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**BOARD OF BUILDING REGULATIONS AND STANDARDS**

**Geotechnical Advisory Committee (GAC) Meeting Minutes**

April 14, 2021

The Division of Professional Licensure Office  
1000 Washington Street - Boston, MA 02118

*This was a virtual Microsoft Teams meeting.*

**Roll Call, by GAC Chair:**

Chris Erikson, Chair  
Scott DiFiore  
John Roma  
Michael Oakland  
Damian Siebert

☒ present ☐ absent  
☒ present ☐ absent  
☒ present ☐ absent  
☒ present ☐ absent  
☒ present ☐ absent

Martin Rodick  
Jake McManus  
James Christensen  
William Solberg  
Rob Anderson

☒ present ☐ absent  
☒ present ☐ absent  
☒ present ☐ absent  
☒ present ☐ absent  
☒ present ☐ absent

**General notes on format of these minutes**

- *These minutes represent general points discussed during the meeting. The minutes are **not** intended to be a verbatim account of discussions.*
- *Topics as numbered may\ may not be in the same order as they appear on the meeting agenda.*
- *The meeting agenda is listed as **EXHIBIT A**; others are listed sequentially as addresses during the meeting.*

**1. Review minutes for the GAC March 10, 2021 meeting (EXHIBIT B).**

On a **MOTION** by Damian Siebert, seconded by Jake McManus, it was unanimously agreed, by **Roll Call Vote**, to approve the minutes with the following **revisions** to page 2.

James Christensen clarifies that he did not say that updating blow count figures would *likely cause fairly significant increases in project costs* as indicated on page 2 of the minutes (*excerpted below*). There may be some cost increase, but should not be labeled as significant.

**Report on Assignment Number 2 from 2/10/2021 Meeting** where James Christensen volunteered to work on issues relating to liquefaction susceptibility figures (*existing sample below*). James suggested that blow count figures should remain but indicated they do not reflect current standards. If updated, blow count values would shift to the right and would *likely cause fairly significant increases in project costs*. Mike Oakland and other members agreed that updating blow count figures to more current standards and practices in the code would be a major change, but may be necessary.

**2. Discuss proposed amendments and new content of 2021 IBC, Chapter 18, for inclusion in the Tenth Edition of the Massachusetts Building Code (780 CMR).**



**Report on Assignment Number 2 from 2/10/2021 Meeting & Follow-up Meeting.** As indicated during the March meeting, “*Following lengthy discussion (relating to liquefaction susceptibility figures), James suggested that the further study of the matter is warranted and suggested convening an interim (subgroup) meeting prior to the next regularly scheduled meeting on April 14<sup>th</sup> dedicated to the topic*”.

**Note:** James Christensen provided a detailed account of the interim meeting. These minutes reflect only a *brief summary*. James indicated that he will provide a memo to GAC members detailing matters discussed and conclusions reached during the meeting.

- James indicated that further engineering analysis is necessary relating to liquefaction susceptibility figures, but initially it appears figures would shift considerably to the right due to analysis of larger earthquakes and American Society of Civil Engineers’ (ASCE) recommended procedural changes for acceleration. A possible solution may be to establish 2 liquefaction susceptibility zones within the commonwealth, ending up with 6 figure plots. However, James was not certain how this idea would be received.
- Mike Oakland indicated that the code already establishes varied zones for wind and snow within the state, so the concept is not unusual. Others indicated that New York does something similar.
- Martin Rodick and others were concerned that, if 2 zones are established, that Boston would stay with the bulk of the state.
- The matter was tabled to allow further engineering analysis and will be reviewed further during the May GAC meeting.

**Section 1807 – Foundation Walls, Retaining Walls and Embedded Posts & Poles.** Scott DiFiore noted that the word *and* following (1.83 m) in Section 1807.2.1, should be changed to *or*.

- **1807.2.1 Design.** Retaining walls shall be designed to resist the static and seismic pressures of the retained materials, water pressures, and dead and live load surcharges to which such walls are subjected, and to ensure stability against excessive movements, overturning, sliding, excessive foundation pressure, and water uplift. Retaining walls that support an unbalanced height of retained material greater than six feet (1.83 m), ~~and~~ *or* any retaining system or slope that could impact public safety or the stability of an adjacent structure shall be designed by a registered design professional.

