

Cours Bayview Yards

7 Bayview Road

Submitted for the 2020 Green Building Awards

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Location

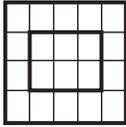
7 Bayview Road, Ottawa, Ontario

Substantial Completion

February 15, 2017



Front entrance of the renovated 7 Bayview Road¹



**Cours
Bayview
Yards**
7 Bayview Road

PROJECT SUMMARY

Also known as The Innovation Centre at Bayview yards, Cours Bayview Yards is Ottawa's epicentre for entrepreneurial programs and services. The centre was developed within a 48,000ft² industrial building that was originally built in the 1940's as a City Workshops facility, and now has historical importance as one of the few survivors of a once sprawling industrial area.

The project **showcases the potential for the adaptive reuse of vacant industrial buildings** and demonstrates that it can be done both affordably and sustainably. Aside from retaining over 85% of the building's original structure, the project integrates a number of other sustainable

features encompassing the ecological, economic and social aspects of design:

- Maximized thermal performance through use of premium insulation and fenestration
- High efficiency mechanical & electrical systems supplemented by a comprehensive building automation system that modulates equipment runtimes to varying building loads and not fixed schedules
- Embraces alternate modes of transportation, urban agriculture and green furniture

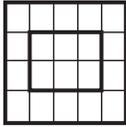
The project continues to be lauded for its "outside the box," unconventional approach to what is essentially an office building, recognizing the many qualities that were born purely out of the adaptive re-use philosophy. The project achieved LEED Gold certification in 2018.



View from south on Bayview Road after renovation in 2016¹



A suspended hoist beam is preserved as an artifact in the main lobby, a cue to the legacy of the Workshops facility¹



