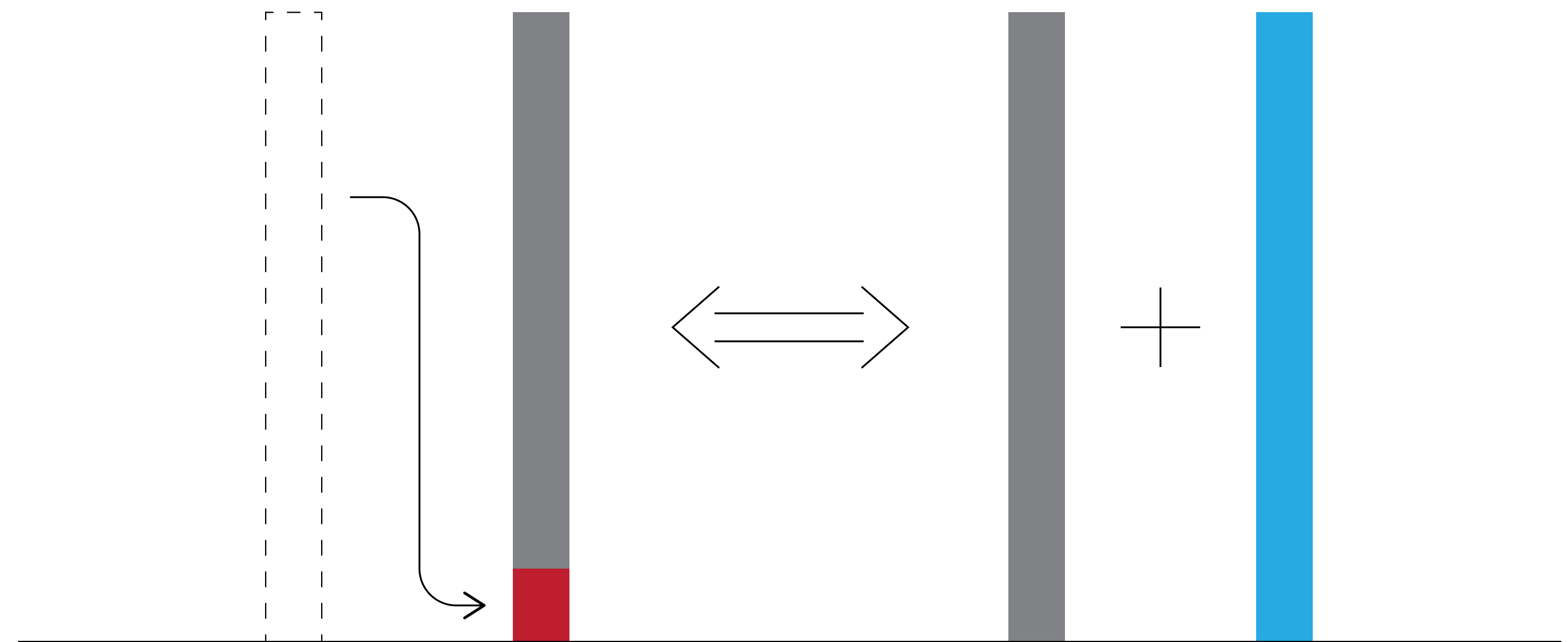


Re-structured.
Transformation strategy for mass-housing
blocks on the example of ERA buildings in
Buitenhof, Delft.

Jan Ksiazek. P5 Presentation, 11-07-2018. Explore Lab studio.

Main mentor: Robert Nottrot Research mentor: Seyed Mohamad Ali Sedighi Building technology mentor: Ype Cuperus

Fascination - emergence
of new trend - housing
transformation.
Lacaton&Vassal doctrine:
never demolish.



For:
1 demolished dwelling
Investment: 10,000 €
+
1 newly built dwelling
Investment: 100,000 €
+
Loss of operational
revenues, social cost, cost
of previous studies,
mortgage cost: 57,000 €

For:
1 transformed dwelling
Doubling the surface area
Creation of terrace
and balcony
Investment: 60,000€
+
1 new dwelling
Increased surface area
Investment: 100,000 €

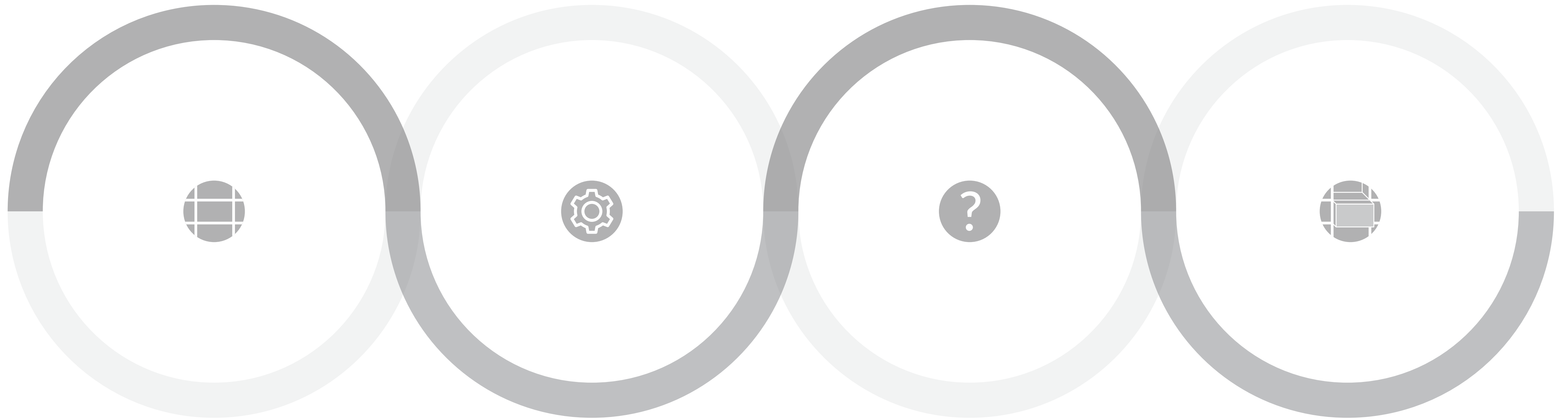
Diagram from F. Druot, A. Lacaton, J.-P. Vassal (2007).
“Plus” Large-scale housing developments.





Research Question:

To what extent/how through research-based and participatory design, mass-housing blocks in the Netherlands can be transformed to address the needs of new users and changing society?



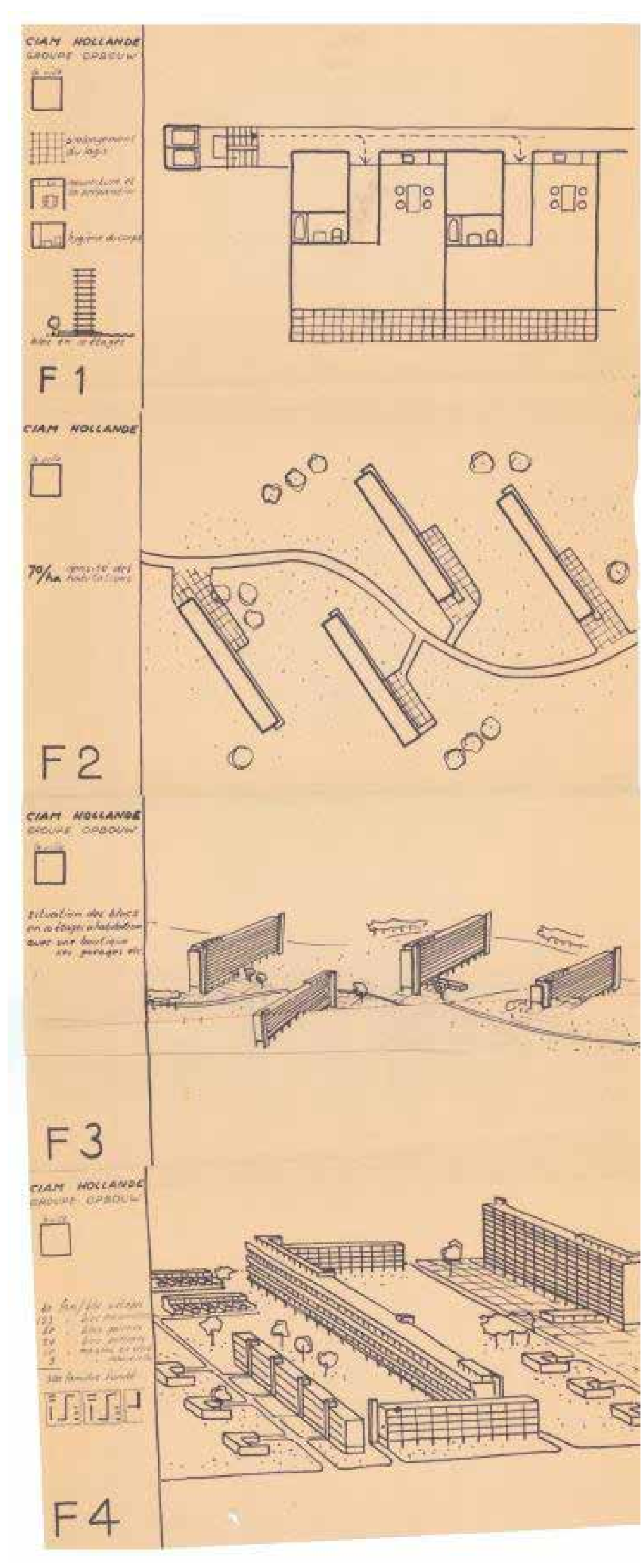
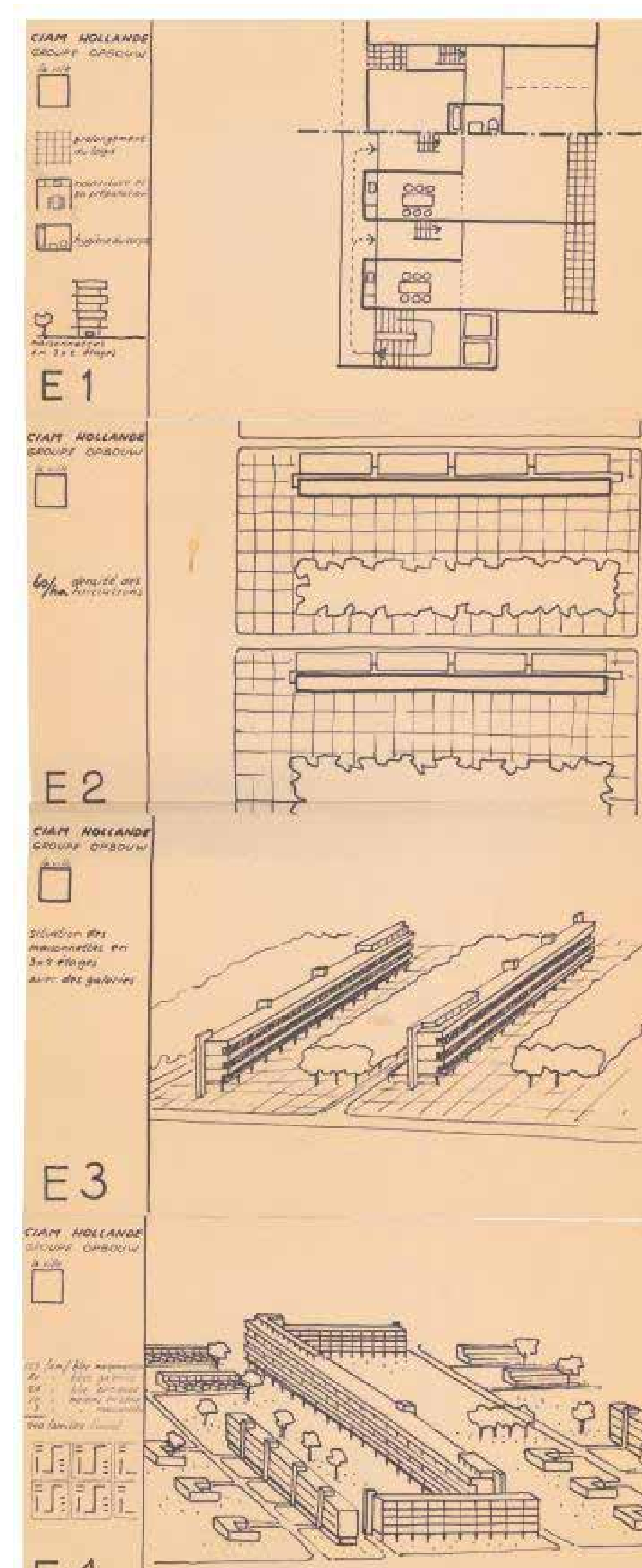
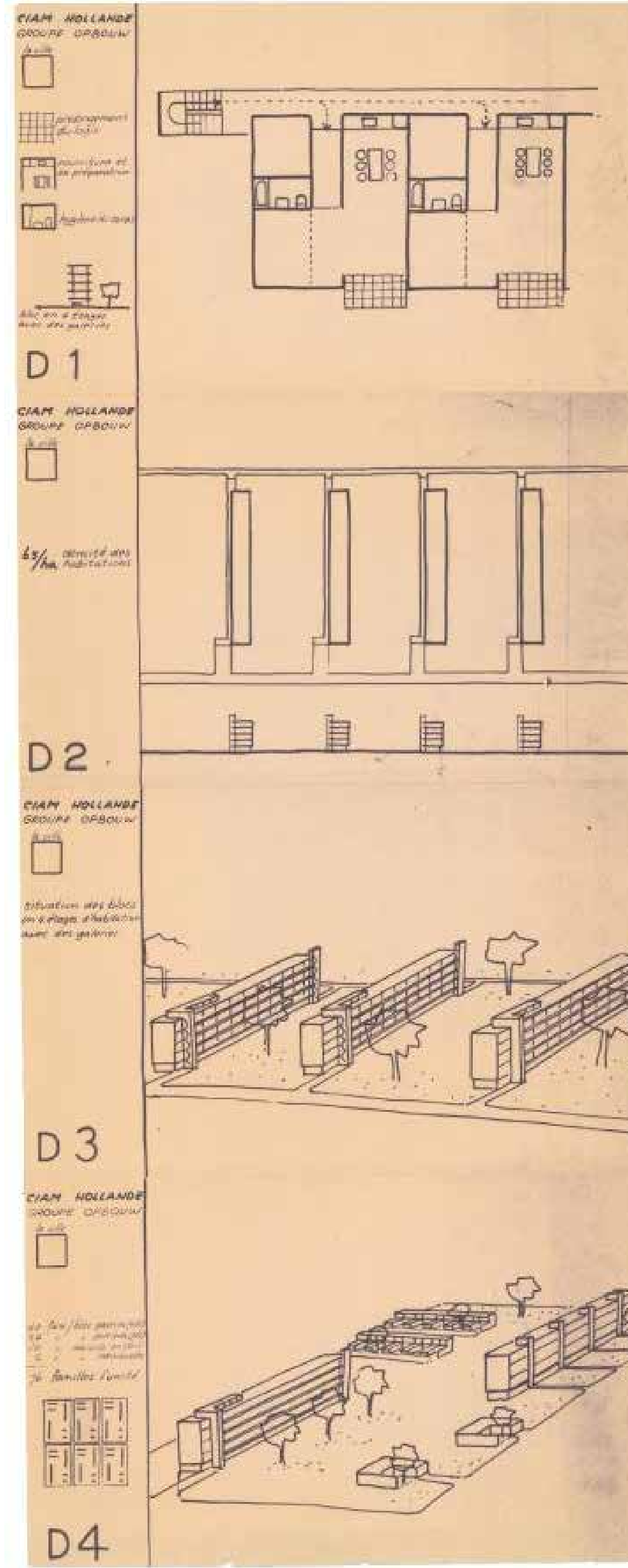
Research subquestions.



What are the architectural characteristics and potential of existing, mass-housing buildings?



1. SITE

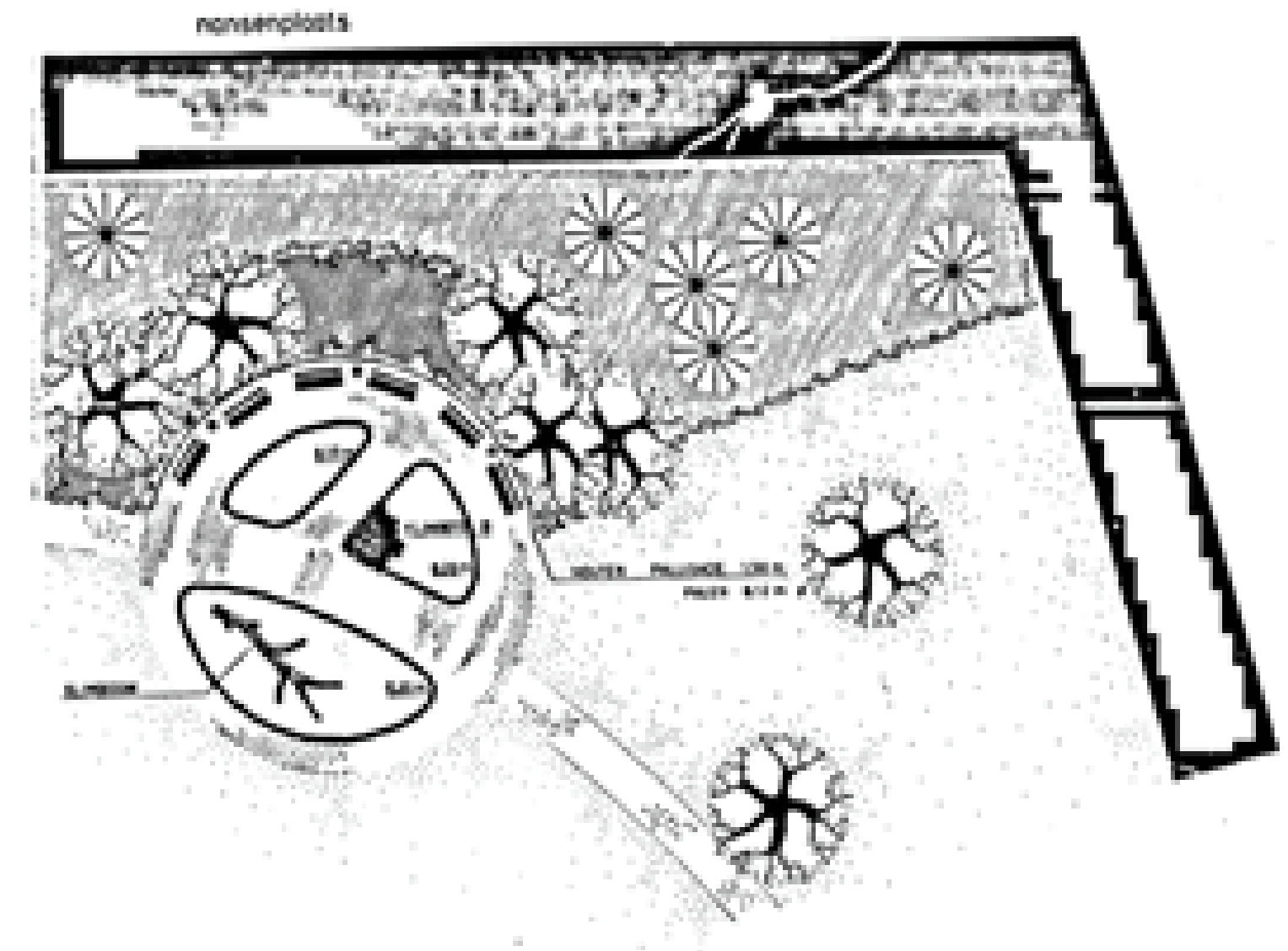
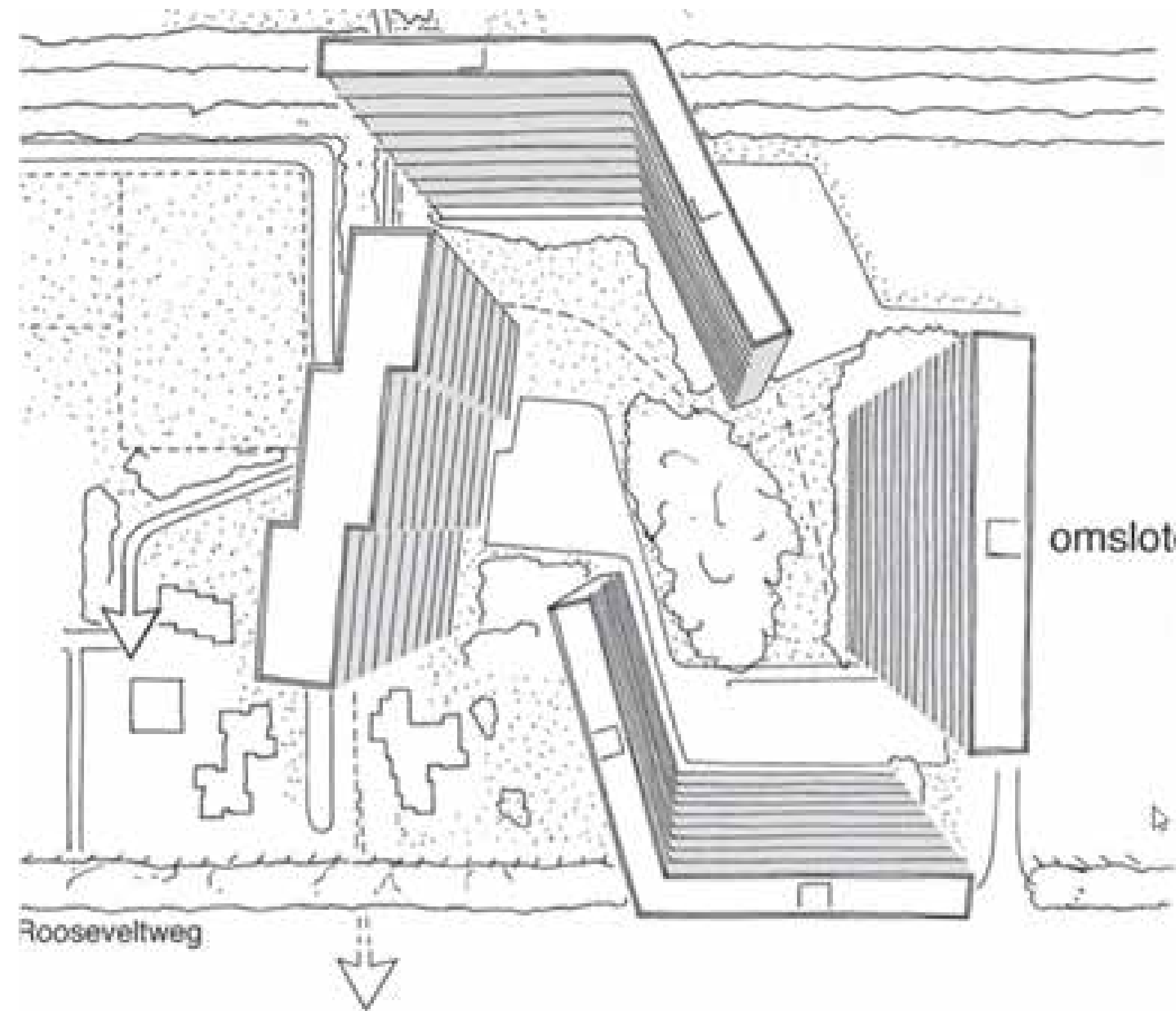


Guus Beumer. Cited in "Ciam Grid Rotterdam Alexanderpolder 1955," Het Nieuwe Instituut, <http://open.jaapbakemastudycentre.nl/content/ciam-grid-rotterdam-alexanderpolder-1955>



1. SITE

Local community scale.
L. Stam-Beese designed
urban layout: spaces starting
from the angled buildings
(knikflats) to the details about
public gardens.

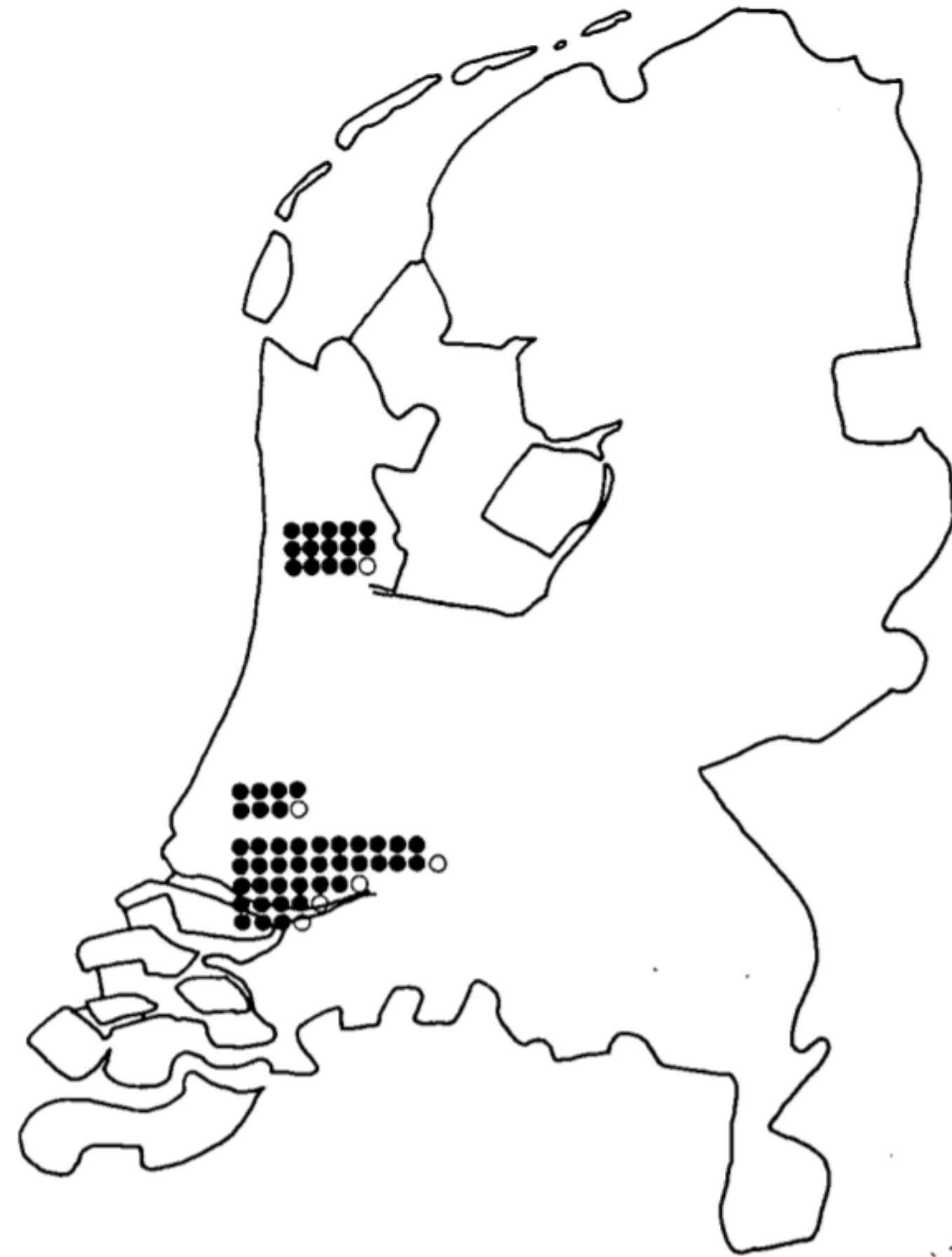




1.2. STRUCTURE

Presence of ERA buildings in the Netherlands (1971). Not filled dots mark the building under development.

