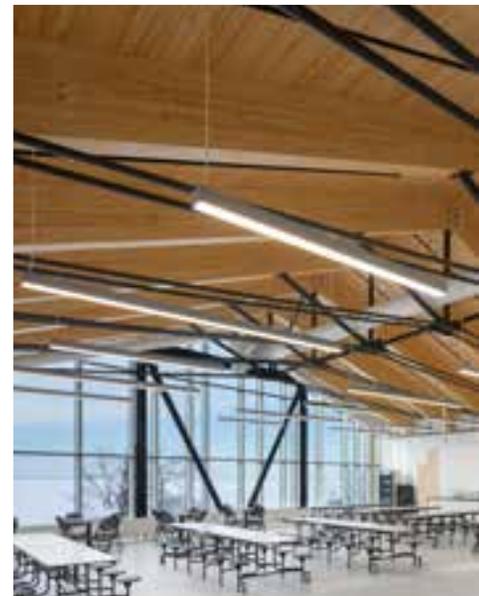




SPECIAL
8-PAGE SUPPLEMENT

EDUCATION BUILDINGS

SPRING 2019 – VOLUME 6, ISSUE 3



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DARE DISTRICT, ALGONQUIN COLLEGE, OTTAWA, ON
PHOTO: DOUBLESPEACE PHOTOGRAPHY

Education Is Key!

Wood *WORKS!* is a program of the Canadian Wood Council, with regional teams that work towards advancing the use of wood in commercial, industrial and institutional construction. In Canada, code changes take place every five years. If you couple this with the fact that advancements in wood research and technology are ongoing, then it is no surprise that education is a key driver for the Wood *WORKS!* program. Education is the underlined component that allows the Wood *WORKS!* teams (known as Cecobois in Quebec) to inform, train and connect people, while celebrating the use of wood in construction.

Famed author and motivational speaker Leo Buscaglia once said, “Change is the end result of all true learning.” Because of education, wood is now being recognized in more diverse applications as a safe, strong and sophisticated building material option. The ability to build tall with wood (above six storeys) is gaining momentum in Canada, as members of the design and construction community look to examples such as the University of British Columbia’s Brock Commons building – an 18-storey student residence.

Education has played a major role in contributing to the collective efforts for advancing wood in construction. As such, we thought it would be fitting to feature wood use in school buildings throughout Canada in this magazine insert.

Education is key! Wood *WORKS!* hosts numerous events throughout Canada in an attempt to bring the design and construction community up to speed on advancements in wood design, research and technology. Our eLearning Centre is a great online resource for anyone interested in learning more about wood products and their applications, and it is also a place where design professionals can earn continuing education credits.

Learn more about the Canadian Wood *WORKS!* program by visiting: www.wood-works.ca.

Etienne Lalonde
National Director
Wood *WORKS!*

Interested in attending a Wood *WORKS!* educational opportunity in your region? Check out the events listed in this insert and get involved with your regional Wood *WORKS!* today.

This Wood *WORKS!* magazine insert was created to help inspire design professionals throughout Canada. Do you have a project that features wood as a primary building material? Take advantage of our Wood *WORKS!* magazine insert and get featured today! Contact Natalie Tarini at ntarini@cwcc.ca, and share your story.

Mark your CALENDARS 2019 EVENTS

September 30–October 4

Woodrise 2019

Quebec City Convention Centre
1000 René-Lévesque Boulevard East
Quebec, QC
woodrise2019.ca

October 10

Wood Solutions Conference

Location TBD
Winnipeg, MB

November 5

Wood Solutions Conference

Vancouver Convention Centre East
999 Canada Place
Vancouver, BC
wood-works.ca/bc/wsc/

November 22

Toronto Wood Solutions Fair

The International Centre
(Conference Centre)
6900 Airport Rd.
Mississauga, ON
wood-works.ca/ontario/wsf

November 25

Atlantic Wood *WORKS!* Wood Design Awards

Location TBD
wood-works.ca/atlantic

November 29

Wood Design Luncheon Conference (10am-2pm)

Delta Hotels by Marriot
Grand Okanagan Resort &
Conference Centre
1310 Water Street
Kelowna, BC
[wood-works.ca/bc/educational-events/
luncheon-conferences/](http://wood-works.ca/bc/educational-events/luncheon-conferences/)

