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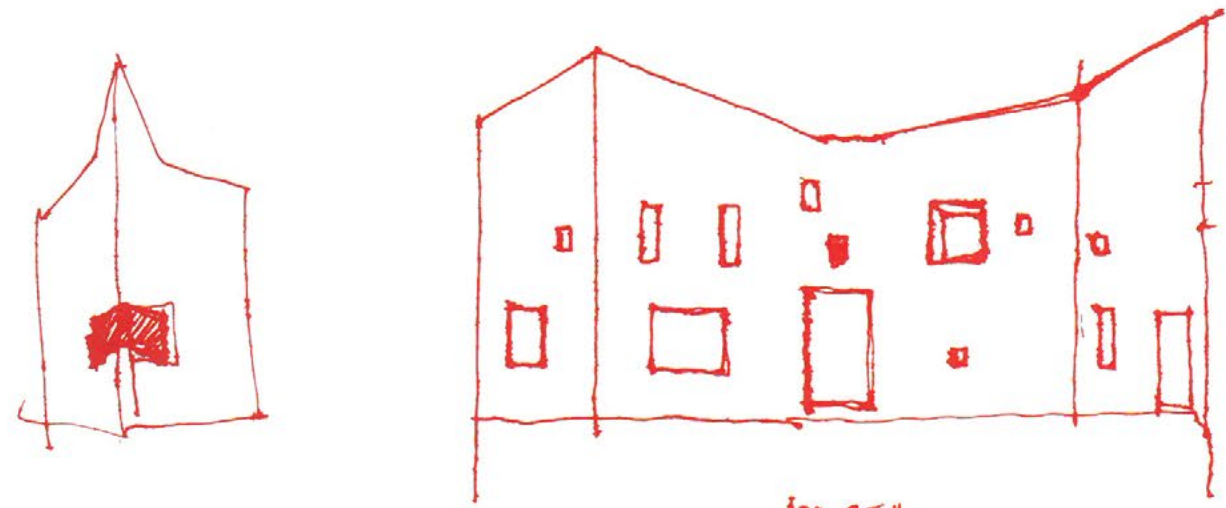
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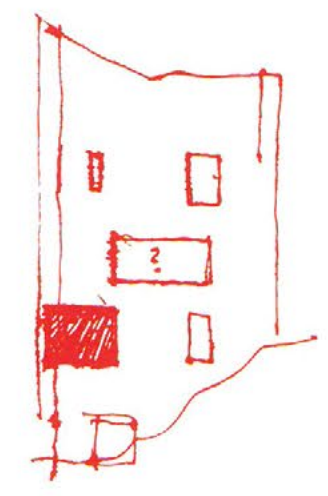
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NO RTA
FACADE

■ Study sketch of façade composition



PRIVATE HOUSE
REINTERPRETING
TRADITION
WASHINGTON D.C., USA

OLD & NEW

NADAAA



Recently completed, the radical adaptive renovation of a traditional pitched-roof 1920s brick building - Rock Creek House - by Boston/New York architecture firm NADAAA is immediately apparent from the perimeter walls. Although largely preserving the old order of the original openings, the north-facing street-side façade has been stripped of all cornices, corner pieces and decorative overlays. The roof frame has been inverted and is now a thin braid outlining the top of the façade. The impression is of a rough-cut brick block whose original formal order has been deliberately disrupted. The once equally conventional south-facing façade has been turned into an abstract composition of large glazed openings and monumental window "blocks" that create a *continuum* between the interiors and the adjacent woodland park. The building's existing structural frame and internal masonry partitions have now been strategically removed, opening up the east-west axis. Each bearing wall running on the short, north-south, axis has been reinforced with a steel frame to withstand the shear and oblique forces; of the two main elevations the north remains intact as a weight bearing façade, whereas the south becomes brick veneer rain screen over a structural steel and bearing masonry frame.

The entrance and stair hall are the point of departure of the new program. From here you get an immediate view of the layout: up through the stairwell on the north side to the three above-ground levels - a secluded study area on the second floor followed by the attic, a multi-use largely open space lit by a skylight - and down to the lower floor where a new south-facing living room opens onto the garden. The new layout is designed to be both family home and workplace. Spaces have been hierarchically organized in a series of areas for group work, social activities, study and relaxation, a program that is reiterated throughout. As well as connecting to the garden, the lower level also has a film screening room, archive and computer room. The first-floor kitchen and large day zone are above an area for more formal private meetings. The bedrooms are on the second floor. The master bedroom - with large bathroom and walk-in wardrobe - occupies the whole east side of the house. On the west side are three other bedrooms and two bathrooms. In the center around the stair well is the communal study room, while the west side of the top floor has three rooms and a kitchen for use by guests. On the east side, another open recreational or study space has an alcove with a large media screen.

The same clean-cut order, distribution and formal rigueur given to the north and south façades also apply to the interior. The layered plywood that lines walls, partitions off environments and makes up the signature staircase is fully in keeping with the far-reaching structural transformation of the building. The reiterated series of vertical wooden slats, the grain lying always in the same direction, carry the underlying design to all parts of the house. The plywood pieces, are the result of 3D modeling - from conception to installation - a fact that facilitated their precision manufacture. Cross-sections of parallel planes were created - as you do when digitally slicing 3D solids - to generate all the necessary data for laser cutting and milling. Complex forms were obtained by taking sectional cuts reproducing the outline, which when set side by side generated both the structure and the surface area of the piece. The modeling and design engineering phases also took traditional wood working practices into account. Similarly, the smooth, continuous flow of the wood veins on the panels was achieved by visualizing the joints on the 3D model. The natural phenomenon of wood expansion also had to be taken into account for the more complex plywood pieces on stairs and the top-floor landing. Movement is controlled by special sliding joints placed strategically along the linear handrails.

