



RCMP National Forensic Laboratory Services

Surrey, BC



Completion: July 2019
 Certification: Nov 2020



Situated on a 14-hectare site in the historic Green Timbers Urban Forest, this state-of-the-art policing facility is home to one of the largest Royal Canadian Mounted Police (RCMP) Divisional headquarters in Canada. The LEED® Gold landmark complex incorporates campus-wide infrastructure and consolidates office and support spaces for 2,700 RCMP personnel. Located within the existing complex ground, the Forensic Lab is a new stand-alone building which reflects the RCMP's operational strategy of grouping all laboratory functions separately from office and support spaces and continues the pursuit of LEED Gold certification for expansion projects undertaken at the complex.

In the 79,975 SF Forensic Laboratory, all program components are arranged along a central circulation spine. The building siting and design allow for future linear expansion with the laboratory block to the north and the administrative block to the south of the corridor. While the purpose of the facility is to conduct high-security lab and research work, the design of the building complements both the existing RCMP Headquarters facility and the surrounding landscape. The building massing best supports bio-

containment requirements along with the secure movement of evidence and staff. The tall central corridor allows for clerestory windows along the south side of the second floor to bring natural light into the building's common spaces. The administrative block makes best use of the natural daylighting for the work areas.

Major Labs include: Firearms, Biology and Toxicology. Forensic Labs are very specialized buildings due to mechanical requirements, specific construction of functions such as firing ranges, sensitive chain-of-custody security requirements, and other issues surrounding the nature of forensic science. The Lab has been designed as a stand-alone structure to meet stringent programmatic guidelines, isolate the specialized function, facilitate ease of construction, and minimize disturbance. Located within an urban forest and adjacent to historic growths of trees, the natural environment creates opportunities for the laboratories and meeting spaces to have ample daylight with large windows offering a direct view on the surrounding landscape. The building has been made accessible for alternate methods of commuting such as carpooling and

cycling, with bicycle racks and shower/changing facilities located throughout the campus. In addition, site was designed to minimize light pollution to neighbouring natural forest sites.

In terms of water efficiency, the new building followed the campus precedent of utilizing rainwater as a means to eliminate the need for irrigation, by infiltrating stormwater on site and directing excess flows to planting areas with drought tolerant and native species plantings. Inside the building, water use reduction in excess of 40% savings was achieved through the utilization of ultra low flow urinals, high efficiency toilets, faucets, and campus showers.

The building mechanical systems were designed to meet the current needs of the facility while also accommodating a future building expansion. The project included LED lighting throughout the building, as well as occupancy and daylight sensors. Additional energy savings were achieved through variable air volume systems, heat recovery, and higher efficiency air-cool scroll chillers and condensing boilers. The project includes advanced energy and metering systems which log building trends for future operational staff to compare building energy performance on month to month and year to year basis. The project selected refrigerants for mechanical systems which lowered global warming potential associated with their use. A green power purchase for the project means a substantial portion of the building energy usage for the first two years is offset by off-site renewable energy systems.

Concerning materials and resources, part of the entry lobby is clad with certified wood, showing the project's commitment to supporting rigorous sustainable wood harvesting practices. The project diverted 75% of all related construction waste from the landfill, outfitted the building with regionally located building materials, and selected materials which contained a cumulative total of 30% recycled content.

For indoor environment quality, the project includes additional outdoor air supplied to occupied areas of the building, which is monitored by carbon dioxide sensors to

adjust air supplies based on occupancies. The design team has provided an effective work environment for the employees through better ventilation, reducing or eliminating potentially irritating chemicals from building materials, providing source control of pollutants, and flushing the building with fresh air after construction completion to negate any remaining pollutants that may have off-gassed during construction.

Innovation in Design Process Credits intend to reward innovative strategies that are not elsewhere mentioned in the LEED Green Building Rating System, as well as for exemplary performance of existing LEED credits. The project committed to enhanced indoor air quality during operations through the selection of low-emitting furniture products, avoiding mercury containing lighting in the building, and by committing to follow a green cleaning and green equipment program.

The RCMP was proudly committed to sustainable environmental practices. The journey to secure LEED certification was made possible through thoughtful leadership and a committed design team that responded to many challenges. The project achieved all available LEED regional priority points by addressing credit requirements which were of particular importance in the project's geographic location.



LEED SCORE CARD

Gold Rating Achieved	62/110
Sustainable Sites	11/26
Water Efficiency	8/10
Energy & Atmosphere	15/35
Materials & Resources	5/14
Indoor Environment Quality	13/15
Innovation in Design	6/6
Regional Priority	4/4

