

ELECTRIC VEHICLE CHARGING STATIONS WORKING GROUP

June 7, 2022

Via Webinar



WESTFORD ELECTRIC VEHICLE (EV) CHARGING STATIONS WORKING GROUP

MEETING AGENDA

Tuesday, June 7, 2022

7:00 PM Meeting

Via Webinar

Please see instructions for participation below

1. Call to order
2. Old/New business
3. Draft potential amendments to the Westford Zoning Bylaw
4. Draft outline for report to Planning Board
5. Approve minutes: May 24, 2022
6. Set date, time, and scribe for next meeting
7. Adjournment

Instructions for participation:

Register for the meeting by going to this link:

https://westfordma.gov.zoom.us/webinar/register/WN_8mDV5RdtTkiLc703ACNAuw

After registering, you will receive a confirmation email containing information about joining the webinar.

If you do not have access to this method of participation, please submit written comments to Sierra Pelletier, Assistant Planner, spelletier@westfordma.gov by 12:00 pm on June 7, 2022.

If any member of the public wishing to attend this meeting seeks special accommodations in accordance with the Americans with Disabilities Act, please contact the Permitting Department at (978) 692-5524 or email etoothaker@westfordma.gov

Old/New business

**Draft potential amendments to the
Westford Zoning Bylaw**

Definitions to be added to Westford ZBL, Section 10.2 GENERAL DEFINITIONS

References:

- 1) Massachusetts General Laws (MGL) Chapter 25A Section 16 Public Electrical Vehicle Charging Stations
- 2) Massachusetts State Building Code 780 CMR *Ninth Edition*, Chapter 2 Definitions
- 3) National Electric Code (NEC) 2020 Article 625 Electric Vehicle Power Transfer System

Electric Vehicle (EV): A vehicle that is powered entirely or in part by an electric motor drawing current from on-board electric energy storage (battery) that is charged from an external source of electricity. There are two types: 1) a Battery Electric Vehicle (BEV) draws propulsion energy solely from on-board electric storage that is charged from an external source of electricity; or 2) a Plug-In Hybrid Electric Vehicle (PHEV) with on-board electrical energy storage that can be recharged from an external source of electricity but can also be powered by a combustion engine that runs on another fuel. Ref: MGL Ch.25A Sec.16.

Electric Vehicle Charging Services: The transfer of electric energy from an Electric Vehicle Charging Station (EVCS) to a battery or other storage device in an electric vehicle and associated billing services, networking, operation, and maintenance. Ref: MGL Ch.25A Sec.16

Electric Vehicle Charging Space: A vehicle parking space equipped with Electric Vehicle Charging Station and specially designated for electric vehicle charging. An Electric Vehicle Charging Space may be one of two types:

Private Electric Vehicle Charging Space: An Electric Vehicle Charging Space located at a parking location associated with a private residence or at a business for the benefit of its employees.

Public Electric Vehicle Charging Space: An Electric Vehicle Charging Space located at a publicly available parking location and designated by a property owner or lessee to be available to and accessible by the public and may include on-street parking spaces and parking spaces in surface lots or parking garages.

A Public Electric Vehicle Charging Space shall not be part of or associated with a private residence or a parking that is reserved for the exclusive use of an individual or group including employees, tenants, visitors, or residents of a common interest development. The owner or lessee of a Public Electric Vehicle Charging Space, whose primary business is not Electric Vehicle Charging Services, may restrict the use of that parking space, including by limiting use to customers and visitors of the business. Ref: MGL Ch.25A Sec.16.

Electric Vehicle Charging Station (EVCS): One or more vehicle parking spaces served by Electric Vehicle Service Equipment (EVSE), including an electric component assembly or cluster of electric component assemblies designed specifically to charge batteries within electric vehicles by permitting the transfer of electric energy to a battery or other storage device in an electric vehicle. Ref: MGL Ch.25A Sec.16; MA 780 CMR Ch.2

Electric Vehicle Service/Supply Equipment (EVSE): Equipment expressly designed for safe charging of Battery Electric Vehicles (BEV) or Plug-in Electric Vehicles (PHEV). Ref: MA 780 CMR Ch.2; NEC Art.625.

