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1000 Washington Street, Suite 710
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DIANE M. SYMONDS
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PROFESSIONAL LICENSURE

BOARD OF BUILDING REGULATIONS AND STANDARDS
NOTICE OF MEETING

In accordance with the provisions of G.L. c. 30A § 20, notice is hereby given that the Board of Building Regulations and Standards (BBRS) will convene a regular monthly meeting and public hearing in accordance with G.L. c143 § 97 on:

May 7, 2019 @ 10:00 a.m. until approximately 1 p.m.
1000 Washington Street, Boston 02118
Conference Room 1D
Posted on May 1, 2019

It is anticipated that the topics shown below will be discussed at the aforementioned meeting:

AGENDA

Roll Call, by BBRS Chair:

| | | | | | |
|------------------------------------|----------------------------------|---------------------------------|------------------------------|----------------------------------|---------------------------------|
| John Couture, Chair | <input type="checkbox"/> present | <input type="checkbox"/> absent | Robert Anderson, or designee | <input type="checkbox"/> present | <input type="checkbox"/> absent |
| Kerry Dietz, Vice Chair | <input type="checkbox"/> present | <input type="checkbox"/> absent | Peter Ostroskey, or designee | <input type="checkbox"/> present | <input type="checkbox"/> absent |
| Richard Crowley, Second Vice Chair | <input type="checkbox"/> present | <input type="checkbox"/> absent | Michael McDowell | <input type="checkbox"/> present | <input type="checkbox"/> absent |
| Steve Frederickson | <input type="checkbox"/> present | <input type="checkbox"/> absent | Susan Gleason | <input type="checkbox"/> present | <input type="checkbox"/> absent |
| Kevin Gallagher | <input type="checkbox"/> present | <input type="checkbox"/> absent | Lisa Davey | <input type="checkbox"/> present | <input type="checkbox"/> absent |
| Cheryl Lavalley | <input type="checkbox"/> present | <input type="checkbox"/> absent | | | |

Public Hearing Agenda

- **Proposal Number 5-1-2019** - Consider revising Chapter 34, Section 302.6 pertaining to masonry parapets.
Proponent: Corey Matthews, P.E., Gale Associates, Inc.
- **Proposal Number 5-2-2019** - Consider revising the International Energy Conservation Code (IECC) Chapter 13, Section C401.2.4 (as amended) pertaining to vertical fenestration.
Proponent: NAIOP of Massachusetts CEO, Tamara Small
- **Proposal Number 5-3-2019** - Consider revising the International Energy Conservation Code (IECC) Chapter 13, Section C405.3.2 (as amended) pertaining to interior lighting allowances.
Proponent: NAIOP of Massachusetts CEO, Tamara Small



- **Proposal Number 5-4-2019** – Consider revising the International Energy Conservation Code (IECC) Chapter 13, Section C406.1 (as amended) pertaining to energy efficiency.
Proponent: NAIOP of Massachusetts CEO, Tamara Small
- **Proposal Number 5-5-2019** – Consider revising the International Swimming Pool & Spa Code (ISPSC), Chapter 3, Section 305.1 concerning exemption to barrier requirements.
Proponent: BBRS Chairman, John Couture.

Regular Meeting Agenda

1. **Review\Vote** approval of April 2, 2019 BBRS draft meeting minutes.
2. **Review\Vote** approval of April 1, 2019 BOCC meeting minutes.
3. **Discuss** progress of tenth edition building code based on 2018 International Codes (I-Codes).
 - Damian Siebert to report on behalf of the Geotechnical Advisory Committee (GAC) regarding recommended changes to Chapter 18.
4. **Discuss** ICC PRONTO exams
5. **Discuss** progress of Manufactured Buildings Study Group.
6. **Discuss** new Construction Supervisor Licenses (CSLs) issued in the month of April, 2019.
7. **Discuss\Vote** CSL Average Passing Score\Medical\Military\Age or Continuing Education Requirements.
 - **Average Passing Score:** Dave Rice
 - **Medical:** *(None this month)*
 - **Age:** *(None this month)*
 - **Military:** *(None this month)*
 - **Other:** *(None this month)*
8. **Discuss** other matters not reasonably anticipated 48 hours in advance of meeting.
9. **Executive Session** regarding Michael Humphrey CSL Continuing Education Request.



