EXHIBIT X – Message from Code Consultant, Paul Moriarty.
Board Action: Hold for possible 1st iteration amendment.

PROPOSED CODE AMENDMENT: Under "Exception", after the word "supervisor" in the 3rd line, add the following: "Anyone who contracts to perform work for a Home Owner under this section, on or after January 1, 2018, shall be licensed as a Construction Supervisor and shall notify in writing the appropriate Building Department of such role".

Paul Moriarty

MASSACHUSETTS STATE BUILDING CODE REVISIONS PROPOSAL FORM (9TH EDITION)
(PLEASE TYPE OR PRINT)

Date: February 21, 2017

Building Code Section No. 110.R5.1.3.1 Code Change No._____
(State Use Only)

Proponent: (Name) Metro West Building Officials Association, Inc.

Address: 45 West Main Street, Westborough, Masssachusetts (Room 24) 01581
(Please check type of amendment proposed)

_____X___Change Section as follows: _____ Delete Section and substitute:

_____Add new Section as follows: _____ Delete Section-no substitute:

PROPOSED CODE AMENDMENT: Under "Exception", after the word "supervisor" in the 3rd line, add the following: "Anyone who contracts to perform work for a Home Owner under this section, on or after January 1, 2018, shall be licensed as a Construction Supervisor and shall notify in writing the appropriate Building Department of such role".

SUPPORTING STATEMENT(S): There are too many instances whereby persons with no knowledge of the Building Code are applying for Building Permits under the Home Owner exemption but are having licensed/unlicensed persons performing the work. If a Home Owner performing work under this section "hires", a plumber and/or an electrician, that plumber and/or electrician must be licensed under the rules and regulations set up by the Massachusetts Division of Professional Licensure (M.G.L. chapter 141 §1A and chapter 142 §3), however, tradespeople performing work requiring a Building Permit are seemingly exempt from the Licensure requirements. The Home Owner should be protected from persons holding themselves as competent to perform work requiring a Building Permit. This proposal is needed in order to prevent misuse by contractors. If a "Home Owner" is actually performing the work, such work should be exempt, otherwise the work should be performed by a Licensed individual. This amendment also gives jurisdiction to BBRS over these "hired" tradespeople performing non-compliant work.

HOMEOWNER Person(s) who owns a parcel of land on which he/she resides or intends to reside, on which there is, or is intended to be, a one- or two-family dwelling, attached or detached structures accessory to such use and/or farm structures. A person who constructs more than one home in a two-year period shall not be considered a homeowner.

110.R5.1.3.1. Individuals supervising persons engaged in construction, reconstruction, alteration, repair, removal or demolition involving any activity regulated by any provision of 780 CMR, shall be licensed in accordance with 780 CMR 110.R5. Individuals engaged in the supervision of the field erection of manufactured buildings in accordance with 780 CMR 110.R3, shall be licensed as construction supervisors.

Exception. Any homeowner performing work for which a building permit is required shall be exempt from the licensing provisions of 780 CMR 110.R5, provided that if a homeowner engages a person(s) for hire to do such work, then such homeowner shall act as supervisor. This exception shall not apply to the field erection of a manufactured buildings constructed pursuant to 780 CMR 110.R3.

Note. Any Licensed Construction Supervisor who contracts to do work for a homeowner shall be responsible for performing said work in accordance with 780 CMR and manufacture's recommendations, as applicable, whether or not the licensed contractor secured the permit for said work.

Anderson, Robert (DPL)

Subject: FW: Proposed Code Change for 780 CMR 110.R5.4

------ Forwarded Message --------
From: tonyb@atyourpaceonline.com <tonyb@atyourpaceonline.com>
Date: 11/15/2017 6:38:06 AM
Subject: Proposed Code Change for 780 CMR 110.R5.4
To: Anderson, Robert (DPS) <robert.anderson@state.ma.us>

Good morning, Mr. Anderson.

At this time I would like to officially propose that the statement below be stricken from the code:

"Qualified licensees may acquire up to a maximum of six hours of continuing education via on-line training. Remaining hours shall be acquired through in-person, classroom training."

This statement is found in section 110.R5.4.3 in a notice issued by staff, but not actually found within revision documents. I would be happy to refactor this request in a more official format, such as the code change request form. Please let me know if there is anything I can do to make this easier or more official.

Thank you again for your time and attention.

Respectfully,
Tony Bowers
At Your Pace Online
541-226-6683

MASSACHUSSETTS
FEDERATION OF
BUILDING OFFICALS

P.O. Box 268 W. Wareham, Ma. 02576

December 15th 2017

To: Board of Building Regulations and Standards

From: Massachusetts Federation of Building Officials

Re: 9th Edition 110 R5 repeal proposal vote

Mr. Chairman and board members it is our understanding that the board is considering a proposed change to the 9th edition 110 R5 Construction Supervisor License Continuing Education Requirements which came into full effect January 1st 2018. I thank the board for allowing a public comment period and giving me the opportunity to express the Mass. Federation of Building Officials, the Federation, position on this matter.

The BBRS recognized the flaws and faults with the R5 regulation in the 8th edition of 780 CMR and had a comprehensive review process. On March of 2017 Federation Vice President, Jeffrey Clemons provided verbal and written testimony to the board supporting changes to the continuing education requirements under R5 and worked with staff to effectively correct those issues with new requirements for the 9th edition. The board members unanimously voted for final draft changes that Chief Anderson proposed and have been codified by the Secretary of State's office.

The Federation clearly supported the boards efforts in the new language to require Construction Supervisor licensees to obtain half of their required continuing education hours in a live classroom setting. We feel that if the board repeals its decision to fix the flaws in the 8th edition that those flaws will continue to discredit our education efforts and our industry. In conclusion, we strongly recommend that the board keeps the 9th edition 110 R5 requirements and have the staff monitor its progress with a report back to the board on its merits prior to the next code change proposals for the 10th edition.

Respectfully,

Robert C. Borden, President
Mass. Federation of Building Officials

Board members also discussed revisions to Appendix J as identified below, but also determined that the suggested changes should be examined more closely and perhaps proposed as a first iteration revision to the ninth edition later in the year.

AJ102.3.1 through AJ102.3.3 Add the subsections as follows:

AJ102.3.1 Adding or creating one or more sleeping rooms.

1. **Single family dwelling.** When one or more sleeping rooms are added or created to an existing dwelling, the entire dwelling shall be provided with smoke, heat and carbon monoxide protection.
2. **Two-family dwelling.** When one or more sleeping rooms are added or created to one *dwelling unit* that unit shall be provided with smoke, heat and carbon monoxide protection detectors. When sleeping rooms are added or created to both units the entire building shall be provided with smoke, heat and carbon monoxide protection.
3. **Townhouses dwelling unit.** When one or more sleeping rooms are added or created to an existing *dwelling unit*, the entire unit shall be provided with smoke, heat and carbon monoxide protection.

