

# **ELECTRIC VEHICLE CHARGING STATIONS WORKING GROUP**

July 18, 2022



## WESTFORD ELECTRIC VEHICLE (EV) CHARGING STATIONS WORKING GROUP

### AMENDED MEETING AGENDA

Monday, July 18, 2022

7:00 PM Meeting

**Via Webinar**

Amended  
7/15/2022 2:25PM

Please see instructions for participation below

1. Call to order
2. Old/New business
3. Draft potential amendments to the Westford Zoning Bylaw
4. Review and discuss any comments on the sections for report to Planning Board
5. Set date, time, and scribe for next meeting
6. Approve minutes: June 7, 2022; June 28, 2022
7. Adjournment

#### **Instructions for participation:**

Register for the meeting by going to this link:

[https://westfordma.gov.zoom.us/webinar/register/WN\\_tMCyWUmATm-RFYiWvqb3Kg](https://westfordma.gov.zoom.us/webinar/register/WN_tMCyWUmATm-RFYiWvqb3Kg)

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](mailto:spelletier@westfordma.gov) by 12:00 pm on July 18, 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](mailto: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).



**Appendix A:  
Table of Principal Use Regulations**

<b>C. Agricultural Uses, cont'd</b>	<b>RA</b>	<b>RB</b>	<b>B</b>	<b>BL</b>	<b>CH</b>	<b>IH</b>	<b>IA</b>	<b>IB</b>	<b>IC</b>	<b>ID</b>
3. Greenhouse or nursery farm stand	N	N	N	N	Y	N	N	N	N	N
4. Temporary greenhouse or farm stand	N	N	N	N	Y	Y	N	N	N	N
5. Storage of agricultural products at nonexempt operation	SPA	SPA	SPA	N	N	N	SPA	SPA	N	N
6. Boarding, renting and sale of animals on parcels less than five acres	N	N	N	N	SPA	N	N	N	N	N
7. Boarding, renting and sale of horses on parcels less than five acres	N	N	SPA	N	SPA	N	SPA	SPA	N	N
8. Veterinary hospital or clinic	N	N	N	N	Y	N	N	N	N	N
<b>D. Commercial Uses</b>										
<b>D. (A) Retail Uses</b>										
1. Retail sales to the general public	N	N	Y	N	Y	N	Y	Y	N	N
2. Retail sales to industrial or commercial buyers	N	N	N	N	SPB	Y	N	N	N	N
3. Retail sales of dairy products	N	N	Y	N	Y	N	Y	N	N	N
4. Retail sales or leasing of motor vehicles	N	N	N	N	Y	Y	N	N	N	N
5. Major retail project	N	N	SPB	SPB	SPB	SPB	SPB	N	N	N
<b>D. (B) Motor Vehicle Services</b>										
1. Motor vehicle services	N	N	SPA	N	SPA	SPA	SPA	SPA	N	N
2. Motor vehicle repair establishments	N	N	SPA	N	SPA	SPA	SPA	SPA	N	N
<b>D. (C) Other Commercial Uses</b>										
1. Nursing or convalescent home	SPA	SPA	SPA	N	N	N	SPA	SPA	N	N
2. Funeral home	N	N	Y	N	Y	N	Y	Y	N	N
3. Hotel	N	N	Y	N	SPB	N	Y	Y	N	N
4. Restaurant	N	N	Y	Y	Y	N	Y	Y	N	N
5. Restaurant, drive-in	N	N	N	N	N	N	N	N	N	N
6. Business or professional office	N	N	Y	Y	Y	Y	Y	Y	Y	Y
7. Printing establishment; newspaper	N	N	Y	N	N	N	Y	Y	Y	Y
8. Nonexempt educational use	N	N	N	N	Y	N	N	N	N	N
9. Nonprofit membership club	Y	Y	Y	N	Y	N	Y	Y	N	N

**Appendix A:  
Table of Principal Use Regulations**

<b>D. (C) Other Commerical Uses, cont'd</b>	<b>RA</b>	<b>RB</b>	<b>B</b>	<b>BL</b>	<b>CH</b>	<b>IH</b>	<b>IA</b>	<b>IB</b>	<b>IC</b>	<b>ID</b>
10. Indoor and outdoor commercial recreation	N	N	N	N	SPA	N	N	N	N	N
11. Winter commercial recreation	SPA	SPA	SPA	N	N	N	SPA	SPA	N	N
12. Horseback riding academy	SPA	SPA	SPA	N	N	N	SPA	SPA	N	N
13. Place of amusements or assembly	N	N	SPA	N	N	N	SPA	SPA	N	N
14. Indoor motion-picture establishment	N	N	N	N	Y	N	N	N	N	N
15. Golf course; golf club	SPA	SPA	SPA	N	N	N	SPA	SPA	N	N
16. Personal service establishment	N	N	Y	Y	Y	N	Y	Y	N	N
17. General service establishment	N	N	N	Y	Y	Y	N	N	Y	Y
18. Planned commercial development	N	N	N	N	SPB	N	N	N	N	N
19. Commercial parking lot	N	N	N	N	Y	Y	N	N	N	N
20. Adult entertainment establishment	N	N	N	N	SPA	N	N	N	N	N
21. Massage establishment	N	N	N	N	N	N	N	N	N	N
22. Body art establishment	N	N	N	N	SPA	N	N	N	N	N
23. Major commercial project	N	N	SPB	SPB	SPB	SPB	SPB	SPB	SPB	SPB
24. Adult day care facility	SPA	SPA	SPA	N	N	N	SPA	SPA	N	N
25. Recreational Marijuana Establishment	N	N	N	N	N	N	N	N	N	N
<b>26. EV Charging Station</b>	<b>N</b>	<b>N</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>
<b>E. Industrial Uses</b>										
1. Research/office park	N	N	N	N	Y	Y	Y	Y	Y	Y
2. Warehouse	N	N	N	N	N	SPB	SPB	SPB	SPB	SPB
3. Planned industrial development	N	N	N	N	N	SPB	N	SPB	N	N
4. Removal of sand and gravel	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
5. Quarrying; mining	N	N	N	N	N	N	Y	N	Y	Y
6. Sawmills and wood processing	N	N	N	N	N	Y	Y	N	N	N
7. Light manufacturing	N	N	N	N	N	Y	Y	Y	Y	Y
8. Light manufacturing with not more than four employees	N	N	N	N	Y	Y	N	N	N	N



**Appendix A:  
Table of Principal Use Regulations**

<b>E. Industrial Uses, cont'd</b>	<b>RA</b>	<b>RB</b>	<b>B</b>	<b>BL</b>	<b>CH</b>	<b>IH</b>	<b>IA</b>	<b>IB</b>	<b>IC</b>	<b>ID</b>
9. Wholesale trade	N	N	N	N	Y	Y	N	N	Y	Y
10. Junkyard or automobile graveyard	N	N	N	N	N	N	N	N	N	N
11. Wholesale underground fuel storage	N	N	N	N	N	SPA	N	N	N	N
12. Asphalt Manufacturing Plant	N	N	N	N	N	N	N	N	N	N
<b>F. Other Uses</b>										
1. Research conducted by a nonprofit educational institution	SPA	SPA	SPA	SPA	N	N	SPA	SPA	SPA	SPA
2. Drive-up or drive-through facilities, except restaurants	N	N	SPB	SPB	SPB	SPB	SPB	SPB	SPB	SPB
3. Accessways to other districts	Y	Y	Y	Y	Y	Y	Y	N	N	N
4. RTF, including Antennas, equipment and Structures (see Section 6.2 for exemptions)	SPA	SPA	SPA	SPA	SPA	SPA	SPA	SPA	SPA	SPA

