Reimagining De Schalkweide

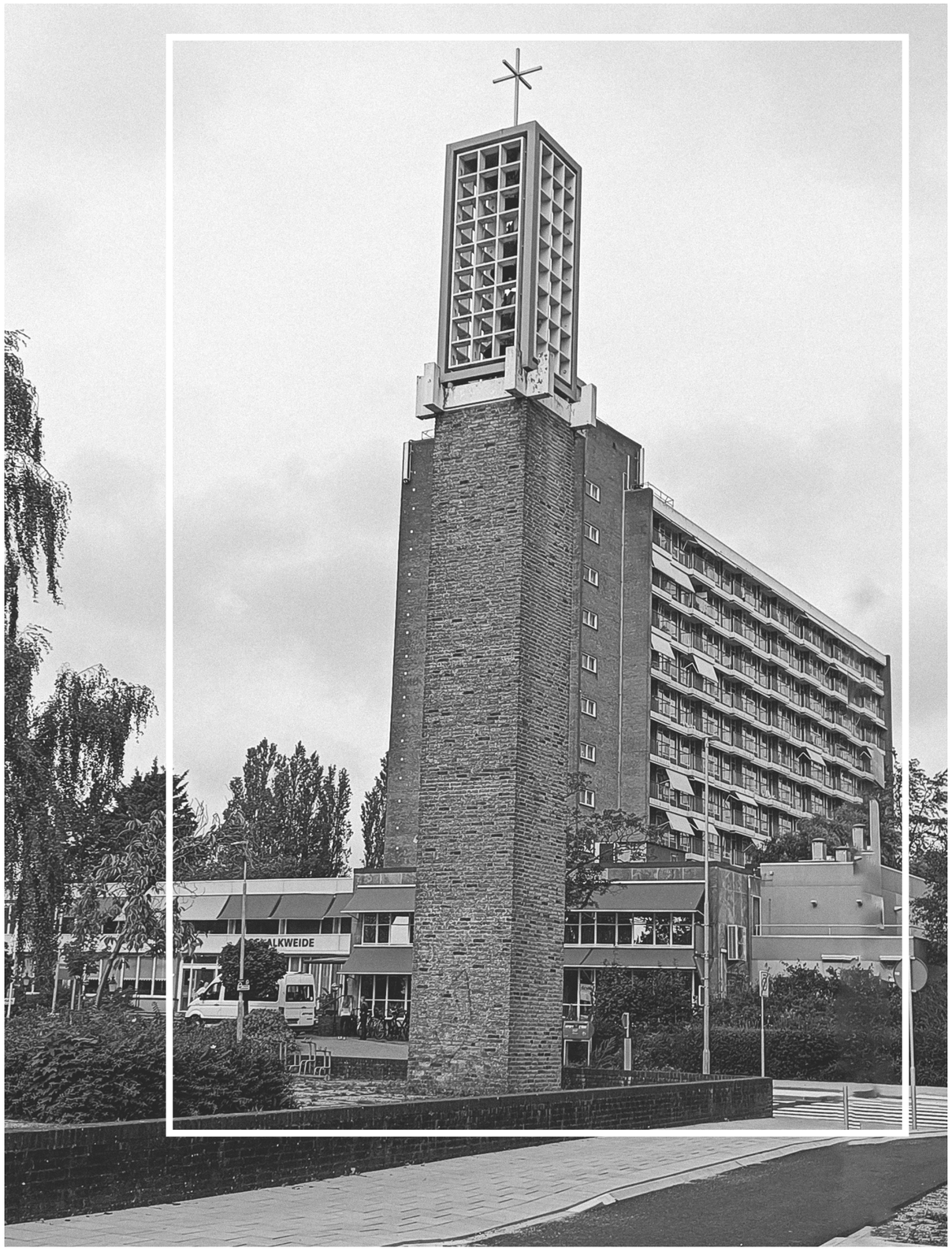
Accommodating changing demands within familiar walls

aE Graduation P5
28 June 2024

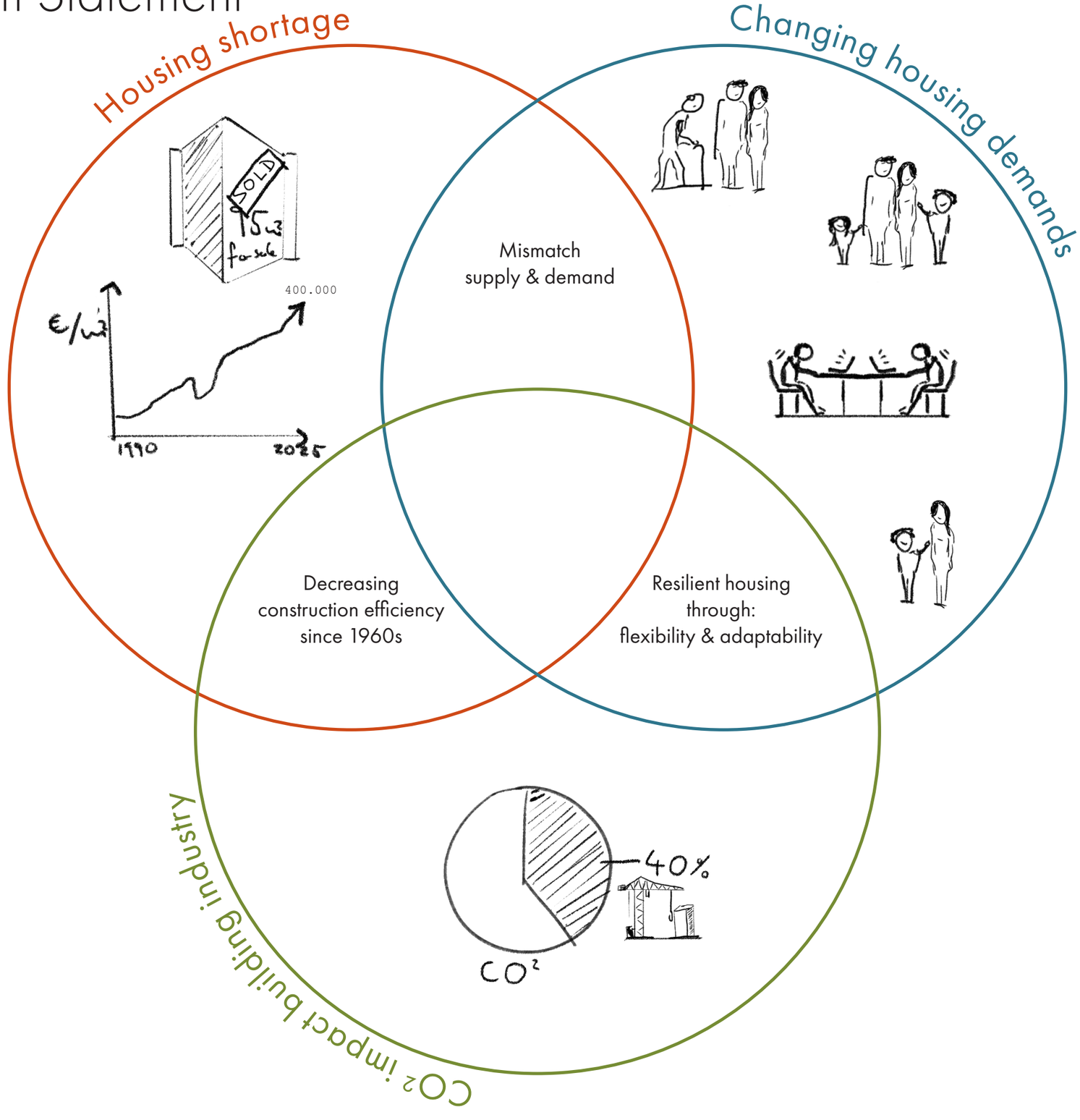
Presentation by
Florian Holtbernd
4714776

Studio
Architectural Engineering studio

Tutors
Thomas Offermans
Pieter Stoutjesdijk
Gilbert Koskamp

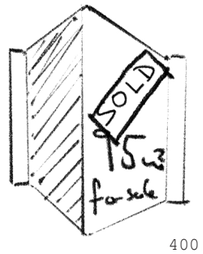


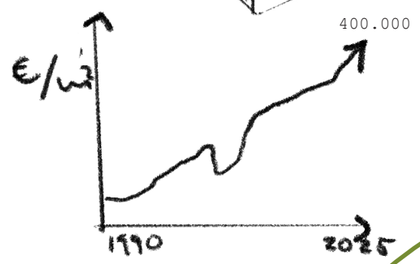
Layered Problem Statement



Layered Problem Statement

Housing shortage





Changing housing demands









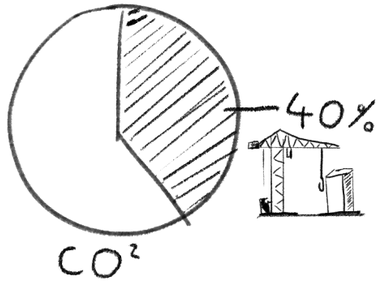
Mismatch
supply & demand

Need for socially sustainable transformation

Decreasing
construction efficiency
since 1960s

Resilient housing
through:
flexibility & adaptability

CO2 impact building industry

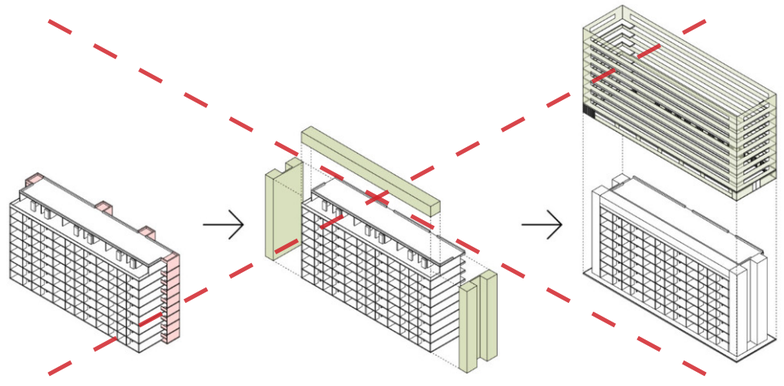


Transformation: Repurpose

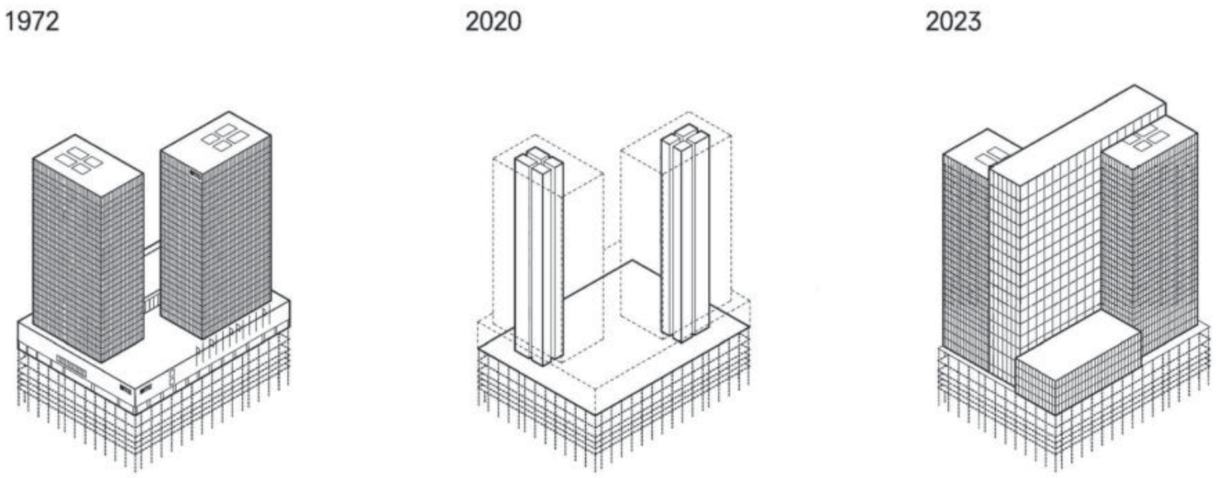


Prinsessenflats, Rotterdam Alexanderpolder. Renovation by A3 Architecten. Image by Maarten Jellema (2024) for https://www.rotterdamarchitectuurprijs.nl/prijs-2024.

Sustainable Transformation = New Relevance



Roze Maai by Atelier Kempe Thill



ZIN by 51N4E, AUC, Jaspers-Eyers Architects

Case Studies

Designed Diversity



Holunderhof



Kalkbreite



WagnisART

Open Building



Balance Uster



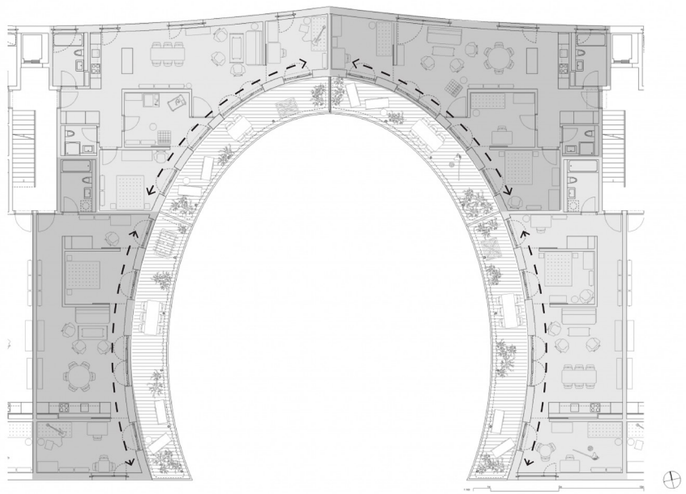
Patch22



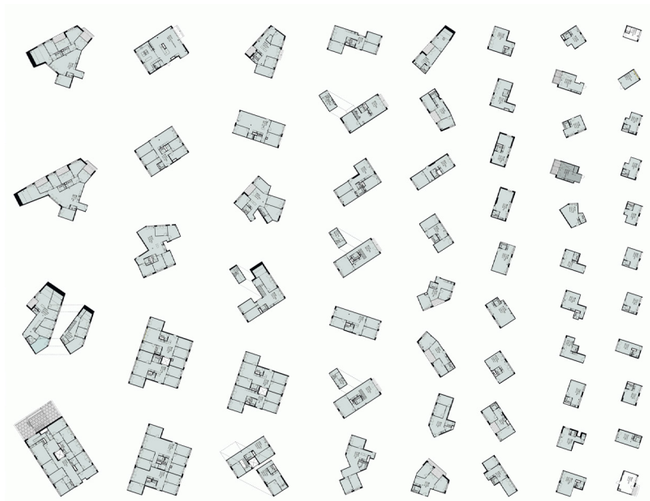
San Riemo

Case Studies

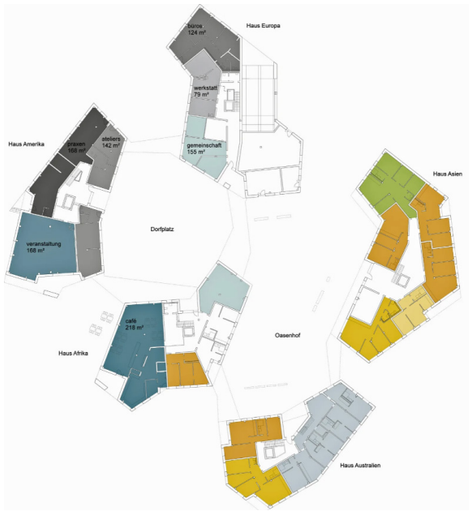
Designed Diversity



Holunderhof

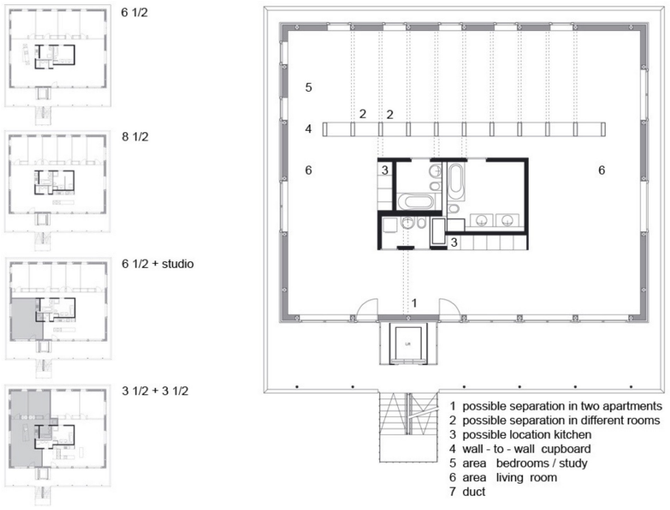


Kalkbreite

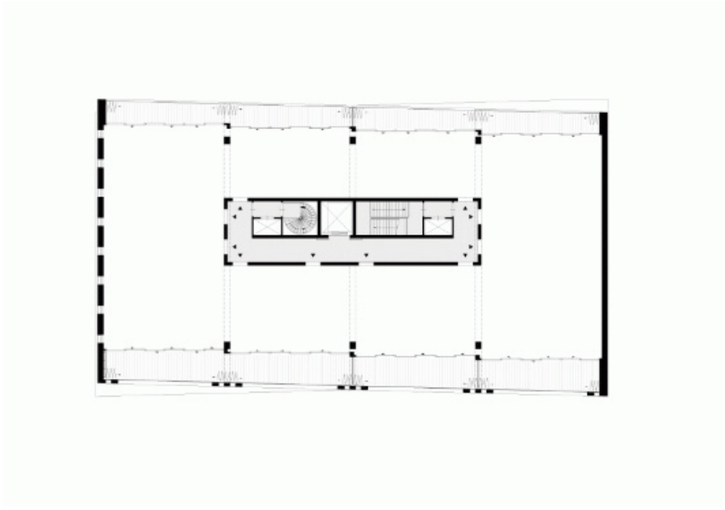


WagnisART

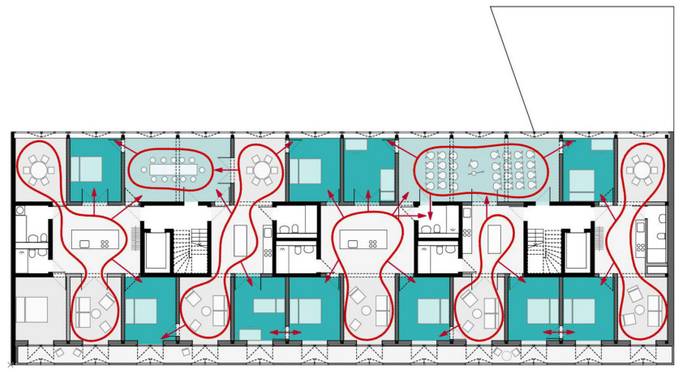
Open Building



Balance Uster



Patch22



San Riemo

Case Studies

Holunderhof

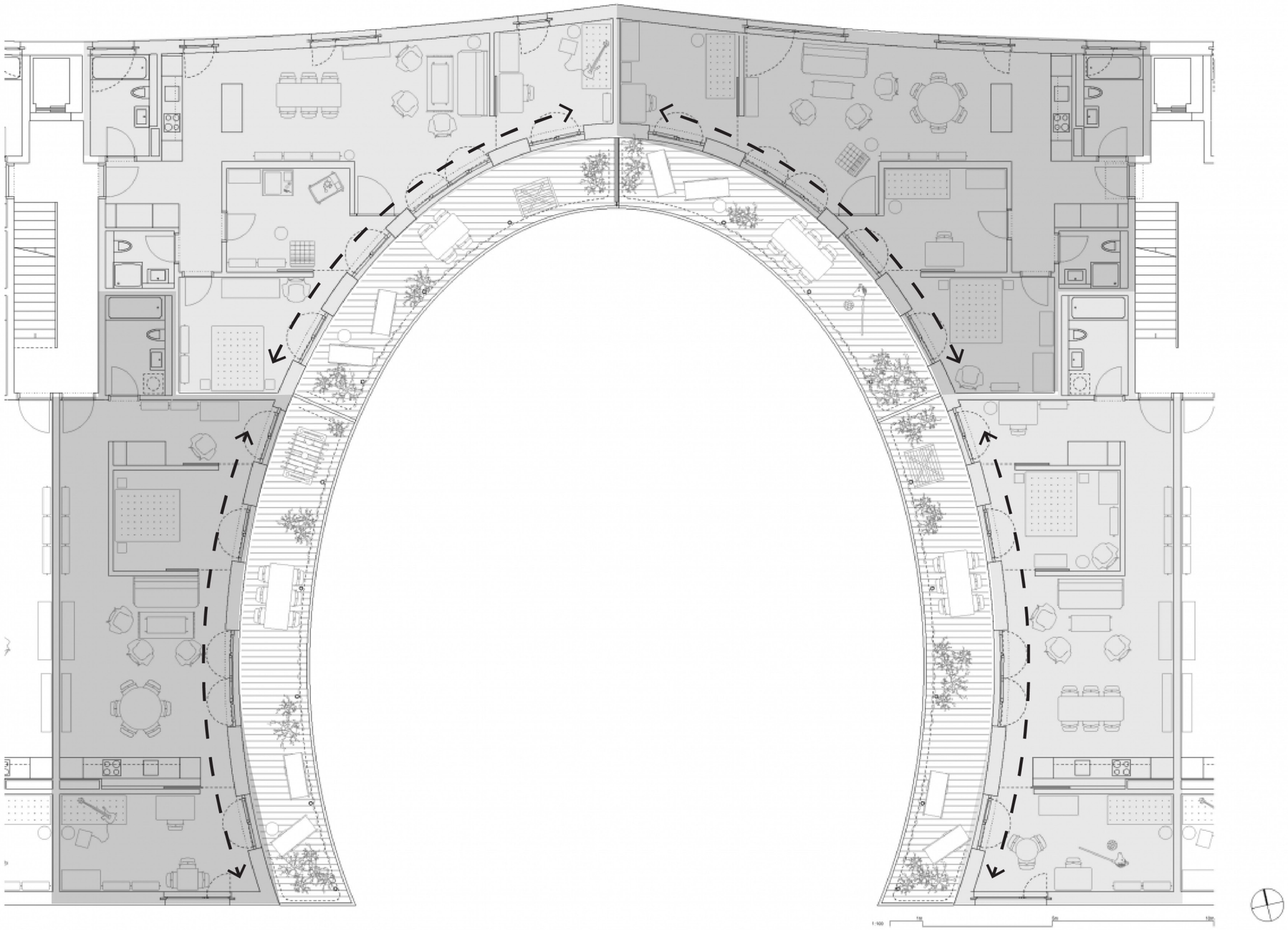
Zürich, 2018

Architects
Scheider Studer Primas
Architekten GmbH

Commissioners
Gemeinnützige Baugenossenschaft
Röntgenhof Zürich

Dwelling types
95 dwellings
+- 230 inhabitants
2 × studio 56 m²
15 × 2-room apartments 63 m²
38 × 3r.a. 92 m²
32 × 4r.a. 104 m²
8 × 5r.a. 118 m²

Non-housing Programme
392 m² collective parking &storage
115 m² nursery
4476 m² collective garden



Enfilades at Holunderhof. Own work based on drawings by Schneider Studer Primas (2018).

Case Studies

Kalkbreite

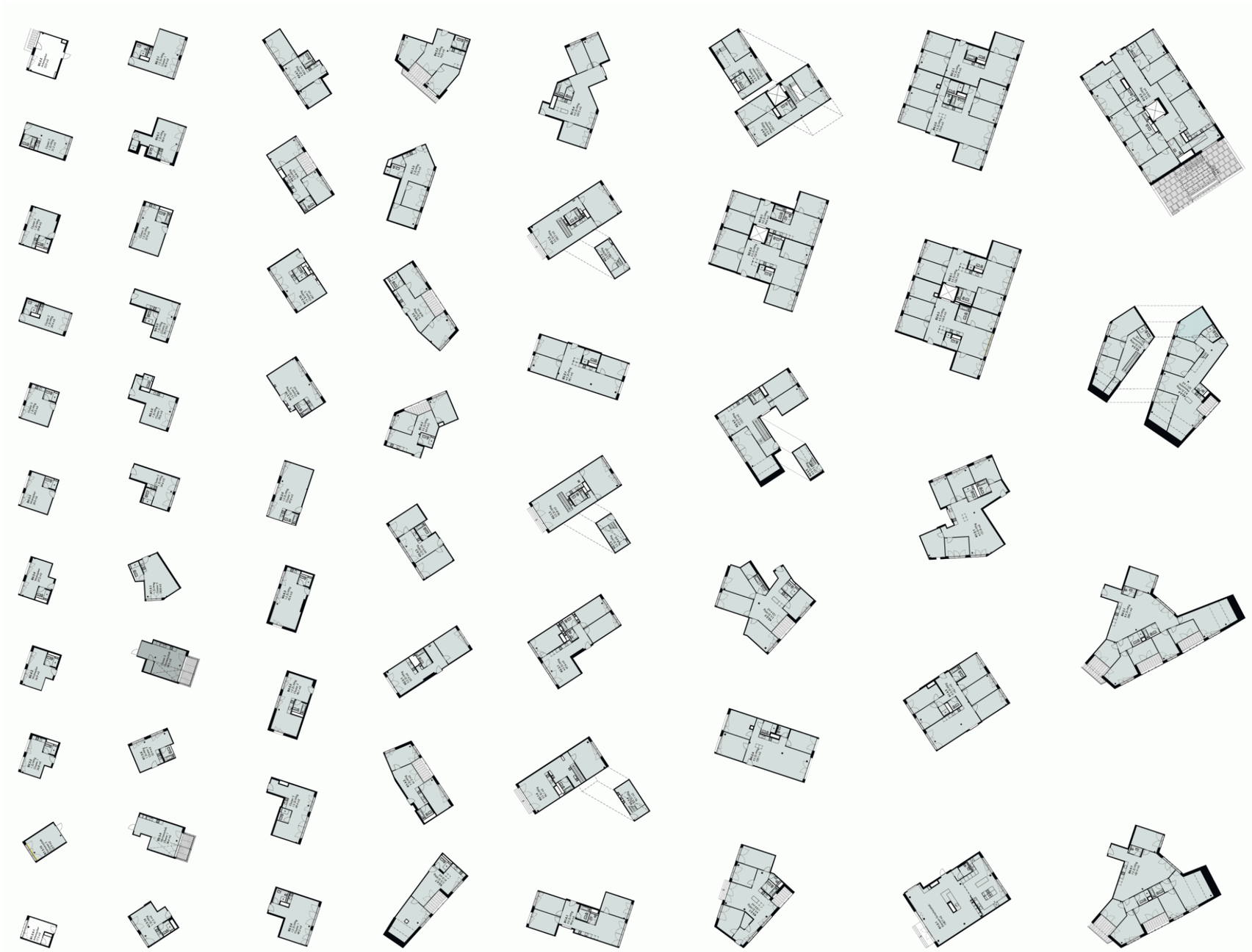
Zürich, 2014

Architects
Müller Sigrist

Commissioners
Genossenschaft Kalkbreite

Dwelling types
97 housing units, 55 dwellings
+- 250 inhabitants
30 x studios of 29-56 m² throughout
3 cluster apartments
2 x studio's 38-45 m²
• 18 × 2-room apartments 50-103 m²
• 13 × 4r.a. 95-133 m²
• 8 × 5r.a. 123-127 m²
• 6 × 6r.a. 142-152 m²
• 2 × 7-9r.a. 142-215 m²

Non-housing Programme
816 m² retail
489 m² gastronomy
1617 m² office/atelier
654 m² culture
312 m² nursery
285m² guest house
330 m² interior communal space
301 m² additive rental space
2500 m² public courtyard
semi-piblic roof terrace



Dwelling Type scheme. By Müller Sigrist (2014).

Case Studies

WagnisART

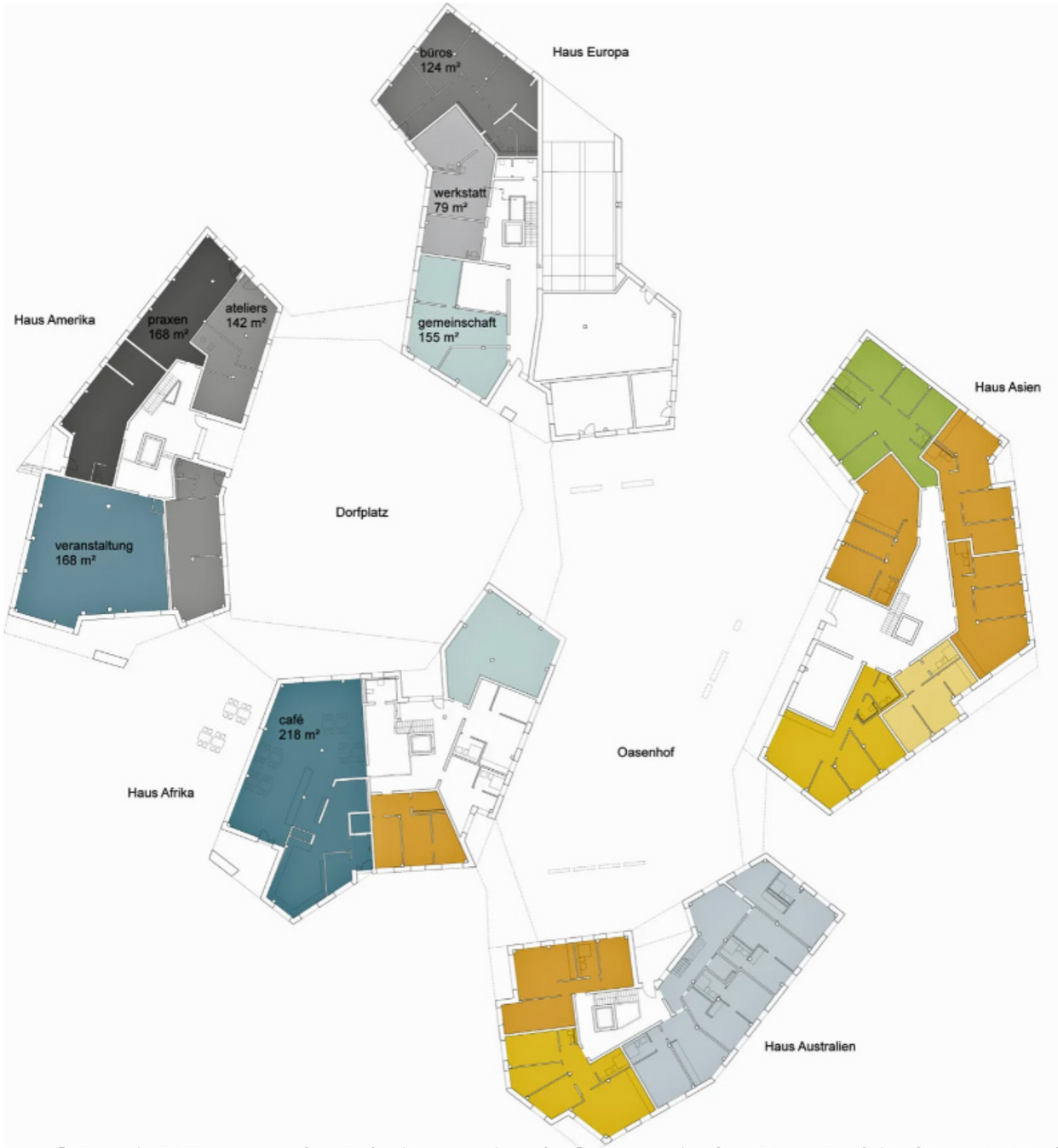
München, 2016

Architects
SHAG Schindler Hable Architekten GbR, bogevischs buero architekten & stadtplaner GmbH

Commissioners
Wohnbaugenossenschaft Wagnis eG

Dwelling types
138 dwellings
+- 250 inhabitants
57 2-room apartments throughout
9 cluster apartments
48 × 2r.a. 39-61 m²
38 × 3r.a. 73-91 m²
25 × 4r.a.108-131 m²
10 × 5r.a. 112-161 m²
15 × studio 44-50m²

Non-housing Programme
Gastronomy, offices,meeting rooms, car-park, guest rooms, event room, workshops, laundry hall, rehearsal room
All public, rental, communal and interactive spaces are located on the ground floor. No dimensions provided.
5187 m² public courtyard
collective roof terrace/bridges



Groundfloor programme of WagnisART. Image by Arbeitsgemeinschaft Bogevischs Büro Architekten & Stadtplaner, München und SHAG Schindler Hable Architekten, München (2016).

Case Studies

Balance Uster

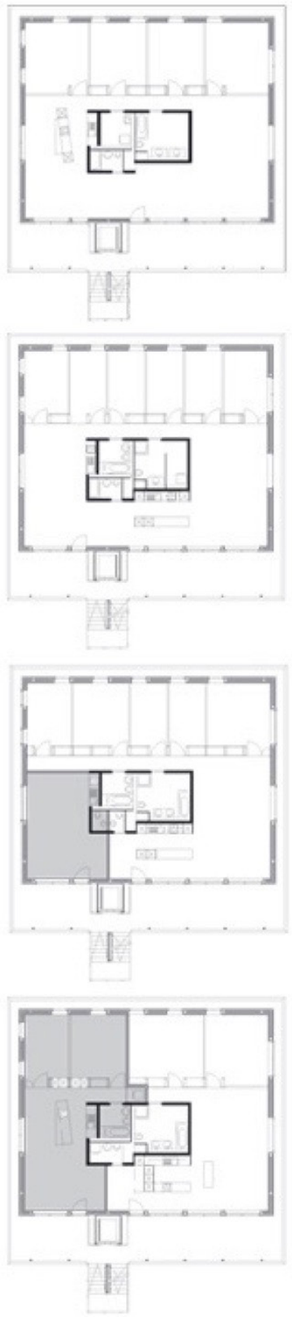
Uster, 2001

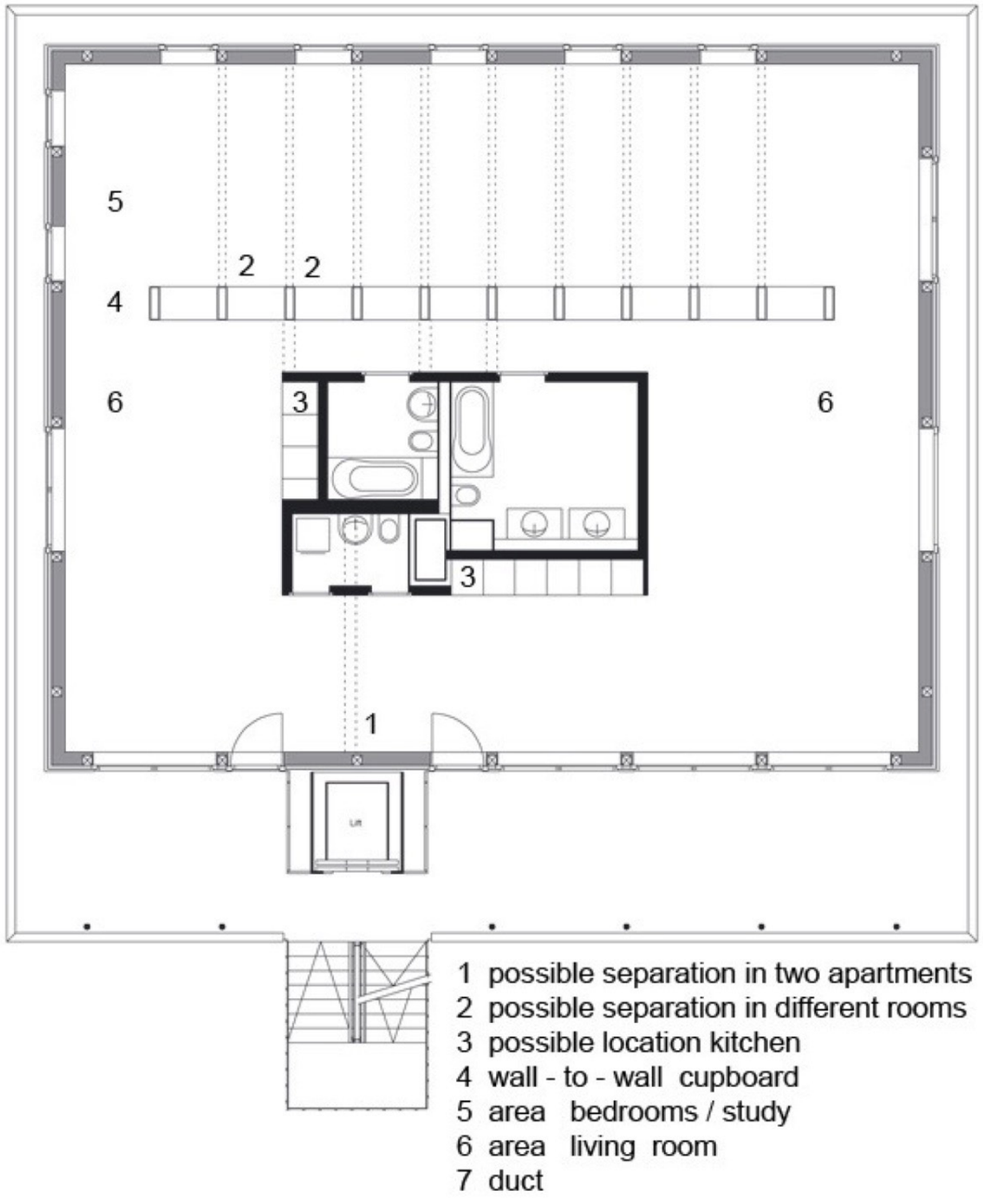
Architects
Haerle Hubacher Architekten

Commissioners
Streich AG Generalunternehmung

Dwelling types
35 dwellings
35 - 245 possible inhabitants
35 × 190 m² apartments
possible as loft or 1 - 6 bedrooms
or + max 35 × sublet apartments

Non-housing Programme
100m² private terrace per floor
+- 6500 m² semi public outdoor space
1 private parking spot per dwelling





Possible layout adaptations of Balance concept. Image by Haerle Hubacher Architekten (n.d).

