

ENTER THE SYMBIOCENE

Transforming a post-war apartment typology to create a symbiocene attitude of residents



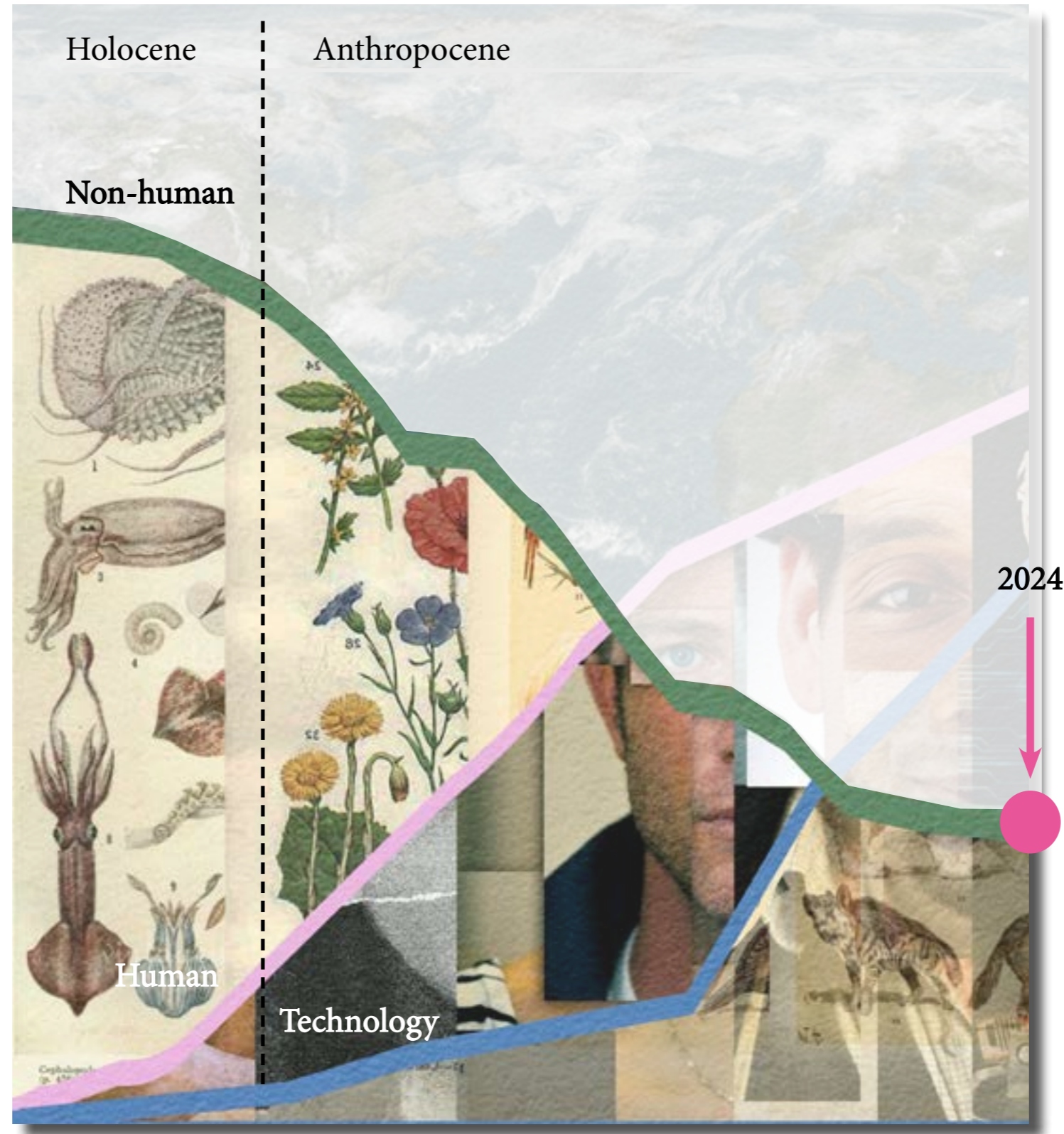
Problem

2024



Problem

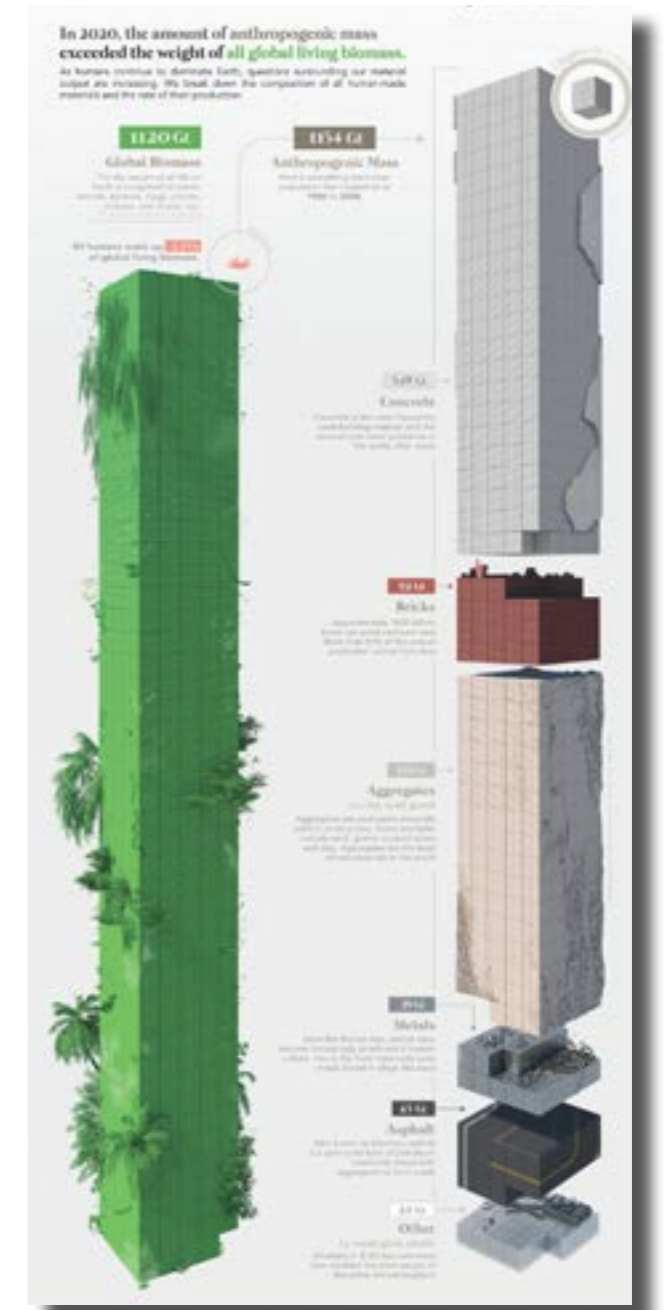
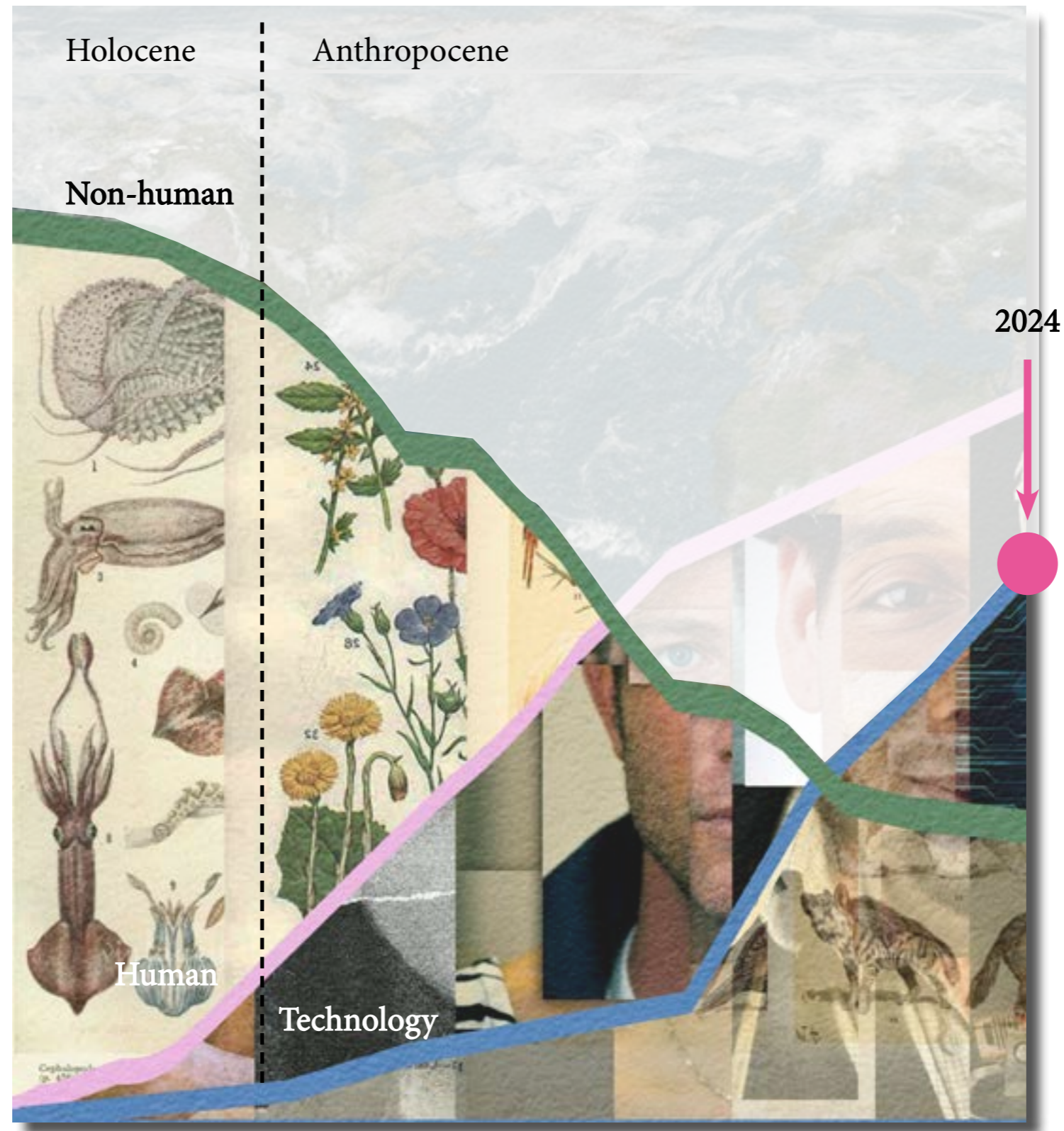
70 percent decline in biodiversity since the 1970's¹



1. WWF. (2022). LIVING PLANET REPORT 2022: Building a naturepositive society. Almond, R.E.A., Grooten, M., Juffe Big-noli, D. & Petersen, T. (Eds). WWF, Gland, Switzerland.

Problem

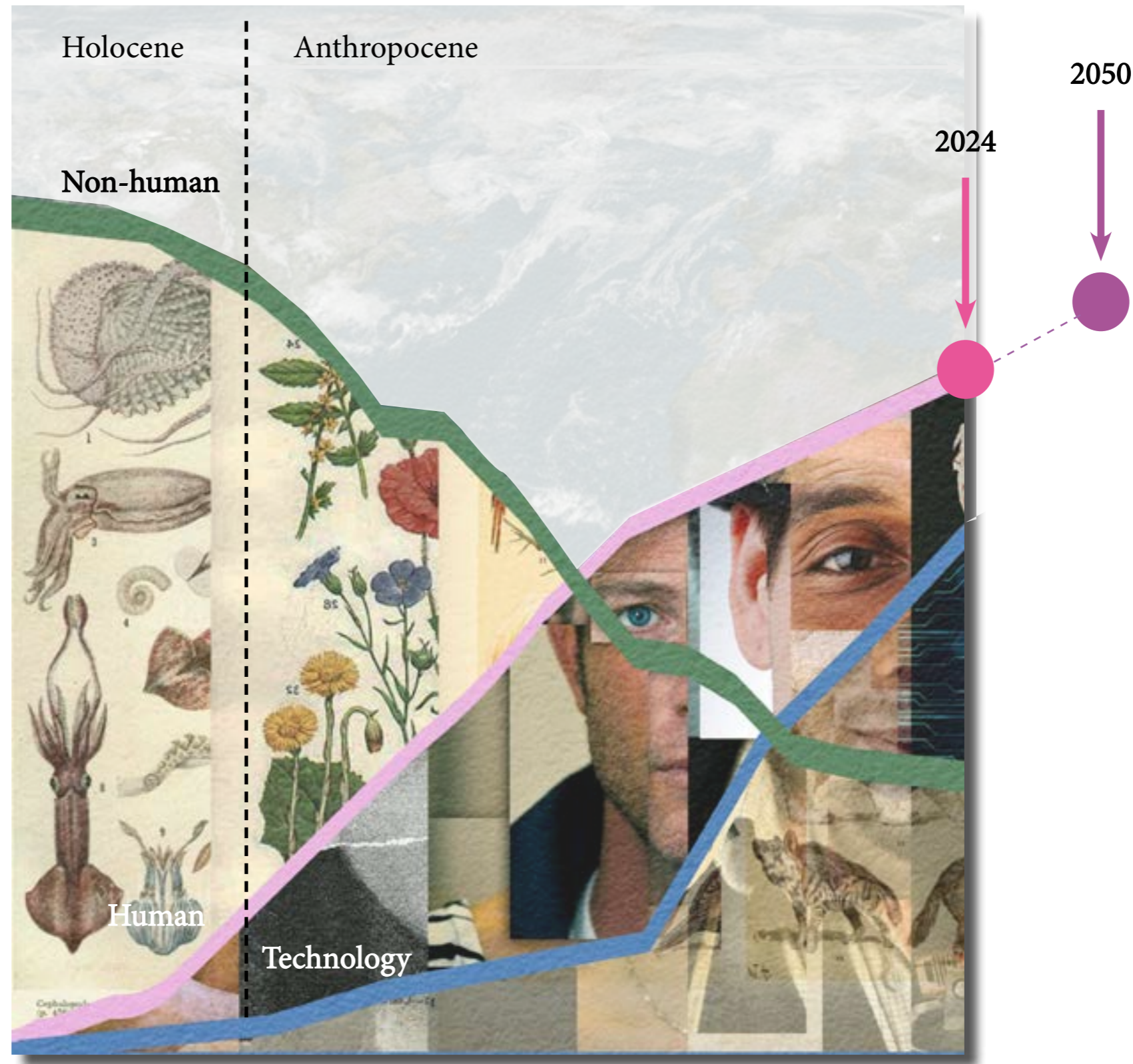
Earth has now more human-made mass than living mass²



2. Elhacham, E., Ben-Uri, L., Grozovski, J., & Bar-On, Y. M. (2020). Global human-made mass exceeds all living biomass. *Nature*, 588(7838), 442–444. <https://doi.org/10.1038/s41586-020-3010-5>

Problem

68 per cent of humans are going to live in urban areas by 2050³

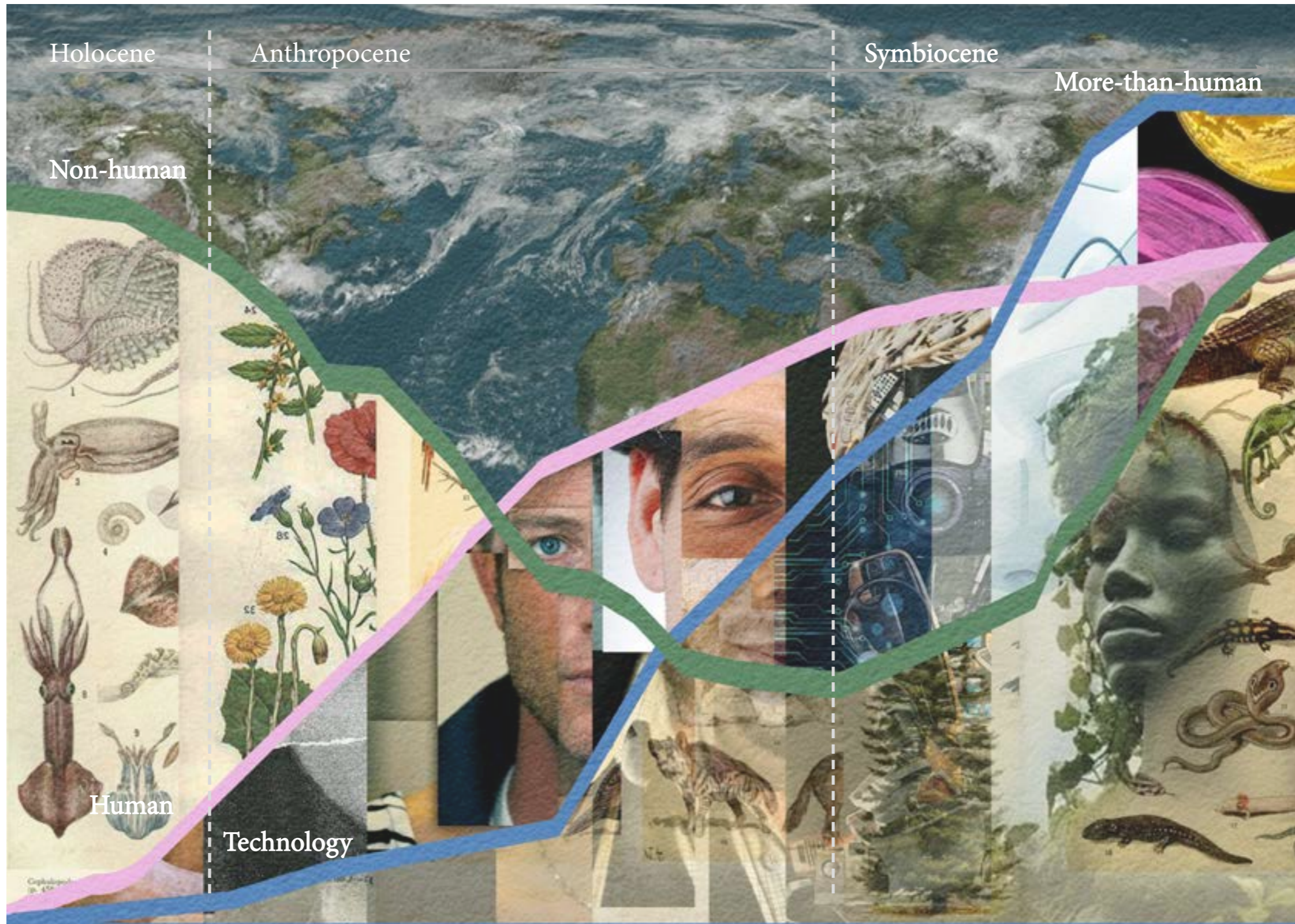


3. United Nations. (2018). 68% of the world population projected to live in urban areas by 2050, says UN | United Nations. <https://www.un.org/uk/desa/68-world-population-projected-live-urban-areas-2050-says-un>

Vision of project

Symbiocene

Growth of non-humans, humans and technology



Glossary



Content

Research

Research into design

Design

RESEARCH

Research question

How could design play a role in facilitating more-than-human relationships in pathways towards a Symbiocene environment?

Why?

We think we are on top of the chain
and we act and design for it



Why?

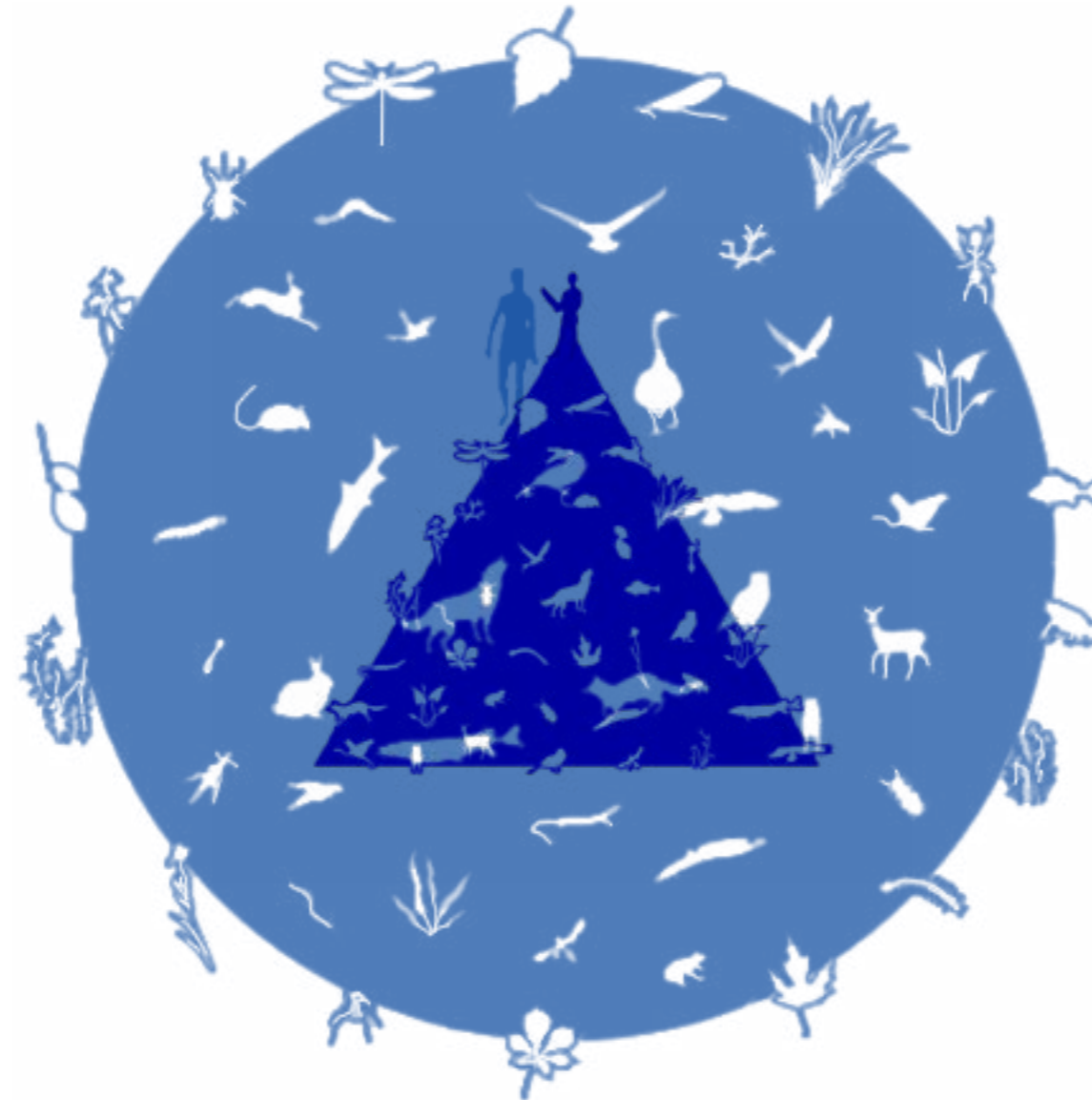
Now, we experience misanthropy and guilt



feeling of guilt

Why?

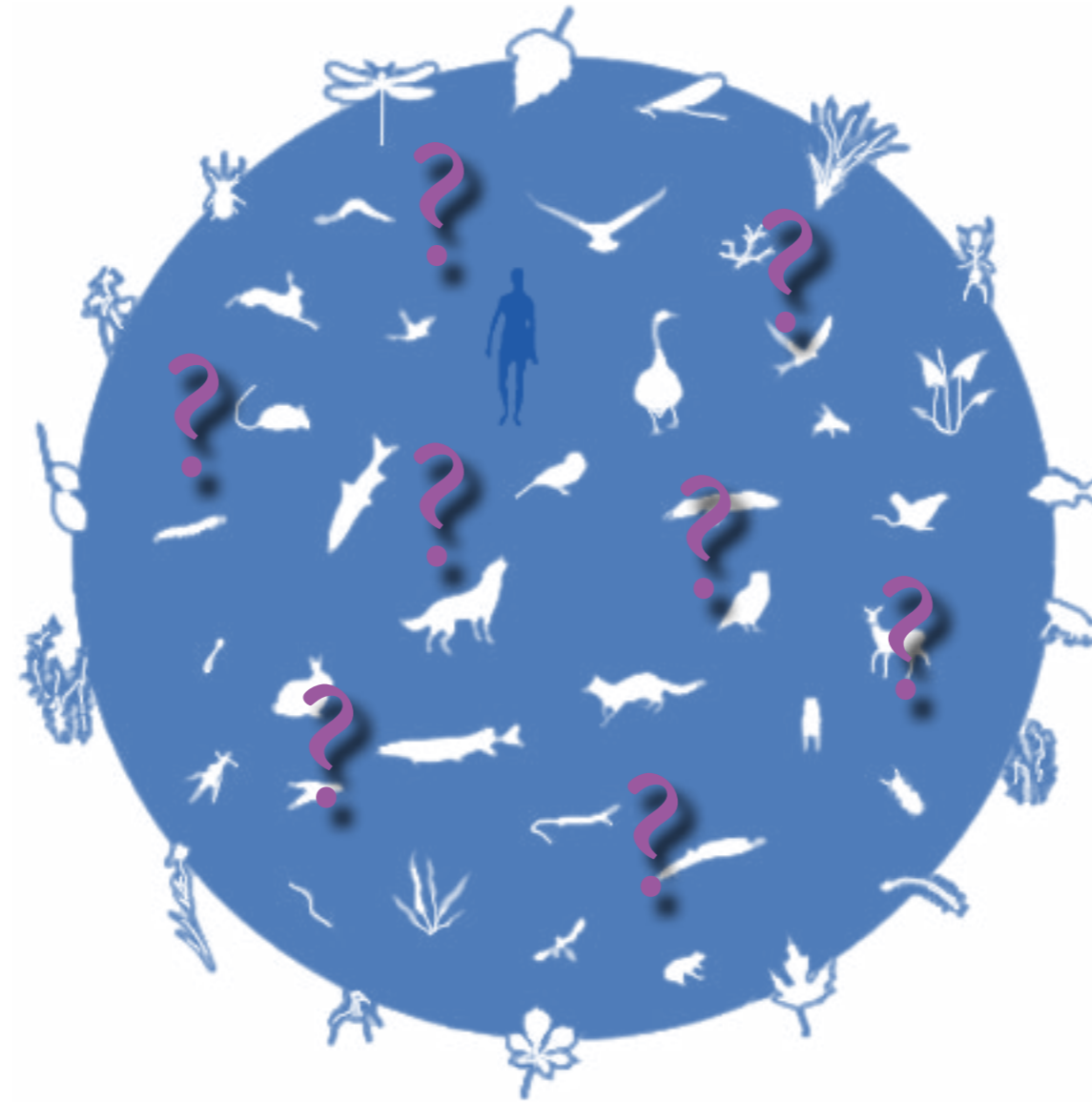
We think we have to be in symbiosis
but it is always has been there



and not an attitude

What?

So what attitude do we need to have to our environment?



to survive and to ethically act

How?

From searching for attitudes
towards nature

SHIFT

to searching for relationships
with our environment

What?

And what can design mean?



4. Colomina, B., & Wigley, M. (2016). Are we human?: Notes on an Archeology of Design. Lars Müller Publishers.

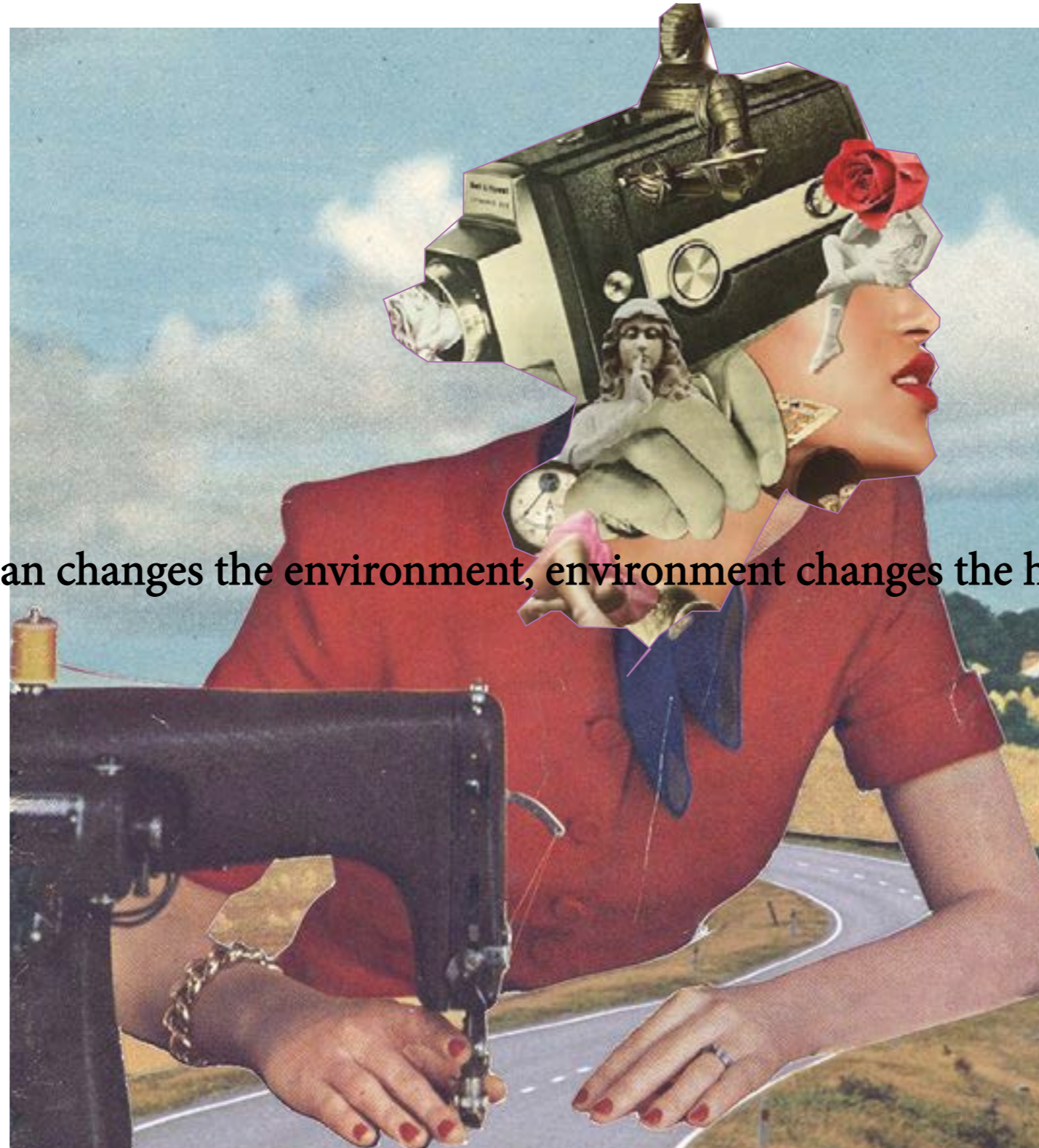
What?

And what can design mean?



What?

And what can design mean?



Human changes the environment, environment changes the human

Research question

How could design play a role in facilitating more-than-human relationships in pathways towards a Symbiocene environment?

Sub questions

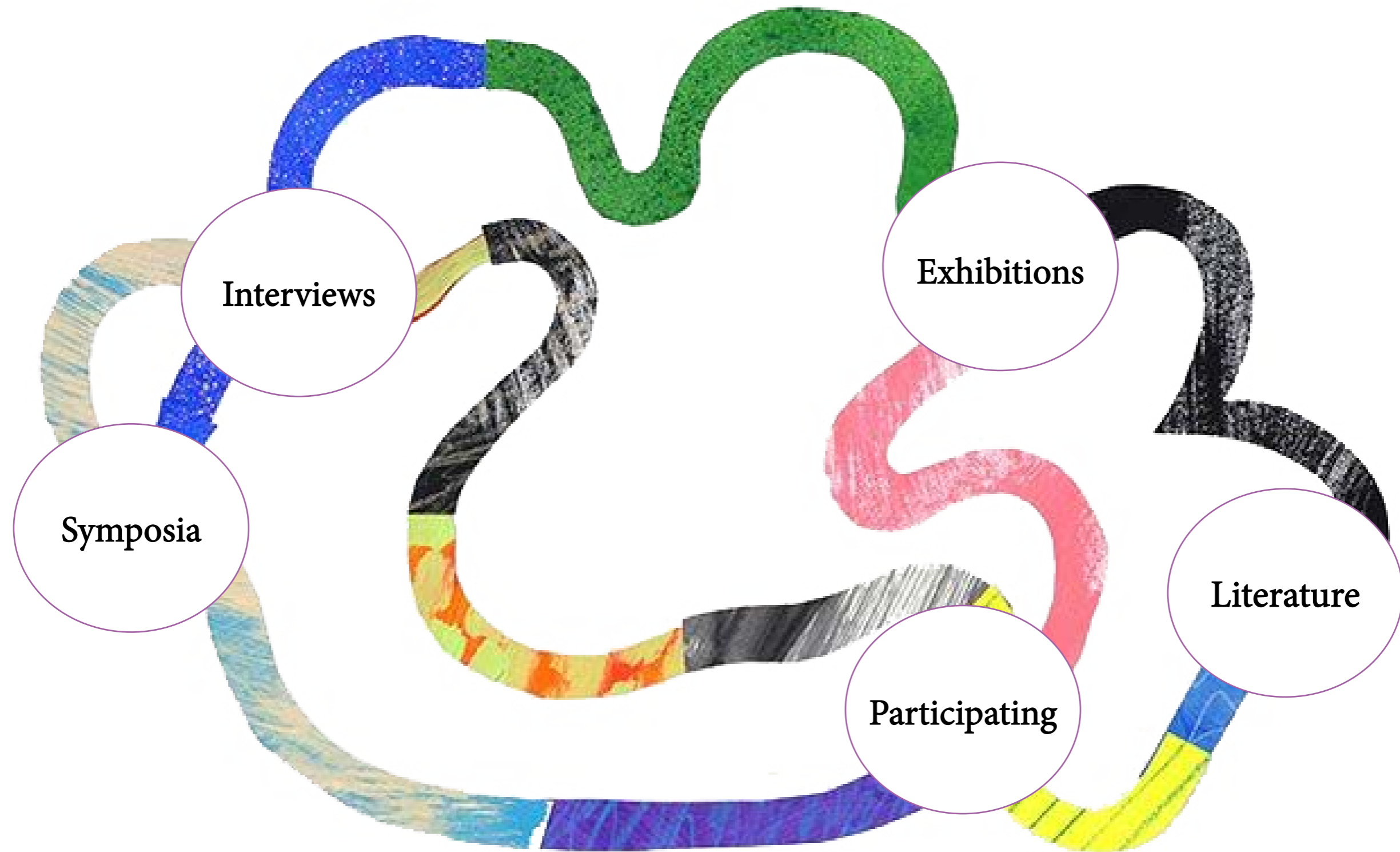
How could design play a role in facilitating more-than-human relationships in pathways towards a Symbiocene environment?

What are the thoughts of posthumanism and what vision does humanity need to keep their species and co-species alive?

Which more-than-human relationships will be there in the symbiocene environment?

How could design play a role in making this vision more operational in the Symbiocene world?

Methodes

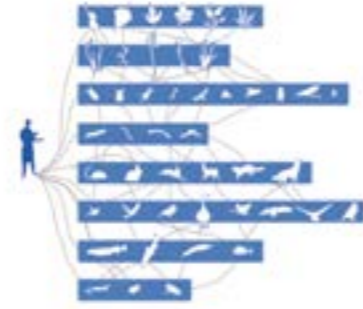


Methodes



Results

More-than-human relationships



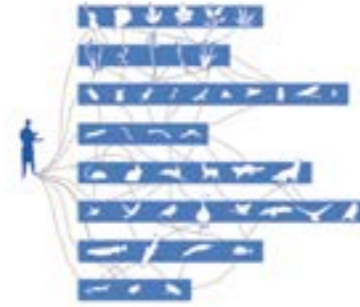
Results

More-than-human relationships

CELEBRATE



MASTER



CONNECT



SHELTER



CONCERT



MAKE



RECEDE

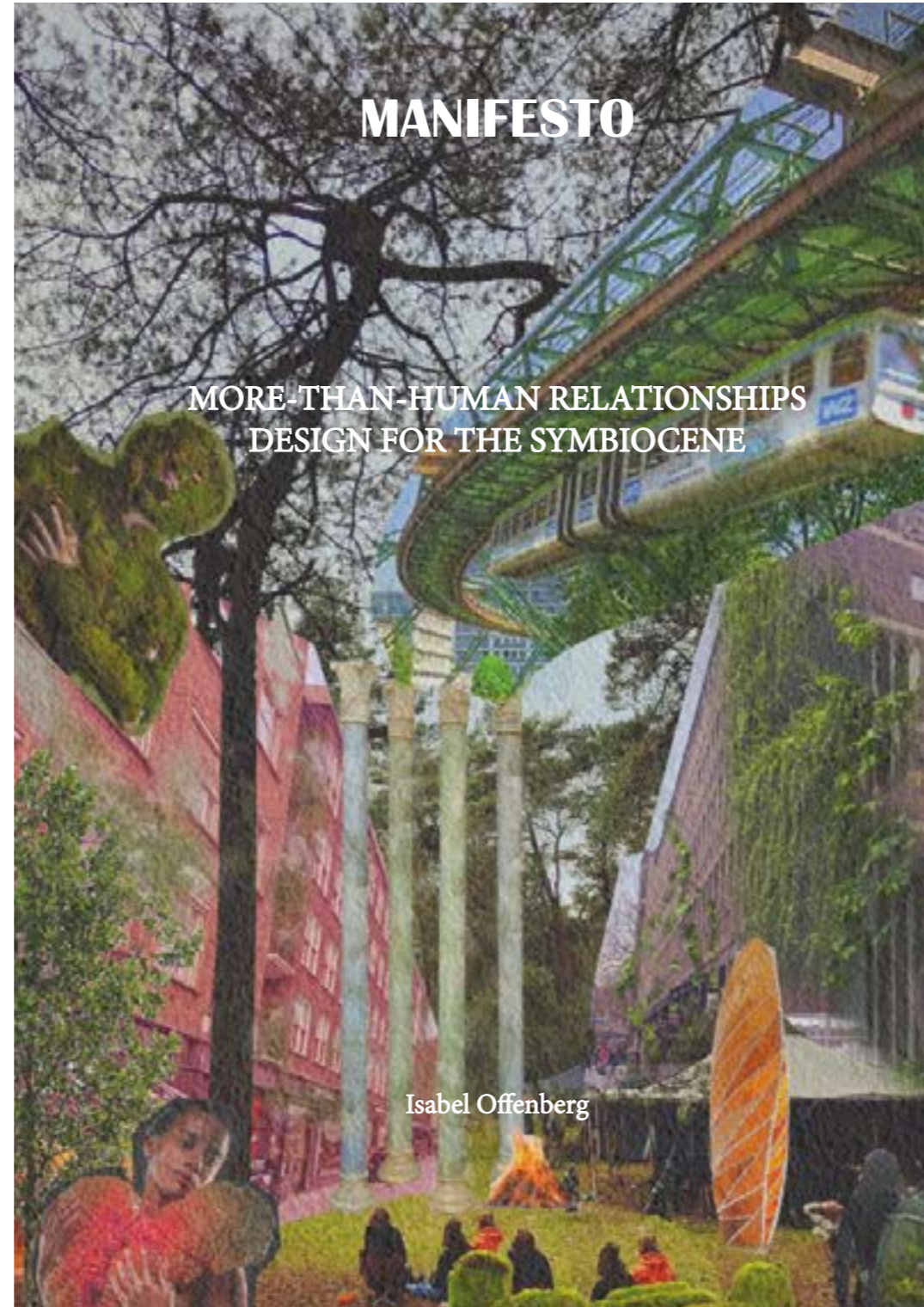


FAMILIARIZE



Results

In form of a Manifesto



Results

Example



I dream of a world where technology becomes in own species.
I dream of a world taken over by technology.
I dream of a world where all species are dominated by machines.
I dream of a world where the only connection is through technology.
I dream of a world full of grey and dead materials
I dream of a world where we travel with machines made of death.
I dream of a world where I don't know where my food comes from
I dream of a world where I don't know what a tree is.
I dream of a world where water is scarce.
I dream of a world where I am afraid of the unknown living environment.
I dream about a dream of a world where innovation is done with knowledge and consent.
I dream of a world where technology is getting us closer to our environment by understanding our co-creatures on this planet.
I dream of a world where we can connect with the language of other species.
I dream of a world where the living matter meets us in different forms and shapes.
I dream of a world where we can grow food that is healthy for

41

Results

Example

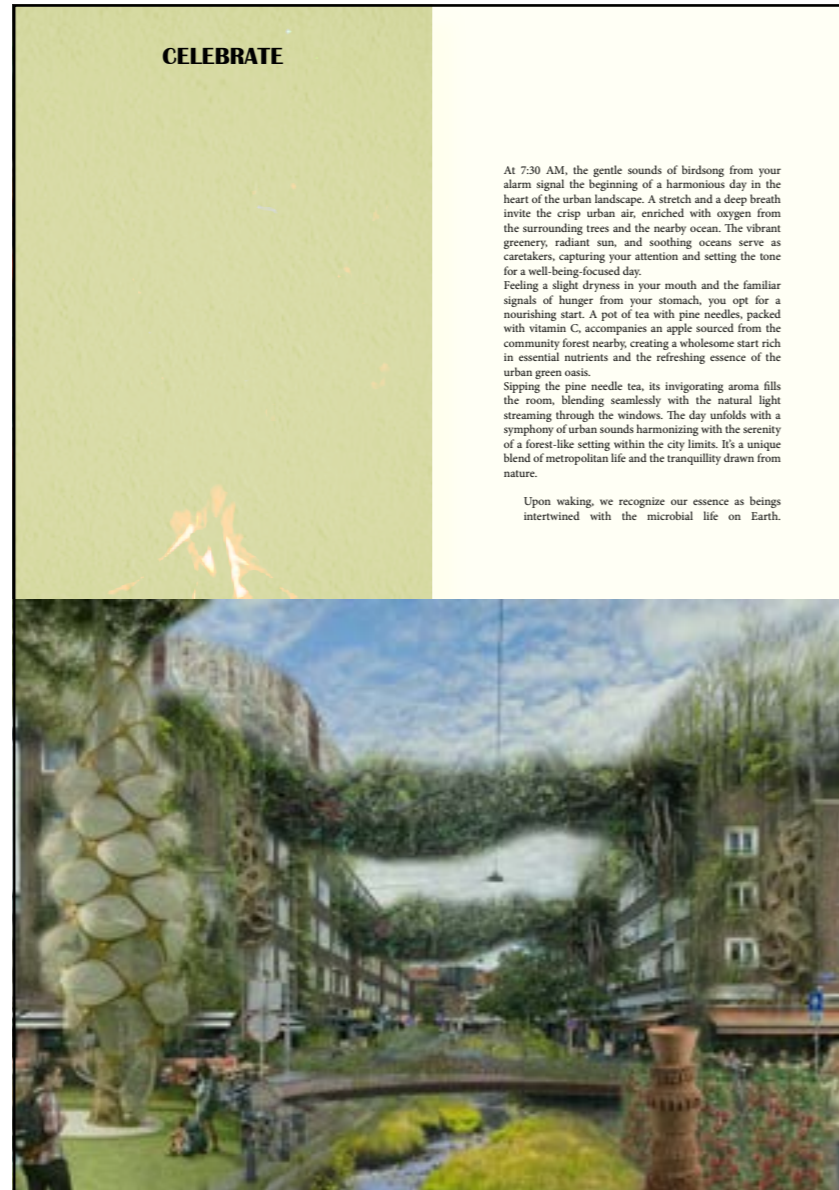
us but doesn't compete with other species.
I dream of a world where walking creates energy for warming my house.
I dream of a world where I could clean my house with bacteria instead of against bacteria.
I dream of a world where lights on the street are lightened by algae without the use of energy.
I dream of a world where our mail gets posted by birds.
I dream of a world where our clothing is made together with silkworms.
I dream of a world where we grow our food in our homes.
I dream of a world where my waste becomes someone's food.
I dream of a world where humans support biodiversity by providing shelter for more-than-human in need.
I dream of a world where our environment will be our living aesthetic.
I dream of a world like Avatar
I dream of a world where I can get my vitamins without hurting a single animal.
I dream of a world where I know how to survive without technology.
I dream of a world where technology makes life less cruel.

