# PART 1
# PROJECT DESCRIPTION

Use for all categories. Projects are judged based on criteria of sustainable design, architectural merit and innovation. **Please submit Part 1 and Part 2 as separate pdf files.**

2026

CANADIAN GREEN BUILDING AWARDS

THE NATIONAL PROGRAM OF SUSTAINABLE ARCHITECTURE & BUILDING MAGAZINE SABMag

# PROJECT CATEGORIES

Identify which Award category you are entering

☐ **1. Residential [small]**
Open to new or renovated buildings less than 600m² in area, of which a minimum of 75% is dedicated to single-family or multi-family residential uses.

☐ **2. Residential [large]**
Open to new or renovated buildings [typically multi-unit buildings or groups of related buildings] greater than 600m² in area, of which at least 75% is dedicated to residential uses.

☐ **3. Commercial/Industrial [small]**
Open to new or renovated buildings up to 2,000m² in area, of which more than 75% is dedicated to commercial or industrial uses.

☐ **4. Commercial/industrial [large]**
Open to new or renovated buildings [or groups of related buildings] greater than 2,000m² in area, of which at least 75% of the floor area is dedicated to commercial or industrial uses.

☐ **5. Institutional [small]**
Open to new or renovated buildings up to 2,000m² in area, of which more than 75% is dedicated to institutional uses.

■ **6. Institutional [large]**
Open to new or renovated buildings [or groups of buildings] greater than 2,000m² in area, of which at least 75% of the floor area is dedicated to institutional uses.

☐ **7. Mixed Use**
Open to new or renovated buildings [or groups of related buildings] of any size, in which no individual use exceeds 75% of the overall floor area.

☐ **8. Existing Building Upgrade**
Open to buildings of any size or type in which the primary focus of the work has been to enhance the performance or extend the life of an existing structure. Entries in this category are required to respond only to the submission criteria appropriate to the project.

☐ **9. Interior Design**
Open to interior design projects of any size or type. Entries in this category are required to respond only to the submission criteria appropriate to the project.

**An award will be given in each category at the discretion of the jury.**

# PROJECT DETAILS

Project name: Limberlost Place, George Brown Polytechnic
Address: 185 Queens Quay East
Year completed: 2025

## PROGRAM AND CONTEXT

**Project type:** [Identify all uses occupying 10% or more of gross floor area]
Post-secondary educational

**Project site:** [Check all that apply]

- [ ] Previously undeveloped land
- [x] Urban
- [ ] Rural
- [Y] Previously developed land
- [ ] Suburban

**Other Building description:** [Check only one]

- [x] New
- [ ] Renovation
- [ ] Both [If both, list __% new and __% renovation]

**METRICS* Provide the following information as applicable to your project.**

- Site Area: 2324 $m^2$
- Building gross floor area: 18889 $m^2$

**Energy Use Intensity (EUI)**
This key metric measures the total energy consumption of a building per unit of gross floor area per year. This figure includes heating, cooling, lighting and operating equipment such as computers and elevators. For industrial and commercial buildings with specific processing equipment, identify this separately from the basic EUI figure.

