# 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)

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 BENEFITS

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 specific purpose for each adoption, amendment, or repeal and the problem the agency intends to address and the rationale for the change is summarized below on a section-by-section basis. Due to significant changes, including reformatting, in provisions related to electric vehicle (EV) charging HCD is providing general background information and need for the changes in the Background and History statement directly below.

### Background, Recommended Solutions and Statutory Requirements related to EV Charging

The provisions related to EV charging proposed by HCD, as requested in part by the California Air Resources Board (CARB), include mandatory green building standards for occupancies within its authority, building upon a framework of voluntary measures adopted by HCD in 2008 and make modifications and clarifications to the 2019 CALGreen Code. The intent of the code continues to: (1) reduce greenhouse gas (GHG) emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; and (3) respond to the directives by the Governor in 2008 to develop a green building code.

HCD's proposed action will support the implementation of the Governor's Executive Orders B-16-2012, B-48-2018 and N-79-20.These goals include: having over 1.5 million zero-emission vehicles (ZEVs) on California roadways by 2025; 5 million ZEVs on California roadways by 2030, and passenger vehicle and truck sales in California to be 100 percent ZEVs by 2035, respectively. Per the California Energy Commission's (CEC) recent Assembly Bill 2127 staff report[1], California has a projected shortfall in the number of Level 2 chargers needed. This shortfall widens significantly when looking at 2030 and longer time horizons.

1. Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment

The Governor's Executive Orders demonstrate the commitment to support a successful and growing market for EVs, which is a critical strategy to help reduce emissions of criteria air pollutants and GHG, to ensure equitable access to clean transportation, and to reduce dependence on petroleum-based fuels. HCD's proposed amendments for the 2022 CALGreen Code will support these Executive Orders.

The proposed amendments begin to provide comparable access to EV infrastructure that currently exists for one- and two-family dwellings. The current CALGreen Code requires all one- and two-family dwellings and townhouses with attached private garages be equipped with Level 2 capable infrastructure, yet only 10 percent of parking spaces in multi-family dwellings are currently required to be Level 2 capable. Per a CEC assessment on Senate Bill 1000[2], nearly 30 percent of Californians live in multi-family dwellings, with over 70 percent of these residents located within low-income communities. The assessment indicates that up to 94 percent of EV owners living in single-family homes charge their vehicles from home, whereas 18 to 48 percent of EV owners living in multi-family dwellings charge from their place of residence. Further, the assessment indicates low-income households spend roughly one-third of their take-home income on transportation costs alone. Per data from the Department of Energy[3], EV fueling costs are roughly half that of comparable gasoline vehicles, with further savings expected from reduced maintenance costs[4]. The reduced costs to operate EVs can greatly benefit low-income households that otherwise spend high proportions of income on transportation expenses, while improving air quality in low-income communities. This is further supported through the California Air Resources Board's (CARB's) Low Income Barriers Study, Part B: Overcoming Barriers to Clean Transportation Access for Low-Income Residents (Barriers Report)[5] which highlights the challenges transportation affordability has on community mobility and meeting community-identified needs. CARB's Barriers Report assertion that lower costs of EV charging and maintenance relative to gasoline vehicles would greatly benefit low-income groups that currently spend significant amounts of income on transportation related expenses.

Unlike in single-family owner-occupied homes, tenants of multi-family dwellings do not have decision making power, or often landlord support to install EV infrastructure at their place of residence. Adding electrical panel capacity and conduit alone to support Level 2 charging in existing buildings costs $7,000 - $8,000 per space, more than six times higher than in new construction. It is therefore critical that CALGreen Code provide strategic charging access in multi-family dwellings. This will provide communities an enhanced ability to access convenient, more affordable, charging infrastructure at their place of residence, therefore, making EV adoption more accessible. HCD's proposed amendments

2. California Electric Vehicle Infrastructure Deployment Assessment: Senate Bill 1000 Report
3. eGallon | Department of Energy
4. Final Sustainable Communities Strategy Appendices (ca.gov)
5. CARB Barriers Report: Final Guidance Document | California Air Resources Board

to the 2022 CALGreen Code help provide more equitable access to charging for multifamily residents.

In addition to supporting the Administration's directives, the goal of this proposal is to enable charging capability and immediate charging access at multifamily buildings in an effort to reduce the lack of access to EV charging which currently exists. This effort will further encourage the purchase and use of EVs for routine transportation.

Statewide application of the proposed building standards amendments will also provide substantial environmental and equity benefits through reduction in energy use, GHG emissions, criteria pollutants, and fossil fuel dependency. These benefits lead to improved public health and may result in significant cost savings (avoided costs) associated with future installation of EV charging stations at multifamily dwellings and hotels and motels.

