

The architectural design of Swedish live-work premises

A case study on live-work premises and its potential

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PREFACE

Acknowledgements

I want to thank my supervisors Hans Walloschke and Ulf Stenman for guiding me through the thesis. I also want to thank the people in my life that have supported me in tough times. And lastly, I want to thank the people who took the time to be involved in the interviews and the surveys. The project is owned by 2April according to an agreement. They also own the physical models and the CAD-models that were also a product of this thesis.

Ethics

As already stated, this project is owned by 2April, which has affiliations with the supervisor Hans Walloschke. Since a big portion of this study revolves applying the research which will be applied to a design proposal there has been many conflicts between what the supervisor and what I have deemed appropriate according to the result of the research. This is important to note when looking through the design portion of the report. Although the concluding section of this study will be impartial and unbiased and rely on the research and therefore criticize the design proposals.

Keywords

English:

Live-work premises, Mix of function, Safe and Security, Residential and Work environments

Svenska:

Bokaler, mix av funktioner, trygghet och säkerhet, bostads- och arbetsmiljöer

ABSTRACT

The pandemic has forced many to work from home and to mix the work environment with the residential environment. The question is if this works? A new concept, based on an old, is live-work premises or as they are called in Sweden *bokaler*. *Bokaler* is a concept where the residence is integrated and coexist with work. *Bokaler* as a concept is not limited to home offices and can involve more traditional work such as service work.

A year with this new work environment has made people more aware of the benefits. Many would like to keep being able to work from home after the pandemic, but there has also been reports of concerns regarding how good the home-work environment is. With this new trend, this report will explore the design choices that should be considered when designing a desirable work and residential environment, or in other words desirable *bokal* premises.

This study also hypothesises that live-work premises can benefit vision of safer and more attractive cities. As safety and attractiveness is often as-

sociated with the “mixed city,” a term used by architects and municipality staff alike. The possibility to establish *bokaler* as a concept in Sweden will also be explored.

The research is based upon a case study research method, where the empiric data comes from surveys (users of existing *bokaler*), interviews with architects and urban planners, and even how existing theories about creating desirable environments can be compared with existing *bokaler* in Sweden. The research will benefit a design method that will use the data as arguments for design choices. The study uses this method to see if the desired qualities can be replicated.

The research managed to interview ten owners of *bokaler*, five architects and study six different variations of the *bokal* typology. The result showed that it is often difficult to include all the desired functions from a work or residential environment. Since *bokaler* often are placed on the bottom floor many users experience discomfort from being exposed to the city. Architects also points out that there are legislative issues that prevents the concept

to thrive fully, they also point out that there could also be cultural and societal limitations to the concept. For instance, workspaces and residences are taxed differently from each other, so that a mix of those functions becomes difficult to assess what law should be abided. The Swedish society also benefits larger companies compared to sole proprietorships, which are often the users of *bokal* premises. To establish small businesses in a residential area, to achieve a mix of functions would implicate huge risks for those owners.

The resulting considerations to design a *bokal*, came down to three things, for it to thrive in Swedish society. These three considerations were also replicated in a design proposal for a site in Luleå.

Functions (residential and work functions) should preferably not mix inside the premise. This is because separations lead to less conflict and can even be able to create a more pleasant environment. The *bokal* should be flexible in its use of rooms and spaces so that it can adapt to changes and multiple functions.

The *bokal* premise relation to the city is also important. The placement in the city and the density of people is important for it to thrive, but also for those who live in the premise to prosper the organisation of rooms and functions should be reflected upon.

That the *bokal* can benefit an attractive society is difficult to assess before seeing the concept itself thriving in the Swedish society. The possibility to achieve social control exist in theory but is something that should be researched more thoroughly.

