



## FCM Sustainability Community Awards 2010 Winner — Brownfields

City of Toronto, Ontario

Population: 2.48 million



### *Adaptive Reuse of the Industrial Heritage Wychwood Car Barns*



The Barns now houses a year-round weekly farmers' market.  
Photo credit: City of Toronto

### Summary

Using a distinctive cultural and environmental approach to remediation, the City of Toronto partnered with the not-for-profit organization Artscape to redevelop Wychwood Barns, a site formerly used by the Toronto Transit Commission (TTC) to service streetcars and trains, and now the first designated heritage site in Canada with a Leadership in Energy and Environmental Design (LEED) Gold certification. The Wychwood Car Barns project responded imaginatively to the issues of brownfield redevelopment by preserving existing industrial heritage buildings, while recycling them into a vibrant, multifaceted community centre and public park run on a cost-recovery basis, without ongoing municipal financial support. The sustainable design features and technologies retrofitted into the Artscape Wychwood Barns reduce energy consumption and greenhouse gas (GHG) emissions by about 40 per cent and consumption of municipal potable water by more than 60 per cent compared with similar conventional buildings.

### Background

The Wychwood Car Barns site, located in the Christie and St. Clair West neighborhood of midtown Toronto, was used by the TTC for many years to repair and maintain its streetcar fleet. In the mid-1980s, the TTC vacated the premises, and the property was left derelict. The five attached brick buildings — built between 1913 and 1921 — were an excellent example of early 20th century industrial architecture, but chemicals such as creosote, asbestos, paint thinner, and lead were found to contaminate the site.

For decades, the city lacked the capital and operating funding to clean up the four-acre expanse and to restore the buildings. A key challenge was finding the right redevelopment plan. Options that took a land-use planning viewpoint failed to inspire any real momentum, and despite the many redevelopment ideas considered, no clear plan emerged until city staff took a cultural and environmental perspective on the process.

The new plan for the site emerged from a recognition that the mid-town neighbourhood in which the Barns are located was park-deficient. After a lengthy public consultation process, the idea for a mixed-use area blending heritage, arts and culture, public green space, and environmental stewardship took form.

## **Project Development**

The vision for the Wychwood Car Barns project grew out of an intensive public engagement process that included public meetings, a design charette, e-mail feedback, open houses, site tours, and opinion surveys. Community residents set up an advocacy group, Friends of a New Park, and the volunteer community-based Wychwood Barns Advisory Council formed to develop recommendations on the feasibility of various reuse options. This ongoing public involvement and support was integral to the success of the project.

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With support from a 2005 Green Municipal Fund grant of \$127,250 (GMEF 7121), the city completed a feasibility study with a particular focus on the potential impacts of a ground-source heat pump for the heating and cooling system.

The project itself attracted strong support from the mayor's office and from local city councillor Joe Mihevc. Excellent communication between the many municipal departments involved ensured that the project would move forward smoothly. Based on staff reports, city authorization was obtained to take these steps:

- Transfer the property from the TTC to the city.
- Declare the land surplus to municipal needs.
- Enter into an agreement with a proponent to undertake the redevelopment.
- Go forward with the business plan to obtain capital for the \$22 million project, with council agreement to follow through on the project in the long term.
- Enter into a long-term below-market rental lease with the proponent.
- Authorize portions of the Barns as a Municipal Capital Facility (a new provision under the City of Toronto Act that allows for an exemption from municipal and school taxes for a city facility having cultural, recreational, or tourism purposes).

## **Project Implementation**

In its request for proposals (RFP), the city specified that it was seeking as a development partner a not-for-profit or charitable organization outside the mandate of another order of government, whose services would complement city services. Eventually, the city chose Artscape — a not-for-profit urban development organization that revitalizes buildings, neighbourhoods, and cities through the arts — as the preferred proponent. Once a long-term below-market rental lease had been signed, Artscape helped to raise the required \$22 million in capital for the project. FCM's Green Municipal Fund supported the project with a combined loan (\$600,000) and grant (\$90,000) distributed in 2008–2009 (GMF 10068).

Before construction could begin, the site had to be cleaned up. The city removed more than 7,400 cubic metres of contaminated soil containing asbestos, creosote, lead, and paint thinner from the site. Once construction began, early in 2007, portions of the barns required partial demolition and replacement, and so all alterations were reviewed and approved by the city's Heritage Preservation Services department, whose staff paid careful attention to heritage preservation.

To achieve LEED Gold certification, the city and Artscape had to adhere to specific standards of practice in sustainable building design and construction. The primary sustainability feature is a geothermal (ground source) heating and cooling system, which reduces energy consumption and GHG emissions. Energy efficiency is enhanced through additional features such as the east-west orientation of the buildings and a design that increases available daylight in indoor spaces. The highly reflective, white PVC membrane rooftop reduces the "heat island" effect and minimizes the cooling load during the summer months.

Water efficiency is maximized through the use of low-flow fixtures, touchless faucets, and waterless urinals. Rainwater collected from the roof is stored in cisterns and used to flush the toilets. The leftover water irrigates the surrounding park, greenhouse, and gardens.

The overall site is designed to encourage pedestrian, public transit, and cycling access; minimizing the negative impacts of parking, noise, and traffic on the local community.

