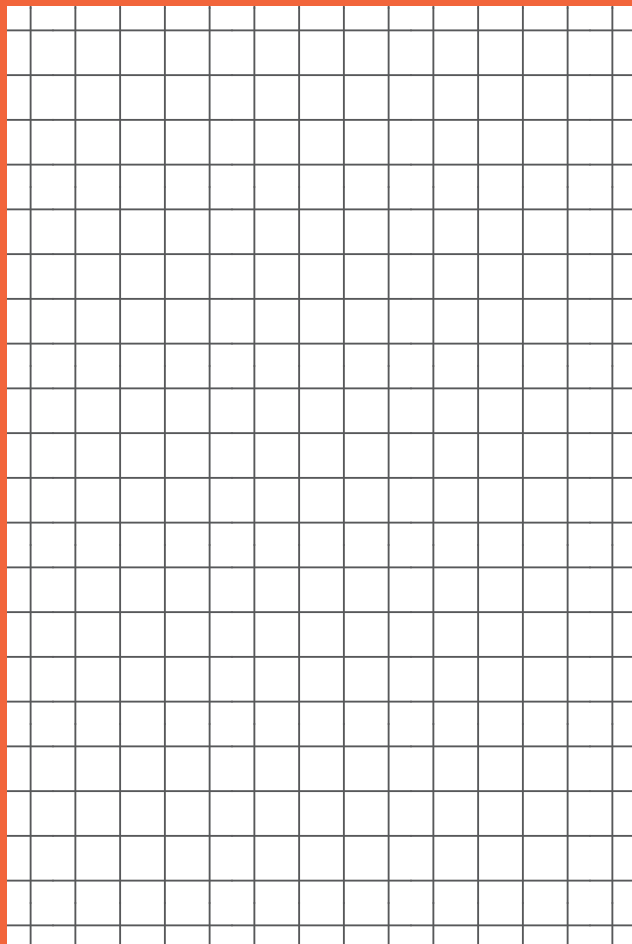# KEILEWIJK

growing up in an inclusive city

gaining distance from the front door, step by step

FIJA VAN DER LAAN

2020/21

Graduation Project

a collective housing design for one-parent families in Rotterdam

Keilewijk
Graduation project

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Master track Architecture

Dwelling **|** Dutch Housing
2020/21

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INTRODUCTION

During the past year, I've been working on my graduation project in the Dwelling | Dutch Housing studio at Delft University of Technology. A project located in the Merwevierhaven area in Rotterdam; an old port area downwards the river Maas. An area where, in the past, heavy dock work was carried out. Space has now been made to expand residential Rotterdam with high-density housing and facilities.

The Netherlands has been struggling with a housing shortage in recent years. One million homes should be built in the next ten years. This situation is comparable to the housing shortage in the Netherlands during the reconstruction after the Second World War. Looking back, one can say that the dwellings built are too monotonous; innumerable homes for the traditional family of two parents and an average of two children were created. A few generations later, a need for variation arises.

The Merwevier harbour: an empty and widespread plot on a worldly location and a new start; it seems like the perfect situation to work on a contemporary, varied and inclusive city. I took this project to research the design of homes for one-parent families at this location, which at the same time can contribute to supporting inclusiveness in Rotterdam. Children and their families' presence is essential for the vitality and quality of life in the city.

How can a collective residential building for one-parent families in a densely populated urban environment contribute to the housing needs and living requirements of these families in a future inclusive Rotterdam?

In my opinion, Keilewijk is a hypothesis to this question. A design in which suitable homes stacked together form an intimate vertical neighbourhood. A design that offers room for children to, step by step, take distance from their front door and to gradually get to know their city of Rotterdam. A design that contributes to a future inclusive Merwevierhaven.

Contents

DESIGN LOCATION

Fija
van der Laan

| Graduation Project
| Keilewijk

2020/21

Design Location

aeroview by Dick Sellenraad

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van der Laan

Graduation Project
Keilewijk

2020/21

1- 'Merwevierhavens', Port of
Rotterdam. 2020.

The Merwe-Vierhaven area (M4H) is an old port area of approximately 100 hectares on the north side of the Maas. It was once one of the largest fruit ports in the world where the storage and transhipment of various fruit took place every day.[1] Nowadays the area is at the start of a transformation into a living-working environment

current situation

future situation

Fija
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Graduation Project
Keilewijk

2020/21

Design Location

Fija
van der Laan

Graduation Project
Keilewijk

2020/21

2- 'Keilepand M4H - een plek voor
werken, maken en ontmoeten',
GroupA. 2020.

The Keilewijk design connects to an existing warehouse in the area: the Keilepand. This storage shed is the former gatehouse of Thomsen's Port Authority from 1922. Fruit and vegetables were stored in the 100 meter long and 50 meter wide building.[2]
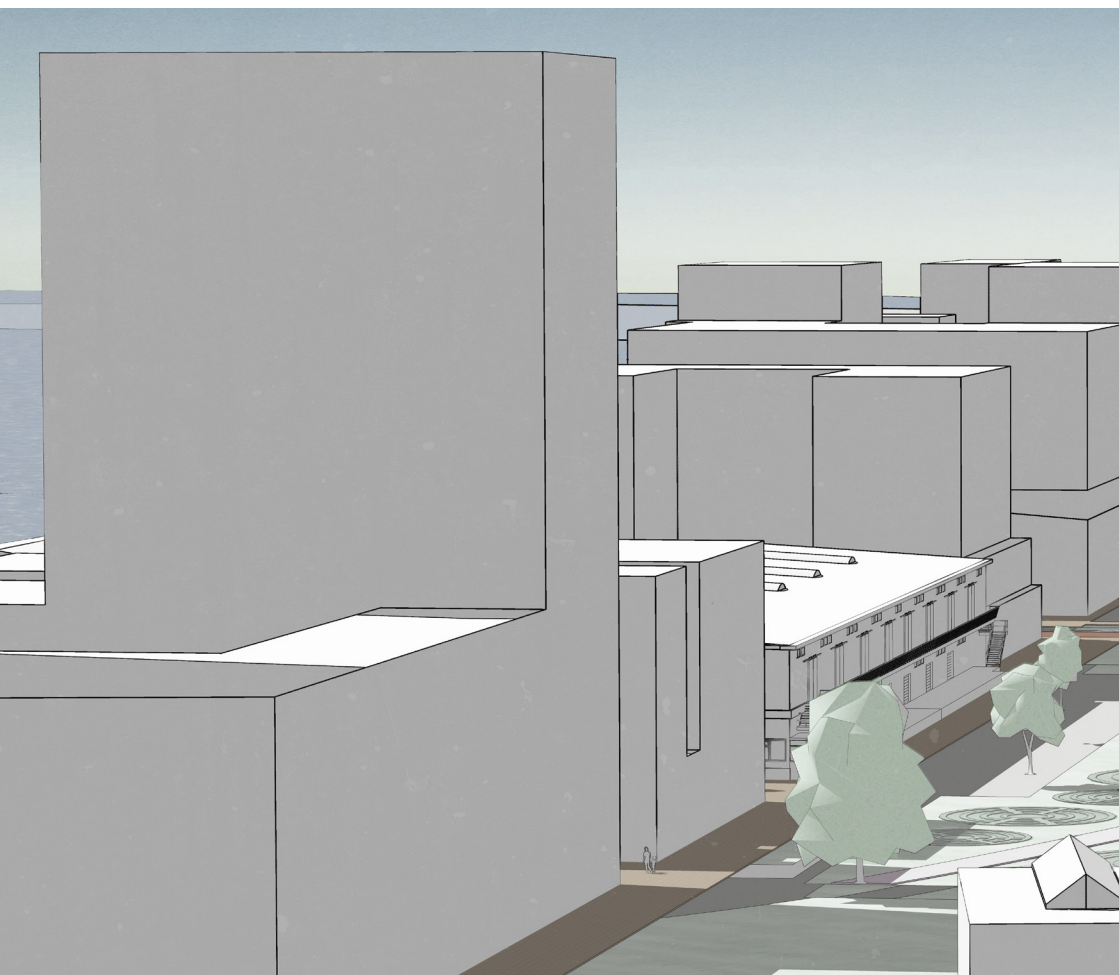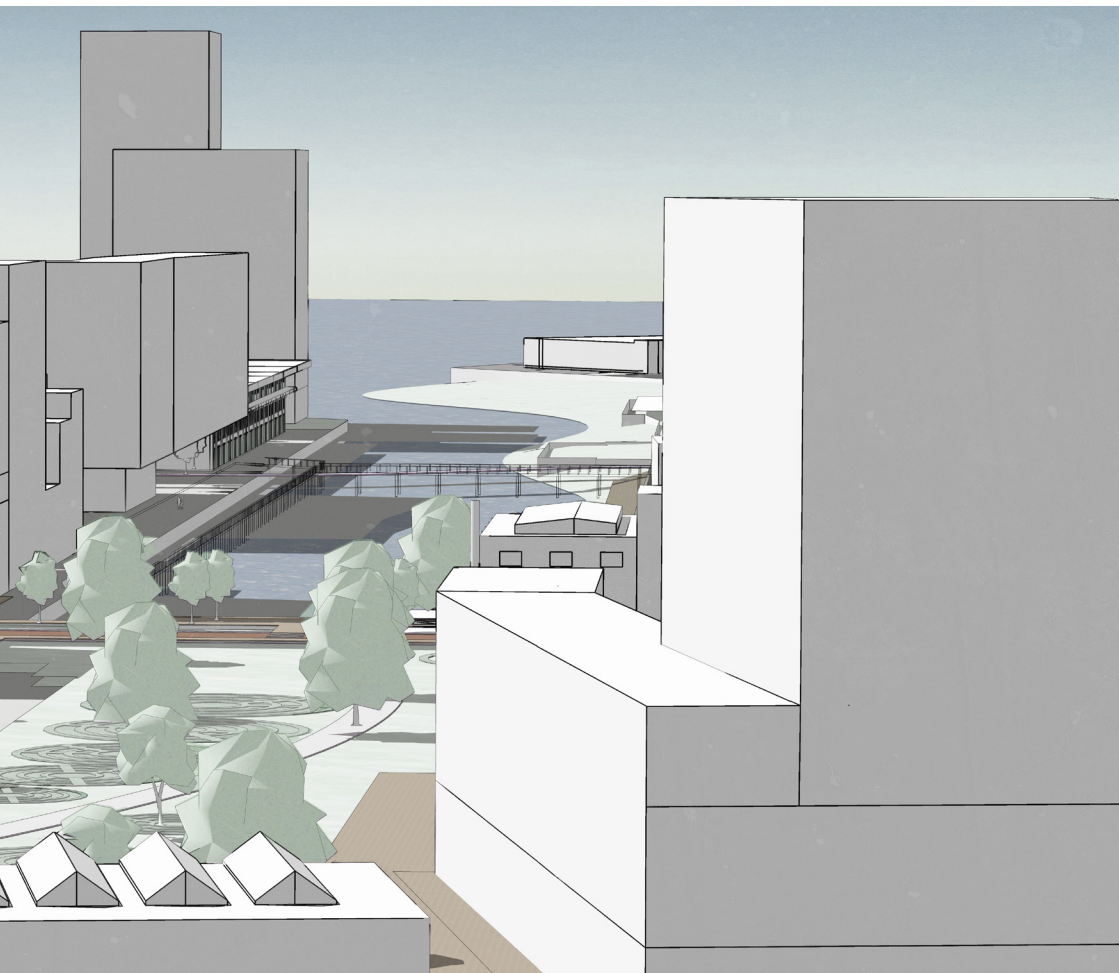
the design plot

Fija
van der Laan

| Graduation Project
| Keilewijk

2020/21

Design Location

a view over the Keilepark in the future Merwervierhaven

USER GROUP RESEARCH

one parent families

families in which a single parent
raises one or more children. A
second parent is hardly or not
at all present.

1. facts and figures

picture by Jitske Schols

3- Oswin Schneeweisz, 'Het
Traditionele Gezin Is Anno 2017
Vervangen Door Een Breed Scala Aan
Gezinnen', HP/De Tijd. May 18, 2017.

4- Susan Golombok, Modern Families:
Parents and Children in New Family
Forms, Modern Families: Parents and
Children in New Family Forms, 2015.

5- Centraal Bureau voor Statistiek.
'Bijna 1 Op de 10 Baby's Wordt
Geboren in Eenoudergezin'. CBS.
December 12, 2018.

1.1
the rise of modern families

The traditional family, composed out of a male, a female, and an average of 1,7 children, has in recent decades increasingly made way to a wide range of new parenting styles and household compositions such as same-sex parent families, one-parent families, multi-parent families, and patchwork families. You could therefore argue that the aforementioned traditional family can no longer be called traditional. In a way, this development is a continuation of emancipation and individualization.[3] The growth of children in non-traditional families in the Netherlands started around 1970 when the number of one-parent families increased due to divorces.[4] Another family-type started rising around 1980 when the wish for children of lesbian couples and single women could be fulfilled with the help of sperm banks. Until the mid-1970s, almost all Dutch babies were born to a married mother. From there on Dutch marriage-culture started changing and a downward trend started. The percentage of children born to a

x 1 000
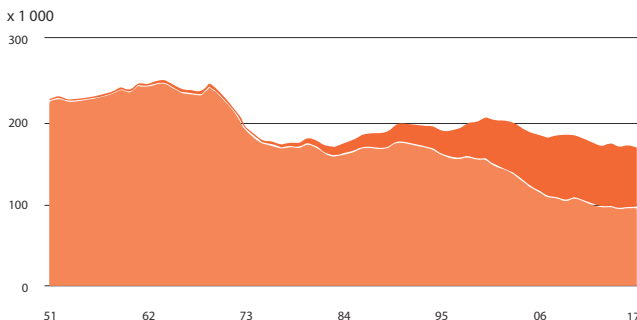
the martial status of mothers of newborns in the Netherlands

source: CBS, 2019

6- John E. Bardach, Contemporary Research in Population Geography. 1986. Dordrecht: Kluwer Academic Publishers. p.166.

7- Hanne Obbink, 'Naoorlogse Woonwijken Niet Meer van Deze Tijd', Trouw. December 4, 2016.

married mother has been under 60 since 2008 and was 57 in 2017 (the numbers include both registered partnerships and marriages).[5]

1.2
the lack of suitable housing typologies

The changing family and household composition of the population leads to a different structure of housing demand that will have to be satisfied within a housing stock which was built for the more traditional categories, like the traditional family.[6] The Dutch housing market has not grown at the same rate as the transformation of family-types. This has resulted in a current lack of suitable housing for modern families according to the Dutch Rijksbouwmeester Floris Alkemade.[7] A large share of Dutch homes is located in post-war reconstruction neighbourhoods built in the '50s and '60s. Due to the war, an immense lack of family-housing existed during that time. As an answer to this problem, large amounts of traditional family homes were realized in a short time frame; a typology which by now is partly outdated. What makes the reference to this post-war housing architecture interesting is the fact that the Netherlands is currently facing a similar task. In addition to the limited supply of housing suitable for modern families, there is an urgent need for affordable housing solutions in the Netherlands before 2030. The research group 1Million Homes of the Urban Planning section at the Faculty of Architecture of TU Delft maps this issue and investigates possible prospects through education and research. They emphasize the focus should not only be on producing new dwellings, but rather on creating homes and neighbourhoods that meet the large variety in the needs and wishes of future societies.

Fija
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Graduation Project
Keilewijk

2020/21

User Group Research

The Pendrecht area in Rotterdam: a typical post-war housing project from the '50s (source: de Havenloods)

1.3
one-parent families

A family of one parent and one or more children

A second parent is barely or not in the picture

One of the kinds of modern families is the one-parent family. This is a family in which a parent raises one or more children on her or his own. A second parent is not or barely in the picture. This type of family is not necessarily a new type; divorces or the death of parents have always existed. Therefore, this family type insurmountable has always had a place in the population in history. Nevertheless, the share of one-parent families has increased largely since the 70's due to an increase of divorces and the fact that women choose more and more often to raise their children on their own.

At the beginning of 2019, the Netherlands counted an amount close to 3.4 million children up to the age of 18. Of these, 538 thousand children lived in a one-parent household which counts up to almost 16 percent of all the Dutch children up to the age of 18. Compared to 2010, almost 110,000 more children grow up in a one-parent family. Compared to 1999, the share of children who are part of a one-parent household counted 11 percent. A small proportion of children live in an institution or foster home or live with grandparents.[8] Out of all the Dutch newborns, one out of ten was born of a single mom in 2018.[7]

How one-parent families are formed can largely be divided into two groups. In the first group, child(ren) are born to two parents but due to various reasons one parent has dropped out. In the second case, a child is born to a single parent who, either intended or not-initially intended, chose to raise one or more children on his or her own. Logically, most of the time the parent is a woman.[9] What can be biased about the figures found

about one-parent families is that families with divorced parents are included, though in the majority of those cases both parents will still be in the picture. For the research in this research, however, the focus lies on the families in which the second parent is not in the picture.

Numbers do exist about the presence of a second parent of children from a divorced family. Of the parents divorced in 2010, 27 percent opted for co-parenting. In that case, the children live with the father about as often as with the mother. on average in the Netherlands, two years after the divorce, 80 percent were still co-parenting. More than half of the children who do not live with both their own parents experienced divorce from their parents. An increasing number of children have lived with only one parent since birth.[10] The majority of the children of one-parent families, 89 percent of this group, live with their mother.[11] The share of single-parent households is highest in

8- Centraal Bureau voor Statistiek. 'Bijna 1 Op de 6 Kinderen Woont in Een Eenouderhuishouden'. CBS. December 23, 2019.

9- Centraal Bureau voor Statistiek. 'Bijna 1 Op de 10 Baby's Wordt Geboren in Eenoudergezin'. CBS. December 12, 2018.

10- Centraal Bureau voor Statistiek. 'Ruim Kwart Gescheiden Ouders Kiest Voor Co-Ouderschap'. CBS. December 18, 2017.

11- Centraal Bureau voor Statistiek. 'Bijna 1 Op de 10 Baby's Wordt Geboren in Eenoudergezin'. CBS. December 12, 2018.

12- Centraal Bureau voor Statistiek. 'Bijna 1 Op de 6 Kinderen Woont in Een Eenouderhuishouden'. CBS. December 23, 2019.

13- BarJohn E. Bardach, Contemporary Research in Population Geography. 1986. Dordrecht: Kluwer Academic Publishers. p. 154.

Heerlen and Rotterdam. In those Municipalities, 29 percent of the children live with a single parent.[12]
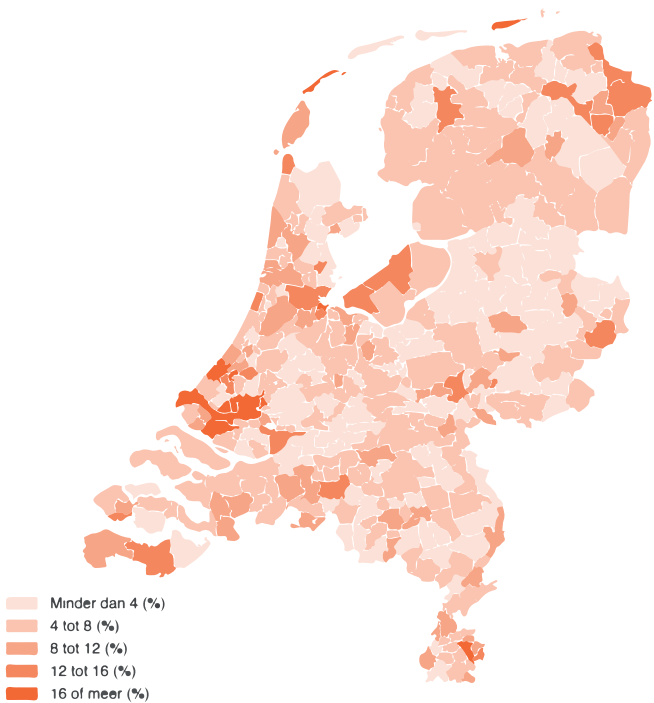
One-parent families emphatically need affordable housing more often since they can be financially vulnerable.[13] The families must function based on a single income and besides the parent must often be flexible; after all, she or he must both raise the children and earn a living. Of all people who are in need of financial assistance (bijstand) in the Netherlands, 1 out of 4 is a single parent. The poverty rate between one-parent families headed by women is twice as high as that of men.[14] Expectation-wise, based on numbers from 2014, single parents averagely were not optimistic about their finances; they have money worries relatively often and are also slightly more concerned about losing their jobs. A total of 26 percent of single parents were dissatisfied with their financial situation. For comparison, this was 8 percent for couples with children and 12 percent for singles without children.[15]
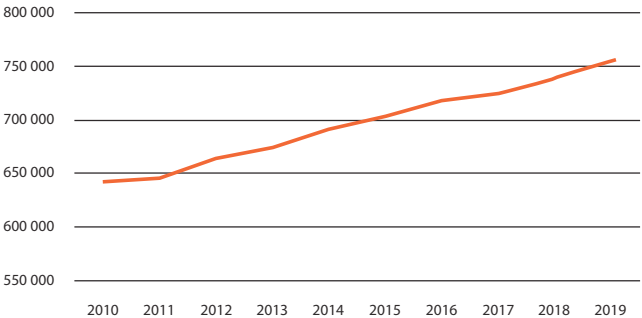
**the amount of
Dutch children
raising up in
one-parent
families**

NJI, 2019

**the division of
children raising
up in
one-parent
throughout the
Netherlands**

Minder dan 4 (%)
4 tot 8 (%)
8 tot 12 (%)
12 tot 16 (%)
16 of meer (%)

CBS, 2017

14- Benedikt Goderis, Bart van Hulst, and Stella Hoff, 'Waar Ligt de Armoedegrens?', Armoede in Kaart: 2018, 2018.

15- Centraal Bureau voor de Statistiek, Welzijn in Nederland 2015, 2015.

16- Sarah de Vliegh, 'Rotterdam Heeft de Meeste Alleenstaande Moeders van Nederland'. AD.Nl. December 24, 2018.

1.4
one-parent families in Rotterdam

In 2018, one-fifth of all babies born in Rotterdam had a single mother. This concerns 1606 of the total of 7714 children born in Rotterdam. Not only the city of Rotterdam, but the entire Rijnmond region is at the top of the list. Relatively large percentages of the parents of newborns in Schiedam (20.2 percent of the 907 babies), Vlaardingen (17.5 percent of the 789 babies), Capelle aan den IJssel (17.2 percent of 691 babies) and Nissewaard (16.5 percent of the 757 babies) have no partner.[15]

In recent years, Rotterdam has transformed into a vibrant and popular city it is today. Living, working, and living in a compact city is the main motivation of (young) parents to want to move to or continue living in the city.[16]

Although Rotterdam has long been known as an affordable city, the Rotterdam housing market also follows the trend with other large Dutch cities in the sharp rise in house prices. The prices of houses rose by 10.8 percent in the first quarter of 2020, leading to an increase compared to other cities at the moment.[17] This circumstance poses a risk to vulnerable one-parent families, given their financial vulnerability.

Families are important for the city. They bring vibrance to the streets and when the children are school-aged, they ensure a strong social structure. Given the fact that the building ground in the city is becoming increasingly scarce (and for that fact more expensive), suitable

picture by Jitske Schols

17- Woonlab010,
Eengezinsappartement. Een
gesprek tussen Stadsmakers.
Gestapeld wonen voor Gezinnen
in de Stad? Rotterdam: 2017.

18- Marcel Potters.
'Woningprijzen Stijgen in
Rotterdam Het Hardst, Maar Wat
Doet de Crisis?'. AD.NL. June 4,
2020.

19- Lia Karsten, 'De Nieuwe
Generatie Stadskinderen'
(Nai010, 2016).

and affordable family homes must be realized. However, it will have to be in a different form than the well-known ground-floor house in a family-friendly neighborhood. This well-functioning typology should transform into a stacked collection of family homes in the city.[18] The municipality of Rotterdam is aware of this fact. In the past few years, research has been conducted into family apartments in the city based on the Woonlab010 research project. in 2015 they came up with a competition to explore the idea of this new type of family home.

The first round of the competition focused on the vision of the family apartment typology. After a second round in which 5 parties made a spatial design and business case, the Tower of Babel plan, a project analyzed in the case-study analysis of the Studio group, was declared the winner. In addition to the winning plan, many interesting and innovative ideas were submitted. They investigated which ideas from the entries return more often, stand out, or otherwise contribute to the development of the typology of the family apartment. The results can be very useful in the development of one-parent family housing in the city of Rotterdam.

1.5
conclusion

One-parent families can be considered part of a rising group in our society: modern families. The compositions in these families diverged from the traditional family: families composed out of two parents and one or multiple children. Modern families have increasingly taken their position in our society since the '70s. The view on Dutch family life before the '70s was very traditionally focused. This is not surprising, given that the vast majority of families were traditionally composed. In any case,

Fija
van der Laan

Graduation Project
Keilewijk

2020/21

User Group Research

during the post-war reconstruction of the '50s and '60s, this led to a large and unambiguous range of housing: homes designed for the traditional family. Nowadays we encounter the problem of this unilateral building stock, especially now that there is a large housing shortage.

Either way, we can learn from the past. We are faced with a similar issue as many homes will have to be built in the coming years. We mustn't make the same mistake; we will have to avoid monotony and bulk construction. Instead, we will have to focus on a varied and high-quality housing collection.

Within this collection, we should consider creating homes for the one-parent families . Especially in Rotterdam; the entire region has one of the largest shares of one-parent families in the Netherlands. Place must be kept for these families. However, given the financial vulnerability of the

families and the rising house prices in Rotterdam, there is a risk that the city will lose them in the future. Luckily, Rotterdam is aware of the importance of families in the city. With the help of the Woonlab010 research group, they have started developing and discovering solutions for creating (stacked) family homes in the city. All in all, this forms a good basis for the start of my project.

2. personal views

2.1
the diversity of needs

One-parent families are not just represented by one singular category. One-parent families can arise in such different ways that their backgrounds are not unambiguous. For example, there is a large difference between the broken family and the non-broken family; when a parent is left alone because of the passing away of the second parent or because the second parent no longer wants / or is unable to function as a parentin a family after a divorce, it can bring a lot of grief in the entire family. The loss affects all members, and it takes time and space to get used to the new situation. The situation is different for the parents who have chosen to raise one or multiple children on her or his own. This could, for example, be women who consciously choose to

become pregnant alone with the help of a donor or someone they know. It is also possible that a woman accidentally gets pregnant and then chooses to raise the child alone.

And then still; these are just a few scenarios of how a situation like this can come about. As with all other families too; there are countless stories to tell. In addition to how a one-parent familie is formed, there certainly also is a wide variety in the size and background of the families. There is, most probably , a difference between the housing needs of a family with 1 child compared to a family with four children.

Although a single parent family does not necessarily run into more problems than traditional families, there will be a great deal of similarity in the possible problem areas. This chapter examines both these problem areas and the general needs of the one-parent family. This is done based on the

analysis of personal stories of one-parent families and an online survey among single parents

Next up, the personal stories of three different families will be covered. The families being mentioned are Barbara, a mother of two children who conciously chose to have children as a single parent. Secondly, Marit story is told, she is a mother of a two years-old whose husband passed away before their baby was born.

The final story is about Jay, a father of five children whose mother decided to give up her parenthood because of persinal issues when her youngest child was two years old.

2.2
personal stories of one-parent families in the city

Barbara (51), Noor (16) and Zhong (13)

Barbara coaches and guides single women with a desire to have children and wrote the book 'Geen partner, wel een kinderwens' (no partner, but a wish for children). In Dutch, these women are called 'consciously single mothers' (in Dutch: Bewust Alleenstaande Moeder, BAM). Barbara has two daughters aged 16 and 13. The dad of older girl was a donor who Barbara personally knows. The youngest child was adopted.

'I always saw myself as the mother of four children. Two biological and two adopted children. Around the age of 30, I felt my desire to have children grow stronger. I had no relationship. I can do it alone, I thought. A gay friend wanted to

help me, but it came to nothing. My environment knew about my wish and then a good friendly couple came forward. The man wanted to be a donor. We talked well about it and eventually, Noor was born. I like that Noor knows who her biological father is. This father has no responsibility, not even a financial one.

