscal impact.

LEVEL 2 ELECTRIC VEHICLE (EV) CHARGER.

Rationale: HCD proposes to adopt a new definition to clarify the term as used in sections 4.106.4.2.2 and A4.106.8.2.1. There is no anticipated fiscal impact.

LOW POWER LEVEL 2 ELECTRIC VEHICLE (EV) CHARGING RECEPTACLE.

Rationale: HCD proposes to repeal unnecessary text related to circuit and receptacle use by an EV driver to charge their electric vehicle or hybrid electric vehicle. There is no fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 2
Chapter 4 Residential Mandatory Measures, Section 4.106.4 Electric vehicle (EV) charging for new construction.

Rationale: HCD proposes to continue to adopt the above referenced section with amendment. The proposed amendment repeals the reference to future installation and use of EV chargers now that HCD requires actual installation of EV chargers. HCD also proposes to amend language referencing compliance with the Electrical Code for consistency with other sections.

Health and Safety Code Section 18930.5(b) as amended by Assembly Bill 341 (Chapter 585, Statutes of 2013) allows HCD and other state agencies that propose building standards to allow for input by state agencies that have expertise in green building subject areas. CARB has expertise in air quality, climate change, and EV charging infrastructure and has contributed to this rulemaking.

In addition to supporting the Administration's directives, HCD's goal is to enable future charging capability for multifamily buildings in an effort to reduce the lack of access to EV charging that currently exists. HCD believes this effort will further encourage the purchase and use of EVs for routine transportation. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 3
Chapter 4 Residential Mandatory Measures, Section 4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities.

Rationale: HCD proposes to continue to adopt the above referenced section with amendment. The proposed amendment repeals the reference to section 4.106.4.2.1, which is proposed as "Reserved" in this rulemaking. The proposed amendment also repeals the reference to future EV charging spaces now that HCD requires actual installation of EVSE. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 4
Chapter 4 Residential Mandatory Measures, Section 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.

Rationale: HCD proposes to repeal text from the above referenced section and propose it as "Reserved." The requirements for less than 20 dwelling units or hotel/motel units; and 20 or more dwelling units or hotel/motel units have been combined into section 4.106.4.2.2. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 5
Chapter 4 Residential Mandatory Measures, Section 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.

Rationale: HCD proposes to continue to adopt the above referenced section with amendments.

HCD proposes to amend the title to include all multifamily development projects and hotels/motels. This combines the requirements for less than 20 dwelling units into this section.

HCD proposes to repeal item 1 from section 4.106.4.2.2 addressing EV capable parking spaces which require infrastructure only. This amendment is in response to stakeholder comments and HCD concurrence that EV capable parking spaces do not provide an actual or immediate opportunity for EV charging. Recent analysis shows that only roughly 30 percent of existing EV capable parking spaces are being converted for EV charging.[1] The proposed amendment reduces fiscal impact associated with the existing 2022 CALGreen requirements for EV capable parking spaces.

HCD proposes to renumber existing item 2 to item 1 and amend the EV ready requirements for parking spaces with receptacles to further delineate for hotels/motels and multifamily parking facilities. There is no anticipated fiscal impact for renumbering. HCD proposes to amend the requirement for low power Level 2 EV charging receptacles from 25 percent of parking spaces to 40 percent. HCD specifies that the receptacles be located where assigned parking is provided. HCD proposes to require EV charging receptacles in multifamily parking facilities with a dedicated branch circuit connected to the dwelling unit's electric service panel, where feasible. HCD proposes to require specified 208/240-volt EV charging receptacle configurations.

HCD proposes to renumber existing item 3 to item 2 and amend the EV ready requirements for parking spaces with EV chargers to further delineate for hotels/motels and multifamily parking facilities. There is no anticipated fiscal impact for renumbering. HCD proposes to amend the requirement for EV chargers in hotels, motels, and multifamily parking facilities from 5 percent of parking spaces to 10 percent. HCD specifies that the EV chargers are located in common use or unassigned areas for multifamily parking facilities.

HCD proposes to require at least 50 percent of the required EV chargers to have a SAE J1772 connector for hotels, motels, and multifamily parking facilities. This proposal ensures that chargers are useable by a majority of EV users, including Tesla drivers. As noted in the CARB Staff Report, Initial Statement of Reasons, dated April 12, 2022, for their Proposed Advanced Clean Cars II Regulations, discussion of Level 1, Level 2, and On-Board Charger Minimum Requirements: Plug-in EV charging can occur at various charging levels, speeds, and with different charging connectors. Level 2 alternating current (AC) charging uses charging equipment compatible with a 240-volt outlet to charge the vehicle at higher charging speeds through its on-board charger. Currently, battery EVs and plug-in hybrid EVs must comply with charging requirements, which include Level 1 and 2 plug standardization to the SAE J1772 specification and a minimum on-board charger

1 LACC Examination Report 9.24.11 v1.docx (ca.gov)

capability. Vehicles with a unique charging inlet, such as Tesla, can alternatively meet this requirement by supplying an adapter with each vehicle to connect from their unique charging plug to the SAE J1772 plug.

HCD proposes to clarify that use of automatic load management systems (ALMS) applies to both EV charging receptacles and EV chargers (instead of "EVSE"). HCD proposes to repeal the sentence addressing the use of ALMS in EV capable parking spaces, since the requirement for EV capable parking spaces is proposed for repeal. There is no anticipated fiscal impact.

Multifamily Dwellings EV Capable Analysis:

Removing the EV capable parking space requirement results in 8,742 parking spaces that will no longer meet the prior EV capable requirements. The cost, including labor, of an EV capable parking space (panel capacity and raceway) ranges from $675.07 to $1,020.87. HCD estimates a cost saving ranging from $5.9 million (8,742 EV capable parking spaces x $675.07) to $8.9 million (8,742 EV capable parking spaces x $1,020.87). Despite the removal of the EV capable requirement, staff estimates a net gain of 9,464 parking spaces with EV charging capabilities and an additional construction cost ranging from $17.7 million to $30.3 million beyond the current code. HCD estimates that the proposal of removing EV capable and increasing the percentage of EV ready low power Level 2 charging receptacles and Level 2 EVSE will result in an additional 66,000 to 83,000 metric tons CO_2 equivalent saved annually through the use of EV charging infrastructure.

