

# PACIFIC AUTISM FAMILY CENTRE

## PROJECT OVERVIEW

The primary purpose of the Pacific Autism Family Centre (PAFC) is to consolidate state-of-the-art resources and research into a 'knowledge hub' to better address the growing challenge of Autistic Spectrum Disorder (ASD) in British Columbia. The PAFC will be connected to smaller satellite facilities in a network designed to build capacity for learning, assessment, treatment and support services for individuals and families across the province.

ASD is a spectrum disorder that affects the development of the brain. It is highly variable in the degree to which it impacts an individual's needs, skills and abilities. According to Sergio Cocchia, President of the Pacific Autism Centre Foundation, ASD occurs in 1 in every 69 births in British Columbia, making it the most common neurological disorder in children.

**LOCATION**  
Richmond, British Columbia

**SIZE**  
5,600 m<sup>2</sup>

**COMPLETION**  
2016

**ARCHITECT**  
NSDA Architects

**STRUCTURAL ENGINEER**  
Fast + Epp

**GENERAL CONTRACTOR**  
Ventana Construction Corporation

**ENGINEERED WOOD FABRICATORS**  
Western Archrib (glulam)  
Redbuilt™ (TJI)

**PROJECT OWNER**  
Pacific Autism Family Centre Foundation

The new three-storey, 5,600 square metre building is located on Sea Island, close to Vancouver International Airport and flanked on either side by existing commercial buildings. The program for the facility includes a Knowledge Centre, Information Centre, Lifespan Centre and Training Centre, which together provide resource, education and recreation facilities for clients of all ages, as well as administrative and research space for the staff who support them.

In the publicly accessible parts of the building, circulation and waiting areas are deliberately oversized to prevent feelings of claustrophobia or confinement, and interiors are simply detailed to encourage a calm environment. Transparency is used strategically, with exterior views to the surrounding landscape assisting with orientation and interior views between adjacent spaces (such as corridors and stairs) to assist navigation within the building.



Photo credit: Derek Lepper

*“We wanted to use wood and its inherent warmth and beauty to reinforce the welcoming atmosphere we were trying to create for people and families living with Autism. In addition, we are firm believers that wood, if properly managed, is a natural, renewable product for the long term.”*

**Larry Adams, Principal, NSDA Architects**

## WOOD USE

On this project, the choice of wood met all the design criteria, offering a cost effective structural solution with long spans that could accommodate future reconfiguration should the needs of autism research and treatment change.

The basic structure is a glue-laminated (glulam) post and beam frame system, supporting floors that are a combination of prefabricated nail-laminated timber (NLT) panels and engineered light truss joisted floors, both finished with plywood decking.

The glulam posts are laid out on a 6mx6m grid for maximum economy and to ensure flexibility for future reconfiguration of the non-loadbearing partitions. On the ground floor, the posts are 210 mm<sup>2</sup>, and while those on the upper floors are smaller as they carry less weight. To minimize the effect of cross grain shrinkage over the height of the building, columns are superimposed

one on top of the other, separated only by a steel spacer the same thickness as the concrete floor topping. The spacer forms part of a connection detail that includes saddles that carry the floor beams on either side.

The NLT panels are used in the public circulation areas and their soffits exposed for maximum visual impact. The three elevator shafts are also constructed using NLT, while the stairs are constructed with plywood treads and risers supported on laminated veneer lumber (LVL) stringers. LVL beams are also used at roof level to support the additional weight of the mechanical penthouse.

The interior features linear wood ceilings and acoustic wall panels, while the exterior soffits also have a linear wood finish. The exterior finishes are a combination of composite metal panels and smooth faced western red cedar siding.

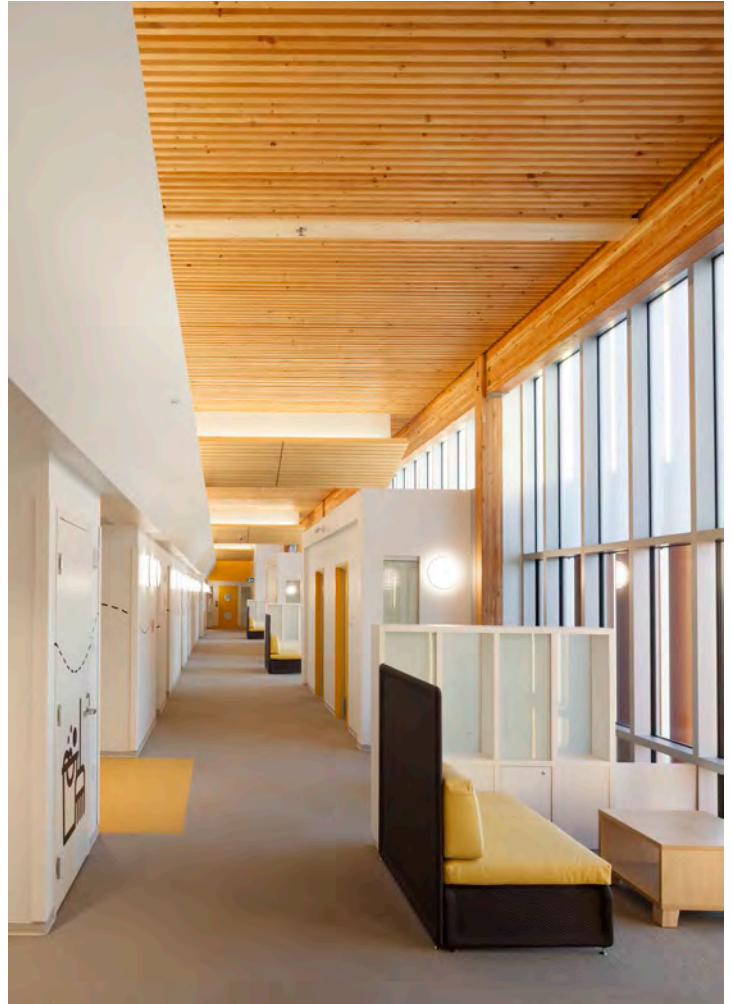


Photo credit: Derek Lepper

## ESTIMATED ENVIRONMENTAL IMPACT OF WOOD USE

<p><b>V</b> Volume of wood products used: <b>662 cubic meters</b></p>	<p><b>GHG EMISSIONS ARE EQUIVALENT TO:</b></p>
<p><b>T</b> U.S. and Canadian forests grow this much wood in: <b>2 minutes</b></p>	<p><b>339 cars off the road for a year</b></p>
<p><b>C</b> Carbon stored in the wood: <b>601 metric tons of CO<sub>2</sub></b></p>	<p><b>Energy to operate 169 homes for a year</b></p>
<p><b>CO<sub>2</sub></b> Avoided greenhouse gas emissions: <b>1,003 metric tons of CO<sub>2</sub></b></p>	<p><small>*Estimated by the Wood Carbon Calculator for Buildings, <a href="http://cwc.ca/carboncalculator">cwc.ca/carboncalculator</a>. *CO<sub>2</sub> refers to CO<sub>2</sub> equivalent.</small></p>
<p><b>✓</b> Total potential carbon benefit: <b>1,605 metric tons of CO<sub>2</sub></b></p>	

## FOR MORE INFORMATION

This profile is published by Forestry Innovation Investment, the Government of British Columbia's market development agency for forest products.

For more examples of innovative wood building projects throughout British Columbia, visit:

[naturallywood.com](http://naturallywood.com)

The wood grain featured in this profile is western red cedar.