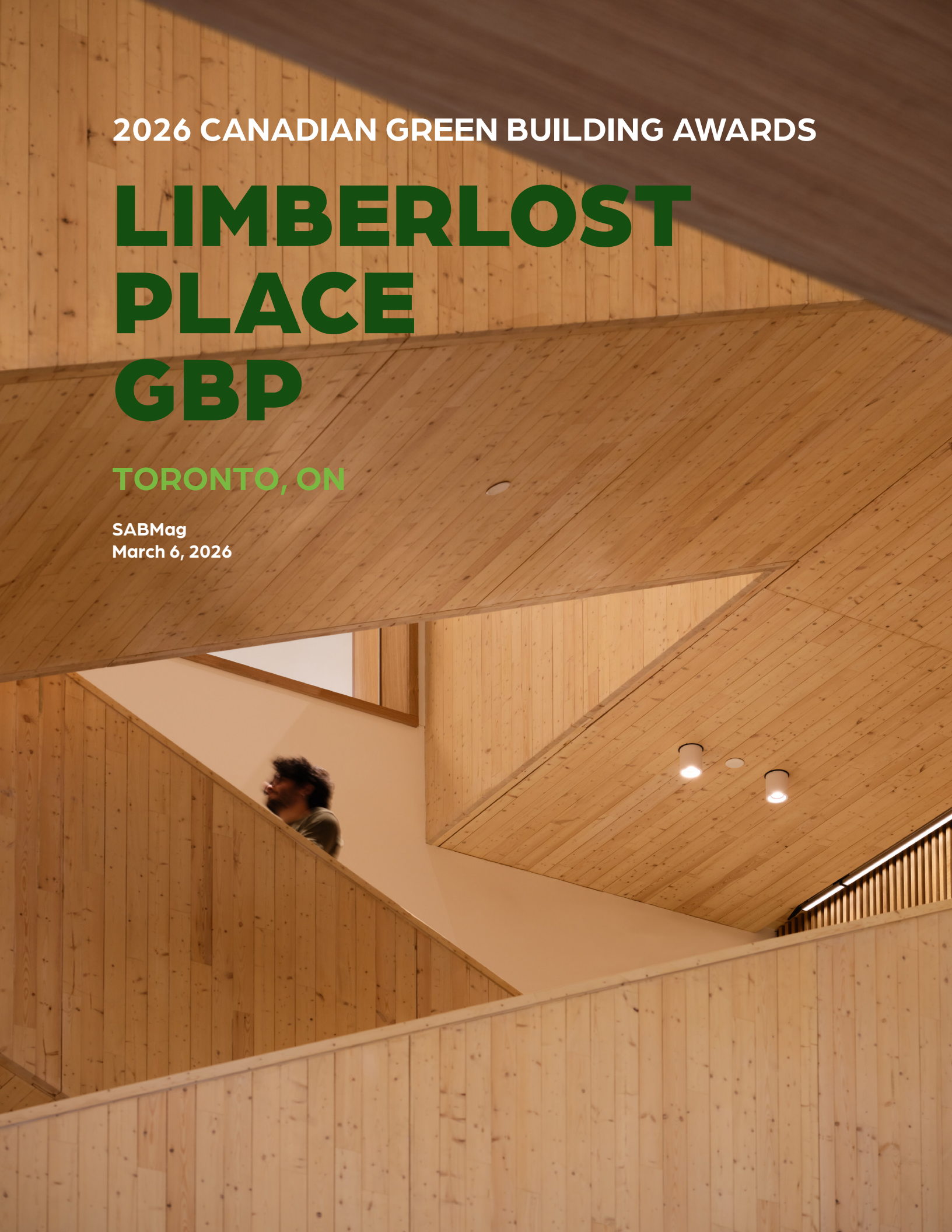
- Building EUI = 57.1 kWh/$m^2$/year
- Process EUI (if appropriate) = 14.3 kWh/$m^2$/year
- Reduction in EUI relative to reference building = 55 % please specify the standard used (ASHRAE/MNECB or other)
- State reference standard: ASHRAE

- Recycled materials content: N/A % by value
- Construction materials diverted from landfill: 75 %
- Regional materials by value: N/A
- Water consumption from municipal source: 1457 litres/occupant/year

[Include both base building and process consumption]

- Reduction in water consumption: 41 %
- State the reference on which the % reduction is based: [x] LEED or other [ ]

*NOTE FOR PART 9 RESIDENTIAL PROJECTS: PROVIDE THE STATISTICS ABOVE IF AVAILABLE. Include in the Executive Summary [see next page] the EnerGuide or the Home Energy Rating System [HERS] ratings if available, and the WalkScore rating [see www.walkscore.com]. Also, a qualitative assessment of project performance should be included in the appropriate sections of the narrative.



2026 CANADIAN GREEN BUILDING AWARDS

# LIMBERLOST PLACE GBP

## TORONTO, ON

SABMag
March 6, 2026

# Limberlost Place, George Brown Polytechnic

Toronto, Ontario

**ADDRESS**
185 Queens Quay East
Toronto, ON M5A 0B6

**YEAR COMPLETED**
2025

**PROJECT TYPE**
Educational

**PROJECT SITE**
Previously developed
Urban
New

**CLIENT**
George Brown Polytechnic

Limberlost Place is a 10-storey net-zero carbon assembly occupancy educational building for George Brown Polytechnic's waterfront campus in Toronto, Ontario. Procured through an international competition to realize a future-proofed, mass timber building, the project is a landmark institutional facility that currently serves as the world's largest exposed mass timber academic tower for research, learning, and teaching.

The building's ecological innovations include mass timber construction, natural ventilation strategies, daylight and rainwater harvesting, and a beamless structure that allows demising walls to adapt to the needs of the space. With radiant ceilings, under floor air delivery, and breathing rooms with solar chimney systems, occupant wellness and comfort was equally a priority, underlining the relationship between wellness, connectivity, and the environment. In addition to being LEED Gold Certified, the project achieves sustainability targets a decade in advance of Toronto's 2030 carbon reductions.

