



House as a Mediator

P5 Presentation, 27th June 2017

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Heritage & Architecture - Rehousing Studio

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Examiner : Gerard van Bortel

1. Introduction

- Intervam Building System
- Urban Construction

2. Research Question

- Current Situation
- Problem Statement
- Value Assessment

3. Design

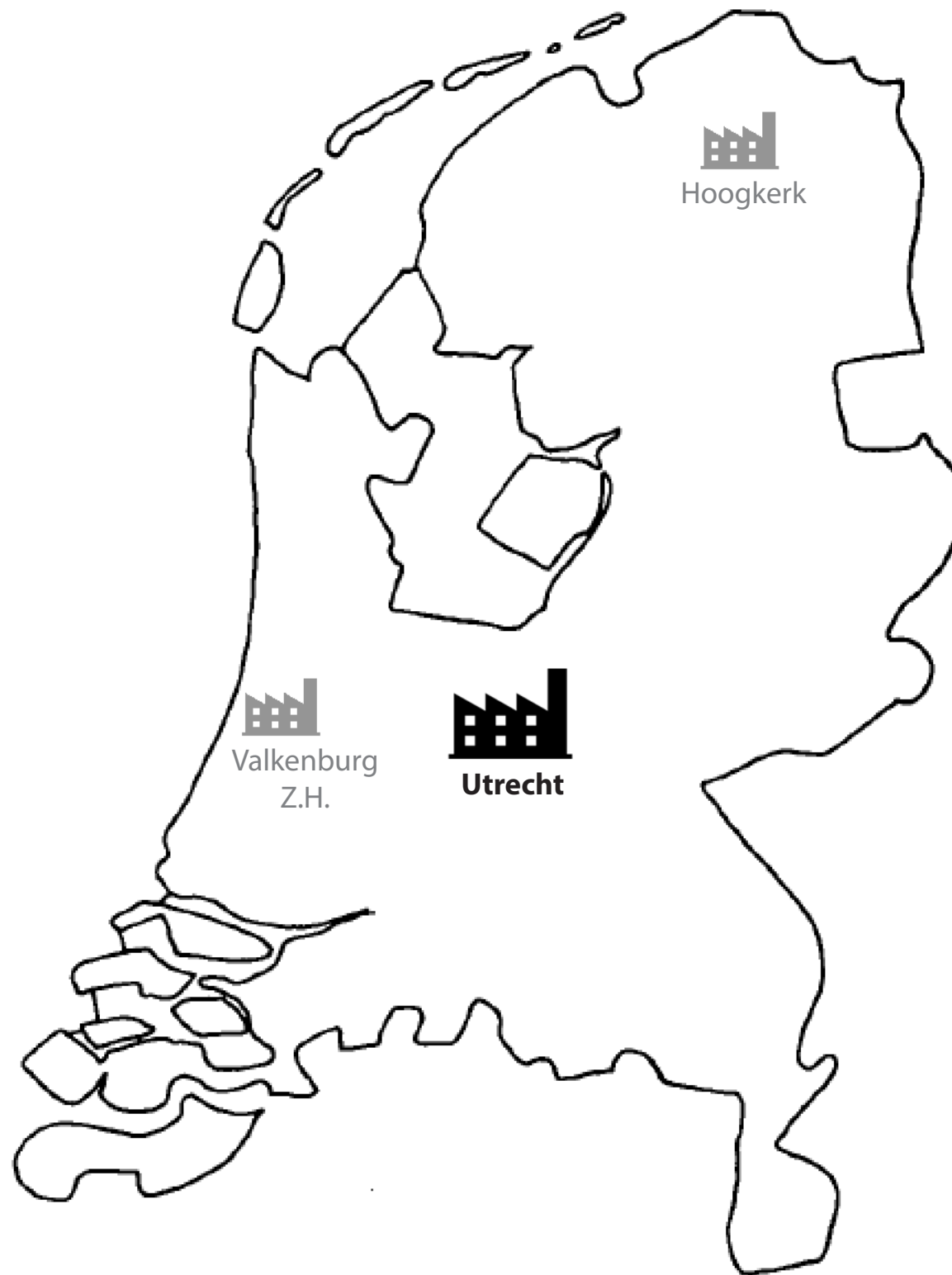
- Concept
- Urban Planning
- Fragments
- Program
- Construction Detail
- Perspective View

4. Reflection



VAM Systeembouw

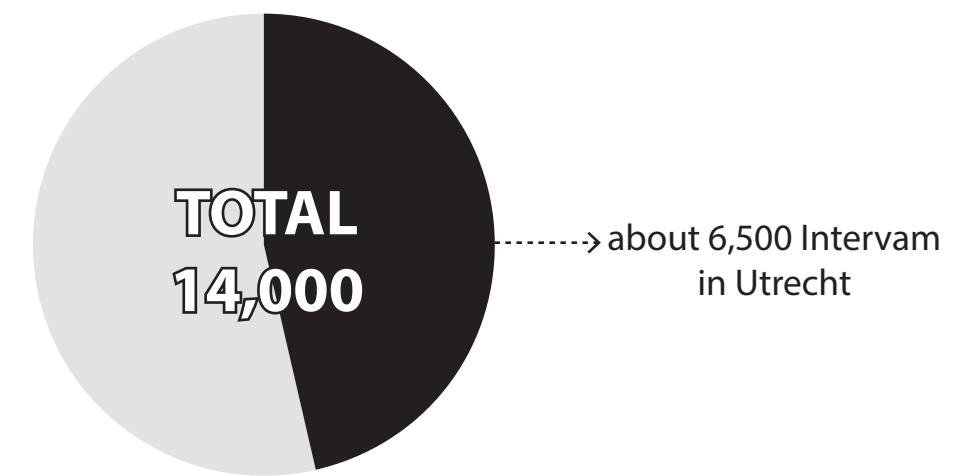
- Prefabricated construction method
- Structure: precast concrete
- Construction period : 1959~1970s



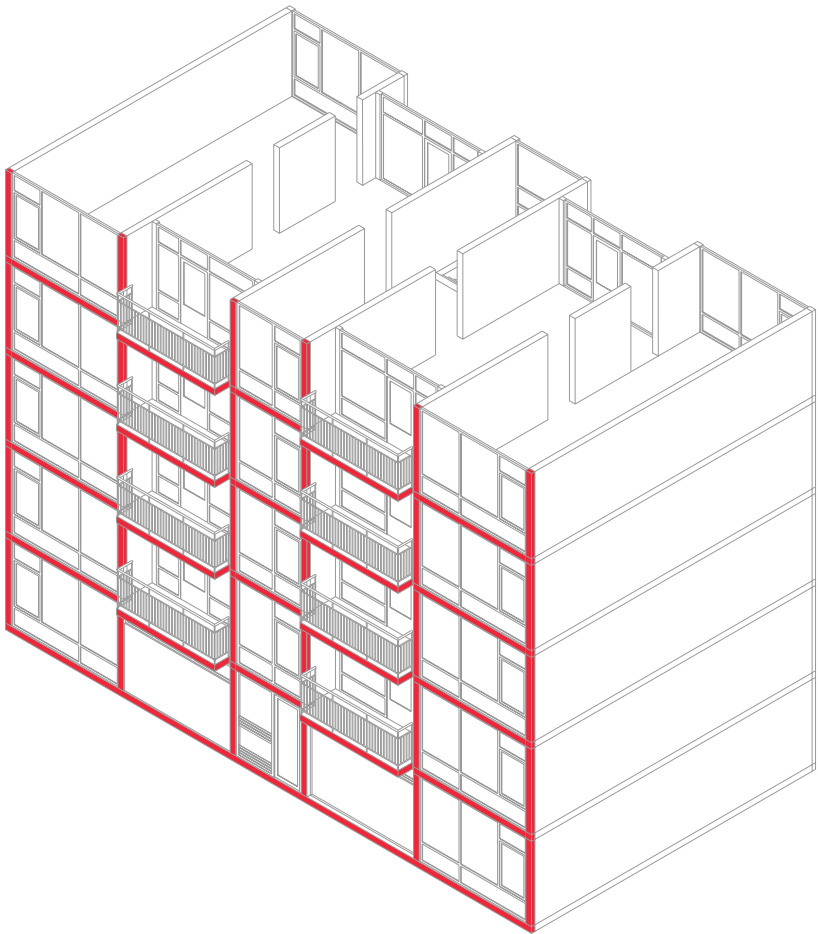
Location of three production factories

Production Factory

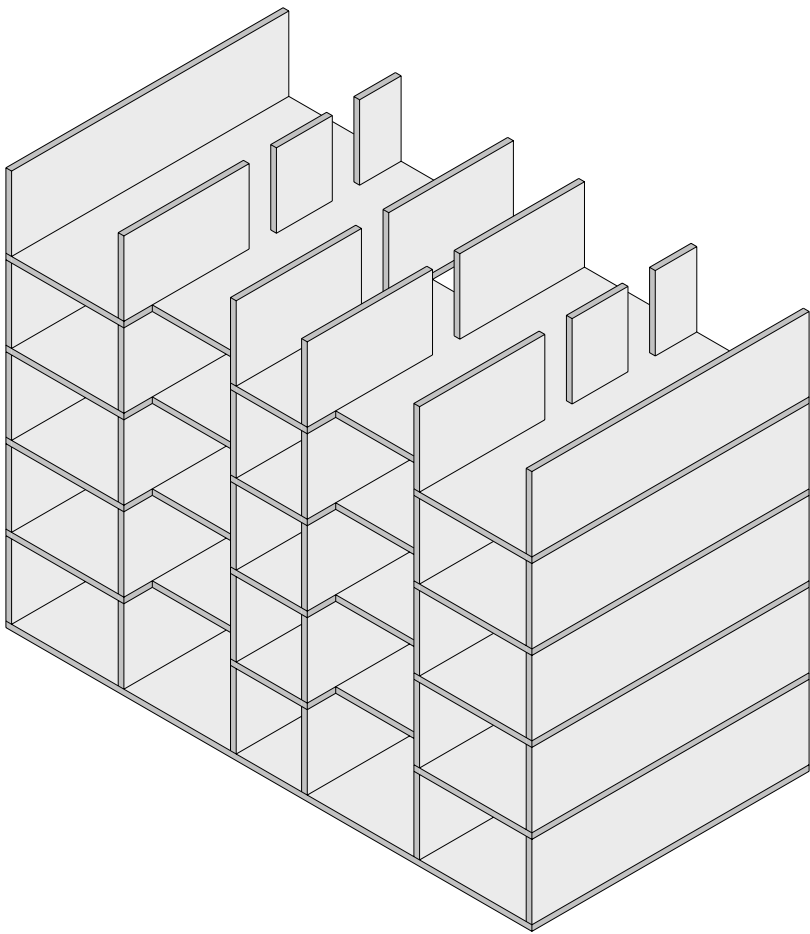
- Main production factory was located in Utrecht
- Almost half of the total Intervam housings were built in Utrecht



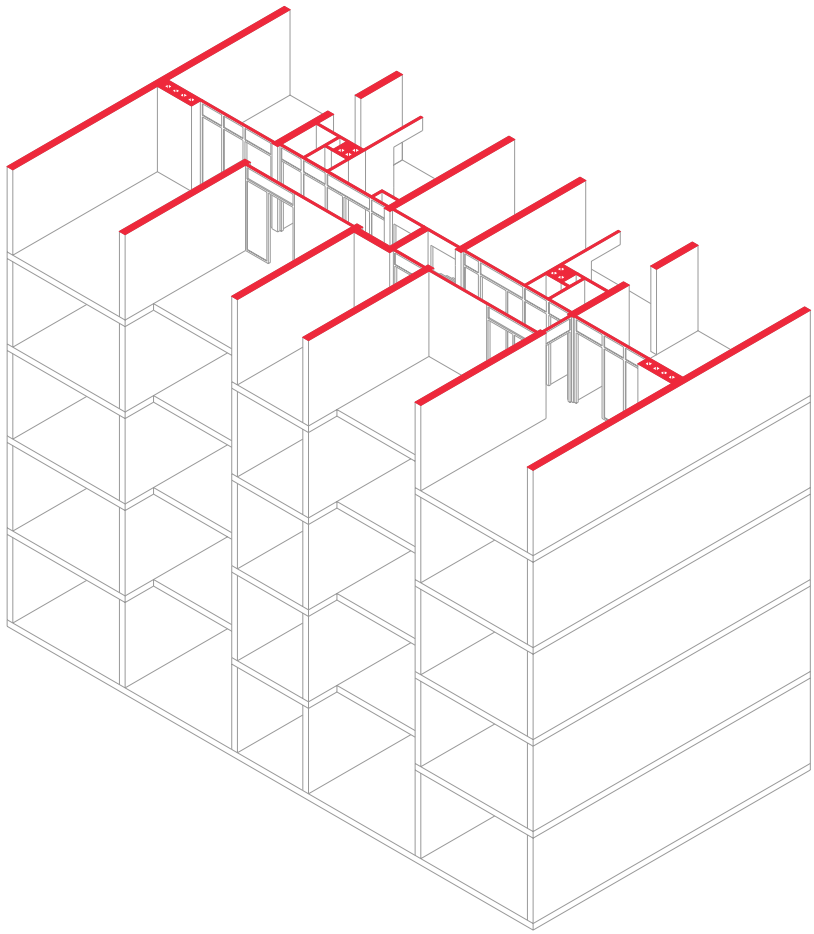
Intervam housings in Netherlands



concrete grid on facade



load-bearing concrete structure



layout of the space plan

1. Introduction_ Intervam Building System



1. Introduction_ Urban Construction





1959

Before the urban development Overvecht was a grassland.



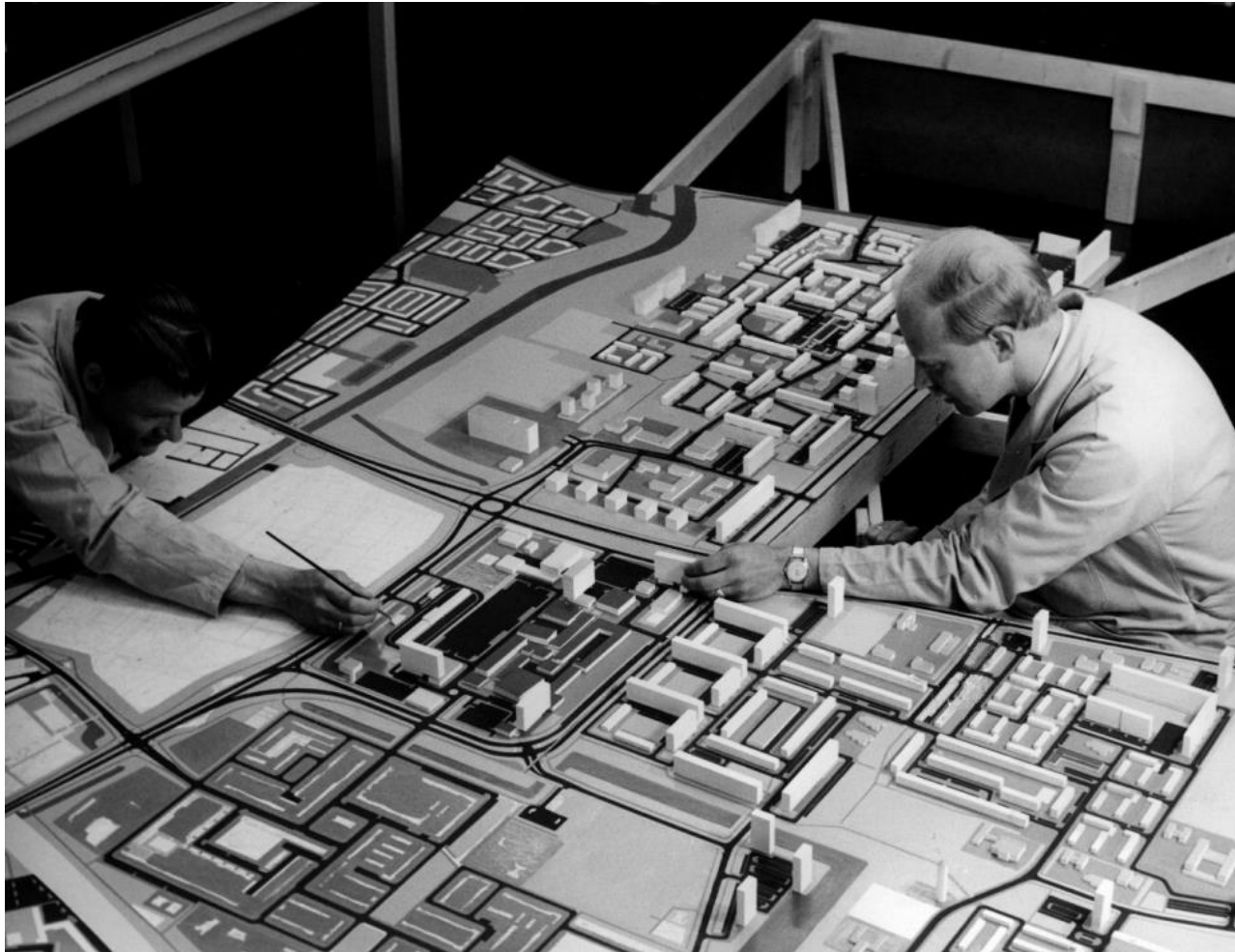
1959-1970

Mass housings were built at a rapid pace



~2014

the greenery was began to be filled with buildings to densify the area since 1980s



Two employees of the Public Works Department of the City of Utrecht is building a model of the district Overvecht Utrecht.



the basic concept of "Wijkgedachte"





Light, Air,
and Space

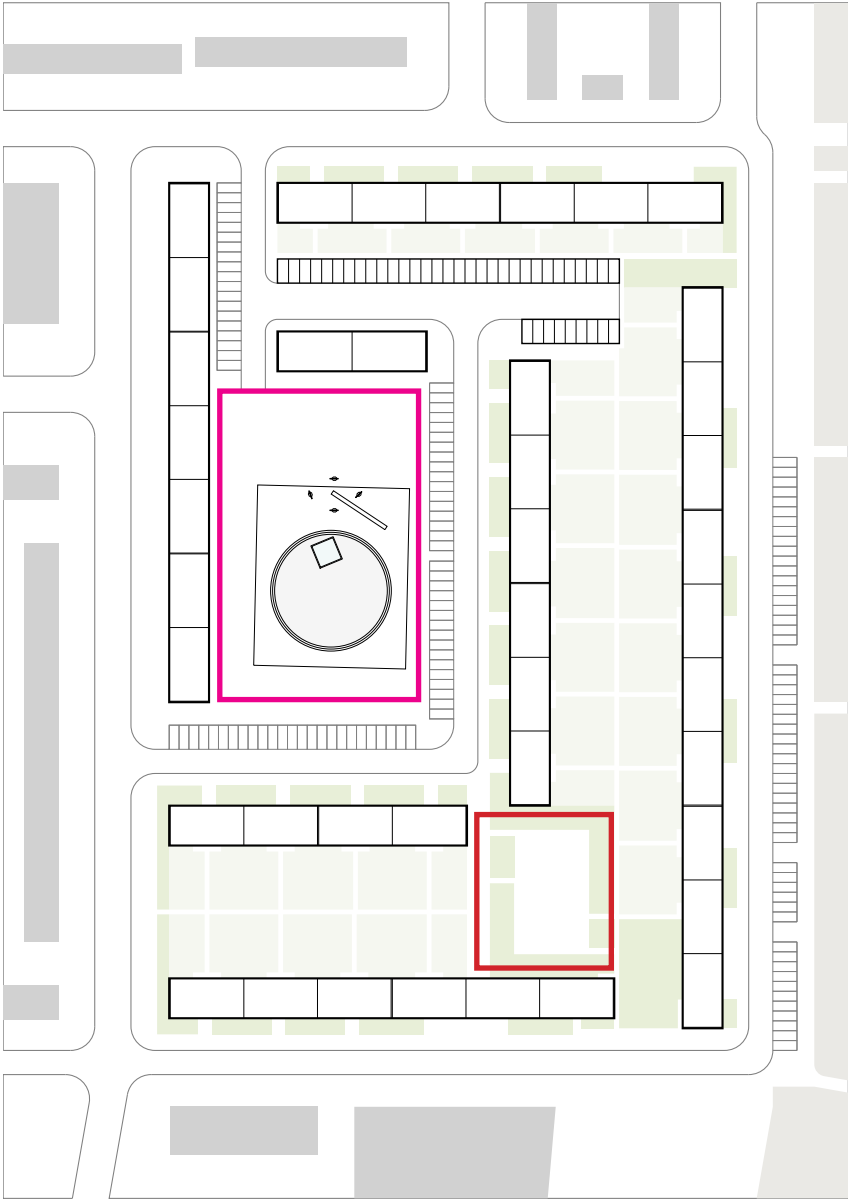


Demolition of Intervam flat in 2011
(Donaudreef, Overvecht-Zuid)