~~AJ102.3.2~~ AJ601.5 **Complete reconstruction.** If a *dwelling* or townhouse building undergoes ~~reconstruction~~ *reconstruction* such that more than 50% of total walls and ceilings area are is opened during construction to framing, then the entire existing building shall be provided with smoke, heat and carbon monoxide protection.

~~**AJ102.3.3 Adding an attached garage.** If a garage is created under or attached to an existing *dwelling unit*, a heat detector shall be provided in the garage, in accordance with R314.8.~~

Section AJ102.3.2 is a new MA amendment to the IRC 2015. I understand the intent but I do not believe it is necessary based on my experience for the past 18 months mediating disagreements between parties pertaining to code requirements to repair damaged buildings. Adding smoke detection in areas of these buildings not under construction is generally readily accepted by both parties. For this reason, if the amendment is retained it should be placed in the RECONSTRUCTION section of Appendix J, and modified as shown.

Section AJ102.3.3 is a new MA amendment to the IRC 2015 and is not necessary as it is common knowledge that for a new garage, new construction requirements apply. There is no need to identify that a heat detector is required, and it is not necessary to identify what gypsum board is required, and it is not necessary to identify all other new construction requirements.

Recommendation: Modify AJ102.3.2 as shown above and delete AJ102.3.3

AJ102.12 Energy Efficiency See Section ~~N1100.~~ N1107 to N1111.

Recommendation: Modify to improve clarity, section AJ102.12 as shown above.

General definitions for both residential and base code.

C202 GENERAL DEFINITIONS.

Electric Vehicle. An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current.

Informational note: defined as in 527 CMR 12 section 625.2.

Electric Vehicle Supply Equipment (EVSE): The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

Informational note: defined as in 527 CMR 12 section 625.2.

Electric Vehicle Charging Space ("EV Ready Space"): A designated parking space which is provided with one dedicated 50-ampere branch circuit for *EVSE* servicing *Electric Vehicles.*

C103.2 Information on Construction Documents Amend as follows:
(ADD) #13*EV Ready Spaces* locations in accordance with C405.9.3

C405.9.3 Add a section as follows:

C405.9.3 Electric Vehicle Charging Spaces ("EV Ready Spaces"). Group A-1, B, E, I, M and R buildings with four or more passenger vehicle parking spaces on the premises shall provide *EV Ready Spaces* for a percentage of parking spaces not less than:

a. 5% of first 80 spaces,
b. 3% of all spaces more than 80.

The branch circuit shall be identified as "EV READY" in the service panel or subpanel directory, and the termination location shall be marked as "EV READY". The circuit shall terminate in a NEMA 6-50 or NEMA 14-50 receptacle or a Society of Automotive Engineers (SAE) standard J1772 electrical connector.

Exceptions:

1. Parking spaces and garage spaces intended exclusively for storage of vehicles for retail sale or vehicle service.
2. This requirement will be considered met if all spaces which are not *EV Ready* are separated from the meter by a public right-of-way.
3. Parking spaces which are limited to parking durations of less than an hour.

C502.2 ADDITIONS. Add a section as follows:

C502.2.7 Electric Vehicle Charging Spaces ("EV Ready Spaces"). The number of *EV Ready Spaces* for the addition shall comply with the requirements for new construction.

Exception

1. Where the existing electric service is not being upgraded and capacity is not available.

Amendments to IECC2015/IRC2015 - RESIDENTIAL PROVISIONS

N1101.5 (R103.2) Information on Construction Documents Amend as follows:

(ADD) #9 *EV Ready Space* locations per N1104.2/R404.2

N1104.3 (R404.2) Add a section as follows:

N1104.2 (R404.2) Electric Vehicle Charging Spaces ("EV Ready Spaces") (Mandatory). *EV Ready Spaces* shall be provided in accordance with Table N1104.2 (R404.2). The branch circuit shall be identified as "EV READY" in the service panel or subpanel directory, and the termination location shall be marked as "EV READY". The circuit shall terminate in a NEMA 6-50 or NEMA 14-50 receptacle or a Society of Automotive Engineers (SAE) standard J1772 electrical connector.

Table N1104.2 (R404.2) EV ready space requirements

Type of Building	Number of parking spaces
R-3	At least 50%
R-2	At least 20%

Exceptions:

1. In no case shall the number of required *EV Ready Spaces* be greater than the number of parking spaces otherwise required by local ordinance.
2. This requirement will be considered met if all spaces which are not *EV Ready*:
    a. Are located more than 130 ft from the nearest electrical panel or sub-panel location, or
    b. Are separated from the premises by a public right-of-way.

R502.2 ADDITIONS. Add a section as follows:

R502.1.1.5 Electric Vehicle Charging Spaces ("EV Ready Spaces"). The number of *EV Ready Spaces* for the addition shall comply with the requirements in N1104.2 (R404.2) for new construction.

Exception

Where the existing electric service capacity is not being upgraded and capacity is not available.

2017-08-14 draft

Amendments to 2015 International Energy Conservation Code (IECC):

Add the following definitions to N1101.6 (R202) Defined terms:

Electric Vehicle. An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current.

Informational note: defined as in 527 CMR 12 section 625.2.

Electric Vehicle Supply Equipment (EVSE): The conductors, including the ungrounded, grounded, and equipment grounding conductors, and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

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Electric Vehicle Charging Space ("EV Ready Space"): A designated parking space which is provided with one dedicated 50-ampere branch circuit for *EVSE* servicing *Electric Vehicles*.

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2. This requirement will be considered met if all spaces which are not *EV Ready*:

a. Are located more than 130 ft from the nearest electrical panel or sub-panel location, or
b. Are separated from the premises by a public right-of-way.

R502.2 ADDITIONS. Add a section as follows:

R502.1.1.5 Electric Vehicle Charging Spaces ("EV Ready Spaces"). The number of *EV Ready Spaces* for the addition shall comply with the requirements in N1104.2 (R404.2) for new construction.

Exception
Where the existing electric service capacity is not being upgraded and capacity is not available.

Amendments to IECC2015 - COMMERCIAL PROVISIONS

C202 GENERAL DEFINITIONS.

Electric Vehicle. An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current.
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3. Parking spaces which are limited to parking durations of less than an hour.

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Exception
1. Where the existing electric service is not being upgraded and capacity is not available.

