



THE UNIVERSITY OF BRITISH COLUMBIA

sustainability

ORCHARD COMMONS

ARCHITECT | Perkins and Will Architects

STRUCTURAL ENGINEER | Stantec

CONSTRUCTION MANAGER | Stuart Olsen Dominion Construction

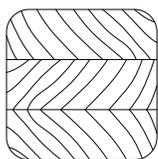
ADDRESS | 6363 Agronomy Road, Vancouver BC



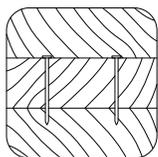


Photos: Michael Elkan | Courtesy: Perkins and Will Architects

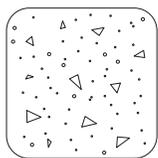
The UBC Orchards Commons development combines two 18-storey student housing residences, with a shared student commons area that houses amenities and food services. The structure of the commons area features exposed mass timber elements including glue laminated timber (GLT) columns and beams, along with nail laminated timber (NLT) roof and stairs. The NLT roof panels that cover over 1,800 m² over the commons area were fabricated with local wood fibres that provide an aesthetic timber soffit.



GLT
Columns and beams



NLT
Roof and stairs



CONCRETE
Foundation, mezzanine in commonsblock, structure for towers

GROSS FLOOR AREA
23,699 m²

HEIGHT
59 m | 18 storeys

PROGRAM
Student residence | Community

FUNCTIONS
Student residences, food services, social and study spaces

CERTIFICATION
LEED Gold (target)

MEP CONSULTANT
Stantec

SUSTAINABILITY CONSULTANT
Stantec

CONSTRUCTION
2014-2016

PROJECT COST
CDN\$125,9M (2016)

UBC BASEBALL INDOOR TRAINING CENTRE

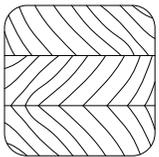
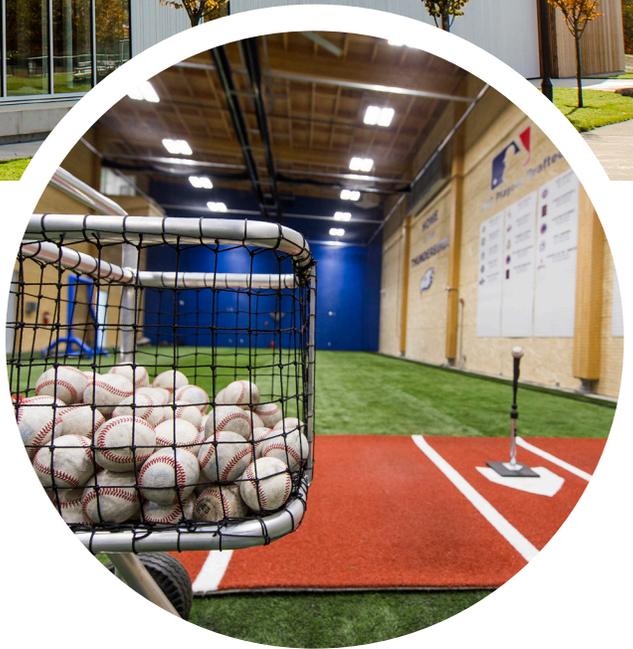
ARCHITECT | Michael Green Architecture
STRUCTURAL ENGINEER | Equilibrium Consulting
CONSTRUCTION MANAGER | Kindred Construction
ADDRESS | 3085 Wesbrook Mall, Vancouver BC





Photos: Rich Lam | Courtesy: UBC Athletics & Recreation

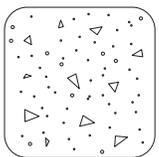
The state-of-the-art UBC Baseball Indoor Training Centre provides space for a comfortable training environment all year round. The building has a concrete foundation and a hybrid structure: the training area features exposed glue laminated timber (GLT) columns and beams and laminated strand lumber (LSL) tilt-up walls; the observation deck, offices, and visitor areas are conventional light wood frame structure. The structure is the first glulam LSL composite tilt up wall panel system of its kind.