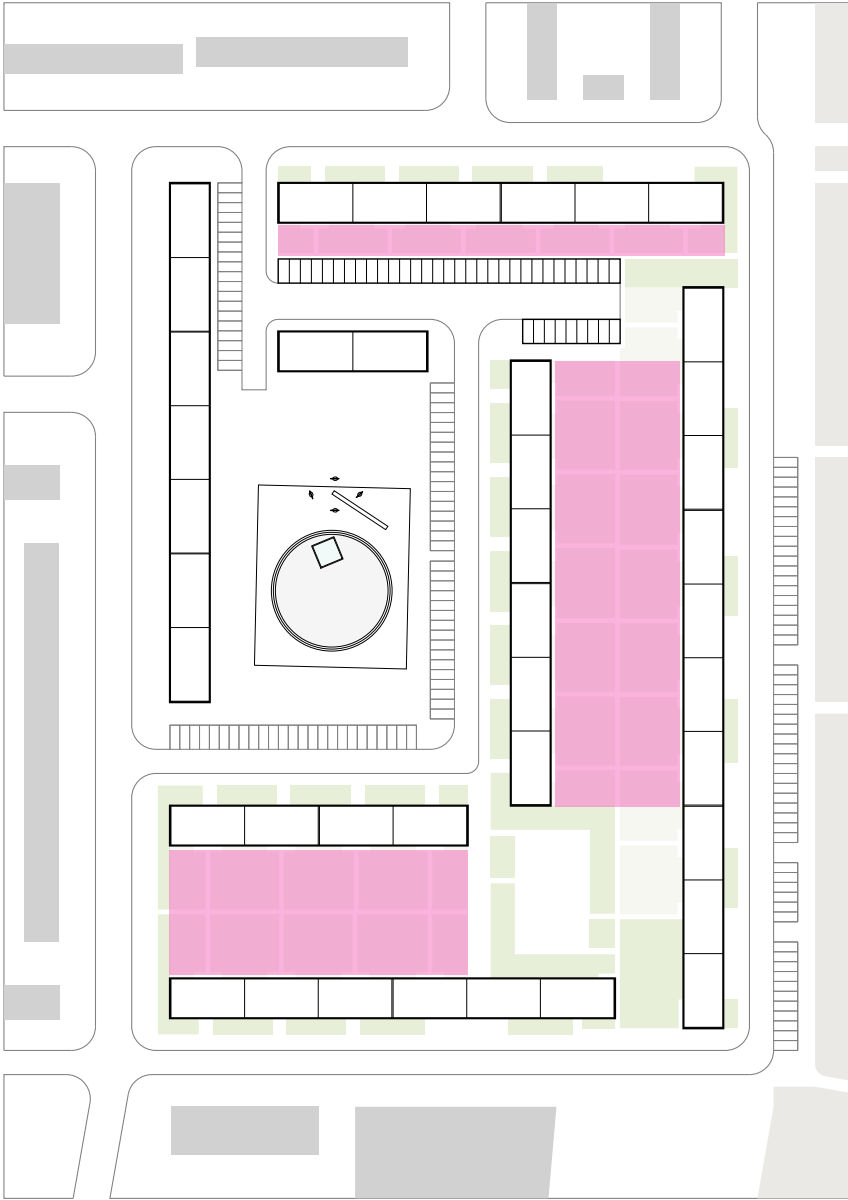
2. Research Question

: Current Situation

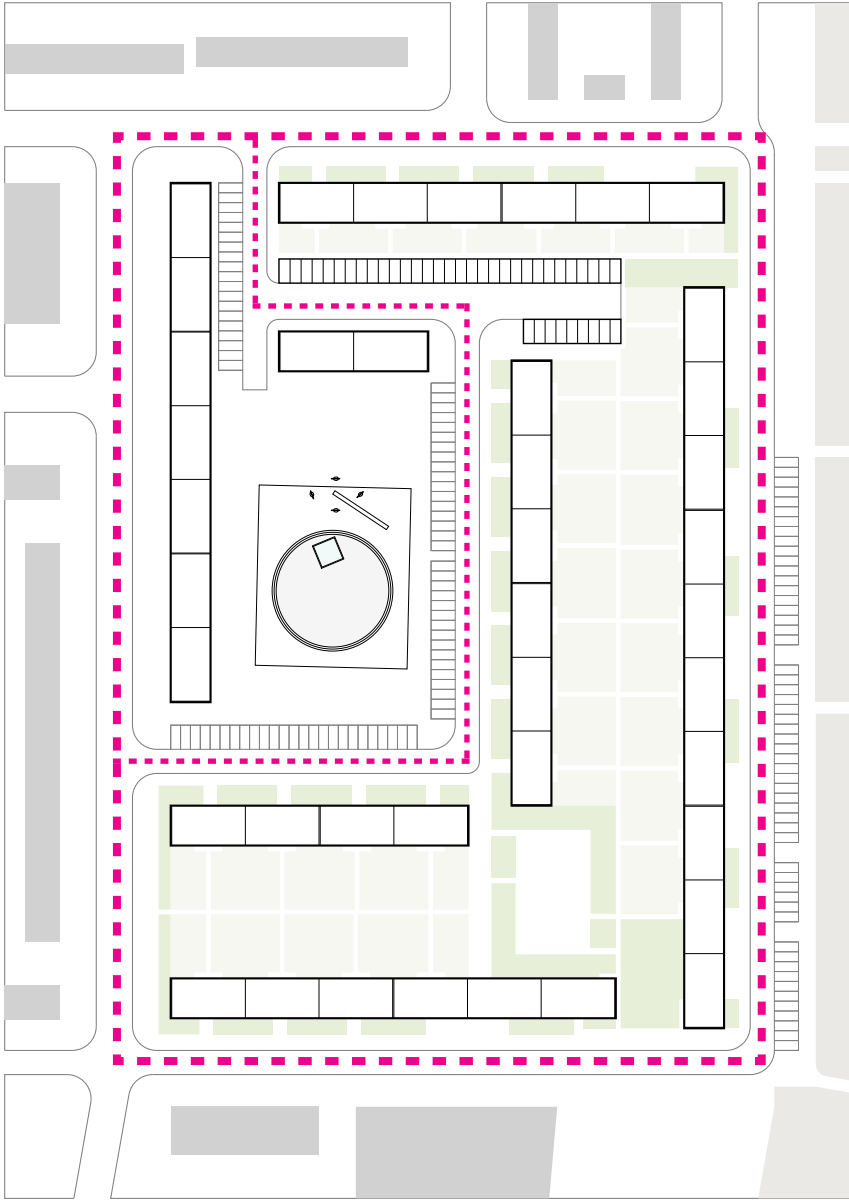
2. Research Question_ Current Situation



communal space

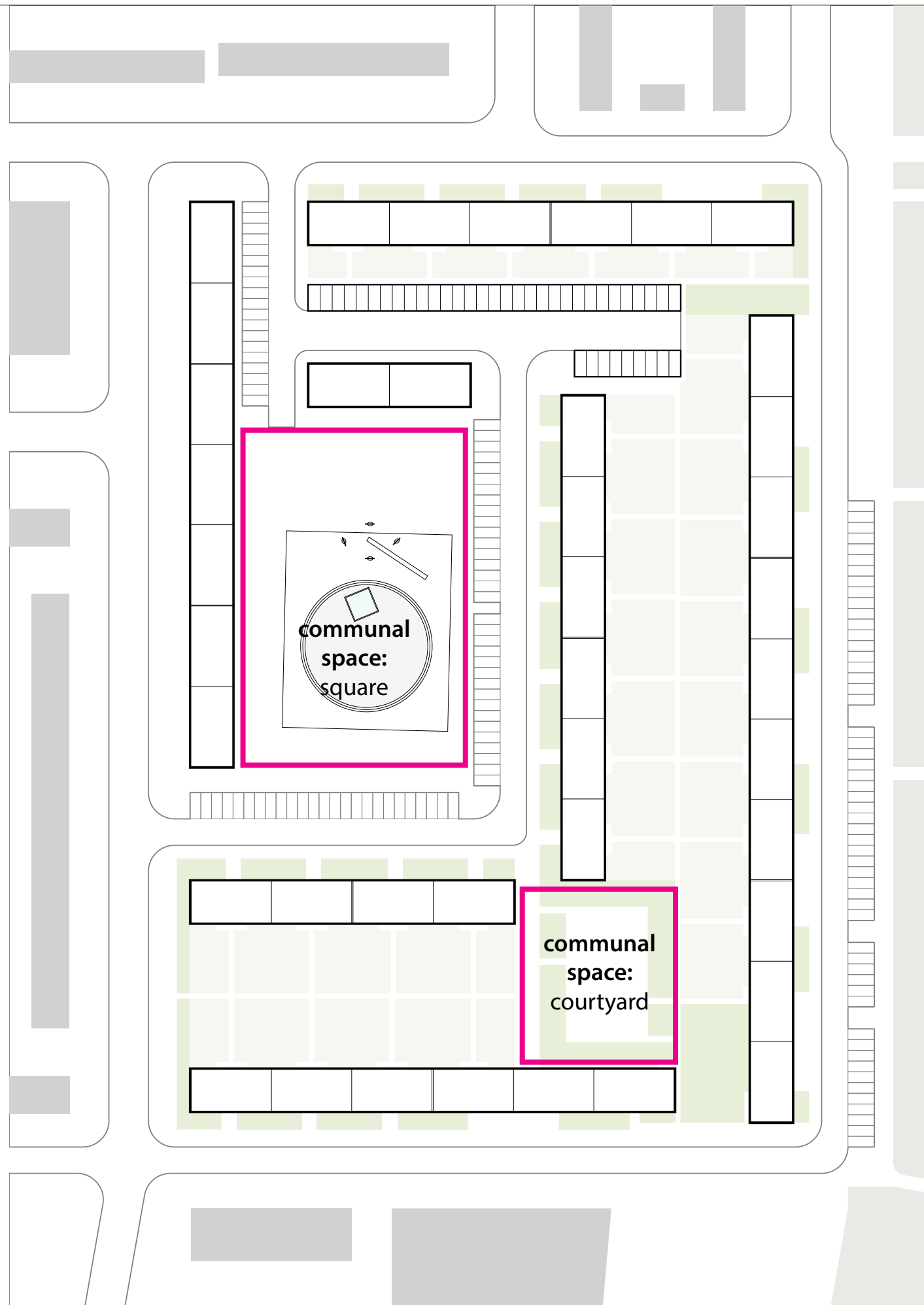


private garden



public street

2. Research Question_ Current Situation

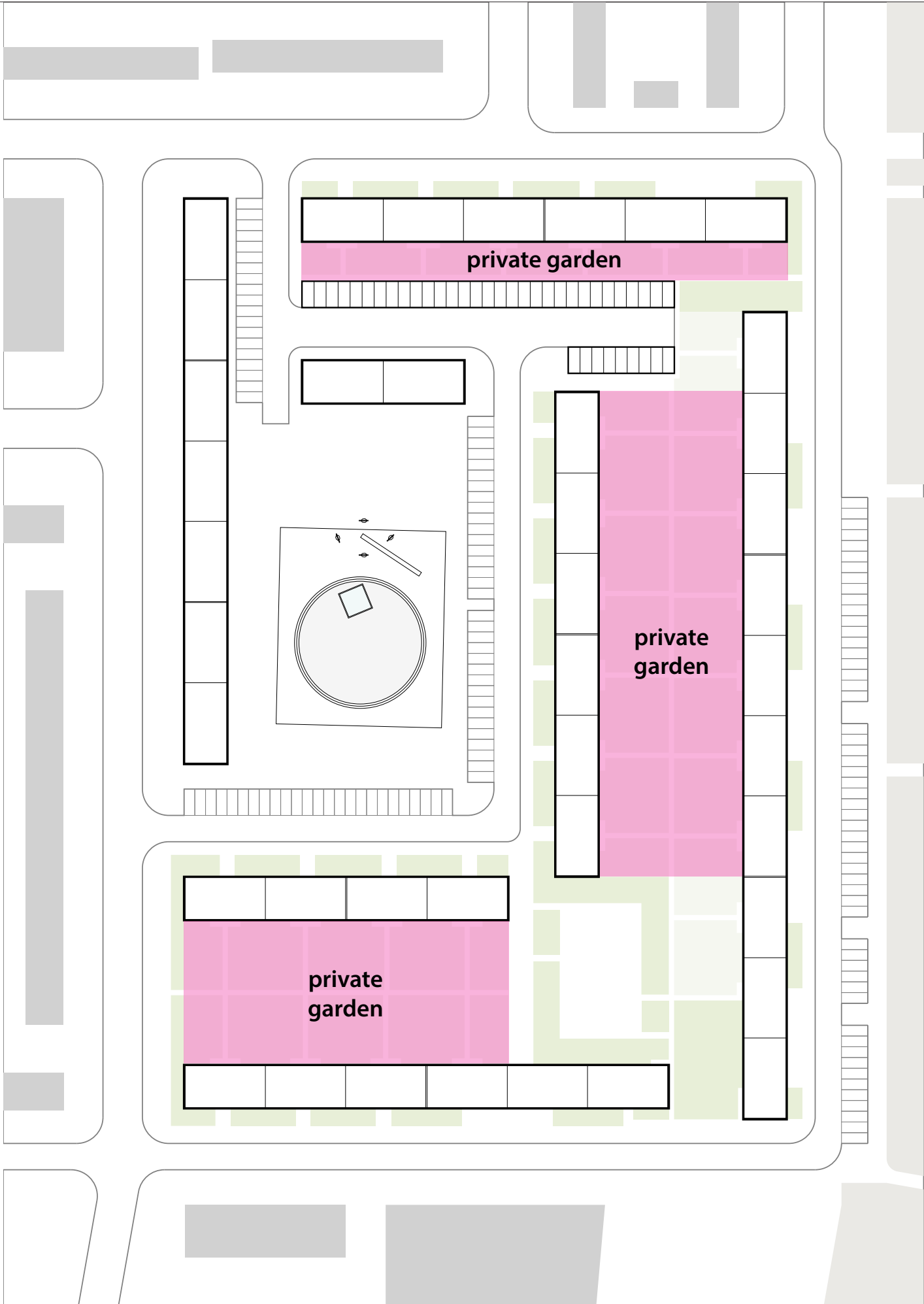


communal space: square



communal space: courtyard

2. Research Question_ Current Situation

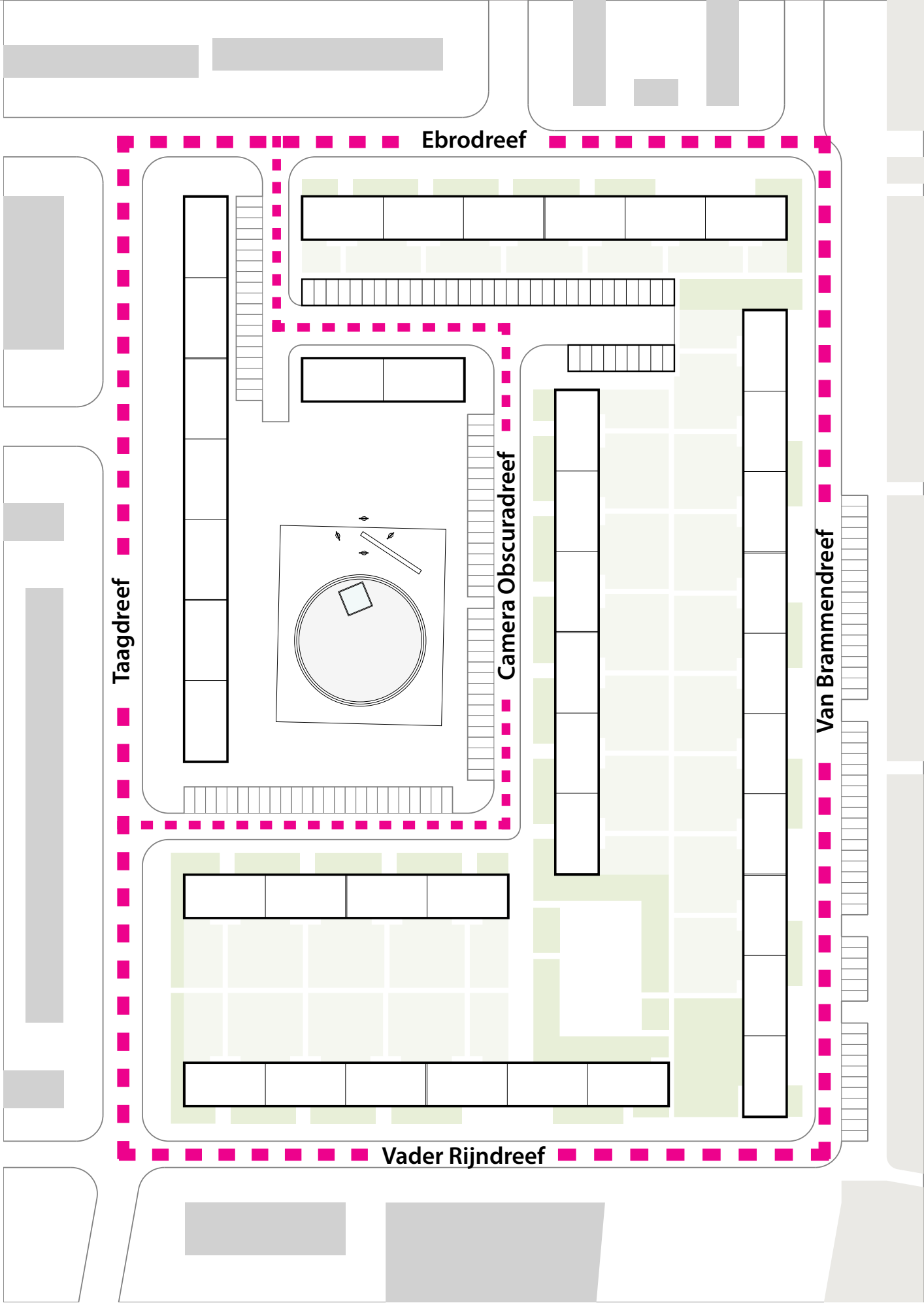


private garden



private garden: passage

2. Research Question_ Current Situation

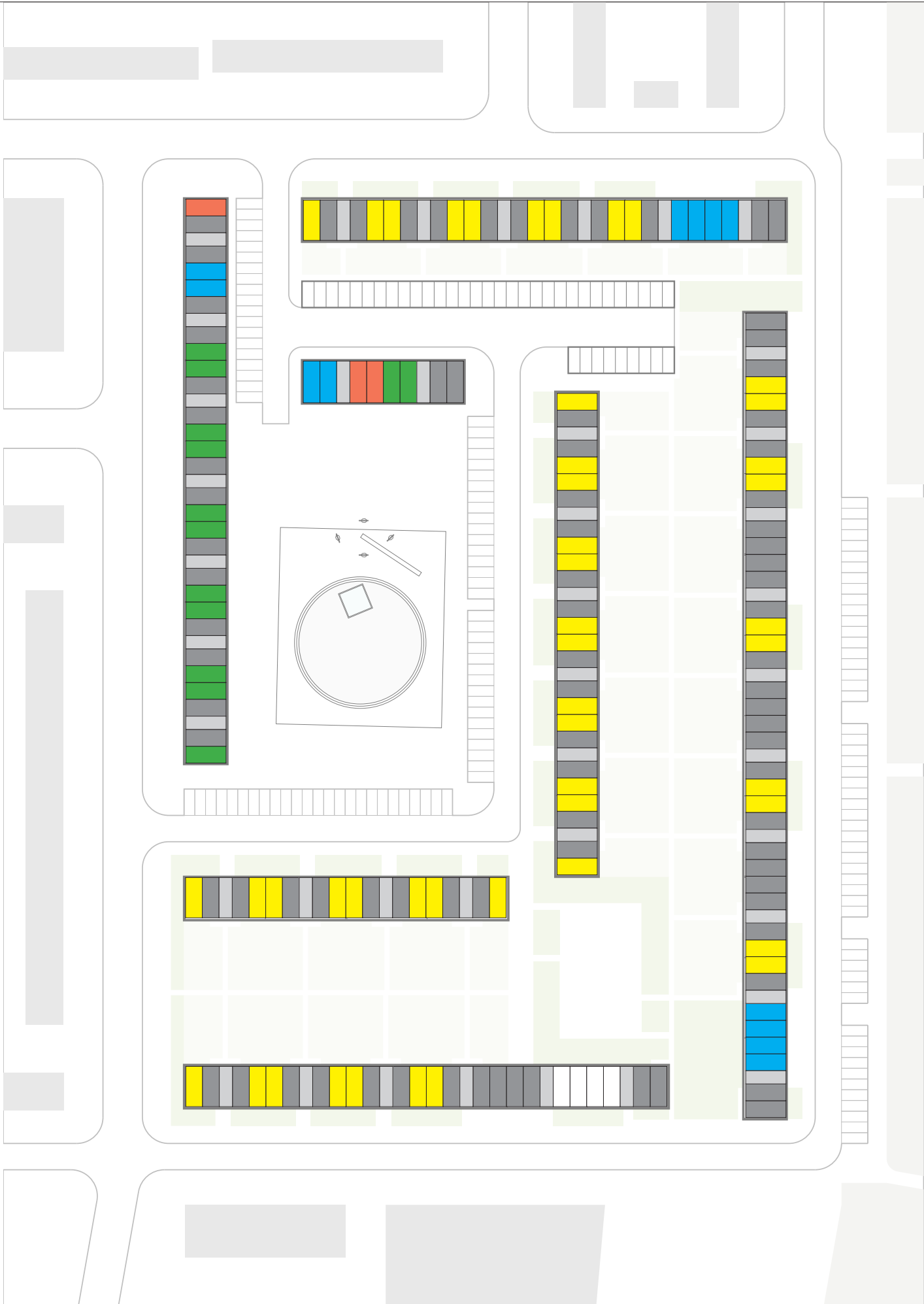


public street: Taagdreef



public street: Vader Rijndreef

2. Research Question_ Current Situation



Various use of ground floor



storage



retail: bakery



social facility: donation shop



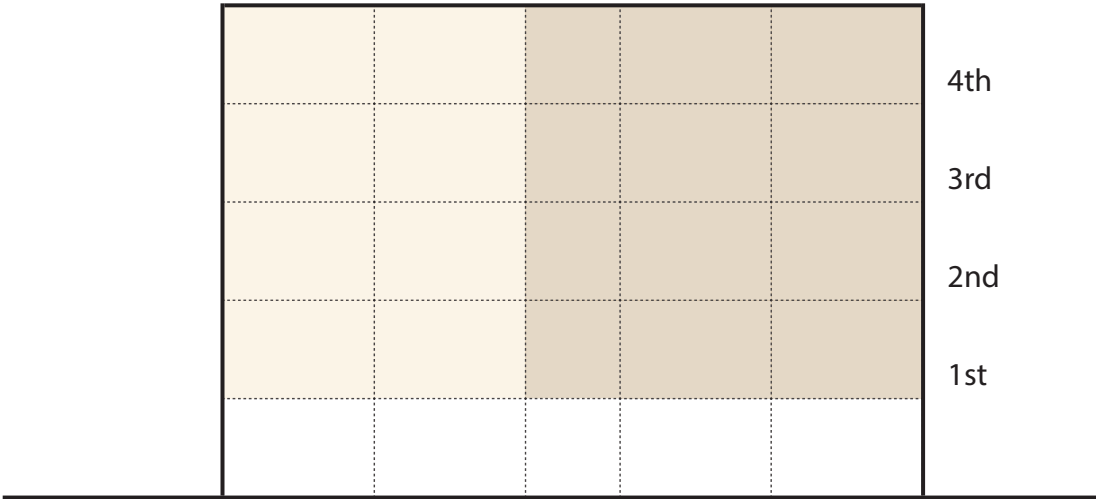
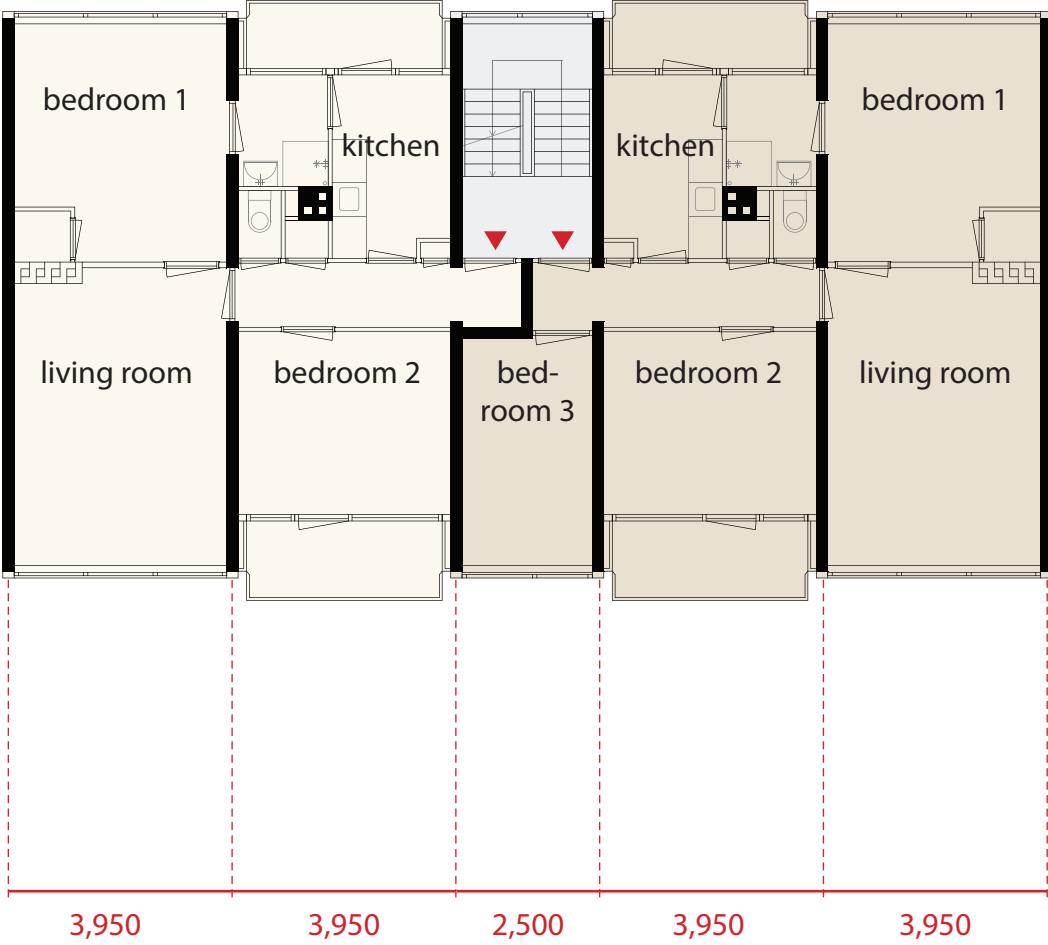
office: housing corporation (Mitros)



residential

- storage
- commercial
- social program
- office
- residential

2. Research Question_ Current Situation

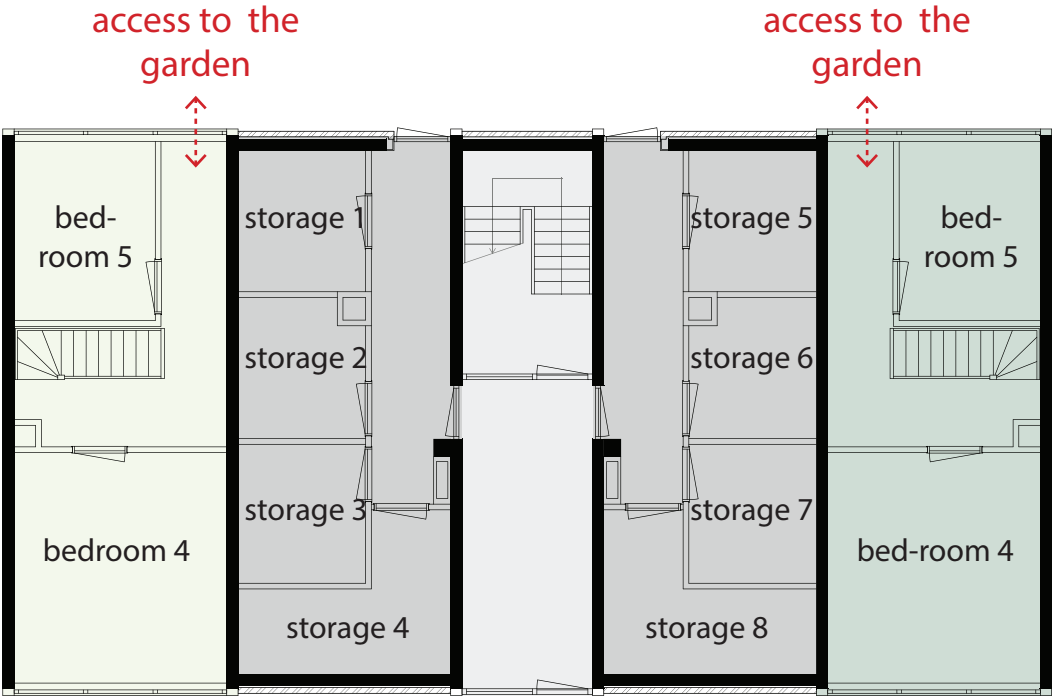


3-bedroom dwelling
2-bedroom dwelling

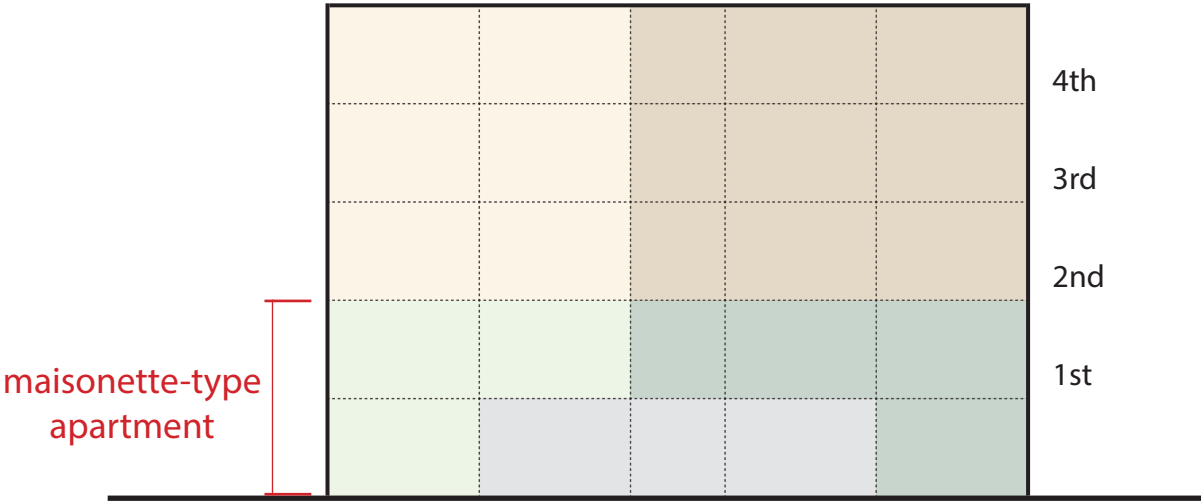
2. Research Question_ Current Situation



1st Floor Plan



Ground Floor Plan

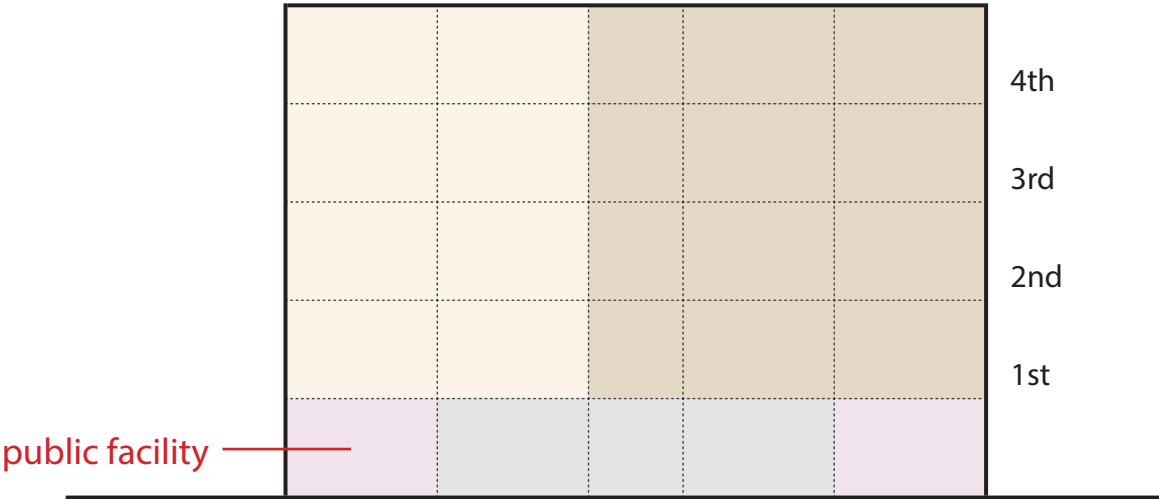
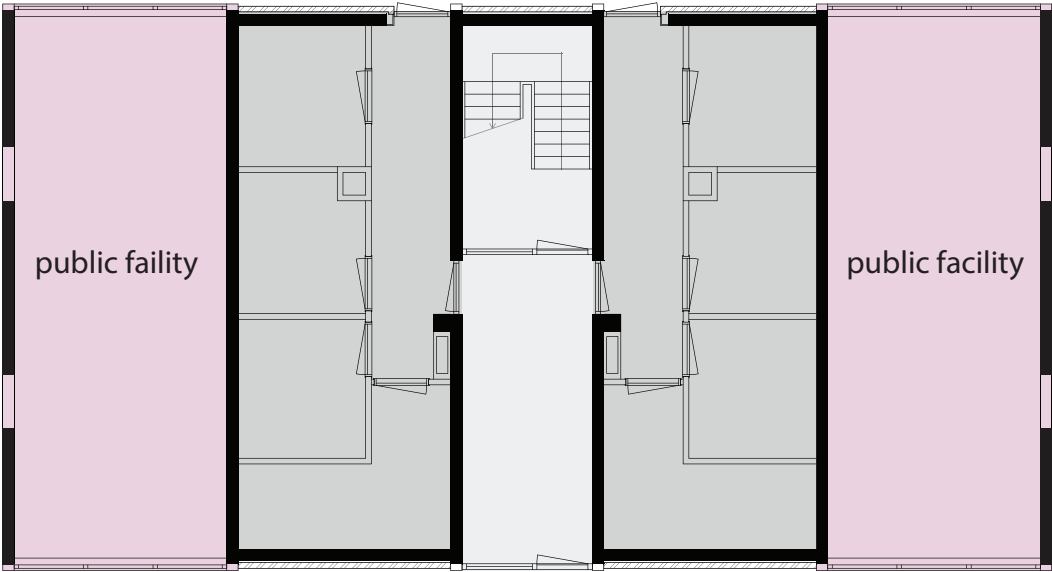


- 3-bedroom dwelling
- 2-bedroom dwelling
- 4-bedroom dwelling with garden
- 3-bedroom dwelling with garden

2. Research Question_ Current Situation

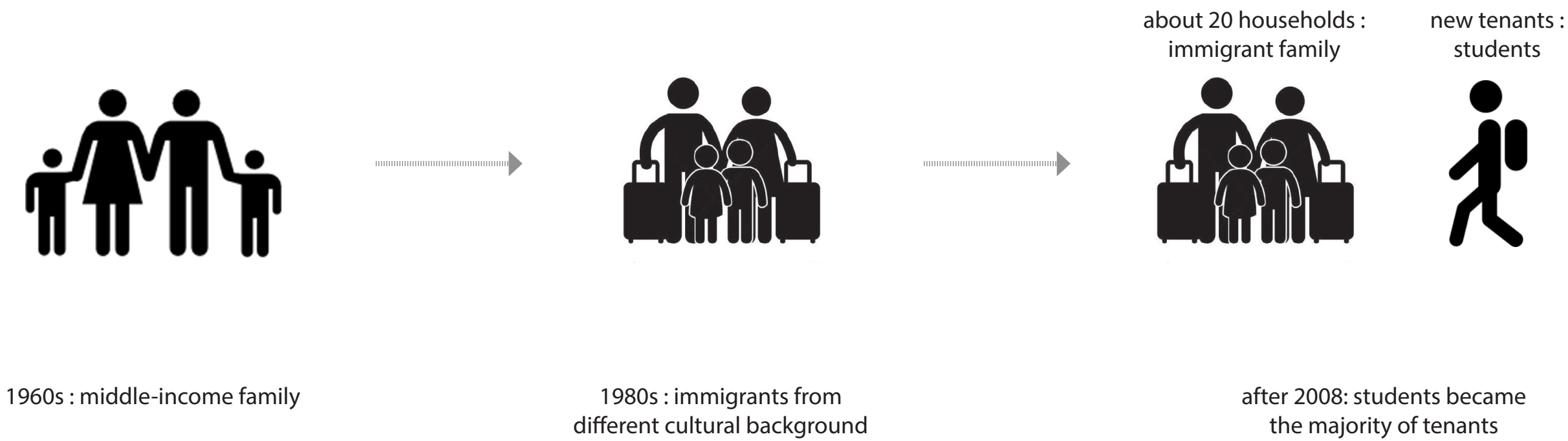


external staircase



- 3-bedroom dwelling
- 2-bedroom dwelling

Change of Residents in Intervam Housing



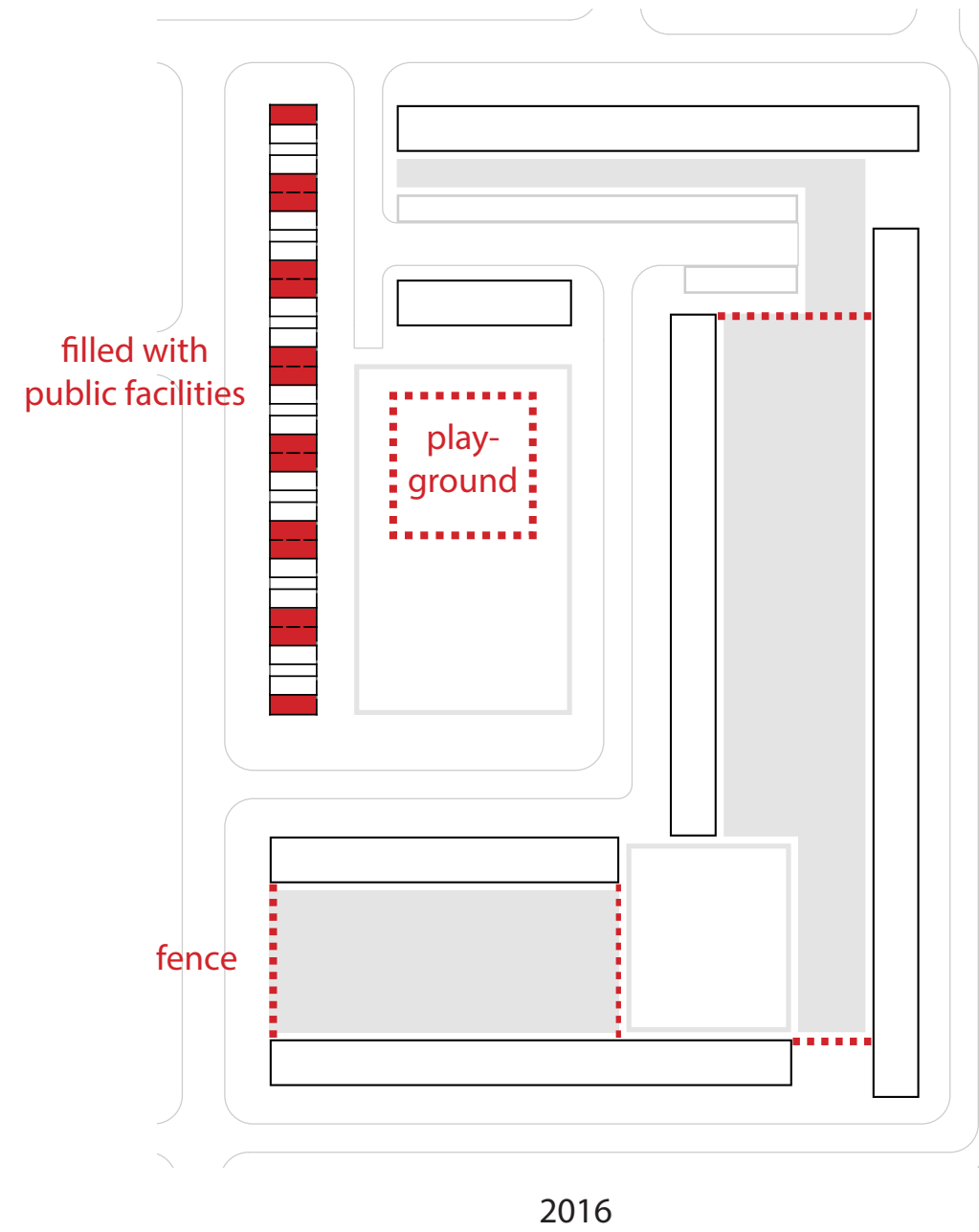
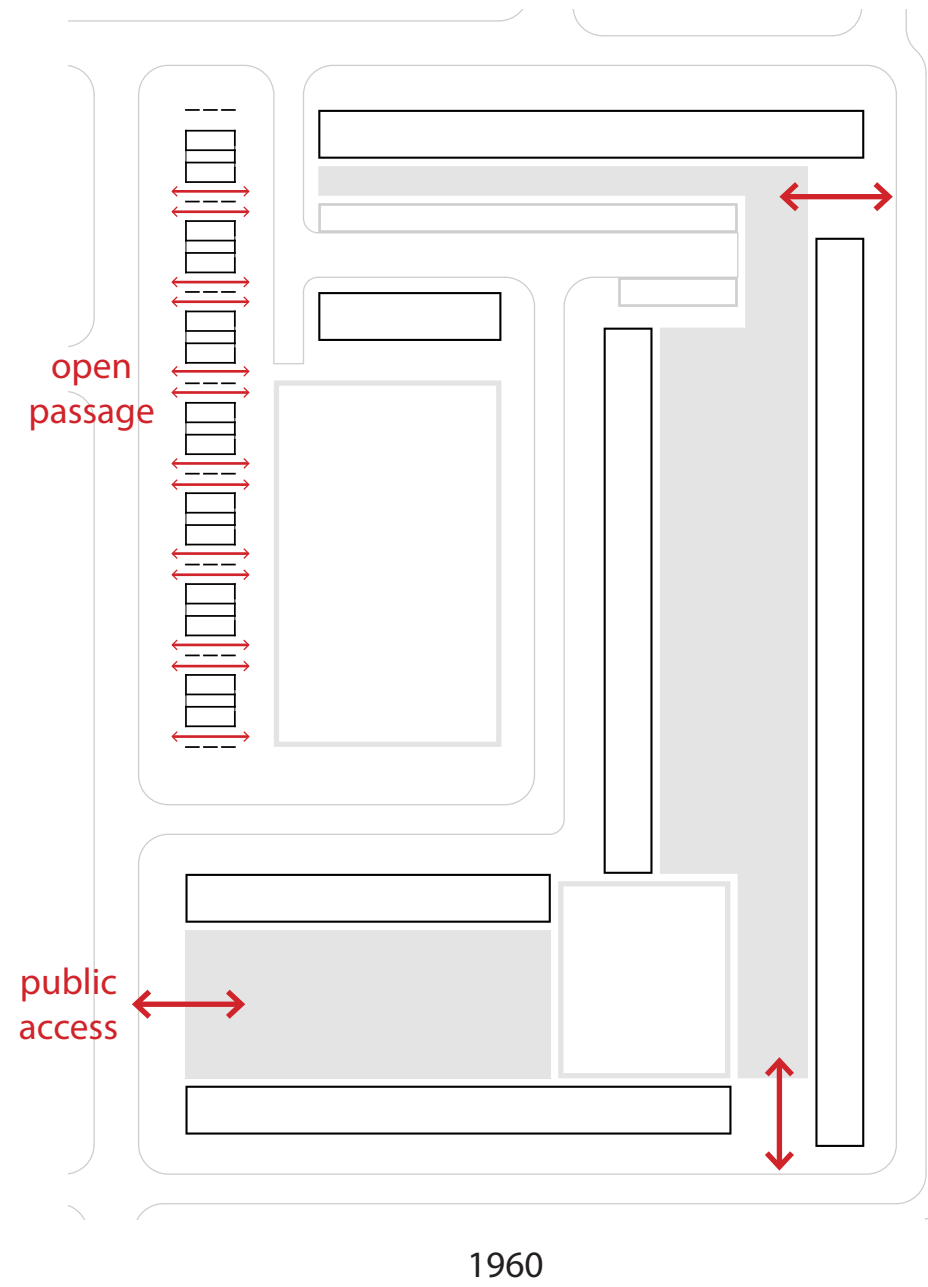
2. Research Question

: Problem Statement

Dilemma 1. Modern principle : openness, transparency

VS

Individualized society : privacy, safety



2. Research Question_ Problem Statement

Dilemma 1. Modern principle : openness, transparency

VS

Individualized society : privacy, safety



view of garden from the public street (past)



view of garden from the public street (present)

Dilemma 2. Public facilities on the ground floor

VS

Changing circumstances



public library (1973)



space where the public library was located remained empty



small shops in two-storey Intervam building (1983)



two-storey Intervam building is now used for community house

Dilemma 2.

Public facilities on the ground floor

VS

Changing circumstances



lack of interaction between street and plinth

Dilemma 3. spacious and green outdoor area

VS

lack of maintenance



view of the garden in 2014



view of the garden in 2016

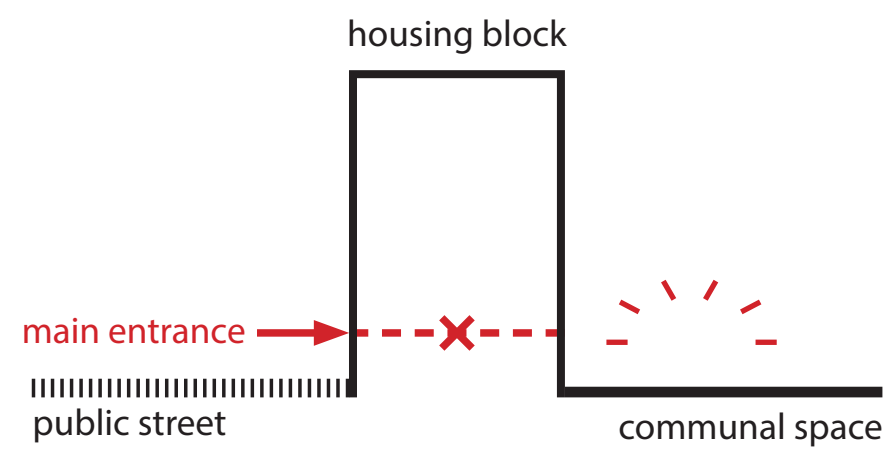


communal courtyard in 2014

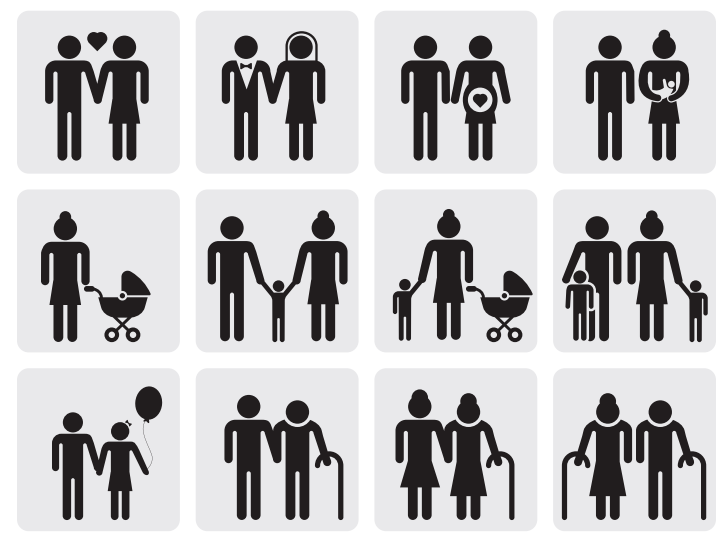


communal courtyard in 2016

Dilemma 3. spacious and green outdoor area VS lack of maintenance



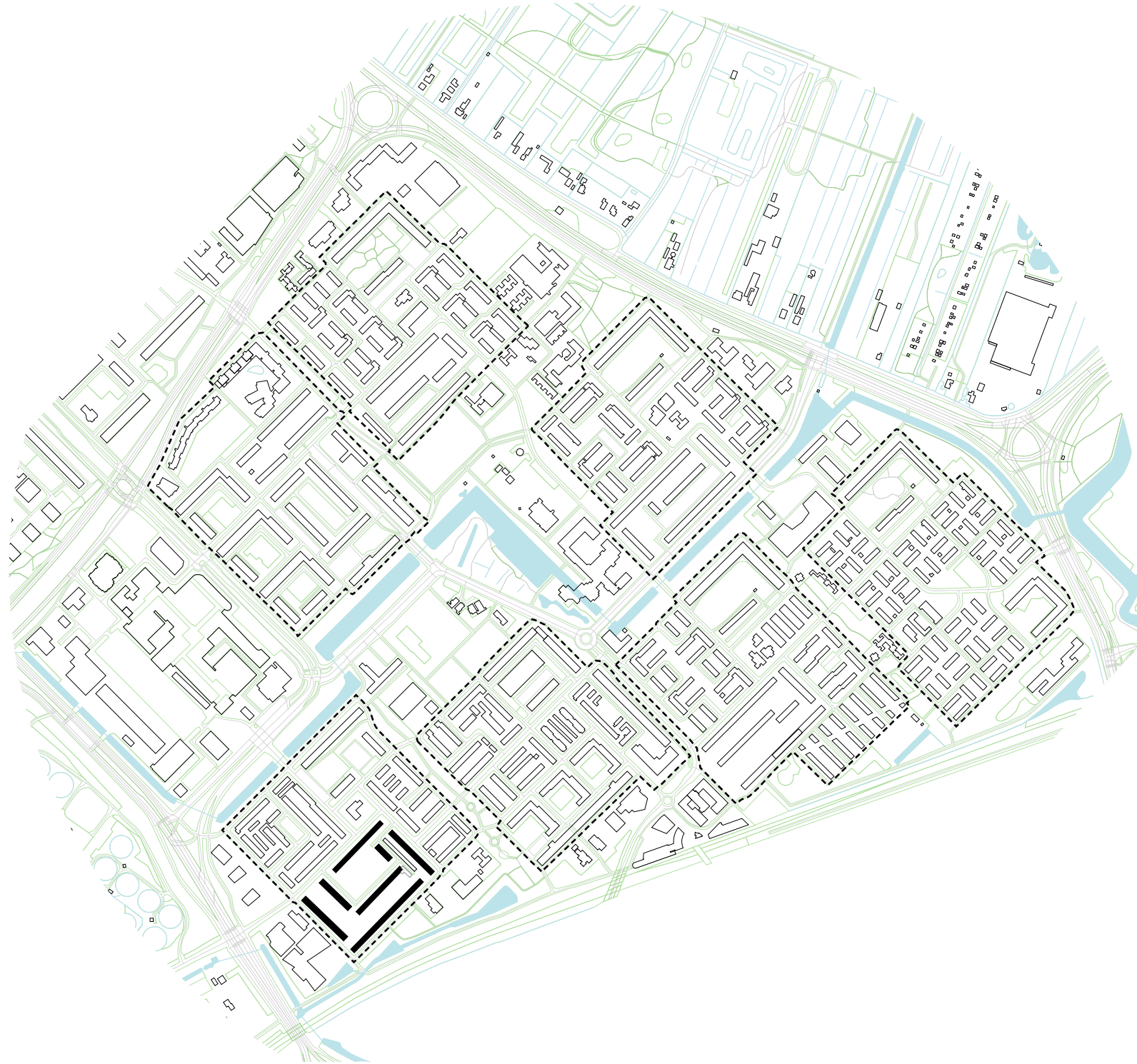
1. communal space is not linked through the main entrance



