

# CREATING A CITY FOR A NEW GENERATION OF INTEGRATION

In which young people with a migration background have a sense of belonging

Graduation project

MSC Architecture

Dutch Housing

29 June 2021

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# Content

Research

Urban

Design

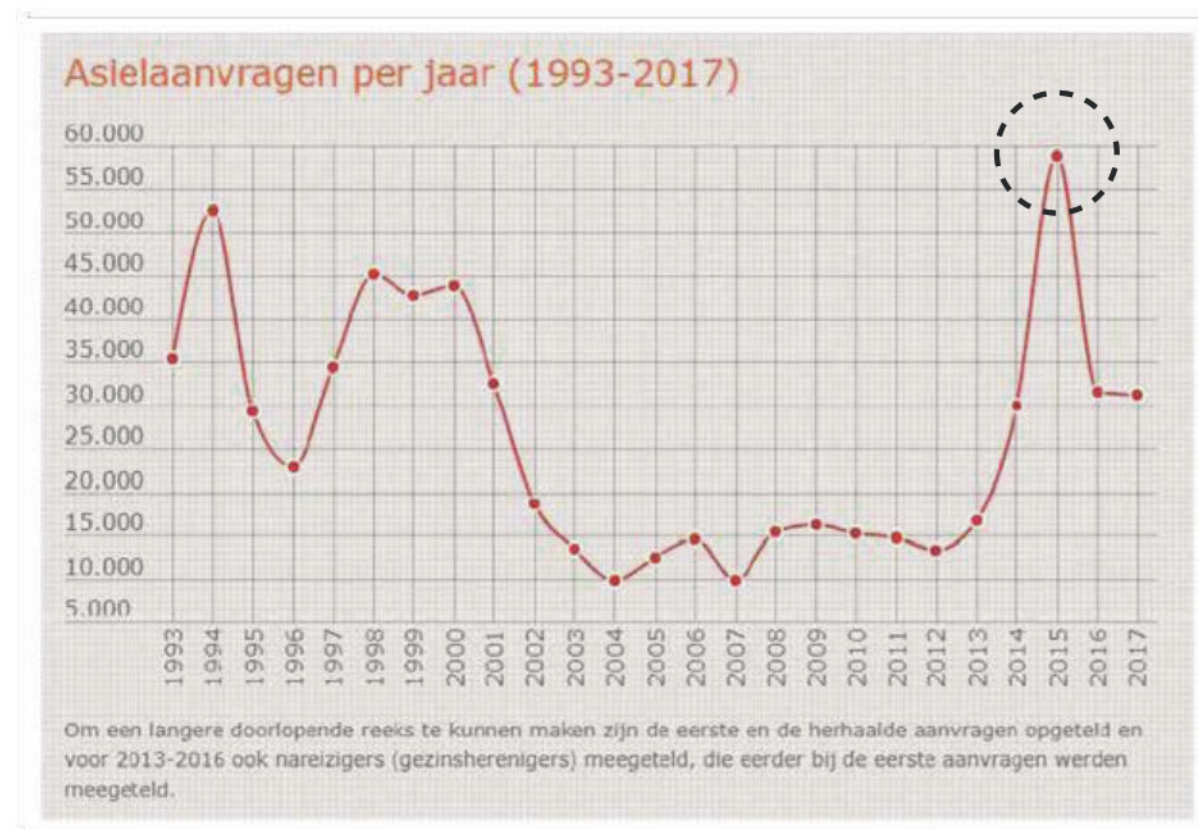
Technical aspects



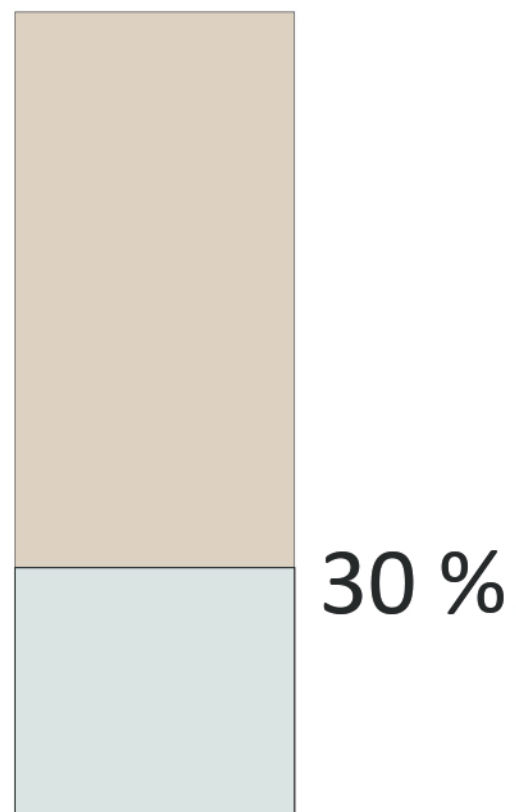
# Relevance

## Refugees / Status holders

A refugee is a person who, for a well-founded fear of persecution because of race, religion, nationality, political opinion, or because opinion, or because of an ongoing war, currently resides outside of his native country. Refugees cannot return to their native country unless the situation there becomes safe.

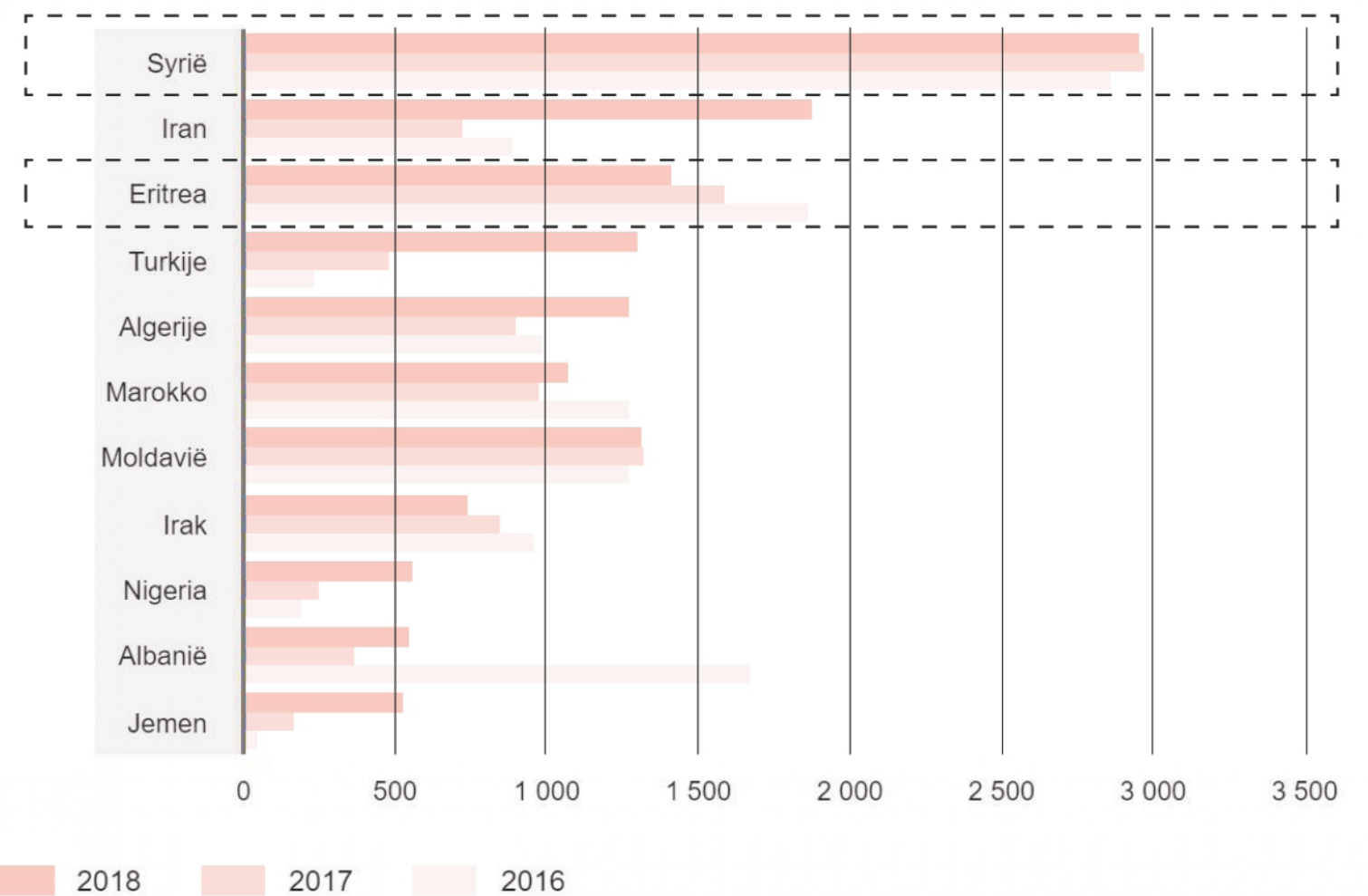


Number of asylum requests in each year in The Netherlands. Source: VWNL, 2017.



Status holders are one of these  
**Vulnerable groups**

## Refugees nationalities



Nationalities of refugees who sought refuge in the Netherlands. Source: CBS, IND.

## Number of refugees



Worldwide about 56.6 million



Europe about 1.2 million



The Netherlands about 40 thousand

## Take **refugees** and their integration seriously

Integration policy must better match the knowledge and skills of newcomers.

## **5,500 status holders** are waiting for a home in AZC

5,500 status holders in the Netherlands - people with a residence permit who are waiting for a home. These people reside in asylum centers. That number is considerably higher than at the beginning of this year. Then the counter was still 4600.

## Reception of **asylum seekers** is bulging due to a shortage of housing

Asylum seekers' centers are overflowing with refugees who are entitled to a home but are not given one. More than half of the 25 thousand residents of Dutch asylum seekers' centers are waiting for a house from the municipality. The municipalities say they do not have enough vacant rental properties to meet the demand.

Charlotte Huismas, 2015

A **status holder** is an asylum seeker with a temporary or conditional residence permit. After granting the permit, they get a house.

At this stage they start their integration into the society.



## Research question

How to design **social housing** in an affordable manner that can provide the **status holders** a comfortable living environment and help them with **the integration**?

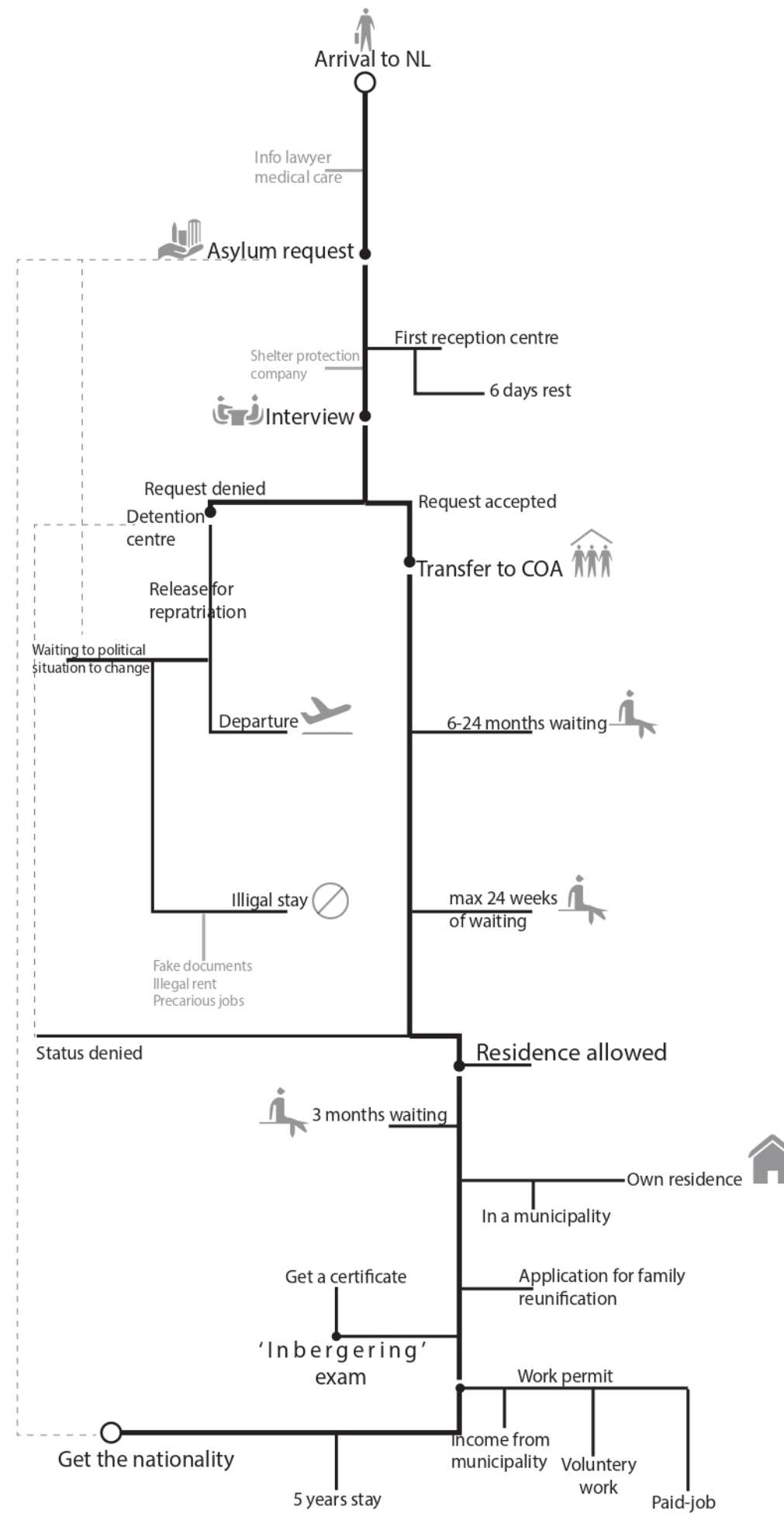
Integration related question:

How can an architectural environment be created that includes both people with migration background as well as people with Dutch background?

Design related question:

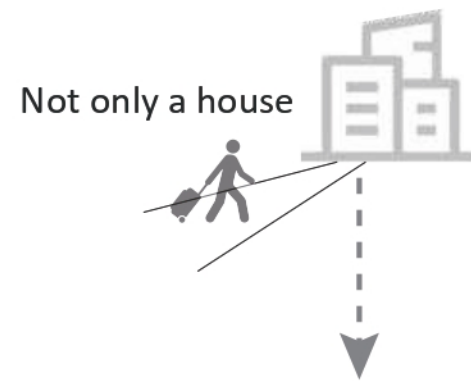
What are the specific spatial and social design needs of refugees at the level of housing and building?

# Problems

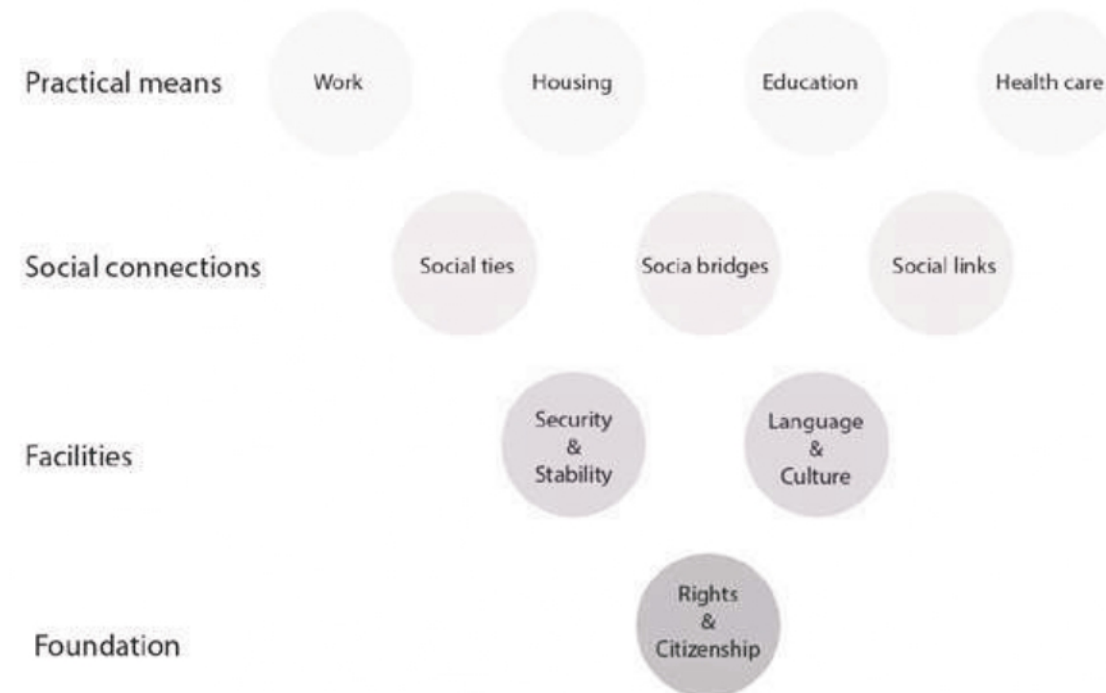




## Research results (their needs)



Conditions should be facilitated to promote integration



Conditions for integration. Source: Ager and Strang, 2004.

Role of architects is to help through providing...



Integration is promoted  
&  
a sense of belonging is created



## Building-related requirements to avoid friction between residents

### Design coherence of the housing units

- > reduces observable differences between different tenures
- > contributes to bridging social divides
- > may overcome prejudice

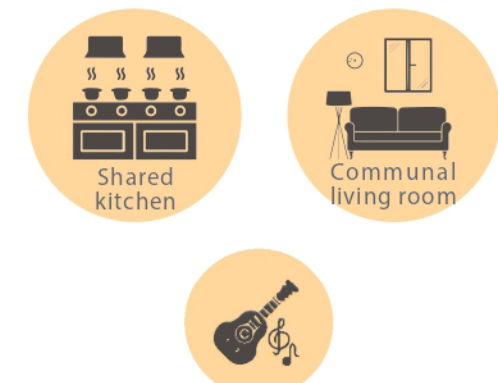
### Shared environment among residents of different backgrounds

- > encourages informal positive interactions (ex: in parking - corridor)
- > in which possitive experiences can occur between residents
- > develops positive perceptions between residents

### Shared facilities and amenities

such as: communal living room (social gathering)  
study room (enhancing Dutch language)  
Shared kitchen (social gathering)  
workshop space

- > reduce prejudice and decrease distances



## Reference project: Startblock

50% Dutch people & 50% Refugees

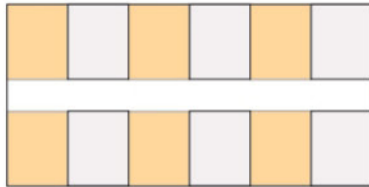
Startblock, Amsterdam, housing foundation De key



Startblock complexes in different areas in the Netherlands



## Policies followed by Startblock to achieve successful integration & harmony between residents



-----> placing dwellings of both refugees and local residents adjacent and randomly throughout the building

-----> giving residents the responsibility in organizing everything on their own



Meetings



Celebrations



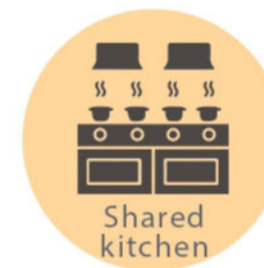
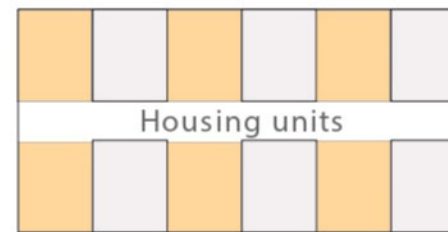
Music events



-----> giving residents educational and awareness lectures about their duties & rights and tips to accept each other