Home Builders & Remodelers Association
Central Massachusetts

51 Pullman Street • Worcester, MA 01606
Tel. (508) 791-5595 • Fax (508) 791-5594
www.HBRACM.com

November 13, 2017

Rob Anderson
Chief of Inspections – Building & Engineering
Division of Professional Licensure
Office of Public Safety and Inspections
One Ashburton Place – Room 1301
Boston, MA 02108

Re: 780 CMR, 9th Edition Code, Proposed Amendments, One & Two Family Dwelling Code - EV-Ready Provisions

Mr. Anderson:

After careful review of the above referenced provision I have some deep concerns over the potential adoption of such a mandate as it is represented in the proposed amendments to the 9th Edition MA Building Code.

1. Compatibility and applicability issues
The proposed regulation calls for a 50amp branch circuit terminating in a SAE standard J1772 electrical connector. However, *all* electric cars come with a standard charging cable that can plug into a common 120-volt household electrical outlet and use these 120-volt cords interchangeably because they are all designed to the SAE J1772 standard. While this is not the optimum means of charging an electric vehicle as it takes longer, not adopting the proposed code change in no way prevents homeowners from purchasing and charging their electric cars at home.

General Motors has partnered with a company that has developed a wireless, inductive charging pad that eliminates the standard charging station altogether. These charging pads have different power requirements than the current standard charging stations. As battery technology evolves, so does the means of charging them and may very well be incompatible with the current equipment that would be required under the proposed code change. It is clear that the technical requirements for charging EV's are evolving and more options are on the horizon. Given this, having a specific requirement mandated for new homes and in some cases, additions makes little sense. Varying and evolving technology related to EV's as well as emerging technology such as fuel-cell vehicles further diminish the validity and applicability of the proposed mandate.

2. Cost implications
The vast majority of new homes have a 200amp electrical service. Dedicating 50amps for an EV charging station represents 25% of the total load on the electrical service leaving only 150amps to carry the load for the entire home. This will not be sufficient in many new single family homes unless it is a very small

home without A/C. So, the result would be that the electrical service in most homes would need to be upgraded to a 300amp or 400amp service which would add somewhere between $1200-$2500 to the cost of the building. Depending upon several factors such as the distance from the road, the electrical service at the street, etc., the upgrade from a 200amp service to either a 300amp or 400amp service would often result in the addition of an electrical transformer either at the pole or on the property. The cost from the utilities vary for a transformer at the pole but typically run from a low of around $2000 to over $3000. The typical cost just for the transformer located on the property is around $7,000. Installation costs combined with the cost of the upgraded service would easily exceed $10,000. Then there is the cost of the charging station itself ($600-$700 on average) and all the needed wiring and labor involved which can vary greatly depending on variables such as location of the electrical panel, size of the home, etc. In a best-case scenario this is approximately $500 but can easily exceed $1000 or more.

This is a significant expense for something that may never be used. The decision to undergo this expense should be made by the homeowner/consumer who may or may not wish to have an EV Ready home. The builder or consumer may choose to have conduit installed to make it easier for future installation if they ever decide to have a charging station, or to make it simpler for a future owner of the property. Home Builders may opt to install an EV charging station as an upgrade to separate their property from the competition, just as they might install quartz countertops or high-end appliances. Requiring something by code that is ideally a consumer choice will inevitably result in significant additional and often unnecessary expense, further adding to the already extreme high cost of housing in the commonwealth.

3. Authority

Additionally, I believe the proposed requirement is in direct conflict with *MGL c. 143 section 95*, because there is no assurance that the structure will eventually include an EV charging station. Also, despite recent legislation that would allow the BBRS to adopt such a requirement, I continue to maintain that EV charging stations would be in conflict with the building code statute as it would do nothing related to the safety of the structure and would not increase energy efficiency – In fact, if implemented, it would result in an increase in energy consumption for the home.

4. Conclusion

For all the reasons stated above, the HBRACM and its members are opposed to the inclusion of "EV-Ready" provisions to the 9th Edition Building Code and urge the BBRS to not adopt the provision in any form.

Thank you for the opportunity to provide comments. Feel free to contact me if you have any questions.

Best regards,

Guy Webb
Executive Director

clf
conservation law foundation

For a thriving New England

CLF Massachusetts
62 Summer Street
Boston MA 02110
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F: 617.350.4030
www.clf.org

December 8, 2017

The Commonwealth of Massachusetts
Office of Public Safety and Inspections
One Ashburton Place, Room 1301
Boston, MA 02108
ATTN: Robert Anderson

Via electronic mail: robert.anderson@state.ma.us

RE: **Comments on Proposed Amendments to the State Building Code (780 CMR) to Reconsider EV Charging Stations**

Dear Mr. Anderson:

On behalf of the Conservation Law Foundation, I thank you for the opportunity to comment on the above-referenced proposed amendment to the State Building Code (780 CMR), the Proposed Amendment to Reconsider EV Charging Stations ("EV-Ready Proposal"), which is currently under consideration by the State Board of Building Regulations and Standards (the "Board").

Conservation Law Foundation strongly supports building code amendments designed to facilitate electric vehicle ("EV") charging by ensuring that new residential and commercial buildings in Massachusetts are "EV ready" with sufficient circuitry and panel capacity to accommodate the future installation of EV-charging equipment. Updating the state building code to accommodate EV charging is key to achieving Massachusetts' goal of deploying over 300,000 EVs by 2025.[1] EV readiness is also directly aligned with the statutory objectives that guide the Board's regulation of building construction: EV readiness promotes energy efficiency and public safety, and significantly reduces the installation cost of charging infrastructure.

Accordingly, **the Board should adopt the EV-Ready Proposal subject to the important recommendations outlined herein.**

[1] *See* STATE ZERO-EMISSION VEHICLE PROGRAMS MEMORANDUM OF UNDERSTANDING (Oct. 24, 2013), *available at* http://www.zevstates.us/about-us/.

I. EV-Ready Code Requirements are Aligned with the Board's Guiding Objectives and the Commonwealth's Long-Term Prosperity.

The statutory objectives that guide the Board's adoption of new building standards recognize the important role that buildings play in Massachusetts' broader energy system, as well as the building code's capacity to provide significant energy benefits and cost savings to residents through sensible, forward-looking design and construction standards.

As the connection between buildings and transportation fueling grows in Massachusetts, EV-Ready code requirements are essential to reduce construction costs and promote energy conservation and public safety.