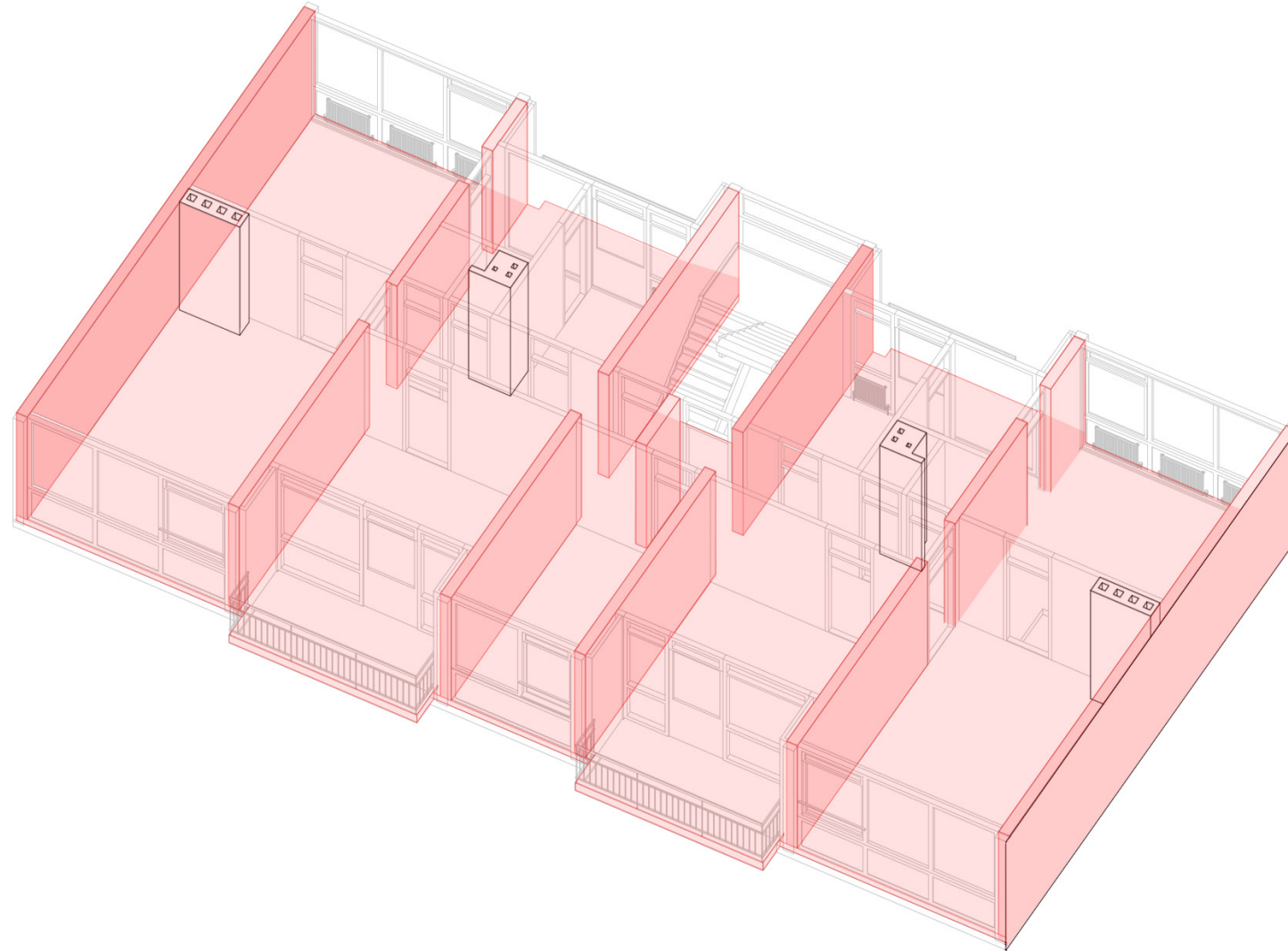
2. temporary tenants → diverse group of residents

2. Research Question

: Value Assessment



The neighborhood concept, “Wijkgedachte”



concrete structure: neutral design



city scape of Overvecht-Zuid

2. Research Question_ Value Assessment



social value

3. Design

As Found Fragments



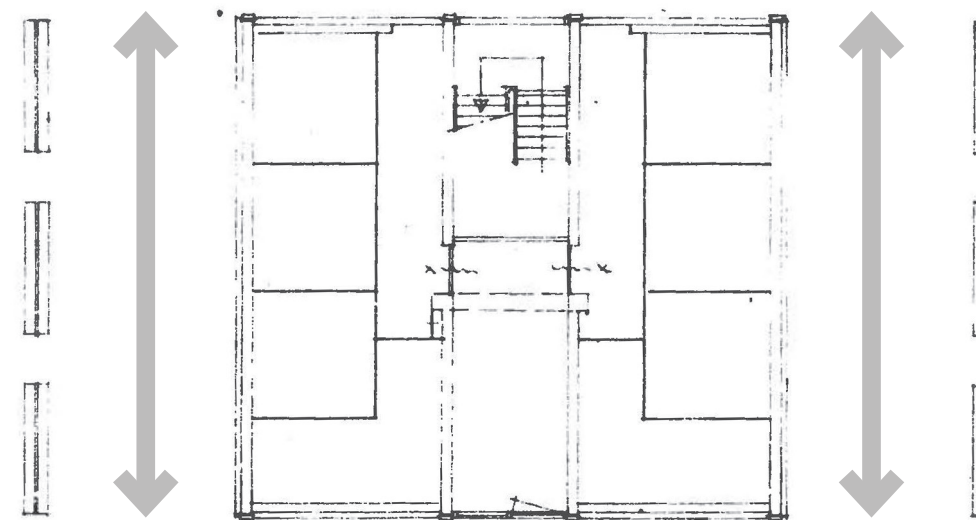
staircase



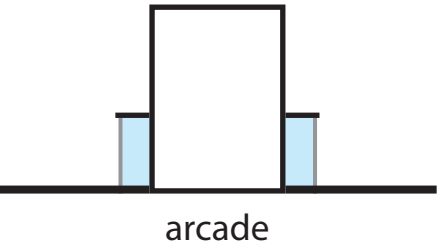
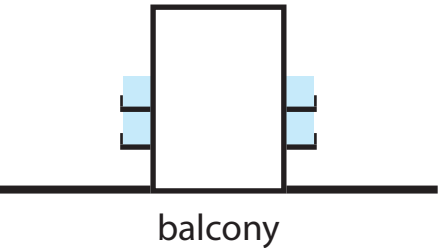
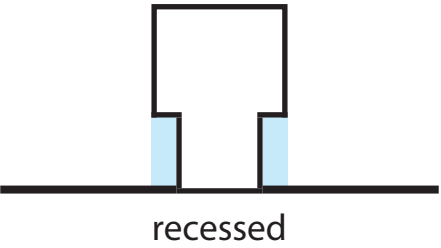
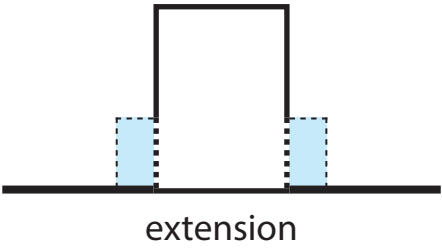
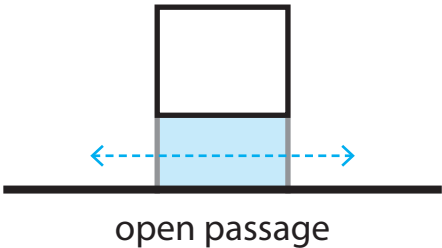
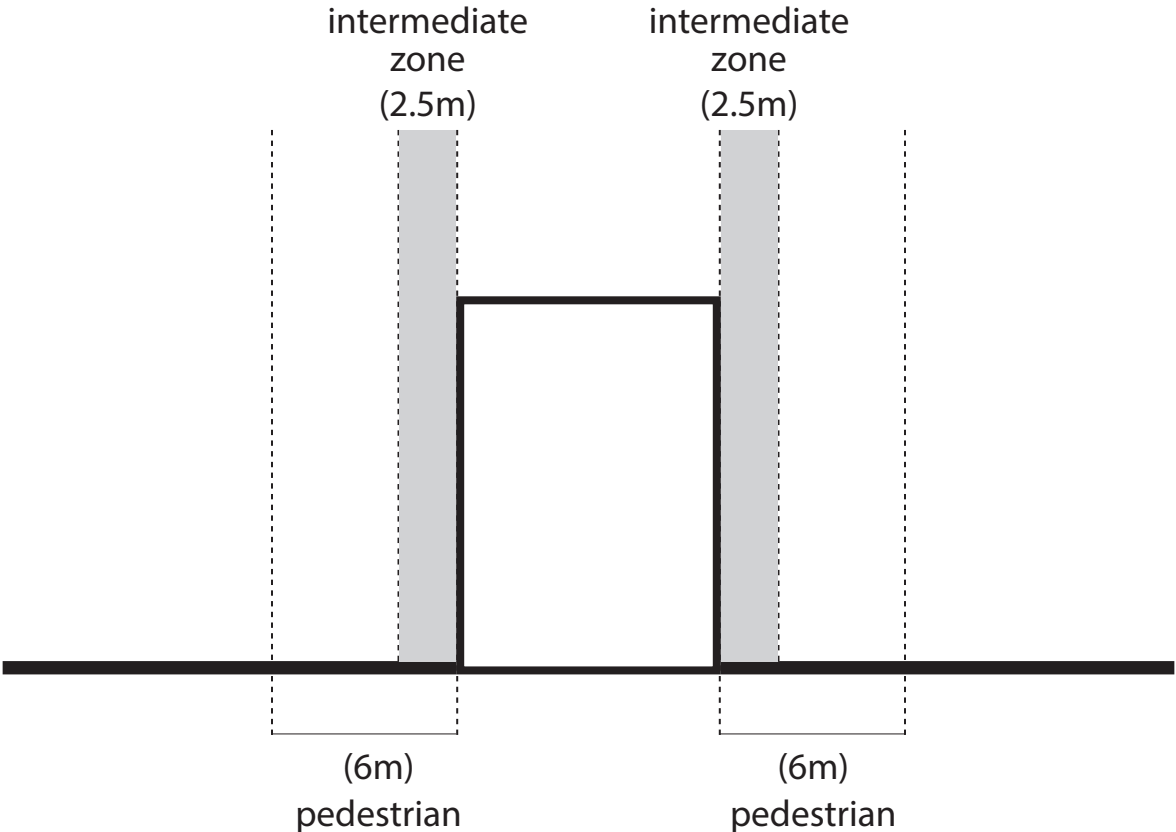
back entrance



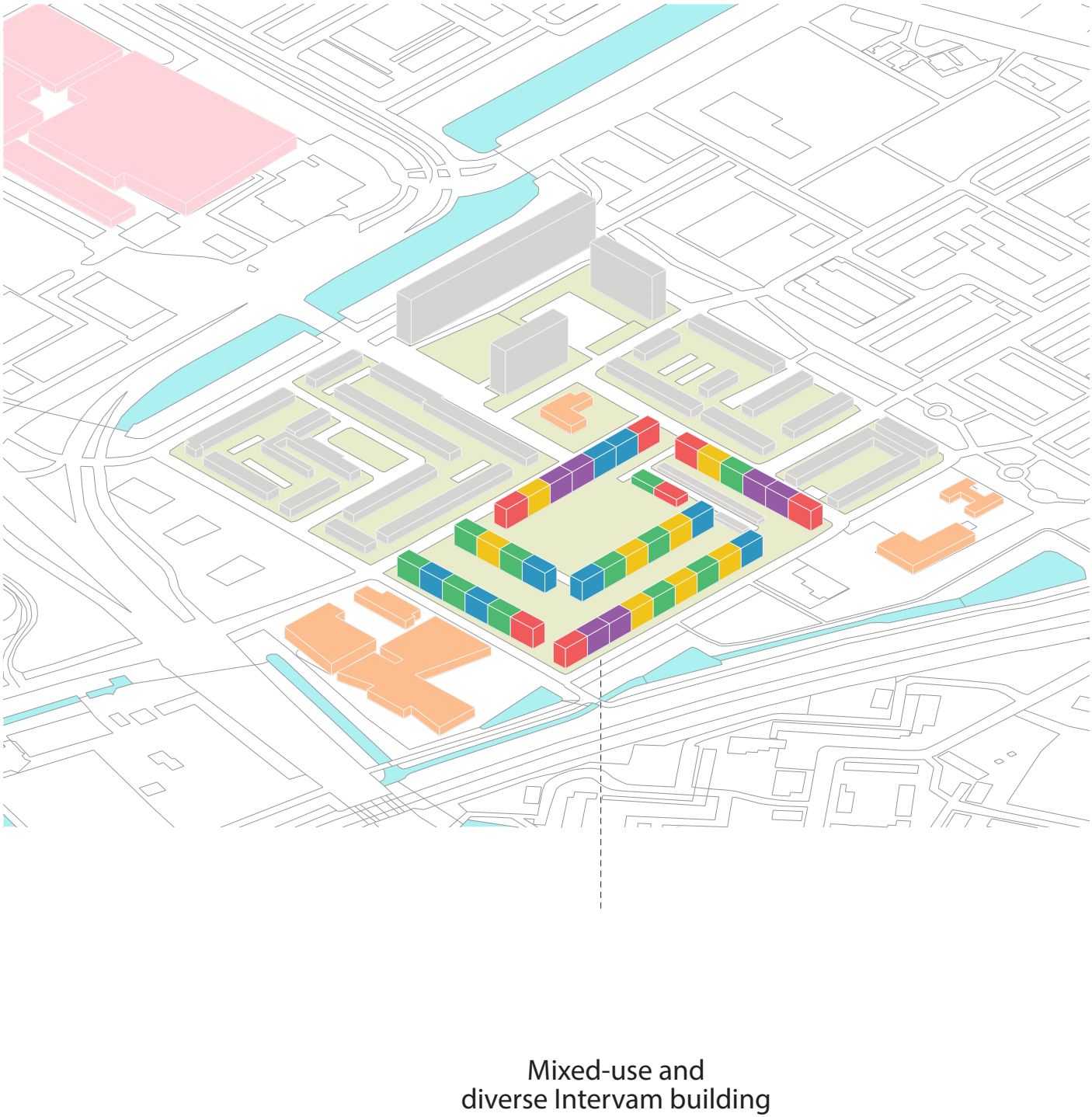
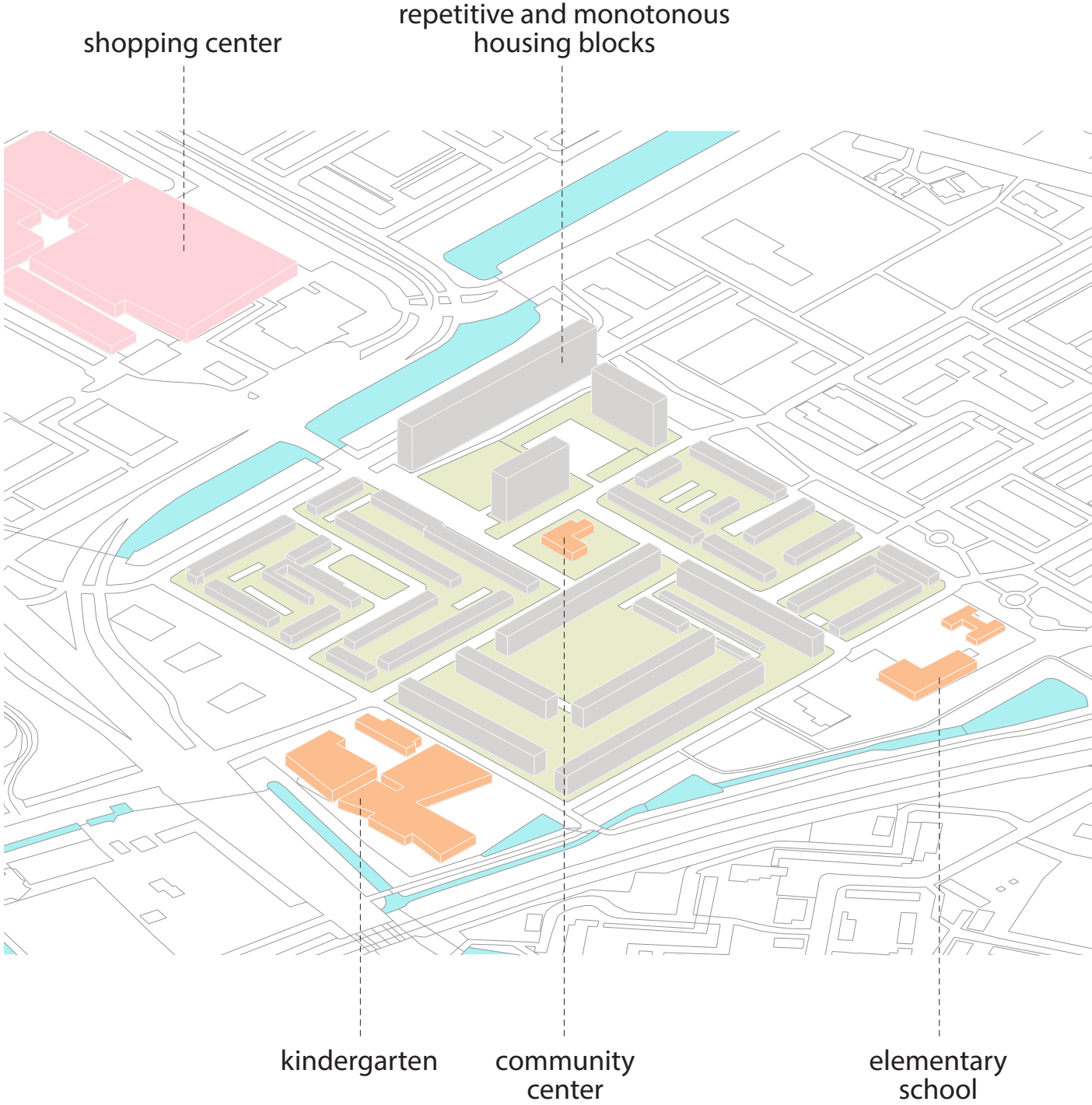
balcony



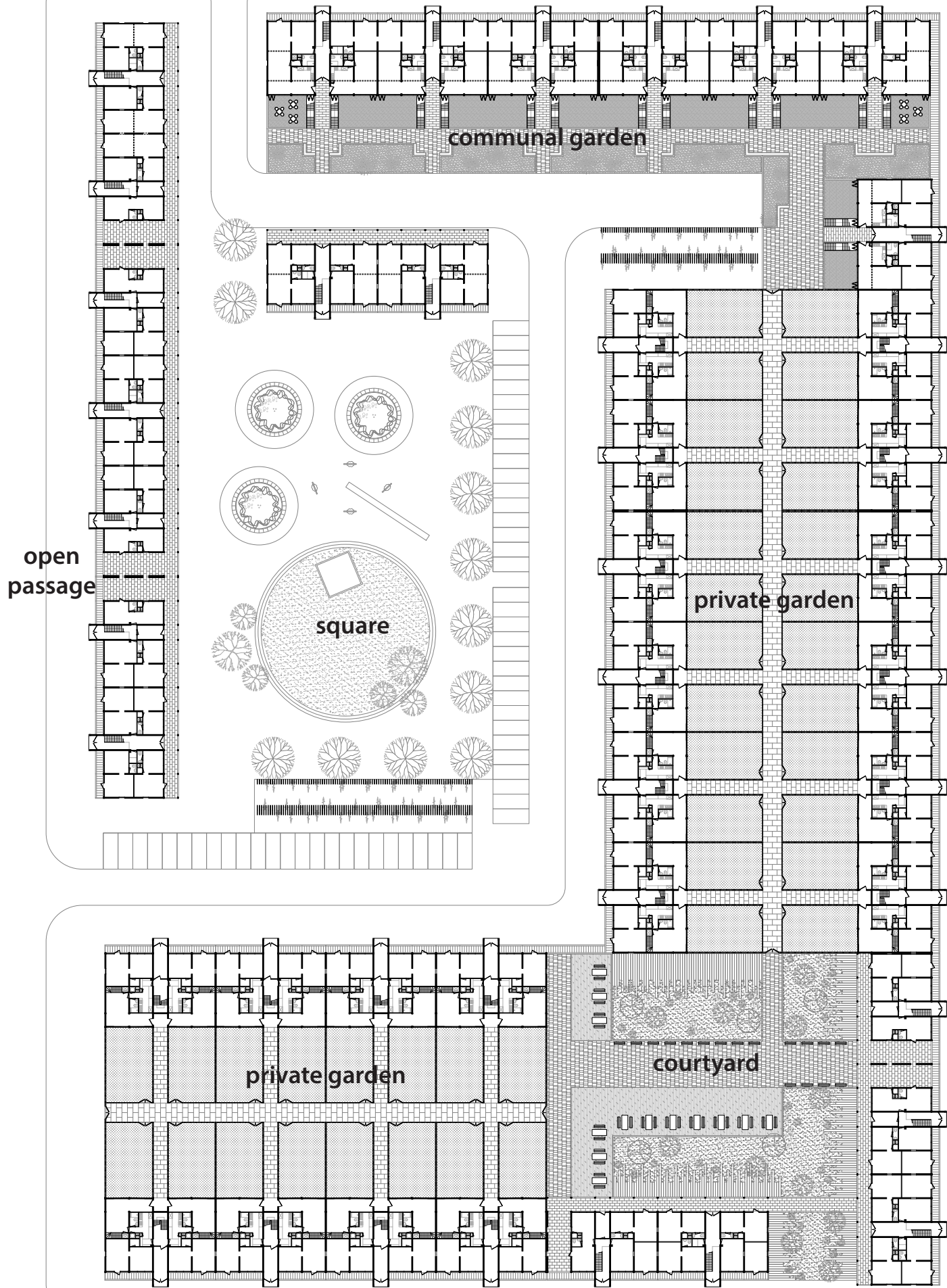
open passage



3. Design_Concept



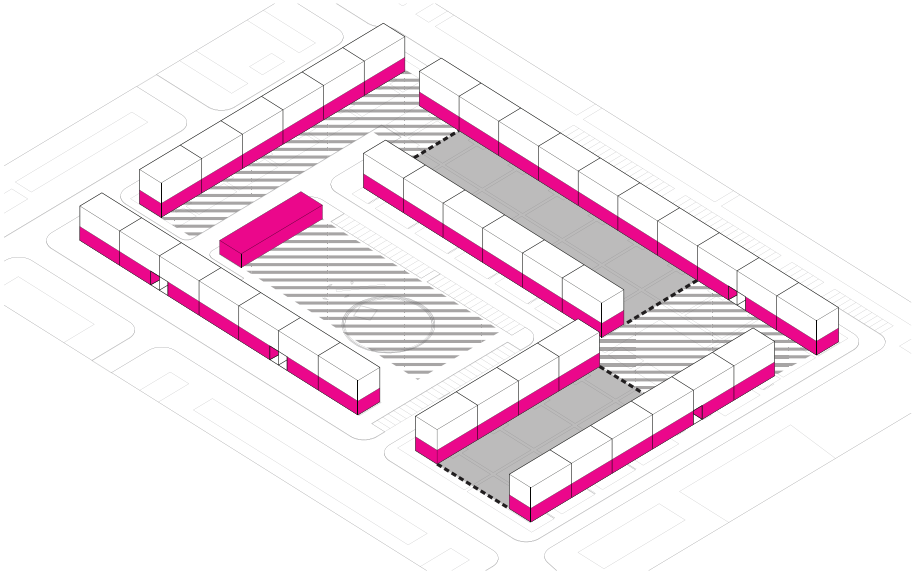
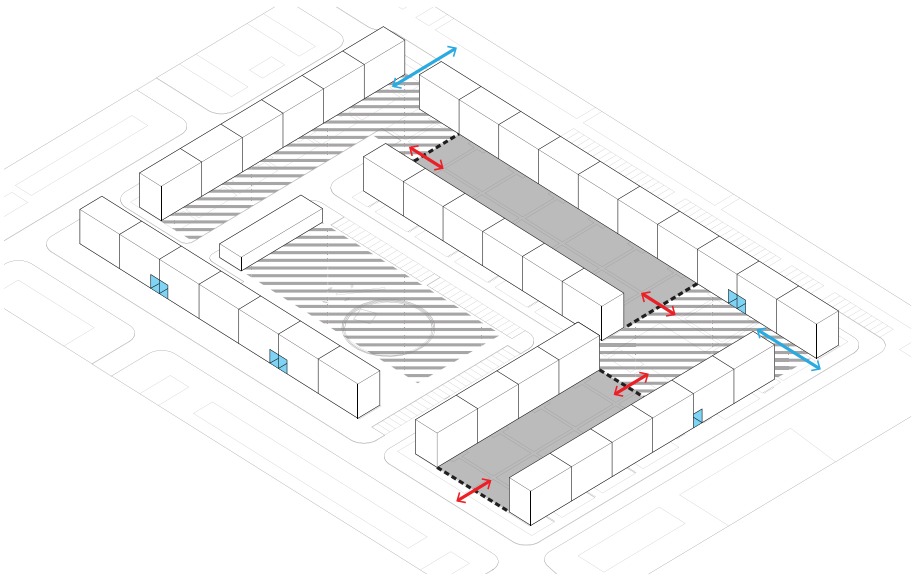
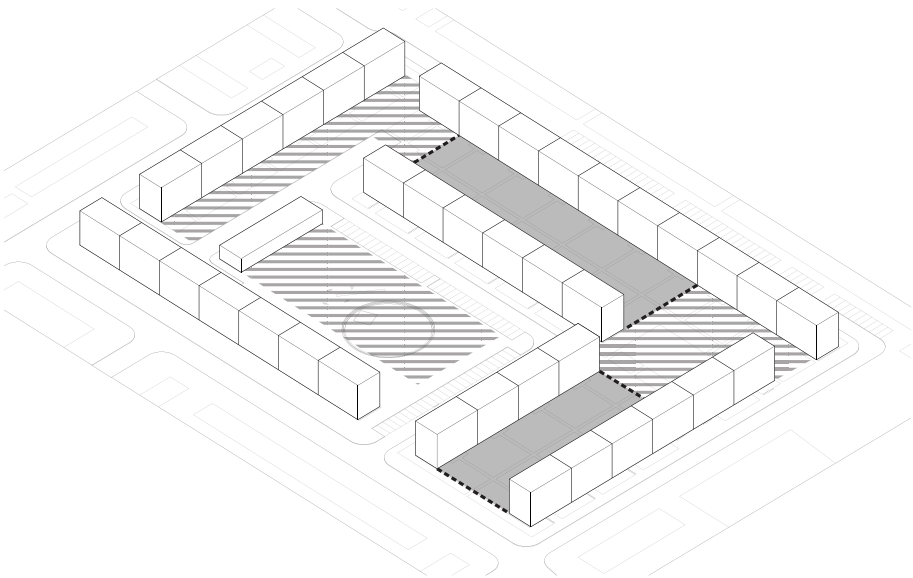
3. Design Urban Planning



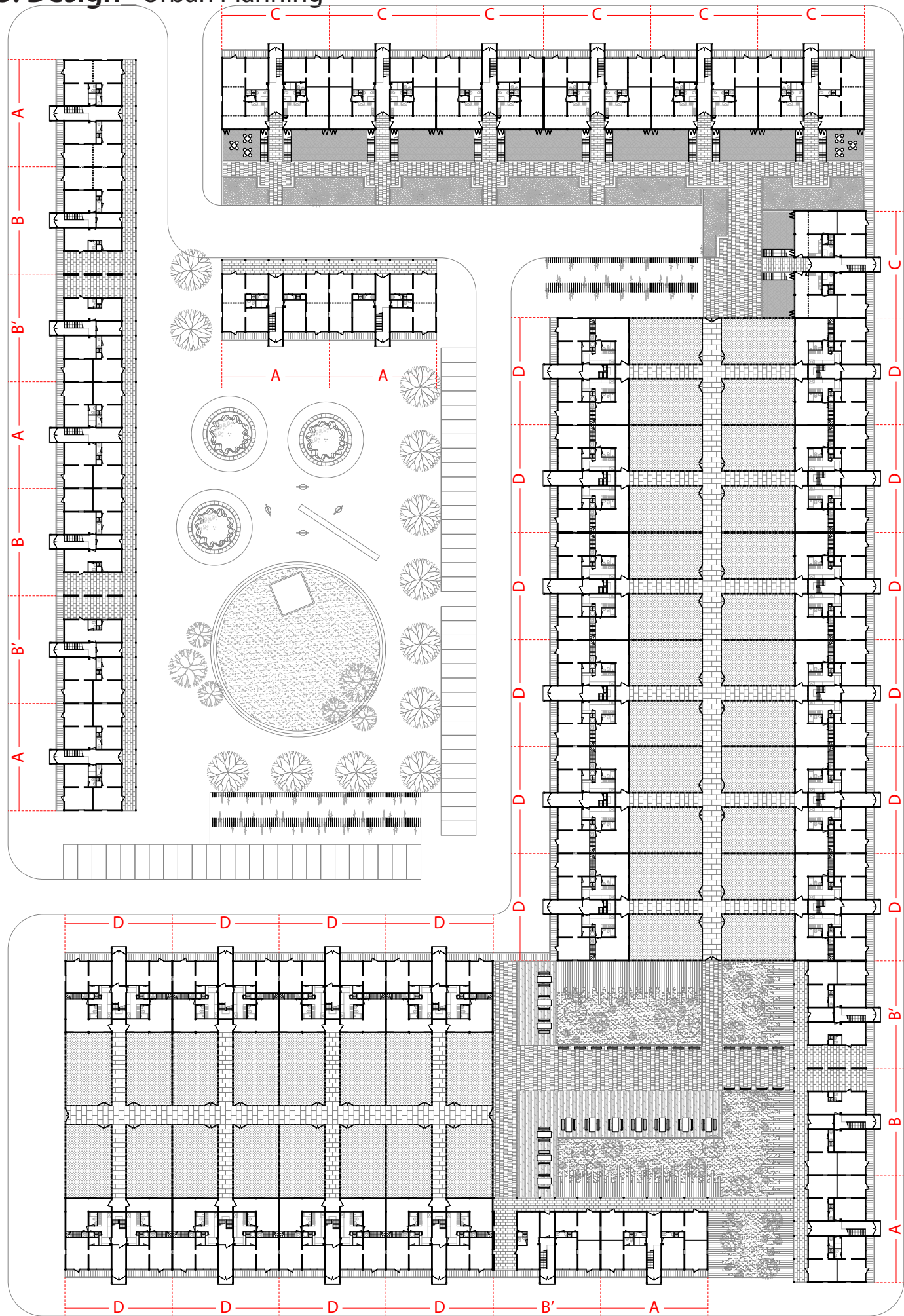
public / private
outdoor space

boundary between
public and private

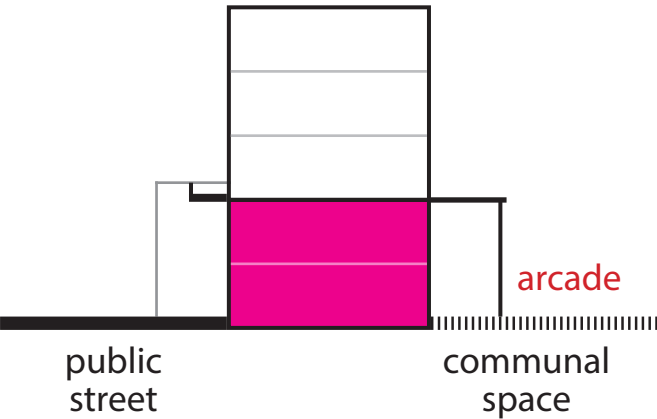
flexible use and
mixed program on
the plinth



