CRYSTAL CLEAR

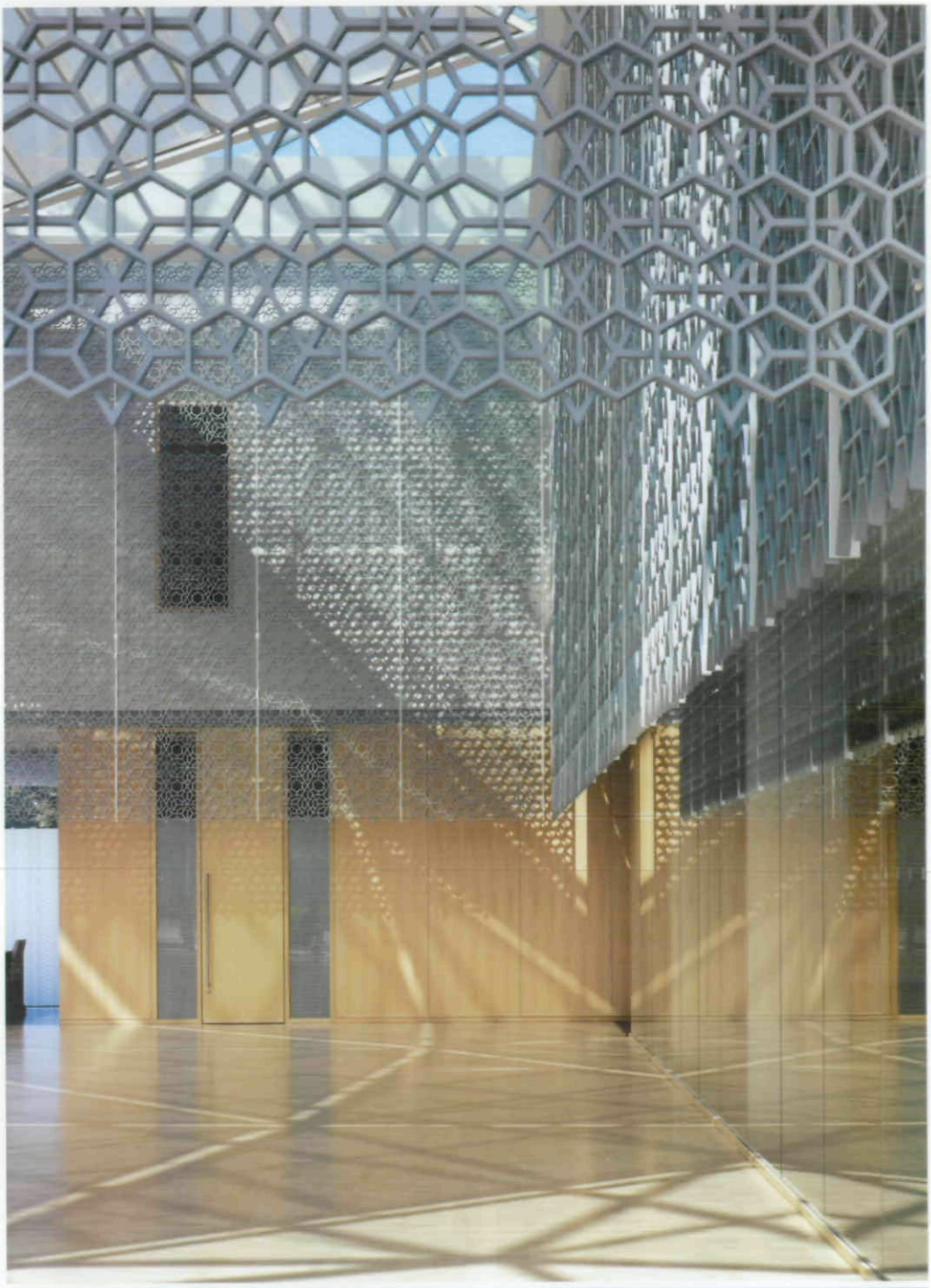
FUMIHIKO MAKI'S FIRST BUILDING IN CANADA IS A DECEIVINGLY COMPLEX CULTURAL BUILDING OF A QUALITY RARELY SEEN IN THIS COUNTRY.

