# INITIAL STATEMENT OF REASONS FOR PROPOSED BUILDING STANDARDS OF THE DIVISION OF THE STATE ARCHITECT REGARDING THE 2022 CALIFORNIA BUILDING CODE

# CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

# STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENEFITS

Government Code Section 11346.2(b)(1) requires a statement of specific purpose of each adoption, amendment, or repeal and the problem the agency intends to address and the rationale for the determination by the agency that each adoption, amendment, or repeal is reasonably necessary to carry out the purpose and address the problem for which it is proposed. The statement shall enumerate the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute.

## Chapter 1 SCOPE AND ADMINISTRATION

**Section 106.1** - Clarifying live load posting applies to DSA regulated structures that is consistent with past practice.

**Section 110** - Repeal 110.3.12 from 2019 IV cycle and adopt new 2021 IBC Section 1103.5 which has the same language. Associated change sections: 1705A.5.7, 1705A.20, 2304.10.1.2, 3102.3, 3102.6.1.1.

## Chapter 2 DEFINITIONS

Section 202 – DEFINITIONS

Repeal definition of “EQUIPMENT” as currently reflected as [DSA-SS, DSA-SS/CC] amendment language in 2019 CBC and adopt definition of “EQUIPMENT” that was introduced by OSHPD in the 2019 IV cycle.

Repeal definition of “MASS TIMBER” that was added in 2019 IV cycle and adopt new 2021 IBC definition which has the same language.

Repeal amendment to definition of “WALL, LOAD BEARING” that inserted the language “*or mass timber*” and adopt 2021 IBC amendment which now includes that language.

## Chapters 3-10, 12, 14

Adopt chapters 3-10 and 12 of the 2021 IBC without amendment and chapter 14 as amended with existing California amendments carrying forward without change.

## Chapter 15 ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

**Section 1511.9 and 1511.9.1** - This is a retention of 1510.7.2 (renumbered to 1511.9) which has been removed from model code, and continued amendment 1510.7.2.1 (renumbered to 1511.9.1). Only adjustments are to nomenclature and to updated UL standards to align with similar adjustments done in 2021 IBC for BIPVs (Section 1507.17.5) and PV shingles (Section 1507.16.6).

## Chapter 16 STRUCTURAL DESIGN

**Section 1607.19** – Pointer to load combination requirements in Section 1617.3.3 is relocated here from Section 1617.5.1.6.

**Section 1617.3.2** – Variable load requirement for the alternative allowable stress design load combinations is added as previously covered in 2018 IBC Section 1605.1.

**Section 1617.3.3** – Editorial changes.

**Section 1617.4** – Updated pointer to model code reference since the numbering was changed from the last model code version.

**Section 1617.5.1.3** – Updated item number and title to be consistent with changes to Table 1607.1 in 2021 IBC.

**Section 1617.5.1.4** – Updated item number to be consistent with changes to Table 1607.1 in 2021 IBC.

**Section 1617.5.1.5** – Updated item number to be consistent with changes to Table 1607.1 in 2021 IBC.

**Section 1617.5.1.6** – Section is deleted since load combination requirements are now referenced from Section 1607.19.

**Section 1617.6** – Editorial correction.

**Section 1617.9** – New amendment language to add Sections 1617.9.1 and 1617.9.2 to replace Tables 1613.2.3(1) and 1613.2.3(2) to be consistent with ASCE 7-16 Supplement 3 as proposed in CBC Chapter 35. Editorial change – Renumbered Sections 1617.9.1, 1617.9.2, 1617.9.3, 1617.9.3.1, 1617.9.3.2 and 1617.9.4 accordingly.

**Section 1617.11.3** – New amendment to disallow intermediate precast shear walls as a seismic force-resisting system due to lack of special detailing to justify their use under all circumstances. These systems may be submitted as an alternate system when pre-approved by the enforcement agency on a case by case basis.

**Section 1617.11.4** – Amendment in this section is revised to be consistent with ASCE 7-22.

**Section 1617.11.5** – Relocated amendment to 1617.11.4.3, Item h.

**Section 1617.11.9** – Amendment in this section is revised to be consistent with ASCE 7-22.

**Section 1617.11.13** – Relocated amendment from 1617.11.14.

**Section 1617.11.14** – Clarification that lateral building response need not be considered concurrently with differential settlements for shallow foundations on liquefiable sites.

**Section 1617.11.15** – The application of this section was confusing as to which equipment is anchored and which is exempt. The current language modifies exceptions and exemptions to exceptions. To avoid confusion and bring clarity to requirements, this provision is rewritten in the affirmative as to which equipment is required to be anchored and which is exempt, rather than exceptions with exemptions. The new language furthers defines the equipment classification based on the location of the equipment. This language has been drafted and refined in collaboration with OSHPD.

**Section 1617.11.19** – Amendment is revised to be consistent with OSHPD. The statement “do not support piping with Ip greater than 1.0” is confusing, as the context for the applicability of the exception for piping with Ip greater than 1.0 is lost. This change eliminates any ambiguity on the applicability of the provisions. Additionally, the redundant language noting “for Seismic Deisgn Category D, E, or F” is deleted since all structures regulated by DSA-SS/CC shall be assigned to Seismic Design Category D or higher.

**Section 1617.11.21** – Editorial change – Relocate Table 1224.4.11 below Item 3. Delete table number and title to be consistent with Section 1617A.1.28. The current table number is confusing since it implies the table is located in Section 1224.

## Chapter 16A STRUCTURAL DESIGN

**Section 1603A.1** – Editorial correction.

**Table 1604A.4** – New amendment language to add footnote 3 for deflection limits for diaphragms supporting concrete and masonry walls. This item was previously addressed in prior CBC editions with a reference to Table 2 in ICC-ES AC 43. In the 2013 CBC, an effort was made to remove all referencing of ICC-ES AC documents within the code, so the reference to ICC-ES AC 43 was deleted and replaced with CBC Table 1604A.4. However, the footnote prescribing diaphragm deflection limits was not brought into the CBC, yet CBC Table 1604A.4 still maintained the language for diaphragms to be designed “as required for deflection”. This leaves an ambiguity in the code with no direction on what is meant by “as required for deflection”. This amendment restores the footnote, which is still found in the latest version of ICC-ES AC 43, that specifically addresses this issue.

