

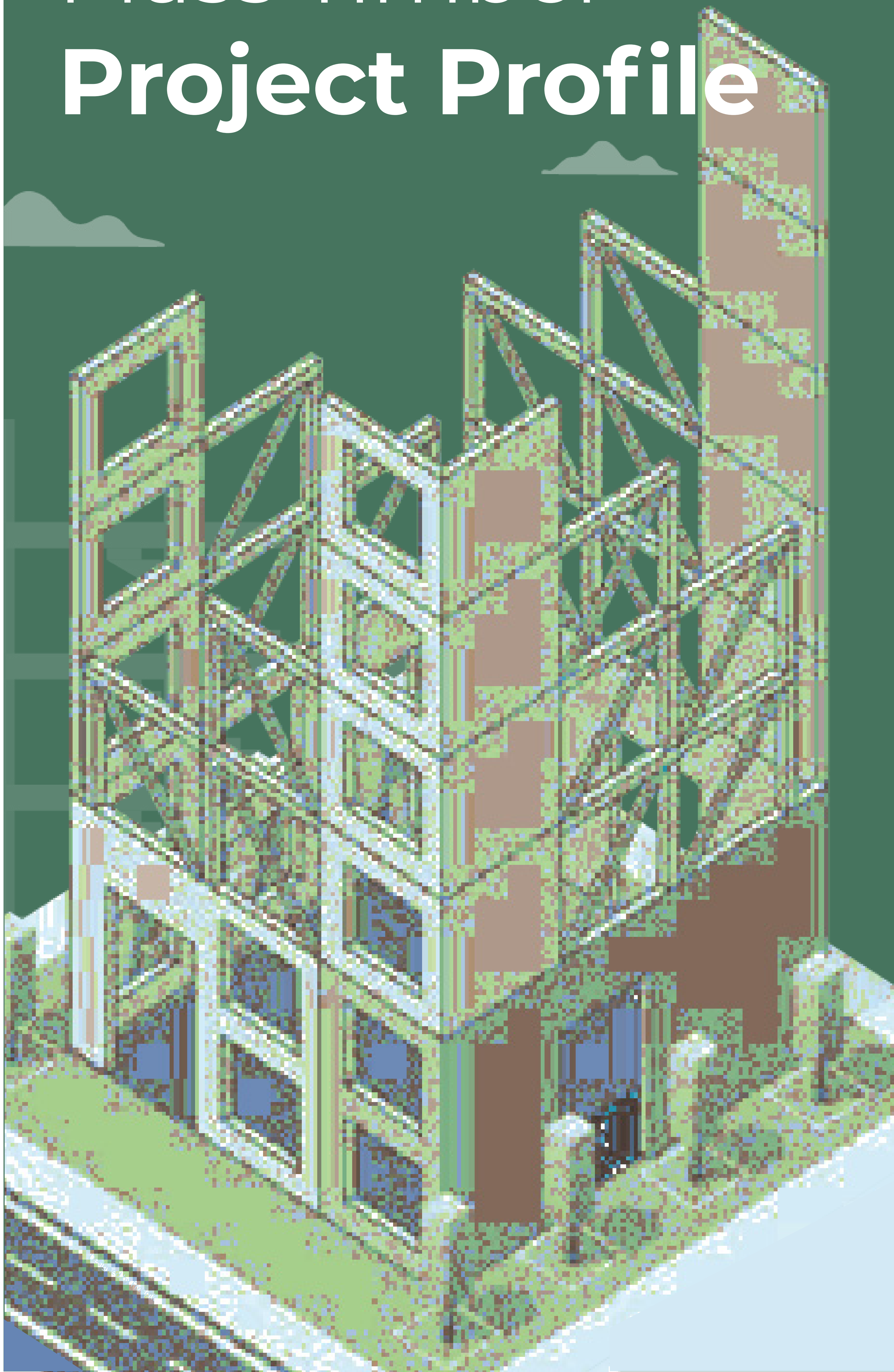


Structure Monitoring Technology

TimberCast 

Mass Timber

Project Profile



Institutional, residential

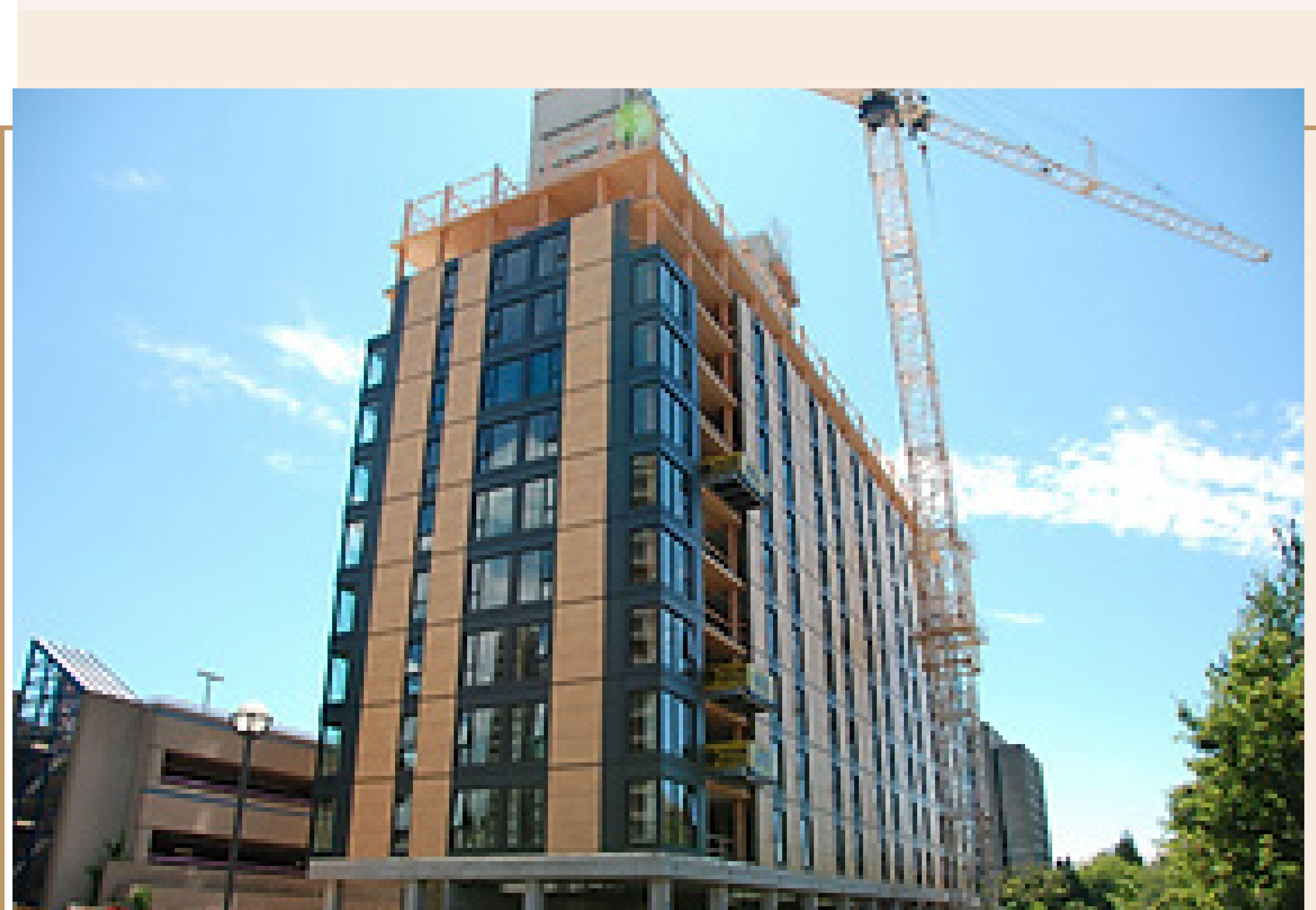
UBC BROCK OF COMMONS TALLWOOD HOUSE

July 2017 | Area: 160,000 Sq. Ft.

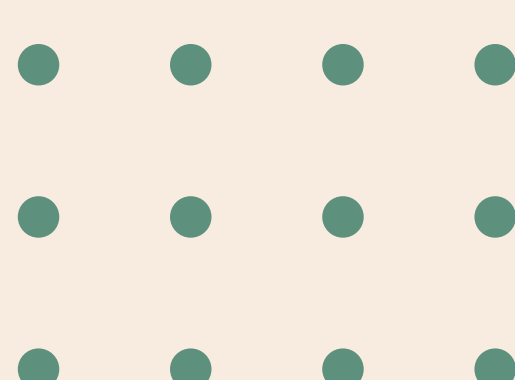
CLT vertical movement and roof moisture performance monitoring.

