ABDUL LADHA
SCIENCE STUDENT CENTRE

ARCHITECT | Johnston Davidson Architecture
STRUCTURAL ENGINEER | CY Loh Associates
CONSTRUCTION MANAGER | Bird Construction
ADDRESS | 2055 East Mall, Vancouver BC

Photo courtesy: Johnston Davidson Architecture
The Abdul Ladha Science Student Centre is one of a few independent student society buildings on campus, the first of its kind to provide socializing and studying space for students within the Faculty of Science. The design features locally sourced mass timber elements in the primary supporting walls and roof, as well as glue laminated timber (GLT) columns and beams that uphold the structure. The use of wood was intended to bring a sense of strength, stability, and warmth to the structure, and was chosen for its local availability and sustainable attributes. Additionally, the exterior wall finish is clad with cedar siding.

**GLT**
- Columns and beams

**GROSS FLOOR AREA**
- 812 m²

**HEIGHT**
- 9 m | 3 storey

**PROGRAM**
- Academic

**FUNCTIONS**
- Study lounges and meeting rooms

**CONSTRUCTION**
- 2005 - 2006

**MEP CONSULTANT**
- Stantec

**PROJECT COST**
- CDN$3,2M (2006)
ALMA MATER
SOCIETY
STUDENT NEST

ARCHITECT | Dialog Design and B+H Architects
STRUCTURAL ENGINEER | RJC Engineers
CONSTRUCTION MANAGER | Bird Construction
ADDRESS | 6138 Student Union Blvd, Vancouver BC

Photo: Ema Peter | Courtesy: Dialog Design and B+H Architects
The Alma Mater Society (AMS) Student Nest strives to be a welcoming and inclusive student centre, hosting a wide range of functions including retail and food services, student club rooms, and meeting spaces. The building’s structure is mainly concrete while strategically employing mass timber structural elements to enhance the design. The East atrium stands out for its four-story-high, curved glue laminated timber (GLT) columns. The West atrium’s saw tooth roof is constructed with cross laminated timber panels (CLT), supported by GLT trusses. The Nest fully embraces sustainability in both its functions and built-form.

**GLT**
Columns in East and main atriums, and roof supports

**CLT**
Sawtooth roof and sky-bridges floor

**CONCRETE**
Foundation and main structure

**GROSS FLOOR AREA**
23,699 m²

**HEIGHT**
12 m | 5 storeys

**PROGRAM**
Community

**FUNCTIONS**
Social spaces, food services, retail, meeting and study rooms, climbing wall

**CERTIFICATION**
LEED Platinum (2017)

**MEP CONSULTANT**
AME Group

**SUSTAINABILITY CONSULTANT**
Halsall Associates and Dialog Design

**CONSTRUCTION**
2012-2015

**PROJECT COST**
CDN$109,6M (2015)

More info: [https://www.ams.ubc.ca/the-nest](https://www.ams.ubc.ca/the-nest)
BIOENERGY RESEARCH AND DEMONSTRATION FACILITY

ARCHITECT | McFarland Marceau Architects
STRUCTURAL ENGINEER | RJC Engineers
CONSTRUCTION MANAGER | Ledcor Group
ADDRESS | 2335 Lower Mall, Vancouver BC
The Bioenergy Research and Demonstration Facility (BRDF) is an energy generation facility that processes wood waste biomass to generate thermal energy for the UBC campus. The building features an exposed mass timber structure, with Douglas-Fir glue laminated timber (GLT) columns and beams attached through steel connectors, and Spruce-Pine-Fir cross-laminated timber (CLT) panels for the floor, walls, and roof. The CLT panels were fabricated locally, mostly from 90% pine beetle-affected lumber. The BRDF is one of North America’s first industrial buildings to be constructed with CTL panel technology.

