



# FAMILY MATTERS

Johan van den Boom | Final presentation

Essay | Logbook

# ESSAY

Meet family Matters,

Family Matters is a family living in Eindhoven. Eric, a 39 year old technical engineer and Suzan, a 35 year old freelance designer, both grew up in Eindhoven and have built their network of friends here. They love this city but with their second child on the way they are now forced to move from their apartment. There was nothing in Eindhoven that met their demands, until they were introduced to SPARK...

## INTRODUCTION

In the changing city landscape one of the most important demands to be met is the increasing desire of families to keep living in the city. Previously whenever they had children families would move out to the suburbs, but the city is becoming more and more attractive. It is the place where things happen and where all your friends live. However the city may not necessarily provide for the changing needs of families.

The most common typology for families is the terraced house. This typology has qualities such as providing storage space and a garden. There are several reasons though why it is not efficient anymore to keep building terraced houses. These take up a lot of space and therefore don't contribute to the densification of cities. It is also expensive to build them, so terraced housing would only be accessible to higher income groups.

New forms of housing must be designed to create space for an increasing amount of families to live in cities. SPARK is an answer to this question. It is a housing complex for approximately 100 family households where minimal space is owned and space is shared with other families. The benefit of sharing space is that this creates the extra space needed for family life.

SPARK is designed according to the concept of gradations. Analysis of the suburbs has shown that there is a smooth gradation between private and public in the space where family life takes place. In the city this is a stark contrast; you exit your apartment and immediately enter a crowded world. Gradations are necessary to create the social environment that family life requires as they will be more dependent on each other.

Parents should be able to enjoy the benefits of helping each other out and children have the need to interact and play. Families are a good target group as it's required that there's catered for a healthy social environment which will enrich city life.

## LIVING IN SPARK

A typical housing unit in SPARK is 80m<sup>2</sup> and consists of only the basic functions; a bathroom, toilet, pantry, storage room and two small bedrooms. These are primary functions. All secondary functions such as a living room and a kitchen are shared with other residents. A study of the reference project: 'Mehr als Wohnen' by Duplex Architects in Zurich, has proven that it is possible to live this way. In 'Mehr als Wohnen', a typical apartment is 45 m<sup>2</sup> and four apartments share one living room and one kitchen.

Interviews with 15 different families showed that these families all have a similar routine in common when it comes to time management. Due to the schedule of their children and their own work, they are more attached to a '9 to 5' mentality, meaning that during the day lots of space inside SPARK is vacant. Therefore these spaces can have double functions. A kitchen can be a place to work during the day or a children's playroom can be a living room for parents at night.

These interviews also revealed the desire for very large hallways. It's a great space for children to play indoors and can also be used as a storage room for the families.



## ESSAY

The benefit of sharing a living space with other families is that you can also share/ reuse all sorts of stuff such as books, baby clothes or toys.

### THE ENSEMBLY OF SPARK

SPARK is located on the old VDMA terrain in Eindhoven. The existing ensemble consists of three buildings: the 'VDMA-garage', the 'Lucifer fabriek' and the 'Zusterflat'. The additional value of this ensemble is that the compositions of the three buildings form an inner world which offers a safe family environment. The 'Sargfabrik' in Vienna by BKK-3 Architecture is a reference project of similar size also designed as an inner world inside a city block, housing approximately 300 families.

The face of the ensemble is the 'Zusterflat'. This building was built in 1958 after the original building was destroyed during war. At the time the building was built to house nurses and also contained a car showroom in the plinth which was owned by 'van der Meulen-Ansems', just like the rest of the ensemble. The building stands on two legs, forming a gate to the complex. The 'Zusterflat' together with the 'Lucifer fabriek' and 'VDMA-garage' are situated around an inner courtyard.

The 'Luciferfabriek' built in 1890 was transformed by 'van der Meulen-Ansems' in 1921 into an assembly line for the production of cars. Its monumental quality lies in the shell that is wrapped around an iron construction giving the building its spatial quality and can easily be used as a half-climate.

The VDMA-garage was built in 1929. This build does not have a lot of potential for transformation. It's a flat box taking up a lot of space and as a result hinders densification of the area. Therefore the decision was made to demolish the VDMA-garage and build a new building.

This new building is designed as a 3-dimensional grid that connects to the 'Lucifer fabriek' and the 'Zusterflat' by an interior route. This way the ensemble is not three separate buildings but one building housing several neighbourhoods.

### THE PROGRAM OF SPARK

The benefit of living in SPARK is to have access to all sorts of extra facilities. As stated before, the residents will share the kitchen and living room. The complex also facilitates a restaurant, a kindergarten, a design and technology lab and joker dwellings.

The restaurant is 'one menu for all'. The busy schedules of parents often make it impossible to cook a decent meal. In the restaurant you can eat a decent meal for a good price. The restaurant also allows diners from outside of SPARK stimulating a balanced interaction between people.

The kindergarten makes the lives of Spark's residents much easier. It's a place where they can drop off their children before work without having to all across town. Children love it because they can play with the children from in- and outside the complex.

There is a design and technology lab in the SPARK complex. Design and technology are the primary functions that put Eindhoven on the map. Through collaboration with the Technical University and the Design Academy Eindhoven, programs can be run reflecting the innovating city that Eindhoven is. Think of expeditions, technological experiments, interactive workshops to create a live and learn environment for residents and the city.



# ESSAY

## SPARK'S ADDITIONAL VALUE

SPARK is an addition to Eindhoven. It adds value on several different levels. On a social level it adds value by creating housing for a target group that struggles to find living space in cities. The addition of this target group means functions are also added to the city. In this case a kindergarden, a restaurant, a design and technology lab and a number of city squares.

Plus, families as a target group can contribute to a healthy social and ecological environment in the city. They take extra care of their direct environment considering they have children to bring up. The children are also little connectors amongst people as children do not differentiate on ground of culture or background.

On spatial level SPARK breaks the hard boundary between city centre and the neighbourhood. SPARK functions as a soft gradation between city life and a world made for housing. Because SPARK is designed as an intra-world in the city, it can easily be encapsulated when Eindhoven expands and still function perfectly. And finally, on the level of sustainability SPARK adds water square to the city. It has become evident that rainfall is increasing on an almost monthly basis and that cities are having a hard time dealing with all this excess water. The basement of the 'Zusterflat' is used to store giant water tanks that collect rainwater. This water can be used for flushing toilets and will save 50% of washing machines' water usage. The water square makes the dynamic of water visible; it both adds to the level of experience and stimulates awareness.

## REFLECTING ON HISTORY

Of course living in a 'community like' way, where facilities are shared, is not a new concept. In the Netherlands there are several examples of these kinds of social housing experiments. In architecture in the sixties opposition grew towards Modernism and Urbanism. Structuralism was an answer to this. The design outcomes were the design of geometrical forms and structures of small entities related to the human scale. The Structuralist movement wanted to combine the functions separated by 'Functionalism' and integrate life, work, recreation and social interaction in liveable housing forms.

In 1971 the cooperation 'Centraal Wonen' was set up. Its goal was to realise housing projects where different sized households were brought together in communities so that facilities could be shared. For example day care, creating the possibility for women to have their hands free and take part in society.

Keeping in mind the point of departure of structuralism, its ideas are quite relevant again today. It is founded on densification, social cohesion, participation or adaptability and flexibility of the housing market. Personally, I believe it is the building form of structuralism that is outdated. The scale of a building form doesn't necessarily need to be made of small entities and may not even have to be linked to the human scale. It should be adaptable for people to make it their own in order to live in it.

Therefore the references used for SPARK are projects in Germany, Switzerland and Austria. Our Eastern neighbours are one step ahead in realizing community-based housing projects. In these countries, tenants function as co-financiers of cooperation and the cooperation is the owner of a plot. Instead of buying a house, you buy a share of the plot. This way the cooperations manage to keep the prices low and tenants are fully in control of how they want to live. Together with an architect they can design a building or complex that fulfils their needs and houses everyday life functions.



# ESSAY

## LITERATURE LIST

- Fujimoto, S. (2008). Sou Fujimoto: Primitive Future. Tokyo. LIXIL Publishing
- Van Klingeren, F. (2003). Hinder en ontklontering, Architectuur en maatschappij in het werk van Frank van Klingeren. Rotterdam. Uitgeverij 010
- A+T Research group. (2015). Why density? Debunking the myth of the cubic watermelon. Vitoria-Gasteiz. A+T architecture publishers
- Woonlab (2017). Eengezinsappartement: een gesprek tussen stadmakers. Gestapeld wonen voor gezinnen in de stad? Rotterdam. Veenman+
- Prof. Schroeder, U. (1979). Variabel nutzbare Häuser und Wohnungen. Berlin. Bauverlag GmbH
- Van der Pennen, T. (2016). Bouwstenen uit de recente geschiedenis van de stedelijke ontwikkeling. Amsterdam. IOS Press BV
- Philips, D. Yamashita, Megumi. (2012). Detail in contemporary concrete architecture. London. Laurence King Publishing Ltd.
- El qroquis. (2012). RCR Arquitectes, poetic abstraction. Madrid. El Escorial
- Camp, P. (2017). Wonen in de 21ste eeuw. Naar een hedendaags utopia. Den Haag. Acco Nederland
- Unicef. Interactive map of urbanization. Retrieved from: <https://www.nrc.nl/nieuws/2012/02/28/in-2050-woont-70-procent-van-de-mensen-in-de-stad-a1447273>
- VPRO. Tegenlicht, City for sale. Retrieved from: <https://www.vpro.nl/programmas/tegenlicht/kijk/afleveringen/2017-2018/city-for-sale.html>
- Planbureau voor de leefomgeving. PBL. Regionale bevolkingsgroei. Retrieved from: <http://www.pbl.nl/themasites/regionale-bevolkingsprognose>
- Centraal bureau voor de statistiek. CBS. Veel jonge gezinnen verlaten de stad. Retrieved from: <https://www.cbs.nl/nl-nl/nieuws/2017/45/veel-jonge-gezinnen-verlaten-de-grote-stad>





LOGBOOK

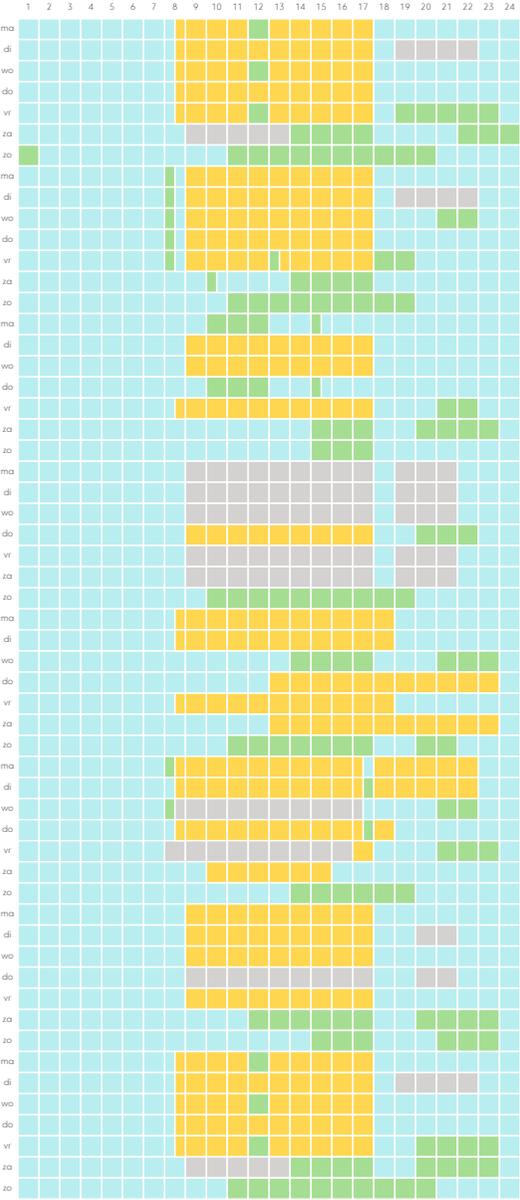


Starting position for the project :

People demonstrating that social housing is disappearing in the city of Amsterdam because housing is getting to expensive.



# RESEARCH



- at home
- at work
- work at home
- leisure/sports

## Spatial

-  private garden
-  collective outside space
-  collective playroom
-  pantry
-  royal entry
-  livingstreet/square
-  peace/privacy
-  central meeting space
-  solidarity
-  scale

## Organizational

-  storage space
-  daycare
-  extra room
-  laundry
-  car sharing/parking
-  parking

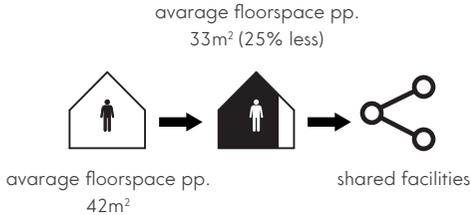
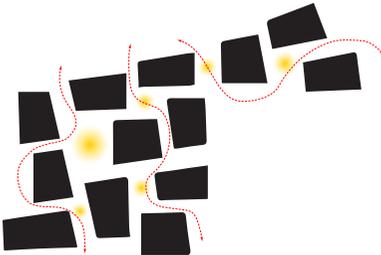
## Contextual

-  action radius
-  connectivity
-  safe neighborhood

the outcome of interviews with families  
graphically displayed



CONCEPT



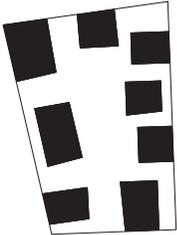
'4-ROOM APARTMENT COST E2000,- PM. 70% LESS OF THE AVERAGE PRICE IN ZURICH'.



