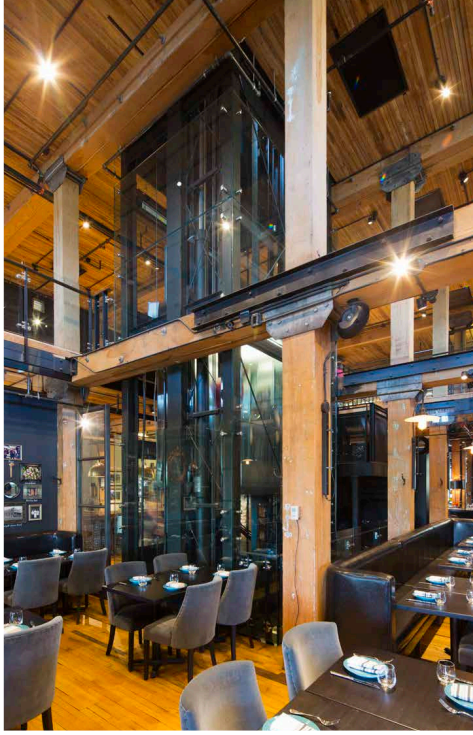
SPECIAL
8-PAGE SUPPLEMENT

LOW-RISE COMMERCIAL BUILDINGS

FALL 2018 – VOLUME 6, ISSUE 1



WHAT'S INSIDE

woodWORKS! Program of the Canadian Wood Council
cecobois Centre d'expertise sur la construction commerciale en bois
Canadian Wood Council / Conseil canadien du bois

AUDAIN ART MUSEUM. PHOTO CREDIT: JAMES DOW

Wood Helps Redefine Low-Rise Commercial Buildings

One thing that all low-rise commercial buildings have in common is the need for versatility. This is often dictated by factors such as the area of land available, the main use/occupancy of the building, and the budget. A market once dominated by other building materials, there has been a shift toward using wood in low-rise commercial construction. The decision to use wood over other building materials is cost considerate – factoring in both the financial and the environmental benefits of wood use in construction.

The Canadian building examples in this magazine insert demonstrate that wood is aesthetically a great option for low-rise commercial construction. Gone are the days of lackluster designs. Today's tenants/occupants are embracing the warm tones of exposed wood and benefiting from its biophilic properties. Pre-fabrication and ease of use are some of the additional benefits of choosing wood for low-rise construction.

Canadian Wood *WORKS!* is a national program with the goal to increase the use of wood in commercial, industrial, and institutional construction. With regional programs in British Columbia, Alberta, Ontario, Quebec (referred to as Cecobois), and Atlantic Canada, Wood *WORKS!* has technical experts to address any wood-related questions for construction.

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 research and technology. The eLearning Centre is a great online resource for anyone interested in learning more about wood products and their applications; it is also a place where design professionals can earn continuing education credits.

Learn more about the Canadian Wood *WORKS!* program at 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@cwc.ca, and share your story.

Mark your CALENDARS

2018 EVENTS

October 16
Fire Demonstration Workshop 2.0 – Understanding Fire Design
Surrey, BC
www.wood-works.ca/bc

October 17, 18
Timber Connection Design Workshops
Vaughan and Toronto, ON
www.wood-works.ca/ontario

November 6
Wood Solutions Conference
Vancouver, BC
www.wood-works.ca/bc

November 20
Ontario Wood Design Awards Gala
Woodbridge, ON
www.wood-works.ca/ontario/wda

November 20
Wood Design Luncheon Conference
Kelowna, BC
www.wood-works.ca/bc

November 22
Wood Solutions Fair
Toronto, ON
www.wood-works.ca/ontario

November 23
Wood Design Luncheon Conference
Victoria, BC
www.wood-works.ca/bc

November 28
Wood Design & Building Awards Submissions Due (Early Bird: Nov 21)
www.wooddesignawards.com

December 5
Atlantic Wood *WORKS!* Wood Design Awards Event
Halifax, NS
www.atlanticwoodworks.ca

