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0.1 The project

Black Hill City

This graduation book serves as an academic documentation of my graduation project within the Urban architecture studio, black hill city.
The project aims to investigate and implement architectural interventions to transform the urban structure of the Belgian city of Liége. By focusing on innovative design strategies rather than large-scale urban interventions, the studio seeks to redefine the city's fabric and create a sustainable, liveable environment for its inhabitants.

Using the transformative power of architecture, the studio envisions an alternative approach to shaping the urban fabric. One that uses architecture as a catalyst for alternation.

By analyzing the various factors of Liége's urban context, including its urban typologies, the demographics of its population, and the patterns of urban usage, the studio seeks to develop interventions that are both contextually responsive and architecturally justified.

the city of Liége lies at the base of this studio. A city with a rich industrial, historical and cultural heritage. By researching the different factors as stated above, the studio sets off with a large scaled base knowledge of the city's urban context. This research provides the different studio members with a grip on the city and it's unique challenges and opportunities, providing a handle for further individual research.

Using the architectural interventions rather than large drastic urban scaled changes, provides the chance to work within the existing urban fabric. Complementing on the rich context that Liége provides. This approach emphasizes the importance of adaptability and responsiveness, as well as the preservation of Liége's historical and cultural heritage. The goal of the architecture is to reshape the urban fabric and structure and enhance the quality of urban life.

This book is a collection of group work as well as individual work, providing an overview of my process of the past year. And showcasing the combination and the result of my research and design, Especially focussing on the interaction these two disciplines have in the process.

0.2 Patches

The three different region's of Bressoux

Liege is a city with many different areas, cultures and histories. This is a characteristic that clearly translates into the morphology of the city. While walking through the city, one gets the idea of walking through different cities. There is a lack of a clear whole and this translates to different areas that are difficult to connect. There are hard boundaries present and distinct neighborhoods. These neighborhoods differ greatly from each other in several areas, Architecture, residents and atmospheres being some examples.

This studio looks at a particular section of the city. In this relatively small planning area alone, three different regions can be distinguished. In this study, these regions will be referred to by the terms:

Jovial, Condensed and Detached. The figure on the right side shows a map of where these regions are located and how they border each other. To get more depth and grip on the differences of these areas, a group study of these areas will be conducted at the start of this studio. Beforehand, these areas can already be distinguished as mentioned earlier. The urban vision behind the architecture of these neighborhoods is very different. This results in different residents, social atmospheres and architecture. For example, in the section called jovial, a planned urban strategy has been applied. This results in a quieter urban structure with more space due to a more open streetscape. Consequently, these homes become more attractive to

families and less to individual residents. In contrast, in the condesned section there is less of a planned approach. This section has grown slowly over the centuries and is therefore very densely built. With smaller houses crammed in between each other, there is less spatial structure. The residents are therefore more self-centered and more often individuals.

These three different areas form the basis for my research, program and design. This theme recurs more often in my project and will be further explained later.

1. Research

1.0 Introduction

A general introduction to my research

How do you experience a city? According to Lynch there is more than the eye can see, at every instant. More than the ear can hear, a setting or a view waiting to be explored. Nothing is experienced by itself, but always in relation to its surroundings, the sequences of events leading up to it, the memory of past experiences (Lynch, 1960).

While walking through Bressoux the combination of all these experiences makes me feel lost, there is no structure or logic. I walk around a corner in one of the many street of downtown Bressoux and feel lost the moment I take a few steps in one of the many with brick covered streets. When walking to the end I find myself in a completely different environment. Through the big apartment flats of Droixhe, I can't find any view and I feel overwhelmed by the concrete giants hiding behind a green roof. Crossing the railway I arrive in the uptown part of Bressoux. Giant lines of similar houses appear in front of me. Missing any point of orientation I can't find where I came from or where I have to go.

These vastly different districts in the area, are a big part of the findings of our group research. These district all have a different urbanistic approach, from a top down strategy in the district of Droixhe, to an unplanned approach in downtown Bressoux. This resulted in vastly different urban cityscapes.

The lack of continuity and connections between these districts confuse me and all these different experiences make the city chaotic to me, unclear or as one can say unreadable. This term unreadable makes it interesting. When we take a look at this term we can almost describe the structure of a city as a language, it is organized into some sort of pattern.

This term is also described in 'The image of the city' by Lynch. He states: "Just as this printed page, if it is legible, can be visually grasped as a related pattern of recognizable symbols, so a legible city would be one whose districts or landmarks or pathways are easily identifiable and are easily grouped into an over-all pattern."(Lynch, 1960).
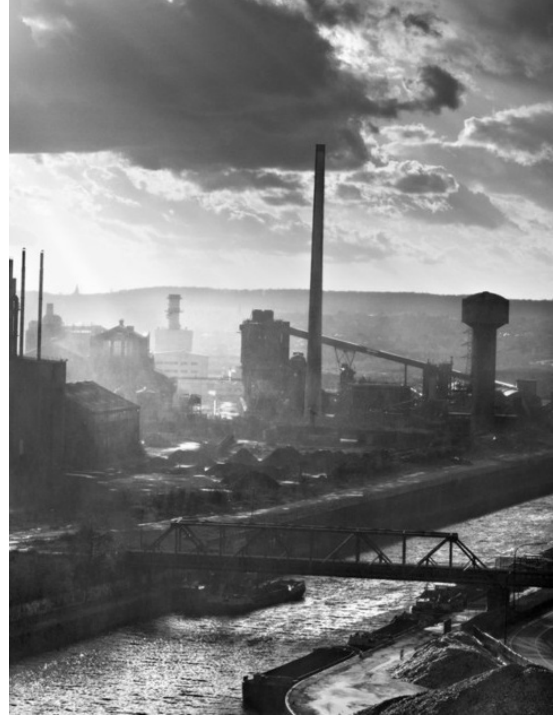
This unreadability of the city provides me with a 'lost' feeling. Raising the question: "How do I feel lost? "

To answer this question I went back to Liége and visited the different patches again. Instead of focussing only on what I can see in the city, I focussed on the different senses. What do I hear, smell and touch whilst walking through these different neighbourhoods? What kind of people walk the streets and what kind of animals find their way in this urban context? I started filming the different elements that stand out to me and how they define a difference between the three different patches.

To translate these findings I created a soundtrack for each different patch. These soundtracks combine the audible as well as the visual findings, exaggerating the atmosphere in the district. By composing music, using local sounds and using different instruments. The difference between the patches gets really clear with this technique.

1.1 Preperatory research

Group research about (un)stable urbanism

At the start of this graduate year, we began with an assignment to get acquainted with the city and the planning area. This group assignment was based on themes distributed throughout the studio, resulting in an exhibition about the city of Liège. In this initial phase the different urban approaches were researched, in the different parts of the city.

After the first visit, a clear three-way division in the city and its surroundings stood out. Among other things, these three regions differ in urban vision, implementation and history. The inhabitants, users and atmospheres are also clearly very different.

In this group study, we will look deeper into the combination of history and urban vision. How was the vision of the architect in these areas and what is the result of this. How does this vision develop over the different years? To see this research is referred to the urban architecture '22/'23 compendium.

This research has provided more information and grip on the planning area. and forms the basis for the rest of the personal research. Here the three different areas are looked at in more ways than just the urban vision and approach.

1.2 Urban scale

1.2.1 Jovial

"Being welcomed by benches in a green environment. Walking towards the Jovial District a space is created to breath and calm down."

"While walking up the hill the layout of the street is shown quite clearly."

"Front gardens make the transition between the houses and the road softer and there is a broader pavement."

"the first thing standing out is the garbage disposal, with the garbage being nicely removed from the eye and the containers being surrounded by a fence, giving the area a more well maintained outlook."

"More green is to be found on the street, and the first couples are being spotted walking in this neighbourhood. Once again the front gardens create more space to breath."

"The houses are a lot more well maintained and the windows don't have blinds in front of them."

"The materials are better maintained and the different paths to the front doors stand out."

"Different from the pigeons in Droixhe, in uptown cats and different birds are found walking the streets and gardens."

"At the school the children are visual and audible present."

"Approaching the allotment gardens it feels like walking into more private territory."

"The material changes from a hard rock to a softer dirt and the narrow paths make you lose your way."

"The local inhabitants appropriate this space creating places to dwell."

1.2.2 Detached

"Arriving upon Droixhe by the sound of construction. Machines take over the rol of the car. And in the distance we see the first flats of Droixhe."

"When walking towards this neighboorhoud the absurd amount of trash on the side of the road welcomes you."

"The first appartments show a lack of human interaction. The dark corridor is uninviting and the only human elements are located at higher levels."

"The first appartments show a lack of human interaction. The dark corridor is uninviting and the only human elements are located at higher levels."

"There is a wide open space between the flats and the space inbetween feels like an unpersonal wasteland."

"The area is only used by a sole soccer player practicing in a cage. The rest of this land is wide open and there is no human interaction whatsoever."

"The only people are hidden behind a roof of trees, and the few balcony's peaking underneath this roof show nothing more than a pile of garbage."

"The only people are hidden behind a roof of trees, and the few balcony's peaking underneath this roof show nothing more than a pile of garbage."

"The rest of the garbage is being collected on a parking spot right in the middle of this open space."

"Despite of the regulations against the feeding of the pigeons, these local animals find their way in this neighbourhood full of waste."

"When taking a walk across the area you stumble upon vastly different materials, from an old deteriorated concrete to a poorly maintained lawn."

*"There are no soft boundaries in the area, footpaths are bro-
ken up by a through road."*

1.2.3 condensed

"The cars dominate the streets in a visual and audible way. "

"The people are missing in the streets and everything happens behind closed doors."

"A clear border between materials between the pavement and asphalt guides you around the corner in the many similar streets."

"The closed off character of the buildings is constantly apparent and the only people walking on the street are always alone."

"Out of nowhere green shows itself in this city."

"The sound of cars makes place for the sound of wind chimes. And gives a certain peace to the environment. Next to these wind chimes and the green a square shows itself. Creating a space to breathe and the first public elements appear."

*"Drifting from this square off into one of the streets the cars
are directly dominant again.
the facades are directly connected to the pavement and you
are enclosed between the cars and the buildings."*

"When passing the school the sound of children overrules the sound of the cars, the children are however not visual and are being hidden behind a large gate."

"A few streets ahead in the modern part of the neighborhoud the anonymity of the city shows itself. The pathway is blocked by a fence and according to the poster sign there is nothing to do. "

"The only human touch in this neighbourhood is the garbage and dog faeces on the street."

"Rue du moulin is the biggest vein of this nieghboorhoud, and immediately a big difference in the amount of human scaled elements is clear. different sorts of movement in this street such as a bike, walking and cars are visual "

*"Walking towards the end of this street the end of this neig-
borhood is reached. large gaps start to appear in between the
building blocks and there is a swith of materials in the street.
Still the sound of cars is dominant. "*

*"Reaching the end, you get sucked back into the buildings
and can't escape."*

"When finally torn out of this urban landscape you arrive into nothing, feeling like reaching the end of liege."

1.3 Architectural scale

1.3.1 Transitions

"This building is fronted toward a large roundabout."

"It creates a transition zone between the large urban scale and the smaller interior scale, by make a large overhang over the entrance."

"When you enter the building the exhibition space creates an interesting transition between the street and the building by creating a large open space with a strong visual connection to the street."

"In another section of the building the transition space is created by the height of the room. When you enter the hallway, the roof gets lower."

*"In another section of the building the transition space is cre-
ated by the height of the room. When you enter the hallway,
the roof gets lower."*

"In another section of the building the transition space is created by the height of the room. When you enter the hallway, the roof gets lower."