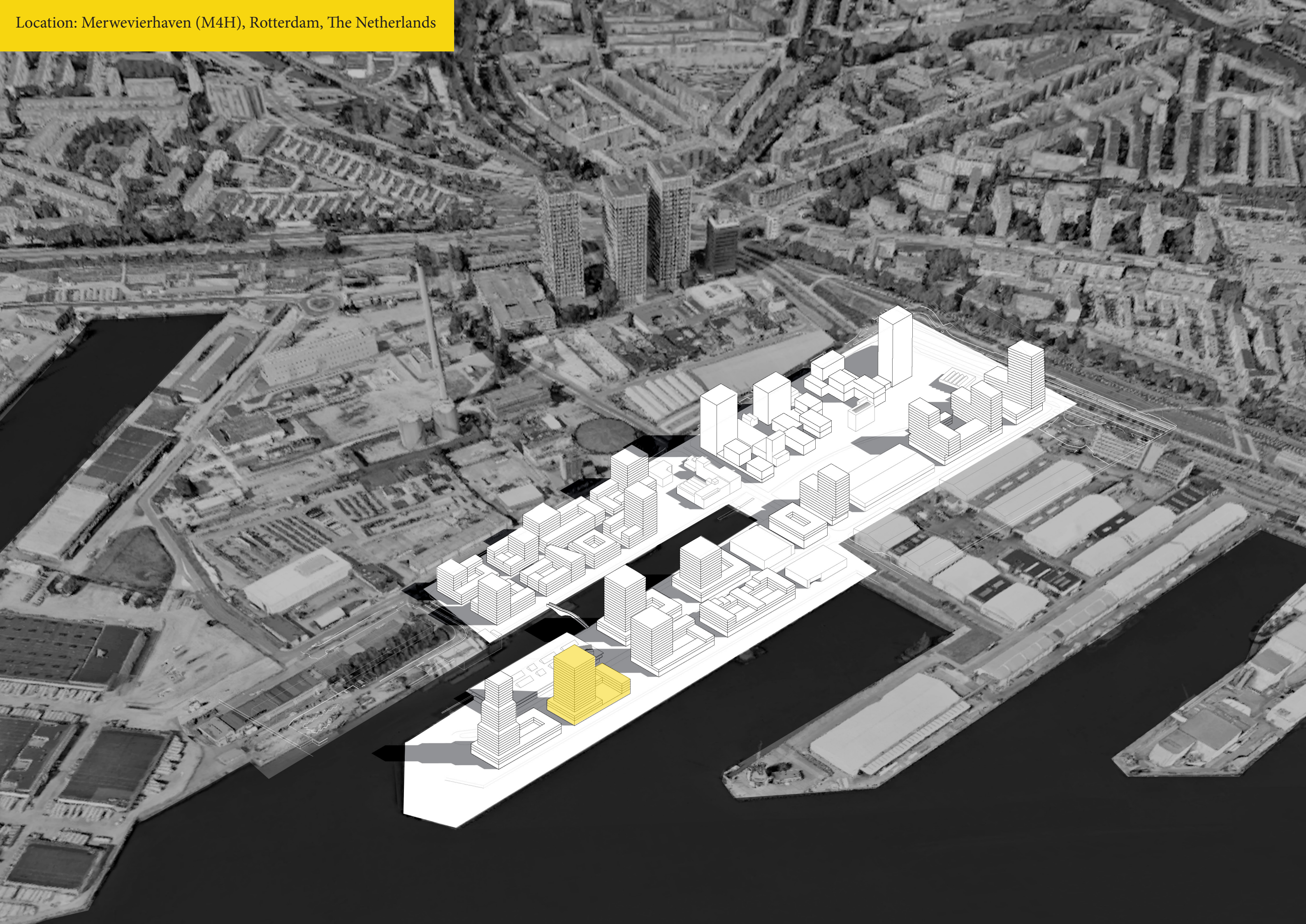


## Conclusion





Location: Merwevierhaven (M4H), Rotterdam, The Netherlands





## Urban context

Keilekwartier



- Existing building
- New building
- My building

100 cm



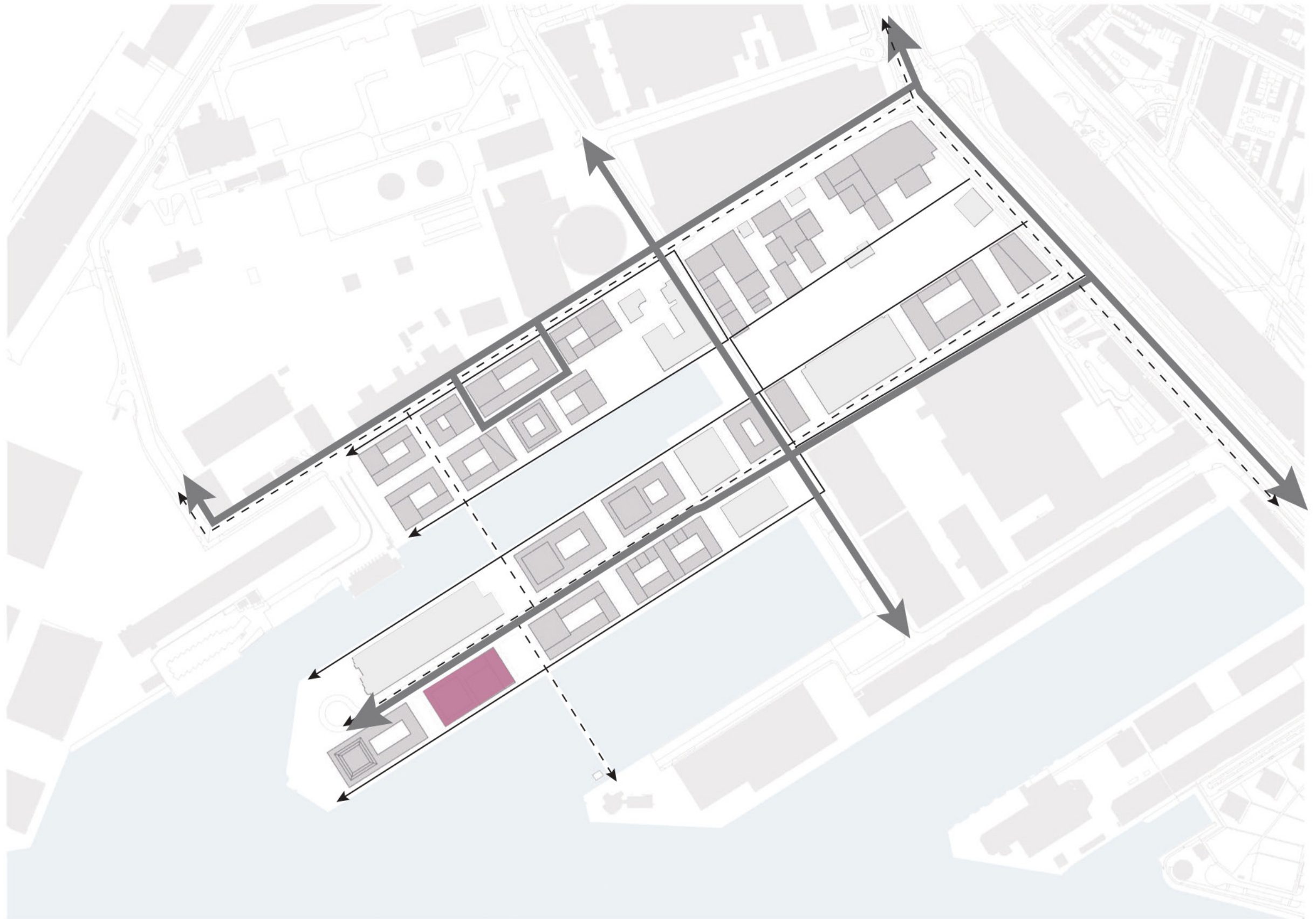
## Urban context

Keilekwartier

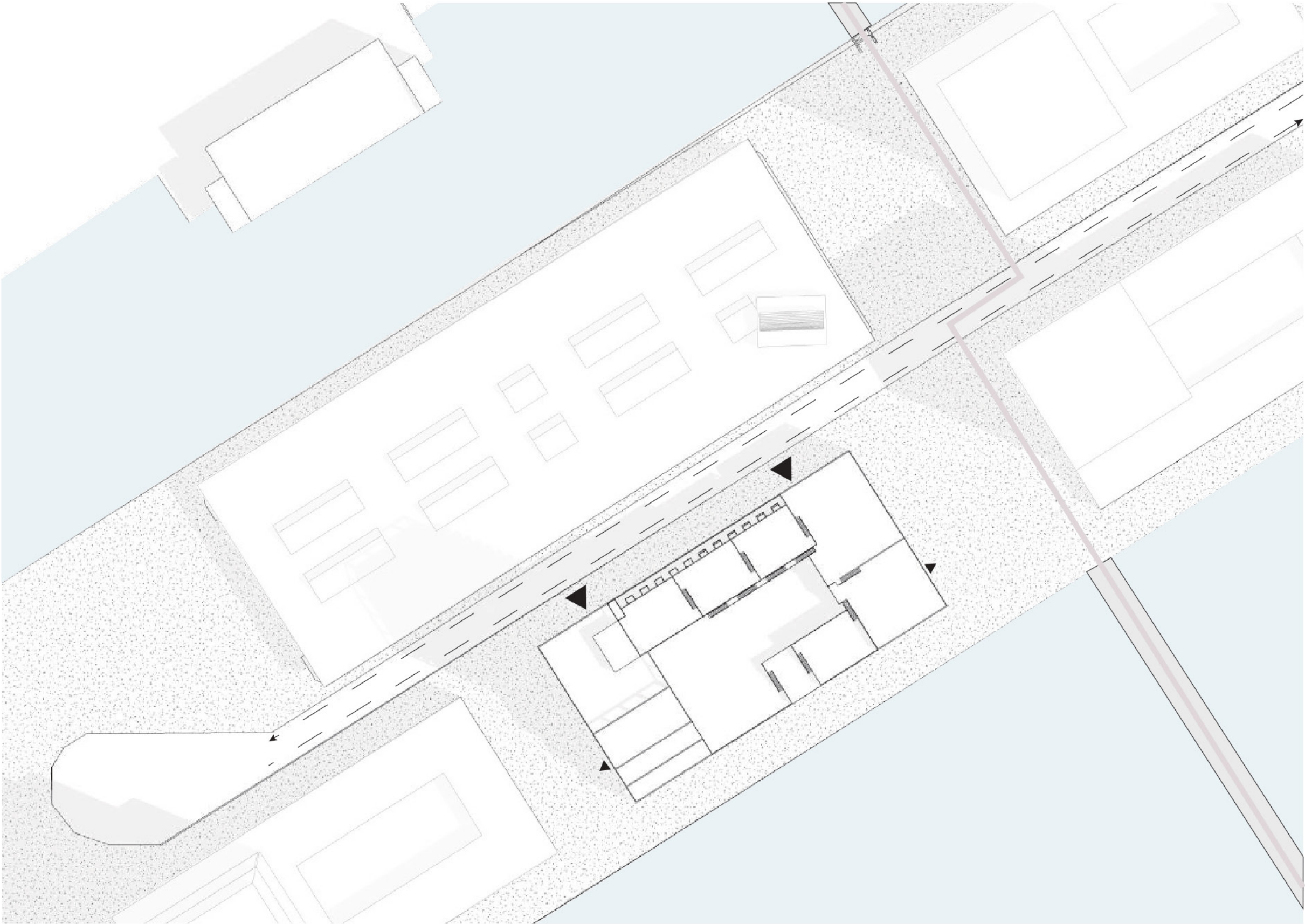


- Walking route
- Bicycle route
- Vehicular route

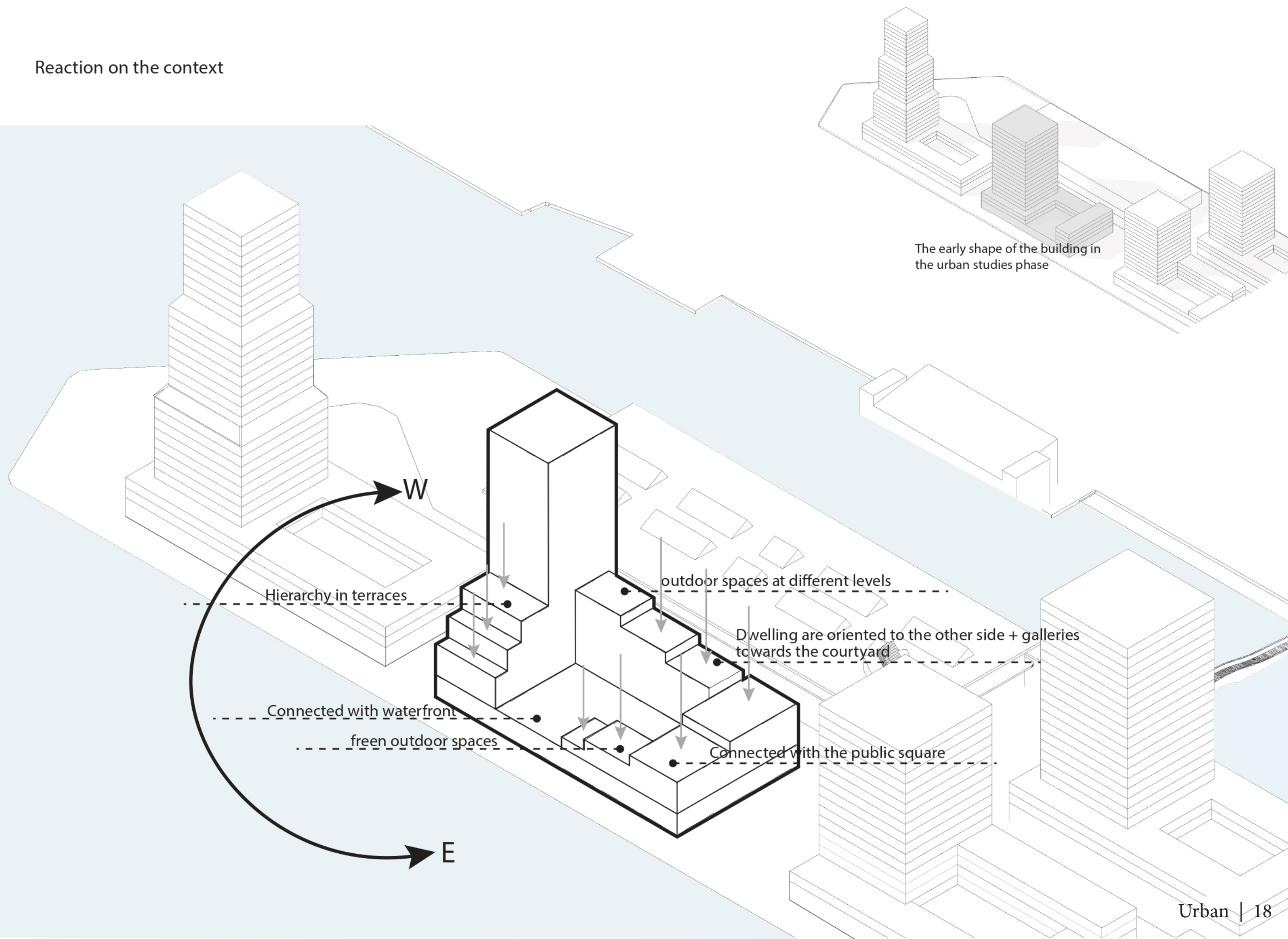
100 cm





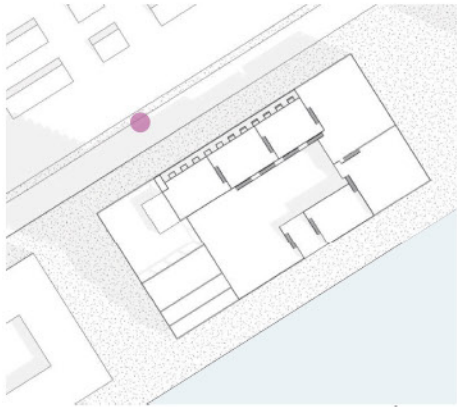


## Reaction on the context

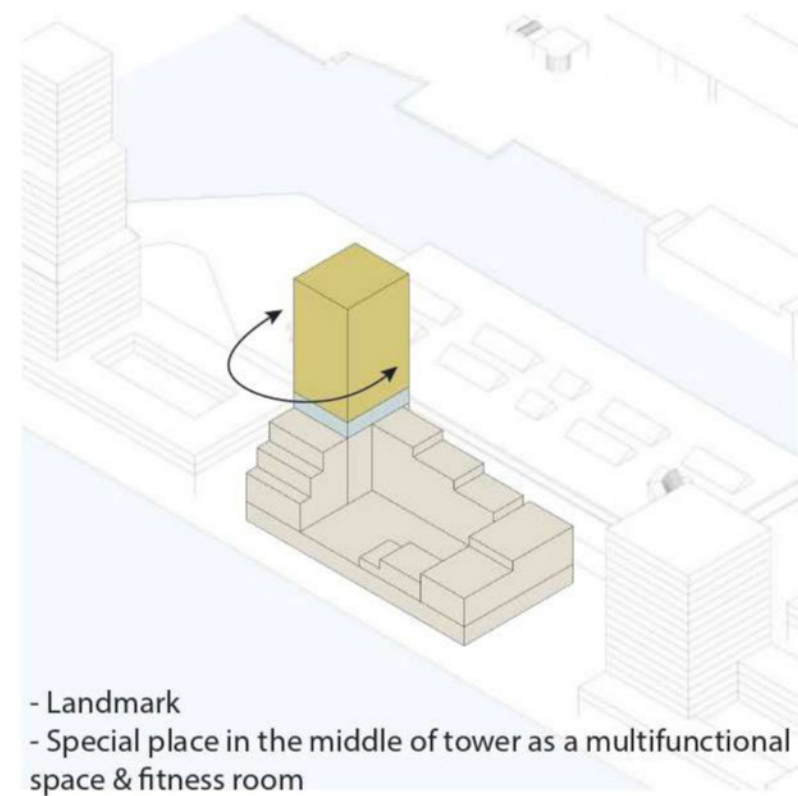
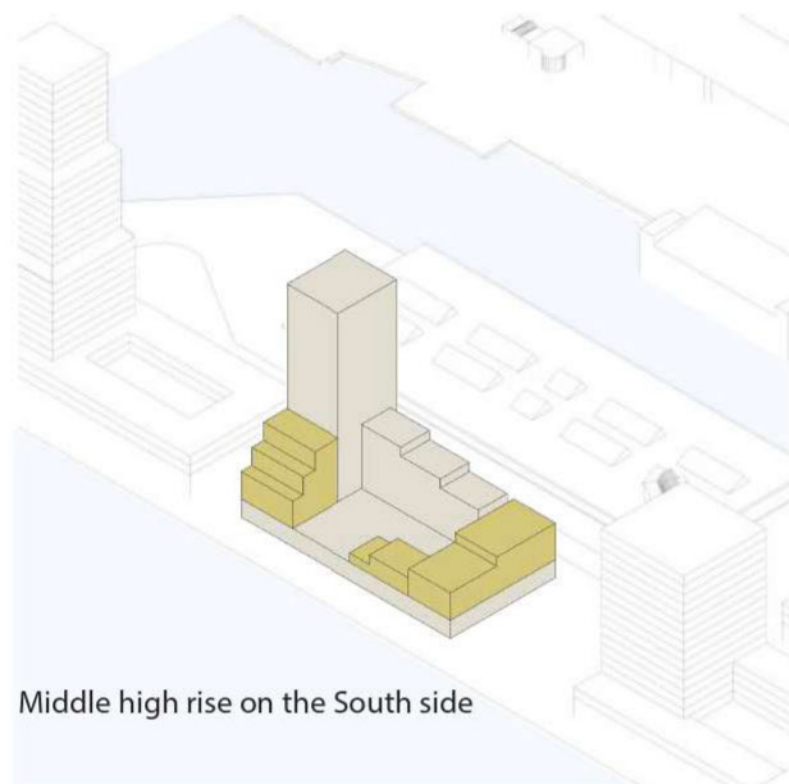
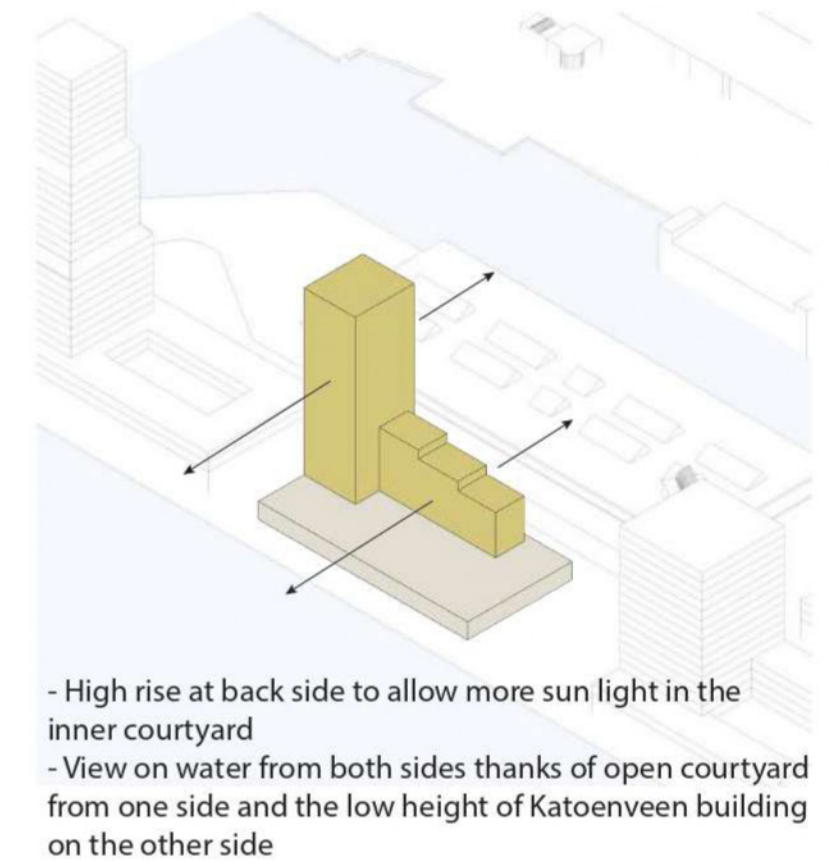
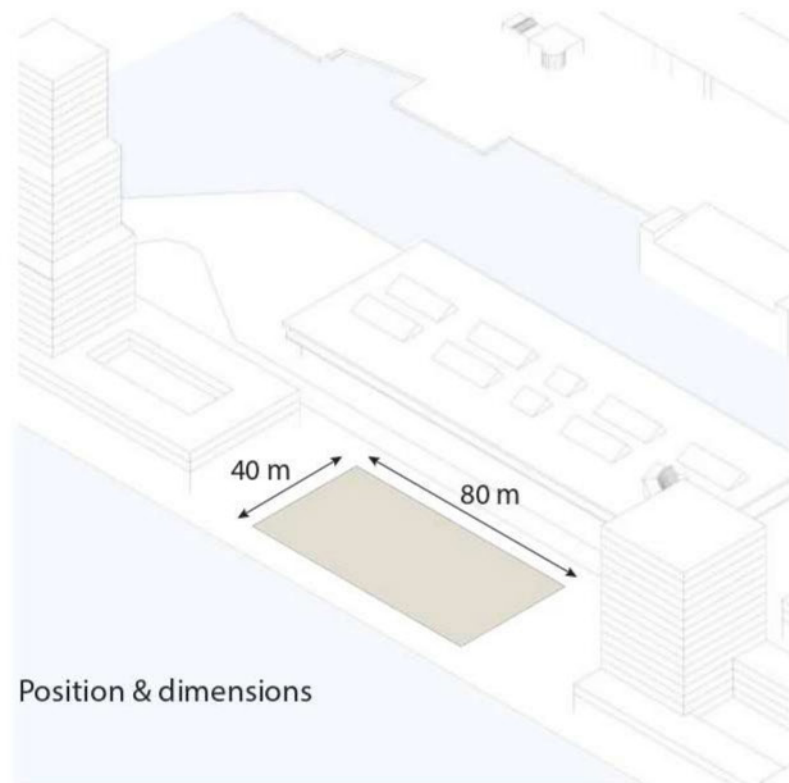




## Urban qualities

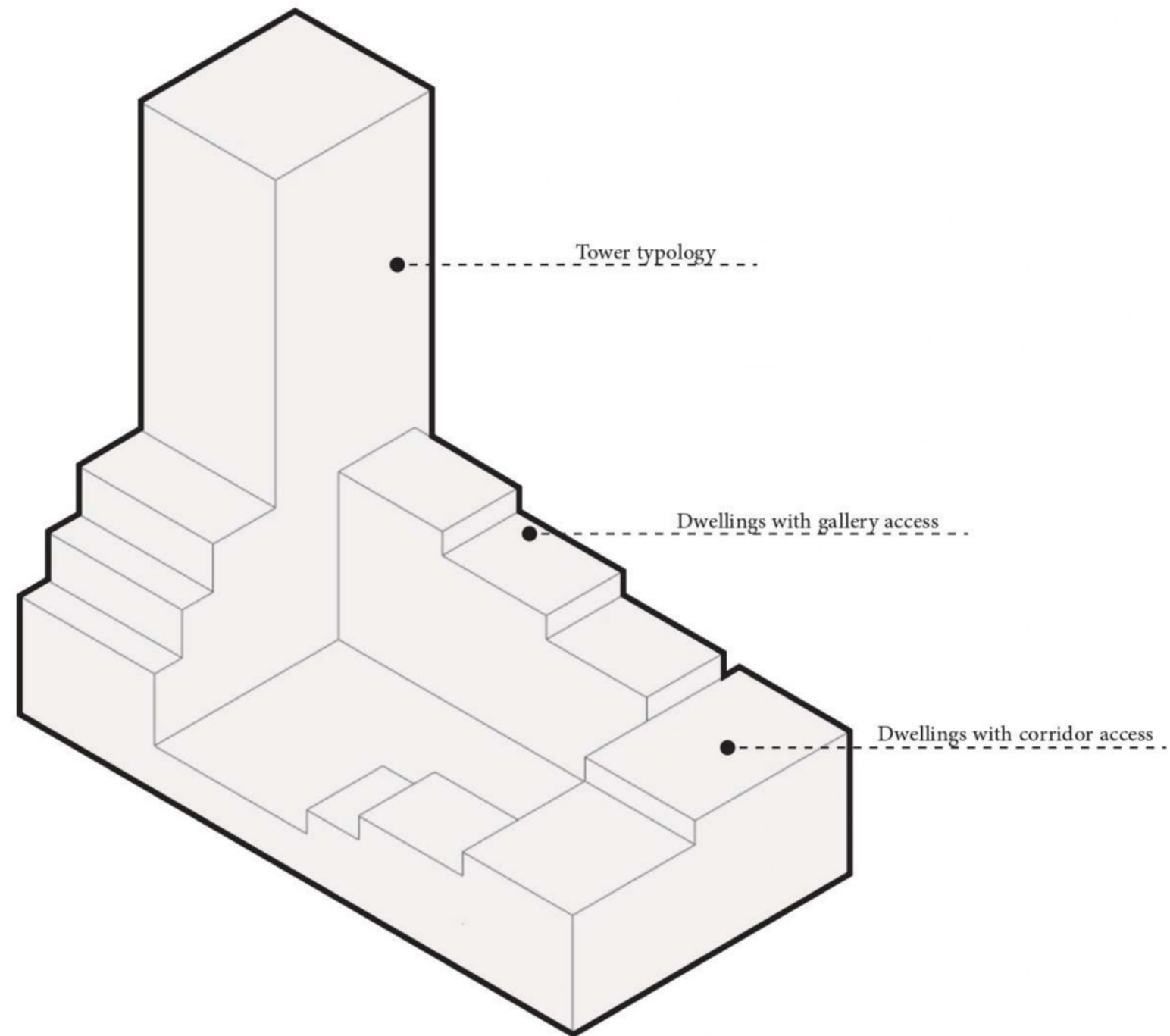


## Diagrams explaining the design concept





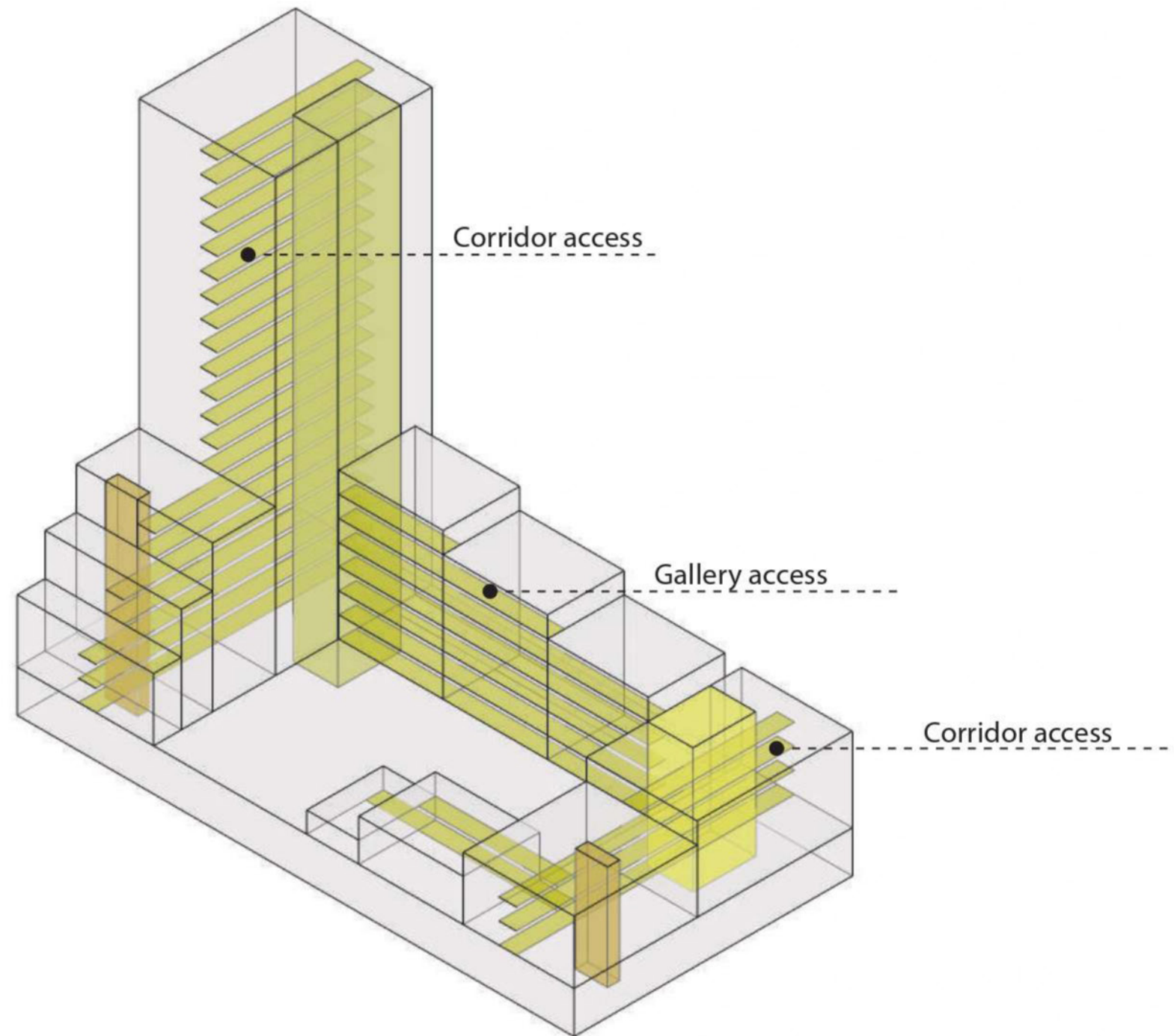
Total volume



## Circulation

- Main stair - corridors - galleries
- Fire escape stairs

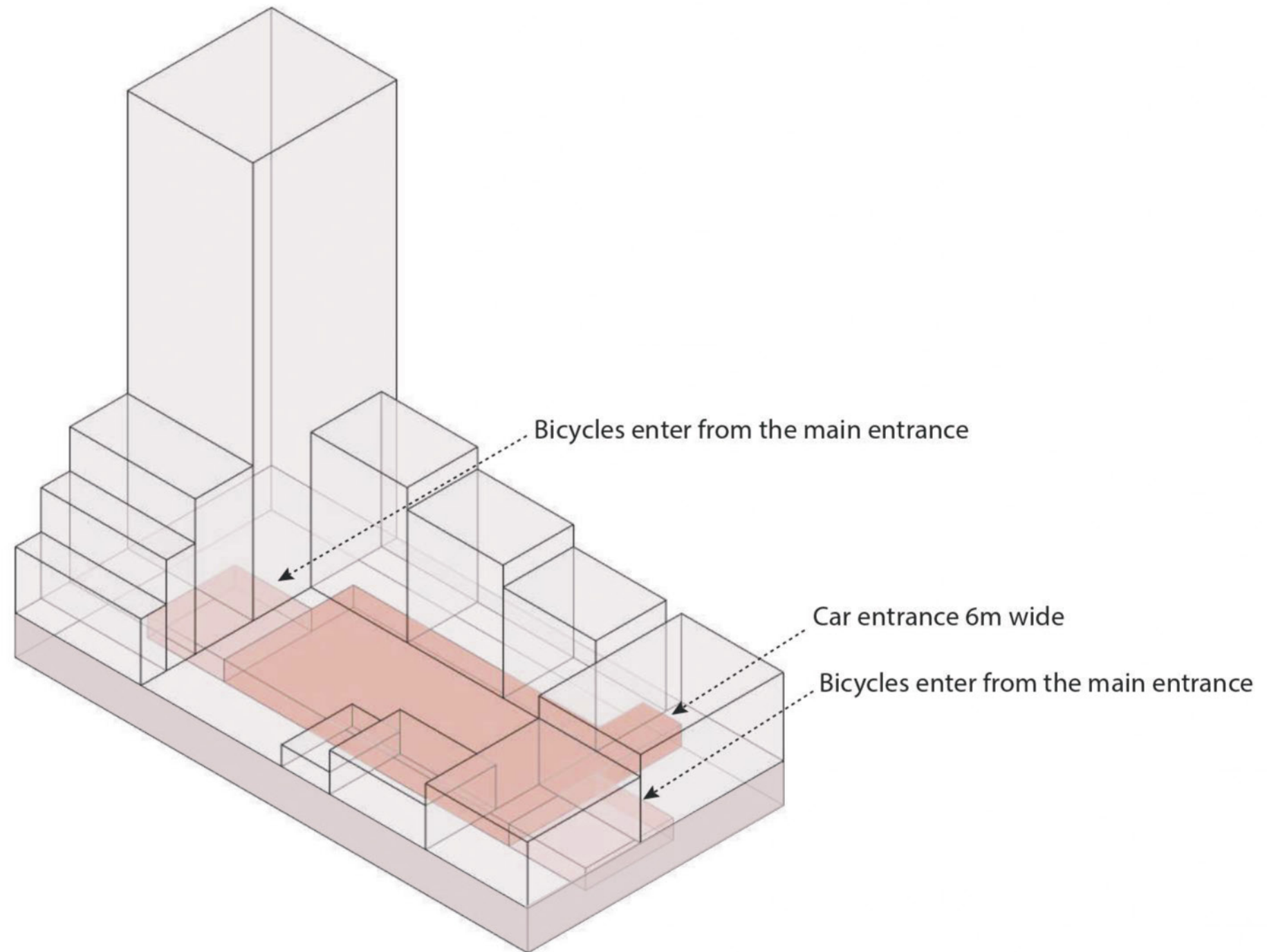
- Two main entrances that connect the street with the dwellings + two fire escape entrances
- Combination between corridor access and gallery access
- The courtyard can be reached from all dwellings



## Car parking & Bicycle garage & commercial plinth



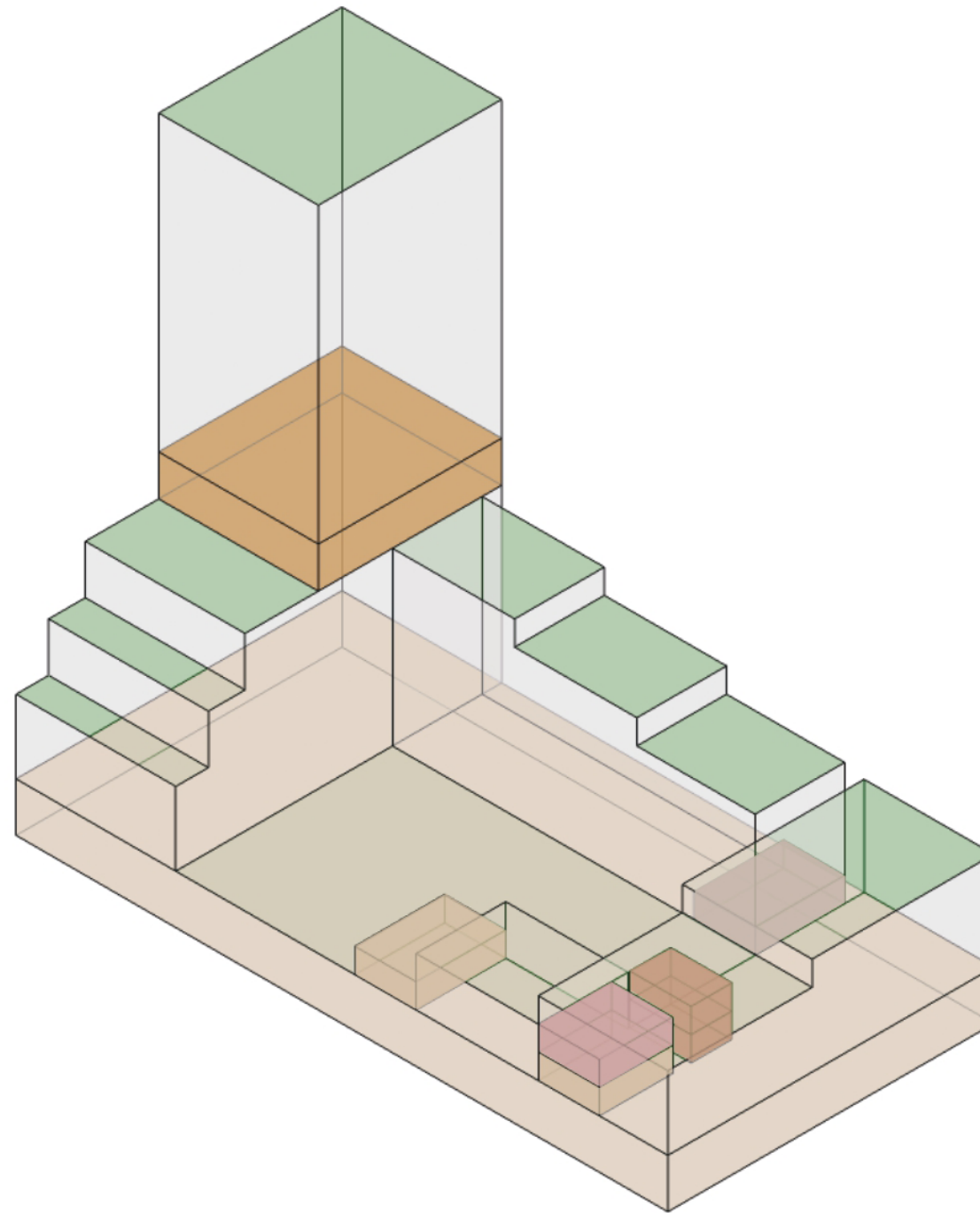
- Parking garage with 27 shared cars located in the middle of the plinth
- Two bicycle garages to be used by all residents of the building. They are located at the same level of the entrance.
- Plinth with different public function that facilitates activities to the area. Its transparent elevations make it connected with the adjacent buildings and increase the quality of the area



## Public & Private & collective

- Public (plinth)
- Private
- Shared kitchen & living room
- Communal room
- Reading room
- Laundry room
- Multifunctional room & fitness room
- Roof terraces (communal spaces)

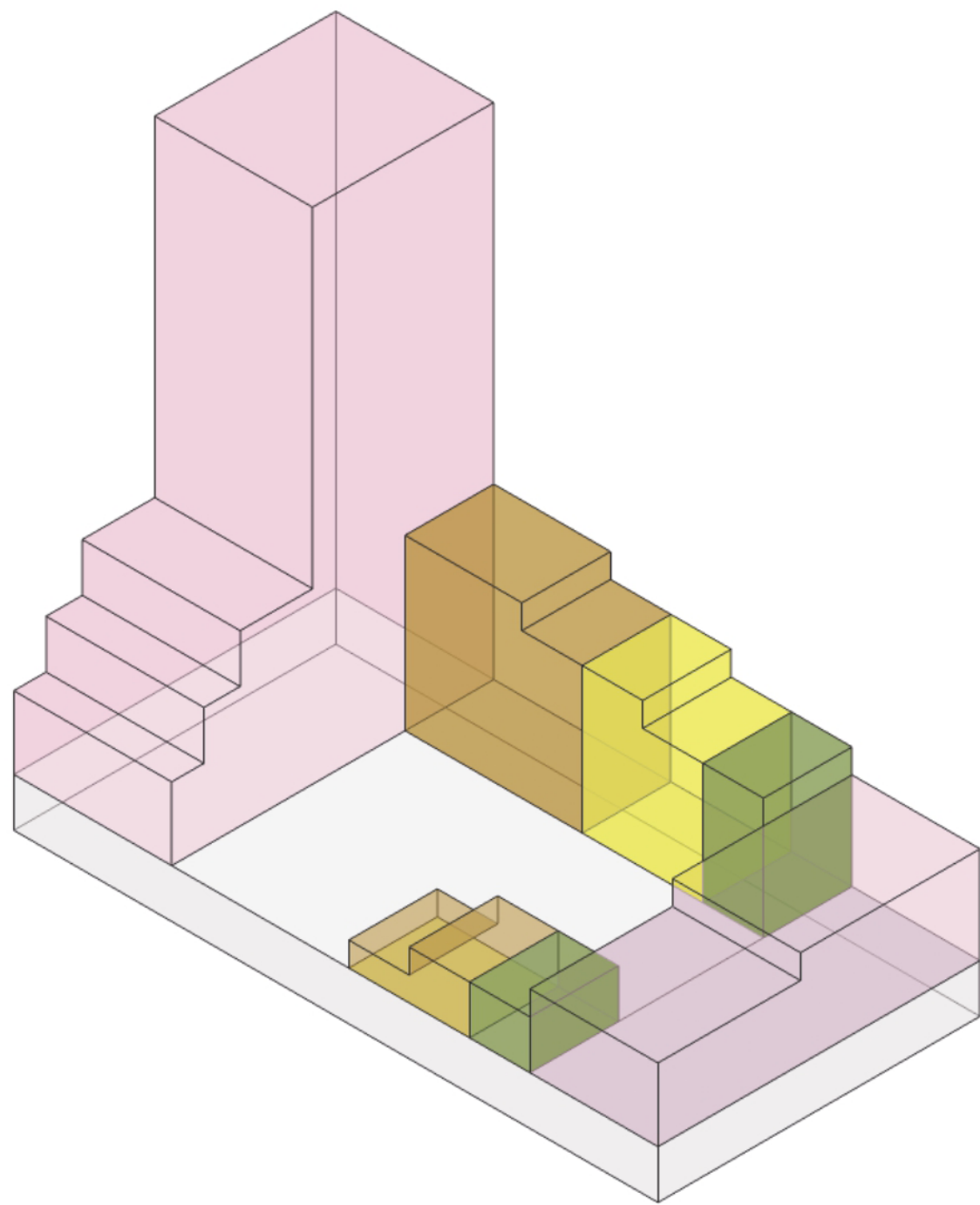
- Different types of collective rooms
- lots of green roof terraces as places where residents can meet
- Small size of the dwellings in comparison with many collective spaces



