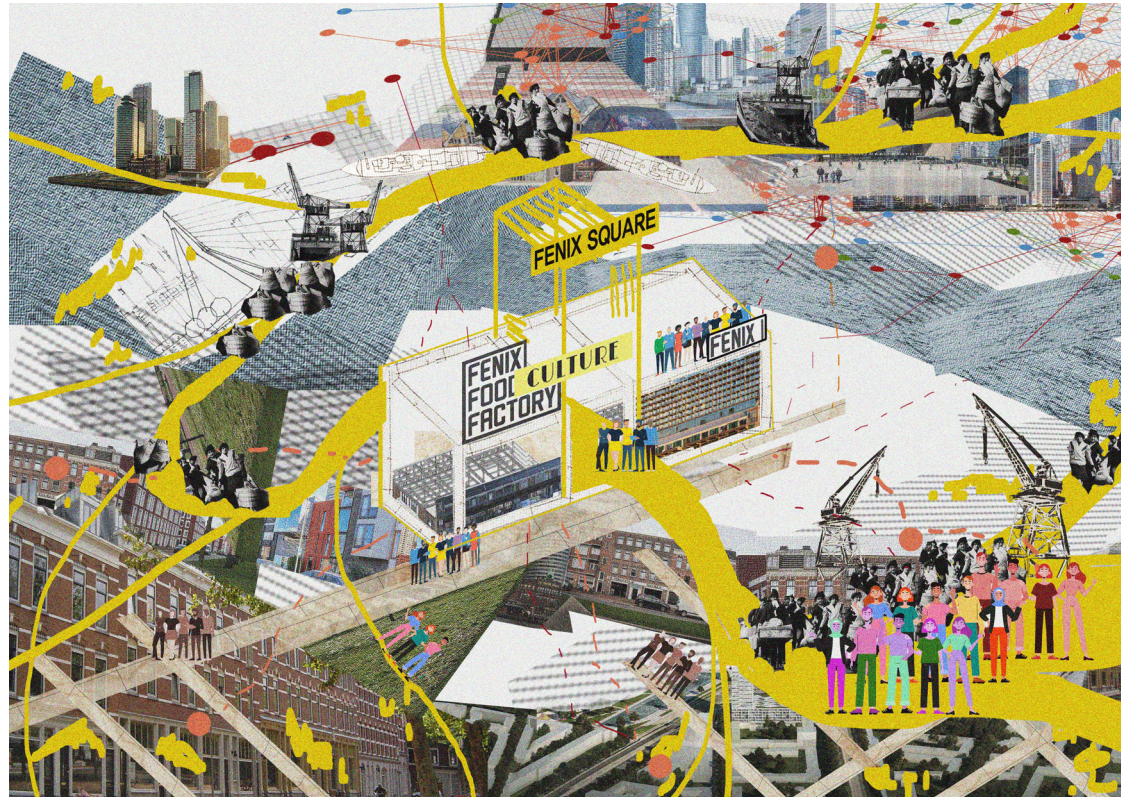




FENIX 2

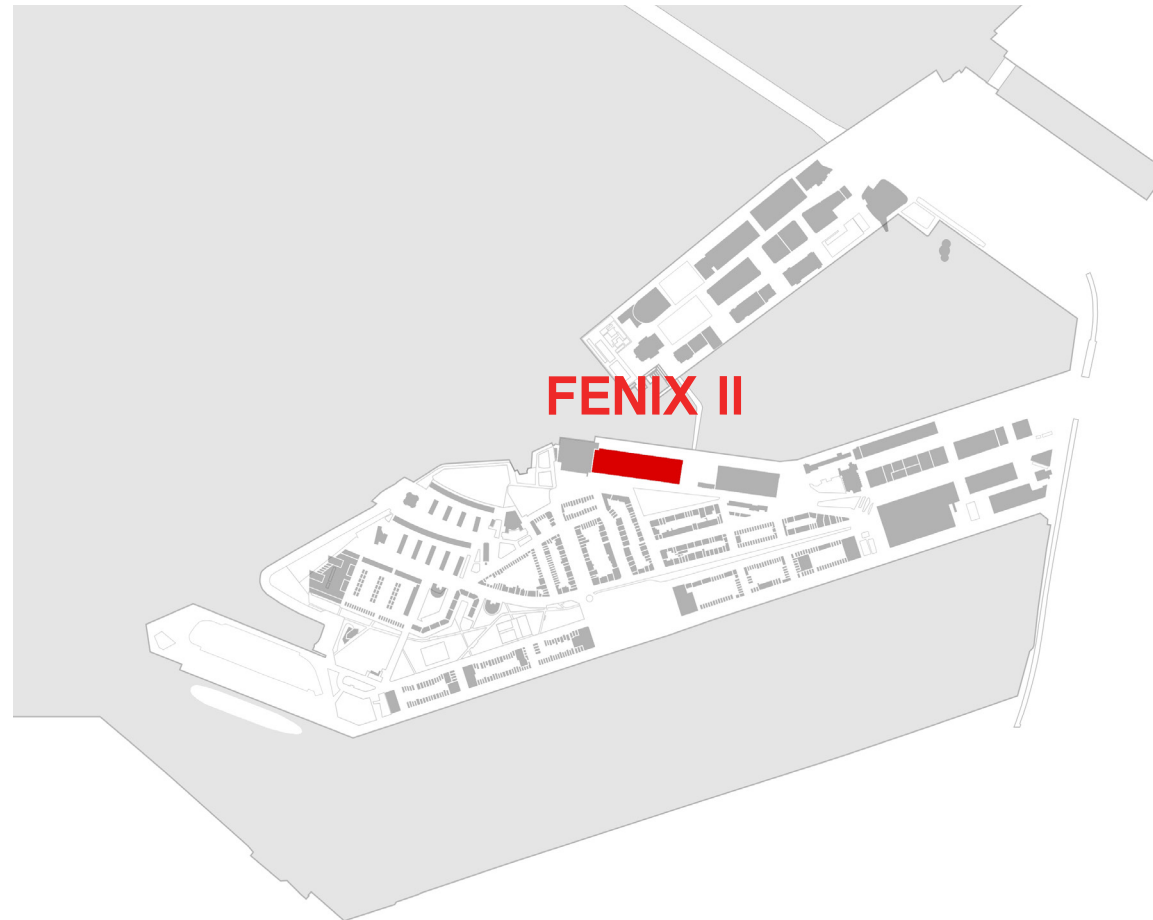
A bridge between the past, present and future.

4910443 G.S Kwon

Starting point

Who is Fenix II ?

Who is FENIX II



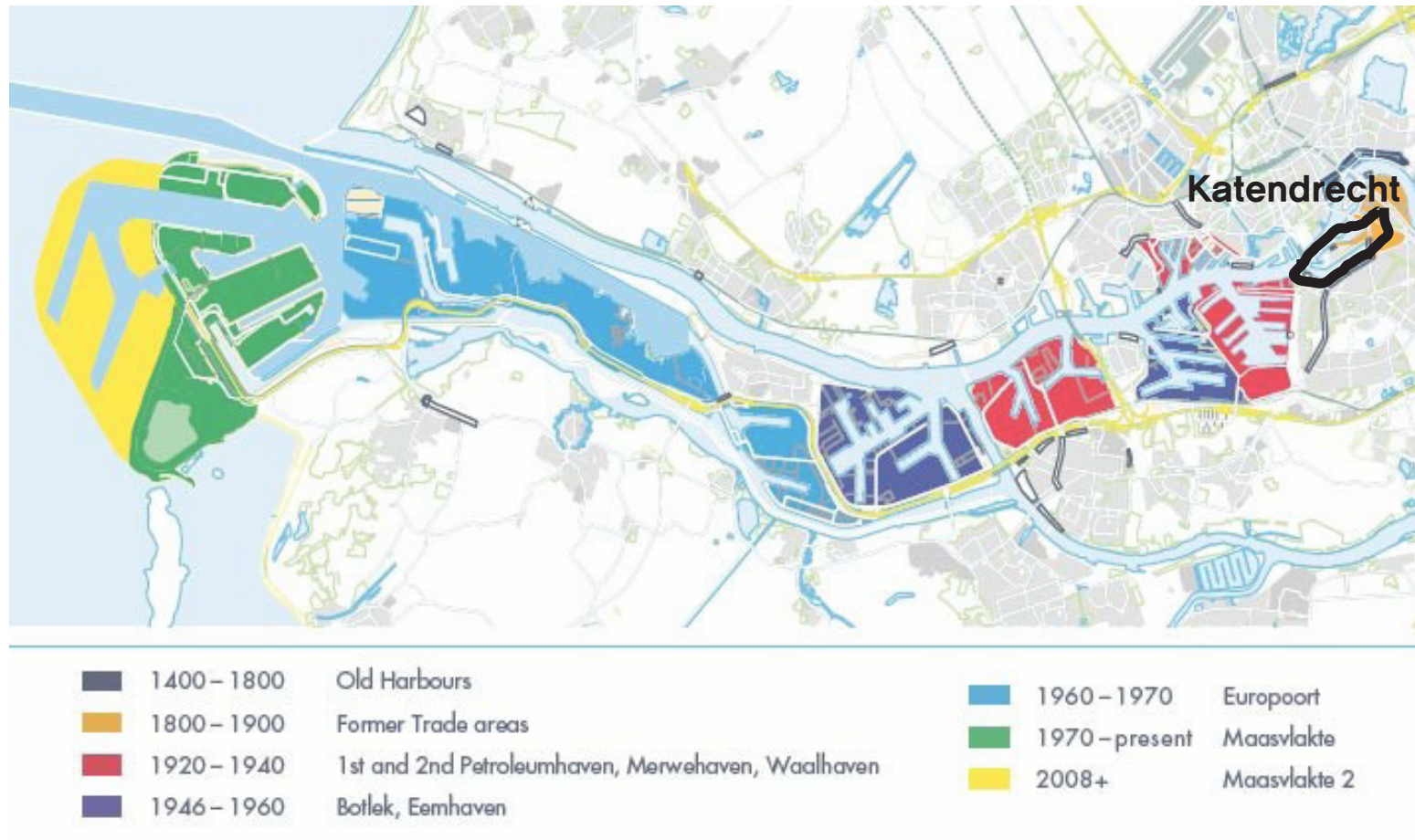
FENIX II in Katendrecht

Who is FENIX II



Loods San Francisco
The biggest storage in the world at the time

Who is FENIX II



Declining industry of Katendrecht

Who is FENIX II



migration
storage



storage



commercial
culture

Change of FENIX II

Starting point

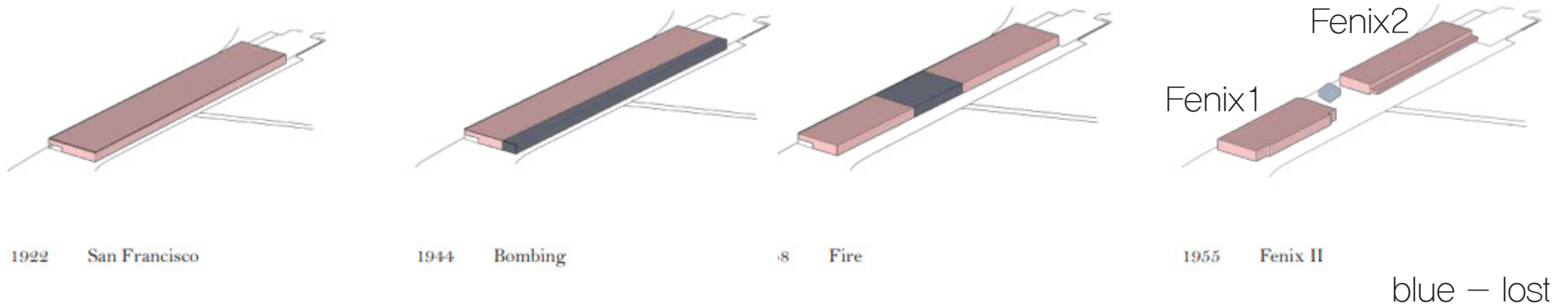
Transformation of FENIX II

Transformation of FENIX II



History of transformation

Transformation of FENIX II

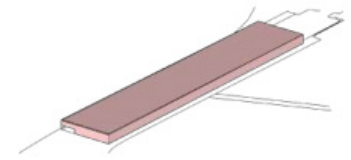


History of lost and rebuild
and its characteristic
FENIX II

Layers of FENIX II

How this history was reflected in the building?

Layers of FENIX II



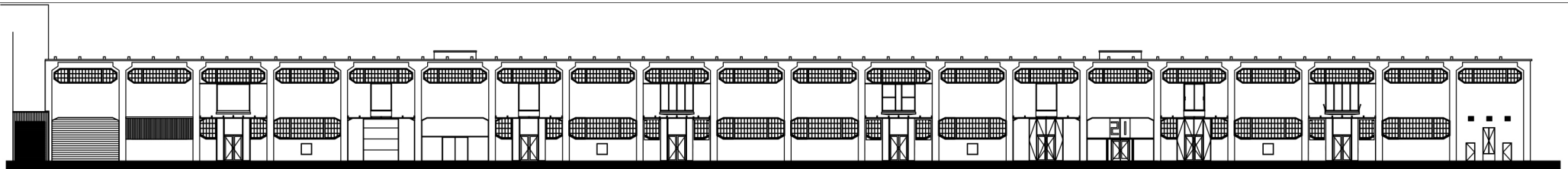
1922 San Francisco



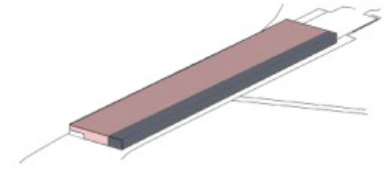
original south facade



current south facade



Layers of FENIX II



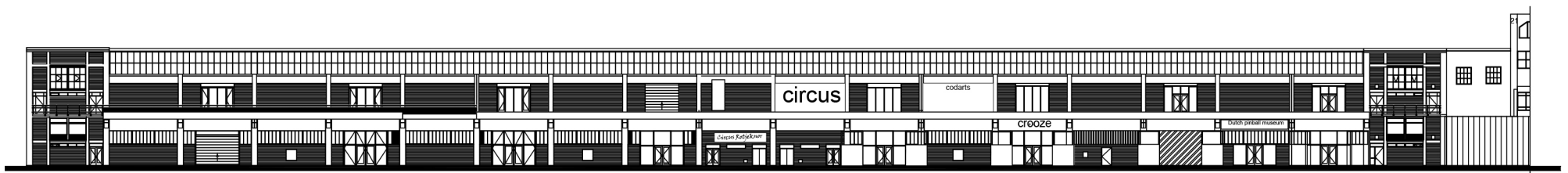
1944 Bombing



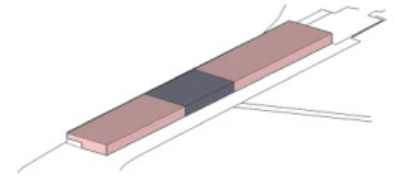
original north facade



current north facade



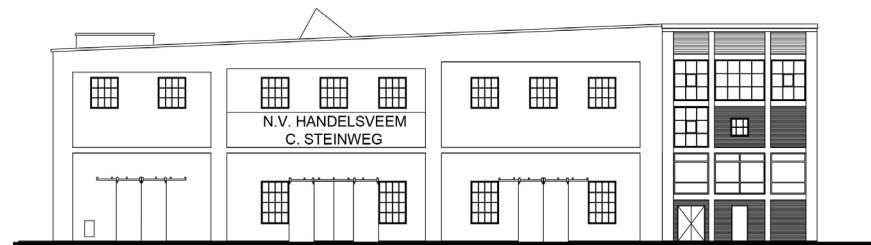
Layers of FENIX II



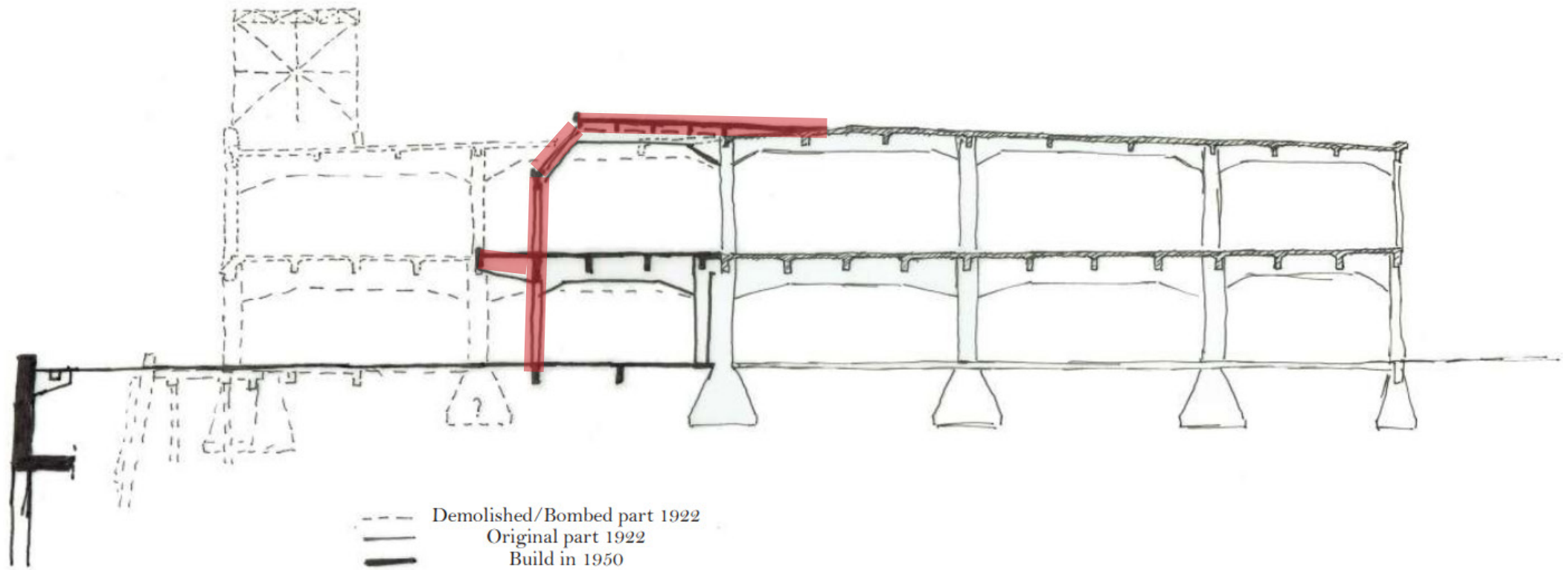
1948 Fire



east facade



Layers of FENIX II



transformation of structure

Layers of FENIX II

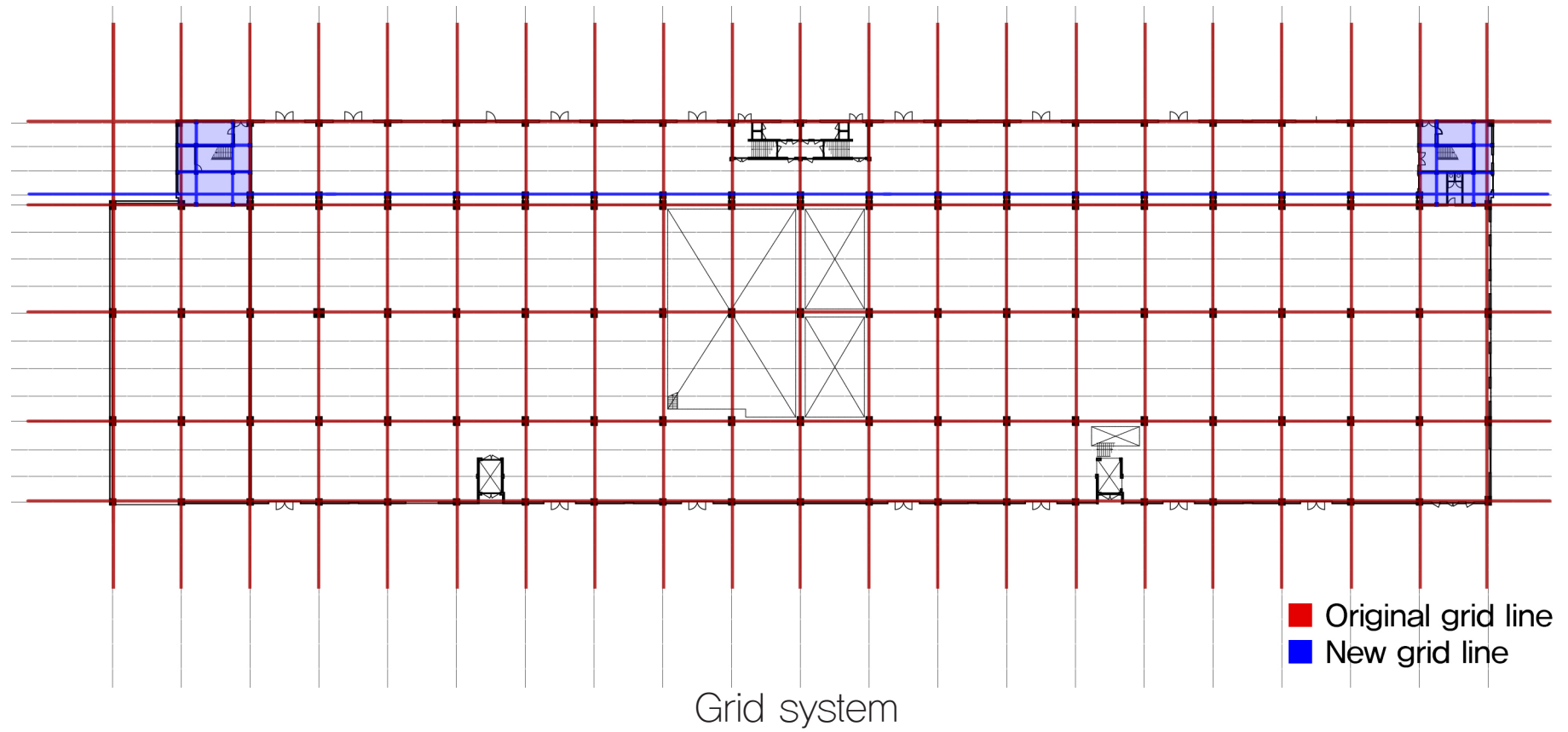


Original roof structure
girder and beam are connected
influenced by Hennebique system

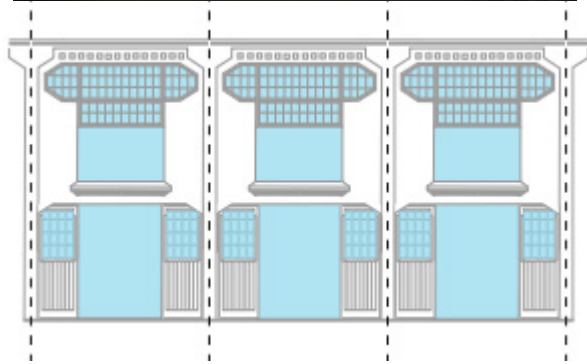


New roof structure
beam on girder

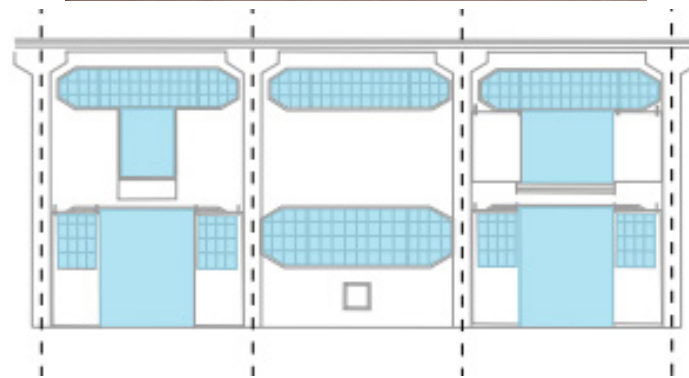
Layers of FENIX II



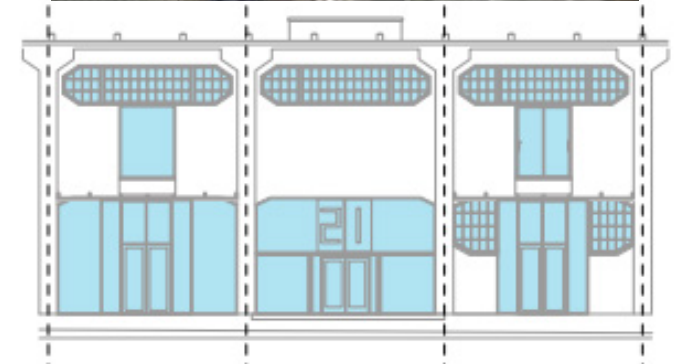
Layers of FENIX II



1920



1950

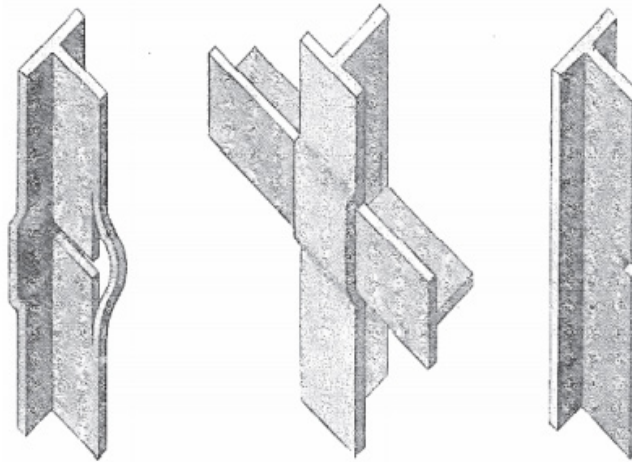


2013

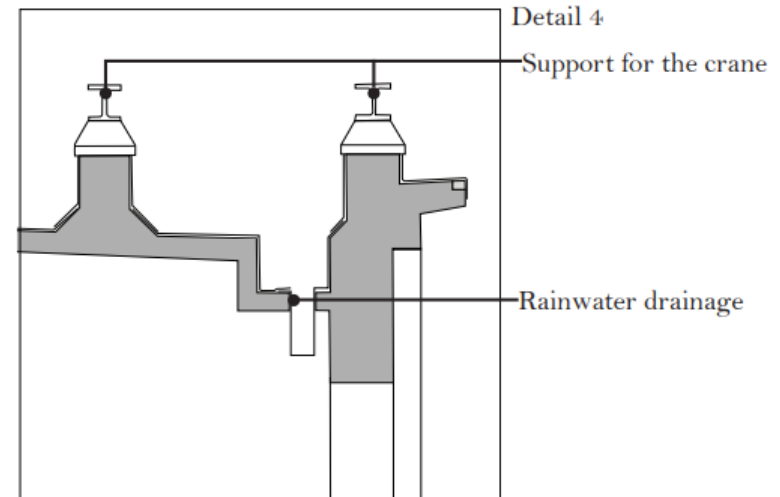
■ Open

Rhythm of Facade
and its transformation

Layers of FENIX II



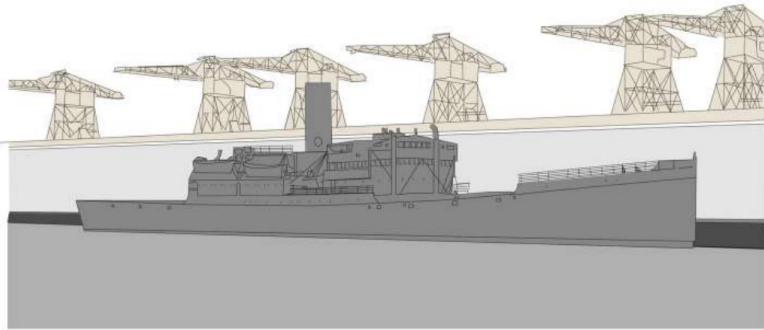
Fenestra window



Crane rail on roof

Historical elements

Layers of FENIX II



1922 The cranes on the quay side



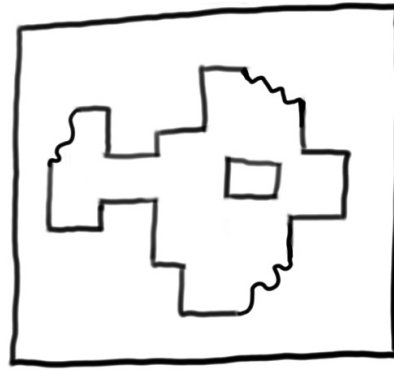
1950 the cranes on the quay side



2013 the full terrace on the water side

Connection to Maas river
and its transformation

conclusion



Mixed/damaged historical layers

Layers of FENIX II : bigger scale

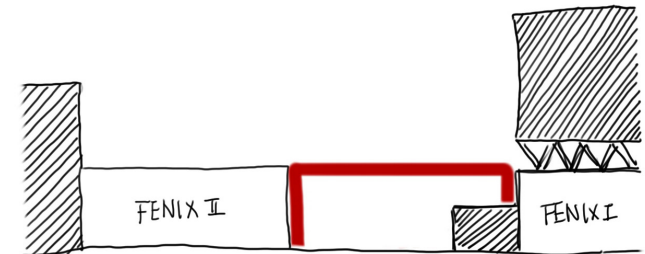
How this history was reflected in the stie?

Layers of FENIX II : bigger scale



morphology of development

Layers of FENIX II : bigger scale



trace of past connection



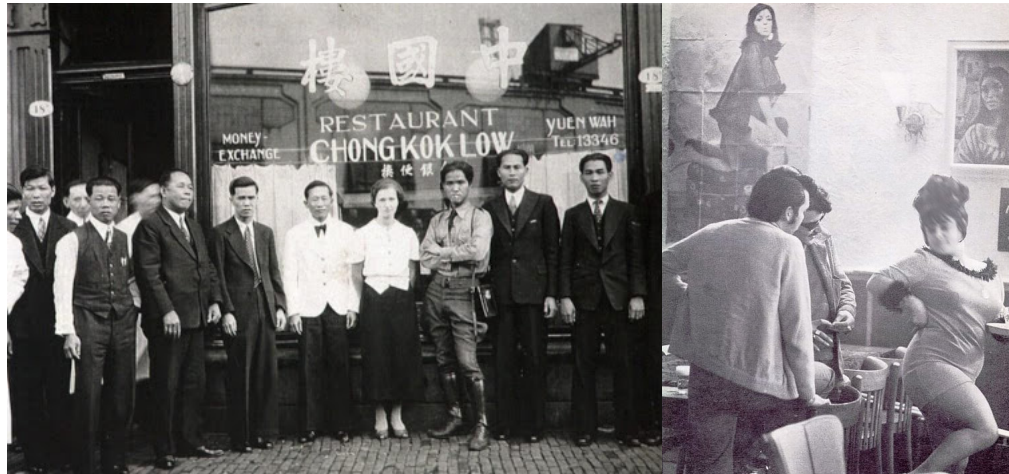
previous FENIX2's function

trace back to original FENIX

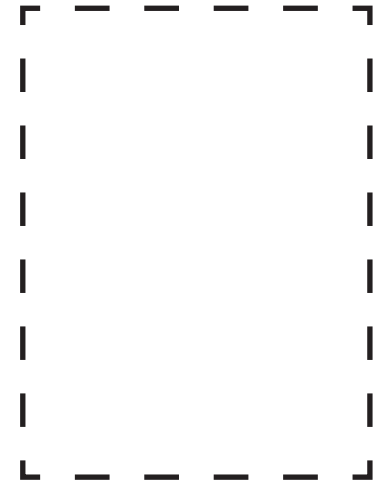
Layers of FENIX II : bigger scale



bridge
to new world



bridge
to different culture



bridge
to future

FENIX as a bridge

Layers of FENIX II : bigger scale



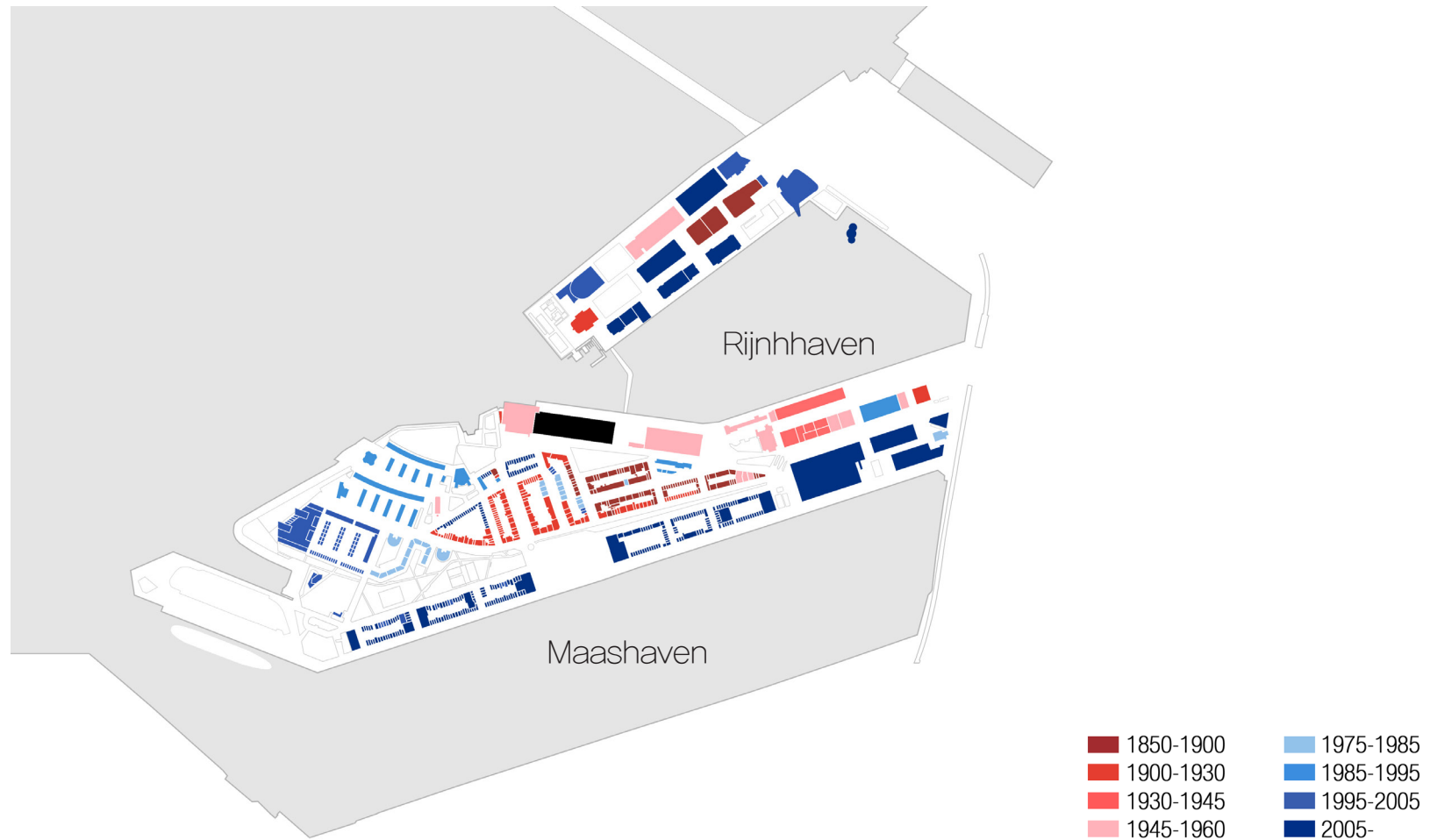
public space between Fenixs
and connection to Wilhelmina pier, water



canteen Walhalla and Fenixs in 1950

new square and new cityscape

Layers of FENIX II : bigger scale



building age and street network

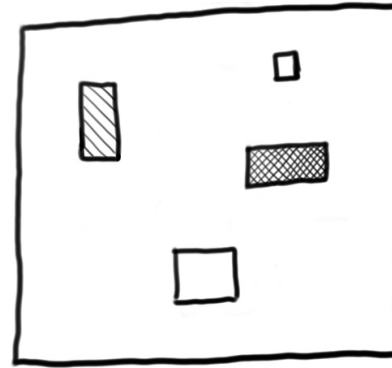
Layers of FENIX II : bigger scale



Deliplein and San Francsico

Deliplein center of street network

conclusion



Fragmented historical layers

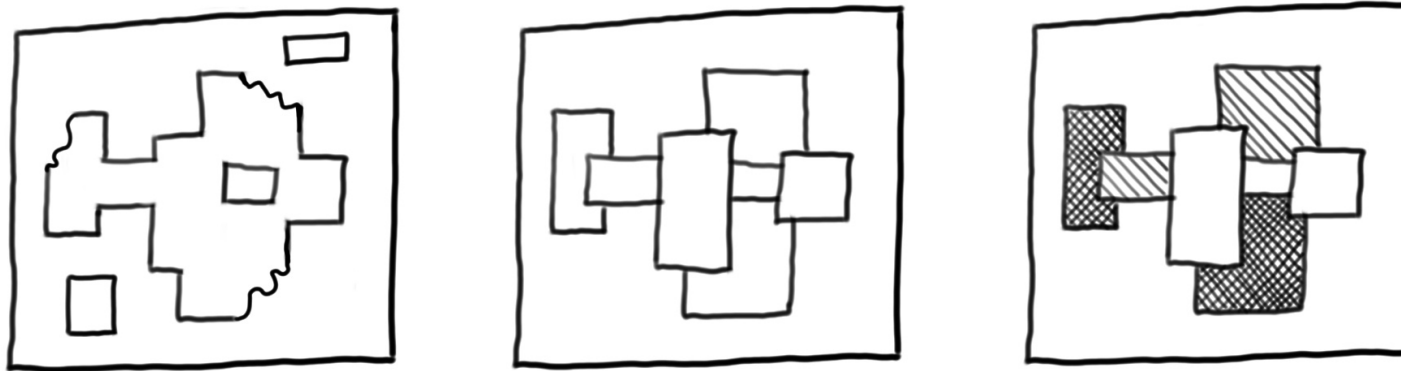
Heritage statement

Fenix2 is valuable because...

It has historical layers connecting past and present, giving history life.

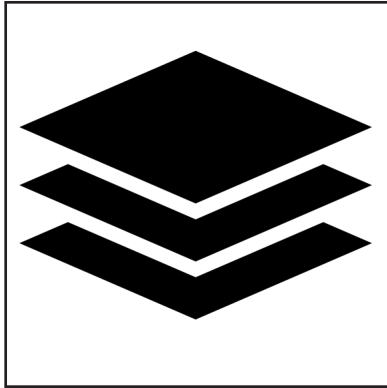
It has traces showing root of building and site.

Heritage Position

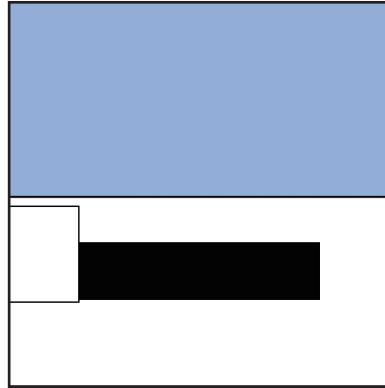


Overlapping of layers by restoring and adding
coexisting of past–present–future

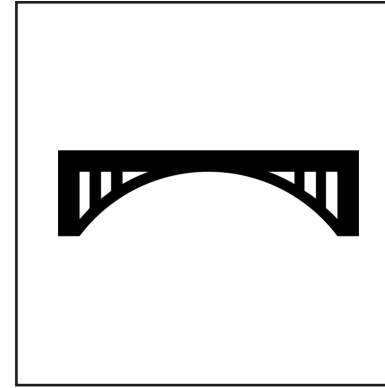
what to keep?