"When we take a look at the cadix campus, the transition between different classrooms is translated into a large open atrium, connecting in an audible but not visual way. "

"Again the hallway has a lower ceiling then the classroom."

"Different types of connections are found in the classrooms. In the form of two different types of transcultent windows, full and half. Still making a visual connection but keeping an audible separation.."

*"Different types of connections are found in the classrooms.
In the form of two different types of transcultent windows,
full and half. Still making a visual connection but keeping an
audible separation.."*

"the connection between the public and private is very open at the entrance of this school. Only a small steel fence separates the schoolyard with the street."

*"The entrance of the school is cut out of the original façade.
Laying on a second, deepend level."*

"In the interior of this school a clear transition between the spaces is created in a visual way."

"Blurring the main part of the interior windows, but keeping the lowest parts clear. That way a visual connection is established, but there is no direct interaction."

"Blurring the main part of the interior windows, but keeping the lowest parts clear. That way a visual connection is established, but there is no direct interaction."

1.3.2. Impressions

"We take off with the lobby of Cultura in Ede. This lobby can be used for smaller concerts, with a small stage against the wall. The music produced in this lobby passes through the whole building and can be heard everywhere."

*"When we enter the hallway the sound of the piano continues
but we also hear the sounds of different practice studios."*

"When we enter the classroom, the sounds almost all fade away."

ANGELASCHOOL | BOXTEL

"The same principle can be found in the primary school. The hallways are filled with the sounds of children."

"Only when we enter the classroom the sounds fade away, and can only be heard through the small door and window openings."

1.3.3. Tangibles

CULTURA | EDE

"we start of with the entrance of Cultura. The outside street pavement is continued into the hallway of the building. Connecting the interior and exterior. "

"the different materials on the floor show the different usages. Street tiles show the hallway. And the softer wood shows area's to stay."

"the different materials on the floor show the different usages. Street tiles show the hallway. And the softer wood shows area's to stay."
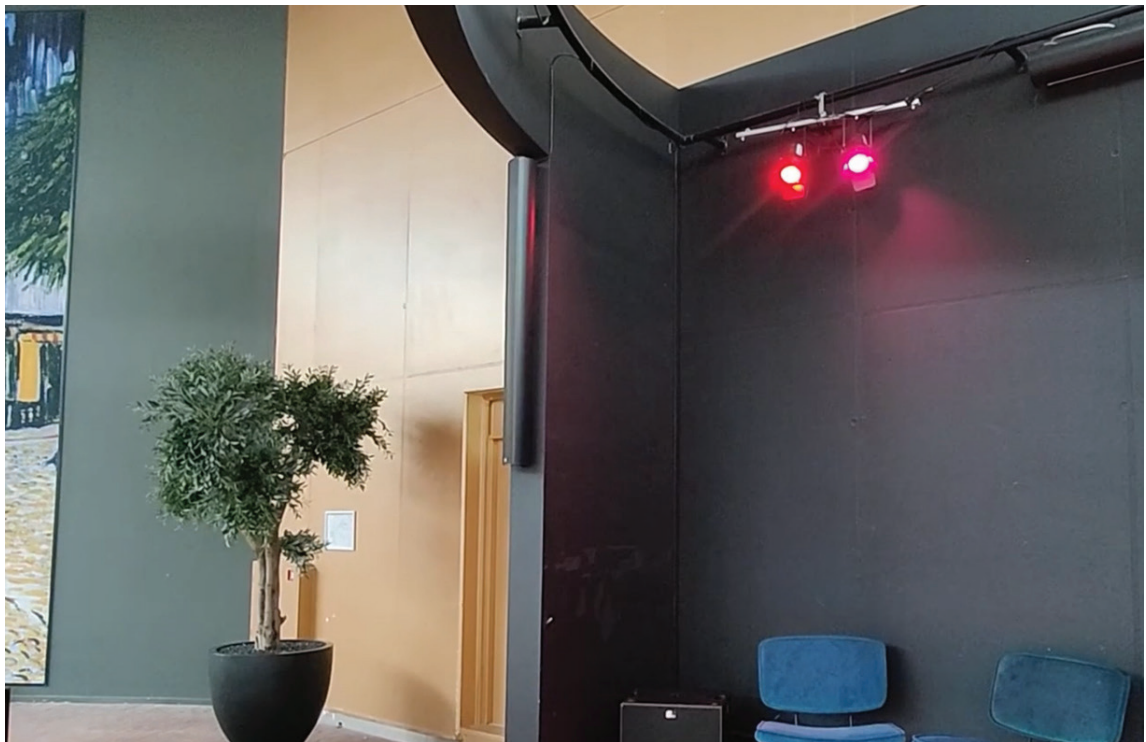
"The podium is only separated by colour and material. Creating a place to stand out from the wall."

"The podium is only separated by colour and material.
Creating a place to stand out from the wall."

*"The hallway is also seperated by the use of diferent colours
in the flooring."*

"The height of this study room is lower then the rest of the building and with the use of different colours and textures more intimate spaces get created."

"In this building there are harder colours and the hallway has more height. Creating a more open space."

ANGELASCHOOL | BOXTEL

"we see a usage of colour in the angelaschool. The colour creates separate spaces in the hallway, creating a place to work and stay. It is connected however with the colour continuing on the ceiling."

"we see a usage of colour in the angelaschool. The colour creates separate spaces in the hallway, creating a place to work and stay. It is connected however with the colour continuing on the ceiling."

"We can clearly see the height difference between the hallway and the classroom in this shot. The classroom being much higher and creating spaces in a way."

1.3.4. Presences

WELKOM BIJ CULTURA!

WIJ HOPEN DAT JIJ JE HIER THUIS VOELT. HELP ONS DIT GEVOEL TE WAARBORGEN EN BEHANDEL ANDEREN VRIENDELIJK EN MET RESPECT. WANT ALLEEN DAN BLIJFT CULTURA DIE FIJNE PLEK VOOR ONS ALLEMAAL!

CULTURA | EDE

"When entering cultura we see the first sign of the human presences. The sign is telling us to respect each other."

"We start off with this local band practicing in the cultura. When we approach them from the hallway we can hear the muffled sound from their practice. We see this building is used by all different ages."

"in the library we can see somebody using the reading booth on the side of the room. The bookshelfs are at a bit lower than eye height. Providing a overview when walking through the space. But giving a sheltered feeling when seated down."

*"The hallways on the different floors are openly connecting.
Showing the different users and usages."*

"When walking through the hallway of the angelaschool, we can see a lot of visual relationships between the hallway and the classrooms."

"Windows are or to the floor, or being low enough for the smallest children to look through it."

"Windows are or to the floor, or being low enough for the smallest children to look through it."

"when the school is finished, the children occupy the empty schoolyard. Running and playing they move to the edge of the square, choosing the fastest routes possible."

2. Design
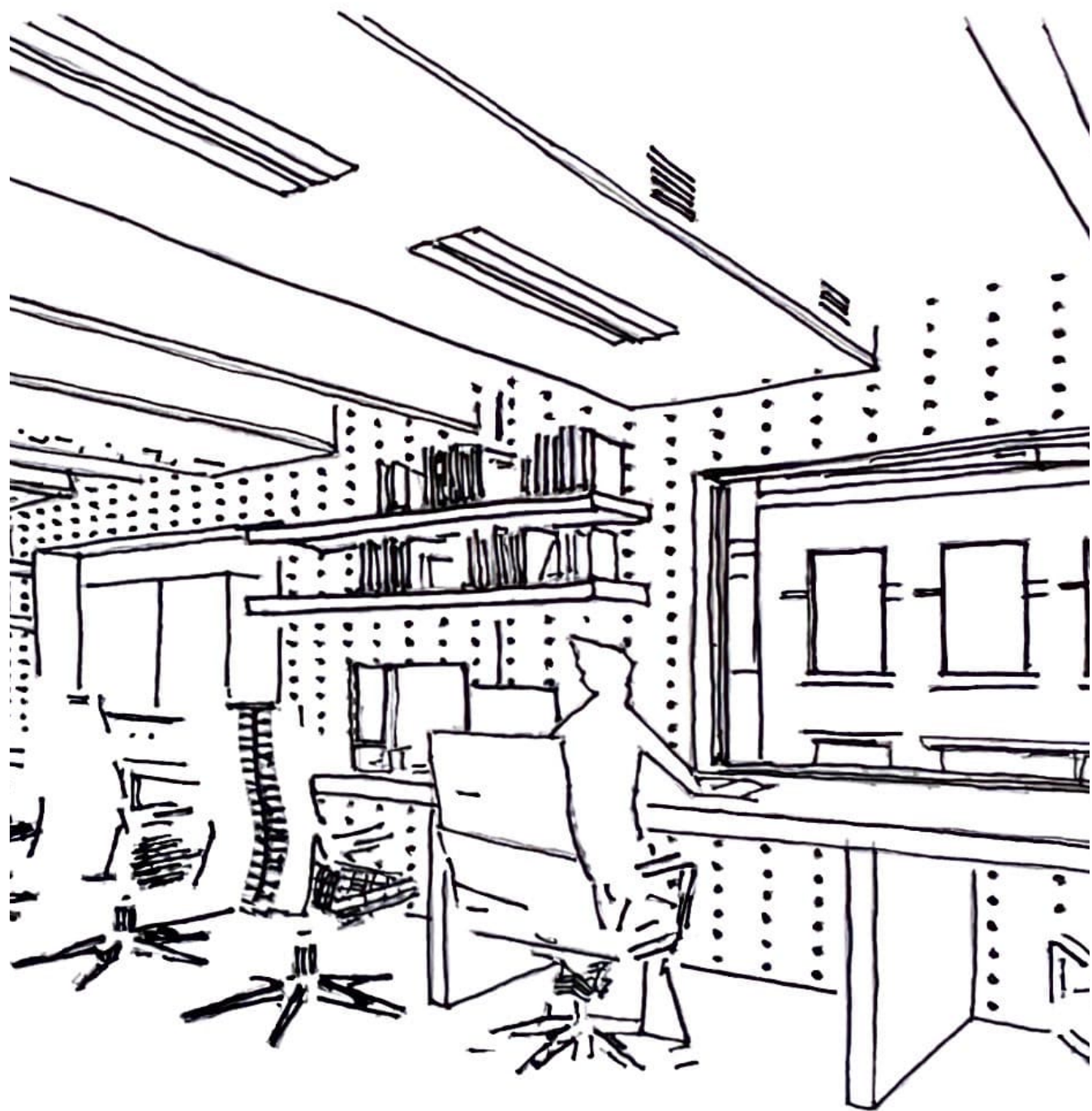
2.1 The program

After wandering around the neighborhoods of the planning area for several days, a lost feeling crept up on me. A feeling that is difficult to define. Which left the question stuck in the back of my mind, why do I feel lost, or in other words, how do I feel lost? This theme also clearly translates to local youth. Only a few public spaces can be found throughout the neighborhood. The youth have no safe place to go after school. It can be inferred from the amount of neighborhood centers of different cultures that this is in high demand. My design and research capitalizes on this lack. By creating a safe place where it is made as accessible as possible for young people to read a book, do homework or take a music lesson or workshop after school. An interesting connection between urbanism and architecture arises when this lost feeling from the city is translated into architecture. Can we learn from the city to use it to create certain atmospheres in a building? And how do I respond to this in my architectural project?