Short-Term Rentals are permitted by right within the Summer Village Short-Term Rental Overlay District (See Section 8.8)



**Appendix B:  
Table of Accessory Use Regulations**

2. Split lot accessway (see Sec. 3.2.3.2)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3. Common driveway (see Sec. 3.2.3.3)	SPB	SPB	SPB	SPB	SPB	SPB	SPB	SPB	SPB	SPB
4. Private Parking Garage (see Sec. 3.2.3.4)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
5. RTF, including Antennas, equipment and Structures (see Section 6.2 for exemptions)	SPA	SPA	SPA	SPA	SPA	SPA	SPA	SPA	SPA	SPA
<b>6. EV Charging Station</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>	<b>Y</b>

Short-Term Rentals are permitted by right within the Summer Village Short-Term Rental Overlay District (See Section 8.8)

PRINCIPAL USE	REQUIRED PARKING SPACES	REQUIRED EV CHARGING SPACES
<b>A. Residential Uses</b>		
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>B. Exempt and Institutional Uses</b>		
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	<p><i>For elementary schools:</i> 1 space for each teacher and each employee and 1 space per classroom;</p> <p><i>For secondary schools:</i> 1 space for each teacher and each employee and 1 space for each 4 students;</p> <p><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</p>	
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	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
7. Municipal parking lot	Not applicable	
8. Essential services	As may be determined by the Planning Board during site plan review	
9. Hospital or Clinic	2 per bed	
<b>C. Agricultural Uses</b>		
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	
<b>D. Commercial Uses</b>		
<b>D. (A) Retail Uses</b>		
1. Retail sales to the general public	1 space per 180 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
2. Retail sales to industrial or commercial buyers	1 space per 180 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
3. Retail sales of dairy products	1 space per 180 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.

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 the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
<b>D. (B) Motor Vehicle Services</b>		
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 the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
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 the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
<b>D. (C) Other Commercial Uses</b>		
1. Nursing or convalescent home	3 per bed	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
2. Funeral home	1 for each two seats	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
3. Hotel	1 per 600 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
<b>D. (C) Other Commercial Uses, cont'd</b>		<b>REQUIRED PARKING SPACES</b>

4. Restaurant	1 for each three seats	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
5. Restaurant, drive-in	Not applicable	
6. Restaurant, fast-food	1 for each three seats	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
7. Business or professional office	1 per 200 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
8. Bank, financial agency	1 per 200 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
9. Printing establishment; newspaper	1 per 200 square feet of gross floor area	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
10. Nonexempt educational use	1 space for each teacher and each employee and 1 space for each 4 students	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.

11. Nonprofit membership club	1 for each three seats	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
12. Indoor and outdoor commercial recreation	As may be determined by the Planning Board during site plan review	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
13. Winter commercial recreation	As may be determined by the Planning Board during site plan review	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
14. Horseback riding academy	As may be determined by the Planning Board during site plan review	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
15. Place of amusement or assembly	1 per 200 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
16. Indoor motion-picture establishment	1 for each three seats	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.



17. Golf course; golf club	As may be determined by the Planning Board during site plan review	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
18. Personal service establishment	1 per 200 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
19. General service establishment	1 per 200 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
20. Planned commercial development	As may be determined by the Planning Board during site plan review	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
21. Commercial parking lot	Not applicable	
22. Adult entertainment establishment	1 for each three seats	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
23. Massage establishment	Not applicable	
24. Body art establishment	1 per 200 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.

25. Bakery, laundry or dry cleaning plant not operated at retail	1 per 300 square feet of gross floor area	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
<b>PRINCIPAL USE</b>	<b>REQUIRED PARKING SPACES</b>	
<b>E. Industrial Uses</b>		
1. Research/office park	1 per 300 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
2. Warehouse	1 per 400 square feet of gross floor area	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
3. Planned industrial development	1 per 400 square feet of gross floor area	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
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 the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.

7. Light manufacturing	1 per 300 square feet of gross floor area	15% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
8. Light manufacturing with not more than four employees	As may be determined by the Planning Board during site plan review	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
9. Wholesale trade	1 per 400 square feet of gross floor area	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
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 the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
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	
<b>F. Other Uses</b>		
1. Research conducted by a nonprofit educational institution	As may be determined by the Planning Board during site plan review	10% of the spaces required are to be Level 2 or Level 3 (Fast DC) EV charging spaces. At minimum, 25% of the spaces designated for EV charging are to be fully equipped <i>Public Electric Vehicle Charging Spaces</i> . The remaining 75% or less of the requirement are to be EVSE Ready spaces.
2. Drive-up or drive-through facilities	Not applicable	

3. Access ways to other districts	Not applicable	
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**Review and discuss any comments on the sections for  
report to Planning Board**

**Westford Electric Vehicle Charging Stations Working Group (EVCSWG)**  
**Recommendations to Planning Board**  
**July 18, 2022**

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**Introduction**

Electric vehicles (EV) are gaining in popularity over internal combustion engines. EV registrations in Westford as of May, 2022, were 978. Statewide total EV registrations were 195,455. Total Massachusetts vehicle registrations for 2020 were 2,003,000 (statista.com/statistics/196010/total-number-of-registered-automobiles-in-the-us-by-state/. Recent and detailed data only available by subscription).

To “fuel” these vehicles the acronym, EVSE, (electric vehicle supply equipment), refers to the charging stations necessary to charge both BEV’s (Battery-electric vehicles) and PHEV’s (plug-in hybrid electric vehicles), both of which can use the same charging equipment.

In Massachusetts there were only three charging stations in 2010 according to the Boston Globe article of March 28, 2017, “Alternative Fuel Stations on the Rise”, by Matt Rocheleau. Across the state there were 1,881 charging stations (latest data from November, 2021). From this same data, Massachusetts was ranked third in the country behind Vermont and California of states with the most charging stations per 100,000 registered vehicles (commodity.com/blog/ev-charging-stations/)

In Westford, as of February, 2022, there are now 50 charging stations – see table below.