Or was this all just a dream?

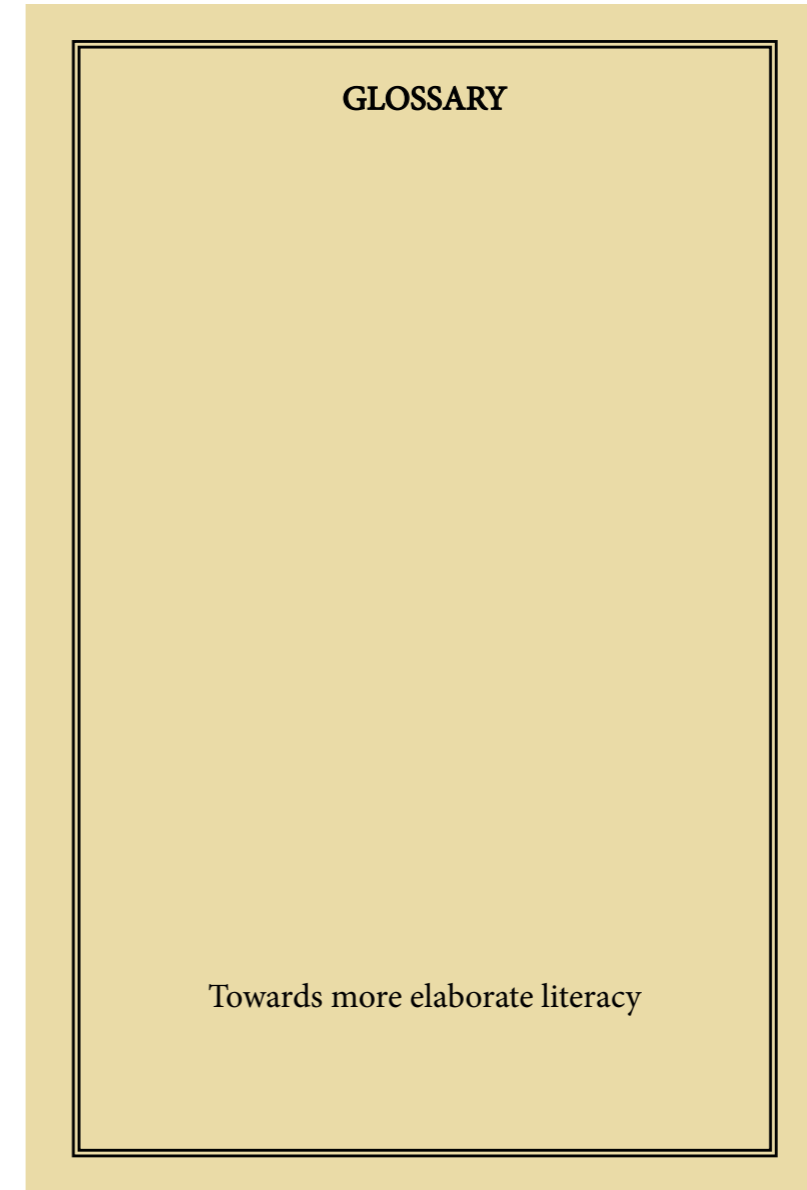


Conclusion

Visual

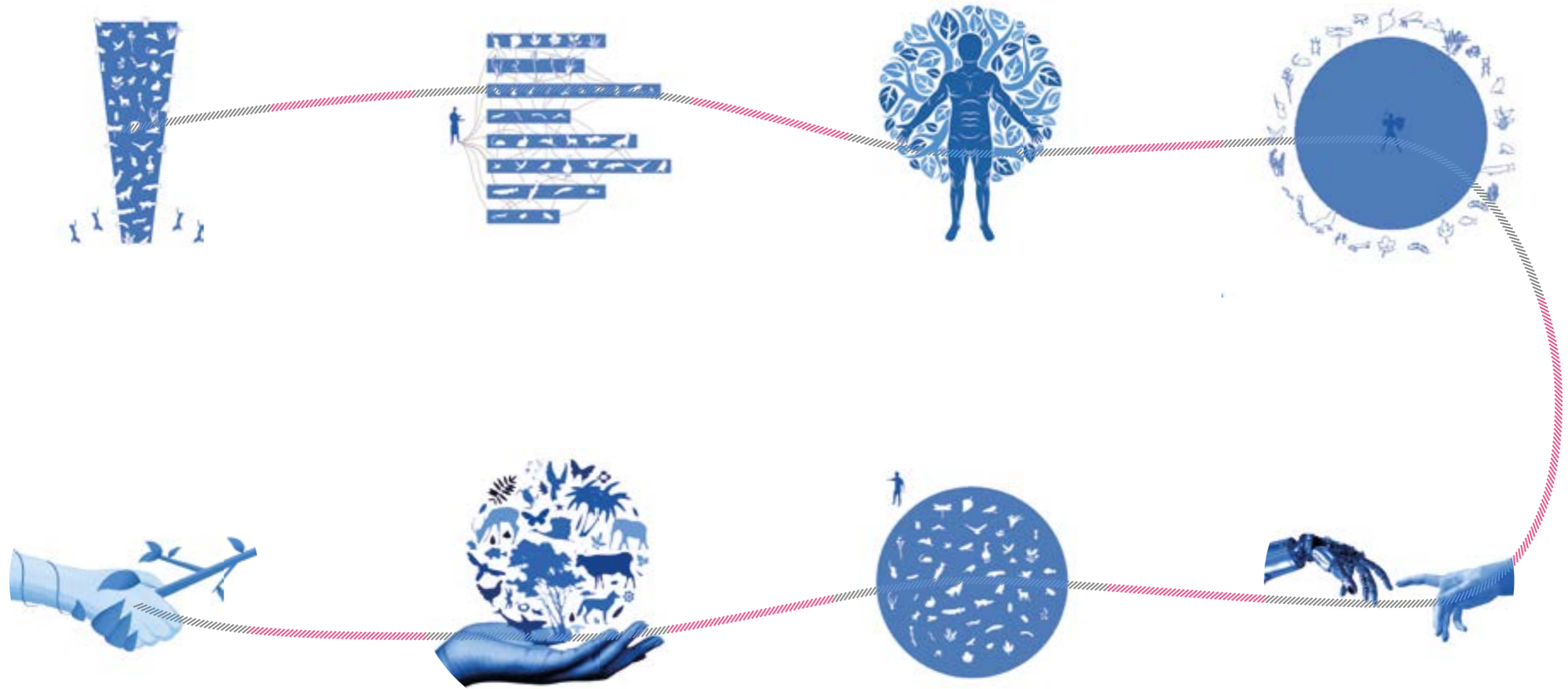


Literacy



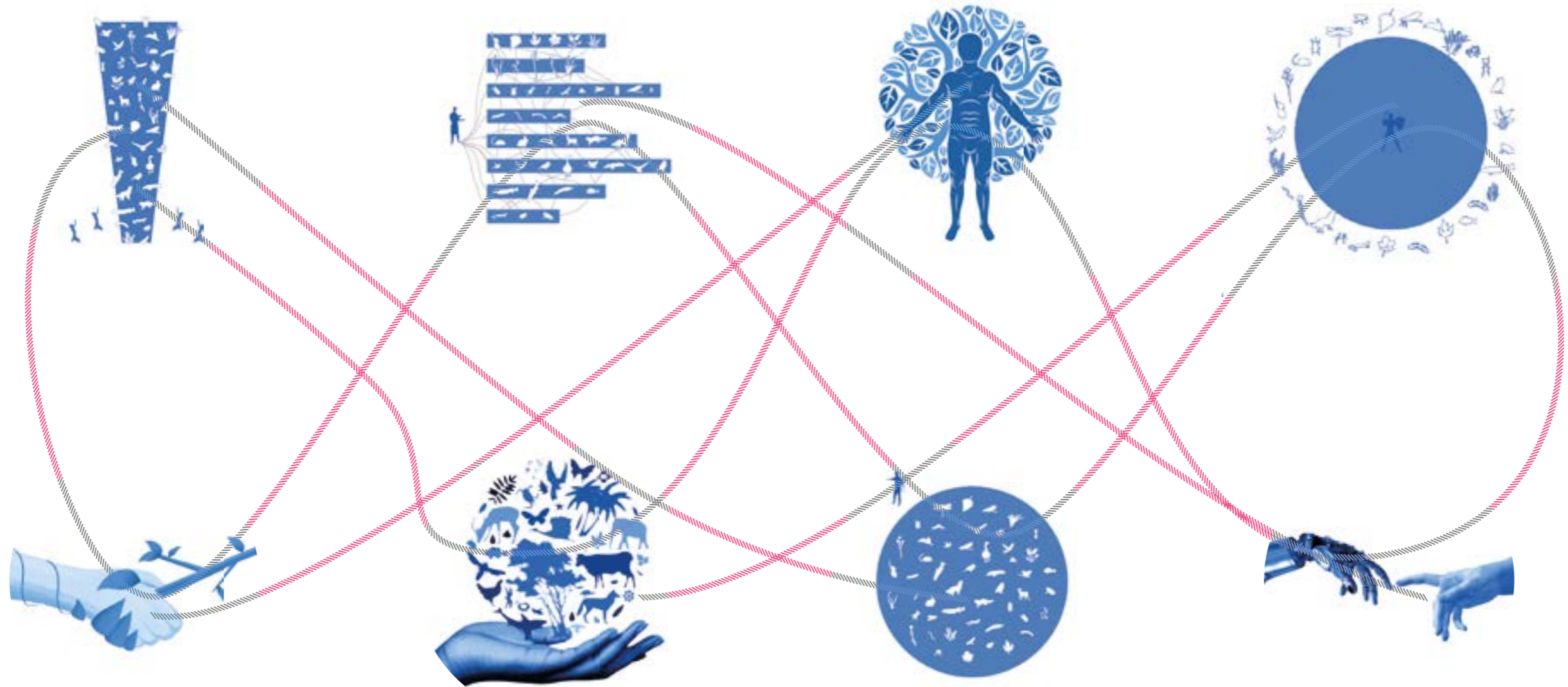
Conclusion

Sequential



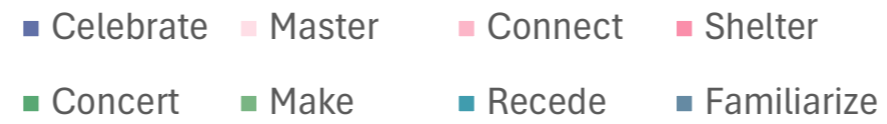
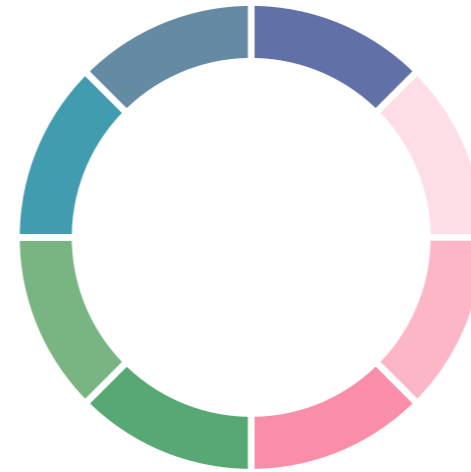
Conclusion

Reflective process

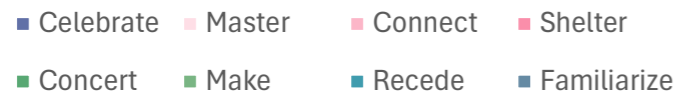
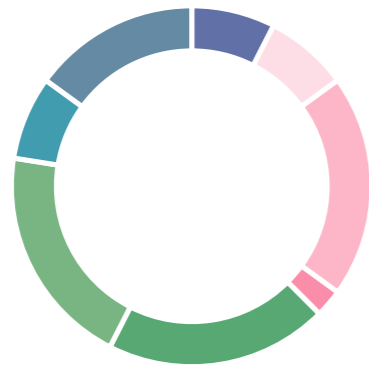


Conclusion

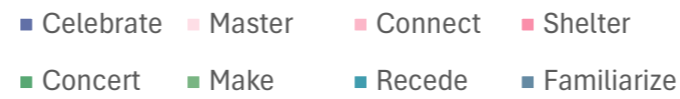
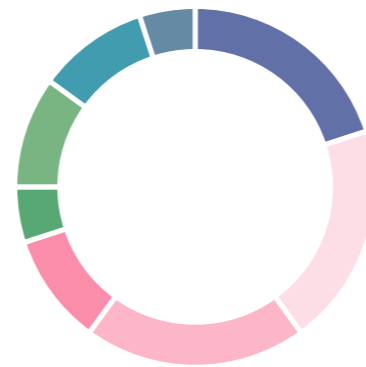
Relations



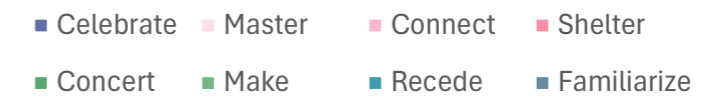
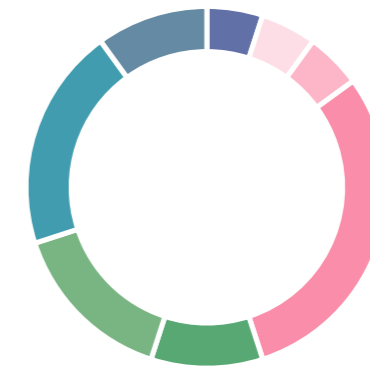
A



B

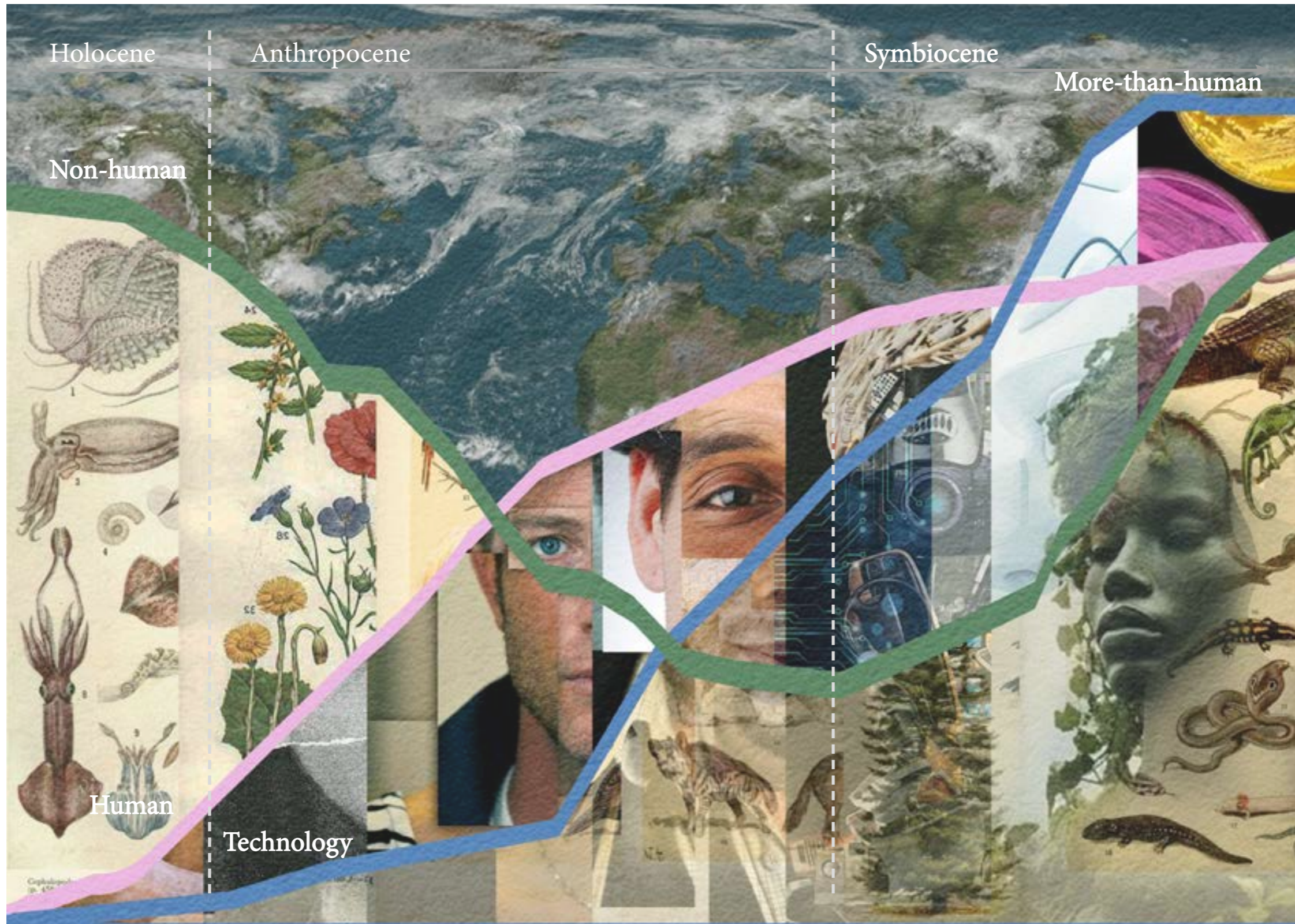


C

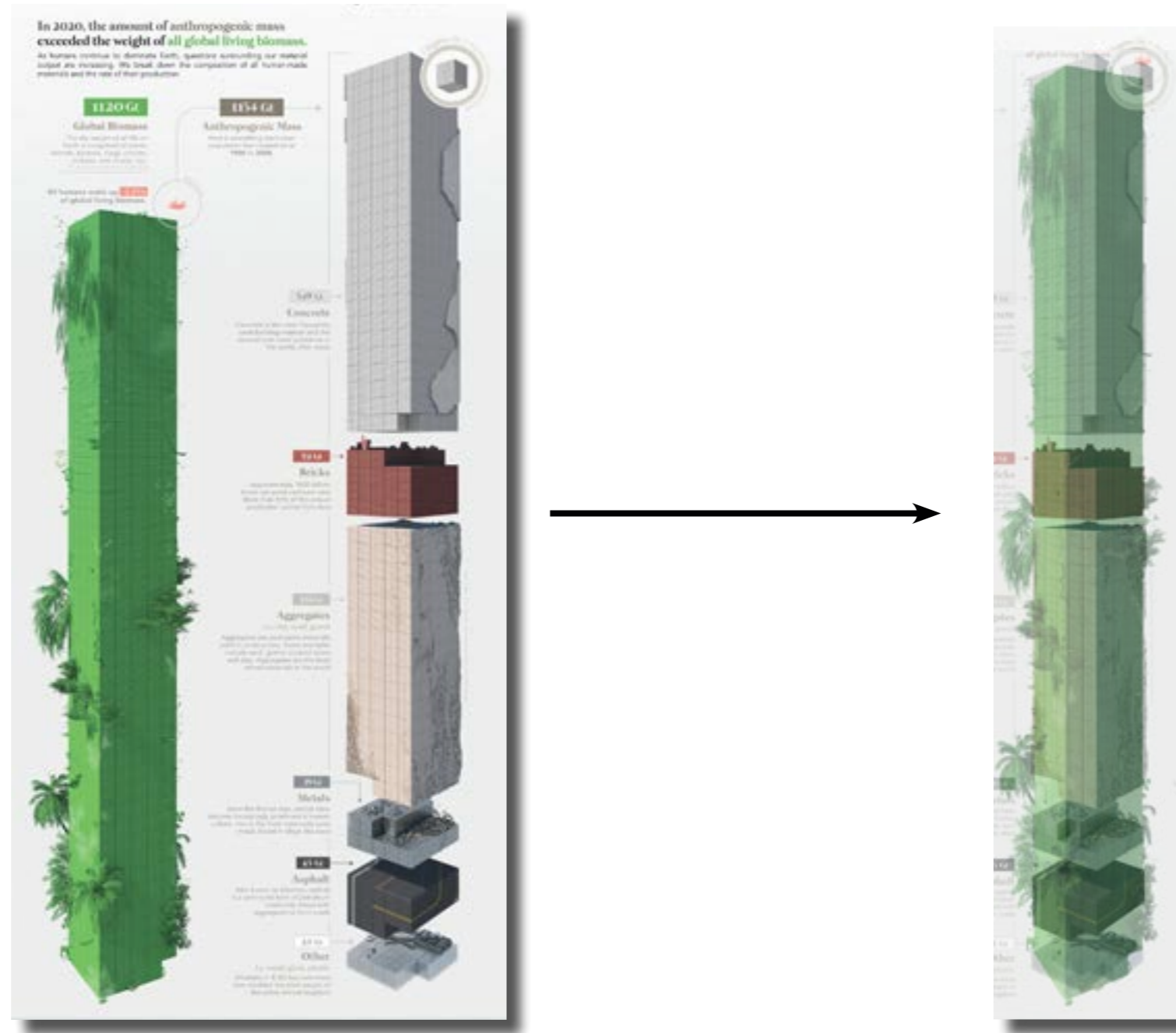


Results

Vision of Symbiocene Growth of non-humans, humans and technology



Fourth nature



5. Bochenek, W. (2023, 14 februari). What is the fourth nature? New urban gamechanger | AiB. Architektrua&Biznes. <https://www.architekturaibiznes.pl/en/what-is-fourth-nature-ordered-green,23329.html>

Design
LOCATION

What?

Post-war building



Start vision

Renovation Post-war building towards Symbiocene



Why?

1950's: human-centered scale design



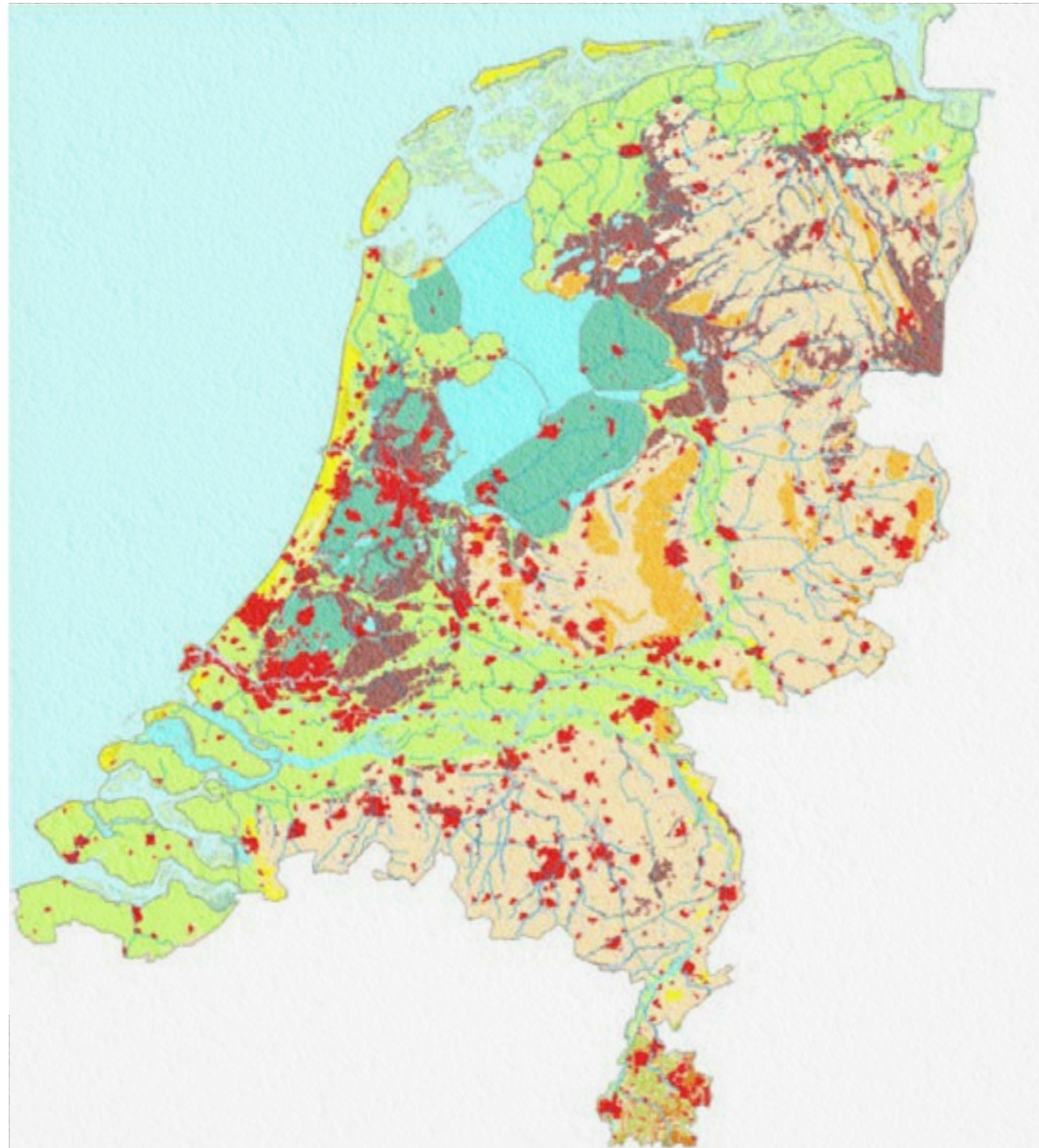
What is it?

1950's: human-centered scale design



Where?

2000 A.D.



5. WebGIS Publisher - Viewer. (2021). <https://rce.webgispublisher.nl/Viewer.aspx?map=Paleogeografische-kaarten#>

History

3850 B.C.



5. WebGIS Publisher - Viewer. (2021). <https://rce.webgispublisher.nl/Viewer.aspx?map=Paleogeografische-kaarten#>

History

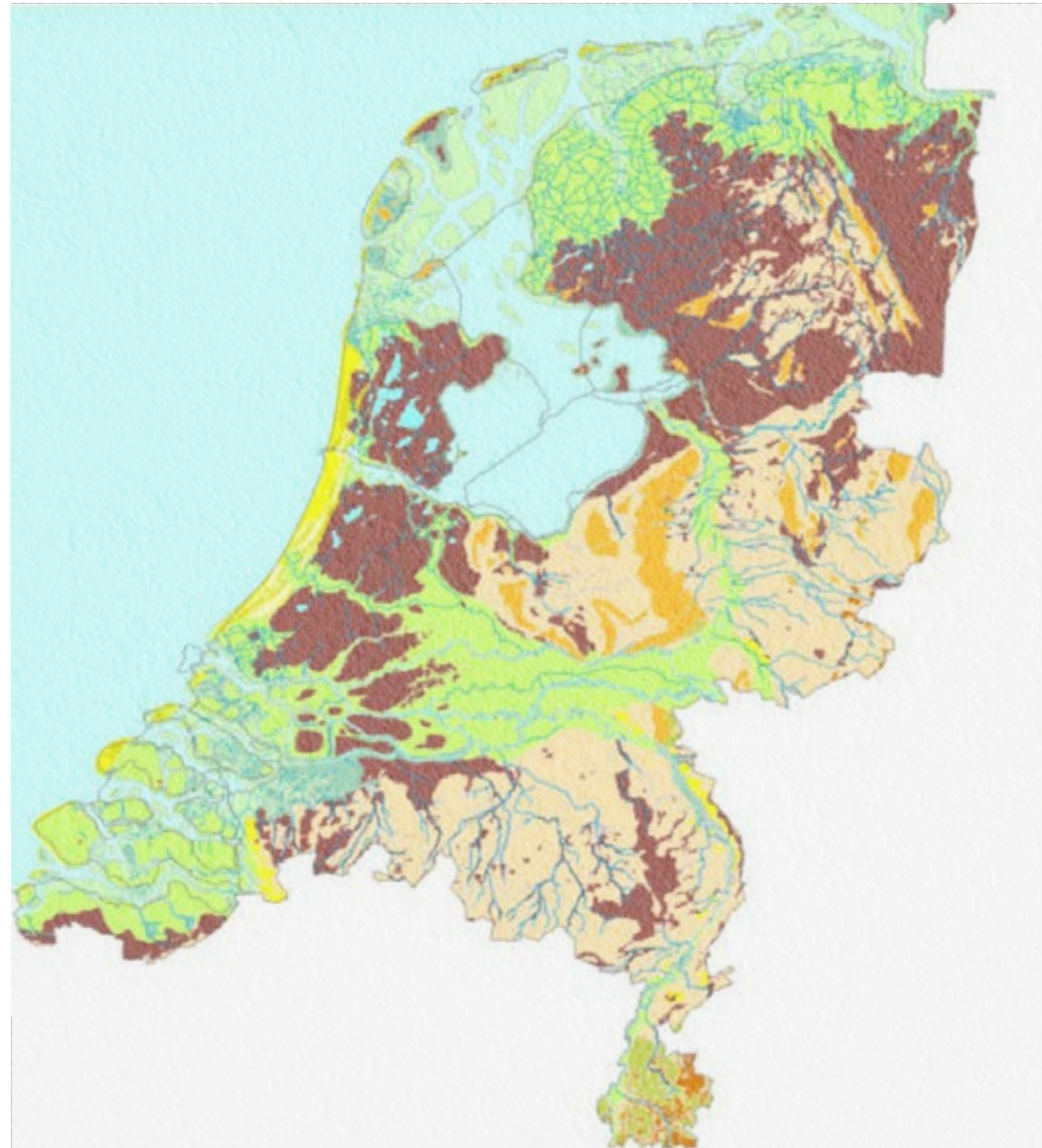
800 A.D.



5. WebGIS Publisher - Viewer. (2021). <https://rce.webgispublisher.nl/Viewer.aspx?map=Paleogeografische-kaarten#>

History

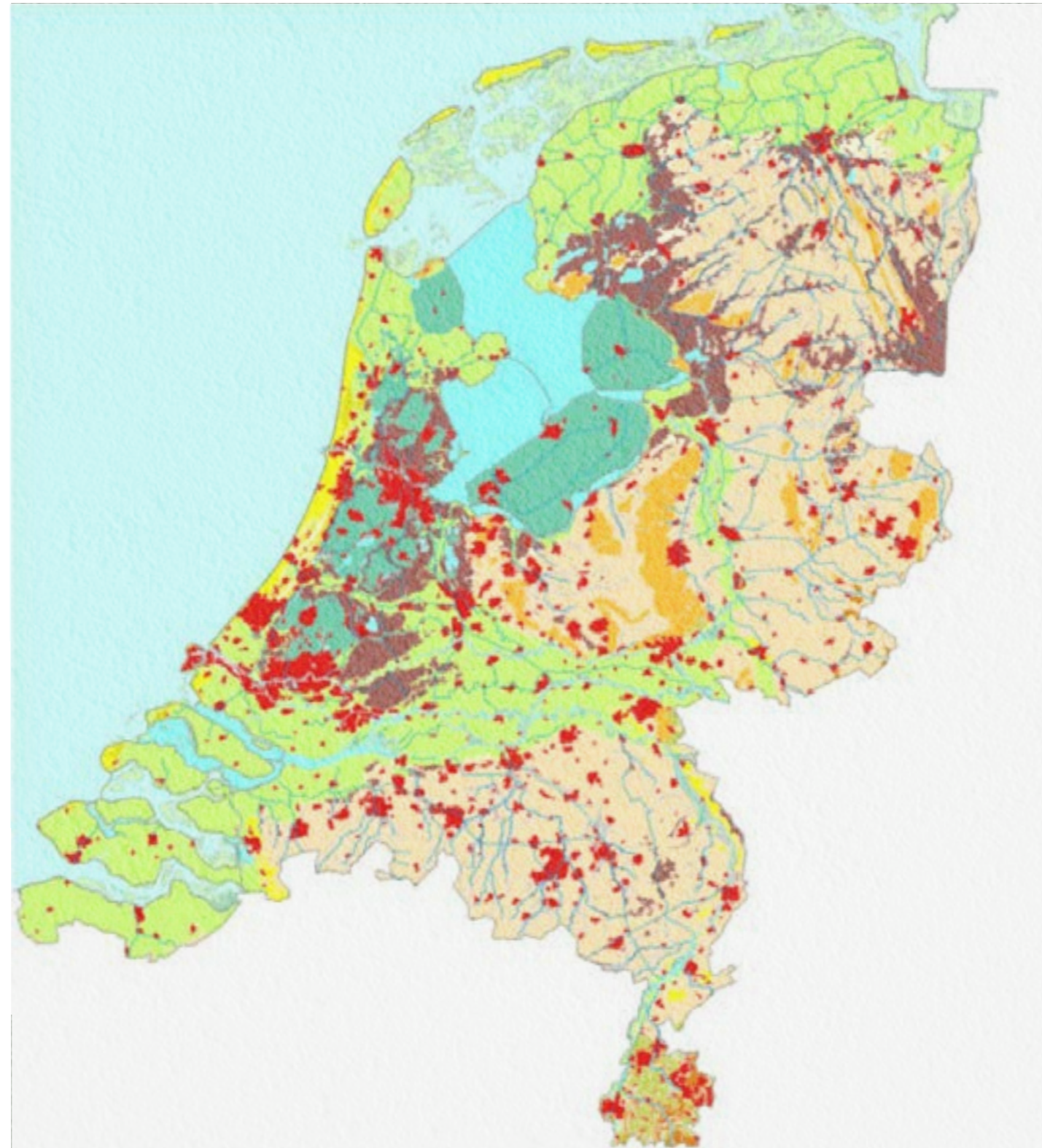
1250 A.D.



5. WebGIS Publisher - Viewer. (2021). <https://rce.webgispublisher.nl/Viewer.aspx?map=Paleogeografische-kaarten#>

Now

2000 A.D.



5. WebGIS Publisher - Viewer. (2021). <https://rce.webgispublisher.nl/Viewer.aspx?map=Paleogeografische-kaarten#>

Where?