While the effortlessly sleek lines of the precision-cut plywood soften the formality of the former house, their repetition throughout gives an almost stage-set feel to the house as a solid, robust home and refuge from the outside world. The vertical, parallel slats of the stair resemble the crenellation of a fortress - albeit perhaps a playground castle! Similarly, the deep outer walls with picture windows, benches and seats all speak of the solidity and the protection afforded by ancient ramparts: today not against marauding enemies but to create a hiatus between frenetic city life and the private sphere. The series of interconnected yet clearly defined environments gives an overall sense of an architecture made up of several distinct masses. Client and architects are here obviously on the same page, both seeking a "binary" system that weds art and craftsmanship with rationality. The juxtaposition of iteration and contrast, mass and fluid lines becomes more than a clever metaphor. It makes a home where the occupants can find warmth and a sense of security.

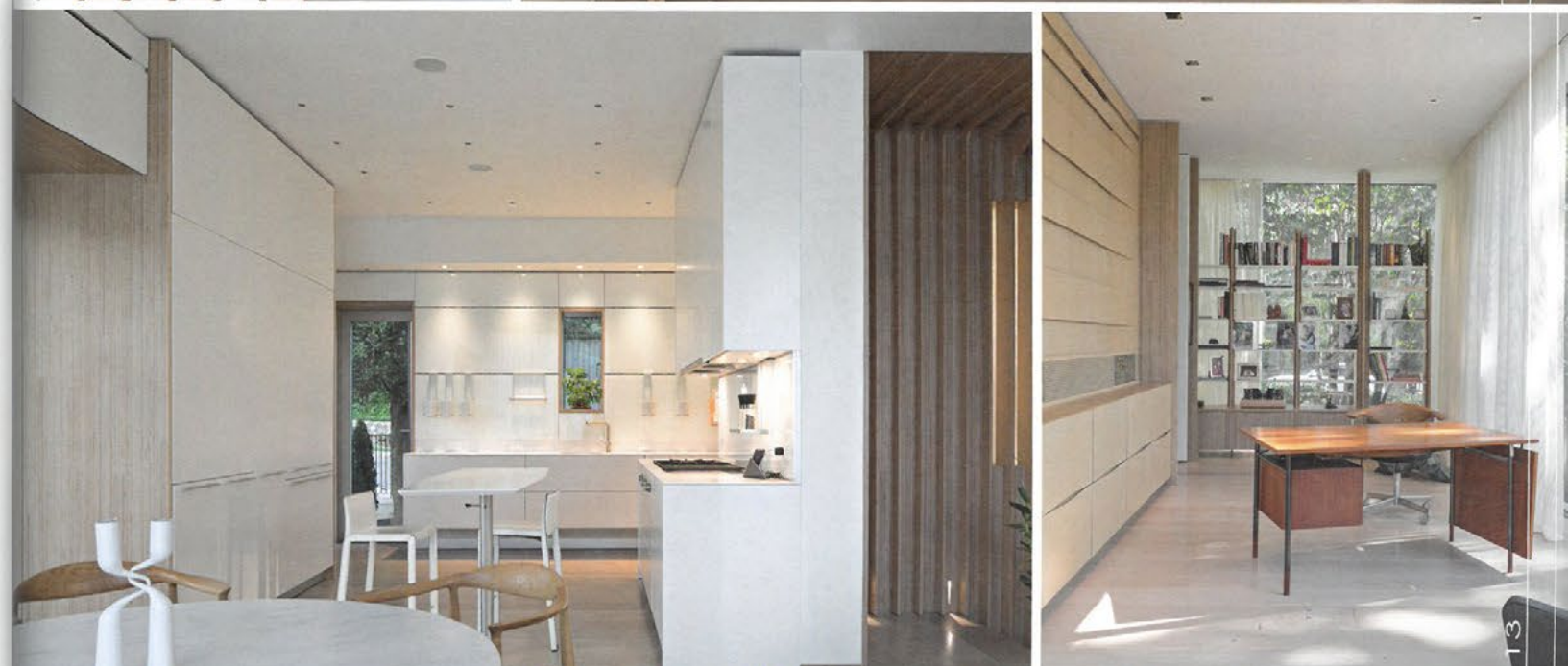
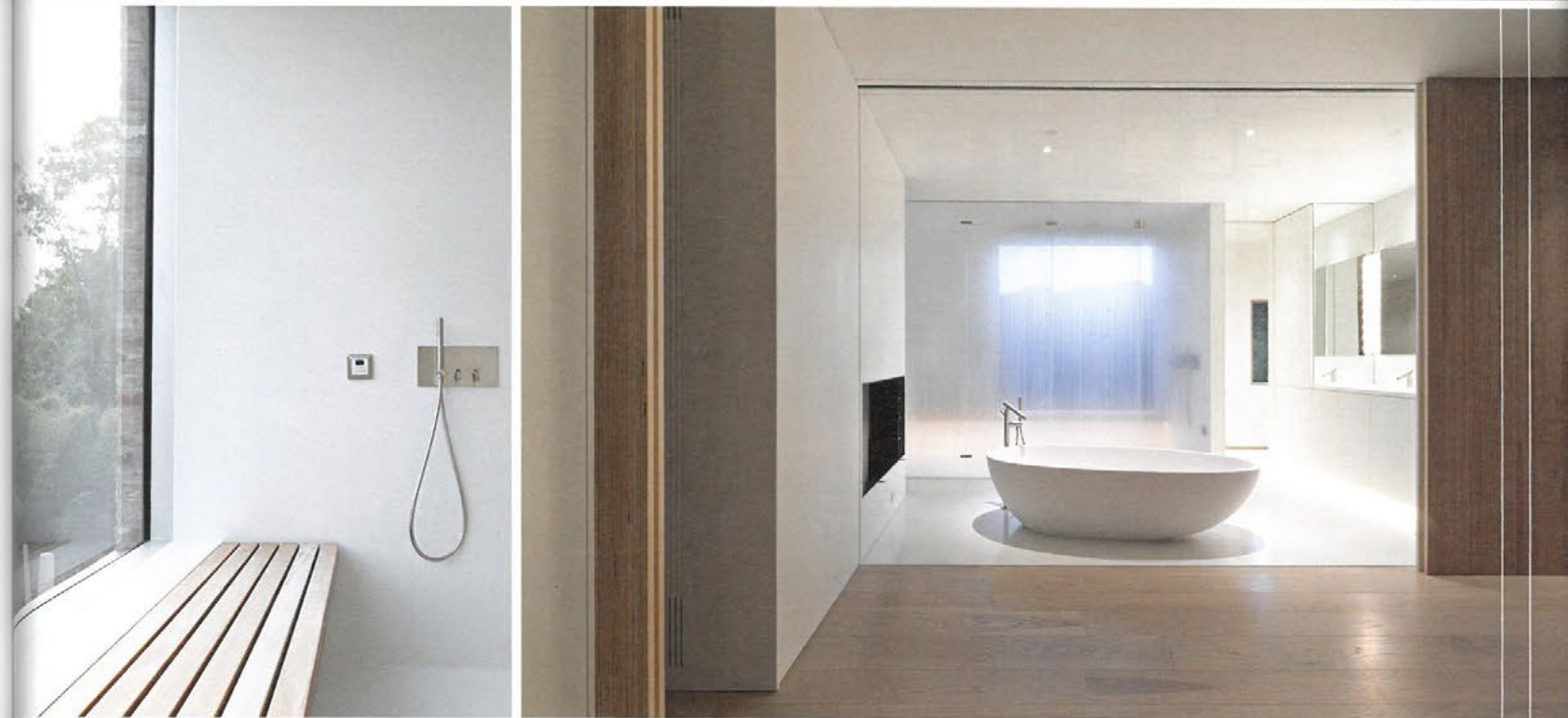
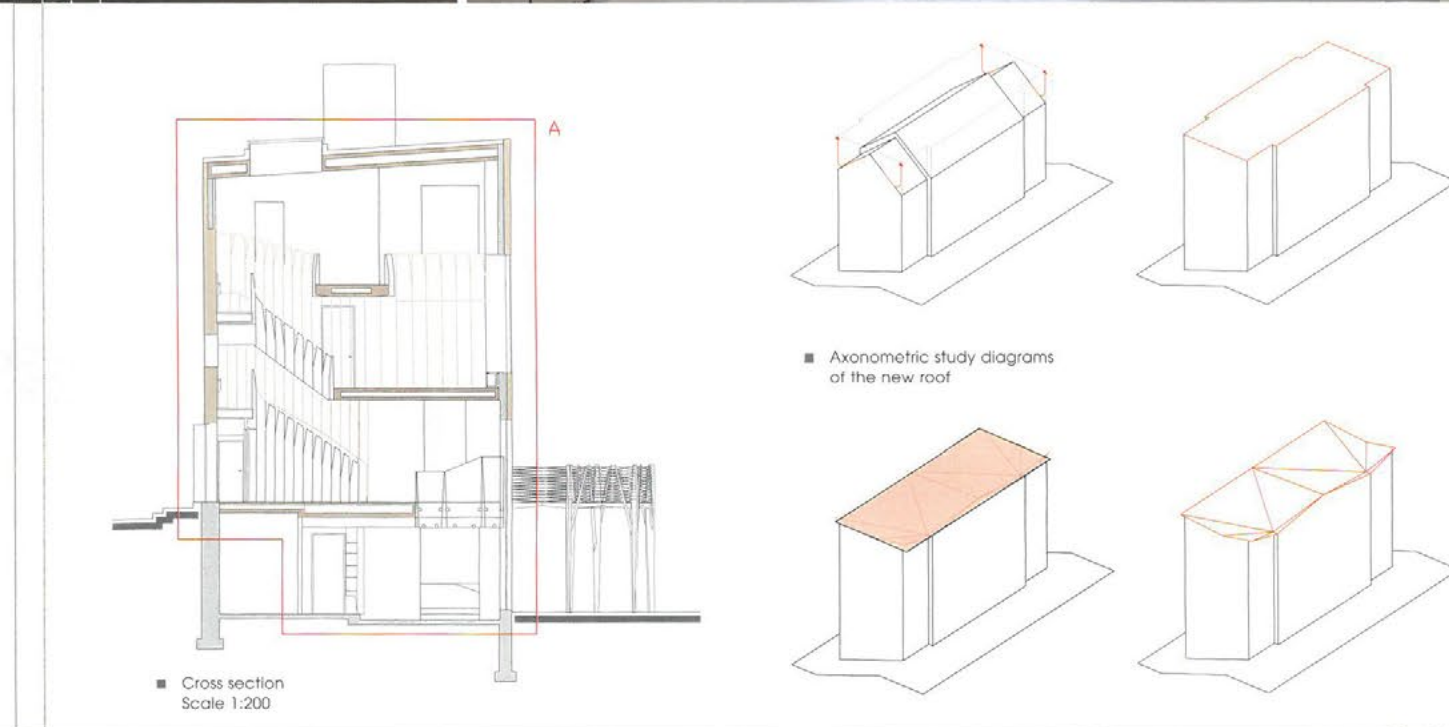