## Project Data and Performance Snapshot

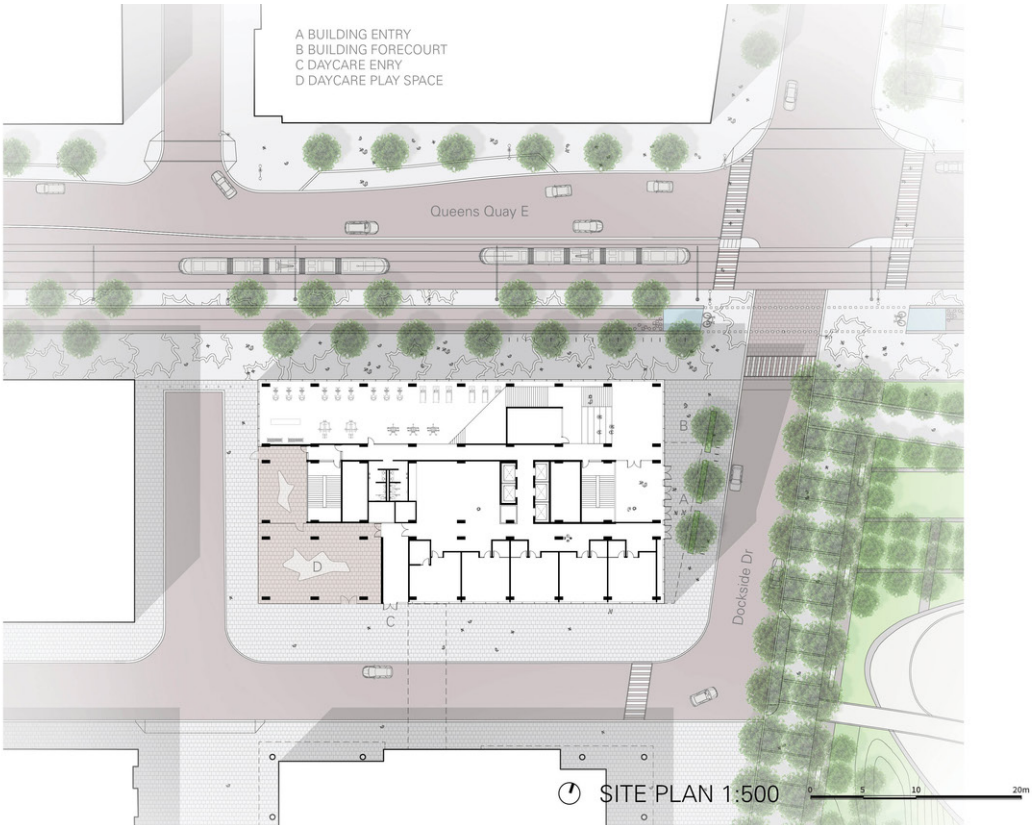
| Category | Metric | Project Value | Reference Standard | Improvement |
|---|---|---|---|---|
| Site | Site Area | 2,324 $m^2$ | | |
| Building | Gross Floor Area | 18,889 $m^2$ | | |
| Energy | Building Energy Use Intensity | 57.1 kWh/$m^2$/year | ASHRAE 90.1–2013 section 11, Ontario Building Code SB–10 Division 3 | 55 % reduction |
| Energy | Plug & Process Energy Use Intensity | 14.3 kWh/$m^2$/year | | |
| Energy | Renewable Energy Contribution | 25 % of total energy | | |
| Energy | Heating | 3.2 kWh/$m^2$/yr | | |
| Energy | Cooling | 3.2 kWh/$m^2$/yr | | |
| Carbon | Whole Life Carbon Assessment Conducted? | Yes | | |
| Carbon | Embodied Carbon | 399.78 kg $CO_2$e/$m^2$ | Concrete baseline | 32% reduction |
| Materials | Recycled Content by Value | N/A | | |
| Materials | Regional Materials by Value | N/A | | |
| Waste | Construction Waste Diverted from Landfill | 75% | | |
| Water | Consumption from Municipal Source | 1,457 litres/ occupant/year | | |
| Water | Reduction in Water Consumption | 41% | LEED v4 | |