EVSE includes the electrical supply, connecting cord, and connector that, by insertion into an EV vehicle inlet, establishes an electrical connection to the on-board charger integral to the EV for power transfer and information exchange. For the purposes of this chapter EVSE will be one of two types:

EVSE Level 2: EVSE conforming to the National Electrical Code, NEC Art.625, supplying Alternating Current (AC) at 208/240 volts to the EV onboard charger.

EVSE Level 3 (DC Fast): EVSE conforming to the National Electrical Code, NEC Art.625, supplying Direct Current (DC) to the EV onboard equipment.

EVSE Ready Space: A vehicle parking space equipped the infrastructure necessary to support electric vehicle charging, other than the EVSE equipment itself, to facilitate future installation of EVSE without costly refit. "EVSE Ready" infrastructure includes space and capacity within the electric supply panel to accommodate future EVSE in 100% of the spaces designated as "EVSE Ready", and electrical raceways or conduit of sufficient size that are continuous from the supply panel to the designated location(s).

PRINCIPAL USE	REQUIRED PARKING SPACES	REQUIRED EV CHARGING STATIONS
A. Residential Uses		
1. Single-family dwelling	2 per dwelling unit	
2. Conversion of dwelling	2 per dwelling unit	
3. Open space residential development	2 per dwelling unit	
4. Flexible development	2 per dwelling unit	
5. Assisted living facility	As set forth in Section 7	
B. Exempt and Institutional Uses		
1. Use of land or structures for religious purposes	1 for each 3.5 sets	
2. Use of land or structures for educational purposes on land owned or leased by the commonwealth or any of its agencies, subdivisions or bodies politic or by a religious sect or denomination, or by a nonprofit educational corporation	<i>For elementary schools:</i> 1 space for each teacher and each employee and 1 space per classroom; <i>For secondary schools:</i> 1 space for each teacher and each employee and 1 space for each 4 students; <i>For college or other institutions of higher learning above the 12th grade:</i> 1 space for each 3.5 seats in an auditorium or 1 for each 17 classroom seats, whichever is greater/plus one space per employee on the largest shift	
3. Child care facility in existing building	1 for each teacher and each other employee and 2 spaces per classroom	
4. Child care facility in new building	1 space for each teacher and each other employee and 2 spaces per classroom	
5. Cemetery	Not applicable	
6. Municipal facility, excluding parking lots	As may be determined by the Planning Board during site plan review	Not required
7. Municipal parking lot	Not applicable	
8. Essential services	As may be determined by the Planning Board during site plan review	Not required
9. Hospital or Clinic	2 per bed	
C. Agricultural Uses		
1. Use of land for the primary purpose of agriculture, horticulture, floriculture, or viticulture on a parcel of more than five acres in area	Not applicable	

C. Agricultural Uses, cont'd	REQUIRED PARKING SPACES	
2. Facility for the sale of produce, and wine and dairy products, provided that during the months of June, July, August, and September of every year, or during the harvest season of the primary crop, the majority of such products for sale, based on either gross sales dollars or volume, have been produced by the owner of the land containing more than five acres in area on which the facility is located	1 space per 180 square feet of gross floor area	
3. Greenhouse or nursery stand	1 space per 180 square feet of gross floor area	
4. Temporary greenhouse or stand	1 space per 180 square feet of gross floor area	
5. Storage of agricultural products at nonexempt operation	Not applicable	
6. Boarding, renting and sale of animals on parcels of less than five acres	As may be determined by the Planning Board during site plan review	
7. Boarding, renting and sale of horses on parcels less than five acres	As may be determined by the Planning Board during site plan review	
8. Veterinary hospital or clinic	1 space per 200 square feet of gross floor area	
D. Commercial Uses		
D. (A) Retail Uses		
1. Retail sales to the general public	1 space per 180 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
2. Retail sales to industrial or commercial buyers	1 space per 180 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
3. Retail sales of dairy products	1 space per 180 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
4. Retail sales or leasing of motor vehicles	1 space per 180 square feet of gross floor area, plus such additional spaces as may be determined by the Planning Board during site plan review	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
D. (B) Motor Vehicle Vehicle Services		
1. Motor vehicle services	2 spaces per service bay, plus such additional spaces as may be determined by the Planning Board during site plan review	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
2. Motor vehicle repair establishments	2 spaces per service bay, plus such additional spaces as may be determined by the Planning Board during site plan review	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
D. (C) Other Commercial Uses		
1. Nursing or convalescent home	3 per bed	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.