### Statutory References

- Under a mandate from Assembly Bill 1092 (Chapter 410, Statutes of 2013) authored by Assembly Member Levine, HCD was directed to develop mandatory EV standards for residential buildings during the 2016 Triennial Code Adoption Cycle.
- Under a mandate from Assembly Bill 1473 (Chapter 719, Statues of 2008) authored by Senator Calderon, HCD was given authority to develop green building standards.
- 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. The California Air Resources Board (CARB) has expertise in air quality, climate change, and EV charging infrastructure, as well as mechanisms for meeting community-identified transportation needs.

## SPECIFIC PROPOSED REGULATORY ACTIONS

### Item 1

### CHAPTER 1, ADMINISTRATION

**Rationale:** The California Department of Housing and Community Development (HCD) proposes to continue adoption of chapter 1 from the 2019 California Green Building Standards (CALGreen) Code into the 2022 CALGreen with amendments as discussed below:

### 104.1 Scope. 1. Housing construction.

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The proposed modification provides clarity and consistency with all parts of title 24 and update authority and references used for HCD 1. There is no intended change in regulatory effect. This change is in compliance with Nine-Point Criteria #2 to identify statutory authority for HCD to adopt regulations.

### CAC Recommendation:

Approved as submitted.

### Agency Response:

Accept.

**Item 2**

**CHAPTER 2, DEFINITIONS**

**Rationale:** HCD proposes to continue adoption of chapter 2 from the 2019 CALGreen into the 2022 CALGreen with amendments as discussed below:

**AUTOMATIC LOAD MANAGEMENT SYSTEM (ALMS).**

**Rationale:** Pursuant to section 1-404 of the California Administrative Code (title 24, part 1), CARB has requested HCD to propose this definition as related to EV charging to the 2022 CALGreen on behalf of CARB.

HCD proposes to adopt the above referenced new definition to clarify the term as used within CALGreen and in the EV charging industry. This definition refers to ALMS which is allowed for use by the California Electrical Code (CEC). This definition is also co-adopted with the California Building Standards Commission (CBSC).

**ELECTRIC VEHICLE (EV) CAPABLE SPACE.**

**Rationale:** Pursuant to section 1-404 of the California Administrative Code (title 24, part 1), CARB has requested HCD to propose this definition as related to EV charging to the 2022 CALGreen on behalf of CARB.

HCD proposes to adopt the above referenced new definition to clarify the term as used within CALGreen and in the EV charging industry. This definition refers to a space which has capability or infrastructure to facilitate future EV charging. This definition is also co-adopted with CBSC.

**ELECTRIC VEHICLE (EV) READY SPACE.**

**Rationale:** Pursuant to section 1-404 of the California Administrative Code (title 24, part 1), CARB has requested HCD to propose this definition as related to EV charging for the 2022 CALGreen on behalf of CARB.

HCD proposes to adopt the above referenced new definition to clarify the term as used within CALGreen and in the EV charging industry. This definition refers to a space which is ready for EV charging. As used in the proposed text, the term refers to EV spaces equipped with a receptacle or charger. This definition is also co-adopted with CBSC.

**LEVEL 2 ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).**

**Rationale:** HCD proposes to adopt the above referenced new definition for residential sections of CALGreen. The new definition clarifies the new term as used within sections 4.106.4.2. and A4.106.8.2.1 is for a Level 2 EV charger and supporting electrical equipment.

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

**Rationale:** HCD proposes to adopt the above referenced new definition to clarify the electrical requirements for this type of receptacle as required in proposed sections 4.106.4.2.1 and 4.106.4.2.2.

**NONWATER URINAL WITH DRAIN CLEANSING ACTION.**

**Rationale:** HCD proposes to continue adoption of this definition (previously URINAL, HYBRID) with modification to align with the name of the fixture as referenced in the California Plumbing Code (CPC). The modification has no intended change in regulatory effect.

**CAC Recommendation:**

Approved as submitted and coordinate with CBSC.

**Agency Response:**

Accept. HCD coordinated definitions with BSC.

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**Item 3**

**CHAPTER 3, GREEN BUILDING**

**Rationale:** HCD proposes to continue adoption of chapter 3 from the 2019 CALGreen into the 2022 CALGreen with amendment as discussed below:

**301.1.1 Additions and alterations.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with amendment. The existing scope of section 301.1.1 limits the application of CALGreen to additions or alterations which increase a building's conditioned area, volume or size. The proposed amendment clarifies that CALGreen provisions may apply to additions or alterations of existing parking facilities or new parking facilities added to existing multifamily residential buildings. This clarification is needed to accommodate proposed section 4.106.4.2.3 and to avoid conflict with section 301.1.1 (Nine-point Criteria #1).

HCD is also proposing a note in response to CAC recommendations that is more specific as to the type of repairs that would be excepted from this requirement.

**CAC Recommendation:**

Further study.

