

CASE STUDY

Ronald McDonald House BC & Yukon
Vancouver, B.C.



Overview

Completed in 2014, the Ronald McDonald House at the BC Women's and Children's Hospital in Vancouver provides a home-like environment for children and their families while undergoing treatment away from home. This LEED® Gold certified project expanded the original 12-family Shaughnessy House to a 73-family facility divided into four residential units connected by communal links. The facility was the first use of tilt-up cross-laminated timber (CLT) construction with pre-installed ledgers provided for interior timber I-joint floors, a construction solution that contributed toward an early completion date two months ahead of schedule. 9-ply CLT panels were used to carry the weight of green roofs and planters.

How low carbon materials were used in the project

Ronald McDonald House BC & Yukon made extensive use of wood, a building material that has a lower embodied carbon footprint than other building materials. A strategy used by the team was an innovative use of CLT tilt-up panels to speed erection. The panels were formed in the shop with cuts and notches where necessary for connections and openings, then

larger wall sections were assembled horizontally on the ground and raised into place. This consideration for the erection process helped to save time on site and reduced the need for work at height, contributing to worksite safety. Floor and roof structures used pre-engineered timber I-joists and CLT panels supported on beams and ledgers on CLT walls.

LEVEL OF LEED OBTAINED:
LEED ® Canada NC 2009 Gold

WOOD RELATED LEED CREDITS ACHIEVED:
MRc5 - Regional Materials

CLIENT
Ronald McDonald House BC and Yukon

ARCHITECT
Michael Green Architecture (MGA).
Initiated by McFarlane Green Biggar
Architecture + Design.

STRUCTURAL ENGINEER
Equilibrium Consulting Inc.

MECHANICAL ENGINEER
AME Consulting Group

LEED CONSULTANT
Kane Consulting Partnership

CONTRACTOR
ITC Construction Group; CLT by
Structurlam Products

OCCUPANTS
65 families and staff members

NUMBER OF STOREYS
4

GROSS FLOOR AREA
6,875m²



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Photo: Ema Peter



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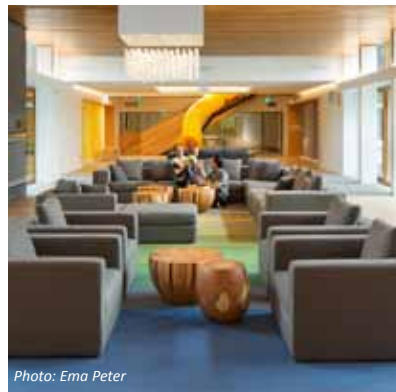


Photo: Ema Peter



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Leadership in Energy and Environmental Design (LEED®)

The project was certified under LEED Canada NC 2009 and achieved points for using recycled content in building materials and using local materials. LEED credits that were supported by low carbon building materials include Materials and Resources credit 5 - Regional Materials, for which the project exceeded 30%, gaining two LEED points.

Notable Awards

- 2016 Governor General's Award in Architecture
- 2015 Lieutenant-Governor of BC Award in Architecture (Merit)
- 2015 Masonry Institute of BC – Award of Excellence – Low Rise

References

Canada Green Building Council (CaGBC). www.cagbc.org
Michael Green Architecture Ltd. (2017). Ronald McDonald House BC. Accessed Feb. 2017. URL: <http://mg-architecture.ca/work/ronald-mcdonald-house-bc/>