

Tanthof Co-housing Courtyards

Built for the young, redeveloped for the elderly

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9. Design: Floorplans
10. Design: Sections
11. Design: Facades
12. Design: Garden/exterior

Co-housing courtyards Tanthof: Introduction

Co-housing courtyards Tanthof: Introduction

Problem statement

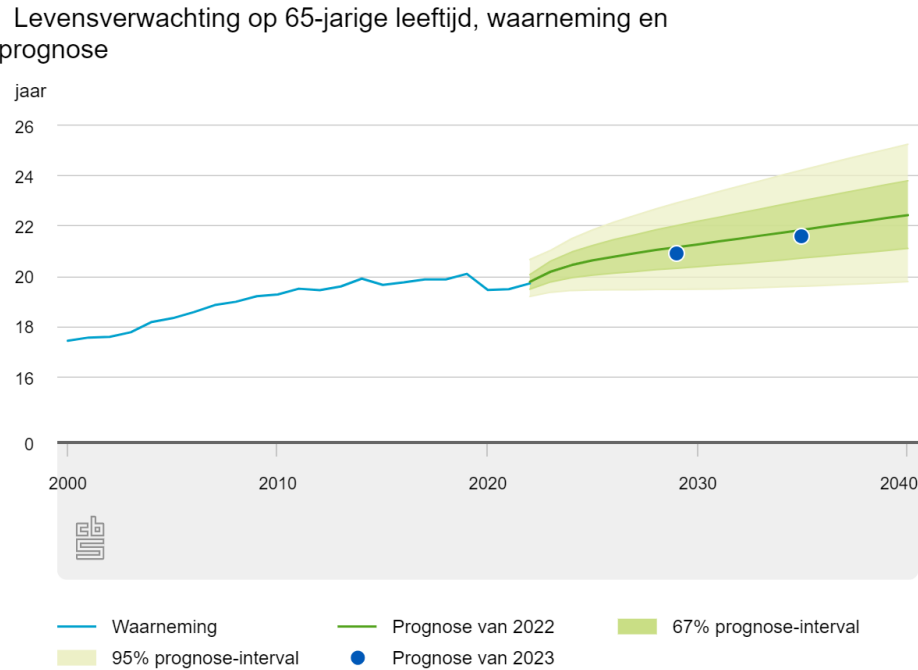


Image 1: Predicted raise of life-expectancy (CBS, 2023)



Image 2: Shortage of (suiting) elderly housing (Bouinvest, 2023)

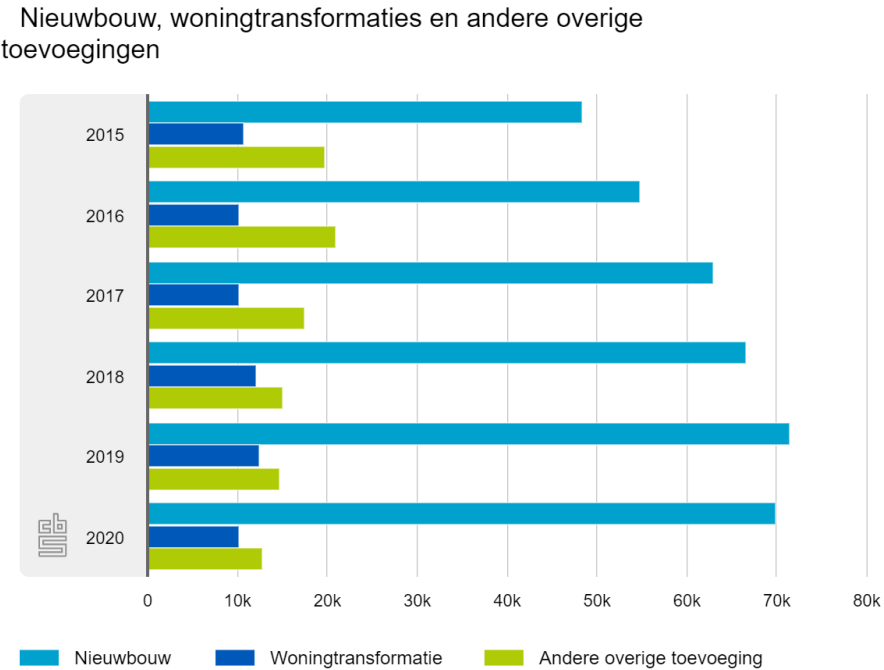


Image 3: Yearly increase housing units by newbuild versus transformation (CBS, 2023)

Co-housing courtyards Tanthof: Introduction

Project goal

The goal of this project is to redesign an existing building to a housing complex for elderly people with varying care needs, where a social and active way of living is in the heart of the community.

Co-housing courtyards Tanthof: Introduction

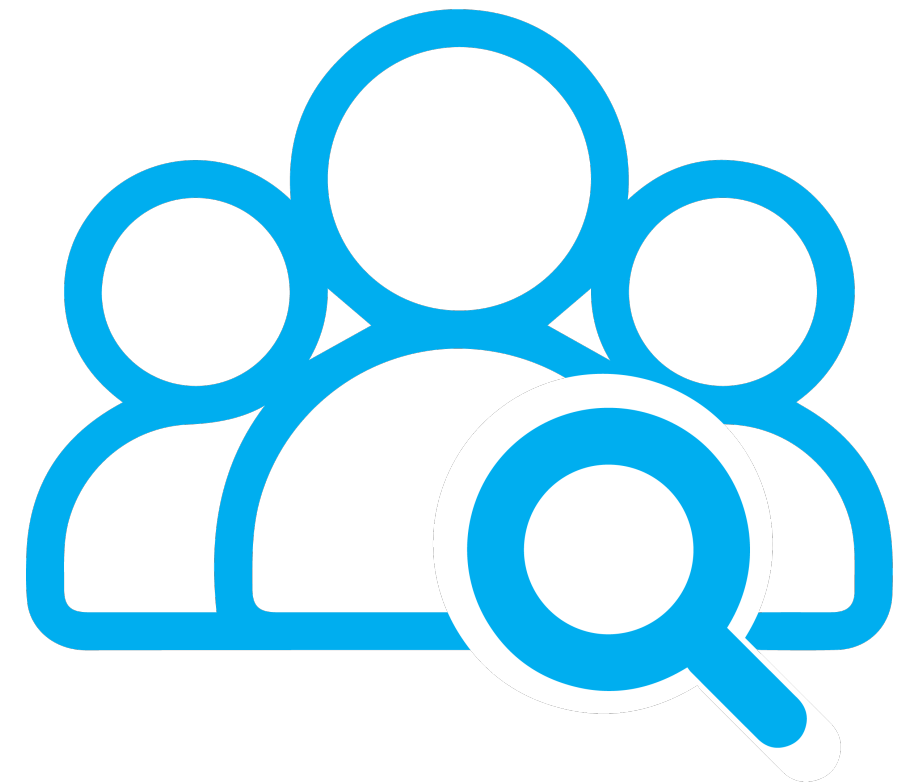
Research methods



Literature research



Case-study



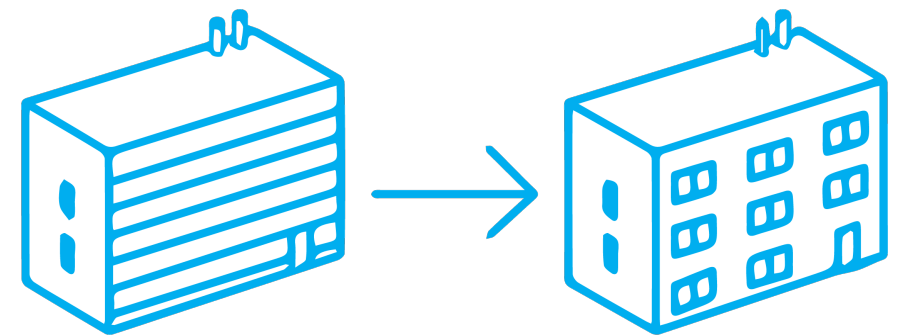
Fieldwork

Co-housing courtyards Tanthof: Introduction

Research Topics



Elderly Housing



Building Transformation

Co-housing courtyards Tanthof: Research elderly housing

Co-housing courtyards Tanthof: Research

Elderly housing: Existing housing types



1. Place of your own



2. Private domain



3. Basic



4. Housing block



5. Family home



6. Urban apartment



7. Neighbourhood block



8. Parkapartment



9. Courtyard



10. Senior apartment

Image 4: Elderly housing types (Platform 31)

Government program longer at home
(Ministerie van Volksgezondheid, Welzijn en sport, 2018)

Not all elderly can or want to continue living at home because of
financial means or unsuitable homes.
(Nivel, 2014)

Increased isolation and loneliness due to limited social contacts
when living at home.
(Bookman, 2008)

Co-housing courtyards Tanthof: Research

Elderly housing: new housing type

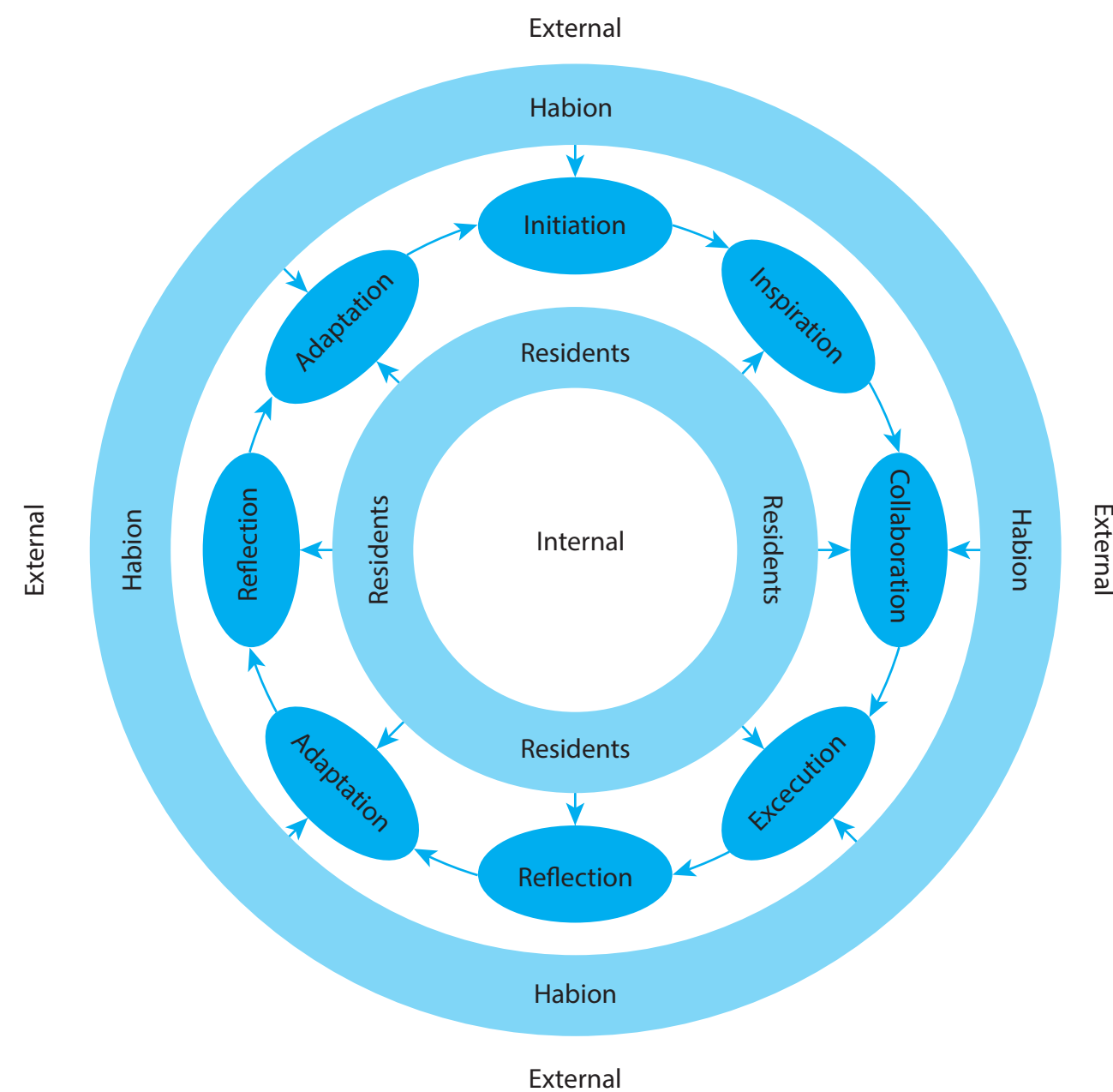


Image 5: Graphic representation of the Reuring method by Habion, Illustration by author (Liv-Inn 2020)

Co-housing courtyards Tanthof: Research

Elderly housing: co-housing



Common rooms and activities



Scale



Apartment design



Group mix

Co-housing courtyards Tanthof:Research

Design guidelines



Common rooms should be designed in such a way that they enable the residents to decorate and use them in a way they please. While at the same time providing flexibility for changing needs.



At least 2 common rooms should be created. One where activities can be organised and another one where more informal meetups between residents are encouraged.



Hallways should provide a smooth transition from the private rooms of the residents to the public spaces where activities are held.



Hallways should be designed in such a way that they encourage informal meetups between residents.



The scale of the building can be with a maximum of 80-120 units, divided in living groups with a maximum 20-30 housing units, depending of the amount of facilities offered in the neighbourhood.



The following facilities in a co-housing complex can be shared: Kitchen, garden, laundry room, entrance and storage.



Therefore every housing unit should contain the following private housing facilities: bathroom, bedroom, living room and kitchen/pantry.



Include external facilities in the housing complex serving both the residents of the complex and the people from the neighbourhood.



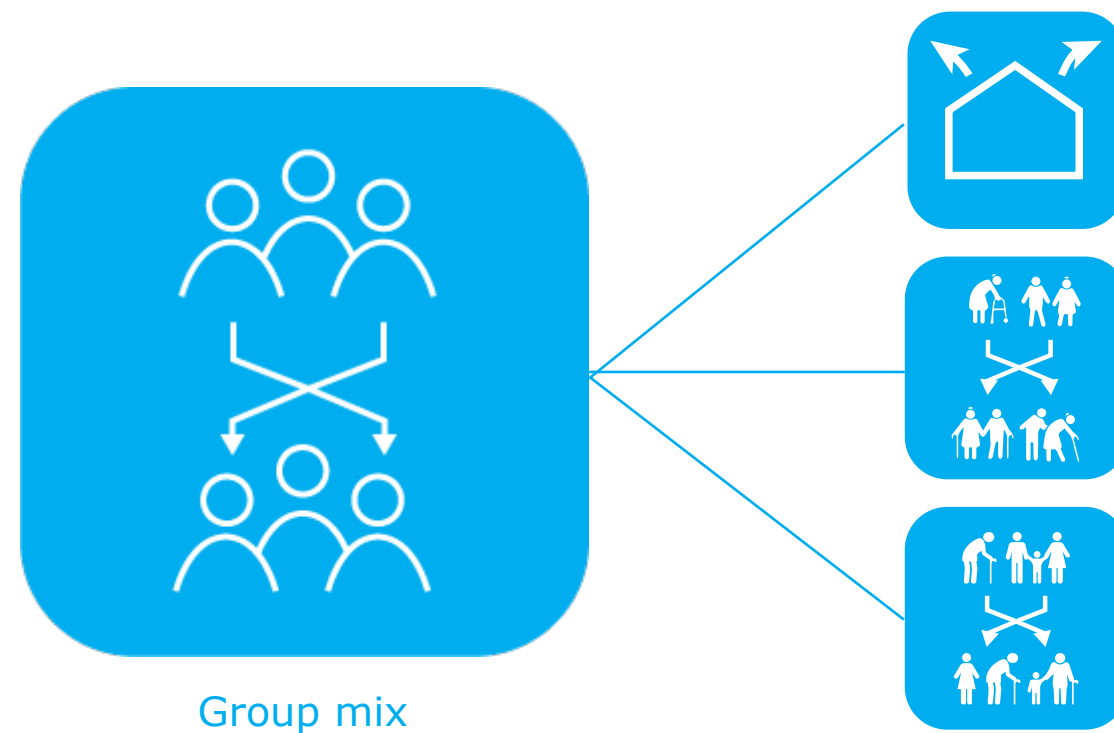
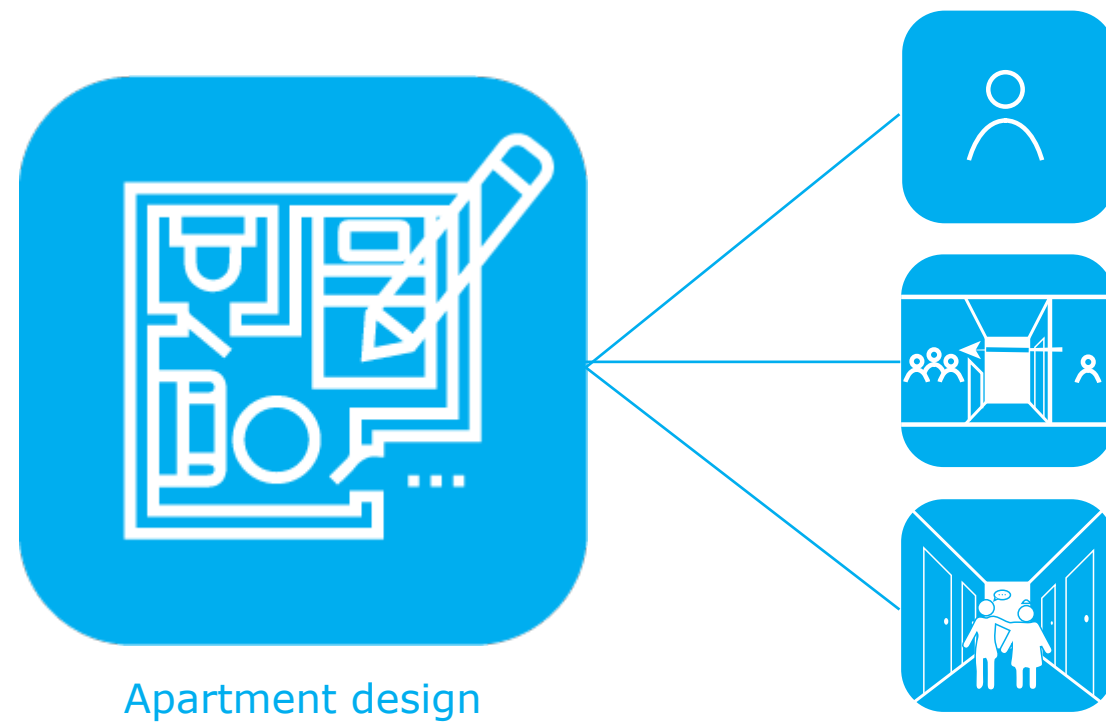
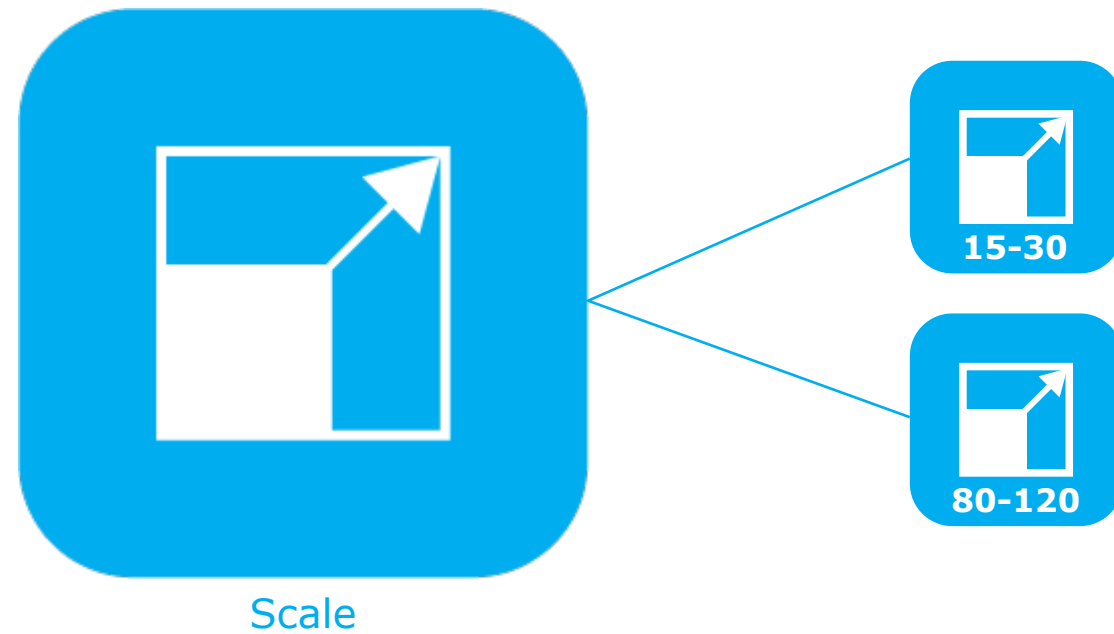
Mixing elderly with different care demands can improve social relations and informal care giving. Recommended ration:
30-50% low care demand
20-40% medium care demand
10-30% high care demand



Intergenerational mixing can improve diversity and informal care giving. However extra attention is needed to the creation of social connections between the different generations.

Co-housing courtyards Tanthof: Introduction

Design guidelines categorised

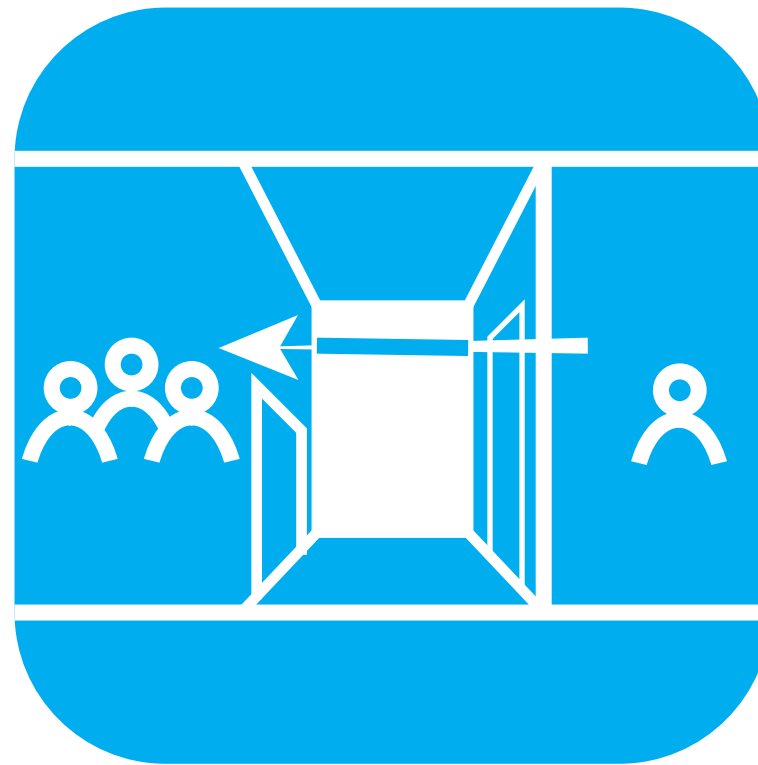


Co-housing courtyards Tanthof: Research

Design guidelines



Include external facilities in the housing complex, serving both the residents and the people from the neighbourhood



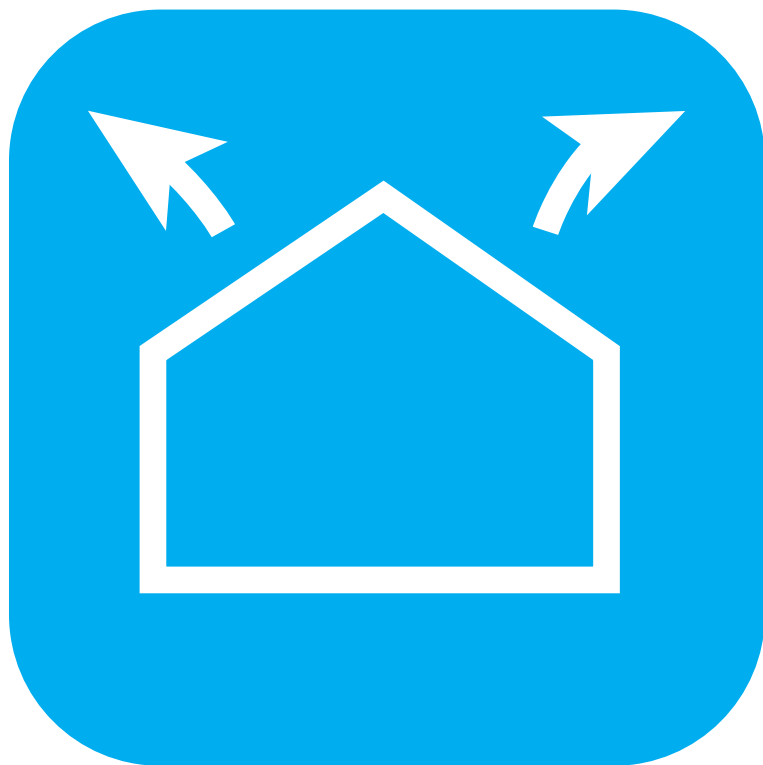
Hallways should provide a smooth transition from the private rooms of the residents to the public spaces where activities are held.



