THE EXCHANGE TOWER

IREDALE ARCHITECTURE

Recognized with an American Architecture Prize and City of Vancouver Heritage Award of Honour, the Exchange Tower in Downtown Vancouver, BC involved the rehabilitation of the 1929 Old Stock Exchange Building, the retention of its heritage status and the incorporation of a new 31-storey office tower. The project is certified LEED Platinum, and is Vancouver's first LEED Platinum Heritage Conversion and Canada's eighth largest LEED Platinum Building. Designed in conjunction with Harry Gugger Studio of Switzerland, our firm was the architect of record and prime consultant for architecture, construction administration and sustainability. We also provided space planning, master planning, heritage rehabilitation and LEED facilitation services.

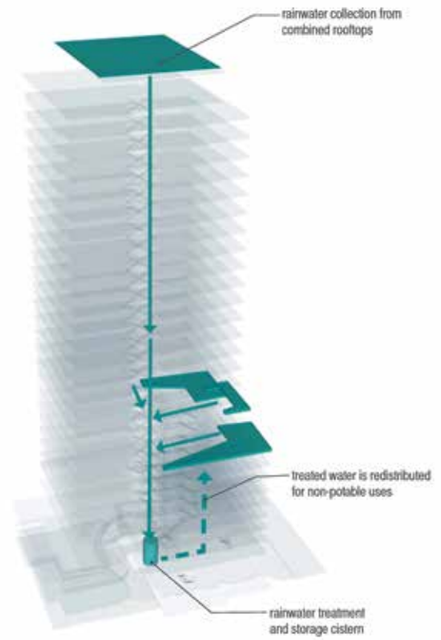
Ecologically, the project meets several environmental objectives required by the Client and the City. Water use is reduced by over 40%, energy use is reduced by 54%, and Green House Gas emissions are reduced by 85%. Economically, the project creates much needed office space in the City's Financial district for over 1,800 workers. Socially, the project provides amenities, including social gathering, public art, fitness, and business spaces.

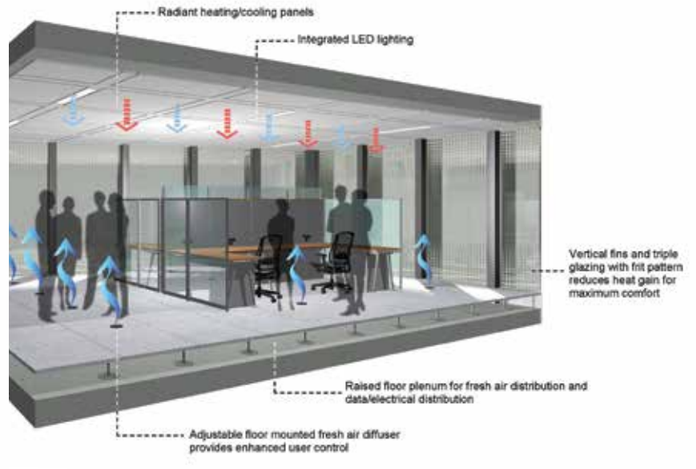
The project's central downtown location allows the users to be within walking distance to most amenities, services, residences, and public transit. The project also successfully petitioned for 20% relaxation of the mandated number of parking spaces, which later was adopted by the City as the new standard for required parking.

The limited footprint was maximized to environmentally benefit the building users and larger community. Solar panels cover the tower roof to capture energy to provide supplemental heat for the domestic hot water. The project incorporates a rainwater harvesting system and non-potable water distribution to reduce water use within the building. Rainwater is collected from roofs and is stored and treated in a central tank in the parkade. This water is then distributed through the building for non-potable water end uses including low flow toilet/urinal flushing and irrigation. The project's overall water energy savings is 41.5% over a LEED base case model. Areas not populated with required mechanical equipment are paved with high albedo pavers to reduce the heat island effect.

Platinum Rating Achieved

Sustainable Sites	23/28
Water Efficiency	10/10
Energy & Atmosphere	25/37
Materials & Resources	6/13
Indoor Environmental Quality	8/12
Innovation in Operations	5/6
Regional Priority	3/4
Project Totals	80/110





The radiant heating and cooling system and underfloor fresh air provides a highly efficient HVAC system. A high-performance envelope, building orientation and architectural details, such as triple glazing, and ceramic frit help control thermal gains and heat loss, and solar shading helps to reduce energy consumption. Geo-exchange, HRV system, air source heat pumps, and solar thermal panels reduce the reliance on systems powered by natural gas and reduces GHG's by 85%.

The structure, which was pulled away from the building perimeter, maximizes light penetration and achieves daylighting through floor to ceiling glazing. The 8m deep plates allow for deep light penetration. Custom LED fixtures are used throughout and are connected to occupancy and light harvesting sensors. The project combines a raised floor pressurized displacement ventilation for the office tower portion and an overhead ventilation system for the lower hotel portion. Both systems operate on 100% outdoor air to minimize contaminants inside the building.

The design and building systems were also chosen to maximize exposure and fresh air, access to outdoor spaces, and use of low VOC materials and no added urea formaldehyde. The project's materials, which include natural stone, exposed concrete, Venetian Plaster, and other high-quality floor and wall coverings, meet LEED standards for environmental air quality. We also specified locally sourced, extracted and or manufactured products and materials based on the level of recycled content and recyclability, although targets were not set. During Construction, over 90% of materials were diverted from landfills.