**Agency Response:**

Accept. HCD proposes a note to clarify types of repairs that are not subject to this section.

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**Item 4**

**CHAPTER 4, RESIDENTIAL MANDATORY MEASURES, DIVISION 4.1, PLANNING AND DESIGN**

**Rationale:** HCD proposes to continue adoption of chapter 4, division 4.1, from the 2019 CALGreen into the 2022 CALGreen with amendments as discussed below. Pursuant to section 1-404 of the California Administrative Code (title 24, part 1), CARB has requested HCD to propose amendments for the 2022 CALGreen on behalf of CARB.

**4.106.4 Electric vehicle (EV) charging for new construction.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with amendment. The reference to section 4.106.4.3 is repealed since that section is no longer proposed for the code. The 2019 CALGreen provides specific exceptions from existing EV charging requirements. In accordance with the existing scope of CALGreen, the

exceptions would apply to the requirements related to EV infrastructure (EV Capable spaces).

HCD's current proposal expands the EV charging requirements to installation of EV charging receptacles and EV chargers (EVSE). The CAC recommended consideration of exceptions similar to the nonresidential EV charging requirements. This was related to the expansion in scope for EV charging; and variability in costs of EV capable spaces, spaces with Level 2 receptacles and chargers in various areas of the state. Therefore, HCD modified Exception 1 to address situations in which there is no local utility power supply or when the local utility is unable to supply adequate power.

HCD, in response to CAC recommendations, also proposes to repeal references to specific dollar amounts for exceptions due to variations in utility costs based upon locations.

HCD also proposes to include an exception related to adverse impact to construction cost of a project, similar to the provision for nonresidential EV charging. As in the past, the intention of CALGreen is not to inflict unreasonable costs to residential building developers/owners.

**CAC Recommendation:**

Further study.

**Agency Response:**

Accept. HCD, in response to CAC recommendations, also proposes to repeal references to specific dollar amounts for exceptions due to variations in utility costs based upon locations.

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**4.106.4.2 New multifamily dwellings.**
**4.106.4.2.1 Electric vehicle charging space (EV space) locations.**
**4.106.4.2.1.1 Electric vehicle charging stations (EVCS).**
**4.106.4.2.2 Electric vehicle charging space (EV space) dimensions**
**4.106.4.2.3 Single EV space required**
**4.106.4.2.4 Multiple EV spaces required.**
**4.106.4.2.5 Identification**

**Rationale:** HCD proposes to repeal the above referenced sections and provisions for purposes of reformatting, modifying, and adopting new sections addressing EV charging for multifamily buildings and hotels and motels.

**CAC Recommendation:**

Approve as submitted.

**Agency Response:**

Accept.

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**4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities.**

**Rationale:** HCD proposes adoption of the above new referenced section which provides an introduction to the EV charging requirements in subsequent sections addressing both multifamily dwellings and hotels/motels and clarifies that calculations for EV spaces are to

be rounded up to the nearest whole number. This section also provides reference to Vehicle Code (VC) section 22511.2 which allows EV spaces to be counted as parking spaces only for the purposes of meeting parking space requirements at the local level.

**CAC Recommendation:**

Further study.

**Agency Response:**

Accept. HCD, in response to CAC recommendations, changed the phase from “when parking is available” to “when parking is provided.” HCD also responded to the CAC’s recommendation to address Automatic Load Management System (ALMS) in section 4.106.4.2.2 Item 3. The use of ALMS was coordinated with BSC.

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### 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 adoption of the above referenced section which addresses EV charging requirements for new smaller residential projects with less than 20 units. This section retains the existing CALGreen requirement for 10 percent of parking spaces to be EV Capable, or have only requirements for infrastructure, to facilitate future EV charging with some exceptions if Level 2 chargers are installed on a voluntary basis by the developer. This section also clarifies that electrical loads be based on simultaneous charging of all EVs at all required EV spaces at a minimum amperage. Notes are also included addressing construction documents and EV space construction There is no intended change in regulatory effect from existing requirements for EV capable spaces.

HCD proposes a new requirement for installation of low power Level 2 receptacles for 25 percent of parking spaces in all new multifamily developments and clarification that no more than one receptacle must be installed per dwelling unit. The low power Level 2 receptacle requirement was requested by stakeholders who demonstrated a need for actual access to charging in multifamily buildings. The low power Level 2 receptacles would facilitate shorter charging times than using typical household type electric receptacles and meet the needs of EV drivers with longer commutes and/or larger vehicle battery capacity.

Recent analysis shows that only roughly 30 percent of existing EV Capable spaces are currently being converted to EV charging stations. The proposed mandate will provide immediate access to charging through the deployment of receptacles and charging stations. The proposed mandate will provide immediate access to charging through the deployment of receptacles and charging stations, which are ultimately necessary to support the implementation of the state’s goals for 5 million ZEVs by 2030, and to achieve the goal of 100 percent of in-state sales of EVs by 2035.