Configuration of household

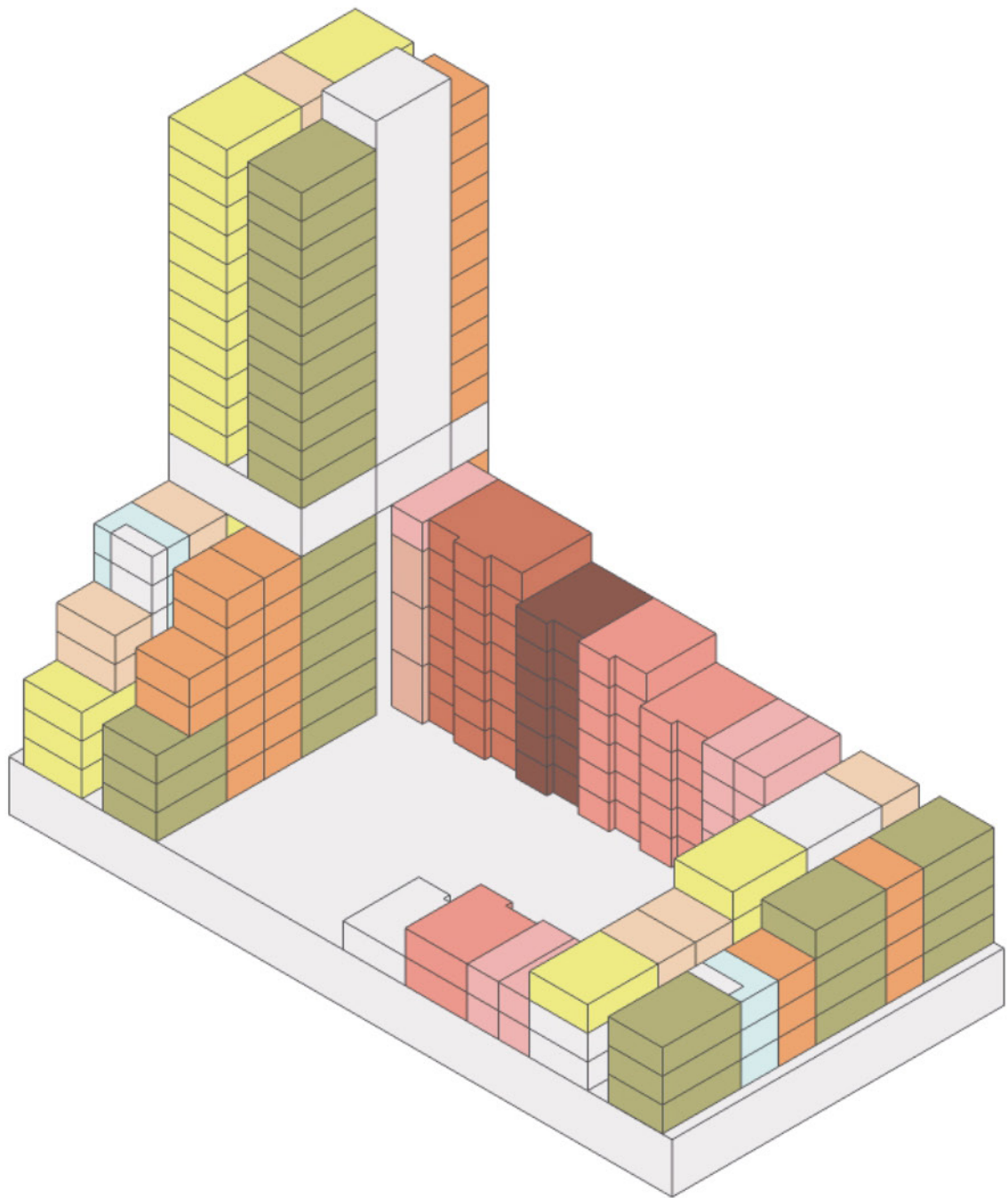
- Living alone
- Living together (couples)
- Living alone \ together (couples)
- Shared houding

- Percentage of shared housing is low in the building in comparision with the amount of other types of dwellings





Dwellings typology

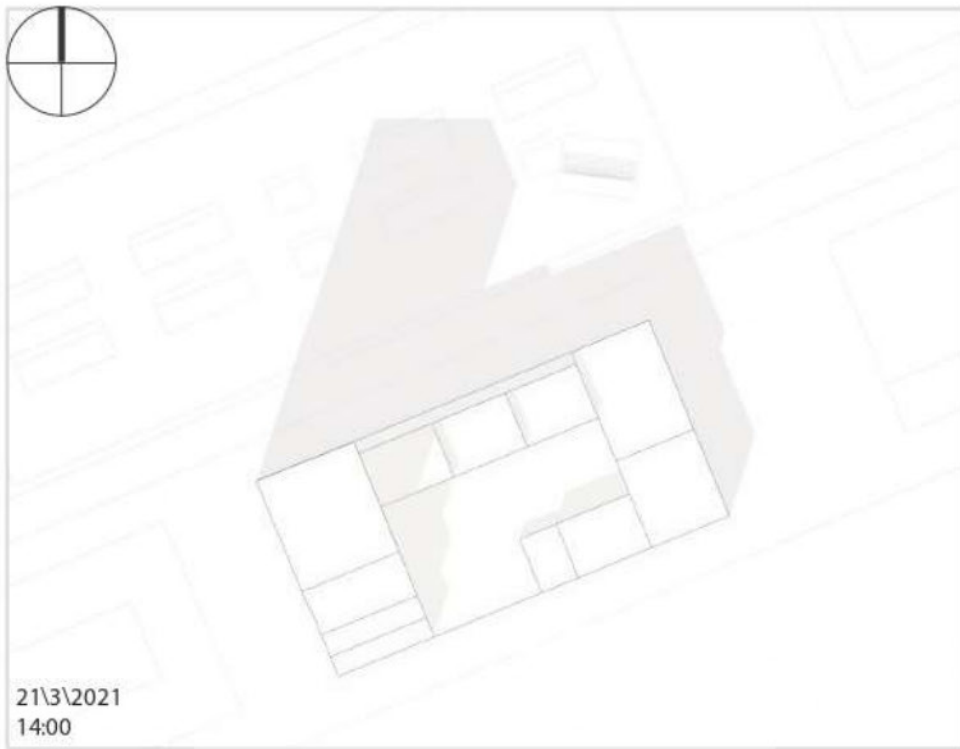
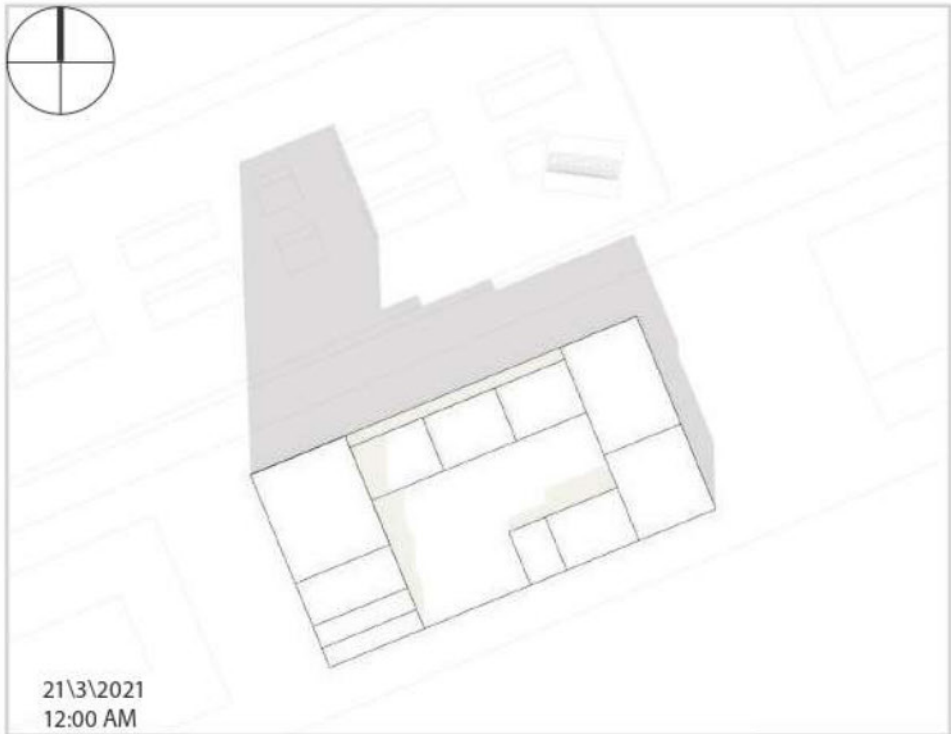


- Many types of dwellings that can be suitable for all residents (status holders, starters, students, other types)

- Total number of dwellings is: **197**



Sun study

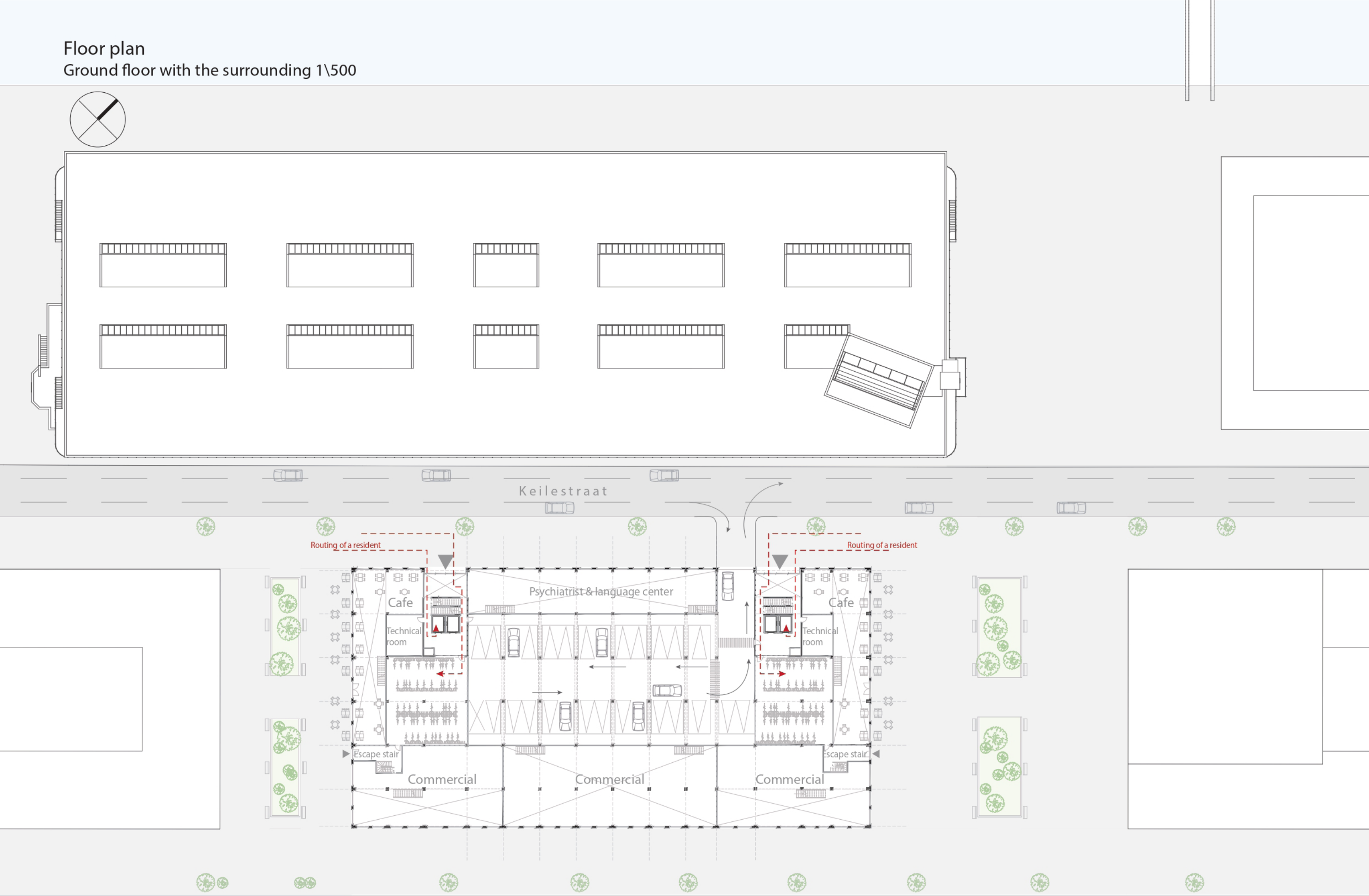








Floor plan  
Ground floor with the surrounding 1\500

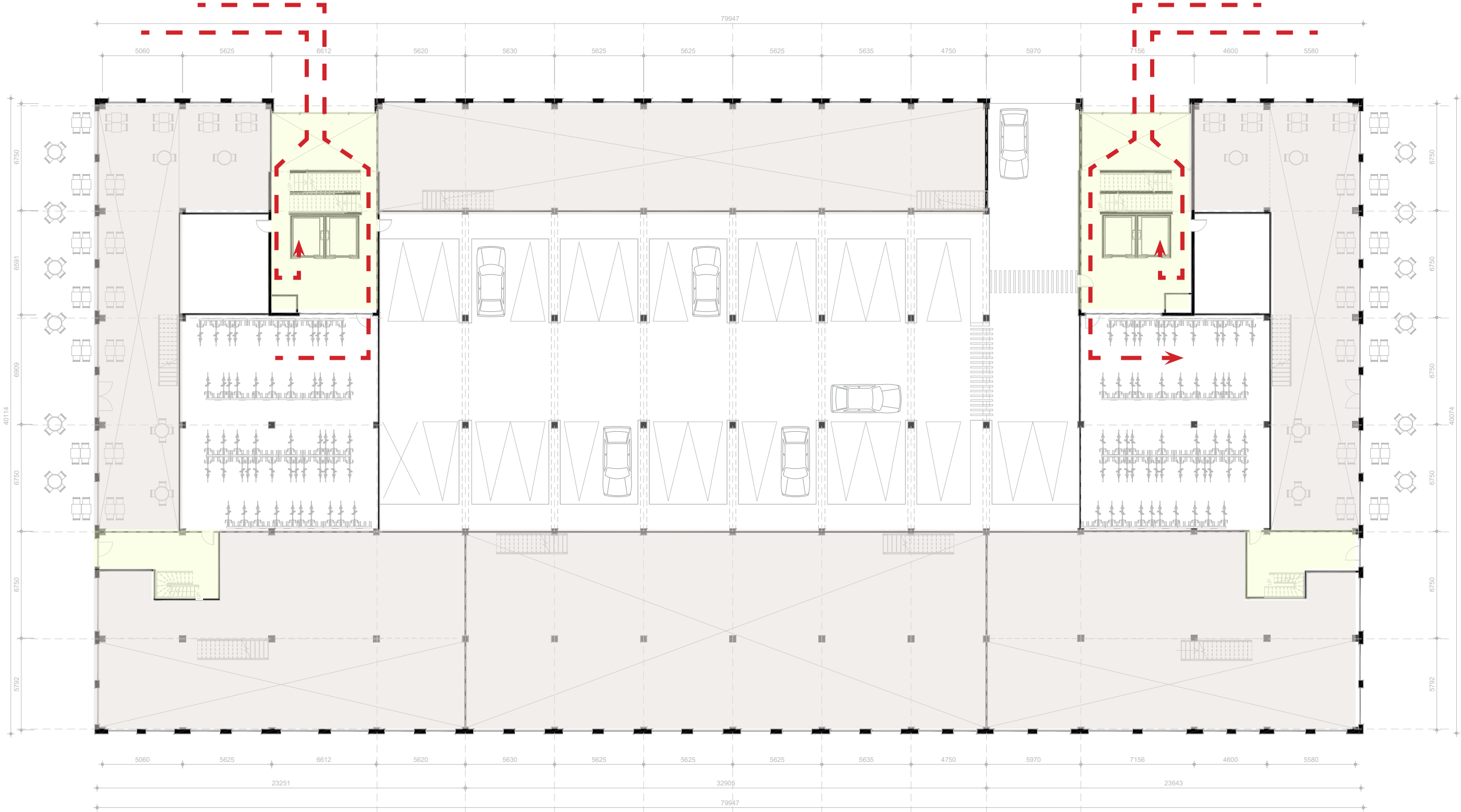


Nieuwe Maas

Floor plan - ground floor 1\250



- Commercial spaces
- Entrance to the building
- Routing of a resident





Verhalenhuis presenteert  
De Volkskeuken

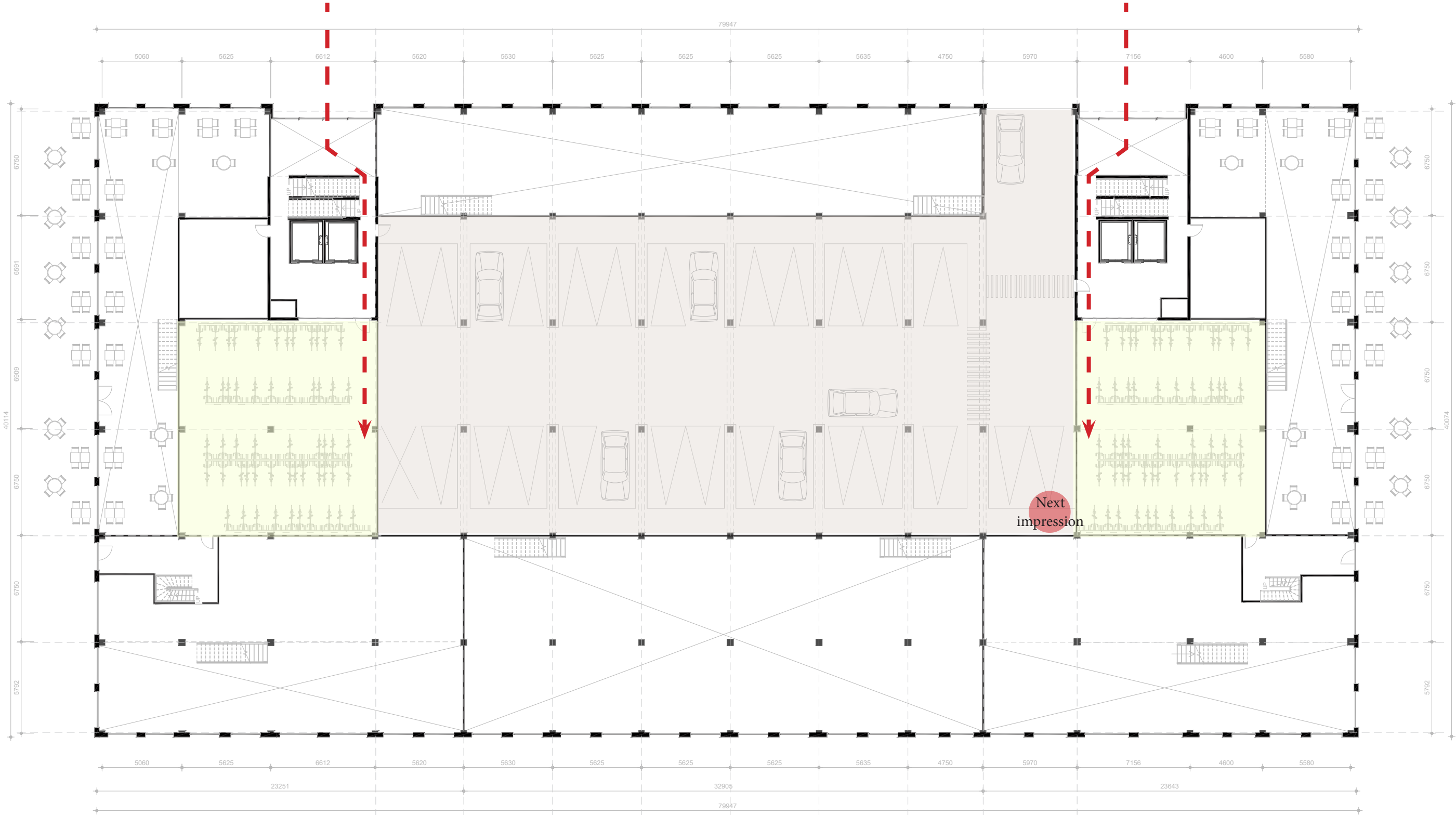




Floor plan - ground floor 1\250



- Car parking
- Bicycle parking
- Routing of a resident





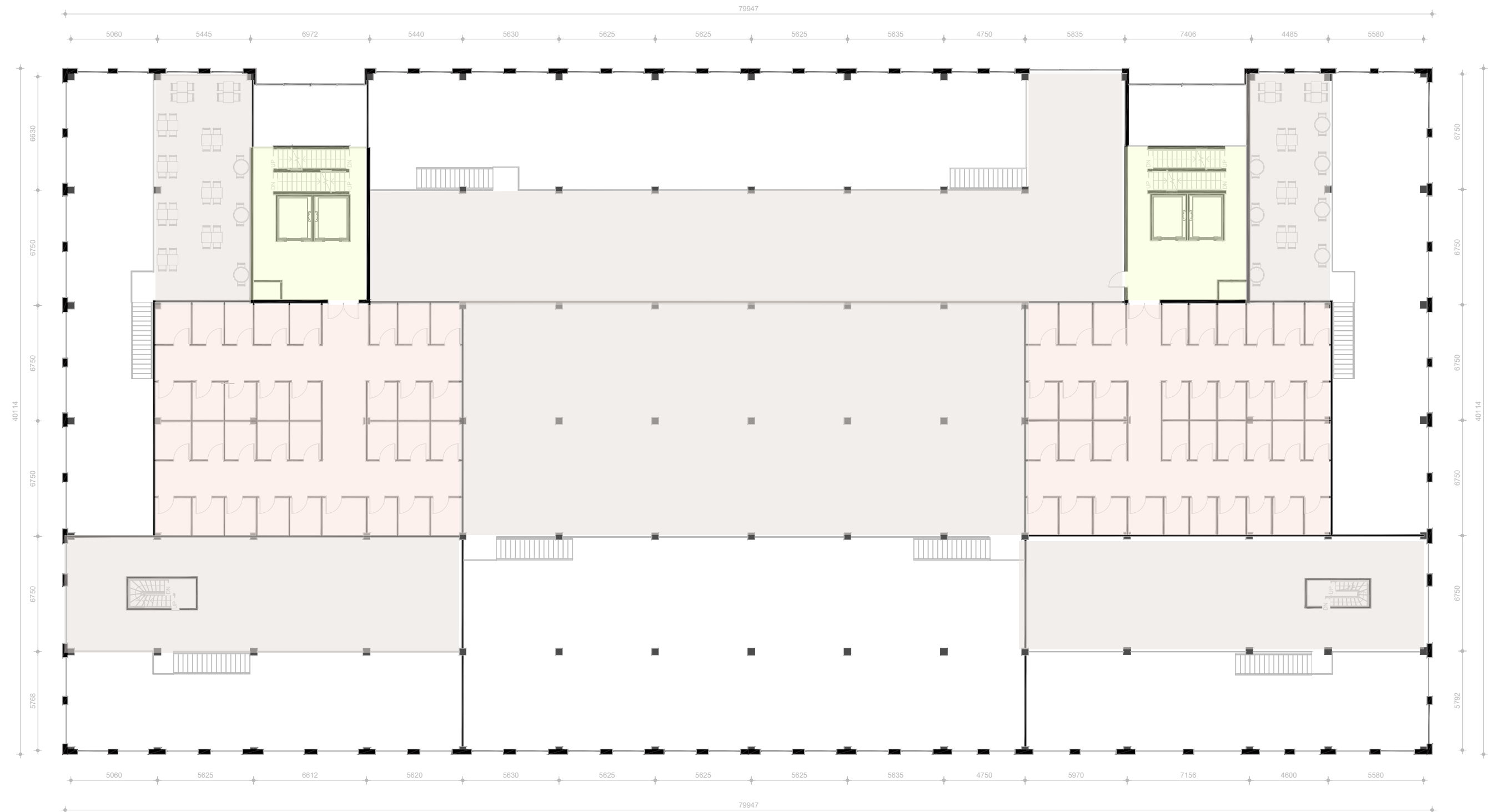
Floor plan - first floor (plinth) 1\250



## Commercial spaces

## Circulation

## Storages





Floor plan - second floor 1\250



Roof terrace

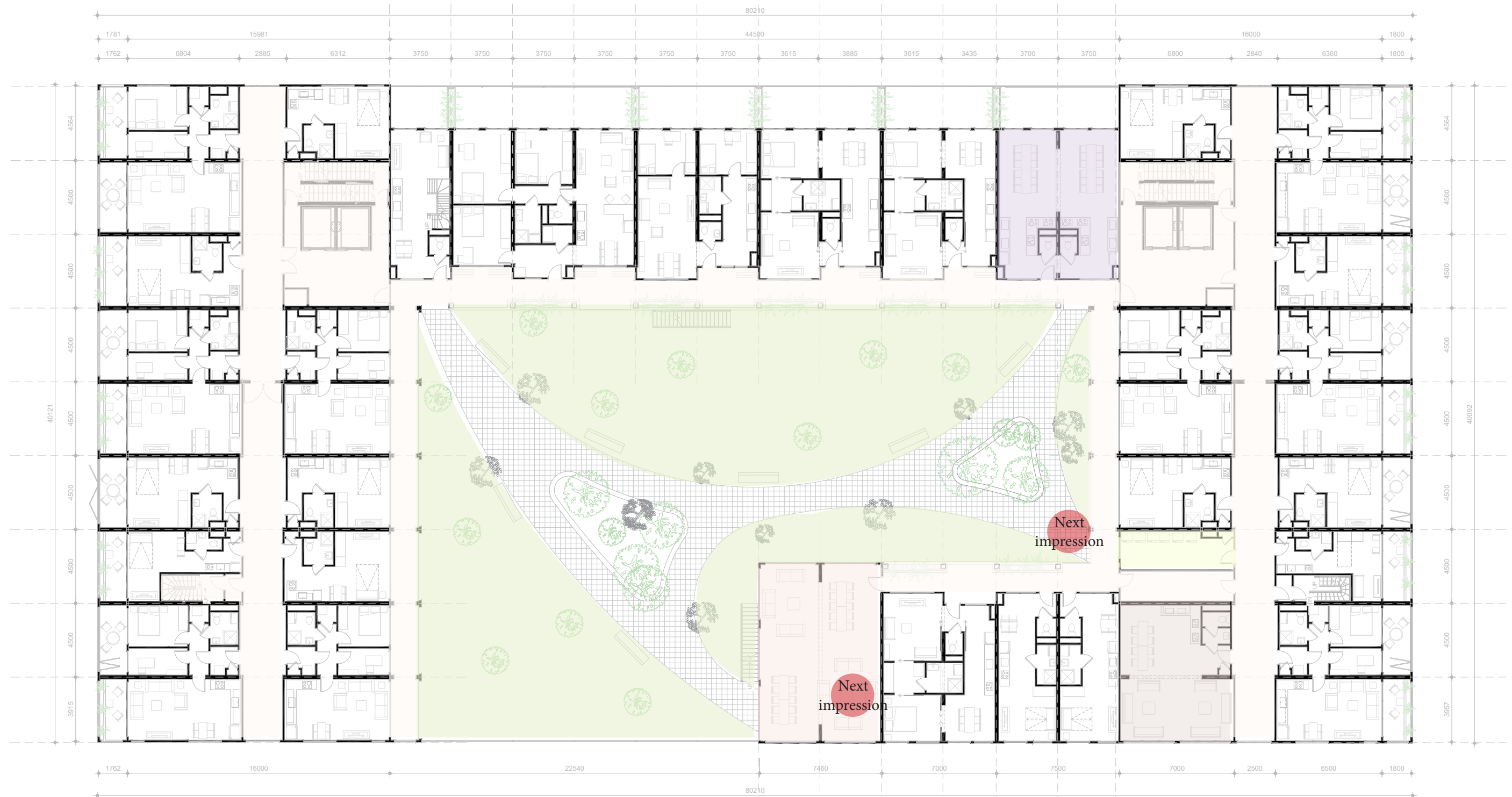
Laundry room

Communal room

## Circulation

Reading room

Shared kitchen









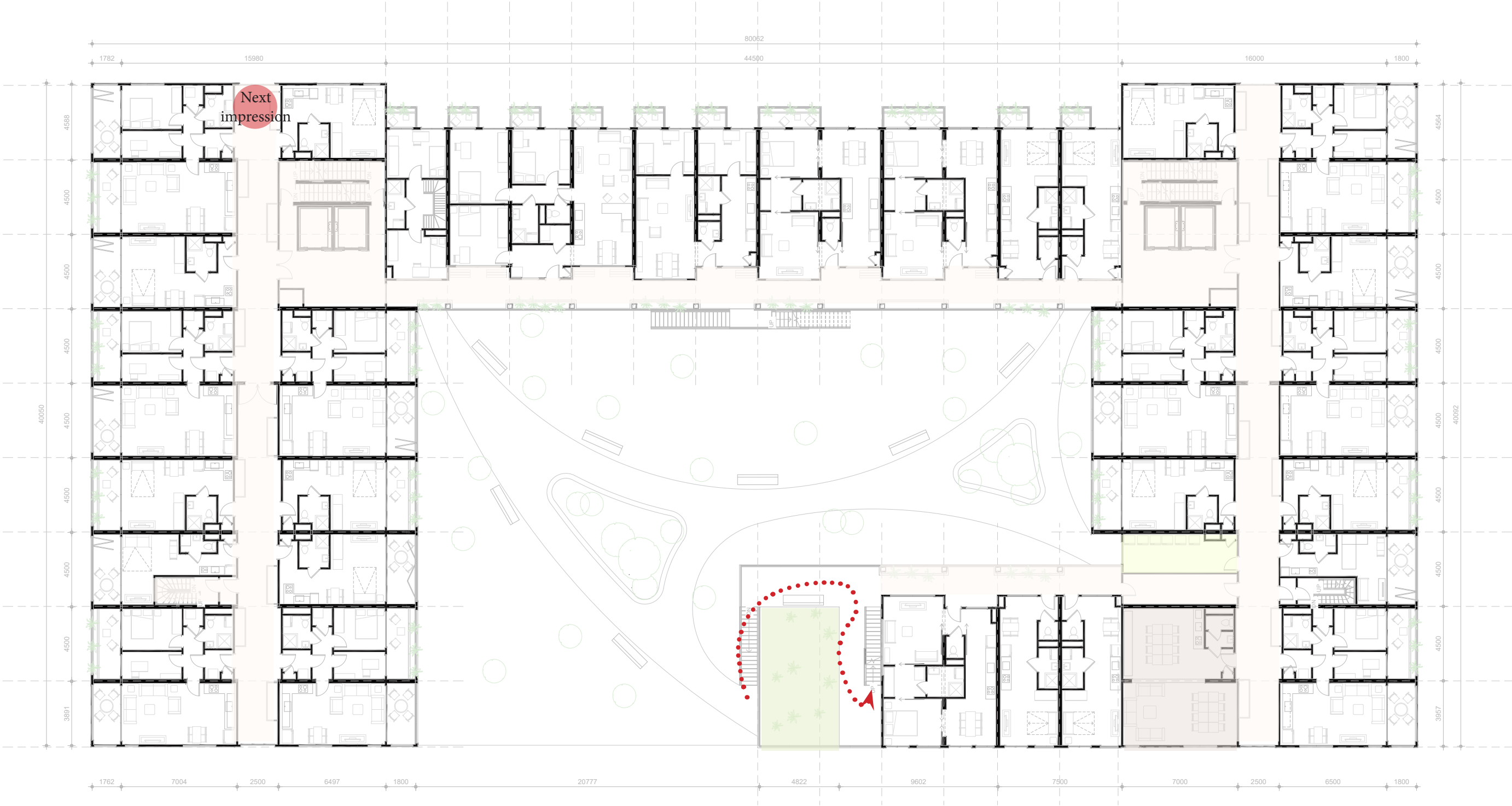




Floor plan - third floor 1\250



- Roof terrace
- Reading room
- Laundry room
- Circulation





08



06



Not a dead-end  
corridor

Natural material for homely feeling

Small niches to break  
up the long corridor

Vertical connection between  
neighbors



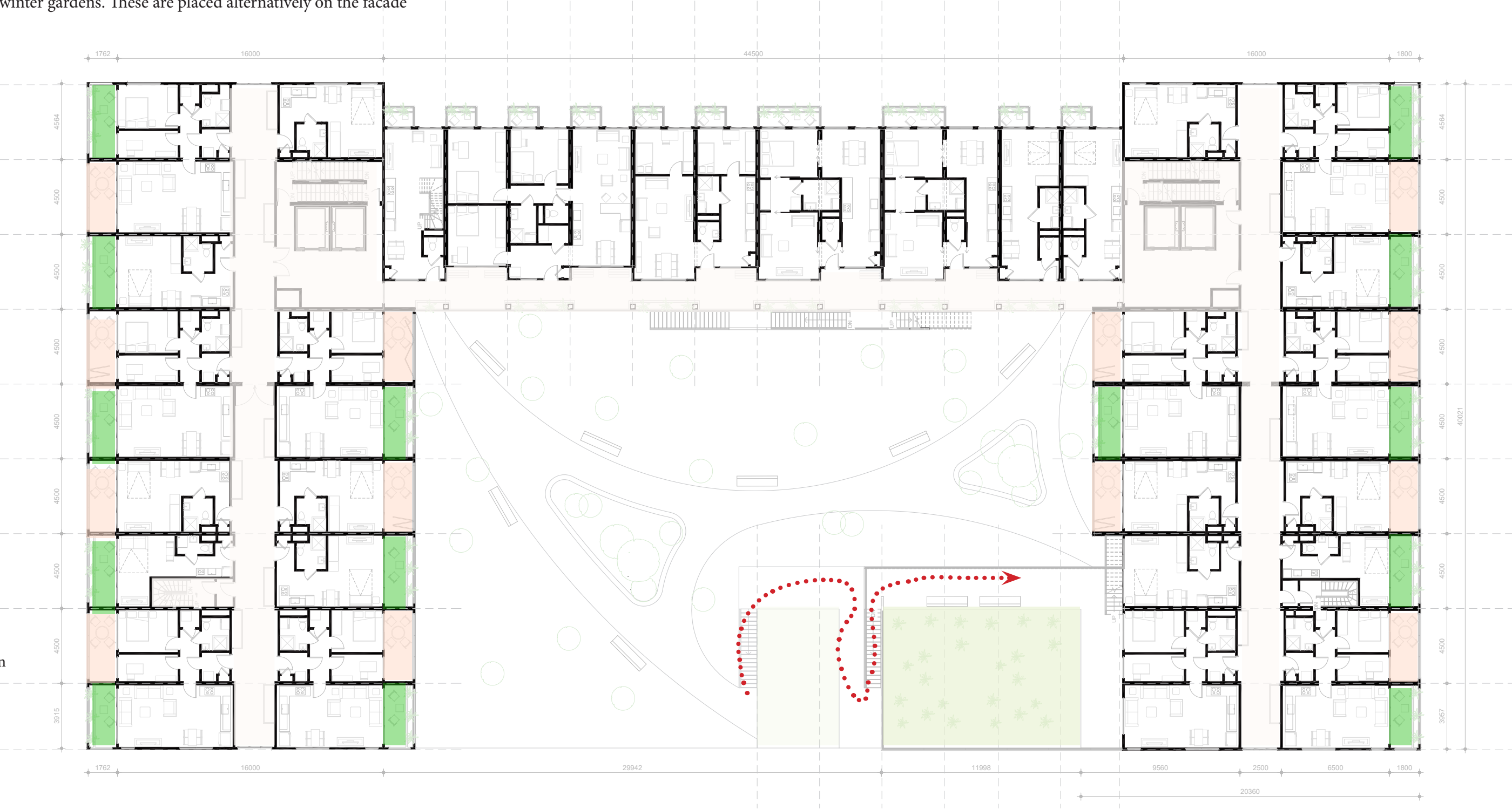
Floor plan - 4th floor 1\250



- Roof terrace
- Visible roof terrace
- Circulation
- Stair routing
- Loggia
- Winter garden