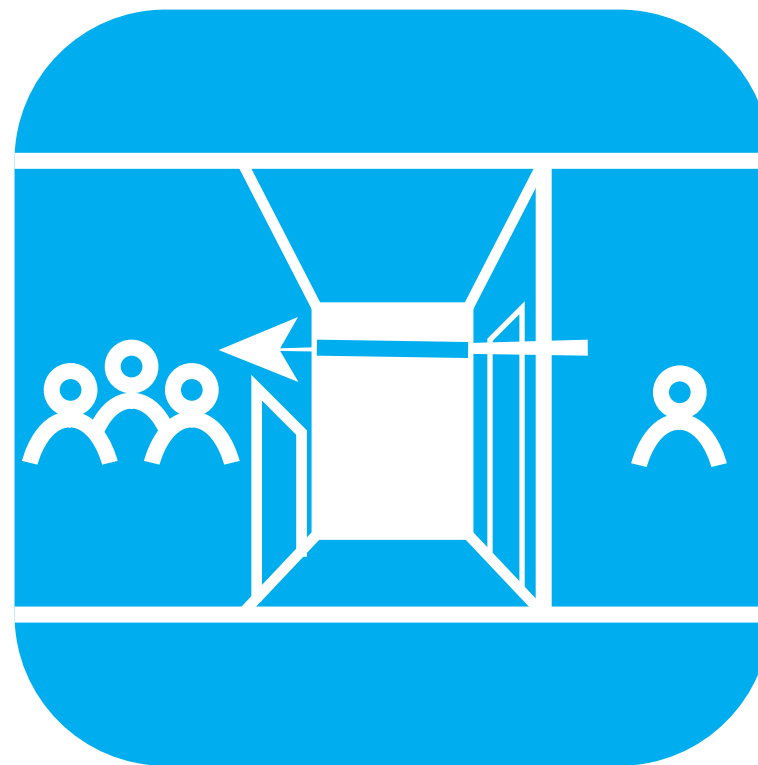
Hallways should be designed in such a way that they encourage informal meetups between residents

Co-housing courtyards Tanthof: Research

Design guidelines



Neighbourhood scale



Building scale

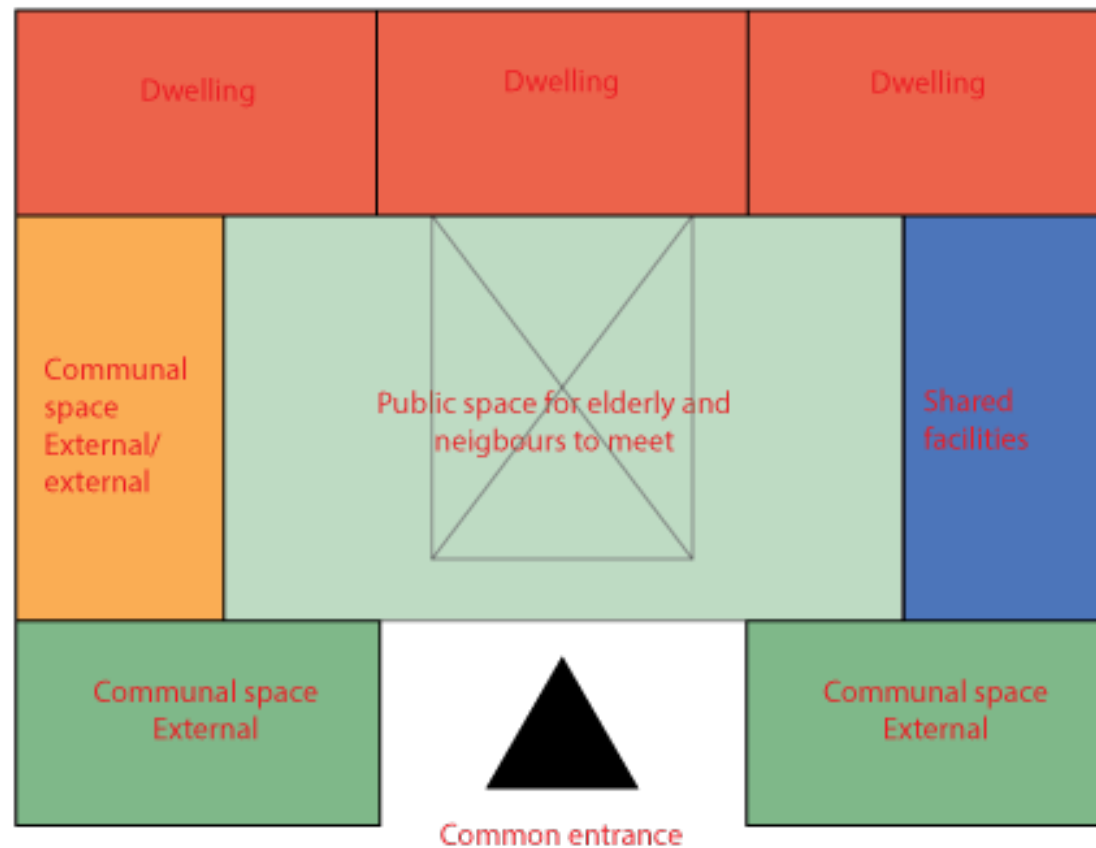


Dwelling scale

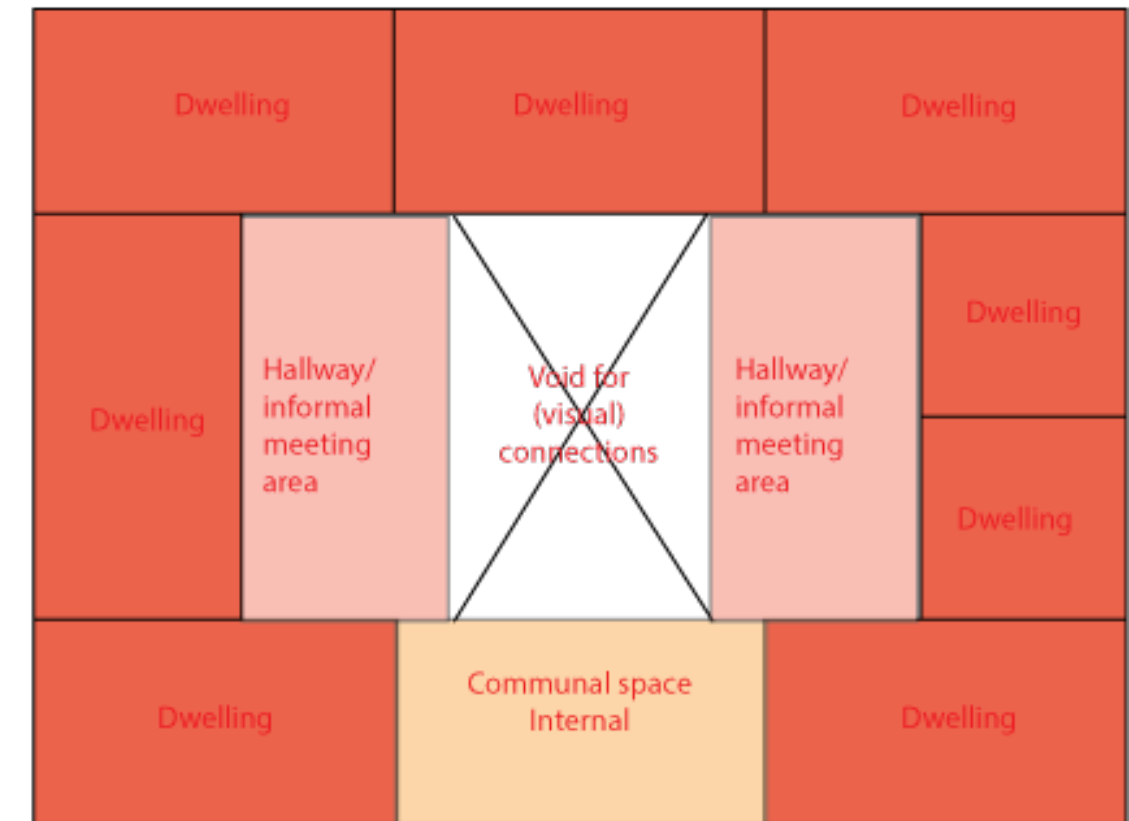
Co-housing courtyards Tanthof: Research

Research concept

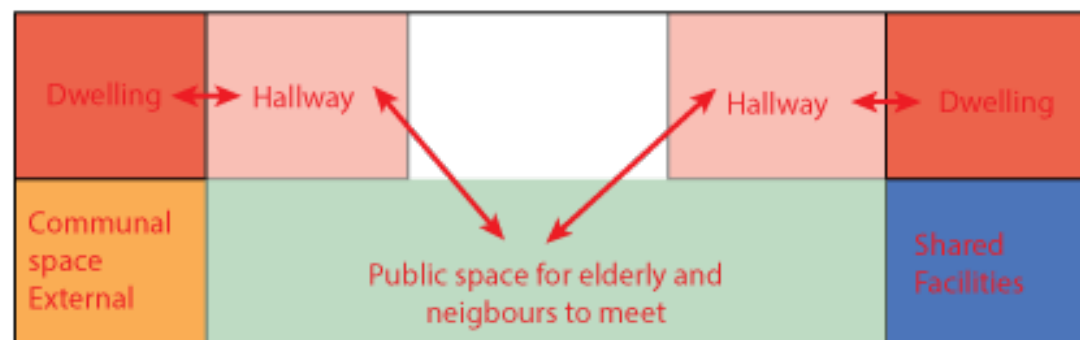
Typical Floorplan
Ground Floor



Typical Floorplan
First Floor

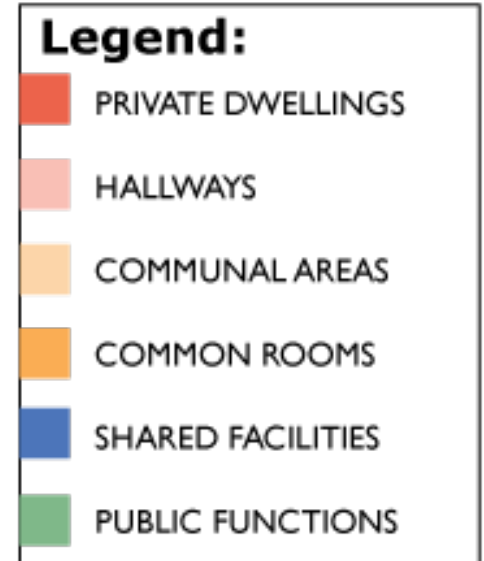


Typical Section



External spaces:
Children Daycare
Gym
Chapel/church
Shops
Nail salon
Hair dresser
Restaurant/cafe
Library

Internal spaces:
Communal living room
Communal kitchen
Laundry room
Indoor garden
Recreational rooms:
Hobby room
Pool/biljarts/darts room



Co-housing courtyards Tanthof: Research Transformation

Co-housing courtyards Tanthof: Introduction

Suitable building types for transformation



Offices:

- High vacancy
- Easy transformation
- Often stimulated by market forces
- Office districts



Industrial areas:

- High vacancy
- Large complexes
- Multifunctional redevelopment
- Often on the edge of the city



Shops

- High vacancy
- Small individual buildings
- Few larger complexes
- Urban areas

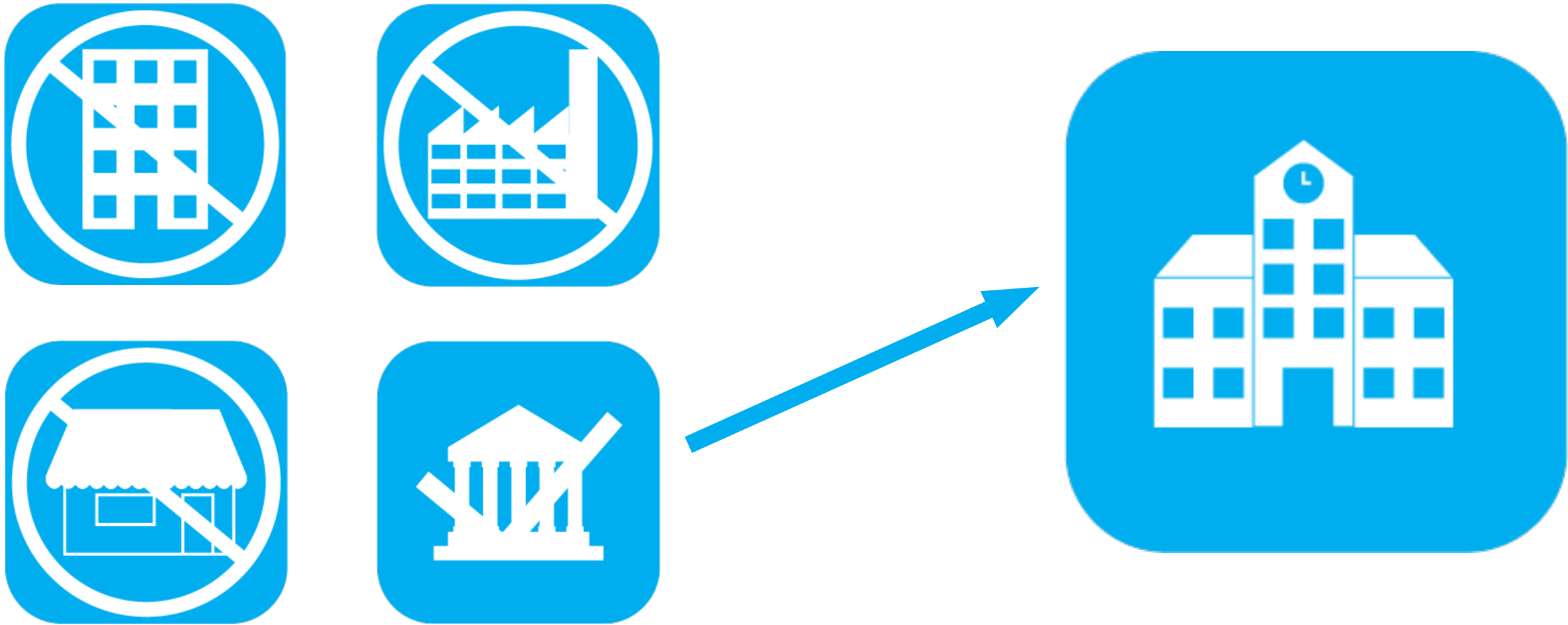


Public/social buildings

- Medium vacancy
- State owned
- Not all building are suitable for transformation
- Urban areas

Co-housing courtyards Tanthof: Introduction

Conclusion



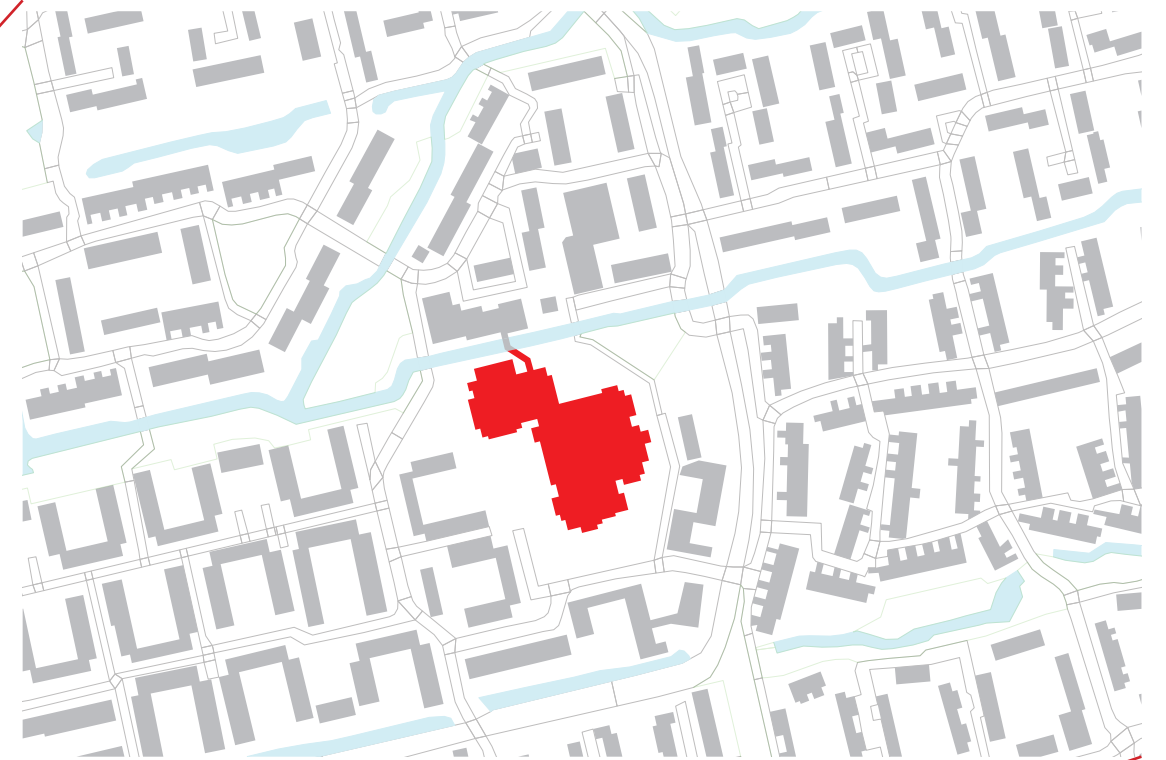
	Vacancy (Buildings) <small>(CBS, 2022)</small>	Vacancy (m ²) <small>(CBS, 2022)</small>	Local/national potential	Architectural potential	Scale	Transformation potential
Schools	310	0,4 million	Local	Structure/ Facade	Medium building	High

Table 1:School vacancy and transformation potential (Author, 2023)

Co-housing courtyards Tanthof: Design

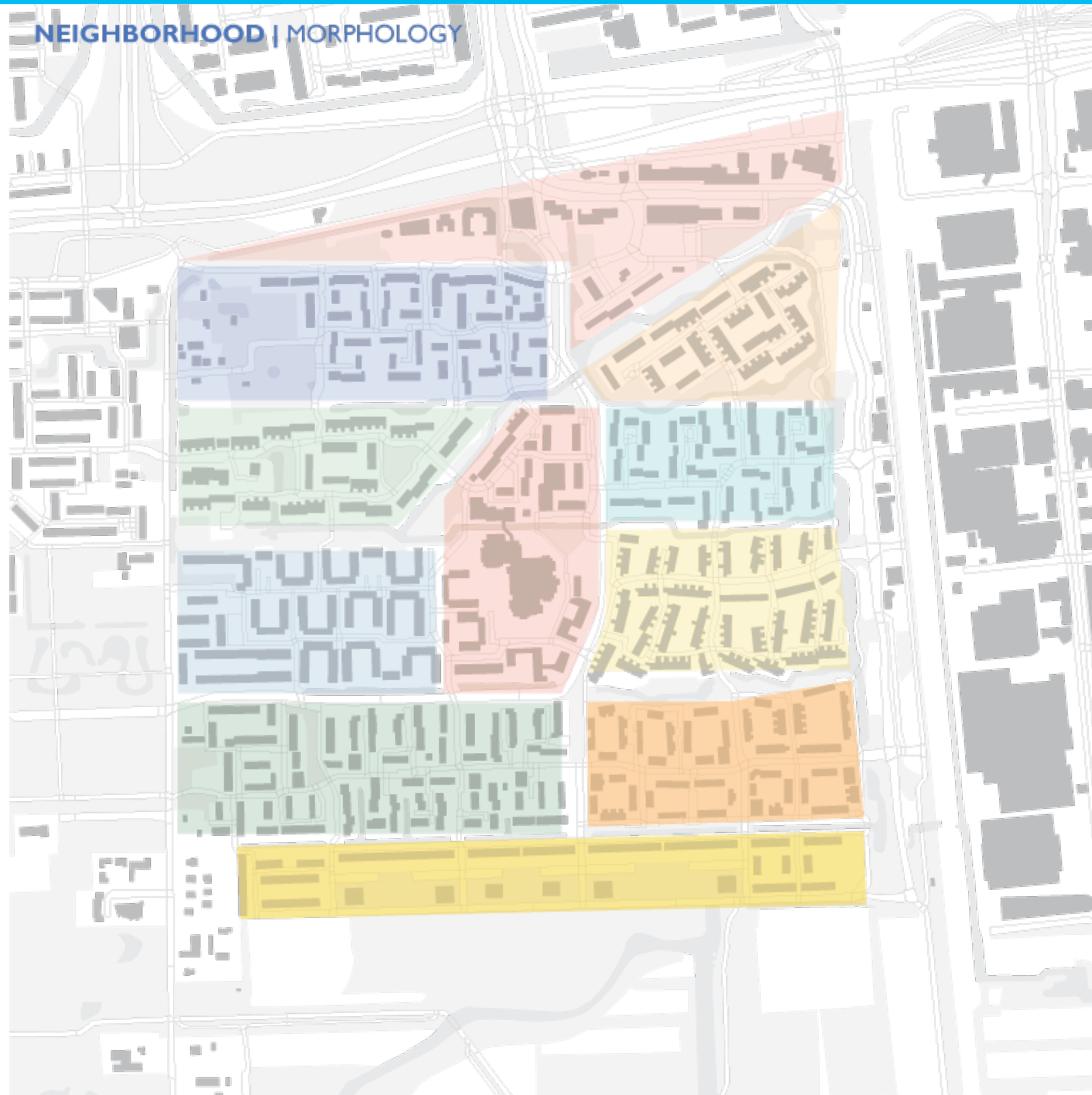
Co-housing courtyards Tanthof: Design

Location: choice



Co-housing courtyards Tanthof: Design

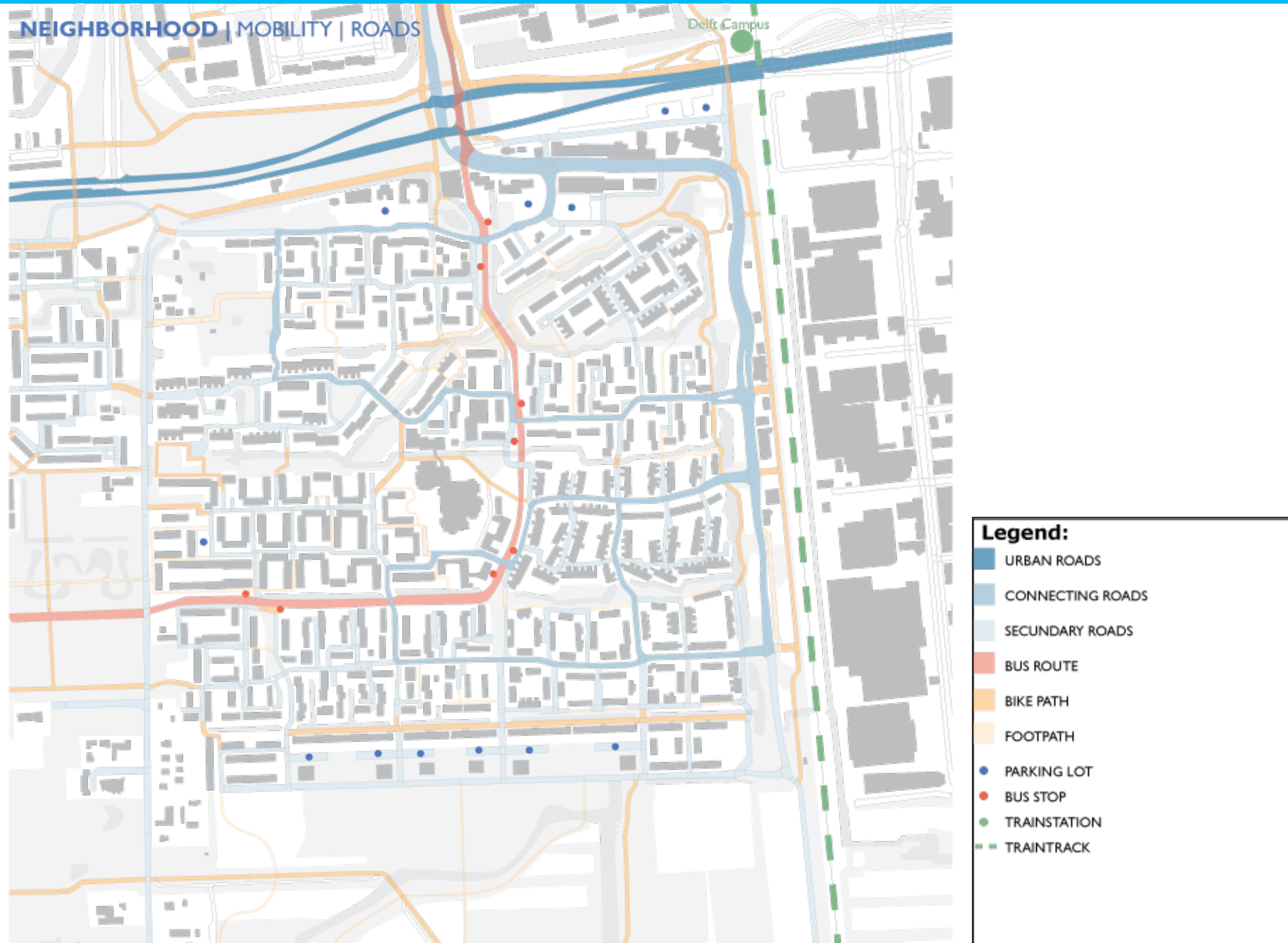
Location analysis: Morphology and density