The University of British Columbia's Brock Commons Tallwood House is an award-winning 18-storey hybrid wood building that serves as a student residence and an academic site for research.

SMT installed **338 sensors** throughout the building to monitor its performance and durability, including wood compression, settling, vertical movement, and moisture content. These sensors were installed in each prefabricated Cross Laminated Timber panel during construction using SMT's **Point Moisture Measurement (PMM), temperature, and displacement sensors.**



Creator: Neil Taberner Copyright: Neil Taberner



Commercial

MOUNTAIN EQUIPMENT CO-OP (MEC) HEAD OFFICE

Fall 2014 | Area: 112,000 Sq. Ft. Green roof leak detection and NLT moisture monitoring during construction

Mountain Equipment Co-op (MEC) relocated to a LEED Platinum standard green building in East Vancouver. SMT provided leak detection for the green roof and monitored moisture in the Nail Laminated Timber (NLT) structure during construction. Moisture detection sensors were installed in the roof assembly and NLT beams and panels to monitor for moisture intrusions in real time, while SMT linkage systems were routed in select locations to support future system expansion, maintenance, or repair.

Municipal

RADIUM HOT SPRINGS COMMUNITY CENTER

2018 | Area: 8,000 Sq. Ft.

Moisture monitoring for Dow Laminated Timber (DLT) panels.

With the project goal to create a "100 mile building", maximizing the use of local wood resources, the Radium Hot Springs Community Centre was built with innovative stacked Dowel Laminated Timber (DLT) panels and Glulam beams. SMT's moisture monitoring system was utilized in the project to protect the unique wood structure and monitors the building every day for moisture intrusion and notifies building maintenance of conditions long before saturation or structural decay occurs.

Commercial

WOOD INNOVATION AND DESIGN CENTER (WIDC)

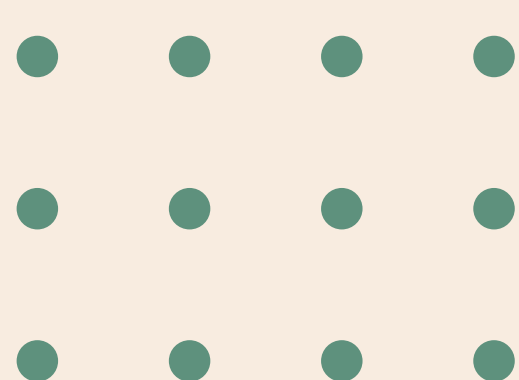
2015 | Area: 52,000 Sq. Ft.

CLT vertical movement and roof moisture performance monitoring

SMT measured the Wood Innovation and Design Center (WIDIC) building's vertical movement and CLT moisture performance in Prince George, BC. The WIDC offers a unique opportunity for non-destructive testing and monitoring to measure the building's 'As Built' performance, and field measurements provide data to support regulatory and market acceptance of mass timber-based systems in large buildings



Ema Peter



Institutional, research

PEAVY HALL OREGON STATE UNIVERSITY (OSU)

2018 | Area: 80,000 Sq. Ft.

Monitoring moisture, structural movement, and thermal performance in Cross Laminated Timber (CLT).



Creator: Ed White Photographics / Copyright: Ed White

Peavy Hall, part of the Forest Science Complex at Oregon State University, is a modern facility constructed with various mass timber products and materials.

SMT provided quality assurance and research insights on wood design, methods, and materials to ensure the structure's quality and durability. **Displacement sensors** were installed in shear walls during modular assembly, while PMM sensors were embedded in CLT panels at different depths to monitor moisture content. **Heat flux** and **Relative Humidity/Temperature sensors** were also deployed to monitor thermal performance and ambient conditions throughout the building's life.



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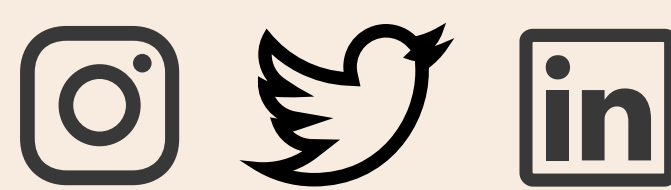
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