

PROPHET RIVER MULTIPLEX

LOCATION

Prophet River First Nation,
British Columbia

SIZE

1291 m²

COMPLETION

September 2013

ARCHITECT

David Nairne + Associates Ltd.

STRUCTURAL ENGINEER

David Nairne + Associates Ltd.

GENERAL CONTRACTOR

Grand Construction

**ENGINEERED WOOD
SUPPLIER**

Structurlam

PROJECT OWNER

Prophet River First Nation

PROJECT OVERVIEW

The Prophet River First Nation (PRFN) is one of eight related First Nations whose traditional territory stretches across the Peace River region of northeastern British Columbia, northern Alberta and Saskatchewan, and the southern part of the Northwest Territories. The PRFN community is located on the Alaska Highway, approximately 90 kilometres south of Fort Nelson, B.C.

The PRFN's multiplex building is the heart of the community. It has three distinct programmatic components: administrative facilities, including offices and a council chamber; a health centre; and a community centre with a small gymnasium, weight room, Elders lounge and kitchen.

The building responds to its geographic and cultural context, with an emphasis on the use of local, low maintenance materials (most notably wood), natural light and other environmental design strategies including energy efficient heating and ventilation systems.

The most striking feature of the project is a fully glazed atrium that extends the entire length of the building, and faces the principal approach road. With its abundant natural light and dramatic wood structure, this atrium makes a welcoming gesture to patrons and visitors, and provides direct access to the three main program areas.



Photo courtesy of Martin Knowles

“PRFN really appreciates the wood structure of this building as it is expressive of our cultural tradition of building with wood.”

Andy Calahisen, Director, Capital Works and Housing, PRFN

WOOD USE

The primary structure in the 6-metre wide linear lobby is a Douglas fir glue laminated timber (glulam) post and beam system, in which both vertical and horizontal members are 175mm x 305mm in cross section. Opposing posts are offset in plan, so that the connecting roof beams form a triangular pattern. Between the beams, the 19mm tongue and groove Douglas fir roof decking is exposed to view.

The shallow ‘butterfly’ form of the roof, with its low point in the centre, is designed to retain snow and improve insulation values and the overall energy performance of the building during the coldest months of the year.

In addition to the exposed structure and roof decking in the lobby, the interior of the

building features other decorative wood finishes. In the gymnasium, 19mm Douglas fir plywood on the walls and 19mm x 140mm Douglas fir boards on the ceiling provide a robust and durable finish for sporting activities, and a warm and welcoming atmosphere when the space is used for feasts and other community events.

Building with wood has a history in this region that dates back thousands of years. The material is abundant in the surrounding area, and maintaining this tradition enabled many members of the PRFN to be involved in the construction process. This in turn strengthened community ties and reinforced a sense of ownership in the project.



Photo courtesy of Martin Knowles

ESTIMATED ENVIRONMENTAL IMPACT OF WOOD USE

<p>V Volume of wood products used: 253 cubic meters</p>	<p>GHG EMISSIONS ARE EQUIVALENT TO:</p>
<p>T U.S. and Canadian forests grow this much wood in: 1 minute</p>	<p>125 cars off the road for a year</p>
<p>C Carbon stored in the wood: 203 metric tons of CO₂</p>	<p>Energy to operate 62 homes for a year</p>
<p>CO₂ Avoided greenhouse gas emissions: 387 metric tons of CO₂</p>	<p><small>*Estimated by the Wood Carbon Calculator for Buildings, cwc.ca/carboncalculator.</small></p>
<p>✓ Total potential carbon benefit: 590 metric tons of CO₂</p>	<p><small>*CO₂ refers to CO₂ equivalent.</small></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

The wood grain featured in this profile is western hemlock.