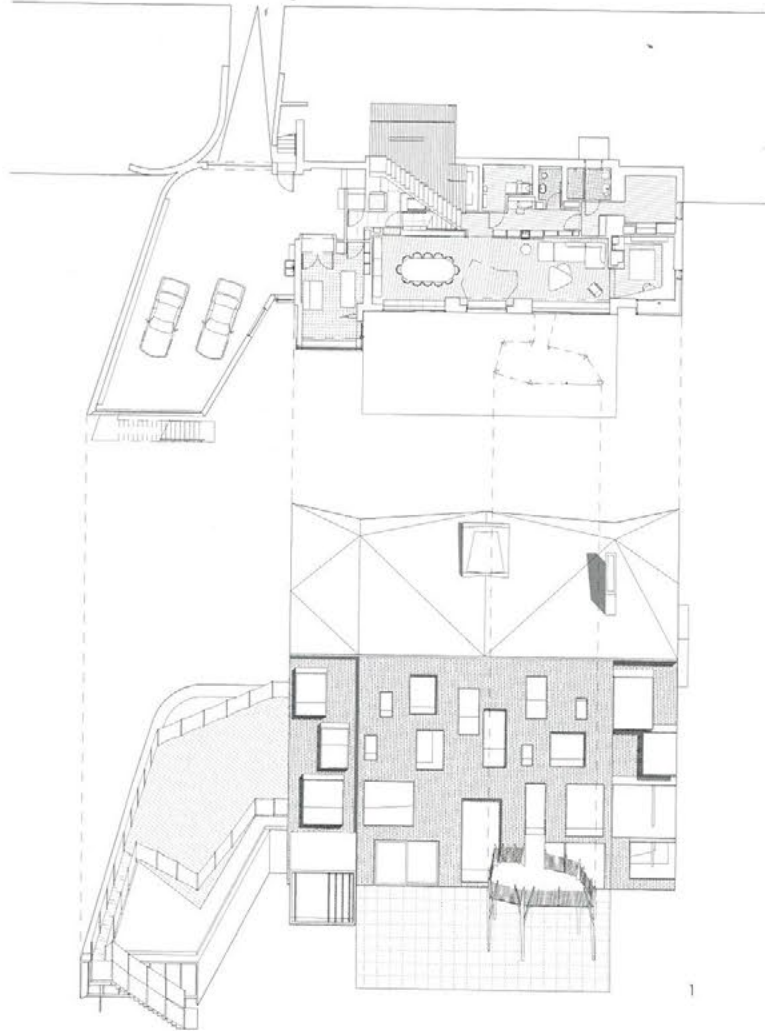
■ House façades before and after the renovation



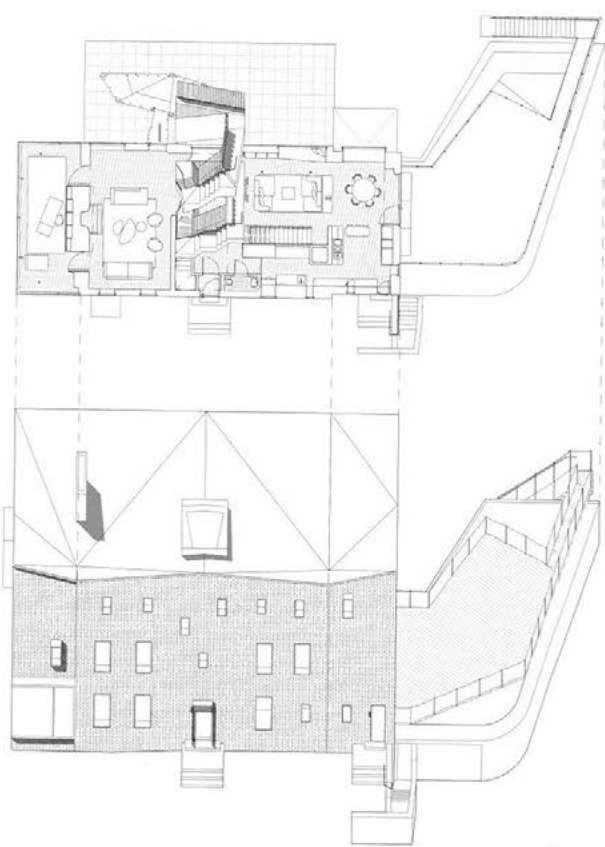
■ Study of the new apertures on the interior elevation superimposed on pre-existing openings



