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October 21, 2024

Undersecretary Miriam Ingenito
Chair, California Building Standards Commission

By Email C/O: CBSC@dgs.ca.gov

Re: ***45-Day Comment on HCD 05/24 CBC Item 20 and BSC 05/24 Item 10;
The Critical Need for Local Building Officials to Maintain their Authority to
Determine Ground Snow Loads Through Site-Specific Case Studies***

Dear Undersecretary Ingenito:

Our firm represents Alterra Mountain Company ("Alterra"), the owner of 17 ski resorts throughout the United States and Canada, including Palisades Tahoe, Mammoth Mountain, June Mountain, and Big Bear Mountain Resort in California ("California Resorts"). On behalf of Alterra and the California Resorts, we request the Commission to confirm that upon its adoption of Section 1608.02 of the 2024 California Building Code ("CBC"), local building officials shall maintain their authority to determine Ground Snow Load ("GSL") requirements through "Case Studies" based upon site-specific objective data.

I. Context and Summary of Alterra's Request

Alterra is actively pursuing the entitlements required to accommodate its plans to invest, over the next decade, more than \$2 Billion in much-needed capital improvements to the California Resorts and the mountain communities which they serve and support, including the Town of Truckee, the County of Placer, the Town of Mammoth Lakes, the Town of June Lake, the County of Mono, and the City of Big Bear Lake ("Mountain Communities"). Alterra has learned that the Commission's adoption of IBC Section 1608.2 may result in the termination of local building officials' authority to use Case Studies to determine GSL requirements in California. If local building officials' authority to use Case Studies is eliminated, then GSL requirements will increase significantly. Those increased GSL requirements will trigger increased construction costs that may render Alterra's long-term improvement plans for the California Resorts economically infeasible.

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In addition, the increased construction costs triggered by approval of the new GSL standards will impair the ability of the Mountain Communities themselves to construct the workforce housing, schools, hospitals, clinics, fire stations, police stations, recreational facilities, and other civic improvements required to address the needs of their citizens. The economic and societal impacts to the Mountain Communities of the new GSL requirements would persist indefinitely. At best, implementation of the proposed standards would increase costs for, and impede progress toward, the construction of facilities that help to achieve the Mountain Communities' goals. At worst, it could grind construction in the Mountain Communities to a halt.

Moreover, Alterra is not aware of any evidence that the Mountain Communities are experiencing the problem that the new GSL standards are intended to solve. After the Eastern Sierra Nevada's record winter of 2022-23, *when snow levels in Palisades Tahoe and Mammoth Lakes more than doubled their respective annual averages*, the Building Official of the Town of Mammoth Lakes, and a reputable structural engineering firm in Truckee, each investigated and assessed dozens of roof failures in their respective towns and counties. The Building Official and structural engineer attributed *all* of the roof failures they investigated to shoddy and/or unpermitted construction or structures approved under GSL requirements in place *before adoption of the 1995 CBC*. Therefore, the current GSL requirements that Building Officials in Mammoth Lakes, Mono County, Truckee, and Placer County developed through *Case Studies have, without fail, protected structures against roof failures under the most extreme snow conditions in recorded history*. The current Case Study protocol is not "broken;" it does not need to be "fixed."

While there is *no evidence* that the Mountain Communities will derive any benefit from the new GSL standards, the economic and societal costs they could suffer are *self-evident*. The actual, identifiable costs of implementation would far outweigh any perceived benefits. Consequently, the new standards cannot meet criterion number five of the "Nine-Point Criteria for Evaluating Code Proposals" prescribed in Health and Safety Code ("HSC") Section 18930. Therefore, Alterra respectfully requests the Commission to confirm that the adoption of 2024 CBC Section 1608.2 will authorize building officials in the Mountain Communities to continue to use Case Studies to determine GSL requirements based upon site-specific objective data.

II. **Background and Import of the Proposed Changes to the GSL Standards**

In 1995, The American Society of Civil Engineers ("ASCE") published revised ASCE 7, *Minimum Design Loads for Buildings and Other Structures*. ASCE 7 included a map, prepared by the U.S Army Corps of Engineers Cold Regions Research and Engineering Laboratory ("CRREL"), with GSL values based upon a statistical analysis of snowfall from 1952 to 1992 provided by the National Weather Service.¹ The map identified mountainous regions in California

¹ This Background summarizes information provided by Michael O'Rourke Ph.D., P.E., and John F. Duntemann, P.E., S.E, in their two-part, 2022 article entitled *Structural Loads: Snow and Rain Loads in ASCE 7-22*.