**Section 1605A.2** – Variable load requirement for the alternative allowable stress design load combinations is added as previously covered in 2018 IBC Section 1605.1.

**Section 1605A.3** – Editorial changes.

**Section 1606A.6** – Updated pointer to model code reference since the numbering was changed from the last model code version.

**Table 1607A.1** – Editorial changes to be consistent with changes to Table 1607.1 in 2021 IBC. Updated pointer in footnote f to model code reference since the numbering was changed from the last model code version.

**Section 1607A.19** – Pointer to load combination requirements in Section 1605A.3 is relocated here from footnote c of Table 1607A.1.

**Table 1613A.2.3(1)** – New amendment language for Site Class E and footnote c to be consistent with ASCE 7-16 Supplement 3 as proposed in CBC Chapter 35.

**Table 1613A.2.3(2)** – New amendment language in footnote c to be consistent with ASCE 7-16 Supplement 3 as proposed in CBC Chapter 35.

**Section 1613A.3** – Editorial correction – Delete "exception" since this amendment is in addition to, not in lieu of, the model code language in this section.

**Section 1617A.1.4** – New amendment to disallow intermediate precast shear walls as a seismic force-resisting system due to lack of special detailing to justify their use under all circumstances. These systems may be submitted as an alternate system when pre-approved by the enforcement agency on a case by case basis.

**Section 1617A.1.5** – Amendment in this section is revised to be consistent with ASCE 7-22.

**Section 1617A.1.6** – Relocated amendment to 1617A.1.5.3, Item h.

**Section 1617A.1.10** – Amendment in this section is revised to be consistent with ASCE 7-22.

**Section 1617A.1.15** – Relocated amendment from 1617A.1.16.

**Section 1617A.1.16** – Clarification that lateral building response need not be considered concurrently with differential settlements for shallow foundations on liquefiable sites.

**Section 1617A.1.18** – The application of this section was confusing as to which equipment is anchored and which is exempt. The current language modifies exceptions and exemptions to exceptions. To avoid confusion and bring clarity to requirements, this provision is rewritten in the affirmative as to which equipment is required to be anchored and which is exempt, rather than exceptions with exemptions. The new language furthers defines the equipment classification based on the location of the equipment. This language has been drafted and refined in collaboration with OSHPD.

**Section 1617A.1.26** – Amendment is revised to be consistent with OSHPD. The statement “do not support piping with Ip greater than 1.0” is confusing, as the context for the applicability of the exception for piping with Ip greater than 1.0 is lost. This change eliminates any ambiguity on the applicability of the provisions. Additionally, the redundant language noting “for Seismic Deisgn Category D, E, or F” is deleted since all structures regulated by DSA-SS/CC shall be assigned to Seismic Design Category D or higher.

## Chapter 17A SPECIAL INSPECTIONS AND TESTS

**Section 1704A.5 #3** - Repealing previous reference 1908A.5 given the 2021 IBC replaced 1908.5 with reference to ACI 318. Added reference 1705A.3.9.2 which incorporates previous 1908A.5 language with further modifications. Associated change sections: 1705A.3.9.2.

**Section 1704A.5 #6** – Striking SDC B and C since the minimum SDC of D is required for DSA regulated structures (reference Section 1617.9.3/1613A.2.5).

**Section 1704.6.1** (model code section) – The CAC requires structural observation for all DSA regulated projects rather than only certain types. Therefore, model code Section 1704.6.1 has deletions in line with past removal amendments.

**Section 1704*A*.6.1 and 1705*A*.6.2** – Relocating structural observation and preconstruction meeting requirements from the California Existing Building Code (Part 10) Sections 319.10.2.1 and 319.10.2.2, respectively, for rehabilitation projects to consolidate structural observations into a common section to promote more consistent implementation and enforcement. Added term ‘rehabilitation’ to clarify limitation of such requirements.

**Table 1705A.2.1** **Items:**

**1c, 5a.7, and footnote ‘*a’*** – Revising references based on relocations of testing and inspection items from material chapters to Chapter 17A. For footnote ‘*a*’ renumbered reference pointer based on model code renumbering. Associated change sections: 1705A.2.5, 1705A.2.6, 1705A.3.2.2, 1909.2.4, 2212.6.1, 2212.6.2, 1910A.2, 2213A.1, 2213A.2.

**5b and sub-items** – Relocating to Table 1705A.3 and providing a reference pointer accordingly. Associated change sections: Table 1705A.3.

**Table 1705A.2.3** **footnote ‘*a*’** – Renumbered reference pointer based on model code renumbering.

**Section 1705A.2.5** - Relocating requirements from Section 2212.6.2/2213A.2 to 1705A.2.5. Associated change sections: 2212.6.2, 2213A.2.

**Section 1705A.2.6** -Relocating requirements from Section 2212.6.1/2213A.1 to 1705A.2.6. Associated change sections: 2212.6.1, 2213A.1.

**Table 1705A.3** – Revising references, generally based on: a) relocations of testing and inspection items from material chapters to Chapter 17A; b) updated reference standard from ACI 318-14 to ACI 318-19.

Further reasons for specific items:

**1** - Added items 1a and 1b indicating continuous and periodic special inspection, respectively, to comply with ACI 318-19 Section 26.13.3.2(c). Added reference to ACI 318-19 25.5.1 since 1908A.4 was removed but its content was incorporated into that ACI section.

**2** - Relocated Table 1705A.2.1 items 1 and 2 to new items 2d and 2e. Modified 2b for consistency with added items 2d and 2e. Added “coupling beams” to 2d for consistency with ACI 318-19 26.13.3.2(d).