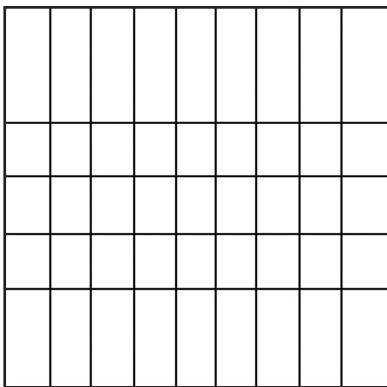
Historical layers



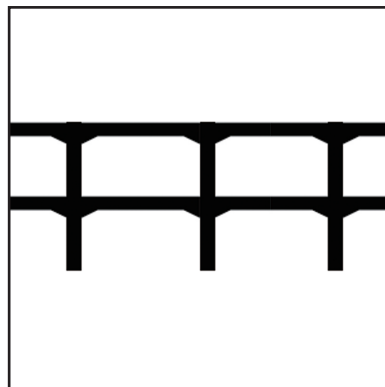
Connection to water
and street



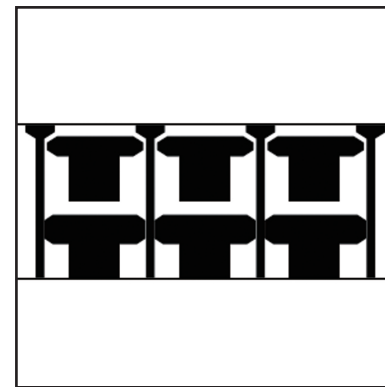
Bridge
symbolic image



Grid system

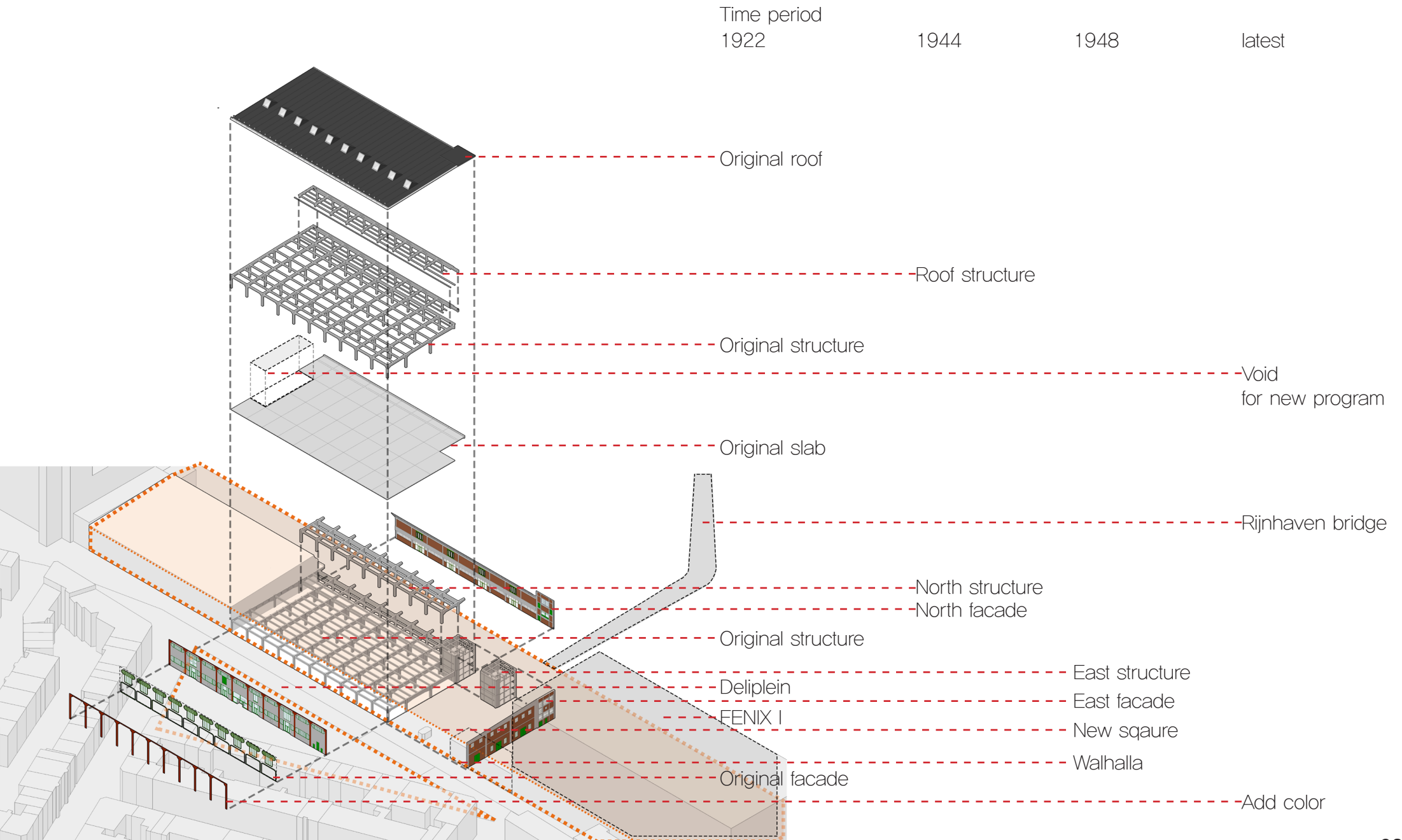


Structure



Repetitive rhythm

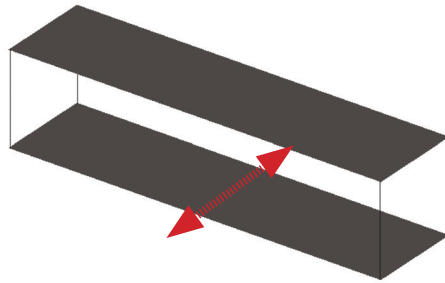
conclusion



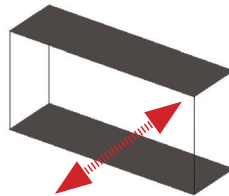
Present/Social situation

Site and program research

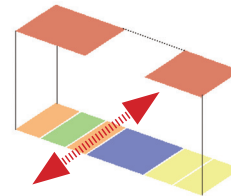
Site research



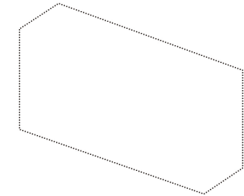
transfort people/storage



storage

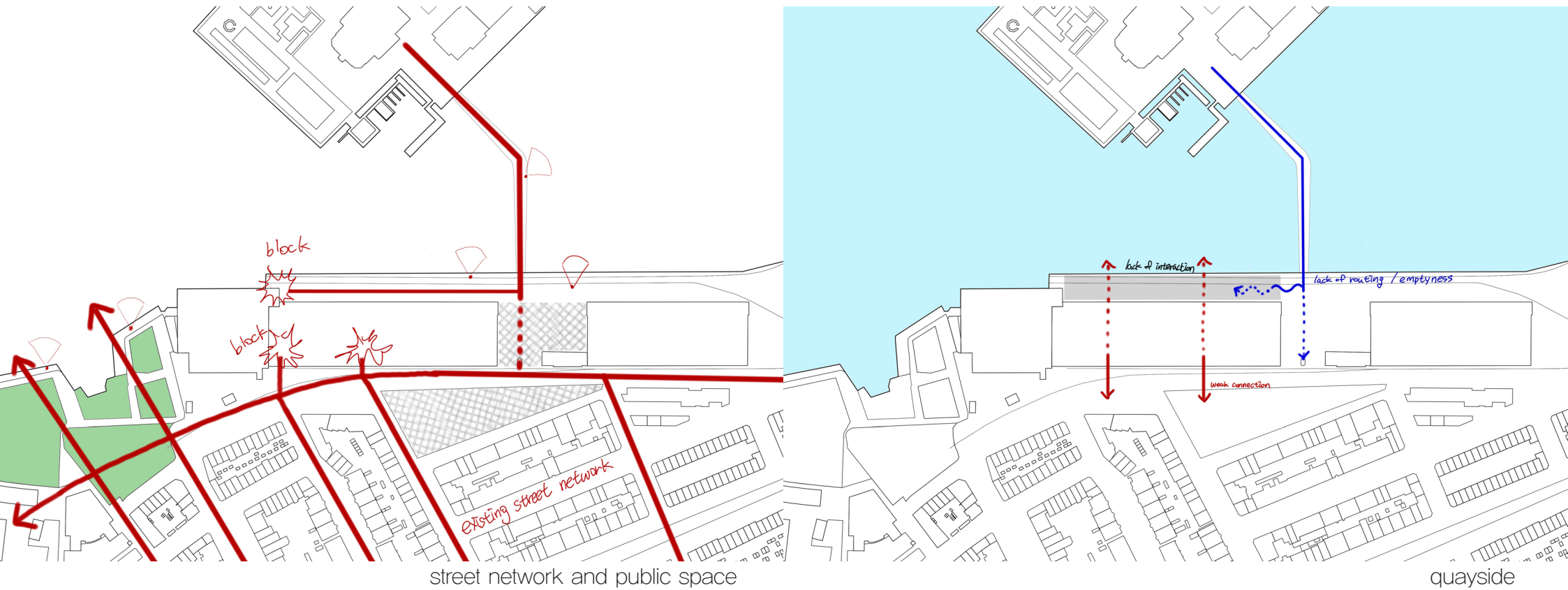


diverse functions for neighbor



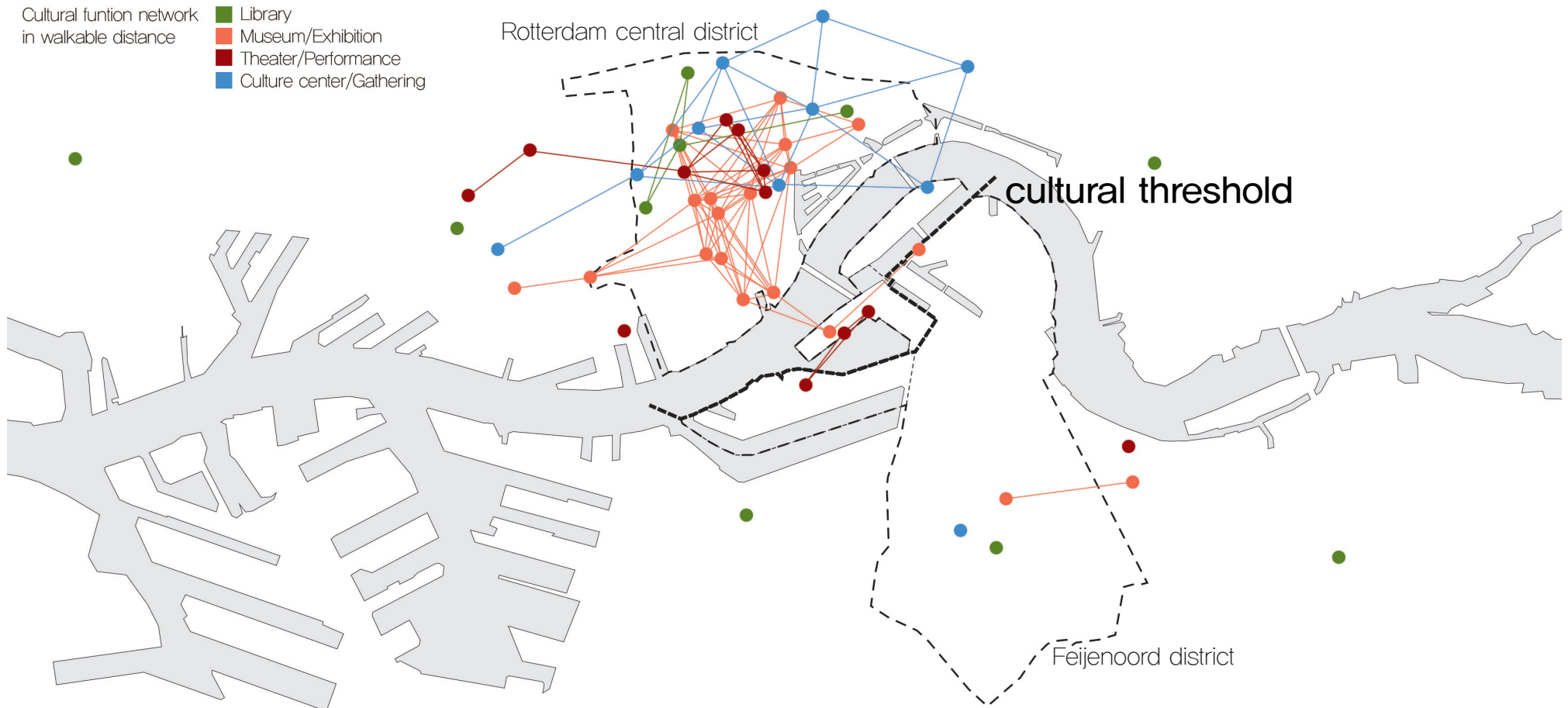
empty

Site research



Disconnection and blockage

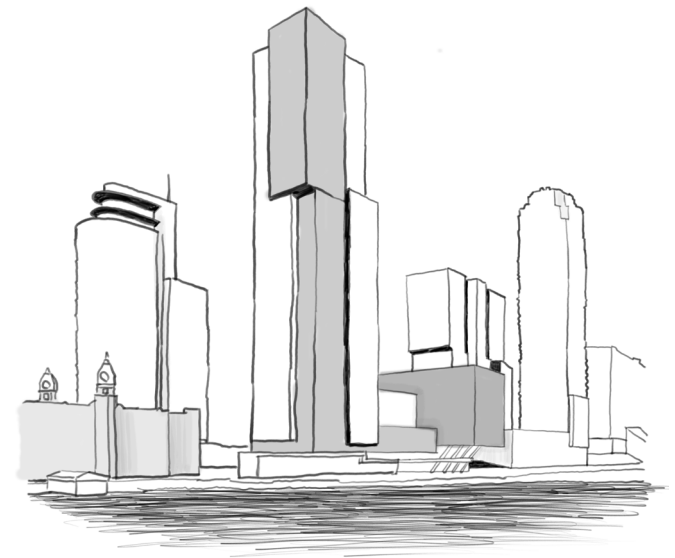
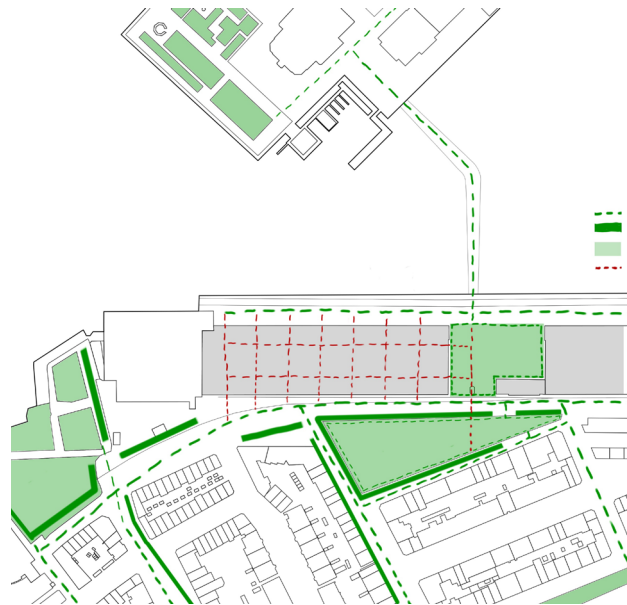
Site research



Cultural network (north/south of river)

Cultural bridge required

Site research

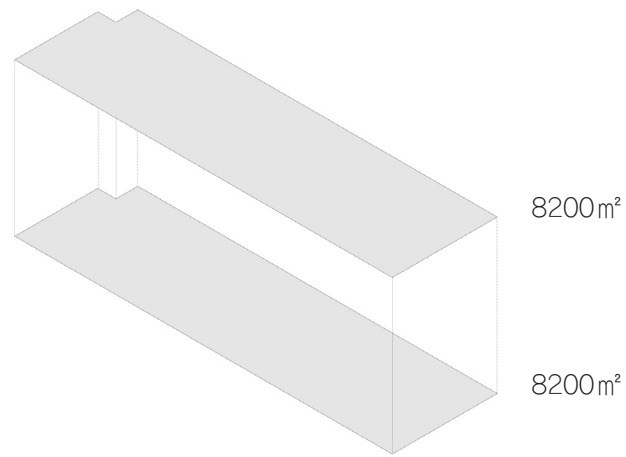


Possibilities
FENIX I / Squares and green / Unique ambience

Program research



Future plan :
Fenix2 will be turned into migration museum
...
is this enough?



How to fill this huge empty building?

...

It can be a bridge to neighbor, culture, world

Program research

Reference project: Fenix food factory



marketplace



square

Marketplace as cultural node
market can be extended to square

Program research

meaning of the place:
bridge to the new world



Social node for people with different roots
culture/workshop/education/support

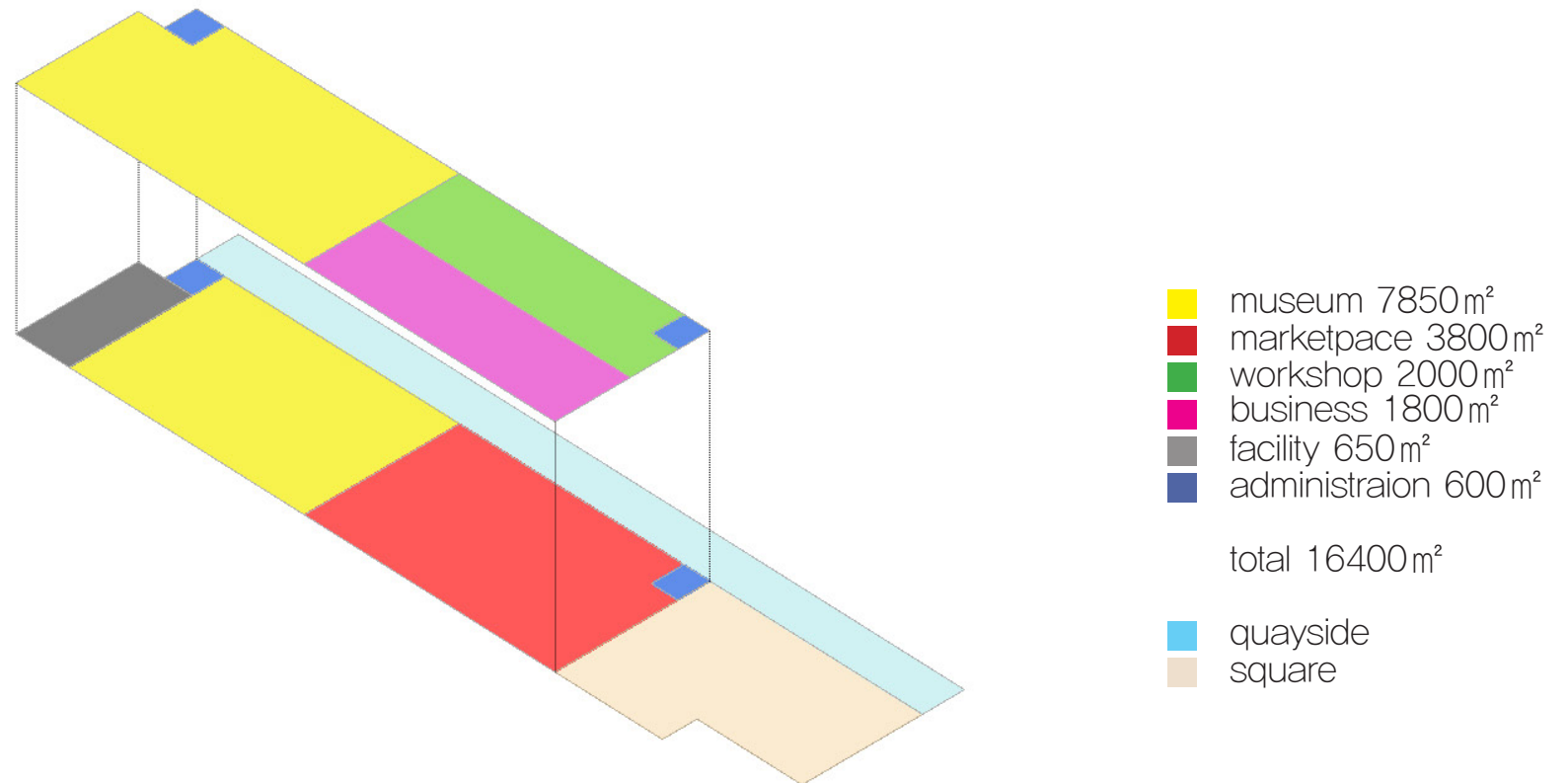
Program research

Reference project: Watershed



Business incubator as social node/catalyst

Conclusion



Diverse culture spaces as frontyard of the Museum



Design Scheme

How to make interventions
to become a bridge to the future?

Repair and reconstruction, adding

Time period
1922

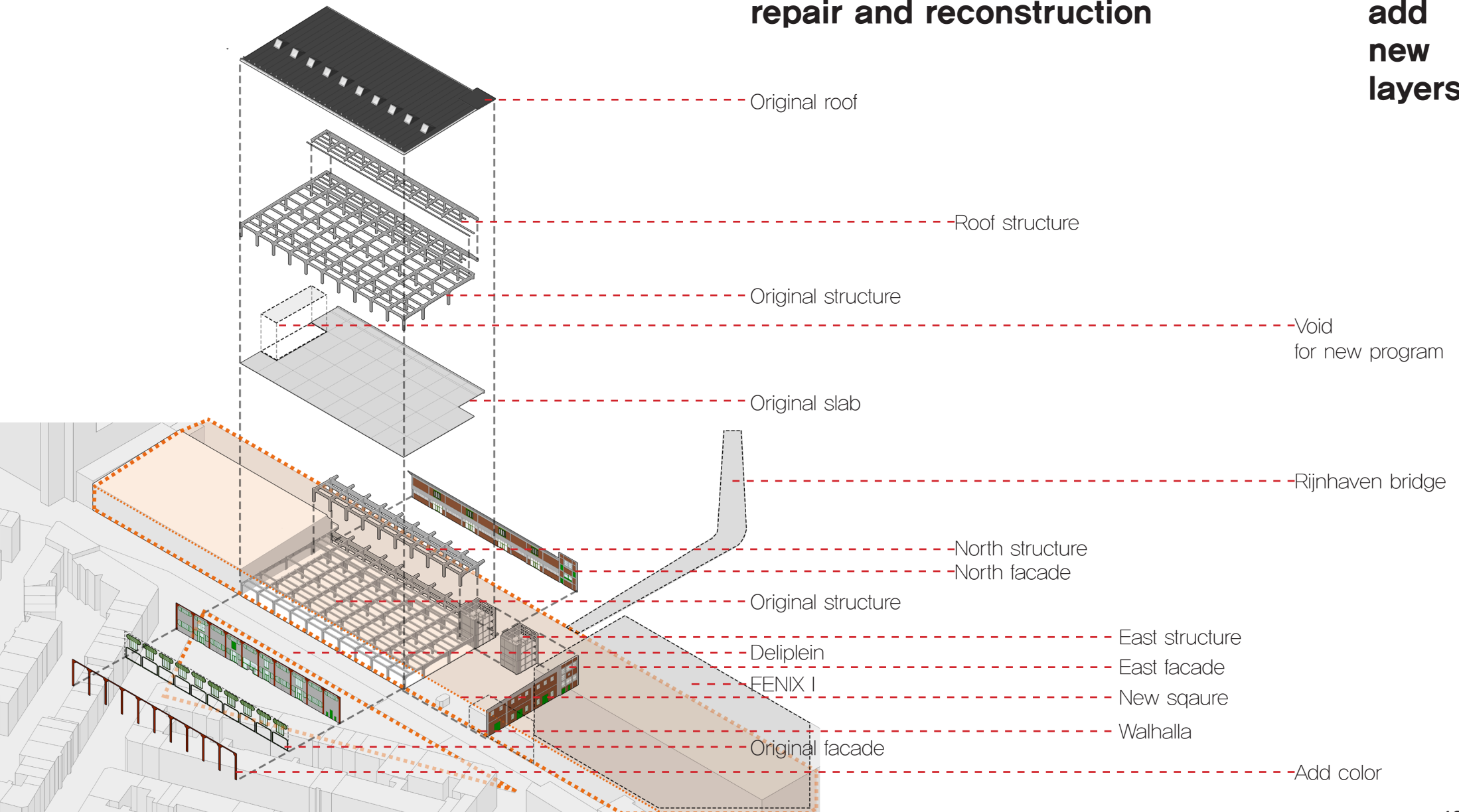
1944

1948

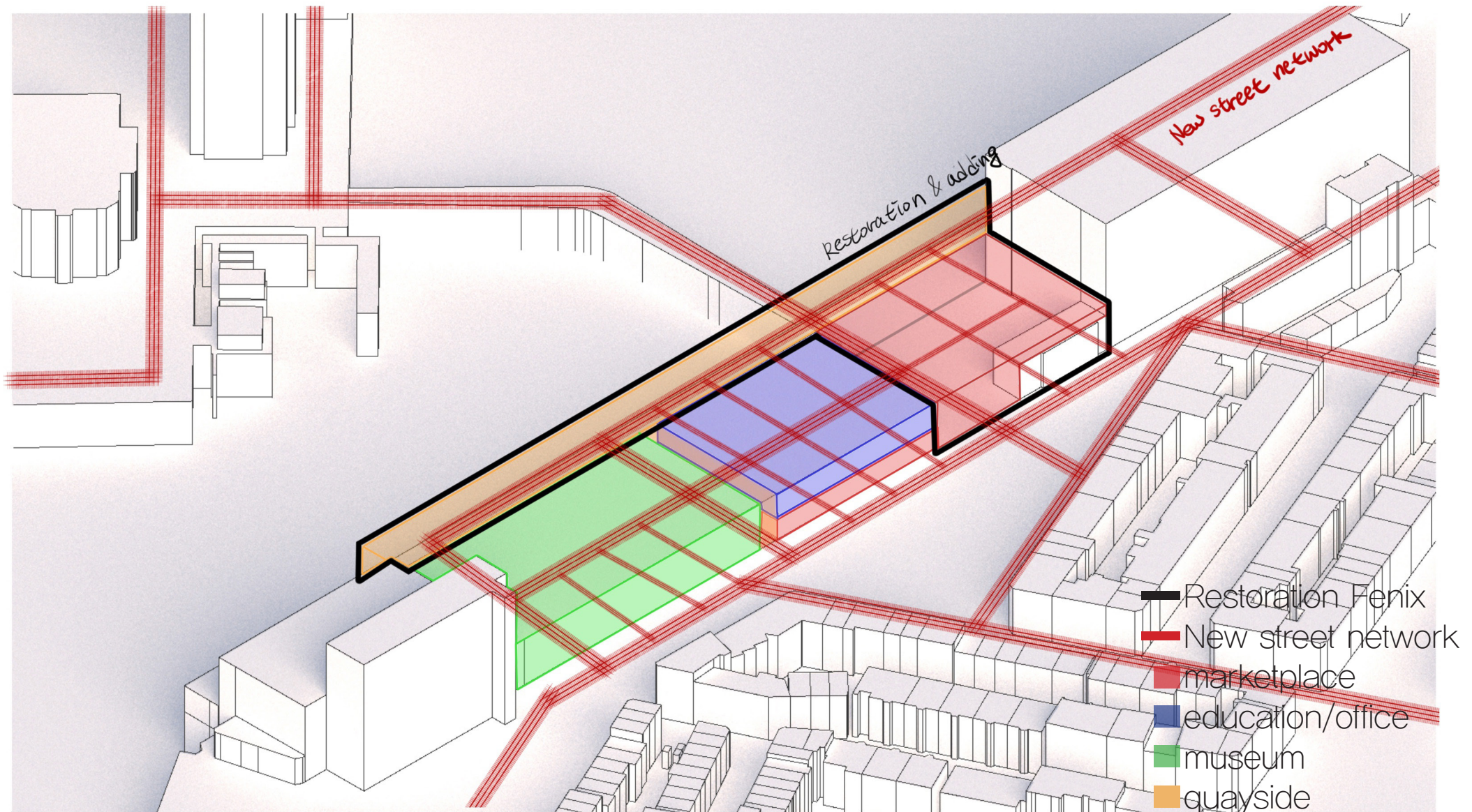
latest

**Future?
add
new
layers**

repair and reconstruction

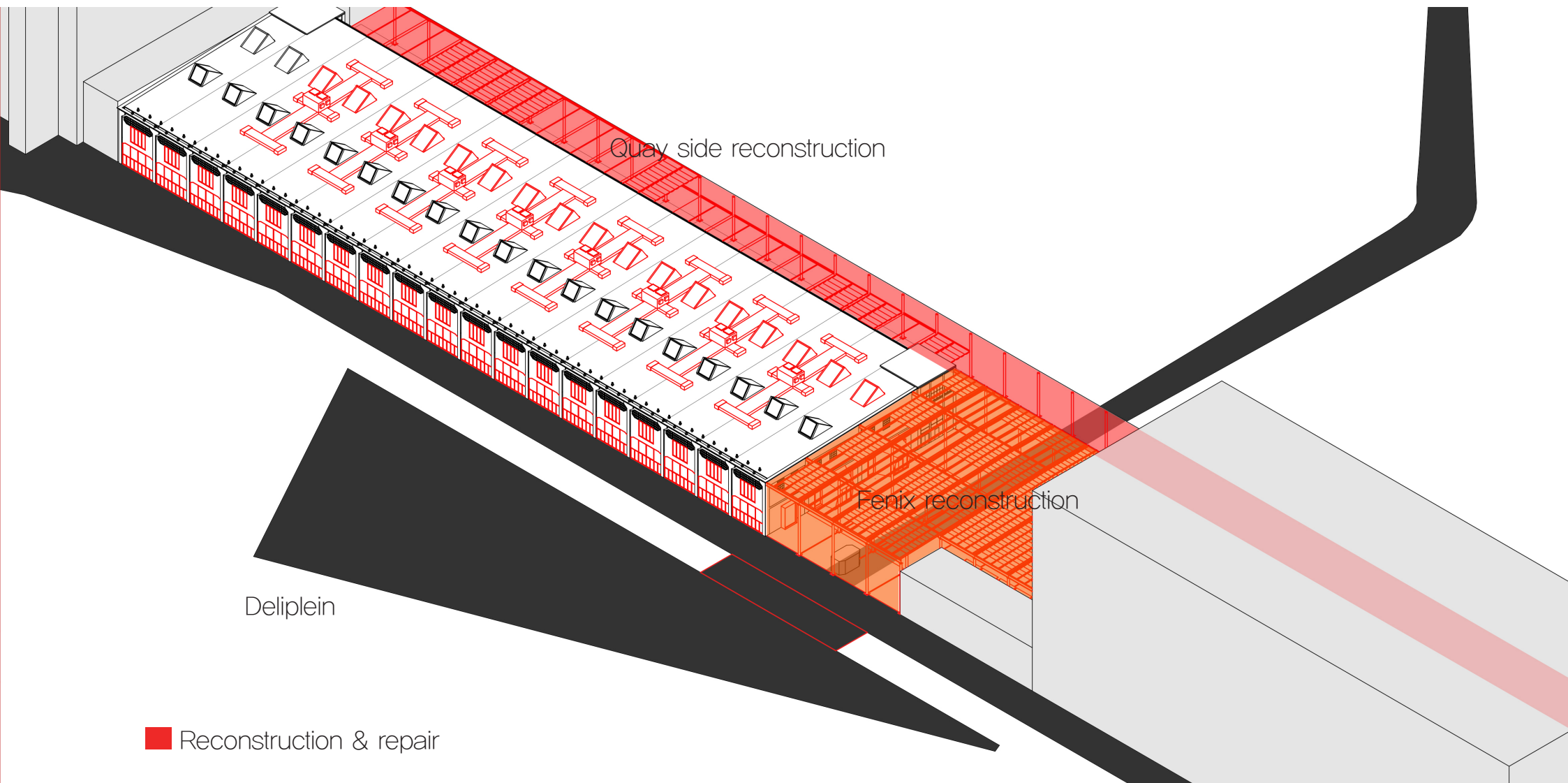


Reconstruction

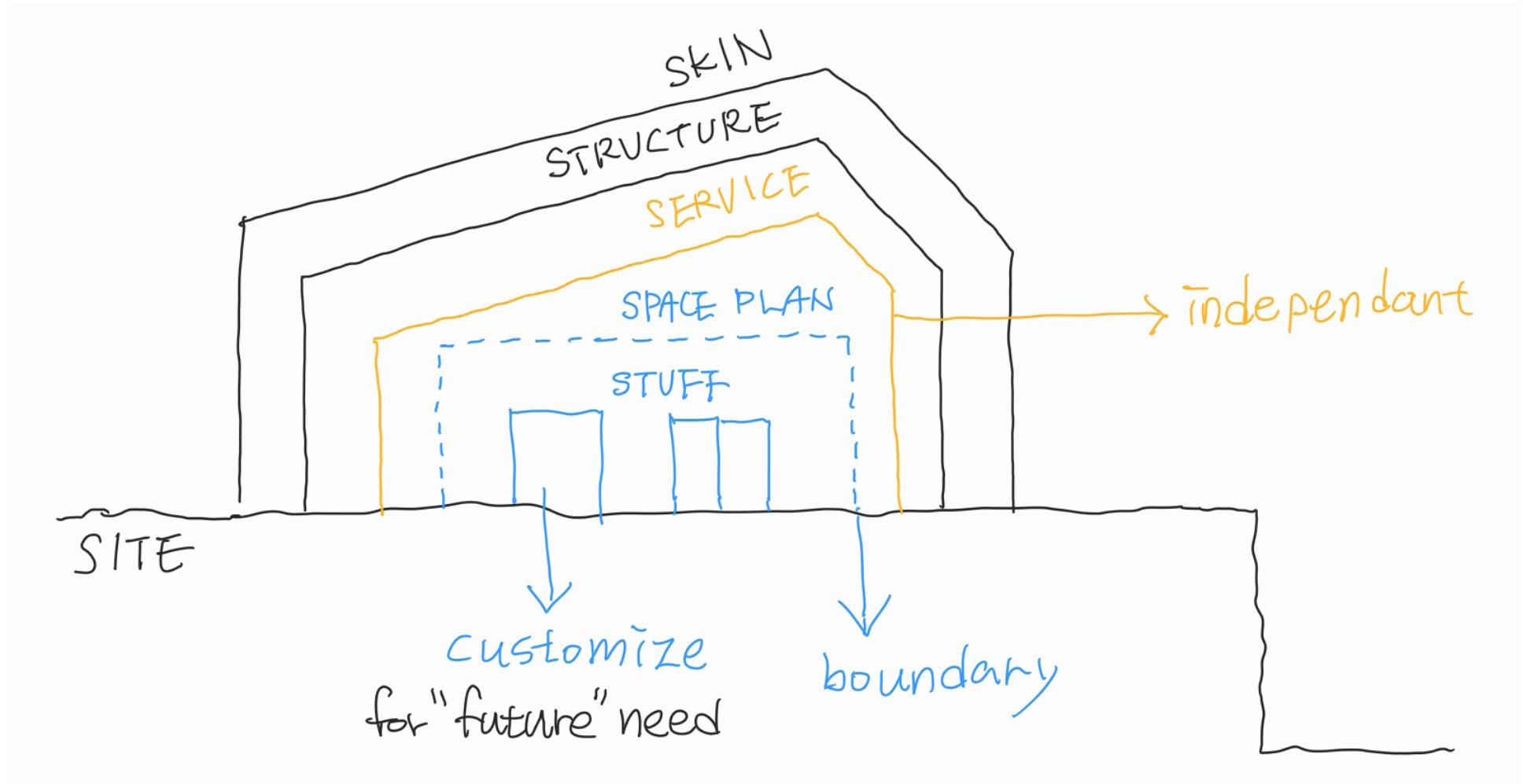


Reconstruction and reinterpretation
of missing parts

Reconstruction



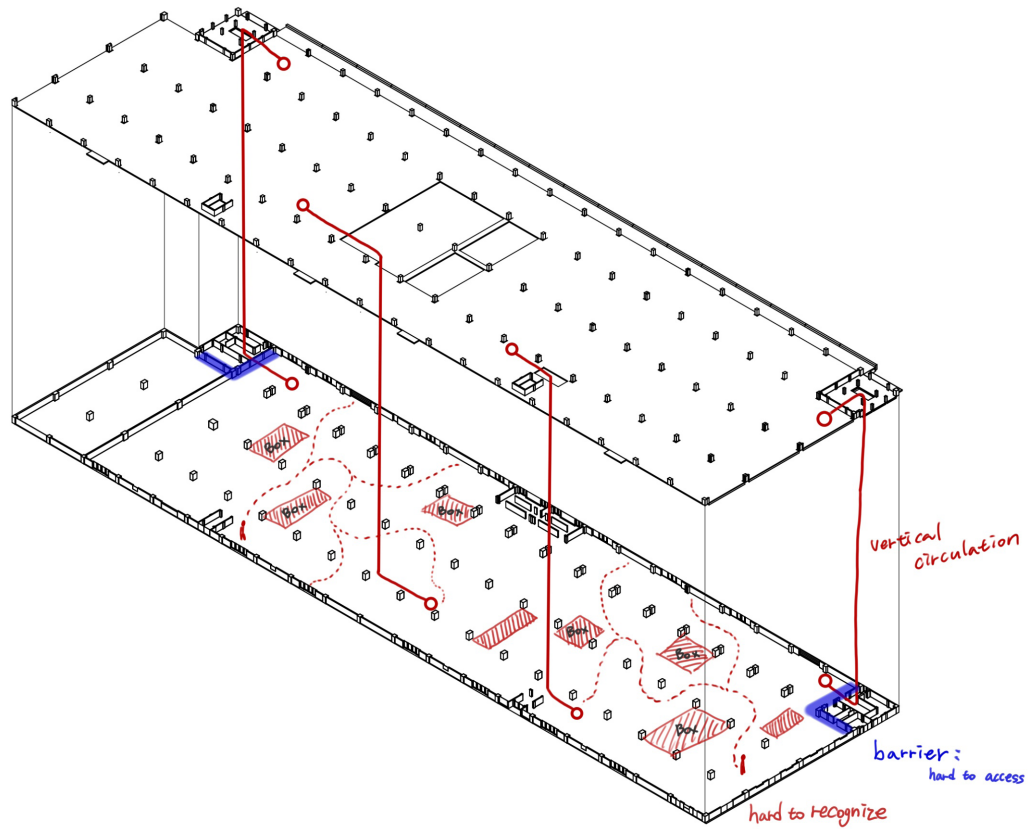
Adding new layers and intervention



Brand's shearing layers

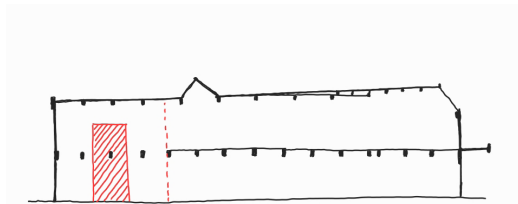
Intervention

current situation

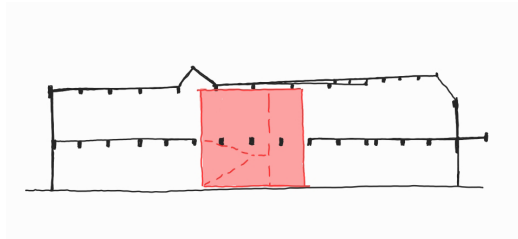


it requires new vertical interaction

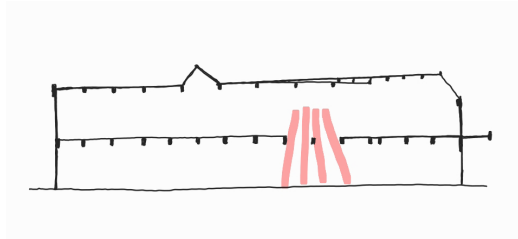
intervention: new void



Diverse space and interaction

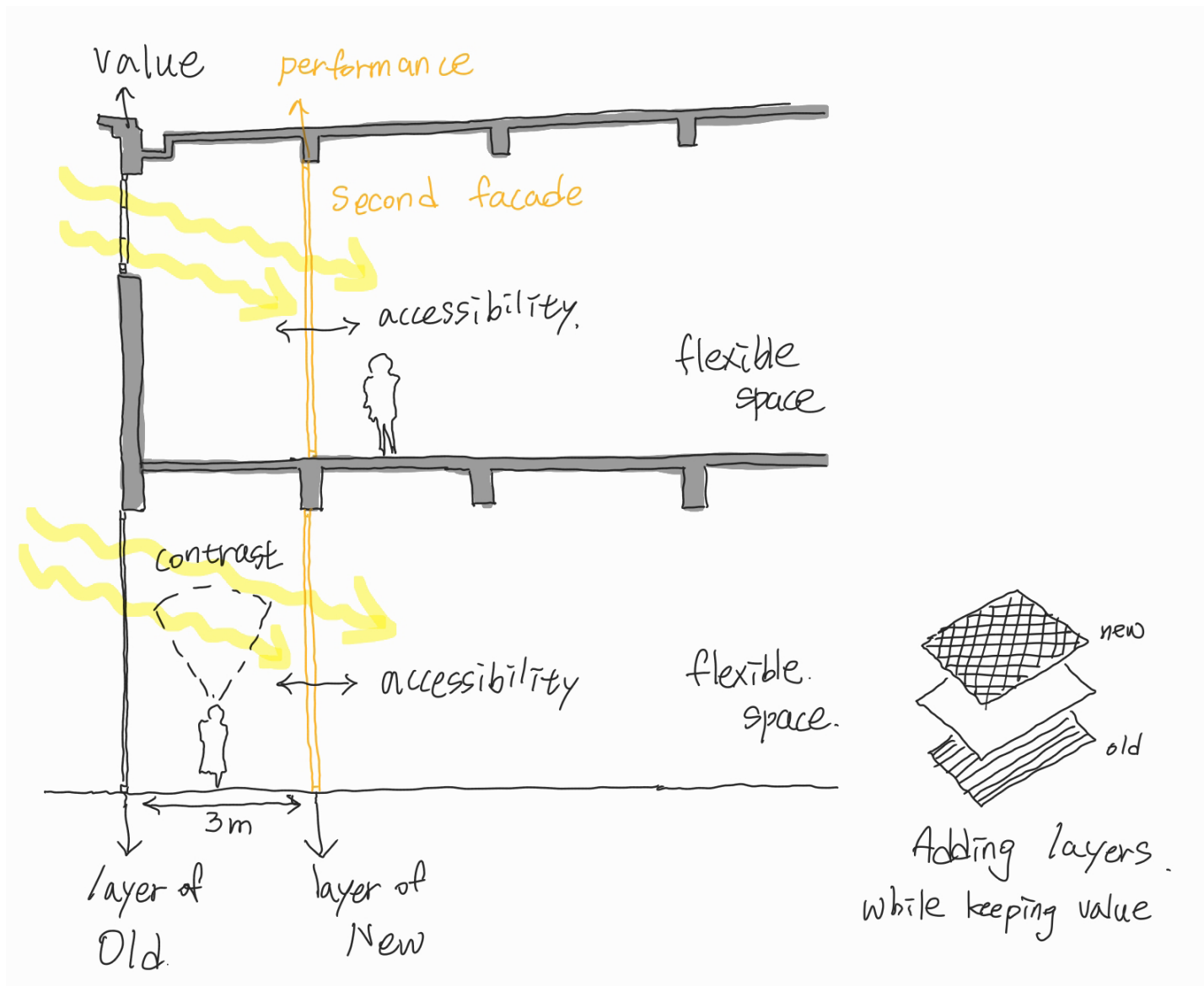


Vertical connection



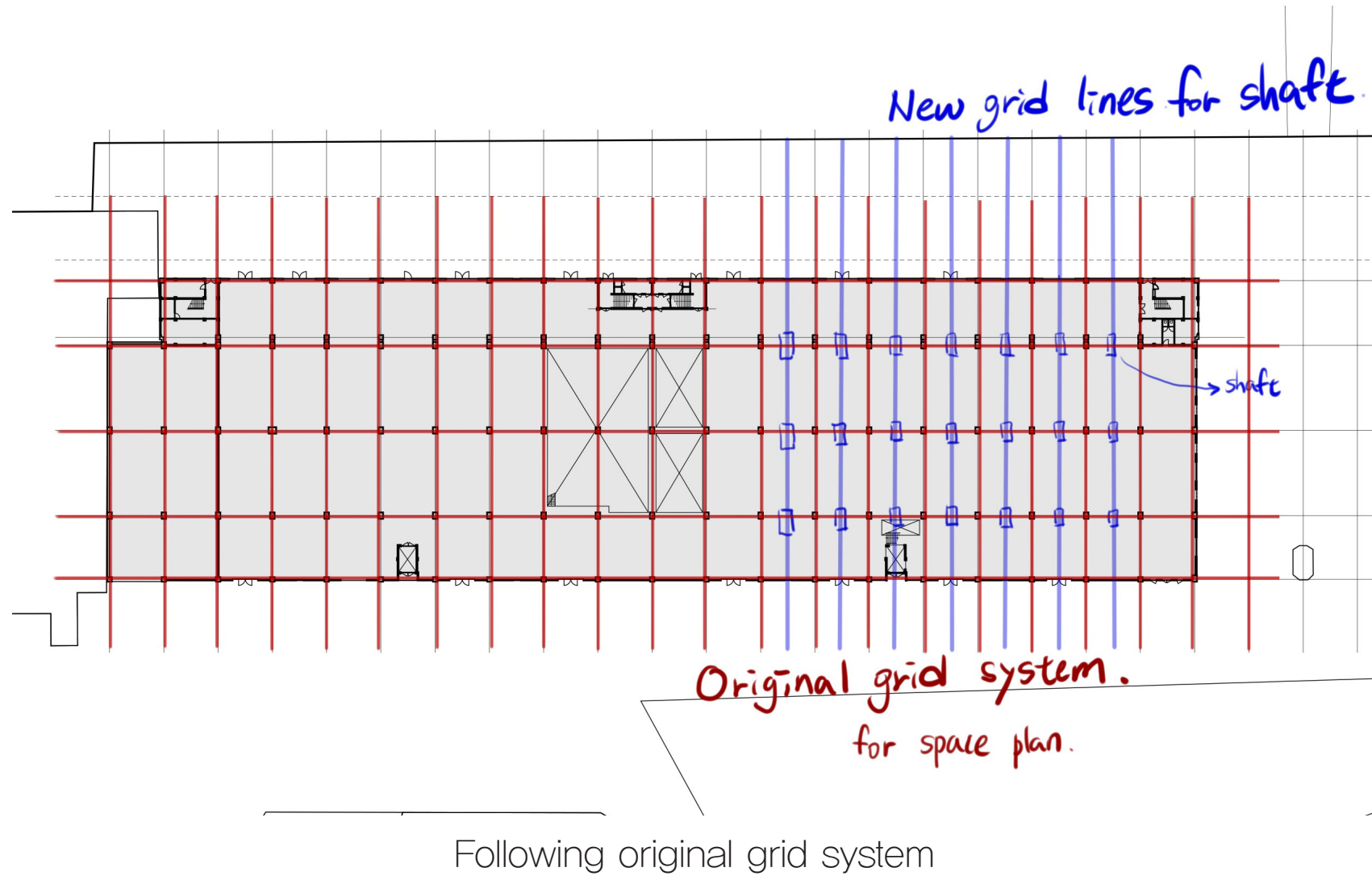
Light condition

Adding new layers: second facade

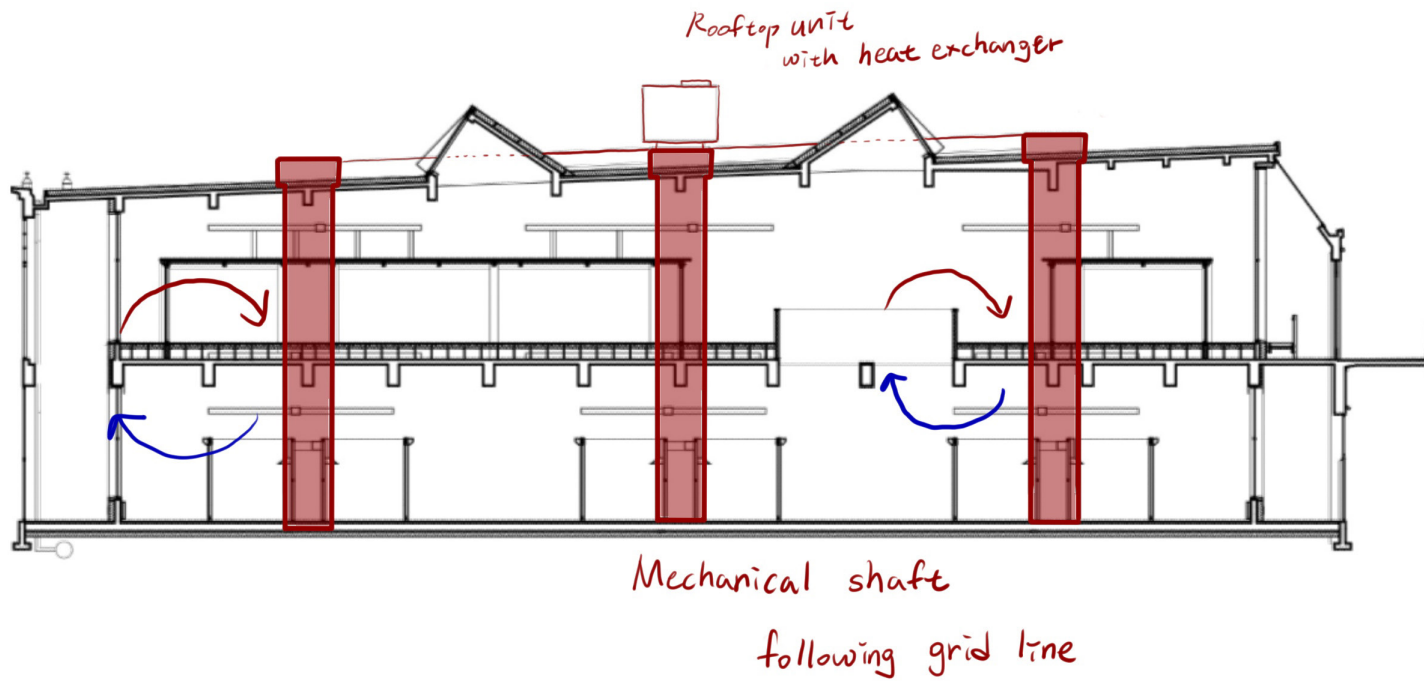


Second facade

Adding new layers: new grid line



Adding new layers: new grid line



Vertical shaft for service layer
and flexible space plan layer

Design

How did these ideas realized in architecture?