Case Studies

Patch 22

Amsterdam, 2016

Architects
FRANTZEN et al.

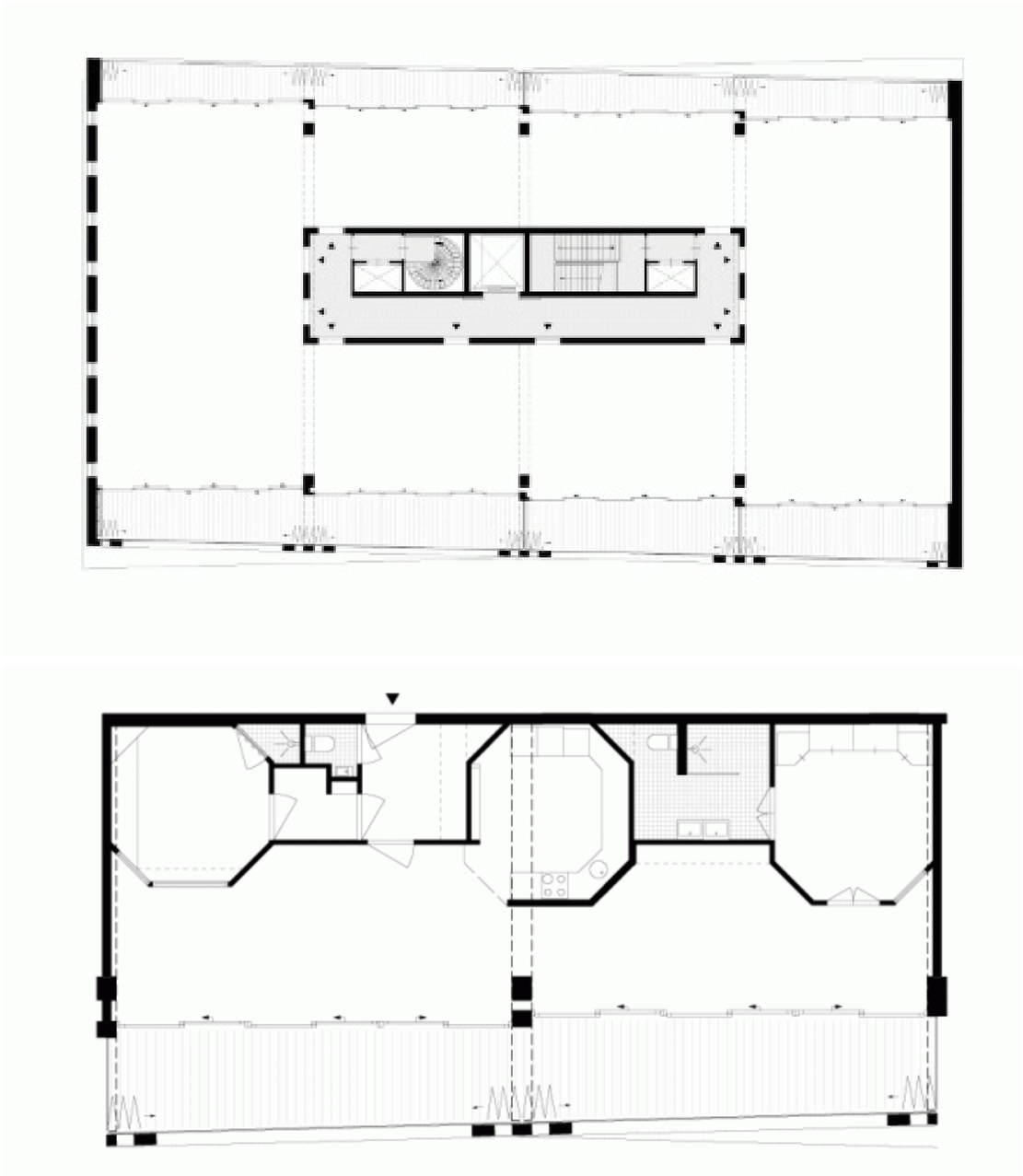
Commissioners
Lemniskade Projects

Dwelling types
Currently 29 dwellings
16 - 217 possible inhabitants
5 × row houses 115 m²
min 6 max 48 apartments
minimal units:
24 × 42 m²
12 × 66 m²
12 × 87 m²
max: 6 × lofts 532m²

Non-housing Programme
600 m² commercial space

6 × 532m² housing floors fulfill requirements to be turned into offices

37 exterior parking spots.



Open floorplan with possible subdivision walls. Image by FRANTZEN et al.

Case Studies

San Riemo

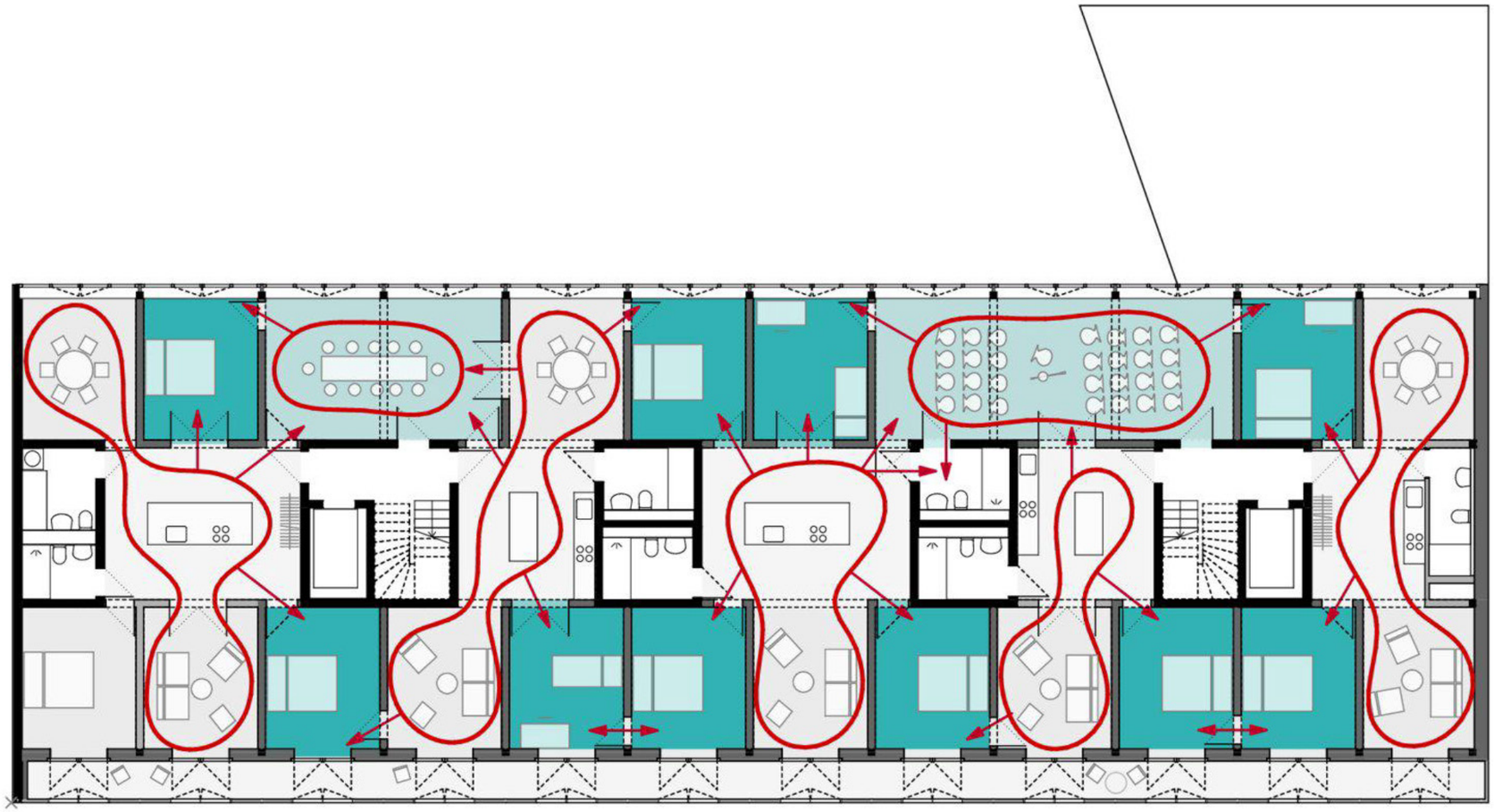
München, 2020

Architects
SUMMACUMFEMMER & Büro Juliane Greb

Commissioners
Kooperative Grossstadt eG

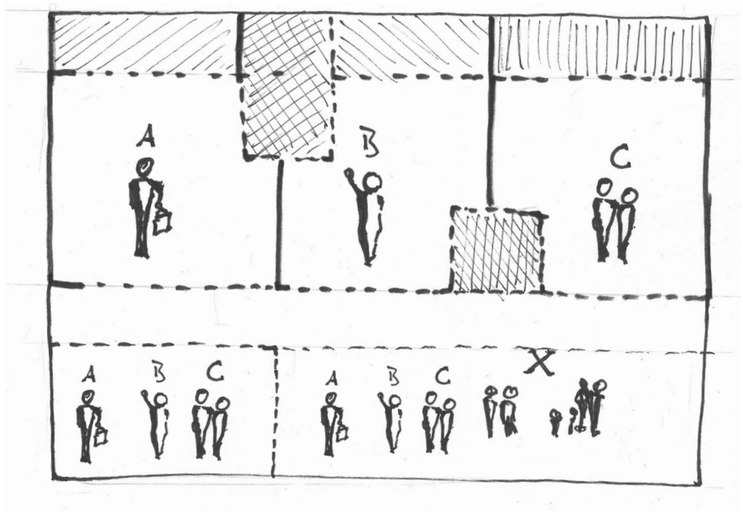
Dwelling types
Currently 29 dwellings
currently 100 inhabitants
max 24 × 14 m² bedrooms on 5 floors
6 wetcell+kitchen cores on 5 floors
smallest unit: 2r.a. 52 m²
largest private unit: 5r.a. 117.5 m²
cluster apartment: 11r.a. 144 m²
1 guest room

Non-housing Programme
205m² collective space (work-shop,laundry)
320m² commercial space (gastronomy)
267m² collective roof terrace



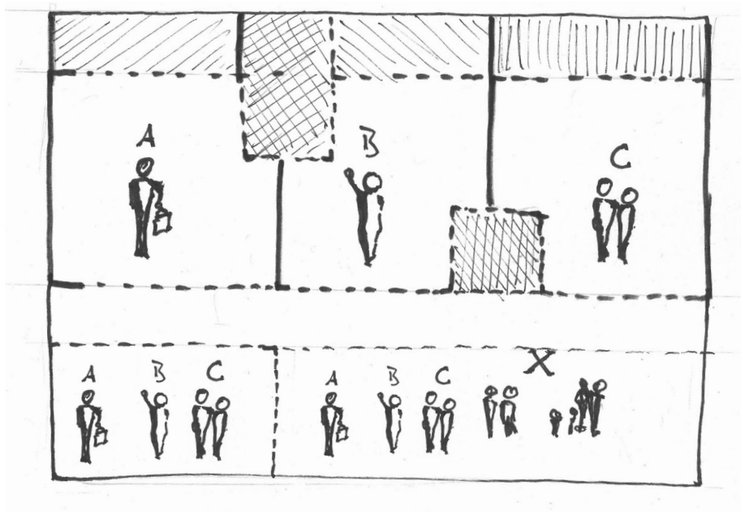
Nucleus Housing San Riemo. By Summacumfemmer büro by Juliane Greb (2020).

Concluding Design Principles

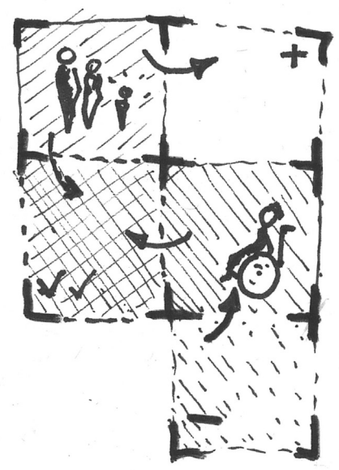


Gradients of public- collective- and private- space

Concluding Design Principles

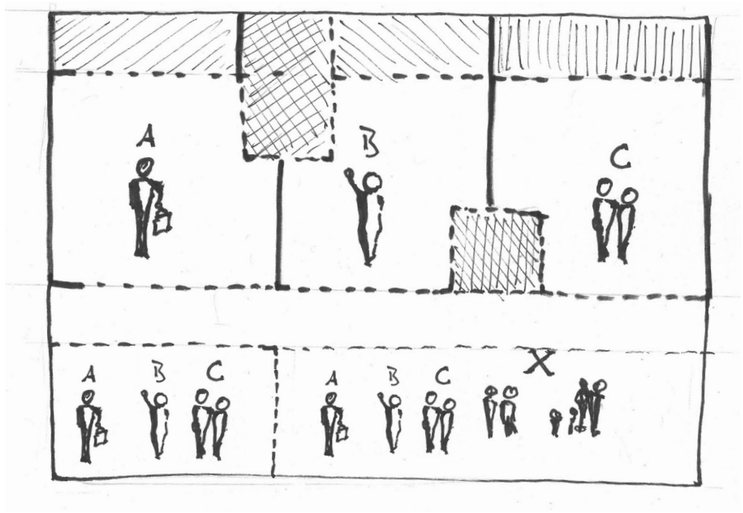


Gradients of public- collective- and private- space

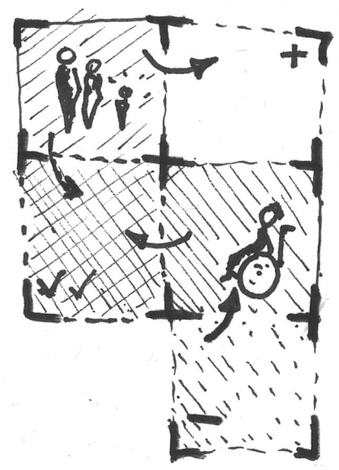


Guided adaptability

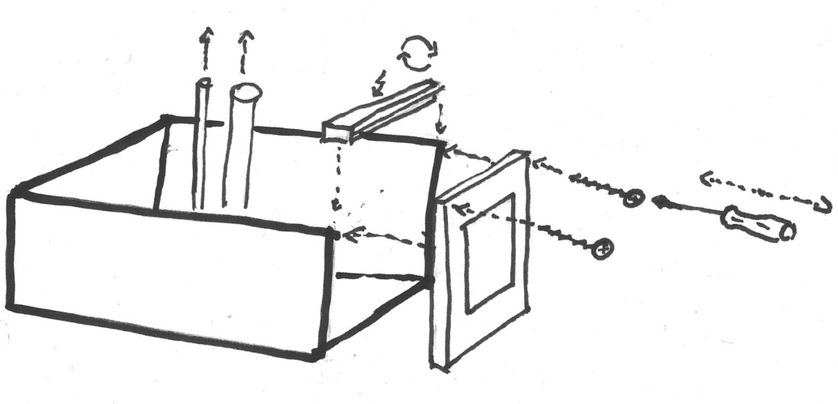
Concluding Design Principles



Gradients of public- collective- and private- space

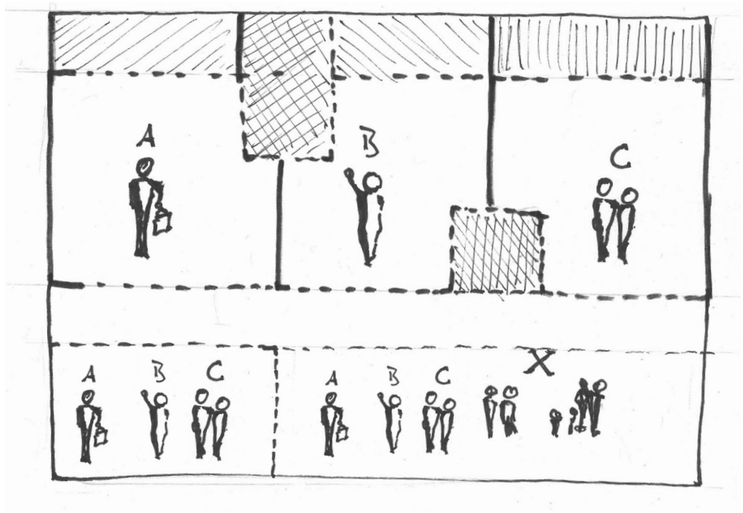


Guided adaptability



Distinctive layered construction (remaining & reversible)

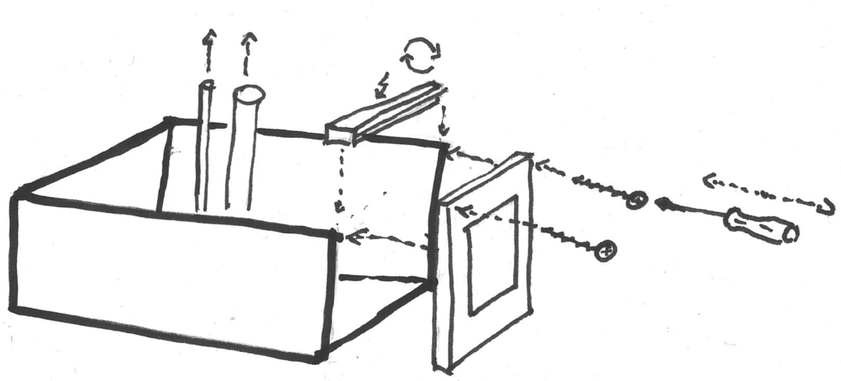
Concluding Design Principles



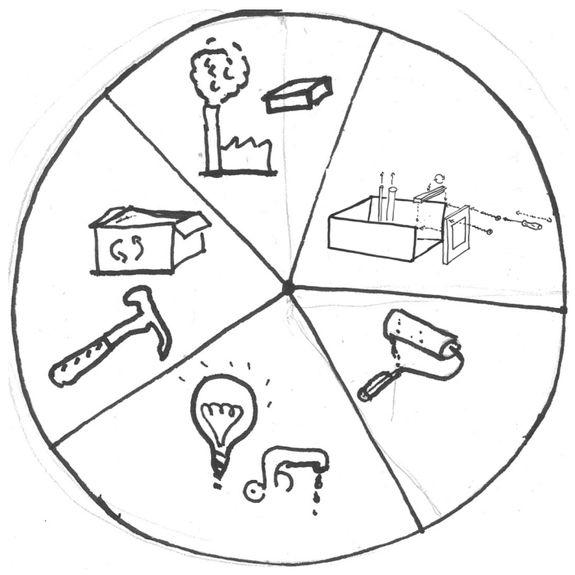
Gradients of public- collective- and private- space



Guided adaptability



Distinctive layered construction (remaining & reversible)



Total Cost of Ownership

Boerhavewijk





Uitleg door Openbare Werken over Schalkwijk, door: C. de Boer (1969), Noord-Hollands Archief / 10005.

Palimpsest


Kol. Museum
Pontveer
Sl
Roomolen
Sl
Voetveer
Spaarnlommer
Zuidschalkwijk
Hs en Ss
Sl
Hoevevreugd
Schouw
Vereenigde
polder
Br
Nieuwe
WH
Halte
Vuil
Nieuwebrug
weg
Draaibr
Hevel
Motorgemaal
MP 14
Hevel
Br
Sl
Sl
Sl
Sl
Sl
Sl
Sl
MP 20
Zomer
Weg
polder

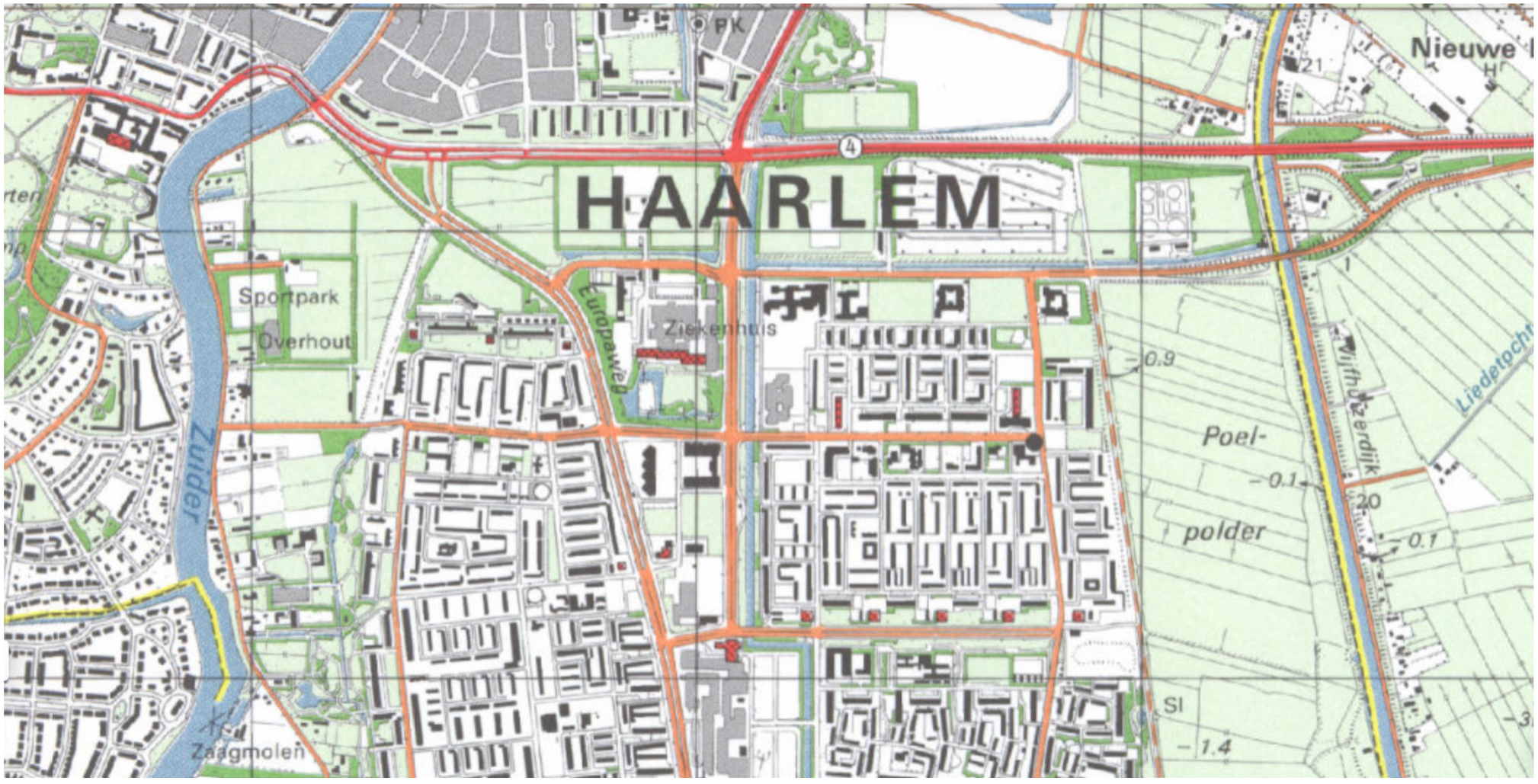
Palimpsest


Pontveer
Roomolen
polder
Voetveer
Spaarnlommer
Zuidschalkwijk
Hoevevreugd
Schouw
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Poel
Motorgemaal
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Halte
Nieuwebrug
Draaibr
Hevel
Br
Sl

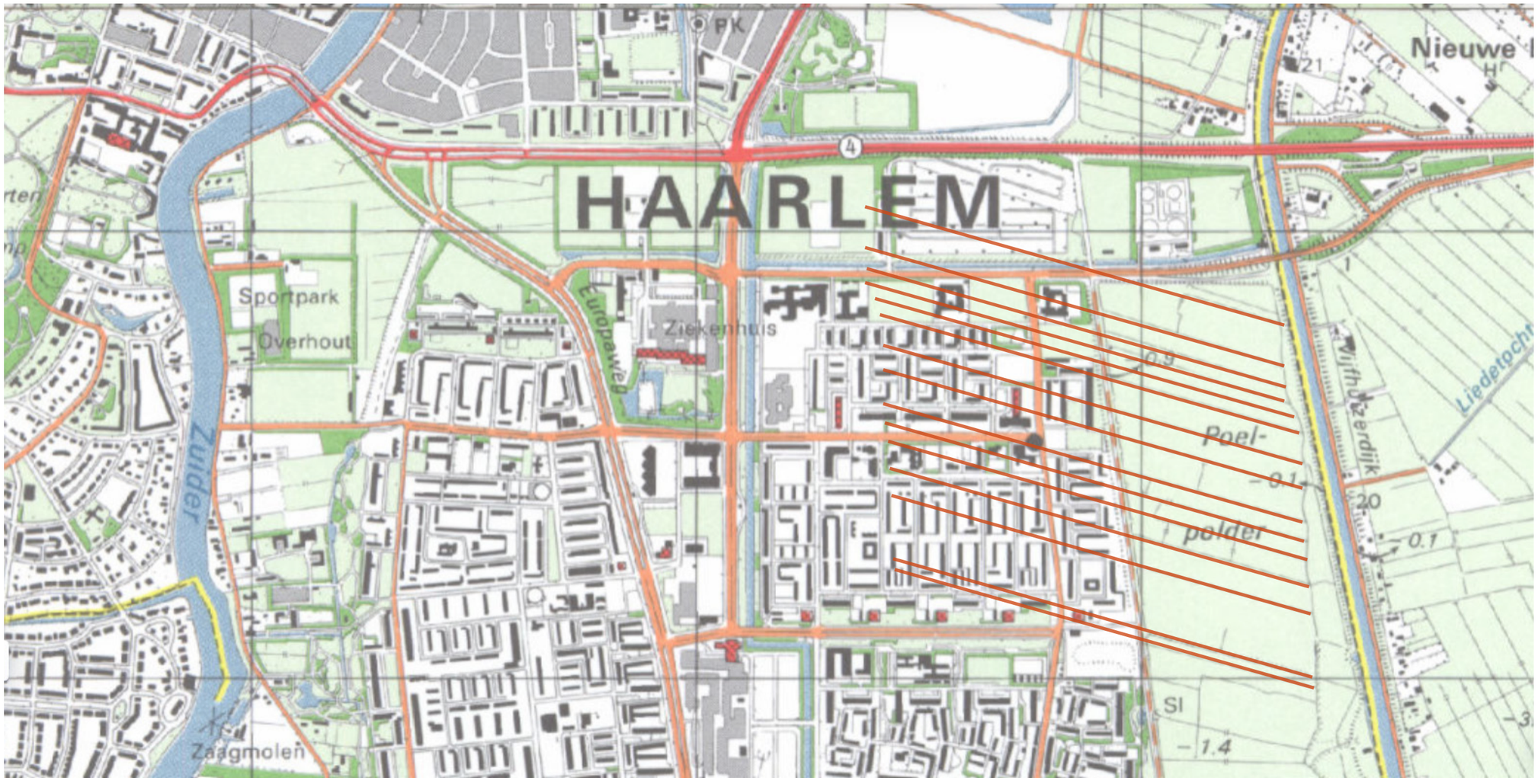
Palimpsest


HAARLEM
Nieuwe
Halte
Sportpark
Ziekenhuis
Motorgemaal
Spaarnlommer
Hoevevaart
Poel-
polder
Liedtracht
Zijlweg
Zijlweg
Zijlweg

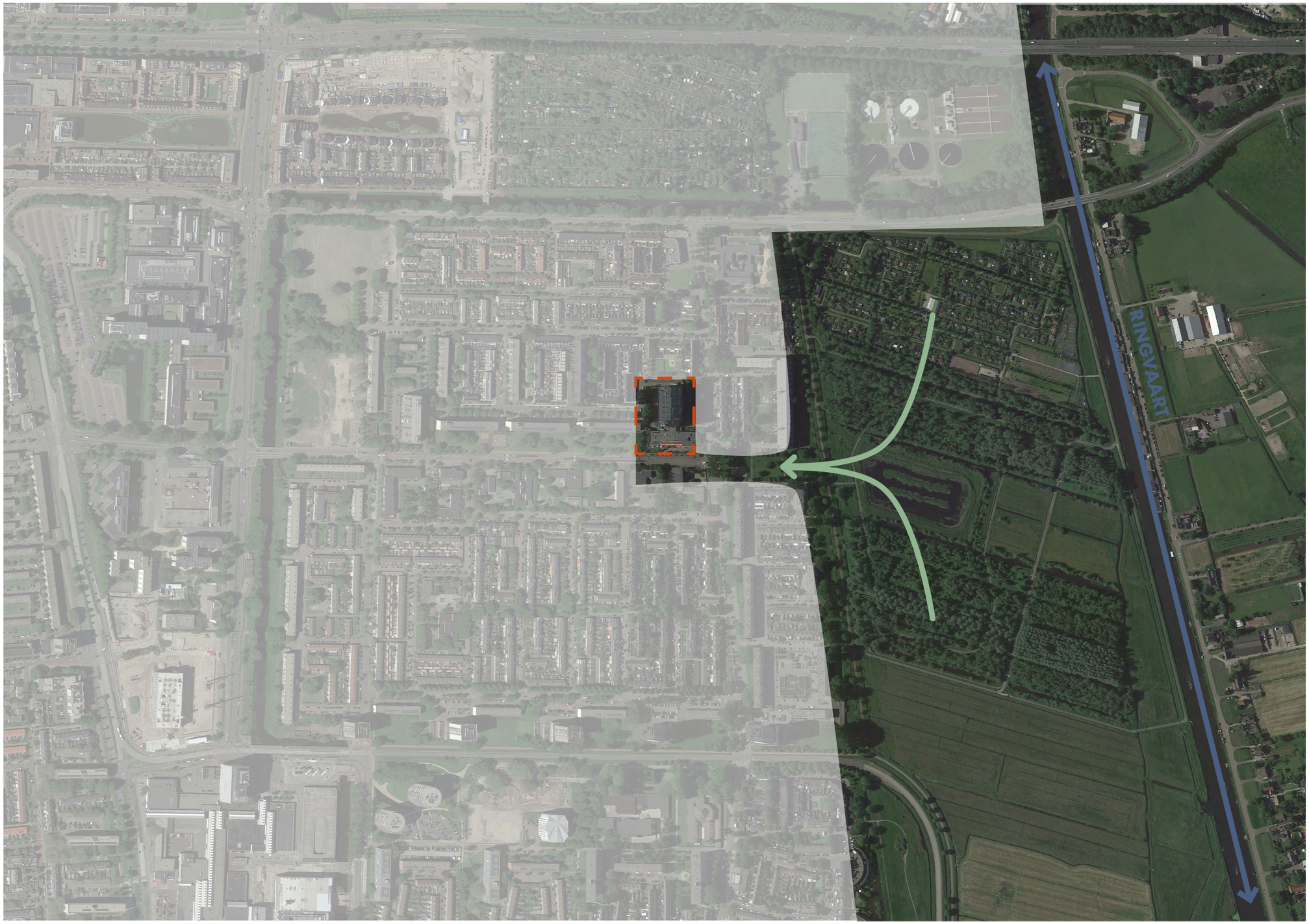
Palimpsest


HAARLEM
Sportpark
Overhout
Ziekenhuis
Europaweg
Zuider
Zaagmolen
Poel-
polder
Nieuwe
Liedetochr
Willibrordlijk
PK
4
21
20
0.9
0.1
0.1
1.4
Sl

Palimpsest


HAARLEM
Sportpark
Overhout
Ziekenhuis
Europaweg
Zuider
Zaagmolen
Poel-
polder
Nieuwe
Liedetochr
Wilhelminaweg
SI
4
21
20
1
0.3
0.1
0.1
1.4