**5** - Striking model code reference to ACI 318-19 26.4.3 and 26.4.4 since the existing amendment for 26.4 includes those and more concrete components (e.g., cementitious materials, aggregates, etc.). Modifying type of special inspection from periodic to continuous based on requirements in ACI 318-19 26.13.3.2.

**6** - Adding back reference to ACI 318-19 26.4 for consistency with previous requirements and due to 26.4 including relevant concrete component compliance requirements.

**10** - Partially repealing previous amendment to remove “*9*” in reference to ACI 318-19 26.9*.2* since model code now references 26.9.

**11** - Striking SDC C since SDC D is the minimum required for DSA regulated structures (reference Section 1617.9.3/1613A.2.5).

**13** - Repealing previous incorrect CBC references.

Associated change sections: 1705A.3.2 and subsections, 1705A.3.4 and subsections, 1705A.3.8 and subsections, 1705A.3.9 and subsections, and various subsections in 1909, 1908A and 1910A.

**Section 1705A.3.2** - Repealing previous reference pointer due to relocating same requirements to new subsections 1705A.3.2.1 and 1705A.3.2.2. Associated change sections: 1705A.3.2.1, 1705A.3.2.2, 1909.2.4, 1910A.2.

**Section 1705A.3.2.1** - Relocated language from 1910A.1/1909.2.3. Associated change sections: 1705A.3.2, 1705A.3.2.2. 1909.2.3, 1910A.1.

**Section** **1705A.3.2.2** - Relocated language from 1910A.2/1909.2.4. Associated change sections: 1705A.3.2, 1705A.3.2.1, 1909.2.4, 1910A.2.

**Section 1705A.3.4** - Repealing previous reference pointer due to relocating same requirements to new subsection 1705A.3.4.1. Associated change sections: 1705A.3.4.1, 1909.2.5, 1910A.3.

**Section 1705A.3.4.1** - Relocated language from 1910A.3/1909.2.5. Associated change sections: 1705A.3.4, 1909.2.5, 1910A.3.

**Section 1705A.3.7** - Repealing previous reference pointer due to relocating same requirements to 1705A.3.7. Associated change sections: 1909.2.6, 1910A.4.

**Section 1705A.3.8** - Repealing previous reference pointer due to relocating same requirements to new subsection 1705A.3.8.1 and remaining sub-subsections. Associated change sections: 1910A.5, 1909.2.7.

**Section 1705A.3.8.1** - Relocated language from 1910A.5/1909.2.7. Associated change sections: 1705A.3.8. and subsections, 1909.2.7, 1910A.5.

**Section 1705A.3.8.1.1** - Relocated language from 1910A.5.1/1909.2.7.1. Associated change sections: 1705A.3.8. and subsections, 1909.2.7.1, 1910A.5.1.

**Section 1705A.3.8.1.2** - Relocated language from 1910A.5.2/1909.2.7.2. Added “DSA-SS/CC” banner to the exception to clarify it applies to both DSA jurisdictional programs. Editorial change for the word “test” to “evaluation.” Associated change sections: 1705A.3.8 and subsections, 1909.2.7.2, 1910A.5.2.

**Section 1705A.3.8.1.3** - Relocated language from 1910A.5.3/1909.2.7.3. Associated change sections: 1705A.3.8. and subsections, 1909.2.7.3,1910A.5.3.

**Section 1705A.3.8.1.4** - Relocated language from 1910A.5.4/1909.2.7.4. Associated change sections: 1705A.3.8 and subsections, 1909.2.7.4, 1910A.5.4.

**Section 1705A.3.8.1.5** - Relocated language from 1910A.5.5/1909.2.752. Added “DSA-SS/CC” banner to the exception to clarify it applies to both DSA jurisdictional programs. Associated change sections: 1705A.3.8 and subsections, 1909.2.7.5, 1910A.5.5.

**Section 1705A.3.9** - Renumbering/relocating 1705A.19 due to 2021 IBC insertions. Adding reference to ACI 318 since requirements are contained within it.

**Section 1705A.3.9.1** - Renumbering/relocating 1705A.19.1 due to 2021 IBC insertions.

**Section 1705A.3.9.2** - Relocated from 1908.5/1908A.5 and modifying as follows: a) editorial change for “test panel” and “sample panel” to “mockup panel” to coordinate with definitions in ACI 318-19; b) fifth sentence incorporates relocated 1908.4.1/1908A.4.1 now deleted by model code, c) sixth sentence incorporates relocated 1909.4.2 and amendment in 1908A.10.2 now deleted by model code.

**Section 1705A.4** – Repealing pointer references since requirements are being relocated to other subsections in 1705A.4. Associated change sections: 1705A.4.3-1705A.4.5, 2105A, 2115.8.

**Section 1705A.4.3** – Relocating from 2105A.2 to 1705A.4.3 the language regarding compliance verification requirements that are applicable when f’m>2000 psi. Also removing pointer references since TMS 602 provides requirements for unit strength and prism testing.Associated change sections: 1705A.4, 2105A.2, 2105A.5, 2105A.6.

**Section 1705A.4.4** - Relocating language regarding mortar and grout tests from 2115.8.1 (similar language in 2015A.3, but organized differently, is proposed for repealing) and adding mortar test specimen requirements for consistency with 2105A.3 being repealed. Associated change sections: 1705A.4, 2105A.3, 2115.8.1.

**Section 1705A.4.5** – Relocating language regarding core testing from 2105A.4/2115.8.2. Associated change sections: 1705A.4, 2105A.4, 2115.8.2.

**Table 1705A.5.3** - Added “A” to reference applicable section in Chapter 17A and providing 3.1-3.5 item numbering from repealed Table 1705A.5.7. Associated change sections: 110.3.12, 1705A.5.7, 1705A.20, 3102.3, 3102.6.1.1.

