

MAX TOMÁS DOUMA

FABRIKKEN
SUNDHOLM

URBAN CONTINUUM

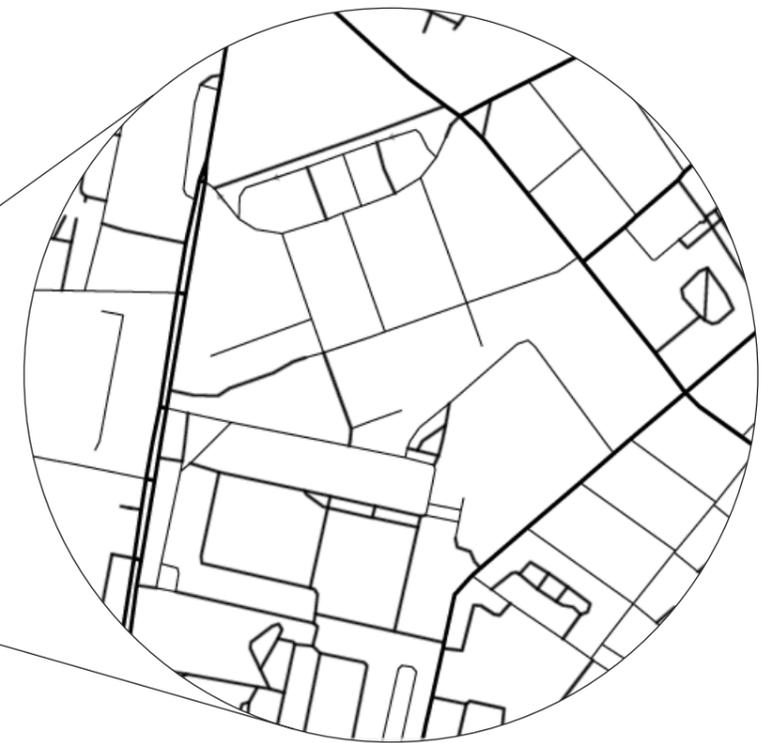
– A STORY ABOUT CONTINUITY –



DENMARK | DANMARK



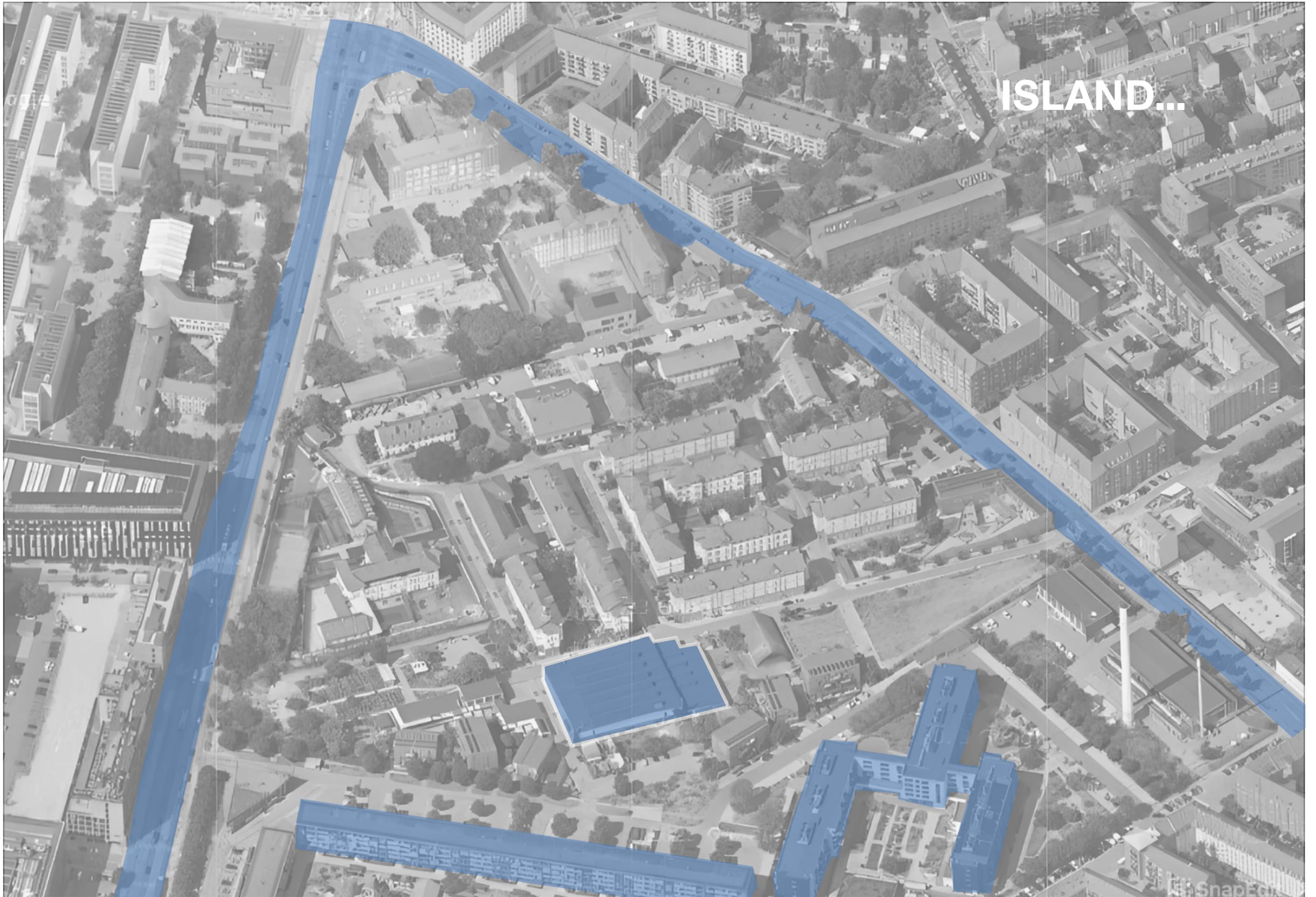
COPENHAGEN | KØBENHAVN



SUNDHOLM | SUNDHOLM



CSSA, 2021



ISLAND...

SnapEdu

WITHIN AN ISLAND



SnapEdu

FUNCTION DISPERSION

INTERNAL

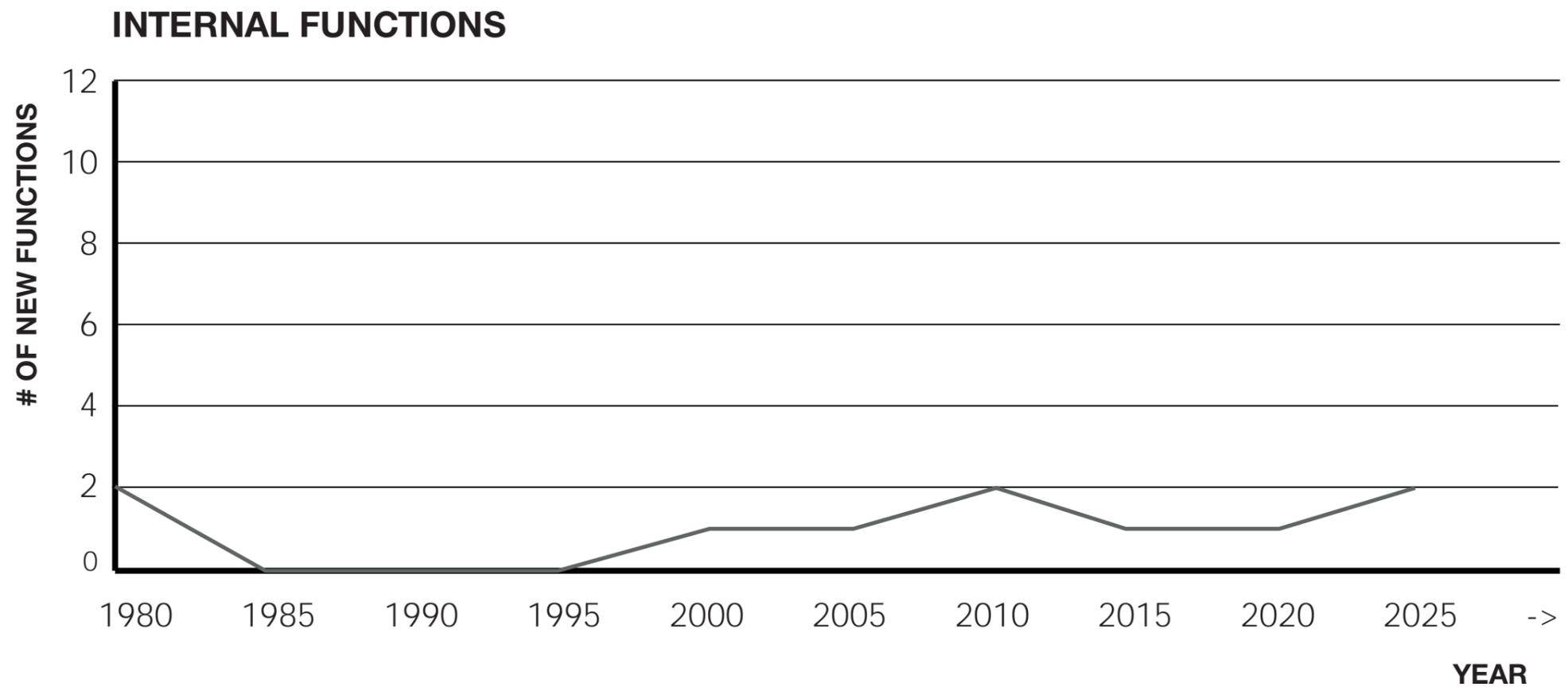
EXTERNAL

FUNCTIONAL DIRECTION

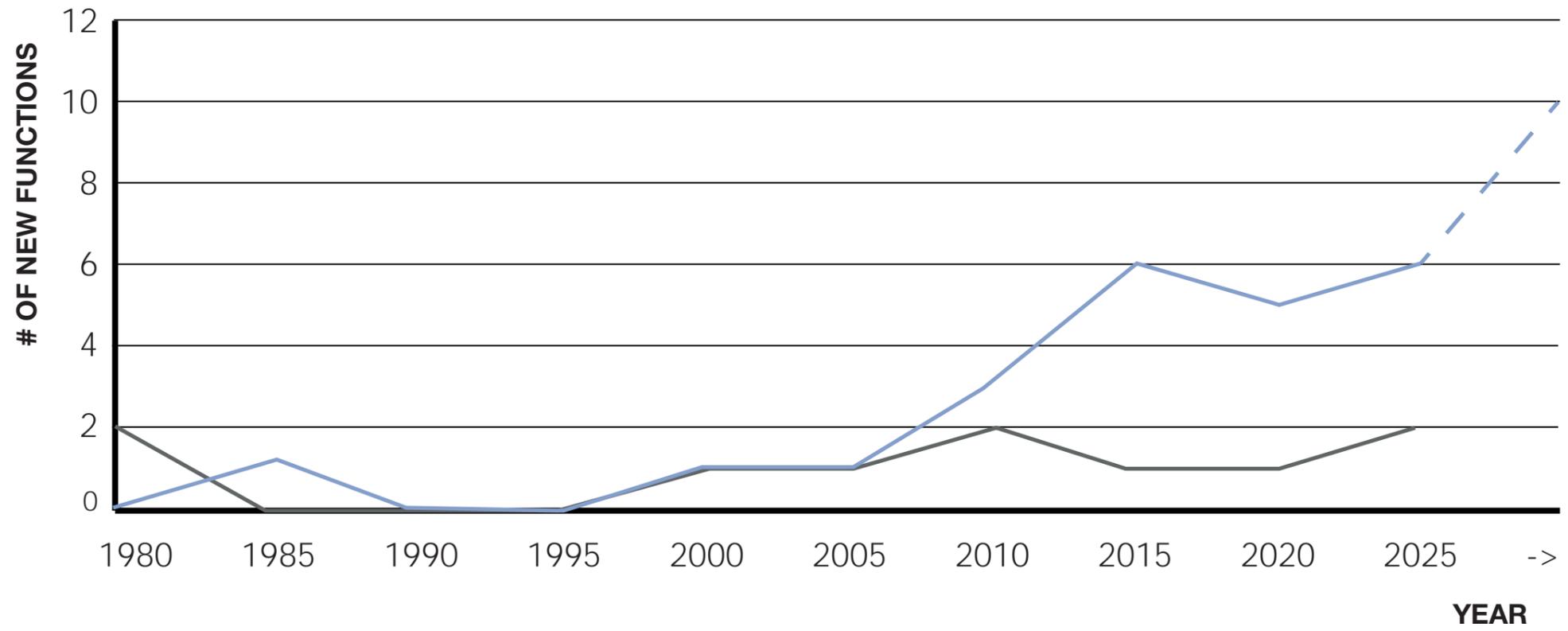
Functions with their focuspoint solely at the neighborhood. They are meant to be used only by the residents or a specific demographic.

FUNCTIONAL DIRECTION

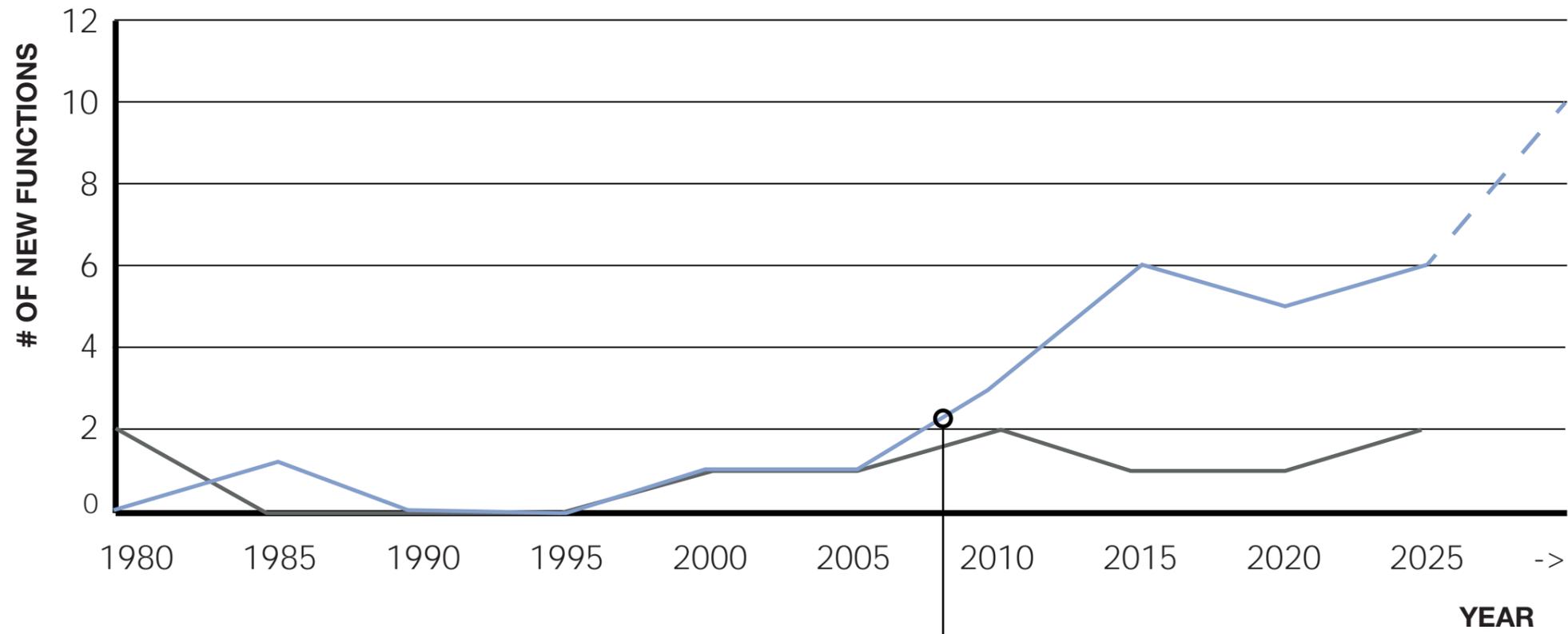
Functions meant to be used by (almost) everyone. This can be a good method to enhance connections.



INTERNAL + EXTERNAL FUNCTIONS



INTERNAL + EXTERNAL FUNCTIONS



Mostly functions related to the Fabrikken building.

FUNCTION DISPERSION

PRE-FABRIKKEN

Prior to the year
2000

FUNCTIONAL DIRECTION

non-existent to low amount of
'external oriented' functionclus-
ters.

REFORMING PE- RIOD

Between the year
2000 and 2010

FUNCTIONAL DIRECTION

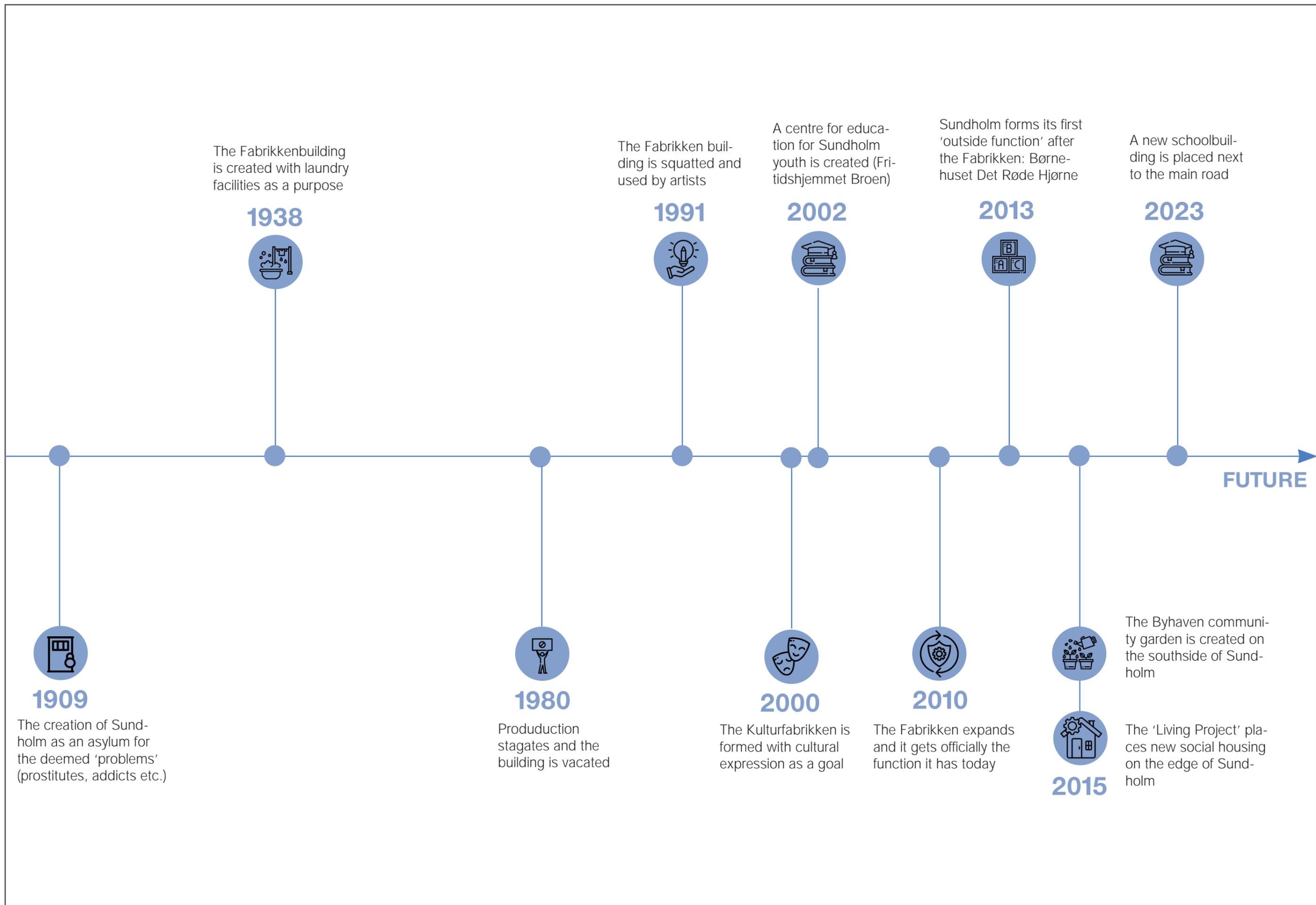
The start of a reforming of
Sundholm and its funstions.
Mainly clustered in and around
the Fabrikken building.

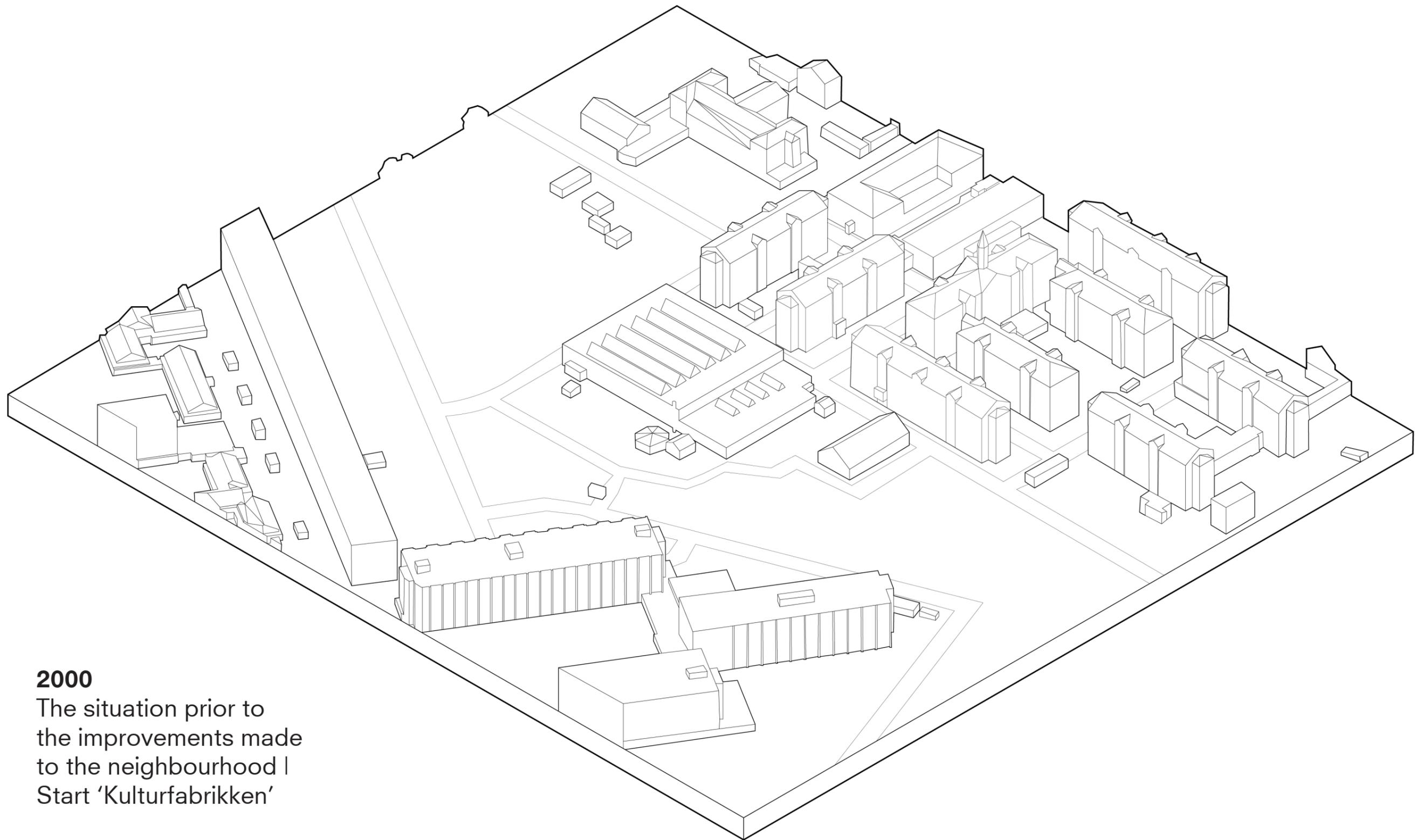
CURRENT SITUA- TION

After the year 2010

FUNCTIONAL DIRECTION

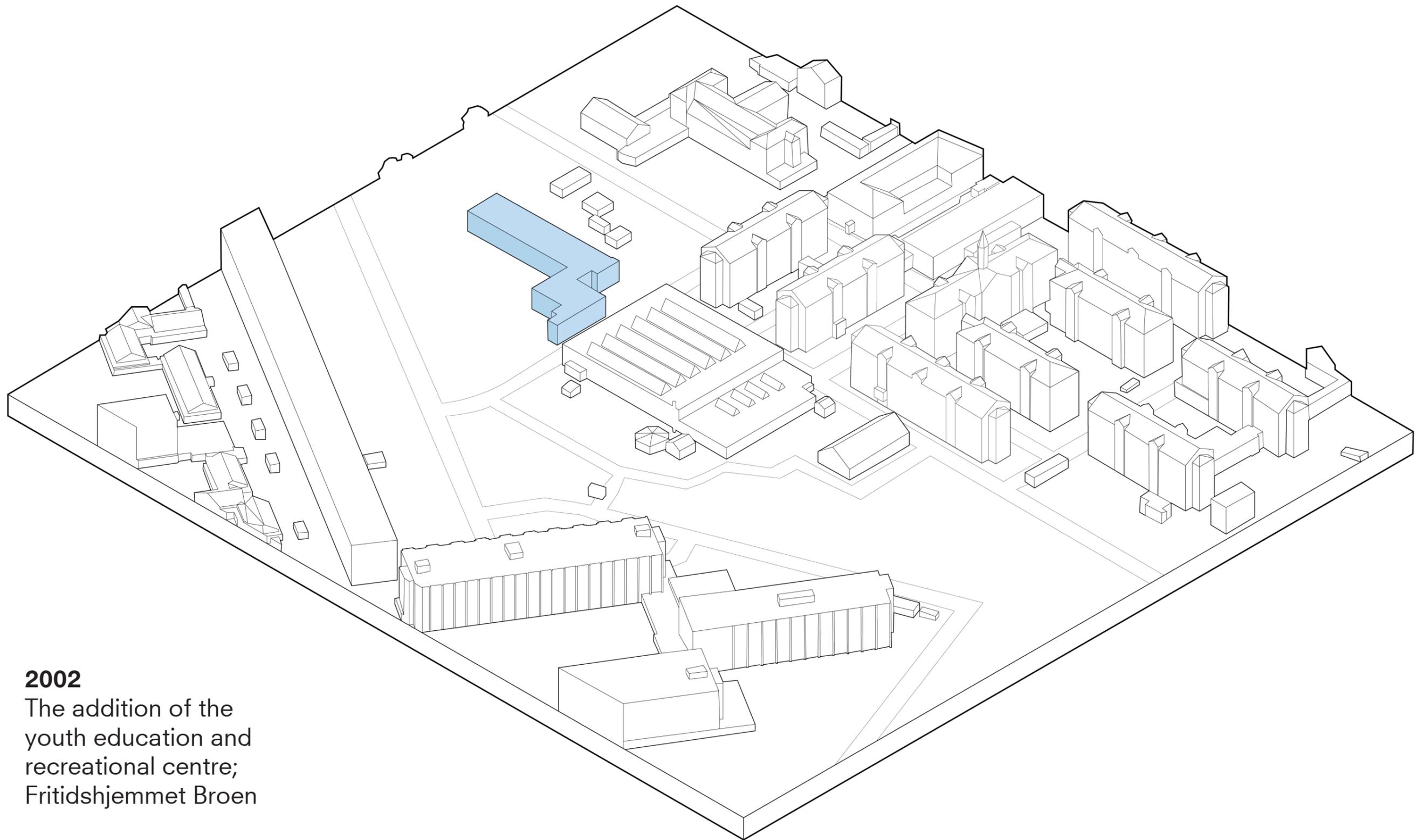
An exponential growth in ex-
ternal oriented functions. The
perspective of and on the
neighbourhood seems to have
shifted.