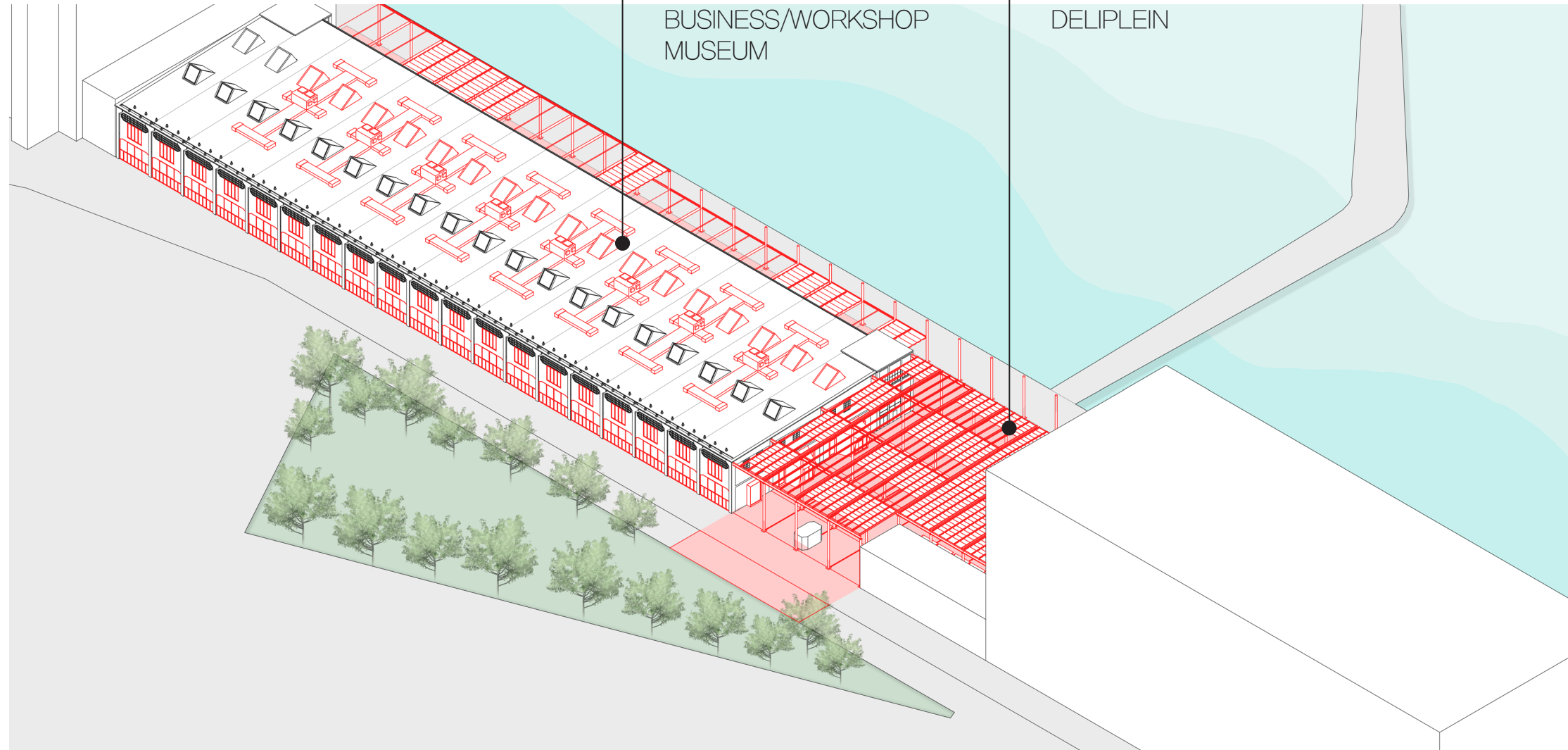
Design

INSIDE

GENERAL
INDOOR MARKET
BUSINESS/WORKSHOP
MUSEUM

OUTSIDE

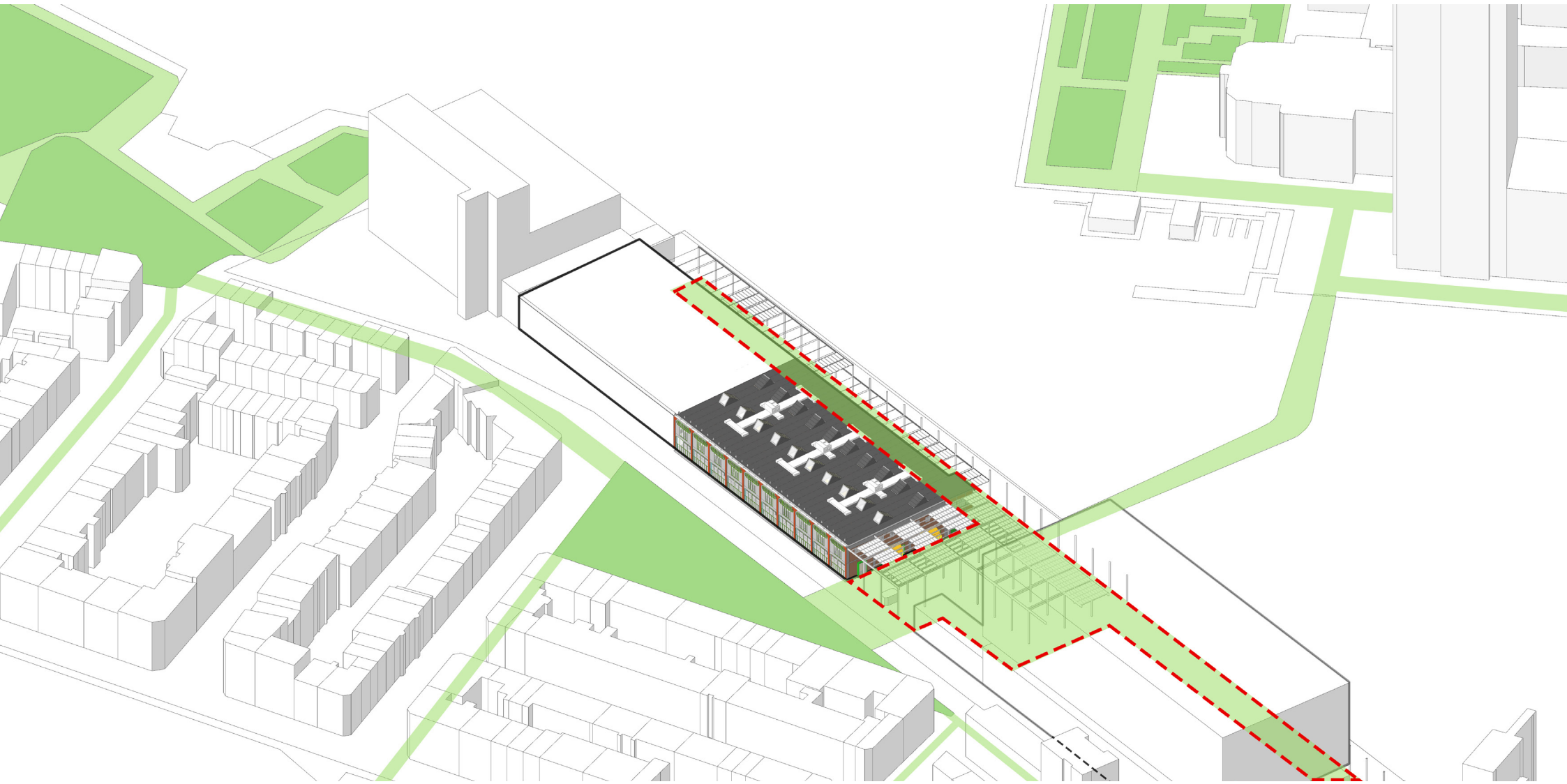
FENIX SQUARE
QUAY SIDE
DELIPLEIN



New FENIX2 and its sqaure

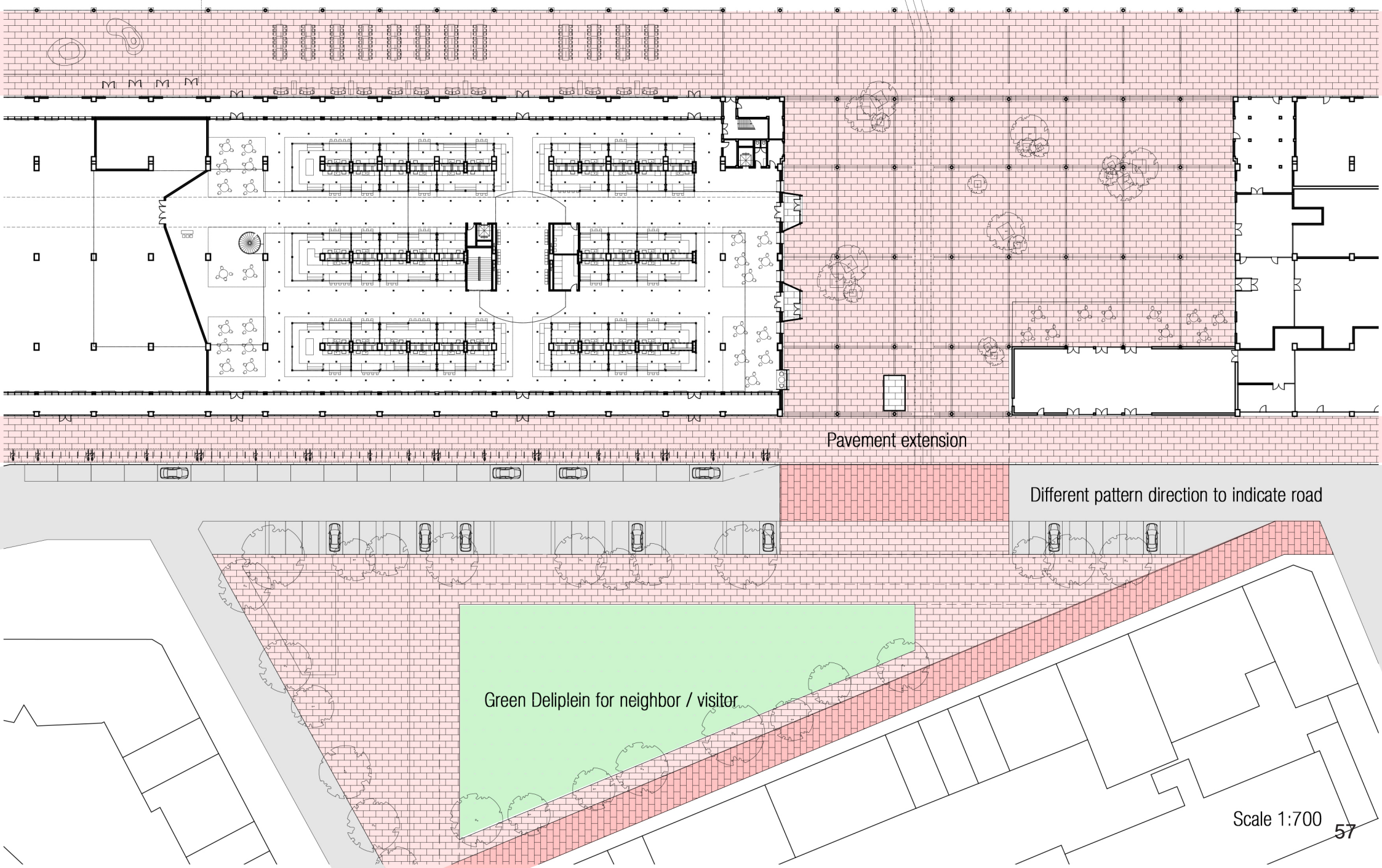
OLD
NEW

Design: Outside



Design: Outside_site plan

Fenix square as an Anchor point



Scale 1:700

Design: Outside_plan
Reconstructed square

FENIX 2

- Ground light indicator for bike to make vague border

- HSS column following existing grid

FENIX 1

- Temporary market
- Gathering
- Event
- Social activity
- Performance
- New Square for city

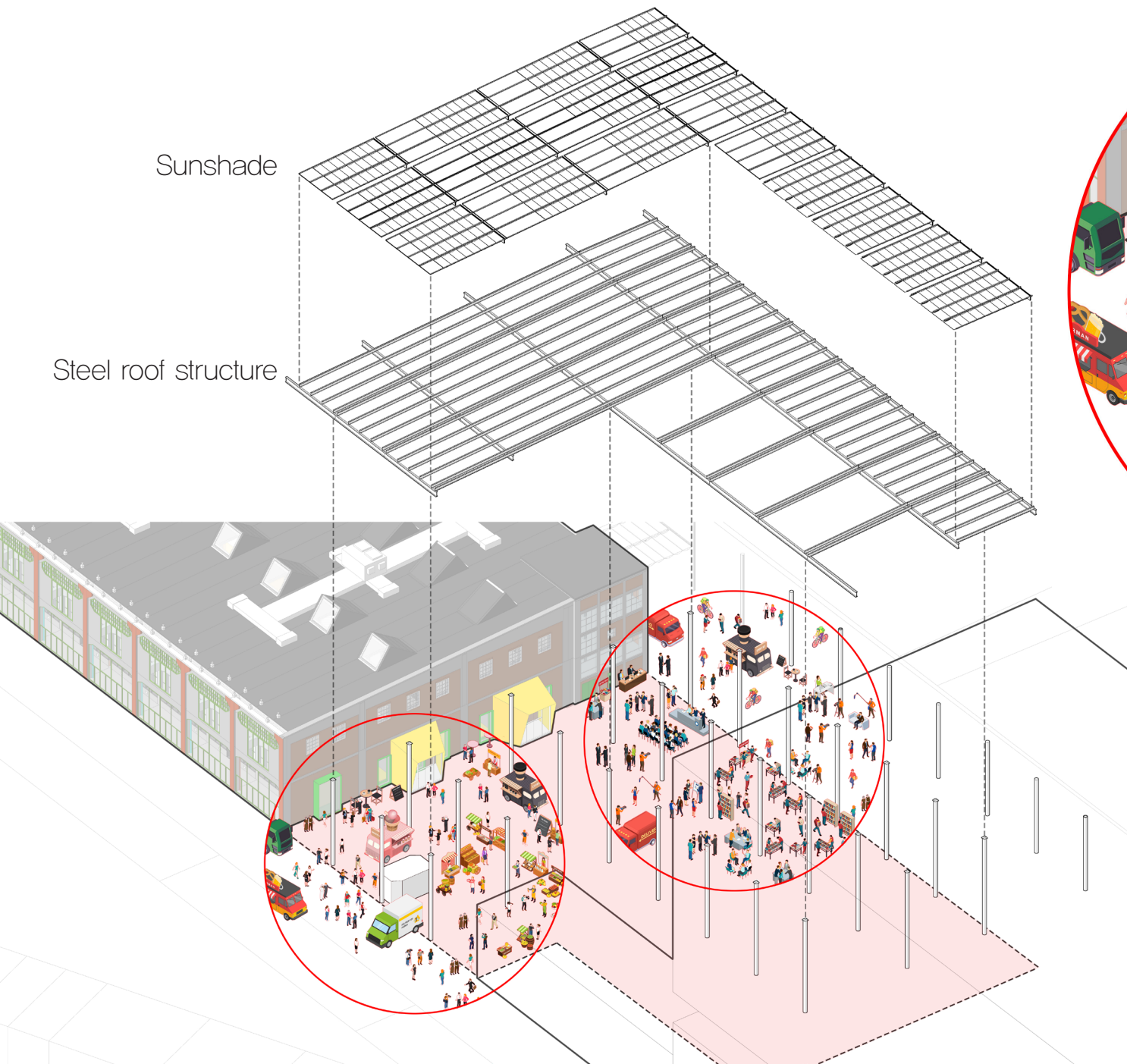
- In ground lighting channel emphasizing grid

Connection

Canteen Walhalla

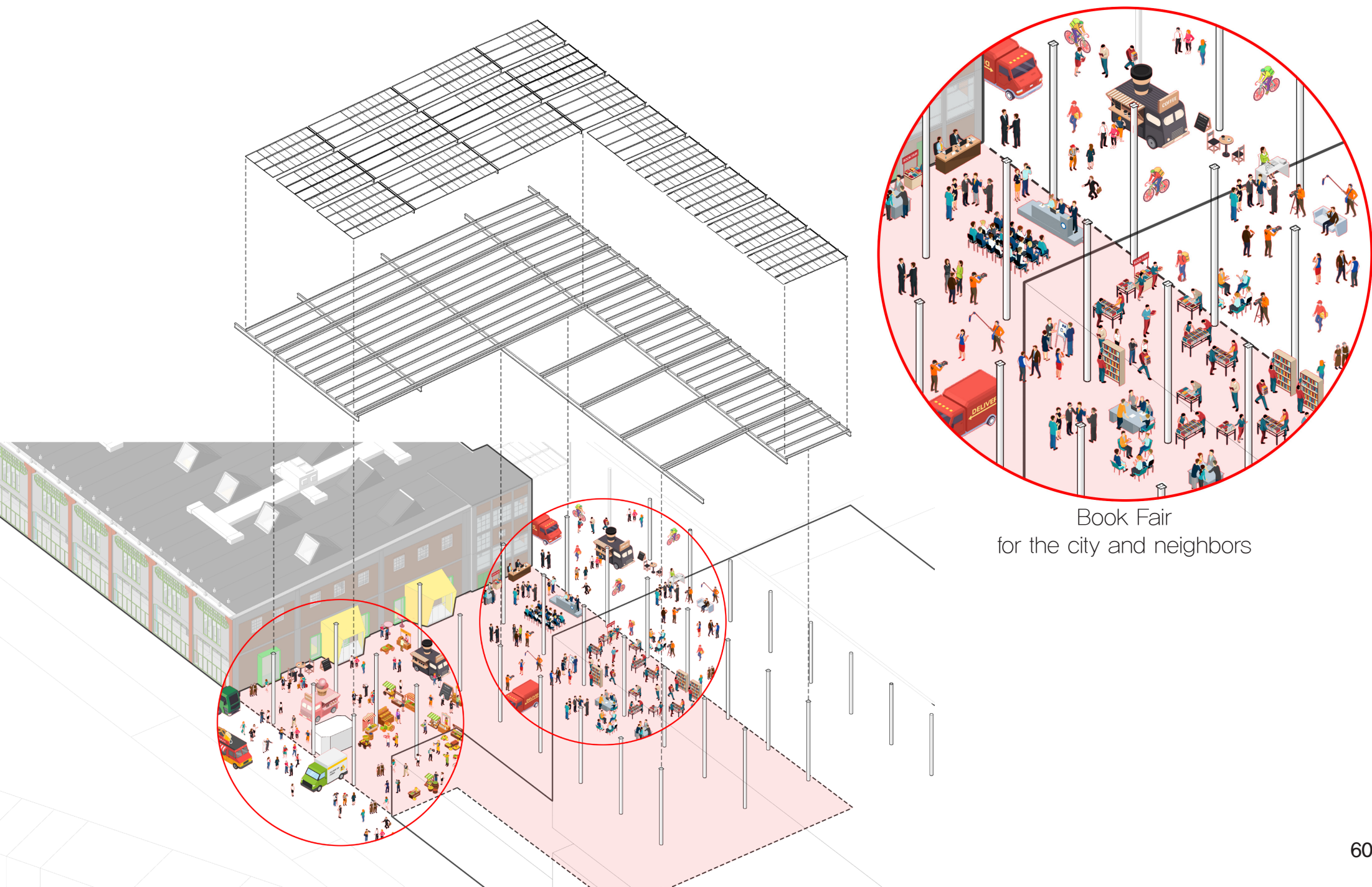
Scale 1:300 58

Design: Outside_square for the neighbors



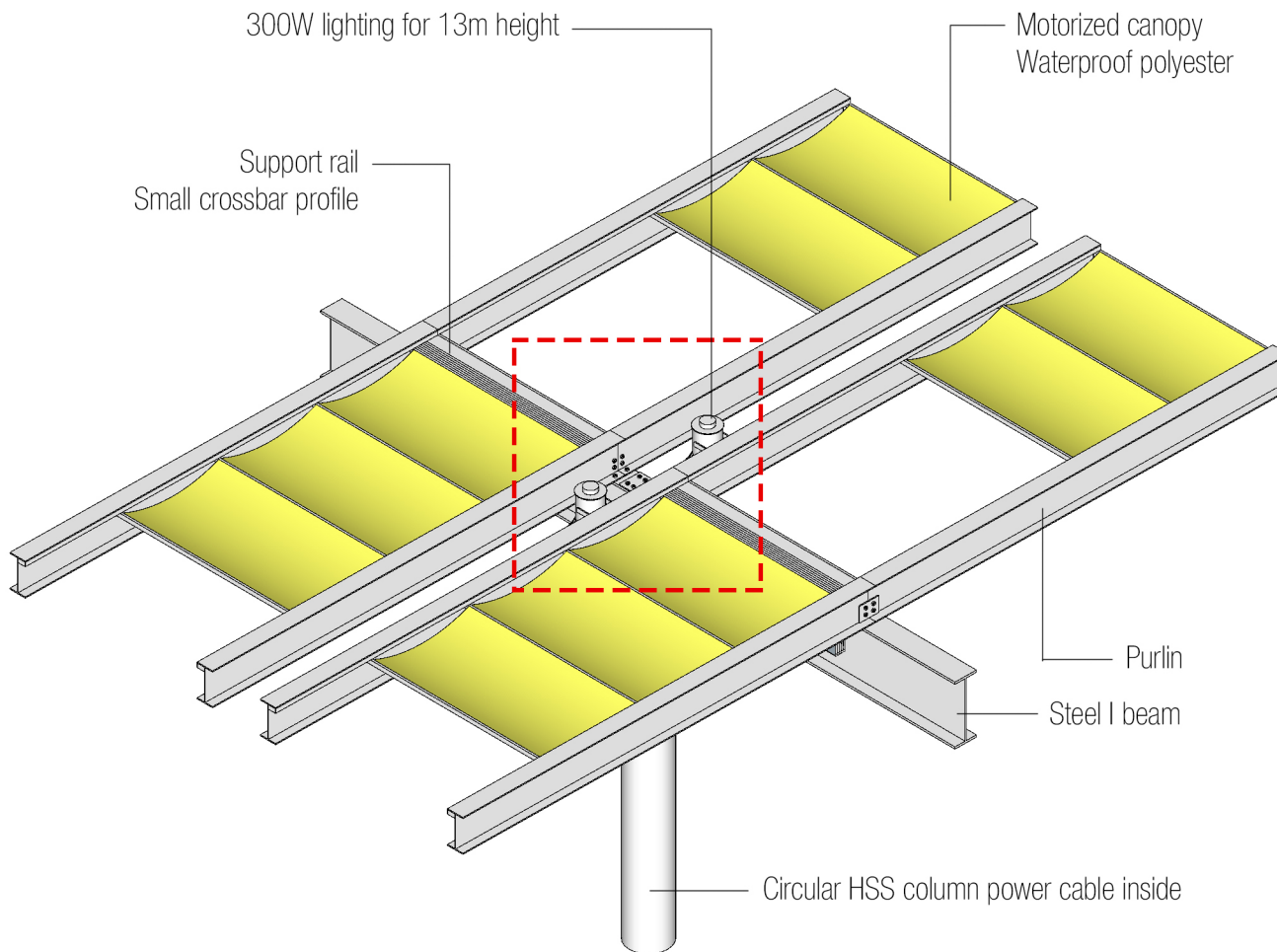
Outdoor Marketplace
connected to
FENIX and Deliplein

Design: Outside_square for the city

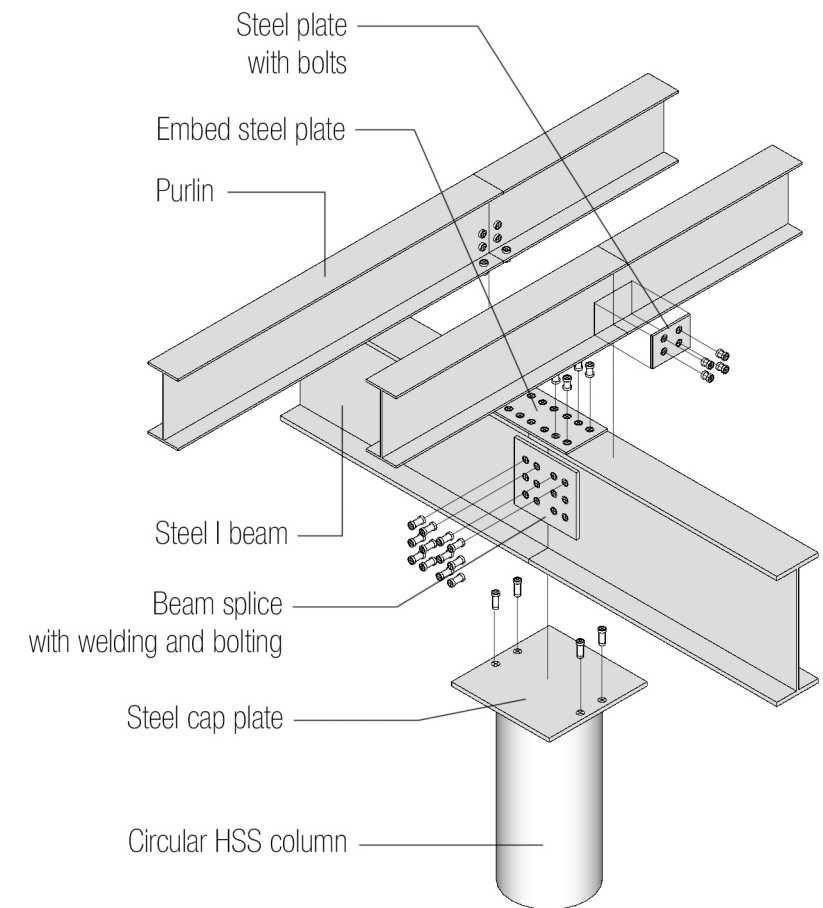


Book Fair
for the city and neighbors

Design: Outside_new column structure

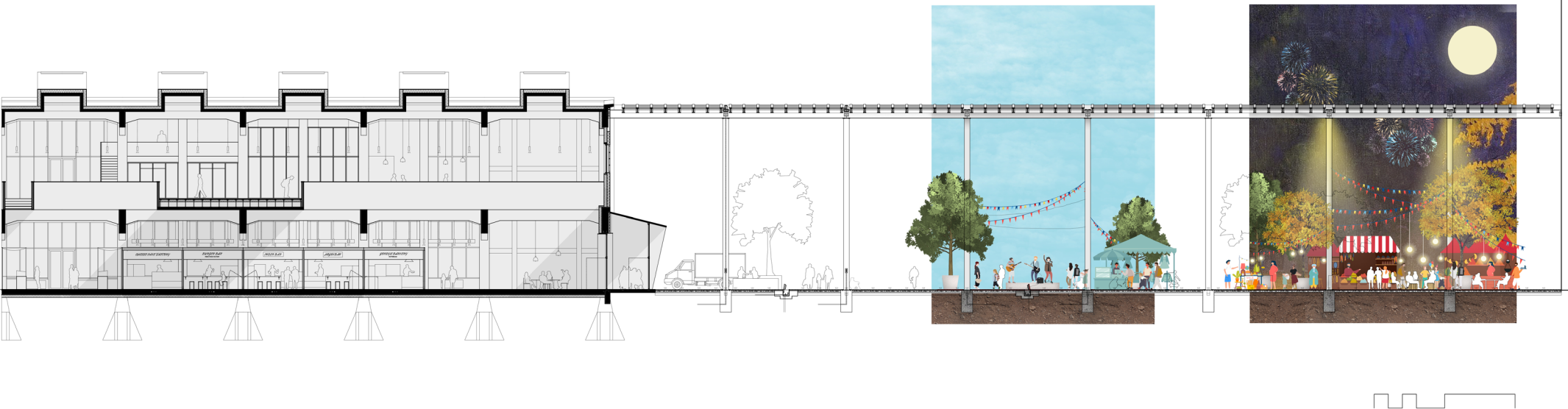


Lighter, Thinner structure than original huge concrete structure

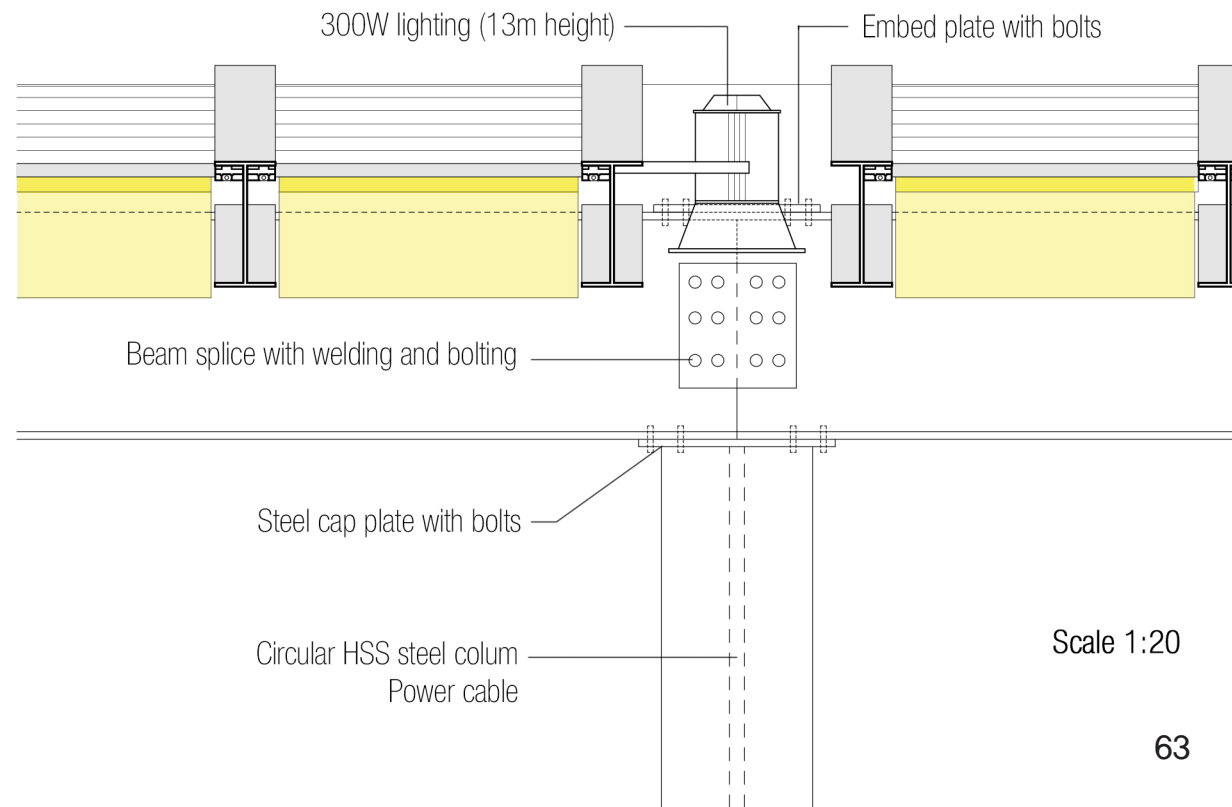
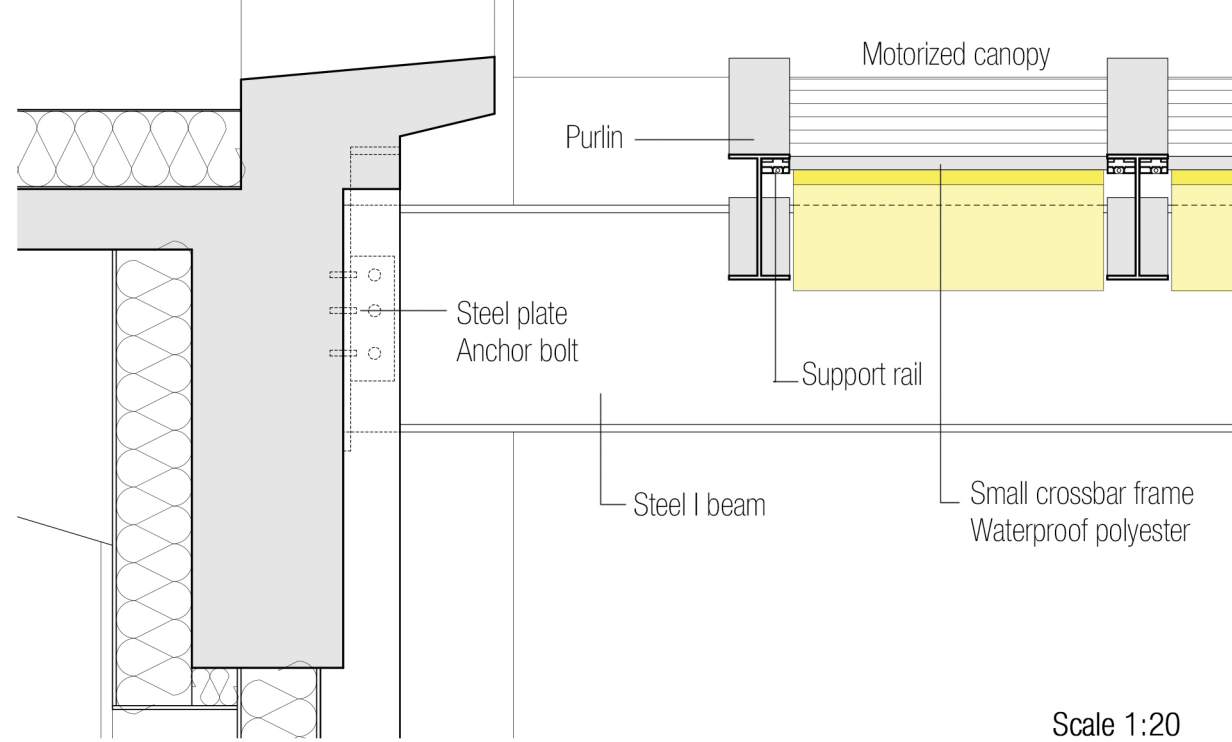
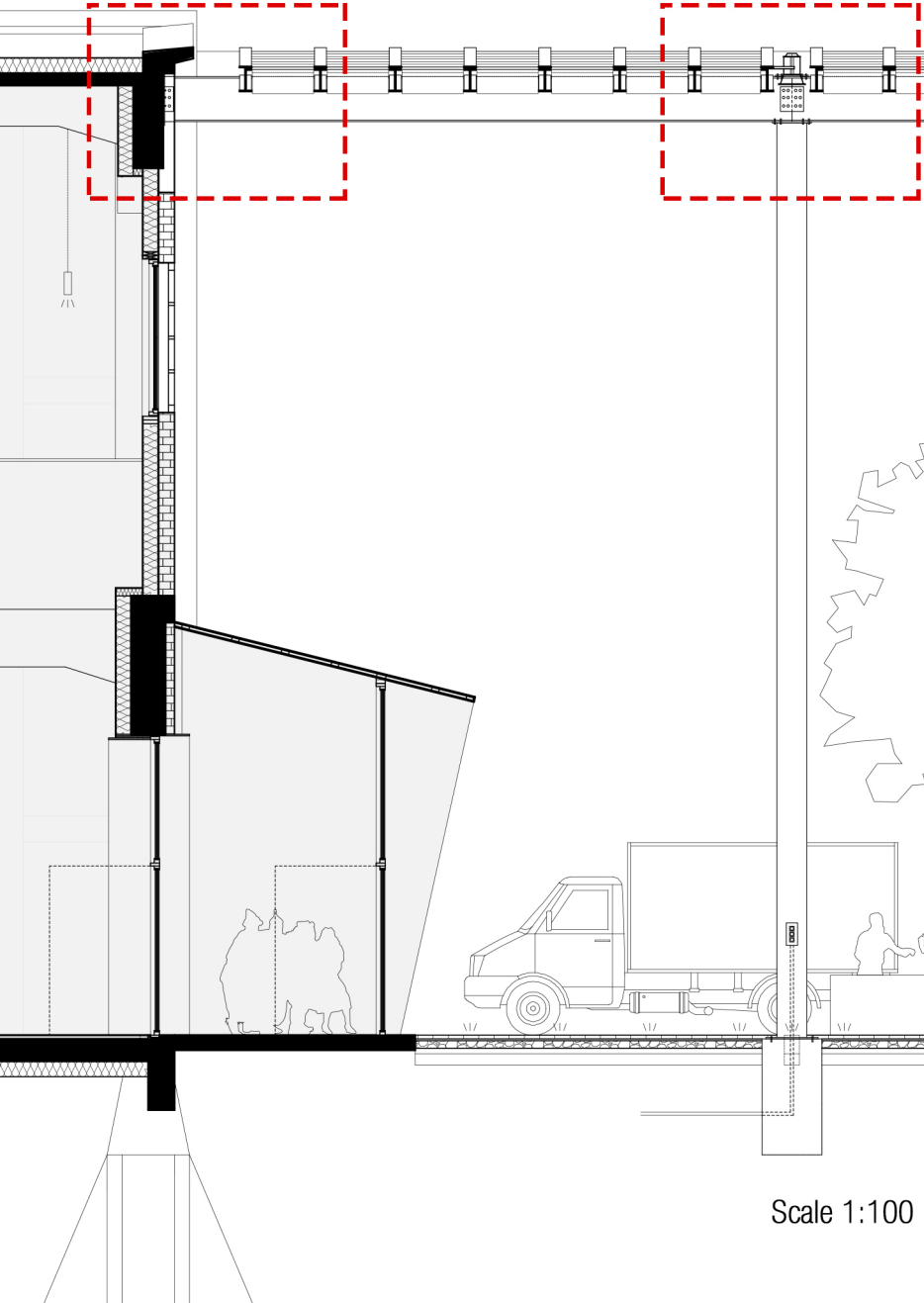


