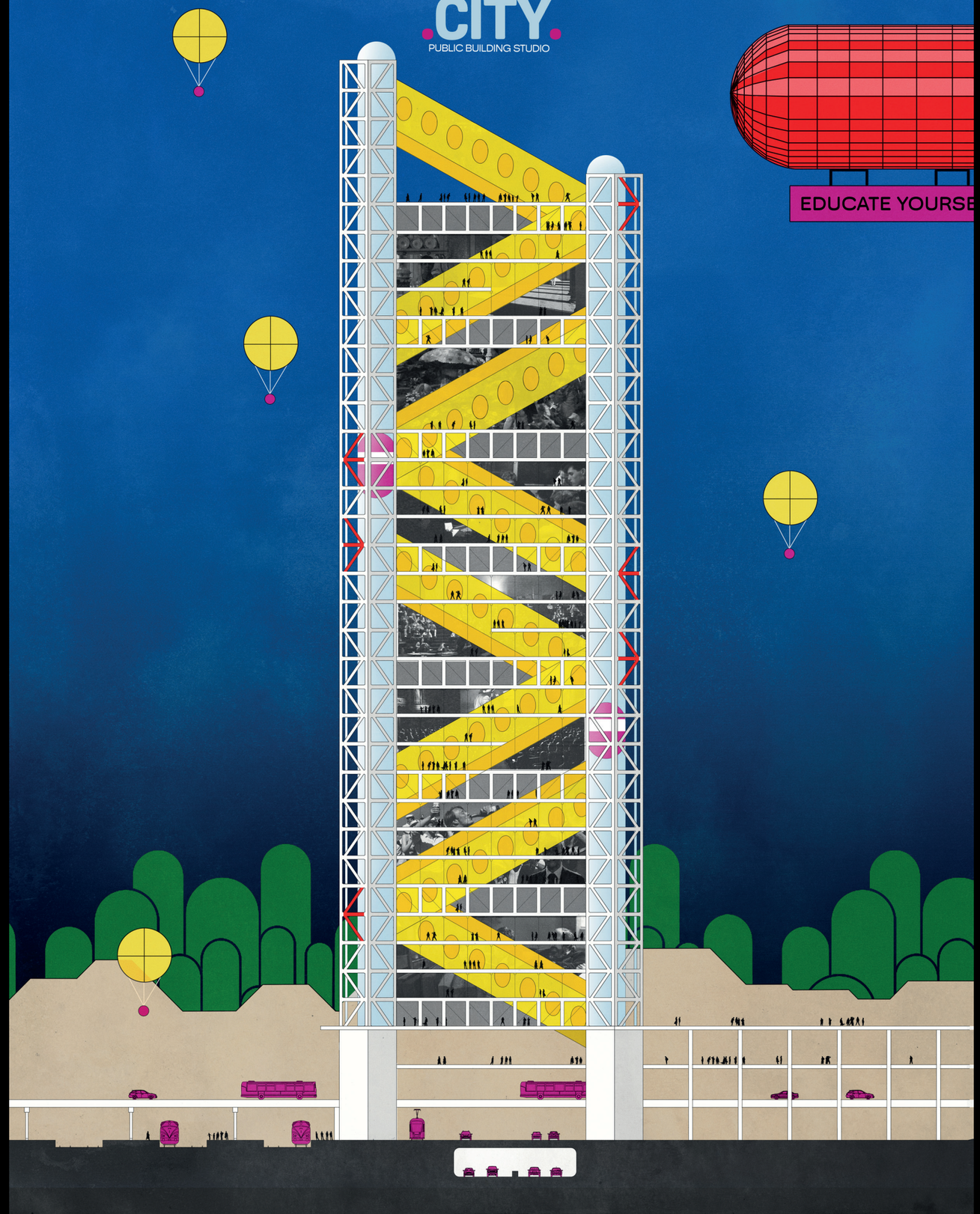
MAX VENDERBOSCH

THE ESCALATING CITY

PUBLIC BUILDING STUDIO



MSc Architecture TU Delft

P5 presentation

27-06-2024

First mentor: Henk Bultstra

Second mentor: Sien van Damme

Third mentor: Ger Warries

URBAN ESCALATION



Nano Betts (2012)



Siebe Swart (2019)



Source: ministerie van volksgezondheid

Siebe Swart (2019)



Source: Tokyo metropolitan government

Nano Betts (2012)

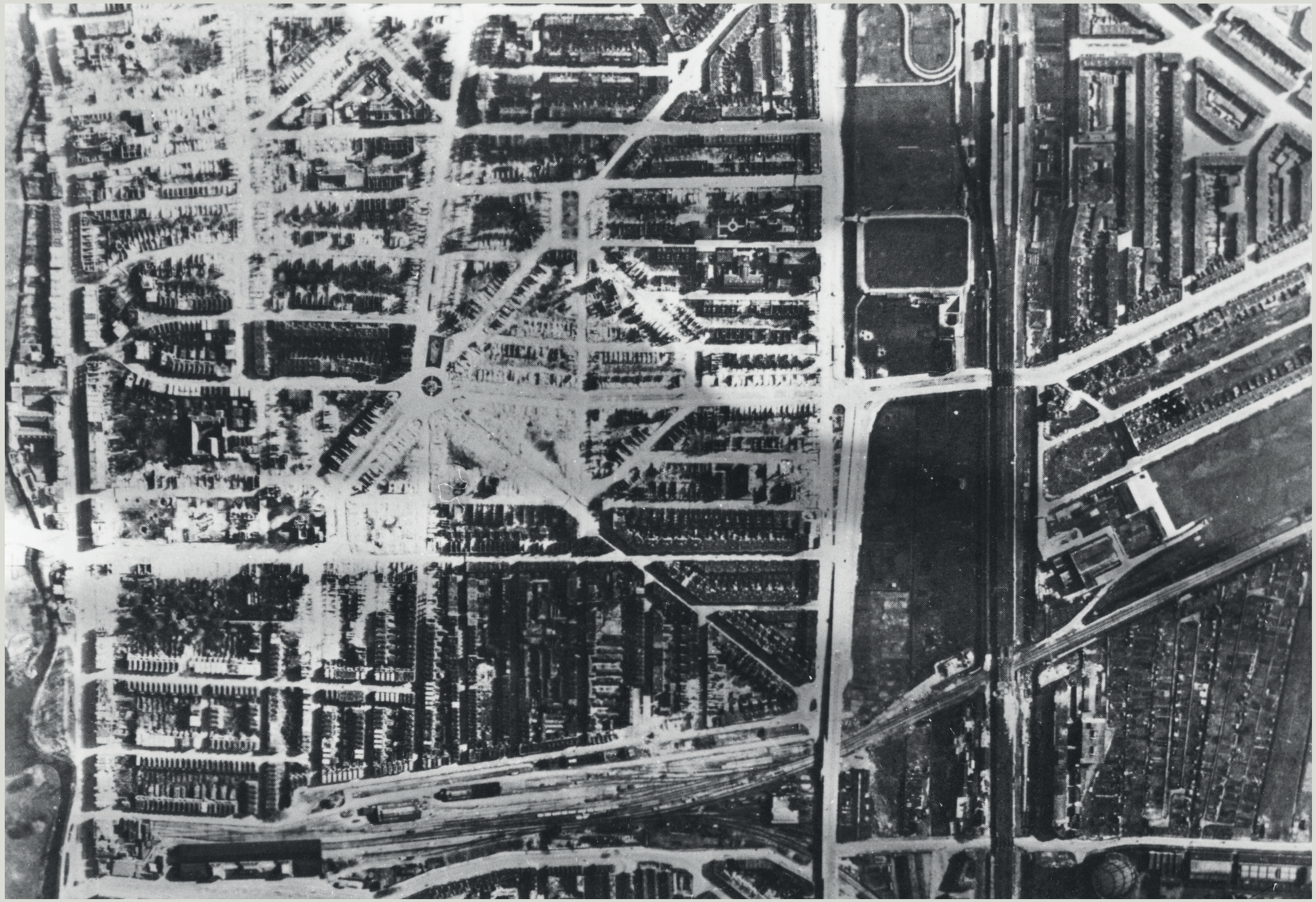
IMPORTANCE OF URBAN PLANNING



Paulus Constantijn la Fargue (1768)



Dienst Stadsontwikkeling en Volkshuisvesting (1930)



R.A.F. (1945)



Dienst Stadsontwikkeling en Volkshuisvesting (1967)



Dienst Stadsontwikkeling en Volkshuisvesting (1972)



Dick van der Meer (1974)



Dienst voor de Stadsontwikkeling (1986)



FMH (2017)

.THE.
.ESCALATING.
.CITY.

DESIGN TASK



Siebe Swart (2019)

DESIGN TASK



PUBLIC BUILDING

VERTICAL CAMPUS

+/- 30.000 M2

DESIGN TASK



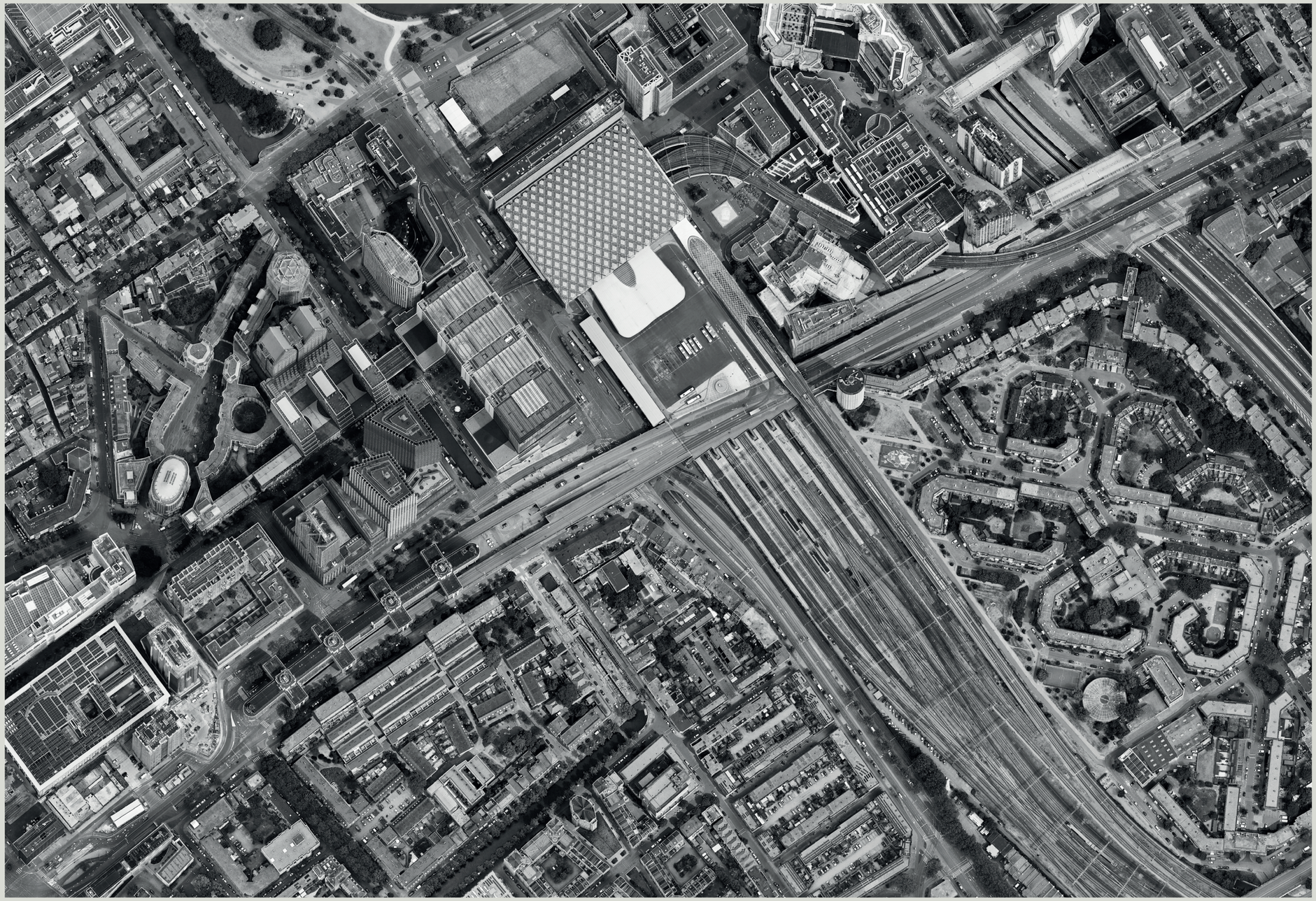
HOW CAN WE DESIGN A VERTICAL BUILDING FOR THE PUBLIC?

TO ENTER,

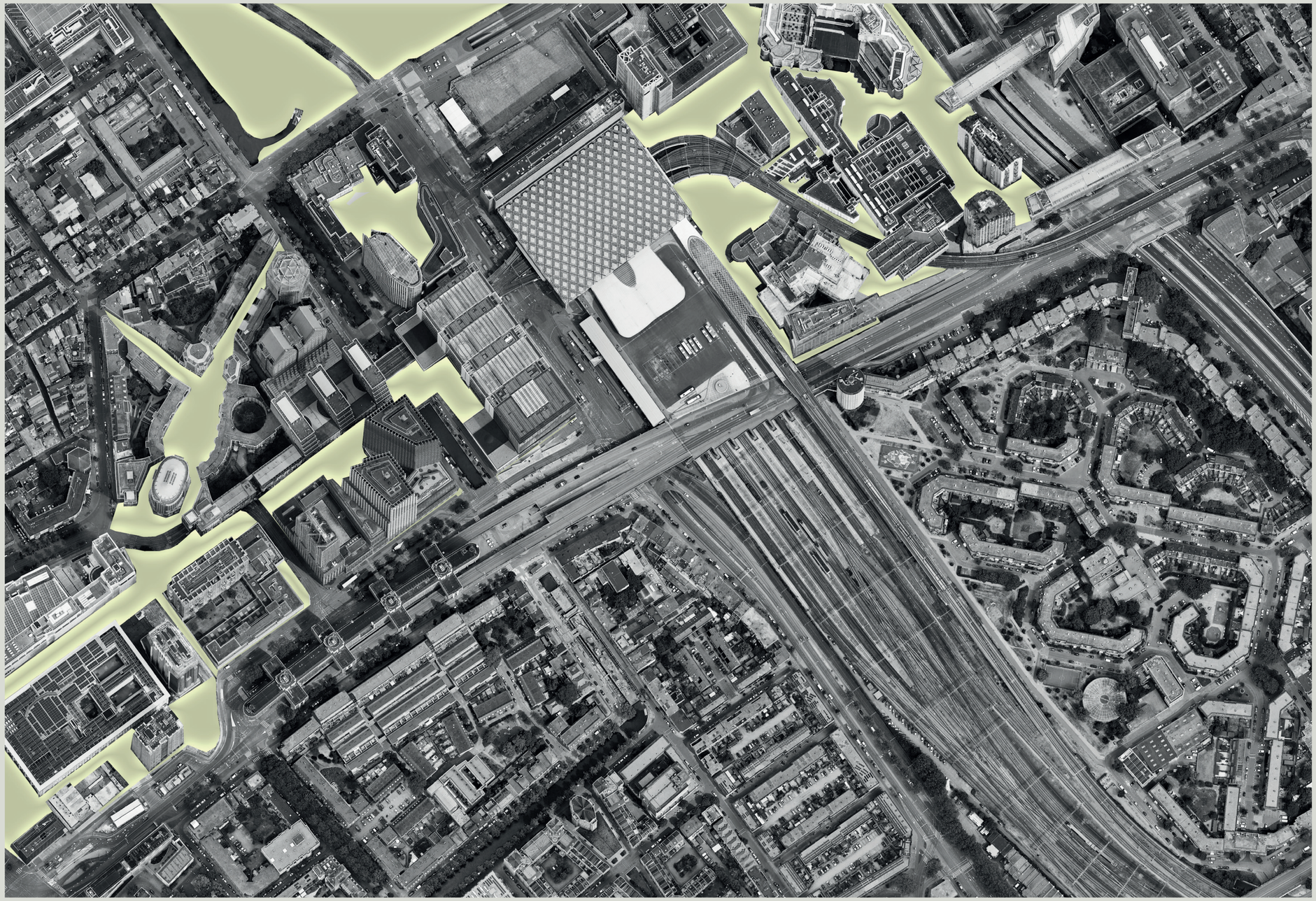
TO EXPLORE,

TO LEARN.

WHERE TO BUILD?



OPEN SPOTS?



DEMOLISH AND RENEW?



DEMOLISH AND RENEW?



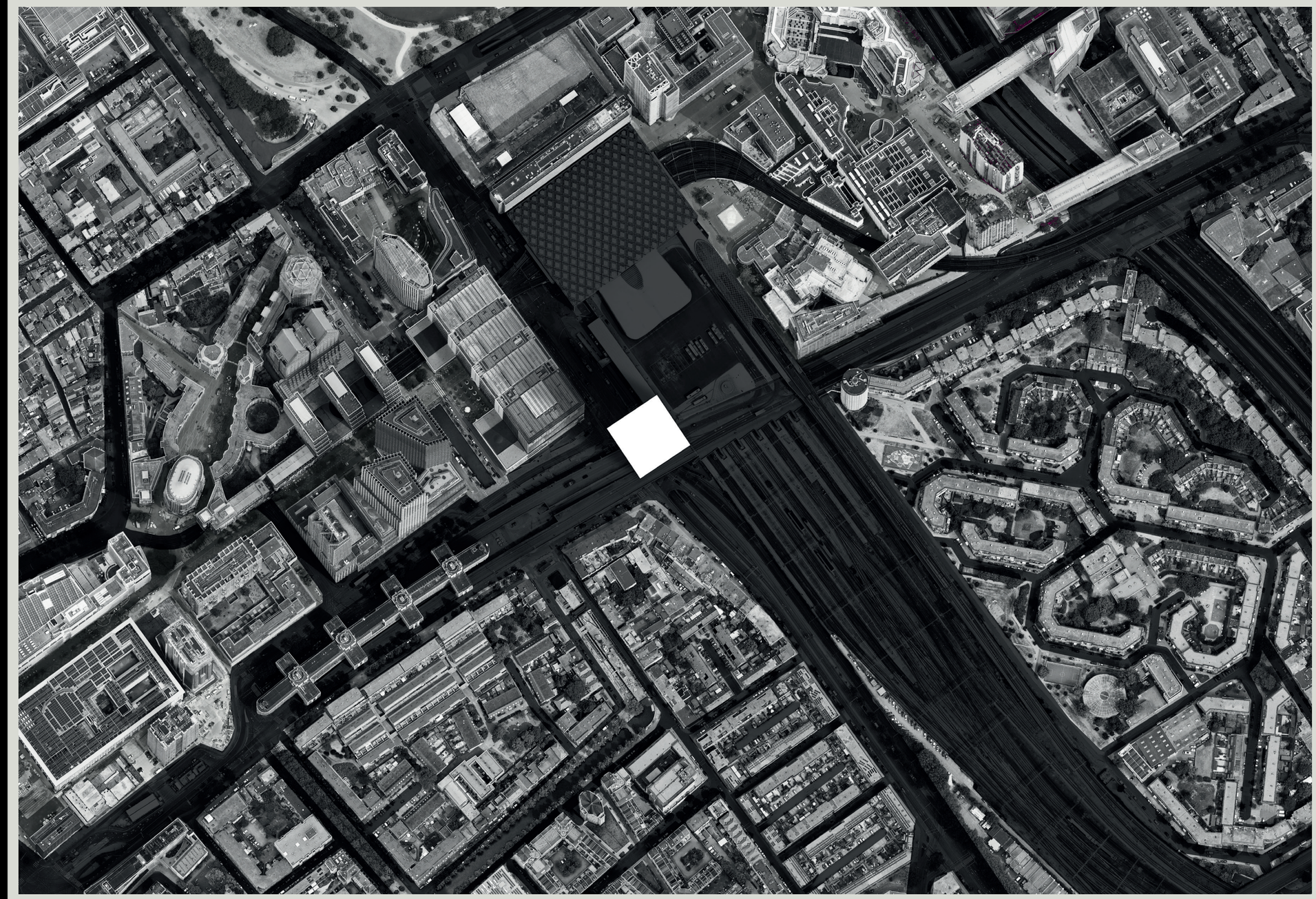
WHERE TO BUILD?