A. EV-Ready Requirements Promote Energy Conservation and Public Safety

By statute, the Board is empowered and duty-bound to adopt building standards that promote "energy conservation and public safety."[2] EV readiness is compatible with both energy conservation and public safety. EVs are more energy efficient than internal combustion engines, which results in lower fuel costs and better fuel economy for Massachusetts residents.[3] The facilitation of Level-2 charging, in particular, accords with the Board's guiding objectives. Level-2 charging is more efficient than a wall plug (i.e., Level-1 charging), thus reducing the amount of time required to charge an EV.[4] Additionally, EVs have fewer to none of the dangerous tailpipe emissions that are harmful to human health and welfare.[5]

B. EV-Ready Requirements Reduce Overall Costs to Building Owners and Operators

The Board's authorizing statute identifies as another general objective the adoption of "modern technical methods, devices and improvements which may reduce the cost of construction . . . over the life of the building."[6] EV readiness is well aligned with this objective. Designing and constructing a new building to accommodate EV-charging equipment is significantly less expensive than retrofitting an existing building. The average EV-charging system installation cost for new commercial construction is only a small fraction of the overall construction cost of a new building. In comparison, retrofitting an existing building to

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[2] M.G.L. ch. 143, § 95.

[3] *See Benefits and Considerations of Electricity as a Vehicle Fuel*, ALTERNATIVE FUELS DATA CENTER, U.S. DEPT. OF ENERGY, http://www.afdc.energy.gov/fuels/electricity_benefits.html (May 10, 2016).

[4] EVAN FORWARD, KAREN GLITMAN, & DAVID ROBERTS, VERMONT ENERGY INVESTMENT CORP., AN ASSESSMENT OF LEVEL 1 AND LEVEL 2 ELECTRIC VEHICLE CHARGING EFFICIENCY 9 (2013), *available at* https://www.veic.org/docs/Transportation/20130320-EVT-NRA-Final-Report.pdf.

[5] *See generally* ELECTRIC POWER RESEARCH INST. & NATURAL RESOURCES DEFENSE COUNCIL, ENVIRONMENTAL ASSESSMENT OF A FULL ELECTRIC TRANSPORTATION PORTFOLIO, vol. 3 (2015), *available at* http://epri.co/3002006881.

[6] M.G.L. ch. 143, § 95.

accommodate EV charging can be prohibitively expensive.[7] It simply makes sense to fold EV-Readiness costs into new construction projects.

Importantly, buildings constructed under the amended building code will exist for decades, during which time our transportation sector will undergo a significant shift toward EVs. Preparing for EV charging during design and construction allows owners and operators to select the least-cost arrangement, thus saving costs in the long run.

C. EV-Ready Requirements Support Governor Baker's EV and Climate Action Goals

The proposed EV-ready building code amendments advance Massachusetts' statutory commitments to reduce greenhouse gas emissions 25 percent below 1990 levels by 2020 and 80 percent below 1990 levels by 2050.[8] Transportation is the single largest contributor to Massachusetts' greenhouse gas emissions, accounting for more than 40 percent of total emissions. Electrification of the state's transportation sector is critical to achieving the Commonwealth's ambitious emission-reduction requirements.[9] Massachusetts' *Clean Energy and Climate Plan* specifically calls for policies to facilitate residential and workplace EV charging, such as the proposed building code amendments, as key to encouraging EV adoption.[10]

Updating the state building code to promote EV readiness is also a priority action under the eight-state Zero-Emission Vehicle Memorandum of Understanding ("MOU"), to which Massachusetts is a signatory.[11] Through this MOU, Massachusetts has pledged to deploy over 300,000 EVs by 2025.[12] State policies designed to accelerate EV ownership, such as the *Mass Electric Vehicle Incentive Program* ("Mass EVIP") and *Massachusetts Offers Rebates for Electric Vehicles* ("MOR-EV"), have contributed to soaring rates of EV ownership in the Commonwealth. Since 2013, the number of EVs in Massachusetts has more than tripled, and EV ownership continues to grow. In the coming decades, residential and commercial buildings will play a significant, growing role in fueling Massachusetts' transportation sector. An EV-ready

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[7] *See, e.g.*, CAL. AIR RESOURCES BOARD, ELECTRIC VEHICLE CHARGING INFRASTRUCTURE 3 (2015), *available at* http://www.documents.dgs.ca.gov/bsc/2015TriCycle/CAC/GREEN/Exhibit-B-CARB-Cost-Analysis-and-Technical-Report.pdf (finding that EV-ready building codes save $3,750 to $6,975 per parking space as compared to the costs of retrofits); U.S. DEPT. OF ENERGY, COSTS ASSOCIATED WITH NON-RESIDENTIAL ELECTRIC VEHICLE SUPPLY EQUIPMENT 13 (2015), *available at* http://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf (added costs of retrofits may include, for example, the cost of upgrading electrical systems to provide sufficient capacity, and trenching and boring to lay electrical supply conduit).

[8] Global Warming Solutions Act, M.G.L. ch. 21N.

[9] *See generally* UNION OF CONCERNED SCIENTISTS, CLEANER CARS FROM CRADLE TO GRAVE (2015), *available at* http://www.ucsusa.org/sites/default/files/attach/2015/11/Cleaner-Cars-from-Cradle-to-Grave-full-report.pdf.

[10] EXEC. OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS, MASSACHUSETTS CLEAN ENERGY AND CLIMATE PLAN FOR 2020 25-27 (2015), *available at* http://www.mass.gov/eea/docs/eea/energy/cecp-for-2020.pdf.

[11] ZEV PROGRAM IMPLEMENTATION TASK FORCE, MULTI-STATE ZEV ACTION PLAN 20 (2014), *available at* http://www.zevstates.us/about-us/. *See also* STATE ZERO-EMISSION VEHICLE PROGRAMS MEMORANDUM OF UNDERSTANDING (Oct. 24, 2013), *available at* http://www.zevstates.us/about-us/.

[12] STATE ZERO-EMISSION VEHICLE PROGRAMS MEMORANDUM OF UNDERSTANDING (Oct. 24, 2013), *available at* http://www.zevstates.us/about-us/.

building code serves the needs of future residents and businesses, attracts economic growth, and helps ensure the long-term prosperity of Massachusetts.

II. The Board Should Amend the EV-Ready Proposal to Better Meet the Commonwealth's Needs and Goals.

Though Conservation Law Foundation strongly supports EV-Ready building code requirements in general, we respectfully urge the Board to incorporate into the EV-Ready Proposal the following amendments and clarifications. The below recommendations are aimed at ensuring that EV-Ready requirements will better meet the Commonwealth's EV-charging needs and facilitate achievement of the Commonwealth's important public policy goals.

- **The Board should remove the proposed exemption for residential parking spaces located more than 130 feet from the nearest electrical panel or sub-panel.** There is no need for this proposed exemption, which would serve only to thwart the broader goal of EV-Ready building codes: ensuring that new buildings are designed to accommodate future installation of EV charging infrastructure.