**GLT**
Columns and beams

**CLT**
Exterior walls, floors, and roof

**CONCRETE**
Foundation and cogeneration engine room

**GROSS FLOOR AREA**
1,971 m²

**HEIGHT**
17.3 m | 4 storeys

**PROGRAM**
Utility

**FUNCTIONS**
Power plant, laboratory, offices

**CERTIFICATION**
LEED Gold (2014)

**MEP CONSULTANT**
Stantec

**SUSTAINABILITY CONSULTANT**
McFarland Marceau Architects

**CONSTRUCTION**
2010-2012

**PROJECT COST**
CDN$27.4M (2012)

More info: [https://www.sustain.ubc.ca/research/research-collections/bioenergy-research-demonstration-facility](https://www.sustain.ubc.ca/research/research-collections/bioenergy-research-demonstration-facility)
BROCK COMMONS TALLWOOD HOUSE

ARCHITECT | Acton Ostry Architects
STRUCTURAL ENGINEER | Fast + Epp
CONSTRUCTION MANAGER | Urban One Builders
ADDRESS | 6088 Walter Gage Road, Vancouver BC
The Brock Commons Tallwood House is an 18-storey mass timber hybrid high-rise, the first of its kind in Canada. Apart from having concrete foundation, ground floor, and elevator cores, the building is predominantly formed by a mass timber structure. It features prefabricated cross-laminated timber (CLT) floor panels, supported mostly on glue laminated timber (GLT) columns and some parallel strand lumber (PSL) columns. Tallwood House provides accommodation for more than 400 students. The building used more than 2,300 m$^3$ of wood and is one of the tallest hybrid mass timber structures to date.

**GROSS FLOOR AREA**
15,120 m$^2$ | 162,750 ft$^2$

**HEIGHT**
54 m | 18 storeys

**PROGRAM**
Student residence

**FUNCTIONS**
Student residences, social and study spaces, meeting room

**CERTIFICATION**
LEED Gold (target)

**MEP CONSULTANT**
Stantec

**SUSTAINABILITY CONSULTANT**
Stantec

**CONSTRUCTION**
2015-2017

**PROJECT COST**
CDN$51,5M (2017)

More info: [https://sustain.ubc.ca/research/research-collections/brock-commons-tallwood-house](https://sustain.ubc.ca/research/research-collections/brock-commons-tallwood-house)
C.K. CHOI BUILDING for the Institute of Asian Research

ARCHITECT | Matsuzaki Wright Architects
STRUCTURAL ENGINEER | Read Jones Christoffersen Consulting Engineers
CONSTRUCTION MANAGER | Country West Construction
ADDRESS | 1855 West Mall, Vancouver BC
The C.K. Choi Building houses the Institute of Asian Research, the Institute for European Studies and the Pacific Affairs journal. The building was designed to reach new benchmarks in sustainability, and is therefore considered the first green building on the UBC Vancouver Campus. The building features innovative Douglas-fir heavy timber structure, as well as glue laminated timber (GLT) columns and beams mainly as the support of the curved atrium roofs. The project team made use of reused construction materials such as timber salvaged from the neighboring deconstructed Armories Building.

**GLT**
- Atrium roof

**HEAVY TIMBER**
- Columns and beams

**RECYCLED BRICK**
- Exterior cladding

**CONCRETE**
- Foundation

**GROSS FLOOR AREA**
- 2,912 m²

**HEIGHT**
- 15.7 m | 3 storeys

**PROGRAM**
- Academic

**FUNCTIONS**
- Offices, classroom, library

**MEP CONSULTANTS**
- Mechanical: Keen Engineering
- Electrical: Freudlich & Associates

**CONSTRUCTION**
- 1996

**PROJECT COST**

CAMPUS ENERGY CENTRE

ARCHITECT | Dialog Design
STRUCTURAL ENGINEER | Fast + Epp
CONSTRUCTION MANAGER | Ledcor Group
ADDRESS | 6130 Agronomy Road, Vancouver BC

Photo: Ema Peter | Courtesy: Dialog Design
The Campus Energy Centre (CEC) is a state-of-the-art hot water boiler facility and the primary energy source for the academic campus district energy system. The primary structure consists of locally sourced cross-laminated timber (CLT) panels supported by glue laminated timber (GLT) columns and beams that span twenty metres across the facility. Zinc metal shrouds are used as the building envelope, meeting ventilation and light transparency requirements. The CEC building and facility support UBC in achieving their goal of reducing green house gas emissions.

