

SPECIAL 8-PAGE SUPPLEMENT

LOW-RISE COMMERCIAL

FALL 2014 - VOLUME 3, ISSUE 1

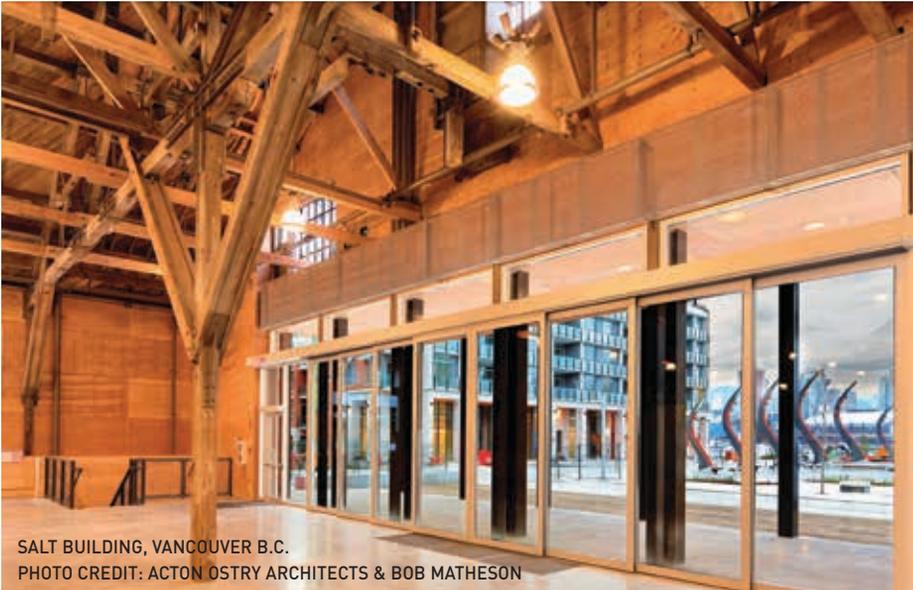


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Finding Inspiration in Unconventional Places



SALT BUILDING, VANCOUVER B.C.
PHOTO CREDIT: ACTON OSTRY ARCHITECTS & BOB MATHESON

What do shops, restaurants and warehouses have in common? These low-rise commercial buildings are the perfect fit for wood construction. While this building type is often diverse in its functionality, wood is often the preferred building material because of its versatility, ease of construction and cost competitiveness. The Wood WORKS! programs in the various regions throughout Canada have chosen some outstanding projects to highlight in this magazine insert that demonstrate wood's symbiotic relationship with low-rise commercial construction.

Engineered for success!

Engineered wood products such as CLT trusses, glulam and i-joists, are ideally suited for low-rise commercial construction. Known for their strength, long spans and ease of construction, these products meet many of the design requirements for a variety of low-rise commercial buildings.

A natural choice.

The design community is seeing a shift in the aesthetic requests for mall and restaurant construction. Taking people back to their roots, exposed wood provides a warm and welcoming ambiance that can be sophisticated or rustic in presentation.

Retail warehouses, formerly cold and dim buildings, are now enriched with wood spans that are both structurally and aesthetically impressive.

Albert Einstein said it best: "If you always do what you always did, you will always get what you always got." Wood use in construction is making headway in both application and individuals' perception of its capabilities. The best way to educate people about the possibilities of wood use in their next project is to inspire them.

People often learn by example. 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 be featured today! Contact Natalie Tarini at ntarini@dcwc.ca and share your story.

Mark your CALENDARS 2014 EVENTS

OCTOBER

Oct. 30

Wood Solutions Fair
Vancouver, BC
www.woodsolutionsfair.com

NOVEMBER

Nov. 12

Wood Design Awards Gala
Toronto, ON
www.wood-works.ca

Nov. 25

Wood Solutions Fair
Toronto, ON
www.woodsolutionsfair.com

Nov. 28

Wood Design Luncheon Conference
Kelowna, Victoria, Nanaimo, BC
www.wood-works.ca

DECEMBER

Dec. 9

Introduction to Timber Engineering
Victoria, BC
www.wood-works.ca

Dec. 10

Introduction to Timber Engineering
Vancouver, BC
www.wood-works.ca

Dec. 12

Introduction to Timber Engineering
Kelowna, BC
www.wood-works.ca

JANUARY

Jan. 23

Prairie Wood Design Awards
Call for submissions
www.wood-works.ca/alberta/wda

BRITISH COLUMBIA



PHOTO CREDITS: ALLEN + MAURER



Askew's Uptown Supermarket

"The Askew's food store is an exercise in sustainability on three levels: ecological, economic and cultural. The building itself is a statement of community support from a long-time, family-owned business. For example, the design of the timber roof allowed for competitive pricing from five local sawmills on 245,000 board feet of dimensional lumber, and pre-fabrication in a local warehouse by a team of experienced carpenters. This ripple effect of local employment and involvement not only sustains the community, it earns customer loyalty."

