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HOSPITAL BUILDING SAFETY BOARD Structural and Nonstructural Regulations Committee

**July 29, 2026
10:00 a.m. – 4:00 p.m.**

Meeting Locations:

2020 West El Camino Ave, Conference Room 930, Sacramento, CA 95833
355 South Grand Avenue, Conference Room 1901, Los Angeles, CA 90071

Committee Members Present

Jim Malley, Chair
Farzad Naeim, Vice Chair
Cody Bartley
Gary Dunger
Martin Hudson
Courtney Johnson
Scott Karpinen
Jennifer Thornburg
Belinda Young

HCAI Staff Present

Chris Tokas
Roy Lobo
Ali Sumer

HBSB Staff Present

Veronica Yuke, Executive Director
Evet Torres
Rajveer Dhaliwal

- 1 **1. Call to Order and Welcome**
- 2 **Facilitator:** Jim Malley, SE, Senior Principal, Degenkolb Engineers; Committee Chair
- 3 (or designee)
- 4 **Discussion and Input**
- 5 Jim Malley opened and welcomed attendees to the HBSB Structural and Nonstructural
- 6 Regulations Committee meeting on July 29 at 10:00 a.m.
- 7 **2. Roll Call and Meeting Advisories/Expectations**
- 8 **Facilitator:** Veronica Yuke, HCAI; HBSB Executive Director (or designee)
- 9 **Discussion and Input**

Veronica Yuke conducted the roll call and established a quorum. She reviewed the rules of engagement and stated that the executive director would conduct all voting by roll call.

3. Update on Wood-Frame Standard Details prepared by the HBSB Codes and Processes Committee

Facilitator: Gary Dunger, Executive Director, Design and Construction, Cedars-Sinai Health System (or designee)

Discussion and Input

Gary Dunger traced the history of the details and reported their current status. He explained that while he was with OSHPD under Deputy Director Paul Coleman, the agency set an annual goal to better engage skilled nursing facilities in construction, since its focus fell largely on hospitals and type one construction. Around 2015, Paul Coleman tasked him with developing an expedited building permit for skilled nursing facilities through the e-services portal, which launched with five permit types, including water heater replacement, handrail replacement, and TV brackets, and has since grown to nine project types.

Gary noted that the broader initiative to support SNF construction began in 2015, but the specific effort to develop standard preapproved details for wood-frame construction in skilled nursing facilities began later, around late 2018, when Paul Coleman brought the concept to the Codes and Processes Committee. He added that development stalled for a long period because no single individual took responsibility.

Gary Dunger reported that in 2023, after retiring and joining the Hospital Building Safety Board, he volunteered to take responsibility, drawing on his prior work on the Fire and Life Safety Standard Details at OSHPD, and the board accepted. He solicited candidate details from board members, OSHPD fire and life safety officers, and architects experienced in wood-frame skilled nursing facility construction. Jasmine, a Revit expert on his staff at Cedars-Sinai, formatted the details for preapproval, and he vetted the first round with the Chief and his Safety Officer before presenting updates to the Codes and Processes Committee.

Gary Dunger stated that Michael O'Connor supplied additional details in May 2025 that better reflected typical skilled nursing facility construction, and Jasmine drafted the full package into CAD drawings. He submitted the package to the committee, where Chris Tokas assigned Brett Beekman to review it from a structural standpoint. Gary Dunger submitted the details to Brett Beekman in May 2026 and received comments back in June 2026. Because Brett Beekman's comments directed how to perform work rather than what the details required, Jasmine placed them directly on the drawings. Follow-up meetings with Michael O'Connor and Brett Beekman resolved the issue, and Michael

O'Connor volunteered an engineer from KPFF to translate the comments into the details.

Gary Dunger described the July 14 meeting with Brett Beekman, KPFF, and Michael O'Connor as productive, with all parties understanding what the details still required. He reported that KPFF is incorporating Brett Beekman's comments for final submittal and review.

Committee and Public Comments

- Scott Karpinen asked whether updates to the standard details for OSHPD 1 would roll out alongside the skilled nursing facility details.
 - Chris Tokas confirmed that is the plan.
 - Gary Dunger added that he directed Brett Beekman to develop the details for use on OSHPD 1 and OSHPD 2, which shaped the discussion of which importance factor to apply and how conservative to make the structural approach.
- Scott Karpinen asked where to submit comments on the details.
 - Jim Malley directed him to Gary Dunger, and Gary Dunger agreed to route them correctly.
 - Veronica Yuke asked members to send comments through board staff, who will forward them to Gary Dunger.
- Jim Malley asked whether the compiled details would come to the SNSR Committee for review and comment.
 - Gary Dunger responded that OSHPD will approve the details, but the committee could add value on their real-world application.
 - Jim Malley proposed presenting them at a meeting in October or November of this year, and Gary Dunger accepted that as a target date.
- Jim Malley noted that Mark Hershberg and KPFF provided good input.

Voting

- None

Informational and Action Items

- KPFF is incorporating Brett Beekman's comments into the wood-frame standard details for final submittal and review.

- The details will serve OSHPD 1 and OSHPD 2 projects in addition to skilled nursing facilities, and updates to the OSHPD 1 standard details will roll out at the same time.
- Committee members will submit comments on the details through board staff, who will forward them to Gary Dunger.
- Gary Dunger will target the SNSR Committee meeting in October or November 2026 for review of the completed details.
- Board staff will notify Gary Dunger of the date set for the next committee meeting.

4. Update on OSHPD Preapproved Details (OPD): Standard Partition Wall

Facilitator: Chris Davis, SE, District Structural Engineer, HCAI (or designee)

Discussion and Input

Roy Lobo presented in place of Chris Davis, who was on vacation.

- Chris Tokas framed the item. He explained that HCAI reviews its standard details whenever new codes take effect to determine how to update them to the new California Building Code requirements for the benefit of the community, designers, and industry. He stated that national standards development sometimes treats proposed code changes individually rather than as a system, for example, increasing ground motions, safety factors, and overstrength factors without examining the combined effect of all on the building design and thereby as a result, the process may overlook the costs and consequences of over-specification.
- Chris Tokas noted that OSHPD can decide if the CBC requirements would not follow the national standards, citing the committee's previously rejecting the move of skilled nursing facilities from Risk Category II or III to Risk Category IV. Chris then identified Health and Safety Code Section 18930 and its nine-point criteria as the vetting standard for every proposed code change brought to the committee. He read three of the nine: 1) "...that the proposed building standard is not unreasonable, arbitrary, unfair, or capricious in whole or in part"; 2) "...that the cost to the public is reasonable based on the overall benefit derived from the building standard"; and 3) "...that applicable national specifications, published standards, and model codes are incorporated where appropriate". He stated that the items presented that day reached the California Building Code without meeting those criteria.