PROJECT DELEGATION OF THE ISMAILI IMAMAT, OTTAWA, ONTARIO
ARCHITECTS MAKI AND ASSOCIATES IN COLLABORATION WITH MORIYAMA & TESHIMA ARCHITECTS
TEXT IAN CHODIKOFF
PHOTOS TOM ARBAN, UNLESS OTHERWISE NOTED

It is a rare occurrence when the complex engineering strategies and design details comprising a building merge into a sublime architectural experience. Such is the case with the Delegation of the Ismaili Imamat building in Ottawa. Designed by Fumihiko Maki, the building is the veteran Japanese architect's first commission in Canada. Working with Moriyama & Teshima Architects—the architects of record—Maki and his team have achieved an extraordinary level of resolution and refinement throughout the building. No detail was overlooked or overdesigned. Equally remarkable is the commitment of His Highness the Aga Khan, an enlightened client who understands how architecture can become a significant testament to his efforts in global pluralism, cultural heritage, and social and economic development—efforts that focus on both the Islamic world and the Ismaili diaspora.

The building's program is relatively simple. What is decidedly complex is the precision contained within the architecture. Every joint, corner and seam is perfectly aligned—wall panels, reveals, mullions and ventilation grilles were designed with extremely low tolerances. From the lowly floor drains in the parking garage to the concealed hinge detail on the exterior emergency exit doors, the building's architectural language is tightly edited. When discussing the construction process with Maki and Associates Design Director Gary Kamemoto and with architects from the Toronto and Ottawa offices of Moriyama & Teshima Architects, it became clear that the coordination of all aspects of the building had to be diligently and diplomatically resolved with the contractor and numerous tradespeople. Each had his or her own working culture that needed to be meshed with the culture of design in Maki's Tokyo office.

The site of the Delegation building was originally owned by the National Capital Commission (NCC), a Crown corporation entrusted with the management of federal lands and buildings.



ABOVE A DETAIL VIEW OF THE SAND-CASTED ALUMINUM LATTICEWORK INSIDE THE ATRIUM.

When the Aga Khan was looking for a site, he wanted his building to be on a section of Sussex Drive that is part of Confederation Boulevard, a 7.5-kilometre ceremonial route containing some of Canada's most important institutions which, according to the NCC, helps "people to discover important aspects of Canada's government, culture, heritage, landscape and relations with other nations of the world." The site eventually chosen was a tight one-hectare leftover parcel of land adjacent to the Saudi Arabian embassy. The site lies four metres below street level and is difficult to access, given that it is marooned to the north by a busy highway and off-ramps of the MacDonald-Cartier Bridge and King Edward Avenue. Moreover, the building was restricted to an 11-metre height with specific setbacks on either side.

Because of the height restrictions, Maki and his team adopted a horizontal approach to the building's massing and sought to frame views of several significant elements nearby, such as the

TOP THE QUALITY OF LIGHT IN THE ATRIUM IS MODULATED BY WOVEN GLASS-FIBRE MESH, ALUMINUM SCREENS AND WINDOWS ALONG THE GALLERY. **ABOVE, LEFT TO RIGHT** THE FRONT ELEVATION FACING SUSSEX DRIVE; THE TWO SEPARATE WINGS OF THE BUILDING ARE CLEARLY VISIBLE WHEN VIEWED FROM A NEARBY RESIDENTIAL TOWER.

Ottawa River to the west, and both Old City Hall and the Gatineau Hills to the north.

From the outset of the project's announcement in 2002, His Highness the Aga Khan stipulated that the building must contain a material palette that would range from clear to translucent—an architectural language that would serve to describe his organization's work in the public realm. Moreover, the architecture had to capture the Islamic spirit, but not in a slavish manner.

The Delegation building is intended to represent the Aga Khan's institutional network comprising a range of non-denominational, philanthropic and development agencies that constitute the Aga Khan Development Network (AKDN). Open to the public every Saturday, not only does the building serve in a quasi-diplomatic capacity for the Aga Khan, but it allows the public to learn from and engage in the AKDN's activities, which are broadly divided into three areas: economic development, social development, and culture.

While the symbolic entrance to the building is on Sussex Drive, the main

entrance is off Boteler Street. Two rectangular-shaped wings encase an exterior and interior courtyard. The exterior courtyard was designed around the concept of the *chahar-bagh*, a traditional Islamic garden. The interior courtyard or atrium space is contained beneath a structural steel and glazed roof that the Aga Khan mandated to serve as the metaphorical equivalent of a rock crystal "because of its translucency, its multiple planes, and the fascination with its colours." Wrapping the two courtyards with administrative, educational and residential program serves to create an inner sanctuary protected from the outside world. To lift the Delegation building to a level that is more in line with Sussex Drive, its brilliantly white base sits atop a large granite plinth.