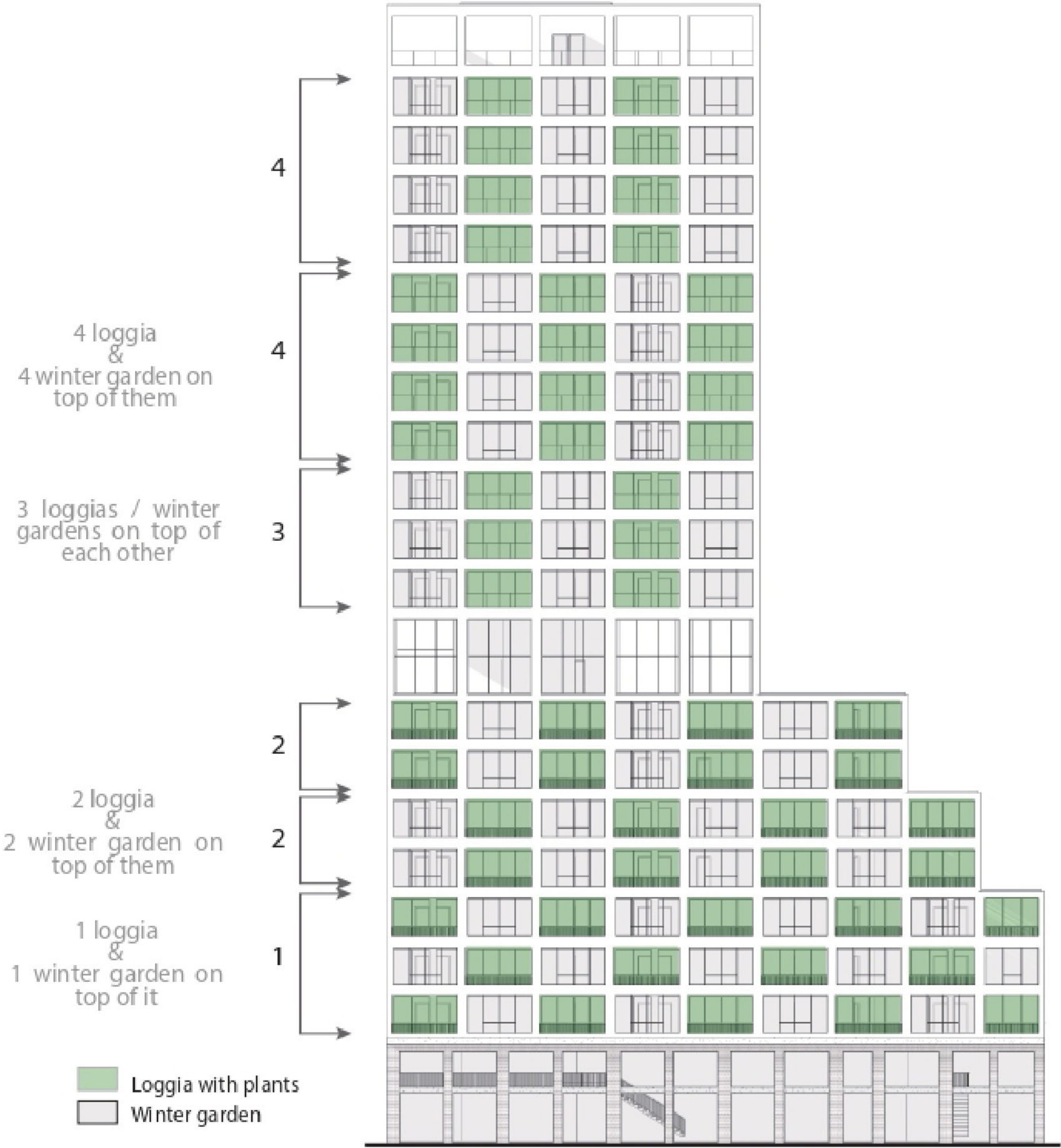


On the outside and innerside the dwellings have either loggia or winter gardens. These are placed alternatively on the facade



Next impression

Tower facade concept of loggias  
and winter gardens









Planting on each level



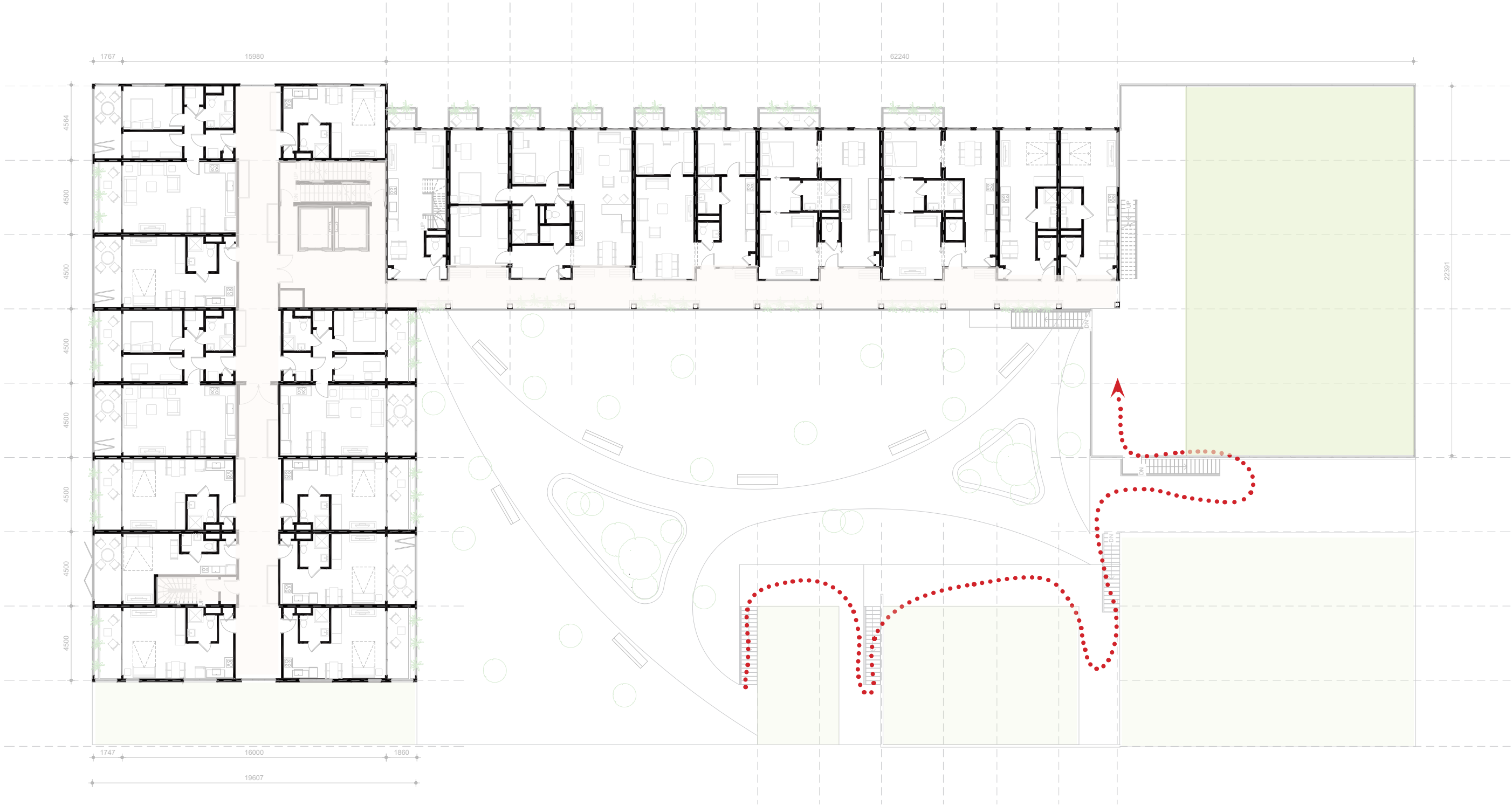




Floor plan - 5th floor 1\250



- Roof terrace
- Visible roof terrace
- Circulation
- Stair routing

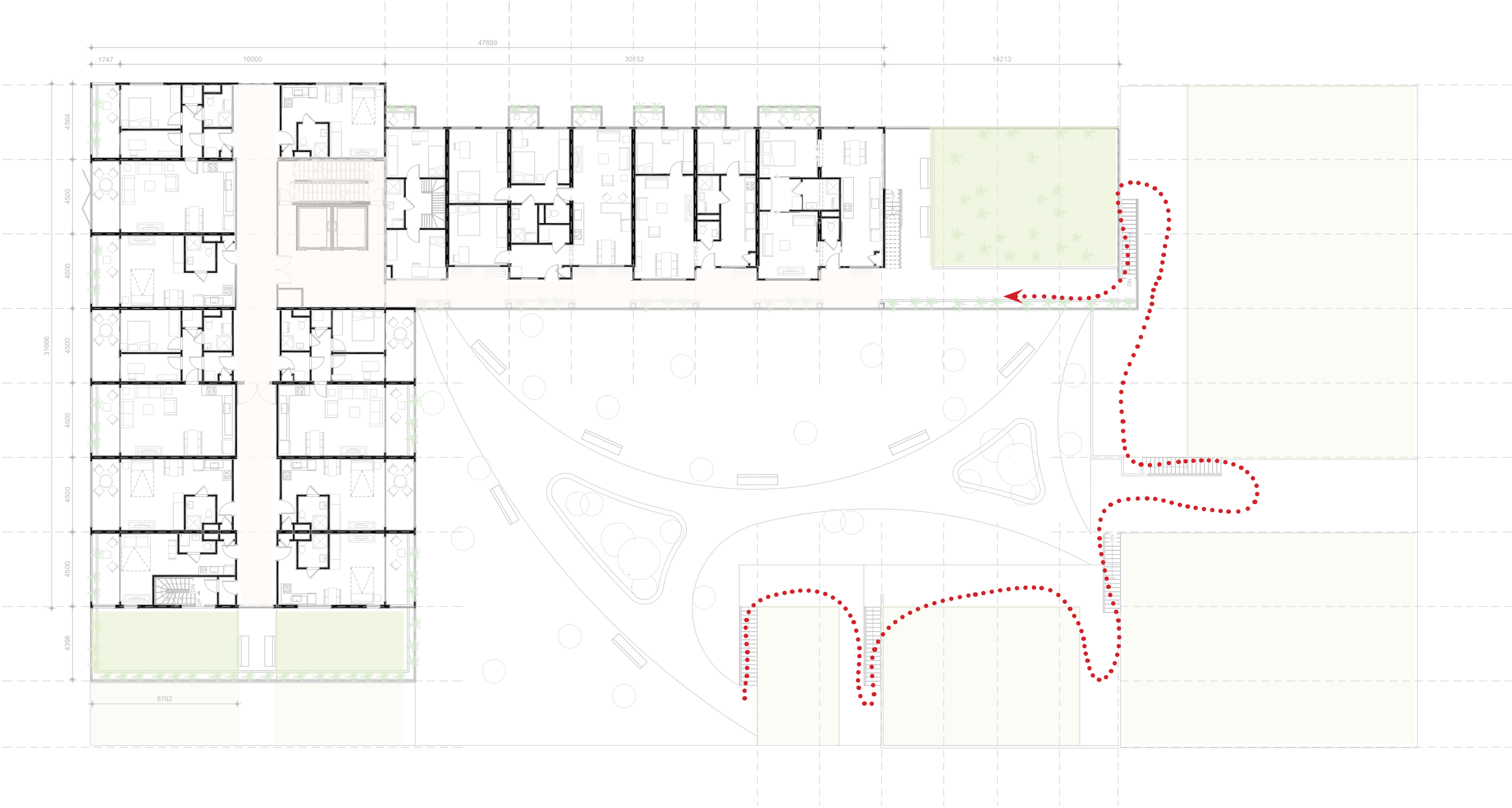




Floor plan - 5th floor 1\250



- Roof terrace
- Visible roof terrace
- Circulation
- ➔ Stair routing



Floor plan - 5th floor 1\250

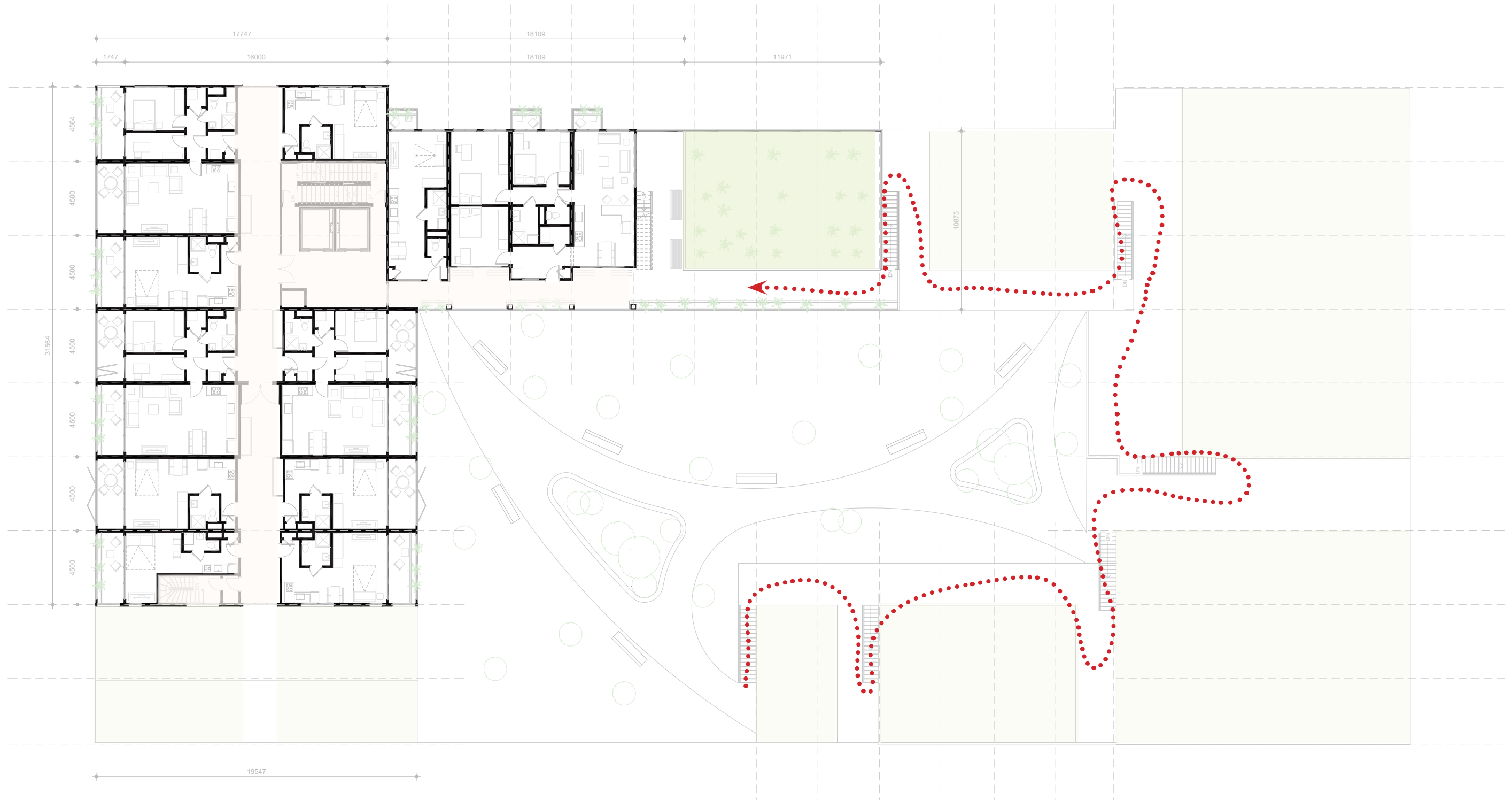


## Roof terrace

Visible roof terrace

## Circulation

.....➤ Stair routing





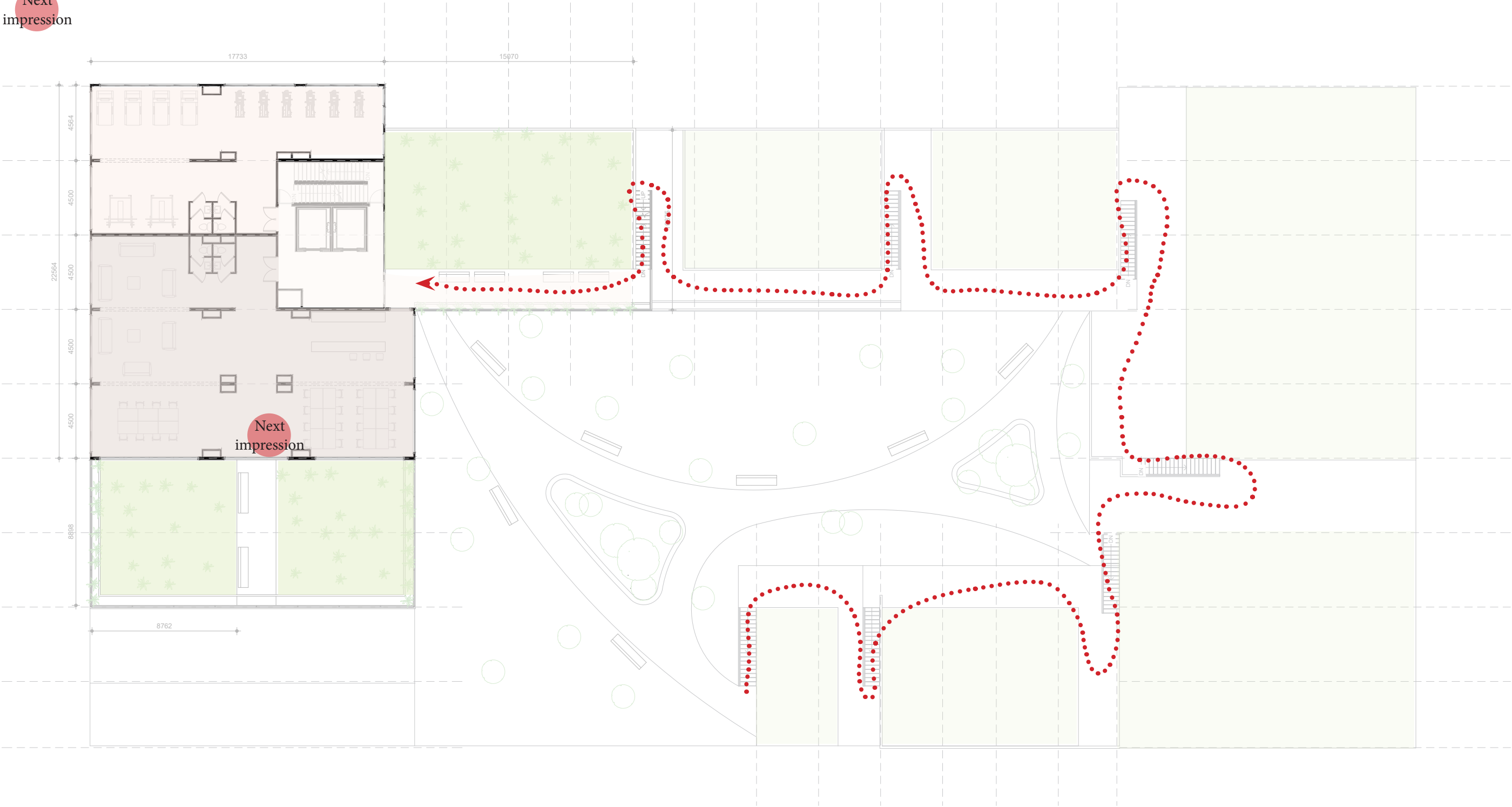
Floor plan - 5th floor 1\250



- Roof terrace
- Visible roof terrace
- Circulation
- Stair routing
- Fitness room
- Multifunctional room



Next impression





Fitness room on the corner - middle of the tower







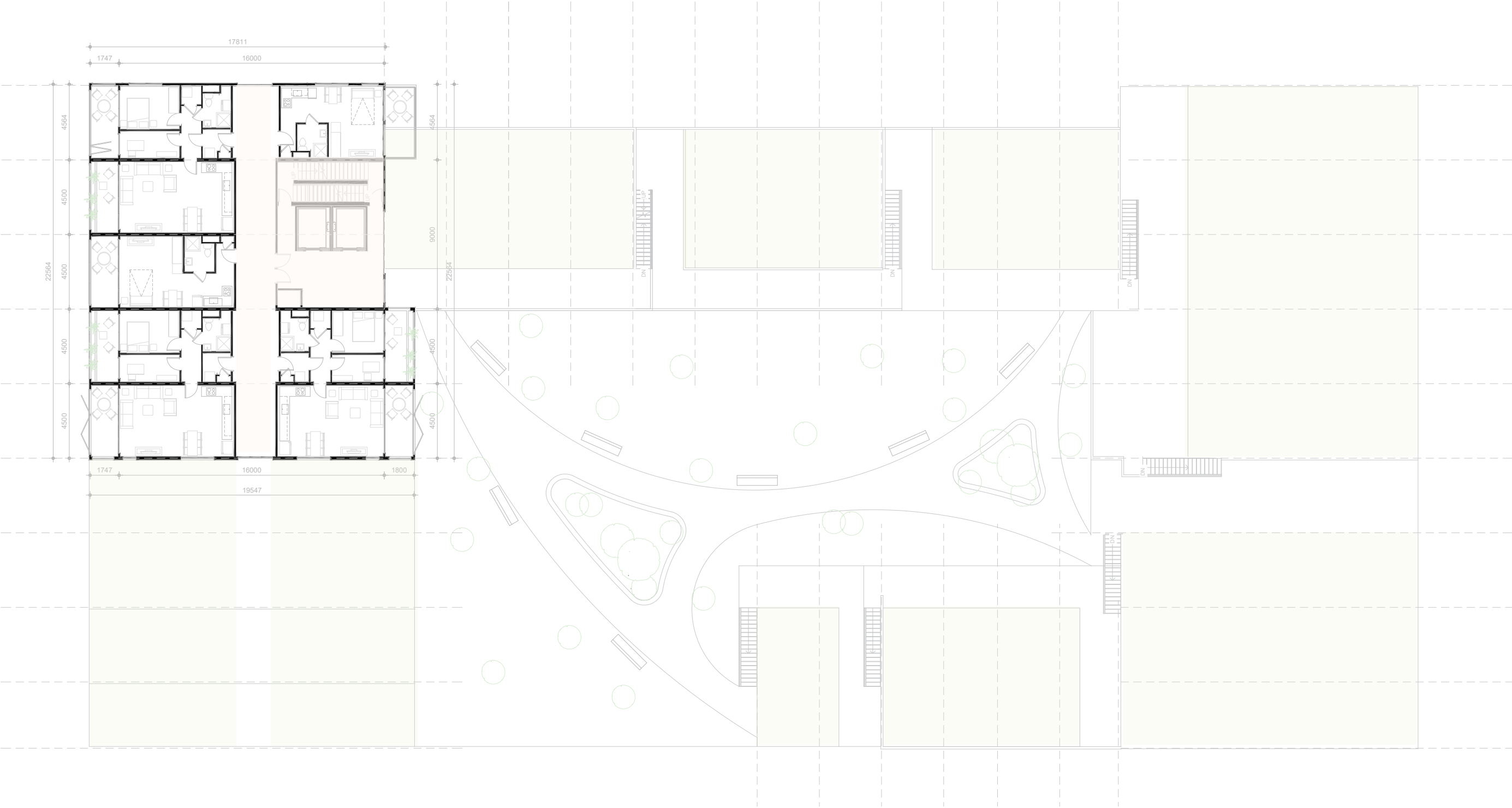
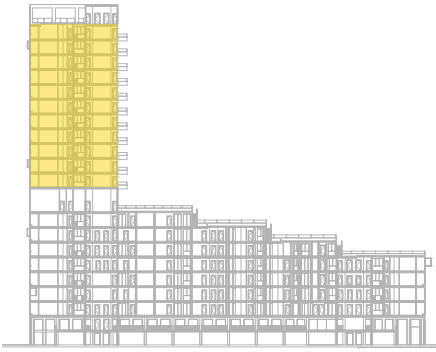






