



KPMG Office Tower Vaughan Metropolitan Centre

CLIENT

Penguin-Calloway

LOCATION

Vaughan, Ontario

PROJECT DESCRIPTION

The Vaughan Metropolitan Centre (VMC) is an emerging urban core within the Greater Toronto Area. This 400-acre planned downtown for the City of Vaughan provides all the amenities of a vibrant city centre including direct access to a multi-modal public transit hub.

The first development within the VMC was the KPMG Tower—a 15-storey, 365,000 sq. ft. targeted LEED Gold core and shell office building with ground floor retail and an additional 2-storey retail wing. The facility also has surface parking, an exterior civic plaza, and two levels of underground parking connected to the adjacent new Toronto Transit Commission subway station, surface parking and an exterior civic plaza/square.

B&M SCOPE OF WORK

Black & McDonald (B&M) was responsible for the supply, installation and commissioning of all mechanical services: a plumbing system including installation of incoming water line backflow preventers; a heating water distribution system; a chilled water distribution system; air handling distribution; humidification systems; a condenser water distribution system; chillers; fire protection and generator fuel system; automatic controls; and instrumentation.

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INNOVATIVE PROCESS AND TECHNOLOGY USED

KPMG's office was pre-constructed in Autodesk Revit to create a dynamic 4D virtual model of the entire building complete with systems and equipment, before and during building construction. Valuable engineering opportunities were realized through review of the model. Mechanical systems including mechanical room pumps, heat exchangers, piping systems for both HVAC piping and plumbing systems and carriers were mounted on skids. Fabrication and installation drawings included Trimble Field Points for layout that were developed to facilitate precise installation of the systems on-site. Pre-fabrication and spooling performed in the controlled environment of the shop further enhanced B&M's quality assurance process and site safety. The overall building process improved efficiency through a condensed schedule and LEAN construction. There was better utilization of labour and material. For instance, the bulk of packaging materials and associated labour for unpacking, storing and disposal were avoided at site saving time and money. Concurrent construction activities further enhanced logistics and reduced the project schedule. Henceforth, the project team had better clarity in evaluating changes for impacts on benefits and risks, enabling them to make more intelligent and timely decisions, mitigating risks.

In-house fabrication played a critical role in adhering to the fast-track schedule. Wall plumbing rough-in banks for all washrooms as well as 99 percent of all HVAC piping were prefabricated in B&M's fabrication shop in Scarborough, Ontario.

