



# SUSTAINABLE BUILDING SERVICES

LEED CERTIFICATION, SPECIFICATIONS, GREEN BUILDING DESIGN SUPPORT AND COORDINATION



## Karis Place



### Team

Sustainability Consultant: BLUE CAMAS

More Than a Roof Foundation, City of Vancouver / Province of British Columbia, Neale Staniszki Doll Adams Architects, MMM Group, Fast + Epp

Structural Engineers, Perry and Associates, Horizon Engineering, exp Services, KD Engineering, Stantec Consulting, VanMar Constructors, E3Ecogroup, Recollective

### Project description:

Karis Place is a partnership between the non-profit operator, More Than a Roof Foundation, and the City of Vancouver, and BC Housing, a provincial crown agency. The facility provides a resident 1-bed room, plus 99 studio and 5 accessible apartments for people who are homeless, or at risk of homelessness due to their physical and/or mental health, behavior, substance dependencies, and/or forensic history.

The 5,709 square metre, eleven storey building is located in downtown Vancouver one block away from the Granville Street mall.

The ground floor has a commercial kitchen as well as dining, lounge, games room, outdoor deck and laundry amenity spaces for the residents. Office and administration spaces for More Than and Roof staff complete the main floor plan. There is one level of underground parking below, and ten levels of residential suites above.

The building is constructed of durable materials incorporating brick, metal composite panel, metal frame windows and glass. To reduce energy loss the concrete and steel stud structure is super insulated including thermal insulating spacers.

In addition to a commitment to social sustainability, the project is dedicated to achieving a significant level of environmental sustainability. Completed on May 15, 2011, Karis Place has achieved LEED Gold Certification, won a SAB Award, and also met BC Housing criteria requiring that no more than 10% of end use energy be provided by fossil fuel.

LEED Guides referenced: LEED Canada-NC 1.0 LEED Canada-NC 1.0 Multi-Unit Residential Buildings LEED Canada 2009

LEED Canada Credit Interpretation Requests: CIR 184 – Weighted Average for Roof SRI Calculation CIR 290 – Weighted Average for Sloped/Flat Roof SRI Calculation CIR 038 – Weather-stripping and ETS Testing CIR 292 – Clarification of EQp2 and Alternate Compliance for Blower Door Testing in MURBs



### High Performance building features:

#### Energy

Karis Place is designed to use over 55% less energy than an equivalent Model National Energy Code baseline building. Ground Source Heat Pumps (GSHP) and variable speed drives, drawing energy from the surface/deep soil temperature difference across 32, 280 foot deep boreholes, provide Domestic Hot Water (DHW) pre-heating, space heating/cooling for Amenity and Retail spaces on main floor, and in-floor radiant heating for residential

suites. With average Heating Coefficient of Performance (COP) is 3.20, Cooling COP is 4.73, the building energy systems produce over three times as much heating as energy consumed, and over four times as much cooling as energy consumed. Metering has been installed and a comprehensive measurement and verification process established to monitor building systems for more than a year after occupancy. Systems actual performance will be measured and compared to energy modeled predictions and operational performance will be optimized.

### **Water Efficiency**

Highly efficient toilets, faucets and showerheads were installed and water use has been reduced to 48% below standard fixtures.

### **Indoor Environment**

#### **Ventilation:**

Central Heat Recovery Ventilation unit provides high quality air filtration using MERV 13 filters, as well as providing a high level of air changes (meets BC Housing standard of 1.0 air change per hour for a smoking permitted building).

#### **Indoor Air Quality:**

Volatile Organic Compounds and other sources of indoor pollution are minimized by use of low emitting paints, adhesives and sealants, carpet, doors, cabinetry and millwork.

#### **Natural lighting:**

Over 87% of regularly occupied building spaces receive at least 25 foot candles of natural daylight, and over 99% have direct line of site to an exterior window.

#### **Tobacco Smoke Control:**

Smoking is permitted within suites, but control of tobacco smoke was achieved through high performance gasket and sealant enclosure of individual suites, confirmed by “blower door testing” of individual suite air-tightness, which prevents the spread of tobacco smoke, and also improves energy efficiency, sound proofing, and control of odour and vermin.

### **Building Envelope**

The high performance building envelope is designed for durability and ease of maintenance. A high standard of insulation, and walls, doors, and windows are designed to minimize air leakage and thermal bridging.

### **Building Site**

The building is located with walkable access to bus and train transit facilities as well as shopping and community resources. Parking facilities are underground and minimize exterior paved areas. Bicycle parking and shower facilities, as well as Electric Vehicle charging stations are provided.

### **Construction**

Construction materials selected contain over 16% recycled content. Over 75% of construction waste materials were diverted from landfill.

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