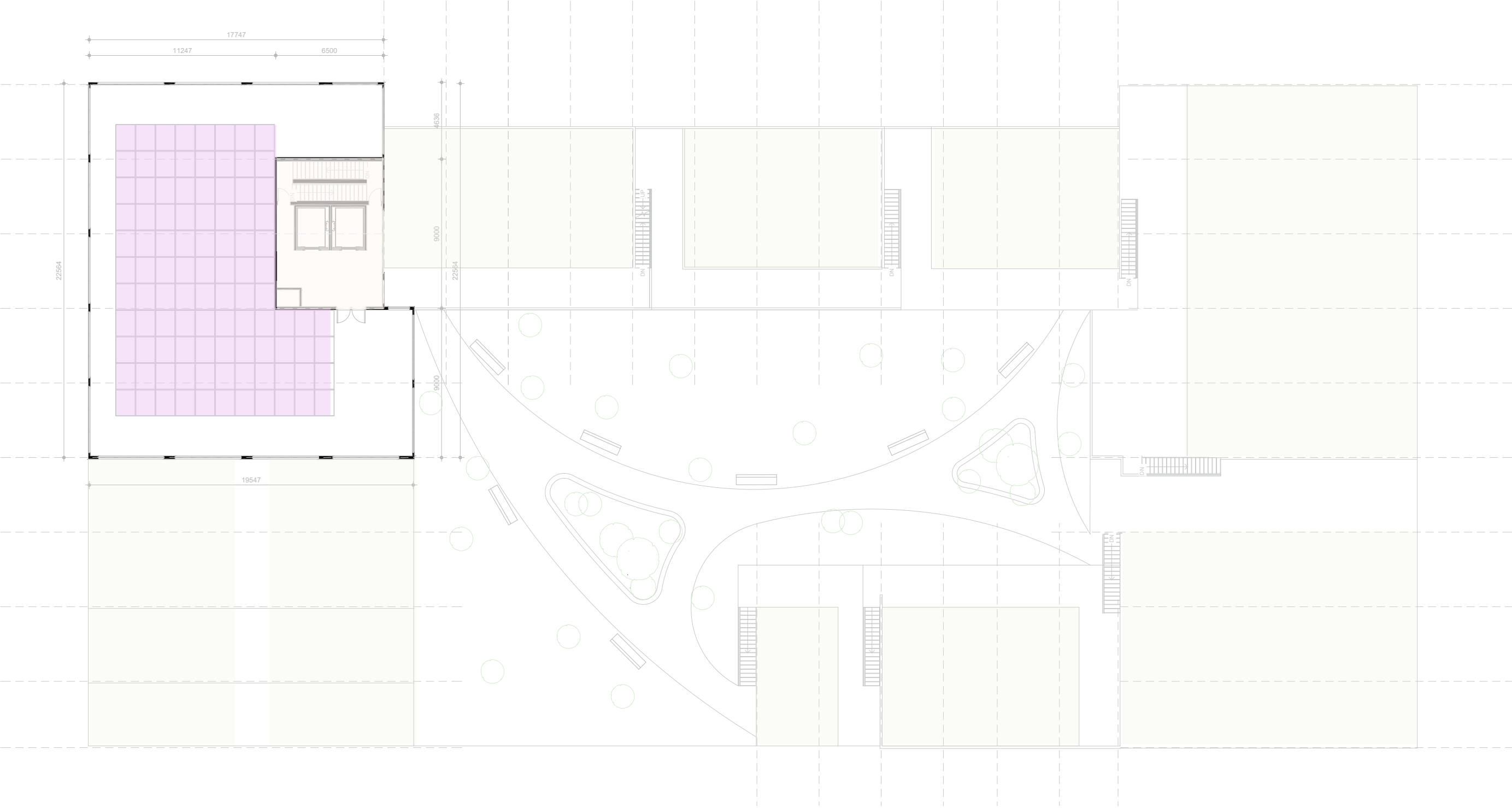


- Visible roof terrace
- Circulation





- Visible roof terrace
- Circulation
- Sun panels







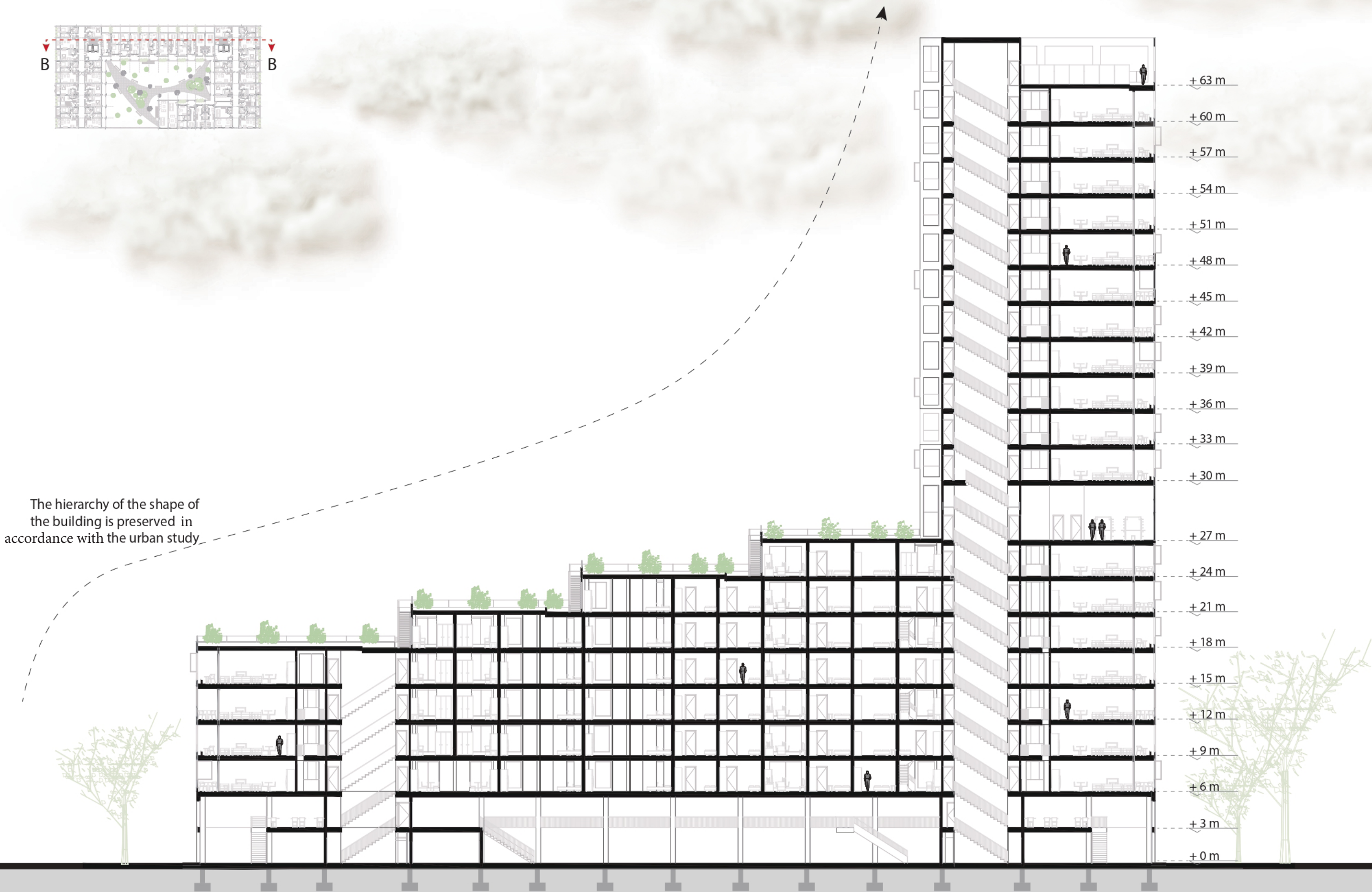


South East section - from water side





North West section BB (from street side)

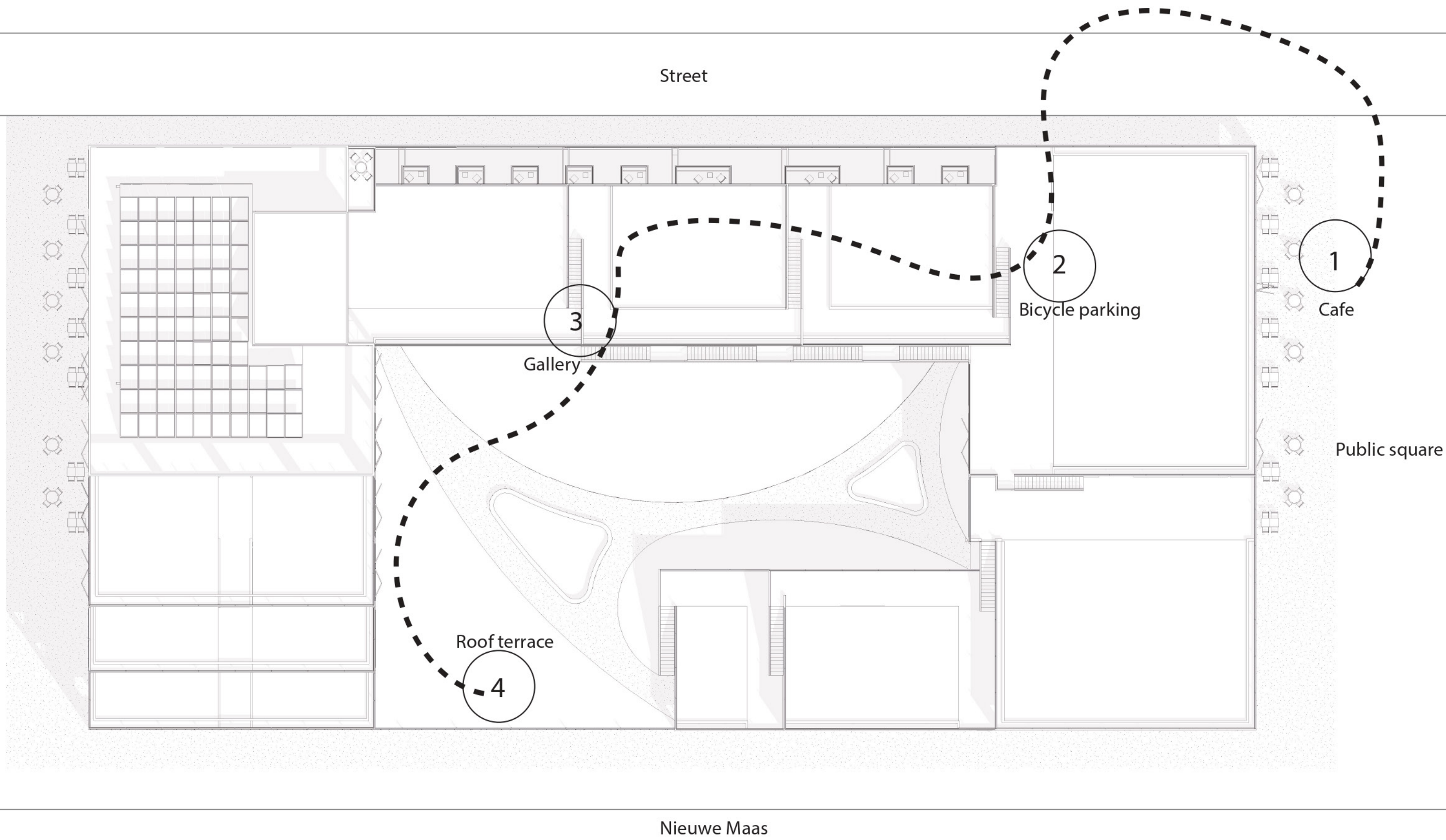




South East elevation











VERHALENHUIS

While coming home,  
you see cafe visitors

Cafes on the corners of the building connected  
with a public square and located next to main  
entrances



Because of the glass wall, there is a visual connection between those who are coming in and those who are going out. So, these people can meet and start a conversation

You store your bike here

Coming in

meeting your neighbour in the hall in front of the elevator

Waiting for elevator







creating small spaces in front of each dwelling to create a seating spot and to break the perceived length of the gallery

while coming to your home, you meet your neighbor who's seating on a bench in front of his dwelling

plants along the gallery for a cool urban environment



All collectiveness moments in the building



Outside sitting - street level



Cafe (Verhalenhuis) - street level



Roof terrace - first dwelling level



Green house - inner yard level



Study room - inner yard level



Planting - on each level



Gallery - on each level



Fitness room - middle of the tower



Multifunctional room - middle of the tower



Dwellings typology



Corridor typology



Type A1 (31.5 m2)



Type B1 (63 m2)



Type C (22 m2)



Type A2 (29.25 m2)



Type B2 (58.5 m2)

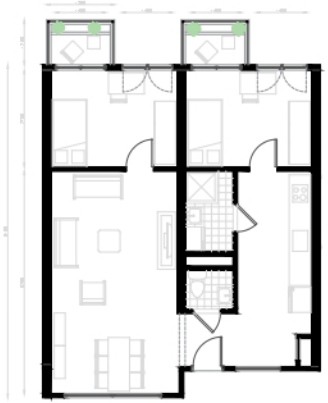
Gallery typology



Type D1 (34 m2)



Type D2 (65.5 m2)



Type D3 (65.5 m2)



Type A1 (97 m2)

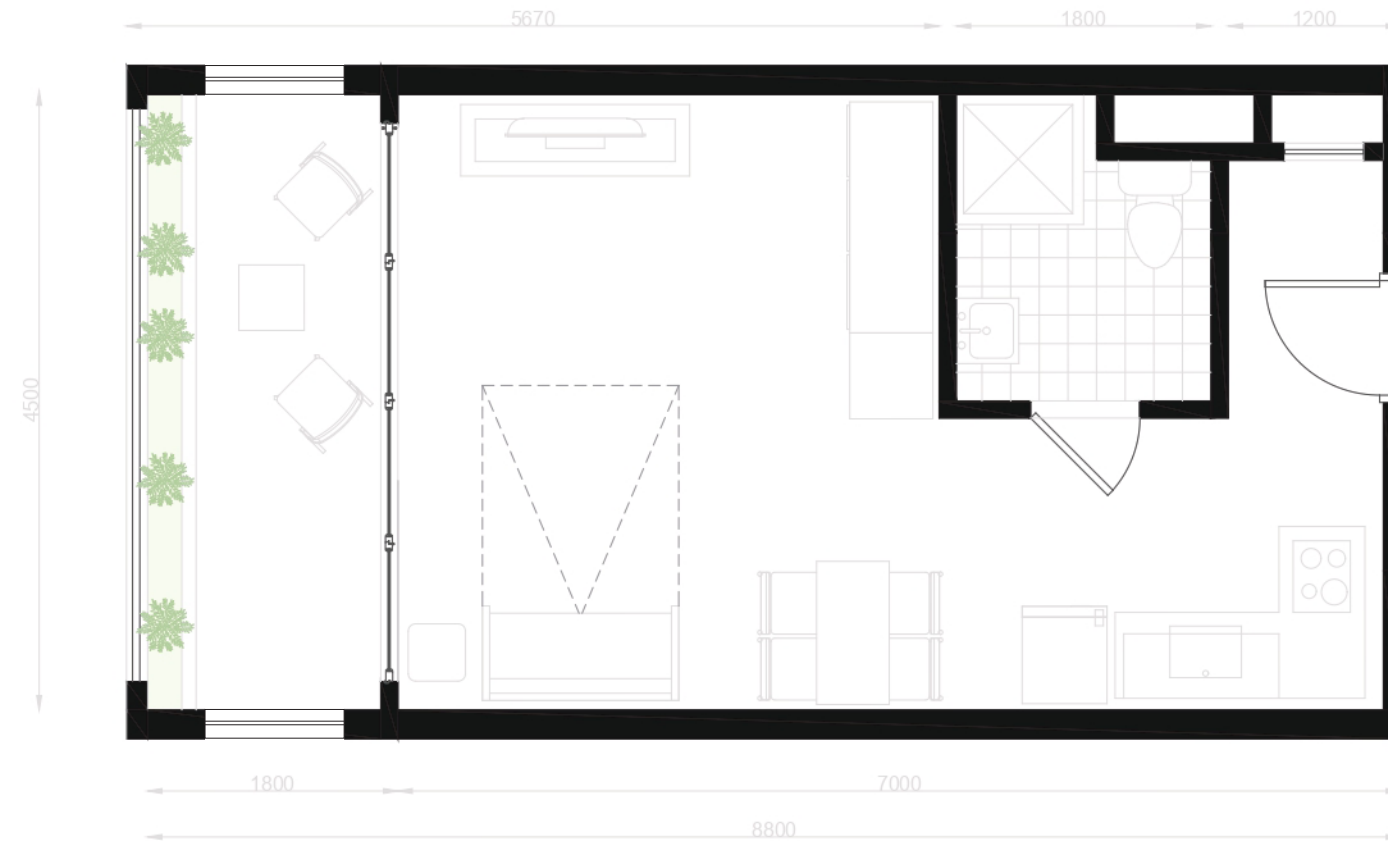
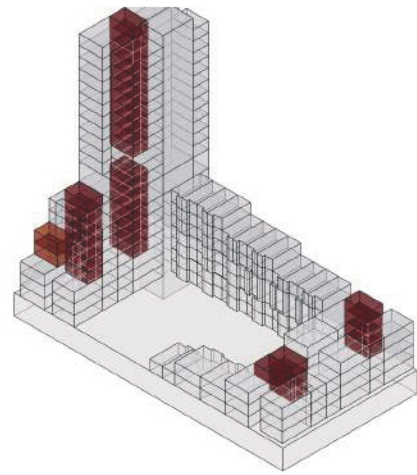


Type A1 (64 m2)



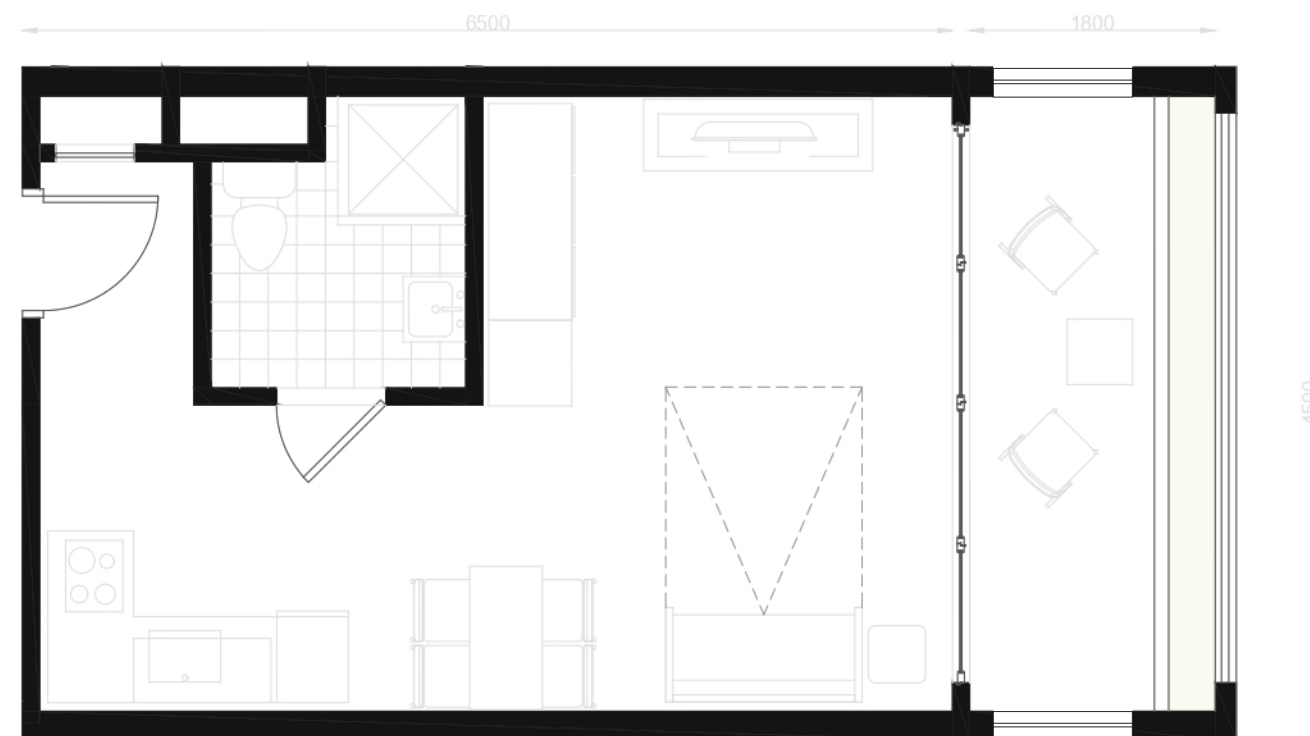
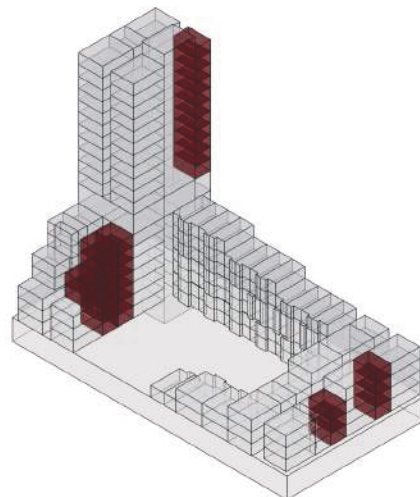
## Type A1

- Studio (single)
- 31.5 m<sup>2</sup>
- Loggia / winter garden
- 35 studios
- bay width = 4500 mm
- Depth = 7000 mm
- Floor height = 2600 mm
- Corridor access



## Type A2

- Studio (single)
- 29.25 m<sup>2</sup>
- Loggia / winter garden
- 34 studios
- bay width = 4500 mm
- Depth = 6500 mm
- Floor height = 2600 mm
- Corridor access





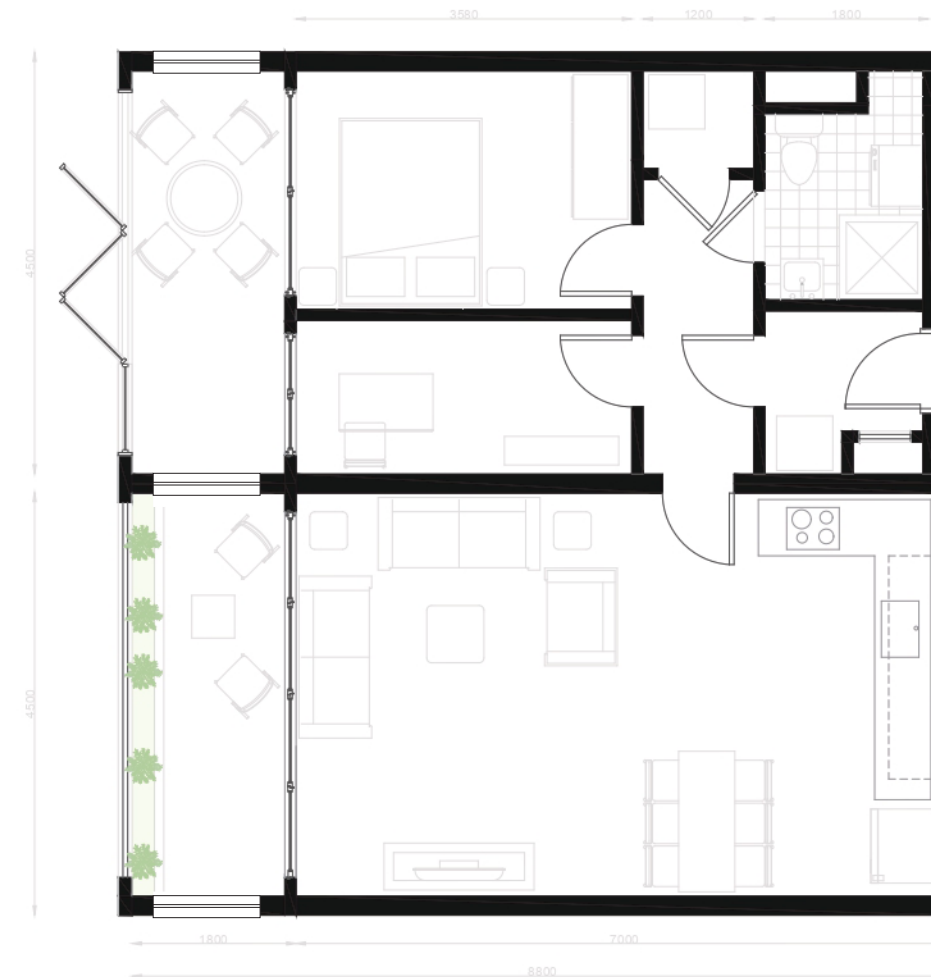
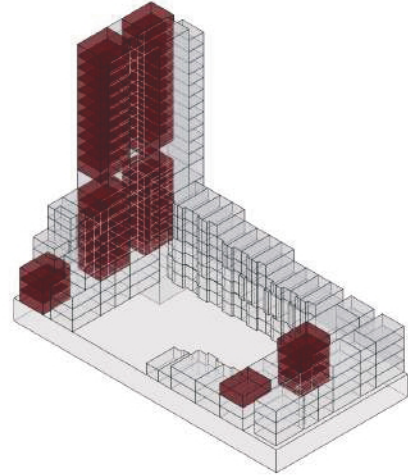
Winter garden - openable window - visual  
connection with nextdoor neighbors





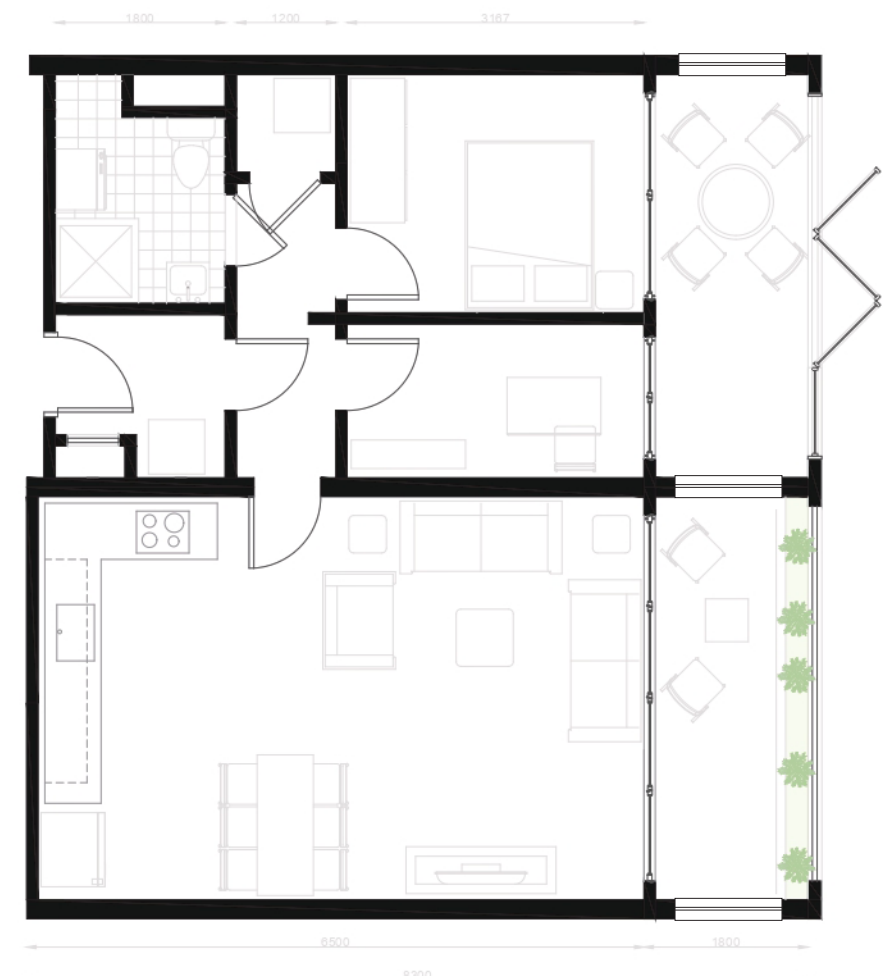
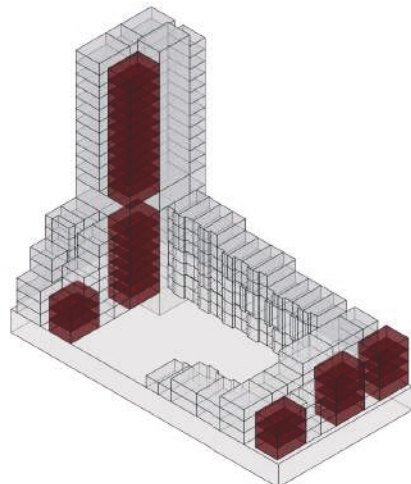
## Type B1

- Appartment (couples)
- 63 m<sup>2</sup>
- Loggia / winter garden
- 44 appartments
- bay width = 4500 mm x2
- Depth = 7000 mm
- Floor height = 2600 mm
- Corridor access



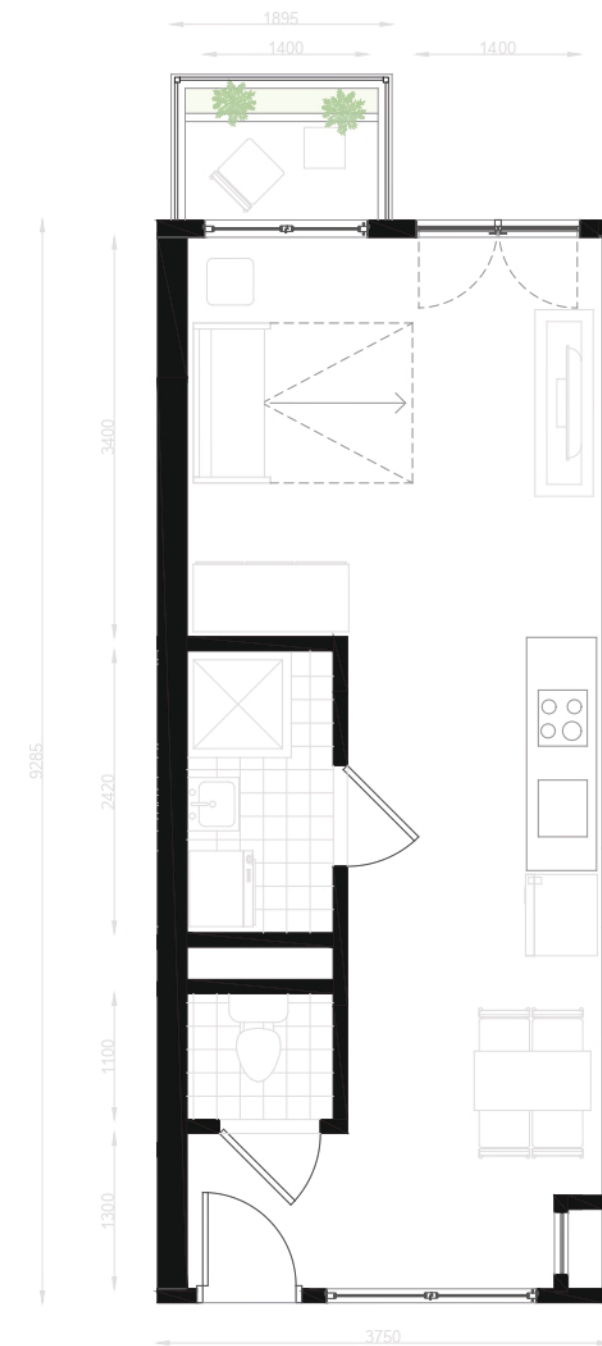
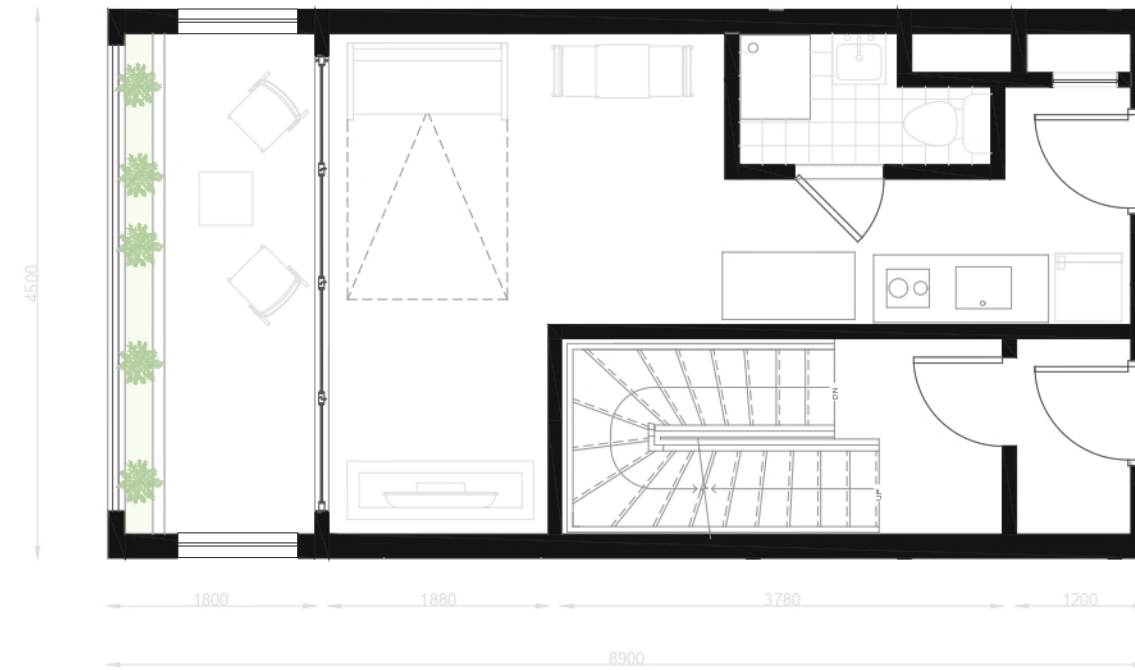
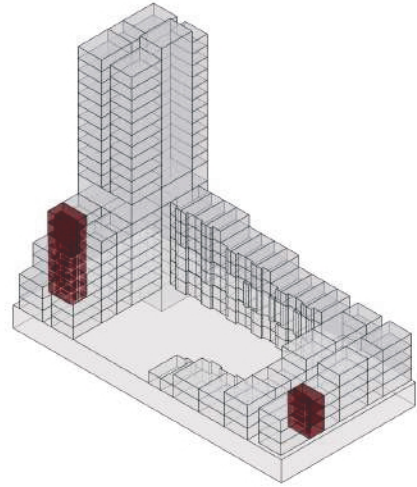
## Type B2

- Appartment (couples)
- 58.5 m<sup>2</sup>
- Loggia / winter garden
- 32 appartments
- bay width = 4500 mm x2
- Depth = 6500 mm
- Floor height = 2600 mm
- Corridor access



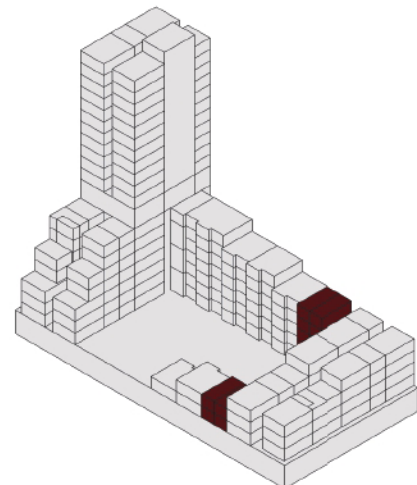
## Type C

- Compact studio (single)
- 22 m<sup>2</sup>
- Loggia / winter garden
- 10 studios
- bay width = 4500 mm
- Depth = 7000 mm
- Floor height = 2600 mm
- Corridor access