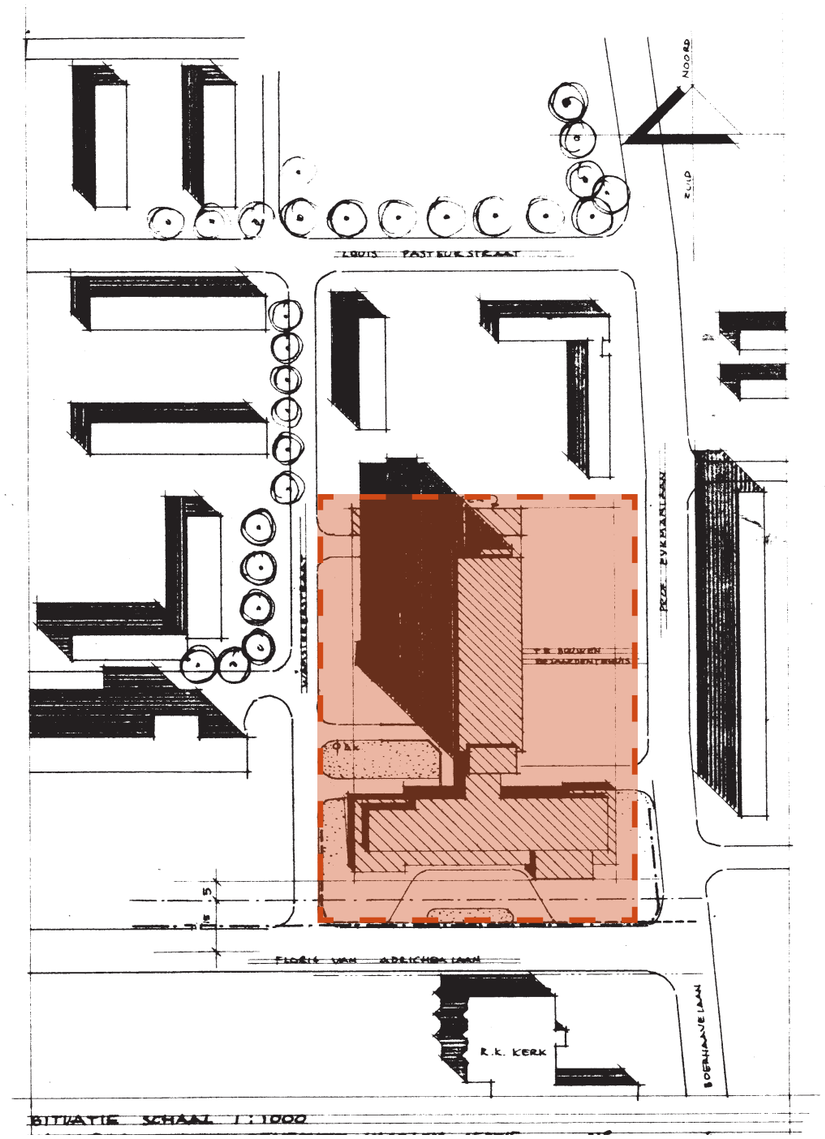
Link between residential and natural



Intersection of routes



Woonzorgcentrum Schalkweide





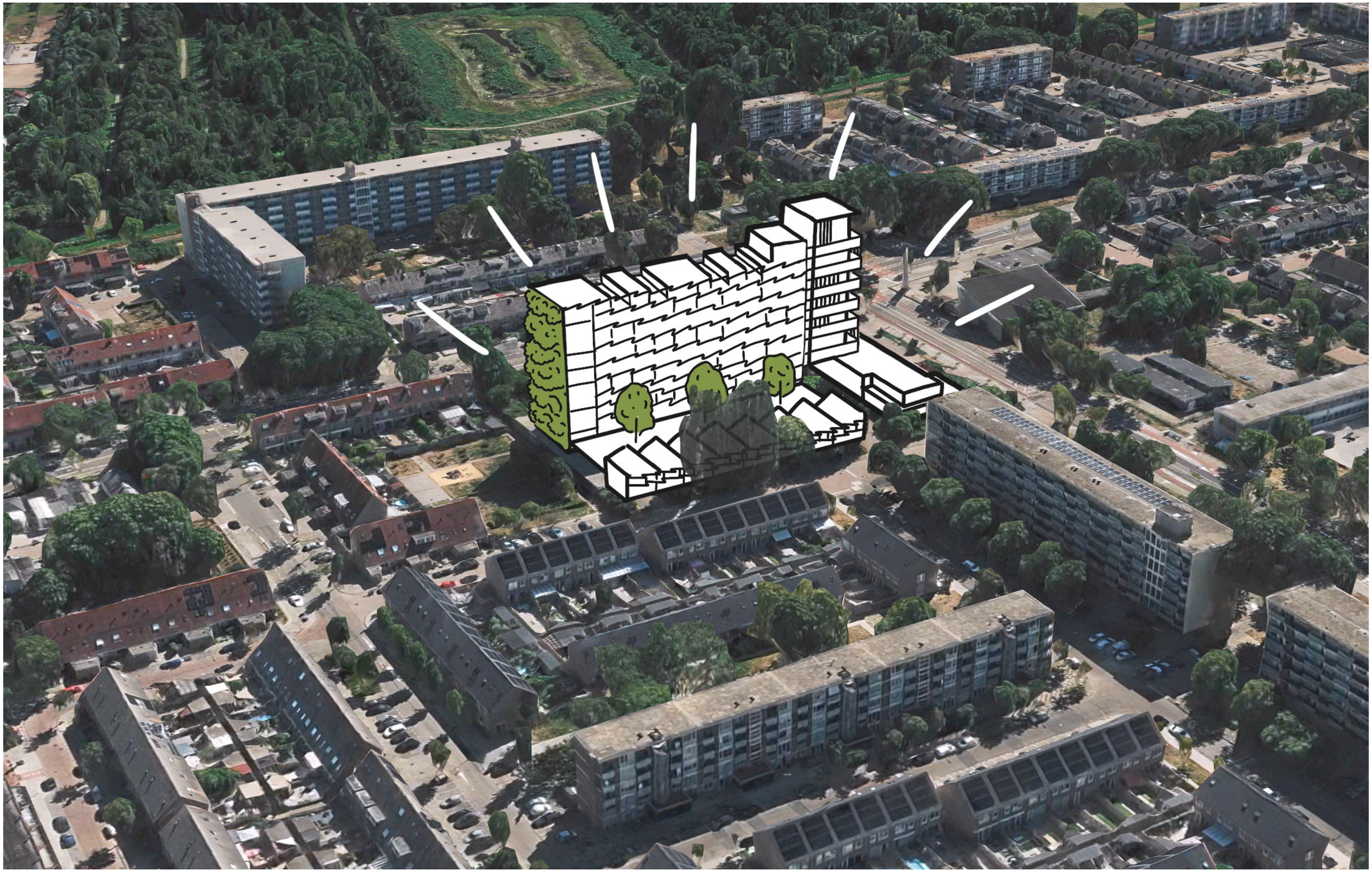
Design Assignment: Transformation Woonzorgcentrum Schalkweide