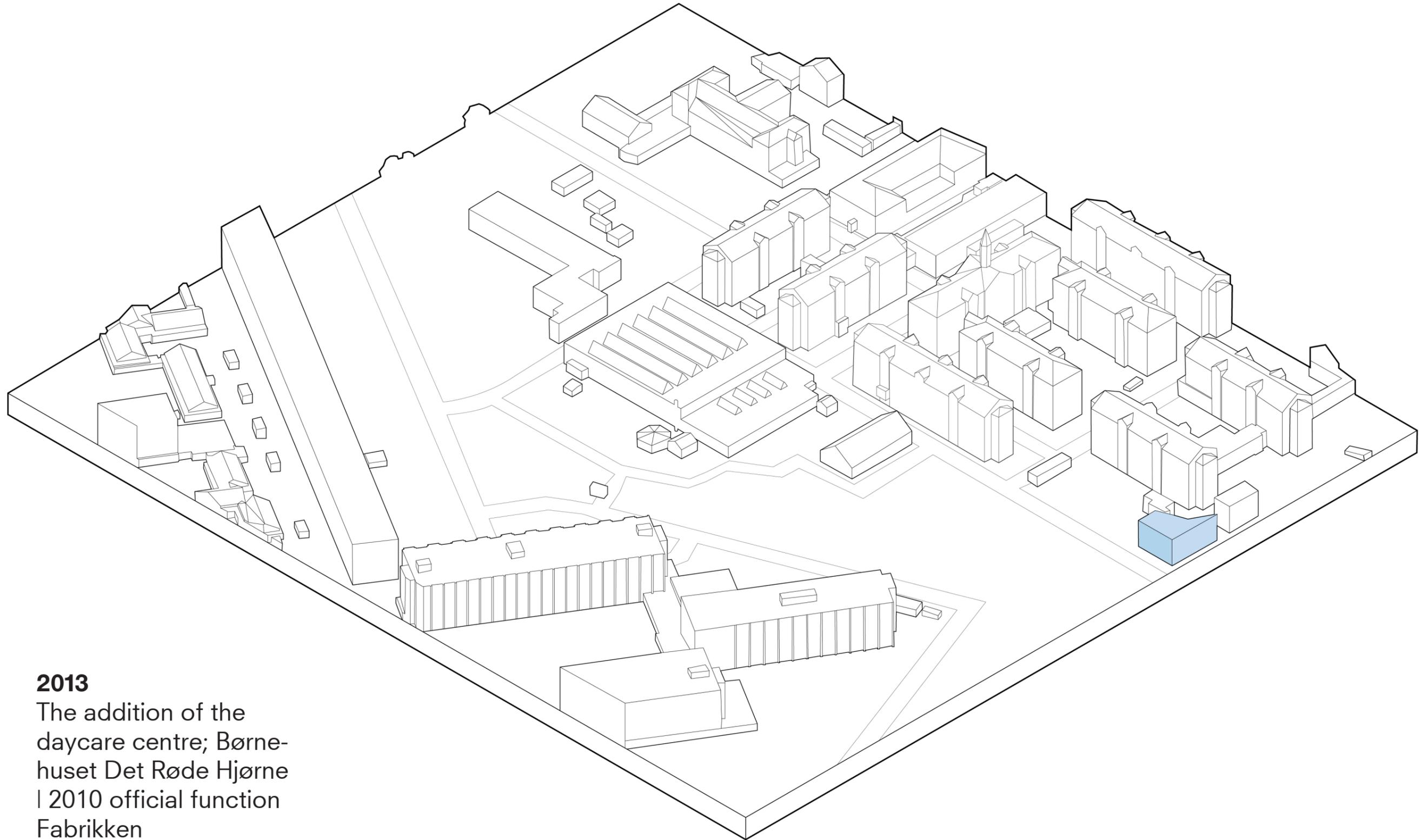


2000

The situation prior to
the improvements made
to the neighbourhood |
Start 'Kulturfabrikken'



2002
The addition of the
youth education and
recreational centre;
Fritidshjemmet Broen

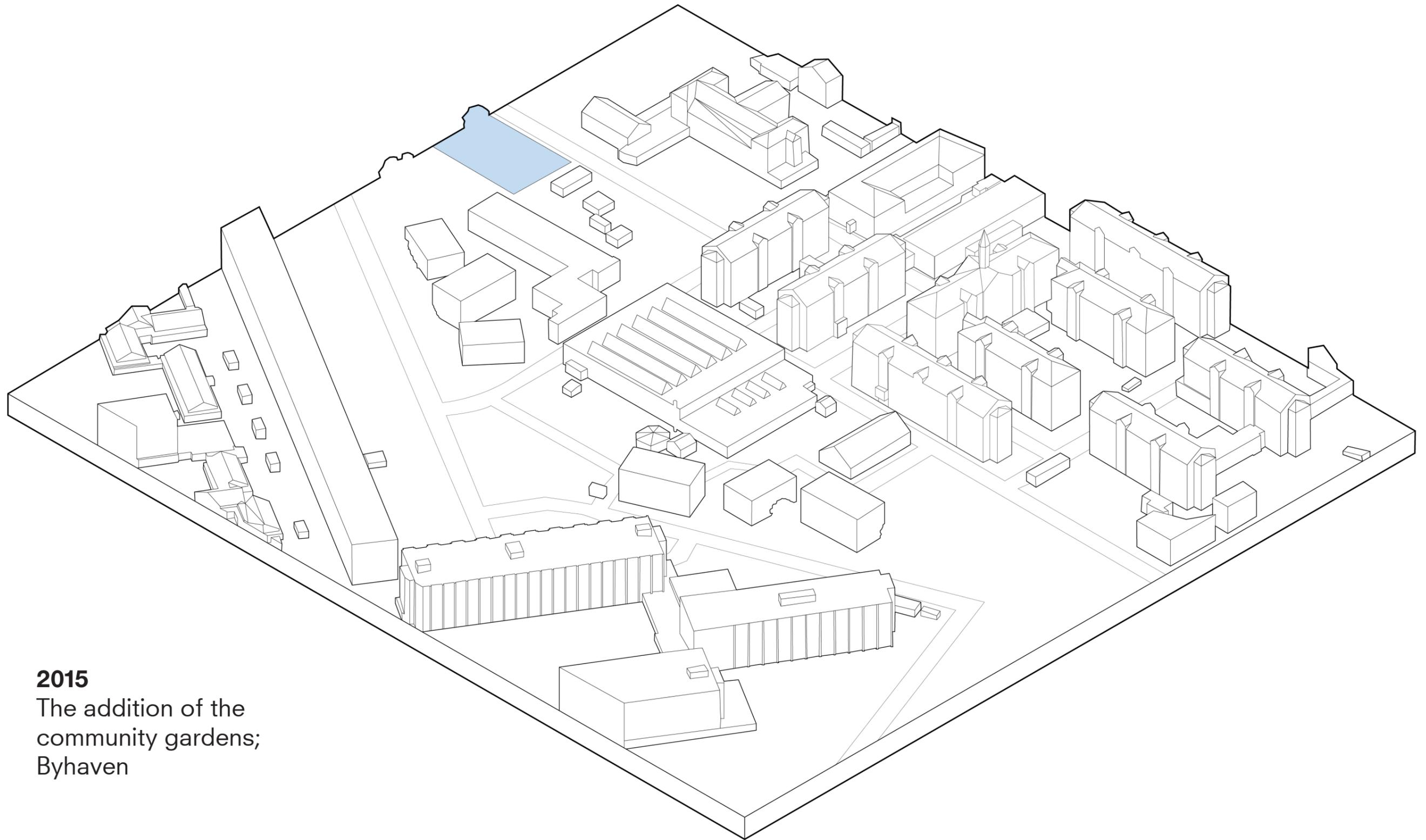


2013

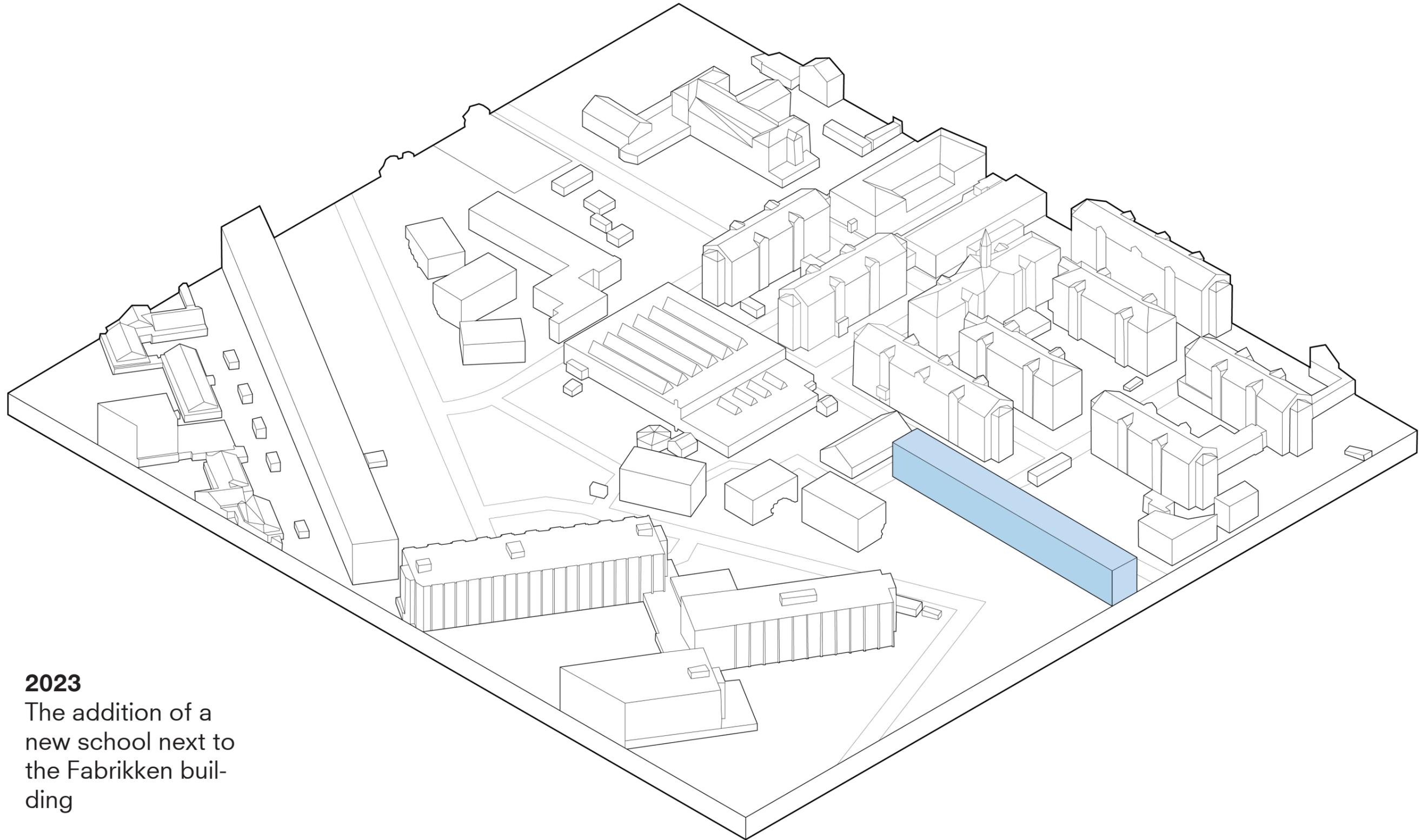
The addition of the
daycare centre; Børne-
huset Det Røde Hjørne
| 2010 official function
Fabrikken



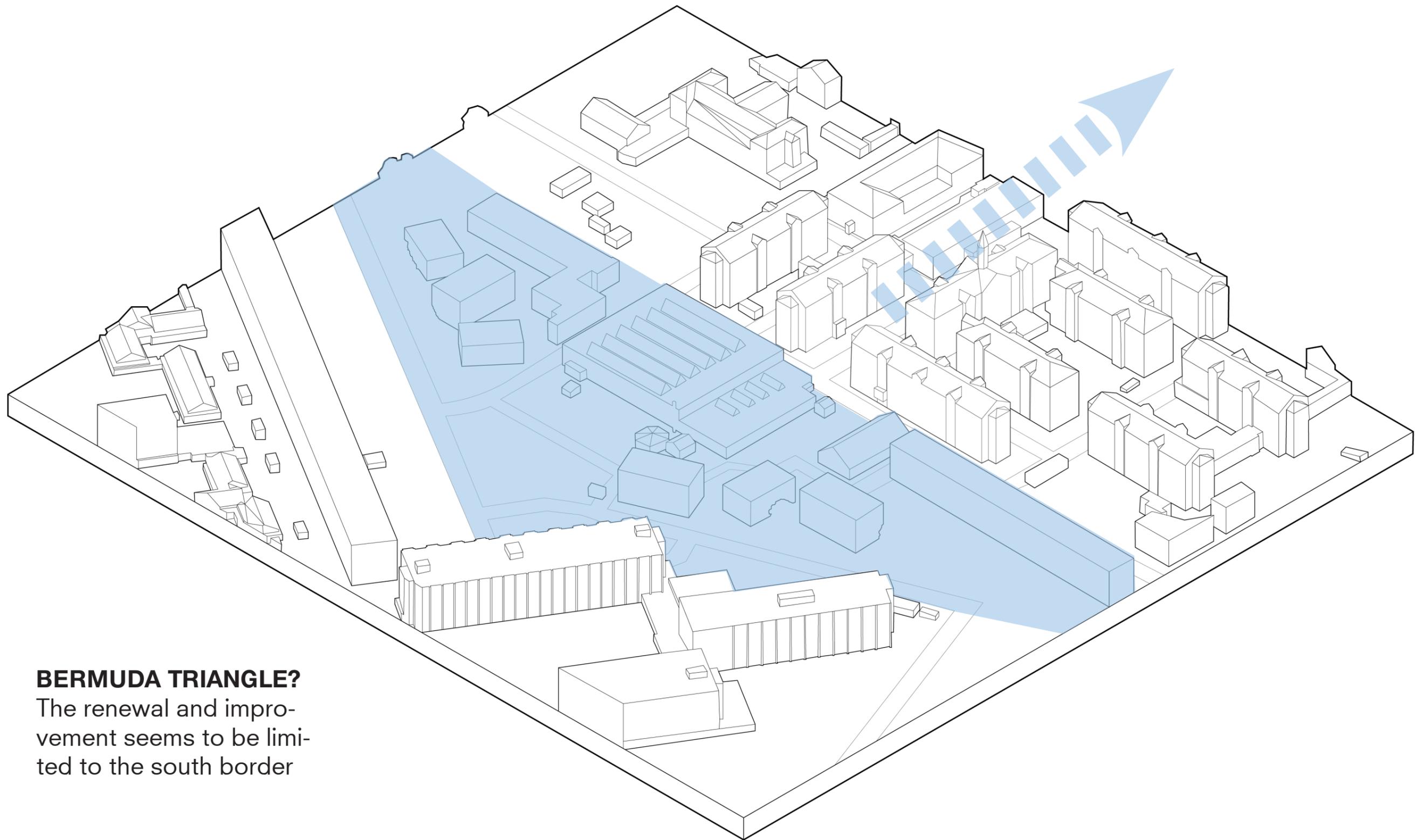
2015
The addition of the social
housing ensemble; The
Living Project



2015
The addition of the
community gardens;
Byhaven

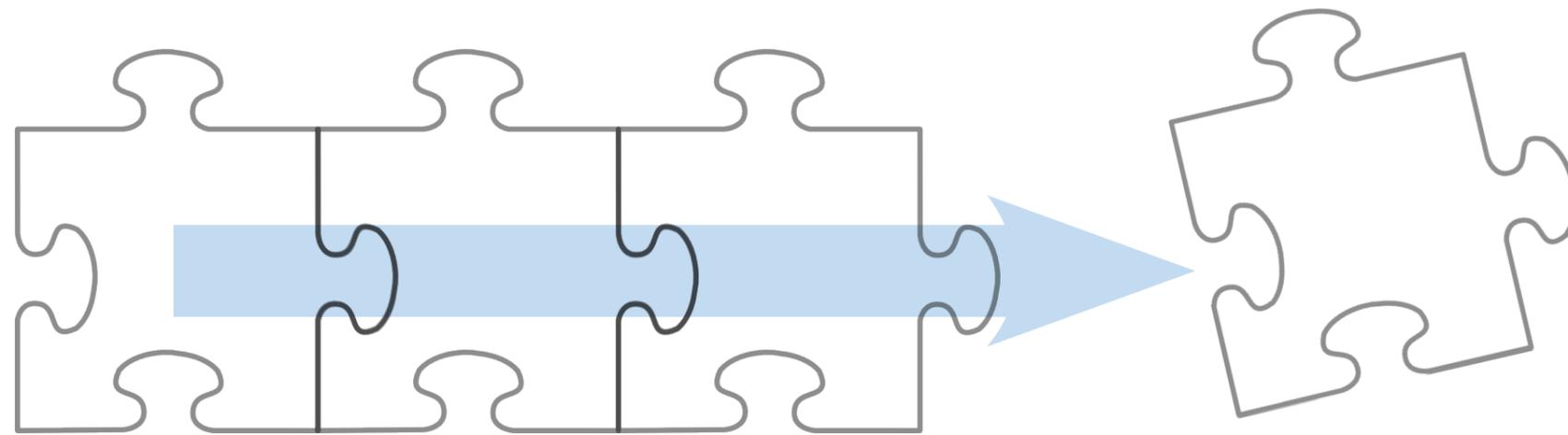


2023
The addition of a
new school next to
the Fabrikken building



BERMUDA TRIANGLE?
The renewal and improvement seems to be limited to the south border

NOT RE-DO...

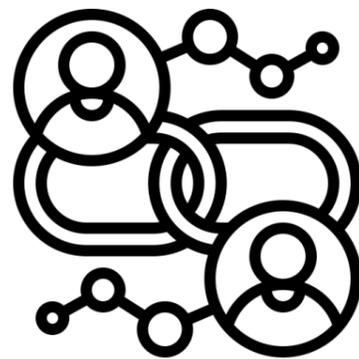


BUT IMPROVE AND EXTEND

‘How can architecture embrace change as a defining characteristic rather than an obstacle?’

