



## Project Overview

Shellmont “No. 6” Fire Hall was originally constructed in 1976. In April 2008 demolition of the original building began. By July 2009, a 7,350 square foot building on a 1 acre site was constructed. The total project cost was \$3.5 million.

The updated Fire Hall consists of 3 apparatus bays, including a one bay mechanical service pit. Other features that were included in the new construction were a Self Contained Breathing Apparatus filling station, an equipment workshop, and various living quarters. Included in these living quarters are a Captain’s office, dispatch station, common room, meeting room, showers, washrooms, kitchen, dormitory, as well as a fitness room.

The 1 acre site that the Fire Hall rests on is also used for various training. In particular, the tower, which is closed to the public, is used for balcony ladder training, rooftop exercises, high angle rope rescue, confined space, and practicing of rapid intervention, as well as rescue in a dark and changing environment. The back parking lot is used for auto extrication practice, as well as for ladder and hose drills.

## Key Features

- Building was seismically upgraded so that in the event of an earthquake, Richmond Fire-Rescue is able to provide emergency services. The seismically upgraded and renovated facility features are:
  - 18 compaction grouted columns, 8m deep under the apparatus bays. The use of compaction grout rather than stone columns for soil densification achieved the same results with less disruption in the work site and for less cost. This non-toxic aggregate grout displaces and densifies the surrounding soils to improve ground conditions. This geotechnical construction method has minimal impact to surface environment, very little solid waste disposal and is non destructive to the existing foundations.
  - Significantly improved structural elements throughout the building.
  - Large capacity generator that will energize essential systems such as all lighting, apparatus bay equipment, emergency communications, kitchen, basic level of HVAC and 70% of all living quarter electrical requirements.
  - Energy efficient lighting and mechanical systems throughout.
  - 2 Heat Recovery Ventilation units (HRV) with 7 multi-split heat pumps that allows for cooling and heating exchange from different areas. HRV units filter and distribute fresh air through the facility while the heat exchange core transfers heat from one air stream to another.
  - Installation of Direct Digital Control system (DDC). The system accurately maintains desired ambient temperature, static pressure, relative humidity and indoor air quality. DDC systems decrease energy costs.
  - Low flush toilets and water saving shower heads will reduce water consumption and impact capacity at the treatment plant.
  - High efficiency gas fired boiler for domestic hot water was installed.
  - Replacement of all single glazed windows with double glazed in the living quarters and removed much of the glazing in the apparatus bays to improve structural integrity and reduce heat loss and gain.
  - WorkSafe compliant eye wash station.
  - By renovating, rather than rebuilding the fire hall kept approximately 480 cubic yards of construction material out of the landfill.
- Landscaping
  - Large rhododendrons were replanted at Richmond Nature Park.
  - Large evergreen shrubs adjacent to the building were cut back and are growing back.
  - Privacy hedge was maintained.

**Architects:** Graham Hoffart Mathiason

**Contractor:** Parkwood Construction Ltd.

**Official Opening:** October 3, 2009