Rotterdam, 2024



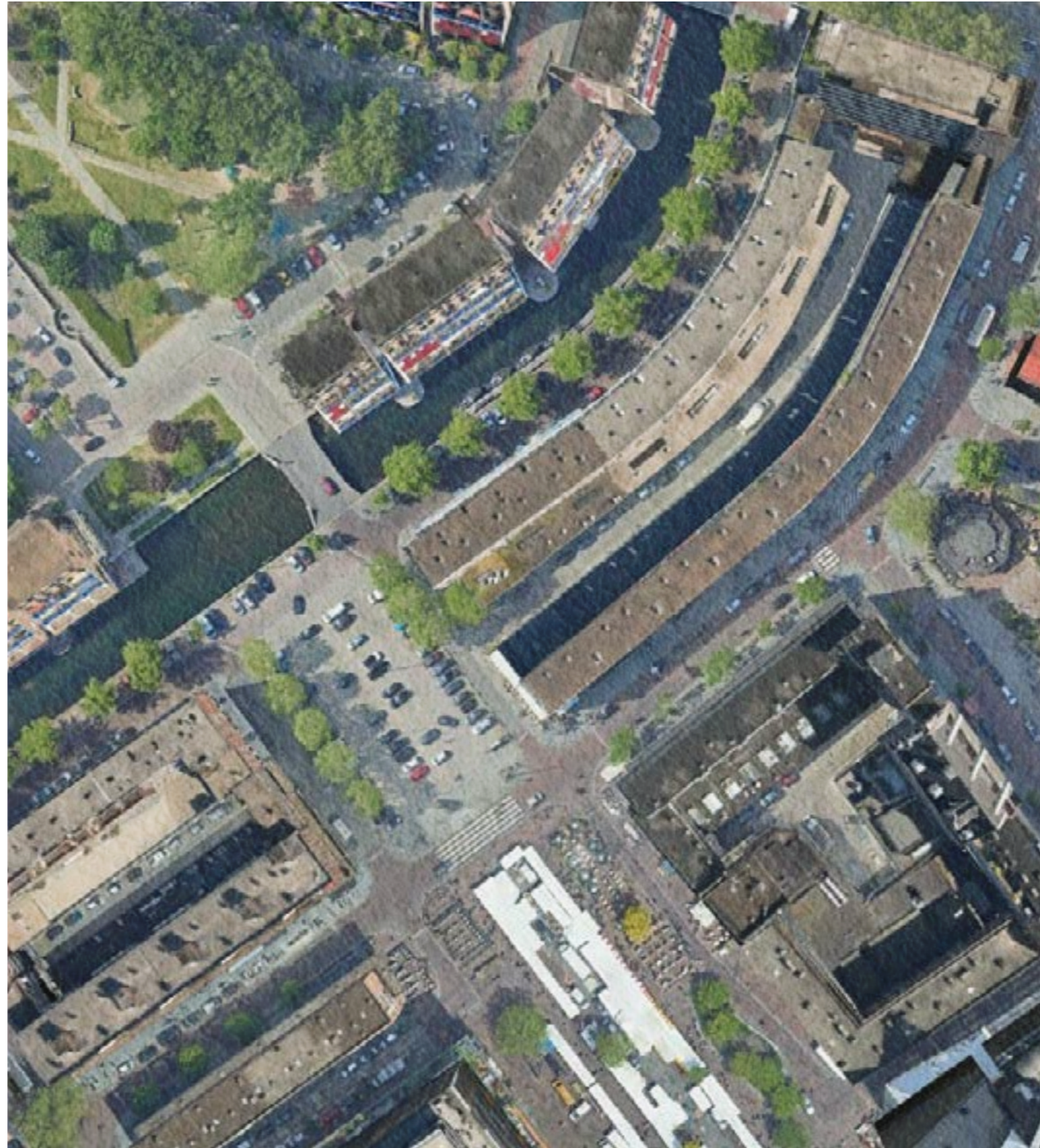
Where

Rotterdam, Meent-Binnen Rotte, 2024



Site

Meent-Binnen Rotte, 2024



Why

Rotterdam, Meent-Binnen Rotte, 2024



Why

Rotterdam, 1340



History

Biotope Peak



Why

Rotterdam, 1940



6. Van Loon, G. (2014). Rotterdam voor en na het bombardement op één kaart. Algemeen Dagblad. <https://www.ad.nl/rotterdam/rotterdam-voor-en-na-het-bombardement-op-een-kaart~a66c1ef4/>

Where the old

Rotterdam, Meent-Binnen Rotte, 2024



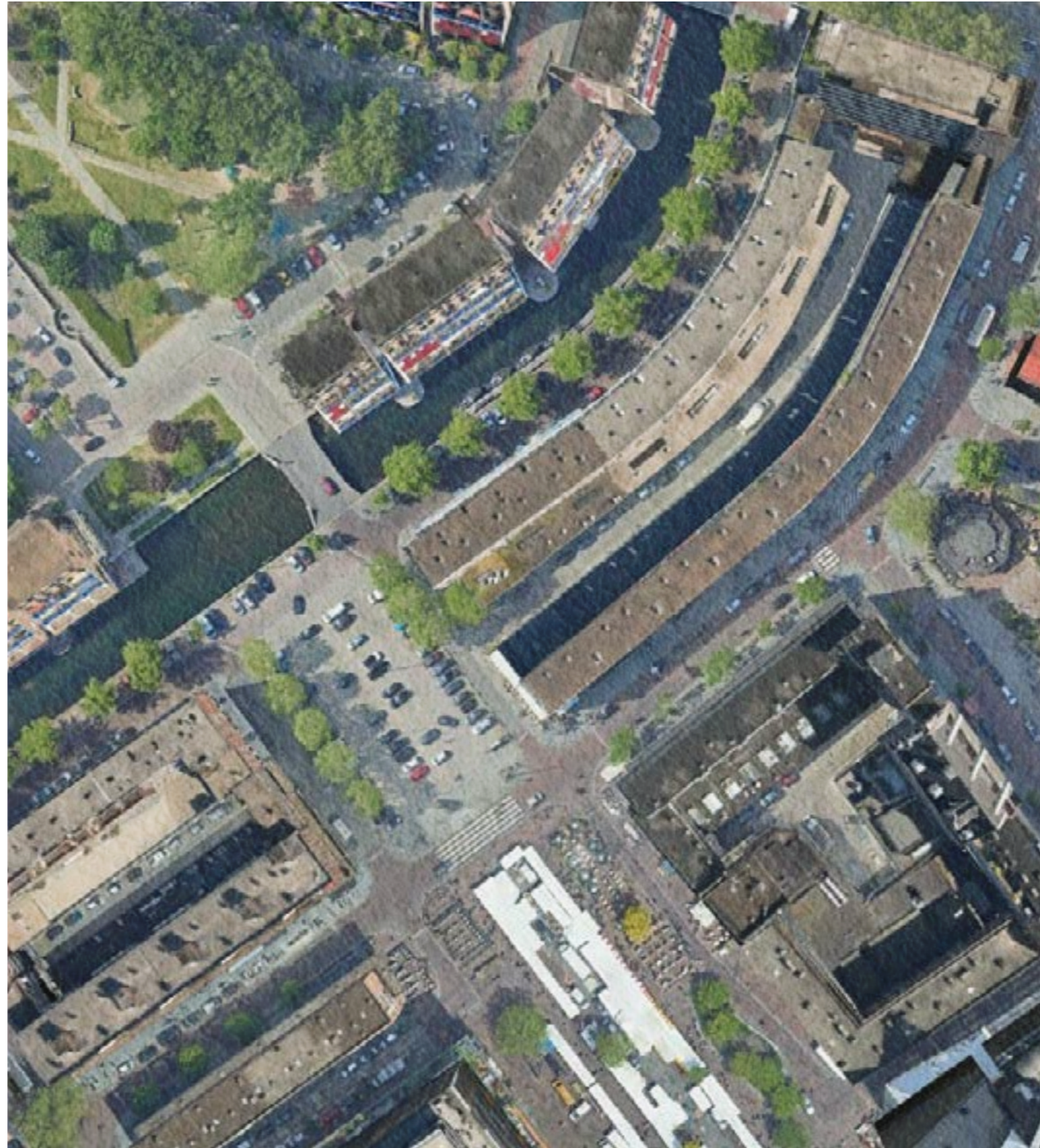
Gets a start

Rotterdam, Meent-Binnen Rotte, 2100



Site

A post-war building with public plinth



Site

A post-war building with public plinth



Site

A post-war building with public plinth



Site

Along the market at Binnenrotte



Site

In a busy shopping street



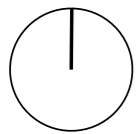
Site

With a quiet and empty courtyard



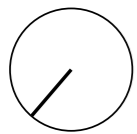
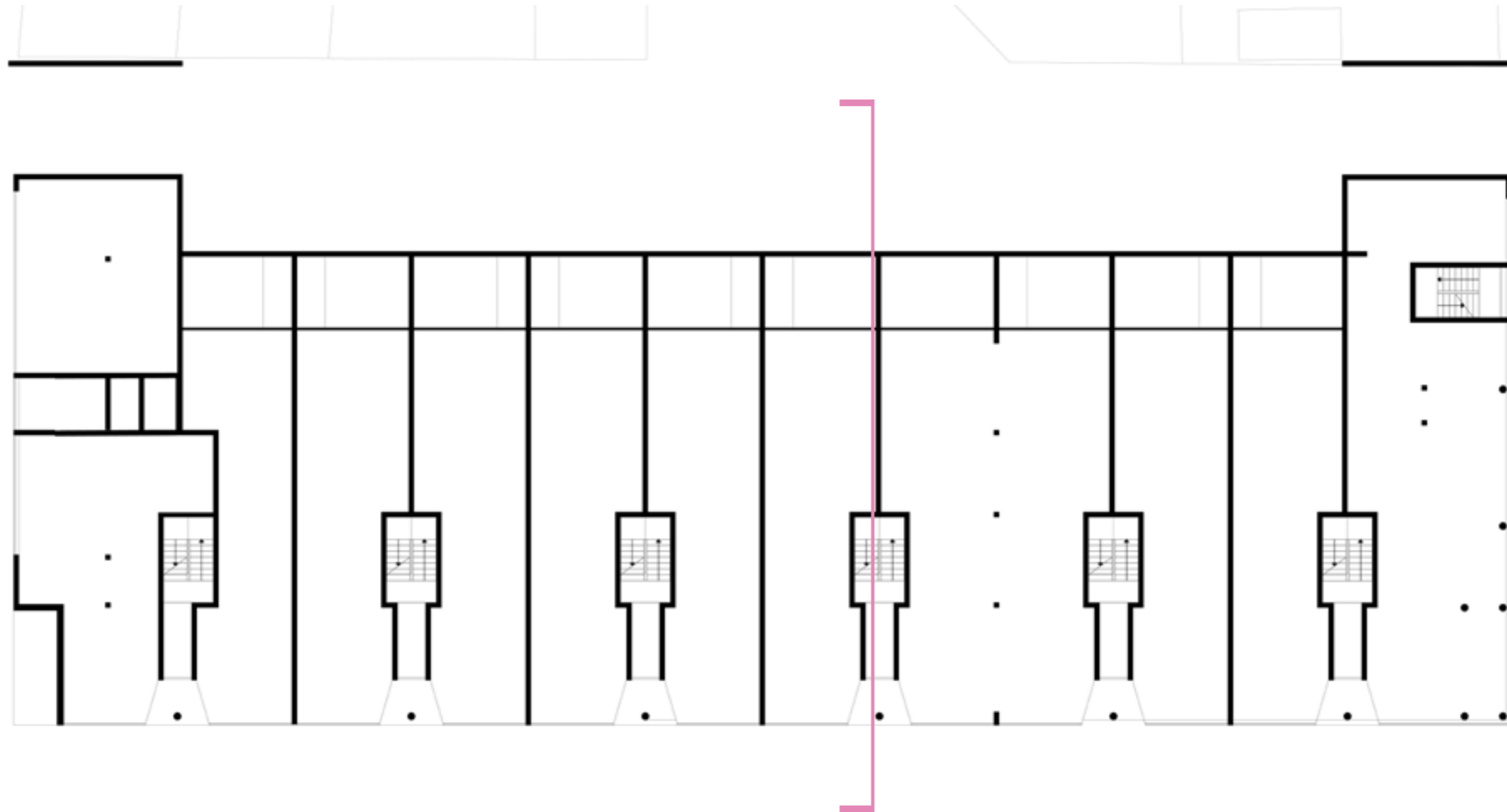
Site

A post-war building with public plinth



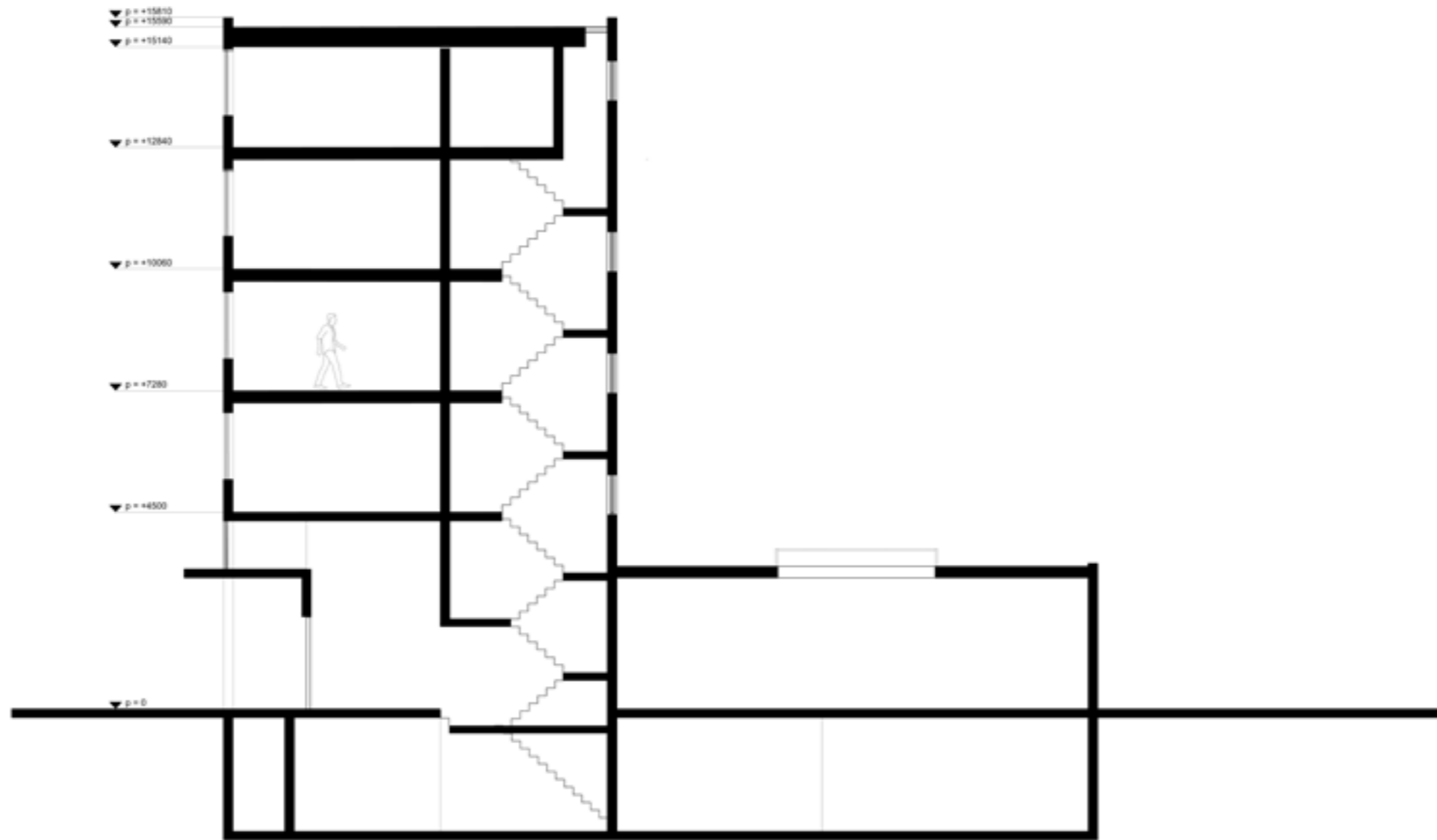
Ground floor

Current: shops and expedition



Levels

Current: apartments above shops



North < > South
0 m 5 m

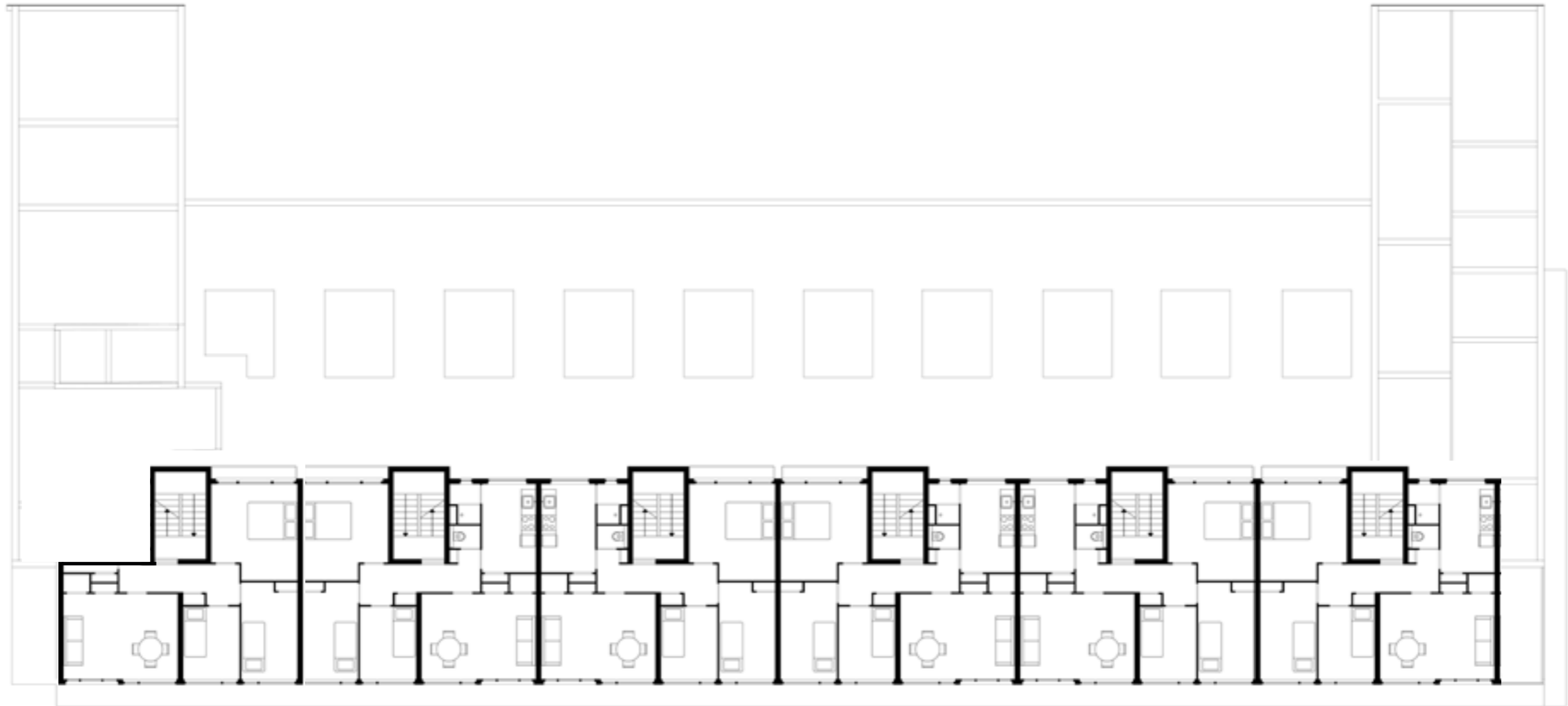
Interior

Staircase



Upper levels

Apartments Second floor



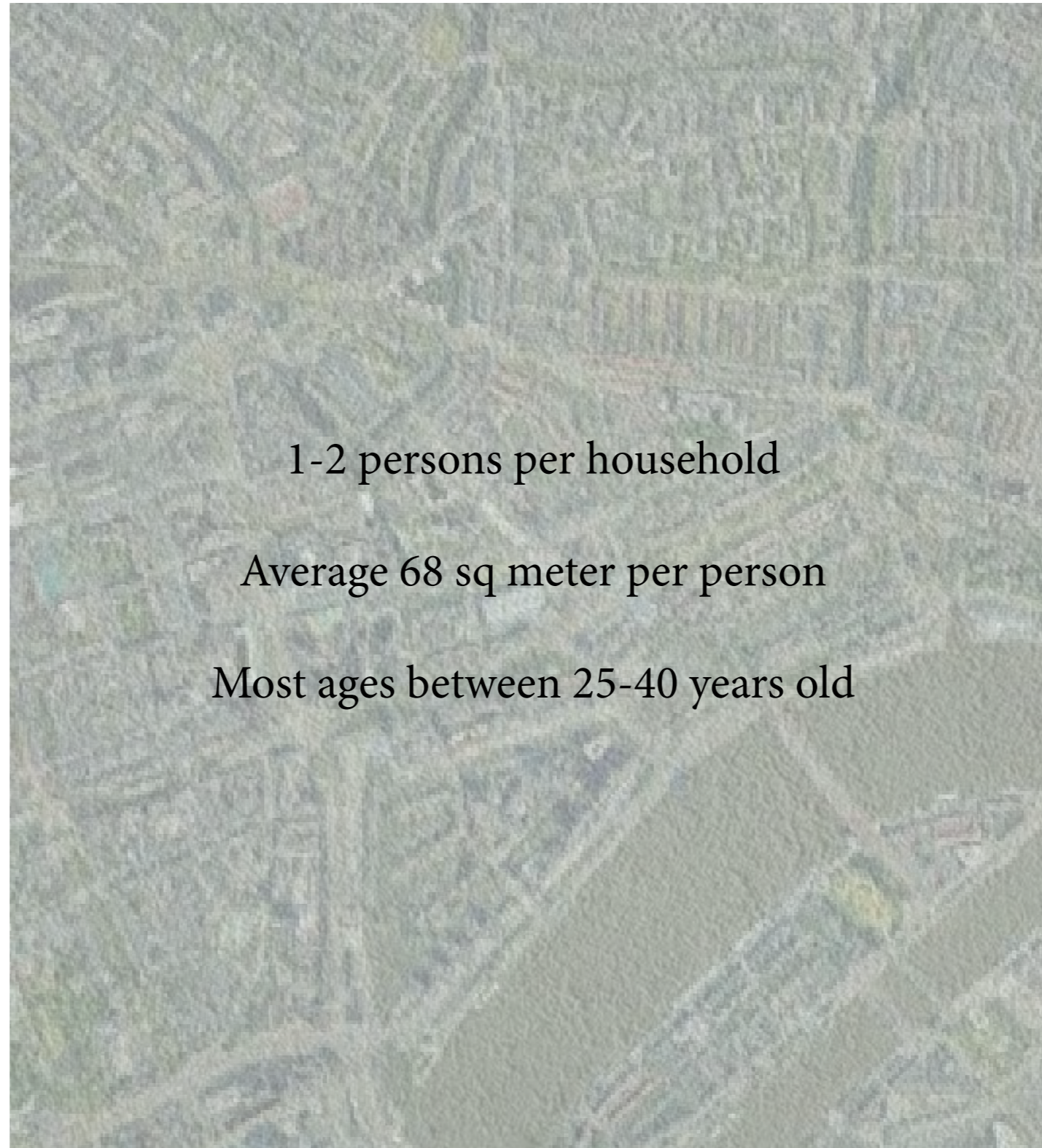
Interior

Apartment



Demographics and analysis

Stadsdriehoek, Rotterdam



1-2 persons per household

Average 68 sq meter per person

Most ages between 25-40 years old

Meent meaning

“pasture land in joint ownership”

6. Meent, Nederlands woordenboek - Woorden.org. (2024). <https://www.woorden.org/woord/meent>

For whom?

Humans, non-human and more-than-human co-housing



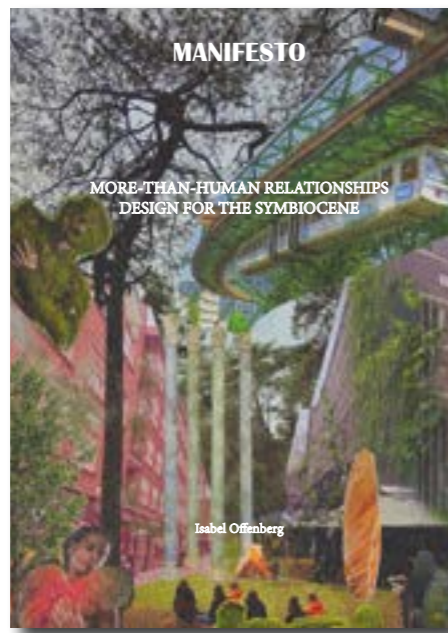
Rotterdam 'De verander stad'



How to make this happen?

Stakeholders

Initiator, funding and users



Initiator
Manifesto



Funding
EU- greendeal (new EU-Bauhaus)
and
the Rotterdam Government



Users
People of Rotterdam

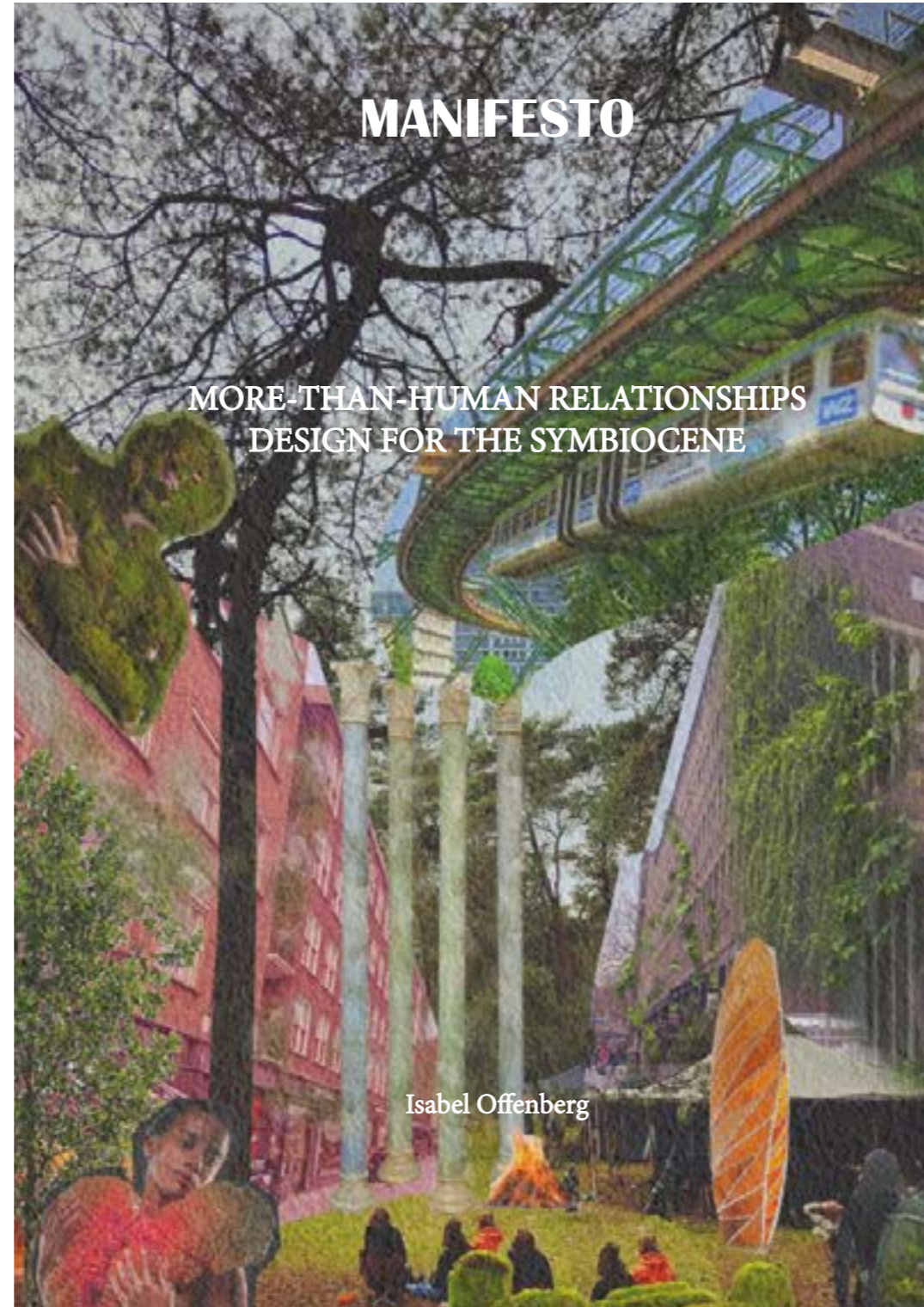
RESEARCH

INTO

DESIGN

Results

In form of a Manifesto



Design principles

1. Give **space** for more-than-human agency
2. Dissolve the boundaries and add smooth **transition zones**
3. Incorporate **non-human scales**
4. Only concerted sourced **material**
5. Strengthen and trigger **the senses**
6. Celebrate **Gaia**
7. Reintroduce environmental **knowledge**
8. **Familiarize** and concert with more-than-humans
9. **Shelter** is a necessity and **fluid**
10. Show the **sequel**

Main principles

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MATERIAL

BOUNDARIES

PROGRAM

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Design principles

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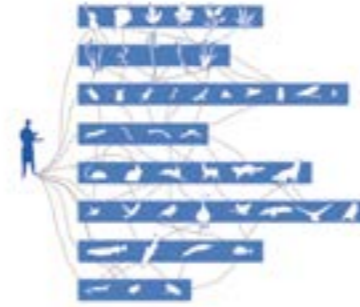
More-than-human relationships

All

CELEBRATE



MASTER



CONNECT



SHELTER



CONCERT



MAKE



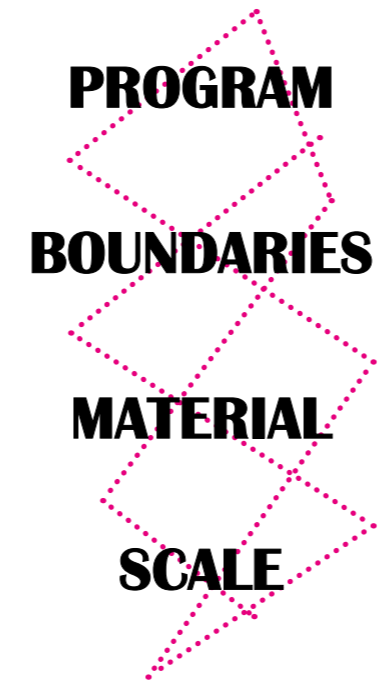
RECEDE



FAMILIARIZE



Structure



How to integrate this?



DESIGN

Design

to enter the Symbiocene



Biotopes

Non-human scale



■ Dry forest land
(Droog bosgrond)



■ Dry grassland
(Droog grasland)



■ Brown roof
(Kleine bladeren planten)



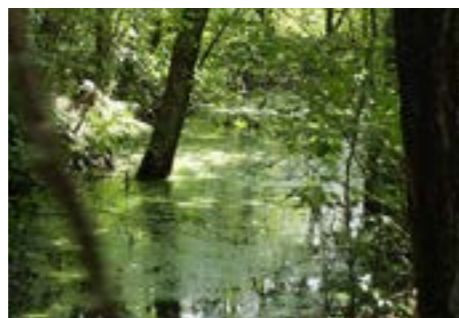
■ Peat forest
(Laagveenbos)



■ Indoor plants
(Kamerplanten)



■ Small leaf plants
(Kleine bladeren planten)



■ Humid forest
(Vochtig bos)



■ Herbs- and faunarich grassland
(Kruiden- en faunarijk grasland)



■ Big leaf plants
(Grote bladeren planten)