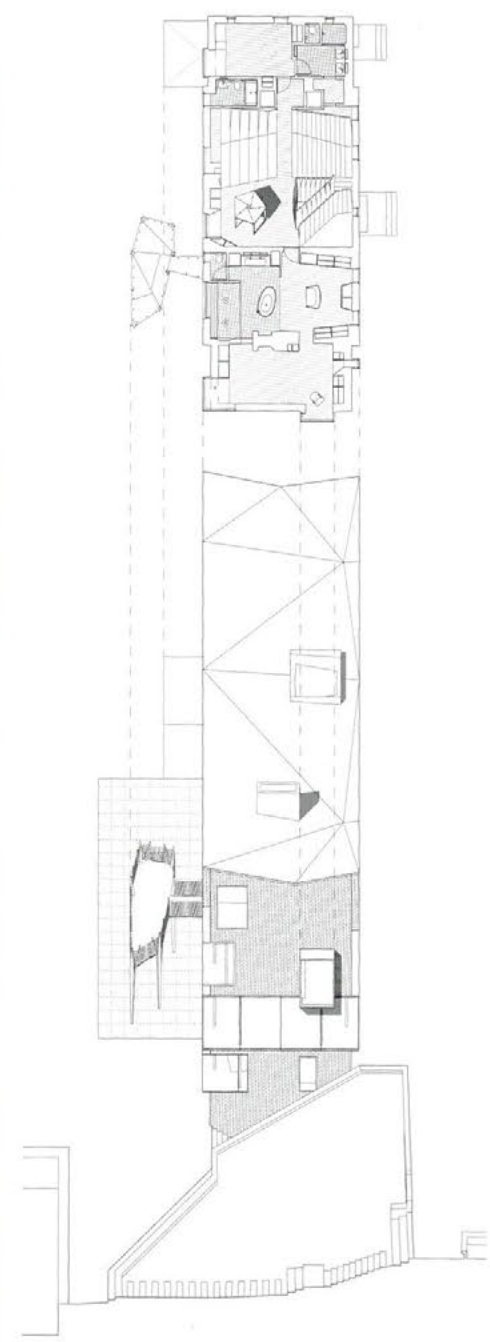
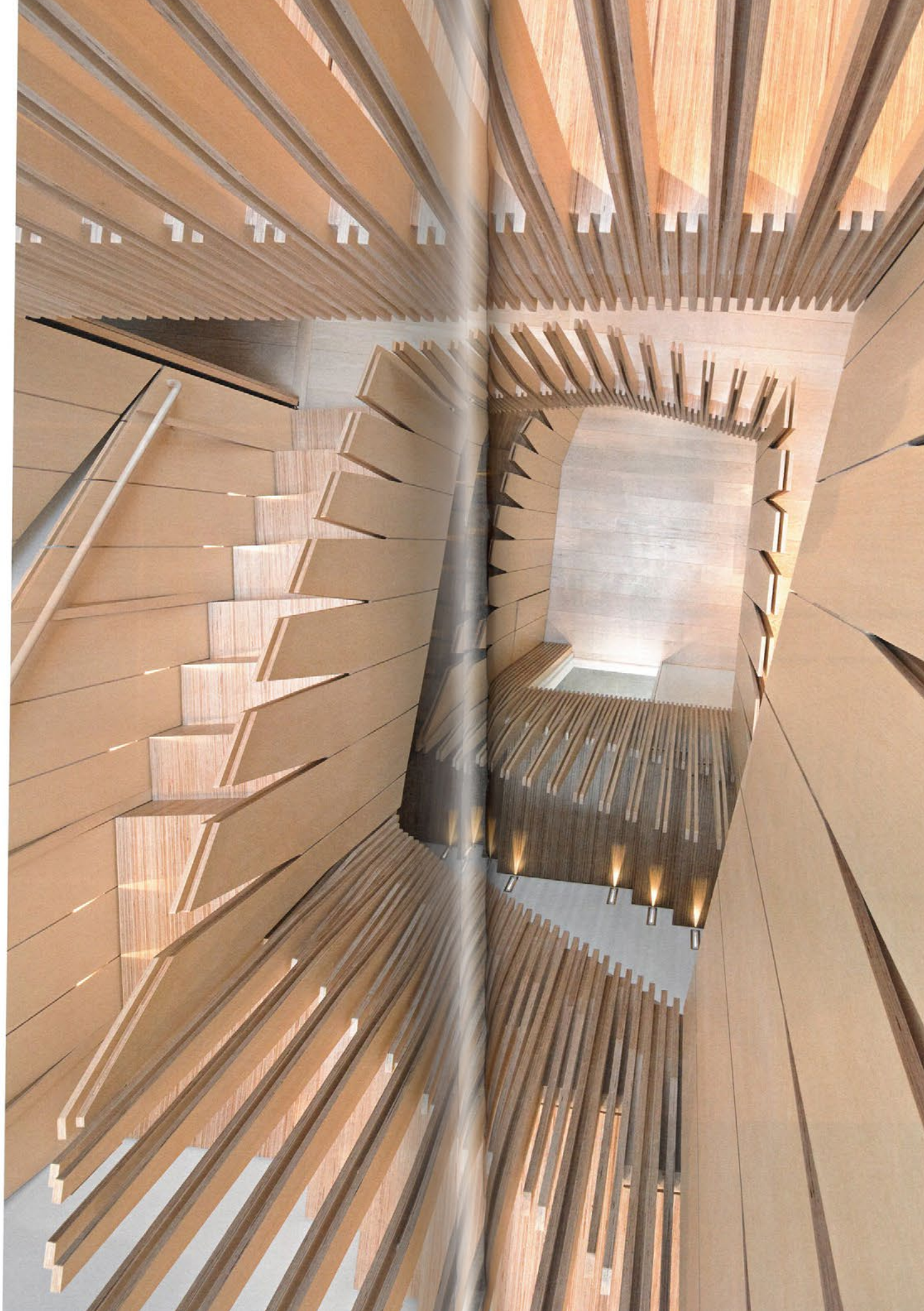