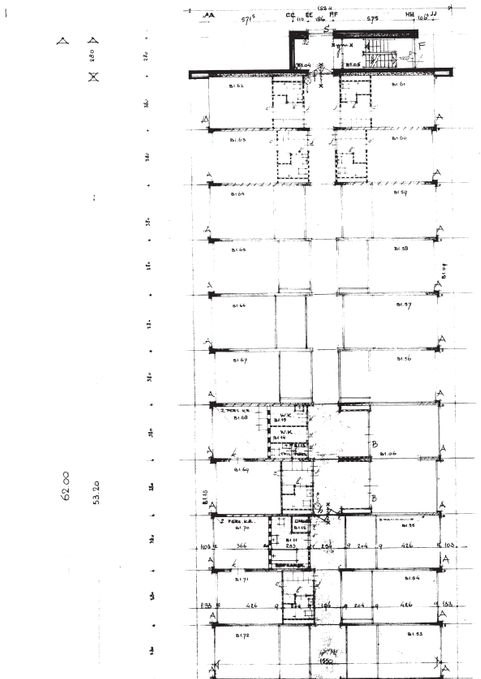
Existing situation

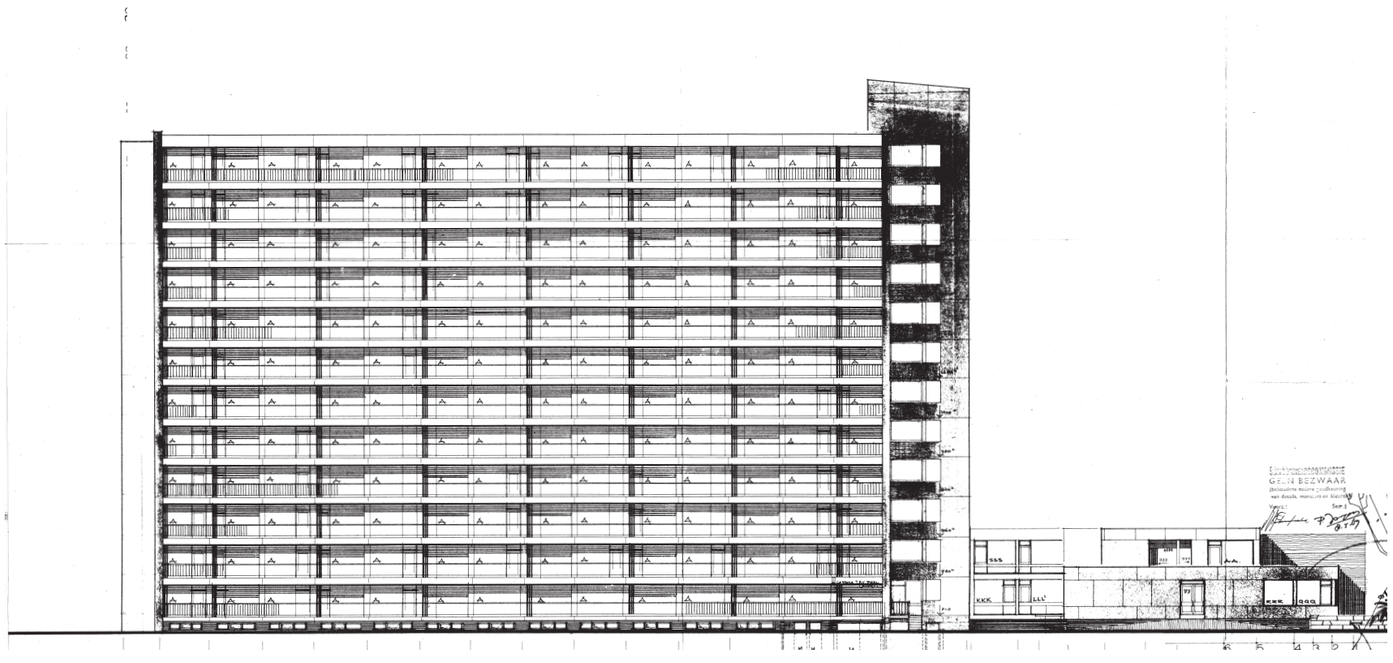


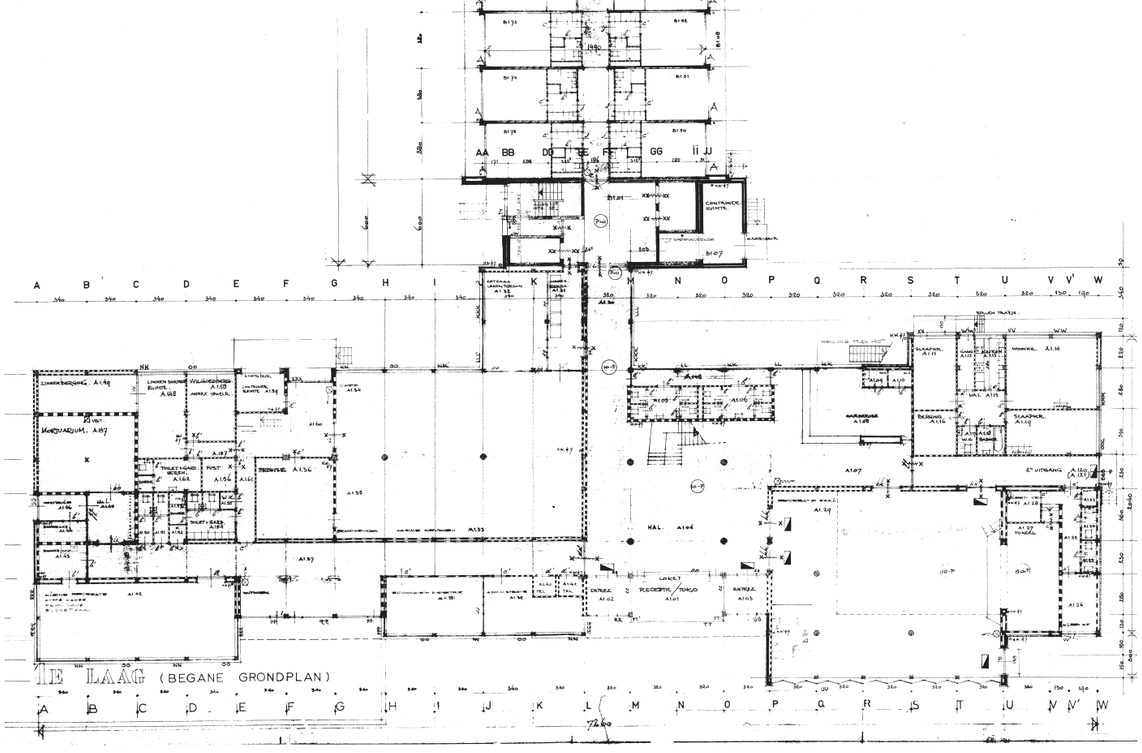
New situation

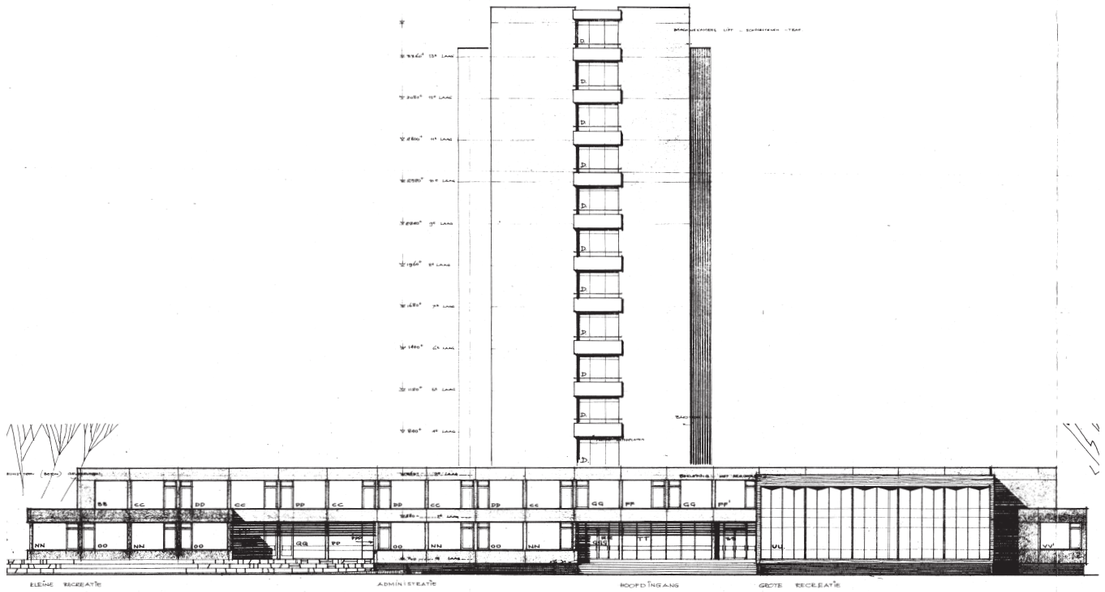


Woonzorgcentrum Schalkweide: Existing Situation

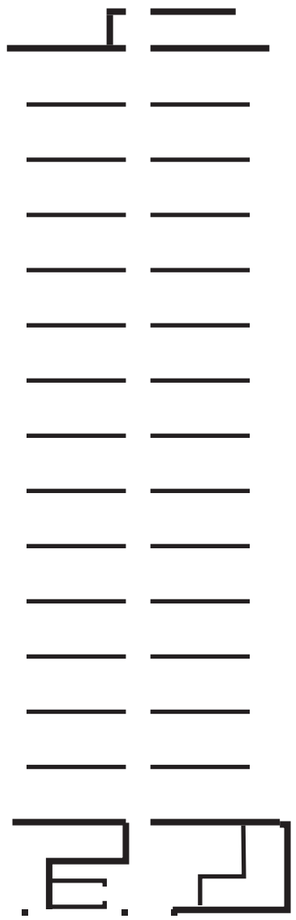


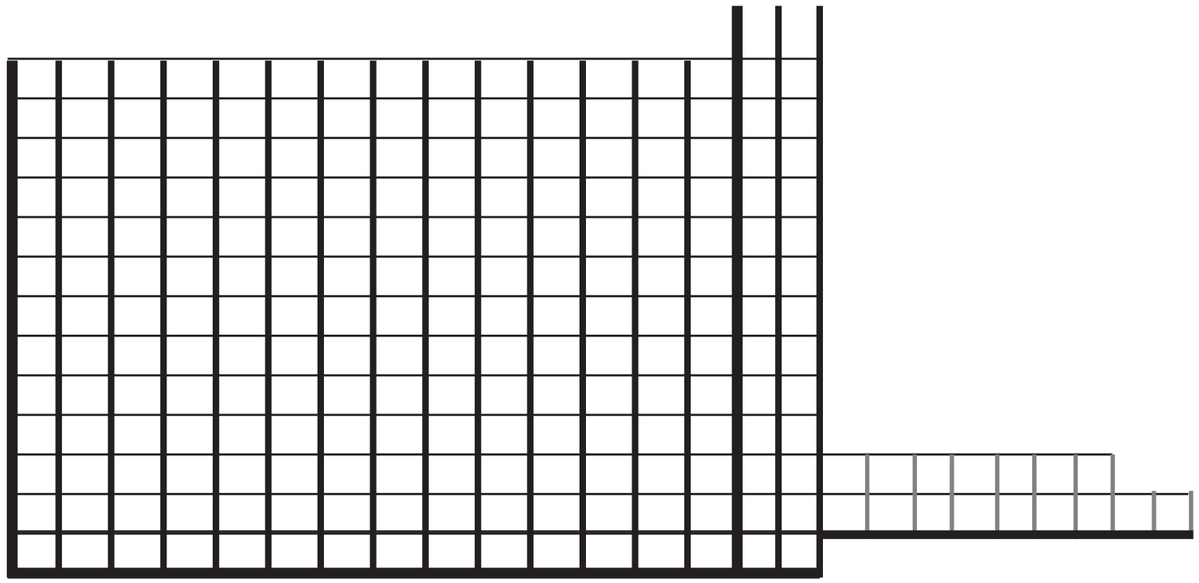


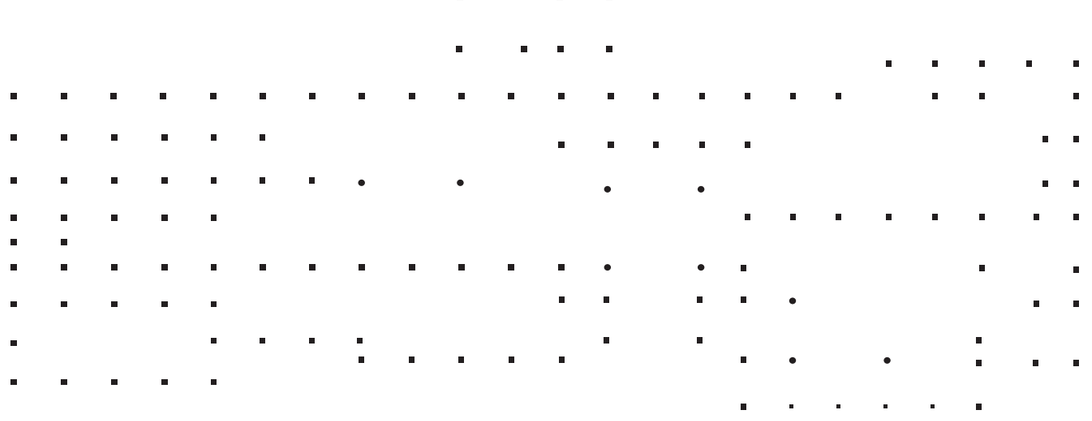


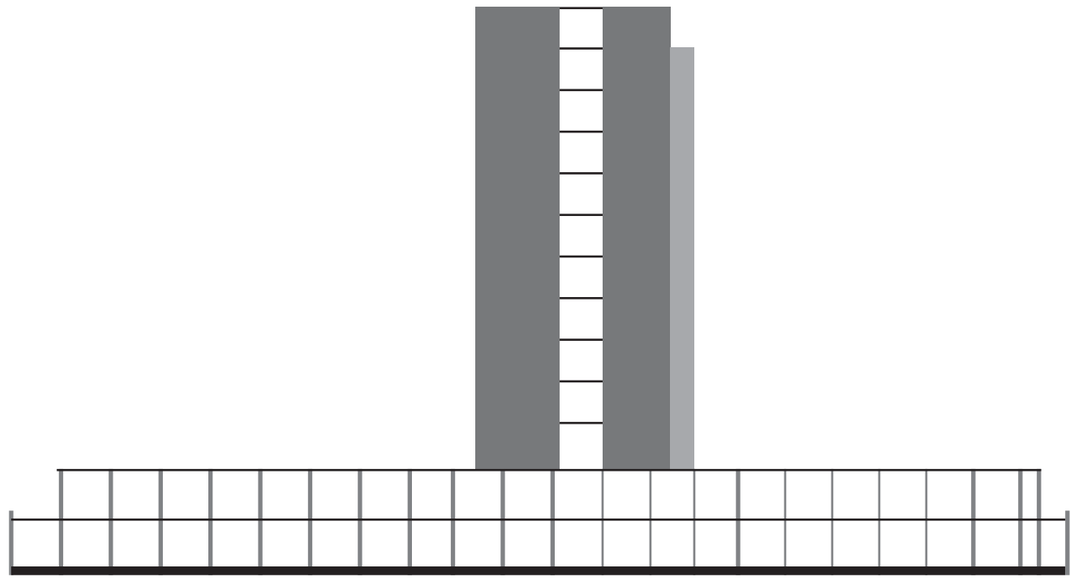


Woonzorgcentrum Schalkweide: Existing Situation

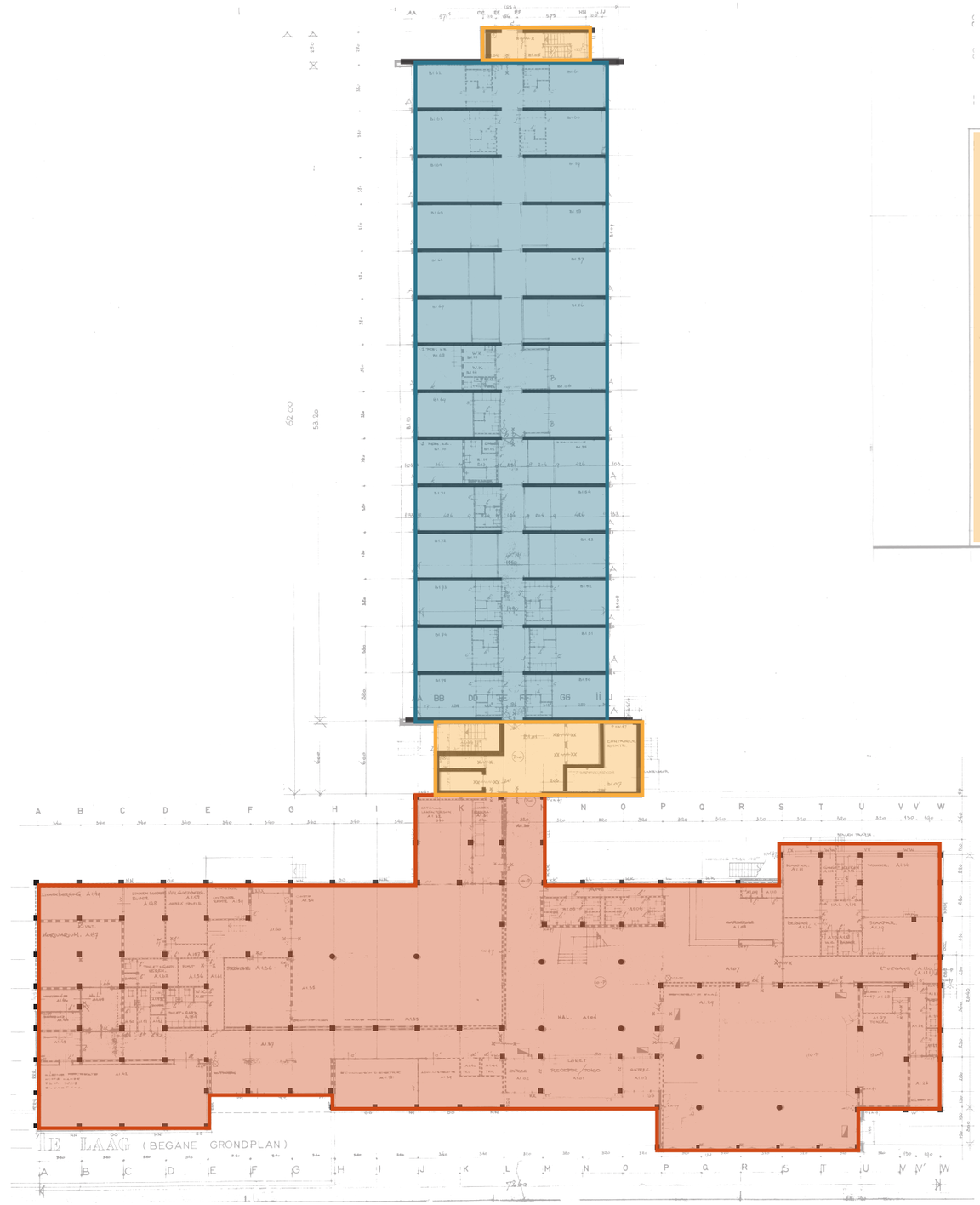


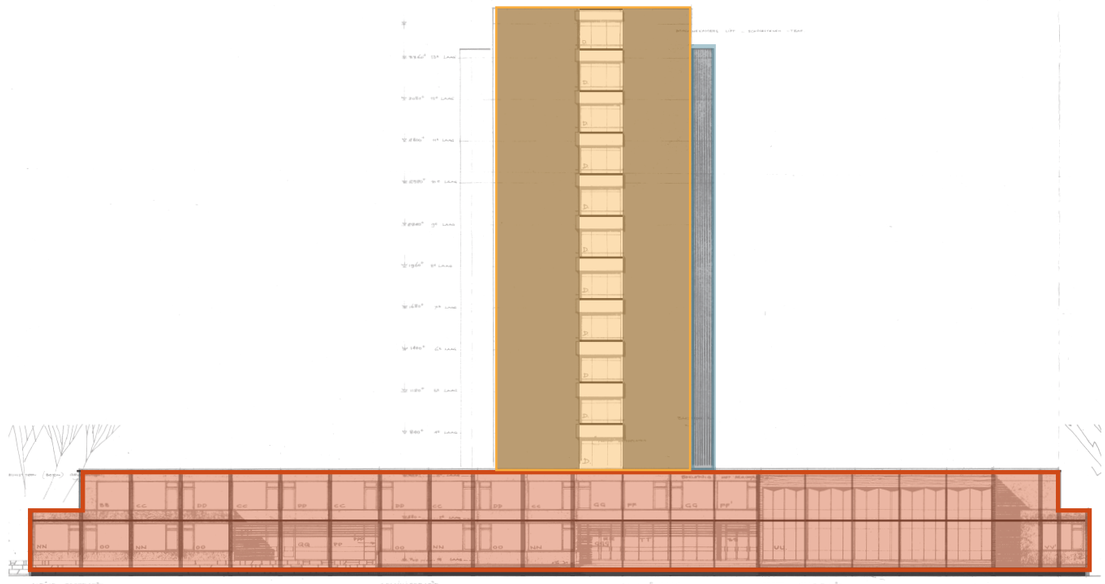




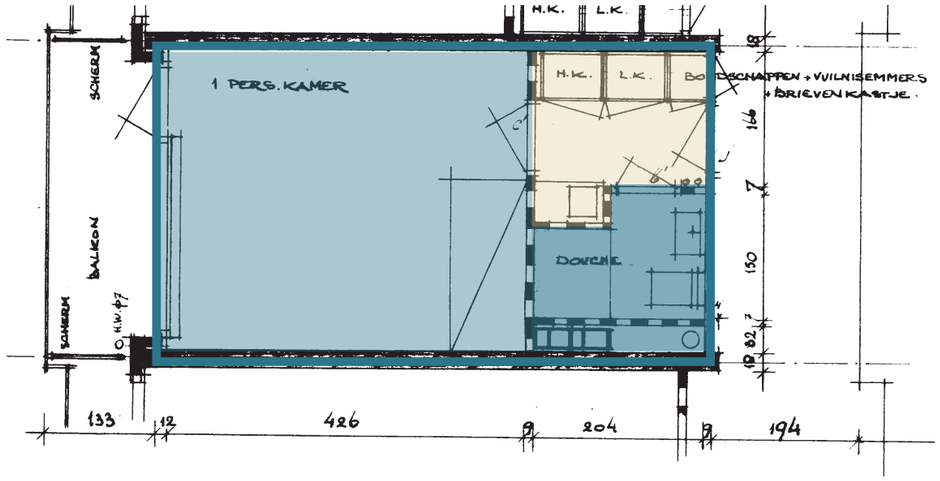


Woonzorgcentrum Schalkweide: Existing Situation

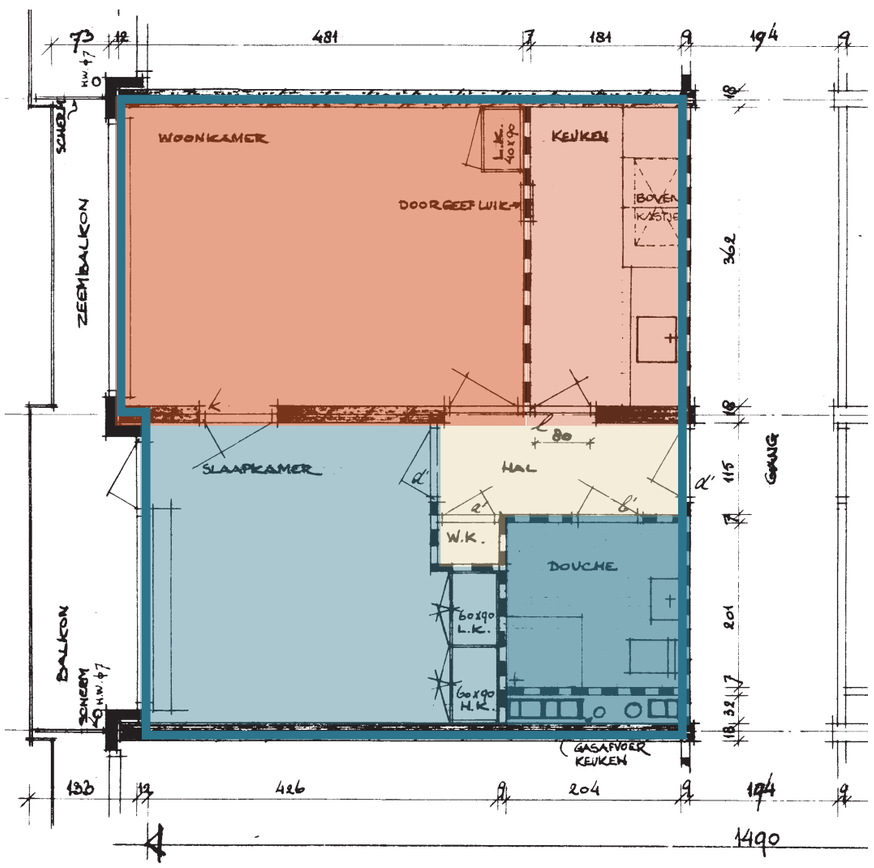




Existing apartments

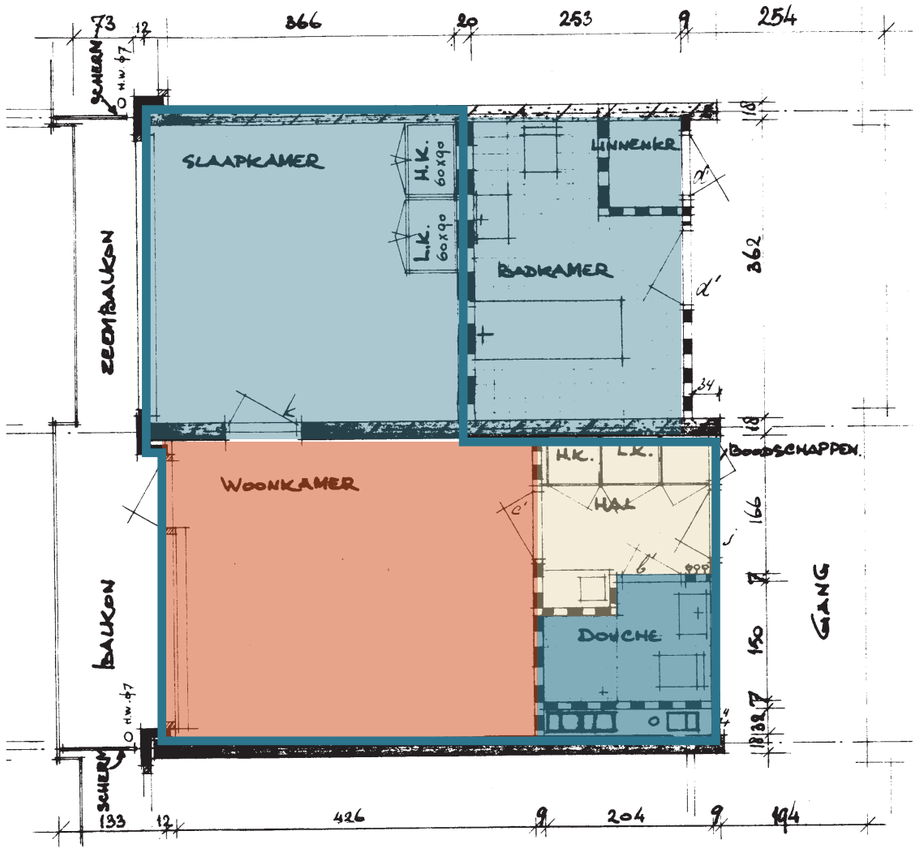


1 PERSOONS - KAMER.

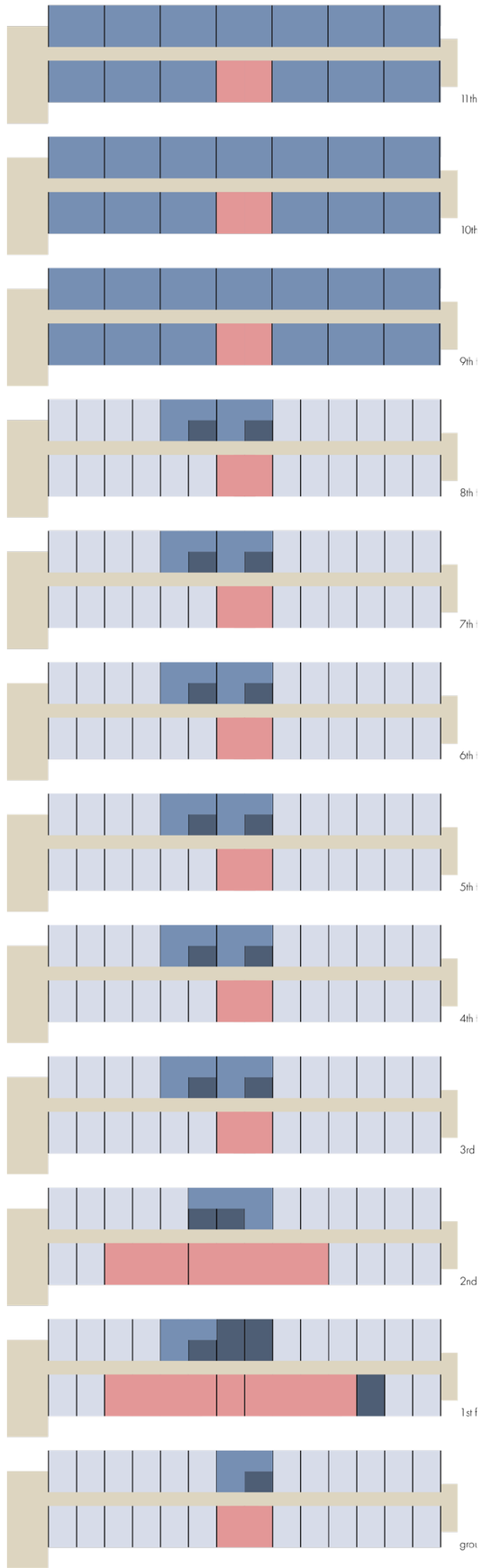


2 PERS. ELEMENT SERVICE - FLAT.

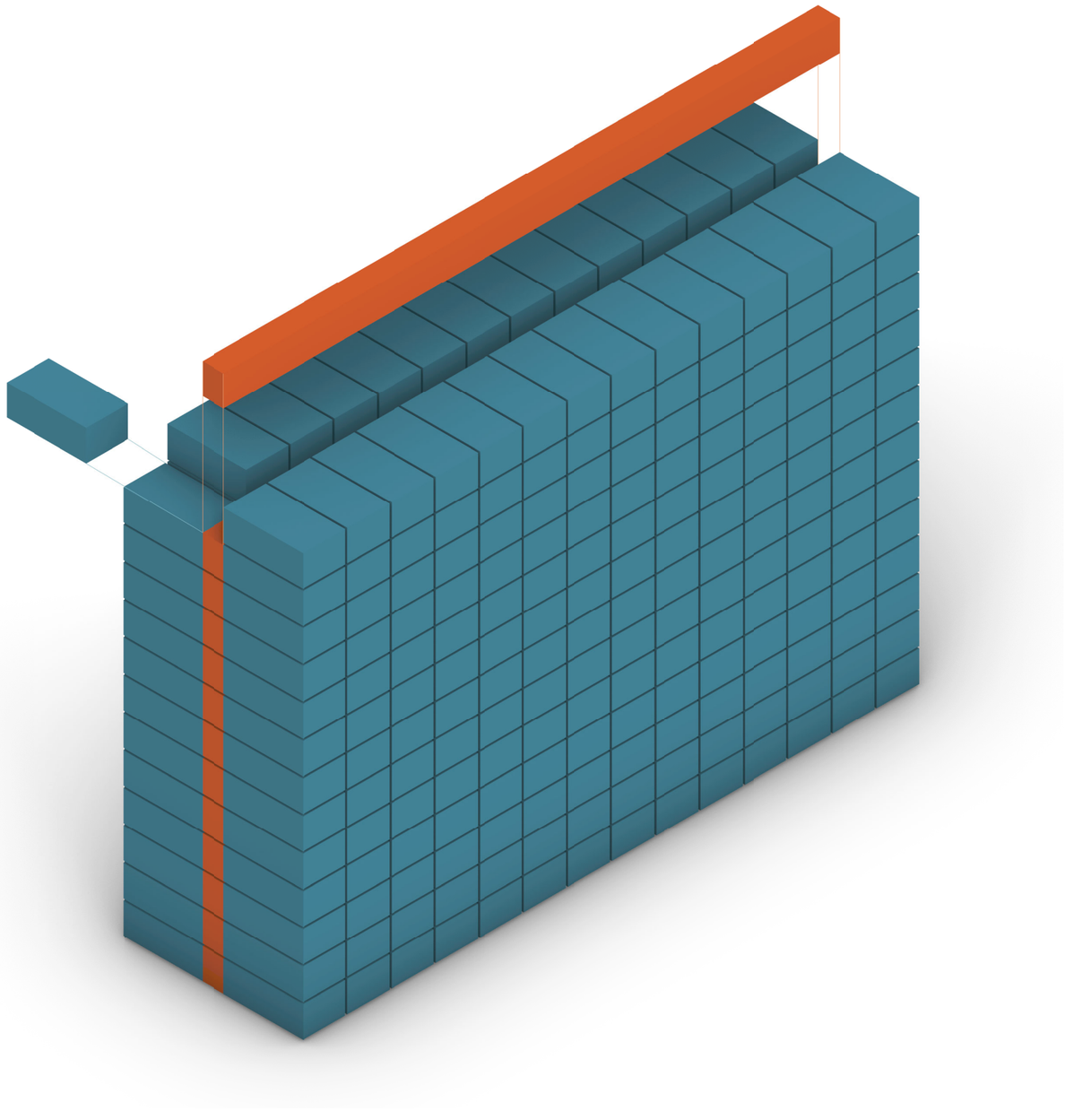
BETONMAAT 681^5



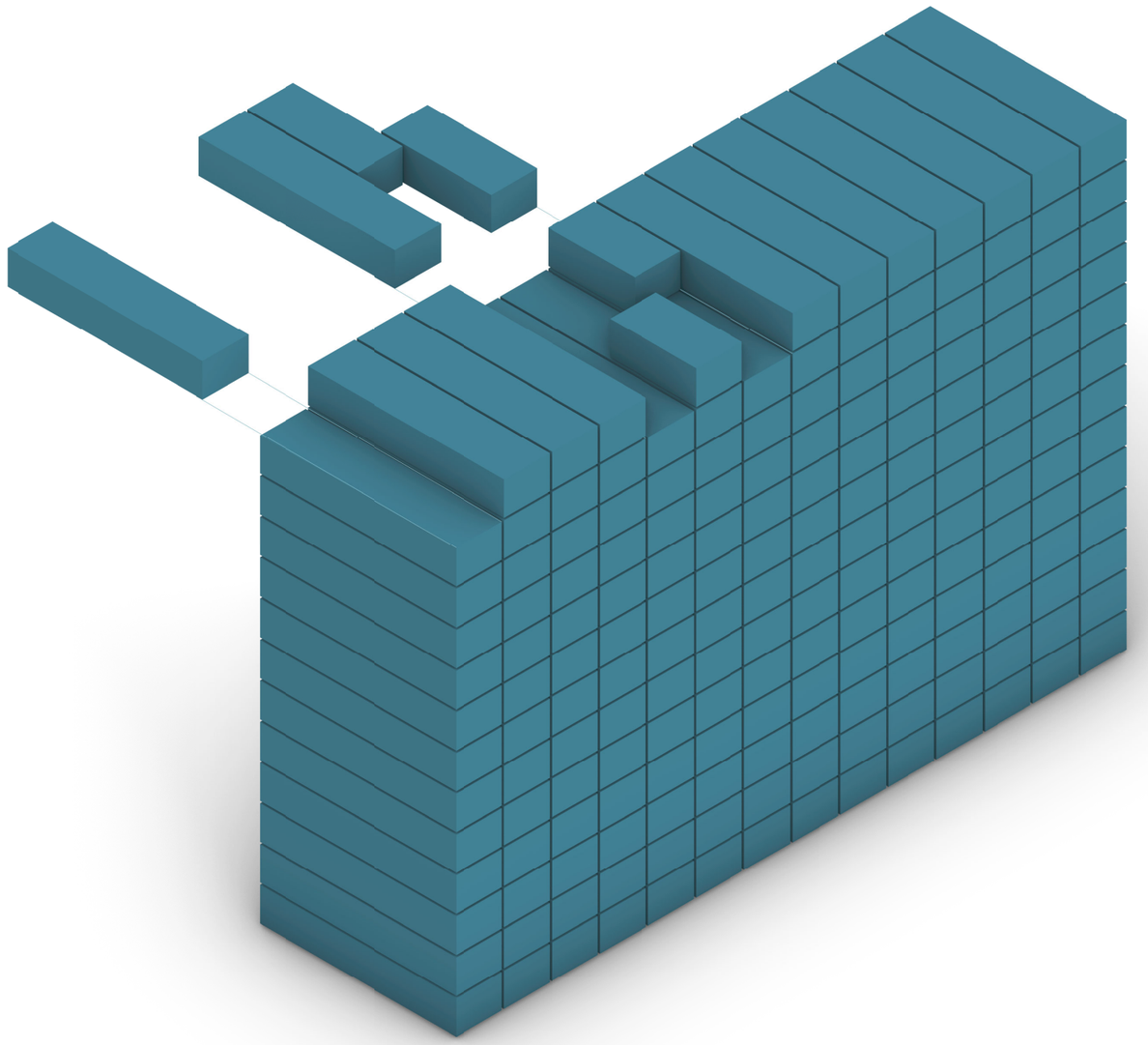
2 - PERSOONS - ELEMENT. 1:50



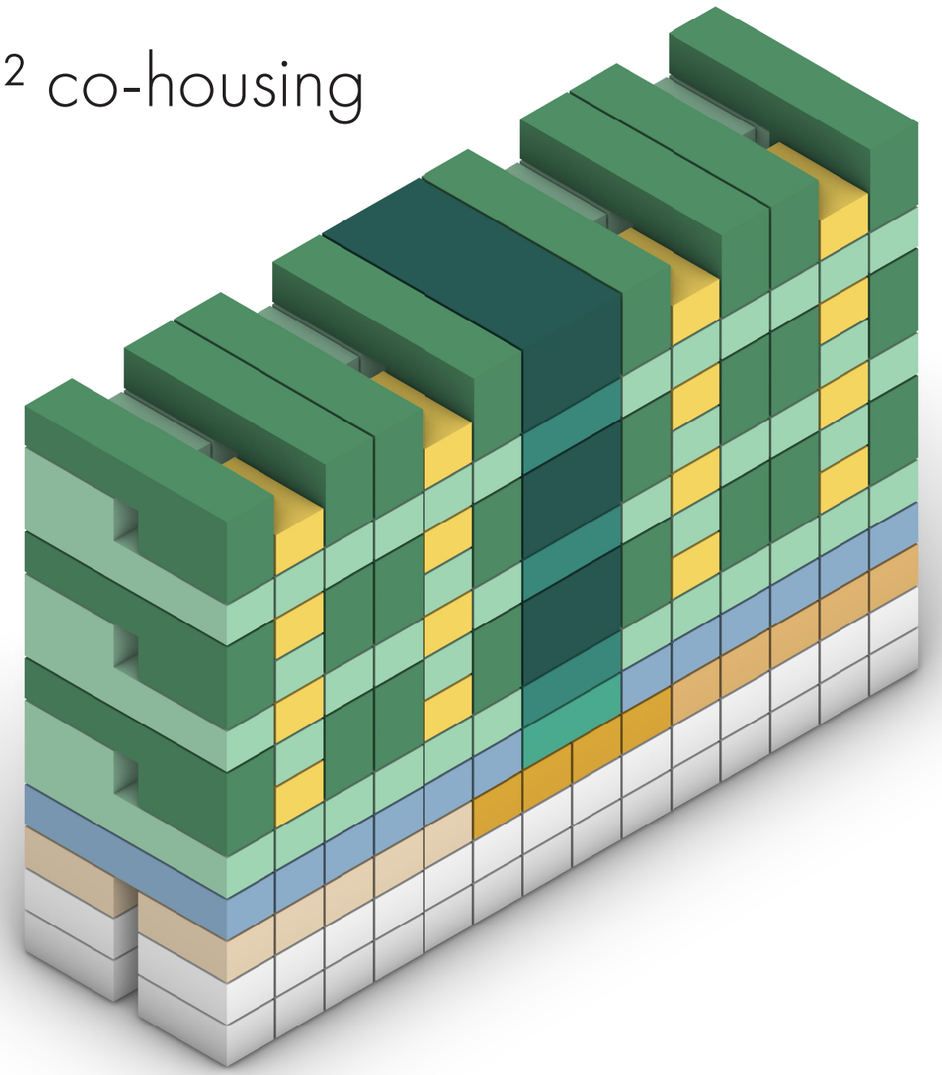
23m² elderly apartments
114m² corridor



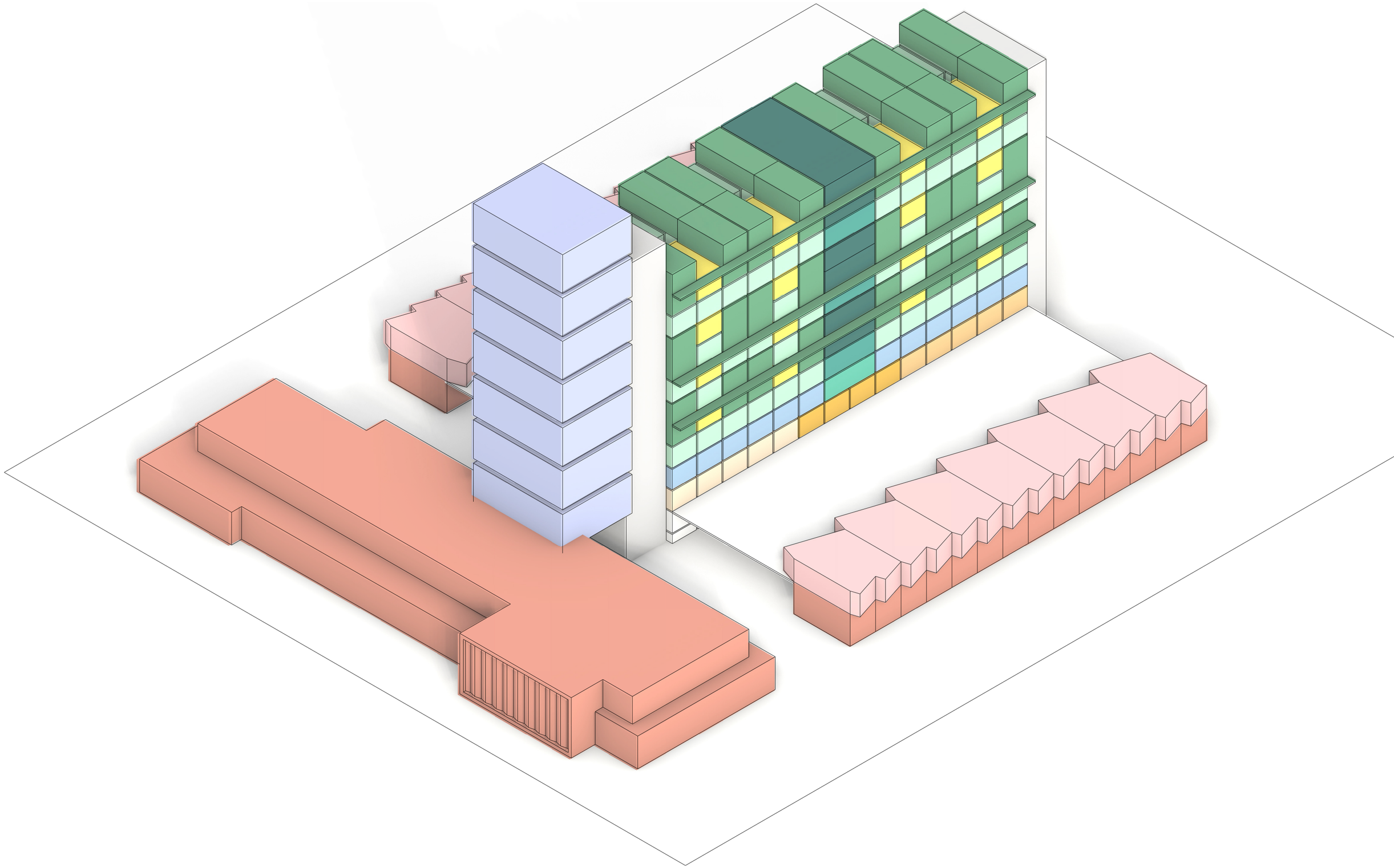
54m² studios



80m² maisonettes
72.5m² maisonettes
26² joker rooms
56m² studio
20m² private room in 290m² co-housing



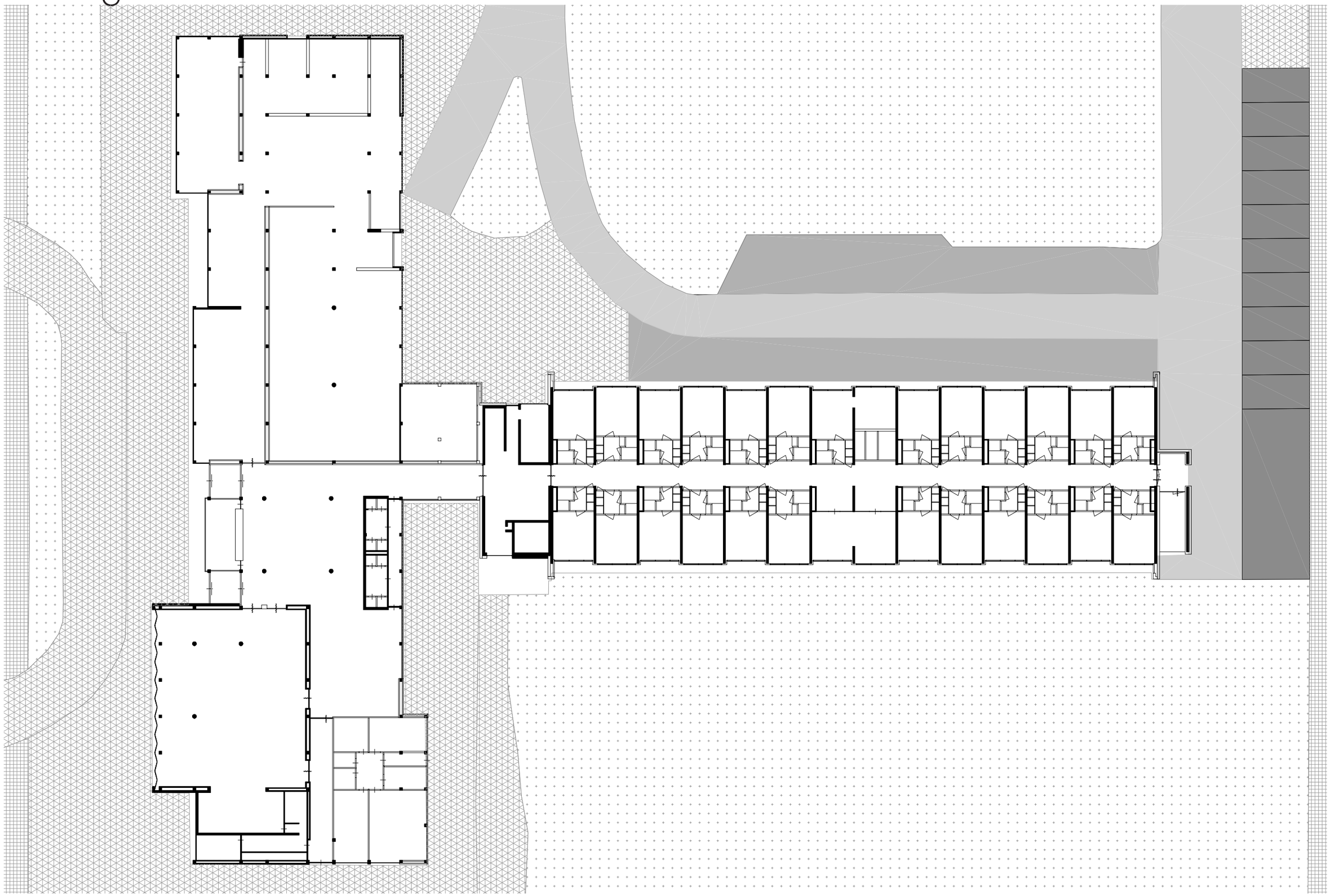
Dwelling Typology



De Schalkweide



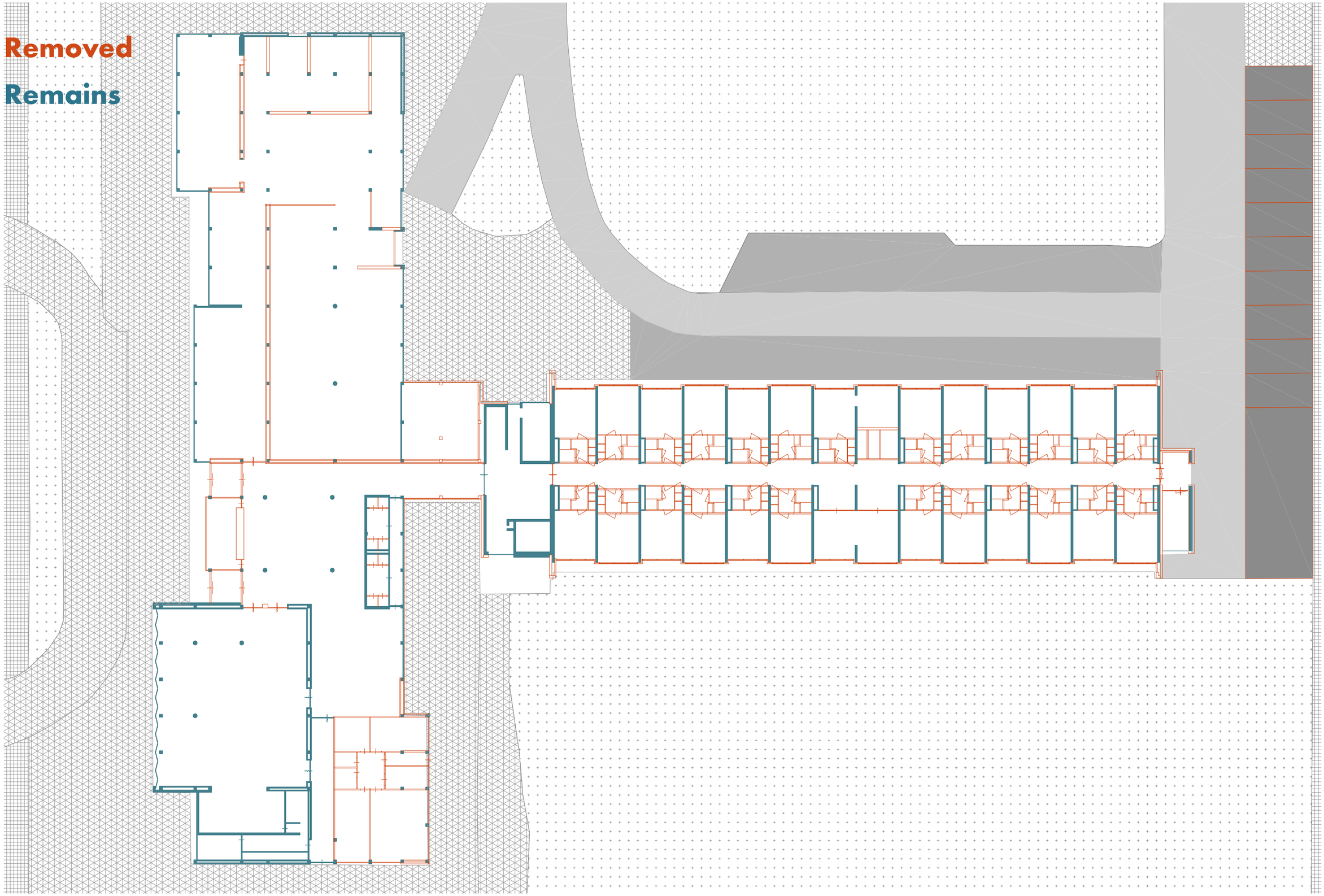
Existing situation



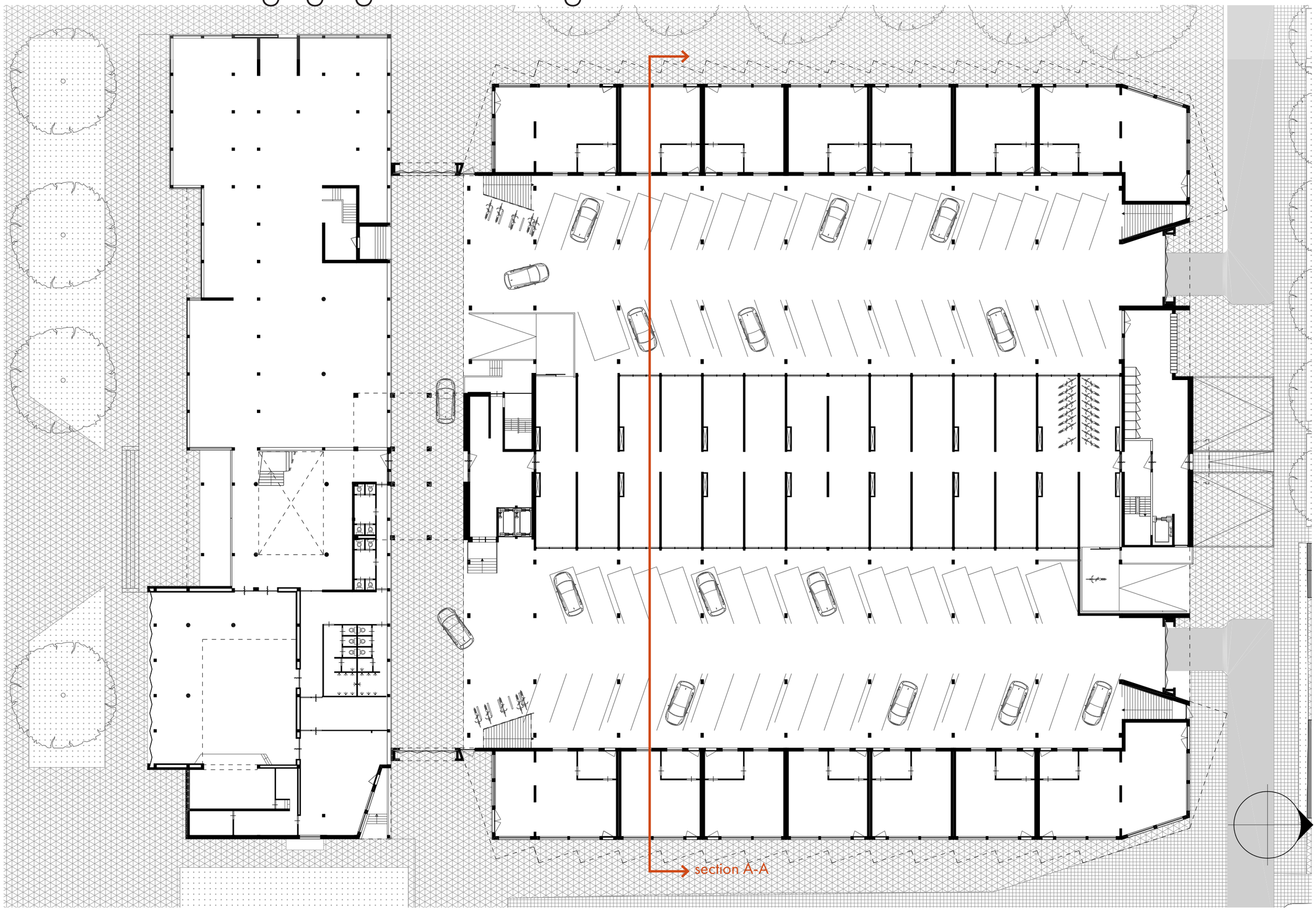
Transformation

Removed

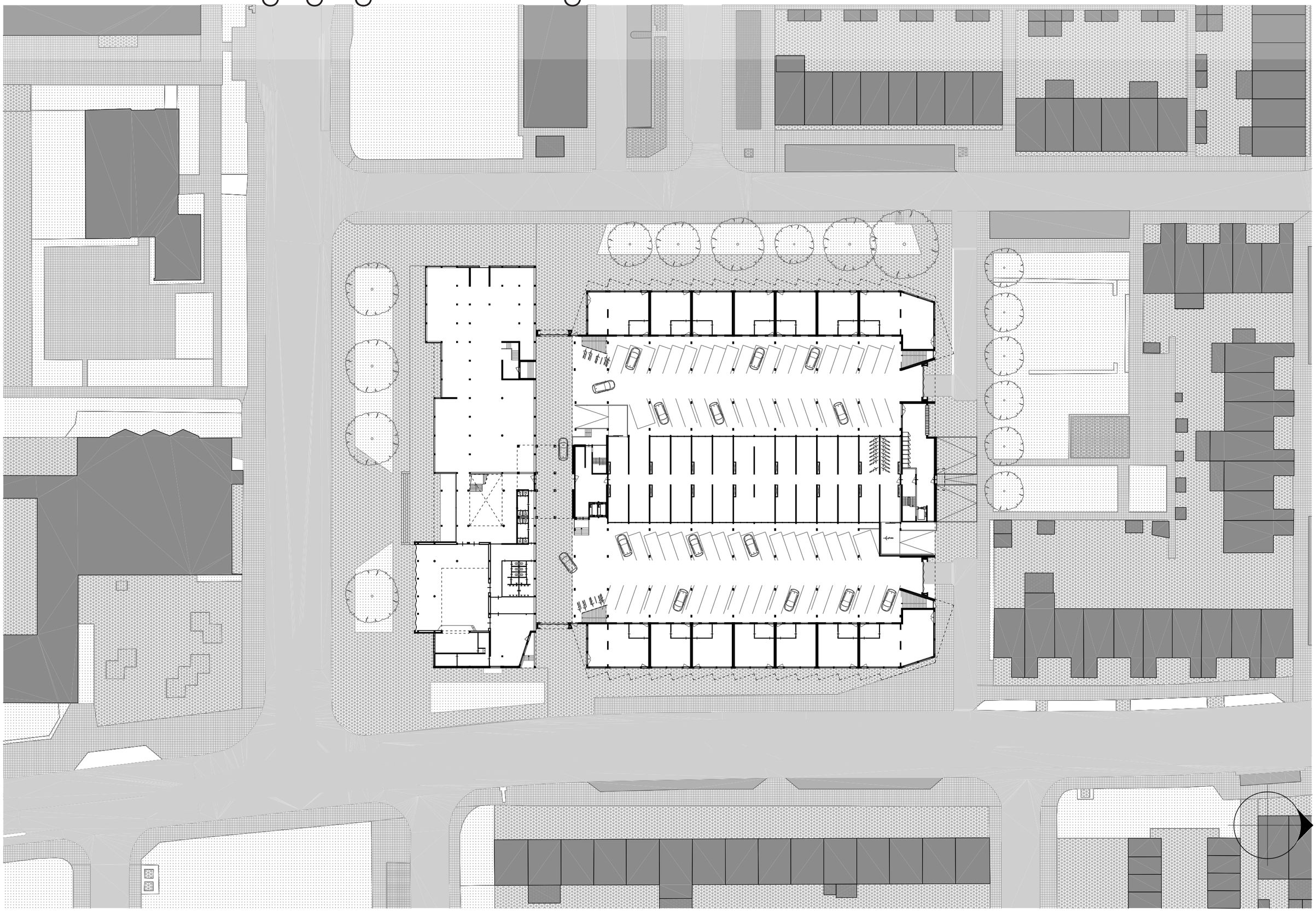
Remains



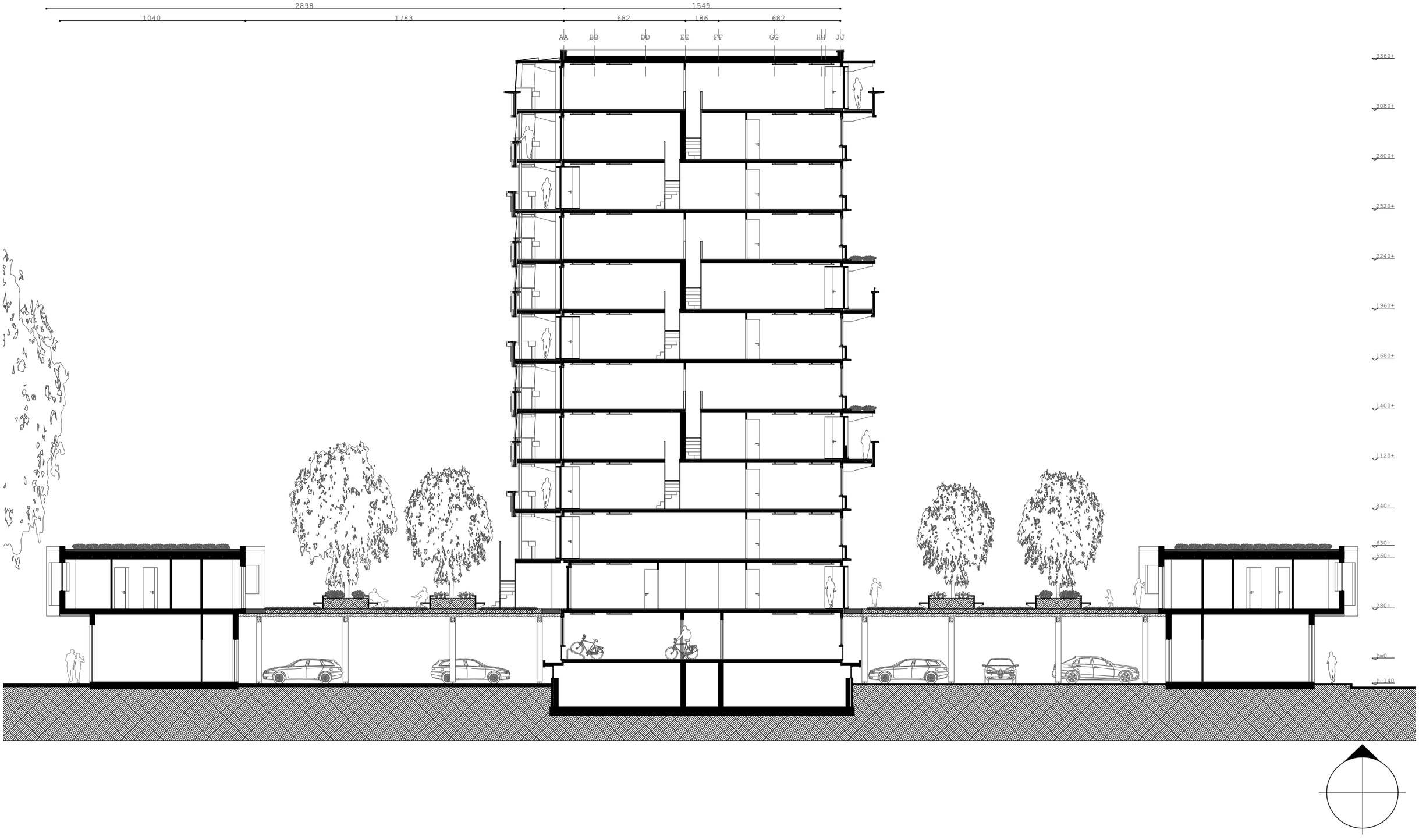
Groundfloor: engaging with the neighbourhood



Groundfloor: engaging with the neighbourhood



Section A-A


2898
1549
1040
1783
682
186
682
AA
BB
DD
EE
FF
GG
HH
JU
3360+
3080+
2800+
2520+
2240+
1960+
1680+
1400+
1120+
840+
630+
560+
280+
P=0
P-140

Section A-A


2898
1549
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630+
560+
280+
P=0
P-140