Town of Westford

As of: 02/11/2022

Publicly Available Level 2 EVSE

Location	# Sta.	Network	Type	Rate	Cost	Notes
Westford Town Hall 55 Main St	8	AmpUp	J-1772	6.6 kW	\$.25/kWh + \$.30 Admin	
Millenium School 23 Depot St.	8	AmpUp	J-1772	6.6 kW	\$.25/kWh + \$.30 Admin	
Westford Academy 30 Patten Road	8	AmpUp	J-1772	6.6 kW	\$.25/kWh + \$.30 Admin	
NinetyNine Restaurant 333 Littleton Rd	2	ChargePoint	J-1772	6.6 kW	FREE 24/7	
Chili’s Grill & Bar 137 Littleton Rd	2	ChargePoint	J-1772	6.6 kW	FREE 1 <sup>st</sup> 1.5hr then \$1.50/hr	
Residence Inn 7 Lan Dr	8	ChargePoint	J-1772	6.6 kW	\$.25/kWh	Sta.3 Status Unknown

Hampton Inn 9 Nixon Rd	8	ChargePoint	J-1772	6.6 kW	\$.25/kWh	
Akamai Westford 5 Technology Park Dr	2	ChargePoint	J-1772	6.6 kW	\$.20/kWh; Park \$3.00/hr after 4 hr	
Juniper Networks 10 Technology Park Dr	2	ChargePoint	J-1772	6.6 kW	\$.20/kWh; Park \$4.00/hr after 4 hr	
Princeton Apartments 500 Princeton Way	2	Sema Connect	J-1772	7.2 kW	FREE 24/7	

Established by the Planning Board in November, 2021, the EV Charging Station Working Group charge is to:

*Explore the needs and feasibility to provide the necessary network of the EV Charging Stations and to support the demand for EV Charging Stations. The Working Group (WG) findings will expand on the Clean Energy and Sustainability Committee's (CEASC) RoadMap goals.*

1. *Develop action plan with obtainable objectives:*
  0. *Regulatory changes*
    1. *Implementation process*
    2. *Funding strategies.*
2. *The WG will review current building/zoning regulations, in conjunction with the state's regulatory environment, and suggest changes to either require or incentivize installations or readiness.*
3. *The WG will be consistent in identifying criteria for both existing and new development, and locations such as for multi-family condo/rental properties.*
4. *The WG will provide a "Best Practices" resource for funding, tax incentives & grants; vendors; estimated costs; examples of successful installations; etc.*

Evident from the preceding paragraphs there is a substantial demand for charging stations. The following sections of this report are the Working Group's recommendations to address items (2), (3), and (4).

A request from this Group to the Planning Board is in the Summary.

## **Current Process for Charging Station Installation Using the Massachusetts Vehicle Incentive Program (MassEVIP)**

To assist in the procurement of an EVSE charging station, the following turnkey process is provided here as a way for the Commonwealth and National Grid\* to pay up to 100% of the cost of Level 2 charging station installations.

The MassEVIP program applies to these parking locations: Private Workplace and Fleet, MultiUnit Dwellings, Educational Campus's, and Public Access Charging.

When the rebate of the MassEVIP program is combined with a National Grid "Make-Ready" program rebate, up to 100% of the cost to install level 2 EVSE charging systems will be paid for. The maximum rebate per street address is \$50,000. National Grid's portion of the program pays for the costs not covered by the MassEVIP grant. Note: After the funding allocated to MassEVIP program runs out, the program will end unless additional funds are added or, a new incentive program is funded.

1. Review the attached MassEVIP program requirements for an overview of the programs offered. In addition, review the matrix of Charging Station Programs for a summary of where chargers must be located and the maximum State rebate amounts for that type of location. Note: The DC Fast Charger rebate program shown on the matrix is no longer available.
2. Begin the process - Contact your National Grid electric account representative and tell him/her that you want to install vehicle charging stations using the National Grid "EV Charging Make-Ready Program" and the "MassEVIP program". Your National Grid representative will supply an up-to-date listing of approved full-service contractors. The attached example installers list may have been updated since this document was created in June of 2022. Contractors on the list will facilitate the entire site installation and commissioning process. This includes filing both the State and National Grid application forms. Like choosing any contractor, you should contact more than one on the list to review your plan and compare their estimates. Note: EVSE Charger equipment must be chosen from a list of National Grid approved manufacturers. Your contractor will help you choose an EVSE manufacturer.
3. After the installation - Your contractor will advise you on choosing a software provider that's required to operate the system. In the case of Westford, the town chose "AmpUp". The software company provides the software to manage your system(s) and supplies an app that will be used by the customers who will be charging their vehicles. Typically, the person loading and using the app on their phone must supply a credit card number to debit for the kW hours dispensed. Your organization will choose the per kWh rate that is charged to use the system. This could be zero dollars for certain persons or, fleet vehicles. There will be ongoing equipment maintenance and software maintenance



charges that should be factored into the amount charged per kWh. Some installations may require a cellular service provider to connect the charging stations to the internet.

\*The procedure outlined here only applies to National Grid customers. It may be different for other electricity suppliers in Massachusetts.

The Massachusetts Department of Environmental Protection (MassDEP) Massachusetts Electric Vehicle Incentive Program (MassEVIP) Public Access Charging (PAC) Program provides incentive funding to property owners or their representatives in the Commonwealth to cover a portion of the cost of electric vehicle (EV) charging stations accessible to the general public. **You are not eligible for funding if you order the EV charging station before you receive an approval letter from MassDEP.**

#### INCENTIVE FUNDING DETAILS

EV Charging Station Type	Incentive Amount at non-Government Owned Property <sup>1</sup>	Incentive Amount at Government Owned Property	Maximum Allowed Incentive Amount
Level 1 or Level 2	<b>Up to 80%</b> of EV charging station and installation costs	<b>Up to 100%</b> of EV charging station and installation costs	\$50,000 per street address

- \$1,500,000 is being allocated to this program.
- Applications for funding will be considered on a **FIRST-COME, FIRST-SERVED basis** until program funds are exhausted.
- A minimum of \$200,000 in PAC program funding is reserved for each MassDEP region (<https://www.mass.gov/service-details/massdep-regional-offices-by-community>).
- Projects will be considered for funding based on requirements and selection criteria set out in this document.
- The applicant must commit to providing funds, either directly from the applicant or another source, to cover the remaining cost of the EV charging station and installation, and all of the operating and maintenance costs, for a full consecutive three years after charging station is operational.
- Funding from multiple MassDEP EVIP programs cannot be combined for a single EV charging station (i.e., Public Access Charging Program funding cannot be combined with Multi-Unit Dwelling and Educational Campus Charging Program funding, Workplace and Fleet Charging Program funding or Direct Current Fast Charging Program funding).
- PAC funding, combined with funding from other sources, must not exceed 100% of the costs paid for items listed as Costs Covered in Tables A and B below.
- MassDEP will not fund installation costs for projects funded through the National Grid<sup>2</sup> or Eversource<sup>3</sup> EV charging station programs.

<sup>1</sup> “Government” shall mean a State or local government agency (including a school district, municipality, city, county, special district, transit district, joint powers authority, or port authority, owning fleets purchased with government funds), and a tribal government or native village.

<sup>2</sup> <https://www.nationalgridus.com/MA-Business/Energy-Saving-Programs/Electric-Vehicle-Charging-StationProgram>

<sup>3</sup> <https://www.eversource.com/content/ema-c/residential/save-money-energy/explore-alternatives/electricvehicles/charging-stations>

- MassDEP reserves the right to ensure equitable distribution of MassEVIP funding geographically across the Commonwealth and among eligible applicants.

