



DENVER AMENDMENT PROPOSAL FORM FOR PROPOSALS TO THE 2019 DENVER BUILDING CODE AMENDMENTS AND THE 2021 INTERNATIONAL CODES

DENVER
THE MILE HIGH CITY

2021 CODE DEVELOPMENT CYCLE

1) Name: Mike Salisbury Date: 3/4/2022
 Email: Mike.salisbury@denvergov.org Representing (organization or self):
 City Staff Proposal (check box):

2) One proposal per this document is to be provided with clear and concise information.

Is a separate graphic file provided ("X" to answer): ___ Yes or _x_ No

3) Highlight the code and acronym that applies to the proposal

<u>Acronym</u>	<u>Code Name</u>	<u>Acronym</u>	<u>Code Name</u>
DBC-AP	Denver Building Code–Administrative Provisions	IPC	International Plumbing Code
IBC	International Building Code	IRC	International Residential Code
IECC	International Energy Conservation Code	IFGC	International Fuel Gas Code
IEBC	International Existing Building Code	IMC	International Mechanical Code
IFC	International Fire Code	DGC	Denver Green Code

AMENDMENT PROPOSAL

Please provide all the following items in your amendment proposal.

Code Sections/Tables/Figures Proposed for Revision:

Instructions: If the proposal is for a new section, indicate (new), otherwise enter applicable code section.

N1101

Proposal:

Instructions: Show the proposal using ~~strikeout~~, underline format.

Place an "X" next to the choice that best defines your proposal: _x_ Revision ___ New Text ___ Delete/Substitute ___
 Deletion

SECTION N1101

~~**ELECTRIC VEHICLE (EV).** A vehicle registered for on-road use, primarily powered by an electric motor that draws current from a rechargeable storage source that is charged by being plugged into an electrical current source. Plug-in hybrid electric vehicles are electric vehicles having a second source of motive power.~~

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, and electric motorcycles, primarily powered by an electric motor that draws current from a building electrical service, EVSE, a rechargeable storage battery, a fuel cell, a photovoltaic array, or another source of electric current.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). Equipment used for the purpose of transferring electric energy to a battery or other energy storage device in an *electric vehicle*. There are two different standardized levels that are currently in use at which an *electric vehicle's* battery is recharged, identified as Level 1 and Level 2.

LEVEL 1. (slow charging) Capable of charging at 20Amps maximum on a 120VAC, single phase branch circuit. *Approved* Level 1 connectors include the standard 120V grounded outlets (NEMA 5-15, 5-20) and SAE J1772 EV plug.

LEVEL 2 (accelerated charging) An EVSE capable of charging at 32Amps or higher on a 208V or 240VAC, single phase branch circuit. An EVSE capable of simultaneously charging at 40Amps or higher for each of two vehicles shall be counted as two Level 2 EVSE. Level 2 connectors shall possess at a minimum an SAE J1772 EV plug. Other Level 2 EVSE connector types will not be restricted if listed or field certified by an OSHA approved testing lab and SAE certified.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). Equipment for plug-in power transfer including the ungrounded, grounded and equipment grounding conductors, and the *electric vehicle* connectors, attachment plugs, personal protection system and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the *electric vehicle*.

ELECTRIC VEHICLE (EV) READY SPACE. Electric Vehicle (EV) Ready Spaces are designated parking spaces where the EVSE infrastructure has been installed and is made ready for *electric vehicle* charging.

ELECTRIC VEHICLE READY SPACE (EV READY SPACE). An *automobile parking space* that is provided with a branch circuit and either an outlet, junction box or receptacle, that will support an installed *EVSE*.

ON-SITE PARKING SPACE. Interior or exterior area on the *lot* with minimum dimensions of 8.5-feet by 17.5-feet provided with an all-weather surface of asphalt, asphaltic concrete, concrete, crushed aggregate, or similar material and accessible by a vehicle from a *public way*.