## Type D1

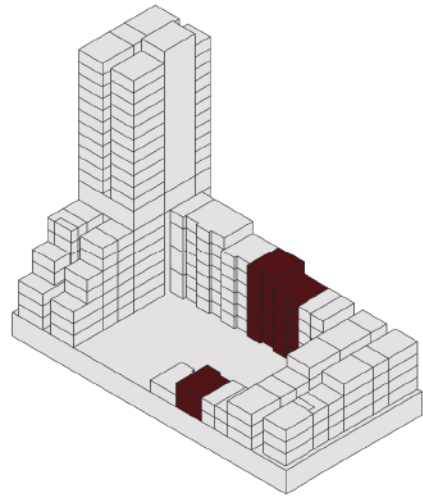
- Studio (single)
- 34 m<sup>2</sup>
- Balcony \ french balcony
- 13 studios
- bay width = 3750 mm
- Depth = 9150 mm
- Floor height = 2600 mm
- Gallery access





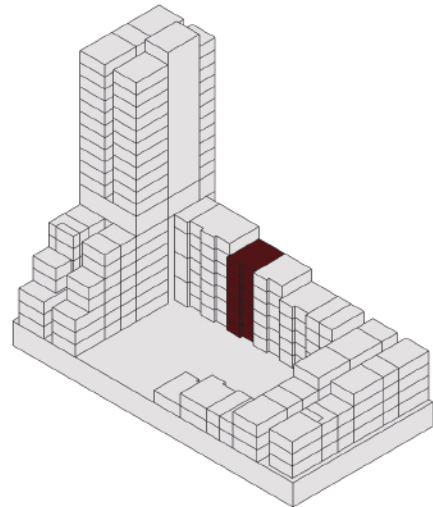
## Type D2

- Apartment (couples)
- 65.5 m<sup>2</sup>
- Balcony / french balcony
- 13 apartments
- bay width = 7000 mm
- Depth = 9150 / 8400 mm
- Floor height = 2600 mm
- Gallery access
- Has circular movement due to sliding doors



## Type D3

- Apartments (couples)
- 65.5 m<sup>2</sup>
- Balcony \ french balcony
- 6 studios
- bay width = 3750 mm (x2)
- Depth = 9150 / 8400 mm
- Floor height = 2600 mm
- Gallery access



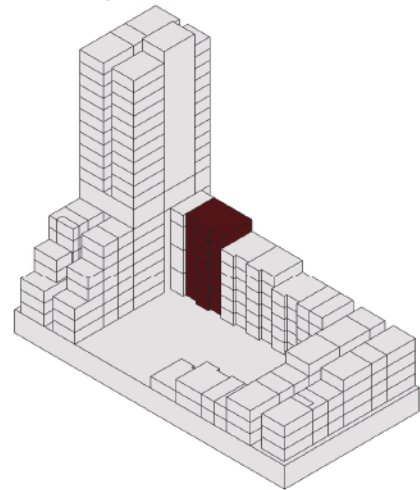






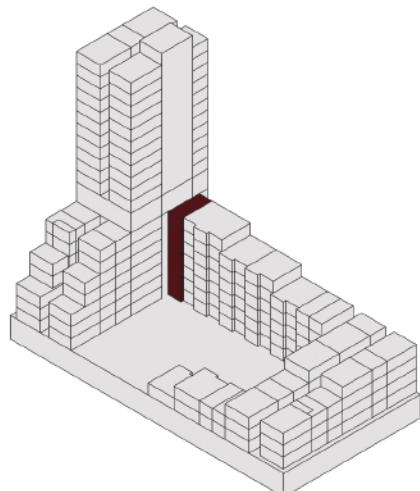
## Type D4

- Shared housing (3 persons)
- 97 m<sup>2</sup>
- Balcony / french balcony
- 7 appartments
- bay width = 3750 mm (x3)
- Depth = 9150 / 8400 mm
- Floor height = 2600 mm
- Gallery access



## Type D5

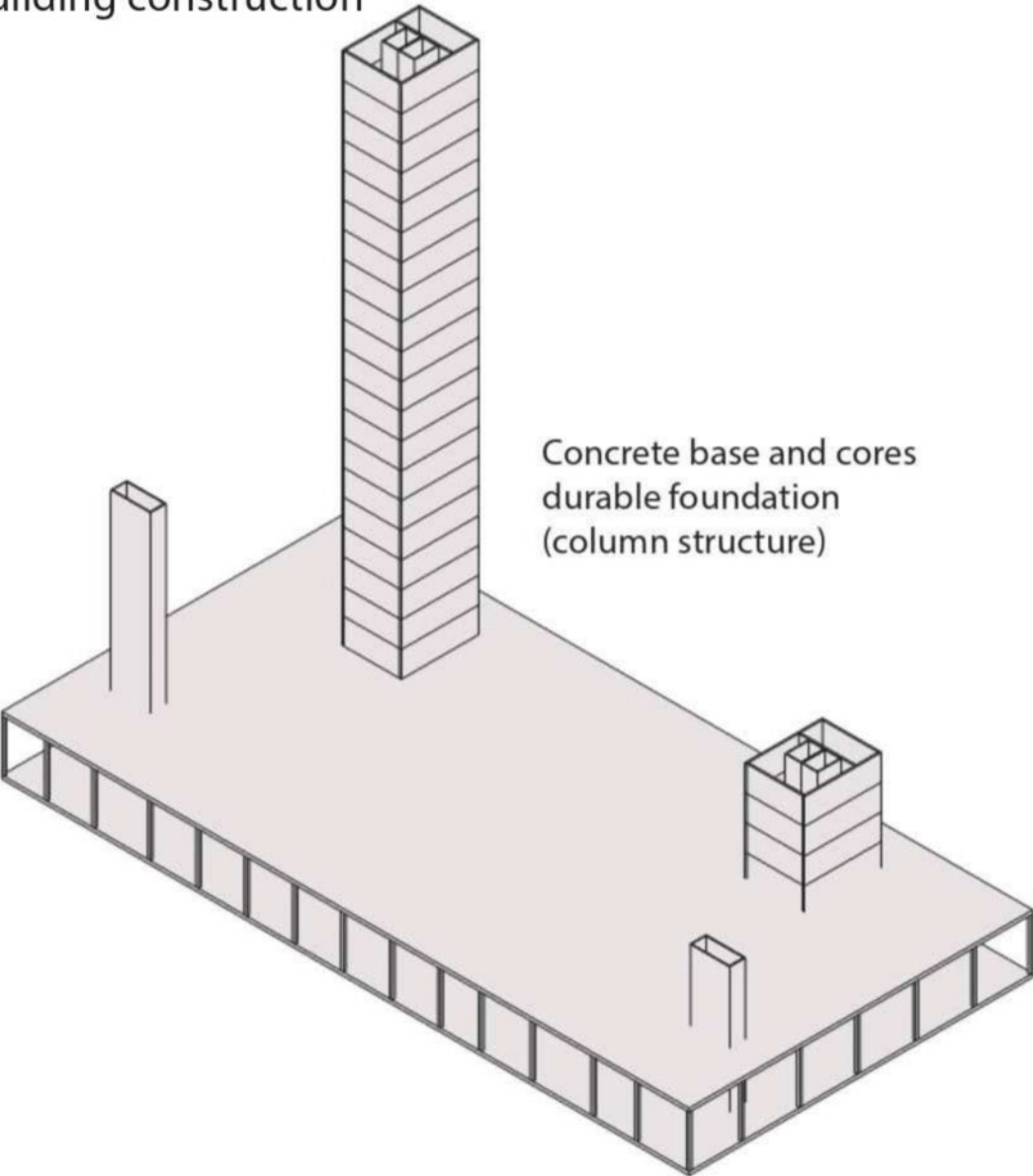
- Shared housing maisonette (2 persons)
- 68 m<sup>2</sup>
- Balcony \ french balcony
- 3 studios
- bay width = 3750 mm
- Depth = 9150 mm
- Floor height = 2600 mm
- Gallery access



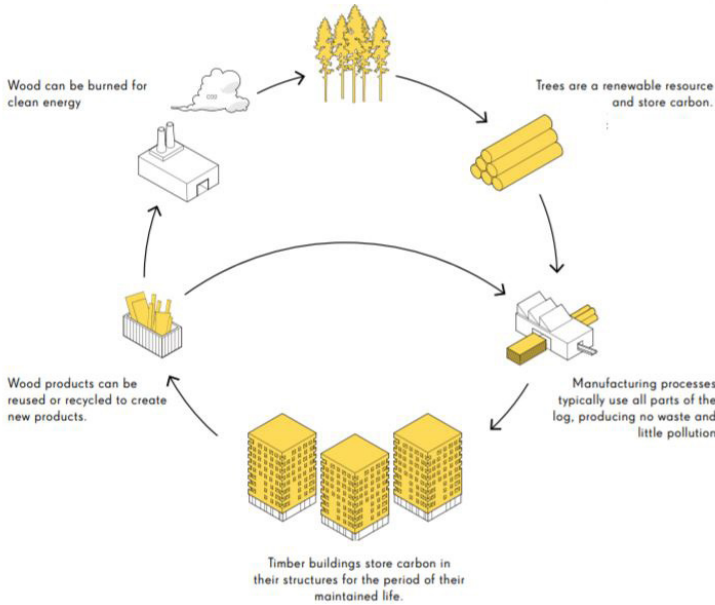
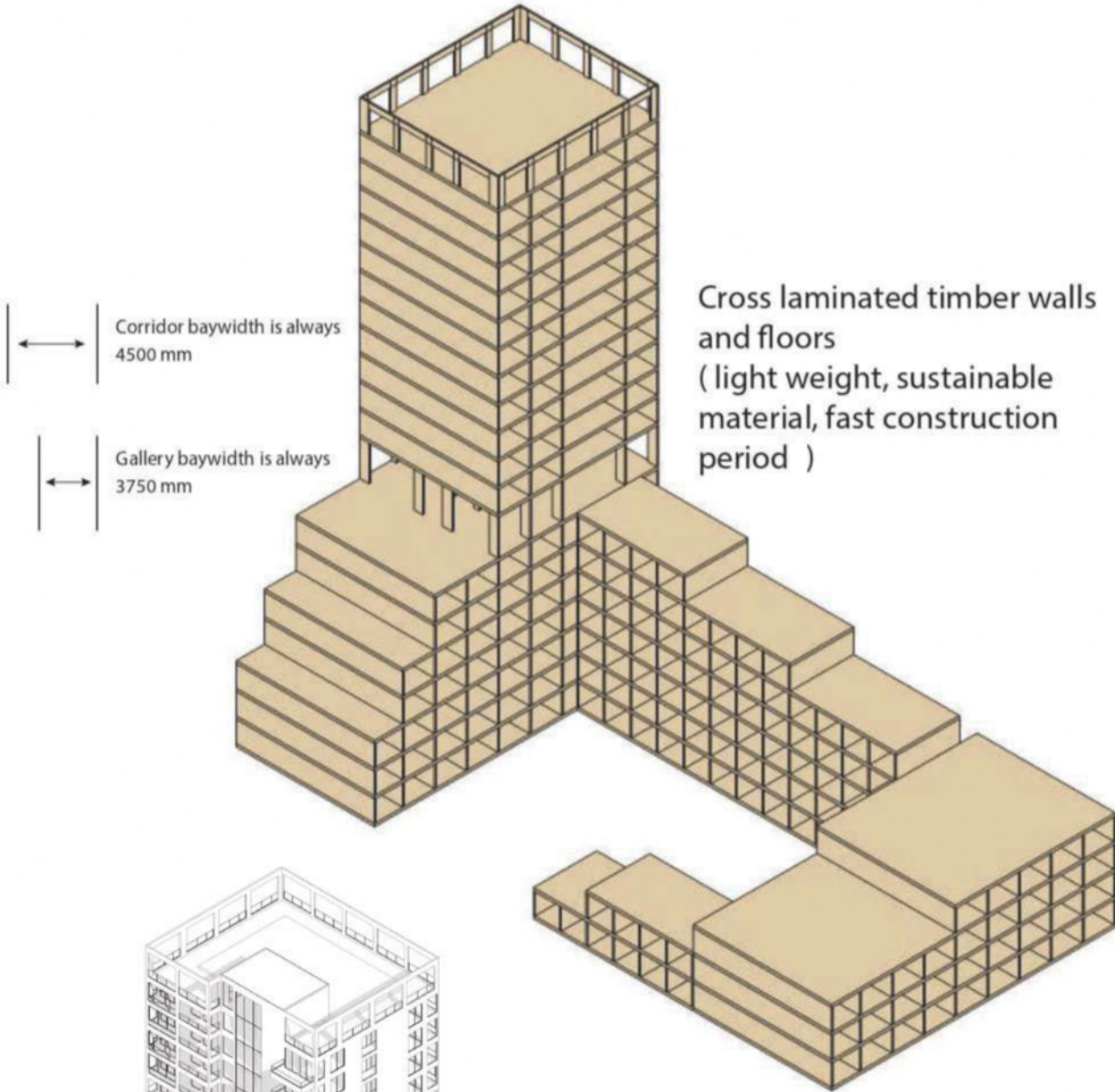
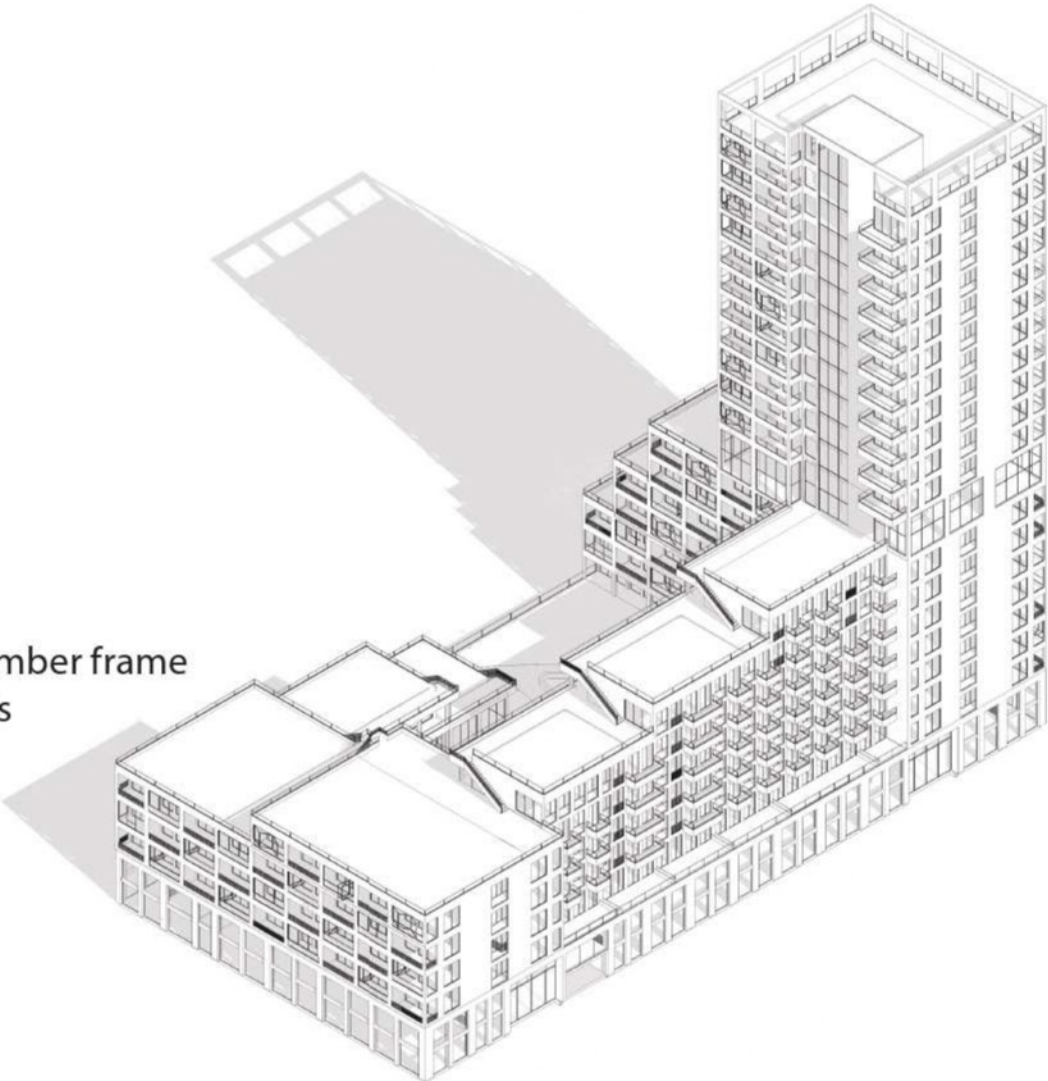




Building construction



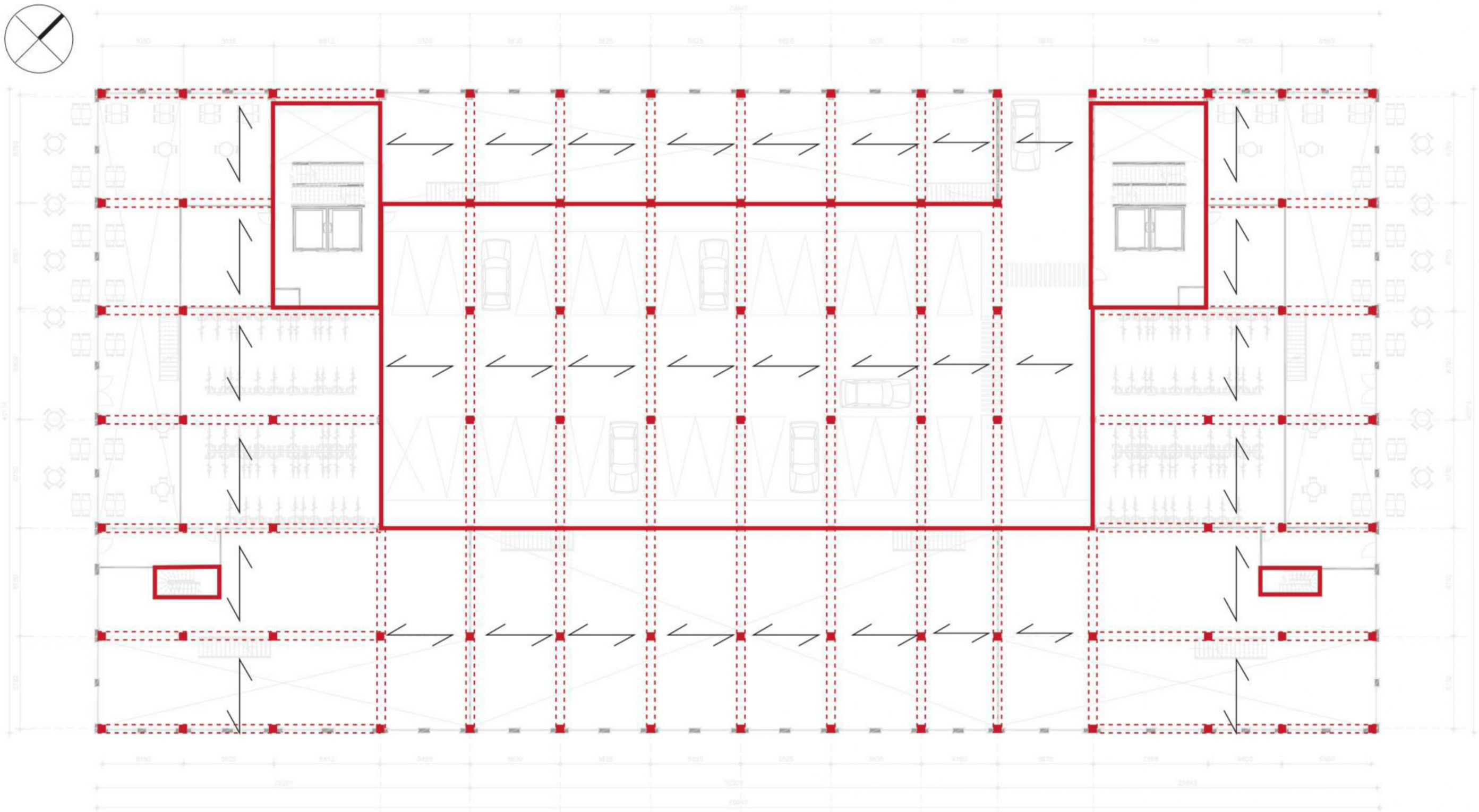
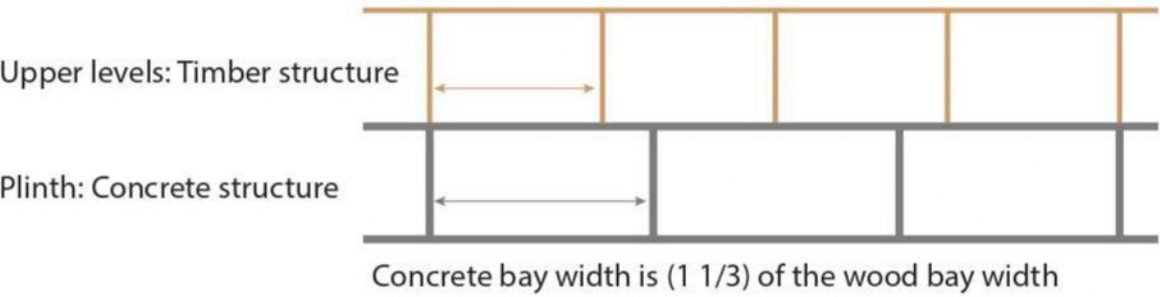
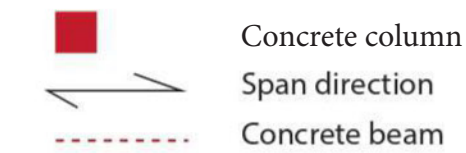
Prefabricated timber frame facade elements





Ground floor construction 1/250

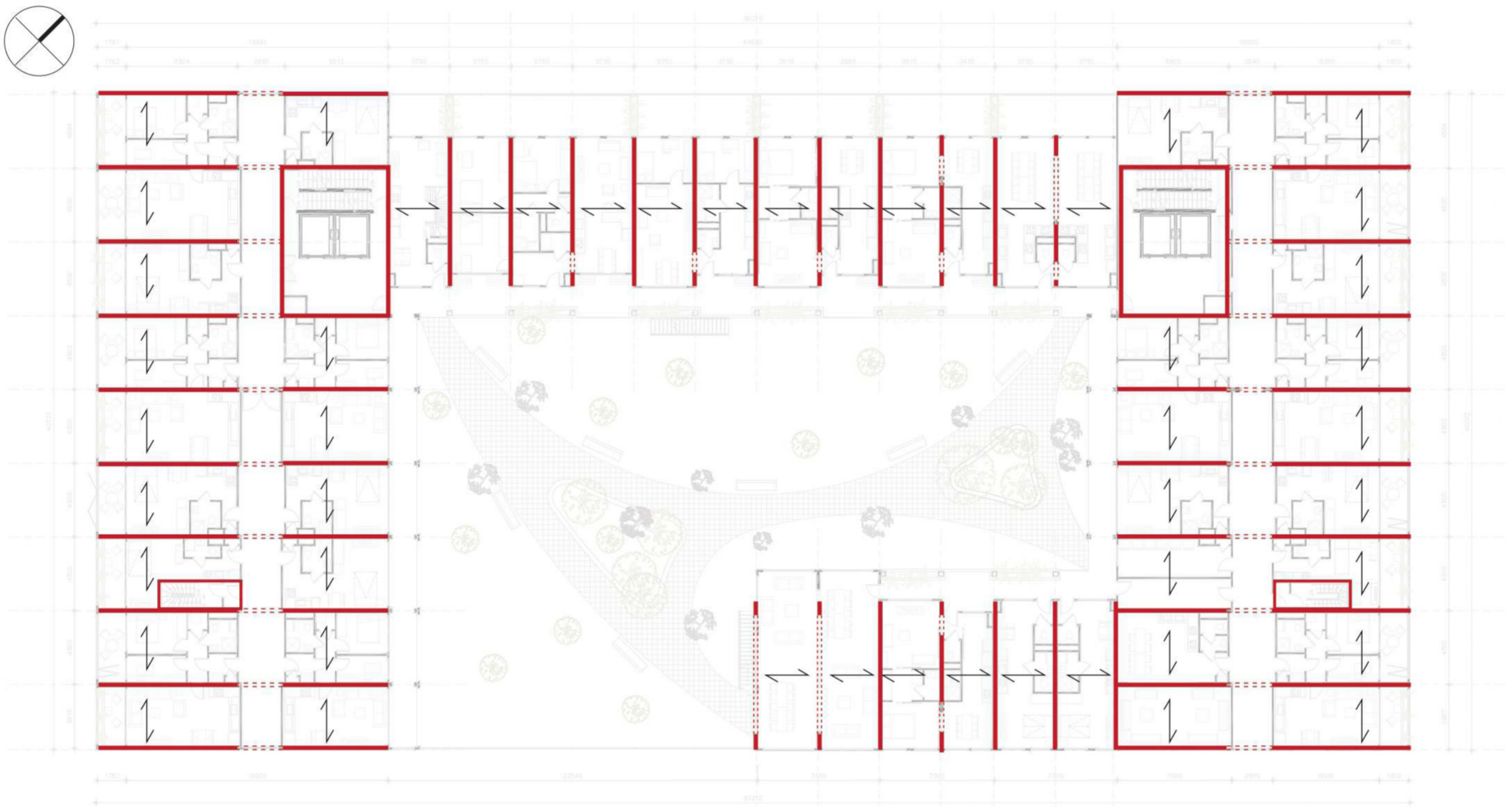
Concrete columns 250 x 250 mm  
Concrete beams, height = 250mm





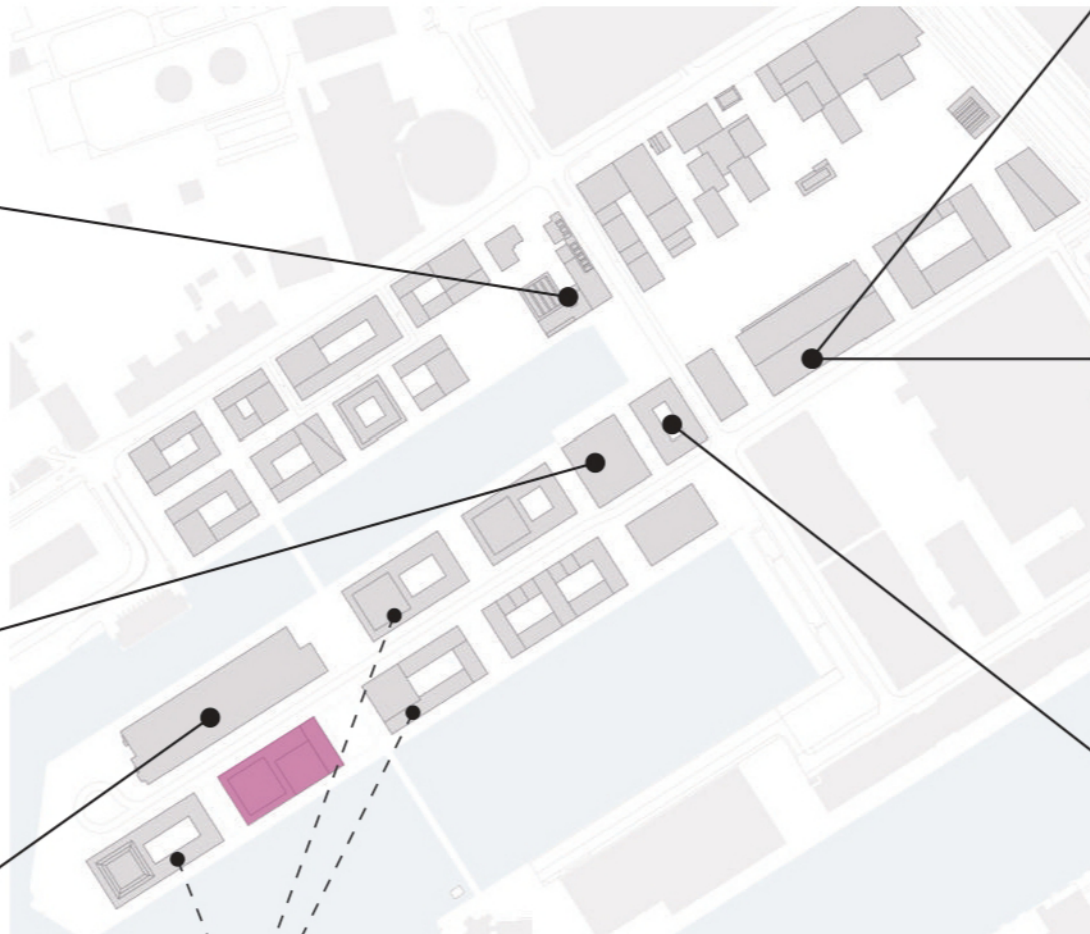
Second floor construction 1/250

CLT wall = 160 mm width  
CLT floor = 400 mm height





Materialization  
Brown \ red bricks, the typical material of that area



These buildings have no material !

Katoenveem  
concrete finishing





Materialization

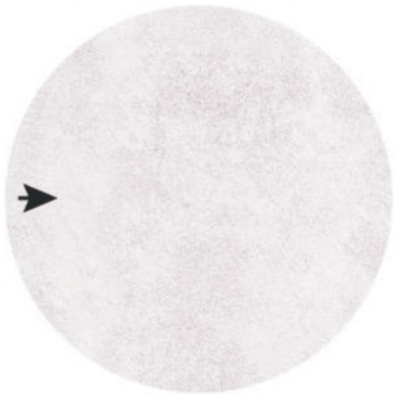
The outside materialization of the elevations is reflecting the construction material behind the elevations.