December 4

Wood Solutions Conference

Location TBD
Edmonton, AB
wood-works.ca/alberta

For upcoming events and updates,
please visit: cwcc.ca/event/



BRITISH COLUMBIA

PHOTOS: PETER POWLES PHOTOGRAPHY

Vancouver Kwakiutl Wagalus School

Port Hardy, BC

The Kwakiutl Wagalus School incorporates cultural values of significance into its design, and features local cedar in almost every element of the building. The Kwakiutl people consider Western red cedar to be the “tree of life,” so showcasing local cedar in the school was only natural. The structure is a combination of post-and-beam and strategically placed sheer walls, utilizing a multitude of engineered wood and natural lumber products. The multi-purpose room, inspired by the form and structure of the traditional Kwakwaka’wakw Big House, uses four large Western red cedar posts and beams hand-adzed by Kwakiutl community members to provide a rich textured surface on this monumental structure. Reminiscent of traditional cladding used in Big Houses, the interior walls are clad with vertical Western red cedar planks. The classrooms are constructed with glulam posts and beams, together with conventional-dimension wood framing. Custom-made cedar shiplap boards clad the exterior, and cedar soffits with articulated cedar fascias provide an elegant transition between the cladding and the roof. The gymnasium uses a system of prefabricated wood tilt-up panels that were assembled on-site within five days by a small crew. Exterior cladding for the gymnasium comprises of the custom-made Western red cedar shiplap boards installed in the form of large slanted scallops, adding three-dimensionality to the facade that fragments the scale of the large walls.



WINNER: 2019 WOOD DESIGN AWARD, WESTERN RED CEDAR

“A very nice integration of traditional cultural designs that feel contemporary.”—JURY COMMENT

OWNER

Kwakiutl Band

ARCHITECT

Lubor Trubka Architects

STRUCTURAL ENGINEER

CWMM Consulting
Engineers Ltd.

WOOD SUPPLIER

Macdonald & Lawrence
Timber Framing Ltd.



ALBERTA



PHOTOS: JIM DOBIE FOR GROUP2 ARCHITECTURE INTERIOR DESIGN LTD.

Edwin Parr Composite School

Athabasca, AB

The Edwin Parr Composite School is an 8,500-sq.m. facility for grades seven through 12, with capacity for 1,000 students. Located on the outskirts of Athabasca, Alberta, adjacent to Athabasca University, the school aims to equip students with the skills to thrive in the local economy, which includes a substantial forestry sector. Wood was a fitting material choice for the structure, highlighting both the natural beauty of

the rural/urban campus setting and the community's connection to the forestry industry.

Structural glulam beams are first seen as facade accents on approach to the school, and become an aesthetic unifying element running from the exterior through to the library, where double-height glazing opens up the space with light, coloured by a rich, warm wood ceiling. The glulam beams

continue through to create a material connection to a student gathering space farther in the interior. Structural wood decking runs the length of the school and acts as a highlight for collaborative learning and other ancillary spaces. Engineered wood products are a significant component for achieving the project's sustainability goals. The school is targeting LEED Silver certification.

CLIENT
Aspen Woods
School Division

BRIDGING ARCHITECT
Group2 Architecture
Interior Design Ltd.

**EXECUTIVE
ARCHITECT**
IBI Group

**STRUCTURAL
ENGINEER**
Arrow Engineering

WOOD SUPPLIER
Western
Archrib



PHOTOS: DOUBLESPEACE PHOTOGRAPHY



DARE District, Algonquin College

Ottawa, ON

The new 80,000-sq.ft. renovation and addition at Algonquin College's DARE (Discovery, Applied Research and Entrepreneurship) District building is comprised of four distinct but integrated program spaces that surround an exterior courtyard space.

A former two-storey library building located at the center of the campus was taken back to its concrete shell, and a new double-height third floor was added on top to house the reimagined Library and Learning Centre. The vaulted, curved wood roof of the dramatic third-floor addition extends above the surrounding buildings, creating a distinct profile that has become a beacon within the campus.

The use of wood was key to achieving the distinctive roof profile. Mass timber components prefabricated off-site provided an ideal solution to create the unique form of the roof and contributed to an accelerated construction schedule.