POTENTIALS OF INFRASTRUCTURE



OPPORTUNITY OF INFRASTRUCTURE

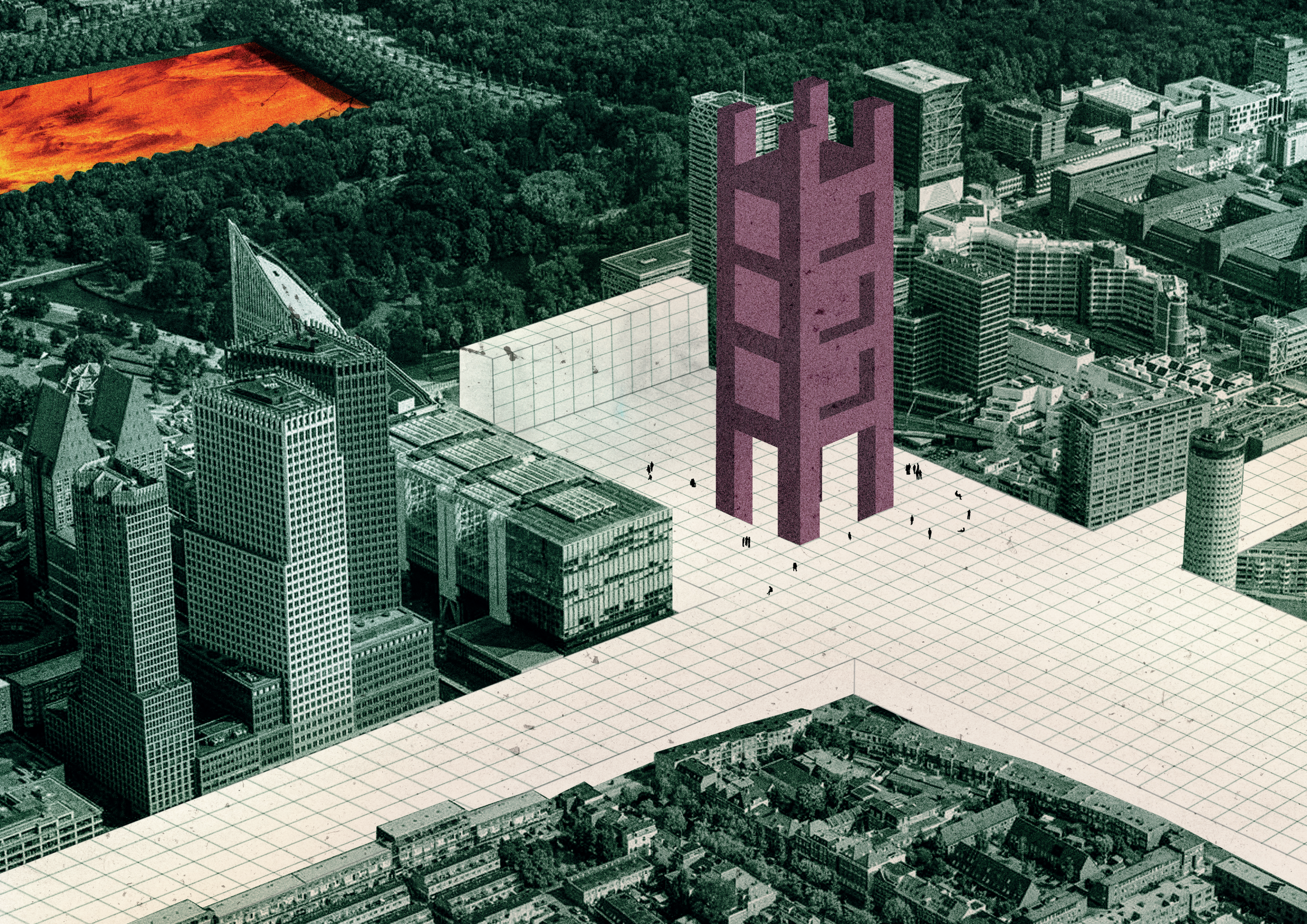


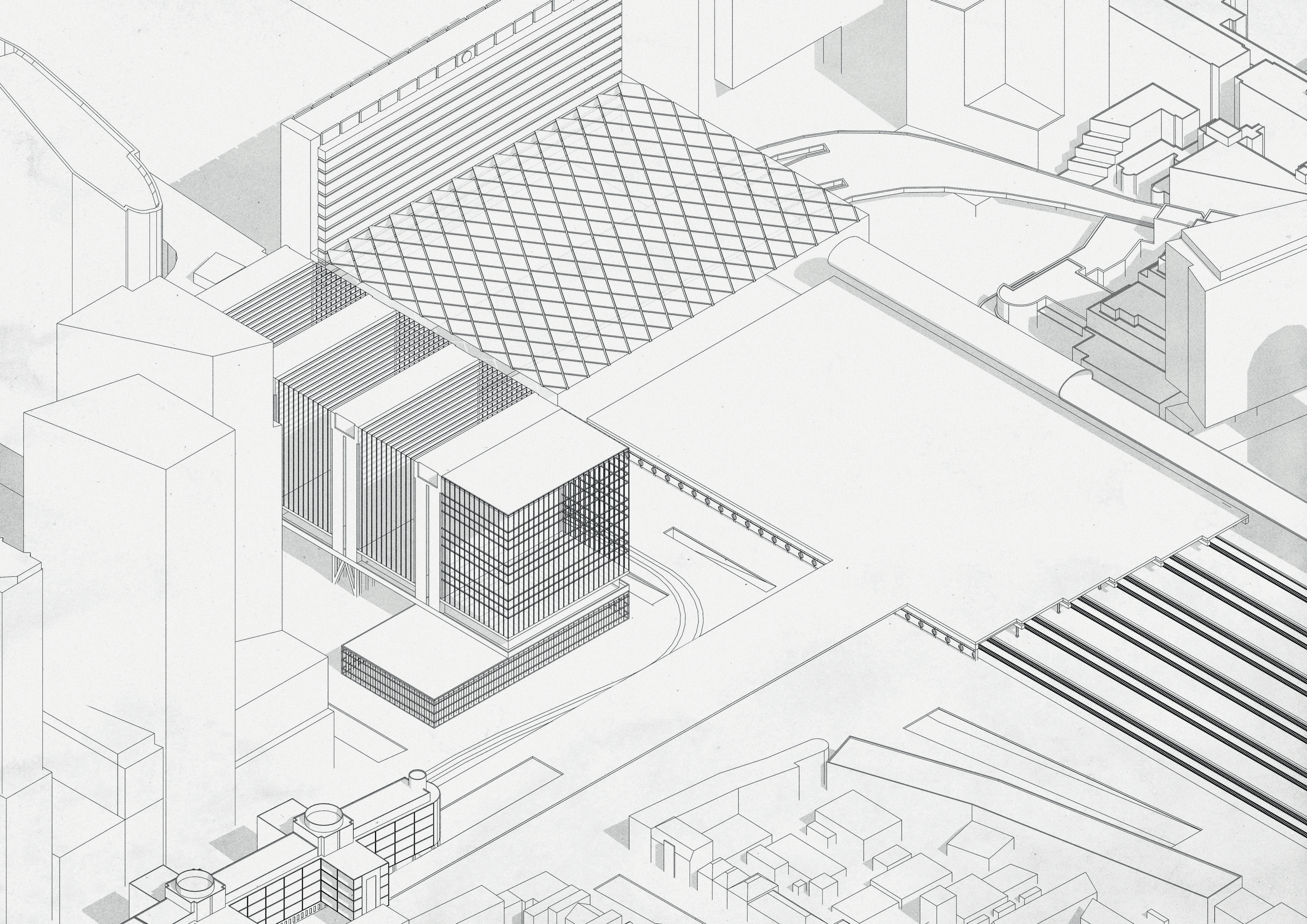


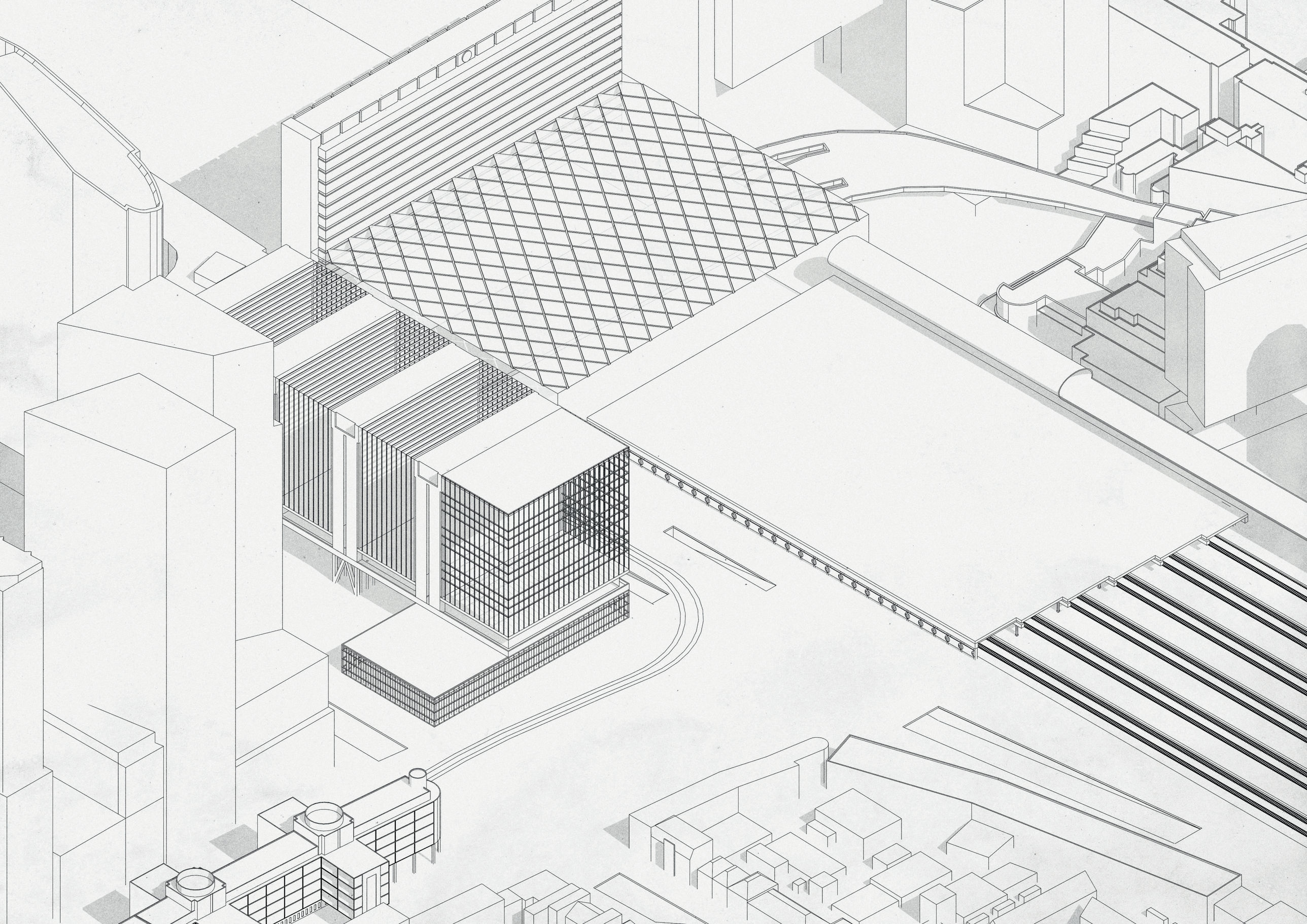
Google (2024)