Chris Allen, Architect
ALLEN + MAURER ARCHITECTS LTD.

"What is neat about this design is that it takes wood from the forest and into the building in as straight a line as possible, making optimal use of local labour... structural sustainability at its best!"

Paul Fast, Managing Partner
FAST + EPP

The Askew's Uptown Supermarket is the first phase of a six-acre mixed-use development in Salmon Arm, BC. The master plan will be implemented in three phases and includes commercial/retail, office and residential uses. The aim is to begin bringing living, working and shopping together again and demonstrate an alternative to the segregation of uses that is proving more and more unsustainable.

On the outside of the new Askew's supermarket, extensive wood use is not obvious. Stepping inside, the presence of wood becomes dominant, as structure and finish at the same time. In fact, the building may contain more wood per floor area than many truly "woody-looking" buildings: its stacked-plank canopies and massive wood roof have used 245,000 board feet of dimensional lumber and 1,320 sheets of half-inch plywood. The building uses the

resource just one step of refinement from the log. With the exception of the glue holding together the plywood, no finish or other substance was added. The primary energy added to the product was minimal.

The simplicity of the design required no special skills or tools. The large volume of lumber was sourced from five different regional mills. Considerable local employment was provided and a serious amount of CO² was sequestered. Wood is a versatile material. It can be bent, modified and preserved into the most diverse forms, to serve a multitude of purposes. To do wood justice and be its ambassador let us use it at its best: an efficient and attractive structural material and finish at once, requiring minimal processing, placed where it can remain untreated or unpainted. That is the statement the Askew's Uptown Supermarket makes.

ARCHITECT
Allen + Maurer
Architects Ltd.

**STRUCTURAL
ENGINEER**
Fast + Epp

CONTRACTOR
Excel
Construction



ALBERTA

PHOTO CREDIT: WOODPECKER EUROPEAN TIMBER FRAMING



McMurray Mini Storage

By Jim Taggart,
FRAIC, SABMag Editor

Ed Polischuk started McMurray Mini Storage back in 1987 with just a few storage units. Since then, it has grown to become the largest locally owned business of its kind in the city. The company's newest facility – a three-story building with nearly 300 units – is Polischuk's pride and joy, and its unconventional design has attracted attention across the continent.

With the rapidly rising land prices in Fort McMurray, Polischuk realized that to expand his storage capacity without increasing his rental costs he would have to build a multi-story structure. So began two years of research, mostly in the U.S. where the mini storage business is large, highly competitive and has spawned specialist contractors and prefabricated steel building systems. Crunching the numbers, Polischuk calculated that to fireproof one of these structures to Canadian code standards would cost in excess of \$800,000.

Returning to Edmonton, Polischuk attended a trade conference where he fell into conversation with representatives from Wood WORKS! Alberta and through

them learned about the structural, environmental and fire performance aspects of wood structures. "When they told me that heavy timber structures were essentially fireproof, that's when I really got interested," says Polischuk, adding, "We started to check things out and realized that an entire timber structure could be built for roughly the same cost as fireproofing a steel one. Then, when we began to think about what kind of building you would rather be in – one made from wood, or one made from steel and concrete – the decision was an easy one."