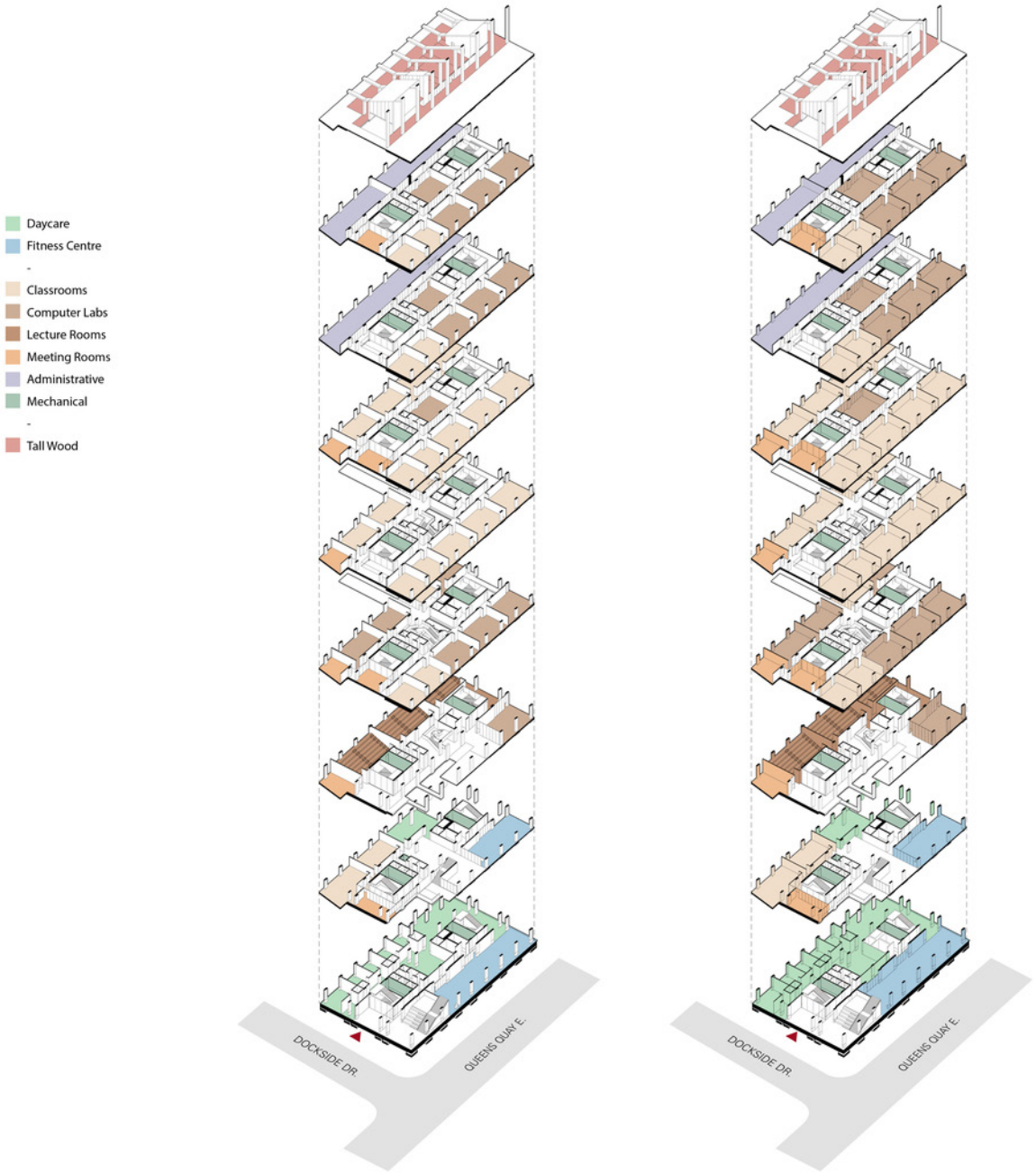
EXTERIOR VIEW OF LIMBERLOST PLACE FROM SHERBOURNE COMMON PARK

## Strategic Decisions

Limberlost Place stands on Toronto's waterfront as a defining achievement of Canadian design, embodying environmental responsibility and an ambition to expand the nation's architectural potential. Once a neglected industrial zone, the neighbourhood is now a pedestrian-oriented community with public parks and cultural institutions. Rooted in the beauty of Canada's forests and the vastness of Lake Ontario, the project reflects what is possible when a country turns to its landscape and knowledge systems to shape its future.

Passive design strategies include natural ventilation from solar chimneys, prefabricated panels that ensure airtightness, and the use of timber to sequester carbon. To complement these structures, the building also employs photovoltaics on the sloped roof; daylight harvesting that reduce electrical demands for lighting; and efficient heating and cooling systems reach net-zero. The building's ventilation units are decentralized, with two on each floor rather than one large unit on the top, which allows for units to be turned on when floors are occupied and frees up the top floor for alternative use.




Daycare
Fitness Centre
-
Classrooms
Computer Labs
Lecture Rooms
Meeting Rooms
Administrative
Mechanical
-
Tall Wood
DOCKSIDE DR.
QUEENS QUAY E.
DOCKSIDE DR.
QUEENS QUAY E.

## Community

Situated on Toronto's waterfront, the building marks George Brown Polytechnic's campus boundary by the shoreline while integrating into the adjacent park Sherbourne Common and open landscape. The project strengthens physical and operation connections through its integration with existing pedestrian routes, a service tunnel, and a fifth-floor pedestrian bridge linking to the adjacent academic building.

These paths enable individual facilities to exist as a unified campus, fostering a sense of student life in the heart of the city. Located near Union Station, Limberlost Place is easily accessible by public transportation for residents and commuter students in the Greater Toronto Area traveling by regional public transit services such as TTC, GO Transit, UP Express, and Via Rail.

## Site Ecology

Prior to construction the site was a paved surface public parking lot. No buildings had to be demolished prior to construction.