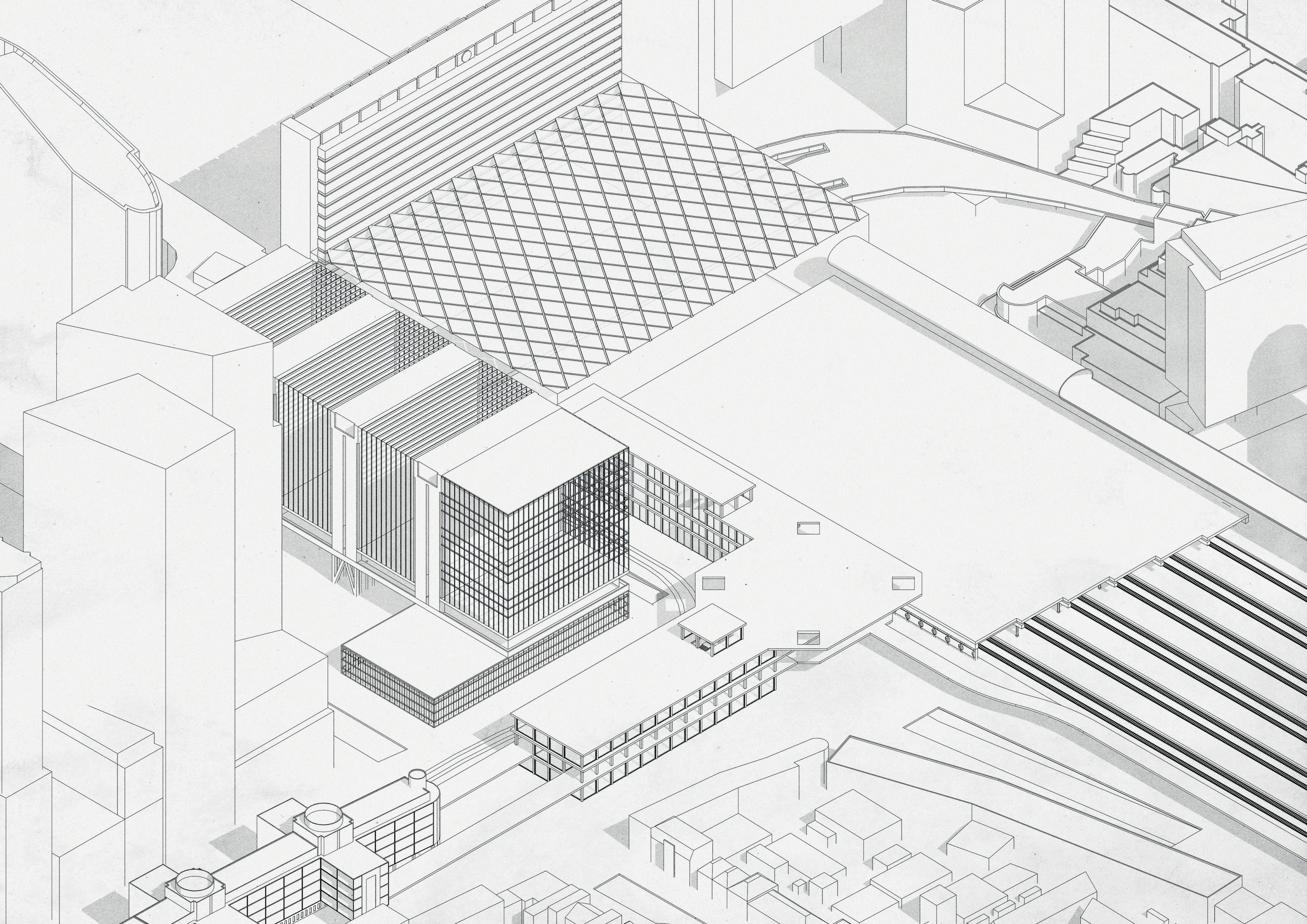


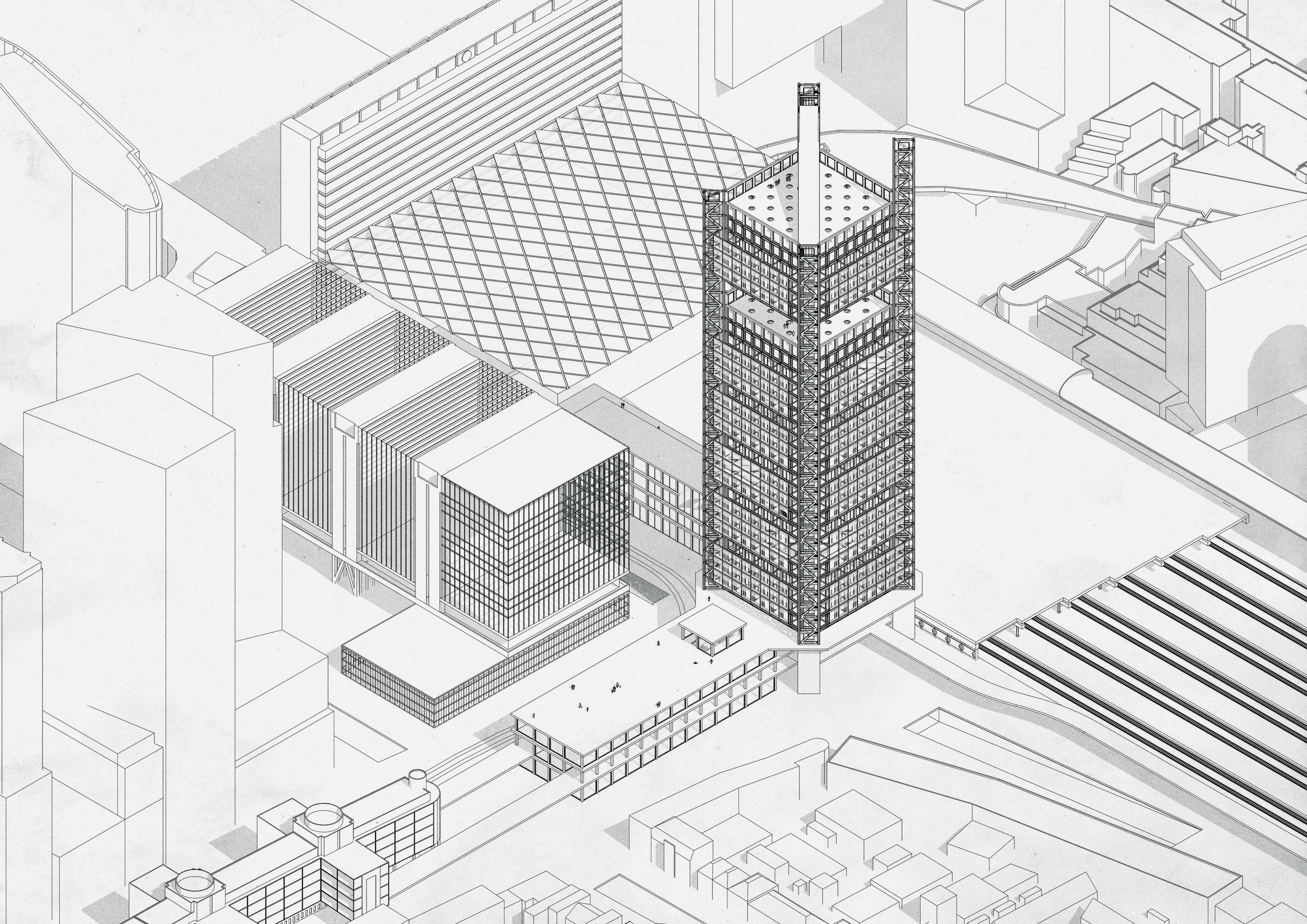


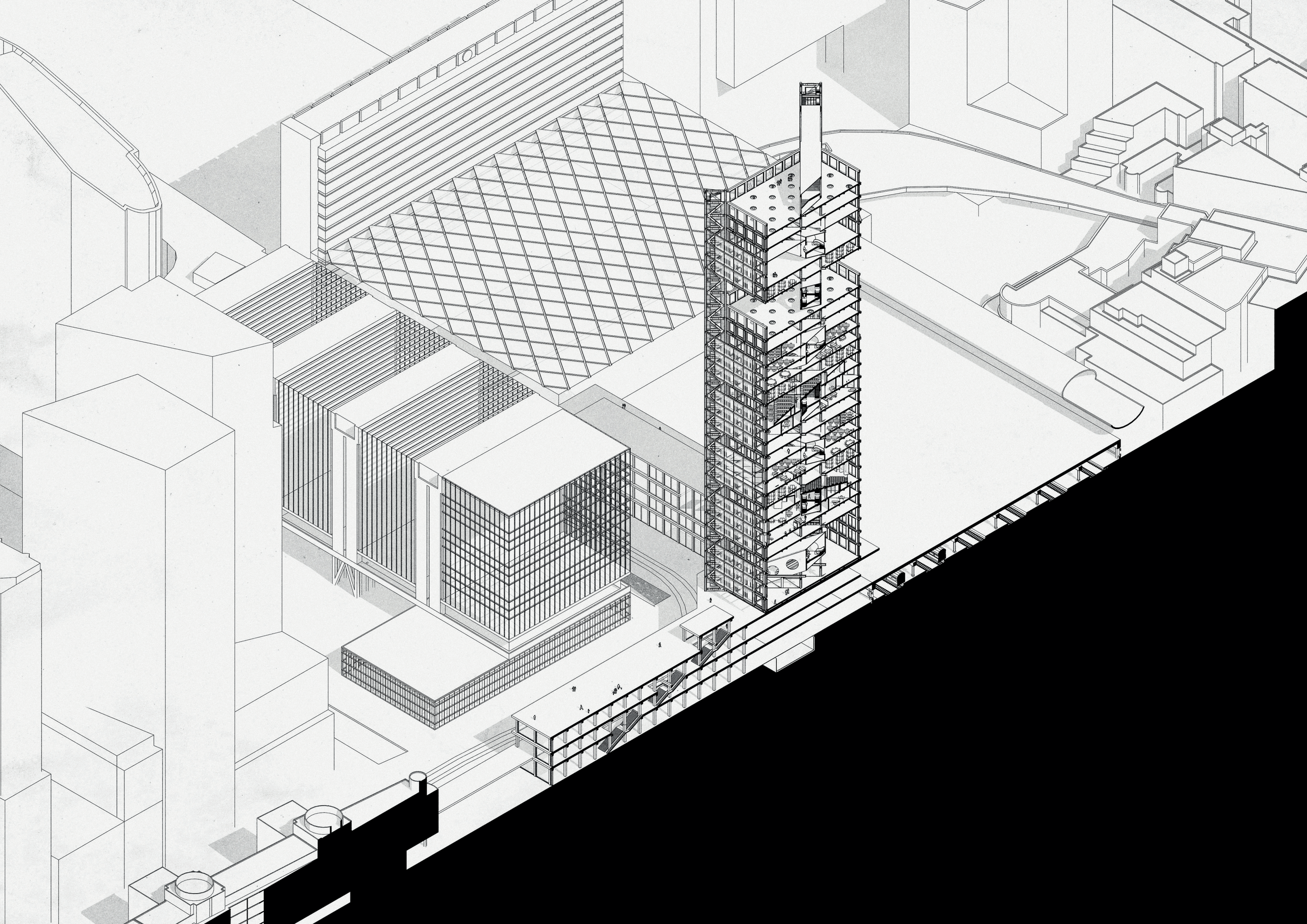


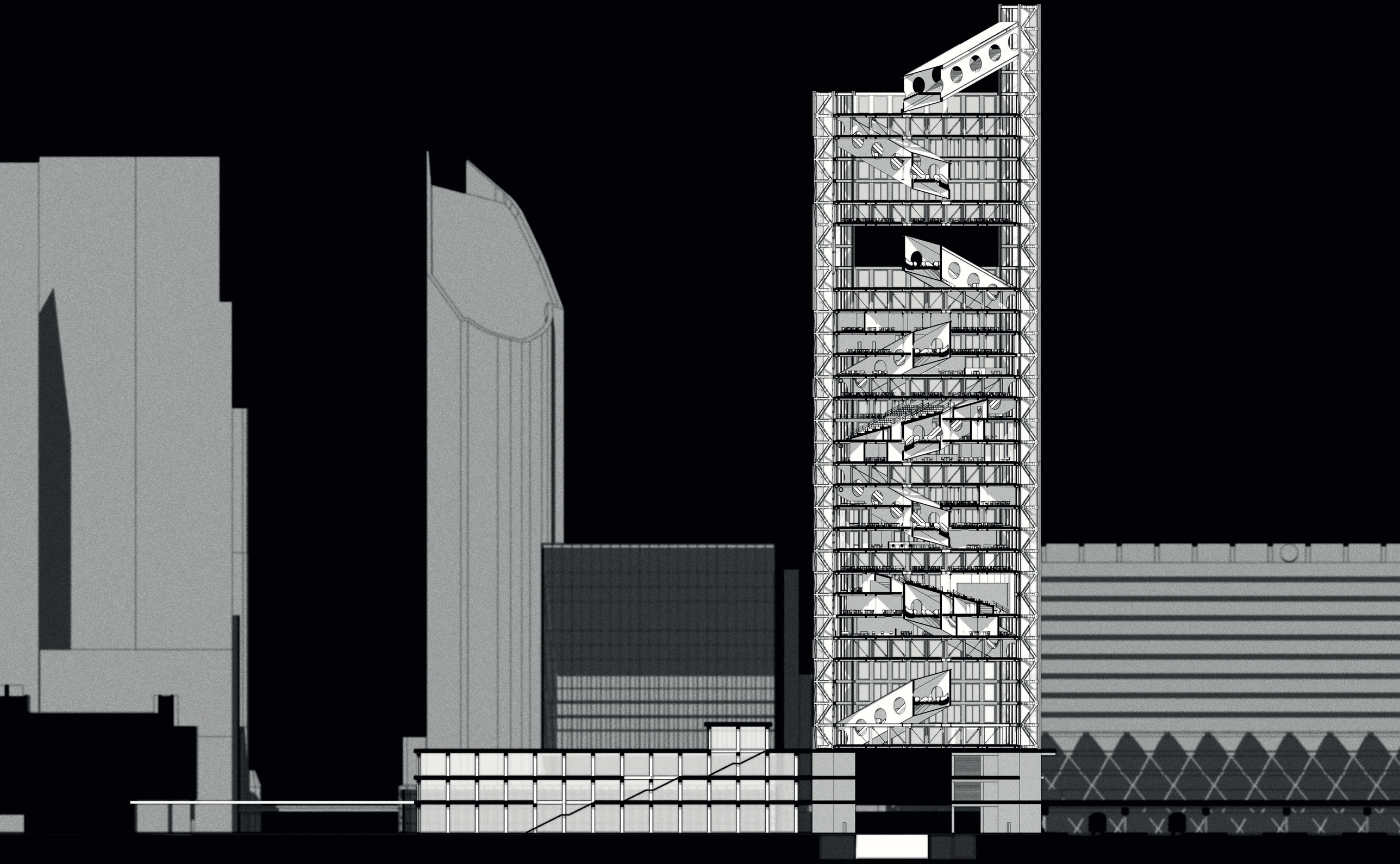


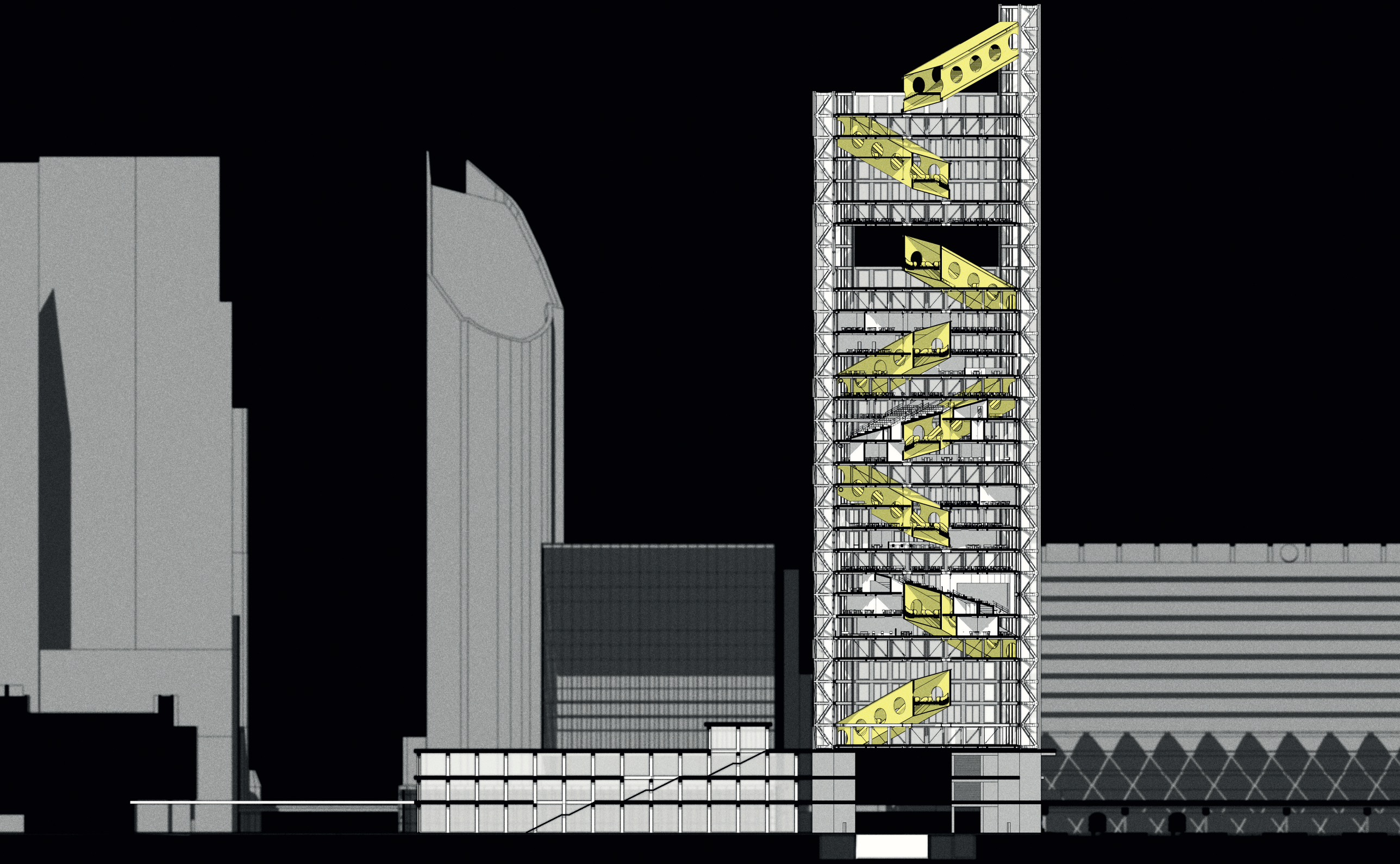


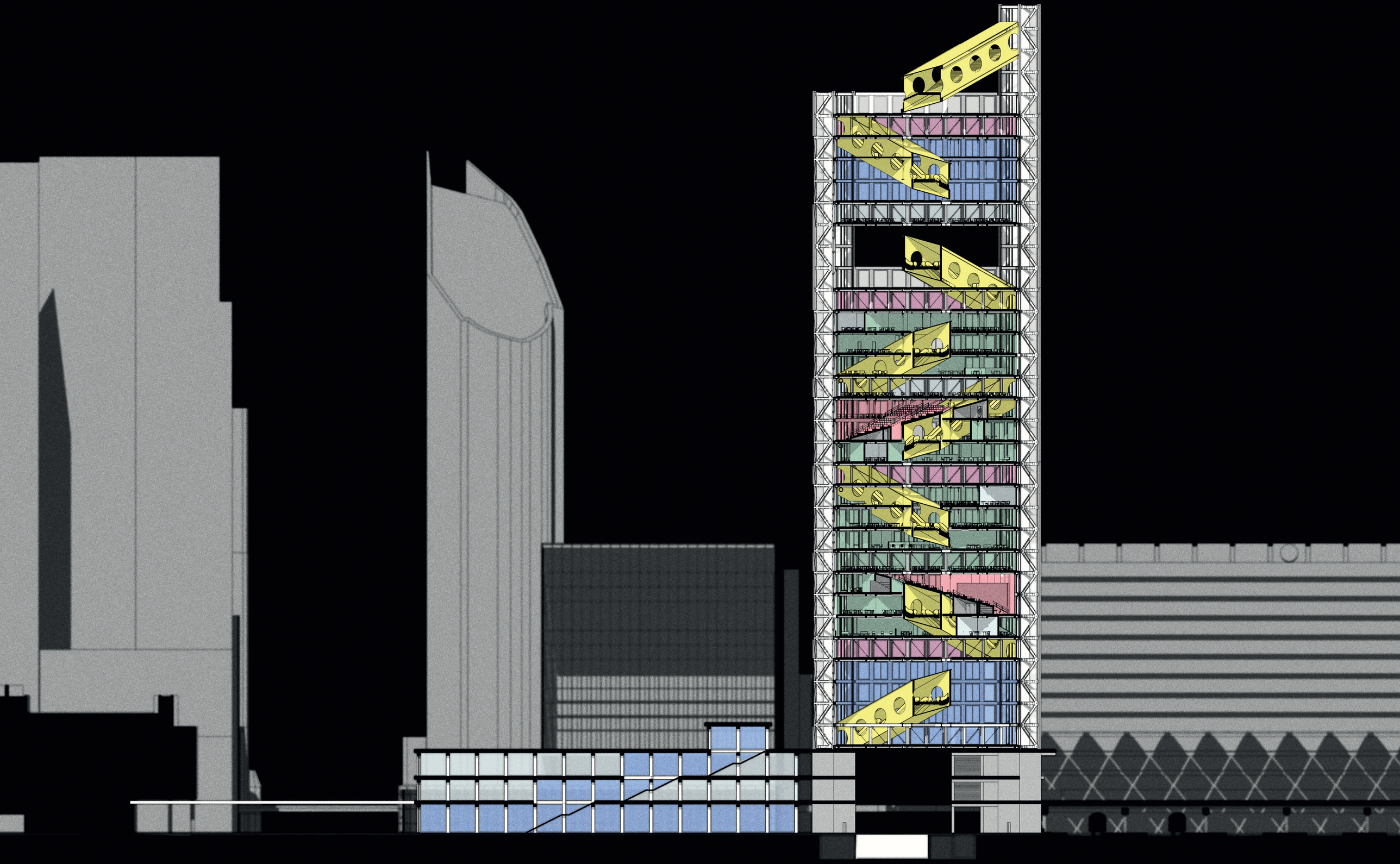






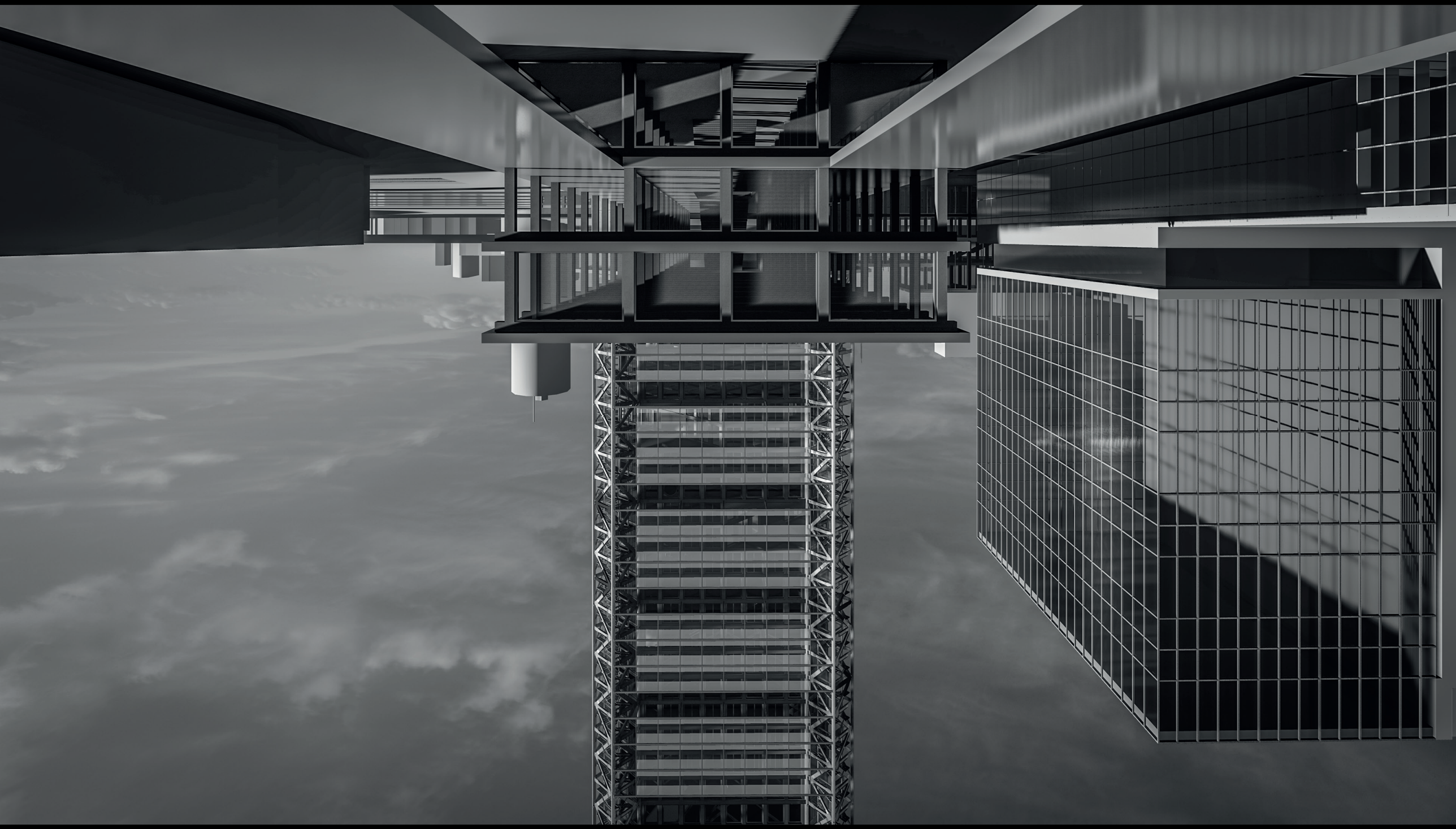






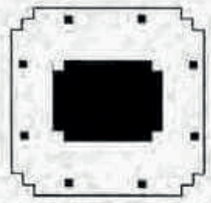
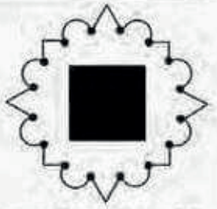
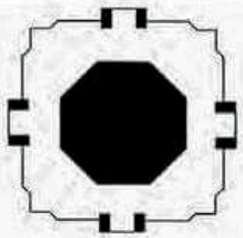
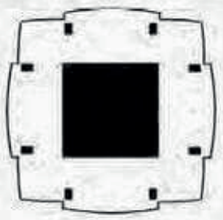
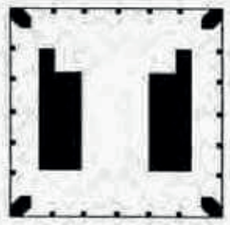