2.2 The plot
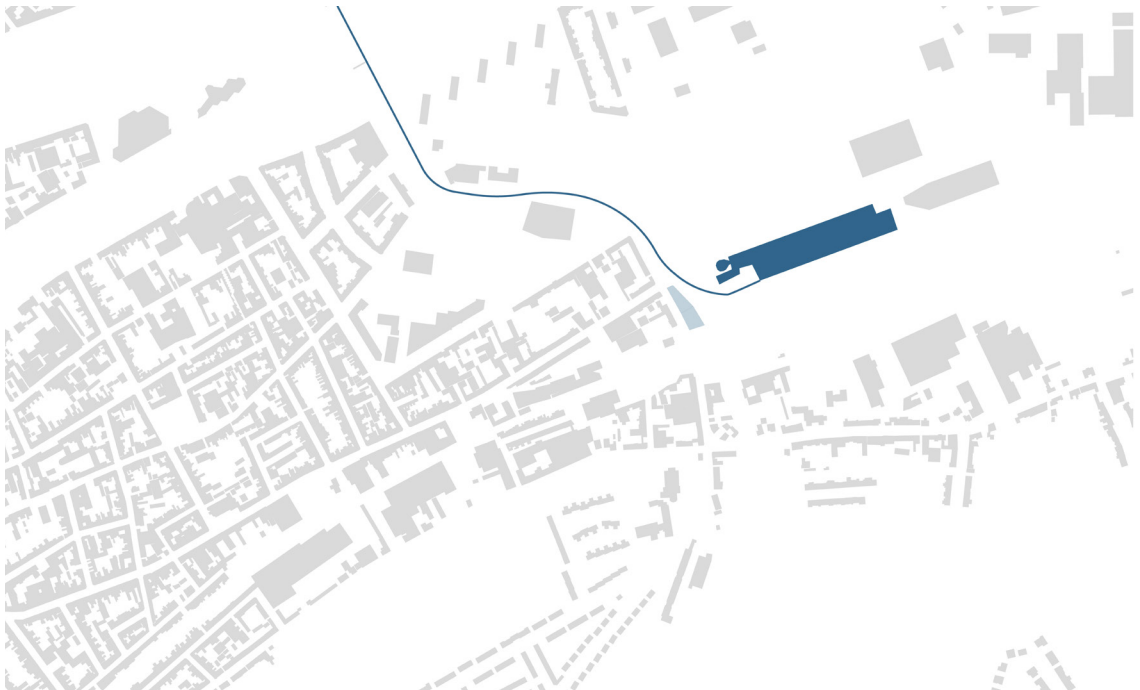
As the location for this program, this lot was chosen for several reasons. First, this lot is centrally located within walking distance between the various schools in the district. Second, the new railway line provides an excellent connection option. And third, the bridge presents an interesting challenge for an architectural gesture. Finally, previous research has established that the southern part of the city hatch can be divided into 3 areas. This lot is located on neutral ground as a connection between these three areas. For the target group, it is important to have a location in "neutral area." This way young people from all locations feel welcome.