**CAC Recommendation:**

Further study.

**Agency Response:**

Accept in part. HCD continues to use the total number of parking spaces for calculating the number of EV spaces. HCD is not proposing a specific receptacle configuration, all EV receptacles installed shall be installed in accordance with the California Electrical Code.

HCD has maintained its exception for areas of parking facilities served by parking lifts similar to BSC.

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### 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 adoption of the above referenced new section which addresses EV charging requirements for new larger residential projects with 20 or more units. The requirements for infrastructure (EV Capable) and low-power Level 2 receptacles (EV Ready) remain the same as for the new smaller projects. Notes are also included addressing construction documents and EV space construction. HCD proposes that the larger projects install Level 2 EV chargers (EVSE) for 5 percent of parking spaces. This provides an actual Level 2 EV charger installed on-site for EV users and faster charge times than the low power Level 2 receptacles. HCD also proposes an exception to all or a portion of the EV Capable requirement if building owners decide to voluntarily install Level 2 chargers in addition to the amount required in the code.

HCD proposes an option to use ALMS when Level 2 EVSE is installed beyond the minimum required. ALMS may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The use of an ALMS is not a requirement and is not considered a mandatory cost.

**CAC Recommendation:**

Further study.

**Agency Response:**

Accept in part. HCD clarified reference to “number 3” by specifying “Section 4.106.4.2.2, Item 3.” Identifying a specific percentage implies the minimum requirement therefore HCD is not proposing text to read “a minimum of” the required percentage.

The CAC recommended HCD to consider the “Alternative Compliance Pathway” (ACP) option submitted by EV Charging Access for All Coalition dated April 16, 2021.
The ACP is an additional alternative option to HCD’s current proposal. However if the ACP is chosen for implementation, HCD’s current proposal would not be implemented. HCD disagrees with the inclusion of the residential ACP as proposed by the Coalition. HCD reviewed the ACP proposed code language and has determined that there are technical issues with the proposal.

Additionally, the ACP was submitted as a comment on April 16, 2021, ahead of the GREEN CAC meeting where it was heard on April 28, 2021. The untimely submission of such a substantive proposal did not give HCD sufficient time to fully vet the proposed code changes with the affected parties and interested stakeholders. Moving forward HCD may consider the ACP in upcoming rulemaking code cycles and is willing to work with the Coalition.

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### Additional comments related to multifamily developments projects (both sections 4.106.4.2.1 and 4.106.4.2.2)

In accordance with the Assembly Bill 2127 report, only 64,000 Level 2 public and shared private chargers (including multifamily dwellings and nonresidential chargers) were installed through 2020. In order to support the 5 million ZEV deployment goal in 2030, a

total of 180,000 to 268,000 chargers in multi-family buildings alone are needed. The proposed regulation will add an estimated 75,000 low-power Level 2 receptacles and Level 2 chargers in new multifamily buildings between the beginning of 2023 and the end of 2025 (effective period of the 2022 CALGreen Code). Assuming 1 percent of existing buildings will undergo parking facility retrofits requiring Level 2 capable infrastructure installations between the beginning of 2023 and the end of 2025 -- the proposed regulation would add an additional 18,000 Level 2 capable spaces.

The changes to the new construction provisions will help improve air quality and reduce an estimated 267,000 metric tons of carbon dioxide equivalent ($CO_2e$) annually between 2023 and the end of 2025 in new multifamily buildings.

**Estimated Costs:** $86.6 million to $145.8 million (additional costs related to the new requirements for new multifamily developments).

**Additional comments related to hotel projects (both 4.106.4.2.1 and 4.106.4.2.2)**

HCD is moving forward with the CARB suggested changes and proposes to increase the Level 2 EV Capable requirement from 6 percent to 10 percent of parking spaces in new hotels and motels, add a requirement for low-power Level 2 receptacles in 25 percent of new parking spaces, and add a requirement for Level 2 charging stations in 5 percent of new parking spaces for hotel and motel developments with 20 or more units. Recent analysis shows that only roughly 30 percent of existing EV Capable spaces are being converted with EV chargers. The proposed mandate will instead provide immediate access to charging through the deployment of receptacles and charging stations, which are ultimately necessary to support the implementation of goals for 5 million ZEVs by 2030, and to achieve the goals for 100 percent of in-state sales of EVs by 2035.

In addition to supporting the Administration's directives, the goal of this proposal is to enable future charging capability at hotel and motel buildings in an effort to reduce the lack of access to EV charging for travelers which currently exists. HCD and CARB staff believe this effort will further encourage the purchase and use of EVs.