SAMMANFATTNING

En pandemi har tvingat många att arbeta hemifrån och mixad arbetsmiljön med bostadsmiljön. Frågan är om detta fungerar? Ett relativt ungt koncept baserat på ett uråldrigt är "bokaler". Bokaler är ett koncept där bostaden integreras och lever i symbios med arbetet. Bokaler som koncept involverar mer än bara hemmakontor. Arbetet i fråga är i konceptet inte begränsat till det man redan kan utföra i bostaden utan inkluderar även traditionella serviceyrken.

Efter ett år med nya arbetsförhållanden var det många som vill behålla möjligheten att kunna arbeta hemifrån men samtidigt har det varit en del som har rapporterat missnöje med arbetsförhållandet.

Med denna plötsliga nya trend ska denna rapport då undersöka vilka design metoder som bör utföras för att designa en "god" arbetsplats som lever i symbios med en "god" bostad, det vill säga en "god" bokal.

Denna studie inleder även med en hypotes att bokaler även kan hjälpa när det kommer till att skapa mer trygghet och attraktiva städer. Då trygghet och

attraktivitet förknippas med blandstaden som myntas både av arkitekter och kommunfolk. Möjligheten att etablera bokaler och se hur ett sådant koncept passar in i Sveriges städer ska också undersökas.

Undersökningen är baserat på en fallstudiemetod där det empirin kommer från nuvarande användare utav bokaler, arkitekter, stadsplanerare och andra sakkunniga. Samt kommer även teorier om hur man skapar goda miljöer jämföras med existerande bokaler. Fallstudien jobbar även ihop med en designmetod där man använder som argument för designval. Studien använder detta för att se om överväganden om hur bokaler ska designas kan replikeras och är sanna.

Studien lyckades få tag en handfull ägare utav bokaler (tio stycken), fem arkitekter och analysera sex olika typologier utav bokaler. Resultatet visade att det oftast var otroligt trångt att få in alla kvaliteter som önskas i en arbetsmiljö, respektive bostadsmiljö. Eftersom bokaler är alltid placerat i bottenplan upplever användare en otrygghet och en utsatthet för stadsmässiga besvärigheter. Arkitekter på-

pekar även det finns en del lagstiftande element som förhindrar konceptet att blomstra till fullo samt att det även kan finnas kulturella och samhällsmässiga begränsningar. Exempelvis taxeras arbetsplatser och bostäder olika och när man har en symbios av dessa blir det svårt att avgöra vad som ska gälla. Sedan är det även så att samhället i Sverige är designat att gynna större företag och inte de mindre företag som skulle använda bokaler. Att börja etablera små företag i ett bostadsområde skulle innebära en stor risk för dessa bokalägare.

Det kom alltså fram till att man måste överväga tre saker när man designar en bokal för att den ska kunna frodas i ett svenskt samhälle. Dessa tre överväganden var sedan även testade på ett område och projekt i Luleå.

Funktionerna (bostads- och arbetsfunktioner) ska helst inte blandas i bostaden, detta för att man ska kunna separera för att undvika konflikter och för att trivseln i bokalen ska höjas. Bokalen bör vara flexibel och ha möjlighet att kunna anpassa sig för förändringar och olika funktioner. Man behöver tänka sig för hur man

förhåller sig till resten av staden. Bokalens placering i staden är viktigt för att den ska överleva, men även för att de som bor i bokalen ska trivas bör organisationen av hur funktioner placeras i bokalen reflekteras över.

Att bokalen kan bidra till attraktivt samhälle är svårt att avgöra innan man ser att bokaler kan faktiskt frodas i vårt samhälle. Möjligheten att uppnå social kontroll med bokaler fungerar i teorin men det behöver undersökas ytterligare.