**Section 1705A.5.5** – Renumbering due to model code insertion of 1705A.5.3 and corrected reference standard title. Further modifications ensure members exempted from special inspection are explicitly identified on construction documents and the nature of such members is clarified. Associated change sections: 1705A.5.3.

**Section 1705A.5.7** - Repealing 2019 IV language for 1705A.5.7 and Table 1705A.5.7. Associated change sections: 110.3.12, 1705A.5.3, 1705A.20, 3102.3, 3102.6.1.1.

**Section *1705A.6.2*** – Rock and soil anchor testing and inspection requirements are relocated from Section 1811A item 8 for consistency and consolidation with other special inspection and test requirements.

**Section *1705A.6.3*** – Earth retention testing and inspection requirements are relocated from Section 1812A for consistency and consolidation with other special inspection and test requirements.

**Section *1705A.6.4*** – Clarifying special inspections and tests shall be in accordance with those specified in approved construction documents.

**Section 1705A.12.1**- For consistency with previous amendment deletions of model code, deleting added 2021 IBC modified exception language. Associated change sections: 1705A.12.2.

**Section 1705A.12.2** - For consistency with previous amendment deletions of model code, deleting added 2021 IBC modified exception language. Associated change sections: 1705A.12.1.

**Section 1705A.13.2** - For consistency with previous amendment deletions of model code, deleting added 2021 IBC modified exception language. Associated change sections: 1705A.13.3.

**Section 1705A.13.3** - For consistency with previous amendment deletions of model code, deleting added 2021 IBC modified exception language. Associated change sections: 1705A.13.2.

**Section 1705A.13.4** - Updating reference pointer due to IBC renumbering of subsections.

**Section 1705A.13.5.2** - Clarifying nature of special inspections for SSG implied previously in Section 2410.1.2 items i and j (now relocated to 1705A.14.2.1).

**Section 1705.13.9** - Continuing deletion of this section as in the past, only showing new numbering with new strikethrough.

**Section 1705A.14.1.1** – Providing reference pointer to 1705A.2.1 which modifies AISC 341.

**Section 1705A.14.1.2** – Providing reference pointer to 1705A.2.1 which modifies AISC 341.

**Section 1705A.14.2.1** – Relocating SSG quality assurance testing requirements from former Section 2410.1.2 items i and j. Clarifying manufacturer’s certification must comply with qualification testing requirements in Section 2410.1.2. Associated change sections: 1705A.13.5.2, 2410.1.2.

**Section 1705A.20** - Repealing 2019 IV language given 2021 IBC contains language. Associated changes sections: 110.3.12, 1705A.5.3, 1705A.5.7, 2304.10.1.2, 3102.3, 3102.6.1.1.

## Chapter 18A SOILS AND FOUNDATIONS*.*

**Section 1807A.2.5** (formerly 1807A.2.4) – Provisions added in Section 15.6.8 to the adopted version of ASCE 7 now govern the design of freestanding cantilever walls. This amendment is therefore no longer needed and repealed in favor of the adopted ASCE 7 requirements. A reference pointer is retained for the user’s benefit.

**Section 1809*A*.15** – Editorial changes to clarify the amendment and eliminate the misunderstood interpretation that the amendment requires grade beams on all projects. Qualification of Seismic Design Category is removed because it is extraneous. All DSA-SS and DSA-SS/CC structures are categorized in this group, and the same qualification has been removed by the model code from referenced section.

**Section 1810A.3.1.5.1** – Helical pile testing requirements are relocated to Section 1705A.9.1 for consistency with other special inspection and test requirements.

**Section 1810*A*.3.3.1.9** – Model code language added to Item #3 is deleted because it is not compatible with other amendments in Sections 1810A.3.1.5.1 (to be relocated to Section 1705A.9.1) and 1810A.3.3.1.2, which require testing of helical piles in all conditions.

**Section 1810*A*.3.5.3.3** – Reference pointer added to coordinate with relocated special inspection and testing provisions.

**Section 1810*A*.3.6** – Exception for buildings assigned to Seismic Design Categories A and B is deleted because such buildings are not applicable to Chapter 18A.

**Section 1810*A*.3.8** – Exception #1 and #2 are effectively a continuation of the exception previously found in Sections 1810.3.8.3.2 and 1810.3.8.3.3 respectively, of the prior version of the model code (i.e., 2018 IBC). Because model code revisions have deleted the sections in which these exceptions previously occurred, they have been moved to the parent section. Current amendments to the prior model code did not permit the use of these exceptions. The proposed deletion of these exceptions is therefore a continuation of current amendments.

Continuing amendment is updated its citation to coordinate with the new adopted material standard (ACI 318-19).

**Section 1810*A*.3.9.4 and Section 1810*A*.3.9.4.1** – In accordance with seismic design category designations as required Sections 1617.9.3 and 1613A.2.5 of the California Building Code (Part 2), Chapter 18A is not applicable to structures assigned to seismic design category C. Consistent with the approach taken in Section 1810A.3.8 in prior code cycles, seismic design category C requirements are deemed extraneous and removed for clarity and economy of space.

**Section 1810A.3.10.4** – Continued deletion from the previous Code Adoption Cycle. Micropile testing requirements are relocated to Section 1705A.8.1 for consistency with other special inspection and test requirements. Section reference updated for coordination with the adopted version of the material standard.

**Section 1810*A*.3.11.2** – Item #3 is an addition to the model code that was not present in the prior version. The code change proposal that initiated this change did not address the rationale for or justification of Exception #2. Due to the methodology through which this code and its adopted standards prescribe seismic forces, they may not identify all conditions in which the tensile capacity of the pile is relied upon for stability. Therefore, the nominal connection required as required by Item #3 is deemed necessary.

