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David Walls, Executive Director
CA Building Standards Commission
2525 Natomas Park Drive, Suite #130
Sacramento, CA 95833

Re: Concrete & Cement amendments to CA Green Building Code
(Sections A5.405.5 – A5.405.5.3.2.3)

Dear Mr. Walls:

We at Lehigh Hanson thank you for providing us the opportunity through CalCIMA to participate in the development of the proposed amendments for the concrete and cement provisions to the California Green Building Code.

Lehigh Hanson, part of the Heidelberg Cement Group, is a world wide producer of cement, aggregates, ready mixed concrete and asphalt, as well as building products including pipe, concrete pavers, concrete roof tile and structural precast concrete. We are the largest producer of portland cement, blended cement and slag cement in California.

The proposed Code in its current form is greatly improved, is more user-friendly and provides the Engineer the opportunity to optimize the use of reclaimed and recycled materials as is appropriate for his project. To this end we suggest that the Code will benefit from a few additional changes. These recommended changes are similar to those encouraged by others in the Industry.

We offer these additional comments and recommendations.

- 1) **A5.405.5.2.1 Supplementary Cementitious Materials (SCM).** Removing the specific reference to Caltrans specifications for fly ash, slag, and pozzolans was entirely appropriate (A5.405.2.1). As has been mentioned in prior discussions, regarding the incorporation of Caltrans specifications; specifically, they are not compatible with a building design code in that there are considerable differences between paving and building specifications, and attempting to insert a project specific paving specification within a general building code is not good practice; not to mention the newness and untested nature of the Caltrans specifications; as well as the unfamiliarity of the Caltrans specifications to structural engineers, architects, and other users in the building construction industry.

However, we continue to be concerned that Caltrans specifications have been added with reference to the ultra fine fly ash and metakaolin (Sections A5.405.5.2.1.2 and A5.405.5.2.1.3). For the reasons given previously, we do not recommend the California Green Building Code cite individual organization's project requirements, particularly those pertaining to a different type of construction application. The ASTM standards for these products are wholly and universally sufficient for these products.

A further concern is that the proposed code language says to follow ASTM standards "...and the Caltrans specification." Such a construction would be problematic in most applications. To avoid potential conflicts, the sentence should be changed to say, in effect, "ASTM or"

Recommendation: For A5.405.5.2.1.2 and A5.405.5.2.1.3, remove Caltrans specification references; or, change "and" to "or."

- 2) **A5.405.5.2.1.1 Mix Design Equation.** While Section A5.405.5.2 above includes a provision to allow discretion by an engineer and while the Mix Design Equation section also includes an exception for engineer discretion for high early strength concrete, we recommend one change to ensure the engineer has sufficient discretion in all potential instances (*changes in italics*).

Recommendation: Exception: Minimums for concrete products requiring high early strength *or other special architectural or design consideration* may be lower as directed by the engineer

- 3) **Industry ‘Sustainability’ Proposal.** We also greatly appreciate the consideration given by you and your office to the “sustainability” proposal presented by industry. We realize the sustainability proposal was a significant one, and that there was not sufficient time to explore all its ramifications and provide detailed examples. However, we are hopeful the Board will give it serious consideration in the next round of code updates.

Recommendation: We encourage the Commission to consider the sustainability proposal in the next round of code development. Lehigh Hanson will commit to participate in such a process, and believe it should include a broad array of stakeholders, including concrete, cement, architectural, and structural engineering representatives.

Again, Lehigh Hanson has appreciated the opportunity to work with you and your personnel the past several months. We look forward to participating in advisory and other working groups as the next cycle of Green Building Code development begins.

Sincerely,

LEHIGH HANSON

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Cc: Bob Raymer – Chair, Green Building Advisory Committee