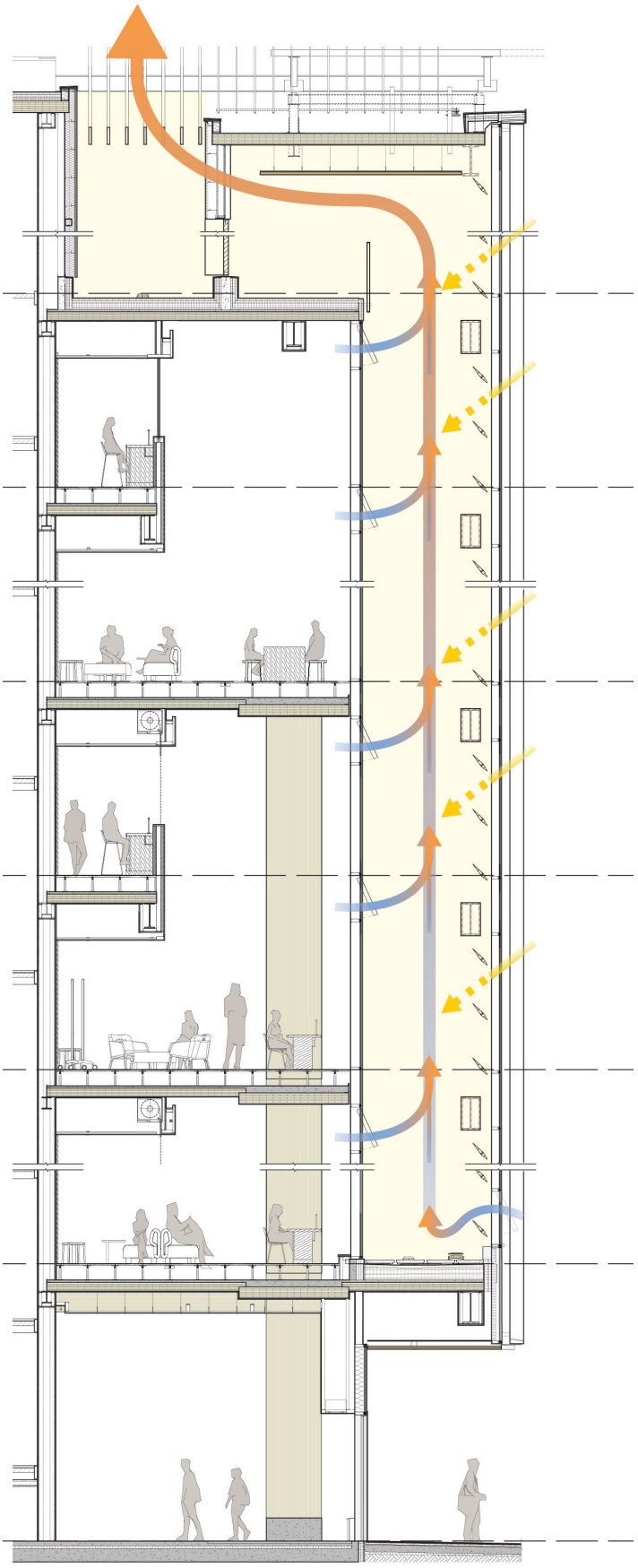
**LIMBERLOST PLACE, ON GEORGE BROWN POLYTECHNIC'S WATERFRONT CAMPUS**


MARY'S PLACE
CHILD CARE CENTRE

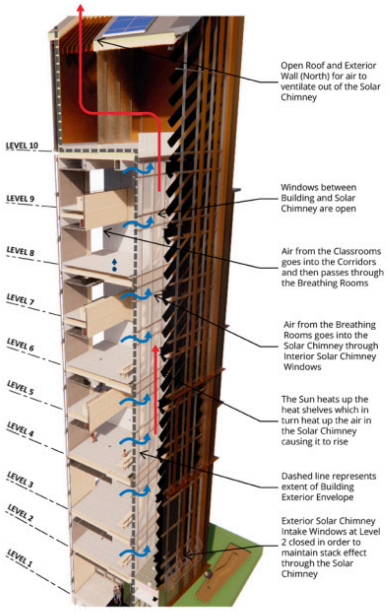
## Light and Air

The 52.5-metre tall building uses a beamless mass timber system that maximizes space and abundant access to natural daylight. Solar chimneys draw air naturally through operable windows, reducing fan energy. The vertical shafts run from level 2 to the roof, with an inlet on each floor and an outlet at the roof. The air in the shaft is heated by the sun, creating a stack effect.

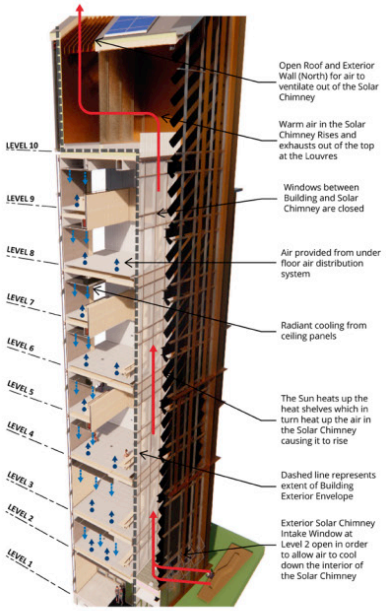
During the shoulder seasons when the temperature, humidity, wind and air quality are adequate, the building automation system notifies faculty to open windows.  When windows open, the ventilation units on the floor turn off, solar chimney windows open, the louvers on the roof open and air gets drawn from classrooms, into the corridors and out through the chimneys.