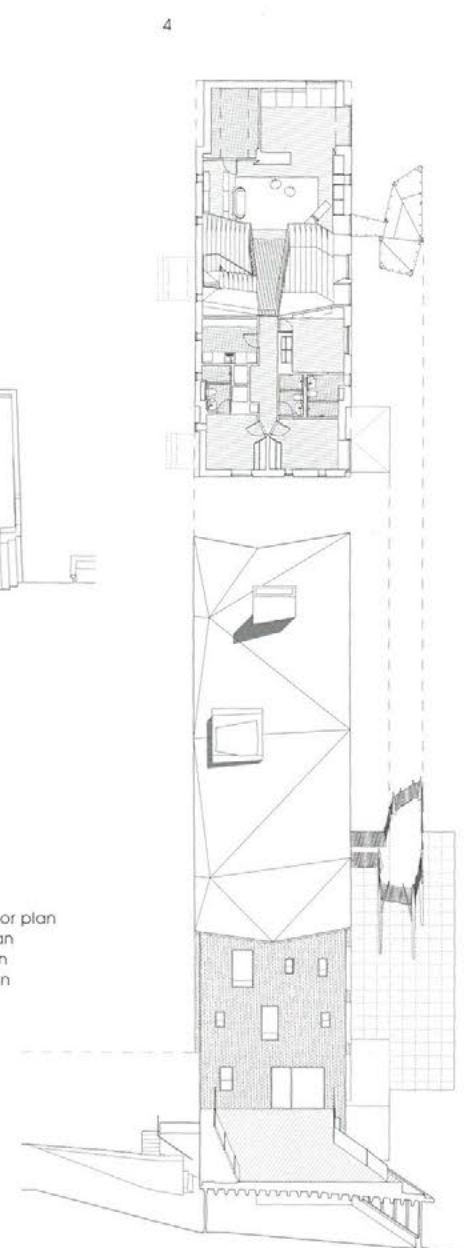
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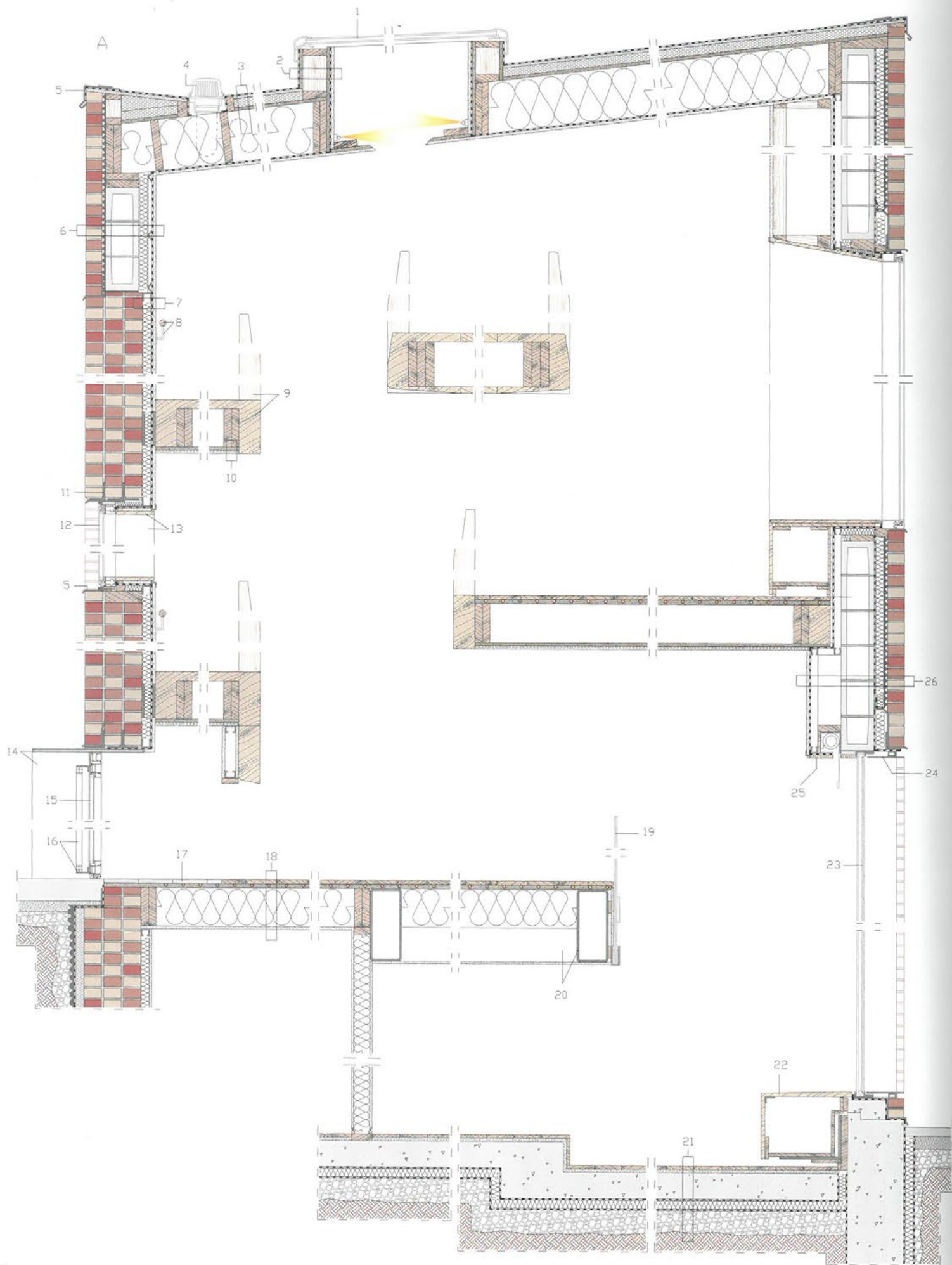