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MAIN PROJECT DESCRIPTION

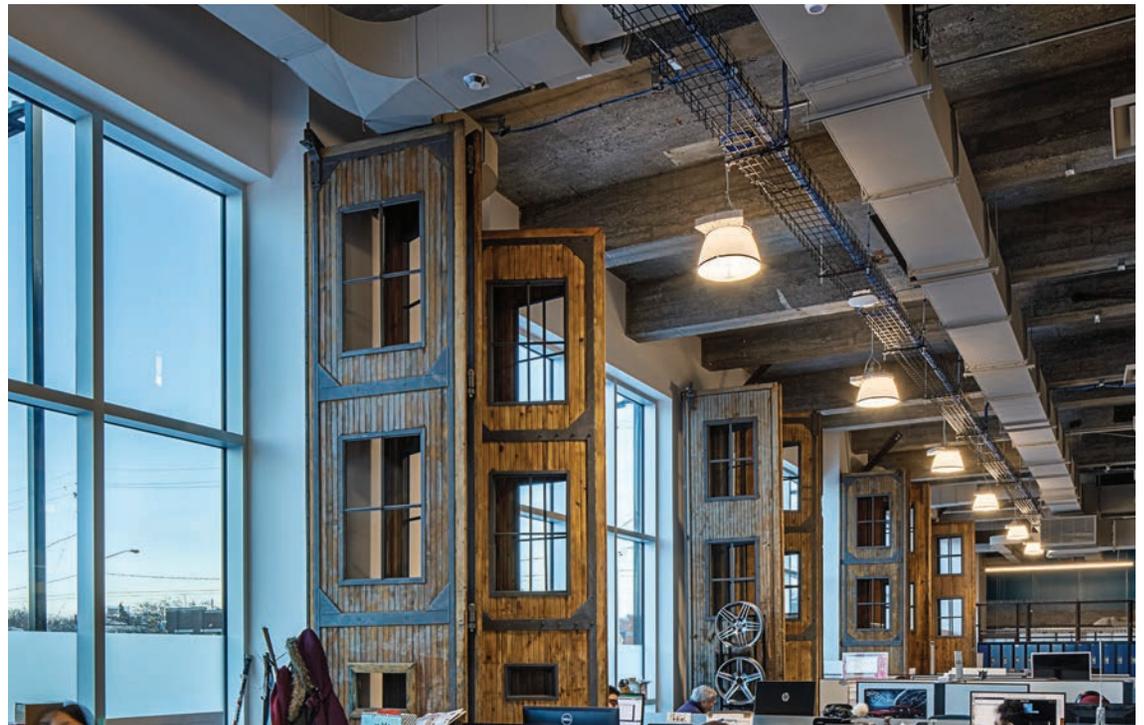
1. Strategic Decisions

In an effort to recognize the industrial heritage of the building and the Bayview Yards area, the design of the space **retains over 85% of the existing structure** and contributes to a vibrant language of old and new. The new centre is emblematic of the regeneration of the area and reinvention of the facility. Cours Bayview Yards sets a precedent for the repurposing of long abandoned municipal buildings, reinforcing the goal of reuse and sustainability.

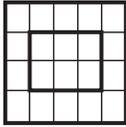
The interior design takes advantage of the exposed interior structures and surfaces of the building. Unfinished concrete beams and floors are predominant. These elements embrace the raw, gritty heritage of the Bayview Yards area of Ottawa. This aesthetic is further established with the **retention of industrial artifacts** such as the cantilevered hoists and pulleys, metal cage structures and wooden garage doors.



Existing wooden service bay doors, as found in 2015³ (left), 4 (right)



Interior with restored service bay doors, 2016²



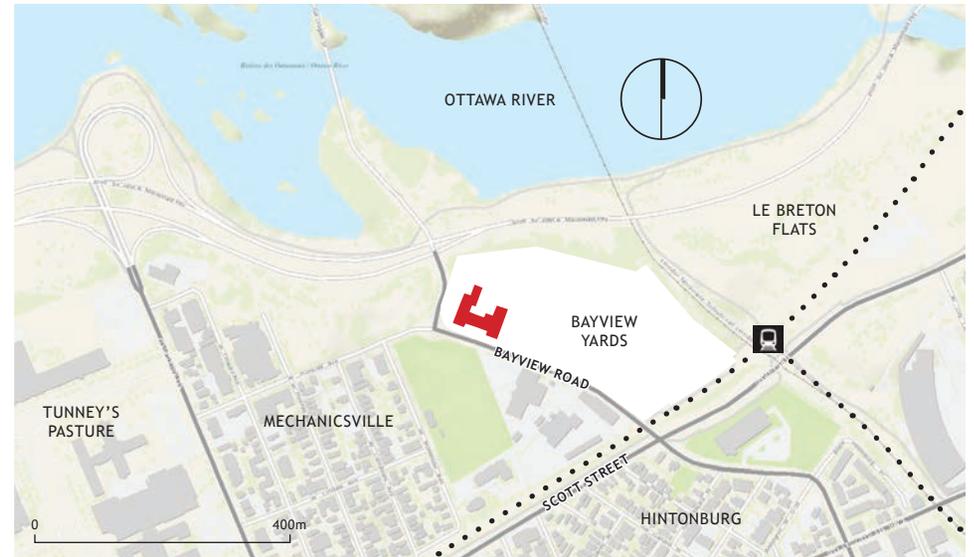
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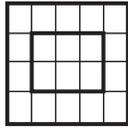
2. Community

The building and related spaces were developed to convey innovation, dynamics, industry and discovery within a framework of sustainability and adaptive reuse. The centre facilitates free thinking, provide spaces for conversation, social mixing and is configured to encourage random collisions and serendipitous meetings.

- Located on a previously developed site and within 800m of a residential area or neighbourhood with an average density of 25 units per hectare, and within 800m of at least ten Basic Services, and has pedestrian access between the building and the services
- 500m walk to Bayview LRT Station
- Secure covered bicycle storage within 183m of the building entrance is provided for 25% Full-Time Equivalent (FTE) occupants, secure bicycle storage within 183m of the building entrance is provided for 12.55% of peak transient users, and changing/shower facilities are provided within 183m of the building entrance for 2% of FTE occupants
- Four showers, 50 covered bicycle racks, and 19 exterior bicycle racks provided internally for 200 regular FTE occupants and 350 transients
- Three Alternative Fuel Vehicle refueling stations provided for 28 parking spaces, including one 100A and two 40A stations
- No new parking capacity was added to the site; the existing parking does not exceed 3.5 spaces per 93m² of gross floor area
- Preferred parking spots provided for carpools/van-pools for 7.14% of total provided parking spots