**Section 1810*A*.3.12** – Model code revisions have resulted in the deletion of the citation of ACI 318, Section 18.13.3 in favor of the more general reference to ACI 318. While the general reference is satisfactory for the primary requirement it is deficient in accurately defining the excepted case: The language of the previous model code held that if the grade beam has sufficient strength to resist load effects including the overstrength factor, the requirements of ACI 318, Section 18.13.3 need not be met. The revised language of the new model code states that if the grade beam has sufficient strength to resist load effects including the overstrength factor, none of the requirements of ACI 318 need be met. The breadth of such as exception is inappropriate because the ACI 318 contains numerous requirements (e.g., material, durability, quality assurance, etc.) that need to be met regardless of the load factors used in the design. The amendment restores the reference to Section 18.13.3 of ACI 318 in the exception and its original meaning.

**Section *1811A.3*** – Item #7 revised to coordinate with current version of the adopted standard (PTI DC35.1-14), which defines a third category of anchors based on service life termed “extended temporary” and defined by 2 to 5 years of service. Item #8 revised as foundation anchor testing requirements are relocated to Section 1705A.6.2 for consistency and coordination with other special inspection and test requirements.

**Section *1811A.4*** – Reference revised to ASCE 7 citation due to the removal of load combinations from Section 1605 of the model code.

**Section *1812A.1*** – Earth retention testing requirements are relocated to Section 1705A.6.3 for consistency and coordination with other special inspection and test requirements.

**Section *1812A.4*** – Earth retention testing requirements are relocated to Section 1705A.6.3 for consistency and coordination with other special inspection and test requirements.

**Section *1812A.4.1*** – Item #6 revised to coordinate with current version of the adopted standard (PTI DC35.1-14), which defines a third category of anchors based on service life termed “extended temporary” and defined by 2 to 5 years of service. Item #7 revised as earth retention testing requirements are relocated to Section 1705A.6.3 for consistency and coordination with other special inspection and test requirements.

**Section *1812A.4.2*** – Reference revised to ASCE 7 citation due to the removal of load combinations from Section 1605 of the model code.

**Section *1812A.4.3*** – Earth retention testing requirements are relocated to Section 1705A.6.3 for consistency and coordination with other special inspection and test requirements.

**Section *1812A.5*** – Earth retention testing requirements are relocated to Section 1705A.6.3 for consistency and coordination with other special inspection and test requirements.

**Section *1812A.6*** – Earth retention testing requirements are relocated to Section 1705A.6.3 for consistency and coordination with other special inspection and test requirements.

**Section *1813A.1*** – Vibro stone column testing requirements are located to Section 1705A.6.4 for consistency and coordination with other special inspection and test requirements.

**Section *1813A.3*** – The reference to VSC as “*deep foundation elements*” contradict the fourth sentence of Section 1813A.1, which states: “*VSCs shall not be considered a deep foundation element.”* The amendment is modified to eliminate this contradiction for clarity.

**Section *1813A.5*** – Added item 6 to ensure VSCs achieve project site verified soil improvements specified in the geotechnical report prior to foundation construction commencement.

## Chapter 19 CONCRETE

**Section 1901.7.1** – Amendment added for coordination with other amendments and to avoid the new language added to the model code in Exception #2 being misunderstood to mean tolerances are not required for shotcrete construction. The continued amendment in Section 1909.4.1 requires shotcrete construction to comply with ACI 506.2. Section 3.8.1 of ACI 506.2-13 requires shotcrete to meet dimensional tolerances of the contract documents. Section 3.8 of ACI 506R-16 further confirms that defined tolerances for shotcrete construction are appropriate.

**Section 1906** – For consistency with Section 1905.2.1 and the amendment in Section 1909.3.3 of this code, the DSA-SS/CC banner is added, and corresponding note revised to indicate that the section is not permitted by DSA-SS/CC.

**Section *1909.2*** – Amendment revised to reflect relocation of special inspection and testing requirements to Chapter 17A.

**Section *1909.2.3*** – Cementitious material inspection and test requirements are relocated to Section 1705A.3.2.1 for consistency with other special inspection and test requirements.

**Section *1909.2.4***– Reinforcing bar test requirements are relocated to Section 1705A.3.2.2 for consistency with other special inspection and test requirements.

**Section *1909.2.5*** – Prestressing steel and anchorage test requirements are relocated to Section 1705A.3.4.1 for consistency with other special inspection and test requirements.

**Section *1909.2.6*** – Composite construction test requirements are relocated to Section 1705A.3.7 for consistency with other special inspection and test requirements.

**Section *1909.2.7*** – Post-installed anchor test requirements are relocated to Section 1705A.3.8.1 for consistency with other special inspection and test requirements.

**Section *1909.3.1*** – Continued amendment revised to correct the section reference to the adopted material standard (ACI 318).

**Section *1909.3.6*** – The new version of the material standard (ACI 318) adopted by the model code has revised the strain limit of “0.005” to “ety+0.003” in Table 21.2.2. This change was made to accommodate higher strength steel reinforcement becoming more common in construction. To remain consistent with this change in the adopted material standard, the same term used in amendment footnote #2 is revised accordingly.

**Section *1909.3.7*** – The model code has repealed all shotcrete requirements in favor of those contained in the adopted material standard (ACI 318). This amendment continues the previous model code requirement of former section 1908.4.4 prohibiting shotcrete applied to spirally tired columns that is not found in ACI 318.

**Section *1909.3.8*** – The model code has repealed all shotcrete requirements in favor of those contained in the adopted material standard (ACI 318).

The amendments to sections (l) and (m) are a continuation of the amendment previously located in Section 1909.4.5. Because the amendment is now associated with the adopted material standard rather than the model code the location has changed.

The amendment to section (n) continues the previous model code requirement of former section 1908.8 that is not found in ACI 318.

The amendment in new sections (q) is a continuation of the amendment previously located in Section 1909.4.4. Because the amendment is now associated with the adopted material standard rather than the model code the location has changed.

**Section *1909.3.9*** – Continued amendment previously numbered Section 1909.3.7 is renumbered to Section 1909.3.9 to maintain the numerical order of the sections in the adopted material standard (ACI 318) being modified.