GLT
Columns and beams



LSL
Exterior walls and walls in training area



CONCRETE
Foundation

GROSS FLOOR AREA
1,200 m²

HEIGHT
9.4 m | 2 storeys

PROGRAM
Athletics

FUNCTIONS
Baseball training, offices, community room

MEP CONSULTANT
Mechanical: AME Group
Electrical: Jarvis Engineering Consultants

CONSTRUCTION
2015

PROJECT COST
CDN\$3,5M (2015)

UBC BOOKSTORE

Expansion and Renovation

ARCHITECT | office of mcfarlane biggar architects + designers (omb)
STRUCTURAL ENGINEER | Fast + Epp
CONSTRUCTION MANAGER | Syncra Construction
ADDRESS | 6200 University Blvd, Vancouver BC

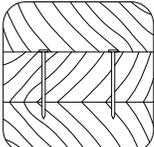
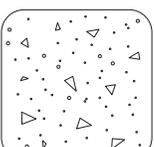




Photos: (Top) Andrew Latreille, (Circle) Ema Peter
 Courtesy: omb

Operating since 1917, the UBC Vancouver Bookstore building was renovated in 2013 to improve the space and expand its footprint. The building's new roof consists of prefabricated hybrid wood-steel panels made from nail-laminated timber (NLT) that integrate the mechanical and electrical systems as well as the roof membrane. These panels were manufactured off-site and installed in just three days. The new bookstore has an improved and brightened presence and provides a vibrant social space at the campus heart.



- 
NLT
 Ceiling
- 
STEEL
 Columns
- 
CONCRETE
 Foundation and structure

GROSS FLOOR AREA
 818 m²

HEIGHT
 7 m | 2 storeys

PROGRAM
 Academic

FUNCTIONS
 Retail and social/reading spaces

MEP CONSULTANT
 Mechanical: Cobalt Engineering
 Electrical: MMM Group

CONSTRUCTION
 2013-2014

PROJECT COST
 CDN\$6.6M (2014)

UBC FOOTBALL ACADEMIC CENTRE

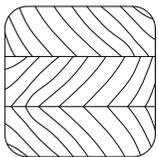
ARCHITECT | Musson Cattell Mackey Partnership
ENGINEER | ByCar Engineering
CONSTRUCTION MANAGER | Kindred Construction





Photos courtesy of: UBC Athletics & Recreation

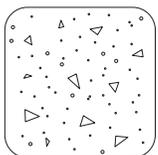
The UBC Football Academic Centre, situated adjacent to the football field at the UBC Thunderbird Stadium, provides space for the Varsity Football team to focus on their academic development. The building structure is composed of glue laminated timber (GLT) columns and beams, and nail laminated timber (NLT) ceiling and wall panels. The building features a retractable wall that opens fully to allow access and visibility to the stadium field.



GLT
Columns and beams



HEAVY TIMBER
Columns and beams



CONCRETE
Foundation

GROSS FLOOR AREA
161 m²

HEIGHT
1 storey

PROGRAM
Athletics

FUNCTIONS
Study space, meeting rooms

CONSTRUCTION
2015

PROJECT COST
CDN\$1,1M (2015)



THE UNIVERSITY OF BRITISH COLUMBIA

sustainability

UNIVERSITY BOULEVARD TRANSIT SHELTERS

ARCHITECT | PUBLIC Architecture + Communication

STRUCTURAL ENGINEER | Fast + Epp

ADDRESS | University Boulevard, Vancouver BC

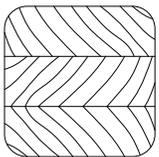


Photo courtesy: Fast + Epp



Photos courtesy: Fast + Epp

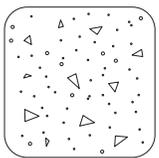
In 2013, two transit shelters were erected at the University Boulevard bus loop, and have since become an integral part to this boulevard's identity and redevelopment. Conceptually, the shelters act as an extension of the nearby Katsura tree line. Each shelter features an oversized cellular wood structure, clad in glass and supported by steel columns. The canopy form is achieved by repeating a single, easily prefabricated, glue laminated timber (GLT) module. Each module is an asymmetrical pentagon, rotated and flipped along its edges, and when assembled together create a lively hive-like structure.