Contrast with original structure (Hennebique system)
Separate / Monolithic

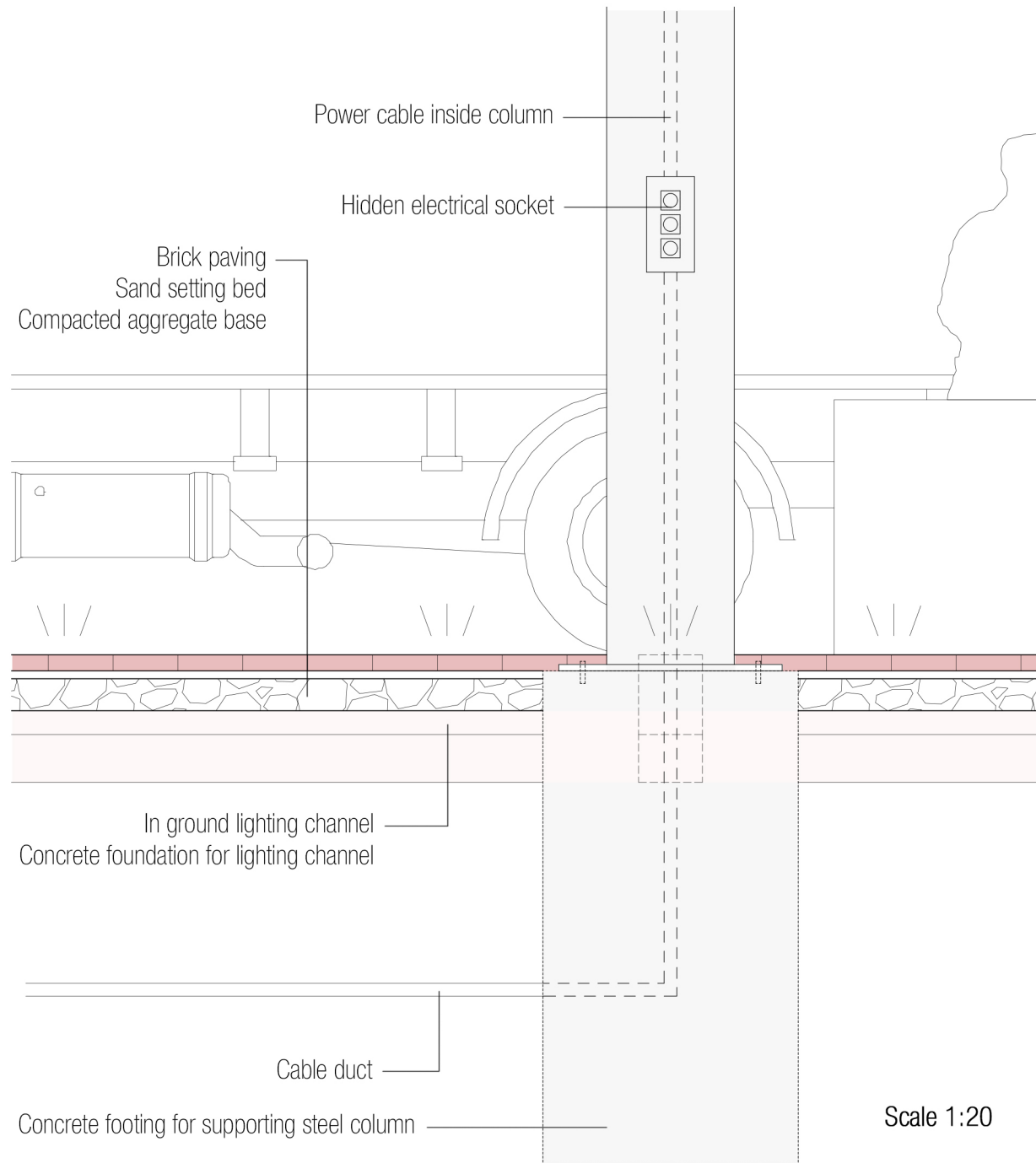
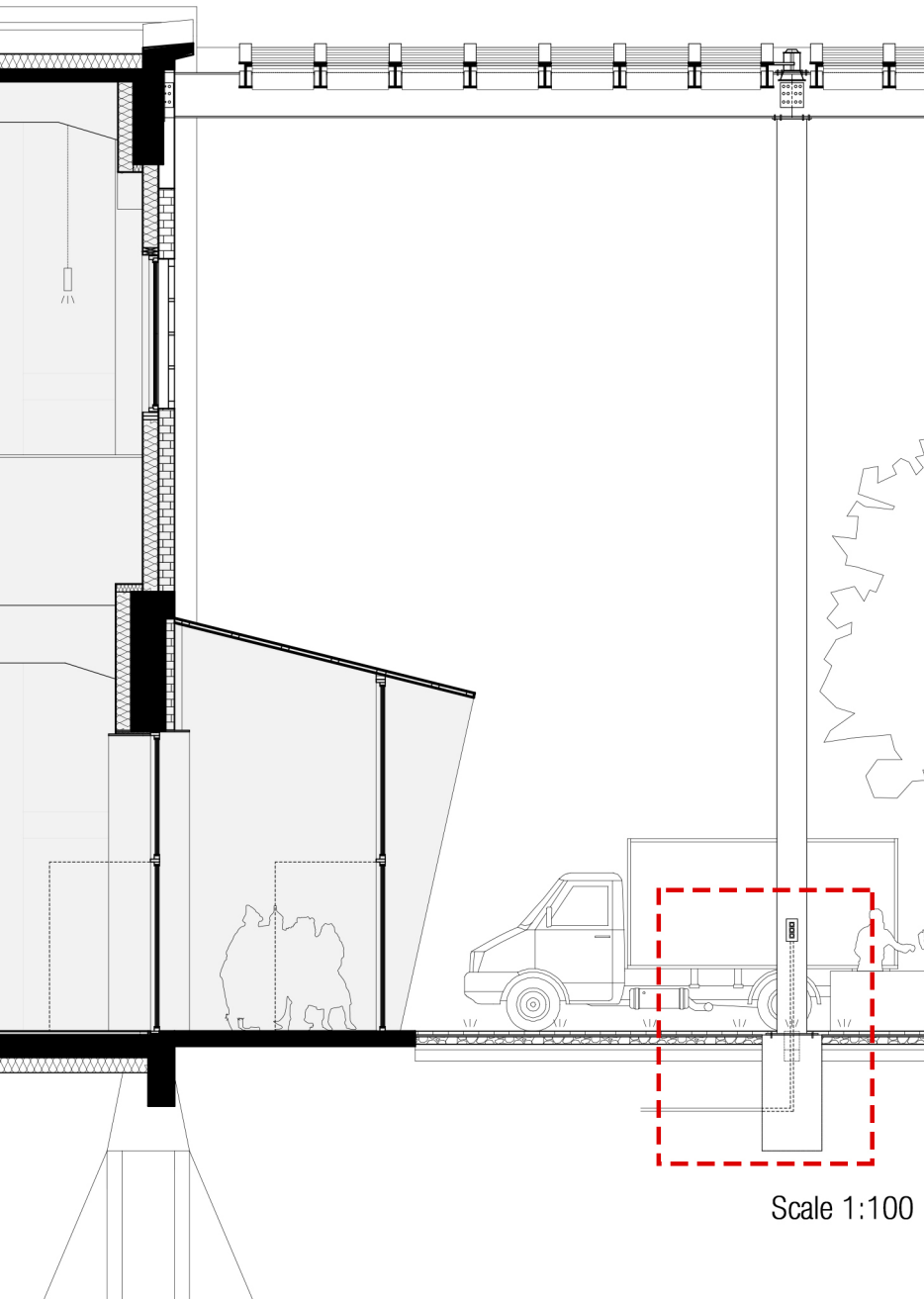
Design: Outside_section