- Cauliflour Neighbourhood
- 11 districts with varying building typologies
- Density: 32 homes per hectare

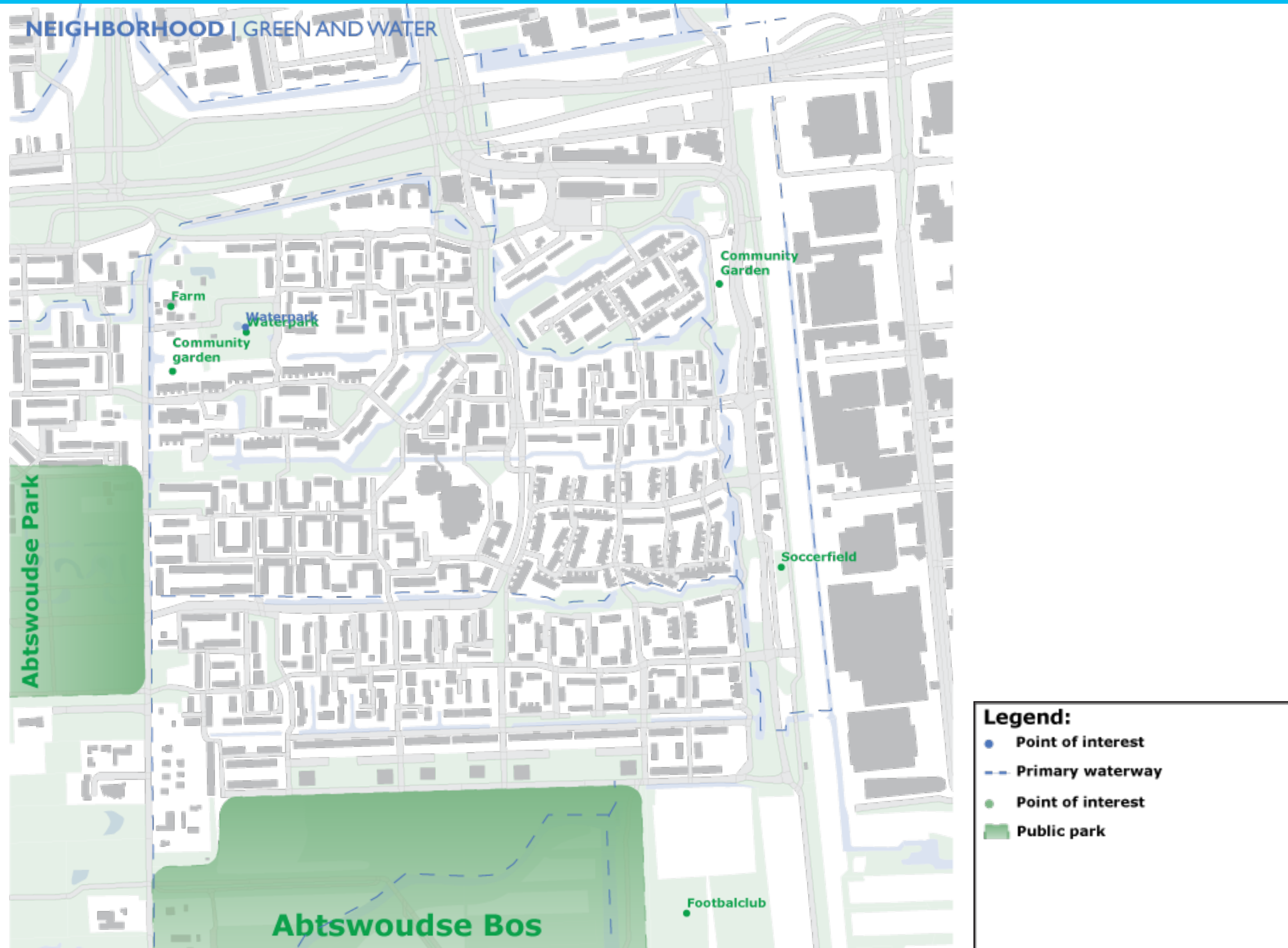
Co-housing courtyards Tanthof: Design

Location analysis: Mobility



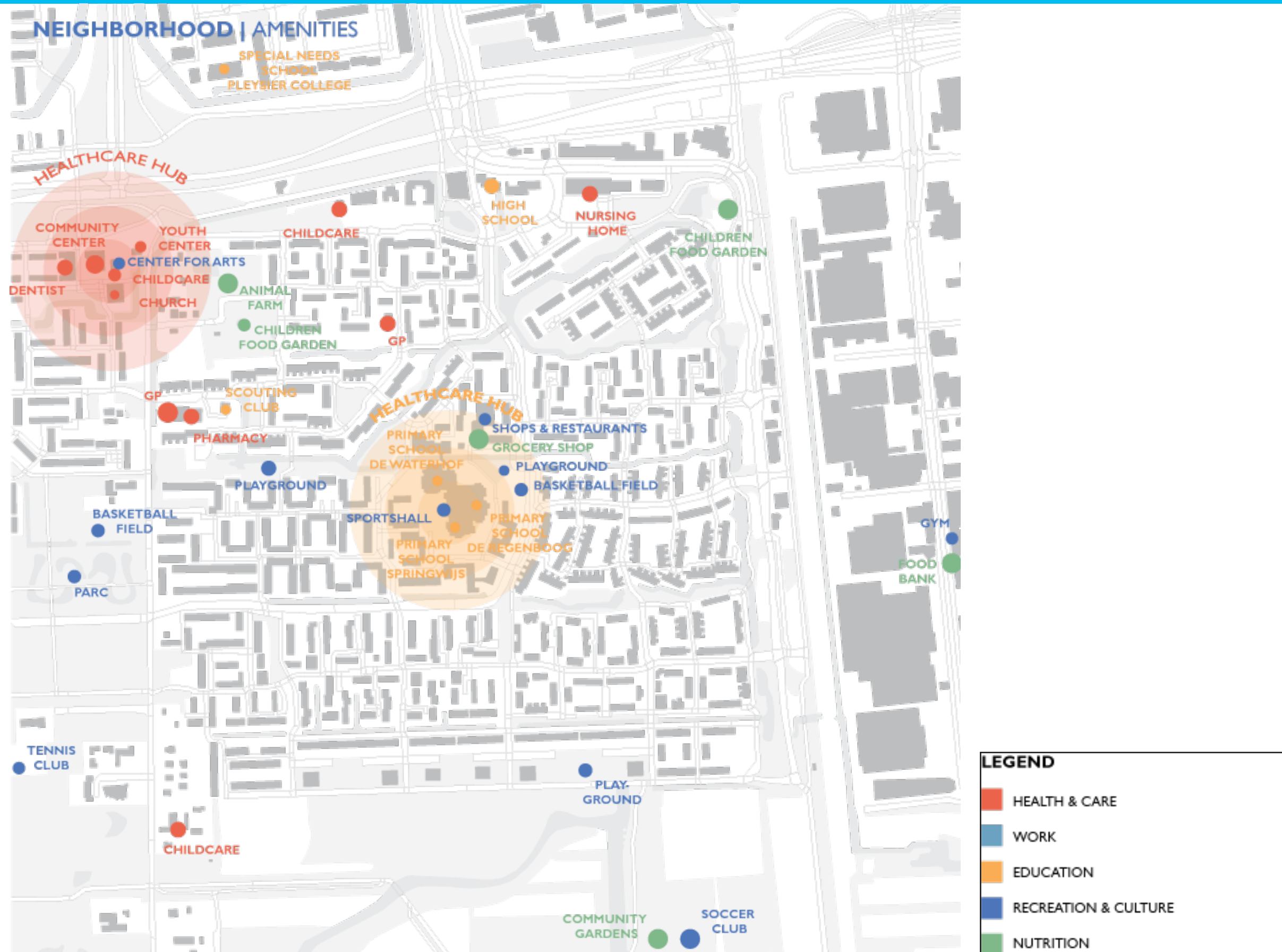
Co-housing courtyards Tanthof: Design

Location analysis: Green and Water



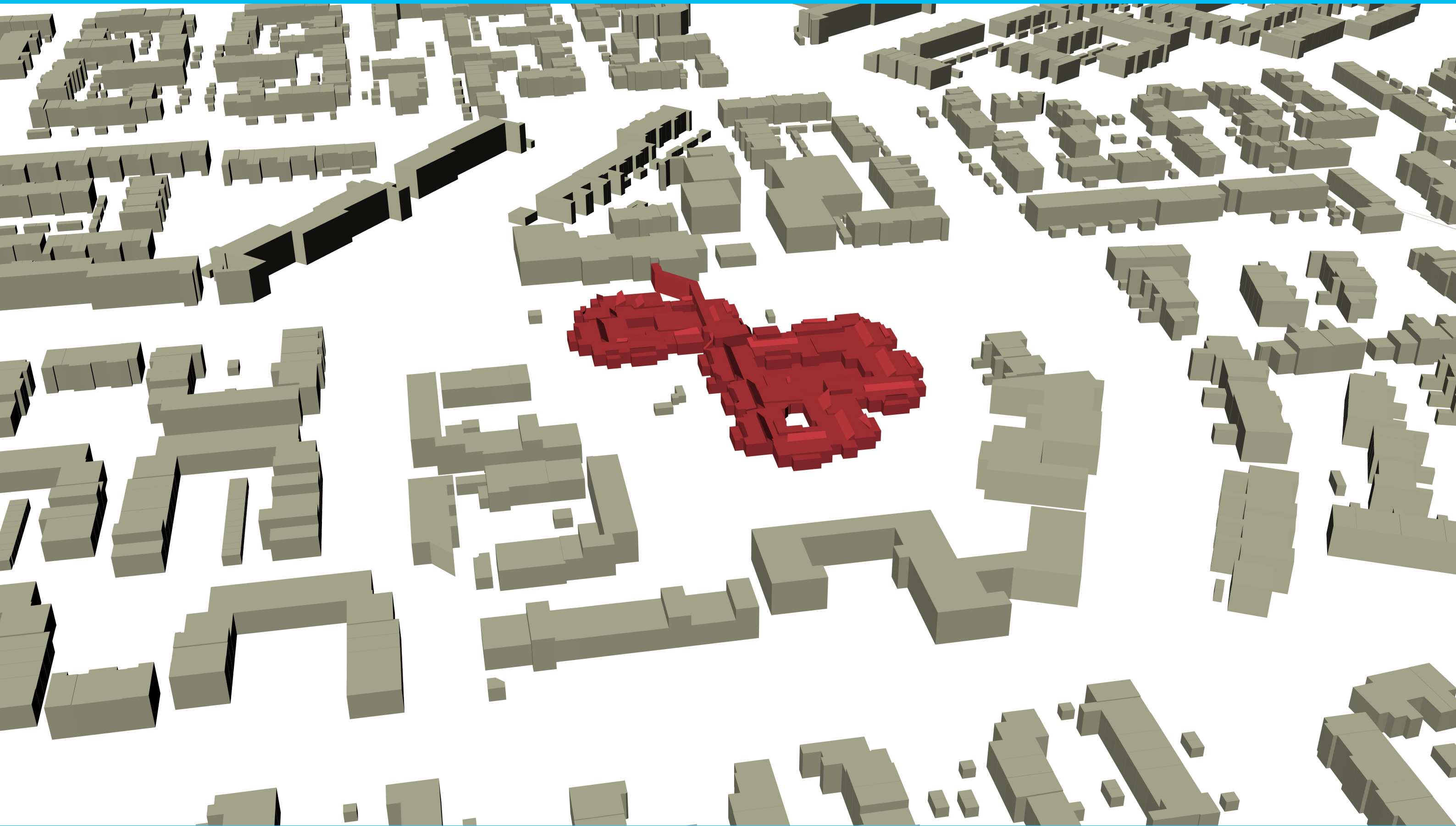
Co-housing courtyards Tanthof: Design

Location analysis: Amenities



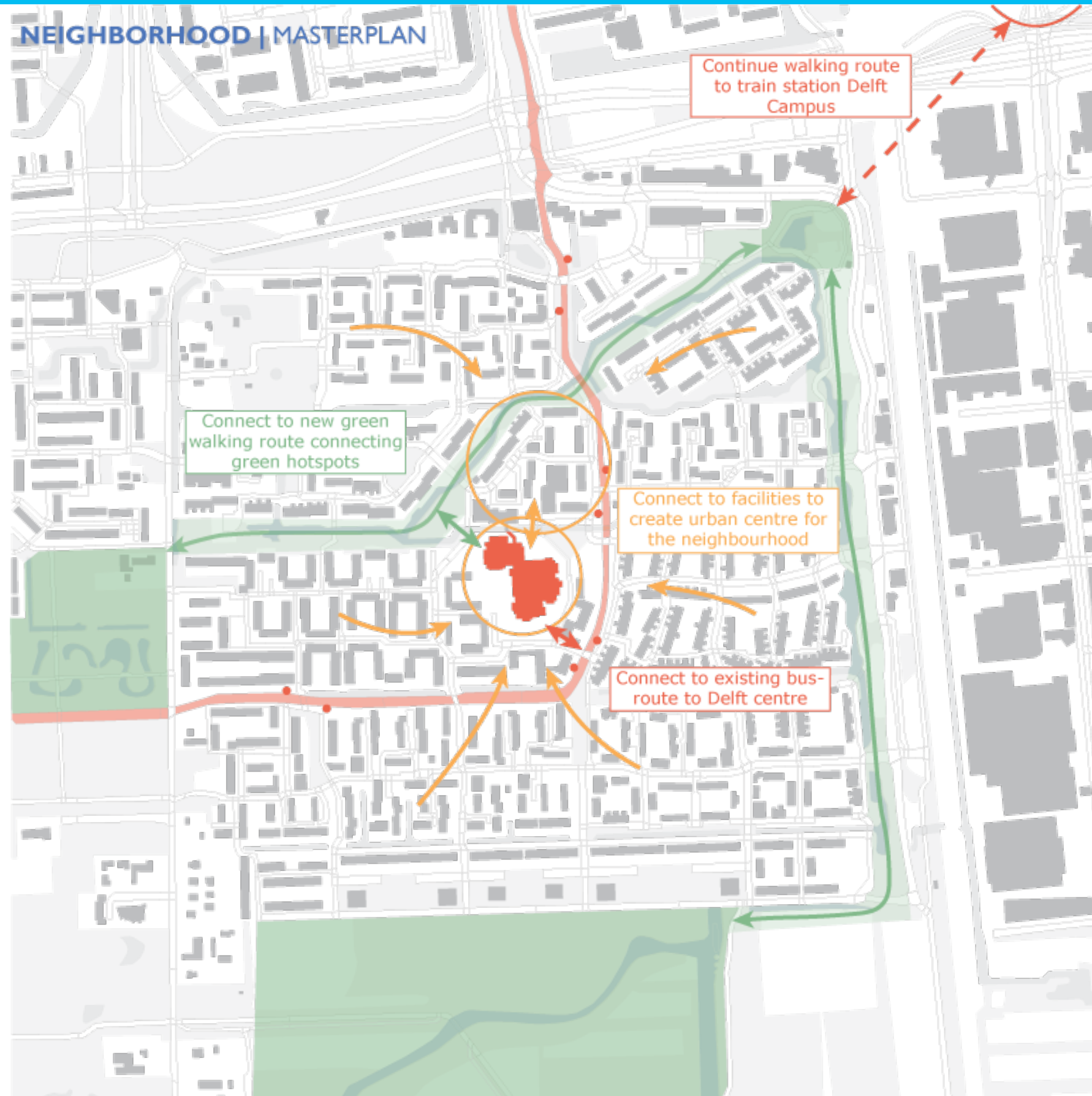
Co-housing courtyards Tanthof: Design

Location analysis: 3D surroundings



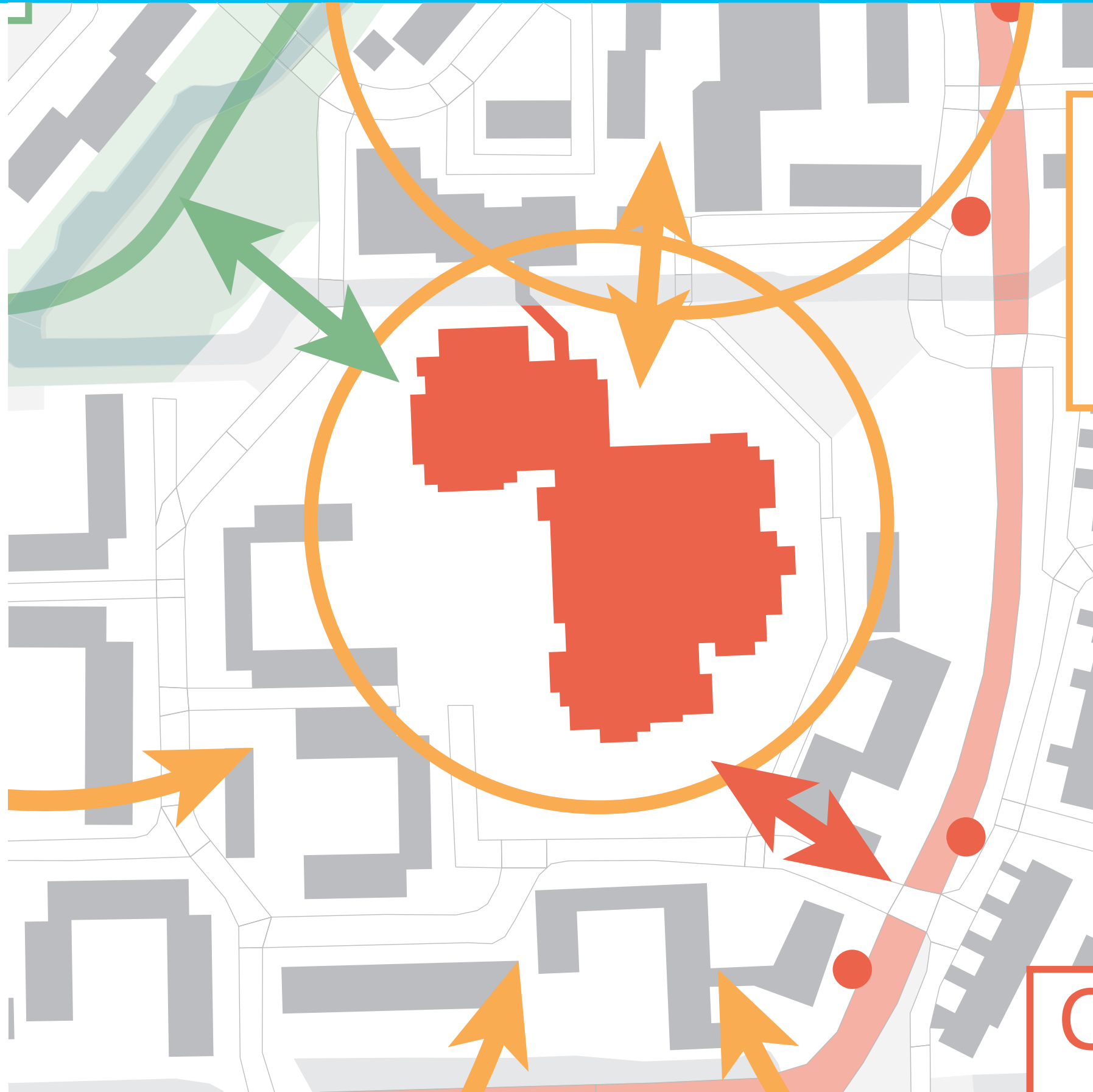
Co-housing courtyards Tanthof: Design

Urban Plan