- **The Board should remove the proposed exemptions for residential and commercial parking spaces that are separated from the premises by a public right-of-way.** As above, this proposed exemption is unnecessary and counter to the broader goal of EV-Ready requirements.

- **The Board should remove the proposed exemptions for residential and commercial parking spaces that are limited to parking duration of less than one hour.** EV-readiness is important for parking spaces with limited parking duration, as such spaces can play a pivotal role in facilitating EV fueling, promoting vehicle electrification, attracting users, and providing valuable services to the energy system and consumers.

- **The Board should clarify EV-ready space requirements for residential ("R") buildings.** The "Residential Provisions" section of the EV-Ready Proposal states that "EV Ready Spaces shall be provided in accordance with Table N1104.2 (R404.2)." Table N1104.2 (R404.2) specifies that R-3 buildings are required to have at least 50 percent EV-ready spaces, and R-2 buildings are required to have at least 20 percent EV-ready spaces. The "Commercial Provisions" section of the EV-Ready Proposal states that "R buildings with four or more passenger vehicle parking spaces on the premises shall provide EV Ready Spaces for a percentage of parking spaces not less than: a. 5% of first 80 spaces, b. 3% of all spaces more than 80." The Board should clarify whether and how these two sets of provisions apply to R-2 and R-3 buildings that are subject to both the Commercial Provisions and the more stringent Residential Provisions.

- **The Board should remove the condition limiting required residential EV-Ready spaces to the minimum number of parking spaces required by local ordinance.** There is no reasonable justification for limiting required EV-Ready parking spaces to the

minimum number of parking spaces otherwise required by local ordinance.[13] Should a developer seek to install a total number of parking spaces that exceeds the minimum required by local ordinance, the project should remain subject to the proportional EV-Ready space requirements set forth in Table N1104.2 (R404.2). Otherwise, this provision could function as a loophole that could allow local governments to erode the effect of the Code. Residences are an important site for EV charging; the majority of EV drivers do most of their charging at home.[14] The proposed EV Ready space requirements will help satisfy Massachusetts' growing demand for EV charging in tandem with the grown and evolution of the Commonwealth's building stock.

* * *

For the foregoing reasons, the Conservation Law Foundation respectfully urges the Board to adopt the EV-Ready Proposal subject to the important recommendations outlined herein

Thank you for your consideration of these comments.

Sincerely,

Megan Herzog
Staff Attorney

[13] If this is not the intent of the EV-Ready Proposal, the proposal should be amended for clarification. As written, the EV-Ready Proposal currently reads: "In no case shall the number of required EV Ready Spaces be greater than the number of parking spaces otherwise required by local ordinance."

[14] *See, e.g.*, *Charging at Home*, U.S. DEPT. OF ENERGY, https://www.energy.gov/eere/electricvehicles/charging-home; *Charging Behavior Revealed,* IDAHO NAT'L LAB., https://www.inl.gov/article/charging-behavior-revealed-large-national-studies-analyze-ev-infrastructure-needs/.

chargepoint.com

chargepoint

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December 8, 2017

Charles Borstel, Commissioner
Division of Professional Licensure
1 Ashburton Place, Rm. 1301
Boston, MA 02108

Re: Amendment to Reconsider EV Charging Stations

Dear Commissioner Borstel,

ChargePoint appreciates the opportunity to provide comment on the proposed Amendment to Reconsider EV Charging Stations. While we strongly support "EV Ready" provisions, we respectfully urge the language being considered by the Board of Building Regulations and Standards to be amended to be technology-neutral and to include such technology-neutral provisions in the State Building Code.

ChargePoint is the largest electric vehicle (EV) charging network in the world, with charging solutions for every charging need and all the places EV drivers go: at home, work, around town and on the road. With more than 42,000 independently owned charging spots and more than 7,000 customers (including workplaces, cities, retailers, apartments, hospitals and fleets), ChargePoint is the only charging technology company on the market that designs, develops and manufactures hardware and software solutions across every category. Leading EV hardware makers, automakers and other partners rely on the ChargePoint network to make charging station details available in mobile apps, online and in navigation systems for popular EVs.

I. Background

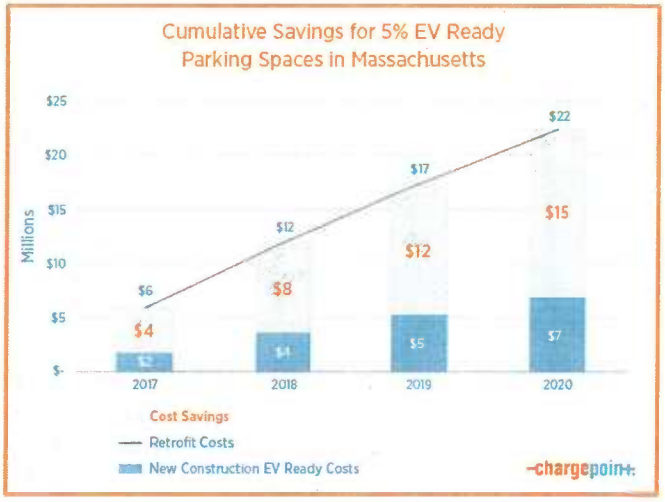
Transportation electrification is leading to a paradigm shift in which drivers are refueling their vehicles when they arrive at, rather than on their way to, a destination. Studies have shown that over 60% of charging takes place at home and over 30% takes place at work. The buildings where drivers park their cars will need to be prepared to meet this growing need, particularly given the Commonwealth's commitment to deploying 300,000 zero-emissions vehicles on the road by 2025.

Requiring new construction to be "EV Ready" will save money for property owners and future-proof the Commonwealth's businesses, workplaces, retail properties, and homes for an influx of electric vehicles. "EV Ready" requirements as drafted typically do not require EV charging stations to be purchased or for parking spots to be exclusively dedicated for EV charging stations. Rather, "EV Ready" provisions often require the installation of conduit and wiring and to ensure sufficient electrical capacity to support the future installation of EV chargers by site hosts, at their expense, at a later date.

Massachusetts has identified the building code as the appropriate mechanism to make buildings "EV Ready", thereby avoiding unnecessary costs associated with retrofitting a parking spot for EV charging after construction is complete. In January 2017, Governor Charlie Baker signed Chapter 448 of the Acts of 2016 into law. Section 3 of that Act explicitly authorized the Board to consider and adopt EV Ready requirements into the building code.

