

Virtual Green Building Tours

# SFU Dining Hall

# Case Study



The following case study describes the sustainable design features for SFU Dining Hall.

## Sustainable Sites

An erosion and sedimentation control plan was developed and implemented to reduce pollution from construction activities. The Building's location provides a number of sustainability benefits. Sited on previously developed urban land, the Building avoids negative impacts on prime farmland, wetlands, parks, ecologically sensitive areas or habitats for threatened or endangered species. Because of the density of the Building and its surrounding neighbourhood, existing infrastructure can be utilized, protecting greenfields and preserving habitat and natural resources.

Multiple modes of alternative transportation are readily available to Building occupants. Located within a short walking distance to SFU bus routes, the Building is ideally located to encourage transit use.

With ground level landscaping, the Building provides accessible open space that promotes biodiversity. Disruption and pollution of natural water flows are minimized through a stormwater management plan that controls pollutants at their source and removes suspended solids from water before it is discharged.

## Water Efficiency

With dual flush toilets and low-flow faucets, the building's plumbing fixtures are designed to reduce water use by at least 35%, compared with LEED baseline. Efficient irrigation equipment will enable water used for landscape irrigation to be 50% below calculated baselines. Together, the savings in water used for plumbing and irrigation significantly reduce the burden on municipal water supply and wastewater systems, as compared to conventional development.

## **Energy & Atmosphere**

Enhanced commissioning is done for the Dining Hall, ensuring review throughout the design and construction process, so that energy-related systems are installed and calibrated to perform according to their intended design. The building is designed with energy efficiency in-mind, and implemented following strategies to reduce energy consumption:

- High performance envelope,
- Efficient lighting and mechanical equipment
- Heat recovery ventilators
- Low-flow plumbing fixtures

As such that energy consumption of the building is reduced by 18% below ASHRAE 90.1-2007.

To minimize the Building's contribution to global warming and ozone depletion, the base building's heating, ventilation, air-conditioning and refrigeration systems use equipment which releases limited carbon dioxide and ozone-depleting substances, and which does not use CFC-based refrigerants. Fire suppression systems containing CFCs, HCFCs or Halons are not used.

## **Materials & Resources**

The building supported recycling at all stages of the life cycle, and sources regional materials wherever possible. The building includes recycling areas for all occupants, providing for centralized separation and removal of paper, corrugated cardboard, glass, plastics and metals. During the construction process, more than 75% of waste generated on-site was separated and hauled to facilities for recycling, reuse or other sustainable end-uses, thereby diverting it from landfills. Recycled content accounted for at least 20%, by cost, of all building materials and products used on the building. Finally, materials and products which are regionally extracted and manufactured accounted for at least 30%, by cost, of all building materials and products used on the Building.

## **Indoor Environmental Quality**

The Building use mechanical ventilation method to meet the requirements of ASHRAE 62.1-2007, ensuring that all occupied spaces have adequate fresh air for the comfort and well-being of occupants. An Indoor Air Quality Management Plan was developed and implemented for both the construction and pre-occupancy phases of the Building, to reduce indoor air quality problems resulting from construction. All interior adhesives, sealants, paints and coatings used on the building interior spaces meet stringent standards limiting volatile organic compounds. All carpets and hard surface flooring systems are selected based on 3<sup>rd</sup> party certifications which demonstrate superior indoor air quality, and all composite wood products have no added urea formaldehyde.