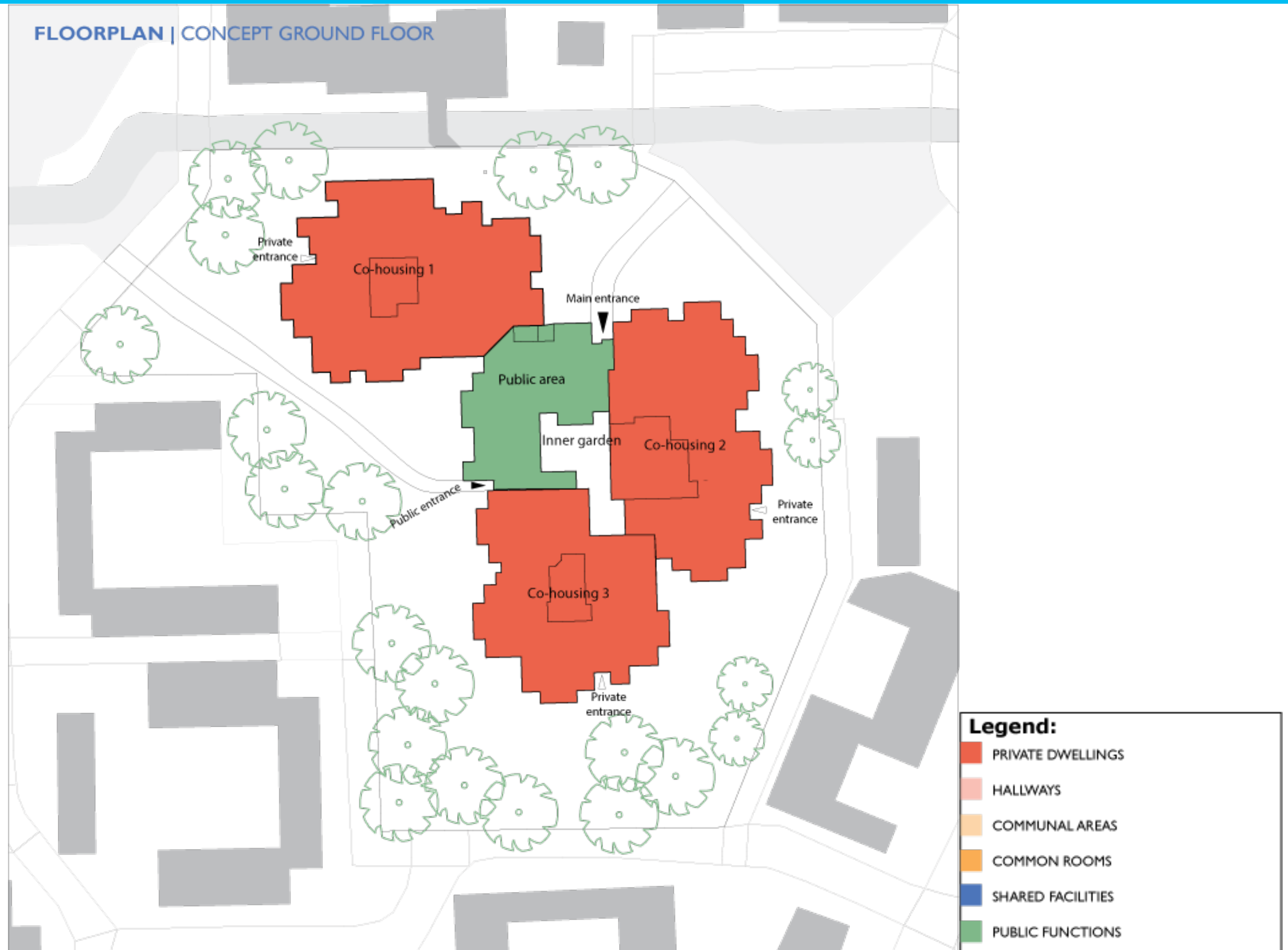
Co-housing courtyards Tanthof: Design

Urban plan



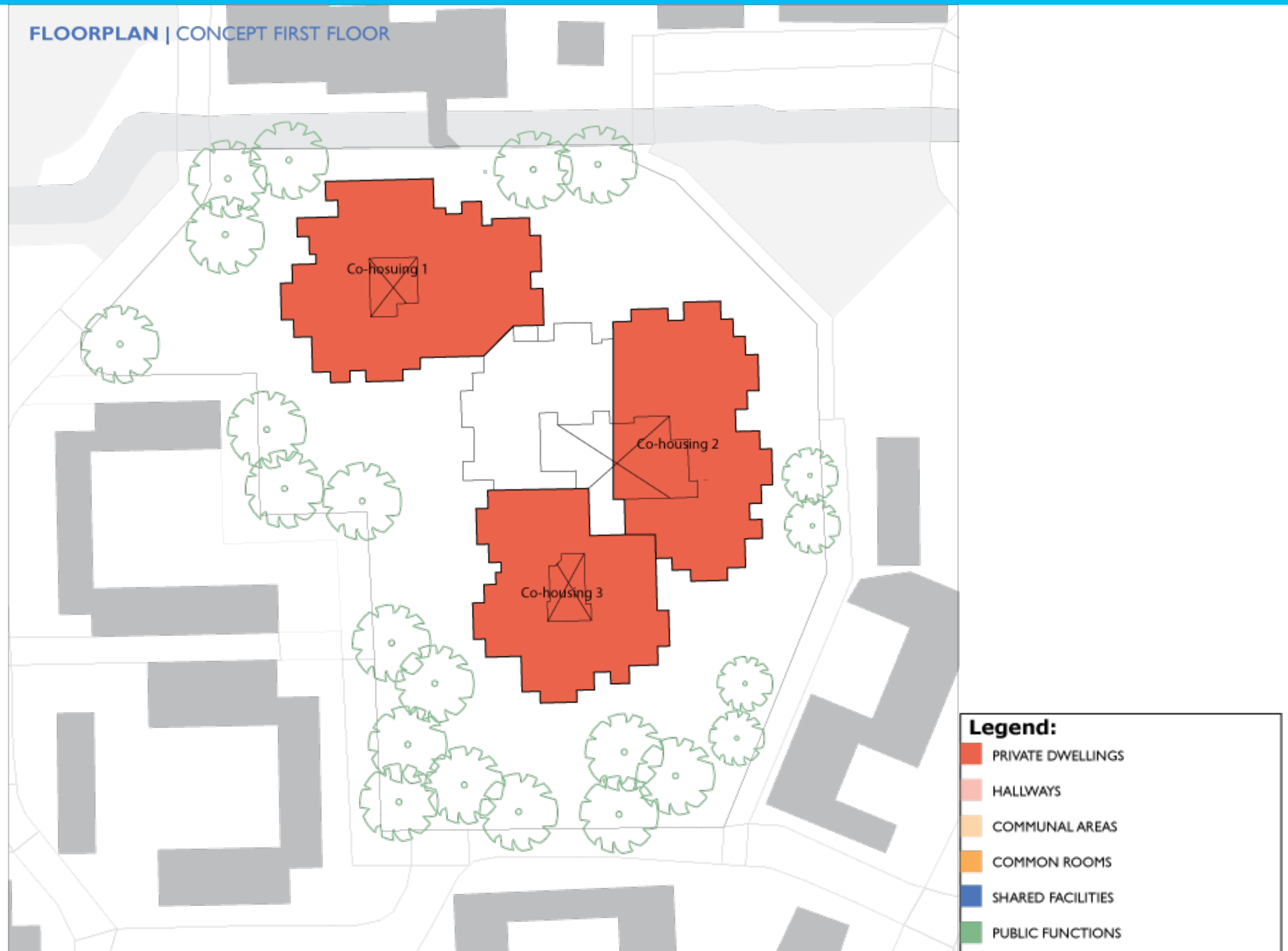
Co-housing courtyards Tanthof: Design

Design concept



Co-housing courtyards Tanthof: Design

Design concept

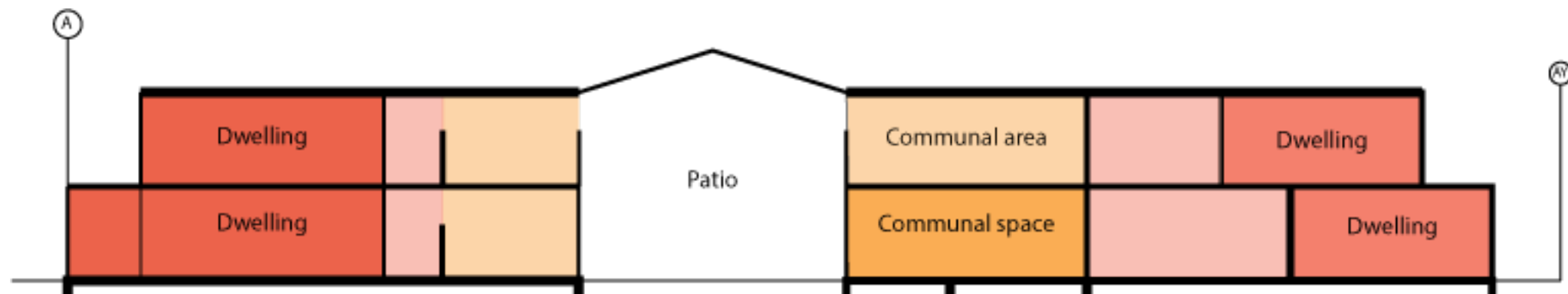


Co-housing courtyards Tanthof: Design

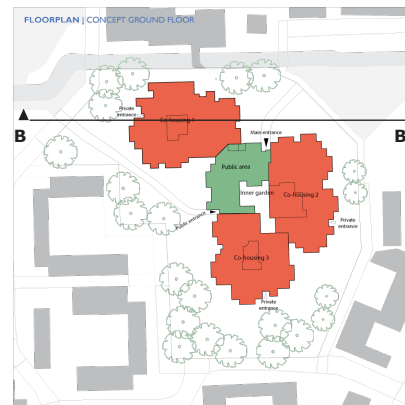
Design concept



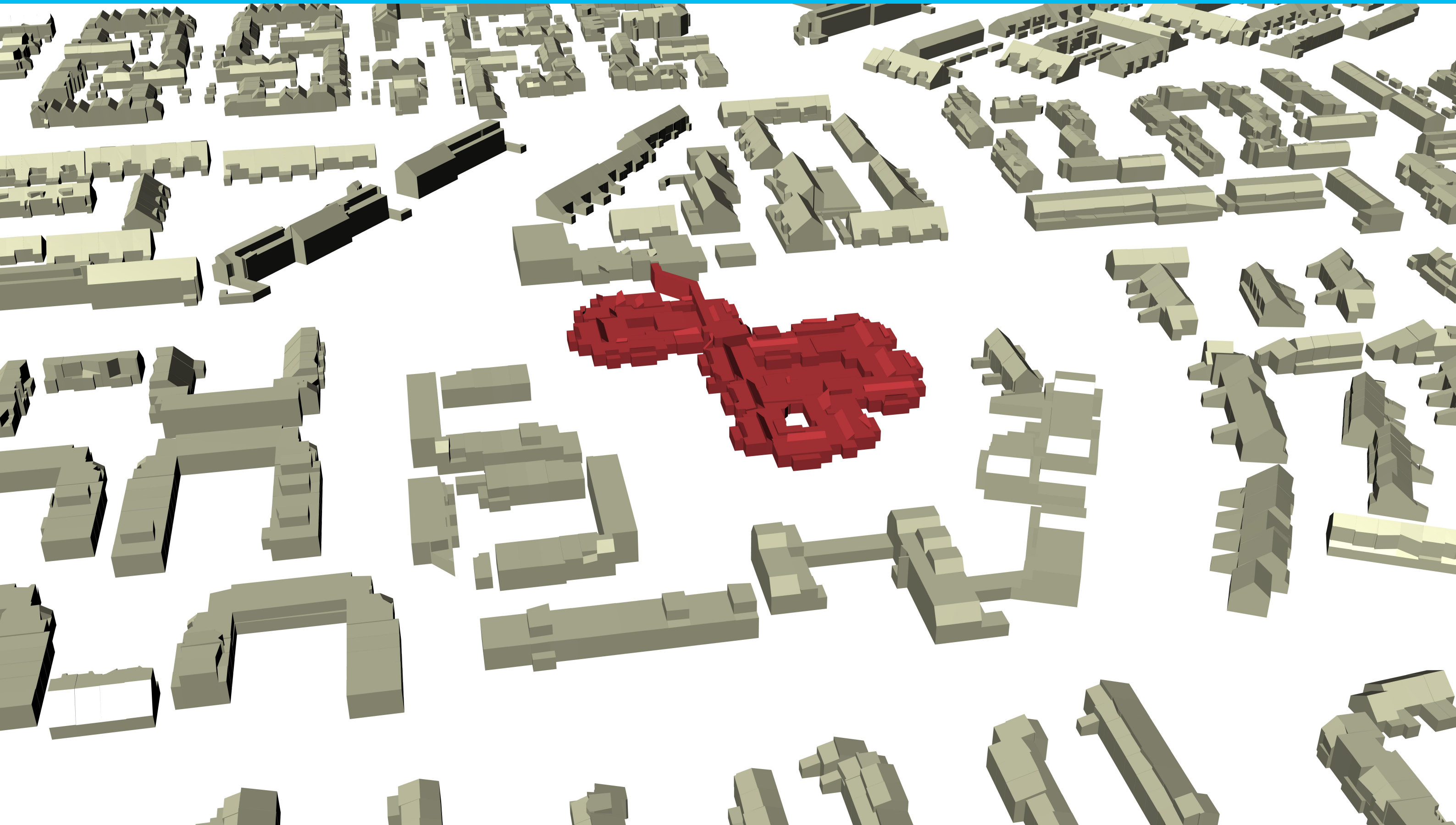
Existing Section



Design Concept section



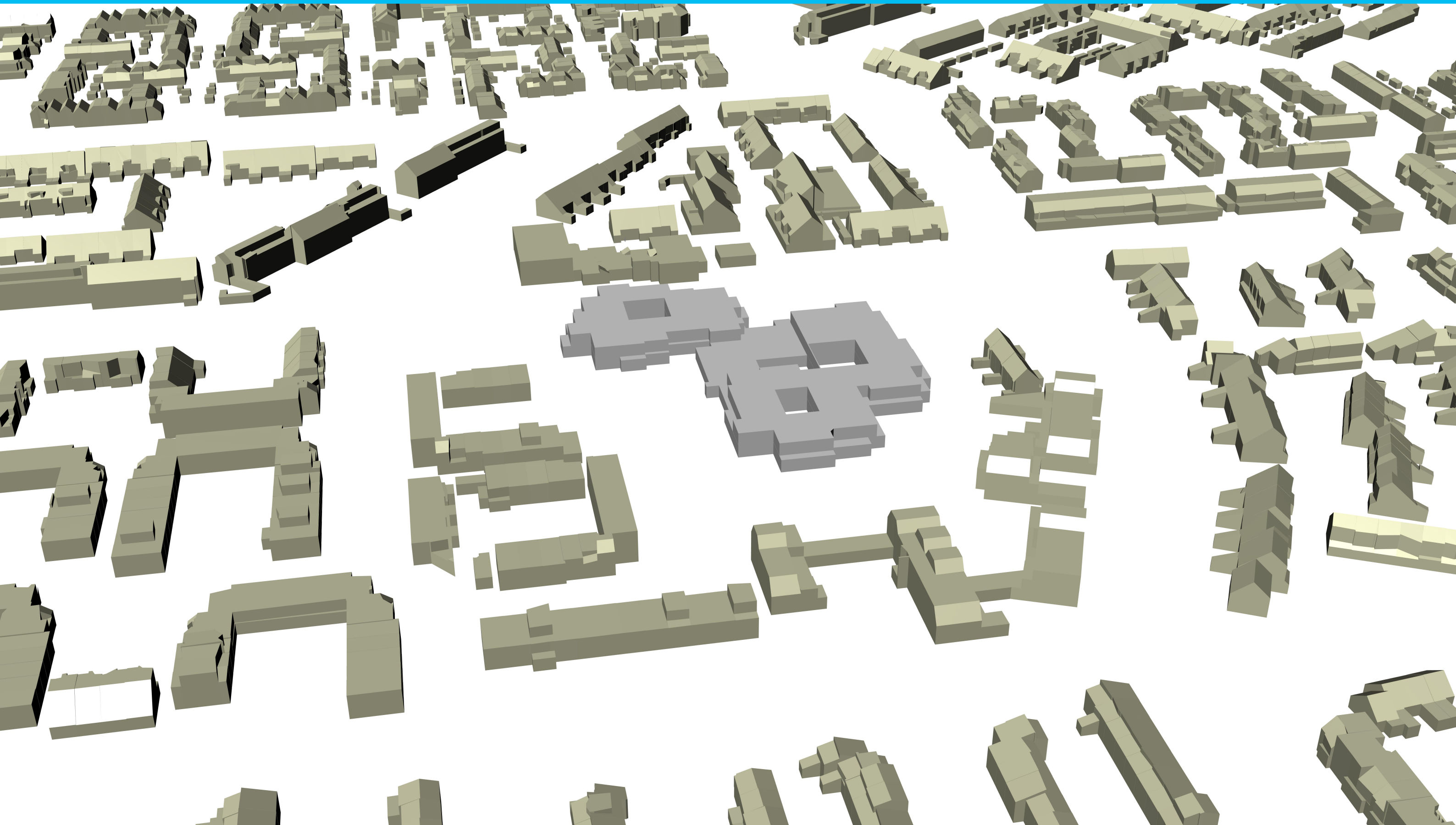
Co-housing courtyards Tanthof: Design Transformation strategy



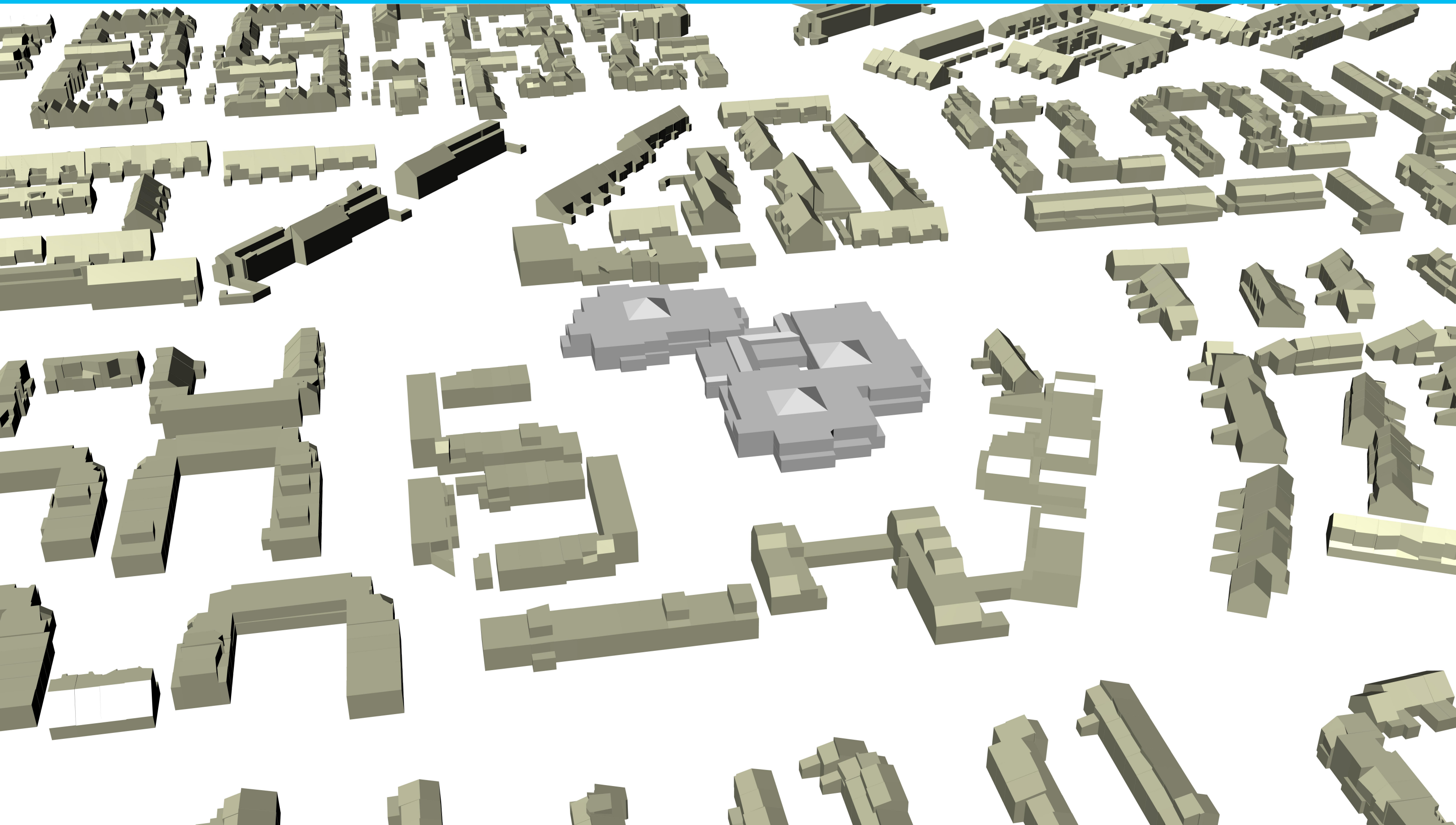
Co-housing courtyards Tanthof: Design Transformation strategy



