

Builders' Digest

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RBC Centre

Toronto's most environmentally friendly office tower

SCRAPING THE SKY:
THE NEW BAY ADELAIDE CENTRE

A NEW ERA IN STEEL STRUCTURES

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SETTING A 'GOLD' EXAMPLE

BY LIZ KATYNSKI

With the new RBC Centre, Toronto is set to welcome the city's most environmentally friendly office tower to date

A rendering of the new RBC Centre, a building designed to LEED NC Gold standards

IT MAY BE ONE OF THE FIRST HIGH-RISE OFFICE buildings to be built in downtown Toronto since the building boom of the '80s, but the \$300-million RBC Centre marks a far more important "first." It is in fact one of the most environmentally friendly office towers going up in the country.

Located at the southwest corner of Wellington and Simcoe streets, the 43-storey, 1.2-million-square-foot building was completely designed to LEED NC Gold standards, which stipulate the industry's toughest measures to ensure sustainability. Everything from heating and lighting all the way to waste management was planned and devised with an eye on the environment.

PCL Constructors Ltd., the general contractors for the project, left "nothing to chance," explains Darius Zaccak, the company's construction manager for the Centre. To ensure that all coordinators and project managers were aware of LEED guidelines, PCL appointed a LEED coordinator responsible for all related documentation for certification. "Quality control to meet the criteria is very well defined from the start," says Zaccak.

One of the most important environmental steps being taken is the recycling of 99 per cent of construction waste, with PCL ensuring that nothing slips through the cracks. "PCL uses reputable recyclers and we check to ensure they comply. We've taken that extra step to ensure accountability," says Zaccak. "We are seeing more of this trend in the industry, especially on the large and sophisticated projects."

Under LEED requirements, the site control plan includes sediment control to prevent environmental contamination. It covers the transportation of soils with sediment and construction waste recycling. Any water pumped from the excavation was double filtered in sedimentation tanks and tested before being released into the city sewer. Waste from the job site was sorted



The RBC Centre will collect rainwater into two large cisterns, to be used for irrigation and the flushing of toilets on the first six floors

sent through the pipes around the perimeter of each floor.

While the common dark roof provides a heat island effect that retains heat in the building, this one's white roof reflects it. It's topped with reflective material, white precast pavers. "The quality and reflectivity of the pavers was important," says Barkhurst.

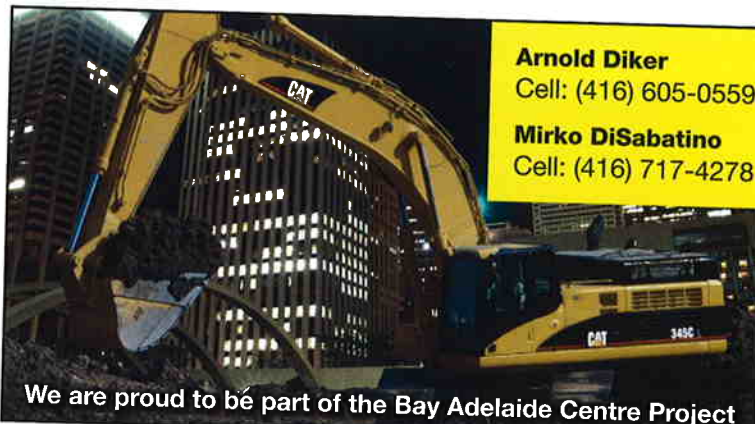
City regulations normally require a specific controlled flow of storm water, typically done on the roof. However LEED requirements involve retaining the reclaimed water for irrigation and for flushing toilets and urinals on the first six floors. All rainwater from the RBC Centre's roof is collected in two large cisterns in the basement for this use, and plumbing is water efficient throughout.

"This is a whole different thinking on how to deliver a building," says Cadillac Fairview's Andrushko. "Building to LEED certification is smarter, not more difficult. You think about the building differently. There are requirements, but what more you spend on construction is made up in operating savings within a few years. It pays for itself."

FULL POWER BACK UP

The RBC Centre is also the first building in the city to include 100 per cent emergency power backup. With four generators located on the roof, three will continue to run the building at full capacity in the event of power failure. The fourth acts as a backup for the backups. The generators are bi-fuel, running on half diesel and half natural gas, and they store enough fuel to run full service for three days. They can also be topped up to run even longer.

The interior of the RBC and the RBC



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Dexia Investor Services Group portion of the building is being designed by GovanBrown, construction managers for LEED Gold CI (commercial interior) Certification. This includes about 620,000 square feet of space over the podium and office tower of the building, with a conference centre, rooftop patio and 6,000-square-foot retail branch on the ground floor.

"GovanBrown is proud to be the construction manager on not only one of the largest interiors project in Canada but one of the largest LEED CI Gold projects," says Jon Taylor, partner at GovanBrown, a company that has actively participated in sustainable building practices over the past three years.

Like many construction projects, work on the new high-rise, which began in August 2007 and should be completed in September 2009, has faced its fair share of challenges. These included material-handling logistics, primarily because

the project shared a loading dock with the simultaneous construction of the neighbouring Ritz Carlton Hotel and another office building. As well, the schedule has been tight, with the first two floors – future home to RBC – set to open next June, and monthly turnovers to follow on other floors.

Then there was the 2007 labour strike and last year's harsh winter. "We had an inordinate amount of snow," says PCL's Zaccak. "We have a certain expectation of winter. When it is more severe, we suffer. But with the co-operation of the trades, our delays were mitigated."

Thanks to the hard work of all involved however, everything is still on schedule. Come next spring, the city can proudly welcome a spectacular new green-friendly building to its imposing skyline. | 

Group Effort

Additional companies involved in the construction of the RBC Centre include:

Halcrow Yolles, structural engineer; TMP, mechanical engineers; Mulvey and Banani International Inc., electrical engineers; Enermodal, LEED consultant; Anpro Environmental Group, excavation; Deep Foundation Contractors Inc., shoring and casings; Allnue Structures Inc., framework; Gilbert Steel Ltd., rebar supply; CMB, concrete supply; Modern Niagara Toronto Inc., mechanical; Plan Group, electrical; Antamex International, windows; and ThyssenKrupp Elevator Inc. RBC and Dexia are the prime tenants.



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