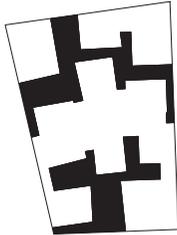
FLOORPLAN LAYOUT



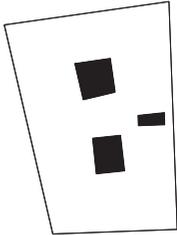
8 APARTMENTS PER FLOOR



COMMUNAL AREA



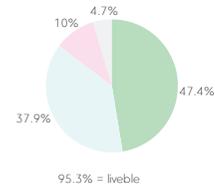
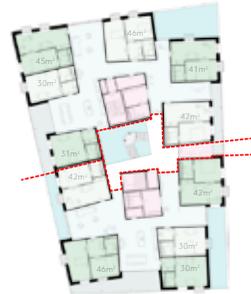
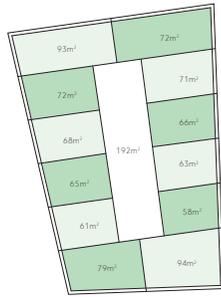
COMMUNAL SERVICES



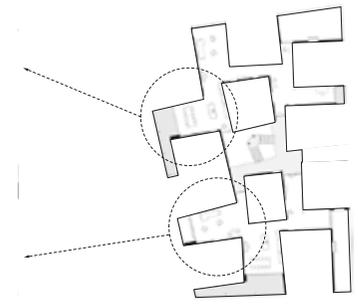
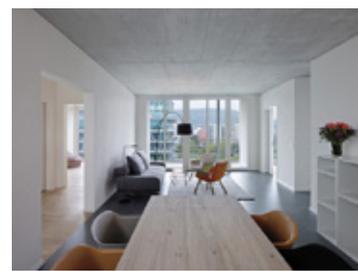
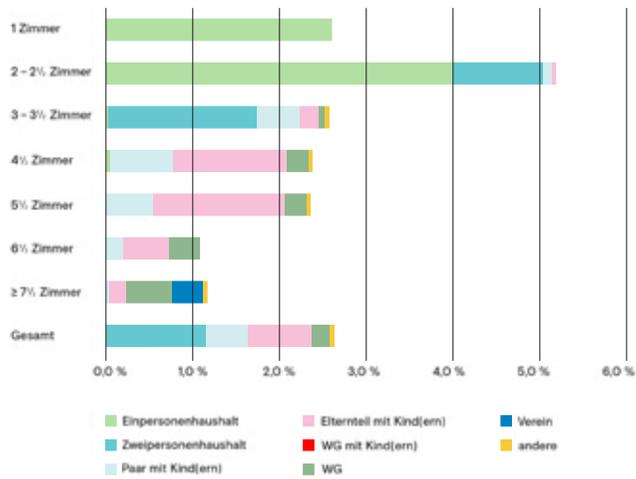
'Analysing Mehr als Wohnen', a shared housing project in Zurich by Duplex Architects



# RESEARCH

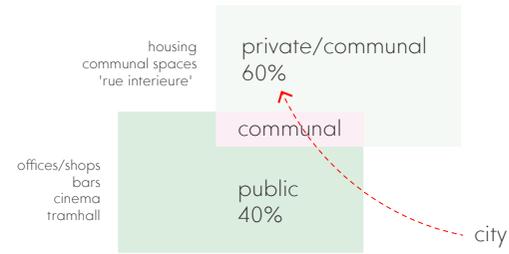


APARTMENTS:		facilities
1. 93 m2	1. 31 m2	90 m2
2. 72 m2	2. 30 m2	trafficspace
3. 66 m2	3. 45 m2	41 m2
4. 63 m2	4. 46 m2	
5. 58 m2	5. 41 m2	
6. 94 m2	6. 42 m2	Netto area calculation
7. 79 m2	7. 46 m2	tot. 896 m2
8. 61 m2	8. 42 m2	
9. 65 m2	9. 42 m2	Gross area calculation
10. 68 m2	10. 30 m2	tot. 1140m2
11. 72 m2	11. 30 m2	
12. 93 m2		
tot. 884 m2	tot. 425 m2	
884/12=74 m2 per unit	communal space	
trafficspace (rest)	150+37=187 m2	
192 m2	124+29=153 m2	
78.3% is liveble	tot. 340 m2	95,3% is liveble

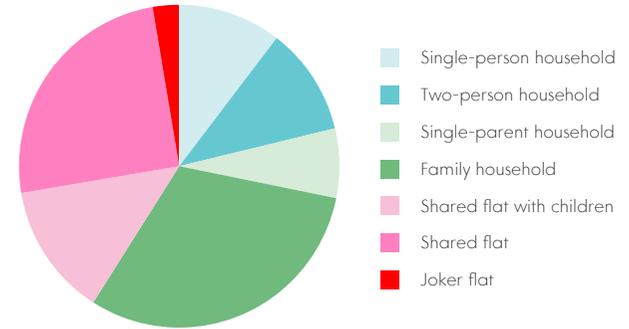


‘Analysing Mehr als Wohnen’, a shared housing project in Zurich by Duplex Architects

# RESEARCH



CONCEPT SCHEME, 2 WORLDS CONNECTING IN DE MIDDLE

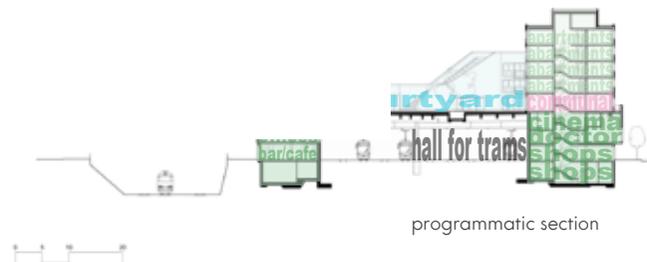


1. Exit
2. Childbirth clinic
3. Courtyard
4. Entrance hall / reception
5. Laundry room
6. Cafeteria
7. Conference room (flex)
8. Communal office
9. geust home
10. dinning/ livingroom large household
11. Dwellings large household

2nd floorplan, interaction between the courtyard and the building



view of the courtyard

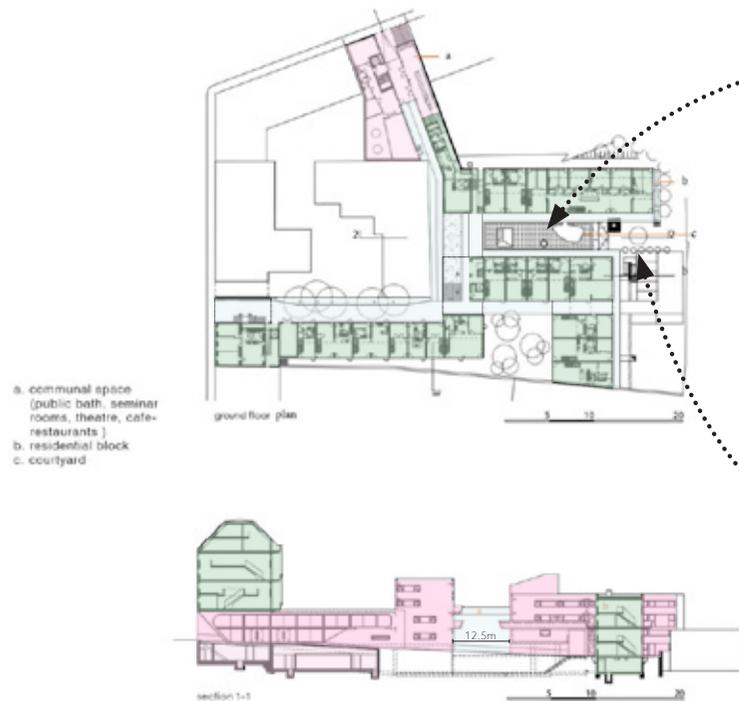


programmatic section

'Analysing Kalkbreite', a genossenschaft housing project in Zurich by Muller Sigrist Architects



# RESEARCH



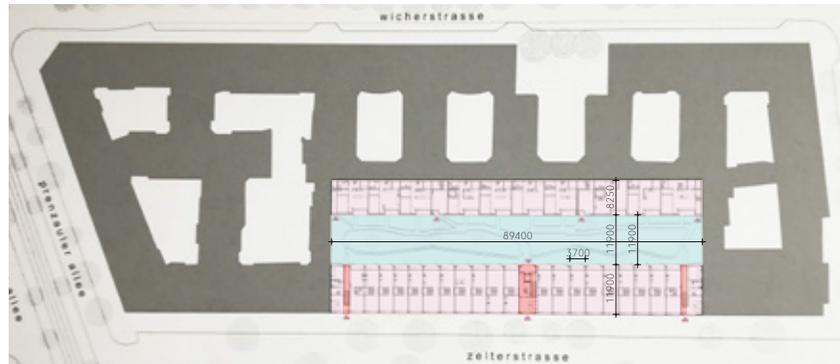
'THE BUILDING  
IS DEFINED AS A  
HOSTEL SO THAT  
MANY REGULATIONS  
APPLICABLE TO  
HOUSING DO NOT  
COUNT'.



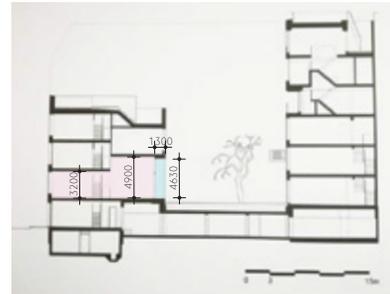
'Analysing Sargfabrik', a genossenschaft  
housing project in Vienna by BKK-3  
Architects



# RESEARCH



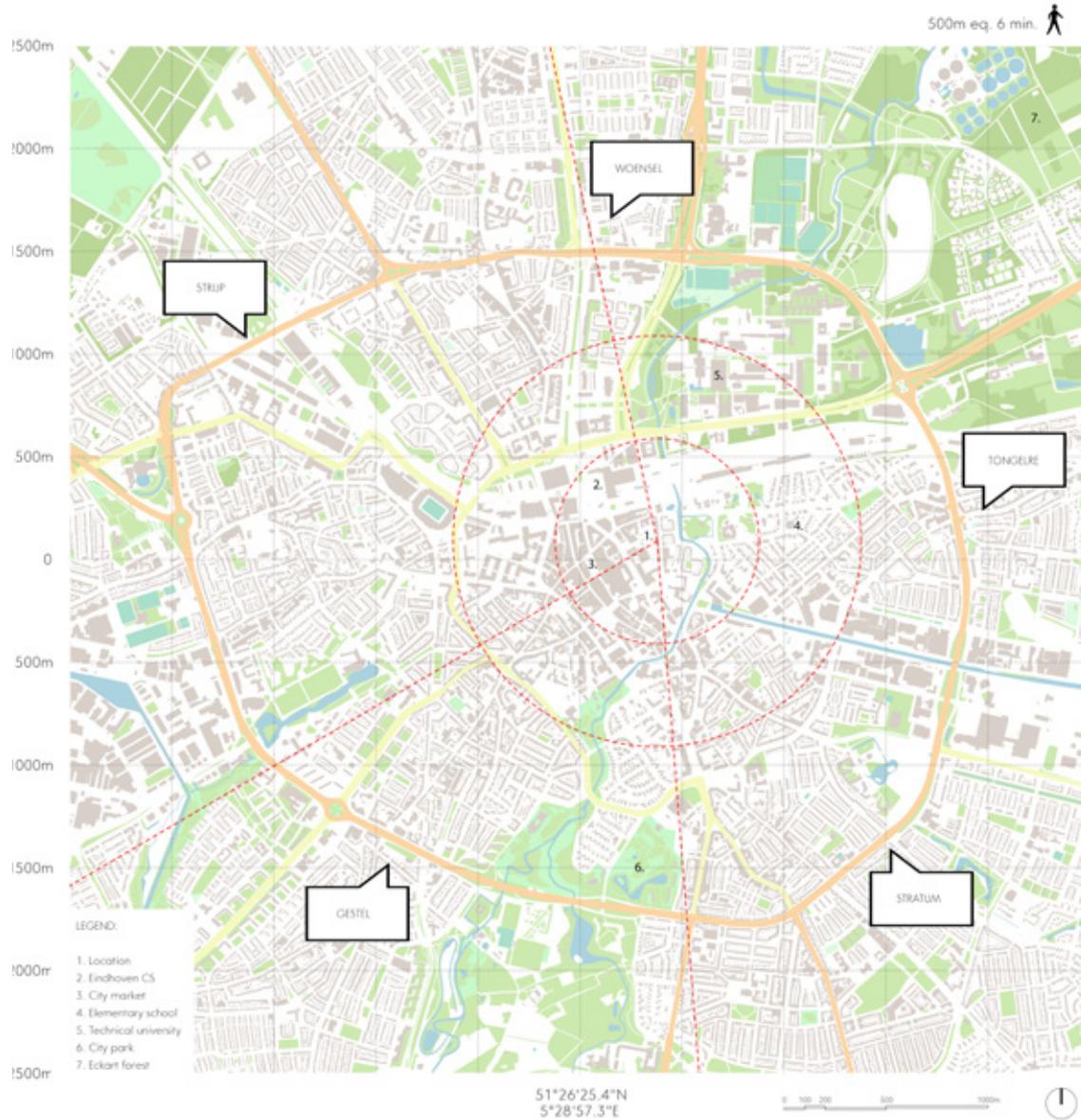
'THE QUALITY OF THE PROJECT LIES IN THE SUBTLE DETAILING OF THE CONNECTION BETWEEN PUBLIC, COLLECTIVE AND PRIVATE'.