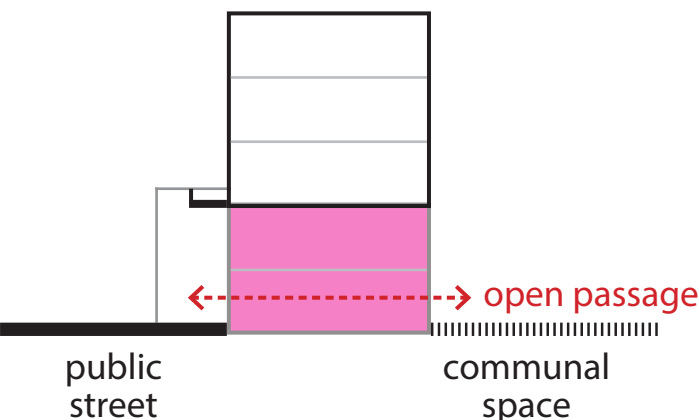
3. Design Urban Planning



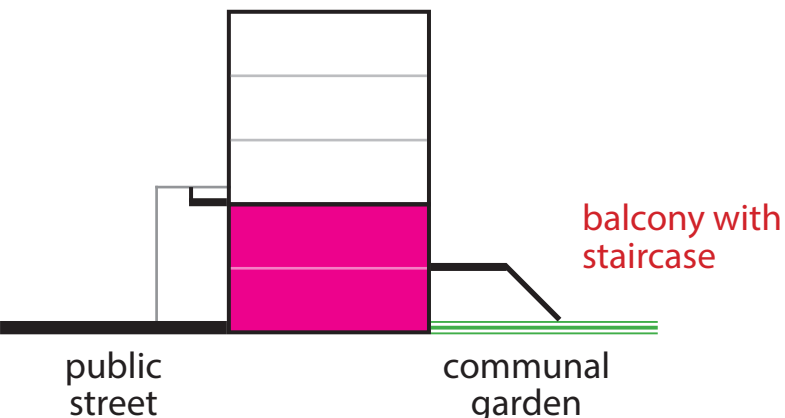
Type A



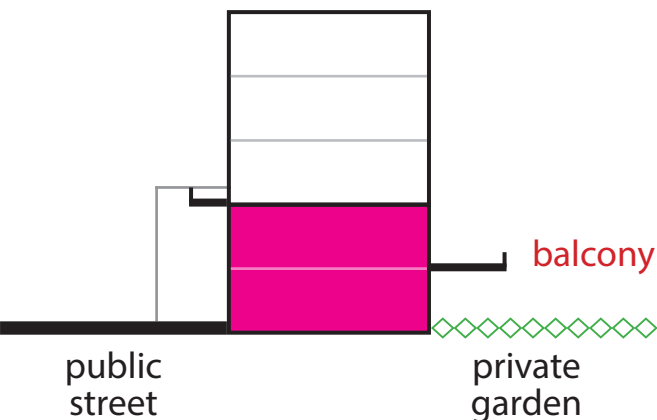
Type B



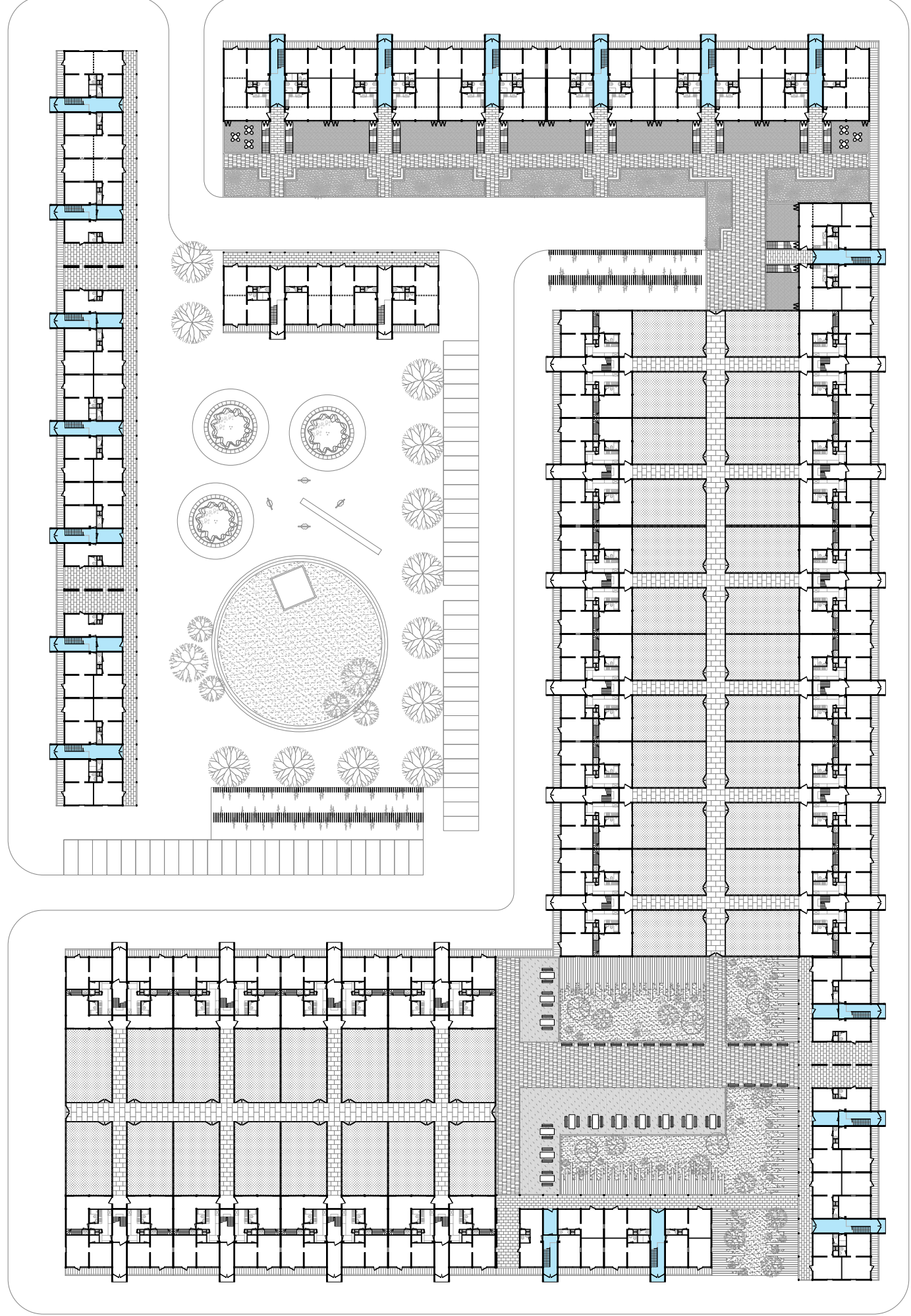
Type C



Type D

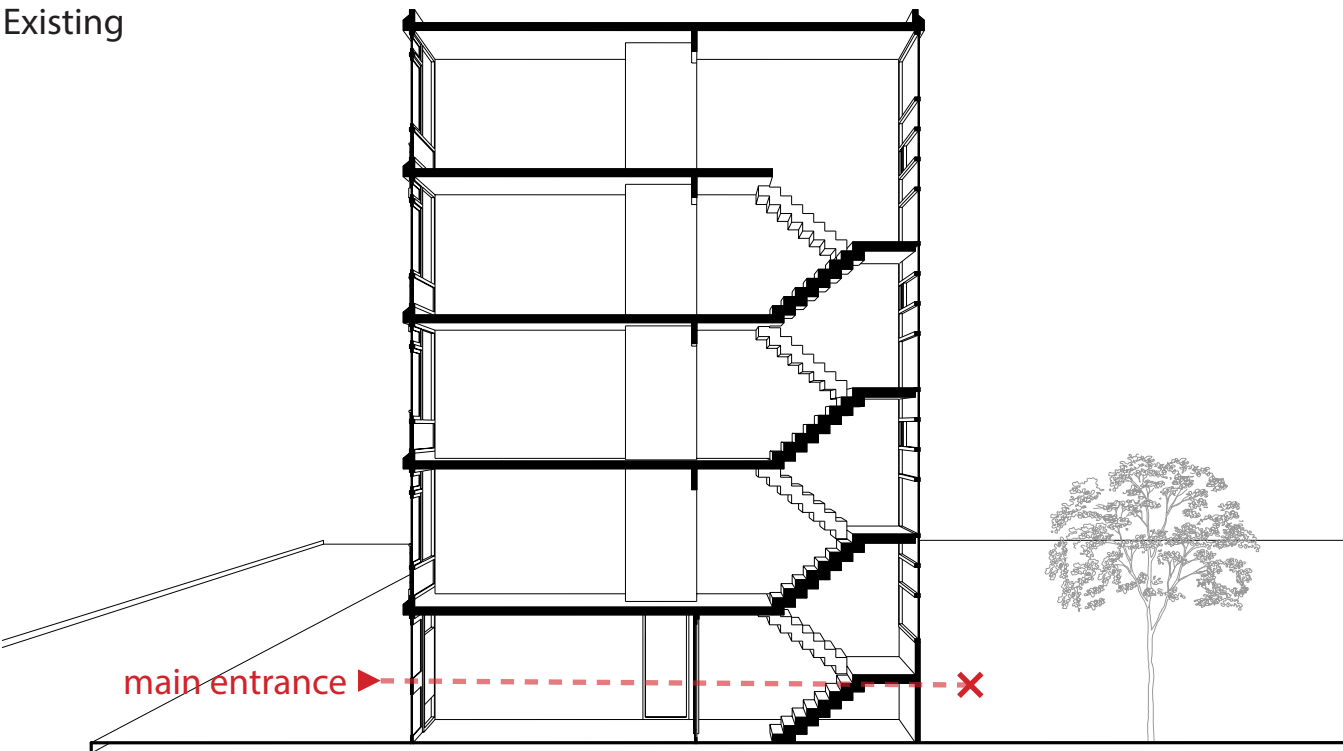


3. Design_Fragments

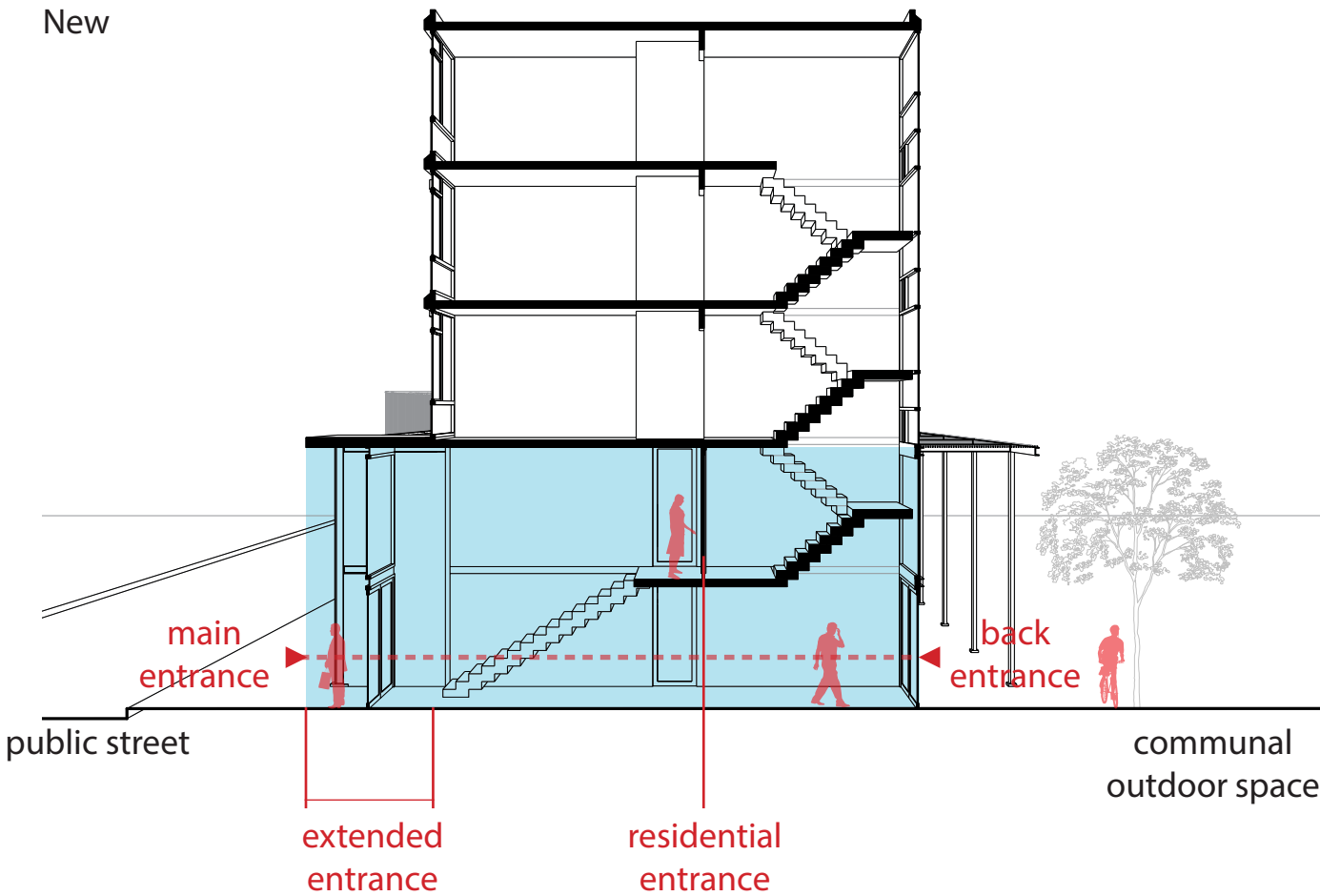


Fragment 1

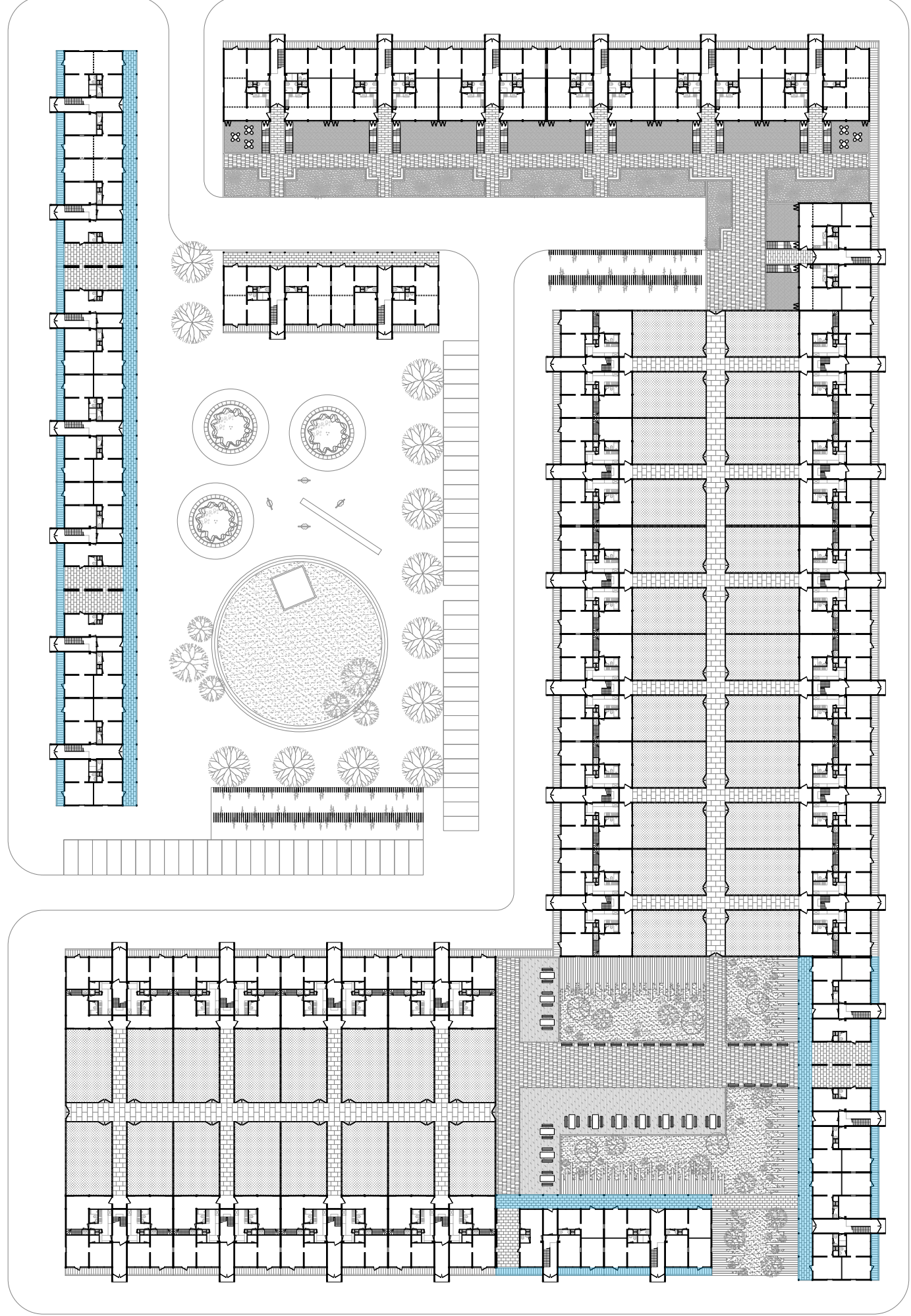
Existing



New

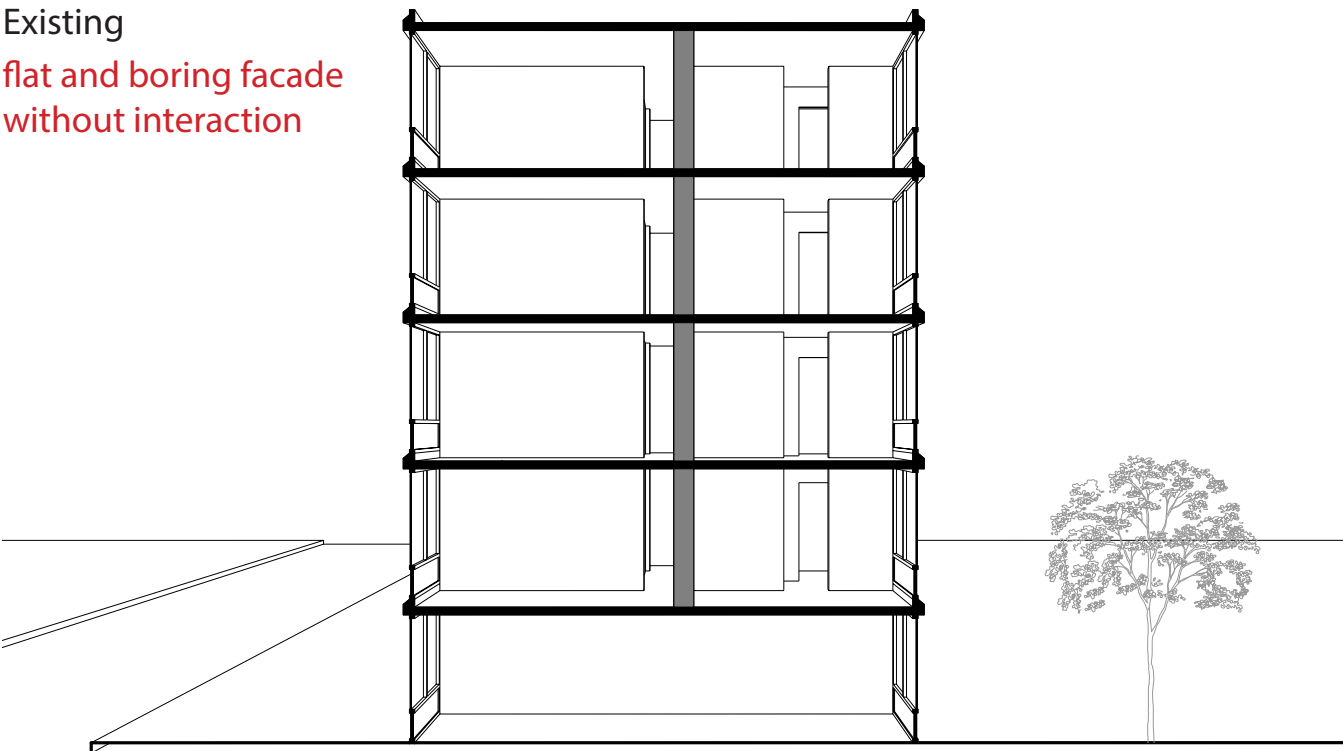


3. Design_Fragments

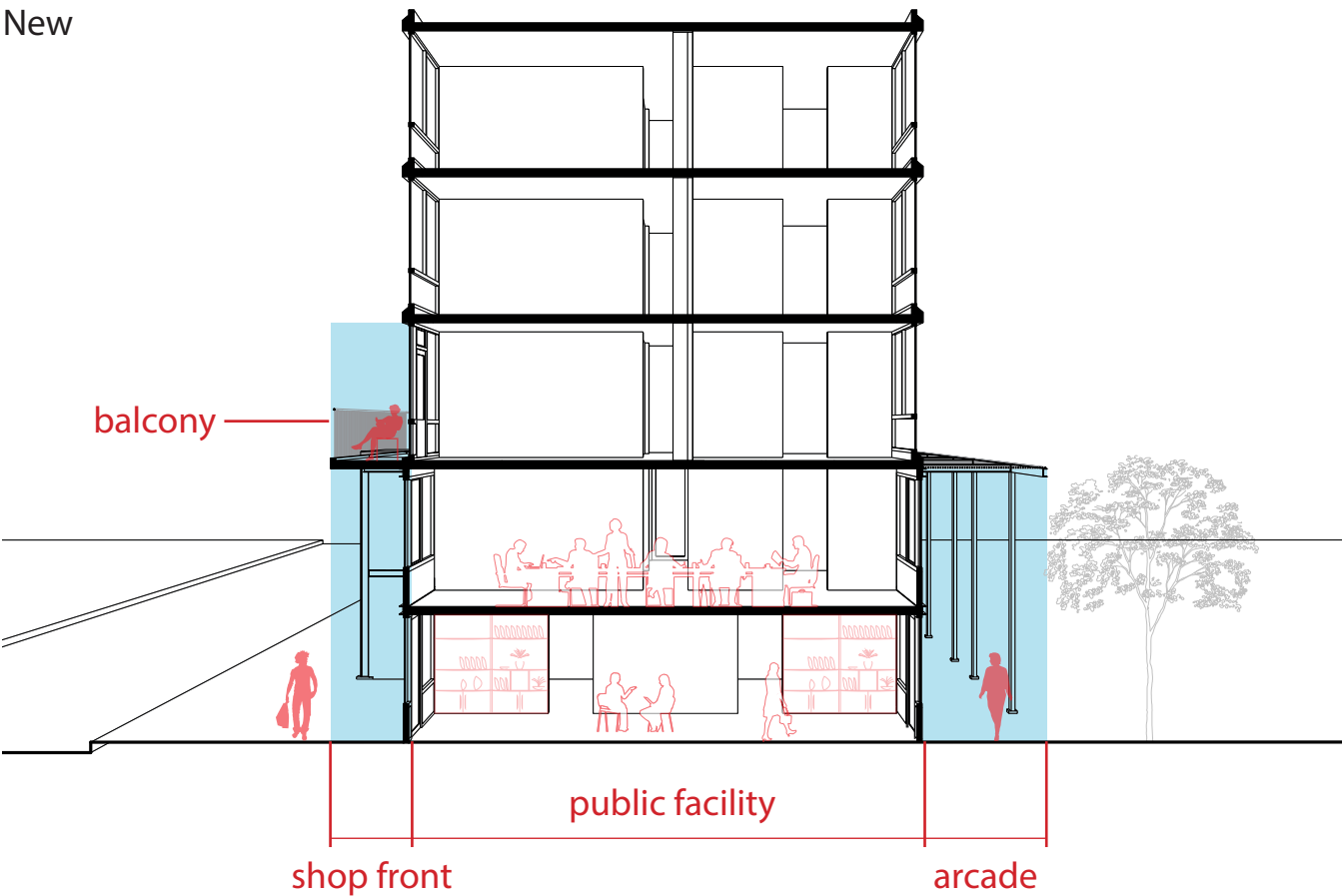


Fragment 2

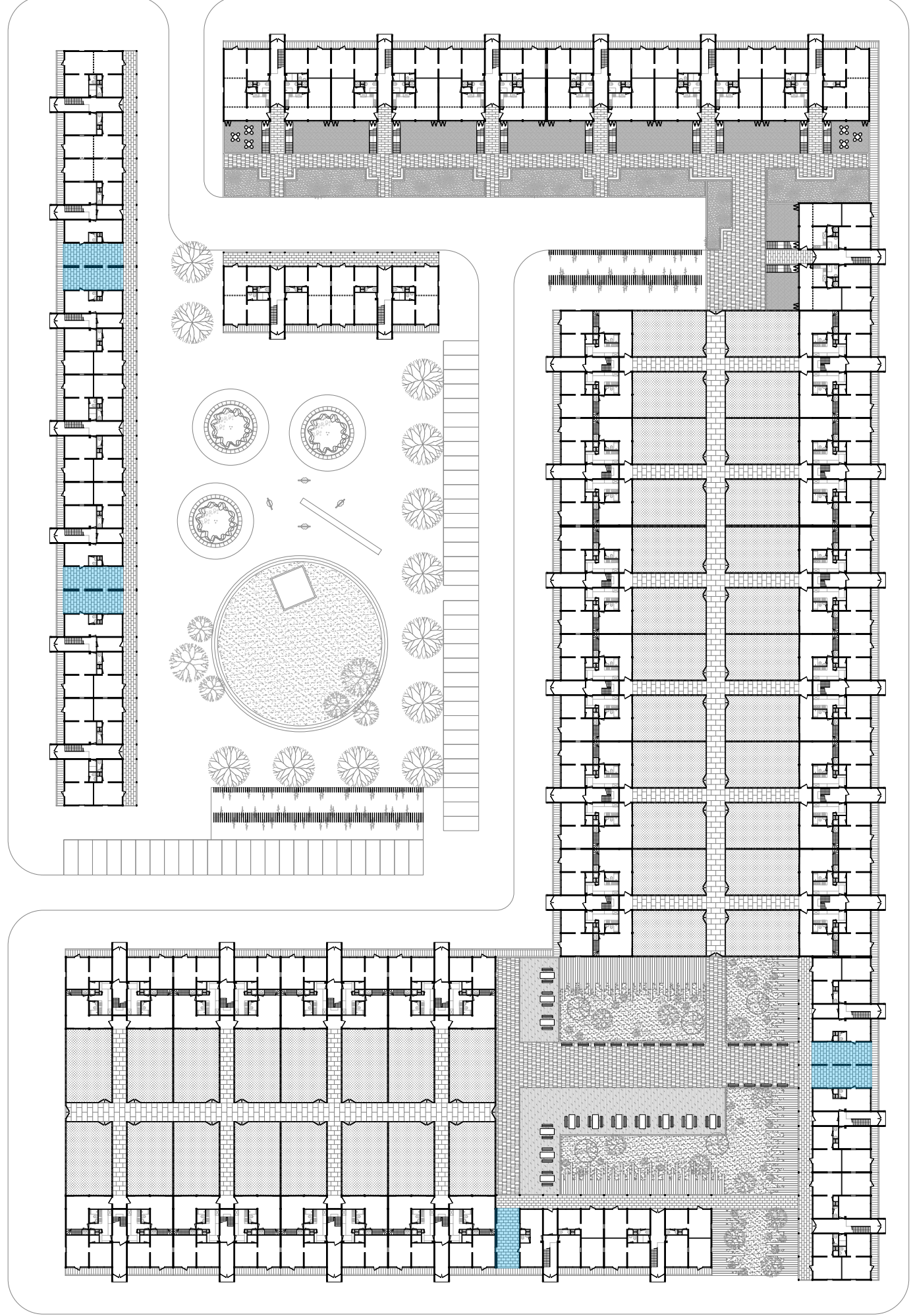
Existing
flat and boring facade
without interaction



New

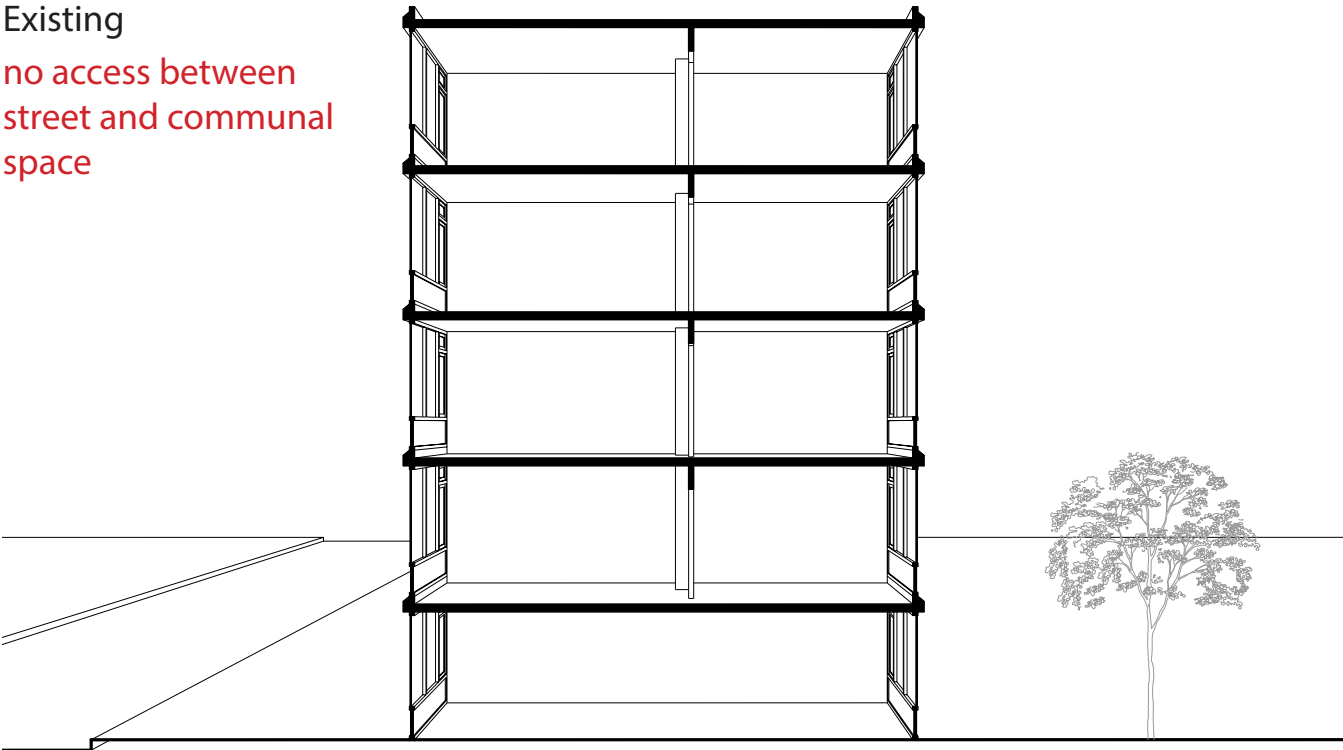


3. Design Fragments

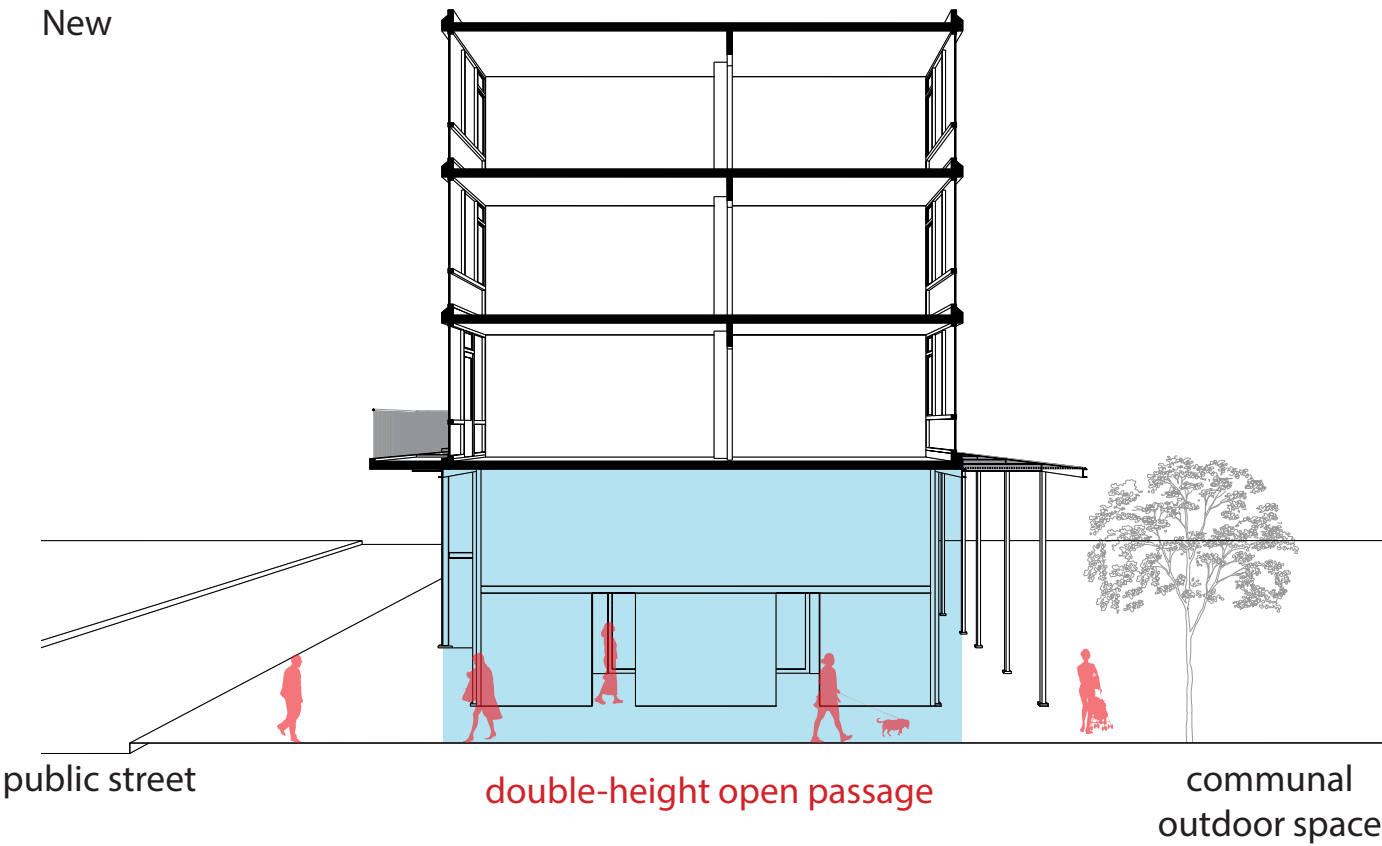


Fragment 3

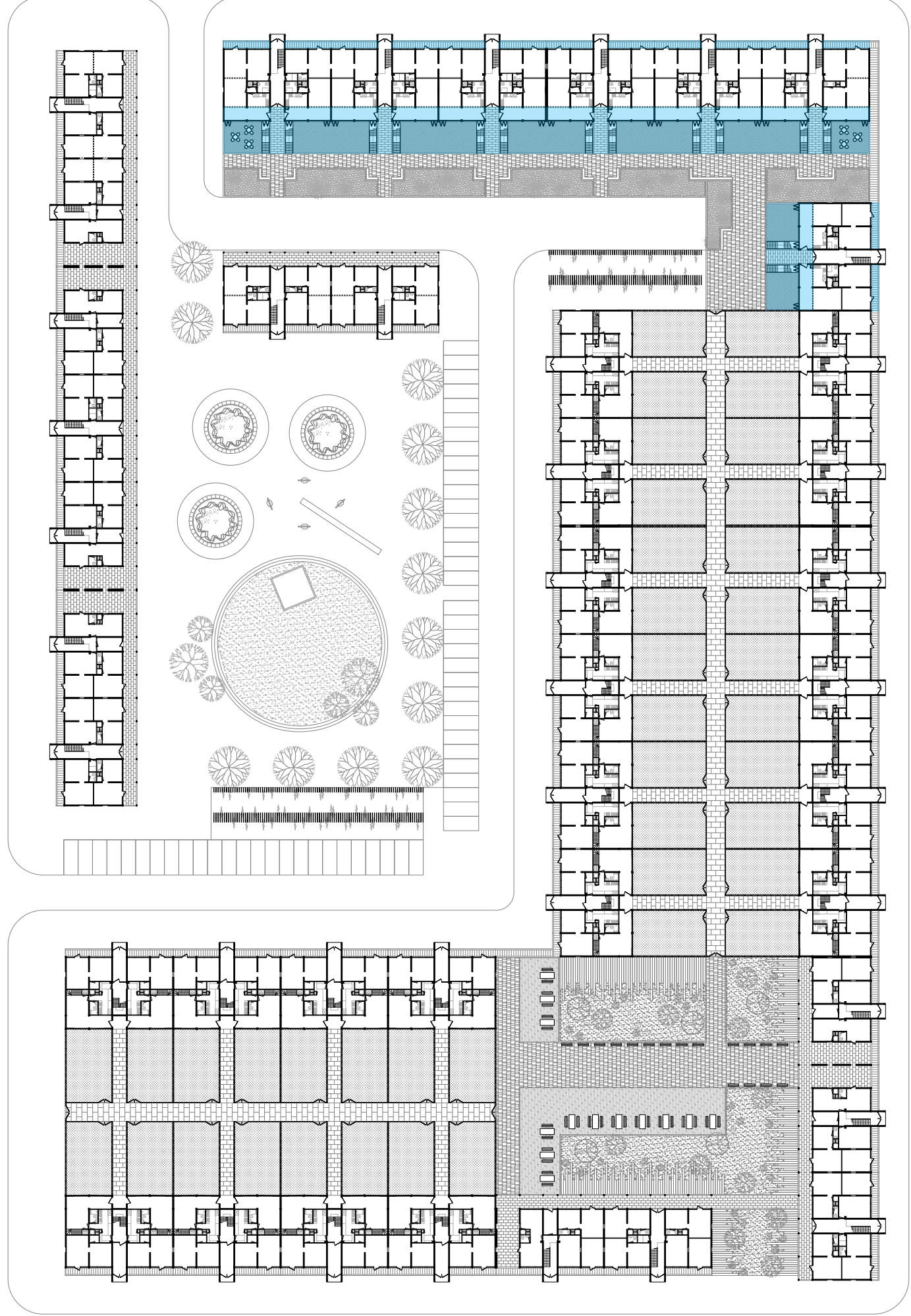
Existing
no access between
street and communal
space