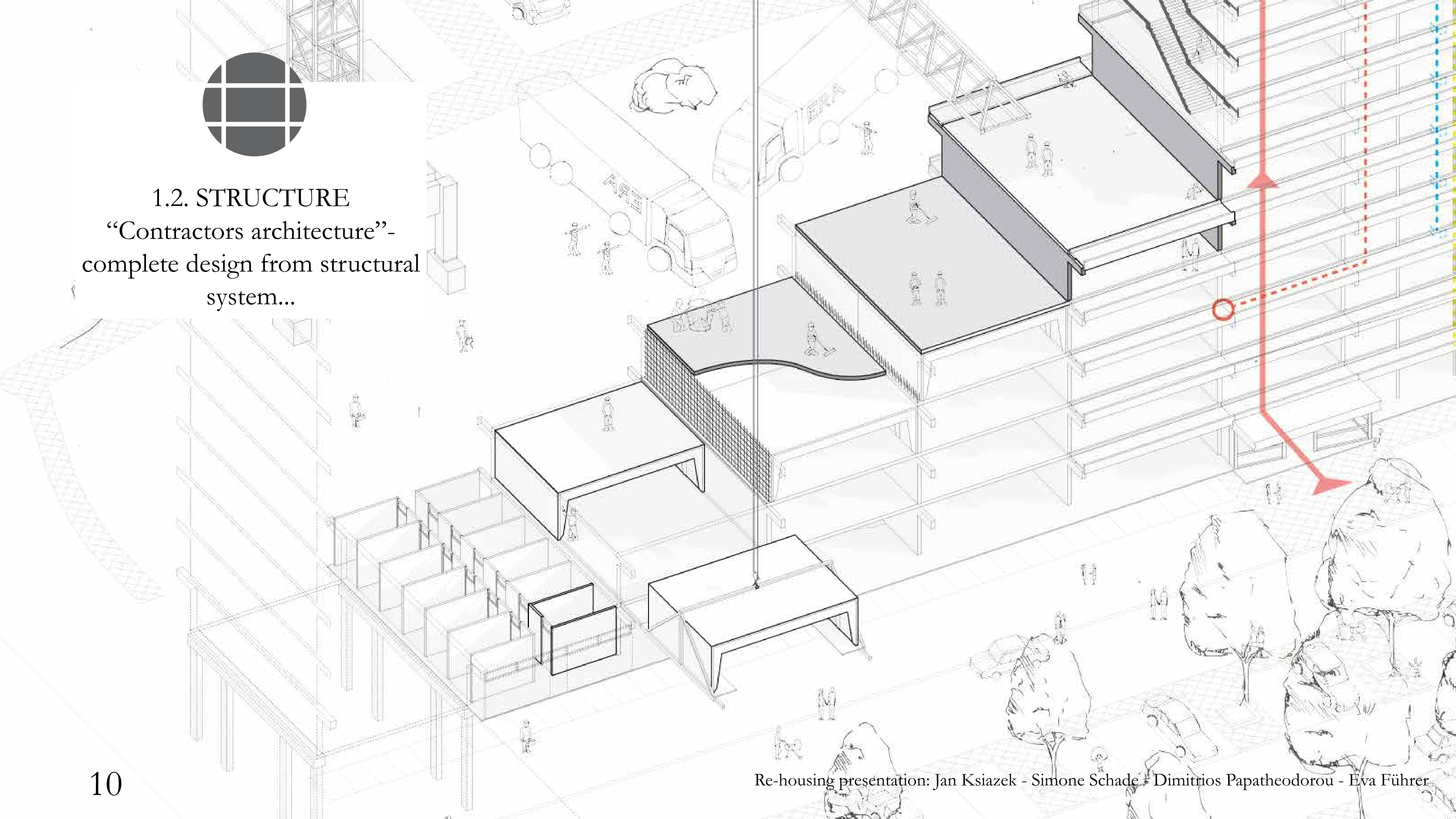
ERA system was similar to the other, casted in-situ systems (Sander, Berda, Wilma II, EBA) and significant in terms of building technology advancement.





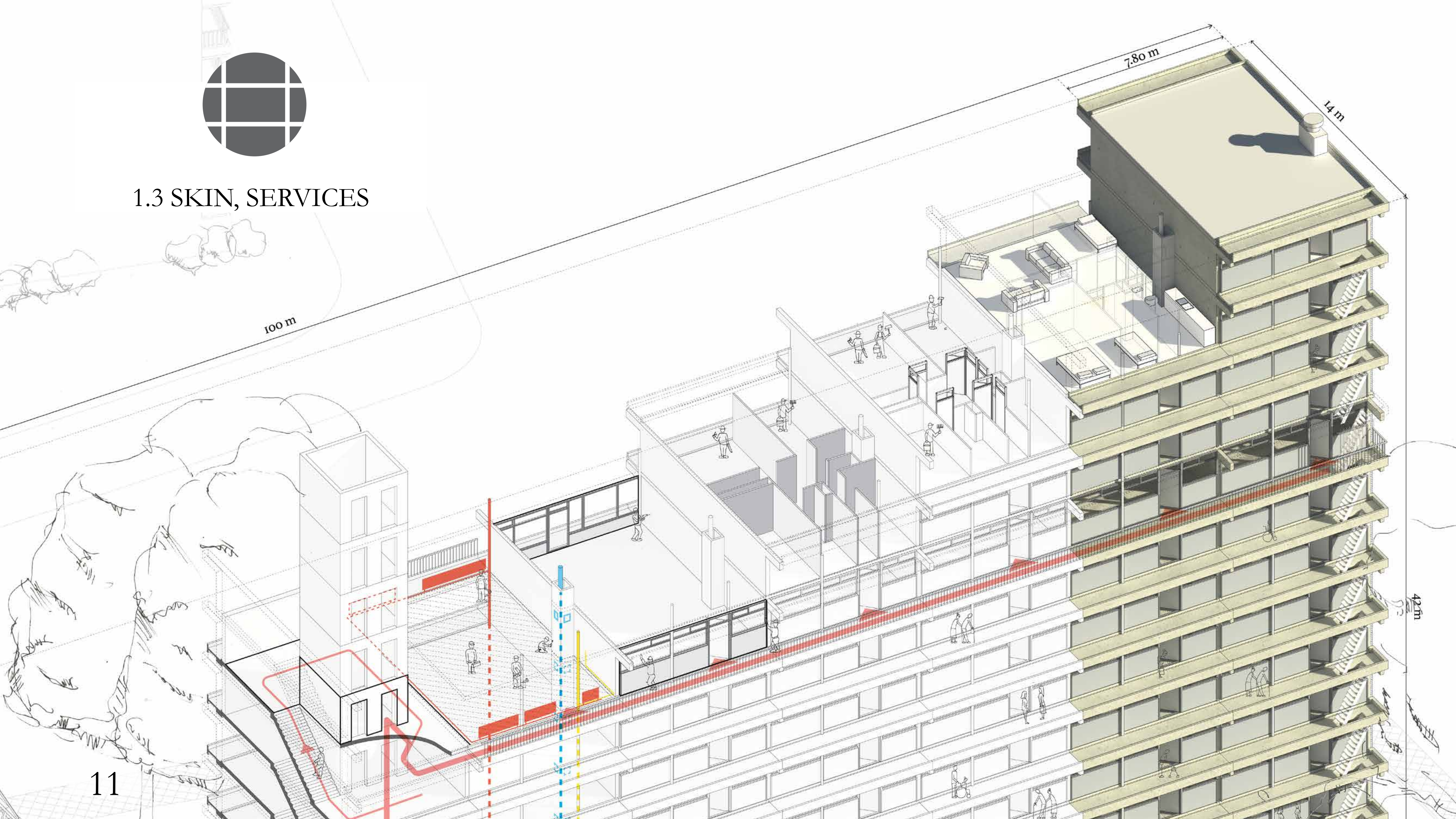
1.2. STRUCTURE

“Contractors architecture”-
complete design from structural
system...





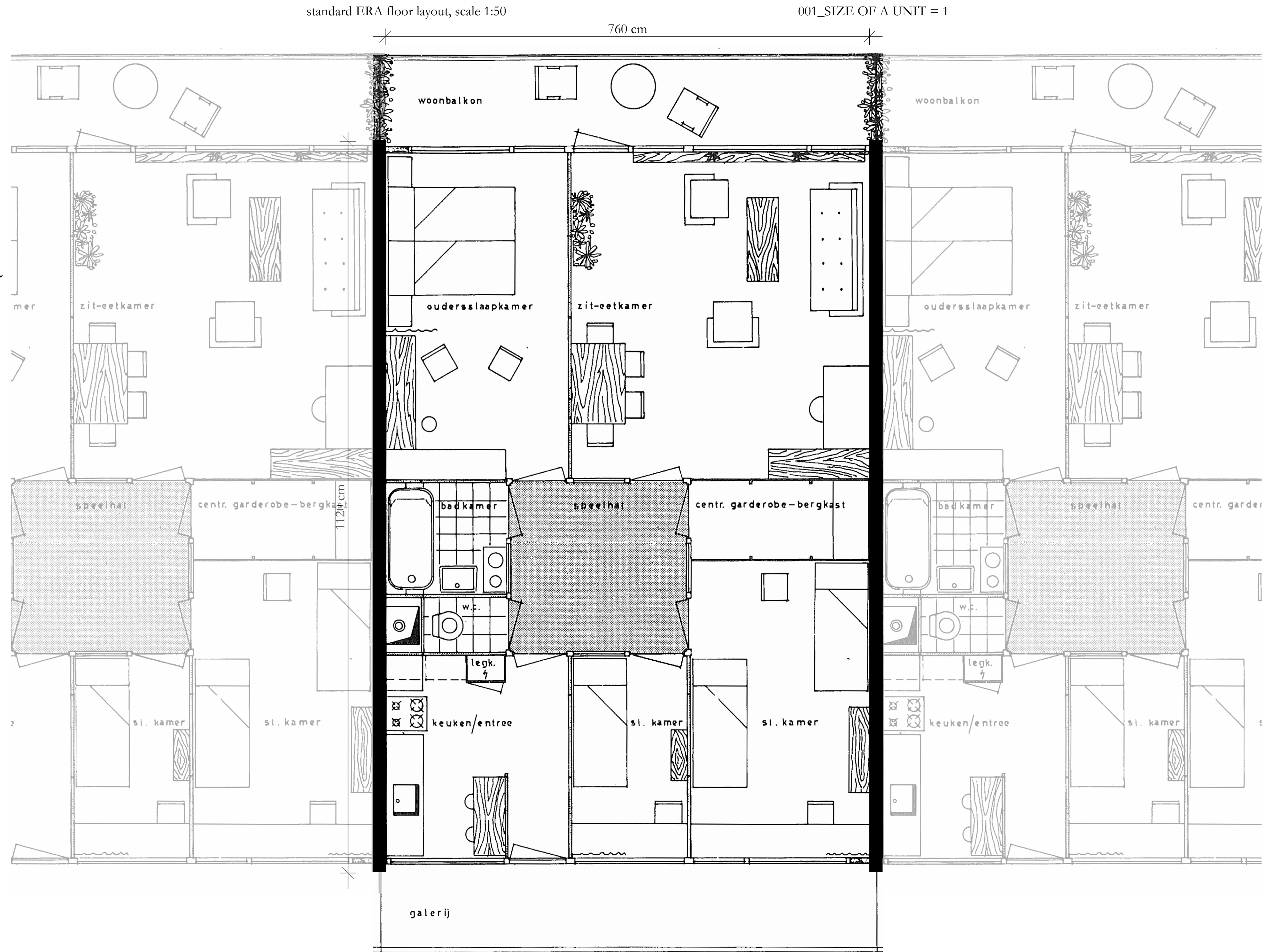
1.3 SKIN, SERVICES



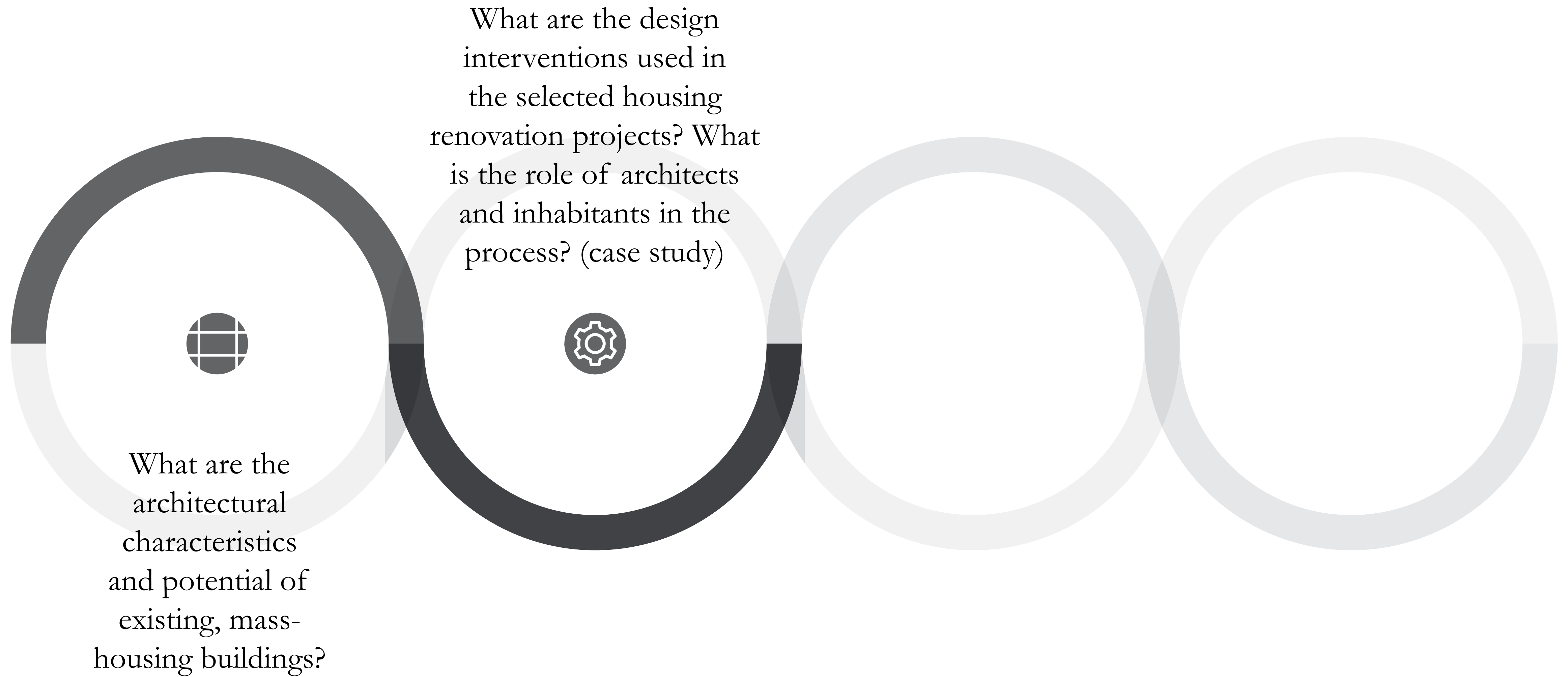


1.5. SPACE PLAN

Standard gallery apartment for a family in 1960's



Research subquestions.





Case studies summary:
Transformation interventions
in 4 types of space:

1. Public, accessible to all dwellers
2. Community space & circulation
3. Semi-private balcony space
4. Custom dwelling - private domain

Comparison of qualities after housing transformation.

Ommoord, Rotterdam & Buitenhof, Delft

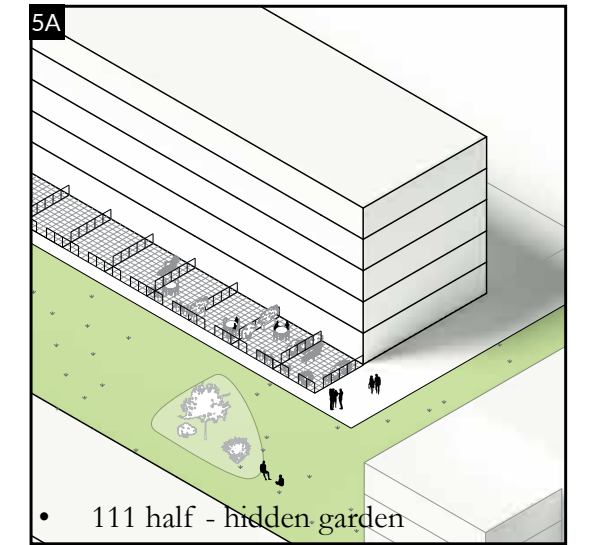
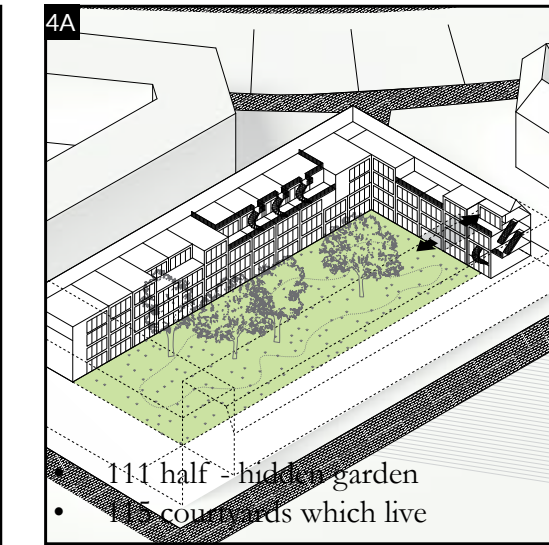
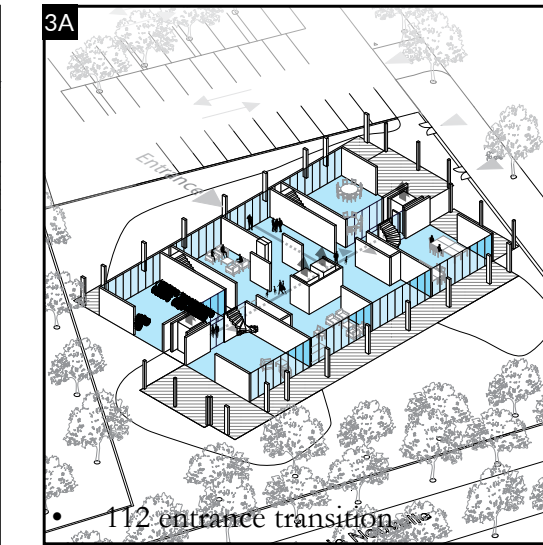
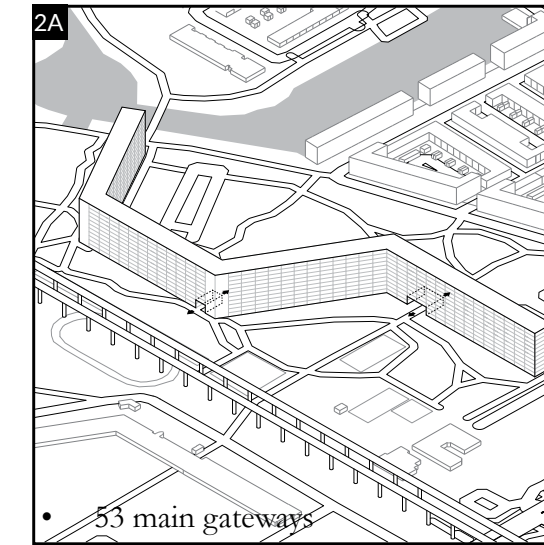
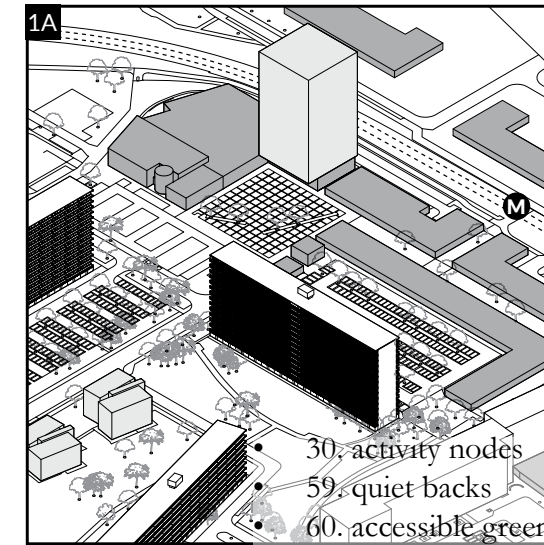
Kleiburg, Amsterdam

Bois-Le-Prêtre Tower Block, Paris

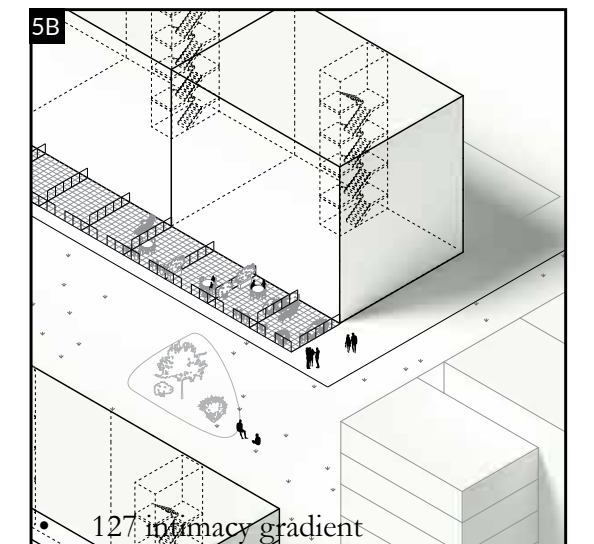
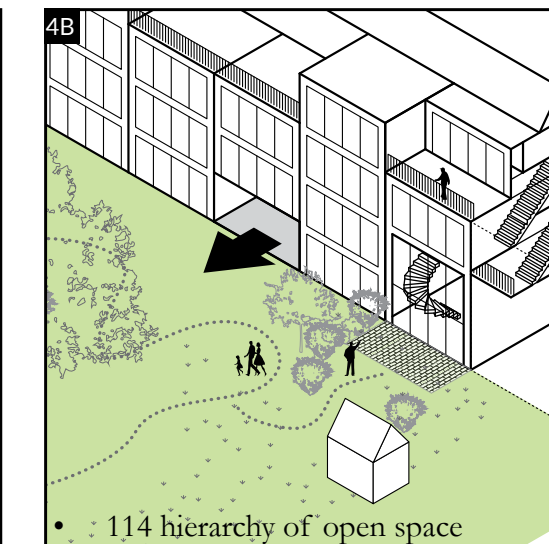
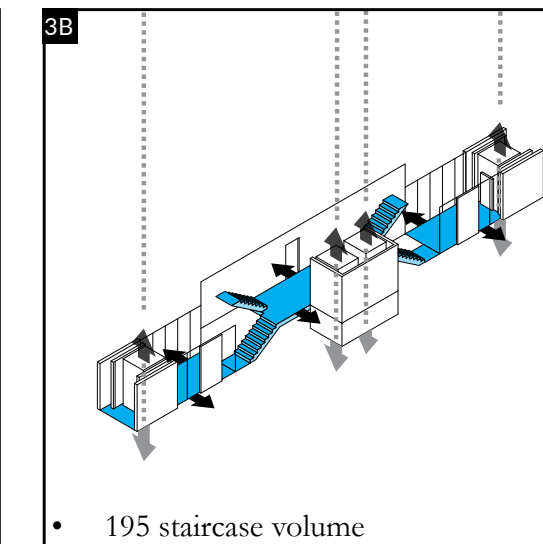
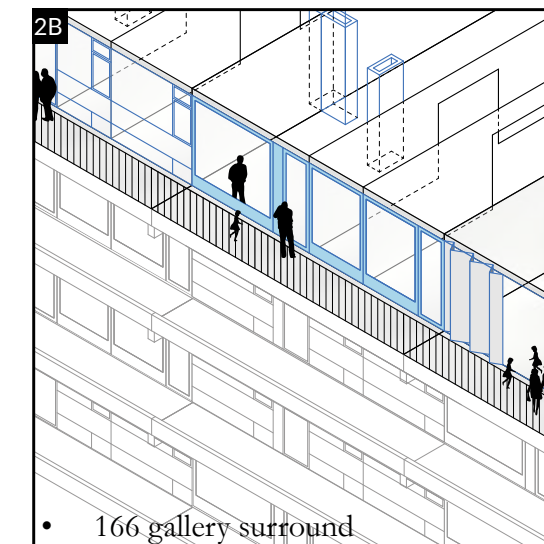
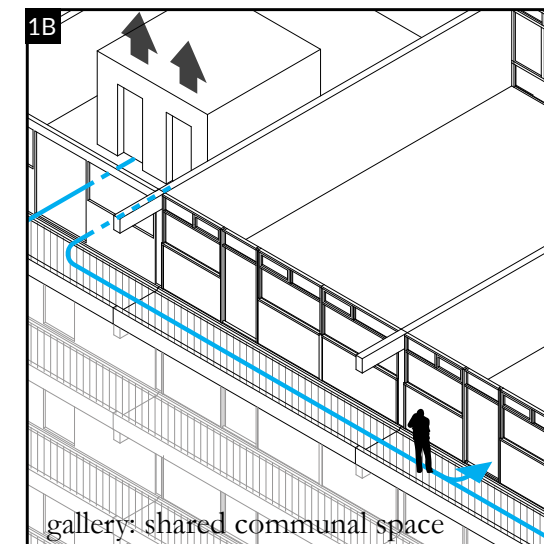
Wallisblok, Rotterdam

Klarenstraat, Amsterdam

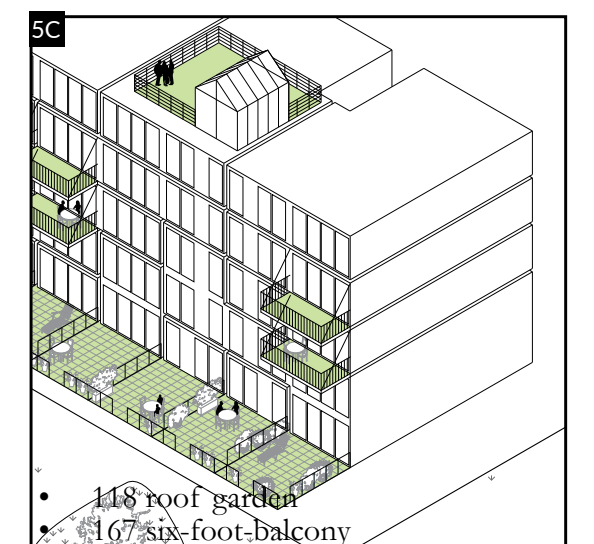
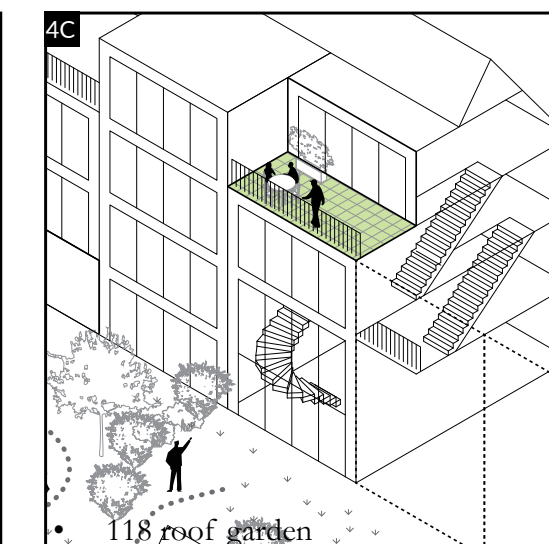
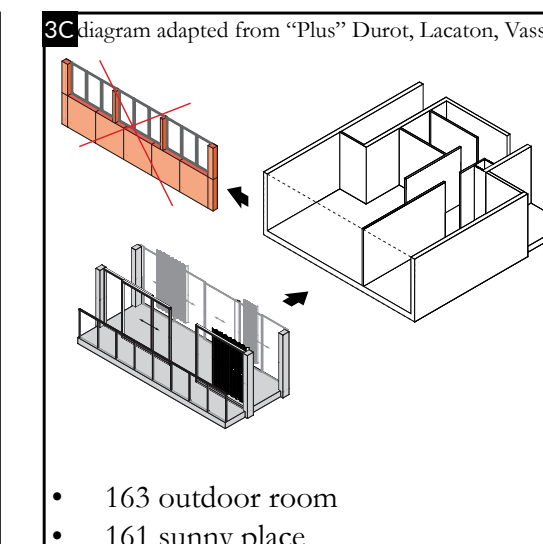
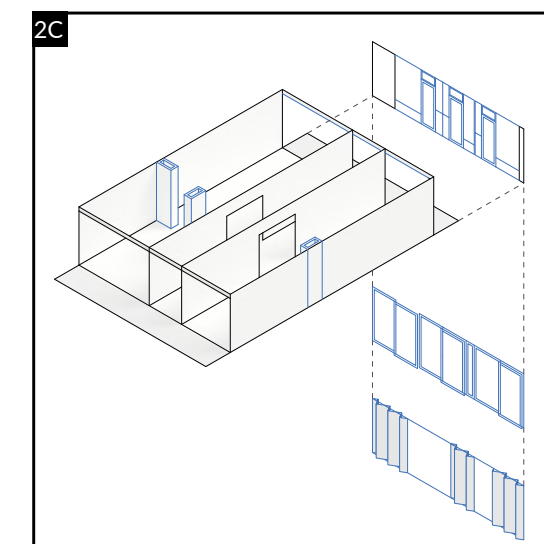
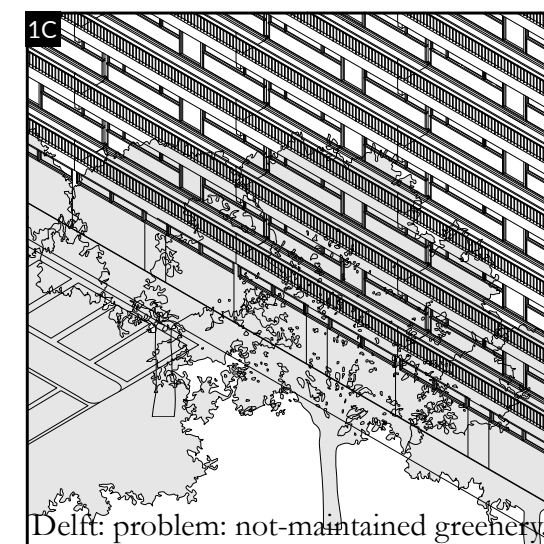
Public, accessible to all dwellers