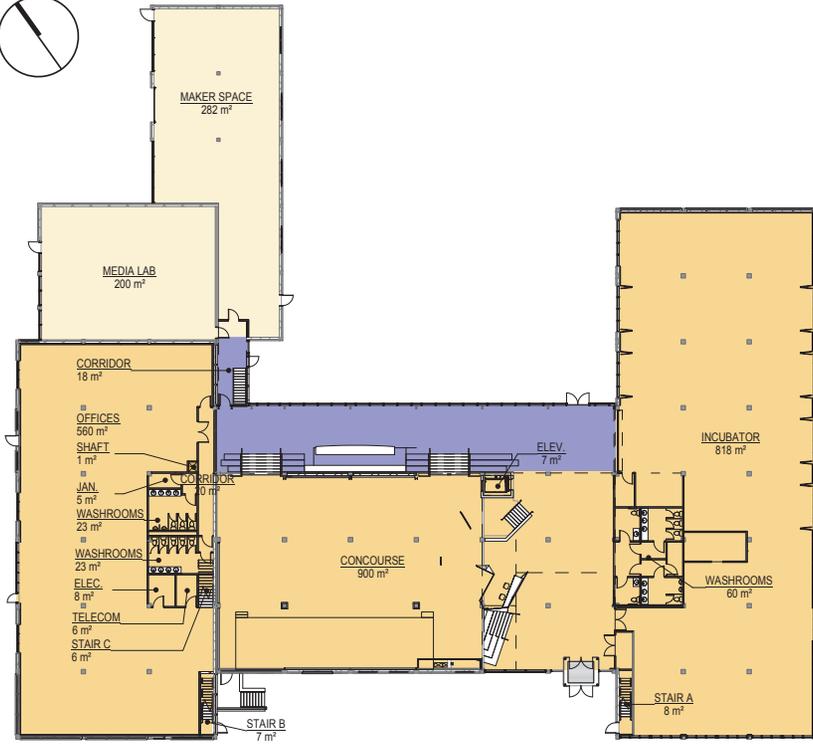


Area map and site plan



Cours Bayview Yards

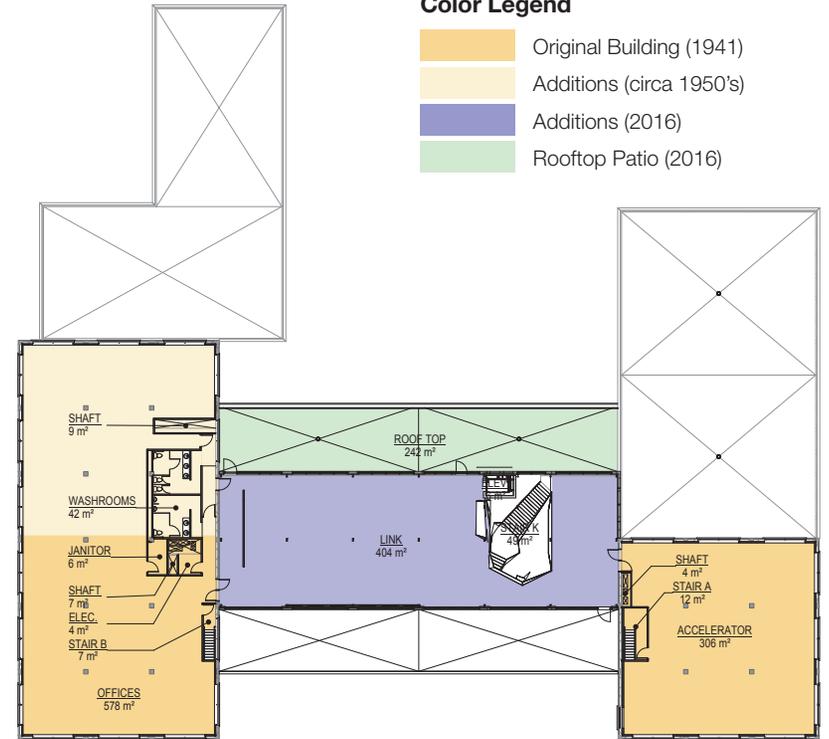
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Ground Floor Plan