New

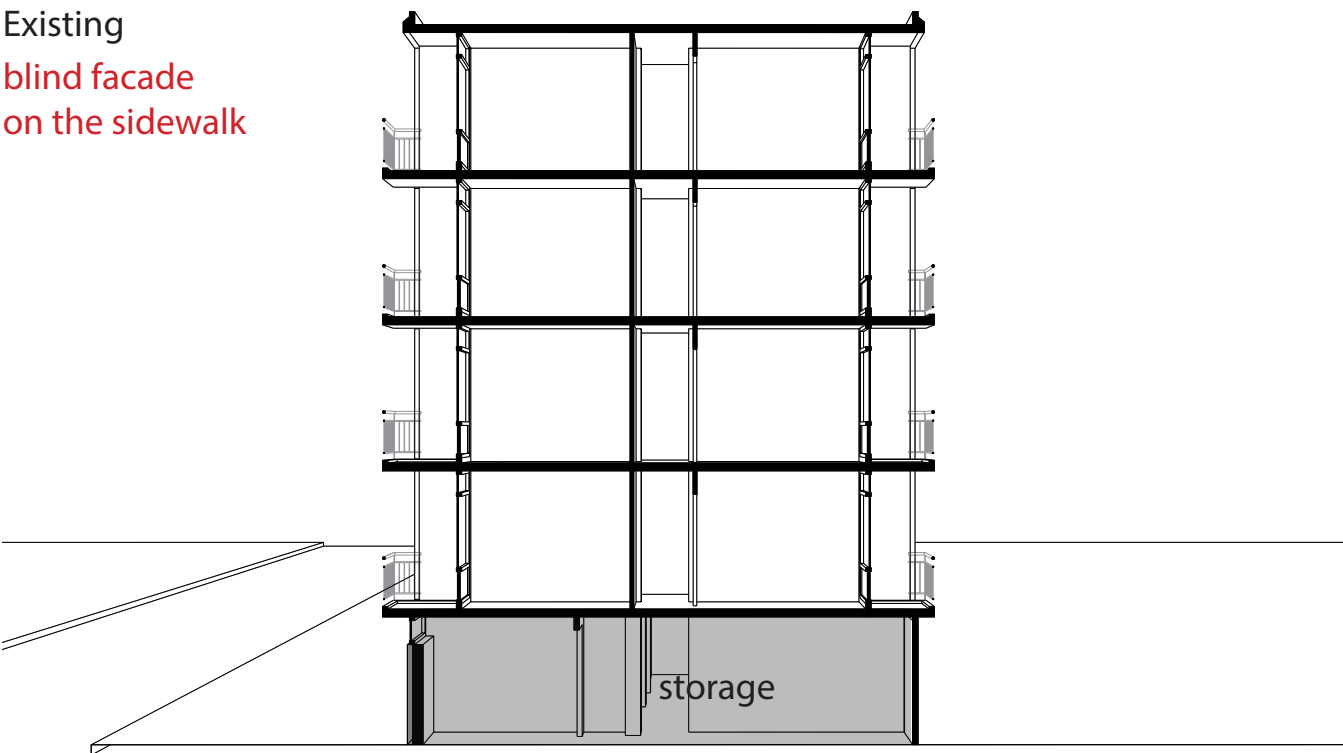


3. Design Fragments

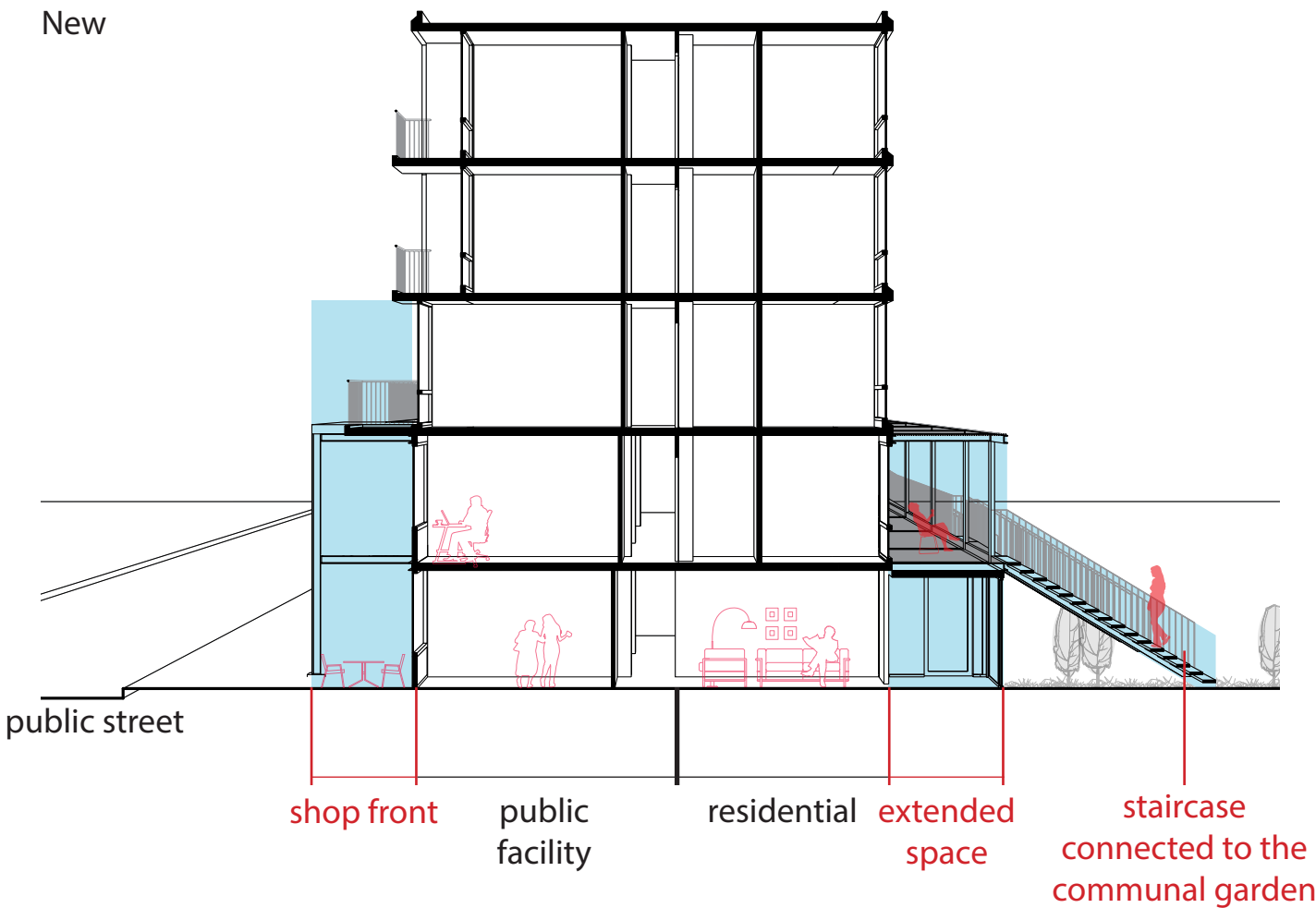


Fragment 4

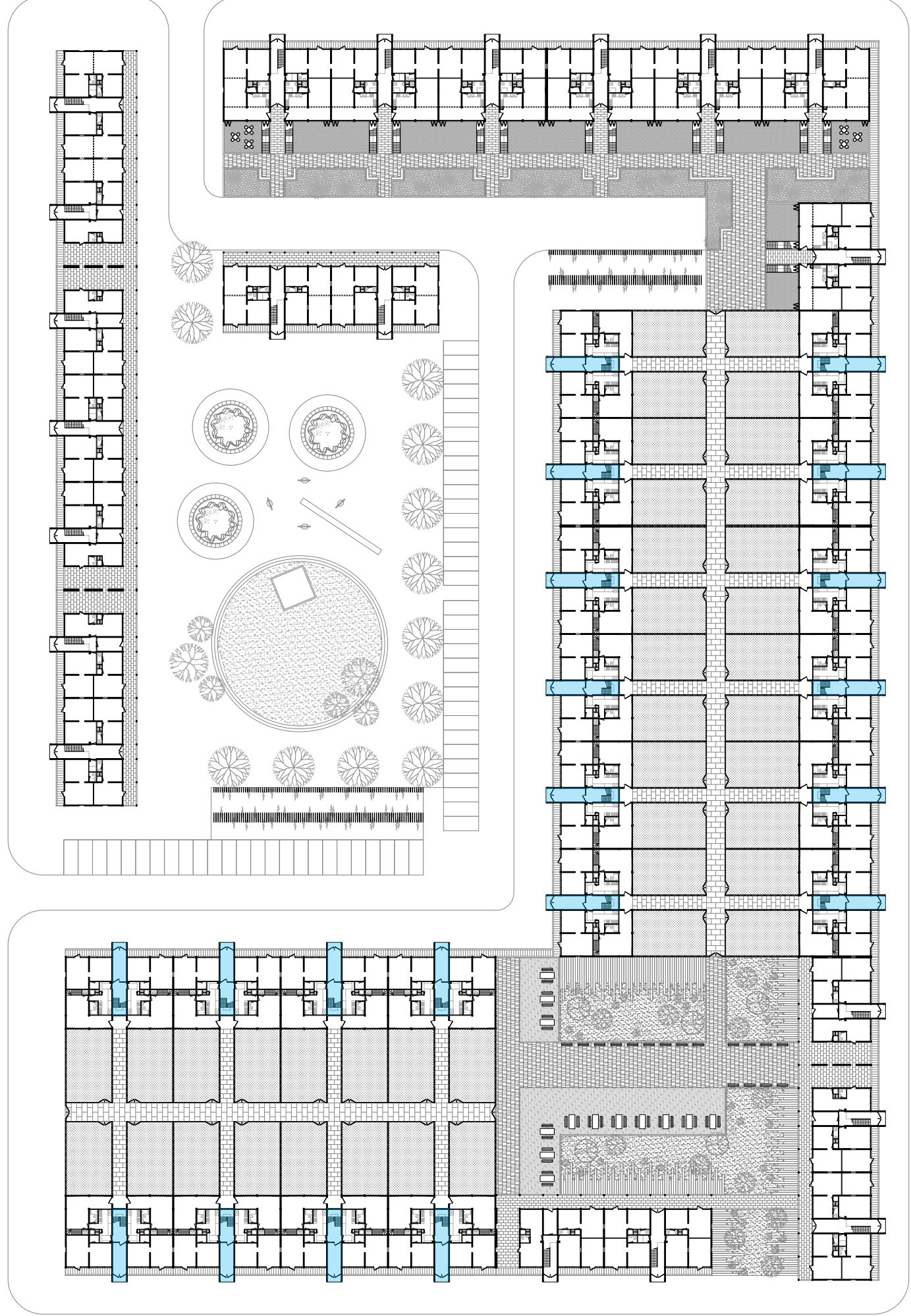
Existing
blind facade
on the sidewalk



New

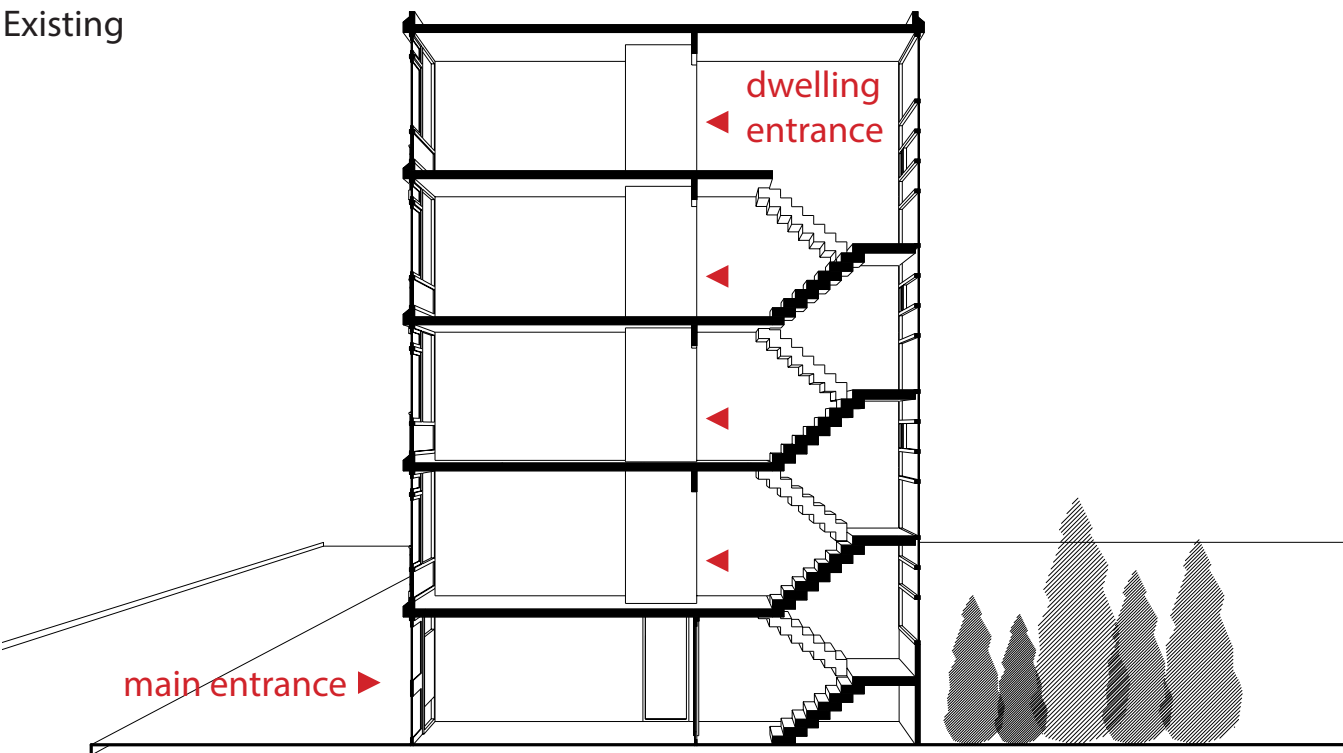


3. Design_Fragments

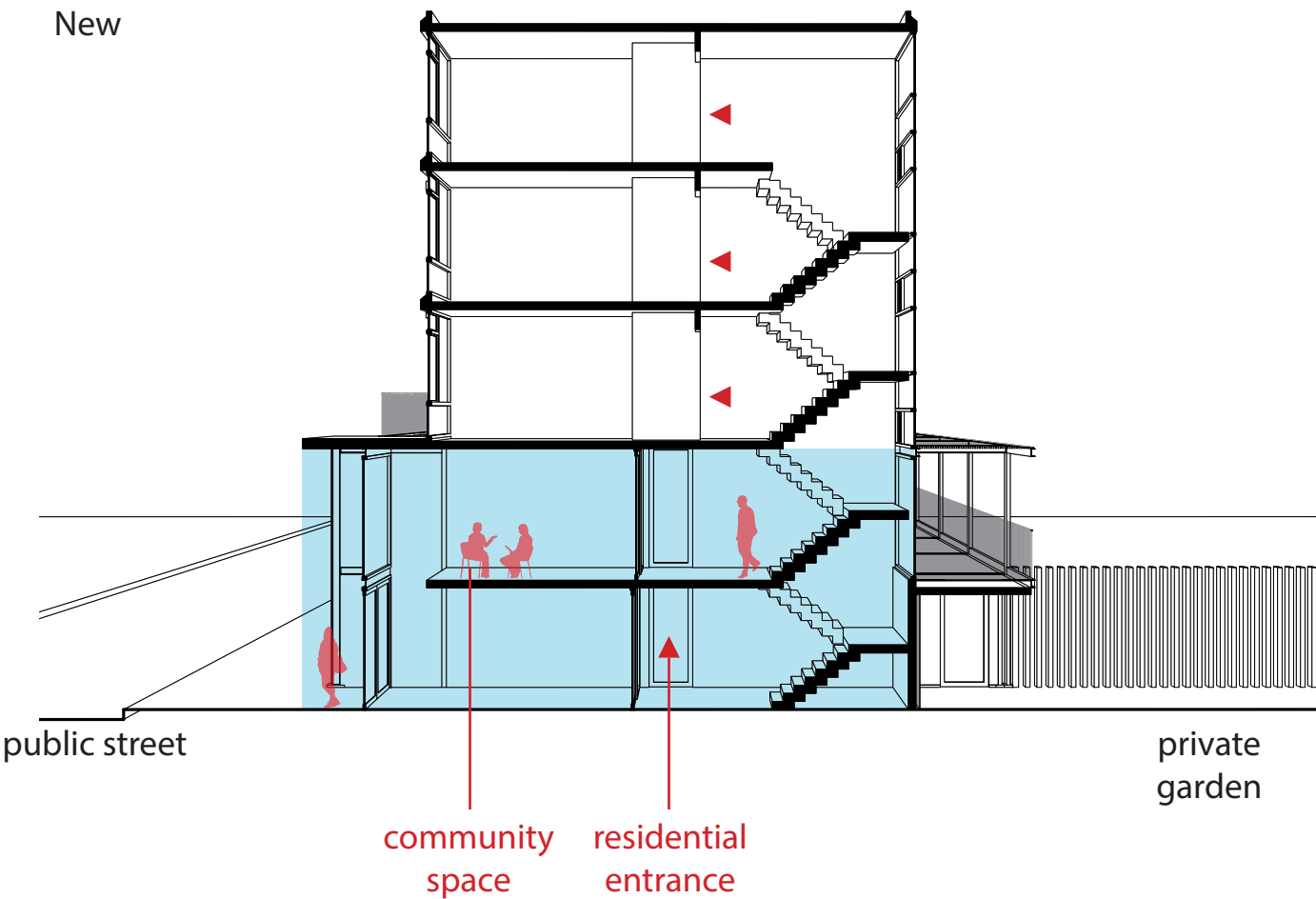


Fragment 5

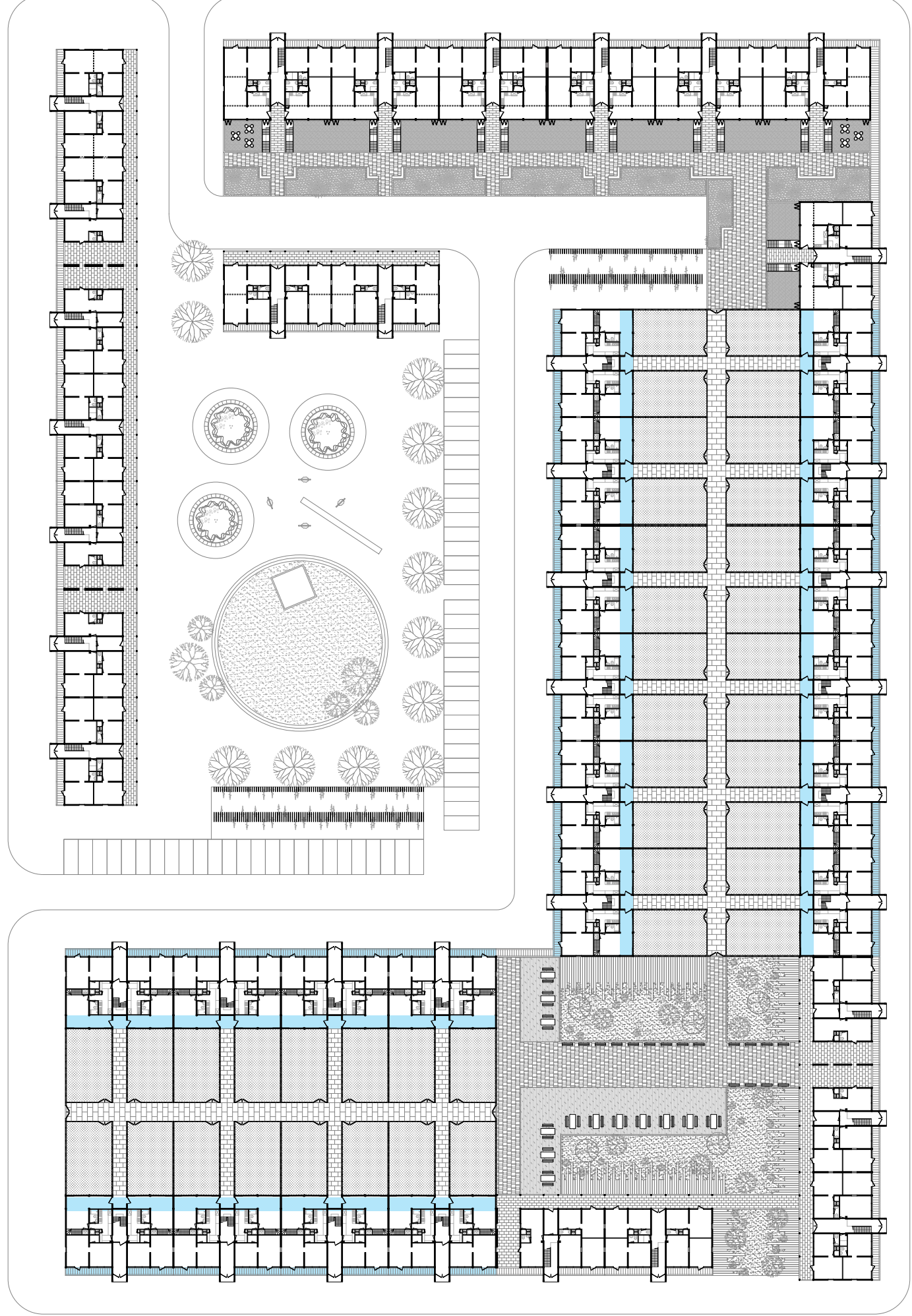
Existing



New

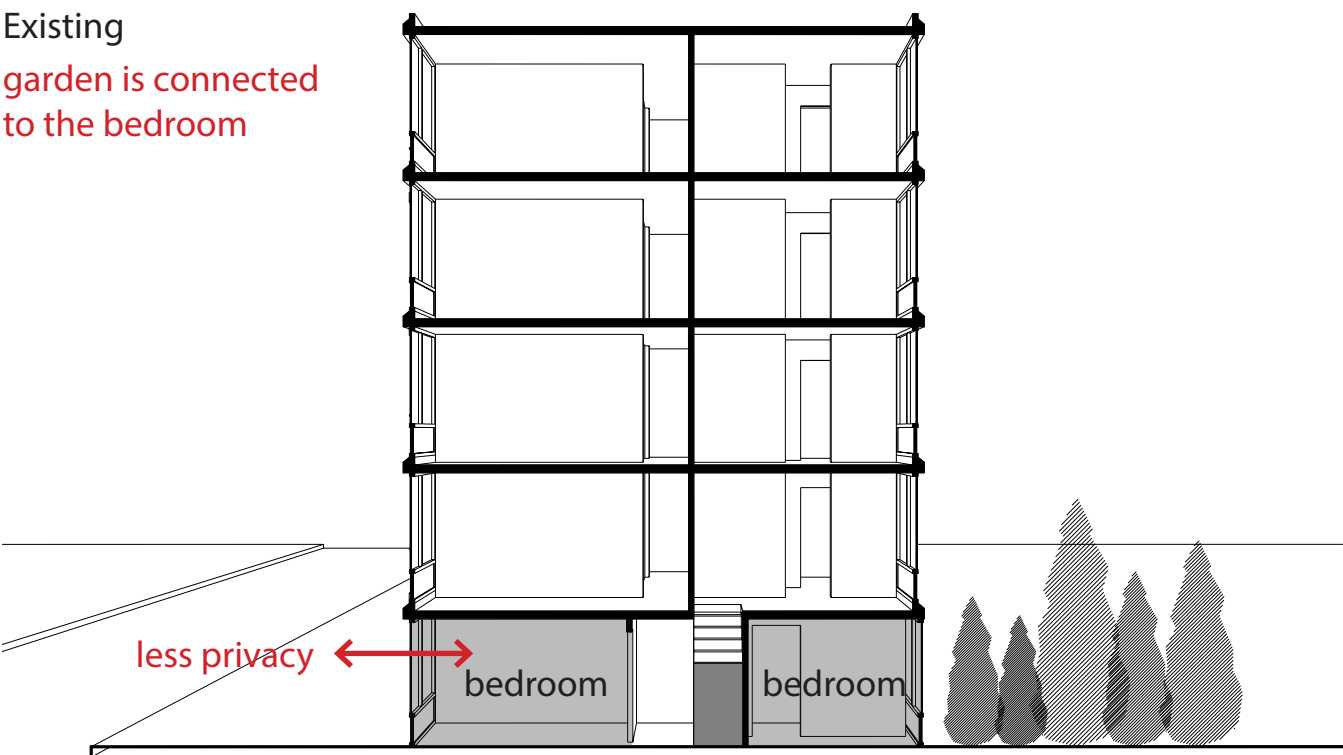


3. Design_Fragments

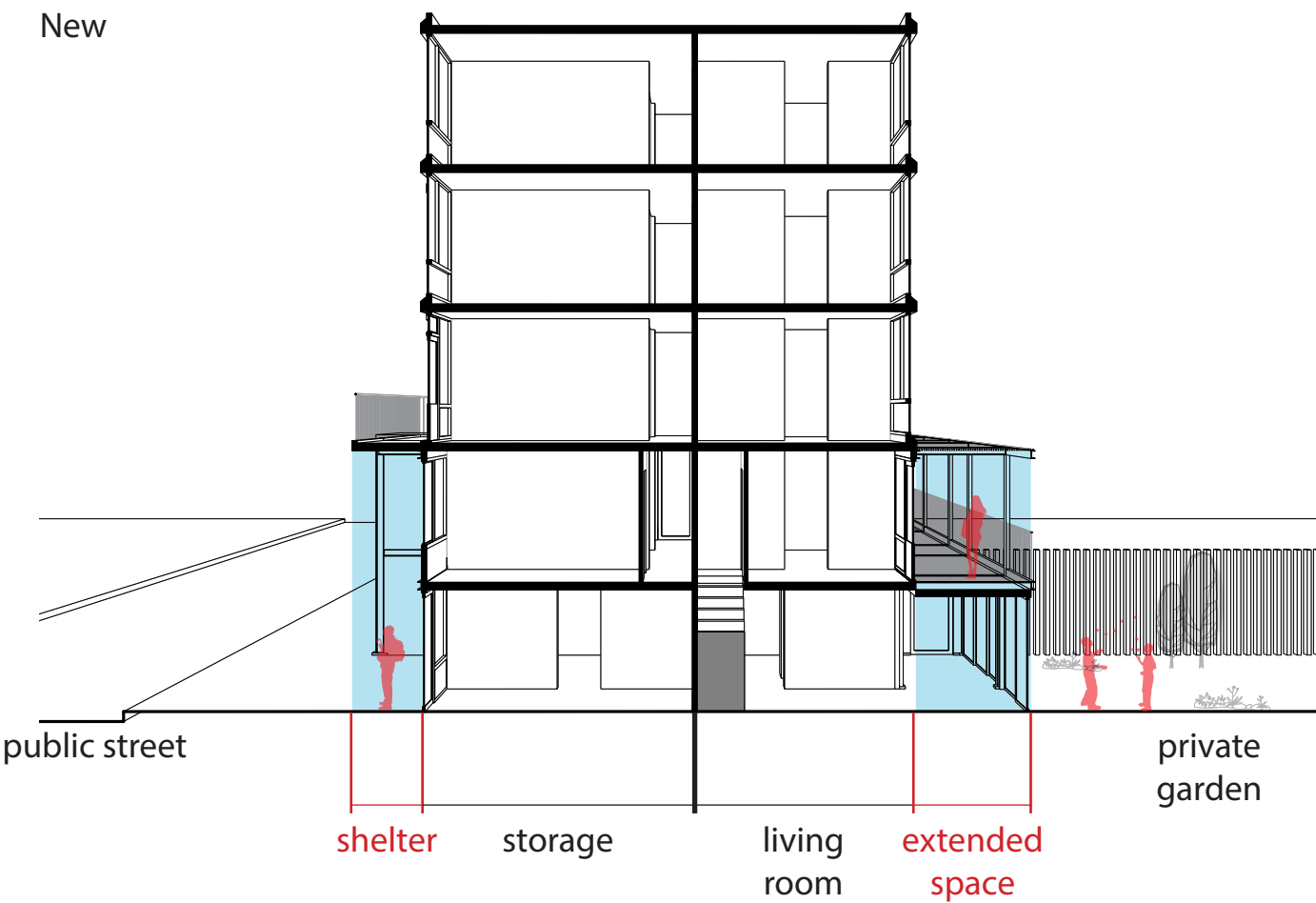


Fragment 6

Existing
garden is connected
to the bedroom

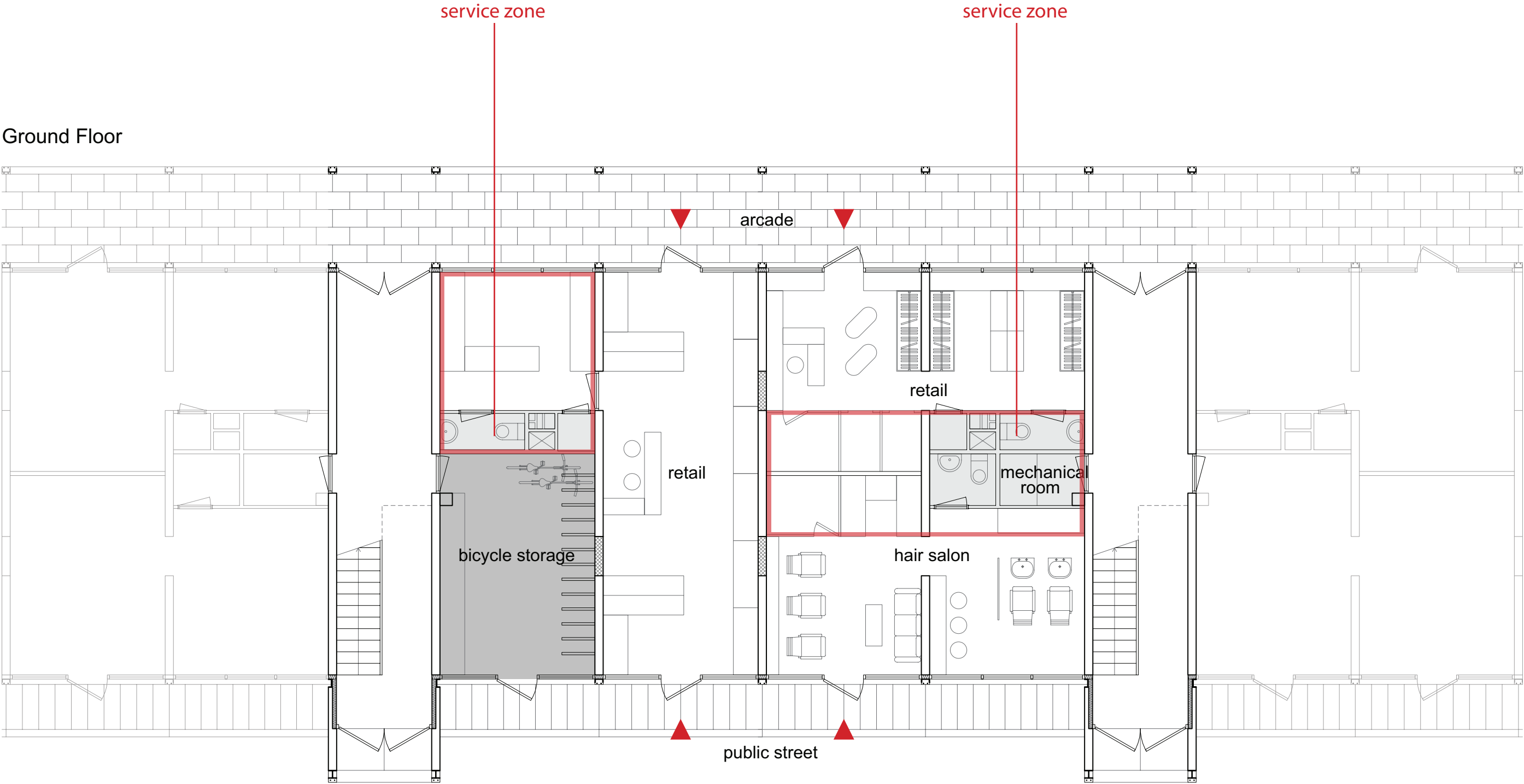


New



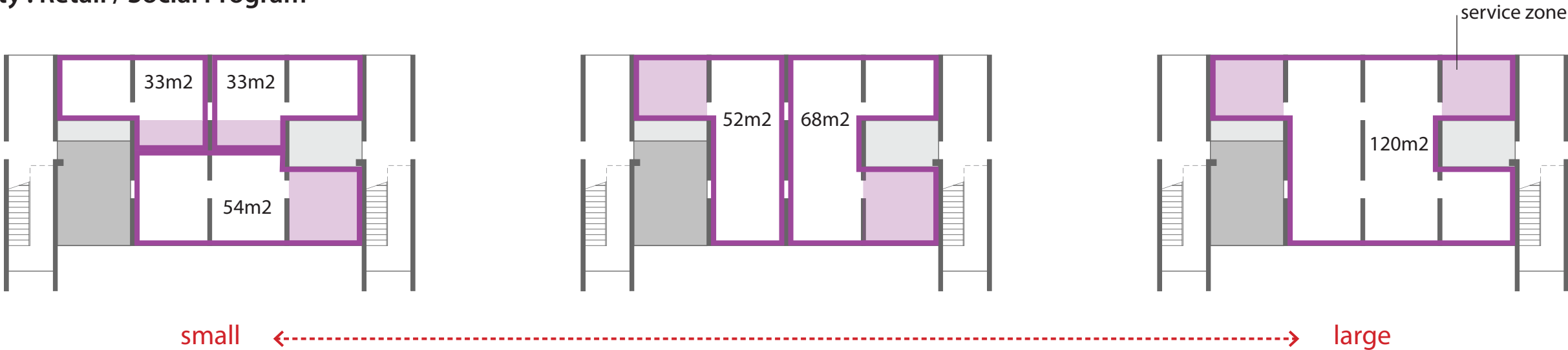
Public Facility : Retail / Social Program

Ground Floor

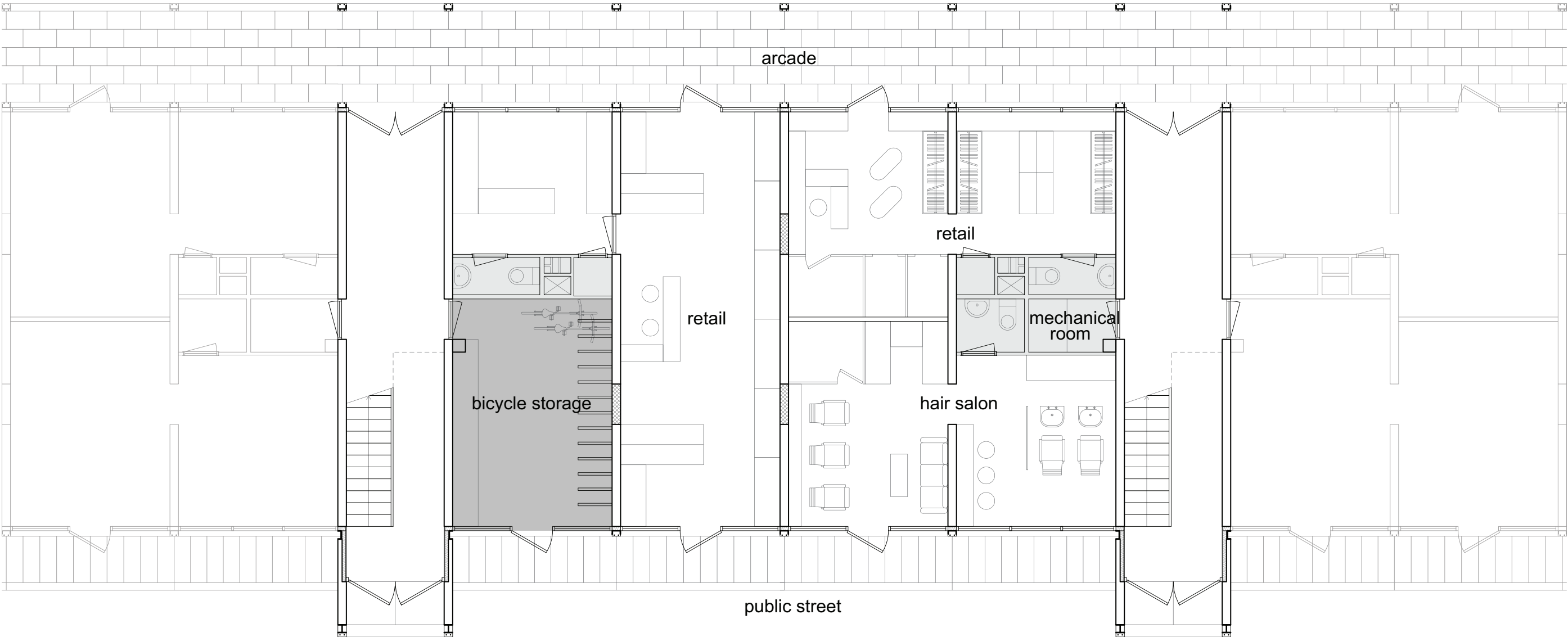


3. Design_Program

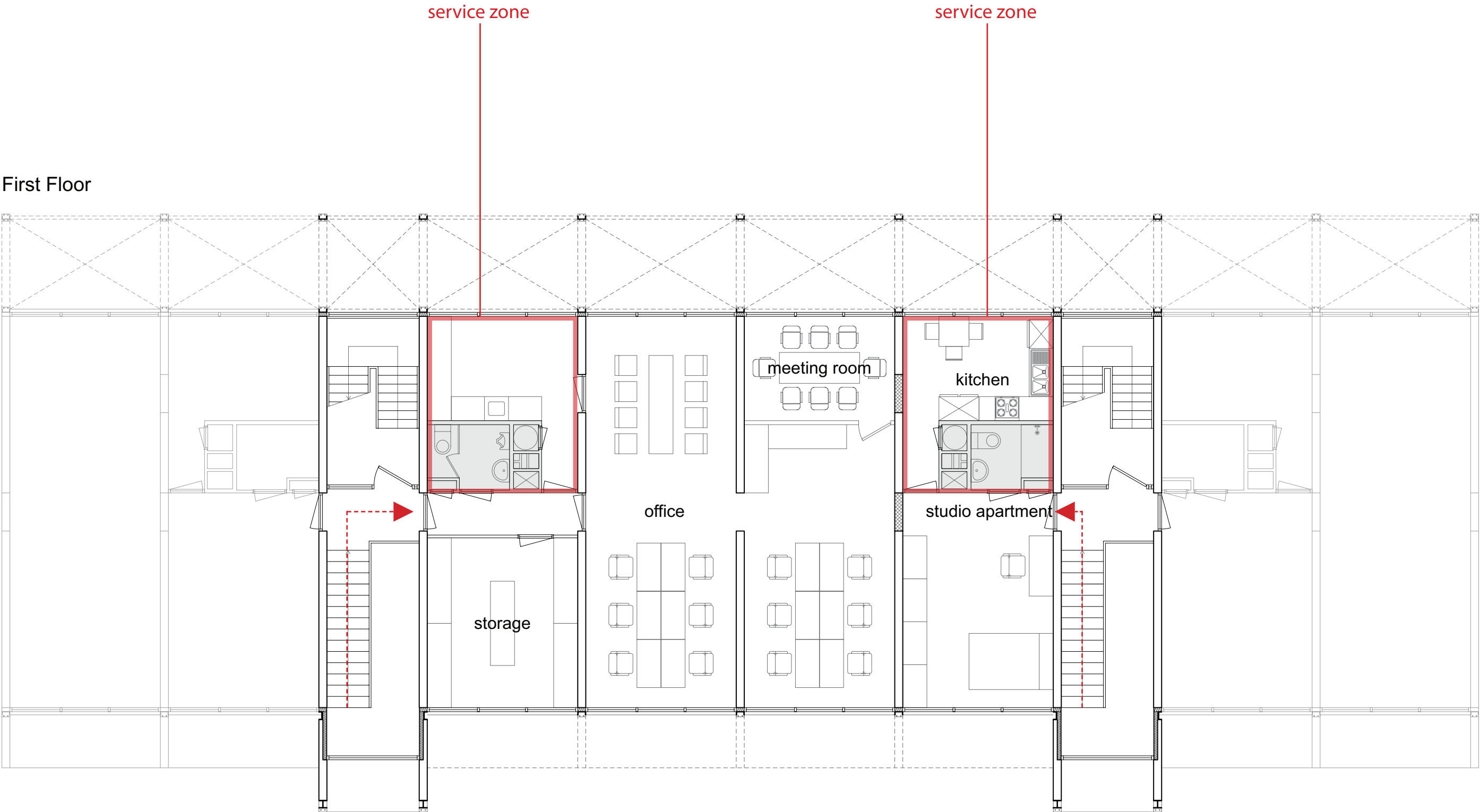
Public Facility : Retail / Social Program