2. Funeral home	1 for each two seats	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
3. Hotel	1 per 600 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
<i>D. (C) Other Commercial Uses, cont'd</i>	REQUIRED PARKING SPACES	
4. Restaurant	1 for each three seats	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
5. Restaurant, drive-in	Not applicable	
6. Restaurant, fast-food	1 for each three seats	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
7. Business or professional office	1 per 200 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
8. Bank, financial agency	1 per 200 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
9. Printing establishment; newspaper	1 per 200 square feet of gross floor area	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
10. Nonexempt educational use	1 space for each teacher and each employee and 1 space for each 4 students	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
11. Nonprofit membership club	1 for each three seats	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
12. Indoor and outdoor commercial recreation	As may be determined by the Planning Board during site plan review	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
13. Winter commercial recreation	As may be determined by the Planning Board during site plan review	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
14. Horseback riding academy	As may be determined by the Planning Board during site plan review	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.

15. Place of amusement or assembly	1 per 200 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
16. Indoor motion-picture establishment	1 for each three seats	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
17. Golf course; golf club	As may be determined by the Planning Board during site plan review	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
18. Personal service establishment	1 per 200 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
19. General service establishment	1 per 200 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
20. Planned commercial development	As may be determined by the Planning Board during site plan review	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
21. Commercial parking lot	Not applicable	
22. Adult entertainment establishment	1 for each three seats	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
23. Massage establishment	Not applicable	
24. Body art establishment	1 per 200 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
25. Bakery, laundry or dry cleaning plant not operated at retail	1 per 300 square feet of gross floor area	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
PRINCIPAL USE	REQUIRED PARKING SPACES	
E. Industrial Uses		
1. Research/office park	1 per 300 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.

2. Warehouse	1 per 400 square feet of gross floor area	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
3. Planned industrial development	1 per 400 square feet of gross floor area	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
4. Removal of sand and gravel	Not applicable	
5. Quarrying; mining	Not applicable	
6. Sawmills and wood processing	As may be determined by the Planning Board during site plan review	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
7. Light manufacturing	1 per 300 square feet of gross floor area	15% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready.
8. Light manufacturing with not more than four employees	As may be determined by the Planning Board during site plan review	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
9. Wholesale trade	1 per 400 square feet of gross floor area	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
10. Contractor's yard; landscaping service	Not applicable	
11. Junkyard or automobile graveyard	Not applicable	
12. Transport terminal	As may be determined by the Planning Board during site plan review	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
13. Wholesale underground fuel storage	As may be determined by the Planning Board during site plan review	
14. Commercial communications and television tower	Not applicable	
F. Other Uses		
1. Research conducted by a nonprofit educational institution	As may be determined by the Planning Board during site plan review	10% of requirement to be Level 2 or 3 EVCS. 25% of this requirement be full EVCS and the remaining 75% EVCS make-ready with minimum of one EVCS.
2. Drive-up or drive-through facilities	Not applicable	
3. Access ways to other districts	Not applicable	