GLT
Roof structure



STEEL
Columns



CONCRETE
Foundation

GROSS FLOOR AREA
2 shelters | 120 m² each

HEIGHT
4 m

PROGRAM
Academic

FUNCTIONS
Bus shelters

CONSTRUCTION
2013

PROJECT COST
CDN\$475K (2013)



THE UNIVERSITY OF BRITISH COLUMBIA

sustainability

UNIVERSITY HILL SECONDARY SCHOOL

ARCHITECT | Thinkspace Architecture Planning Interior Design

STRUCTURAL ENGINEER | Fast + Epp

CONSTRUCTION MANAGER | Bird Construction

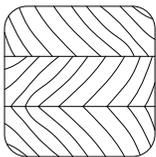
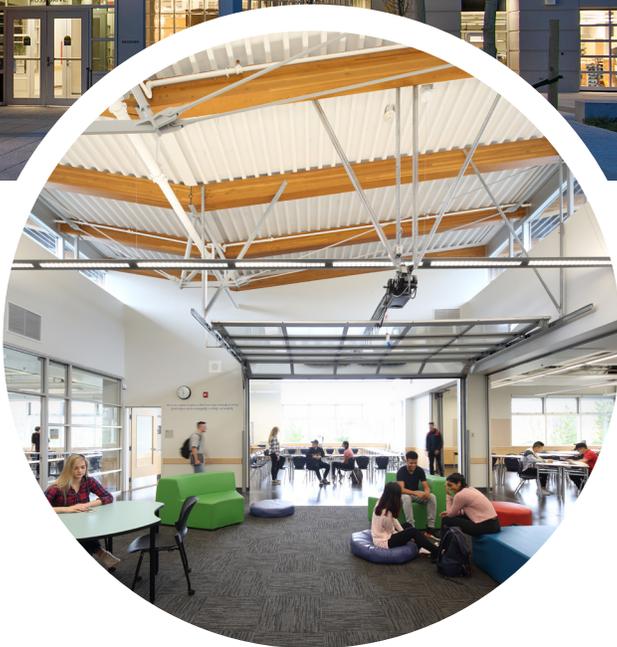
ADDRESS | 3228 Ross Drive, Vancouver BC





Photos: (Top) Courtesy: Jonathan Morgan & Company
 (Circle) Ema Peter | Courtesy: Thinkspace Architecture Planning Interior Design

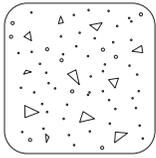
The University Hill Secondary School, located in the former UBC National Research Council building, was renovated, expanded and transformed into a new 800 student capacity school. The structure is mainly composed of concrete and steel and includes mass timber elements in strategic areas, in line with the Ministry of Education Wood First Initiative. Glue laminated timber (GLT) and heavy timber beams are used in the gym and studio roof to provide longer spans. GLT elements can also be seen at the entrance canopy.



GLT
 Columns and beams for gym, studio, and entrance canopy



HEAVY TIMBER
 Beams



CONCRETE
 Foundation and original structure

GROSS FLOOR AREA
 11,835 m²

HEIGHT
 11.7 m | 2 storeys

PROGRAM
 Academic (Grades 9 - 12)

FUNCTIONS
 Classroom, gymnasium, library, activity and meeting spaces

CERTIFICATION
 LEED Gold (2016)

MEP ENGINEER
 Mechanical: JM Bean & Company
 Electrical: Jarvis Engineering Consultants

SUSTAINABILITY CONSULTANT
 Graham Hoffart Mathasen Architects

CONSTRUCTION
 2012 - 2015

PROJECT COST
 CDN\$38M (2015)



THE UNIVERSITY OF BRITISH COLUMBIA

sustainability

WAYNE AND WILLIAM WHITE ENGINEERING DESIGN CENTRE

ARCHITECT | McFarland Marceau Architects

STRUCTURAL ENGINEER | Fast + Epp

CONSTRUCTION MANAGER | VanMar Constructors Inc.