ChargePoint has found that in almost every case, the cost per port to install a charging station in an existing parking lot is equal to or more than the cost of the hardware itself. In 2014, Rocky Mountain Institute did a detailed analysis of the breakdown of cost of Level 2 charging stations for home, parking garages, curb-side and also for DC Fast Charging.[1] For Level 2 parking garage installation, the electrician labor alone ranged from $1,240-$2,840 per port. Factoring in electrician materials (including $1.50-$2.50/ft for conduit and wire) as well as trenching ($25-$100/ft) and other costs (mounting, signage, etc.) the non-hardware costs for installation were estimated to range from $1,800-$5,000 per port or if a new breaker is required, more than $6,000 per port. These installation costs are unlikely to experience significant reductions over time as compared to equipment costs which may experience reductions over time do to economies of scale, improved manufacturing efficiencies, and competition in the market.

Building EV Ready can save significant amounts of money because it eliminates the need for costly retrofitting to support charging. The accompanying graph plots the cost of retrofitting alongside the corresponding growth in parking requirements and EV Ready savings over time for new construction of multi-family, office and retail properties across Massachusetts. As the number of spots and demand for charging grow, the cost of retrofitting grows too.



This graph was compiled with construction cost data from Dodge Data & Analytics and California Building Standards Commission[2] estimates for EV charging costs ($1,650 for new construction, while retrofitting may cost $3,750 to $6,975) to arrive at a potential savings of $2,100 to $5,325 per charging spot. Over four years, these projects save as much as $15 million by building EV Ready—and the savings will double if 10% EV Ready spaces are required.

[1] Source: http://blog.rmi.org/blog_2014_04_29_pulling_back_the_veil_on_ev_charging_station_costs

[2] https://www.documents.dgs.ca.gov/bsc/2015TriCycle/CAC/GREEN/Exhibit-B-CARB-Cost-Analysis-and-Technical-Report.pdf

These findings have been supported by analysis elsewhere. For example, a recent report prepared for the City of Oakland, CA identified that EV Ready requirements lead to savings of $1,000-$1,600 per EV parking space in parking garages, and approximately $5,000 per EV parking space for surface lots.[3]

ChargePoint cautions against relying solely on direct comparisons of installation costs in new construction verses retrofits. This is not an "apples to apples" comparison, and may actually undervalue the savings of EV-readiness in new construction because the "scope of work" in a retrofit vs. new construction are very different. It is difficult in a new construction to define the scope (and cost) in the same manner as a retrofit. In new construction, the benefit is that you have a large capital budget in place and all the scoping activities including design, engineering, permitting, product specification/acquisition, and construction are part of a larger project, so "leveraging" these elements requires fractionally less effort and the overall cost is buried within many other pieces.

II. Recommendations

We urge the Board to adopt EV Ready requirements, though respectfully request a series of amendments to the language to strengthen the provisions.

A. Technology Neutrality

ChargePoint recommends striking references to specific receptacles or connector types. One of the keys for the success in EV Ready provisions is to avoid tying requirements to specific plugs or connectors. The EV Ready language as drafted specifically calls out two types of receptacles, which may limit choice for consumers or actually require additional work to replace a receptacle should it not meet consumer needs. ChargePoint is not aware of any other EV Ready provision in North America that specifies receptacle type, and we respectfully urge the Board to strike the following sentence from N1104.2 (R404.2) and C405.9.3:

> *The circuit shall terminate in a NEMA 6-50 or NEMA 14-50 receptacle or a Society of Automotive Engineers (SAE) standard J1772 electrical connector.*

B. Clarify Residential Requirement

ChargePoint requests that the Board clarify requirements with regard to R-2 and R3 buildings. Proposed section C405.9.3 would apply to several building classifications including "R". However, proposed Table N1104.2(R404.2) would require higher levels of EV infrastructure for sub-categories R-2 and R-3. Therefore, C405.9.3 should be clarified so as to avoid confusion.

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[3] Source: https://energy-solution.com/wp-content/uploads/2016/09/PEV-Infrastructure-Cost-Effectiveness-Summary-Report-2016-07-20b.pdf

chargepoint+

C. Exemptions

ChargePoint would respectfully request that the Board revisit the exemptions included in the draft EV Ready requirement. In ChargePoint's experience supporting the adoption of EV Ready requirements across North America, no other state or municipality has included the following exemptions. We recommend striking these exemptions to ensure that the purpose of the EV Ready provision is carried out in practice:

First, we urge the removal of the exemption for spaces that are located more than 130 feet from the nearest electrical panel or sub-panel location. While such an exemption could make sense for additions that are not scoped to include electrical upgrades, it would otherwise would be counter to the purpose of EV Ready policy, which is to get electrical capacity to parking spaces.

Second, we recommend against including an exemption from EV Ready requirements for parking spaces that are separated from the premises by a public right-of-way, as those spaces are still designed to provide parking, and charging, services in support of their associated buildings.

Third, ChargePoint recommends against providing artificial exemptions for parking spaces that are limited to parking durations of less than an hour. Time limitations do not frustrate the provision of EV Charging services. In fact, time-limited parking can be quite well-suited to EV charging for commercial, multifamily, and other use cases. Site hosts often offer EV charging as a service to attract customers and residents, who would share access to charging services with other customers or residents.

Lastly, we recommend against exemptions that would provide an opt-out provision from the state code. A consistent, statewide code will be necessary to support achieving the Commonwealth's transportation electrification goals while still allowing for customer choice in technology and avoiding the significant cost burdens associated with retrofitting buildings for EV charging stations after construction is complete.

Thank you for the opportunity to provide comments on EV Ready provisions.

Respectfully,

Kevin George Miller
Director, Public Policy

CC: Richard Crowley, Chair, Board of Building Regulations and Standards
Robert Anderson, Chief of Inspections, Department of Public Safety

Cummings Properties
www.cummings.com

VIA ELECTRONIC MAIL

January 5, 2018

Richard Crowley
Chair
Board of Building Regulations and Standards (BBRS)
1 Ashburton Pl #1301
Boston, MA 02108
c/o Robert.Anderson@state.ma.us

Re: Proposed Amendment to Reconsider EV Charging Stations/International Energy Conservation Code

Dear Mr. Crowley:

Cummings Properties, LLC is an enthusiastic champion of, and active advocate for, clean energy initiatives and environmentally-sensitive building practices. We are committed to reducing, minimizing, or mitigating the level of environmental impact associated with our buildings. Our in-house sustainability team supports our efforts to reduce demand for energy and water at our properties. By way of illustration, many of our buildings include solar arrays that offset energy usage at our campuses.