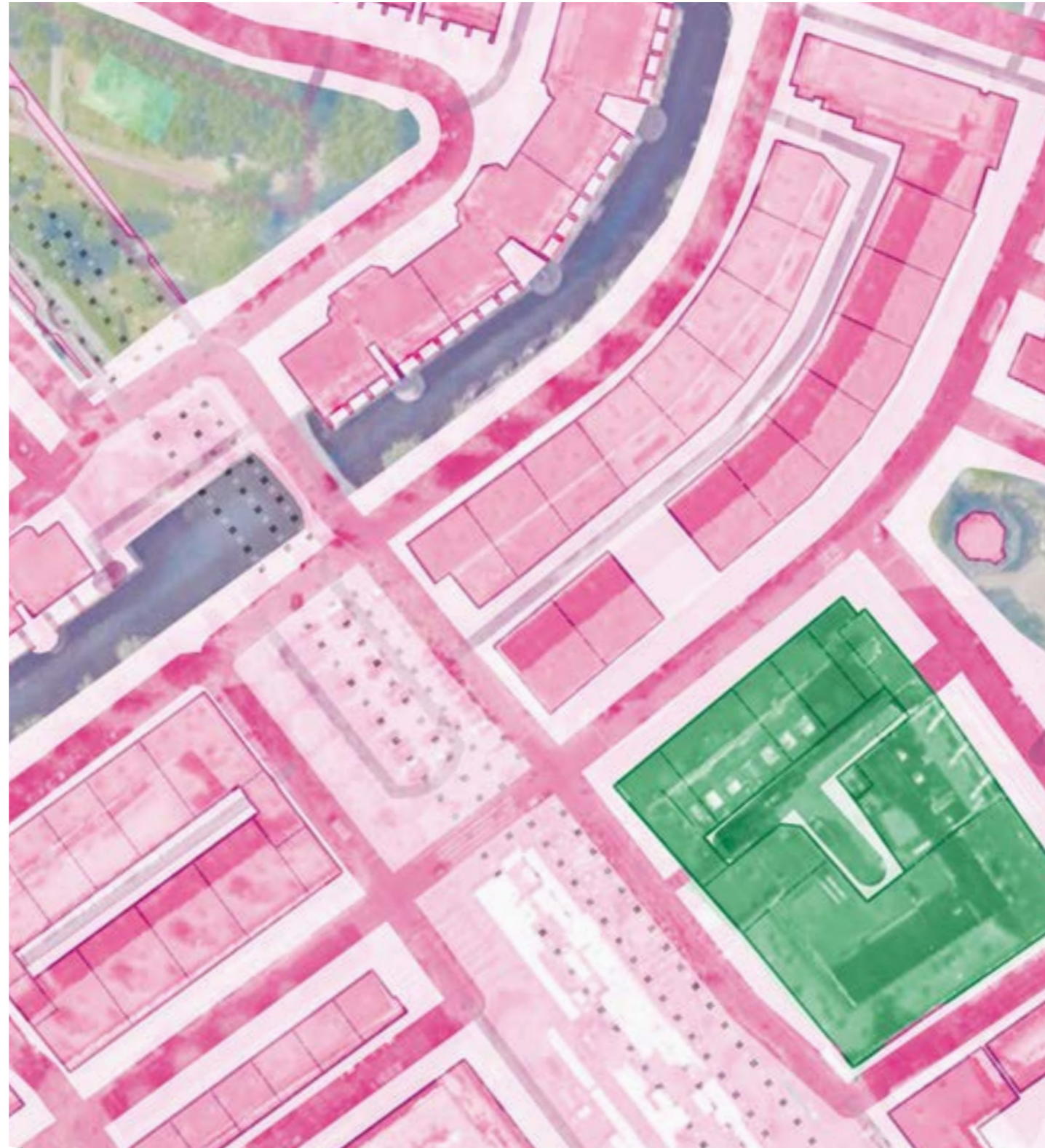
Site

A post-war building as only shelter



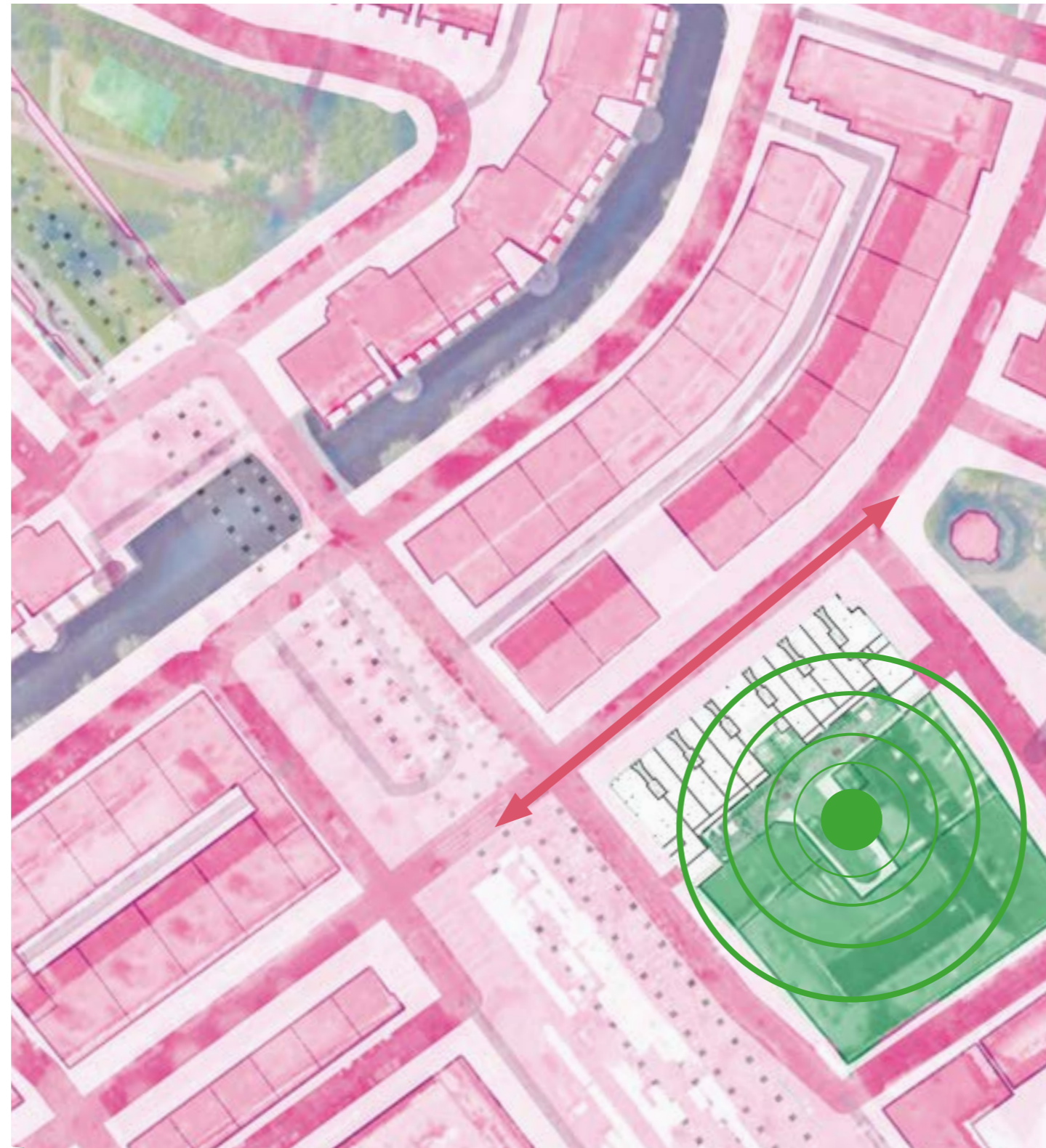
Site

A Symbiocenic building with multiple attitudes



Site

A Symbiocenic building with its wild courtyard



Site

A shelter along a busy street



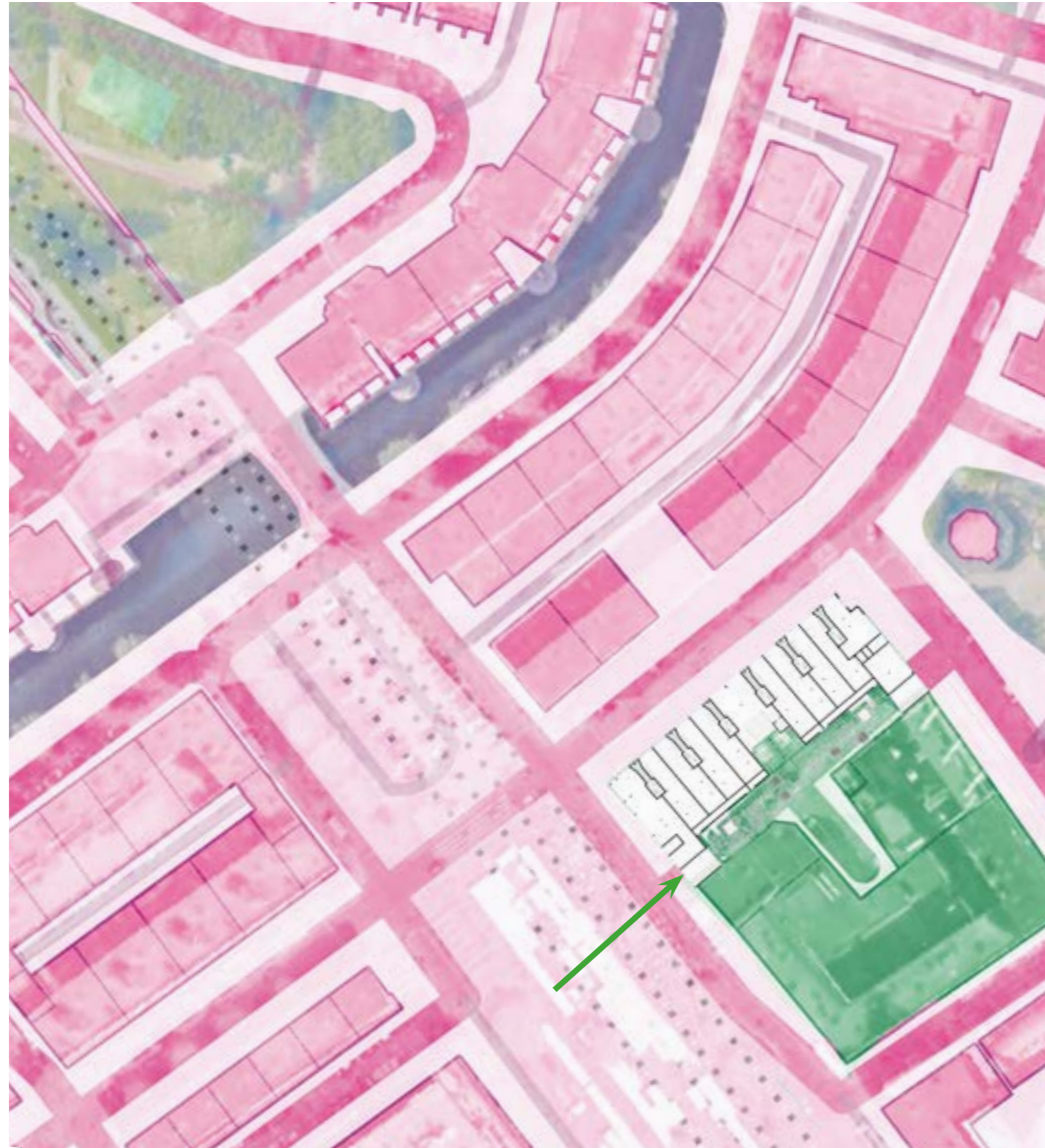
Site

Now with a rewilded courtyard



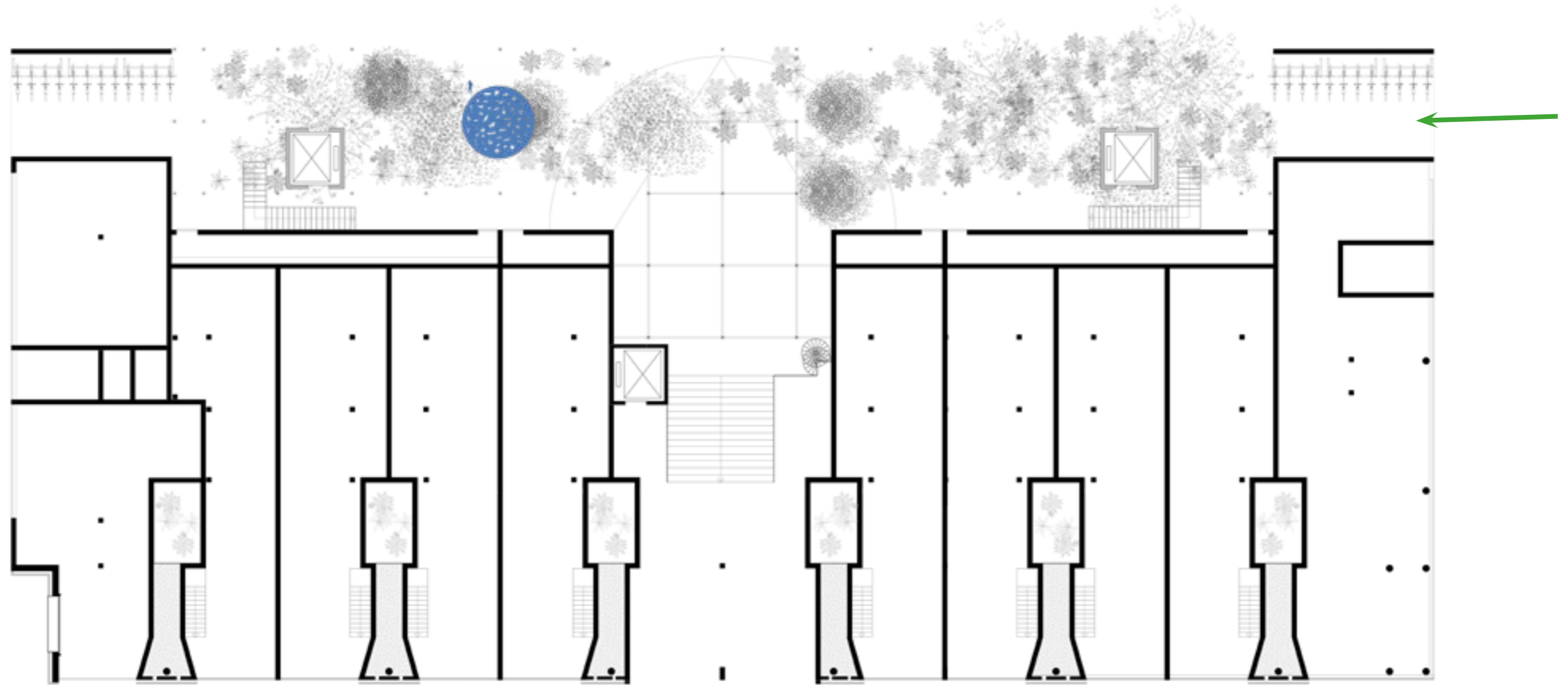
Site

Entrance residents



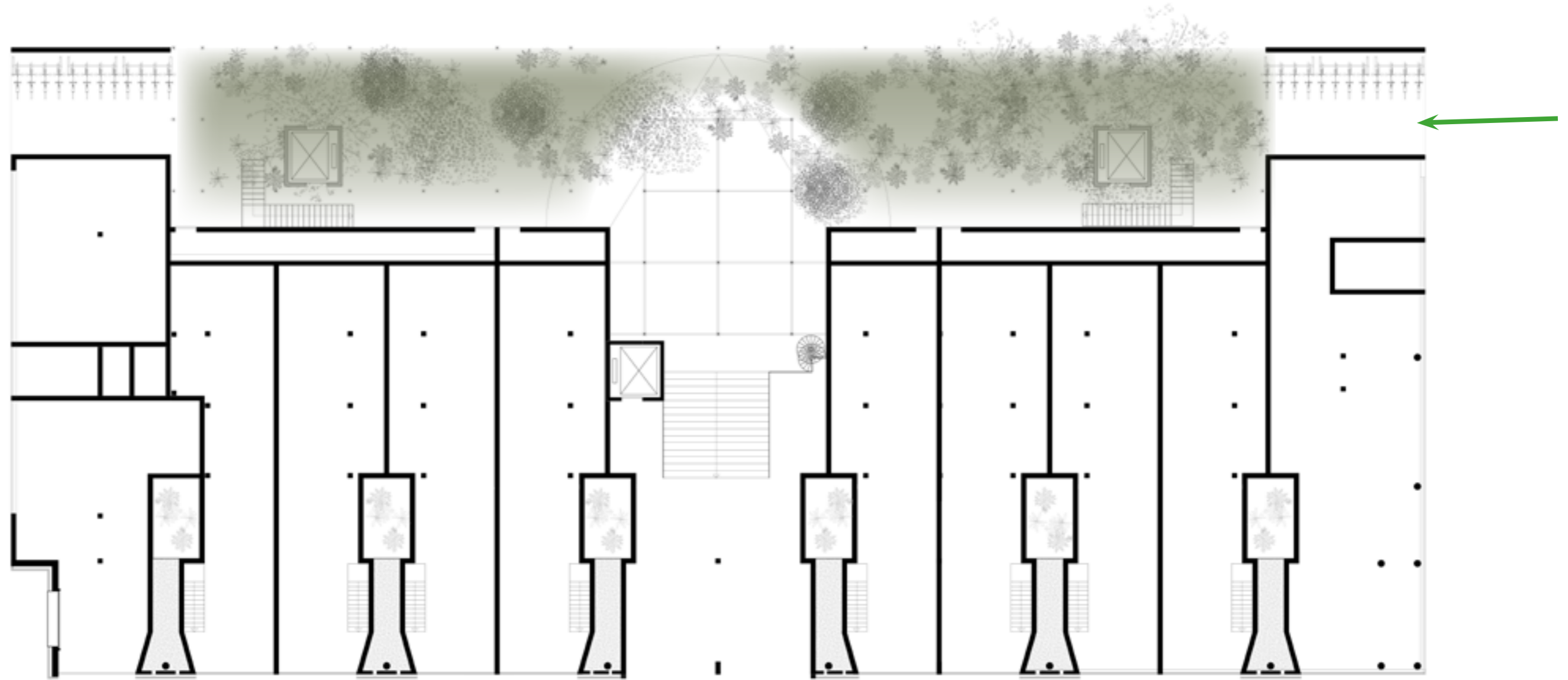
Ground floor

Entrance residents



Ground floor

Biotope



Peat forest
(Laagveenbos)



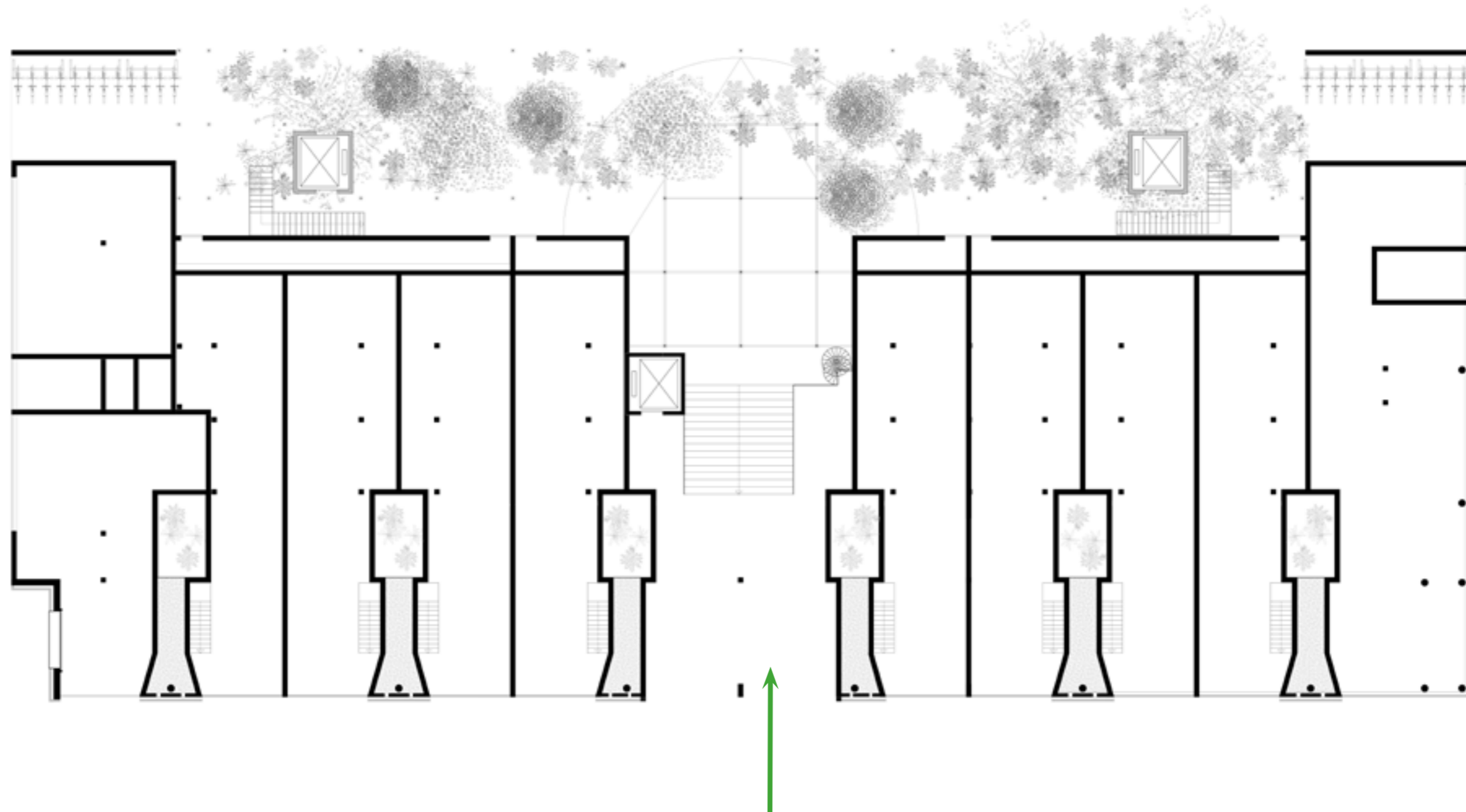
Ground floor

Entrance residents



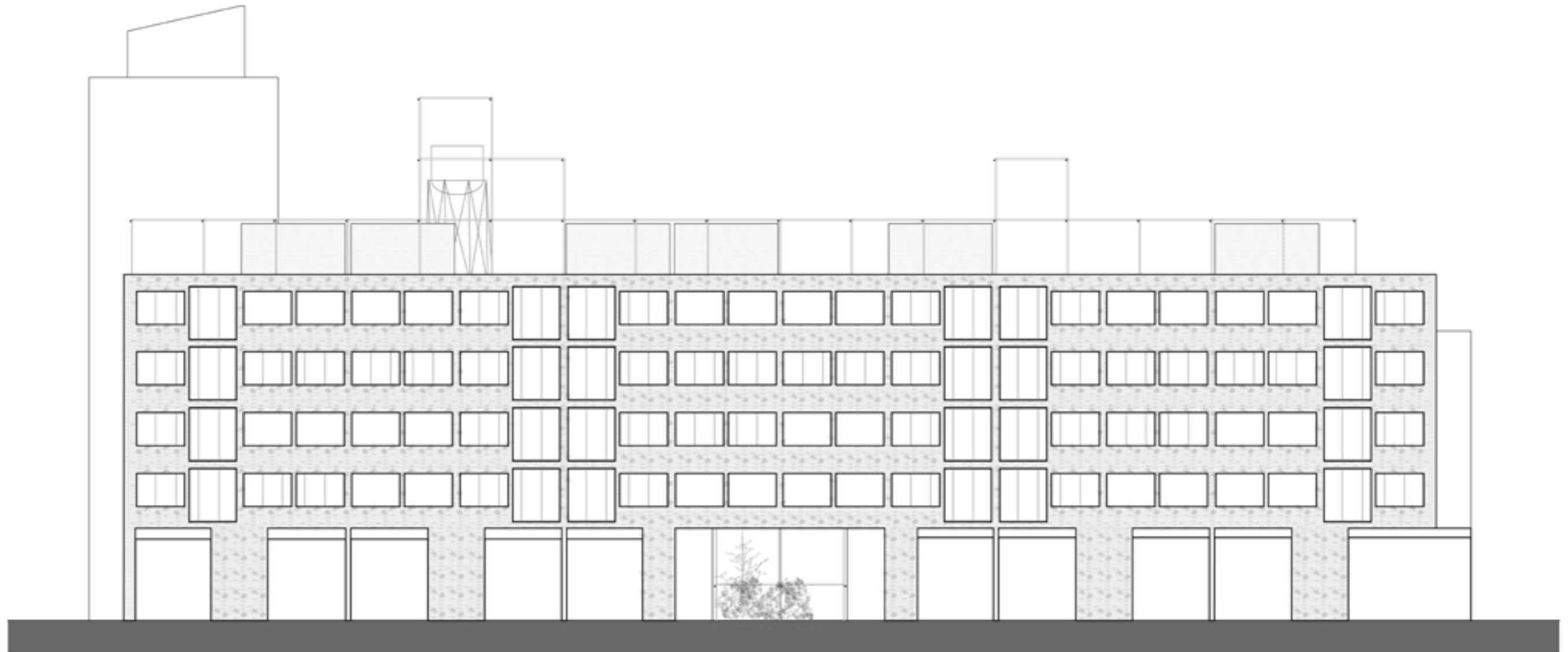
Ground floor

Entrance public



North Elevation

Entrance public



Ground floor

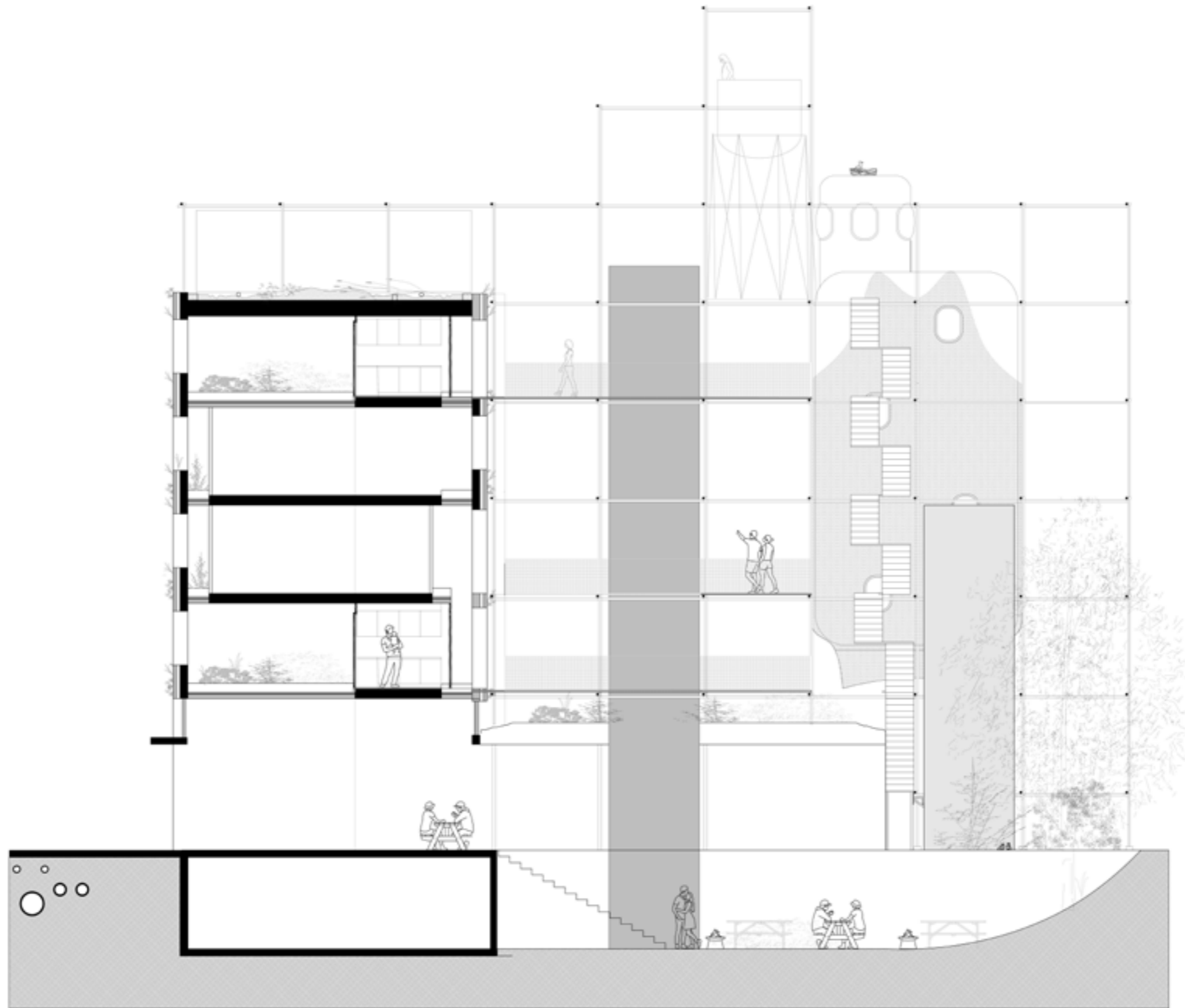
Entrance public



Section

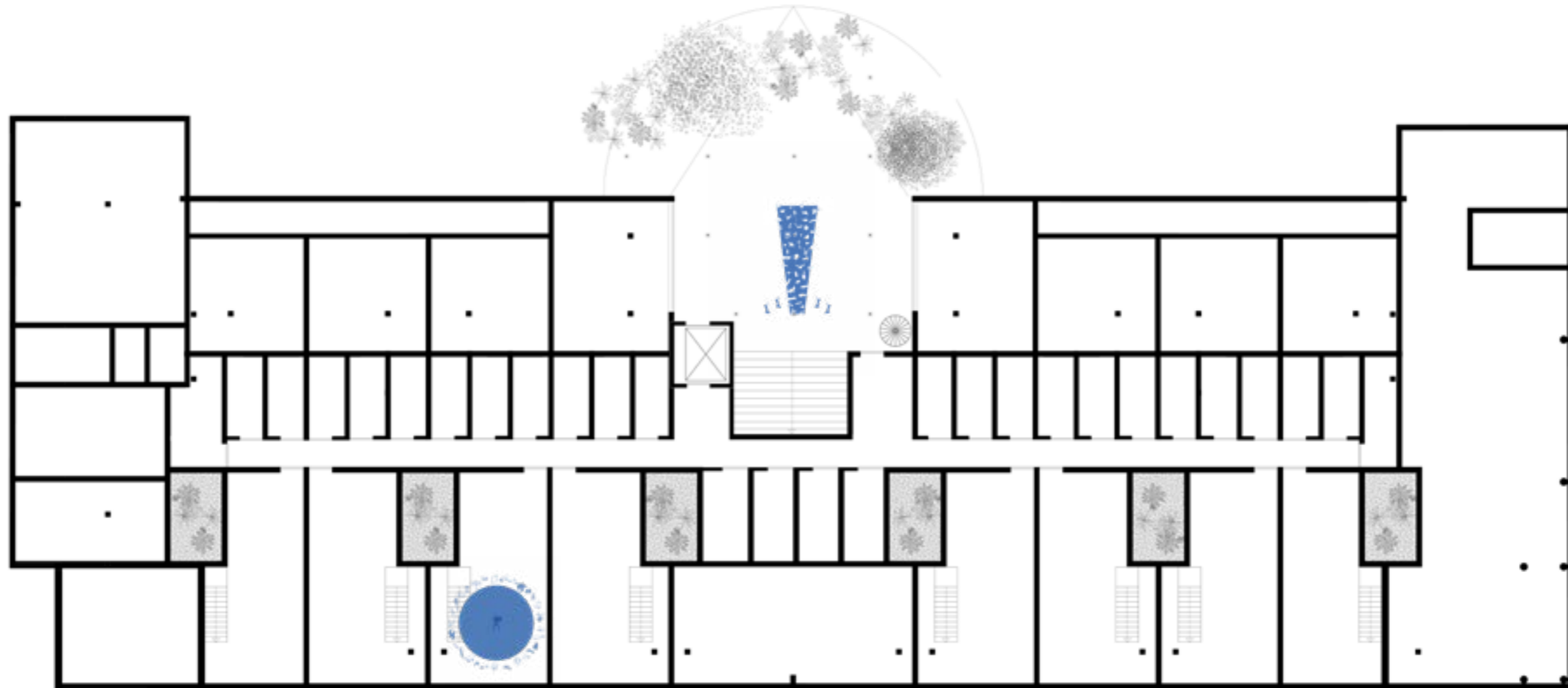


Section

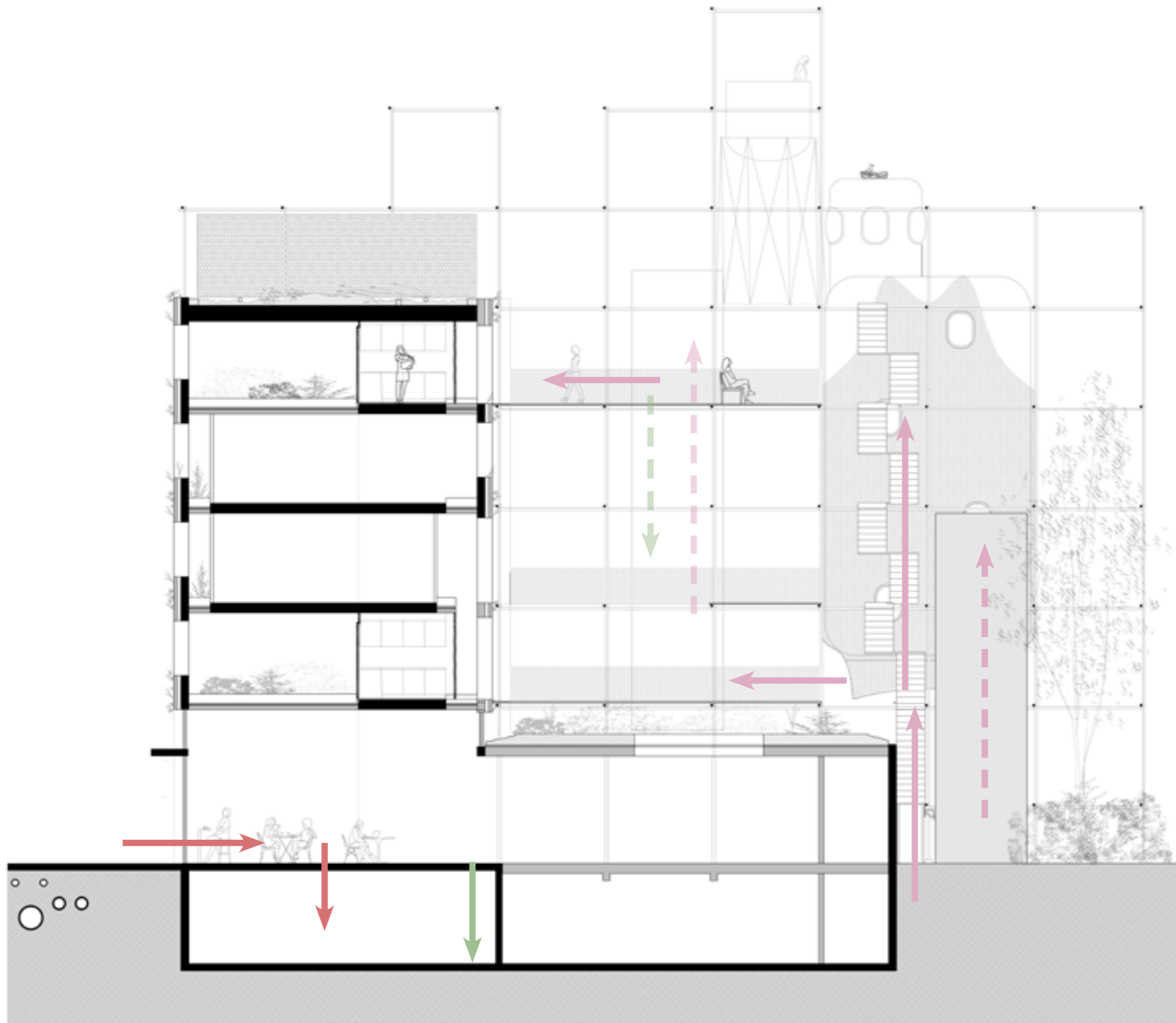


Basement

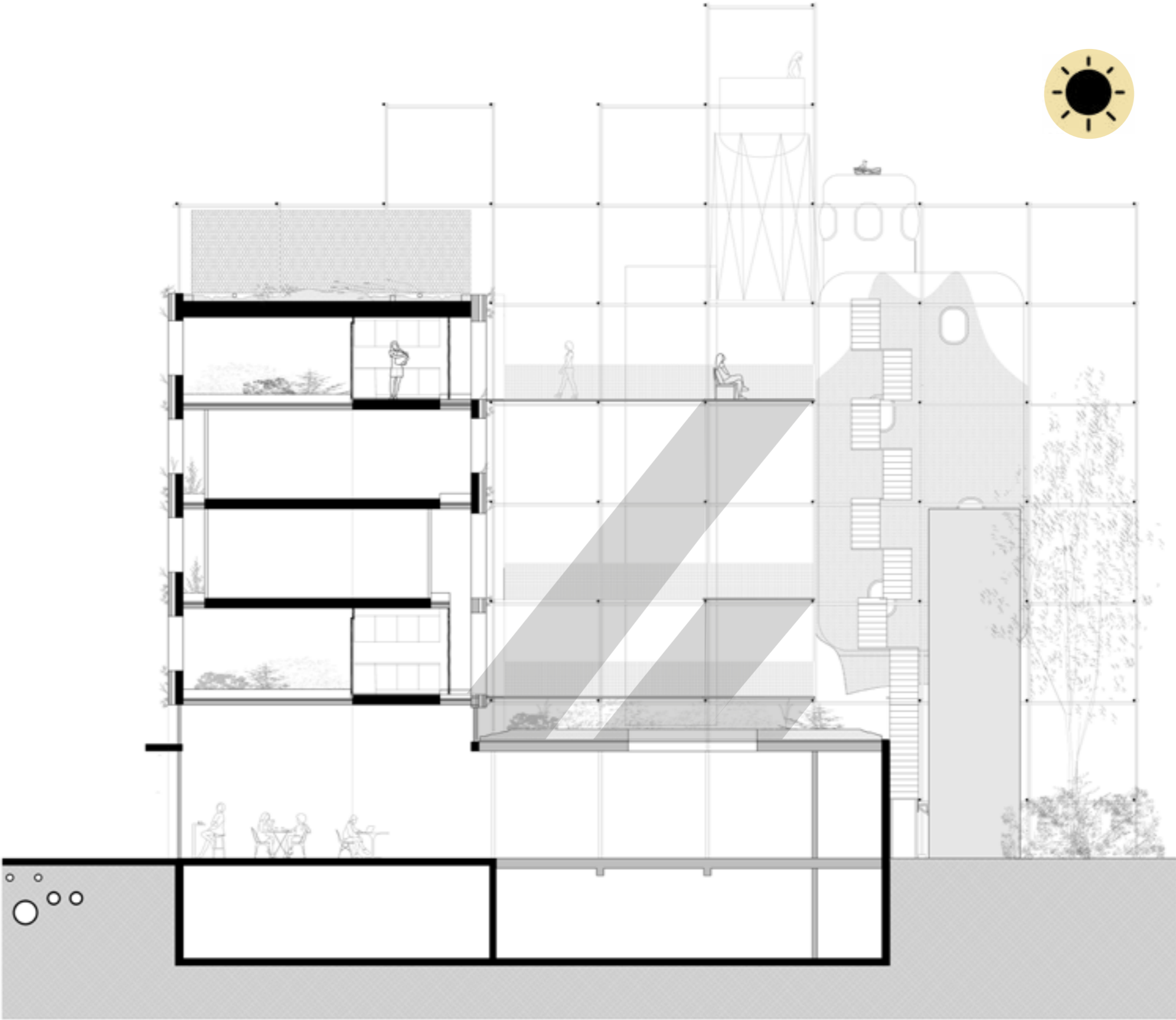
Storage and celebration



Section



Sun light



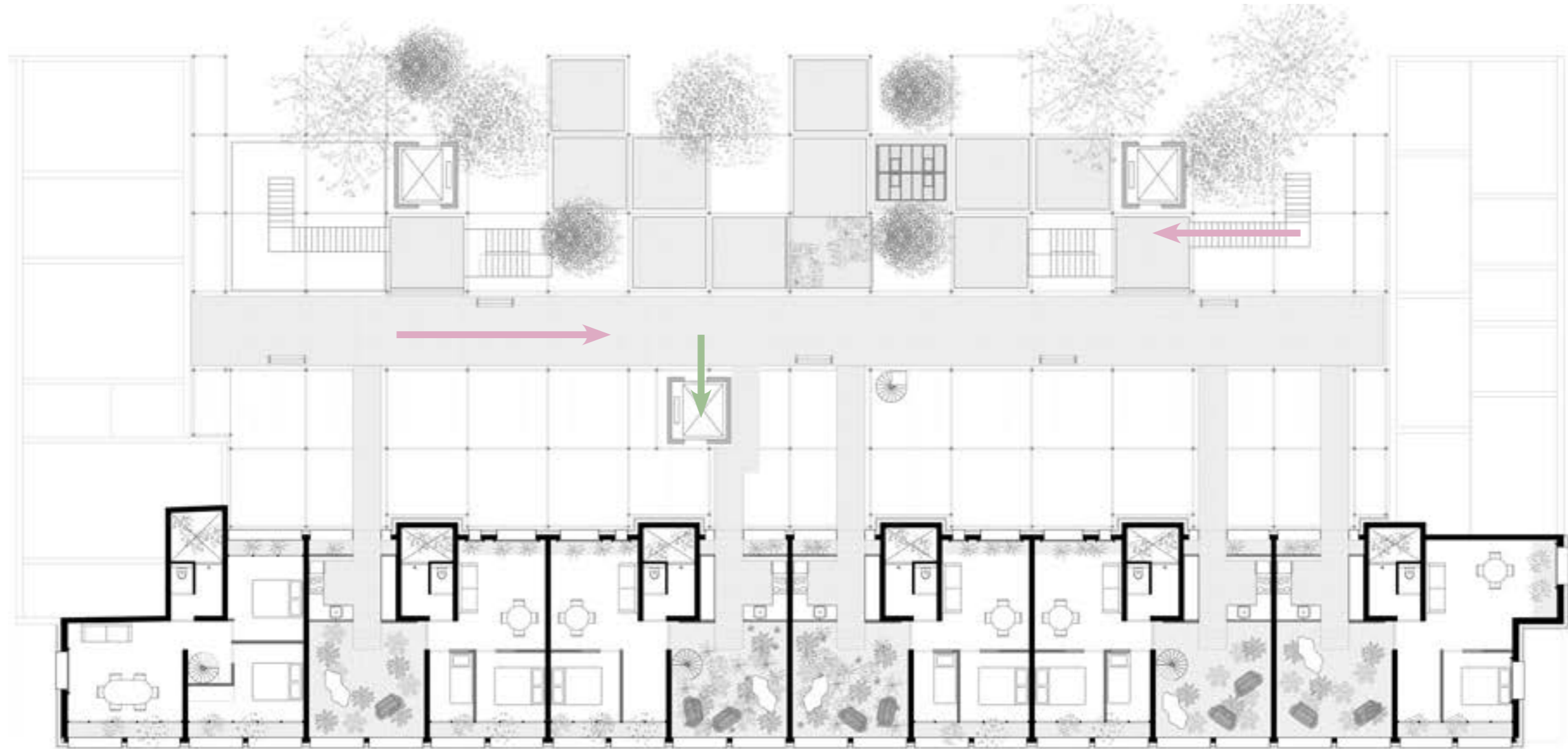
First floor

Scaffolding gallery



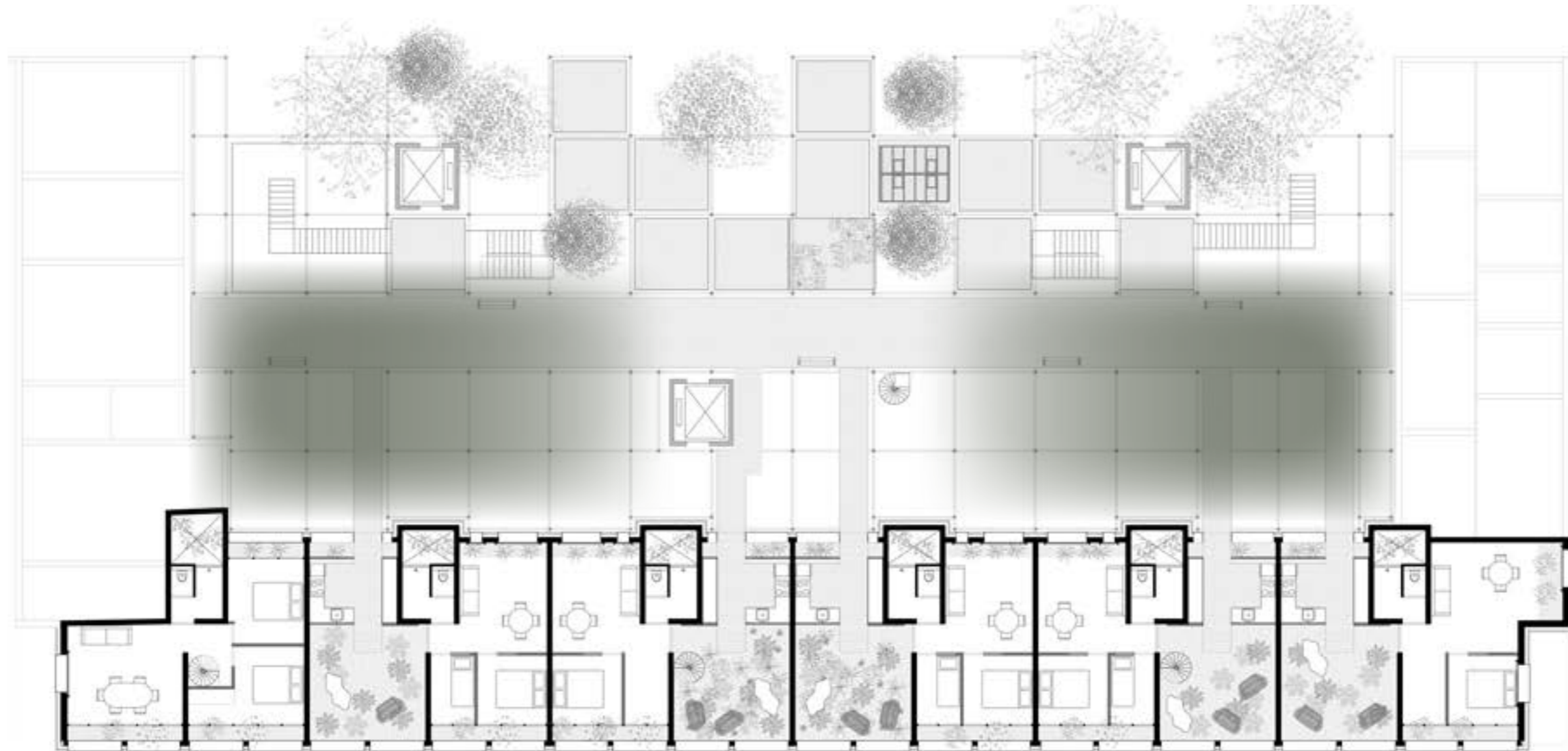
First floor

Scaffolding mobility



First floor

Biotope



Dry forest land
(Droog bosgrond)



