R404.7 Electric Vehicle Power Transfer Infrastructure. New residential automobile parking spaces for residential buildings shall be provided with electric vehicle power transfer infrastructure in accordance with Sections R404.7.1 through R404.7.5.

R404.7.1 Quantity. New one- and two-family dwellings and townhouses with a designated attached or detached garage or other onsite private parking provided adjacent to the dwelling unit shall be provided with one EV-capable, EV-ready, or EVSE space per dwelling unit. R-2 occupancies or allocated parking for R-2 occupancies in mixed-use buildings shall be provided with an EV capable space, EV ready space, or EVSE space for 40 percent of dwelling units or automobile parking spaces, whichever is less.

Exceptions:

1. Where the local electric distribution entity certifies in writing that it is not able to provide 100 percent of the necessary distribution capacity within 2 years after the estimated certificate of occupancy date. The required EV charging infrastructure shall be reduced based on the available existing electric distribution capacity.
2. Where substantiation is approved that meeting the requirements of Section R404.7.5 will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the builder or developer by more than $450.00 per dwelling unit.

R404.7.2 EV Capable Spaces. Each EV capable space used to meet the requirements of Section R404.7.1 shall comply with all of the following:

1. A continuous raceway or cable assembly shall be installed between a suitable panelboard or other onsite electrical distribution equipment and an enclosure or outlet located within 6 feet (1828mm) of the EV capable space.
2. Installed raceway or cable assembly shall be sized and rated to supply a minimum circuit capacity in accordance with Section R404.7.5.
3. The electrical distribution equipment to which the raceway or cable assembly connects shall have sufficient dedicated space and spare electrical capacity for a 2-pole circuit breaker or set of fuses.
4. The electrical enclosure or outlet and the electrical distribution equipment directory shall be marked: "For future electric vehicle supply equipment (EVSE)."

R404.7.3 EV Ready Spaces. Each branch circuit serving EV ready spaces shall comply with all of the following:

1. Terminate at an outlet or enclosure, located within 6 feet (1828 mm) of each EV ready space it serves and marked "For electric vehicle supply equipment (EVSE)".
2. Be served by an electrical distribution system and circuit capacity in accordance with Section R404.7.5.
3. Be designated on the panelboard or other electrical distribution equipment directory as "For electric vehicle supply equipment (EVSE)."

R404.7.4 EVSE spaces. An installed EVSE with multiple output connections shall be permitted to serve multiple EVSE spaces. Each EVSE serving either a single EVSE space or multiple EVSE spaces shall comply with the following:

1. Be served by an electrical distribution system in accordance with Section R404.7.5
2. Have a nameplate charging capacity of not less than 6.2 kVA (or 30A at 208/240V) per EVSE space served. Where an EVSE serves three or more EVSE spaces and is controlled by an energy management system in accordance with Section R404.7.5, the nameplate charging capacity shall be not less than 2.1 kVA per EVSE space served.
3. Be located within 6 feet (1828 mm) of each EVSE space it serves.
4. Be installed in accordance with NFPA 70 and be listed and labeled in accordance with UL 2202 or UL 2594.

R404.7.5 Electrical distribution system capacity. The branch circuits and electrical distribution system used to comply with Section R404.7.1 shall comply with one of the following:

1. Sized for a calculated EV charging load of not less than 6.2 kVA per EVSE, EV ready, or EV capable space. Where a circuit is shared or managed it shall be in accordance with NFPA 70.

2. The capacity of the electrical distribution system and each branch circuit serving multiple EVSE spaces, EV ready spaces, or EV capable spaces designed to be controlled by an energy management system in accordance with NFPA 70, shall be sized for a calculated EV charging load of not less than 2.1 kVA per space. Where an energy management system is used to control EV charging loads for the purposes of this section, it shall not be configured to turn off electrical power to EVSE or EV ready spaces used to comply with Section R404.7.1.