We are concerned, however, about the proposed revisions to the International Energy Conservation Code (IECC) with regard to the imposition of code requirements for Electric Vehicle Charging Spaces (EV Ready Spaces). As a threshold matter, we feel strongly that the inclusion of EV Ready Spaces and the number of such spaces provided in connection with any building or campus should be a factor of market-driven initiatives and not by inclusion in the building code. Cummings presently maintains EV Ready Spaces at several of its properties, but we have found extremely limited client demand for the service. That being said, we would provide more such spaces as a matter of course if the demand increased and our clients requested the service.

We pride ourselves on being responsive to changing needs, but we also recognize that technologies in the energy sector change so rapidly that what may seem practical today can become antiquated or obsolete almost immediately. Requiring an artificially, even unreasonably, high proportion of EV Ready Spaces by way of the building code is likely to result in the creation of an expensive and under-used amenity, which would seem to contradict the commendable goal of encouraging energy efficiencies.

We oppose the adoption of EV Ready requirements in the 9th edition of the State Building Code and urge the BBRS to vote in opposition to such overreaching requirements. If you have any questions regarding the above, please don't hesitate to contact me directly.

Sincerely,

CUMMINGS PROPERTIES, LLC

Dennis A. Clarke
President/CEO

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Cummings Center: 100 Cummings Center, Suite 107-L, Beverly, MA 01915-6106 978-922-9000 *Fax* 978-922-9880

200 West Cummings Park • Woburn, MA 01801 • 781-935-8000 • CummingsFoundation.org

BY ELECTRONIC MAIL

January 5, 2018

Richard Crowley
Chair
Board of Building Regulations and Standards (BBRS)
1 Ashburton Pl #1301
Boston, MA 02108
c/o Robert.Anderson@state.ma.us

Re: Proposed Amendment to Reconsider EV Charging Stations

Dear Mr. Crowley:

With regard to the draft EV-Ready regulations proposed for the 9th Edition of the State Building Code, Cummings Foundation, Inc. (CFI), a Massachusetts not-for-profit corporation, is the beneficial owner of properties which could be negatively impacted by the proposed revisions.

CFI is encouraged by the position taken by BBRS with respect to a prior iteration of EV-Ready regulations, in which the board voted to take no action on a proposal requiring a significant percentage of EV-Ready parking spaces in new commercial buildings. CFI urges the BBRS to maintain this position or to vote in opposition to the proposal.

While CFI strongly supports many initiatives promoting environmentally-sensitive transportation options, the Foundation has serious concerns about the costs associated with requiring large numbers of EV-Ready parking spaces in buildings with little demonstrated need for such spaces. The efficient and sustainable operation of CFI's properties provides CFI with considerable resources for its charitable endeavors. Any wastefulness in those operations, conversely, negatively impacts CFI's ability to maximize the substantial benefits it provides to the many communities it serves.

If you have any questions regarding the above comments, please contact the undersigned directly. Thank you for your kind attention to this matter.

Sincerely,

CUMMINGS FOUNDATION, INC.

Joel B. Swets
Executive Director

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Cummings Properties

www.cummings.com

VIA ELECTRONIC MAIL

January 5, 2018

Richard Crowley, Chair
Board of Building Regulations and Standards (BBRS)
1 Ashburton Pl #1301
Boston, MA 02108
c/o Robert.Anderson@state.ma.us

Re: Proposed Amendment to Reconsider EV Charging Stations/International Energy Conservation Code

Dear Mr. Crowley:

I write to you on behalf of Beverly Commerce Park, LLP, the owner of Cummings Center in Beverly, in connection with the BBRS's anticipated deliberation and vote on the proposed inclusion of "EV Ready" requirements in the 9th Edition of the State Building Code.

To date, Cummings Center has incorporated several EV Ready parking spaces for use by client firms, but we find that the demand for such spaces is limited, at best. For whatever reasons, which may include the significant range electric vehicles currently enjoy from a charge and the relatively local nature of businesses and their visitors at Cummings Center, access to EV Ready spaces is not an amenity our clients typically request. If the desire for such spaces increased, we would readily incorporate additional such spaces at our campus.

We are concerned, however, that incorporating a requirement for a rather large percentage of EV Ready parking spaces in buildings such as ours at Cummings Center would actually result in a substantial net-loss from an environmental perspective. The inclusion of a sizeable number of un-used, or under-used, dedicated-purpose parking spaces would be inefficient, costly, and would considerably increase the impervious surface area necessary on any given site without putting that space to productive use. Beverly Commerce Park is a staunch proponent of many clean-energy programs, but this proposal does not seem to take the longer view necessary to achieve appropriate inclusion in the Building Code regulations.

Accordingly, we ask that the BBRS vote against the proposed amendments to the Building Code with respect to electric vehicles and regulations requiring EV Ready parking spaces.

If you have any questions regarding these comments, please don't hesitate to contact me directly.

Sincerely,

BEVERLY COMMERCE PARK, LLP

Stephen J. Drohosky

Stephen J. Drohosky
General Manager

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MASSACHUSETTS ASSOCIATION OF REALTORS®

January 5, 2017

Mr. Richard P. Crowley, Chair
Board of Building Regulations & Standards
One Ashburton Place
Room 1301
Boston, MA 02108

Dear Chairman Crowley & Board Members,

The Massachusetts Association of Realtors® (MAR) appreciates this opportunity to submit comments to the Board of Building Regulations & Standards (BBRS) regarding proposed amendments to the 9th edition of the Massachusetts building code. Specifically, MAR has significant concerns with the proposed electric vehicle readiness provisions and supports the vote of the BBRS to not include those provisions in the 9th edition.

Our more than 24,000 Realtor® members work daily with buyers, sellers, and homeowners and understand the impact that Massachusetts' rising housing costs are having on those hoping to achieve the dream of homeownership. *US News & World Report* recently ranked Massachusetts as the 44st least affordable state in terms of housing affordability as compared to income.[1] Although well intentioned, requirements such as the electric vehicle readiness proposal only serve to exacerbate Massachusetts' housing affordability problem. While we recognize that the legislature authorized the BBRS to consider electric vehicle charging proposals, the proposal presented to the Board is still in conflict with MGL c. 143 §95 because it will unnecessarily add to the cost of construction of homes. The building code is not the appropriate mechanism to encourage the growth of specific industries. This point is even more important when such proposals would not only advance specific industries but do so at the expense of housing affordability.

For the forgoing reasons, Realtors® strongly recommend that the 9th edition of the building code not be amended to include the electric vehicle provisions as proposed.

Thank you, once again, for the opportunity to provide comments on this issue. Please do not hesitate to contact me should you have any questions.