December 11
Wood Solutions Conference
Calgary, AB
www.wood-works.ca/alberta

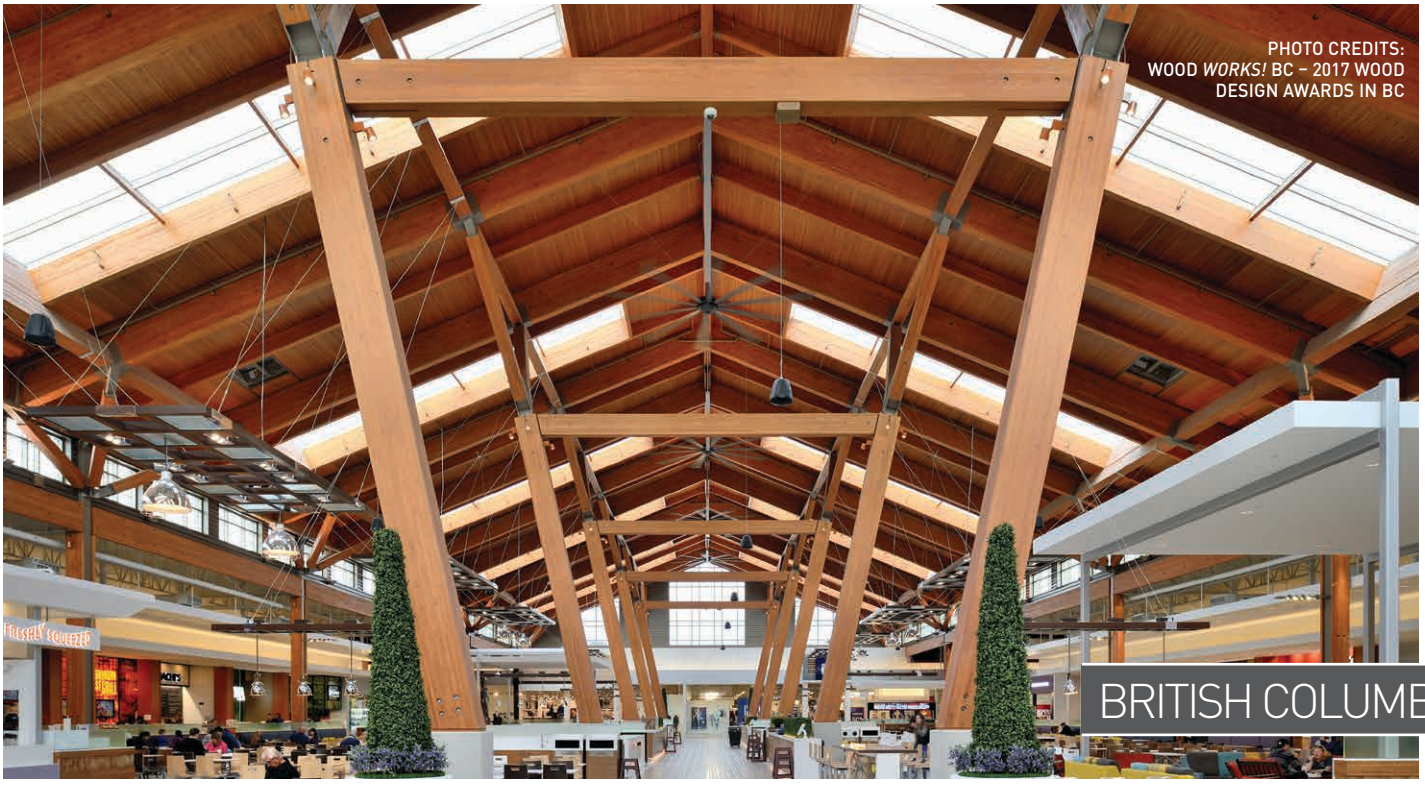


PHOTO CREDITS:
WOOD *WORKS!* BC – 2017 WOOD DESIGN AWARDS IN BC

BRITISH COLUMBIA

Tsawwassen Mills

Tsawwassen, BC

Tsawwassen Mills, located near the Tsawwassen Ferry Terminal, in Tsawwassen, BC, utilizes natural wood accompanied by an abundance of natural light to create a feeling of warmth and comfort for its patrons. In the shopping center's two feature spaces, heavy timber framing is displayed as the primary element.