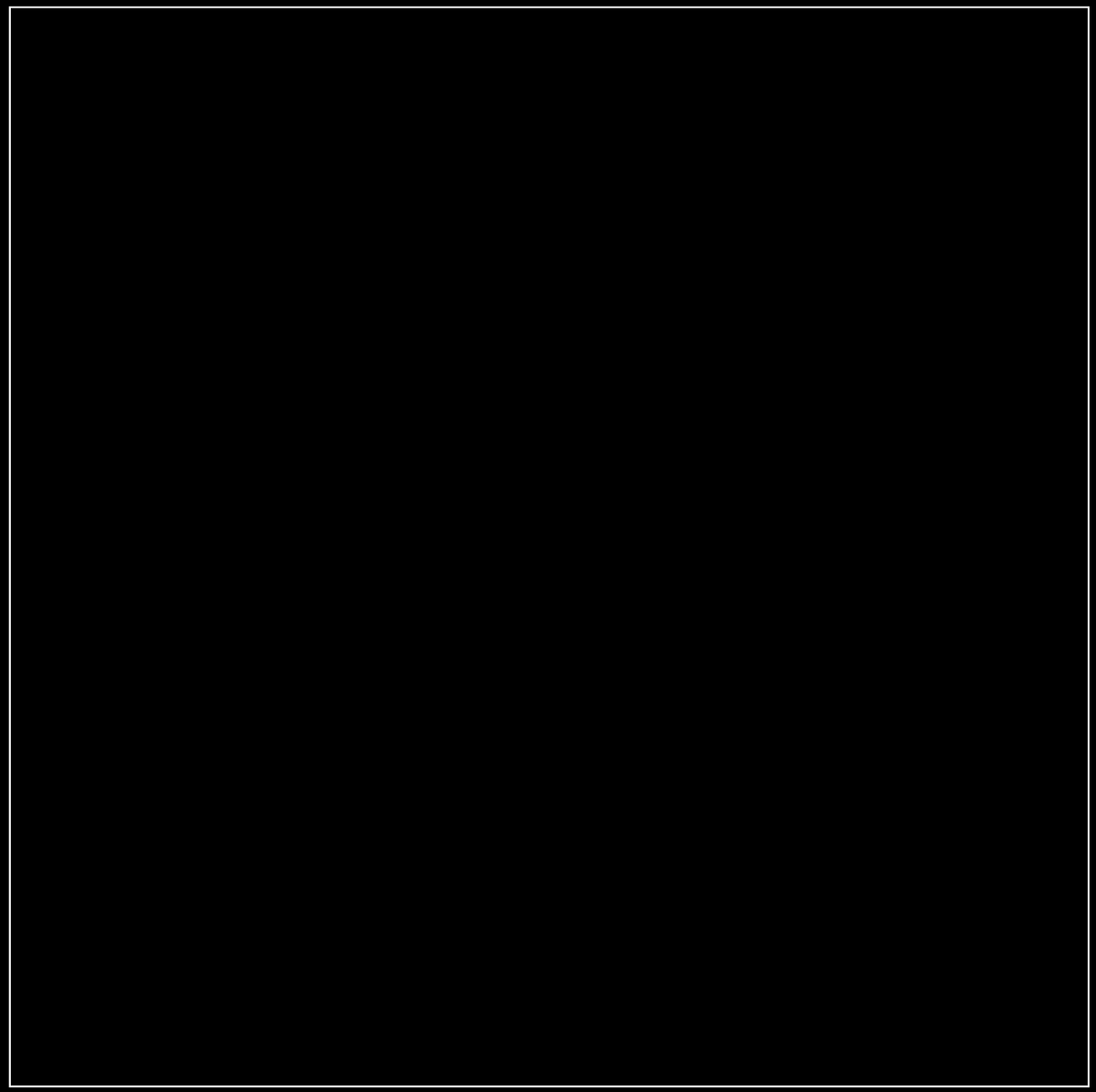


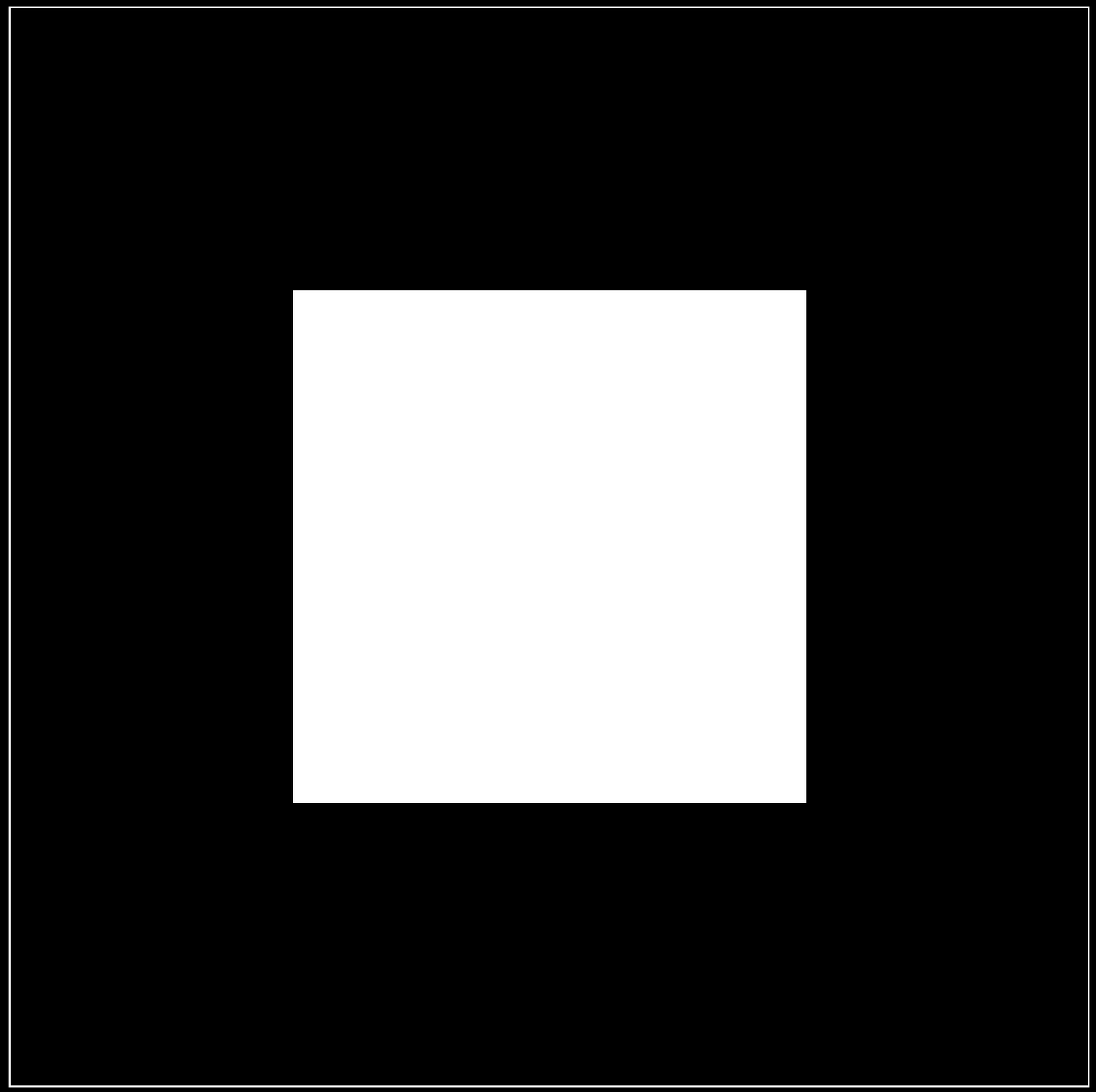


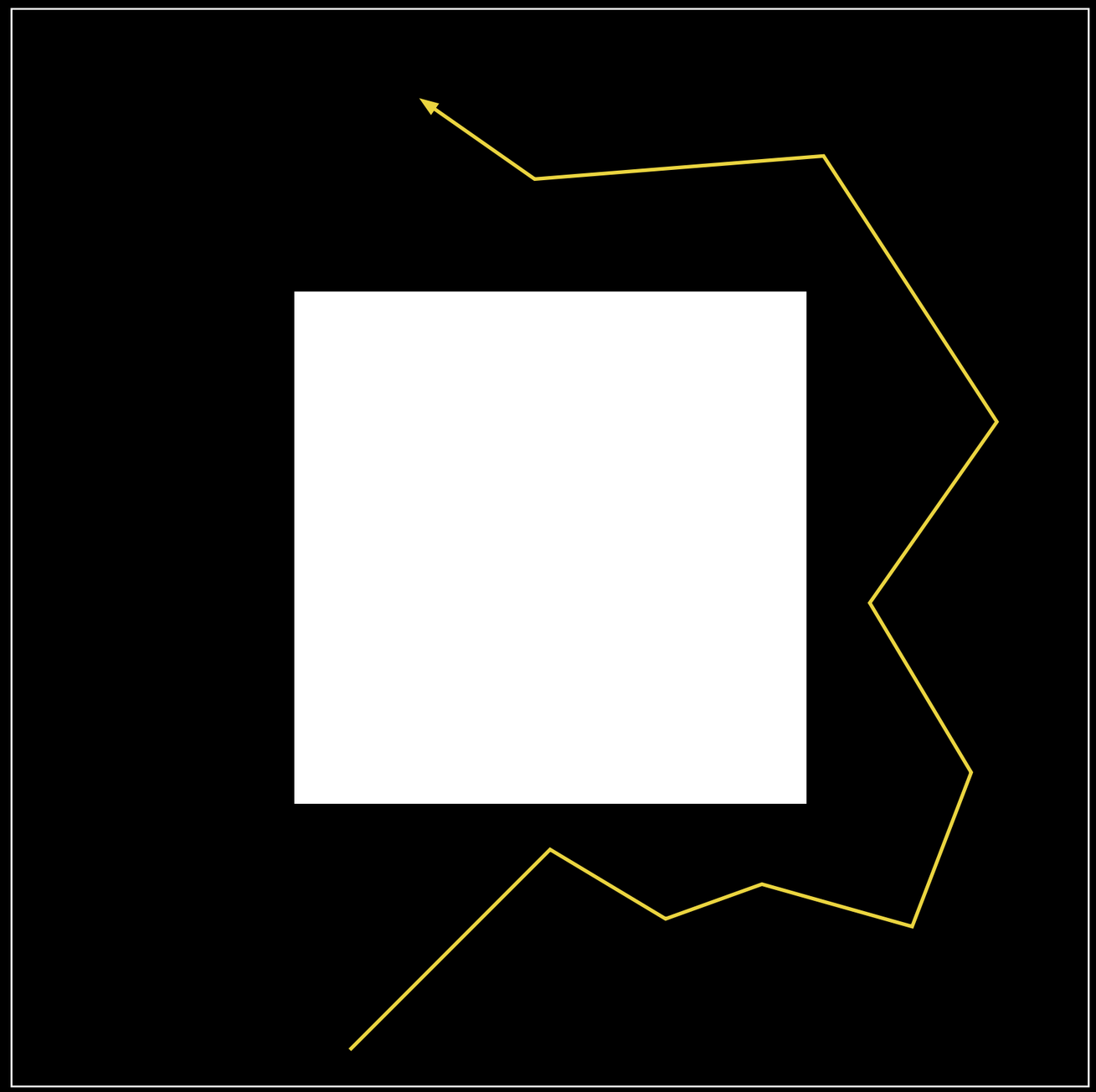


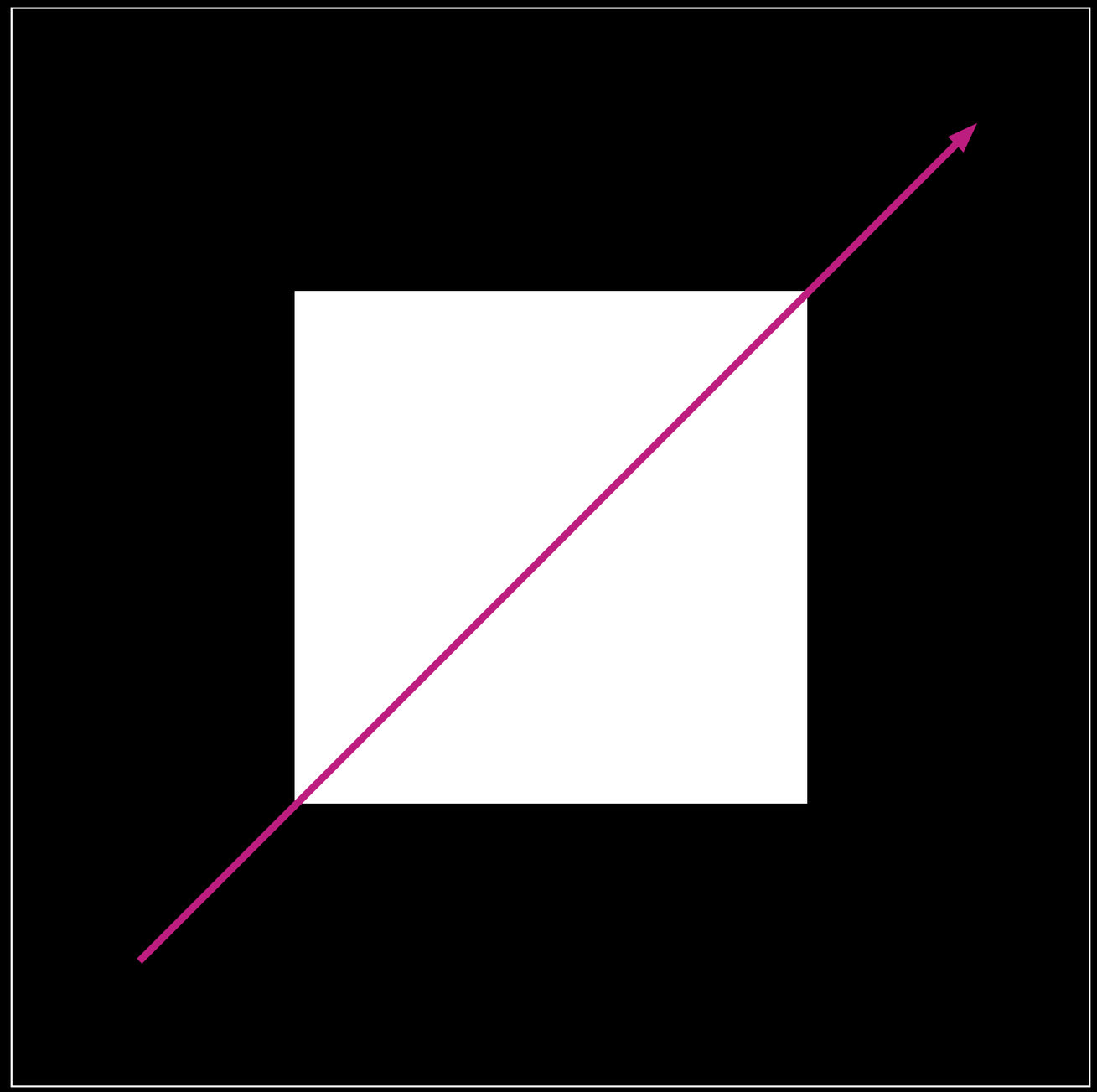
TOWER TYPOLOGY

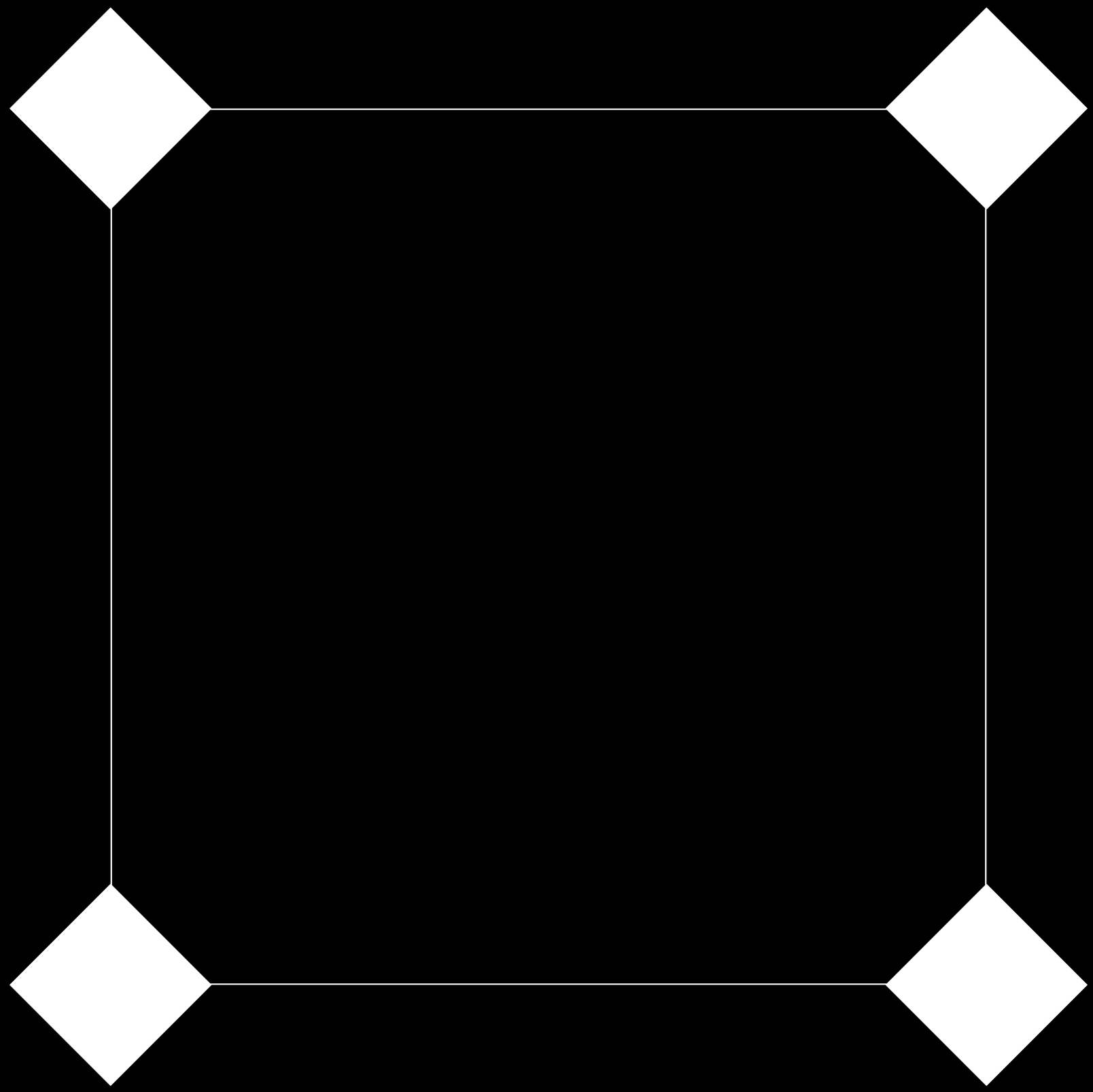
 Taipei 101 Tower, Taipei	 Shanghai World Financial Center, Shanghai	 Petronas Tower 1 and 2, Kuala Lumpur
 Sears Tower, Chicago	 Jin Mao Tower, Shanghai	 2 International Finance Centre, Hong Kong
 CITIC Plaza, Guanhgzhou	 Shun Hing Square, Shenzen	 Central Plaza, Hong Kong
 Bank of China Tower, Hong Kong		