Color Legend

- Original Building (1941)
- Additions (circa 1950's)
- Additions (2016)
- Rooftop Patio (2016)



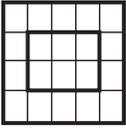
Second Floor Plan



The addition at the ground floor doubles as a café and connecting link²



The new link at the second floor provides overview to ground floor activities²



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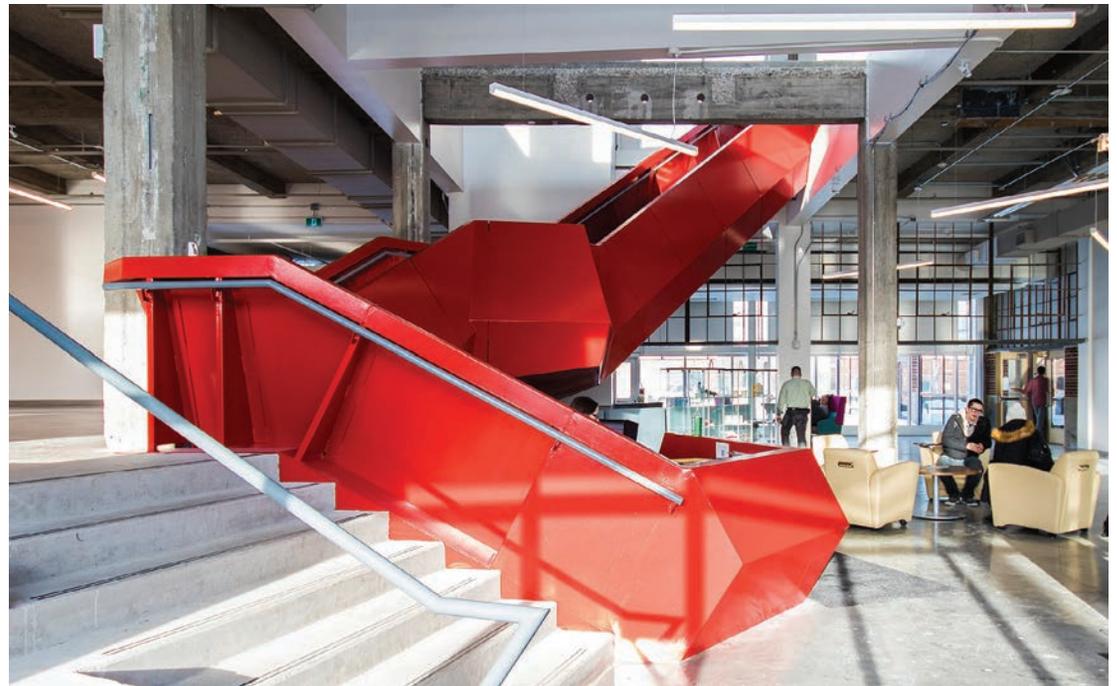
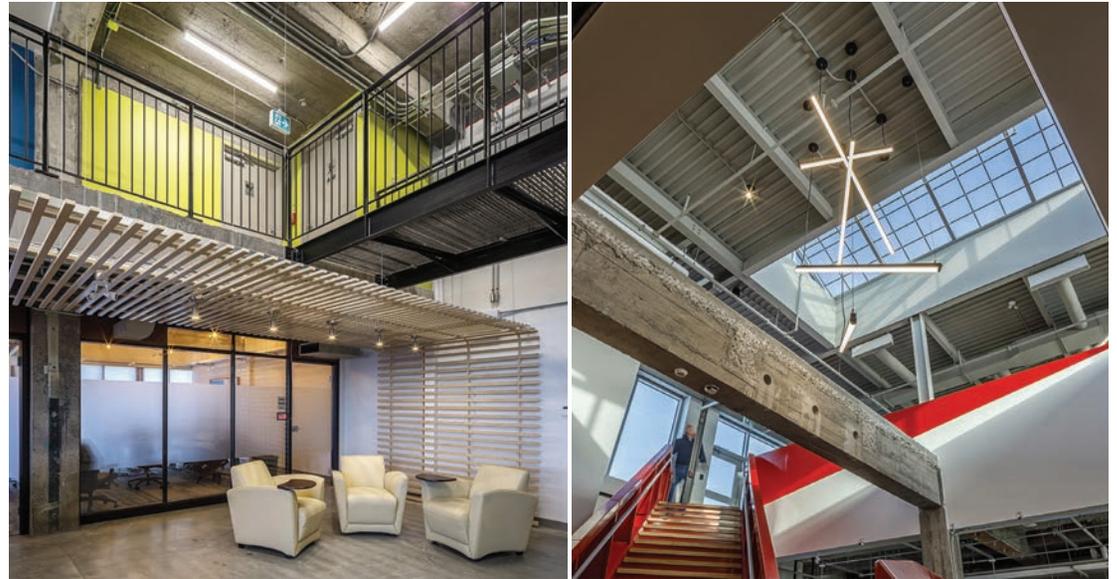
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3. Site Ecology

