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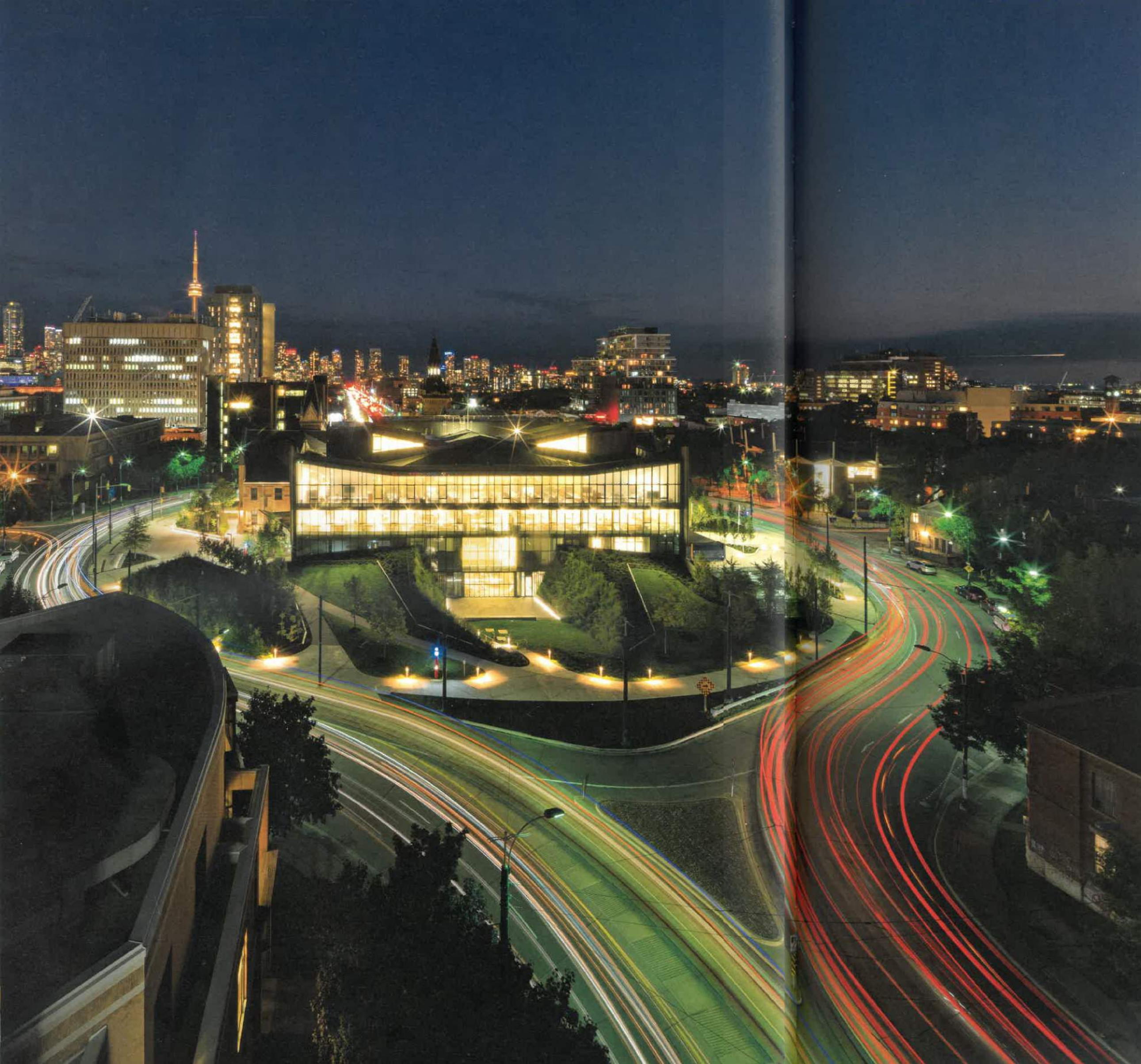
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MARCH 2019



THE JOHN H.
DANIELS FACULTY
OF ARCHITECTURE,
LANDSCAPE, AND
DESIGN AT THE
UNIVERSITY OF
TORONTO

AN INTELLIGENTLY AESTHETIC ARCHITECTURE

TORONTO,
ONTARIO, CANADA

NADAAA

LETTER FROM AMERICA, Raymund Ryan

To design a school of architecture is an enticing albeit formidable prospect for any thinking architect. In the United States alone, there is the legacy of Mies van der Rohe at IIT, Paul Rudolph at Yale, and John Andrews at Harvard. These buildings from several decades ago were signature, standalone monuments to professional bravura and to the respective institutions. Three or four decades later, out in Los Angeles, SCI-Arc pursued a different, radically less expensive path, colonizing warehouses or factories first in Santa Monica, then in Playa Vista, and now in LA's rapidly urbanizing Downtown.