My mom helped me a lot. She is happy that she became a grandmother. My adoption wish has also come true since Zhong Bing became part of our family. It has been difficult sometimes. Looking back, I feel grief when I realize: I have done it all alone. Raising alone is very good, although no girl dreams of having a child from a donor later. I also see it in my practice: 95 percent of my clients would rather have started parenting with a partner. A BAM-mother, a consciously single mother, is an unhappily chosen term: these mothers are not consciously single. They just did not find the right partner in time and chose to do it alone. It takes courage.'[20]

From this story, one can conclude that these families regularly experience a very specific emotional burden, or at least that counts for the mother: the disappointment that it has not been possible to start a family with a second parent is sometimes difficult to put aside.

Barbara mentions that now she's busy hosting workshops for single mothers. Nevertheless, before, when her children were younger and less independent, she found it hard to combine work and parenting. Women who choose to become single mothers do so at an increasingly younger age. According to Barbara, that is not the desirable trend:

'I would like to convince someone in their early twenties that she still has plenty of time to think about it. It shouldn't be considered desirable to raise a child on your own.'[20]

Barbara mentions the importance of a strong social network; it can function and feel like a safety net

in times when a mother is not able to handle everything on her own.

'Avoid being on your own, but don't neglect that everything has to be perfectly organized. Children are born in considerably less lucrative circumstances.'

Finally, something can be said about financial circumstances. According to Barbara, it can be said that in general a difference can be seen from the financial circumstances of the two different kinds of single mothers: the consciously single mothers and the non-consciously single mothers: The latter group of women have more psychological and financial problems, as well as their children. Those women have generally not opted to raise a child alone, in contrast to the BAM woman who consciously has only one child with the help of a donor.[20]

Marit (33) and Nova (2)

Marit is the single mom of Nova, after her husband and Nova's dad, Jurgen, passed away. Marit chose to give up her job and to be a full-time mom, but she hopes to find a job in the future.[22]

Jurgen turned out to be terminally ill during the pregnancy and was unable to make it until his daughters' birth. Marit says that looking back, she would not have chosen to get pregnant if she knew that Jurgen would pass away beforehand. The grieving process in addition to (starting up) single motherhood is still very difficult. Marit believes it is very important that single parents can rely on a strong supportive social network.

What Marit misses most is the dynamism of the traditional family. Everything that contributes to that; such as cozy table moments, sharing care, and being together in making decisions. But also planning the days and practical

matters in and around the house are more difficult alone. On the other hand, there is a very nice alternative dynamic in the strong bond she has with her child.

In the Netherlands, a parent whose partner has died can receive financial support from the government, which gives many parents a lot of support. Still, for many parents, it is nice to eventually find a job to alternate parenting to an entirely different activity and to create more financial space for the family.

Finally, Marit addresses other single parents with the following words:

'Trust in your own strength and find the right balance. As a single mom, you have a lot to keep up and you (mostly) do it alone. It doesn't have to be perfect. Take care of yourself. But most of all enjoy today, life is short!'[22]

Jay (33) with Felice (3), Jordan (4), Jairo (8), Danilo (10) and Talita (12)

In a documentary produced by the Dutch broadcaster of the KRO-NCRV called 'Een Huis Vol', 33-year-old Jay and his family are followed. Jay is the father of five children: Felice (3), Jordan (4), Jairo (8), Danilo (10) and Talita (12). the mother of his children left 1.5 years ago after she chose to go her own way and therefore to no longer function as a parent in this family due to personal circumstances.

The documentary shows Jay's daily life combined with short interviews. Based on the documentary, a number of important issues are highlighted regarding the difficulty that Jay experiences as a single father. The fact that the mother of the children chose not to be part of the family anymore makes a huge impact on both the children and Jay himself. In the beginning, the

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Graduation Project
Keilewijk

2020/21

User Group Research

family had a hard time getting used to the new situation. The family felt broken, but they also had to move on quickly. After a while, they managed to rearrange their lives and everything is running again.

Structure in the daily life of this family is very important. Every day starts with the same ritual; Jay gets up at 5 AM to get all the kids out of bed and to get them ready for school. Jay is now used to his strict step-by-step plan in which showering the kids, dressing the kids, preparing breakfast, and getting ready himself are all arranged in a tight schedule. The children are aware that they should help make this situation easier by helping each other. This ensures lively dynamism and a close bond within the family. The oldest (Talita) occasionally takes care of the youngest children to give her father some more time for himself. Jay emphasizes the importance of taking good care of himself. He feels obliged to keep the family's

life structured; after all, he is the only parent the children can support and identify with. He can only fulfill this task when he has his tasks and emotional state under control. The evenings are important to Jay because that is usually the part of the day during which he has time for himself.

The family benefits greatly from the fact that the children's school is very close to home. It saves a lot of time and problems planning wise. Besides, Jay is a self-employed entrepreneur since that offers him flexibility in his schedule. On the other hand, it also creates uncertainty finance-wise. He receives a lot of emotional support from his parents, but unfortunately, they do not live in the Netherlands. During weekends and free days, Jay always tries to come up with activities to keep the kids busy. It gets much more difficult and chaotic when they all do their own thing randomly.

2.3
online survey
among single parents

In addition to the personal stories, an online survey was conducted to identify the needs of one-parent families. This survey focuses more specifically on the housing needs of the parents. Various parents of one-parent families in which a second parent is not present were asked to answer 13 questions in the online survey.

A total of 12 parents filled in the survey. This report mentions the most relevent questions that were asked.

1. how many children do you have?

16,7 %

50 %

33,3 %

● 1 ● 2 ● 3 ● 4 ● 5 or more
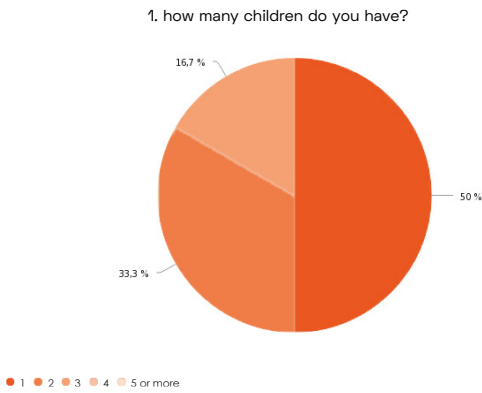
The majority of the parents who participated have one child. No parents with more than 3 children participated.

2. what is the age of your child(ren)?

Legend:
- 0-2 years
- 3-4 years
- 5-7 years
- 8-10 years
- 10-12 years
- 13-15 years
- 16-18 years
- 18+ years
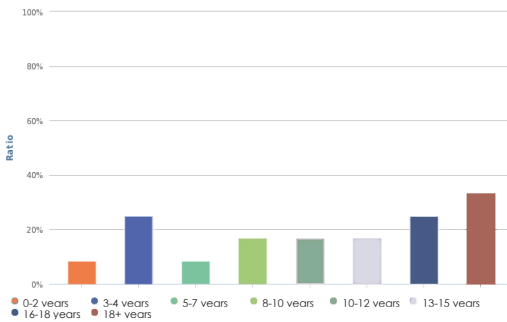
The age of the children of the parents who participated is spread relatively widely. A majority of the children are 18 years old or older; which means that the parents of these children have already gone through the entire life course during the official childhood of their child(ren).

5. what do you think is the most important space in your home for your family?

Legend:
- the living room
- the kitchen
- the bedroom(s)
- the study room
- the garden or the balcony
- otherwise, namely
- none of the options above
- I can't or don't want to answer this question
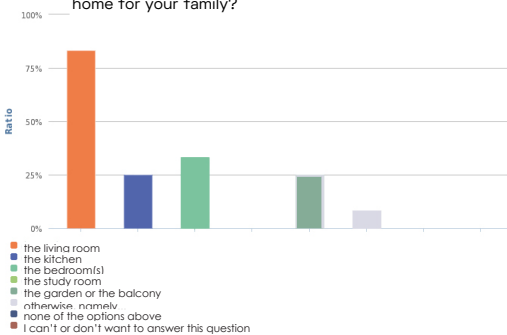
The large majority of the parents considered the **living room** the most important space for their families. One participant mentioned an alternative space; namely the attic used as a multi-functional space.

6. Do you experience difficulties with one or more of the topics listed below while raising your child?

Legend:
- Financial security
- Daily planning
- Finding time for yourself
- Finding time to spend with your kids
- Combining work and family
- Finding childcare for my child(ren)
- Household chores
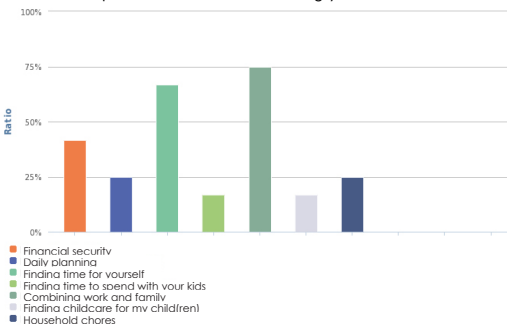
The majority of the parents experience most difficulties with **finding time for themselves** and **combining work and family.**

7. Do you or have you encountered difficulties in finding a desired home for you and your child(ren)? If so, what was the main reason?

- Finding an affordable home
- Finding a home which is big enough
- Finding a home with enough outside space
- Finding a home at the right location, namely...
- Otherwise, namely...
- I did not experience any difficulties
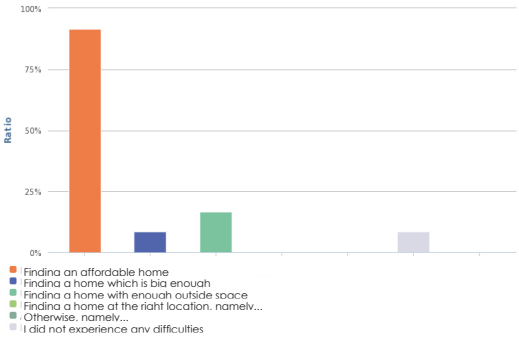
The vast majority of the parents found it difficult to find **an affordable** home for their families.

8. Suppose you share extra spaces outside your own home with several families in a residential building, which space(s) do you think would be most useful?

- a spacious living room
- an extensive kitchen
- a garden
- indoor play areas
- study places
- work places
- a laundry room (to replace your own laundry room)
- otherwise, namely...
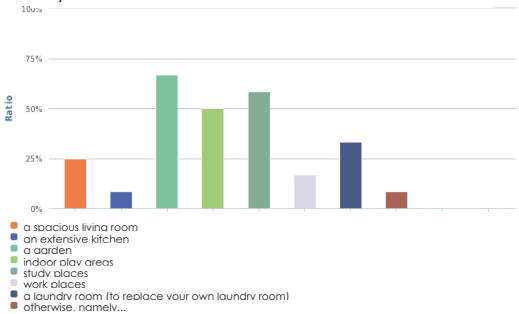
Preferably, the parents would share **extra study places, extra play areas indoors or, an extra garden** with several families in a residential building.

10. Do you find it important that your child (ren) have their own bedroom?

16,7 %

83,3 %

yes   no   yes, from a certain age, namely...   I can't or don't want to answer this question
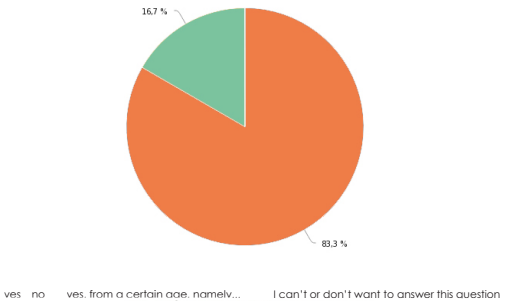
All parents consider it important that their child(ren) have **their own bedroom**. However, two of the participants believe that this is only important from a certain age, namely from the moment that the children are 6 and 7 years old.

56

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2.4 conclusion

In the chapters before, the needs of one-parent families are explored. From te personal stories, various stumbling blocks in the daily life of the families can be extracted. From the survey, a more specific insigh is given in de housing needs of the families. Based on the results of both explorations, an invesitgation of the needs of one-parent families is made.

Work
Combining work with parenting is difficult; especially when the children are young en depent on you as a parent.

Social Network
A strong social network is important. It can comfort the families by offering a safety net, a helping hand or emotional support.

Finances
In general, it is hard for one-parent families to find an affordable place to live Especially families who did nog anticipate on being alone often need financial support. It can be really helpful to have flexible job, though it can also be insecure.

Personal time
Self-time for parents is of big importance, though it can be difficult to find. Anyhow, for both the parents as well as the children it can be very much needed to find time for thereselves every once in a while. A private place for each family member can therefore be really helpful.

Planning
Daily planning is often difficult for single parents. To create a clear stucture by applying a daily routine van be really helpful; especially for families with multiple (relatively young) chilfren. When children get older it gets easier since they are less dependent and they
can participate in the household

tasks. It can be really helpful to live in a central place close to close to facilities such as a school, a supermarket and sports clubs

Emotional support
In almost all families there's some kind of grief to find. The reasons differ a lot. It can for example be due to a divorce, the loss of a parent or the fact that a dream of creating a traditional family could not come true.

Shared Space
It seems like to most families, the living room is the most important space in the house. However, when they share spaces with other families, most prefer study rooms, indoor play areas and a garden.

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3.   case studies

Babel
Laurens Boodt Architecten

location **| Rotterdam, the Netherland**
year of completion **| 2021**
nr. of dwellings **| 22**
type of dwellings **| family apartements**

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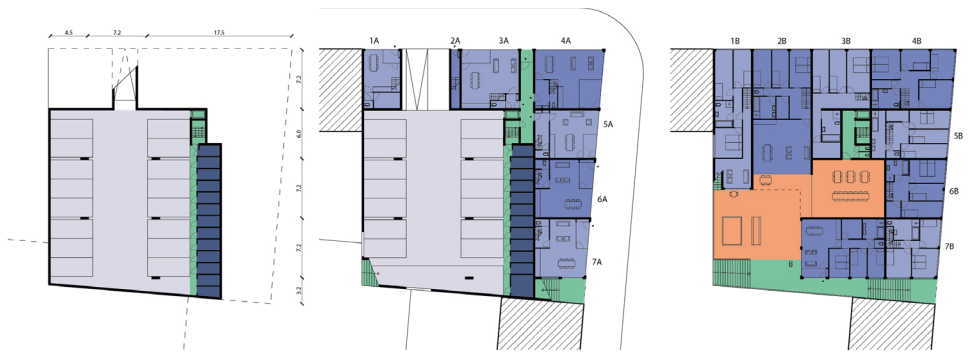
Floor -1

Ground Floor

First Floor

1:1000

- Private
- Communal
- Circulation
- Parking
- Storage

Second Floor

Third Floor

Fourth Floor
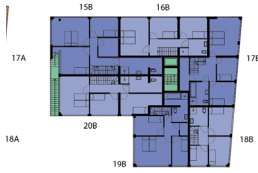
Fifth Floor
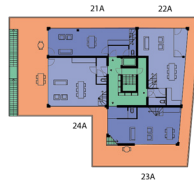
Sixth Floor

Seventh Floor
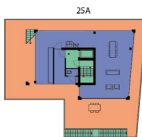
Eighth Floor

Ninth Floor

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22A

1500
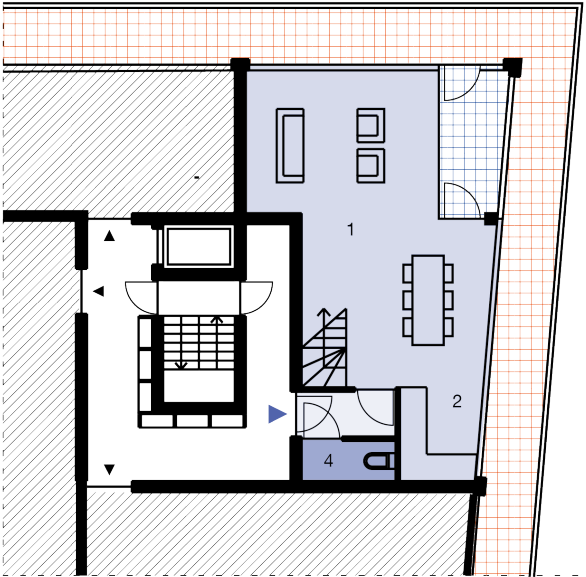
22B

3600 3600

3900

3000

3900
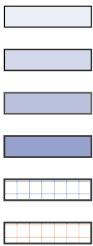
circulation

living room / kitchen

bedrooms

bathrooms

private terrace

collective terrace

public border

collective border

private border

Private Outdoor Space   'Public' Street Space
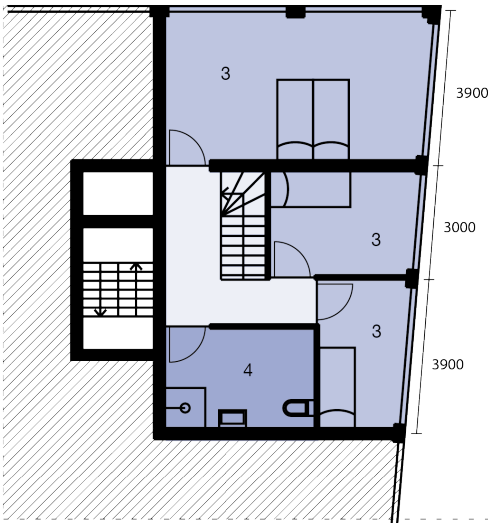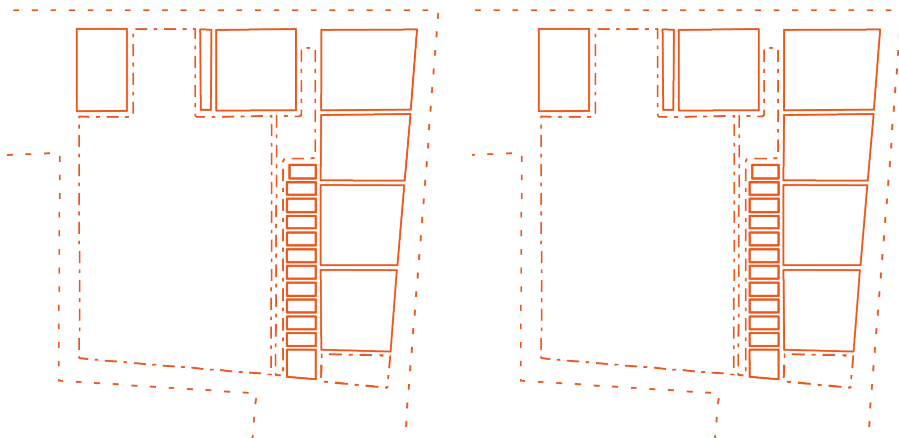
Borneo Eiland
Marlies Rohmer Architecture

location **| Amsterdam, the Netherland**
year of completion **| 1997**
nr. of dwellings **| 48 + 21**
type of dwellings **| family apartements**
studio apartements

situation
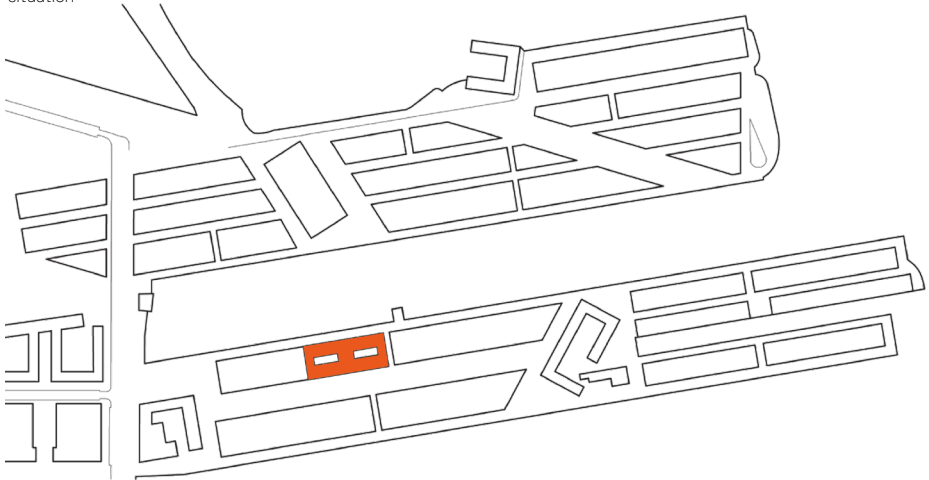
ground floor

Legend:
- Family apartements
- Studio apartements
- Communal
- Circulation
- Parking

29 000
10 000
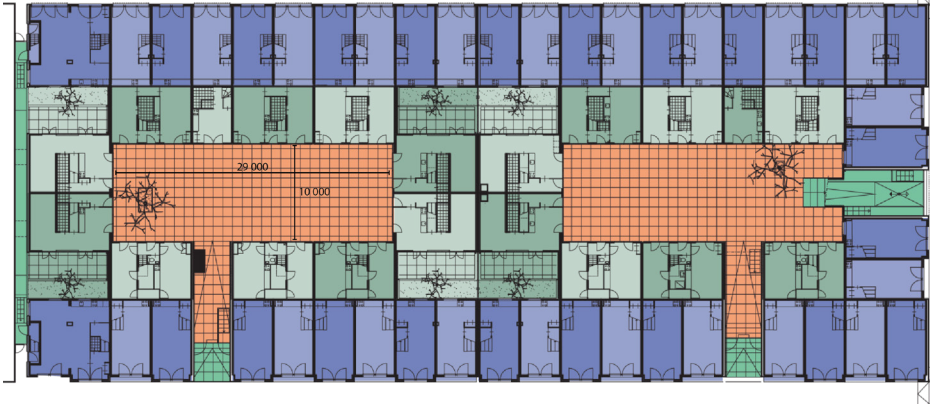
first floor

section

A   B   10 000   B   C
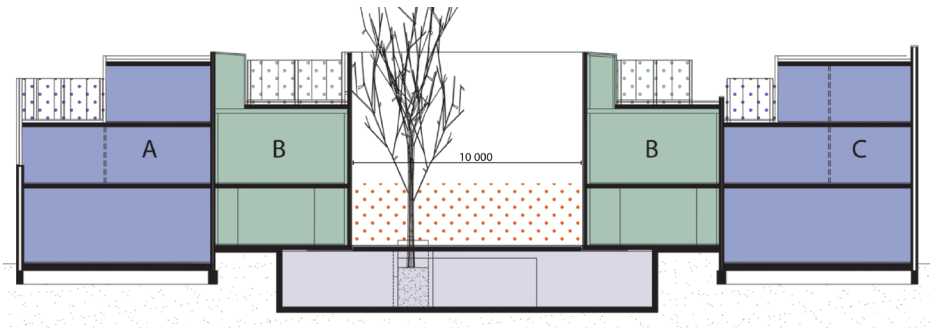
typical dwelling

circulation
1 living room
2 kitchen
3 bedrooms
4 bathrooms
private terrace
collective terrace

total GFA   **97m2**   (family apartement)
100m2 (studio apartement)

Marlies Rohmer Architecture

public border ....
collective border -..-..-..-..-..
private border _____
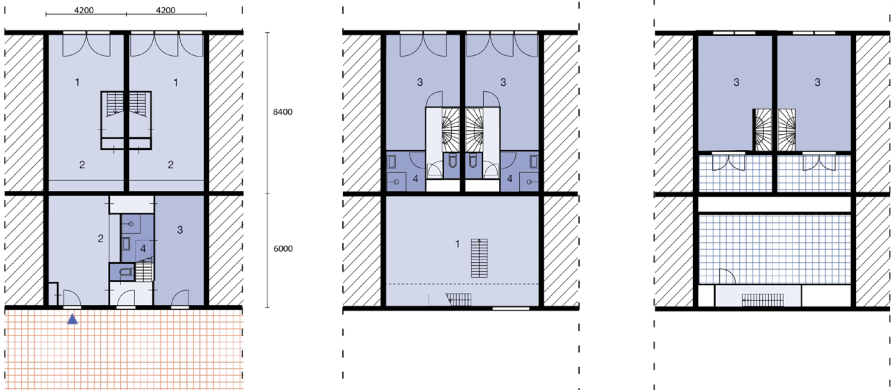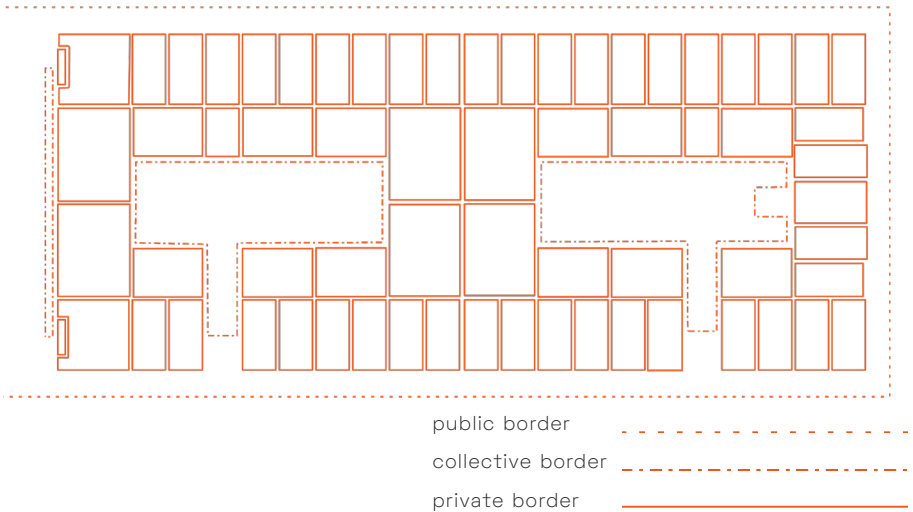
Marlies Rohmer Architecture

Wisselspoor
Happel Cornelisse Verhoeven Architects

location **| Leuven, Belgium**
year of completion **| -**
nr. of dwellings **| 68**
type of dwellings **| family apartements**

situation

3rd floor
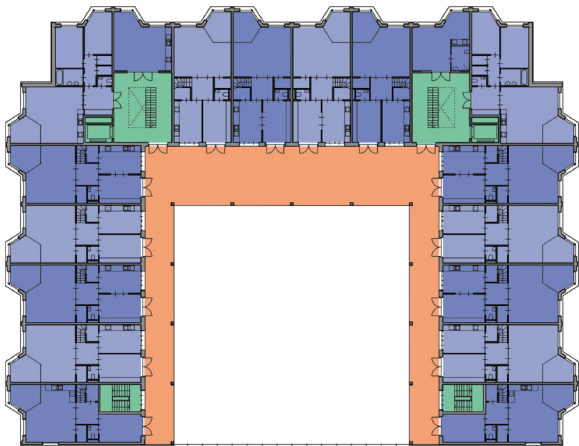
4th floor
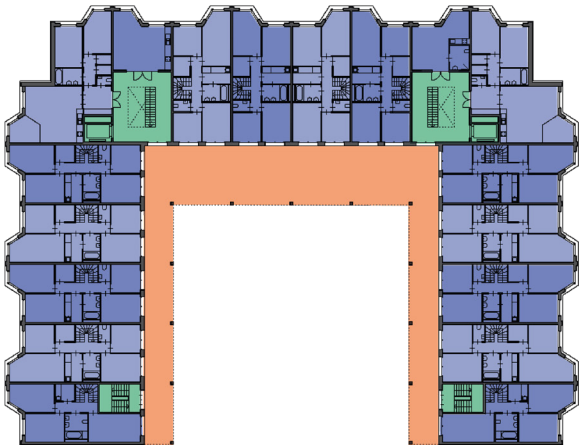
Private
Communal
Circulation
Parking
Storage

typical dwelling
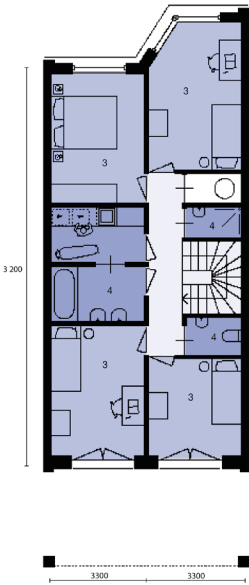
	total GFA	**176m2**
		circulation
1		living room
2		kitchen
3		bedrooms
4		bathrooms
		private terrace
		collective terrace

3 200

3300   3300

public border
collective border
private border

74

Marlies Rohmer Architecture

4. conclusion

keypoints for a design strategy

Based on the research mentioned in the last chapter, I formulated key points to start with when forming a strategy for the design of housing for one-parent families in the city.

> It is important to ensure affordability when it comes to housing for most one-parent families. Therefore I suggest creating compact dwelling, made out of sustainable but affordable materials and technologies. Secondly, I suggest clustering spaces that can be shared such as laundromats, study rooms, and play areas.

