

Semiahmoo Library & RCMP District Office

Design Overview

This new building developed by the City of Surrey combines two important community services in a single structure. The South Surrey RCMP District Office occupies a 10,000 square foot space on the lower floor, while the new Semiahmoo Library has 20,000 square feet of double-height space above. Parking occupies half of the footprint at ground level, with additional parking below grade.

The roof of the structure slopes upward from the rear of the building, allowing for a mezzanine in the library containing office and work space and a staff lounge leading onto an outdoor deck above the entrance.

Located in South Surrey (next door to a Fire Hall) along a major traffic artery (152nd Street), the project is the **first LEED™ Certified library in British Columbia**. It also marks the first project funded by the City of Surrey to achieve LEED™ Certification.

The building features a raised access floor system for optimum flexibility and an open ceiling system free of mechanical system pipes and ducts. It is constructed primarily of concrete, glass, and steel, which are cost-effective as well as durable materials appropriate for a community resource. The front façade, with its large expanse of glass, visible central stairway, and clerestory windows, punctuated by steel cladding above the front parking entry, communicates a balance of openness and strength, which is an important message to the community from both the law enforcement and library perspective.

Taken together the achievements of this project add up to a notable move in the right direction for community buildings in BC — not a showcase or a prototype, but a handsome, efficient, high-quality building representing the responsible use of public funds for the benefit of the whole community.

Energy Performance and Water Efficiency

This building achieved an impressive level of efficient energy performance by way of an integrated design approach and a close collaboration between the design and construction teams. It is expected to consume 45% less energy than a similar building constructed to the Model National Energy Code for Buildings. The primary factors responsible for the savings were the overall building design, the design of the mechanical and electrical systems, and the building envelope system, including the reflective roofing material and high performance glass.

The City of Surrey also invested in Additional Commissioning for this public project to ensure that the installed systems perform to the standard specified in their design.

In terms of water efficiency, the facility earned 4 out of 5 LEED™ Scorecard points, with water savings features inside and out. The incorporation of waterless urinals (the first time they have been installed in a building owned by the City of Surrey) is expected to save annually some 160,000 litres of water each. Overall, water use was reduced by 30% compared to similar buildings constructed to the NEC Model.

Indoor Environmental Quality

The high standard of indoor air quality and thermal comfort achieved on this project is particularly noteworthy. The building's design, especially the glazed atrium along the front (east) facade and the high ceiling on the second storey, works with a displacement ventilation system to provide very effective ventilation throughout the structure. Security requirements precluded openable

windows, yet the overall distribution of fresh air and the comfort level are excellent — and the system is exceedingly quiet, an important factor for both the RCMP and the library functions. As an additional measure to ensure consistently good air quality, the client chose to invest in a carbon dioxide monitoring system for this facility.

Preference was given to low-emitting materials throughout, including adhesives, sealants, paints, and carpets. Behind the scenes, solid wood blocking (instead of plywood) was used to anchor all units that required wall mounting — a measure suggested by the constructors on site.

This project achieved credit for 10 out of 15 of the components of the LEED Scorecard for Indoor Environmental Quality.

Project Team

Client:

City of Surrey

Client Representatives:

Project Manager, Janson Ho, P. Eng., Building Division

Chief Librarian, Beth Barlow

District 5 Commander, S/Sgt Jim McNamara, RCMP

Design Build Team:

Musson Cattell Mackey Partnership and Darrell J. Epp Architect Ltd. with
Norson Construction Ltd.

Design Build Team Key Members:

Construction Project Manager (Norson): Wayne Davies, LEED™ Accredited; Jeff Miller

Partner in Charge (MCMP): Jacques Beaudreault, MAIBC

Design Partner (MCMP): Mark Whitehead, MAIBC

Senior Design Architect: Darrell Epp, MAIBC

Project Architect (MCMP): Jonathan Rider, MAIBC, LEED™ Accredited Professional

Structural Engineering (Weiler Smith Bowers): Darryl Bowers, P.Eng.; Ben Mah, P. Eng

Mechanical Engineering (VEL Engineering): Ed Smith, P. Eng.; Goran Ostojic, P. Eng.

Electrical Engineering (Flagel Lewandowski): Glenn Granstrom