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1. INTRODUCTION

1.1 BACKGROUND

1.1.1 A new residential function

The time of this master thesis the pandemic was hitting hard. People had to start working from home and suddenly the residence was also a workspace. This kind of lifestyle had mixed responses, but studies show that there is a huge interest to keep working from home even when the pandemics ends (Schau, 2020; Netigate, 2021; Engström, 2020; Andersson, Bäck, & Ernbrandt, 2021). The sources claim that there is an interest ranging from 62-89 % of having the flexibility to be able to work from home after the pandemic ends. Whilst there were also a great range of feedback regarding the experience of working from home. Most indicated that there was a great support and positive feedback for the opportunity to work from home, but Schau (2020) also pointed out that 59 % experienced a decrease of quality

regarding work environment when working at home. A report from ST (the Civil Servants' Union) (Hallberg & Saar, 2020), showed that the most popular advantages with working from home are: less travel and more autonomy over work, such as deciding when to work or being able to work more focused. The same report showed that the disadvantages with working from home was mainly: lack of support from colleagues, bad work environment and it was hard to separate work from private life.

There is an “unconventional” premise typology that in concept mixes residential and occupational functions. This typology is called *bokaler* and will the topic to be explored in this research.

1.1.2 Live-work premises

Bokal [bu:ka:l] sl. s., pl -er
The word is simply a combination between the two Swedish words “*bost-*

ad” (residence) and “*lokal*” (premises, specifically occupational premises), thus “*bokal*.” (mkb.se, 2010)

In the English language the closest term that is being used that is similar to this concept is “live-work spaces/units.” Law Insider defines the concept as such: A live-work unit means a unit which contains separate residential and non-residential areas intended for both residential and non-residential uses concurrently and shares a common wall or floor with direct access between the residential and non-residential areas. (Lawinsider, 2021)

These three assumptions are often made about a *bokal*:

- It is a place where you can work and live.
- It is a place where you can work or live.
- It is two separate premises; one is for living and one is for working.

For simplicity, this study will continue to use the word *bokal*, mostly because that term is shorter and consistency. But what is the concept? Johan Nyrén (the person who coined the term) stated in a article written by Härnback (2003) that the commercial and the residential part could be divided from each other, and that it is up to the user if they want it to be separate or together. Adding that smaller businesses that are more focused on service, may need the closeness between residential and commercial, because of odd working hours. Comparing to craftsmen of the olden times, occupations on the ground floor are supposed to give life to the street. Nyrén means that the *bokal* concept is a premise that creates opportunity for self-employed to be able to balance their lifestyle. (Härnback, 2003)

By combining the residential area with the occupation, the owner has the possibility to have more supervision over



Figure 1.1:
Unscaled map of Luleå city centre.
Picture is taken from the mapsite:
openstreetmap.org

(openstreetmap, 2021)

The blue dotted area (A) is the site of interest related to this report.
The yellow dotted area (B) is related to some colleagues site of interest.

both places, compared to otherwise. By having minimal distance to work, the balance between family and work life becomes more balanced. (mkb.se, 2010)

In addition, these *bokal* premises are also mixed-functioned which is a term brought up by municipalities and urban planners alike (Ytterborn, 2019), and Linn (2018) even mentions it to be a means to achieve sustainable cities. The ST report (Hallberg & Saar, 2020) also potentially shows how un-mixed cities create dissatisfaction among workers, that must travel far and long to arrive to work.

Bokal is a scarce concept in Sweden. According to a report made by the National Board of Housing, Building and

Planning there were about 50 *bokaler* in Sweden as of 2015. (Johansson, Birgersson, Estlander, & Jardbrink, 2015) The concept is not well known to the public, only a handful have heard of it before. It is still defined in the newspapers when the concept is brought up, for instance when Leijon (2020) authored an article about Hans Walloschke. It is not strange that no one has heard of *bokaler* before, the word is not even accepted as a term in the Swedish encyclopaedias yet, nor in dictionaries. The "new" concept was coined by the architect Johan Nyrén that together with NCC built the first in its name in the early 2000 although being a traditional way of life in the early 20th century (Härnäck, 2003).