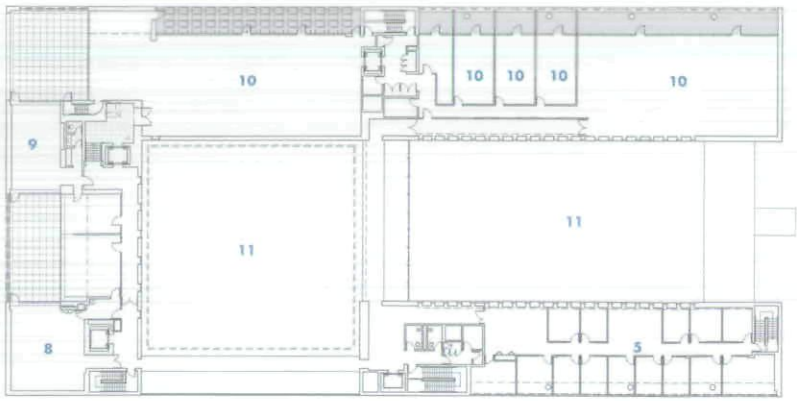
When His Highness the Aga Khan opened the building in December 2008, he stated that his intention for the building was "to share, within a western setting, the best of Islamic life and heritage." Similar to the Ismaili Centre (designed by Charles Correa) and the Aga Khan Museum (also designed by Fumihiko Maki) to be built in Toronto, the Delegation building is supposed to reflect the Aga Khan's conviction that "buildings can do more than simply house people and programs. They can also reflect our deepest values, as great architecture captures esoteric thought in physical form."

To achieve the immaculately white exterior of the building, Maki's office selected 26-mm thick panels of white Neopariés—a versatile material comprised of crystallized glass beads that, when compressed into slabs, resembles marble. Unlike its stone counterpart, Neopariés has the ability to maintain its colour and appearance over time—an important quality given the building's proximity to the heavily salted wintry roads adjacent to the site. Furthermore, the extremely smooth glass-based panels don't absorb water and are highly reflective. When visiting the building late last summer, the sunlight reflecting off the building's exterior panels was blinding at close range.

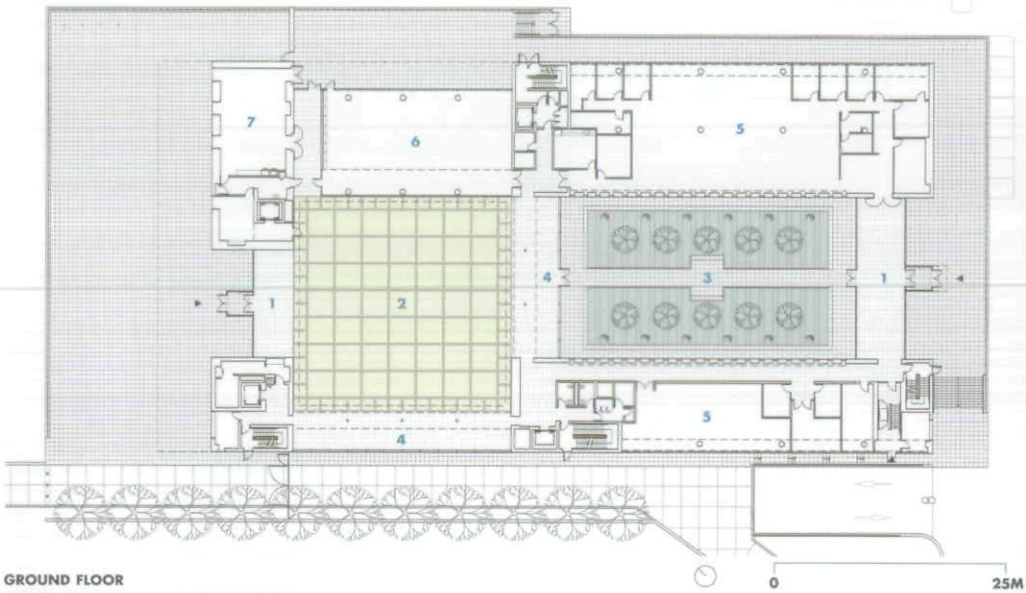
Nevertheless, the building contains significant amounts of natural material: blue lapis lazuli from Namibia graces the outside terrace, Croatian limestone is used throughout the exterior courtyard, and volcanic basaltina can be found upon entry. Much of the material used for the panelling, flooring, millwork and furniture is a light-coloured maple. An interesting feature contained within the atrium's maple floor is the incorporation of the number 49, symbolizing the Aga Khan himself, who is the 49th Ismaili Imam.