The Commonwealth of Massachusetts
 Office of Public Safety & Inspections
 Board of Building Regulations and Standards
 One Ashburton Place - Room 1301
 Boston, MA 02108

780 CMR - MASSACHUSETTS BUILDING CODE - AMENDMENT PROPOSAL FORM

| | | | |
|--|--|---|----------|
| Code (Indicate with an 'x') | <input checked="" type="checkbox"/> Ninth Edition Base <input type="checkbox"/> Ninth Edition One- and Two-Family Dwellings | <i>State Use Only</i> | |
| Date: 12/20/2018 | | Date Received: | |
| Code Section: | 780 CMR 34; Section 302.6 - Masonry Parapets | Code Change Number:: | 5-1-2019 |
| Name and company affiliation if any: Corey Matthews, P.E. Gale Associates, Inc. | | | |
| Address: Gale Associates, Inc. 163 Libbey Parkway P.O. Box 890189 Weymouth, MA 02189 | | Telephone: 781-335-6465 Email: cgm@gainc.com | |

Indicate with an 'x' the type of amendment proposed:

- Change Section Add new section Delete section and substitute Delete section; no substitute
 Other, Explain:

Please type below the proposed amendment. If you propose to change a section, please copy the original text from the appropriate 2015 I-code and/or Massachusetts amendment. Indicate with strike out the text you propose to delete and add new text in either *italic* or **red** font. Also you please provide justification of your proposal as a second page and include information on the Introduction and Background of your proposal, Pro and Con Reasons for Adoption of it, a summary of estimated Costs for Building Owners, and Life Safety Benefits for building occupants. Also, please indicate whether or not the proposal has been presented to the International Code Council (ICC) for consideration. If not, please explain why the proposal is unique to Massachusetts. When complete email this file to Cesar.Lastra@state.ma.us. Please use additional pages if necessary.

302.7 Structural Requirements Pertaining to Roofing Work.

1. Structural requirements of parapets of unreinforced masonry required by sections 403.5 and 707.3.1 of 780 CMR 34.00 shall only apply when the intended alteration requires a permit for reroofing and when roof covering is removed from the entire roof diaphragm and not by the 25% roof area trigger found in these sections.

Introduction and Background:

It is my opinion that the changes made between the 8th Ed. 780 CMR 34 and the current 9th Ed. pertaining to unreinforced masonry parapets will decrease public safety and the board should consider amending as follows:

1. Structural requirements of parapets of unreinforced masonry required by sections 403.5 and 707.3.1 of 780 CMR 34.00 shall ~~only apply when the intended alteration requires a permit for reroofing and when roof covering is removed from the entire roof diaphragm and not by the 25% roof area trigger found in these sections.~~ **include buildings assigned to Seismic Design Categories B and C.**

Pro and Cons Reason for Adoption

The majority of buildings throughout the metropolitan centers of Massachusetts are assigned to Seismic Design Category B or C. These areas also contain a higher concentration of aging unreinforced masonry structures more than 50yrs old. Just this past year there were several parapet collapses around the Boston area resulting from structural deterioration associated with water intrusion, subsequent freeze/thaw movement and related structural damage. The collapses were not associated with seismic activity or unusually high winds. Lateral displacement of parapets caused by localized building settlement, ice jacking, or other environmental factors is a slow process and when significant movement has occurred, is usually quite evident from street level or the roof however without local ordinances or building code enforcement, building owners are less likely to address the issues until accidents occur.

When re-roofing a building, it is a good opportunity to address structural concerns related to unreinforced masonry parapets. In most instances, roof flashing systems are extended vertically along and terminate into the back of parapet walls. When flashings are removed, a structural evaluation can be performed to confirm the quality of the masonry construction, exploratory holes can be made to verify reinforcement or structural anchorage, etc. If reinforcement is necessary, it can be installed and detailed to tie into the new roofing system while reducing the chance for damaging water intrusion.

It is our opinion that the current 780 CMR 34 provisions fall short of providing a reasonable level of public safety by only requiring an analysis of unreinforced masonry parapets when the building is assigned to Seismic Design Category D, E or F "and" when the roof covering is removed from the entire roof diaphragm.

Cost for Building Owners

There will be increased costs for building owners to install additional structural supports if deemed structurally necessary, however, the risks associated with not doing the work could be significantly higher in the event of an accident.