'Analysing Zelterstrasse, a collective ownership housing project in Berlin by Zanderroth Architects'



# LOCATION



Vestdijk city boulevard



Tramstraat, village character

Map of the location in Eindhoven and the  
incapsulating between 2 worlds.



# LOCATION



Location studies



# LOCATION



Luciferfabriek, build in 1890  
source: Waardstellend bouwhistorisch onderzoek



VDMA garage, building in 1929  
source: Waardstellend bouwhistorisch onderzoek



Zusterflat, build in 1950  
source: Eindhoven in beeld

History of the  
existing buildings



# LOCATION



Villa Mignot en van de Block



Zusterflat left side



Zusterflat right side



Pullman hotel

Streetview images of  
the existing buildings



# LOCATION



Underneath and inside  
the complex



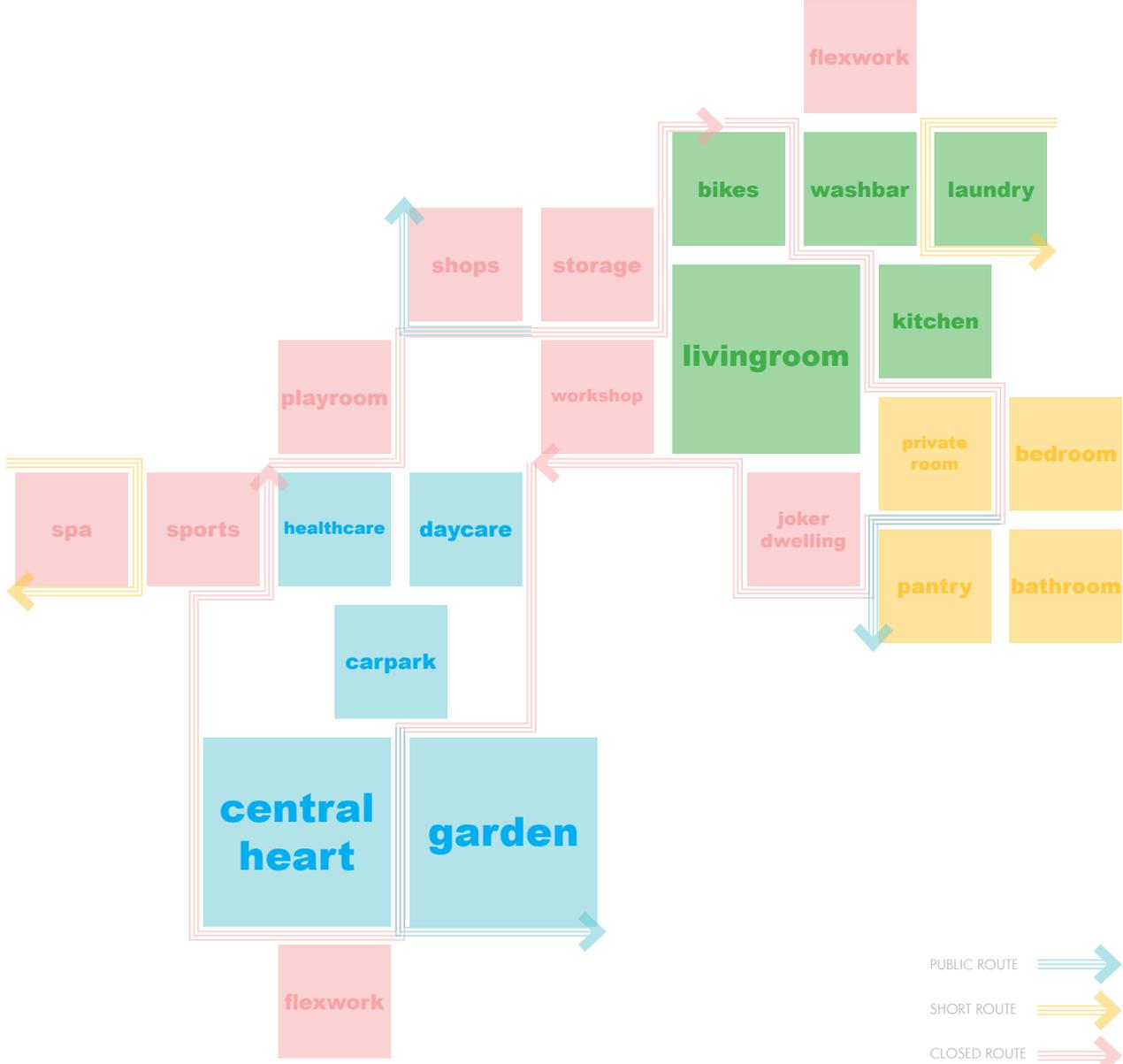
# LOCATION



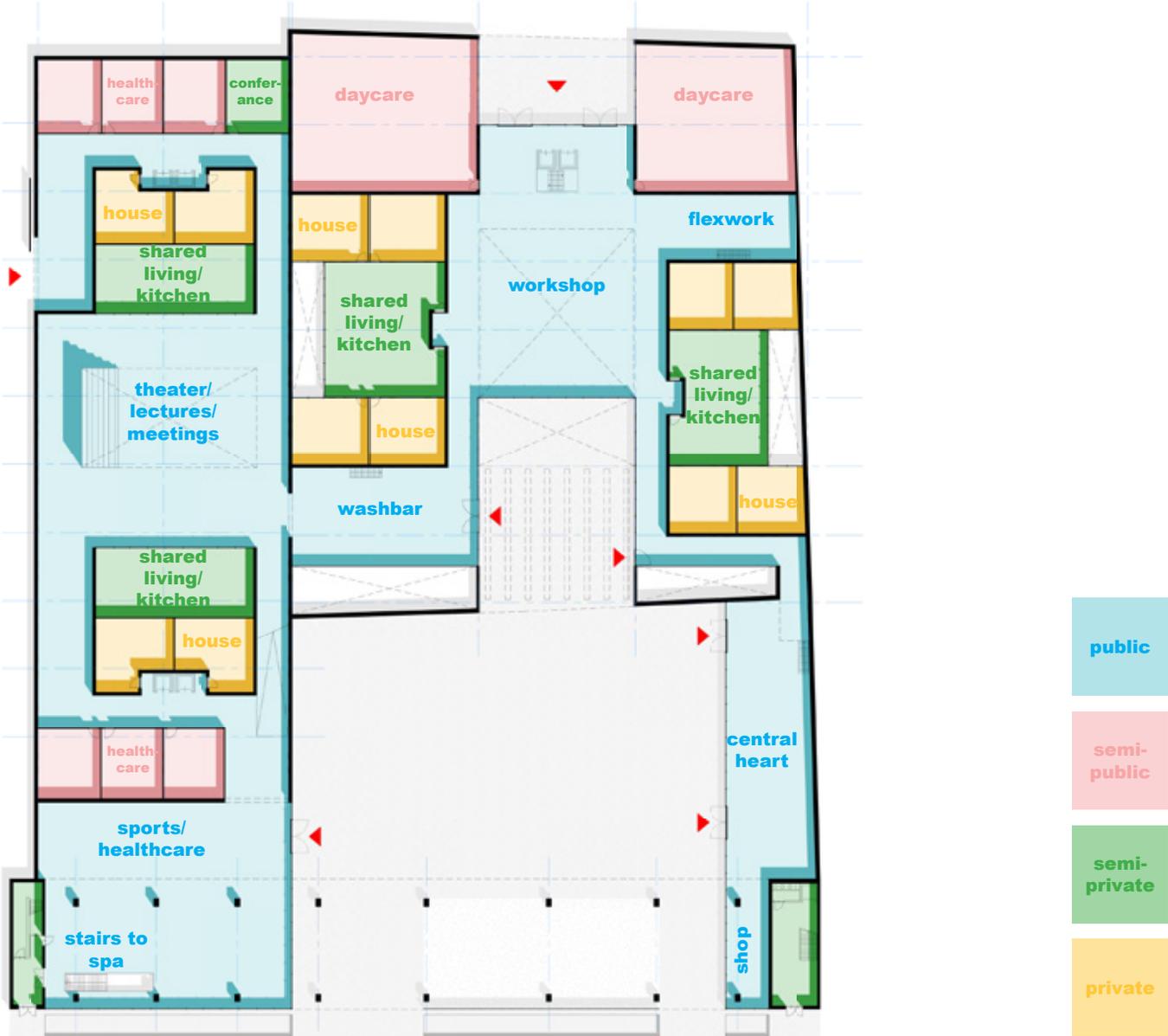
The old 'Luciferfabriek'