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- Axonometric views of plans and elevations - Scale 1:400
- 1- South elevation, ground floor plan
 - 2- North elevation, 1st floor plan
 - 3- East elevation, 2nd floor plan
 - 4- West elevation, 3rd floor plan



**DETAIL A: CONSTRUCTION SYSTEM
VERTICAL SECTION - SCALE 1:25**

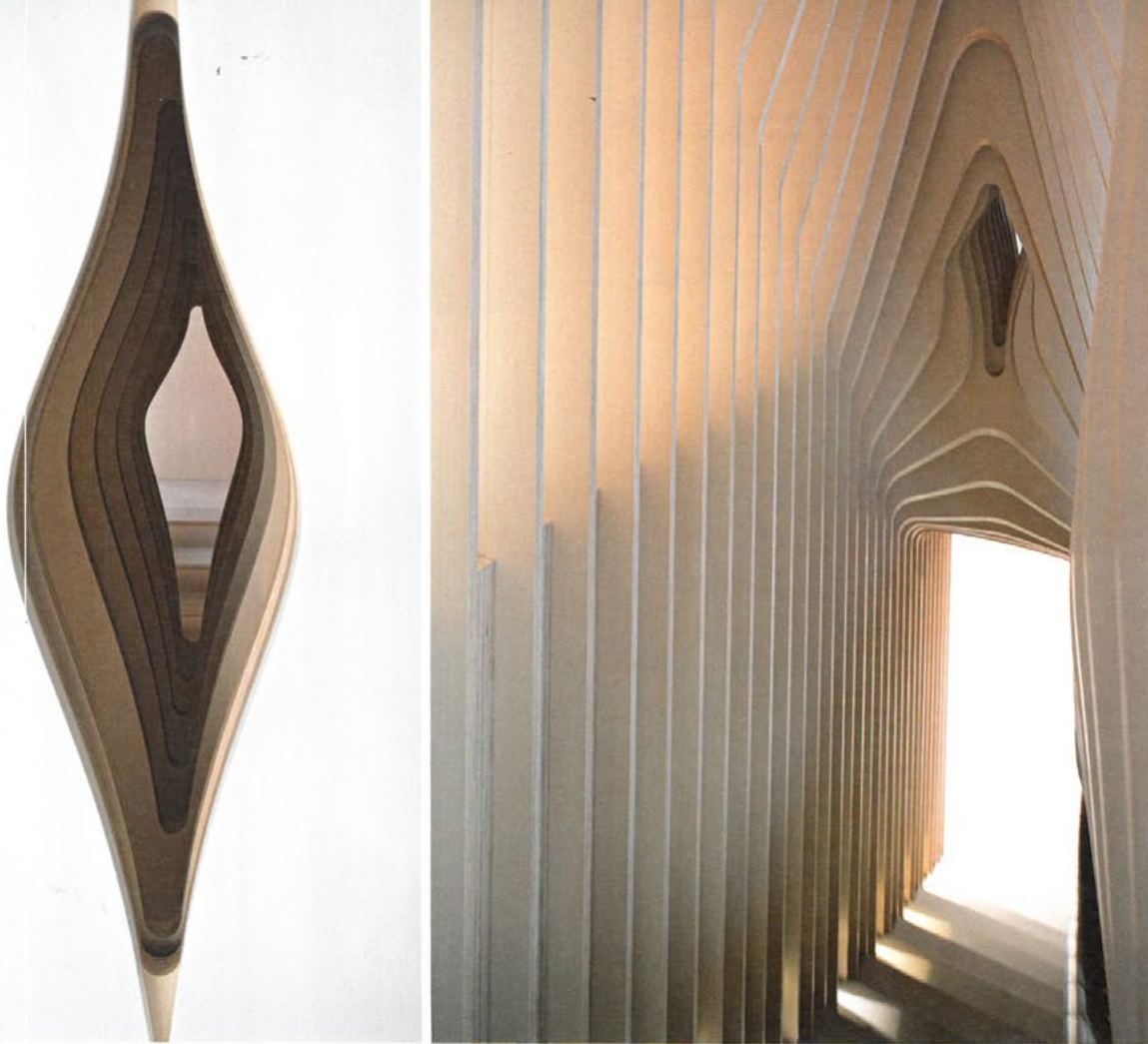
- 1- Skylight with 5/16 - 3/4 - 5/16" (8/18/8 mm) glazing unit
- 2- Skylight shaft comprising waterproofing membrane, 3/4" (20 mm) plywood, frame of 5 1/2 x 1 5/8" (140x40 mm) timber, 3/4" (20 mm) plywood, vapour barrier, 5/8" (16 mm) gypsum board
- 3- Roof comprising waterproofing membrane, 3/4" (20 mm) fibreglass panel, 2" (50 mm) rigid insulation, 3/4" (20 mm) plywood, frame of 11 3/4 x 1 3/4" (300x45 mm) timber sandwiching insulation
- 4- Rainwater collection and filtration system
- 5- Steel flashing
- 6- Façade comprising existing 4" (100 mm) bricks, 7/8" (22 mm) drainage panel, structure of 7 1/2" (190 mm) hollow concrete blocks, 2 1/8" (55 mm) rigid insulation, 7/8" (22 mm) cavity formed by steel omega profiles, vapour barrier, 5/8" (16 mm) gypsum board
- 7- 5/8" (16 mm) gypsum board, vapour barrier, frame of 2 1/8 x 2 1/8" (55x55 mm) steel C-profiles sandwiching insulation, pre-existing brick wall
- 8- Timber handrail on steel profiles
- 9- Stairs constructed from 3/4" (20 mm) Eurobirch plywood with quartered anigre veneer
- 10- Plaster finish on timber lath, 5/8" (16 mm) plywood, double 8 7/8 x 1 3/4" (225x44 mm) timber beam
- 11- 4 x 3 1/2" (100x90 mm) steel L-profile between wall and window
- 12- Aluminium window with 1/4 - 3/4 - 1/4" (6/18/6 mm) glazing
- 13- 3/4" (20 mm) Eurobirch plywood with quartered anigre veneer trim
- 14- Sheet aluminum cornice
- 15- Aluminium door with 1/8 + 1/8 - 3/4 - 1/8 + 1/8" (3+3/20/3+3 mm) glazing
- 16- Vertical handle formed by steel pipe profile on 2 3/4 x 1 3/8" (70x35 mm) steel L-profile
- 17- Stone pavers
- 18- 3/4" (20 mm) oak floorboards, 3/4" (20 mm) OSB radiant barrier, frame of 9 x 1 3/4" (230x45 mm) timber sandwiching insulation, 1/2" (12.5 mm) gypsum board
- 19- Railing comprising double 5/16" (8 mm) safety glass on steel plates and U-profile
- 20- Steel box beam frame
- 21- 3/4" (20 mm) oak floorboards, 3/4" (20 mm) screed, 5 7/8" (150 mm) reinforced concrete slab, vapour barrier, 2" (50 mm) rigid insulation, waterproofing membrane, gravel layer, earth
- 22- Built-in furniture unit with doors and 3/4" (20 mm) Eurobirch plywood panels
- 23- Double-height fixed window with 1/4 + 1/4 - 3/4 - 3/8" (7+7/20/10 mm) glazing unit
- 24- Aluminium trim
- 25- Birch laminated MDF panel trim
- 26- Façade comprising existing 4" (100 mm) bricks, 7/8" (22 mm) drainage panel, 2" (50 mm) rigid insulation, waterproofing membrane, structure of 7 1/2" (190 mm) hollow concrete blocks, installation space for sun blind, frame of 1 5/8 x 1 5/8" (40x40 mm) aluminum C-profiles, vapour barrier, 5/8" (16 mm) gypsum board