**Section *1909.4.1*** – The model code has repealed all shotcrete requirements in favor of those contained in the adopted material standard (ACI 318).

Reference to ACI 506R added in order to consolidate associated requirements into a single section and facilitate deletion of Section 1909.4.8 and reflect the model code’s movement to deferring shotcrete requirements to ACI 318.

In selected conditions where certain prescriptive requirements can be exceeded based on qualification by a successful shotcrete mockup panel, the language of ACI 318 does not make the exception contingent upon the “approval of the building official” as the prior model code language did. This amendment continues the previous code requirement of approval by the building official.

**Section *1909.4.2*** – Editorial revisions include an updated title to capture the content of the sentence relocated from Section 1909.4.8 where it occurred under an inaccurate title. Relocated sentence provides a reference pointer to Chapter 17A for testing and inspection requirements and consolidates associated requirements into a single section

Amendment language is updated to replace “test panel” with “shotcrete mockup panel” for coordination with the definition of these terms in the adopted material standard (ACI 318). Preconstruction test requirements are relocated to Section 1705A.3.9.2 for consistency with other special inspection and test requirements, including the continued requirement for prior approval of the enforcement agency.

**Section *1909.4.3*** – Amendment repealed based on an equivalent requirement contained in the adopted material standard (ACI 318). Section 26.4.1.2 of ACI 318 requires grading in accordance with ASTM C1436. Table 1 of ASTM C1436 contains the same grading requirements as Table 1.1.1 of ACI 506R.

Repealed amendments cause amendment previously numbered Section 1909.4.7 to be renumbered Section 1909.4.3.

**Section *1909.4.4*** – Amendment relocated to Section 1909.3.8 as described and for the reasons explained above.

**Section *1909.4.5*** – Amendment relocated to Section 1909.3.8 as described and for the reasons explained above.

**Section *1909.4.6*** – Amendment repealed based on an equivalent requirement contained in the adopted material standard (ACI 318). Section 26.5.3.2 of ACI 318 requires the temperature be maintained above 50 degrees through the curing period for all concrete.

**Section *1909.4.8*** – Amendment repealed based on equivalent requirements being consolidated into Sections 1909.4.1 and 1909.4.2 above.

## Chapter 19*A* CONCRETE

**Section 1901*A*.7.1** – Amendment added for coordination with other amendments and to avoid the new language added to the model code in Exception #2 being misunderstood to mean tolerances are not required for shotcrete construction. The continued amendment in Section 1908A.1 requires shotcrete construction to comply with ACI 506.2. Section 3.8.1 of ACI 506.2-13 requires shotcrete to meet dimensional tolerances of the contract documents. Section 3.8 of ACI 506R-16 further confirms that defined tolerances for shotcrete construction are appropriate.

**Section 1903*A*.2** – Reference to Section 1910A removed in coordination with subsequent amendments described and explained below.

**Section 1903*A*.8** – Section reference updated to coordinate citation with its location in the new version of the adopted material standard (ACI 318).

**Section 1905*A*.1** – Section reference updated to coordinate with subsequent amendments described and explained below.

**Section 1905*A*.1.1** – Continued deletion of model code provision replaced with a continued amendment from the previous Code Adoption Cycle.

**Section 1905*A*.1.2** – Continued deletion of model code provision replaced with a continued amendment from the previous Code Adoption Cycle.

**Section 1905*A*.1.3** – Continued deletion of model code provision replaced with a continued amendment from the previous Code Adoption Cycle.

The amendment is revised to define a second condition whereby the provision contained in the adopted material standard (ACI 318) can be applied in members resisting seismic loads. Section 1617A.1.18 of this code results in the design of many foundation members for load combinations that include the overstrength factor. The overstrength factor is intended to yield a design that will remain elastic in the design basis earthquake and the provision of the adopted material standard requires a strength approximately 33% larger than that. In this context additional steel resulting from the remaining provisions of the adopted standard is not deemed beneficial to the design that is not expected to see force levels that would otherwise require it. The sizes of foundation members are frequently driven by soil properties, which can result in designs with large quantities of reinforcement if only the geometry based minimum steel requirements are permitted. The strength-based minimum steel limit is thus appropriate and beneficial to the design of foundation members based on load combinations with the overstrength factor, where the same structural performance can be expected.

**Section 1905*A*.1.4** – Continued deletion of model code provision replaced with a continued amendment from the previous Code Adoption Cycle.

**Section 1905*A*.1.5** – Continued deletion of model code provision replaced with a continued amendment from the previous Code Adoption Cycle.

**Section 1905*A*.1.6** – Continued deletion of model code provision replaced with a continued amendment from the previous Code Adoption Cycle.

**Section 1905*A*.1.7** – Continued deletion of model code provision replaced with a continued amendment from the previous Code Adoption Cycle.

**Section 1905*A*.1.9** – Continued amendment previously numbered Section 1905A.1.11 is renumbered to Section 1905A.1.9 to maintain the numerical order of the sections in the adopted material standard (ACI 318) being modified.

**Section 1905*A*.1.10** – Amendment repealed in coordination with amendments in Section 1617A.1.4 of this code that do not permit Intermediate Precast Shear Walls.

Continued amendment previously numbered Section 1905A.1.12 is renumbered to Section 1905A.1.10 to maintain the numerical order of the sections in the adopted material standard (ACI 318) being modified.

**Section 1905*A*.1.11** – Continued amendment previously numbered Section 1905A.1.9 is renumbered to Section 1905A.1.11 to maintain the numerical order of the sections in the adopted material standard (ACI 318) being modified.

Amendment is continued from the previous Code Adoption Cycle with same regulatory effect. Changes to the presentation of the amendment are required due to changes in made to the table and section of ACI 318 being modified. The minimum concrete strength remains 3,000 psi, as does the requirement that specified strengths over 8,000 psi require prior approval of the design method and acceptance criteria.