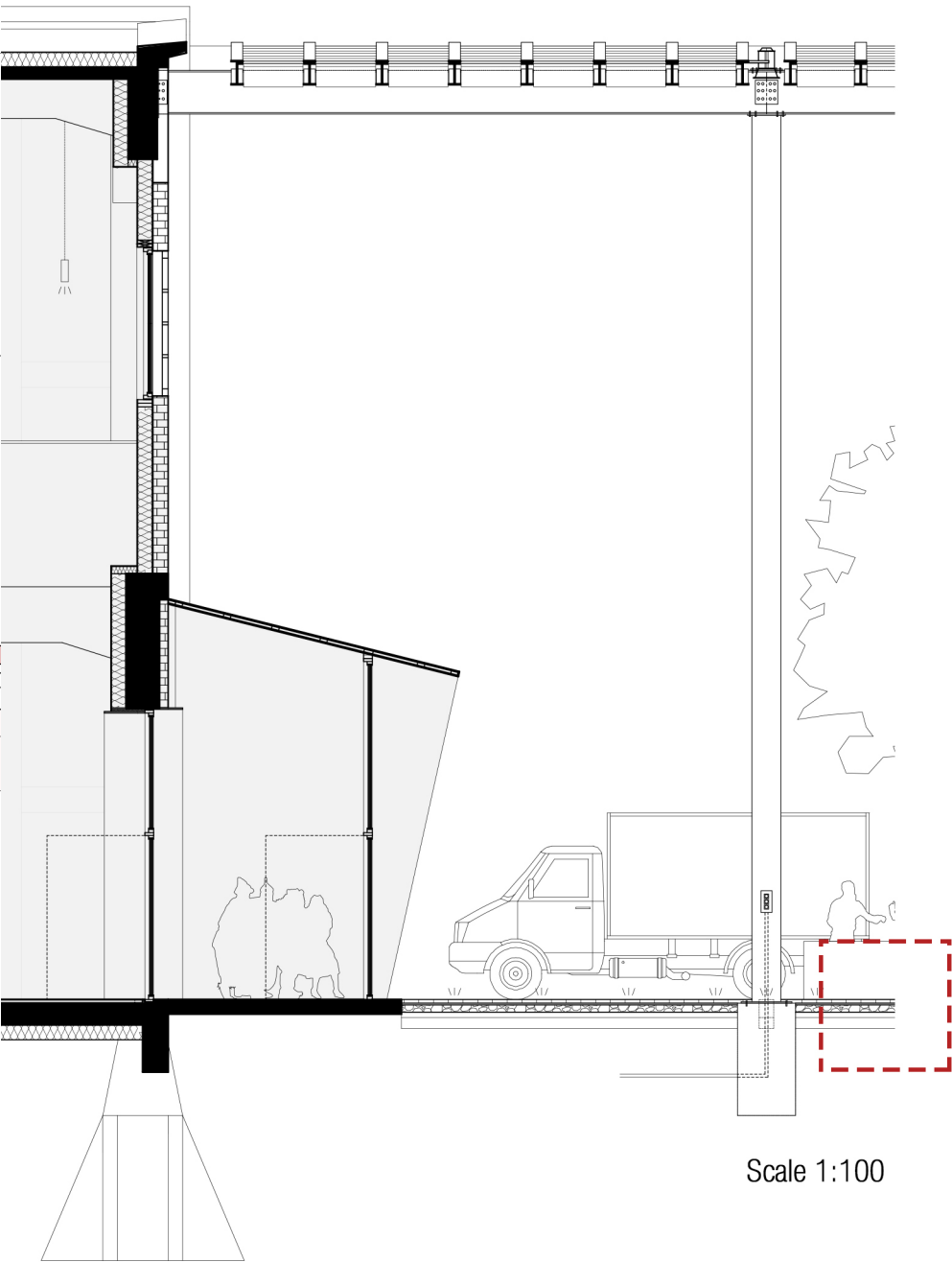
Design: Outside_section



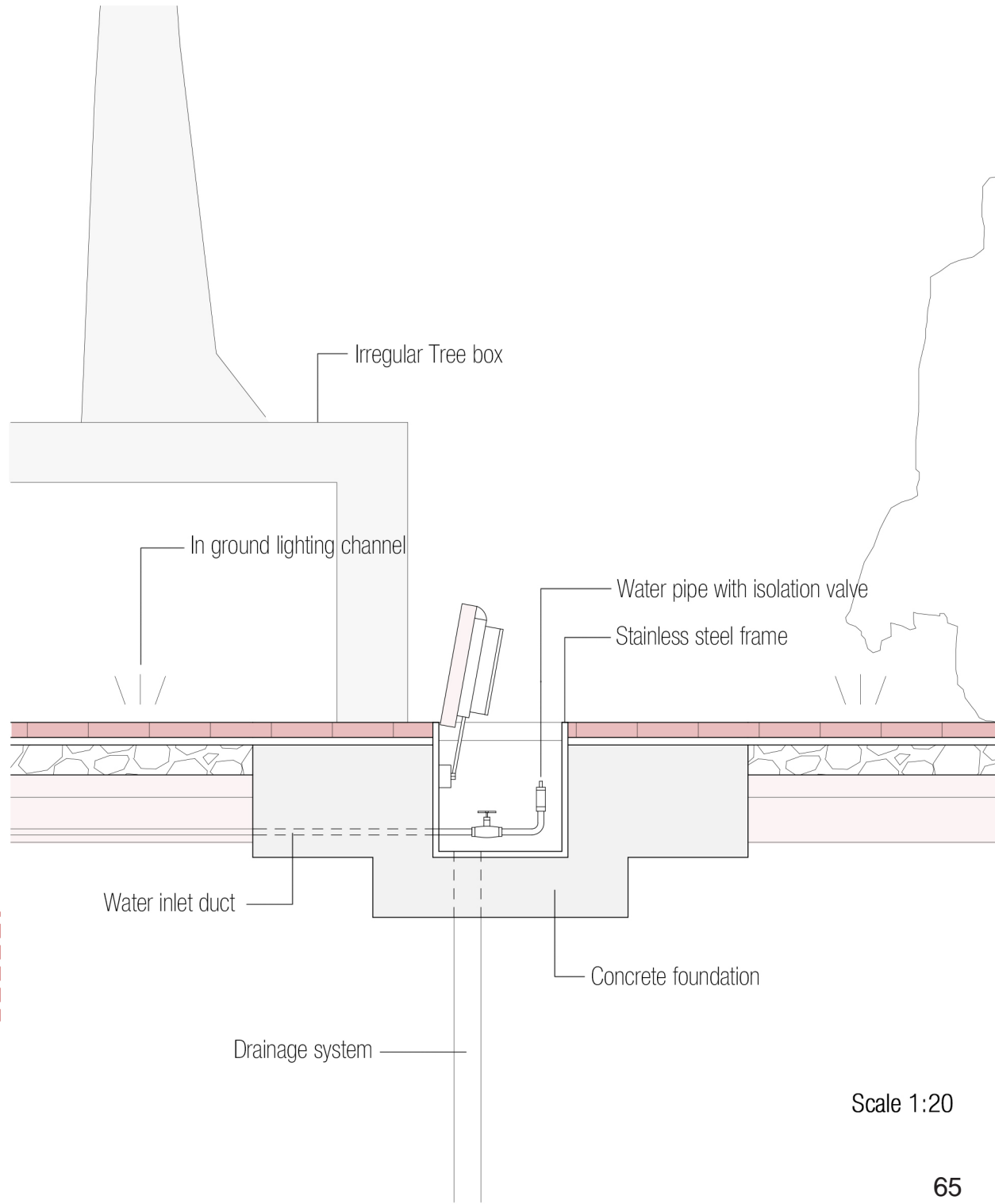
Design: Outside_section



Design: Outside_section

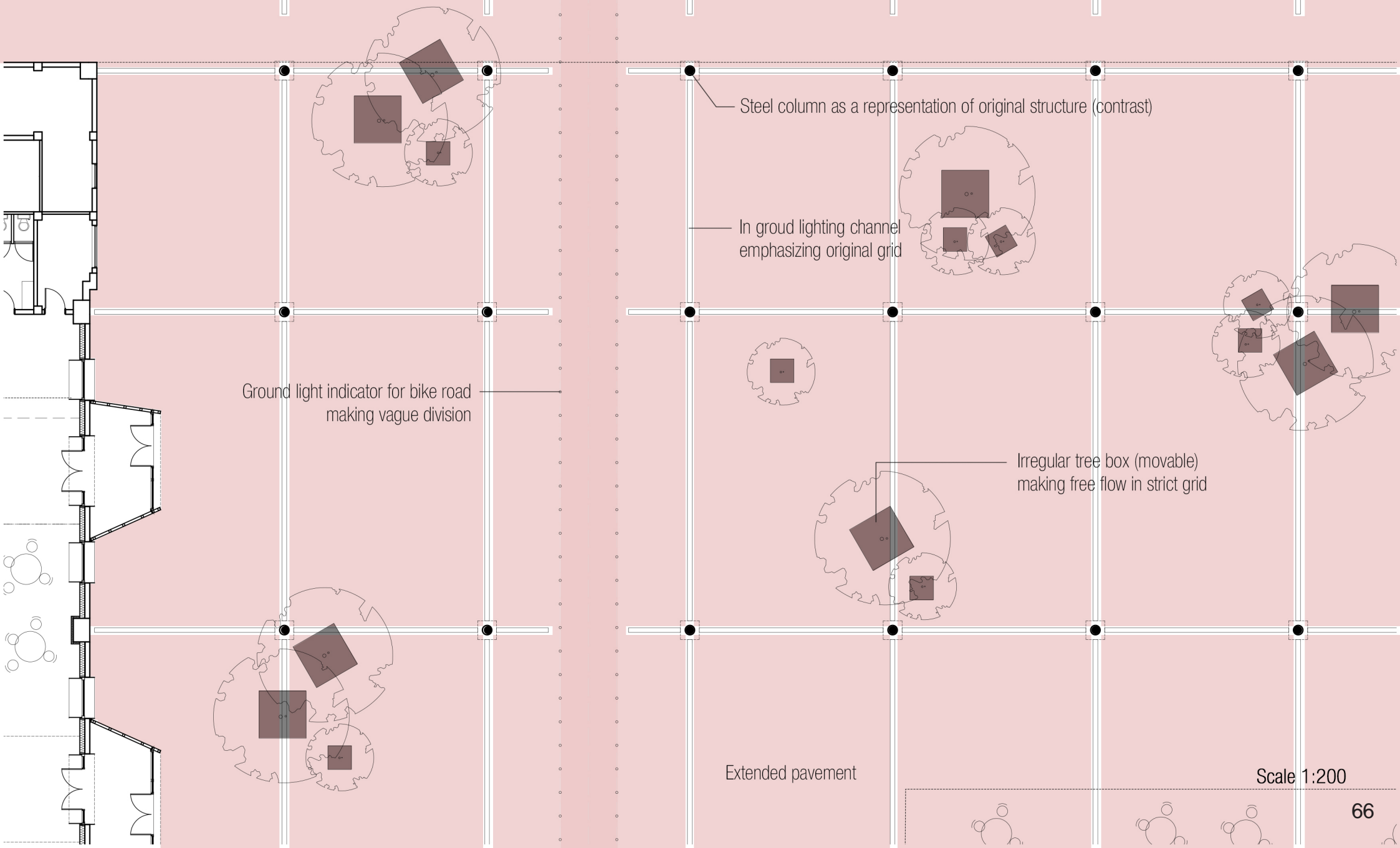


Scale 1:100



Scale 1:20

Design: Outside_pavement



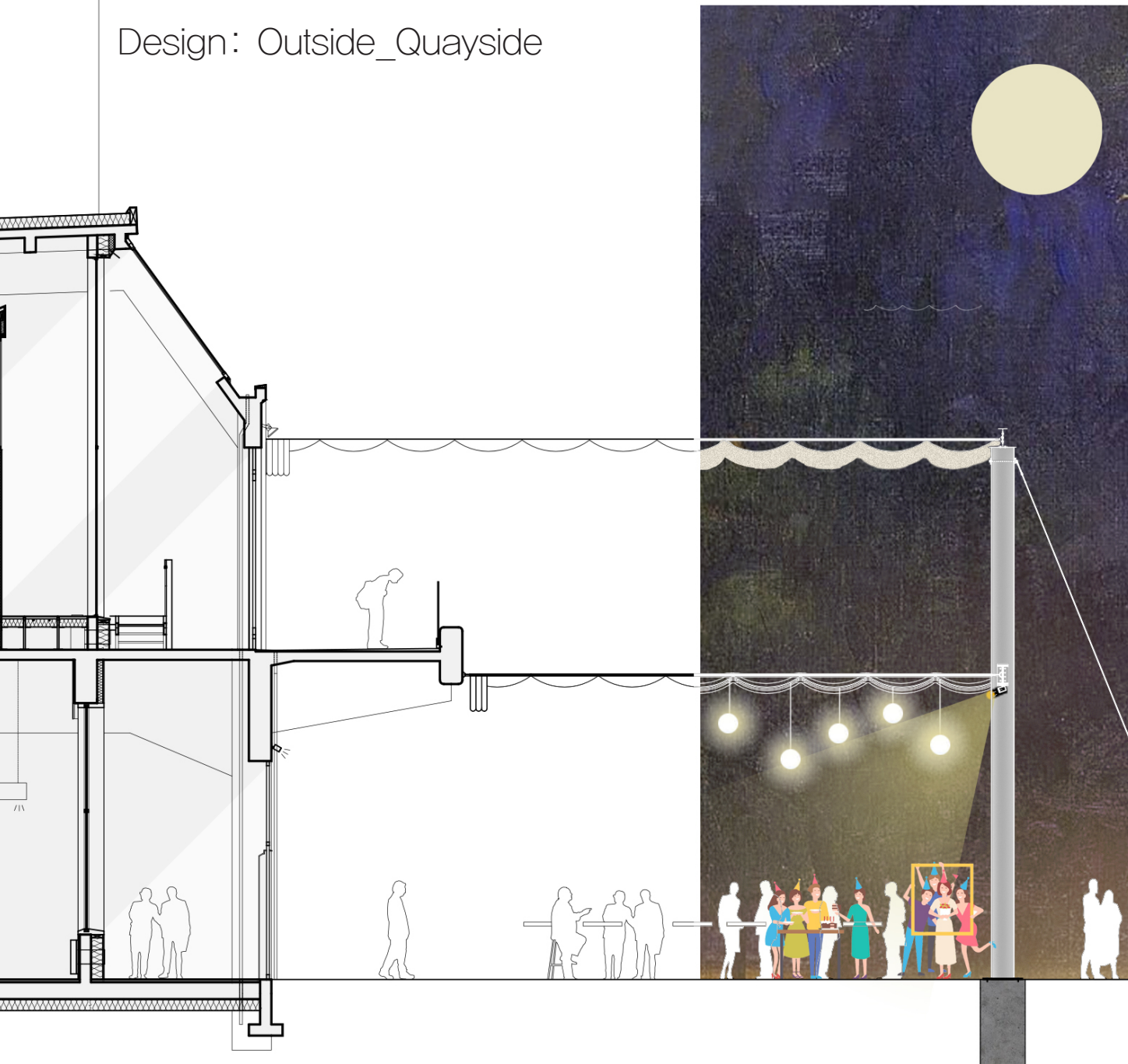
Design: Outside



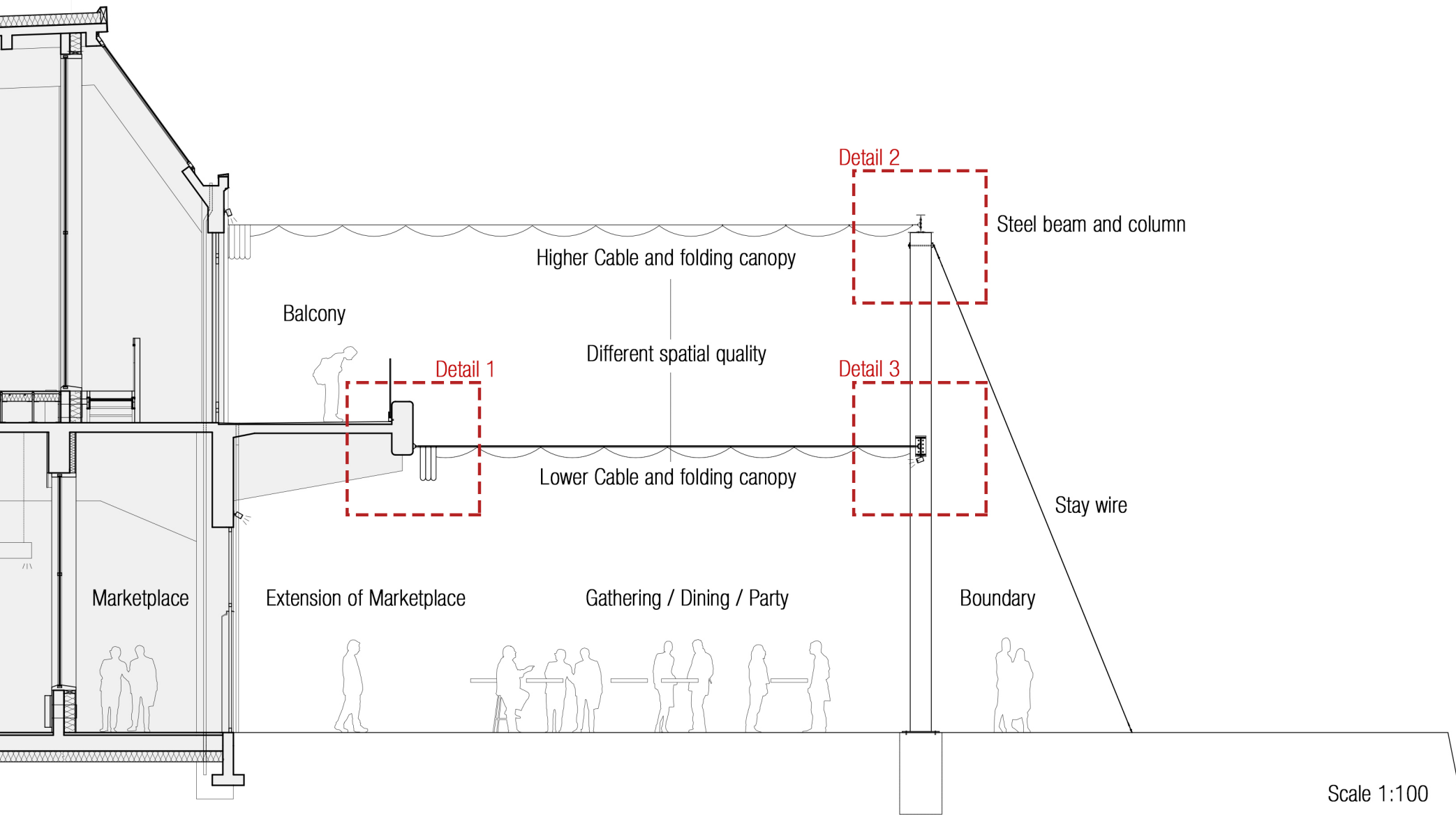
Design: Outside



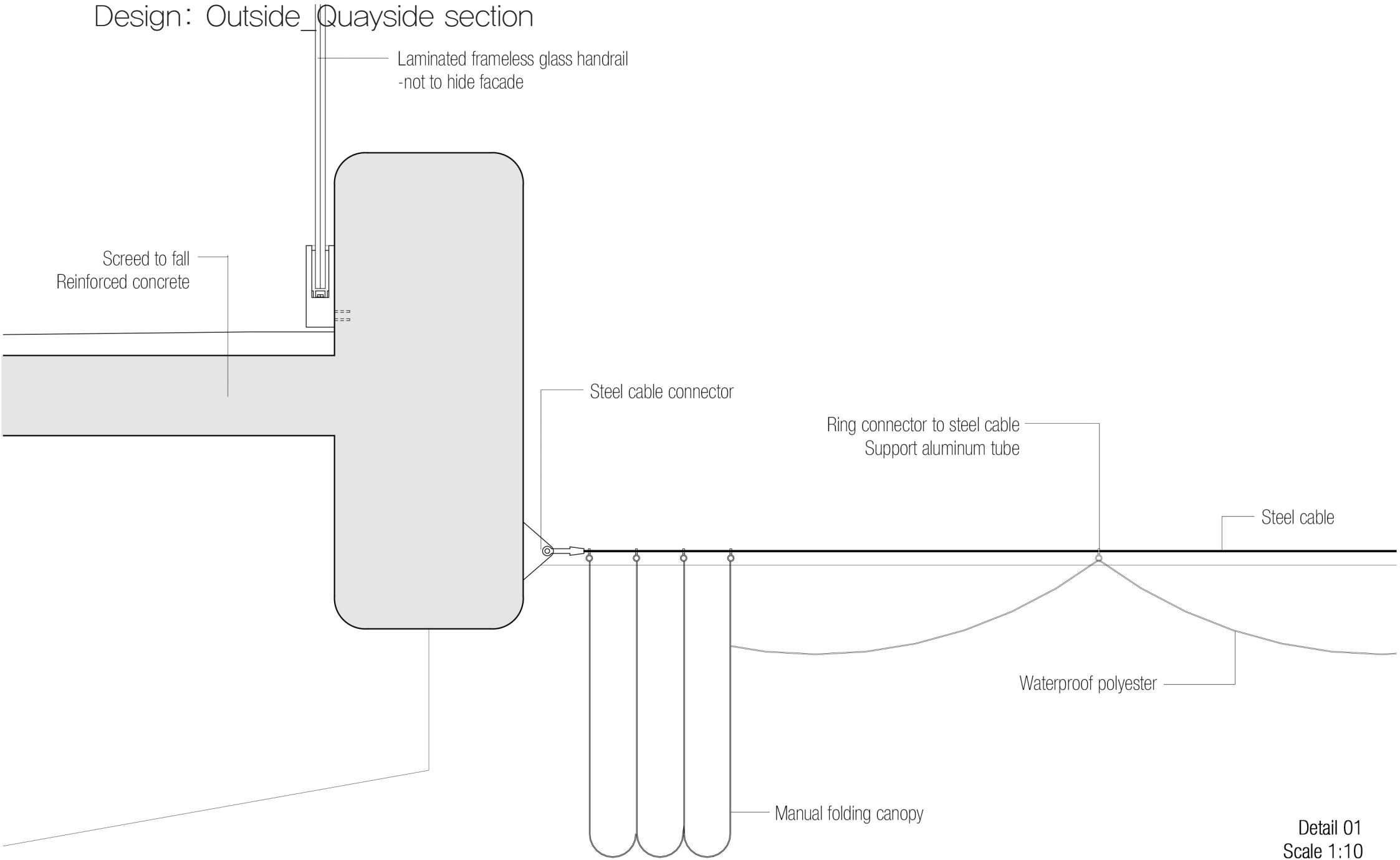
Design: Outside_Quayside



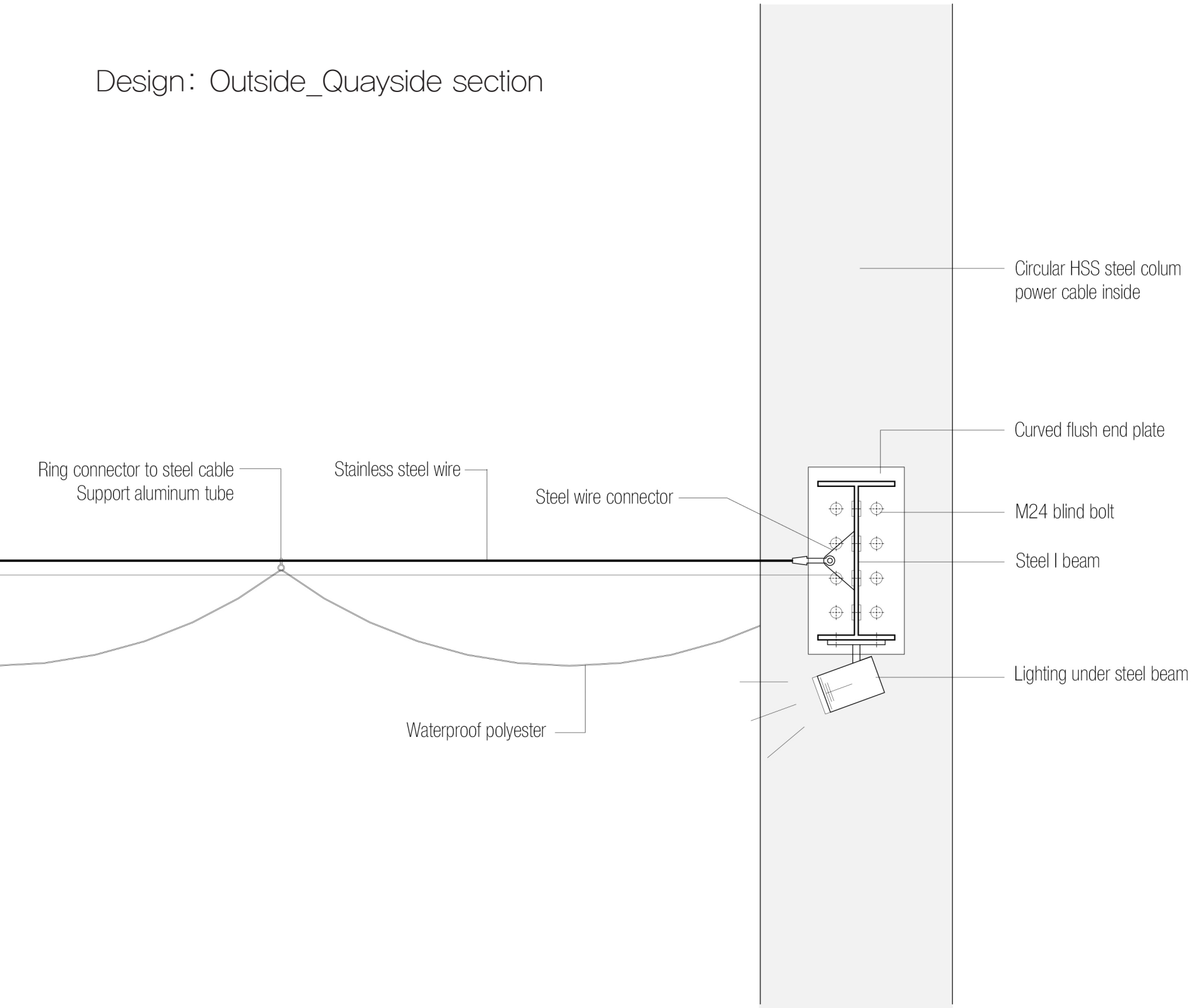
Design: Outside_Quayside section



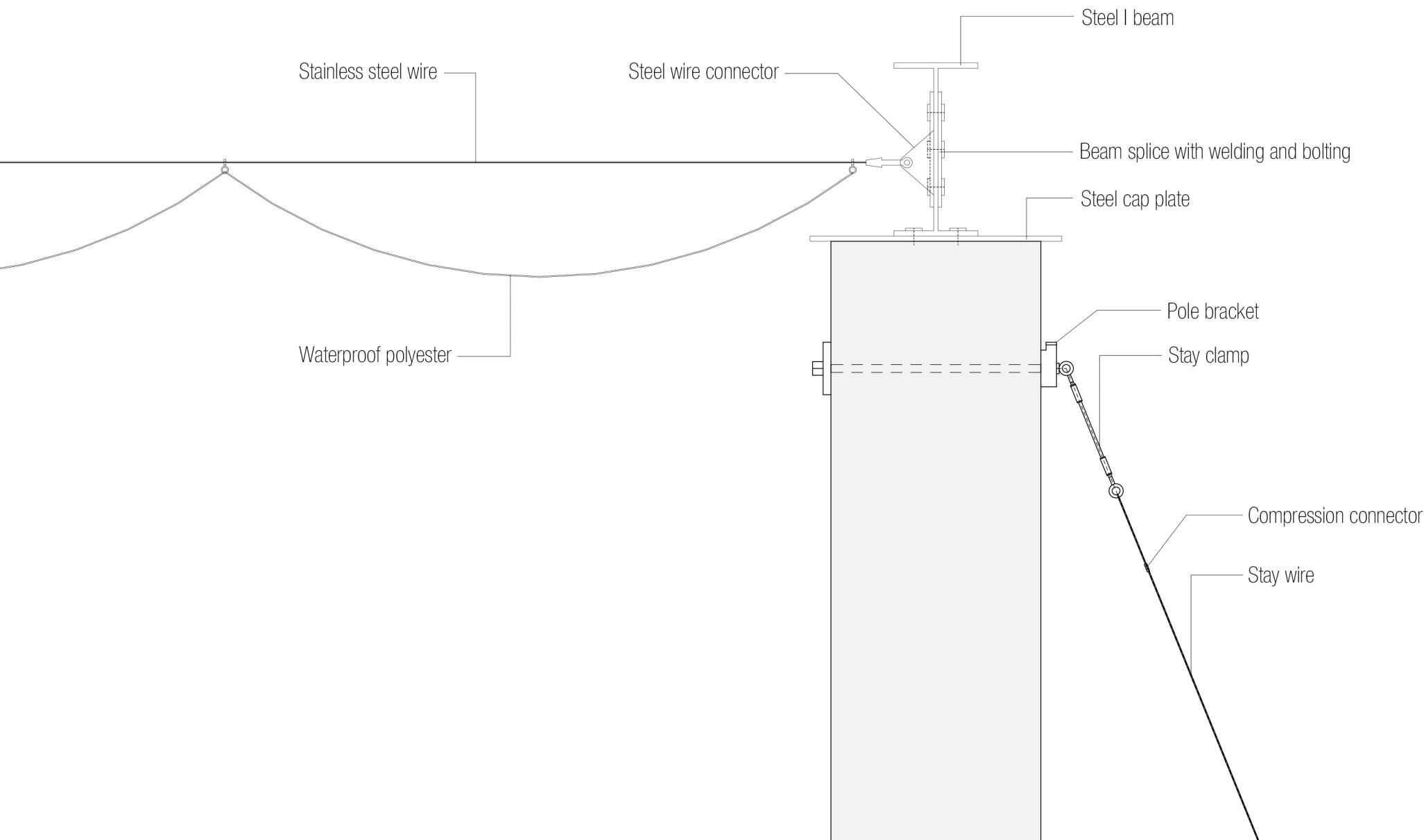
Design: Outside Quayside section



Design: Outside_Quayside section

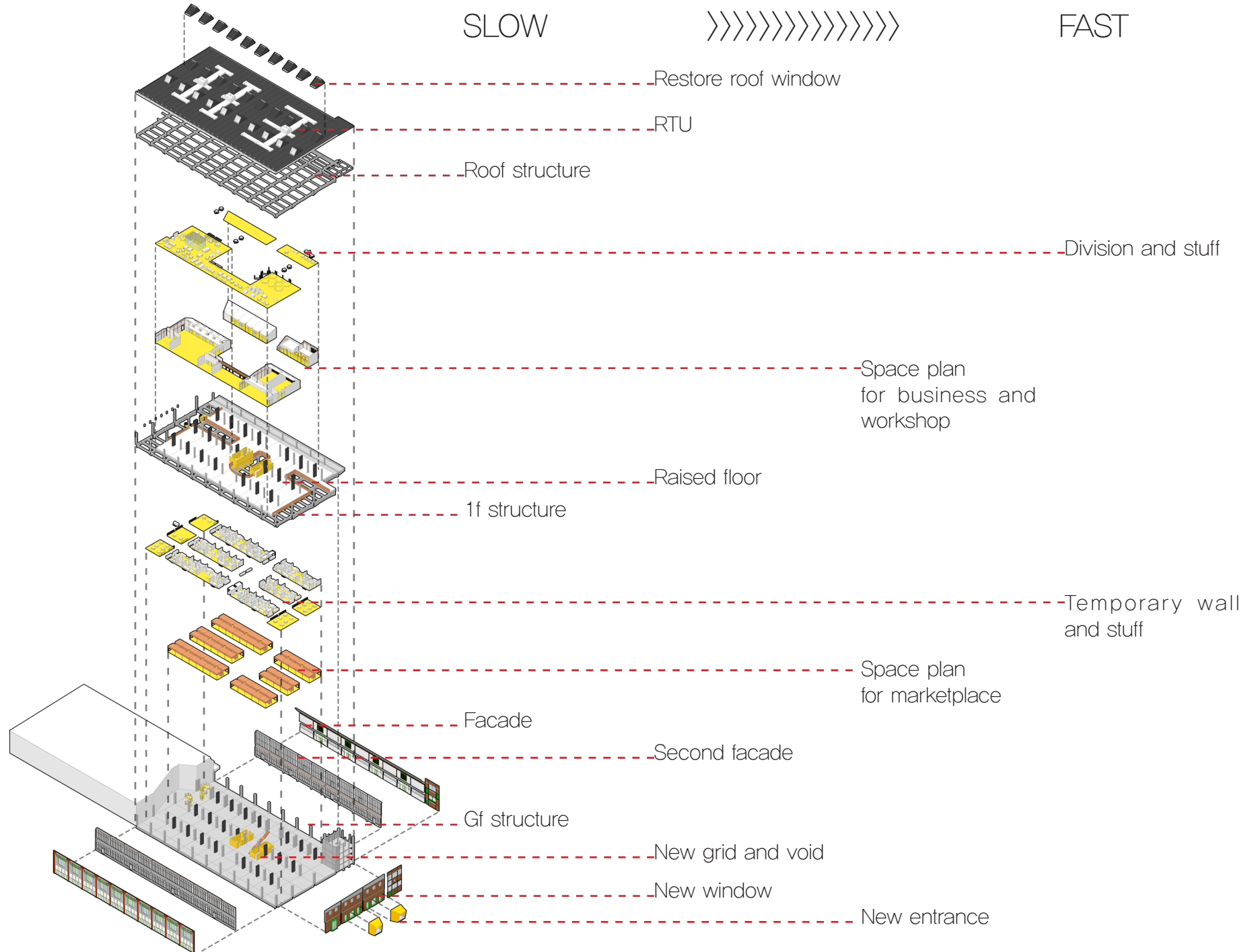


Design: Outside_Quayside section

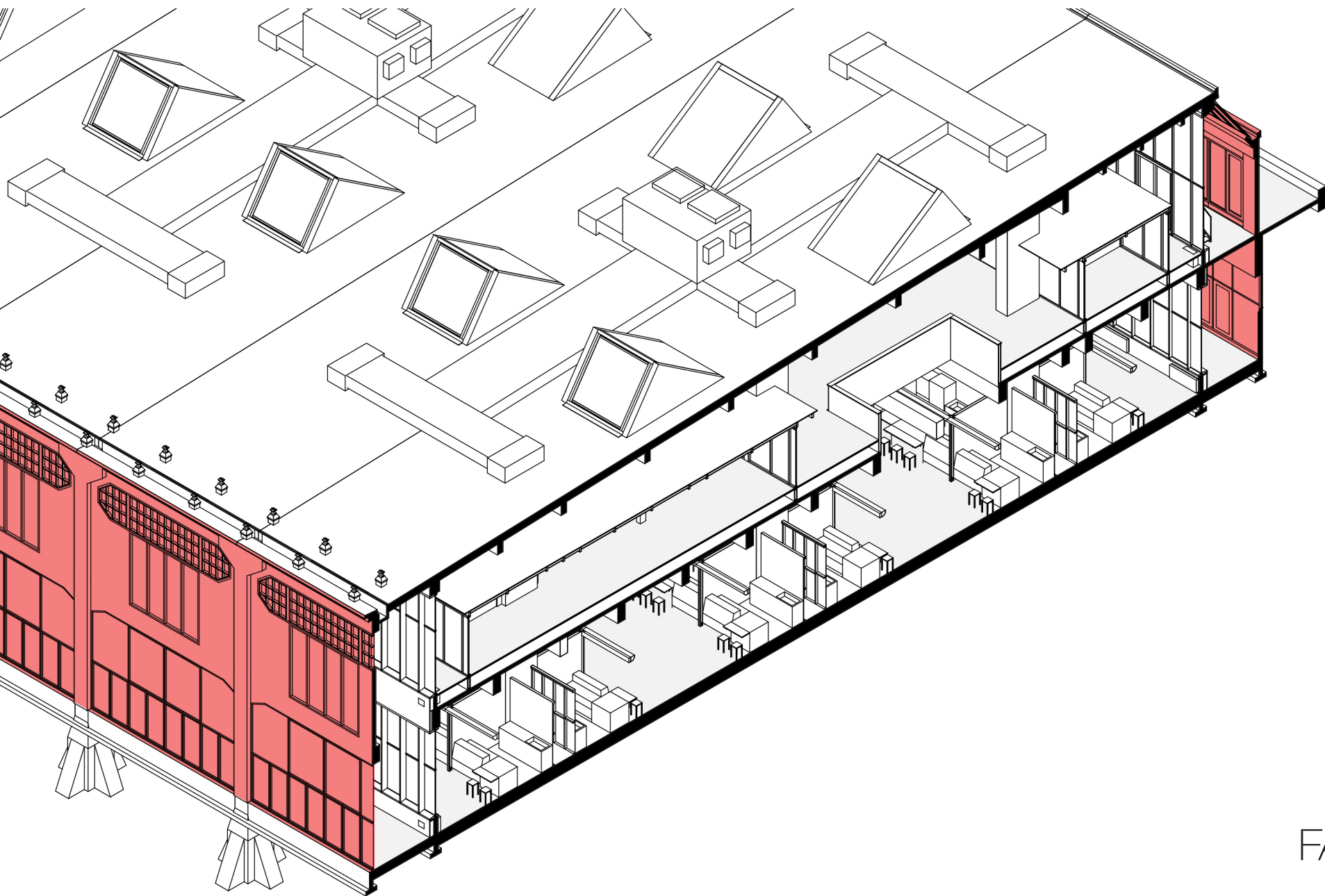


Detail 03
Scale 1:10

Design: Building layers



Design: Facade

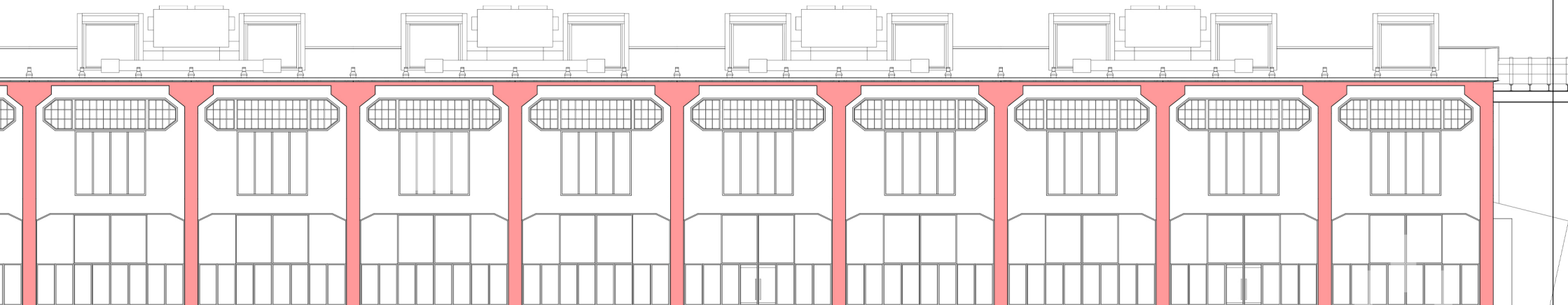


FACADE

Design: Facade_south



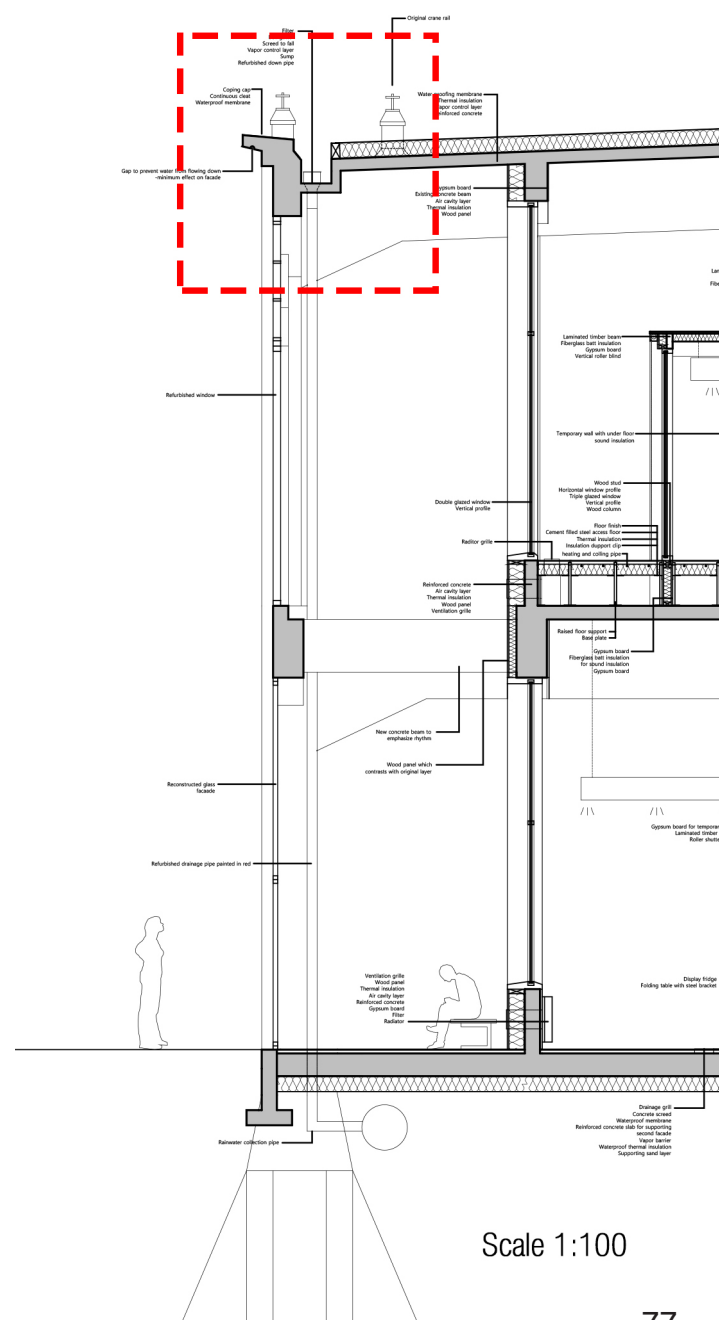
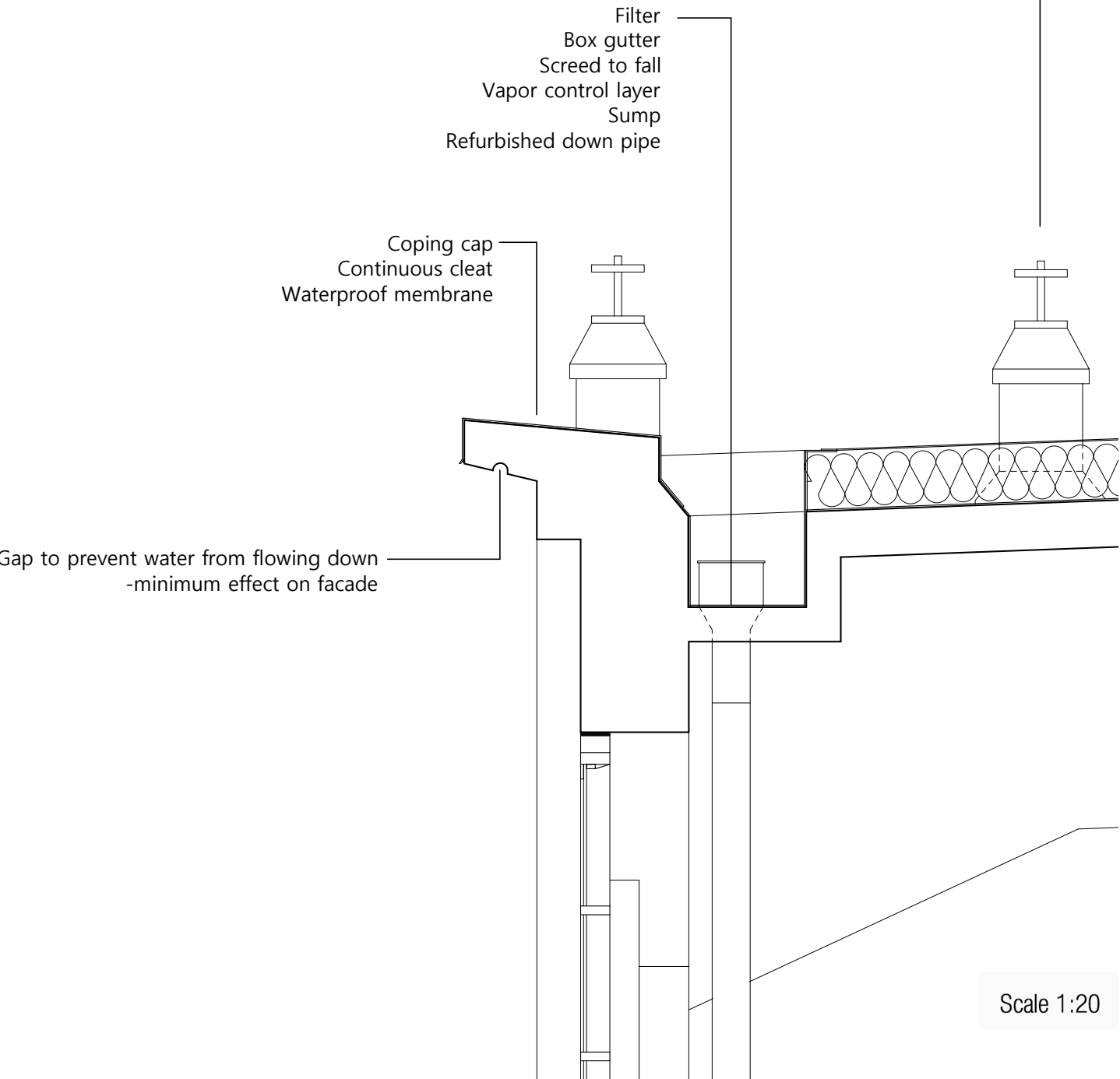
OLD



NEW

Scale 1:300

Design: Facade_south



Design: Facade_North



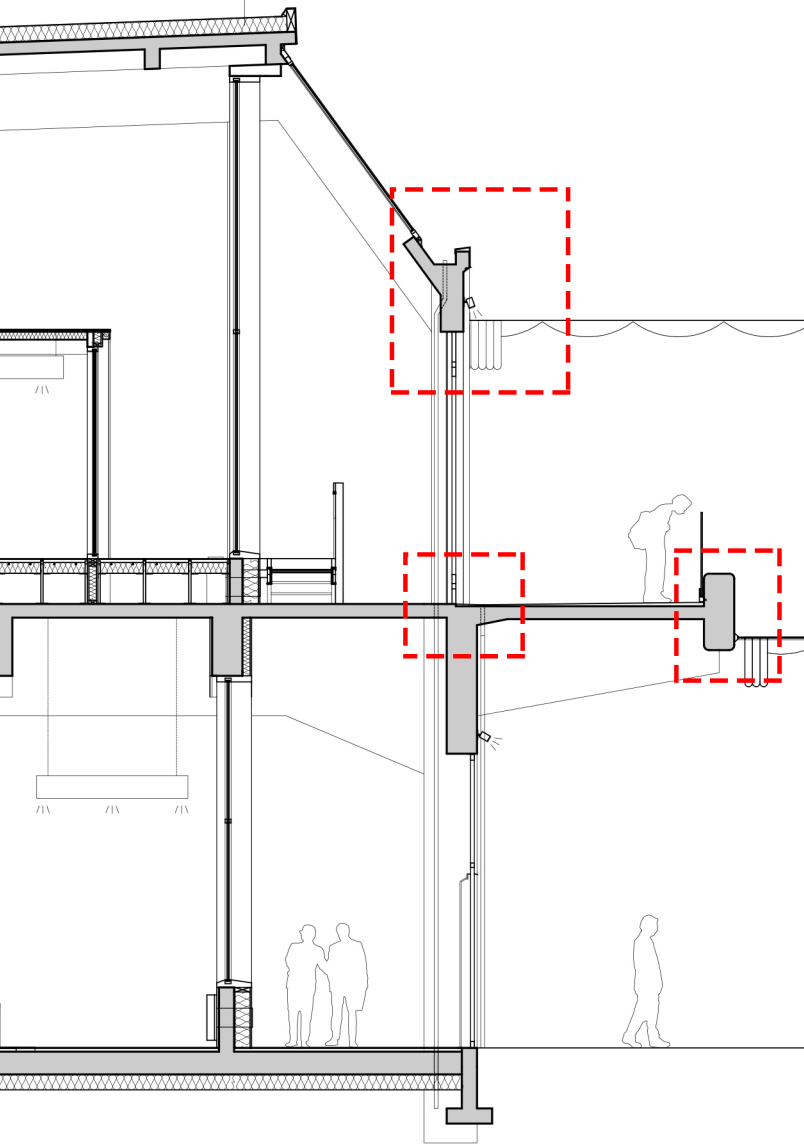
OLD



NEW

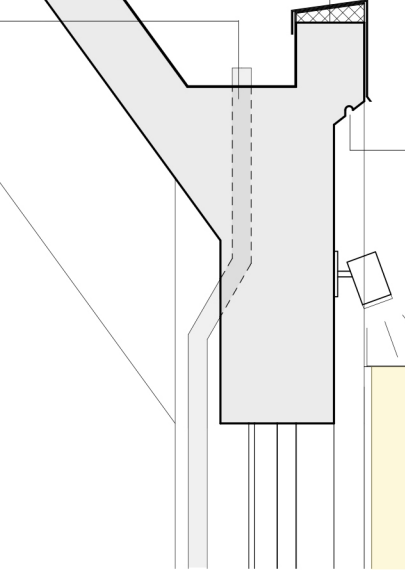
Scale 1:300

Design: Facade_North



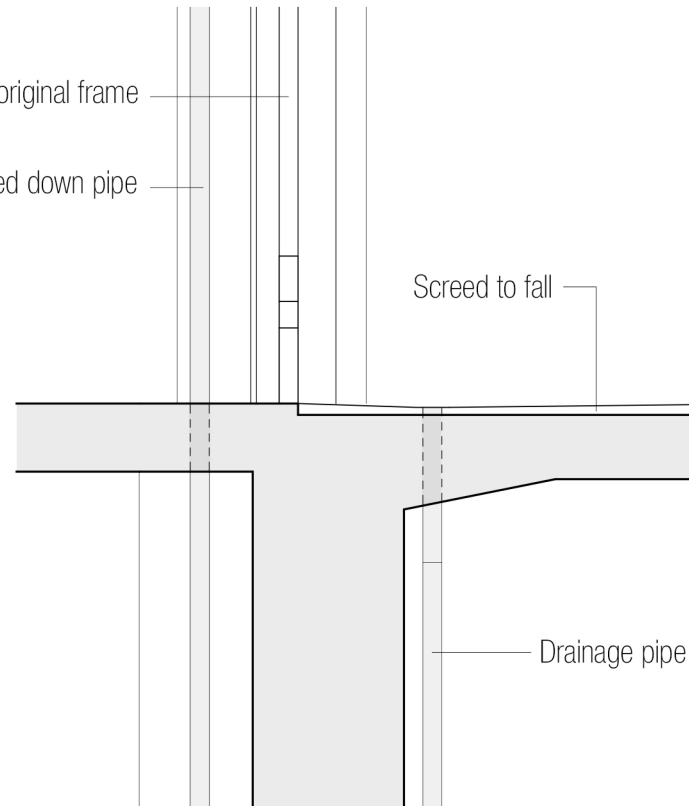
Scale 1:100

Refurbishd Original window
 Extended aluminum window frame
 Filter
 Box gutter
 Screed to fall
 Vapor control layer
 Refurbished down pipe
 Coping cap
 Continuous cleat
 Waterproof membrane
 Wood blocking
 Gap to prevent water from flowing down
 -minimum effect on facade



Scale 1:20

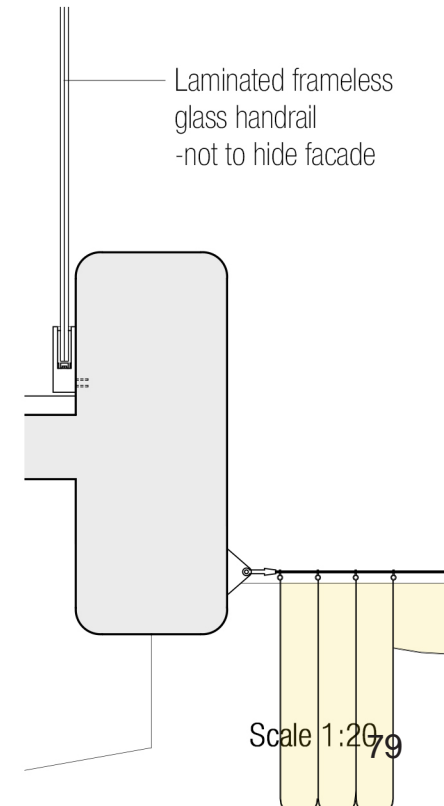
Refurbished original frame
 Refurbished down pipe



Screed to fall

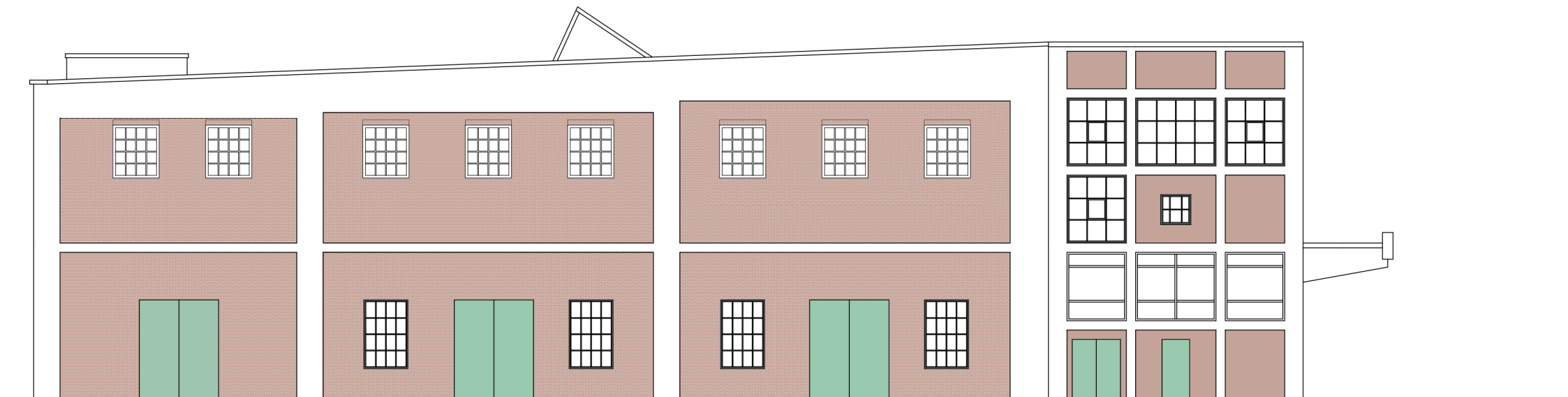
Drainage pipe

Laminated frameless glass handrail
 -not to hide facade



Scale 1:20

Design: Facade_East



OLD

Scale 1:300

East facade and its own proportion

Design: Facade_East

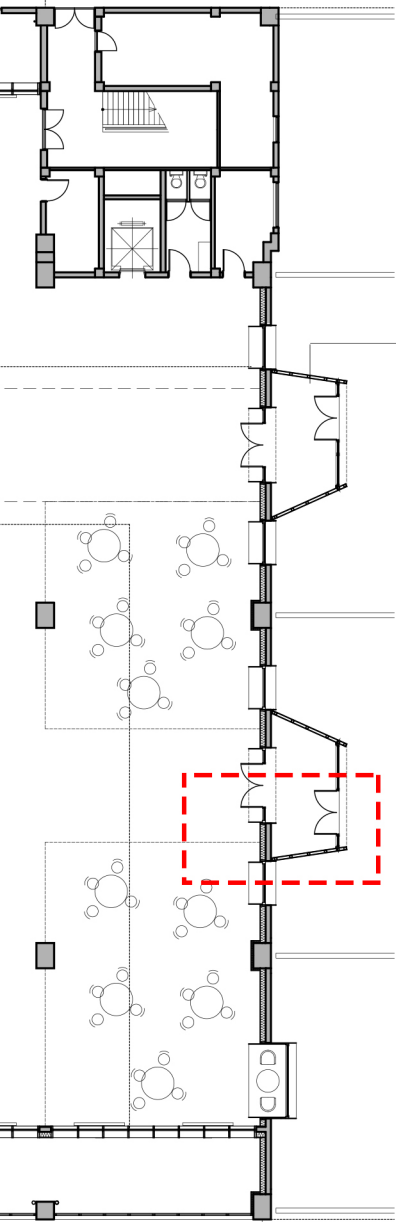


NEW

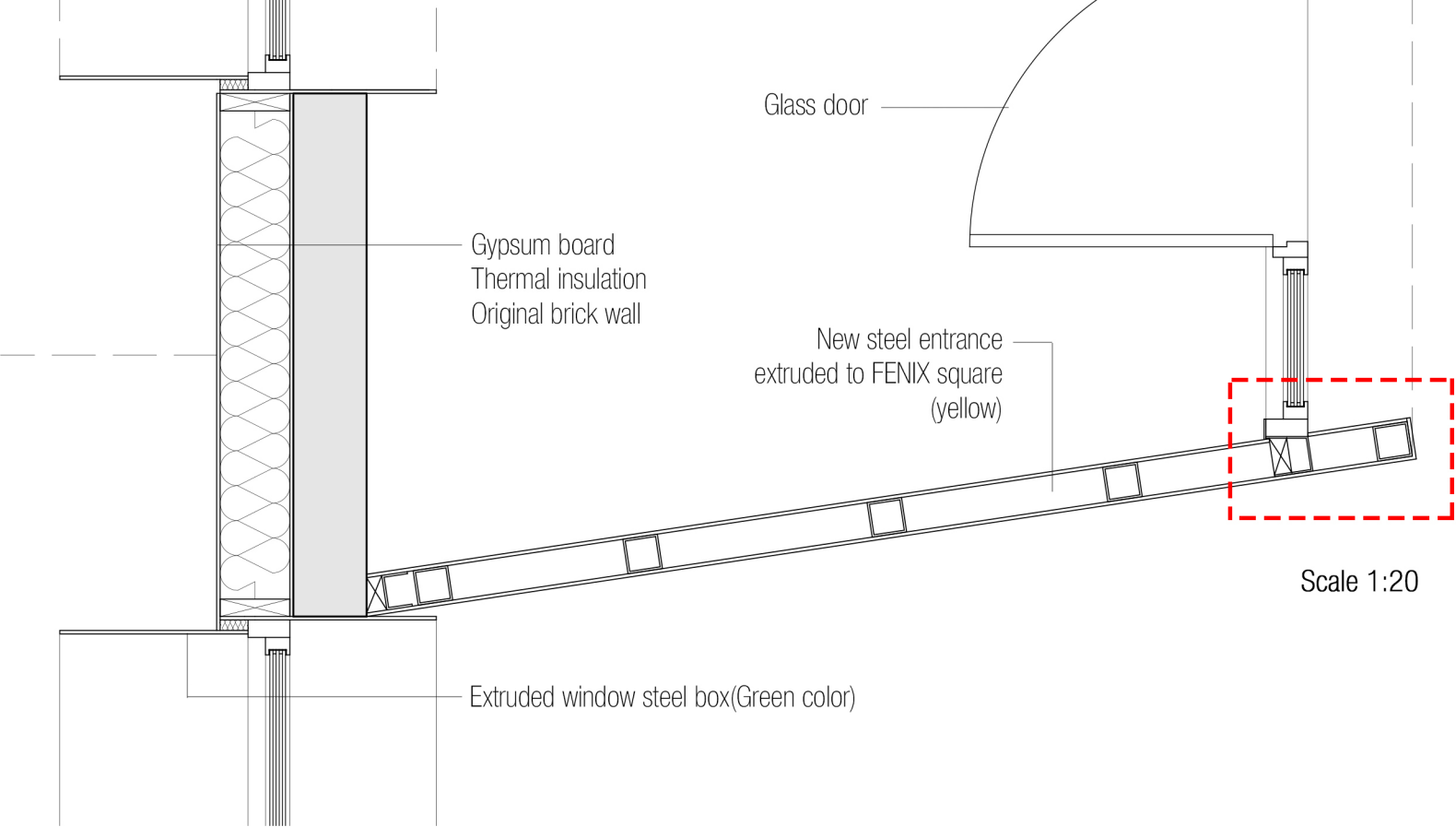
Scale 1:300

following proportion and adding new layer

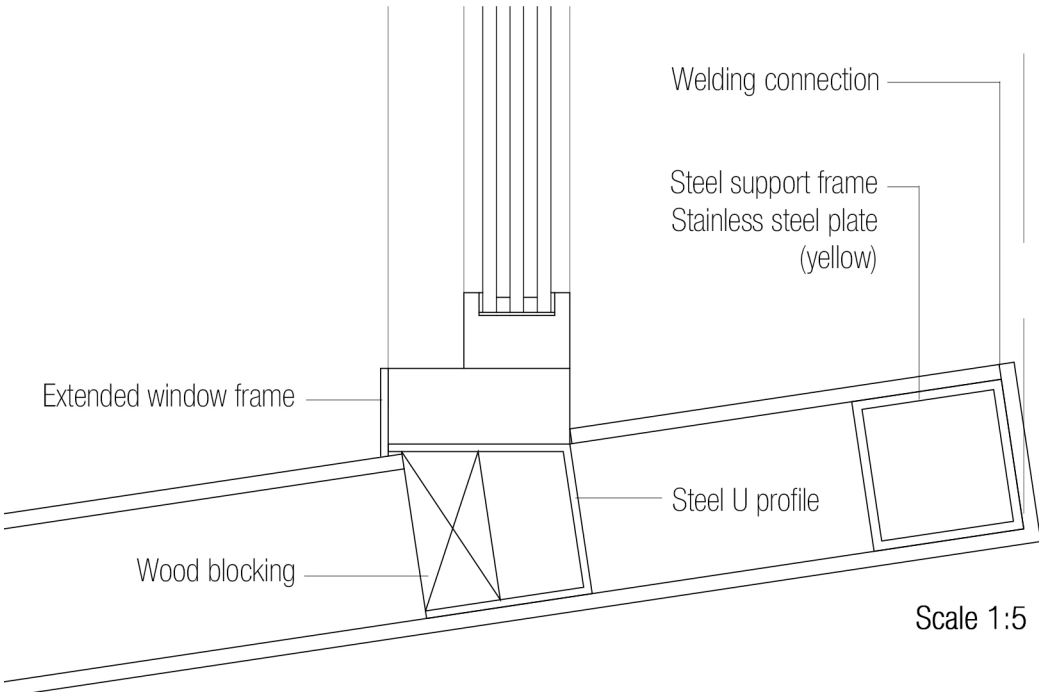
Design: Facade_East



Scale 1:300

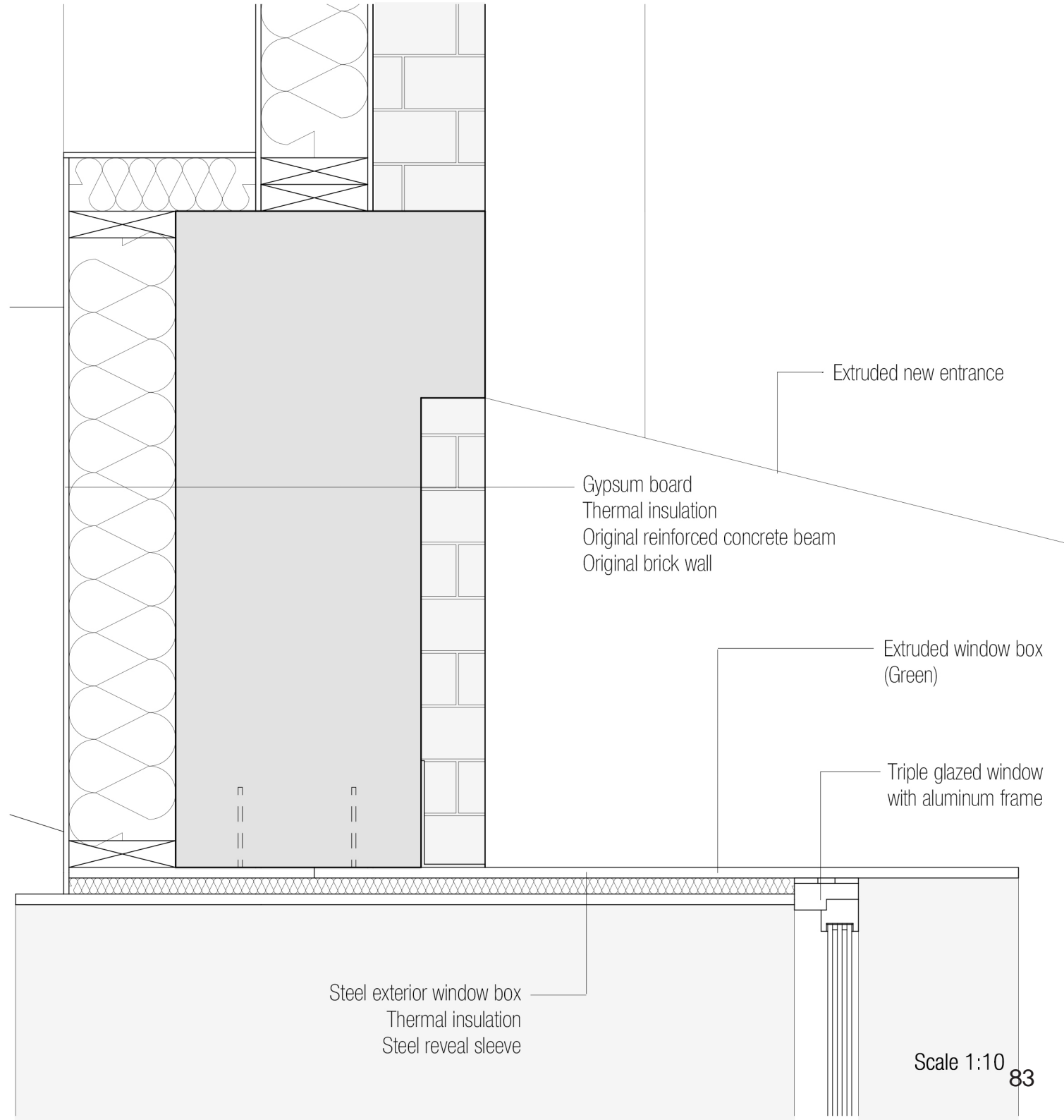
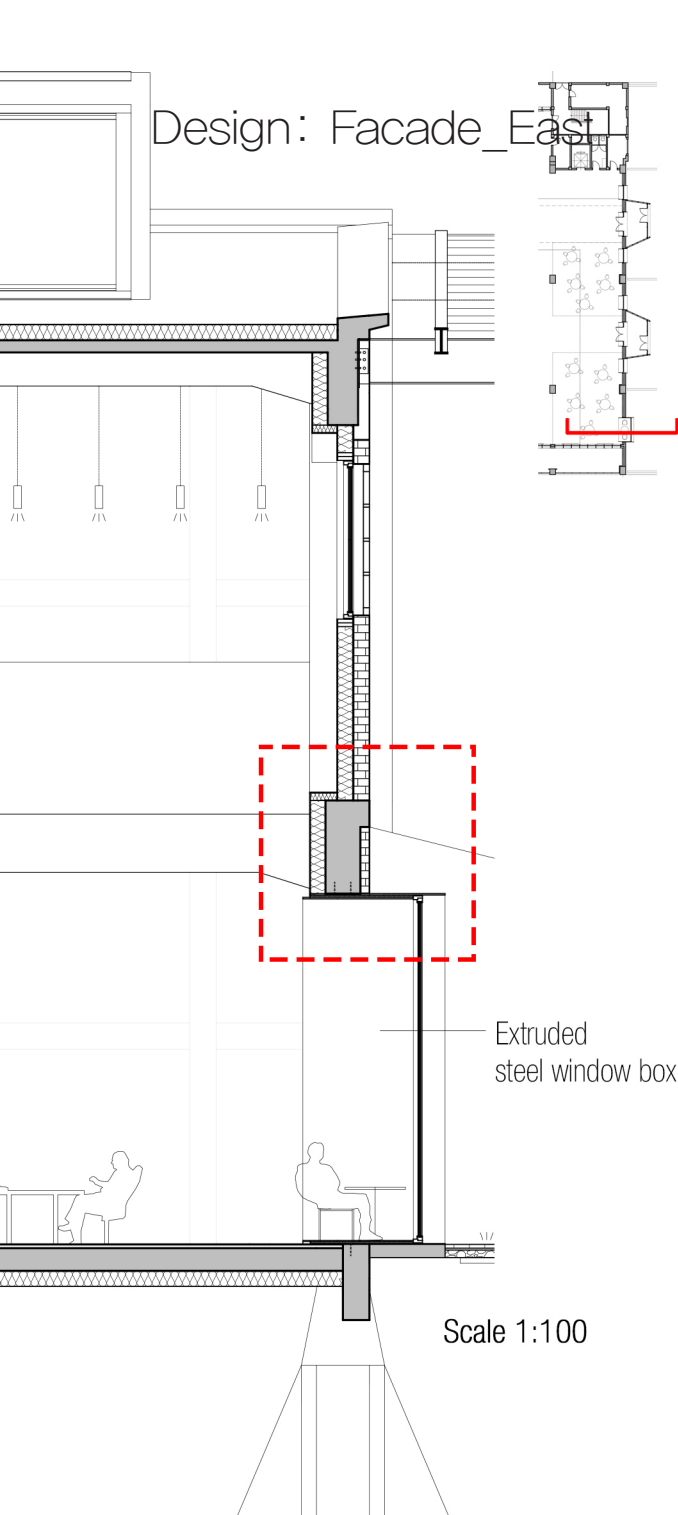


Scale 1:20

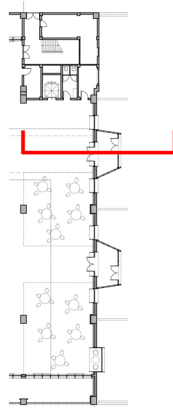
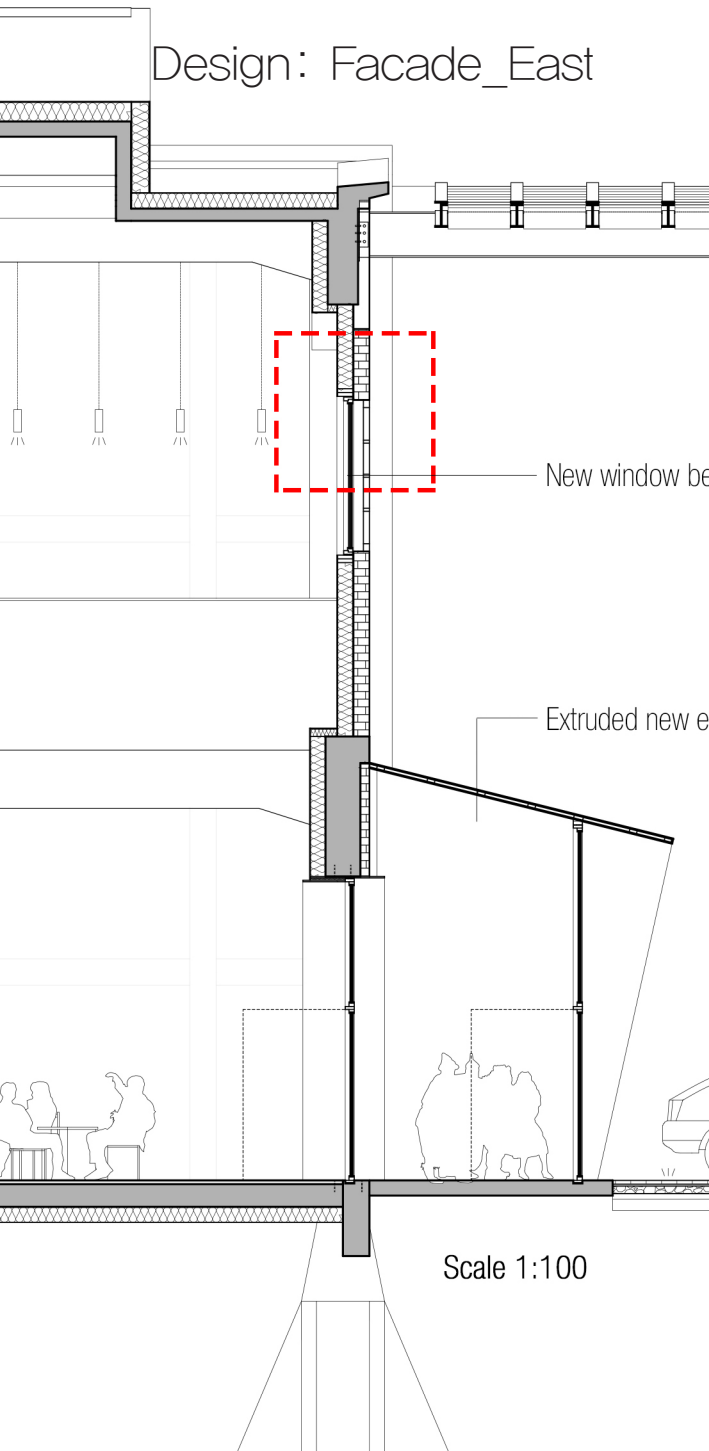