Echoing mid-century notions of the Museum as Temple and this more recent appropriation of industrial space for artistic production and display, these dueling typologies of the architectural academy find a synthesis in the John H. Daniels Faculty of Architecture, Landscape, and Design at the University of Toronto. There, **a grand Gothic Revival building - an isolated urban icon with many gables and embellishments - has been extended in line with the cardinal axes marking the site.** Whereas this older edifice contains many small individual rooms, the new structure is essentially one contiguous studio instigating, on this rather tight lot, that modern dream of multifunctional, open floorplan.

The University of Toronto occupies an extensive campus close to the center of that business-like and busily densifying city. In recent years, the university has commissioned buildings from Morphosis (USA), Saucier + Perrotte (Canada), Foster Associates (UK), Behnisch Architekten (Germany), and Patkau Architects (Canada), an impressive list for any third level institution. Won through competition, the architecture school was awarded to NADAAA, the Boston-based practice led by Nader Tehrani, formerly one half of Office dA, and Katherine Faulkner. NADAAA is making a name for itself with architecture schools, having recently completed facilities for Georgia Tech in Atlanta and for the Melbourne School of Design in Australia.

The Toronto site is unique for the university and unusual for any city. It is in essence a generous traffic island, circular in plan, in the middle of Spadina Avenue, a heavily trafficked artery leading due north from the great grey expanse of Lake Ontario. The standalone building on this medallion of ground has been occupied since the 1870s by a former theological seminary and, subsequently, a military hospital during World War I. It then became home to Connaught Laboratories, where penicillin was produced. Working with heritage consultants ERA Architects, NADAAA has upgraded this historical artefact and attached the new structure directly behind. Pedestrian access is now in the seam between old and new, on the axis crossing Spadina, as the new structure, housing studios, opens up to a vast panoramic vitrine to the north.

NADAAA's output is recognizable for its careful morphological tweaking, its ability to infect rational building types with unexpected manipulation of skin and section. Witness here in Toronto the gill-like apertures on east and west façades; and the canyon-like stairwell allowing for optimal circulation and light penetration at the heart of the new structure. For Tehrani and his NADAAA colleagues, this tweaking or manipulation has functional and tectonic purpose. Ultimately, however, theirs is an intelligently aesthetic architecture. Their interrogation of programmatic adjacencies and membrane detail is within a larger and less quantifiable architectural ambition.

It is not unduly fanciful to consider Tehrani and NADAAA's work rooted in an understanding of architecture as typology, in that rigorous academic thinking evident in Ivy League schools of architecture some

decades ago. There is also a fascination with volume and morphology, some kinship with recent parametricism tempered by the specificity of tectonics and pattern. In Toronto, the new floor plate ascends to allow for a barrier-free mega-studio in which student activity is ideally unimpeded. An extraordinary new roof floats overhead: it spans in the long direction without the intercession of columns and warps. It is filleted to allow for natural illumination.

It is a bravura gesture, this porous canopy sailing free above the heart of the reinvigorated institution. The architects worked through one-to-one mockups - with straight metal stud frames skinned in unusually thin gypsum - to determine curvature and to convince the contractor that this unorthodox construction technique was indeed feasible. Such lissome elements are telltale characteristics of this and other NADAAA projects, whether at the scale of a ceiling or a window or a handrail. **The language of each building is not imposed through some academic or artistic diktat but emerges through a scrutiny of fabrication options and the ways in which these components meet one another, not unlike the words in a paragraph.**

The staircase at the center of the new construction plays in plan and is stepped or tiered to serve as an informal theater, a place for encounter as well as rest. It looks down into the other main space of the Daniels Faculty building, an orthogonal hall "discovered" in the hollow formed by the original, U-shaped edifice. This new hall for lectures and student reviews can be subdivided into three by partitions. It is lined in skinny fins painted in vivid colors not unlike some Op Art sculpture. Students and faculty circumnavigate this hall at various levels of both the old and new fabric.