The proposed regulation will add an estimated 2,000 Level 2 EV capable spaces and 15,000 to 19,000 low-power Level 2 receptacles and Level 2 chargers in new hotels and motels between the beginning of 2023 and the end of 2025. This change will help improve air quality and reduce an estimated 60,000 to 72,000 metric tons of carbon dioxide equivalent ($CO_2e$) annually between 2023 and the end of 2025 in new hotels and motels.

**Estimated Costs:** $17.3 million to $36.8 million (additional costs related to the new requirements for new hotel and motel developments)

**4.106.4.2.2.1 Electric vehicle charging stations (EVCS). (formerly 4.106.4.2.1.1)**
**4.106.4.2.2.2 Electric vehicle charging stations (EVCS) dimensions. (formerly 4.106.4.2.2 Electric vehicle charging space (EV space) dimensions)**
**4.106.4.2.2.3 Accessible EV spaces. (formerly 4.106.4.2.1.1 Electric vehicle charging stations (EVCS) and 4.106.4.3.6)**

**Rationale:** HCD proposes re-adoption of the above referenced sections as renumbered and relocated. The requirement for location adjacent to an accessible parking space or on an accessible route apply to spaces with EV chargers. The requirements for dimensions also apply to spaces with EV chargers. The references to the California Building Code (CBC), chapter 11A, Housing Accessibility or chapter 11B, Accessibility to Public

Buildings, Public Accommodations, Commercial Buildings and Public Housing provide guidance for accessibility requirements depending on whether the project is a privately funded multifamily project, public housing, or public accommodation (hotel or motel).

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

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

**Rationale:** HCD proposes adoption of the above referenced new section. HCD's proposal is in response to the Governor's veto message of Assembly Bill 684 (2019) which directed HCD to research, develop, and propose adoption of building standards related to installation of future EV charging infrastructure for parking spaces for existing multifamily dwellings. Although the bill was vetoed by the Governor, he stated in the veto message that it would be best to address the issue administratively to balance charging infrastructure objectives with efforts to expand affordable housing. The Governor then directed HCD to develop and propose building standards that would increase the availability of EV charging infrastructure at existing multifamily properties while limiting costs for affordable housing.

HCD proposes requirements for EV infrastructure in existing multifamily buildings when new parking facilities are added; and/or electrical systems or lighting of existing parking facilities are added or altered, e.g., PV systems are installed in parking facilities, and the work requires a building permit. In such instances, 10 percent of the total number of parking spaces added or altered will be EV spaces capable of supporting future Level 2 EVSE (EV Capable Spaces). The majority of California's building stock was constructed prior to when CALGreen EV charging codes were enacted. There is significant potential for existing buildings to support California's 2030 and 2035 ZEV deployment goals through this measure, while ensuring infrastructure deployments are accomplished cost-effectively at the time of other major renovations. A note proposed for section 301.1.1 also clarifies activities which would not be considered as alterations for the purpose of this section.

HCD and CARB are not able to estimate costs since there are no records of the number of existing residential parking lots or a method to estimate how many new parking lots would be added to existing multifamily buildings, or when existing parking lots would be undergoing permitted upgrades.

**CAC Recommendation:**

Further study.

**Agency Response:**

Accept in part HCD changed reference from "parking lots" to "parking facilities." HCD proposes a note in Section 301.1.1 to clarify types of repairs, e.g. resurfacing, restriping, or repairs/maintenance of lighting fixtures that are not subject to this section.

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**4.106.4.2.4 EV space requirements. (formerly 4.106.4.2.3 Single EV space required; 4.106.4.3.3 Single EV space required; 4.106.4.2.4 Multiple EV spaces required; 4.106.4.3.4 Multiple EV spaces required)**
**4.106.4.2.5 Identification. (formerly 4.106.2.5 and 4.106.4.3.5)**

**Rationale:** HCD proposes re-adoption of the above referenced sections as renumbered and relocated from existing multifamily and hotel/motel requirements. These requirements provide requirements for raceways, construction documents, service panel capacity and service panel directory identification. The existing provisions have been modified to address sites with infrastructure and actual installation of equipment.

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

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**4.106.4.2.6 Electric Vehicle Ready Space Signage.**
**Rationale:** HCD proposes to adopt the above referenced new section for signage to clearly identify EV charging spaces. A reference to a Caltrans policy directive is added which provides samples of regulatory and general information signs and pavement markings to guide and regulate road users who operate zero emission vehicles. These signs may be modified to add more specific information for the type of charging space.

Statewide costs on the EV Ready Space signage cannot be determined due to the variety of options available for implementation and project design. However, page 477 of the 2021 National Construction Cost Estimator has the following information for similar pavement markings and signs.