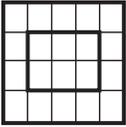
- **Brownfield Redevelopment** - project site was documented as contaminated by an independent environmental assessment firm. Remediation was provided.
- Site imperviousness **greater than 50%**
- Stormwater management plan results in a **25% decrease** in the rate and volume of stormwater runoff from the 2-year 24-hour design storm

4. Light and Air

- **High efficiency** LED lighting (20.12 kWh/m² annual energy consumption)
- Non-emergency interior lighting input power is **reduced by 50%** through automatic controls between 11pm and 5am
- A minimum daylight illumination level of 250 Lux is achieved in **91.05%** of regularly occupied areas
- Building occupants in **97.99%** of regularly occupied areas have direct lines of sight to perimeter glazing
- Outdoor air intake is reduced via **demand controlled ventilation** with CO₂ sensors. Variable occupancy areas include meeting and assembly areas.



High efficiency LED lighting adds life to the former industrial interior ² (top), ¹ (bottom)



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5. Wellness

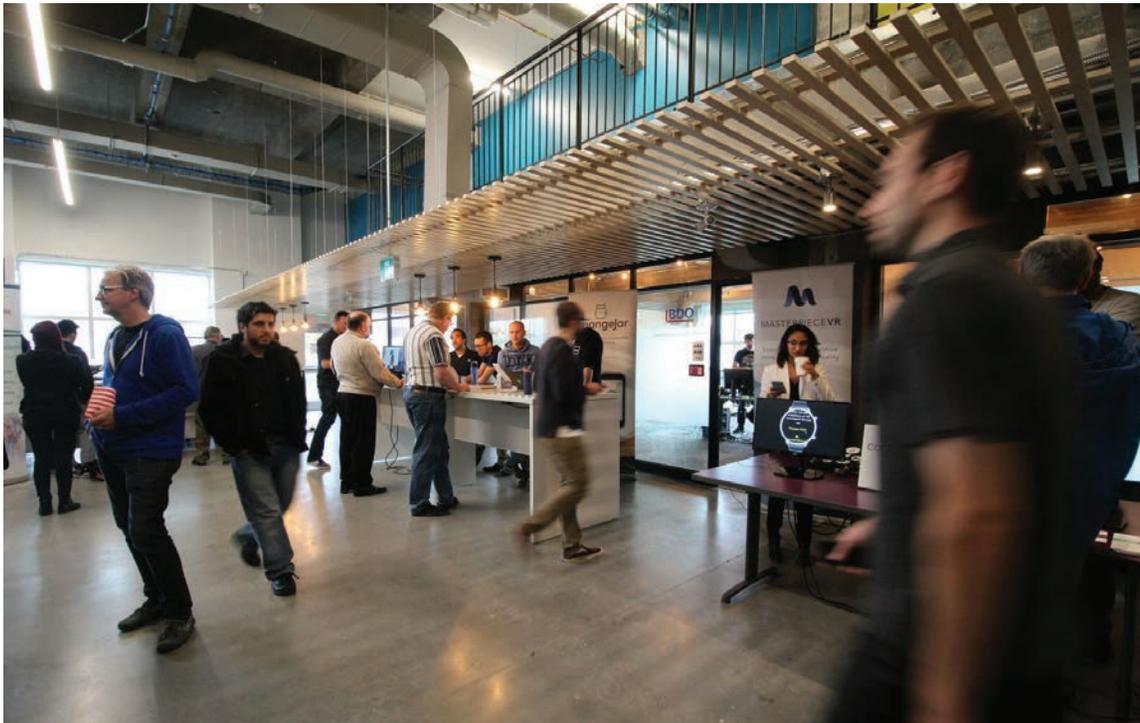
The interior design concept for the Innovation Centre creates a fun and inspirational environment where real work and concrete results are realized, where successful firms are tempered and alumni are proud of their heritage.