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and other states, each with extreme topographies, as "Case Study (CS)" areas. The map in each subsequent edition of ASCE 7 has remained essentially unchanged through ASCE 7-16. Accordingly, since 1995, local building officials have used Case Studies to determine GSL requirements in the Mountain Communities. Current IBC Section 1608.2 states that "site-specific case studies shall be made in areas designated CS and approved by the local Building Official."

In 2022, the ASCE published ASCE 7-22, which contains an updated national GSL geodatabase. The database reflects changes to GSL requirements across the United States resulting from new snow load data and ASCE's shift to reliability-targeted GSL values. ASCE 7-22 states that "*where the results from the geodatabase indicate that a case study needs to be conducted for a specific location, the ground snow load determination for the location shall be based on an analysis of data available in the vicinity of the site, shall meet the reliability targets set forth in Table 1.3-1, and shall be approved by the Authority Having Jurisdiction. Alas, the only locations in the United States where the geodatabase authorizes a Case Study are in Alaska.*

The 2024 IBC incorporated ASCE 7-22 in its entirety. Therefore, if the CBSC adopts IBC Section 1608.2 without confirming that building officials may continue to use Case Studies to determine GSL requirements, then *Case Studies will be eliminated in California.*

Nonetheless, at meetings of the Structural Design/Lateral Forces Code Advisory Committee on July 16-17, 2024, at least one Committee member appeared certain that the language of proposed CBC Section 1608.2 still allows building officials in California to use Case Studies to determine GSL requirements. No contrary assessment of CBC Section 1608.2 was offered at the meeting. Other public and private stakeholders have suggested that CBC Section 1.8.7 (which allows building officials to approve alternate "method[s] of construction" to those expressly set forth elsewhere in the CBC) authorizes local building officials to set GSL standards by Case Studies based upon site-specific objective data. As such, there is uncertainty as to whether Section 1608.2 of the 2024 IBC, once adopted into the CBC, will allow building officials to use Case Studies to determine GSL standards.

III. The Impacts of the ASCE 7-22 Standards on the California Resorts

As shown in the chart attached as Figure 1, the California Resorts and Mountain Communities are among the locations in which GSL standards for public and private construction projects would *change drastically*. Specifically, GSL standards for:

- a. The summit at Mammoth Mountain would increase by **79%**;
- b. The McCoy Station (Mid Chalet) at Mammoth Mountain would increase by **63%**;
- c. Mammoth Mountain Main Lodge would increase by **47%**;
- d. Canyon Lodge at Mammoth Mountain would increase by **56%**;

- e. Eagle Lodge at Mammoth Mountain would increase by **45%**;
- f. Palisades Tahoe Village would increase by **80%**;
- g. June Mountain Base Lodge would increase by **120%**;
- h. Big Bear Base Lodge would increase by **104%**; and
- i. Snow Valley Base Lodge would increase by **85%**.²

IV. **Implementation of the Proposed Changes to the GSL Standards Results in Significant Costs to the Mountain Communities.**

A. Cost Impacts to Mammoth Mountain

Mammoth Mountain's Main Lodge, the ski area's primary portal, and the Mammoth Mountain Inn, the only hotel at the Main Lodge, were both constructed in the 1960s on United States Forest Service ("USFS") land at an elevation of roughly **9,200 feet**. Since the early 1990s, successive owners of Mammoth Mountain have worked with the USFS to complete a land trade so that Mammoth Mountain could acquire fee title to the 36 acres of land underlying the Main Lodge, Mammoth Mountain Inn, and related ski area improvements. For more than 30 years, Mammoth Mountain's primary goal for the land trade has been to enable it to redevelop the recreational, hospitality, housing, and commercial facilities at the Main Lodge portal.

In March 2020, Alterra closed the Main Lodge land trade, by which the USFS received ten private parcels identified as high priorities on its acquisition list, and returned them to public ownership. Alterra has since pursued the entitlements for a full-scale redevelopment of the Main Lodge portal, including infrastructure improvements. Alterra has been negotiating and processing a new Main Lodge Specific Plan and a Development Agreement with the Town of Mammoth Lakes, and a new EIR/EIS with the Town and the USFS, and expects its investment to redevelop the Main Lodge portal to exceed \$1.25 Billion.

Alterra also plans to redevelop Mammoth Mountain's two in-town ski portals, Canyon Lodge and Eagle Lodge. Canyon Lodge is located at an elevation of **8,300 feet** and is in the midst of a multi-year expansion and renovation. Alterra is currently pursuing the entitlements for Eagle Lodge which, at **7,973 feet**, is Mammoth Mountain's lowest-elevation ski portal. The Town's approved master plan for the Eagle Lodge site includes a day lodge, a gondola building, a children's ski school center, a hotel or resort condominium lodge, an ice rink, a food and beverage venue, and a neighborhood market.