2.3 Specifications

STUDY

READ
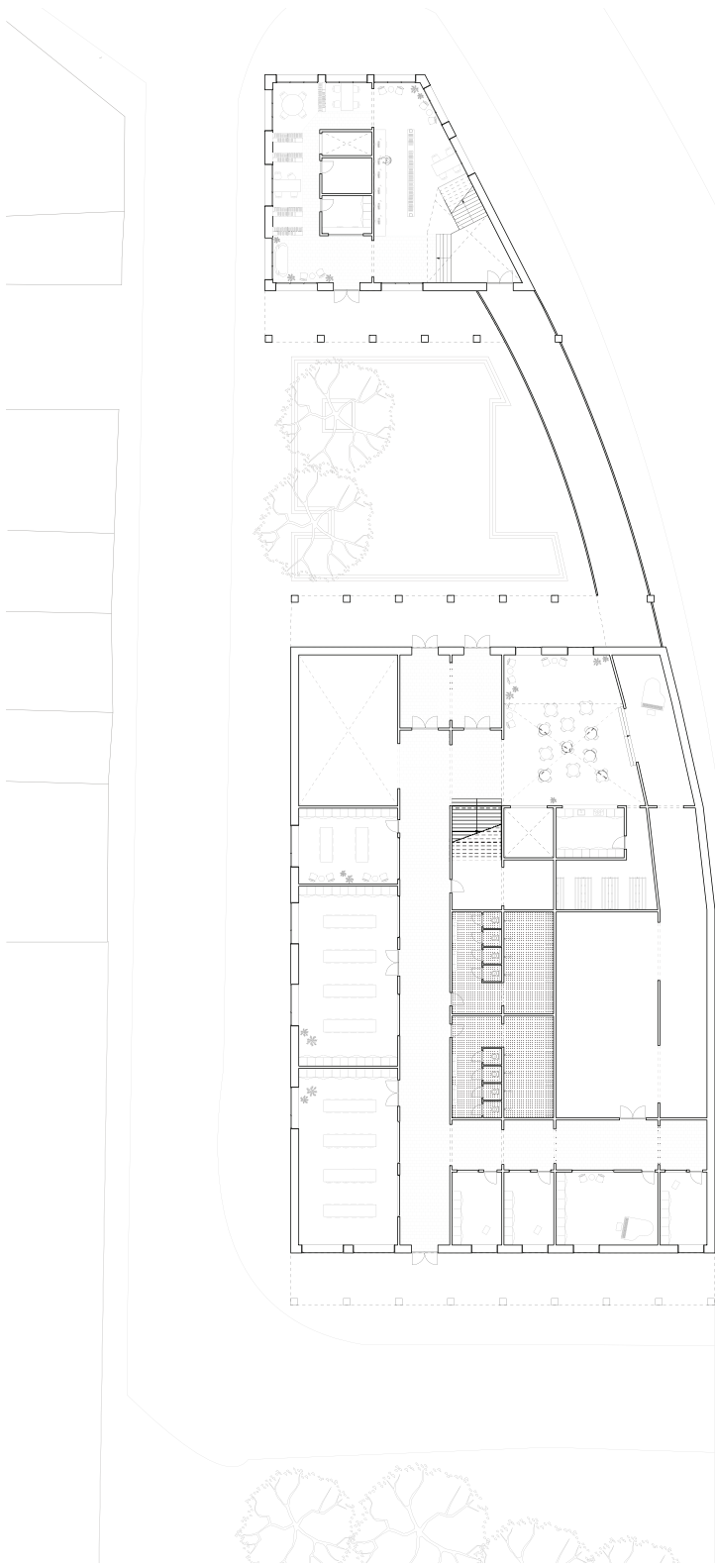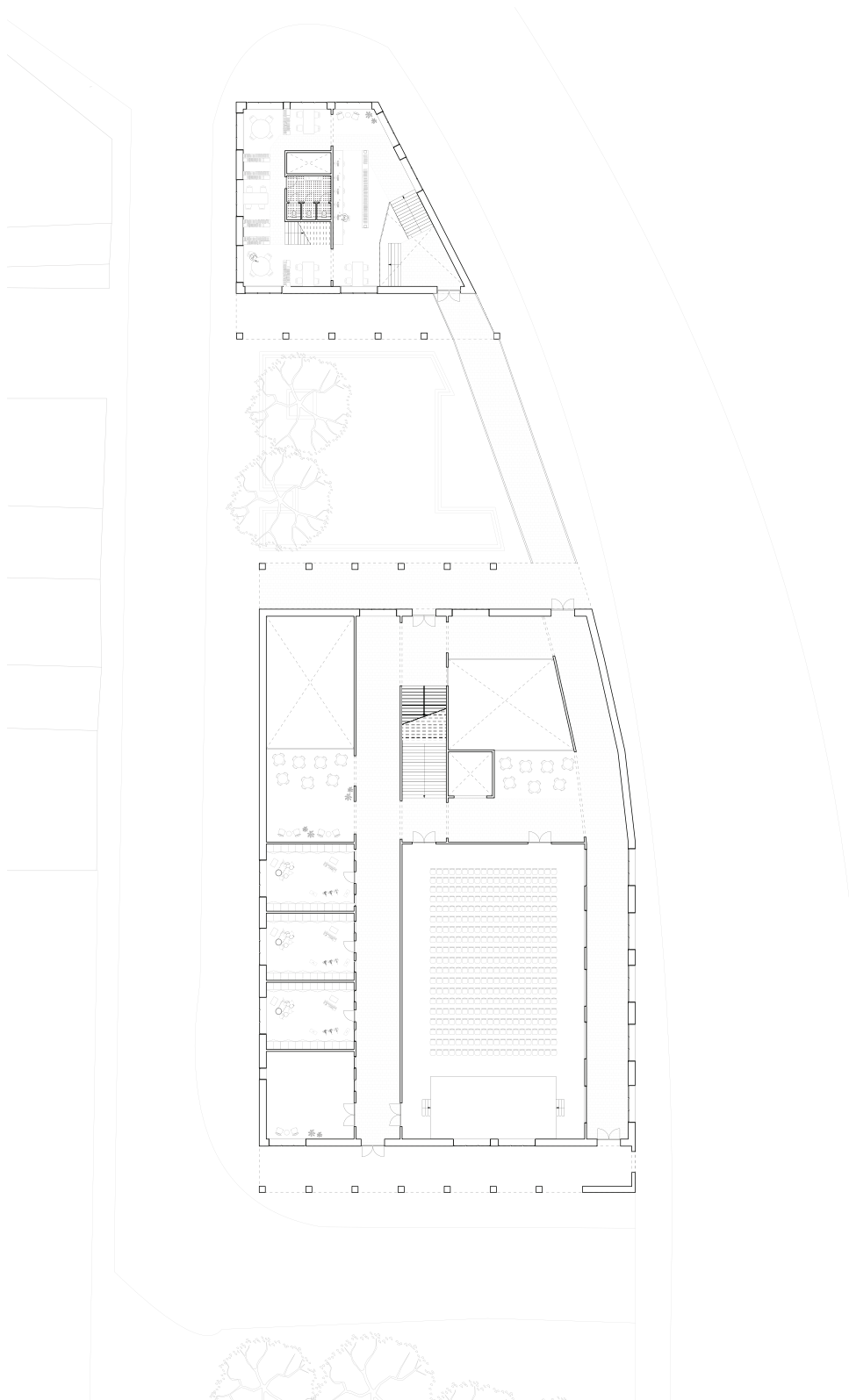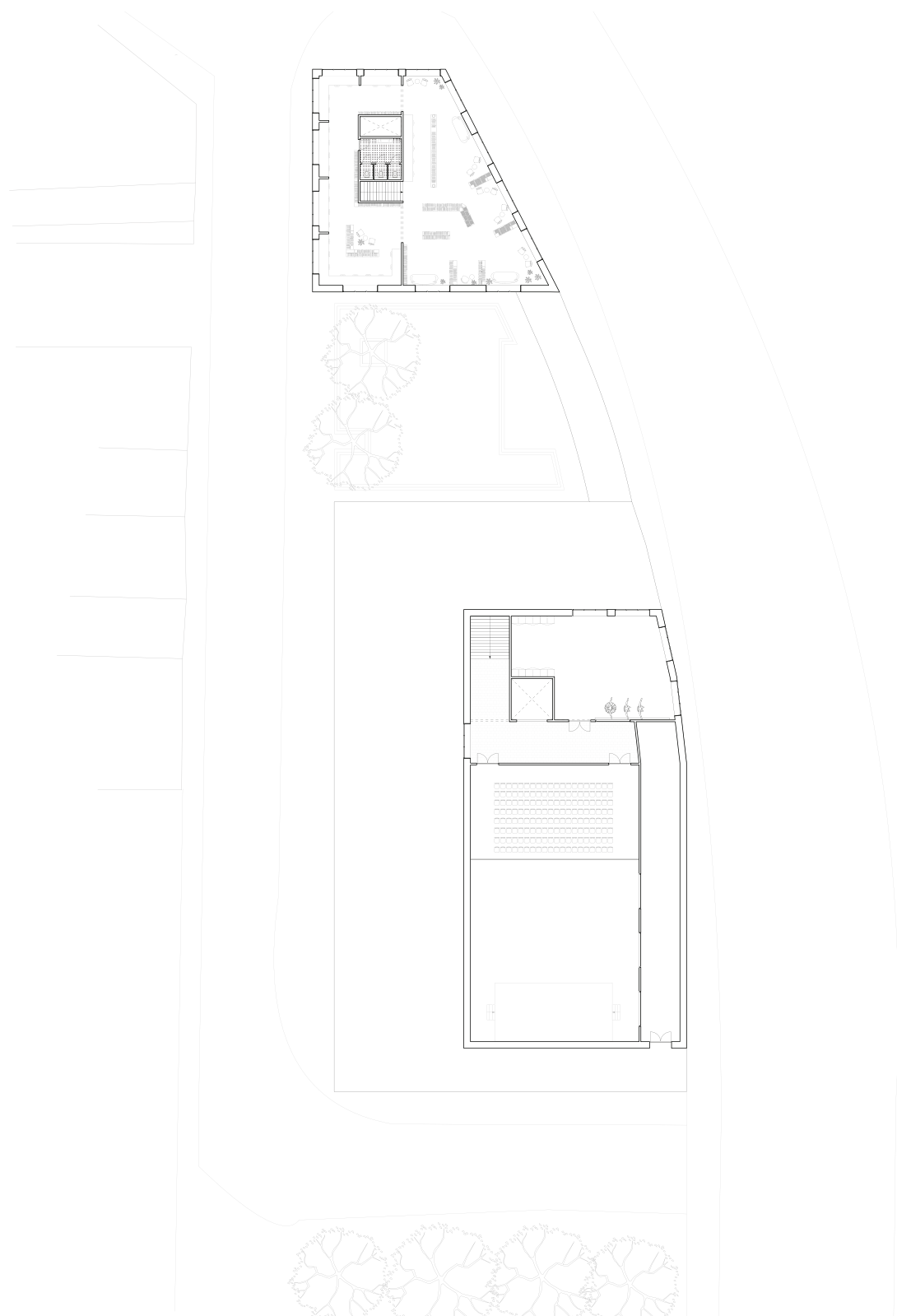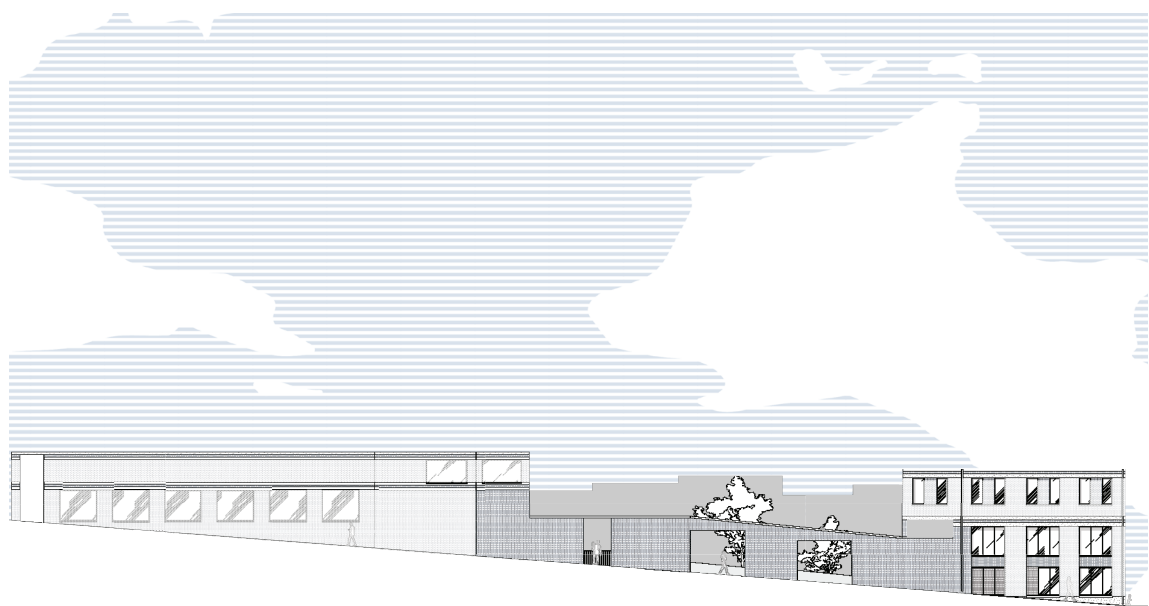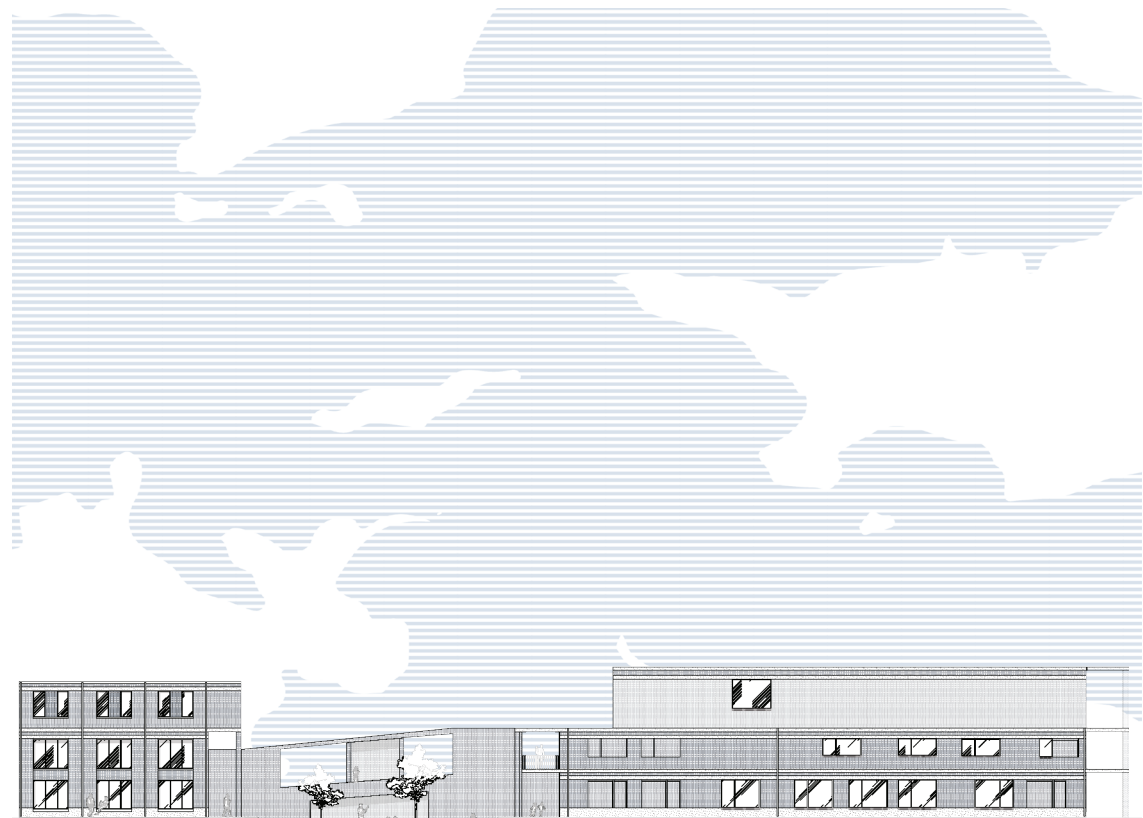