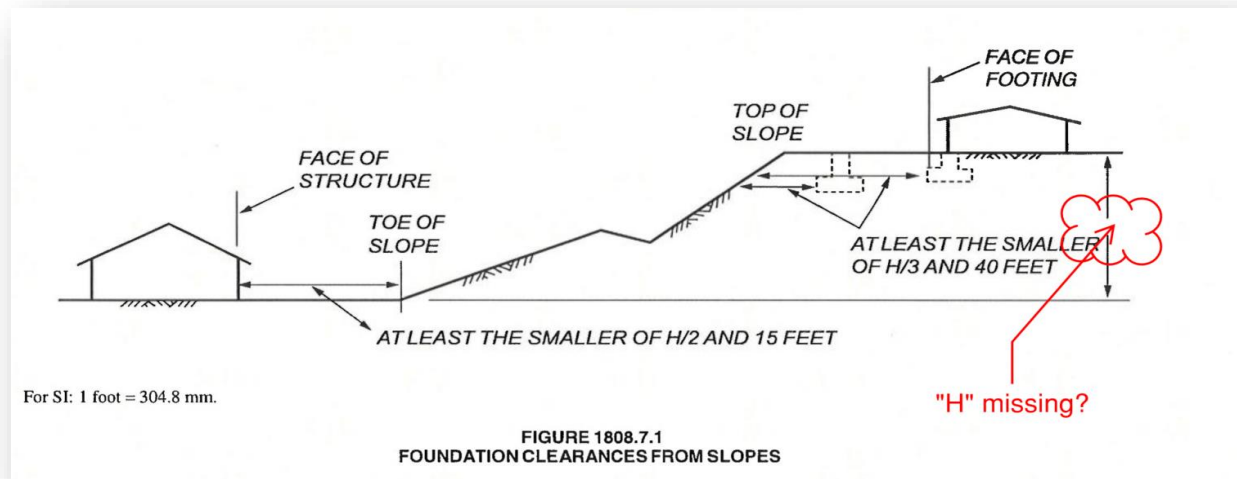
Martin Rodick questioned the words *the lateral action of soil to produce* are necessary in Section 1807.2.3.

- **1807.2.3 Safety Factor.** Retaining walls shall be designed to resist ~~the lateral action of soil to produce~~ sliding and overturning with a minimum factor of safety of 1.5 in each case. The load combinations of section 1605 shall not apply to this requirement. Instead, design shall be based on 0.7 times nominal earthquake loads, 1.0 times other nominal loads, and investigation with one or more of the variable loads set to zero. The safety factor against lateral sliding shall be taken as the available soil resistance at the base of the retaining wall foundation divided by the net lateral force applied to the retaining wall.

Following discussion, on a **MOTION** by Chris Erikson, seconded by Martin Rodick, it was unanimously agreed, by **Roll Call Vote**, to approve the **Section 1807** as presented in the January, 2021 draft with changes referenced above and to adjust numbering of **Segmental retaining walls** to **Section 1807.2.7**.

**Section 1808 – Foundations.** Chairman Erikson noted the **H** variable is missing in Figure 1808.7.1. Damian Siebert noted that Section 1808.8.2 is specific to concrete, but questioned whether or not it also pertained to grout.

Following a brief discussion, on a **MOTION** by Damian Siebert, seconded by Martin Rodick, it was unanimously agreed, by **Roll Call Vote**, to approve the **Section 1808** as presented in the January, 2021 draft with the modification to **Figure 1808.7.1** identified below.



### **Section 1809 – Shallow Foundations.**

Following a brief discussion, on a **MOTION** by Chris Erikson, seconded by James Christensen, it was unanimously agreed, by **Roll Call Vote**, to approve the **Section 1809** as presented in the January, 2021 draft.

Chairman Erikson asked Committee members to review and be prepared to discuss remaining sections during the May 12<sup>th</sup> meeting.

3. **Discuss:** **Matters not reasonably anticipated 2 business days in advance of meeting.**  
None.
4. **Approve:** **Adjourning the meeting.**  
On a **MOTION** by Chris Erikson seconded by Martin Rodick, by **Roll Call Vote**, it was unanimously agreed to adjourn the meeting @ approximately 12:00 pm.

### **Exhibits.**

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- A. Meeting Agenda
  - B. March 10, 2021 GAC Draft Meeting Minutes.
  - C. International Building Code (IBC), Chapter 18 January Draft.