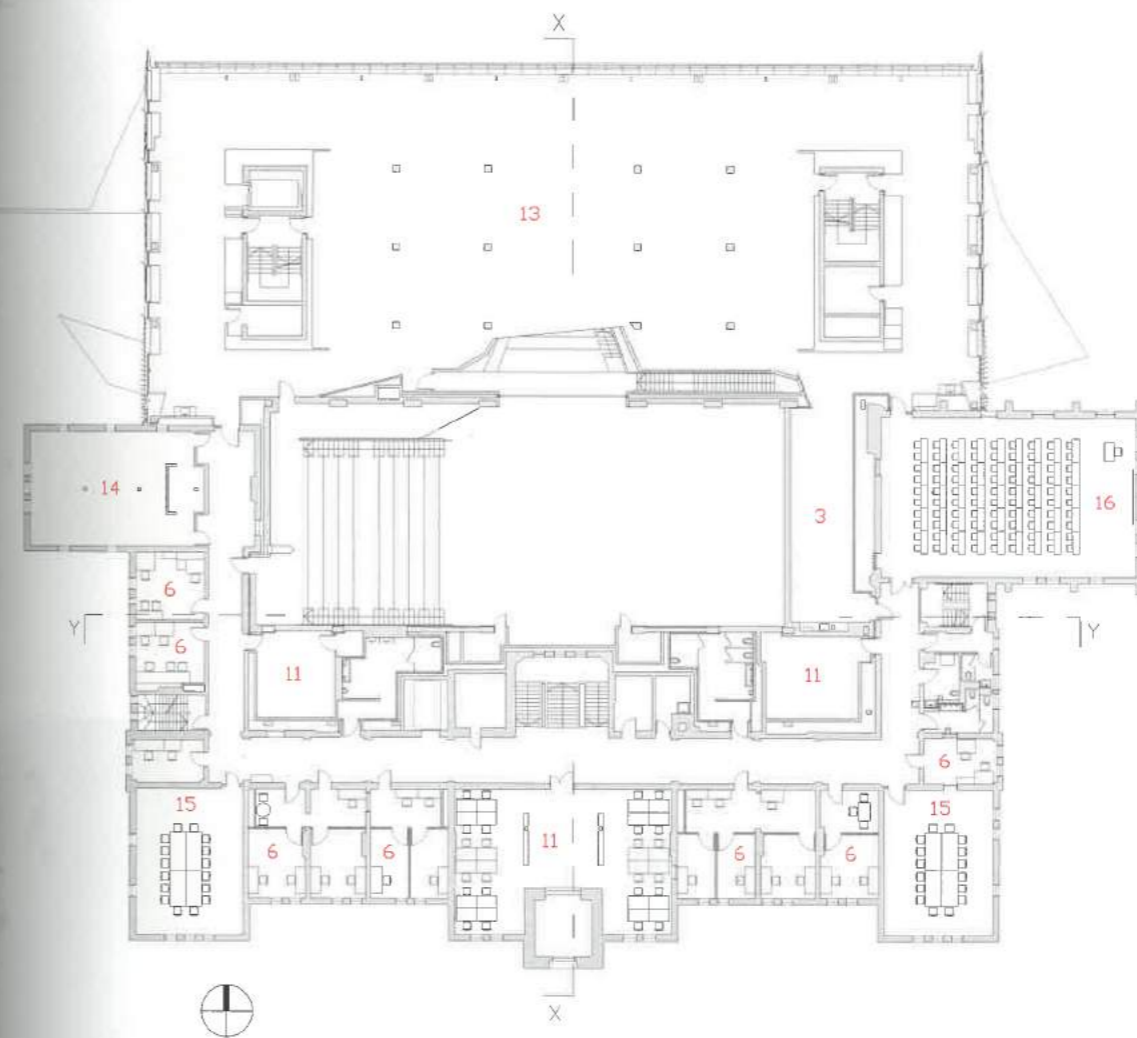
Although the Victorian building is compartmentalized and visually static, the new hybrid school instigates a sense of the kinetic. As with other NADAAA projects, the design of the John H. Daniels Faculty of Architecture, Landscape, and Design encourages both the eye and the foot to wander and explore. This is achieved through the fluidity of interior space and the control of light. Design flourishes such as the staggering of façade components or the flaring of walls and canopies animate and energize the total ensemble. The ground surrounding the double building (part 19th and part 21st century) is intended to be bermed and occupied by auxiliary programs such as a modest open-air auditorium. The bipartite building will then not only settle more fully into its context, its ethic of components as a kind of tectonic landscape will be plainly visible to student and citizen alike.

Many thanks to Dean Richard Sommer of The John H. Daniels Faculty of Architecture, Landscape, and Design at the University of Toronto.

■ Archival images of the building, the interior spaces, the urban context

- 1- Courtesy of Toronto Public Library
Desaturated from original
- 2, 4/6 Courtesy of Sanofi Pasteur Canada (Connaught Campus) Archives
- 3- Courtesy of The Presbyterian Church in Canada Archives
- 5- April 1956, packaging of Salk polio vaccine
- 6- September 1945, transporting mold cultures in the production of penicillin