Although the building is 11 metres in height, there was one variance required, and that was for the rock crystal-inspired glass roof which reaches an apex of 17 metres. Engineered largely by John Kooymans of the firm Halcrow Yolles, the complex roof structure is comprised of a woven glass-fibre fabric pulled tight and suspended beneath the roof on a diagonal axis, thereby providing an asymmetrical composition for the atrium. The roof spans 25 metres and had to be strong enough to support over 40 tonnes of glass, plus the heavy wind and snow loads typical of a city like Ottawa. The structural solution achieved a grid of thin-profile solid steel bars braced with tension rods and assembled with friction bolts. The entire glass roof is suspended by a ring beam running the entire perimeter of the interior courtyard, resulting in a structure that appears to float in position. Eliminating the clumsiness of an aluminum frame system, the glass skin is completely integrated with the steel structure. The panels are constructed using three layers of low-iron glass and include a ceramic frit to filter sunlight. Even though the architects were given a lot of time to design and build the project, the only glazing manufacturers capable of fabricating the glass roof—Gartner Steel and Glass GmbH of Germany—initially required over two years to build the 657 components. Since the roof needed to be assembled in less than a year, Kamemoto

TOP SUSPENDED WOVEN GLASS-FIBRE SCREENS ARE INSTALLED ON A DIAGONAL AXIS RELATIVE TO THE GLASS ROOF ABOVE TO CREATE A DYNAMIC ARRAY OF SHADOWS ON THE MAPLE FLOOR. ABOVE THE EXTERIOR AND INTERIOR COURTYARDS COMPRISE TWO INNER SANCTUARIES WITHIN THE ADMINISTRATIVE AND EDUCATIONAL WINGS OF THE DELEGATION BUILDING.



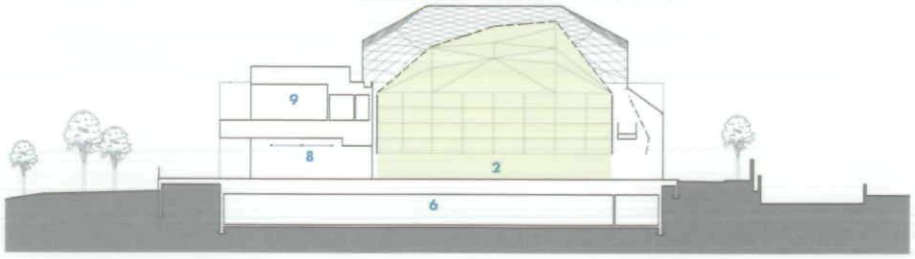
SECOND FLOOR



GROUND FLOOR

1 ENTRANCE
2 ATRIUM
3 COURTYARD
4 GALLERY
5 OFFICE
6 RESOURCE LIBRARY
7 SEMINAR ROOM
8 BOARD ROOM
9 EXECUTIVE OFFICES
10 VIP SUITES
11 VOID

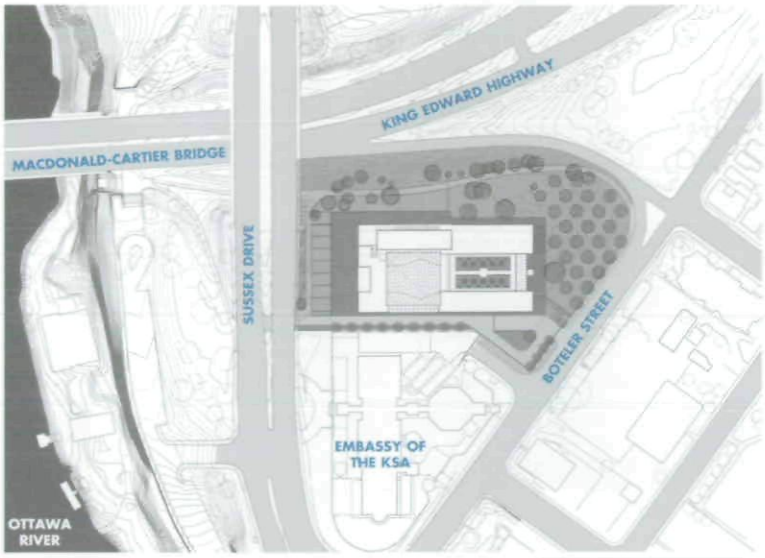
TOP LOOKING UP TOWARD THE BALCONY OF THE VIP SUITE ON THE SECOND FLOOR. **ABOVE** THE GARDEN OF THE EXTERIOR COURTYARD CONVEYS A SENSE OF ENCLOSURE.



