

V HOLLYBURN COUNTRY CLUB POOL DEHUMIDIFIER AND ENERGY RECOVERY SYSTEM

In 2023, Polar Engineering worked alongside First Light Energy Solutions and Fraser Valley Refrigeration to design, build, and commission one of the first custom-built energy-recovery pool dehumidifiers in North America for the Hollyburn Country Club in West Vancouver. The dehumidifier uses an R-513a low-Global Warming Potential (GWP) heat pump to recover heat from the pool supply and exhaust airstreams and injects this recovered heat into the building's central boiler loop. The system is expected to reduce the facility's gas consumption by more than 70%, save over 300 tonnes of CO2 equivalent annually, and significantly reduce the water and chemical consumption of the pool's treatment system, all while improving the pool's indoor environmental conditions. The custom-built dehumidifier demonstrates that aquatic facilities can implement innovative heat recovery solutions while maintaining high building performance and energy efficiency.

Company: Polar Engineering
Participants: Hollyburn Country Club: Gavin Hamblin. Polar Engineering: Ian Welle, P.Eng.; Tyler Parkin. First Light Energy Solutions: Moises De Alba, P.Eng.; Fraser Valley Refrigeration: Dean Masztalar.



Photo submitted by Polar Engineering



Rendering courtesy of Stantec

VCC CENTRE FOR CLEAN ENERGY AND AUTOMOTIVE INNOVATION

Exemplifying equity-oriented, low-carbon design, the Vancouver Community College – Centre for Clean Energy and Automotive Innovation (VCC-CCEAI) will be a new building for training and experiential learning in electric/hybrid vehicles and clean energy. The design team, with Stantec and RJC playing pivotal roles, worked closely with Two Row Architect (Indigenous design collaborator) and the Musqueam, Squamish, and Tsleil-Waututh Nations to integrate an aspirational theme of canoes on water: “let us paddle together.” It will stand as an 8-storey, 32,000-m² building encased in a high-performance enclosure. More than a building, VCC-CCEAI will embody a spirit of progress. It will reduce carbon emissions thanks to innovative, electric HVAC systems (air-source-heat-pumps, dedicated-outdoor-air-systems, and heat recovery) and it features mass timber in the atrium and Indigenous spaces. The project is targeting LEED-Gold and Rick Hansen Foundation Gold certifications.

Company: RJC Engineers
Participants: Eleonore Leclerc, AIBC; Mark Travis, AIBC; Derreck Travis, AIBC; Brian Porter; Grant Newfield, MEng, P.Eng., Struct. Eng.; Svetlana Vujic, P.Eng.; Bernard Legare, P.Eng.; Mohammad Fakoor, PhD, P.Eng., LEED®AP+BD+C, CEM; Glade Schoenfeld, P.Eng.; Megan Leslie, P.Eng., FEC, LEED AP BD+C; Lana Ilic, AIBC; Jatin Maheshwary, MSc, P.Eng.; Chris Mramor.



Photo: Andrew Kwiatkowski

ʔAPSČIIK ʔAŠII PACIFIC RIM NATIONAL PARK RESERVE

ʔapsčiiik ʔašii (pronounced upscheek tashee) is a transformative, active transportation project that produced a 25-km, hard-surfaced path through the Long Beach Unit of Pacific Rim National Park Reserve on the west coast of Vancouver Island in the traditional territories of the Yuuluʔiiʔaṭṭ and Tla-o-qui-aht First Nations. As a component of a regional initiative to connect Tofino and Ucluelet, ʔapsčiiik ʔašii has improved pedestrian and cycling safety for locals and visitors. Extensive collaboration was the key to the successful path design and implementation. Significant effort was made to protect the existing sensitive and unique natural environment. Mitigation measures included 3 bridges over fish-bearing streams, 310 m of elevated boardwalks over wetlands, 60 amphibian crossing culverts, 180 watercourse culverts, 7 major retaining walls, 11 fishery enhancement sites (including reconnection of 4,000 m² previously cut-off fish habitat), 700 m of highway widening, and slope stabilization.

Companies: WSP Canada Inc. and Parsons Inc.
Participants: WSP: Darryl Furey, P.Eng.; Luke Marquis, P.Eng.; Charlotte Longbone, GIT; Adam Boehm, P.Eng. Parsons: Andrew Kwiatkowski, P.Eng. Millennia Research Ltd. Tla-o-qui-aht First Nations and Yuuluʔiiʔaṭṭ.