The minimum compressive strength for shotcrete applications has been relocated to this amendment from its previous location as an amendment to Section 1908A.1. This consolidates compressive strength requirements into a common amendment for clarity.

**Section 1905*A*.1.12** – Preceding repealed amendment causes the amendment previously numbered Section 1905A.1.13 to be renumbered Section 1905A.1.12.

The new version of the material standard (ACI 318) adopted by the model code has revised the strain limit of “0.005” to “ety+0.003” in Table 21.2.2. This change was made to accommodate higher strength steel reinforcement becoming more common in construction. To remain consistent with this change in the adopted material standard, the same term used in amendment footnote #2 is revised accordingly.

**Section 1905*A*.1.13** – Preceding repealed amendment causes the amendment previously numbered Section 1905A.1.14 to be renumbered Section 1905A.1.13.

**Section 1905*A*.1.14** – The model code has repealed all shotcrete requirements in favor of those contained in the adopted material standard (ACI 318). This amendment continues the previous model code requirement of former section 1908A.4.4 prohibiting shotcrete applied to spirally tired columns that is not found in ACI 318.

**Section 1905*A*.1.15** – The model code has repealed all shotcrete requirements in favor of those contained in the adopted material standard (ACI 318).

The amendments to sections (l) and (m) are a continuation of the amendment previously located in Section 1908A.7. Because the amendment is now associated with the adopted material standard rather than the model code the location has changed.

The amendment to section (n) continues the previous model code requirement of former section 1908A.8 that is not found in ACI 318.

The amendment in new sections (q) is a continuation of the amendment previously located in Section 1908A.1. Because the amendment is now associated with the adopted material standard rather than the model code the location has changed.

**Section 1905*A*.1.16** – Continued amendment previously numbered Section 1905A.1.15 is renumbered to Section 1905A.1.16 to maintain the numerical order of the sections in the adopted material standard (ACI 318) being modified.

**Section 1908*A*.1** – The model code has repealed all shotcrete requirements in favor of those contained in the adopted material standard (ACI 318). The amendment requiring the minimum specified strength of concrete has been relocated to Section 1905A.1.11 for consistency with the requirements of ACI 318.

In selected conditions where certain prescriptive requirements can be exceeded based on qualification by a successful shotcrete mockup panel, the language of ACI 318 does not make the exception contingent upon the “approval of the building official” as the prior model code language did. This amendment continues the previous code requirement of approval by the building official.

**Section 1908*A*.2** – The model code has repealed all shotcrete requirements in favor of those contained in the adopted material standard (ACI 318). This amendment provides a reference pointer to test and inspection requirements, including preconstruction tests, in Chapter 17A. The amendment is, in part, a continuation of the amendment previously in Section 1908A.5, which cannot remain in that location as a result of its removal from the model code. The amendment is also a coordination with the relocation of these requirements to Section 1705A.3.9.2 for consistency with other special inspection and test requirements.

**Section 1908*A*.3** – Preceding repealed model code sections cause amendment previously numbered Section 1908A.11 to be renumbered Section 1908A.3.

**Section 1908*A*.12** – Amendment repealed based on equivalent requirements being consolidated into Sections 1908A.1 (placement in accordance with ACI 506R and ACI 506.2) and 1908A.2 (special inspection and testing in accordance with Chapter 17A) above.

**Section *1910A.1*** – Cementitious material inspection and test requirements are relocated to Section 1705A.3.2.1 for consistency with other special inspection and test requirements.

**Section *1910A.2***– Reinforcing bar test requirements are relocated to Section 1705A.3.2.2 for consistency with other special inspection and test requirements.

**Section *1910A.3*** – Prestressing steel and anchorage test requirements are relocated to Section 1705A.3.4.1 for consistency with other special inspection and test requirements.

**Section *1910A.4*** – Composite construction test requirements are relocated to Section 1705A.3.7 for consistency with other special inspection and test requirements.

**Section *1910A.5*** – Post-installed anchor test requirements are relocated to Section 1705A.3.8.1 for consistency with other special inspection and test requirements.

## Chapter 21 MASONRY

**Section 2115.8.1** - Relocated language regarding mortar and grout testing from 2115.8.1 to 1705A.4.4 (similar language in 2015A.3, but organized differently, is proposed for repealing) and adding mortar test specimen requirements for consistency with 2105A.3 being repealed. Associated change sections: 1705A.4, 1705A.4.4, 2105A.3.

**Section 2115.8.2** - Relocating language regarding masonry core testing from 2105A.4/2115.8.2 to 1705A.4.5. Associated change sections: 1705A.4, 1705A.4.5, 2105A.4.

## Chapter 21A MASONRY

**Section *2105A.2*** – Relocating from 2105A.2 to 1705A.4.3 the language regarding compliance verification requirements that are applicable when f’m>2000 psi. Also removing pointer references since TMS 602 provides requirements for unit strength and prism testing.Associated change sections: 1705A.4, 1705A.4.3, 2105A.5, 2105A.6.

**Section *2105A.3*** – Repealing amendment language regarding mortar and grout testing because similar language (although organized differently), located in 2019 CBC 2115.8.1, is proposed for relocation to 1705A.4.4. Proposal for 1705A.4.4 includes mortar test specimen requirements for consistency with language in 2019 CBC 2105A.3 being repealed. Associated change sections: 1705A.4, 1705A.4.4, 2115.8.1.

**Section *2105A.4*** - Relocating language regarding masonry core testing from 2105A.4/2115.8.2. Associated change sections: 1705A.4, 1705A.4.5, 2115.8.2.

## Chapter 22 STEEL

**Section 2212.5.3** – Editorial correction.

**Section 2212.6.1** – Relocating requirements from Section 2212.6.1 to 1705A.2.6. Associated change sections: 2213A.1, 1705A.2.6

**Section 2212.6.2** – Relocating requirements from Section 2212.6.2 to 1705A.2.5. Associated change sections: 2213A.2, 1705A.2.5

## Chapter 22A STEEL

**Section 2205A.2.1.1** – Repeal model code language added in 2021 IBC since Seismic Design Category B and C are not permitted by DSA-SS.