- 
- MassDEP reserves the right to recover any funding provided to the applicant, and/or pursue any other legal actions deemed appropriate, if MassDEP determines that the applicant did not provide complete and accurate information or fails to meet the requirements or intent of the program.
  - MassDEP reserves the right to grant only a portion of the maximum allowable funds per type of project. Submittal of an application does not guarantee funding.

Table A: Eligible Costs - National Grid and Eversource Program Participants

Costs <b>COVERED</b> include:	Costs <b>NOT COVERED</b> include:
<ul style="list-style-type: none"> <li>• A console wired into the electrical supply</li> <li>• A cable and connector to plug into the EV Cable management strategy (e.g., coil, retractable, etc.)</li> <li>• Mounting, either pedestal or wall. Pedestal: hard-wired to a permanent pole or box. Wall: hard-wired to a wall and typically includes a mounting plate. Separate payment module</li> <li>• Shipping/Freight for “Costs Covered”</li> </ul>	<ul style="list-style-type: none"> <li>• Upgrading electric supply</li> <li>• Land/parking space purchase or lease</li> <li>• Software subscription</li> <li>• Warranty</li> <li>• Taxes</li> <li>• Internet connection or cell signal</li> <li>• Planning or permitting for the project</li> <li>• Construction costs related to installation (including ADA EV parking space)</li> <li>• Signage and pavement painting</li> <li>• Shipping/Freight for “Costs Not Covered”</li> <li>• Bollards, curbs, wheel stops, setbacks, bumper guards</li> <li>• Electricity consumption and demand charges</li> <li>• Preventative and corrective maintenance on EV charging station</li> <li>• Others as determined by MassDEP</li> </ul>

Table B: Eligible Costs – Applicants Not Participating in the National Grid and Eversource Programs

Costs <b>COVERED</b> include:	Costs <b>NOT COVERED</b> include:

<ul style="list-style-type: none"> <li>• • A console wired into the electrical supply</li> <li>• A cable and connector to plug into the EV</li> <li>• Cable management strategy (e.g., coil, retractable, etc.)</li> <li>• Mounting, either pedestal or wall.</li> <li>• Pedestal: hard-wired to a permanent pole or box. Wall: hard-wired to a wall and typically includes a mounting plate.</li> <li>• Separate payment module</li> <li>• Upgrading electric supply</li> <li>• Construction costs related to installation (including ADA EV parking space)</li> <li>• Signage and pavement painting</li> <li>• Shipping/Freight for “Costs Covered”</li> </ul>	<ul style="list-style-type: none"> <li>• • Land/parking space purchase or lease</li> <li>• • Software subscription</li> <li>• • Warranty</li> <li>• • Taxes</li> <li>• Internet connection or cell signal</li> <li>• Planning or permitting for the project</li> <li>• Shipping/Freight for “Costs Not Covered”</li> <li>• Bollards, curbs, wheel stops, setbacks, bumper guards</li> <li>• Electricity consumption and demand charges</li> <li>• Preventative and corrective maintenance on EV charging station</li> <li>• Others as determined by MassDEP</li> </ul>
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**EV CHARGING STATION REQUIREMENTS**

- Hard-wired Level 1 or Level 2 EV charging station.
- Certified to UL (Underwriters Laboratories, Inc.) standards by a Nationally Recognized Testing Laboratory (NRTL).
- Able to charge EVs produced by multiple manufacturers.
- For charging stations that are equipped to accept payment, they must enable the payment option for all EV drivers without restrictions based on network membership or subscription (e.g., allow credit card payment without login).
- Must be a new EV charging station, not ordered until after approval letter is received from MassDEP. Stations that are resold, rebuilt, rented, leased, received from warranty insurance claims, or obtained as a gift or a prize, or new parts installed in existing stations, are not eligible.
- Energy Star certification is recommended for chosen EV charging station.

**ELIGIBLE ENTITIES & LOCATION REQUIREMENTS**

- Public, private or non-profit entities in Massachusetts are eligible to apply and receive funding.
- Applicant must have evidence of ownership of the location identified in application or evidence that installation is allowed on the property (e.g., written permission of owner and/or pertinent language in lease, license agreement, or easement, etc.), and provide such evidence to MassDEP upon request.
- Location must not be a residence. Residential properties are ineligible regardless of their ownership.
- The applicant must allow the general public to have practical access to, and use of, the parking space and the EV charging station for 24 hours per day, 7 days per week, at the location

identified in the application, and describe such access in the application. If the location has some access restrictions the hours of access can be reduced, but not below a minimum of 12 hours per day, 7 days per week.

- For each port installed, one parking space must be designated for plug-in electric vehicle use only and marked clearly through permanent, visible signage. The grant recipient must actively enforce this requirement. Applicant is encouraged to paint the pavement to indicate the parking space is designated for EVs.



- EV charging station location shall be designed to protect the EV charging station from physical damage. Measures may include curbs, wheel stops, setbacks, bumper guards, and bollards.
  - The charging station parking space and area around the charging station must be maintained, including snow removal and general cleaning.
  - Directional signage to the EV charging station location must be installed, starting at the entrance of the parking area.

## GENERAL PROGRAM REQUIREMENTS

- For new construction locations, install and operate the EV charging station within 24 months of the effective date of the contract with MassDEP.
- For existing locations, install and operate the EV charging station within 6 months of the effective date of the contract with MassDEP.
- Operate and maintain the EV charging station for three full consecutive years after the date the charging station is operational.
- Collect EV station usage data for three full consecutive years after the date the charging station is operational, and provide to MassDEP upon request.
- Register the EV charging station on the United States Department of Energy's (DOE) Alternative Fuels Data Center Station Locator [http://www.afdc.energy.gov/fuels/electricity\\_locations.html](http://www.afdc.energy.gov/fuels/electricity_locations.html). Applicants are also encouraged to submit the location to other EV charging websites such as [www.PlugShare.com](http://www.PlugShare.com).
- Market the EV charging station to the general public via various strategies, for example: ride and drive events; education on the proper operation of the EV charging station; flyers; internal/external newsletters and webpages; signage; etc.

## ACCESSIBILITY

- If, after reviewing this section, you have additional questions related to accessibility obligations, please contact Mr. Jeffrey Dougan, Assistant Director at the Massachusetts Office on Disability, for assistance with these requirements. He can be reached at [jeff.dougan@mass.gov](mailto:jeff.dougan@mass.gov).
- Applicants who are required to provide handicapped accessible parking spaces in their parking area as required by the 1991 or 2010 Americans with Disabilities Act Architectural Design Standards and/or the rules and regulations of the Massachusetts Architectural Access Board (521 CMR) must meet the accessibility requirements for EV charging spaces as provided in this section.
- Locations funded through the PAC program must have at least 5% of the site's EV charging spaces, but not less than one such space, be accessible to persons with disabilities. If 5% calculates to a fraction, round the value up to the next whole number. This requirement is per parking area and is based on new plus existing EV charging spaces.