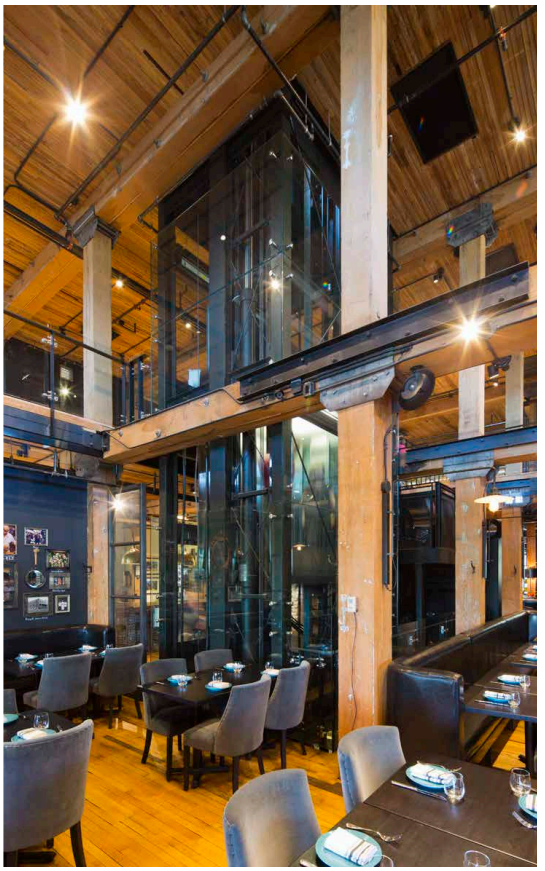
The use of wood in the project led to cost savings. It was achieved through the application of the long span beams featured in the Promo Court by utilizing an innovative pin connection that allowed for the use of four shorter beams instead of one longer beam. The smaller size of the beams meant simpler transportation methods to the project site, which led to extensive cost savings.

The inclined glulam beams and columns in the Food Court were designed to give a sense of movement and liveliness to the area. The use of heavy timber as a material choice for the public spaces provides both aesthetic and environmental benefits. This natural material achieves a predominant wood texture and adds to the thematic West Coast design for those areas.

Thoughtful consideration was taken throughout the design to increase the environmental efficiencies along with the intent to achieve a level of LEED Core and Shell for the project.

WINNER: 2017 WOOD DESIGN AWARDS – COMMERCIAL WOOD DESIGN

DESIGN ARCHITECT	ARCHITECT OF RECORD	STRUCTURAL ENGINEER	TIMBER SUPPLIER
JPRA Design	Stantec	Read Jones Christoffersen	Brisco Manufacturing



Simmons Mattress Building – Building Conversion and Heritage Restoration

Calgary, AB
By Dan Prentice, RJC Engineers

In 2007, Calgary Municipal Land Corporation (CMLC) began the task of revitalizing East Village into a bustling new community. Now halfway through the master plan vision for the neighborhood, the Simmons Building is renowned as a landmark feature. The project saw extensive assessment, restoration and redevelopment, while keeping much of the original, century-old features, including the exterior brick walls and internal heavy timber wood framed structure intact.

This project involved the adaptive reuse of the historic Simmons Factory Warehouse building to accommodate a new restaurant occupancy. The factory was built in 1912 as a two-story brick and heavy timber structure situated on the bank of the Bow River in Calgary's East Village. The original building featured an exposed heavy timber post and beam structural framing system with a Nailed Laminated Timber (NLT) floor deck. The robust design of the NLT floor deck system from the original warehouse easily accommodated the demand for the new loading associated with a restaurant occupancy. One mandate of the project was to maintain the integrity and composition of the original heavy timber and mill construction as regulated in the municipal historic resource bylaw. The heavy timber elements were therefore featured throughout the building by opening up areas of the floor space to allow for larger spaces to congregate as well as highlighting necessary code required interventions that allow a glass elevator and feature stair elements to be used for accessibility and exiting. Sustainability was a large part of this project as it proved the longevity of the original heavy timber design and its adaptability for new uses to revitalize a historic resource for years to come.

