

ARCHITECTURAL MERIT

THE BERGERON CENTRE FOR ENGINEERING EXCELLENCE

York University



PROJECT CREDITS

OWNER

York University

ARCHITECT OF RECORD

ZAS Architects + Interiors

ENGINEER OF RECORD

Arup Canada

GENERAL CONTRACTORS

- Gillam Group Inc.
- Laing O'Rourke Canada

FORMING CONTRACTOR

Hardrock Forming Co. Ltd.

MATERIAL SUPPLIERS

- Dufferin Concrete, a division of CRH Canada Group Inc.
- Stone-Link Corp.

ADDITIONAL PARTICIPANTS

- Alliance Site Construction
- Aluma Systems Inc.
- Bothwell-Accurate
- Carpenters Local 27
- Euclid Canada
- Harris Rebar
- Innocon Inc.
- Ironworkers Local 721
- Keller Foundations
- LIUNA Local 506
- National Concrete Accessories
- St Marys CBM

PROJECT FACTS

LOCATION

Toronto, Ontario

PROJECT TYPE

Institutional – College Assembly

CONSTRUCTION TIME

January 2014 to September 2015

PROJECT COMPLETION DATE

August 28, 2015

GENERAL DIMENSIONS

Building Area = 4,100 m²
Gross Area = 15,808 m²

CONCRETE VOLUME

10,288 m³

REINFORCEMENT WEIGHT

Over 1,600 tonnes

CONCRETE MIX DESIGNS

15 LEED Positive Mixes (9,368 m³)
5 Standard Mixes (920 m³)



ONTARIO
CONCRETE
Awards





The Cloud and the Rock

The Bergeron Centre for Engineering Excellence (BCEE) is a new five-storey building created to be the dynamic gateway to the southwest of York University's Keele St. campus.

The addition brings with it an ambitious goal to the overarching Lassonde School of Engineering – which is a mandate to educate future Renaissance Engineers: entrepreneurial engineers with a social conscience and a sense of global citizenship. The School's desire to realize an engineering school unlike any other presented the entire project team with several design possibilities as well as the opportunity to challenge the tradition of what we consider an engineering building to be. The design team drew upon two complimentary, yet disparate ideas to generate the building's architecture: the Cloud and the Rock.

The Cloud is the predominant image which has a complex and scaleless façade that helps establish a continuity between event spaces; coupling learning programs that might otherwise remain discrete or separate. A nebula of design studios, social spaces, graduate work rooms, 'hoteling' areas and breakout zones are mingled from one region to the next. Along the building's perimeter façade of irregular openings to within the building footprint's core, flexible collaboration spaces are woven in a network that will enable present and future students on their path to success through teamwork and transparency.

The Rock exaggerates the topography of the site and sets up a network of entrance points around the building from the basement level. At the south, the Innovation Plaza accesses a group of workshops as well as the Advanced Manufacturing Lab. The Lassonde School's dynamic approach to teaching has been crystallized into the building's extraordinary architecture and the es-

sence of the School's '5 Traits': creativity, passion, rationale, confidence and ingenuity were all used to deliver this outstanding project to a successful occupation.

Key Project Features

- 3-storey High Bay Structural Lab at 20m x 20m x 13.2m located centrally within the building's footprint
- The Structural Lab includes an 19m x 19m x 1m strong floor and an L-shaped strong wall at 6m high and 1.5m thick
- 437 'tie-down assemblies' installed in the strong floor, from top to bottom of slab (1m long)
- 140 'tie-down assemblies' installed in the strong wall, from edge to edge (1.5m long) for hydraulic distribution
- 13,500lb gantry crane installed at the ceiling of the Structural Lab
- Two 32,000lb transfer trusses installed to carry the gantry crane and its variable loads
- Independent piles and mat slabs dedicated to the High Bay to control noise and vibration transference
- 841 perimeter steel embeds installed at the slab edge to carry over 80 structural steel frames to which over 8,000 metal cladding 'Cloud' panels and windows are attached
- Geometrically complex exterior poured concrete retaining walls/stairs requiring forming and pouring solutions
- Highly effective and collaborative Integrated Project Delivery process employed with the primary concrete frame