Ground Floor

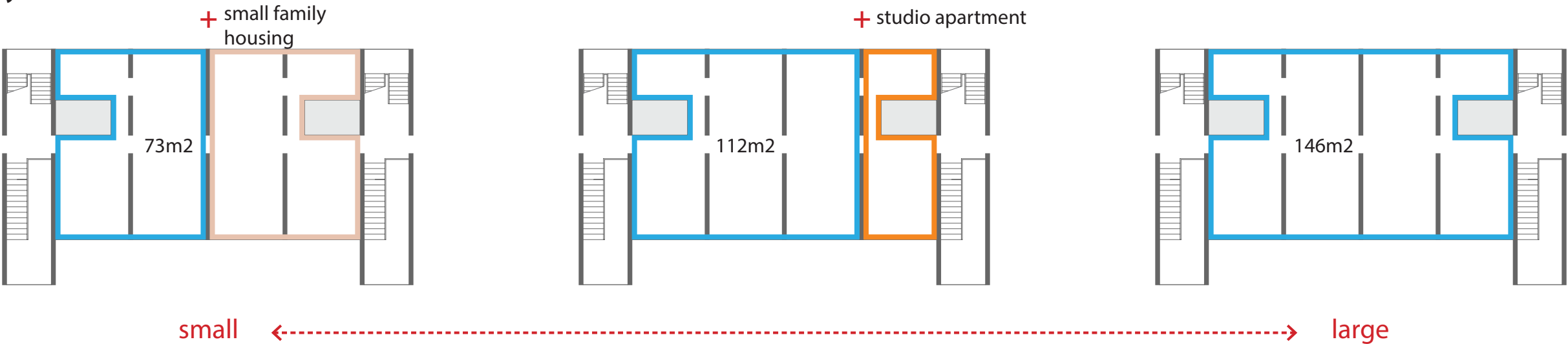


Public Facility : Office



3. Design_Program

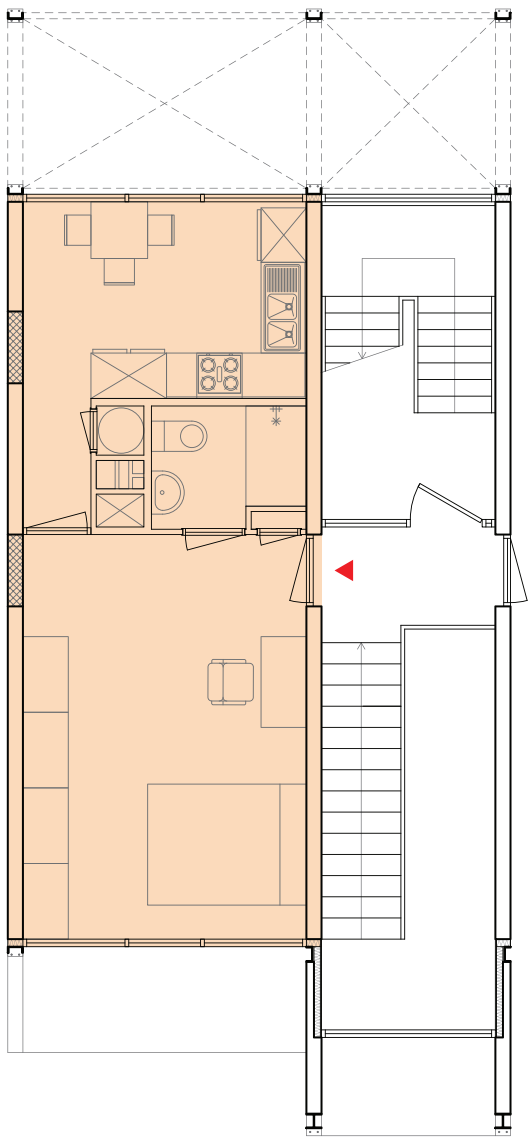
Public Facility : Office



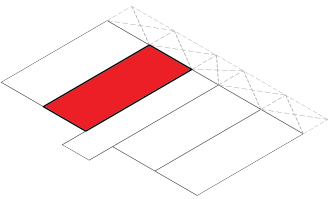
First Floor



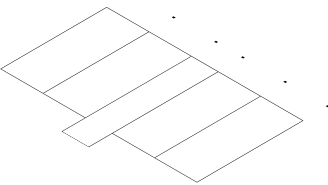
Housing : Studio Apartment



Level +1



Level 0



Target group :



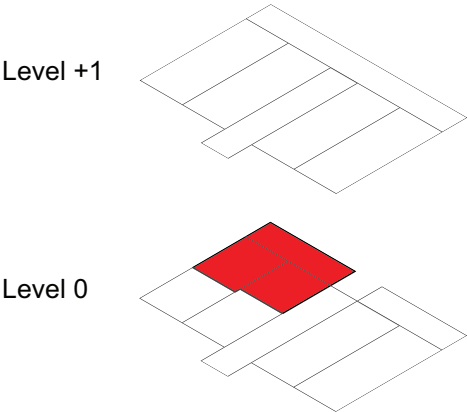
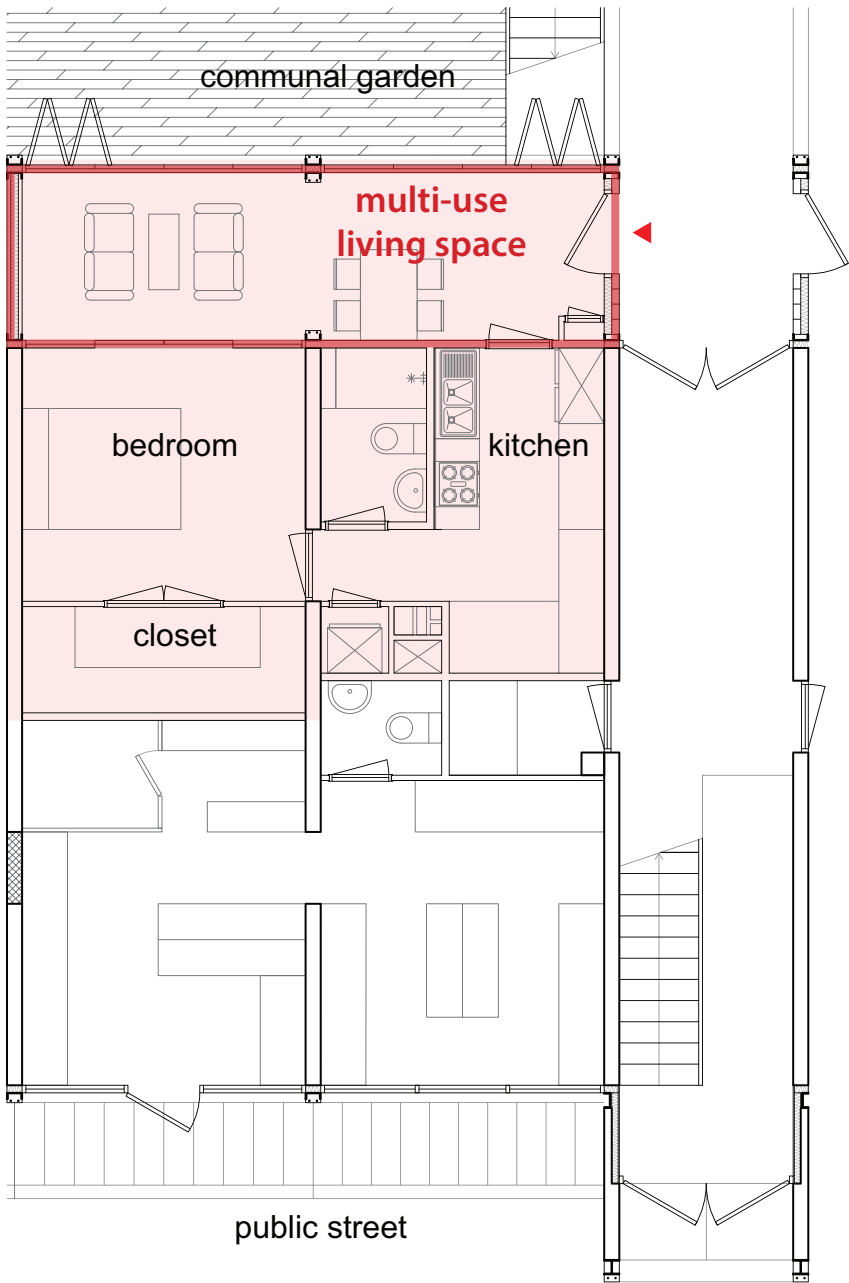
Young professional/ Single



Equipment :






separate kitchen / 1 bathroom / single living area

Housing : Single Apartment with communal garden

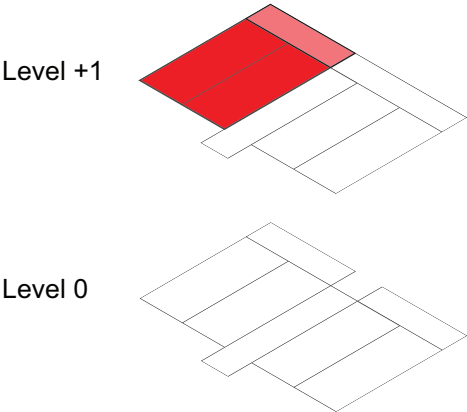
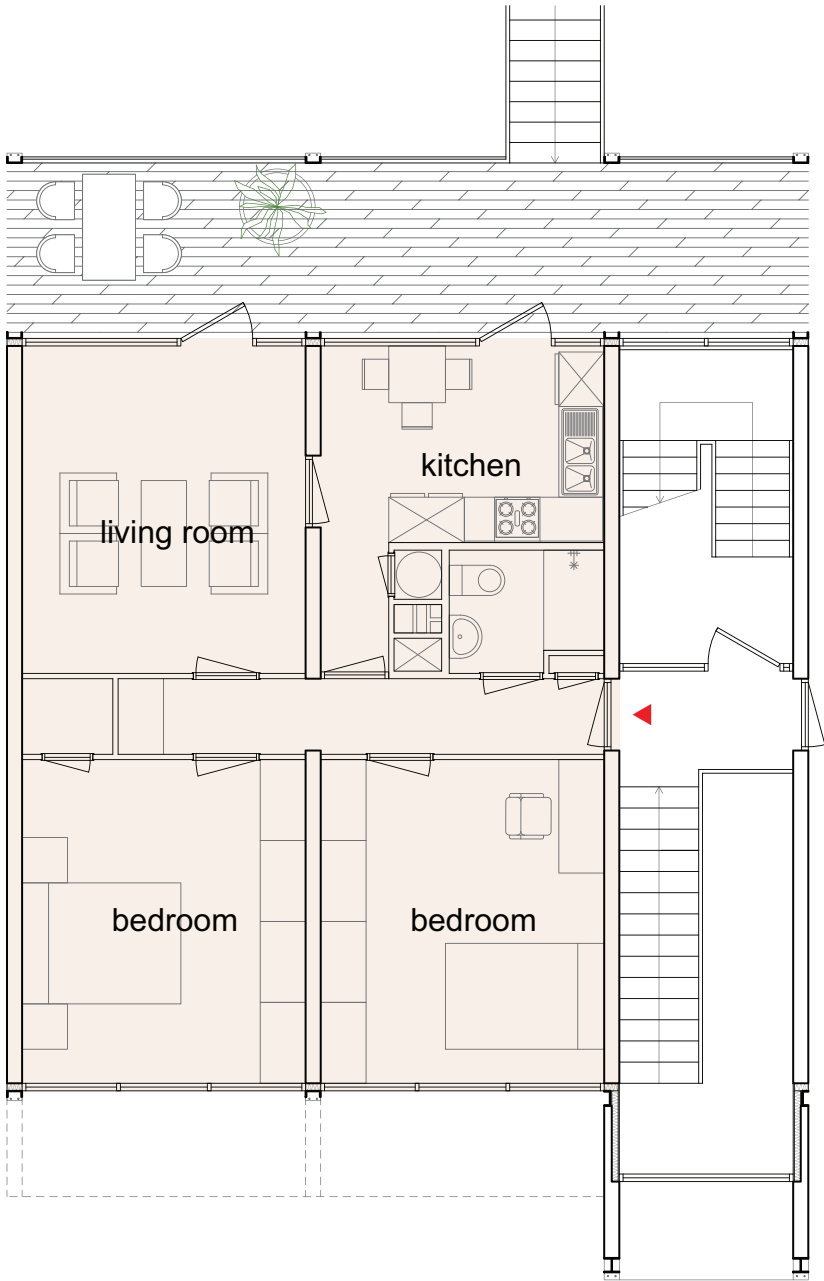


Target group :   Elderly / Couple

Equipment :   
separate kitchen / 1 bathroom / 1 bedroom

+
COMMUNAL GARDEN

Housing : Starter Housing with Balcony



Target group :



Starter family

Equipment :

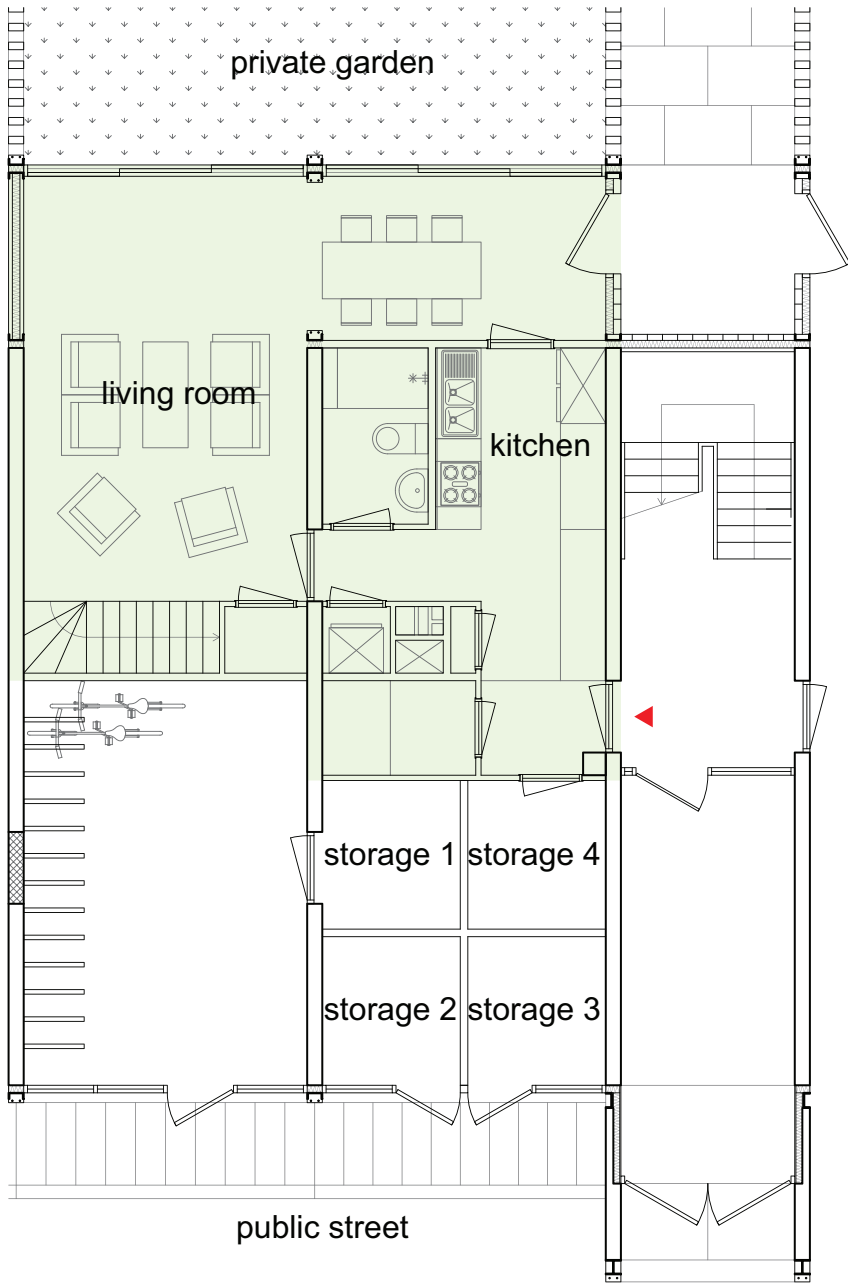


separate kitchen / 1 bathroom / 2 bedrooms / living room

+

BALCONY connected to the
COMMUNAL GARDEN

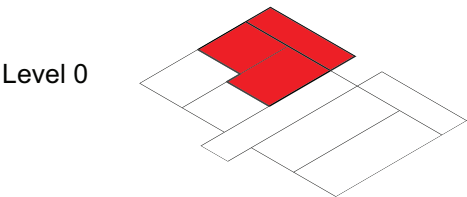
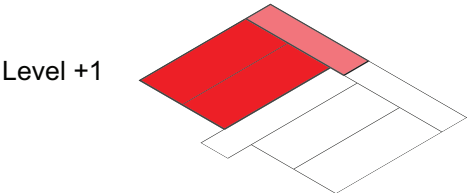
Housing : Large Family Housing with Garden



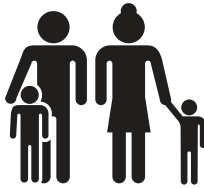
Ground Floor



First Floor



Target group :



Large family

Equipment :



separate kitchen / living & dining

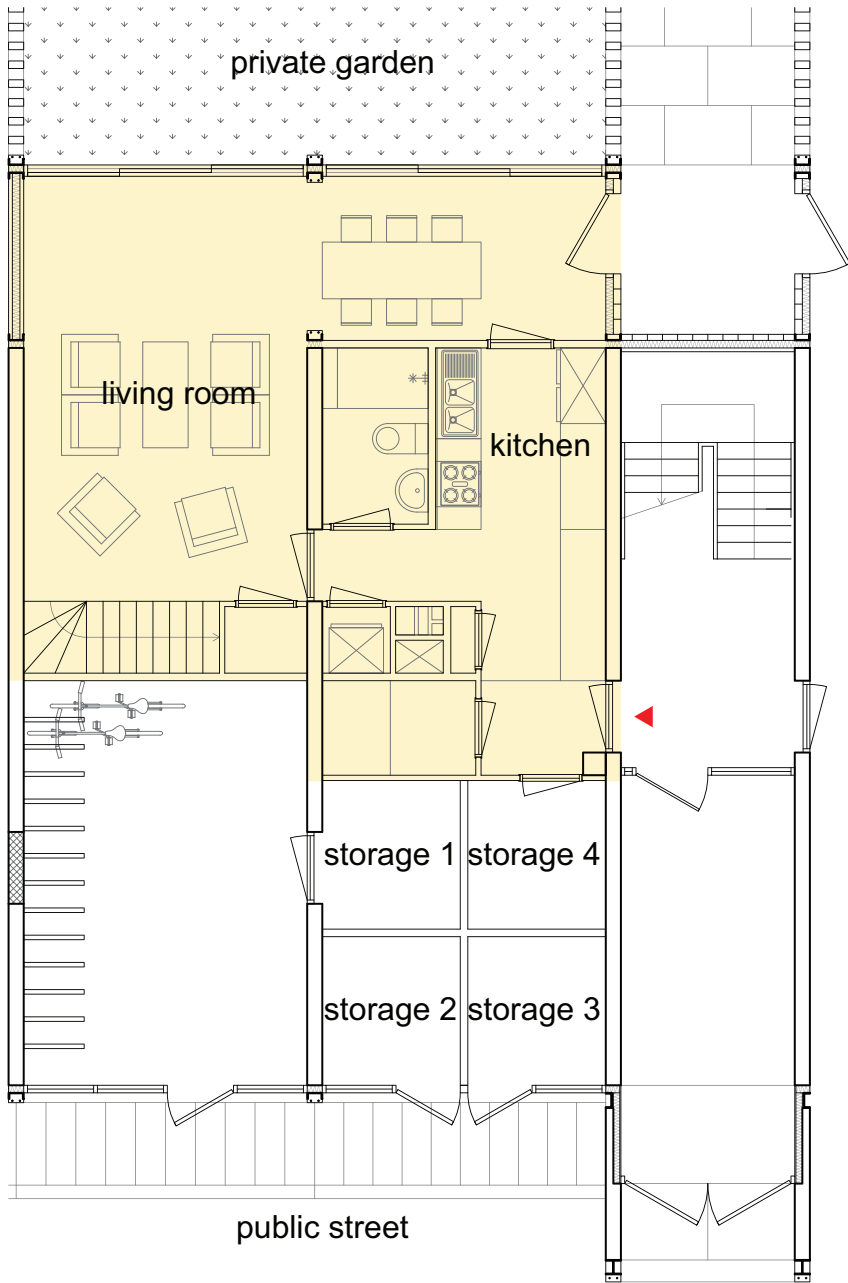


2 bathrooms / 4 bedrooms

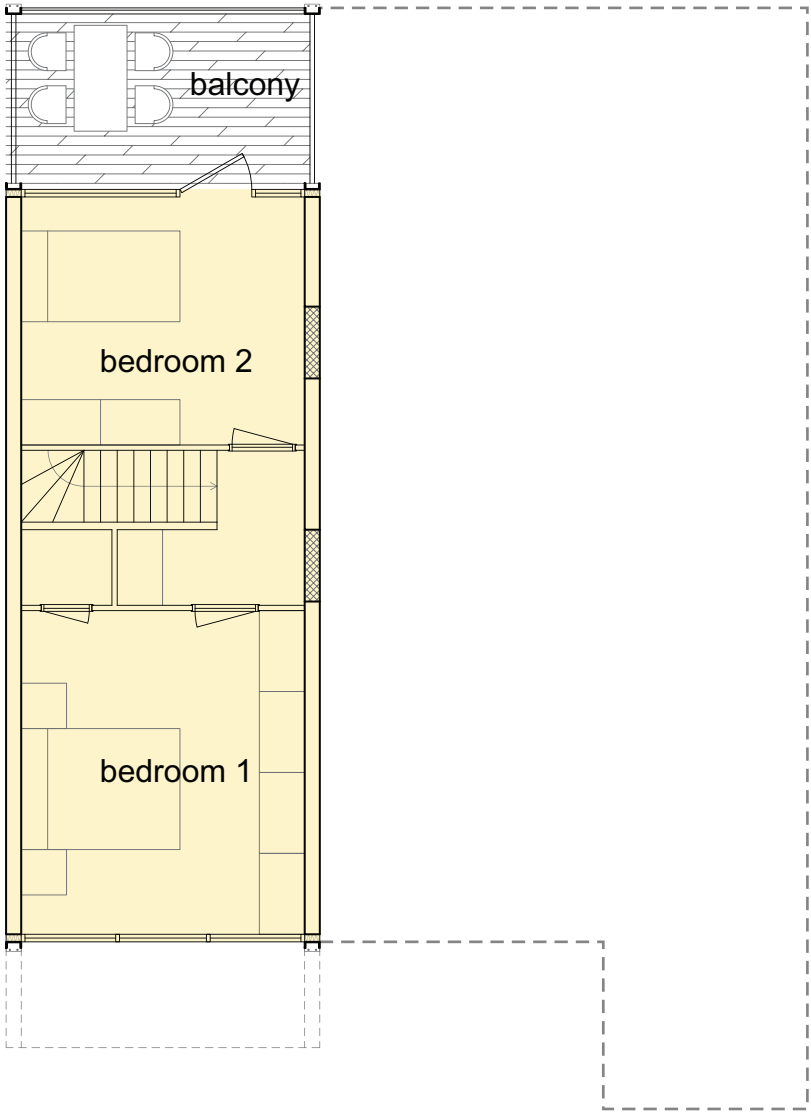


PRIVATE GARDEN

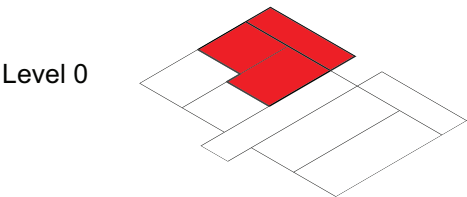
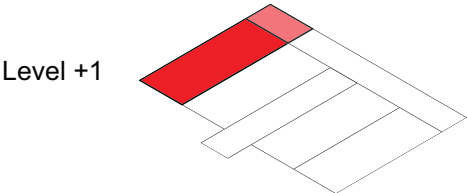
Housing : Small Family Housing with Garden



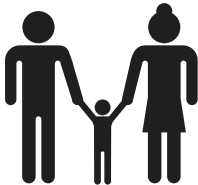
Ground Floor



First Floor



Target group :



Small family

Equipment :



separate kitchen / living & dining

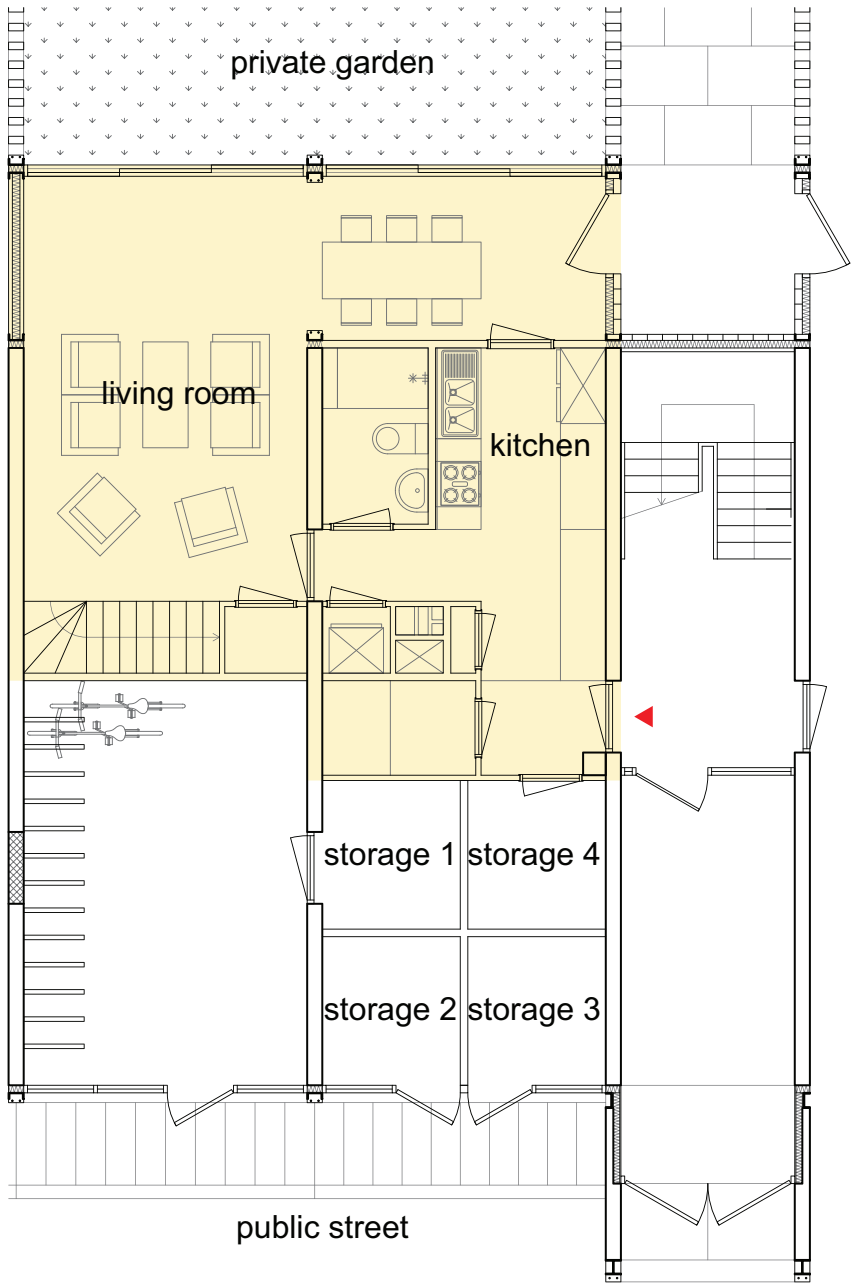


1 bathroom / 2 bedrooms



PRIVATE GARDEN

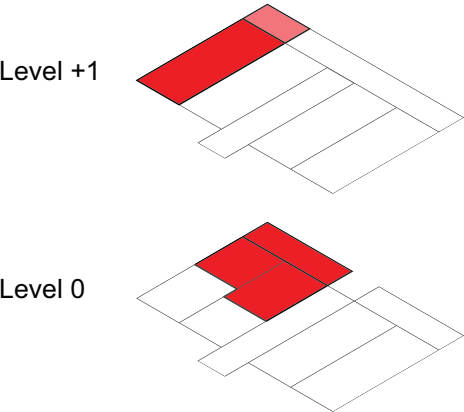
Housing : Small Family Housing with Garden + Studio Apartment



Ground Floor

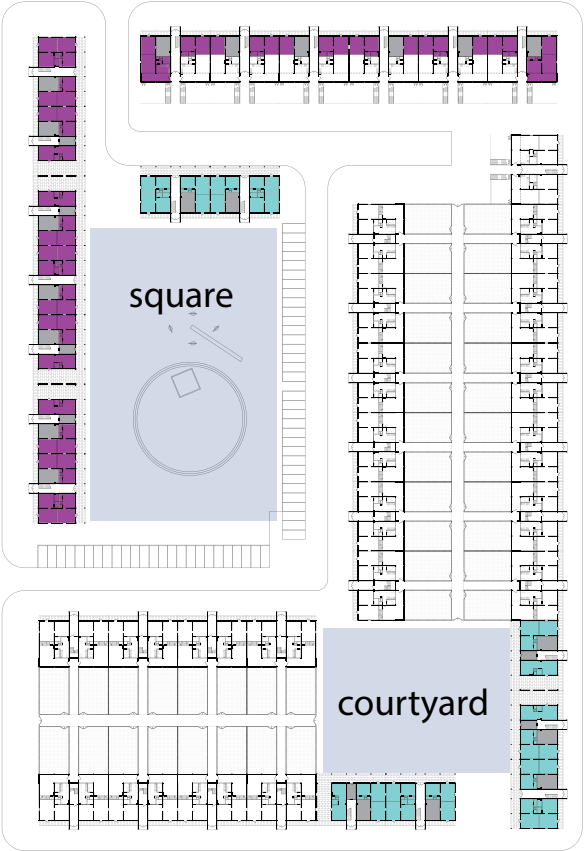


First Floor



3. Design_Program

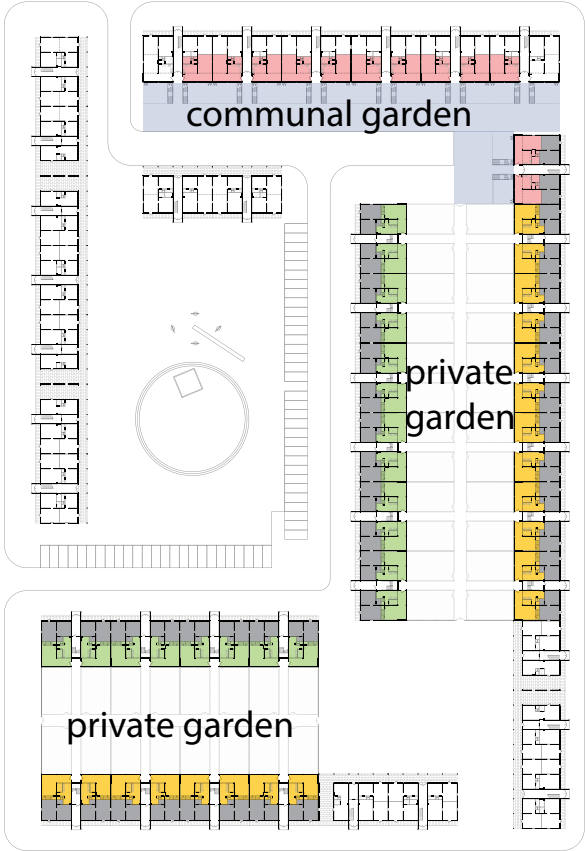
Ground Floor



Public Facilities

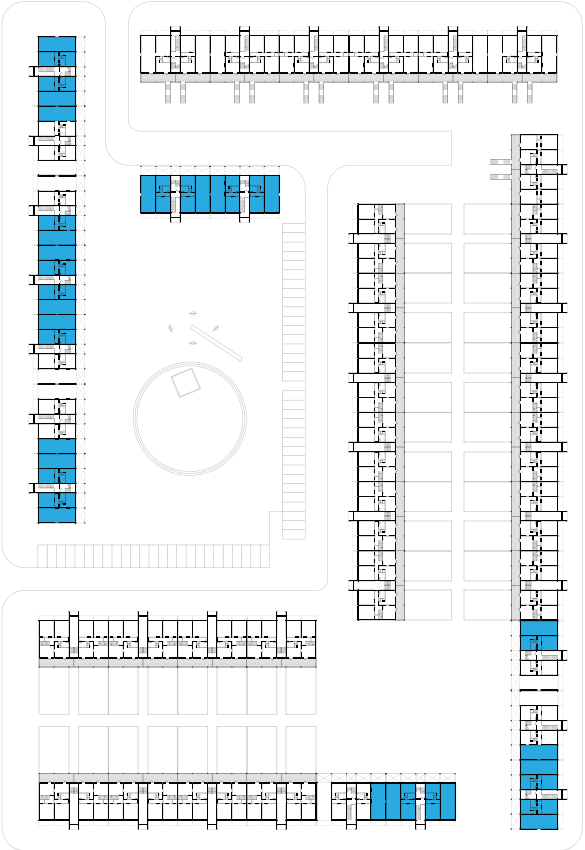
- retail (1.473 m2)**
; bakery, hair salon, cafe, restaurant etc.
- social program (741 m2)**
; donation store, bicycle repair, library, community space, shared meeting space etc.

Housing

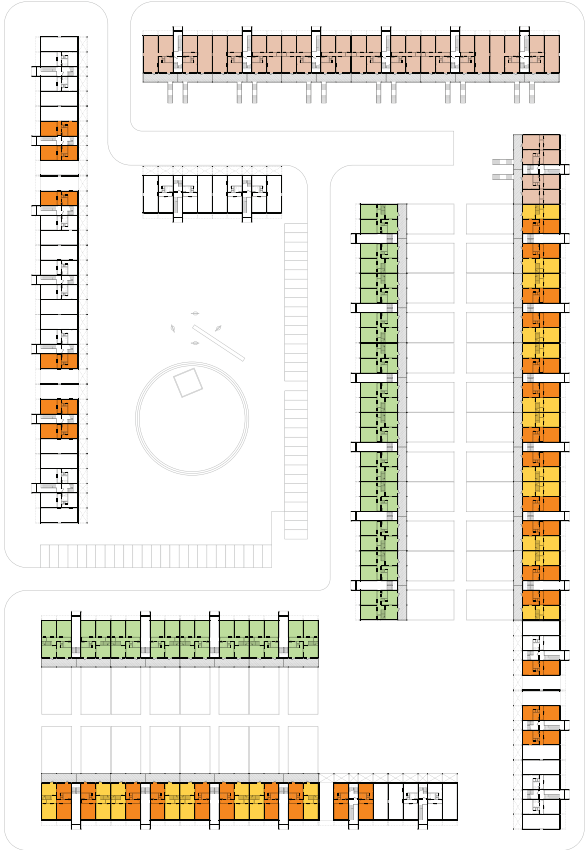


- single apartment with communal garden (12 households)**
- small family housing with garden (20 households)**
- large family housing with garden (20 households)**

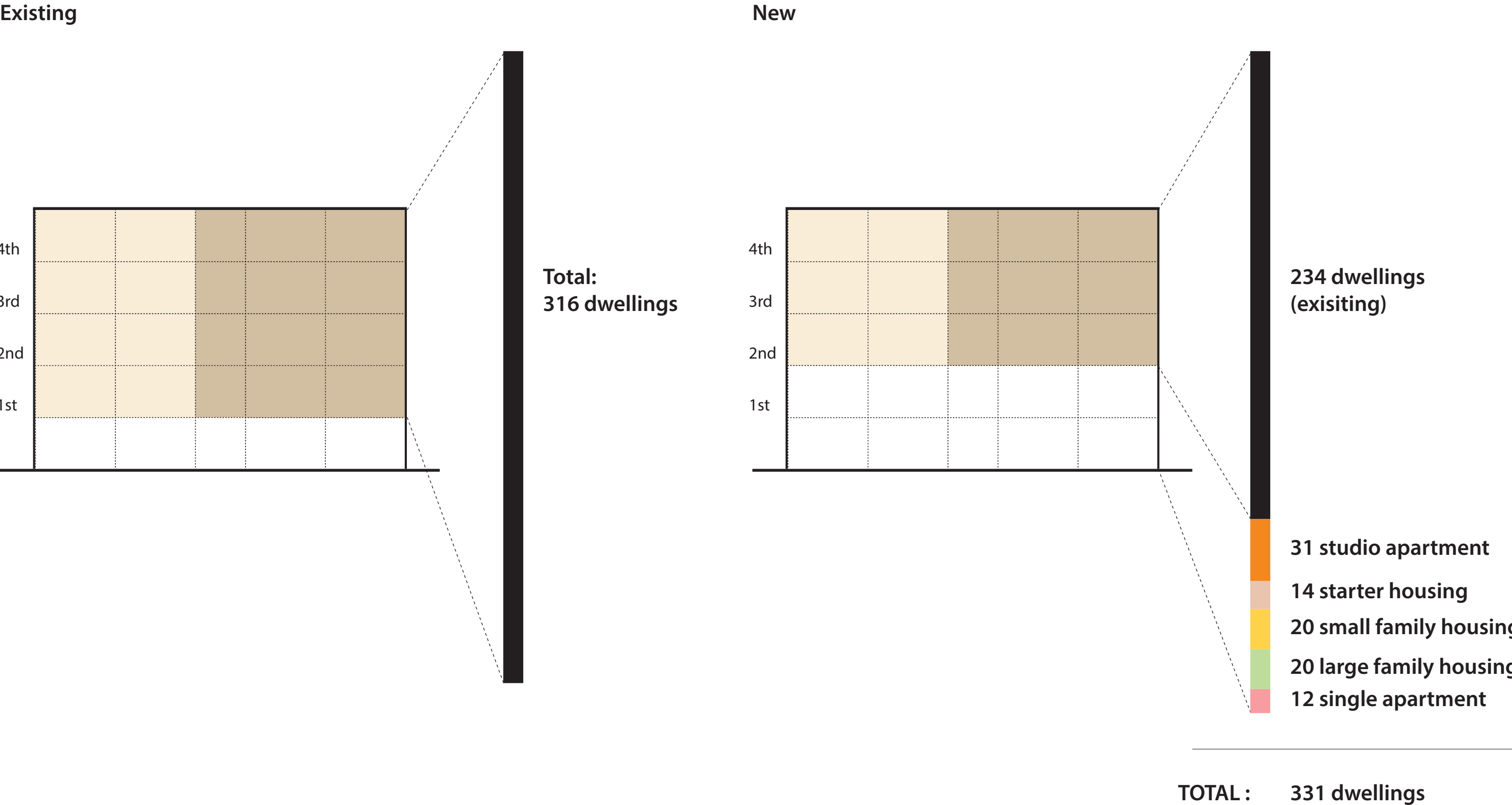
First Floor



- office (1.397 m2)**
; startup office, co-working space etc.