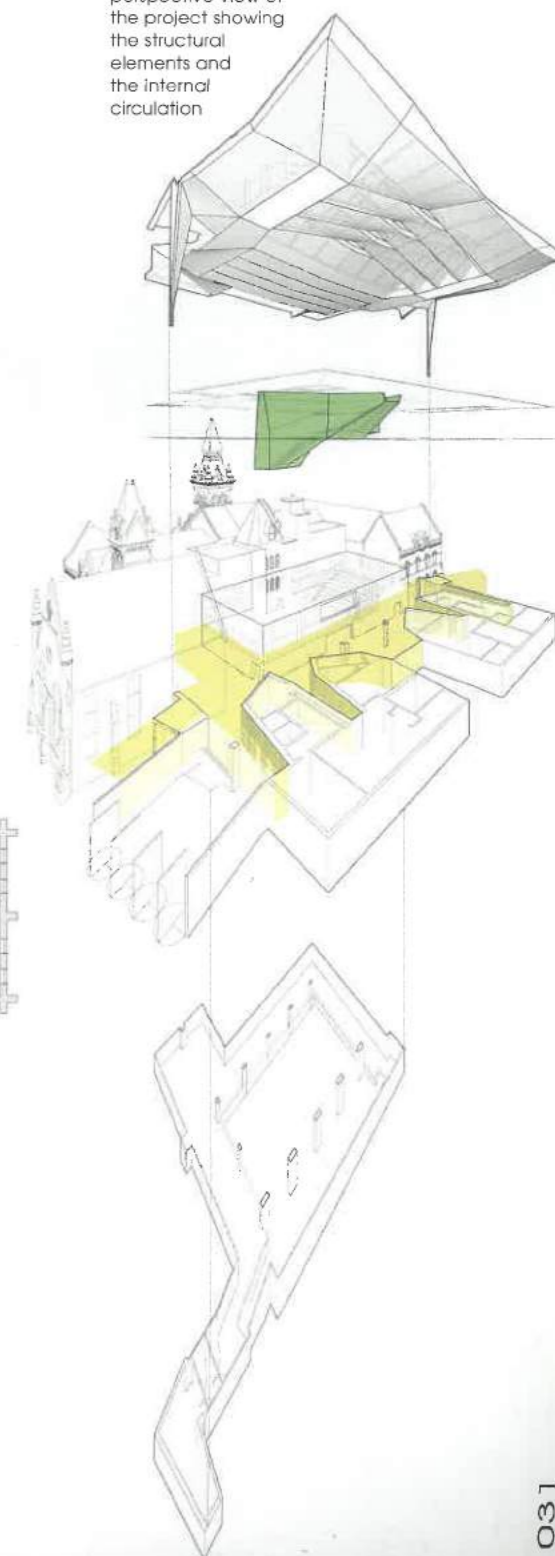
■ 1st Floor plan - Scale 1:500

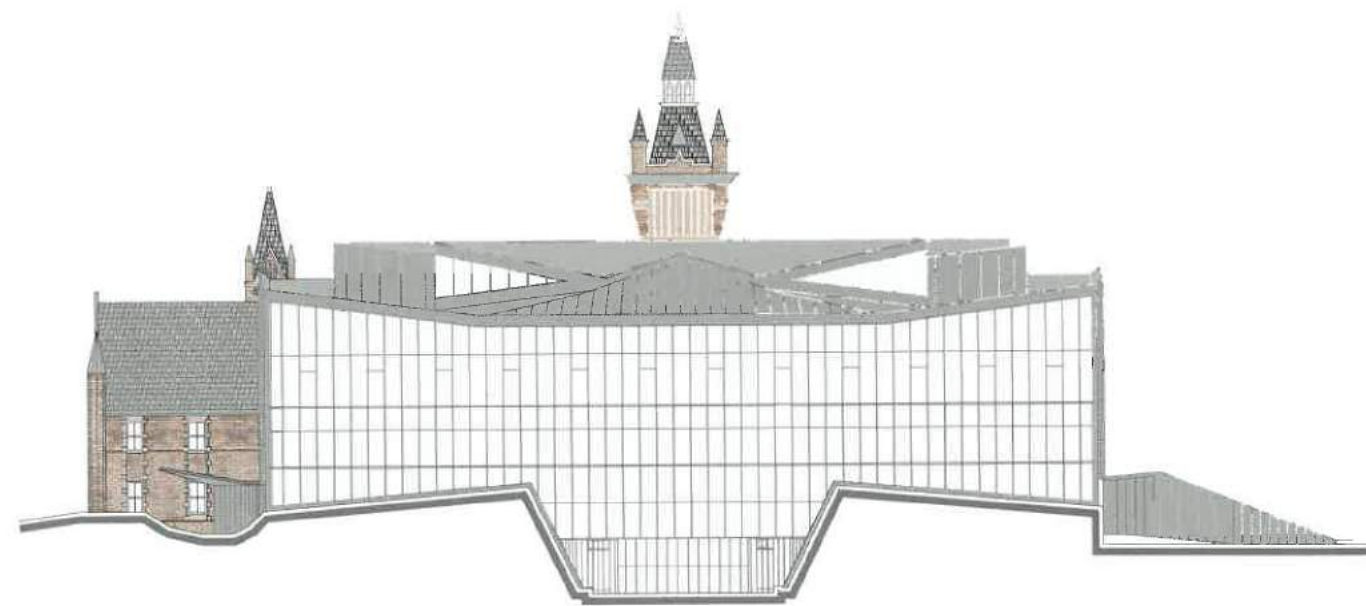
- 1- Main entrance
- 2- Café
- 3- Lounge
- 4- Laser cutting
- 5- Plotting
- 6- Office
- 7- 3D printing
- 8- Storage
- 9- Library
- 10- Hall - auditorium
- 11- Student services
- 12- Meeting room
- 13- Reading room
- 14- PhD area
- 15- Classroom
- 16- Multimedia library