GLT
Columns and beams

CLT
Exterior walls and roof

METAL SHROUD
Exterior cladding

CONCRETE
Foundation

GROSS FLOOR AREA
1,858 m² | 19,992 ft²

HEIGHT
17 m | 2 storeys

PROGRAM
Utility

FUNCTIONS
Power plant

CERTIFICATION
LEED Gold (2017)

MEP CONSULTANTS
Mechanical: FVB Energy
Electrical: Applied Engineering Solutions

SUSTAINABILITY CONSULTANT
Recollective Consulting

CONSTRUCTION
2013-2015

PROJECT COST
CDN$24M (2015)

More info: https://energy.ubc.ca/projects/district-energy/campus-energy-centre
CENTRE FOR
ADVANCED
WOOD PROCESSING

ARCHITECT | Dalla-Lana Griffin Dowling Knapp Architects
STRUCTURAL ENGINEER | CWMM Consulting Engineers
CONSTRUCTION MANAGER | Swagger Construction
ADDRESS | 2424 Main Mall, Vancouver BC
The Centre of Advanced Wood Processing (CAWP) is Canada's national centre for education, training, and technical assistance for the wood products manufacturing industry. The building was designed to feature the latest innovations in engineered wood products and techniques. In combination with a concrete foundation and basement, the structure is upheld by glue laminated timber (GLT) columns and beams. Additionally, heavy timber trusses are used to support the roof of its machine laboratory. CAWP is situated within the Forest Sciences complex, home to the UBC Faculty of Forestry.

**GROSS FLOOR AREA**
3,730 m²

**HEIGHT**
10.1 m | 3 storeys

**PROGRAM**
Academic

**FUNCTIONS**
Laboratories and classrooms

**MEP CONSULTANT**
Mechanical: DW Thompson Consultants
Electrical: Freundlich & Associates

**CONSTRUCTION**
1998

**PROJECT COST**
CDN$50,2M (1998)

More info: [https://cawp.ubc.ca](https://cawp.ubc.ca)
The Centre of Interactive Research on Sustainability (CIRS) is the flagship of Campus as a Living Lab and UBC’s sustainability hub. Since 2008, the building has also been the subject of sustainable building research. It consists of a hybrid structure, with cast-in-place concrete foundation, basement and ground level, and glue laminated timber (GLT) beams that support the auditorium roof. Nailed-laminated timber (NLT), sourced regionally from pine-beetle infested forests are used as floor decking. Additionally, the exterior cladding is stained Western cedar panels.

- **GLT**: Columns and beam
- **NLT**: Floors and roof
- **CEDAR PANELS**: Exterior cladding
- **CONCRETE**: Foundation, basement, and ground floor

**GROSS FLOOR AREA**: 5,675 m²

**HEIGHT**: 22 m | 5 storeys

**PROGRAM**: Academic

**FUNCTIONS**: Lecture halls, office space, meeting rooms, labs

**CERTIFICATION**: LEED Platinum (2013)

**MEP CONSULTANT**: Stantec

**SUSTAINABILITY CONSULTANT**: Perkins and Will Architects

**CONSTRUCTION**: 2009 - 2011

**PROJECT COST**: CDN$36.8M (2011)

More info: [https://www.sustain.ubc.ca/research/research-collections/centre-interactive-research-sustainability](https://www.sustain.ubc.ca/research/research-collections/centre-interactive-research-sustainability)