> There lies big importance in a clear division between the collective and the individual. A wealthy collective structure can contribute to a communal feeling that empowers the families within their daily life in the building and in the city. At the same time, it is important that the individual is able to withdraw himself or herself from the others. Therefore it is important that all individuals can withdraw themselves in their own bedrooms. It seems that there's potential in the separation of spaces within a dwelling instead of larger spaces where multiple functions are brought together.
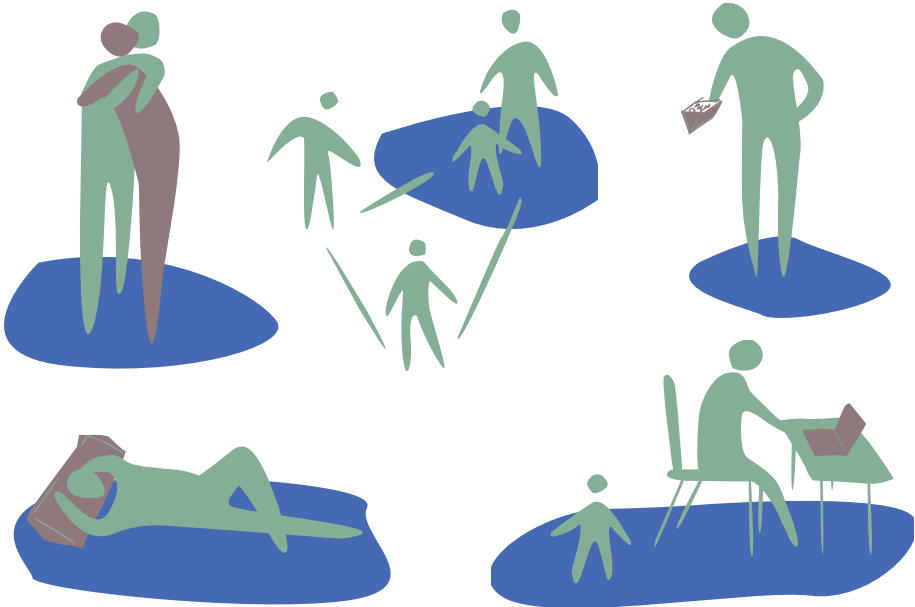
STARTING POINTS

Research question

How can a collective residential building for one-parent families in a densely populated urban environment contribute to the housing needs and living requirements of these families in a future inclusive Rotterdam?

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Starting Points

Design ambition

The aim of this project is to develop a collective residential building design for one-parent families in the Merwe-Vierhaven area in Rotterdam that meets the housing needs and living requirements of both children and parents and that contributes to an inclusive city.

The design ambition of this project marks the starting point of my design strategy.

When decomposing the ambition, one can say that it falls apart in two parts; the aim **to design a building that contributes to the inclusivity of the city** besides the aim to design **a suitable building and dwellings for one-parent families that embrace a certain level of collectivity**.

In the following chapter I will describe how I approach these two parts.

How can architects contribute to the inclusiveness of a city?

That the existence or creation of an inclusive city cannot be designed is beyond dispute. Still, I am convinced that designers of the built environment can contribute to the support of inclusivity through their designs. My approach to how this can be done is due in large part to the work of sociologist Richard Senett, and work in the book Building and Dwelling; Ethics for the City in particular.

Sennett deals with the principle of the open city; the city where people of all backgrounds or statuses know equal possibilities and live together in harmony. He hands the city's designers tools consisting of **Five Open Forms.**

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Starting Points

Synchrony - the first is the importance of public realms such as busy streets, promenades, and marketplaces where human interactions can intensify and multiply.

Porosity - the second is the porosity of urban boundaries: creating and preserving active in-between places that keep different urban realms connected rather than cut off from each other.

Punctuation - the third is the punctuation of urban places by markers such as imposing monuments, murals, or street furniture that allow places throughout the city to escape repetitiveness and acquire distinctive character.

Incompleteness - the fourth is an evolutionary approach to urban form, where buildings are never complete, being repaired and repurposed over time.

Seed planning - the fifth is the advice to avoid rigid structures and support a strategy to apply the previously named forms throughout the city randomly. In this way, places should gradually become differentiated from one another yet follow a common pattern language, a set of often unwritten rules embedded in the city's culture that lend it a shared moral and visual aesthetic.[20]

In my design development, I relied mainly - determined from the scale of the project - on the second and the third form; **porosity and punctuation.**
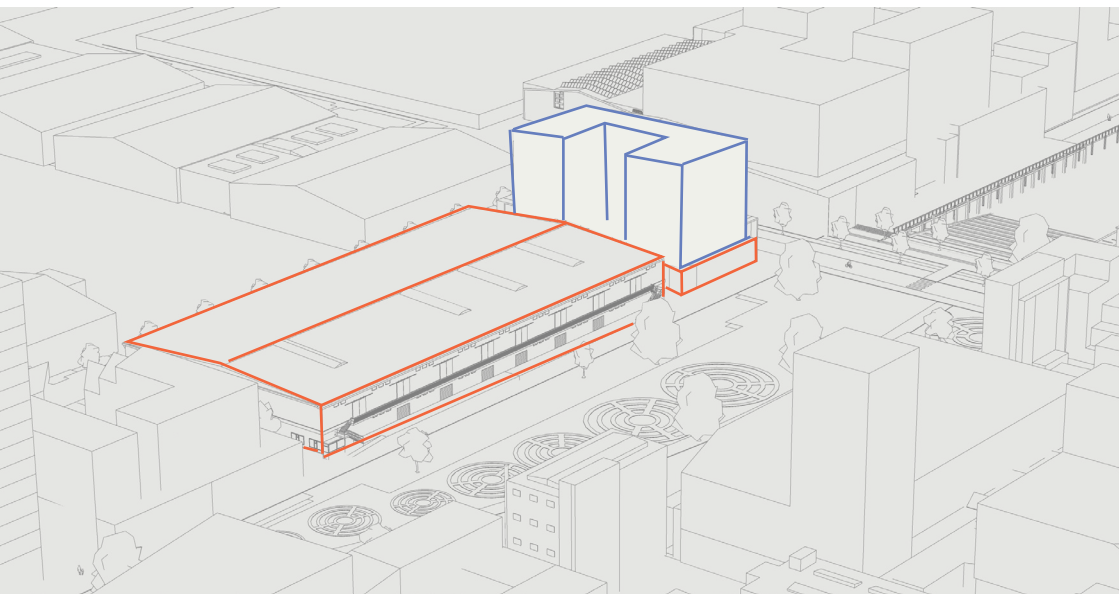
the open forms as starting point of the building design

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Starting Points

the existing building
the Keilepand

an extension that connects
functionally and aesthetically

a contrasting addition with
dwellings on top

a porous and punctuated zone

The **open and porous zone** is embedded in an existing structure of the area; besides the literal extension of the existing Keilepand; the functions connect to the existing urban food garden located in the Keilepark. The Keilepand will function as a place where local food can be produced, consumed, and sold in its extension as a marketplace.

Also, parts of the Keilepand can be used as a workshop hall, gallery, or/ and restaurant.

People from all over the region will meet at this intersection in the city where daily shopping, work, dwelling, and relaxation meet. The functions and composition invite people from different backgrounds and cultures to cross, learn, and see from and about each other. A passage between the old and the new buildings is a marking point that connects all functions.
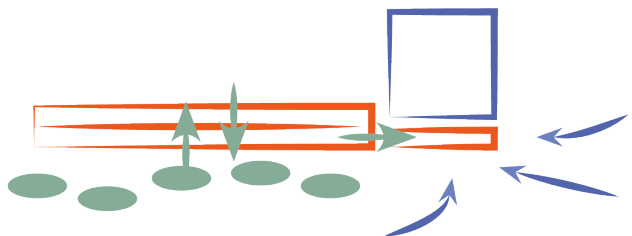
How should the dwellings for one-parent families on top be composed?

From the research conclusions into one-parent families, I set the main key points to design a residential collective building and dwellings on top of the Keilepand.
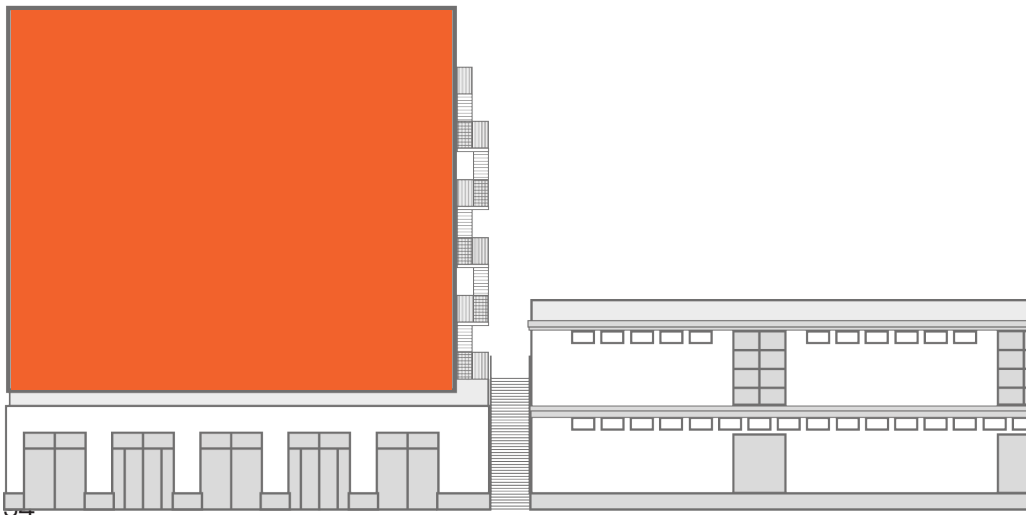
❙ affordable dwellings through
a compact design and the sharing of spaces and functions

❙ suitable homes for every kind of one-parent family through
a wide variety in dwelling types

❙ a building configuration and separate dwelling designs that
stimulates social control and a strong bond among neighbors

❙ possibilities to draw back from others through
a clear division between the community, the familiy, and the individual

❙ a structure where children get to know their living environment in phases;
**from the front door to the sidewalk, to the square, to the park,
and finally to the rest of the city.**
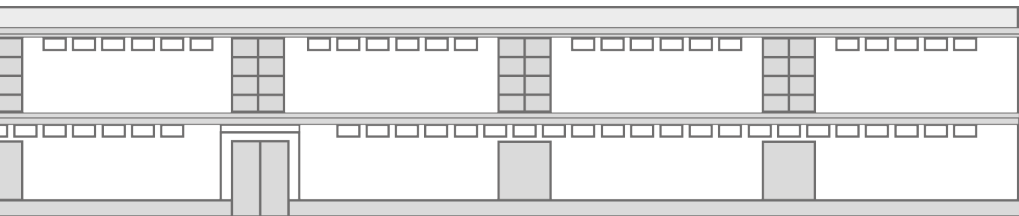
An intimite neighbourhood in an old harbor

Children are incredibly important to the city; they provide greater degrees of liveliness and social reinforcement. I was greatly inspired by the designed work of Marlies Rohmer and the written work of Lia Karsten and Naomi Felder in their book 'De nieuwe generatie Stadskinderen'. All embrace the relevance of children in the city, and therefore the design of space for children to grow up in.

Where the Merwevier harbour has always been a busy industrial region, it is now transforming into a residential environment. These functions diametrically oppose. At the same time, the open structure of the old port area offers opportunities to seek out that area of tension; how do you create the intimacy of a residential area in an robust port area?

My strategy is to bring the intimate residential area to the Merwevierhaven literally. By stacking different outdoor spaces typical for the residential area, I attempt to create a vertical neighbourhood.

Exploring this idea, I came to a set of four outdoor typologies that differ in character and function; the sidewalk, the alley, the courtyard and the field.

KAMERUN
HAMBURG

stadsarchief Rotterdam

the field

the sidewalk

the courtyard

the alley

DESIGN

drawing **situation**
schale 1:1000

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Design

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Design

Building B4
Floor area: 35.268 m2
Height: 74 m

Building B5
Floor area: 576 m2
Height: 8 m

Building B3
Floor area: 9.020 m2
Height: 18.6 m

Building B2
Floor area: 14.800 m2
Height: 11.5 m

Building B1
Floor area: 9.000 m2
Height: 23.5 m
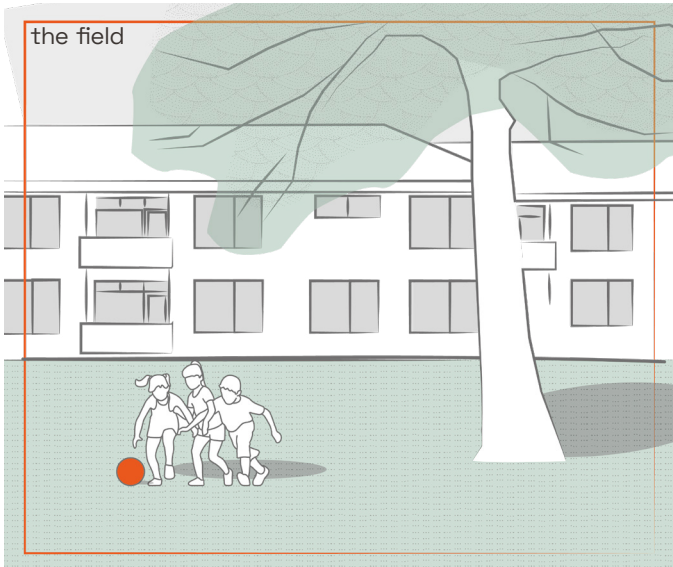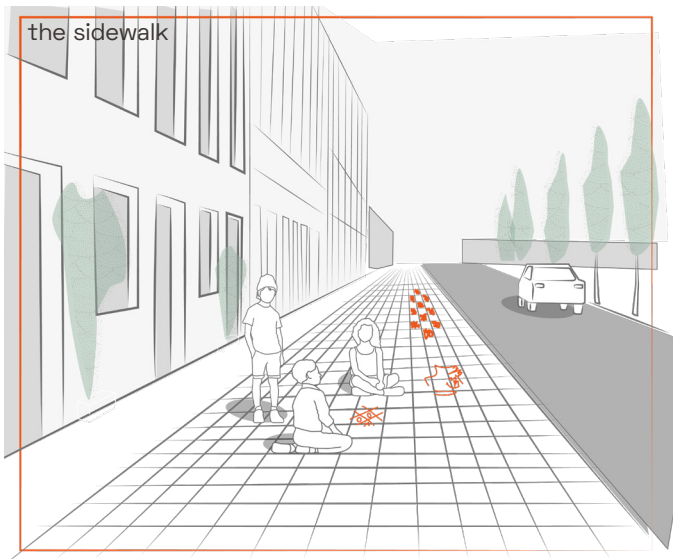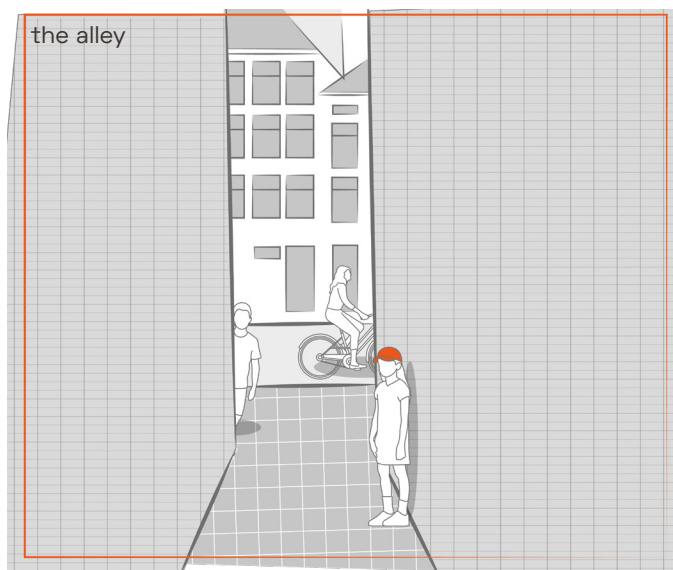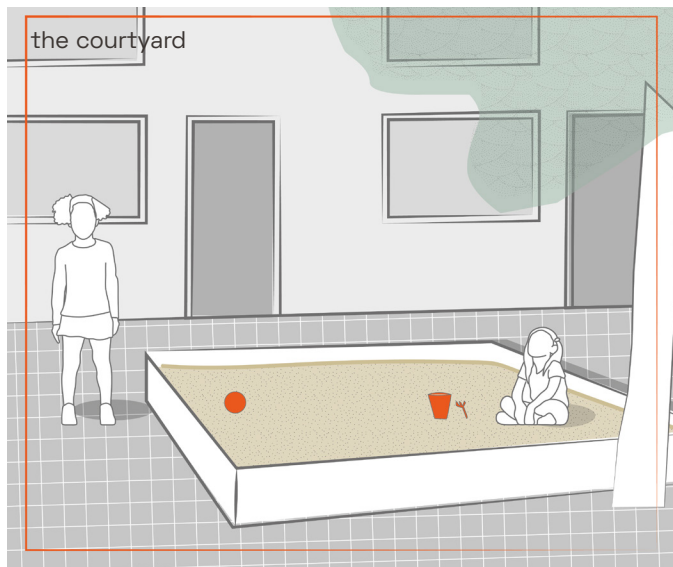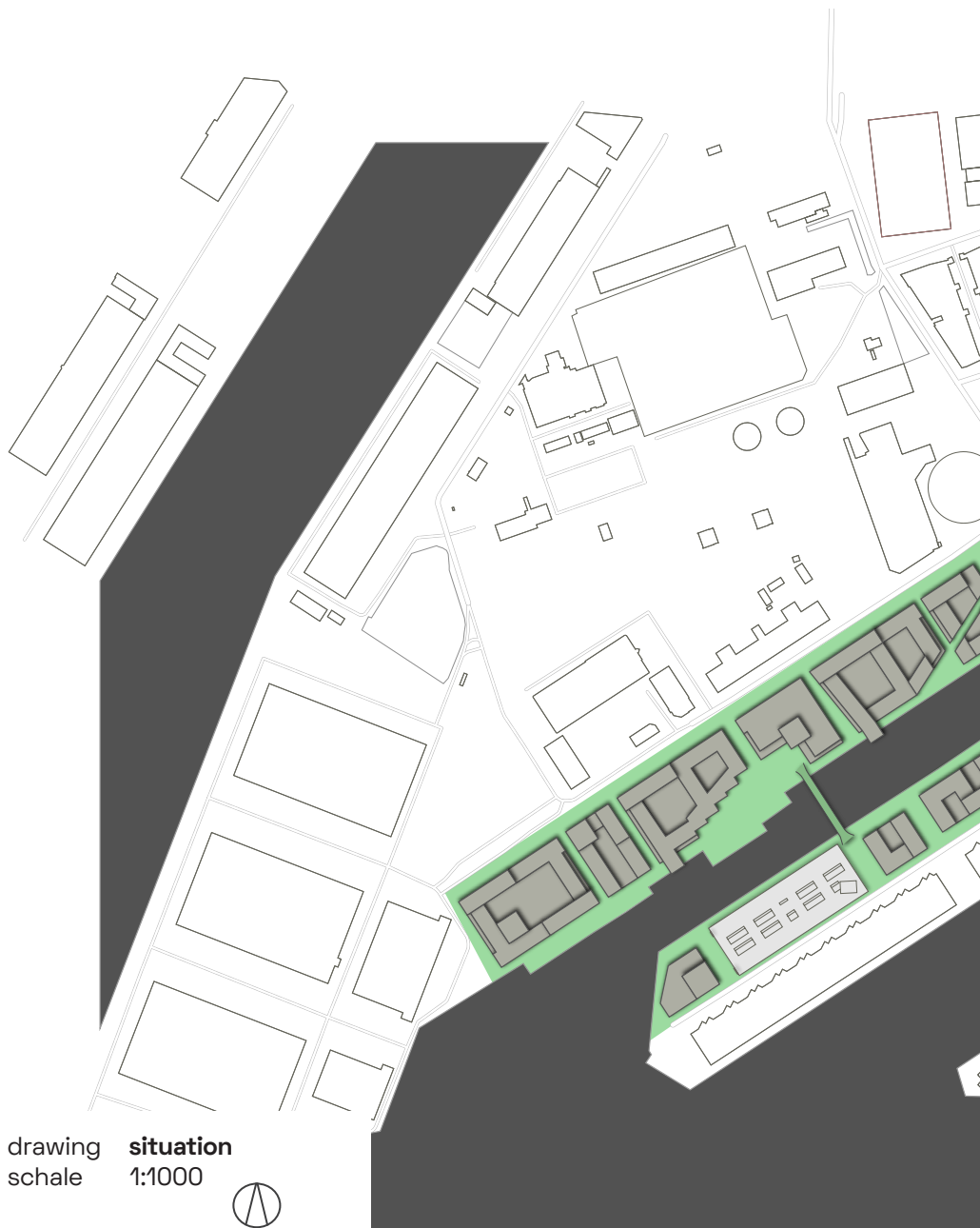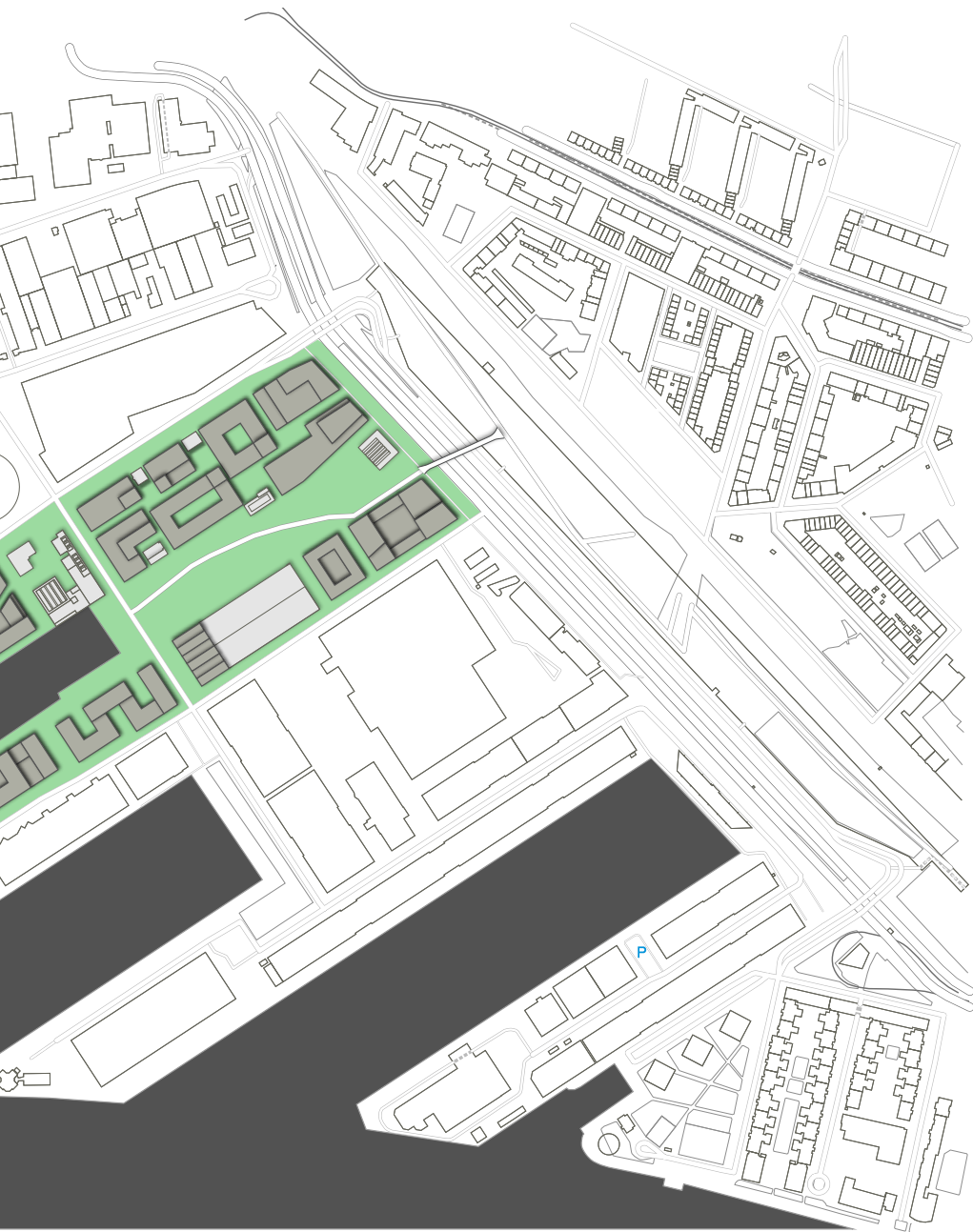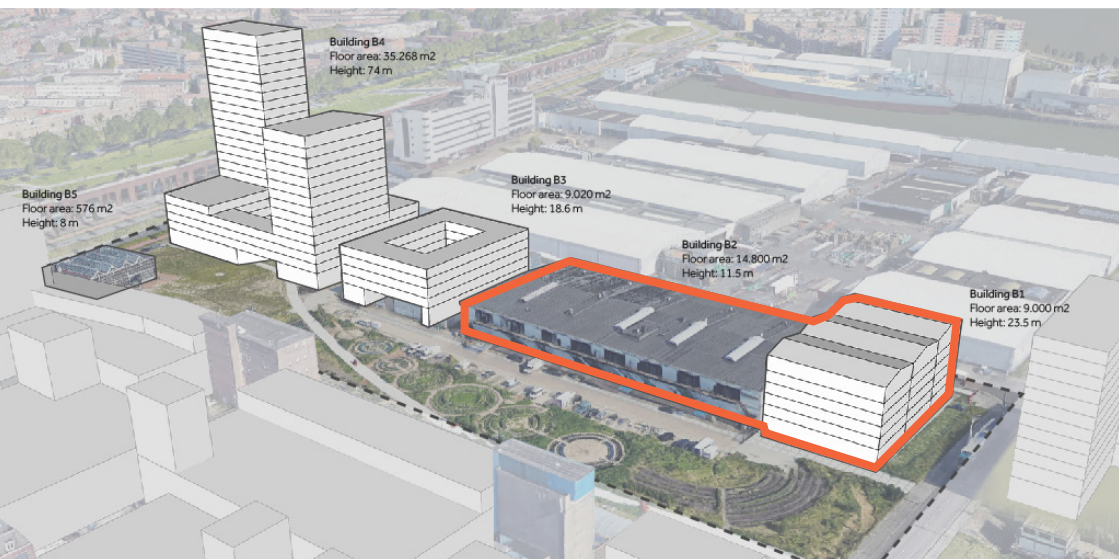
an urban plan from the first semester (studio work)

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Design

the volume configuration of the final design
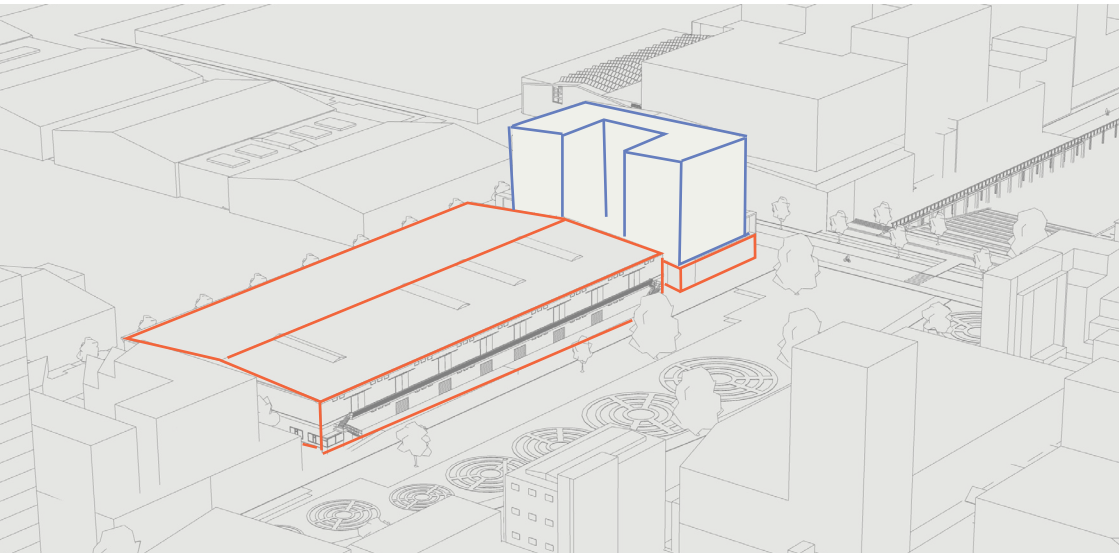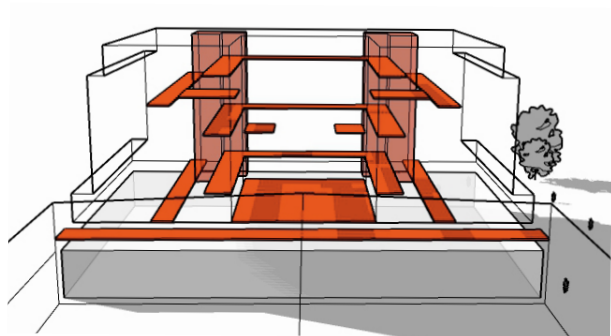
the configuration of the outdoor space typologies

the configuration of stacked dwellings
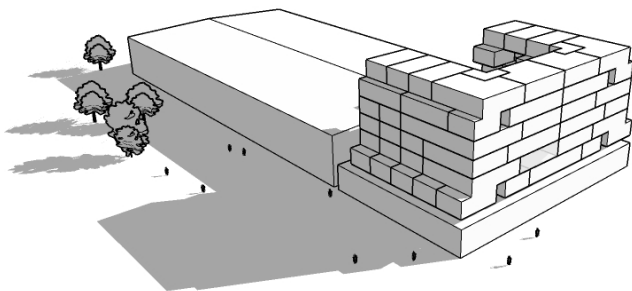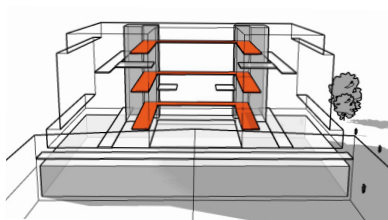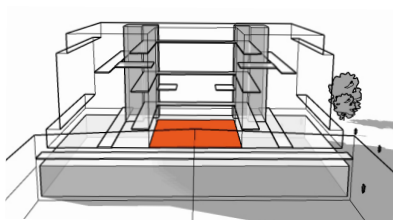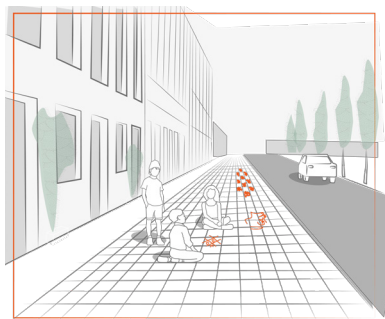
first floor

second, fourth, sixth floor
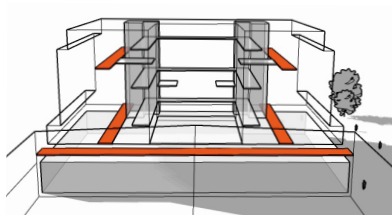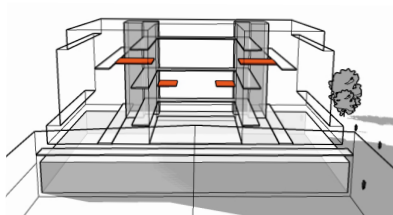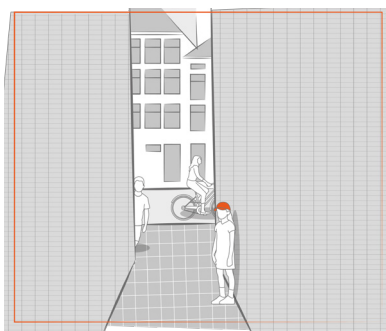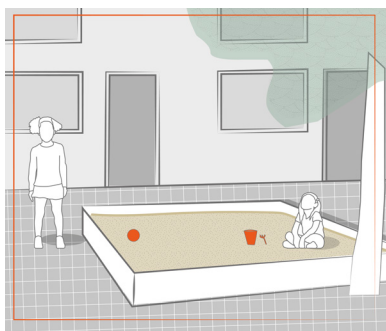
third, fifth floor   first, fifth floor

Keilewijk

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Design

floorplans

drawing **ground floor**
schale 1:500

On the ground floor, the marketplace is located in the extension of the exiting Keilepand. The two buildings are connected on the inside.