The common areas incorporate many opportunities for meeting and socializing. The ground floor is organized around a dramatic central stair and a sunfilled café link. The lobby, link and stair are key organizing elements through which all users and visitors pass daily.

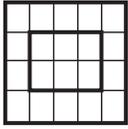
- The Incubator is an open, collaborative space with casual seating options
- The Well is a multipurpose space with integrated seat-stair that is freely accessible for casual meetings when not in use
- Exterior amenities include an apple & pear orchard and community garden and rooftop patio

6. Water Conservation

- **41.67%** water use reduction over the baseline fixture performance requirements
- Drought-tolerant, native plantings require no permanent irrigation system



The Incubator offers a range of settings for showcases, meetings and collaboration ⁵ (left), ² (right)



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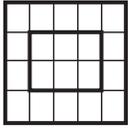
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A rooftop terrace overlooks the apple and pear orchard⁵

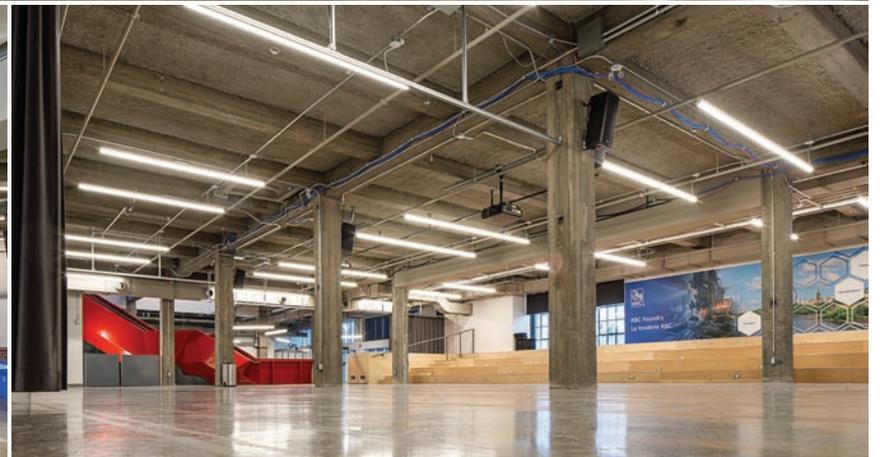
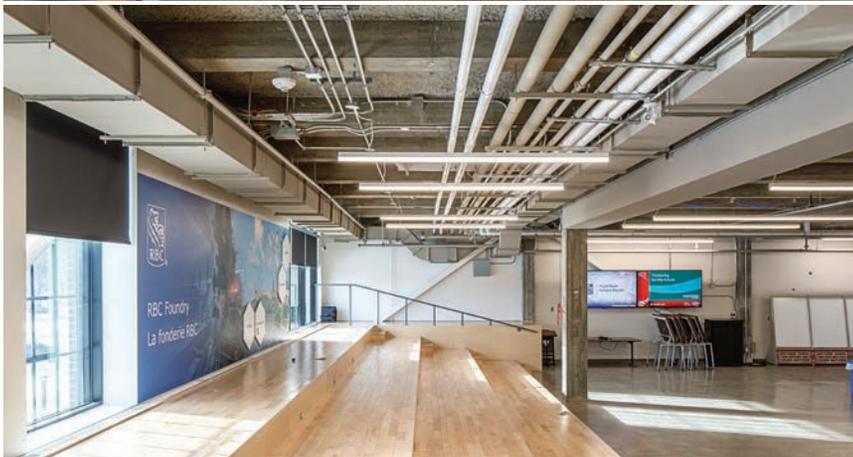