Roy Lobo reviewed the motivation for the study. He reported that demands on partition walls in hospital buildings have doubled in some cases, driving increased stud sizes and

1 top and bottom anchorage requirements and, given the thousands of linear feet of
2 partition walls in a hospital, substantial cost. Chris Tokas clarified that "demands"
3 means the seismic forces specified by the International Building Code and ASCE 7 and
4 argued that no evidence exists that modern buildings designed and constructed to the
5 requirements developed over the last 20 years will fail to perform. He attributed his
6 expectation of adequate seismic resistance to two elements: code-based seismic force
7 design and detailing, and quality assurance, quality control, testing, and inspection.

8 Roy Lobo explained that partition wall cracking generally stems from inter-story drift
9 acting in plane, while observed partition wall failures occur where walls are unbraced,
10 inadequately braced, or supported by the ceiling. He outlined his presentation as
11 covering the ASCE 7-22 design force F_p and its impact on partition walls, how the new
12 force equation was developed, the floor accelerations underlying the equation, areas of
13 conservatism, and the resulting impacts on stud sizes and anchor types.

14 Roy Lobo compared the ASCE 7-16 and ASCE 7-22 F_p equations, noting that portions
15 of the equation and the upper and lower bound provisions remain unchanged, while F_p
16 became a function of the building's Seismic Force Resisting System through the R_μ
17 term. He explained that a component's response depends on its frequency relative to
18 the floor excitation; and that stiff buildings amplify component acceleration substantially
19 more than moment frames, and that the new equations track building type more
20 accurately as a result.

21 Roy Lobo identified the governing change for partition walls as the shift from a_p/R_p in
22 ASCE 7-16 to CAR/RPO in ASCE 7-22. For wall heights greater than 9 feet, which
23 covers all hospitals, CAR increased from 1.0 to 1.4 and RPO decreased from 2.5 to 1.5,
24 producing a 2.33 increase in the component amplification factor. He reported that
25 partition wall demands increased 1.5 times for walls under 9 feet and 2.1 times for walls
26 over 9 feet when the default building type is used.

27 Roy Lobo presented his comparison of floor accelerations from a seven-story reinforced
28 concrete moment frame model run with seven spectrally matched ground motions
29 against Equation 13.3-1, the alternate diaphragm equation 12.10-4, and the default. He
30 reported that the alternate diaphragm equation matches nonlinear response history
31 analysis results reasonably well for Risk Category II buildings, that Equation 13.3-1
32 appears conservative, and that using a building period of $C_u T_a$ would remove some of
33 that conservatism. He showed the same comparisons for special reinforced concrete
34 shear walls, steel special moment resisting frames, and buckling restrained braced
35 frames, and demonstrated that shifting from Risk Category II to Risk Category IV adds
36 roughly a 20 percent increase through the I_p term inside R_μ before the 1.5 importance
37 factor is applied. He cautioned that using Equation 12.10-4 for Risk Category IV
38 accelerations double counts I_p .

Roy Lobo summarized the areas of conservatism: floor accelerations for nonstructural component design using the default values are inherently conservative even when building information is known; Equation 13.3-1 appears conservative for Risk Category II buildings for a number of reasons: 1) floor acceleration maximums do not align at each floor, and partition walls connect between two floors moving at different accelerations, 2) partition wall flexibility depends on cross-wall spacing, 3) the effect of gypsum board on both sides of the studs may not have been considered in the overstrength and component amplification factors, and 4) a cabinet hung on a wall adds stiffness.

Roy Lobo then presented the design results. He described the four OPD load conditions as zero pounds vertical load per stud for Condition A, 50 pounds for Condition B, 152 pounds for Condition C, and 380 pounds for Condition D. Using Condition C and SDS values between 1.45 and 1.95, he reported a 25 percent weight increase for a 12-foot wall and a 73 percent weight increase for a 16-foot wall, with the 16-foot case driving a 1-3/8 inch flange to 12 gauge, which cannot be screwed into other elements.

Roy Lobo reported that the research found the 2013 OPD limited flange size to 1-3/8 inch and thickness to 16 gauge, while Kirsten Zeydel's outreach to industry partners established 1-5/8 inch as the typical flange for 4-inch members. He explained that price tracks with the area of steel, that larger flanges carry a premium, and that the updated tables select stud size by area of steel, allowing a larger flange in lieu of a thicker gauge, and include multiple flange sizes. He noted the new tables are keyed to F_p/W_p rather than SDS, because the demand now depends on building type.

Roy Lobo described the anchorage impacts. At the bottom connection, a 16-foot stud that previously used 3/8-inch expansion anchors at 16 inches on center now requires them at 8 inches on center, with embedment increasing from 2-1/4 inches to 3-3/4 inches to hold the original spacing, a depth he called impractical for a floor. At the top connection, power-actuated fasteners reduce from 12 inches to 6 inches on center, and some Condition C and D cases can no longer use power-actuated fasteners at all and must convert to expansion anchors.

Roy Lobo explained that HCAI added a provision on its website that back-calculates an equivalent SDS from F_p/W_p so designers can continue using the 2013 OPD tables. He walked through an example of a hospital with SDS of 1.00g, a concrete shear wall bearing frame system, seven stories at 16 feet per story, a 16-foot wall, and no casework, which yields F_p/W_p of 1.315 and an equivalent SDS of 1.83. He showed that the top track anchorage reduces from 12 inches to 6 inches on center for shot pins under either calculation method, and that the bottom track result is unchanged for that condition but has no available values once the load increases.

Roy Lobo concluded that the ASCE 7-22 force requirements have doubled partition wall demands in some cases; that RPO may not account for the added strength of gypsum

board; that stud sizes and top and bottom track anchorage have increased material and labor costs; that high seismic areas fall outside the SDS range of the existing OPD tables for Conditions C and D; that partition wall cracking is generally associated with in-plane inter-story drift; and that out-of-plane failures have occurred in walls that are unbraced, inadequately braced, or ceiling supported.

