



CONCRETE KEEPS AQUATIC CENTRE AFLOAT

The Lois Hancey Aquatic Centre in Richmond Hill is a public water sport and amusement facility built of reinforced concrete. It includes a 31.8 metre by 31.8 metre pool room, a 55.4 metre water slide, a tot's pool, and a rain cloud that makes thunder and lightning. The project was designed by A.J. Diamond, Donald Schmitt and Company Architects and Planners.

During the course of the bidding review process, the general contractor, Maple Engineering and Construction Canada Ltd., suggested a cost effective change. Instead of structural steel heavy plate girders and

welded wide flange beams that spanned the pool roof, the firm suggested poured-in-place concrete beams.

"The structural steel was eliminated and poured-in-place beams used instead," says Phil Smith, Maple's project manager.

"This resulted in a three percent savings on the total contract value which brought the project within budget."

The choice of concrete for the main design was never in doubt says Greg Colucci, project architect. The north wall of the project abuts a 12.3 metre hill and is partly

used as a retaining wall. The structural concept is such that the floor, roof, and structural frames on the side walls all work together to hold up the massive amount of earth.

In addition, by choosing concrete, the architects were able to achieve the aesthetic values they were striving for in the project design. Through the incorporation of plastic liners they were able to get a mirror-like finish on the 9.3 metre high column in the centre of the pool room.

Similarly, the architects used architectural concrete to produce an undulating effect on the ceiling of the change room area.

There was one distinct challenge when placing the rebar adds Colucci. Because of the high levels of humidity in the centre (close to 70 percent), tolerances on placing the rebar to ensure adequate concrete cover were a lot tighter.

Architect: A.J. Diamond, Donald Schmitt and Company Architects and Planners.

Structural Engineer: Blackwell Engineering Limited

General Contractor: Maple Engineering and Construction Canada Ltd.