- Cost (excluding $75/day rental cost of a compressor, hose and spray gun) for “Mark parking stall with handicapped symbol painted on, including layout, reflectorized stripes and symbol, one color” is $38.30 per stall.
- Cost for “Parking lot handicapped sign, 12" x 18" laminated aluminum, reflective lettering and handicapped symbol. Sign on 2" galvanized steel pipe post 10' long, set 2' into the ground, includes digging of hole using a manual auger and backfill” is $147.40. Alternatively, the cost is $58.30 if the sign is “On walls with mechanical fasteners.”

**CAC Recommendation:**

Further study on signage.

**Agency Response:**

Accepted and developed new section.

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**4.106.4.3 New hotels and motels.**
**4.106.4.3.1 Number of required EV spaces.**
**TABLE 4.106.4.3.1**
**4.106.4.3.2 Electric vehicle charging space (EV space) dimensions.**
**4.106.4.3.3 Single EV space required.**
**4.106.4.3.4 Multiple EV spaces required.**

**4.106.4.3.5 Identification.**
**4.106.4.3.6 Accessible EV spaces.**

**Rationale:** HCD proposes to repeal the above referenced sections for purposes of reformatting, modifying, and adopting new sections addressing EV charging for multifamily buildings; and hotels and motels.

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

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**Item 5**

**CHAPTER 4, RESIDENTIAL MANDATORY MEASURES, DIVISION 4.3, WATER EFFICIENCY AND CONSERVATION**

**Rationale:** HCD proposes to continue adoption of chapter 4, division 4.3, from the 2019 CALGreen into the 2022 CALGreen without amendment and with no intended change in regulatory effect.

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

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**Item 6**

**CHAPTER 4, RESIDENTIAL MANDATORY MEASURES, DIVISION 4.4, MATERIAL CONSERVATION AND RESOURCE EFFICIENCY**

**Rationale:** HCD proposes to continue adoption of chapter 4, division 4.4, from the 2019 CALGreen into the 2022 CALGreen with amendments as discussed below:

**4.410.1 Operation and maintenance manual.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with amendment. Pursuant to Senate Bill 280 (Chapter 640, Statutes 2019) HCD is proposing Fall Prevention measures in the 2022 California Residential Code (CRC) which require grab bar reinforcements in certain circumstances. New Item 11 of Section 4.410.1 requires that information and/or drawings identifying the location of grab bar reinforcements to be placed in the building. In addition to reducing the potential for falls, utilization of existing job site construction scrap lumber for reinforcement material promotes resource efficiency and further reduces construction waste and is appropriate for inclusion in CALGreen.

**CAC Recommendation:**

Further study. Add note as related to construction waste.

**Agency Response:**

Disagree. HCD provided further information in the ISOR to retain format of the code.

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**Item 7**

**CHAPTER 4, RESIDENTIAL MANDATORY MEASURES, DIVISION 4.5, ENVIRONMENTAL QUALITY**

**Rationale:** HCD proposes to continue adoption of this chapter 4, division 4.5, from the 2019 CALGreen into the 2022 CALGreen without amendment and with no intended change in regulatory effect.

**CAC Recommendation:**

Approved as submitted

**Agency Response:**

Accept.

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**Item 8**

**CHAPTER 6, REFERENCED ORGANIZATIONS AND STANDARDS**

**Rationale:** HCD proposes to continue adoption of chapter 6 from the 2019 CALGreen into the 2022 CALGreen without amendment and with no intended change in regulatory effect.

**CAC Recommendation:**

Approved as submitted

**Agency Response:**

Accept.

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**Item 9**

**CHAPTER 7, INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS**

**Rationale:** HCD proposes to continue adoption of chapter 7 from the 2019 CALGreen into the 2022 CALGreen without amendment and with no intended change in regulatory effect.

**CAC Recommendation:**

Approved as submitted

**Agency Response:**

Accept.

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**Item 10**

**CHAPTER 8, COMPLIANCE FORM, WORKSHEET, AND REFERENCE MATERIAL**

**Rationale:** HCD proposes to continue non-adoption of chapter 8.

**CAC Recommendation:**

Approve as submitted.

**Agency Response:**

Accept.

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## Item 11

## APPENDIX A4, RESIDENTIAL VOLUNTARY MEASURES, DIVISION A4.1, PLANNING AND DESIGN

**Rationale:** HCD proposes to continue adoption of appendix A4, division 4.1, from the 2019 CALGreen into the 2022 CALGreen with amendments as discussed below:

### A4.106.8.2 New multifamily development projects and hotels and motels.

**Rationale:** Pursuant to section 1-404 of the California Administrative Code (title 24, part 1), HCD is proposing amendments for the 2022 CALGreen on behalf of CARB. HCD proposes to continue adoption of the above referenced section with modification. This is only an introductory section to subsequent sections. The proposed new title references both multifamily development projects and hotels and motels. The Tier 1 and Tier 2 requirements for existing EV capable spaces is repealed and addressed in a new subsequent section.