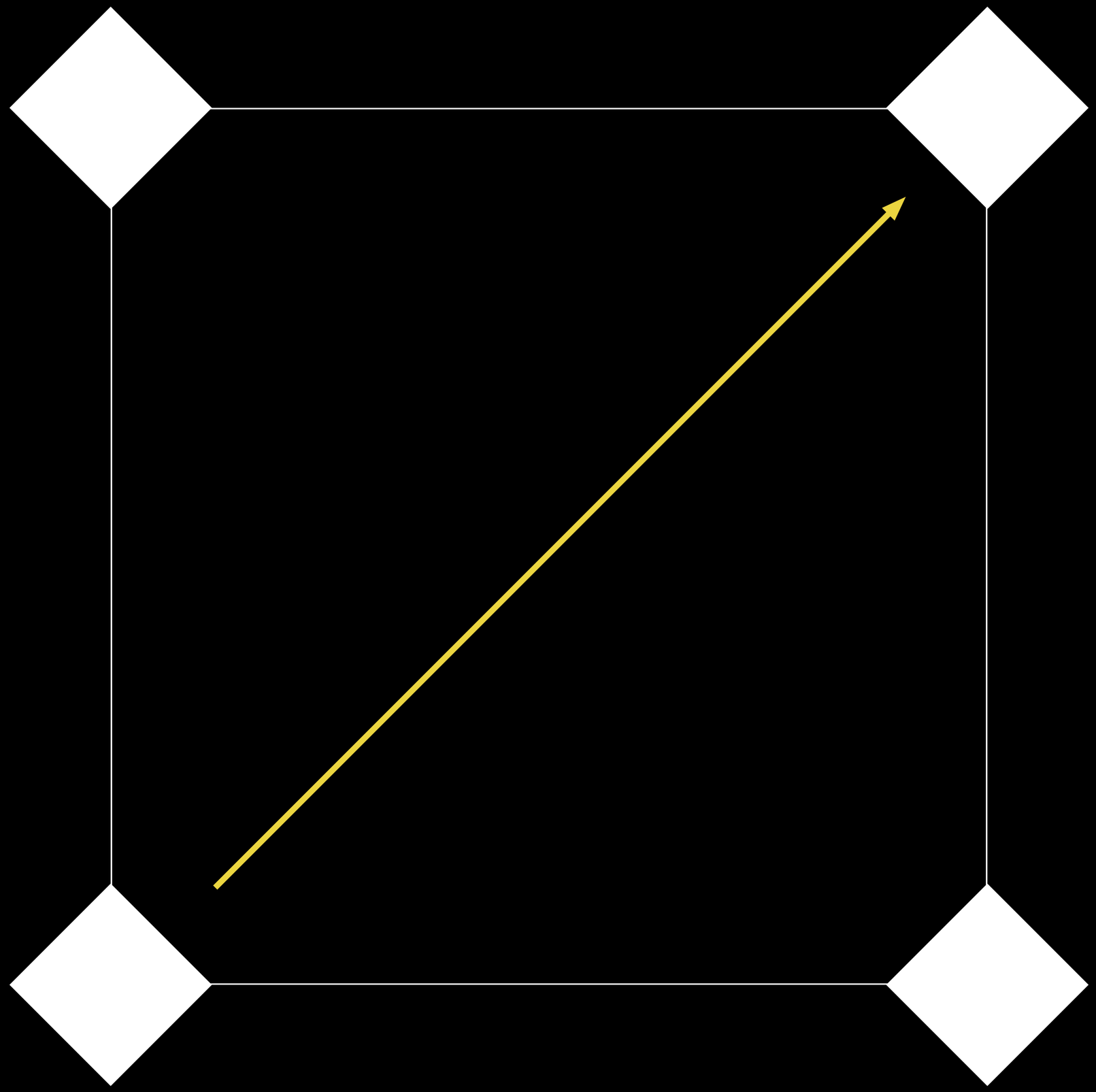


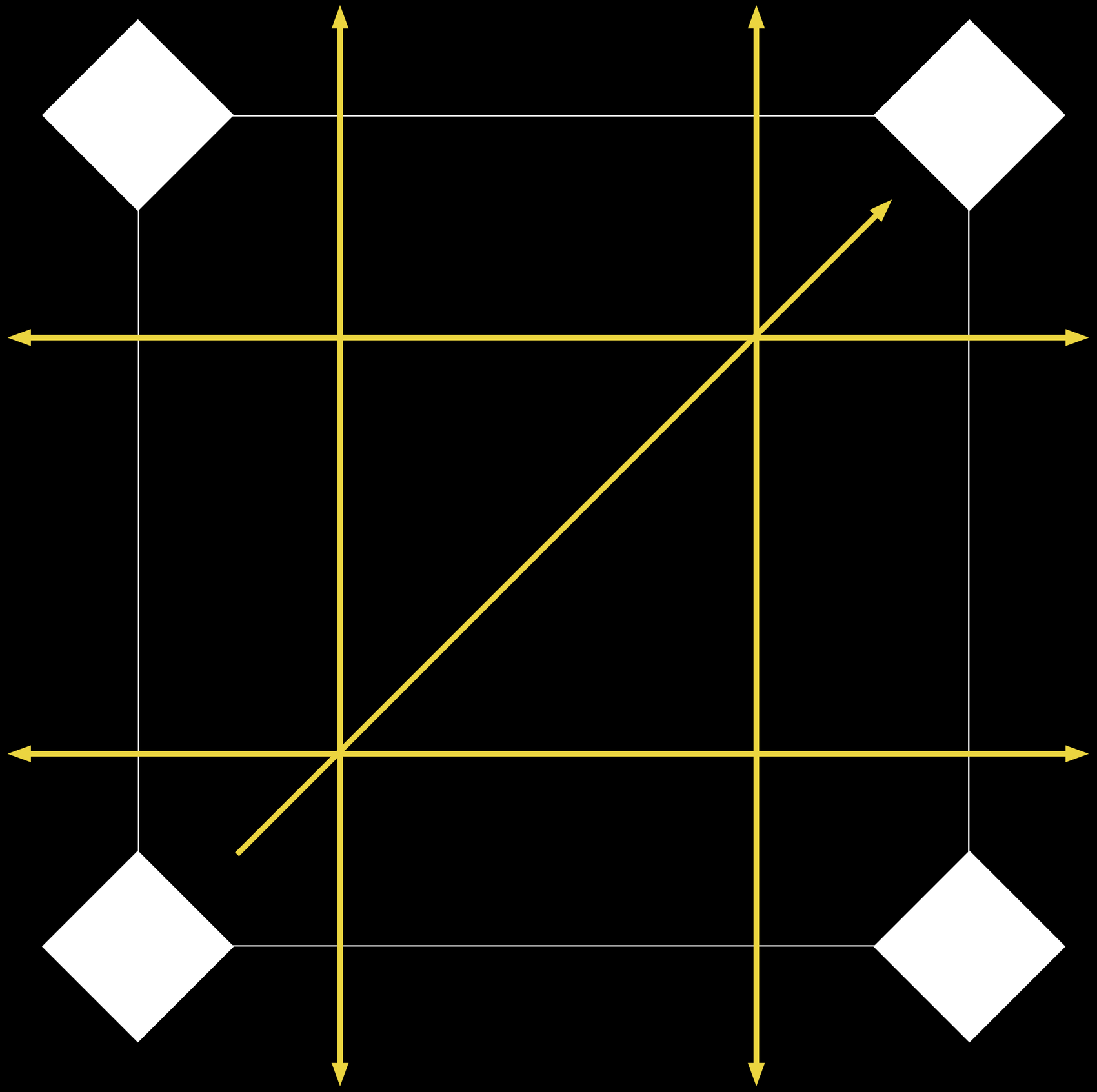




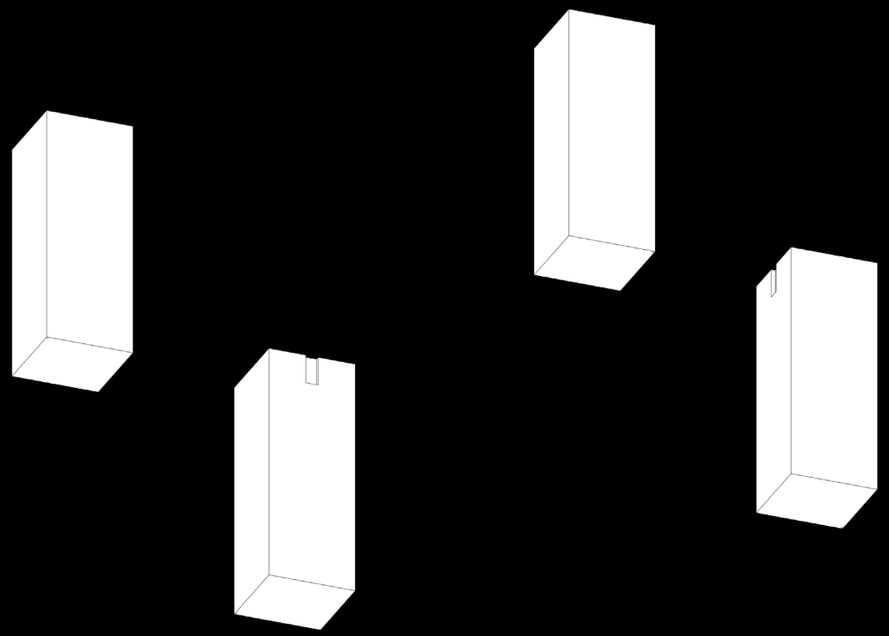


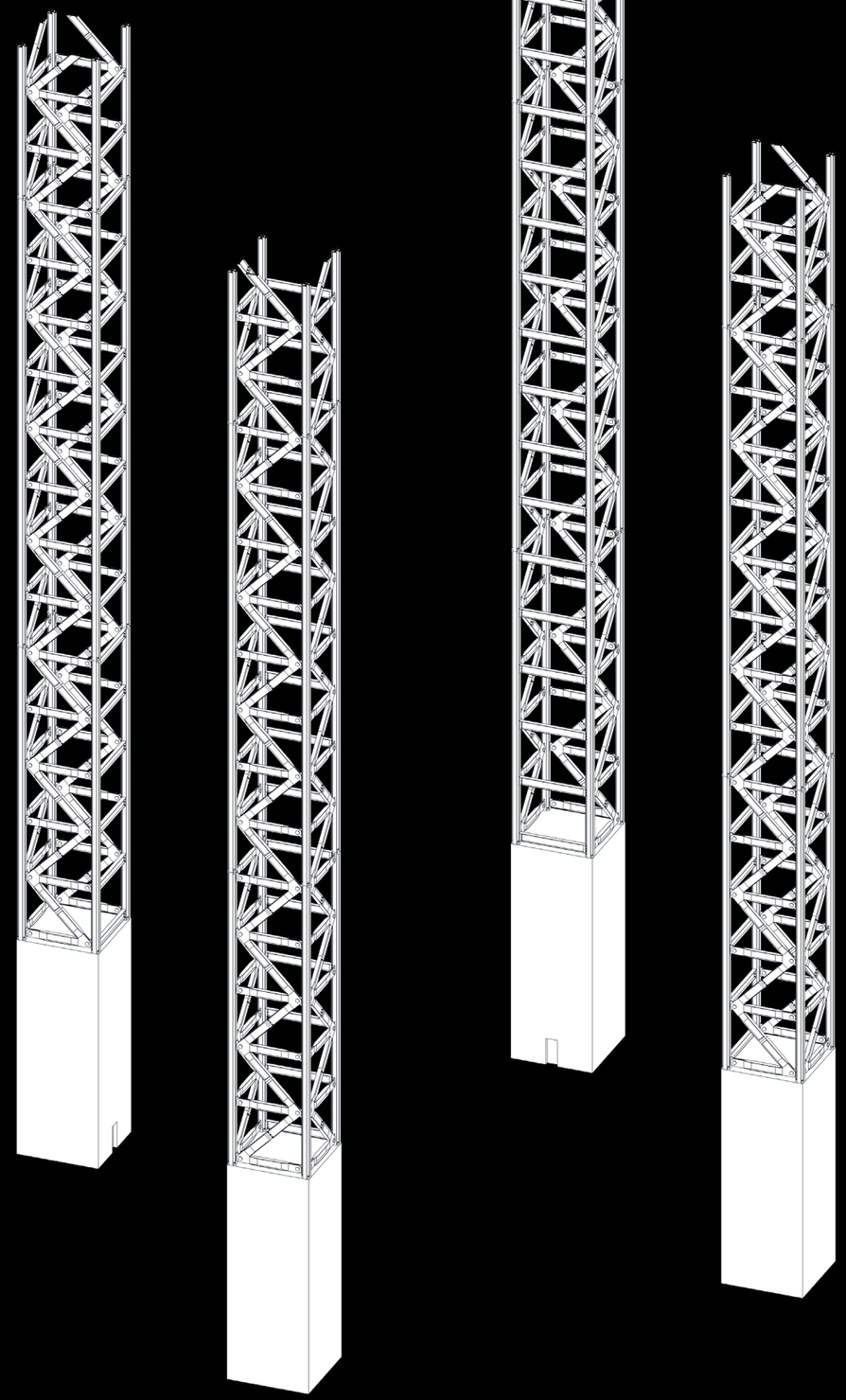


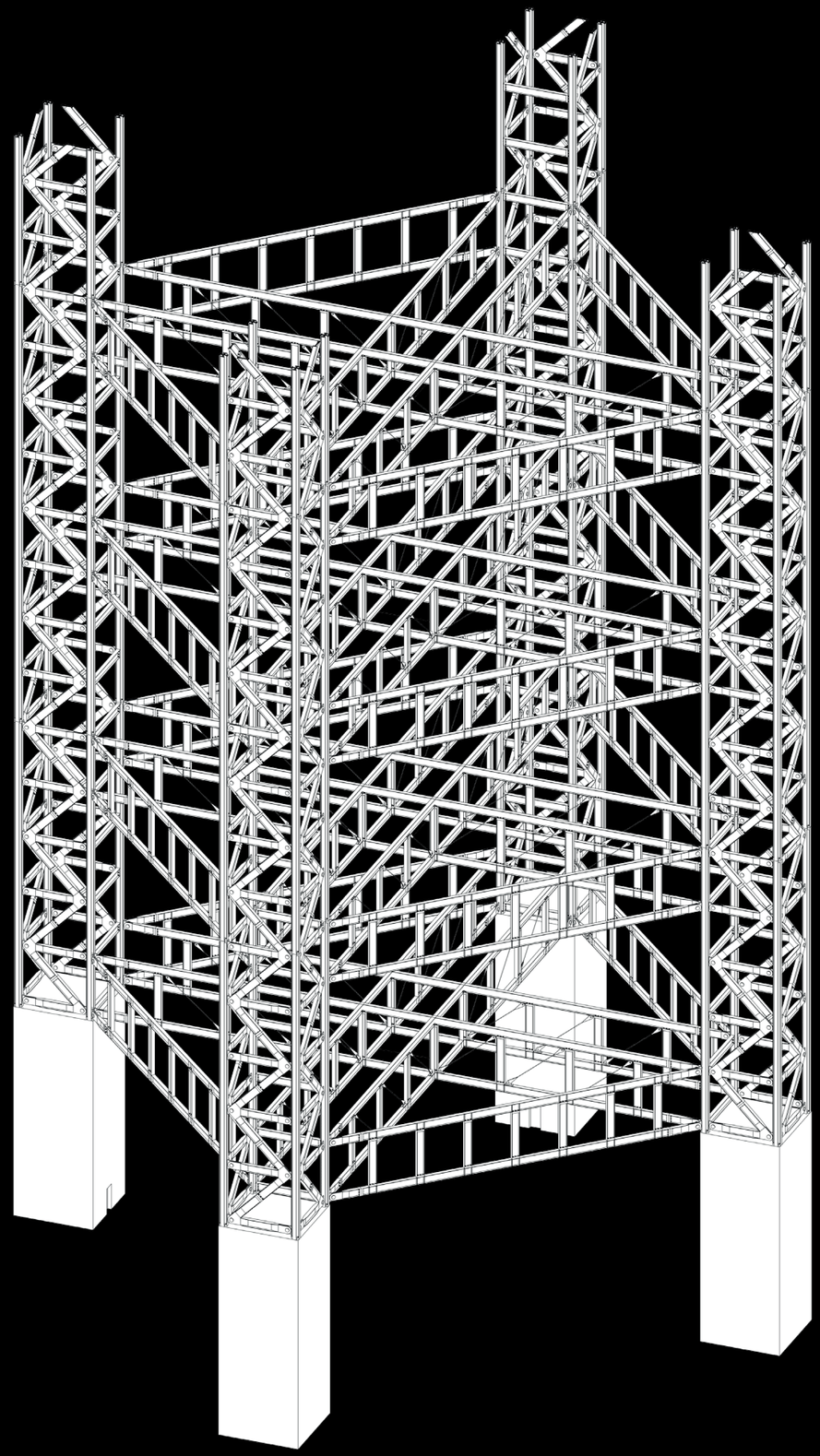


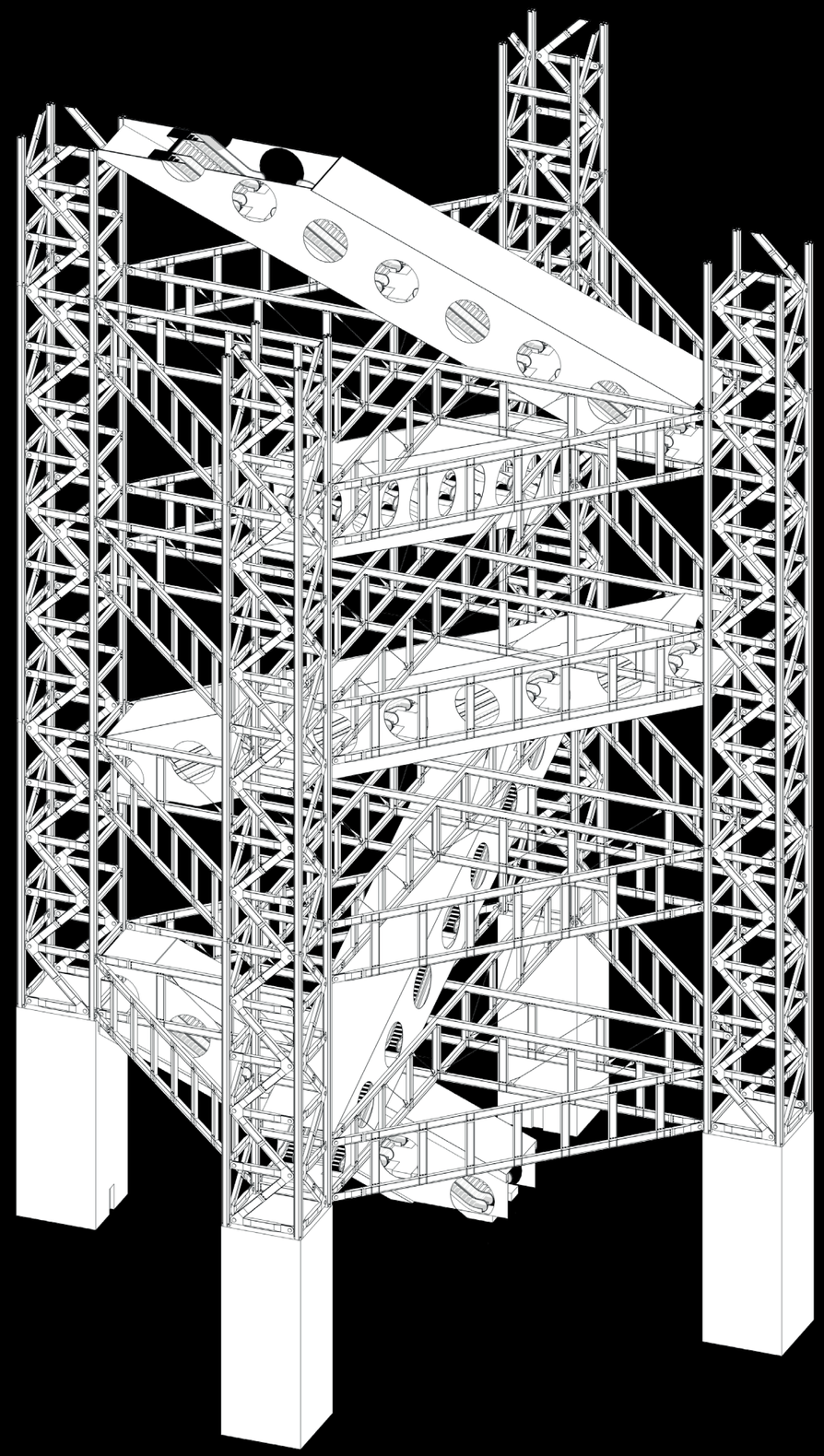


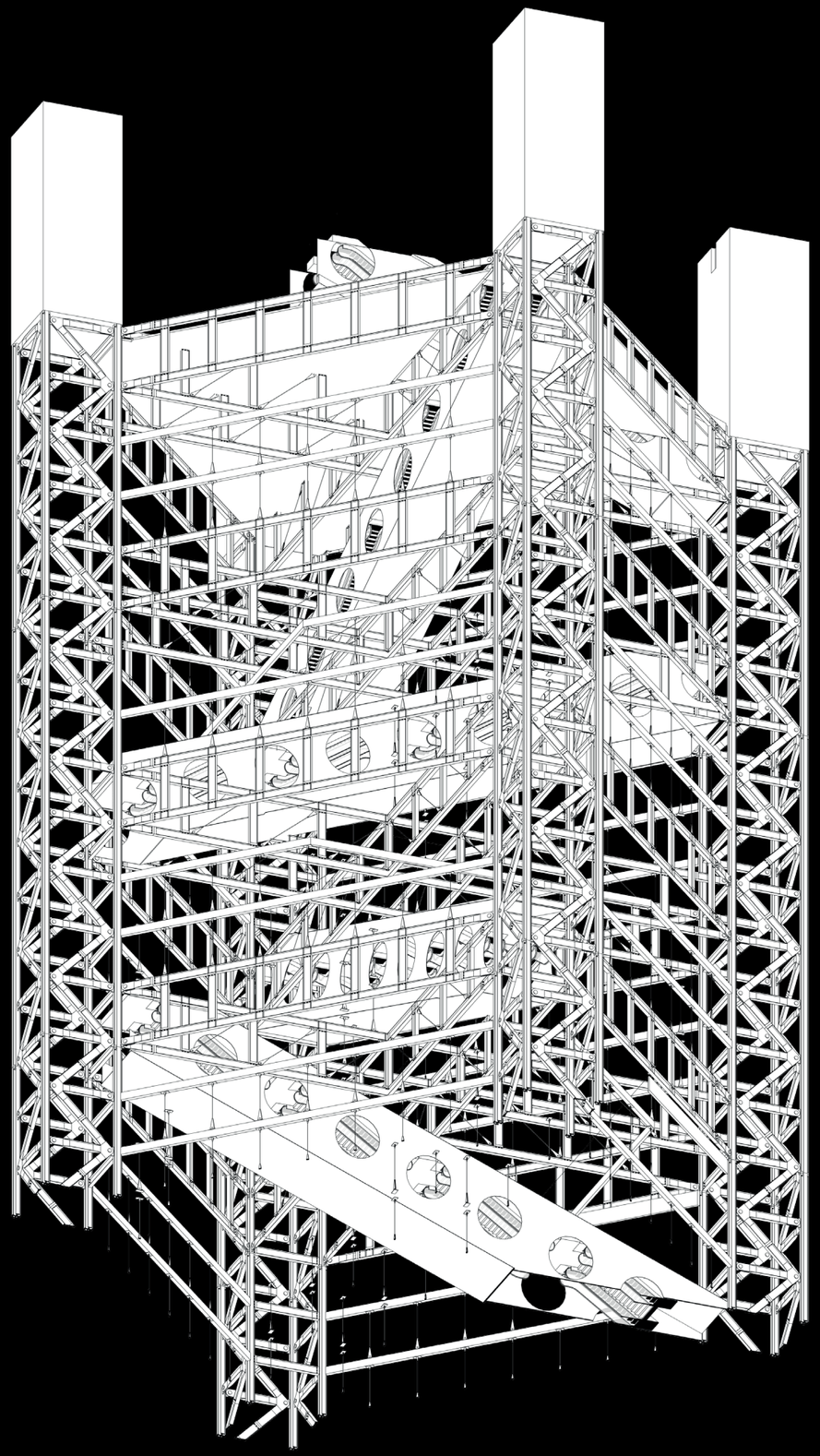
STRUCTURE

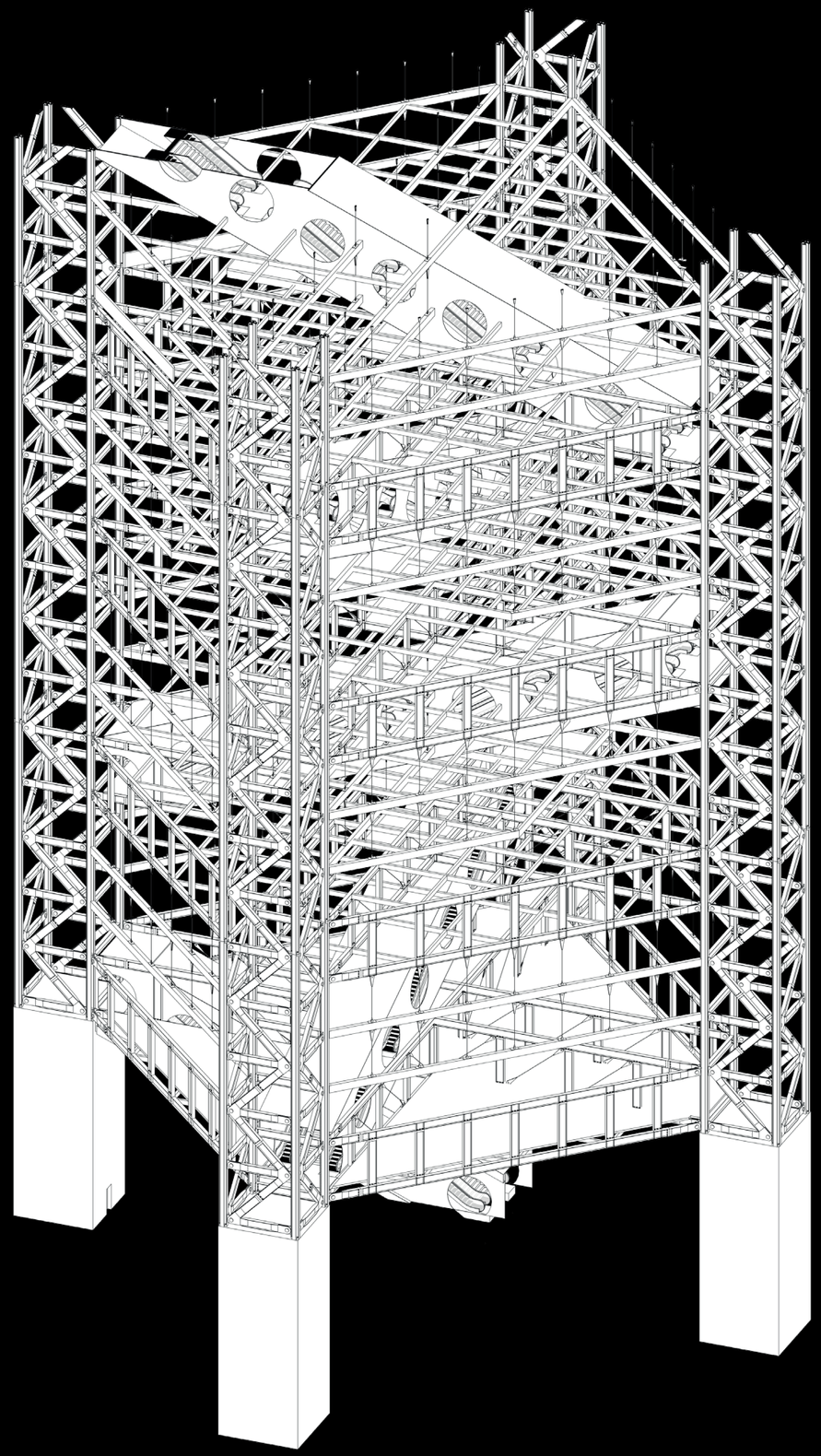


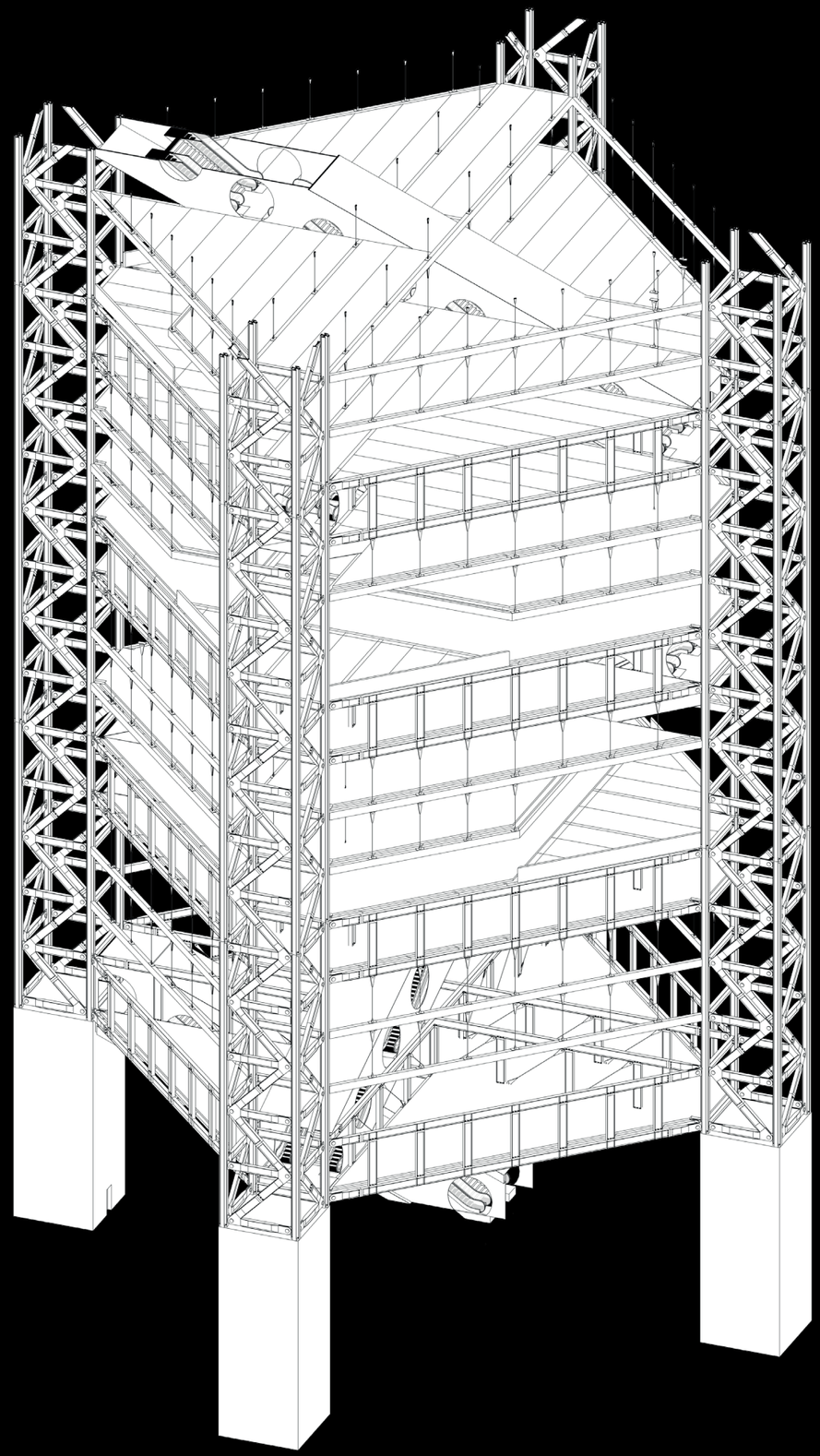


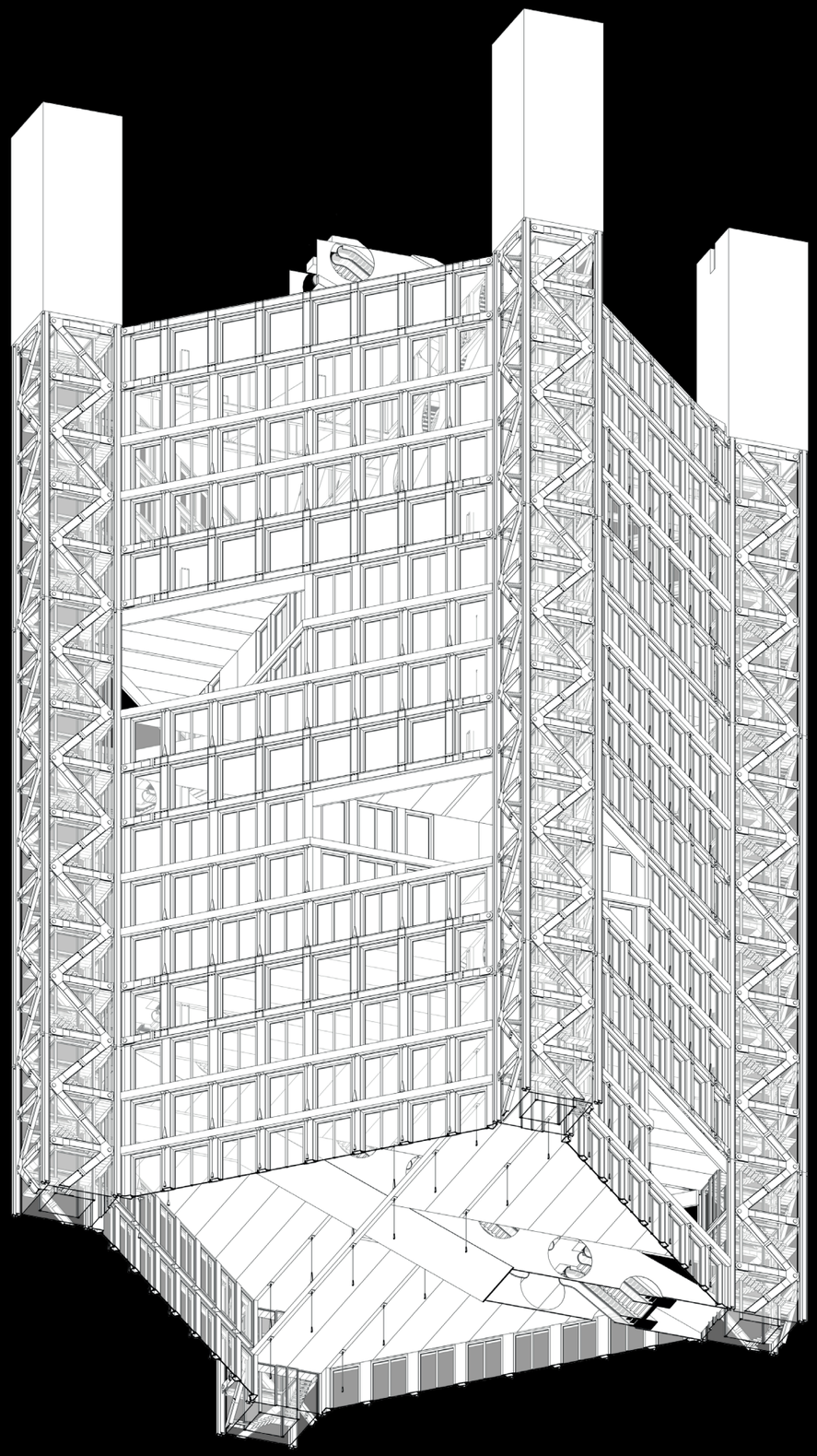


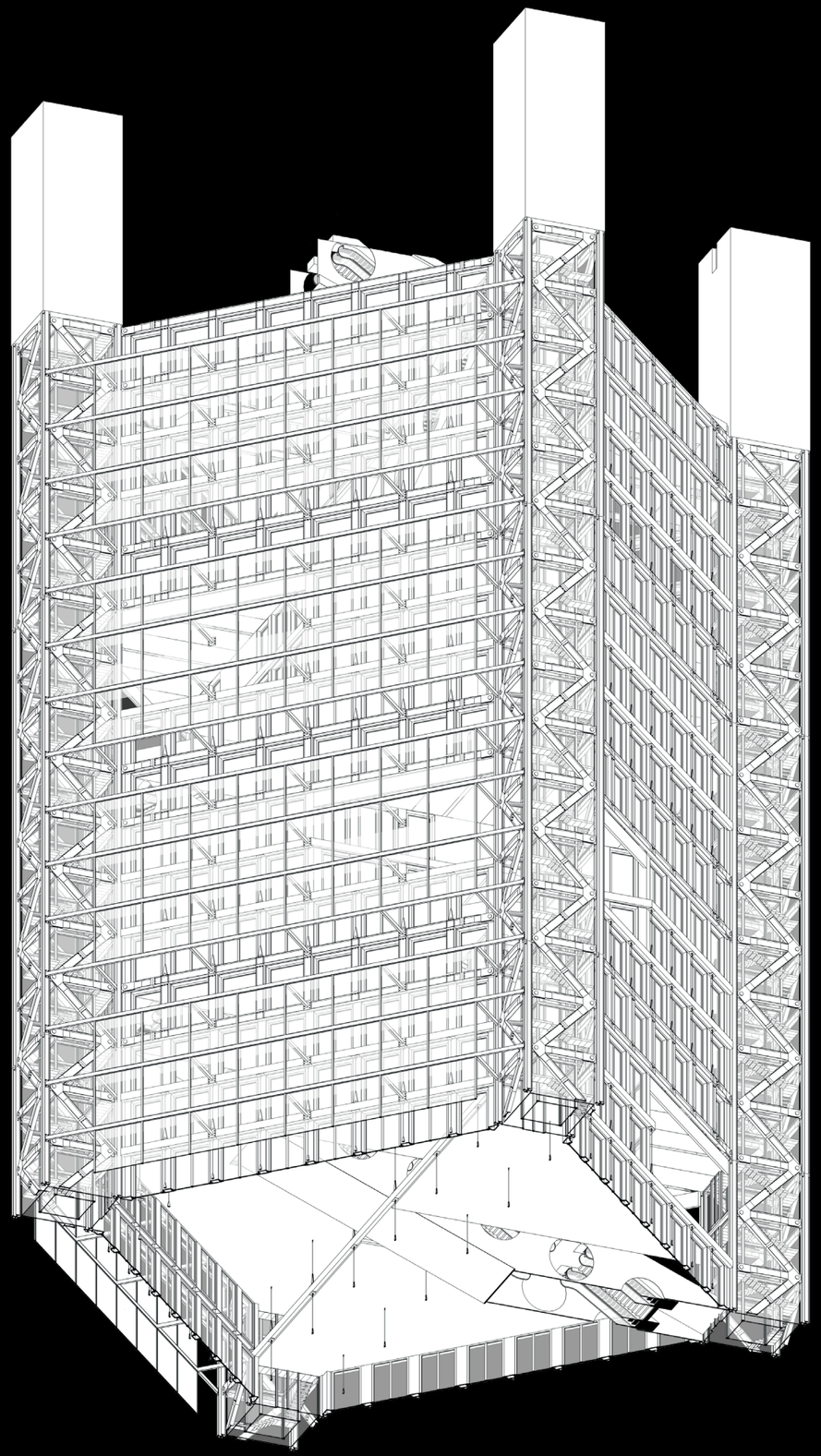


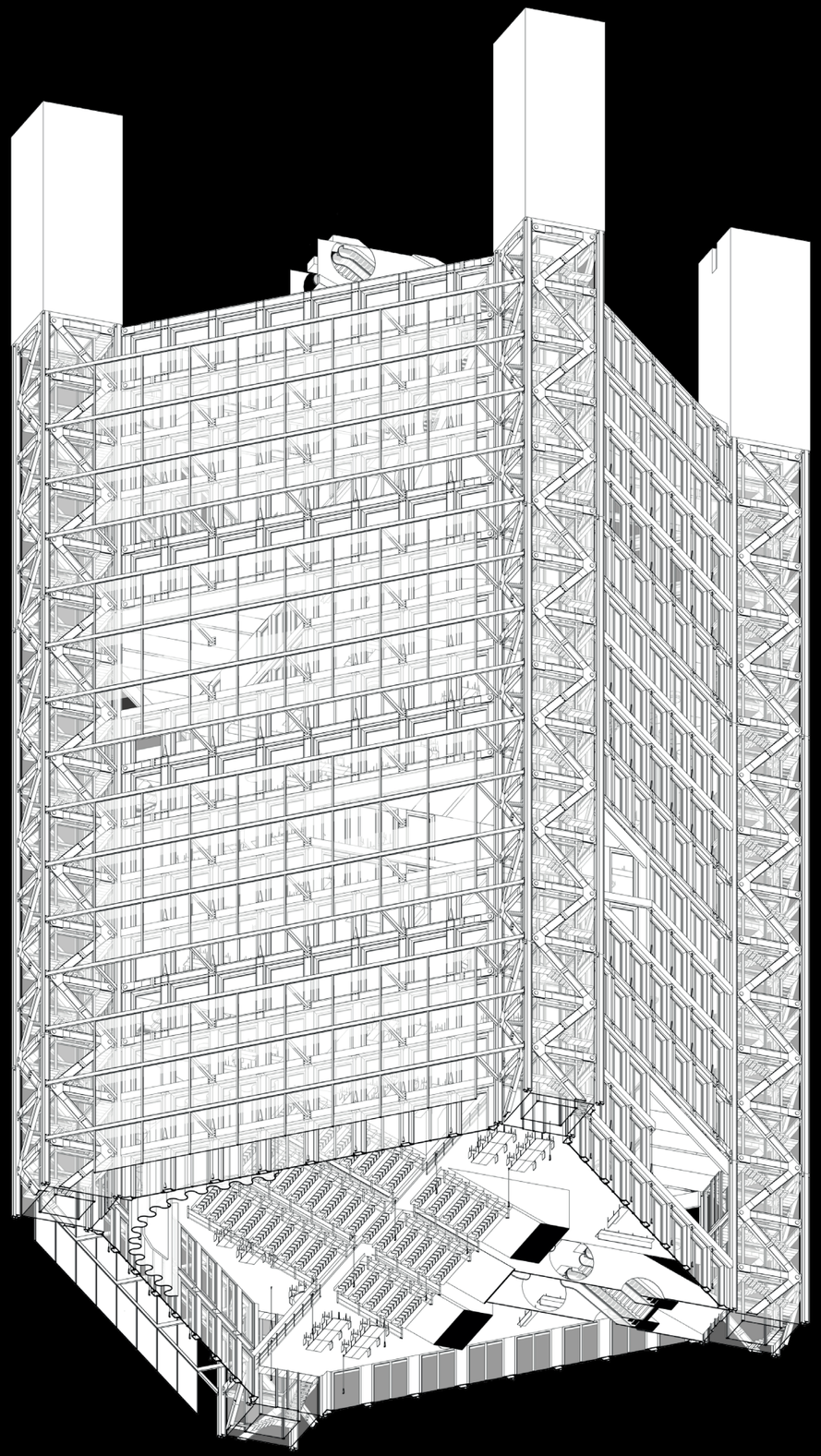








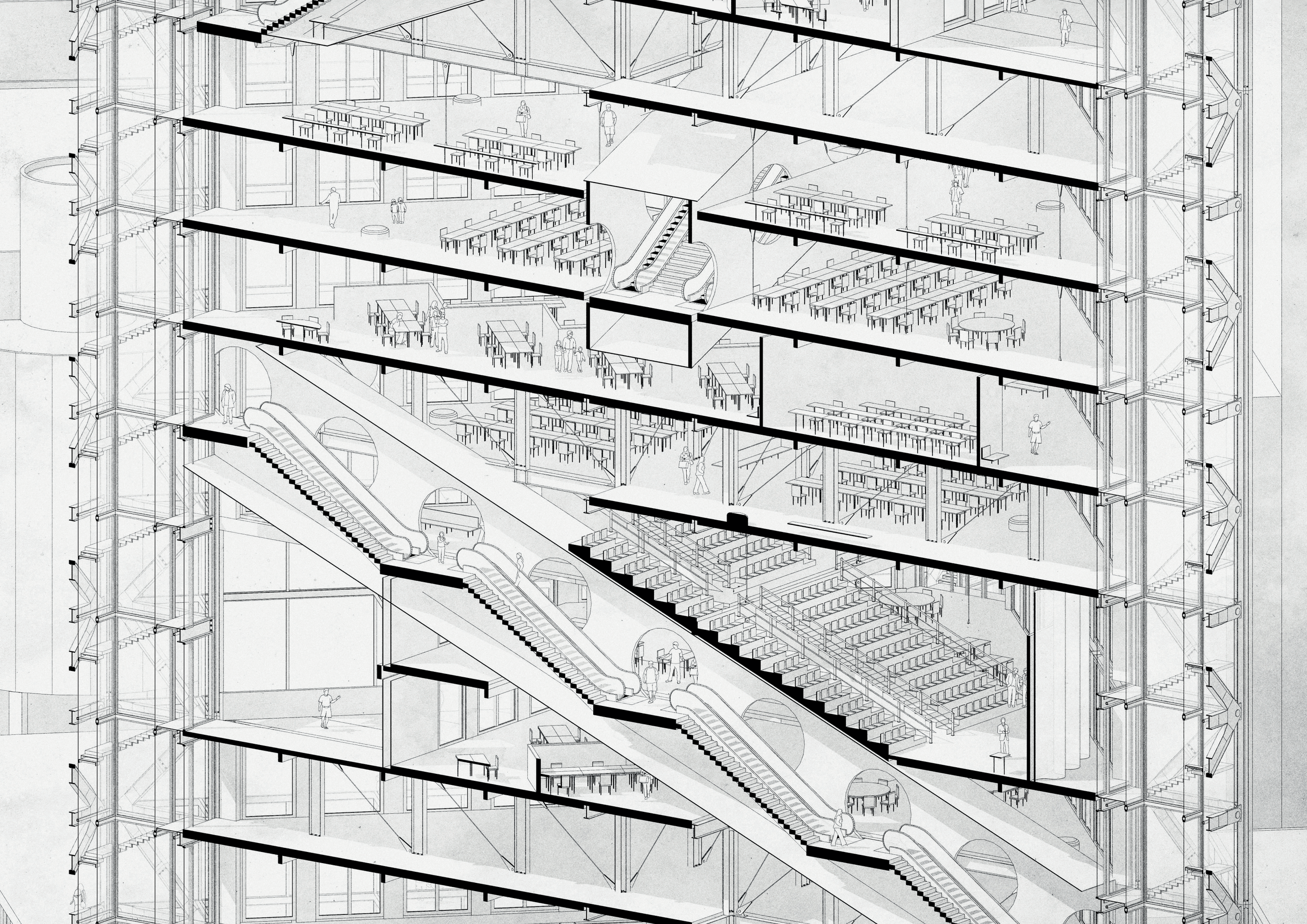


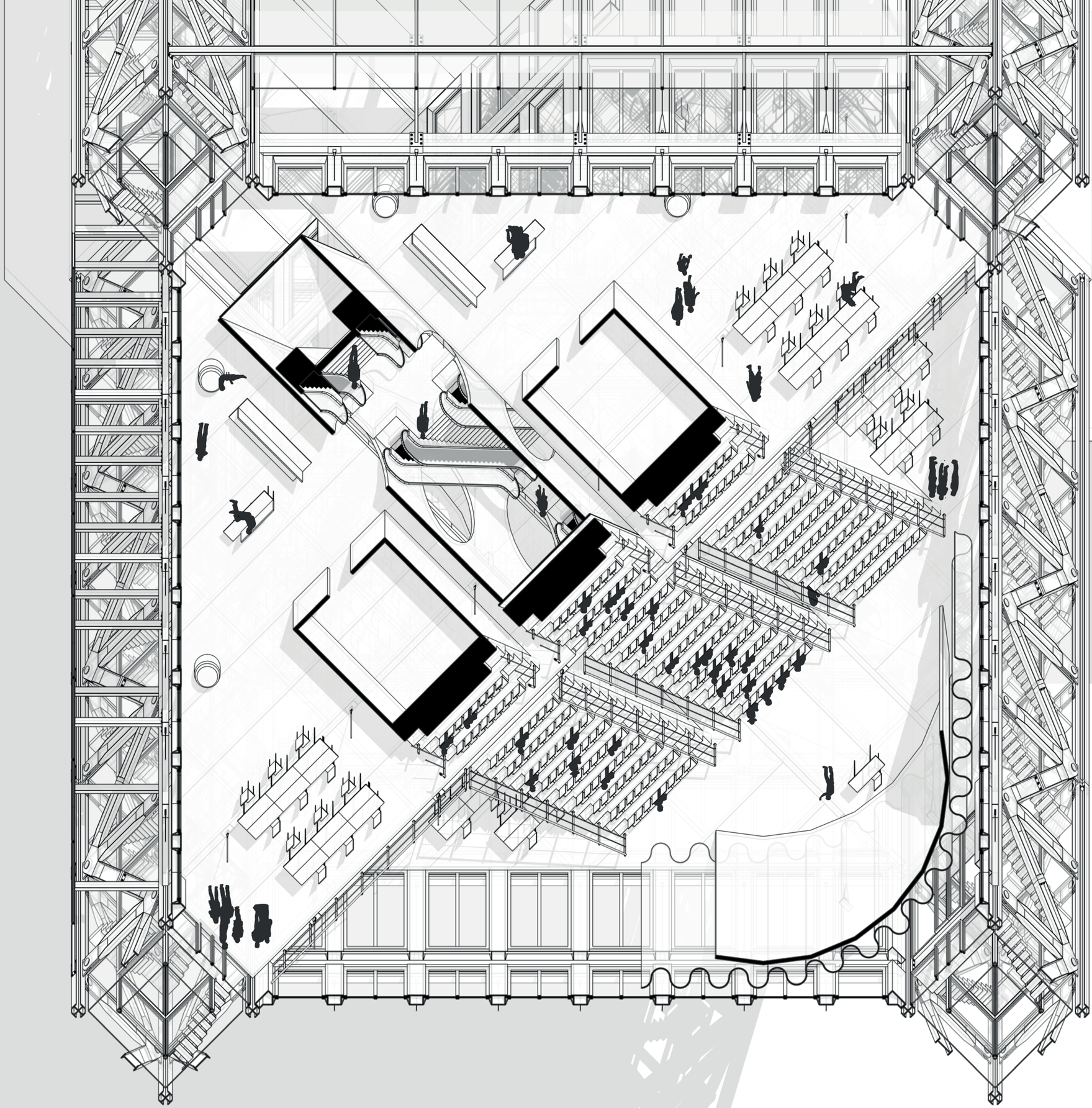


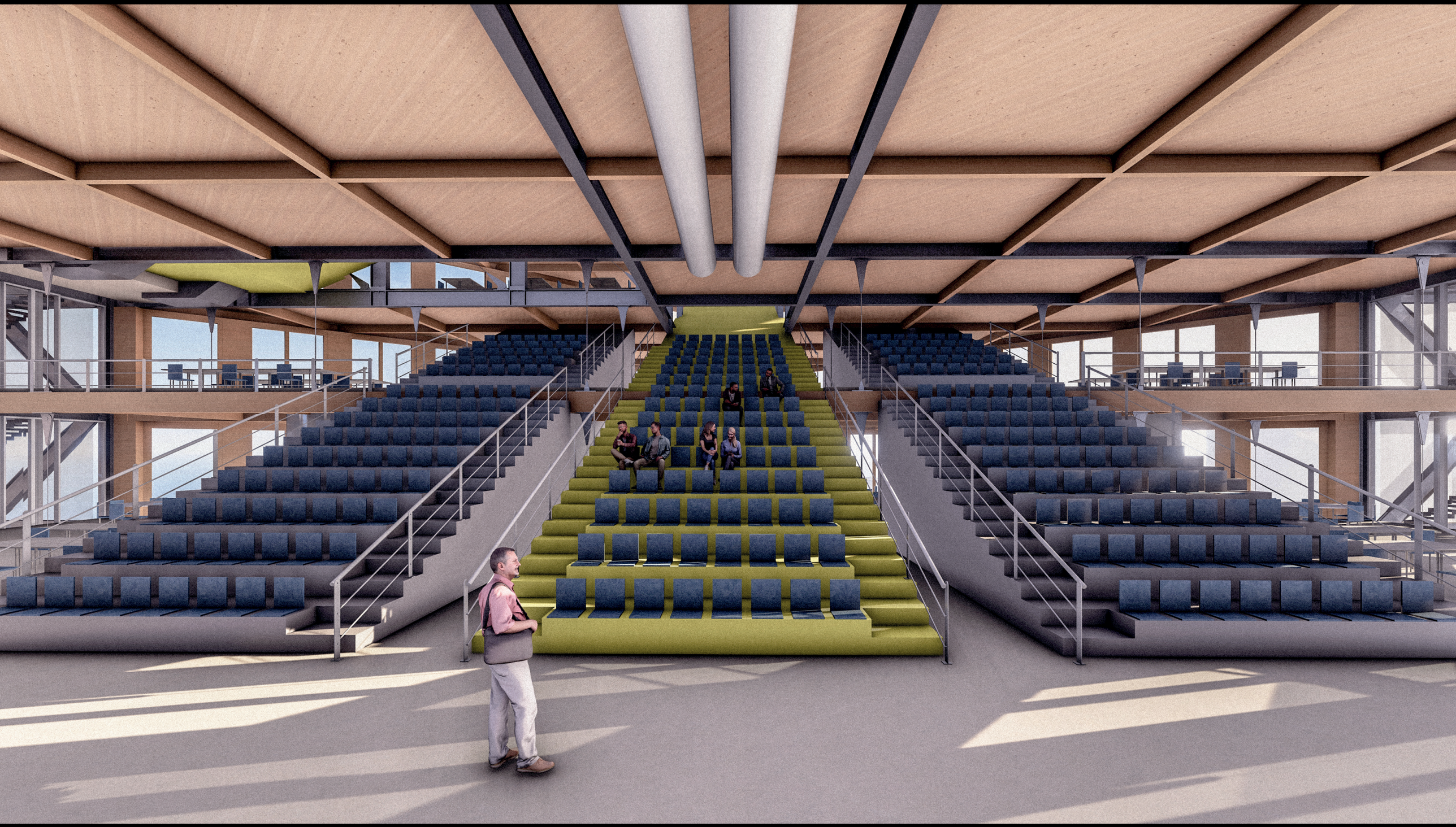
















