

COLLABORATIVE DEVELOPMENT AND DESIGN

A COMMERCIAL
FACILITY
CASE STUDY

RYERSON UNIVERSITY RYERSON UNIVERSITY MATTAMY ATHLETIC CENTRE
MAPLE LEAF GARDENS



Formerly a venue for professional sporting events, Maple Leaf Gardens has been transformed into a combined grocery store and athletics centre. The innovative HVAC system reclaims and redistributes heat from the refrigeration plant to the underground parking garage.

“When we’ve used Armstrong equipment, we’ve always had good results.”

Scott Owen

Project Manager,
Maple Ridge
Mechanical

Maple Leaf Gardens

Armstrong Design Envelope pumping technology provided intelligent variable speed fluid flow in support of the HVAC system, including an innovative configuration for heat recovery.

Background

Constructed in 1931, Maple Leaf Gardens was originally the home of the Toronto Maple Leafs, one of the original six franchises in the National Hockey League. From 1931 until 2001, Maple leaf Gardens served as a venue for a wide variety of sports and entertainment events. In September 2009 Loblaws announced it had opened discussions with Ryerson University regarding the possible shared use of the structure. The two organizations later announced plans to turn Maple Leaf Gardens into a joint Loblaws grocery store and athletic centre for Ryerson.

Construction began later that year and the new Loblaws store opened in late November 2011.

Maple Ridge Mechanical, a contractor based in Pickering, Ontario, was hired to manage the construction project. Early in the process, Maple Ridge had the opportunity to choose a different manufacturer, but opted to work with Armstrong-based on past experience with installations of Armstrong Vertical In-Line pumps and boosters.

Excess heat from the refrigeration plant that serves the grocery store is recovered and used to heat the underground parking lot.

After one full year of operation, Maple Ridge Mechanical reports that they have had no issues with the HVAC system and are very pleased with the energy efficiency levels achieved.

Tech-facts

Equipment list

- Design Envelope 4300 Vertical In-Line pumps with integrated controls
 - 6 × 6 × 10 -20 HP
 - 8 × 8 × 13 -40 HP
 - 5 × 5 × 11.5 -25 HP
 - 6 × 6 × 10 -20 HP
 - 2 × 2 × 10 -5 HP
 - 4 × 4 × 13 -20 HP
 - 4 × 4 × 10 -10 HP
 - 4 × 4 × 13 -30 HP
- Design Envelope 6800 booster
- Plate & Frame Heat Exchangers
- Vortex Air Separators
- GLA expansion system

Benefits

The decision to use Armstrong solutions allowed designers to further revise mechanical room drawings and fit all the equipment in just three small mechanical rooms.

The design of the HVAC system takes advantage of opportunities to reclaim and redistribute heat.

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