

TELUS/WILLIAM FARRELL BUILDING REVITALIZATION

VANCOUVER, BC

Project Description

The William Farrell Project was conceived by Telus to satisfy a number of internal business needs and in so doing revitalize an existing resource in a high profile location to create a strong Telus presence in downtown Vancouver. Telus mandated that the existing building be recycled and re-used, and that green strategies be incorporated. The consultant team responded with an innovative solution. Overall results are: the building has been recycled; energy, resources and landfill have been saved; and Telus has a sophisticated, elegant domicile from which to conduct its downtown business. The new exterior cladding creates the first triple-skinned green building solution in Canada and the company's mandate to "reuse, re-cycle, and go green" establishes Telus as a leader in the community working towards environmental sustainability.



Client	Telus
Architect	Busby + Associates Architects
Structural Engineer	Read Jones Christoffersen
Mechanical Engineer	Keen Engineering Co. Ltd.
Electrical Engineer	Reid Crowther and Partners Ltd.
Contractor	Dominion Construction
Cost Consultant	James Bush & Associates
Code Consultant	Pioneer Consultants
Environmental Consultant	PHH Environmental

BUSBY + ASSOCIATES ARCHITECTS

Sustainable Sites

The existing William Farrell Building covered an entire urban infill site. The maximum allowable size of a new building on the site would have been 6,500 s.m. The existing building provided 10,900 s.m. of space; recycling the entire building prevented the loss of 4,400 s.m. of space which would be difficult to replace in the downtown core of Vancouver. The revitalization management. As the existing structure was built to the property lines, there were no opportunities for landscaping to reduce heat islands. All interior office lighting is indirect, reducing direct light pollution. The central location provides convenient access to bus stops and skytrain stations for alternative transportation.

Energy and Atmosphere

This building was designed to perform at 61% of ASHRAE standards, within a stringent corporate budget. Waste heat from the adjacent building - an existing refrigeration plan - is recovered and reused as a free heat supply, utilizing only 52% of that available energy to provide 100% of the heating needs of the refurbished building. The exterior revitalization is both futuristic and technically advanced - an open, layered and sophisticated new 'skin' envelops the old building shell. A new double glazed, fritted and frameless glazing system with operable windows is suspended from the existing building face, providing opportunities for a highly effective natural ventilation system. Photovoltaic panels have been integrated with the external glass cladding and are used to power fans that assist in cooling the new external cavity. All new HVAC equipment was used, with no CFC's; existing equipment with HCFC's and Halon were removed. Extensive commissioning procedures have been implemented. Over a 75 year lifespan, the "green" building operations of this project will save 54,600 tonnes of greenhouse emissions.

Material and Resources

The decision to recycle the entire building saved 16,000 tonnes of solid waste landfill, and avoided 15,600 tonnes of greenhouse gas emissions. In addition to the concrete structure, re-use of building components included exterior glazing, stone cladding at the base, and parts of the façade; elevator shaft, cabs, machinery; windows, stairs, and guardrails. The use of new, virgin building elements was minimized and material selection was focussed on recycled content: drywall, carpet, reinforcing bars and structural steel. Extensive care was taken in the re-use and recycling of materials during construction, particularly drywall, steel studs and wiring; that recycling mandate is part of the ongoing office operations.

Indoor Environmental Quality

Fresh air and cross ventilation is provided by operable interior and exterior windows. Ventilation capabilities of the atrium space are enhanced by dampers and power assisted fans. Through revitalization and the opening up of ceiling areas, a raised floor could be incorporated, creating a supply air plenum with floor mounted, individually controlled diffusers for climate control at each workstation. Thermal comfort levels conform to ASHRAE standards, as does the air quality. Local bylaws prevent smoking in the building. Access to natural daylight and views are maximized: clear glass and open space offices allows first line of sight to vision glazing for 90% of occupied spaces. Light shelves bring light further into the building.