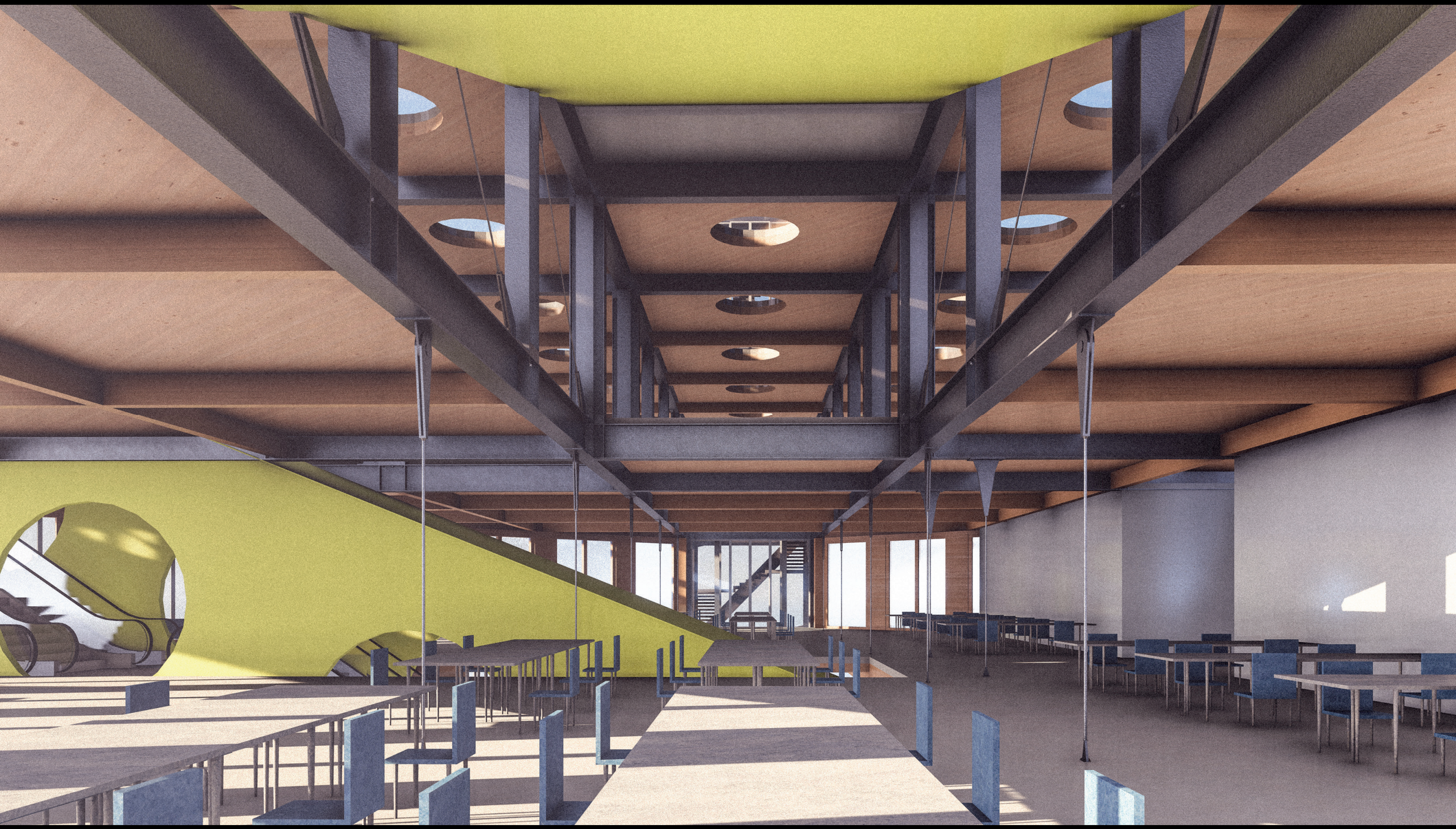






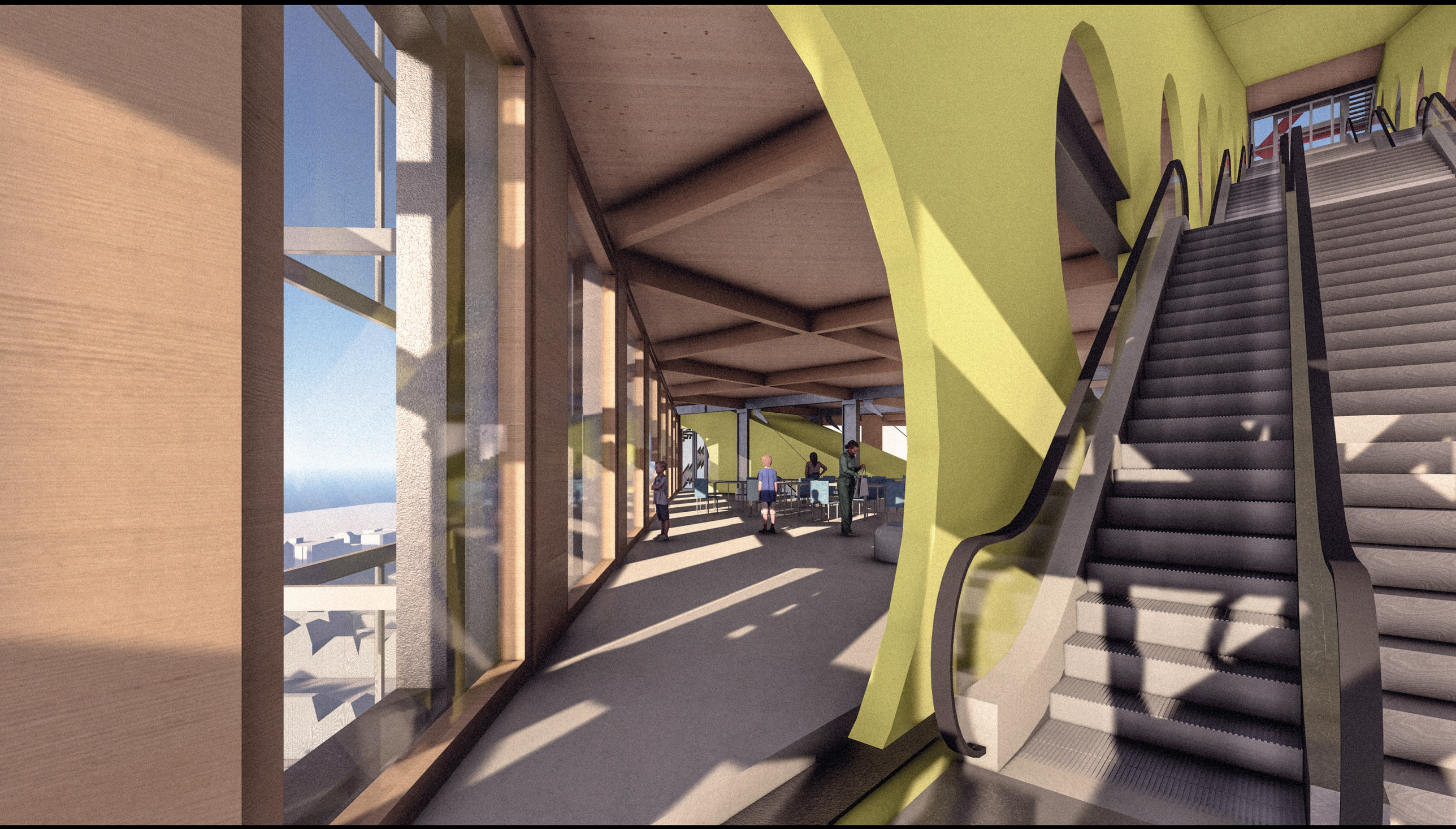












STRUCTURAL STORY
4 STEEL TRUSSES IN DIAGONAL DIRECTION L=47000MM
INCLUDING TENSION RODS FOR EXTRA LONG SPAN
4 STEEL VIERENDEEL TRUSSES IN FACADES L=50000MM
SILENT WORKING SPACES

FACADE OPENING
TIMBER WINDOW FRAMES 140MM
TRIPLE GLAZED WINDOWS T= 44MM AIRSPACE T= 14MM

SUSPENDED STORIES
HANGING ON STRUCTURAL FLOORS USING TENSION CABLES

CLOSED FACADE ELEMENT
FINISHING PLYWOOD T= 22MM
VAPOR BARRIER
WOODFIBER INSULATION 2*200MM
TIMBER STRUCTURAL ELEMENTS 600*400MM
TIMBER ADJUSTING FRAME
WATERTIGHT AIR BARRIER
PLYWOOD T= 22MM
METAL SHEET T= 2MM

ESCALATOR TUBE