1.1.3 A proposal for *bokaler* in Luleå

Within the ongoing discussion on the development of the city centre of Luleå, it was proposed by Hans Walloschke to build 5 new buildings with *bokaler* in the bottom floor (see figure 1.2).

The proposal is one among many. The city centre in Luleå has been a talking point for a long time. Architects have

proposed concepts in order to invoke discussions about the site for decades. Mostly because they think that the space is not used to its potential. The following sections will further explain the thought behind the proposals and the history behind the city.

The inner city of Luleå is constantly growing and becoming denser. To add ten thousand new residents is the municipality's goal by implementing new residential areas and densification (Luleå kommun, 2012). One of the most intriguing areas lies around the south harbour in the city centre on a peninsula (see figure 1.1).

There are two things that are important to the architecture of the city according to the city architect Johan Eriksson and these are the heavy industry and the coast, and he is very keen to see more projects taking place along the coastline and harbour of Luleå (Isaksson, 2020). The importance of the coast can be seen in some of the buildings on the peninsula. The architecture is inspired by the marina. Examples such as the so-called Tutti-frutti houses are inspired by ships (Karlsson, 2003), the newly built *Kuststad* is con-

nected to the water (MAF Arkitekter, 2018), and *Norrbottensteatern* is designed to mimic old port warehouses (Stark Arkitekter, 1986). It can also be argued that *Varvet* is inspired by the cargo containers seen in harbours.

Since the city fire of 1887, the city plan has become a grid city with long broad roads going from east to west. It has esplanades along the harbour and views of the archipelago on roads that stretch north to south (Jakobsson, 2006). And has been an important preservation topic regarding urban planning (Luleå, 2012).

The new city plan proposals of Luleå are described as a mixture of residential and working premises. The buildings should be around 4-5 floors, but exceptions can be made depending on architectural design and how it affects the city skyline. The proposals suggest flexible ground levels activities, that promotes visitor- and customer-intensive activities, such as shops and restaurants. The new buildings should not block the city grid in the south-to-north directions, so that the view along those passages is not compromised. The intention of these rules

is to support the already established commercial areas and esplanades and give more life to the downtown. (Luleå Kommun, 2019)

In 1978, an important road that connects the mainland through the peninsula to *Hertsön* was constructed. It was to be a part of a bigger circular route around the peninsula and to move the noise and bottleneck from *Sandviksgatan* to the *Varvsgatan*, the outskirts of the downtown. (Marklund, 1976) It was inaugurated 1980, and almost doubled the capacity of traffic through the peninsula and was the first part of the route to be completed (Nilsson, 1980).

In an interview Hans Tirsén (Leijon, 2020) explained his argument of why he thinks this traffic route is a barrier. The road hinders the city to meet the sea, something he has worked with for decenniums. He says that the road was part of a project in the 1980s to double the size of Luleå by connecting it to the future steelwork, which was never built. Although nothing supports Tirséns claim. In the propositions and documents about the plans for the road, the steelwork was not