Scale 1:5

Design: Facade_East



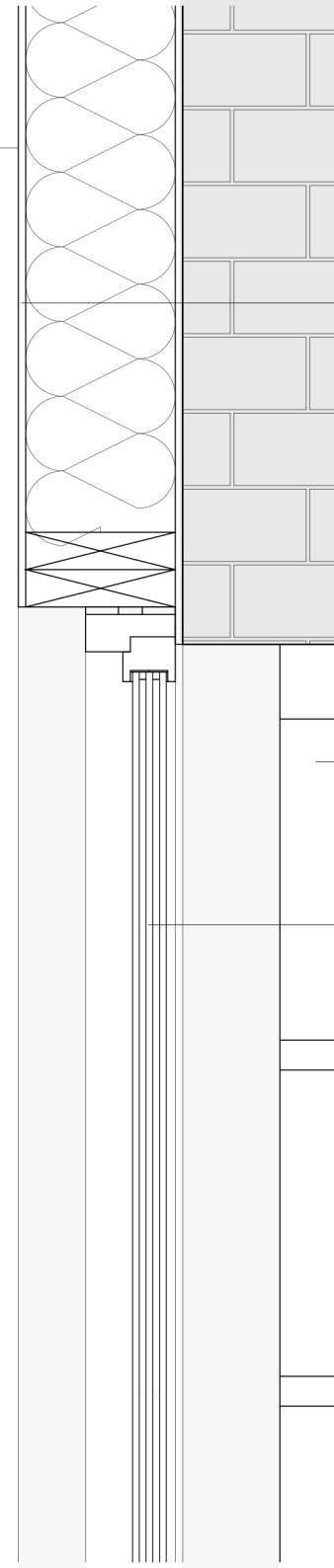
Design: Facade_East



New window behind original one

Extruded new entrance

Scale 1:100

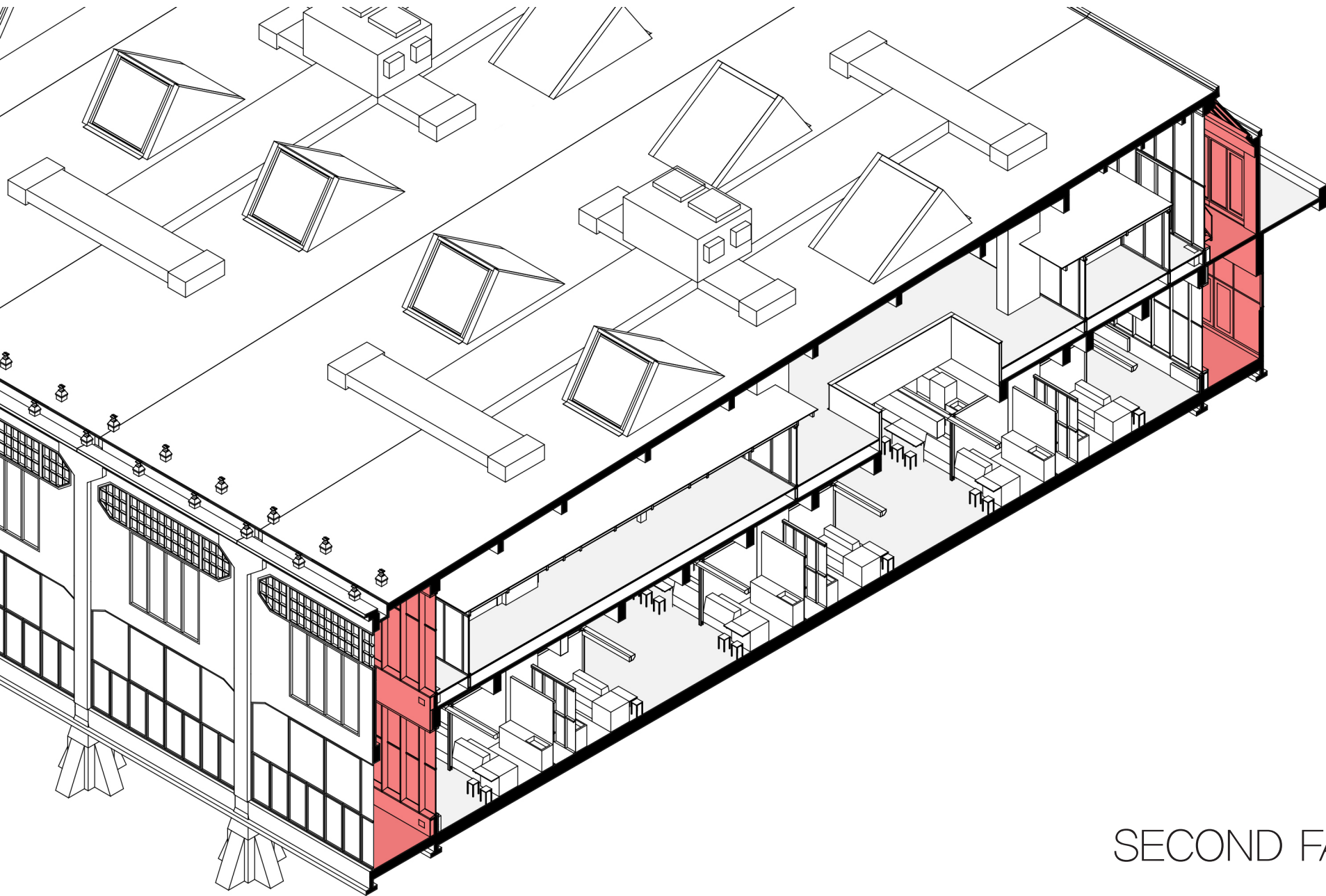


Gypsum board
Thermal insulation
Original brick wall

Original window frame

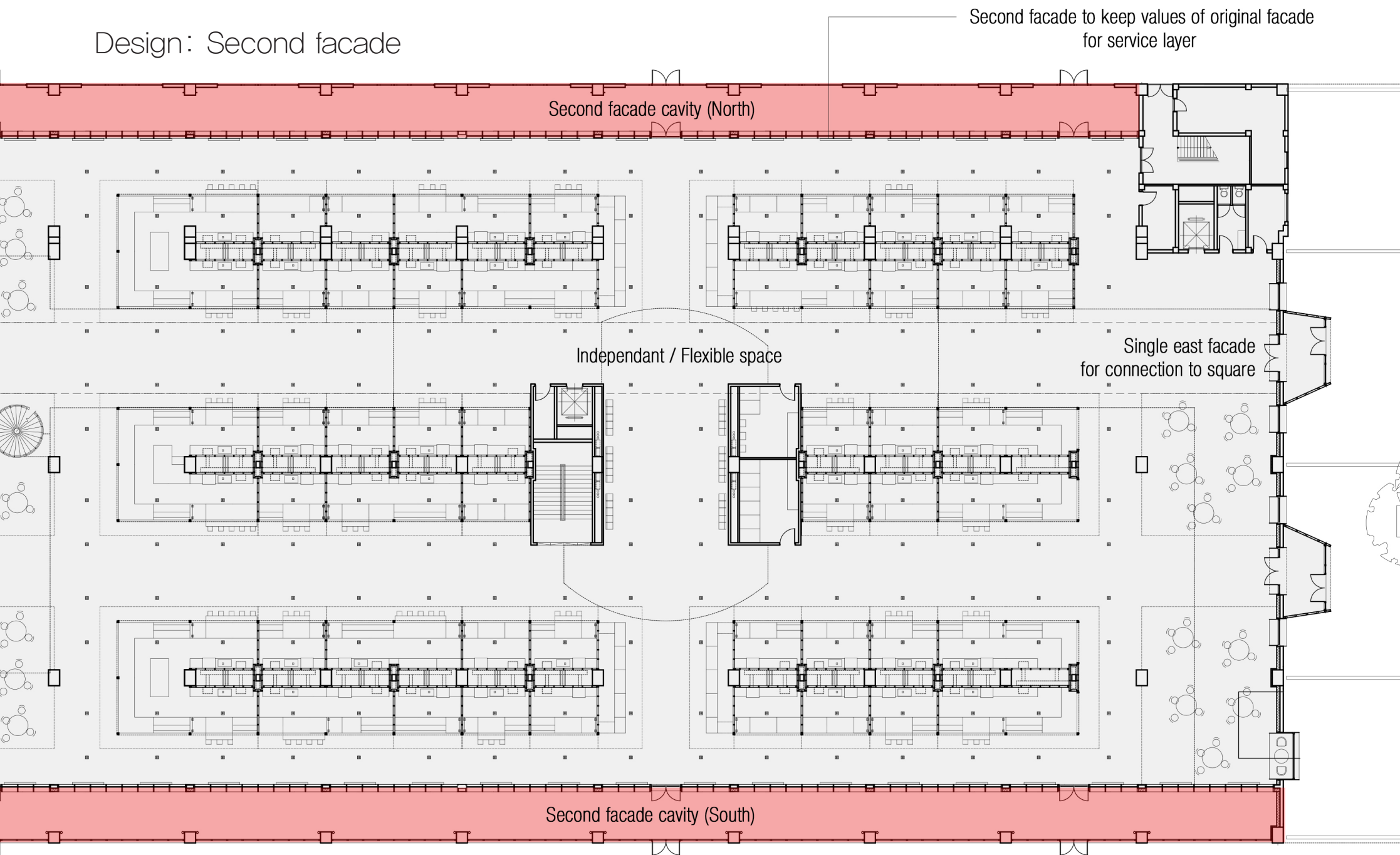
New double glazing window

Design: Second facade

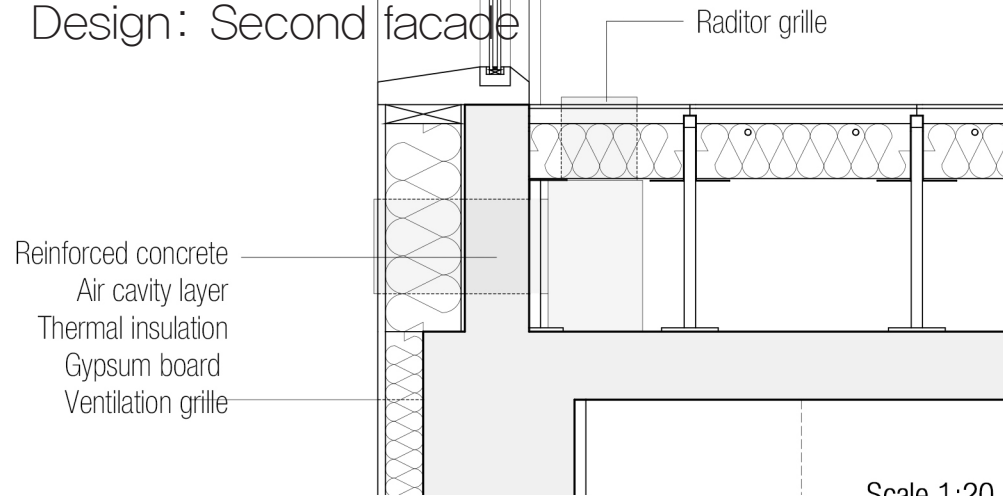


SECOND FACADE

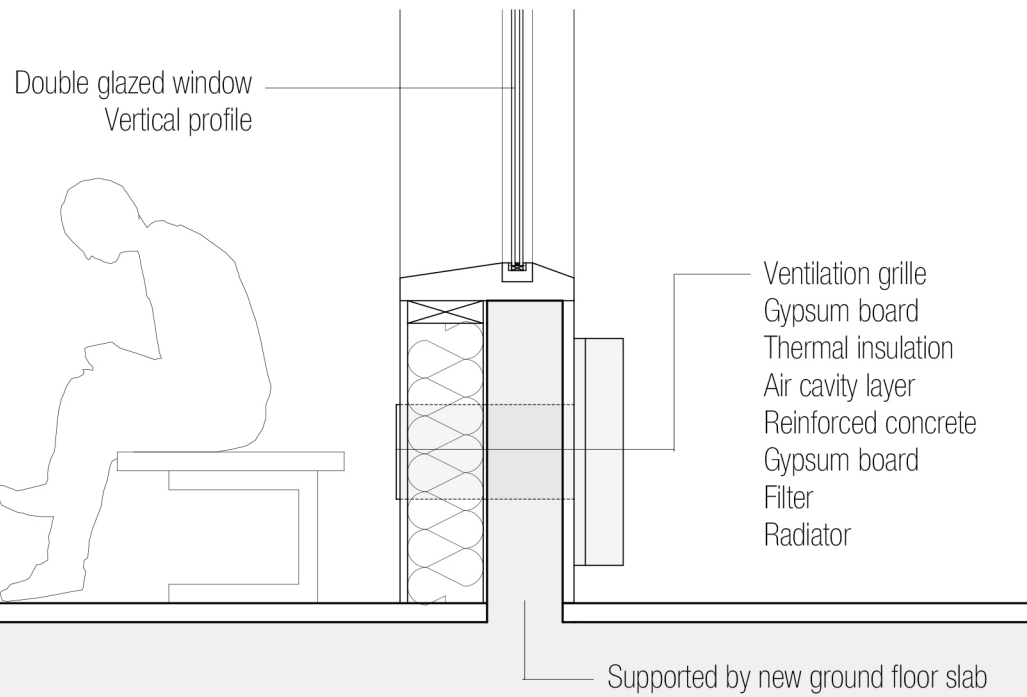
Design: Second facade



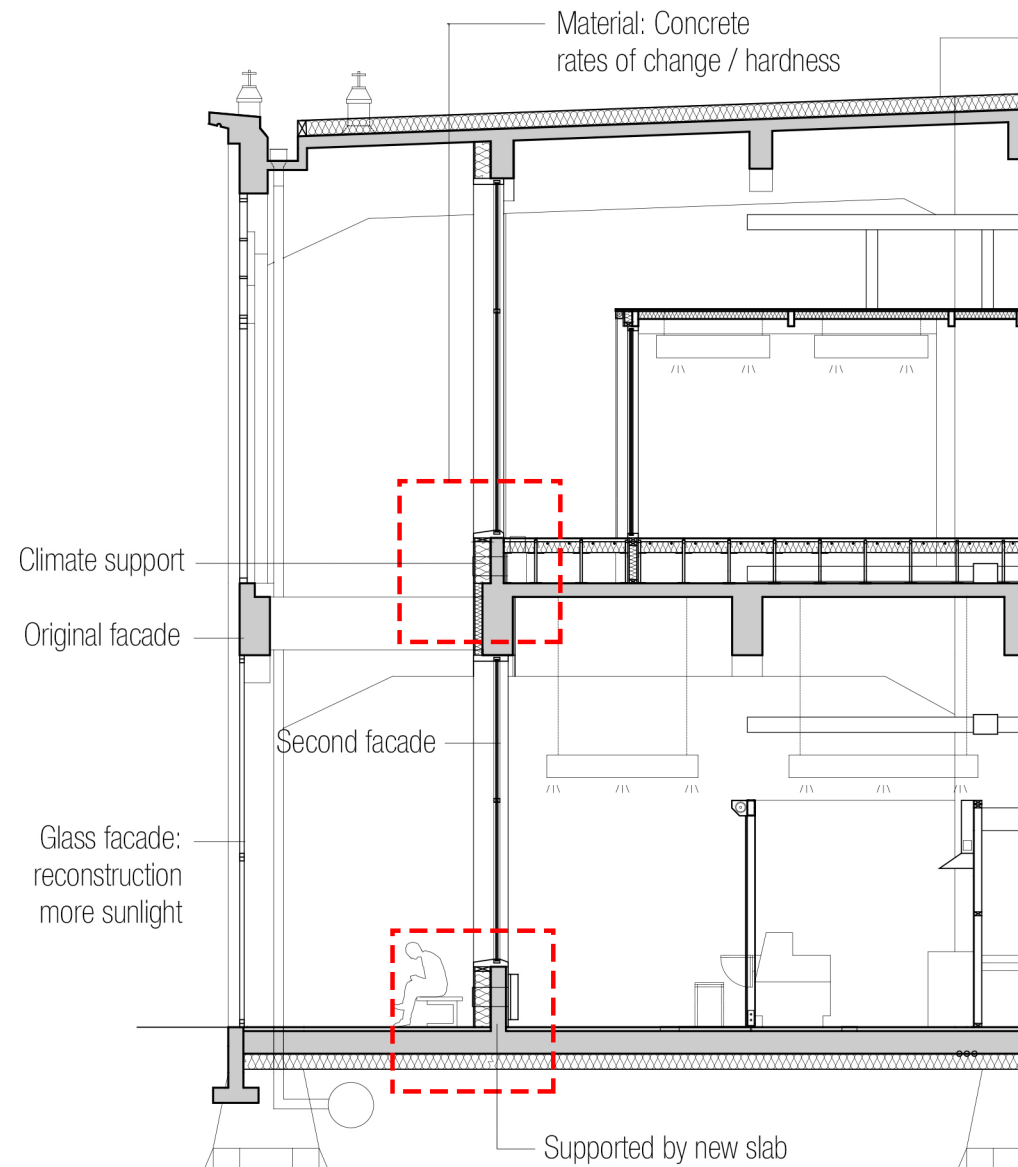
Design: Second facade



Scale 1:20
OLD detail



Scale 1:20
OLD detail



Scale 1:100

Design: Second facade

sheet metal

gypsum panel

double glazed window

metal window frame

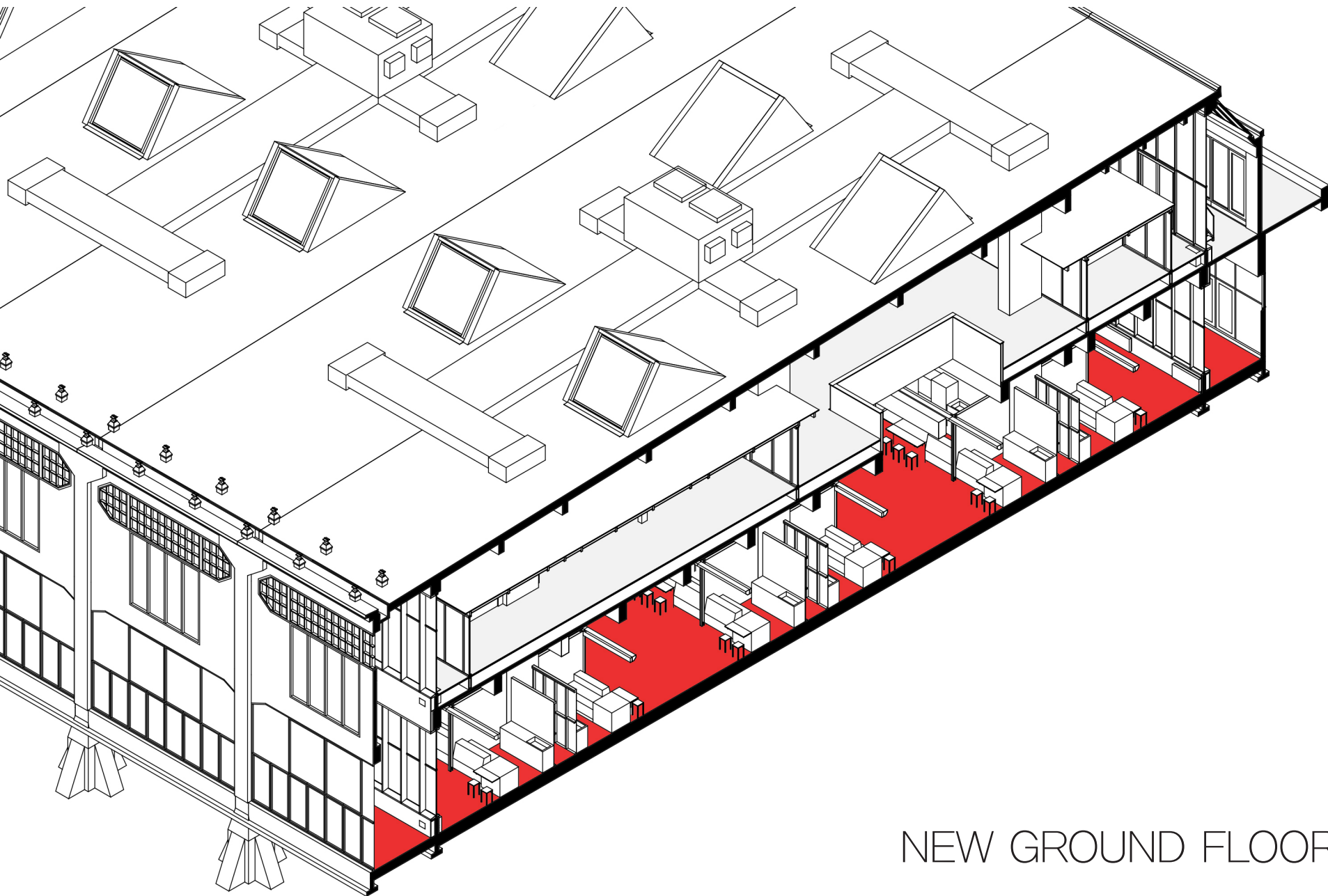
interior window sill with grey coating

sloped sheet metal sill flashing

sloped precast sill

Scale 1:5

Design: Slab



NEW GROUND FLOOR SLAB

Design: Slab

Existing foundation

Concrete screed
Reinforced concrete slab
Vapor layer
Thermal insulation
Compacted existing soil

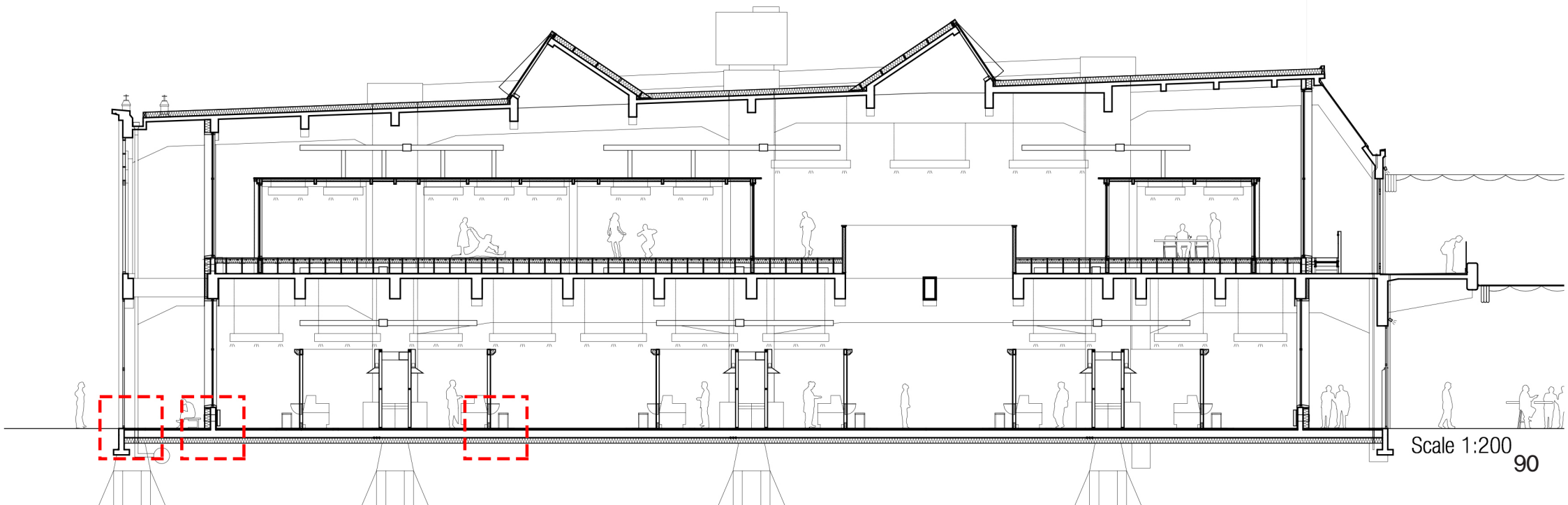
Independent from existing foundation
supported by existing soil

Thick enough
to support new structures

Supporting second facade

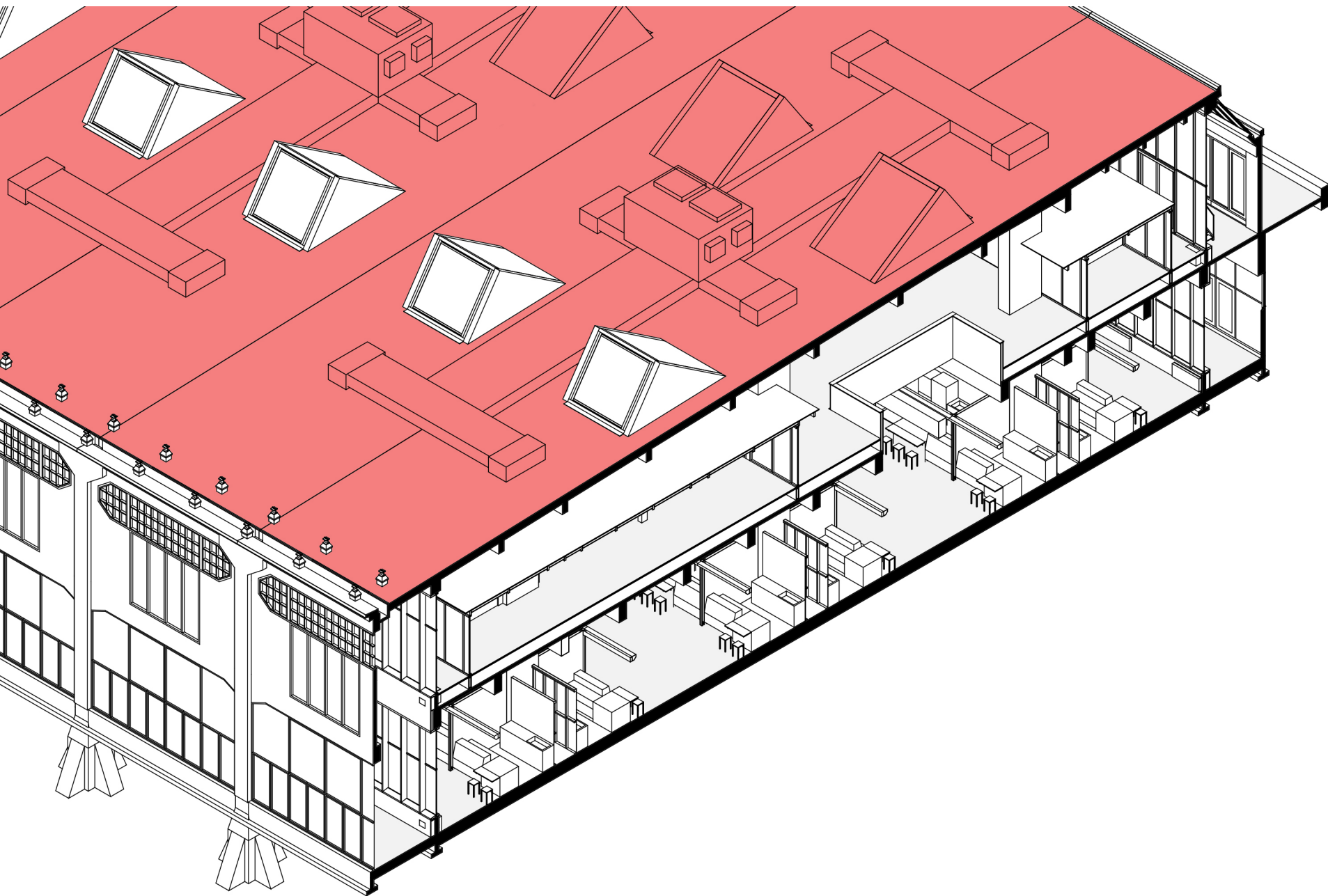
Supporting stall structure

Scale 1:20



Scale 1:200
90

Design: Roof



ROOF

Design: Roof

Coping cap
Continuous cleat
Waterproof membrane

Filter
Box gutter
Screed to fall
Vapor control layer
Sump
Refurbished down pipe

Original crane rail

Water proofing membrane
Thermal insulation
Vapor control layer
Reinforced concrete

Water from flowing down
Sump effect on facade

Gypsum board
Existing concrete beam
Air cavity layer
Thermal insulation

Scale 1:20

Newly added insulation on existing roof

Existing roof window

Reconstructed roof window

Scale 1:200

Design: Roof

Reconstructed roof window

Flashing
Waterproofing membrane
Gypsum board
Insulation under flashing
Aluminum window frame
Wood stud
Vapor control layer
Reinforced concrete

Reconstructed roof window with operable window

Triple glazed operable window
(motorized)

Scale 1:10

Insect screen
Electronic chain opener

Extended aluminum frame
Water proofing membrane
Sealant
Thermal insulation
Vapor control layer
Reinforced concrete