LIGHTWEIGHT PERFORATED TIMBER STRUCTURE
ELEVATOR V=0,75M/S
CAPACITY= 13.500 PEOPLE/H
MAXIMAL TRAVELING TIME: 9MIN

TECHNICAL STORY
TECHNICAL FLOOR CONTAINING AIR TREATMENT SYSTEMS (EVERY 8 FLOORS)

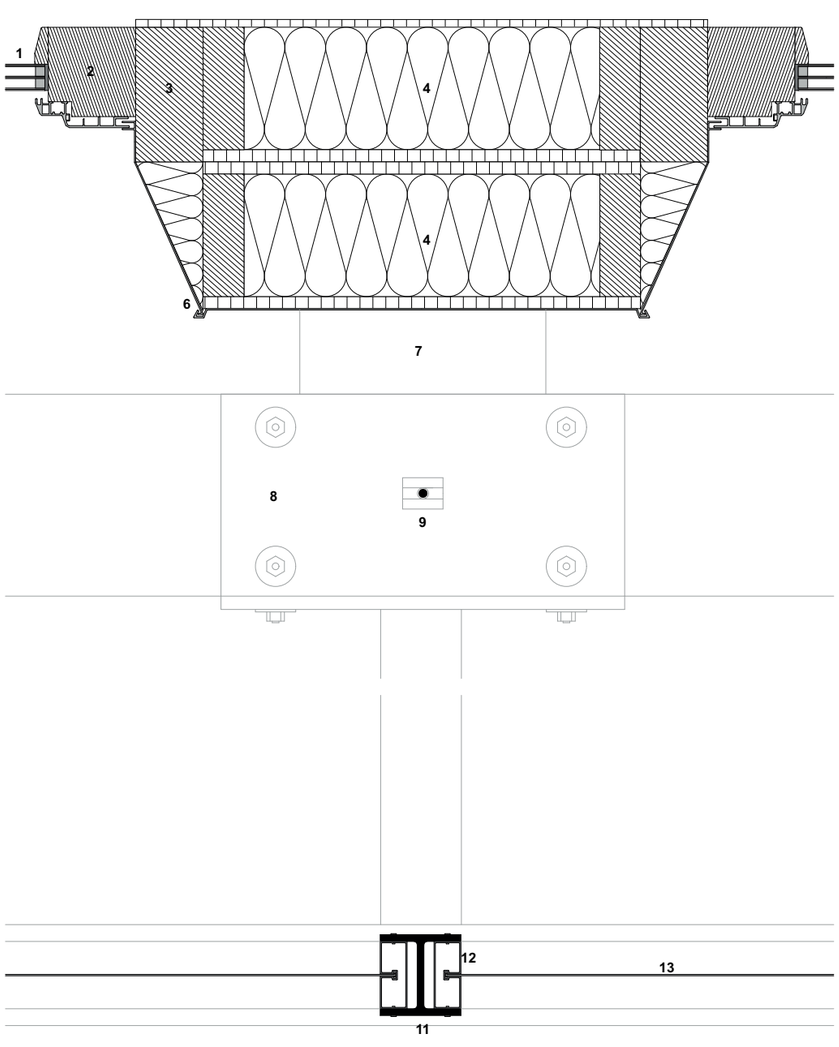
FLOORING
CASTED FINISHING FLOOR T= 15MM
FERMACELL DRY SCREED PANELS T= 10MM
FERMACELL FLOOR HEATING SYSTEM T= 25MM
PE FOIL
FERMACELL HONEYCOMB AND SAND T= 60MM
CLT FLOOR T= 200
TIMBER BEAMS IN TWO DIRECTIONS H= 380MM

EXTERNAL STEEL CORE
HEA 600 STEEL BEAMS AND COLUMNS
MEASUREMENTS: 5700*5700
EXPRESS ELEVATOR, SHAFTS, FIRE STAIRCASE

SOLAR SHADING
STEEL TUBES 75*150MM T=10MM
ARCHITECTURAL WIRE MESH, FINE
ARCHITECTURAL WIRE MESH, OPEN