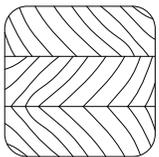
ADDRESS | 2345 East Mall, Vancouver BC



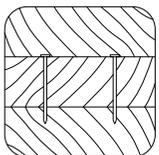


Photos: Derek Lepper | Courtesy: McFarlane Marceau Architects

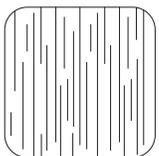
The Wayne and William White Engineering Design Centre provides students from the different UBC engineering departments with a design studio, workshops and project rooms for classes and meetings. While the building structure primarily consists of concrete and steel, the atrium features an extensive use of wood and is supported by a series of glue-laminated timber (GLT) columns and beams. The atrium also uses nail-laminated timber (NLT) panels for its roof and cedar sidings on the exterior walls as sunshades. Although not certified, the building is designed to LEED Gold standard.



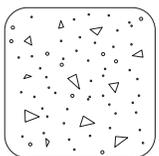
GLT
Atrium beams and columns



NLT
Atrium roof



WOOD SIDING
Sunshades



CONCRETE
Foundation and structure

GROSS FLOOR AREA
1,922 m²

HEIGHT
14.2 m | 3 storeys

PROGRAM
Academic

FUNCTIONS
Classrooms, study spaces, workshops, and mixed-use space

MEP ENGINEER
Mechanical: Stantec
Electrical: Acumen Engineering

CONSTRUCTION
2010 - 2011

PROJECT COST
CDN\$8,5M (2011)



THE UNIVERSITY OF BRITISH COLUMBIA

sustainability

WESBROOK COMMUNITY CENTRE

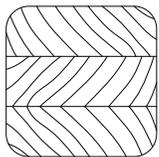
ARCHITECT | Francl Architecture and PUBLIC
STRUCTURAL ENGINEER | Equilibrium Consulting
CONSTRUCTION MANAGER | Scott Construction
ADDRESS | 3335 Webber Lane, Vancouver BC





Photos: Camille Esquivel | Courtesy: Franci Architecture

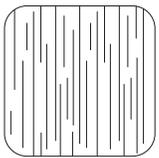
The Wesbrook Community Centre serves UBC neighbourhoods, in particular the residences of Wesbrook Place, by providing gathering space and amenities such as a fitness center, a gymnasium, and activity rooms. The building's columns and beams, including the series of arched, long spanning beams of the gymnasium, are made of glue laminated timber (GLT). The floors, walls, and roof consist mainly of cross-laminated timber (CLT) panels, while cedar panels were used for the façade. Wesbrook Community Centre is a high-performance building, designed to meet energy targets equivalent to a LEED Gold standard.



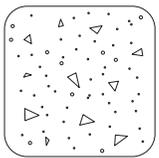
GLT
Columns and beams



CLT
Exterior walls, floors, and roof



CEDAR PANELS
Exterior cladding



CONCRETE
Foundation and columns

GROSS FLOOR AREA
2,913 m²

HEIGHT
11 m | 2 storeys

PROGRAM
Community

FUNCTIONS
Social spaces, fitness centre, gymnasium, activity and board rooms

MEP CONSULTANT
Rocky Point Engineering

SUSTAINABILITY CONSULTANT
Applied Engineering Solutions

CONSTRUCTION
2013-2015

PROJECT COST
CDN\$10,8M (2015)