Lunawood cladding for the upper floors (Dwellings)

- The expected service life of Thermowood is more than 30 years
- Lunawood Thermowood can be used both indoors and outdoors, regardless of the climate.
- It retains its shape better than untreated wood.
- Decreased heat transmission compared to untreated wood.
- Less maintenance

Glass railing of 100 mm height



Concrete cladding for the plinth





The concrete finishing of the plinth has the same spirit as the opposite building building 'Katoenweem'

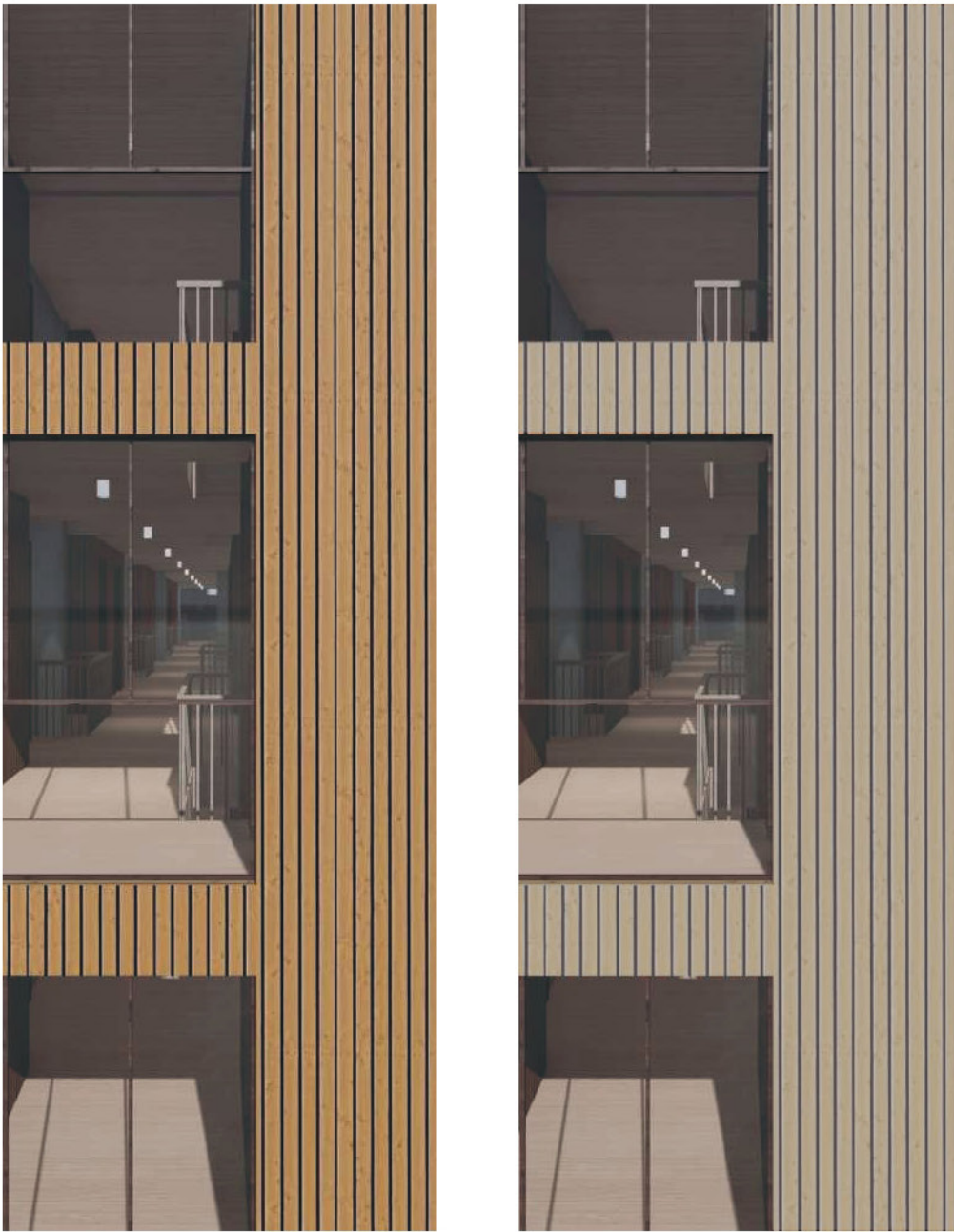
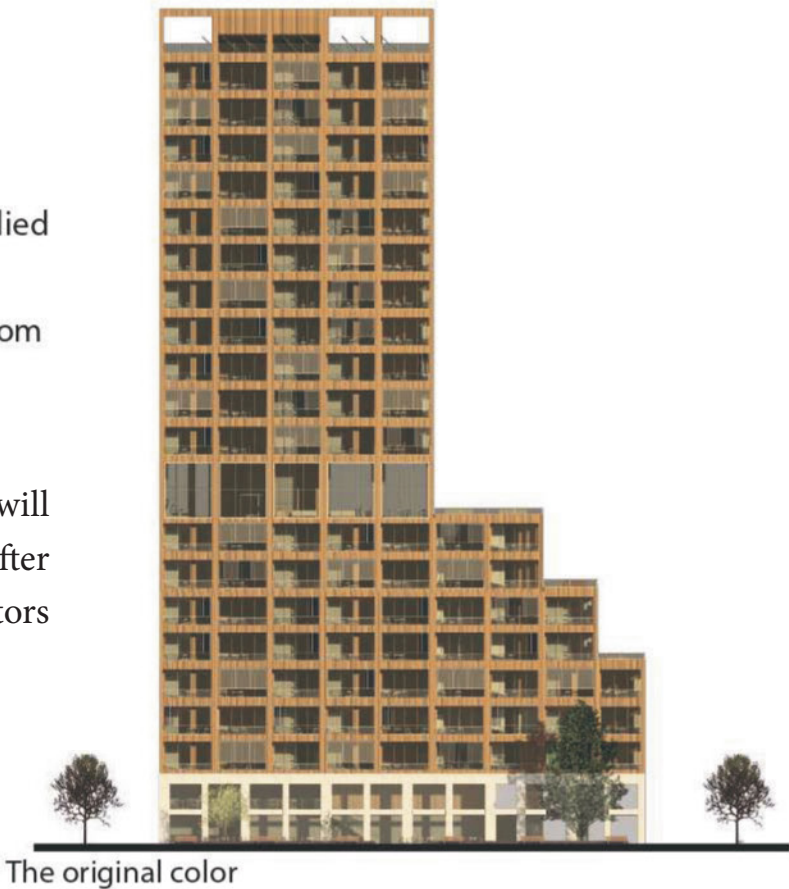
- The height of the horizontal line of the plinth is the same as the white part of Katoenweem.
- The horizontality of the ground floor facade is strong in that street



Colourization of the wood cladding

- A treatment process is applied on the wood cladding (Lunawood) that protects it from turning grayish

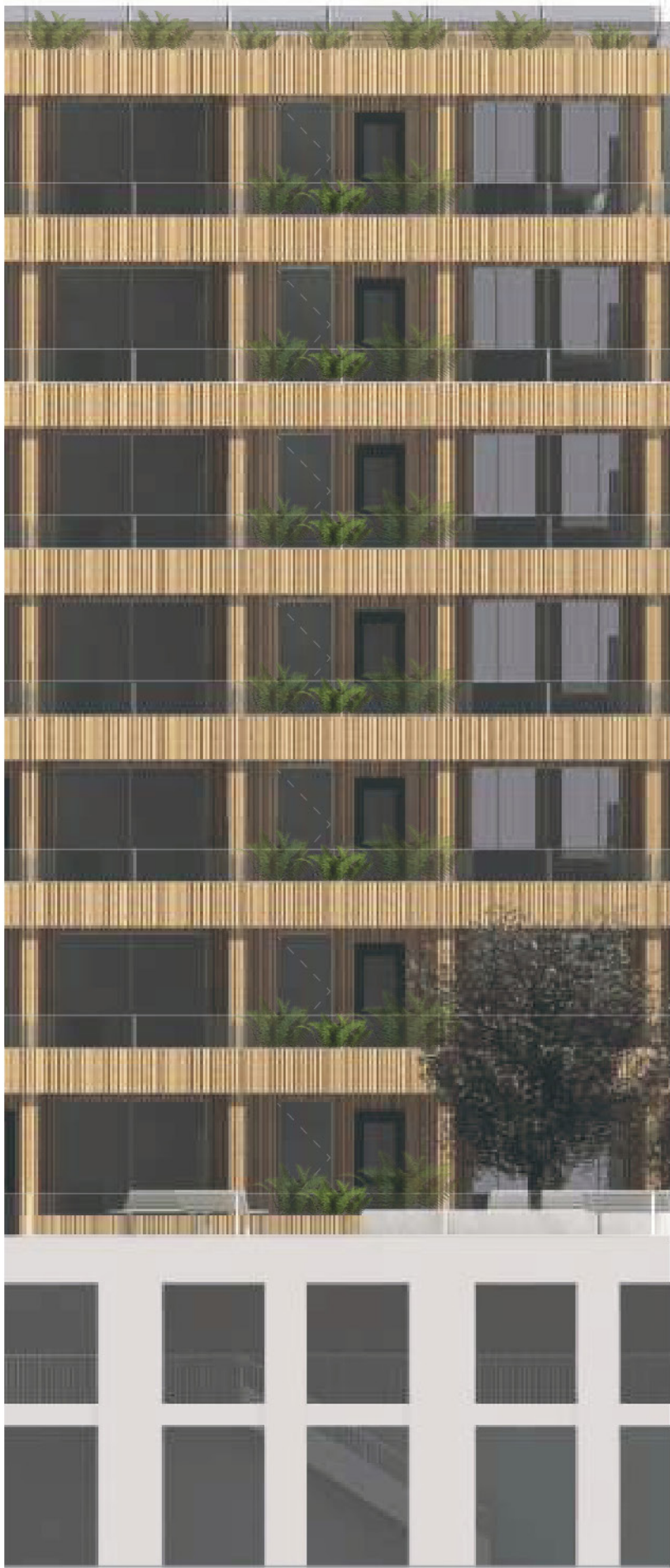
It is expected the material will slightly change its colour after ten years due to climate factors (rain water - sunlight)



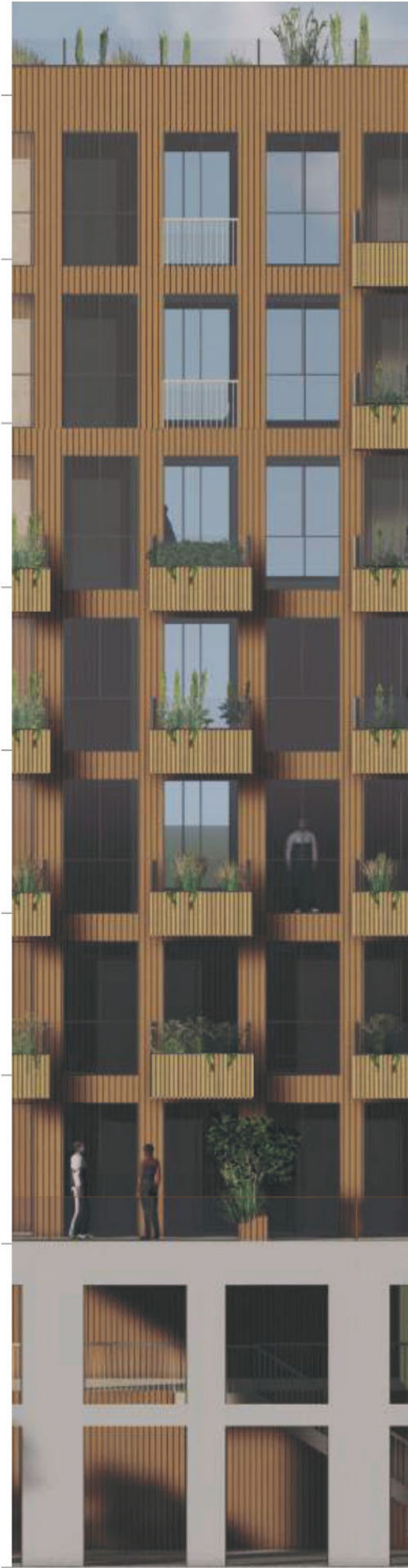
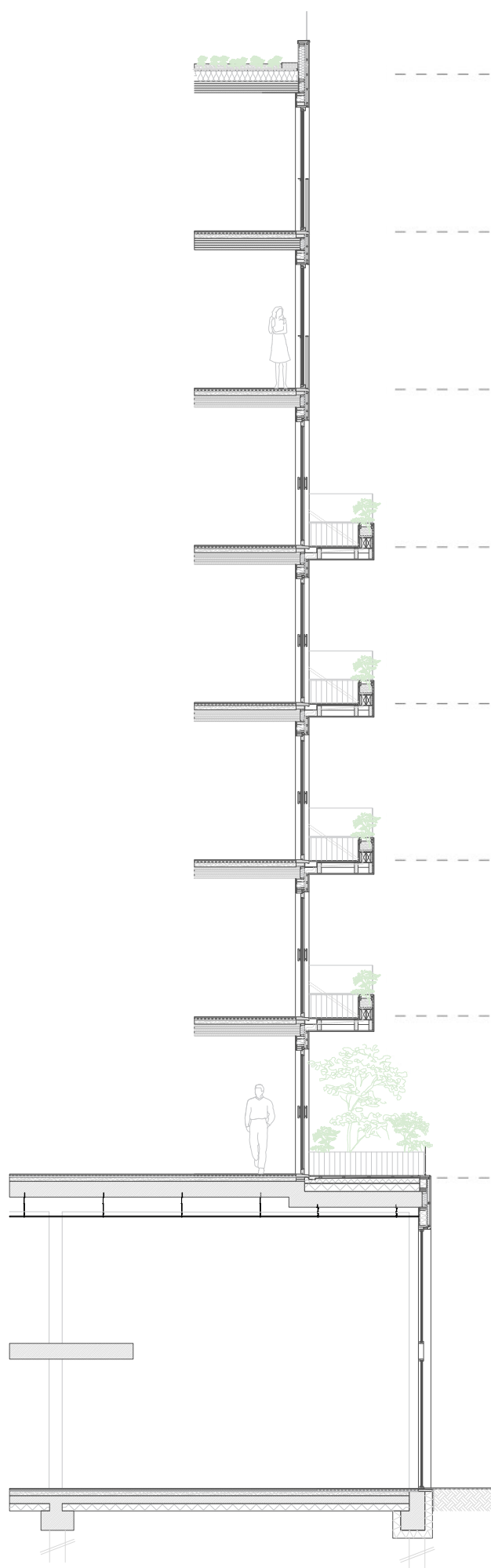
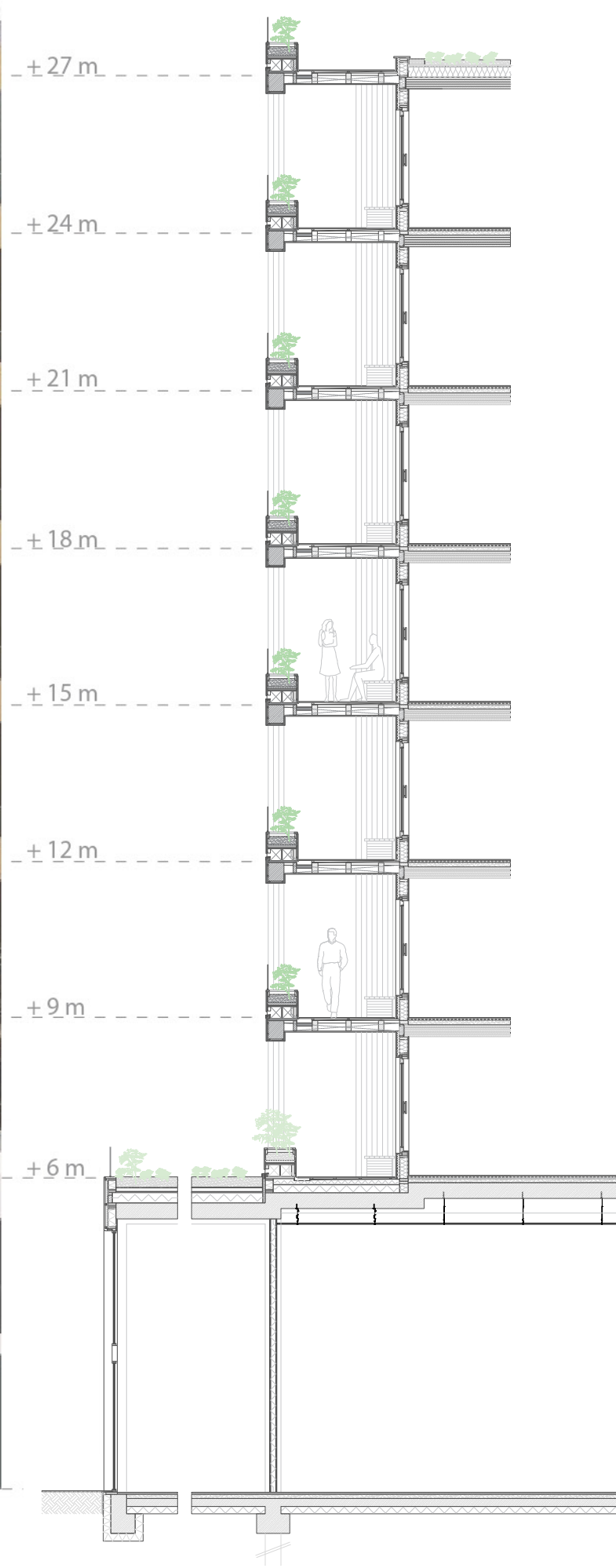
Wood colour before and after many years



Two facade fragments



Facade Fragment (1) from the inner side  
(courtyard)



Facade fragment (2) Fragment  
from the outside (street side)

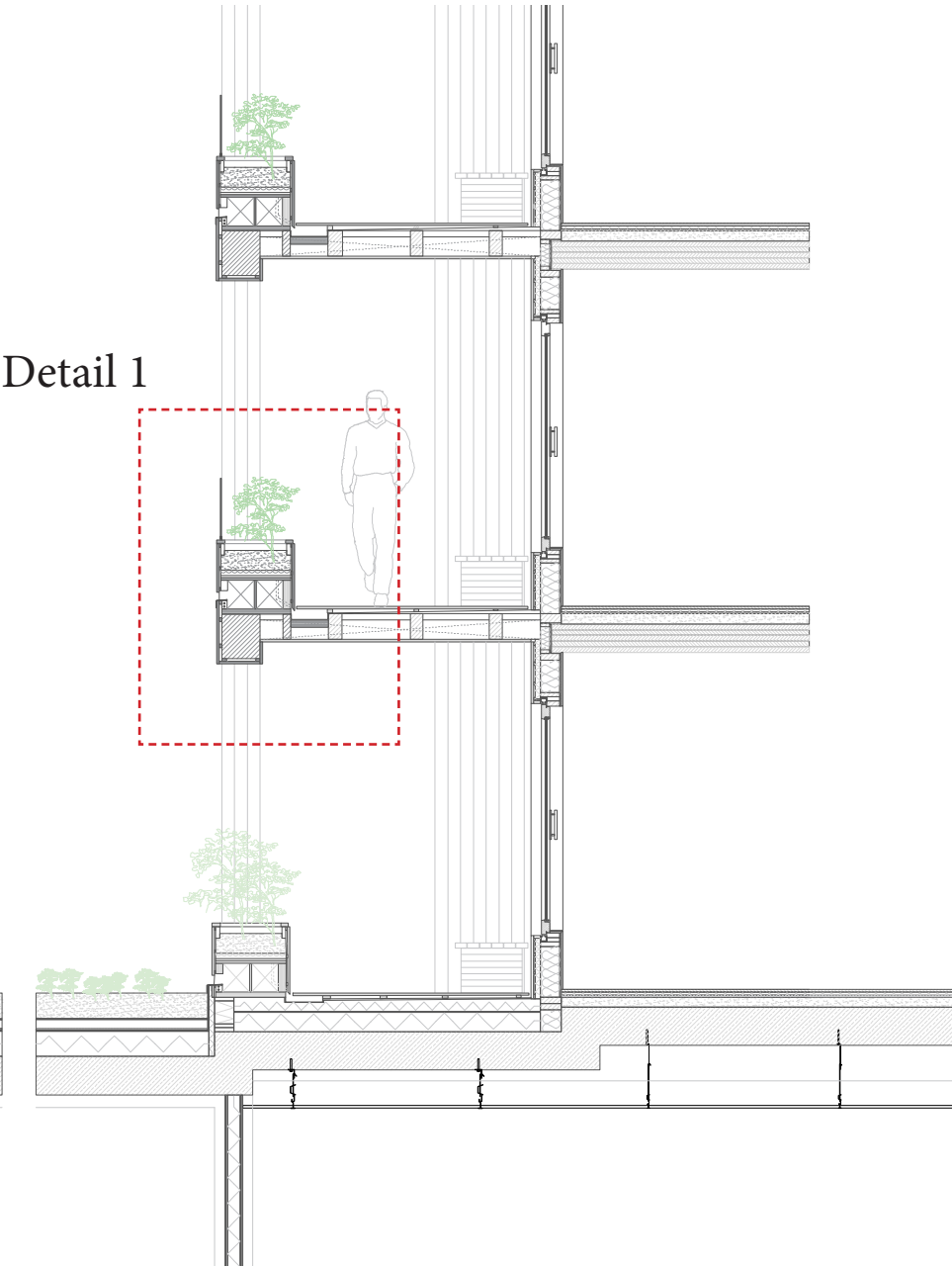
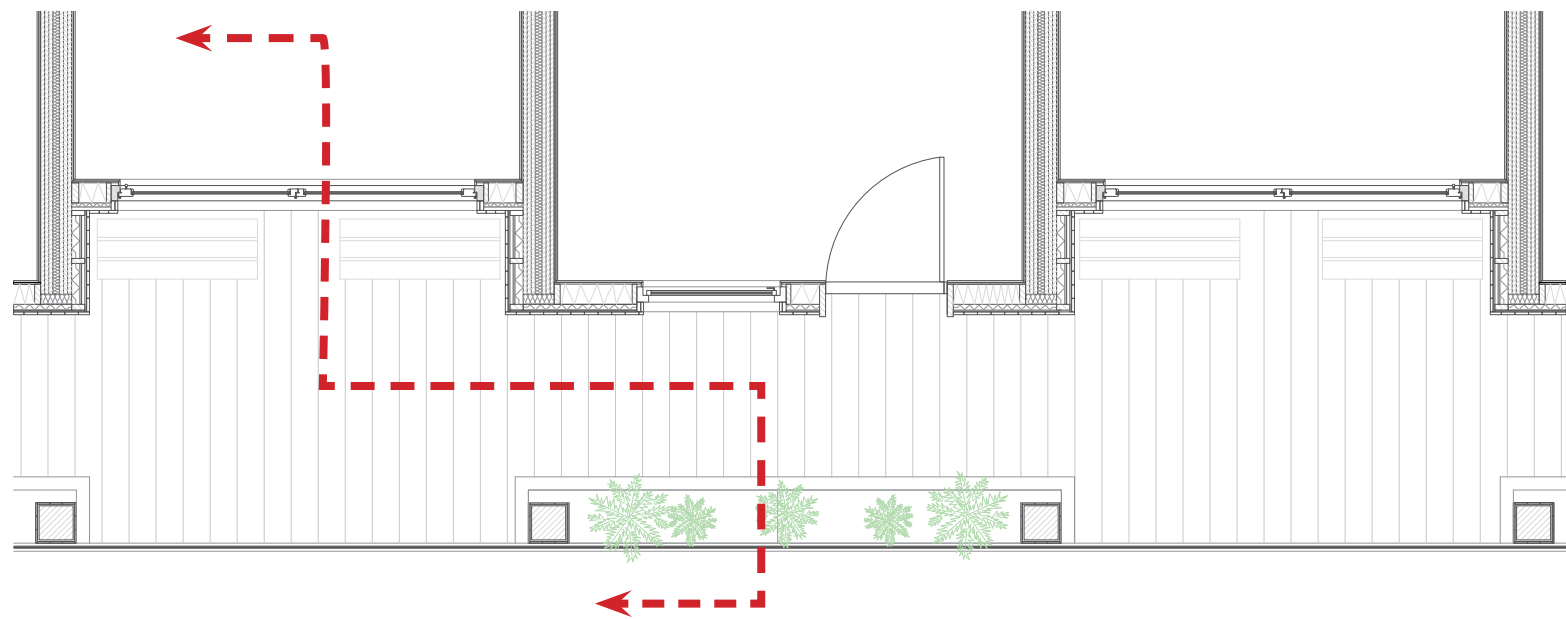


Facade fragment 1  
From the inner side (Courtyard)

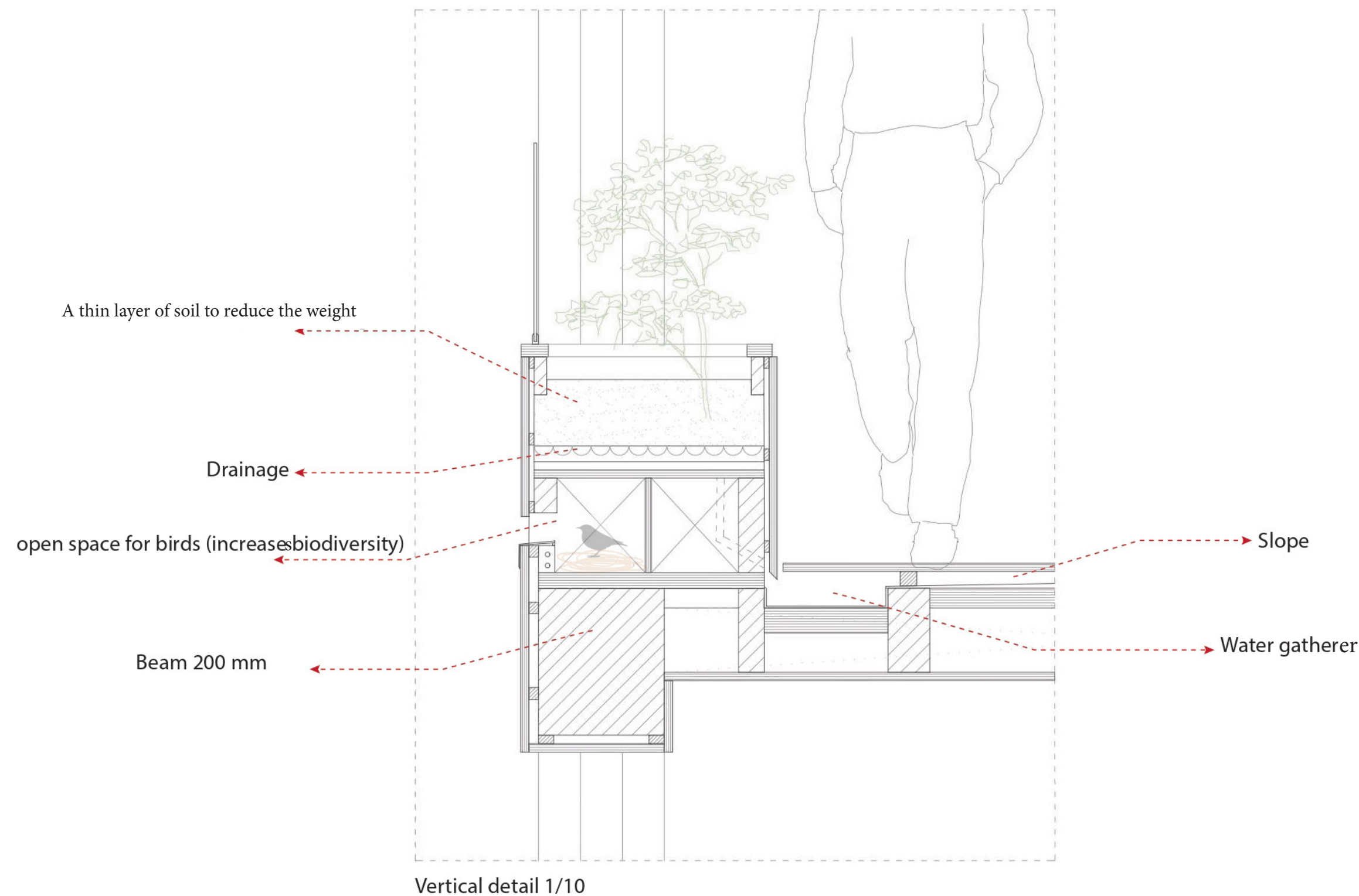




Facade fragment 1  
(from the courtyard)







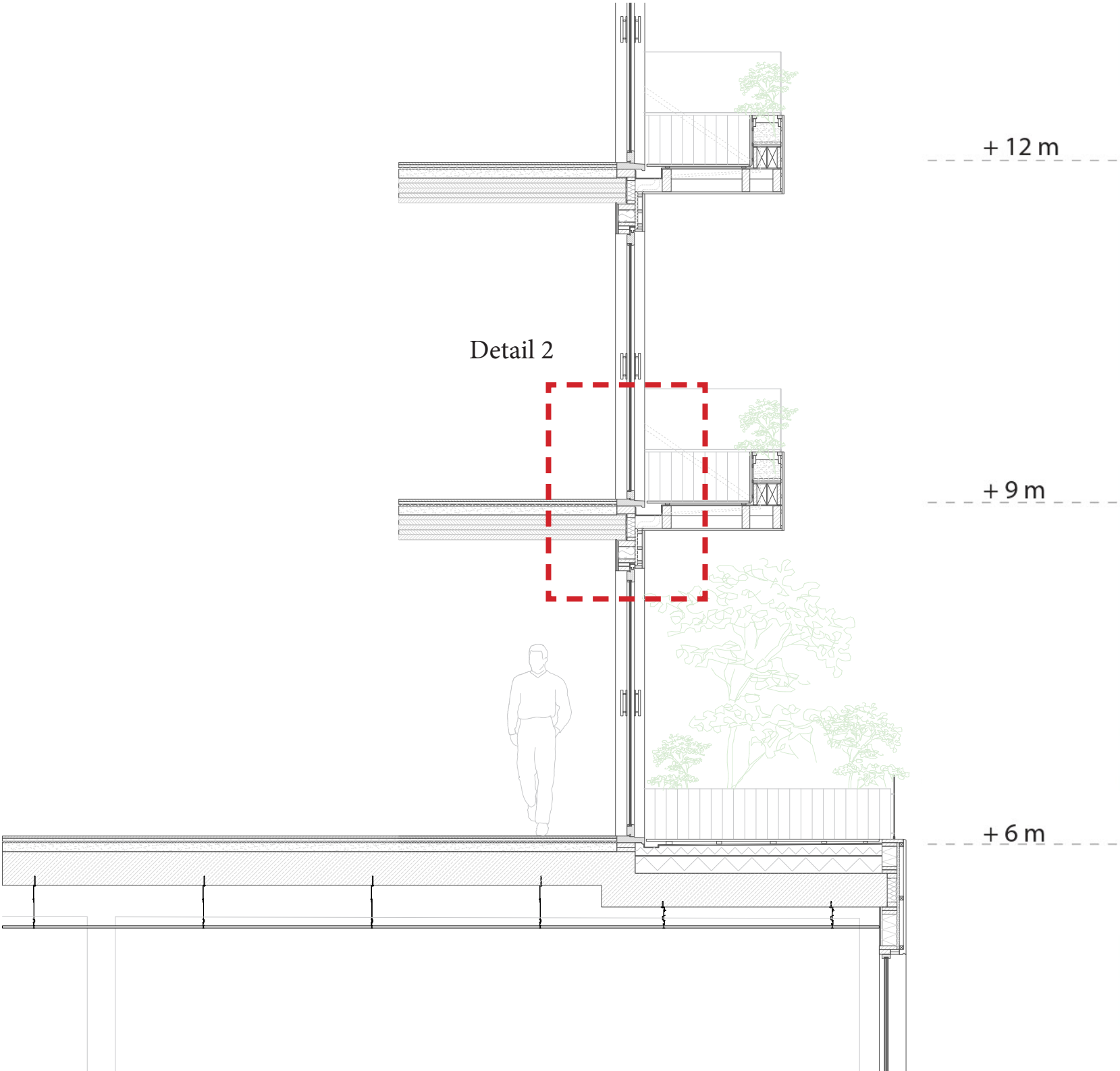
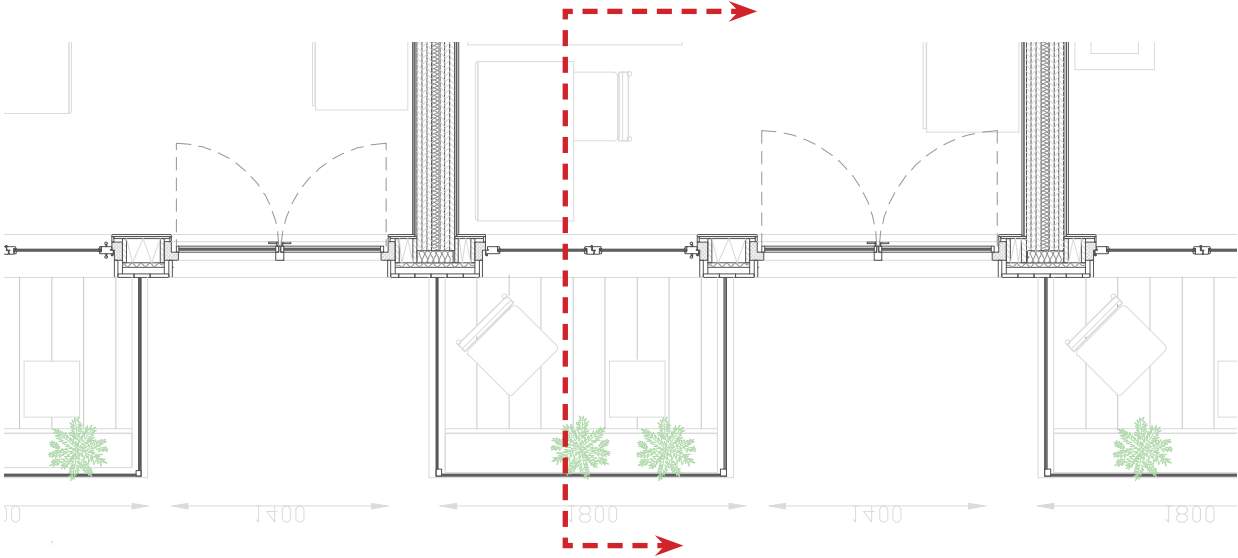