Committee and Public Comments

Questions raised during the presentation:

- Scott Karpinen asked whether the F_p equation applies only to partitions.
 - Roy Lobo and Chris Tokas confirmed that ASCE 7 Chapter 13 governs all nonstructural components and systems, so the change affects all OPDs.
- Belinda Young asked what a 2.1 factor means in gauge size for a 10-foot wall section.
 - Chris Tokas and Roy Lobo deferred the answer to later slides.
- Jim Malley asked whether the default building type is the reinforced concrete shear wall worst case and observed that it is rarely used in California hospital construction.
 - Roy Lobo confirmed that reinforced concrete is closest to the default and that hospitals generally use moment frames or buckling restrained braced frames.
- Jim Malley asked the reason for reducing RPO from 2.5 to 1.5. Roy Lobo stated he did not know.
 - Chris Tokas noted the change originates in ASCE 7 and is part of what HCAI is questioning.
- Martin Hudson asked why the code uses acceleration rather than drift, since a wall anchored at both top and bottom presents a kinematic, strain-controlled problem.
 - Roy Lobo answered that both apply: acceleration governs out of plane and drift governs in plane.
- Belinda Young stated that doubling anchor quantities and increasing stud thickness significantly affects construction cost for hospitals already in design under the 2025 code. She asked whether OSHPD can decline to adopt this part of the code or reduce the hospital importance factor, and noted that projects currently in design will be costed out of budget.
 - Chris Tokas responded that if a standard was adopted without proper substantiation, HCAI can take appropriate action under the Health and Safety

Code criteria, and that HCAI is seeking the committee's recommendation to determine that action.

- Scott Karpinen asked whether the change affects stud sizes in the rest of the United States or whether California bears the impact because of its seismic zones.
 - Roy Lobo answered that higher seismic areas are more affected. Chris Tokas raised whether the requirement will be enforced elsewhere.
- Farzad Naeim stated that the closing slide should be titled "Options" rather than "Recommendations," and said he favors the first option, adding that the committee does not have to accept a code formula that cannot be justified.
- Martin Hudson asked whether the justification rested on experimental data or finite element evaluation. Farzad Naeim replied that in his opinion it rested on neither.
 - Chris Tokas noted that HCAI commissioned tests on light gauge metal systems at the University of Buffalo in 2012 and 2013, and that the board commissioned a study after the Northridge earthquake and stated that the existing standard details derive from actual observed response and behavior of partitions.
- Jim Malley asked whether the change affects ductile systems less than wall systems.
 - Roy Lobo confirmed it does, except at the roof, where an impact remains.
 - Jim Malley asked about isolated buildings, and Roy Lobo stated that only the lower limit changed, from 0.3SDS to 0.15SDS.
- Russ Berkowitz, an interested party, supported Roy Lobo's conservatism finding, citing an ATC project with Degenkolb, other practitioners, and university researchers that examined instrumented buildings in actual earthquakes and shake table tests at E-Defense and Berkeley. He reported that measured accelerations are generally lower than high-fidelity nonlinear analysis predicts, except in very stiff shear wall buildings where the two are close. He asked how the forthcoming anchorage testing changes, which may further lower anchor capacities, would fold into the OPD conversion tables.
 - Roy Lobo answered that the new anchor qualification applies in the next code cycle, not currently.
- Meaghan Halligan, an interested party, asked about the timing of any decision to set aside the ASCE 7-22 provision, noting she is working on a hospital in that code cycle now.

- Chris Tokas responded that timing depends on the board's recommendation, and stated that as building official he has the authority to issue a policy intent notice making use of the ASCE 7-16 provisions for nonstructural components and the OPDs voluntary.
- Jim Malley confirmed that as a PIN, such a notice could take effect immediately upon publication, separate from the code cycle.
- Meaghan Halligan recommended keeping the lower forces, particularly given the potential new anchor standard.
- Maryann Phipps, an interested party, practicing structural engineer with eStructure, and the technical lead for the ATC-120 project that developed the new Fp equation, stated that the equation was based on shake table information, CSMIP data, and nonlinear analyses of model building types in a \$10 million project, and that she considers it rational, technically sound, and more transparent than the old equation. She stated that she did not recommend bringing the ATC-120 equation through this code change cycle for two reasons: the magnitude of the change did not deliver enough performance benefit to warrant the upheaval, and the project had not studied partitions sufficiently to defend so dramatic a change. She recommended that OSHPD permit partition wall design consistent with the ASCE 7-16 equations using ASCE 7-22 SDS values, while also permitting use of the ASCE 7-22 equations.
- Michelle Malone, an interested party with UCSF, stated that UCSF supports the ASCE 7-16 option, citing the impact on California hospitals already facing budget constraints.
- Belinda Young asked when the committee would put forward recommendations.
 - Jim Malley explained the committee typically discusses an issue, staff prepares a proposal for discussion at the following meeting without a motion, and the vote follows at the meeting after that, placing action at the next meeting or in January or February of next year.
- Martin Hudson asked that someone present briefly at the next meeting on the shake table tests and numerical modeling used to develop the change.
- Belinda Young thanked Maryann Phipps for the context on the equation's origin and recommendations.

Voting

- None.

Informational and Action Items

- HCAI is preparing updated OPD stud and anchorage tables keyed to Fp/Wp rather than SDS, selecting stud size by area of steel and including multiple flange sizes. The tables are not yet released.
- HCAI's website provides a calculation returning Fp/Wp and an equivalent SDS by building type, allowing designers to continue using the 2013 OPD tables.
- The new post-installed anchor qualification requirements apply in the next code cycle and do not affect current designs.
- Chris Tokas identified a policy intent notice as an available first step, which would voluntarily permit use of the ASCE 7-16 provisions for nonstructural components and the OPDs and could take effect immediately upon publication.
- Staff will prepare a proposal for committee discussion, with a vote expected at the following meeting or in January or February 2027.
- The committee requested a brief presentation at the next meeting on the shake table tests and numerical modeling underlying the ASCE 7-22 change.

5. Minimum anchor qualification requirement for post-installed anchors in concrete

Facilitator: Chris Davis, SE, District Structural Engineer, HCAI (or designee)

Discussion and Input

Roy Lobo explained that ACI 318-25 adopts ACI 355.2 (24) and ACI 355.4 (24) by reference, and that the 2027 IBC adopts ACI 318-25. He stated that HCAI attended the ICC hearings and was unsuccessful in opposing the change.