Table 1: Summary of incremental totals of multifamily dwelling parking spaces, costs, and emissions from this proposal that occur during the 1.5 years of this Intervening Code Adoption Cycle.

Proposal element:	# Spaces added (+) or subtracted (-)	Cost added to new construction ($ million)	Statewide Benefits ($ million)	GHG emission benefits (metric tons CO2)
Remove EV Capable *	-8,742	-$5.9 to -$8.9	-$55.3 to -$61.0	-30,000 to -37,500
Increase EV Ready	+13,113	+$10.4 to +$19.5	+$81.4 to +$85.4	+72,000 to +91,500
Increase EVSE	+5,093	+$13.2 to +$19.8	+$21.0 to +$22.4	+57,000 to +70,500
Net impact for this code cycle:	+9,464	+ $17.7 to +$30.3	+$45.4 to +$48.6	+99,000 to +124,500

* Statewide benefits for EV capable parking spaces occur if and when it is converted to an EVSE space.

HCD notes that the numbers in the row labeled *Net impact for this code cycle* are not cumulative. The minimum and maximum values presented in the table are not necessarily the low estimate and the high estimate.

Hotels and Motels EV Capable Analysis:

Removing the EV capable parking space requirements results in 2,587 to 3,155 parking spaces no longer able to support future EV charging infrastructure. HCD estimates a cost savings of $1.7 million to $3.2 million.

Despite the removal of the EV capable requirements, HCD estimates a net gain of 2,615 to 3,189 parking spaces with EV charging capabilities in hotels and motels and an additional construction cost of $4.7 million to $10.1 million beyond the current code requirement. HCD estimates an additional 17,000 to 29,000 metric tons of CO_2 equivalent will be saved annually.

Table 2: Summary of incremental totals of hotel and motel parking spaces, costs, and emissions from this proposal that occur during the 1.5 years of this Intervening Code Adoption Cycle.

Proposal element:	# Spaces added (+) or subtracted (-)	Cost added to new construction ($ million)	Statewide Benefits ($ million)	GHG emission benefits (metric tons CO2)
Remove EV Capable	-2,587 to -3,155	-$1.7 to -$3.2	- $16.4 to -$22.0	- 9,000 to -13,500
Increase EV Ready	+3,880 to +4,732	+$3.1 to +$7.0	+$24.1 to +$30.8	+21,000 to +34,500
Increase EVSE	+1,322 to +1,612	+$3.4 to +$6.3	+$5.8 to +$6.6	+13,500 to +22,500
Net impact for this code cycle:	+2,615 to +3,189	+$4.7 to +$10.1	+$13.6 to +$15.5	+25,500 to +43,500

In all new construction, HCD estimates a net gain of 12,079 to 12,653 new parking spaces will meet the proposed EV infrastructure requirements. HCD estimates an additional construction cost of $22.4 million to $40.4 million.

Multifamily Dwellings Additional Parking Space Analysis:

HCD proposes increasing the number of parking spaces with low power Level 2 charging receptacles from 25 percent to 40 percent. HCD estimates an additional 13,113 low power Level 2 charging receptacles will be installed. The cost of low power Level 2 charging receptacles (raceway, panel capacity, wiring, protective bollards), including labor, is estimated to range from approximately $789.35 to $1,484.90 per parking space. HCD proposes developers can choose from three receptacle configurations based on amperage for installation. HCD estimates an additional construction cost ranging from $10.4 million (13,113 x $789.35) to $19.5 million (13,113 x $1,484.90).

HCD estimates an additional 5,093 Level 2 EVSE will be installed. The average cost of a Level 2 EV charger ranges from $1,597.80 to $2,054.89. The cost of other components (wiring, panel capacity, conduit, protective bollards), including labor, adds another $998 - $1,828 per parking space with level 2 EVSE, bringing the total cost for level 2 EV charger

to $2,595.80 to $3,882.89 per parking space. HCD estimates an additional construction cost of $13.2 million (5,093 x $2,595.80) to $19.8 million (5,093 x $3,882.89).

Multifamily Dwellings Total Parking Space Analysis:

HCD estimates a total of 34,968 parking spaces (approximately 40 percent of total parking spaces available) will have low power Level 2 charging receptacles, and a construction cost ranging from $27.6 million (34,968 parking spaces x $789.35) to $51.9 million (34,968 parking spaces x $1,484.90).

HCD estimates a total of 8,742 new parking spaces will have Level 2 EVSE. The average cost of a Level 2 EVSE ranges from $1,597.80 to $2,054.89 ($2,595.80 to $3,882.89 including components). HCD estimates a total construction cost ranging from $22.7 million (8,742 parking spaces x $2,595.80) to $33.9 million (8,742 parking spaces x $3,882.89).

During the 1.5-year lifetime of the proposed amendments, HCD estimates a total of 43,710 parking spaces (34,968 low power Level 2 charging receptacles + 8,742 Level 2 EVSE) statewide will have EV charging capabilities in newly constructed multifamily dwellings.

In summary, following the 1.5 years of this next code cycle, this proposal would lead to 43,710 total parking spaces that are EV Ready and with Level 2 EVSE installed in multifamily dwellings when combined with existing parking spaces in these types of buildings by the end of 2025 (an increase of 18,206 parking spaces with EV charging capabilities from the current code). This is an important step forward, but still leaves a large gap towards what CEC projects is needed by 2030.