MACRO

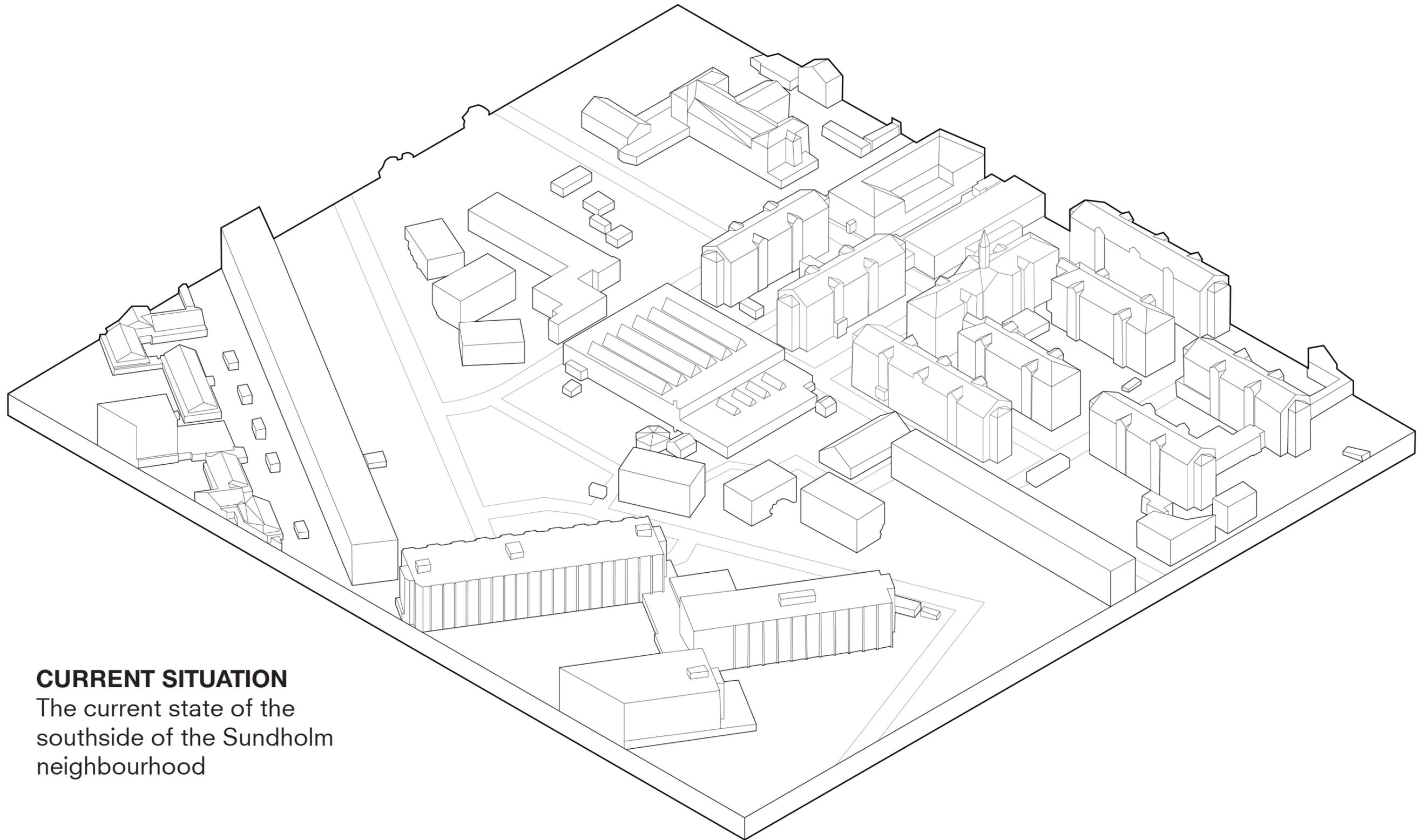
– ON AN URBAN SCALE –



CONNECTION

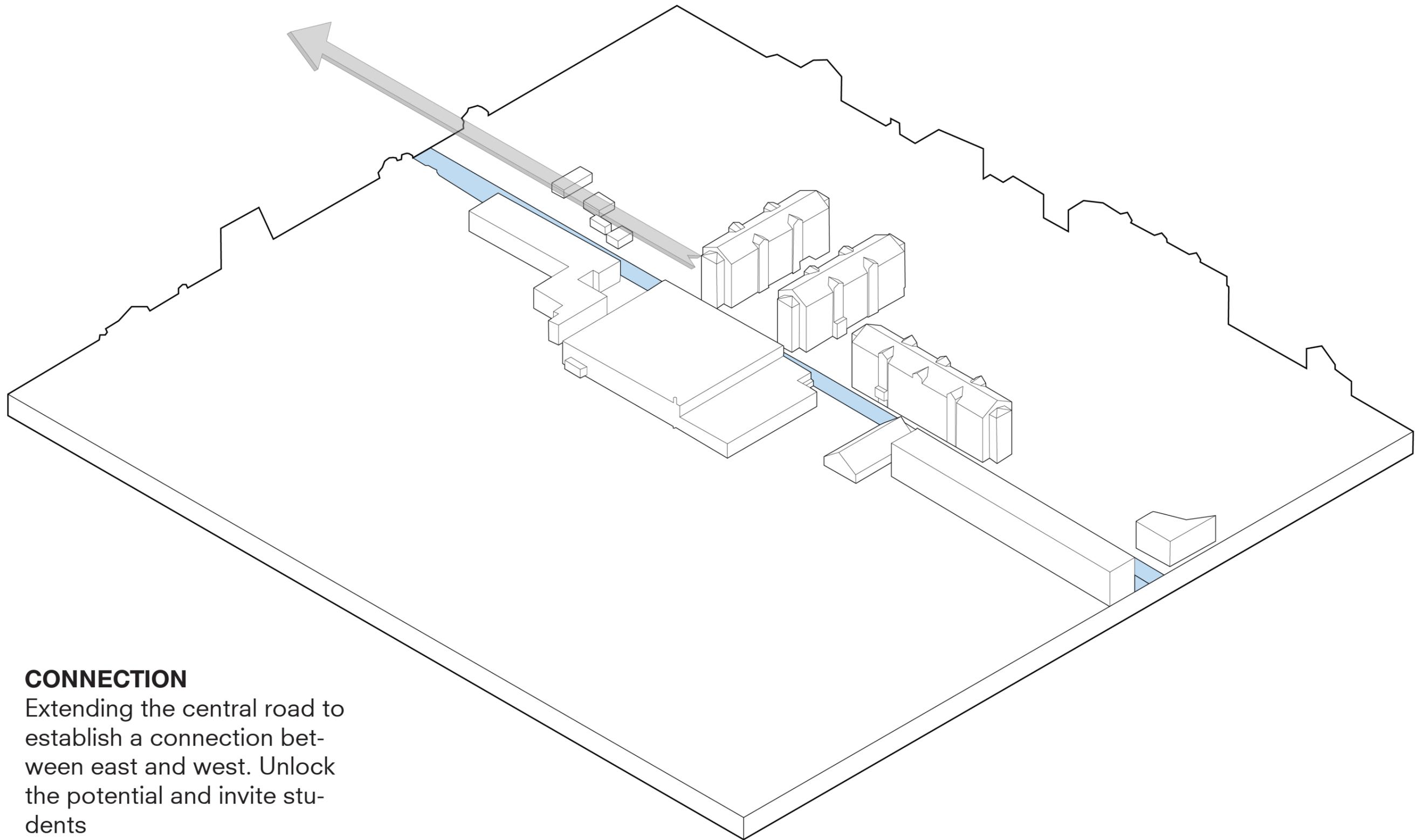


CENTRAL SPOT



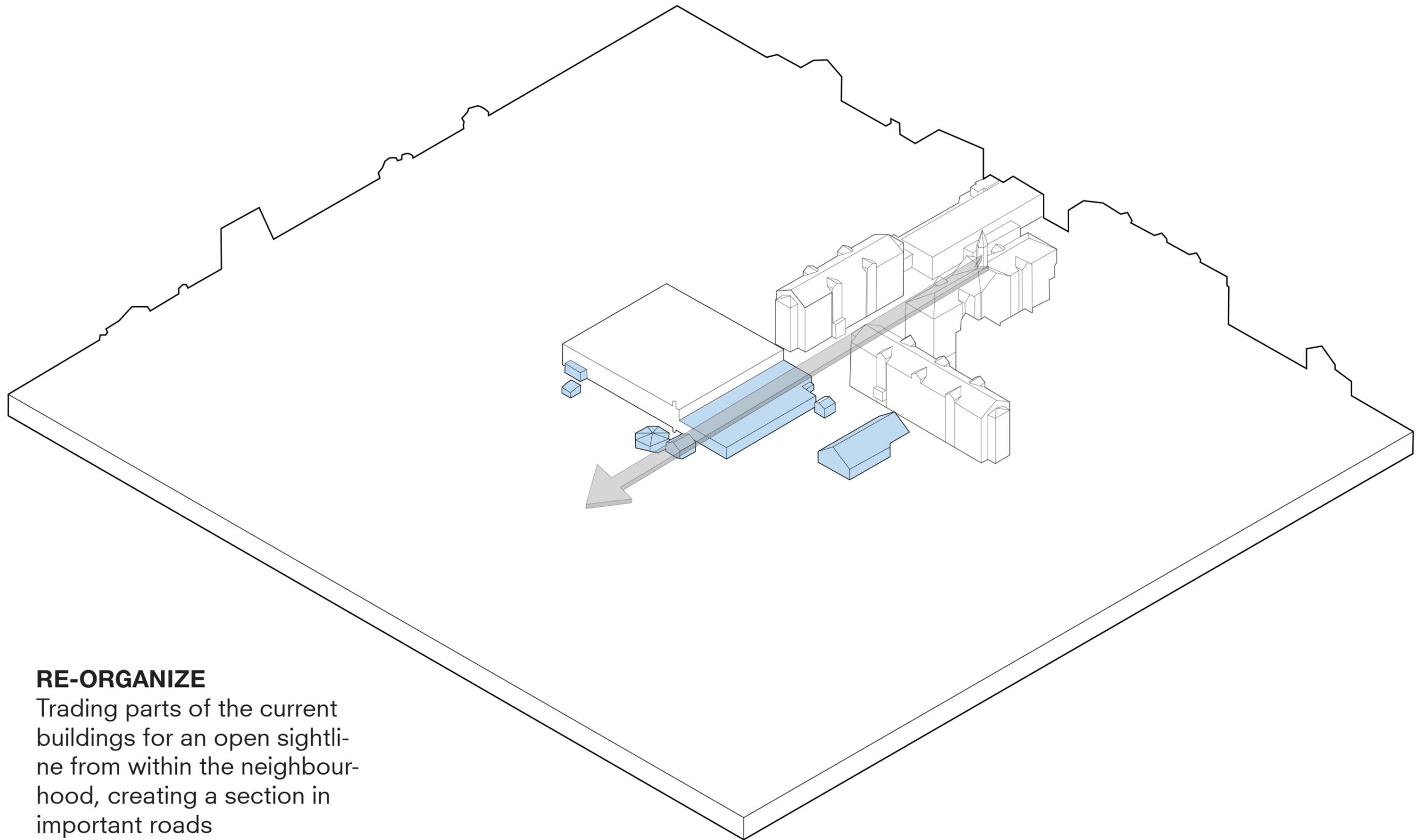
CURRENT SITUATION

The current state of the southside of the Sundholm neighbourhood



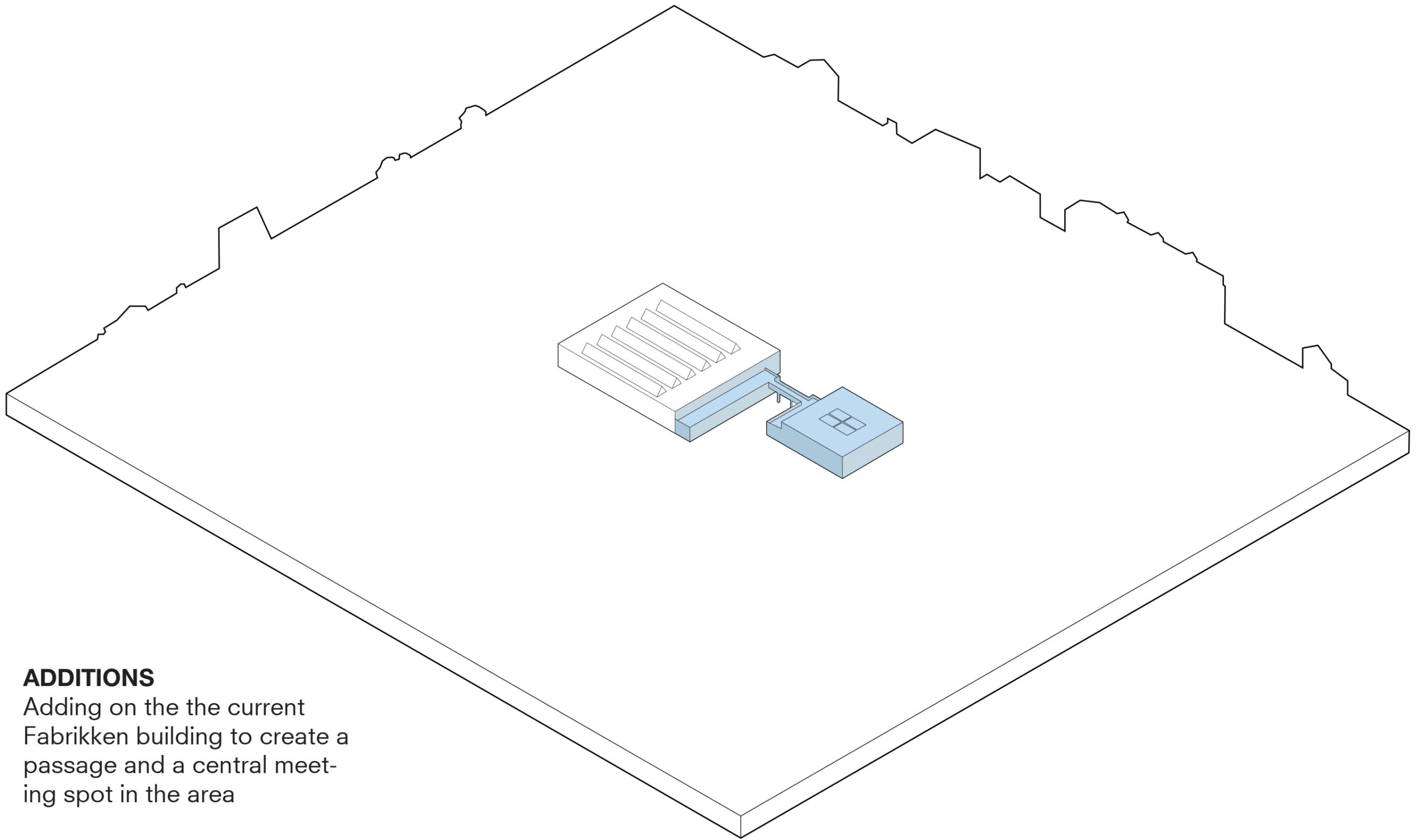
CONNECTION

Extending the central road to establish a connection between east and west. Unlock the potential and invite students



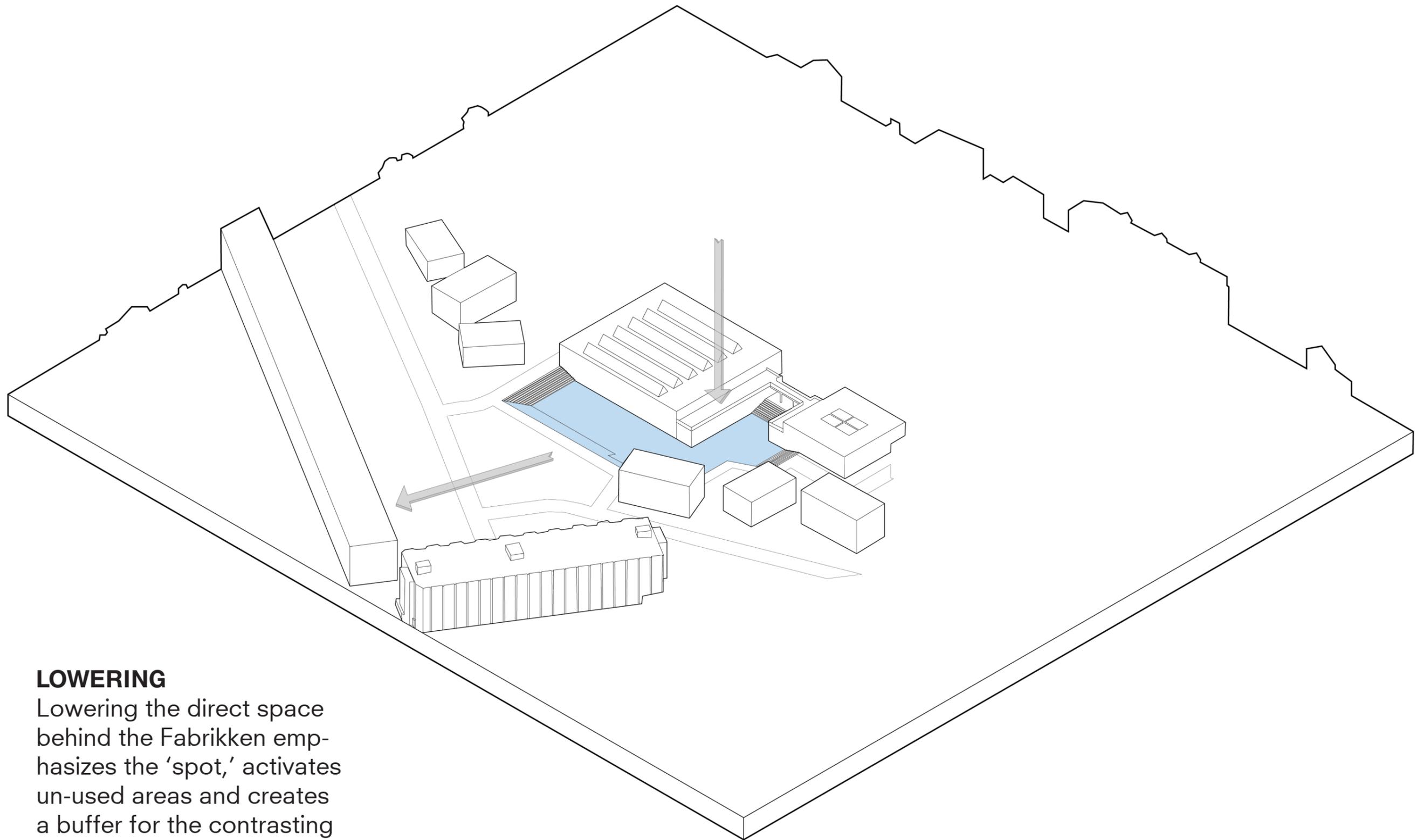
RE-ORGANIZE

Trading parts of the current buildings for an open sightline from within the neighbourhood, creating a section in important roads



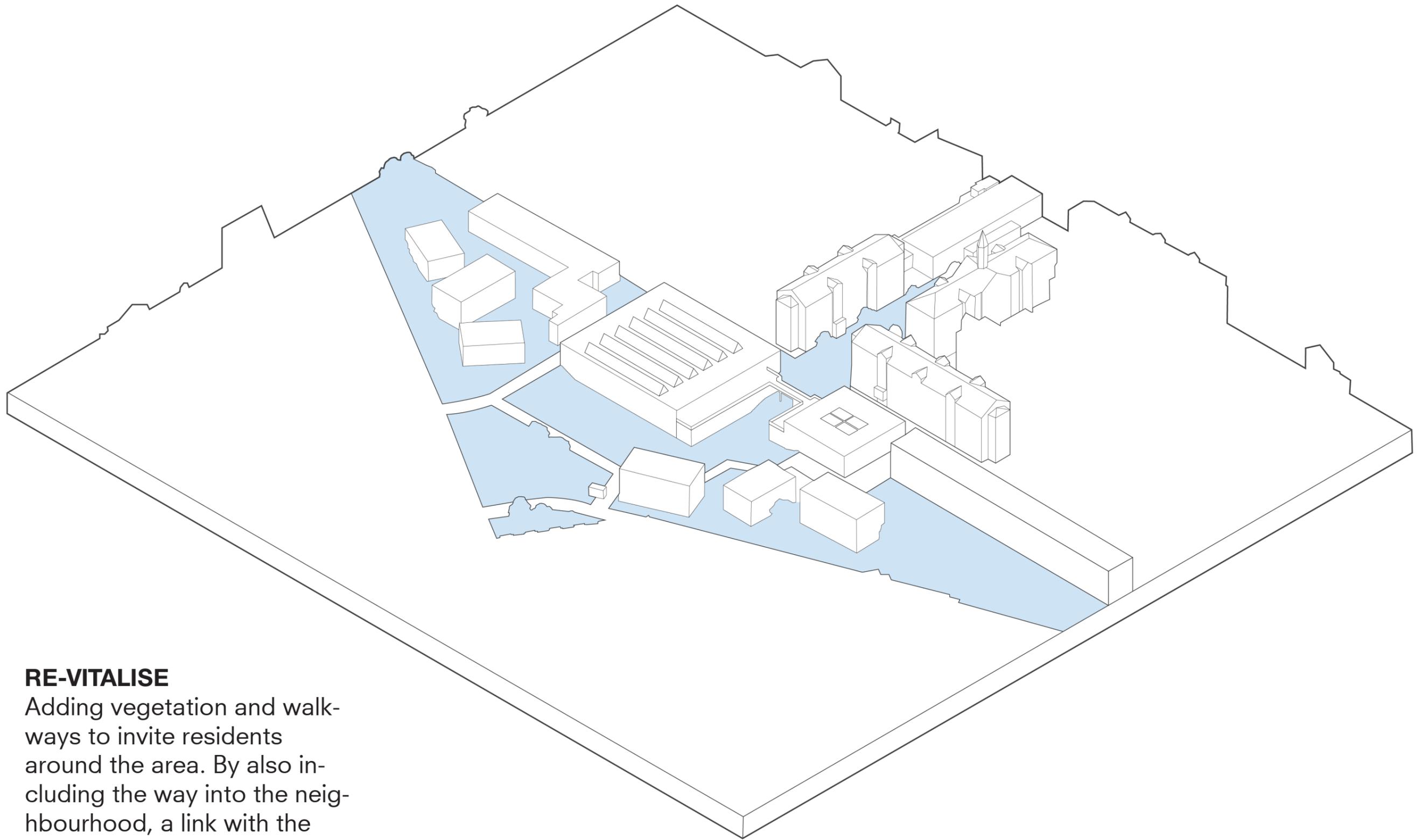
ADDITIONS

Adding on the the current Fabrikken building to create a passage and a central meeting spot in the area



LOWERING

Lowering the direct space behind the Fabrikken emphasizes the 'spot,' activates un-used areas and creates a buffer for the contrasting buildings.



RE-VITALISE

Adding vegetation and walkways to invite residents around the area. By also including the way into the neighbourhood, a link with the rest of the area emerges

STUDENTS

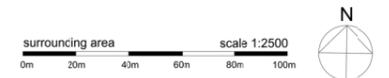
On the east there are faculties and students housing. Integrating them is a must. Not only as a 'walk-through'

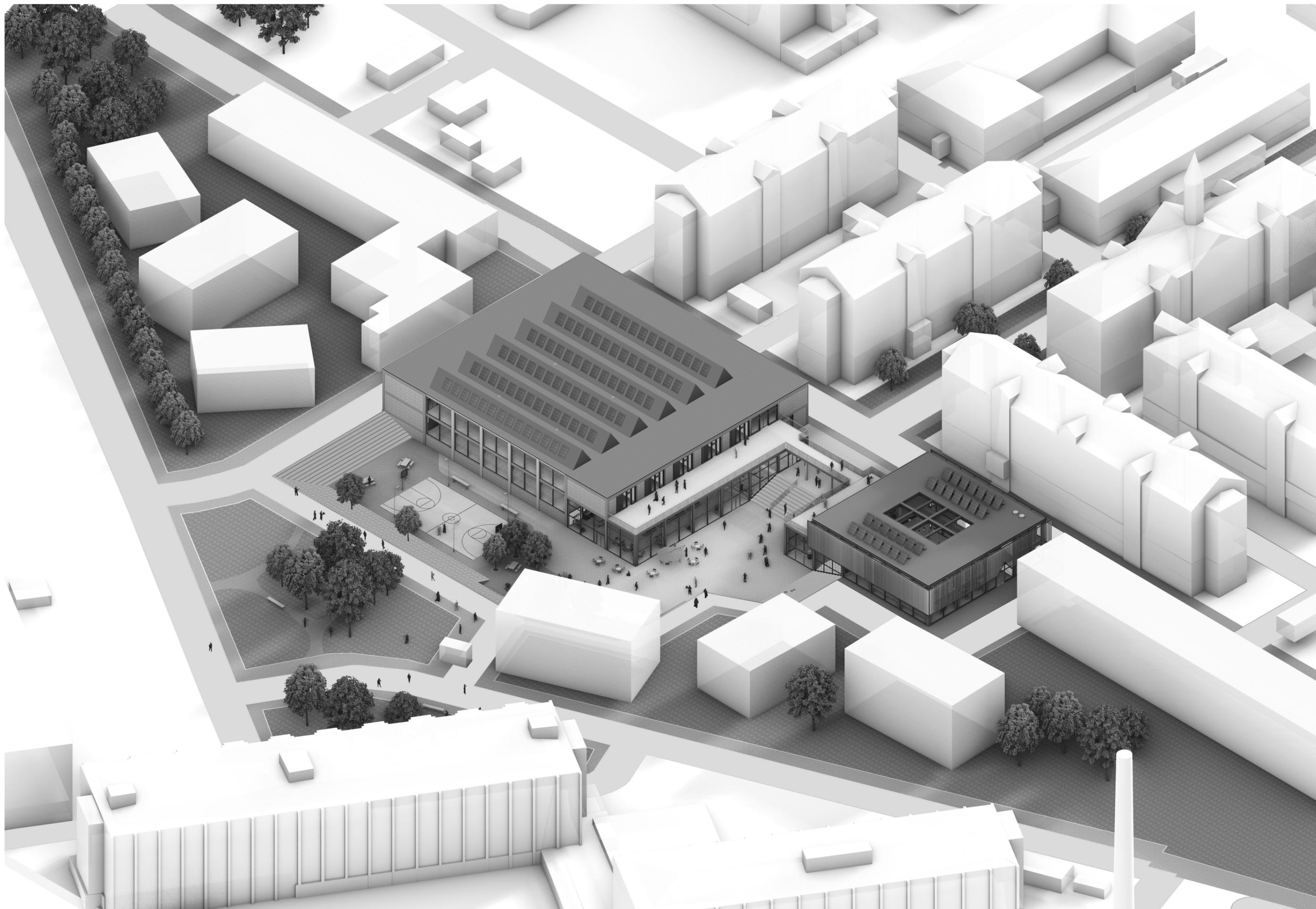
CENTRAL ROAD

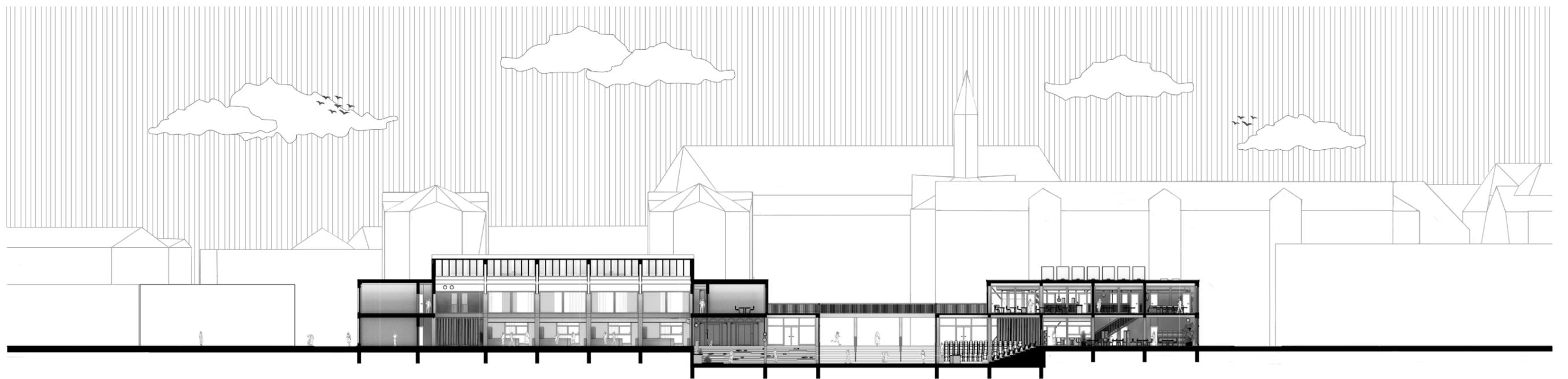
Connection on this road not only goes east-west, but it is the access node to the Fabrikken and it has an active dynamic as well

PARKS

Finishing the south border of the area with a connecting stretch of green as a final 'glue'



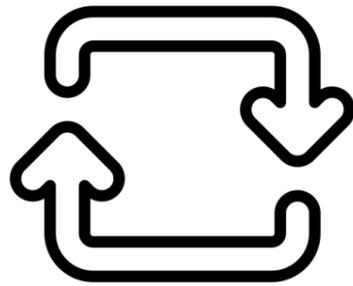




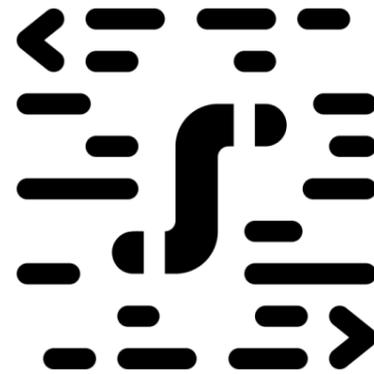


MESO

– ON AN ARCHITECTURAL SCALE –



REPETITION



RHYTHM

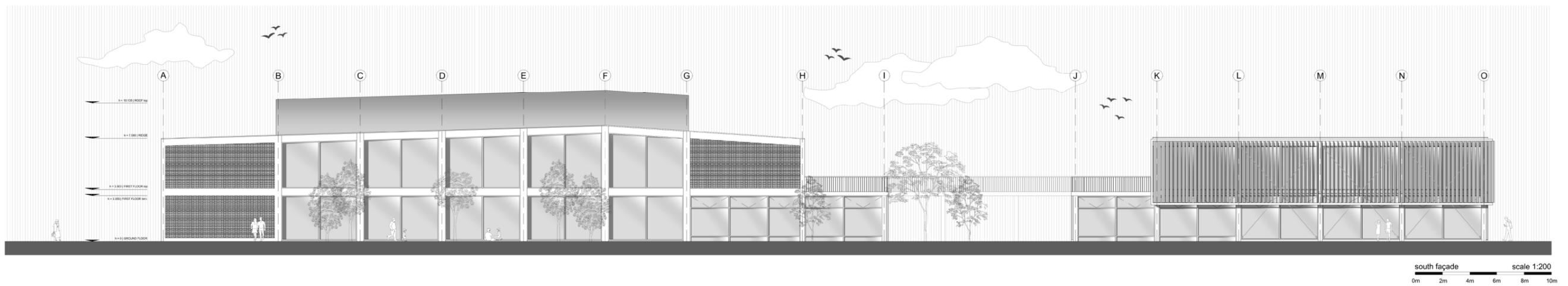
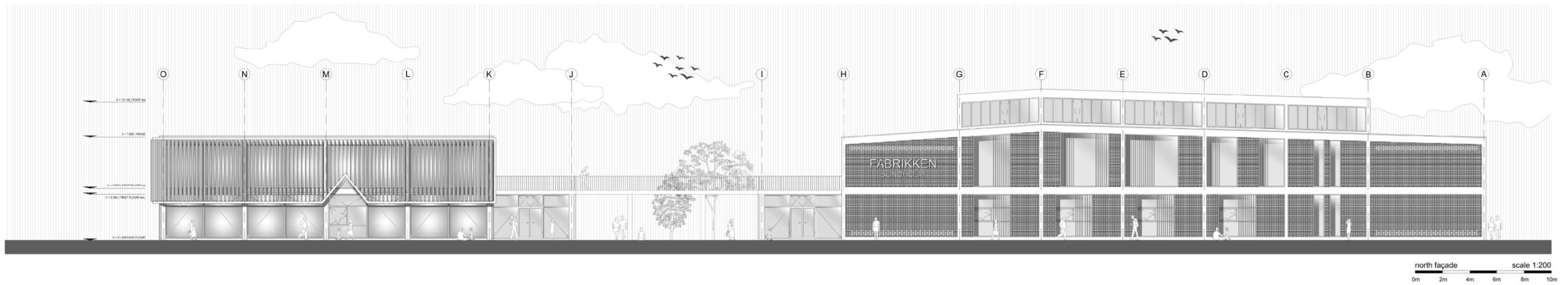


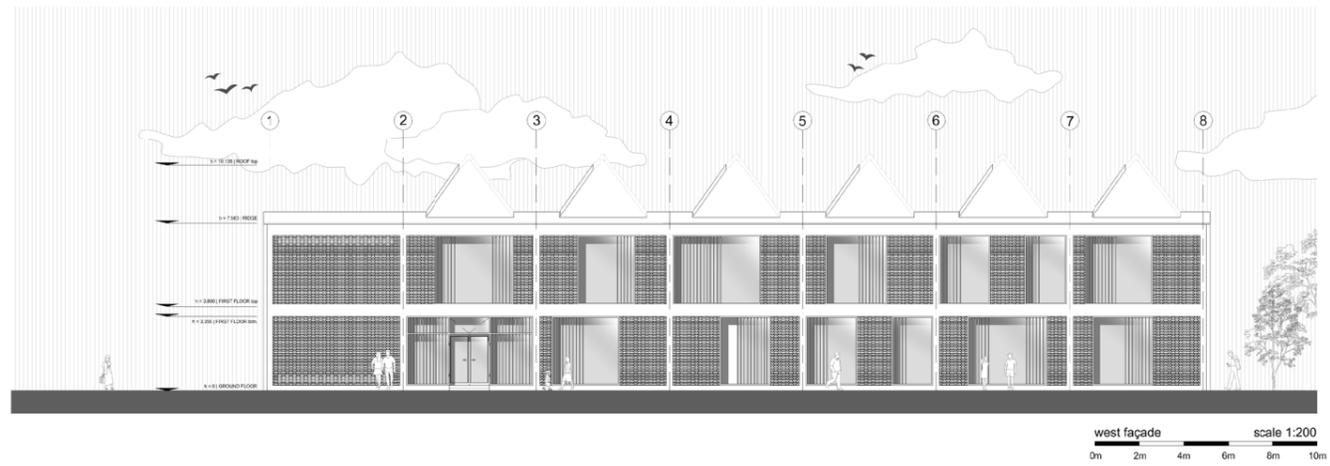
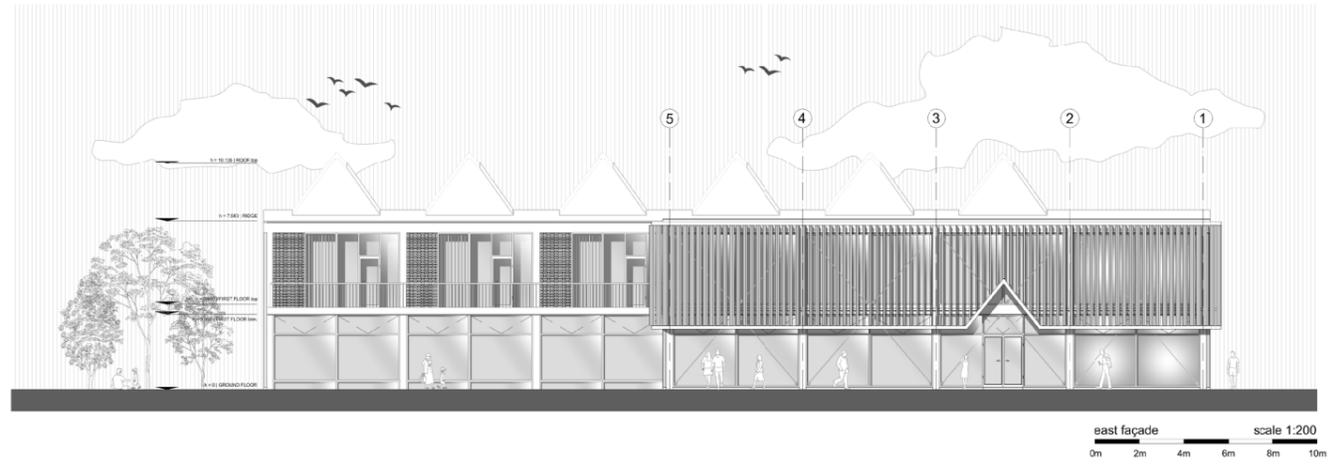
KEEP & ENHANCE

Iconic Skylights
Structural Grid
Functions

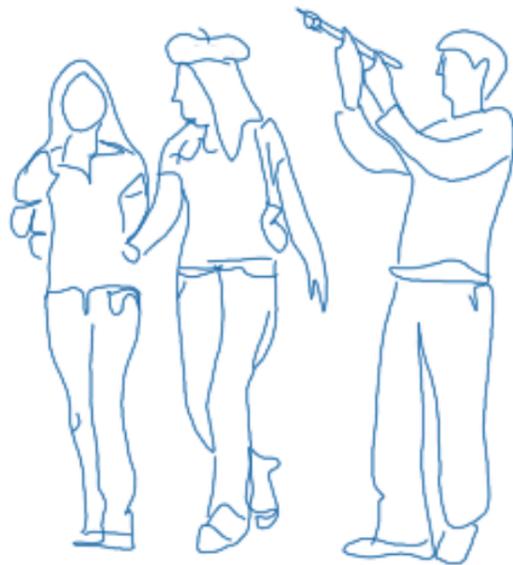
ADD

Continuous Sightlines
Infinite Wandering
Connective Elements (Stairs)









Creative & Alternative Communities:

- Artist & designers
- Activists
- Community organizers
- Urban Farmers

Need:
- Work and exhibition opportunities: Studio spaces, networking areas, event venues, and cultural hubs.