Courtyard plaza and community garden⁵

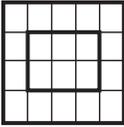


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The Well, a multipurpose space for events, parties and exhibitions, is also accessible for casual use when not in use²



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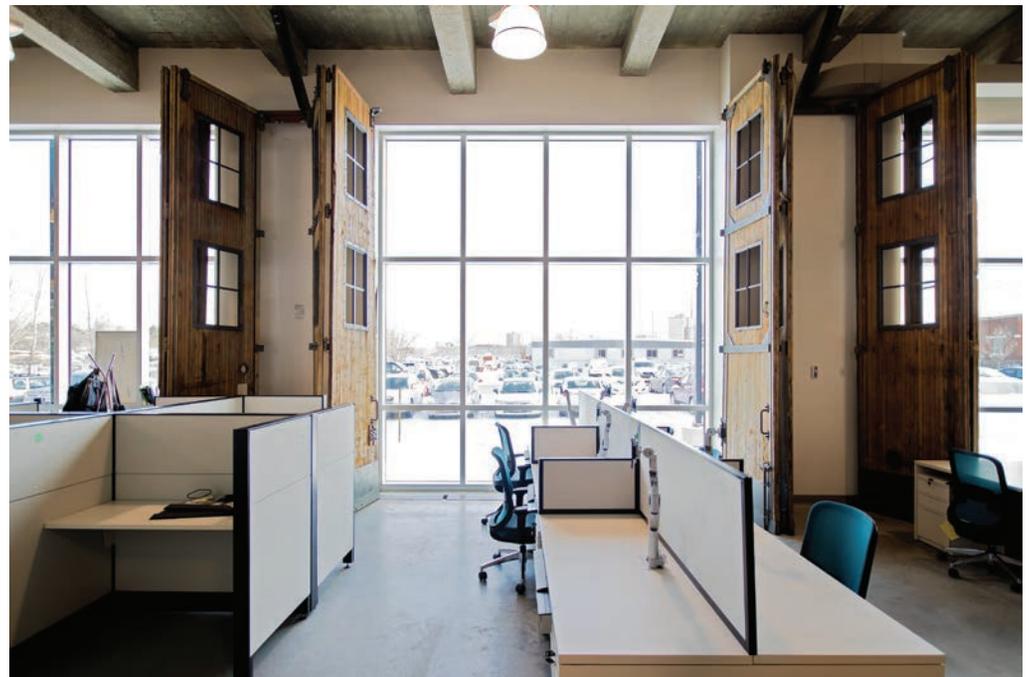
7. Energy Present and Future

26% energy cost reduction over the MNECB Reference Building is achieved through:

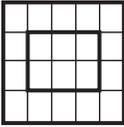
- **High efficiency LED** lighting (20.12 kWh/m² annual energy consumption)
- Average R-values for materials used within the building envelope are **more than double** those of the MNECB reference building. New roof assembly achieves **R-43.2**. Exterior doors and all glazing replaced with high performance thermally broken, argon gas filled systems.
- **Energy recovery** ventilators recover heat from exhaust air
- **High efficiency plant** equipment with four condensing boilers
- Water source heat pumps with variable speed compressors permit **heat recovery** between building areas during periods of simultaneous heating and cooling
- **Variable speed drives** on pumps and shut-off valves reduce water loop flow rates during reduced loads
- High albedo materials cover **78.26%** of the effective roof area for reduced cooling energy
- Projected annual energy consumption: **78.28 kWh/m²**
- **70.38%** of building electricity use over a two year period provided by green power; energy sources meet EcoLogo requirements