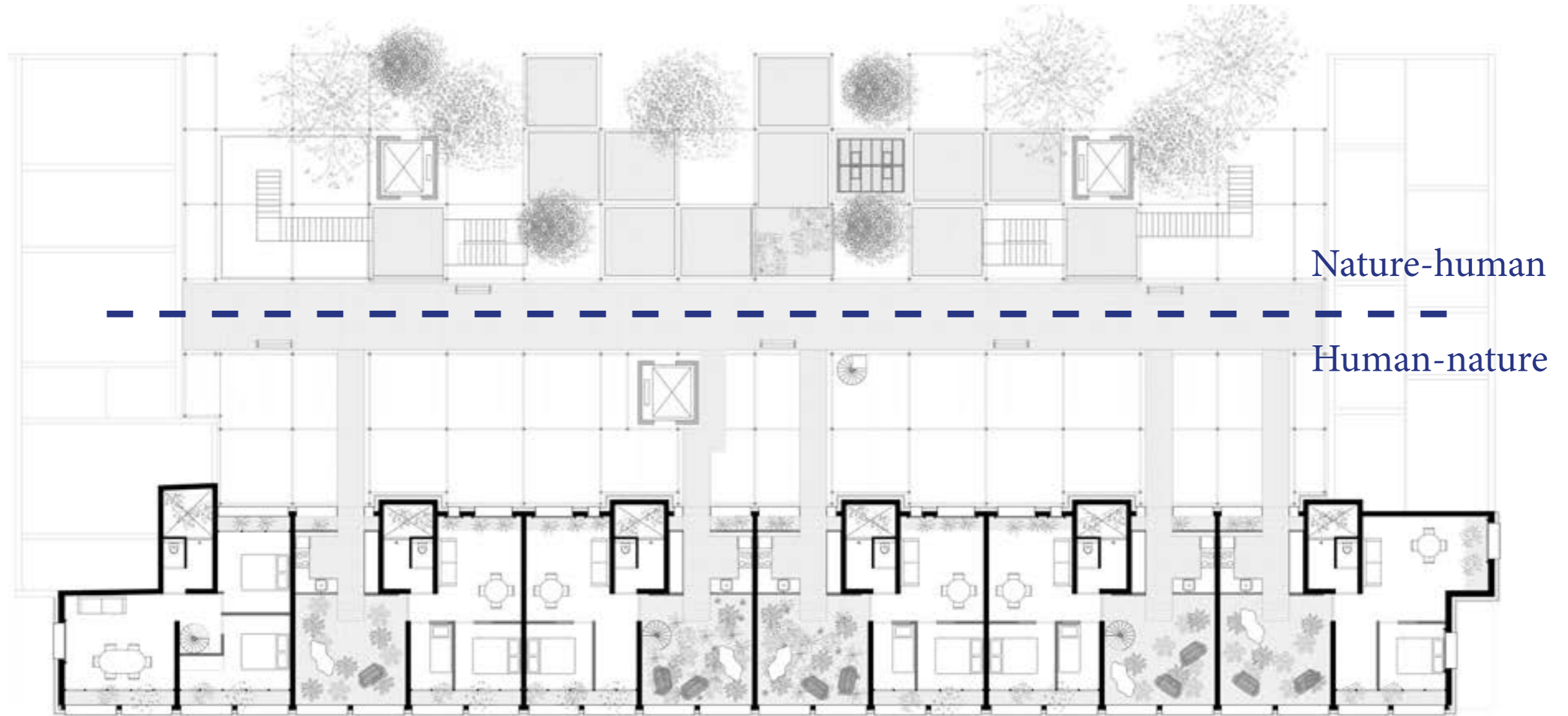
First floor

Scaffolding

open, temporary attitude, gradient

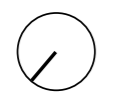


Mirror



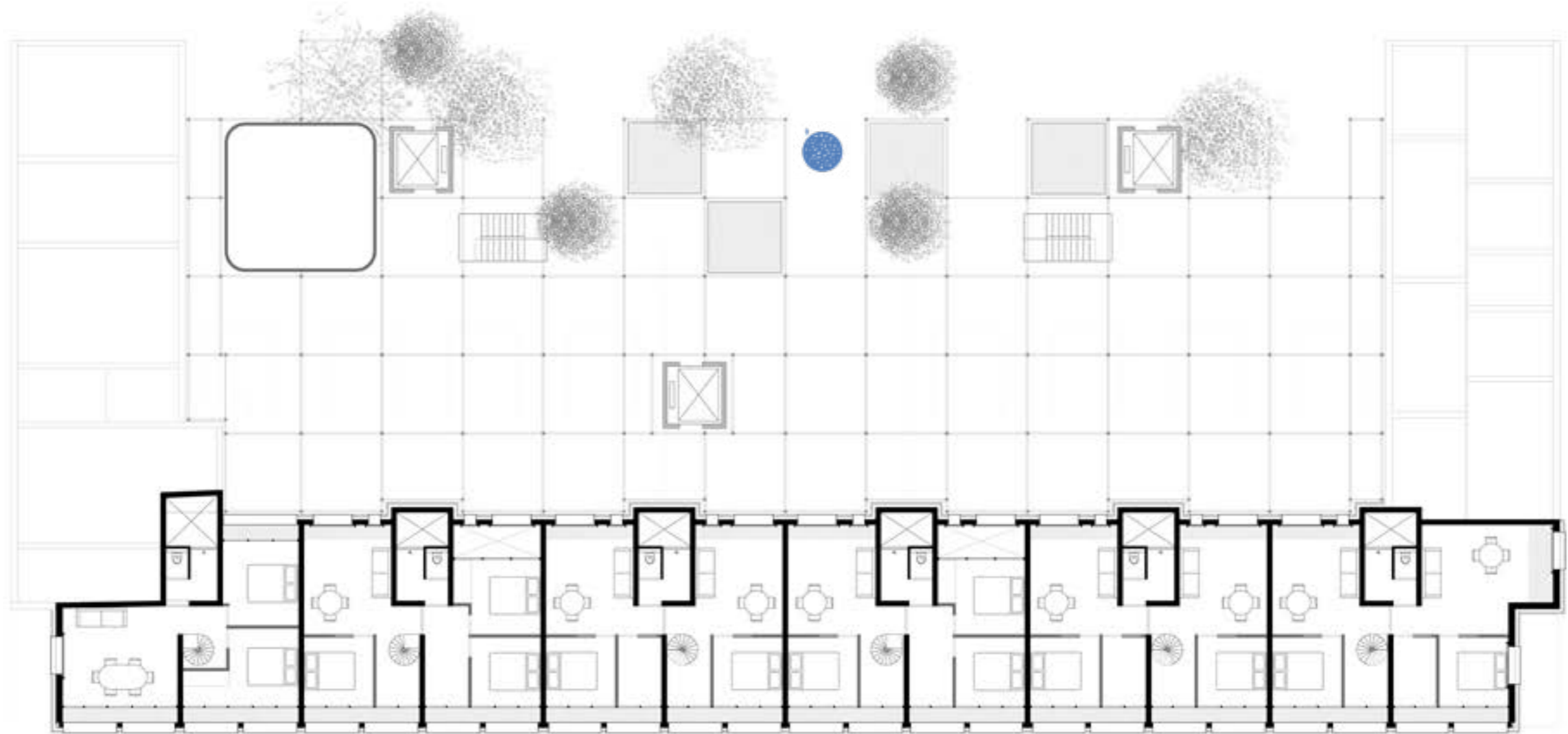
Second floor

Program



Third floor

Program



Fourth floor

Program



Fourth floor

Workspaces



Workspace

Fourth nature



Workspace

Section



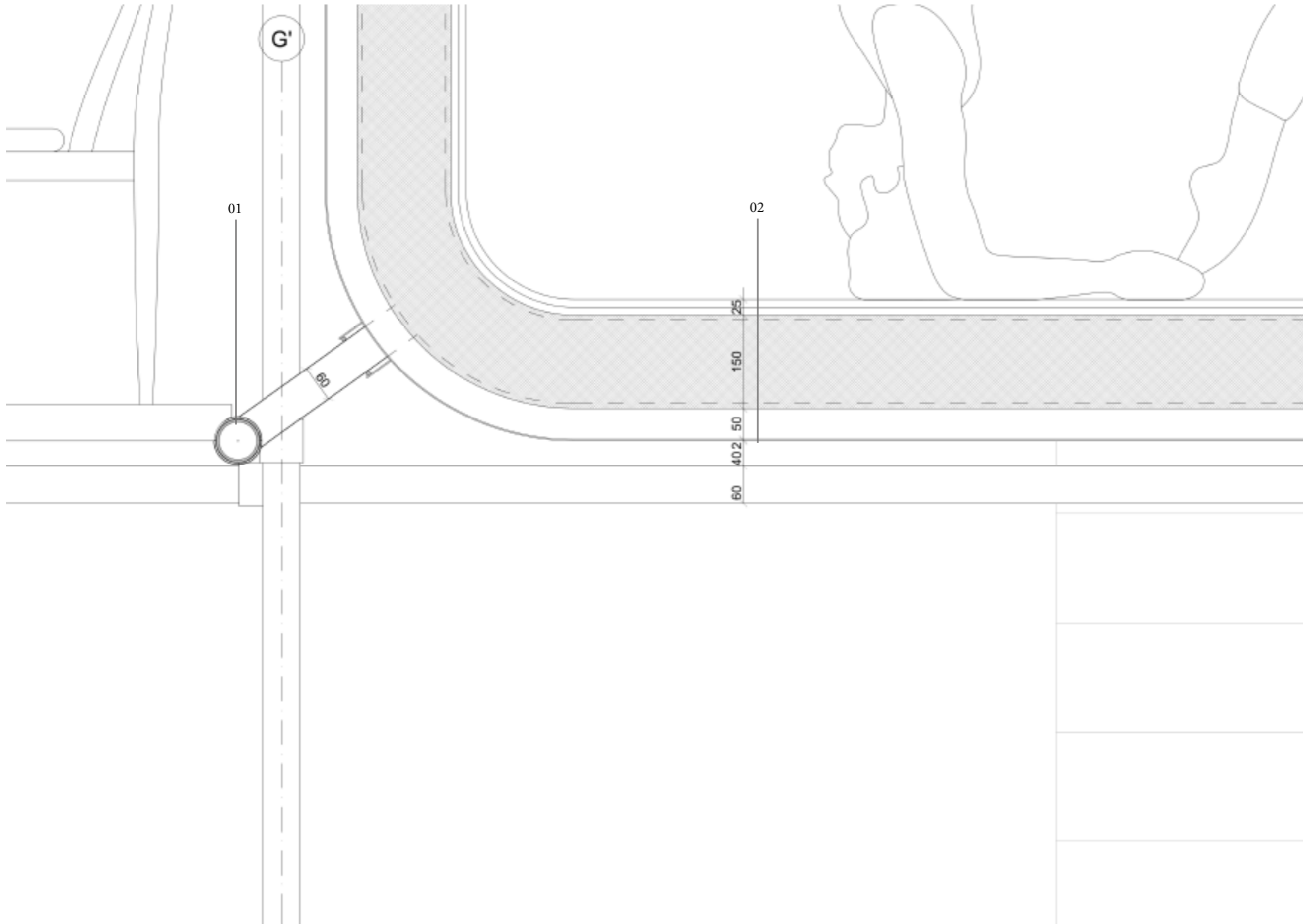
Workspace

Connect and learn



Detail: scaffolding

scale 1:5

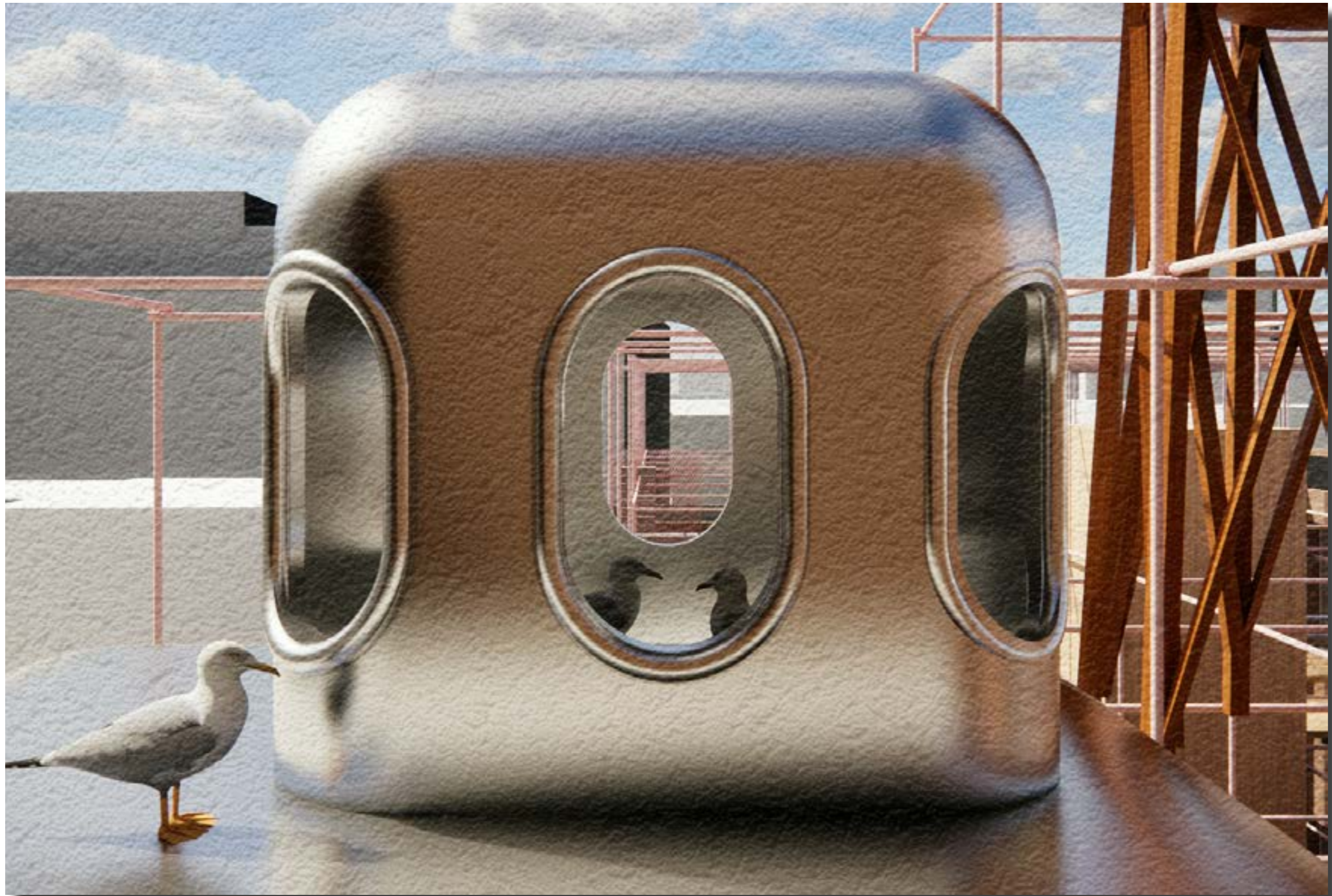


01 scaffolding connection with beam and waterproof cap

02 floor (top - bottom)
- bamboo floor on support
- prefab insulated element with steel construction
- aluminium panels mounted on fixing

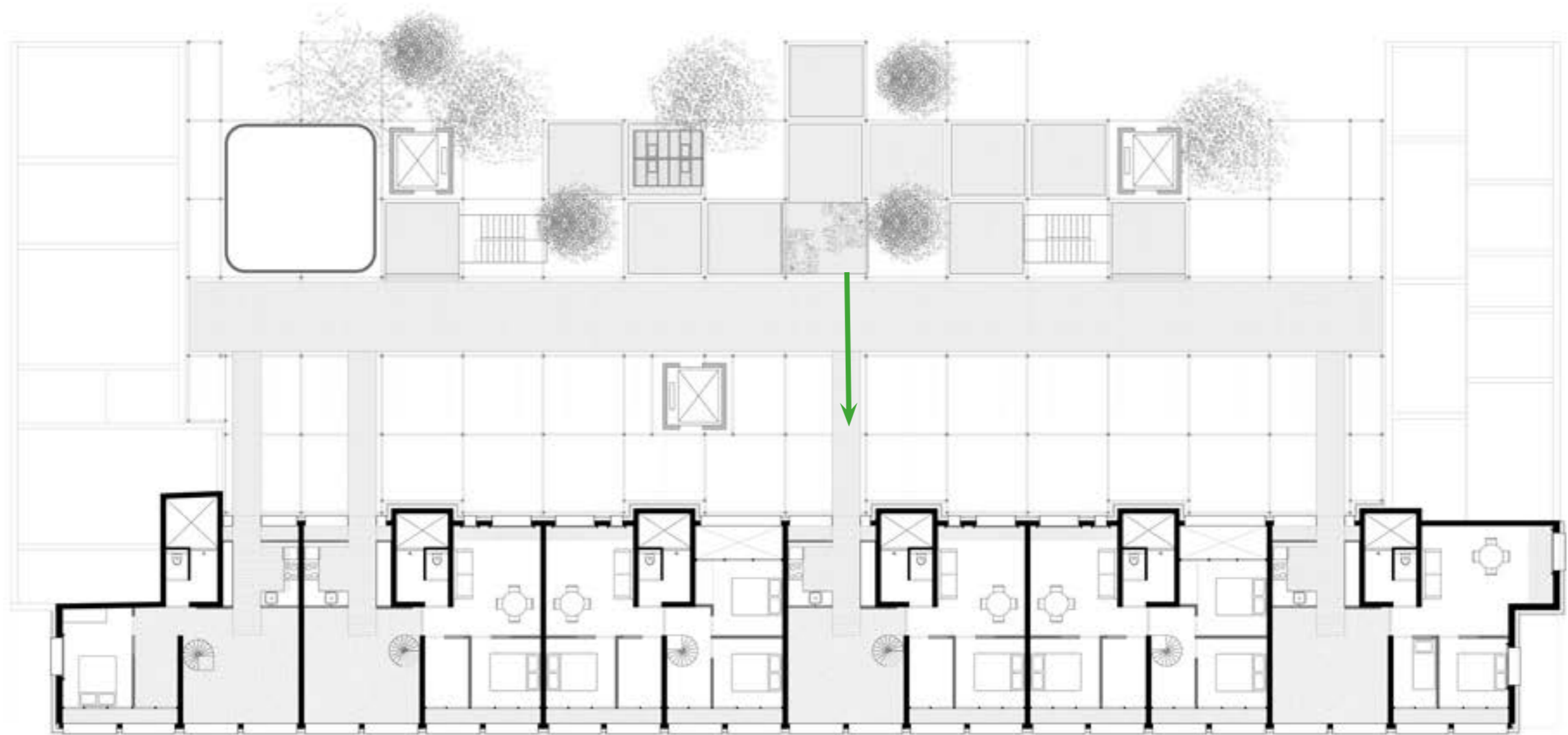
On top

Place for more to happen



Second floor

Entrance apartments



Second floor

Entrance apartments



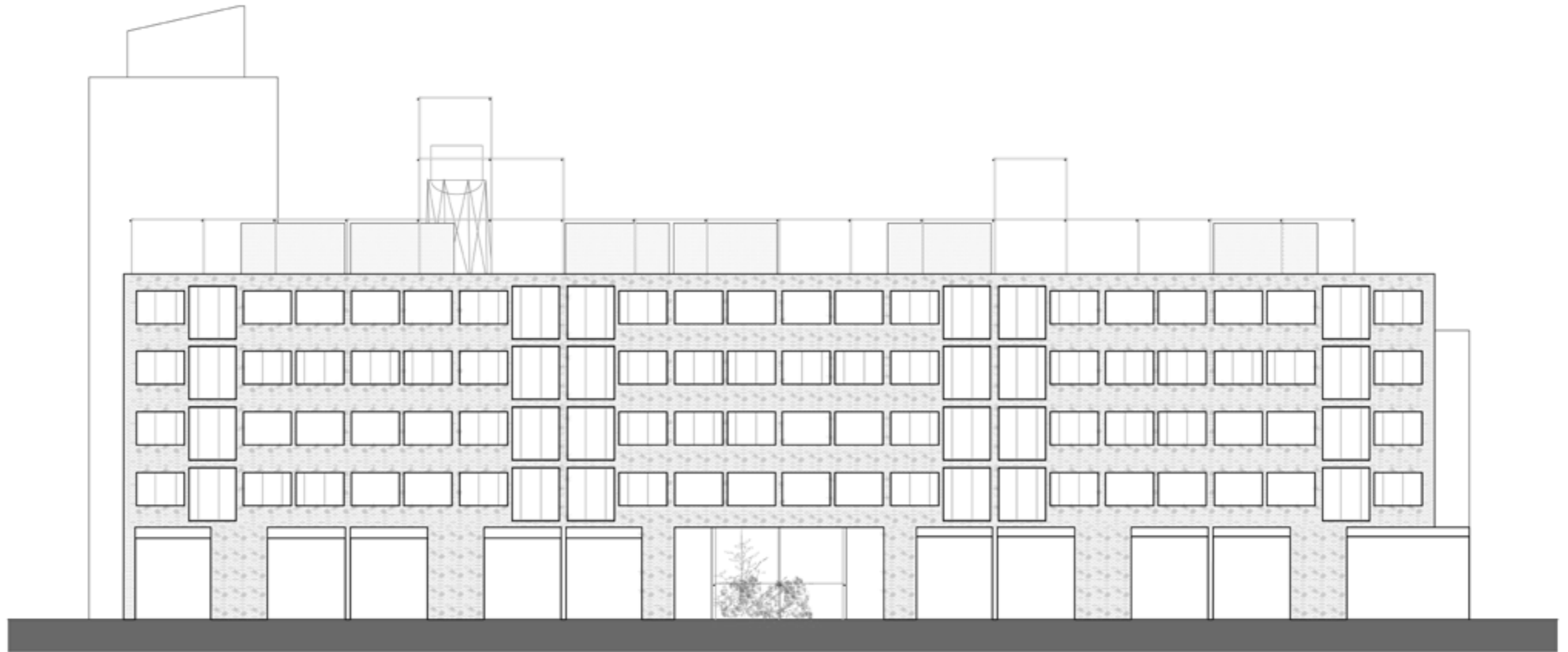
North Elevation

Design Current



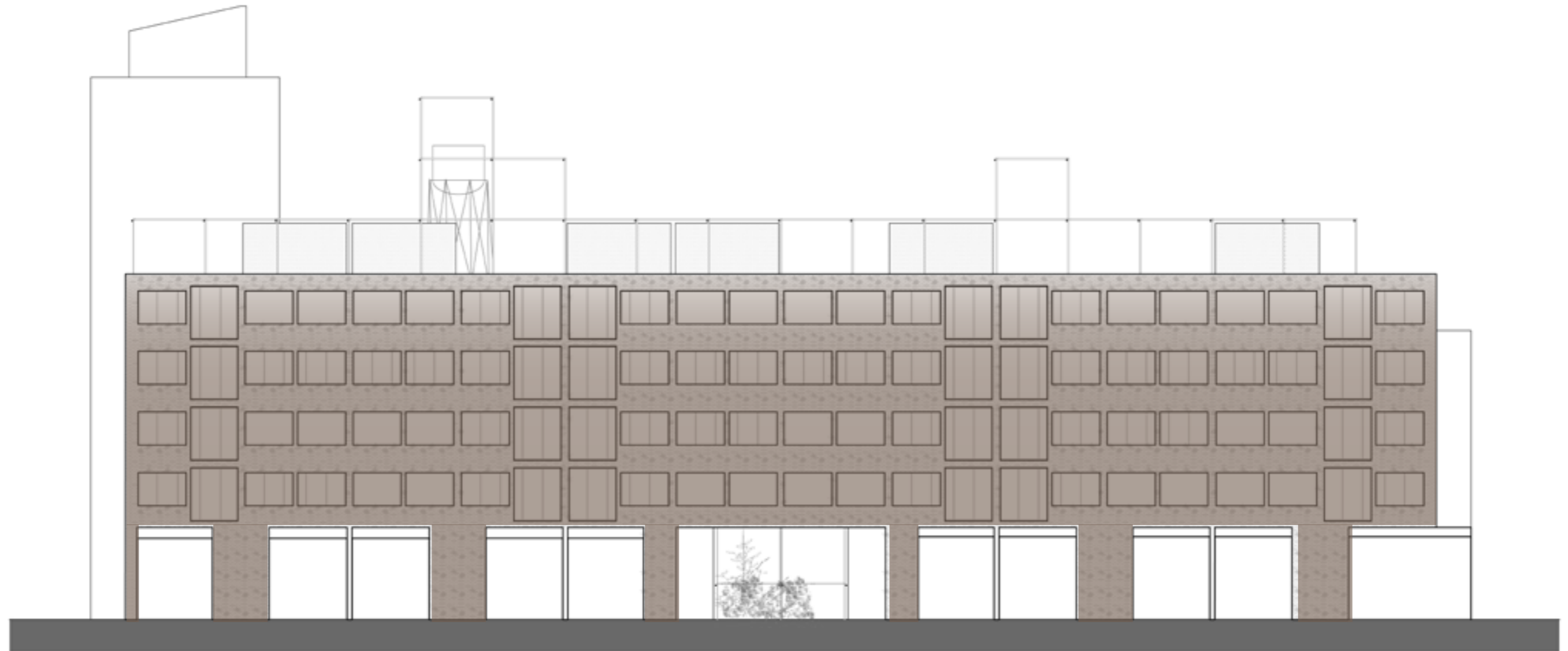
North Elevation

New design



North Elevation

Biotope



Big leaf plants
(Grote bladeren planten)

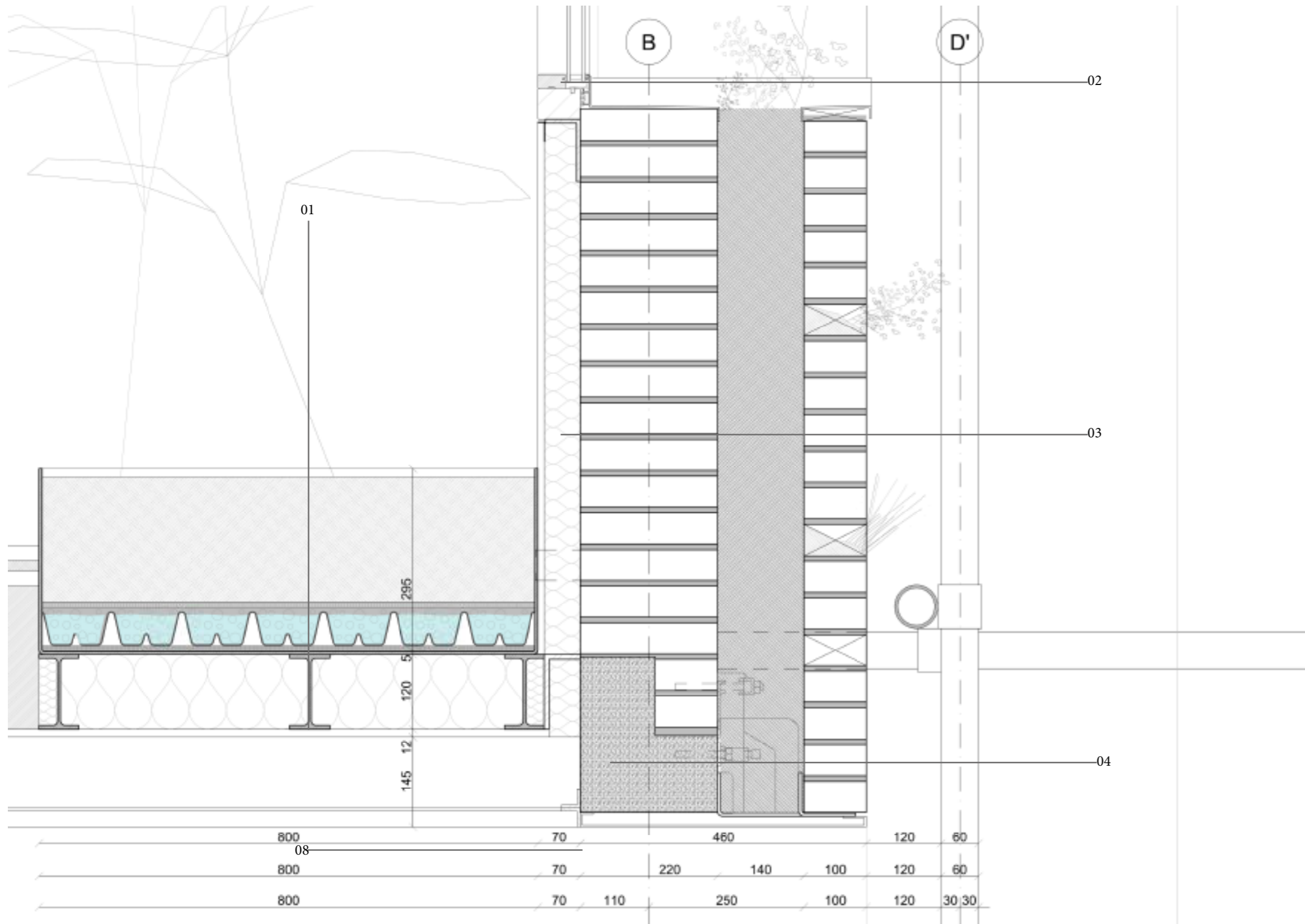
North Elevation

Facade



Detail: facade

scale 1:5



01 planter (top - bottom)

- earth
- water retention crates
- stainless steel basin
- IPE-120
- insulation
- ceiling (fireproof)

03 wall (left - right)

- mud plaster
- existing double brickwork
- waterproof layer
- earth connected with ground
- brickwork with holes for plants/animals

04 wall (left - right)

- existing concrete beam
- earth
- steel support for new bricks with welded steel L-beam to carry the earth
- brickwork

South Elevation

Facade



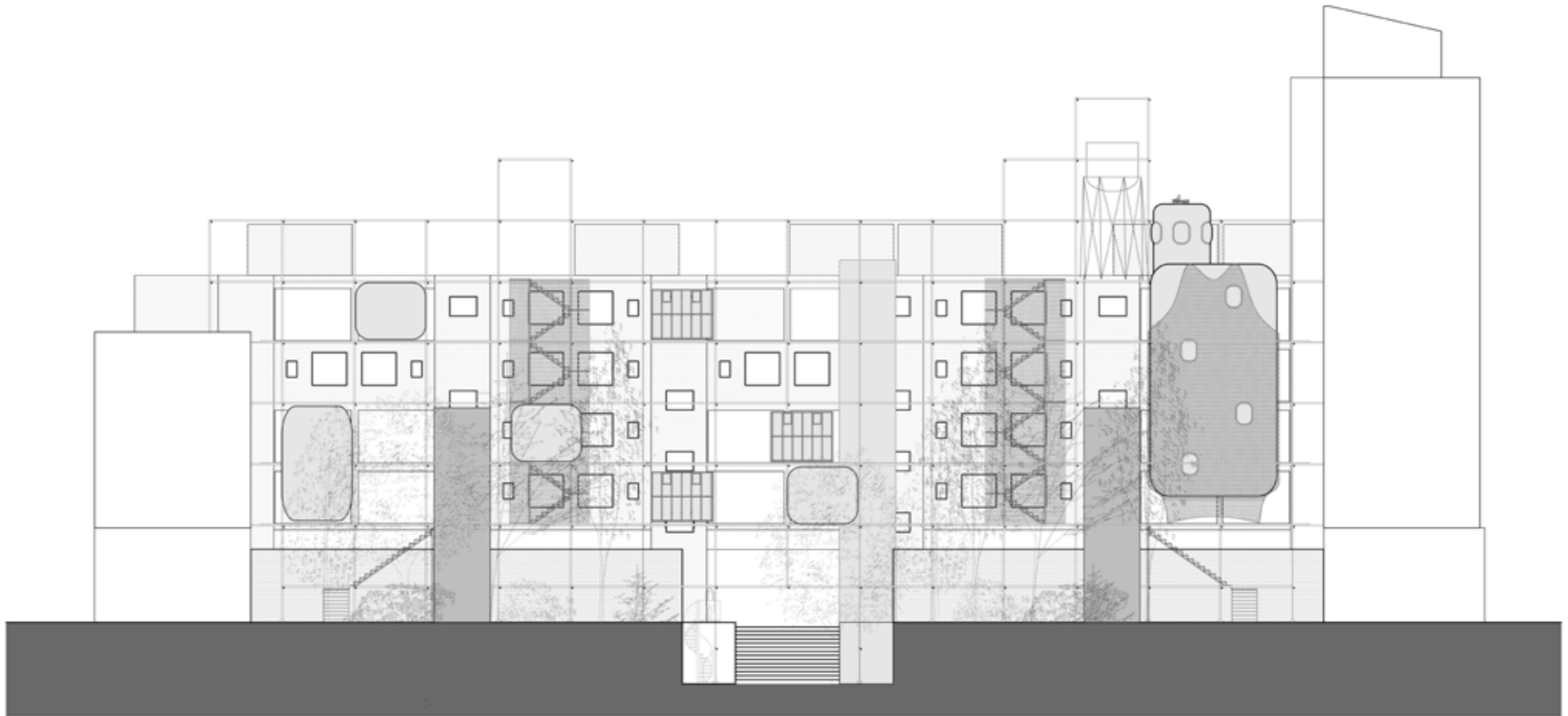
South Elevation

Facade



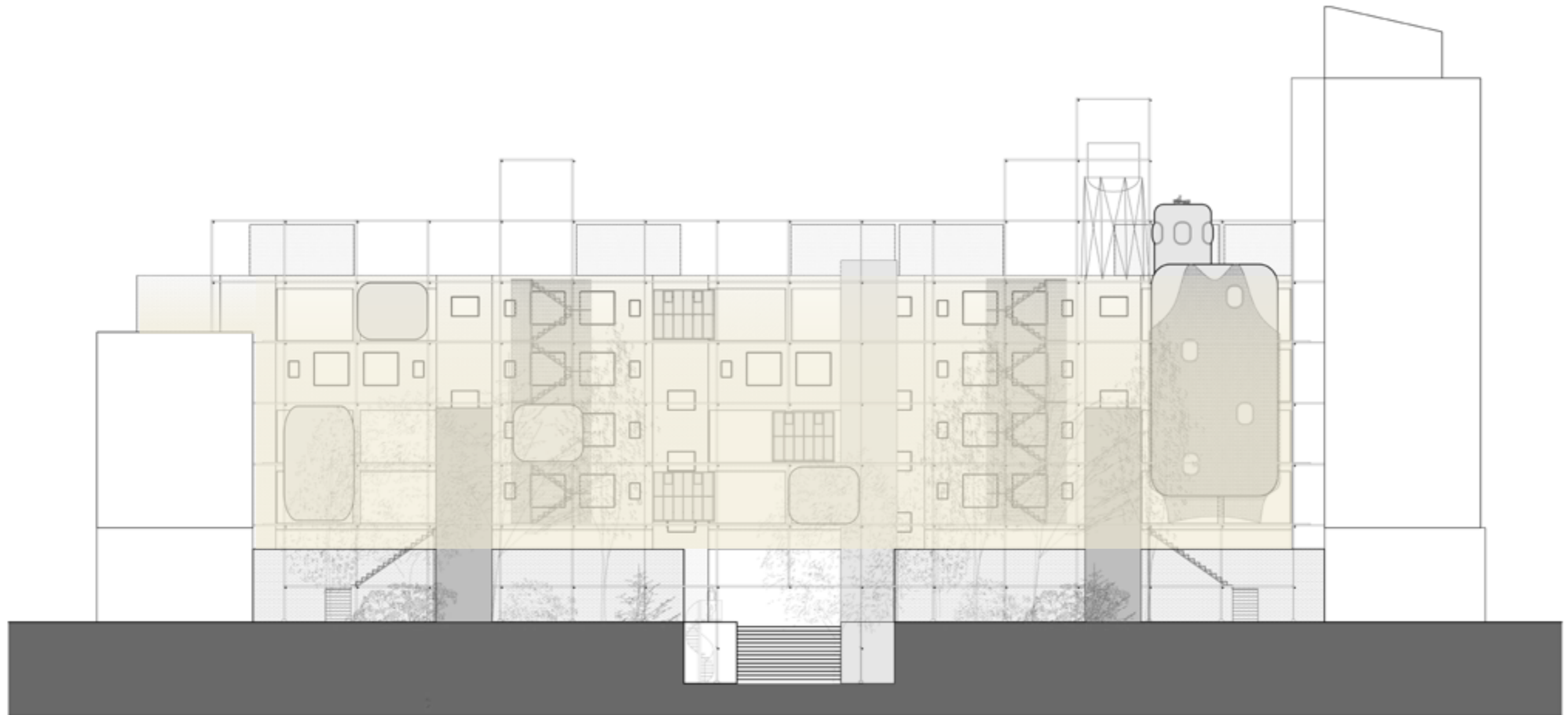
South Elevation

Facade



South Elevation

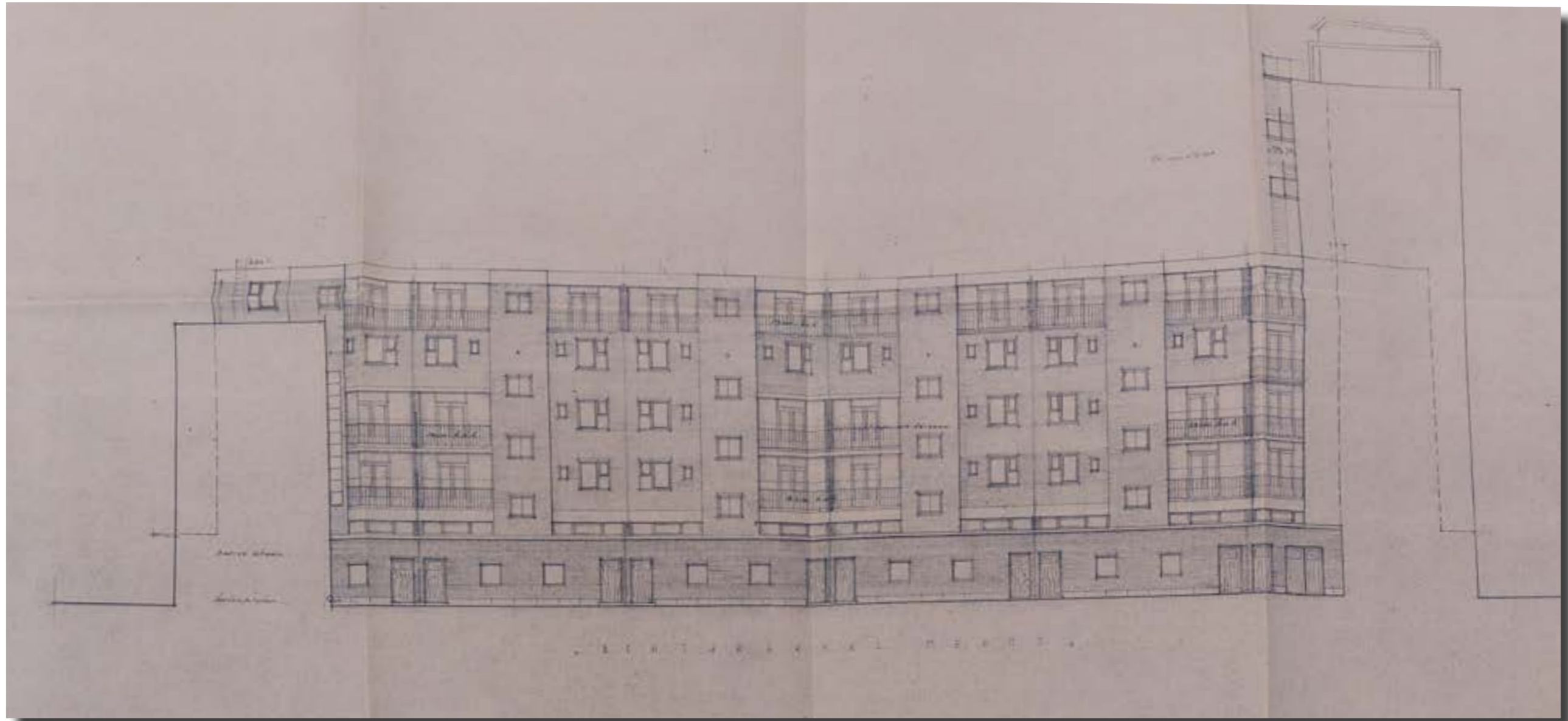
Biotope



Small leaf plants
(Kleine bladeren planten)