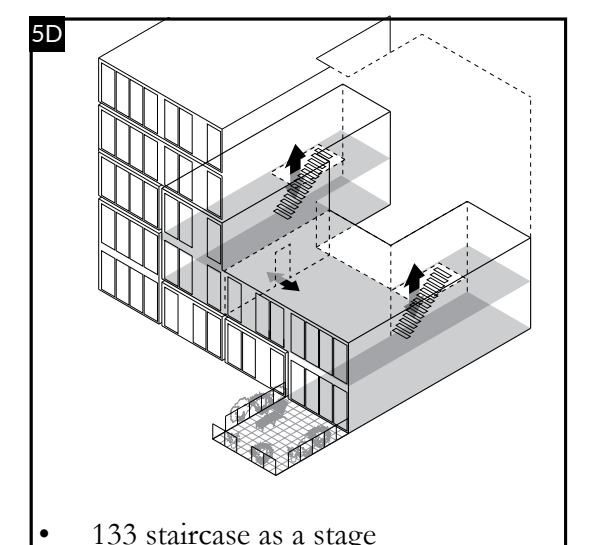
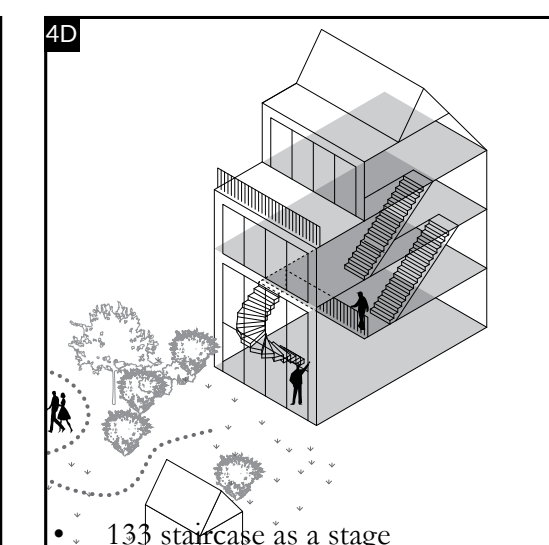
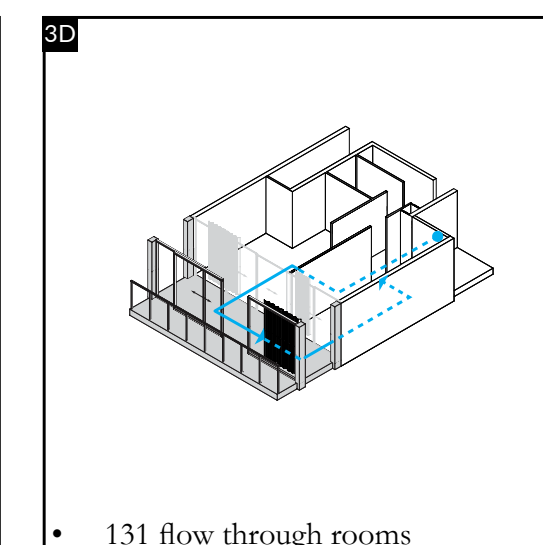
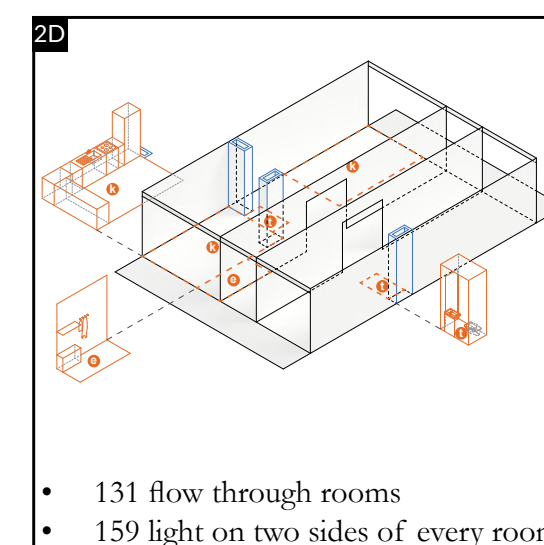
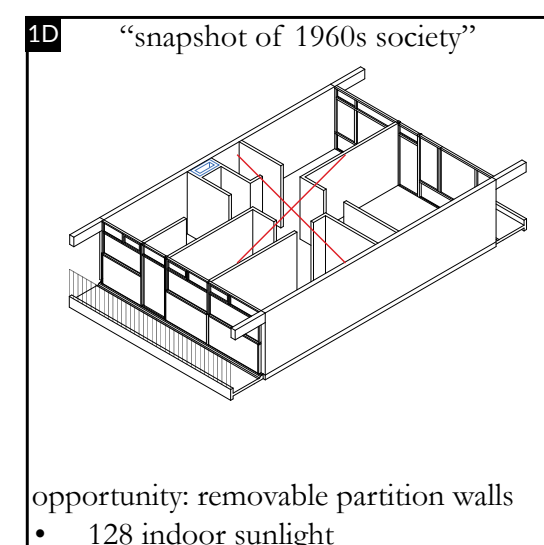
Community space & circulation



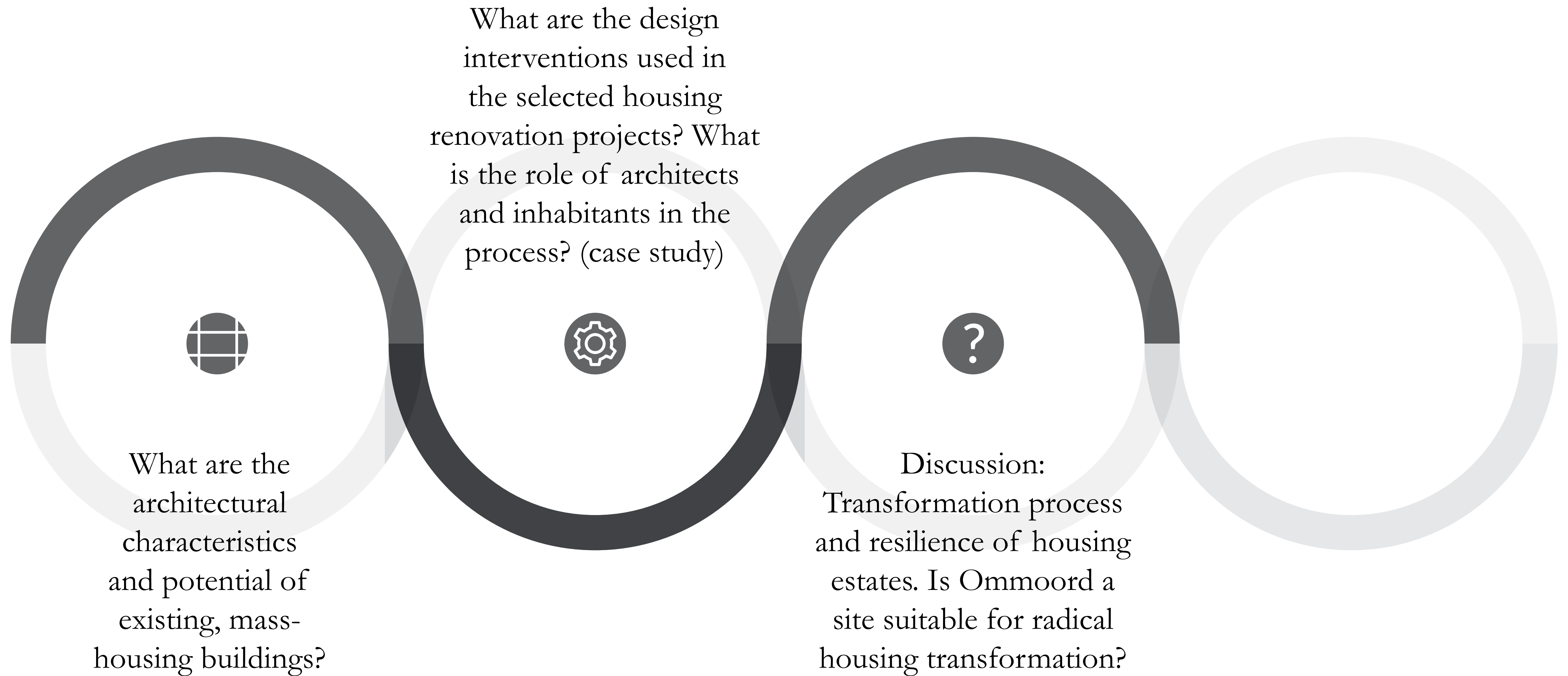
Semi-private balcony space



Custom dwelling - private domain



Research subquestions.





3. Discussion:
Is Ommoord site suitable for
housing transformation?



Photography from 1967:
17/30. Rotterdam Ommoord.
Een wederopbouwgebied van
nationaal belang



3. Discussion:
Is Ommoord site suitable for
housing transformation?

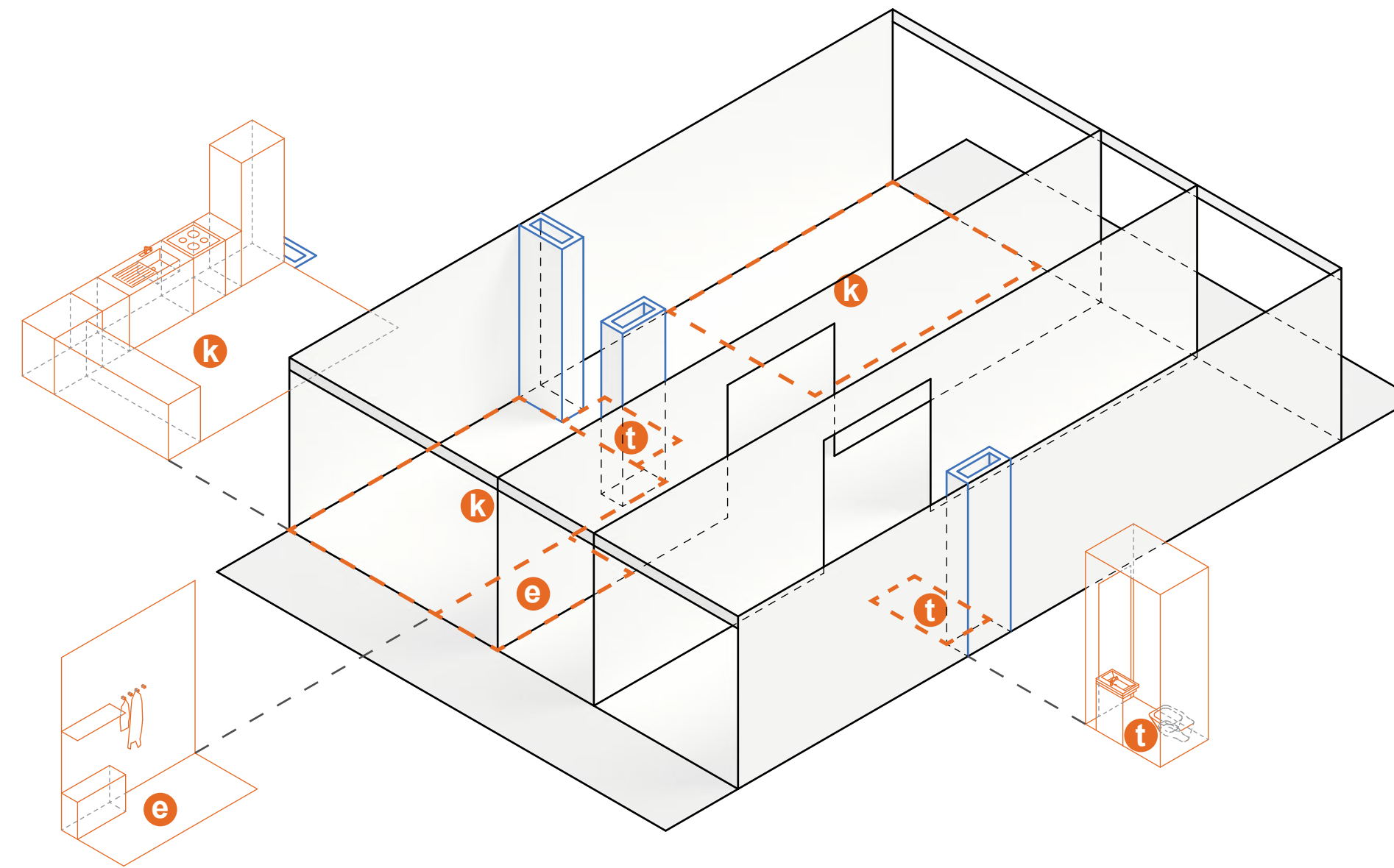


Photography from 2016's site
visit.



2.1 Case studies

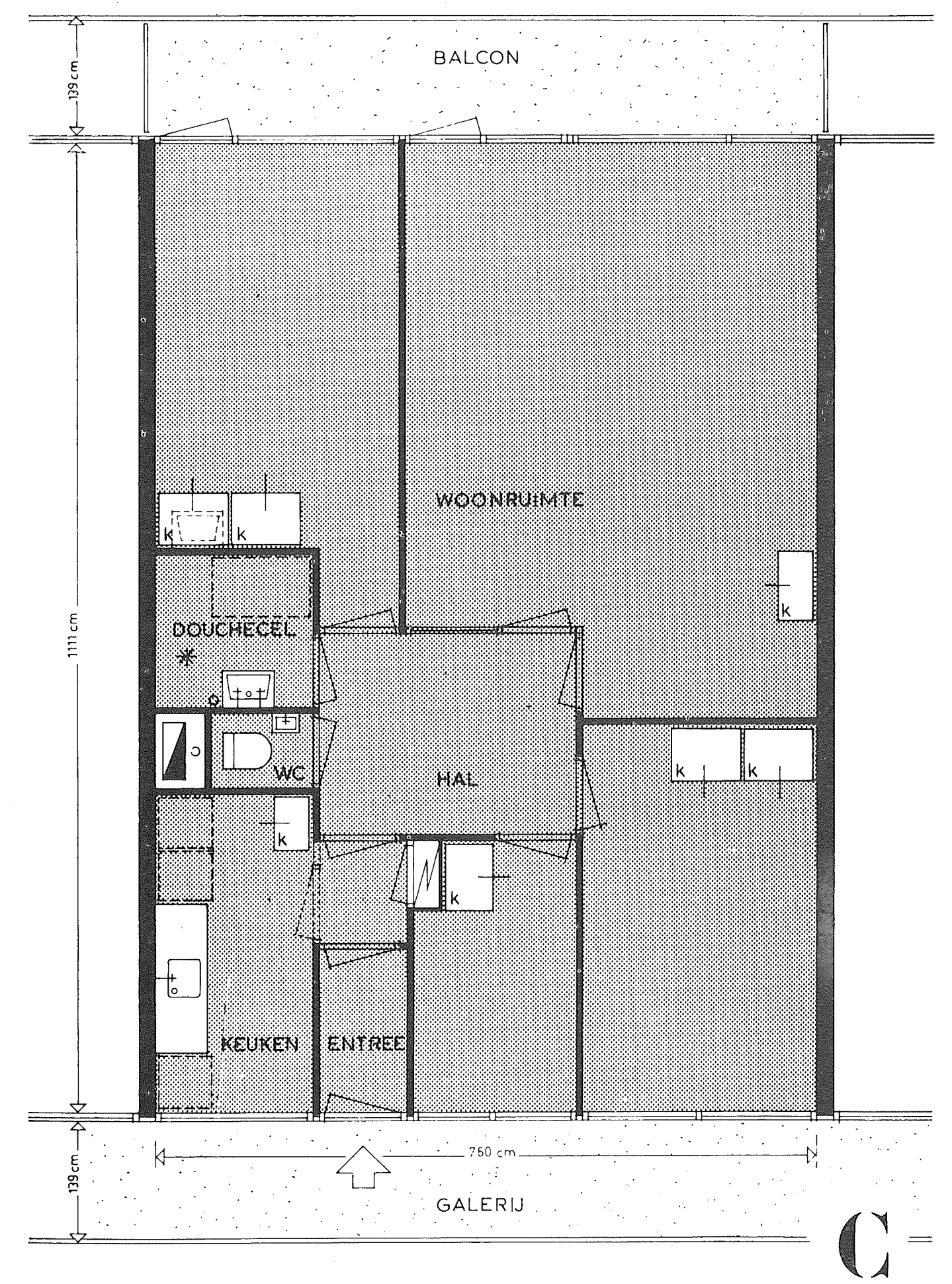
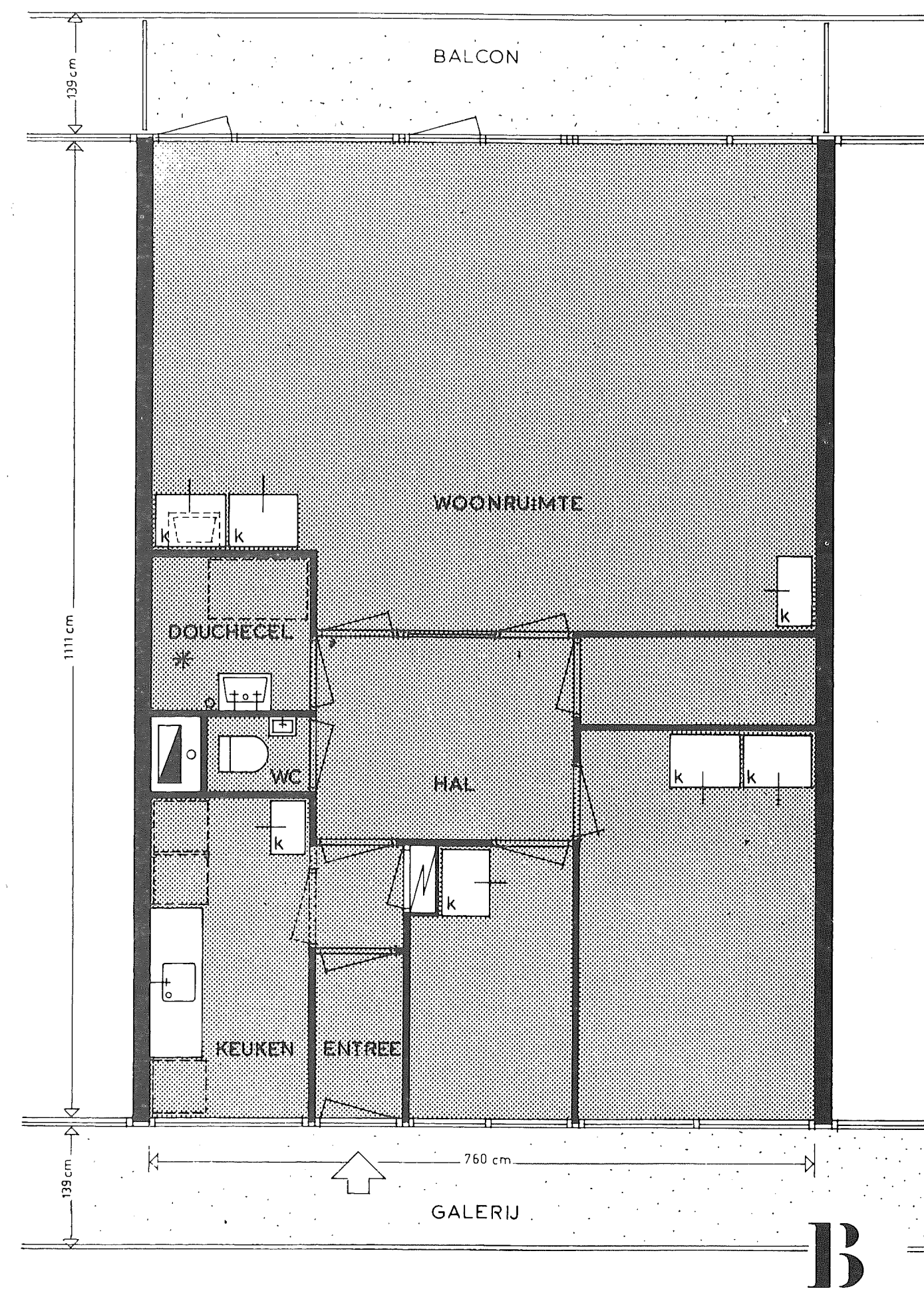
Steps in design process of
“klusflat” - DIY apartment
typology:
2. Catalogue of floor plans





1.5. SPACE PLAN

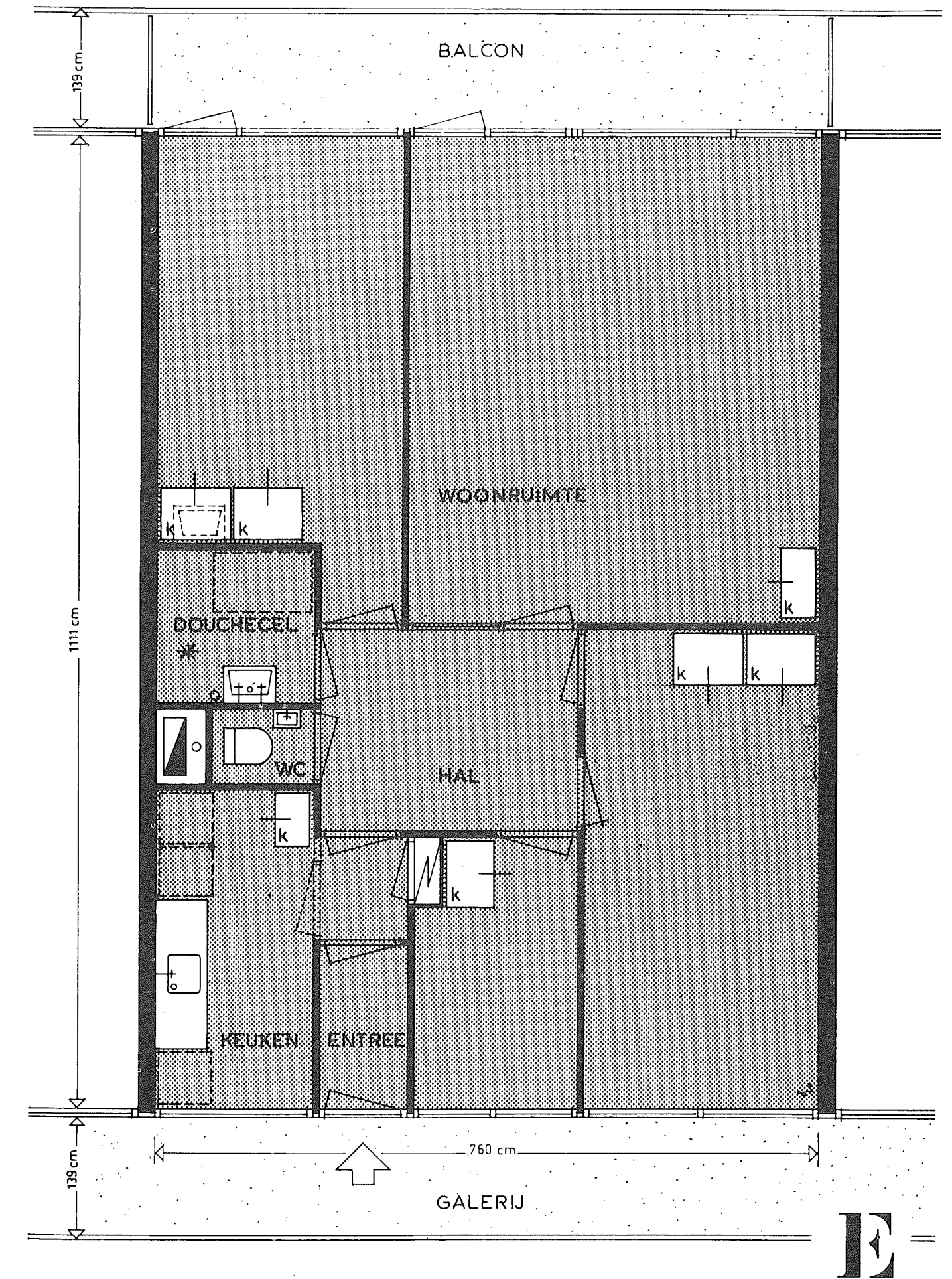
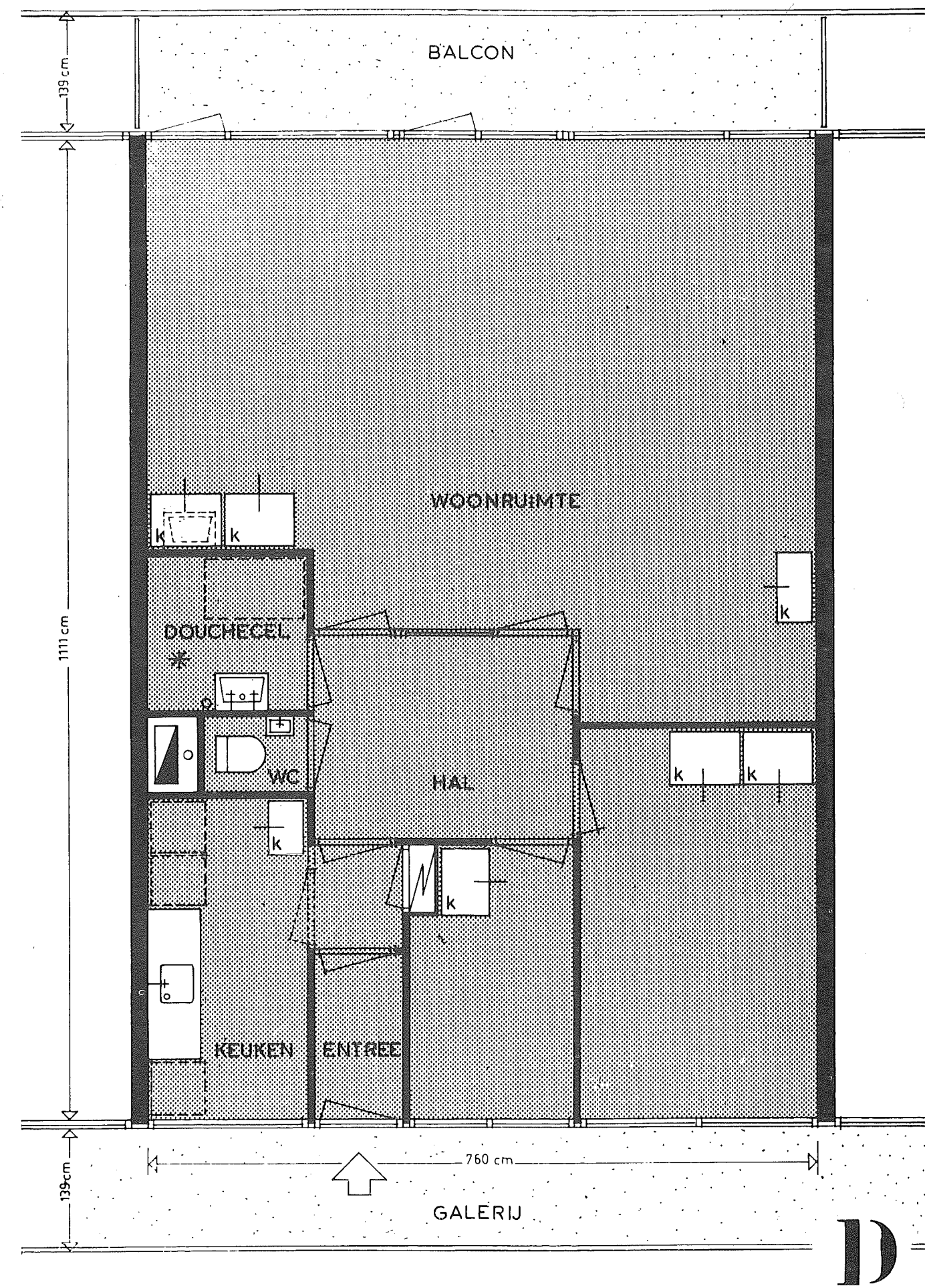
Priemus, H. Wonen in Een Era-Flat Research-Instituut voor de Woningbouw, Delft, 1970.