For example:

- A parking facility with 20 EV charging spaces or fewer requires at least 1 accessible EV charging space.
  - A parking facility with 21 to 40 EV charging spaces requires at least 2 accessible EV charging spaces.
- Accessible EV charging spaces can share an access aisle with new or existing accessible parking spaces.
- Accessible EV charging spaces may be used by any employees and must not be reserved for employees with disabilities. Therefore, do not install markings or signage restricting the space to ADA accessibility only.

- The following technical specifications are provided as guidelines to assist in the selection of equipment and design options made to comply with the [Massachusetts Architectural Access Board's rules and regulations \(521 CMR\)](#) and/or the [2010 ADA Design Standards](#).

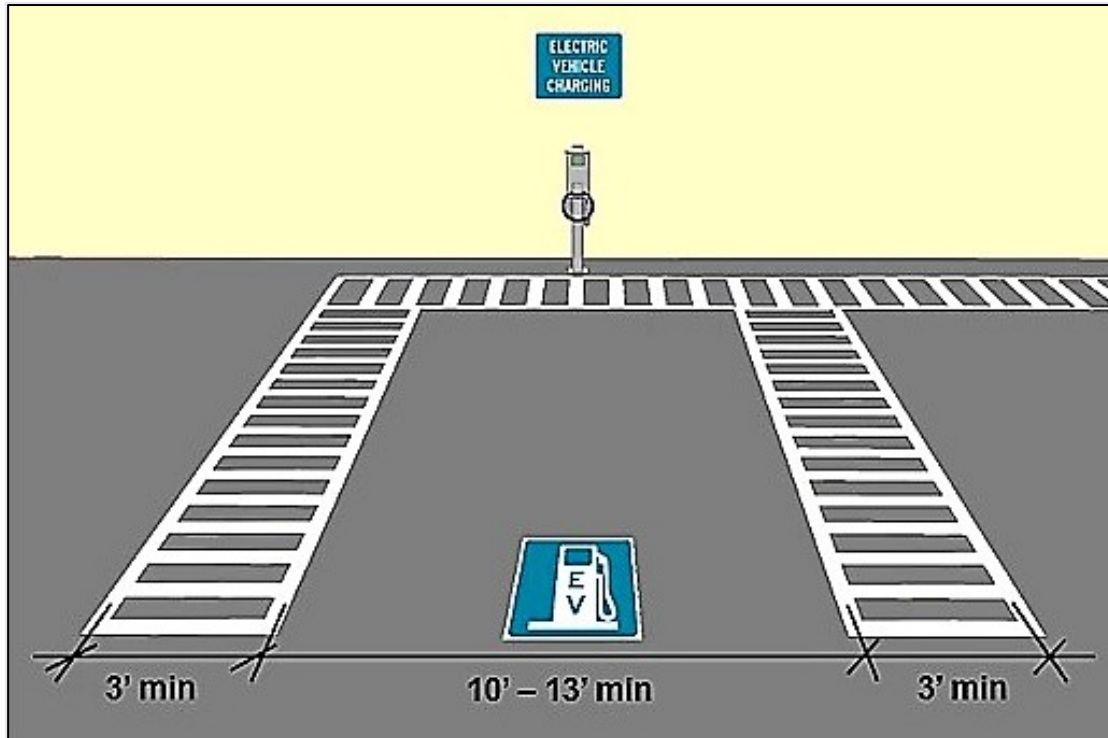
**Off-Street and Perpendicular On-Street Accessible EV Charging Space Requirements** Such spaces must include:

- **A parking space and striped access aisle(s) with a combined minimum width of 16'.**  
**Striped access aisles may be placed on one side or on both sides of the parking space.**  
 See examples 1 & 2 below. Note the examples are not the only design options available and are meant as suggestions only. The spacing suggestions from examples 1 and 2 are summarized in the following table:

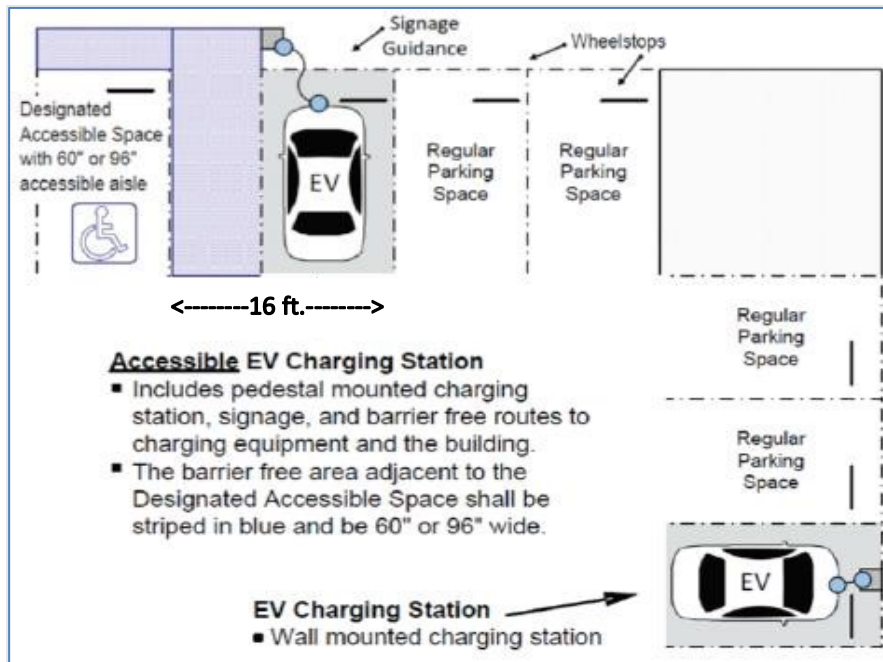
Left aisle width	EV charging space width	Right aisle width	Total width
3'	10'	3'	16'
3'	13'	3'	19'

5'	11'	0'	16'
0'	11'	5'	16'
8'	8'	0'	16'
0'	8'	8'	16'

- Parking spaces and striped access aisles on a slope no greater than 1:50 (2%). This is measured in both directions.
- A minimum 8' 2" vertical clearance along the vehicular route to the accessible EV charging space.



