



YORK MAJOR MEDICAL CENTRE

York Major Medical Centre is a 50,000 ft² high-performance green building that is also a leader in creating a healthy indoor environment for medical practices. The medical office is in the heart of the rapidly growing City of Vaughan, just north of Major Mackenzie Dr., within walking distance of stores, restaurants, businesses, public transportation and high-rise condominiums. Occupants of the building also have neighboring views of a majestic Eagles Nest Golf Club. York Major Holdings, the Owner of this project, set an early goal of developing a building that incorporated sustainable design practices in all aspects with the intent of creating a space that was healthy, highly efficient and that provided cost-savings.

INTEGRATION WITH SITE

The site was selected based on its dense surroundings, providing options for alternative transportation and connection with amenities for occupants, without impacting the land it would be built on.

Project Team

- Developer/Owner:** York Major Holdings
- Construction Manager:** Metrus Construction Limited.
- LEED Consultant:** INVIRO Engineered Systems Ltd.
- Architect:** Baldassarra Architects Inc.
- Structural Engineer:** Peter Betka & Associates Ltd.
- Mechanical Engineer:** INVIRO Engineered Systems Ltd.
- Electrical Engineer:** Manual Jordao & Associates Ltd.
- Energy Modeller:** INVIRO Engineered Systems Ltd.
- Environmental Consultant:** Stantec Consulting Ltd.



LEED Scorecard - Gold

Sustainable Sites	7/11
Water Efficiency	5/11
Energy & Atmosphere	16/33
Materials & Resources	9 / 14
Indoor Environmental Quality	6/10
Innovation in Operations	6 / 6
Regional Priority	3 / 4
Location & transportation	15/20
Integrative process credits	0/1
TOTAL	67 / 110

MATERIALS

Selecting low-carbon materials was a priority in the early design phases. Precast concrete hollow core slabs with recycled content were incorporated into the design to reduce raw material consumption and maintain durability. By performing a Building Life Cycle Analysis (LCA), the team was able to assess the environmental impacts of specific materials and products from extraction through manufacture, use, replace or repair to disposal and recycling, and demonstrate an overall embodied carbon reduction of 20%.

ENERGY

The project reduced its energy consumption by over 15% with an optimized design through a high-performance building envelope paired with efficient mechanical and electrical systems, including a hydronic system that provides heating and cooling, an energy recovery ventilator with demand-controlled ventilation that delivers fresh air and efficient LED lighting with daylighting controls. The systems are monitored by a building automation system, fully automating the lighting levels and HVAC delivery specifically to coincide with tenant hours of operation that will adjust to seasonal changes in sunlight and temperature.

INDOOR AIR QUALITY

As a high priority for a medical centre, all finishes were selected based on their low-emitting/non-emitting criteria for volatile organic compounds (VOCs). Additionally, the ventilation system was designed to maximize fresh air intake while using high-efficiency filtration media to reduce indoor pollutants and particles.



Electric vehicle charging stations are provided and located outside of the building to encourage alternative means of transportation. In addition, the well thought out lighting design for the building's exterior reduces the effects of light pollution by limiting the amount of light that trespasses beyond the property. To help restore habitat, the project donated 49 acres of nearby woodlot lands to local conservation authorities.

WATER

Plumbing fixtures and fittings selected reduce indoor potable water use by over 30%, which is an approximate savings of 743,800 L of water per year. Outdoor water savings of over 60% were achieved by selecting plant species based on their drought tolerance, hardiness and disease resistance requiring minimal maintenance requirements. Through a holistic lens of rainwater management, onsite rainwater runoff was reduced by replicating the site's natural hydrology, supporting key regional features such as wetlands, headwater streams and groundwater aquifers. In addition, makeup water used for the cooling tower is conserved with makeup water meters, conductivity controls and overflow alarms.