The restored Simmons Building is now home to some of Calgary's most exciting food and beverage tenants, Phil & Sebastian Coffee Roasters, Sidewalk Citizen Bakery and Charbar, complete with a rooftop patio and full access to the city's famed RiverWalk.

ARCHITECT
McKinley Burkart Architecture & Interior Design

STRUCTURAL ENGINEER
RJC Engineers

GENERAL CONTRACTOR
Stuart Olson

ONTARIO

Peterborough County Agricultural Heritage Building

Keene, ON

Nestled in the farmlands of East Central Ontario, the hamlet of Lang is located in a slow-growth region with a modest population of 6,600 people. Farming and forests have always been critical industries to the economy of Peterborough County.

The Peterborough County Agricultural Heritage Building (PCAHB) is an 11,600-sq.ft. light-frame wood building located on the premises of the Lang Pioneer Village Museum. The multipurpose building provides a permanent home for the Peterborough County Agricultural Hall of Fame and the agricultural society's permanent collection of historical farming implements. The building also has a conservation laboratory and workshop to repair, restore, and preserve looms, steam engines, and horse-drawn wagons; and also features a Great Hall where regular society meetings, community events, awards banquets, wedding ceremonies and wedding receptions are hosted.

The PCAHB was designed to respect the exterior aesthetics of an authentic 1910s barn: the public spaces are housed under a gambrel roof with a lower pitch of 4/8, a top pitch of 7/4, and an interior clear space of more than 49 feet. The farm implement collection is housed under a gable roof with an interior clear span of nearly 39 feet. The dimensions of the gambrel trusses exceeded both the manufacturing and shipping limits, requiring the trusses to be designed, manufactured, and shipped in three pieces that were subsequently spliced together on-site.

The Western red cedar cladding the exterior of the barn will remain untreated to age naturally, just like the hundreds of pine barns scattered across the county. The entry doors, also Western red cedar, were handcrafted, and the overhead doors have a natural Western red cedar veneer to ensure the beauty and warmth of the cedar is carried across the entirety of the exterior facade. The thermally broken solid pine windows used throughout the PCAHB have a clear coat finish to contrast with the naturally aging cedar.

The interior of the PCAHB exudes a more contemporary aesthetic, speaking to the museum component of the building. The tongue-and-groove cedar soffits were carried from the exterior into the two entry vestibules. Despite the rustic exterior appearance, the envelope is designed to provide high-performance thermal control and fire protection. For this project, gypsum wall board was the most logical and economical design choice for the interior wall finish. To evoke the heavy timber trusses commonly found in authentic 1910 barns, the project team embellished the simple steel collar tie and sag rod system to incorporate 4-in. x 14-in. Douglas fir timbers. These are supported by industrial steel plates that have been welded to the sag rods, which are supported by the prefabricated truss above.

The extensive use of wood in the project, and the community partners who made it possible, highlight the diversity, strength, and beauty that wood offers the built environment.

CLIENT
County of Peterborough

ARCHITECT
LETT Architects

STRUCTURAL ENGINEER
AMR Engineering Limited

CONSTRUCTION MANAGER
Mortlock Construction

QUEBEC

PHOTO CREDITS: CHARLES O'HARA / STUDIO POINT DE VUE AND DESIGN: IDS DESIGN

IGA des Sources Boischatel Supermarket

Boischatel, QC

Recognized for his innovation in the food industry, the owner of the IGA des Sources banner, Alain Gagné, wanted to enhance the architectural quality of the new supermarket he planned to build in Boischatel, the town where his family business was first established. Mindful of the importance of building with locally sourced and renewable materials, it was a natural choice for Gagné to opt for a wooden structure, making the IGA des Sources Boischatel the first supermarket in eastern Canada to be built entirely of wood.