Low Income & Social Housing:

- Families with children
- Elderly residents

Need:
- Community and recreation: Affordable activities, intergenerational gathering spaces, relaxation zones, and accessible green areas.



Immigrant & Multicultural Communities:

- Refugees
- Asylum seekers
- Ethnic minorities
- Int. workers & students

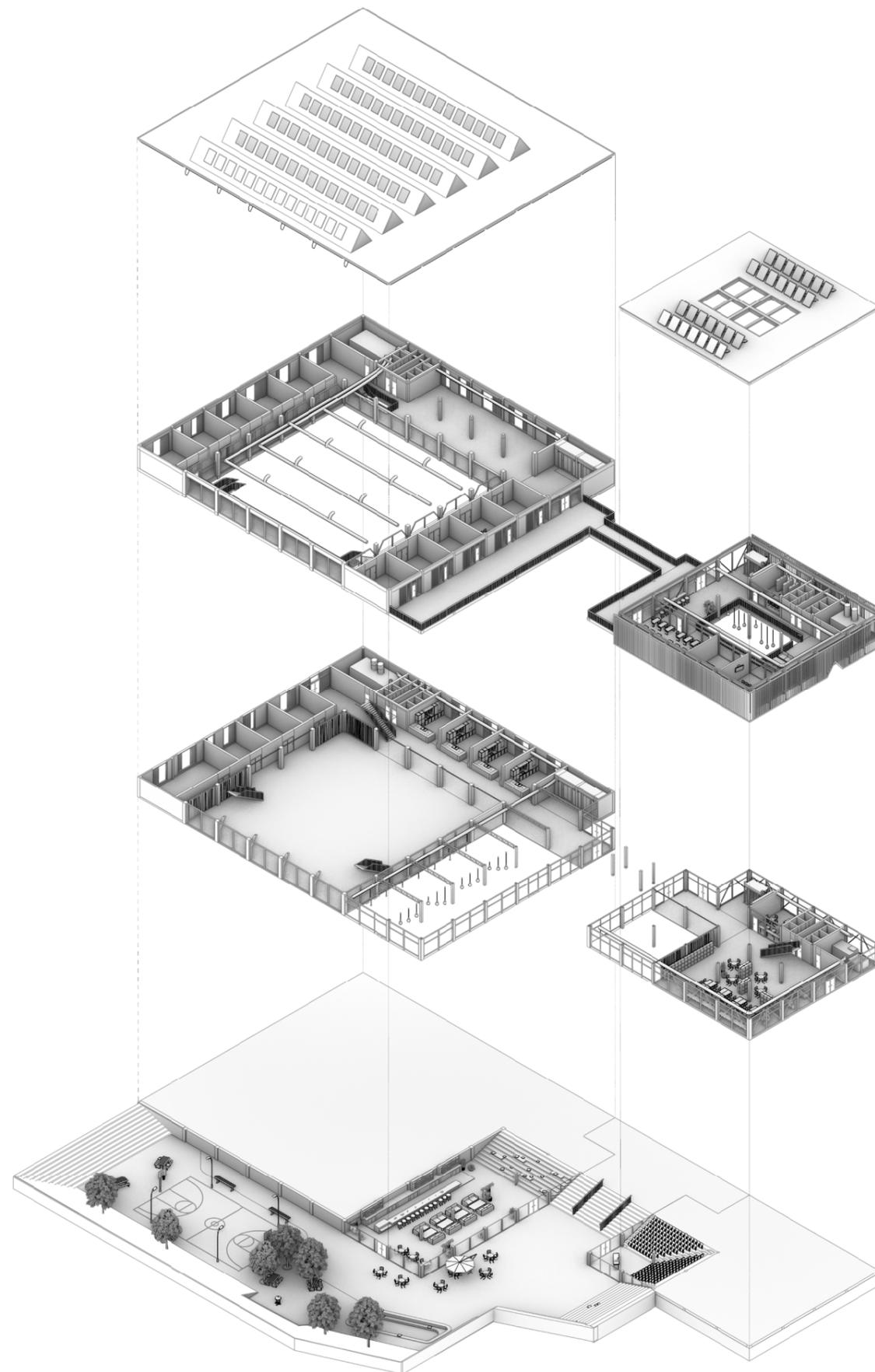
Need:
- Cultural representation and integration: Spaces for networking, cultural expression, and language or skill-building programs.



Students & Young Professionals:

- Students from local universities
- Young professionals

Need:
- Learning and collaboration: Study areas, access to archives, research facilities, and networking opportunities.



ROOF

1. Flat Roof (Steel Construction)
2. Flat Roof (Wooden Construction)
3. Rotating Solarpanels
4. Stationary Solarpanels
5. Skylights (North Oriented)
6. Skylights (Horizontal, Slightly Sloped)

FIRST FLOOR

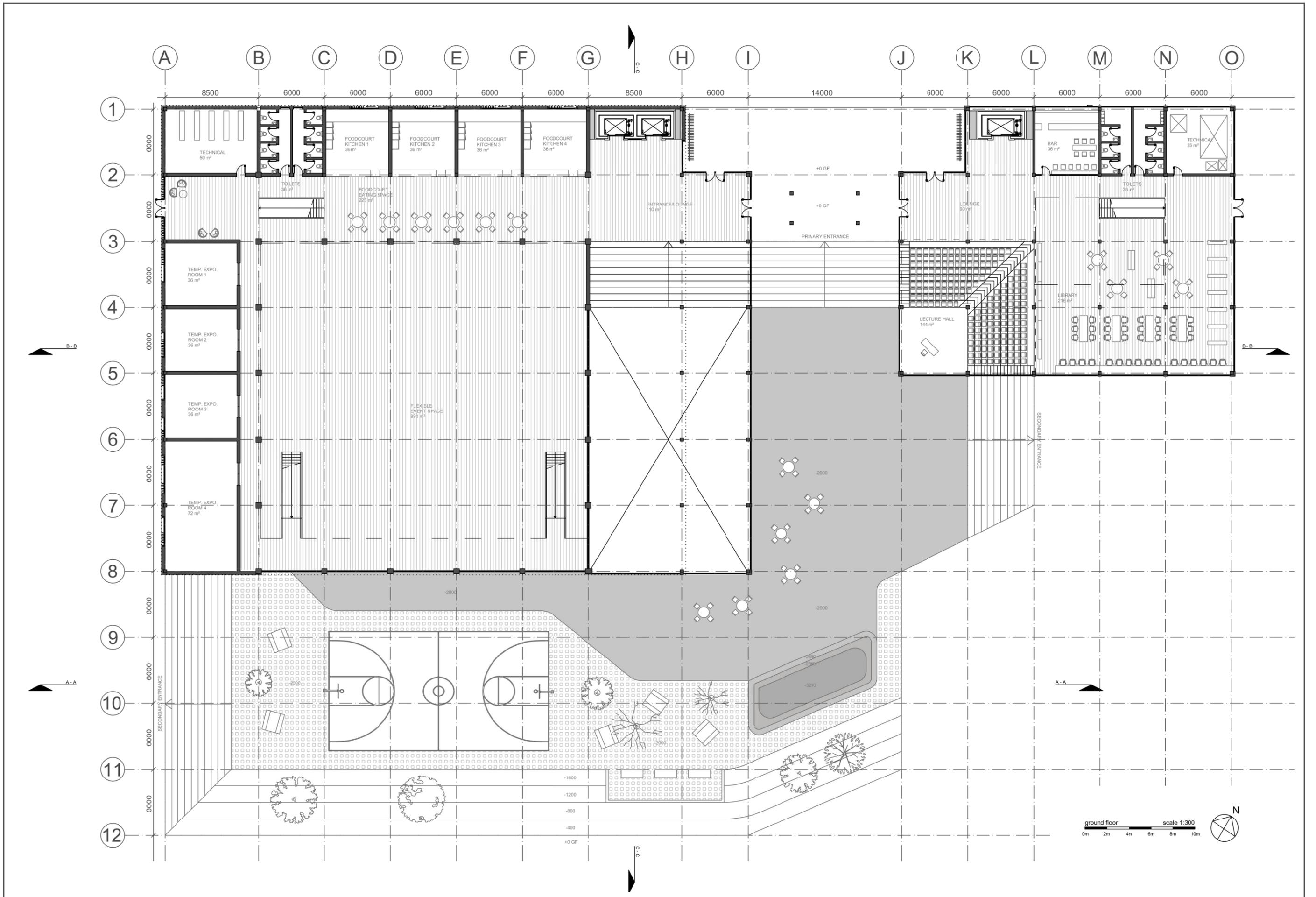
- | | |
|-------------------------|-----------------|
| 1. Technical space | 50 sqm + 36 sqm |
| 2. Toilets | 36 sqm x 2 |
| 3. Small Workshop Space | 36 sqm x 5 |
| 4. Workshop area | 280 sqm |
| 5. Flexible Workspace | 36 sqm x 5 |
| 6. Hallway | 80 sqm x 2 |
| 7. Solarium/Terrace | 360 sqm |
| 8. Lounge | 72 sqm x 2 |
| 9. Study Space | 36 sqm x 4 |
| 10. Archive | 36 sqm |

GROUND FLOOR

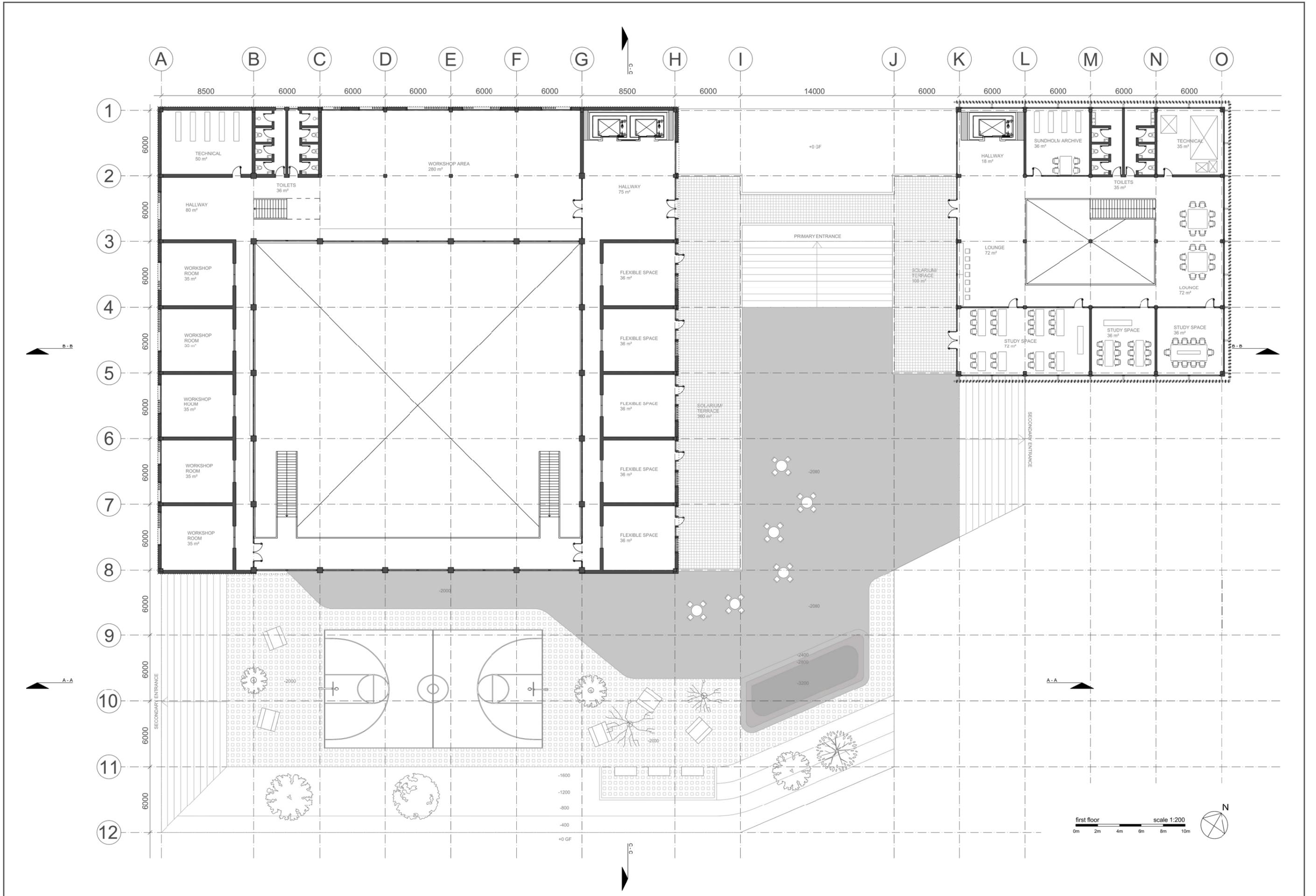
- | | |
|------------------------------|-----------------|
| 1. Technical Space | 50 sqm + 36 sqm |
| 2. Toilets | 36 sqm x 2 |
| 3. Kitchen | 36 sqm x 4 |
| 4. Foodcourt | 225 sqm |
| 5. Flexible Event Space | 580 sqm |
| 6. Flexible Exposition Space | 36 sqm x 5 |
| 7. Coffee Bar | 36 sqm |
| 8. Library | 216 sqm |
| 9. Entrance | 200 sqm |

SUNKEN FLOOR

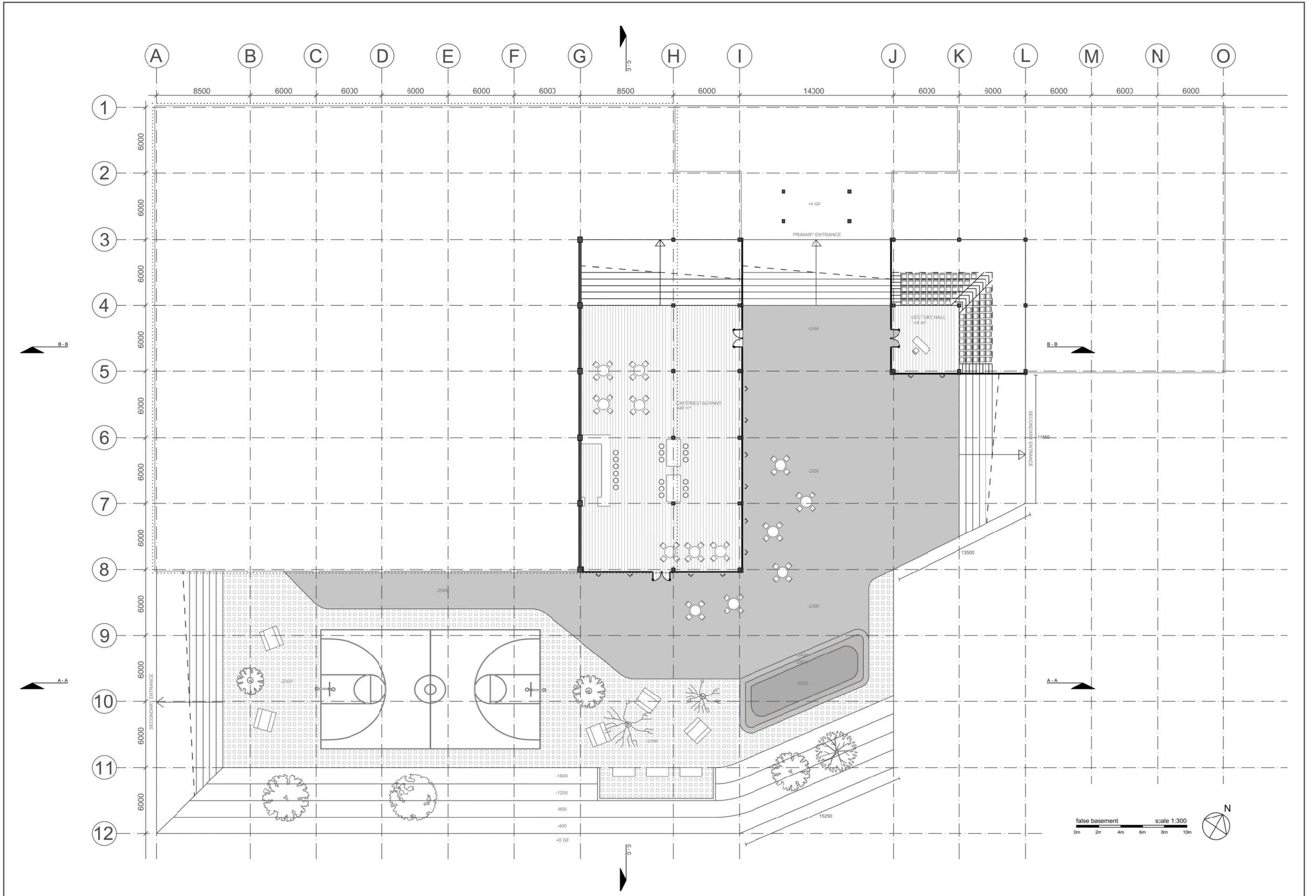
- | | |
|----------------------|---------|
| 1. Café | 340 sqm |
| 2. Lecture Hall | 144 sqm |
| 3. Sitting Pit | 60 sqm |
| 4. Sports Field | 200 sqm |
| 5. Recreational Area | |
| 6. Outside Terrace | |
| 7. Central Square | |