Outside, the passage can be accessed that leads to the main entrances of the dwellings.

On the south, a side entrance is located that provides an elevator. Through this entrance, a bike shed and storage space for the residents in the basement is accessible as well.

existing building

drawing **ground floor**
schale   1:200

5700   5700   5700   5700   5700

side entrance to dwellings

marketplace

6400

6400

6400

6400

6400

6400

6400

6400

5700 5700 5700 5700 5700 5700 5700 5700 5700

drawing **basement**
schale 1:200

5700 5700 5700 5700 5700

bike shed

6400

6400

6400

6400

6400

6400

6400

6400
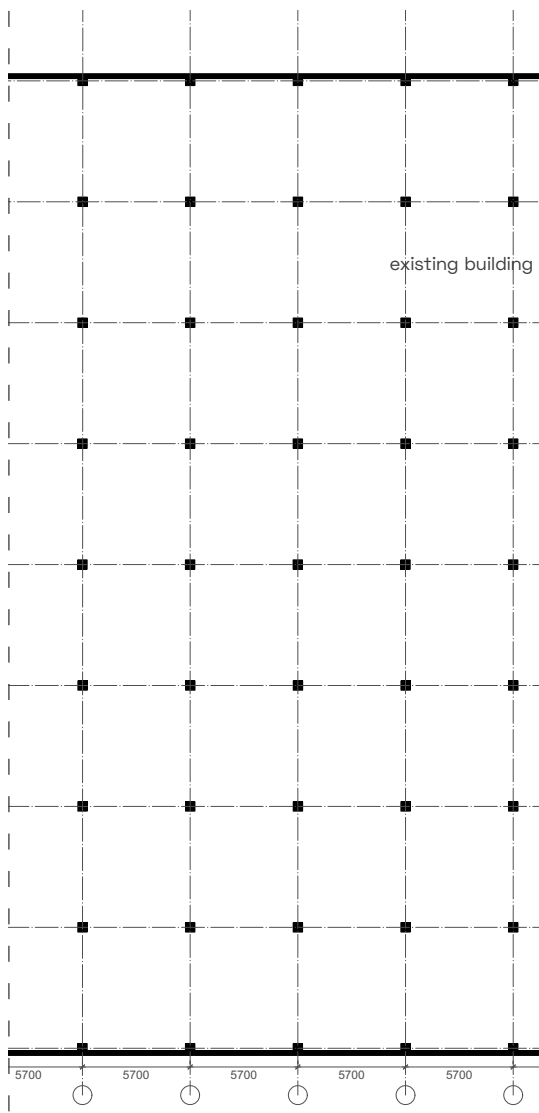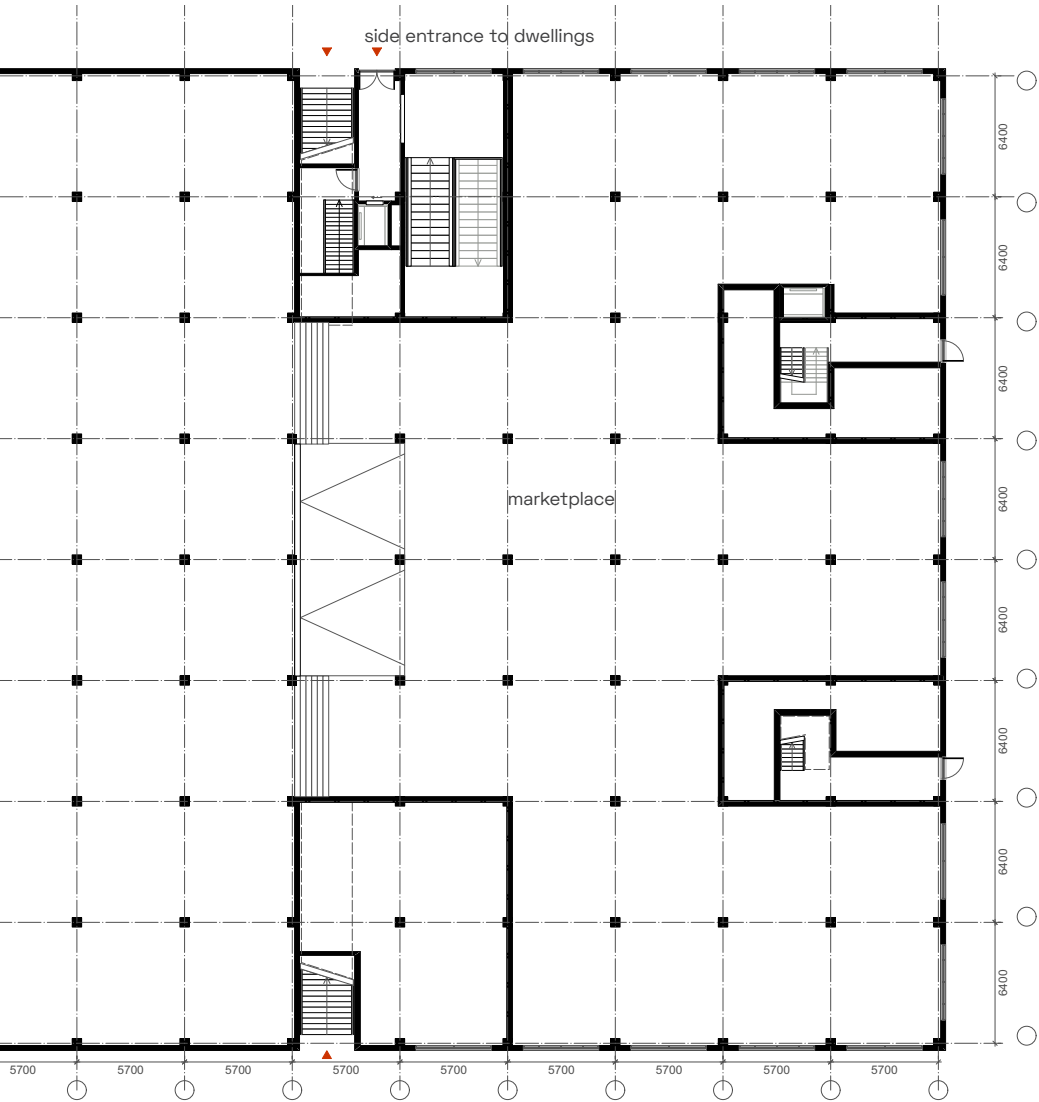
5700 5700 5700 5700 5700 5700 5700 5700 5700
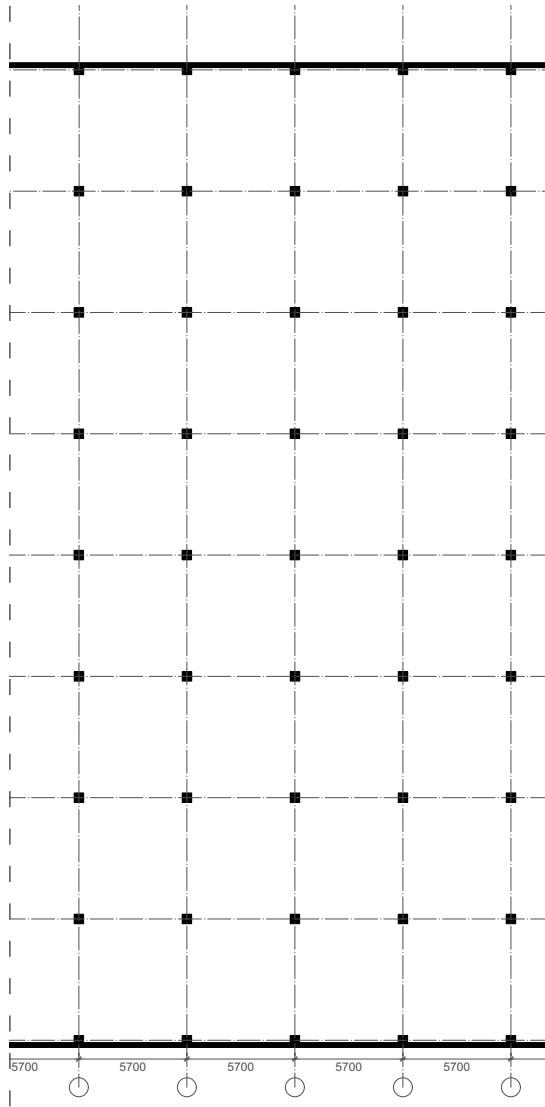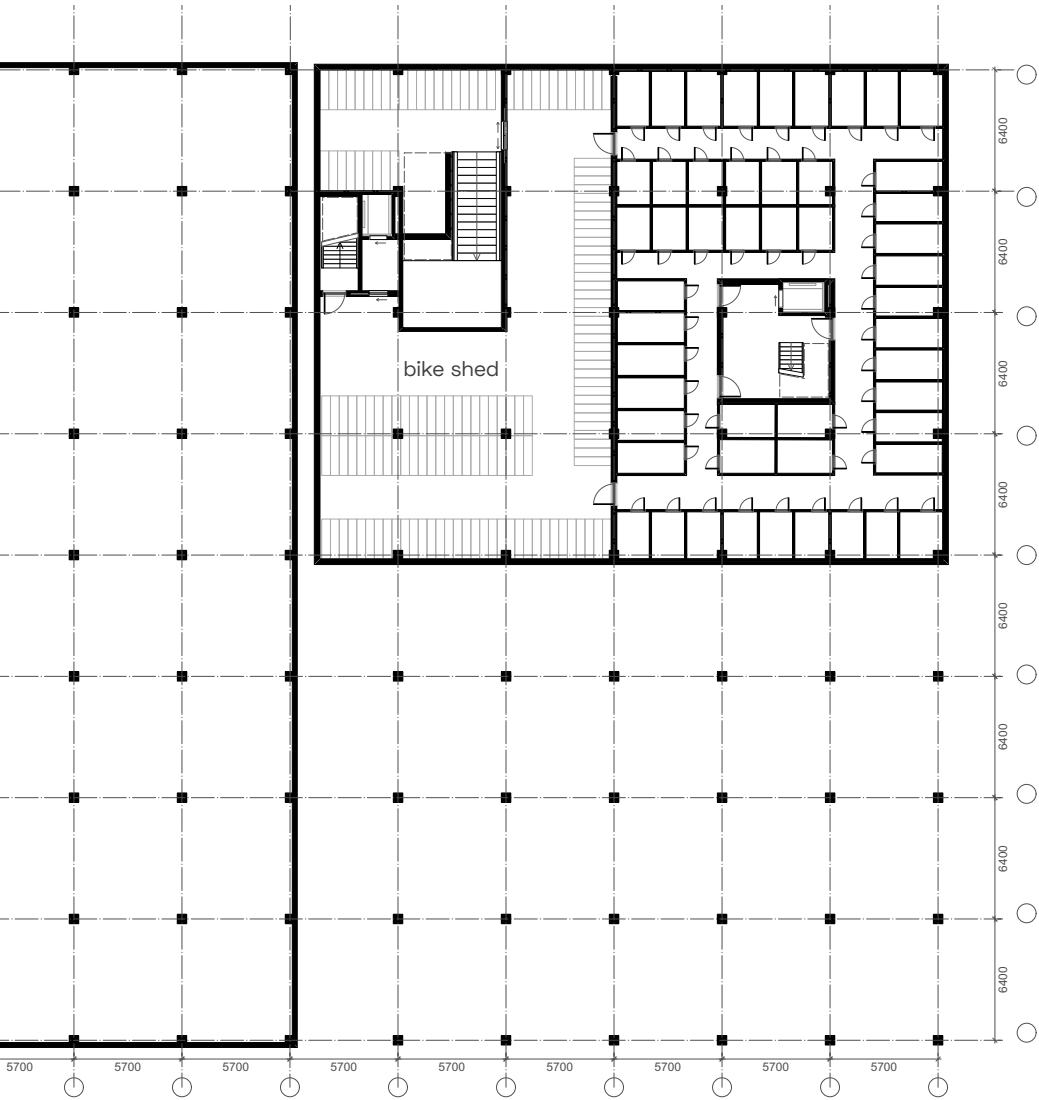
On the first floor, the Keilewijk can be accessed through two main entrances along the passage.

The passage also provides access to workshop-, shop- and gallery spaces in the existing Keilepand.

When entering Keilewijk, you arrive at the shared garden (the field) with a communal living room attached. At the south entrance, a postbox is located that is accessible for the post deliverer by elevator.

One can either walk through the garden or more hidden through the alley towards the staircases and elevator that lead to the upper floors.

The first floor also contains a laundry room and toillets.

drawing **first floor**
schale 1:200

workshop / shop / gallery spaces

drawing **second floor**
schale 1:200

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Design
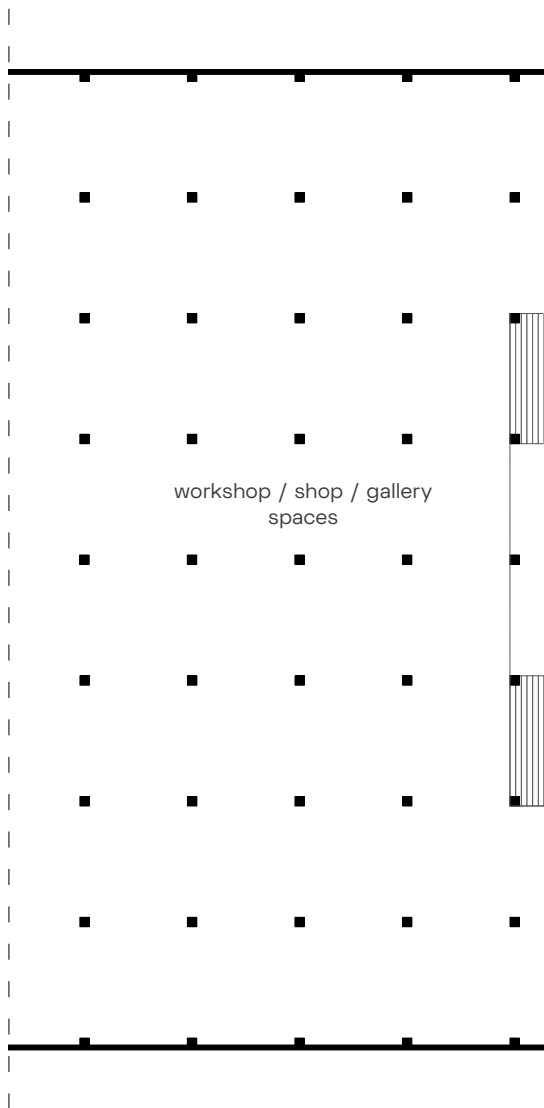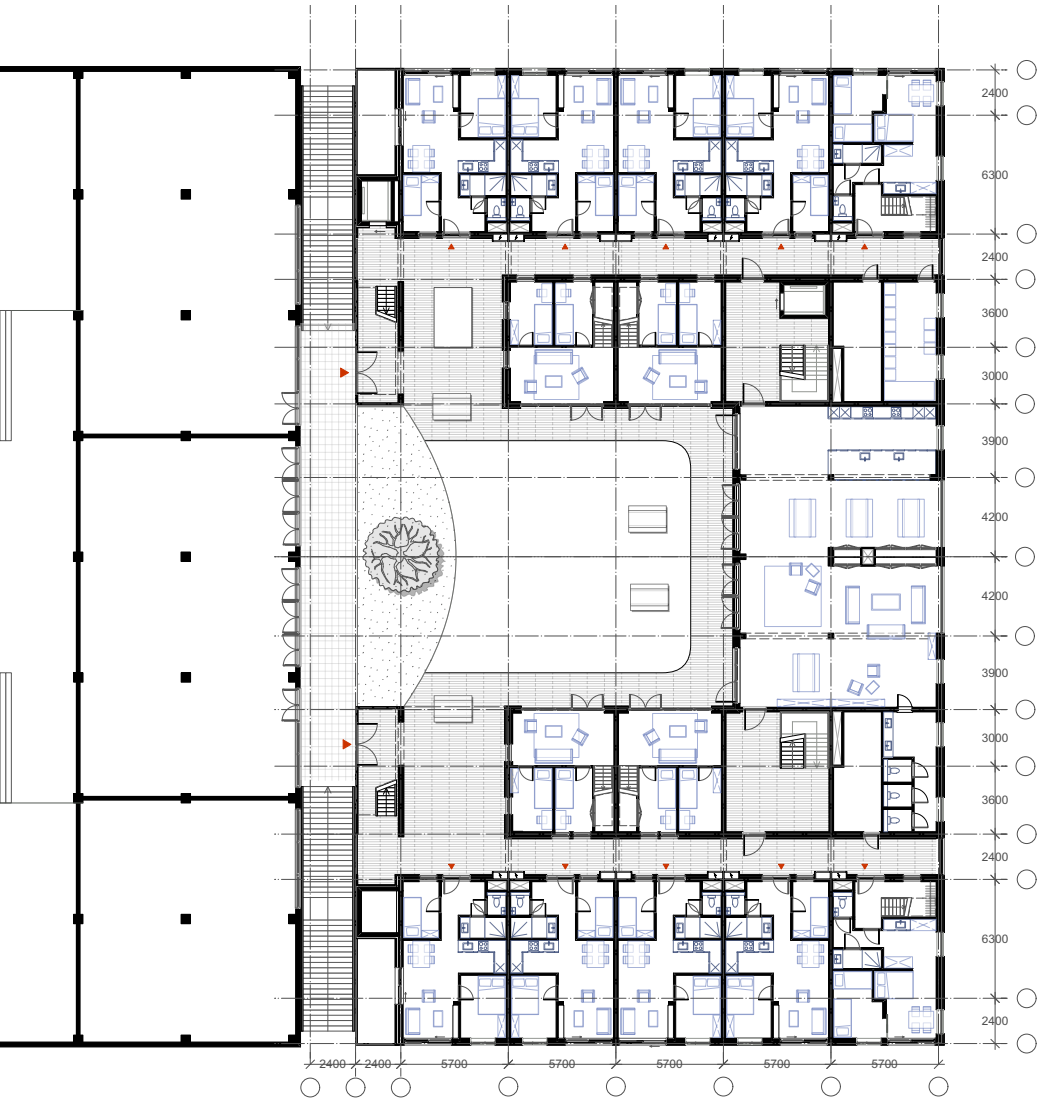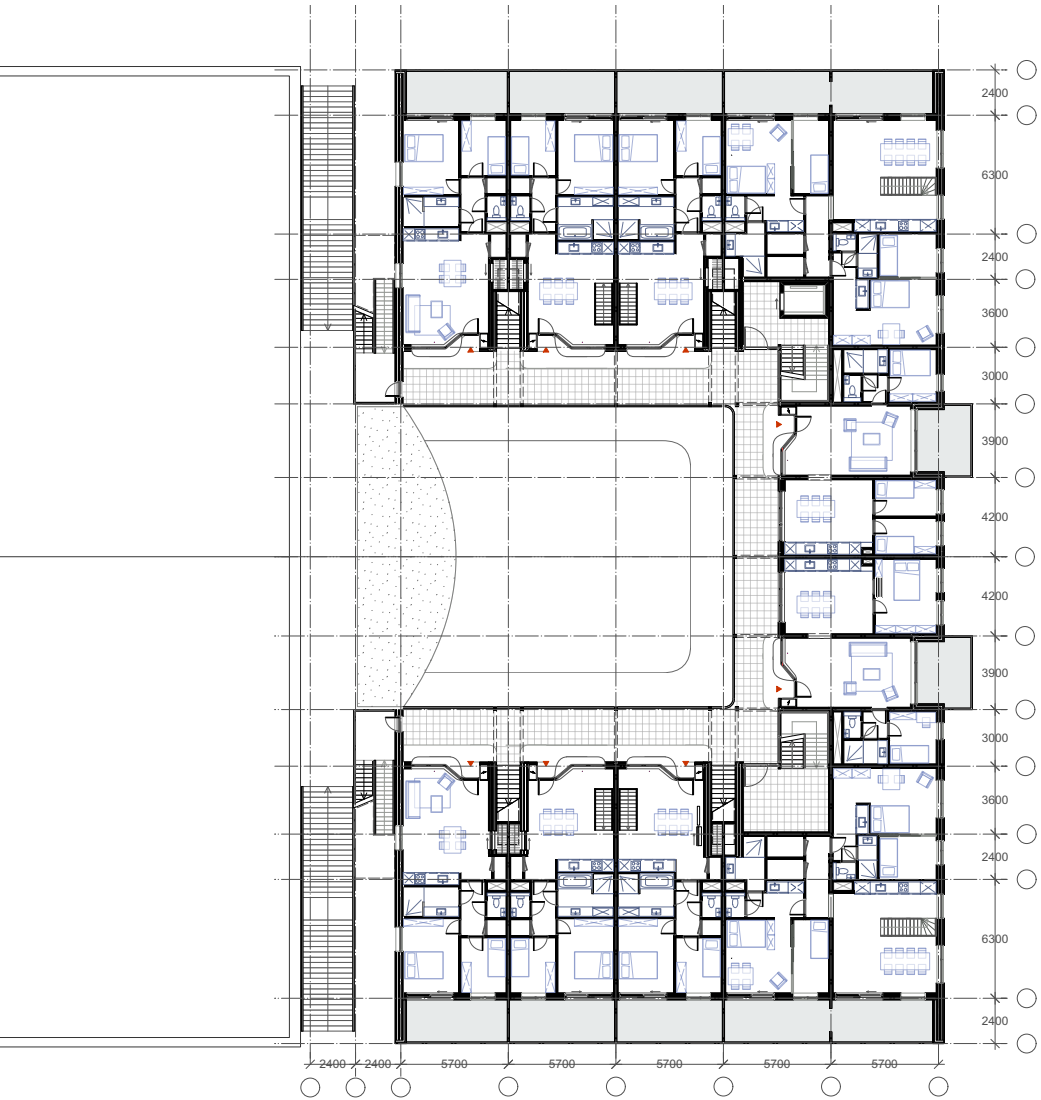
the third floor contains, apart from the dwellings, a small study/work space.