Draft outline for report to Planning Board

EV Charging Stations Working Group Draft Outline for Report to Planning Board

- 1) Background
 - a) Growth in EV registrations
 - i) Last quarter new EV registrations numbered 158,689 while overall new vehicle registrations were 3.4 million or 4.6% of total new vehicle sales.
 - ii) New car sales in last quarter were up 60% while overall new car sales went down by 18%.
 - iii) Registrations in Westford were 1,123.
 - b) Public charging stations in Westford 50, nationwide 128,554.
- 2) Current process for charging station installation
 - a) Jerimy and Eric Heideman
- 3) Objectives given to the Working Group
 - a) To augment the Clean Energy and Sustainability Committee (CEASC) Roadmap for the needs and demands for EV charging stations.
 - b) Review current building/zoning regulations, in conjunction with the state's regulatory environment, and suggest changes to either require or incentivize installations or readiness, e.g., parking space regulations.
 - c) Be consistent in identifying criteria for both existing and new development and locations such as for multi-family condo/rental properties.
 - d) Provide a "Best Practices" resource list for funding, tax incentives & grants; brand names; estimated costs; examples of successful installations; etc.
- 4) Research conducted
 - a) Zoning from other municipalities
 - b) Building and electrical codes
 - c) Manual on Uniform Traffic Control Devices (MUTCD)
 - d) ADA Accessibility
- 5) Recommended integration of amendments to Zoning Bylaws
 - a) Definitions
 - b) Appendices A, B, and D
- 6) Funding/Grant availability
 - a) Jerimy's National Grid off-peak incentive
 - b) Gerry's table of May 2022 EVSE incentives
- 7) Request the Planning Board sponsor a Fall Town Meeting warrant for these proposed amendments
- 8) Summary

Minutes



WESTFORD ELECTRIC VEHICLE (EV) CHARGING STATIONS WORKING GROUP Meeting of May 24, 2022

A meeting of the Westford Electric Vehicle (EV) Charging Station Working Group (EVWG) was held at 7:15 PM on May 24, 2022, virtually via Zoom.

The following WG members were present: Chauncey Chu, Jerimy Arnold, Gerry DiBello, Bob Shaffer, Tom Teller

Town Staff present: Sierra Pelletier, Assistant Planner

1. Call to Order

- The meeting was called to order at 7:17 pm.

2. Old/New Business

- Jerimy commented that National Grid has a program that saves certain residential EV owners money if they charge their cars at home during off-peak hours. Currently, it allows the customer to save \$50 on their energy bill and then offers ongoing monthly savings. Using the timer on their charger or their vehicle, a ChargeSmart phone app controls the time when you can charge your EV.
- Chauncey commented that he had further discussion about Town Counsel opinion with the Director of Land Use Management. Chauncey explained Town Counsel has determined that the zoning regulations shouldn't mandate EV or EV make-ready provisions in residential construction. We need to strike out references to this zoning change in our current draft documentation. Bob commented that in a year or two we can revisit the residential make-ready provision. By then, case law and Attorney General's office rulings might favor these provisions.
- EV or EV make-ready provisions also cannot be mandated for multi-family housing since Westford does not directly regulate multi-family development in general.
 - Sierra explained that much of Westford's multi-family developments are 40Bs (aka Comprehensive Permits) which are reviewed by the Zoning Board of Appeals (ZBA). Westford has met its 10% affordable housing goal and so is not obligated to approve 40Bs, but occasionally a "friendly 40B" may come through. 40B is a state law, and the zoning bylaw is separate from that, so 40Bs are outside the scope of this Group. Chauncey proposed that we could discuss this subject informally with the Chair of the ZBA. Chauncey will take this proposal as an action item.
- Chauncey asked Bob and Sierra if we could offer developers incentives to create EVSE make-ready parking spaces in their new developments. Bob suggested this topic be researched between meetings.
- Chauncey will make a report of this group's progress at the June 6 Planning Board meeting. Sierra will add Chauncey's report to the agenda.