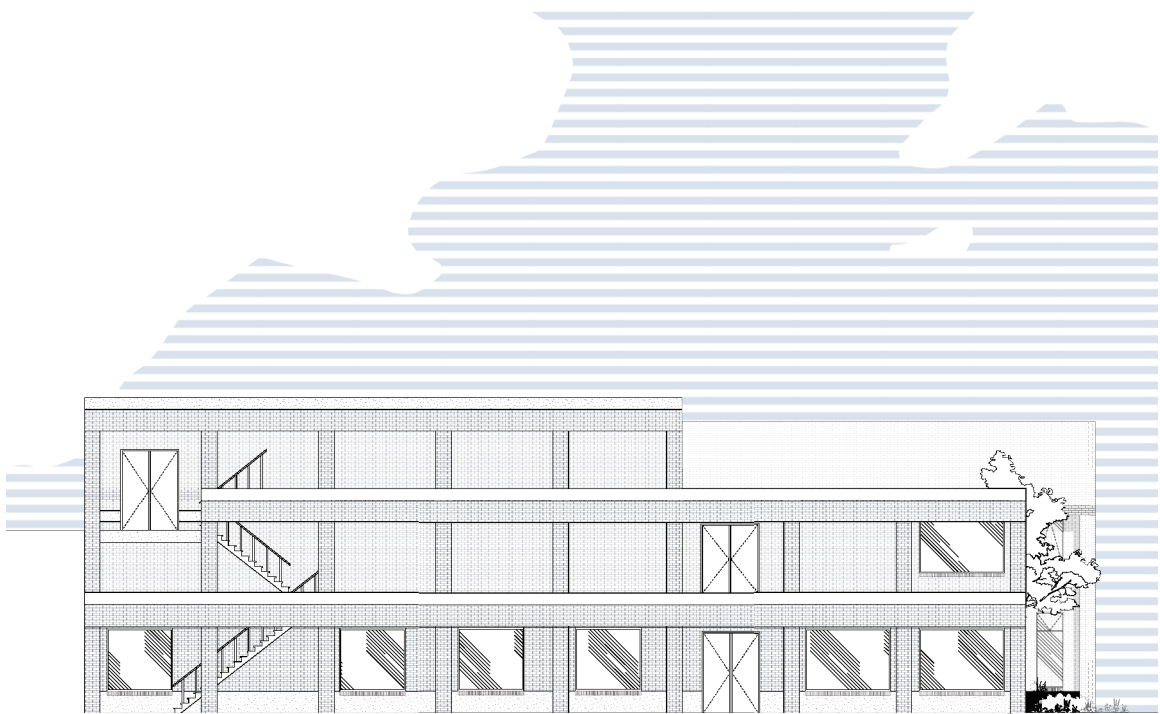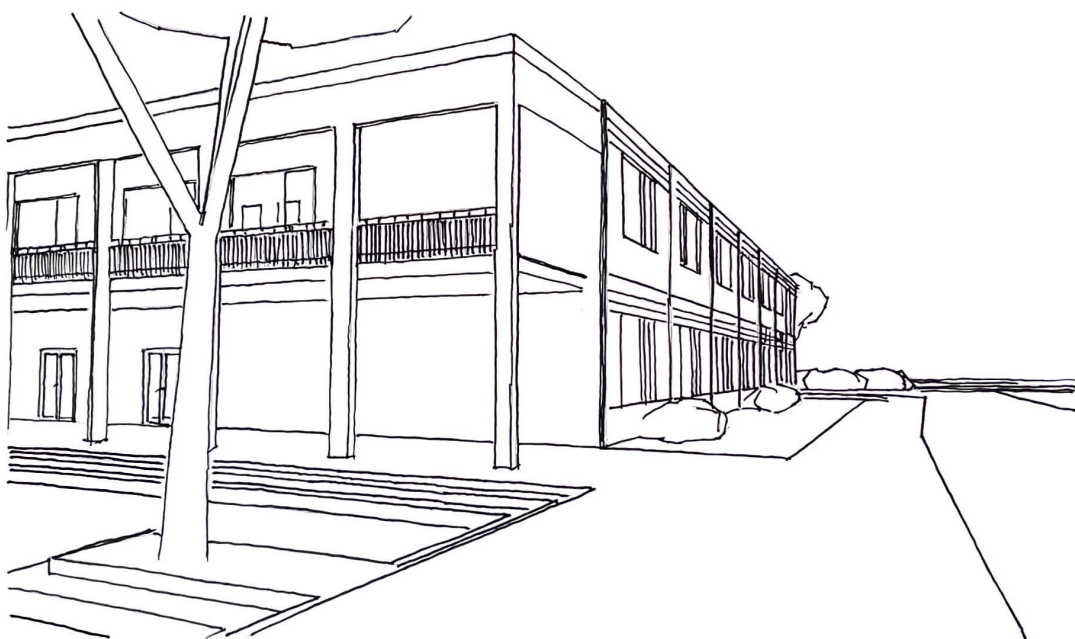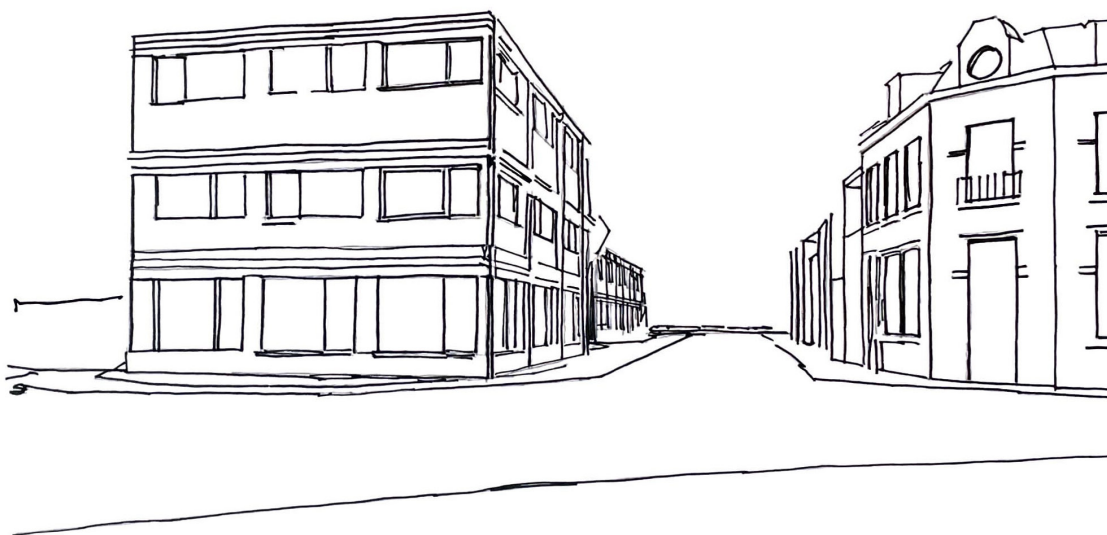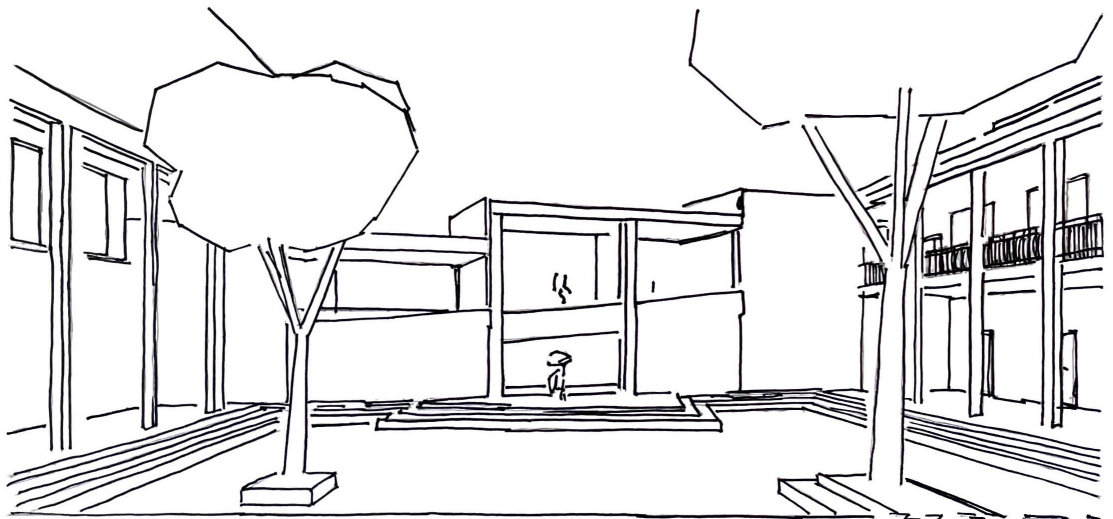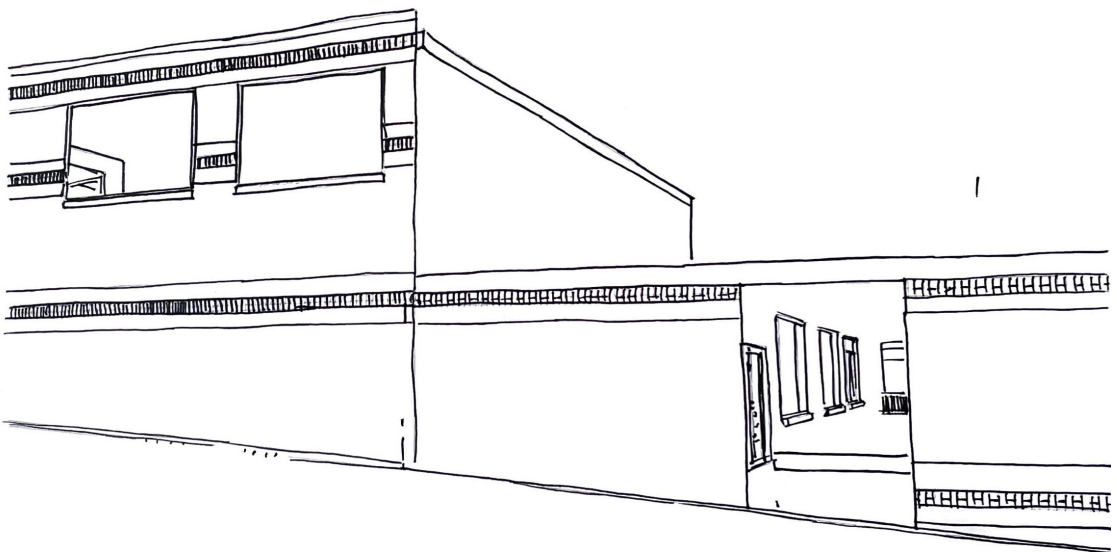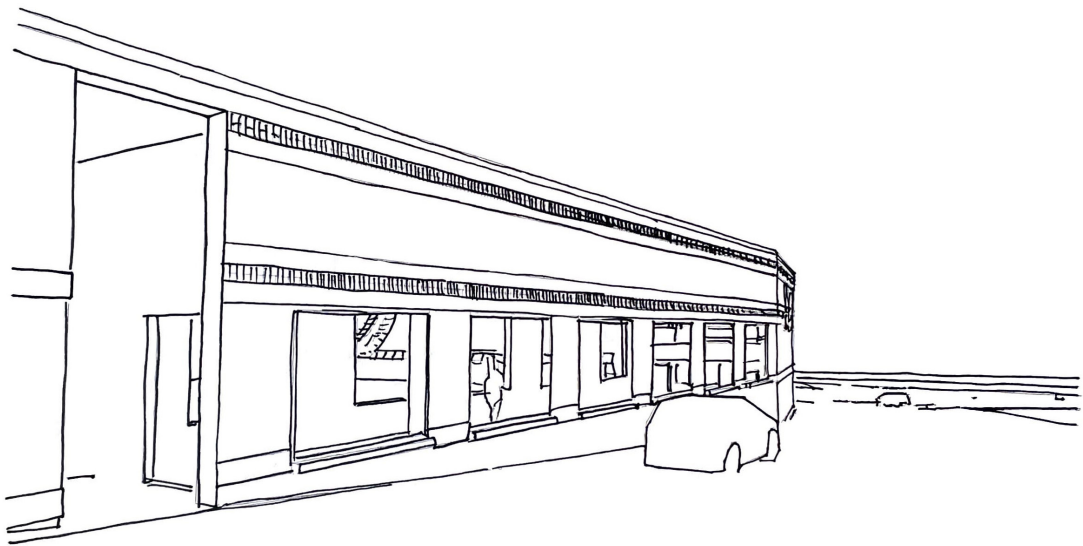