Hotels and Motels Additional Parking Space Analysis:

HCD proposes increasing the percentage of low power Level 2 charging receptacles from 25 percent to 40 percent. HCD estimates an additional 3,881 to 4,733 low power Level 2 charging receptacles will be installed, with an additional construction cost ranging from $3.1 million (3,881 low power level 2 charging receptacles x $789.35) to $7.0 million (4,733 low power Level 2 EV charging receptacles x $1,484.90).

HCD estimates an additional 1,322 to 1,612 Level 2 EVSE will be installed. The average cost of a Level 2 EVSE ranges from $1,597.80 to $2,054.89. The cost of other components (wiring, panel capacity, conduit, protective bollards) adds another $998 - $1,828 per parking space with level 2 EVSE, bringing the total cost for Level 2 EVSE to $2,595.80 to $3,882.89 per parking space. HCD estimates an additional construction cost of $3.4 million (1,322 level 2 EVSE x $2,595.80) to $6.3 million (1,612 level 2 EVSE x $3,882.89).

Hotels and Motels Total Parking Space Analysis:

HCD proposes increasing the percentage of low power Level 2 charging receptacles from 25 percent to 40 percent. HCD estimates a total of 10,348 to 12,619 parking spaces will be equipped with low power Level 2 charging receptacles.

Over the 1.5-year lifetime of this amendment, HCD estimates a total of 2,615 to 3,189, including the additional 1,322 to 1,612, parking spaces added when increasing the percentage of Level 2 EVSE parking spaces with EV charging capabilities from the current code (refer to Table 2).
Over the next 1.5 years, HCD estimates 12,935 to 15,774 parking spaces will be EV Ready and have Level 2 EVSE installed in newly constructed hotels and motels by the end of 2025 (an increase of 5,202 to 6,344 spaces from the current code).

Conclusion:

In all newly constructed facilities, HCD estimates a net gain of 12,079 to 12,653 parking spaces with EV charging capabilities, beyond the current code requirement. HCD estimates an increase in construction cost of $22.4 million to $40.4 million.
In summary, in newly constructed multifamily dwellings, hotels, and motels, a total of 56,664 to 59,848 parking spaces will have EV charging capabilities. HCD estimates the total construction cost of these amendments is $65.2 million to $116.9 million. Over the 1.5-year lifetime of these amendments, HCD estimates a reduction of 376,500 to 504,000 metric tons of CO_2.

Total Incremental Construction Cost: $22.4 million to $40.4 million.

Small Development Analysis:

HCD estimated the cost of the proposed code amendments in a small multifamily building (3-19 units). HCD found that 3 to 14 low power Level 2 charging receptacles will be installed, for a construction cost ranging from $2,368.05 (3 low power Level 2 charging receptacle x $789.35) to $20,788.60 (14 low power Level 2 charging receptacles x $1,484.90). HCD estimates that one to four Level 2 EVSE will be installed with these proposed amendments, with a construction cost ranging from $2,595.80 to $15,531.54. For small multifamily buildings, the total cost would range from $4,963.85 to $36,320.14 per site. Approximately 4,188 buildings will have fewer than 20 units. HCD estimates that the statewide cost for small multifamily dwellings will range from $20.8 million to $152.1 million.

HCD estimated that a small hotel/motel would have a size range of 1,000 square feet to 5,000 square feet. HCD estimated that the low-cost estimate (for a 1,000 square foot hotel or motel) would be $4,174.50 (two low power Level 2 charging receptacles and one Level 2 EVSE) and the high-cost estimate (for a 5,000 square foot building) would be $18,160.07 (seven low power Level 2 charging receptacles and two Level 2 EVSE).

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 6
Chapter 4 Residential Mandatory Measures, Section 4.106.4.2.2.1 Electric vehicle charging stations (EVCS).

Rationale: HCD proposes to continue to adopt the above referenced section with amendment. The proposed amendment corrects the reference to a section and item number. HCD proposes to amend the language to clarify that section 4.106.4.2.2, item 2, refers to EVCS with chargers installed. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 7
Chapter 4 Residential Mandatory Measures, Section 4.106.4.2.2.1.1 Location.

Rationale: HCD proposes to repeal the language of the above referenced section and relocate the requirements into new section 4.106.4.2.2.1.1, which combines requirements for dimensions and locations, for ease of use. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 8
Chapter 4 Residential Mandatory Measures, Section 4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions.

Rationale: HCD proposes to continue to adopt the above referenced section with amendment. The section is renumbered from 4.106.4.2.2.1.2 to section 4.106.4.2.2.1.1 to reflect the repeal of the previous section (4.106.4.2.2.1.1 Location). The section is retitled to reflect additions to the section related to installed EV chargers and EV charging stations space dimensions and location. References to “charging spaces” have been updated to “EVCS spaces” to clarify that the spaces refer to spaces with installed EV chargers and for consistency with other parts of the code. Requirements for EVCS spaces in existing section 4.106.4.2.2.1.1 Items 1 and 2 (including Exception) have been relocated into Item 3 of this section and are identified as sub-items a and b. This section addresses dimension and location requirements for the “one in every 25 EVCS spaces”. Existing references in the text of the Exception have been updated to reference the currently proposed regulatory sections and to delete the reference to Item 3 of section 4.106.4.2.2.1.2 since the exception has been relocated under Item 3 in the current proposal. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 9
Chapter 4 Residential Mandatory Measures, Section 4.106.4.2.2.1.3 Accessible EV spaces.

Rationale: HCD proposes to renumber the above referenced section to 4.106.4.2.2.1.2 to accommodate a repealed section. HCD proposes to change the title from “Accessible EV spaces” to “Accessible electric vehicle charging station spaces” to reflect application to spaces with installed chargers. HCD proposes to repeal a reference to a proposed deleted section 4.106.4.2.2.1.2 and replace a reference to “EVSE” with “EV chargers” and other editorial changes. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 10
Chapter 4 Residential Mandatory Measures, Section 4.106.4.2.3 EV space requirements.