Co-housing courtyards Tanthof: Design Transformation strategy

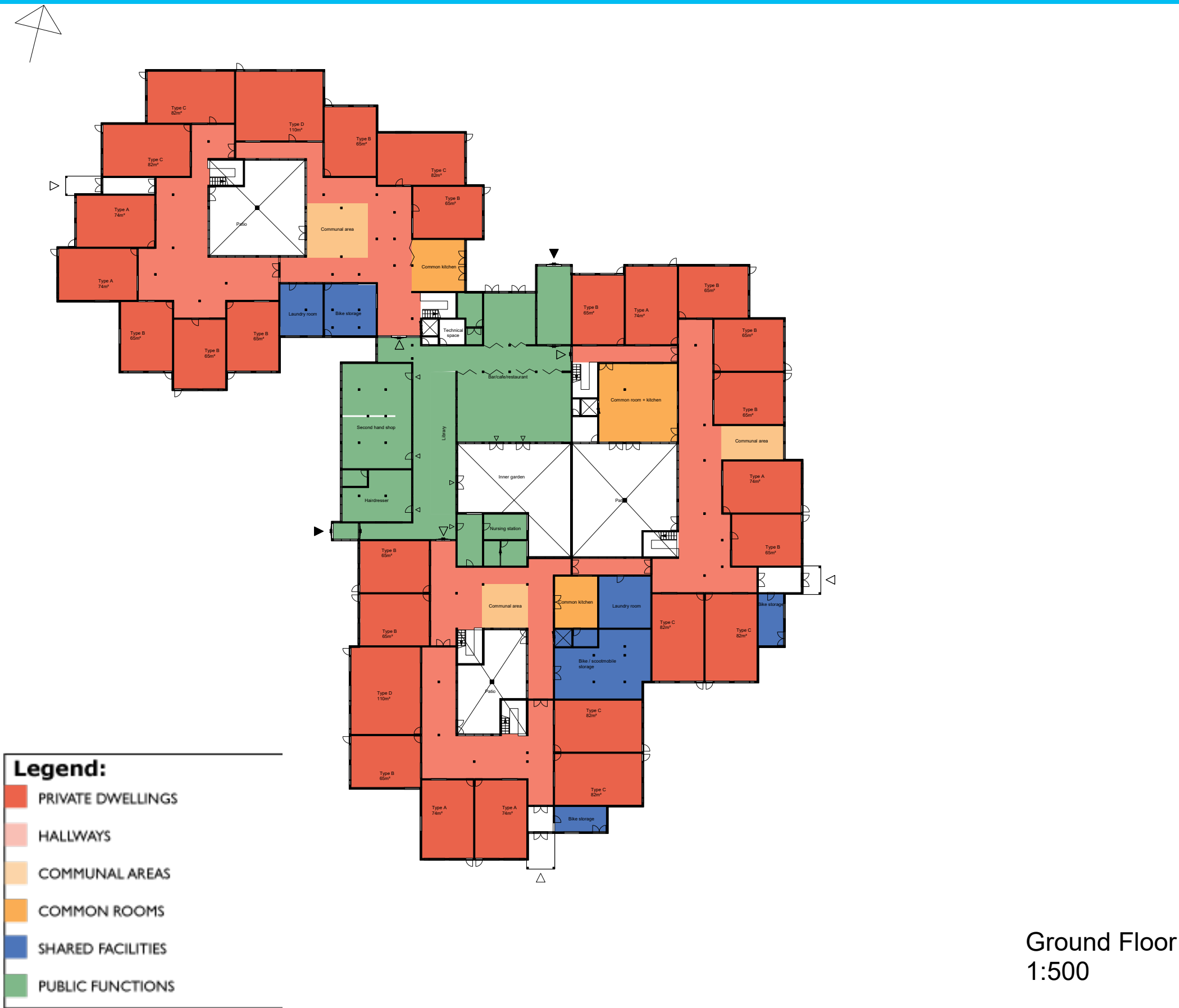


Co-housing courtyards Tanthof: Design Transformation strategy



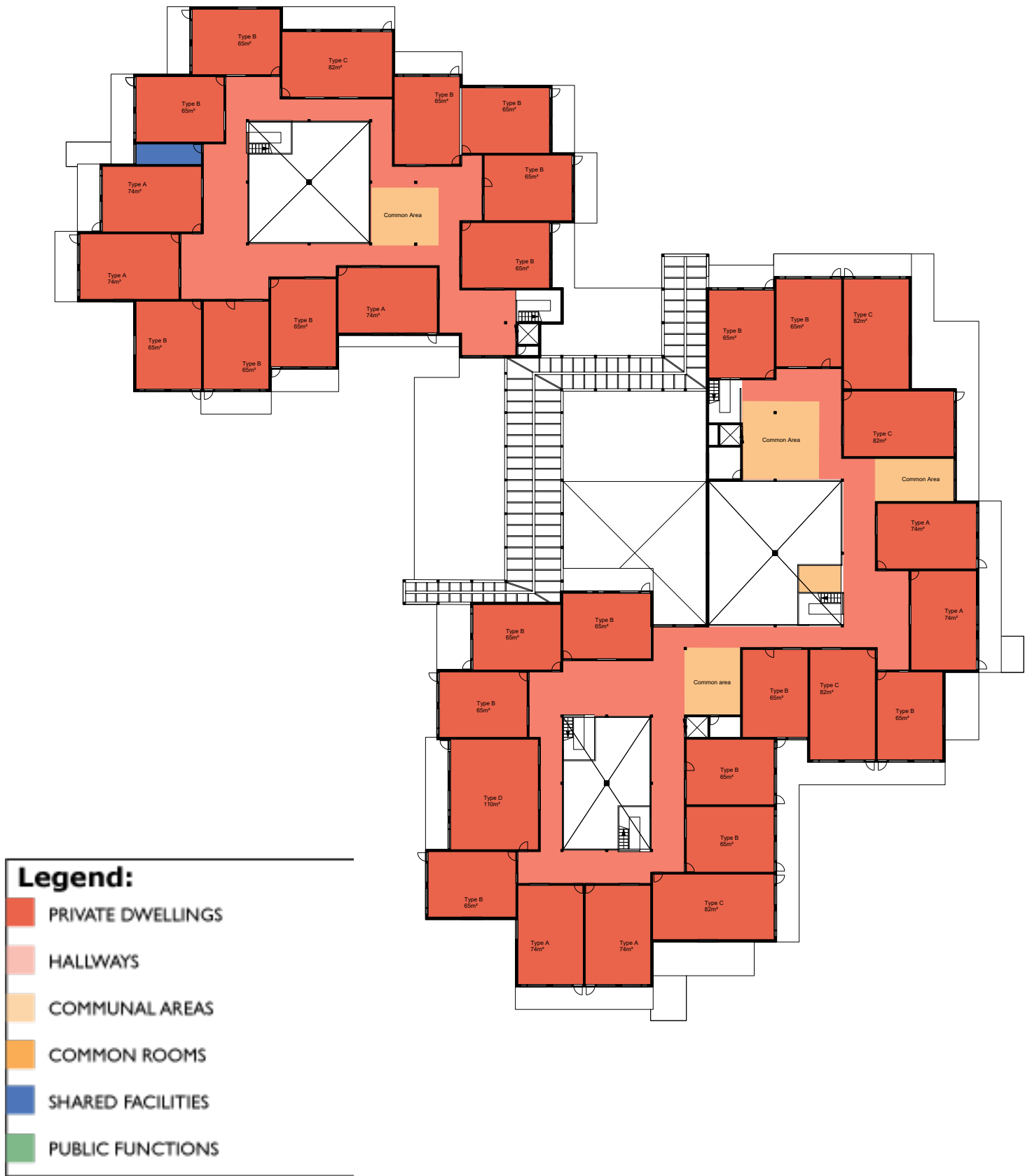
Co-housing courtyards Tanthof: Design

Concept translation



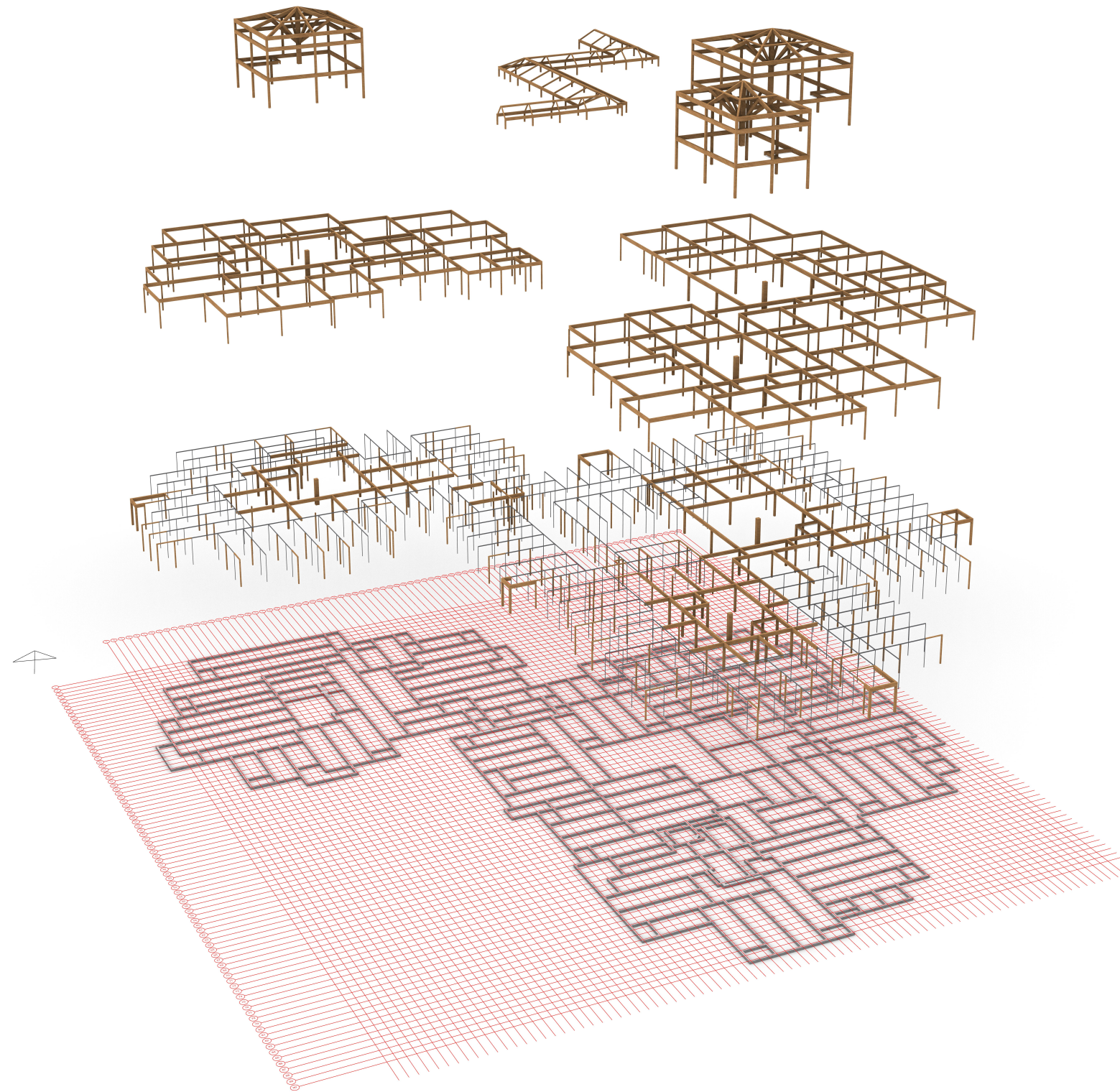
Co-housing courtyards Tanthof: Design

Concept translation

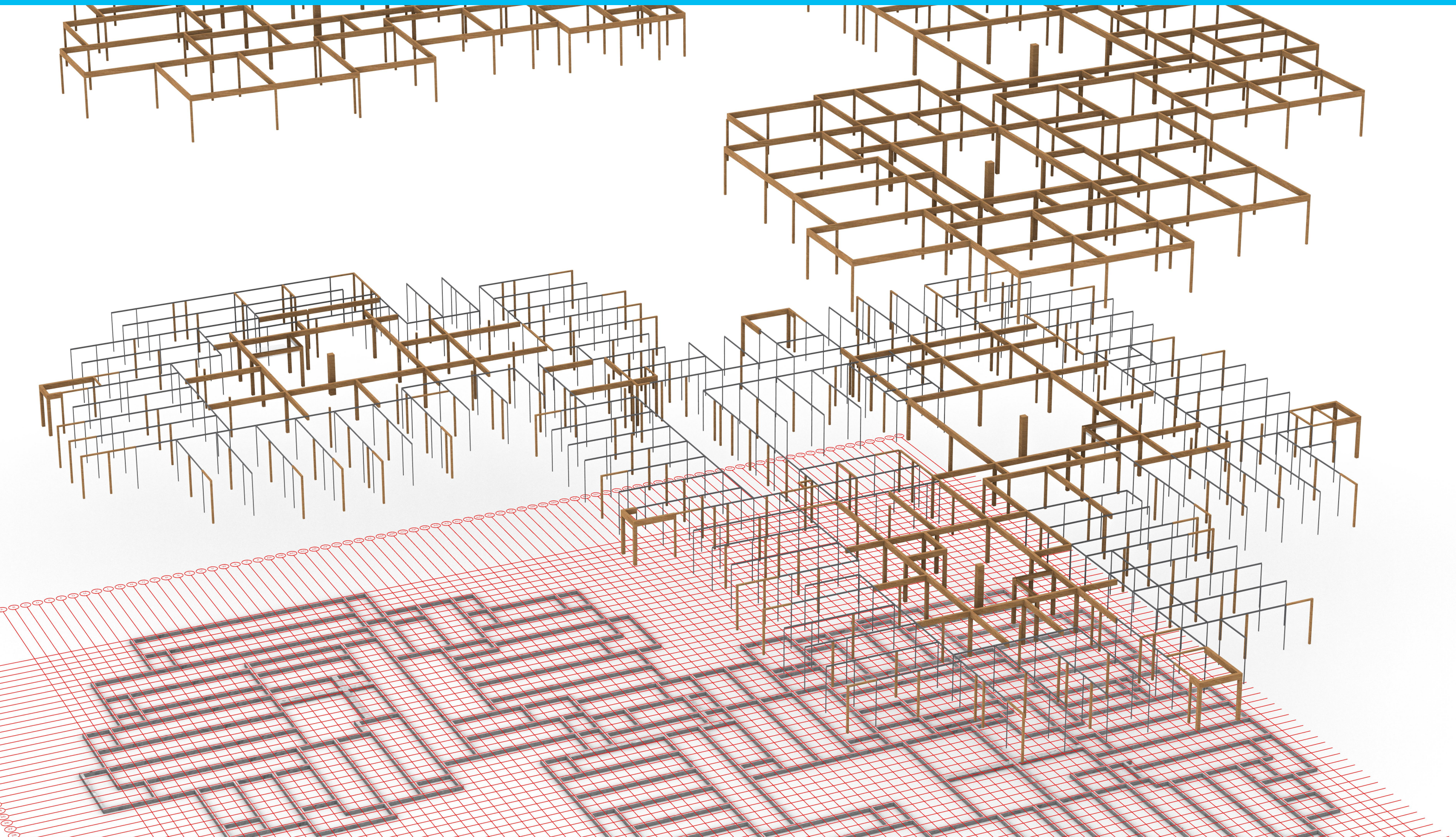


First Floor
1:500

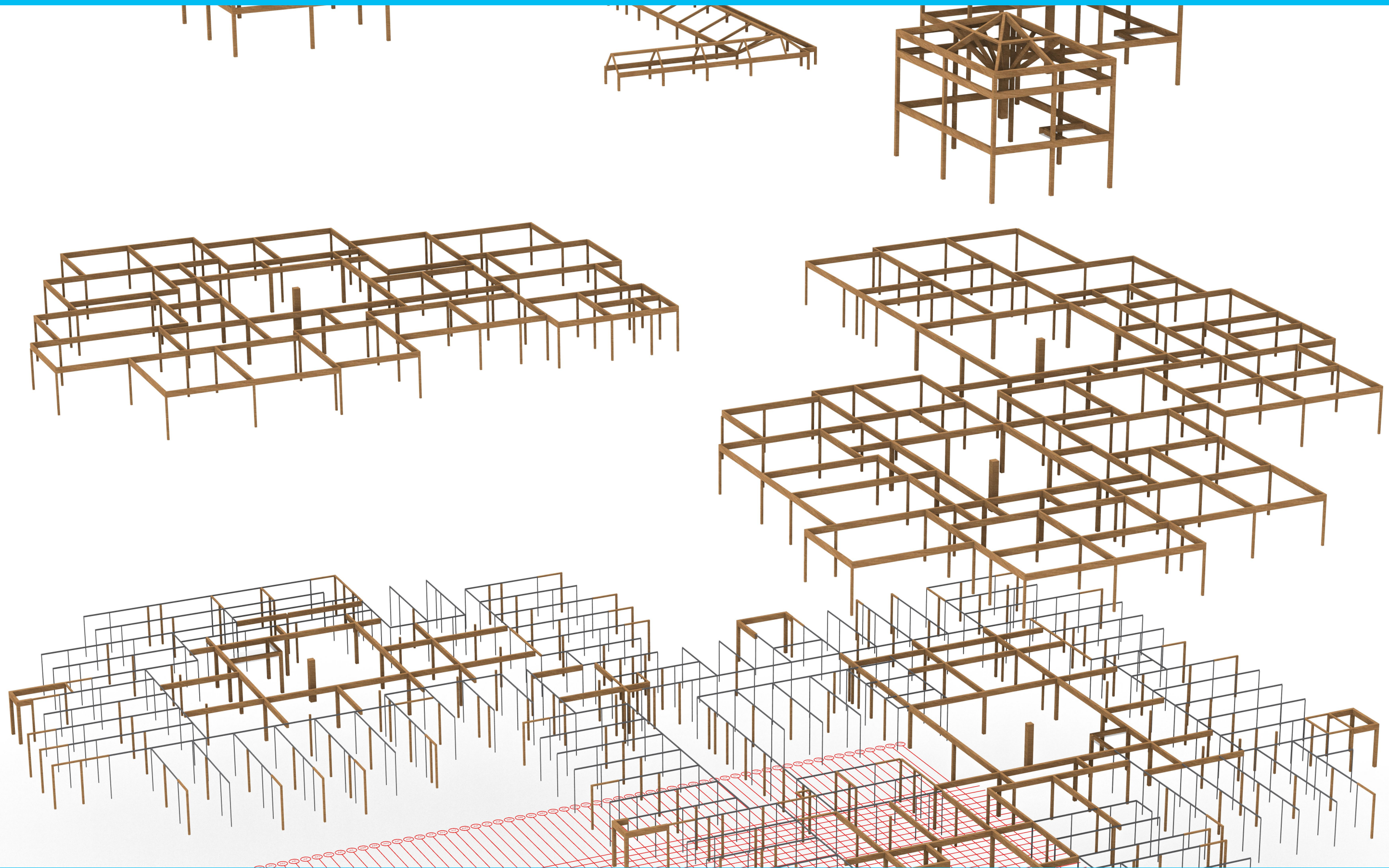
Co-housing courtyards Tanthof: Design Transformation strategy



Co-housing courtyards Tanthof: Design Transformation strategy



Co-housing courtyards Tanthof: Design Transformation strategy



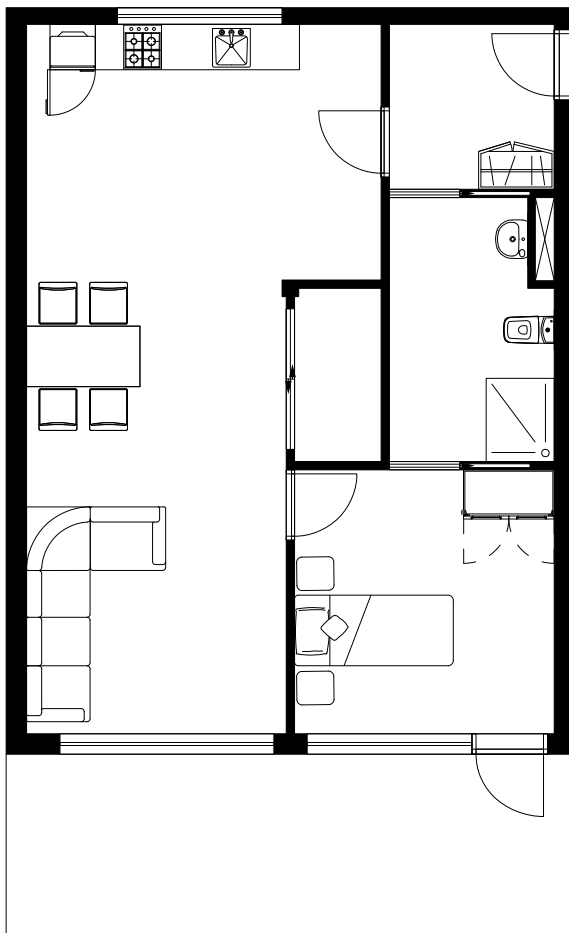
Co-housing courtyards Tanthof: Design Transformation strategy