drawing **third floor**
schale 1:200

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Design
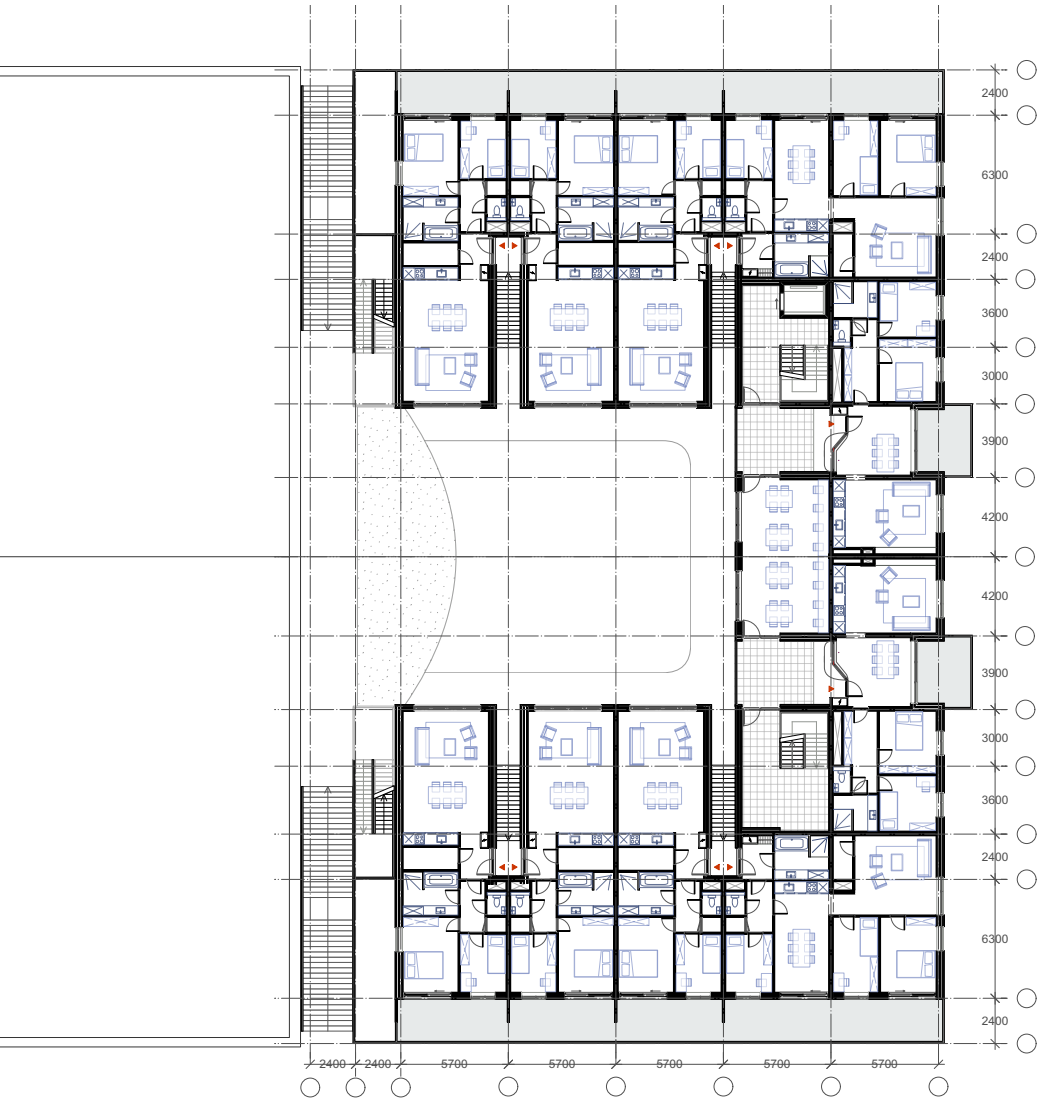
drawing **fourth floor**
schale 1:200
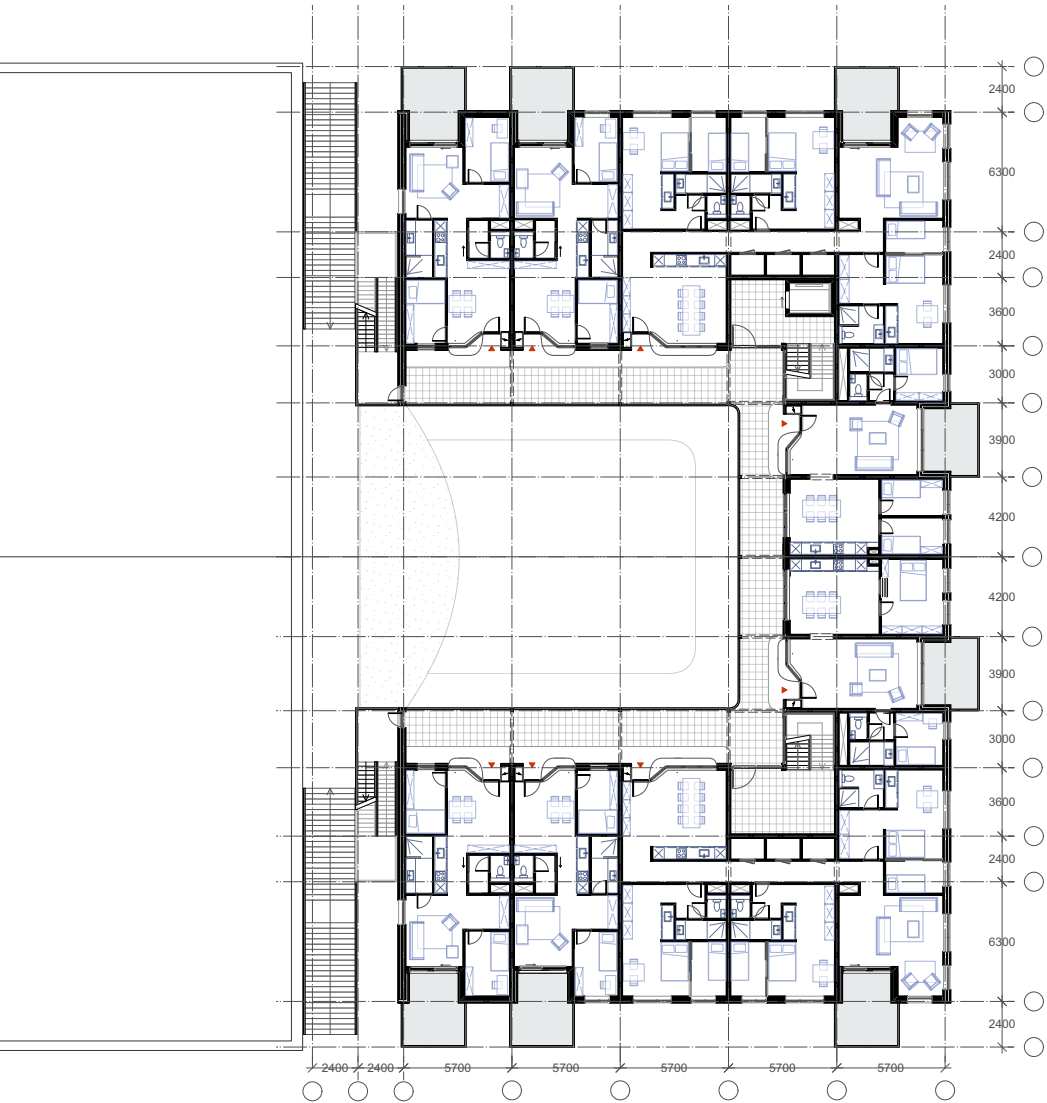
the fifth floor contains, apart from
the dwellings, a small study/work
space.

drawing   **fifth floor**
schale   1:200
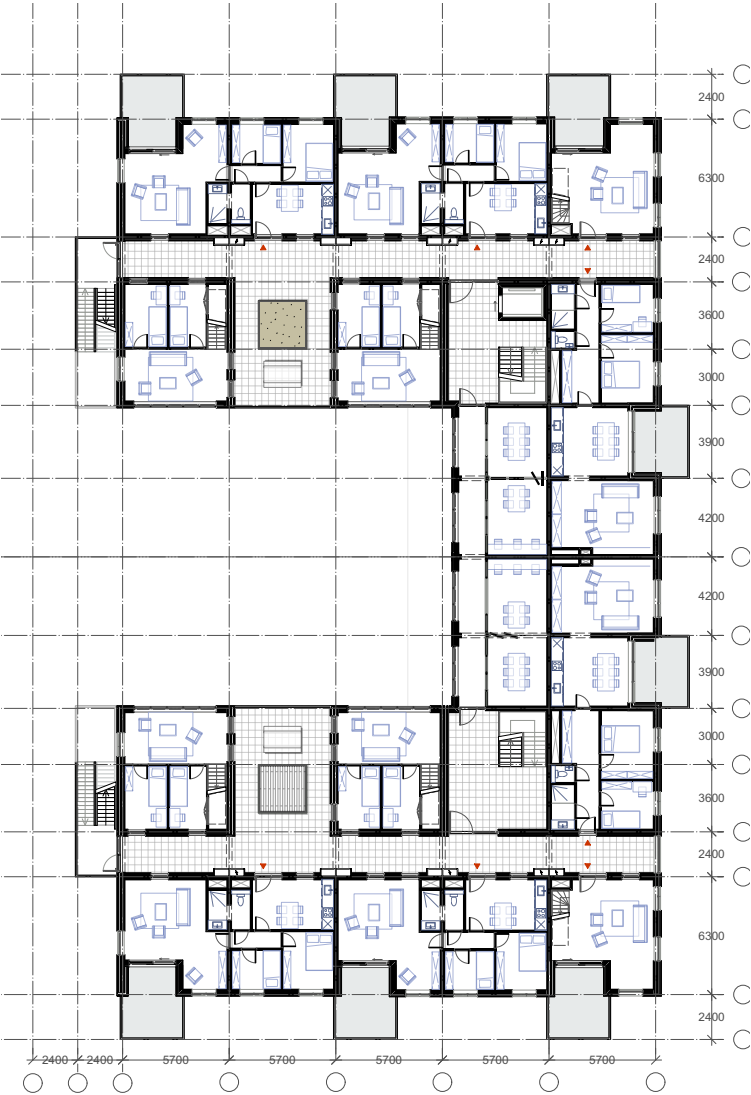
drawing **sixth floor**
schale 1:200

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2020/21

Design
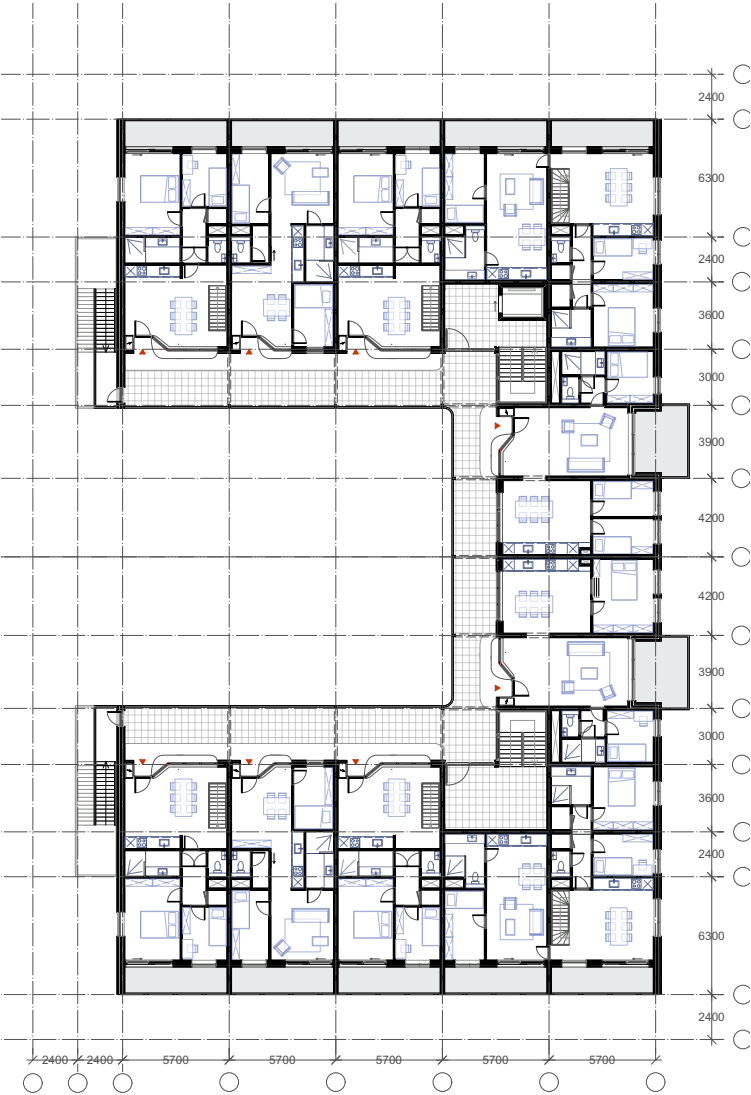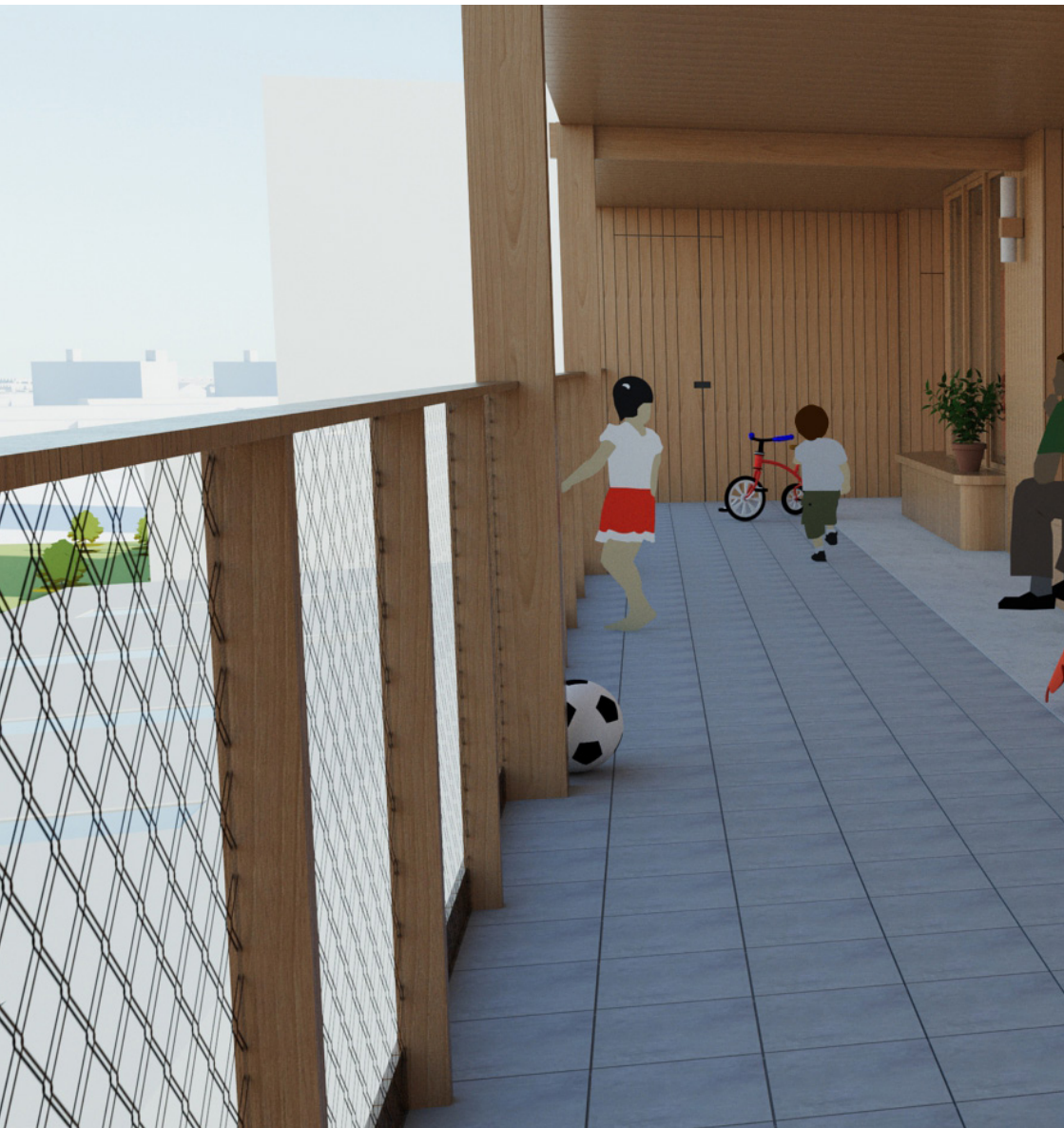
dwelling overview

Category A
two bedrooms

type A1
44m2
1st floor
-
typlogy:
alley
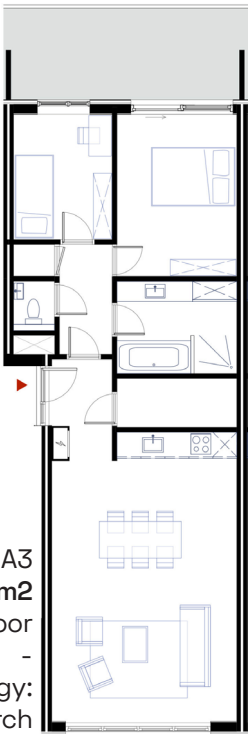
type A2
60m2
2nd floor
-
typology:
sidewalk
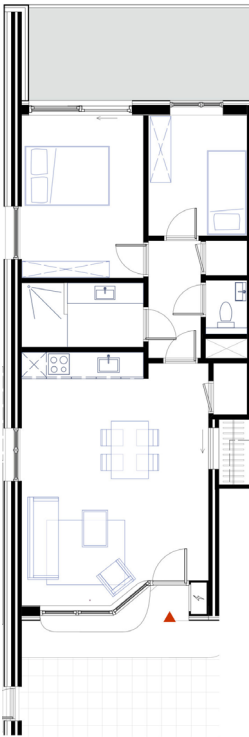
type A3
72m2
3rd floor
-
typology:
porch
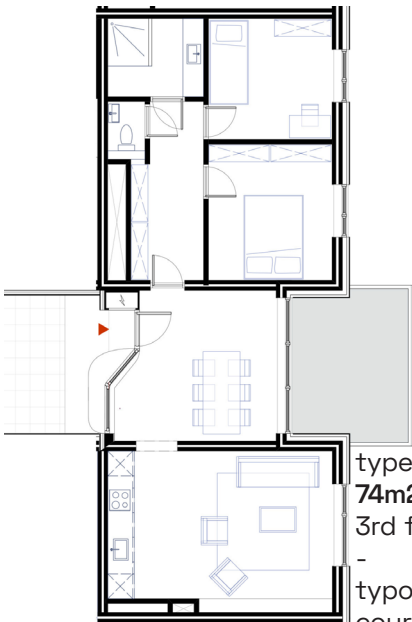
type A4
74m2
3rd floor
-
typology:
courtyard

type A7
76m2
5th floor
-
typology:
alley

type A6
60m2
5th floor
-
typology:
alley

type A5
58m2
4th, 6th floor
-
typology:
sidewalk
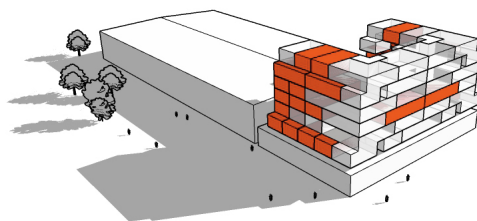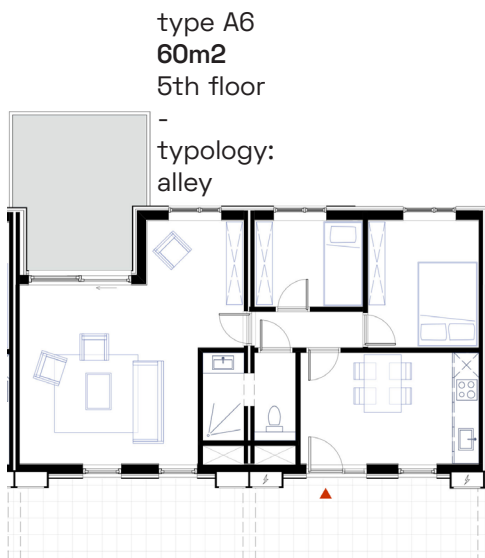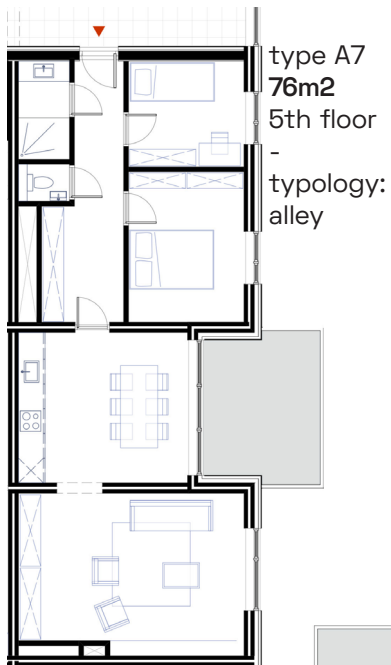
Category B
three bedrooms
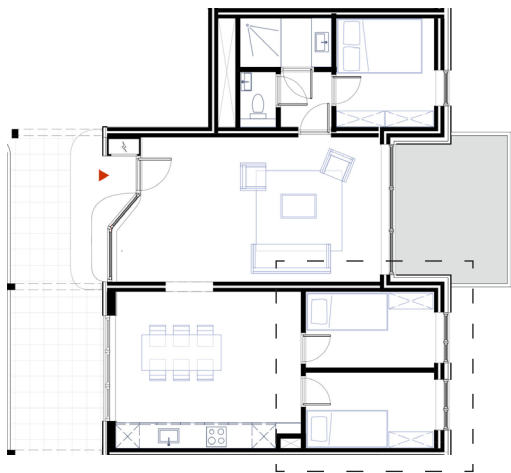
type B1
71m2
2nd, 4th, 6th floor
-
typology:
sidewalk
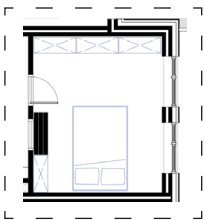
type B2
90m2
3rd floor
-
typology:
porch
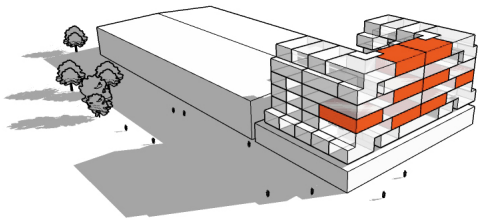
Category C
four bedrooms
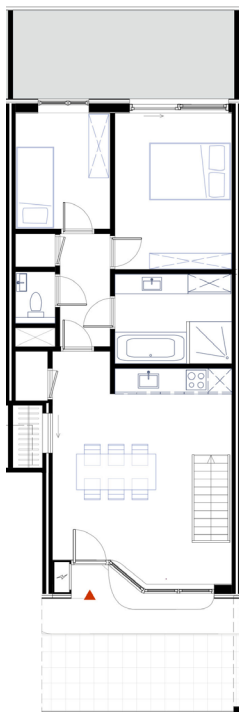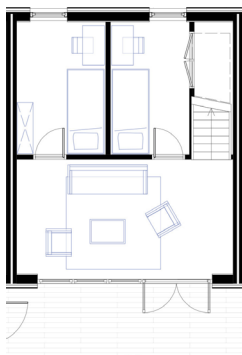
type C1
94m2
2nd, 6th floor
-
typology:
sidewalk
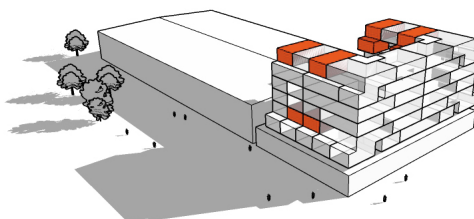
Category D
temporary housing

shared living room and kitchen

individual studios with
bathrooms and counter

type D1
159m2
incl. **3x32m2** studio
1st floor
-
typology:
alley
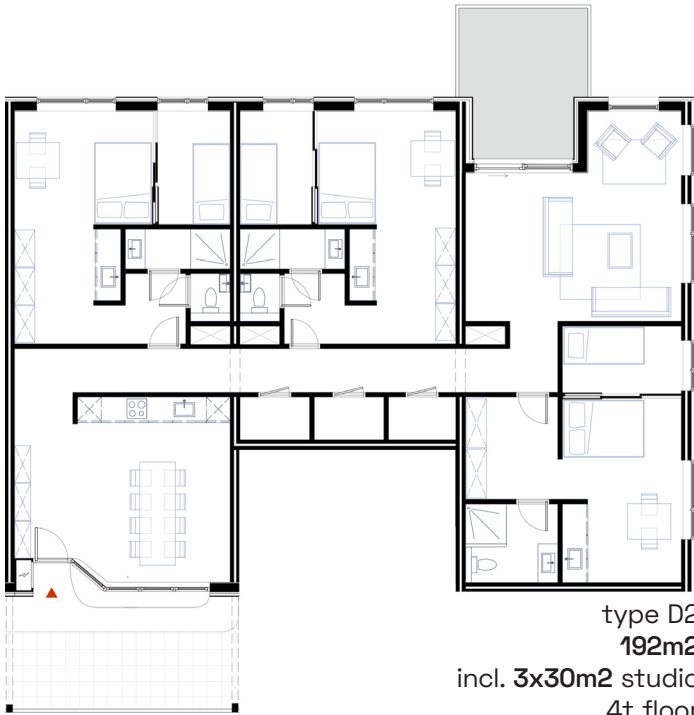
type D2
192m2
incl. **3x30m2** studio
4t floor
-
typlogy:
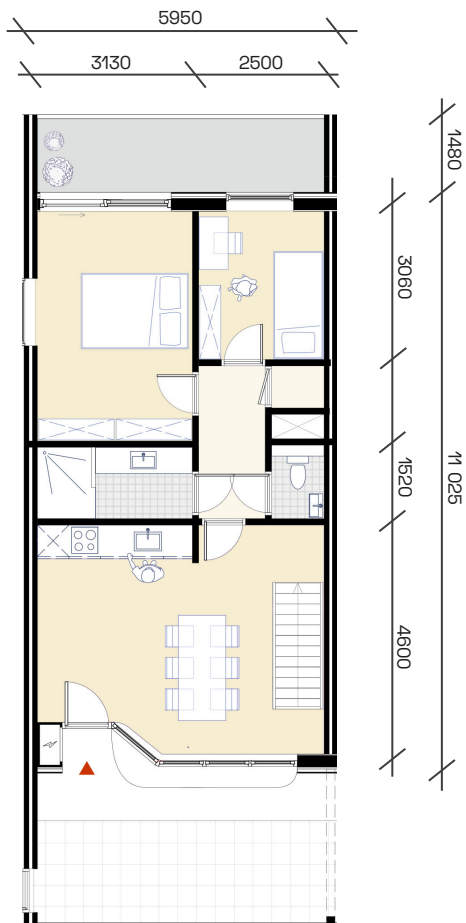sidewalk
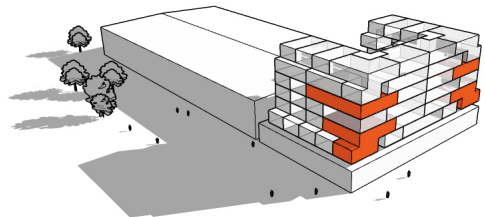
Category E

two bedrooms
+ internal studio
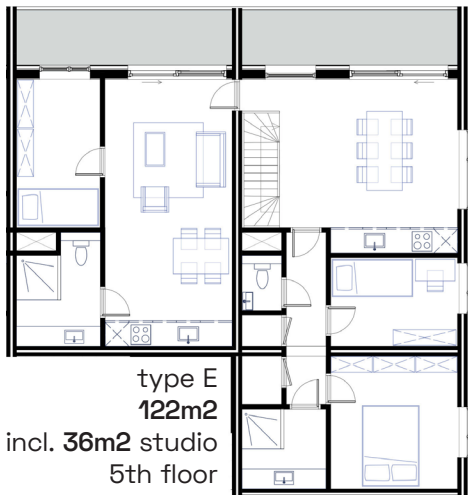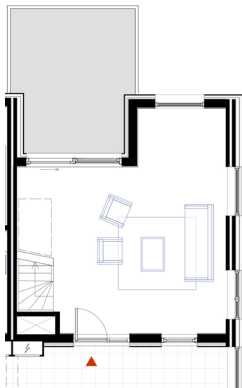
type E
122m2
incl. **36m2** studio
5th floor
-
typology:
alley

highlighted dwellings

6080

6880

5950

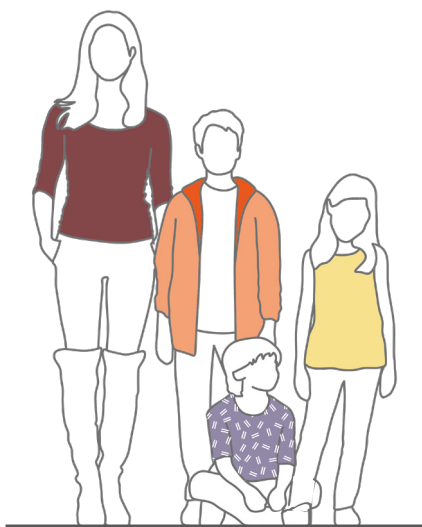3130   2500

1480

3060

1520

4600

11 025
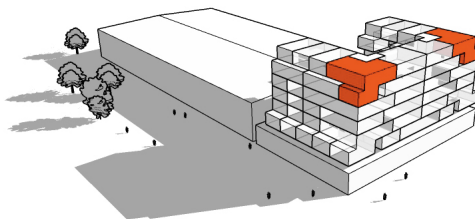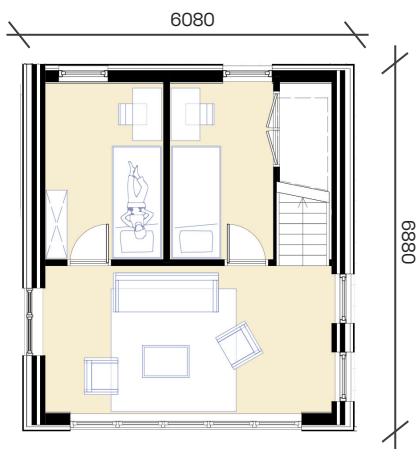
type C1
four bedroom apartement