Rationale: HCD proposes to repeal text from the above referenced section and propose it as “Reserved.” The requirements in section 4.106.4.2.3 are in the California Electrical Code and are referenced when receptacles and EV chargers are installed. There is no need for the requirements to be duplicated in this section. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 11
Chapter 4 Residential Mandatory Measures, Section 4.106.4.2.4 Identification.

Rationale: HCD proposes to repeal text from the above referenced section and propose it as “Reserved.” These requirements have been relocated to section 4.106.4.3 addressing EV capable parking spaces for existing parking facilities serving multifamily buildings. HCD estimates the cost of labeling an EV capable space on the panel is negligible and therefore the cost savings are negligible as well. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 12
Chapter 4 Residential Mandatory Measures, Section 4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings.

Rationale: HCD proposes continued adoption of the above referenced section to clarify that “electric vehicle charging spaces” as referenced in existing code are “EV capable spaces.” This is being updated for consistency with other modifications related to EV charging spaces. HCD proposes to specify identification of service panel or subpanel circuit panel directory spaces for overcurrent protective devices as “EV capable.” This language has been repealed from existing Section 4.106.4.2.4 and relocated into 4.106.4.3. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 13
Appendix A4 Residential Voluntary Measures, Section A4.106.8 Electric vehicle (EV) charging for new construction.

Rationale: HCD proposes to continue to adopt the above referenced section with amendment. The proposed amendment repeals the reference to an obsolete section A4.106.8.3. The proposed amendment also repeals the reference to use of future EV chargers and references EV ready spaces which include installation of EV charging receptacles and EV chargers. HCD also proposes to amend language referencing compliance with the Electrical Code for consistency with other sections. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 14
Appendix A4 Residential Voluntary Measures, Section A4.106.8.2 New multifamily development projects and hotels and motels.

Rationale: HCD proposes to continue to adopt the above referenced section with amendment.

HCD proposes to modify the title and introductory sentence in section A4.106.8.2 to refer to “new multifamily dwellings” instead of “multifamily development projects” for consistency with the mandatory section of CALGreen. HCD proposes to repeal existing Tier 1 and Tier 2 requirements in section A4.106.8.2.1 for installation of low power Level 2 EV charging receptacles and Level 2 EVSE. This repeal is for the purpose of displaying changes in a cleaner, easy-to-read format. Many of the repealed provisions are “re-adopted” in newly formatted sections (Tier 1 and Tier 2 Option A) as discussed in subsequent sections in this document. There is no fiscal impact as a result of the modification or repeal.

Tier 1: HCD proposes an introductory sentence, noting the availability of two options (Option A or Option B) for compliance in voluntary Tier 1. One or both of the options may be adopted at the local level since voluntary options may apply differently to different multifamily or hotel/motel projects. There is no anticipated fiscal impact.

Option A: HCD proposes to amend existing required percentage of EV charging receptacles and EV chargers. This has been identified as Option A. The following discussion is based on changes proposed to the existing provisions of section 4.106.106.8.2.1 Tier 1 and Tier 2.

HCD proposes to amend the title of Option A, Item 1, to “EV Ready Parking Spaces with Receptacles” and further delineates the section to apply to hotels/motels and multifamily parking facilities. There is no anticipated fiscal impact. HCD proposes to amend the requirement of low power Level 2 EV charging receptacles from 35 percent of parking

spaces to 50 percent. HCD specifies that the receptacles be located where assigned parking is provided. The existing condition that no more than one receptacle is required for each dwelling unit for dwellings with more than one parking space has been repealed, providing more flexibility in design and location for installing EV charging receptacles. The exception for parking areas served by parking lifts has been maintained. HCD proposes a new exception for hotels/motels to install Level 2 EV chargers in lieu of low power Level 2 EV charging receptacles. At least 50 percent of chargers substituted must have J1772 connectors. See additional discussion for the J1772 requirement in Item 5.

Although not specified in this section, additional requirements from the mandatory section of CALGreen would apply. For example, the requirements in section 4.106.4.2.2 for receptacle power source and receptacle configuration would also apply to this voluntary section.

HCD proposes to amend the requirement for EV chargers from 10 percent of parking spaces to 15 percent. HCD specifies that the EV chargers be located in common use or unassigned areas for multifamily parking facilities. The exception for parking areas served by parking lifts has been maintained. HCD proposes to require at least 50 percent of the required EV chargers to have a J1772 connector. See additional discussion for the J1772 requirement in Item 5.

HCD proposes an option to use ALMS to reduce maximum required electrical capacity to each space with EV charging capability served by the ALMS. The use of ALMS is an option in the mandatory section but limited to EV charging receptacles and EV chargers which are installed in excess of the mandatory number required. The voluntary measure allows the ALMS to apply to any EV charging receptacles or chargers.

There was a comparation of the proposed Tier 1 Option A to the current Tier 1 measures. HCD estimates the Tier 1 Option A results in an additional 24,158 to 25,306 parking spaces with EV charging capabilities and an additional construction cost ranging from $32.0 million to $55.5 million.

HCD's proposed Tier 1 Option A results in a total of 73,638 spaces with EV charging capabilities (56,644 low power Level 2 charging receptacles + 16,993 Level 2 EVSE) to 77,329 parking spaces (59,484 low power Level 2 charging receptacles + 17,845 Level 2 EVSE) having EV charging capabilities, with a statewide construction cost of $88.8 million to $157.6 million. Over the 1.5-year lifetime of these proposed amendments, HCD estimates a total GHG emissions reduction of 502,500 to 670,500 metric tons of CO_2 equivalent.

HCD cannot estimate the cost of ALMS separately since it is typically integrated into the software of a networked Level 2 EVSE.

Multifamily dwellings:

In newly constructed multifamily dwellings, HCD estimates an increase of 13,113 parking spaces with low power Level 2 charging receptacles from the current Tier 1 code requirement, with an additional cost of $10.4 million to $19.5 million. HCD estimates an increase of 5,815 Level 2 EVSE installed from the current Tier 1 requirement, with an additional cost of $15.1 million to $22.6 million.

