

Arts and Science Centre – Phase II - UBCO

BY SUSAN M. BOYCE

The year was 2005 when Kelowna's Okanagan University College made a transition from college to fully accredited university. Renamed the University of British Columbia Okanagan (UBCO), this new status was a catalyst for physical change and expansion on the campus.

First came the Charles E. Fipke Centre for Innovative Research, which opened in 2008. A series of other buildings, residences and retrofits of existing structures followed. Now two years later, Fipke Centre's sister building, the \$40 million Arts and Science Centre is opening the doors to its first semester of students and professors.

The 86,000 square foot building, an unexpectedly small footprint for a building of such complexity, was envisioned as a social focal point and a link between the existing academic core and a new breed of scholars. "The Arts and Science Centre creates a new precinct, a change from the formalized space of the original college into the smoother, more transparent and soft architecture of the new university," says Michael McDonald, principal of Kasian Architecture Interior Design and Planning Ltd. Kasian incorporated iconic details – natural stones and plantings, trellises and terraced landscaping – to give a feel that's distinctly UBC but also uniquely Okanagan.

The facility houses two lecture theatres, classrooms, a series of research and teaching labs, an animal care facility, and food services. There is also a collegium where students can relax between classes. "Students who might otherwise jump in the car to head for the nearest café or coffee shop in town, tend to stay – so you could also look at this as a subtle green component of the design," adds David Roche, development manager at UBC Properties Trust.

The glass, concrete and masonry building appears to embrace the site's sloped topography. A central breezeway allows pedestrians to pass through the building, blurring the distinction between interior and exterior spaces. "You don't just arrive at the Centre, you flow through it," McDonald says.

But such flow and elegance did not come without challenges. The originally planned pad foundations had to be redesigned as a continuous raft/slab when pockets of the excavated glacial till liquefied. "soil types on this site can vary dramatically within a very small area," explains Willie Joubert, project manager with general contractor Stuart Olson Construction. "We performed geotechnical testing, just as we test all sites. The testing missed

these pockets by a matter of a few metres." The soil variation was so unusual for the area, he adds, that geology students came to study the landscape during excavation.

Since labs/educational facilities are among the most energy-intensive building types, meeting the stringent requirements of 5 Green Globes (the maximum rating possible), as well as the equivalent of LEED Platinum rating already achieved by the Fipke Centre (the first lab building in Canada to achieve that rating), required extensive planning and detailing.

The building taps into the geo-exchange groundwater energy system that provides energy from the Okanagan Aquifer that runs beneath the campus. Projected to reduce UBCO's carbon dioxide emissions by more than 88 percent, or 2,959 tonnes per year, the system is equivalent to taking g 14,000 cars off the road over the next two decades.

Sophisticated irrigation controls are tied in to a weather monitoring station, and landscaping that incorporates indigenous, drought-resistant plants reduces irrigation requirements. Other water management features include waterless urinals, low-flow toilets and sinks, plus a storm-water pond to capture storm run-off. "The concept is to create a highly efficient, 'living building, one that has very little impact on its surroundings in the long term, rather than one that was simply built using energy reducing strategies," Joubert says, though he adds that most building materials were sourced locally and virtually all sub-trades are from the area.

"The Arts and Science Centre is part of the evolving story of this university; a new chapter," says Guy Taylor, Kasian's lead architect for the project. "By providing both casual and formal spaces, the building itself helps foster an environment that creates the dialogue necessary for learning. When students gather for lunch or study sessions, it stimulates creative thought. And when you have creative thought, that's when learning happens."