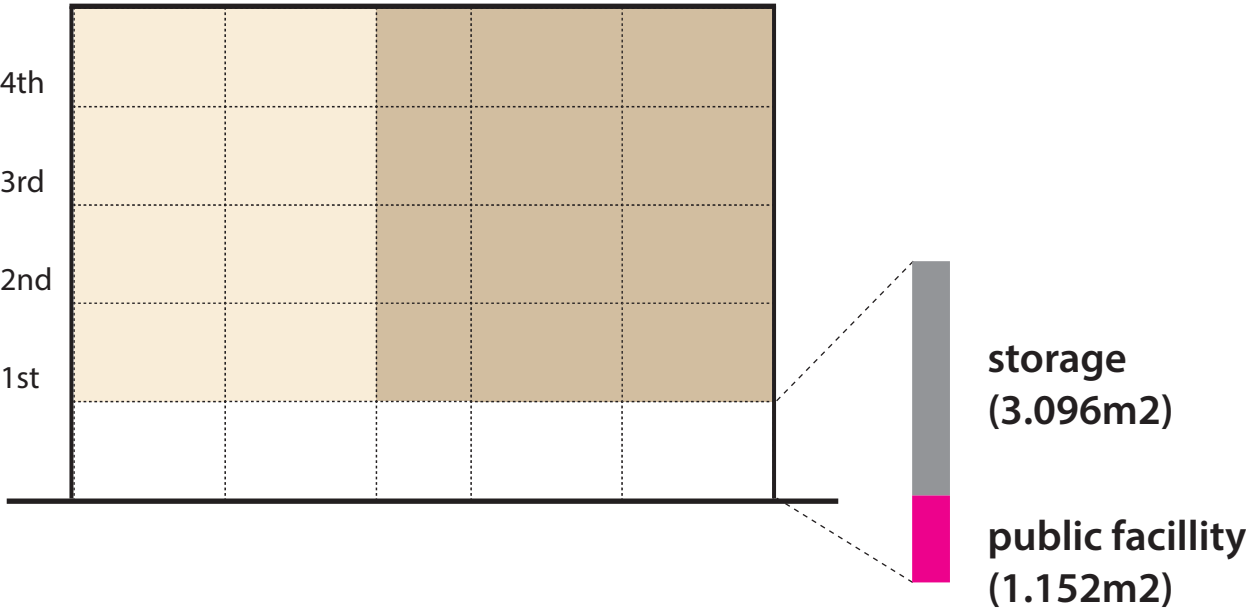


- studio apartment (31 households)**
- starter housing with balcony (14 households)**

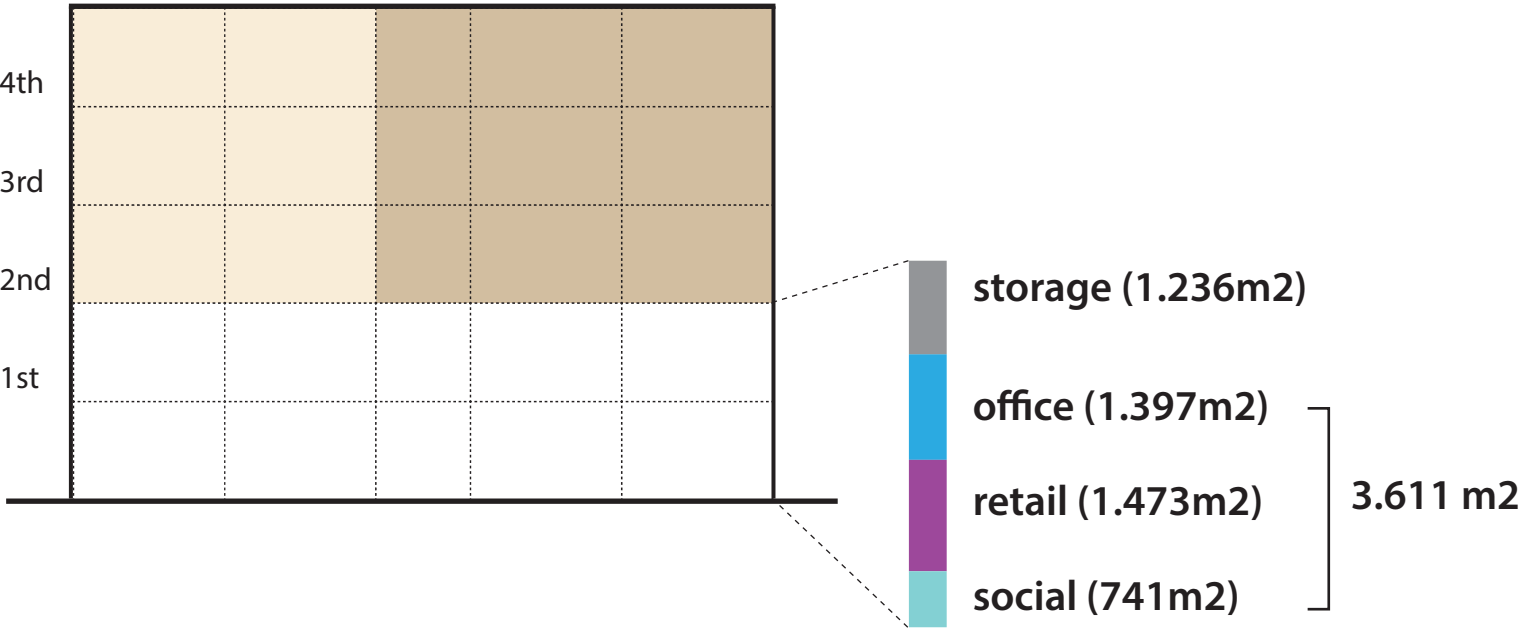


3. Design_Program

Existing

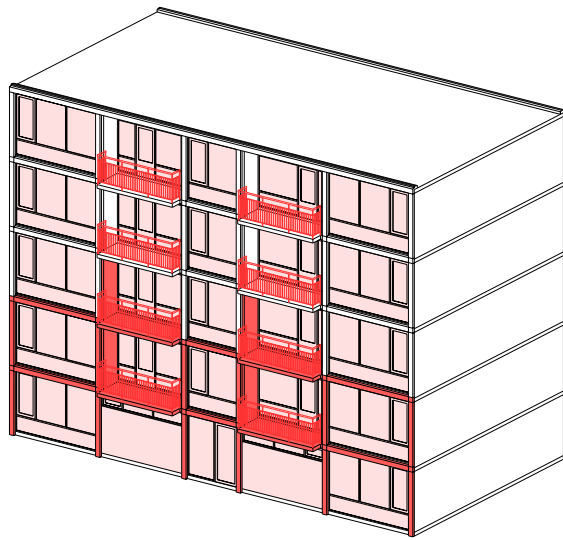


New



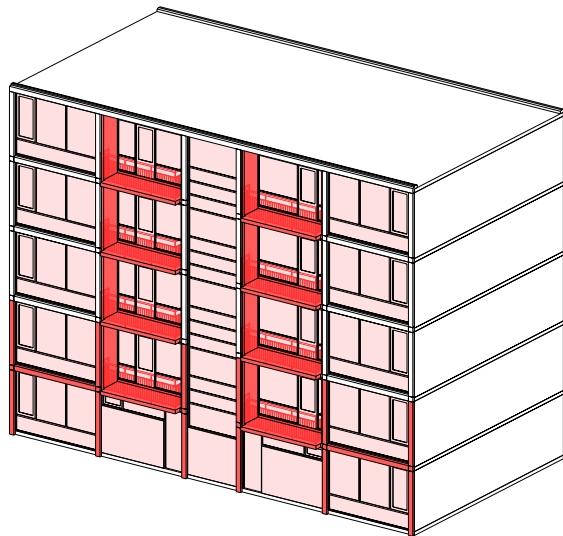
3. Design_ Construction Detail

Phase of Construction



Front

1. remove all the window frames, handrails and part of concrete cladding



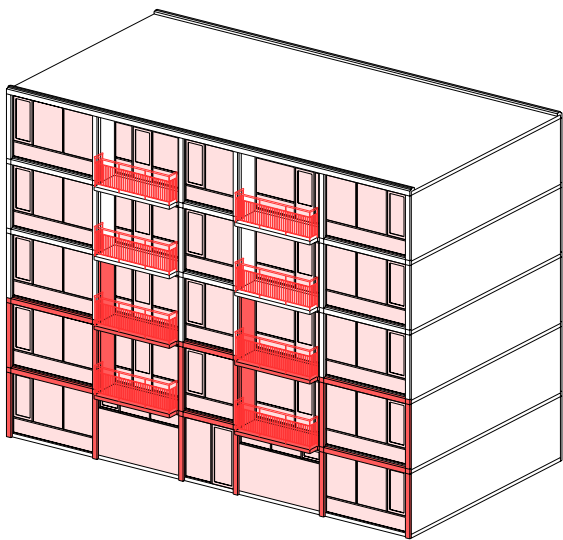
Rear

1. remove all the window frames, handrails and part of concrete cladding

Existing Plastic Window Frame

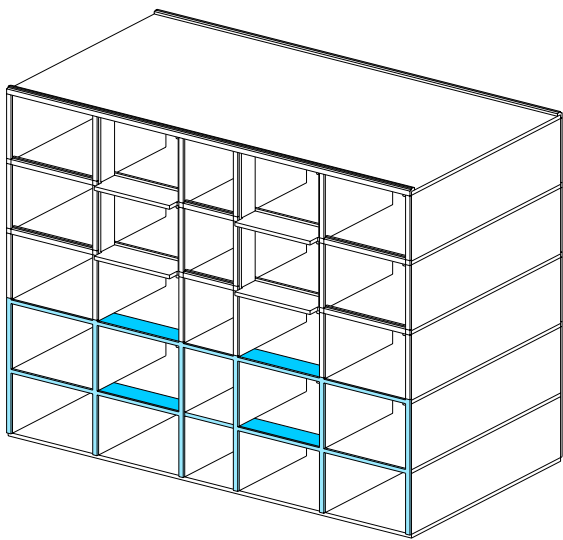


Phase of Construction

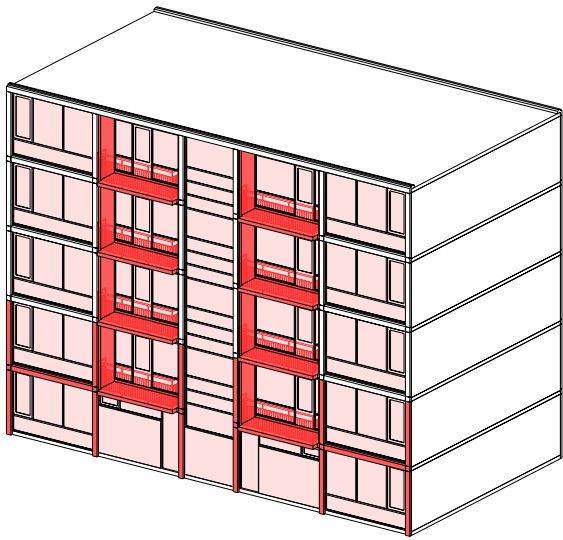


Front

1. remove all the window frames, handrails and part of concrete cladding

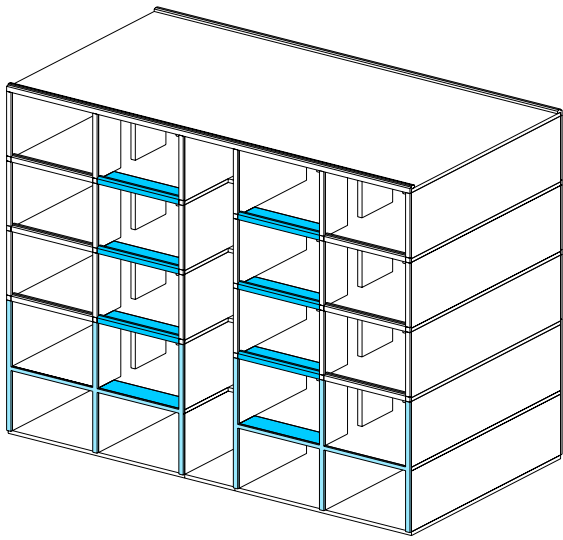


2. extend the slab with in-situ concrete and add insulation



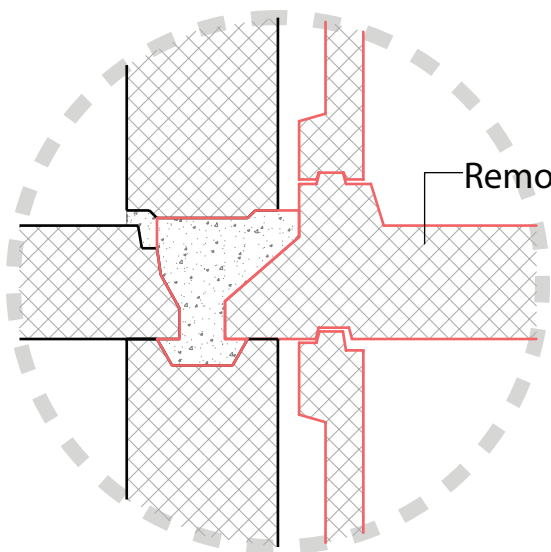
Rear

1. remove all the window frames, handrails and part of concrete cladding

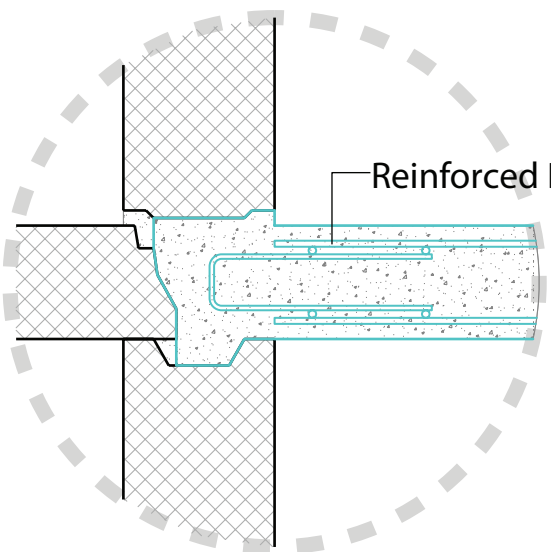


2. extend the slab with in-situ concrete and add insulation

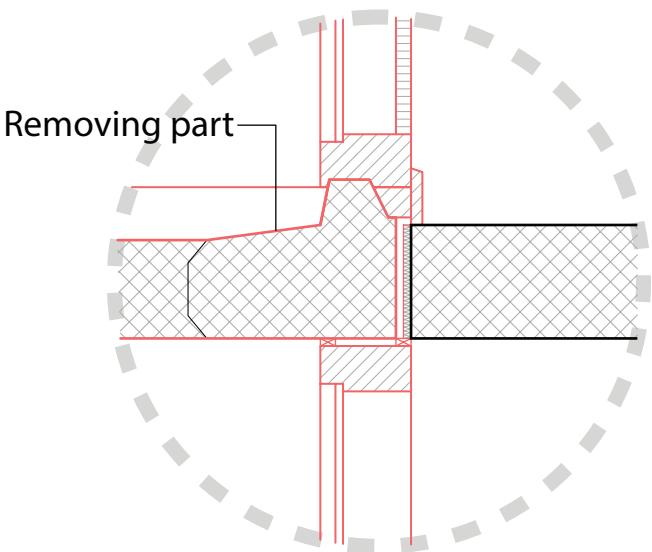
in-situ concrete connection with existing structure



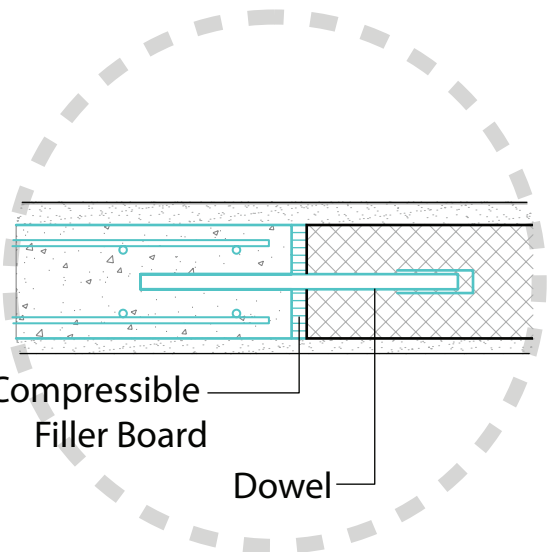
1. Existing Vertical Section A



New Concrete Slab Connection



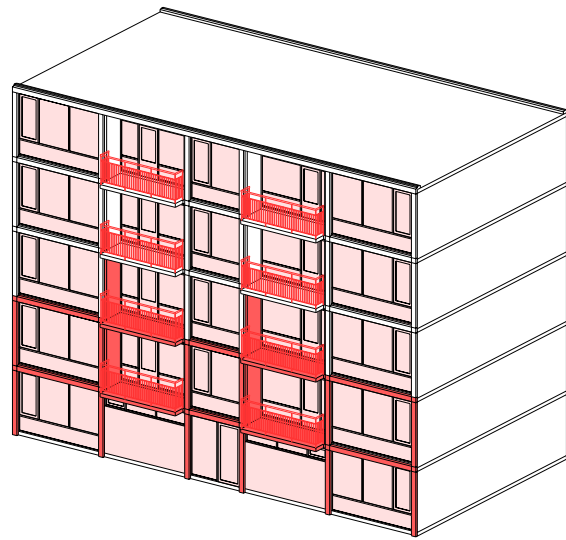
2. Existing Vertical Section B



New Concrete Slab Connection

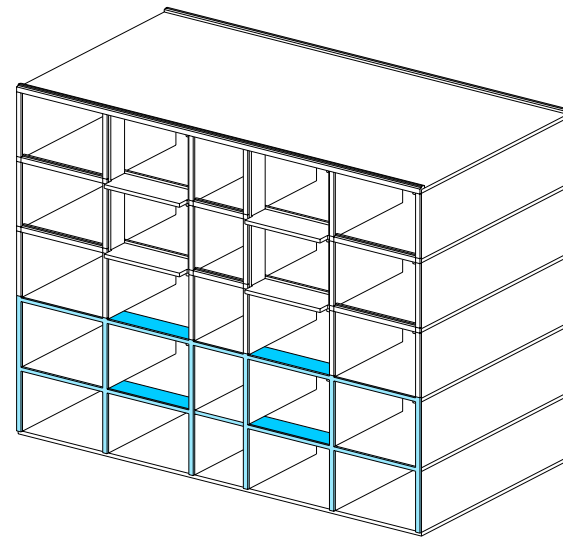
3. Design_ Construction Detail

Phase of Construction

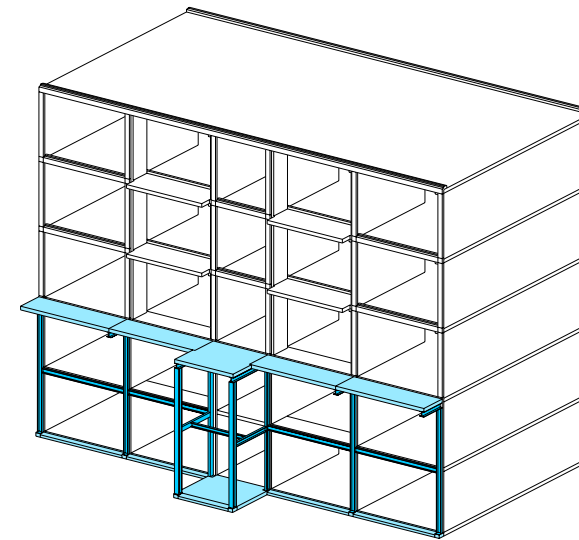


Front

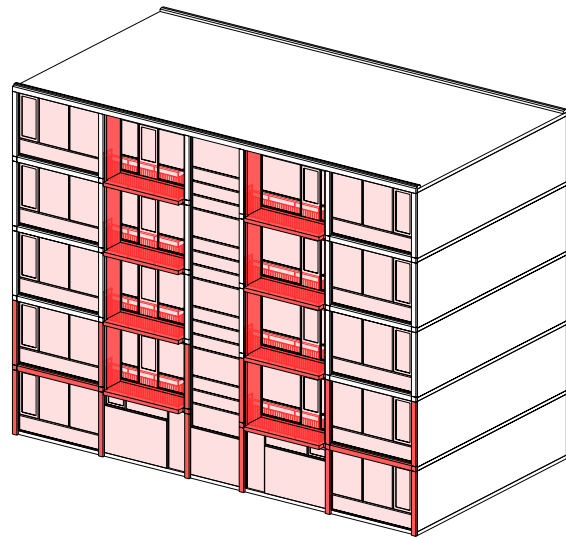
1. remove all the window frames, handrails and part of concrete cladding



2. extend the slab with in-situ concrete and add insulation

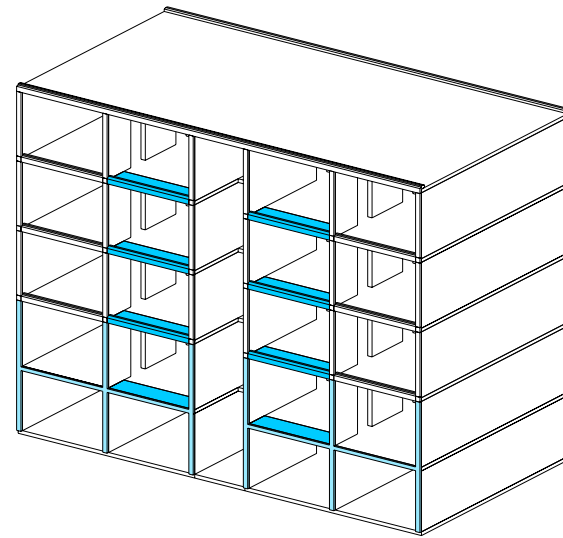


3. new steel structure and precast concrete balcony

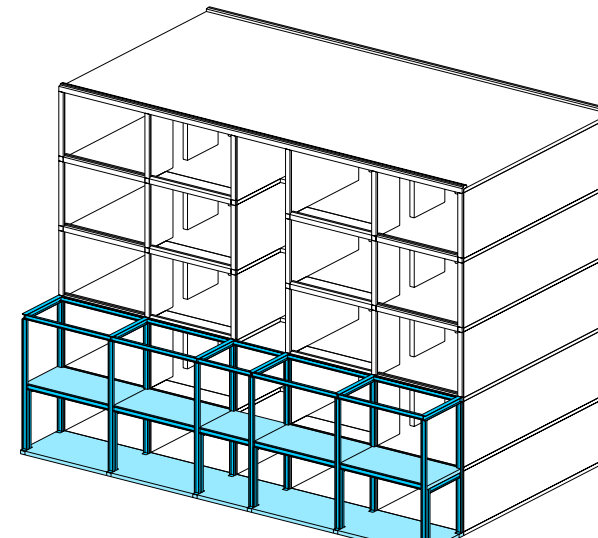


Rear

1. remove all the window frames, handrails and part of concrete cladding

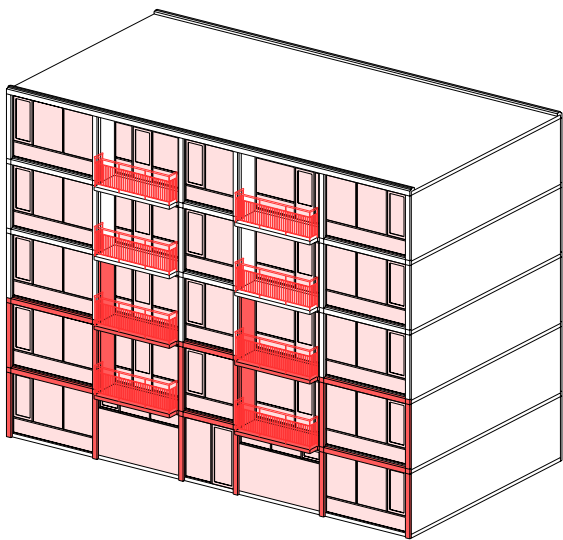


2. extend the slab with in-situ concrete and add insulation



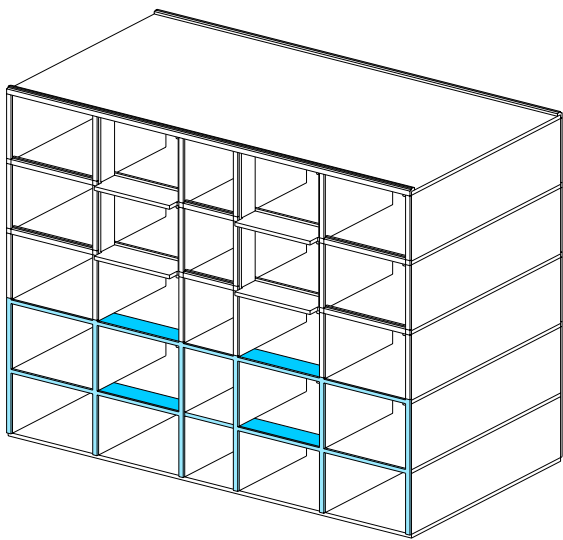
3. new steel structure and precast concrete slab

Phase of Construction

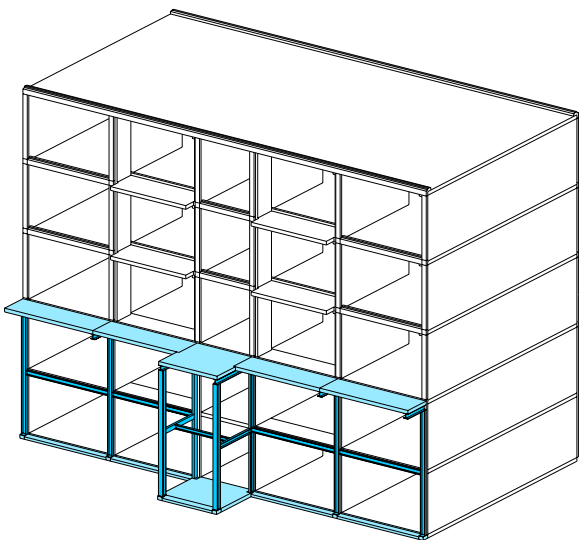


Front

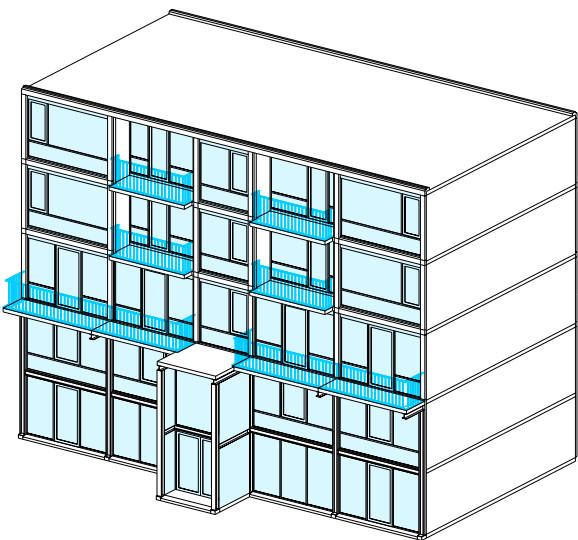
1. remove all the window frames, handrails and part of concrete cladding



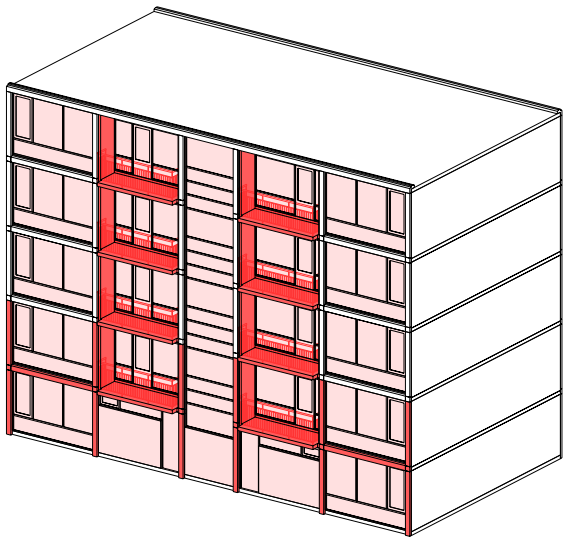
2. extend the slab with in-situ concrete and add insulation



3. new steel structure and precast concrete balcony

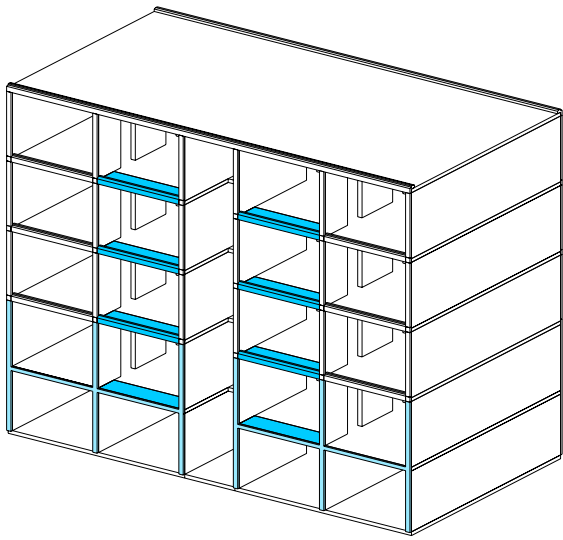


4. new aluminum window frames and steel handrails

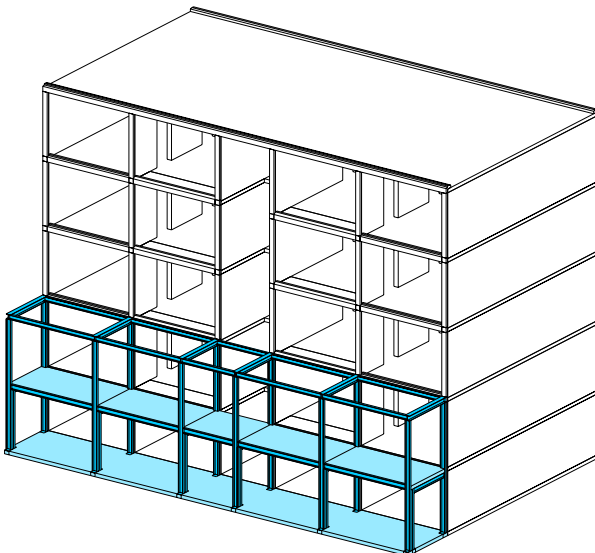


Rear

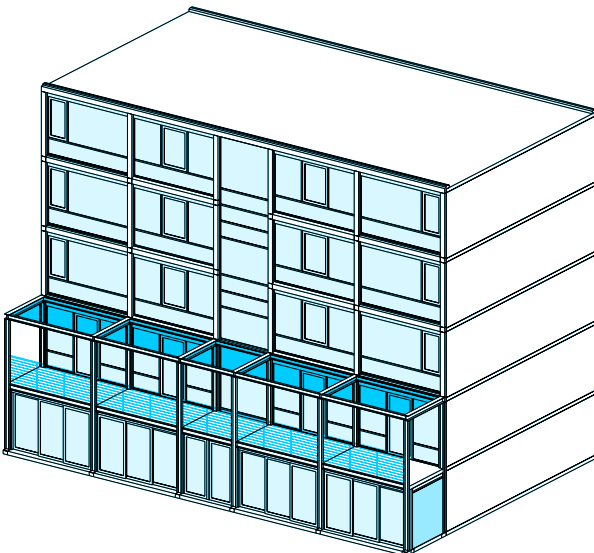
1. remove all the window frames, handrails and part of concrete cladding



2. extend the slab with in-situ concrete and add insulation



3. new steel structure and precast concrete slab



2. new aluminum window frames, steel grating, and steel handrails

3. Design_ Construction Detail

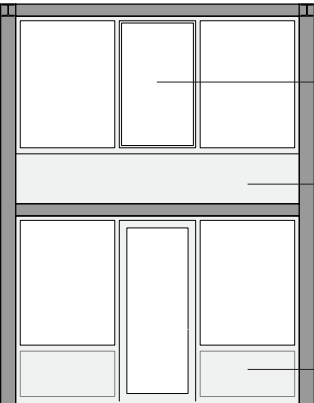
Original



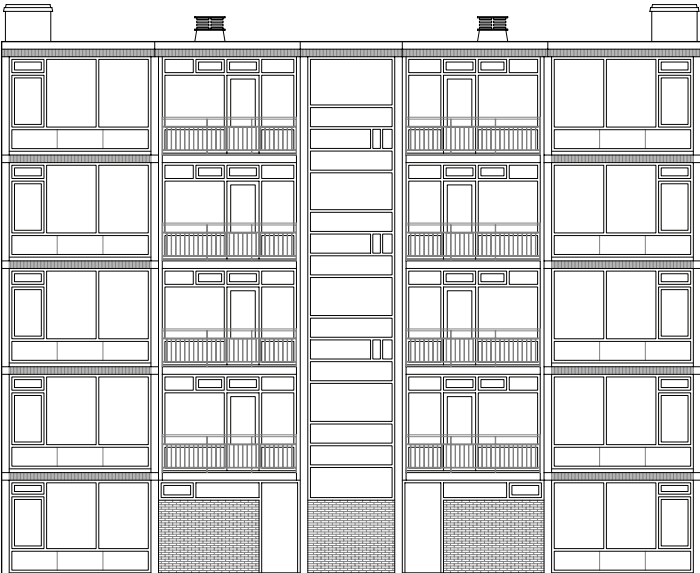
New



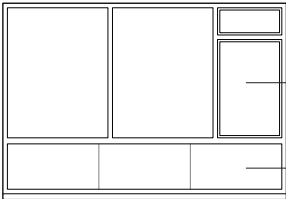
Ground ~ First Floor
Aluminum Window Frame



operable window
aluminum sheet

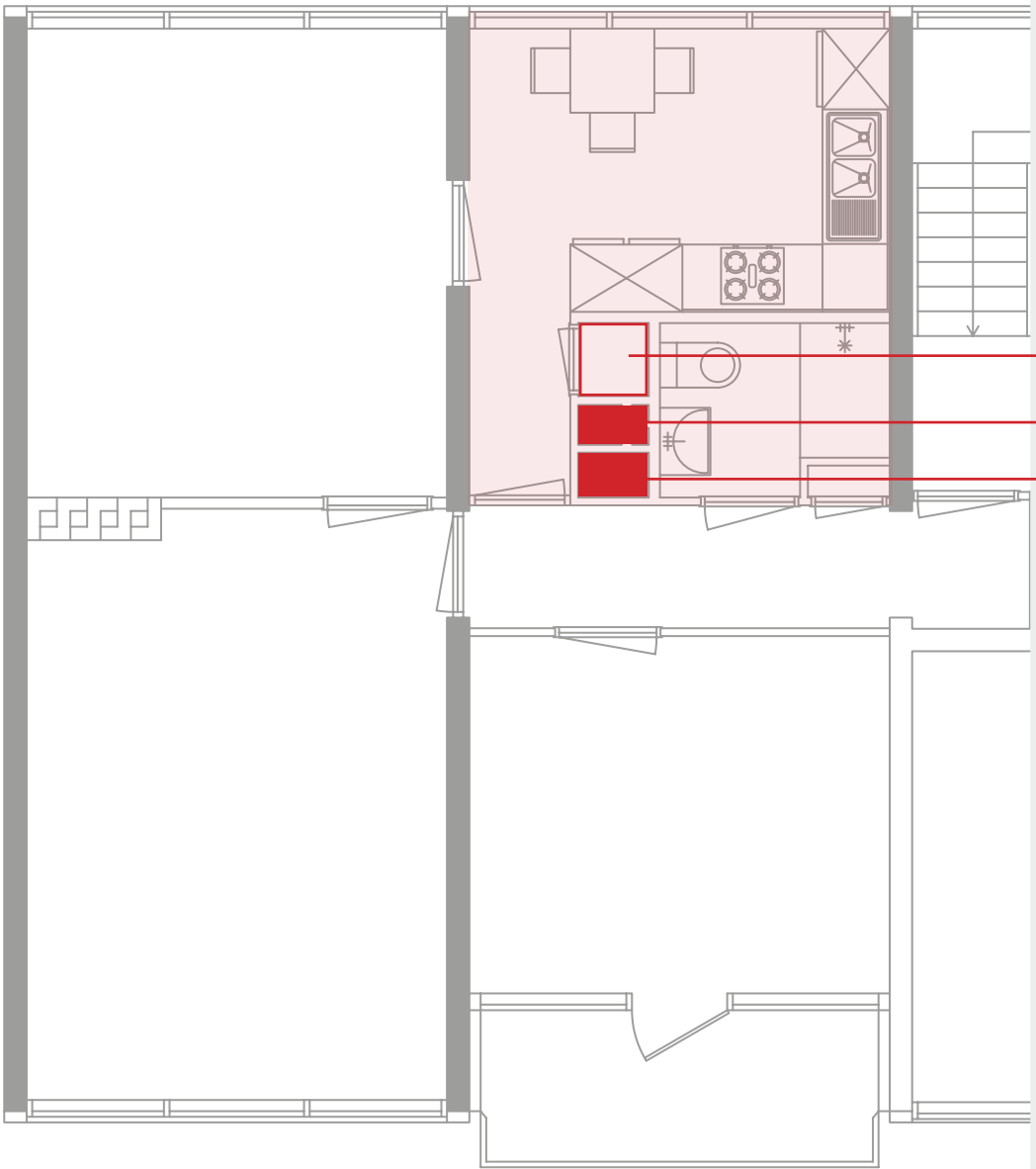


2nd ~ 4th Floor
Aluminum Window Frame



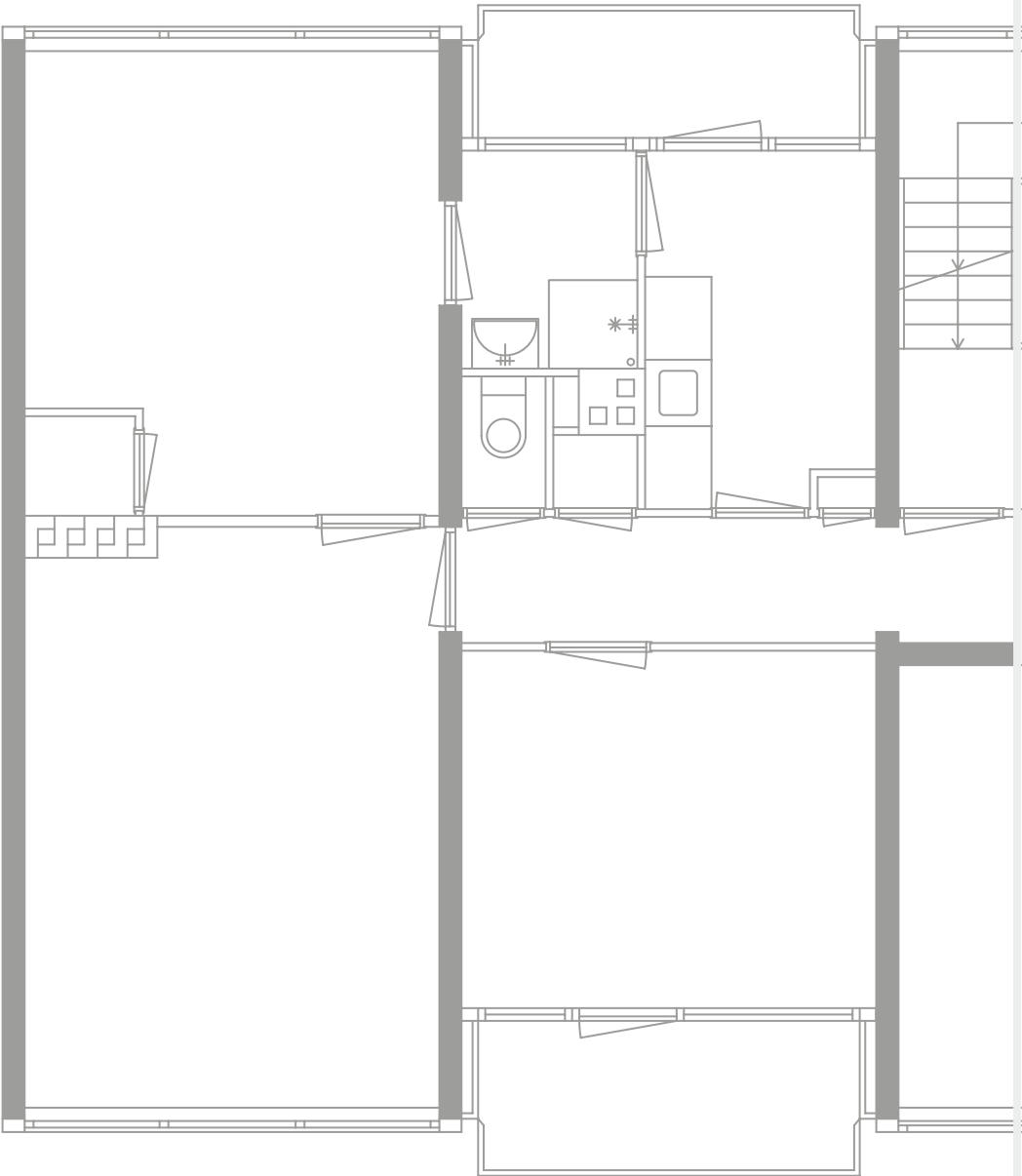
operable window
polycarbonate

2nd ~ 4th Floor Plan (New)