HCD estimates a total of 56,822 parking spaces (43,710 low power Level 2 charging receptacles + 13,113 Level 2 EVSE) would have EV charging capabilities. HCD estimates a total construction cost of $68.5 million to $115.8 million.

Hotels and Motels:

For newly constructed hotels and motels, HCD estimates an additional 3,880 to 4,732 parking spaces with low power Level 2 charging receptacles from the current Tier 1 code requirement, and an additional cost of $3.1 million to $7.0 million. HCD estimates an increase of 1,350 to 1,646 Level 2 EVSE installed from the current Tier 1 requirement, with an additional cost of $3.5 to $6.4 million.

For newly constructed hotels and motels HCD estimates a total of 16,815 (12,935 low power Level 2 charging receptacles + 3,880 Level 2 EVSE) to 20,506 (15,774 low power Level 2 charging receptacles + 4,732 Level 2 EVSE) parking spaces would have EV charging capabilities. HCD estimates a total construction cost of $20.3 million to $41.8 million.

Over the 1.5-year lifetime of this amendment, HCD estimates a total GHG emission reduction of 115,500 to 178,500 metric tons CO_2 equivalent.

Option B: HCD proposes to add a new option for complying with Tier 1 measures related to EV charging. This measure mirrors the proposal submitted to HCD by numerous stakeholders and is identified as Option B.

HCD proposes that Tier 1, Option B, require installation of low power Level 2 EV charging receptacles in at least one parking space for each dwelling unit in multifamily developments with assigned parking. HCD proposes an exception to this requirement when the number of parking spaces available to residents is less than the number of dwelling units. This situation can occur in some projects where only one parking space is allowed for two units or more. HCD also proposes an exception for parking areas served by parking lifts similar to the exceptions in existing CALGreen requirements. The requirement for low power Level 2 EV charging receptacles affects a higher percentage of parking spaces than the existing Tier 1 requirement for 35 percent of parking spaces.

Although not specified in this section, additional requirements from the mandatory section of CALGreen would apply. For example, the requirements in section 4.106.4.2.2 for receptacle power source and receptacle configuration would also apply to this voluntary section.

HCD proposes that 10 percent, but not less than one, of multifamily parking spaces to be equipped with Level 2 EV chargers for use by all residents or guests. HCD also proposes exceptions for parking areas served by parking lifts similar to the exceptions in existing CALGreen requirements and where there are no common use parking spaces.

HCD proposes to require at least 50 percent of the required EV chargers to have a J1772 connector. See additional discussion for the J1772 requirement in Item 5. HCD proposes an option to use ALMS to reduce maximum required electrical capacity to each space with EV charging capability served by the ALMS. The use of ALMS is an option in the mandatory section but limited to EV charging receptacles and EV chargers which are installed in excess of the mandatory number required. The voluntary measure allows the ALMS to apply to any EV charging receptacles or chargers.

To illustrate the number of parking spaces with EV charging capability for Option B, HCD will use a 100-unit multifamily dwelling with 200 total parking spaces. HCD assumes that every unit has access to an average of 1.8 parking spaces. HCD assumed a maximum of 112 out of the 200 parking spaces would be assigned and the remaining 88 parking spaces are for guests and residents. HCD estimates that 9 parking spaces would be equipped with Level 2 EVSE. For this example, HCD estimates a total cost ranging from $111,769.43 ((112 low power Level 2 charging receptacles x $789.35) + (9 Level 2 EVSE x $2,595.80)) to $201,254.77 ((112 low power Level 2 charging receptacles x $1,484.90) +(9 Level 2 EVSE x $3,882.89)).

The current Tier 1 proposal requires 35 percent of total parking spaces to have low power level 2 charging receptacles and 10 percent of total parking spaces to have Level 2 EVSE. HCD estimates under the current Tier 1 requirements, 70 parking spaces would have low power Level 2 charging receptacles and 20 parking spaces would have Level 2 EVSE. The proposed Option B results in 42 more parking spaces with low power Level 2 charging receptacles. HCD estimates an additional construction cost ranging from $33,152.70 to $62,365.80 for low power Level 2 charging receptacles. The current Tier 1 requirements result in 11 more parking spaces with Level 2 EVSE. HCD estimates a cost saving ranging from $28,553.84 to $42,711.74 for Level 2 EVSE. Overall, HCD estimates an additional cost of $4,598.86 to $19,654.06 when implementing Tier 1 Option B over the current Tier 1 measures.

HCD cannot estimate the cost of ALMS separately since it is typically integrated into the software of a networked Level 2 EVSE.

Tier 2: HCD proposes an introductory sentence noting the availability of two options (Option A or Option B) for compliance in voluntary Tier 2. One or both of the options may be adopted at the local level since voluntary options may apply differently to various multifamily or hotel/motel projects. There is no anticipated fiscal impact.

Option A: HCD proposes to amend existing required percentage of EV charging receptacles and EV chargers. This has been identified as Option A.

HCD proposes to amend the title of Option A, Item 1, to “EV Ready Parking Spaces with Receptacles” and further delineates the section to apply to hotels/motels and multifamily parking facilities. There is no anticipated fiscal impact. HCD proposes to amend the requirement of low power Level 2 EV charging receptacles from 40 percent of parking spaces to 55 percent. HCD specifies that the receptacles be located where assigned parking is provided. The existing condition that no more than one receptacle is required per dwelling unit for dwellings with more than one parking space has been repealed, providing more flexibility in design and location for installing EV charging receptacles.

Although not specified in this section, additional requirements from the mandatory section of CALGreen would apply. For example, the requirements in section 4.106.4.2.2 for receptacle power source and receptacle configuration would also apply to this voluntary section.