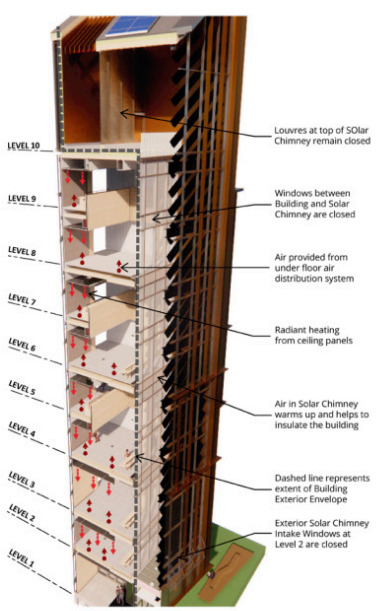
SOLAR CHIMNEY SECTION DETAIL




1 PASSIVE - NATURAL VENTILATION MODE

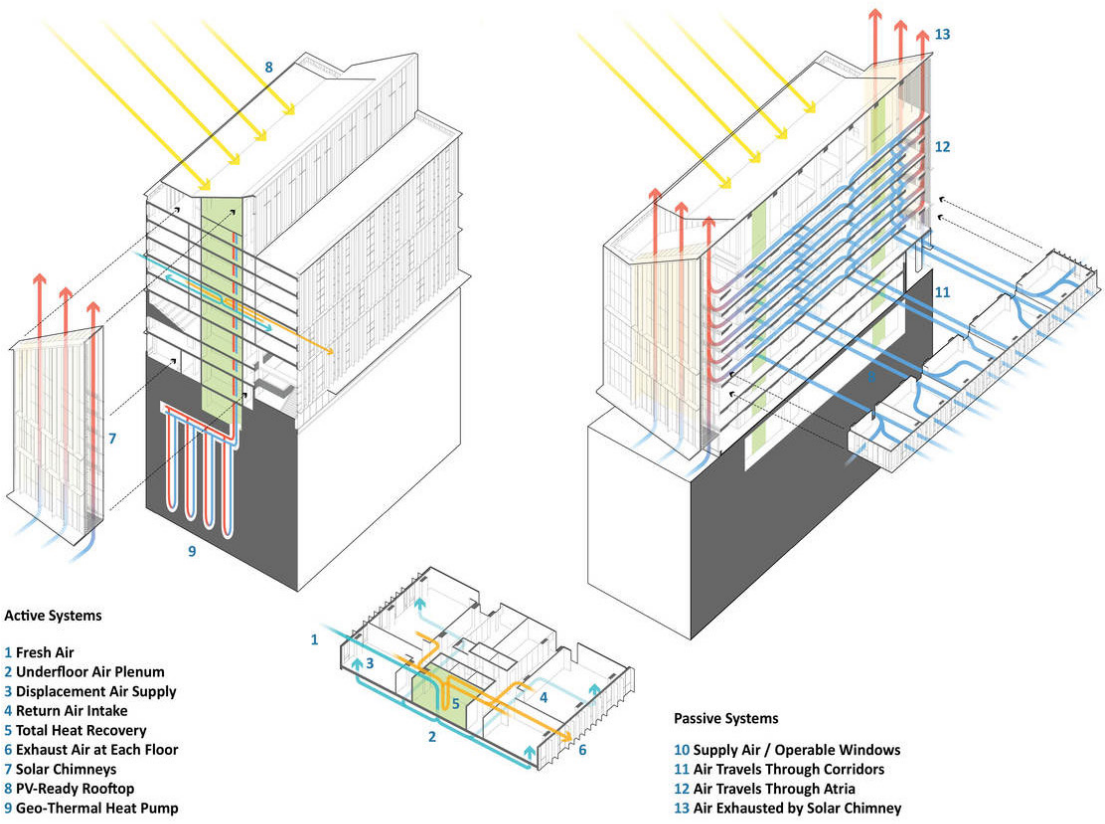



2 ACTIVE - COOLING MODE

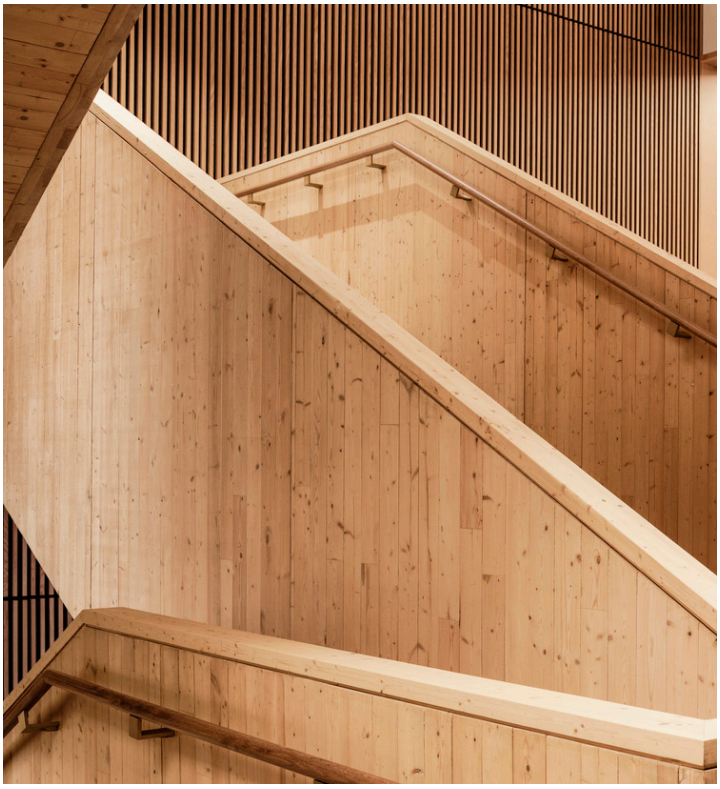



3 ACTIVE - HEATING MODE

## HEATING AND COOLING SYSTEMS




## ACTIVE AND PASSIVE SYSTEMS



## Wellness

Limberlost Place is organized around "breathing rooms" distributed across all storeys of the building, with social spaces of varied scales and functions to facilitate gathering. With exposed wood interiors from the mass timber structure, the internal surfaces embody biophilic design principles that improve well-being, enhance mood, and boost cognitive function.

The warmth and texture of the material resemble a clearing in the forest, evoking a sense of calm for students. Natural daylight and fresh air from the building's unique form supports mental health by regulating circadian rhythm and lowering cortisol.

## Water Conservation

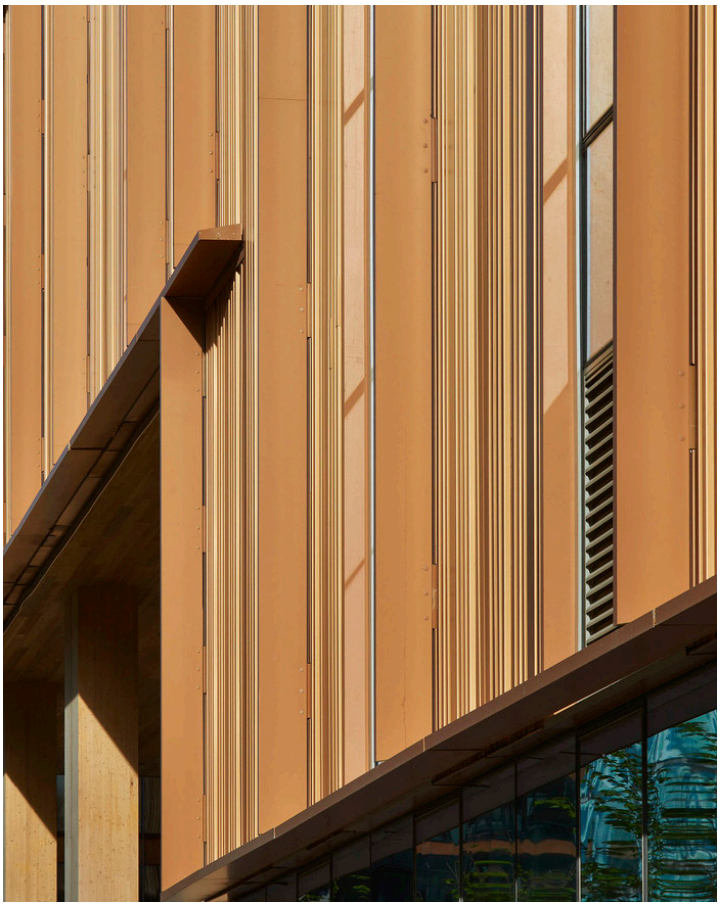
On flat portions of the roof, the building features a 6-inch intensive green roof. Rainwater is harvested and stored for use in toilet flushing and landscape irrigation. This simultaneously minimizes water usage and diverts stormwater from the municipal system to alleviate flooding.