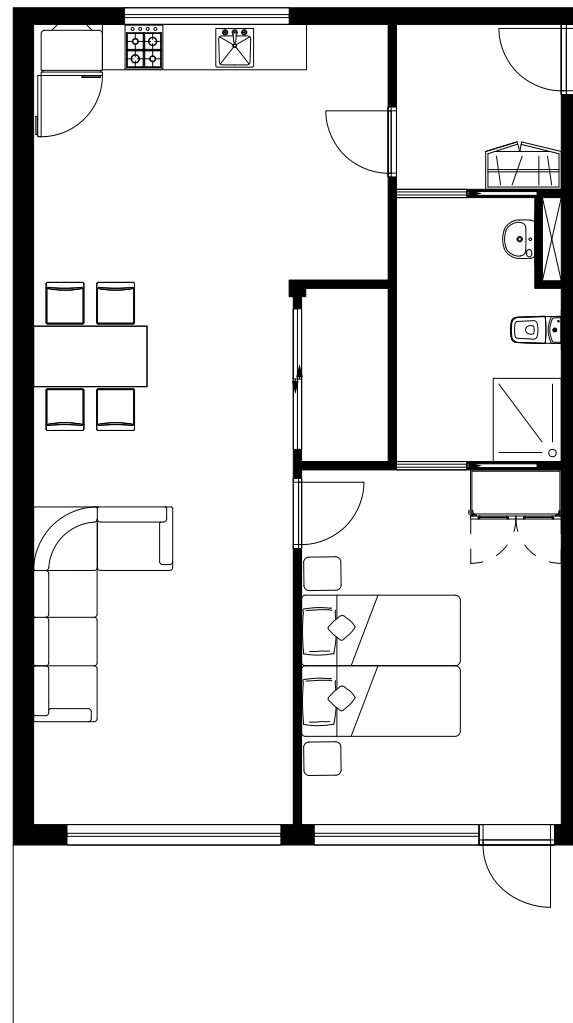
Co-housing courtyards Tanthof: Design

Floorplans rooms

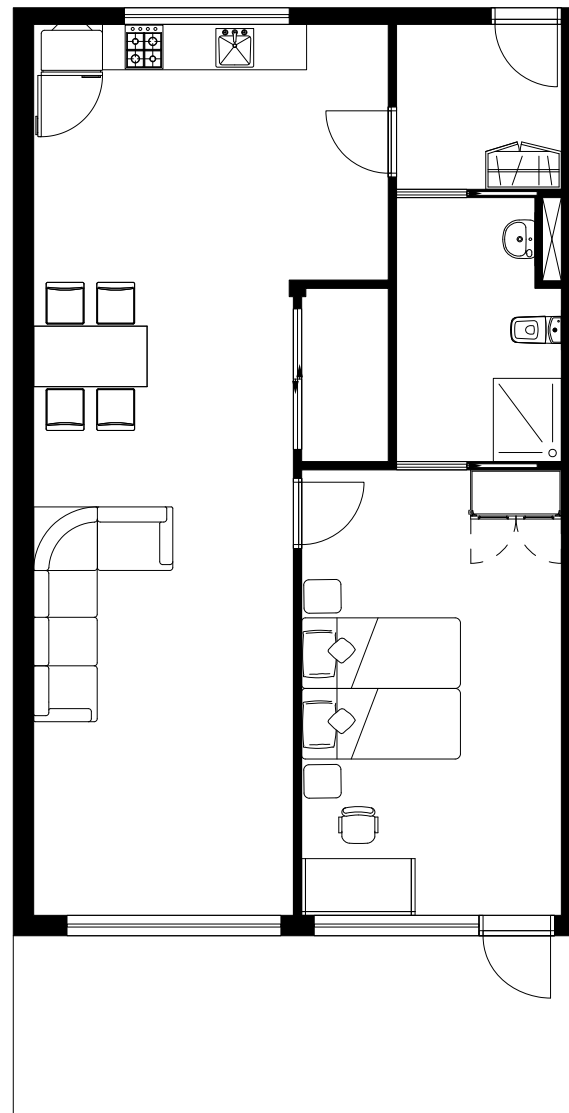
Type A (32 dwellings)
65m²



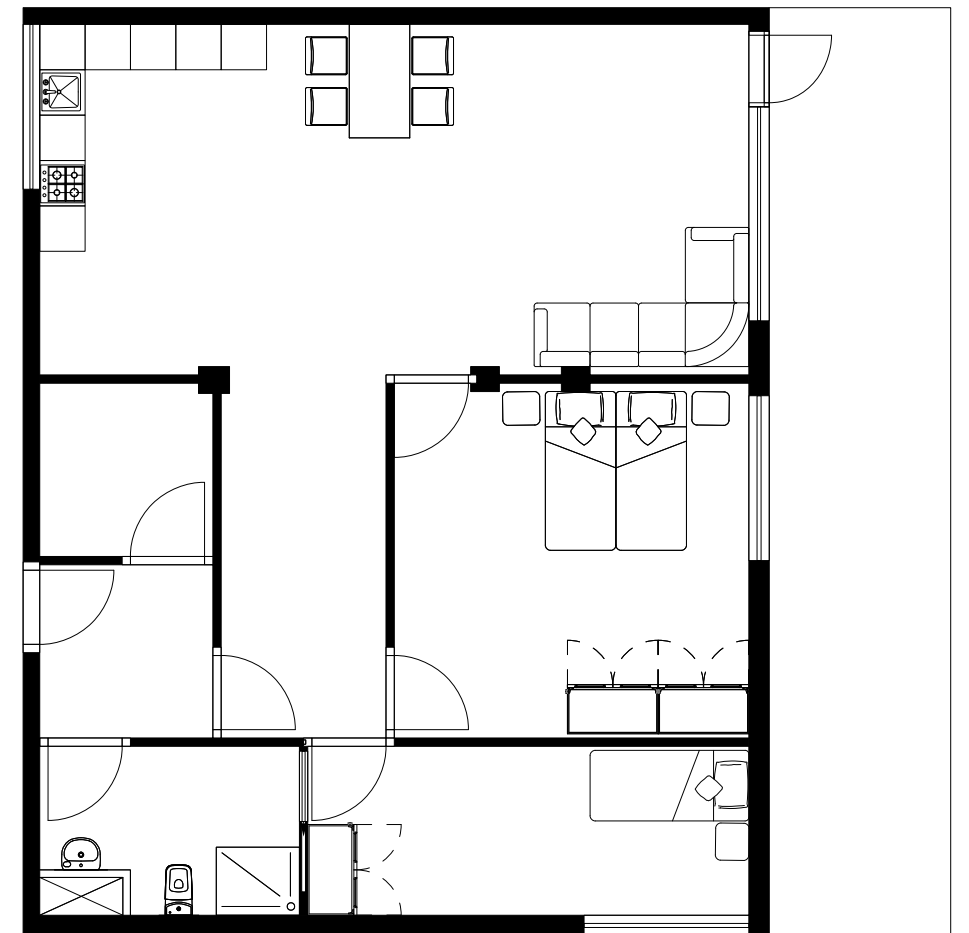
Type B (13 dwellings)
74m²



Type C (12 dwellings)
82m²



Type D (3 dwellings)
110m²



Co-housing courtyards Tanthof: Design

Apartment renderings



Living room



Kitchen

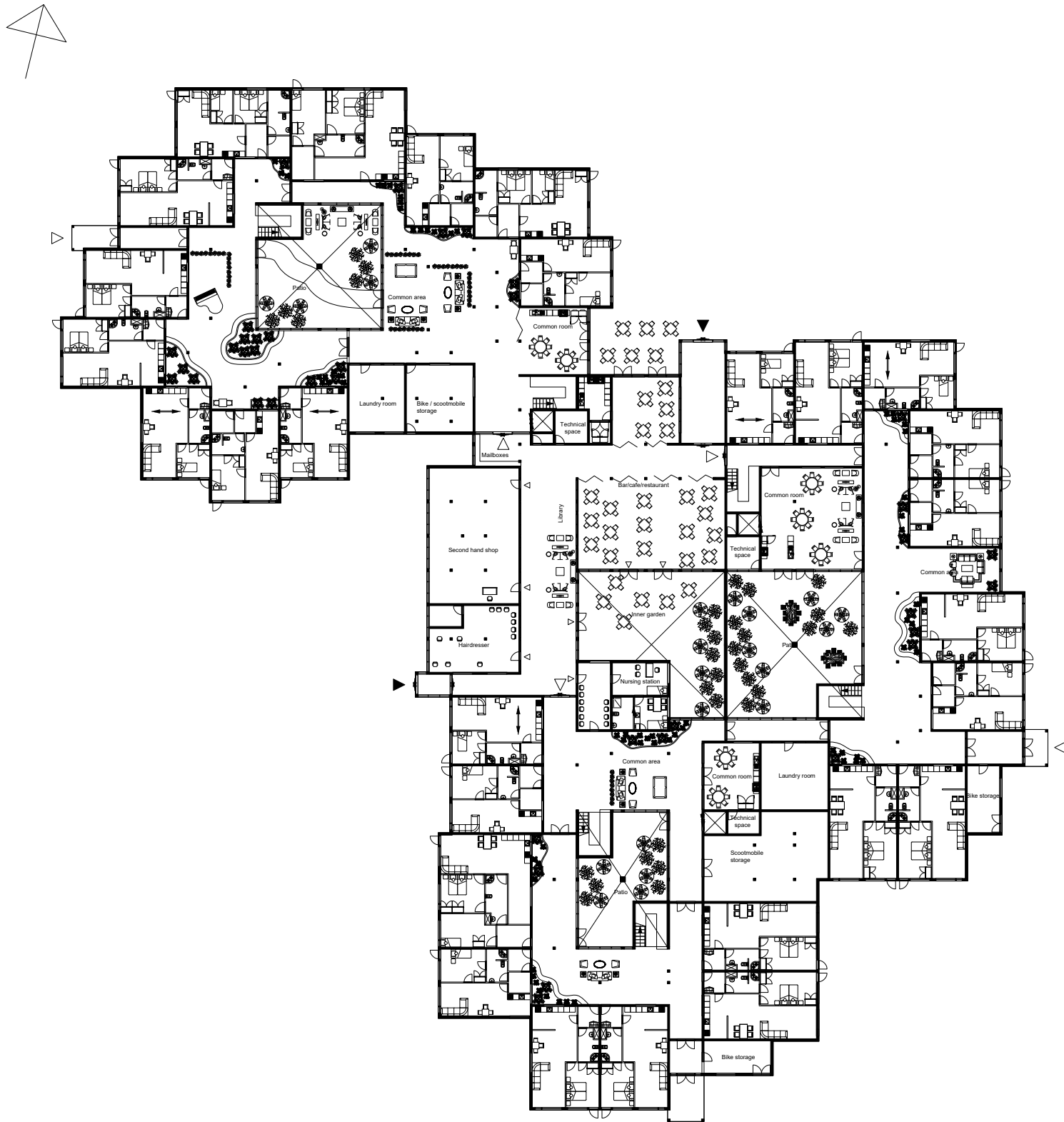


Bedroom



Bathroom

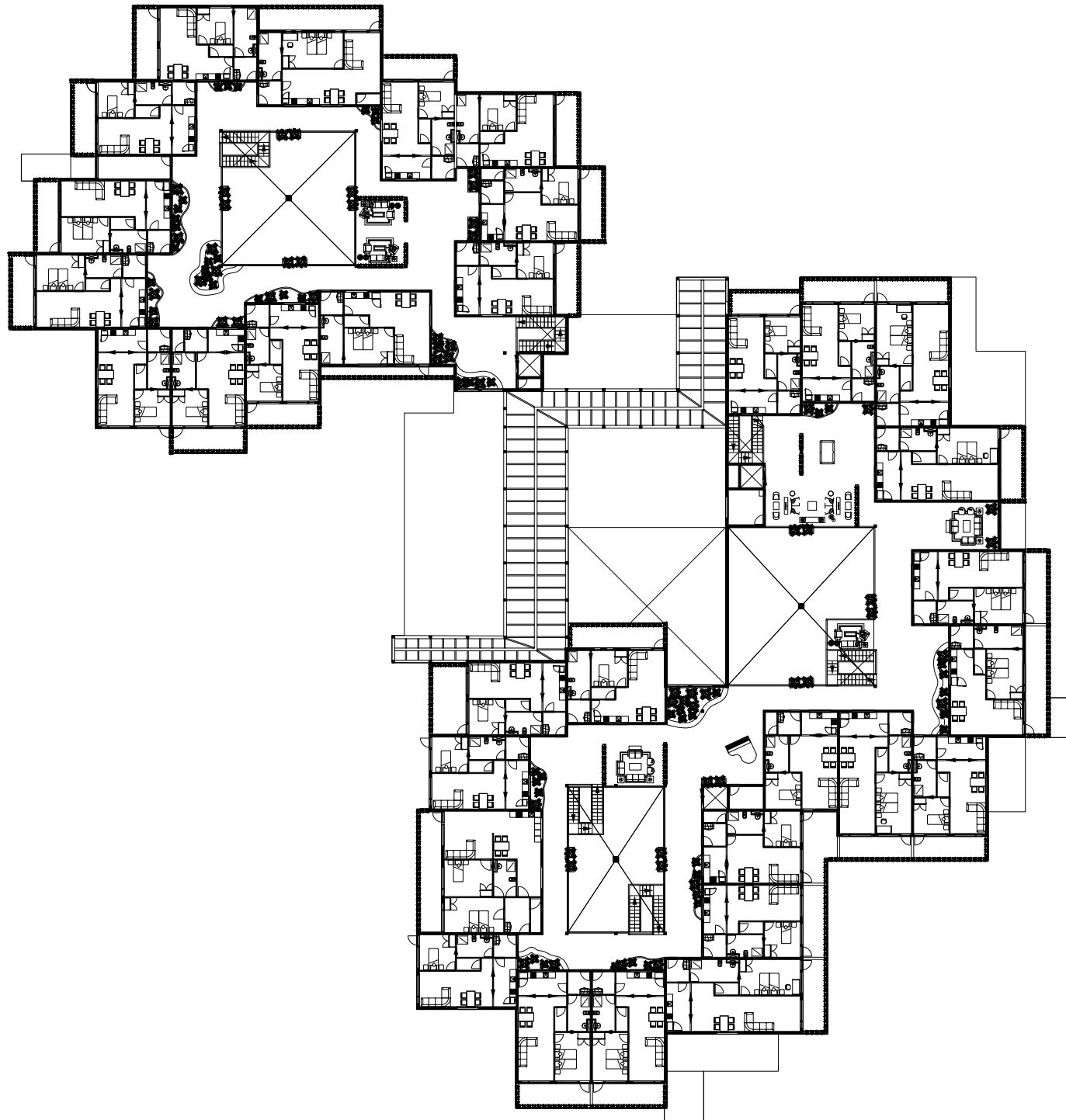
Co-housing courtyards Tanthof: Design Floorplans ground floor



Ground floor
1:500

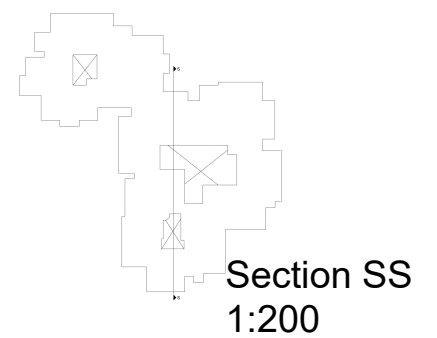
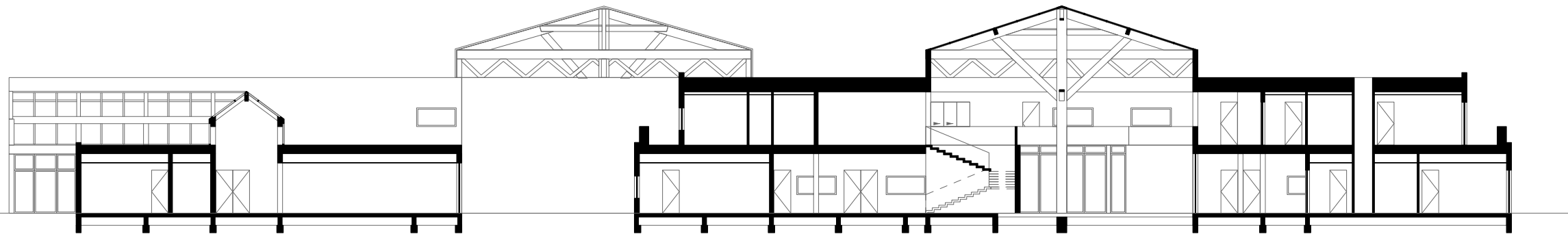
Co-housing courtyards Tanthof: Design