### A4.106.8.2.1 Multifamily development projects and hotels and motels.

### Tier 1 and Tier 2

**Rationale:** HCD proposes adoption of the above referenced new section. HCD proposes to modify the provisions for Tier 1 and Tier 2 to require increased percentages in installation of low power Level 2 receptacles. An additional requirement is added to increase the percentage of chargers to be installed in multifamily residential and hotel and motel projects with 20 or more units. These measures provide options for increased access to EV charging and increased reliability for EV charging at multifamily buildings and hotels and motels.

### Additional comments related to multifamily projects

HCD proposes to include a voluntary Tier 1 provision for 35 percent of total new parking spaces with low-power Level 2 receptacles in all new multifamily dwellings, along with Level 2 chargers in 10 percent of total new parking spaces in new developments with 20 or more units in an effort to further advance the potential for EV charging access. The Tier 1 provisions do not include requirements for Level 2 EV Capable spaces. There is no fiscal effect since Tier 1 is a voluntary measure available for adoption by local agencies. If all local governments adopted Tier 1 as mandatory, it may add up to 0.5 percent to total costs for multifamily new construction beyond the proposed mandatory provisions. An estimated incremental GHG reduction of 97,000 metric tons $CO_2e$ emissions could be achieved annually by 2025 through the new Tier 1 provisions compared to the proposed mandatory provisions.

HCD proposes to include a voluntary Tier 2 provision for 40 percent of total new parking spaces with low-power Level 2 receptacles in new multifamily dwellings along with Level 2 chargers in 15 percent of total new parking spaces in new developments with 20 or more units in an effort to further advance the potential for EV charging access. The Tier 2 provisions do not include requirements for Level 2 EV Capable spaces. There is no fiscal effect since Tier 2 is a voluntary measure available for adoption by local agencies. If all local governments adopted Tier 2 as mandatory, it may add up to 0.1 percent to 1.0 percent to total costs for multifamily new construction beyond the proposed mandatory provisions. An estimated incremental GHG reduction of 203,000 metric tons $CO_2e$

emissions could be achieved annually by 2025 through the new Tier 2 provisions compared to the proposed mandatory provisions.

**Additional comments related to hotel/motel projects**

HCD proposes to include a Tier 1 provision for 35 percent of total new parking spaces with low power Level 2 receptacles in all new hotels and motels, along with Level 2 chargers in 10 percent of total new parking spaces in new developments with 20 or more units in an effort to further advance the potential for EV charging access. The Tier 1 provisions do not include requirements for Level 2 EV Capable spaces. There is no fiscal effect since Tier 1 is a voluntary measure available for adoption by local agencies. If all local governments adopted Tier 1 as mandatory, it may add up to 0.3 percent to total costs for hotel and motel new construction beyond the proposed mandatory provisions. An estimated incremental GHG reduction of 21,000 to 27,000 metric tons $CO_2e$ emissions could be achieved annually by 2025 through the new Tier 1 provisions compared to the proposed mandatory provisions.

HCD proposes to include a Tier 2 provision for 40 percent of total new parking spaces with low-power Level 2 receptacles in all new hotels and motels, along with Level 2 chargers in 15 percent of total new parking spaces in new developments with 20 or more units in an effort to further advance the potential for EV charging access. The Tier 2 provisions do not include requirements for Level 2 EV Capable spaces. There is no fiscal effect since Tier 2 is a voluntary measure available for adoption by local agencies. If all local governments adopted Tier 2 as mandatory, it may add 0.8 percent to total costs for hotel and motel new construction beyond the proposed mandatory provisions. An estimated incremental GHG reduction of 44,000 to 55,000 metric tons $CO_2e$ emissions could be achieved annually by 2025 through the new Tier 2 provisions compared to the proposed mandatory provisions.

**A4.106.8.2.2 Technical requirements. (formerly A4.106.8.2.1)**

**Rationale:** HCD proposes re-adoption of the above referenced section as renumbered and relocated. These requirements provide references to sections including requirements for construction documents, charging station locations and dimensions, single and multiple space requirements, accessibility requirements, required identification of service panels and signage standards. The existing provisions have been modified to address sites with infrastructure and actual installation of equipment.

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

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**A4.106.8.3 New hotels and motels.**
**TABLE A4.106.8.3.1**
**TABLE A4 4.106.8.3.2**
**A4.106.4.8.3.1 Technical Requirements.**

**Rationale:** HCD proposes to repeal the above referenced sections for purposes of reformatting, modifying, and adopting new sections addressing EV charging for hotels and motels.