Example 1: From [US Access Board Guidance](#)

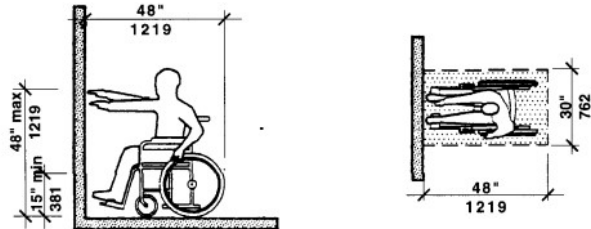


Example 2: Derived from [US Department of Energy Guidance](#)

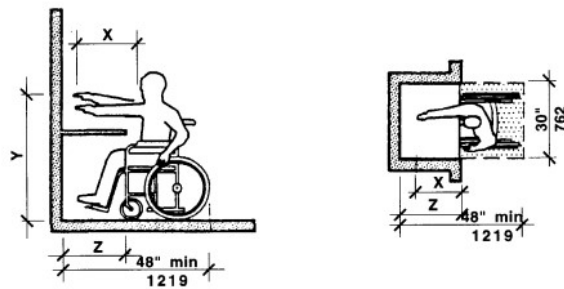
<b>Accessible Route and Controls</b>
There must be a sufficient path of travel to the EV charging station so that someone can exit their vehicle, access the EV charging station, return to their vehicle and get to their destination.
The width of the accessible routes must be a minimum of 48 inches. This includes the "departure" area from the EV charging station area to the building entrance(s).
There must be a clear space in front of the EV charging station of at least 30 inches x 48 inches.
The cross slope of the accessible route must be no steeper than 1:50 (2%).
If the striped access aisles of the accessible EV charging station space abuts a sidewalk, there must be a curb cut to access the connecting sidewalk or route.
At the controls of the EV charging station there must be a level landing (1:50/2%) measured in all directions.
Per <a href="#">521 CMR 39.5</a> , the highest operable part of controls, dispensers, receptacles, and other operable equipment shall be placed within at least one of the reach ranges specified in <a href="#">521 CMR 6.5</a> , Forward Reach and <a href="#">521 CMR 6.6</a> , Side Reach. If on a platform, the measurement is from the ground itself, not the platform level.
Forward Reach: If the clear floor space only allows forward approach to the EV charging station, the maximum high forward reach allowed is 48 inches and minimum low forward reach is 15 inches. See Example 3 below for forward reach drawing and reach and clearances if the forward reach is over an obstruction.
Side Reach: If the clear floor space allows parallel approach to the EV charging station, the maximum high side reach allowed is 54 inches and the low side reach is no less than 9 inches above the floor. See Example 4 below for side reach drawing and reach and clearances if the side reach is over an obstruction.



Controls and operating mechanisms shall be operable with one hand and shall not require pinching, or twisting of the wrist.



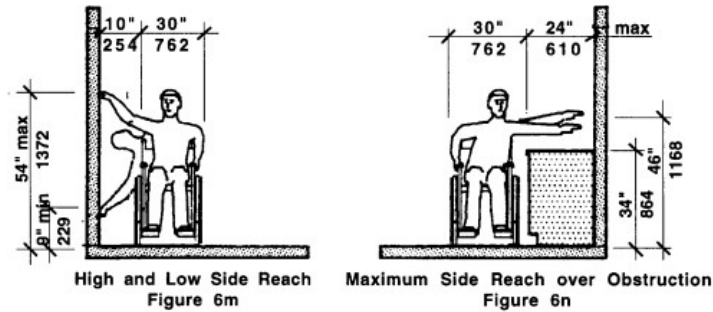
High Forward Reach Limit  
Figure 6k



NOTE: X shall be less than or equal to 25" (635 mm). Z shall be greater than X.  
When X is less than 20" (508 mm), then Y shall be 48" (1219 mm) max.  
When X is 20" to 25" (508 to 635 mm), then Y shall be 44" (1118 mm) max.

Maximum Forward Reach over an Obstruction  
Figure 6l

Example 3: From [521 CMR 6.00: Forward Reach](#)



High and Low Side Reach  
Figure 6m

Maximum Side Reach over Obstruction  
Figure 6n

Example 4: From [521 CMR 6.00: Side Reach](#)

## APPLICATION PROCESS

Applications will be processed on a **FIRST-COME, FIRST-SERVED** basis until all available funding is expended or the incentive funding solicitation is terminated.

- Interested applicants must complete the online application form at [https://massgov.formstack.com/forms/massevip\\_pac\\_20](https://massgov.formstack.com/forms/massevip_pac_20) and submit it (with attachments) to MassDEP.
- MassDEP will review the application for eligibility and completeness and will notify the applicant of the outcome of such review.
- Upon review of a completed application, and subsequent favorable determination of incentive award, MassDEP will issue an Approval Letter and the contract documents.
- The required contract documents are:
  - *Commonwealth of Massachusetts - Standard Contract Form*; and
  - *Commonwealth Terms and Conditions*; and
  - *Contractor Authorized Signatory Listing*; and
  - *MA-W-9 Request for Taxpayer Identification Number and Certification*; and
  - End-User Agreement.

The contract documents are posted at <https://www.mass.gov/lists/osd-forms#contract-formsand-attachments-for-all-goods-and-services->.

- Applicant, now a Grantee, will have 30 days to return the signed contract documents to MassDEP.
- MassDEP will countersign the contract documents and return to Grantee within 10 days.
- From the effective date of the contract documents with MassDEP, Grantee will have **6 months** for existing locations and **24 months** for new construction to complete the charging station acquisition, installation, and make the charging station operational.
- The Grantee will coordinate the delivery and installation of the charging station directly with the vendor.
- Grantee must submit updates on its project implementation schedule upon request.

## **PAYMENT PROCESS**

- Upon the charging station being made operational, the Grantee must submit a payment packet including, without limitation:
  - Completed payment request form, which will be provided at time MassDEP returns the contract documents; and
  - Final itemized invoices for the charging stations and installation; and
  - Proof of installation, including pictures of the installed and operational charging stations.
- MassDEP will direct the grant to the Grantee or charging station vendor, as indicated by Grantee on the payment request form. It may take up to 75 days for the funds to be rel

## Research conducted

Recommendations for changes to the Westford Zoning Bylaws contained in this document are based on extensive research conducted by the Working Group to incorporate best practices gleaned from model bylaws and ordinances other cities and towns across the U.S., compliance with applicable building and electrical codes, and other applicable federal/Massachusetts standards for signage and accessibility.

Surveyed via the Westford Economic Development Committee the business community (Gutierrez Commercial Properties, RAventures (Cornerstone Development), and Larry Gordon (Orchard Square) for input of their concerns of installing charging stations on their properties.

### a) Zoning bylaws and ordinances from other municipalities

The working group examined planning and policy documents published by several authorities and bylaws and ordinances available from several other municipalities across the U.S., emphasizing Massachusetts cities and towns. These multiple documents were distilled into several points of “best practices” for incorporation into Westford Zoning Bylaws.

Key documents referenced for this work included:

#### (i) Planning and Policy Documents

- Electrification Coalition Guide, “Electrifying Transportation in Municipalities, A Policy Toolkit for Electric Vehicle Deployment and Adoption at the Local Level”
- U.S. Department of Energy, Energy Efficiency and Renewal Energy, Alternative Fuels Data Center, “Plug-in Electric Vehicle Deployment Policy Tools: Zoning, Codes, and Parking Ordinances”
- Environment America Research & Policy Center, “Plugging In, Readyng America’s Cities for the Arrival of Electric Vehicles”
- International Council on Clean Transportation White Paper, “Charging Up America: Assessing the Growing Need for U.S. Charging Infrastructure through 2030”
- Great Plains Institute, “Summary of Best Practices in Electric Vehicle Ordinances”
- Massachusetts Department of Energy Resources and Massachusetts Clean Cities Coalition, “Installation Guide for Electric Vehicle Supply Equipment (EVSE)”

#### (ii) Zoning Bylaws Ordinances

- Delaware State Senate, “Act to Amend Title 22 of the Delaware Code Relating to Residential Electric Vehicle Charging Infrastructure Requirements”
- Town of Ipswich, MA “Protective Zoning Bylaw Amended October, 2020”
- City of Methuen, MA Comprehensive Zoning Ordinance
- Franklin Township, NJ Ordinance 4352-21 Authorizing and Encouraging Electrical Vehicle Supply/Service Equipment (EVSE) & Make-Ready Parking Spaces

- E4 the Future, a task force of Massachusetts Advocacy Organizations, utility representatives, and government departments, “Draft Model Ordinance for Electric Vehicle Charging Stations”

b) Building and Electrical Codes applicable to the Commonwealth of Massachusetts

The working group examined Massachusetts General Laws, Building Code and National Electric Code requirements applicable to electric vehicle charging as points of reference for incorporation into Westford Zoning Bylaws.