Facade fragment 2  
(From the outside (street side))





Facade fragment 2

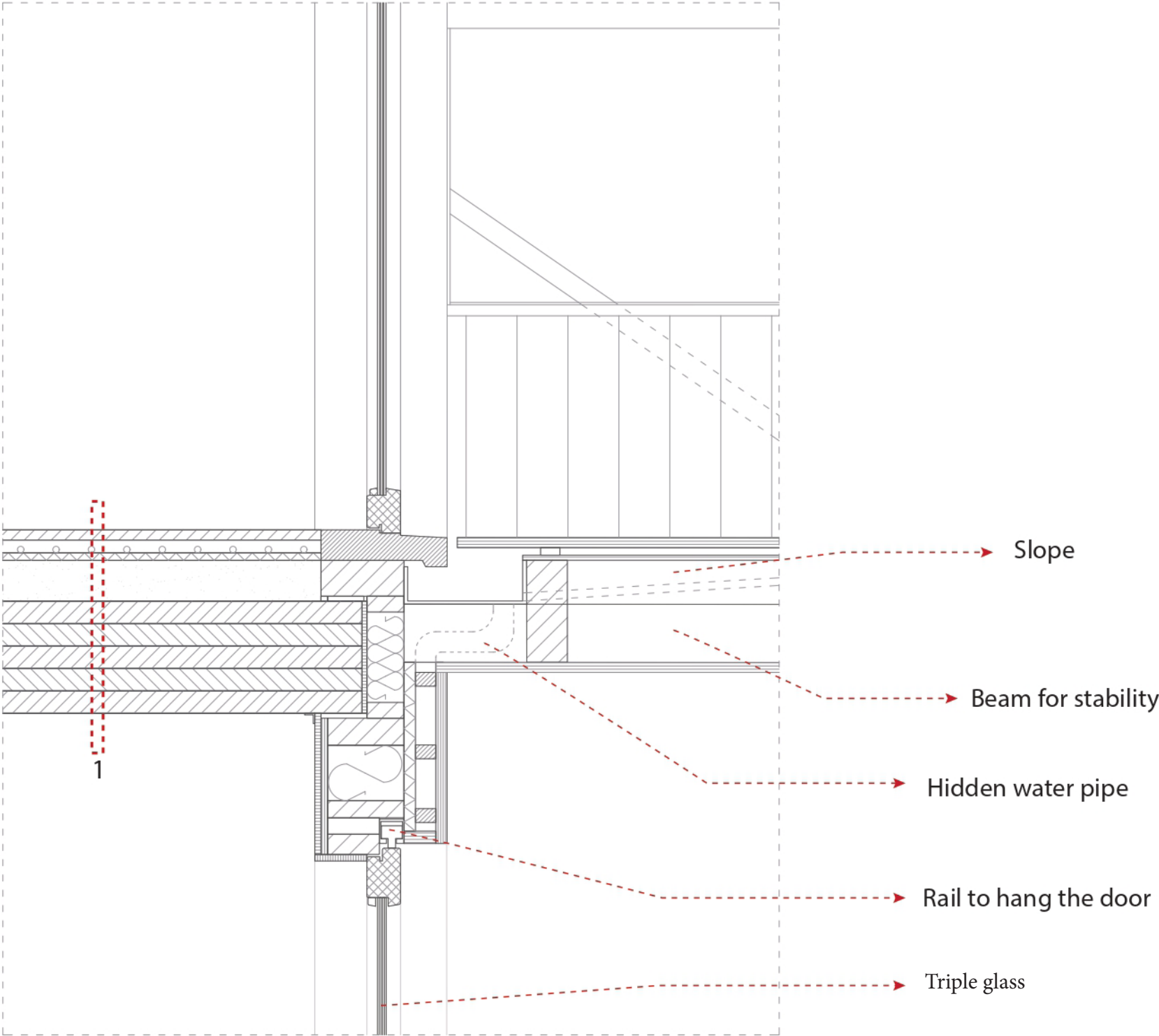




Detail 2  
Balcony detail

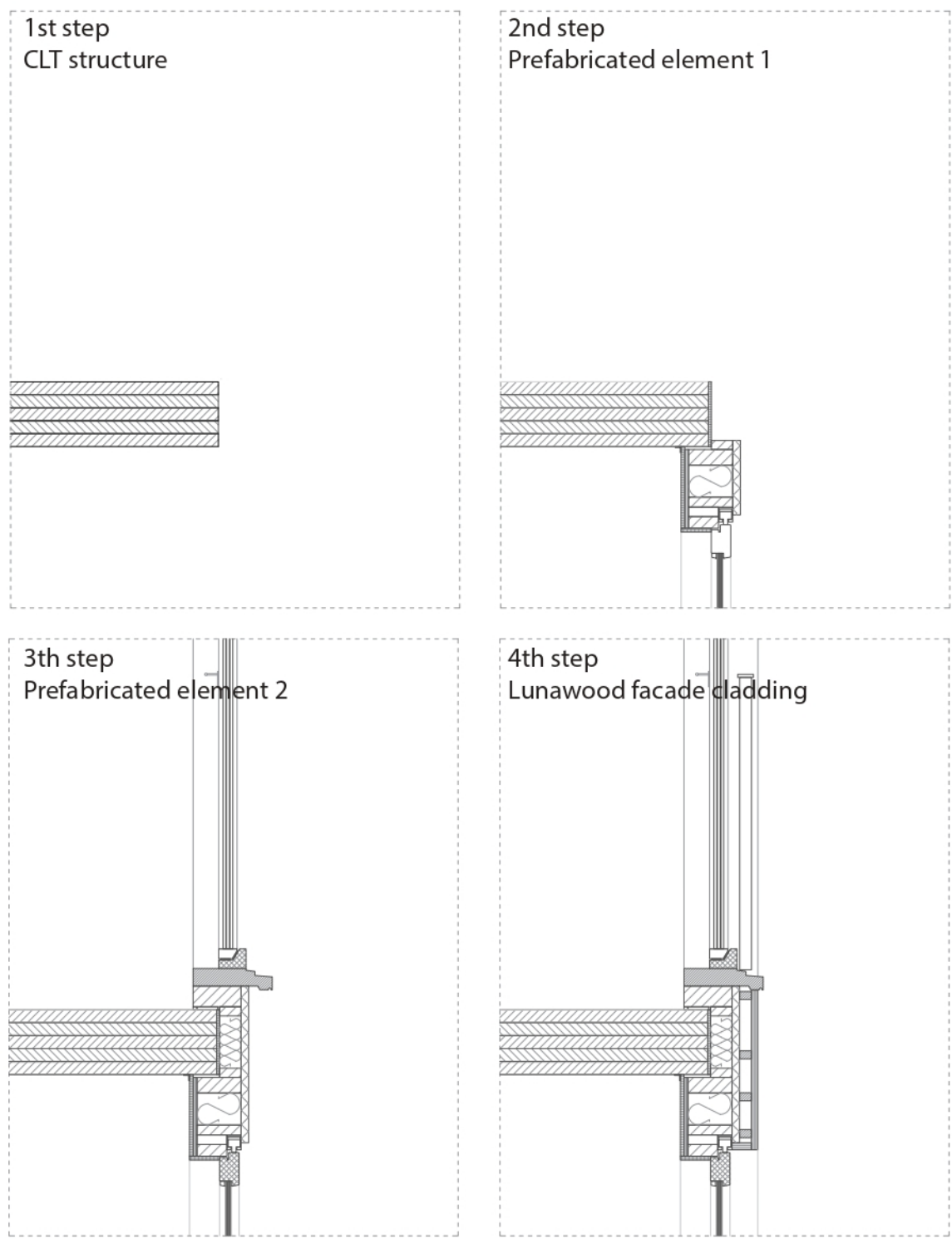
1- From top to bottom:

- Floor covering
- Plate with floor heating (18 mm)
- Insulation layer (15 mm)
- Sand layer (80 mm)
- CLT floor (220 mm)



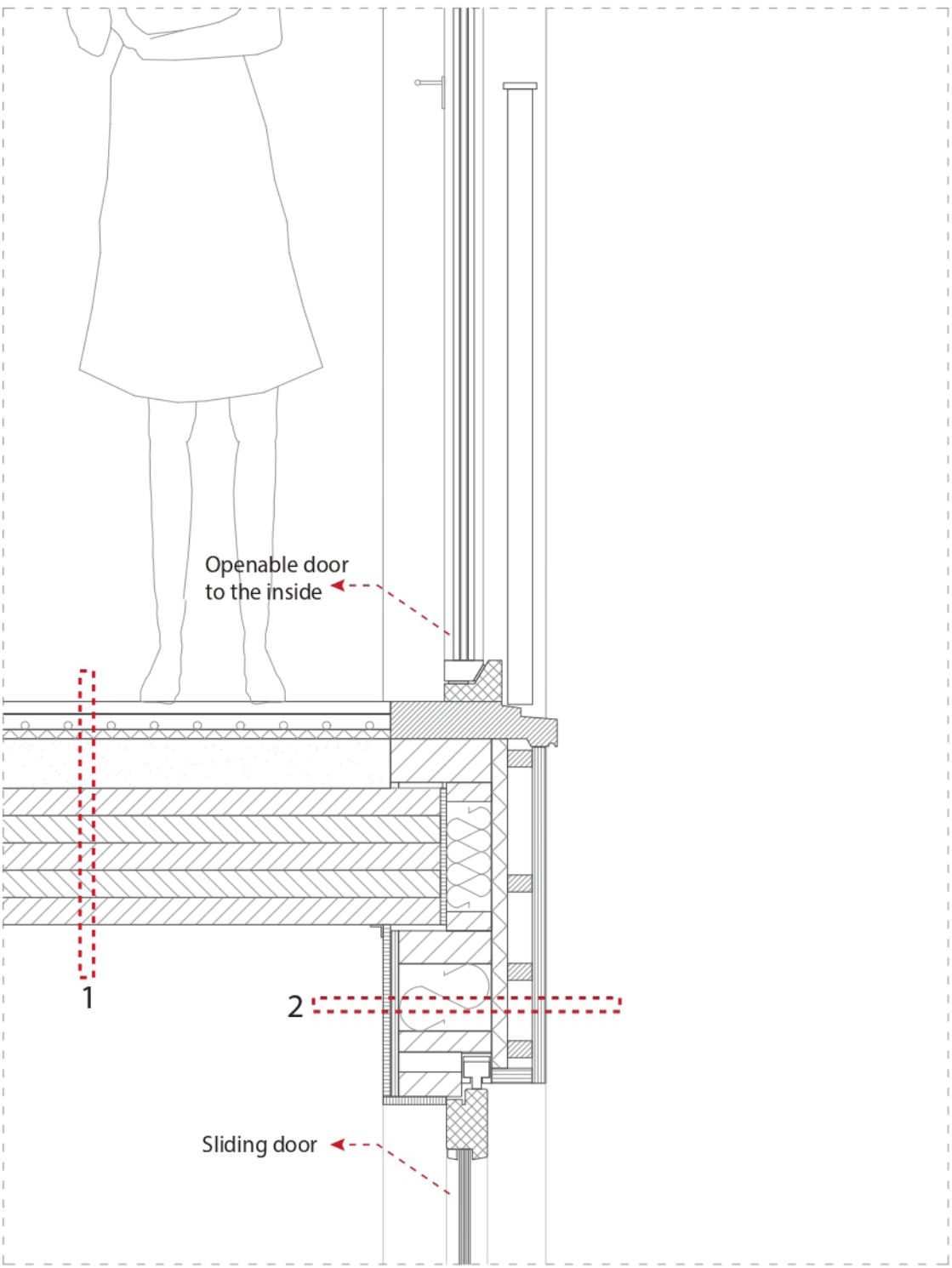
Vertical detail 1/10

# Detail 3 Facade detail



- 1- From top to down:
- Floor covering
  - Plate with floor heating (18 mm)
  - Insulation layer (15 mm)
  - Sand layer (80 mm)
  - CLT floor (220 mm)

- 2- From left to right:
- Plasterboard (13 mm)
  - Structured particle board (13 mm)
  - Timber frame with wood fiber insulation (160 mm)
  - Wood fiber insulation (30 mm)
  - Horizontal pattens (40 mm)
  - Lunawood vertical cladding (22 mm)

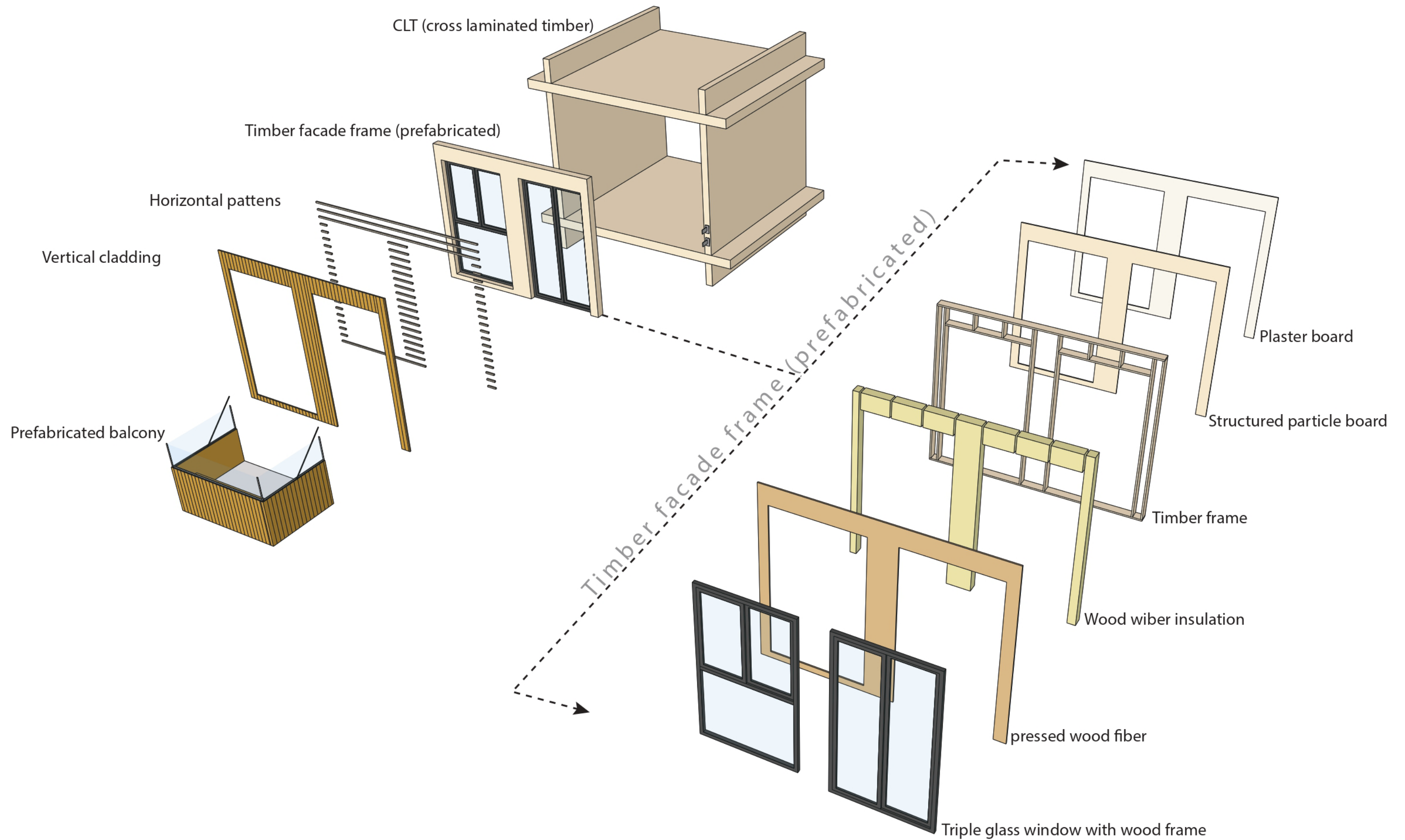


Vertical detail - Facade detail 1/10  
Facade with floor



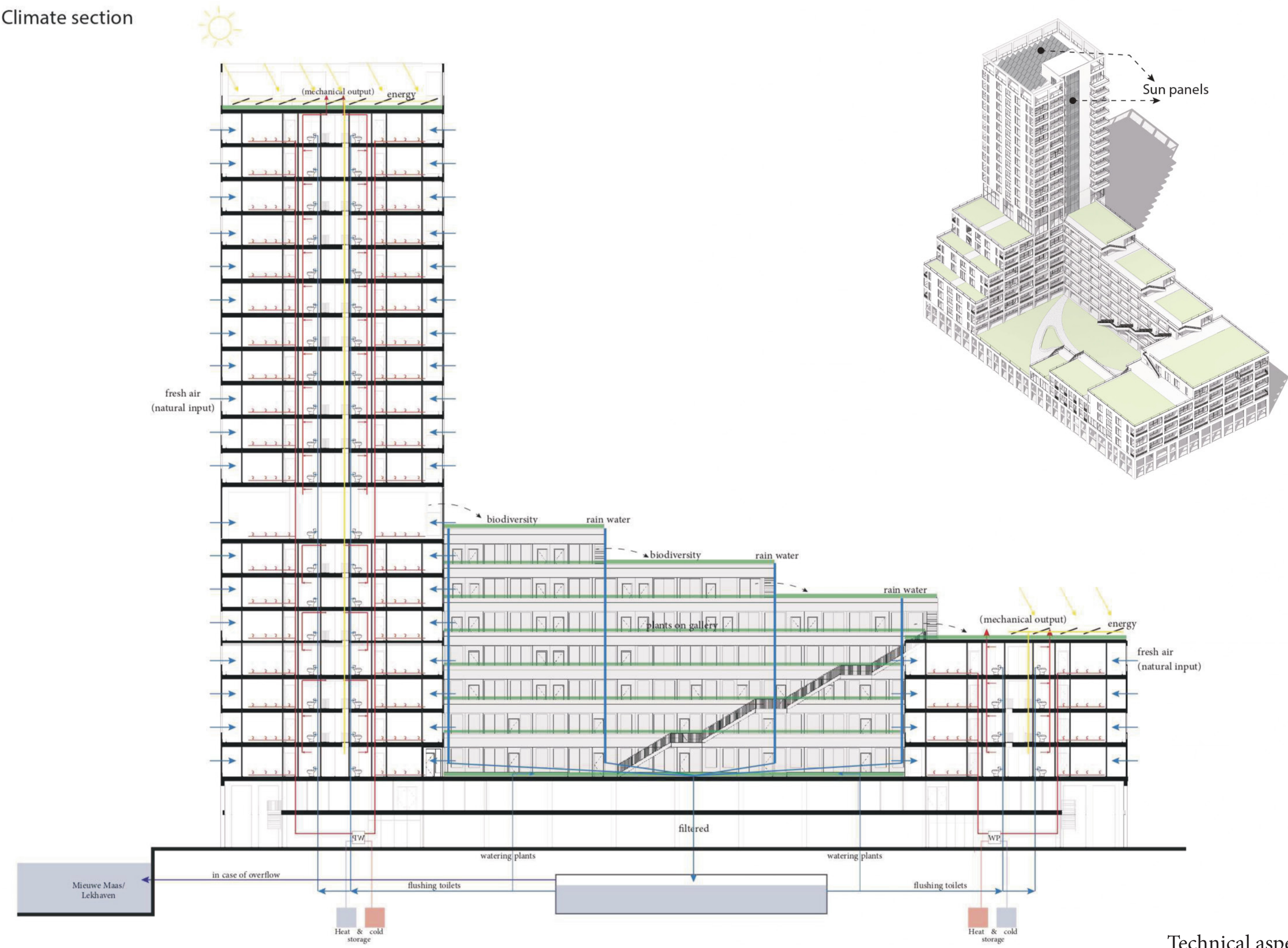


## Facade assembly

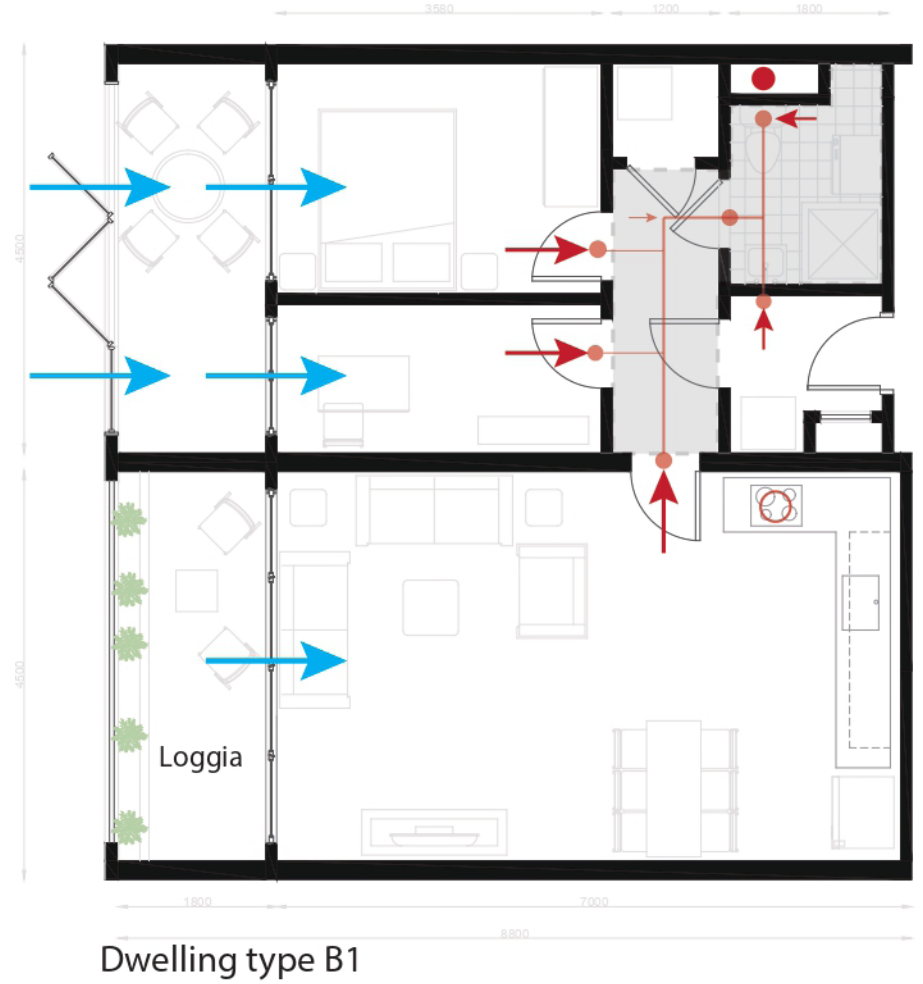
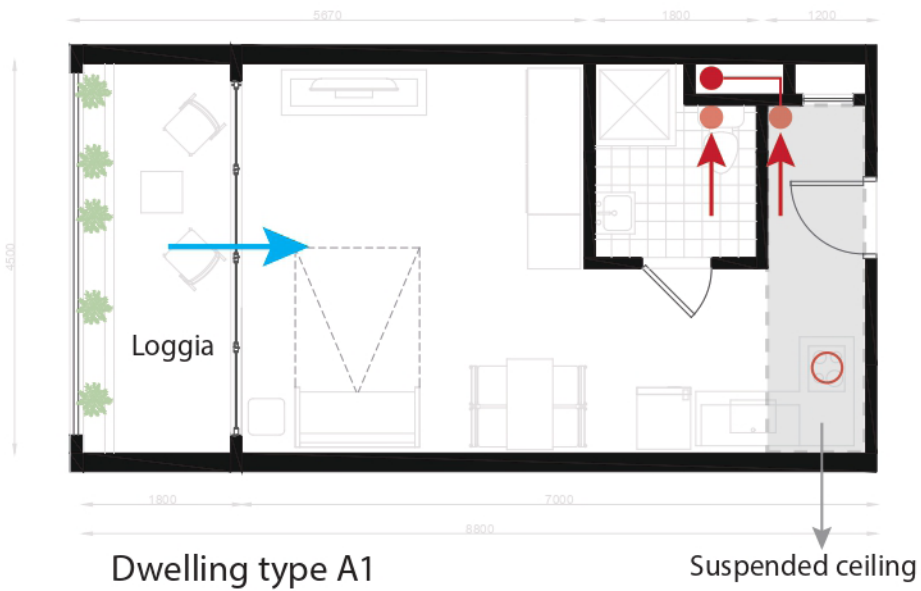




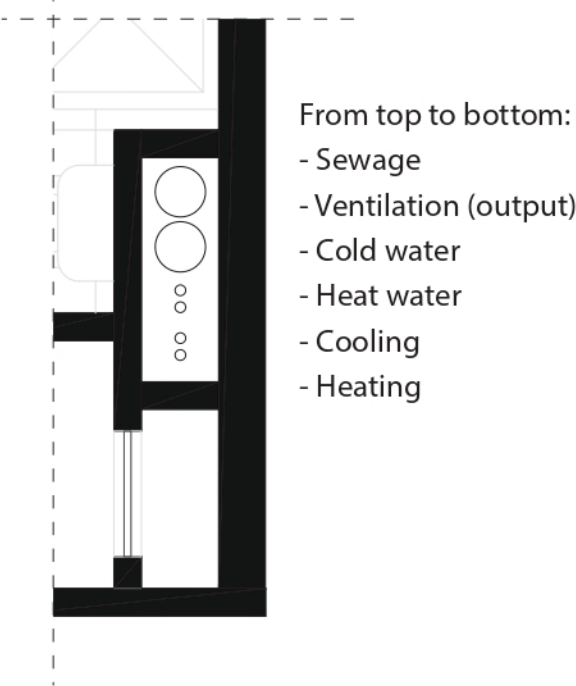
Climate section



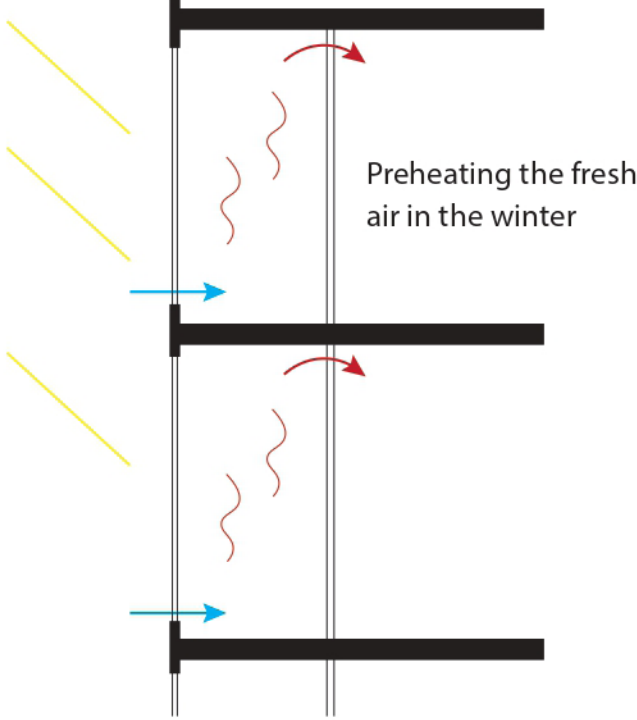
# Ventilation



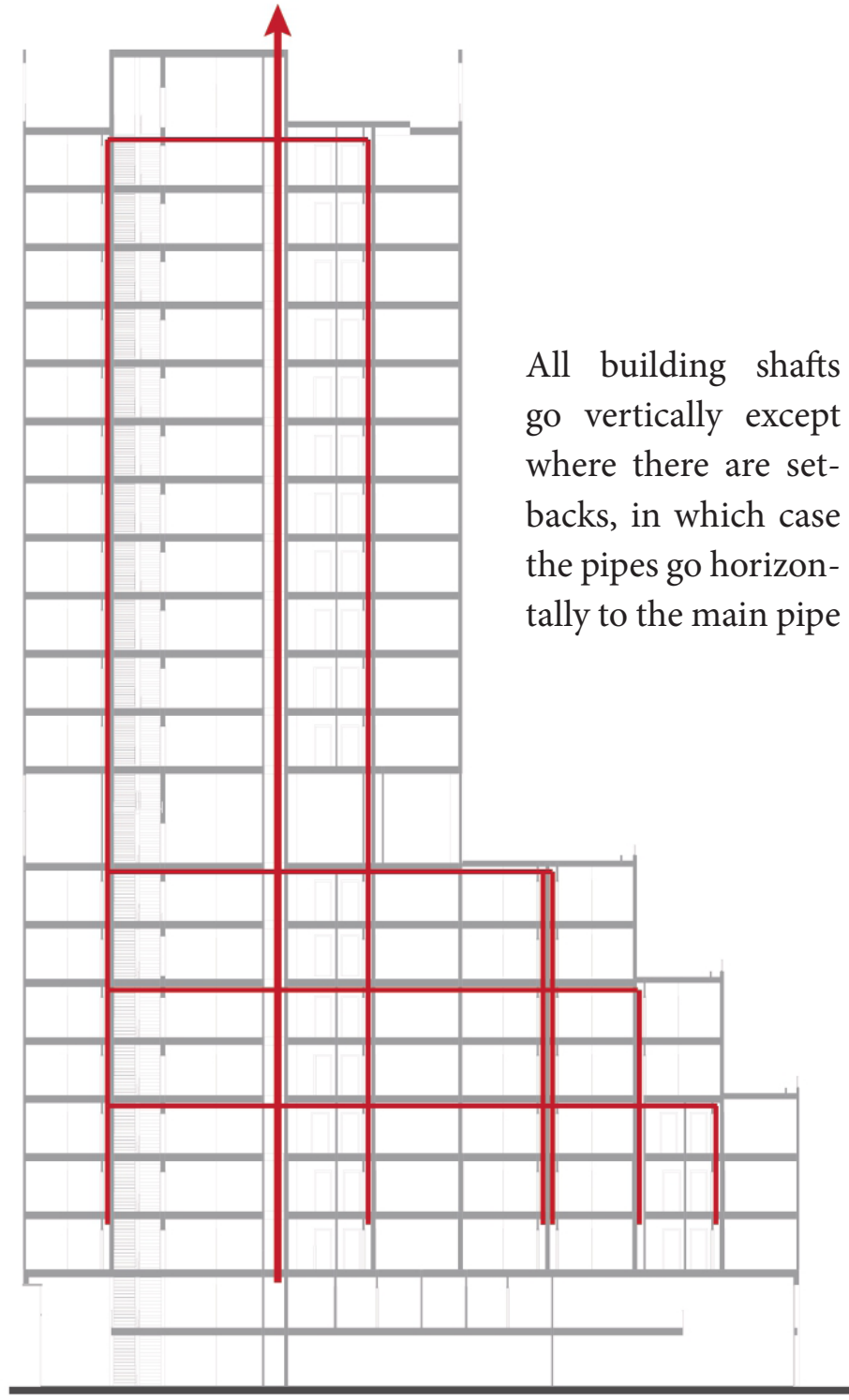
## Shaft pipes



## Winter garden principle



Main outlet pipe in the main shaft in the core



All building shafts go vertically except where there are setbacks, in which case the pipes go horizontally to the main pipe

















THANKS FOR YOUR ATTENTION