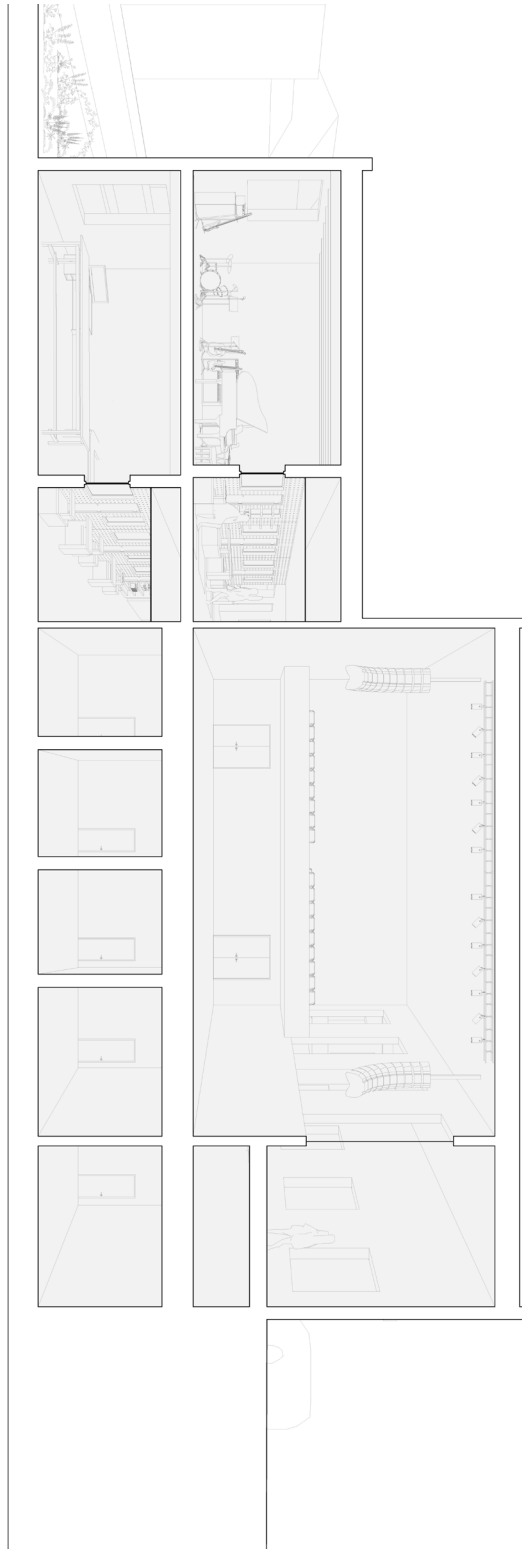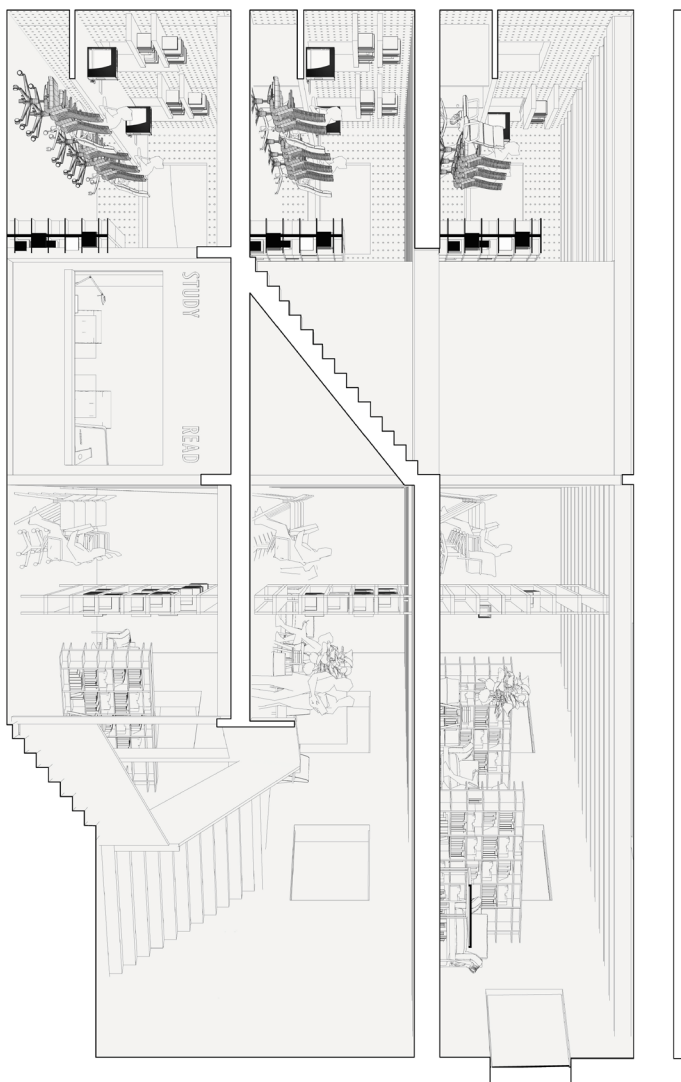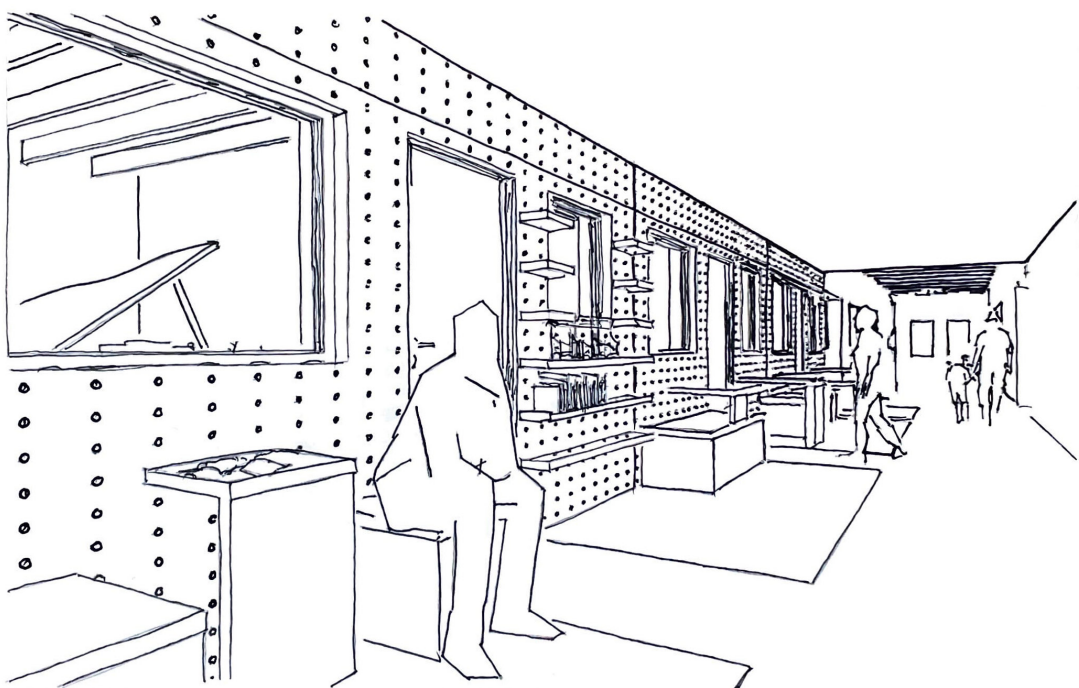
2.3 Transitions
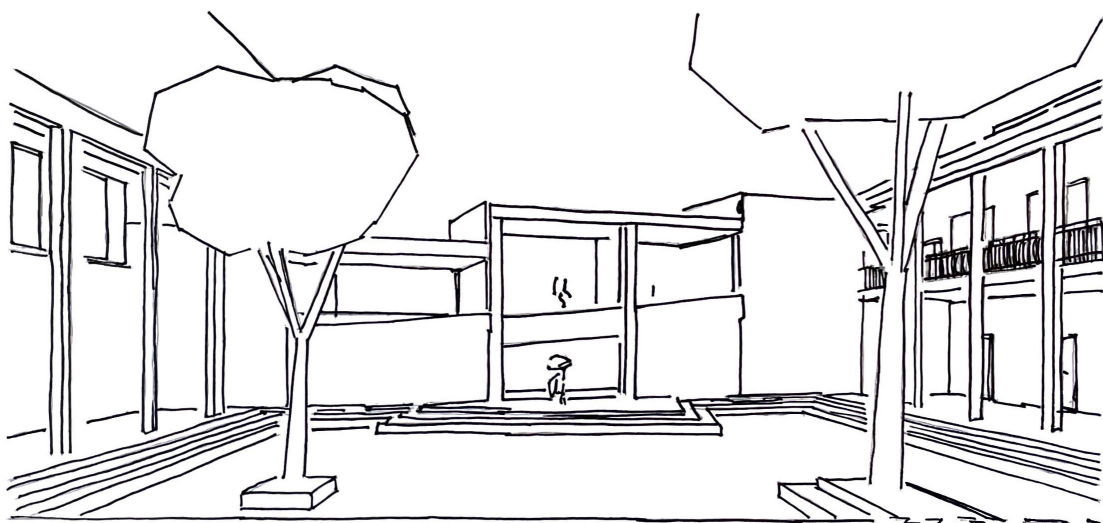
2.4 Impressions
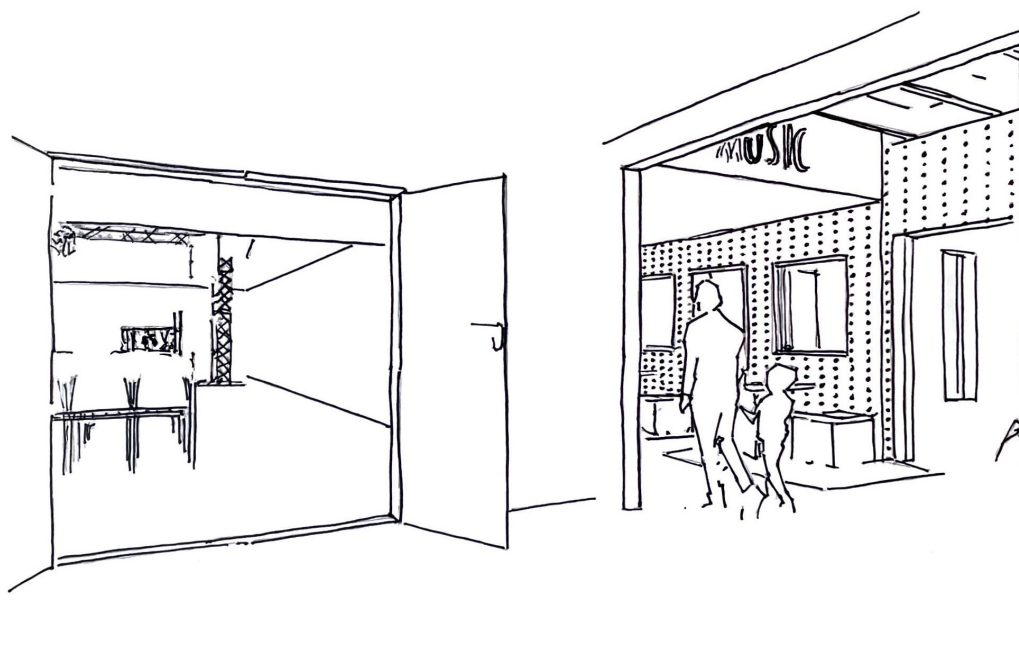