3. Draft Potential Amendments to the Westford Zoning Bylaw

- We will strike our suggested EVSE parking space changes for Zoning Bylaw Appendix D, Section B – Exempt and Institutional Uses and Section C – Agricultural Uses. Instead, we will concentrate on suggested changes for the other sections of Appendix D.
- There was a group discussion about mandating that 75% of EVSE make-ready spaces must be built within three years of issuing the certificate of occupancy. It was noted that this type of regulation would be difficult to enforce. We need to concentrate on making clear how many spaces in a given development must be fully ready when construction is complete. Chauncey will modify our current proposed wording.
- Bob commented on the “Required EV Charging Stations” wording regarding what happens three years after project construction is completed. Chauncey clarified that developers are given three years to transition from make-ready spaces to fully operational spaces. There was discussion of how to possibly accomplish this, and it was concluded that it is not realistic nor in the Group’s purview. Chauncey will change the language to drop the three-year requirement. Gerry suggested the language in the Franklin County, NJ document that we have referred to in the past could be used. Tom commented that our current suggested wording requires that 7.5% of the spaces must be make-ready at the time of occupancy, and that can be enforced up front. There was additional discussion regarding the percentages of installed and make-ready spaces. Most group members agreed that the percentages as written are satisfactory.
- Tom commented that in some cases like “Motor Vehicle Services” the number of spaces to be installed will be very small. In this case where the number of operational spaces to be installed is a fractional number it must be rounded up to a whole number. Sierra gave the example of the math coming out to 8.4 spaces which would be rounded to 9. She also said that some bylaws use language such as “...or x number of spaces, whichever is greater”. Chauncey will revise the wording to reflect this suggestion for the next meeting.
- The group agreed that Appendices A and B are okay as-is and section D will be revised for our next meeting.
- Tom discussed the definitions section. Different documentation he has looked at have differing definitions of “make-ready” parking spaces. Brookline’s documentation that we’ve referred to regarding EVSE spaces refers to the latest edition of the Massachusetts Building Code (currently being revised). The current ninth edition of the code only defines level 2 EVSE and not anything referring to make-ready or EVSE ready.
- Bob commented that all definitions will have to stand alone because they will be alphabetized and integrated with all the other Zoning Bylaw definitions. Tom and Bob will work together on finalizing the definitions.
- Tom also discussed standardizing on the term “Electric Vehicle EVSE Ready Space” for the definition section, even though there are other variations of the term, this is the most descriptive.

- Jerimy recommended that we remove the voltage numbers from the Level 2 and Level 3 definitions. The voltage numbers can vary but the term “AC” is the most important. Bob commented that we have to instead reference the convention or standard in the state electrical code and other applicable code. Referencing codes will alleviate having to change zoning bylaw wording if standards change in the codes.
- EV charging signage – We might use wording that’s in the Franklin County, NJ document which refers to the MUTCD standards.
- Based on a request from Chauncey, Gerry presented an informational chart showing various Mass State grant funding programs available to fund 60% to 100% of the costs to install Level 2 chargers at: Multi-Unit and Educational Campuses, Privately Owned Parking Lots and Gov’t Owned Property, and Workplace and Fleet Charging.
- There was discussion about Tom’s proposed changes to Zoning Bylaw Section 5.1 Off-Street Parking Regulations. Tom added suggested wording that adds to the 5.1.5 Parking Standards “Electric Vehicle Charging Spaces” for standard and handicapped spaces. The Group ultimately decided to focus only on the Appendices for this current set of proposed amendments.
- There was discussion on when we should bring our suggested zoning changes to the Appendices and Definitions to a Planning Board meeting. Their schedule was discussed and it was noted the Group would like to propose the initial draft for comment at the Planning Board meeting after the June 6th meeting, though the date will need to be verified.

Item taken out of order

5. Set Date, Time, and Scribe for Next Meeting

- The next meeting will be virtual on June 7 at 7:00 pm. Potentially, we may meet again on the June 15.
- Jerimy will be the recording secretary for the June 7 meeting.
- For our June 7 meeting Tom and Chauncey will ready a final draft of Appendices A, B, and D for the group to approve.

Bob left the meeting at 9:23PM

4. Approve Minutes May 10, 2022

- Tom motioned to approve the May 10 meeting minutes as drafted, seconded by Gerry, and approved unanimously by roll call (4-0-0).

6. Adjournment

- A motion to adjourn was made by Jerimy, seconded by Tom, and voted unanimously by roll call (4-0-0). Meeting adjourned at 9:31 pm.

Respectfully submitted,
 Gerald DiBello
 5/31/2022