MHCC
Tech Structure & Design Subcommittee
2-25-11

Attendees	
Subcommittee Members	
Tim King (Chair)	Y
Mark Mazz	Y (joined during discussion of ground anchors)
Bill Stamer	Y
Michael Wade	Y
Frank Walter	Y
Richard Weinert	Y
HUD	
Jim Everett, DFO	Y
AO	
Joe Nebbia, NFPA/Newport Partners	Y
Guests	
Mark Weiss, MHARR	Y
Lois Starky, MHI	Y
Mike Zieman, Radco	Y
Jeff Legault, Skyline	Y

Highlights and Action Items:

- Mr. Walter made a motion to recommend that the full MHCC send the 12 page MHI proposal on ground anchors forward as a recommendation to HUD. Mr. Mazz seconded
- Ms. Starky to distribute appropriate copy of the MHI proposal on ground anchors to the Subcommittee, and also to NFPA for inclusion in materials for the in-person meeting.
- Subcommittee to discuss sprinklers at in-person meeting in March.

Discussion:

The meeting was called to order at 11:07 a.m.

The Subcommittee decided to wait to approve minutes until the in-person meeting in March. The Chair reported to the Subcommittee that he requested an extension to 120 day deadline for anchoring in order to try to get it through full committee next month. It's been extended to June but is not likely to take that long.

Other topics for discussion include sprinklers. The Chair asked for any other discussion suggestions. None were offered. The Chair asked for any public comments. None were offered.

The group discussed the ground anchor proposal. A Subcommittee member stated that MHI provided 5 pages of comments and an executive summary. He requested to go over that summary to see if there is agreement on those 4 issues.

4 items in MHI document:

1. HUD has expanded scope from simply test protocol to requirements that mandate soil testing at every site. It contradicts some criteria specified in 3285 section 202. Discussion on item 1:
    a. Idea of a test protocol ought not to relate to the final site of the home
    b. Should be a regulation if it's necessary
    c. MHI proposes, when manufacturer does the anchor testing, they would test in different soils but for onsite testing would fall under 3285.202
2. The idea of loading up a test rig at a test site when a manufacturer is classifying anchors, the issue is constant rate displacement vs. displacement over a 2 minute period. MHI explains that constant displacement rate is too costly. 2 minutes has been the method used.
3. How many test specimens to be tested in order to classify new anchor system. MHI argues that 6 is too many and the industry should rely on 3280.401b.
4. How many test specimens. The current proposal would ignore the reality of load sharing between anchors. That seems not to be appropriate. It assumes that if a single anchor fails, you might have catastrophic failure of the whole system.

A Subcommittee member commented that there is a big statement at the end – MHI believes that only a handful of anchors were used in the proper soil during the testing…does that invalidate the entire report? There was a comment that wrong anchors were used in the wrong soils. 3 or 4 manufacturers worked on this, but it is unclear why the test was done this way. A Subcommittee member requested to get a response from Crandell on this statement? The Chair suggested that this might be a 5th item.

Item 2 discussion – A couple of states use the existing protocol in some form already. There is a good record of it working. What's the reason for changing if the other protocol works?

Guest comment – the contractor felt necessary to design a test rig. In doing that, it incorporated constant displacement. It's pretty clear from the test results and other testing, that an absolute constant displacement isn't necessary and doesn't add validity to results.

The constant displacement method was explained to the group. What's the difference in costs between the two tests? No one but the contractor has the equipment to perform that test.

There was a request for explanation of correlation between high wind even and the different type of testing. The standard test is closer to the conditions in a high wind event. Not constant wind speed, but gusting. Code speaks of 3 second gust loads. There is nothing invalid in constant displacement, just not necessary.

Mr. Walter made a motion to accept MHI's comment on this item. Mr. Stamer Seconded.

Discussion: MHI addresses by saying load shall be applied over not less than 2 minute period. Don't need to specify method.

Vote: Unanimous Approval

Item 3 discussion – 3 tests required in MHI proposal must pass. Contractor proposal is to test 6 and all 6 must pass (lowest load is accepted). 3280 already requires 3 tests. The question is whether there is any reason to increase the number of tests. Industry feels there have not been any problems.

Mr. Walter made a motion to accept MHI proposal on this issue. Mr. Wade Seconded.

Discussion – within a soil class, there is a range of torque probe allowable numbers.

There was a question on feedback from HUD on this item. HUD will be at the in person meeting. The Chair commented that he is prepared to move without HUD comments on this issue.

There was a question on whether there is there significant cost increase on test protocol between 3 and 6. Answer – there are two issues – how do you deal with previous testing, is that no longer adequate? Also the ground anchor folks are convinced there is no reason to do this.

There was a suggestion to have broader consideration of cost justification for the HUD proposal. The act requires that proposals be justified and cost effective. Beyond specific issues, is any change needed at all?

Vote: passes – 1 opposed.

Item #4 discussion – It is unclear how the load sharing issue impacts the test protocol? The first place in the MHI document is page 1 at the end of the paragraph that speaks to test specimens. It talks to the issue of ignoring the realities of load sharing between anchors. The requirement in the original proposal is excessive because when you use anchor assembly, you don't rely on just one anchor. On top of that you have a safety factor and some assemblies that will test stronger and some will test slightly weaker and load sharing will accommodate.

There was a Comment that the contractor's analysis was a high level statistical analysis, not understandable to some engineers. In the report terms such as "on average" "in theory" and "might have" are used. Also used is the term that current tests represent "crude" means. It's all based on the assumption that if one anchor were to not hold working load by one pound there would be a catastrophic failure.

There was a comment that unless there is real study, there are just lots of opinions. There was a comment that on studies done on Hurricane Charlie, there was no discussion of anchors.

Question – we are assuming that this test is saying that loads are applied equally across all anchors. Would it be correct to assume that it wouldn't happen that way and that there would be more stress on specific anchors than on others? Answer – that may be correct. But in designing anchorage systems you start with wind load specified in code. That wind load in theory represents maximum load that the house would see. Aso there is a distribution of loads to many anchors. There are distributing properties.

There was a comment that it may be unnecessary to move on this issues as the Subcommittee already went to 3 instead of 6.

A Subcommittee member commented that we need a response from the contractor on the distribution of load and the testing of anchors in soil for which they aren't certified.

There was a comment that testing protocol doesn't necessarily relate to soil in which it's tested.

Mr. Walter made a motion to recommend that the full MHCC send the 12 page MHI proposal forward as a recommendation to HUD. Mr. Mazz seconded

Vote: unanimous approval

There was a suggestion to include sprinklers on the agenda for the in-person Subcommittee meeting in March. MHI will have info on cost for the March meeting.

Motion to adjourn – unanimous approval.