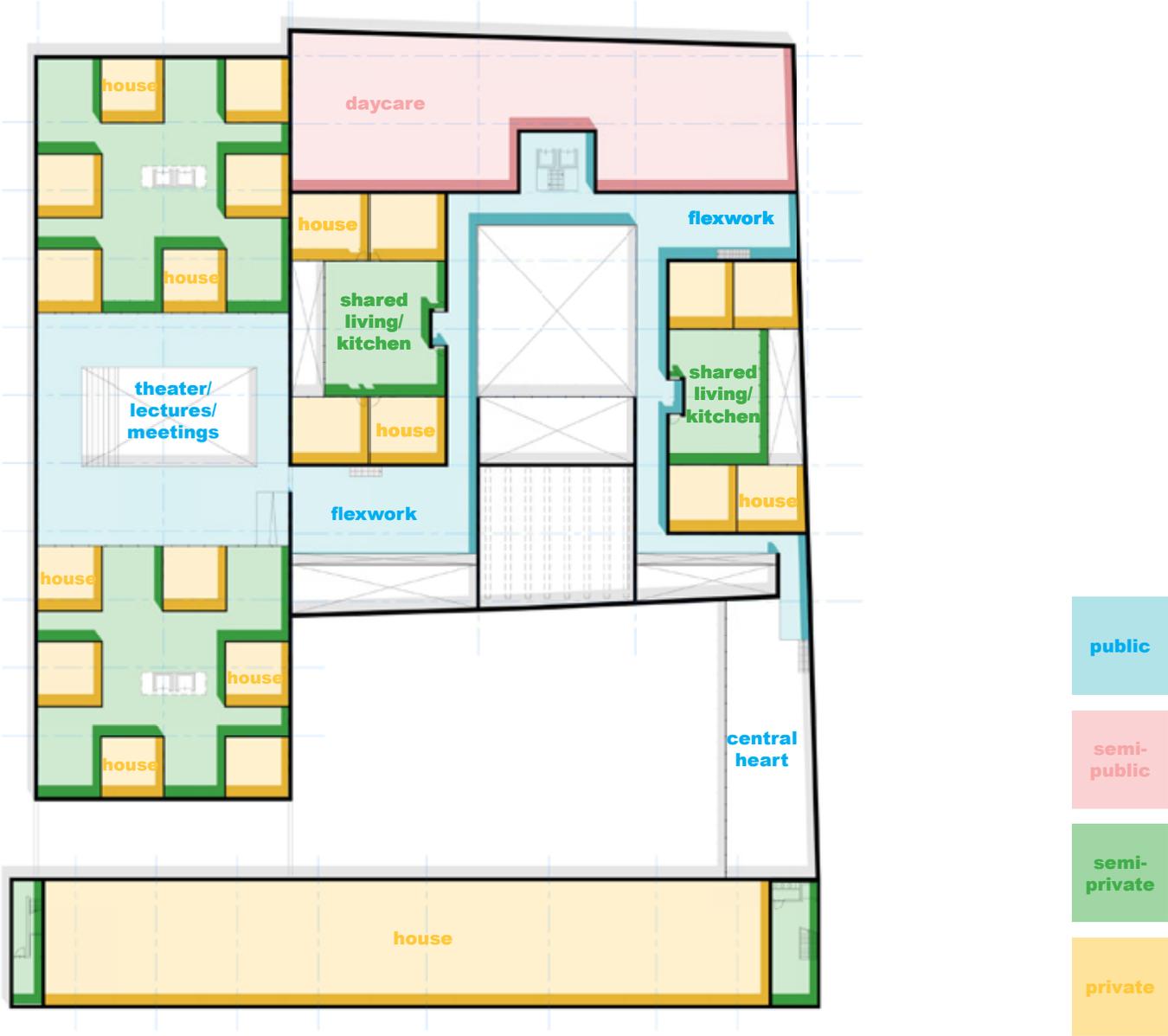
SKEMES VO-DESIGN



- public
- semi-public
- semi-private
- private



SKEMES VO-DESIGN







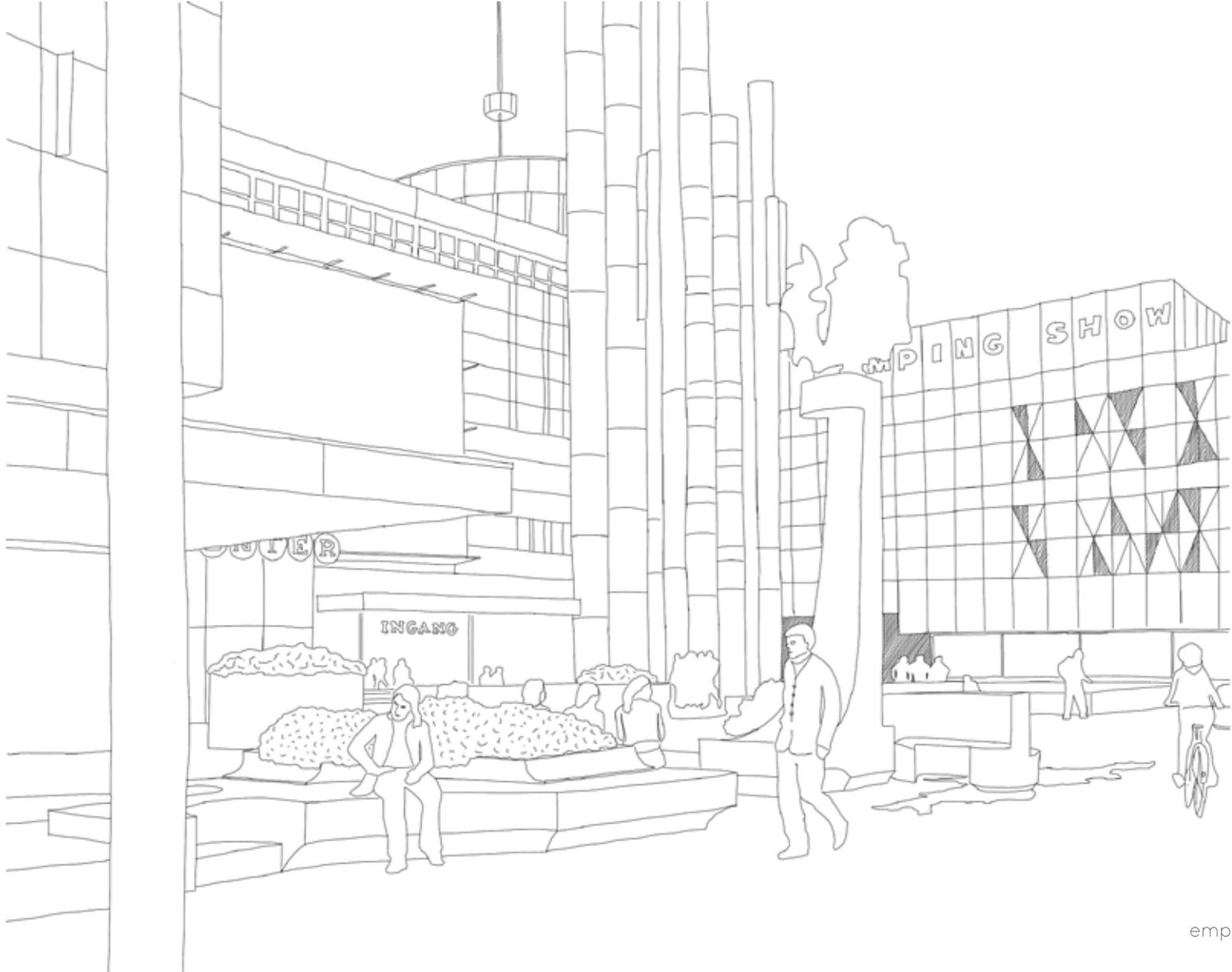
SKETCHES



Criticizing the collective space among social housing projects



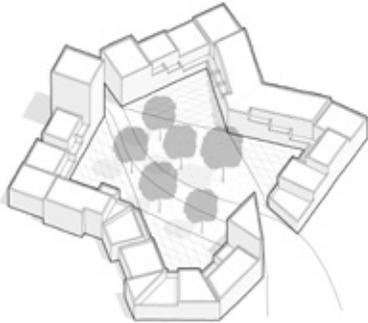
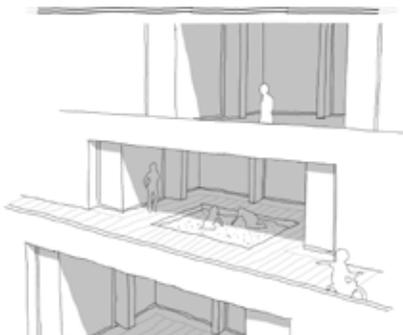
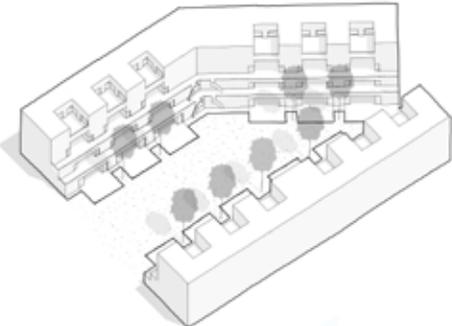
SKETCHES