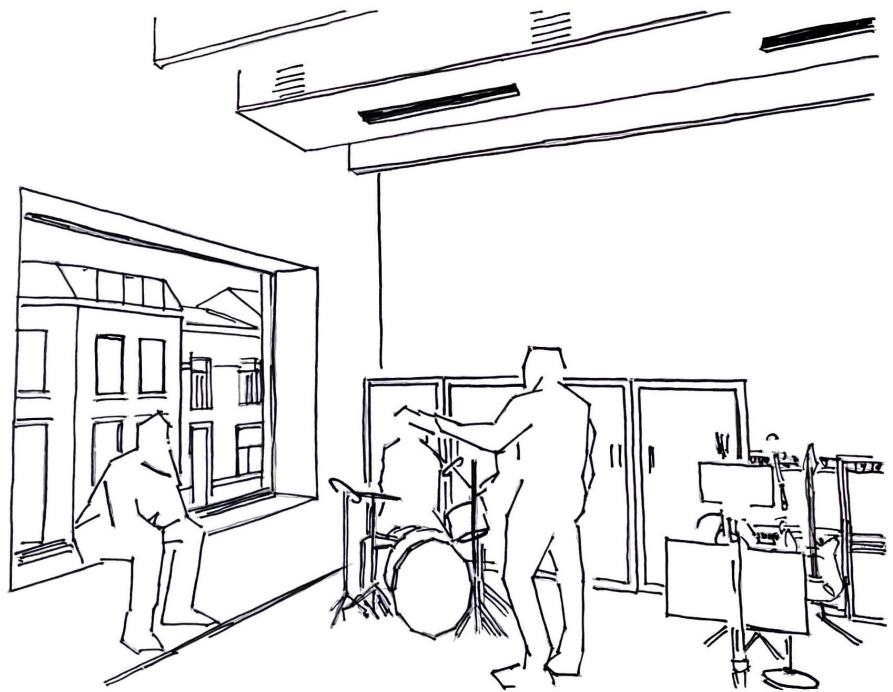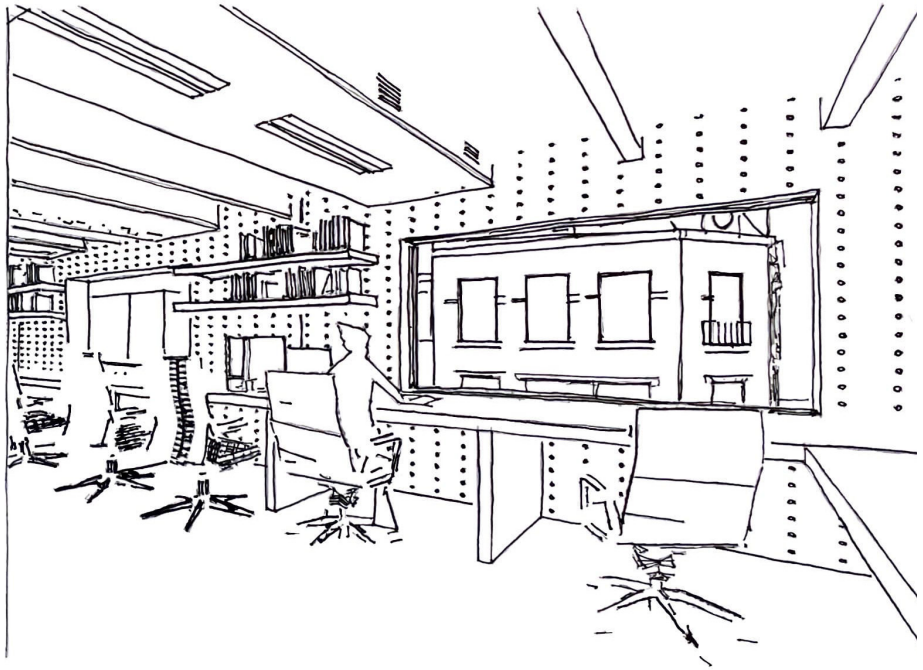
2.5 Tangibles
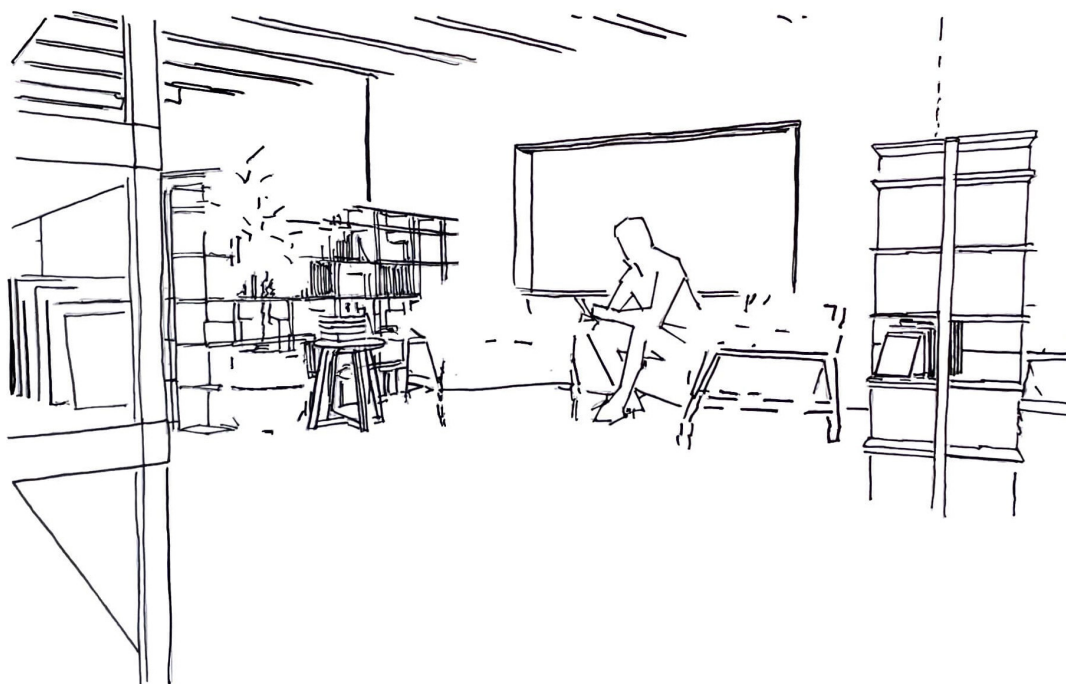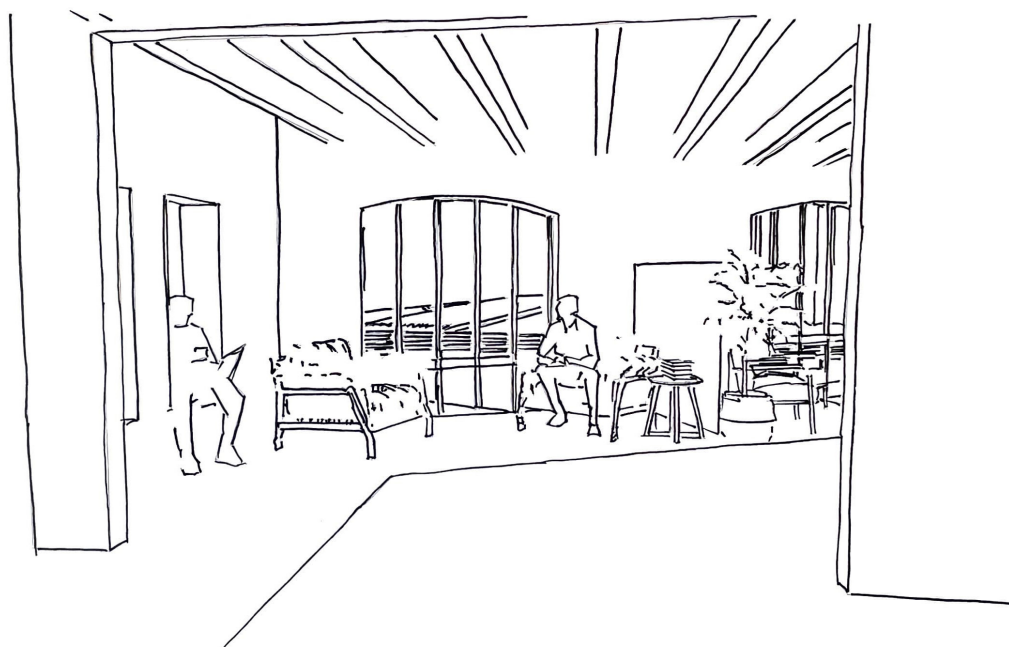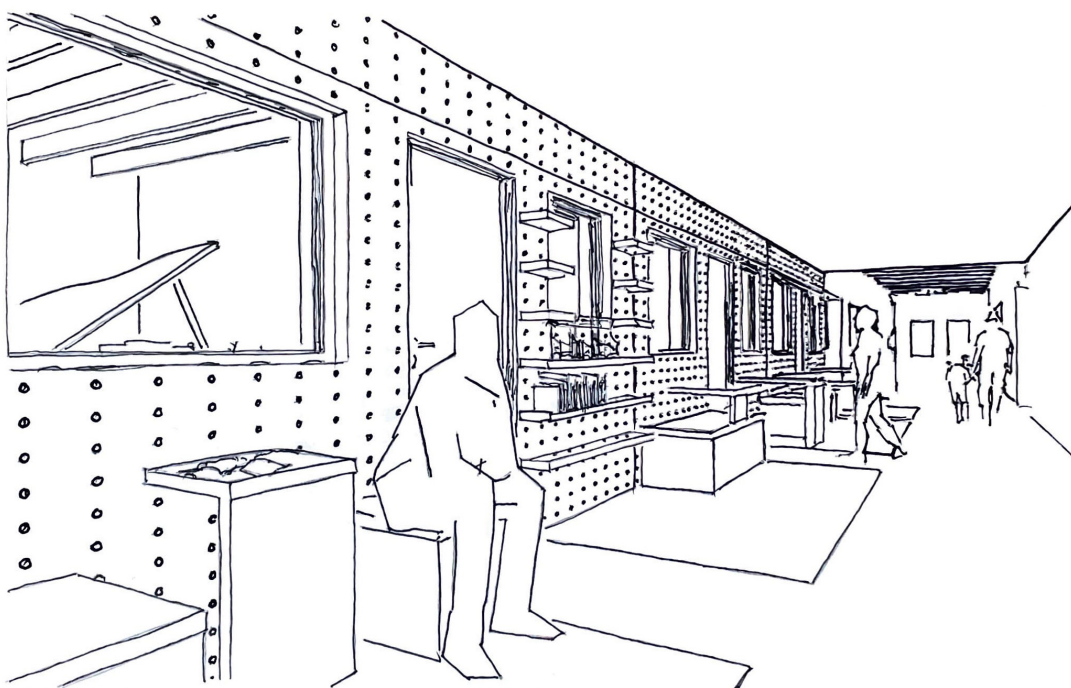
2.6 Presences