Sincerely,

Justin Davidson
Legislative & Regulatory Counsel
Massachusetts Association of Realtors®

[1] https://www.usnews.com/news/best-states/massachusetts

NAIOP
COMMERCIAL REAL ESTATE
DEVELOPMENT ASSOCIATION
MASSACHUSETTS

January 5, 2018

Mr. Richard Crowley, Chair
Board of Building Regulations & Standards
One Ashburton Place
Room 1301
Boston, MA 02108

Re: Opposition to Electric Vehicle and Coastal A Zone Amendments to 9th Edition of State Building Code

Dear Chairman Crowley and Board Members:

NAIOP Massachusetts, The Commercial Real Estate Development Association, appreciates the opportunity to provide feedback on the proposed amendments to the 9th Edition of the State Building Code. NAIOP represents the interests of more than 1700 members involved with the development, ownership, management, and financing of more than 250 million square feet of office, research & development, multifamily, industrial, mixed use, and retail space in the Commonwealth.

Given the significant impact two of the proposed amendments would have on commercial real estate in Massachusetts, NAIOP's comments will address the following proposals:

1) The adoption of Coastal A Zone maps

2) Electric Vehicle mandates requiring all Group A-1, B, E, I, M and R buildings with 4 or more passenger vehicle parking spots to provide EV Ready spaces for a percentage of parking not less than 5% of the first 80 spaces and 3% of all parking spaces more than 80.

Opposition to Electric Vehicle Mandates in Building Code

As NAIOP has repeatedly communicated to Board members when similar amendments have been proposed and voted down by the Board (as recently as May 2017), the **electric vehicle provisions are in direct conflict with MGL c. 143 §95:**

> *Section 95. The powers and duties of the board set forth in section ninety-four shall be exercised to effect the following general objectives:*
>
> *(a)* ***Uniform standards and requirements*** *for construction and construction materials, compatible with accepted standards of engineering and fire prevention practices, energy conservation and public safety. In the formulation of such standards and requirements, performance for the use intended shall be the test of acceptability, in accordance with accredited testing standards.*
>
> *(b) Adoption of modern technical methods, devices and improvements which may* ***reduce the cost of construction and maintenance over the life of the building***

> *without affecting the health, safety and security of the occupants or users of buildings.*
>
> *(c) Elimination of restrictive, obsolete, conflicting and unnecessary building regulations and requirements which may* ***increase the cost of construction and maintenance over the life of the building*** *or retard unnecessarily the use of new materials, or which* ***may provide unwarranted preferential treatment of types of classes of materials, products or methods of construction without affecting the health, safety, and security of the occupants or users of buildings****.*

Clearly, the proposed mandates give preferential treatment to electric vehicles, increase the cost of construction of the building, and will have no impact on the health, safety or security of the occupants or users of the building.

It should be up to the developer or owner, not the Commonwealth, to determine the best technologies to respond to market demand for electric vehicle infrastructure. Furthermore, since the EV charging stations would actually **result in increased energy consumption at the building**, it would appear to be in direct conflict with the above referenced building code statute.

While encouraging residents to purchase electric vehicles may be a worthy goal for the Commonwealth, **the building code is not the appropriate way to encourage the growth of specific sectors of the economy**. Furthermore, while electric vehicles may be popular now, there may be other technologies that surpass them in the coming years. Technological advances may eliminate the need for specific spaces to be dedicated to EVs, portable chargers may become commonplace, and gas stations may become obsolete and instead become dedicated rapid charging centers. If the Baker Administration is committed to growing the electric vehicle industry, then incentives (not mandates) outside of the building code should be considered.

For these reasons, NAIOP urges the Board to reject this and any future electric vehicle mandates as part of the building code.

Coastal A Zone Maps Need Additional Review & Consideration

NAIOP Massachusetts has long been one of the leading business groups advocating for a coordinated approach between the public and private sectors with respect to climate change planning. There is no question that climate change has a significant impact on the overall economy; directly, by damaging structures, and indirectly, by compromising transportation systems, communications, and utilities. NAIOP supported Governor Baker's Executive Order 569, which directed the Administration to develop and implement a statewide comprehensive climate adaptation plan.

We are grateful to Office of Coastal Zone Management Director Bruce Carlisle and his team for taking the time to educate NAIOP members about the proposed Coastal A Zone maps and the impact they will have on commercial property owners and future development in Massachusetts. While his team's December 5, 2017 presentation was extremely informative, it created many questions about the land that will be regulated under these new maps.

First, the use restrictions proposed under the Coastal A zone maps mirror those of V zones and would create numerous regulatory conflicts at the state and local levels. The required elevation of ground floor commercial spaces to 1-2 feet above the Base Flood Elevation (BFE) may result in structures located 5 – 10 feet above existing grade. It is unclear how this would impact the Facilities of Public Accommodation requirements under Chapter 91, which were created with the goal of encouraging a vibrant, accessible waterfront. Furthermore, if allowable height is not increased at the local level through zoning changes, then a project's financial viability may be at risk. Finally, how would owners and developers comply with the increased elevation requirements *and* federal and state accessibility requirements? These are just a few of the significant concerns that have been raised by those who own affected property or are contemplating important economic development projects along the waterfront in these proposed zones.

Second, while the Coastal A Zone maps include 30 square miles of waterfront, if a building is located in more than one flood zone it must comply with the most restrictive flood zone requirements. Therefore, if even a small portion of a building is included in a Coastal A zone, the entire project would be affected – making the total amount of affected area far greater than 30 square miles.

Third, and most importantly, while the Coastal A Zone use restrictions may make sense for single family homes along the beach, the same restrictions should not be used for commercial properties, particularly those in urban areas with structured seawalls. Wave and flood conditions in Coastal A Zones (wave heights of 1.5 – 3ft) are very different from V zones and should not be regulated in the same manner. While exposure to 1.5 ft. waves may be concerning for a small wood frame home, it would have little to no impact on a typical commercial property. Furthermore, the resulting prohibition of underground parking makes little sense for commercial properties (particularly where dry floodproofing would typically be provided).

For these reasons, NAIOP urges the Board not to approve the Coastal A Zone maps at this time. Instead, we urge the Baker Administration to address the many conflicts and uncertainties created by the new maps and to limit the proposed use restrictions only to single family homes.

We would be happy to meet to discuss our concerns with you at your convenience. Thank you for considering our comments.

Sincerely,

Tamara C. Small

Tamara C. Small
Senior Vice President, Government Affairs
NAIOP Massachusetts, The Commercial Real Estate Development Association

Cc: Secretary Mathew Beaton, Executive Office of Energy & Environmental Affairs
Undersecretary Kathleen Theoharides, Executive Office of Energy & Environmental Affairs
Bruce Carlisle, Director, Office of Coastal Zone Management
Commissioner Chuck Borstel, Division of Professional Licensure