## Operating Energy Present and Future

The building uses no fossil fuels for heating, instead using deep-water cooling by circulating water pumped from Lake Ontario. Through solar chimneys positioned at both west and east ends of the building, natural passive ventilation allows for mechanically ventilated systems to be shut down for up to 44% of year.

The annual energy usage is 3.2 kWh/m$^2$/yr for heating, and 0.8 kWh/m$^2$/yr for cooling. A roof-mounted solar array generates 25% of Limberlost Place's energy consumption to offset GHG emissions generated in the electricity grid.

| End-Use Category | Annual Energy (MWh) | TEUI (kWh/m$^2$/yr) |
|---|---|---|
| Interior Lighting | 270.0 | 14.9 |
| Heating – Electric | 58.0 | 3.2 |
| Cooling | 14.3 | 0.8 |
| Pumps | 5.1 | 0.3 |
| Fans | 149.0 | 8.2 |
| Service Water Heating – Electric | 269.2 | 14.8 |
| Exterior Lighting | 4.3 | 0.2 |
| Elevators | 55.6 | 3.1 |
| Plug and Process – Electric | 259.9 | 14.3 |
| PV | -49.7 | -2.7 |
| **Total** | **1035.8** | **57.1** |



EXTERIOR VIEW, ALUMINUM CLADDING

INTERIOR VIEW, EXPOSED WOOD

## Materials and Resources

Mass timber was central to the competition brief and the project's sustainability goals. Unlike steel or concrete, which generate significant carbon emissions during production, timber is renewable, low-carbon, and acts as a carbon sink to store greenhouse gases. All the material was sustainably harvested in northern Quebec and supplied by Nordic Structures, a Canadian company recognized internationally for engineered wood products.