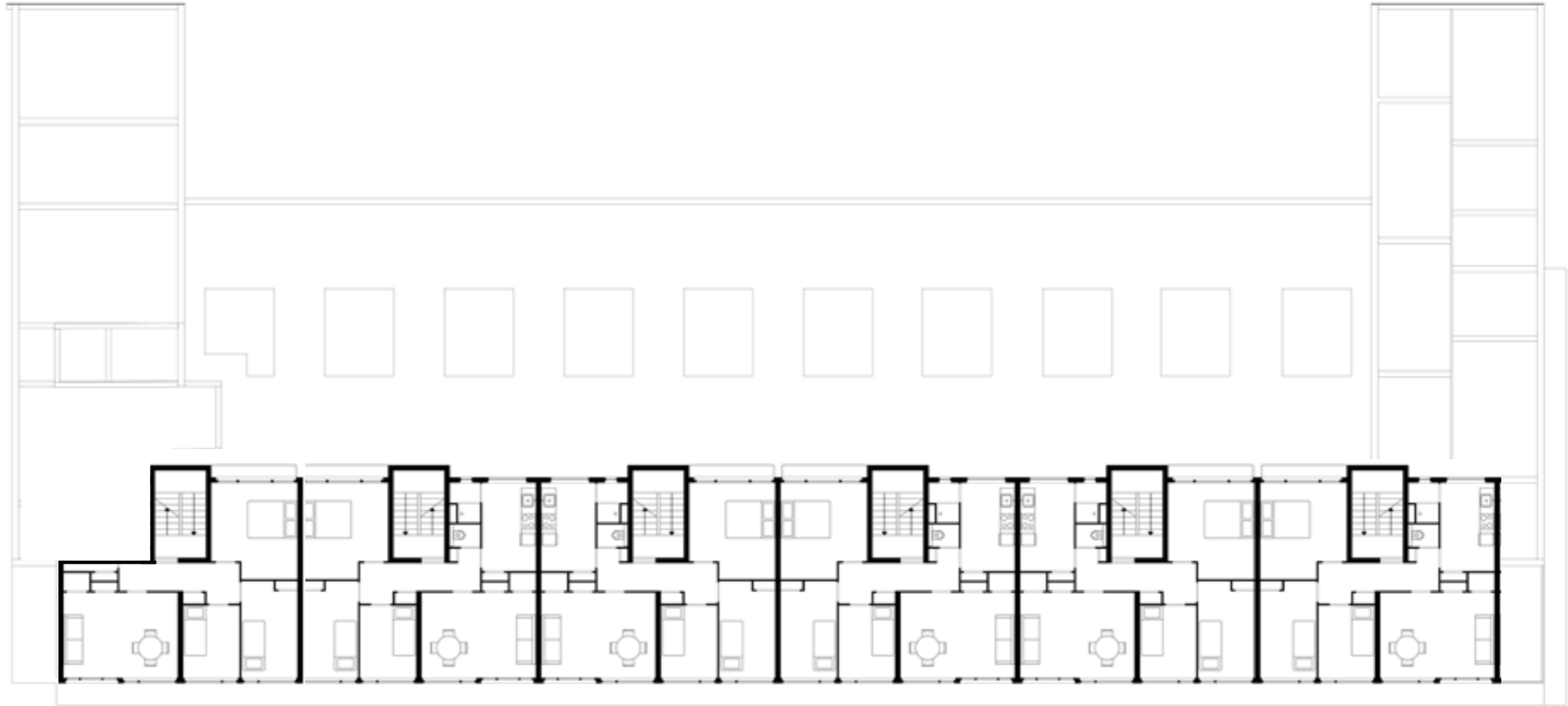
South Elevation

Facade rhythm



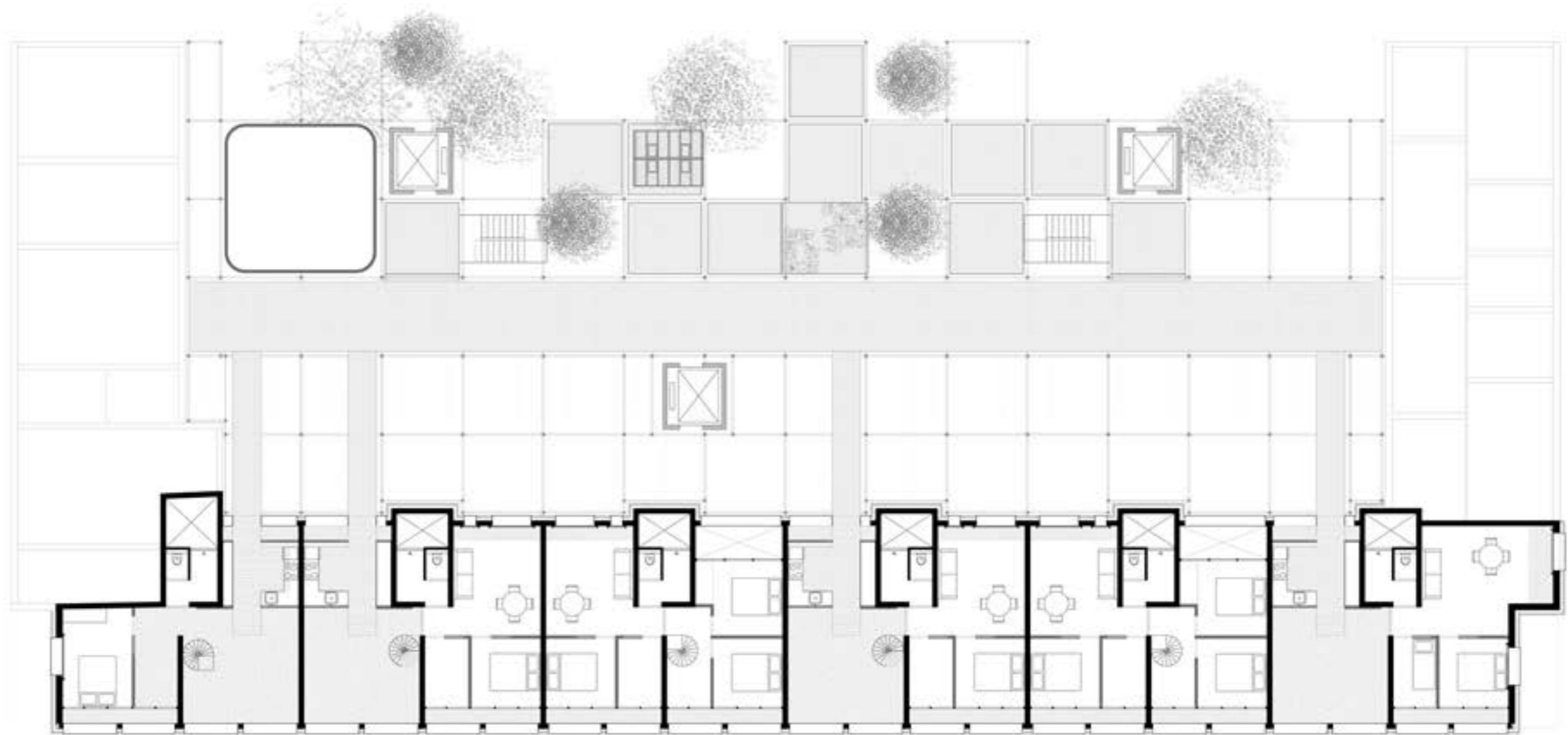
Current floorplan

Closed



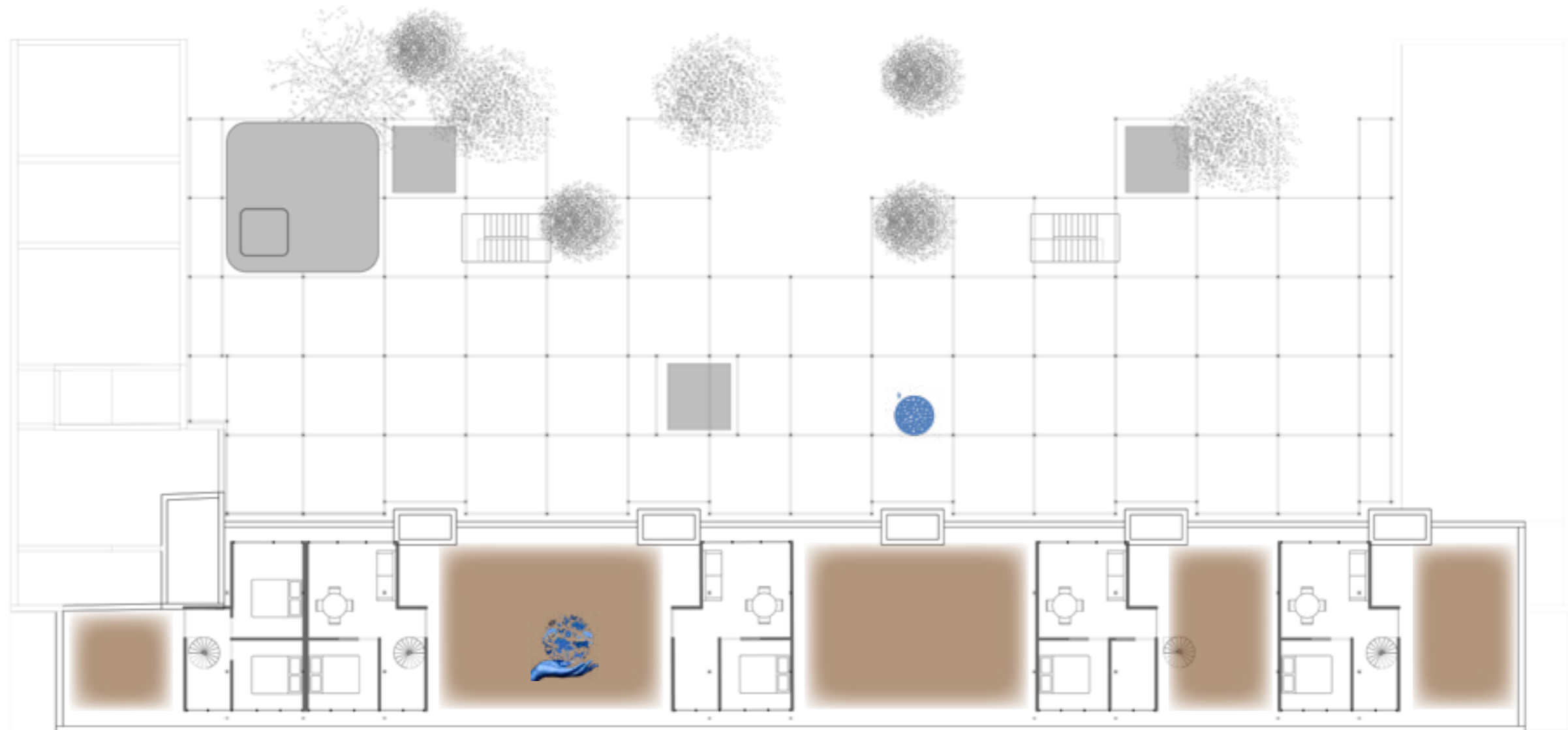
Floorplan concept

Open and closed



Fifth floor

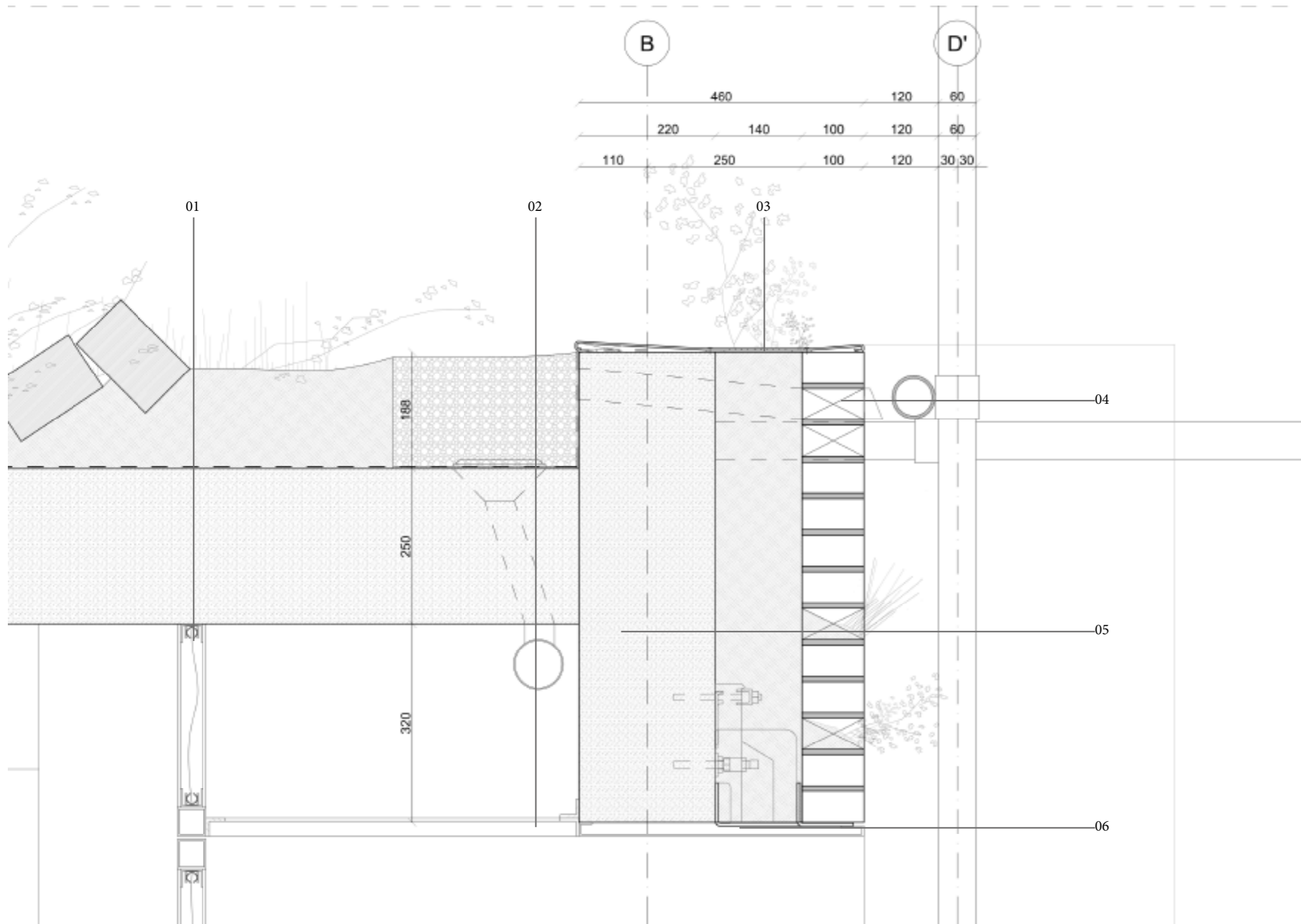
Topping with brown roof



Brown roof
(Kleine bladeren planten)

Detail: roof

scale 1:5



01 roof (top - bottom)
 - brown roof for diversity
 - waterproof layer
 - existing concrete roof
 - fence with curtain

02 roof (top - bottom)
 - pebbles water drainage
 - water pipe to collect water for gardens
 - steel mesh ceiling

03 corten steel wall finishing with holes for plants

04 emergency overflow

05 wall (left - right)
 - existing concrete beam
 - waterproof layer
 - earth connected with ground
 - brickwork with holes for plants/animals

06 steel support for new bricks with welded steel L-beam to carry the earth

Roof

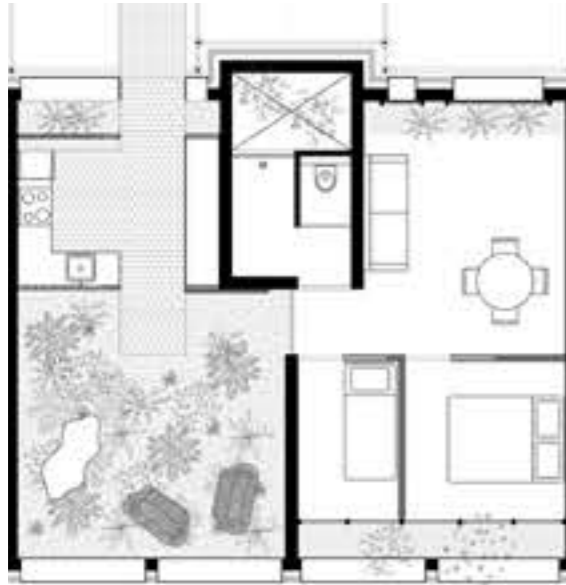
Brown roof



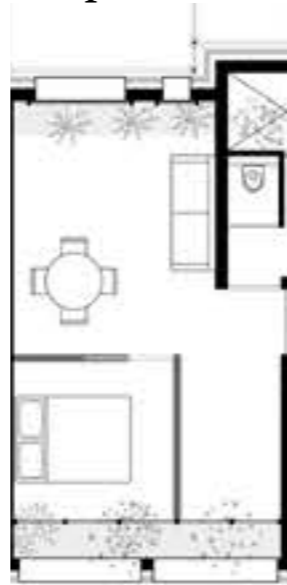
From one type to

Multiple types

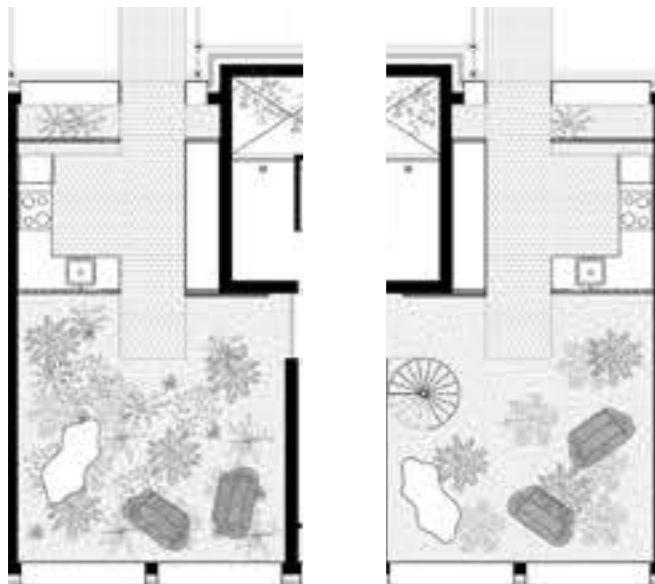
Private
2-4 persons



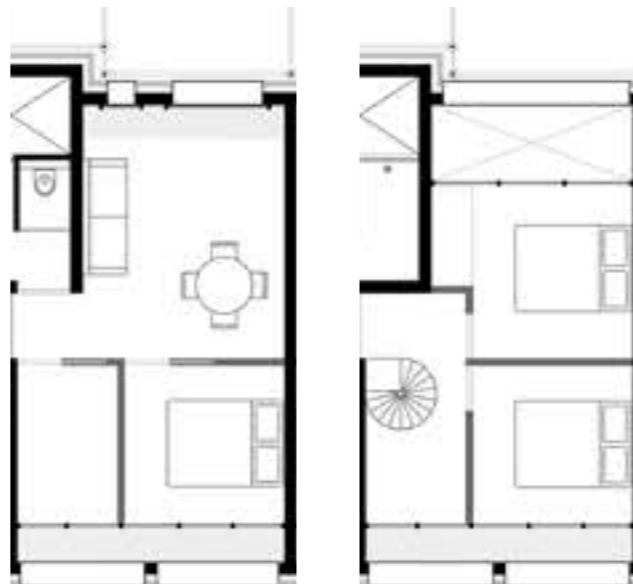
Studio - coliving
1-2 persons



Open space
Community kitchen

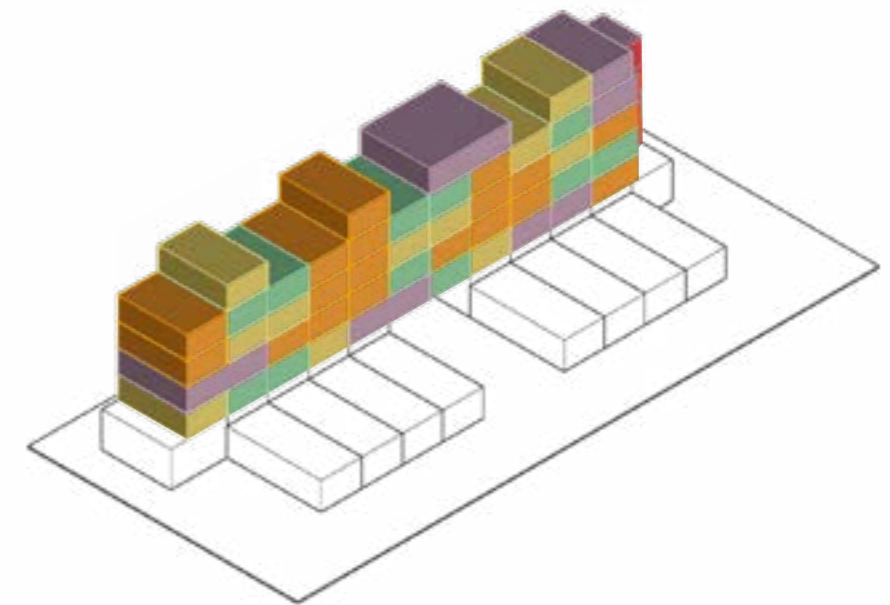


Maisonette - coliving
3-6 persons



00

+ 01



26 Apartments

	12	-	24	persons
	11	-	22	persons
	27	-	54	persons

50 - 100 persons

Before

24 apartments

	24	-	96	persons
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Average used by 44 persons

Rotterdam 'De verander stad'



Current building

Reminder

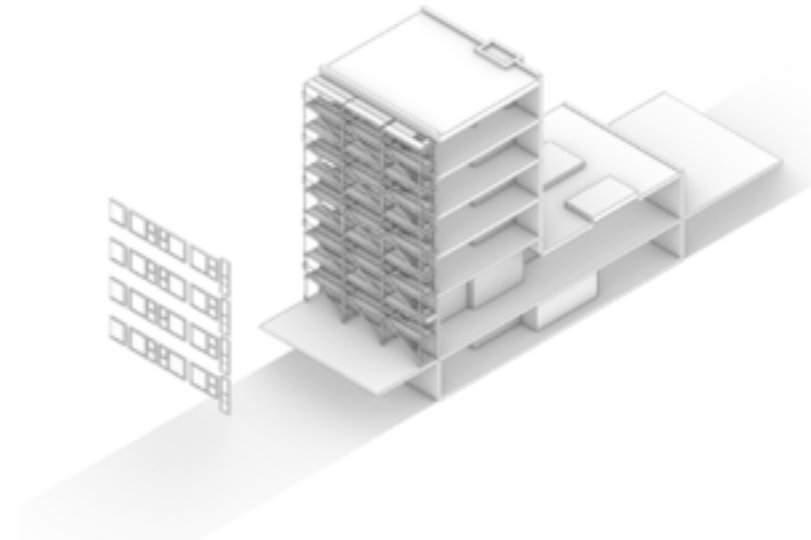
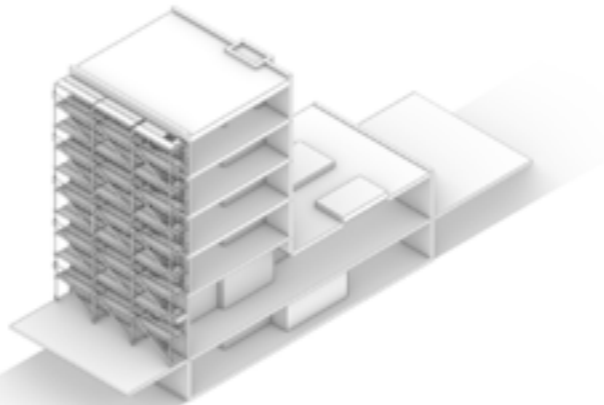


IN

OUT

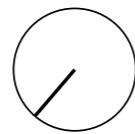
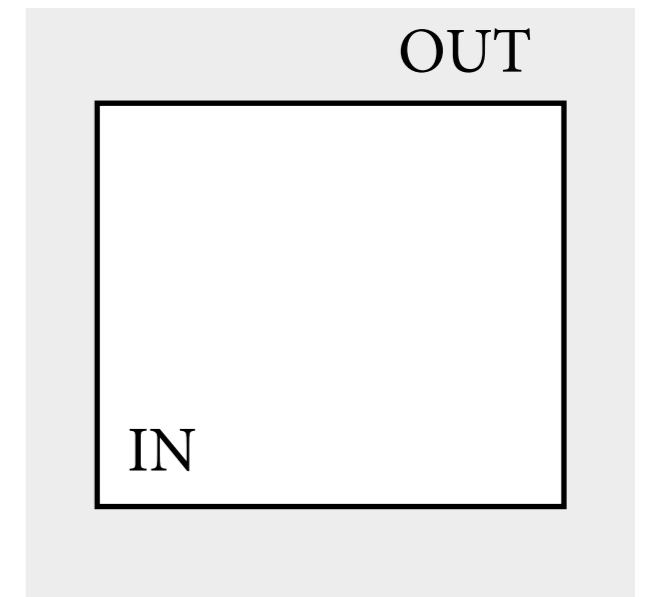
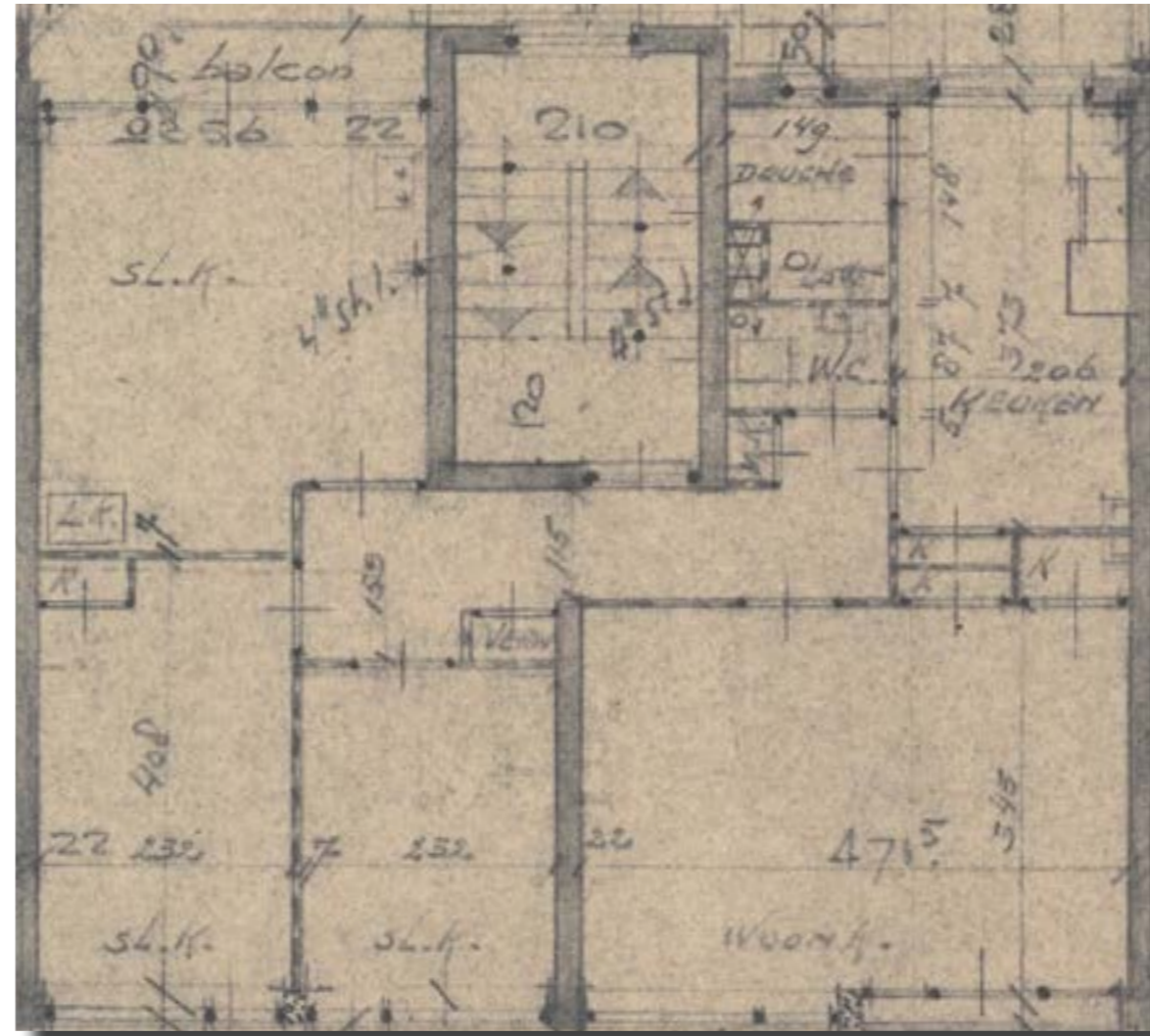
First step

Building as canopy



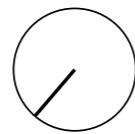
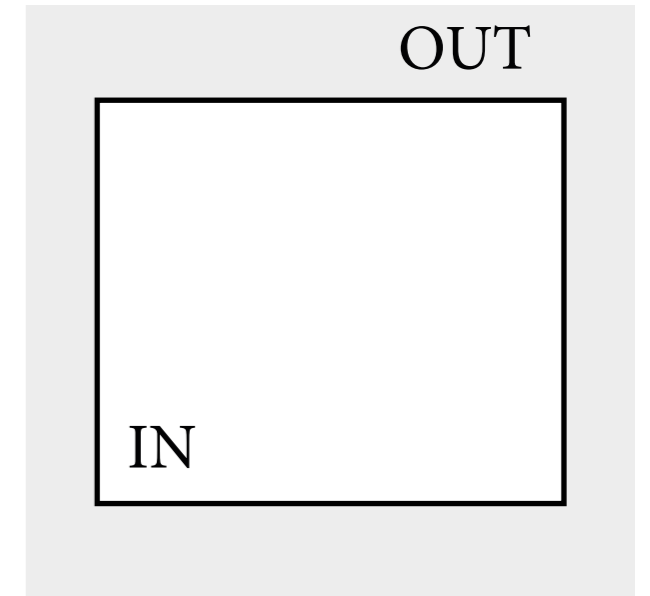
Boundaries

Existing situation



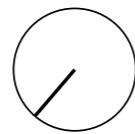
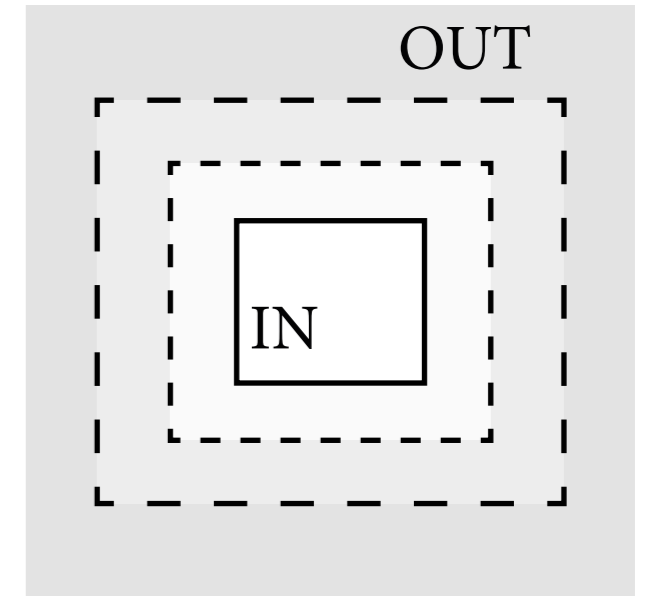
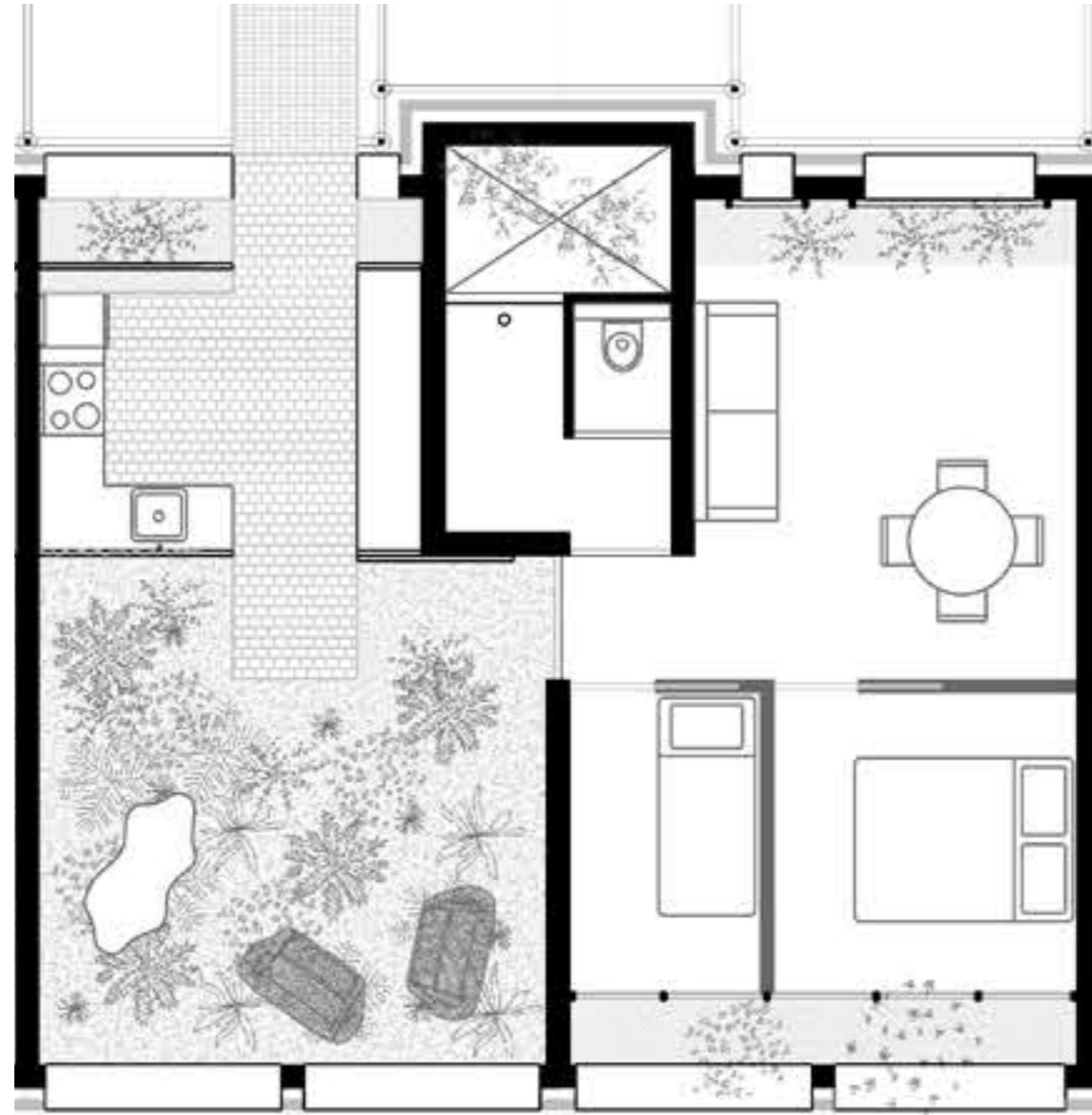
Boundaries

Existing situation



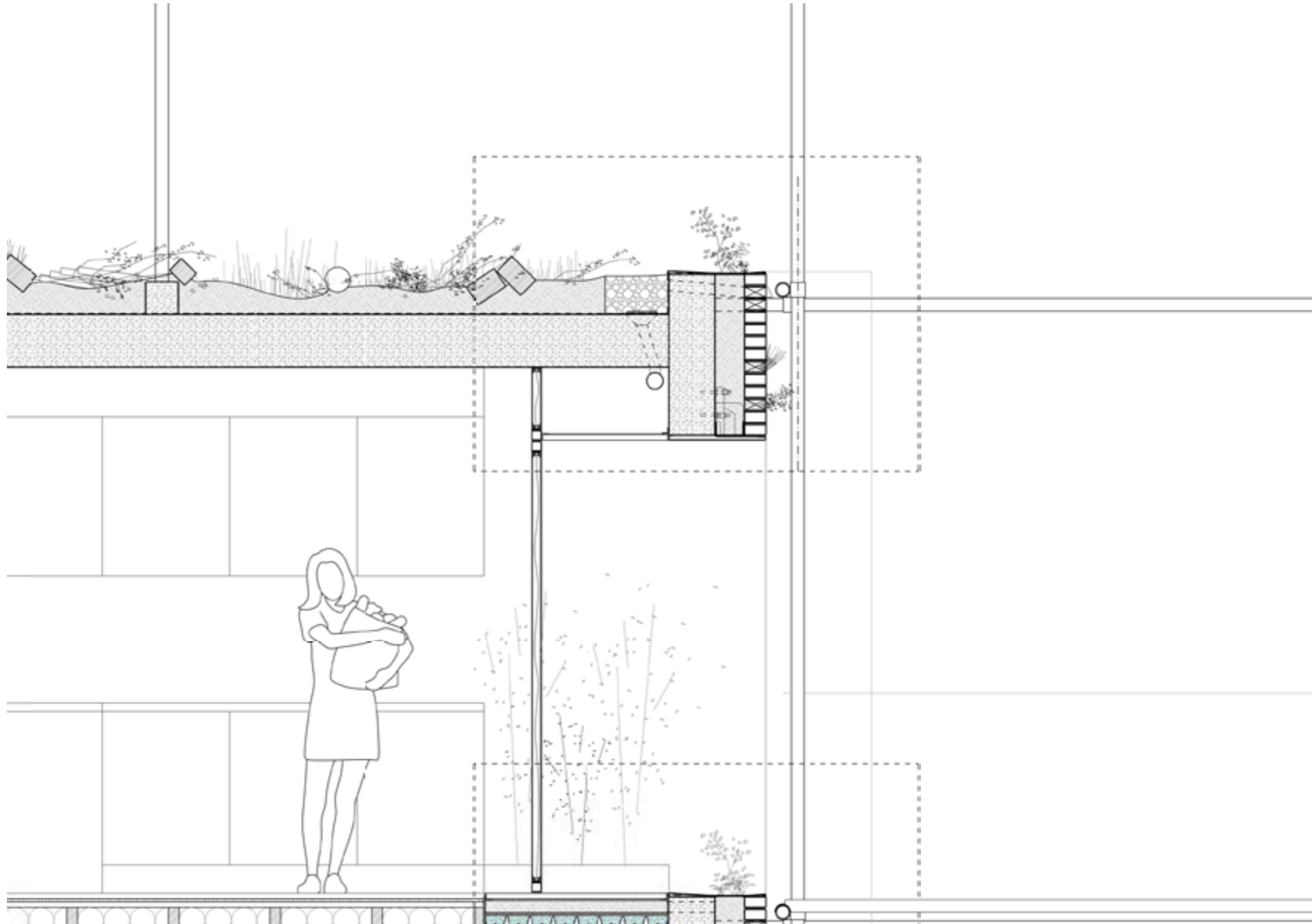
Boundaries

New situation



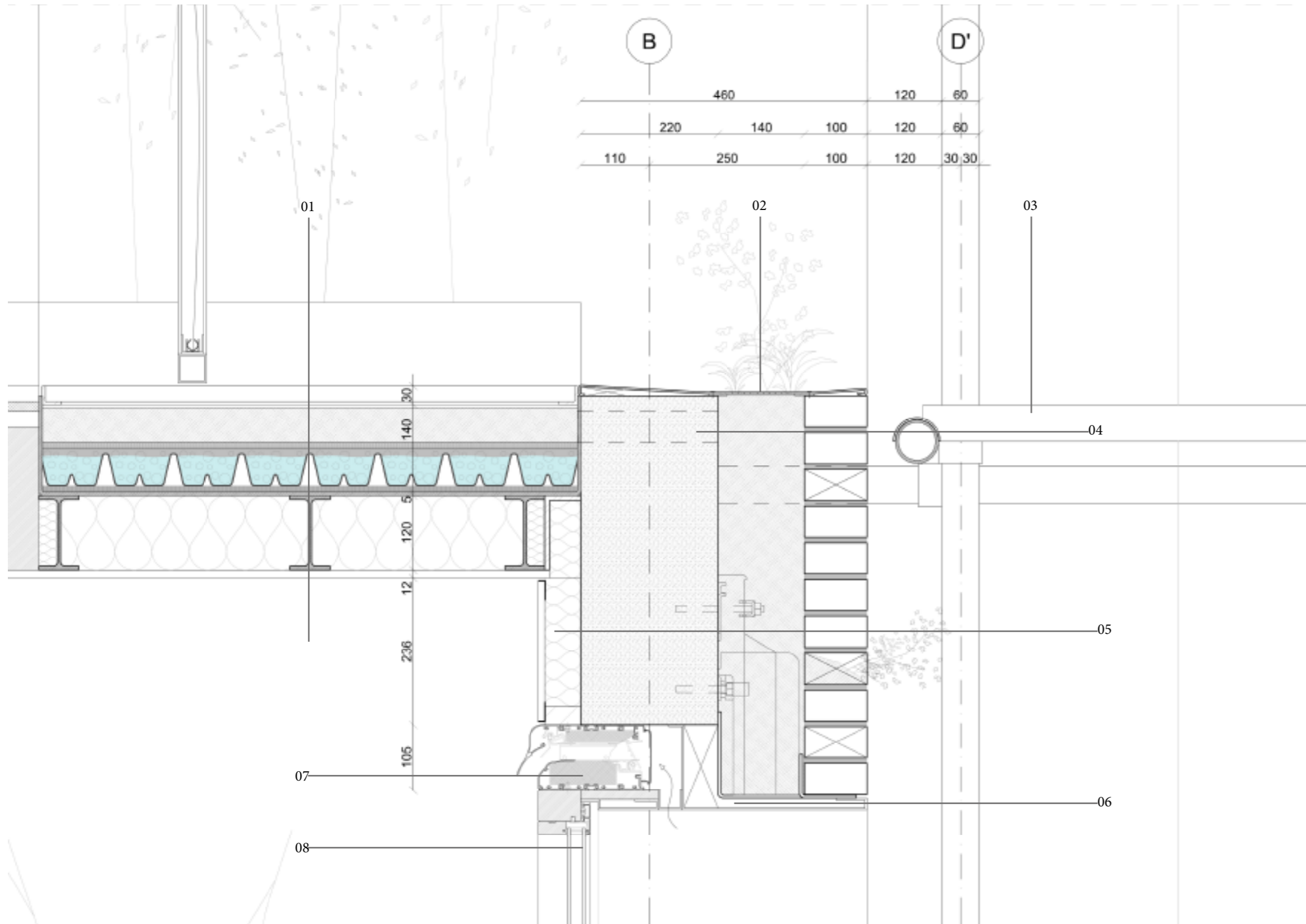
fragment

scale 1:20



Detail: entrance

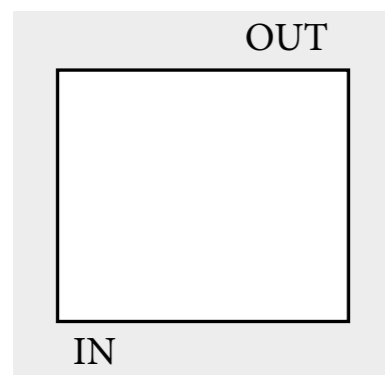
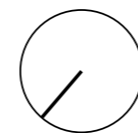
scale 1:5



- 01 floor (top - bottom)
 - steel grid walkway supported with L-beams
 - earth
 - water retention crates
 - stainless steel basin
 - IPE-120
 - insulation
 - ceiling (fireproof)
- 02 corten steel wall finishing with holes for plants
- 03 scaffolding construction with a walkway
- 04 emergency overflow to connect the earth and water with the wall cavity
- 05 wall (left - right)
 - mud plaster
 - existing concrete beam
 - waterproof layer
 - earth connected with ground
 - brickwork with holes for plants/animals
- 06 steel support for new bricks with welded steel L-beam to carry the earth
- 07 intake natural ventilation
- 08 aluminium and wood window frame with hr++ glass