emphasizing the piazza square in Eindhoven for its active use



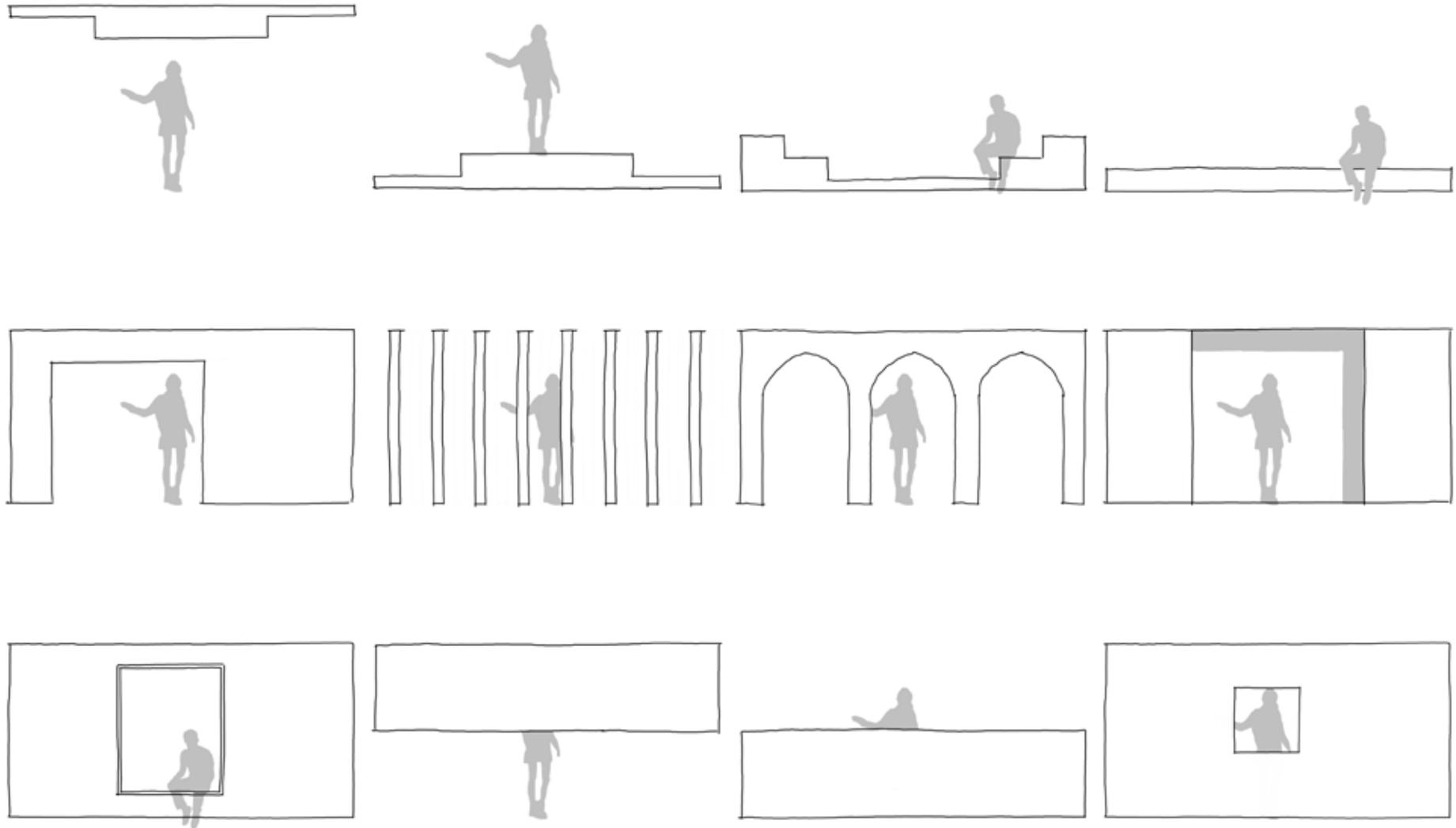
SKETCHES



studies on activating the social space

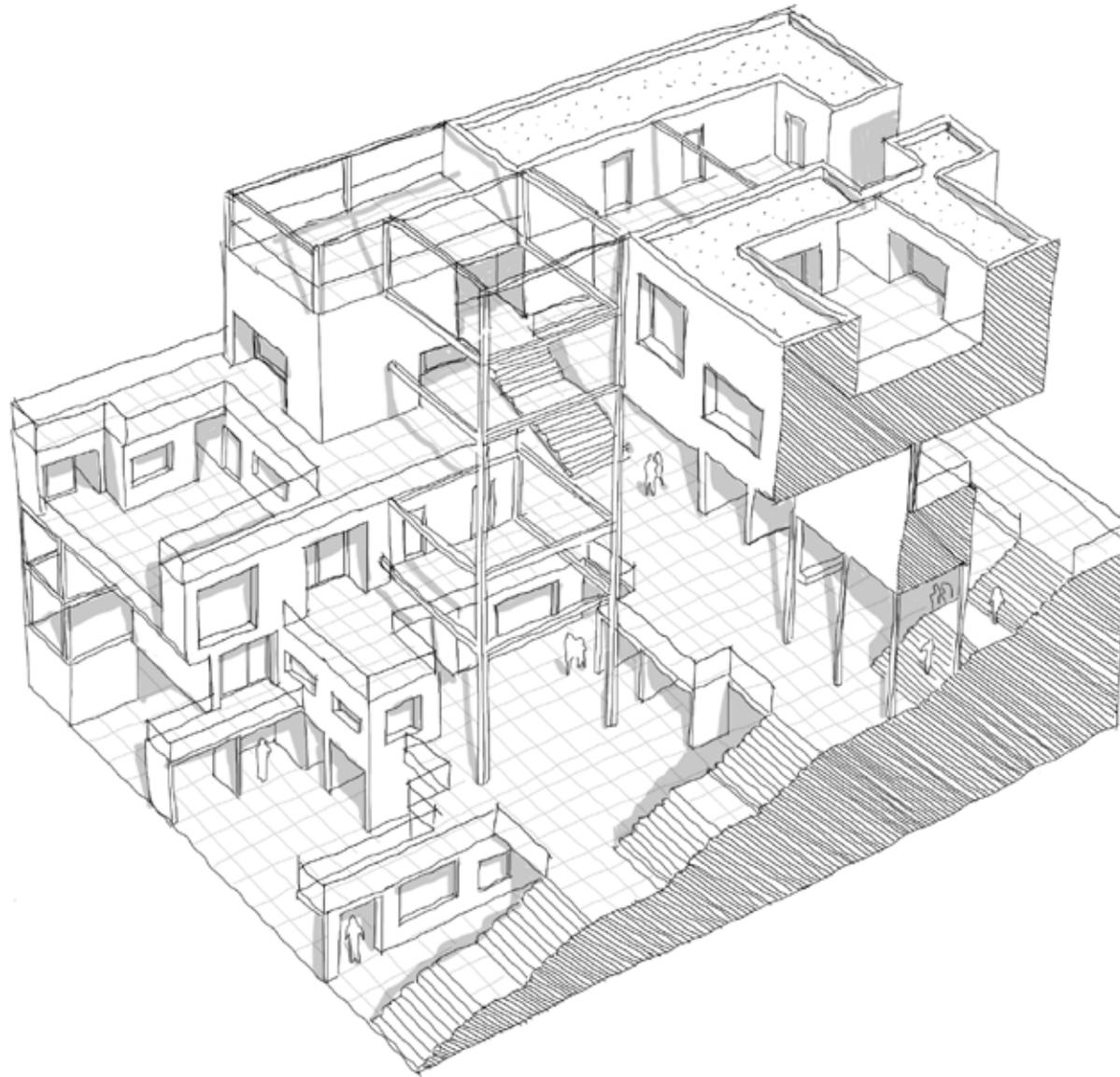


# SKETCHES



studying the design principles of borders  
between spaces

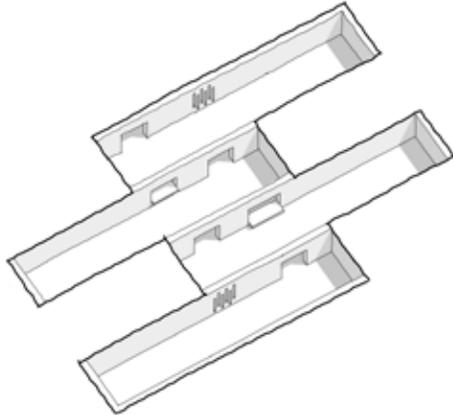
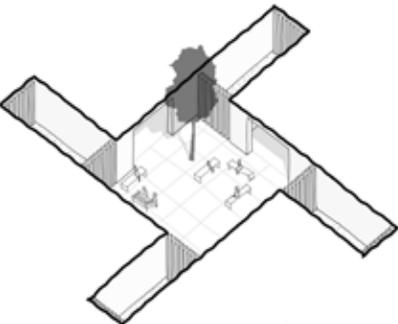
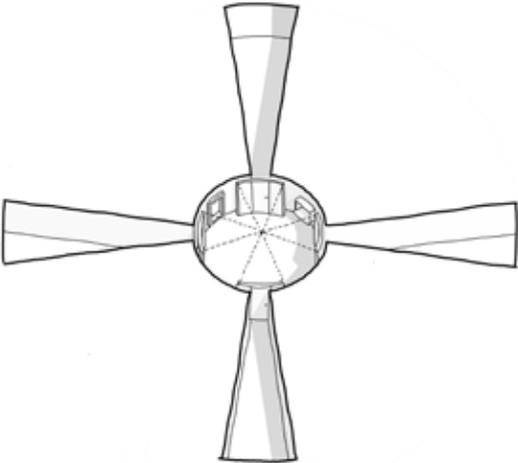
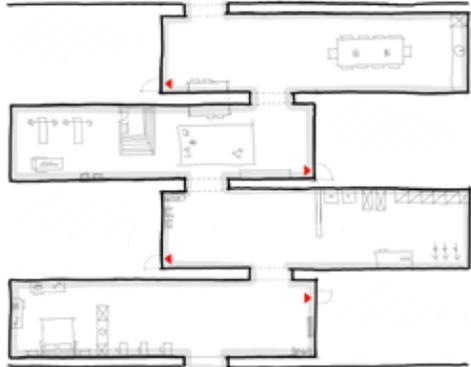
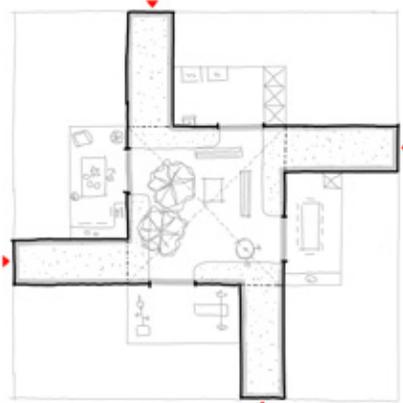
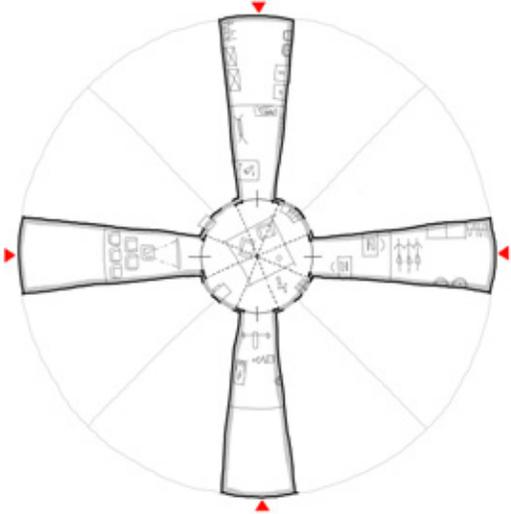




Network of social spaces



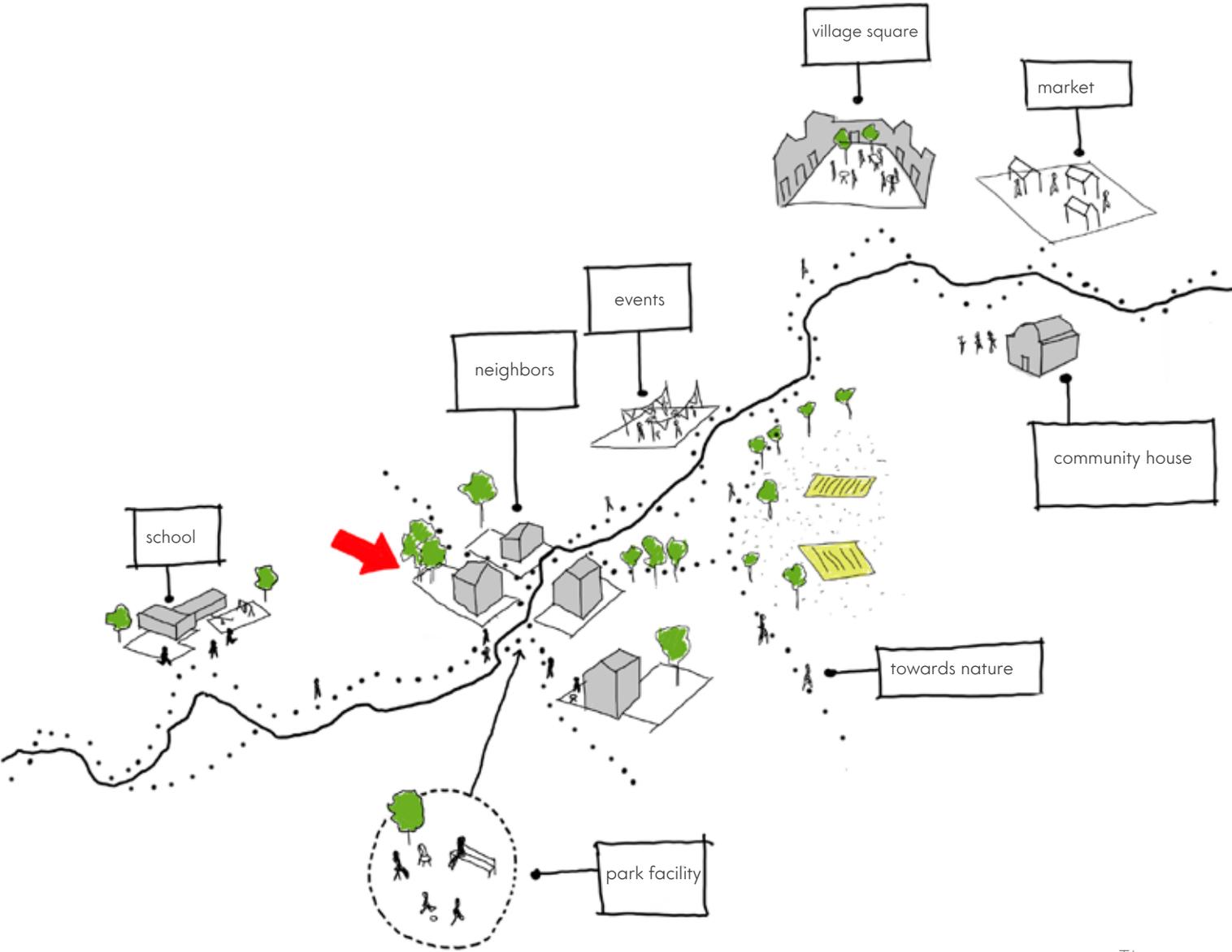
SKETCHES



Studying floorplan layouts and the use of hallway space as shared spaces



SKETCHES



The expansion of borders diagram

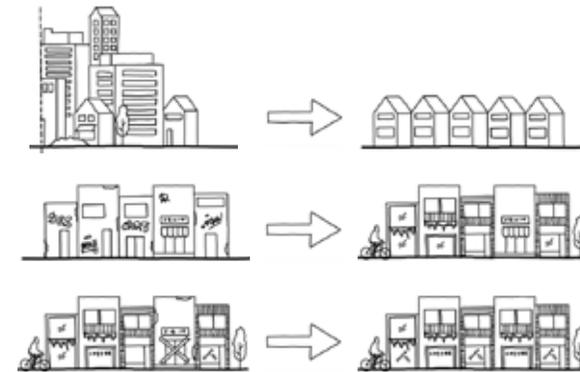


# SKETCHES



**the city**

The city is a place for opportunities, people educate themselves, build up a network of friends, there are job opportunities, the city is vibrant, alive, active, lots of stuff is going on. Because of these reasons people want to live in cities. But that creates a problem; there are not enough houses, at least at this moment.



**gentrification**

There are two things happening according to this process and strangely enough they are either positive as negative.

1. The boundaries of the city center a pushing to the outside. Neighborhoods are being transformed and made interesting again for housing. The positive is that it can upgrade a neighborhood thru the process of gentrification.
2. That same process of gentrification can also be a problem. Places that where vibrant because of its mixed society, becomes monotone and strangely enough there is only be build and upgraded for a selective group of people. Mostly students, young urban professionals and expats.



The social class is being pushed outside the city but the fact is that because of this reason places in cities become boring. It only facilitates for a certain group of people meaning that the cityscape becomes all the same.



**families**

There is one specific target group for whom it is almost impossible to live in cities; families! And this specific target group is a very good one to create healthy environments because of how they use it. They take extra care of their environment for their children, their kids are little connectors forcing parent (in a healthy way) to get in contact thru all social classes.



# SKETCHES



**family house**

Although families would like to live in cities, they grew up there and created their network and social life there, the city doesn't provide a place to live. A city apartment doesn't provide the place to live there because it's missing spaces like: an attic, garden, hallway etc.



**densifying**

But building rowhouses with a street and back garden in a city is impossible. Because cities are dealing with densification. It would be way overpriced because of its low density and they're for only accessible for the elite and not helping a city with the main problem of the city.



**family environment**

The other reason is the direct environment, as families you are more dependent on their social network, the city there for is very black and white. There is the life inside of the apartment and the life outside and suddenly you're in a mega crowded environment. The suburbs or villages provide certain gradations by which families can expand. the house, the front garden, the street, the village square, the school etc.

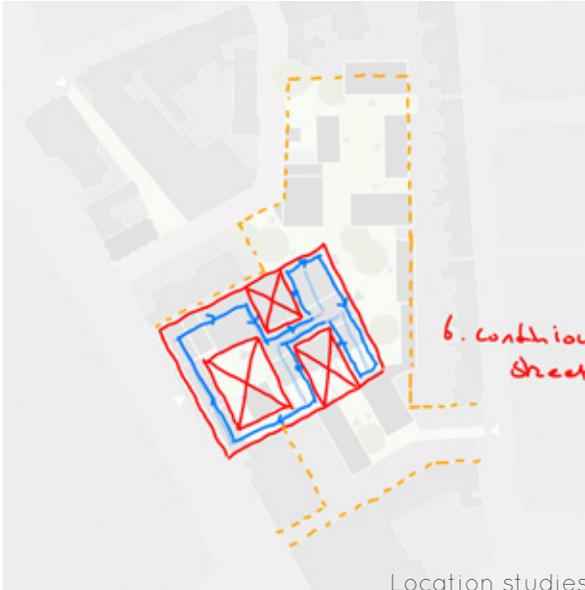
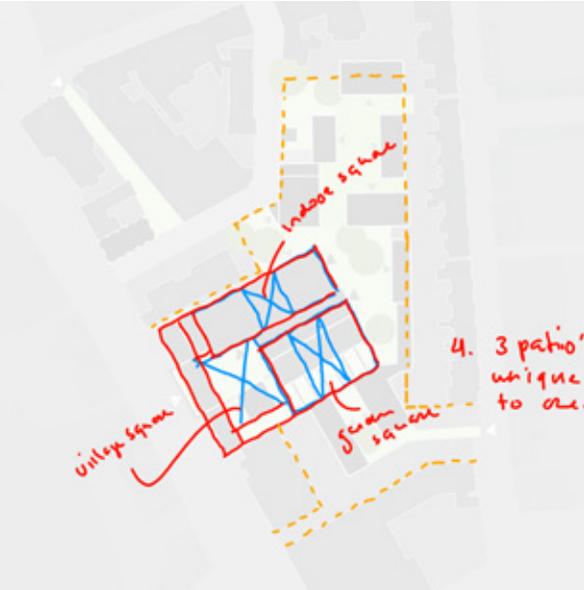
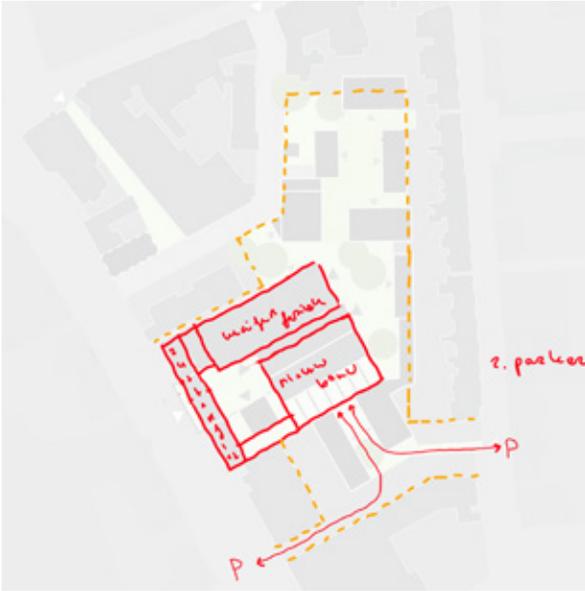