1.5. SPACE PLAN

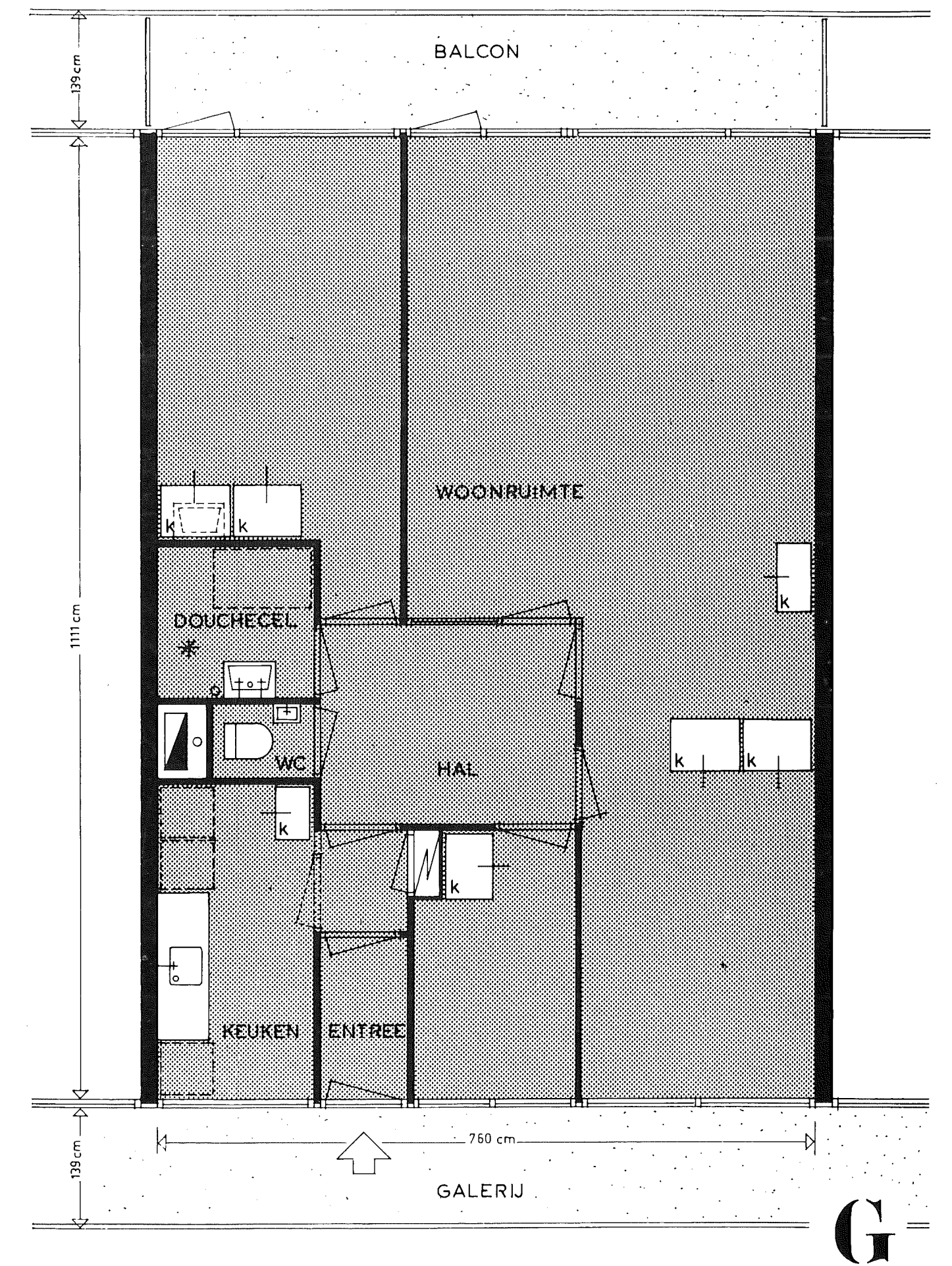
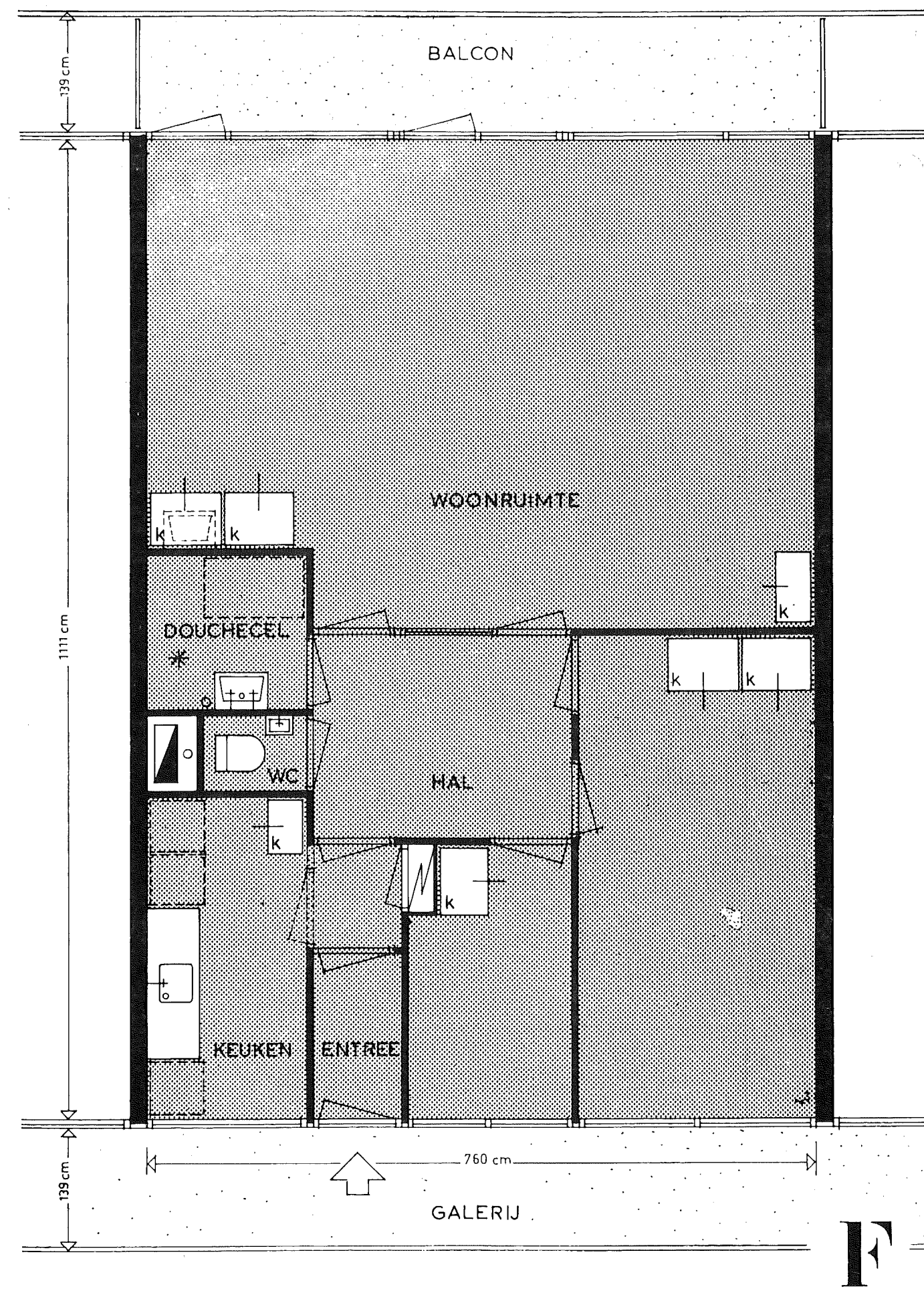
Priemus, H. Wonen in Een Era-Flat Research-Instituut voor de Woningbouw, Delft, 1970.





1.5. SPACE PLAN

Priemus, H. Wonen in Een Era-Flat Research-Instituut voor de Woningbouw, Delft, 1970.





1.5. SPACE PLAN

Priemus, H. Wonen in Een Era-Flat Research-Instituut voor de Woningbouw, Delft, 1970.

Afbeelding 32
Differentiatieschema

A2	A2	A2	A2	B2	B2	B2		Q	Q	Q	E2	A2	E2	I2	I2
D2	D2	D2	B2	B2	B2	B2		Q	Q	Q	E2	B2	E2	E2	E2
A2	A2	A2	C2	C2	B2	B2		Q	Q	Q	A2	C2	A2	A2	A2
B2	B2	B2	B2	B2	B2	B2		Q	Q	Q	K2	B2	K2	A2	A2
A2	A2	A2	A2	A2	A2	A2		Q	Q	Q	I2	A2	I2	I2	I2
C1	C1	C1	B1	B1	B2	B2		Q	Q	Q	E2	C1	E2	K2	K2
D1	D1	I1	A1	A1	A1	A1		Q	Q	Q	A2	I1	A2	A2	A2
A2	A2	A2	A2	A1	A1	A1		Q	Q	Q	C2	A2	C2	C2	C2
E2	E2	E2	E2	E2	E2	E2		Q	Q	Q	D2	E2	D2	K2	K2
A2	A2	Z3	Z3	Z3	B2	B2		Q	Q	Y3	Z3	Z3	C2	C2	C2

BLOK 2

D1	D1	D2	D2	Q	Q	Q		C2	C2	C2	D2	C1	C1	K1	K1
E2	E2	E1	E1	Q	Q	Q		C2	C2	C2	E1	C2	C2	C1	C1
A2	A2	A2	A2	Q	Q	Q		A1	A1	A1	A2	A1	A2	A2	A2
A2	A2	A2	A2	Q	Q	Q		C2	C2	C2	A2	D2	D2	D2	D2
I2	I2	I2	I2	Q	Q	Q		C2	C2	C2	I2	C2	C2	C2	C2
I2	I2	I2	I2	Q	Q	Q		A1	A1	A1	I2	A1	A2	A2	A2
A2	A2	A2	A2	Q	Q	Q		C2	C2	C2	A2	C2	C2	C2	C2
C1	C1	K2	K2	Q	Q	Q		I2	I2	E2	K2	E2	E2	E2	E2
K2	K2	K2	K2	Q	Q	Q		B2	B2	B2	K2	B2	B2	B2	B2
A3	A3	Z3	Z3	Y3	Q3	Q		A3	A3	Z3	Z3	Z3	A3	A2	A4

BLOK 1

RENVOOI

Type A 1 - 15 stuks
 Type A 2 - 55 stuks
 Type B 1 - 2 stuks
 Type B 2 - 29 stuks
 Type C 1 - 10 stuks
 Type C 2 - 35 stuks
 Type D 1 - 4 stuks
 Type D 2 - 12 stuks
 Type E 1 - 3 stuks
 Type E 2 - 23 stuks

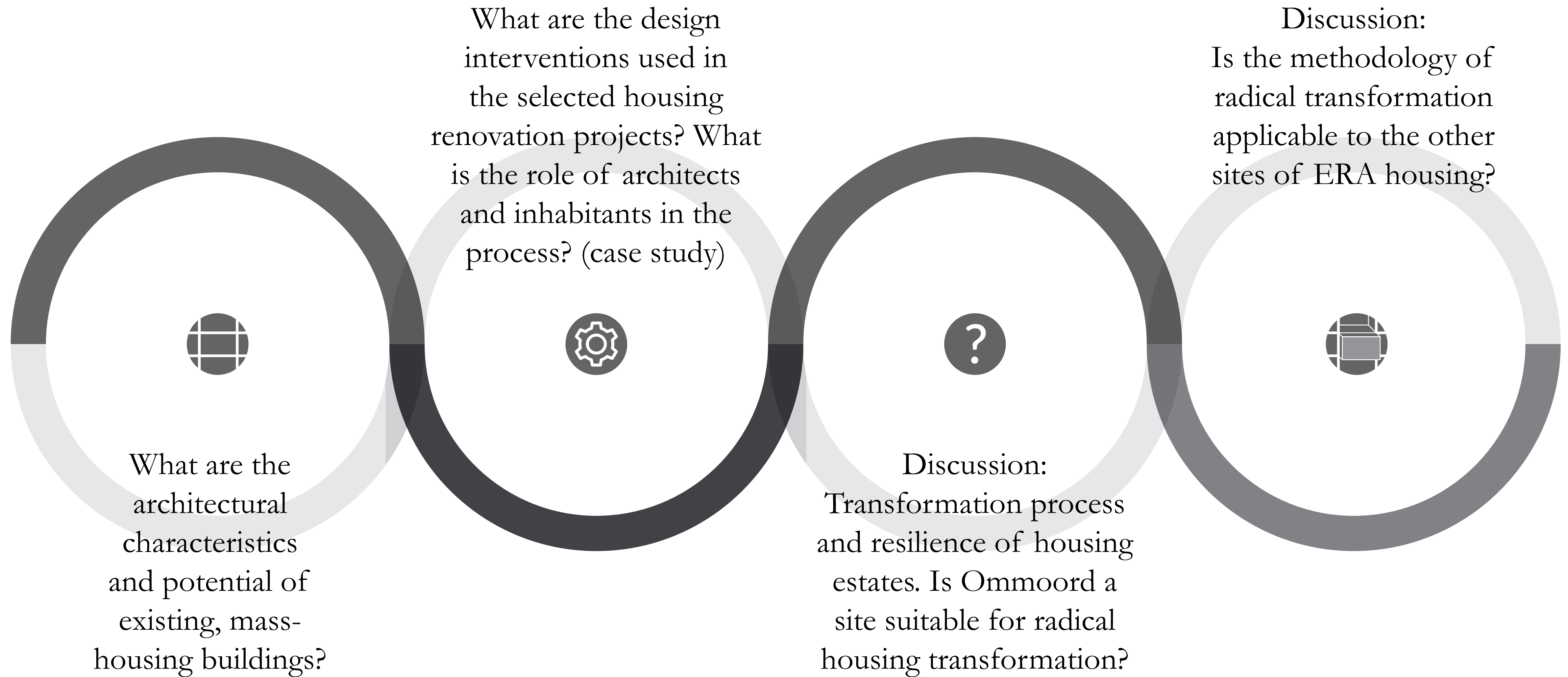
Type I 1 - 2 stuks
 Type I 2 - 18 stuks
 Type K 1 - 2 stuks
 Type K 2 - 14 stuks
 Type Q - 57 stuks
 Type Q 3 - 1 stuks
 Type Z 3 - 10 stuks
 Type Y 3 - 2 stuks
 Type A 3 - 5 stuks
 Type A 4 - 1 stuks

"PROEFWONING" KLASSIEK INGERICHT

"PROEFWONING" MODERN INGERICHT

"PROEFWONING" INRICHTING OP ADVIES WONINGINRICHTER

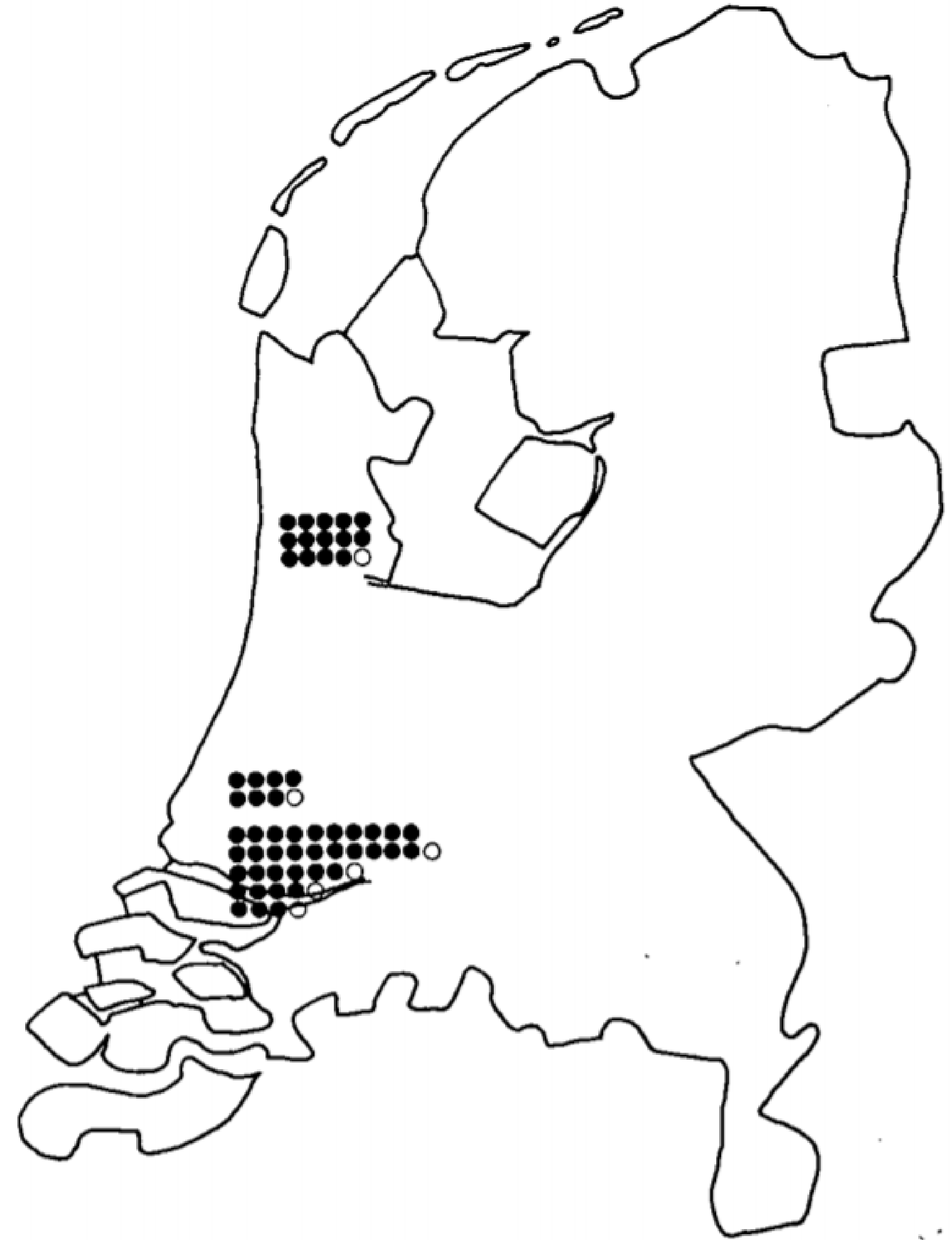
Research subquestions and research process





4. Reflection

Is methodology of radical transformation applicable to the othersitesof ERAhousing?

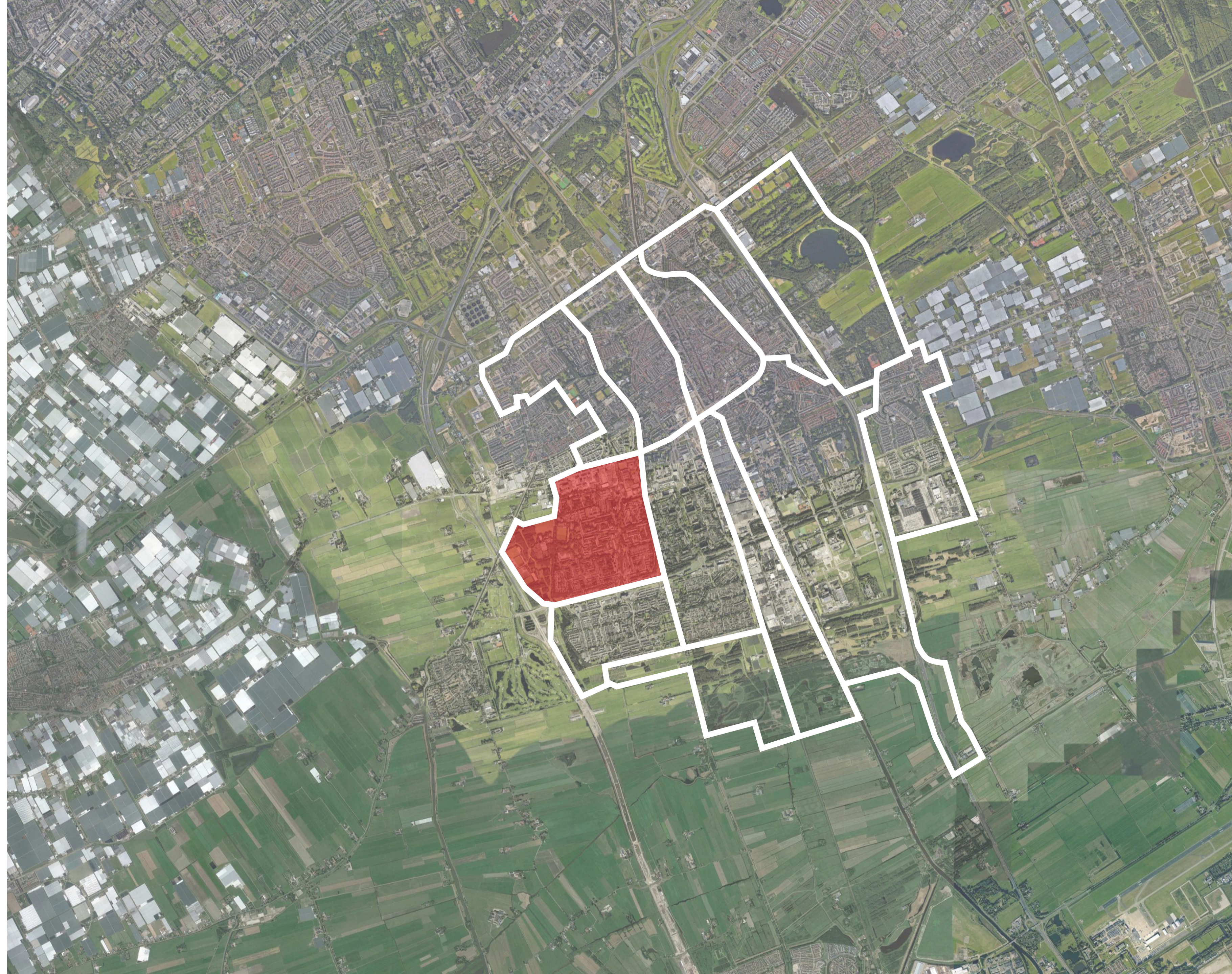




Other ERA housing projects:
Buitenhof post-war
development in Delft.

“textbook example of
sweeping modernist urban
planning, which development
was stopped around 1970s.”

Reinout Rutte, H. o. A. a. U. P. (2016). History of Delft. 17th IPHS
Conference, Delft 2016.





Other ERA housing projects:
Buitenhof post-war
development in Delft.

Location: secluded, bordered
by hospital complex and not-
accessible polder





DANNY ZOEKT PROBLEMEN

Vanavond 21.50





Other ERA housing projects:
Buitenhof post-war
development in Delft.

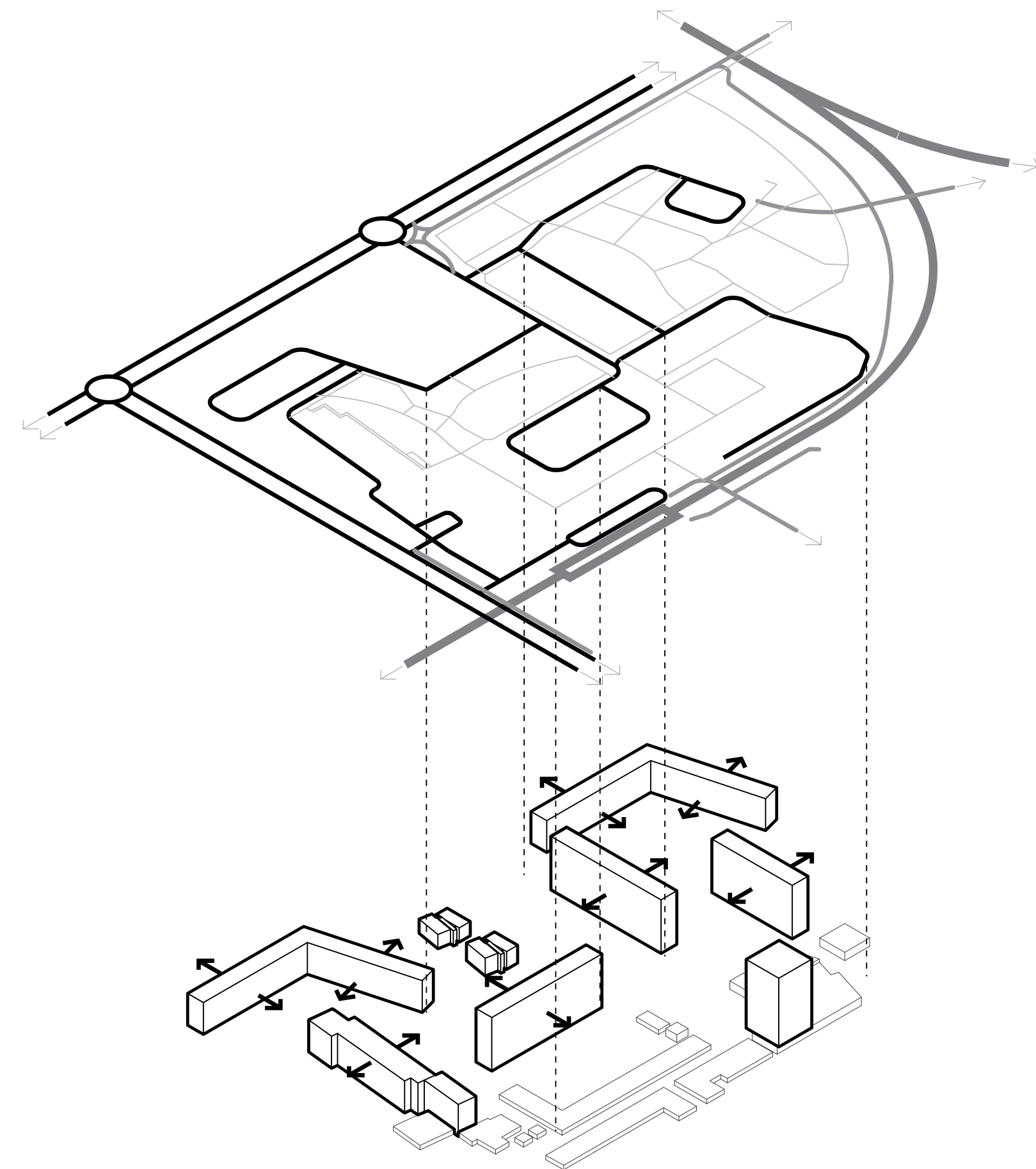
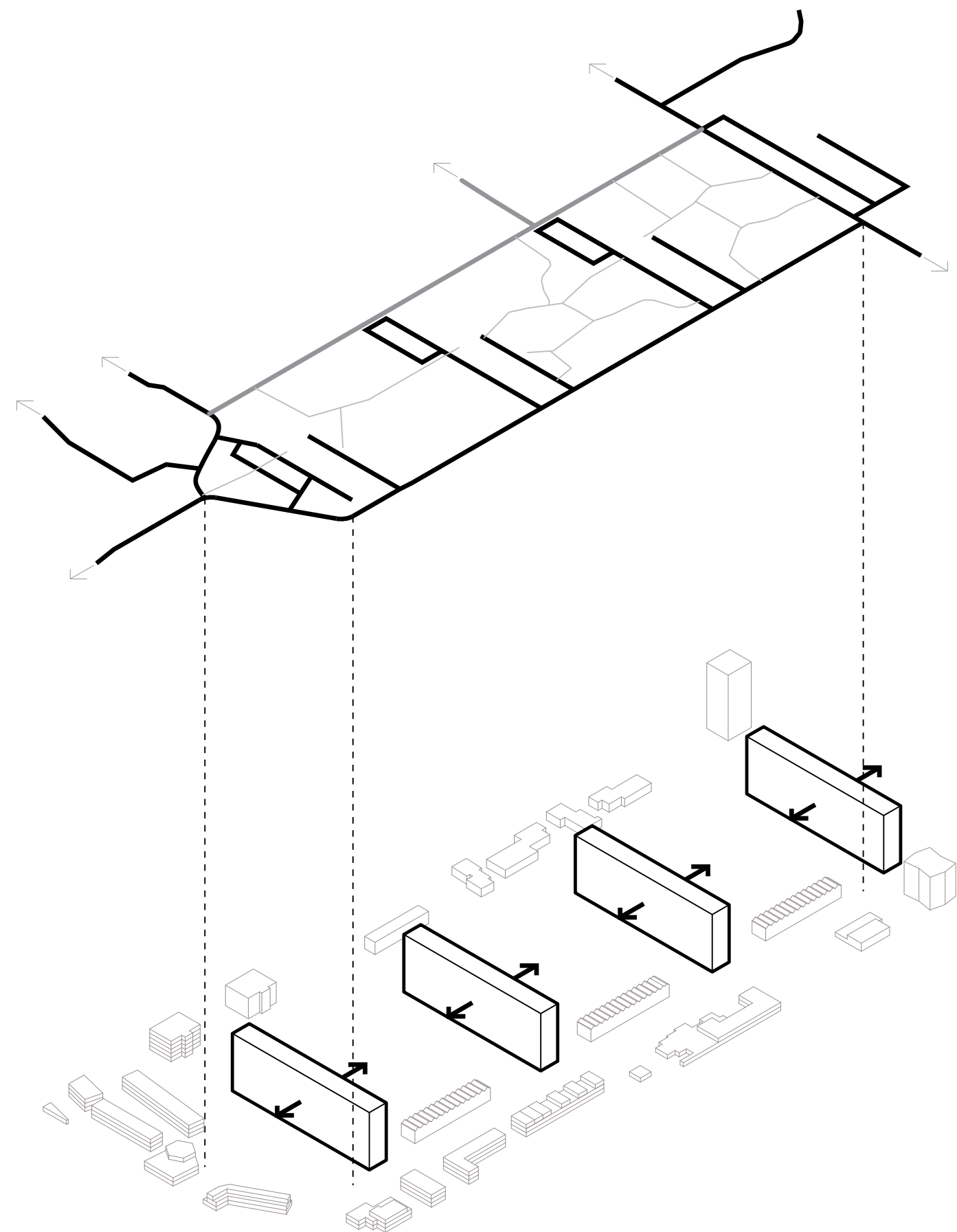
Basic facilities in the area.





Comparison: Buitenhof and Ommoord

Conclusion: Blocks in Delft as pure execution of ERA system, without research-based urban planning visible in Ommoord, Rotterdam.