Floorplans first floor



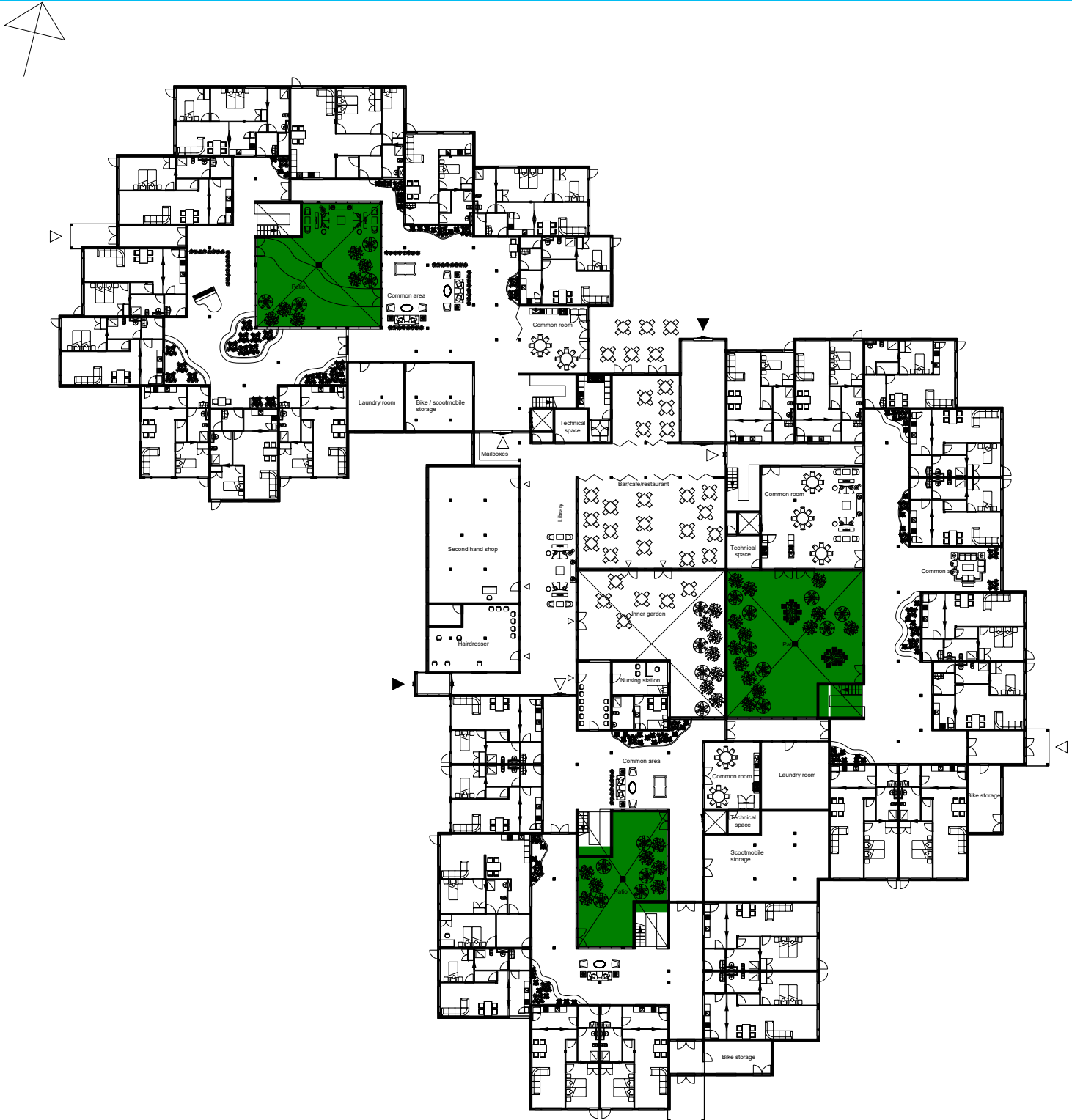
First Floor
1:500

Co-housing courtyards Tanthof: Design Section



Co-housing courtyards Tanthof: Design

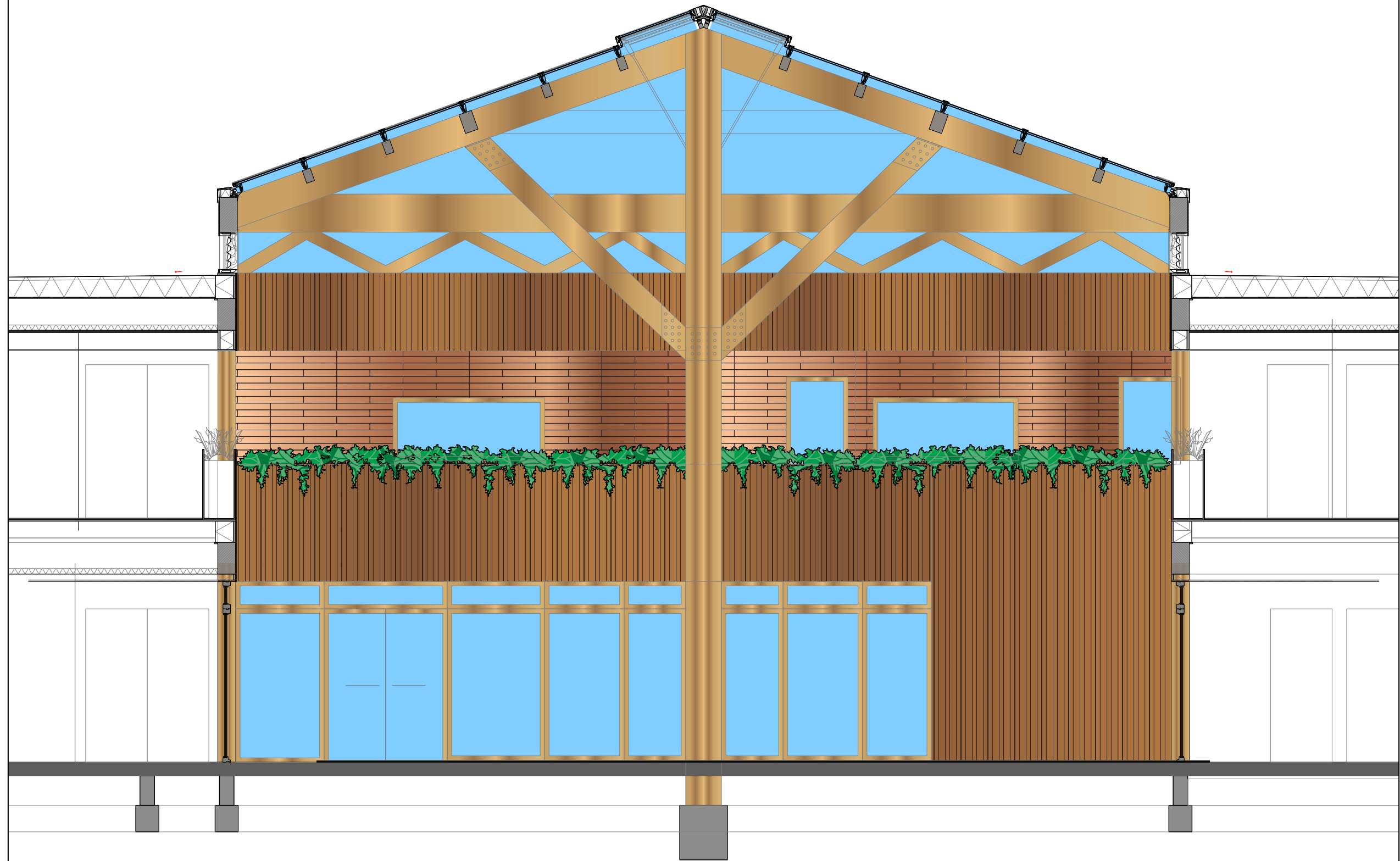
Floorplans Atriums



Ground Floor
1:500

Co-housing courtyards Tanthof: Design

Floorplans Atrium



Co-housing courtyards Tanthof: Design

Atrium render



Co-housing courtyards Tanthof: Design

Atrium event render

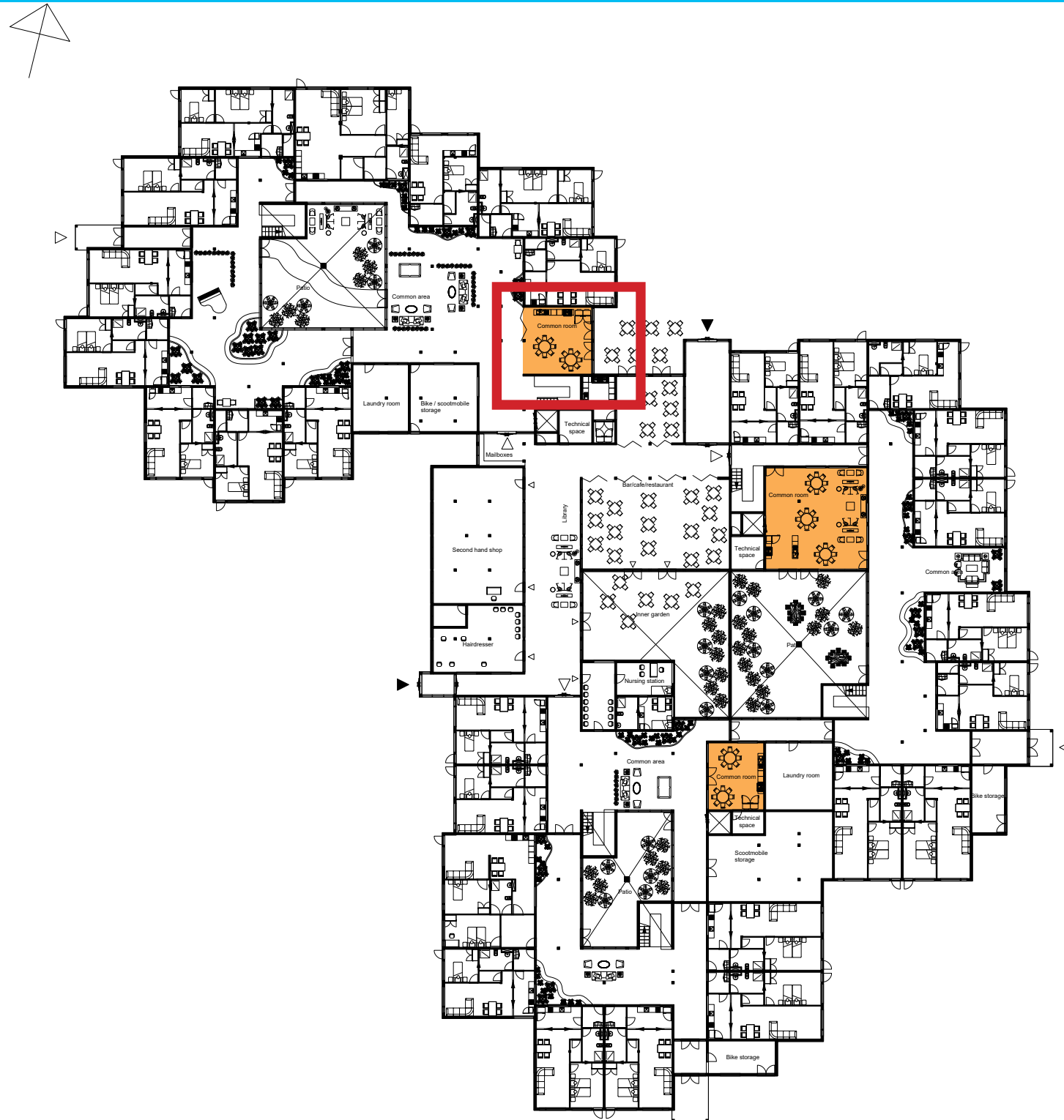


Twinmotion | Community Edition

EPIC
GAMES

Co-housing courtyards Tanthof: Design

Floorplans Common rooms



Ground Floor
1:500

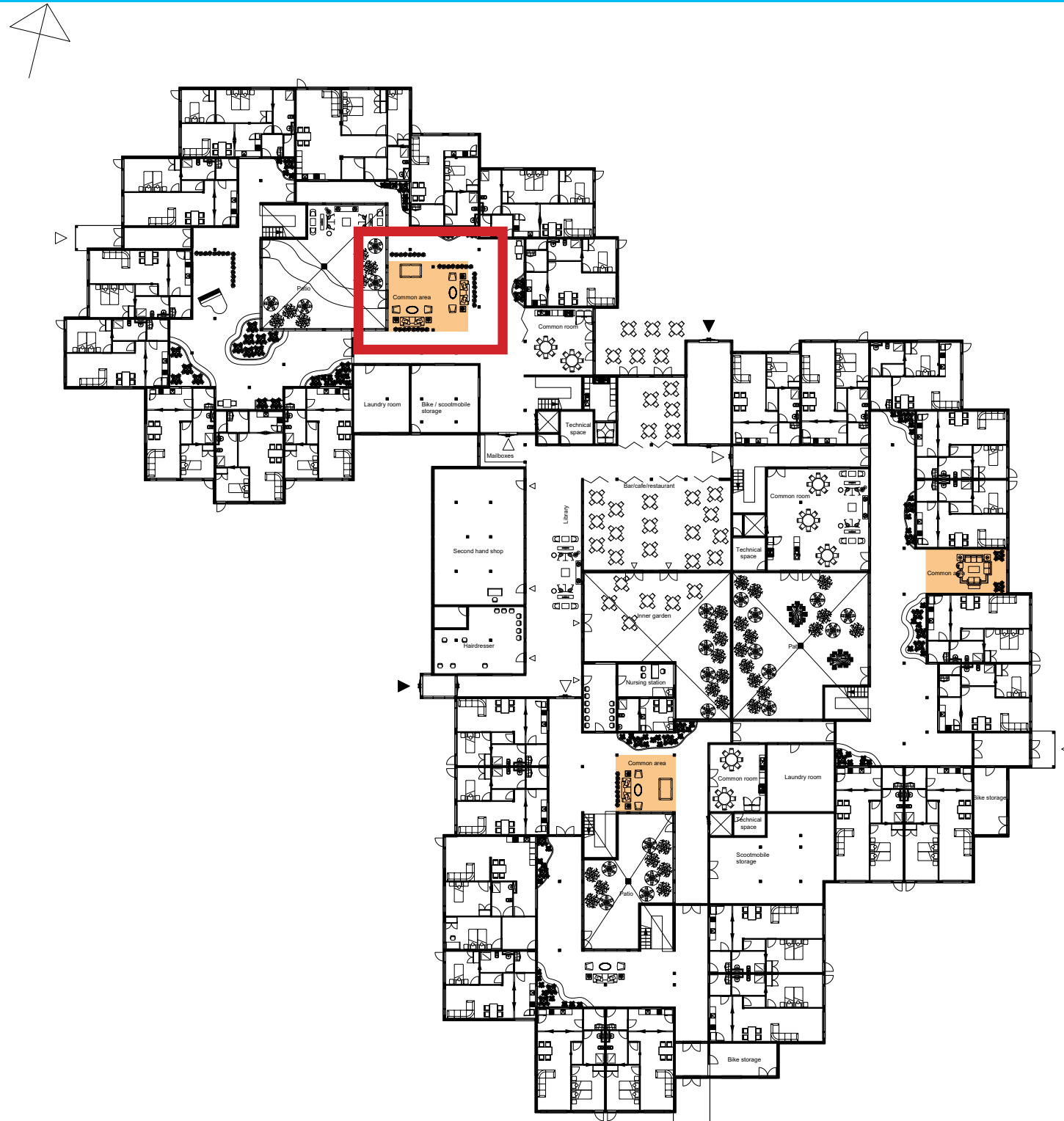
Co-housing courtyards Tanthof: Design

Floorplans common rooms



Co-housing courtyards Tanthof: Design

Floorplans Common areas



Ground Floor
1:500

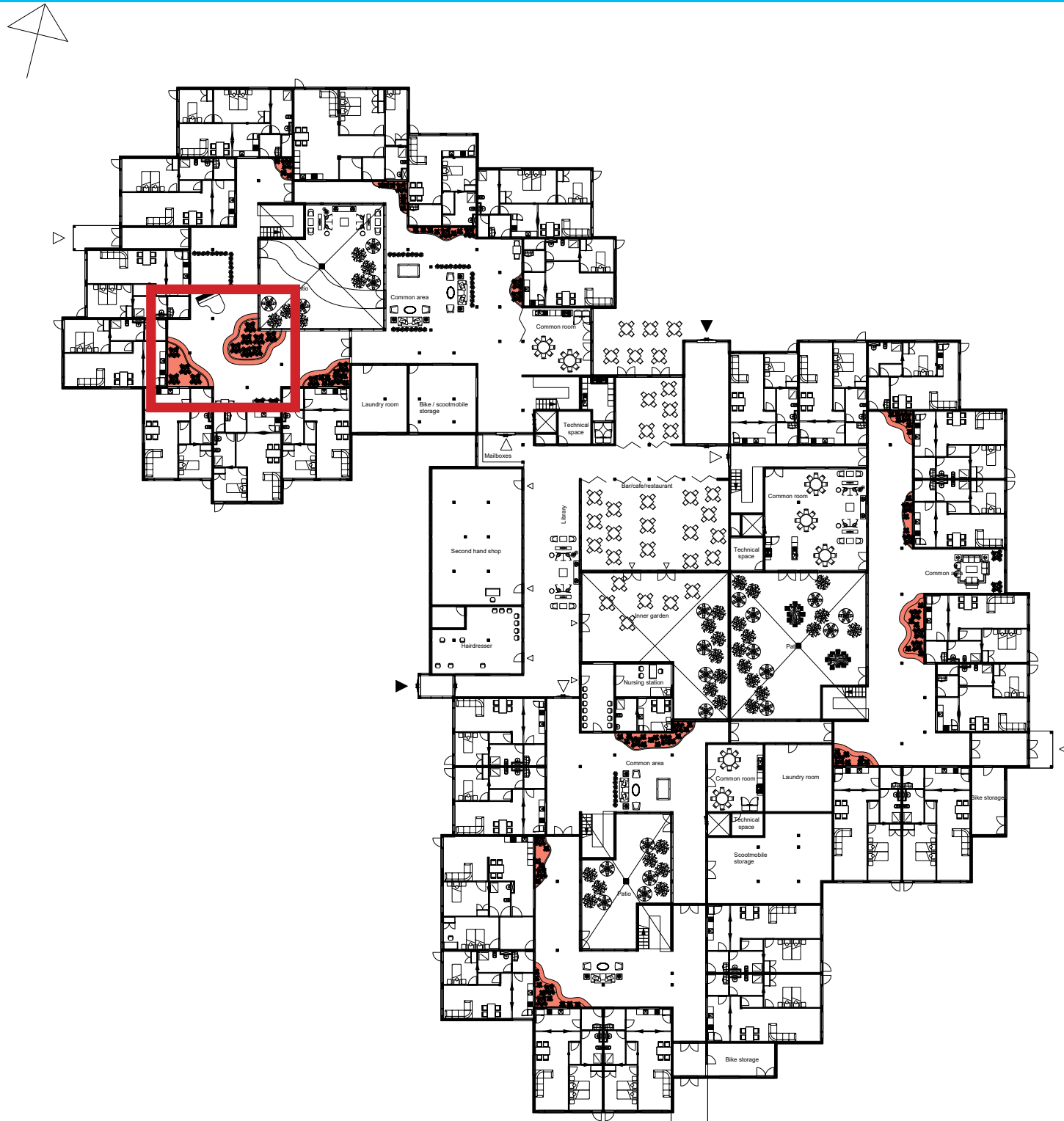
Co-housing courtyards Tanthof: Design

Floorplans common areas



Co-housing courtyards Tanthof: Design

Floorplans neighbour connection



Ground Floor
1:500

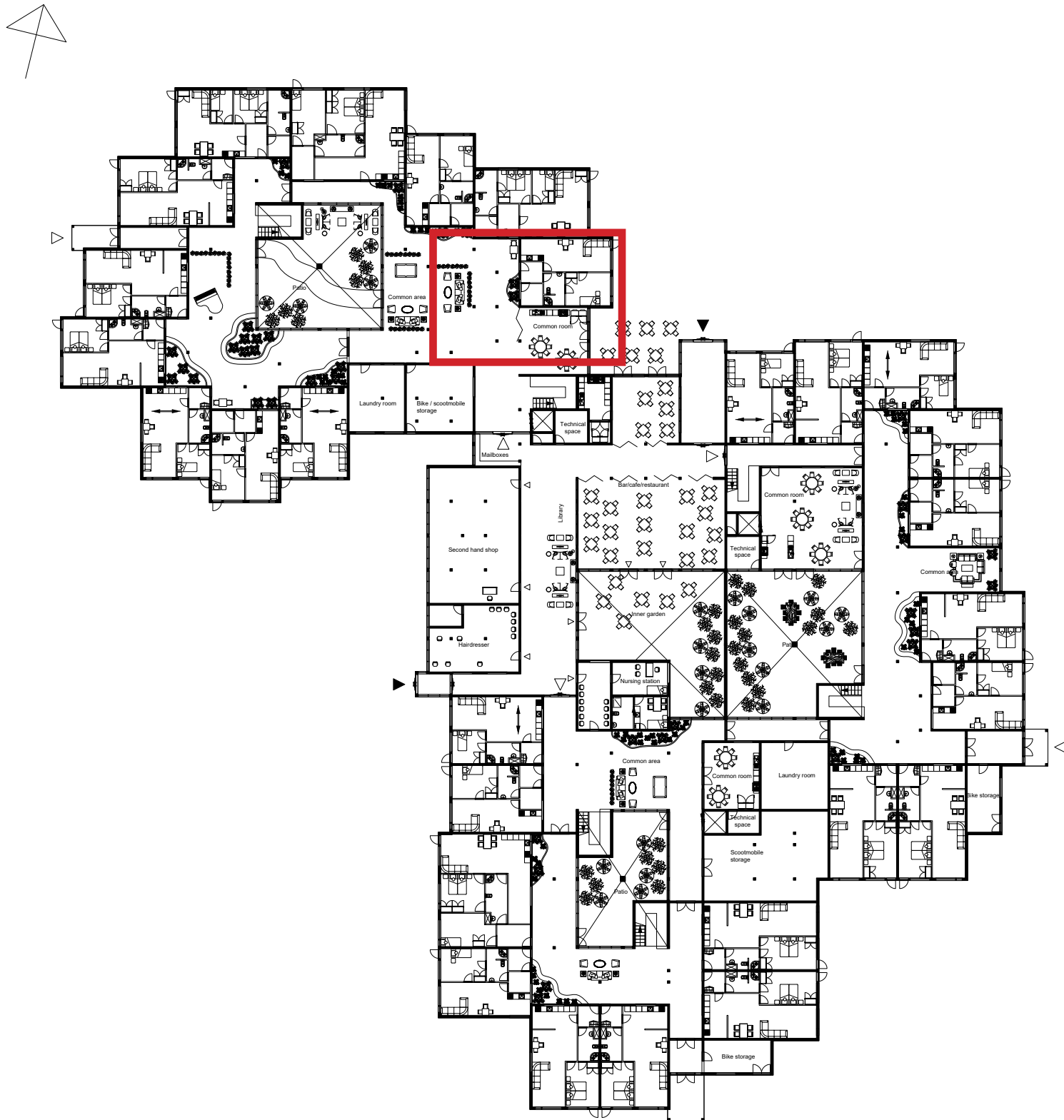
Co-housing courtyards Tanthof: Design

Floorplans neighbour connection



Co-housing courtyards Tanthof: Design

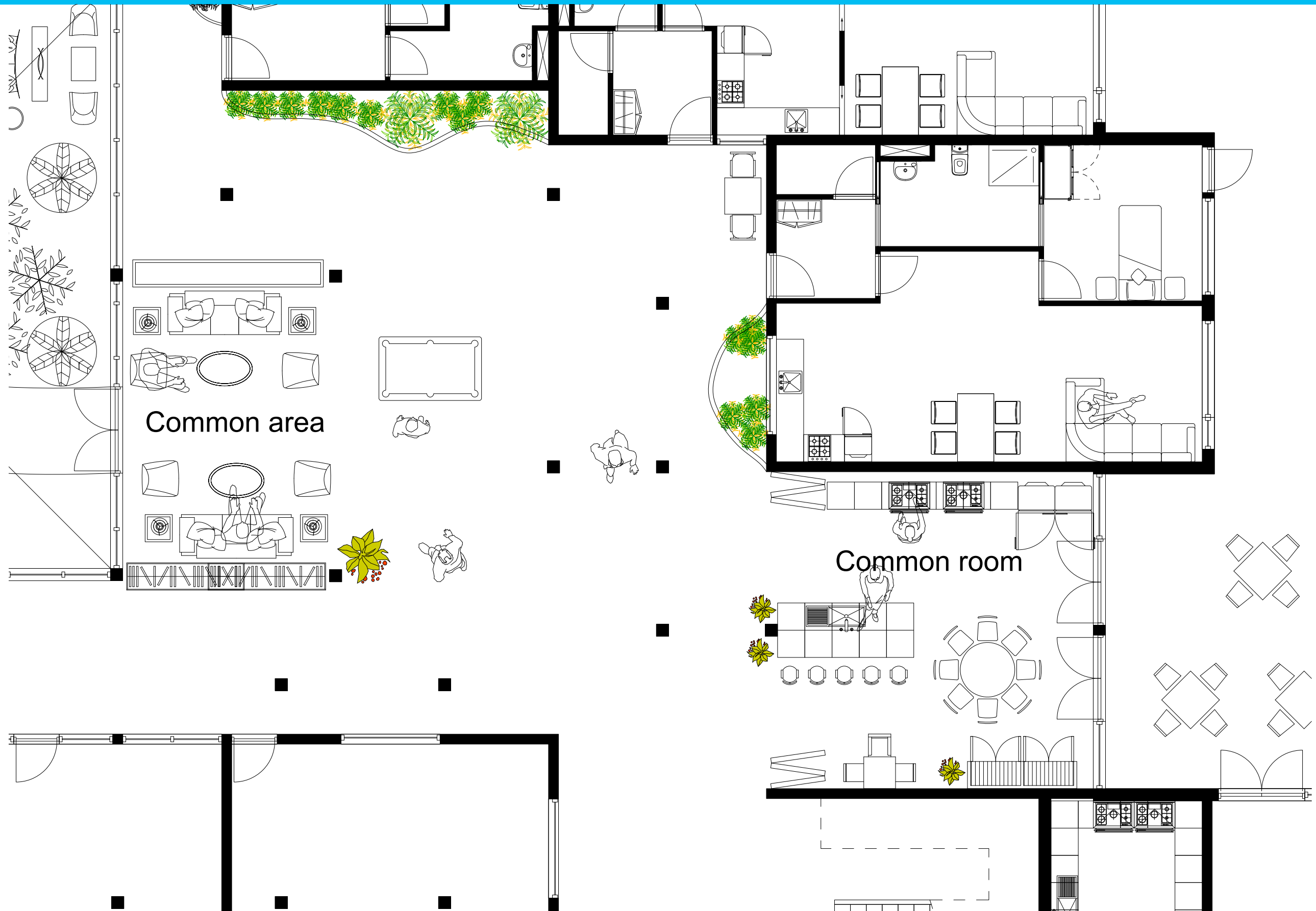
Floorplan fragment



Ground floor
1:500

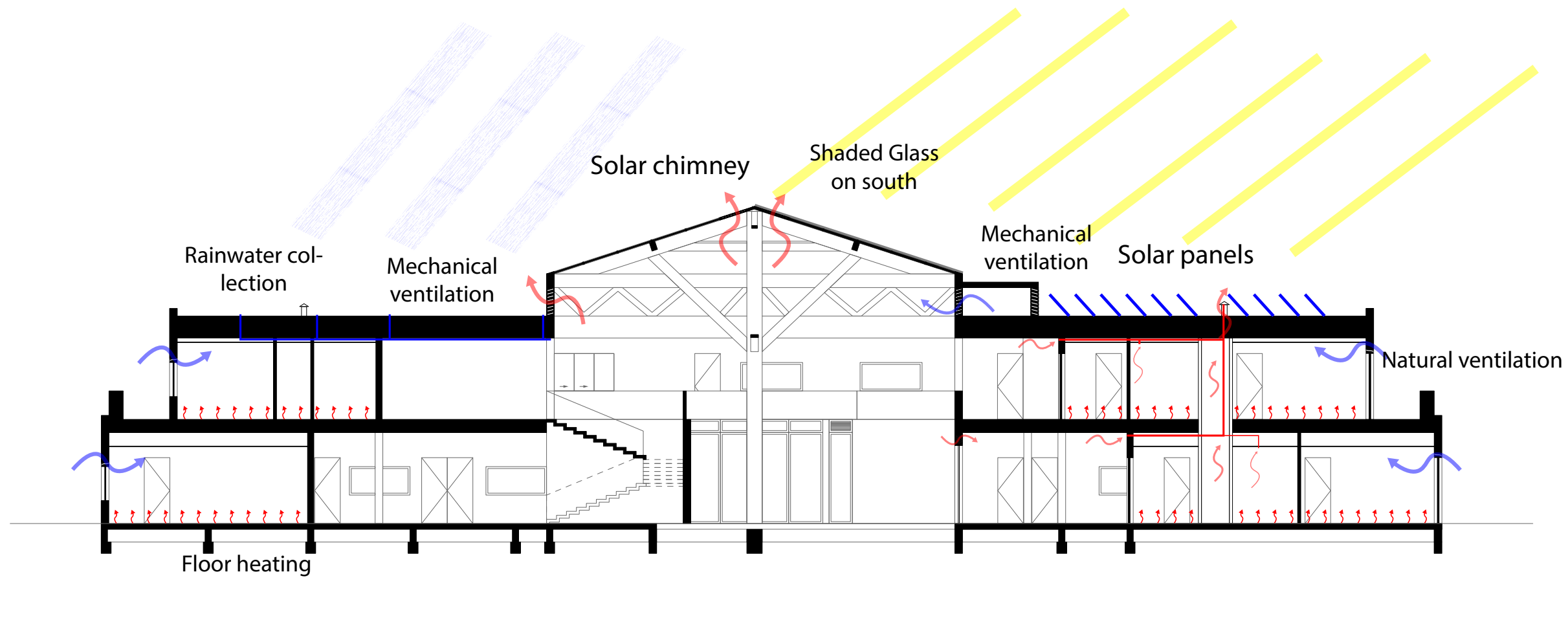
Co-housing courtyards Tanthof: Design

Floorplan fragment



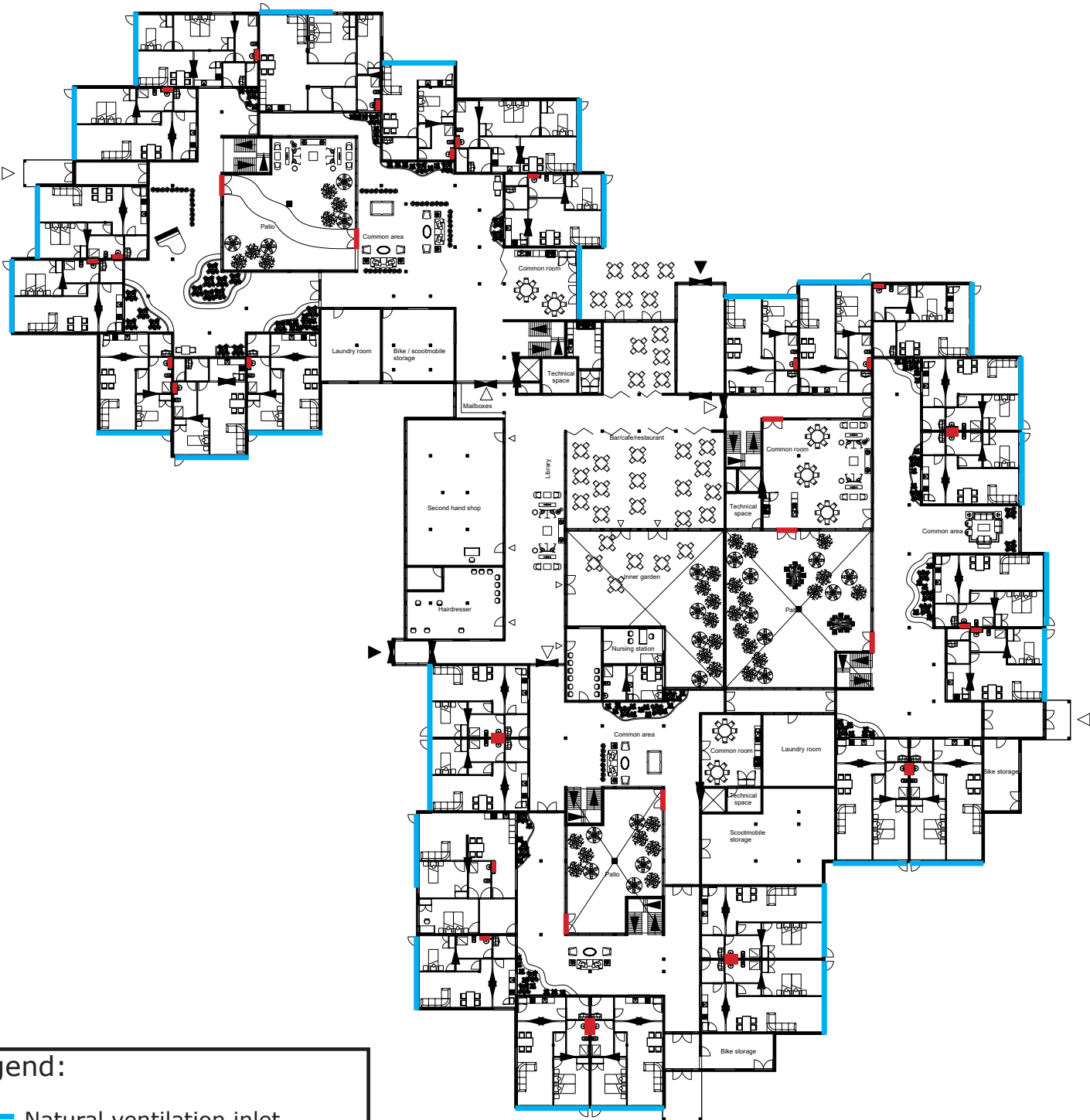
Co-housing courtyards Tanthof: Design

Sections climate concept

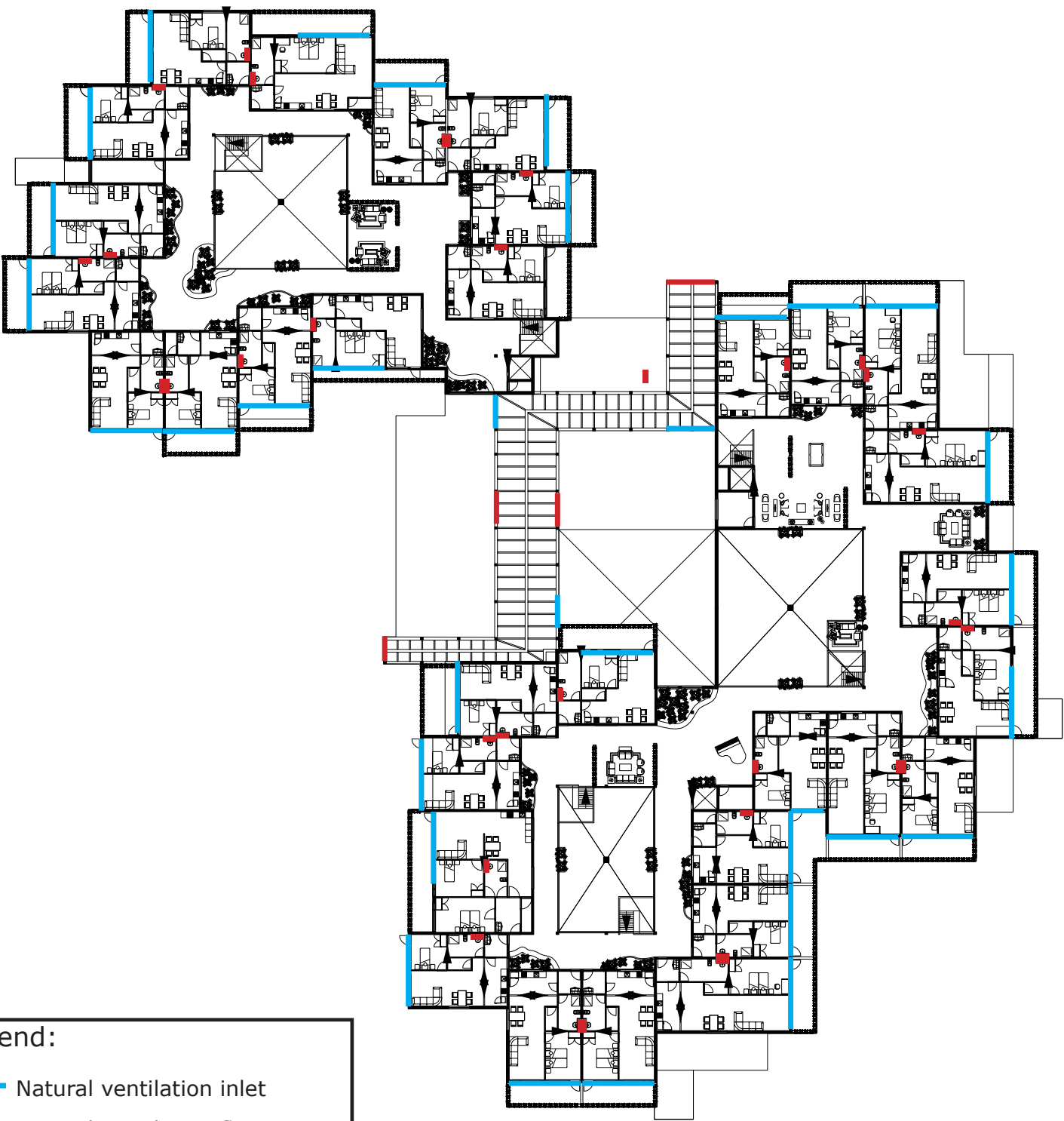


Co-housing courtyards Tanthof: Design

Climate design ventilation



Ground floor
1:500



First floor
1:500

Legend:

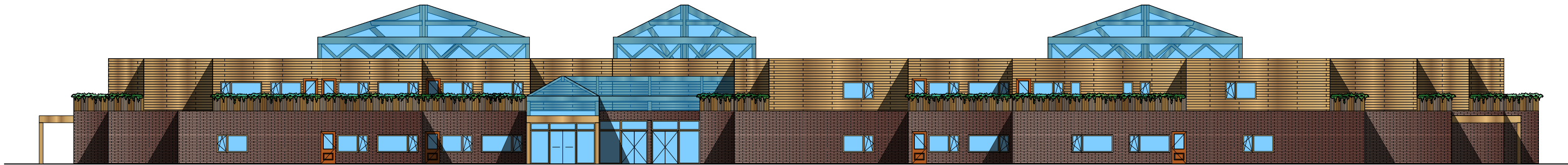
- Natural ventilation inlet
- Natural ventilation flow
- Vertical ventilation shaft
- Technical space

Legend:

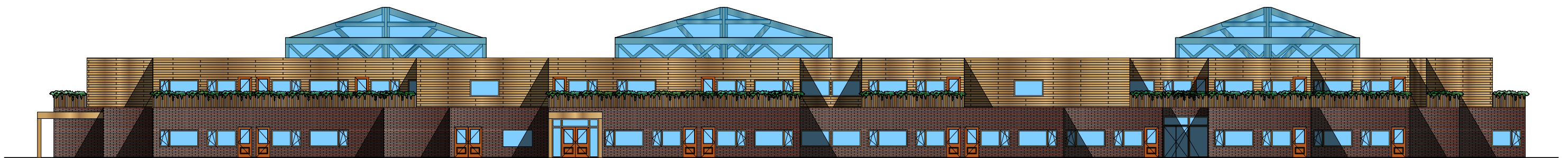
- Natural ventilation inlet
- Natural ventilation flow
- Vertical ventilation shaft
- Technical space