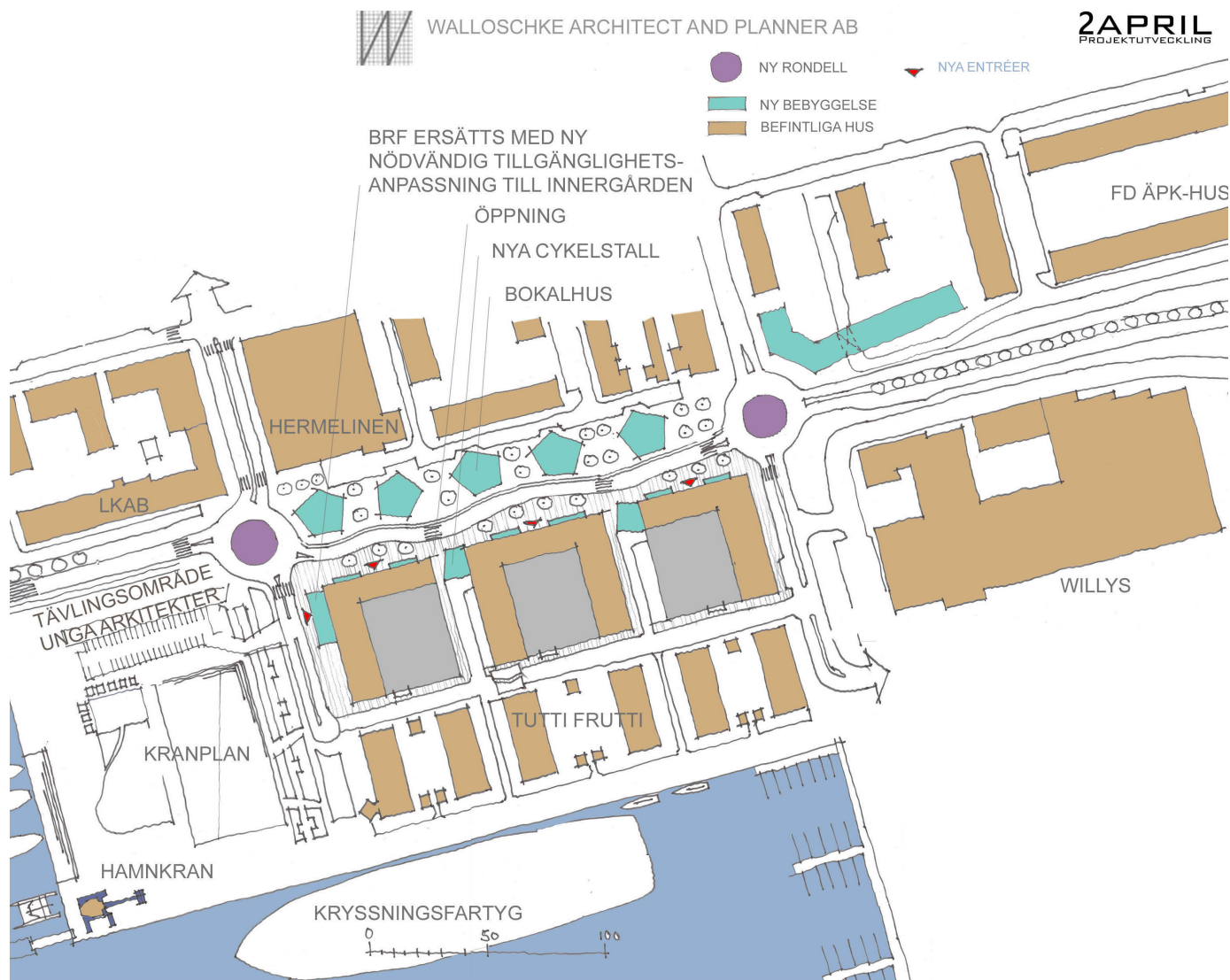


Figure 1.2:

Picture showing the conceptual drawing Hans Walloschke draw. The site and project boundaries are between the two circulations sites.

Picture belongs to Hans Walloschke and 2April.

(Walloschke, 2020)

mentioned. The propositions mentions instead that connecting outer districts was a important invest.

Tirsén is although not the only architect who wants to make this road less significant. Martin Häller wants to create an avenue and place small shops and residential buildings along it (Leijon, 2020) and Hans Walloschke wants to follow the grid structure of the city which he claims this road hinders (Leijon, 2020). All the architects agree that the road is over dimensioned.

Although, according to the citizens of Luleå the road has not lost its value since it is one of the most heavily trafficked roads in Luleå, and they are concerned about what implications these plans might have. ("Ugglan",

2020; Anita, 2020; Eriksson, 2020; Persson, 2020) There are regularly letters sent int to the newspaper Norrbottens-Kuriren complaining about the proposals regarding this road. For instance, one citizen claimed further densification, building projects and commercial businesses combined with this plan will lead to traffic chaos ("Ugglan", 2020).