Boundaries

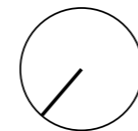
Existing situation



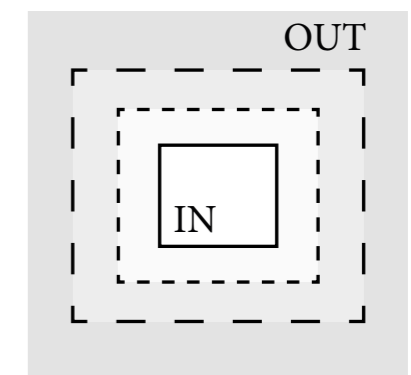
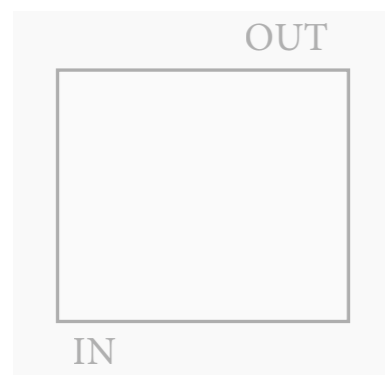
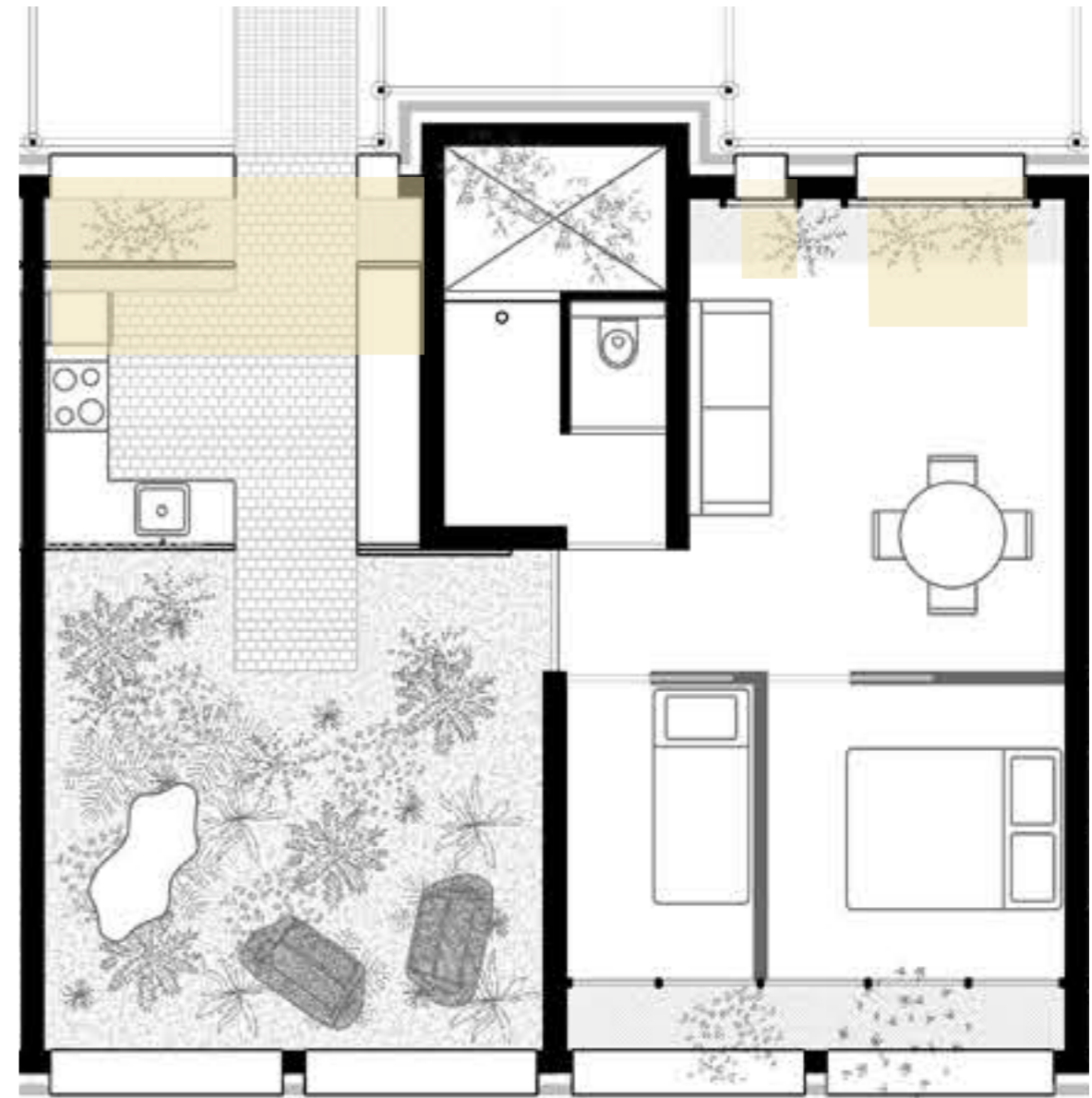
Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Existing situation



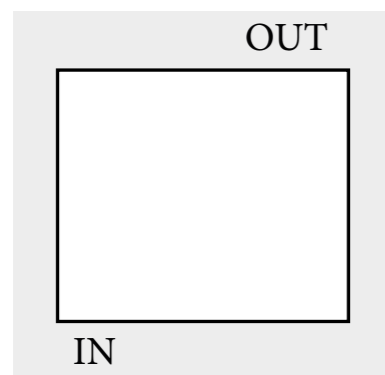
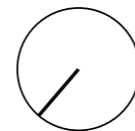
New situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Existing situation



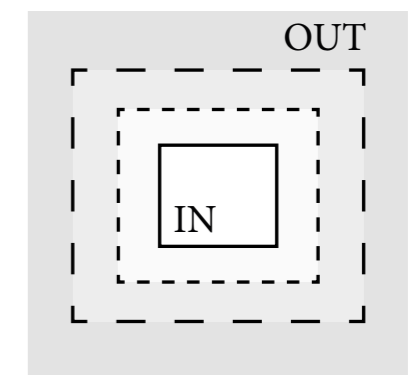
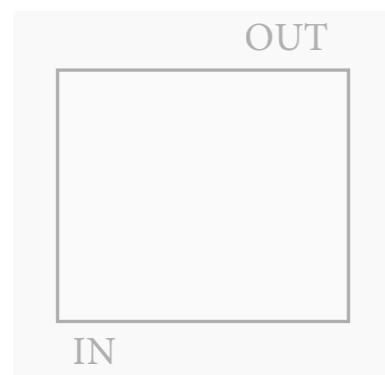
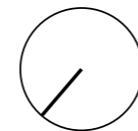
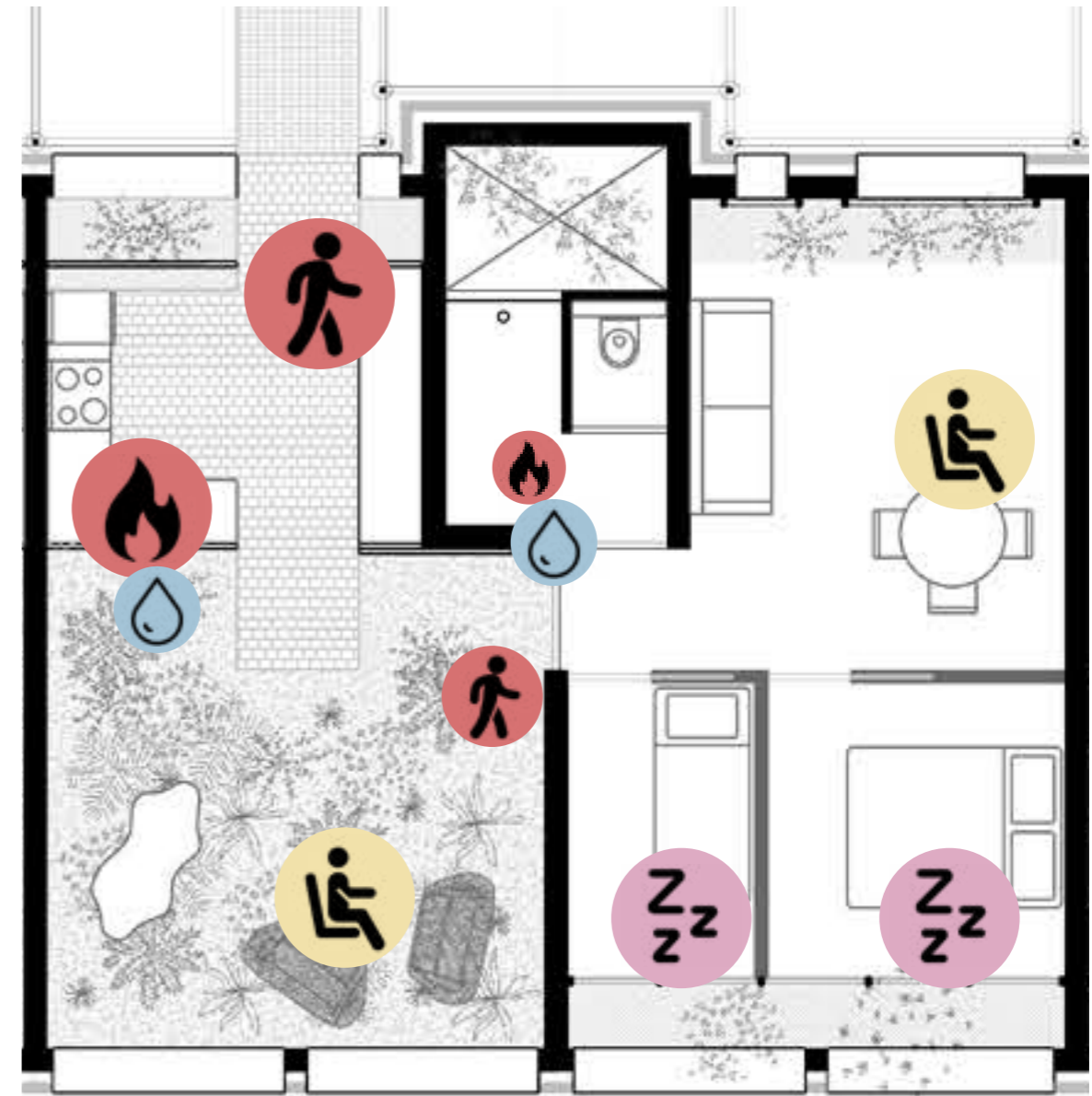
Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Existing situation



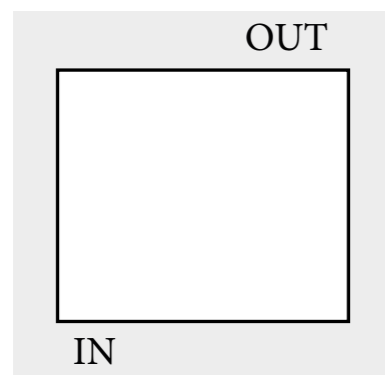
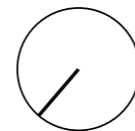
New situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

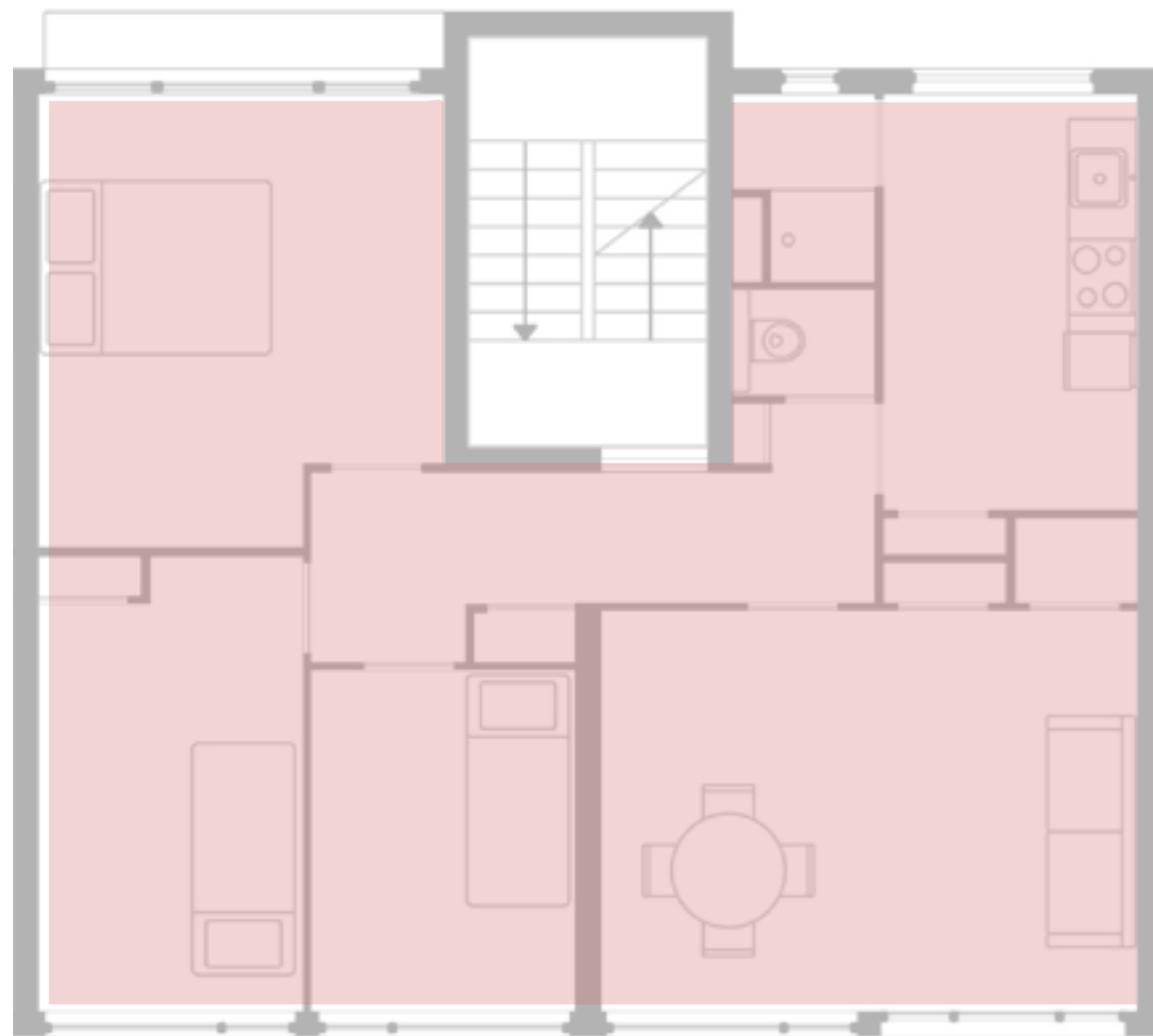
Existing situation



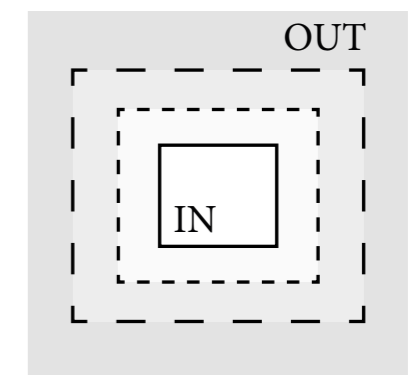
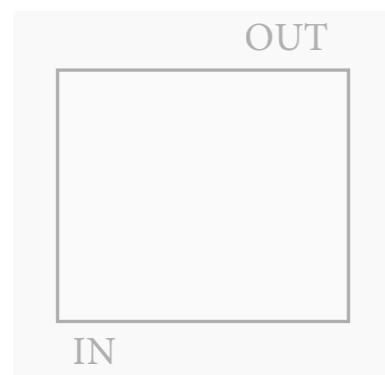
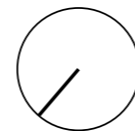
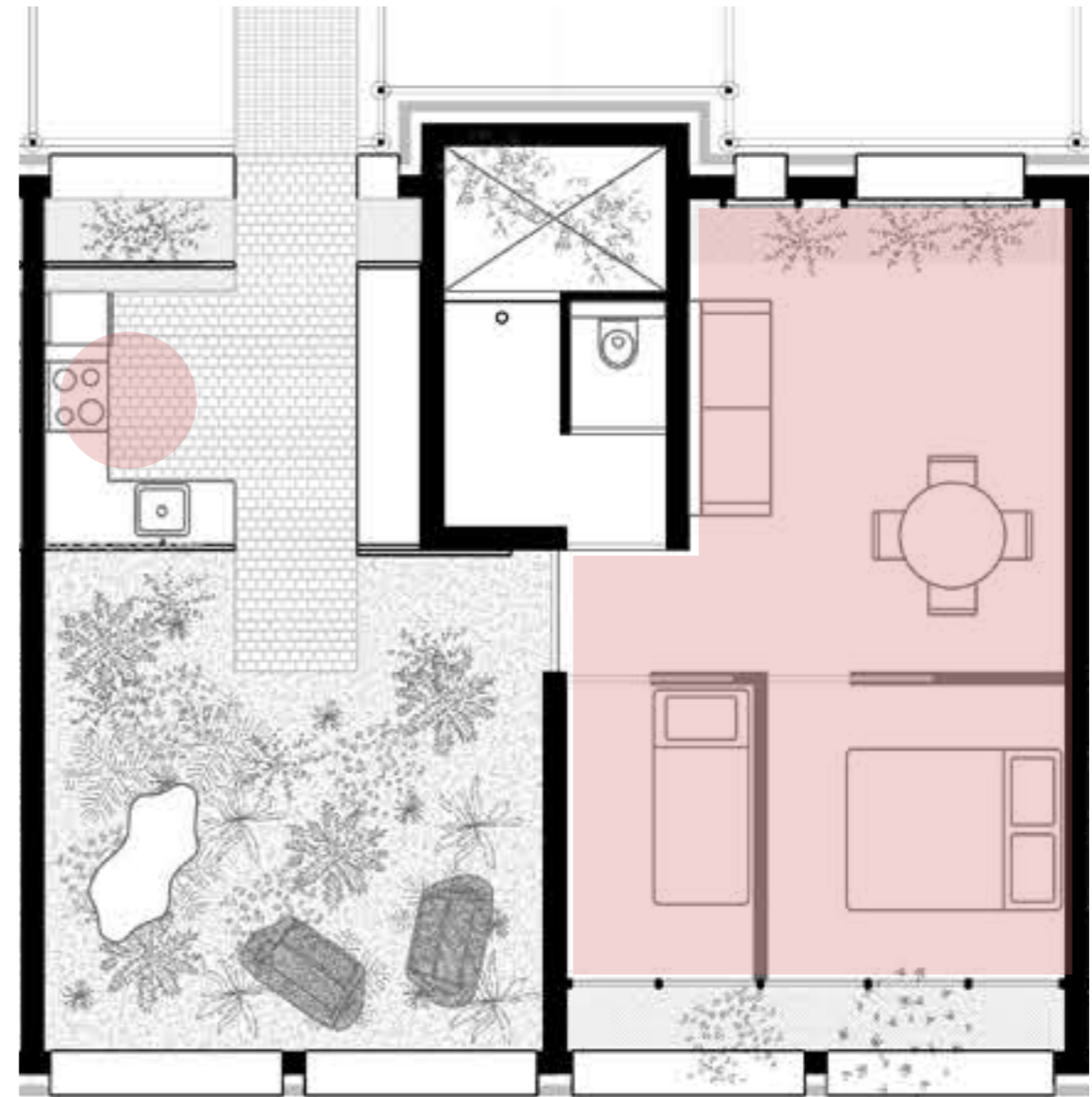
Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Existing situation



New situation

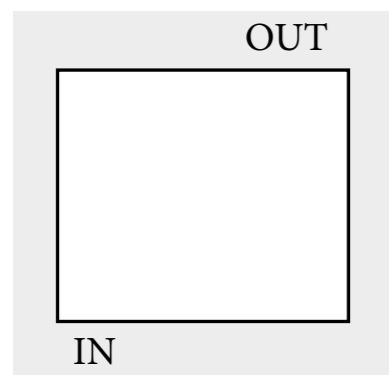
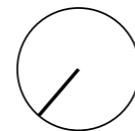


Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Winter

Existing situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

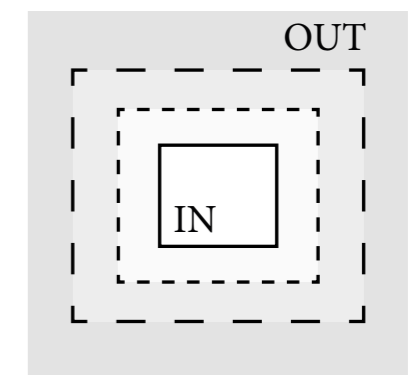
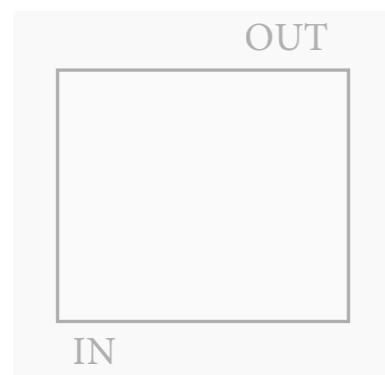
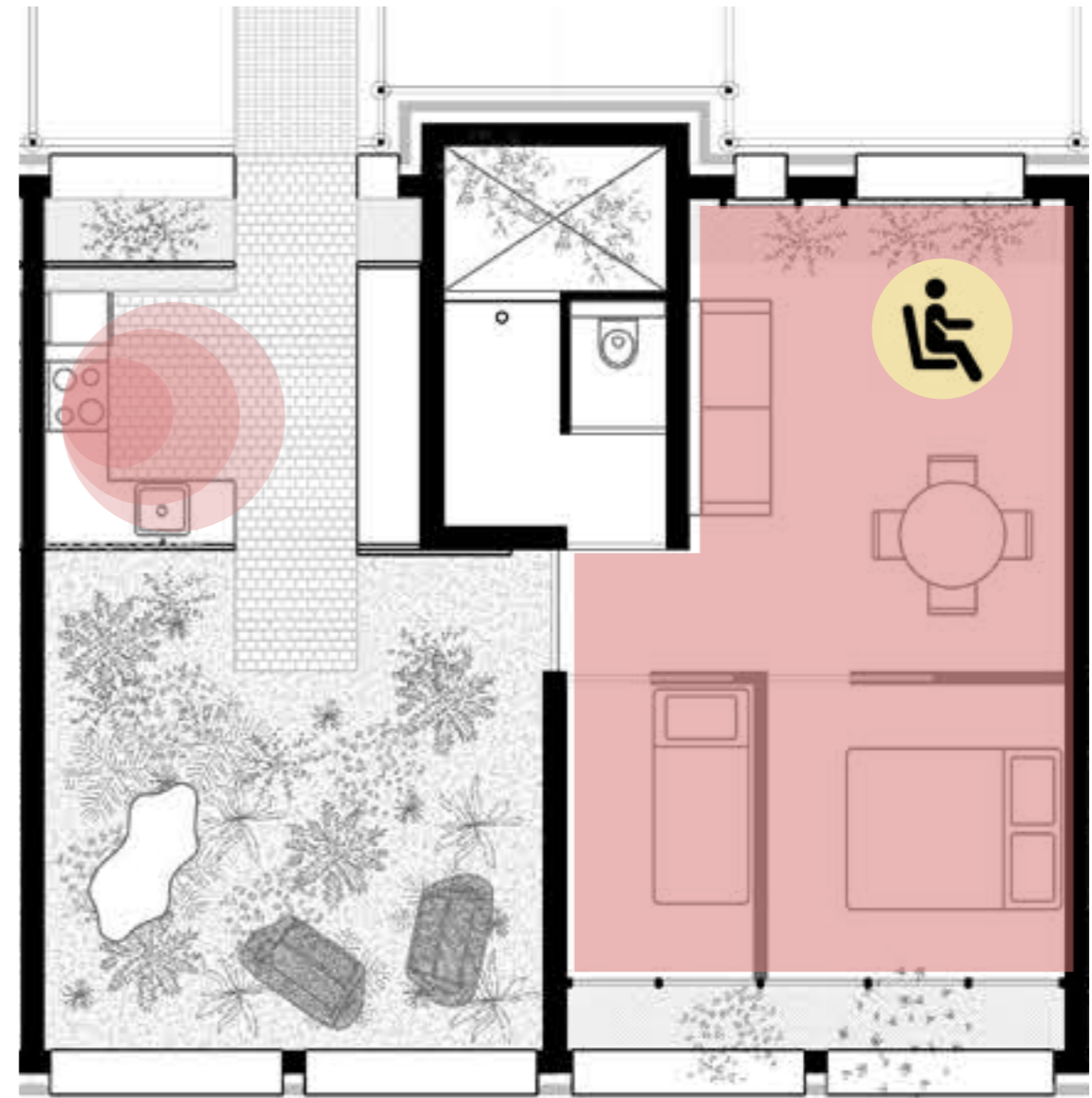
Boundaries

Winter

Existing situation



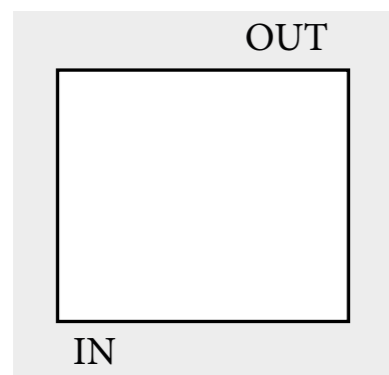
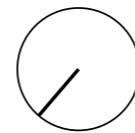
New situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Existing situation

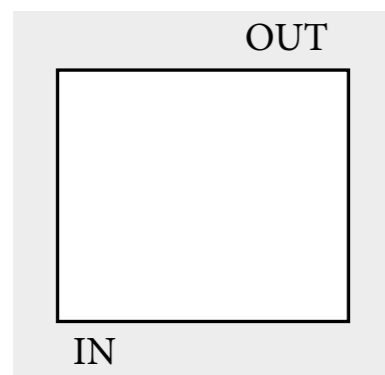
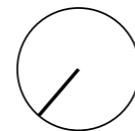


Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Summer

Existing situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

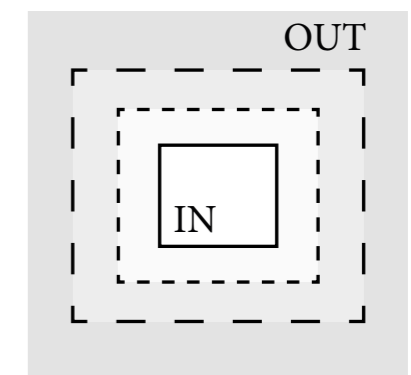
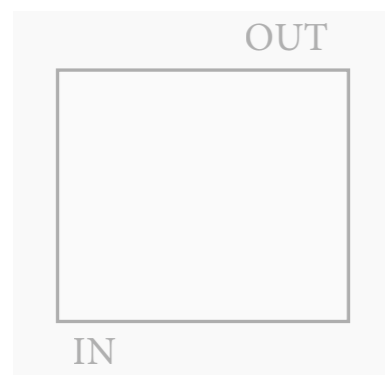
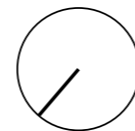
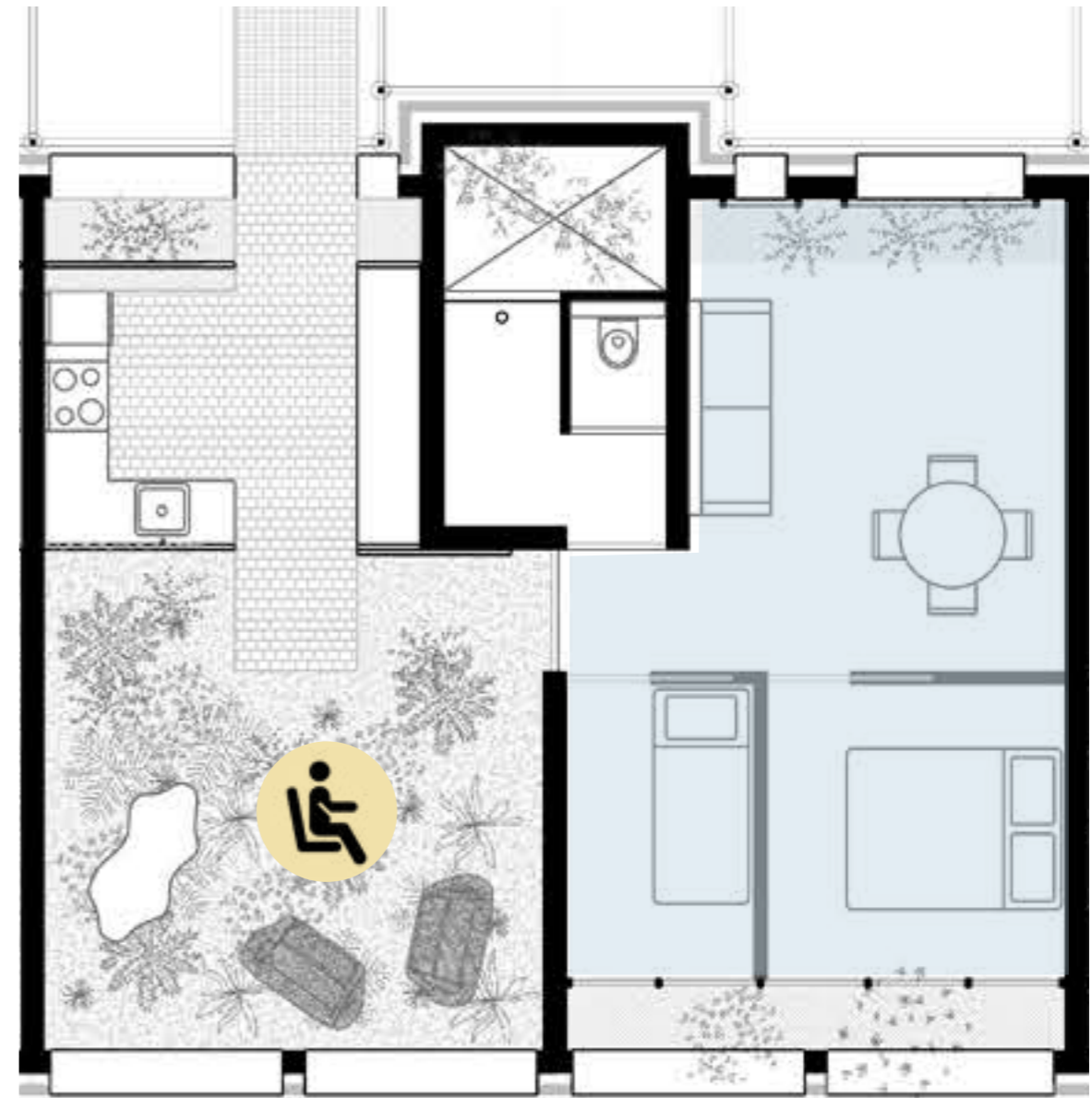
Boundaries

Summer

Existing situation



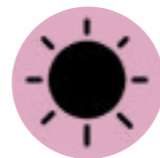
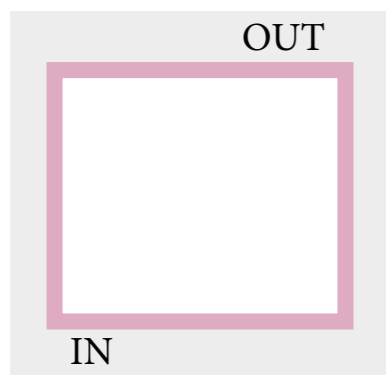
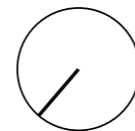
New situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Existing situation



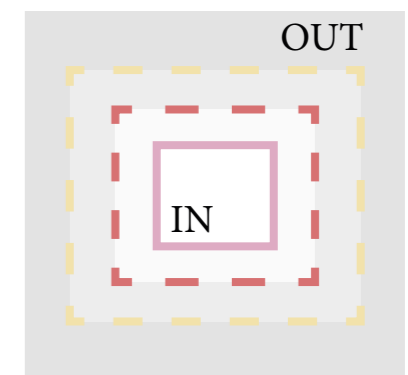
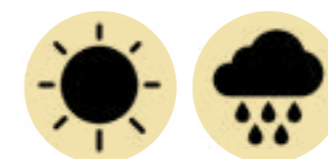
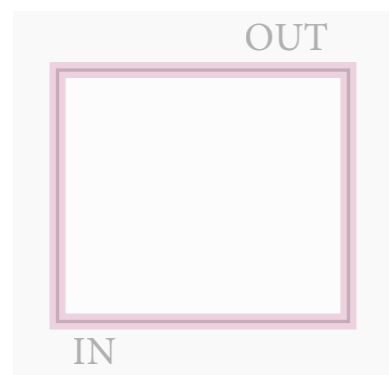
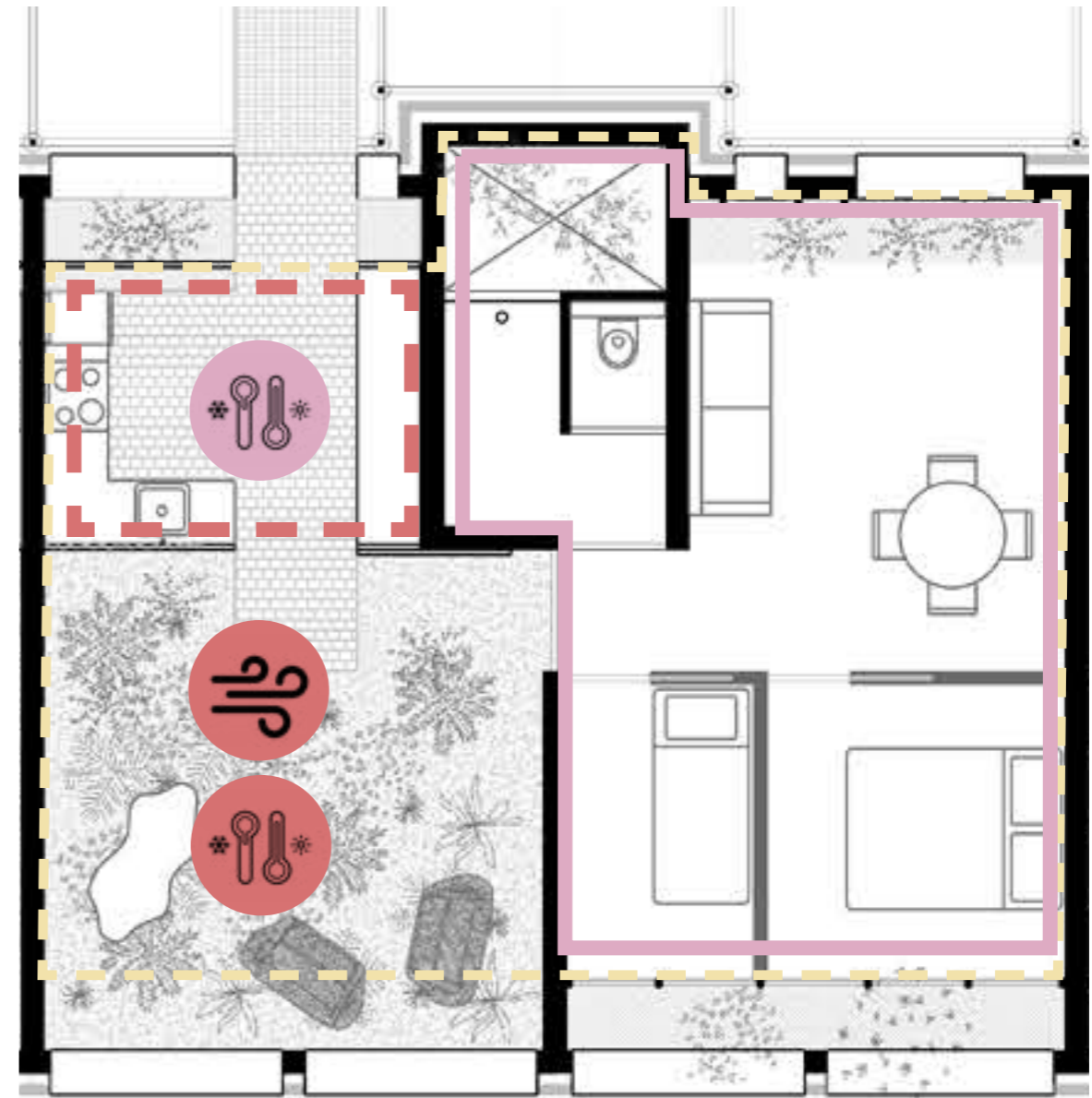
Orientation | Activity | Heating | Cooling | **Elements** | Proximity

Boundaries

Existing situation



New situation

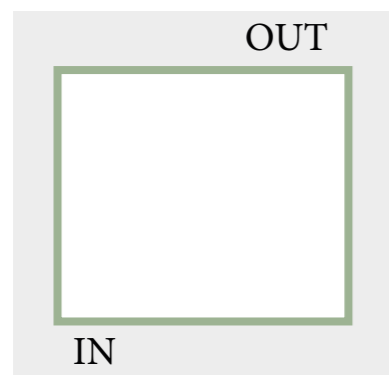


Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Non-human

Existing situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

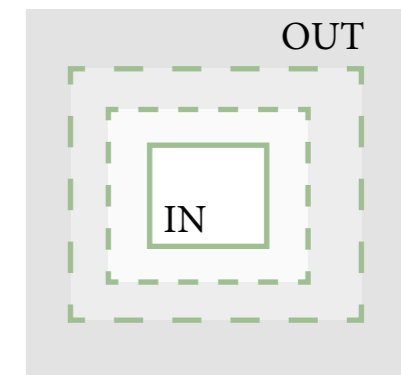
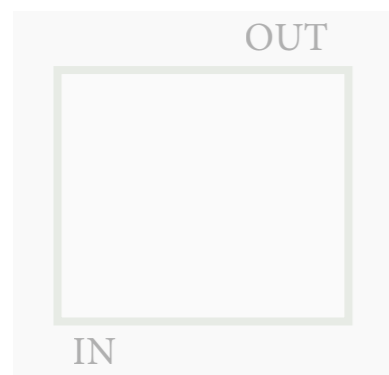
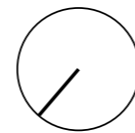
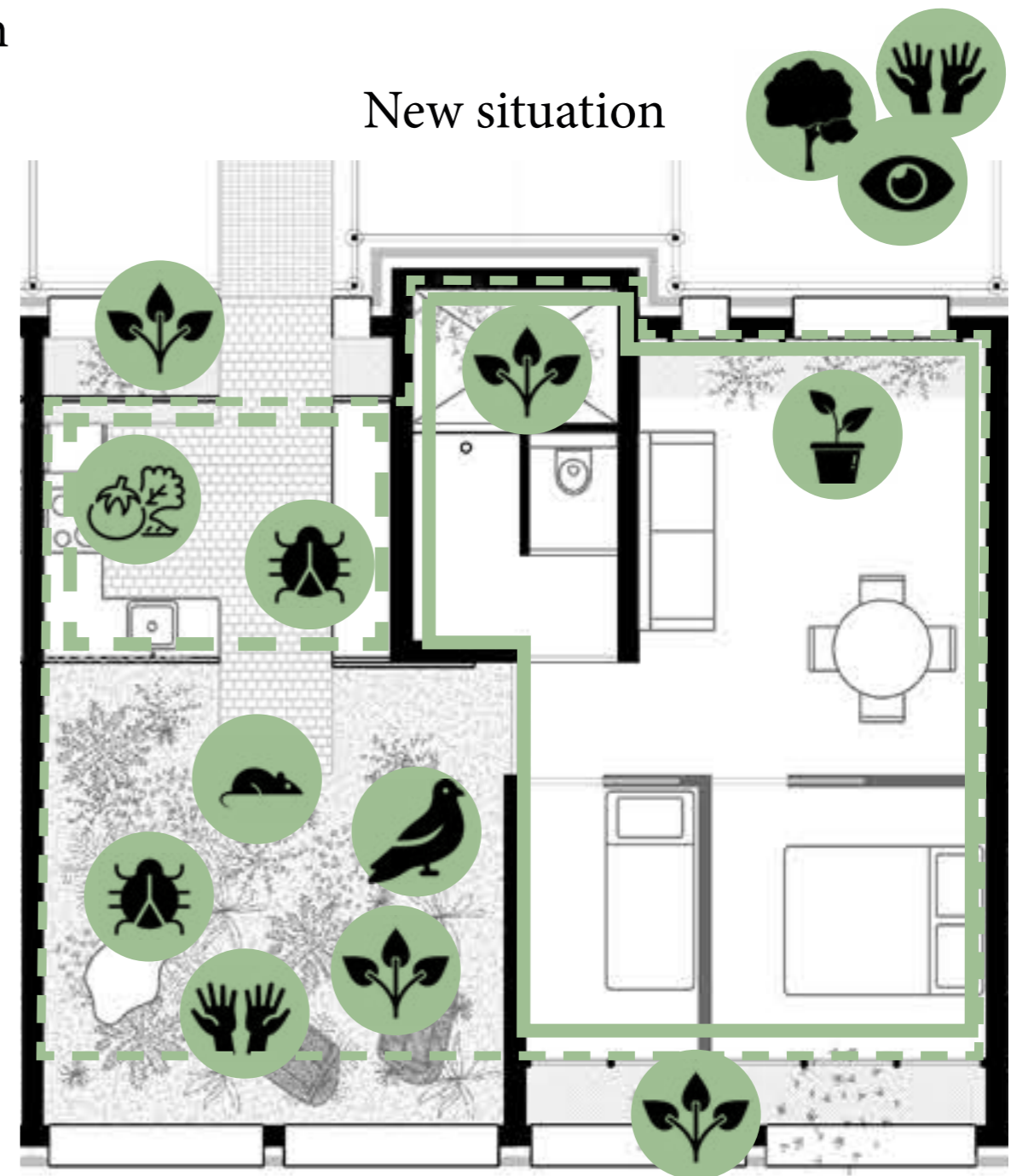
Boundaries