Roy Lobo described his motivation for opposing this change. He reported that the new crack cycling requirement will reduce anchor design values by 30 to 40 percent, requiring more anchors at added cost, and that no evidence establishes that this level of qualification applies to hospital design. He noted that hospitals already use an importance factor of 1.5, producing a more rigid building with less cracking and smaller crack widths. He added that nonstructural components and equipment in hospitals are typically anchored to a floor slab, a slab on grade, an equipment pad, or the underside of concrete over metal deck, while the research behind the new requirements is premised on flexural cracks with anchors installed on the underside of a reinforced concrete moment resisting frame beam, a location he does not recommend for post-installed anchors.

Roy Lobo reviewed the governing code language. He read ASCE 7 Section 13.4.2.3, requiring post-installed anchors in concrete to be prequalified for seismic applications in accordance with ACI 355.2 or other approved qualification procedures, and the

1 California amendment replacing that section, which permits post-installed anchors, post-
2 installed reinforcing bars, and specialty inserts qualified in accordance with ACI 355.2,
3 ACI 355.4, or ICC-ES AC193, among others.

4 Roy Lobo explained why ACI investigated crack cycling: concrete cracks, cracks open
5 and close during cyclic wind or seismic events, anchor reliability matters in extreme
6 events, the current requirements of 0.3 millimeter crack width over a large number of
7 cycles were not intended to represent seismic conditions, and crack closure and
8 compressive stress significantly affect anchor performance.

9 Roy Lobo traced the background to a paper by Matthew Hoehler and Rolf Eligehausen
10 that identified the elastic region of a concrete moment frame as suitable for anchorage.
11 He cited the paper's finding that numerical studies of crack width in reinforced concrete
12 bending members designed to Eurocode indicate a maximum crack width at steel yield
13 of approximately 0.8 millimeters in reinforced concrete flexural members, determined for
14 members subject primarily to axial and bending deformation and not valid for shear
15 cracking. He explained that the resulting crack cycling test setup installs an anchor,
16 opens a crack, cycles it, and then tests the remaining capacity.

17 Roy Lobo reported that the researchers tested headed studs, undercut anchors,
18 expansion anchors, and sleeve type anchors, and that some performed well under the
19 protocol, with undercut anchors retaining substantial capacity in a subsequent
20 monotonic test. He described the three resulting deformation categories: Condition 1,
21 where displacement during crack cycling stays below the displacement at ultimate
22 monotonic load; Condition 2, where it equals or exceeds that displacement without
23 concrete breakout; and Condition 3, where the anchor fails under 10 cycles at 0.8
24 millimeters, or 0.03 inches, with concrete cone breakout, disqualifying the anchor. He
25 explained the acceptance criteria: linearly increasing or decreasing deformation with
26 each crack cycle is acceptable, while exponentially increasing deformation indicates
27 anchor pullout and is not.

28 Roy Lobo detailed the new test protocol. The crack cycling test totals 59 tests,
29 beginning with 20 cycles at 0.004 inch and 10 cycles at 0.008 inch under a sustained
30 tension load of 0.4 times the monotonic reference capacity, then repeating at 0.5 times
31 that load, followed by 14 additional tests at crack widths of 0.024, 0.028, and 0.032 inch,
32 with the deformation criteria applying throughout. A separate seismic cycling tension
33 test totals 75 tests at fixed crack widths up to 0.032 inch without cycling the crack. He
34 contrasted this with the more lenient current protocol, which applies 10 cycles at 50
35 percent of the monotonic capacity followed by roughly 30 cycles at 0.375, at a crack
36 width of 0.02 inch, modeling one large motion followed by smaller ones.

37 Roy Lobo identified what differs in the new qualification: cycle counting for the crack
38 protocol is performed on curvature histories from smallest to largest; cycle counting for
39 the load protocol is performed on oscillating single degree of freedom systems whose

1 input motions reflect the building's nonlinear behavior; the protocol is unified to address
2 serviceability and suitability simultaneously; and it draws on current science and current
3 finite element analysis tools.

4 Roy Lobo then set out the issues with applying crack cycling to post-installed anchor
5 qualification:

- 6 • Anchors for floor-mounted equipment are not subject to sustained tension loads.
- 7 • Anchors to diagonal braces for seismic bracing of distribution systems are not
8 subject to sustained tension.
- 9 • Vertical hangers of brace assemblies carry tributary gravity loads in sustained
10 tension, but that load is small relative to the seismic tension, and multiple gravity
11 supports not subject to seismic cyclic loads may carry the system.
- 12 • Locations where crack cycling is expected will contain reinforcement and are not
13 suitable for post-installed anchors.
- 14 • Maximum crack opening and maximum tension load occur at different times.
- 15 • No test evidence or earthquake failure evidence shows that the new protocol
16 prevents failures the current protocol does not.

17 Roy Lobo argued that crack cycling qualification is unnecessary for hospital buildings
18 because floor diaphragms are typically concrete over metal deck designed essentially
19 elastic, limiting crack width and cycling; redundancy means not every anchor resisting
20 tension experiences crack opening; anchors are already qualified for cracked and
21 uncracked concrete under cyclic loads; and anchors for nonstructural components are
22 designed using I_p of 1.5 on top of the overstrength factor, in conjunction with the 0.75
23 seismic reduction factor, the strength reduction factor, and the 5 percent fractile value
24 for anchor capacity. He stated that anchor failures have occurred where installation was
25 improper or testing was absent.

26 Roy Lobo concluded that the new qualification adds testing cost for each anchor size
27 and depth, running to millions of dollars, without added value for anchors not in
28 sustained tension. He recommended permitting anchors not in sustained tension, or
29 with tension less than 0.2 times the anchor design capacity under seismic cyclic loads,
30 provided they are qualified to the minimum loading protocol of ACI 355.2 (22) and ACI
31 355.4 (22).

32 **Committee and Public Comments**

- 33 • Jim Malley asked how the alternative qualification procedures cited in the
34 California amendment, including the ICC-ES criteria, are affected by the change.
 - 35 ○ Roy Lobo answered that they should not be affected because they are
36 different qualifications covering different anchor types, such as cast-in

anchors rather than post-installed anchors, and that he does not know whether they have been revised. Jim Malley confirmed that ASCE 7 itself refers only to ACI 355.2 plus other approved qualification procedures.