The design incorporates several features that enhance the visual appearance of the timber roof structure, including:

- slots in the underside of the NLT roof deck panels to accommodate recessed sprinkler lines,
- trenches in the roof deck's exterior gutter at the north end to reduce the impact of the drainage system, and
- electrical wiring installed on the top surface of the NLT deck panels to service interior lighting fixtures.

The primary roof structure consists of 2x14-m. NLT panels, supported by 356x1026-mm. glulam beams. The NLT panels that form the roof deck are 140 mm. deep, with 184-mm. deep panels in the areas subject to increased loads from drifting snow.

On the west elevation, 80x190-mm. glulam columns function as mullions for the three-storey-high curtain wall. The wood columns are prominent from the

exterior courtyard, and inside create the effect of a dynamic wood screen. The wood "screen" is experienced along the full length of a feature stair, which runs along the west elevation and connects all levels of the DARE District, terminating in a three-storey atrium that is flooded by abundant daylight from the curtain wall and clerestory glazing along the north and south sides.

The curved roof is an elegant expression of the new Library and Learning Centre, which is used by students 24 hours a day. Exposed wood beams and soffit create a warm and inviting environment for the library interior, and the exposed NLT and wood slat acoustic panels absorb sound, contributing to excellent acoustics. The DARE District's design transforms the heart of the campus, reflecting the contemporary and innovative vision of the College with its dynamic new spaces.

ARCHITECTS

Diamond Schmitt Architects and
Edwards J. Cuhaci and Associates
Architects Inc. [joint partnership]

STRUCTURAL ENGINEER

Ajeleian Allen Rubeli Ltd.

WOOD SUPPLIER

Timber Systems Ltd.

CONSTRUCTION MANAGER

PCL

QUEBEC



PHOTOS: STÉPHANE GROLEAU

Métis Beach Intermediate School

Métis-sur-Mer, QC

Since the end of October 2018, the students of Métis Beach School in Métis-sur-Mer have been enjoying their brand-new building, designed to provide them with a stimulating learning environment. This expansion project, in which wood was integrated in various ways, allowed for the addition of seven new classrooms, a community hall, a gymnasium and a science and tech lab.

As soon as you enter the building, home to students from kindergarten through grade 11, you immediately notice the resolutely modern look of the facilities. You also notice the architects' reverence for wood, which is used abundantly both on the inside and the outside. Left exposed, the glulam structure is complemented by wood veneer elements on the inside and the pine exterior cladding on the ground floor. These materials visually enhance certain parts of the building while also often serving a functional role.

Wood was chosen for the project with the aim of achieving a combustible construction, but also, and above all, to bring warmth to the spaces which are used by the entire community, even on evenings and weekends.

Innovative redesigned spaces

The Métis-sur-Mer School includes some ingeniously designed, forward-looking spaces featuring wood, created to adapt to the

expected growth of the school's population.

The community hall, with its vaulted wood ceiling, has multiple uses. It serves first as the cafeteria. Secondly, students can enjoy the hall's small modern library, built in a charming wood-paneled alcove. The location of the new-style library creates a different dynamic than traditional libraries, since the readers are in the action all while being tucked away in the hushed calm of the alcove. And the opposite is also true. Seeing students reading can inspire the other children to finish their lunch period in this reading/lounge area.

This alcove design element is repeated in the corridors. However, beyond acting as a simple design element, these alcoves were included in the project in order to eventually house more lockers for future students. The classroom entrances also feature alcoves which provide spaces for integrated signage.

Challenges

The team encountered a few challenges along the way. Among these was the misalignment of the gymnasium in relation to the street. Since the building forms an "L" shape, it was necessary to bring the leg of the "L" towards the interior. The choice of wood therefore helped to stabilize the structure by making the roof diaphragm more rigid than if the architects had opted for another material.

