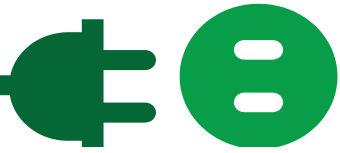


Promising Practices



Institutions

Huron Early Learning Centre seeks LEED silver certification

The Huron Early Learning Centre, located at 24 Capilano Drive in Fisher Heights (Ottawa West), is a relatively new facility for early childhood learning and day-care. Owned and operated by the City of Ottawa, it was initiated in 2007 with a feasibility study which aimed to relocate the existing Huron Towers Childcare centre. A budget of \$1.004 million was allocated for the demolition of an existing house and the construction of a new 3,000 sq. ft. unit. The feasibility study identified the need for a larger facility which would also serve as an example of energy and environmental “best practice.” As a result, Council approved additional funding in the amount of \$2.974 million for a 5,500 sq. ft. facility.



The centre as conceived by the architects.

The design for the new building covered a full program of spatial requirements: lobby, office, toddler room, pre-school art, cubby spaces, staff room, dining room, kitchen, pantry, clean-up room, laundry, washrooms, storage rooms, equipment spaces, and janitorial rooms. The exterior program includes a toddler playground area, pre-school playground area, a natural playground area, storage sheds, and natural landscaping. From an energy and environmental perspective, the Huron Centre sets a new standard for day-care centres, providing both state-of-the-art heating/cooling systems and an innovative approach to the interior

and exterior work and play environments, as well as unique programs to enhance environmental learning.

Green Energy Features

Passive solar design: Positioning the building on a north-south axis, minimizing window area on the north side and maximizing on the south side, plus the use of overhangs on the south side to minimize heat gain during the summer, when the sun is higher in the sky.

Energy efficient windows and doors: sealed, double/triple-glazed windows, well-insulated doors with robust weather seal, and separate foyers to reduce air leakage on entry and exit.

Radiant in-floor heating system that provides warmth right where the children run and play. These systems are more efficient because they can use lower quality heat sources to produce higher overall heating efficiencies.

A Building Automation System (BAS), which controls both heating and cooling in the building. The system can set back temperature and adjust humidity to reduce energy usage.

ERV (Energy Recovery Ventilator) which exhausts stale air through metal plates and brings in fresh air through separate metal plates—in effect warming the incoming air with heat from the outgoing air. This is a great energy saving appliance.

Thermostatic Zone Controls: This is part of the input devices of the Building Automation System (BAS) and allows for independent control of both the heating and cooling of the building in each zone independently. Thermostats are set to a chosen set-point and the system decides to call either for heating in the floor slab, free-air fresh air, or cooled AC air during the various seasons. The BAS controls the various set-back temperatures and operating parameters, and also allows adjustment for interior temperature variations, e.g. in the fall, rooms on the south side can be very warm on a sunny day while the north side could be cold.

Photovoltaic roof panel systems: The panels generate electricity for internal use by the facility, but it is also possible to sell back any unused electricity to the Hydro One grid under the microFIT (Feed-In-Tariff) program. The capacity of the installed system is 3 KW, but could be expanded to 10 KW under the program. The Ontario Power Authority pays 80.2¢ per kWh of electricity received.

A solar hot water system, utilizing 2 roof-mounted flat-plate collectors, which can reduce the electrical energy used to meet domestic hot water requirements by as much as 40-50%. The solar-heated water is stored in an insulated tank, and can be topped up by water from an integrated electric hot water heater when required (e.g. in winter).

Initial targets called for a 40% reduction in energy cost savings compared to a conventional building.

Other Notable Environmental Features

- Water conservation is vastly improved through use of water-efficient plumbing fixtures. Water cisterns are used for the storage of rainwater. The rainwater can be used to irrigate flowers and lawns.
- Advanced storm water management to control run-off via swales and landscaping.
- Use of natural, renewable, recycled and regionally produced materials within the building.
- Use of low Volatile Organic Compounds (VOC) surface materials and finishes
- Recycling of all the waste from the construction activities.
- Continuing the ecology and environmental theme through innovative childcare programming, so that children learn about the benefits of energy saving and environmental sustainability through daily activities.

LEED Certification

The Huron Centre is seeking certification under LEED (Leadership in Energy and Environmental Design), which has been mandated by the Ottawa City Council for all new buildings. LEED is a point-based rating system used to evaluate the environmental performance of a building in five categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. LEED Certification is a lengthy

and demanding process, but the Centre expects to receive Silver level certification by sometime in 2012.

This Promising Practice was brought to you by
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