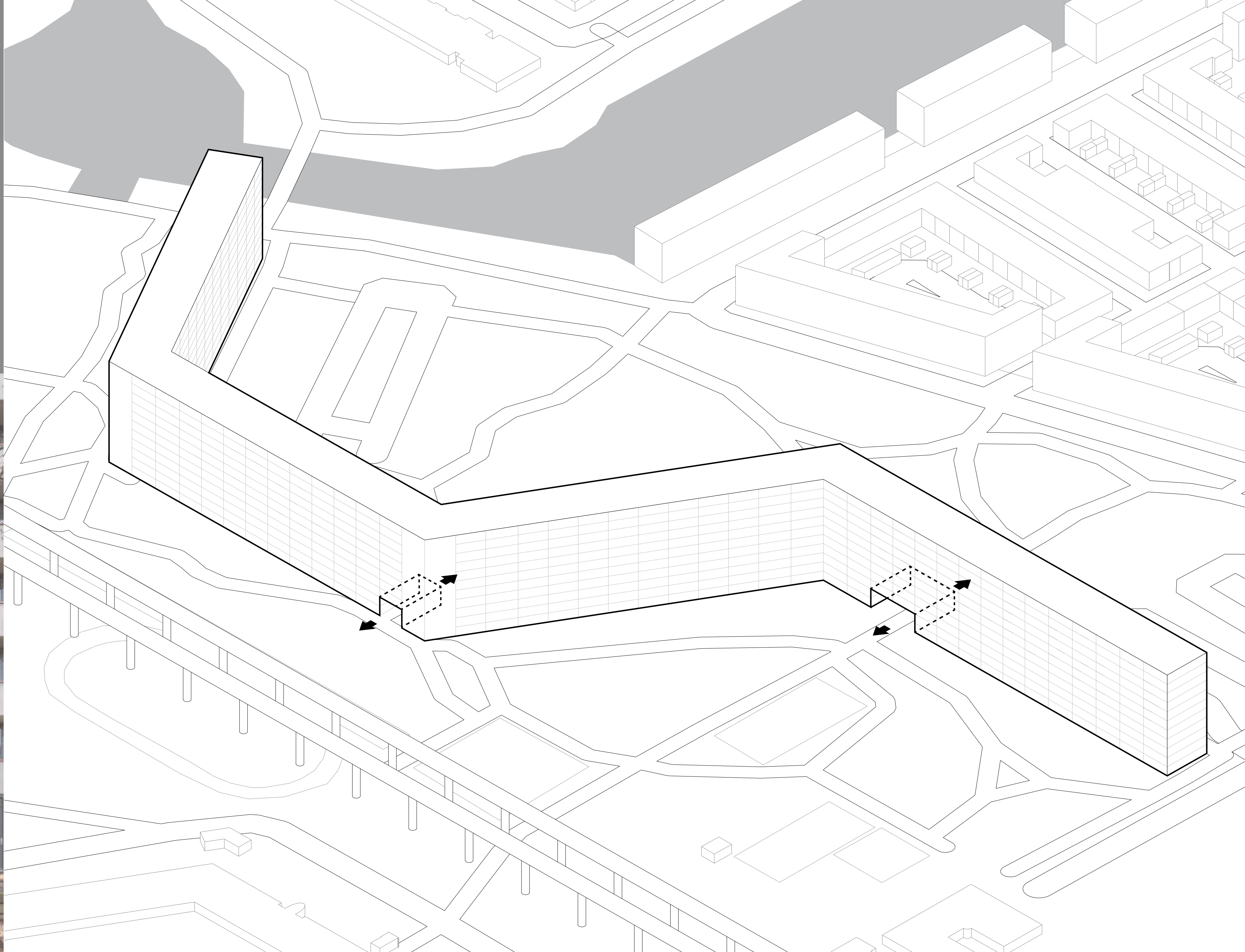




2.1 Case studies

Kleiburg: NL Architects and
XVW Architectuur, Amsterdam

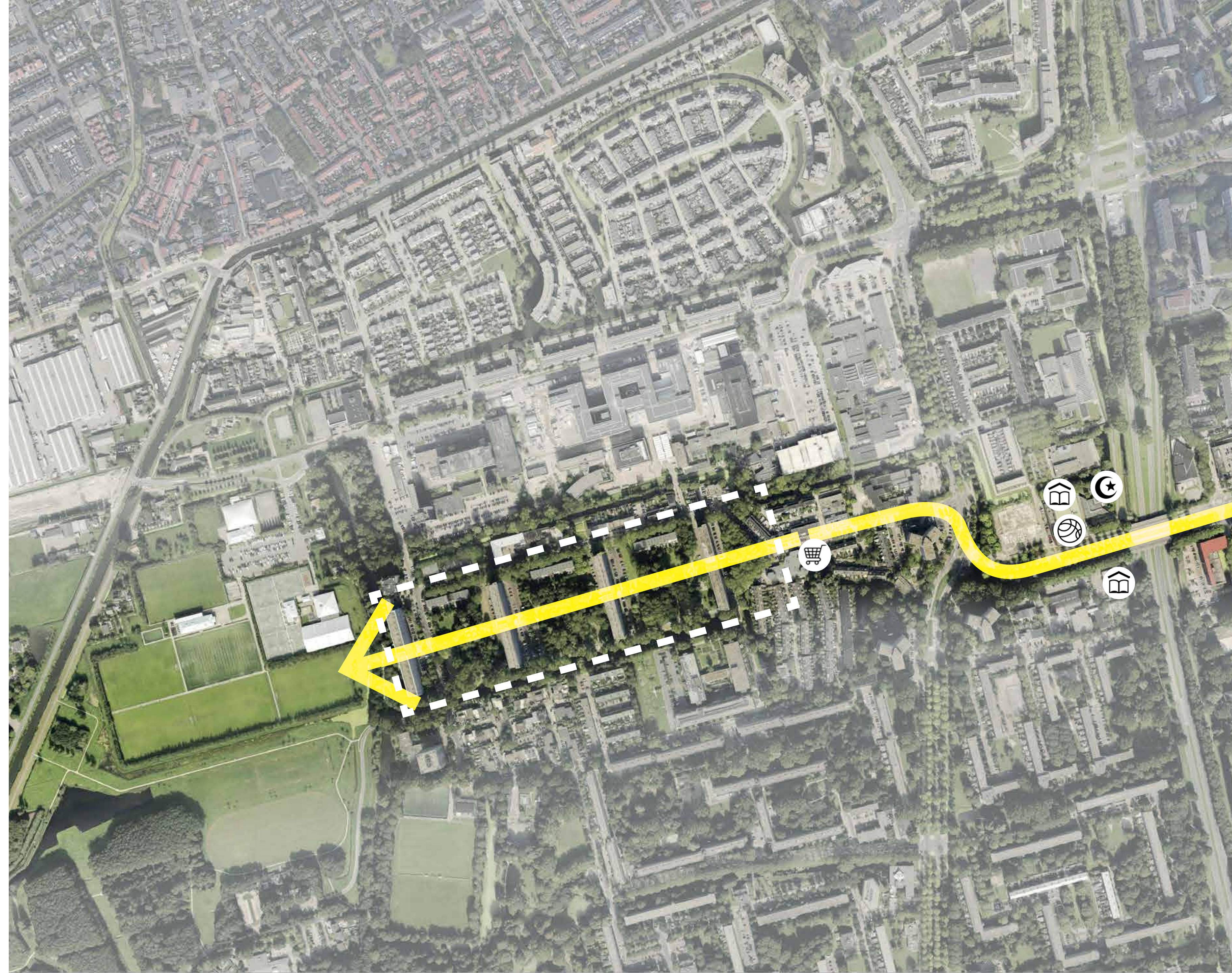
Strategy: “Revamp the whole”





Other ERA housing projects:
Buitenhof post-war
development in Delft.

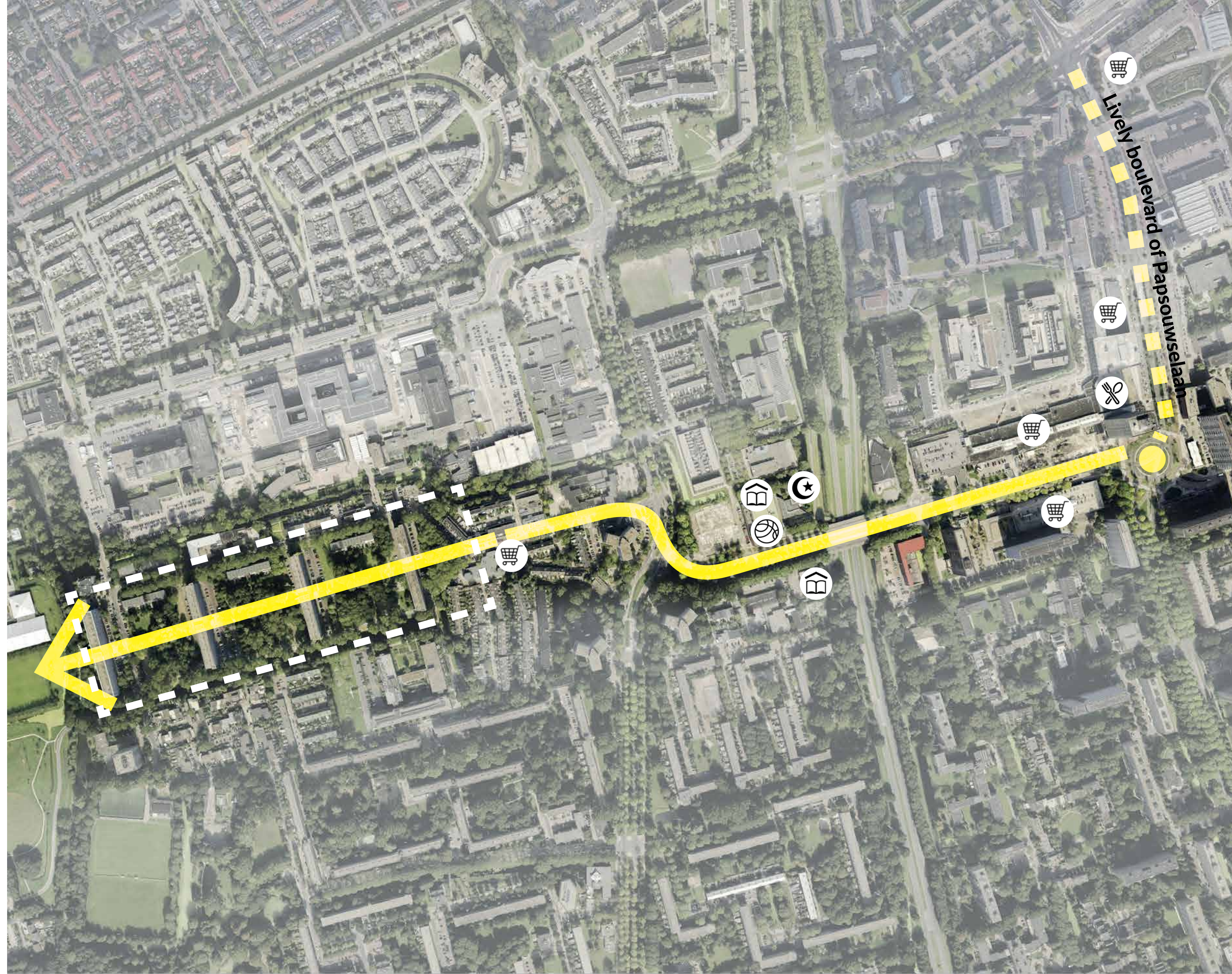
Necessity of re-connection





Other ERA housing projects:
Buitenhof post-war
development in Delft.

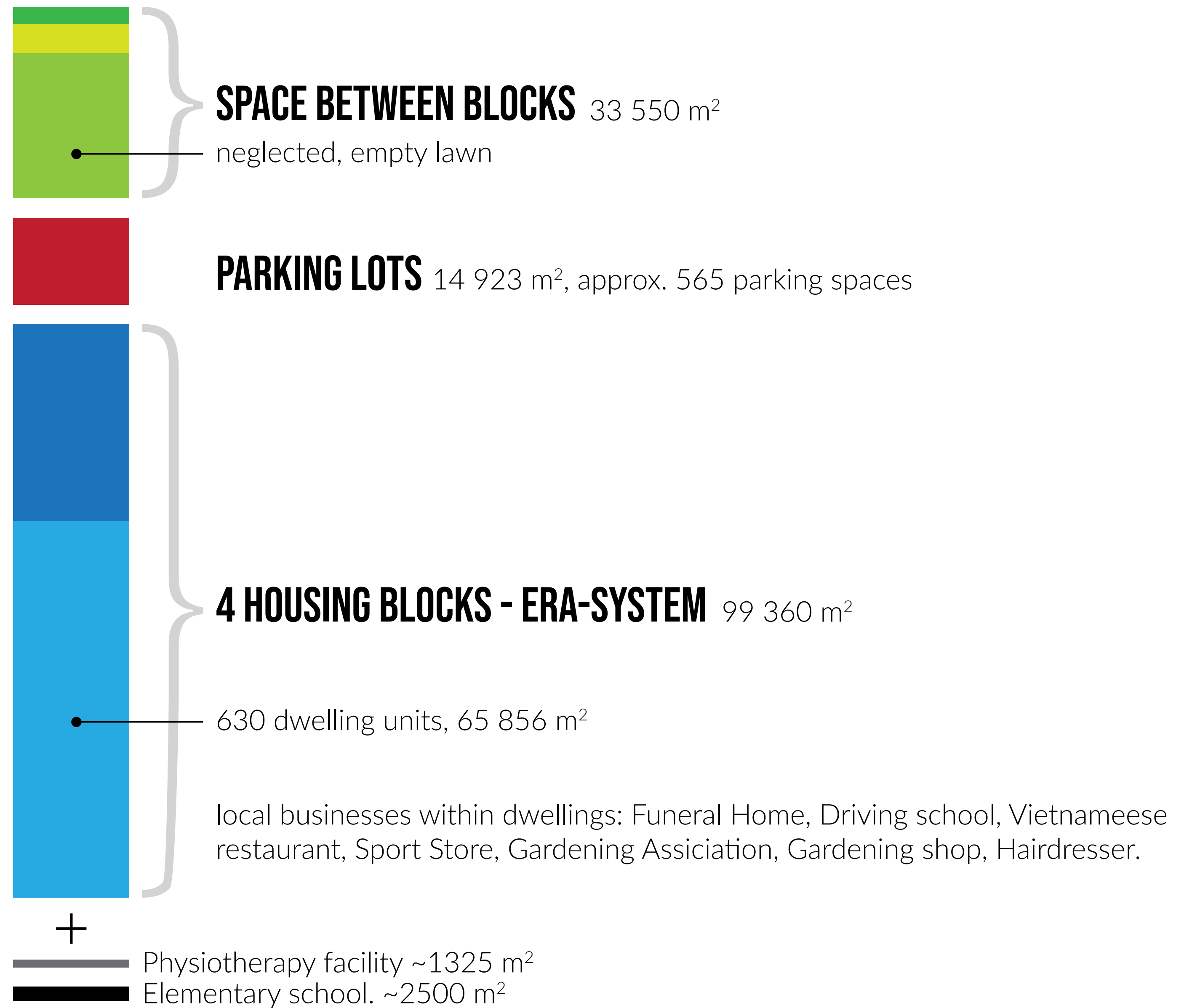
Necessity of re-connection in
larger scale, to the centre of
the district.





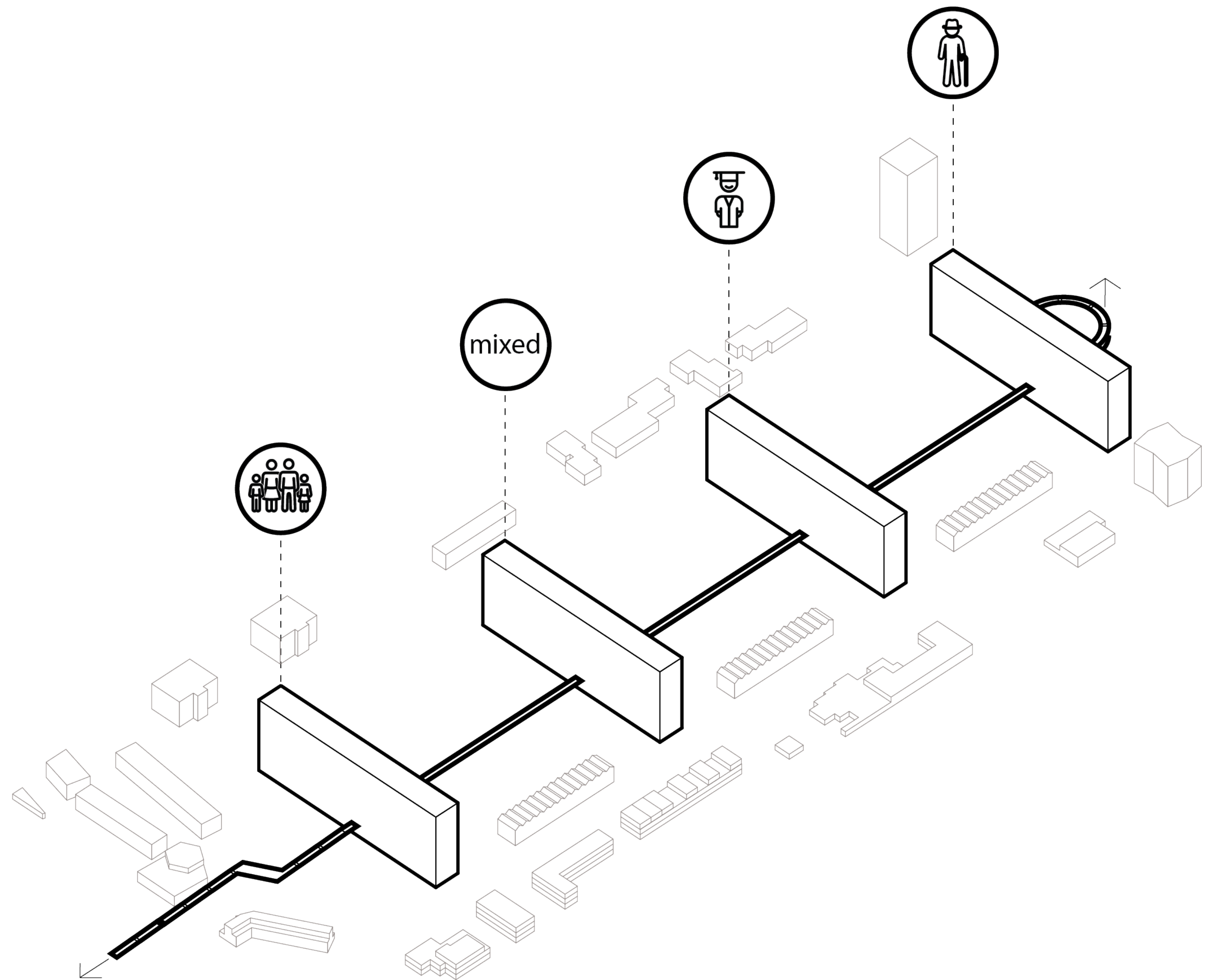
Other ERA housing projects:
Buitenhof post-war
development in Delft.

Existing program:
monofunctional district of
housing blocks.





**Social diversity, however
separated in 4 blocks**



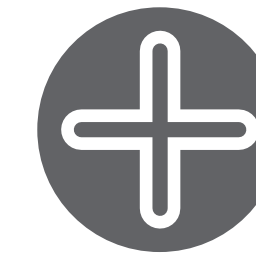
**Transformation design
in 3 aspects:**

Multi-level strategy of re-
connecting ERA flats to the
district and opening towards
the polder

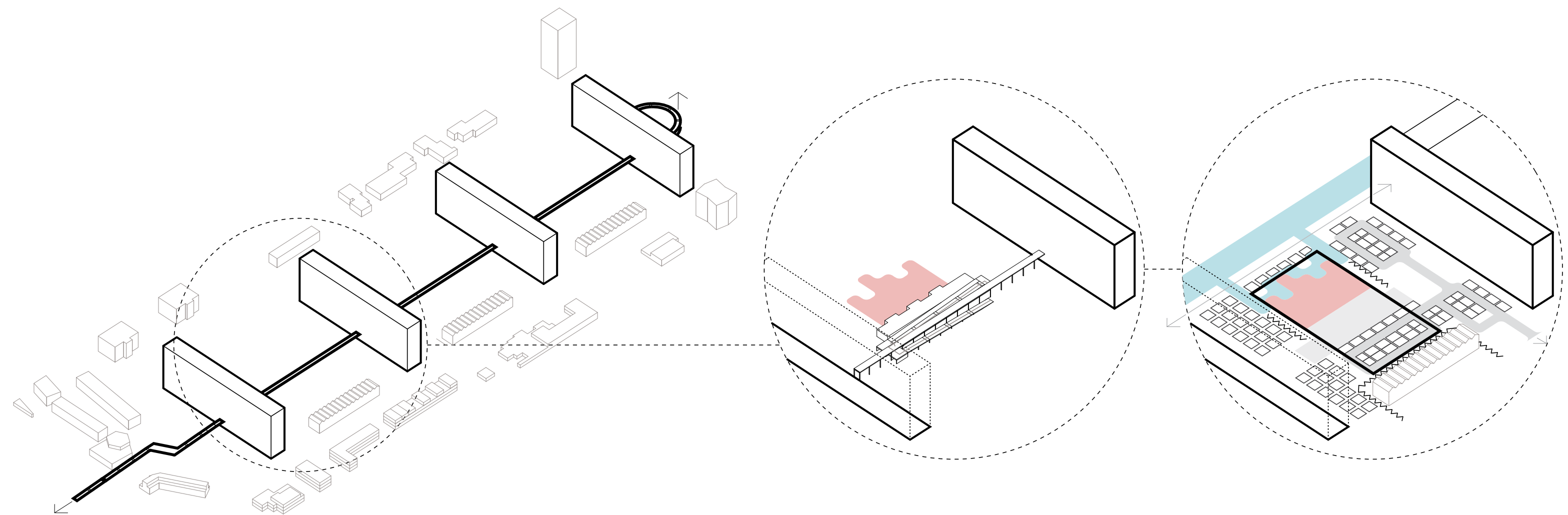
1. Connection



2. Re-programming



3. Activation

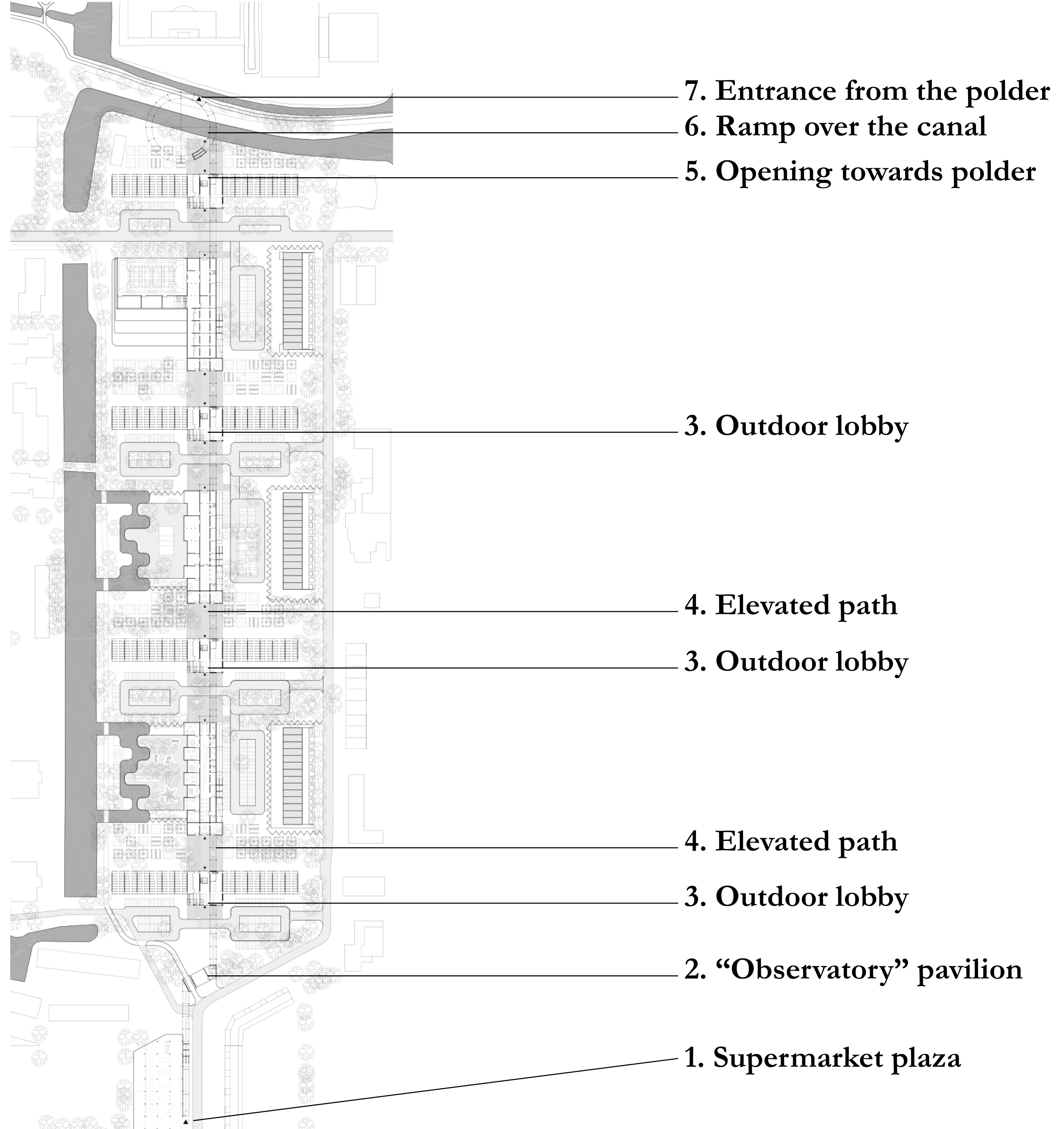




Steps of Transformation Design

1. CONNECTION

Narration inspired by
“Townscapes” by G. Cullen













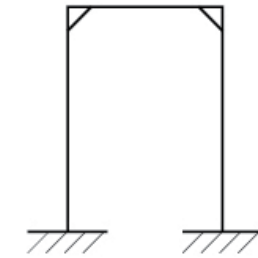




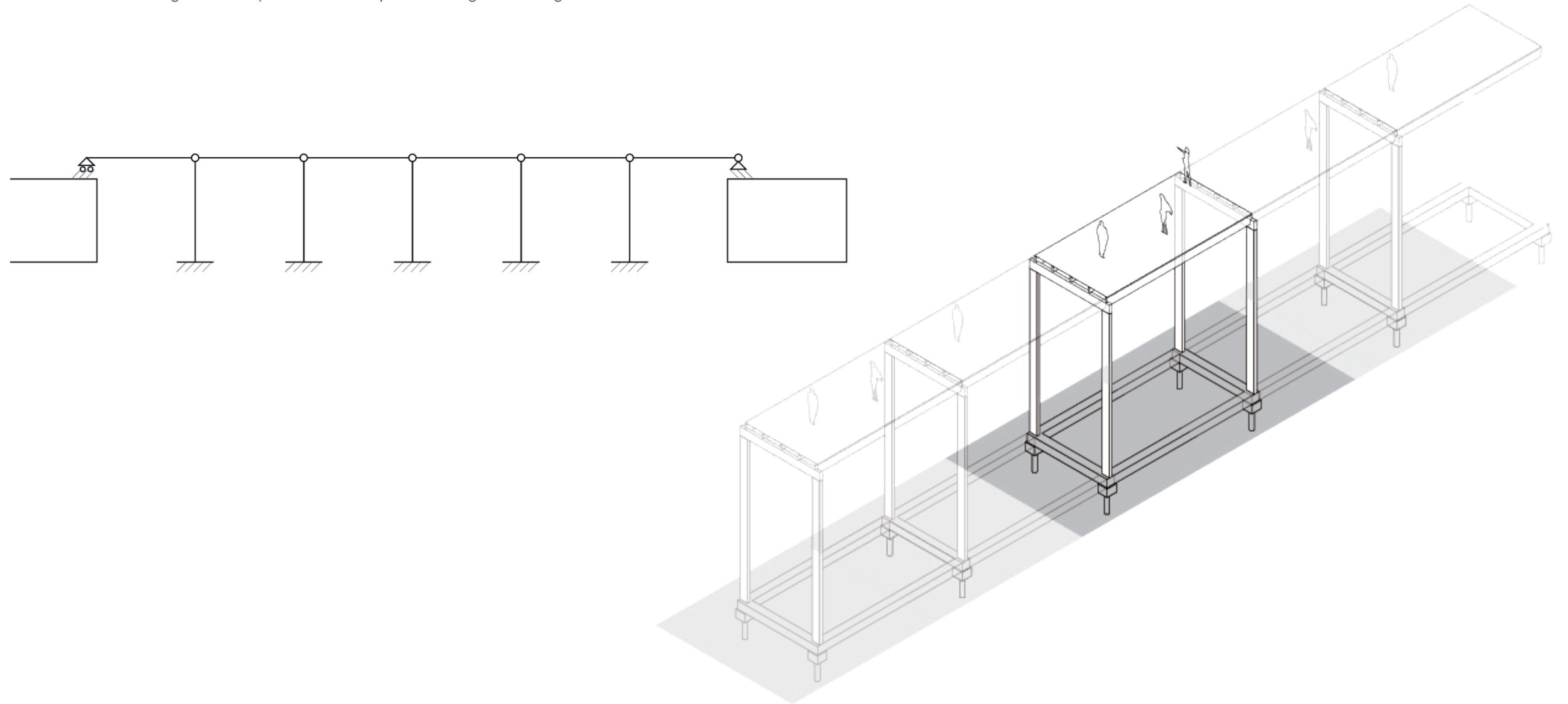
Steps of Transformation Design - Connection.

