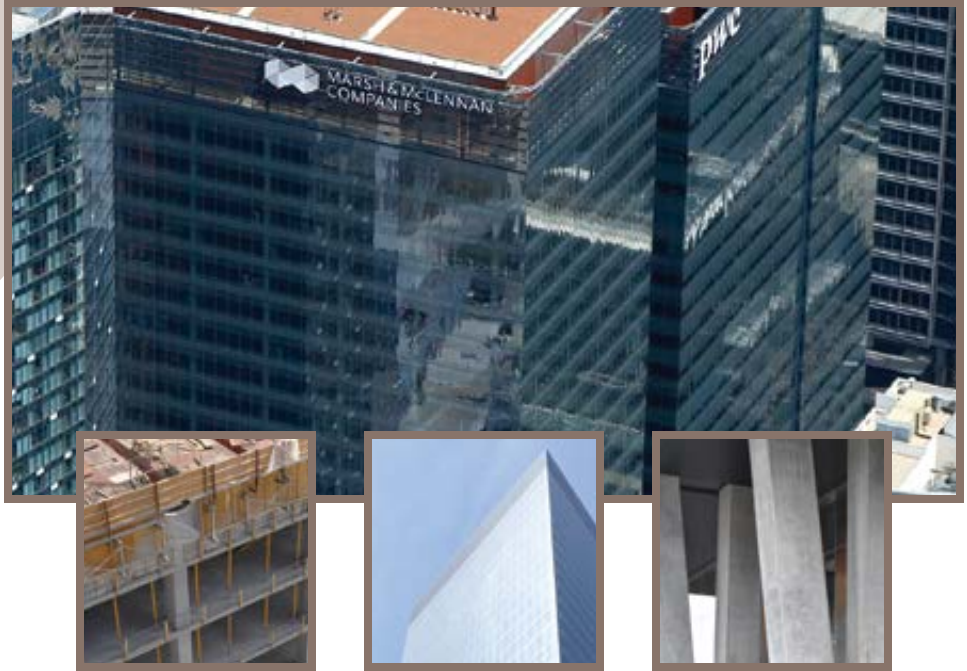


SUSTAINABLE CONCRETE CONSTRUCTION

SOUTHCORE FINANCIAL CENTRE

LEED SC
Gold Certified



PROJECT CREDITS

OWNER

bcIMC Realty Corporation
c/o GWL Realty Advisors Inc.

ARCHITECT OF RECORD

KPMB Architects

ENGINEER OF RECORD

CH2M Hill Canada Limited

GENERAL CONTRACTOR

EllisDon Corporation

FORMING CONTRACTOR

Structform International Limited

MATERIAL SUPPLIERS

St Marys CBM

ADDITIONAL PARTICIPANTS

- Aluma Systems Inc.
- BASF Canada Inc.
- Carpenters Local 27
- Harris Rebar
- Ironworkers Local 721
- LIUNA Local 506
- National Concrete Accessories
- Page + Steele Architects
- Structural Floor Finishing

PROJECT FACTS

LOCATION

Toronto, Ontario

COMPLETION

October 2014

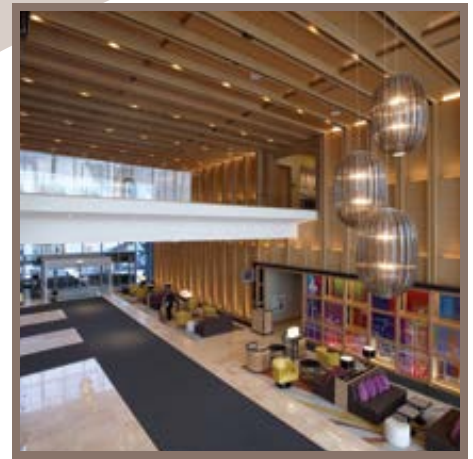
VALUE

\$357 Million

SIZE

- 850,000 sq. ft. (18 York Street)
- 665,747 sq. ft. (Bremner Tower)





A Showcase Building for Green Technologies

18 York is a 26-storey 'green' office tower that will coalesce the credibility of what has been called the "South Core", a new mixed-use annex south-west of Toronto's financial district. Located between the Canadian National Railway Lands and the Gardiner Expressway on the northwest corner of York Street and Bremner Boulevard, the building is steps away from Toronto's financial district, the waterfront and Union Station, a heritage landmark and regional transit node. The project includes a new bridge over York Street that will extend the Toronto PATH system to the building while creating a gateway to the financial district from the waterfront.

The design fulfills the district planning strategy to use architecture as a gateway condition and to achieve a vibrant mix of commercial and residential uses. Committee of Adjustment and Site Plan Approval applications were prepared by a multi-disciplinary team of consultants under the leadership of KPMB. Successful negotiations were conducted with CN Rail, Go Transit, and other stakeholders to address concerns for soil stability during construction, as well as with the City of Toronto for making connections to the PATH system and the West York Teamway. The team also successfully negotiated an alternative solution to a requirement for grade level outdoor public space by convincing the City of Toronto to provide this space at the second level in order to accommodate service access below.

There are 3 levels of parking below grade including 140 underground bicycle storage spaces with adjacent change rooms and showers. Amenities include retail and restaurant uses at the Ground and Second levels, a landscaped public terrace at the Second level, and the "urban forest", a remarkable garden at the Third Level that will mature to become a boreal environment of indigenous species overlooking the rail corridor.

Targeting a LEED SC Gold certification, the building is a showcase for green technologies. The sleek minimal skin of the building is created with a high performance glazing system that uses maximum glass sizes to reduce the number of mullions and exterior metal elements, minimizing thermal bridging conditions and optimizing daylight transmission. Thermal storage tanks have been incorporated into the lowest level of the building where they will be used as a cooling source during daytime hours and recharged at

night from the Enwave Deep Lake Cooling system when demand and rates are reduced. The automated roller shading system will be controlled by a computer using a 3D model of the district to anticipate shade masking from adjacent buildings and selectively leaving blinds open where the sun is obscured in order to optimize daylight harvesting. Rainwater harvesting and an oversize cistern will provide both sediment interception and a source of grey water for toilet flushing and irrigation to green roof vegetation during drought conditions.

Material Development & Innovation

The project involved construction of angled architectural reinforced concrete columns that spanned many floor levels. Each column featured complex geometric shapes and a high-level of surface finish which require a superior concrete mix and specialized construction techniques to achieve the owners vision. The entire project team participated in a highly collaborative design-assist approach to the project and contributed in both the planning and on-site implementations.

Key challenges included the pouring of high strength architectural concrete into sloped multi-storied forms without causing honey-combing or excessive bug-holing. It was particularly challenging to achieve the desired finish with conventional practices and materials, but with a highly skilled team and coordinated effort the results were spectacular.

The project was delivered using a superior cast-in-place concrete which enabled the creation of the complex columns, geometric shapes and a high-level finish for all exposed surfaces. St Marys CBM Lisa (Self-Consolidating concrete) was selected for the exposed columns due to its ability to enhance workability and finishability of close-tolerance surfaces. The flow enhancement of Lisa dramatically improved the concrete's ability to flow along the forms and around rebar. The long term performance of this project was a major consideration in going with high performance concrete mixes and a quality ready mix concrete supplier. The performance of all the products was exceptional and successful in achieving the architects and owners vision.