Life Safety Benefits

Refer to Pro and Con Reason for Adoption



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MASSACHUSETTS STATE BUILDING CODE - CODE CHANGE PROPOSAL FORM

| | | | |
|---|--|---------------------|----------|
| Impacted code: | <input checked="" type="checkbox"/> 9 th Edition Base Code <input type="checkbox"/> 9 th Edition Residential Code | State Use Only | |
| Date Submitted: | April 26, 2019 | Date Received: | |
| Code Section: | Chapter 13 -Section C401.2.4 | Code Change Number: | 5.2.2019 |
| Name of proponent: | Tamara Small, CEO, NAIOP Massachusetts | | |
| Company / Organization represented, if any: | NAIOP Massachusetts - The Commercial Real Estate Development Association | | |
| Address (number, street, city, state, ZIP): | 144 Gould Street, Suite 140, Needham, MA 02494 | | |
| Telephone number: | 781-453-6900 ext. 5 | | |
| Email address: | small@naiopma.org | | |

PLEASE CHECK THE TYPE OF AMENDMENT PROPOSED

- Change existing section language
 Add new section
 Delete existing section and substitute
 Delete existing section, no substitute
 Other, Explain: _____

PLEASE TYPE THE PROPOSED AMENDMENT BELOW. If you propose to change a section, please copy the original text from either the relevant model code and/or MA amendment. Indicate, with a ~~strikethrough~~, the text that you propose to delete. Please also indicate any new text in both *italic* and **red** font. Finally, for each proposal submitted, please provide the justification items requested below. Completed code amendment forms may be emailed to Dan Walsh, Director of Code Development and Manufactured Buildings at Dan.P.Walsh@mass.gov. Please attach additional pages as necessary.

Existing language:

C401.2.4 Performance rating Method Baseline Building Vertical Fenestration.

Add the following row to ASHRAE 90.1 Normative Appendix G Performance Rating Method, Section G Table G3.1.1-1 and add Footnote b.

Table G3.1.1-1 Baseline Buildings Vertical Fenestration Percentage of Gross Above-Grade-Wall Area

| Building Area Types | Baseline Building Gross Above-Grade-Wall Area |
|---------------------|---|
| Multifamily | 24% |

Note b: In both Baseline and Proposed buildings, above grade wall area shall not include wall area associated with mechanical enclosures above the primary roof assembly.



Proposed changes:

A Massachusetts amendment to IECC 2018 was adopted at the March 2019 BBRS meeting. The Maximum Fenestration Percentages proposed for multifamily projects in this section are not feasible. This new requirement should be eliminated since it is unworkable and would severely hinder the production of multifamily housing. The prior version of the energy code referenced ASHRAE 90.1-2013 as a compliance approach, which allows up to 40% glass when using the prescriptive path. In the energy code that was adopted in March 2019, for multifamily projects that use the energy modeling approach, the baseline building would now require 24% glass. **The 9th edition language (prior language) should be retained.**

Background and rationale:

A window-to-wall ratio (WWR) for baseline multifamily residential buildings of 24% is a significant change, which would result in buildings with unusually small windows. This would not be of interest to tenants and would, therefore, be unmarketable. Furthermore, it would make it nearly impossible to achieve Stretch Energy Code compliance on large multifamily and residential projects.

Pros of the proposed change:

In today's market there is significant demand for "well buildings" and "healthy work environments" that call for as much natural light as possible. Minimizing fenestration is counter to this effort. Since penthouses have no windows and are a significant percentage of the building envelope square footage, that square footage is needed to boost the opaque measurement of the building envelope. If the penthouse is not included and developers are required to lower the window to wall ratio, the impact to the building envelope is miniscule amounts of vision glass (i.e., buildings that could not be financed due to lack of demand).

Cons of the proposed change:

n/a

Estimated impact on life safety:

n/a

Estimated impact on cost:

Since this new requirement could determine whether or not a project could be financed and developed, the cost is the feasibility of an entire multifamily project. This would appear to be in direct conflict with the Baker-Polito Administration's commitment to encouraging housing production.



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|---|--|------------------------|----------|
| Impacted code: | <input checked="" type="checkbox"/> 9 th Edition Base Code <input type="checkbox"/> 9 th Edition Residential Code | State Use Only | |
| Date Submitted: | April 26, 2019 | Date Received: | |
| Code Section: | Chapter 13 -Section C405.3.2 | Code Change Number: | B-3-2019 |
| Name of proponent: | Tamara Small, CEO, NAIOP Massachusetts | | |
| Company / Organization represented, if any: | NAIOP Massachusetts - The Commercial Real Estate Development Association Check <input type="checkbox"/> if representing self | | |
| Address (number, street, city, state, ZIP): | 144 Gould Street, Suite 140, Needham, MA 02494 | | |
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Existing language:

Table C405.3.2 - Interior Lighting Power Allowances

Proposed changes:

The light power density limits (LPD) proposed in Table C405.3.2 go well beyond IECC 2018. The LPD limits will inhibit adequate lighting within commercial buildings. The IECC 2018 virgin language should be retained.