**hypothesis**

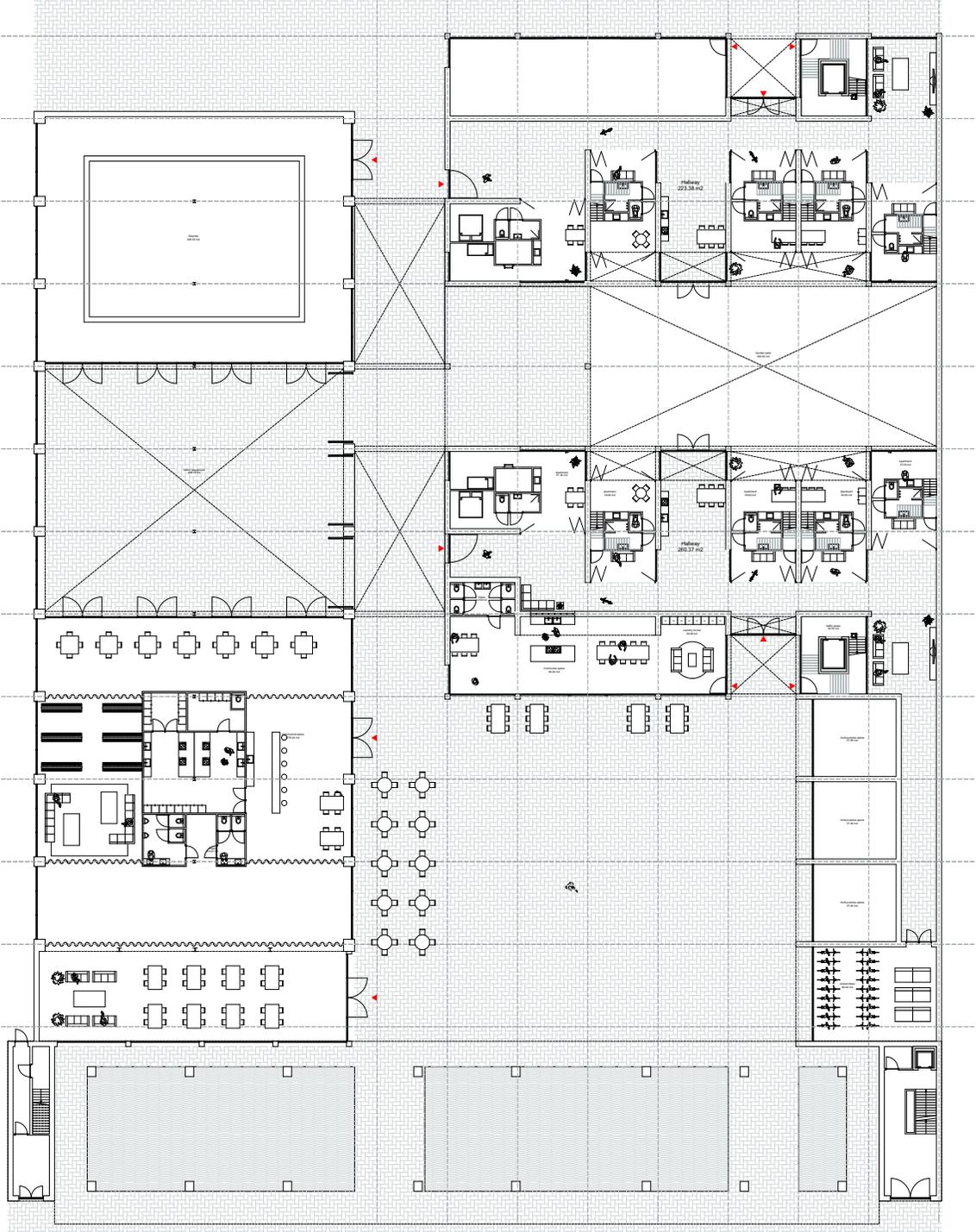
Therefore this project is about finding new ways for housing families inside a city and to create the environment which is wanted for them. It's about densifying and still giving them the spaces that they need to run their family lives.