The new structure was fabricated by European Timber Framing of Canmore, AB. It uses 10" x 10" rough sawn Douglas fir members in a post and beam system laid out on a 10' x 10' grid with simple steel plate connections. There are no intermediate joists, the floors being constructed of 3" x 6" tongue and groove Douglas fir decking with 5/8" oriented strand board (OSB) sheathing and a 1 1/2" gypcrete topping. On the ground, floor the post and beam frame is infilled with

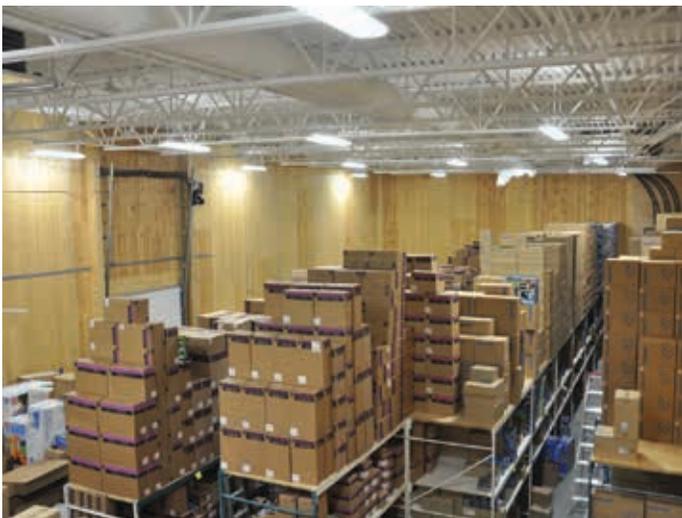
a 2" x 6" stick frame external wall with cellulose insulation, finished with fiber cement siding. The upper floors are clad with a prefabricated steel panel system.

The structure and the soffit of the wood decking are left exposed inside the building, and complemented by Douglas fir millwork and trim. "We get comments all the time from people saying how much they like the building," says Polischuk, "but the greatest compliment came from the president of U-Haul International when he flew up from the States. He said our building was the best looking mini storage facility anywhere in North America." Add to this the fact that the building was completed ahead of schedule and under budget, and you have three good reasons to push the envelope with wood – great appearance, speed of construction and competitive pricing.



CLIENT
McMurray Mini
Storage

TIMBER FRAMING
WoodPecker European
Timber Framing



CARBON ESTIMATOR

Results:



Volume of wood products used: 95 cubic meters (3295 cubic ft) of lumber and sheathing



U.S. and Canadian forests grow this much wood in: 16 seconds



Carbon stored in the wood: 75 metric tons of carbon dioxide



Avoided greenhouse gas emissions: 155 metric tons of carbon dioxide



Total potential carbon benefit: 230 metric tons of carbon dioxide

Equivalent to:



44 cars off the road for a year



Energy to operate a home for 19 years

Results from this tool are estimates of average wood volumes only. Detailed life cycle assessment (LCA) are required to accurately determine a building's carbon footprint.

Playvalue Toys

A client's desire to explore an innovative building design is influenced by many things. For Doug Jones, the owner of Playvalue Toys and a structural engineer, an avid interest in new construction technologies and their applications was central to his development of the first cross-laminated timber (CLT) project in the Ottawa area.

Although Jones's primary focus is the successful management of Playvalue Toys, his interest in new materials led him to attend a Wood WORKS! seminar on CLT. It was here that he met up with architect Rickson Outhet and the two began to explore the possibility of using CLT for the new store location Jones was considering.

This wasn't Jones and Outhet's first project together. The two first met early in Outhet's career when they worked within the same office. In the years since, they have collaborated on several projects, each with a significant innovative structural application, so the decision to use CLT wasn't surprising for this pair of seasoned innovators.

Playvalue's business is based upon local demand and online sales so the program includes a large retail display area as well as a warehouse, with loading docks and delivery stations, for the growing web-based business.

In the Playvalue project, a 16,200-sq.

ft. double-height building, all perimeter and interior load bearing walls are constructed with CLT panels. In both the retail space and warehouse, the interior face of the panels has been left exposed. In the toy store, the wood provides a warm, friendly ambiance for shoppers. In the warehouse, the exposed panels provide a durable, forgiving surface that will stand up to the rigors of warehouse use for a very long time.

Ordinarily, the structure for this type of building would be steel frame with an open web steel joist roof structure. Though many would expect a wood structure to be more costly, Outhet confirms the overall project cost was comparable to those more typical construction materials and had several advantages.

To start, the building was designed to accommodate a possible future expansion which would double the current footprint. The CLT design easily allows for future lateral expansion. Wood also has environmental advantages. In addition to being sustainable and renewable, CLT panels have significant thermal mass. In this application, the panels inherently provide a well-insulated building envelope that augments the performance of the building's geothermal heating and cooling system. Finally, the quick site erection time of the CLT panels further justified choosing a CLT panel structure.