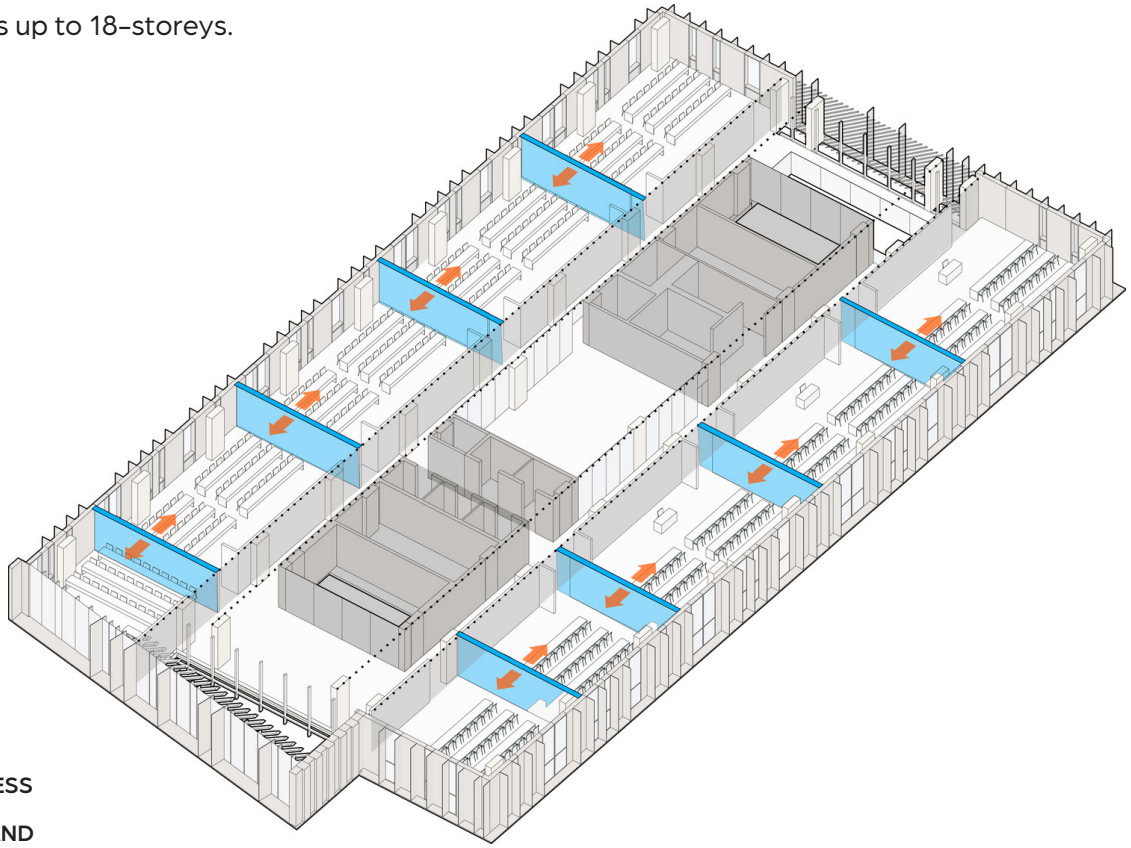
For the outside, the design team developed a prefabricated aluminum cladding system in a copper-penny hue. This material offers durability and fire safety, while the warmth of the colour complements the timber interior and reinforces the building's vertical rhythm.

## Building Life Cycle Considerations

Limberlost Place was designed to accommodate change in academic programs, operations, and student demographics. With society's rapidly changing technologies and priorities, the non-structural demising walls will allow George Brown Polytechnic to adapt the building to the needs of students. Post-construction, a comprehensive Whole Life Carbon Assessment was conducted, achieving a total embodied carbon intensity of 399.78 kg $CO_2e/m^2$ through the built mass timber solution. Relative to a concrete baseline, there was a structural embodied carbon savings of 32%.

## Education and Information Sharing

Prior to this project, Ontario's building codes dictated that 6 storeys was the maximum height for mass timber buildings. By constructing Canada's first tall institutional mass timber building at 10 storeys, we sought to demonstrate leadership and inspire broader industry adoption of sustainable building practices. The project directly contributed to changes in Ontario's building codes, which was amended in 2024 to allow tall wood buildings up to 18-storeys.



**THE LARGE SPAN, BEAMLESS STRUCTURE ENABLES DEMISING WALLS TO EXPAND AND CONTRACT, PROVIDING FLEXIBILITY OF SIZES FOR A VARIETY OF LEARNING SPACES**