

## APA CASE STUDY

## Exposed Glulam, CLT Pay Tribute to University's Role in Timber R&amp;D



Photograph by Benjamin Benschneider.

An appreciation for wood products and technologies runs deep on the campus of Washington State University, and nowhere is that more visible than at the stunning new visitor center, where prominent design features showcase the industry's newest technology: cross laminated timber (CLT).

A clear finish on the underside of the roof deck at the Brelsford WSU Visitor Center reveals the interlaced pattern of the CLT it's made from. The same water-based sealer on rough-cut glulam beams allows visitors to Washington State University's Pullman campus a glimpse at the wood laminations that make them strong and structural.

The result, says project architect and design collaborator Steven Rainville of Olson Kundig, is a building that "is legible. You can read how it came together."

Showcasing beams, decks, and panels that some architects would have hidden behind drywall and paint, says Rainville, pays tribute to the role of WSU's 70-year-old Composite Materials & Engineering Center, which has a long history of research and development with wood composites and lumber-grading technology and equipment.

Half of the 4,277-square-foot, two-section building serves as an exhibit hall, constructed of glass, steel, and wood with a large CLT roof overhang that is supported in part by 15-foot-tall concrete letters spelling "W-S-U" just outside of the high-ceilinged pavilion. The other half is wood-framed, painted Cougar crimson, and houses offices and restrooms.

Still, the designers specified engineered wood for more than its unique look. For the 100-foot-by-50-foot roof deck, the architects chose 8-foot-by-40-foot structural CLT panels from APA-member Structurlam because of their quick installation: The university awarded the project in January 2013, construction began in May, and the design/build team handed the finished project over in October.

### Project Summary

**PROJECT NAME:**  
Brelsford WSU Visitor Center

**LOCATION:**  
Pullman, Washington

**COMPLETED:**  
October 2013

**ARCHITECT:**  
Olson Kundig

**CONTRACTOR:**  
Sellen Construction

**ENGINEER:**  
KPF Consulting Engineers



Installation was quicker in part because, unlike poured concrete, which takes time to set, the 4-inch-thick CLT panels come off the truck ready to install, says Kris Spickler, a Structurlam heavy timber specialist. The panels also are up to six times lighter and one-third thinner than concrete and require fewer skilled laborers on the jobsite.

The revealing clear-coat relieved the builders of applying drywall and painting visible surfaces, a design decision that further sped construction time. “The structure is your finish,” says Rainville. “You sand it, you finish it, and you’re done.”

Structurlam’s heavy use of mountain pine beetle-killed pine in the manufacture of its CLT also appealed to Rainville, an advocate of incorporating dead and dying logs into engineered wood panels and beams. “Architects can do the right thing and create a market for this by specifying it,” he says.

A mountain pine beetle infestation has killed millions of acres of trees—mostly ponderosa and lodgepole pine—in the Rocky Mountains from Canada to Colorado since 1996. The pests lay their eggs beneath the bark and infect the wood with fungal spores that leave blue, purple, gray, or brown spots, streaks, and patterns.

Though discolored, the wood can still be used in engineered and framing lumber. On some sections of the CLT, some light gray streaking is visible, but Rainville calls it “inconsequential... We weren’t concerned about that. We were more concerned that the log is dead. We were motivated by the opportunity to directly address what is really a human-influenced environmental disaster and, in a small way, do something constructive out of its ongoing destructive results.” In some applications, such as a wood bench inside the Visitor Center, the natural blue stain adds visual interest.

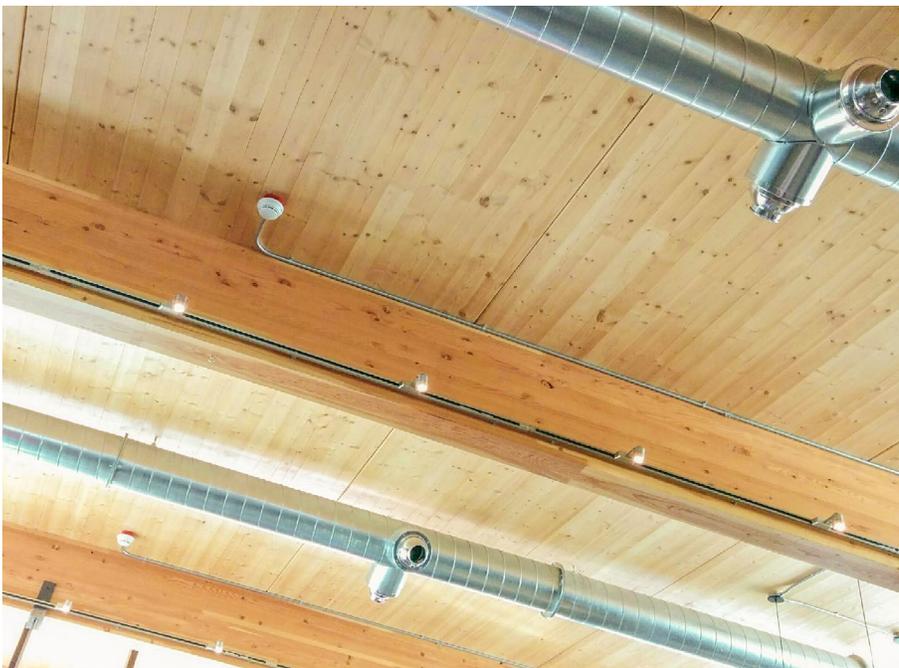
Project manager Dave Scalzo, a senior vice president at Sellen Construction, says installation of the beetle-killed wood and the CLT—his first time with each—went flawlessly. “It’s no different from working with other wood,” he notes.

The designers chose glulam beams and columns from APA-member Boise Cascade to construct the six structural frames for the roof deck. Glulam was a cost-effective option for the project’s needs while offering a look that ideally complements the CLT roof deck. But just as important in the decision-making is the university’s strong ties to the glulam industry, having helped develop the product through its research center years ago.

The Northwest’s “tradition of glulam technology,” as Rainville describes it, is evident throughout the Washington State University campus, and those deeply held beliefs in and respect for wood technology are on vibrant display throughout the new Visitor Center.



Clear-coated glulam, CLT, and OSB warm the mood. Photograph by Benjamin Benschneider.



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