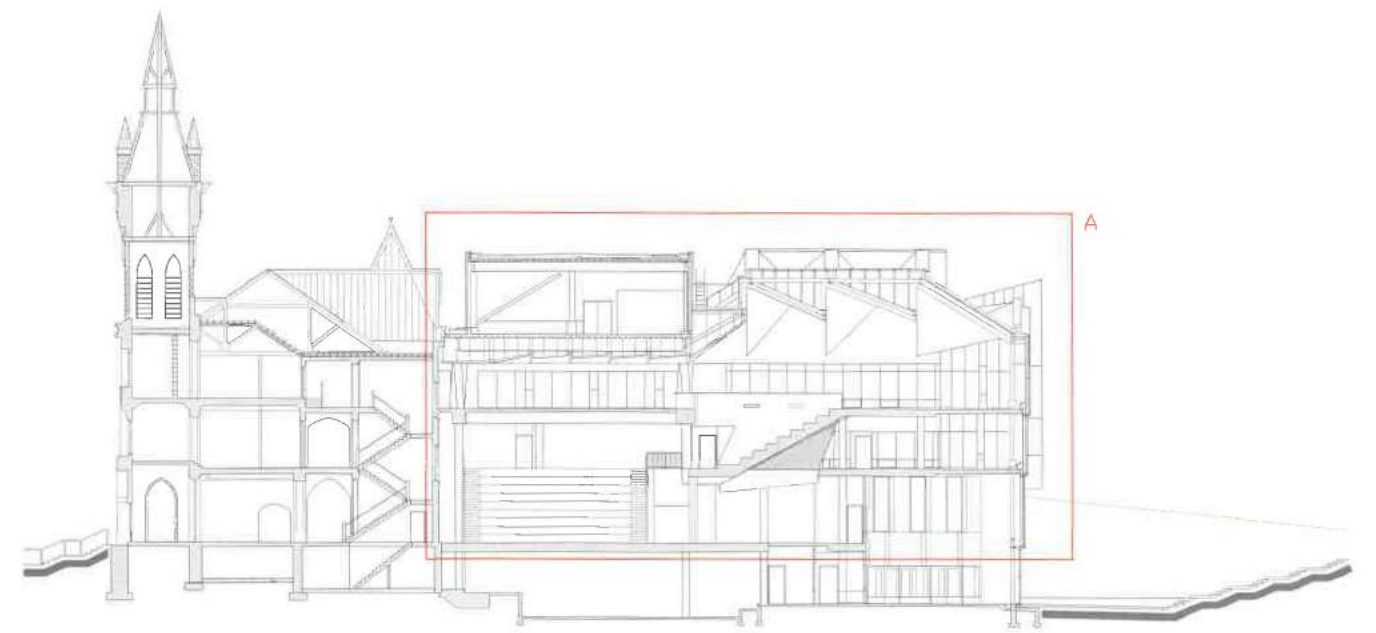
■ Ground floor plan - Scale 1:500

■ Exploded perspective view of the project showing the structural elements and the internal circulation