CLIENT
Doug Jones,
Playvalue Toys

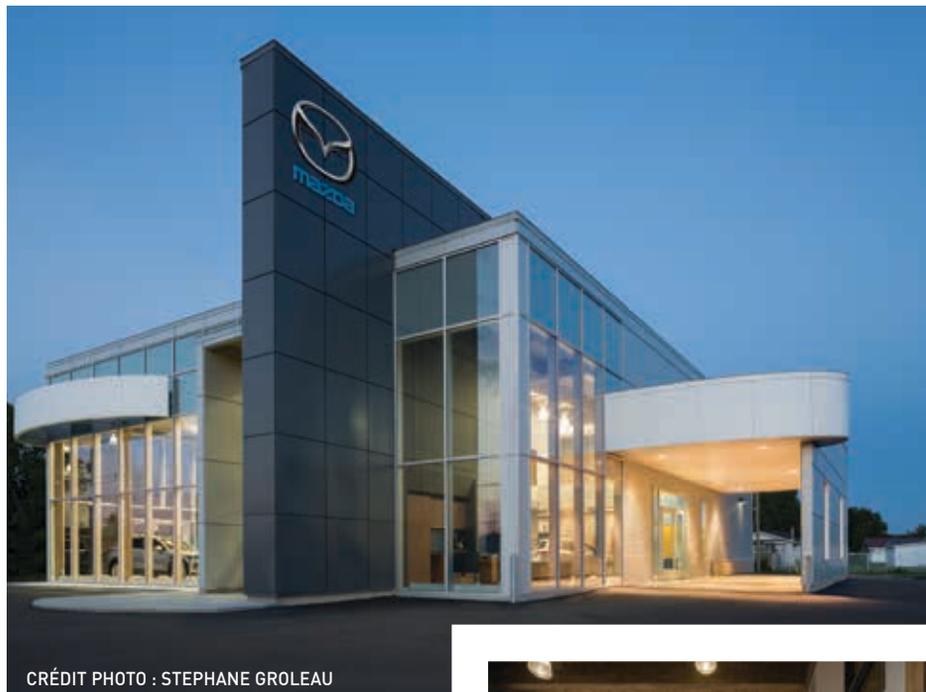
ARCHITECT
Rickson Outhet
Architect

STRUCTURAL ENGINEER
Moses Structural Engineers



QUÉBEC

CRÉDIT PHOTO : STEPHANE GROLEAU



CRÉDIT PHOTO : STEPHANE GROLEAU

La Maison Mazda de Saint-Félicien

La Maison Mazda de Saint-Félicien constitue une première au Canada pour un concessionnaire automobile. Non seulement ce bâtiment est réalisé entièrement en bois, mais il combine aussi les avantages de trois systèmes structuraux : une charpente de bois lamellé-collé pour la salle d'exposition entièrement vitrée, une ossature légère traditionnelle pour les bureaux ainsi que du bois d'ingénierie pour le garage en ossature légère préfabriquée.

Après avoir lancé un premier appel d'offres avec des plans tout acier et avoir constaté les prix élevés des soumissions, Luc Verreault a appris qu'il y avait moyen de réaliser son projet à coût comparable, sinon inférieur, avec un amalgame de systèmes en bois. La clef allait être le recours à du bois laminé-jointé LFL (*laminated fingerjointed Lumber*) et pouvant atteindre 400 mm de largeur sur 10 m de longueur. C'est la force acquise par ces pièces, assemblées à partir de 2 x 4 et dont le bois a été testé mécaniquement (MSR), qui a permis de concevoir des murs en panneaux de grande hauteur.

« Là où le grand coup a été donné,

c'est dans la salle de montre, avec ses trois côtés vitrés et ses grandes colonnes apparentes de près de 7 m de haut », relate Christyne Fortin, de Gosselin et Fortin, architectes. La structure apparente est faite de bois lamellé-collé et, pour se conformer aux exigences de Mazda, tout ce bois apparent est enduit d'une teinte grise protectrice à base d'huile de lin qui laisse voir les nervures du bois.

À l'extérieur, un mur en bois lamellé-collé de plus de 10 m de hauteur s'appuie perpendiculairement à une façade latérale du bâtiment pour venir déborder sur le toit, qu'il domine de plus de 3 m. Ce « mur de performance » commun à tous les concessionnaires Mazda, normalement construit en acier, est ici fait en ossature légère d'ingénierie préfabriquée, ce qui a d'ailleurs permis une économie substantielle.

