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October 21, 2024

**California Building Standards Commission**  
**C/O Kevin Day, Deputy Executive Director**  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833

**Reference: Public Comment: BSC 05/24 – Adopt and Amend the 2025 Edition of the California Building Code, Part 2, Title 24**

### **Introduction**

This comment pertains to **BSC 05/25 ITEM 10 of the CAM**, and the proposed adoption of Chapter 16 of the *2024 IBC*, regarding modifications to the *2024 IBC Section 1608.2 Ground Snow Loads*. There are significant changes to the code through the adoption of the *ASCE 7-22 Standard* regarding the derivation of ground snow loads particularly in California. In the previous version of the standard, ground snow loads in California were primarily determined utilizing regional case studies. Under the new provisions of *ASCE 7-22*, ground snow loads are now determined by the *ASCE 7-22 Hazard Tool*, which determines these loads based on new developments in probabilistic reliability modeling and advanced spatial mapping. Each of these methods are data driven, but do not account for localized experience, knowledge, and historic evidence of satisfactory performance. This represents the first time that these modeling and mapping methods have been employed for the use of calculating ground snow loads in California. Moreover, it effectively eliminates the use of the regional case studies that have historically been used.

### **Concerns**

In determination of ground snow loads utilizing the new methods of *ASCE 7-22*, snow loads throughout California's mountainous regions have increased significantly, in some cases by more than 100%. Stantec's research has also shown extreme localized variations in the mapped data, whereby adjacent buildings under similar conditions and elevations would be subjected to materially different design criteria. Design standards for snow loads in California, despite the proposed increases, are some of the highest in the nation compounded by our complex topography and regional microclimates. Based on our findings we are concerned that the new calculated snow loads are not justified in all cases and will cause significantly more materials to be used in the construction of structures in the impacted regions. As engineers, it is our responsibility to balance the cost of construction with the responsibility for public safety and environmental stewardship. To that end it is in our interest that the codes and standards we use to design structures are reasonable and substantiated. When shifts in methodology utilizing novel techniques are employed at a large scale, there needs to be sufficient efforts to validate the accuracy and impact of such developments across all regions. Based on our dialog with *ASCE/SEI 7* Development Committee members, validation efforts were limited and did not include specific studies for California. We can infer that this was due to time and budget constraints.

Reference: Public Comment 2025 Building Standards Code, Part 2, Title 24

### **Recommendation**

The proposed adoption of Chapter 16 of the *2024 IBC* will adopt by reference the new ground snow load maps contained in ASCE 7-22. The building code is not clear on whether regional and site-specific case studies for the determination of ground snow loads are allowed. Given our concerns outline herein we recommended that either:

- *2024 IBC Section 1608.2* be returned for further study, and that the ground snow load provisions from *2021 IBC* are allowed to remain in effect.
- Continue to allow local jurisdictions and California Building Officials to use regional case studies at their discretion for determination of design ground snow loads. This could be clarified with a California Note within the code section, or through an Information Bulletin.

### **Conclusion**

We are appreciative of the ASCE/SEI 7 Committee's efforts and commitment to advance the structural engineering profession and uphold their mission of protecting public welfare. We also recognize the value of reliability-based models for snow load design criteria. However, we also believe that sufficient testing and validation should be required considering the significant impact of these changes in methodology. These studies should be inclusive of all regions, and more focus should be put on regions that are disproportionately affected. It is our hope that the California Building Standards Commission will take these concerns seriously, and that additional efforts will be undertaken by ASCE to further validate their models and methodology.

Respectfully,



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