HCD proposes a new exception for hotels/motels to install Level 2 EV chargers in lieu of low power Level 2 EV charging receptacles. At least 50 percent of chargers substituted must have J1772 connectors. See additional discussion for the J1772 requirement in Item 5. HCD proposes to amend the requirement for EV chargers from 15 percent of parking spaces to 20 percent. HCD specifies that the EV chargers be located in common use or

unassigned areas for multifamily parking facilities. HCD proposes to require at least 50 percent of the required EV chargers to have a J1772 connector.

HCD proposes an option to use ALMS to reduce maximum required electrical capacity to each parking space with EV charging capability served by the ALMS. The use of ALMS is an option in the mandatory section but limited to EV charging receptacles and EV chargers which are installed in excess of the mandatory number required. The voluntary measure allows the ALMS to apply to any EV charging receptacles or chargers.

HCD compared the current Tier 2 requirements with HCD's proposed Tier 2 Option A requirements. HCD estimates the proposed Tier 2 Option A will result in 24,909 to 26,063 additional parking spaces with EV charging capabilities. HCD estimates an additional construction cost ranging from $34.0 million to $58.4 million, beyond the current Tier 2 requirements.

HCD estimates a total of 84,966 parking spaces (62,309 low power Level 2 charging receptacles + 22,658 Level 2 EVSE) to 89,225 spaces (65,432 low power Level 2 charging receptacles + 23,793 Level 2 EVSE) would have EV charging capabilities, with a statewide construction cost of $108.0 million to $189.5 million. HCD estimates 595,500 to 798,000 metric tons CO_2 equivalent would be saved during the 1.5-year lifetime of the amendments.

HCD cannot estimate the cost of ALMS separately since it is typically integrated into the software of a networked Level 2 EVSE.

Multifamily dwellings:

HCD estimates an increase of 13,113 spaces with low power Level 2 charging receptacles from the current Tier 2 code requirement, with an additional cost of $10.4 million (13,113 low power Level 2 charging receptacles x $789.35) to $19.5 million (13,113 low power Level 2 charging receptacles x $1,484.90). HCD estimates an increase of 6,538 Level 2 EVSE installed from the current Tier 2 requirement, with an additional cost ranging from $17.0 million (6,538 Level 2 EVSE x $2,595.80) to $25.4 million (6,538 Level 2 EVSE x $3,882.89).

In newly constructed multifamily dwellings, HCD estimates that a total of 65,564 parking spaces (48,080 low power Level 2 charging receptacles +17,484 Level 2 EVSE) would have EV charging capabilities. HCD estimates a total construction cost of $83.3 million to $139.3 million and a statewide benefit of $375.6 million to $385.2 million.

Hotels and Motels:

In newly constructed hotels and motels, HCD estimates an increase of 3,880 to 4,732 parking spaces with low power level 2 charging receptacles from the current Tier 2 code requirement, with an additional cost of $3.1 million (3,880 low power level 2 charging receptacles x $789.35) to $7.0 million (4,732 low power level 2 charging receptacles x $1,484.90). HCD estimates an increase of 1,378 to 1,680 level 2 EVSE installed from the current Tier 2 requirement, with an additional cost of $3.6 million (1,378 x $2,595.80) to $6.5 million (1,680 x $3,882.89).

In newly constructed hotels and motels, HCD estimates that a total of 19,402 parking spaces (14,228 low power Level 2 charging receptacles + 5,174 Level 2 EVSE) to 23,661 (17,351 low power Level 2 charging receptacles + 6,310 Level 2 EVSE) would have EV

charging capabilities. HCD estimates a total construction cost of $24.7 million to $50.3 million.

Over the lifetime of the proposed amendment, staff estimates 136,500 to 213,000 metric tons CO_2 equivalent would be saved.

Incremental Construction Cost: $34.0 million to $58.4 million.

Option B: HCD proposes to add a new option for complying with Tier 2 measures related to EV charging. This measure mirrors the proposal submitted to HCD by numerous stakeholders with enhancement and is identified as Option B.

HCD proposes that Tier 2, Option B, require installation of low power Level 2 EV charging receptacles for each parking space available for use by residents in multifamily developments. The requirement for low power Level 2 EV charging receptacles affects a higher percentage of parking spaces than the existing Tier 2 requirement for 40 percent of parking spaces.

Although not specified in this section, additional requirements from the mandatory section of CALGreen would apply. For example, the requirements in section 4.106.4.2.2 for receptacle power source and receptacle configuration would also apply to this voluntary section.

HCD proposes that 20 percent, but not less than one, of multifamily parking spaces to be equipped with Level 2 EV chargers for use by all residents or guests. HCD proposes to require at least 50 percent of the required EV chargers to have a J1772 connector. See additional discussion for the J1772 requirement in Item 5.

HCD proposes an option to use ALMS to reduce maximum required electrical capacity to each parking space with EV charging capability served by the ALMS. The use of ALMS is an option in the mandatory section but limited to EV charging receptacles and EV chargers which are installed in excess of the mandatory number required. The voluntary measure allows the ALMS to apply to any EV charging receptacles or chargers.

Like Tier 1 Option B, HCD elected to use a 100-unit multifamily dwelling site with 200 total parking spaces as an example to illustrate the charger distributions. Again, HCD assumed that every unit had access to 1.8 parking spaces. HCD estimates that 112 parking spaces are available for residential parking, and the remaining 88 parking spaces can be used by guests and nonresidents. HCD estimates a total construction cost ranging from $134,093.34 to $234,647.59 for this example.

The current Tier 2 measures require 40 percent of total parking spaces to have low power Level 2 charging receptacles and 15 percent of total parking spaces to have Level 2 EVSE. A 200-space parking lot would require 80 parking spaces to have low power Level 2 charging receptacles and 30 parking spaces to have Level 2 EVSE. The proposed Tier 2 Option B will have 32 more low power Level 2 cost receptacles, and 12 fewer parking spaces with Level 2 EVSE. HCD estimates an additional cost ranging from $25,259.20 to $47,516.80 for low power Level 2 charging receptacles. HCD estimates a cost savings ranging from $32,187.96 to $48,147.79 when installing Level 2 EVSE. Overall, HCD estimates a cost savings ranging from $630.99 to $6,928.76 when implementing Tier 2 Option B measures.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 15
Appendix A4 Residential Voluntary Measures, Section A4.106.8.2.2 Technical requirements.