Key documents referenced for this work included:

- Massachusetts General Laws, Chapter 25A, Section 16 Public Electrical Vehicle Charging Stations
- Massachusetts State Building Code 780 CMR 9<sup>th</sup> Edition, Chapter 2 Definitions
- DRAFT Massachusetts State Building Code 780 CMR 10<sup>th</sup> Edition, Chapter 2 Definitions
- National Electric Code 2020, Article 625, Electric Vehicle Power Transfer System

c) Manual on Uniform Traffic Control Devices (MUTCD)

The working group examined the U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices (MUTCD) requirements applicable to electric vehicle charging as points of reference.

d) ADA Accessibility

The working group examined the U.S. Department of Justice, Civil Rights Division, Information and Technical Assistance on the Americans with Disabilities Act requirements applicable to electric vehicle charging as points of reference.

## Recommended integration of Amendments to Zoning Bylaws

The Working Group recommendations for amendments to the Westford Zoning Bylaws contained in this document are composed of changes to two sections: SECTION 10.2 GENERAL DEFINITIONS, and the appendices.

### Section 10.2 GENERAL DEFINITIONS

Add the following entries, in proper order, to Section 10.2 of the Westford Zoning Bylaws.

*References:*

- i) Massachusetts General Laws (MGL) Chapter 25A Section 16 Public Electrical Vehicle Charging Stations
- ii) Massachusetts State Building Code 780 CMR *Ninth Edition*, Chapter 2 Definitions
- iii) 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: 1) Private Electric Vehicle Charging Space, or 2) Public Electric Vehicle Charging Space.

**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 Hybrid 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 these bylaws EVSE will be one of two types: EVSE Level 2 or 2) EVSE Level 3 (DC Fast).

**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 with 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).

Make the following changes to the appendices of the Westford Zoning Bylaws, as indicated.

(i) Appendix A: Table of Principal Use Regulations

To Section D. Commercial Uses, (C) Other Commercial Uses, add item 26 EV Charging Station

(ii) Appendix B: Table of Accessory Use Regulations

To Section C. General Accessory Uses, add item 6 EV Charging Station, permitted in all zones.

(iii) Appendix D: Table of Parking Requirements



Zoning Bylaws  
Proposed Appendix

## Summary

The Electric Vehicle Charging Stations Working Group has proposed minimum standards for Electric Vehicle Service Equipment to be adopted in the Zoning Bylaws of the Town of Westford. The proposed changes will mandate infrastructure for electric vehicle charging as well as provide future expansion capability as adoption of electric vehicles continues to accelerate. The working group plans to propose additional changes to the Zoning Bylaws as Massachusetts laws allow. Additionally, the working group has identified available resources to offset some of the installation costs associated with EVCS installation.

If the Planning Board supports the intention and recommendations of these amendments to the zoning bylaws, the Working Group requests the Planning Board start the process to sponsor a warrant article for implementation of such for a vote at the October special town meeting.

Thank you.

# Minutes



## WESTFORD ELECTRIC VEHICLE (EV) CHARGING STATIONS WORKING GROUP Meeting of June 7, 2022

A meeting of the Westford Electric Vehicle (EV) Charging Station Working Group (WEVCSWG) was held at 7:00 PM on June 10, 2022, via Zoom.

The following WG members were present: Chauncey Chu, Gerry DiBello, ~~Tom Teller~~  
Town Staff present: Sierra Pelletier, Assistant Planner

### 1. Call to order

The meeting was called to order at 7:02 PM by Chair, Chauncey Chu.

### 2. Old/New Business

- Chauncey spoke last night at the meeting of the Planning Board to update the Board on our progress. The next meeting of the Board is Monday, July 18. We need to have our draft amendments to the ZBL finalized for that meeting.
- While at the Board meeting, he learned of the ad hoc working group chaired by Beth Perkins on establishing net-zero building standards.
  - We should coordinate with that group on parking requirements.
  - Tom reported, as the CEASC representative to EVCS WG, that we would coordinate with that group. Gerry is also a member of CEASC.
    - Gerry reported that the working group had obtained a document on “green building standards” from the town of Wellesley (and others) and would be exploring that good example in preparing standards for Westford.
  - Tom noted that the ad hoc group is focused more on building code issues rather than planning issues, so is somewhat outside the domain of the Planning Board / EVCS WG.
  - Chauncey noted that the Board was requiring sprinklers for one of the site plans being presented and asked if the Board could require sprinklers, why couldn't EVSE-Ready be required. Sierra reminded the group that such requirements come from the fire department and the Board simply informs the applicant of that requirement.

### 3. Draft potential amendments to the Westford Zoning Bylaw

The group reviewed updates to proposed ZBL amendments, compiled by individual members of the WG.

- Tom presented changes drafted for General Definitions.
  - Gerry pointed out a missing word in the definition for “EVSE Ready Space.”
  - Sierra noted that Town Counsel recommended that for most-all definitions that already exist in codes or laws, we simply reference the code/law; for example, say “...as defined in MGL Chapter 25A, Section 16” or whatever appropriate code or law to reference.



rather giving a definition, so that the ZBL doesn't have to be updated at Town Meeting every time there is a change to MGL or other code referenced.

- Tom noted that there was nothing in the written opinion of Town Counsel that was on point to this topic. Sierra said that it was discussed during a later phone call with Counsel and that she had relayed it at the prior meeting.
- Tom ~~also~~ noted that there are more standards documents that are governing, including the MA building code and the National Electric Code, and their definitions might be slightly different. Sierra said the idea is to choose one for each term and reference that particular code or law.
- Tom also noted that it would be better for the average person reading the zoning bylaw to see a written-out definition and not have to hunt for the code or law it references.
- Sierra will revisit the question with Counsel and report back to the group.
- Tom reviewed updates to Appendices A and B, implementing changes recommended earlier by Bob Shaffer.
  - Appendix A: Add item #26 to "Other Commercial Uses" for EV Charging Station that would be permitted in all zones except RA and RB, as ~~a~~-this "Commercial" use in a residential zone does not make sense.
  - Appendix B:
    - ~~Bob had suggested adding a requirement for residential accessory use, but that suggestion has been overtaken by events and is not included here.~~
    - For section C, General Accessory uses, add item #6 EV Charging Station as permitted in all zones.
  - Sierra noted that she had not run these changes by Town Counsel. She will do so and report back to the group.
- Chauncey reviewed proposed changes to Appendix D.