94m2
6th floor
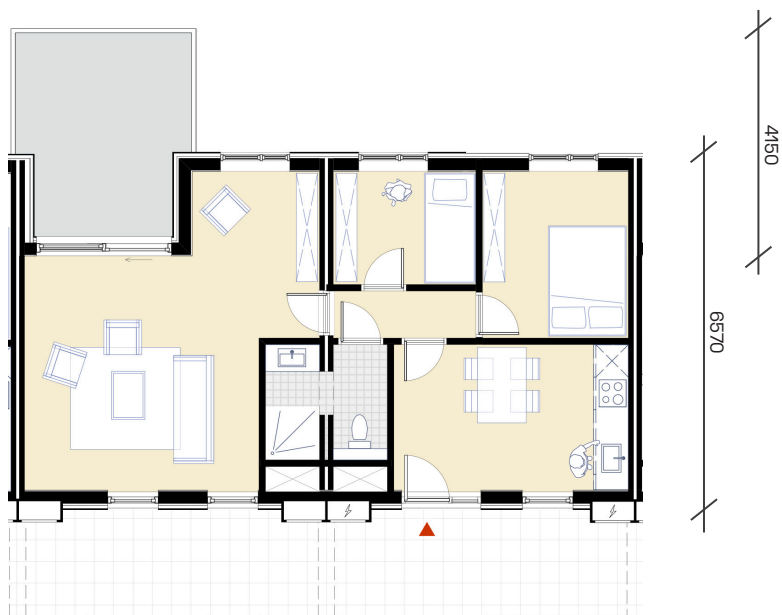-
outdoor typology:
the sidewalk

11 830

3120 2480 2820 2890

4150

6570

type A6
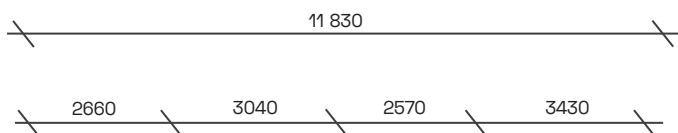two bedroom apartement

60m2
5th floor
-
outdoor typology:
the alley

11 830

2660   3040   2570   3430

3220

4230

8900

4380
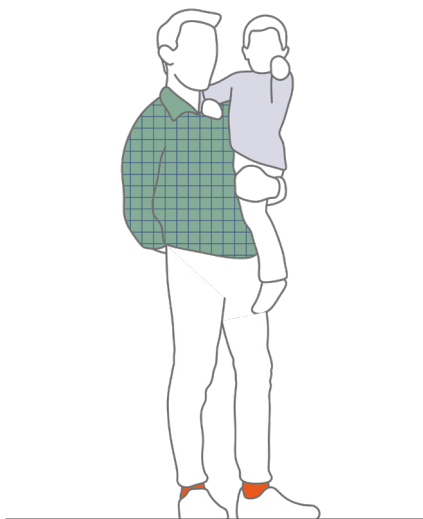
type B2
three bedroom apartement

90m2
3rd floor
-
outdoor typology:
porch

17 530

5700 2020 3690 3050 2730

4240

3800

1820

4840

12 520

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Keilewijk

2020/21

Design
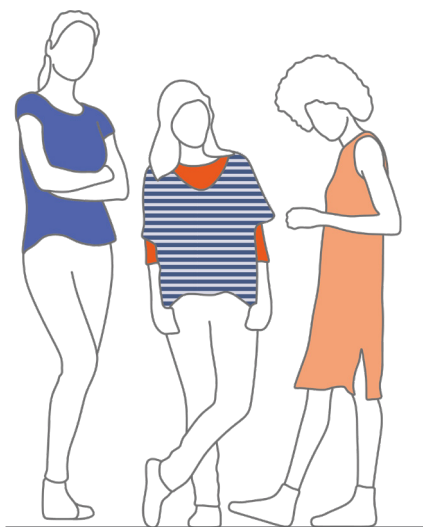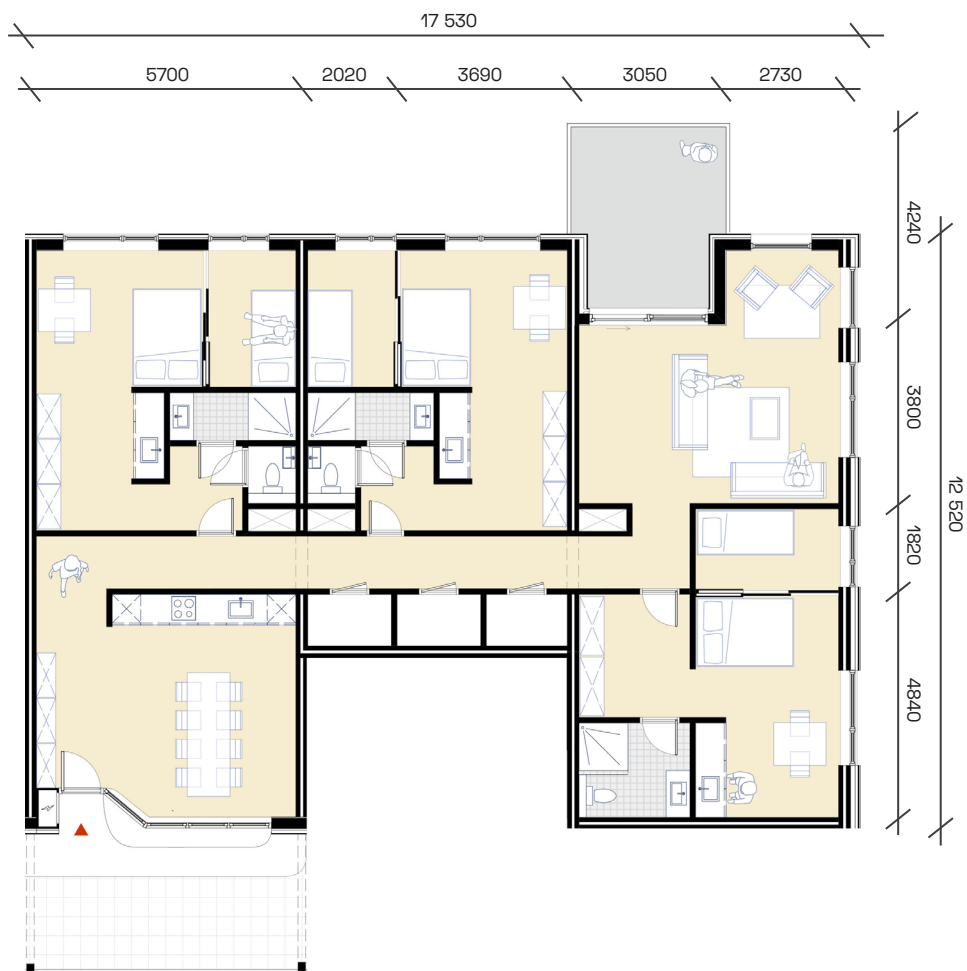
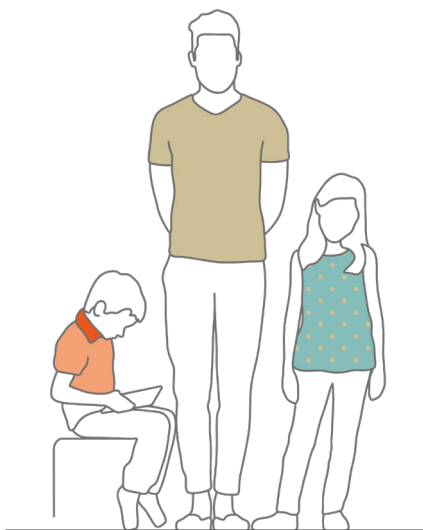type D2
temporary housing in a collective
dwelling with individual studio's

192m2
incl. **3x30m2** studio
4t floor
-
outdoor typlogy:
sidewalk

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Keilewijk

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facades and sections

drawing **north east facade**
schale 1:200
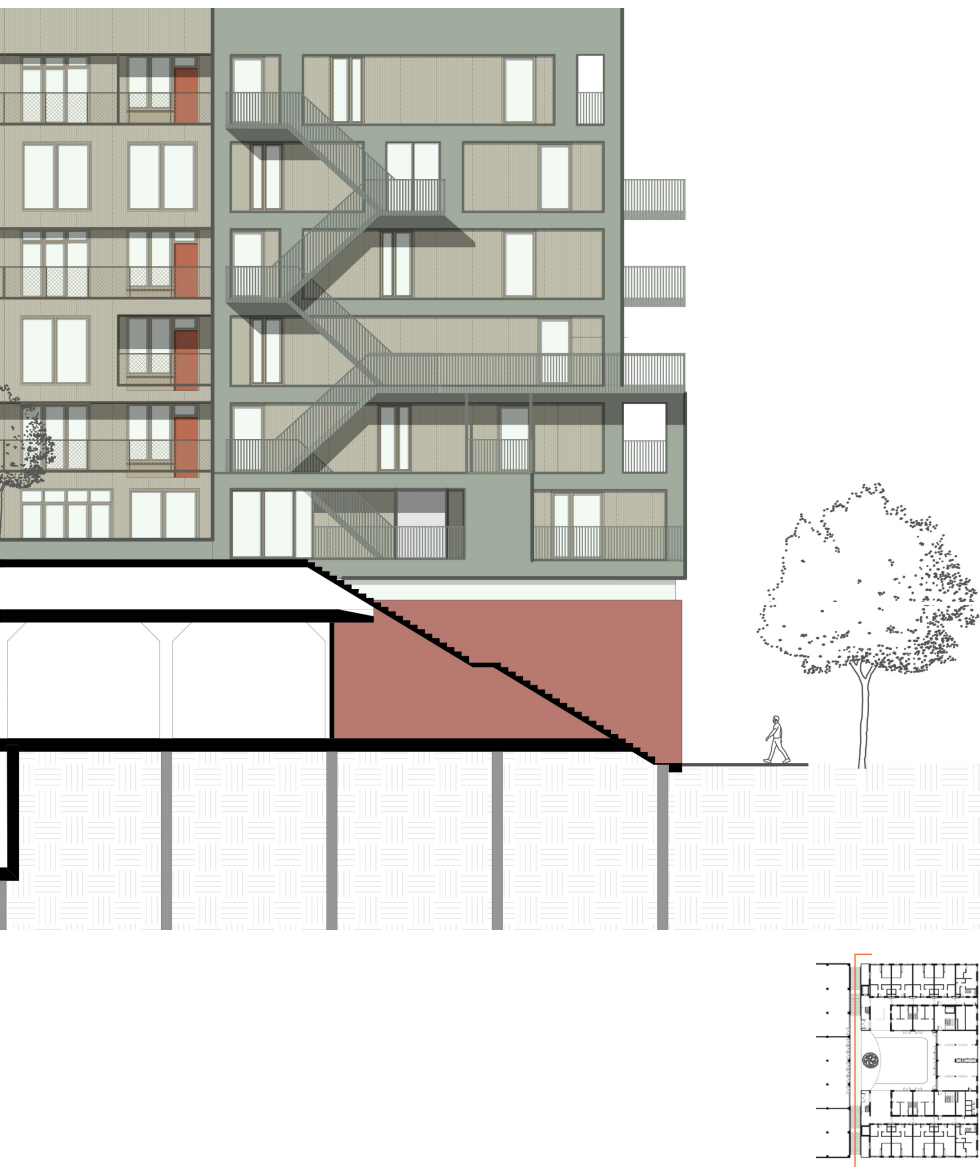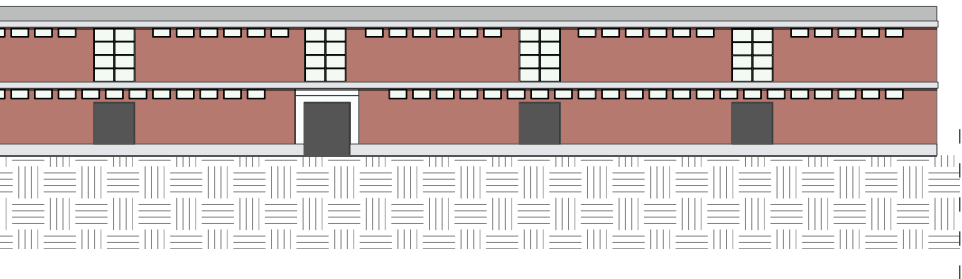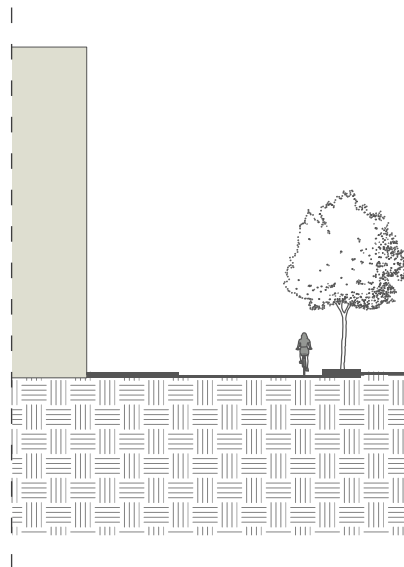
drawing **south east facade**
schale 1:200

drawing **south west facade**
schale 1:200

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| Keilewijk
2020/21
Design

drawing **section A-B**
schale 1:200

——— + 28 750

——— + 27 250

——— + 23 950

——— + 20 650

——— + 17 350

——— + 14 050

——— + 10 750

——— +   7 450

——— +   5 850

——— +   940

                 0

——— -   3 970

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Design
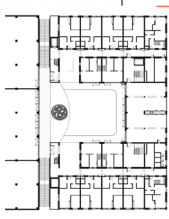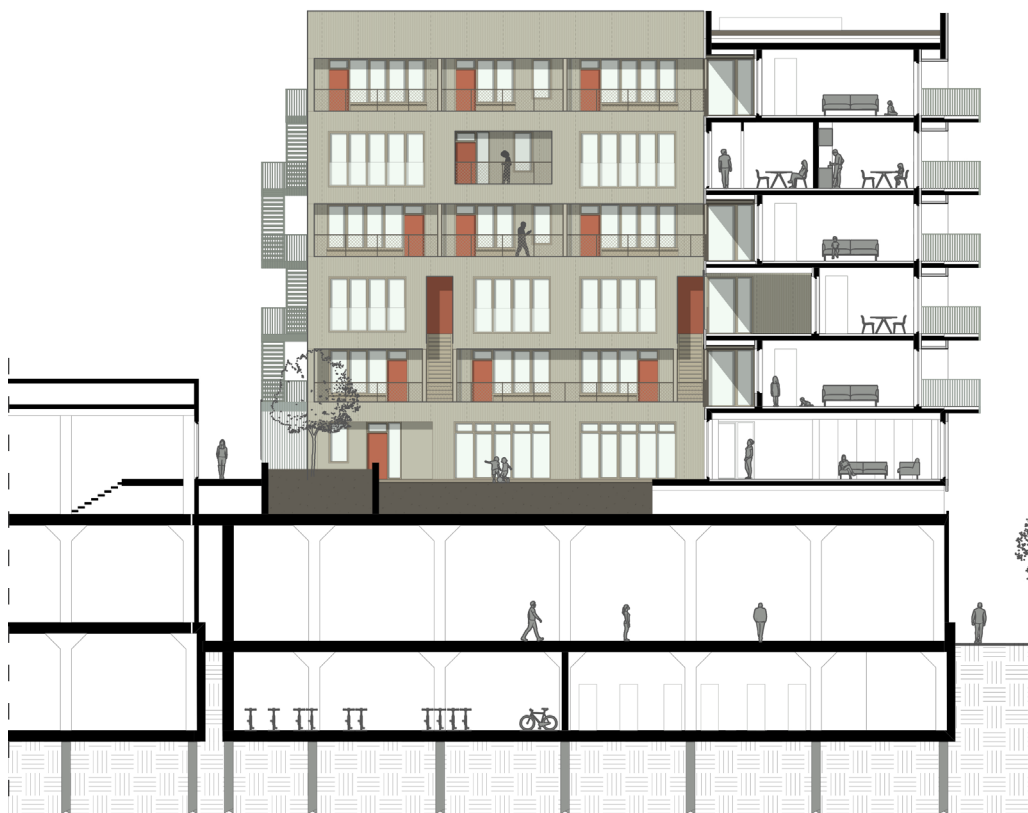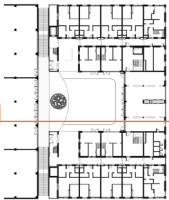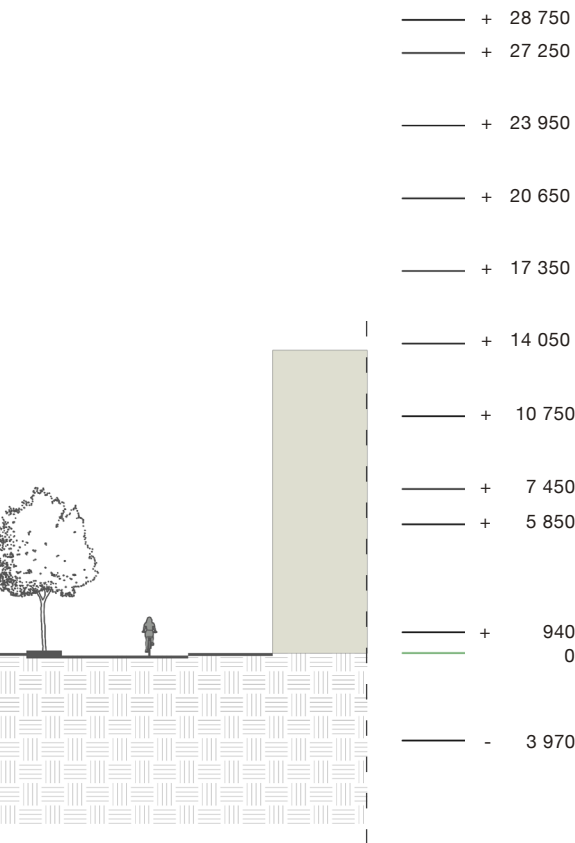
building technology details

drawing **section a-b**
schale 1:20
floor   fourth

D.02

D.03

2935

3300

D.01

D.04

forbo marmoleum floor finishing 3mm

underlayment 12mm

fermacell studded plate with floor heating 18mm

reflective sheet
xps insulation 15mm
sand layer 80mm
CLT floor 220mm
transparent coating

lightweight composite balcony floor
thermal insulation 74mm
waterproof layer

D.01
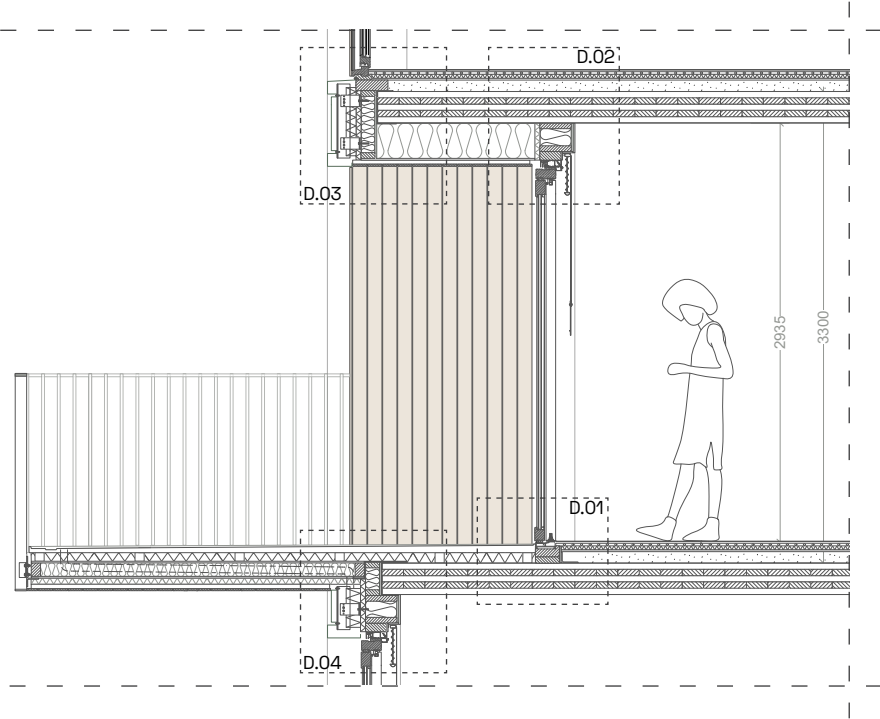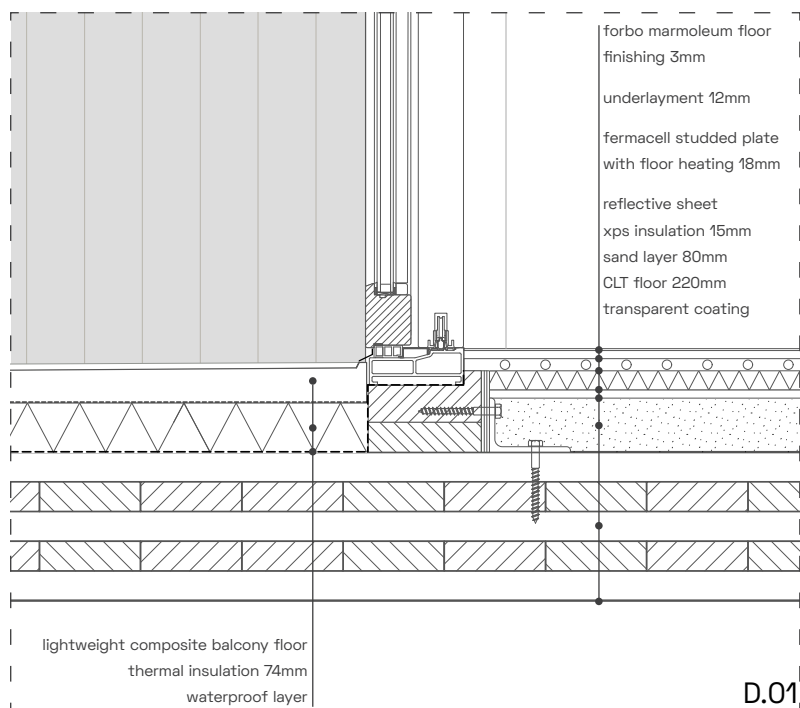
drawing **D.01, D.02**
schale 1:5

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Design

forbo marmoleum floor finishing 3mm
underlayment 12mm

fermacell studded plate with floor
heating 18mm

reflective sheeting
xps insulation 15mm
sand layer 80mm
CLT floor 220mm
wood fibre insulation 248mm
waterproof layer
timber construction 20x20mm
wood cladding 15x100mm

timber frame with soft
wood fiber insulation 220mm

particle board 12mm
plasterboard 12.5mm

D.02

D.03

aluform aluminium cassette 2mm
powdercoated in RAL7033

aluminium T-profile
steel clamping bracket

insulation in cassette 69mm
waterresistant layer

pressed wood fiber
insulation 35mm

timberframe with soft wood
fiber insulation 100 mm

particle board 12mm

drawing **D.03, D.04**
schale 1:5

lightweight composite balcony floor
thermal insulation 74mm
waterresistant layer
timberframe with soft wood fiber 115mm
water drainage 45mm
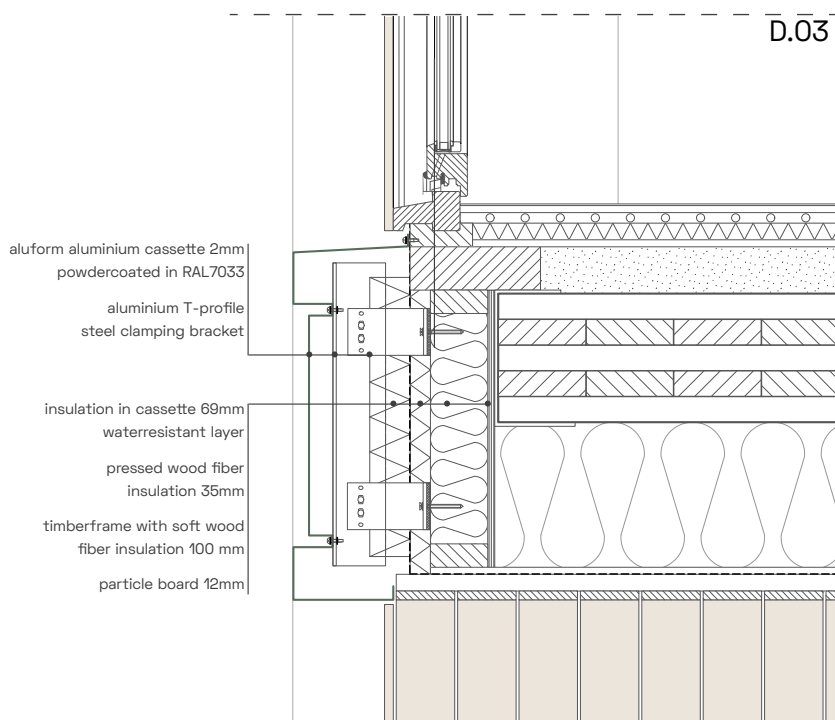sound insulation 40mm
timber construction 25x30mm
wood cladding 15x100mm

D.04

gypsum board 12.5mm
CLT wall 80mm
insulation 64mm
CLT wall 80mm
gypsum board 12.5mm

D.05
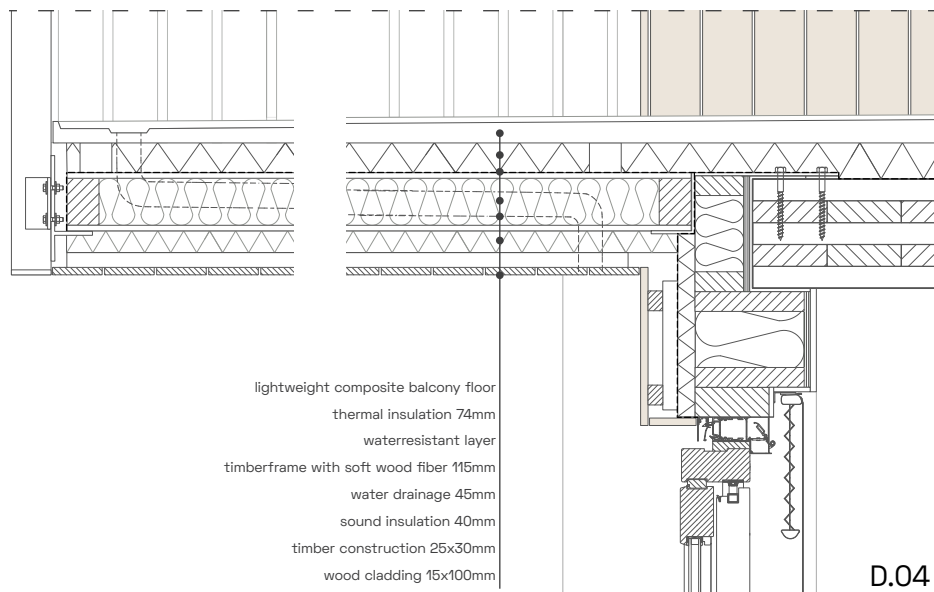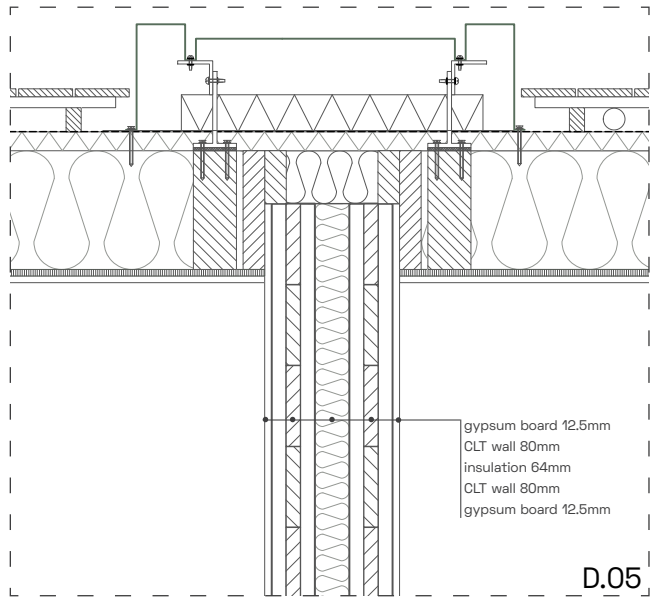
drawing **D.05, floor plan**
schale   1:5, 1:50
floor   fourth