Non-human

Existing situation



New situation

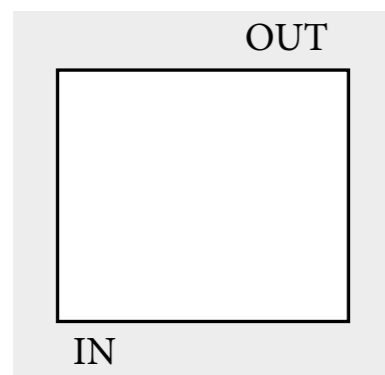
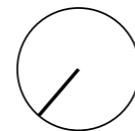


Orientation | Activity | Heating | Cooling | Elements | Proximity

Boundaries

Human

Existing situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

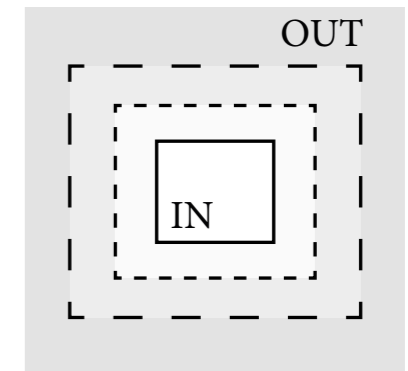
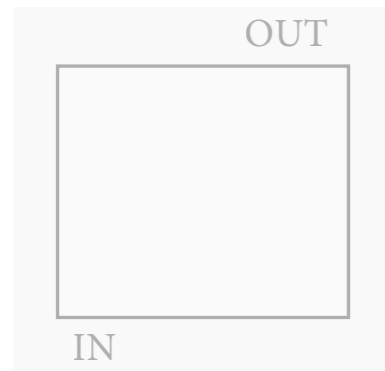
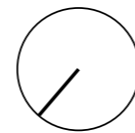
Boundaries

Human

Existing situation



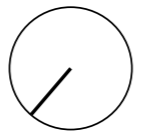
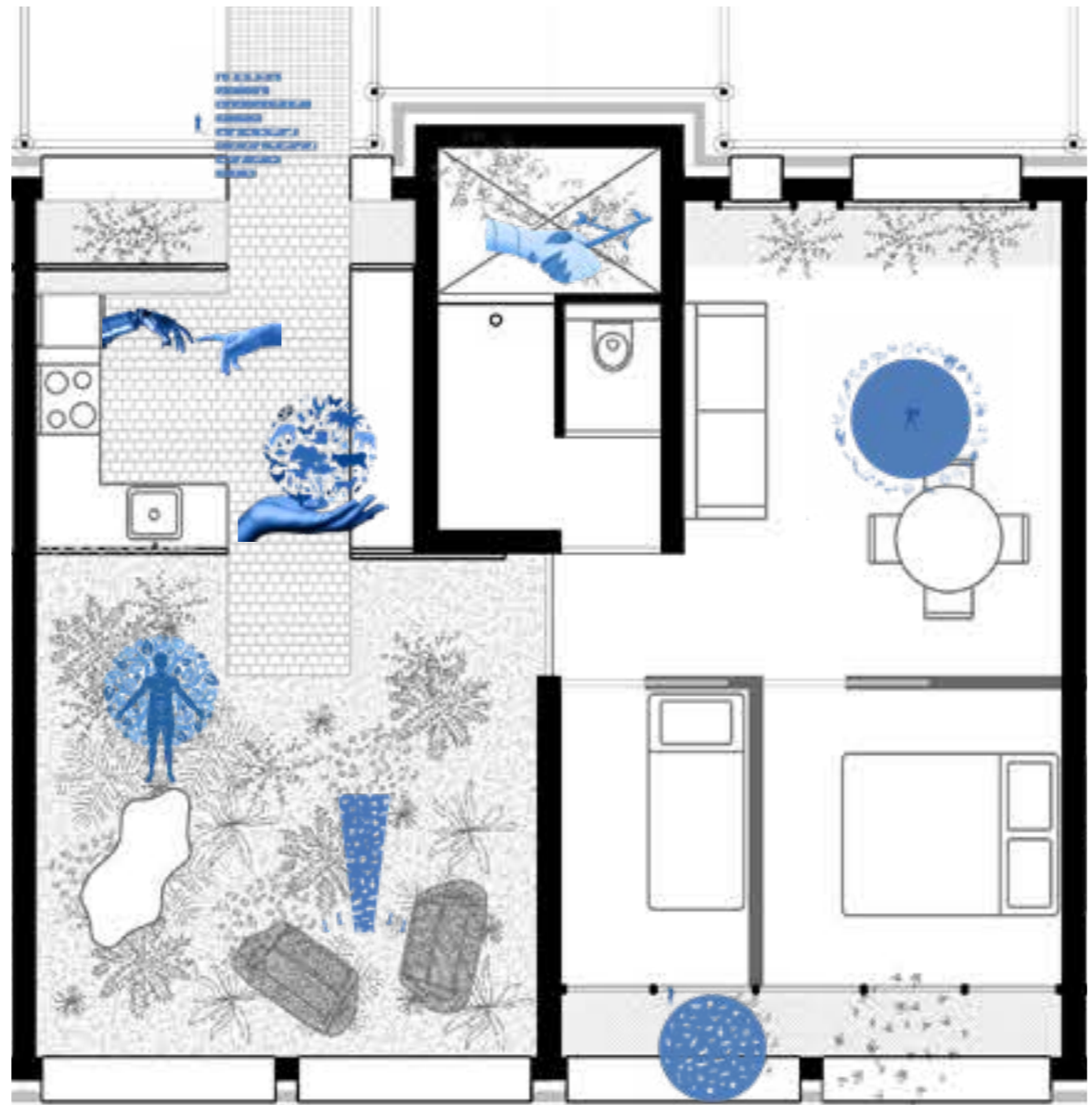
New situation



Orientation | Activity | Heating | Cooling | Elements | Proximity

(non)-human apartment

Relationships



(non)-human apartment

Biotores



Humid forest
(Vochtig bos)



Dry grassland
(Droog grasland)



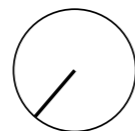
Herbs- and faunarich grassland
(Kruiden- en faunarijk grasland)



Indoor plants
(Kamerplanten)



Big leaf plants
(Grote bladeren planten)



Aparment concept

Closed and open



Kitchen and summer living

Open



Winter living

Closed



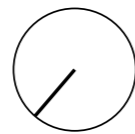
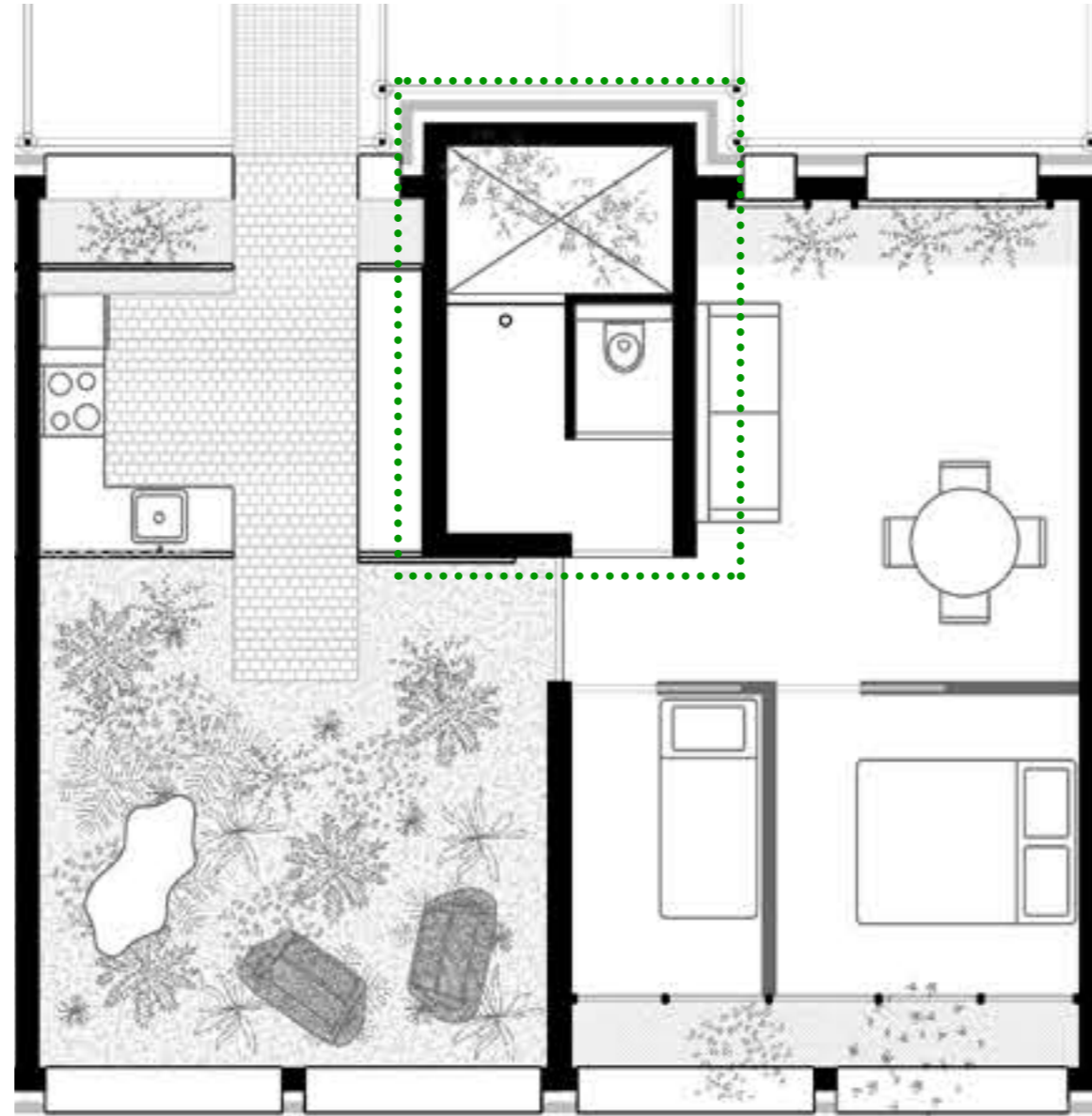
Bedroom

Shelter



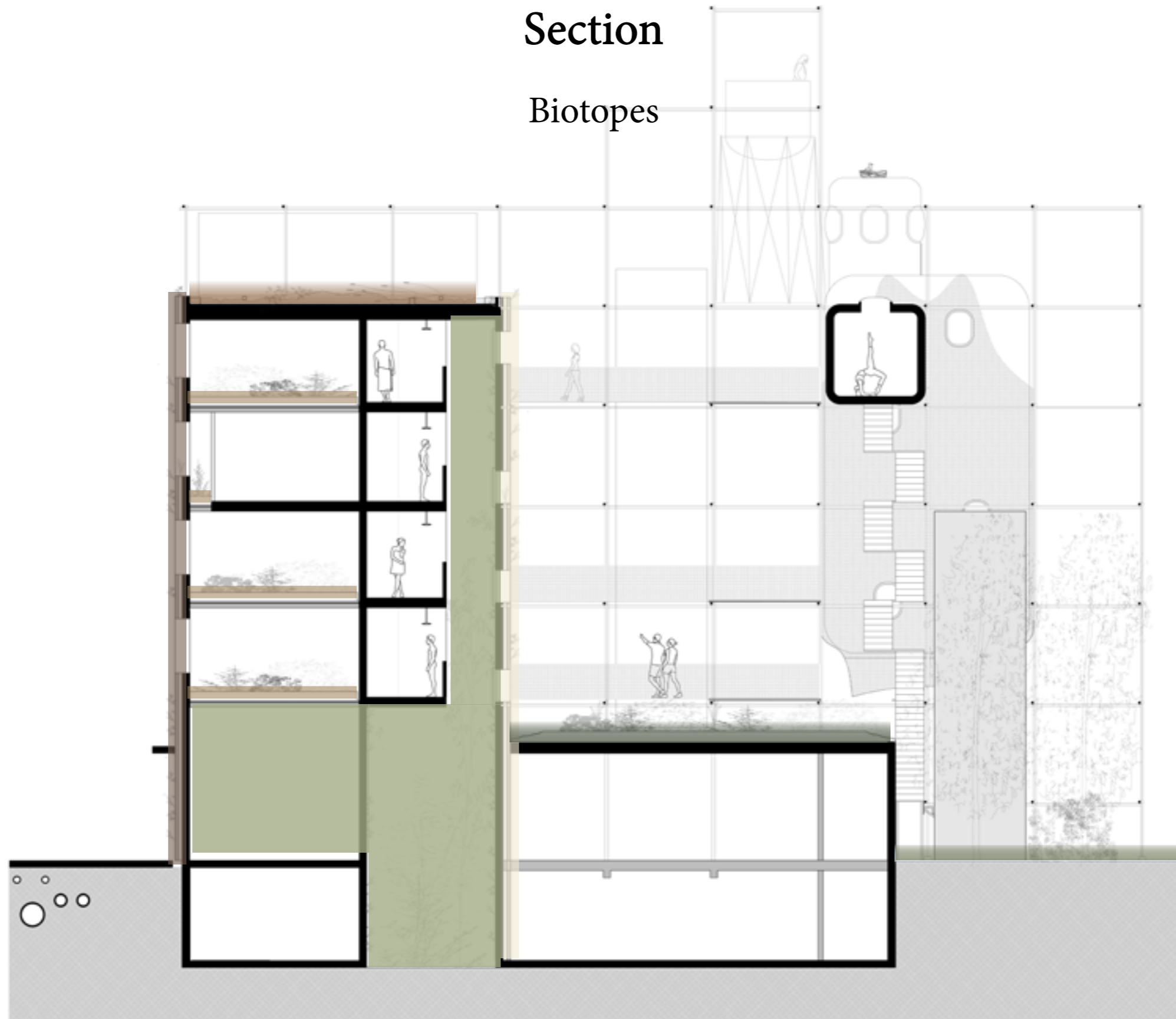
Last missing piece

Bathroom



Section

Biotopes



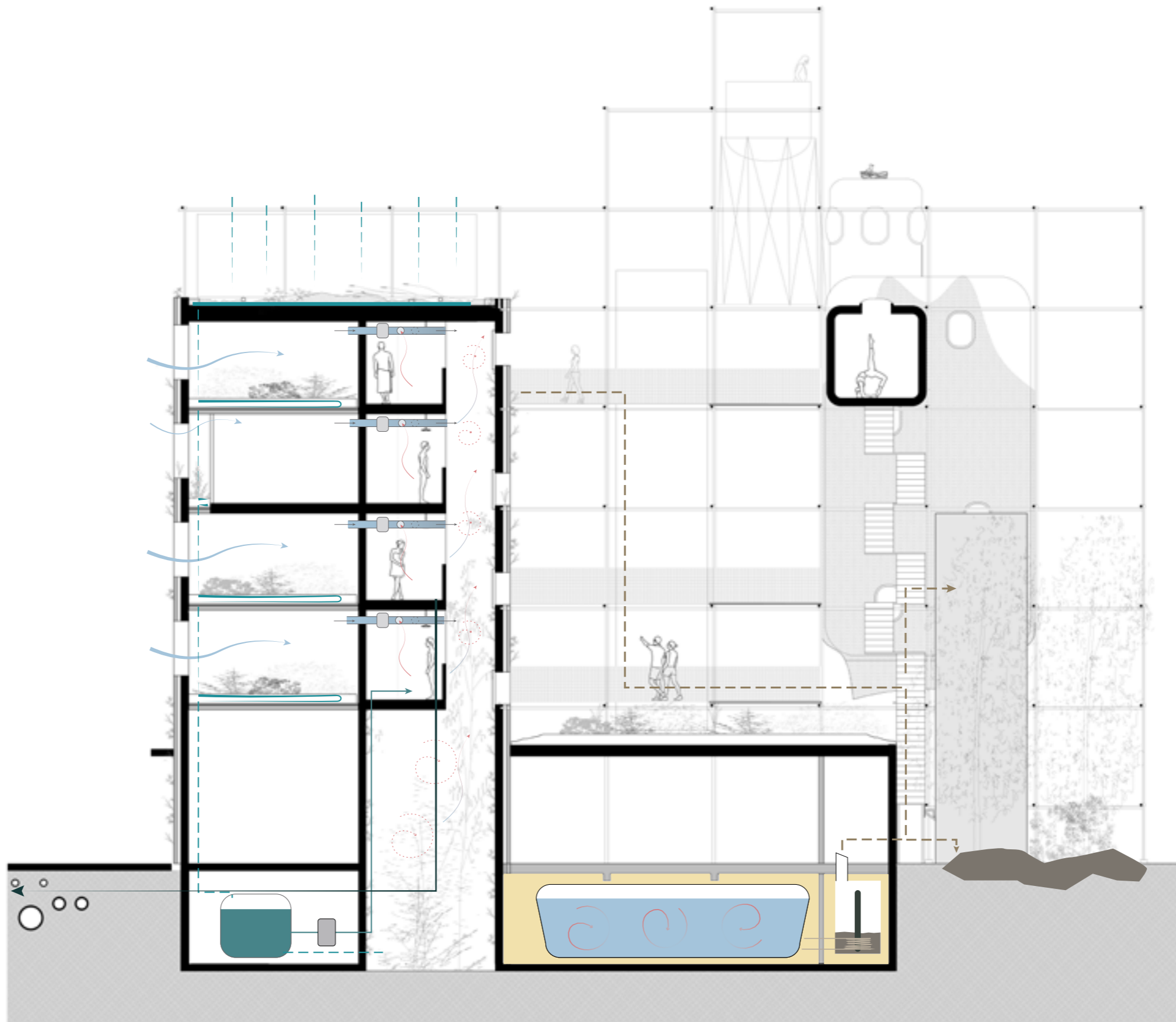
- Dry forest land
- Peat forest
- Humid forest

- Dry grassland
- Inside plants
- Herbs- and faunarich grassland

- Brown roof
- Small leaf plants
- Big leaf plants

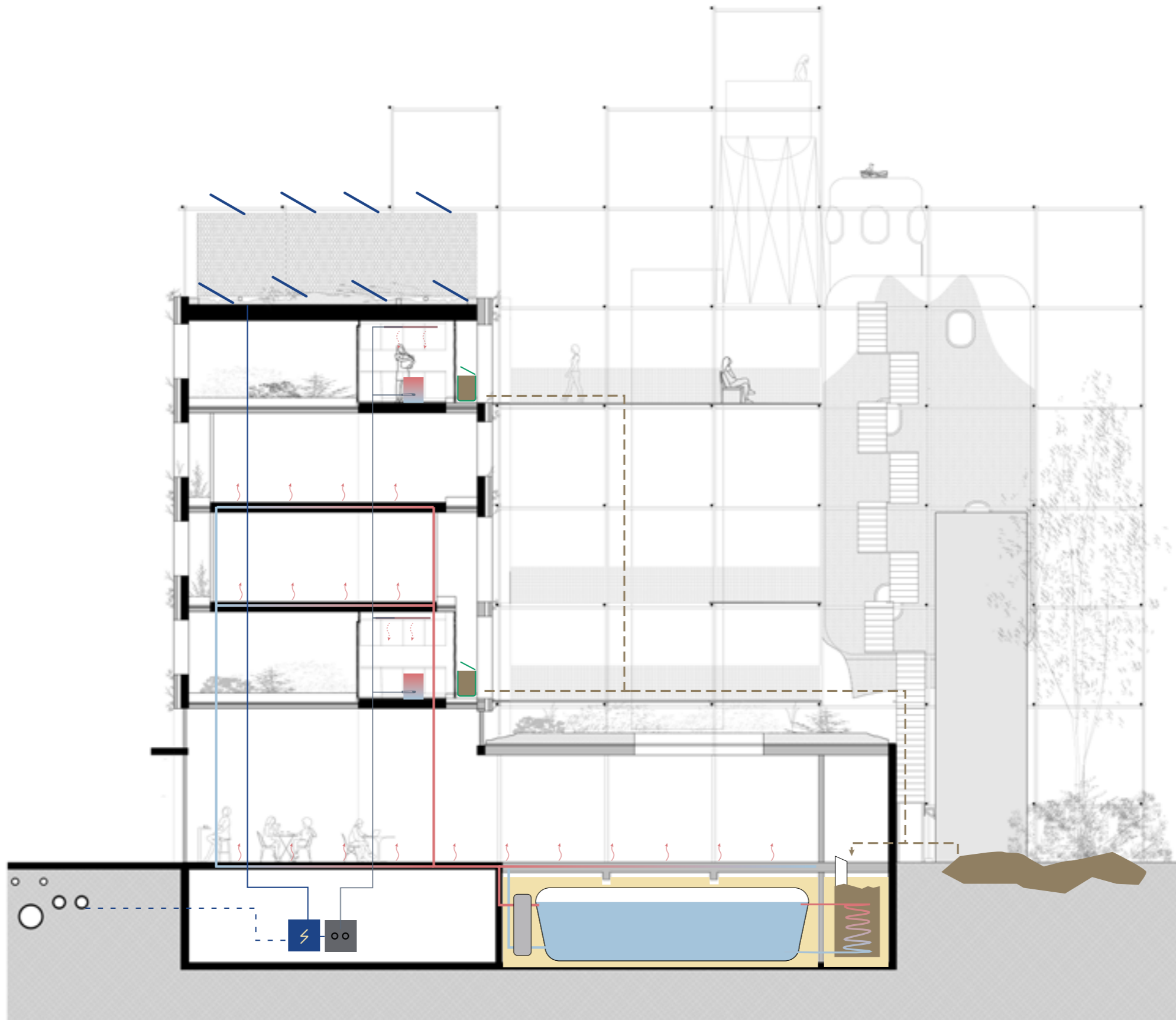
Cycles and streams

Rain water, ventilation and fertilization



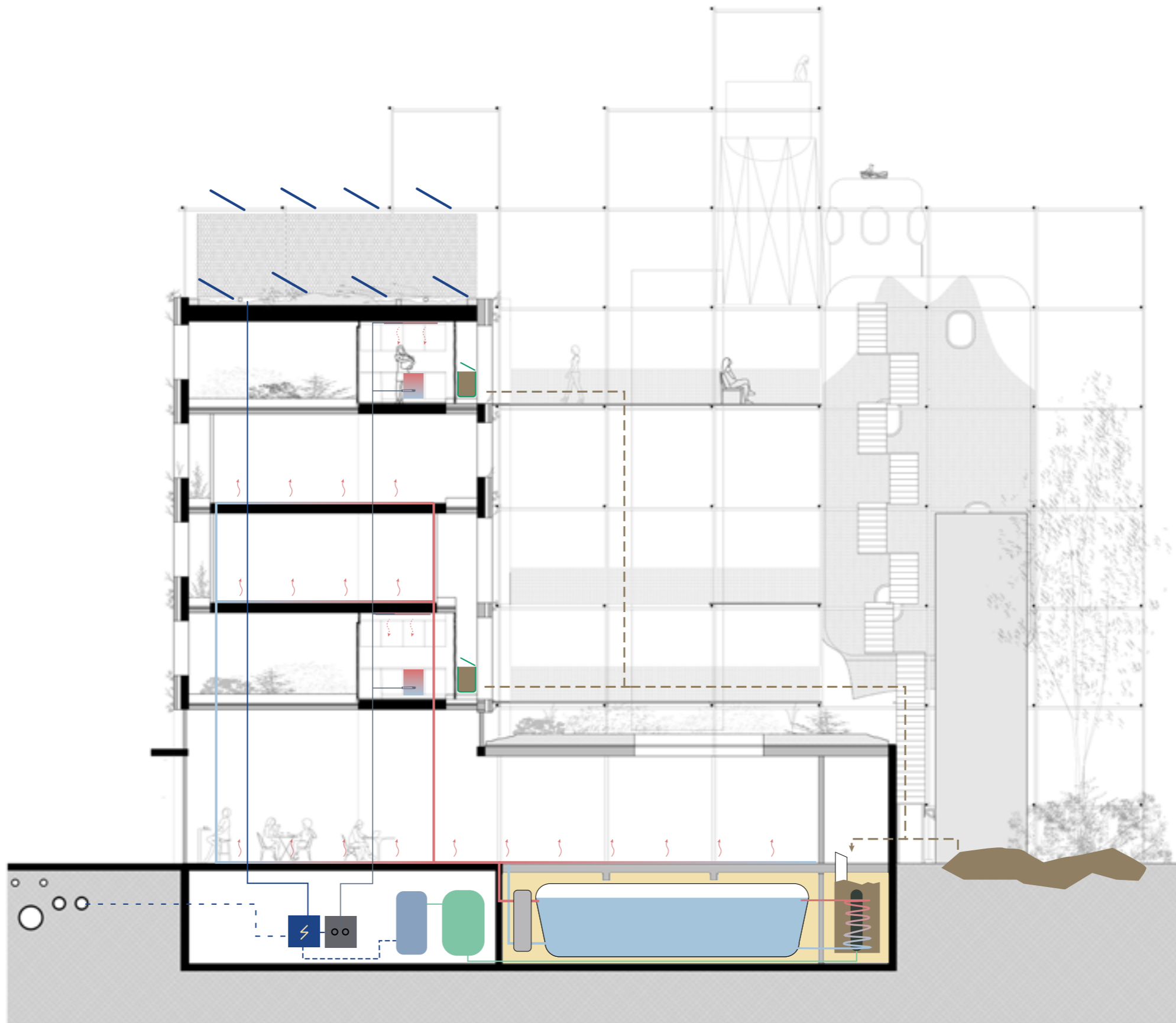
Cycles and streams

Heating, energy, warm water and compost



Cycles and streams

Optional gas energy



Design

to enter the Symbiocene



We need to intergrate

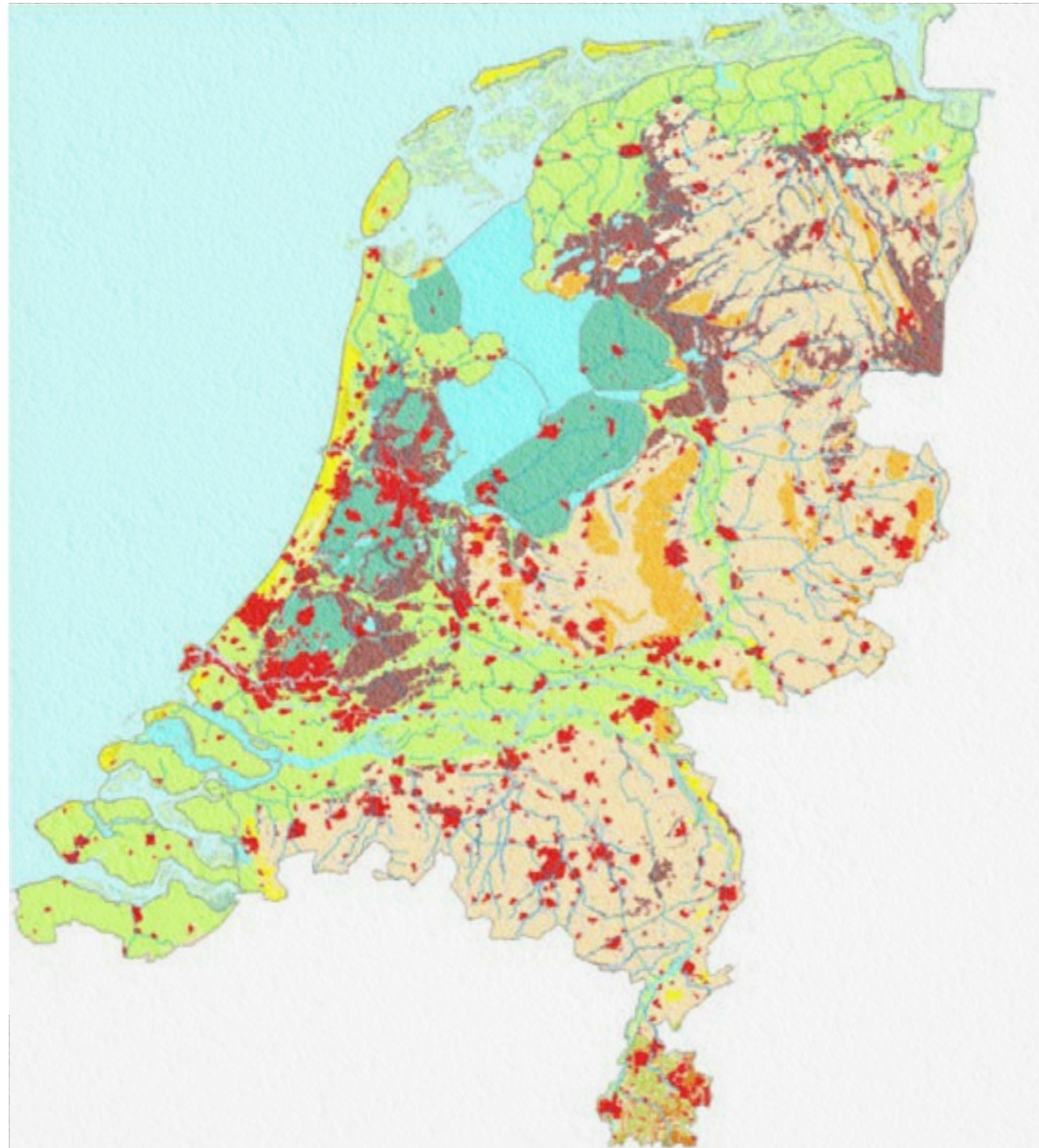
all relationships



And on the bigger scale?

From here

2000 A.D.



5. WebGIS Publisher - Viewer. (2021). <https://rce.webgispublisher.nl/Viewer.aspx?map=Paleogeografische-kaarten#>

To here

2120 A.D.



5. Nederland in 2120. (z.d.).
WUR. <https://www.wur.nl/nl/onderzoek-resultaten/dossiers/dossier/nederland-in-2120.htm>

Section

Crossing borders



Model

Next bloom



Model

Relationships on the bigger scale

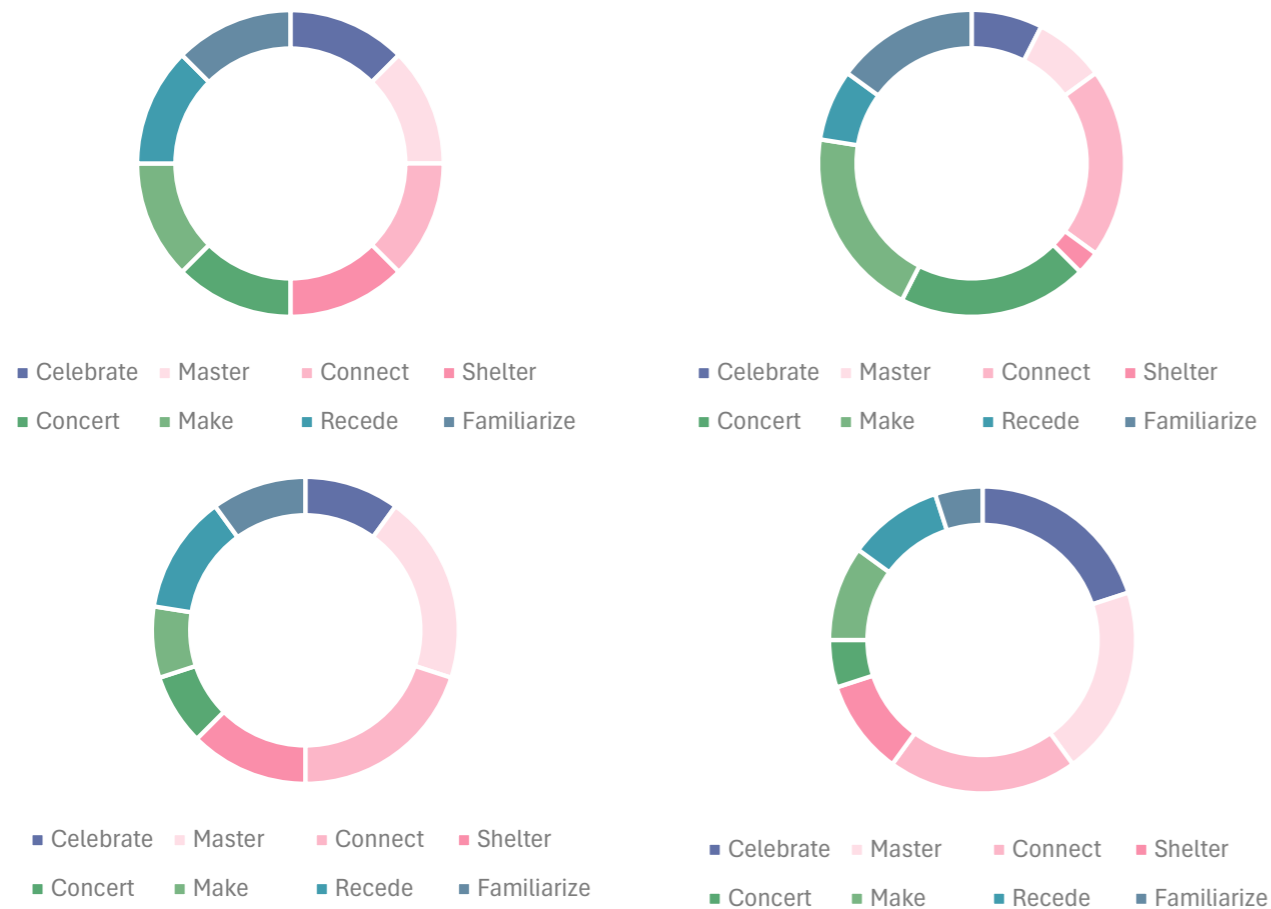


Model

Relationships on the bigger scale



Future scenario's



Design principles

1. Give **space** for more-than-human agency
2. Dissolve the boundries and add smooth **transition zones**
3. Incorporate **non-human scales**
4. Only concerted sourced **material**
5. Strengthen and trigger **the senses**
6. Celebrate **Gaia**
7. Reintroduce environmental **knowledge**
8. **Familiarize** and concert with more-than-humans
9. **Shelter** is a necessity and **fluid**
10. Show the **sequel**

Main principles

BOUNDARIES

SCALE

PROGRAM

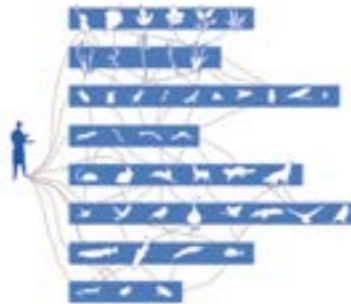
MATERIAL

REFLECTION ON RELATIONSHIPS

CELEBRATE



MASTER



CONNECT



SHELTER



CONCERT



MAKE



RECEDE

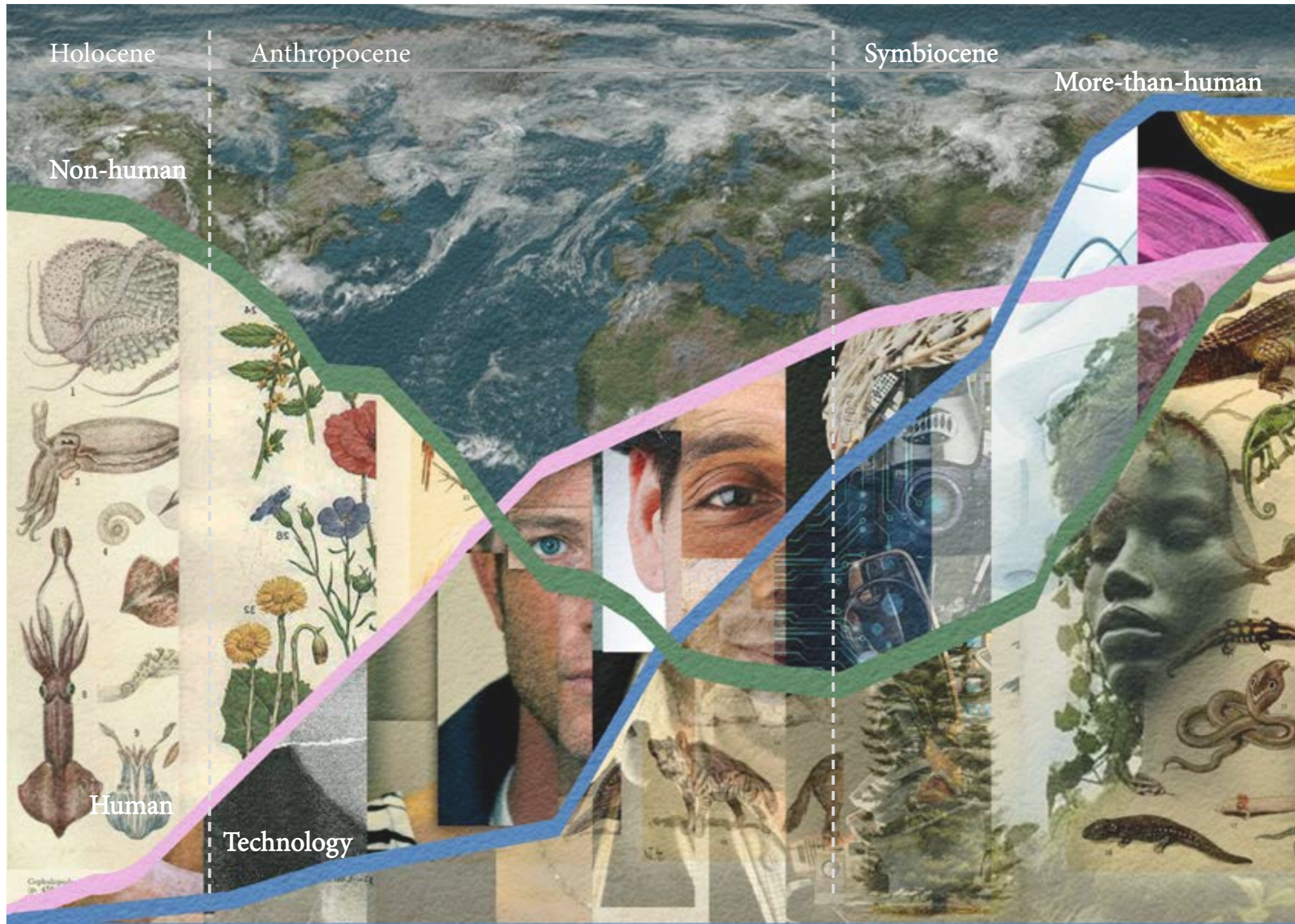


FAMILIARIZE



vision of project

Vision of Symbiocene Growth of non-humans, humans and technology



REFLECTION

FROM ANTHROPOCENE ATTITUDE



TOWARDS SYMBIOCENE RELATIONSHIPS