1 WEST ENTRANCE
2 ATRIUM
3 COURTYARD
4 EAST ENTRANCE
5 STAFF OFFICE
6 PARKING
7 MECHANICAL ROOM
8 RESOURCE LIBRARY
9 VIP SUITE

NORTH-SOUTH SECTION

EAST-WEST SECTION



SITE PLAN 0 100M

TOP DESCRIBED AS A "ROCK CRYSTAL," THREE LAYERS OF LOW-IRON GLASS SET ATOP A STRUCTURAL STEEL FRAME CONSTITUTE THE BUILDING'S MOST DYNAMIC ARCHITECTURAL FEATURE. ABOVE WORKERS MOVE TO INSTALL ONE OF THE 657 GLASS UNITS USED FOR THE ATRIUM'S ROOF.

visited the glazing manufacturer to convince them of the design concept and to facilitate their intrinsic involvement with the project, all the while helping them to develop a streamlined approach to expedite the construction process.

Beneath the glass roof, Islamic-inspired lattice screens constructed of lightweight sand-casted aluminum add another dimension to the visual clarity and translucency contained in the design brief. They are meant to evoke carved marble and wood screens found in traditional Islamic architecture. Custom Aluminum Foundry, a company that normally makes castings for machine parts, fabricated the 180 panels that comprise these lattice screens.

It took seven to eight years to complete the Delegation building. Kamemoto, who has spent his 25 years as an architect working solely at Maki and Associates, led the project and flew to Ottawa nearly 40 times to see the building through to its completion. Members of Moriyama & Teshima's design team were on site almost every day, with Norman Jennings managing the coordination process within the office, Po Ma working through the details, and Louis Lortie coordinating the overall project's construction.

Maki's design for the Delegation of the Ismaili Imamat demonstrates an astute interpretation of the client's requirement for a building that symbolizes the activities of the Aga Khan and the AKDN. We can only hope that such dedication to architecture continues to exist in more clients, and that the efforts of the architects, engineers, and trades involved in this project continue to inspire more buildings of similar quality. **CA**

CLIENT IMARA (SUSSEX DRIVE) LIMITED
ARCHITECT TEAM MAKI AND ASSOCIATES: FUMIHIKO MAKI, GARY KAMEMOTO, KOTA KAWASAKI, TATSUTOMO HASEGAWA, ISAO IKEDA, MAKOTO OTAKE. MORIYAMA & TESHIMA ARCHITECTS: TED TESHIMA, DIARMUID NASH, NORMAN JENNINGS, PO MA, LOUIS LORTIE, EMMANUELLE VAN RUTTEN, AMANDA GILBERT, RONEN BAUER, JOHN BLAKEY, SHAWN GEDDES, ROY GILL, JONI INOUYE, AJOIN MORIYAMA, FARHAD RAHBARY, HANY RIZKALLA, SUSANA SAIZ, ELIAS SAOUD, CHRIS YEN.
PLANNING TEAM MORIYAMA & TESHIMA PLANNERS (DREW WENSLEY, TARA MCCARTHY, ERIC KLAVER)
STRUCTURAL HALCROW YOLLES
MECHANICAL THE MITCHELL PARTNERSHIP
ELECTRICAL MULVEY & BANANI
LANDSCAPE MORIYAMA & TESHIMA PLANNERS
INTERIORS MAKI AND ASSOCIATES IN COLLABORATION WITH MORIYAMA & TESHIMA ARCHITECTS
CONTRACTOR PCL CONSTRUCTORS CANADA INC.
LIGHTING SUZANNE POWADIUK DESIGN INC.
ACOUSTICAL AERCOUSTICS ENGINEERING LTD.
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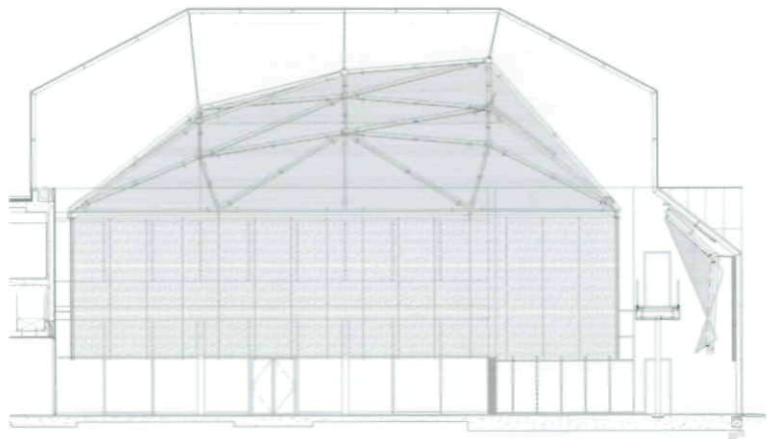

ATRIUM NORTH-SOUTH SECTION 0 10M