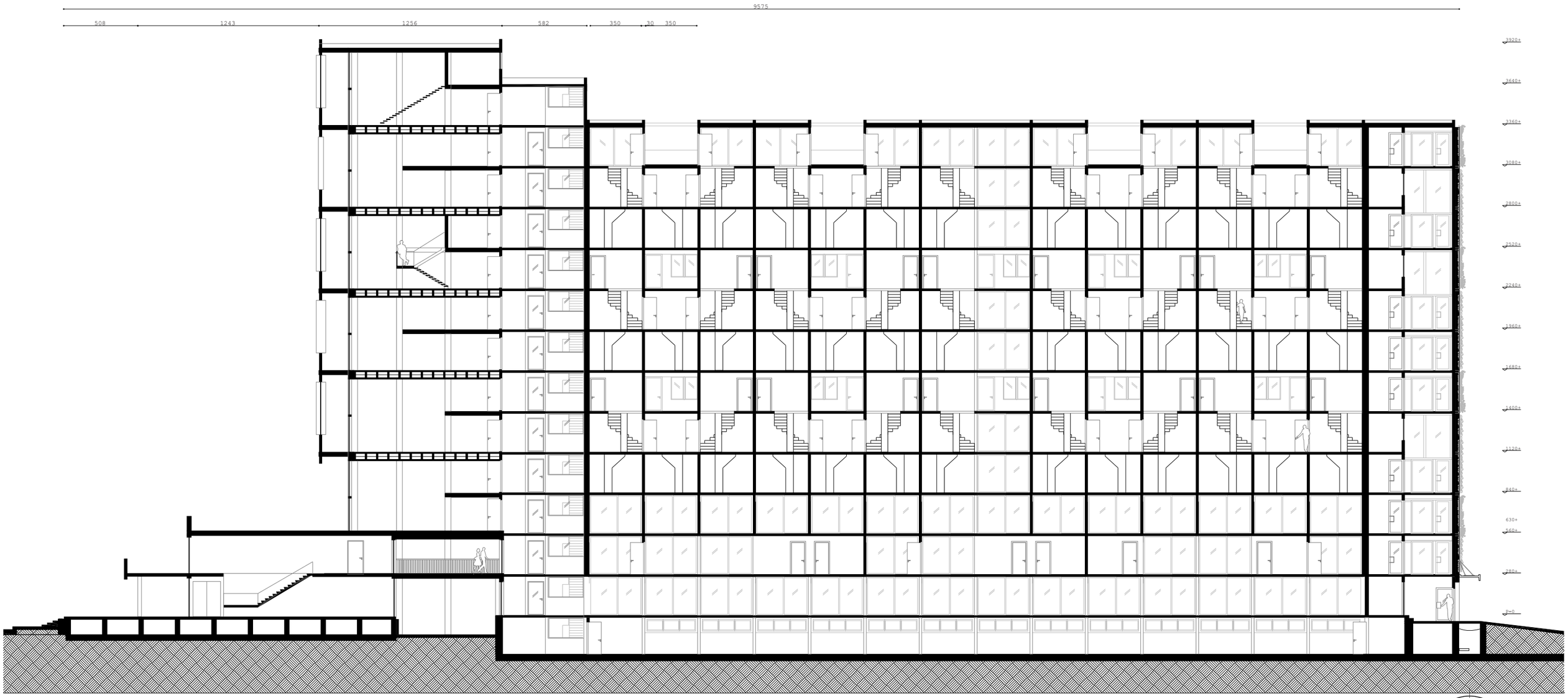
Elevation North



Elevation East

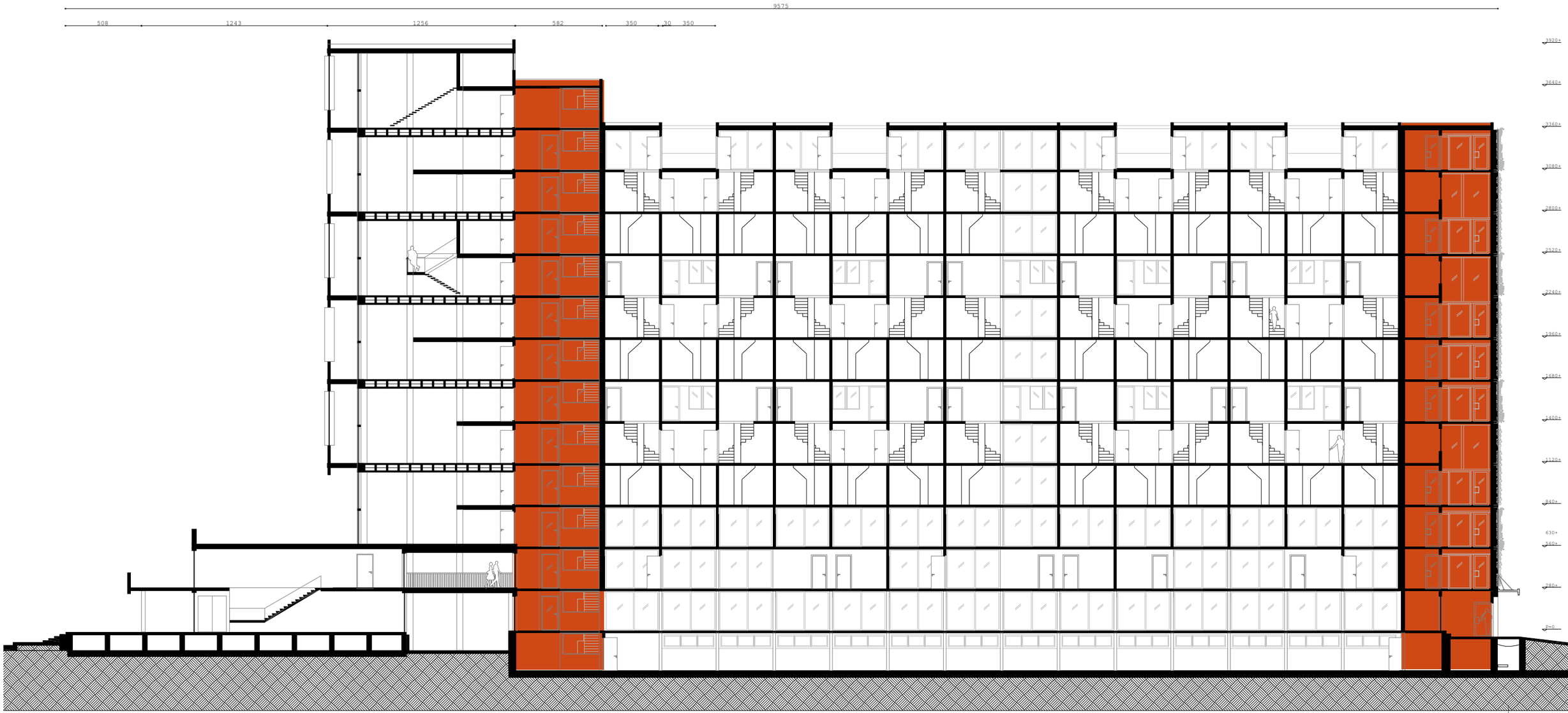


Section B-B



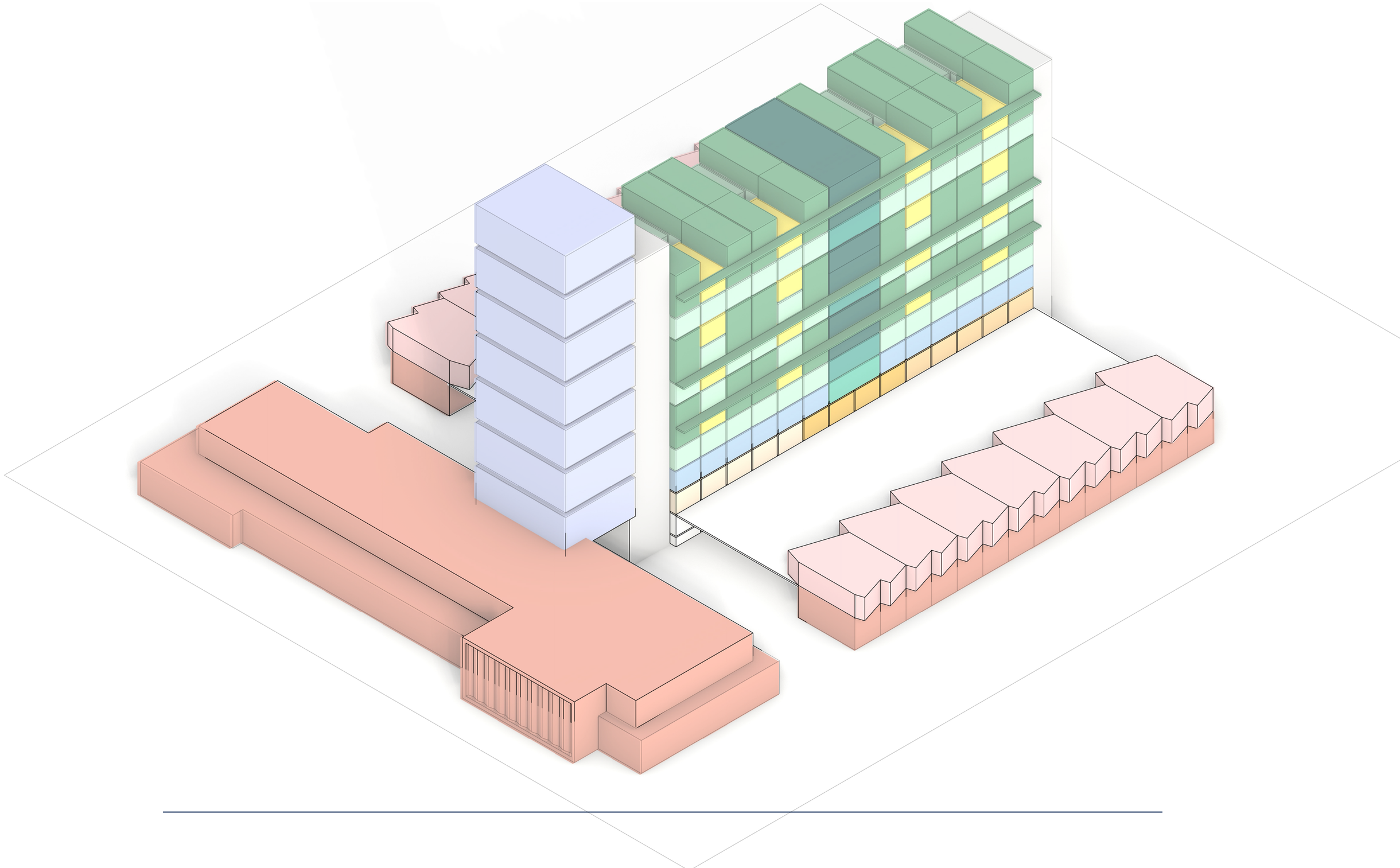
In between
Grid lineEE&FF

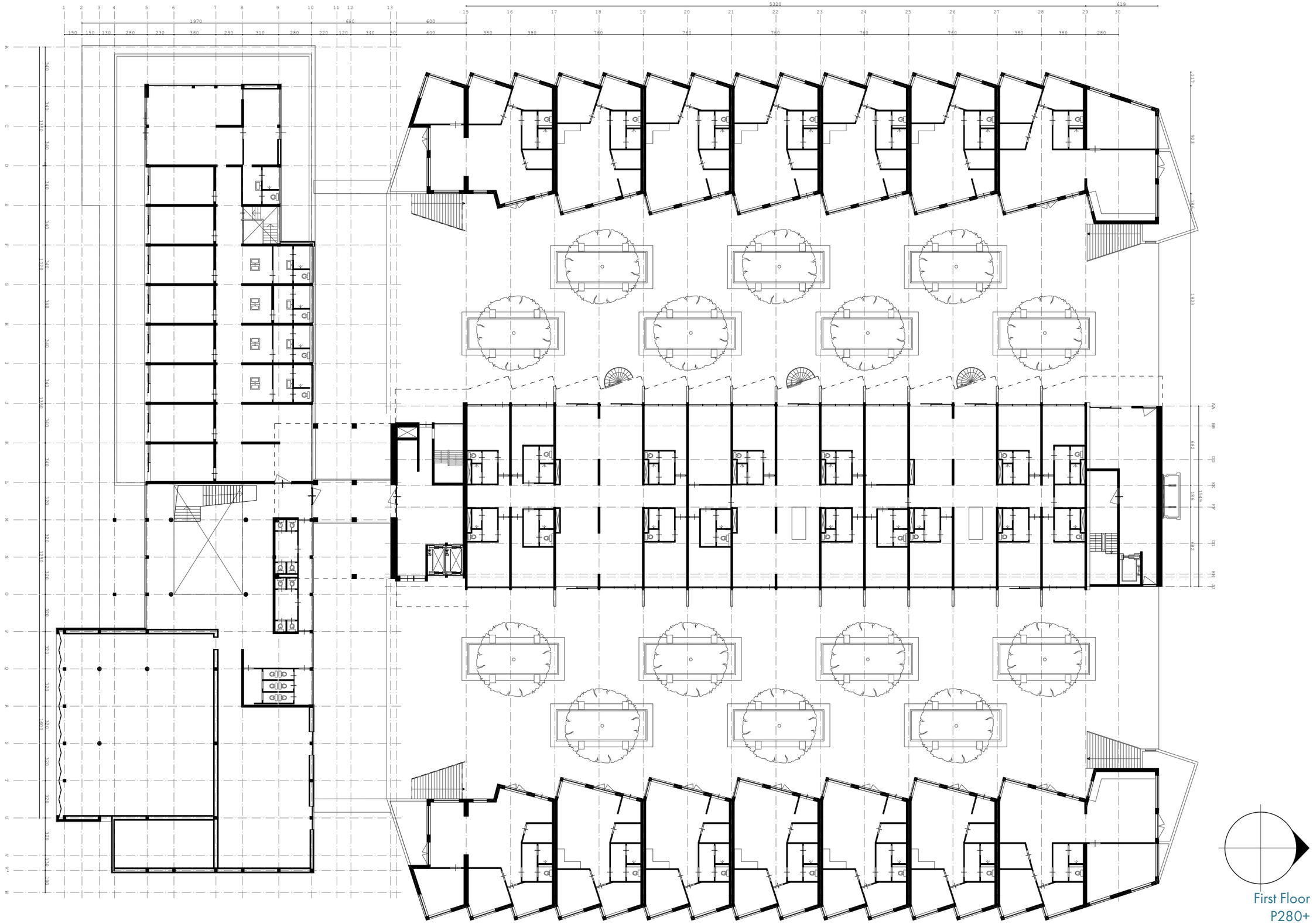
Section B-B



In between
Grid lineEE&FF

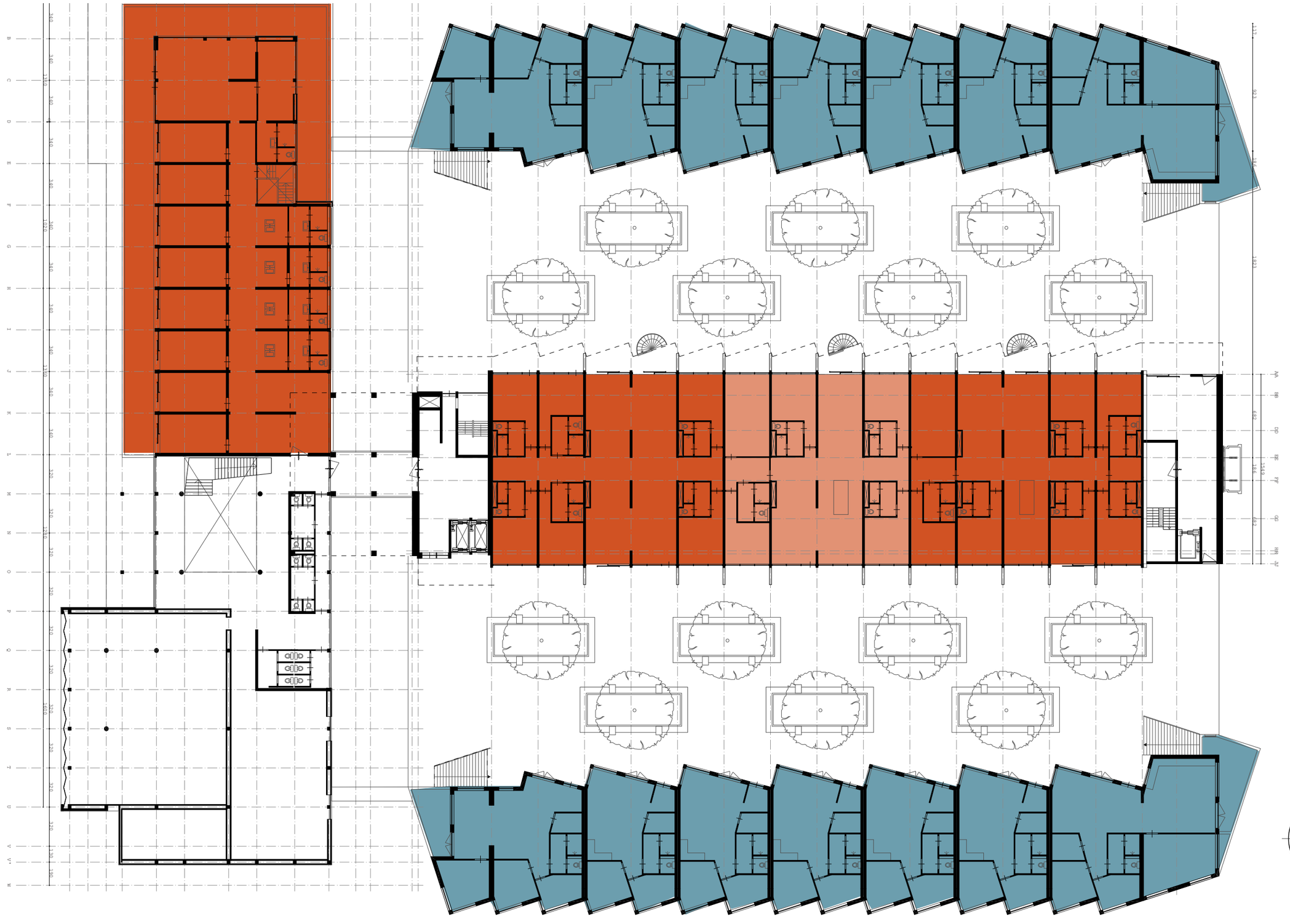
Bel-etage housing & Collective Living





First Floor
P280+

Bel-etage housing & Collective Living

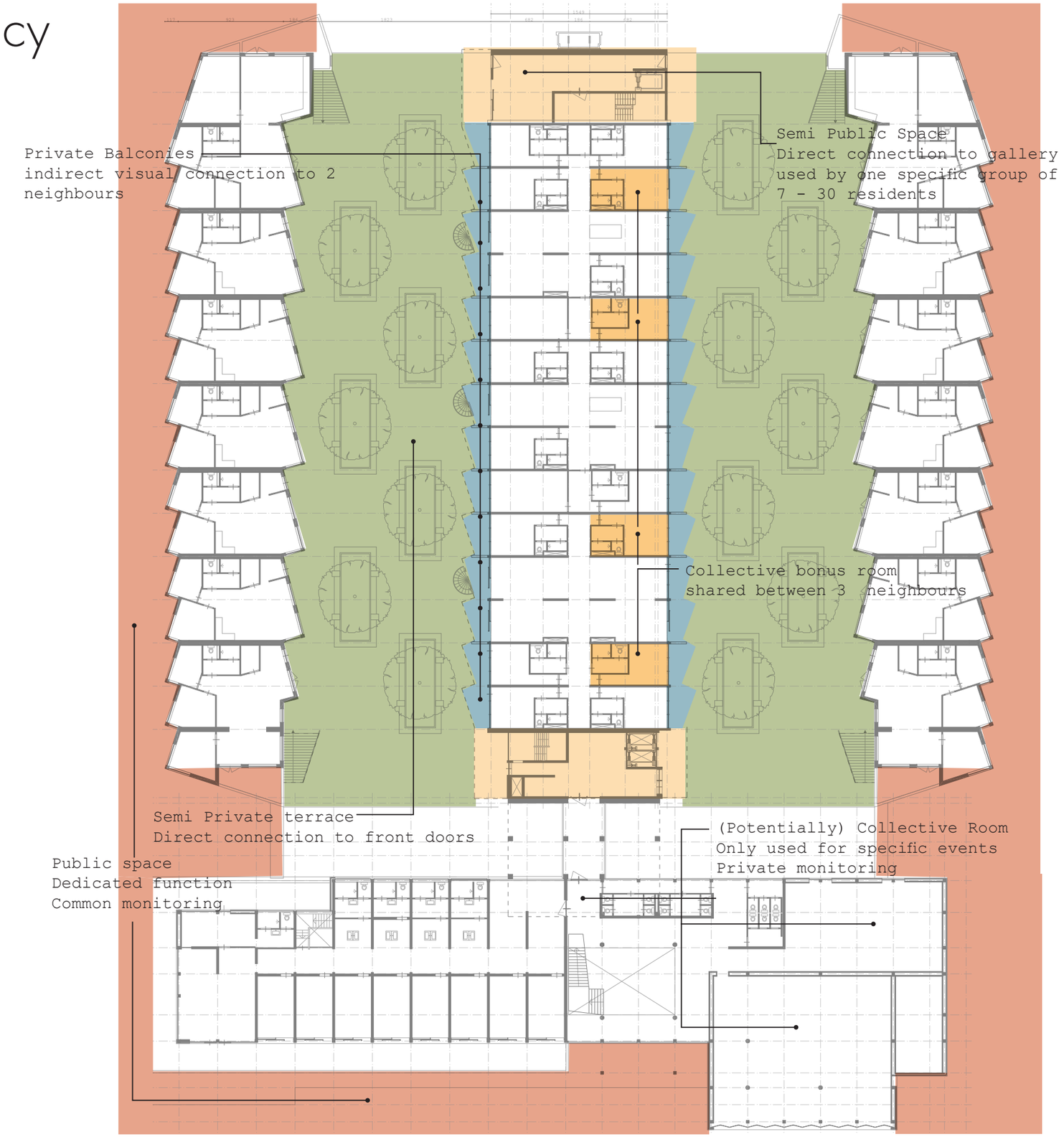


First Floor
P280+

Layers of Collectivity & Privacy



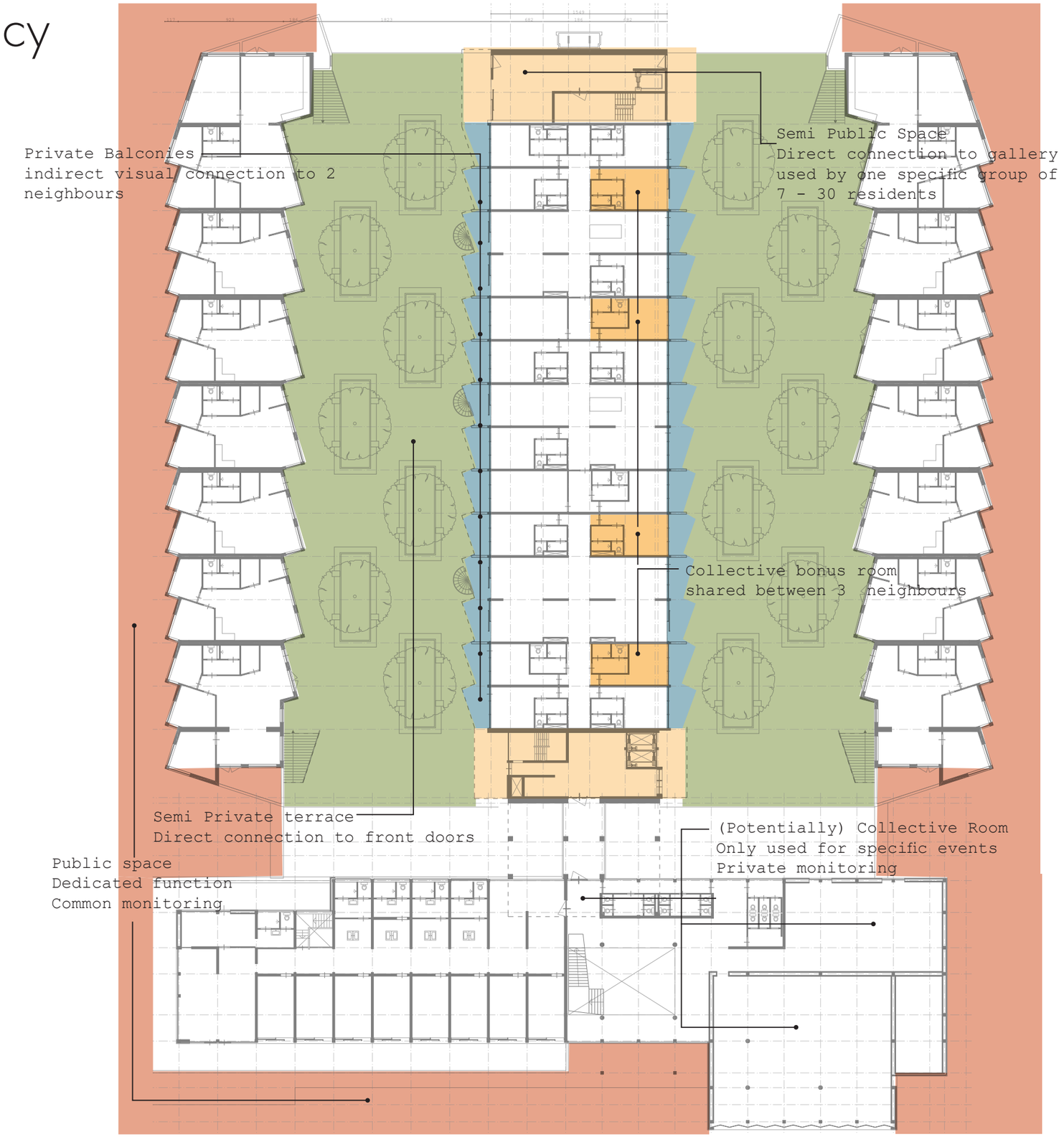
"Public" Roof terrace Kalkbreite 2023.
Ambigue appropriation



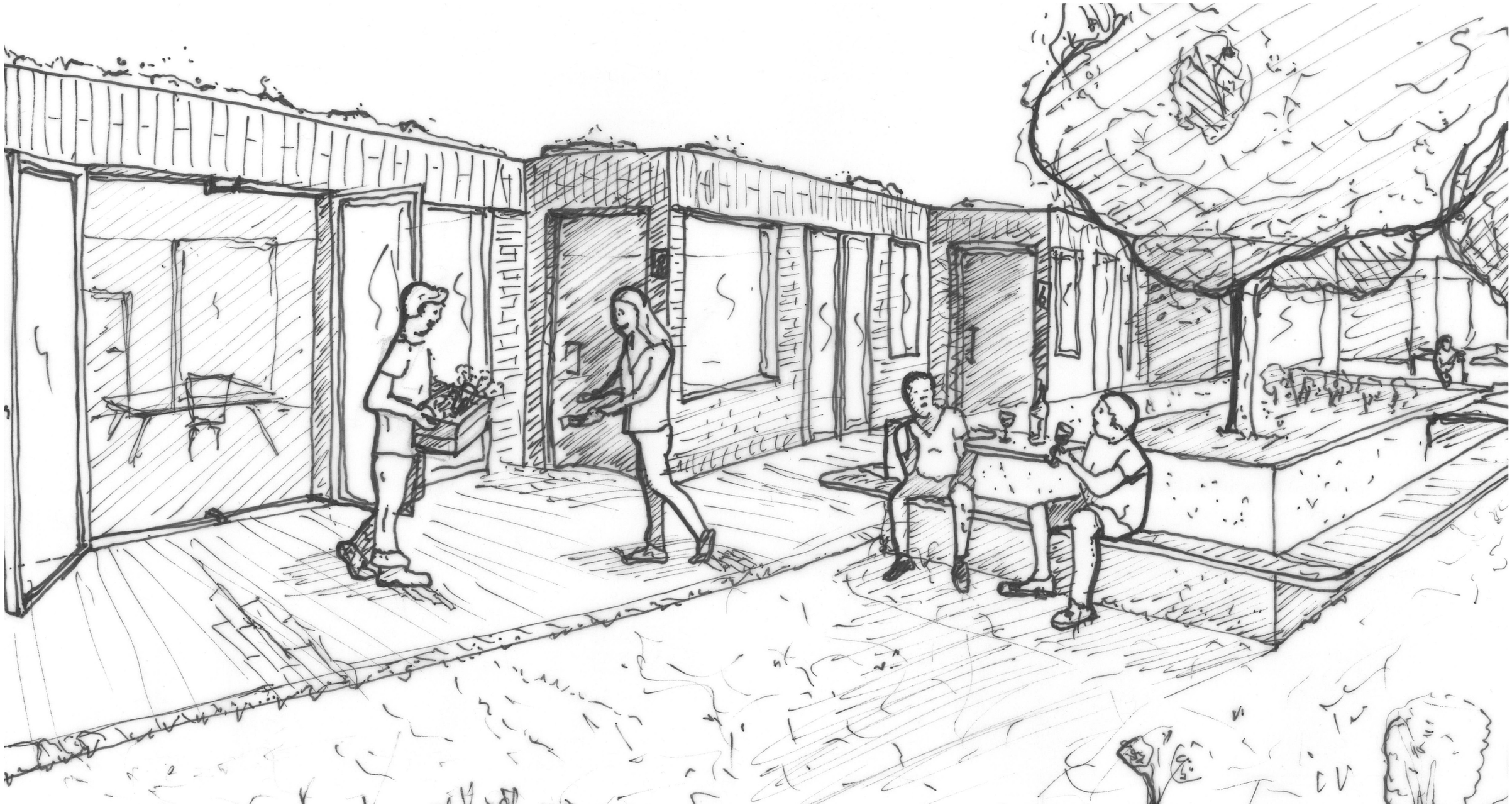
Layers of Collectivity & Privacy



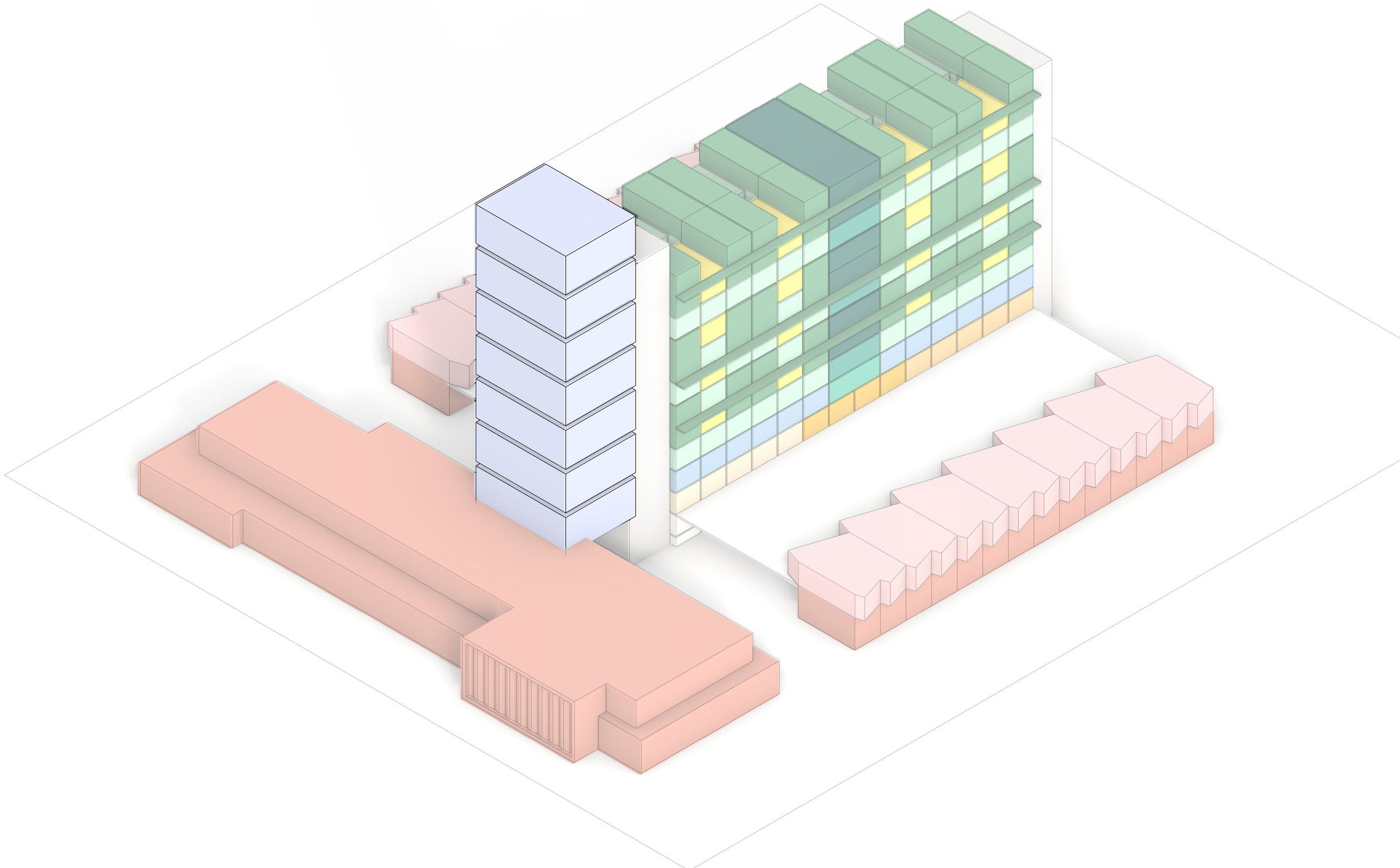
Gallery Oersted Gardens, Kopenhagen 2023.
Instead: Stimulate appropriation & affiliation