“Elevated street” composed of
glulam “portals” every 7.8 m
and secondary beams

static situation: Bridge “portal”: glulam frame and foundation



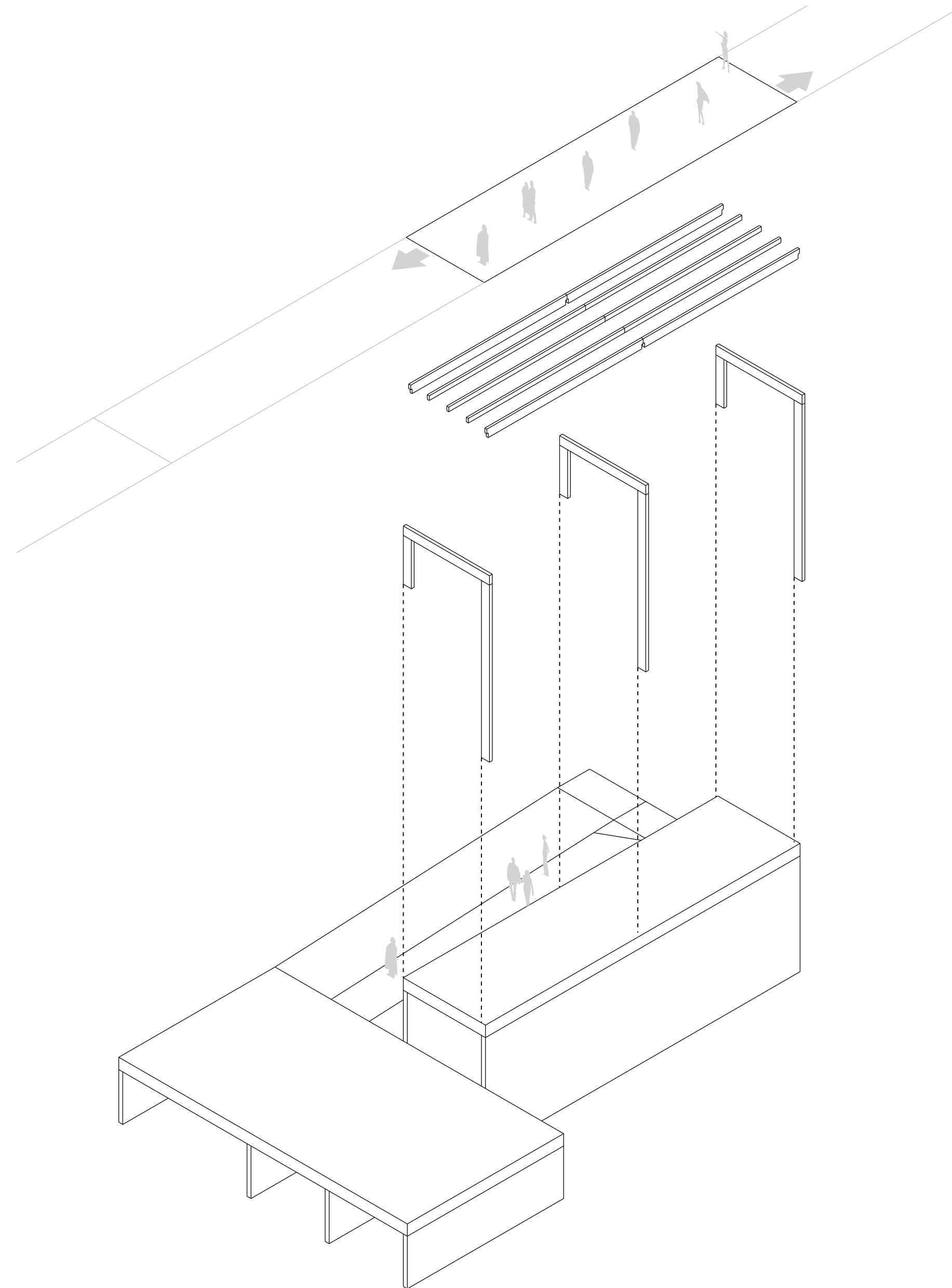
static situation: Bridge. Secondary beams between public building and housing block





Steps of Transformation Design - Connection.

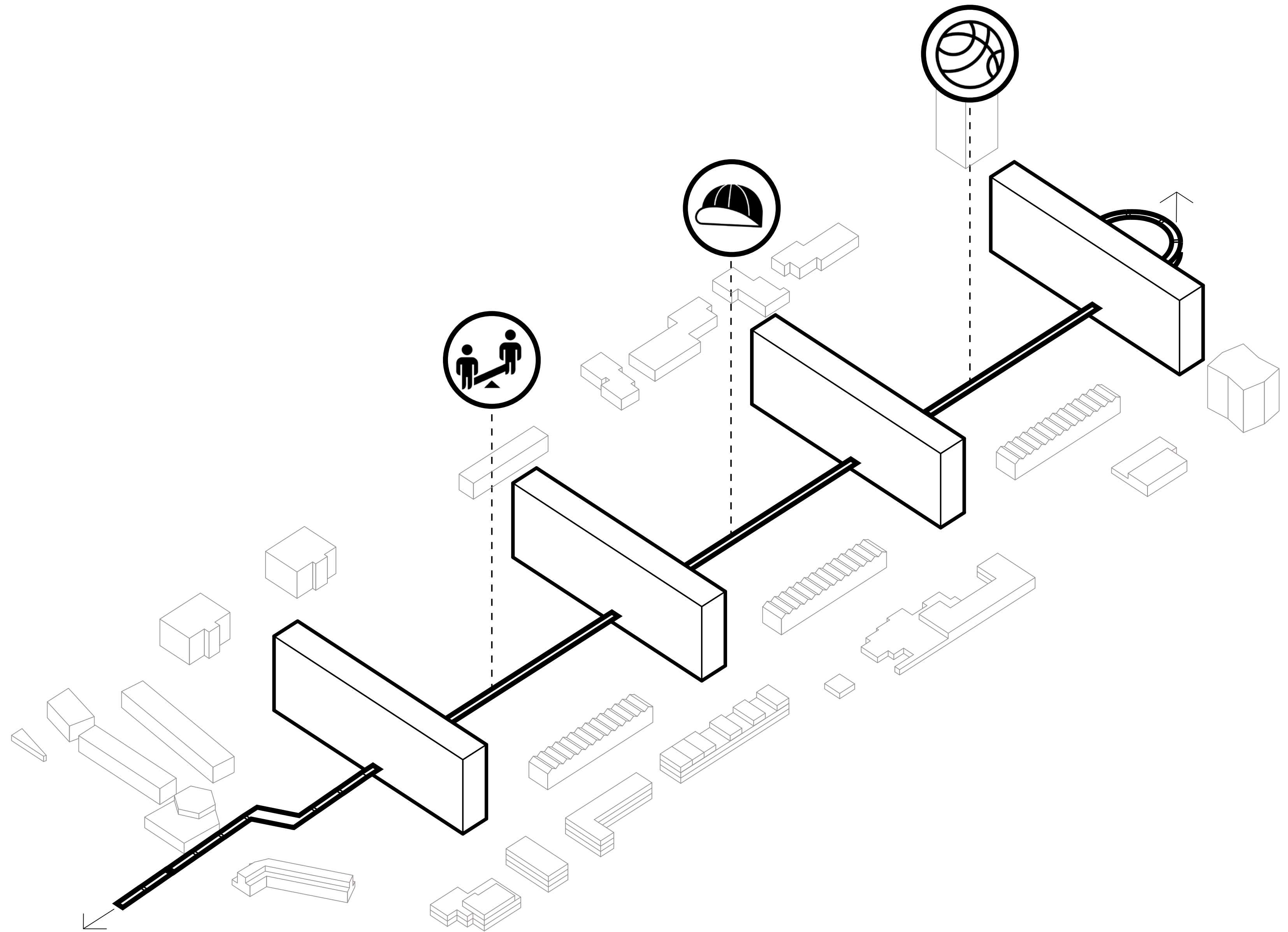
“Elevated street” composed of
glulam “portals” every 7.8 m
and secondary beams





**Transformation design
in 3 aspects:
2. Re-programming**

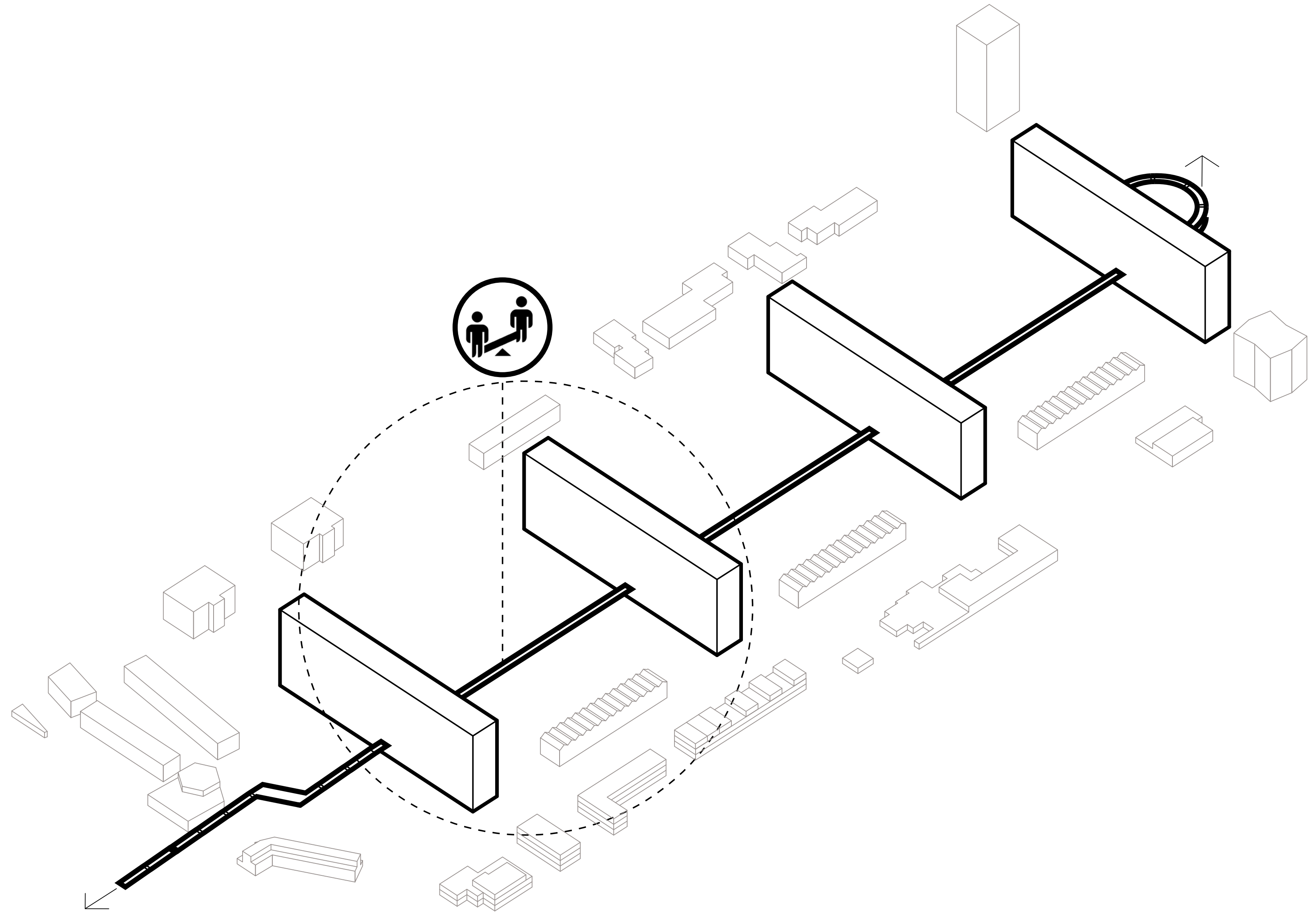
Introduction of 3 public
buildings into the path:
bringing public attention





**Transformation design
in 3 aspects:
2. Re-programming**

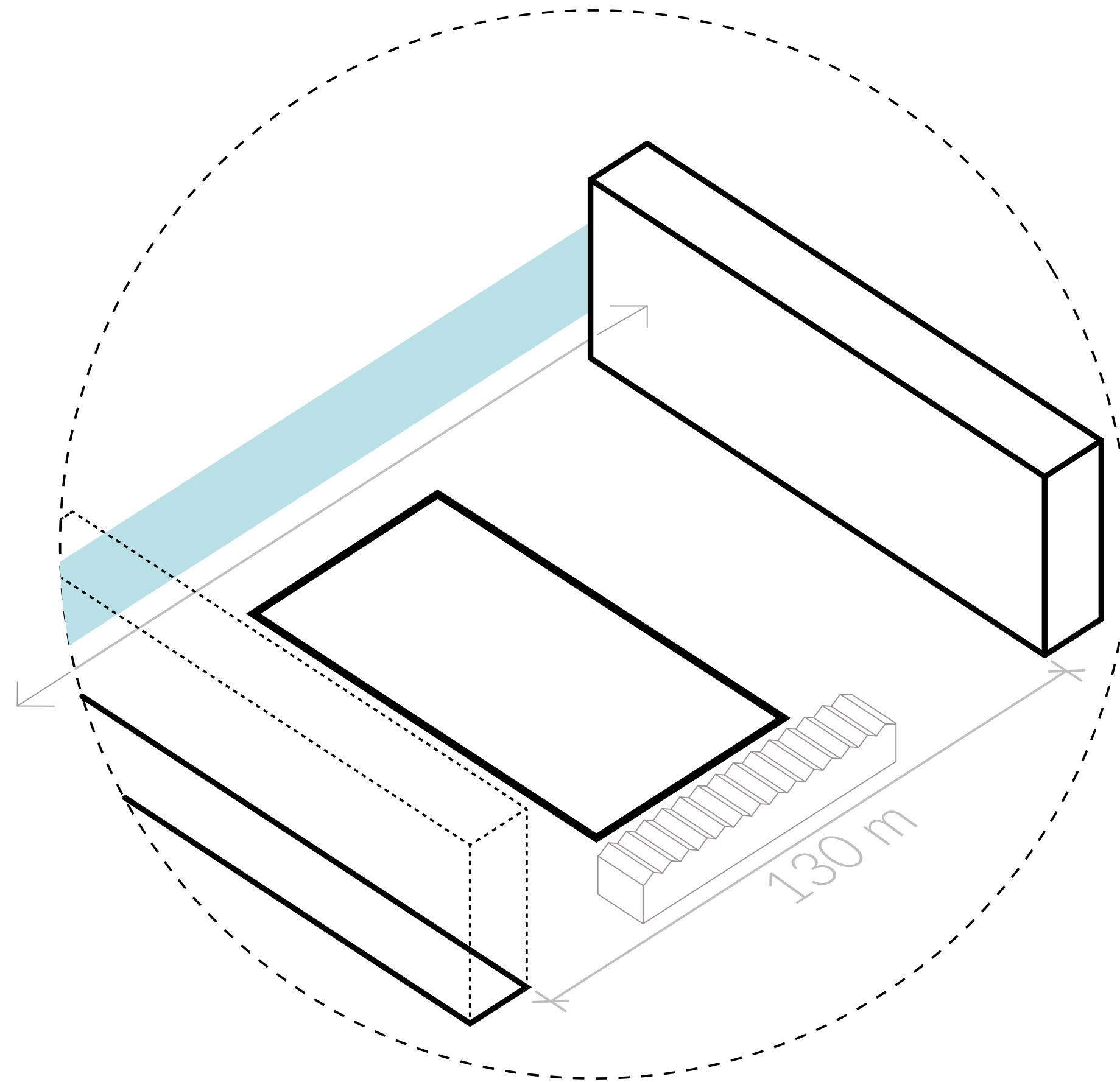
Introduction of public
function under the path
- kindergarten





**Transformation design
in 3 aspects:
2. Re-programming**

Introduction of public
function under the path
- kindergarten





**Transformation design
in 3 aspects:
2. Re-programming**

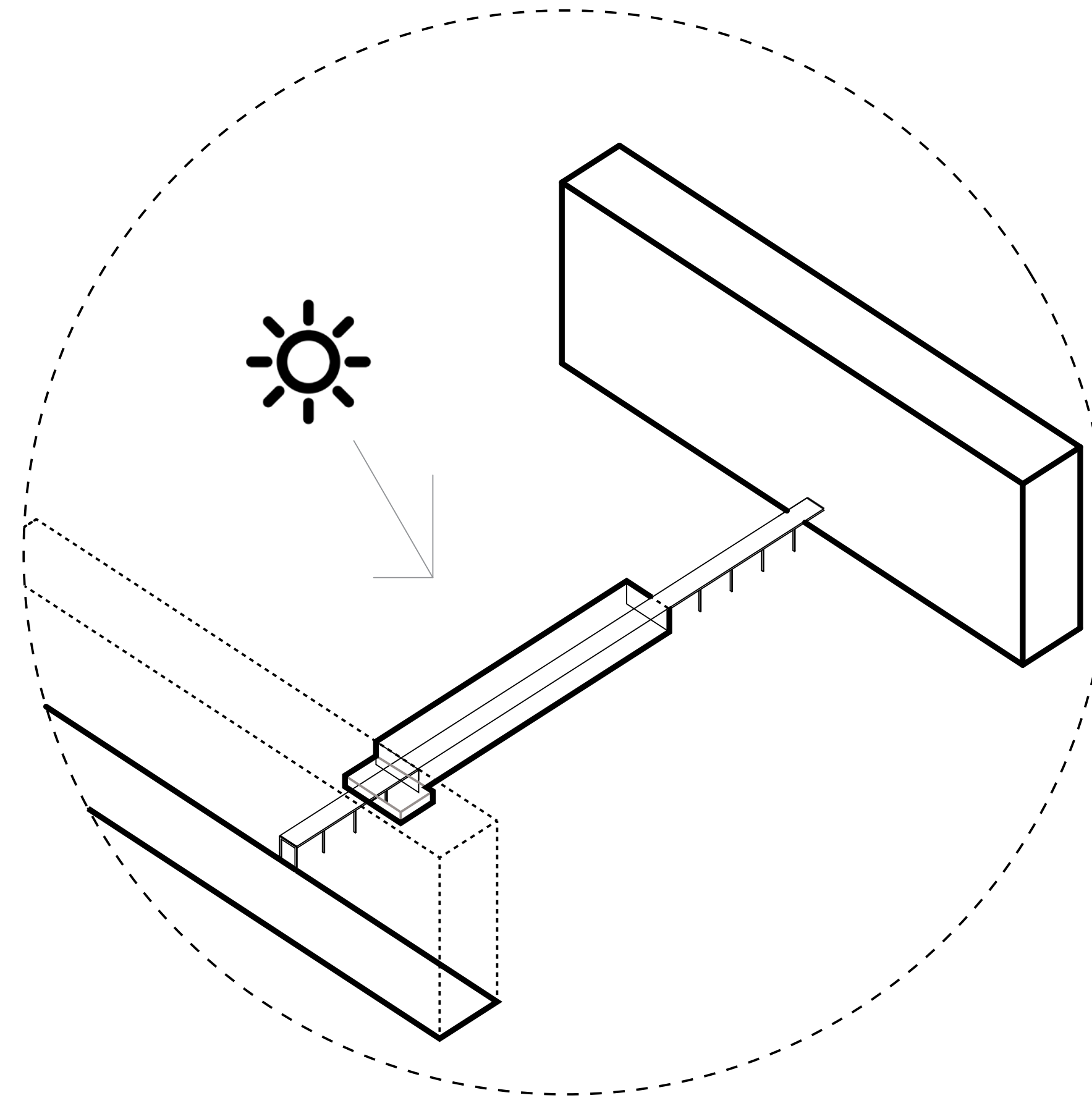
Building as structural support
for the elevated path face sun
from the southern site.

Entrance on the western side

- towards ERA's gallery

Independent "gardening
shed" on the eastern side -

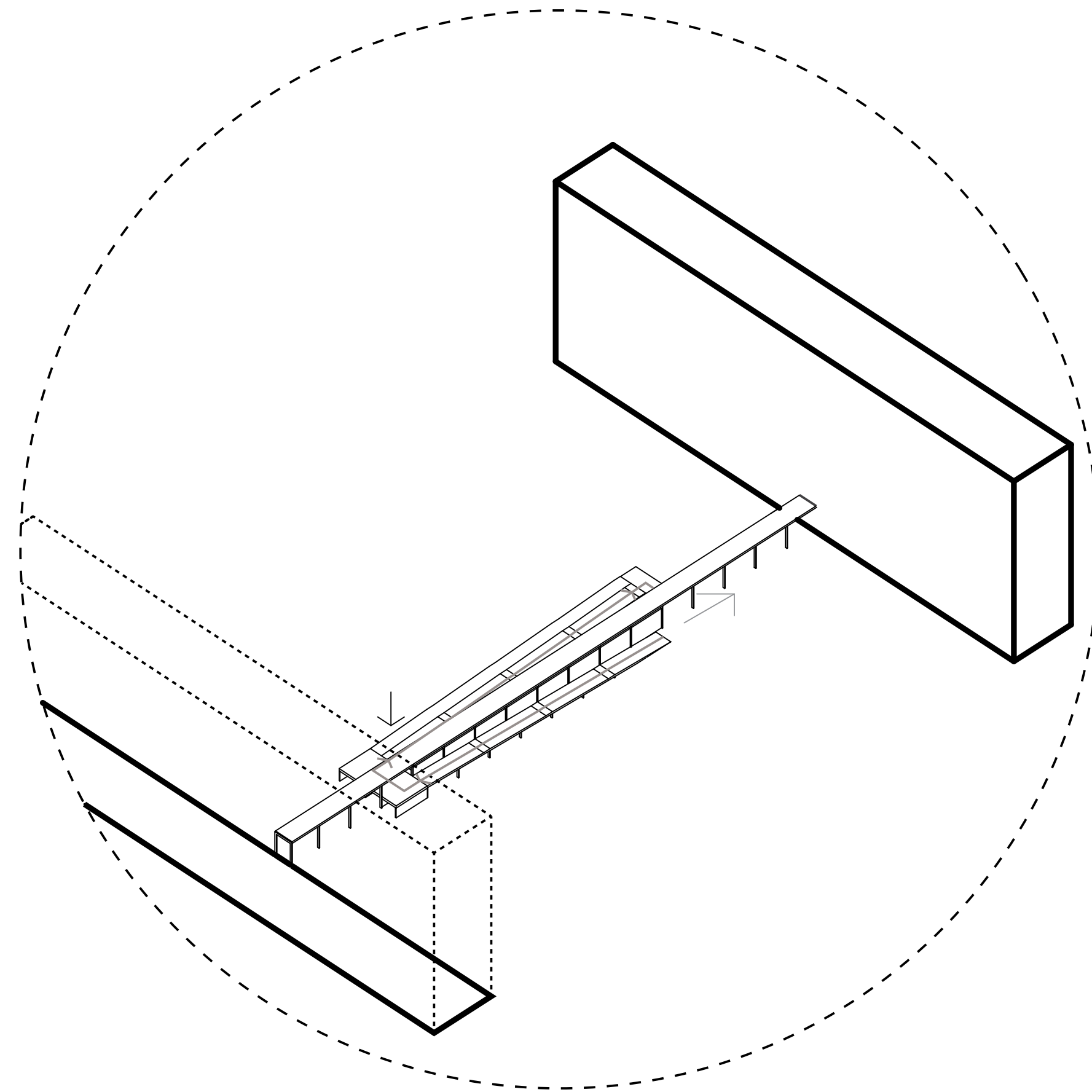
towards ERA's balconies.





**Transformation design
in 3 aspects:
2. Re-programming**

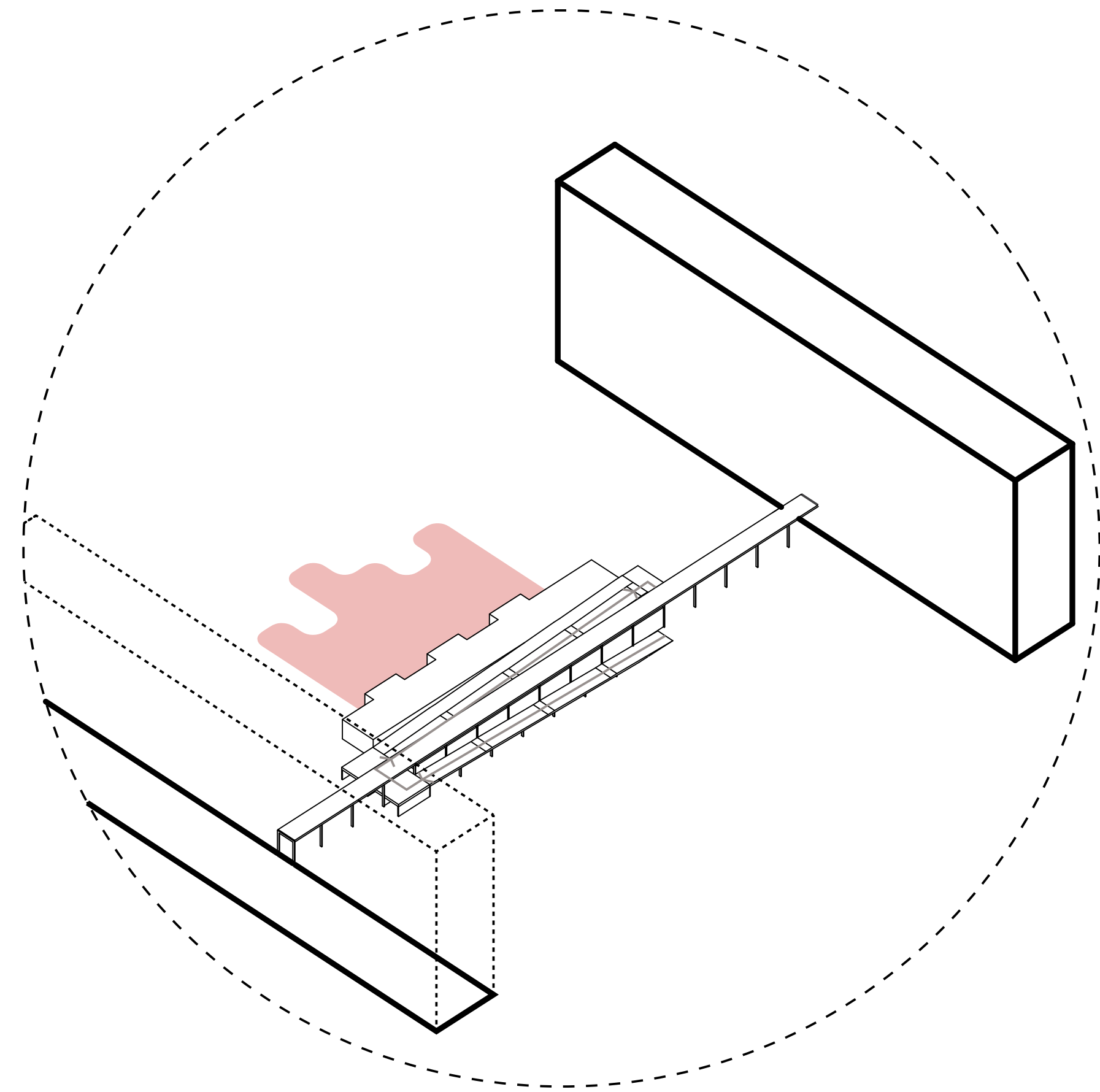
Building as a ramp providing access to the path and creating gradient of privacy between public path and communal space on the gallery side of ERA flats.





**Transformation design
in 3 aspects:
2. Re-programming**

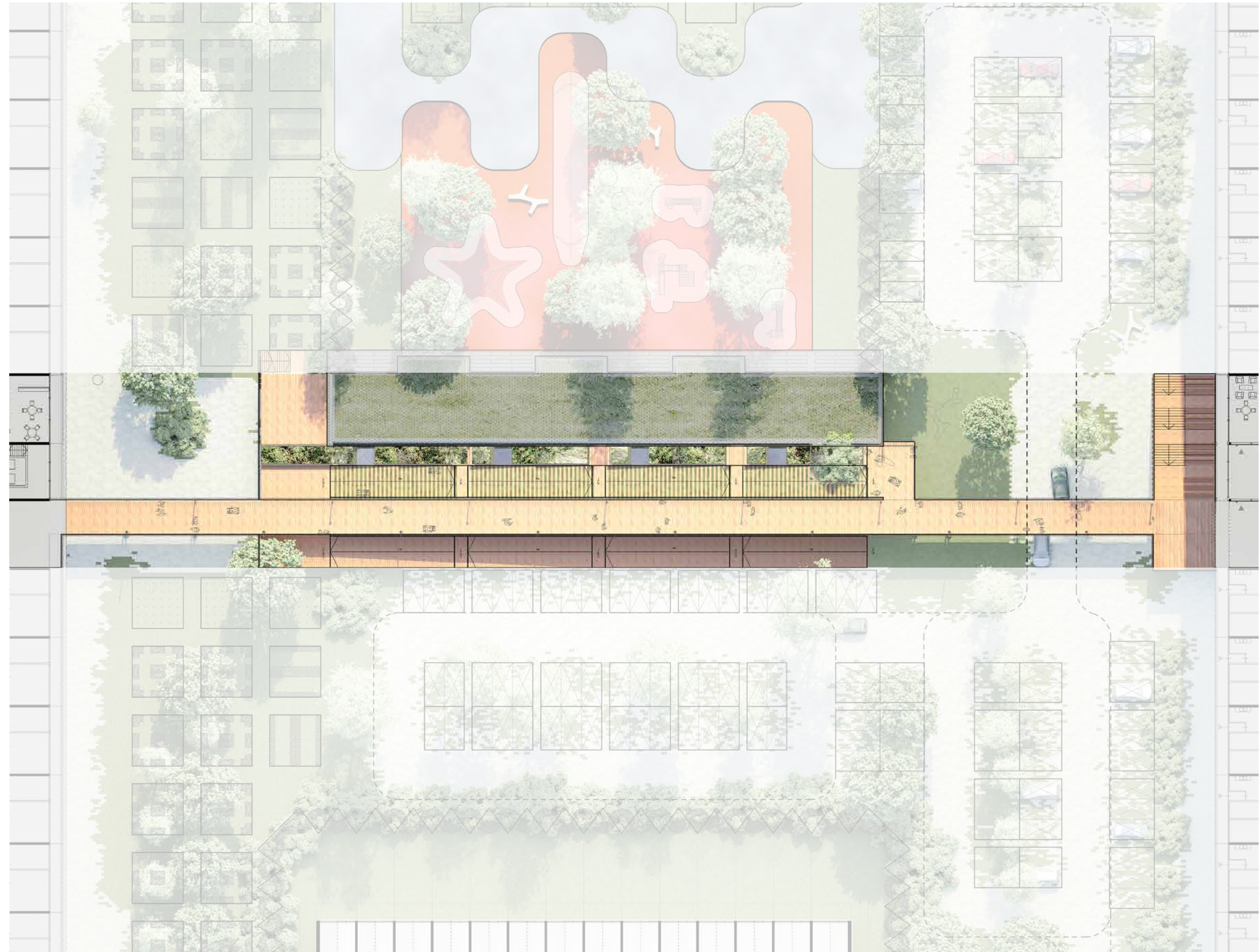
Functional rooms (playrooms for kindergarten) on the south side - open to the restricted playground.





