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## University Health Network / MaRS Project Toronto, Ontario



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### *Project Description:*

Located in the new Medical and Related Sciences Discovery District of downtown Toronto, UHN is made up of Toronto General Hospital, Toronto Western Hospital and Princess Margaret Hospital. It also has an extended family that includes formal teaching arrangements with more than 40 institutions, with a primary affiliation with the University of Toronto, training about 3,000 students per year. The Hospital for Sick Kids, Toronto's leading children's hospital occupies the 13th, 14th and 15th floors.

The Medical and Related Sciences (MaRS) Discovery Tower project involved the interior fit out and facility maintenance of 13 floors of an innovative 15-storey tower leased by the University Health Network (UHN), for 10 years. The scope of the project includes ultra modern interior fit out of over 375,000 square feet of high-end medical research space for UHN wherein laboratory spaces - filled with natural light - are flexible and open-concept, allowing increased opportunity for collaboration between colleagues. The scope also includes a 5-year Facilities Maintenance & Operations Contract.

Black & McDonald provided the maintainability consultation during the design stage, mechanical, electrical and network systems installations, all completed on-time in August, 2005. Black & McDonald still remains as the current Facility Management and Operations provider.

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***Current Status:***

Completed

***Project Type:***

Design-Build

***Project Capital Cost:***

Total construction cost

Original: \$72,000,000

Final: \$89,000,000

***Project Schedule:***

Original Completion Date: August 2005

Actual Completion Date: August 2005

***Role in Project Management and Design:***

As part of the steering committee, Black & McDonald took part at the highest levels of project design, architecture, planning, installation, procurement, operations and maintenance. Black & McDonald provided project management for and self-performed on electrical, mechanical, sheet metal, communications, maintenance and service.

***Key Individuals and Their Roles:***

Samir Raza, Project Manager

Jason Chobotiuk, Division Manager

***Subconsultants:***

UHN was an engineering-led Lab facility design development by AMEC Americas.

Electrical/Mechanical Engineering by AMEC

Lab & Architectural by NXL Architects



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### *Key Challenges and Solutions Implemented:*

The challenges encountered during the performance of the MaRS Project were numerous.

Original funding and high level board approvals were delayed three months due to provincial elections in Ontario.

Access to the site was delayed three months by the base building.

And, the scope of the project was increased substantially by adding three floors to the building.

To overcome these challenges, weekly meetings with inputs from all relevant stakeholders were initiated to involve everyone needed in the scheme for design and scope development. Bi-weekly procurement, budget, schedule and progress meetings addressed related issues as soon as they surfaced, eliminating re-work and confusion despite the complexity of the project

involved. Sub-contractors that were brought into the project were made to buy into the participative and cooperative approach. Major material movement was planned during night hours. With an unrelenting focus on the projects goals, constant monitoring of the site progress, and resolution of client/JV issues impacting the progress, the integrated team made-up for the delays and drove the process forward.

Overall, the key factors that attributed the most to Black & McDonald's successful project completion were: strong procurement; aggressive and early procurement which allowed for strong tendering and negotiations; effective change and scope management; and, increased productivity on-site. The result was resoundingly successful – the project was completed on-time and \$4.3 million below budget,

### *Client Reference:*

*University Health Network*

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### *Relevance to future projects:*

The UHN MaRS project is the first project of its kind in Ontario to be contracted to a private joint venture company for the provision of Design, Build and FMO (Facility Management and Operations) services meeting the unique needs of the medical research community on such a large scale.

The Integrated Team Approach offered increased opportunities to understand the owners' and end users' unique and changing needs within their critical environment. Due to this, outstanding innovations were achieved both in developing higher standards for commissioning the mission critical facility, and in utilizing specialized equipment and developing new automated procedures for an automated decontamination system for the lab facility. The Integrated Team Approach is a philosophy that will be applied to future projects.

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The University Health Networks project establishes the value of an integrated approach to the design, construction and maintenance operations. At the outset of planning and design, Black & McDonald as the electrical and mechanical constructor, and the facility maintenance operations manager, contributed value-added experience and technical support to the design engineering process – as a prime decision maker and stakeholder. Constructability, fast-tracking, and quality issues were identified and resolved as best value for the cost. Concurrently, B&M's facility maintenance & operations team focused on maintainability, best LCC value that targeted whole life sustainability and a manageable life cycle plan. The result is a facility designed and constructed with the end-users' needs in mind, and with quality, reliability and sustainability visibly a priority throughout the project development and construction process.

The unique benefits of having B&M as both E&M constructor and Facility Manager were evident over the entire design-build process, as their continuous self examination of compliance to design reflected their commitment to maximizing an effective maintenance management program that will mitigate any chance of service failure over the entire concession period.

Black & McDonald with its vast experience in healthcare projects understands the dynamic and evolving nature of the Healthcare industry, where the needs of the end-users evolve faster than Design and construction. With integration of design-build and operations processes, Black & McDonald could introduce flexibility for the End user throughout the design and construction process, without cost or schedule impact. This unique approach effectively integrates the activities of the design-build and operations team with the fast changing needs of the End users. A testament to the success of this approach is evident from the continuously successful operations of the facility in the past years with a very satisfied client and their End user groups.