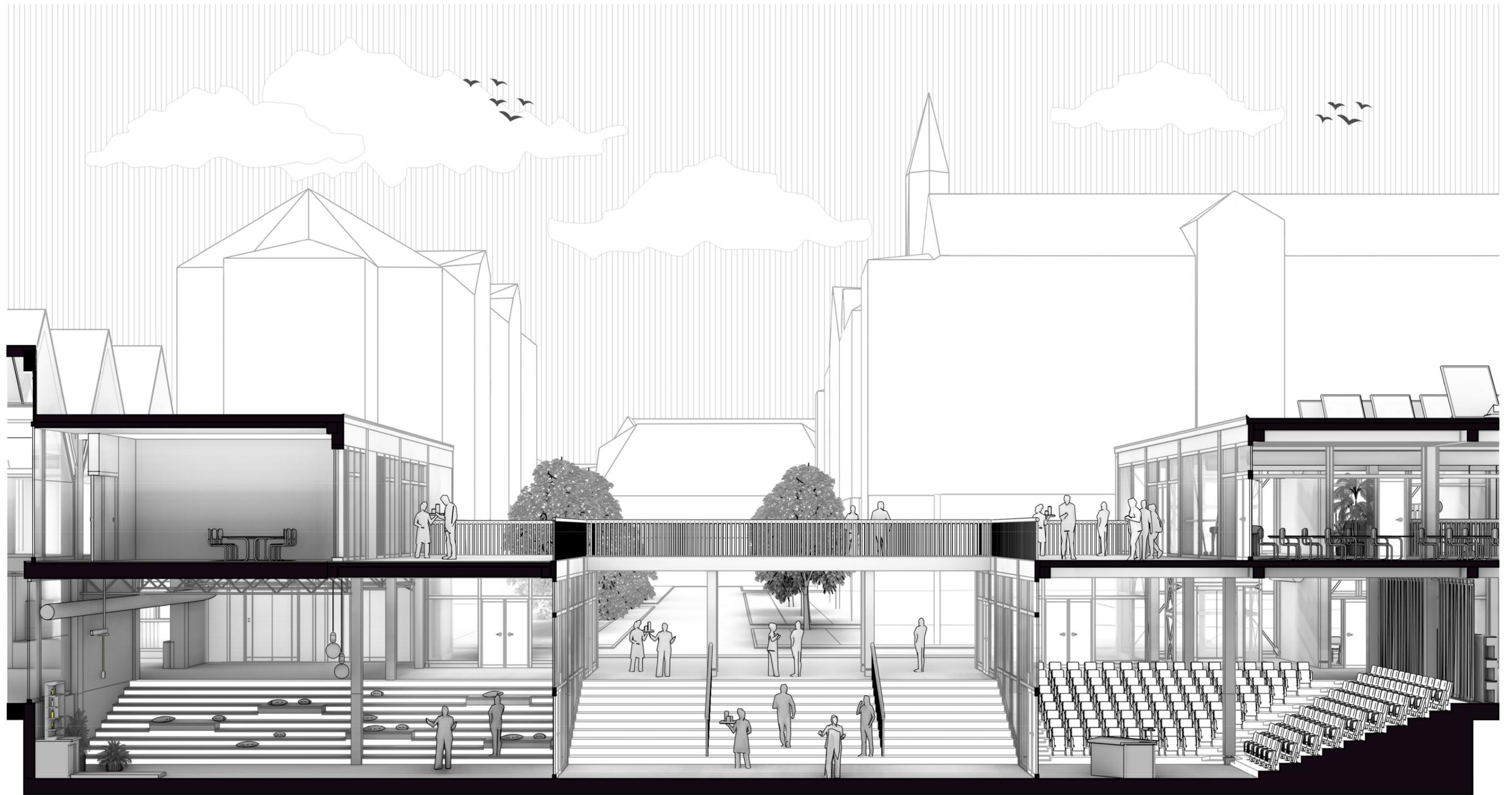


















MICRO

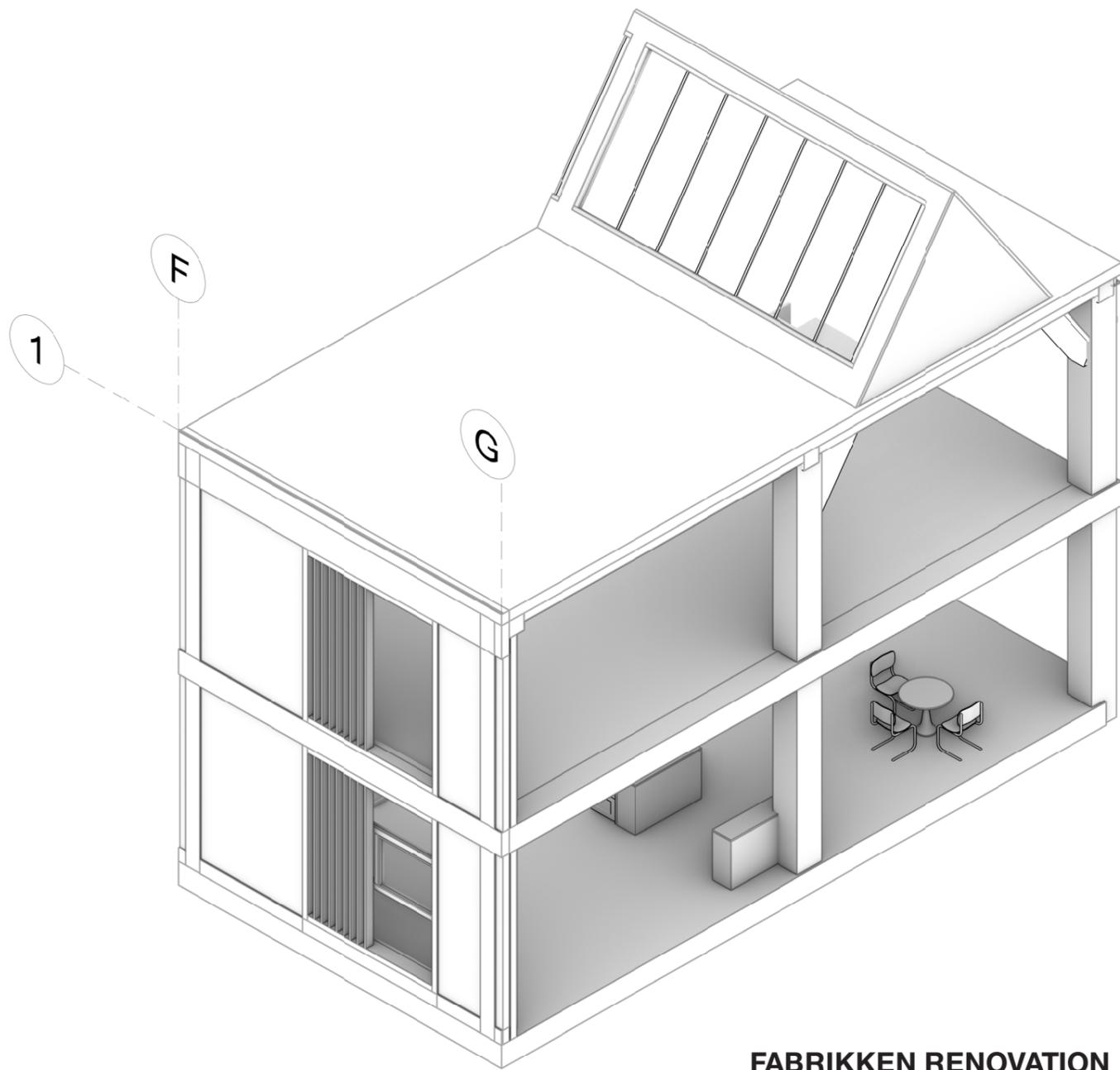
– ON A DETAILING SCALE –



FLEXIBILITY

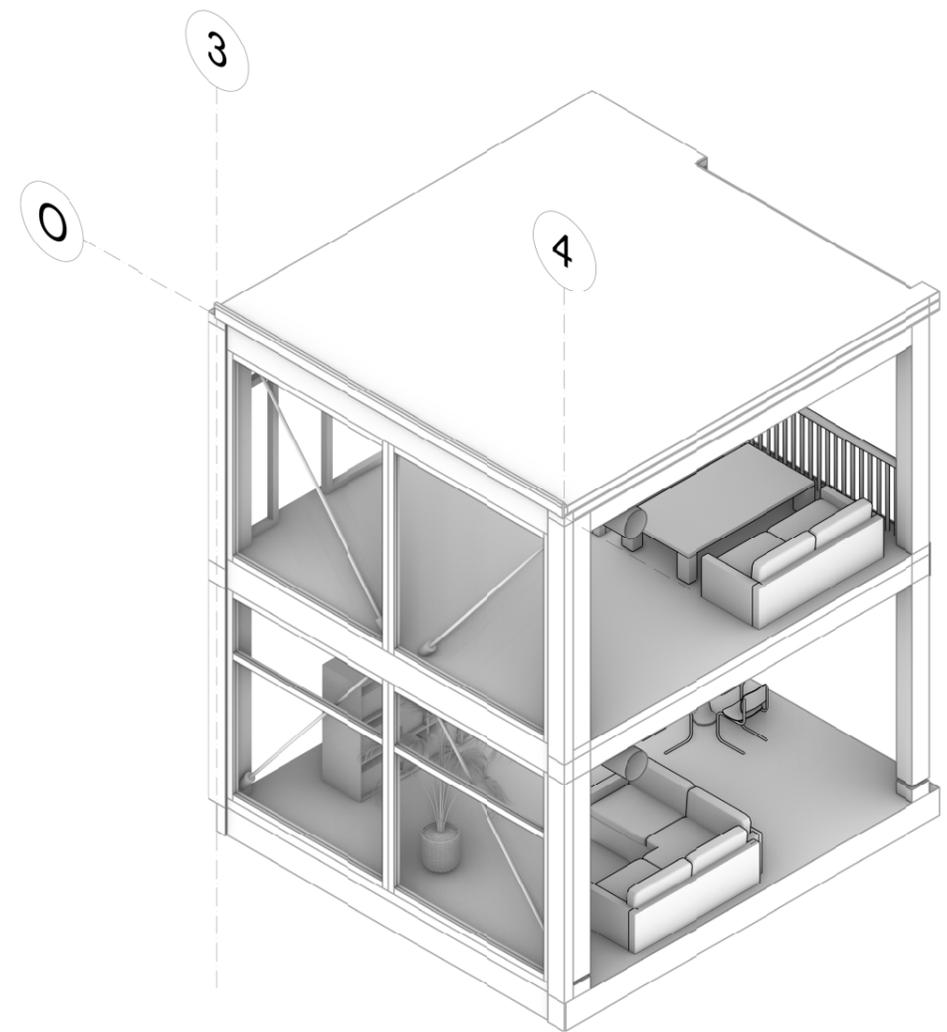


FUTURE PROOF



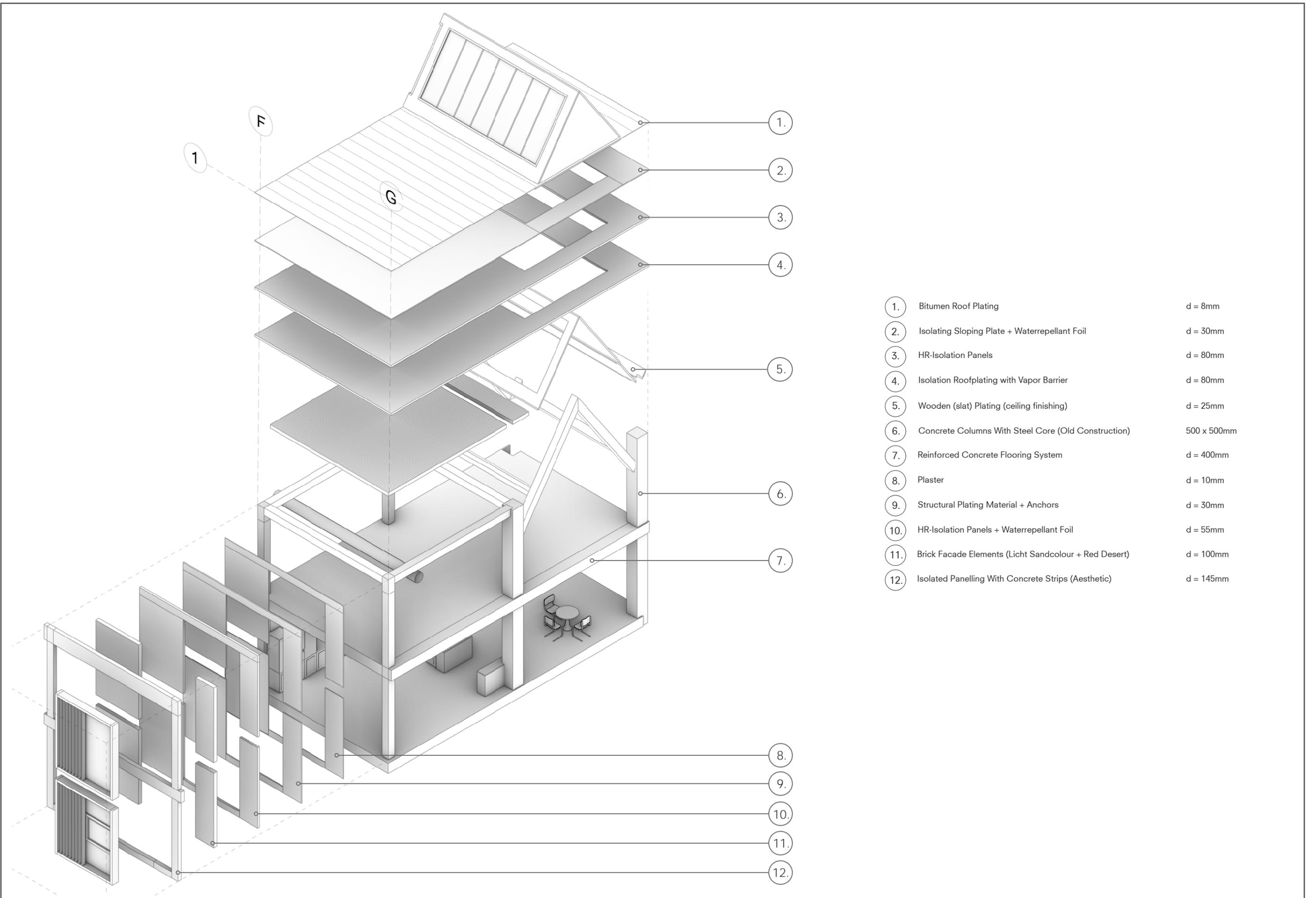
FABRIKKEN RENOVATION

The materials on the renovation of the Fabrikken have the same industrial aesthetic. Concrete, brick (like the neighbourhood) and steel are prominent

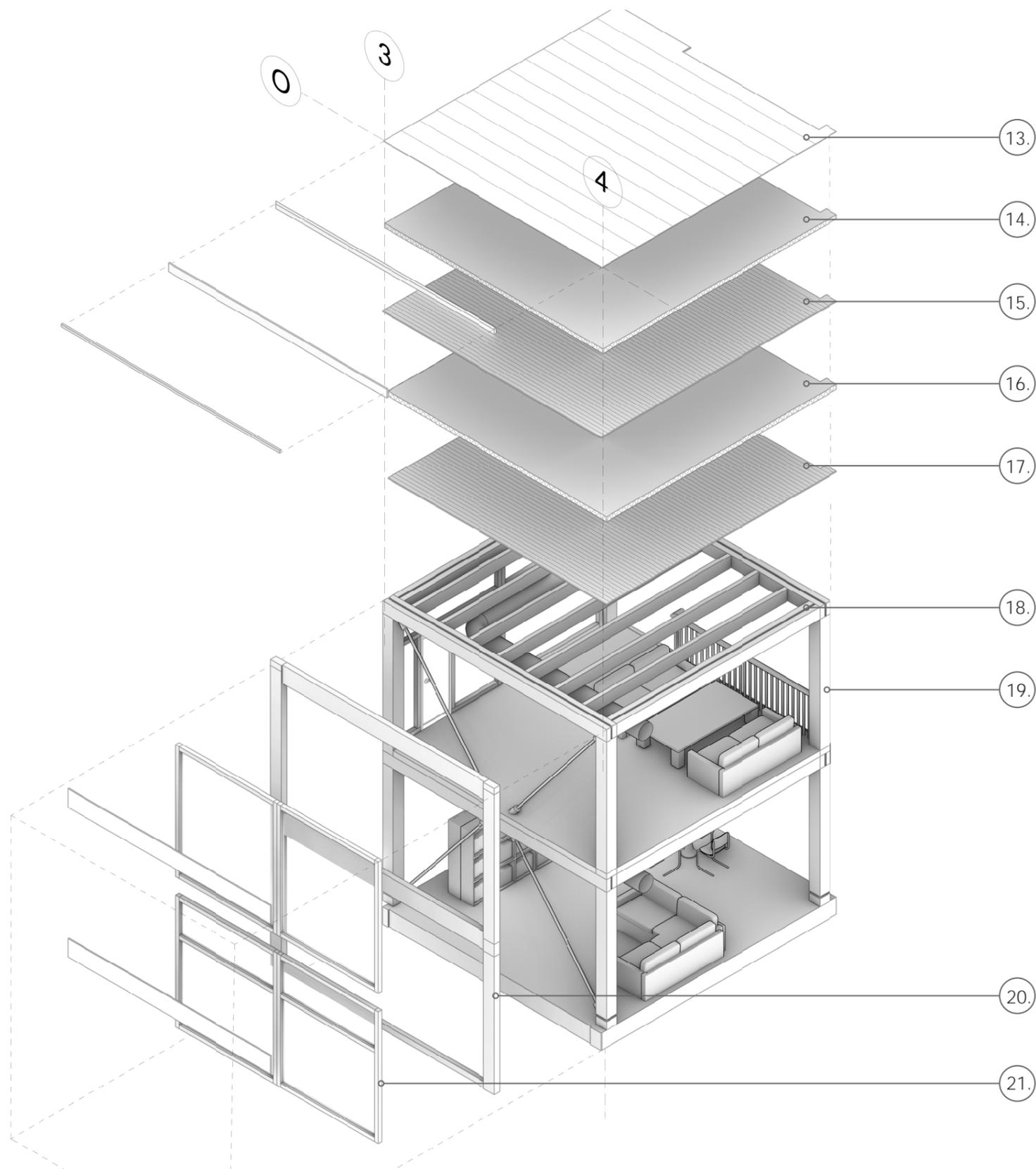


NEW BUILDING

The new addition follows the same grid, structure and measurements, but the materials fit the new progressive ideas from the Danish government. Wood is prominent

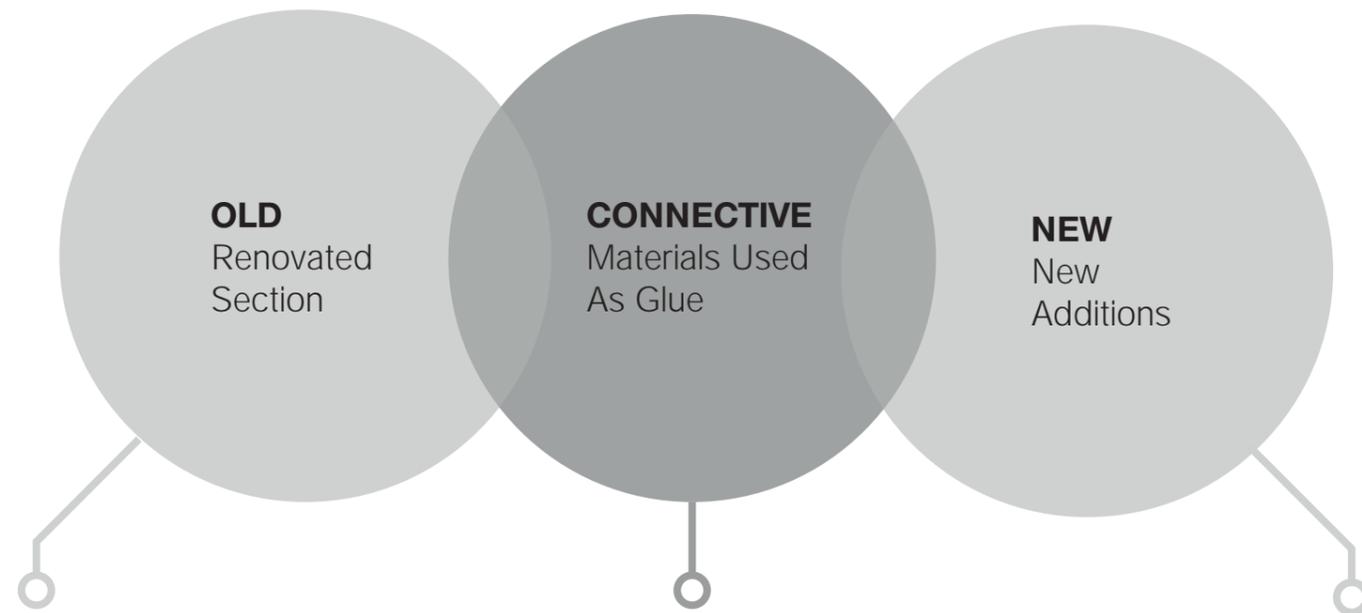


- | | | |
|-----|---|-------------|
| 1. | Bitumen Roof Plating | d = 8mm |
| 2. | Isolating Sloping Plate + Waterrepellant Foil | d = 30mm |
| 3. | HR-Isolation Panels | d = 80mm |
| 4. | Isolation Roofplating with Vapor Barrier | d = 80mm |
| 5. | Wooden (slat) Plating (ceiling finishing) | d = 25mm |
| 6. | Concrete Columns With Steel Core (Old Construction) | 500 x 500mm |
| 7. | Reinforced Concrete Flooring System | d = 400mm |
| 8. | Plaster | d = 10mm |
| 9. | Structural Plating Material + Anchors | d = 30mm |
| 10. | HR-Isolation Panels + Waterrepellant Foil | d = 55mm |
| 11. | Brick Facade Elements (Licht Sandcolour + Red Desert) | d = 100mm |
| 12. | Isolated Panelling With Concrete Strips (Aesthetic) | d = 145mm |



- | | | |
|-----|--|-------------|
| 13. | Bitumen Roof Plating | d = 8mm |
| 14. | HR-Isolation Panels + Waterrepellant Foil | d = 110mm |
| 15. | Wooden (slat) Plating | d = 25mm |
| 16. | Isolated Sandwich Panel | d = 110mm |
| 17. | Wooden (slat) Plating | d = 25mm |
| 18. | Laminated Wooden Beams (2x) (Bolted) | 130 x 300mm |
| 19. | Glulam Wooden Column | 300 x 300mm |
| 20. | Isolated Panelling With Wooden Strips (Aesthetic) | d = 145mm |
| 21. | (Anthracite) Aluminum Window Frame (& HR++-Glass Panels) | d = 100mm |

MATERIALIZATION



FABRIKKEN RENOVATION

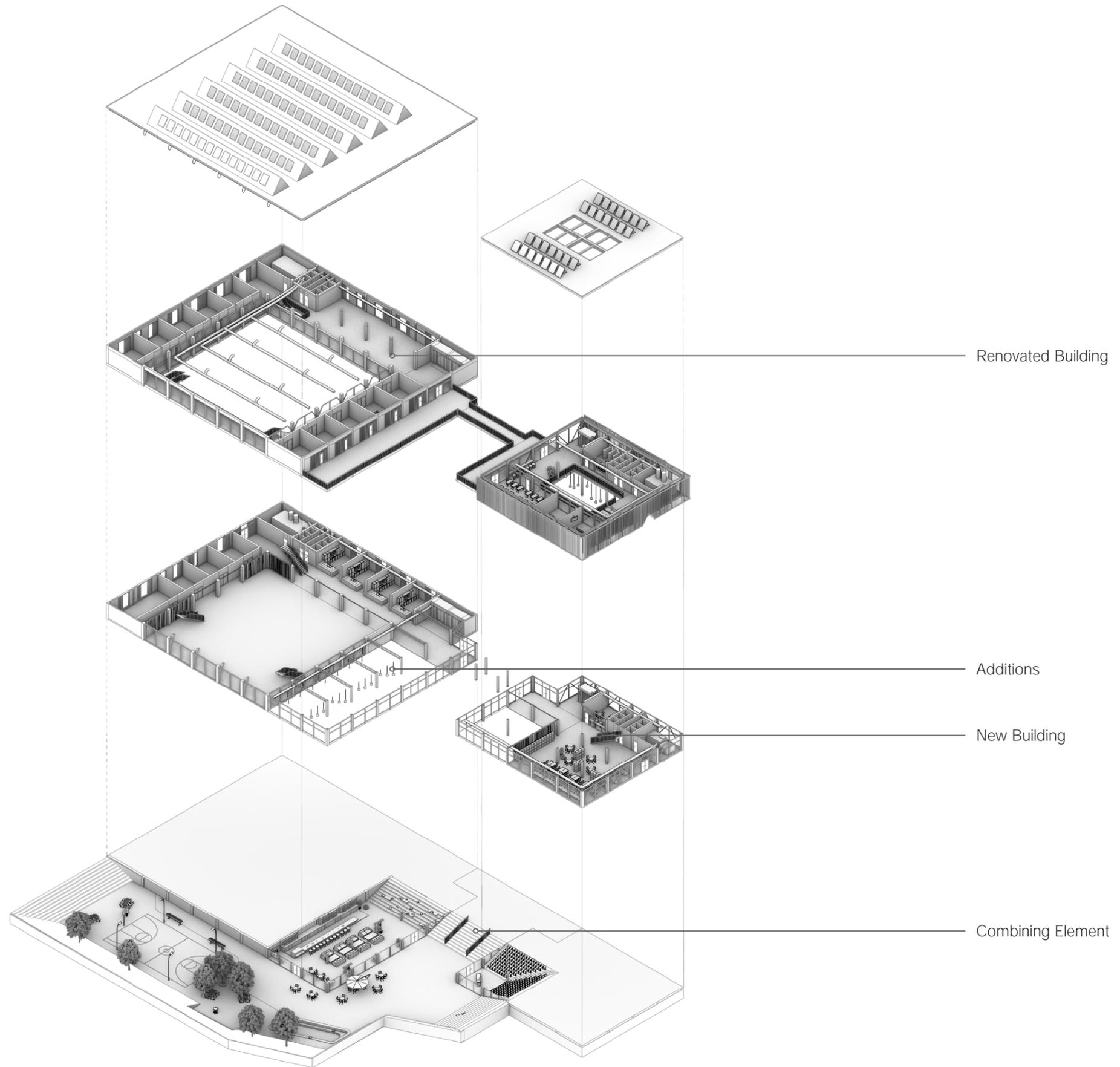
The materials used in the renovated building have a heavy and mostly industrial aesthetic that characterizes the spirit of Sundholm.

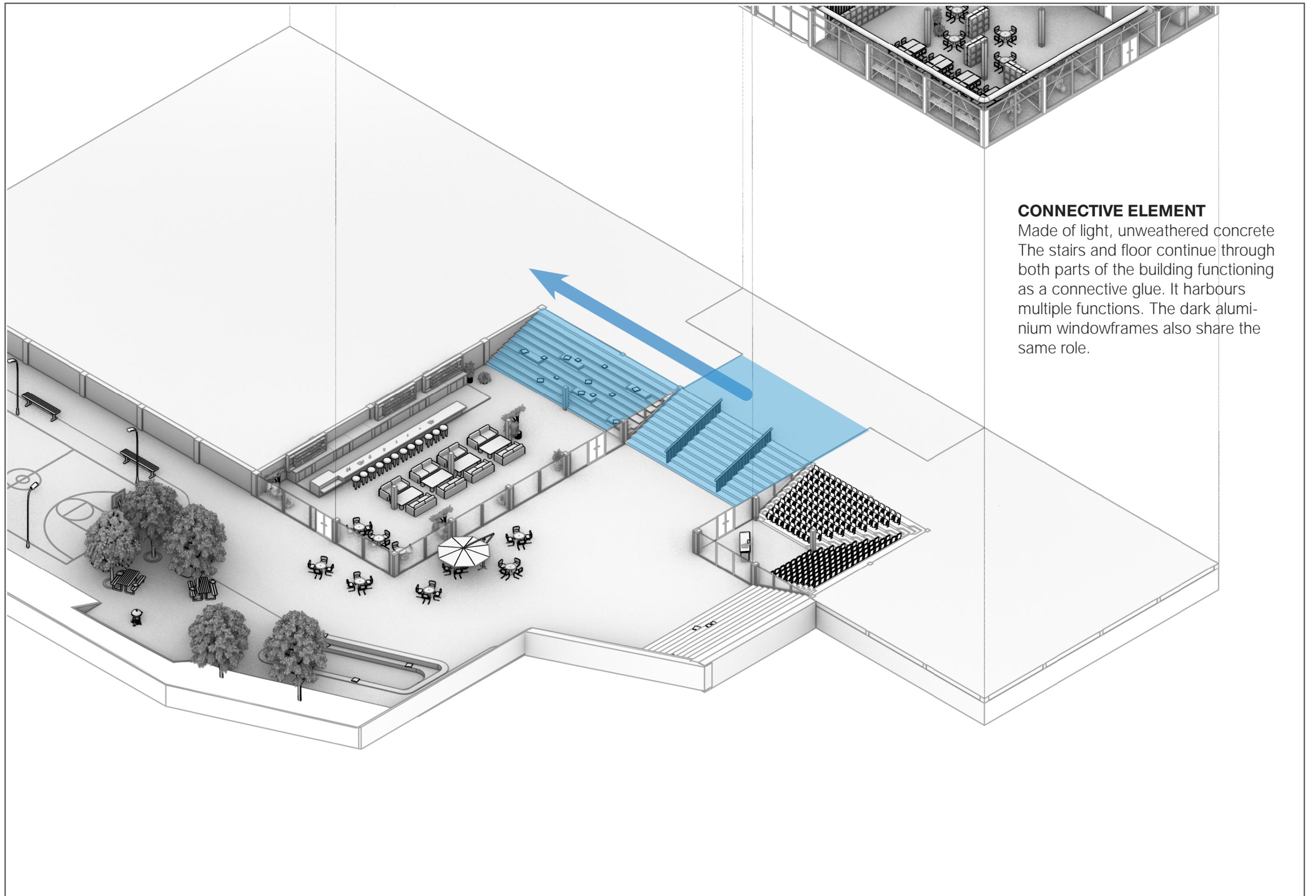
CONNECTIVE ELEMENTS

The connective elements are a middleground between old and new. It is a buffer between the different parts of the ensemble.

SECONDARY BUILDING

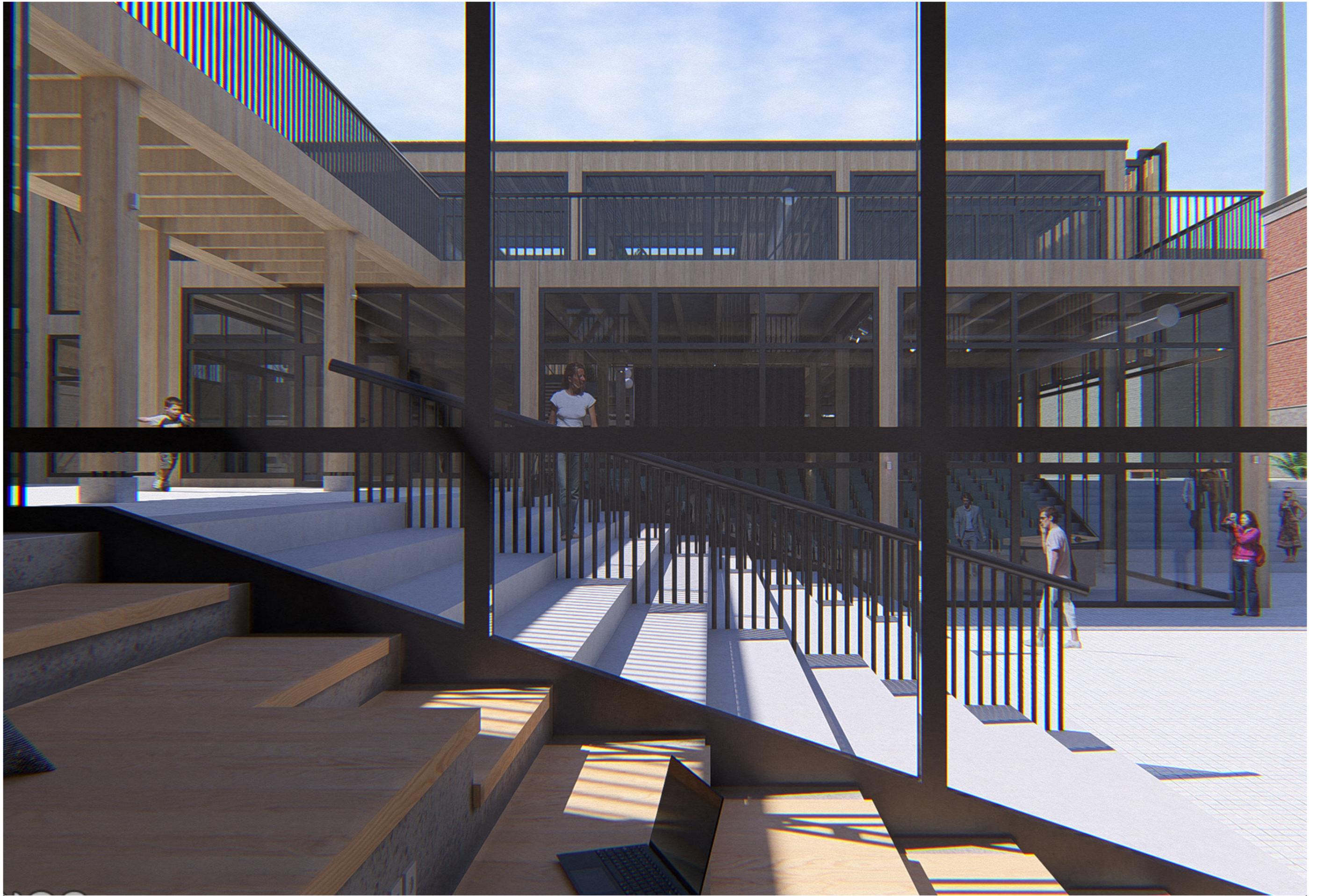
The materials of the newly added sections have an open character with an innovative materialistic approach, without erasing the original identity.