- Scott Karpinen endorsed Roy Lobo's recommendation, favoring lower cost and avoiding massive anchors.
- Andy Taylor, an interested party representing the American Concrete Institute and chair of the ACI 318 Main Committee for the 2025 edition, stated that ACI and its technical committees stand fully behind the provisions. He said the work began after the 1994 Northridge earthquake, produced an initial testing standard, and was followed by extensive experimental research supplemented by analysis at multiple universities in the United States and Europe through the 2000s, culminating in the 2024 editions of ACI 355.2 and 355.4. He rejected public characterizations that ACI failed to consider the evidence or rushed the process, noted that five other ACI representatives were on the call, and requested the opportunity to respond to Roy Lobo's points in writing, point by point.
 - Jim Malley confirmed ACI will have that opportunity and welcomed the resulting dialogue.
- Randy Shackelford, an interested party and engineer with Simpson Strong-Tie, spoke in support of Roy Lobo's proposal. He stated the new protocols appear to have been developed from simulations on concrete moment frames under the highest seismic loads, that industry originally developed them as the highest level of a three-level seismic qualification system, and that final adoption applied them to all seismic applications. He argued the criteria should not extend to non-sustained or lightly loaded nonstructural components or most anchorage to floors, noted that the post-1994 qualification method has not been shown inadequate, and attributed failures to poor construction, poor installation, or improper anchor sizing, all addressable through quality assurance and quality control. He predicted that once the 2027 IBC publishes, ICC-ES will revise its acceptance criteria to match the new requirements.
- Keith Kesner, an interested party, structural engineer at Simpson Gumpertz & Heger, and current chair of the ACI 318 subcommittee addressing anchorage, noted that the hospital importance factor applies to all components, not only anchors. He stated that components without sustained tension can still develop tension in service, since equipment with a center of gravity above the floor produces overturning on the anchor when loaded, and that anchors are designed for the loads the analysis produces, so lightly loaded items carry much smaller anchor loads. He said the data do not yet support calling the change a travesty, noted these arguments were brought forward and rejected three times at ICC

1 hearings, and stated that ACI Committee 355 is willing to work with the board but
2 that blanket rejection of the committees' work is not appropriate.

- 3 • Akanshu Sharma, an interested party, professor at Purdue University, and a
4 member of ACI 355, stated that several arguments presented were too simplistic
5 and that multiple doctoral projects informed the protocols. He explained that
6 sustained load with crack cycling is not the worst case; simultaneous in-phase
7 cycling of crack opening and load is, and that the committee chose sustained
8 load as a reasonable protocol every laboratory could perform. He added that
9 assuming all anchors sit in a crack is likewise not the most conservative
10 assumption, since load redistributes from a cracked anchor to an uncracked one,
11 and cited test results showing that for a four-anchor group, three anchors in a
12 crack is the most conservative static case, worsening under crack cycling. He
13 also stated that the underside-of-beam premise is incomplete, because flanged
14 beams act monolithically with the slab, so a flange in tension cracks fully and
15 cycles, including away from plastic hinge zones, which the provisions already
16 exclude. He offered a written response.
- 17 • Tara Hutchinson, an interested party and faculty in the Department of Structural
18 Engineering at UC San Diego, described her contributions to the protocol's
19 development with doctoral students, the University of Stuttgart, and anchor
20 manufacturers, building on the earlier work of Matthew Hoehler. She noted the
21 protocol moved through European provisions well before its adoption in the
22 United States, making it an international rather than a national issue. She called
23 it a mischaracterization to say the crack protocol rests solely on bending
24 stresses, citing full-scale in-plane shear wall load tests at UC San Diego and
25 diaphragm tests by Pujol and others, and noted that installing a post-installed
26 anchor concentrates strain and can itself create a crack. She explained that the
27 protocol decouples sustained load from crack cycling deliberately, because one
28 size does not fit all anchor and nonstructural system types, and that decoupling
29 the relationship between maximum crack width and maximum load has
30 intellectual merit defended in the literature. She offered a point-by-point written
31 response.
- 32 • Kerry Sutton, an interested party on staff with the American Concrete Institute,
33 asked for the schedule for the written point-by-point response.
 - 34 ○ Jim Malley stated it would be helpful to receive it before the next meeting,
35 which has not been set but is expected in October or November rather than
36 August or September, and that the exact date would be provided later that
37 day.
- 38 • Michael Brown, an interested party, stated that the ICC proposals he helped lead
39 were intended as an interim fix creating a tiered approach, and that the anchor

community's original proposals produced ICC-ES AC 510 as a precursor to the current ACI provisions. He noted ASCE 7 has deliberated the topic over the last two cycles and continues to, that no venue has dismissed applying the requirements to worst case conditions where research supports them, and that he is unaware of physical evidence that the changes made in the 2000s were inadequate for lighter loads and non-sustained loads. He noted Europe delineates both tiers and structural versus nonstructural components with separate acceleration parameters, said he would not characterize the discussion as two sides, and raised the concern and cost of requalifying all existing anchors, which he called a significant component of hospital cost. He offered to respond in a follow-up meeting.

- JoAnn Browning, an interested party and current chair of the ACI 318 Building Code committee, stated that data comparing the different test methodologies and their adequacy under different protocols are publicly available in reports, theses, and papers, and that ACI has repeatedly requested data showing a measurable increase in overall building cost without receiving an example. She cautioned the committee against taking a stand that lowers the safety of post-installed concrete anchors in hospitals given the evidence and the consensus process through two ACI technical committees in which the post-installed anchor community participated. She added that nonstructural components are as critical as structural elements during earthquakes, since their failure causes injuries, and urged care in qualifying which elements matter most in earthquake response.
- Michael Brown confirmed his second raised hand was unintentional and declined to speak again.
- Jim Malley summarized that the committee looks forward to ACI's response and to opening a working dialogue, and noted the change affects nothing in the next six months.
 - Roy Lobo confirmed the requirement takes effect in the next code cycle, with California Building Code adoption in 2029.

Voting

- None.

Informational and Action Items

- ACI will submit a written, point-by-point response to Roy Lobo's presentation, preferably before the next committee meeting.
- The next committee meeting is expected in October or November 2026, with the exact date to be set later in this meeting.

- The new anchor qualification requirements take effect in the next code cycle, with California Building Code adoption in 2029, and do not affect current projects.
- Roy Lobo's recommendation stands for committee consideration: permit anchors not in sustained tension, or with tension less than 0.2 times the anchor design capacity under seismic cyclic loads, when qualified to the minimum loading protocol of ACI 355.2 (22) and ACI 355.4 (22).