SKETCHES

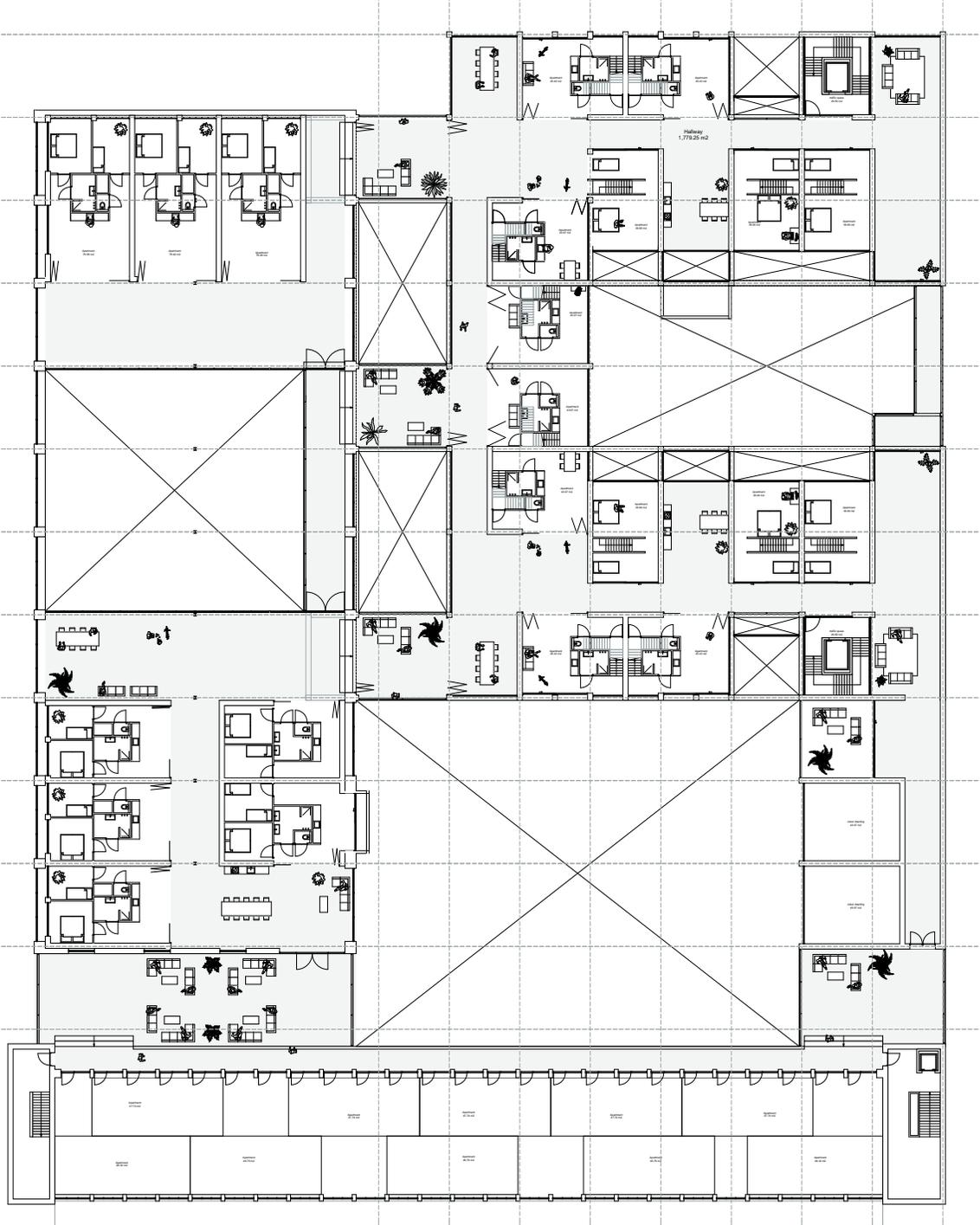


Location studies



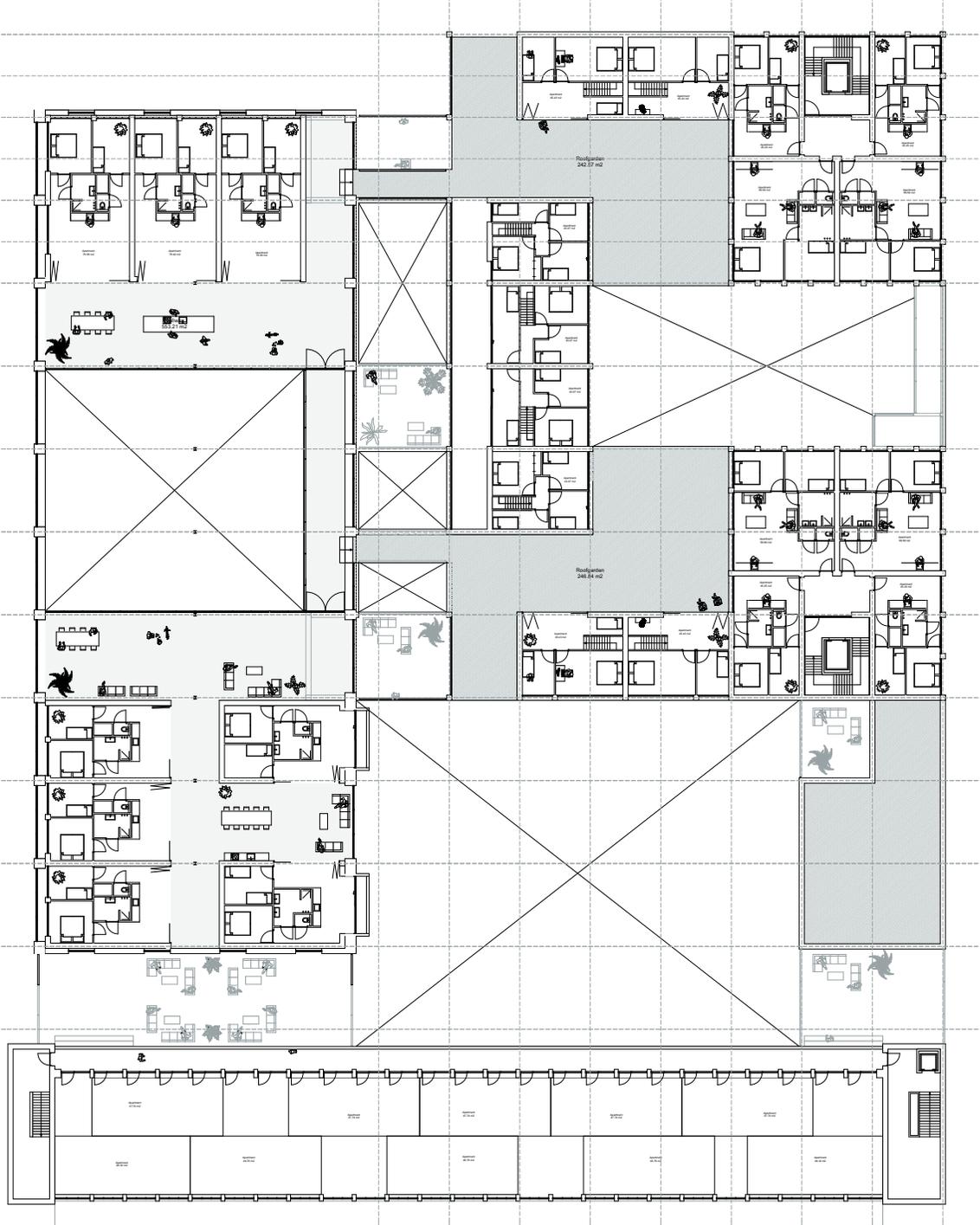
groundfloorplan





1st floorplan





2nd floorplan





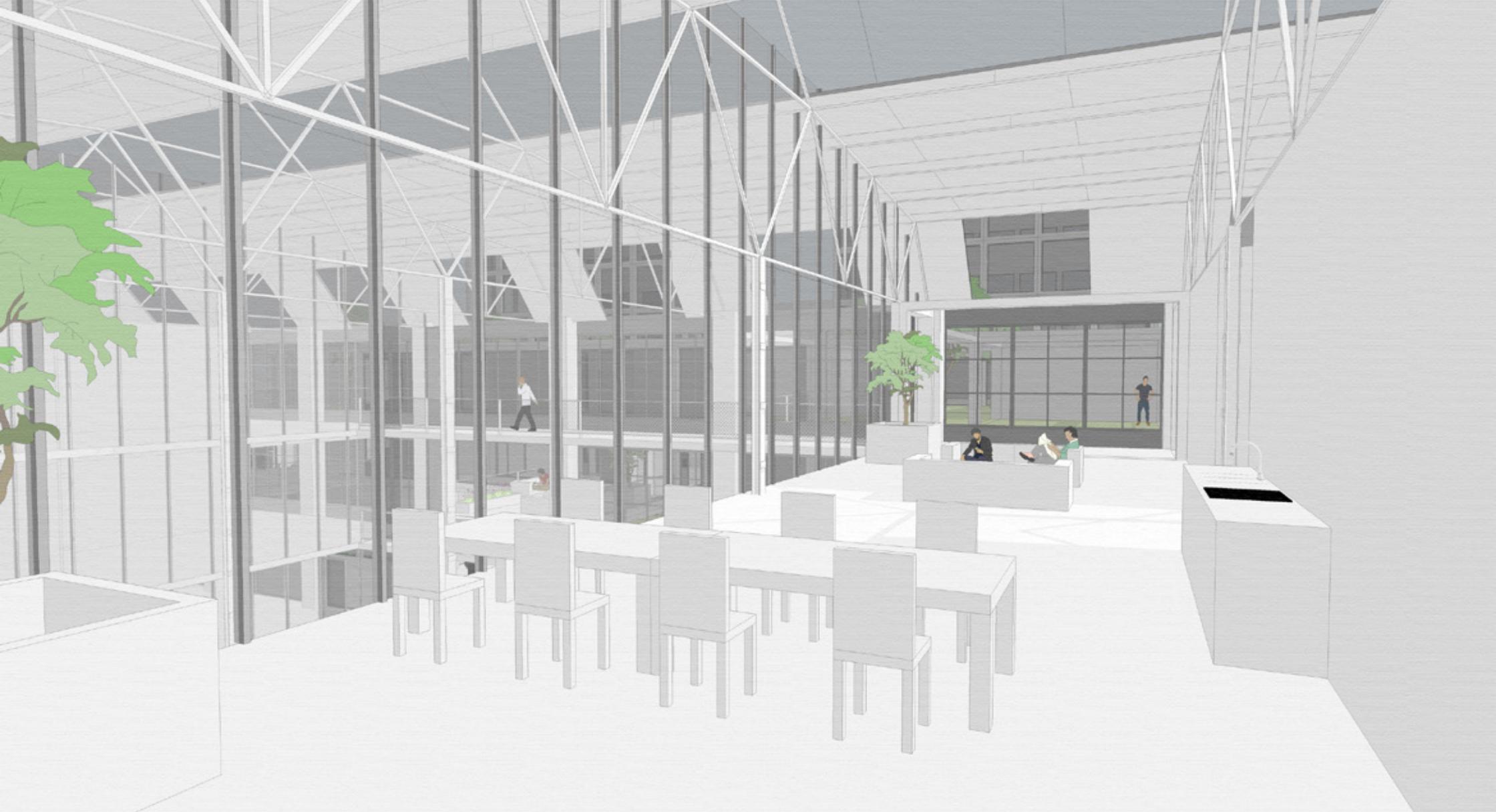




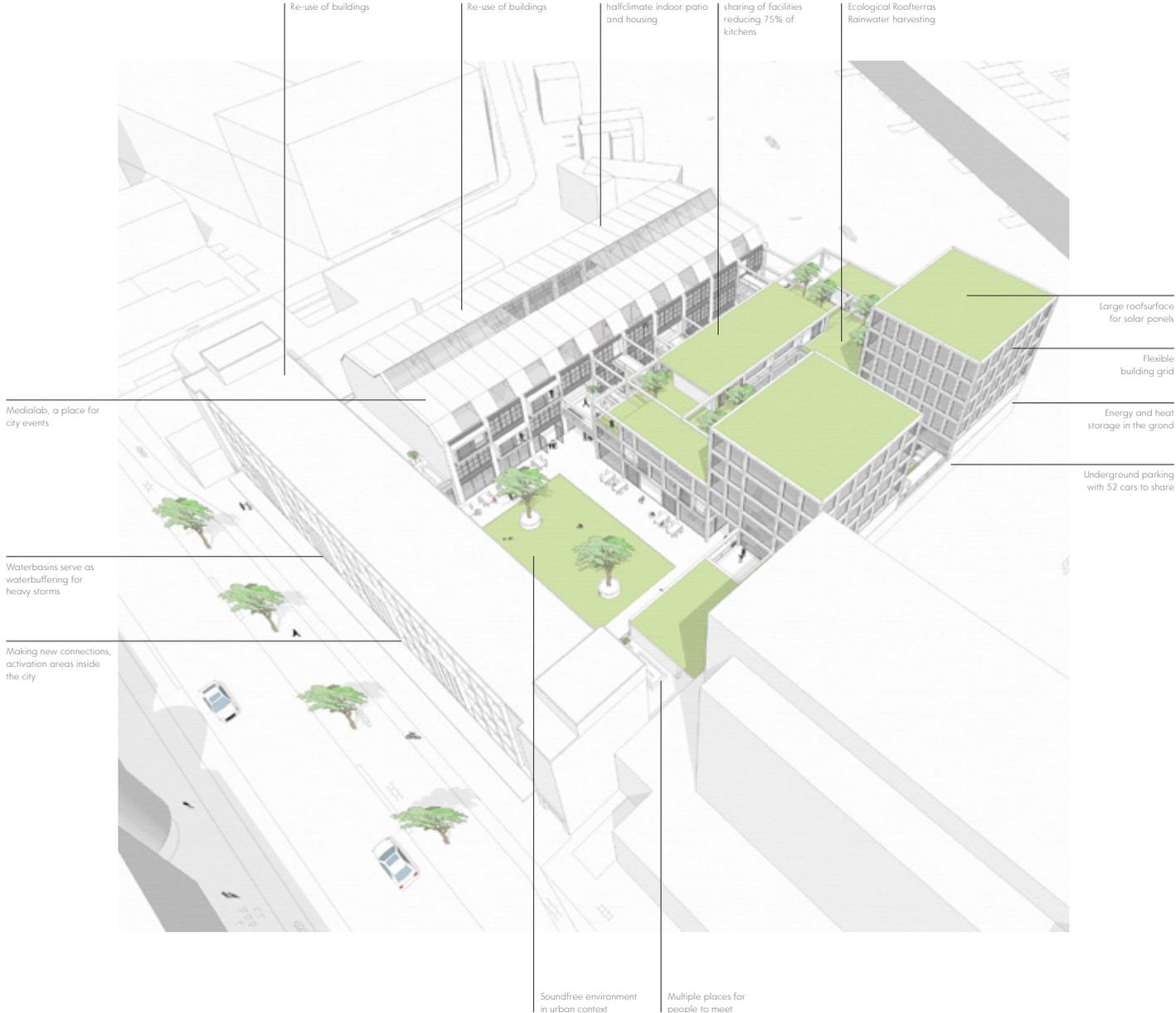




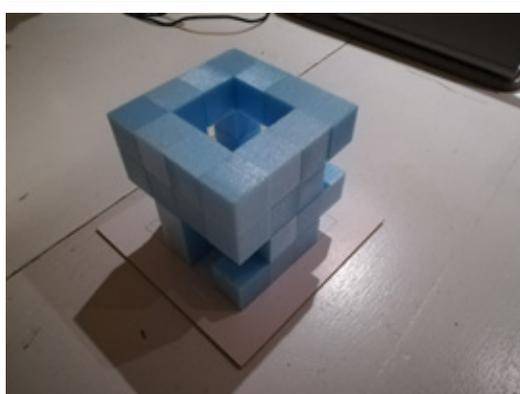
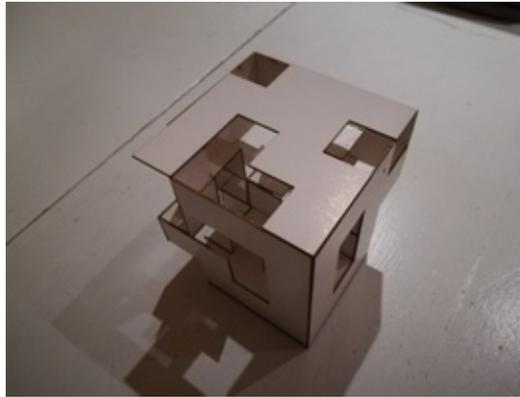
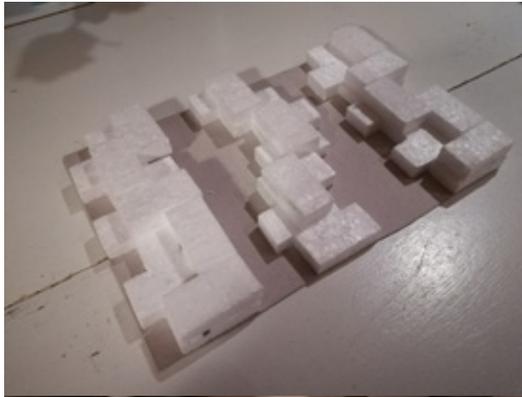