Inside, the wooden structure is left exposed creating an impressive visual: huge glulam roof trusses, supported by glulam beams and columns, form a gabled roof system that stretches the entire length of the building. The resulting configuration allowed for the integration of windows at either end. These, in addition to two large skylights on the northwest side, bathe the interior with natural light. The mezzanine overlooking the fruit and vegetable aisles, and the elevator used to access the mezzanine, are also built of glulam.

The aesthetic quality of the exposed wooden structure, combined with the abundance of natural light, enhances the shopping experience of the store's clientele, many of whom have expressed their appreciation for the supermarket's unique ambiance. According to a random survey of 100 customers, 95 per cent had noticed the store's wooden structure and 80 per cent were of the opinion that it had a positive influence on their shopping experience. Just as many of them believed that the building greatly differentiated itself from other stores of the same type. For comparison, in another supermarket under the same banner, only 15 per cent of customers had noticed the steel structure of the building and believed that it had a positive influence on their shopping experience. Furthermore, only 36 per cent felt that the steel building differentiated itself from other stores of the same type.

Another interesting fact: the survey also reveals that customers tended to spend more time inside the wood structure store compared to the store built of steel. Half of the customers surveyed in the IGA with the wooden structure estimated that they had spent more than 30 minutes in the store, whereas this proportion was only 32 per cent in the grocery store with the steel structure.

DEVELOPER	ARCHITECT	STRUCTURAL ENGINEERS	GENERAL CONTRACTOR	TIMBER SUPPLIER
Les immeubles GAVAN	Atelier 21	Nordic Structures and Axys Consultants Inc.	Construction Dutran Inc.	Nordic Structures

Lightfoot & Wolfville Winery

Wolfville, NS

The Lightfoot & Wolfville Winery creates a memorable experience for guests. Situated at the center of an organic, biodynamic vineyard, the building affords visitors a magnificent view of Cape Blomidon and the Minas Basin.

The connection of people to the land is a key component to making great wine, so making a strong connection between the building and its "place" was an overarching philosophy during the design process. Wood was the natural material choice for structural systems and finishes to pay homage to the heritage of agricultural buildings of the Annapolis Valley.

Wood is featured in every capacity; structure, exterior and interior wall finishes, flooring, ceilings, furniture, and even toilet stall partitions. Most of the materials were sourced and fabricated locally, fulfilling one of the key design goals, that the building should provide visitors an experience.

Board and batten siding clads the exterior of the building. The large barn doors on the front of the building slide open to reveal the foyer during open hours. The large foyer serves several purposes. It is a comfortable place to orient oneself and transition from the bustle of vehicular travel to the tranquility of enjoying the vineyard. It is a meeting place at the center of the building and at times serves as overflow reception area for large groups.

In the public spaces, heavy timber post and beam combined with old-fashioned nail laminated timber floors provides structure, interior finish and the required fire rating all with one material. In the "back of house" spaces, (kitchens, washrooms, storage) engineered lumber was used for structure covered with gypsum board.

Many of the spaces in the winery are large to accommodate hundreds of people, but the warmth of the wood finishes makes them comfortable even when only a handful of people are present.

OWNER
Lightfoot & Wolfville Vineyards

STRUCTURAL ENGINEER
Larry Honey

ARCHITECT
Vincent den Hartog

GENERAL CONTRACTOR
Gaudet Building Contractors Ltd.

NATIONAL PARTNERS

Canadian Wood Council / Conseil canadien du bois

Natural Resources Canada / Ressources naturelles Canada

STRUCTURLAM Intelligence In Wood

AcoustiTECH Performance Credibility Expertise

SOPREMA

CertainTeed Saint-Gobain

StructureCraft

western archrib structural wood systems

LP Building Products

Weyerhaeuser

Guardian Structures

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