6. Drift scaling requirement for Equivalent Lateral Force (ELF) and modal response spectrum analysis (MRSA) when ASCE 7-22, Equation 12.8-7 governs the design

Facilitator: Roy Lobo (or designee)

Discussion and Input

Roy Lobo explained that the topic reached Technical Committee 3 of ASCE 7-28 through studies on a 16-story steel hospital building that required drift scaling. Meeting the drift scaling requirement under a modal response spectrum analysis forced the base shear above the MCE level, while a nonlinear response history analysis produced a 40 percent savings in steel. The initial proposal was to eliminate drift scaling entirely, on the reasoning that improvements to design ground motions since the provision entered the 1997 UBC and the 2000 IBC had addressed near fault pulses. Roy Lobo reported that USGS responded that its ground motions do not include near field effects, so the ballot failed and he turned to the original proponents of the provision, Charlie Kircher, Ron Hamburger, and Bob Bachman, for the background behind it.

Roy Lobo set out the motivation for the study. Drift scaling applies only where S_1 equals or exceeds 0.6 and Equation 12.8-7 governs the minimum design base shear, which creates a step function at that trigger. The requirement does not account for the flexibility of the model, so meeting the hospital drift limit forces progressive stiffening at significant cost. It does not apply to short period buildings. He asked whether the multiperiod and two-period design spectra have made the requirement unnecessary.

Roy Lobo reviewed the base shear and drift provisions. He explained that Equation 12.8-4 governs in the longer period range through SD_1 , that Equation 12.8-7 imposes a minimum C_s only where S_1 equals or exceeds 0.6, and that the design period for base shear is limited to $C_u T_a$, while drift may be computed using the building's actual period, a difference that can reduce base shear by as much as 40 percent. He noted that Section 12.8.6.1 requires Equation 12.8-7 to be considered when triggered because it represents an increase in the long period response spectrum from near-fault effects, and that MRSA drift scaling was added for consistency with ELF even though the commentary indicates MRSA drifts are already conservative. Chris Tokas remarked on the clarity of the code language.

1 Roy Lobo relayed Ron Hamburger's negative comment on the ballot: Equation 12.8-7 is
2 pegged to sites where S_1 equals or exceeds 0.6, a limit selected to address spectral
3 shapes from near fault records including the Sylmar Converter Station, the Jensen
4 Filtration Plant, and the Newhall Fire Station, with similar records seen at Kobe and El
5 Centro. That comment prompted the evaluation of whether the requirement should
6 depend on site class.

7 Roy Lobo read Charlie Kircher's account of the provision's origin: investigations of near
8 field pulses by Heaton and Hall of Caltech in the late 1990s confirmed earlier work by
9 the SEAOC Seismology Committee's Strong Ground Motion Subcommittee that tall
10 structures in the near field of large earthquakes must be stiffer as well as stronger, and
11 requiring the minimum base shear of 1997 UBC Equation 30-7 when calculating drift
12 achieved that. He noted that UBC Equation 30-7, $V = 0.8ZN_vI_W/R$, contains no site
13 class term, and that N_v is the near source factor reflecting distance to the fault and
14 seismic source type.

15 Roy Lobo presented the record comparisons. He showed that for periods greater than
16 about two seconds, several near fault records produce accelerations that hold flat or
17 rise rather than decaying with period, and that acceleration displacement response
18 spectrum plots show substantially extended displacements, reaching roughly 240
19 centimeters for the Tabas record. For the 1979 Imperial Valley Array 6 and Array 7
20 records, he showed the design spectrum failing to capture the recorded acceleration
21 beyond about 2.5 seconds, with drift scaling triggering at a building period of 4.29
22 seconds for the actual V_{s30} . Changing the site class to C moved that period to 1.68
23 seconds, bringing far more buildings into scope.

24 Roy Lobo identified the Lucerne Valley Station record from the 1992 Landers
25 earthquake as the key case. With a V_{s30} of 4,490 feet per second, the design spectrum
26 captures almost nothing of the recorded motion, and the minimum base shear floor
27 provides the only protection. Drift scaling triggers at approximately 0.95 second for that
28 site, and S_1 there sits at 0.6, directly on the trigger, with nearby locations mapped at
29 0.59, where the requirement would not apply at all.

30 Roy Lobo concluded that design ground motion spectra do not capture near fault
31 effects; that stiff sites produce high velocity pulses capable of affecting long period
32 structures, which he noted ran opposite to his expectations; that drift scaling is not
33 required for buildings on soft soils with V_{s30} below 1,000 feet per second or in Site
34 Class D or lower; and that drift scaling should be considered for buildings in Site Class
35 C or better regardless of the S_1 value when the site lies within 5 kilometers of a known
36 active fault of Source Type B with magnitude greater than 6.5. He noted that ASCE 7
37 defines a near fault site at a greater distance.

38 Roy Lobo summarized the case study that prompted the effort: a 240-foot tall building
39 with S_1 of 0.47 that required drift scaling under an HCAI amendment since removed.

1 Stiffening under modal response spectrum analysis drove the base shear to 0.23W,
2 while nonlinear response history analysis produced 0.16W and a 40 percent savings in
3 steel. Against a 1 percent drift limit, base shear scaled to ELF produced 1.8 percent
4 drift, while the unscaled case produced 0.6 percent. He concluded that drift scaling was
5 intended to prevent collapse of weak buildings subject to pulse period drifts, and that
6 nonlinear response history analysis shows buildings with sufficient ductility
7 accommodate those drifts while satisfying the minimum drift requirement.

8 Roy Lobo reported that the ASCE 7-28 ballot proposes limiting drift scaling to sites
9 classified as near fault under ASCE 7-22 Section 11.4.1, and that changing the S1
10 trigger was left out because the cycle offered insufficient time to debate it. He presented
11 four options for the committee: apply drift scaling to near fault sites only when triggered,
12 matching the ASCE 7-28 ballot; apply it only to near fault sites when triggered in Site
13 Class CD or C and better; establish a minimum floor for buildings with period between
14 T_s and T_L regardless of S1 together with drift scaling for near fault sites in Site Class
15 CD or C and better; or another approach.