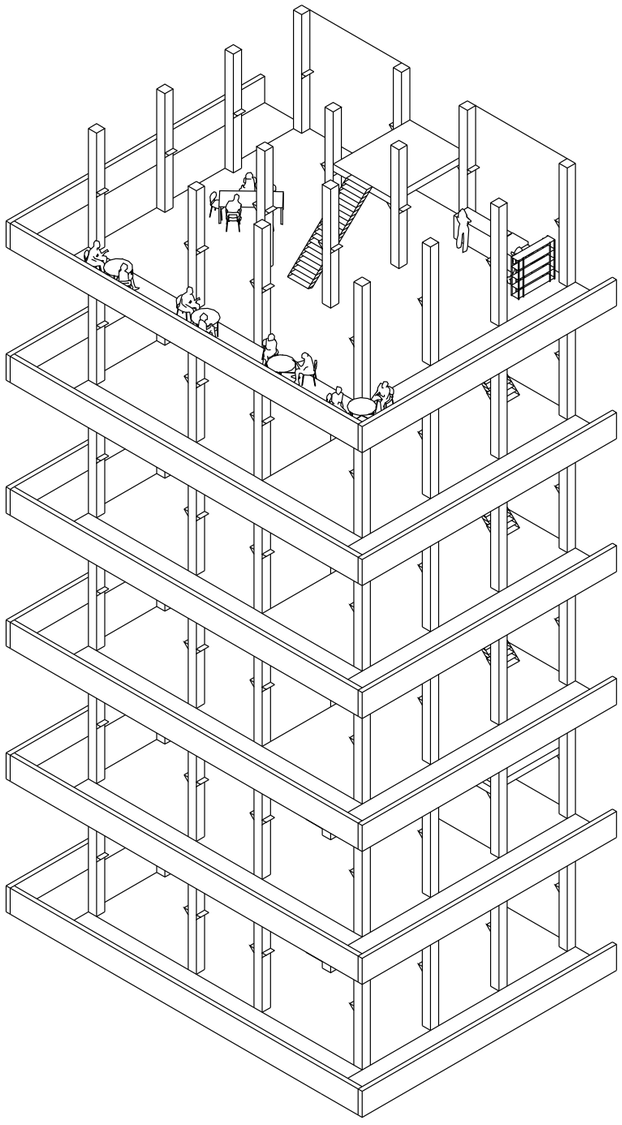
Collective terrace

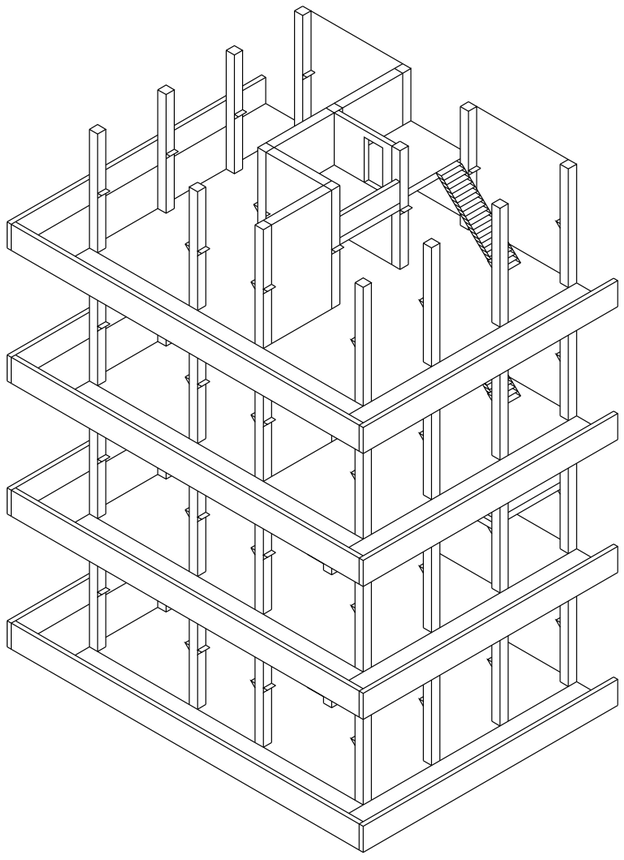


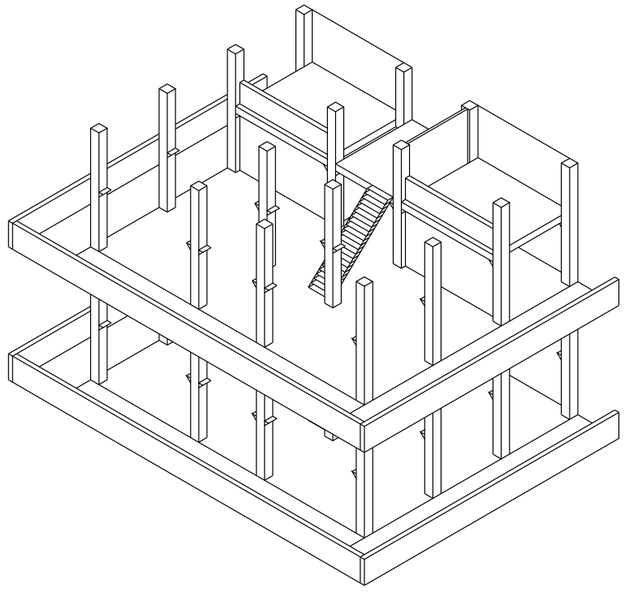
Adaptable Loft Apartments



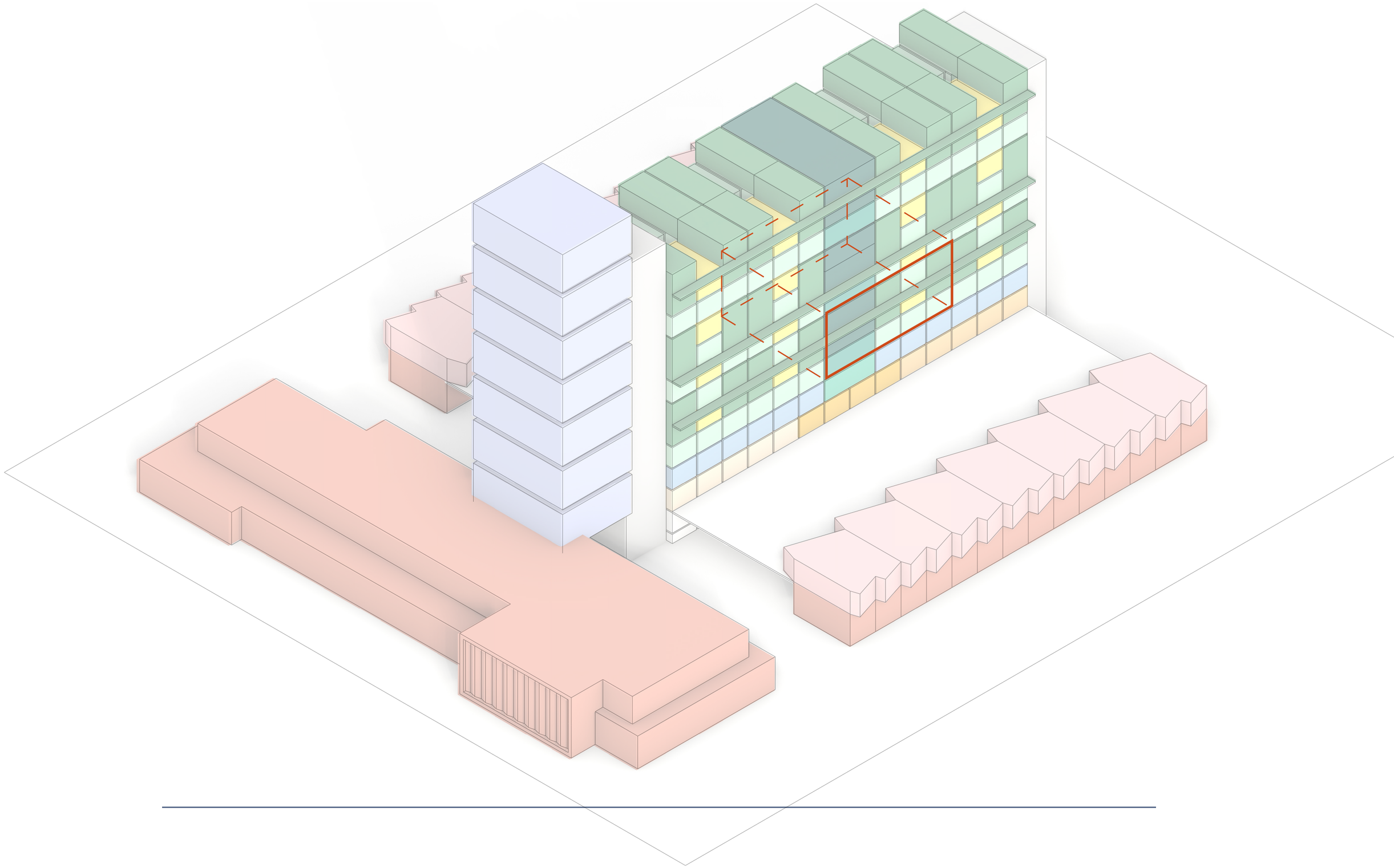
Adaptable Loft Apartments

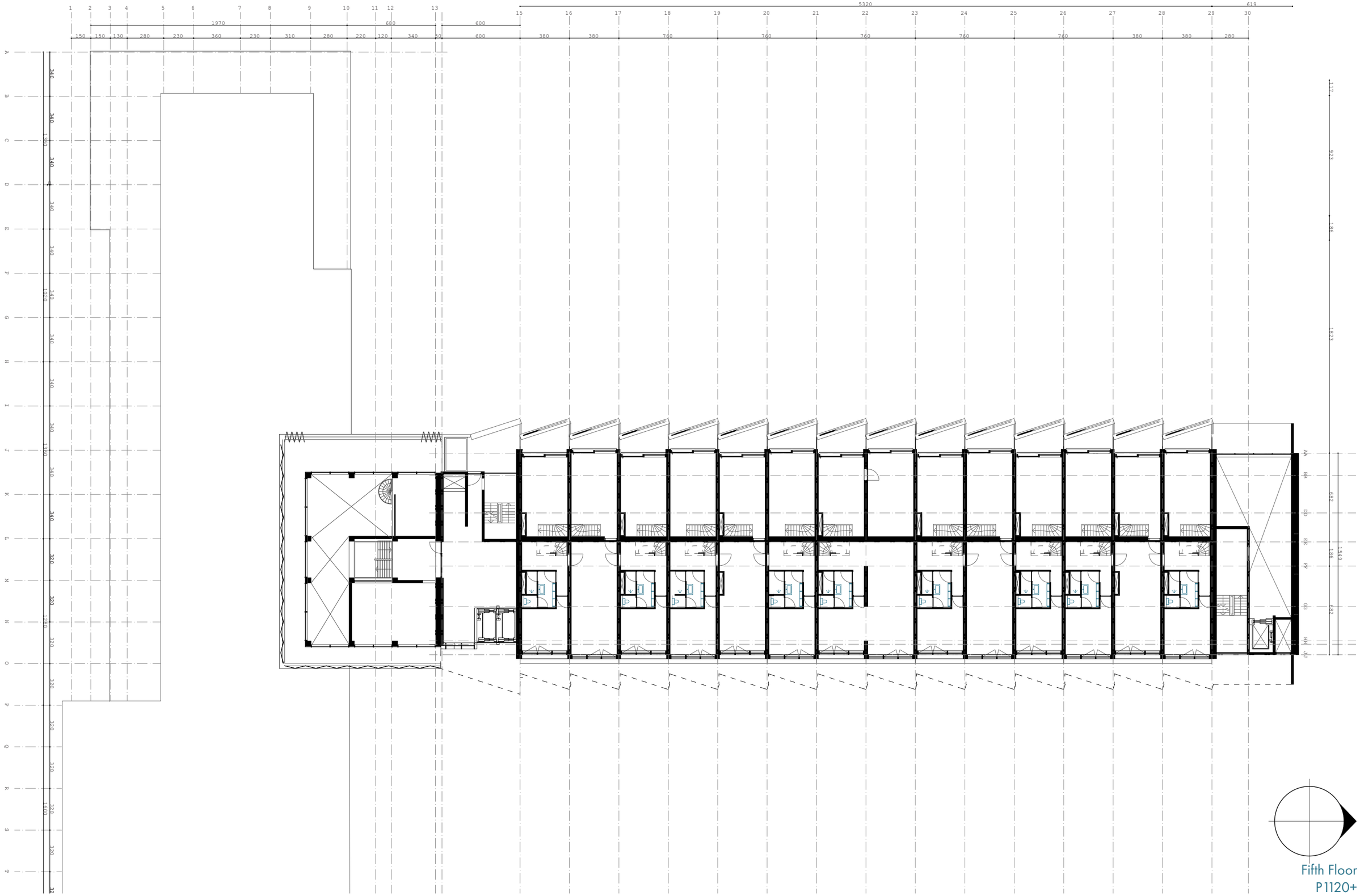




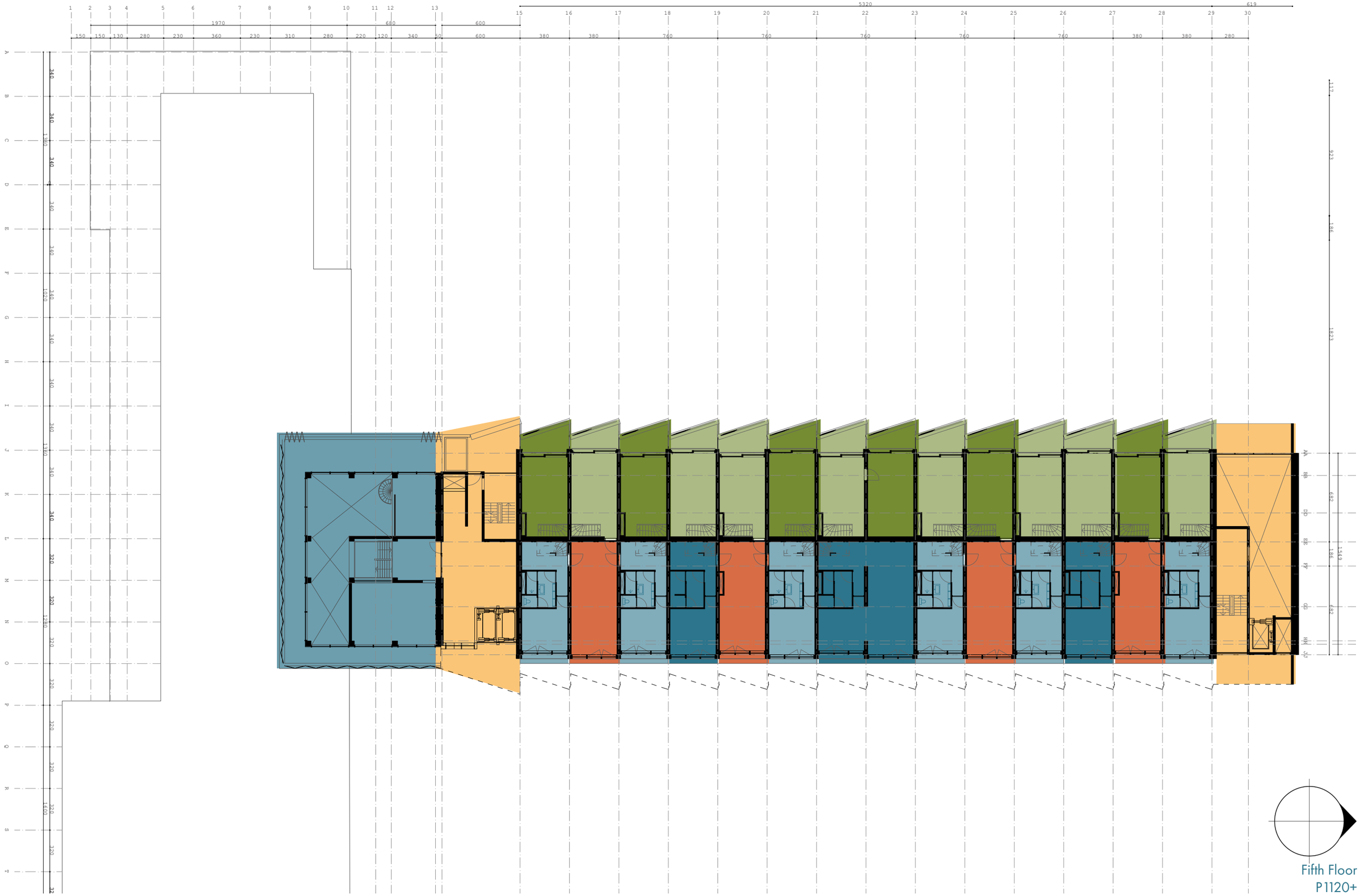


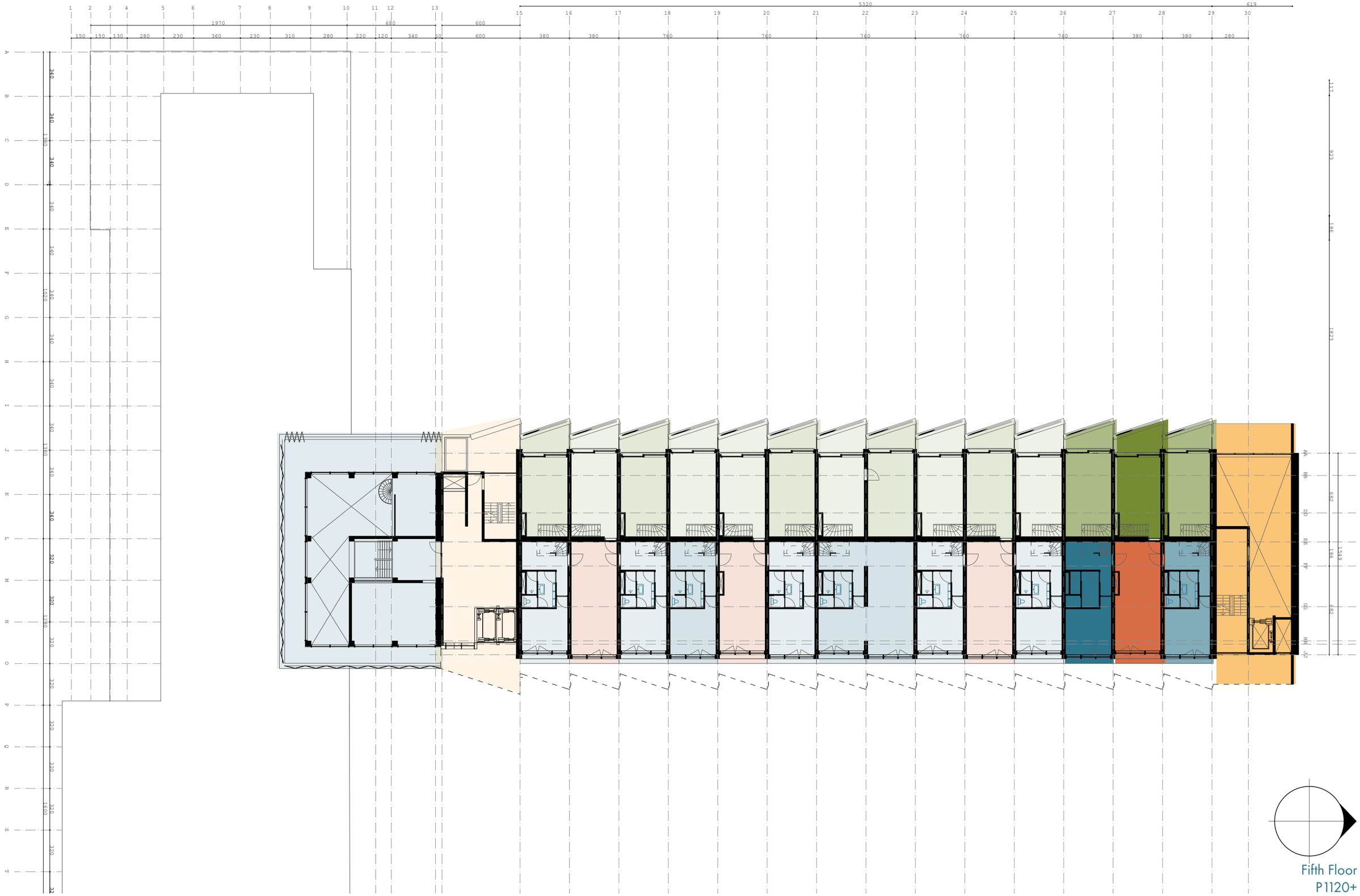
Nucleus Maisonettes



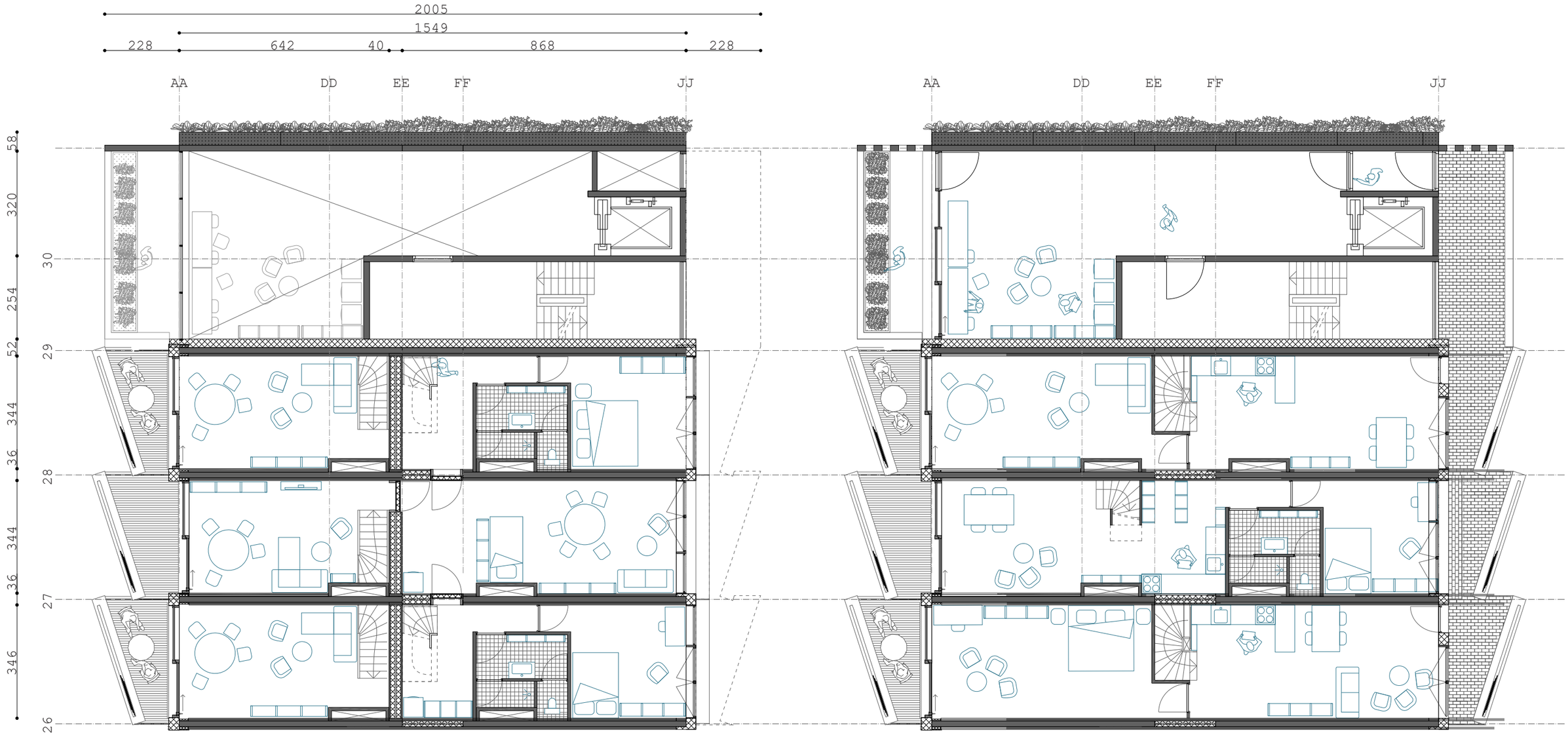


Fifth Floor
P1120+


1 2 3 4 5 6 7 8 9 10 11 12 13 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
1970
680
600
5320
619
150 150 130 280 230 360 230 310 280 220 120 340 50 600 380 380 760 760 760 760 760 380 380 280
A B C D E F G H I J K L M N O P Q R S T
340 340 340 340 340 340 340 340 340 340 340 320 320 320 320 320 320 320 320
1360 1020 1280 1600
117 923 186 1823
682 1549 186 682
Fifth Floor
P1120+


1 2 3 4 5 6 7 8 9 10 11 12 13 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
1970
680
600
5320
619
150 150 130 280 230 360 230 310 280 220 120 340 50 600 380 380 760 760 760 760 760 380 380 280
A B C D E F G H I J K L M N O P Q R S T
340 340 340 340 340 340 340 340 340 340 340 320 320 320 320 320 320 320
1360 1360 1020 1280 1600
117 923 186 1823
682 1549 186 682
Fifth Floor
P1120+

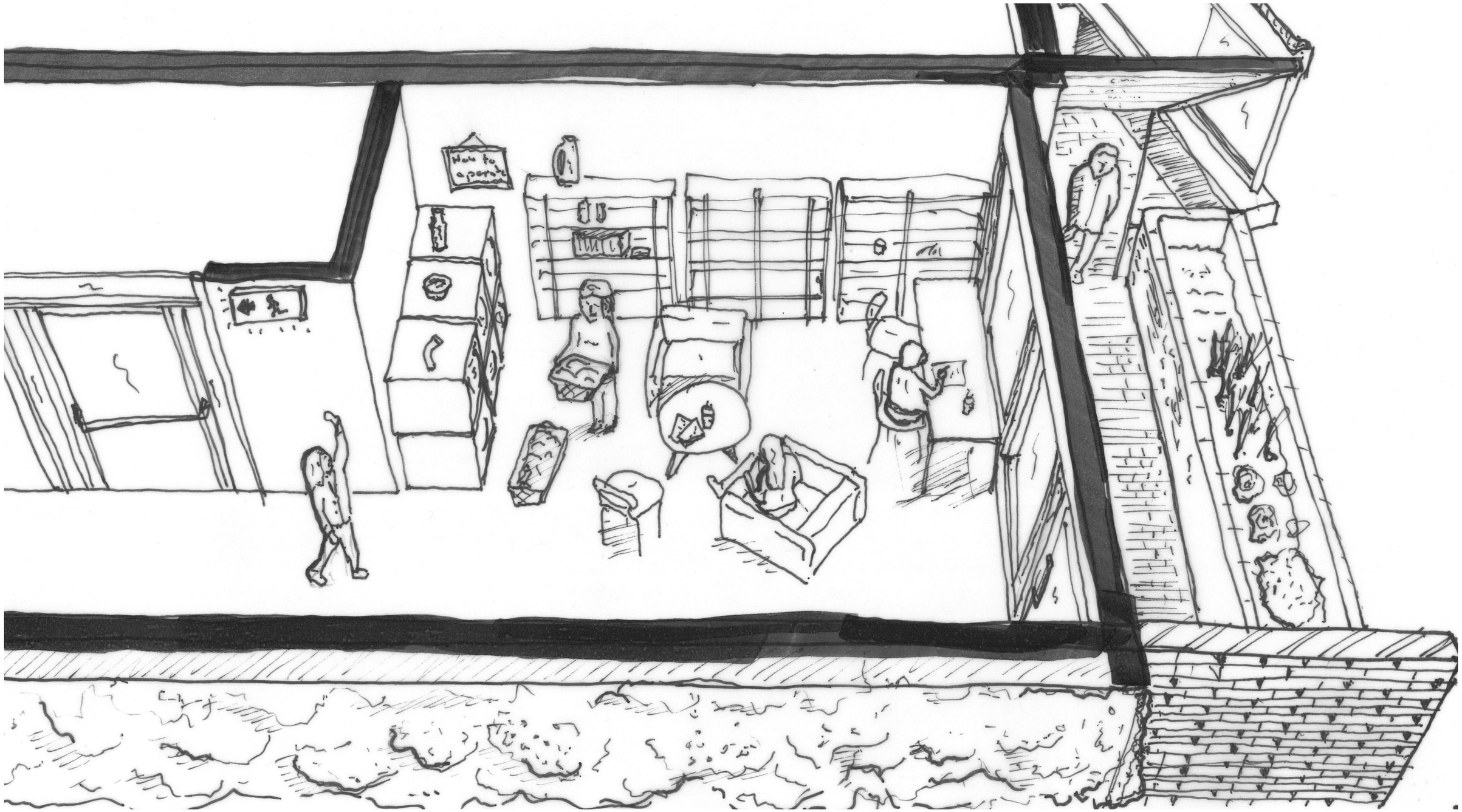
Nucleus Maisonettes



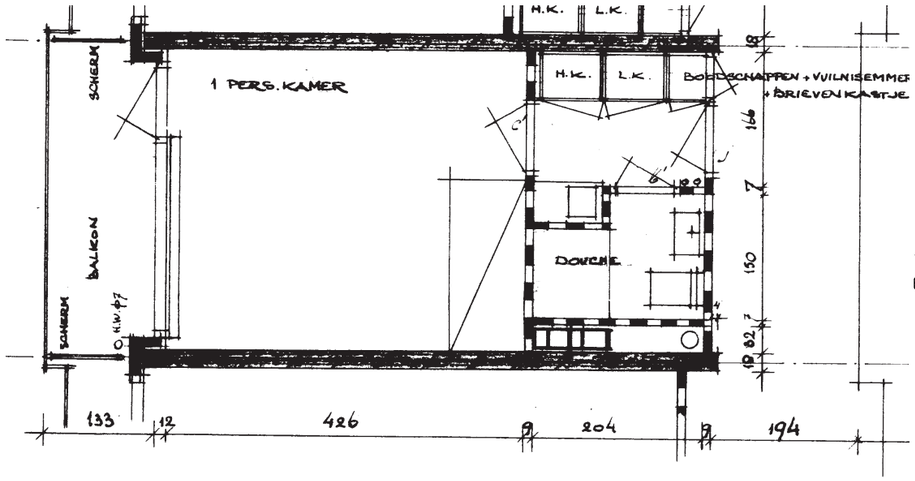
Fifth Floor
P1120+

Sixth Floor
P1400+

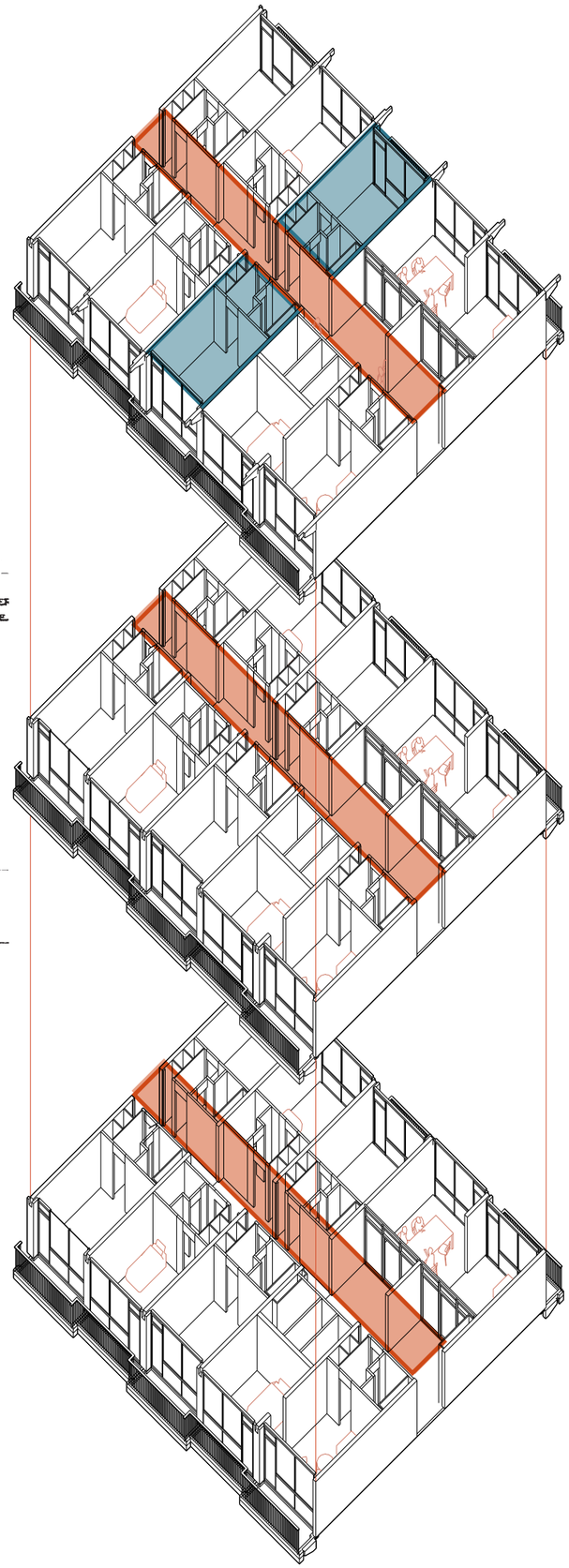
Stimulating encounter



Care Homes 1972

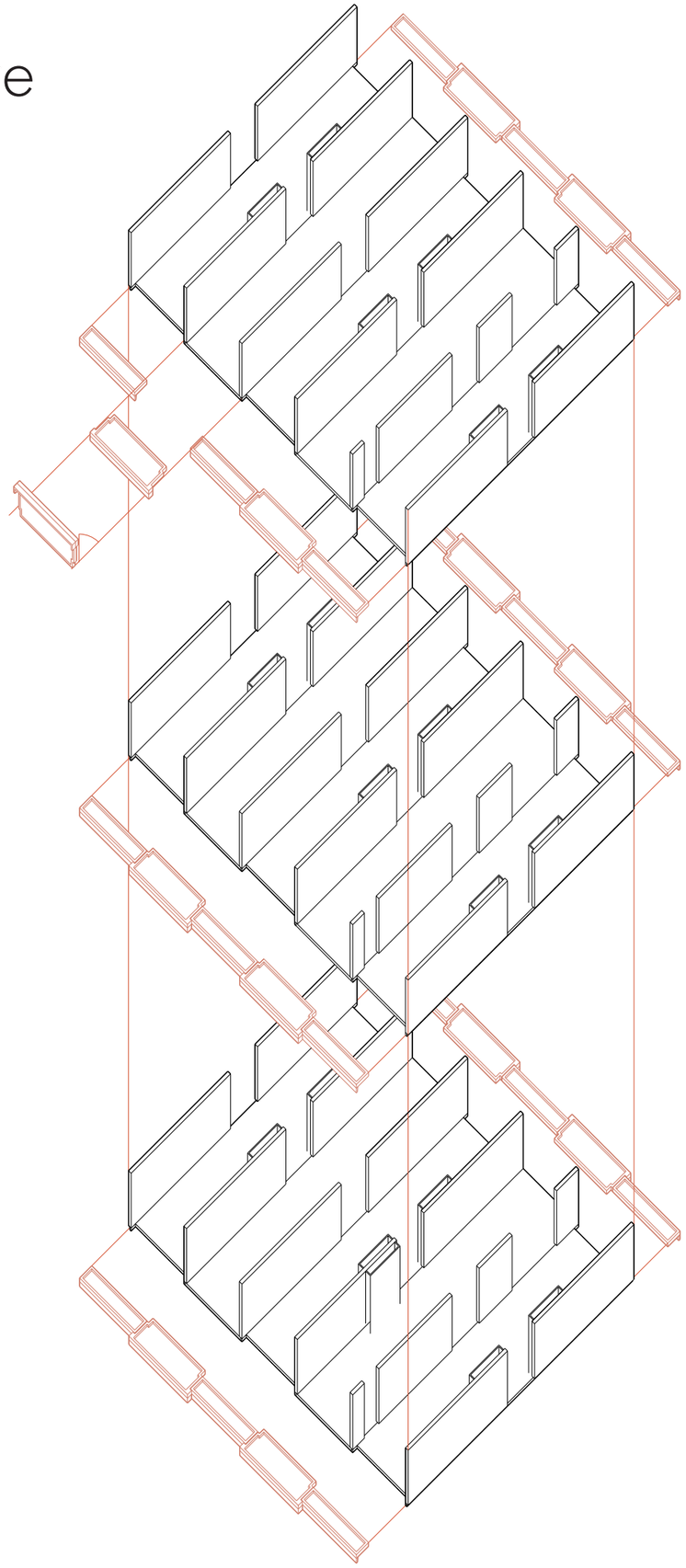


1 PERSOONS - KAMER.

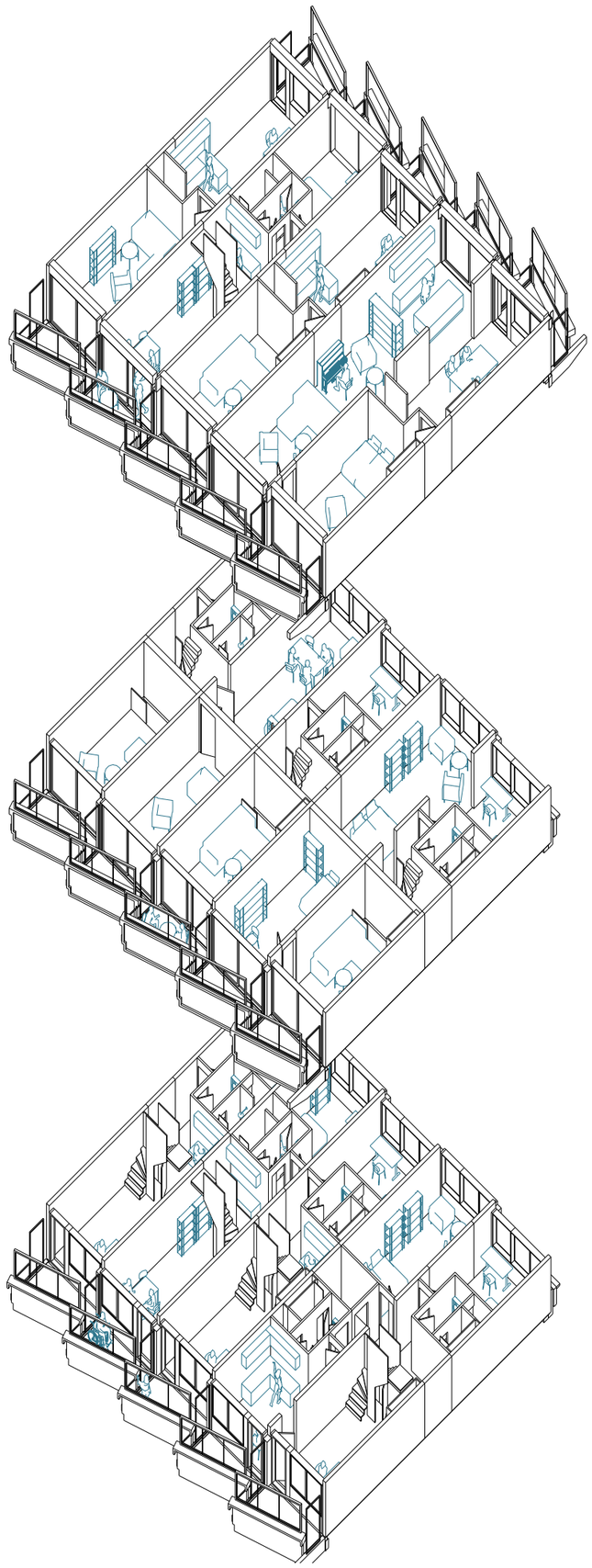


23.5m² netto floorspace typical apartment
4.2m2 / 2.2m² private exterior space
114m² × 12 corridors