CONNECTED TO STEEL CORES AND BEAMS
ON SOUTH-WEST AND SOUTH-EAST FACADES

GLULAM TIMBER BEAM
600*1500MM

STEEL BEAM
HEA 600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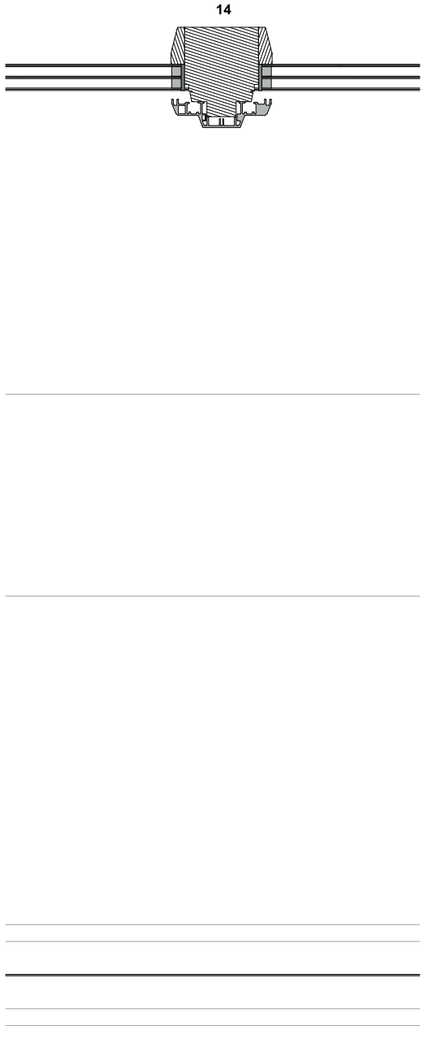
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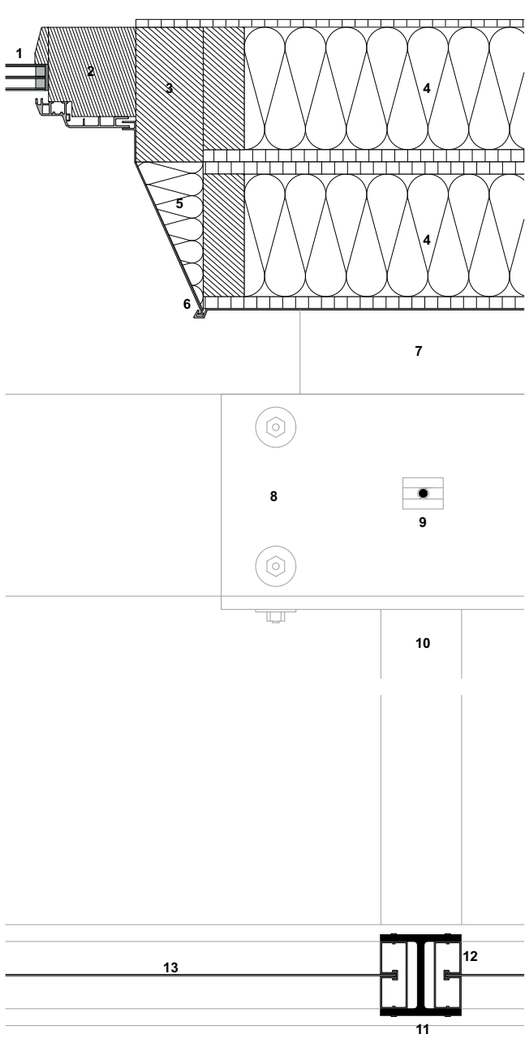
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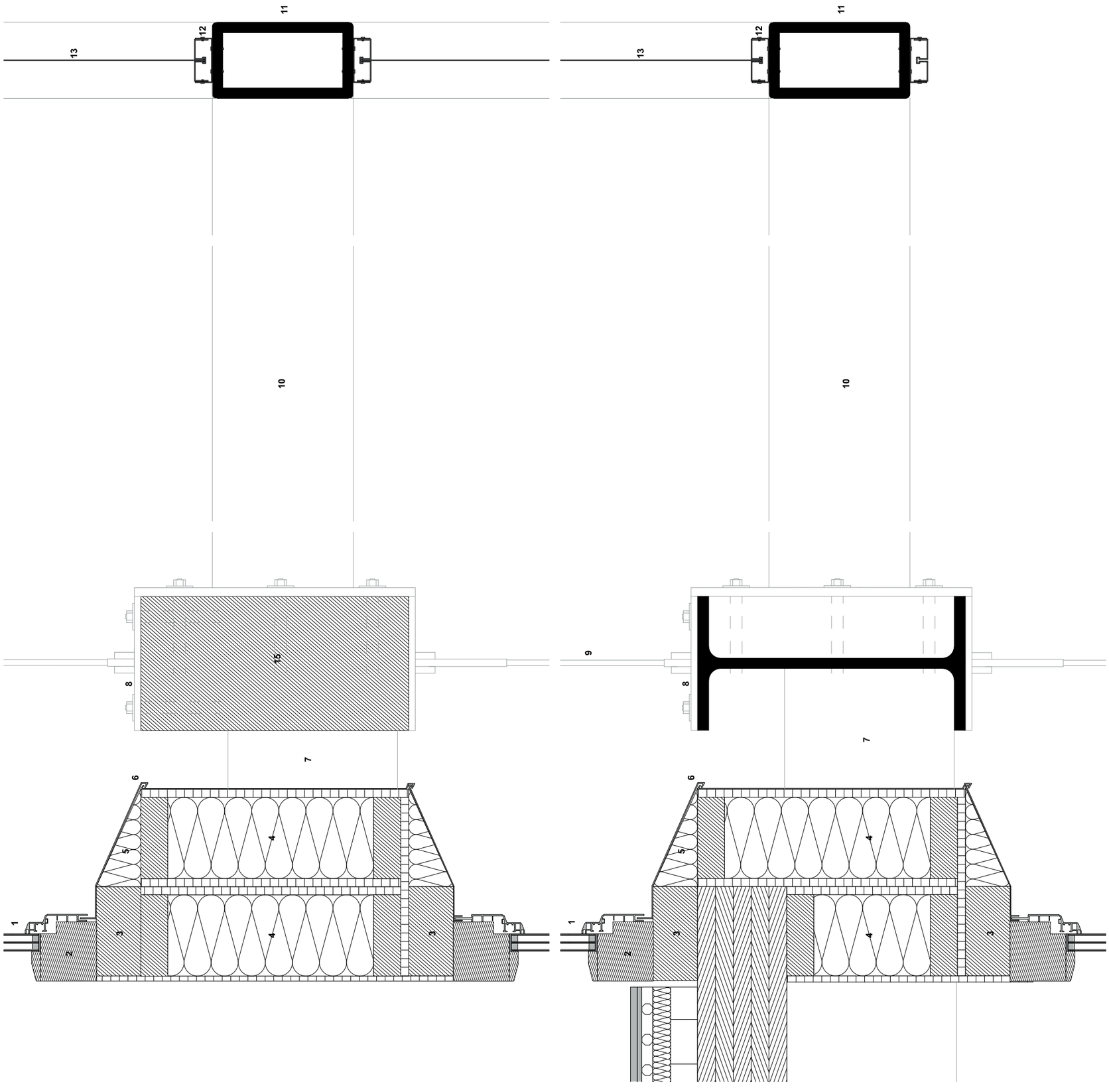

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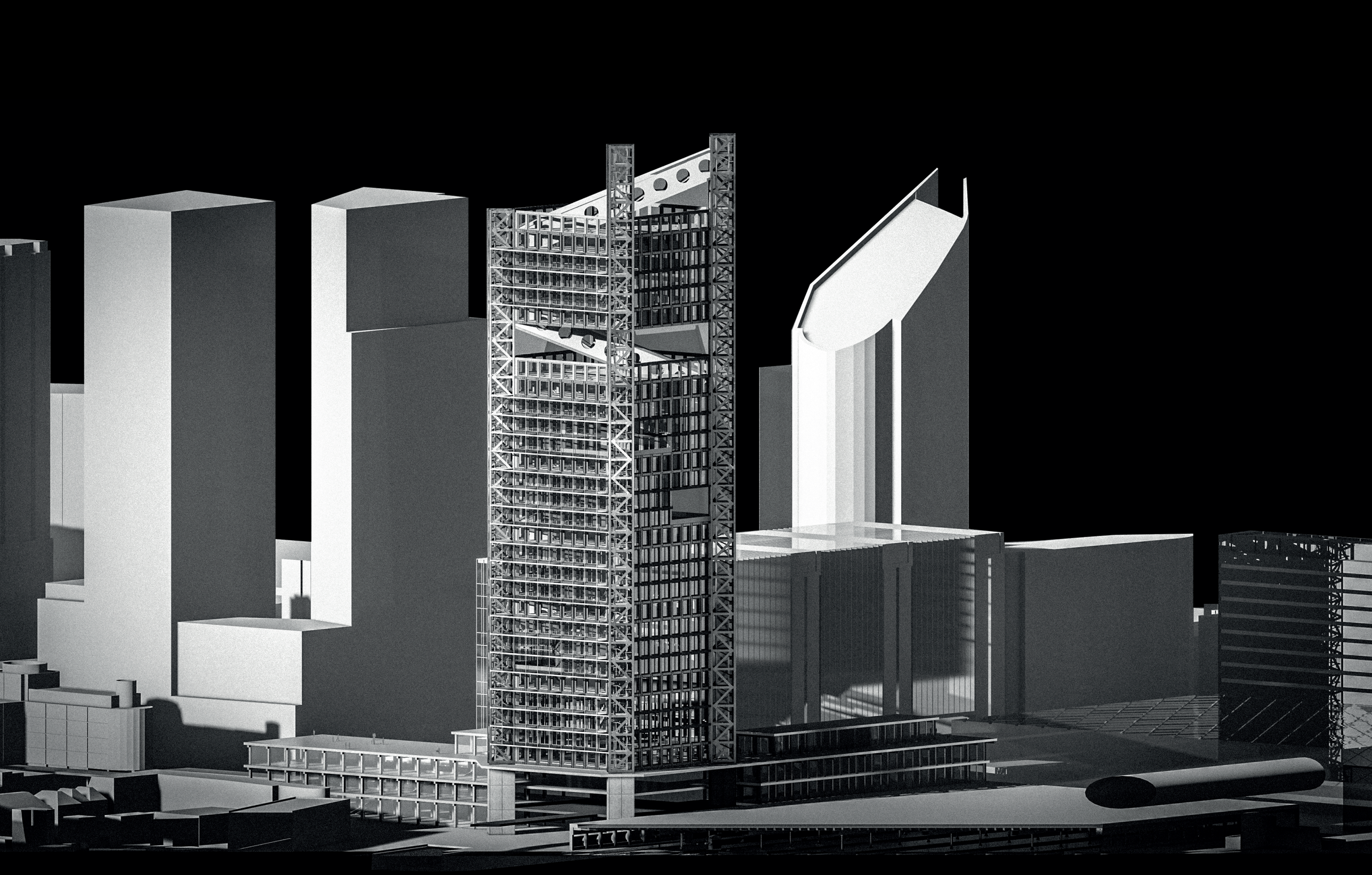

“Architecture is measured against the past,

you build in the present,

and try to imagine the future.”

Richard Rogers (1933–2021)

MAX VENDERBOSCH

THE ESCALATING CITY

PUBLIC BUILDING STUDIO