16 **Committee and Public Comments**

- 17 • Jim Malley asked the status of the ASCE 7-28 ballot. Roy Lobo reported it
18 passed the latest ballot and moves to resolution of comments, opening within
19 days and closing about a month later, after which it must pass the seismic
20 subcommittee and then the main committee.
- 21 • Jennifer Thornburg observed that drift scaling already does not affect soft soil
22 conditions.
 - 23 ○ Roy Lobo confirmed the issue lies with stiff soils, where the changed ground
24 motion definitions and spectra may not capture the effect.
 - 25 ▪ Jennifer Thornburg noted that the rotated maximum component of ground
26 motion, added in the last code, increases longer period ground motions by
27 30 to 50 percent and was intended to capture near source effects.
 - 28 ▪ Roy Lobo responded that it does not, because near source is a different
29 phenomenon and the issue lies in the spectrum for stiff sites.
- 30 • Martin Hudson asked whether the discussion assumes the multiperiod spectrum,
31 and suggested an exception where the design team performs a site-specific
32 spectrum that captures near source effects. He noted the original provision
33 predates the current ability to quantify pulse effects and define the period range
34 where the spectrum is boosted, and cautioned against unfairly penalizing long
35 period and base isolated structures when the pulse occupies for a limited period
36 range.

- 1 • Jennifer Thornburg responded that a site specific response spectrum generally
2 does not include pulse records, which enter design directly only through
3 nonlinear time history analysis, and that the site specific process matches the
4 process developed for the USGS multiperiod spectrum.
- 5 • Jennifer Thornburg confirmed with Roy Lobo that drift scaling currently applies
6 only when triggered by S1 greater than 0.6, and that the proposal narrows rather
7 than removes the requirement.
 - 8 ○ Roy Lobo clarified that his interest is in requiring consideration for Site Class
9 C, B, or A regardless of the S1 value, based on the Lucerne Valley result.
 - 10 ▪ Jennifer Thornburg stated that most near fault sites likely exceed 0.6g,
11 particularly for larger faults, and agreed that the velocity pulse is expected
12 only in the very near field.
- 13 • Jim Malley asked whether HCAI would move ahead of ASCE 7 by placing the
14 change in the code early, and asked Roy Lobo for a recommendation among the
15 options.
 - 16 ○ Roy Lobo initially named the third option, explaining it carries no S1 trigger
17 and is therefore more stringent, and that the data changed his view.
- 18 • Jim Malley and Roy Lobo discussed that ASCE 7 does not yet address the stiff
19 site condition and that raising it would fall to the next cycle.
- 20 • Martin Hudson stated he would study the material further but supports the
21 proposal, describing the provision as antiquated language from a time without
22 current tools, and characterizing Roy Lobo's approach as boxing in the provision
23 rather than removing it.
- 24 • Jim Malley asked how to proceed. Roy Lobo suggested starting with the second
25 option, near fault sites when triggered, in stiff site classes, keeping the 0.6 S1
26 trigger in place, noting a possible ATC study of those values and potential
27 changes to site specific spectra raised by Martin Hudson.
 - 28 ○ Martin Hudson agreed the second option appears appropriate.
- 29 • Belinda Young asked which site class the cutoff should use. Roy Lobo explained
30 that Site Class C boxes the requirement in further than CD, that Site Class A is
31 the most severe condition for this effect, and that the site classes determine the
32 period beyond which drift scaling applies. He stated his own preference for C
33 while noting structural engineers may prefer CD.
 - 34 ○ Jim Malley observed that the usual view of A as a good site and E and F as
35 poor sites inverts in this context.

- Martin Hudson noted that D or CD encompasses nearly all urban sites in California, and stated he favors restricting the provision as much as possible, supporting C or better.

Voting

- None

Informational and Action Items

- Roy Lobo will prepare a formal proposal limiting drift scaling to near fault sites when triggered, in Site Class C or better, for committee evaluation.
- The proposal will come to the next committee meeting, where a vote is possible if it remains consistent with the discussion.
- The ASCE 7-28 ballot limiting drift scaling to near fault sites under ASCE 7-22 Section 11.4.1 has passed its latest ballot and proceeds to resolution of comments, then to the seismic subcommittee and main committee.
- A lengthy written public comment received during this item does not pertain to it and was held for a later agenda item.

7. Fiber-Reinforced Polymer (FRP) retrofit requirements for reinforced concrete shear walls, diaphragms, spandrels, and collectors

Facilitator: Ali Sumer, PhD, SE, Supervisor, HCAI (or designee)

Discussion and Input

Ali Sumer opened by noting that retrofits are underway across the state to meet the 2030 deadline, that FRP is one of several retrofit approaches, and that his presentation addresses code gaps limiting its wider use where appropriate.

Ali Sumer described the material. He compared FRP manufacturing to textile production, with very strong fibers rolled into a bendable fabric that installers saturate with epoxy and wrap around concrete members to improve strength and, in some cases, ductility. He noted the technology is not new to OSHPD, has been tested extensively by Caltrans and others, and has been used by HCAI for decades.

Ali Sumer listed the advantages: crews can carry the material through an operating hospital more easily than alternatives, installation is often faster, the fabric reaches congested areas, and it improves seismic capacity. He identified the limitations: it suits light to medium capacity increases rather than large ones; the industry does not understand it well compared with typical steel and concrete design; it has limited

1 strength; no comprehensive standard exists, leaving fragmentation across the ASCE
2 41, design, and construction documents; and installation requires a specialized crew.

3 Ali Sumer summarized the current code. CBC Section 1911A.3 points to ACI 440.2R,
4 treats strengthening of shear walls, chords, and collectors as an alternative system, and
5 references ICC-ES AC 125. No ASCE 41 section addresses FRP, even though ASCE
6 41 governs retrofit design of existing hospital buildings. He explained that HCAI has
7 handled every project through an Alternate Method of Compliance, with repetition
8 across projects, and that the goal is to bring the criteria into the code rather than
9 repeating the AMOC process. Chris Tokas added that HCAI has maintained internal
10 guidelines known to the industry, and that manufacturers' products differ. Ali Sumer
11 confirmed the variation, noting that even the same engineer may reach different
12 opinions on different days.

13 Ali Sumer reported that ACI Committees 369 and 440 are working to close the gaps in
14 their standards, and that HCAI is monitoring both and participating in the ASCE 41
15 committee, which also wants to add an FRP chapter. He noted the timeline runs from
16 ACI 369 and 440 into ASCE 41, then into the CBC and adoption, reaching 2032 at the
17 earliest, which raises the question of whether HCAI can act sooner.

18 Ali Sumer described the preapproval program, in which several manufacturers are
19 sharing test results. He identified system testing rather than FRP material testing as the
20 significant gap, specifically, testing a poorly reinforced wall with FRP applied to one side
21 only, since operating hospitals rarely allow access to both sides. He characterized such
22 tests as limited but increasing over the last five or six years, and described the field as
23 commonly called the "Wild West" given the range of design opinions.