Rationale: HCD proposes to continue to adopt the above referenced section with amendment. The proposed amendment corrects references to repealed sections 4.106.4.2.1 (Notes); 4.106.4.2.2 (Notes), 4.106.4.2.3, 4.106.4.2.4 and renumbered section 4.106.4.2.2.1.3 in the mandatory EV charging sections. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

ITEM 16
Appendix A4 Residential Voluntary Measures, Section A4.602 Residential Occupancies Application Checklist.

Rationale: HCD proposes to amend the above referenced section (checklist) to coordinate with proposed changes and existing text in other sections of CALGreen in this rulemaking. There is no anticipated fiscal impact.

CAC Recommendation:

TBD

Agency Response:

TBD

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS

Government Code Section 11346.2(b)(3) requires an identification of each technical, theoretical, and empirical study, report, or similar document, if any, upon which the agency relies in proposing the regulation(s).

To develop projections for the number of needed parking spaces to electrify, staff from the CEC provided CARB with an estimate of the number of multifamily housing units that will be built from 2024 through the end of 2025. Additionally, CARB used CEC's Assembly Bill 2127 Report to estimate the number of charging stations that would be required to support 5 million ZEVs by 2030.

CARB calculated the average cost of a Level 2 EVSE by reviewing over 30-unit costs from third-party websites and EVSE manufacturers. For multifamily dwellings, CARB assumed usage would be limited to residents, staff, and guests; the chargers would not be open to

the public. CARB reviewed the 2021 National Construction Cost Estimator to calculate the cost for the electrical circuit infrastructure.

CARB staff then conducted a statewide analysis to estimate the cost of HCD's proposal as well as estimate GHG emissions reductions from the proposal. HCD has incorporated CARB's analyses in rationale on a section-by-section basis.

Detailed history and background on EV charging regulations in CALGreen and rationale for HCD proposals for installation of low power Level 2 EV charging receptacles and Level 2 EV chargers are in the rulemaking documents (Initial Statement of Reasons and 15-Day Express Terms) referenced below.

1. Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment, Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030, December 2020 | CEC-600-2021-001-REV.
2. California Electric Vehicle Infrastructure Deployment Assessment: Senate Bill 1000 Report Increasing Access to Electric Vehicle Infrastructure for All, December 2020 | CEC-600-2020-00
3. California Air Resources Board, Final Sustainable Communities Strategy Program and Evaluation Guidelines Appendices, Table 10, November 2019
4. California Air Resources Board, Low-Income Barriers Study, Part B: Overcoming Barriers to Clean Transportation Access for Low-Income Residents, Final Guidance Document, February 21, 2018
5. U.S. Department of Energy, eGallon Compare the costs of driving with electricity, March 31, 2021, website: Department of Energy eGallon.
6. 45-Day Initial Statement of Reasons For Proposed Building Standards Of The California Department of Housing And Community Development Regarding the 2022 California Green Building Standards Code California Code Of Regulations, Title 24, Part 11 (HCD 03/21), Dated July 27, 2021.
7. Additional 15-Day Express Terms and Rationale for Proposed Building Standards of the Department of Housing and Community Development Regarding the 2022 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11, (HCD 03/21), Dated October 11, 2021
8. California Air Resources Board's Advanced Clean Cars II Staff Report: Initial Statement of Reasons, Dated April 12, 2022

STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS

Government Code Section 11346.2(b)(1) requires a statement of the reasons why an agency believes any mandates for specific technologies, equipment, or prescriptive standards are required.

HCD is statutorily required to propose adoption of (by reference) model building codes for other parts of the California Building Standards Code which contain prescriptive standards. Although CALGreen is not based on a model code, prescriptive standards are necessary as they provide the following: explicit guidance for certain mandated requirements; consistent application and enforcement of building standards while also establishing clear design parameters; and ensure compliance with minimum health, safety, and welfare standards for owners, occupants, and guests. Performance standards are permitted by state law; however, they must be demonstrated to the satisfaction of the proper enforcing

agency. The CALGreen proposals do include some performance standards related to EV charging.

CONSIDERATION OF REASONABLE ALTERNATIVES

Government Code Section 11346.2(b)(4)(A) requires a description of reasonable alternatives to the regulation and the agency's reasons for rejecting those alternatives. In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific action or procedures, the imposition of performance standards shall be considered as an alternate. It is not the intent of this paragraph to require the agency to artificially construct alternatives or describe unreasonable alternatives.

HCD's proposals are intended to further necessary mandatory and voluntary provisions in CALGreen to meet EV charging needs, the goals indicated by Executive Order B-48-18, Executive Order N-79-20, and stakeholder recommendations. HCD's proposals also aim to address provisions to mitigate the effects of climate change while retaining consistency with other parts of the California Building Standards Code.

HCD considered two alternatives to the current CALGreen proposals:

Alternative 1 was considered to increase mandatory requirements for newly constructed multifamily buildings, hotels, and motels, to 50 percent of parking spaces to be equipped with low power Level 2 receptacles and 15 percent to be equipped with Level 2 chargers. HCD believes this alternative will be too costly to implement statewide and has elected to propose a less costly incremental requirement for this code adoption cycle and will revisit increasing percentages in future cycles.