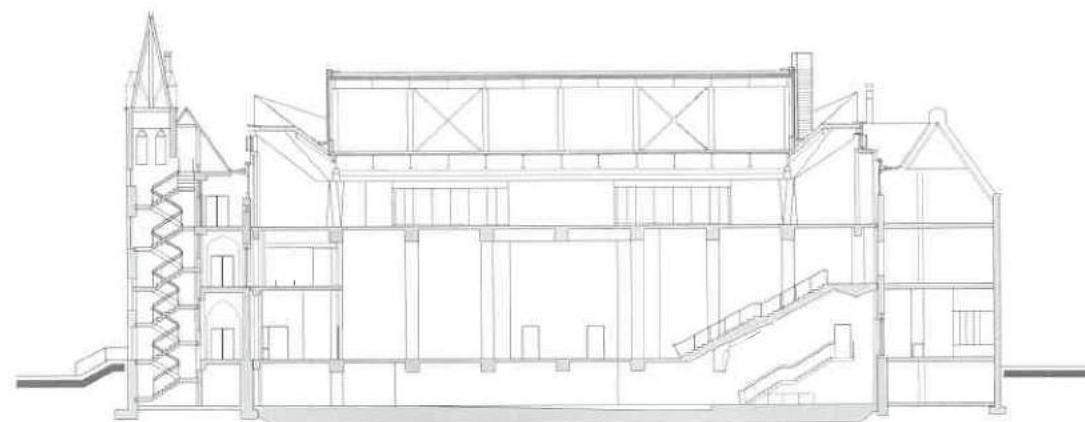




■ North elevation - Scale 1:500



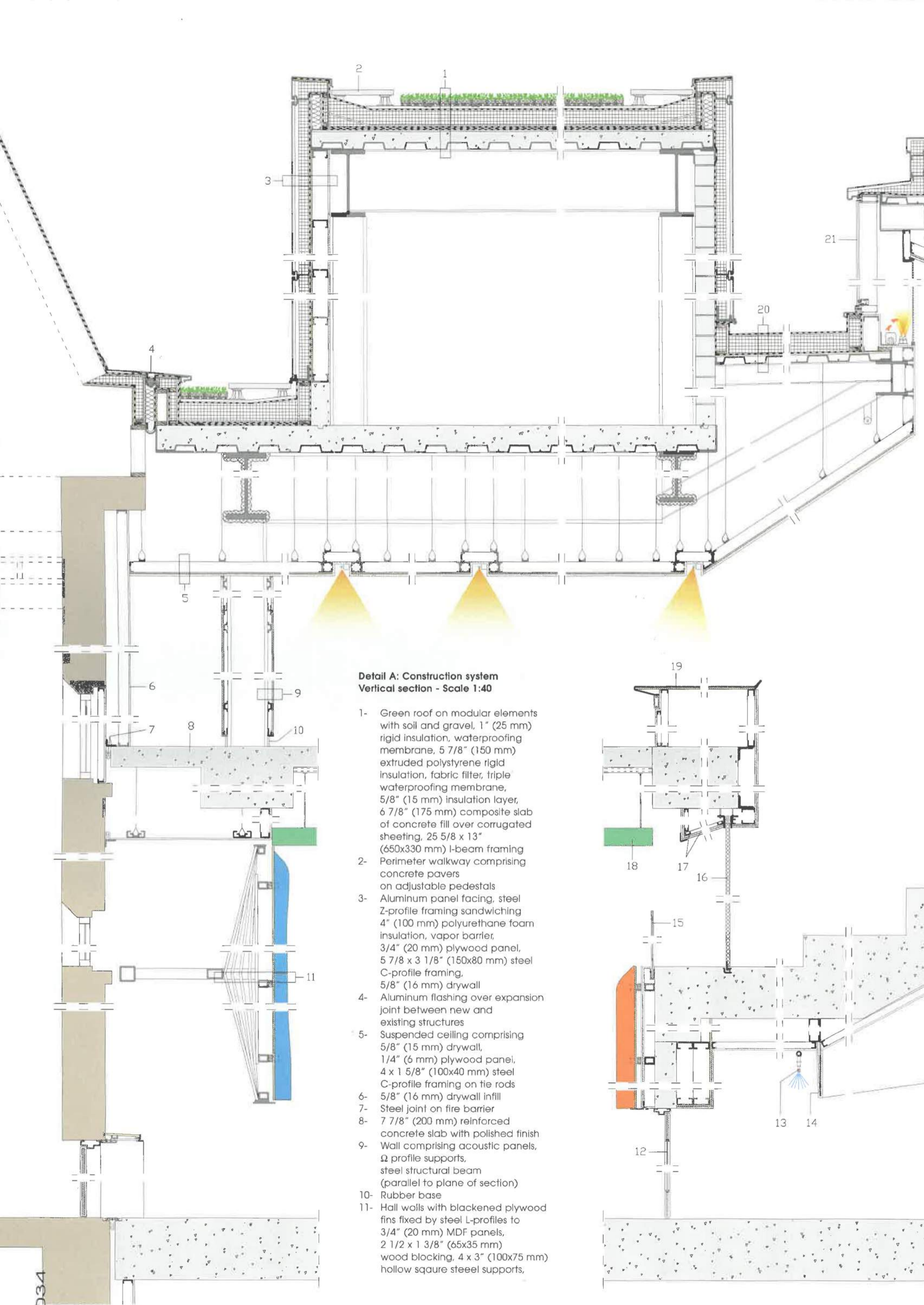
■ XX Section - Scale 1:500



■ YY Section - Scale 1:500

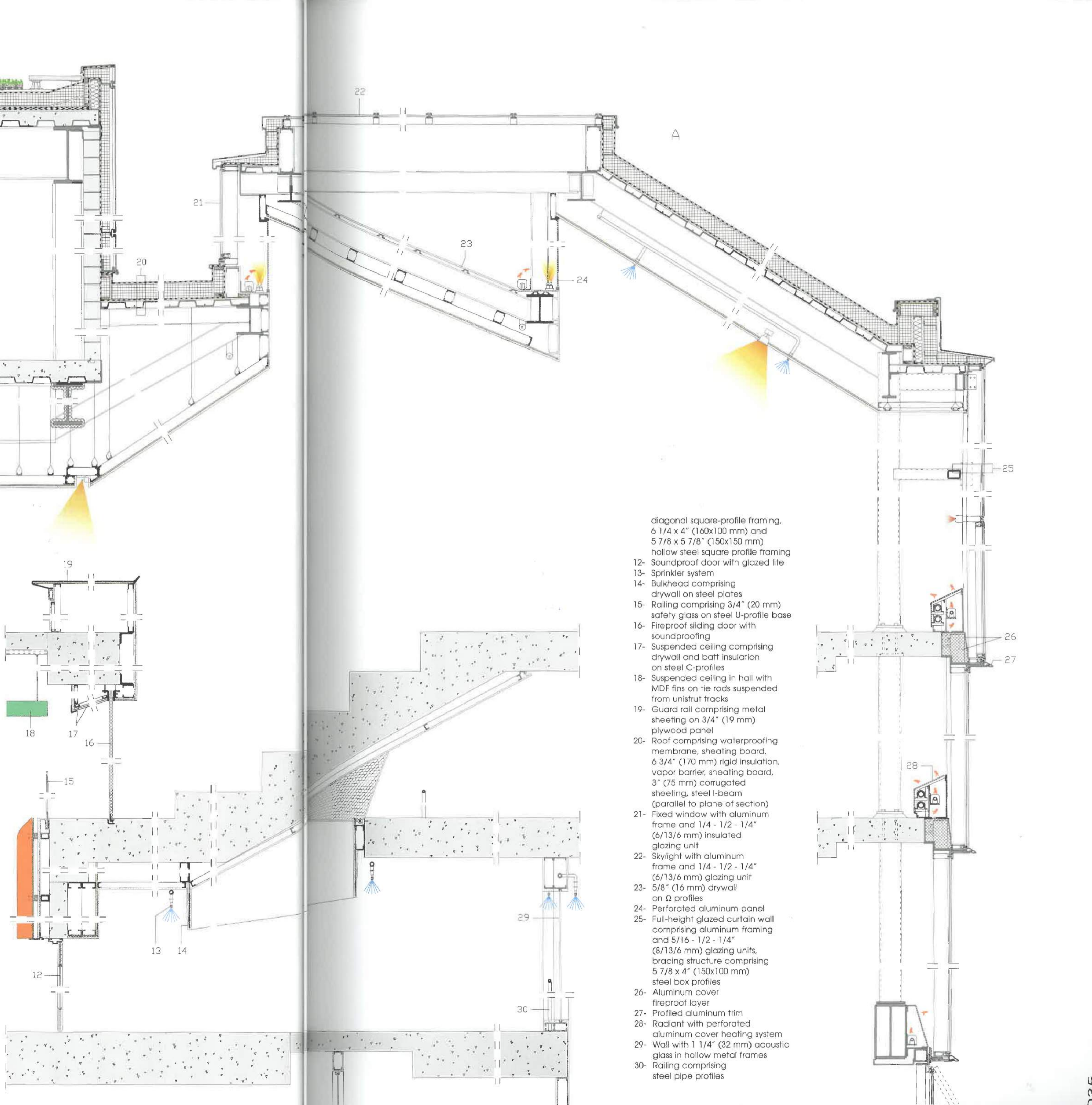


■ East elevation - Scale 1:500



Detail A: Construction system
Vertical section - Scale 1:40

- 1- Green roof on modular elements with soil and gravel, 1" (25 mm) rigid insulation, waterproofing membrane, 5 7/8" (150 mm) extruded polystyrene rigid insulation, fabric filter, triple waterproofing membrane, 5/8" (15 mm) insulation layer, 6 7/8" (175 mm) composite slab of concrete fill over corrugated sheeting, 25 5/8 x 13" (650x330 mm) I-beam framing
- 2- Perimeter walkway comprising concrete pavers on adjustable pedestals
- 3- Aluminum panel facing, steel Z-profile framing sandwiching 4" (100 mm) polyurethane foam insulation, vapor barrier, 3/4" (20 mm) plywood panel, 5 7/8 x 3 1/8" (150x80 mm) steel C-profile framing, 5/8" (16 mm) drywall
- 4- Aluminum flashing over expansion joint between new and existing structures
- 5- Suspended ceiling comprising 5/8" (15 mm) drywall, 1/4" (6 mm) plywood panel, 4 x 1 5/8" (100x40 mm) steel C-profile framing on tie rods
- 6- 5/8" (16 mm) drywall infill
- 7- Steel joint on fire barrier
- 8- 7 7/8" (200 mm) reinforced concrete slab with polished finish
- 9- Wall comprising acoustic panels, Ω profile supports, steel structural beam (parallel to plane of section)
- 10- Rubber base
- 11- Hall walls with blackened plywood fins fixed by steel L-profiles to 3/4" (20 mm) MDF panels, 2 1/2 x 1 3/8" (65x35 mm) wood blocking, 4 x 3" (100x75 mm) hollow square steel supports,