# DO-DESIGN

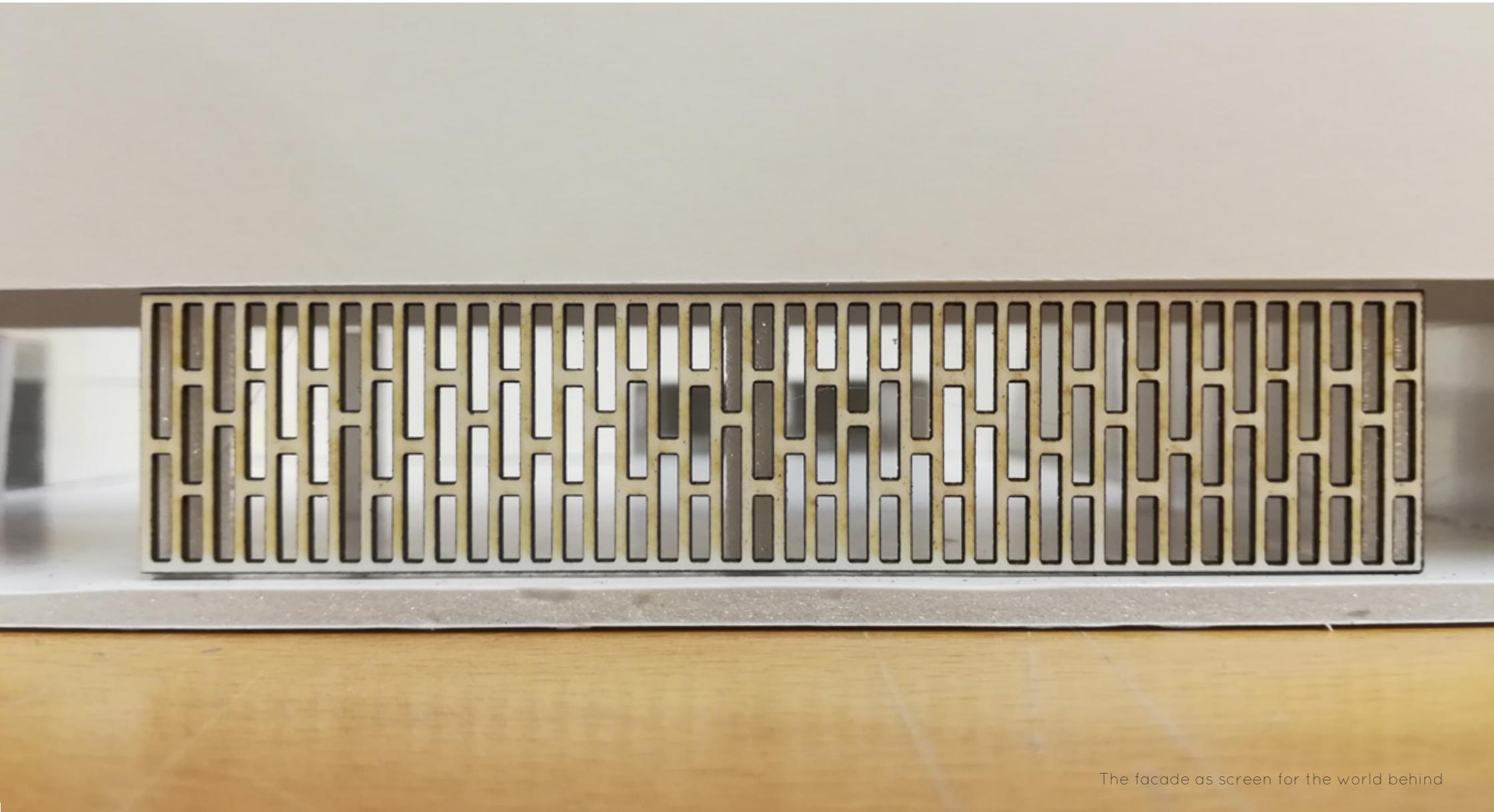


# MODELS



Studying the possibilities of stacking housing-units

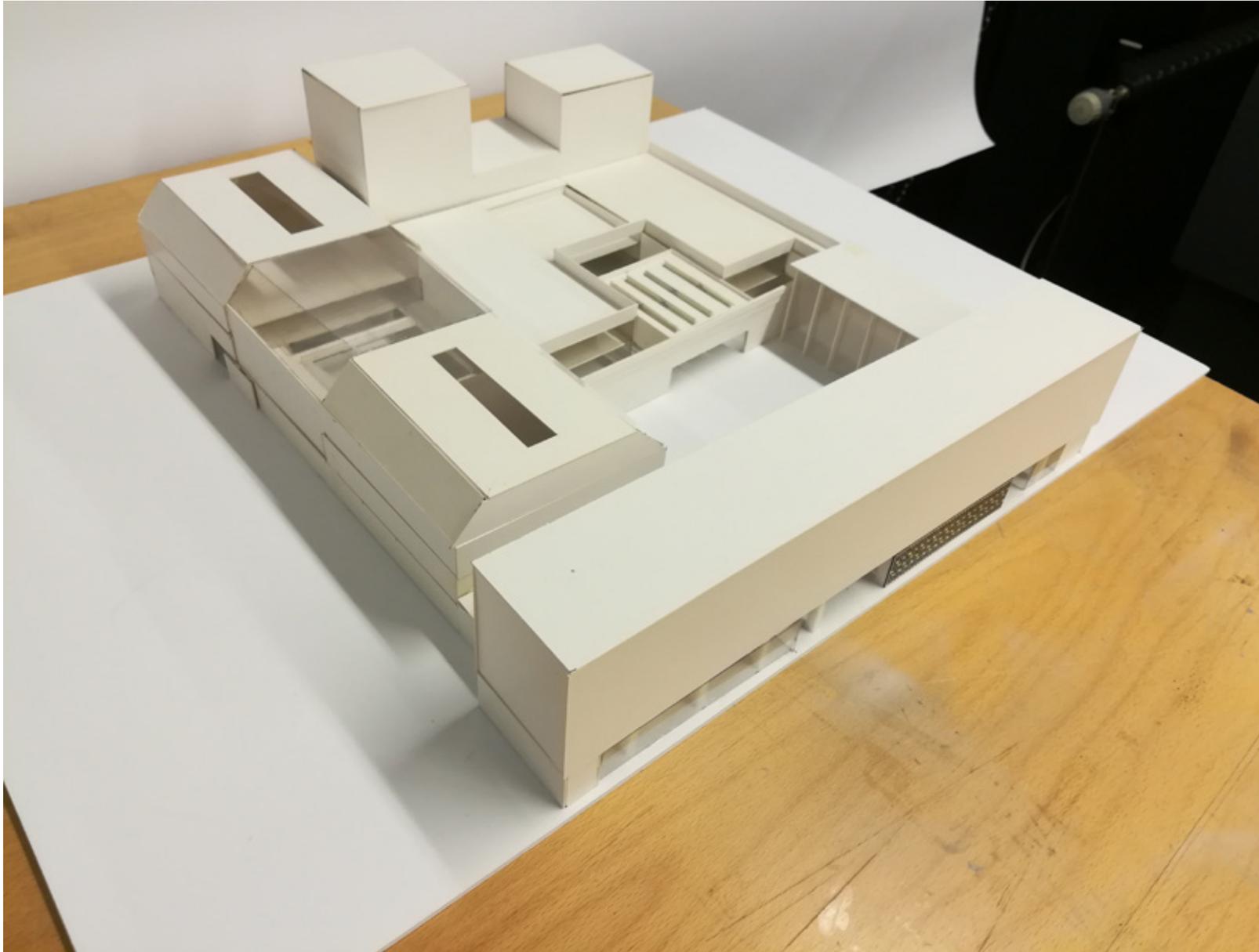




The facade as screen for the world behind



# MODELS

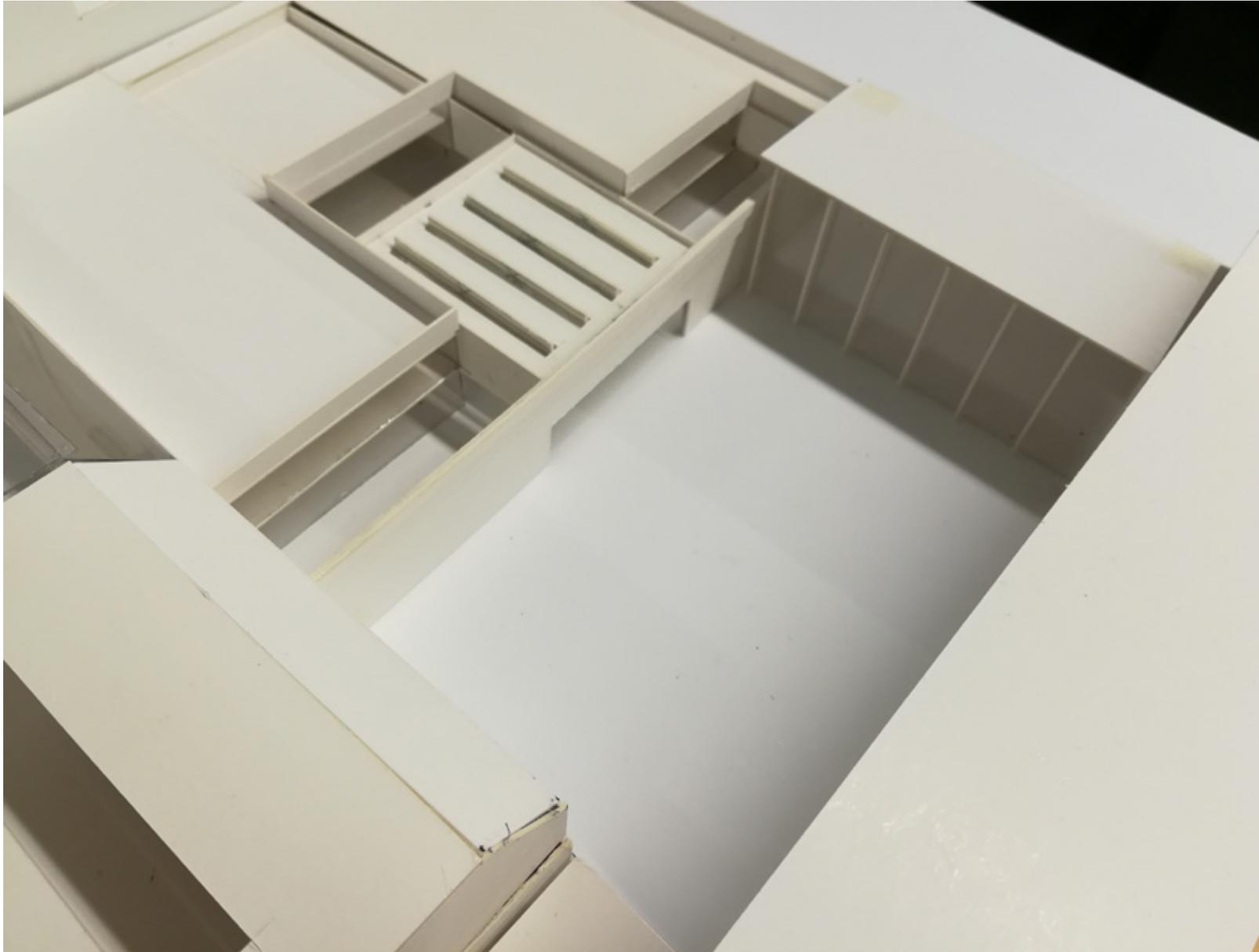


VO-design



Family Matters  
Final presentation  
Logbook

# MODELS

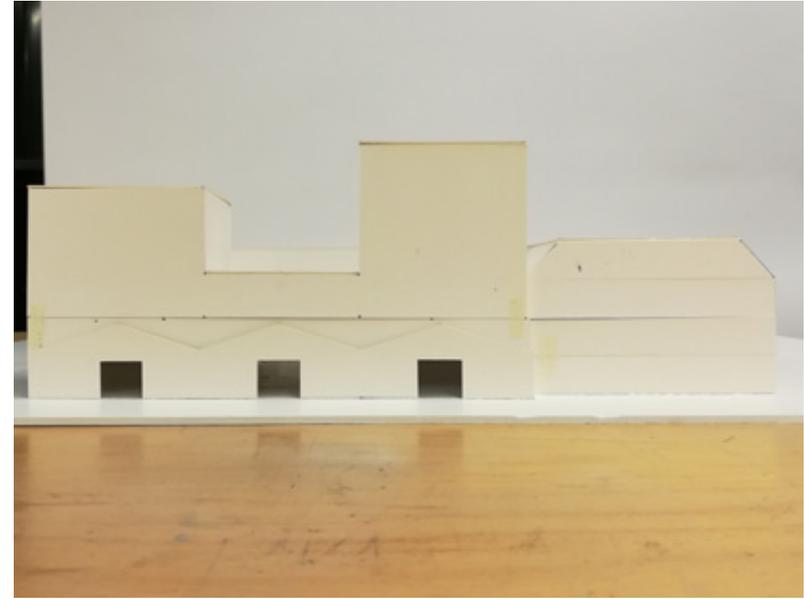


VO-design



Family Matters  
Final presentation  
Logbook

# MODELS



VO-design



Family Matters  
Final presentation  
Logbook

# MODELS

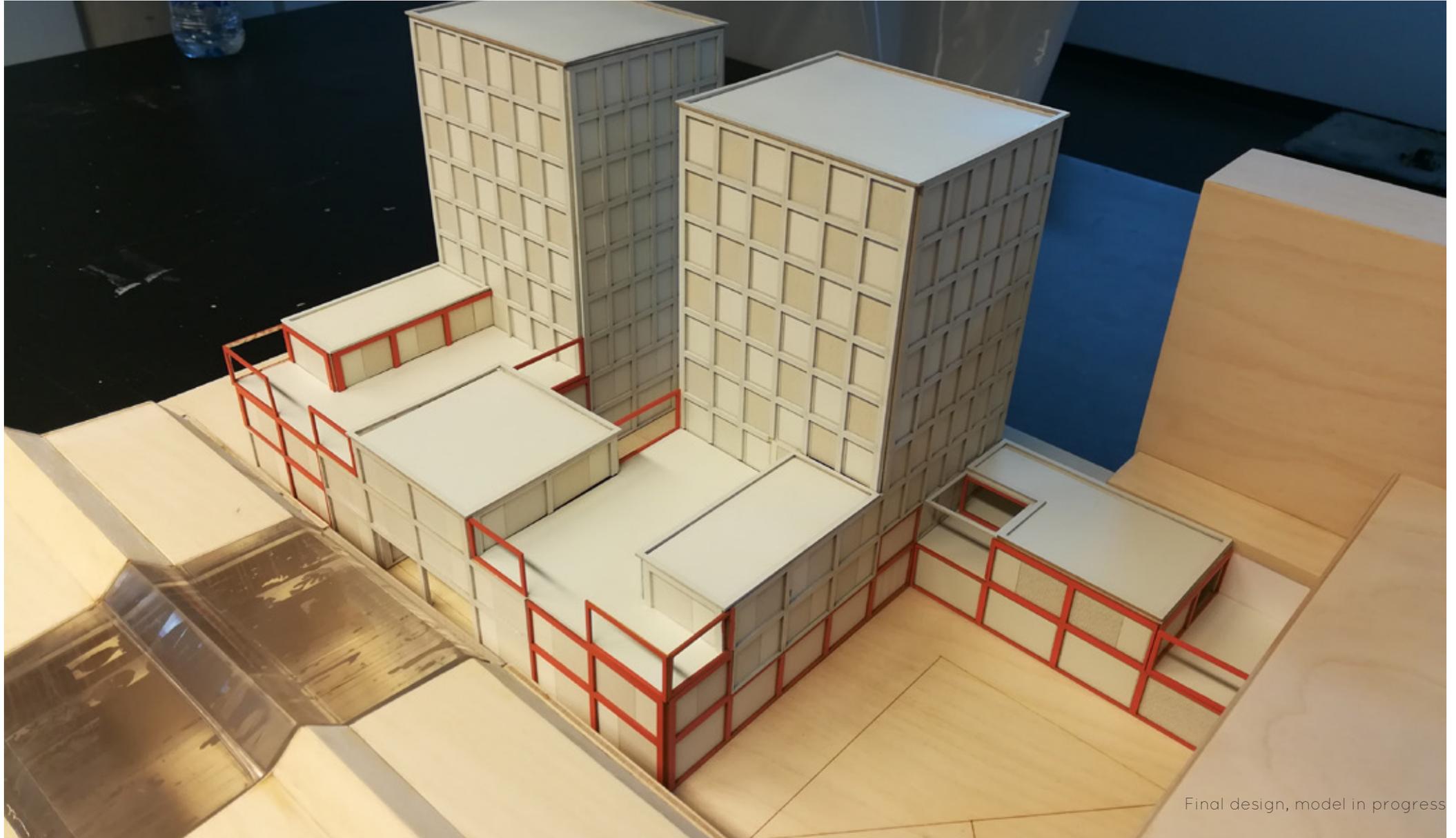


VO-design



Family Matters  
Final presentation  
Logbook

# MODELS



Final design, model in progress