Alternative 2 was considered for newly constructed multifamily buildings, hotels, and motels, to remove the EV capable requirements, increase the percentage of low power Level 2 receptacles to 40 percent, and keep the Level 2 charger requirement the same. HCD declined to pursue this alternative. HCD believes that this alternative is not stringent enough, does not provide access to a variety of charging options to accommodate various dwell time needs, and does not provide enough access to EV charging to incrementally meet California's EV goals, as described in Executive Order's Executive Order B-48-18 and Executive Order N-79-20.provide enough access to EV charging to incrementally meet California's EV goals, as described in Executive Order's Executive Order B-48-18 and Executive Order N-79-20.HCD believes that this alternative is not stringent enough, does not provide access to a variety of charging options to accommodate various dwell time needs, and does not provide enough access to EV charging to incrementally meet California's EV goals, as described in Executive Order's Executive Order B-48-18 and Executive Order N-79-20.provide enough access to EV charging to incrementally meet California's EV goals, as described in Executive Order's Executive Order B-48-18 and Executive Order N-79-20.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS

Government Code Section 11346.2(b)(4)(B) requires a description of any reasonable alternatives that have been identified or that have otherwise been identified and brought to the attention of the agency that would lessen any adverse impact on small business.

This rulemaking includes Option B alternative as part of the Tier 1 and Tier 2 voluntary measures. Option B has been proposed by stakeholders as an alternative path for

providing additional EV charging opportunities for residents in multifamily dwellings. Option B varies from the existing code format; however, it may be a preferred option for specific projects. Including Option B as an alternative in Tier 1 and Tier 2 of section A4.106.8.2, will provide stakeholders with two (2) choices for local adoption of the existing voluntary measures.

This alternative was introduced by stakeholders as having potential for cost savings, without specific mention of small businesses. However, due to the different format and scope of the alternative, it was not identified as a new mandatory proposal. Other alternatives, including decreasing requirements for EV charging, may have resulted in reducing cost impacts to businesses, however, would not further enhance or support goals for increasing EV charging capacity with special focus on multifamily dwellings.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS

Government Code Section 11346.2(b)(5)(A) requires the facts, evidence, documents, testimony, or other evidence on which the agency relies to support an initial determination that the action will not have a significant adverse economic impact on business.

HCD has determined that these proposed amendments would marginally increase costs to California business enterprises, representing 0.44 percent to 1.58 percent of the total new construction costs of multifamily dwellings and hotels and motels with significant benefits to Californians due to improved air quality and GHG emissions reduction. HCD estimates the statewide benefit (avoided costs) of installing EV charging infrastructure during new construction ranges from $60.8 million to $62.1 million

Over the 1.5-year lifetime of the proposed amendments, HCD has estimated an incremental GHG emissions reduction potential of 99,000 to 124,500 metric tons of CO_2 equivalent in newly constructed multifamily dwellings. In newly constructed hotels and motels, HCD estimates an incremental GHG emissions reduction potential of 25,500 to 43,500 metric tons of CO_2 equivalent through the lifetime of the proposed amendments.

Incremental GHG emissions reduction potential: 124,500 to 168,000 metric tons of CO_2 equivalent.

ASSESSMENT OF EFFECT OF REGULATIONS UPON JOBS AND BUSINESS EXPANSION, ELIMINATION OR CREATION

Government Code Sections 11346.3(b)(1) and 11346.5(a)(10)

HCD has assessed whether and to what extent this proposal will affect the following:

A. **The creation or elimination of jobs within the State of California.**
   Some jobs may be created for installation, maintenance, and manufacturing of EV receptacles, EV chargers and ALMS. No jobs are expected to be eliminated as a direct result of this proposal.

B. **The creation of new businesses or the elimination of existing businesses within the State of California.**
   Some special trade construction businesses may be created. No jobs are expected to be eliminated as a direct result of this proposal. Some jobs may be created.

C. The expansion of businesses currently doing business within the State of California.
The proposal is likely to promote the expansion of businesses currently involved in EV charging equipment manufacturing, installation, maintenance, use and technology development. The proposal should also increase charging opportunities, leading to increased business related to use of EVs.

D. The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.
This proposal increases the sustainability of California's natural resources and promotes public health by reducing petroleum-based automotive fuel use, GHG emissions, and criteria pollutants.

ESTIMATED COST OF COMPLIANCE, ESTIMATED POTENTIAL BENEFITS, AND RELATED ASSUMPTIONS USED FOR BUILDING STANDARDS

Government Code Section 11346.2(b)(5)(B)(i) states if a proposed regulation is a building standard, the initial statement of reasons shall include the estimated cost of compliance, the estimated potential benefits, and the related assumptions used to determine the estimates.

The additional cost for installing more low power Level 2 charging receptacles and Level 2 EVSE is 0.44 percent to 1.58 percent of the total construction costs for hotels, motels and multi-unit dwellings. The net initial construction costs in new buildings of $22.4 million to $40.4 million may be incurred between mid-2024 through the end of 2025 due to the adoption of this proposed mandatory measure, or $14.9 million to $26.9 million annually. Additional costs may be incurred for ADA compliance which can vary greatly from property to property. Alternately, installing the same levels of EV infrastructure as required by the proposed mandatory measure, but doing so as retrofits in existing buildings, would cost $84.6 million to $101.2 million over an 18-month period. This retrofit cost is approximately three to four times larger than the construction cost. Stated another way, an estimated net statewide-avoided cost (benefit) of $60.8 million to $62.1 million may be achieved by adopting these revisions to the EV charging infrastructure provisions during new construction. Additional costs will be incurred for new requirements for existing buildings, depending on the nature and frequency of retrofit activities. This measure will protect public health and safety, the environment, and the general welfare of California residents. **Net Statewide Benefit:** $60.8 million to $62.1 million.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS

Government Code Section 11346.2(b)(6) requires a department, board, or commission within the Environmental Protection Agency, the Resources Agency, or the Office of the State Fire Marshal to describe its efforts, in connection with a proposed rulemaking action, to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues. These agencies may adopt regulations different from these federal regulations upon a finding of one or more of the following justifications: (A) The differing state regulations are authorized by law and/or (B) The cost of differing state regulations is justified by the benefit to human health, public safety, public welfare, or the environment.

These regulations are neither duplicative of nor conflict with federal regulations.