

Section V-T Electric Vehicle Charging Stations and Electric Vehicle Battery Exchange

Stations: Reference should be made to the most recent addition of the Massachusetts Electrical Code

1) Definitions

- a) **Battery charging station** means an electrical component assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles, which meet or exceed any standards, codes, and regulations set forth.
- b) **Battery electric vehicle (BEV)** means any vehicle that operates exclusively on electrical energy from an off-board source that is stored in the vehicle's batteries, and produces zero tailpipe emissions or pollution when stationary or operating.
- c) **Battery exchange station** means a fully automated facility that will enable an electric vehicle with a swappable battery to enter a drive lane and exchange the depleted battery with a fully charged battery through a fully automated process, which meet or exceed any standards, codes, and regulations set forth.
- d) **Charging levels** means the standardized indicators of electrical force, or voltage, at which an electric vehicle's battery is recharged. Levels 1, 2, and 3 are the most common EV charging levels, and include the following specifications:
 - i) Level 1 is considered slow charging.
 - ii) Level 2 is considered medium charging.
 - iii) Level 3 is considered fast charging.
- e) **Electric vehicle** means any vehicle that operates, either partially or exclusively, on electrical energy from the grid, or an off-board source, that is stored on-board for motive purpose. "Electric vehicle" includes: (1) a battery electric vehicle; (2) a plug-in hybrid electric vehicle; (3) a neighborhood electric vehicle; and (4) a medium-speed electric vehicle.
- f) **Electric vehicle charging station** means a public or private parking space that is served by battery charging station equipment that has as its primary purpose the transfer of electric energy (by conductive or inductive means) to a battery or other energy storage device in an electric vehicle. An electric vehicle charging station equipped with Level 1 or Level 2 charging equipment is permitted outright as an accessory use to any principal use.
- g) **Electric vehicle infrastructure** means structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations, rapid charging stations, and battery exchange stations.
- h) **Electric vehicle parking space** means any marked parking space that identifies the use to be exclusively for an electric vehicle.
- i) **Non-electric vehicle** means any vehicle that does not meet the definition of "electric vehicle."

- j) **Rapid charging station** means an industrial grade electrical outlet that allows for faster recharging of electric vehicle batteries through higher power levels, which meets or exceeds any standards, codes, and regulations set forth
- 2) **Applicability:**
- a) **Electric vehicle charging station(s) with a level 1 or 2 charging level** shall be permitted in a single-family or multi-family zone designed to serve the occupants of the home and in all other zones.
 - b) **Electric vehicle charging station(s) with a Level 3 or greater charging level** must be installed in a parking lot at a commercial or municipal destination, or located in a vehicle service station. These stations are expected to have intensive use and will be permitted to have multiple “rapid charging stations” to serve expected demand.
 - c) **Battery exchange stations** are permitted in the BN, BH, BL and IL zoning districts with a special permit from the ZBA. This use is specifically prohibited in all residential zones.
- 3) **Process for review:**
- a) **Electric vehicle charging station:**
 - i) **New residential construction:** If associated with new residential construction, installation of a Level 1 or 2 battery charging station shall be processed in association with the underlying permit(s).
 - ii) **Retrofitting single family or multi-family residential:** If retrofitting a single-family home for a battery charging station, an electric permit shall be required.
 - iii) **New commercial, industrial construction:** If associated with new construction, installation of a battery charging station shall be processed in association with the underlying permit(s).
 - iv) **Retrofitting a commercial site:** If retrofitting an existing commercial site for a battery charging station(s), an electric permit and review of a site plan by the Building Inspector to confirm the proposed locations will be required. Additional permits may be required based upon the location of the proposed station(s).
 - b) **Battery Exchange Station (s):** A special permit from the ZBA is required in all zones. Additional permits may be required based upon the location and size of the proposed station(s).
- 4) **Design Criteria:** The following criteria shall be applied to the location and design of all electric vehicle charging facilities.
- a) Parking spaces for electric vehicles must not be located in the most convenient spots because this will encourage use by non-electric vehicles.
 - b) Design should be appropriate to the location and use. Facilities should be able to be readily identified by electric cars users but blend into the surrounding landscape/architecture for compatibility with the character and use of the site.
 - c) Where provided, spaces should be standard size parking stalls but designed in a way that will discourage non-electric car vehicles from using them.

- d) **Number:** No minimum number of electric vehicle charging spaces is required however, No more than 10% of the total number of parking spaces may be designated as electric vehicle charging stations.
- e) **Minimum Parking Requirements:** An electric vehicle charging space may count for ½ of a space in the calculation for minimum parking spaces that are required pursuant to other provisions of the Zoning Ordinance.
- f) **Signage:** Each charging station space shall be posted with signage indicating the space is only for electric vehicle charging purposes. Days and hours of operations shall be included if time limits or tow away provisions are to be enforced by the owner. Information identifying voltage and amperage levels or safety information must be posted.
- g) **Accessibility:** Where Charging Station equipment is provided within an adjacent pedestrian circulation area, such as a sidewalk or accessible route to the building entrance, the charging equipment must be located so as to not interfere with accessibility requirements. Site plan of existing parking lot layout and proposed charging stations must be reviewed and approved by the Building Inspector.
- h) **Maintenance:** Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment. A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning or other problems are encountered.