D.05

drawing	**facade fragments**
schale	1:20
floor	fourth

184

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Design
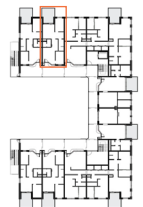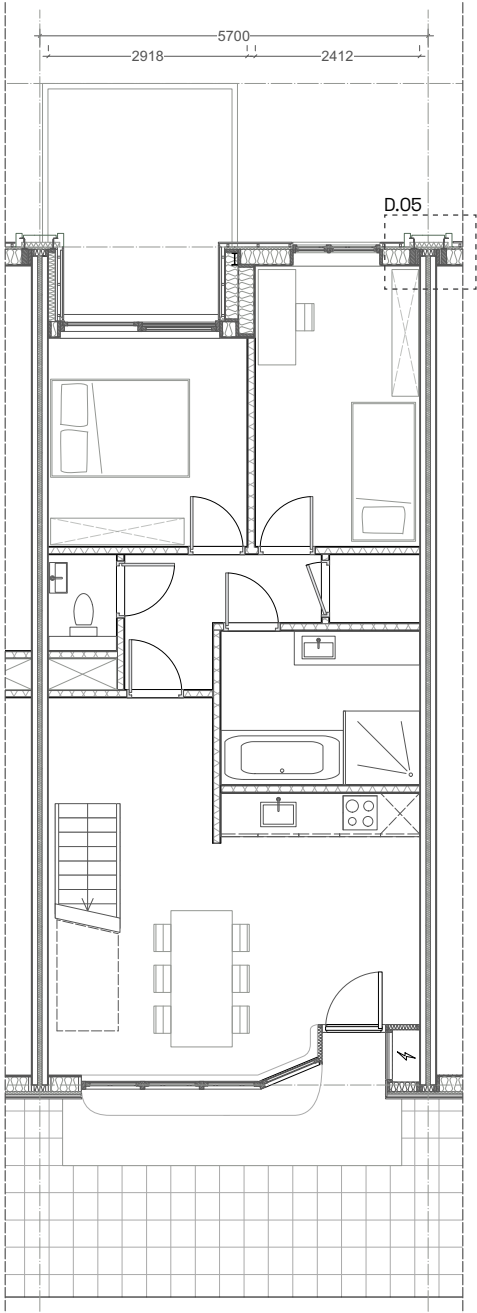
construction sequence

1

4

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Design
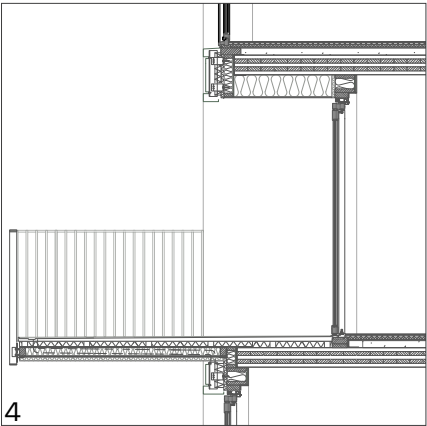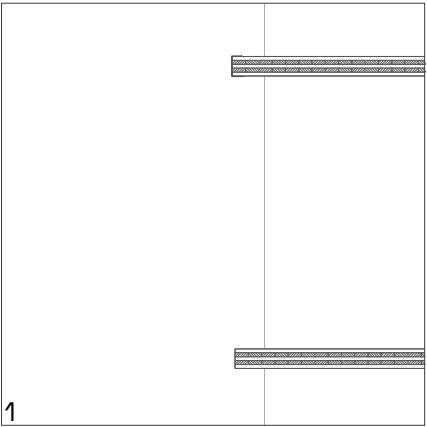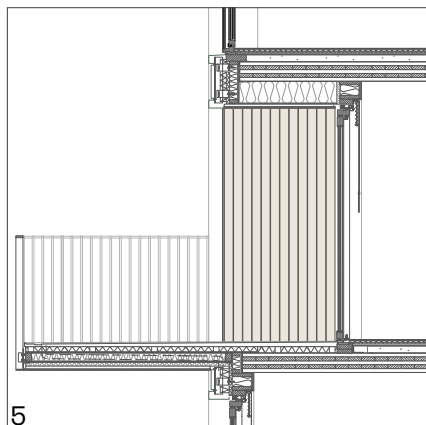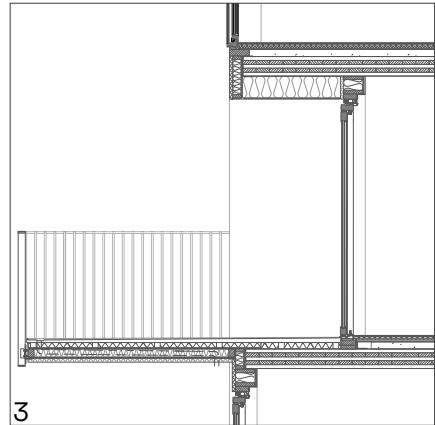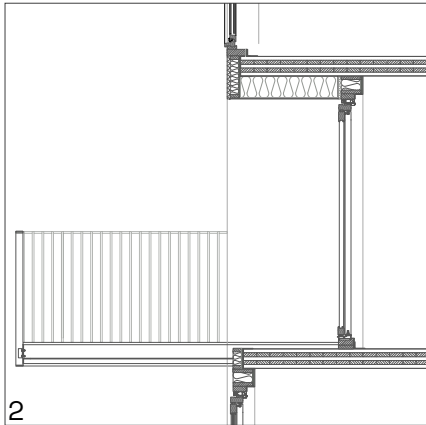
1.   structural floors and walls (CLT)

2.1   balcony railing
2.2   timber frame facade
2.3   window frames

3.1   floor construction
3.2   balcony floor

4.1   facade finish: aluminium casette
4.2   facade finish: wooden battens
4.3   interior wall and floor finish

drawing   **DRAFT facade section**
schale   1:20

building technology
load bearing structure

1. soil is excavated in order to be able to pour a concrete basement basin next to the existing building
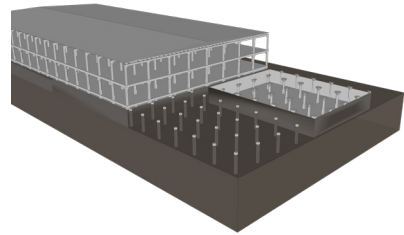
2. the extension will be built from a concrete construction that is comparable to the construction of the existing building. The construction forms a table construction that can be further built on top
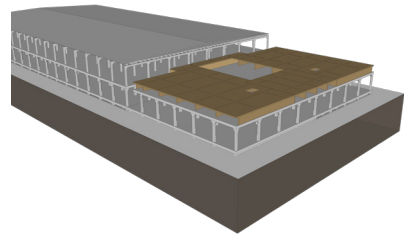
3. the residential building on top is constructed from clt slabs on its own grid
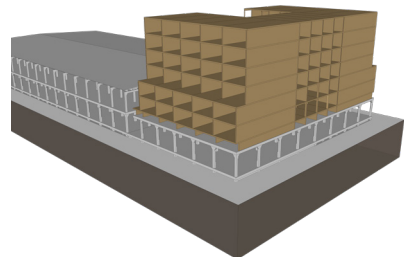
4. it occurs multible times that a different methods hase to be applied: for example steel beams to support the porch opening and the steel columns in the facade in which the structural railing of the balcony is attached
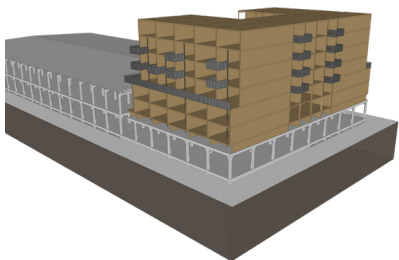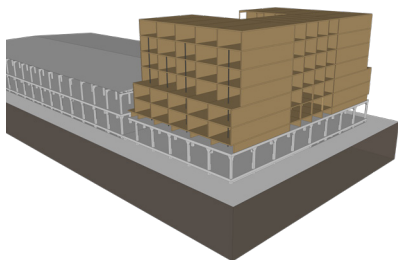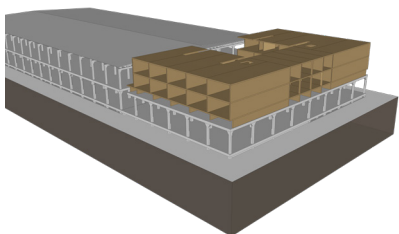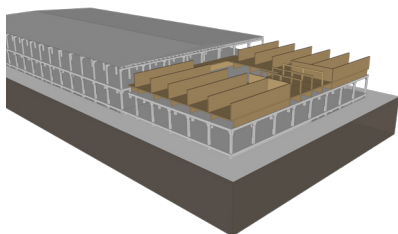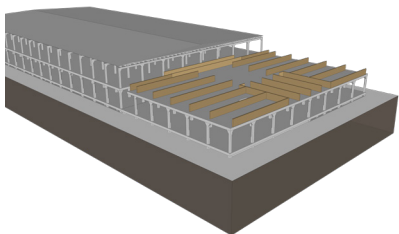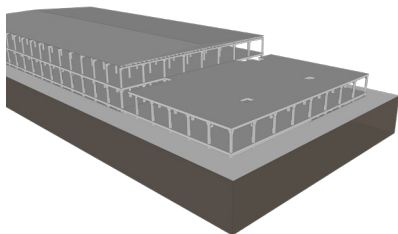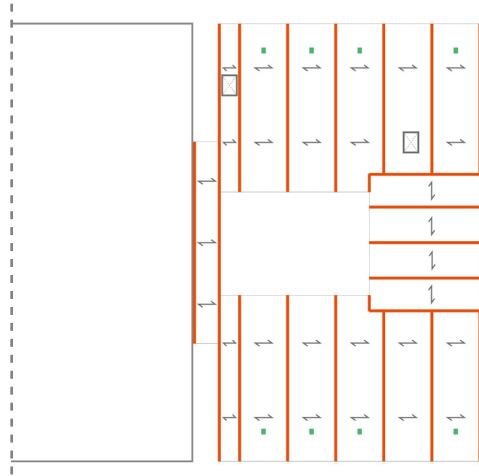
CLT wall

timber beam

timber column

balcony railing

steel column

steel beam

steel truss

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Keilewijk   2020/21   Design
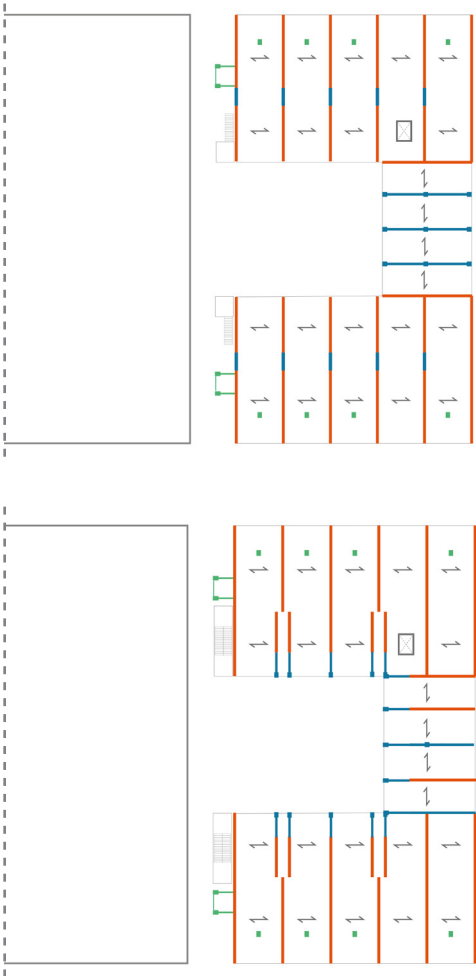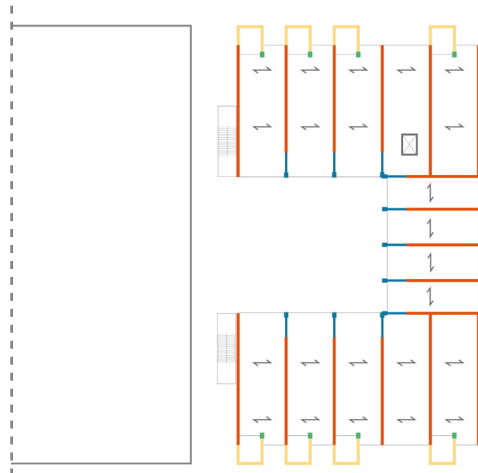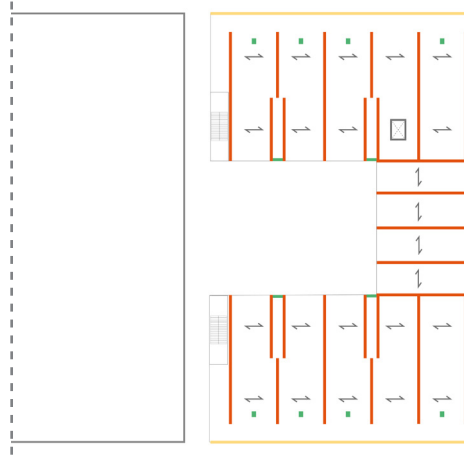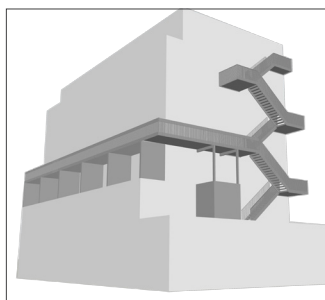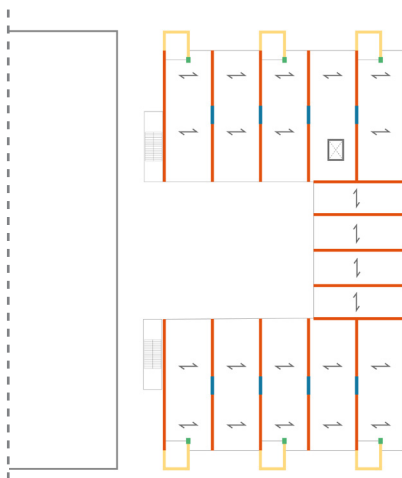
A remarkable deviation to de buildings overall structure can be found in the construction that supports the floor that connects the balconies on the third floor with the stairwell on the facade.
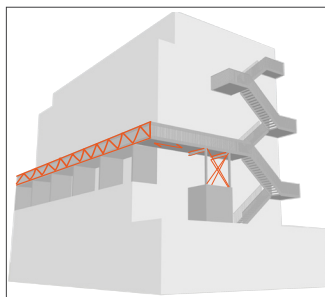
The floor is supported on one side by the balcony railing which acts as a beam, on the other side the floor is supported by steel beams which carry the weight down to the elevator construction on the first floor

building technology
climate

Why building in CLT?

Over the last years, CLT slowly makes its rise in building construction. Supported, for example, by discussions on the faculty, the documentary 'Houtbouwers' of the Dutch documentary maker Tegenlicht, and more and more frequently appearing references of CLT buildings, I cannot see why not.

Building in CLT is a way cleaner and environmentally friendlier building method than the more commonly used concrete and steel. Not only is the production a lot friendlier; when we built our environment in CLT, we can also store excessive CO_2 in our building structures.

the Keilewijk design contains serial dwellings, a clear structure and doesn't reach an enormous height. CLT is a suitable, fast, and easy material to use.

In an area where the future city is in the making and where future generations will grow up: the location definitely asks for a future-proof and contemporary design method.
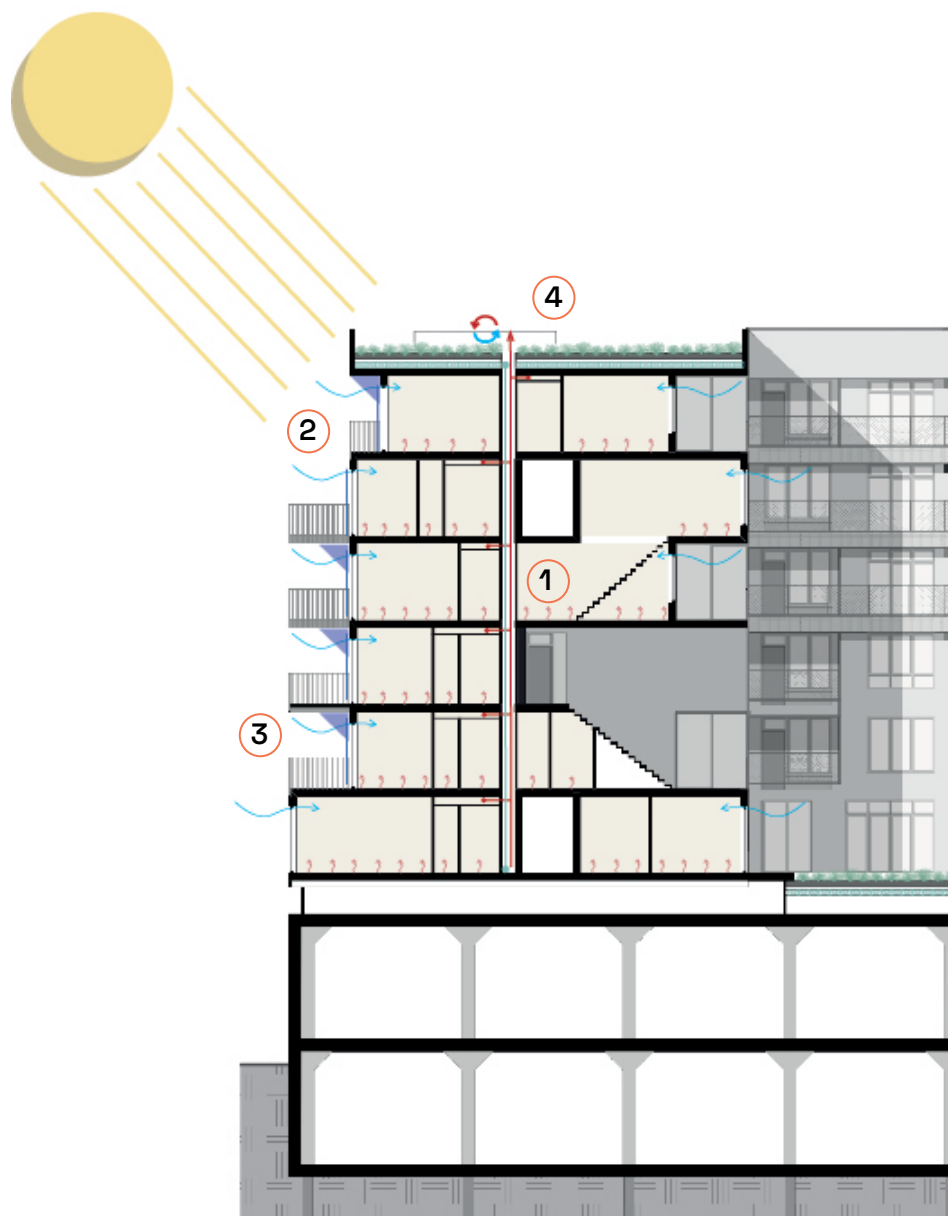
climate section

204
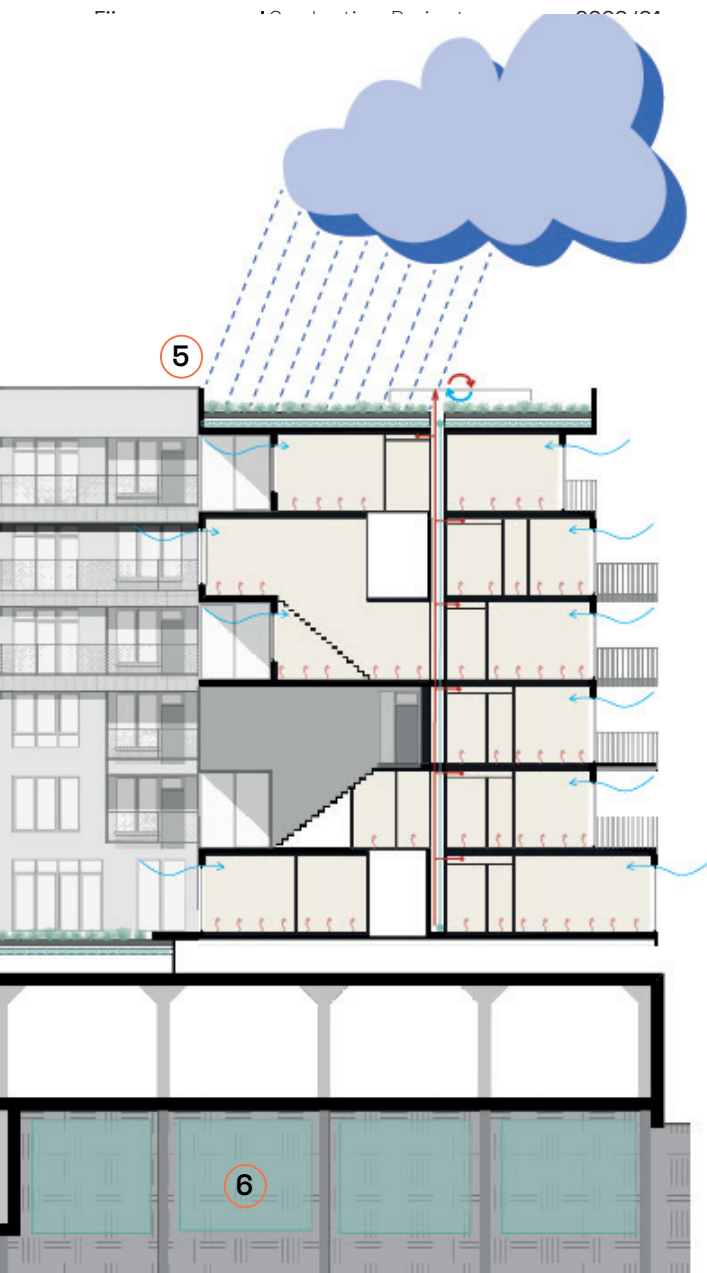
1. floor heating based by low-temperature water pipes incorporated in the floor construction

2. surplus sunshine is kept out by overhanging balconies and galleries and by blinds in the interior

3. ventilation type C: natural supply and mechanical extraction. the air is naturally supplied through grilles in the frames and windows that can be opened. the air is discharged through the wet cell and the kitchen: air is extracted via suspended ceilings in non-occupied areas and removed mechanically through the shaft.

4. a heat exchanger on the roof ensures that the warm exhaust air can be reused to preheat water.

dakdokters

dakdokters
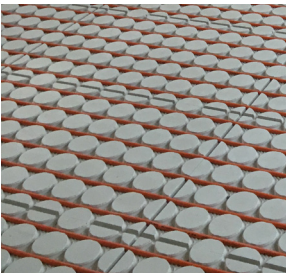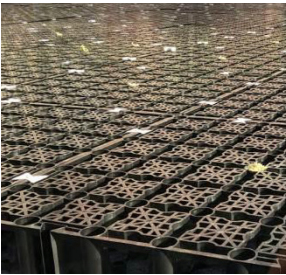
5. rainwater is used to water the green roof and to temporarily store water in a polder roof system. water can be collected in a layer on the roof (consisting of linked crates), on which sedement and greenery can grow. As a result, the greenery has access to a buffer of water. Excess water is brought down through the shafts via valves.

6. excess water is stored underground, on the other side than the basement tank. This water can then be used for washing machines and showers, for example. There is space to 25.35m3; To store 25350 liters of water.

sun analysis
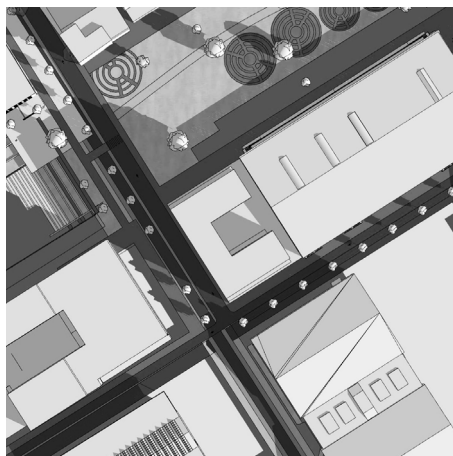
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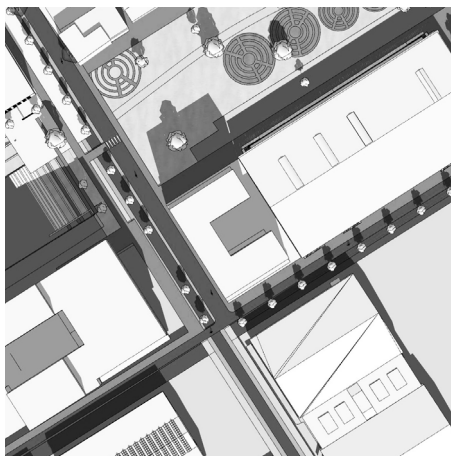
21/03 12:00u
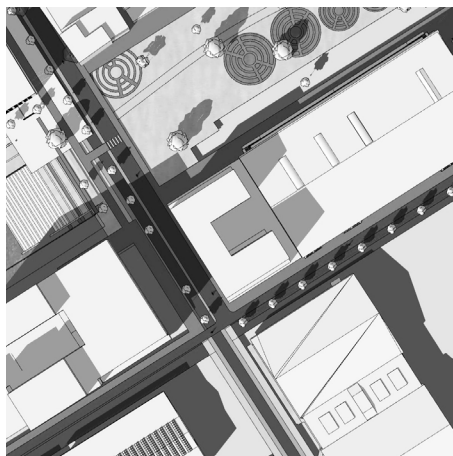
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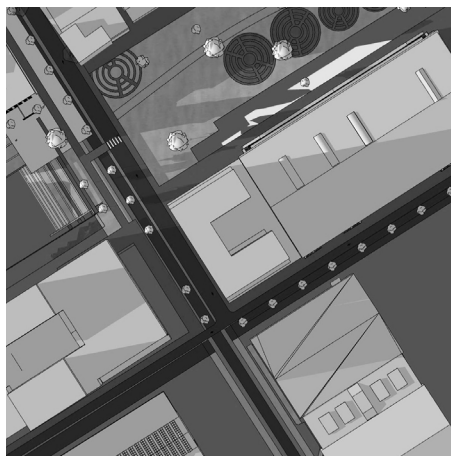
21/03 18:00u

sun analysis
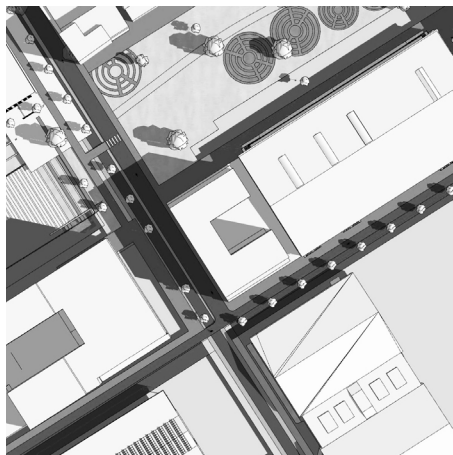
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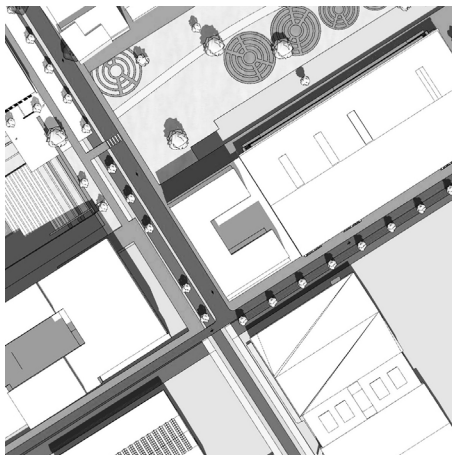
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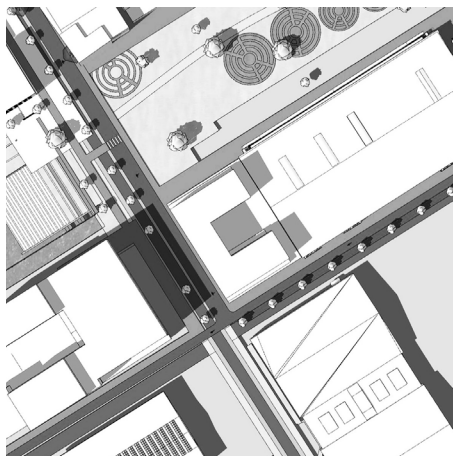
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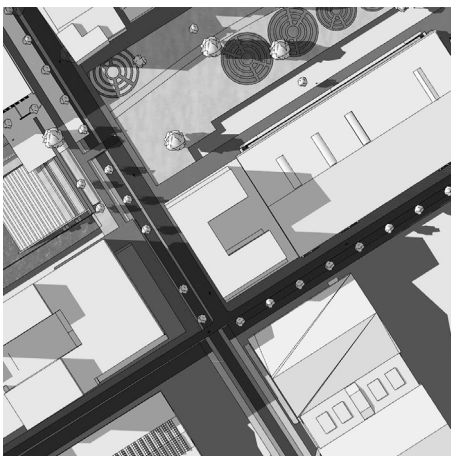
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NAWOORD

Het zit er op! Nu ik zo alles samen heb gevoegd zie pas hoe veel werk er is verzet en hoe ontzettend veel ik heb geleerd in het afgelopen jaar. Een jaar welke ik me heel anders had bedacht toen ik eraan begon in februari 2020. Slechts anderhalve maand heb ik kunnen genieten van het afstuderen op de faculteit, met de studiogroep samenzijn en mijn lang verheugde tijd waarin ik op donderdag, als voorzitter-af, zou kunnen bijkomen aan de bar in de Bouwpub zonder ook maar een enkele verplichting te voelen. Toen de eerste lockdown inging had ik me nooit kunnen bedenken dat ik de rest van het project in mijn eigen kamertje op de Coenderstraat af zou ronden. Tegelijkertijd besef ik me juist daardoor hoe fijn het is geweest de afgelopen zes jaar onderdeel te zijn geweest van de faculteit Bouwkunde. Wat fijn dat ik mijn P5 in ieder geval, al is het zonder publiek in de zaal, daar kan houden.

