

# Boyle Renaissance

by Zuzanna Wodzinska

COURTESY MÉTIS CAPITAL HOUSING CORPORATION



The Boyle Renaissance master plan is a unique multi-phase neighbourhood revitalization project located in The Quarters – a redevelopment district on the eastern edge of downtown Edmonton.

The Boyle Renaissance neighbourhood is currently being developed in two phases. Phase one of the project consists of two buildings containing 150 affordable housing units that are linked by an outdoor public space and is owned by the Boyle Street Community League. The east building contains the Melcor YMCA Welcome Village affordable housing units, while the west building, called Boyle Renaissance Plaza, is a new community centre that includes the YMCA Child Care Centre, YMCA Family Resource Centre and the offices, and multi-purpose programming and physical activity space for the Boyle Street Community League.

For phase two of the Boyle Renaissance, owner/developer the Métis Capital Housing Corporation partnered with home-construction expert and TV host Mike Holmes' organization, The Holmes Group, to construct the Renaissance Tower.

The seven-storey structure rises from a tight site with integrated design "weaves" expressed through the joints of durable cement board panels that reflect the cultural significance of the Metis sash. The allegory of the Metis sash is extended from the external walls into the surrounding pedestrian ways and landscaping features.

"By working with the City of Edmonton, the Province of Alberta and affordable housing developers like the

Métis Capital Housing Corporation, we're providing sustainable and durable housing that's also affordable," says Holmes in a press release.

The 120,000-square-foot, 90-unit sustainable building is being built to tailor the needs of Aboriginals, seniors and people with disabilities.

Featuring ground-floor commercial space, a wheelchair accessible green roof and sheltered drop-off and pick-up zones, the Renaissance Tower strives to provide comfortable living and a sense of community.

Renaissance Tower's key sustainability feature is a combined heating and power (CHP) system where natural gas is used to generate electricity that is fed back into the grid while creating heat that is typically wasted. In Renaissance Tower, however, this valuable byproduct is not only used to heat water for domestic use, but also to heat the building as a whole.

To increase efficiency even further, the CHP system is incorporated into two buildings across a public right-of-way with two different owners, a first for the City of Edmonton.

The 380kW micro-generation system is operated in partnership with Enmax Corporation and is part of the city's district energy initiative – an unusual consideration in affordable housing initiatives.

Seth Atkins, director at The Holmes Group, says the hightech solutions were of utmost importance for this project. "Just because it's affordable housing doesn't mean it should be insufficient housing," explains Atkins. "Tenants taking a first look at their future home

had tears in their eyes as they realized they won't need to pull themselves from their wheelchair to the shower. That's what barrier-free means; it's dignity in living."

With that in mind, all project participants stretched the \$22 million budget as far as it would go. "Perhaps the biggest challenge was in developing a design that did not exceed the project's budget, and in this regard we feel we met that challenge," says Frank Prosperi-Porta, managing principal of structural engineering at Read Jones Christoffersen Ltd.

Colin Schneider, project engineer at ECCOM Consulting adds, "The design team needed to work in close communication with [general contractor] Clark Builders and their sub-trades during the design and specification development to ensure the initial budget targets were staying on track."

Despite this, the team was still able to incorporate other energy-efficient benefits such as occupancy sensor-controlled lighting for public washrooms and janitor room areas, T5 and T5HO fluorescent lamping instead of T8 where linear fluorescent luminaires were used, as well as quality-assured LED lamped exterior lighting as opposed to metal-halide lamps.

Renaissance Tower also features timeclock controllers that allow for turning off some of the parkade and corridor lighting during appropriate hours, transient voltage surge suppression at the main distribution board, and allowances in the floor area distribution panels to facilitate the future power metering of each individual suite panel.

Other design considerations will allow some apartments in-suite automations (designed by Cisco Systems Canada) that provide lighting control, mechanical systems control and integrated suite security devices. "Even the elevators are very energy efficient and should be considered a sustainable element," adds Schneider. "They use regenerative drives, are gearless machine type and have no machine room."

Energy-efficiency is a valuable asset in heating as well, especially for any project built in Edmonton. "With our cold Edmonton climate, it is critical that we design our unheated structures to weather the effects of extreme temperature variations between the summer and winter seasons," says Prosperi-Porta. "The structural design had to accommodate differential movements between the warm and cold structures, and measures were taken to ensure that 'cold bridging' between cold and heated structures were minimized."

Crossing the CHP system under the public right-of-way was a challenge, as was the budget and the weather considerations. Added to that, the Boyle projects also host different program components. "The project needed a mix of structural materials: cast-in-place concrete for the residential tower and underground parking, structural steel framing for the community centre superstructure, and structural masonry infill for the community centre gymnasium," says Prosperi-Porta. "The most unusual challenge, however, was the geometric form for the Community Centre roof, with additional detailing required for the roof's structural steel."

The green sustainability efforts also ensure higher predictability of future energy costs.

The Métis Capital Housing Corporation will be completing phase two of the project in the Spring of 2014. ■

#### LOCATION

95 Street and 96 Street, Edmonton, Alberta

#### OWNER/DEVELOPER

Métis Capital Housing Corporation

#### PROJECT MANAGER

Williams Engineering / The Holmes Group

#### ARCHITECT

Architecture | Arndt Tkalcic Bengert

#### GENERAL CONTRACTOR

Clark Builders

#### STRUCTURAL CONSULTANT

Read Jones Christoffersen Ltd.

#### MECHANICAL CONSULTANT

Vital Engineering Corp.

#### ELECTRICAL CONSULTANT

ECCOM Consulting Inc.

#### LANDSCAPE ARCHITECT

Douglas Walters Landscape Architect Ltd.

#### TOTAL AREA

120,000 square feet

#### TOTAL PROJECT COST

\$22 million