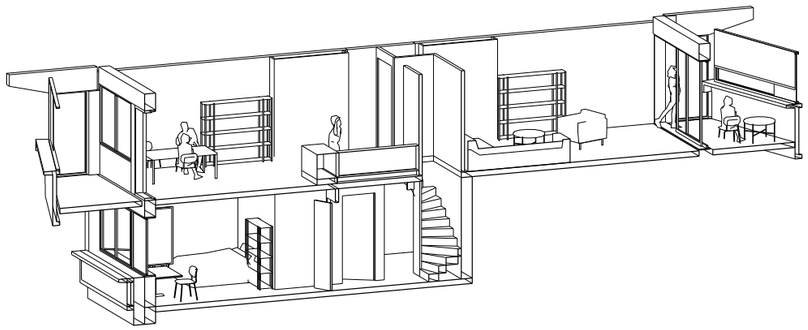
Remaining concrete structure

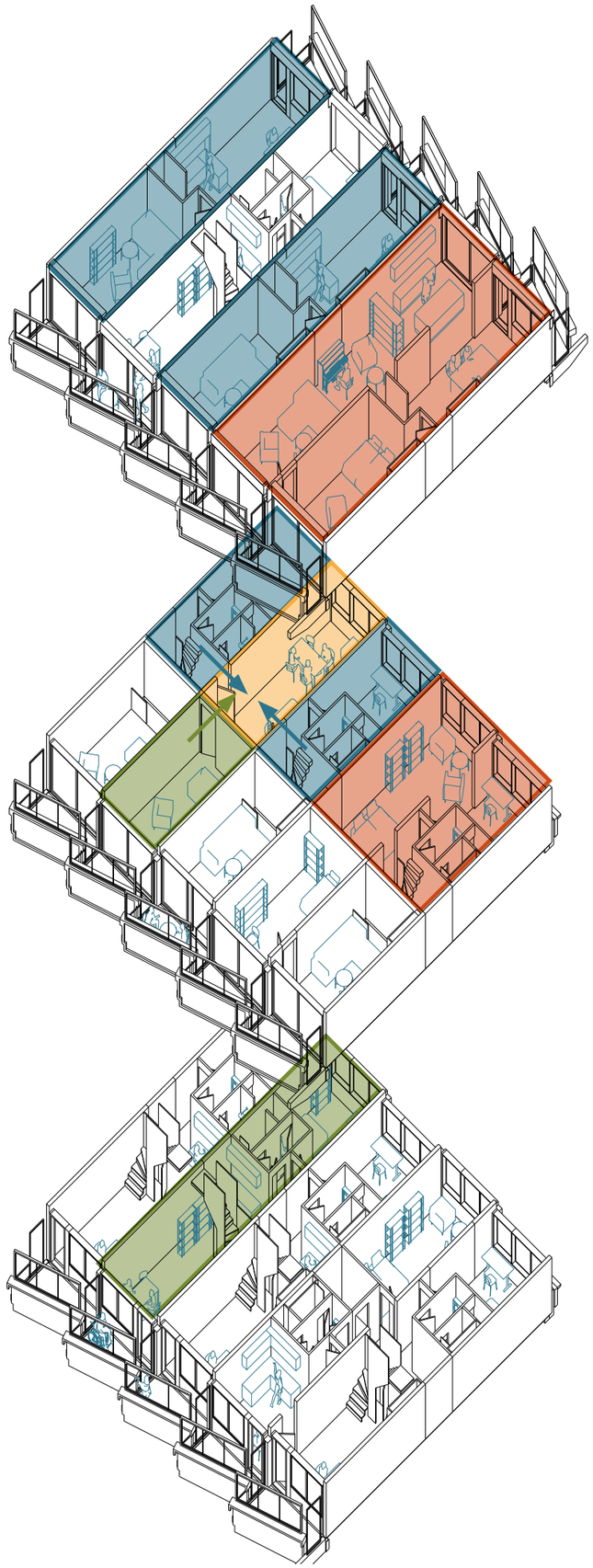


Nucleus Maisonettes



Nucleus Maisonettes



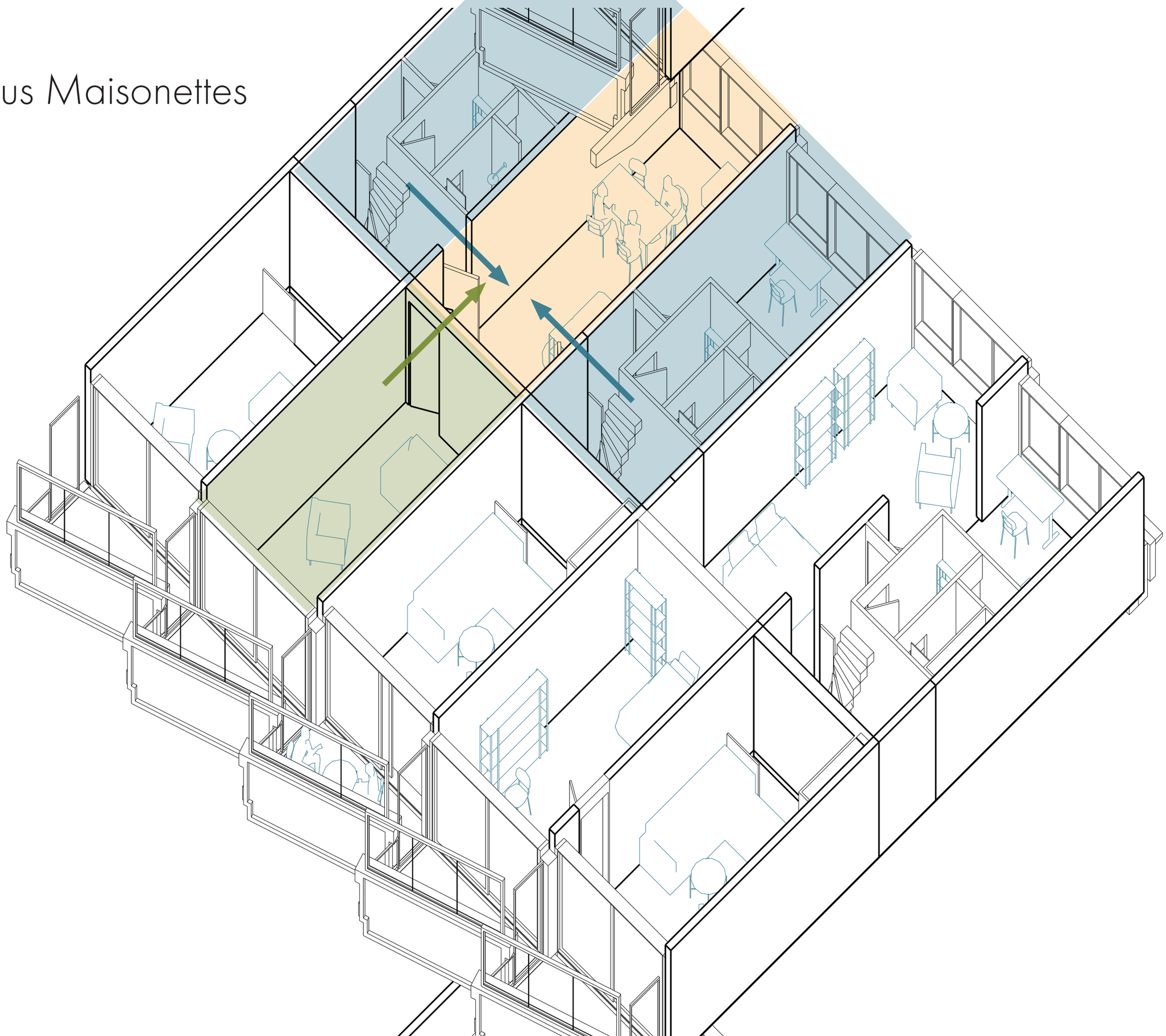


80m² netto floorspace typical maisonette
27m² Joker room
7m² (2 ×) west facing private exterior space
7 exterior galleries (including 2.5m² semi private space)

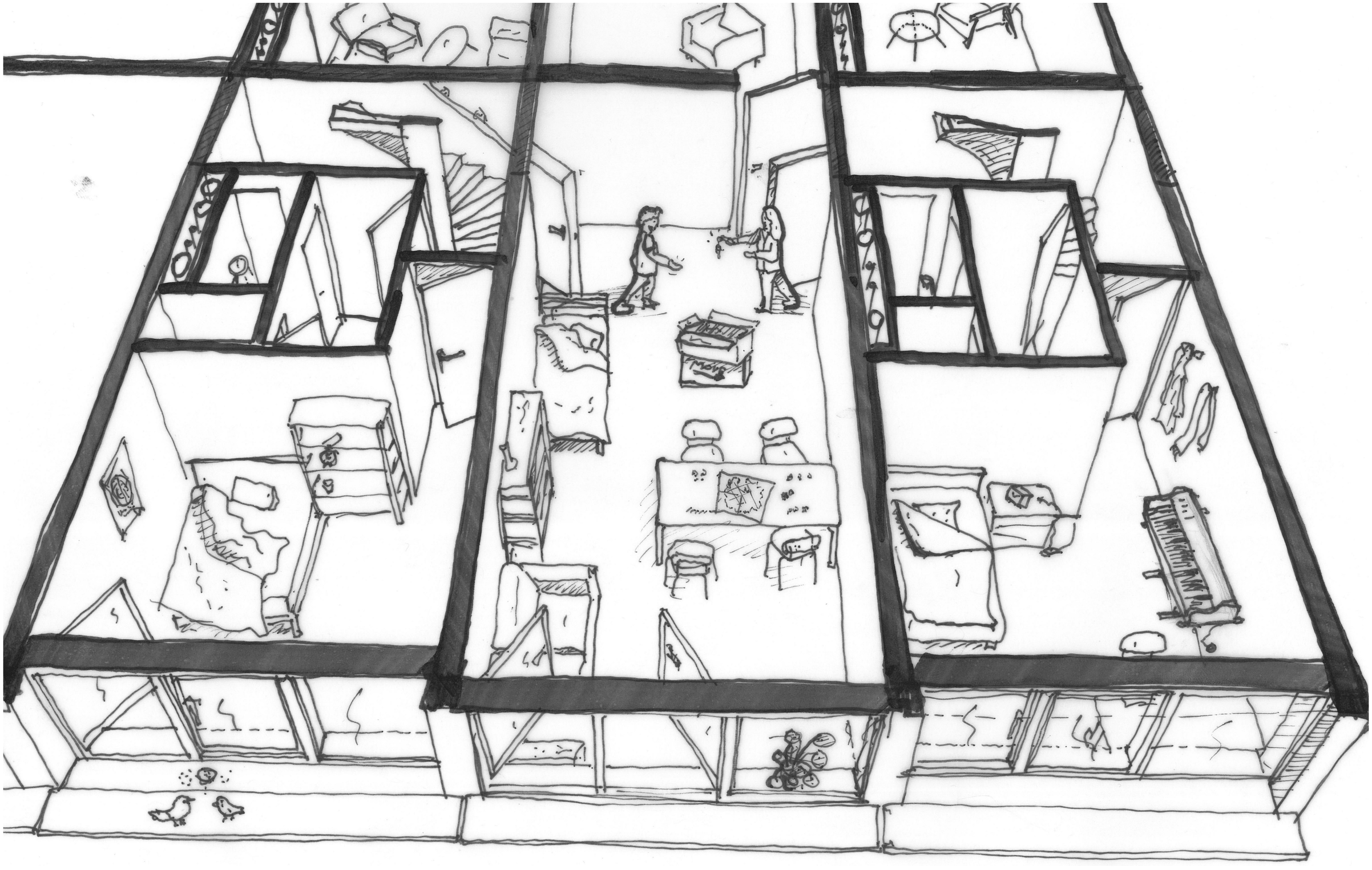
Nucleus Housing: San Riemo



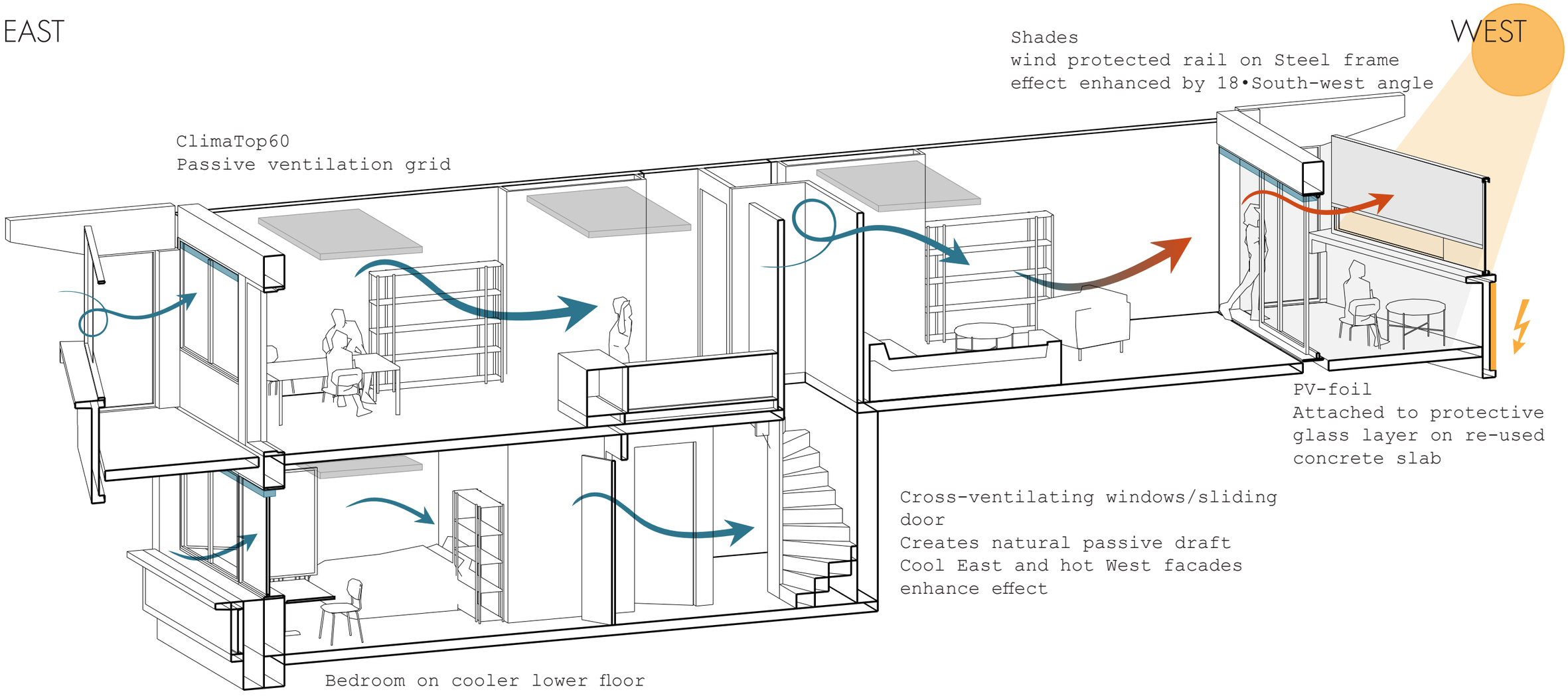
Nucleus Maisonettes



Nucleus Maisonettes



Climate Design: Summer

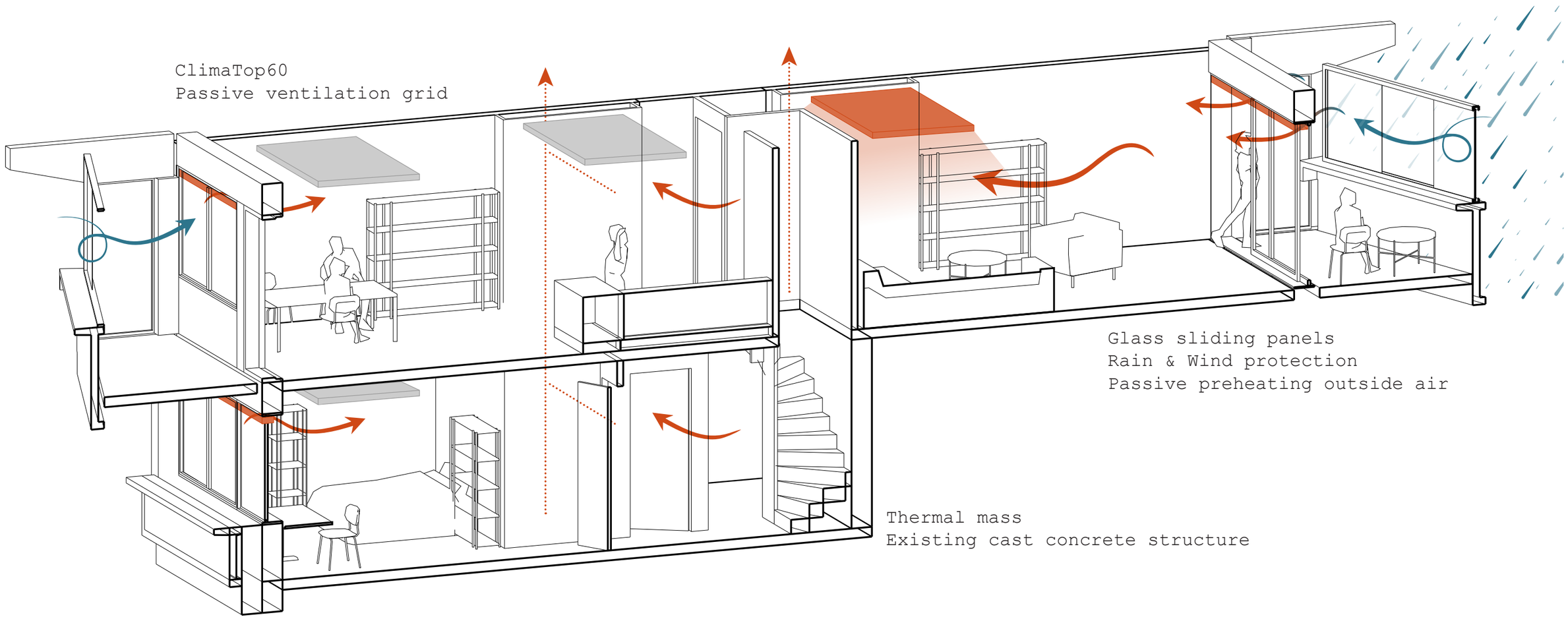


Maisonette apartment summer 30C climate

Climate Design: Spring/Autumn

EAST

WEST



Maisonette apartment average Haarlem 15C climate

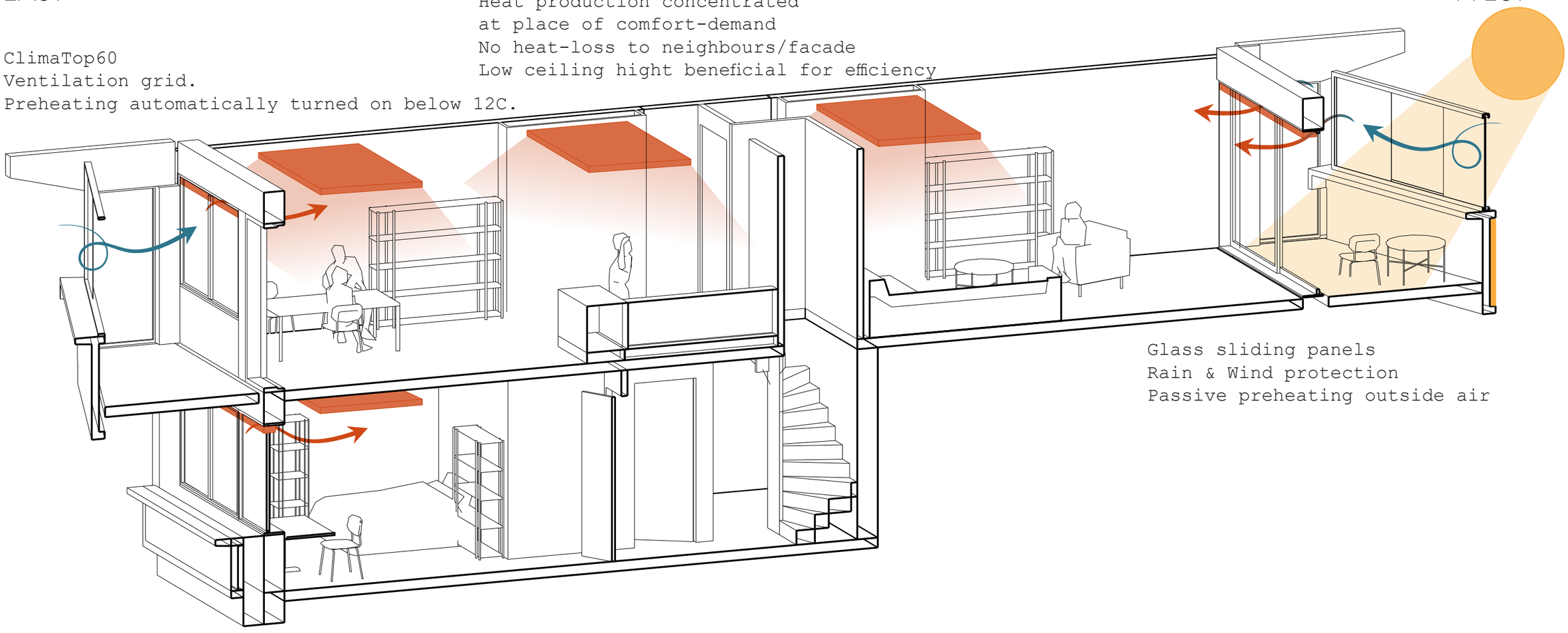
Climate Design: Winter

EAST

ClimaTop60
Ventilation grid.
Preheating automatically turned on below 12C.

Radiation Panels
Heat production concentrated
at place of comfort-demand
No heat-loss to neighbours/facade
Low ceiling hight beneficial for efficiency

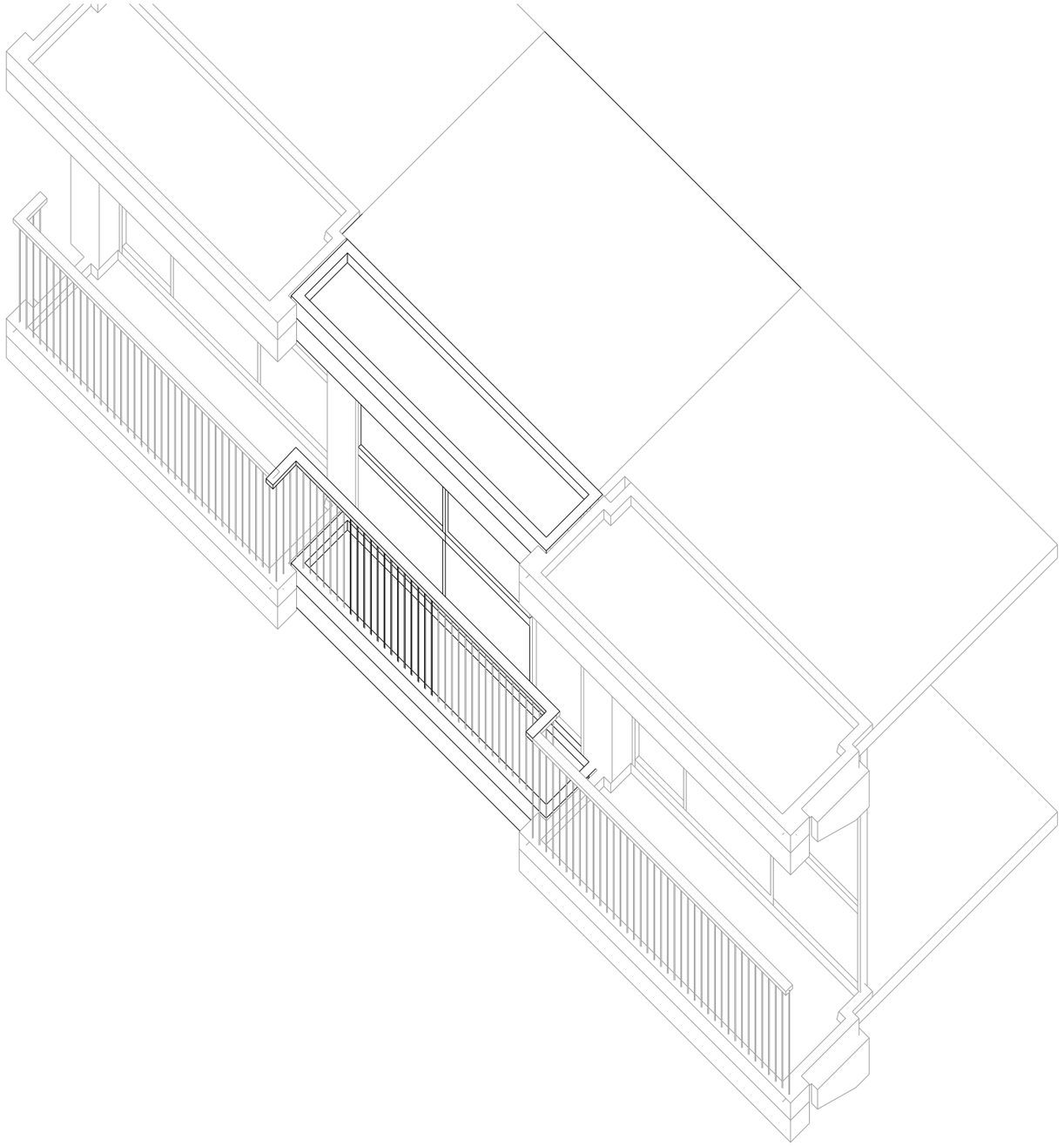
WEST



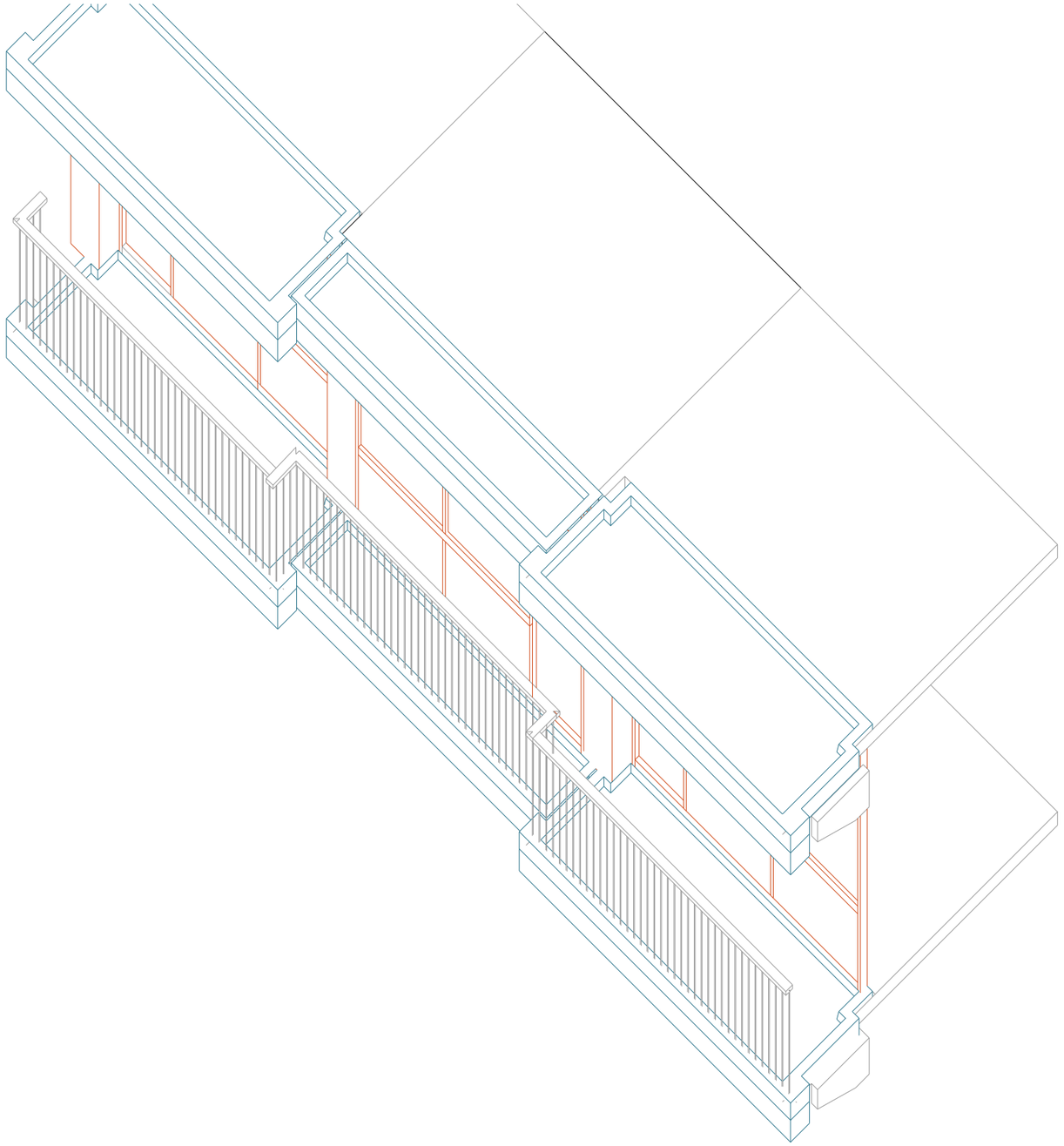
Glass sliding panels
Rain & Wind protection
Passive preheating outside air