Ik ben blij om te kunnen zeggen dat ik trots ben op het eindresultaat. Dat ik kan zeggen dat ik ervan overtuigd ben dat mijn ontwerp een antwoord is op de onderzoeksvraag die mezelf heb gesteld. Daar heb ik niet altijd het vertrouwen in gehad. Met name

tussen de P3 en de P4 was ik het vertrouwen in het project kwijt. Ik kon mezelf dagenlang verliezen in problemen die niet op te lossen waren op de manier waarop ik dat wilde. Dit soort dagen werkten echt als een negatieve spiraal op mijn motivatie, zelfverzekerdheid en het project op zich. Juist op de momenten dat het me wél lukte uit te zoomen heb ik enorme stappen kunnen maken en het plezier terug kunnen vinden

Graag wil ik mijn mentoren bedanken voor de begeleiding, flexibiliteit en organisatie in het afgelopen jaar. Dankjewel Theo voor de talloze begeleidingen, goede adviezen en het wegnemen van de beren die op de weg leken te liggen. Dankjewel Ferry voor de goede begeleiding, je enorme begaanbaarheid, flexibiliteit en de gezellige zoom-calls. Dankjewel Pierijn voor de leuke en leerzame sessies bij de seminar en begeleidingen, je inspirerende kijk op de opgaves in de studio en kwesties daarbuiten.

Dan maak ik gelijk van de gelegenheid gebruik om nog wat mensen te bedanken: Uiteraard Ernst als rots het hele jaar door, je eindeloze lief-zijn, geduld, grapjes, de avonden (of nachten) hulp en de koppen thee. Chris voor al het advies, de hulp, de gezelligheid op de Heemraadsingel en de stamppotjes. Mijn Sterke Vrouwen voor de absoluut geweldige jaren als BK-student (maar ook daarna!), en ten slotte; mam, pap, Pia en Jop voor al hun vertrouwen en steun.

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[2] idem.

Introduction

Starting a design process ultimately means you're at the start of a time in which you're going to face many decisions to make. As a graduating student, I have gained quite some experience during the projects I did over the past years of my study career. Nevertheless, in this project, more than ever, it sometimes felt like a heavyweight making all decisions on your own.

Studying at the TU Delft means you're (learning to) be part of the field of technological sciences. The educational programme provides insight into the requirements and value of scientific research and the differences with non-scientific research. Although creating a design with thorough scientific consciousness is a great challenge,

I've learned how to use different research methods that can help make well-considered choices to create a substantiated design. In this reflection report, I will mention all research methods of importance in the decision-making during my thesis-project design process. I will also mention what specific choices certain methods have led and how they are positioned in the scientific field.

Through an architectural design process, you're always moving in a tensive work field to find a way to intertwine scientific research with the complicated puzzle an architectural design brief makes. I'm striving to make well-considered decisions by bringing together scientific as well as non-scientific research and philosophies combined with personal ambitions and experiences.

But what makes research scientific? Although sometimes it feels like I should know by now, I think it is hard to draw the line in many cases

within the architectural field. This haziness exists mostly because a designer often researches normative situations. As a designer, I try to figure out how to achieve a situation of what I think it should become by finding guidance in research results. Nonetheless, it is incredibly complicated to translate the truth of empirical research results into a normative situation. In order to clear up definitions, I use the ones as Theo van der Voordt describes in his paper 'Methods and Techniques of research'. Van der Voordt mentions an interesting view on normative research:

'We soon come here to the field of ethics or philosophy. Several scientists believe that only "is" questions are scientifically researchable. In spatial sciences, however, the question "what to do" is so central that there is an urgent need for more scientifically substantiated answers to such questions. Although scientific research cannot prescribe choices, it can introduce more systematics

into decision-making processes and objectify them. For example, testing "must be" questions for internal consistency, or by submitting relevant criteria against which solution variants can be weighed.' [1]

In this report, I'm using van der Voordt's definitions to value the research methods I've used during my project. While I will explain the position of the methods in de scientific field more in detail in each chapter, I think it is important to state a definition of scientific research before I continue;

'Scientific research is the collection, processing, and analysis of data in a methodical, verifiable, objective, valid and reliable manner to understand better and explain reality and thus make it more manageable.' [2]

The analysis of statistics

The first method to be mentioned is the analysis of statistics. By ensuring that I analyze data obtained from scientific sources, I am sure that I am dealing with empirical results.

The analysis of statistics has been quite useful at the beginning of the project to gain more insight into the one-parent families' situation and position in our society. I've mainly used results and figures of the CBS (the Dutch central office for statistics) and the NJI (the Dutch institution for youth), which both are reliable resources.

Nevertheless, I found myself struggling to find statistics that specifically show the data of the one-parent families I'm designing for. In many cases, divorced parents were also involved in the statistics, which is a group of families that is not relevant for my project. Despite this flaw, the analysis gave quite a good insight into the situation.

Specific design decisions I made based on the results of this research:

| The variation and distribution of houses in different sizes and configurations in order to ensure all kinds and sizes of one-parent families will be able to find a suitable home in the building

| It emphasized the relevance of creating affordable, compact homes

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2020/21

Research Reflection

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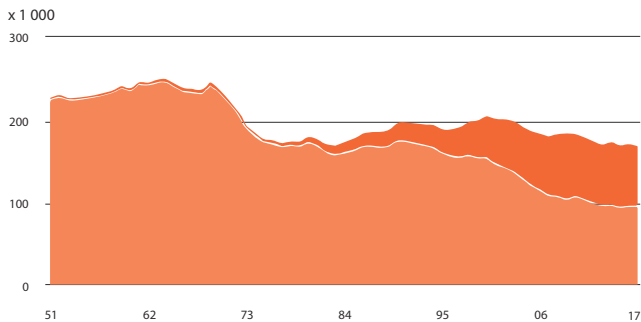
the martial status of mothers of newborns in the Netherlands

source: CBS, 2019

the division of children raising up in one-parent throughout the Netherlands

Minder dan 4 (%)
4 tot 8 (%)
8 tot 12 (%)
12 tot 16 (%)
16 of meer (%)

CBS, 2017

225

Onlines survey

I set up a survey for single parents of one-parent families to gain more insight into the needs and wishes regarding their homes. Although only 12 people responded in total, it was helpful to find out what preferences they have and what problems they are facing.

Using a survey is a scientific research method, although the result may be less reliable when the response rate isn't high. Secondly, I can imagine that the questions I set up are not quite of the best quality according to social sciences. Setting up the right questions to generate valuable results is a profession where I don't have any earlier experience. I can imagine that when questions aren't set up properly, it can affect the research's objectivity. For example,

you could already influence the way people answer by how you formulate the question and by what possible answers you are giving.

Although I would've desired more responses and my skills in taking off a survey are minimal, the answers to this survey helped me understand the overall needs and wishes of a group of people I totally can't relate to in my personal life.

Specific design decisions I made based on the results of this research:

All houses need a living room where the family can be together.

At the same time, it is important to create separate spaces to make sure the family members can withdraw themselves from each other and find space to be on their own.

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2020/21

Research Reflection

| The houses should be affordable.

| Desired shared spaces could are playing areas, study places, and a shared garden.

| It is preferable that all children have their own, same-sized bedrooms.

What do you think is the most
important space in your home for your family?
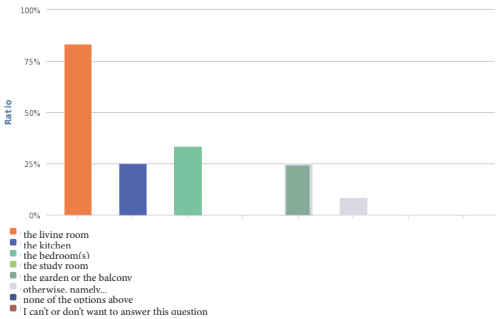
the living room
the kitchen
the bedroom(s)
the study room
the garden or the balcony
otherwise, namely...
none of the options above
I can't or don't want to answer this question

Suppose you share extra spaces outside your own
home with several families in a residential building,
which space(s) do you think would be most useful?

a spacious living room
an extensive kitchen
a garden
indoor play areas
study places
work places
a laundry room (to replace your own laundry room)
otherwise, namely...
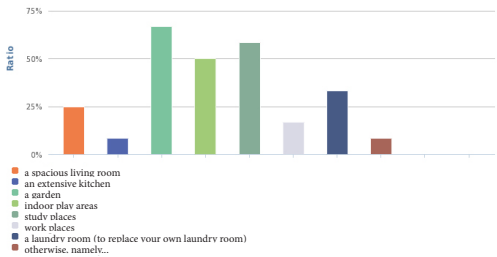
Phenomenological Research

A single parent's situation is a situation I cannot relate. It is, therefore, difficult to empathize with the user group of my project. To help me with that, I studied the use of personas: fictional people who 'use' the design as a way to test my design decisions.

The use of personas is a used method in different sciences that have to do with social contexts. It can be grouped in phenomenological research since personas can be set up based on existing persons, stories, and phenomenons. I have studied this method more thoroughly based on Emannuel Housets's theory from the 60s, as Frans de Lange mentioned in his article 'Het Zelf als exil'.

'The French philosopher Emmanuel Housset places himself in the tradition of phenomenological personalism. Personalism of the 20th century was born from phenomenologists' resistance to scientism that absolutizes the scientific and technological vision of reality. People are more than rational observers, nature is more than an object, and the experience is more than empirically verified knowledge - with this message, philosophers protested in the wake of Edmund Husserl (1859 - 1938) and the philosophical school he initiated against the scientific beliefs of the 19th century. Phenomenology opened a new entrance to the rich texture of personal experience that naturalistic reductionism mistrusted as a dubious epistemological source. The concept of 'person', as developed in European personalism, created room for a re-articulation of a broad spectrum of emotions, bodily sensations, and relational experiences.'[3]

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Keilewijk

2020/21

Research Reflection

In order to make use of this intriguing theory for my own research, I set up a total of four persona-families to test my design. In short, a summary of who they are:

Family A) is a family of a mother and two teenage daughters. The mother decided to raise kids on her own. She has a full-time office job that is one-hour of traveling away, and the two daughters go to high school in Rotterdam.

Family B) is a family of one father, an 8-year old daughter, and a 6-years old son. The mother of the children passed away four years before. The father is self-employed and works from home.

Family C) is a big family of a mother and her four children ranging from age 2 to age 10. Their dad is not in the picture anymore. The mother has a full-time job in the neighborhood, where she works from the early morning until the early afternoon.

Family D) is a father with a 3-years old son that he adopted when he was only eight months old. The father works a part-time job in a company in the Merwevierhaven.

Letting persona's test my design decisions has been surprisingly helpful, especially to find guidance in designing the many configurations of the varied dwellings.

It was enjoyable to work more philosophically while at the same time being sure that this methodology is scientifically substantiated. This method seems to be on the edge of what can be called scientific, I reckon. It is hard to guarantee objectivity to research where you test your creation (the design) by using pillars (the personas) of your own creation too. Somebody else would maybe create different persons and find other characteristics, resulting in a different outcome. Nevertheless, making decisions based on people's

lives that have something significant in common (in this case; single parentship) can offer a certain level of objectivity.

What I found challenging to intertwine in the setup of the personas is the fact that a person and his or her behavior and wishes will always change over time. Especially for families, where children are growing up over the years that they live somewhere. De Lange covers this topic too: 'Being a person is not a state of affairs, but a constantly receding horizon, a permanent movement.' It is important to keep that in mind when letting the personas make use of the design. the changeability of persons will have to form a context in which the person moves.

Specific design decisions I made based on the results of this research:

The clear division of communal space, semi-communal space, and private space

The large variety in the dwelling's interiors and the adding of flexible work-hobby- and bedrooms

The outside furniture, terraces and playfields within the building block

A secondary way to arrive at the houses in a more anonymous way than the walk through the shared garden

Space for storage of shoes and coats close to the entrance doors of the houses

Multiple bathrooms for large families

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Keilewijk   2020/21   Research Reflection

Case Study Research

The use of case study research is useful when working on an architectural design. After all, you can learn a lot from the successes of the past.

Especially at the beginning of the project, case studies were done with the entire studio group to get a feeling for the size, scale, typologies, routing, and composition of several dwelling projects. Later in the project, when I was figuring out the building's volume and how dwellings and shared spaces should be configured within it, it was useful to analyse several comparable dwelling projects. Among others, helpful examples for me were De Toren van Babel (Rotterdam) by Laurens Boodt Architect and Borneo Eiland (Amsterdam) by Marlies Rohmer Architects.

It helped me determine how certain solutions are applied by making extracted graphics from the available drawings and images. At the same time, it was a great way to get inspired by other projects.

Specific design decisions I made based on the results of this research:

Galeries that are wide enough for children to play on

The small front terraces and the windowsills can be used as benches at the front doors of the galleries.

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Keilewijk

2020/21

Research Reflection

Second Floor

Third Floor

Fourth Floor

Fifth Floor
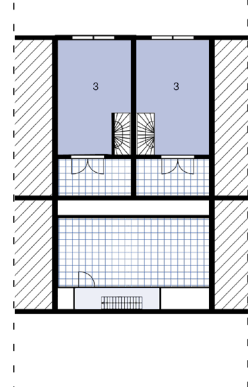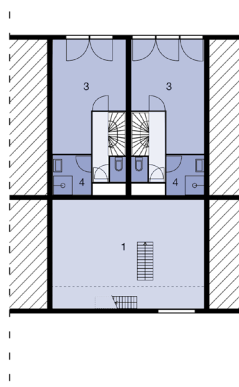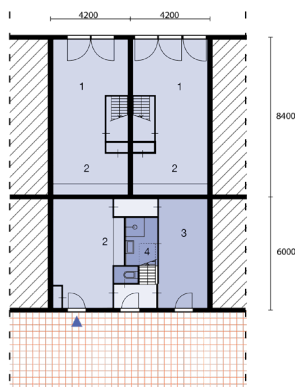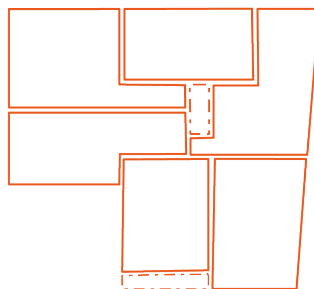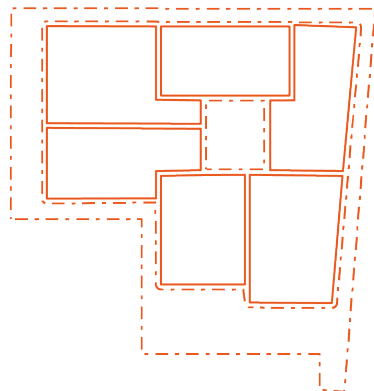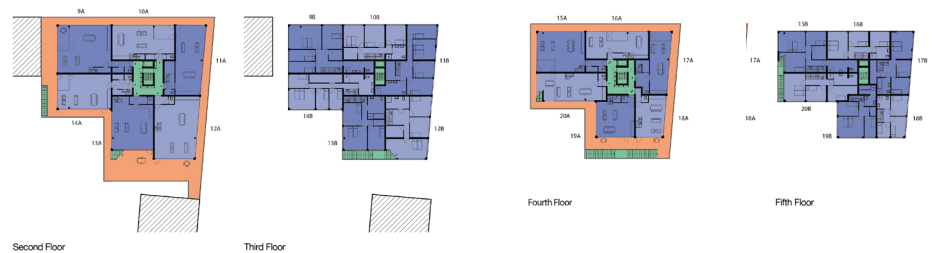
Praxeological Research

Story-telling versus observation

Whereas usually you can go to a place and observe people's behaviour, due to partial lockdown caused by the coronavirus in the Netherlands during the spring semester, we could not research by observation in that way. We instead replaced this research by suggesting people's behaviour: an observation by story-telling.

We used this method to research how collectiveness acts arise when users of a communal building move through and make use of shared spaces. While setting up the acts of collectiveness with the studio group, we first discussed what experiences we have ourselves in collective spaces and what behaviour we reckon. With quite a list of acts, we then projected those acts in our case study projects. In

that way, we developed a merely objective way of researching the spaces as a replacement for real-time observation.

It is essential to mention here that this method is different from the earlier mentioned one, using the personas. By applying personas, you're finding out phenomenons that exist due to a person's emotional being, sensations, and relational experiences. As a reader, you get to know the background and role of a person within a personalized context. On the other hand, story-telling by suggestion and observation is more about how, when, where, and with whom a person (inter)acts at specific crossings.

This method was useful to get a feeling for collective spaces' function, but I can't state that this method is scientific. It is too hard to guarantee objectivity, controllability, and validity since the acts depend on the studio group's experience. Also, since we implemented our own

experiences in the case studies, there was no room for a surprise by unlikely happenings.

Real-time observation was still helpful in my design regarding the outside collective spaces that connect the dwellings. I explored children's territory in neighbourhoods to find out about the street components needed to stimulate a vibrant and playful, intimate outside space. While walking around different neighbourhoods, I focused on the ingredients that made children play and explore. In this case, I didn't systematically use this observation, and I therefore wouldn't call it a full-fledged method. Nevertheless, it helped me much with the design of the collective outside places.

Specific design decisions I made based on the results of this research:

The division of different playfields, the variety in scale of playfields, the presence of alleys, corners, and sidewalk tiles

The attempt to create a back door intimacy: to enter through the 'backdoor' of your neighbours houses

Route resident A
Route resident B
Informal short encouner (0-10 min)
Informal long meeting (10-∞ min)
Negative encounter
Visual encounter
Visual encounter other
Formal short encouner (0-10 min)
Formal long meeting (10-∞ min)
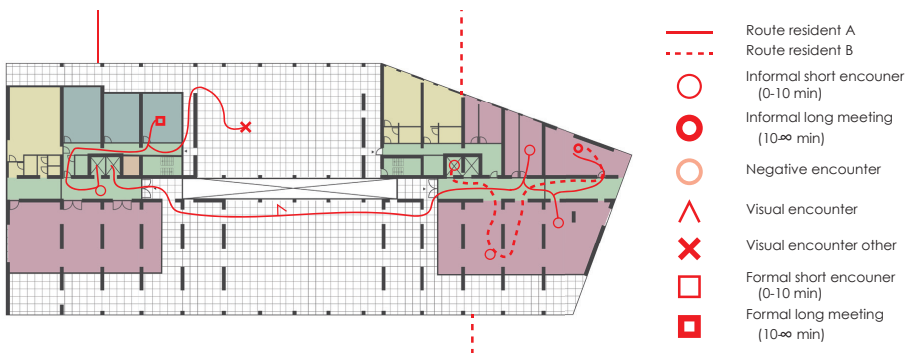
Typology Transfer

The typology transfer method was a way to explore the possibilities of different typologies researched in the case studies examples mentioned before. The QuickStart of the first semester, where we literally copied and pasted the floorplans of the case study references to our site's plan, was the initiation of this method that helped me explore the typological possibilities. I research those possibilities in a typological framework by combining, altering, and contextualizing for future users' relevant architectural types of spaces.

As I found out by writing a paper on this method in the spring semester, I bumped into Rafael Moneo's work. He, in my opinion, has an interesting view on the versatility of puzzling typologies. According to Moneo, the inventiveness of the architect allows to extrapolate from the type and change its use. You can distort, transform, scale, overlap, and use all other kinds of applications to existing types in order to produce new ones.

'The obsolescence of architectural objects can be appraised by viewing them as types susceptible to differentiation in their secondary aspects. By doing it consequently, one can act to change them. The type can thus be thought of as the frame within which change operates, a necessary term to the continuing dialectic required by history'.[4]

What makes the theory even more interesting is the importance of integrating spatial context in the transfers, as I meant by stating 'to contextualize a type.' A specific context of a transferred case can be seen as part of a type: *'To determine a typical context can help provide an example of comparable conditions found elsewhere. Examining a context as a case*

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| Graduation Project
| Keilewijk

2020/21

Research Reflection

study of a type - particularly with reference to other circumstances following the same rules - allows a typology to be established.'5 As I quoted Lucas in the paper I wrote.

Using the typology transfer method was a highly useful way for me to explore the possibilities of my building block in a methodical way. It resulted in a stacking of typologies that comes with varied and vibrant traffic- and outside space for the community that lives in the building.
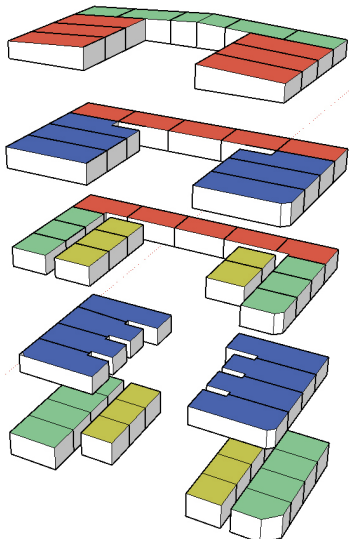
Specific design decisions I made based on the results of this research:

| The stacking of different housing typologies

| The varied communal traffic- and outside areas

Pullens Estate + OCMW + Svartmaloen

2e tot 4e   5e en 6e
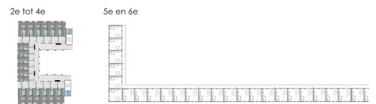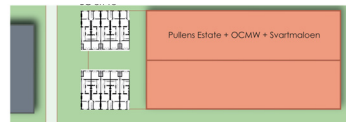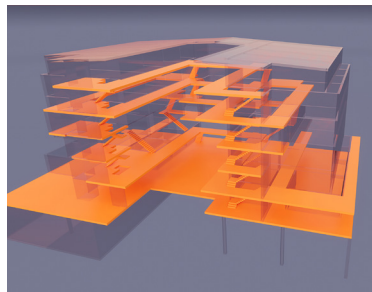
Model Studies

Using a digital model has helped me explore different options that have to do with the volumes, openings, and dimensions of the building throughout all phases of the design. It has been a helpful tool to explore different possibilities from an eye-height perspective. At the beginning of the design project, it mainly had to do with the mass-study of the building's shape within the urban context.

Later in the design project, it has helped me make decisions, for example, on the space needed to keep the building block apart from the existing building standing next to it: the Keilepand. My design finds a strong connection with this building, but I visually separated them because of the difference in function. This request made

me explore what distance was optimal to separate the buildings while still keeping a connection between the two. Testing from an eye-height perspective and testing with the use of scale models in other perspectives allowed me to experience the differences in feeling and space.

Also for the façade design model study has been an essential tool. Since I'm playing a lot with extrusion and intrusion of the façade, exploring in a model gives me a good overview of how different variables of the façade design play together.

Specific design decisions I made based on the results of this research:

The mass of the building within the urban configuration

The stacking of separate layers that belong to the Keilepand and that belong to the dwellings

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Graduation Project
Keilewijk

2020/21

Research Reflection

The façade layout in terms of solid mass

The dimension of the entrance-stairs

The widening of the courtyard due to a lack of sunlight

Graphic Experiments

The design of the facades has been a major struggle during the final bits of the design phase. I tried out endless amounts of configurations and styles. Still, over and over again, I wasn't either happy with the result or convinced that the result made sense regarding the principle starting points I had in mind for the facade.

Although it took me an immense amount of attempts, the experiments with graphic composition, configuration, and colouring helped me largely compared to all methods I tried in this particular challenge. The biggest challenge I had was that the dwellings behind the facade are all different from each other, yet a graphically pleasing facade should've a certain kind of rhythm or pattern. Secondly, I wanted to contrast the new dwellings and the existing Keilepand as well as the outer and the inner facade of the dwellings. Over and over again, I came to variants that were either esthetically unpleasing or too technically complicated in proportion to the function and the building's necessary affordability in my eyes.

I finally came to a result when I structurally started with framing the different dwellings on the facade in a monotonous structure. Within this frame, there is room for variation without the overall composition becoming chaotic. What helped me create some rhythm and structure too, was the alignment of the different kinds of window frames in various ways.

The method used, experimenting with graphic layout, is not at all well structured or well-substantiated. Besides, all results were judged by my own eyes, and in that way, there lies significant influence in my personal satisfaction and taste. I guess it was a compositional challenge that needed to be done in this chaotic
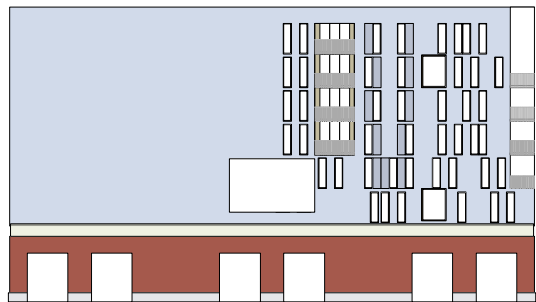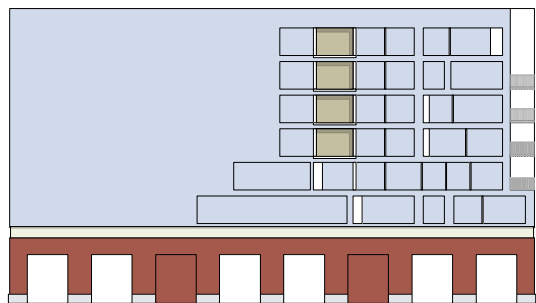
way

Specific design decisions I made based on the results of this research:

| The graphical composition of the facades

| The types of windowframes

| The colours of the materials of the facades

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2020/21

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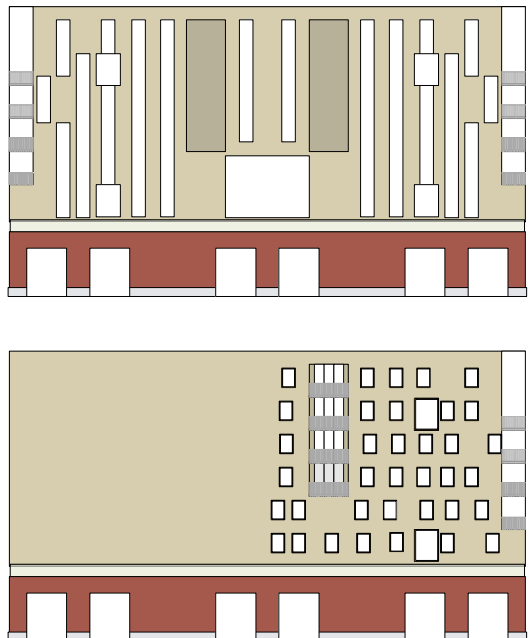
Literature Studies

In order to find more information on how to design for families in the city, I used several books to find out what pointers I could take to help me design. Two books have primarily been important in my designing process, namely 'Building for the Next Generation' by Marlies Rohmer and 'De Nieuwe Generatie Stadskinderen' by Lia Karsten and Naomi Felder.

Both writers emphasize the importance of design for the child, specifically in family housing. Children keep the city lively, and especially in the communal spaces, they can help keep the space vibrant by offering them a place and stimulation to play and explore.

Another piece of literature that has been important is the book 'Building and Dwelling,' which was part of the Research Seminar course in the first semester. Sennet's work has been an inspiration for the ambition of contributing to the development of an inclusive city with architectural design.

I must say that I didn't use literature in a methodological way. I didn't do a more thorough literature study where I consciously compared different pieces. I would say I used the literature more as an inspiration instead of a scientific method.

Specific design decisions I made based on the results of this research:

The attempt to design dwellings with a neighborhood feel within the city, in addition to that the stimulation of social safety and a strong social network

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Research Reflection

| All traffic areas and playfield areas are one connected space

| The courtyard that focuses on the connection of children with the city and their position in the city over the transition from child to adult

| The big difference in the character of the inner and outer façade

| The relationship with the city market on the ground floor

| The bright-coloured frontdoors

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