Background and rationale:

The proposed changes to LPD limits are extreme and should not be adopted. As an example, the following is proposed for Whole Building LPD limits under the MA amendments adopted in March:



- **For Retail**, IECC 2015 allows 1.26 W/sf and the previous Mass. Amendments (C406.1 Option 1) drop that 10% to 1.13 W/sf. IECC 2018 allows 1.06 W/sf, but the code adopted in March lowers that to 0.86 W/sf, and then C406.1 Option 1 drops that another 10% down to 0.77 W/sf. This represents a reduction in Retail LPD of 32% from 1.13 W/sf down to 0.77 W/sf.
- **For Office**, IECC 2015 allows 0.82 W/sf and the previous Mass. Amendments (C406.1 Option 1) dropped that 10% to 0.74 W/sf. IECC 2018 allows 0.79 W/sf, but the code adopted in March lowers that to 0.71 W/sf, and then C406.1 Option 1 drops that another 10% down to 0.64 W/sf. This represents a 14% reduction in Office LPD from 0.74 W/sf down to 0.64 W/sf.
- **For Warehouse**, IECC 2015 allows 0.66 W/sf and the previous Mass. Amendments (C406.1 Option 1) dropped that 10% to 0.59 W/sf. IECC 2018 allows 0.48 W/sf, but the code adopted in March lowers that to 0.45 W/sf, and then C406.1 Option 1 drops that another 10% down to 0.40 W/sf. This represents a 32% reduction in Warehouse LPD 32% from 0.59 W/sf down to 0.40 W/sf.

One problem with reducing LPDs even lower than IECC 2018 levels is that a one size fits all approach does not work. While some projects may be able to meet these levels, most projects can't – especially on the retail side where tenants have specific needs and requirements that vary from one project to another. Additionally, WELL has lighting level requirements for certain spaces, which could be affected by this.

Pros of the proposed change:

The language adopted in March is extreme and will inhibit adequate lighting in some commercial properties. Massachusetts should not go beyond IECC 2018, the most energy efficient code in the nation. The IECC 2018 language will encourage energy efficiency while ensuring flexibility and predictability.

Cons of the proposed change:

n/a

Estimated impact on life safety:

n/a

Estimated impact on cost:

Marketability of project.



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|---|---|---------------------|----------|
| Impacted code: | <input checked="" type="checkbox"/> 9 th Edition Base Code | State Use Only | |
| Date Submitted: | <input type="checkbox"/> 9 th Edition Residential Code | Date Received: | |
| Code Section: | Chapter 13 -Section C406.1 | Code Change Number: | B.4.2019 |
| Name of proponent: | Tamara Small, CEO, NAIOP Massachusetts | | |
| Company / Organization represented, if any: | NAIOP Massachusetts - The Commercial Real Estate Development Association Check <input type="checkbox"/> if representing self | | |
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Existing language:

C406.1 Requirements. Buildings following either ASHRAE 90.1 or IECC shall comply with at least three of the following:

Proposed changes:

Retain the IECC 2018 language, "C406.1 Requirements. Buildings following either ASHRAE 90.1 or IECC shall comply with at least ~~three~~ **two** of the following"

Background and rationale:

The Massachusetts Amendment to Section C406.1 would require three additional energy efficiency requirements (while IECC 2018 only requires two). This goes far beyond the statutory requirement to adopt IECC 2018 and



will significantly increase the cost of new construction in the Commonwealth. The requirement for owners to selected three additional efficiency measures will, in addition to forcing heating/cooling systems to be 10% more efficient than Code (Option 1) and interior light power density being 10% less than Code (Option 2), force the owner to either use Air Source Heat Pumps for all commercial building heating and cooling (Option 9) OR increase continuous insulation of the building thermal envelope so that the overall UA value (area-weighted heat flow) is 15% less than Code. Either choice will add significant capital costs to new construction.

It is also a significant hurdle in Appendix AA – Stretch Energy Code. Section AA103.2 states that “the additional Efficiency Package Options selected per C406.1 shall be included in calculating the baseline building performance value.” In other words, the energy enhancements selected (high efficiency HVAC, reduced lighting power density, etc.) are then added to the baseline building. It artificially raises the baseline building performance above the statewide code, making the 10% improvement required by the stretch code all the more difficult, if not impossible, to achieve.

Pros of the proposed change:

The language adopted in March 2019 is extreme and has been identified as cost-prohibitive by architects, engineers and building owners and developers. Massachusetts should not go beyond IECC 2018, the most energy efficient code in the nation. The IECC 2018 language will encourage energy efficiency while ensuring flexibility and predictability.

Cons of the proposed change:

n/a

Estimated impact on life safety:

n/a

Estimated impact on cost:

The cost difference to adopt two measures vs. three measures is significant.