Richmond Community Safety Building

LEED® and the Richmond Community Safety Building

The new RCMP detachment, the Richmond Community Safety Building, will be a green building certified to Gold standards under the Canada Green Building Council's (CaGBC) Leadership in Energy and Environmental Design (LEED)® ratings system. The CaGBC's mission is to lead and accelerate the transformation to high-performing, healthy green buildings, homes and communities throughout Canada. LEED® measures and reduces a building's impact on human and environmental health. Certification requires sustainable design, construction and operation.

Under LEED®, buildings are assessed in the following categories:

- Sustainable Site Development
- Water Use Efficiency
- Energy Use Efficiency and Greenhouse Gas Reduction
- Materials and Resource Management
- Indoor Air Quality
- Innovation in Design

Green features in the new Richmond Community Safety Building include:

- Recycling an existing building
- Solar panels to heat domestic hot water
- Preferred parking stalls for carpools and electric vehicle charging stations

Creating a sustainable community is an objective shared by the City of Richmond and the RCMP. In line with this goal, the City of Richmond has created a new home for the RCMP in this building—an example of the City's commitment to a healthy and green future.

Richmond RCMP

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Richmond Community Safety Building

Sustainable Site

As part of the Leadership in Energy and Environmental Design (LEED)® Sustainable Site category, the Richmond Community Safety Building includes the following design features:

Alternative transportation options include the provision of bike racks and changing rooms, preferred and designated carpool parking, charging station stalls for electric vehicles, and proximity to public transportation (2 nearby bus routes).

Heat island effect reduction through the installation of a white roof, which reflects the sun's rays and reduces roof surface temperature, thereby decreasing the amount of heat transferred into the building. It also aids the building's mechanical systems.

Light pollution reduction through installation of exterior lights which are controlled by a timer and daylight sensors. They only shine downward, thus preserving "night sky" access and reducing developmental impact on nocturnal environments.

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Water Use Efficiency

As part of the Leadership in Energy and Environmental Design (LEED)® Water Use Efficiency category, the Richmond Community Safety Building will reduce water use by at least 35 per cent through the following features:

Water use reduction is achieved through installation of low-flow plumbing fixtures such as toilets and faucets. Many faucets are also operated by sensors. These features maximize water efficiency to reduce the use of potable water and the burden on municipal water supply and wastewater systems.

Water efficient landscaping will result in a saving of over 3 million litres of water annually at this building. This was done by:

- disconnecting the former irrigation system
- saving or replacing all existing trees
- adding only drought-tolerant landscaping
- mulching plant beds to keep soil cool and damp to reduce the need for water.

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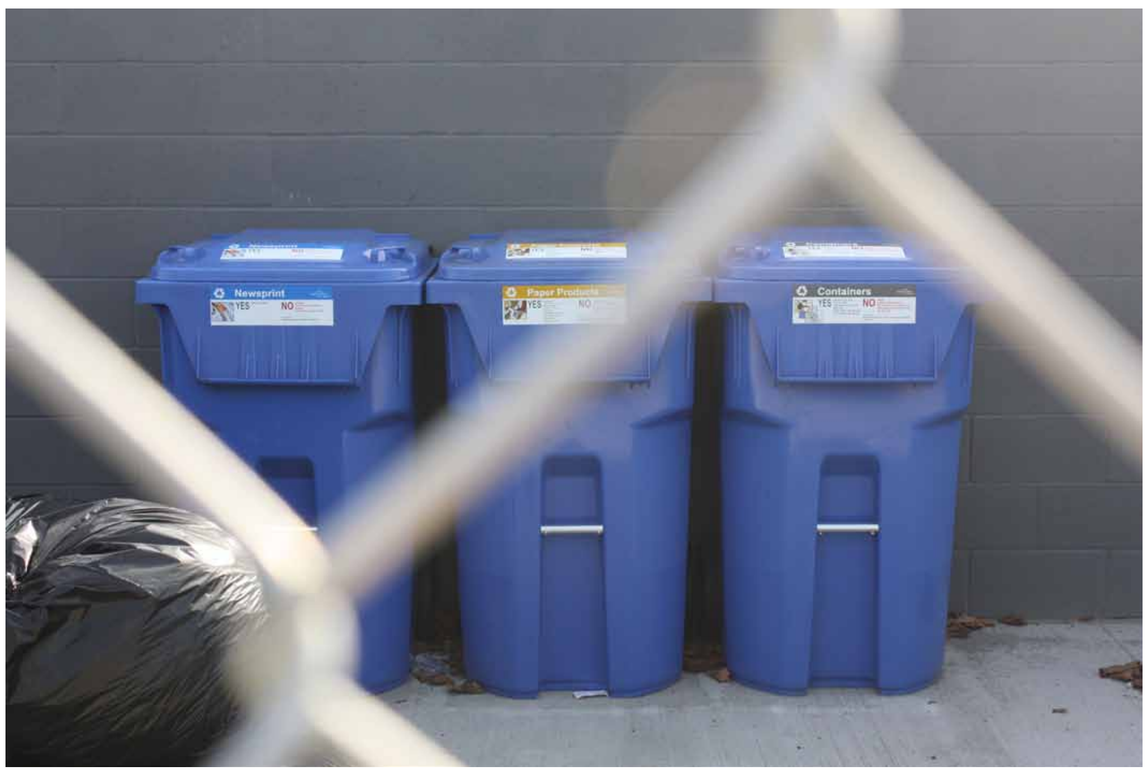
Richmond Community Safety Building

Materials and Resources

As part of the Leadership in Energy and Environmental Design (LEED)® Materials and Resources category, design and construction of the Richmond Community Safety Building achieved the following:

Storage and collection of recyclables is a prerequisite for building certification. The building will have an extensive recycling program administered by the City of Richmond.

