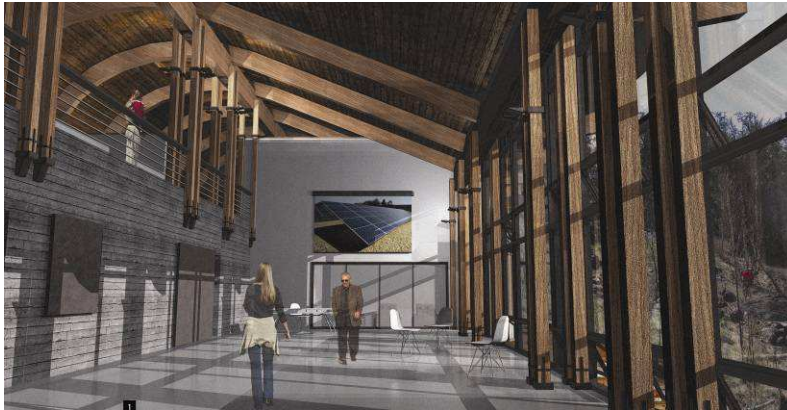




CAMBRIAN COLLEGE, SUSTAINABLE DESIGN CENTRE: SUDBURY, ONTARIO



Firm's Role

Sustainable Building Design and Engineering

Description

The Sustainable Design Centre at Cambrian College is a 750 m² (8000 ft²) building that will be the first Living Building Challenge project, with a rating significantly beyond LEED Platinum: "no points, just prerequisites". 100% renewable energy supply, zero sewage discharge, natural building materials, healthy indoor environment, material durability, and minimum site impact guided the design process.

Features

- Maintenance of existing vegetation and no rock blasting of site as would be typical in Sudbury
- Efficient thermal envelope using high performance windows, tight construction and highly insulated walls, roof, slab, and perimeter foundation walls
- Passive heating accomplished with fully glazed south exposure, building mass and shading with overhangs to reduce summer gain
- Non-recirculation displacement ventilation with demand ventilation driven by people gains, not fans, resulting in superior indoor environmental quality
- Natural ventilation cooling facilitated by low and high apertures
- Grid-connected renewable electricity generation using photovoltaics, a small wind turbine, and providing 100% renewable energy supply
- Sanitary waste treatment with zero-flush-water compost toilet system
- Space heating and ventilation heating and cooling provided by a small ground source heat exchanger with heat pump assist, and water heating and absorption radiant cooling supplied by evacuated solar collectors
- Daylighting controls with 100% LED back-up lighting fixtures

Architect:	Castellan James & Partners
Owner:	Cambrian College
Status:	Design Development