

The K-Rock Centre

By Christine Peets

Filling one downtown-city block, from Ontario Street to the east, King Street to the west, Place d'Armes to the north and Barrack Street to the south, K-Rock Centre, the new sports and entertainment centre in Kingston, Ontario fits well into the historic city, also known as the Limestone City.

Christopher O'Reilly, Project Director with Brisbin Brook Beynon Architects, says natural Kingston limestone was used to anchor the corners, supplemented with complementary pre-cast limestone aggregate panels and extensive green-tinted glazing in a sweeping curve. Upper portions of the building are pre-finished insulated metal panels in a natural metal colour. Each main entrance is emphasized with a long horizontal metal canopy, clad in pre-finished aluminium panels. Large-scale porcelain tiles continue the look of stone where possible in the main concourse. The concourse ceiling is a pre-finished copper-coloured metal-baffle with a subtle undulating profile. All of the curtain wall and glass framing is a natural satin aluminum finish.

O'Reilly notes several other features inside the centre. The event floor, a heavy-duty concrete slab, accommodates full-size trucks and heavy equipment, with integrated refrigeration pipes for hockey, and other ice events. For non-ice events, the hockey dasher boards and glass are completely removable. The main arena has the required mechanical and electrical systems to provide appropriate temperature and humidity levels for each event. To create additional vertical clearance, the overhead video scoreboard retracts into the roof structure. Different settings and fixture types allow lighting flexibility for various shows and sporting events. A catwalk system along with extensive rigging-loading capacity was designed into the roof structure together with generous power capacity for lighting and sound. State-of-the-art media facilities allow great event coverage throughout the building. Acoustics are enhanced through the use of special [acoustic] steel deck at the main vaulted roof along with treatment of vertical wall surfaces in the seating area.

As the centre is close to hotels, restaurants, City Hall and shopping, patrons are encouraged to walk, cycle, use taxis or public transit. Public parking lots are within a few blocks. Lanie Hurdle, Director of Project Development for the City of Kingston says, "For individuals with mobility concerns, there are 14 designated accessible parking spaces in existing nearby parking lots, and we have established a drop-off [traffic] lane and a location for the Access [handicapped] bus. The main concourse is close to street level and with the use of ramps and four elevators, there is accessible seating in all parts of the building." Accessibility was also taken into account in the washrooms, and with lowered ticket windows and concession counters.

In addition to 29 private suites, there are four hospitality suites that can be combined into two larger ones. For hockey and other arena bowl events, there are approximately 5,650 seats and viewing positions with capacity for concerts being 6,800. O'Reilly says concerts can be set up end stage, centre stage, or theatre style, with curtaining systems located at the roof trusses staged to close off the seating bowl for different capacities and configurations. Curtaining at the exterior glazing creates a blacked out concert room or when open, allows ample natural light into the seating area.

The main tenant for the building is the Ontario Hockey League (OHL) Kingston Frontenacs, who operate a retail outlet on the main concourse. They opened the building on February 22 [2008] followed the next night by the hometown rock band The Tragically Hip, highlighting the multiple uses of the facility. Other partners include the Downtown Kingston BIA, and Kingston Accommodation Partners. The Province of Ontario contributed \$4 million toward construction. The City of Kingston owns the building with Arcturus/SMG as the Operator of the Centre under contract to provide a number of services including promotion, marketing, booking, and securing

sponsorship and advertising. They also operate the full service restaurant and bar, a sports café and other concessions.

For visiting OHL teams and others who rent the facilities there are four dressing rooms, which have roll-up doors to allow conversion into two larger rooms. Team buses and large vehicles for entertainment shows and other sporting events can be accommodated at the loading dock entrance to the back-of-house storage and set-up area. There is also a street entrance for smaller vehicles needing access to the area.

LEED™ Silver designation is in process for the centre.

The City of Kingston has a policy that all new facilities must be LEED™ certified, Hurdle notes. "The open concept restaurant and bar is fitted with a wall of windows giving a lot of natural light, reducing the need for artificial light, an important feature for LEED™ designation. Other features include the waterless urinals and the ice-melting pit.

The downtown location proved challenging during construction. "The outside of the building became the outside of the site," says Steven Metcalf, Project Manager with EllisDon Construction. "At times we had to take over the roads to move equipment in and out. Getting the trades their own work spaces was difficult at times, but there was great co-operation to make sure the facility was completed on time."

David Watson from Halcrow Yolles says there were structural engineering challenges, including adding 1,000 seats to the original design. "The lower bowl combines fixed and movable seating, which required attention to detail in how these structures interface." Working with the foundation system and existing subsoil was also challenging. "The remains of an 1800s coal gasification facility were left in place as part of a previous demolition and remediation program. The new concrete caisson structure was designed and detailed to account for these existing conditions while minimizing the disruption to the containment of the site."

Don Cruikshank, lead mechanical consulting engineer with The Mitchell Partnership, adds, "The most challenging aspect from our mechanical design standpoint was to integrate life safety requirements into the heating and ventilation (HVAC) systems for the building. The high-density seating arrangement dictated incorporation of mechanical smoke control systems that are automatically activated by fire alarm signals. Systems include stair pressurization, bowl pressurization and exhaust, concourse pressurization and exhaust, integrated with building sprinkler and standpipe systems."

All computers for the HVAC, card access, and closed-circuit television (CCTV) security systems are on one Open Platform, says Glen Whalen, the Manager of Business Development for Airon HVAC & Local Ltd. "These used to be stand-alone systems, and now, by having them linked, it is easier to make the programs work together to do what they are designed to do; they are talking the same language." Any problems will be spotted and targeted by the CCTV. Similarly, only the programs needed in any one area, rather than programs for the entire facility, will be set once the system is triggered by the card access system. Whalen adds that while the LEED™ program has never laid down guidelines, "with the luxury of Open Protocol, new standards can be set, not only improving energy efficiency but also the bottom line by saving money."

As the design-build process for the new centre grew, so too did community support and interest in its name. K-Rock 105.7 is a local rock radio station and the facility's name had community input. Hurdle notes significant community fundraising and other involvement. "The Kingston and District Sports Hall of Fame has its plaques displayed in the main concourse, and we will make the corporate suite available free of charge to community groups. We hope Kingston residents and visitors will appreciate this new venue and enjoy the variety of activities here.

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