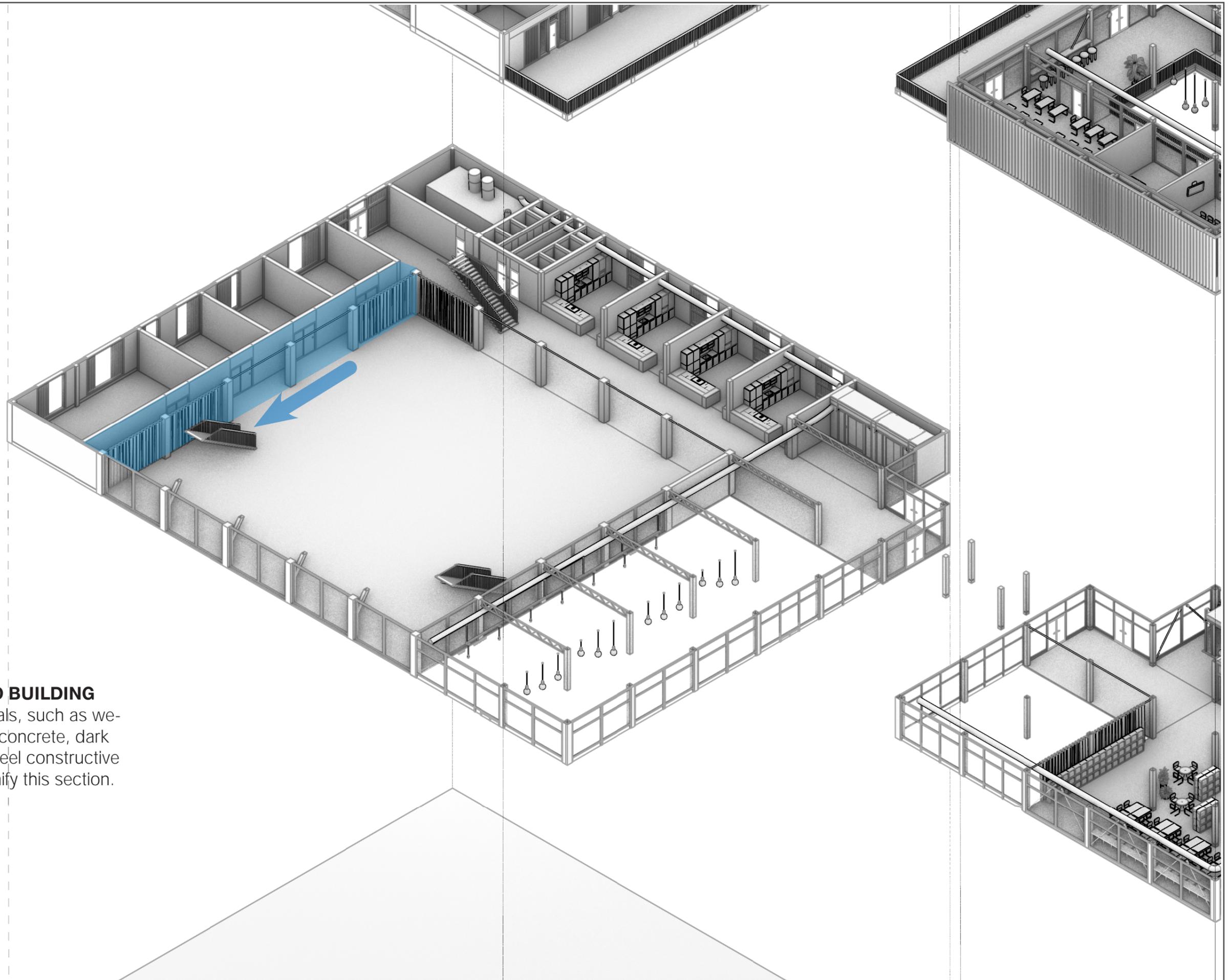




CONNECTIVE ELEMENT

Made of light, unweathered concrete
The stairs and floor continue through
both parts of the building functioning
as a connective glue. It harbours
multiple functions. The dark alumi-
nium windowframes also share the
same role.

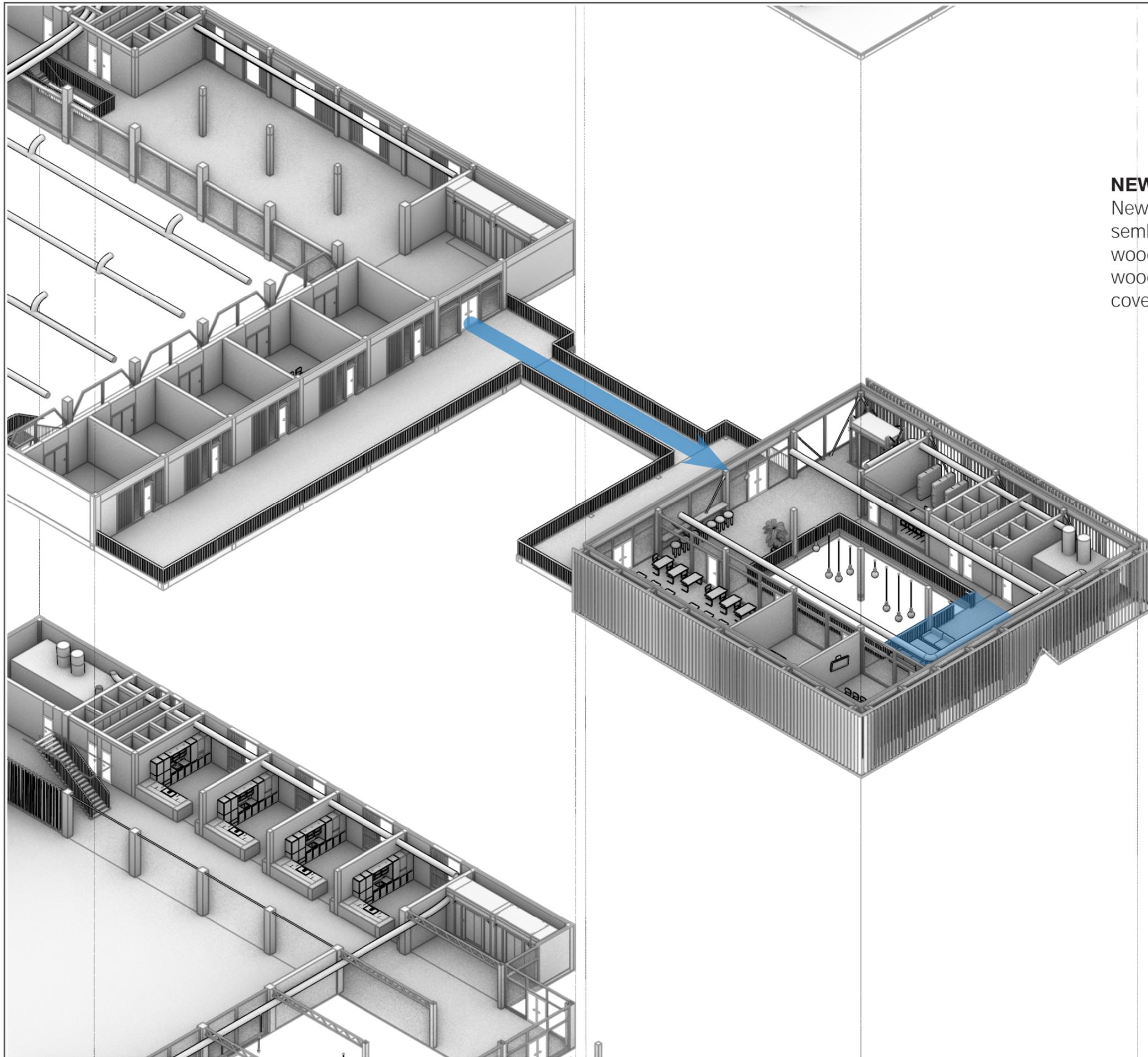




RENOVATED BUILDING

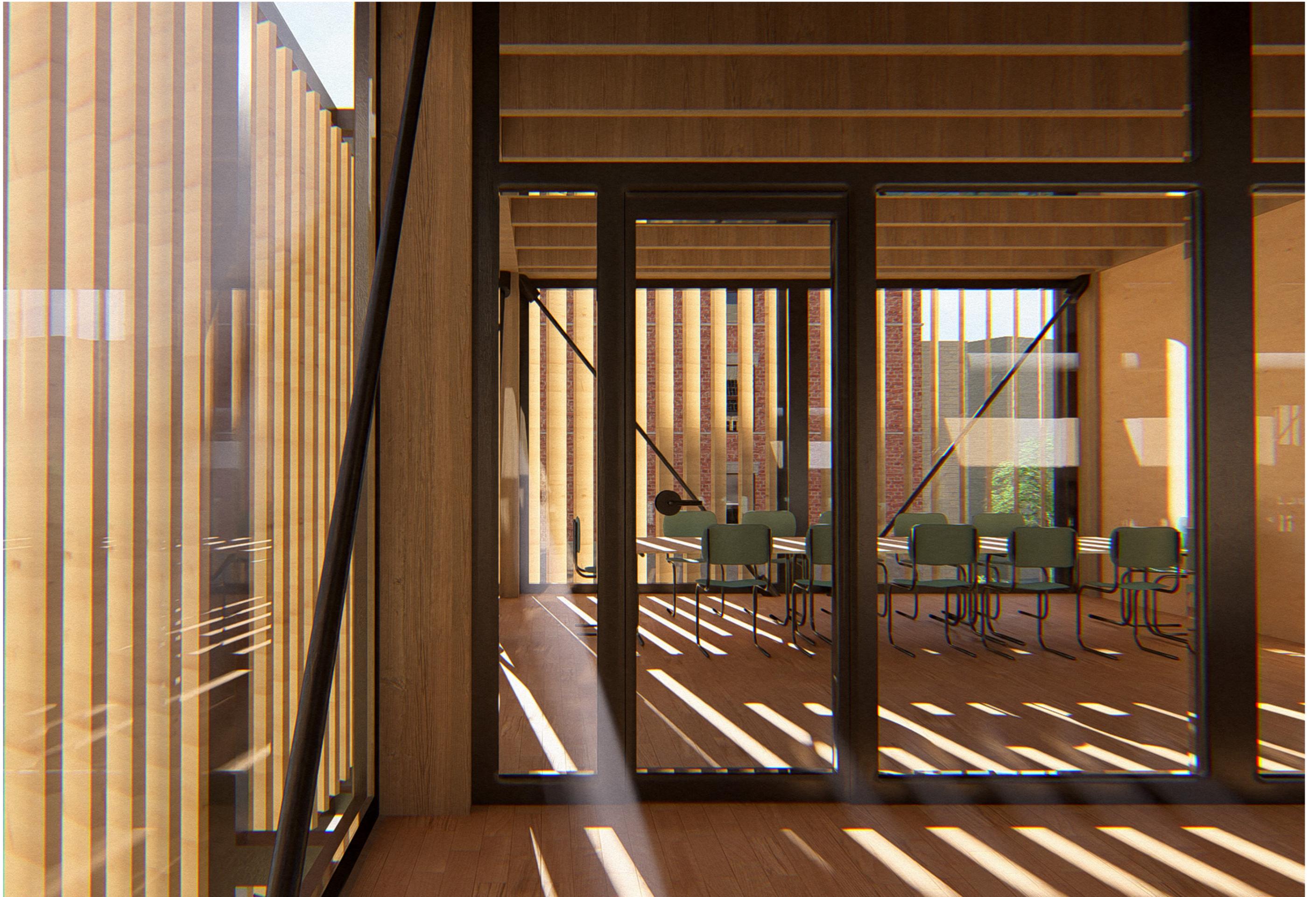
Heavy materials, such as weathered dark concrete, dark metals and steel constructive elements signify this section.

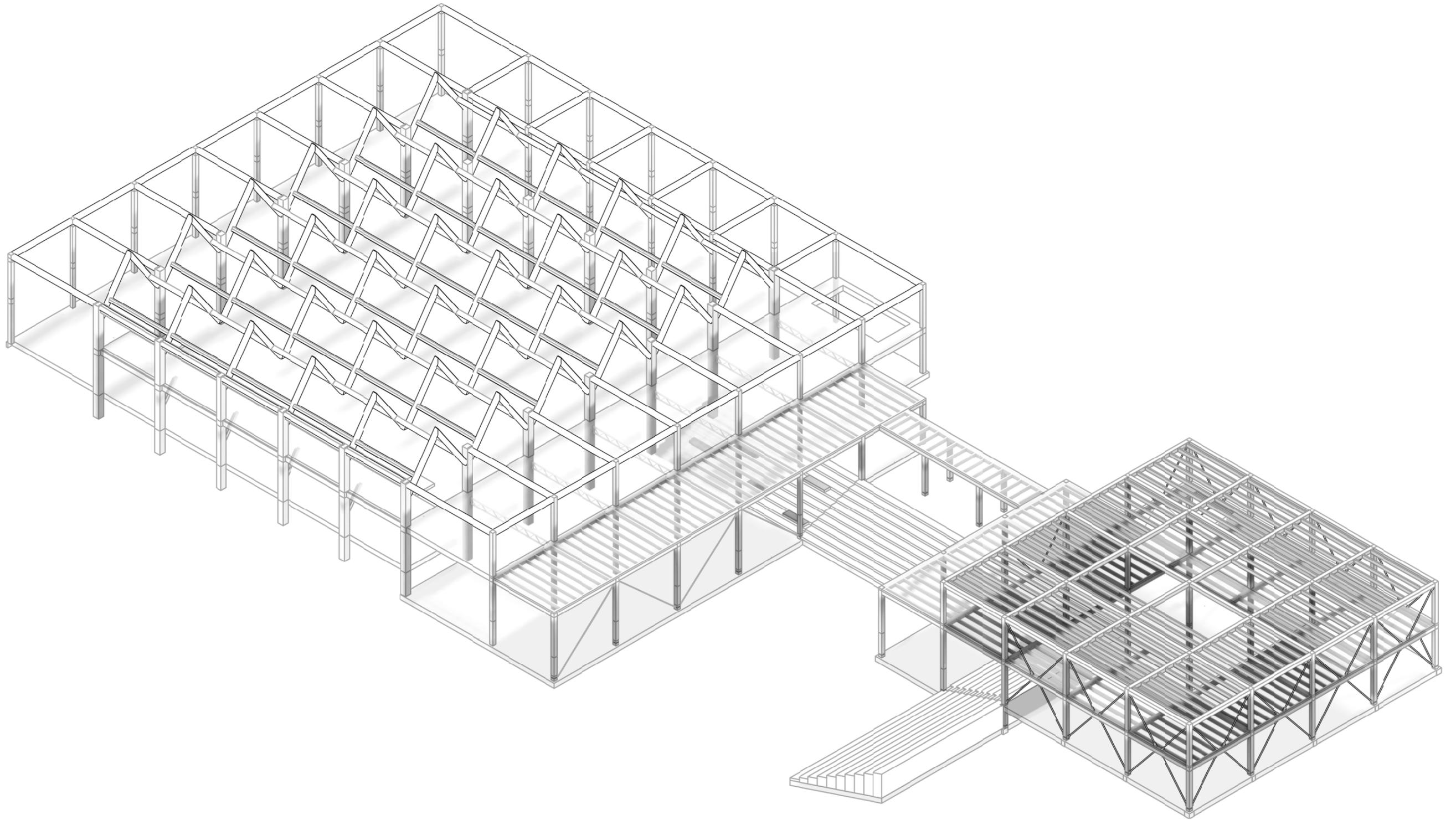




NEW BUILDING

Newly attached sections of the ensemble are primarily made of glulam wooden elements and laminated wooden paneling. Wooden louvers cover significant part of the facade.





h = 10.135 | ROOF top

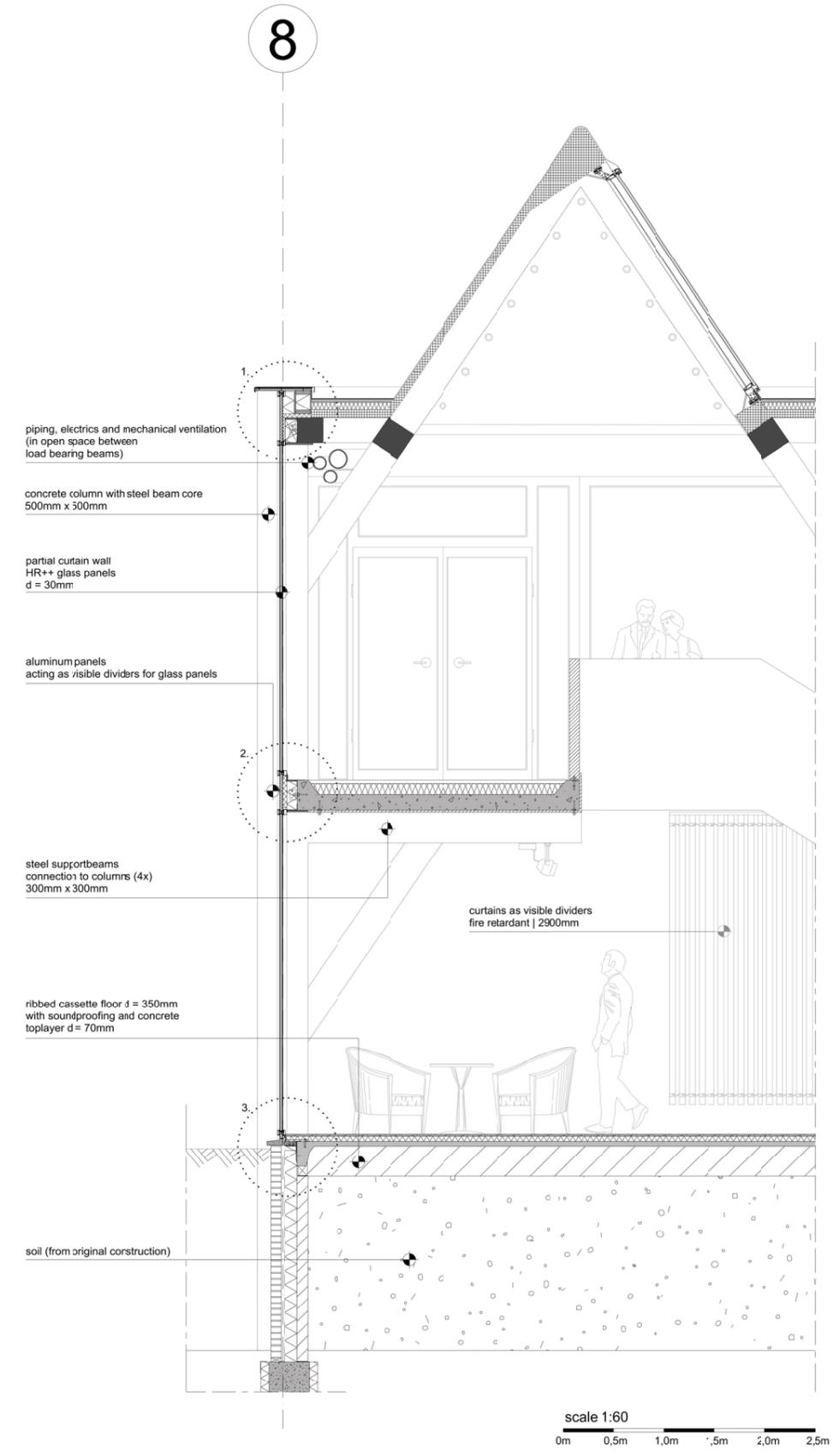
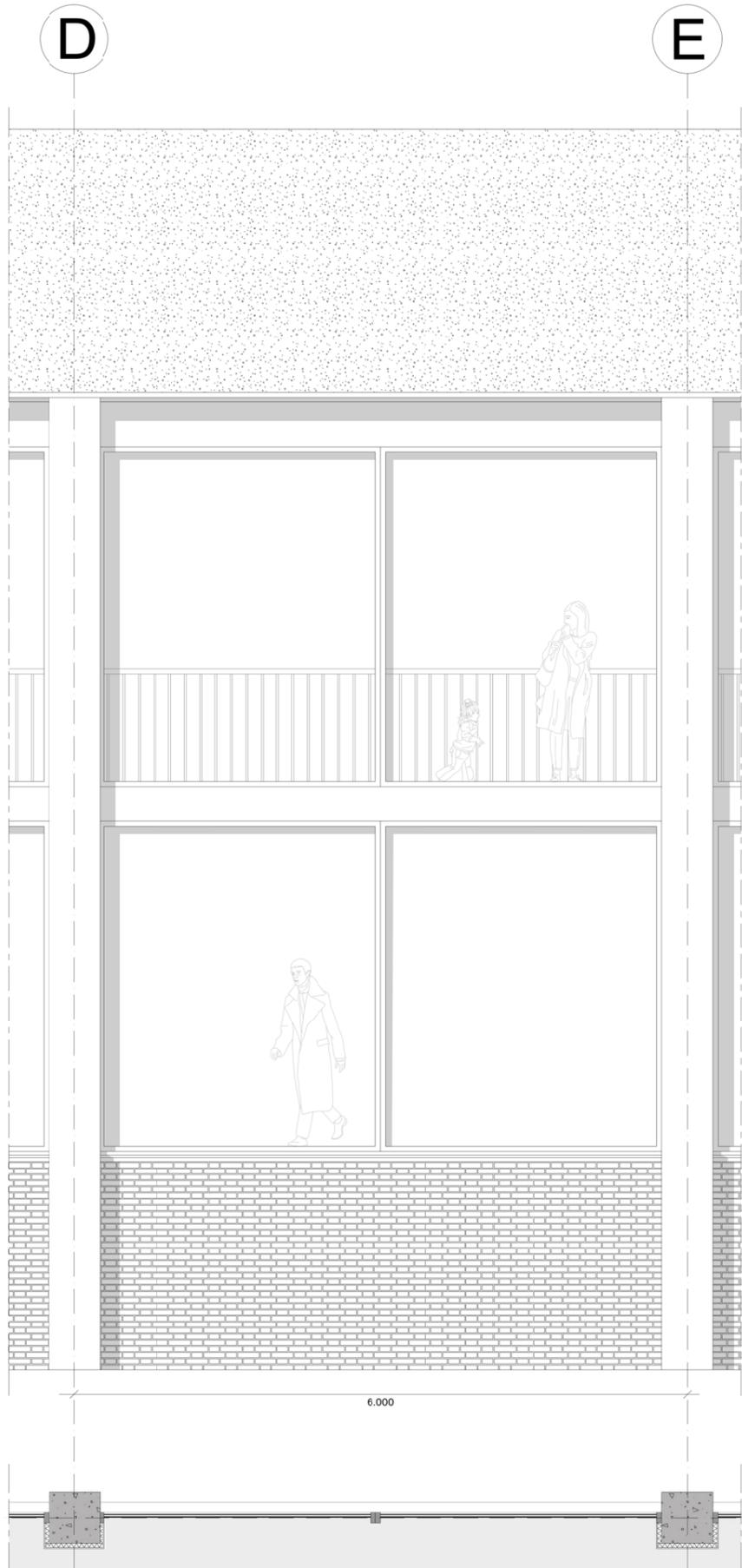
h = 7.560 | RIDGE

h = 3.655 | FIRST FLOOR top

h = 3.355 | FIRST FLOOR btm.