Over 80 per cent of **construction waste was diverted from the landfill** through recycling, reuse within the project, and donation to other projects. Even workstations were refurbished for **reuse** rather than disposal and replacement.



Richmond RCMP

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Richmond Community Safety Building

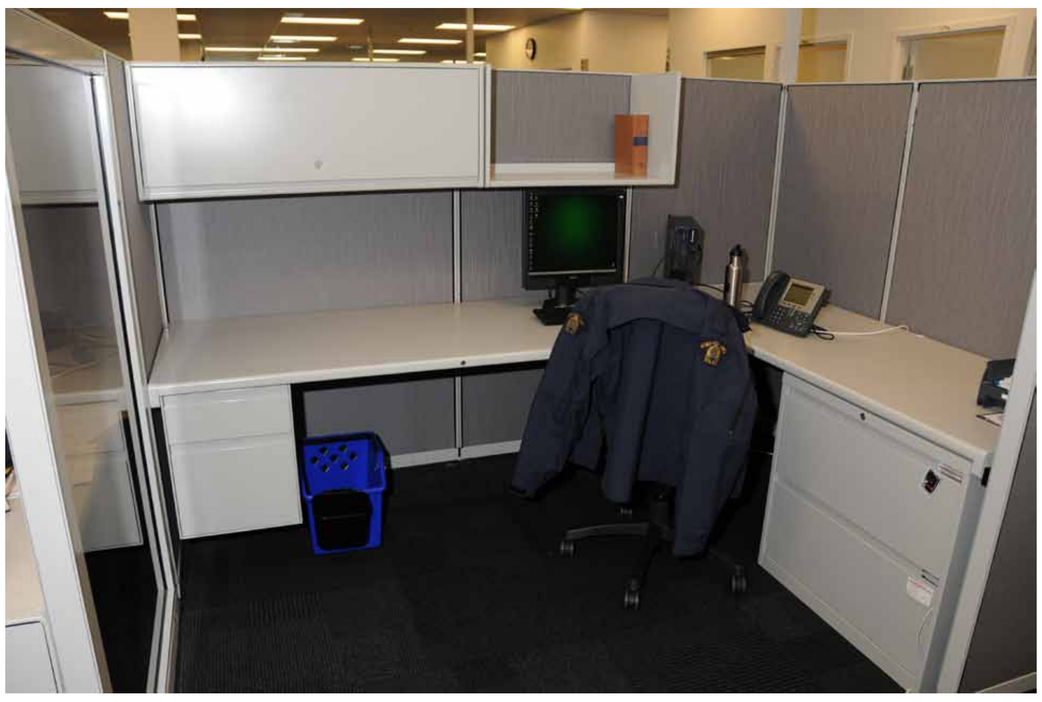
Indoor Environmental Quality

As part of the Leadership in Energy and Environmental Design (LEED)® Indoor Environmental Quality category, design and construction of the Richmond Community Safety Building ensures good indoor air quality through:

Use of low-emitting materials that reduce or eliminate volatile organic compounds (VOCs) in paints, coatings and flooring, resulting in no "new building smell."

Implementation of an **indoor air quality management plan** during construction. Indoor air quality was also tested before building occupancy.

Controllability of lighting systems such as built-in task lighting at desks.



Richmond RCMP

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Richmond Community Safety Building

Energy and Atmosphere

As part of the Leadership in Energy and Environmental Design (LEED)® Energy and Atmosphere category, the Richmond Community Safety Building will include the following features intended to reduce energy use and greenhouse gas emissions:

Optimized energy performance was achieved through the complete upgrade of the building's envelope and mechanical systems, and the installation of efficient interior and exterior lighting.

Heating and cooling is done with highly efficient heat pumps and condensing boilers. The heat pumps also recover waste heat from cooling processes and divert it to other parts of the building requiring heat.

Lighting in office areas is supplied by indirect fluorescent lights, LED (light-emitting diode) pot lights, and desks have built-in task lighting.

Sensors control the LED track lighting in the atrium, and storage and meeting rooms have occupancy sensors to activate lights only when the room is in use.

Total **electricity use is measured** by internal meters to monitor the lighting and mechanical systems.

The **high-performance building envelope** includes low emissivity (Low E) windows and the skylight system was retrofitted to reduce cooling loads.

Renewable energy supplied by 15 solar panels on the building's exterior help heat domestic hot water with clean, free energy.

Richmond RCMP

Richmond