■ Cutaway axonometric view of the staircase and walkway with the structural elements shown in 3D

■ Study model of bolserie





CREDITS

Location: Washington D.C., USA - **Completion Date:** 2016 - **Gross Floor Area:** 947 m² - **Architect:** NADAAA
Principals: Nader Tehrani, Katherine Faulkner - **Project Manager:** Harry Lowd - **Project Team:** Sarah Dunbar, Remon Alberts,
 John Houser, Stephen Saude, Jonathan Palazzolo, Lisa Lostritto, Parke Macdowell, David Richmond, Dane Assmusen,
 Ghazal Abbasy-Asbagh, Mehdi Alibakhshian, Sina Mesdaghi, Tom Beresford, Dan Gallagher - **Main Contractor:** Abdo Development

Consultants

Structural: SGH - **Mechanical:** Allied Consulting Engineering - **Lighting:** Hinson Design Group - **Audio-visual Equipment:**
 Bethesda Systems - **Interior Wood Millwork Design and Fabrication:** CW Keller Associates - **Landscape:** Landworks Studio

Suppliers

Furniture: Kasper Salto & Thomas Sigsgaard, Artek, Zanotta, Minotti, PP Møbler, Dada, Bovirke, Johannes Hansen, Cassina, Luminaire,
 Christensen & Larsen, Jacksons, Fritz Hansen, Karl Mathsson, Zeitraum, Nordisk Staal & Møbel Central, Molteni, Kerasan, Wetstyle,
 e15, Casalis, Erik Jorgensen - **Interior Wood Millwork:** CW Keller Associates - **Lighting:** Tech Lighting, Buschfeld, Wever & Ducre,
 RSA, Viabizzuno, Pure Lighting - **Piano:** Bluthner - **Appliances:** Wolf, Sub-Zero, Miele, Asko, Gaggenau - **Dumbwaiter:** Waupaca
Tiles: Heath Ceramics, Stone Source - **Taps:** Agape, Hansgrohe - **Fireplace:** Ortal

Kitchen Cabinet: b3 system by bulthaup

Text by Brunella Angeli

Photography by John Horner

