OSHPD Office of Statewide Health Planning and Development

Hospital Building Safety Board
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HOSPITAL BUILDING SAFETY BOARD
Structural and Non-Structural Regulations Committee

Wednesday, June 30, 2021
9:00 a.m. - 3:00 p.m.

Teleconference Meeting Access:
HBSB GoToMeeting SNSR Committee
Access Code: 298-937-869

Committee Members Present:
Jim Malley, Vice-Chair
Mike Hooper
David Khorram
Marshal Lew
Michelle Malone
Michael O'Connor
Jennifer Thornburg

Consulting Member:
Michelle Malone

HBSB Staff:
Ken Yu, Executive Director
Joanne Jolls
Evett Torres

OSHPD Staff:
Elizabeth Landsberg, OSHPD Director
Paul Coleman, FDD Deputy Director
Chris Tokas
Joe LaBrie
Roy Lobo
David Neou
Carl Scheueman
Jamie Schnick
James Yi

1. Welcome and Introductions

Jim Malley, Designated Committee Chair, called the meeting to order on June 30, 2021, at 9:00 a.m. and OSHPD Executive Director, Ken Yu called roll.

Six members of the Committee present constitutes a quorum. There being seven present at the time of roll, *a quorum was established*.

Mr. Yu read the public announcement regarding COVID-19, meeting rules and

procedures.

2. Review the March 24, 2021 final meeting report/minutes approved at the

Presenter: Jim Malley, Designated Chair

Informational and Action item

- None.

3. Proposed amendments to the 2022 California Building Code, Title 24, Part 2

Presenter: Roy Lobo

Mr. Lobo mentioned that the expressed terms, updates and amendments in his presentation was approved at the March 24, 2021, meeting. The intent of the presentation is to provide updates to what was already presented and to open up these topics for discussion, after which proposed language will be adjusted based on input received in this meeting and brought back and presented in the next follow-up meeting.

- Updates to the non "A" Chapters to align with proposed code change amendments to the "A" Chapters
- New proposed amendments to the "A" Chapters
- Revisions and restructure of Chapter 21/21A Masonry
- Updated the reference standards in Chapter 35

Chapter 16/16A

- Revisions made to match proposed amendments to Chapter 16*A*
- Adoption of ASCE 7-16 Supplements 2 and 3.
- Revised F_a Table 1613.2.3(1) and footnote *c* in both F_a and F_v tables to match language in Supplement 3
    - **1605.2 Alternate allowable stress design load**
      Revised model code language to include the sentence:
      Each load combination shall be investigated with one or more of the variable loads set to zero.
    - ***1617A.1.5.3 ASCE 7, Section 12.2.3.2.*** Modify ASCE 7, Section 12.2.3.2 by modifying Item and adding Items f, g, and h
    - **12.2.3.2 Two-Stage Analysis Procedure**. **[OSHPD 1 & 4]** Not permitted by OSHPD

Chapter 17/17A

- **1705.3.9.2 Preconstruction tests**

Shotcrete has been removed from the IBC.
Language for testing similar ACI 506R but written in mandatory language

- **1705.5.45 Structural glued laminated and cross-laminated timber. [OSHPD 1R, 2 & 5**
  Added exception for non-custom prismatic glued laminated members identified on drawings and sourced from stock or general inventory…

Chapter 18/18A

- **Section 1810 Deep Foundations**
  - **1810.3.1.5.1 Helical piles seismic requirements. [OSHPD 1R, 2 & 5]**
    Removed the word "ultimate"
  - **1810.3.3.1.9 Helical piles.**
    Load tests are required to determine ultimate capacity
  - **1810.3.8 Precast concrete Piles.**
    Same amendments as in the A Chapter
  - **1810.3.10 Micropiles**
    Removed the word "ultimate"
  - **1810.3.11.2 Seismic Design Categories D through F.**
    Exception for the need to provide connections is not permitted by OSHPD
  - **1810.3.12 Grade beams.**
    Changed exception
- **SECTION 1811 PRESTRESSED ROCK AND SOIL FOUNDATION ANCHORS [OSHPD 1R, 2 & 5]**
  - **1811.3 Geotechnical requirements**
    Class I corrosion protection is required for all permanent and extended temporary anchors in service more than 2 years
- **SECTION 1812 EARTH RETAINING SHORING**
  - **1812.4.1 Geotechnical requirements**
    Same as 1811.3
  - **1812A.4.2 Structural requirements**
    Editorial edit