Throughout the project's implementation city staff organized monthly meetings at city hall with all departments involved in the project, as well as with Artscape, architects Joe Lobko, city councillor Joe Mihevc, and the community group Friends of a New Park. These meetings ensured effective communication between all stakeholders. The resulting information exchange also made public communication more consistent, because all parties were "on the same page."

The novel cost-recovery model for operation of the completed Artscape Wychwood Barns provides a new public amenity without the need for direct and continuing municipal financial support. City support to the project consists chiefly of a below-market rental lease and designation as a Municipal Capital Facility exempt from municipal and school taxes for large portions of the site. The sustainable technologies installed during construction contribute to reduced operating costs through energy savings, helping with cost recovery after an initial period of payback on the investment.

Social and environmental programming is integral to the completed Wychwood Car Barns project. The remediated site provide affordable accommodation for artists and their families, individual studios for artists, a daycare centre, programming and office space for not-for-profit arts and environmental organizations, and a community gallery and event space. The Barns also house a year-round weekly farmers' market attended by about 1,000 people weekly and "The Stop" Community Food Centre, a sustainable food production and education centre with a greenhouse, commercial kitchen, classroom, sheltered garden, and composting facility with about 500 participants monthly. A community board involves members of the local community and tenants of the Barns in the site's operations.

## Results

- The Artscape Wychwood Barns will generate \$3.82 million in new property tax revenues to the City of Toronto over 40 years.
- Removal of more than 7,400 cubic metres of contaminated soil has eliminated exposure risks for the surrounding community.
- Sustainable technologies — chiefly the geothermal heating and cooling system — are expected to reduce energy consumption and costs by 39.6 per cent and GHG emissions by 40.8 per cent (512 tonnes of CO<sub>2</sub>) compared with similar buildings outfitted with traditional technologies.
- Stormwater harvesting and reuse saves almost 7,746 litres of municipal potable water daily (about 2.8 million litres annually), reducing consumption of municipal potable water by more than 60 per cent compared with a site using traditional technologies.
- During the project, more than 71 per cent of construction waste was diverted from landfill, and 30 per cent of the building materials were extracted and manufactured locally. The siding panels that run along the north facade are made completely of recycled plastic, representing the diversion of 3,880 kilograms of plastic from landfill.

## Lessons Learned

- UNDERSTAND THE ADMINISTRATIVE REQUIREMENTS FOR MUNICIPAL IMPLEMENTATION. The project proceeded more smoothly because the necessary staff reports and city council authorizations were completed in advance. "I've used the same processes in projects I've worked on since the Barns in order to make these projects happen," said Lori Martin, Senior Cultural Affairs Officer for the City of Toronto's Cultural Affairs Division.

- ENSURE GOOD COMMUNICATION BETWEEN ALL STAKEHOLDERS. "Communication was key to the project's success," said Martin. "The key piece was the monthly boardroom meeting with internal staff, external partners like Artscape and the architect Joe Lobko and the community group Friends of a New Park. If we had not regrouped each month, it would have been a hard project to pull off."
- CONSIDER A THIRD-PARTY, NOT-FOR-PROFIT PARTNER. "Sometimes a not-for-profit third party is much better at raising funds than a municipality," said Martin.
- ENSURE A COMMUNITY-DRIVEN, BOTTOM-UP APPROACH. "The vision needs to be cultivated by the community, with the city acting as a facilitator," said Martin. "The residents were not spectators, they were active participants."
- INITIATE THE REQUEST FOR PROPOSALS PROCESS AS EARLY AS POSSIBLE. If possible, it would have been preferable to have begun the RFP process even earlier, said Martin. Artscape, the partner chosen through the RFP process, was already working with the city as a consultant in generating the vision for the site. "Putting out the RFP earlier would have formalized the process and who the players were earlier on," said Martin. At the same time, she noted that establishing the vision took considerable time and consultation; it may not have been possible to choose a development partner much sooner.

### **Related and Future Initiatives**

The Wychwood Car Barns redevelopment project now serves as a prototype for the implementation of other complicated projects involving city assets. A similar project, Evergreen Brickworks, is currently underway and will be completed in September 2010. The City of Toronto and its development partner, Evergreen (a not-for-profit organization that creates and sustains green outdoor spaces in cities), are redeveloping the Don Valley Brickworks. The project involves a clean-up of the abandoned industrial site and redevelopment of 12 heritage buildings. Evergreen Brickworks will be a mixed-use area featuring a park, a garden centre, a farmers' market, studio and event space, a café, a winter skating rink, and ongoing arts, crafts, and educational activities. The site will include a new, five-storey LEED Platinum office building that will be a benchmark in sustainability.

### **Partners and Collaboration**

City of Toronto

Artscape (development partner)

"The Stop" Community Food Centre (not-for-profit sustainable food organization)

Stantec Consulting (engineers)

Joe Lobko (lead architect)

Friends of a New Park (community group)

### **Contact Information**

Lori Martin, Senior Cultural Affairs Officer

Culture Division

City of Toronto, Ont.

416-392-5225

[lmartin2@toronto.ca](mailto:lmartin2@toronto.ca)

[www.torontoartscape.on.ca/places-spaces/artscape-wychwood-barns](http://www.torontoartscape.on.ca/places-spaces/artscape-wychwood-barns)