24 Ali Sumer listed the recent tests: diaphragm tests at Virginia Tech, slab to wall
25 connection tests at Idaho State University, wall flexural strengthening tests at UT San
26 Antonio, which he called enlightening because flexural strengthening is a matter of
27 disagreement, and long collector tests at the University of Auckland, where long
28 collectors raise many questions. He noted additional column tests, wall to floor tests,
29 and individual anchor tests, with more concrete wall tests to come, and that the testing
30 parties have shared results as the work progressed.

31 Ali Sumer presented the code change proposal. Because FRP applies to masonry as
32 well as concrete, HCAI recommends a single new section under CEBC 304A.4 covering
33 both, with the material chapters pointing to it, so that future changes occur in one place.

34 For concrete, Ali Sumer proposed developing ASCE 41 criteria for force controlled and
35 deformation controlled actions covering existing shear walls, wall segments, and
36 diaphragms with different reinforcement percentages; establishing a maximum
37 allowable design strain for shear strengthening; developing specific "m" values for linear
38 analysis and rotation values for nonlinear analysis following the existing ASCE 41
39 format rather than introducing new formulas; and setting detailing criteria including

1 maximum anchor spacing and embedment and requirements for FRP collectors with
2 and without anchors. He emphasized that detailing determines performance and that
3 further guidelines would carry the additional detail images the code cannot. Chris Tokas
4 added that HCAI has observed installation failures and intends to limit the number of
5 layers, since excess layers cause delamination, and stated that HCAI should now lead
6 on provisions that are easy to follow and eliminate misconceptions.

7 For masonry, Ali Sumer proposed minimum criteria for four cases: shear walls with
8 reinforcing compliant with TMS requirements; shear walls not compliant with TMS but
9 compliant with ASCE 41; shear walls with compliant vertical reinforcing and
10 noncompliant horizontal reinforcing; and shear walls with neither compliant. He
11 described this as a menu that lets a designer identify where a wall falls and whether the
12 approach is worth pursuing.

13 **Committee and Public Comments**

- 14 • Jim Malley asked how the proposal would take effect within OSHPD.
 - 15 ○ Chris Tokas answered that HCAI would start with a design guide, which
 - 16 would establish the pathway and the language needed for code provisions in
 - 17 the California Existing Building Code.
- 18 • Roy Lobo asked about obtaining prescriptive values in the code.
 - 19 ○ Chris Tokas responded that the design guide would put everything in front of
 - 20 HCAI so it can select what goes into the code.
- 21 • Belinda Young stated that timing is critical for seismic retrofit, since 2032 falls
22 past the 2030 deadline, and asked what mechanism would let HCAI publish
23 standards designers can incorporate without an AMOC.
 - 24 ○ Chris Tokas answered that HCAI will not wait until 2032, which is why Ali
 - 25 Sumer brought the item forward. He explained that the design guide will
 - 26 accompany a policy intent notice, which provides the immediate enforcement
 - 27 mechanism because the code itself is not enforceable until January 1, 2029,
 - 28 and that HCAI will then pursue the code change process on the Building
 - 29 Standards Commission timeframe.
 - 30 ▪ Belinda Young referred to the material as a magic band-aid.
- 31 • Jim Malley suggested issuing the design guide before the Policy Intent Notice
32 (PIN) to confirm it works.
 - 33 ○ Chris Tokas agreed, noting the design guide can carry images and items to
 - 34 avoid while a PIN is text only.
- 35 • Jim Malley commented that the effort is clearly needed and expressed surprise
36 that the field has remained unregulated so long.

- Chris Tokas noted that Nigel Priestley, who tested the original application, has died, that extensive testing occurred at the University of Buffalo including on unreinforced masonry buildings, and that variability exists among materials.
- Jim Malley observed that practice has changed over time through trial and error and that earthquake performance of the different approaches will be informative.
- No members of the public raised questions or comments on this agenda item.

Voting

- None.

Informational and Action Items

- HCAI will develop an FRP design guide as the first step, followed by a PIN to make the criteria enforceable ahead of the code, since the code is not enforceable until January 1, 2029.
- HCAI will pursue a new FRP section under CEBC 304A.4 covering both concrete and masonry, referenced from CBC Section 1911A.3 and the material chapters.
- The concrete criteria will address ASCE 41 force controlled and deformation controlled actions, maximum allowable design strain for shear strengthening, "m" values and rotation values, and detailing including anchor spacing, embedment, collector detailing, and a limit on the number of layers.
- The masonry criteria will address four reinforcing compliance cases.
- The committee will review the design guide as it develops.

8. Reschedule the August 26, 2026, Committee meeting

Facilitator: Jim Malley (or designee)

Discussion and Input

Jim Malley stated that the committee originally scheduled the meeting for August 26 and that the volume of work to be completed beforehand warranted moving it back.

Jim Malley confirmed the next meeting for October 7, 2026, held in person in Sacramento and Los Angeles as the current meeting was, and stated the agenda will follow up on the topics discussed.

Committee and Public Comments

- None.

Voting

- None.

Informational and Action Items

- The committee will hold its next meeting on October 7, 2026, in person in Sacramento and Los Angeles.
- The agenda will follow up on the topics discussed at this meeting.

9. Comments from the Public/Committee Members on Issues not on this Agenda

Facilitator: Jim Malley (or designee)

Jim Malley invited comments on issues not on the agenda, explaining that the committee records such comments and may take them under consideration for placement on a subsequent agenda, without extended discussion at this meeting.

Committee and Public Comments

- There were no questions or comments raised by members of the committee on this agenda item.
- Kerry Sutton asked whether ACI's written follow-up on Item #5 must be added to the agenda in order to present it at the next meeting.
 - Veronica Yuke confirmed the committee will notice it and add it to the agenda, and that ACI would be listed as a presenter under that existing agenda item rather than as a separate item.
 - Jim Malley requested the presentation material two weeks in advance. Veronica Yuke stated the agenda must post by September 25, so she needs the material the week of September 21.
 - Kerry Sutton confirmed the September 21 date.

Voting

- None.

Informational and Action Items

- The American Concrete Institute will present its written response to Item #5 at the next meeting, listed as a presenter under that agenda item. ACI must submit the material by approximately September 21, 2026, so the agenda can post by September 25, 2026.

1 **10. Adjournment**

2

3 Jim Malley thanked attendees for their patience through a long meeting and adjourned
4 the meeting at 2:27 p.m.