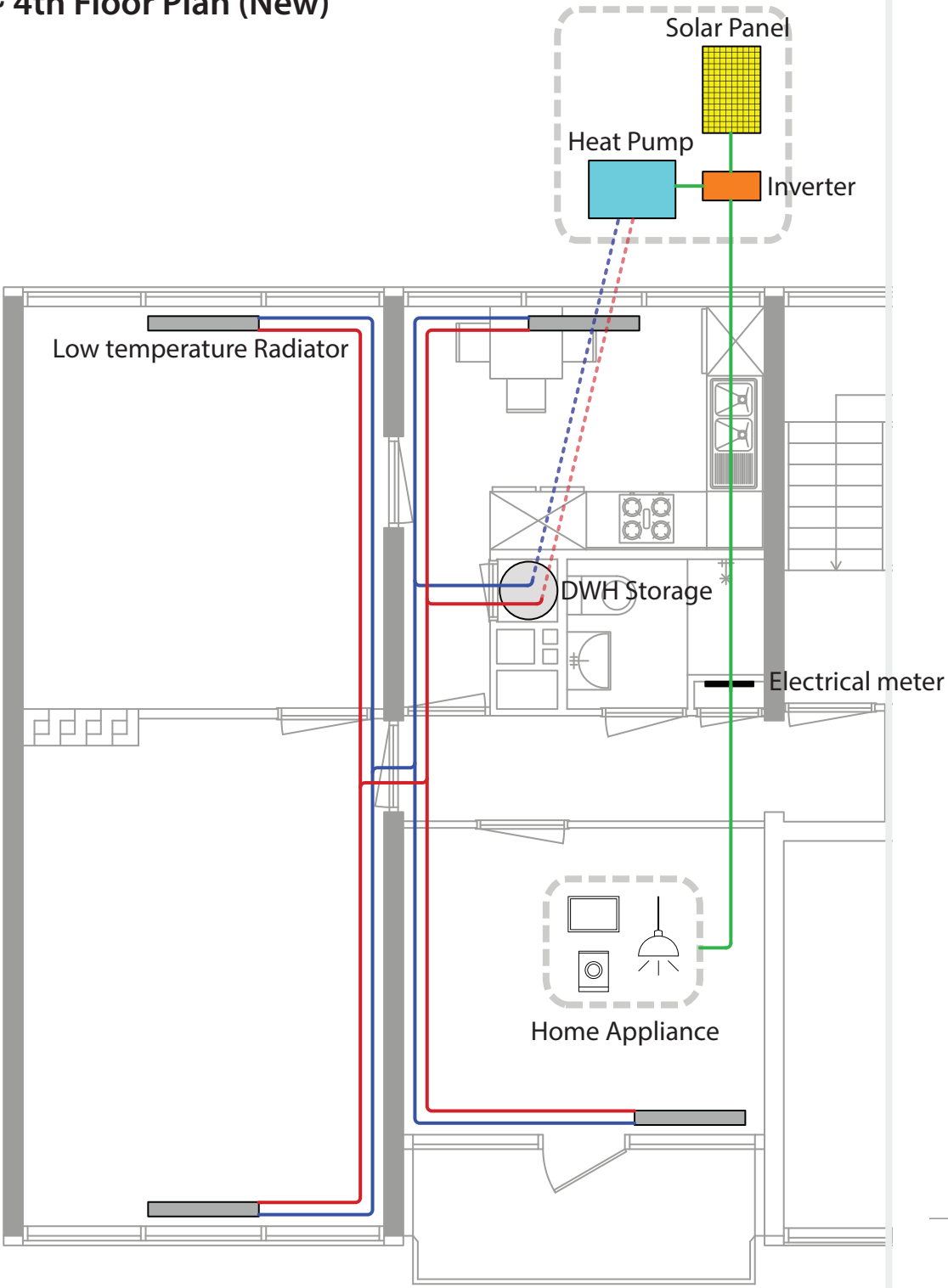


domestic hot water tank
dwelling shaft
public facility shaft

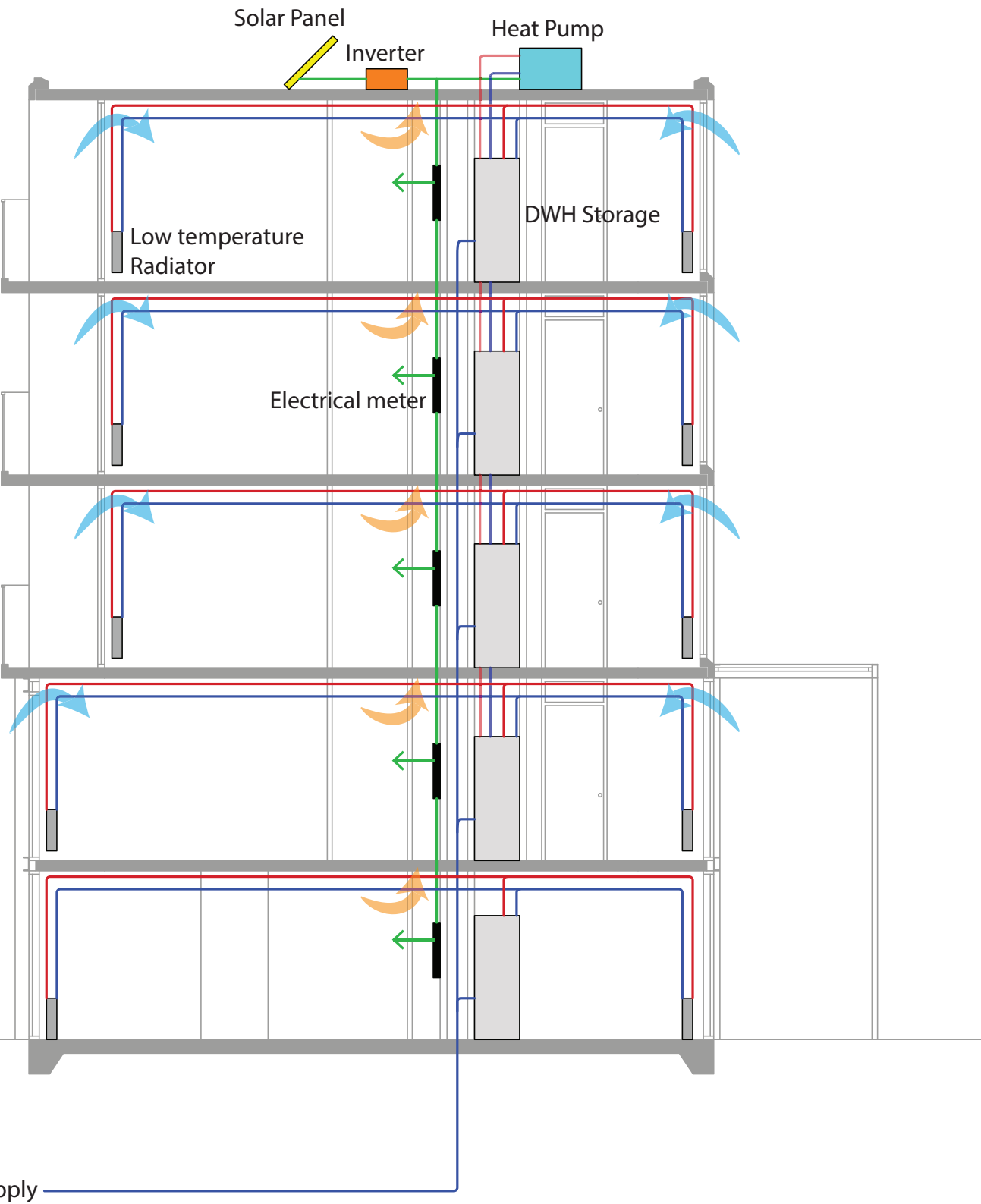
2nd ~ 4th Floor Plan (Existing)



2nd ~ 4th Floor Plan (New)



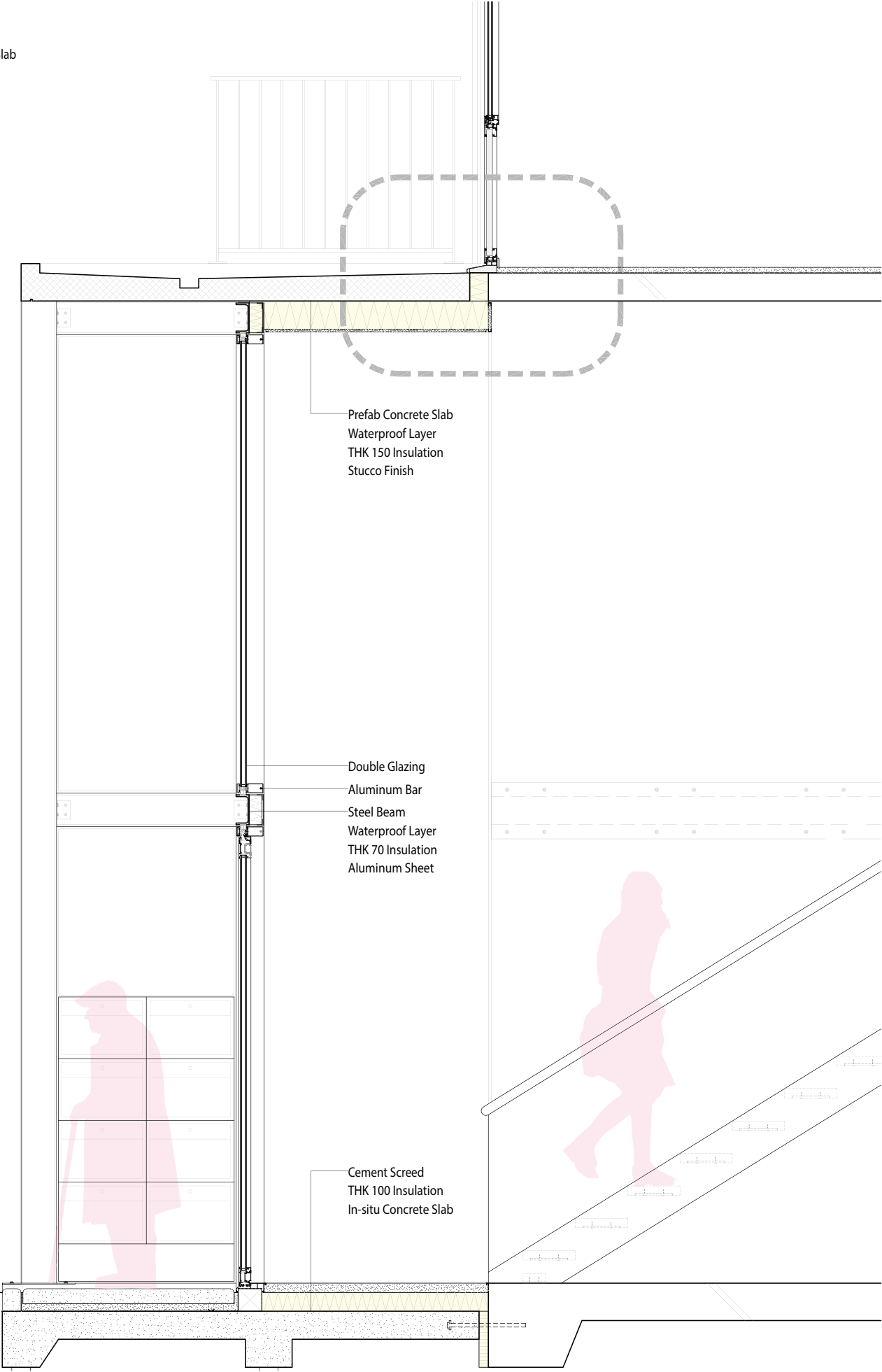
Heating and Ventilation



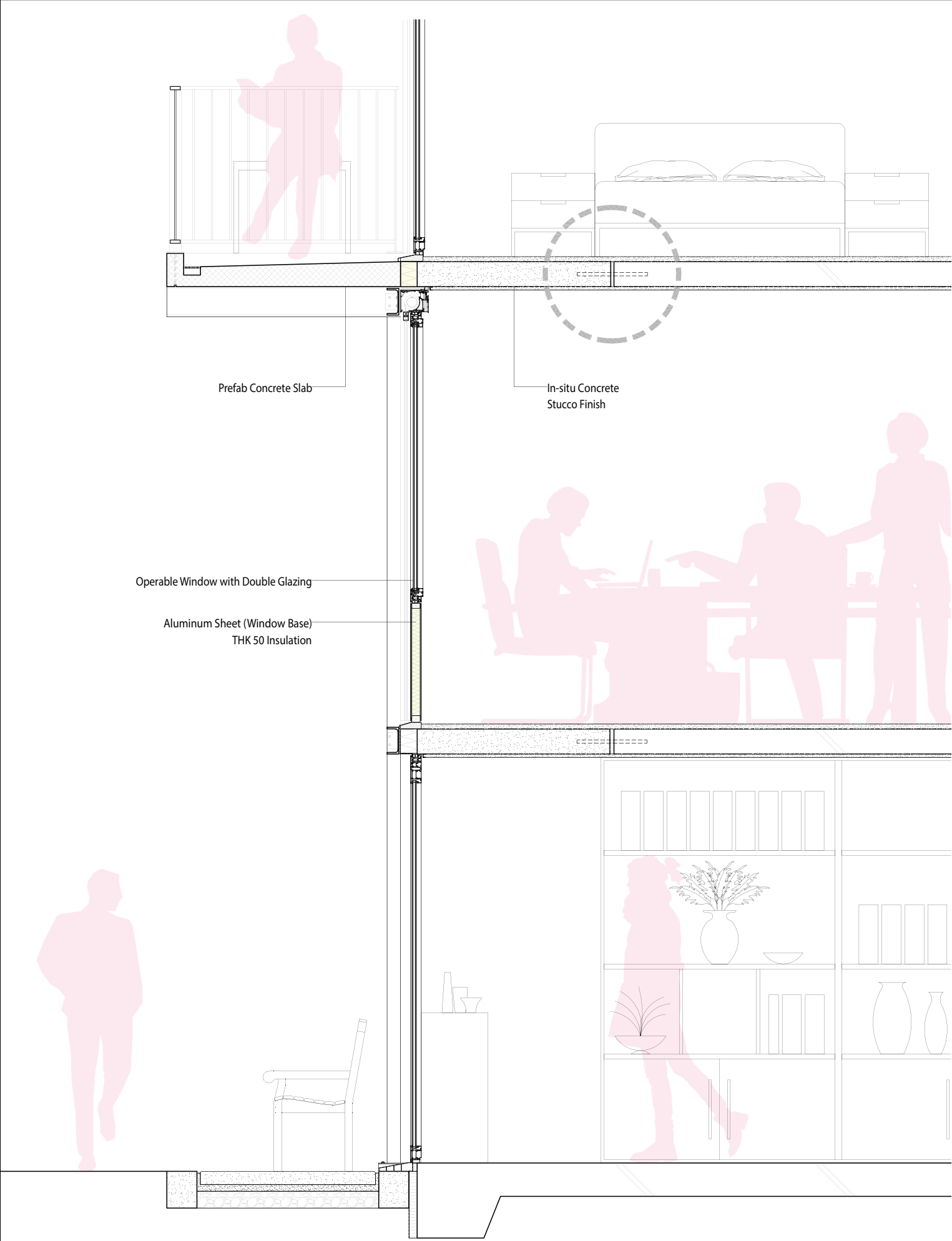
3. Design_ Construction Detail



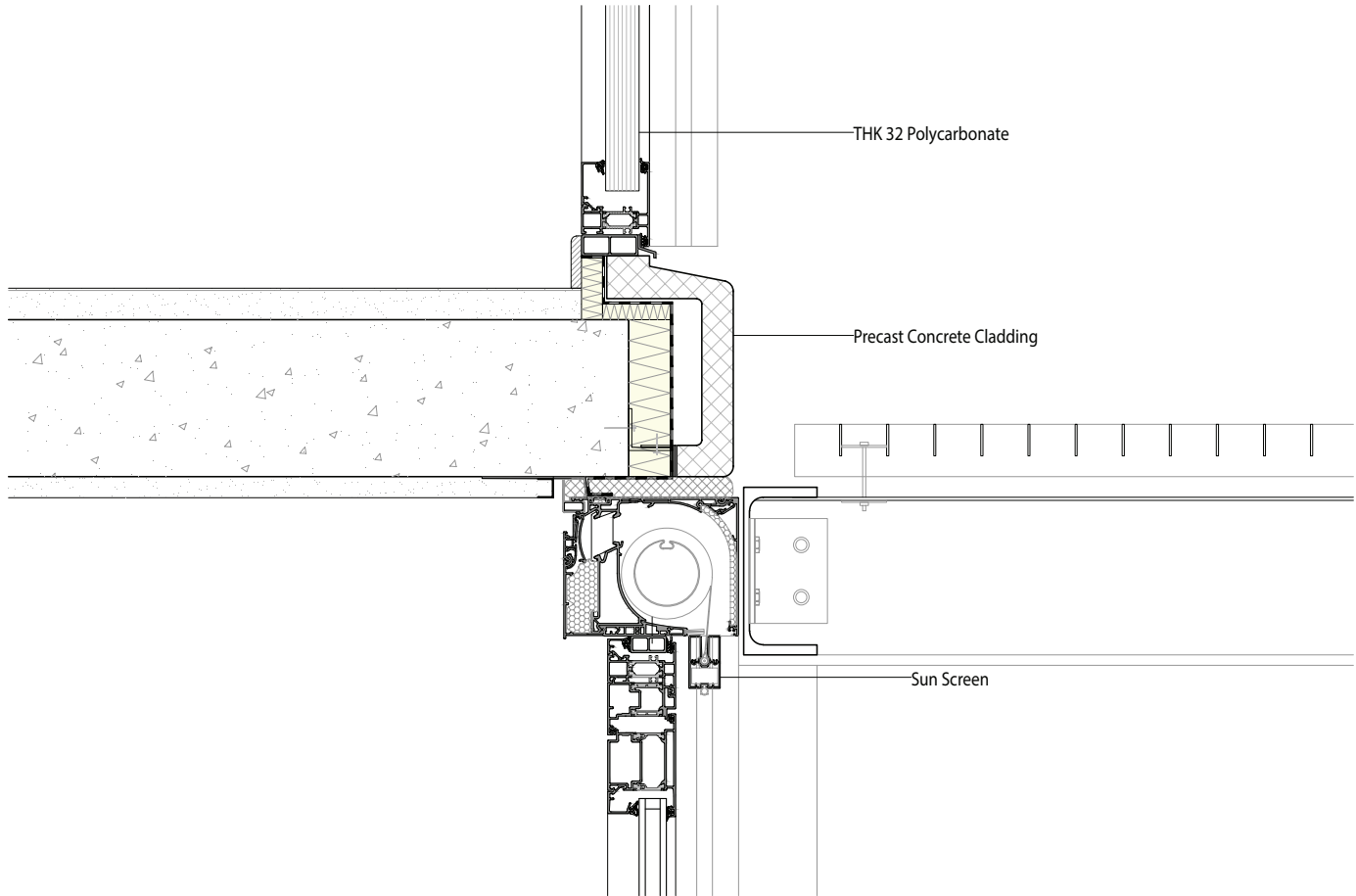
Prefab Concrete Slab



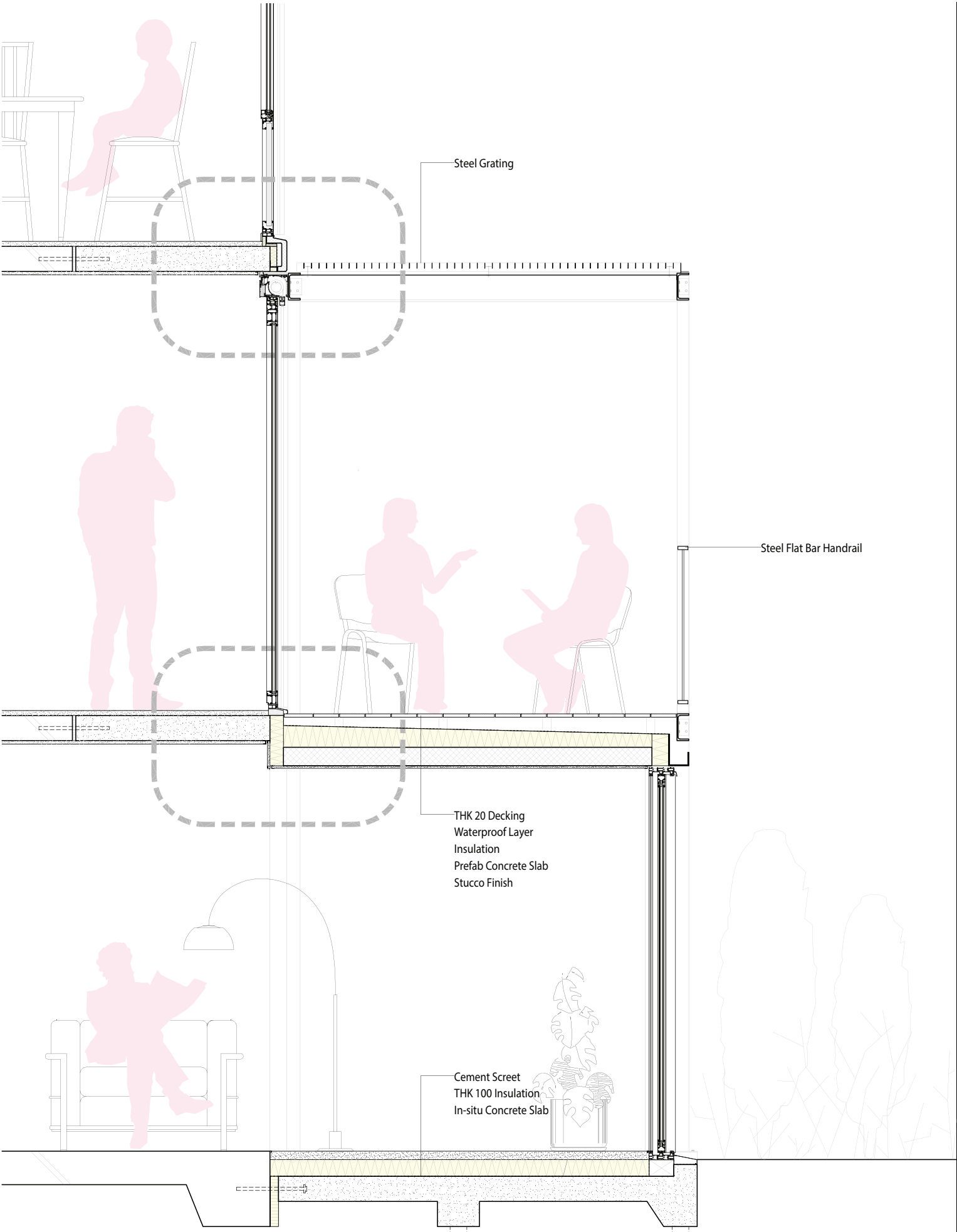
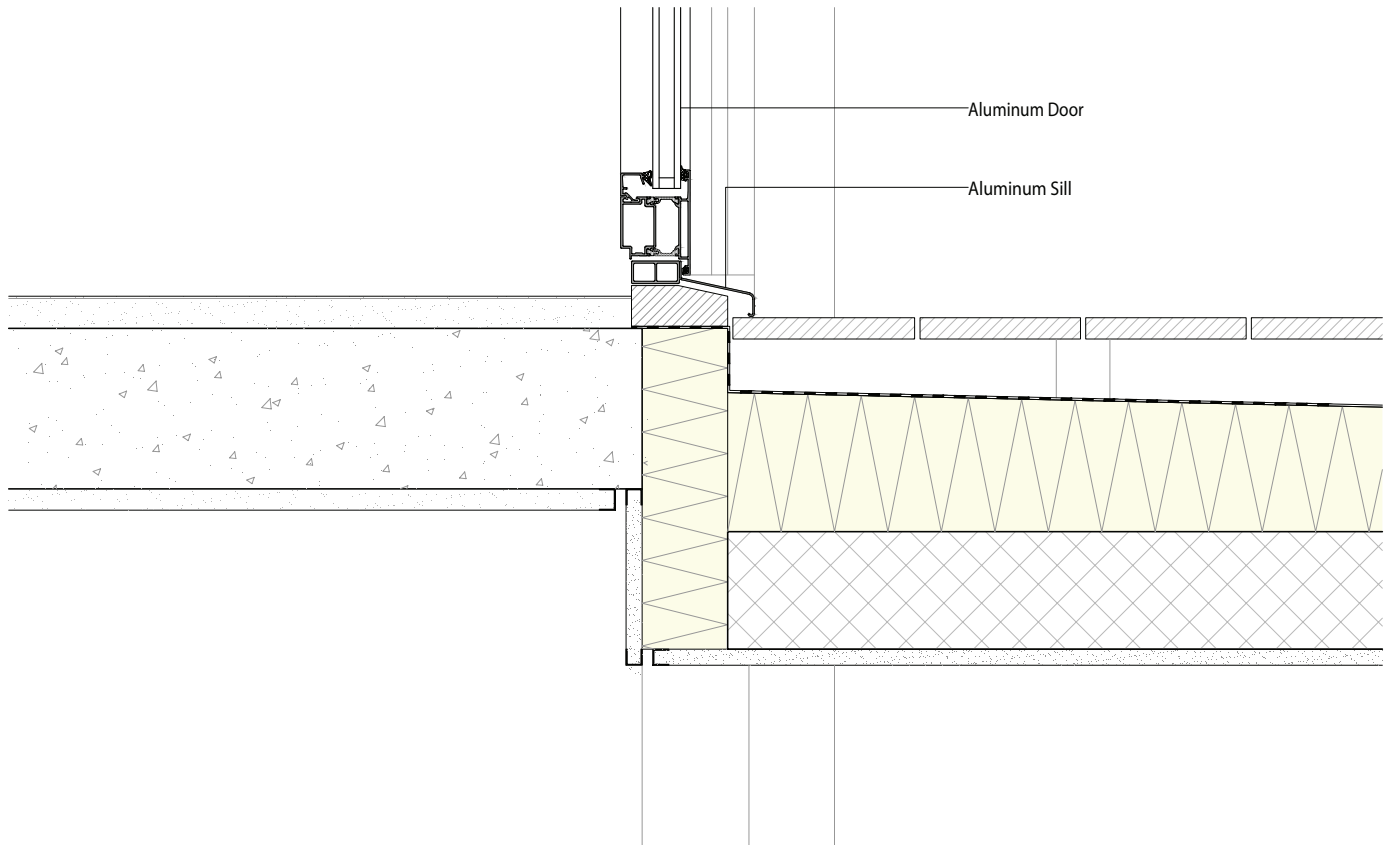
3. Design_ Construction Detail



3. Design_ Construction Detail



1:5



3. Design_ Spatial impression



open passage through the communal space

3. Design_ Spatial impression



public facilities along the arcade

3. Design_ Spatial impression



communal garden

3. Design_ Spatial impression



balcony connected to the communal garden

3. Design_ Spatial impression



View of the extended balcony on the second floor

3. Design_ Spatial impression



View of the private garden

3. Design_ Spatial impression



living room connected to the garden

3. Design_ Spatial impression



community space

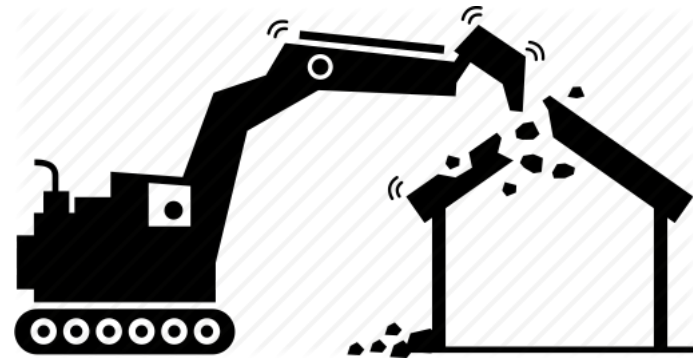
3. Design_ Spatial impression



entrance hall

3. Reflection

DESIGN as a ongoing process...



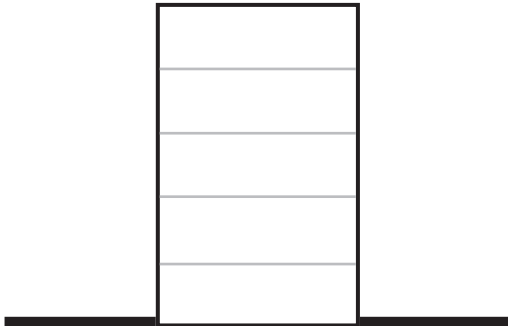
old

OR



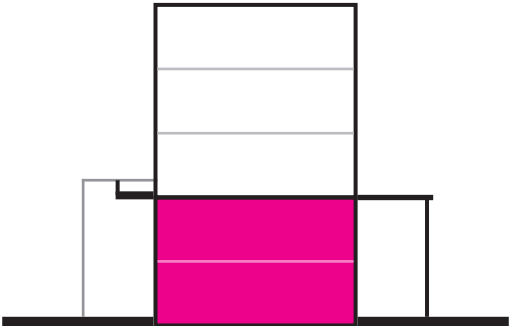
new

DESIGN as a ongoing process...



old

BUT



new

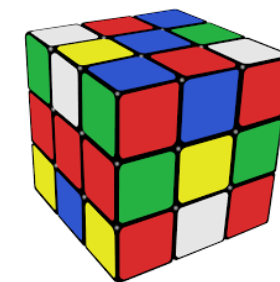
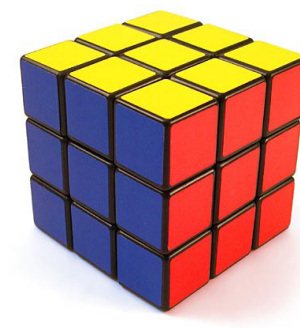
3. Reflection

Strengths and Opportunity

1. encourage people to engage with the surrounding environments.



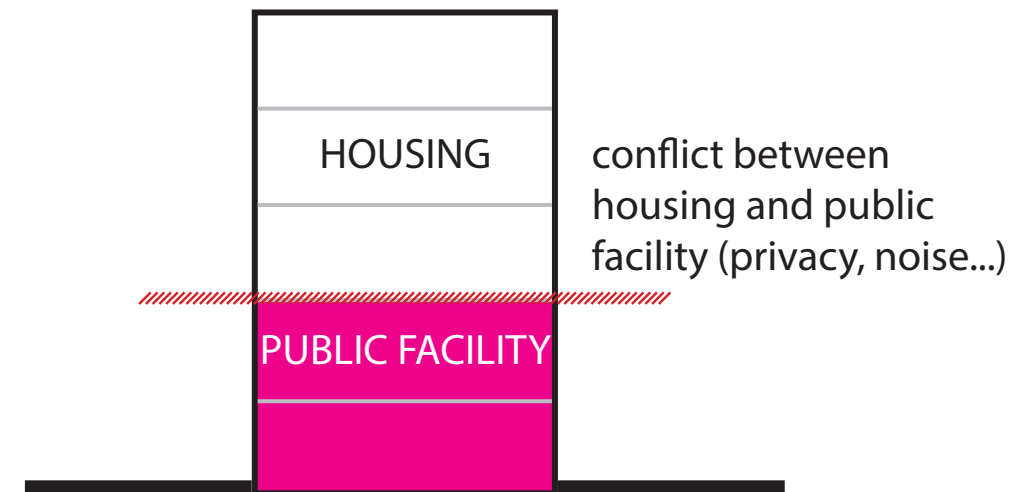
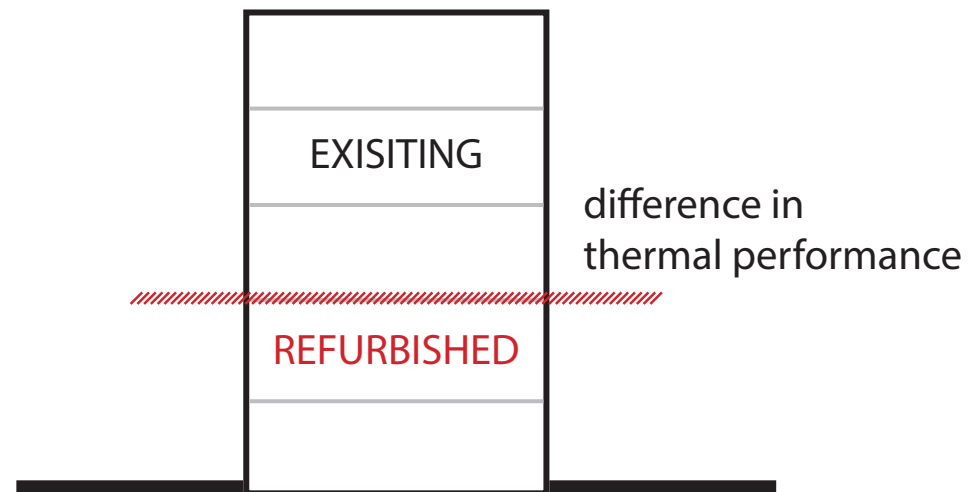
2. bring diversity to the monotonous residential block.



Flexible and Diverse use of space

3. Reflection

Weaknesses and Threats





Thank you !