ARCHITECTS

A consortium composed of CCM2
Architectes and Proulx Savard Architectes

ENGINEERING

LGT,
Rimouski Office

GENERAL CONTRACTOR

Habitat Construction Matane

EXPOSED WOOD STRUCTURE AND BRIDGING SUPPLIER

Art Massif



Portugal Cove–St. Philip's School

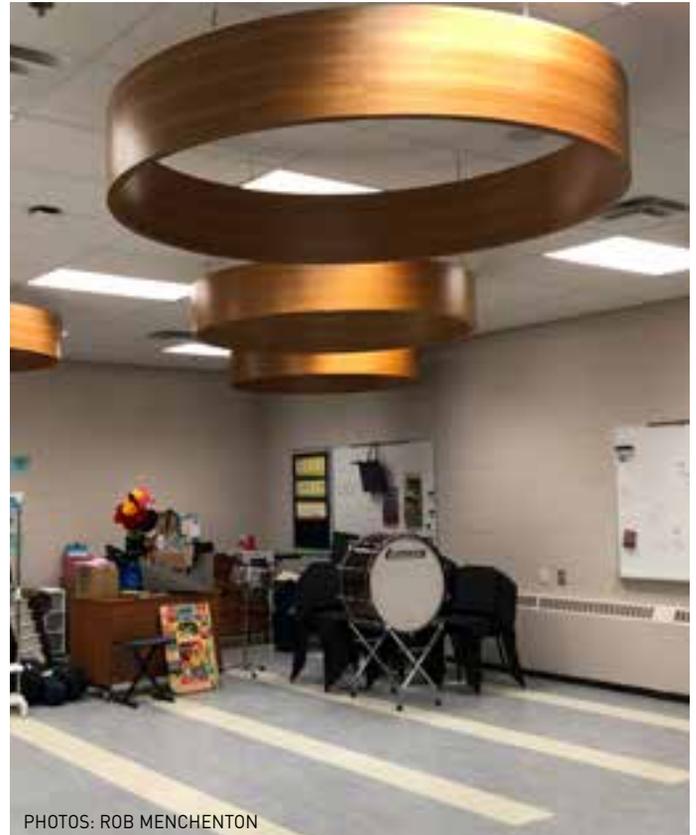
Portugal Cove–St. Philip's, NL

Nestled in a green site that was an expansion of open recreational space in the small rural area of Portugal Cove–St. Philip's, outside of St. John's, the new school designed to accommodate grades five through nine was an opportunity for Fougere Menchenton Architecture to further explore a wood building technology previously used in the Paul Reynolds Community Centre, which they had just completed with CEI Architecture. With the requirement for non-combustible construction on the table, the architects at Fougere Menchenton learned that heavy timber, including CLT and glulam, could be detailed to be used in conformance with the National Building Code, to provide a new use of wood in the construction of schools within the province of Newfoundland and Labrador.

On a physiological level, it was also sensitively used to bring a warm and natural material to the interior spaces where students and staff would congregate, and it is well suited to the rural area of Newfoundland and Labrador. The CLT and glulam was used in the multi-purpose cafeteria space and the student library, which benefits from large open spans, high ceilings and natural daylight.

The initial focus was on using CLT as an alternative to the traditional metal deck and open web steel joist roof structure typically used in provincial schools, but in a next step, it was combined with glulam joists to add a visual and structural depth to the entire assembly. This depth was also studied in detail to work in concert with the HVAC, lighting and piping systems for an integrated solution. The architects worked with the engineers to ensure systems were grouped intelligently, and the result is a visual simplicity to the building systems that are enhanced by the natural colour and grain of the wood.

Wood was also explored as a smaller detail in the main staircase, and as an accent in the form of acoustic panels in the music room. The main staircase is important as the central vertical circulation for students and staff, and it was



PHOTOS: ROB MENCHENTON

an opportunity to use wood as a visual connection between the two floors. Continuous vertical wood members and CLT were used to provide a screen on an otherwise open stair to the second level. This enhances the vertical nature of the stair's connection, provides the code-required guard and added a welcoming, natural material to the focal space of the school.

ARCHITECT

Fougere Menchenton
Architecture Inc.

STRUCTURAL ENGINEER

DBA Consulting
Engineers Ltd.

CIVIL ENGINEER

Pinnacle Engineering Ltd.

MECHANICAL & ELECTRICAL ENGINEER

Rowell Appleby Newton Engineering

NATIONAL PARTNERS

Canadian Wood Council
Conseil canadien du bois



Natural Resources Canada

Ressources naturelles Canada



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Account **TECH**



CertainTeed
SAINT-GOBAIN



StructureCraft



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guardian Structures



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