The new high performance roof assembly achieves R-43.2



High performance thermally broken, argon filled gas glazing units were installed throughout¹



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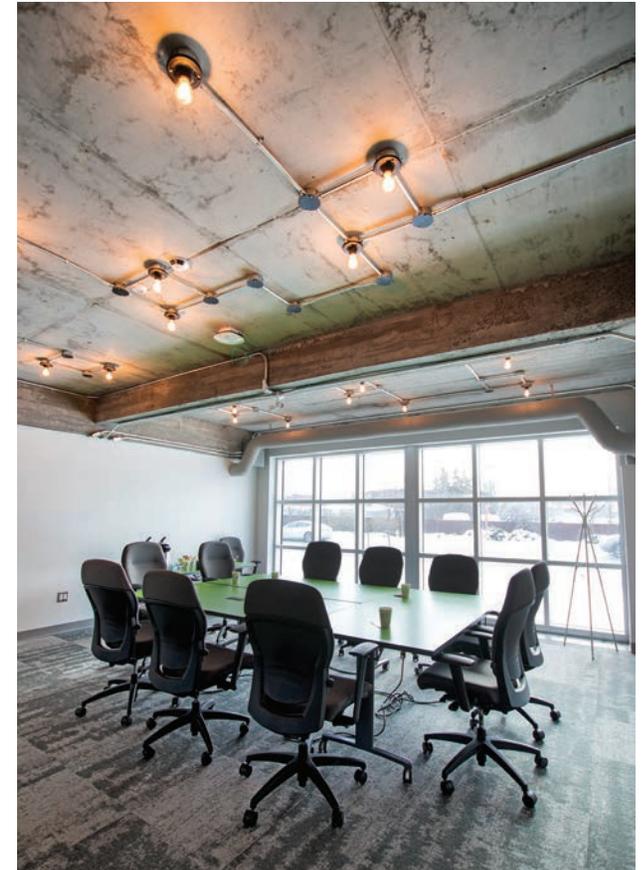
8. Materials and Resources

- **Recyclable materials** are collected throughout the building and centrally managed
- **85.50%** of the building's structure and shell were reused
- **76.40%** of construction and demolition waste diverted from landfill
- **30.47%** of construction materials were manufactured within 800km (by road) or 2400km (by water/rail) of the project site. Extracted, harvested, recovered, and processed within 800km (by road) and 2400km (by water/rail) of the manufacturing site
- **95.04%** of all wood-based materials FSC-certified
- **Low VOC** adhesives/sealants, paints/coatings, flooring systems, composite wood products
- **Greenguard Certification of Compliance** for partitions, cubicle assemblies, and desk chairs
- **Water-based** fire suppression systems

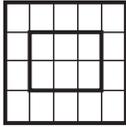
9. Building Life Cycle Considerations

The entire centre was designed on the premise of flexibility to accommodate the unpredictable nature of the users and their physical space requirements. Innovation is embraced by providing a wide selection of furniture arrangements which stimulate collaboration. Permanent walls are situated where fixed structural elements exist.

- **Building Durability Plan** in accordance with CSA S478-95 (R2007)
- **Green Cleaning Policy** is managed by the facility operator



System furniture and partitions are Greenguard Certified¹



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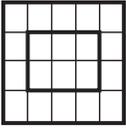
The lobby features a Building Energy Consumption Monitor⁵

10. Education and Information Sharing

The lobby features a **Building Energy Consumption Monitor** displaying real time energy performance data. This allows the building's users to be informed and instills within them a sense of pride in their workplace.



Renewable, reused and recycled materials are displayed prominently¹



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PHOTO CREDITS

1. Steve Clifford
2. MIV Photography
3. Courtesy of Commonwealth Historic Resource Management Limited
4. Courtesy of Finline Renderings
5. Courtesy of Invest Ottawa