OLD detail
Scale 1:20

Design: Roof

Flashing

Waterproofing membrane

Gypsum board liner

Insulation under flashing

Aluminum window frame

Wood stud

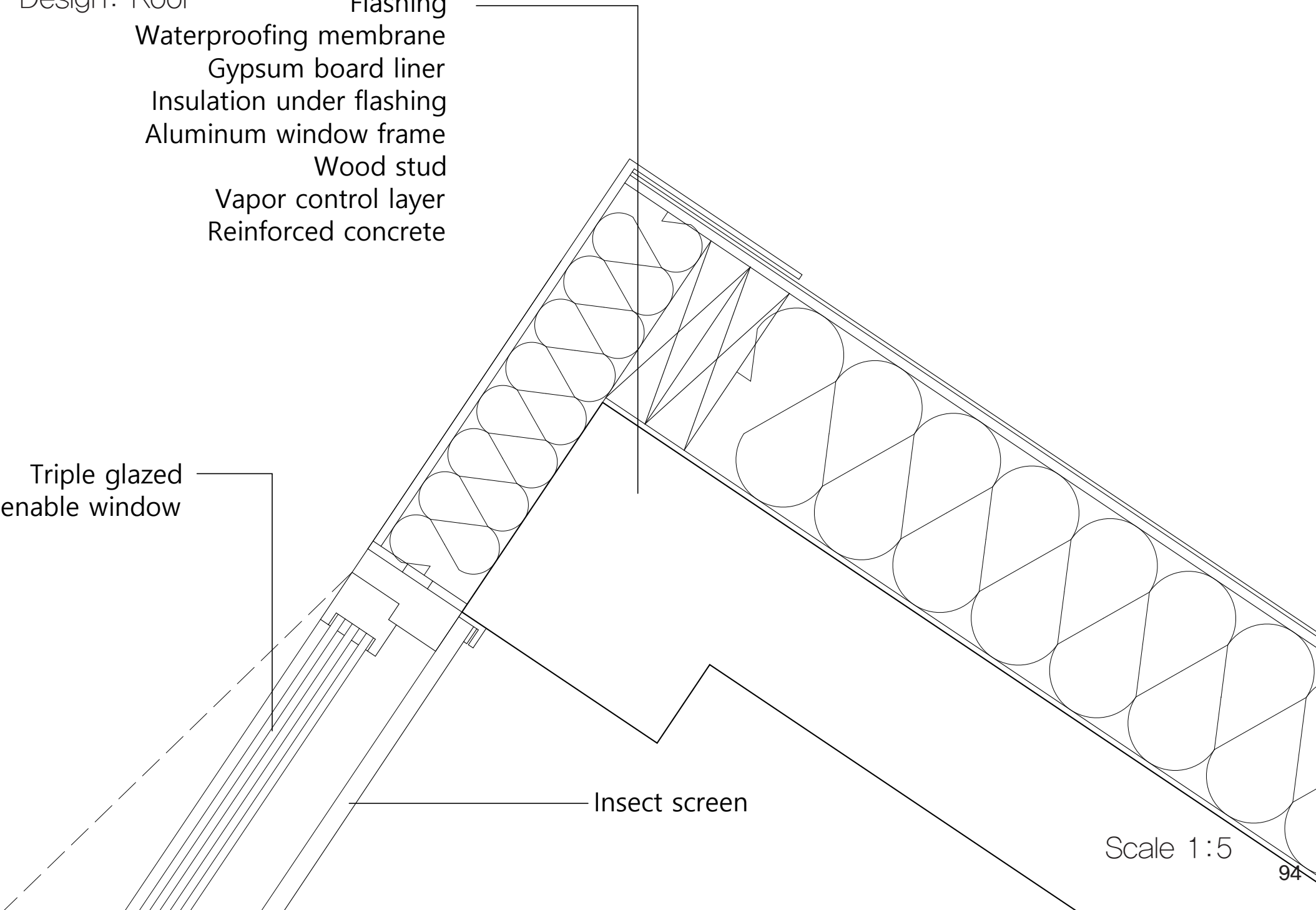
Vapor control layer

Reinforced concrete

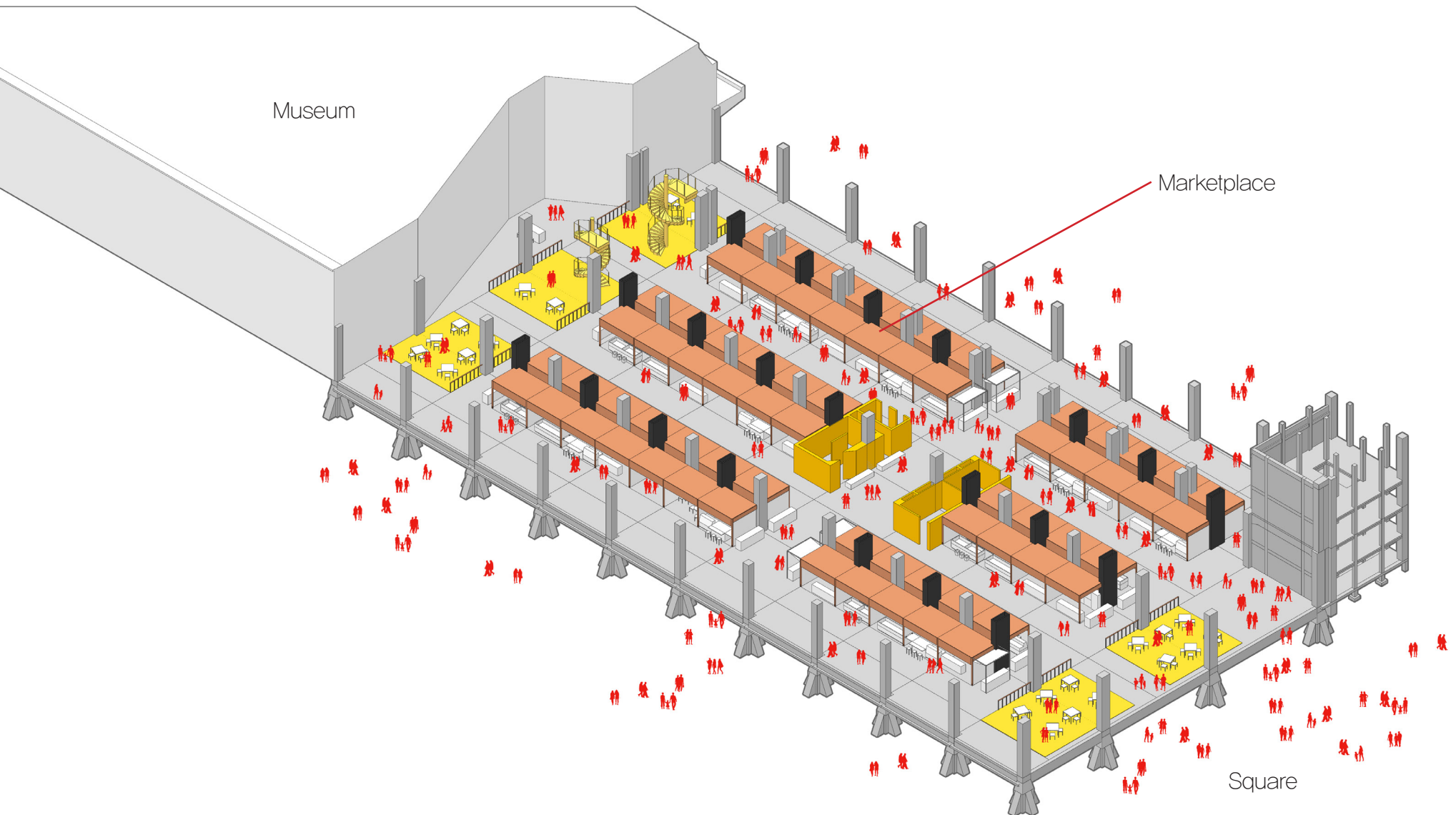
Triple glazed
openable window

Insect screen

Scale 1:5

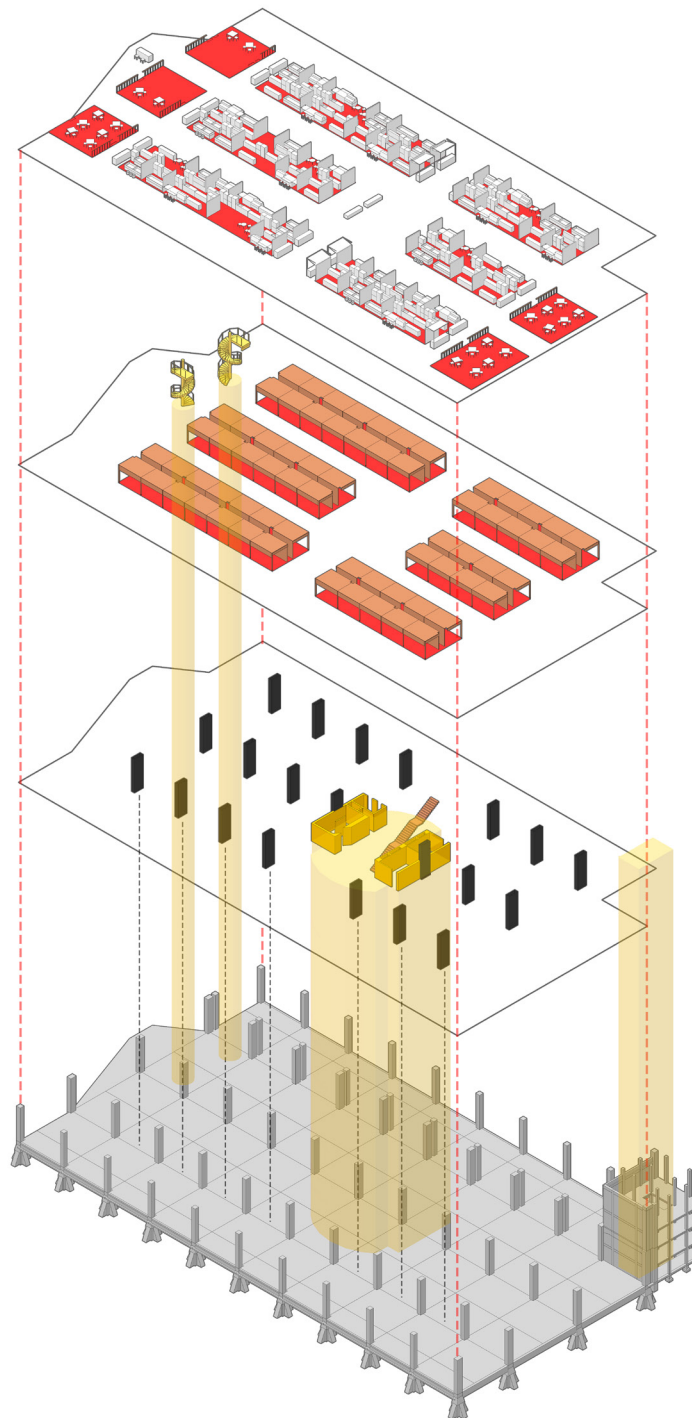


Design: Ground floor



Design: Ground floor

Layers of ground floor:
Change of speed

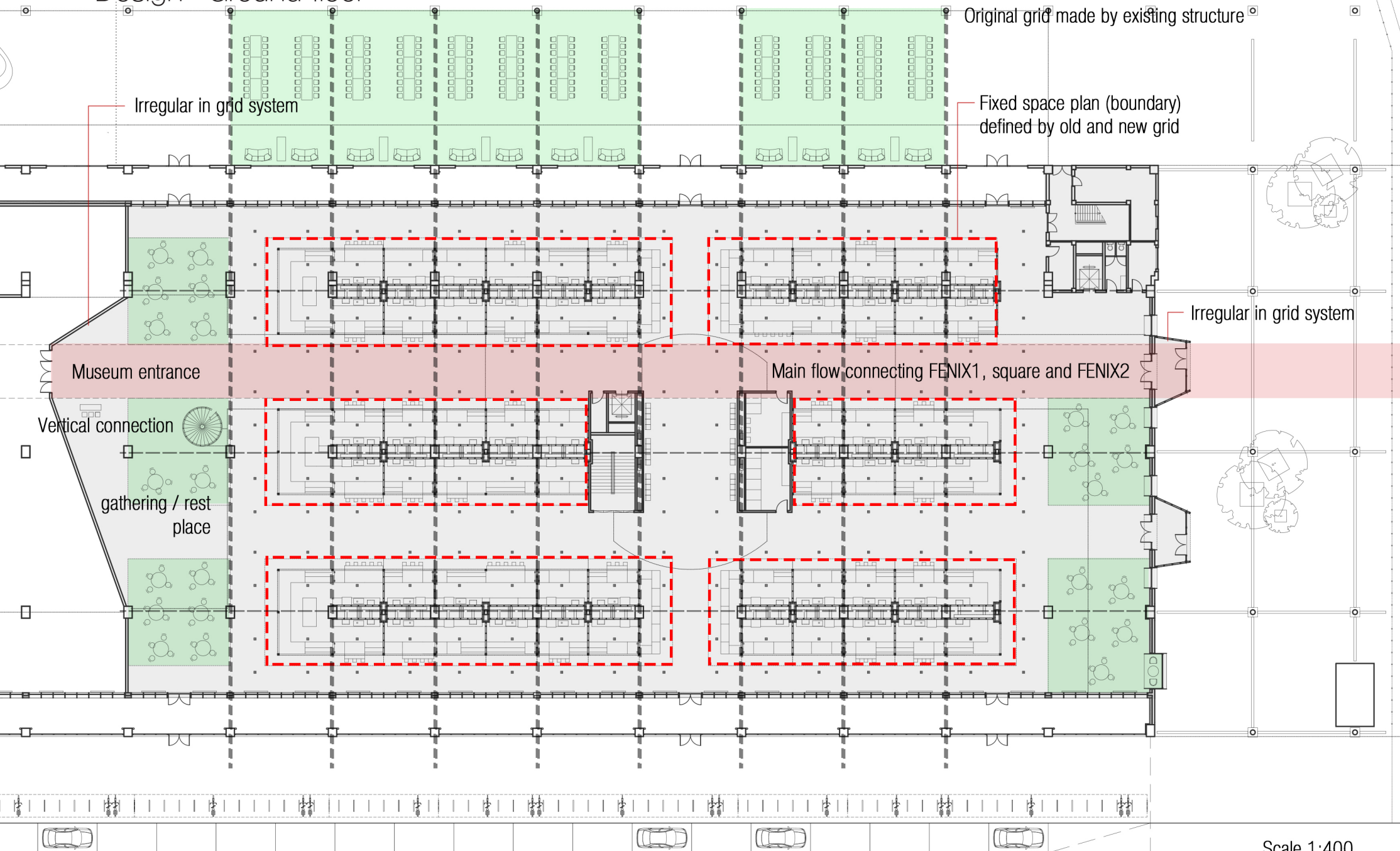


Fast

Slow

Original structur

Design: Ground floor



Scale 1:400

Design: Ground floor

Old grid line
made by existing column

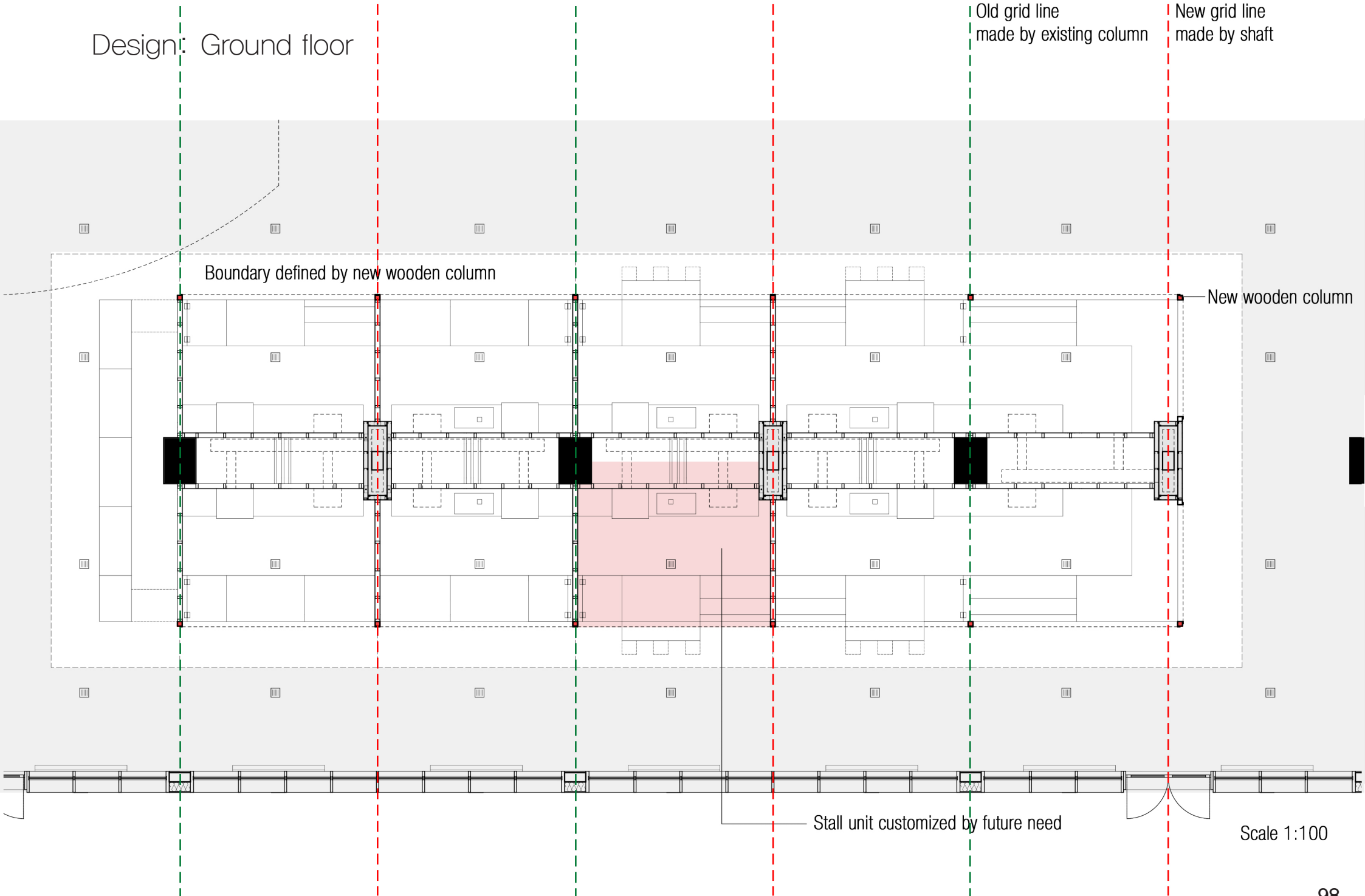
New grid line
made by shaft

Boundary defined by new wooden column

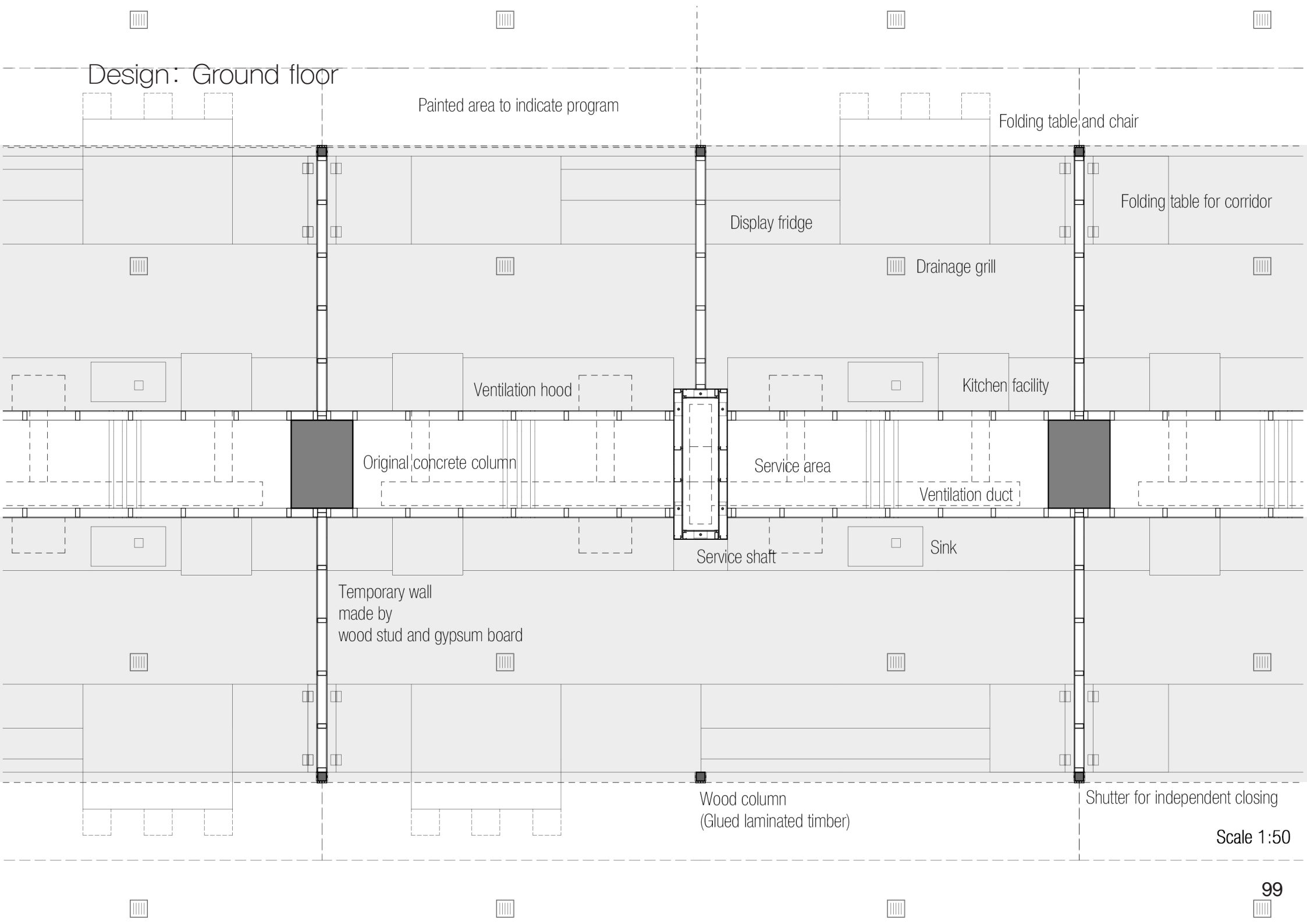
New wooden column

Stall unit customized by future need

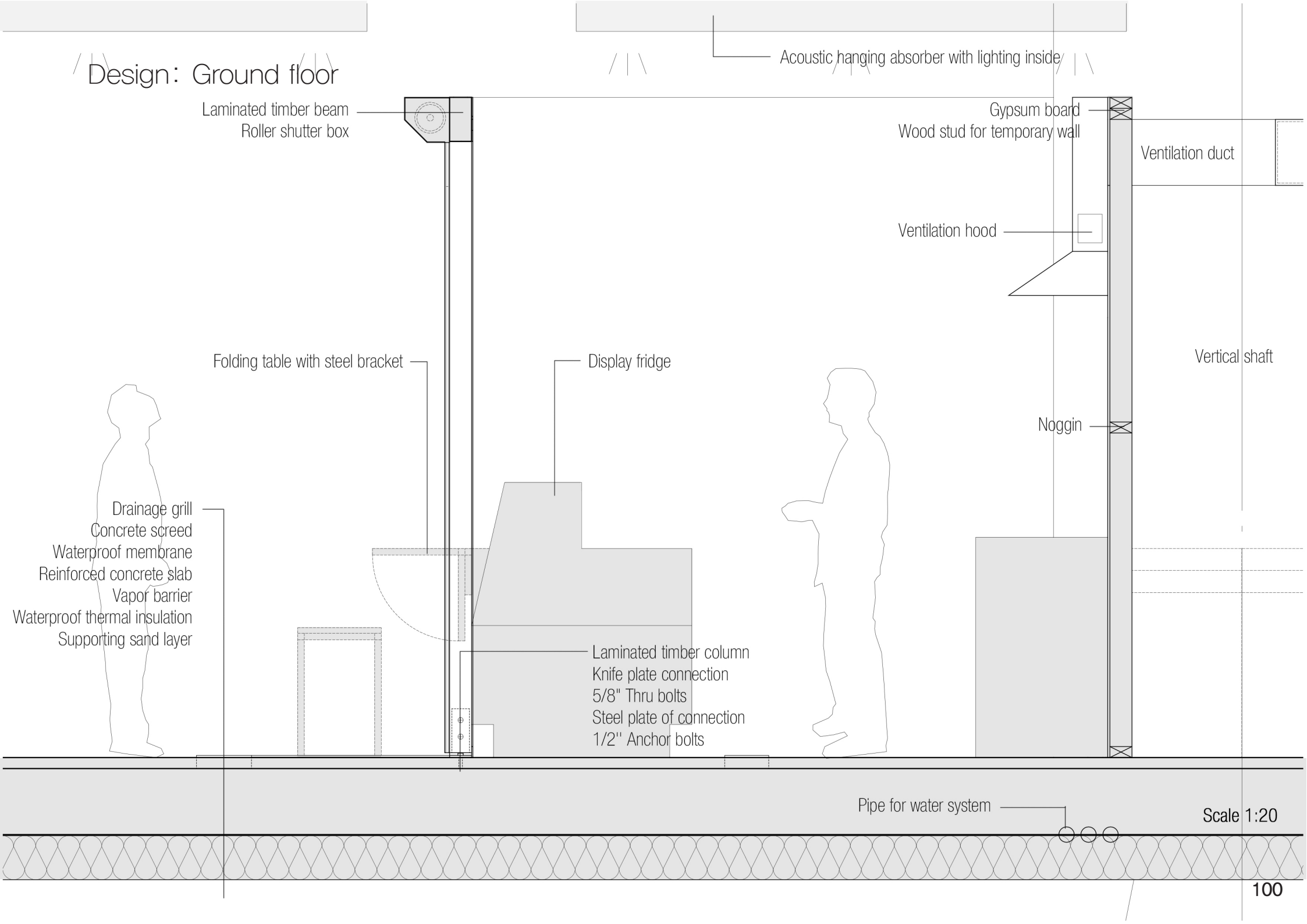
Scale 1:100



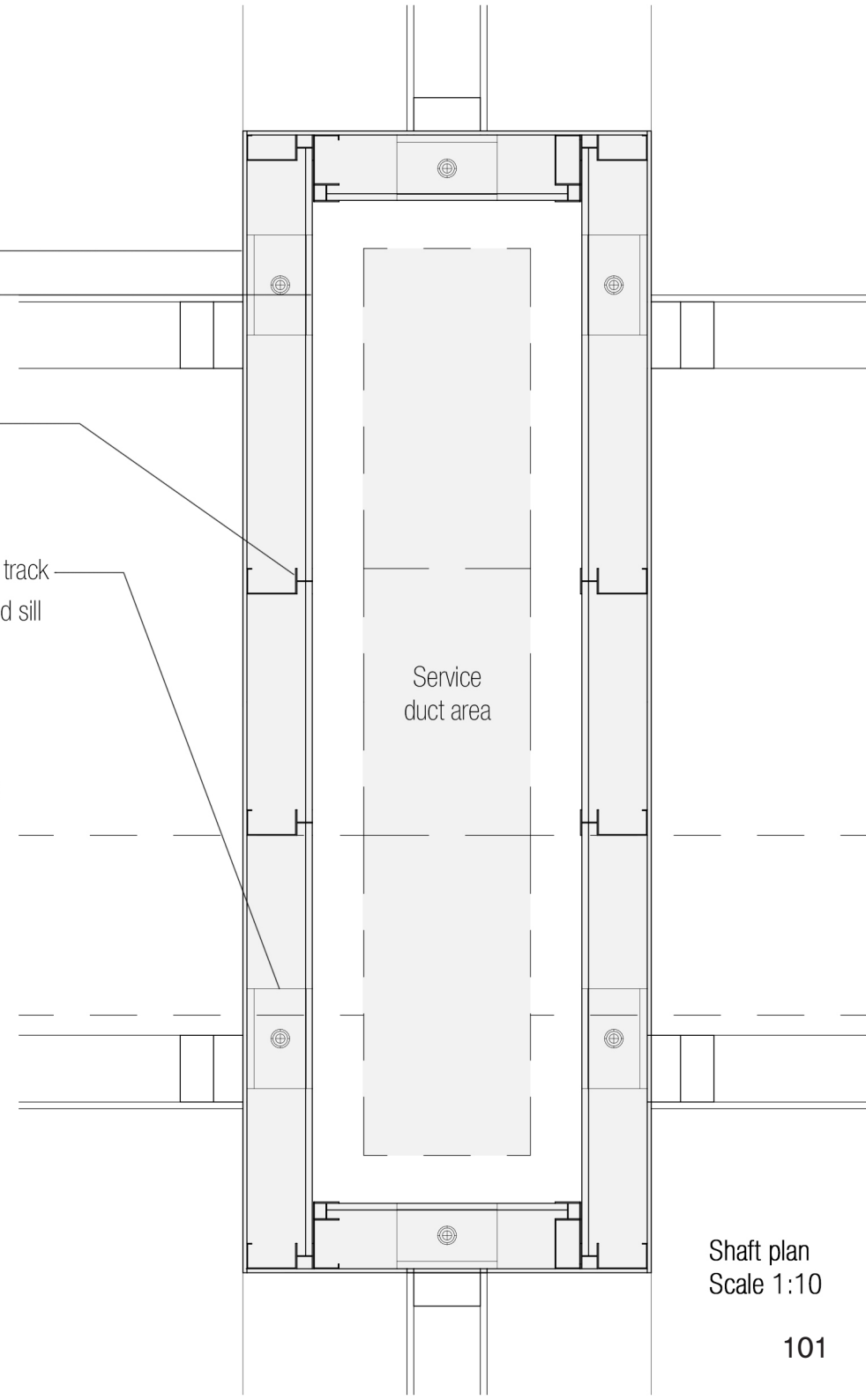
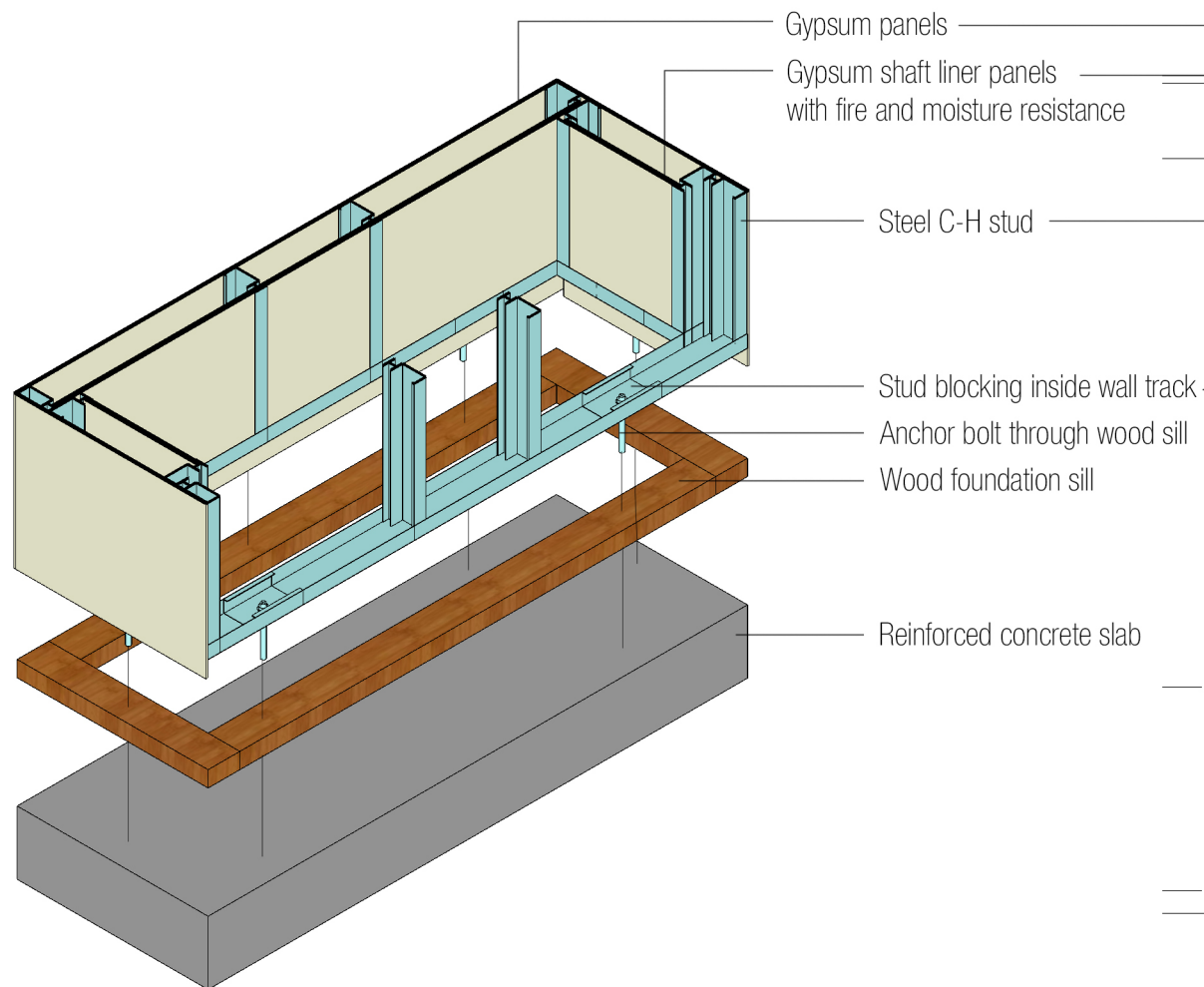
Design: Ground floor



Design: Ground floor



Design: Ground floor



Shaft plan
Scale 1:10

Design: Ground floor

Vertical roller shutter box
Guide rail

Stall Sign

Ventilation hood

Folding table for corridor
Wooden bracket supporting table

Folding table
Steel supporting bracket

Display fridge

Laminated timber column
Knife plate connection
5/8" Thru bolts
Steel plate of connection
1/2" Anchor bolts

Drainage grill
Concrete screed

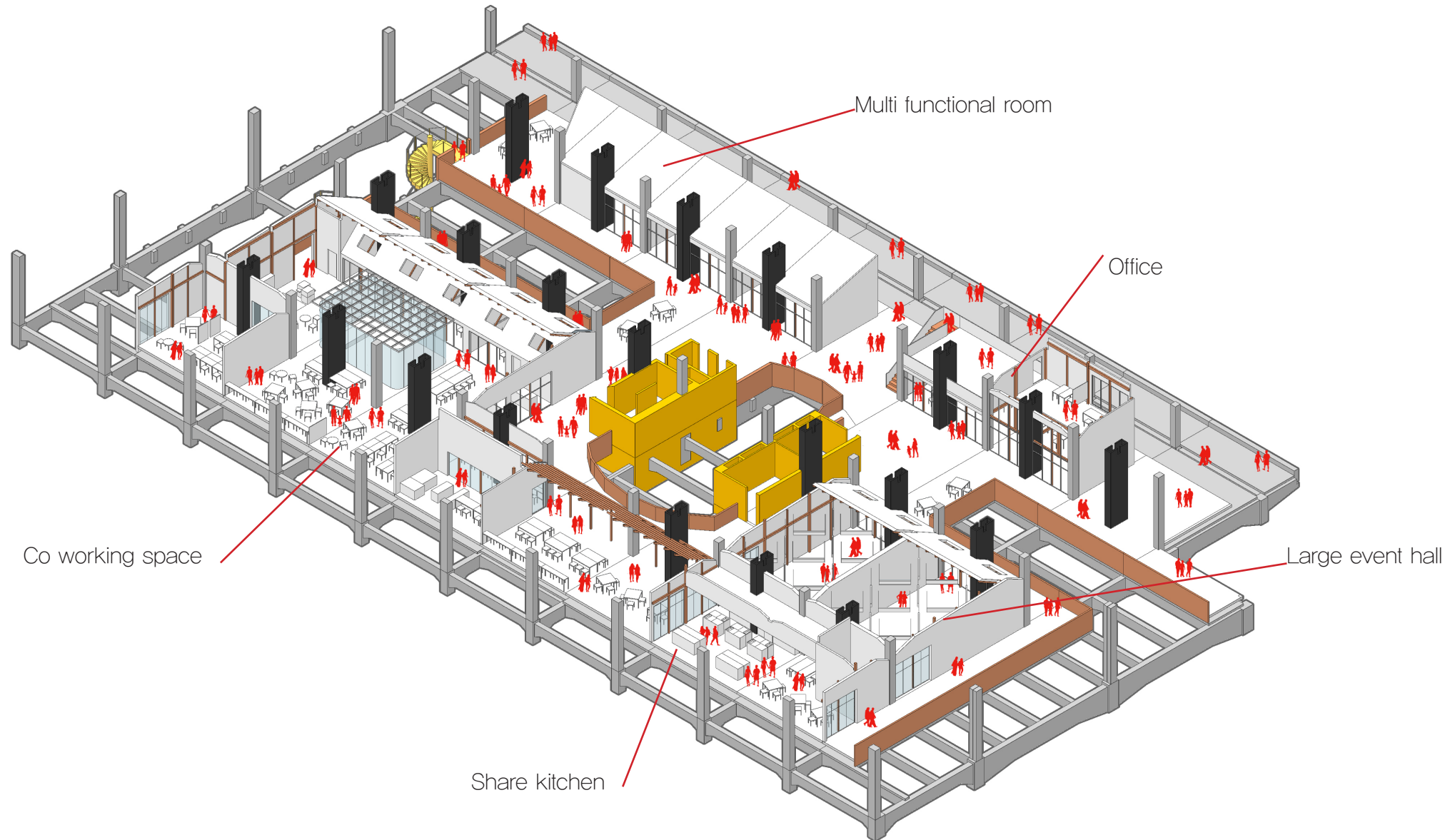
Waterproof membrane
Reinforced concrete slab
Vapor barrier
Waterproof thermal insulation

Scale 1:20

Design: Ground floor

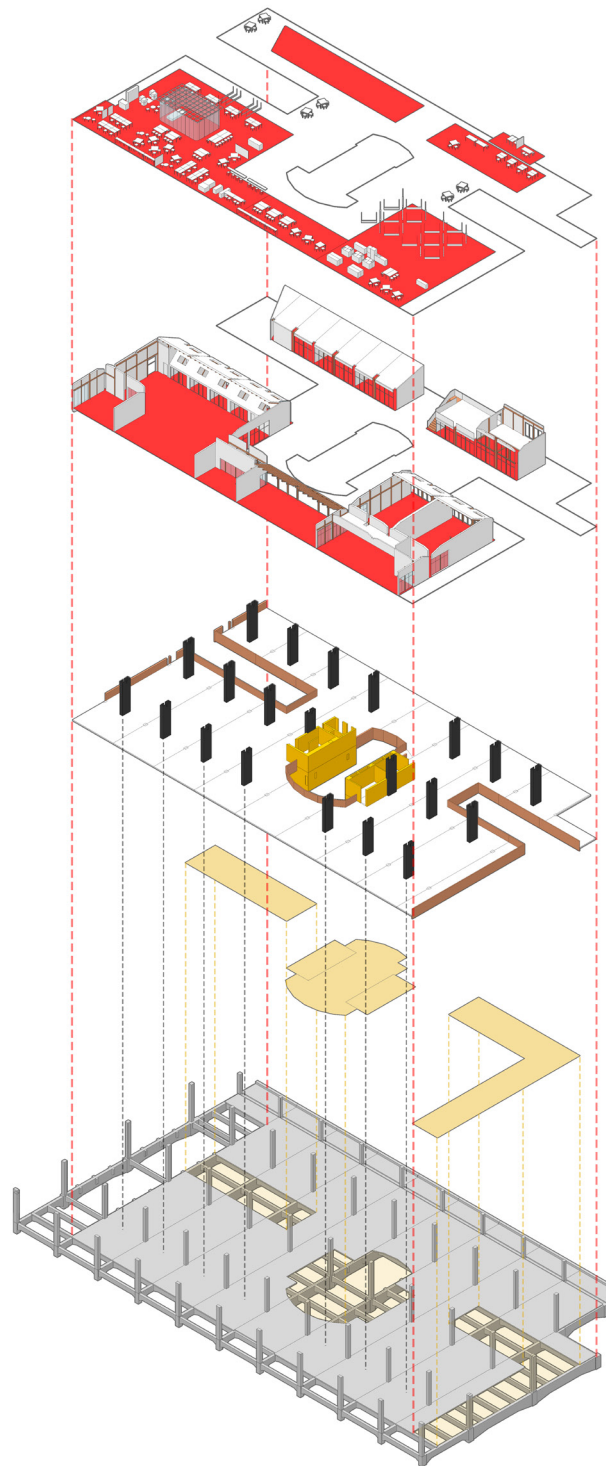


Design: First floor



Design: First floor

Layers of first floor:
Change of speed



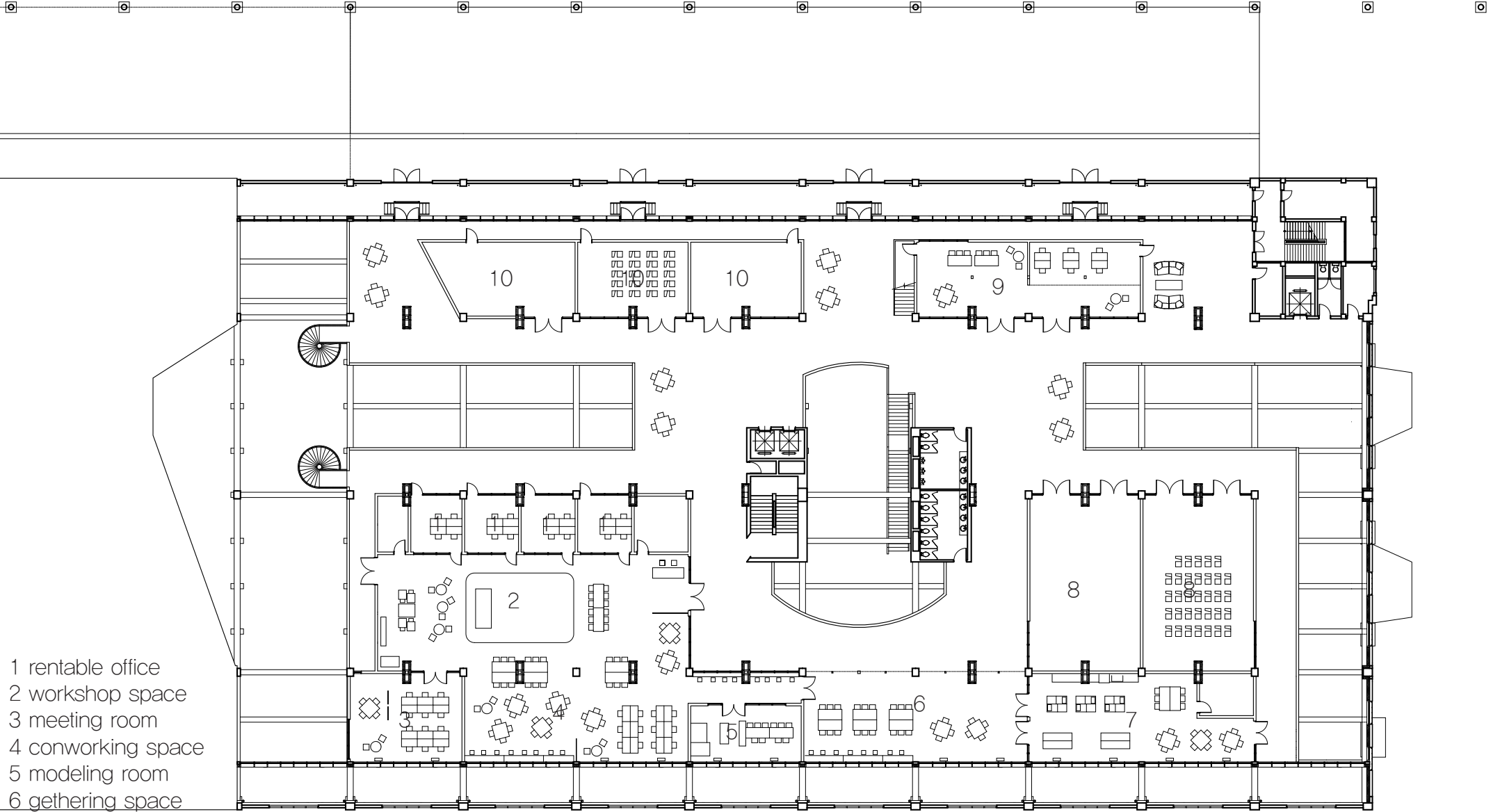
Fast

Slow

Intervention: void

Original structure with intervention

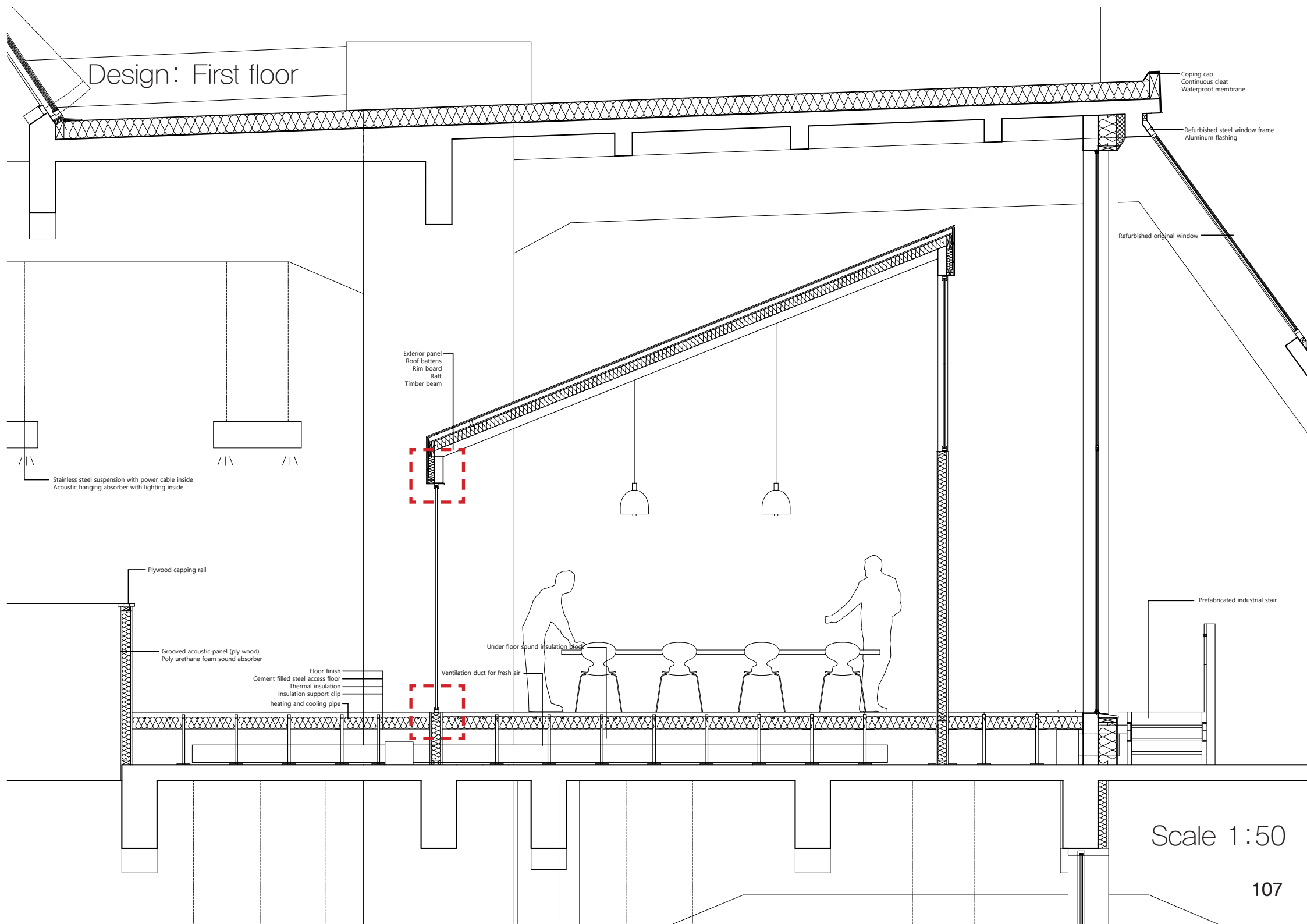
Design: First floor



- 1 rentable office
- 2 workshop space
- 3 meeting room
- 4 conworking space
- 5 modeling room
- 6 gethering space
- 7 share kitchen
- 8 large event hall
- 9 supporting office
- 10 muti funtional room

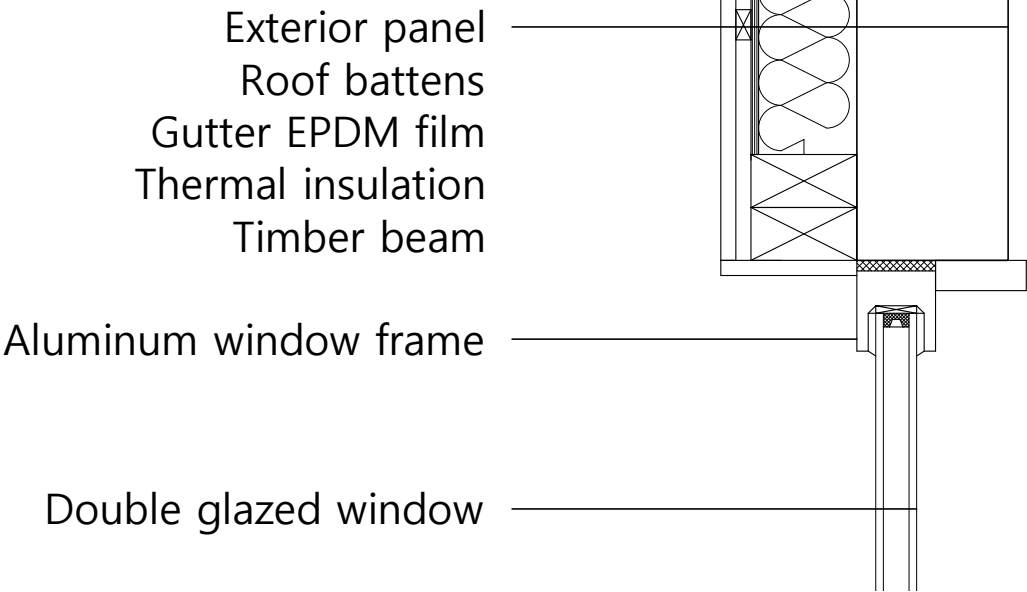
Scale 1:400

Design: First floor

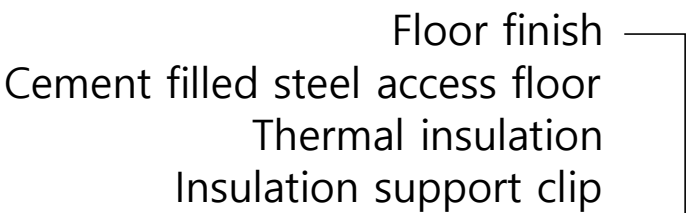


Scale 1:50

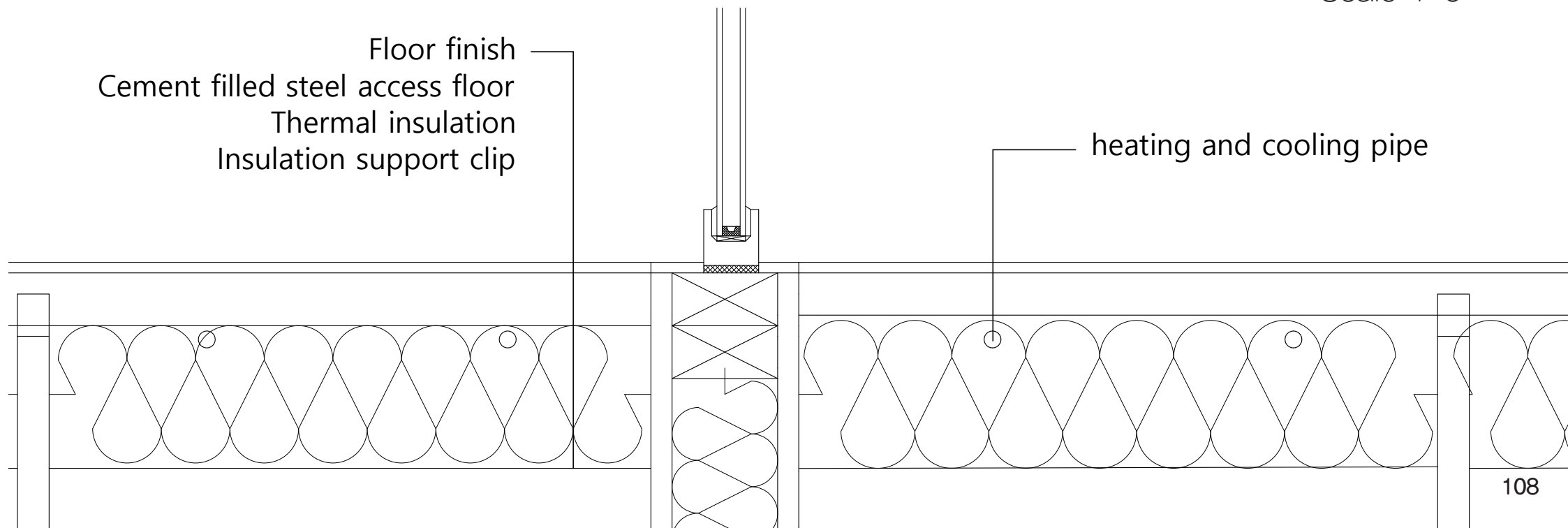
Design: First floor



Scale 1:5



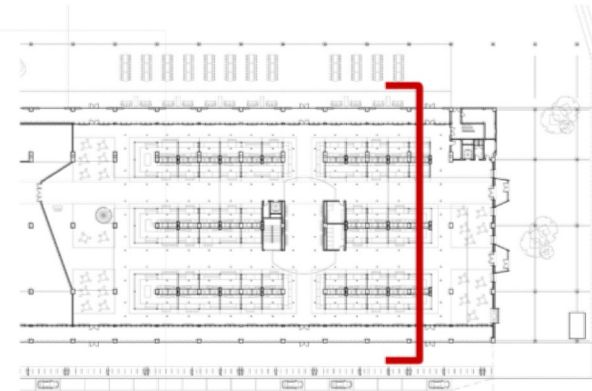
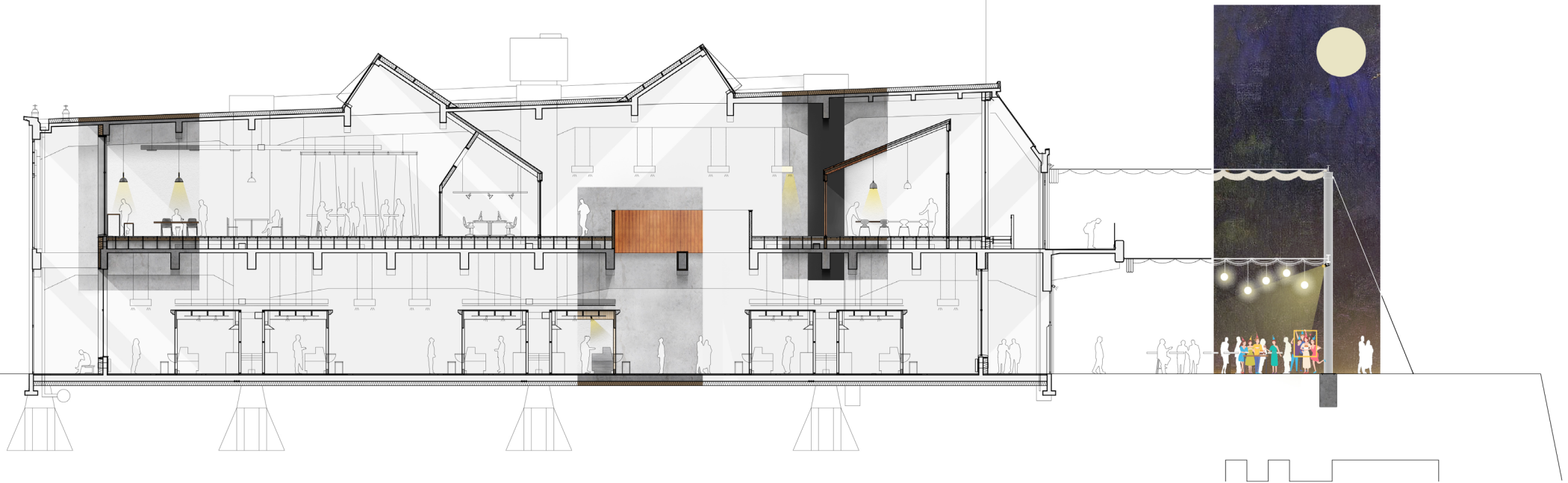
heating and cooling pipe



