

## **7150 Derrycrest Drive, Mississauga ON Canada A LEED®-CS Gold certified building**

The building located at 7150 Derrycrest Drive is a 3-storey office building, with 5,200 m<sup>2</sup> of floor space designed to provide the occupants with a high quality workspace. It was built in compliance with the U.S. Green Building Council (USGBC)'s LEED® rating system for core and shell (LEED®-CS), which in the spirit of sustainable development, maximizes the building's performance while reducing its environmental footprint. The owner-developer of the building was committed to ensuring superior environmental, economic and social performance by obtaining LEED® Gold certification in October 2009, one of the highest forms of recognition in the construction sector.

The sustainable development objectives of the owner were integrated in a cost-effective manner thanks to the project team's spirit of innovation and multifaceted technical experience. The Sustainable Development Advisor of the team contributed information on LEED® certification to all design and construction decisions. LEED® accredited professionals have sustainable design experience with a variety of buildings. The team that worked on the sustainable development aspect of the project was made up of civil, mechanical and environmental engineers as well as architects who collaborated to provide the solutions and quality control services necessary for obtaining LEED® certification and achieving the client's sustainability goals for each project.

The following criteria provide an overview of the building's sustainable design and construction features. The team submitted more than 34 credits for rating and ended up surpassing the initial goal and being certified on a total of 35 points and credits, thereby achieving Gold certification. The following strategies were implemented at 7150 Derrycrest Drive:

### Sustainable site development (6/15)

A plan to manage erosion and sedimentation during construction was developed. Implementation of and adherence to the plan was monitored throughout construction by conducting regular site inspections, documenting deficiencies and rapidly applying corrective measures.

The 7150 Derrycrest Drive site was selected because of its reduced environmental footprint, which doesn't infringe on or disrupt eco-sensitive land or the habitat of endangered species. In addition, water runoff from the site was treated in order to remove 80% of pollutants before it entered the municipal stormwater network. 7150 Derrycrest Drive facilitates occupants' efforts to reduce atmospheric pollution by using environmentally friendly modes of transportation since bicycle stands, showers, change rooms and parking reserved for low emission, fuel-efficient vehicles, such as hybrids, have been provided.

### Efficient water management (3/5)

The building was designed to produce an outstanding potable water consumption reduction of more than 30% by landscaping with drought-tolerant native species that do not require maintenance or watering as well as by installing low-flow sanitary equipment with electronic sensors and dual flush toilets.

### Energy and atmosphere (6/14)

By opting for high-efficiency heating, cooling, heat recovery and lighting equipment, 7150 Derrycrest Drive has significantly reduced its energy consumption. The energy model of 7150 Derrycrest Drive was compared to a reference building that meets the ASHREA 90.1-2004 standard requirements.

An energy simulation of the building revealed that energy consumption has been reduced by 37% and energy costs by 18% in relation to this reference model.

To reduce greenhouse gas emissions and protect the ozone layer in accordance with EAp3 and EA4 standards, all HVAC equipment is CFC- and HCFC-free, and fire extinction systems do not contain halons. In addition, the building has a sub-metering network that measures electricity consumption.

Occupants have access to their electricity consumption information through an online database provided by the building owner.

### Materials and resources (7/11)

To attain the minimum rate of recycling over 75% of waste products, the rate required to obtain waste management credits, the tradespeople and site staff received necessary training on the LEED® system to ensure that maximum performance was achieved.

Furthermore, a high percentage of the materials selected for the building were obtained from local manufacturers and were produced with high recycled and regional content.

The design and construction team achieved exceptional performance by exceeding the thresholds set for regional and recycled materials by fifty percent.

### Indoor environmental quality (8/11)

Providing a high quality, healthy environment is key for creating a productive and comfortable workspace for occupants. The design team used materials with low volatile organic compound (VOC) emissions, increased the ventilation and used abundant natural daylight to enhance the interior environment.

The work was managed and monitored in order to prevent dust from entering the ventilation conduits by sealing them. Credit requirements were incorporated into the specifications, and tradespeople were trained at scheduled LEED®-focused construction meetings on the importance of indoor air quality for obtaining LEED® indoor air quality credits. All adhesives, sealants, paint, coatings and ground covers, such as carpets, used in the building met or exceeded VOC content requirements for core and shell under the LEED® system.

It is forbidden to smoke inside the building and exterior smoking areas are required to be more than 7.5 m from any building entry in order to guarantee the air quality for occupants.

### Innovation in Design (5/5)

Lastly, the design team and building owner recognize that the building must reduce its environmental footprint during operation and maintain the high performance for which it was designed. As a consequence, the owner has implemented an environmentally

friendly cleaning policy to reduce exposure to harmful chemical products to a minimum. The building also features an interactive educational presentation in the lobby to inform occupants about the green features of their building and encourage them to continue reducing their environmental footprint. This information is also available on the web site of La Capitale, the owner-developer of the building.