

Gary W. Harris Canada Games Centre, Red Deer College

When the City of Red Deer approached Red Deer College about hosting the 2019 Canada Winter Games, it was a catalyst for finally realizing a dream. The college had been planning a new facility focused on health education, sport and recreation for years. The new Gary W. Harris Canada Games Centre will host five Canada Winter Games events, including Short Track Speed Skating, Figure Skating, Badminton, Wheel Chair Basketball and Squash.

"We envisioned a facility that would be learner-centred; support teaching, learning and the student experience; provide for sport and lifestyle fitness and be available for community use," says Doug Sharp, the college's Director of Capital Projects. "The facility would contribute to the economic, social and inclusive wellbeing of the central Alberta region and would become the legacy building for the 2019 Canada Winter Games." Site work for the facility began in the Fall of 2015, and the building was completed this Fall.

The exterior building materials relate contextually to the existing main campus, continuing a similar look and feel to make the Centre for Health, Wellness and Sport part of one campus.

The centre, a design/build project, includes an arena that can convert from an Olympic to a hybrid-size rink, which will accommodate trade shows and dry land events, skating, minor sport usage, Hockey Alberta usage, and will be home ice for the Red Deer College Kings and Queens hockey teams. Also included is a performance gymnasium that can be converted to two full-sized gymnasiums, with space for basketball, volleyball and badminton, as well as major events such as Red Deer College's, Convocation and other presentations. A secondlevel running track, looks onto the gymnasium courts below. Additionally, teaching and learning spaces, equipped with treatment and rehabilitation rooms, movement and sport studios, an anatomy lab, offices, and classrooms, will support post-secondary programming.

Since the main entrance of the Centre faces the northwest, it welcomes those accessing the college from 32nd Street, the north pathways systems, the parking lots, and sidewalks. Lead architect Enzo Vicenzino from Stantec Architecture Ltd envisioned a Great Hall with a dynamic roof that projects toward the city, creating a symbol of the connection between the college, community to the North and Waskasoo Creek.



Gary W. Harris Canada Games Centre in the foreground with the main campus to the rear. All cladding.

DESIGN AND CONSTRUCTION TEAM:

OWNER: Red Deer College
 PRIME ARCHITECT: Stantec Architecture Ltd.
 ASSOCIATE ARCHITECT: HCMA Architecture + Design
 STRUCTURAL ENGINEER: Stantec Consulting Ltd.
 GENERAL CONTRACTOR: JV between Clark Builders and Scott Builders
 WALL CLADDING, INSULATED STEEL PANELS AND STEEL DECK SUPPLIER: Vicwest
 LIGHT STEEL FRAMING SUPPLIER: Bailey Metal Products through Foundation Building Materials and Ajax Drywall
 PHOTOGRAPHER: Tammy Schick



Interior of classroom prior to finishing.



North Entrance to Great Hall and Gym.



The structural-framing system developed for the facility took into consideration the necessary functionality and flexibility, in order to enable future renovations and alterations. This included minimizing the use of load-bearing walls throughout, standardizing the bay sizes for each of the major components and clear spanning the roof structure, wherever feasible, to accommodate column-free space, such as in the second floor in the fitness area.

To address column-free, long-span roof structures in the gymnasium and ice-arena areas and to allow for more natural light into the building, structural steel was the most suitable choice. "Given the geometry of the building design, there are enough repetition or similar grids and spans to standardize and modularize the design of steel trusses, joists, beams and columns for cost effectiveness and production efficiencies," Vicenzino explains. "Fabricated steel components can be transported to the site and installed even during winter with much less heating and hoarding provisions. Structural-steel buildings weigh less and require a more economical and smaller foundation system for support."

Where the exterior wall consists of a curtain-wall system, structural-steel girders were utilized. Where conventional exterior-wall construction with masonry or cladding veneer was detailed, backup walls using light steel studs designed as wind-bearing walls were utilized. Pre-painted steel cladding is used to allude to a lighter cap to the solid brick base. In the sun, this cladding reflects light and captures the eye of those approaching the Centre or passing by on QEII.

Vicenzino adds that steel was used for its strength and safety. "Steel is stronger than any other conventional material such as concrete, wood and masonry, therefore members sizes are much smaller. Also, steel is non-combustible for compliance with certain building code requirements."

The project has already enjoyed a positive response from the community, says Sharp. "We have hosted many tours during construction and the general feedback has been very positive. The building will have a huge impact on student life and will be a major addition to the community as a whole."



Interior arena, west facing – extensive use of cold formed sections for exterior walls.



Finished Gymnasium.



Artist's rendering of the Gary W. Harris Canada Games Centre viewed from the northwest with the gymnasium and running track in the foreground and the Great Hall behind.



Unfinished arena showing extensive use of load bearing cold formed steel sections on exterior walls.