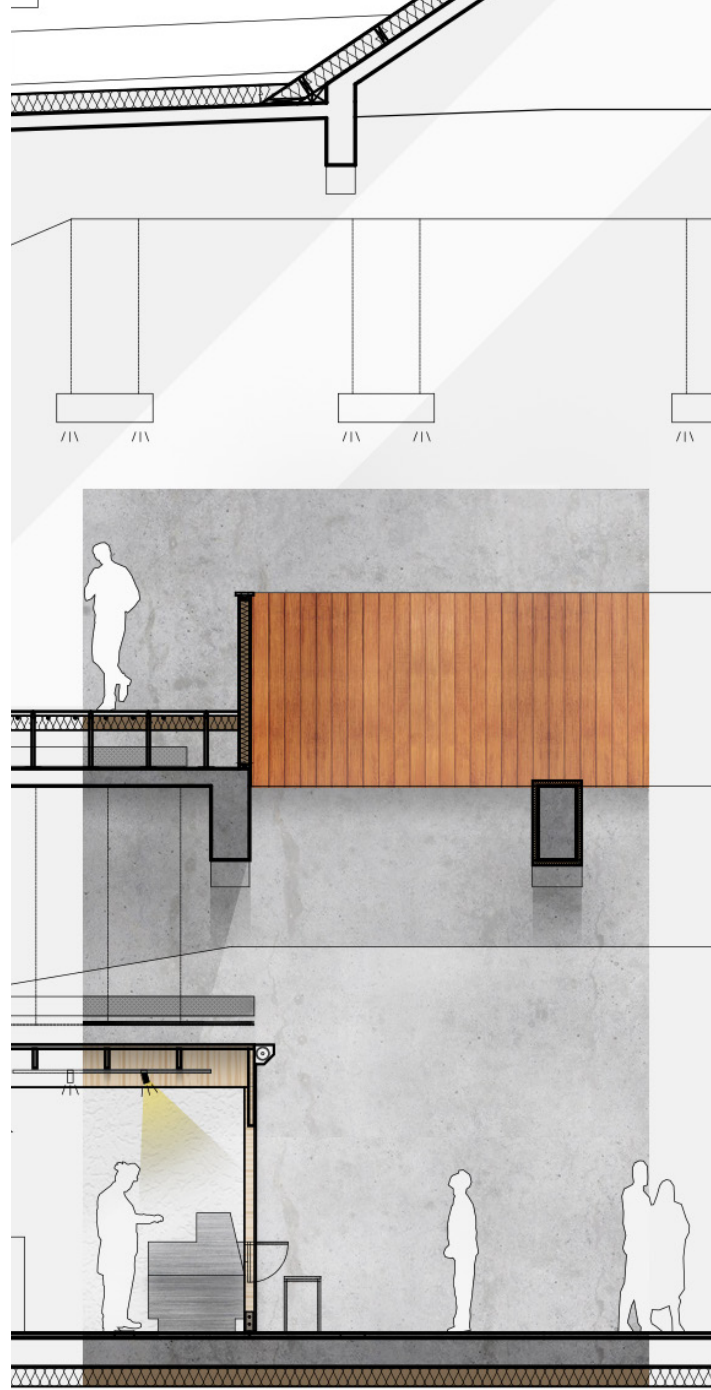
Design: First floor



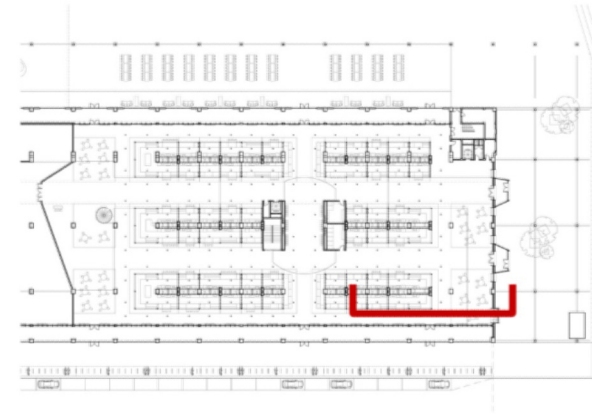
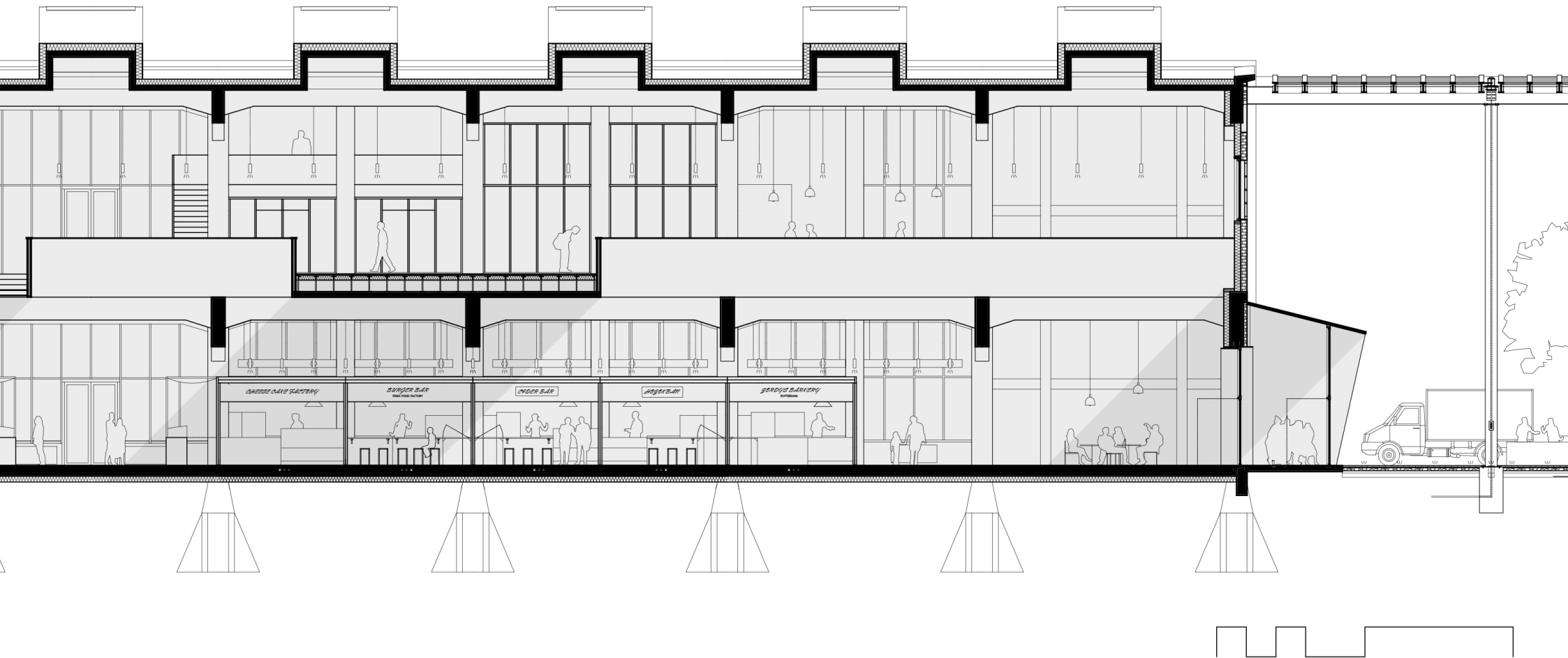
Design: Integrated section



Design: Integrated section



Design: Integrated section



Service

Service
Ventilation

Original grid line

- Market
- Office
- Lecture/Workshop
- Service

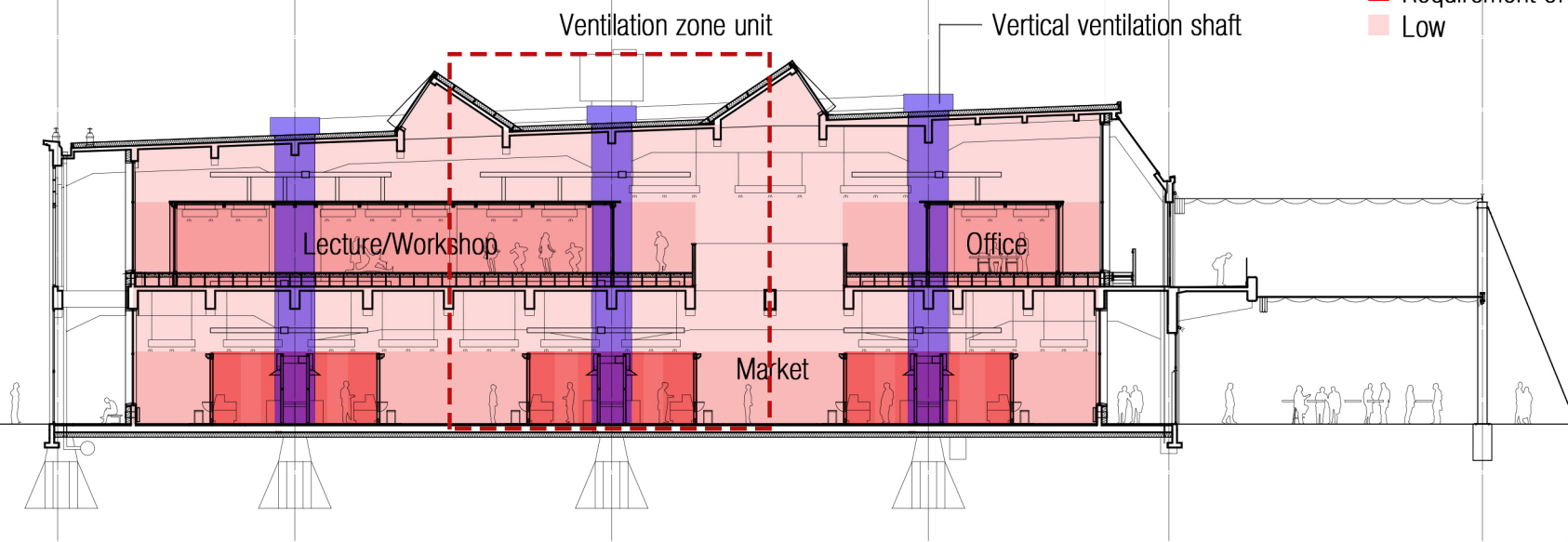
1F floor plan
Scale 1:700

Unit according to grid line

GF floor plan
Scale 1:700

Service Ventilation

- Service shaft
- Requirement of ventilation(high)
- Low



Corridor (n=4)
General area (n=4)

GF Classroom (n=6-20)
Office (n=4)

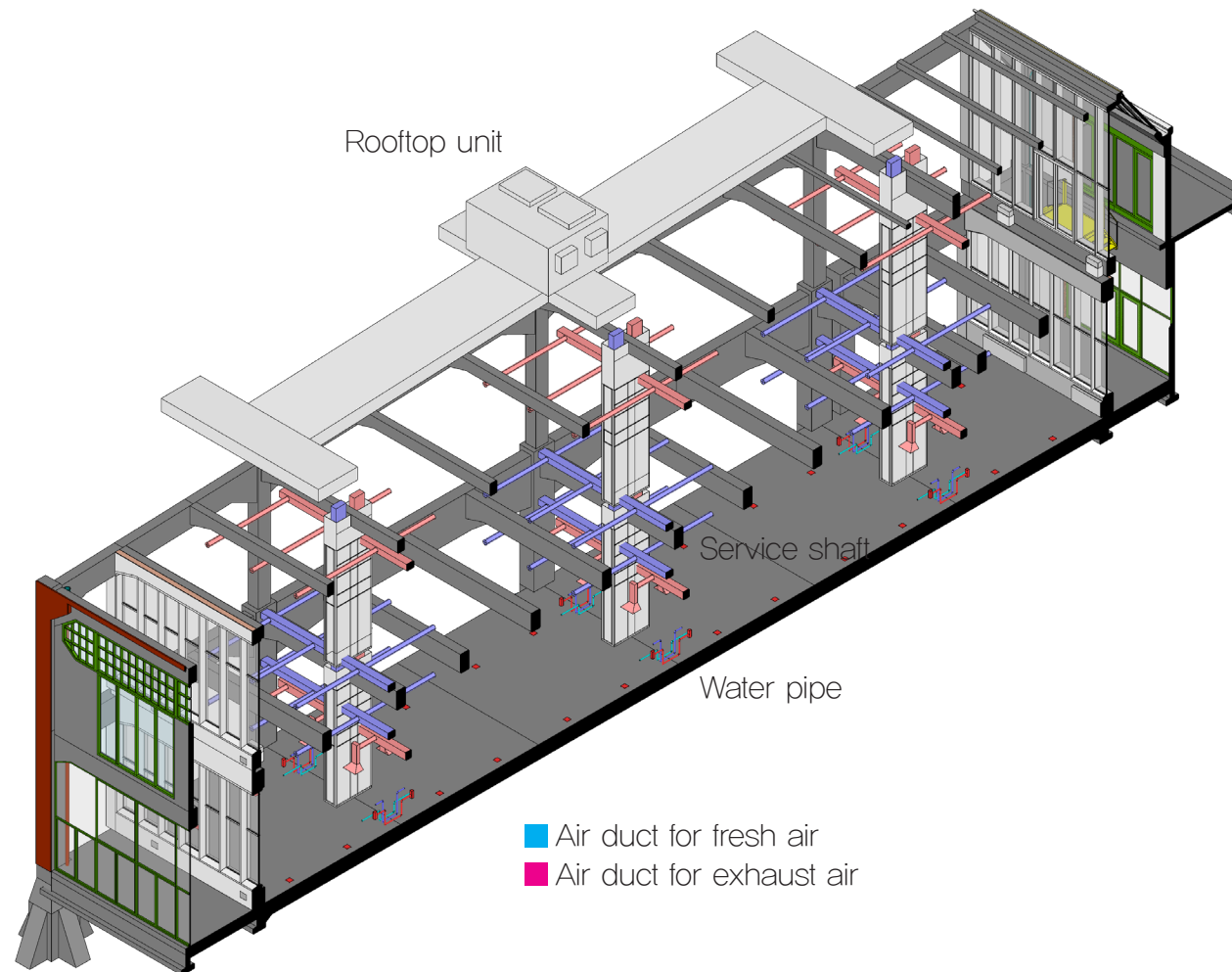
1F Kitchen (n=15-16)
Bakery (n=20-30)
Bar (n=20-30)
Retail (n=6-10)
Meat / Fish (n=4-10)
Cheese (n=4-10)
Grocery (n=4-10)
Coffee (n=12-15)
etc...

The highest demand was set as the reference point. (Air change rate)
-Flexibility.

Fresh air supply for each zone
 $Q=nV(\text{volume of zone})$
 $=2311.68 \text{ m}^3/\text{h}$

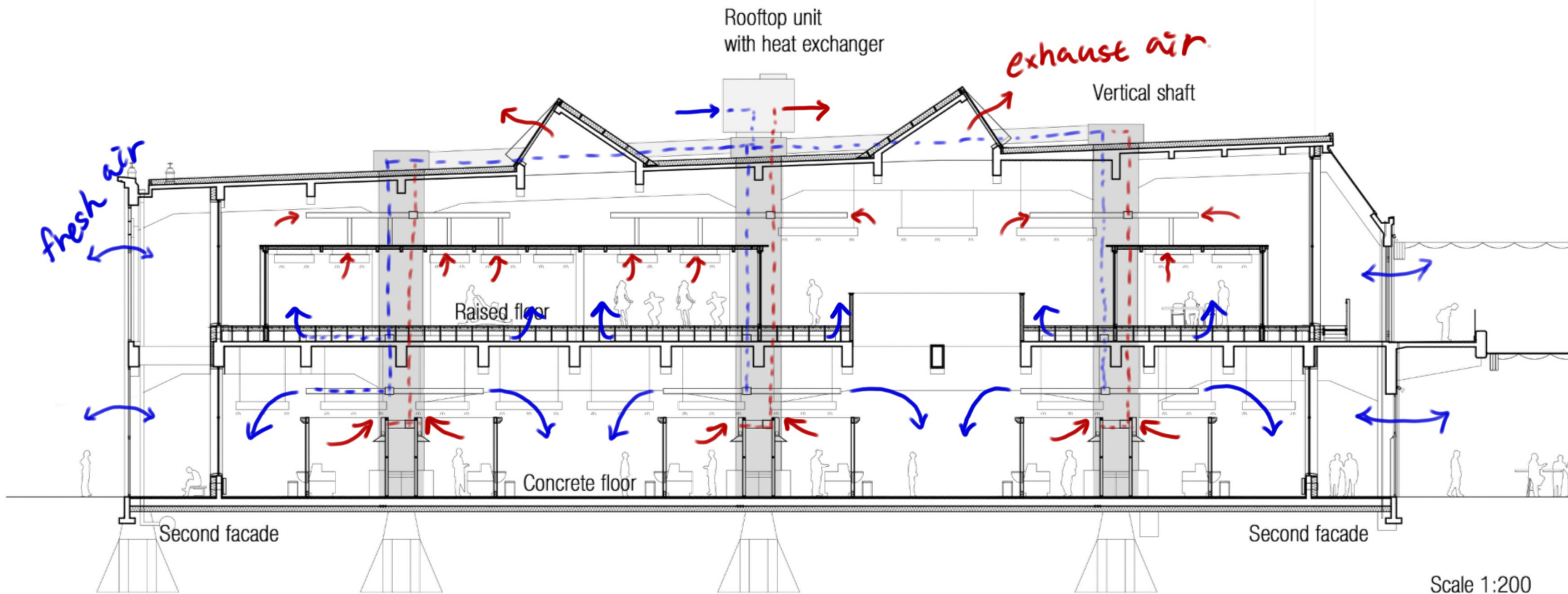
Sizing duct based on Q
 $D=400\text{mm}$
 $A=0.126\text{m}^2$

Service Ventilation



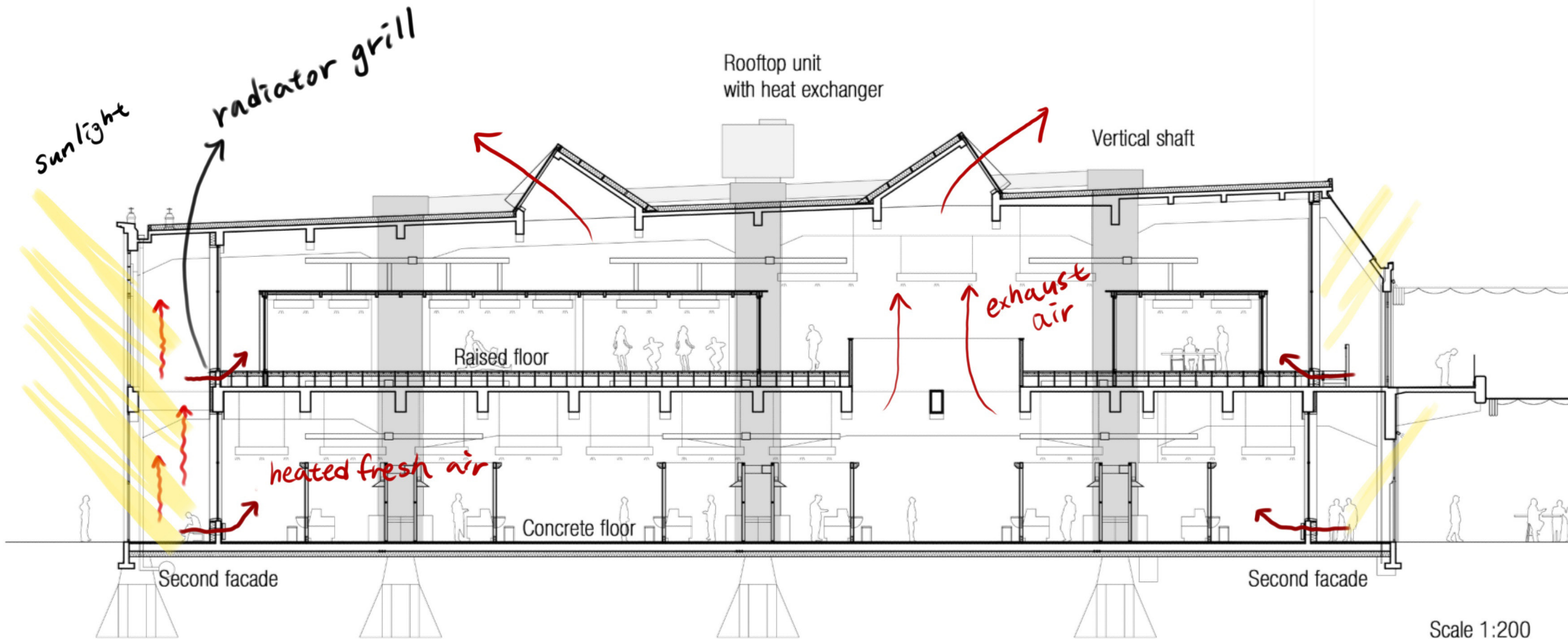
Service

Ventilation—Mechanical



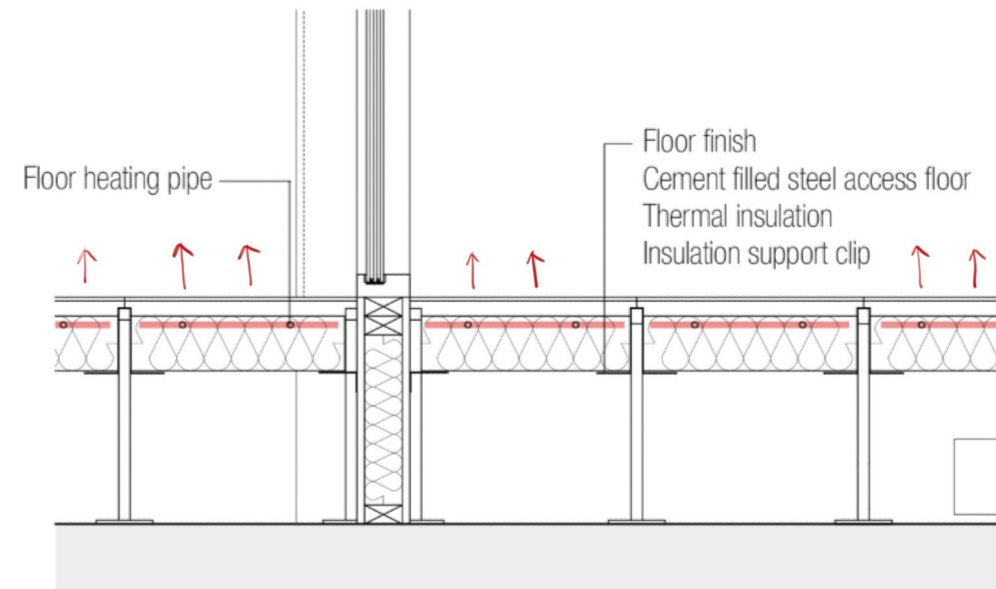
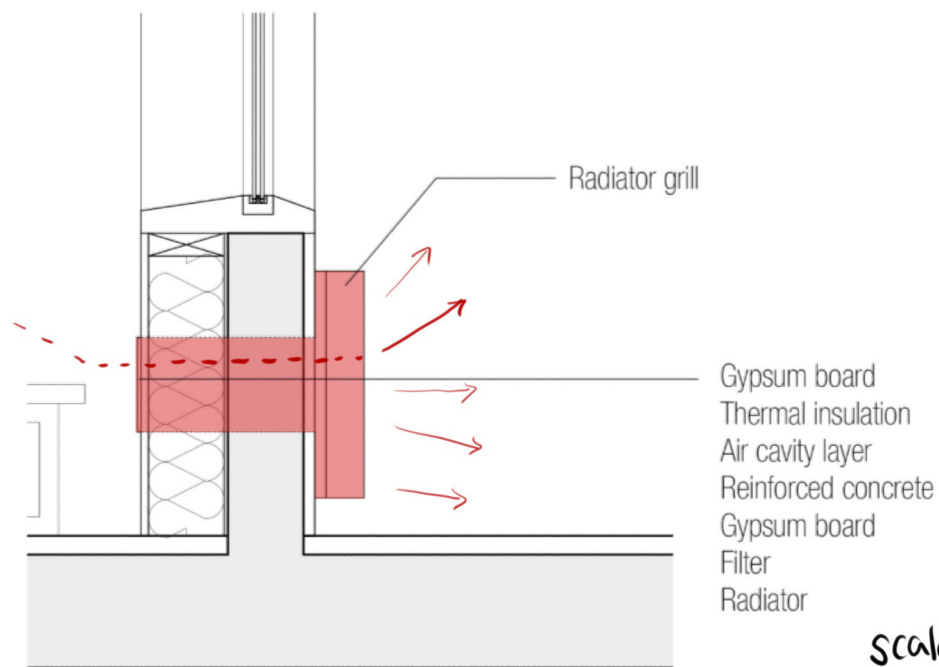
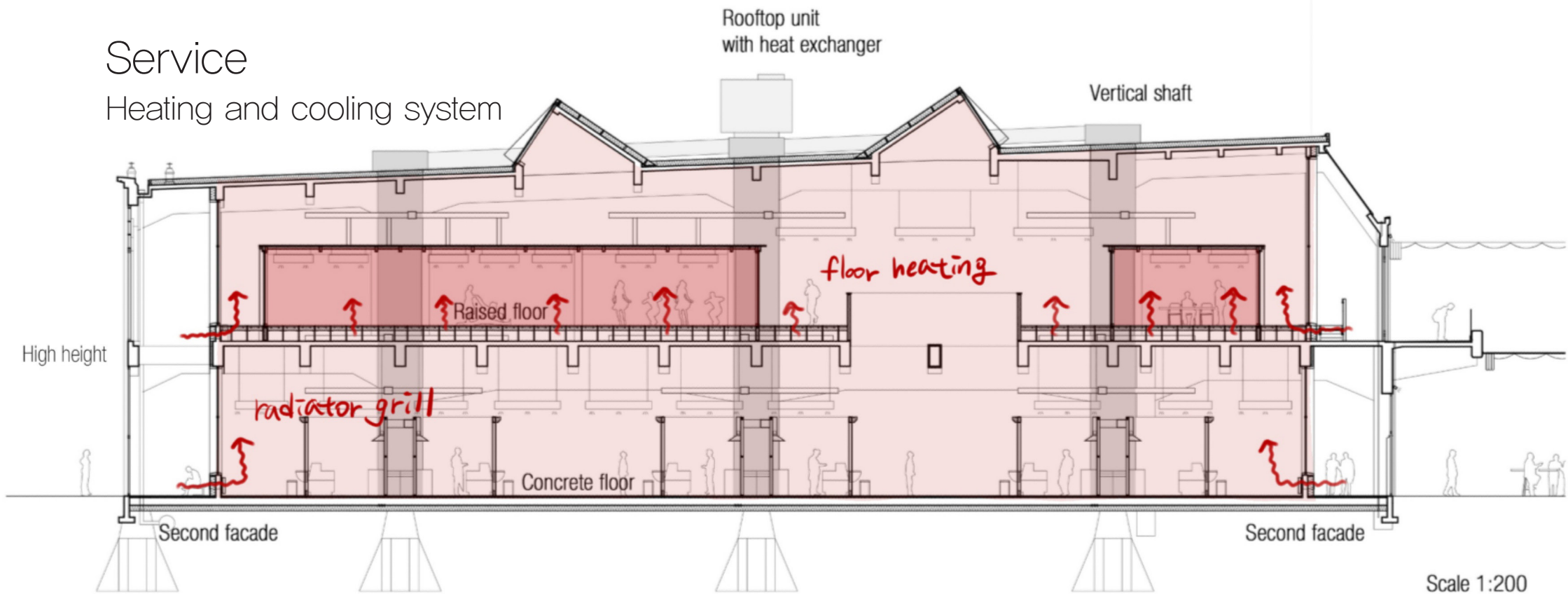
Service

Ventilation—Mixed, support



Service

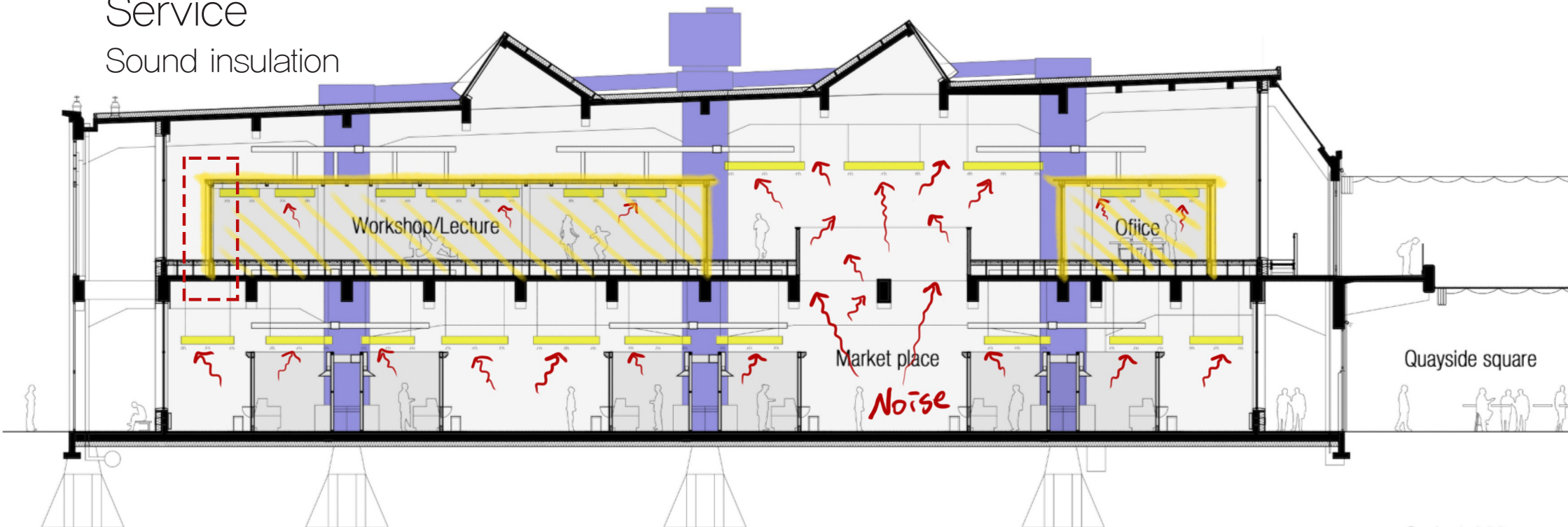
Heating and cooling system



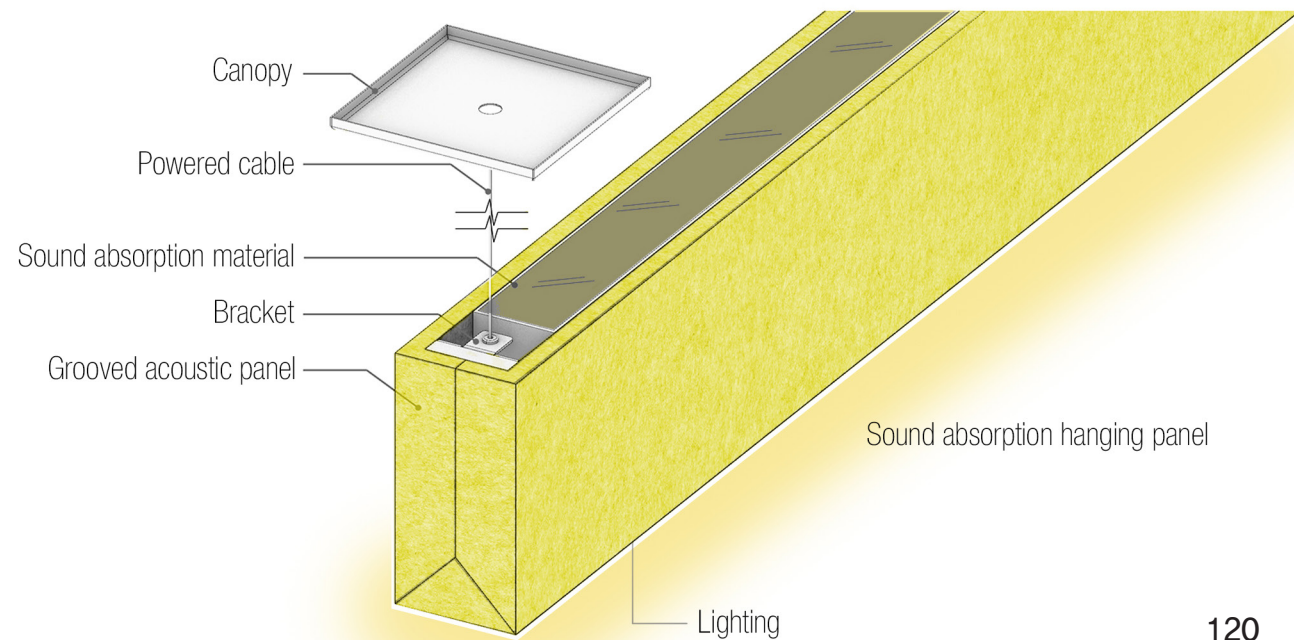
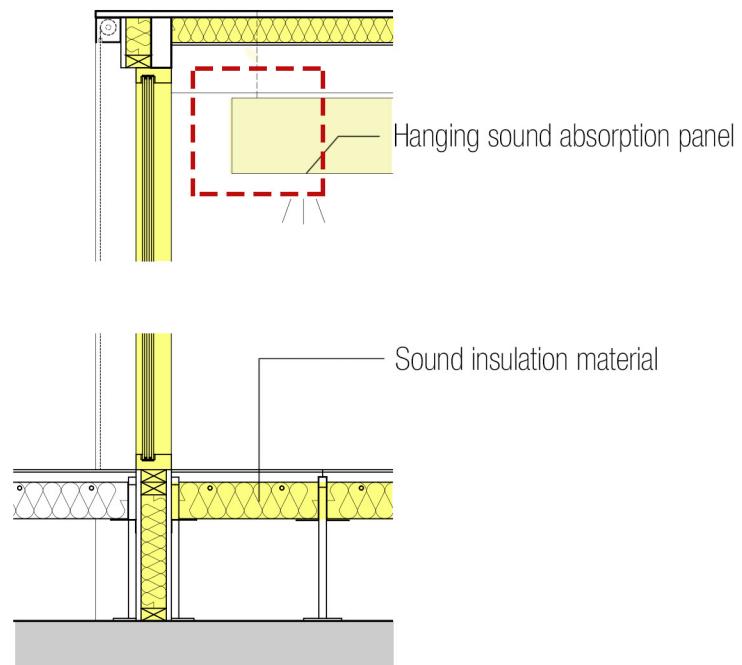
scale 1:20

Service

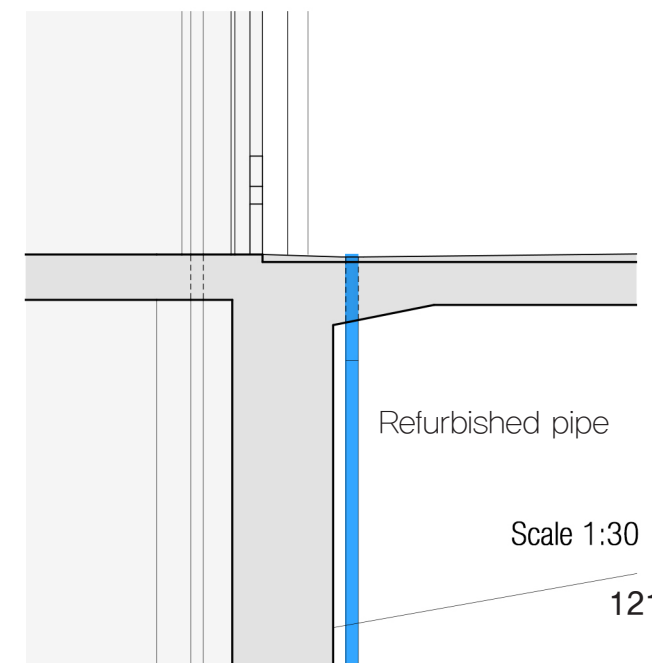
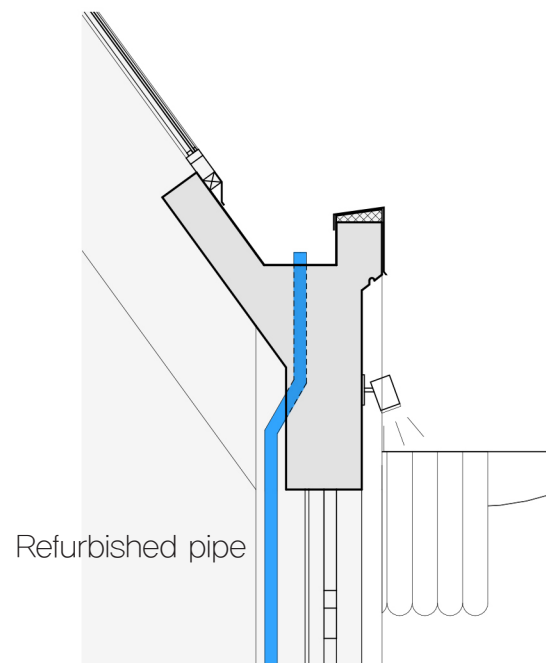
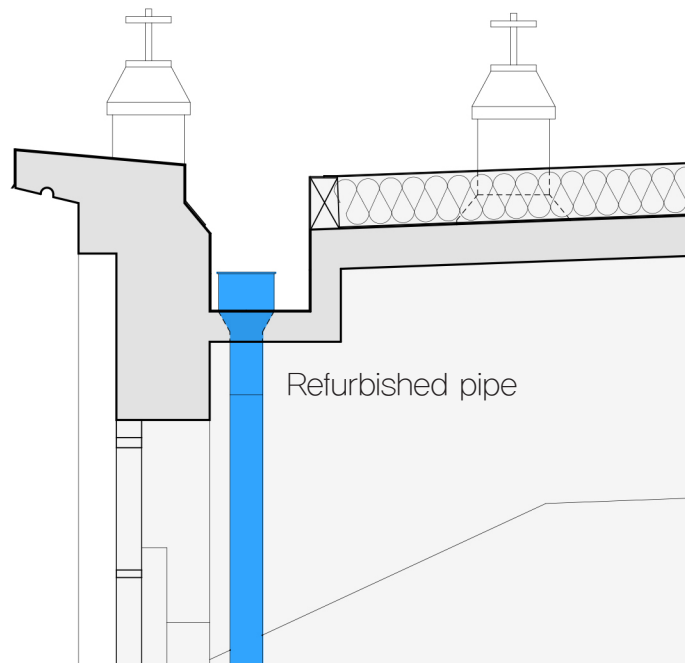
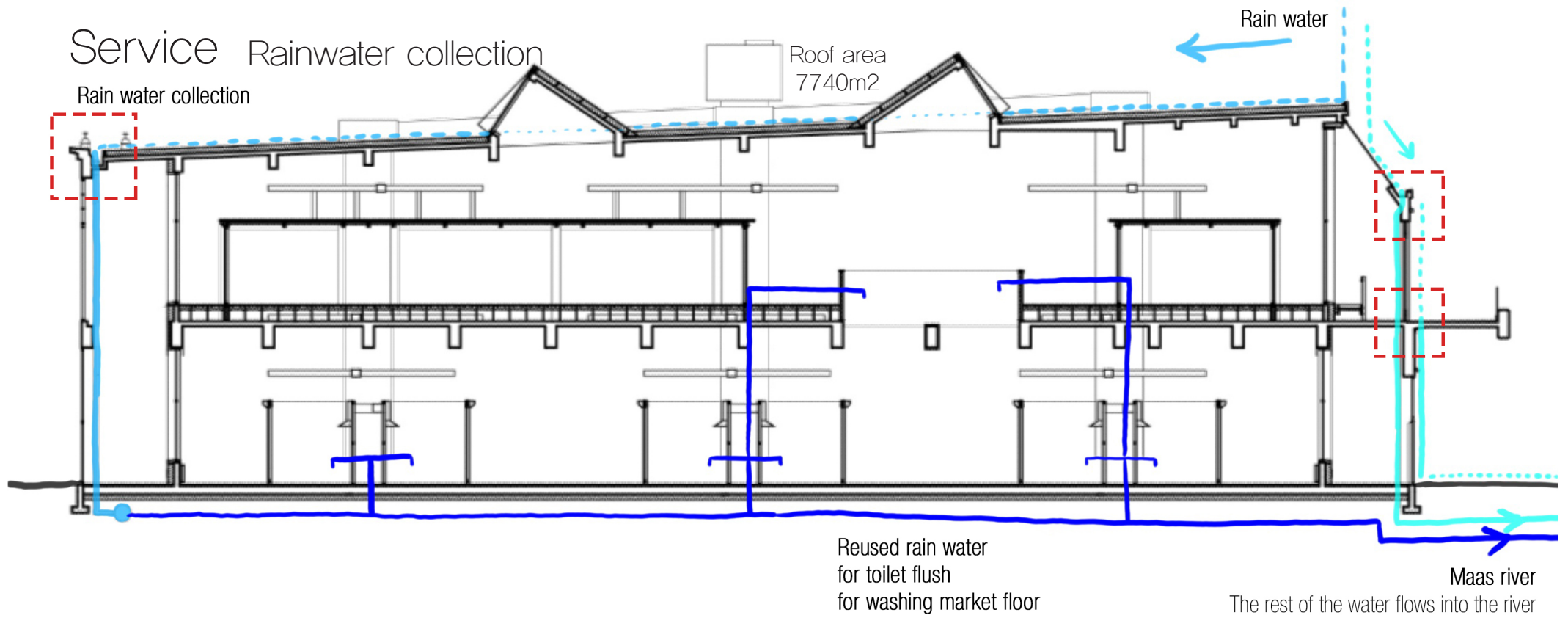
Sound insulation



Scale 1:200



Service Rainwater collection





Reflection