Chapter 19/19A

- **1901.3.4 Tests for Post-Installed Anchors in Concrete [OSHPD 1R, 2 & 5].**
  - **1901.3.4.3 Test frequency**…
    Exception for state detention and correctional facilities of tension testing requirements
  - **1901.3.4.5 Test acceptance criteria**
    Exception in spacing of apparatus support location when testing for bond

- **1905.1.7 ACI 318, Section 14.1.4 *[OSHPD 1R, 2 & 5]*** and **1905*A*.1.7 ACI 318, Section 14.1.4 *[OSHPD 1 & 4]***
  Modified Section 14.1.4 with: Plain concrete shall not be permitted for a structure assigned to Seismic Design Category (SDC) D, E and F
- **1908.1 General**
  Added requirement for shotcrete core quality
- **1908.2 Tests and Inspections. [OSHPD 1R, 2 & 5]**
  Added preconstruction test of shotcrete panels
- **1910.3.4 ACI 318**
  Modification to Table 21.2.2
- **1905A.1.3 ACI 318, Section 9.6.1.3**
  Minimum requirement added
- **1908*A*.1 General**
  Added the appropriate ACI reference for evaluating shotcrete mockup panels
- **1910A.5 Tests for post-installed anchors in concrete and 1910A.5.3 Test frequency**
  Exception for state detention and correctional facilities of tension testing requirements
  - **1910A.5.5 Test acceptance criteria**
    Exception in spacing of apparatus support location when testing for bond

Chapters 21/21A

- Revisions made were initiated by public comments received from the Masonry Institute and consensus achieved in a collaborative effort with OSHPD, DSA and the Masonry Institute.
- Restructured and revised existing amendments rewritten as Modifications to TMS 402/602 and duplicate language has been deleted. Minimal net change in regulatory effect.

  - **2103.4 Metal reinforcement and accessories**
    Defined “unidentifiable reinforcement”
  - **2104.2.1… TMS 602, Article 3.3 B Placing Mortar and Units**
    Replaced ½ inch masonry protrusions to ¼ inch
  - **2104.2.2 TMS 602, Article 3.4 B Reinforcement.**
    Modified language from TMS 602 Article 3.4 B.1 and B.3
  - **2104.2.3 TMS 602, Article 3.4 D Anchor Bolts**
    Combined/merged language from TMS 602 Article 3.4 D.3, D.5 and D.6.1
  - **2105.3 Mortar and grout tests. [OSHPD 1R, 2 & 5]**

Changed requirement checking for mortar strength to checking for mortar proportions

- **2105.4 Masonry core testing**. **[OSHPD 1R, 2 & 5]**
  Lowered exception for core testing requirement from 2000 psi to 1000 psi
- **2105.5 Masonry prism method testing** and **2105.6 Unit strength method testing**. **[OSHPD 1R, 2 & 5]**
  Deleted pointers to TMS 602
- **2107.7 Masonry Compressive Strength. [OSHPD 1R, 2 & 5]**
  Lowered nominal strength value to 2000 psi from 3000 psi
- **2108.4 [OSHPD 1R, 2 & 5] TMS 402, Section 9.1.9.1.1.**
  Changed the limit to 3000 psi from 4000 psi and revised the compressive strength for clay masonry

Chapter 31

- **SECTION 3115 INTERMODAL SHIPPING CONTAINERS**
  Not permitted by OSHPD

Discussion and Public Input

Mr. Lew posed the following questions regarding slide 28 and whether the text should be as it appears. Tom Hale clarified that the first bullet is supposed to be a paragraph and the next two bullets should be sub-bullets to that paragraph.

4. Potential program for preapproval of premanufactured components and systems

Presenter: Chris Tokas

Discussion and Public input

Mr. Tokas presented the new acronym for a new OSHPD program: OSHPD Preapproved Prefabricated Components and Systems, OPPCS. He explained that since the start of the pandemic there has been an increase in the use of prefabrication. In the past, prefabrication was used in a very limited capacity, but the growth of Building Information Modeling (BIM) has made it more feasible to implement on construction projects. Mr. Tokas presented examples of prefabricated components and systems used in the past, such as bathrooms that have been built and assembled in other states, brought to the project site and erected in place. He then presented examples of the approach seen more often in the past year, modular construction. The module is prefabricated off-site, in a controlled environment, outfitted with a multitude of nonstructural components and elements. They are made in a standard size that can be transported with a semi-truck to the construction site and are able to be connected to other modules, essentially allowing entire buildings to be assembled using modules.