Section N1104.2 (R404.3) One- and Two-Family Dwellings and Townhouses Electric Vehicle (EV) charging requirements and subsections are added as follows:

N1104.2 (R404.3) One- and Two-Family Dwellings and Townhouses *Electric vehicle (EV) charging requirements.* *Electric vehicle (EV)* charging shall be provided and installed in accordance with this section and the National Electrical Code (NFPA 70).

Exception: The number of *electric vehicle ready spaces* per *lot* shall not be required to exceed one *electric vehicle ready space* per *dwelling unit* on that *lot*.

N1104.2.1 (R404.3.1) *Electric vehicle (EV) ready spaces for new dwelling units.* Each new *dwelling unit* with *on-site parking spaces* shall be provided with a minimum of one *electric vehicle ready space*.

N1104.2.2 (R404.3.2) *Electric vehicle (EV) ready spaces for new garages and carports.* Each new garage and/or carport with *on-site parking spaces* shall be provided with a minimum of one *electric vehicle ready space*.

N1104.2.3 (R404.3.3) *Electric vehicle (EV) ready spaces for new on-site parking spaces.* Each new *on-site parking space* shall be provided with a minimum one *electric vehicle ready space*.

N1104.2.4 (R404.3.4) *Minimum Electric Vehicle (EV) Ready Space infrastructure.* Each *Electric Vehicle (EV Ready Space)* shall provide the following infrastructure:

1. Installation of conductors.
 - a. Conductors shall be installed of sufficient size to accommodate a 240VAC 40Amp branch circuit to each parking space where required.
 - b. Conductors shall terminate at an outlet, receptable or EVSE.
2. Branch circuits serving *EV Ready spaces* shall be identified as 'EV Ready' on the panelboard schedule, and the termination location shall be marked as 'EV Ready'.

N1104.2.5 (R404.3.5) *Construction Documents.* Construction documents shall graphically indicate and label all *EV ready spaces* and associated termination locations. For all IRC Townhouses and one- and two-family dwellings with an electrical utility service exceeding

200Amps, a panelboard schedule shall be provided indicating the EV Ready circuit breaker space(s) and the circuit designation(s).

Revise tables as follows:

**TABLE R405.2
REQUIREMENTS FOR TOTAL BUILDING PERFORMANCE**

SECTION	TITLE
	Electrical Power and Lighting Systems
<u>R403.3</u>	<u>Electric Vehicle Charging Requirements Table</u>

**TABLE R406.2
REQUIREMENTS FOR ENERGY RATING INDEX**

SECTION	TITLE
	Electrical Power and Lighting Systems
<u>R403.3</u>	<u>Electric Vehicle Charging Requirements Table</u>

Supporting Information (Required):

All proposals must include a written explanation and justification as to how they address physical, environmental, and/or customary characteristics that are specific to the City and County of Denver. The following questions must be answered for a proposal to be considered.

- Purpose: What does your proposal achieve?
- Aligns definitions between residential and commercial EV Ready requirements and cleans up language from the previous EV Ready requirement that was not necessary.
- Reason: Why is your proposal necessary?
- To create consistent definitions between commercial and residential codes for EV Ready language
- Substantiation: Why is your proposal valid? (i.e. technical justification)

Bibliography and Access to Materials (as needed when substantiating material is associated with the amendment proposal):

Other Regulations Proposed to be Affected

***For proposals to delete content from the 2019 Denver Green Code in conjunction with adding it to other mandatory Denver codes and/or regulations, only.**

Please identify which other mandatory codes or regulations are suggested to be updated (if any) to accept relocated content.

Referenced Standards:

List any new referenced standards that are proposed to be referenced in the code.

Impact:

How will this proposal impact cost and restrictiveness of code? ("X" answer for each item below)

Cost of construction: ___ Increase ___ Decrease _x_ No Impact
Cost of design: ___ Increase ___ Decrease _x_ No Impact
Restrictiveness: ___ Increase ___ Decrease _x_ No Impact

Departmental Impact (City use only):

This amendment proposal increases/decreases/is neutral to the cost of plans review.

This amendment increases/decreases/is neutral to the cost of inspections.