**Section 2210A.1** –This item was previously included as a DSA-SS amendment in the Express Terms for the 2018 Triennial Code Adoption Cycle but was missed in the printed version. It is now being added as an editorial correction.

**Section 2211A.1.3** – This item is an existing amendment that was missed in the printed version of the 2019 CBC and is now being added back into the 2022 CBC.

**Section 2212A.1.2** – Editorial correction.

**Section 2212A.2.1** – Editorial correction.

**Section 2213A.1** – Relocating requirements from Section 2213A.1 to 1705A.2.6. Associated change sections: 2212.6.1, 1705A.2.6

**Section 2213A.2** – Relocating requirements from Section 2213A.2 to 1705A.2.5. Associated change sections: 2212.6.2, 1705A.2.5

## Chapter 23 WOOD

**Section 2303.1.3.1** – Providing reference pointer for special inspection requirements.

**Section 2304.10.1.2** - Repeal 2304.10.1.2 from 2019 IV cycle and adopt new 2021 IBC Section 2304.10.1 which has the same language. Associated change sections: 1705A.5.7, 1705A.20, 2304.10.1.2, 3102.3, 3102.6.1.1

## Chapter 24 GLASS AND GLAZING, Section(s) 2410.1.2

Section 2410.1.2 – Text edited to differentiate between qualification testing and project specific quality assurance testing and inspection. Requirements for the former remain in this section, while the latter are relocated to Chapter 17A for consistency with other quality assurance requirements. Itemized list revised from alphabetic characters to numeric characters for consistency with other similar itemized lists in Sections 2410 and 2411.

Section *2410.1.2*, Item #1 – The reference to ASCE 7 Section 13.5.9.2 is removed for clarity, as the language contained therein contradicts the requirements of Item #1 by allowing engineering analysis in lieu of testing. ASCE 7 Section 13.5.9.2 does not include any testing requirements as implied, therefore, its removal eliminates the misunderstanding that sometimes results from the contradiction without effectively changing the regulations. The second sentence from Item #6 (formerly Item f) is relocated to this section because it is a universal requirement of the testing and not specific only to the structural sealant product.

Exception added to reduce testing requirements for Risk Category I, II, and III projects where the prevention of glass fallout is not dependent on the structural sealant in two sided configurations. The original provisions were authored with primary consideration of multi-story Risk Category IV buildings. The introduction of this exception acknowledges a broader range on building types and systems, and the allows the use of engineering analysis in lieu of testing when specifically appropriate.

Section *2410.1.2*, Item #6 – Second sentence relocated to Item #1 for the reason noted above.

Section *2410.1.2*, Former Item i – Quality assurance and inspection requirements are relocated to Chapter 17A for consistency with other special inspection and test requirements.

Section *2410.1.2*, Former Item j – Project specific field-testing requirements are relocated to Chapter 17A for consistency with other special inspection and test requirements.

Section *2410.1.2*, Item #9 – Last paragraph added to the itemized list for consistency with the rest of the section and ease of reference.

## Chapter 31 SPECIAL CONSTRUCTION

**Section 3102.3** – Repeal amendment added in 2019 Intervening Code Adoption Cycle and adopt 2021 IBC Section 3102.3 which has the same language. Associated change sections: 1705A.5.3, 1705A.5.7, 1705A.20, 2304.10.1.2, 3102.6.1.1.

**Section 3102.6.1.1** – Repeal amendment added in 2019 Intervening Code Adoption Cycle and adopt 2021 IBC Section 3102.6.1.1 which has the same language. Associated change sections: 1705A.5.3, 1705A.5.7, 1705A.20, 2304.10.1.2, 3102.3.

**Section 3111.1.1** – Editorial change and updated pointer to relocated amendment since the numbering was changed from the last model code version.

**Section 3111.3** – Repeal amendment for reference pointer to Section 1512 since Section 1512 was deleted from model code.

**SECTION 3115 – INTERMODAL SHIPPING CONTAINERS**

**Section 3115.1** – New amendment language to disallow exceptions since Chapter 14 of the CEBC is not adopted by DSA.

**Section 3115.6** – New amendment language to disallow exception since Chapter 15 is required by DSA.

**Section 3115.8.2** – New amendment language to provide clearer direction for which welds and connections this applies and what is meant by “equal to or greater than” (strength, size, or other). This amendment clarifies that it is the “strength” of the welds and connections that should be assessed for equivalency. The proposed language also clarifies that new welds shall comply with minimum design standards as already specified elsewhere in the CBC.

**Section 3115.8.4.1** – New amendment to repeal model code language since material properties shall be provided on the manufacturer’s original design/fabrication drawings for the container as enforced by DSA.

**Section 3115.8.4.2** – New amendment language to include direct reference to ASCE 7 to capture the seismic design provisions regardless of which of the design methodologies from this section is used, such as combinations of seismic force-resisting systems. Additionally, new amendment language is provided in Item 1 to disallow intermediate light-frame bearing-wall systems with shear panels of all other materials as a seismic force-resisting system since this system is not permitted by DSA as enforced in CBC Sections 1617.11.3 and 1617A.1.4.

**Section 3115.8.5** – New amendment language to disallow simplified structural design method since the allowable shear values derived from ISO 1496-1 for this method are not established on the basis of cyclic test results.

**Section 3115.9** – New amendment language to provide clearer direction for selection of containers, general condition assessment, submittal requirements, structural integrity verification, inspection and testing, and additional seismic design requirements as enforced by DSA.

## Chapter 35 REFERENCED STANDARDS

**Section ASCE/SEI 7-16** – Amendment is adopting Supplements 2 and 3, in addition to Supplement 1.