

APA CASE STUDY

Mass Timber Has Banks Seeing Green

First United Bank invests in first mass timber buildings in Texas, Oklahoma



The First United Bank buildings currently under construction in Texas and Oklahoma will be the first mass timber buildings in each state.

ARTIST RENDERING COURTESY GENSLER

MASS TIMBER IS PAYING DIVIDENDS

in Fredericksburg, Texas, and in Shawnee, Oklahoma, thanks to a forward-thinking client and an architecture firm up for a new challenge. In envisioning two new branch buildings, First United Bank wanted structures that aligned with their sustainability initiative. Gensler architects responded with an innovative design and building materials.

“First United wanted buildings that really showed how they were built and related to their customer base,” according to Gensler project architect Taylor Coleman. “Using mass timber was the best way to accomplish those goals.”

The buildings are the first mass timber structures designed by Gensler. Coleman says the material required more upfront work with the contractor for the drawings. The exacting manufacturing process leaves no room for error.

“Whatever you put down is exactly what you’re going to get, so you need to get it right,” Coleman said. “But the extra time we spent at the front end we more than got back during erection.”

He estimates that the build phase was 50% to 60% faster than with concrete or steel. Overall, the projects are expected

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to be completed 25% faster than they would have been using a different material. "The roof was set on the Fredericksburg branch in a day and a half. The slowest part was repositioning the crane."

Despite the lack of experienced mass timber tradespeople in the building's fairly rural locations, assembly was made easier with help from the manufacturers. Gensler and contractor Kendnel Kasper Construction, Inc. recruited local home builders in Texas who had experience adding mass timber elements to area residential construction. International Beams, the manufacturer of cross-laminated timber (CLT) and glulam for the Texas branch, sent an expert to help train those workers on panel installation, and by the third panel, they had it down cold.

In addition to the use of CLT panels for the roof, the 8,500-square-foot design for the Fredericksburg, Texas, structure includes glulam columns and beams.



PHOTOS: GENSLER

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— Taylor Coleman
Gensler



Southern yellow pine used in the Texas branch for glulam beams adds rich color and striking contrast in the grain of the wood.

“The design was really driven by the client. First United wanted buildings that were designed to last.” Coleman said.

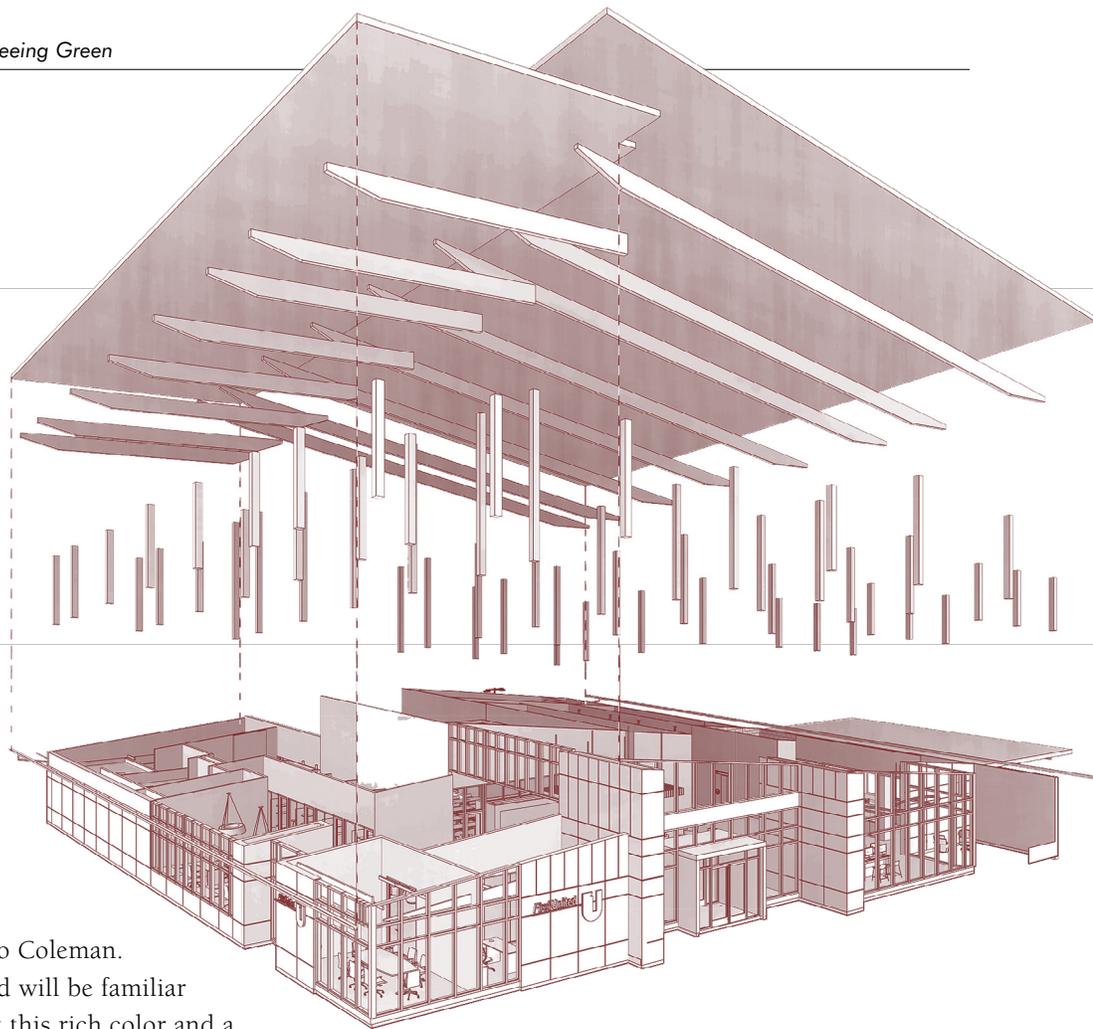
International Beams suggested southern yellow pine, available locally.

“The result is fantastic,” according to Coleman.

“The species is native to the area and will be familiar to employees and customers. It’s got this rich color and a real striking contrast in the grain of the wood.”

The Shawnee, Oklahoma, branch is being built with the Douglas-fir glulam supplied by Bell Structural Solutions, a division of ALAMCO Wood Products, with CLT supplied by Nordic Structures. That branch, which will come in at 12,500 square feet, is due to be completed in October 2019. For that project, Bell Structural Solutions came on site to assist with installation of some CLT and glulam elements. “They did a fantastic job,” Coleman said.

“The design was really driven by the client,” Coleman said. “First United wanted buildings that were designed to last.” Coleman’s plans delivered a net-zero structure with solar panels and a rainwater collection system. He estimates the



system on the Fredericksburg, Texas, branch will collect 250 million gallons in runoff annually—enough rainwater to fully satisfy the water needs for the branch’s native plant landscaping. The enhanced building envelope and high-efficiency HVAC systems provide a 42% improvement over code requirements. Also, Gensler estimates 190 tons of CO₂ is being offset through the use of sustainably harvested timber. Similar efficiencies are expected with the Shawnee branch, also a net-zero project.

“The mass timber really looks fantastic in the branch, especially the fine-milled exposures,” Coleman said. Plans are in the works for an even larger 37,000 square foot hub for First United in Sherman, Texas. That structure, also slated to be a mass timber building, broke ground in April 2019.

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Form No. V135
Issued July 2019