² The GSL values discussed here and in [Figure 1](#) are calculated by adjusting existing Case Study GSL values by a load factor of 1.6 to arrive at a reliability-targeted Case Study GSL values directly comparable to the GSL values of ASCE 7-22's geodatabase.

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Absent confirmation from the Commission that Case Studies will continue to be allowed, CBC Section 1608.2 will increase GSL requirements at the summit gondola by **79%**, at McCoy Station (Mid Chalet) by **63%**, at the Main Lodge by **47%**, at Canyon Lodge by **56%**, and at Eagle Lodge by **45%**. Those significant increases in GSL requirements will undoubtedly result in increased construction costs for the more than two dozen structures that Alterra plans to construct at the Main Lodge, Canyon Lodge, and Eagle Lodge. How substantial those increased costs will be is uncertain, primarily because the project sites are at varying elevations and will include an array of building types yet to be designed. Nonetheless, if Case Studies are eliminated from the CBC, then Alterra expects construction costs to increase *substantially and indefinitely*.

Given the current costs of construction in Mammoth, *any* arbitrary increase in costs could have a chilling effect on Alterra's plans for the Main Lodge, Canyon Lodge, and Eagle Lodge. For example, in 2021, Alterra began the development of a new year-round Tube Park and Mountain Coaster venue called "Woolly's Adventure Summit," at a mid-mountain elevation of **8,774 feet**. The project includes a 5,624 square foot Day Lodge that will be completed in fall of 2024, at a cost of **\$975/sf**. Because the Main Lodge is significantly higher in elevation than Woolly's Day Lodge, and the Main Lodge will feature far more guests, amenities, and features, construction costs will likely be even higher at the Main Lodge.

Alterra has not begun to calculate how the cost increases that will result from the proposed GSL standards would impact its planned redevelopment activities at the other California Resorts. In Palisades Tahoe Village, where Alterra plans to invest up to \$750 Million in capital improvements over the next decade, GSL requirements would increase by **80%**. GSL requirements would increase for June Mountain by **120%**, for Big Bear Resort by **104%**, and for Snow Valley by **85%**. Those increases in GSL standards will increase construction costs, which may limit the viability of its proposed projects throughout the California Resorts and Mountain Communities.

B. Cost Impacts to Mono County and the Town of Mammoth Lakes

1. ***Mono County's New "Rural Mountain" Accessory Dwelling Unit Program***

In 2022, in order to help private parties construct Accessory Dwelling Units ("ADUs"), and thereby increase the supply of workforce housing in Mono County over time, the County approved, circulated, and promoted two "prescriptive designs" for ADUs. Citizens of Mono County can choose between design prototypes for "Rural Mountain" or "High Desert" ADUs, which the County can approve quickly and administratively.

In a letter dated July 2, 2024, to Mono County Building Official, Tom Perry, Jessica Meadows of RRM Design, lead structural engineer for the County's ADU Prescriptive Design Program, commented on the impact the proposed changes could have on the County's program:

"With the proposed loading increases, we would anticipate that the cost of construction will increase 10-15% for snow loads that are below the 300 psf threshold. For any communities with increased snow loads between 300-450 psf, the cost of construction increase will likely be in the range of 25-35%. Where the snow load exceeds 450 psf, the increase is likely to be on the order of 45-65%. *These two thresholds account for the material change to steel and concrete in lieu of timber construction.* The large range of variability is due to the remote nature of potential sites." [Emphasis added.]

2. *The Town of Mammoth Lakes' New Affordable Housing Neighborhood*

In March 2018, the Town of Mammoth Lakes acquired an undeveloped 25-acre parcel at a relatively low elevation in town, with the goal of creating a master-planned affordable housing neighborhood. The Town then pursued an 18-month community planning process which resulted in the Town Council's approval of a Final Concept Plan for "The Parcel" in December 2019. The Final Concept Plan envisions 450 workforce housing units to be constructed in several phases. In July 2020, the Town received a grant of \$20.6 Million from HCD for design and construction of infrastructure for the Parcel. In February 2022, the Town was awarded an additional \$38.7 Million for Phase One of the Parcel as part of the California Housing Accelerator program.

In June 2024, the Town completed phase one of The Parcel, called "The Sawyer." The Sawyer consists of 80 units of housing that are affordable to those earning up to 80% of the Area Median Income ("AMI"), one manager's unit, covered parking, a daycare center, indoor community space, and a public park. The Town built the 81 units at The Sawyer for **\$585/sf**. If Case Studies are eliminated from the CBC, then the GSL requirement for additional phases of affordable housing at the Parcel will increase by **24%**. Although the increase in construction costs at the Parcel will not be as dramatic as those at higher elevations, *any* cost increase for an affordable unit targeted to those earning up to 80% of AMI is significant.