Maisonette apartment winter 0C climate

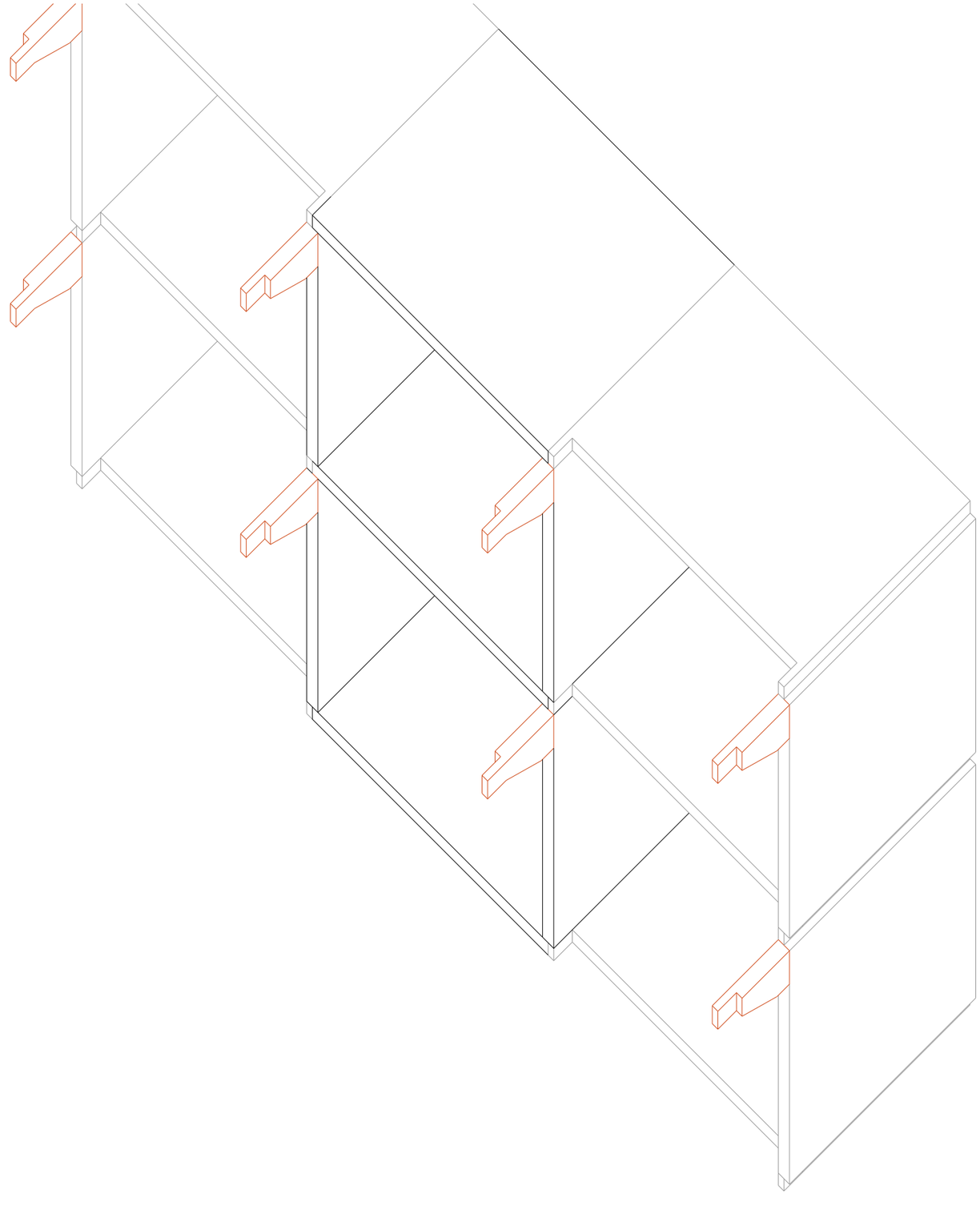
Existing situation



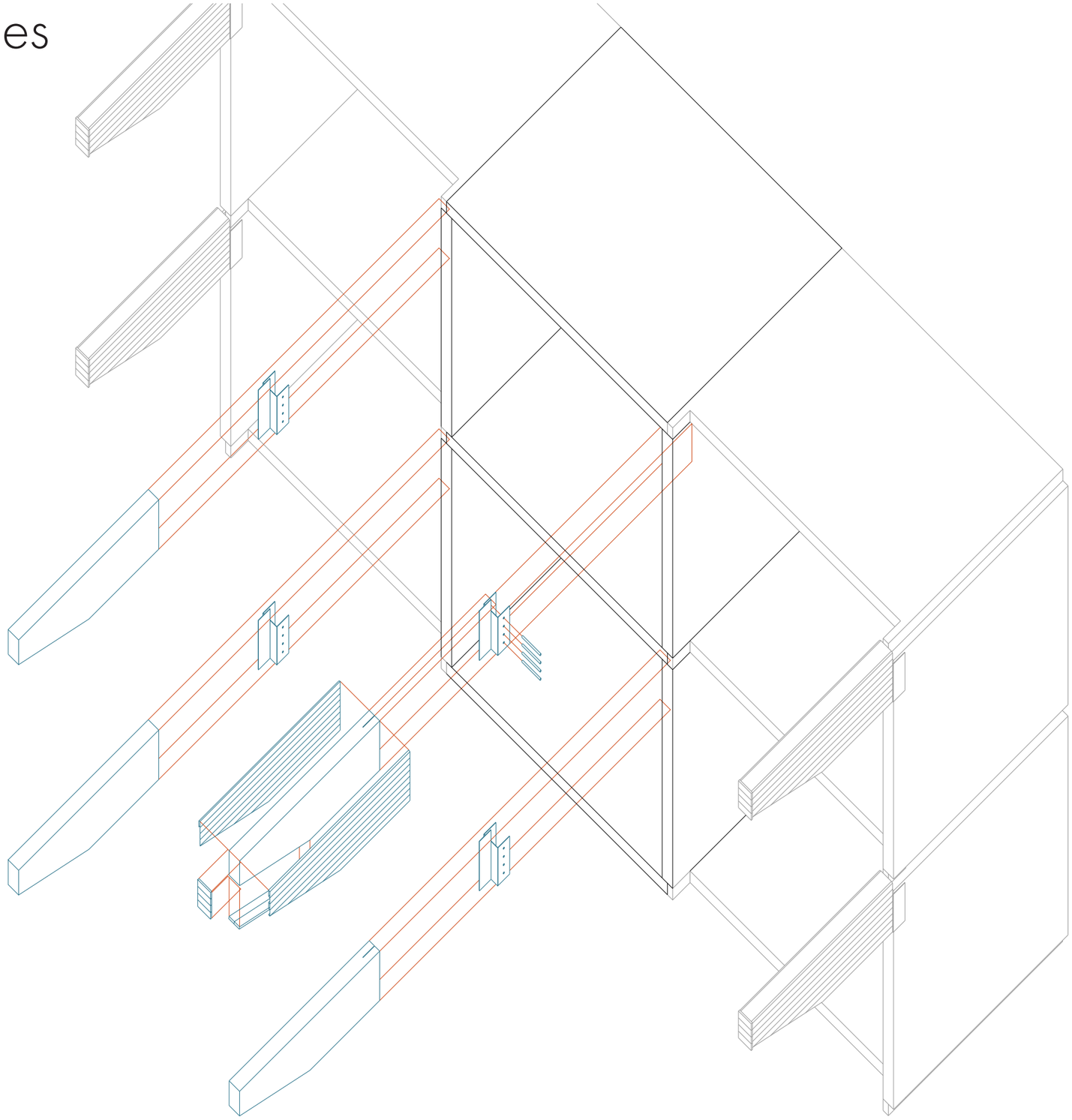
Remove and remain



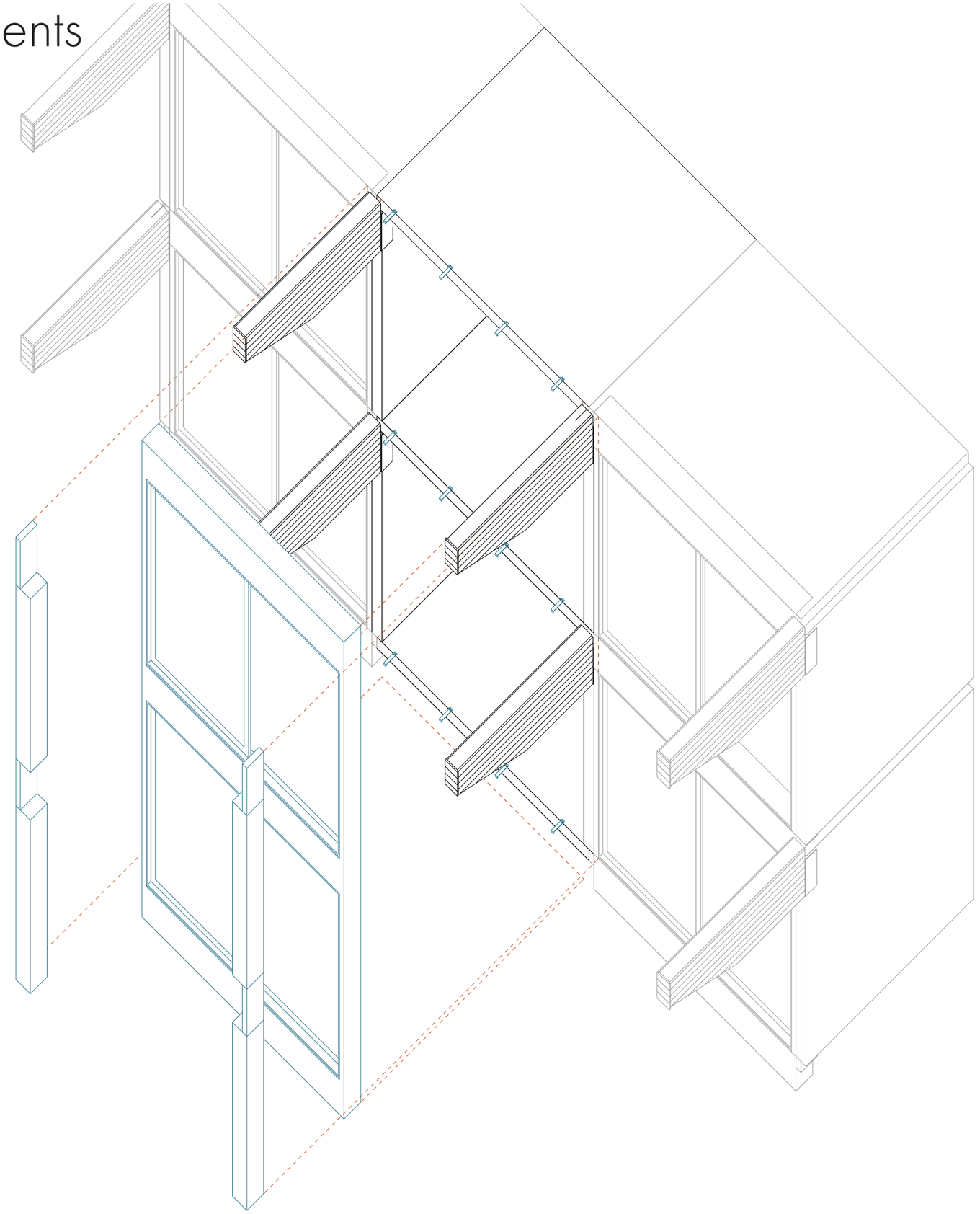
Concrete consoles



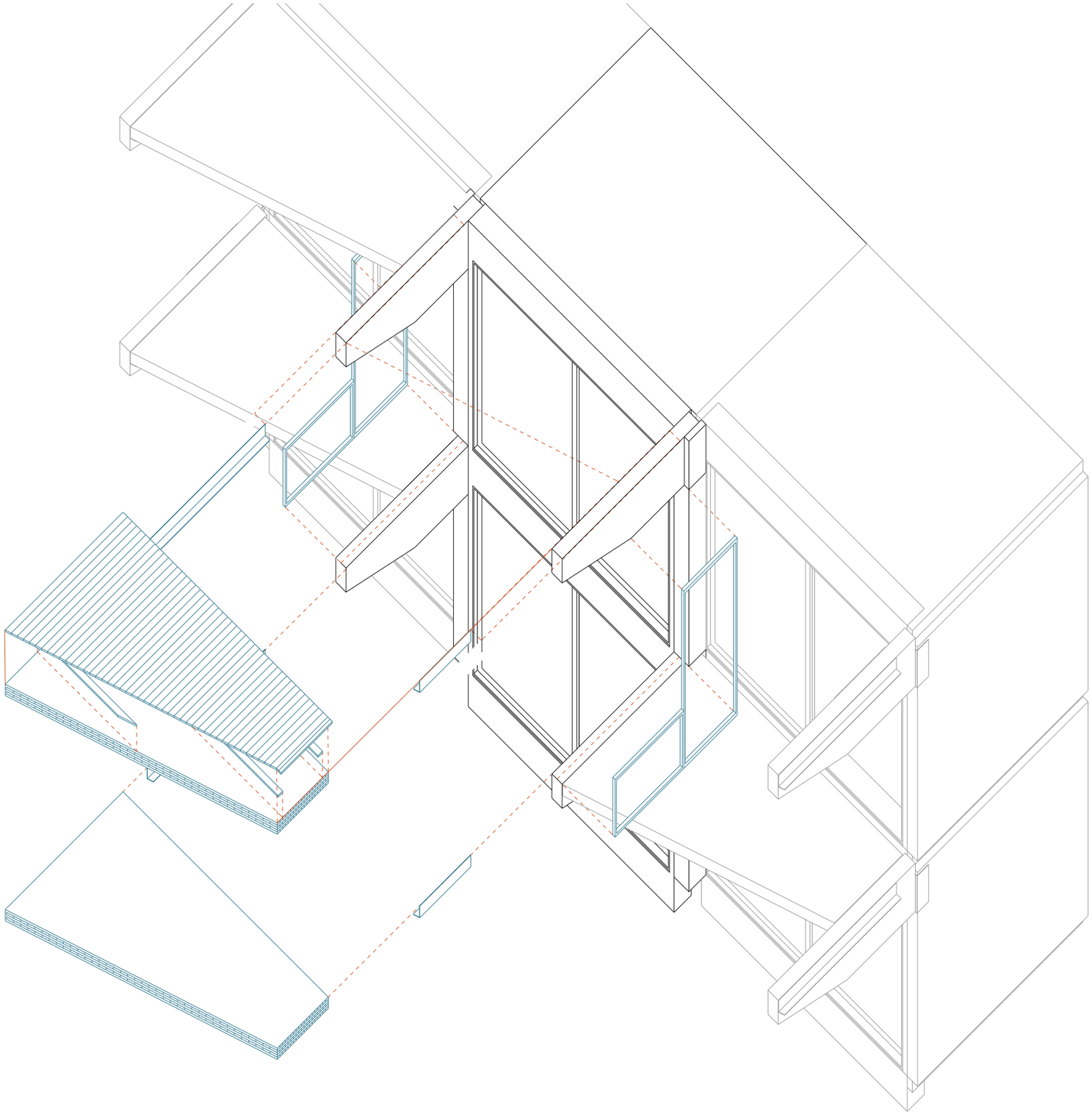
CLT + steel consoles



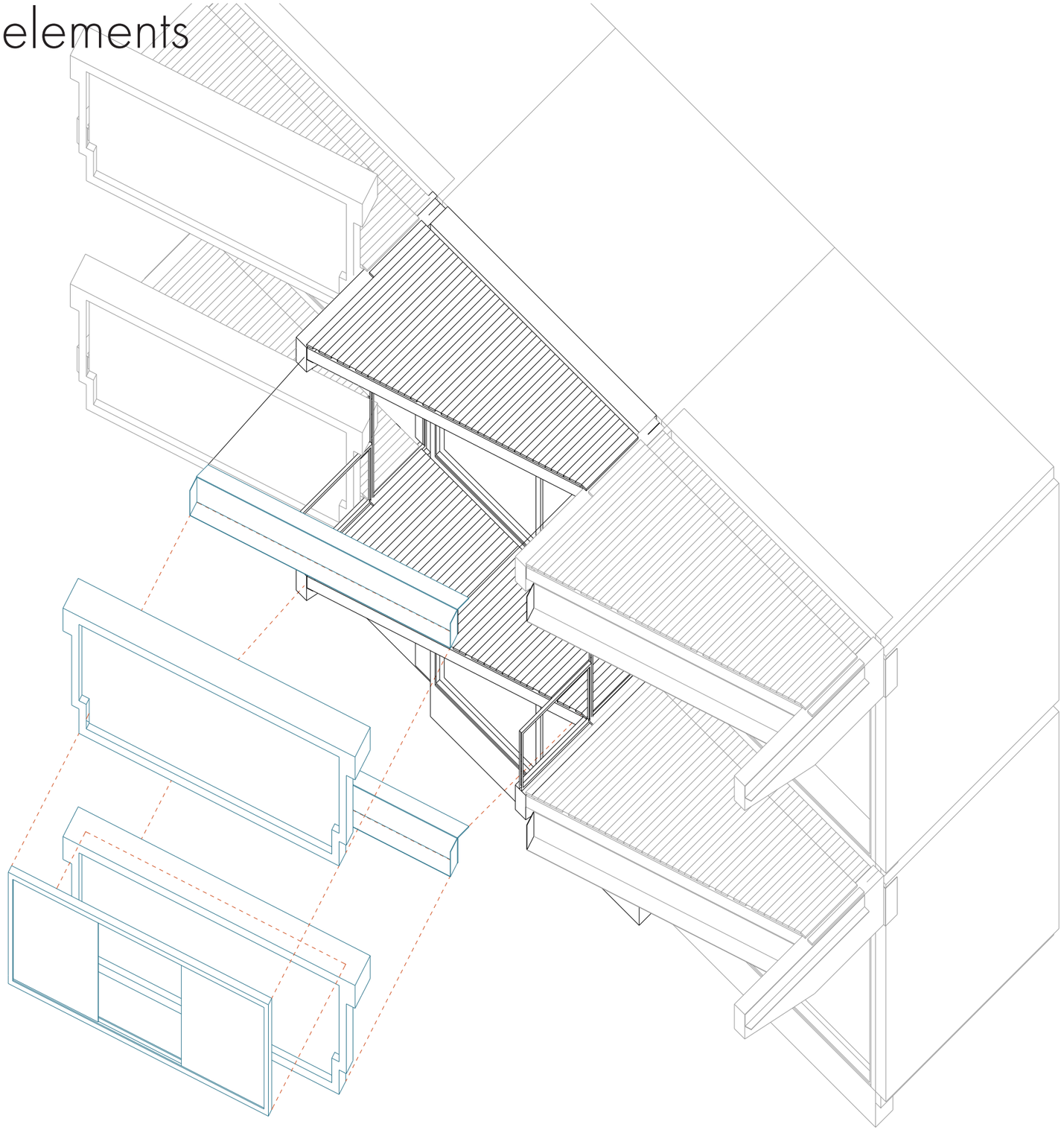
Vertical facade elements



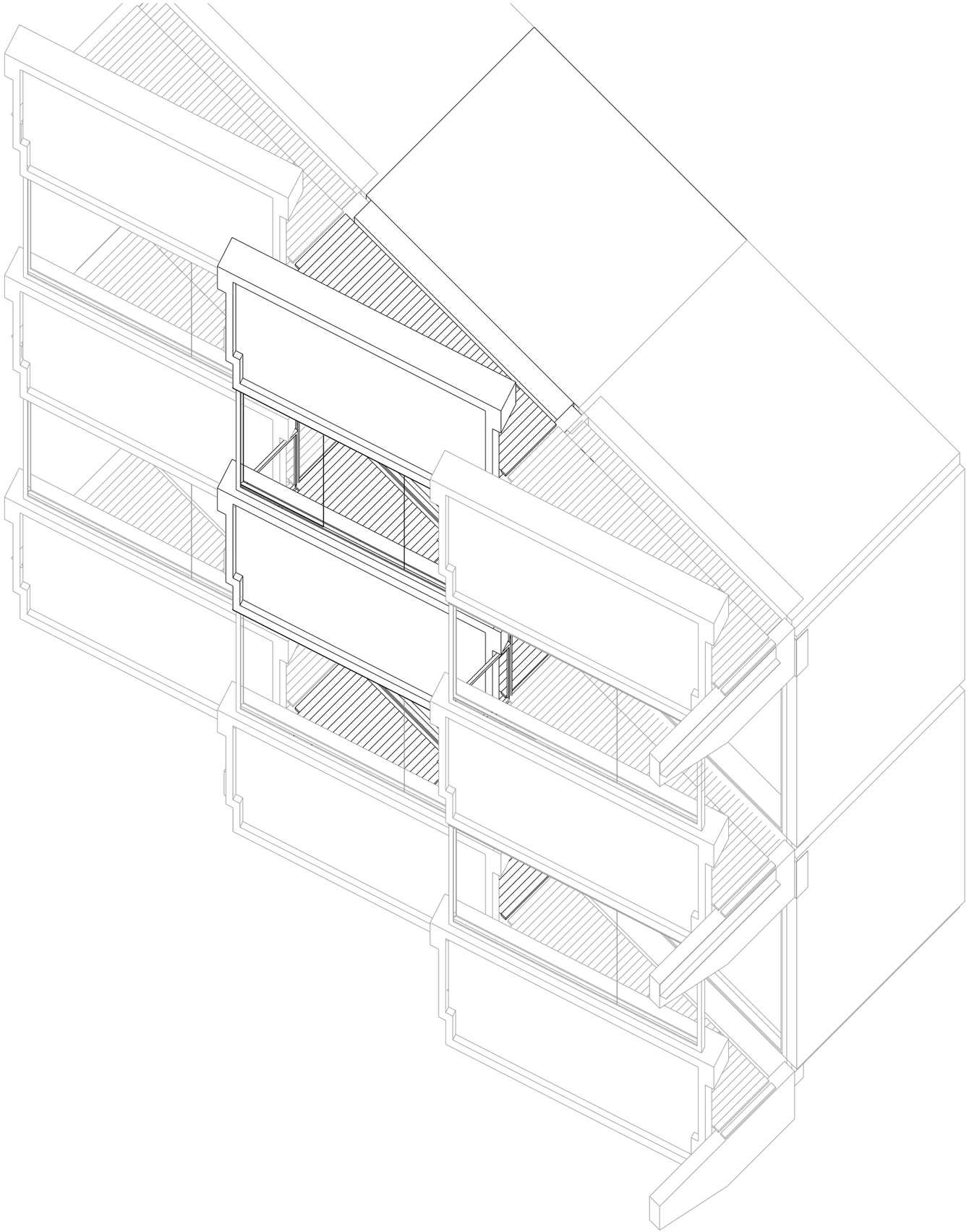
Balcony floors



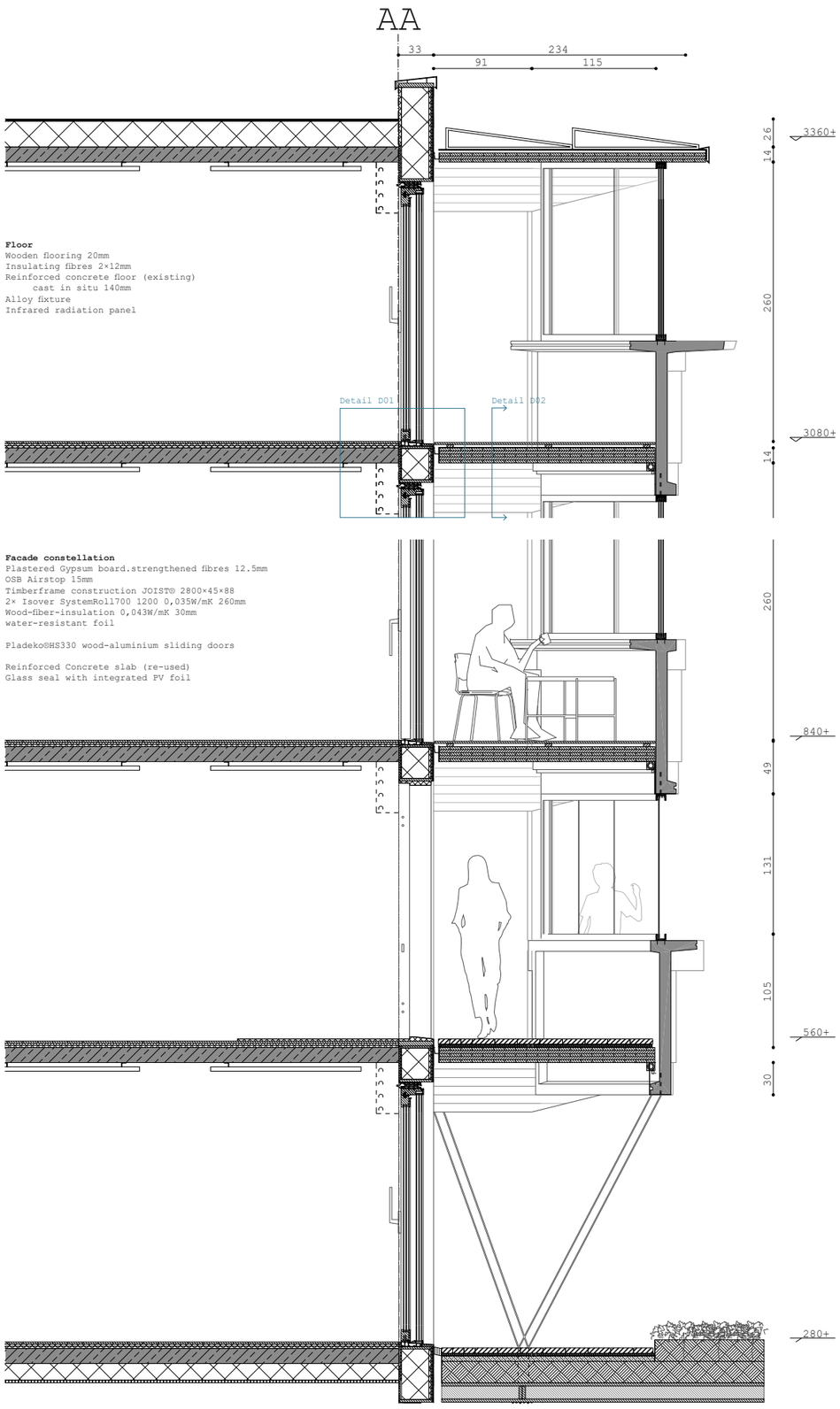
Re-used concrete elements



New situation



AA



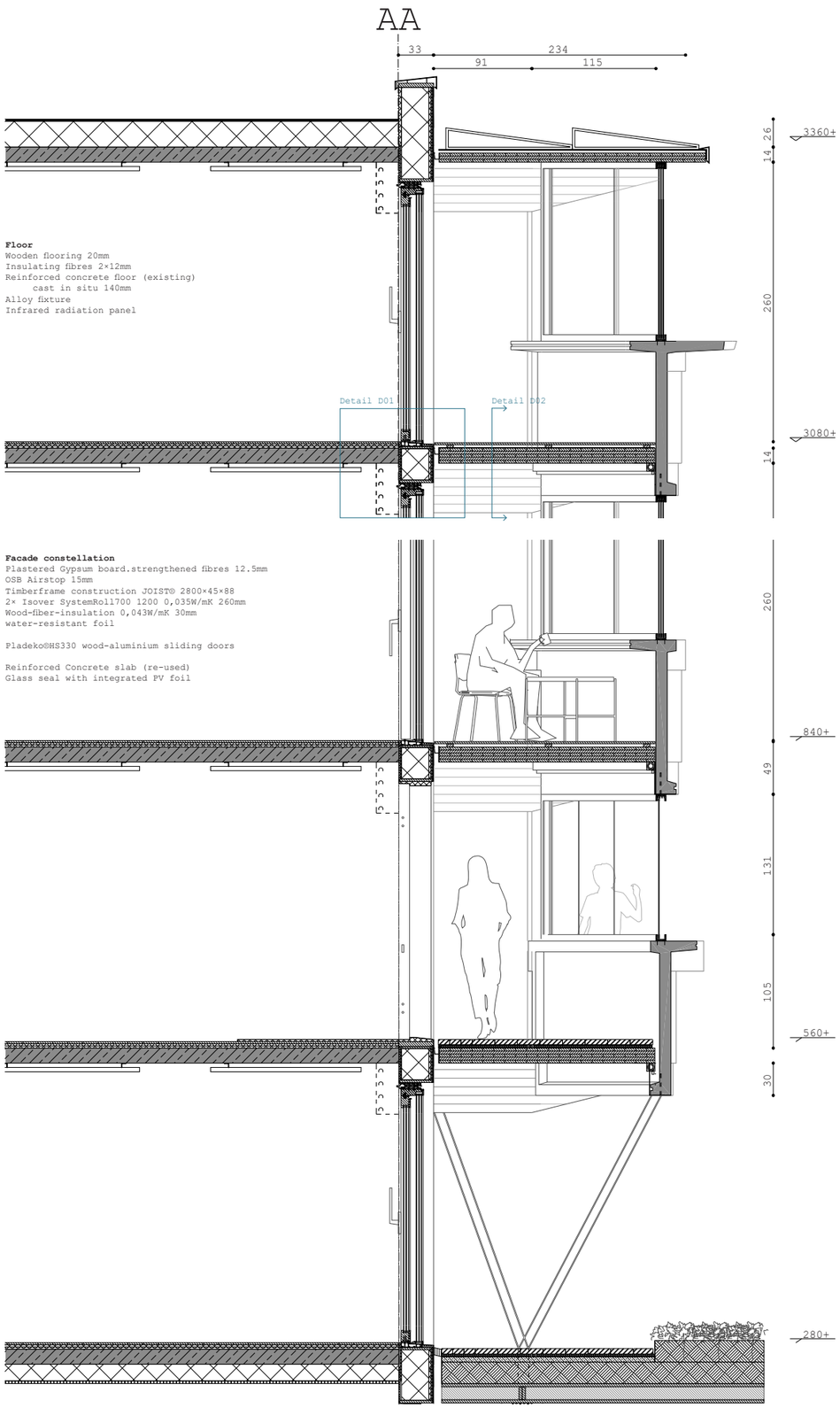
Floor
Wooden flooring 20mm
Insulating fibres 2×12mm
Reinforced concrete floor (existing)
cast in situ 140mm
Alloy fixture
Infrared radiation panel

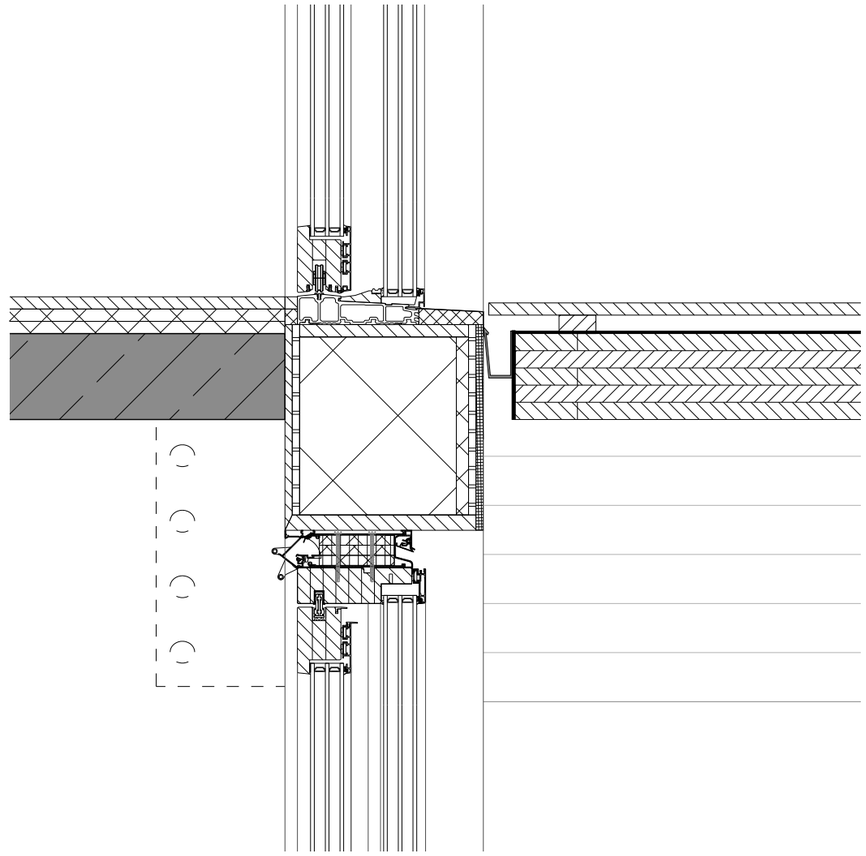
Facade constellation
Plastered Gypsum board.strengthened fibres 12.5mm
OSB Airstop 15mm
Timberframe construction JOIST® 2800×45×88
2× Isover SystemRoll700 1200 0,035W/mK 260mm
Wood-fiber-insulation 0,043W/mK 30mm
water-resistant foil

Pladeko®HS330 wood-aluminium sliding doors

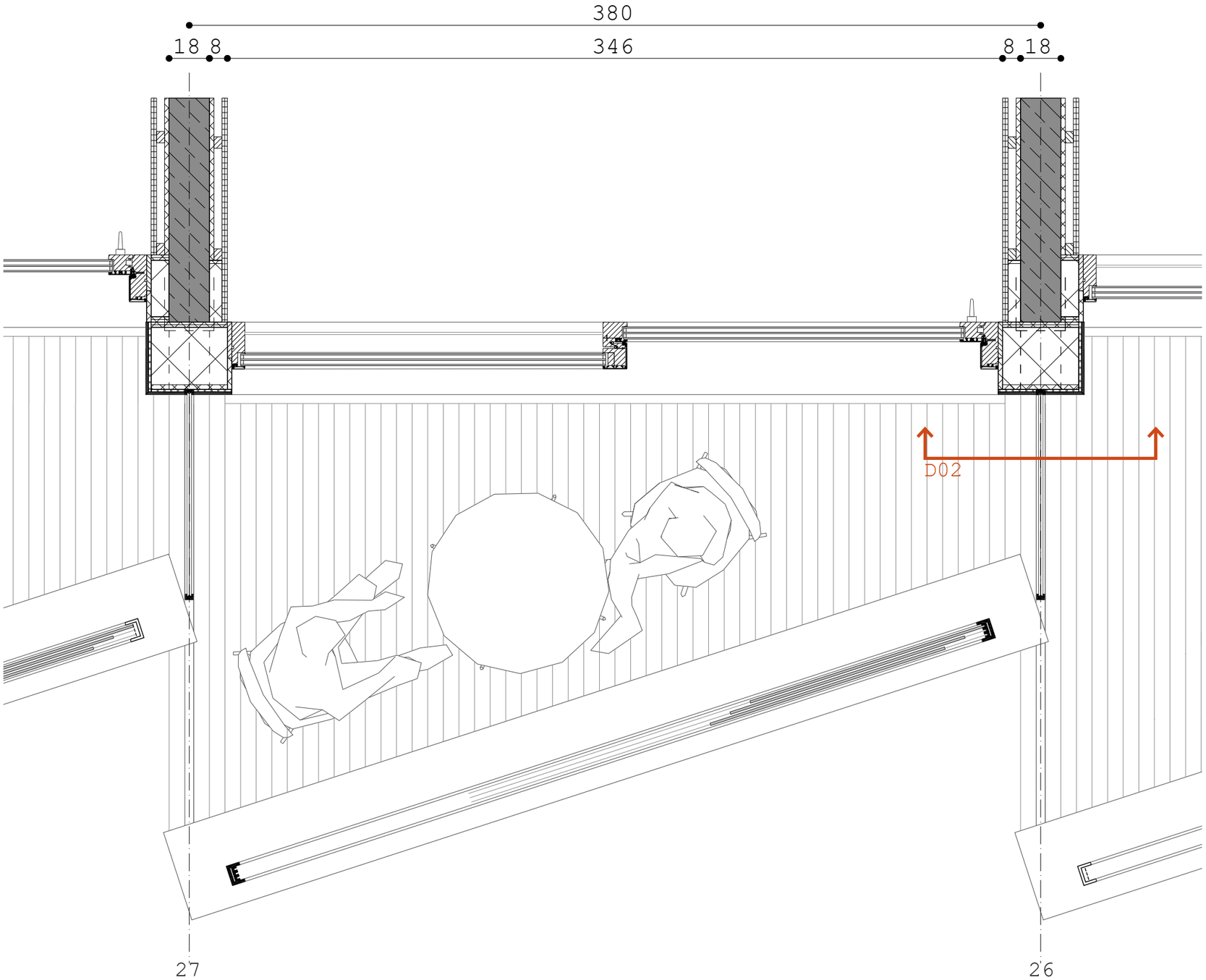
Reinforced Concrete slab (re-used)
Glass seal with integrated PV foil



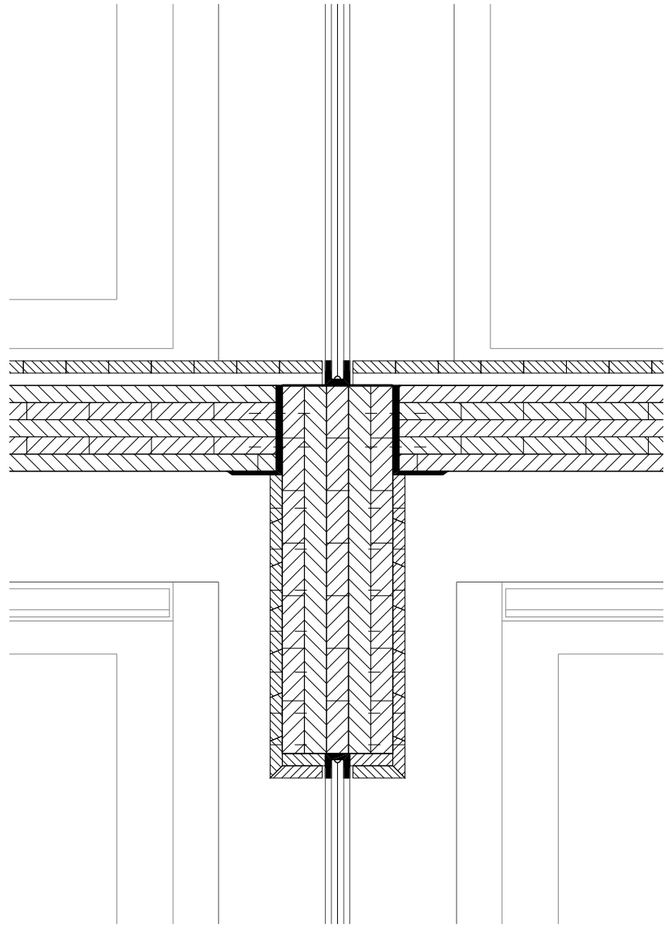




Vertical section detail D01 | 1:10
Transition interior living room to balcony

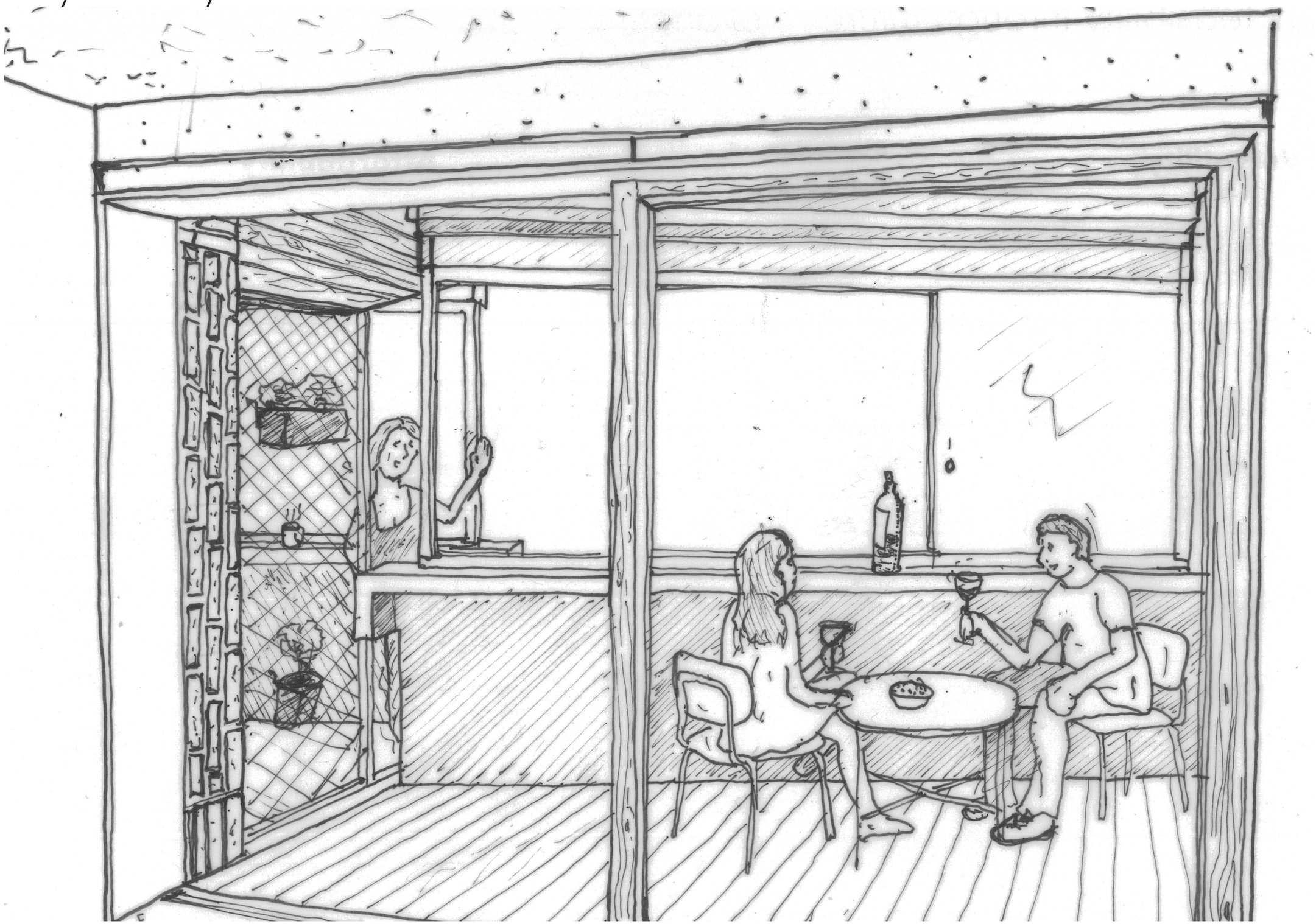


Horizontal section | 1:20
Balcony facing West



Vertical section detail D02 | 1:10
Balcony floor resting on console

Balcony: Privacy & Shelter



enough left to discuss...



Questions?