Mr. Coleman expressed the hope is to work with Board Committees to better define what the OPPCS program is and what it isn't, what qualifies for the program and what doesn't. Although aspects of the modulars that Mr. Tokas presented can be preapproved, such as the structure and some of the systems, but that there is also a site or project component side of the equation such as where they are assembled, where the utilities are coming from, and where they are serving the central power, etc. Mr. Coleman expressed that although there is only so much that can be preapproved, OSHPD would like to preapprove as much as possible to not have to review them every single time, project by project. There are currently a couple of projects that OSHPD is currently working on and the idea is as we're moving through every concept, to present it to the Committees to get your ideas and opinions on how the industry will receive it and what types of components and systems would this be best suited for. Mr. Coleman clarified that although these questions do not need to be answered today, it is something that OSHPD would like to start moving forward on to get the program going as quickly as possible once the criteria for the program has been established.

Mr. Lew commented that this is a very important program to pursue and expand. Because of COVID in the past year there has been a need in many areas, including California, to expand facilities temporarily. He noted that because we are beginning to see modular construction in commercial spaces, it might only be a matter of time before it enters the medical spaces as well.

Mr. Coleman agreed that the industry is definitely heading in that direction. OSHPD takes baby steps but as the industry progresses, OSHPD expands the programs to meet industry needs and to expand with it.

Ms. Malone asked for clarification that the modular structures being presented are not just for temporary use, such as COVID, but will instead be used to provide other patient cares services. Mr. Tannahill responded it was originally presented to OSHPD as temporary modules to be used for purely emergency-type situations. He explained that the proposal has since expanded to permanent structures, mounted onto a foundation and used for expanding patient capacity.

Mr. Khorram suggested that if a hospital is unable to provide patient care after a natural disaster, the ability to quickly assemble a structure, while the hospital is being rebuilt or repaired, might be a very valid solution.

Mr. Malley remarked there is a lot of potential in modular construction. He explained that he was involved in a proposed high-rise construction project, where the idea was to have a structural core, with typical steel-reinforced concrete floor slabs and metal deck fill, and then build the modules around the core perimeter, stack them, and tie them back into the core for lateral resistance. He indicated that it became a big challenge for the modular proponent to demonstrate how the diaphragm worked to bring those loads back into the

core structure. He, also, acknowledged that expanding into seismic areas where the diaphragms are so integral to the overall performance of the building is going to be a potential challenge.

Mr. Malley then asked Mr. Coleman and Mr. Tokas if there was a real push for self-contained room units, like bathrooms, being proposed on new developments? He also inquired if there were any other room types or applications other than bathrooms being proposed? Mr. Tokas affirmed that OSHPD currently has two multimillion-dollar projects that are moving forward with self-contained bathroom units and that the concept is gaining traction. Mr. Tokas specified that so far bathrooms are the only room types being proposed. Mr. Coleman added that OSHPD has seen some additions and new buildings made of modular construction but those were just one-offs, nothing that could be replicable. He noted that the bathroom modules are the first because they are fairly complex and very repeatable, but that he believes that this system is the direction that the industry will continue to move in.

Mr. Malley inquired how OSHPD prepares for seeing this type of system being proposed on a regular basis? Mr. Coleman explained that OSHPD is putting together the program, and the description of the program, continuing to work with manufacturers and hospitals on their needs, then presenting it to the appropriate committees of the Board for review and discussion to make sure that the program is going in the right direction. Mr. Coleman remarked that something like this also requires modifications to the Electronic Services Portal for applications, processing, etc. and that OSHPD will start with a more simplified version of it and then as it advances, do the other technical parts of it. He stated that Structural Support Unit within FDD will be tasked with assembling the program concept.

5. Comments from the Public/Board Members on Issues Not on This Agenda.

No comments.

6. Adjournment

Mr. Malley adjourned the meeting at approximately 10:17 a.m.