h = 0 | GROUND FLOOR

h = -2000 | FLOOR -1



8

8



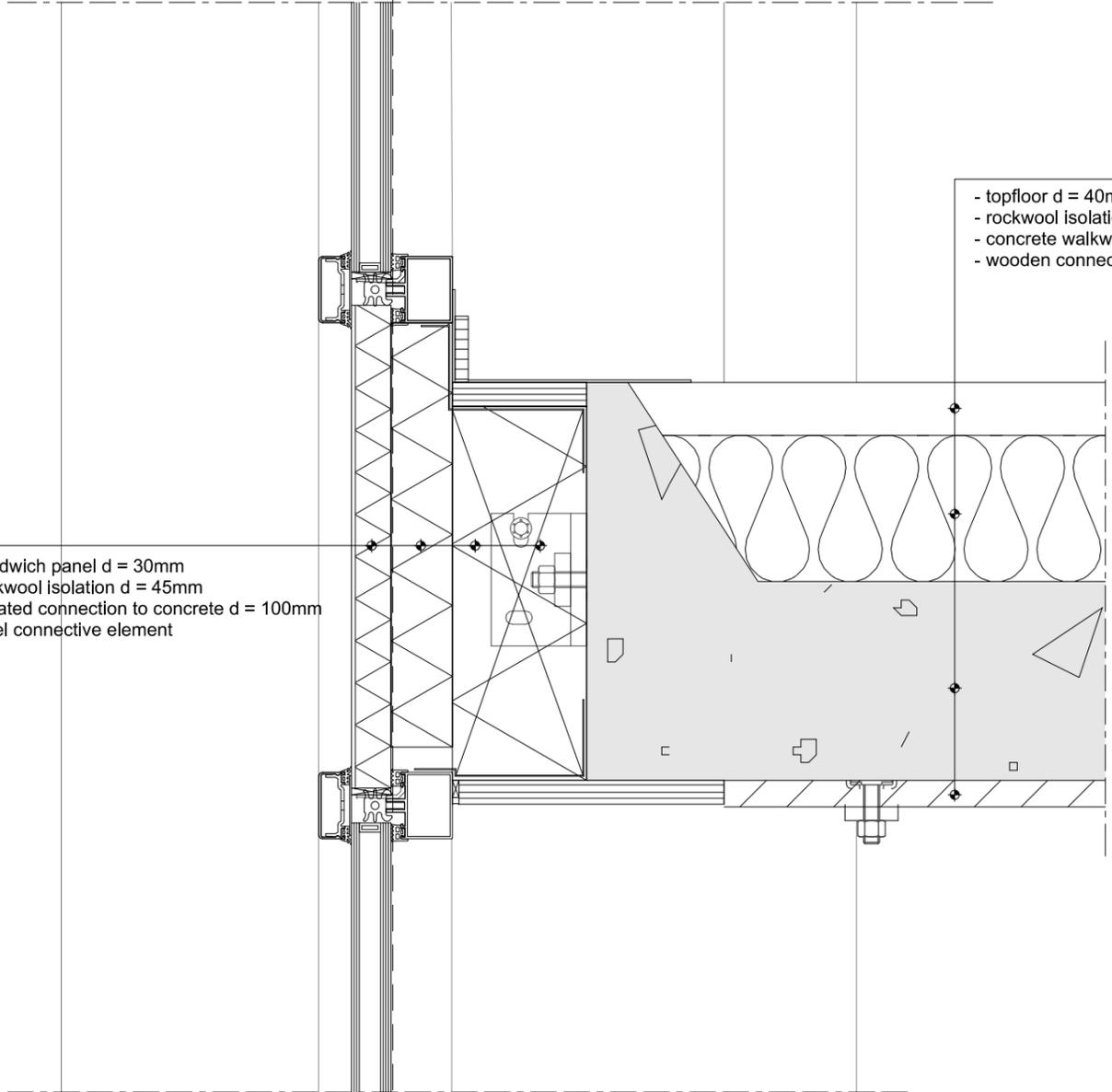
h = 3.655 | FIRST FLOOR top



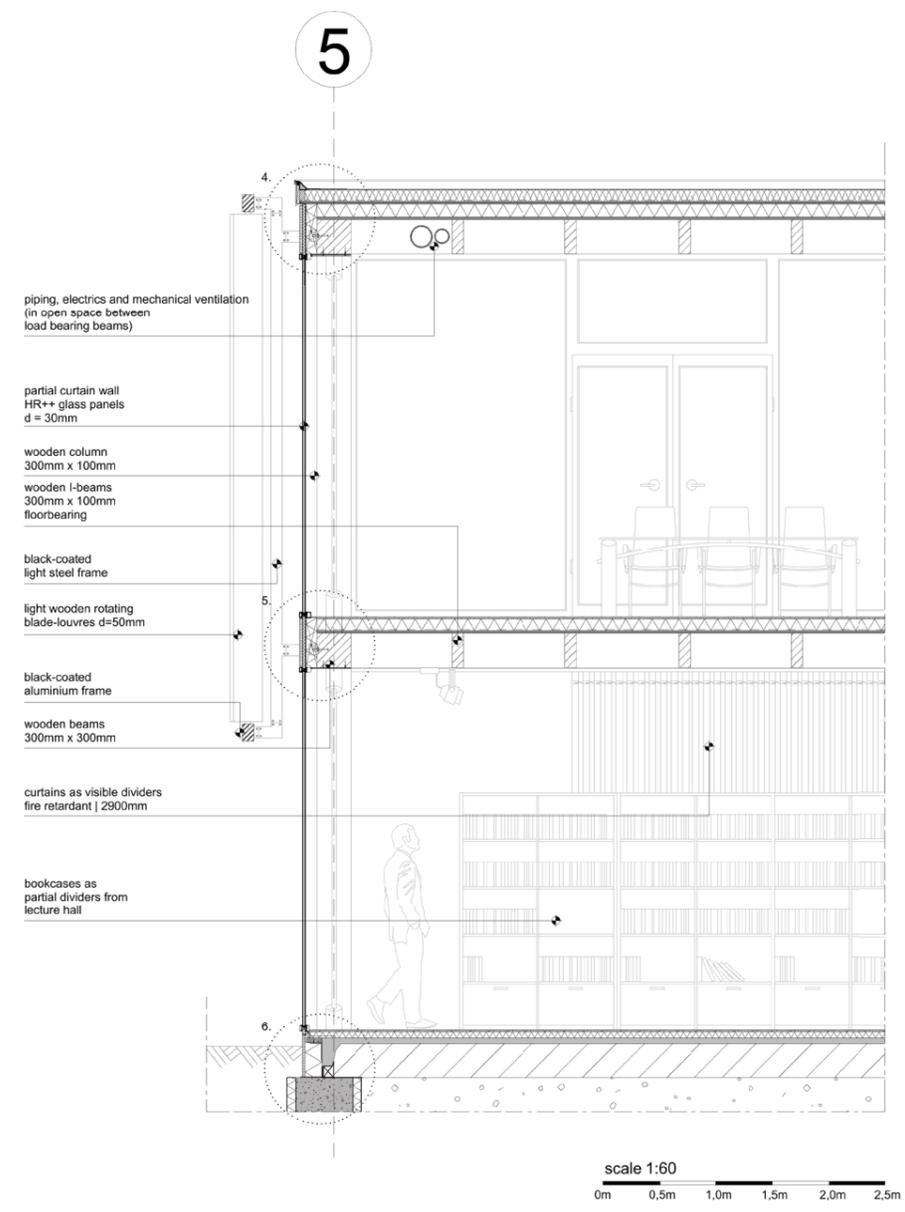
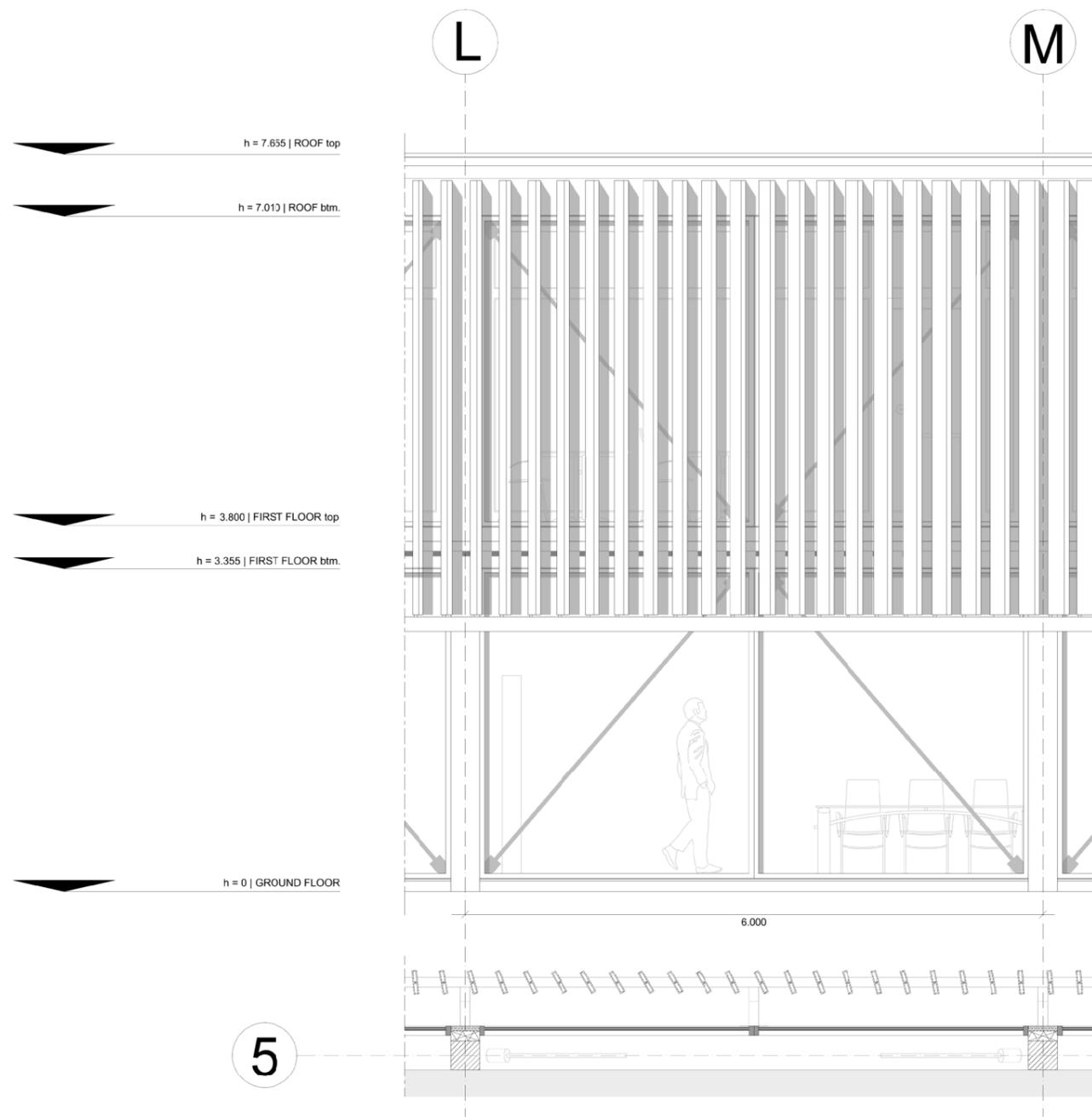
h = 3.355 | FIRST FLOOR btm.

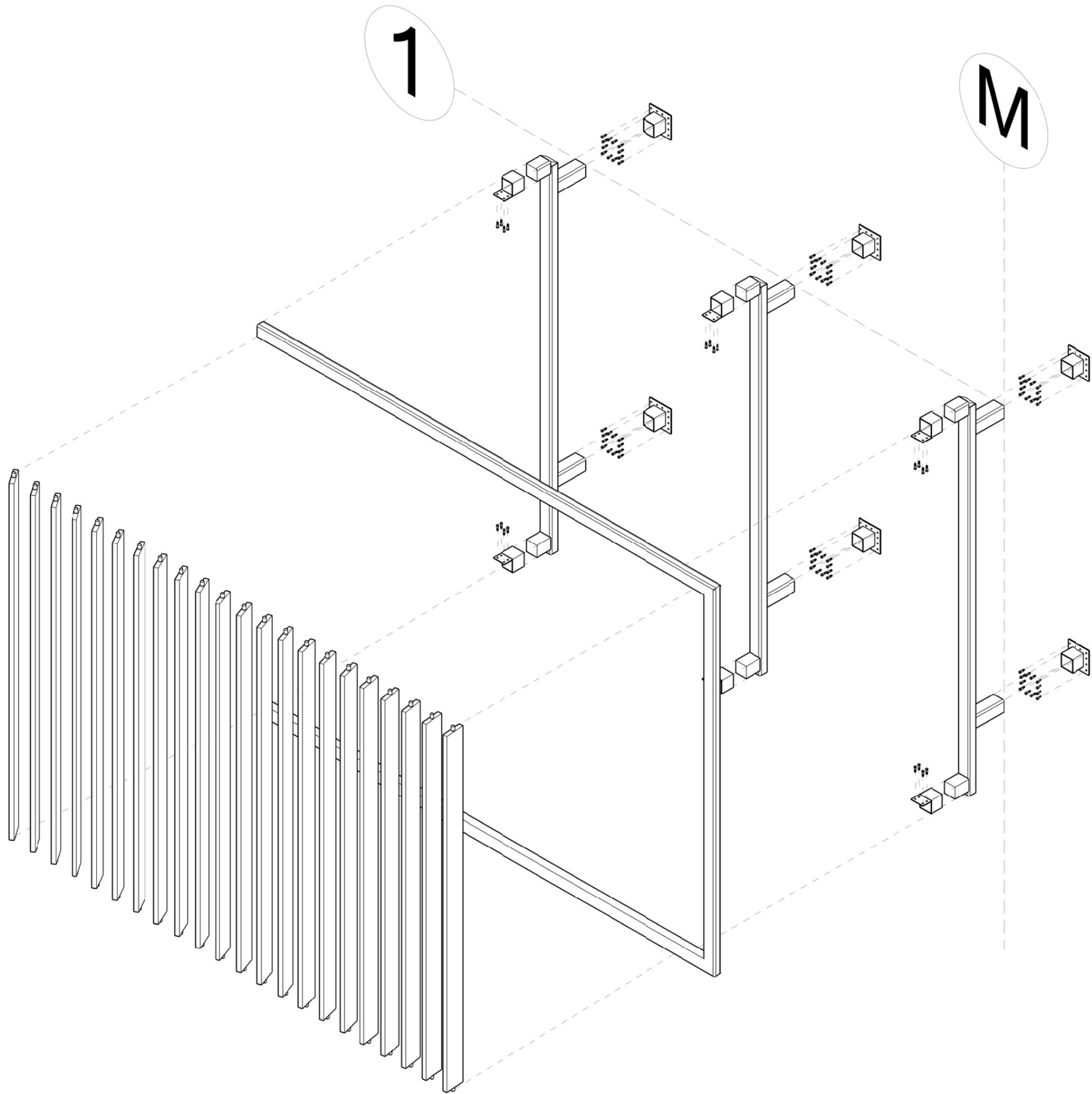
- sandwich panel d = 30mm
- rockwool isolation d = 45mm
- isolated connection to concrete d = 100mm
- steel connective element

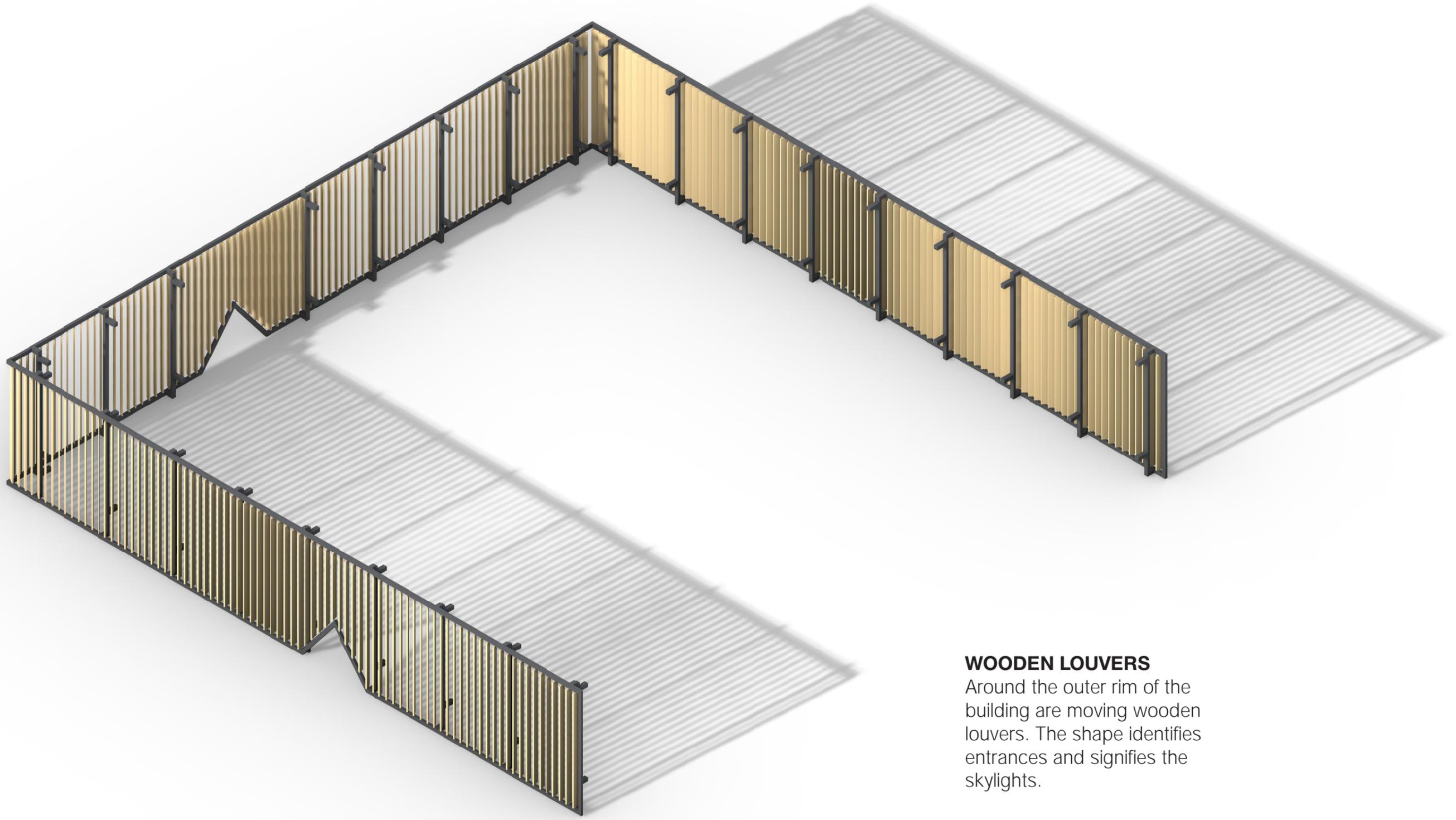
- topfloor d = 40mm
- rockwool isolation d = 110mm
- concrete walkway d(b) = 150mm
- wooden connective element d = 20mm



detail 2 scale 1:5
0mm 50mm 100mm 150mm 200mm 250mm

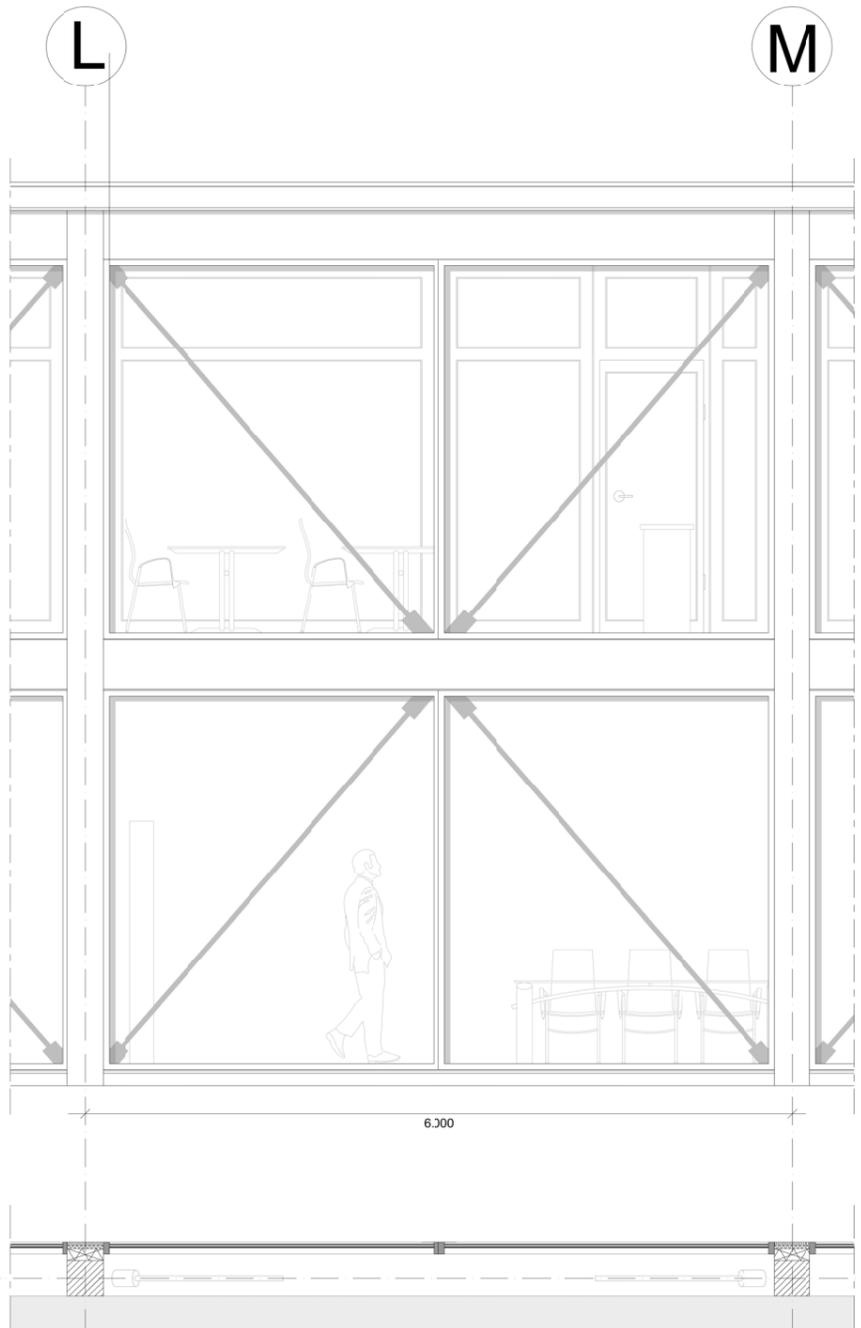
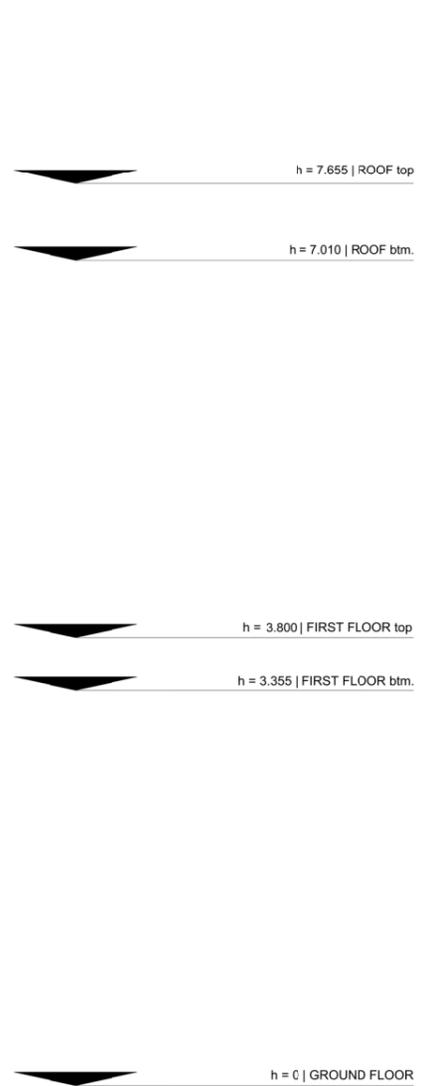




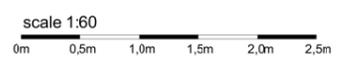
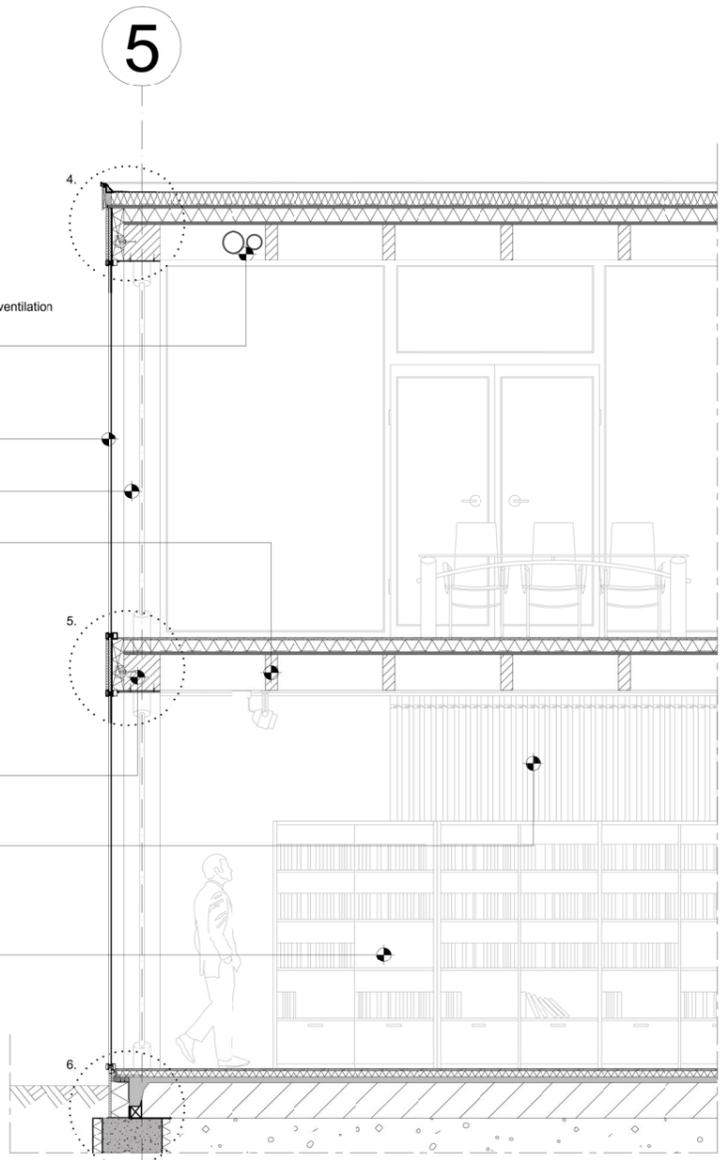


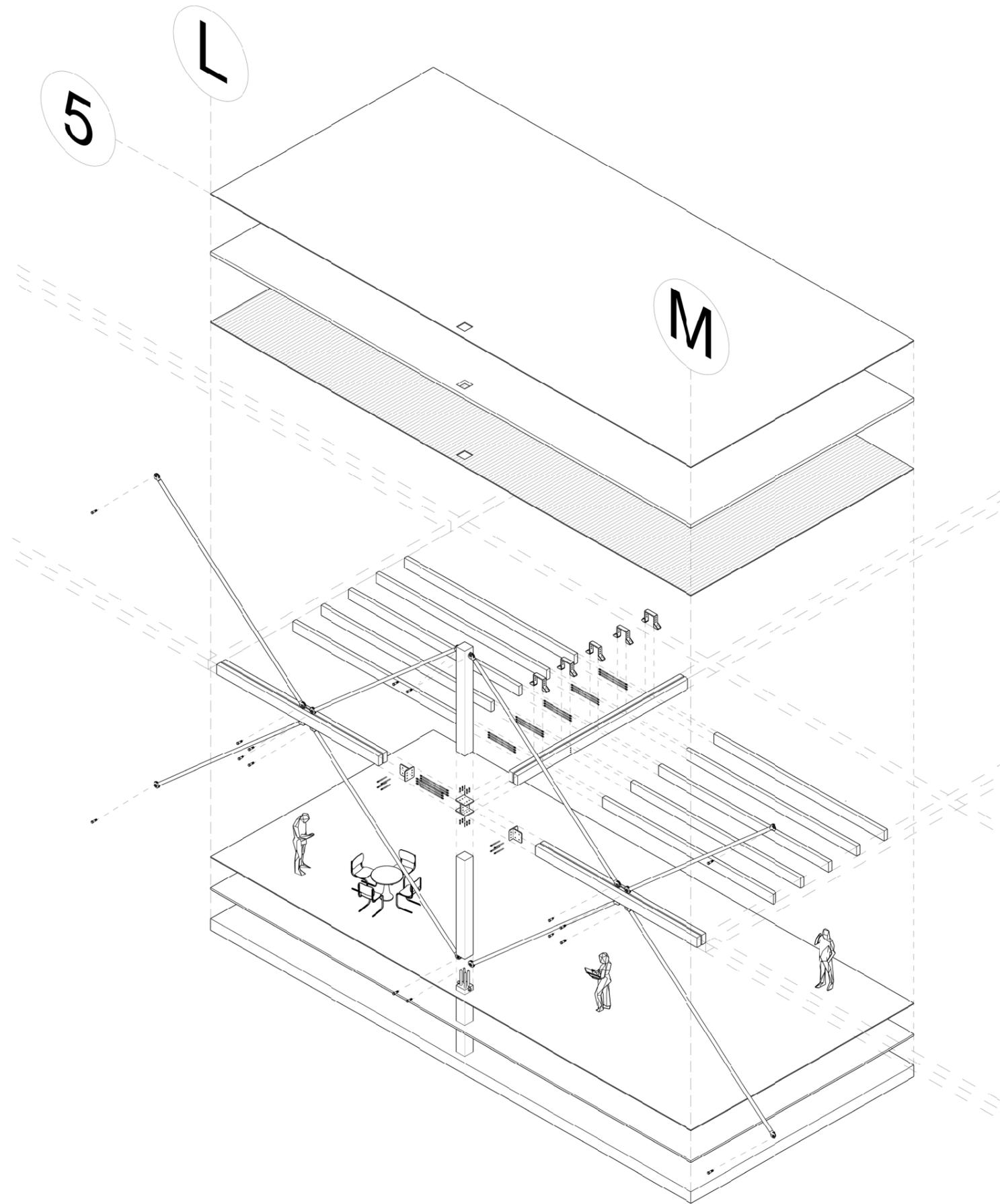
WOODEN LOUVERS

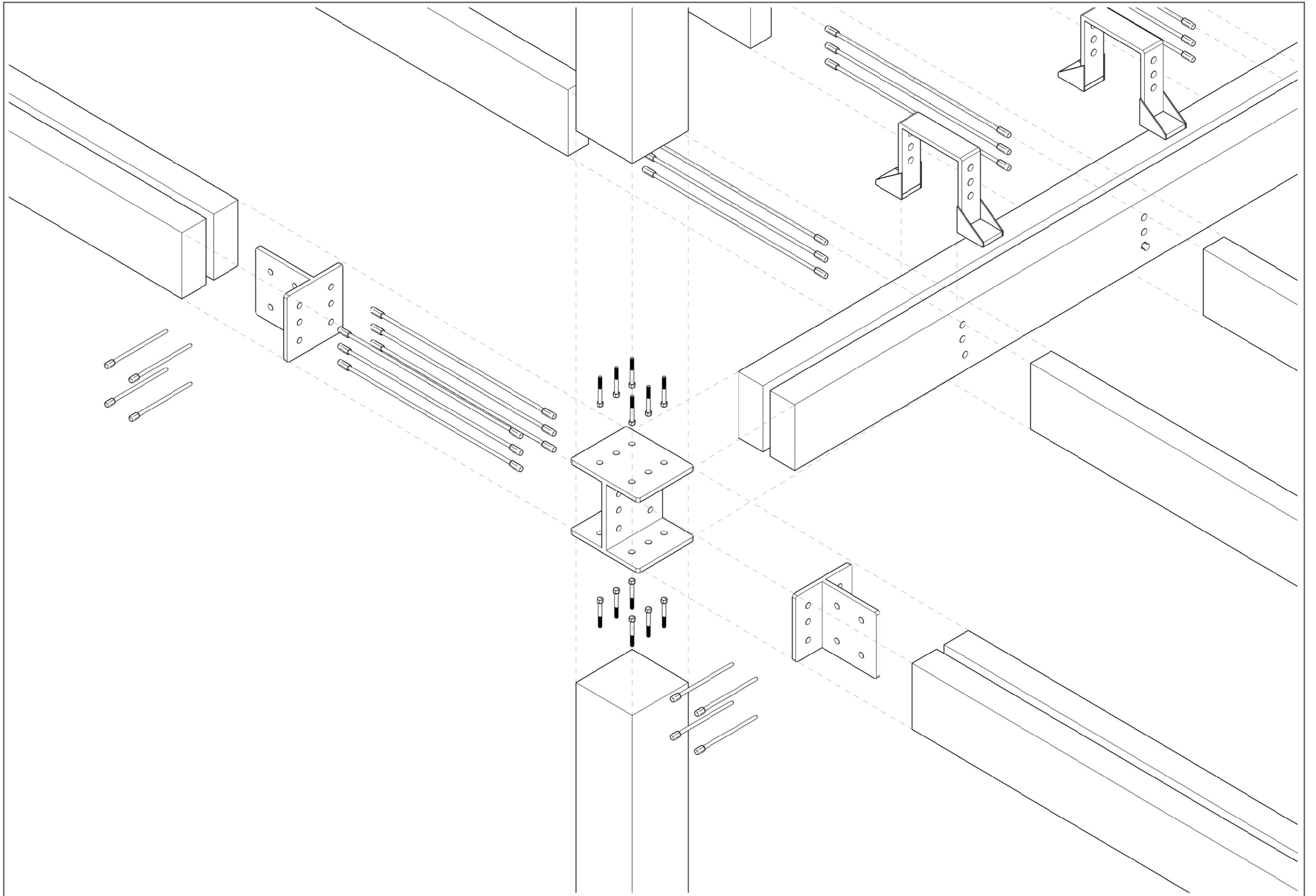
Around the outer rim of the building are moving wooden louvers. The shape identifies entrances and signifies the skylights.

