

Technology

## World's Tallest Wood Building Completed: 18 Storeys

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UBC's tall wood building, Brock Commons.

**The mass wood structure has been completed for UBC's Brock Commons student residence four months ahead of schedule, showcasing the advantages of building with wood.**

The mass wood structure and façade has been completed for UBC's Brock Commons student residence -- the world's tallest wood building at 18 storeys (53 metres, about 174 feet) -- four months ahead of schedule, showcasing the advantages of building with wood.

The structure was completed less than 70 days after the prefabricated components were first delivered to the site. Construction will now focus on interior elements, with completion expected in early May 2017 -- 18 per cent (or four months) faster than a typical project. The building is expected to welcome more than 400 students in September 2017.

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"This remarkable building, the first of its kind in the world, is another shining example of Canadian ingenuity and innovation, an apt demonstration of how Canada's forest industry is finding new opportunities through technology and innovation -- opening up a world of possibilities for our forest and construction industries," said Jim Carr, Canada's Minister of Natural Resources.

Brock Commons is the first mass wood, steel and concrete hybrid project taller than 14 storeys in the world. The building has a concrete podium and two concrete cores, with 17 storeys of cross-laminated-timber floors supported on glue-laminated wood columns. The cladding for the façade is made with 70 per cent wood fibre.

"Brock Commons is living proof that advanced wood products are a terrific material to build with and support efficient assembly. It also showcases new applications for B.C. lumber, leading to new job opportunities in B.C.'s forest industry," said Steve Thomson, Minister of Forests, Lands and Natural Resource Operations.

Other wood structure buildings on UBC's Vancouver campus include the AMS Student Nest, the Engineering Student Centre, the Centre for Interactive Research on Sustainability, the Bioenergy Research and Demonstration Facility, and the Earth Sciences building.

"Wood is increasingly recognized as an important, innovative and safe building material choice. This new tall wood building reflects UBC's leadership in sustainable construction and our commitment to providing our students with more on-campus housing," said UBC President Santa J. Ono.

As a "living laboratory," Brock Commons will also be a source of learning through interdisciplinary research and educational projects undertaken by UBC faculty, staff and students.

The project is expected to cost approximately \$51.5 million, with \$47.07 million financed by UBC. Being the first of its kind, it entailed an initial innovation cost and received funding from Natural Resources Canada (\$2.34 million), the Province of B.C. (\$1.65 million), and the Binational Softwood Lumber Council (\$467,000).

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"Taller wood buildings offer tremendous economic and environmental benefits. The lessons learned at Brock Commons will help transform the built environment in Canada and around the world. In fact, we are already seeing interest in the systems used here for projects in the U.S., Japan and China," said Cees de Jager, general manager of the Binational Softwood Lumber Council.

Vancouver's Acton Ostry Architects designed the building in collaboration with structural engineer Fast + Epp, tall wood advisor Architekten Hermann Kaufmann of Austria, and Structurlam in Penticton, B.C., which provided the prefabricated wood components. UBC Properties Trust is managing the project.

Wood is a sustainable and versatile building material that stores, rather than emits, carbon dioxide. By using wood, the impact is a reduction of 2,432 metric tonnes of carbon dioxide compared to other construction materials, the equivalent of taking around 500 cars off the road for a year.

The building is targeting LEED Gold certification, a rating system that promotes environmental responsibility for building owners and operators. It will exceed required fire ratings and standard seismic safety requirements.

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