Co-housing courtyards Tanthof: Design

Facades



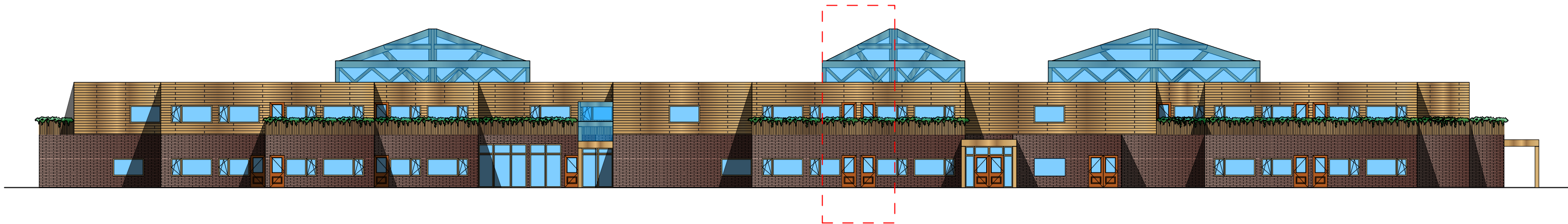
North elevation



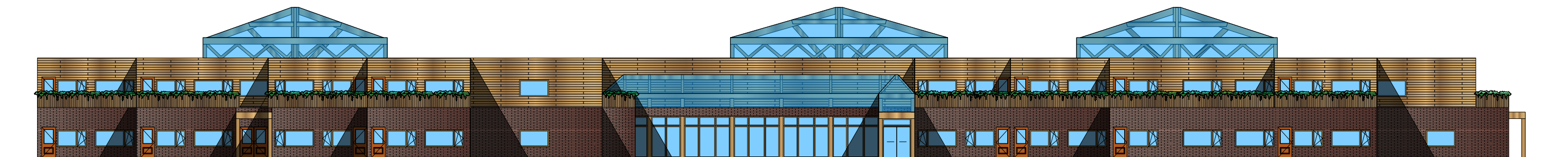
East elevation

Co-housing courtyards Tanthof: Design

Facades



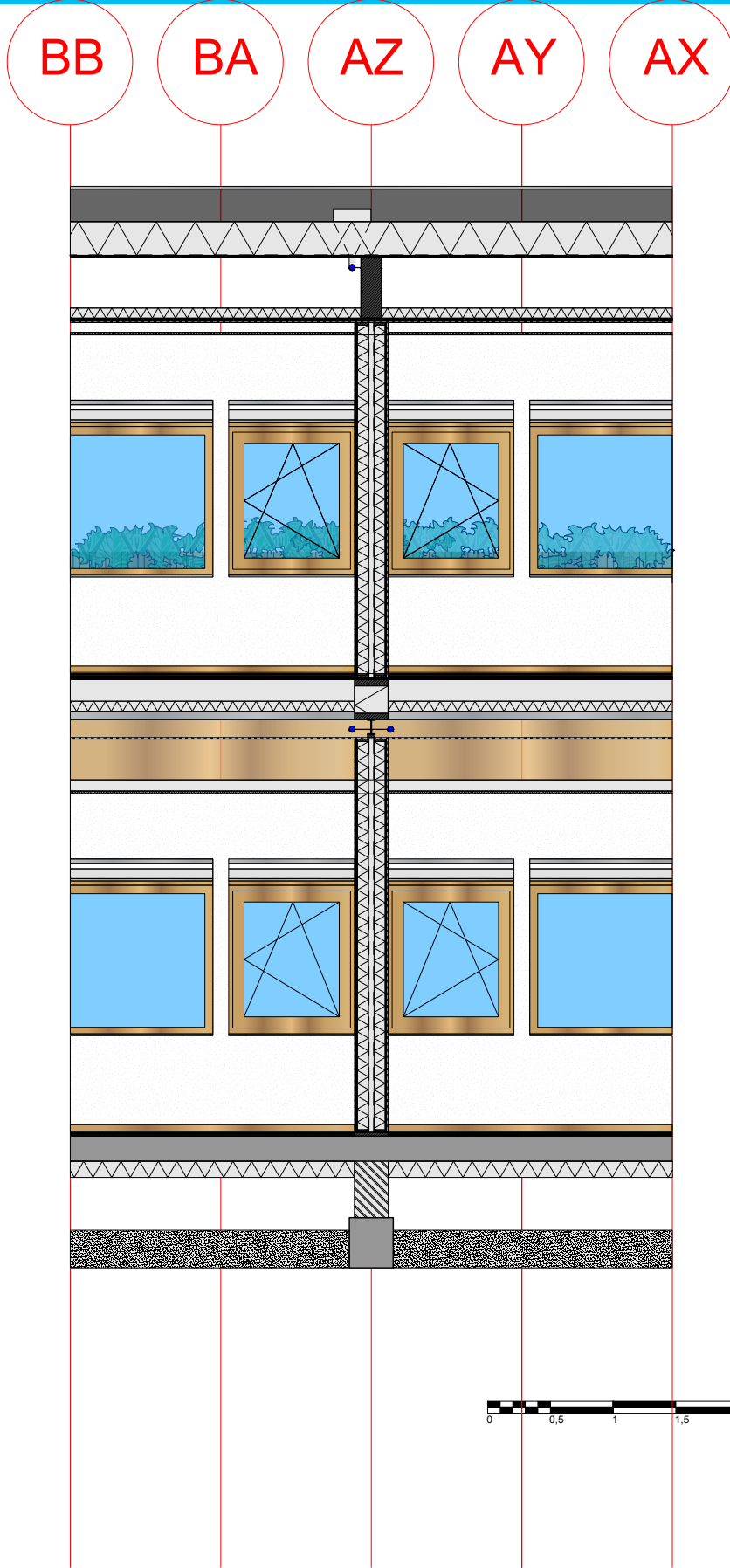
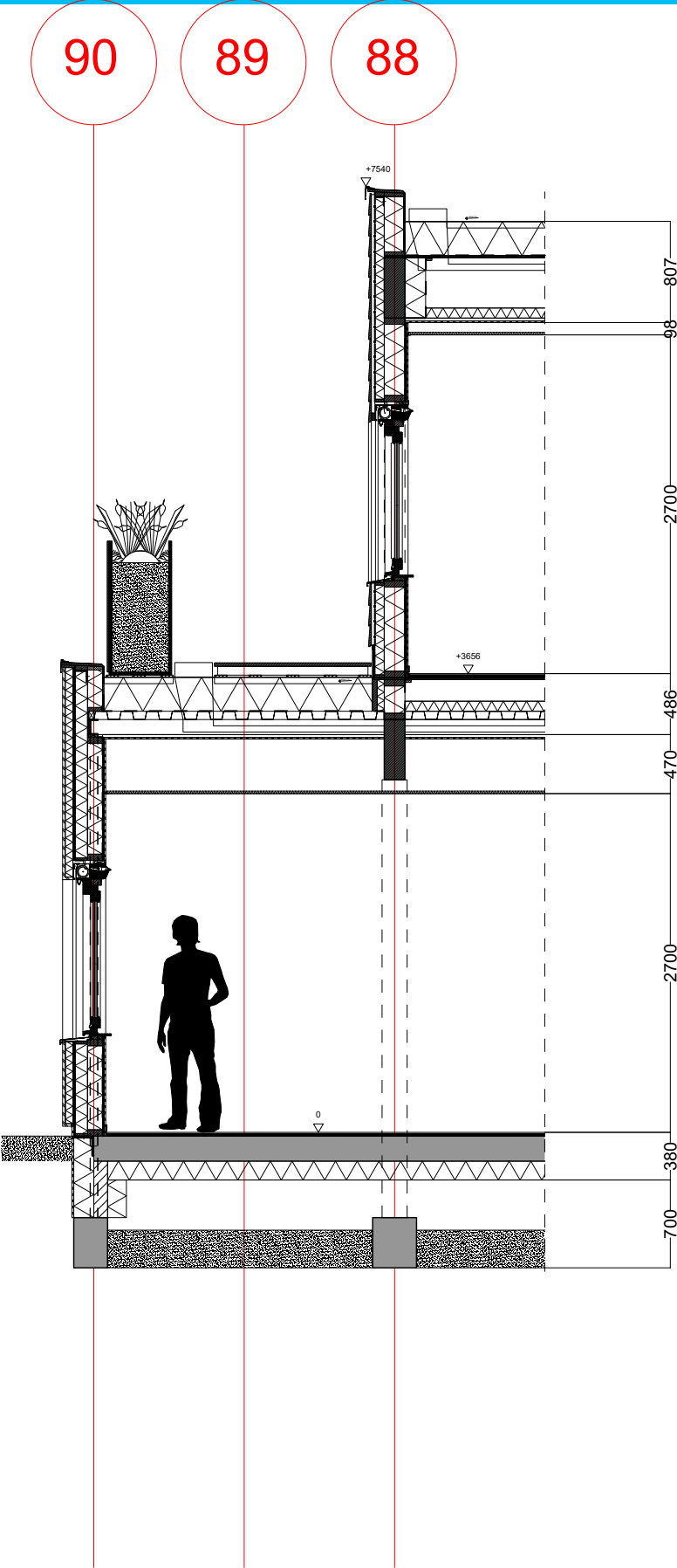
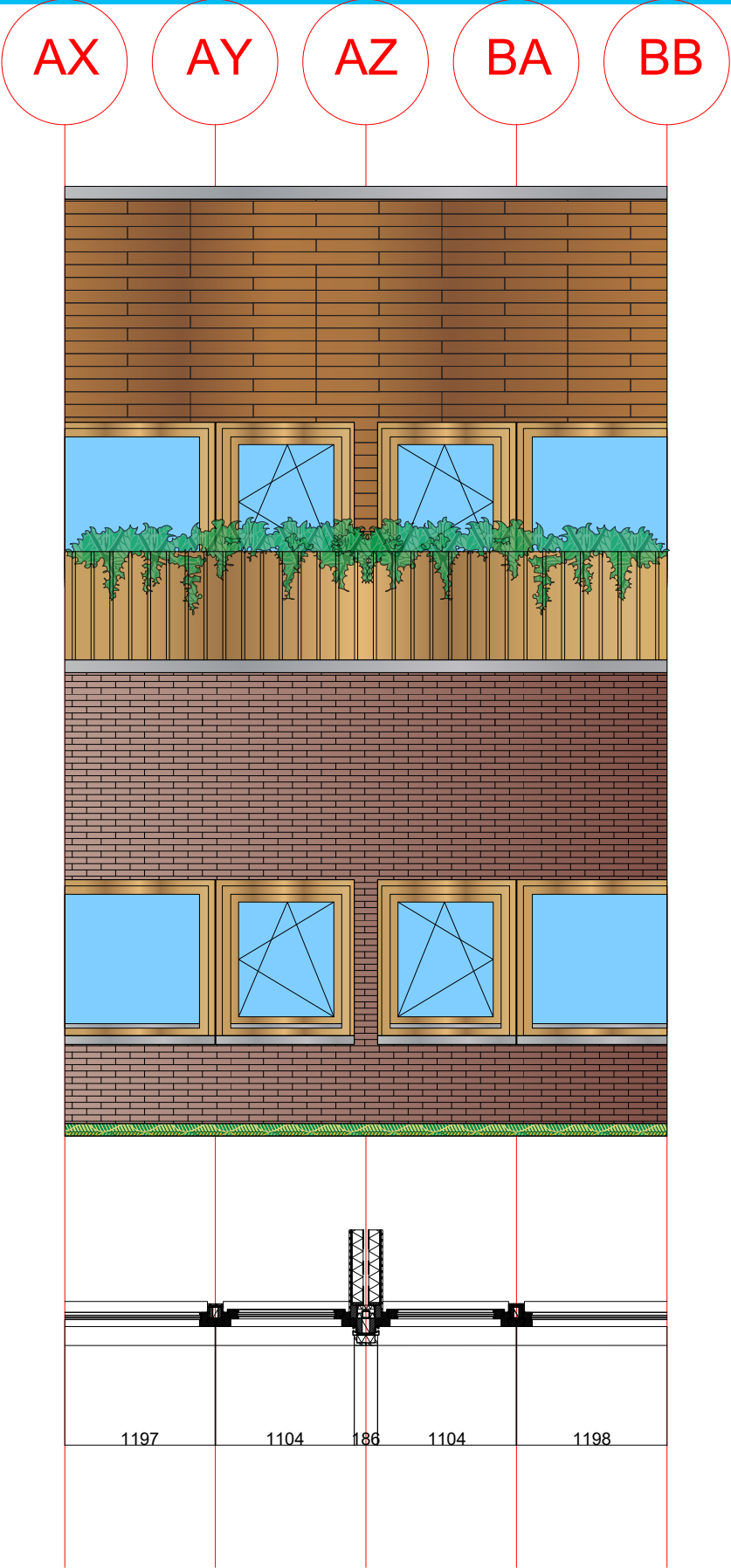
South elevation



West elevation

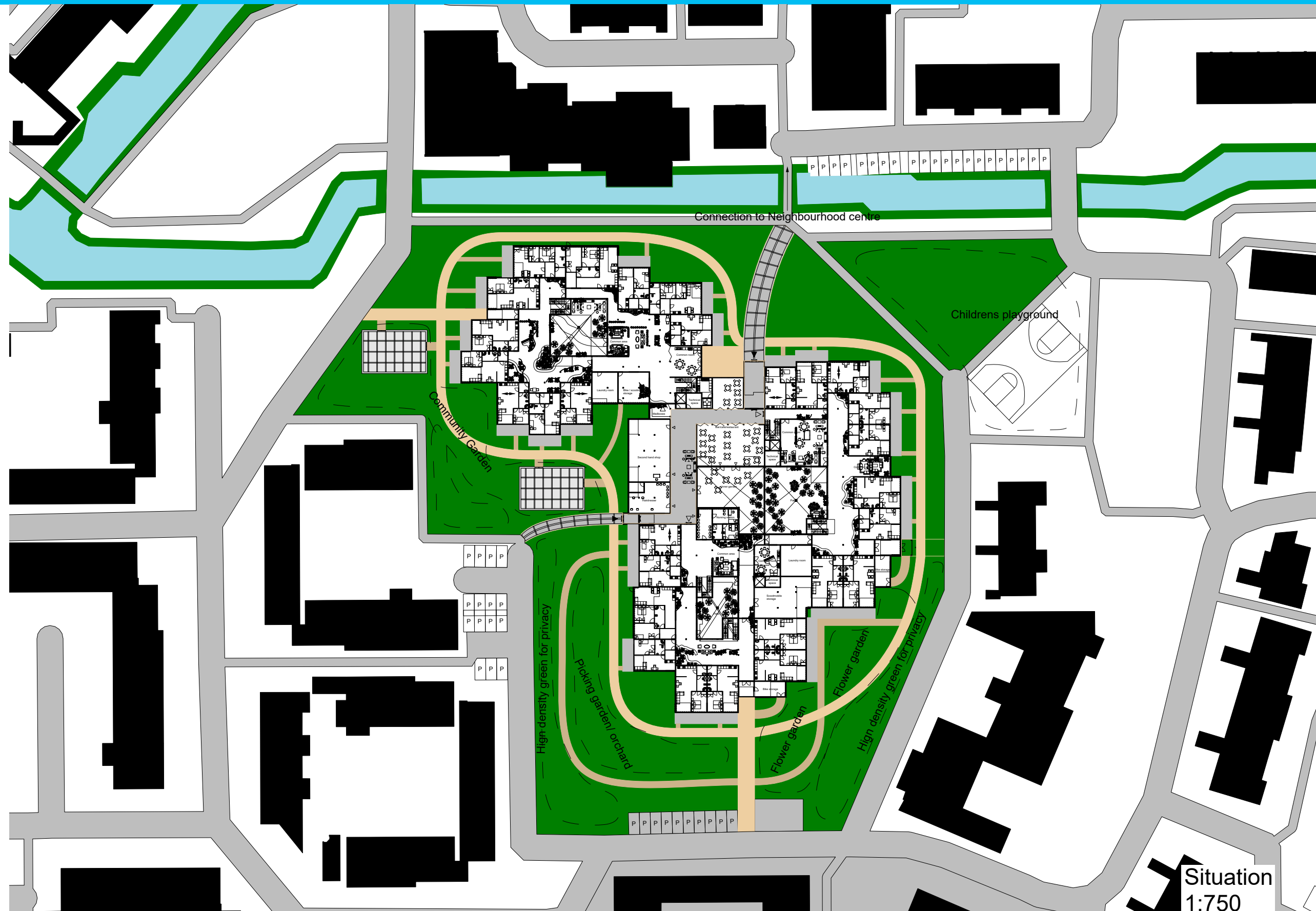
Co-housing courtyards Tanthof: Design

Evlevation Facade fragment



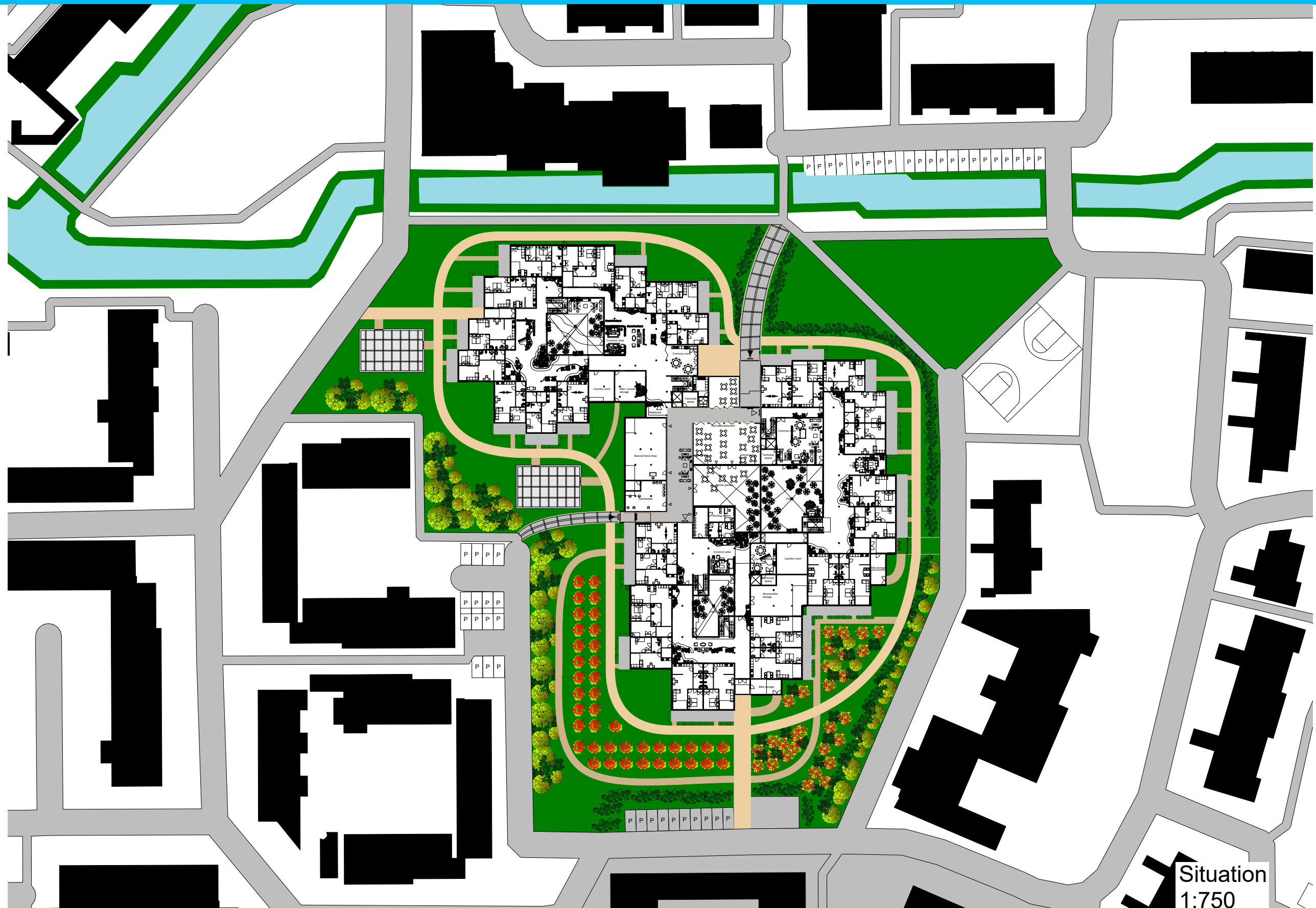
Co-housing courtyards Tanthof: Design

Garden Design



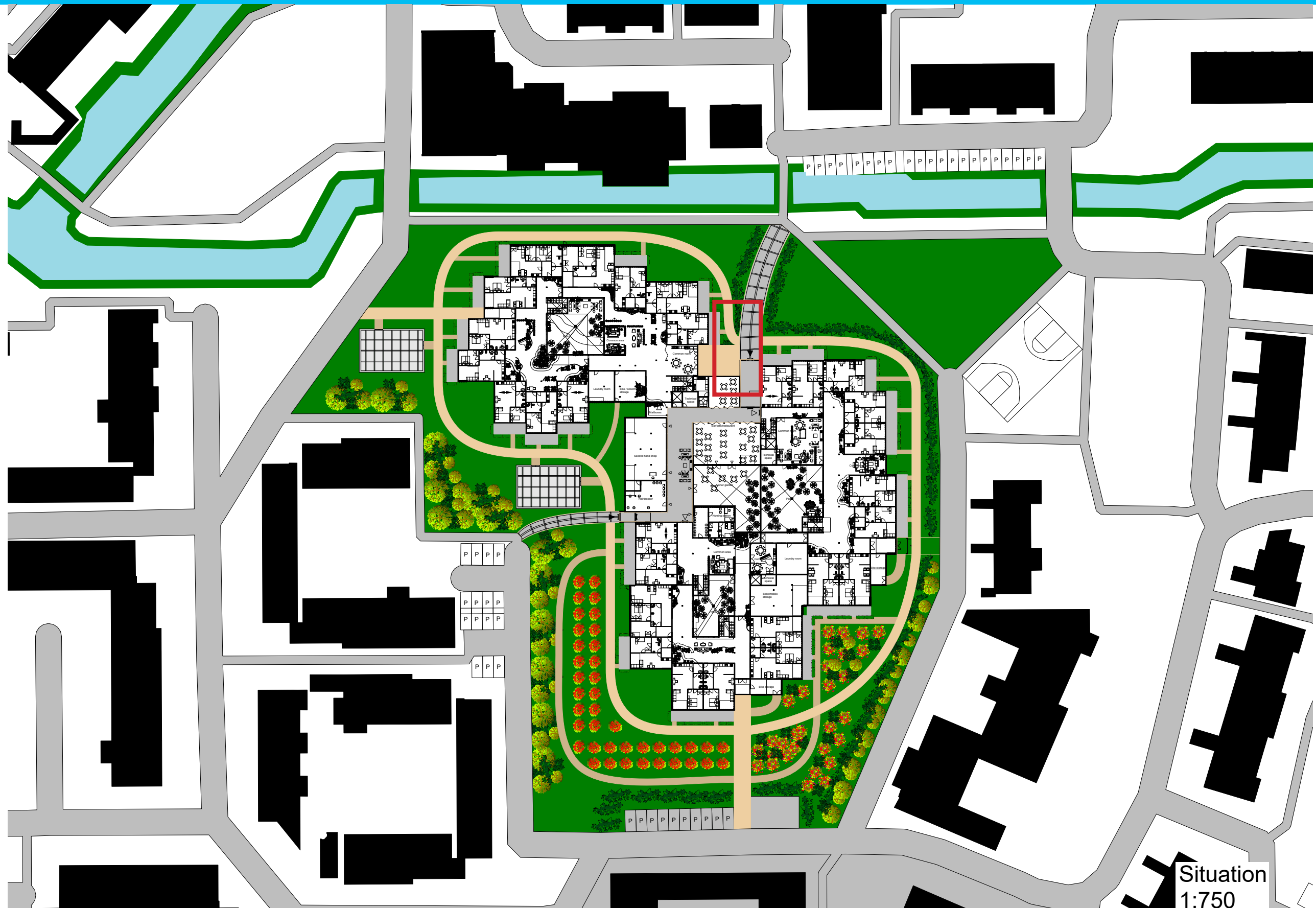
Co-housing courtyards Tanthof: Design

Garden design



Co-housing courtyards Tanthof: Design

Garden design



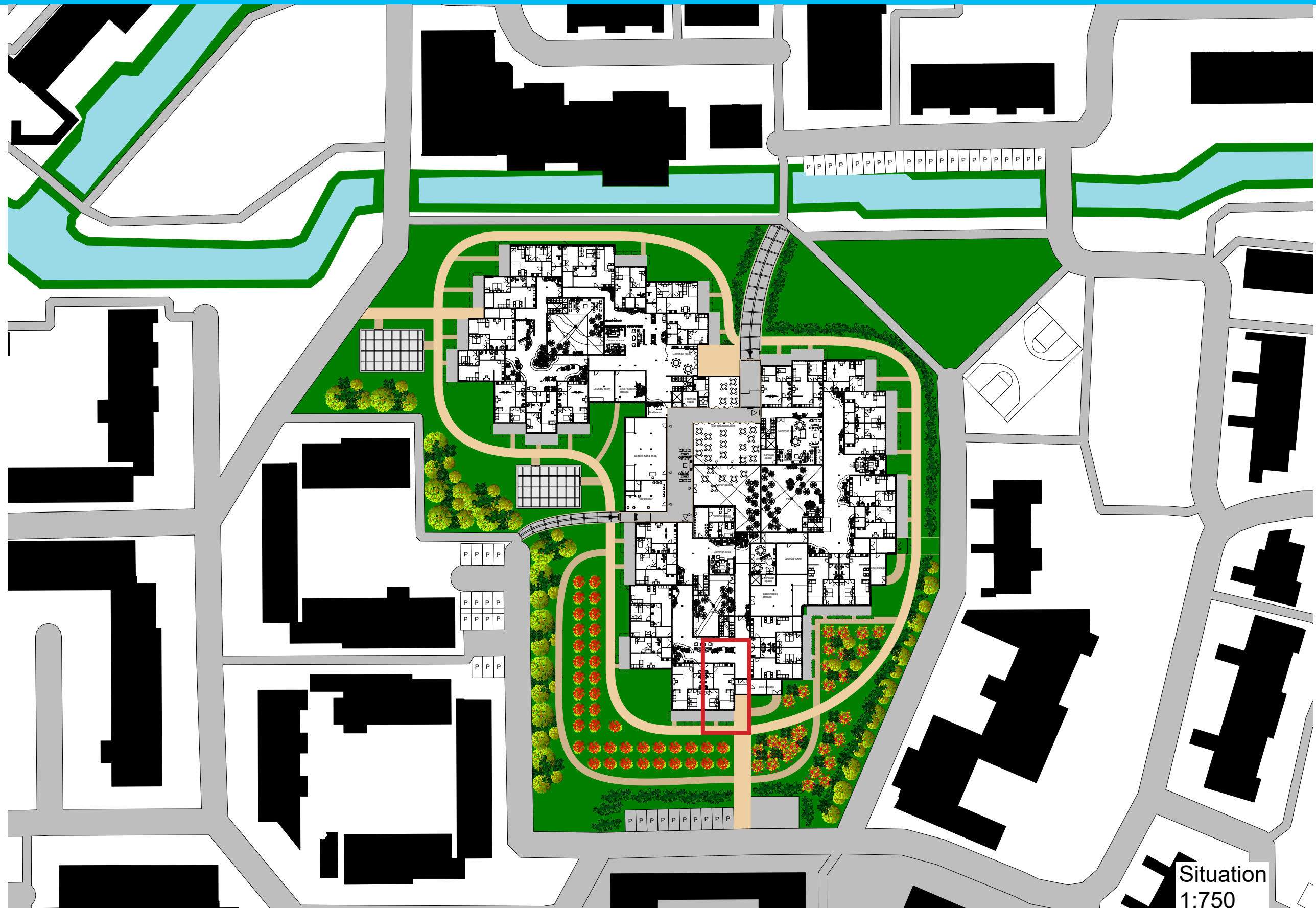
Co-housing courtyards Tanthof: Design

Garden design



Co-housing courtyards Tanthof: Design

Garden design



Co-housing courtyards Tanthof: Design

Garden design



Co-housing courtyards Tanthof: Design

Garden design



Tanthof Co-housing Courtyards
Thank you!