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

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**Item 12**

**APPENDIX A4, RESIDENTIAL VOLUNTARY MEASURES, DIVISION A4.3, WATER EFFICIENCY AND CONSERVATION**

**Rationale:** HCD proposes to continue adoption of appendix A4, division 4.3, from the 2019 CALGreen into the 2022 CALGreen with amendments as discussed below:

**A4.303.4 Nonwater urinals and waterless toilets the above referenced**

**Rationale:** HCD proposes to continue adoption of section (formerly hybrid urinals) from the 2019 CALGreen into the 2022 CALGreen with modification to align terminology with the CPC. The modification has no intended change in regulatory effect.

**CAC Recommendation:**

Approve as submitted.

**Agency Response:**

Accept.

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**Item 13**

**APPENDIX A4, RESIDENTIAL VOLUNTARY MEASURES, DIVISION A4.4, MATERIAL CONSERVATION AND RESOURCE EFFICIENCY**

**Rationale:** HCD proposes to continue adoption of appendix A4, division A4.4, from the 2019 CALGreen into the 2022 CALGreen without amendment and with no intended change in regulatory effect.

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

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**Item 14**

**APPENDIX A4, RESIDENTIAL VOLUNTARY MEASURES, DIVISION A4.5, ENVIRONMENTAL QUALITY**

**Rationale:** HCD proposes to continue adoption of appendix A4, division A4.5, from the 2019 CALGreen into the 2022 CALGreen without amendment and with no intended change in regulatory effect.

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

**Item 15**

**APPENDIX A4, RESIDENTIAL VOLUNTARY MEASURES, DIVISION A4.6, TIER 1 AND TIER 2**

**A4.602 RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST**

**Rationale:** HCD proposes to continue adoption of the above referenced section from the 2019 CALGreen into the 2022 CALGreen with amendments. HCD's proposed amendments provide alignment with changes in other chapters and appendices.

**CAC Recommendation:**

Approved as submitted.

**Agency Response:**

Accept.

## 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).

- May 2021, Gavin Newson, Governor, Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment, Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030, CEC-600-2021-001-REV.
- 2020, California Energy Commission, California Electric Vehicle Infrastructure Deployment Assessment: Senate Bill 1000 Report, Publication Number: CEC-600-2020-009.
- 2019, California Air Resources Board, Final Sustainable Communities Strategy Program and Evaluation Guidelines Appendices Table 10.
- 2018, California Air Resources Board, Low-Income Barriers Study, Part B: Overcoming Barriers to Clean Transportation Access for Low-Income Residents, Final Guidance Document.
- 2021, U.S. Department of Energy, eGallon Compare the costs of driving with electricity, website: Department of Energy eGallon.

## 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 or equipment or prescriptive standards are required.

HCD is statutorily required to adopt 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 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 a performance standard 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 during this triennial code cycle are intended to add necessary mandatory provisions in CALGreen to meet EV deployment goals as set forth by Governor's Executive Orders B-48-2018 and N-79-20. The two alternatives considered were to adopt the proposed Tier 1 and Tier 2 provisions as mandatory. These alternatives were rejected at this time because they are more costly to implement. However, local jurisdictions still have the ability to adopt these higher-level thresholds depending on local context.

HCD has considered the use of ALMS for EV chargers that are installed in excess of those required in this code. HCD has also considered a requirement for signage for spaces that have charging equipment for easy identification by EV users. Both provisions are included in HCD's proposal.

## 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.

No alternatives were identified to lessen the adverse impact on small business, but most of the modifications to the code are proposed for facilitation of understanding and compliance by the code user. Those proposals that are new to the code or are made more stringent have been thoroughly vetted through stakeholder outreach and have been justified by proposing parties as to cost/benefit.

## 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 this regulatory action would increase costs marginally to California business enterprises representing 0.1 -1.4 percent of the total new construction costs of multifamily buildings and 0.5 - 1.1 percent of the total new construction costs of hotels/motels with significant benefits to Californians due to improved air quality and GHG emission reductions.

## 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)
Department of Housing and Community Development has assessed whether or not 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 Electric Vehicle Supply Equipment (EVSE). No jobs are expected to be eliminated.

**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 business is expected to be eliminated.

**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 manufacturing, installation, maintenance, use and technology development.

**D.** The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.
Increases the sustainability of CA's natural resources, and promotes public health by reducing 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 cost for installing mandatory measures has an estimated cost increase of about 0.1 percent to 1.4 percent for multifamily buildings and 0.5 percent to 1.1 percent for hotels/motels. Initial construction costs in new buildings of $104 - $183 million may be incurred between the beginning of 2023 and the end of 2025 due to the adoption of this proposed mandatory measure, or $35 million to $61 million annually. Additional costs may be incurred for ADA compliance which can vary greatly from property to property. Installing the same levels of EV infrastructure as required by the proposed mandatory measure after construction would cost $648 million to $771 million over a three-year period if installed exclusively as standalone retrofits in existing buildings. An estimated statewide-avoided cost (benefit) of $465 million to $667 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.

## 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.