Le propriétaire, Luc Verreault, est fier d'avoir



CRÉDIT PHOTO : STEPHANE GROLEAU

pu réaliser un projet à coût compétitif en utilisant une ressource 100 % régionale favorisant l'économie et l'emploi. « J'ai voulu lancer le message que ça se fait, bâtir en bois, peu importe la construction », dit-il.



CRÉDIT PHOTO : PRODUITS FORESTIERS LAMCO

ARCHITECTE
Gosselin et Fortin,
architectes

INGÉNIEUR
Structure
Fusion

FURNISSEURS DE PRODUITS DU BOIS
Produits forestiers Lamco (bois LFL) et Art
massif Structure de bois (lamellé-collé)

ENTREPRENEUR
Construction
Bon-Air

**STRUCTURE DE BOIS
PRÉFABRIQUÉE**
La Charpenterie



PHOTO CREDITS: WILLIAM NYCUM & ASSOCIATES LIMITED



Bâton Rouge at the Morse's Teas Building

"It's a beautiful spot... the decor and outfitting is so very classy yet cleverly in keeping with the historic property."

Jeremy Webb, Columnist
The Chronicle Herald, June 19, 2011

"This is our first restaurant where we gave some good latitude to the architect. I think we're going to go that way from here on."

Demetri Tsigos, COO
Bâton Rouge Restaurants
The Chronicle Herald, June 14, 2011

Bâton Rouge is a Canadian chain that typically locates its restaurants in new, purpose-built structures, often in a retail or business park environment. The location chosen for this franchise, at a "gateway" to downtown Halifax within a collection of historic harborside warehouse buildings, provided an opportunity for the chain to move beyond its brand-standard finishes. They engaged a local architect to bring the stunning historic masonry and heavy timber building, built in 1841, back to life.

This renovation required extreme design sensitivity in the management of two competing mandates: 1) the respect for and preservation of an historic architectural archive of significant heritage and beauty, and 2) the intervention of a nationalized commercial design brand unaccustomed to a heritage preservation mandate.

The renovation work occurred in the context of a larger renovation of the rest of the building, occupying part of the basement and most of the second and third floors for a dining room, lounge,

kitchens and support space. Where new structure was required, it was designed as heavy timber to relate to the original building, and detailed to provide clear indication that it was not original.

The design and construction teams for both the restaurant renovation and base building worked closely with the authorities having jurisdiction throughout, collaborating and working together to support the re-use of the historic building with additional sprinklering and fire protection measures to allow the existing and new heavy timber to be exposed and featured in the non-conforming building. The designers and fabricators also had to search extensively to find finishes for all the wood paneling and banquet seating that met the aesthetic and safety requirements.

The result of reworking the basic pre-selected and approved finishes while respecting the innate qualities of the historic structure is a rich environment that helped reshape the brand's perspective on the commercial value of preservation, sustainability, urbanism and heritage.

CLIENT Bâton Rouge Halifax	ARCHITECT William Nycum & Associates Limited	STRUCTURAL ENGINEER Leonard Kalishenko Engineering	CONTRACTOR J.W. Lindsay Enterprises Ltd.
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NATIONAL PARTNERS

Canadian Wood Council
Conseil canadien du bois



Natural Resources Canada
Ressources naturelles Canada

BSLC

British Columbia Lumber Council



StructureCraft

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structural wood systems



Weyerhaeuser



WOOD WORKS! REGIONS IN CANADA

National Wood WORKS!

c/o Canadian Wood Council
99 Bank Street, Suite 400
Ottawa, ON K1P 6B9
Tel: 613-747-5544

British Columbia

837 Riverside Drive
North Vancouver, BC V7H 1V6
Tel: 1-877-929-WOOD (9663)

Alberta

900-10707 100 Ave.
Edmonton, AB T5J 3M1
Tel: 780-392-1952

Québec

1175, avenue Lavigerie Bureau 200
Québec, QC G1V 4P1
Télé : 418-650-7193

Ontario

60 Commerce Court, P.O. Box 5001
North Bay, ON P1B 8K9
Tel: 1-866-886-3574

Atlantic

c/o Maritime Lumber Bureau
P.O. Box 459
Amherst, NS B4H 4A1
Tel: 902-667-3889

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Program of the Canadian Wood Council

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