2.7 technical sheets

acoustic insulation 20 mm

Timber demountable finish (80 mm)

edge strip 10 mm

concrete street tiles

floor build:
Carpet finish: 20 mm
cement screed with floor heating: 20 mm
insulation: 50 mm
Water resistant foil
pre-felt Wooden Kerto-ripa floor element   300 mm

wooden acoustic louvered ceiling

SLope

SLope

Wooden plate material

Timber frame element

ext. side
ballast layer
roof covering
insulation   200 mm
damp closed foil
kerto ripa roof element   300 mm
int. side

int. side
CLT   150mm
Lime-hemp insulation   300 mm
Damp open foil
Air gap   40 mm
Brickwork   100 mm
ext. side

150

weep hole

concrete Lintel

stucco finish Brick coloured

water proof sleeve

Sealing

Wooden window sill

Wooden window sill

stone Treshold

int. side
CLT   150mm
Lime-hemp insulation   300 mm
Damp open foil
Air gap   40 mm
Brickwork   100 mm
ext. side

3.1 Reflection

A general overview and reflection of my graduation project
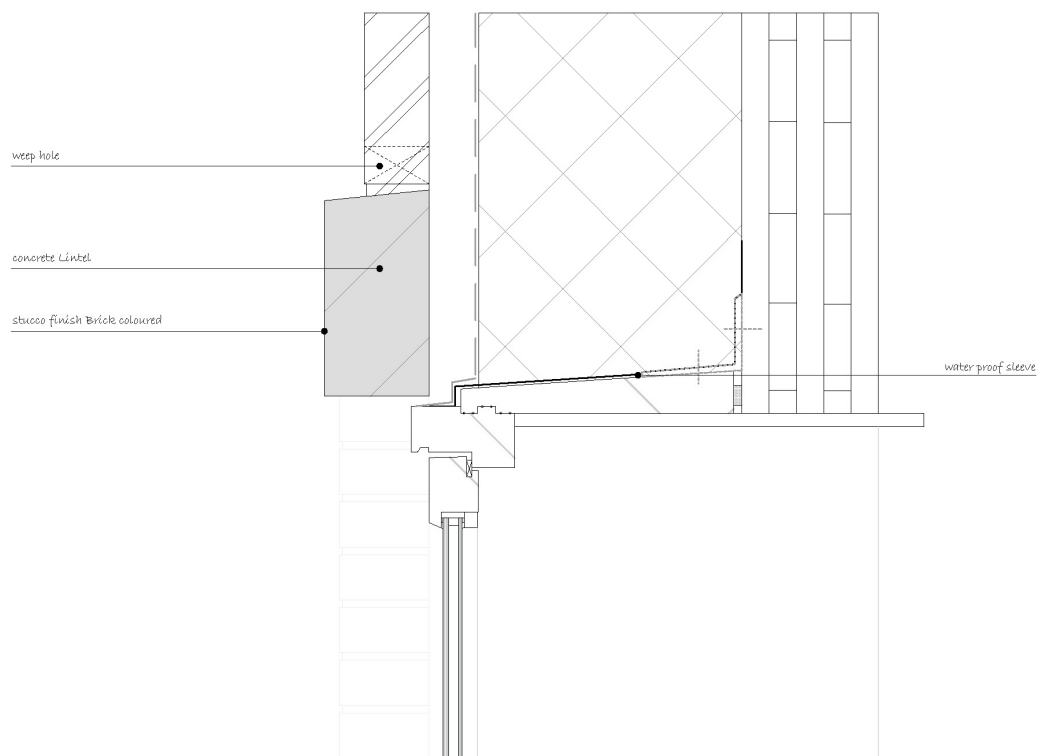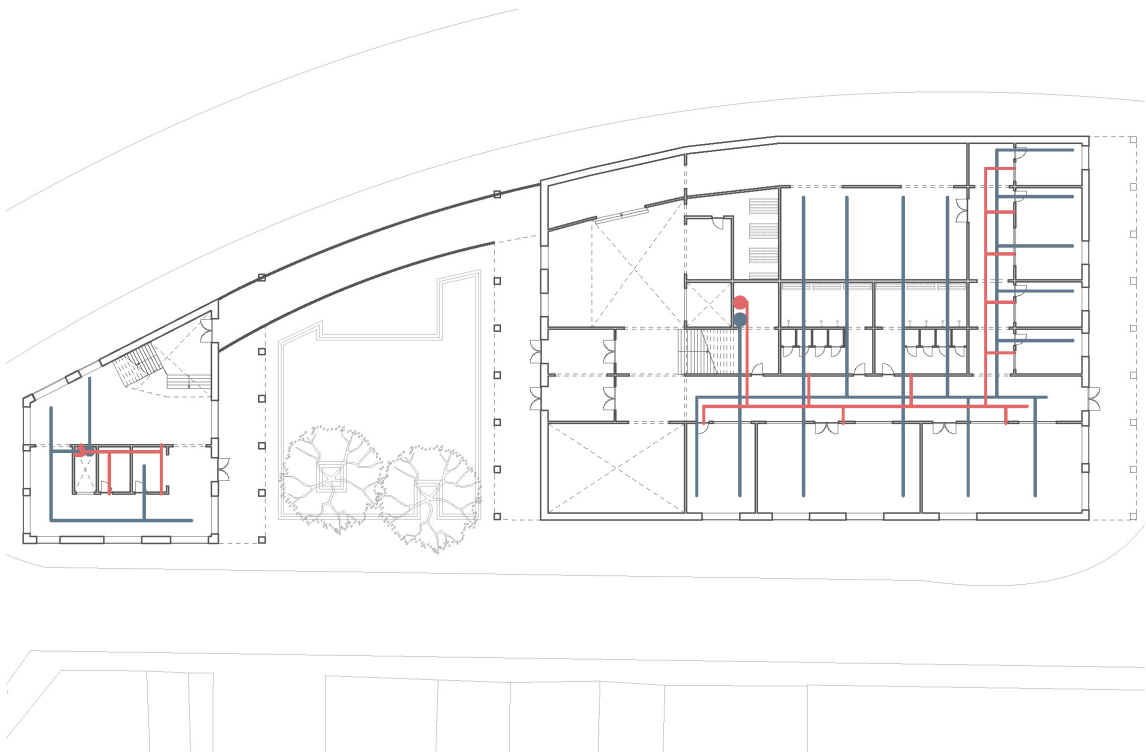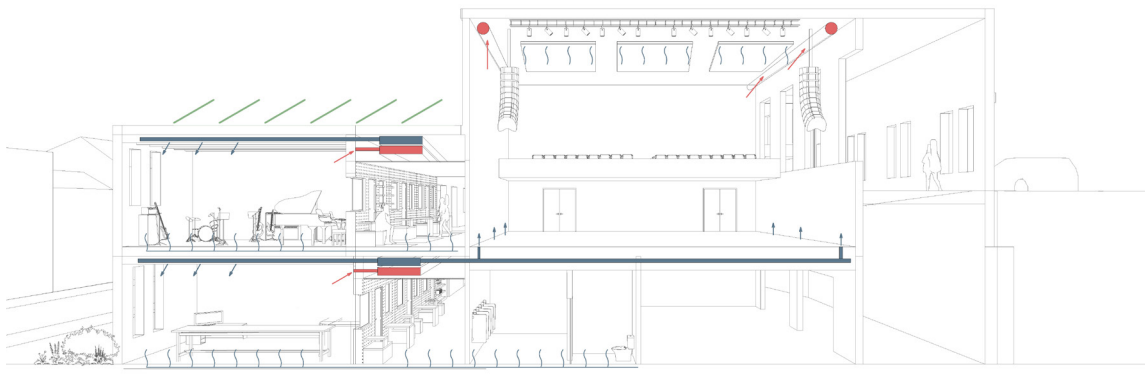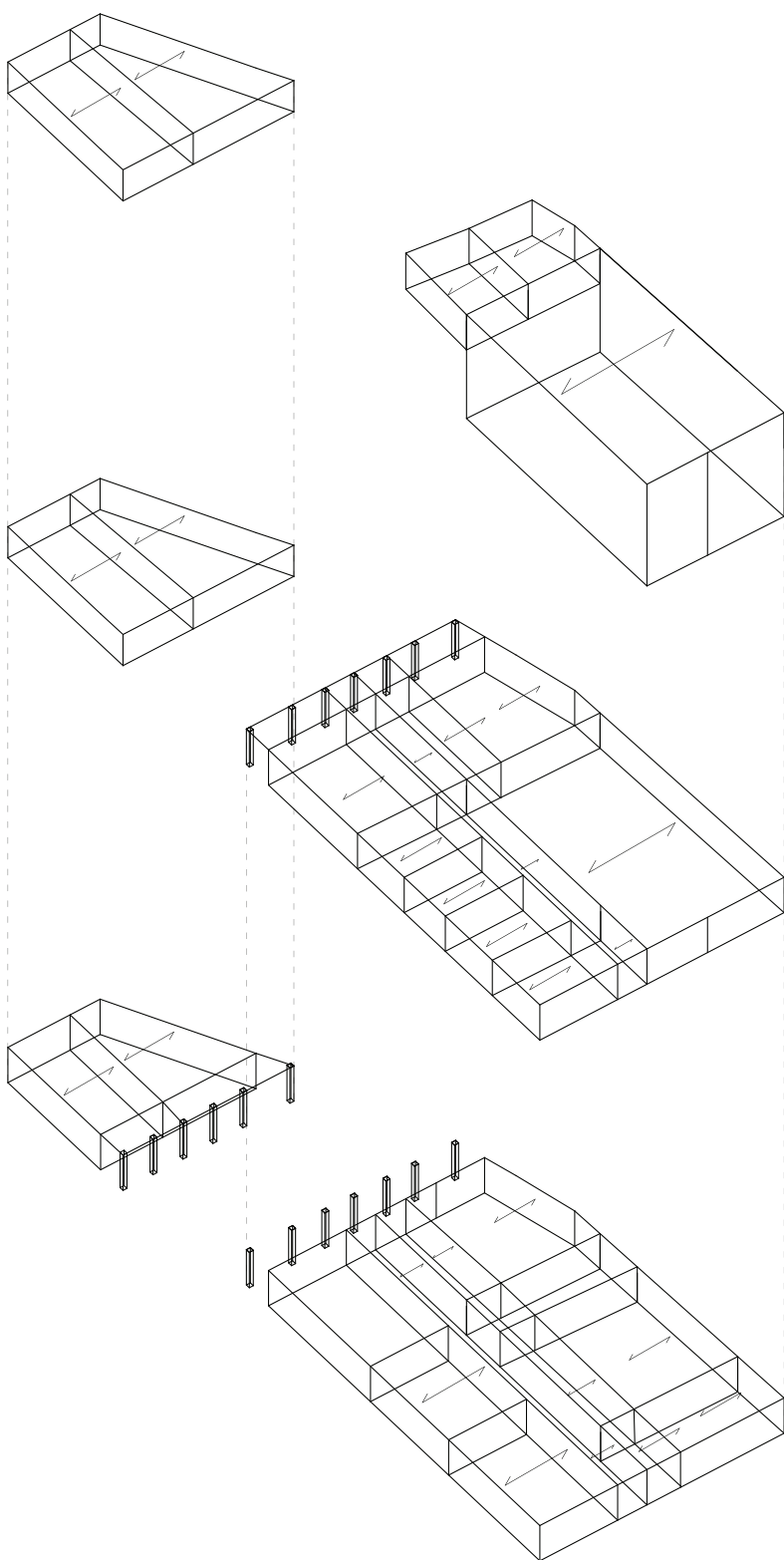
My research took off with the question Why do I feel lost in Liége?

That question led me to several literary studies on the topic of wayfinding. The link to sources such as The image of the city by Lynch (1960) and Wayfinding in architecture by Passini (1992), were quickly established.

From these sources emerged a rather analytical approach to research. Through a combination of film and maps, an analysis was made of the so-called 'mental mapping'. A process in which the choices people make are influenced by a pattern or grid of a city that is formed mentally (Kaplan et al., 2017).

In this way, the results of this film provide input for the logistics portion of my design.

However, this approach proved inadequate. This method of research does not interact enough with the design process. They are two separate processes that interact only in the results. These processes become more interesting when design and research interact more often. When some tension is created. This requires a more experimental approach.

In order to achieve more the possibility of exploration, the medium of music was used in addition to film.
Music connects better with me personally and in combination with film can be an interesting way of analysis and expression.

With music, much can be said about the images seen in the film. For example, the right music can turn a comedic film into an exciting horror film, and vice versa
.
These new methods challenged me to go to Liége again and re-read the city and location. Not to be concerned only with what one sees, but also to read the city and architecture with the other senses. What sounds stand out, what materials come along and how do these materials relate to each other. In addition, what form of life is present in the city is also an interesting fact, what animals and people are visible, for example. An interesting analysis emerges from this, which also serves as inspiration for my design.

How do these different elements play into the city, and how do they differ from each other in the different areas?
This serves as inspiration for the urban interpretation of my design in the city.

From the urban analysis, 4 themes emerged for me: Transitions, Impressionsx, Tangibles and Presences. These four themes form the basis for the architectural scale of the research. These four themes, concluded from the urban context, are explored through case studies in three projects at the architectural scale.
It also reflects on my own design through these themes. How are they incorporated into my own design and how can they be further improved?
In this way, the lessons one can draw from the urban context provide input for architectural design.

For one thing, this creates a clear interaction between my design and my research. In several areas, my research inspires different design choices. And my design also gives direction to the case studies examined in my research.

Second, it creates a clear link between the architectural and urban scale.

This link is where my project ties in closely with the urban architecture studio. The goal of this studio is to modify the fabric of the city through architecture. Where urban planning falls short, architecture offers an opportunity for improving the city. It is also about opening up architecture to the city. Instead of designing a building because the architect sees it that way, architecture serves the city. My project offers an interesting new perspective on this. A method, looking at different senses and themes. How does the building not only relate to the standard architectural themes in the city. But for example, how does the building deal with the noise of the city, and how does this translate into an acoustic design of the building.

For my P5, I would still like to focus on finalizing different products.
For example, for my Research book, there is still a big step to take in finalizing and filling out Texts and images from the project will still be added to this.

In addition to the book, the film and the impressions used in the film still need to be improved. Where the impressions of the film now consist mainly of sketches, I would like to add some more elaborate impressions. The sketches give a good impression of the atmosphere and architecture I want to achieve in the building however I think adding some more elaborate, detailed impressions and possibly animations will better support the story.

In conclusion, my P4 represents the completion of my story. How do the design and research fit together and how does my graduate project fit into the urban architecture studio.
For my P5, I would like to take the products to an even higher level and thus make the story even more convincing and presentable.