For EV charging requirements, the draft changes propose 10% or 15% of requirement be Level 2 or 3 EVCS, varying by use, with 25% of the requirement be EVSE and 75% be EVCS make-ready.

  - Tom suggested that the term "EVCS make-ready" should read "EVSE Ready" to match the proposed definition.
  - Gerry questioned whether we need to call out the requirement that the number of spaces generated by "rounded up" to the next whole number, e.g., "9.3" spaces need to be "10" as "9" spaces would not meet the requirement. Sierra noted that it is the common practice and will follow up to confirm that it does not need to be explicitly stated.
  - Some uses include the words "with minimum of one EVCS." The group agreed to clarify the construction to make the requirement more clear. Sierra will clarify this point with Counsel as well.

#### **4. Draft outline for report to the Planning Board**

Chauncey presented a draft outline for the report.

- Chauncey noted that the outline does not contain information on two points:
  - Contractors who can supply the equipment. Gerry reminded the group that the town has done work in putting the EVCS at Town Hall, etc.
  - The format of how we should make our report to the Planning Board
- The Background section is good. It was noted that it would be a good idea to cite sources and specifics for any quantitative data.
- The group agreed to assign each section of the report to a member of the group to draft, with drafts due by June 23 to be ready for our next meeting.
  - Gerry will draft section 2) current process for charging station installations and section 6) funding/grant availability
  - Tom will draft section 4) research conducted and 5) recommended integration of amendments to Zoning Bylaws
  - Chauncey will draft section 1) background, 3) objectives given to the working group, and 7) request Planning Board to sponsor item on warrant for fall town meeting
  - Jerimy will be asked to draft 8) summary.

\*Item taken out of order\*

#### **6. Set the date, time, and scribe for next meeting**

After some discussion the WG set the date/time for the next meeting to ~~be~~ conclude our work for the Planning Board meeting of July 18 as Tuesday, June 28, 2022, at 7:00 PM via Zoom. Jerimy will serve as scribe for the minutes.

#### **5. Approve minutes: May 24, 2022**

Motion to accept by Gerry, second by Tom. Motion to accept passed unanimously by roll call.

#### **7. Adjournment**

On a motion by Tom, seconded by Gerry, and voted unanimously, the meeting was adjourned at 8:09 PM.

Respectfully submitted,  
Tom Teller  
6/15/2022



## WESTFORD ELECTRIC VEHICLE (EV) CHARGING STATIONS WORKING GROUP Meeting of June 28, 2022

A meeting of the Westford Electric Vehicle (EV) Charging Station Working Group (EVWG) was held at 7:00 PM on June 28, 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**
  - a. The meeting was called to order at 7:03pm.
2. **Old/New Business**
  - a. None

*Items # 3 and #4 on the agenda were discussed in tandem.*

3. **Draft potential amendments to the Westford Zoning Bylaw**
4. **Review & Discuss Any Comments on the Sections for Report to Planning Board**
  - a. Bob had a few edits/comments on the Introduction section
    - i. Need to provide data to support EV growth statement.
    - ii. Questioned whether number for registrations was total or new within a certain timeframe. The Group noted that the registrations were total for the town as of May 2022, not only new ones.
    - iii. Explanation of the 'which came first – the chicken or the egg' question. Growth of new EV registrations spurred by number of charging stations or vice versa?
  - b. Need to answer: what is the demand for charging stations?
    - i. It is significantly influenced by number of visitors to town with EVs who need a charging station – shoppers, diners, employees.
  - c. The Group wanted to find data to see trend for recent years for new EV registrations, but this is probably not available.
  - d. Any anecdotal evidence that daytime town population increases 50%-75%? The Middlesex 3 group has estimated projections for increase in number of EVs visiting town.
  - e. Gerry/Tom mentioned a white paper – International Council on Clean Transportation statistics that could help quantify the demand for charging stations.

- i. Tom will try to mine out some statistics.
  - f. Tom said the top 2 objections to people buying EVs are their limited range and lack of available infrastructure/charging stations.
  - g. Bob suggested we try to relate the number of EVs in town to the population if possible. What is the demand for chargers? The 1200 registered EVs in town probably use home chargers and so are not indicative of the demand for public chargers. Bob will provide a revised opening paragraph of the Introduction.
  - h. Tom will try to quantify demand.
  - i. Moved onto current process for installations
    - i. Gerry showed the process involving National Grid who would do most of the work.
    - ii. Funding programs have limited funds.
    - iii. Need to emphasize the max MassEVIP rebates and then what the National Grid grants cover.
  - j. Tom went over his section on Research Conducted & proposed changes to Appendices.
    - i. Sierra reiterated Town Counsel's feedback on our Definitions
    - ii. Appendix A: Sierra said that after discussion with Counsel, it was noted that Charging Station Principal Use may fall under the existing Commercial Parking Lot Use.
    - iii. Appendix B: Sierra said that Counsel opined that there may not actually be an Accessory Use for charging stations if the intention is to refer to Commercial Parking Lots.
    - iv. The Group explained that their intent was to classify it more as Motor Vehicle Services, as charging is similar to refueling at a gas pump. It was noted that Commercial Parking Lot and Motor Vehicle Services Uses are presently only allowed in a few zones, sometimes with special permit required.
    - v. Sierra will check with Counsel again on these use classifications.
  - k. Municipality Facility excluding Parking Lots and Municipal Parking Lots Uses were discussed. We would like to require EV spaces at all municipal locations. Sierra will check with Counsel, as the Group had previously decided not to include EV requirements in Exempt and Institutional Uses at this time.
  - l. Bob stressed the importance of the definitions of EV Charging Stations and EV Charging Spaces.
  - m. Need to change Appendix D to eliminate the rounding phrase and specify charging station vs. charging space.
- At 8:28 PM, Jeremy left for another meeting. Chauncey took over as scribe.*
- n. Discussion on Definitions.
  - i. Bob suggested to watch the naming of each definition as these are inserted alphabetically.
- o. Appendix D should standardize terms, i.e., EVSE-equipped and EVSE-ready.
- p. Gerry to insert no Level 3 on funding table labeled Incentive Fund Details.

- q. Discussion on whether there was sufficient time to finalize our report for the October STM. We decided to still attend the July Planning Board meeting. Sierra said there should be enough time with August and September Planning Board meetings, in case the Attorney General's and Counsel's opinions are not ready in time for July.
- r. Chauncey to pull together the draft report and we will move forward with presenting at the July meeting.

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

- a. The next meeting will be virtual on July 07 at 7:00pm.
- b. Scribe to be: Tom
- c. Sierra will check if we need to meet in person or if we can continue to meet virtually.

**6. Approve Minutes**

- a. Minutes for June 07, 2022 were tabled until the July 07 meeting.

**7. Adjournment**

- a. A motion to adjourn was made by Gerry and seconded by Bob. Meeting adjourned by unanimous vote at 9:03 pm.

Respectfully submitted,  
Jerimy Arnold  
Chauncey Chu  
7/03/2022