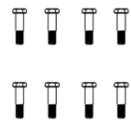
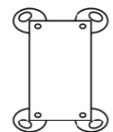
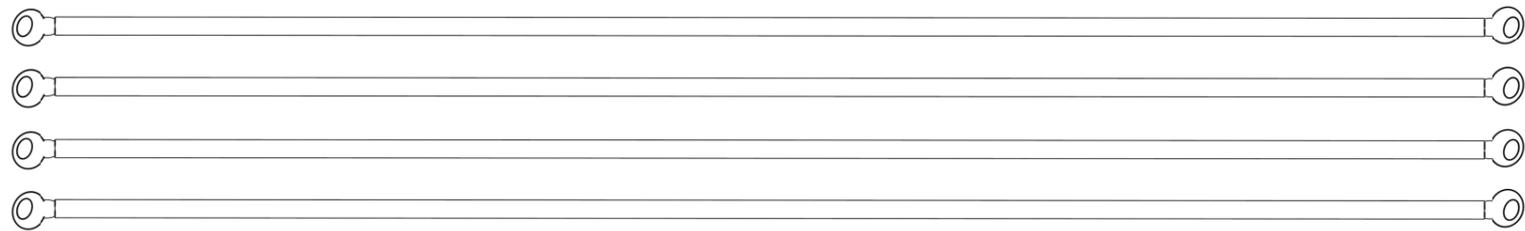
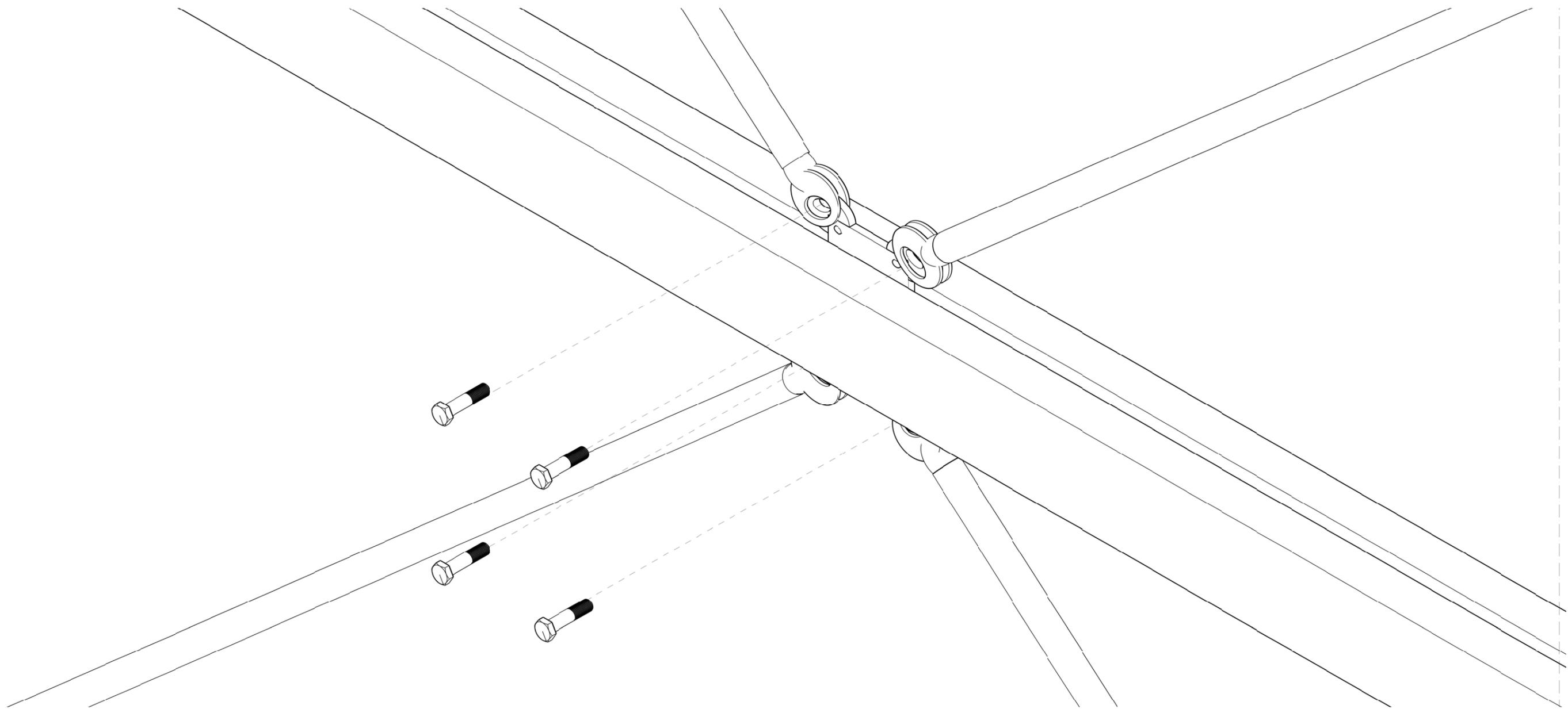


- pipng, electrics and mechanical ventilation
(in open space between load bearing beams)
- partial curtain wall
HR++ glass panels
d = 30mm
- wooder column
300mm x 100mm
- wooder l-beams
300mm x 100mm
floorbearing
- wooder beams
300mm x 300mm
- curtains as visible dividers
fire retardant | 2900mm
- bookcases as
partial cviders from
lecture tall









STRUCTURAL CABLES

In between the glulam beams there is a small open space. The steel structural cables thread through this opening, merging with the structure

5

h = 3.800 | FIRST FLOOR top

h = 3.355 | FIRST FLOOR btm.

- wooden buoy plate d = 25mm
- sandwich panel d = 30mm
- isolated beam d = 100mm
- laminated wooden beams
2 times 300x100mm

- concrete toplayer d = 20mm
- walkable isolation layer d = 100mm
- wooden plate material d = 25mm

- external hidden sunshading

detail 5
scale 1:5
0mm 50mm 100mm 150mm 200mm 250mm

5

- bitumen roofing d = 8mm
- HR-isolation d = 110mm
- waterrepellant foil
- wooden plating d = 25mm
- isolated sandwich panel d = 110mm
- wooden plating d = 25mm

h = 7.560 | RIDGE

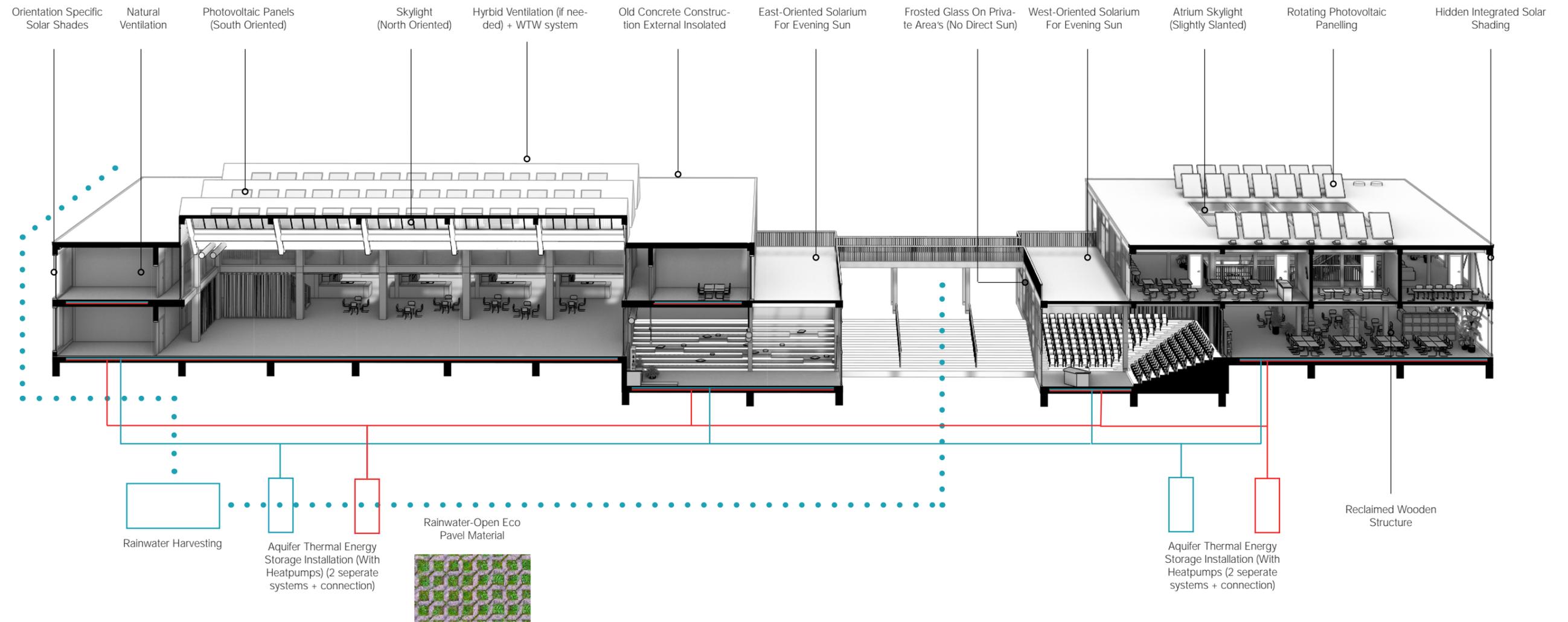
- wooden buoy plate d = 10mm
- wooden beam d = 50mm

- wooden buoy plate d = 25mm
- sandwich panel d = 30mm
- isolated beam d = 100mm
- laminated wooden beams
2 times 300x100mm

h = 7.010 | ROOF btm.

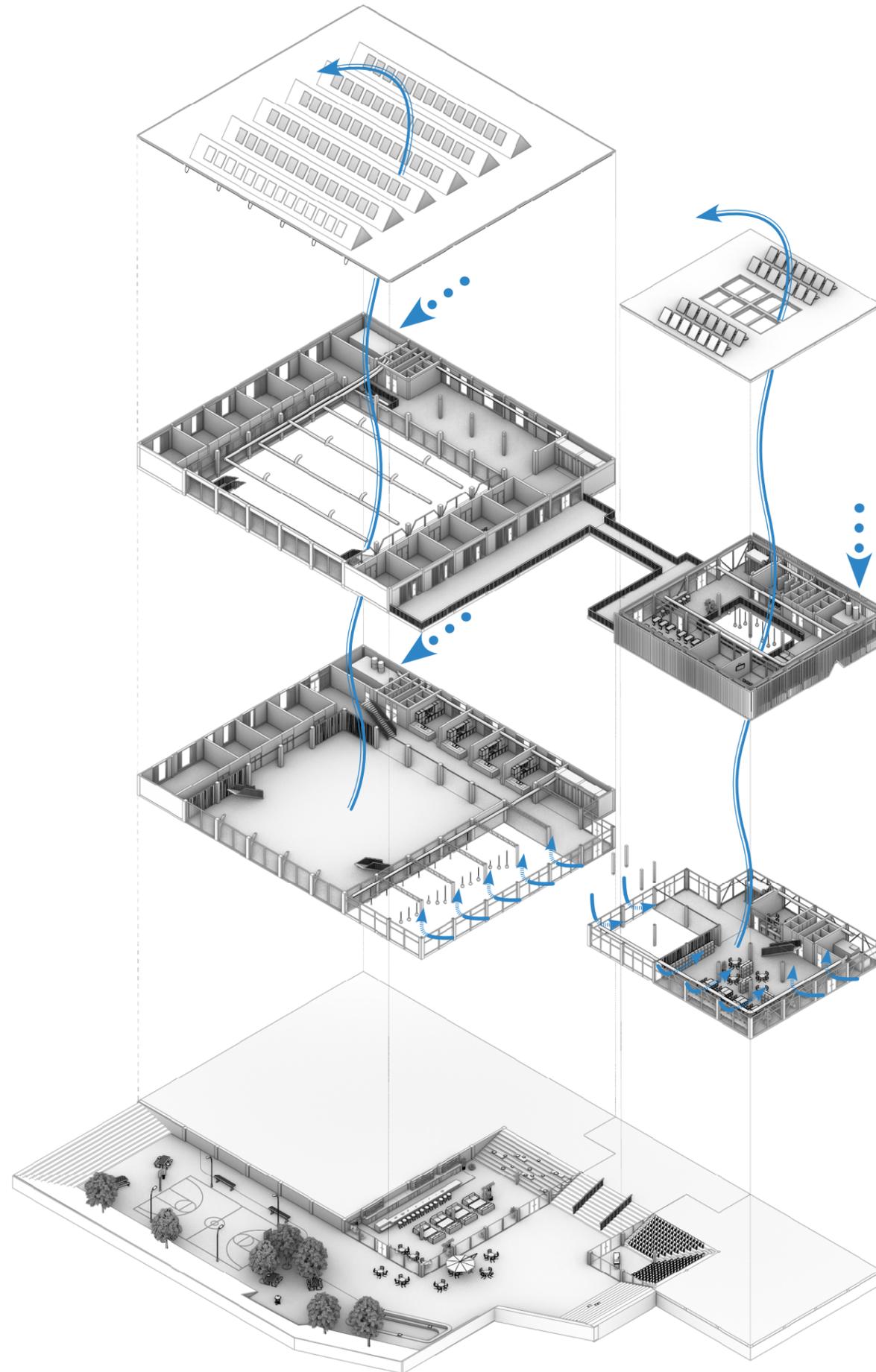
- external hidden sunshading

detail 4 scale 1:5
0mm 50mm 100mm 150mm 200mm 250mm



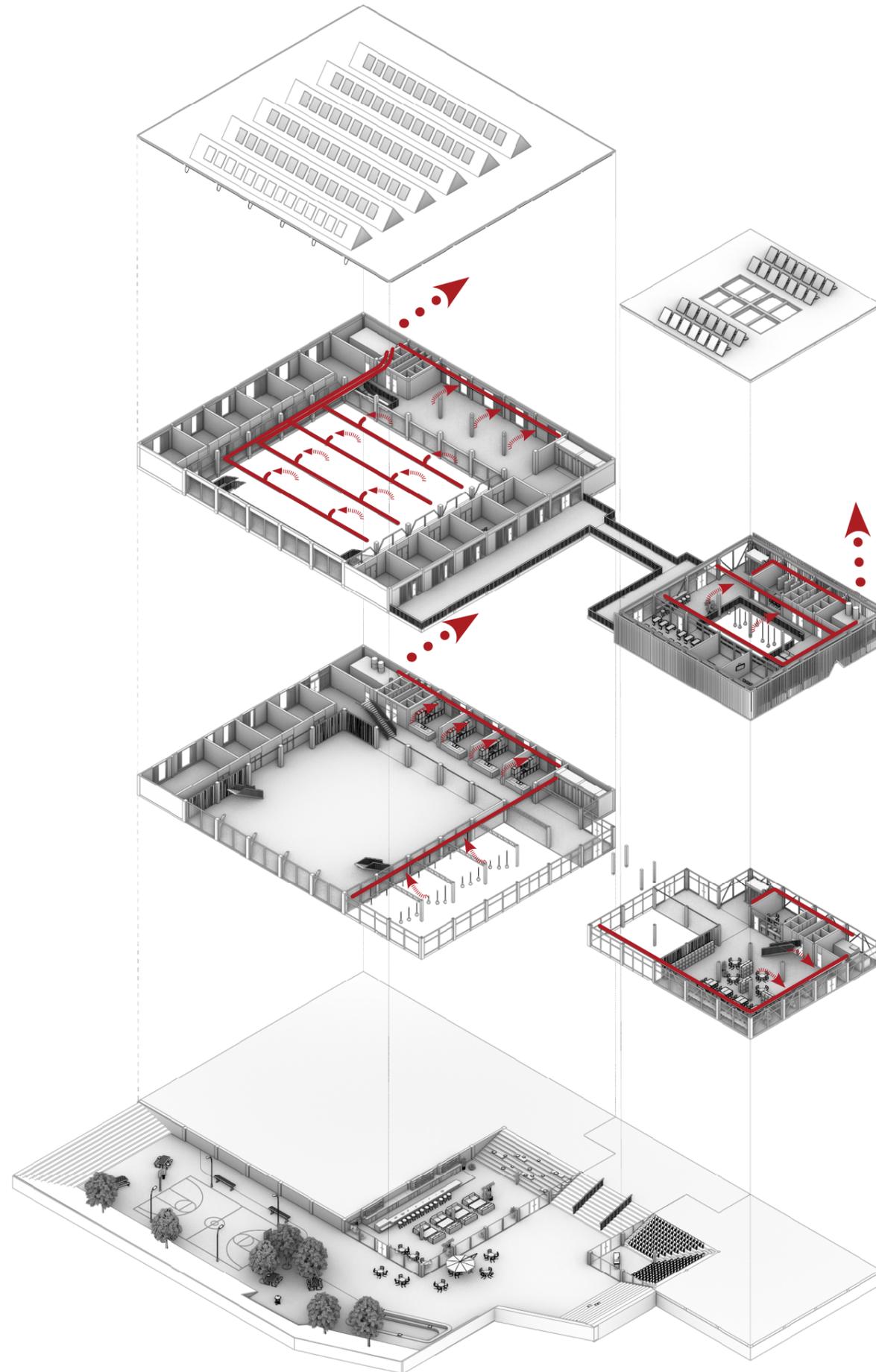
VENTILATION IN

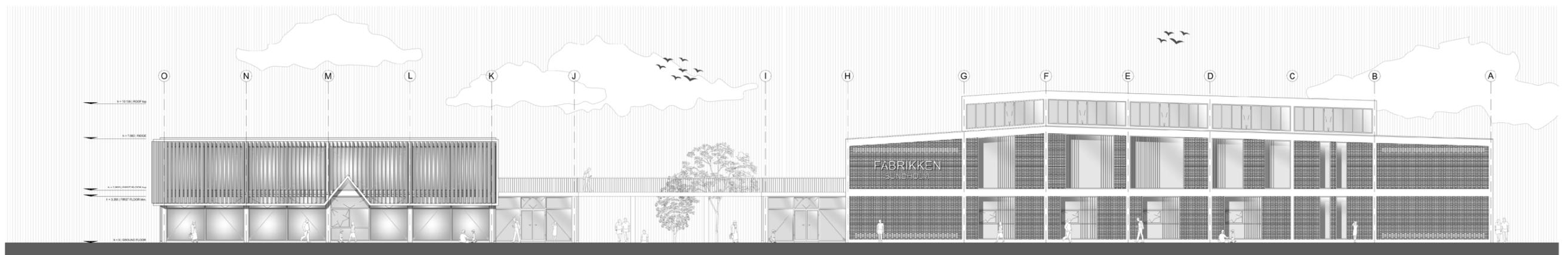
The building uses a hybrid system. Normal situation consists of natural ventilation on the ground floor with openings to the top floors. Sensors can detect the need to switch to mechanical ventilation for air entering the building (+ WTW system).



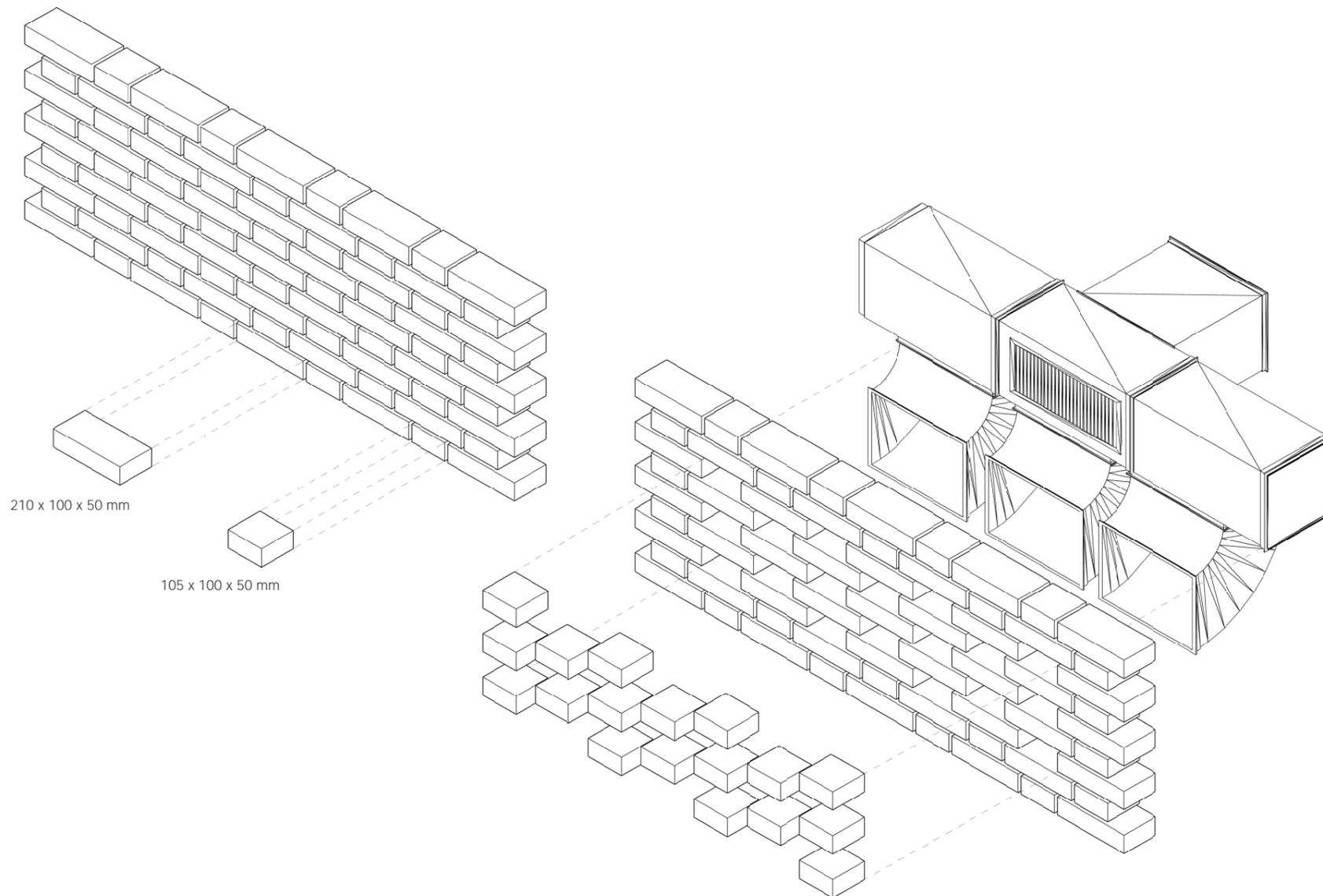
VENTILATION OUT

The building uses a hybrid system, but the exhaust system is fully mechanical. Throughout the building an open network of tubing guides the air out through the roof (new building) or through the facade (renovated building).





north façade scale 1:200
0m 2m 4m 6m 8m 10m



An architectural rendering of a modern urban development at night. The scene is dominated by dark, angular building forms that create a complex, maze-like structure. A central courtyard area is brightly lit, featuring a large, multi-story building with a glass facade and a series of balconies. This central building is surrounded by smaller, more solid structures. The courtyard includes a basketball court, a paved walkway, and several trees. Small human figures are scattered throughout the scene, providing a sense of scale and activity. The overall atmosphere is one of a vibrant, interconnected urban environment.

MAX TOMÁS DOUMA

URBAN CONTINUUM

– A STORY ABOUT CONTINUITY –