V. **Implementation of the Proposed Changes to GSL Standards Provides No Benefit to the Mountain Communities.**

Alterra is not aware of any documented evidence that the new GSL requirements would provide a benefit to the Mountain Communities by protecting them against roof failures. During the winter of 2022-2023, Mammoth Mountain and Palisades Tahoe, together with the towns of Mammoth Lakes and Truckee, experienced the most snowfall in their respective recorded histories. During the Spring of 2023, Tom Perry, the Building Official of the Town of Mammoth Lakes, and Douglas Gadow, PE, SE, a structural engineer for Linchpin Structural Engineering, Inc., a reputable engineering firm in Truckee, investigated dozens of the roof failures that structures in their respective communities experienced as a consequence of the storms.

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The investigations by Messrs. Perry and Gadow concluded that *all* of the roof failures they examined involved structures that were either: (a) constructed without permits; (b) designed or constructed defectively; or (c) approved under GSL requirements in effect *before adoption of ACSE 7 and the 1995 CBC*. Therefore, the Case Studies that Mammoth Lakes and Truckee developed *have succeeded in protecting structures in those communities against roof failures under the most extreme snow conditions in recorded history*. Although Alterra is not aware of any similar investigations of roof failures conducted in the remaining Mountain Communities, we would expect the results of any such studies to be similar to those in Mammoth Lakes, located in the Central Eastern Sierra, and Truckee, located in the Northern Eastern Sierra.

VI. The Proposed New GSL Standards Do Not Meet Criterion Number 5 of the "Nine-Point Criteria for Evaluating Code Proposals."

HSC Section 18930(a) provides that "Building standards adopted by state agencies and submitted to the commission for approval shall be accompanied by an analysis written by the adopting agency or state agency that proposes the building standards which shall, to the satisfaction of the commission, justify the approval thereof in terms of the following criteria..." The statute then lists HSC's "Nine-Point Criteria for Evaluating Code Proposals." CBSC's Spring 2024 edition of the *CAL Code Quarterly* newsletter ("CBSC Newsletter") references an article detailing "how to interpret and apply the criteria when evaluating code proposals." The article observes that "every new code proposal must meet all of these criteria" and recommends that "comments from the public also cite a criteri[on]." As detailed below, the proposed GSL standards do not meet criterion number five of the HSC's Nine-Point Criteria for Evaluating Code Proposals.

HSC criterion number five provides: "The cost to the public is reasonable, based on the overall benefit to be derived from the building standard." The CBSC Newsletter article interprets this requirement as follows: "*There must be a benefit that outweighs the cost of implementing the proposed regulation. State agencies that propose regulations must conduct research and determine if there is a fiscal or economic impact on the affected public. This determination is assessed at public meetings and during public comment periods when the proposals are reviewed.*" [Emphasis added.]

Alterra has been unable to discern, and is not aware of evidence which demonstrates, any benefit that the California Resorts or the Mountain Communities would derive from the implementation of the proposed GSL standards. The Case Study GSL standards that have applied to private and public construction over the last 30 years have consistently protected structures and the public from roof failures, including during the winter of 2022-2023, when the California Resorts and Mountain Communities experienced the most snowfall in recorded history.

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Nor does Alterra know if any state agency has conducted research to "determine if there is a fiscal or economic impact on the affected public" that would result from the implementation of the new standards. Nonetheless, it is self-evident that construction costs in the California Resorts and Mountain Communities will increase as a direct result of the new standards. It is also likely that some construction projects will be delayed indefinitely or abandoned entirely as a direct consequence of the adoption of the proposed standards. In any event, *because the cost of the proposed standards to the California Resorts and Mountain Communities would far outweigh any benefit they may provide*, the proposed standards do not meet criterion number five.

VIII. Conclusion

For these reasons, Alterra requests the Commission to confirm that upon its adoption of CBC Section 1608.2, local building officials will maintain their authority to conduct site-specific Case Studies to determine GSL requirements in California's Mountain Communities. Thank you for your careful consideration of Alterra's request.

Sincerely,

REICKER, PFAU, PYLE & McROY LLP



R. Mark Carney
Jake J. Glicker

CC: ***By Email C/O CBSC@dgs.ca.gov:***

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Figure 1
Ground Snow Load Requirements for Selected Locations, Risk Category II
ASCE 7-22 vs. Case Study