- diagonal square-profile framing, 6 1/4 x 4" (160x100 mm) and 5 7/8 x 5 7/8" (150x150 mm) hollow steel square profile framing
- 12- Soundproof door with glazed lite
- 13- Sprinkler system
- 14- Bulkhead comprising drywall on steel plates
- 15- Railing comprising 3/4" (20 mm) safety glass on steel U-profile base
- 16- Fireproof sliding door with soundproofing
- 17- Suspended ceiling comprising drywall and batt insulation on steel C-profiles
- 18- Suspended ceiling in hall with MDF fins on tie rods suspended from unistrut tracks
- 19- Guard rail comprising metal sheeting on 3/4" (19 mm) plywood panel
- 20- Roof comprising waterproofing membrane, sheathing board, 6 3/4" (170 mm) rigid insulation, vapor barrier, sheathing board, 3" (75 mm) corrugated sheeting, steel I-beam (parallel to plane of section)
- 21- Fixed window with aluminum frame and 1/4 - 1/2 - 1/4" (6/13/6 mm) insulated glazing unit
- 22- Skylight with aluminum frame and 1/4 - 1/2 - 1/4" (6/13/6 mm) glazing unit
- 23- 5/8" (16 mm) drywall on Ω profiles
- 24- Perforated aluminum panel
- 25- Full-height glazed curtain wall comprising aluminum framing and 5/16 - 1/2 - 1/4" (8/13/6 mm) glazing units, bracing structure comprising 5 7/8 x 4" (150x100 mm) steel box profiles
- 26- Aluminum cover fireproof layer
- 27- Profiled aluminum trim
- 28- Radiant with perforated aluminum cover heating system
- 29- Wall with 1 1/4" (32 mm) acoustic glass in hollow metal frames
- 30- Railing comprising steel pipe profiles



CREDITS

Location: Toronto, Ontario, Canada - **Client:** John H. Daniels Faculty of Architecture, Landscape, and Design at the University of Toronto - **Completion Date:** 2018 - **Architect:** NADAAA - **Principals:** Katherine Faulkner, Nader Tehrani - **Project Managers:** Richard Lee, Tom Beresford - **Project Team:** John Houser, Amin Tadj, Tim Wong, Alda Black, Marta Guerra, James Juricevich, Parke Macdowell, Dane Asmussen, Laura Williams, Peter Sprowls, Noora Al Musallam, Tammy Teng, Wesley Hiatt, John Mars, Mazyar Kahali, Matthew Waxman, Luisel Zayas - **Associated Architect, Architect of Record:** Adamson Associates Architects - **Principal:** Claudina Sula - **Project Team:** Jack Cusimano, Tina Leong, John McMillan, Martin Dolan, Zbigniew Jurkiewicz, Michael Lukachko, Zale Spodek, Gilles Leger, George Georges, Ke Leng Tran - **Main Contractor:** Eastern Construction

Consultants

Structural and Building Envelope: Entuitive Corporation - **Heritage:** ERA Architects - **Electrical, Data, AV and Lighting:** Mulvey & Banani International - **Acoustics:** Aercoustics Engineering - **Mechanical and Plumbing:** The Mitchell Partnership - **Civil:** A. M. Candaras Associates - **Landscape:** Public Work - **Construction Manager:** Eastern Construction Company - **Furniture:** Daniels Faculty - **Life Safety:** LRI - **Accessibility:** Designable Environments - **Geotechnical:** Terraprobe - **Sustainability:** MMM Group - **Quantity Surveyor:** Marshall & Murray - **Commissioning:** HFM - **Traffic:** BA Consulting Group - **Timber Inspection:** Quaile Engineering - **Vertical Transportation:** Ayling Consulting Services - **Roofing:** IRC Building Sciences Group - **Arborist:** Bruce Irvine & Assoc.

Suppliers

Ceilings: Lindner Group, Armstrong, Sonoglass - **Elevators:** Kone - **Exterior Wall Systems:** TAKTL - **Fire Services:** Lumacell, Siemens - **Flooring:** McGill Architectural Products, Johnsonite, Nora - **Glass:** Oldcastle - **Lighting Control Systems:** Lutron - **Lighting:** Metalumen, Lumium Lighting, Linear Lighting Corp, Senso Lighting, Paco Lighting, Birchwood Lighting, Lumax Lighting, Kenall Lighting, GE, Sistemalux, Custom Metalcraft, Bartco Lighting, Lucifer Lighting, Lifelab, TMS Lighting, Lumenton Lighting, GVA Lighting, Evolve, Rab Design Lighting, iGuzzini, Solera Corp - **Mechanical Plant:** Daikin, McQuay, Price Industries, Trane, Rosemex Klimatrol, Next Supply, Chemtreat, EFI Concepts, HTS Engineering, Tru-Aqua, Preston Phipps, Noble Corp, Emerson Swan - **Metals:** Jakob Rope Systems - **Millwork:** LG Hi-Macs - **Paints and Finishes:** Sika, Dulux, Glidden, PPG - **Plumbing Fixtures:** American Standard, Delta, Centoco, Chicago Faucets, Acorn Engineering, Stern-Williams, Bobrick - **Roofing:** Sarnafil, Fibergrate, Vegetal I.D. - **Wallcoverings:** Ezobord - **Windows, Curtainwalls and Doors:** Alumicor, IBG Canada, Daybar, Amstel, Acudor, Corflex

Photography by Nic Lehoux, courtesy of NADAAA