**Transformation design
in 3 aspects:
2. Densification -
kindergarten**

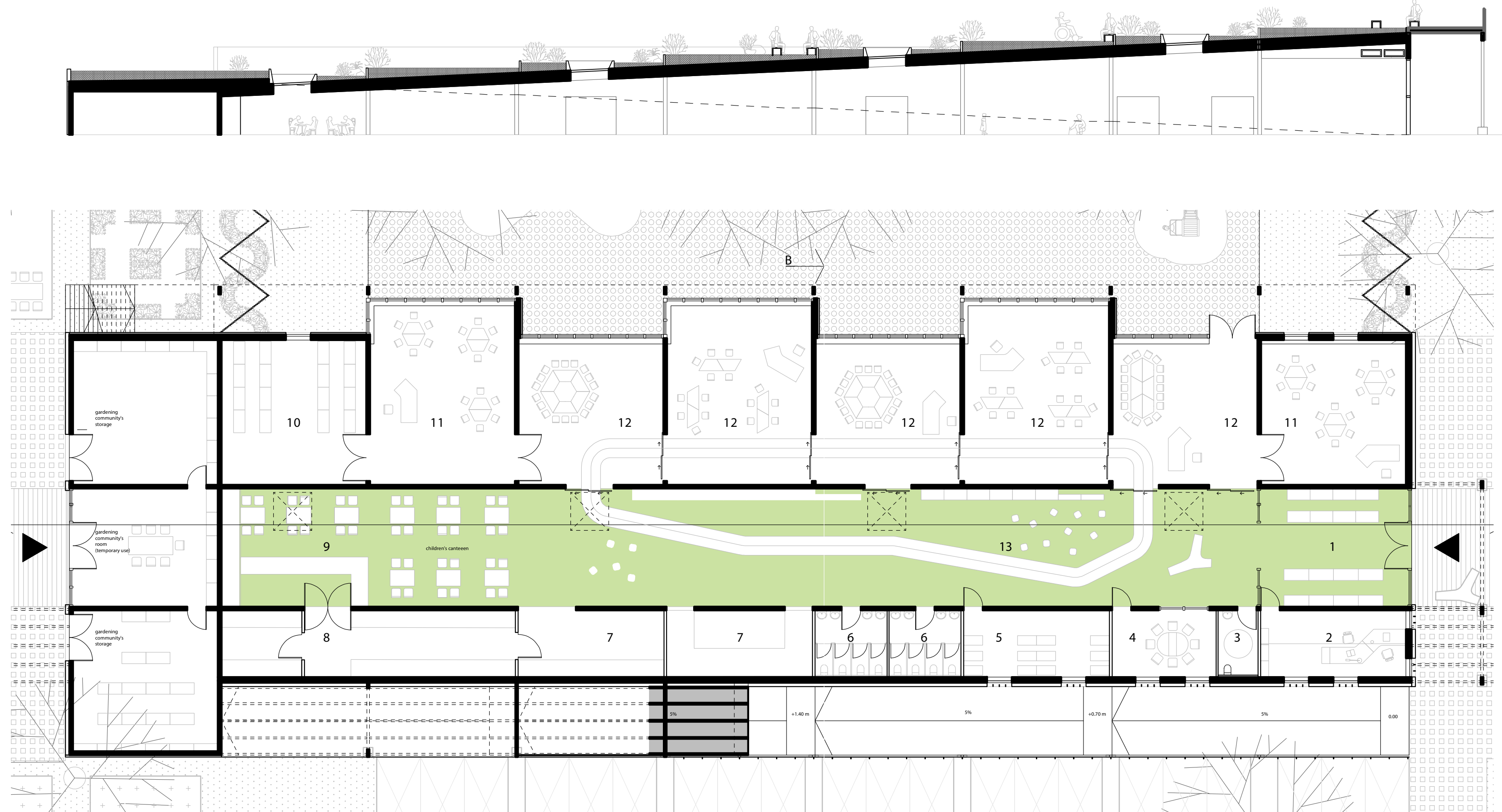
Entrance to the kindergarten
- creation of small “urban
plaza” in front of the
entrance to the block.
Slow-traffic drop-off for cars.





**Transformation design
in 3 aspects:
2. Densification -
kindergarten**

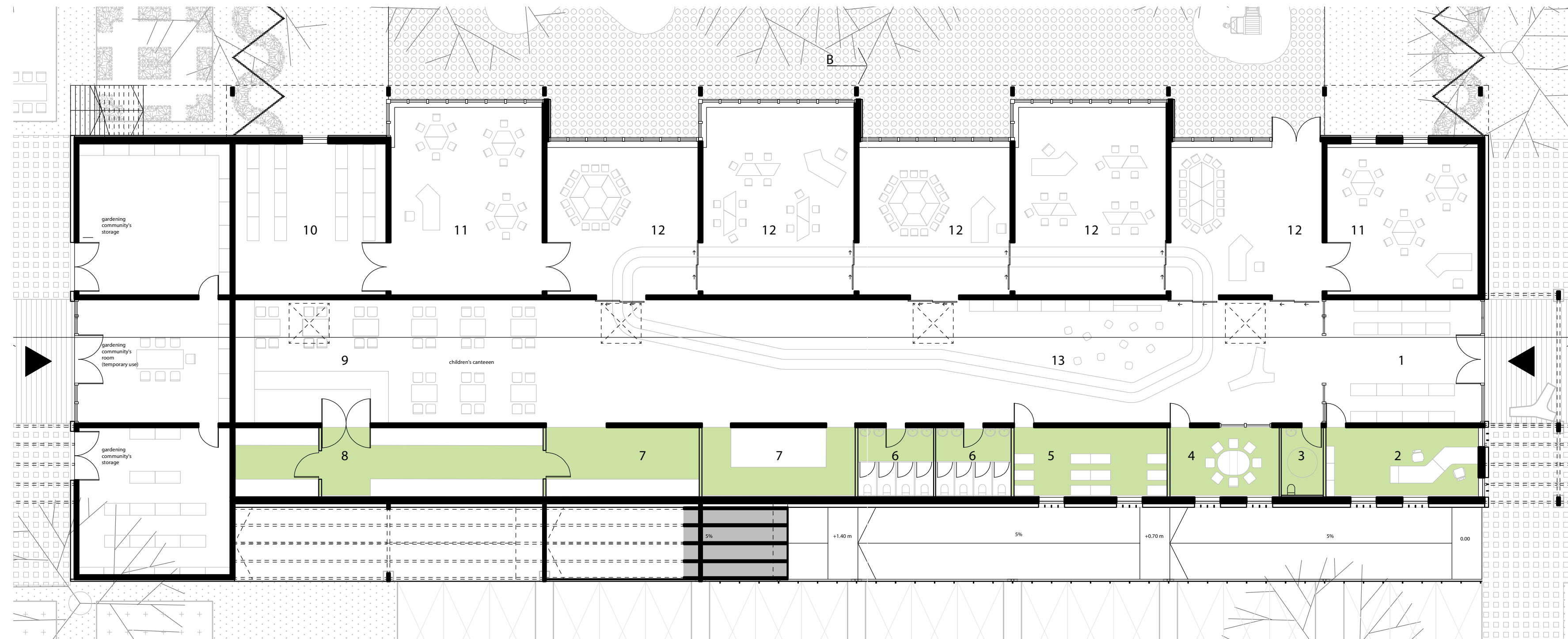
Continuous open space below
the sloping roof functions as
a foyer, open playroom and
canteen





**Transformation design
in 3 aspects:
2. Densification -
kindergarten**

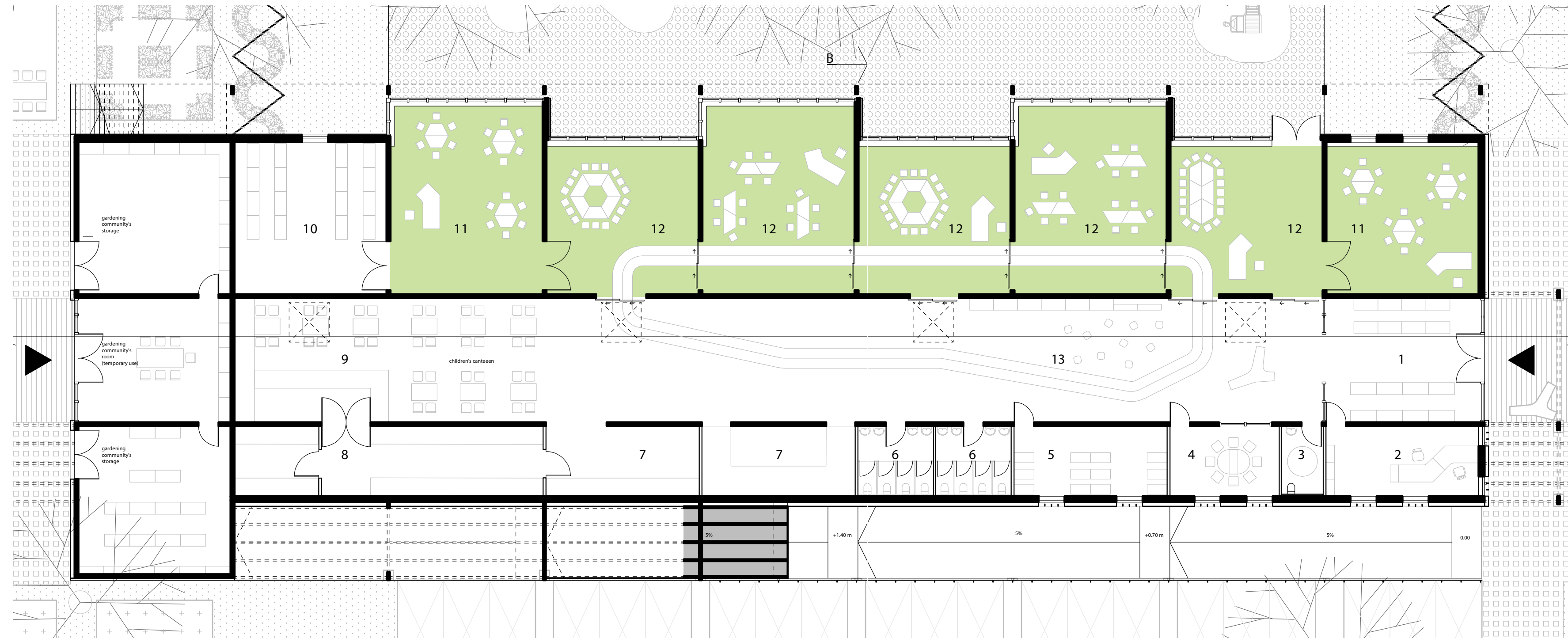
Service functions located
under the elevated path





**Transformation design
in 3 aspects:
2. Densification -
kindergarten**

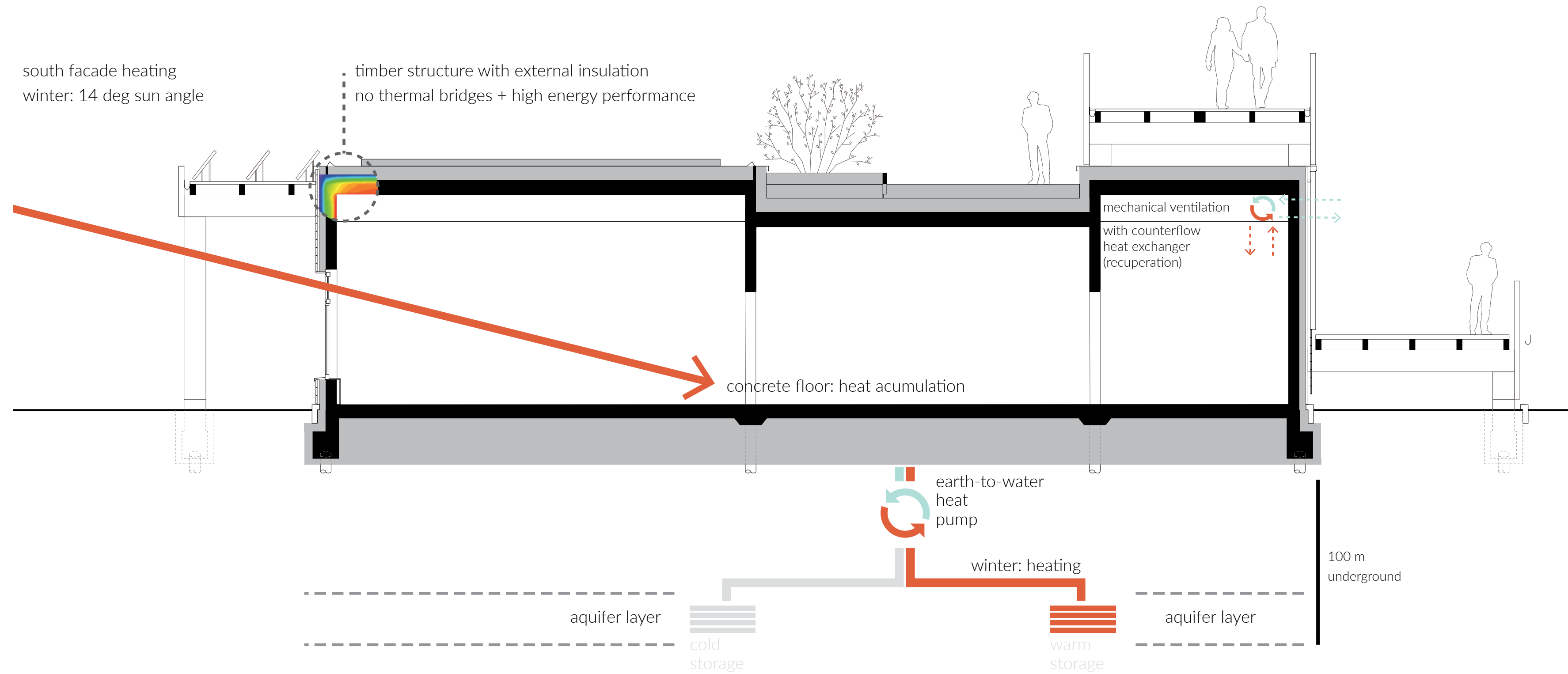
Playrooms connected
accordingly to concept of
“one open playspace” where
following the route around
the building, activities change.





Steps of Transformation Design - Densification

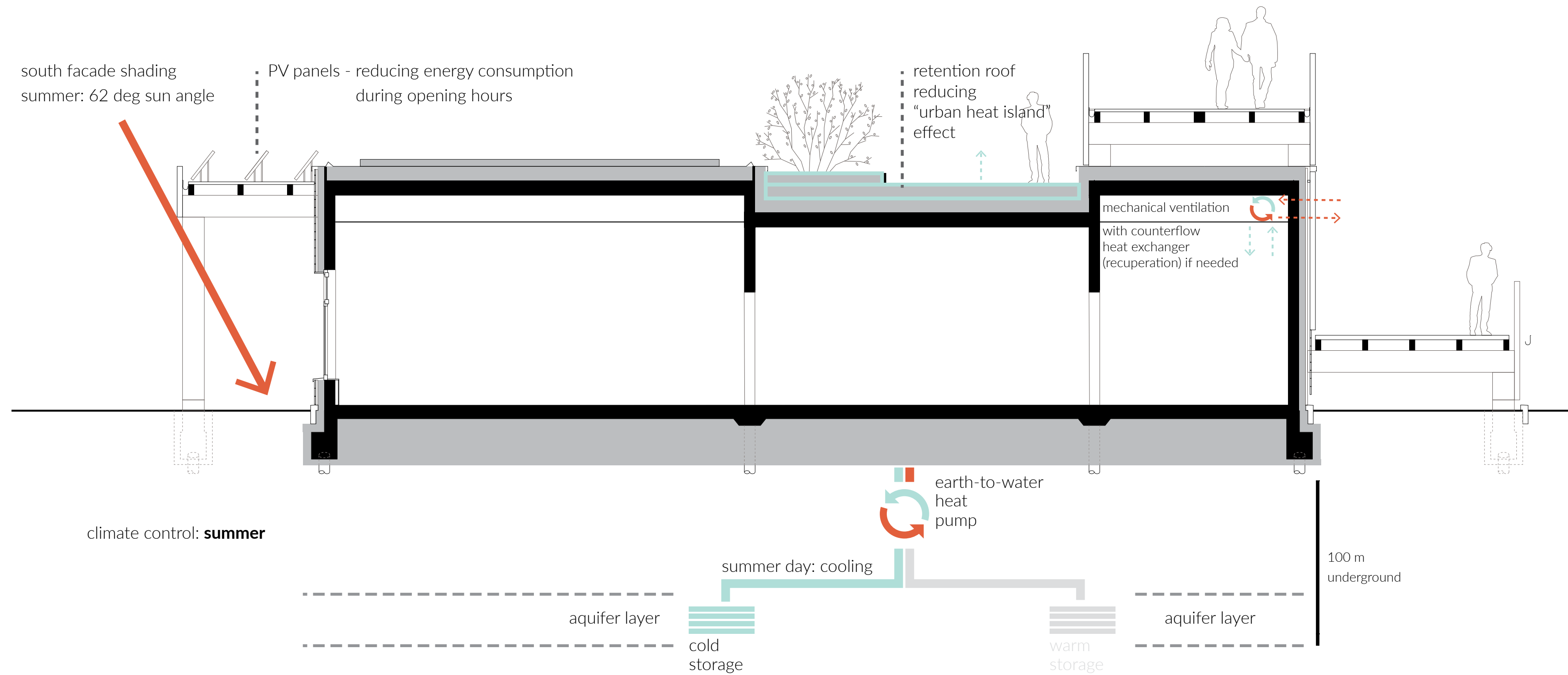
climate control: winter





Steps of Transformation Design - Densification

climate control: summer



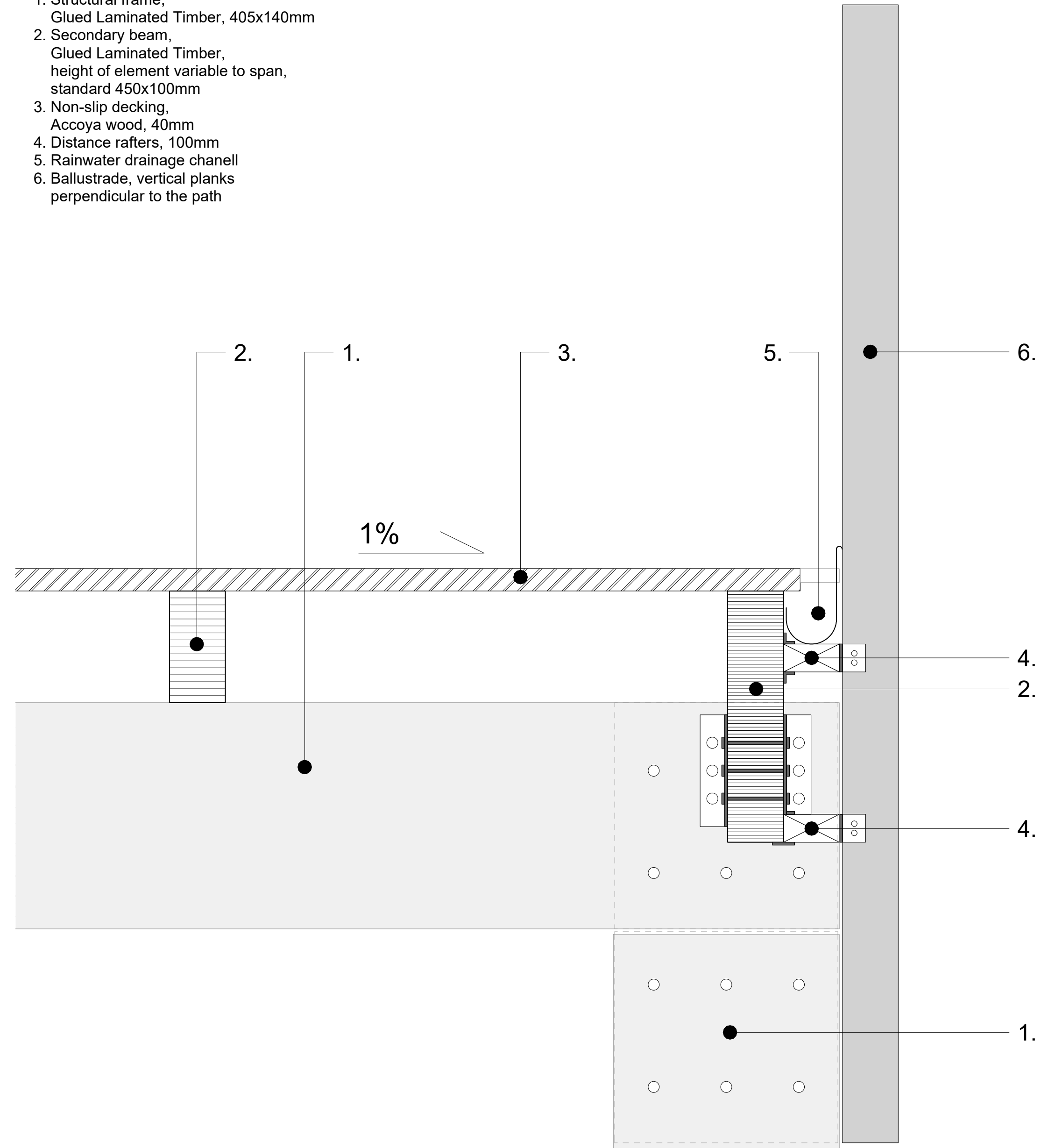


Steps of Transformation Design - Densification

“elevated path” detail

I. Ballustrade detail 1:5

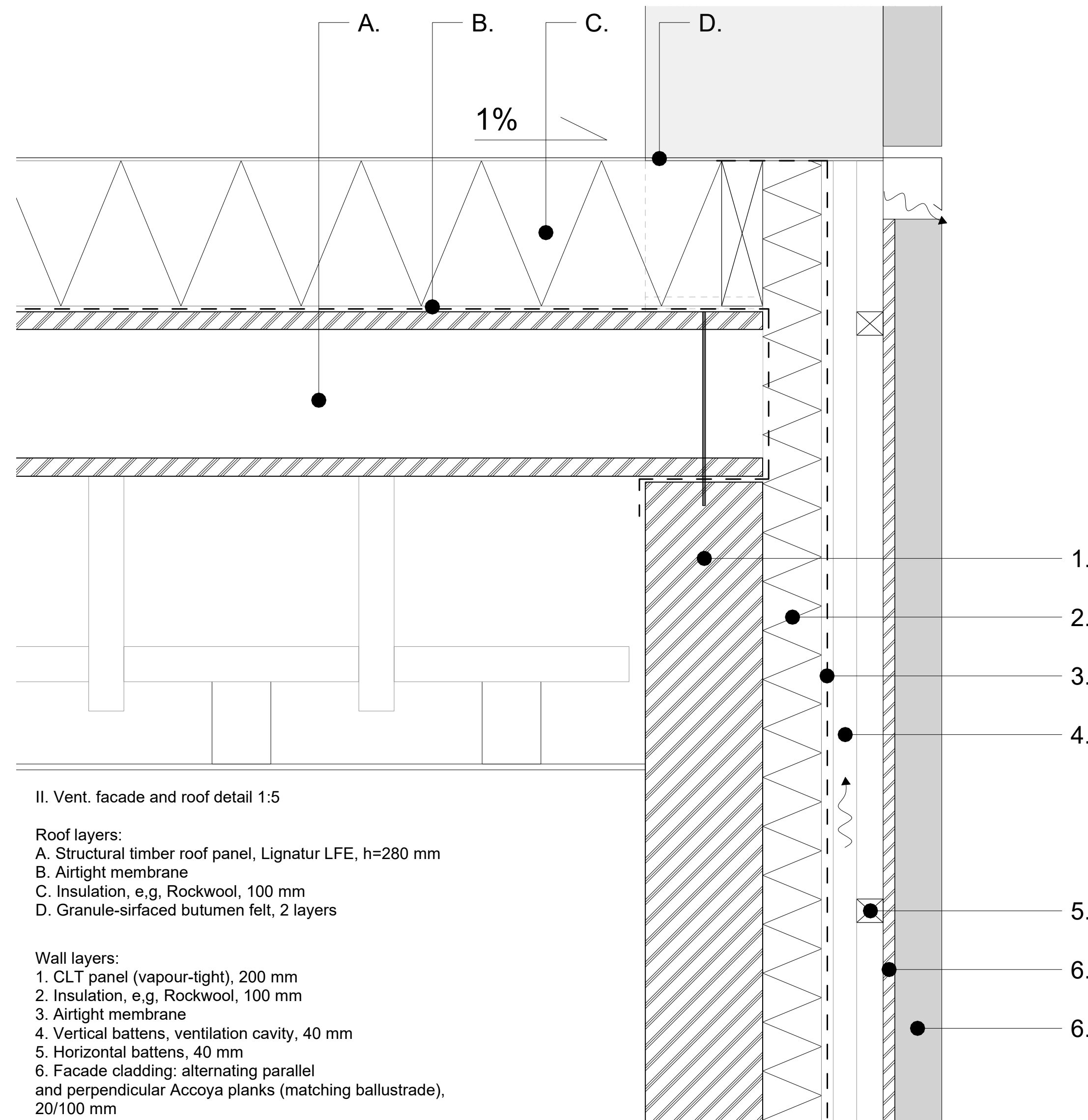
1. Structural frame,
Glued Laminated Timber, 405x140mm
2. Secondary beam,
Glued Laminated Timber,
height of element variable to span,
standard 450x100mm
3. Non-slip decking,
Accoya wood, 40mm
4. Distance rafters, 100mm
5. Rainwater drainage chanell
6. Ballustrade, vertical planks
perpendicular to the path





Steps of Transformation Design - Densification

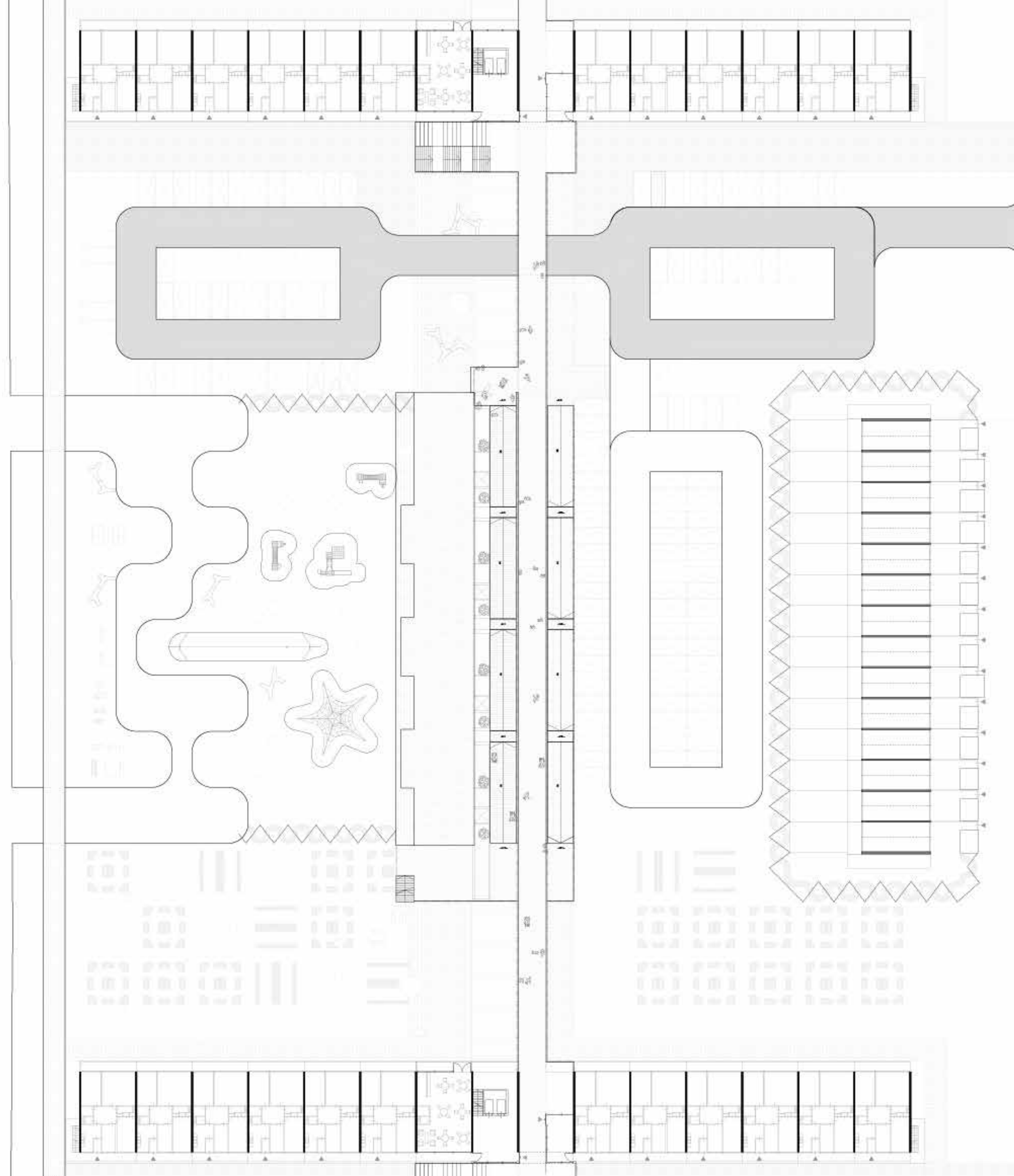
ventlated facade, CLT wall
and timber panel slab in
detail





Steps of Transformation Design

3. ACTIVATION
creation of necessary functional “patches”.

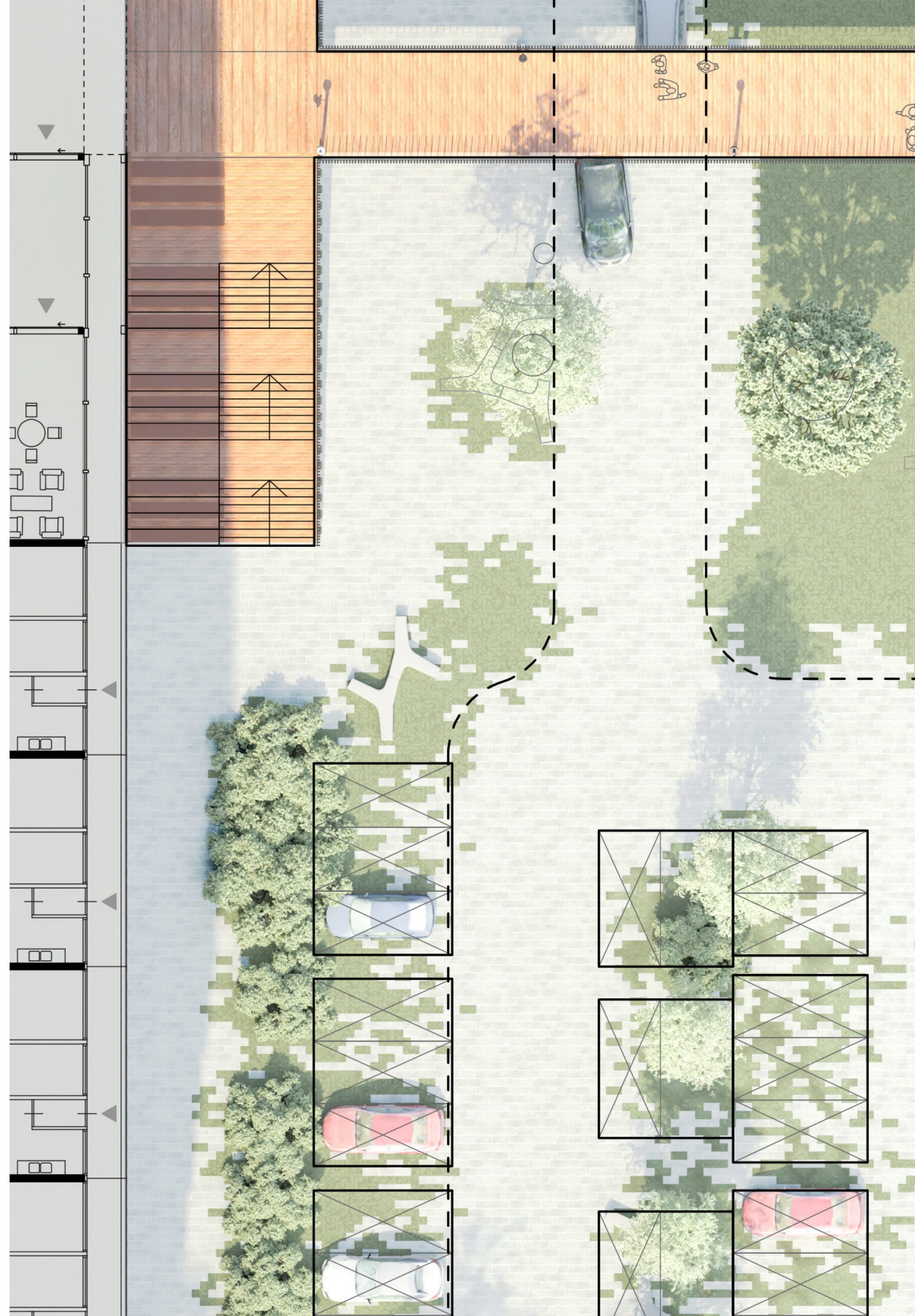


paved road
for cars
accessibility



Steps of Transformation Design

3. ACTIVATION
creation of necessary functional “patches”.



*reference image



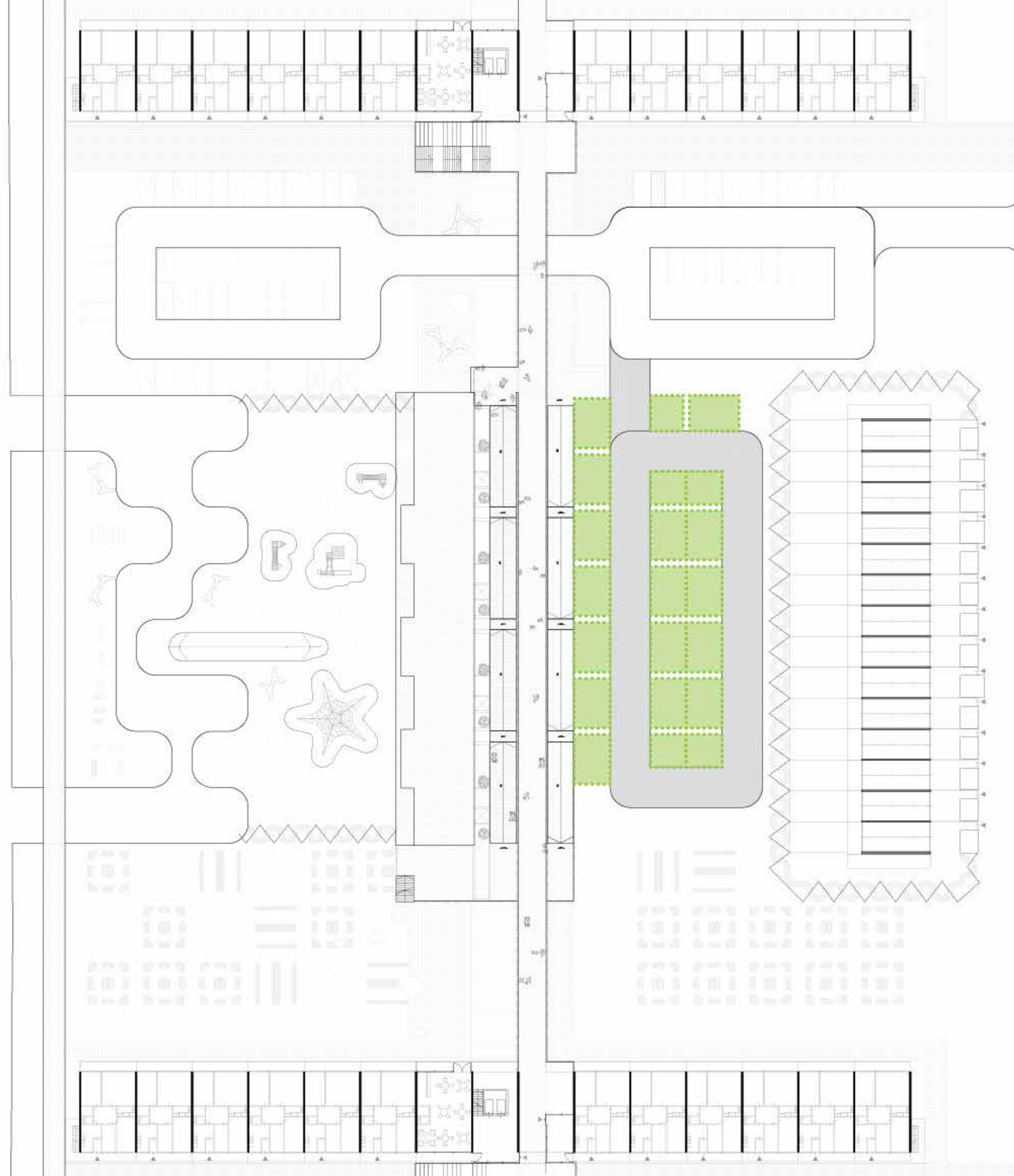




Steps of Transformation Design - Activation

Creation of necessary
functional “patches”.

Extension of paved
road - more parking
places or urban modules,
accordingly to preferences
of block’s community

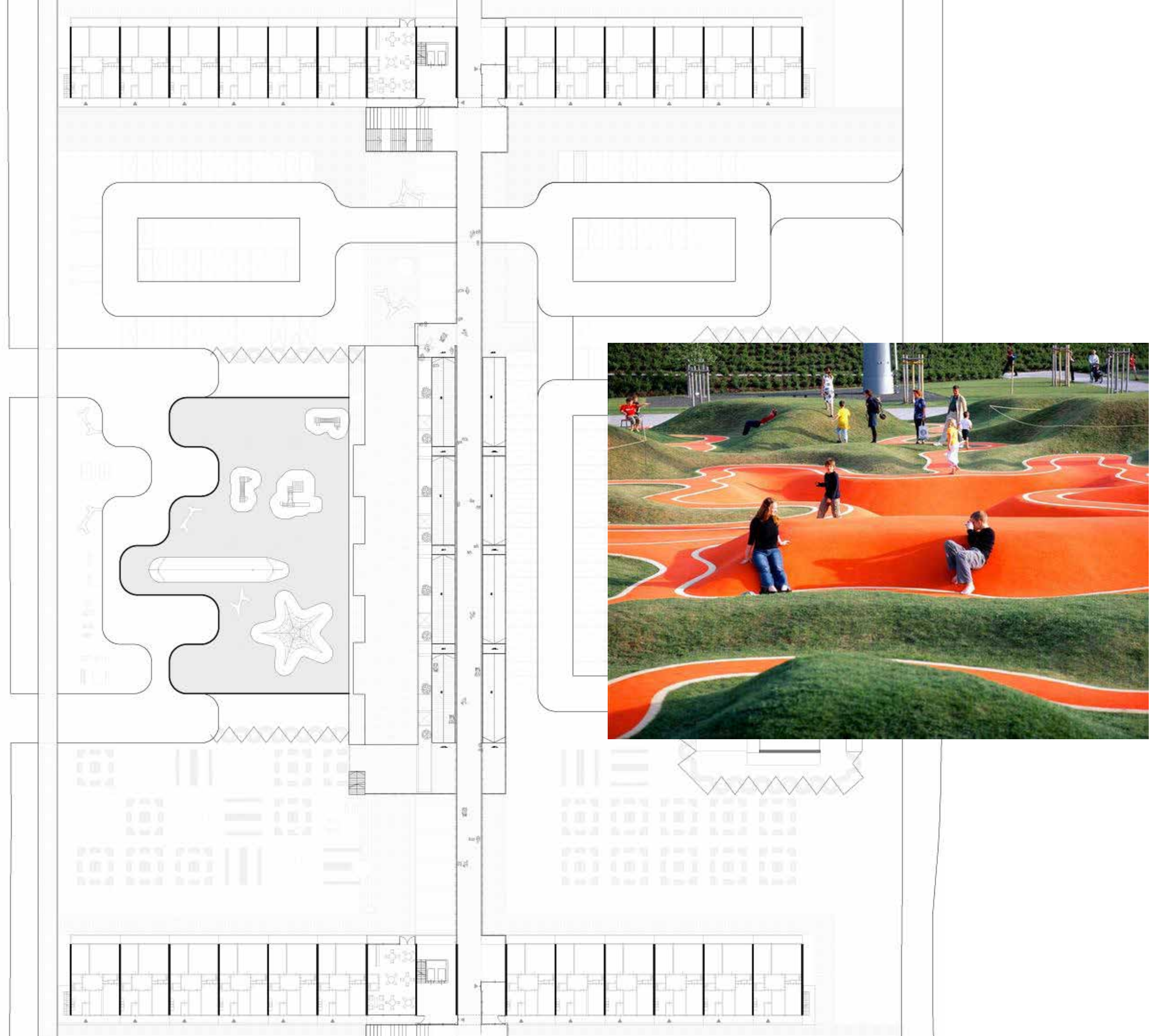




Steps of Transformation Design - Activation

Creation of necessary
functional “patches”.

Extension of kindergarten
- playground

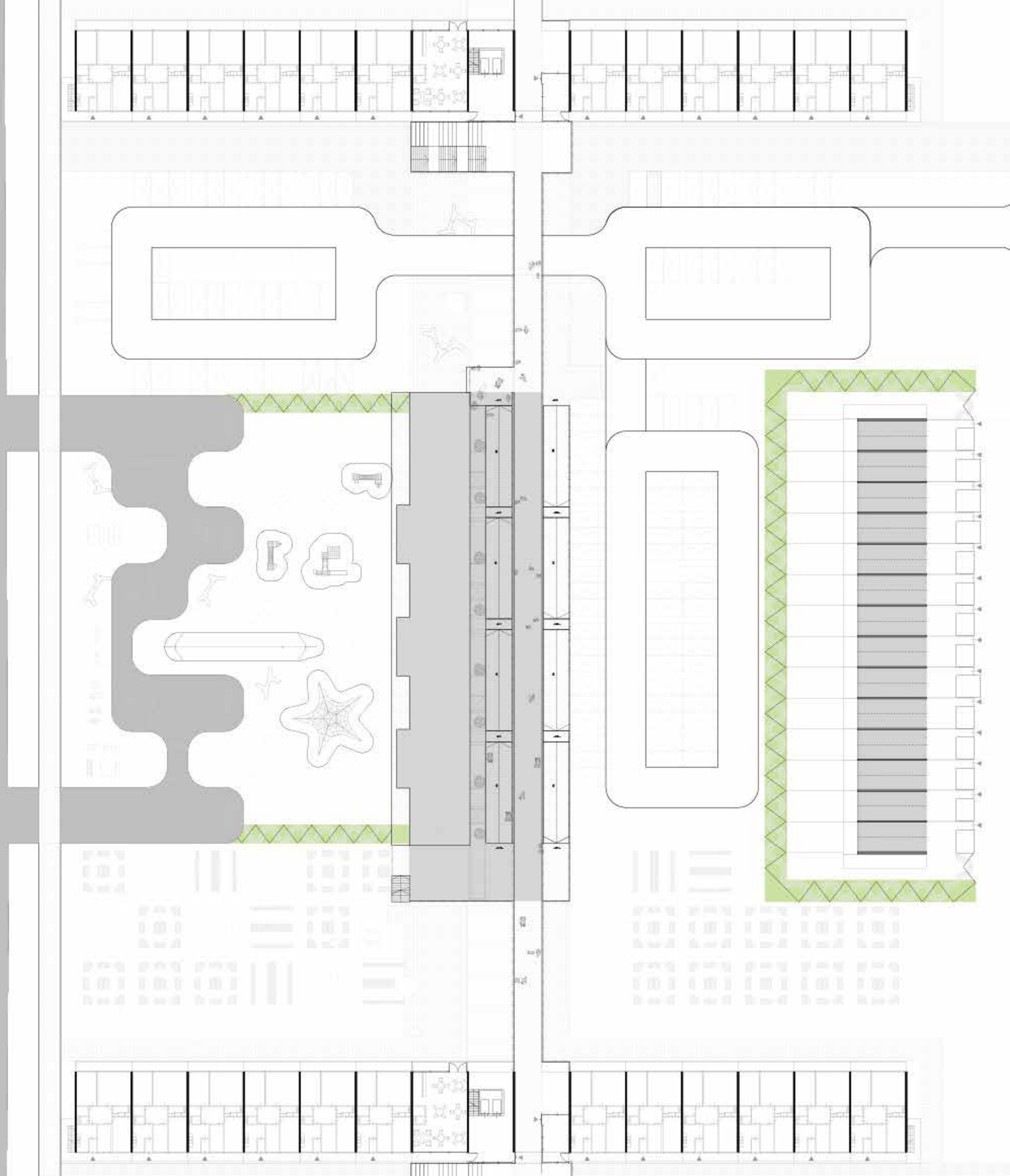




Steps of Transformation Design - Activation

Creation of necessary
functional “patches”.

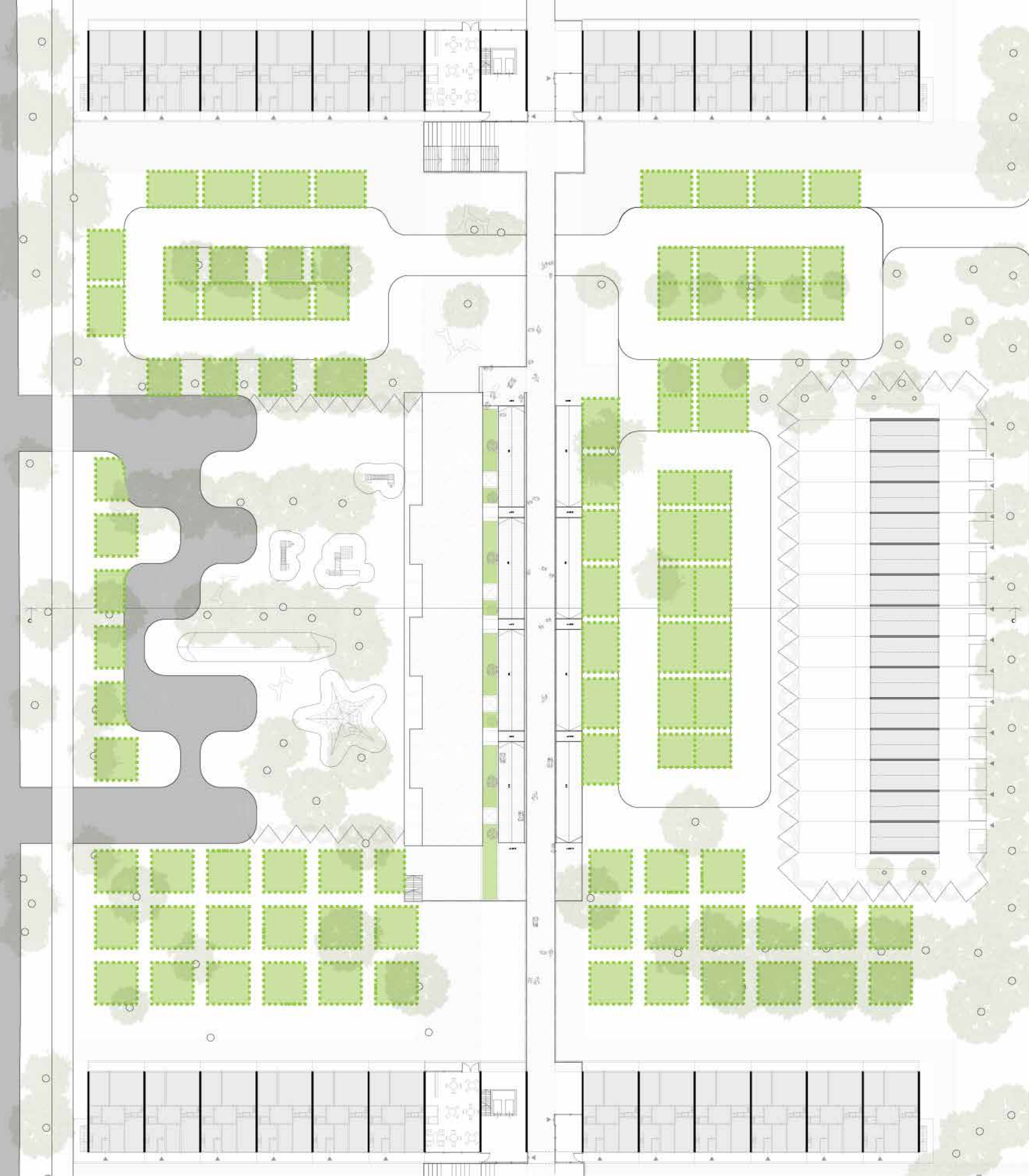
Creation of borders
- privacy for rowhouses and
security for playground





Steps of Transformation Design - Activation

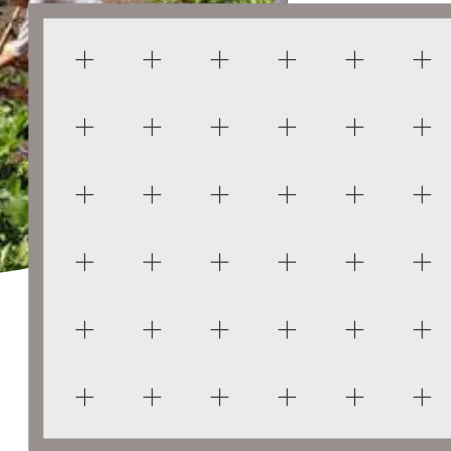
**Modules - framework
for incremental change
accordingly to the needs**





Steps of Transformation Design - Activation

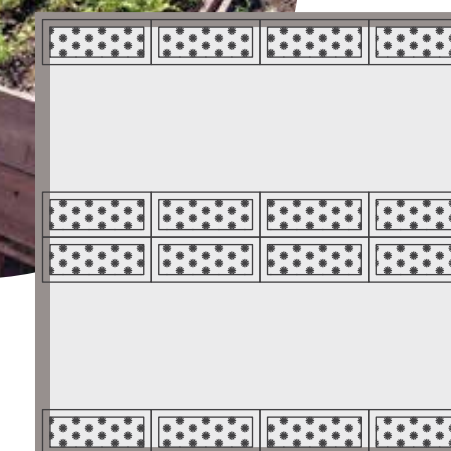
Modules - shifting
responsibility of the shared
community space



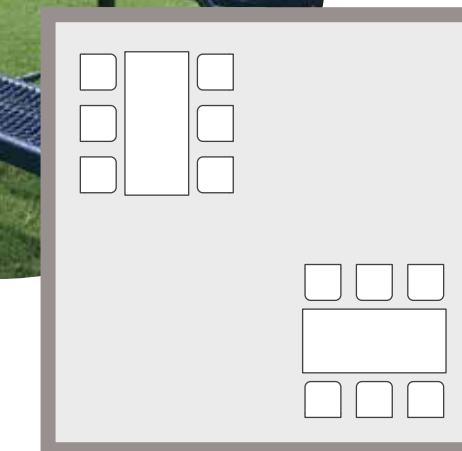
garden:
urban farming



garden:
forest farming



garden:
planter boxes



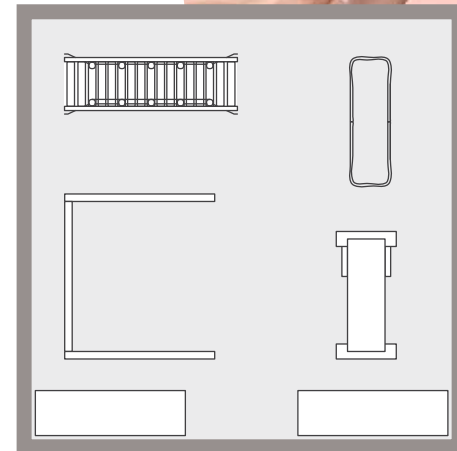
garden:
picnic tables



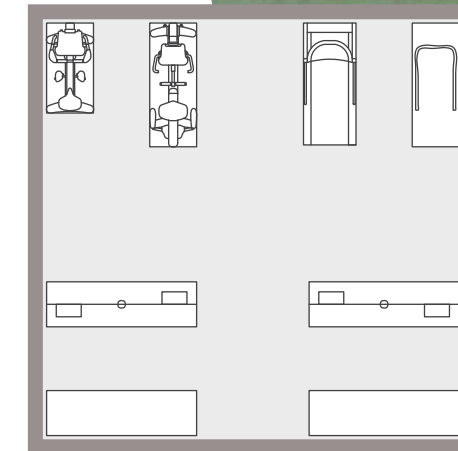


Steps of Transformation Design - Activation

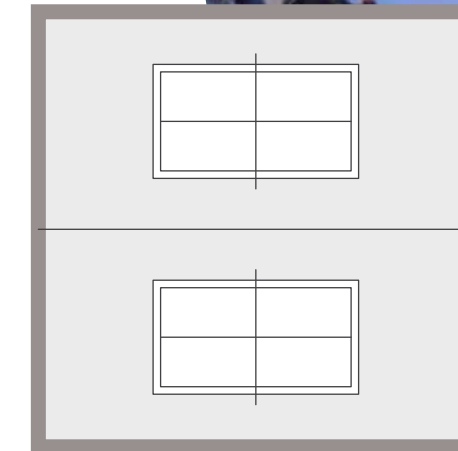
Modules - shifting
responsibility of the shared
community space



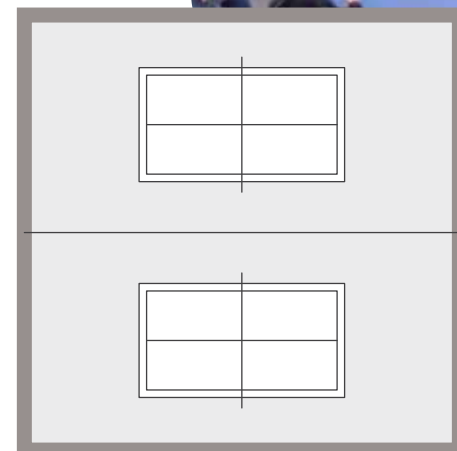
urban sports:
outdoor gym



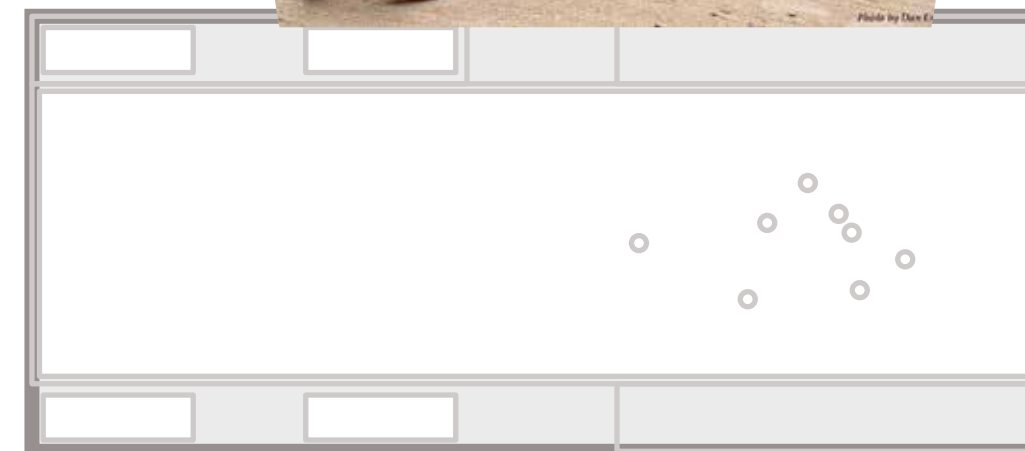
urban sports:
gym for elderly



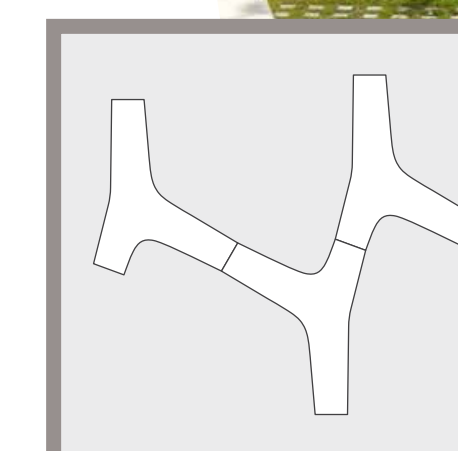
urban sports:
table tennis



urban sports:
table tennis



urban sports:
petanque



outdoor room:
"lounge"