In January 2021, the city building administration published a draft proposal on how this road could look like in the future. In their proposal the road is narrowed down to one file only in each direction. The argument was that they wanted to create more space and safety for pedestrians and cyclists, some intersections are replaced with roundabouts to create a better flow of traffic. According to plans made by the municipality's urban planners the future of the road will become less significant and the bridge that connects the peninsula to the mainland will be replaced with a new bridge slightly upstream. (Isaksson, 2021)

Buildings along this road today are a mix between residential and office spaces, most of the buildings have

parking spaces and broad pavement in between. It has a few sporadic instances of commercial activity, but in comparison not as intensively as other parts of the peninsula. (Google Maps, 2021)

1.1.4 Issues with *bokaler*

All this narrows down to the five conceptual buildings that Walloschke mentioned (see figure 1.2) in his interview with Leijon (2020). As already mentioned, his concept was following the city peninsula grid structure, narrowing down the traffic heavy route *Södra Hamnleden* and then placing 5 buildings along it.

Being so close to the busy road the apartments on the lower floors will never be an attractive residential area because of noise, especially at the ground floor. A study mentioned that some feel unsafe living on the bottom floor, mostly because of the feeling of being put on display (Kallebo, 2010). Similar observations have been seen by Knutsen & Månsson (2010) who saw a decrease of value in apartments placed on the bottom floor. It was also because of noise and the heightened risk of burglary. An inspection from

2013 by the Swedish insurance company *Folksam* found that 70 % of burglary taking place in apartment complexes are committed on the bottom floor. Four times more than the floor above and ten times more than the floor after that (Arvidsson, 2013).

The other option of having commercial activities in the bottom floor, could have a problematic outcome as well. Many planned office premises or boutiques etc. risk becoming unused according to study made in Göteborg by Molnar & Tekie (2018). They follow up their statement that the municipality plans to make the ground floor "alive" with commercial activities, but that those visions without the proper circumstances fail. According to Linn (2018) commercial activity thrives under circumstances where the bottom floor premise is heavily integrated to the street which then has a good integration with the nearby streets. The facades along this street are often closed off.

According to Ytterborn (2019) the importance of the ground floor is the interconnection between privacy and the public. He also critiques the activ-

ities on the bottom floor sometimes do not have reality-based arguments, like the studies conducted by Molnar & Tekie (2018). He although talks about the "hybrid zone", a zone that bridges between the private and public (Ytterborn, 2019).

During an entrepreneur convention called *Företagsveckan* held in Huddinge municipality in the fall of 2020, Ytterborn moderated a panel where attractive cities and living bottom floors were discussed. The panel mentioned similar issues. People feel unsafe nowadays, they feel alone, they feel exposed. And because of that fear people turn to solutions like gated communities which all in the panel agreed was a counterproductive solution. Many seemed to agree that someone living in the bottom floor generates safety, but that means one must make it safe for them in the first place. A municipality staff in that panel wants to achieve something they call *blandstad* (mixed city), a city where workplaces and residential life are mixed. So that there is always something happening in the area, because of the diurnal rotation. Yet forcing attraction with commercial businesses is as Linn (2018)

and Molnar & Tekie (2018) claims in their studies not the best solution. Acknowledging the challenges to achieve this other people in that panel suggested “outlandish” proposals like micro-workplaces, homework-help-stations, or other community needs. One architect asked the question if everything needs to generate money. (Dahlberg, Hill, Nikander, Uittenbogaard, & Wikefeldt, 2020)

A study made by Mikaela Björk (2018) that focused on municipal activity on the bottom floor, ended the report with the following reflection, can the vision of living cities come in conflict with living ground premises? In the article interviewing Hans Walloschke (Leijon, 2020), he mentions *bokaler*, a premise that combines commercial and residential, a suitable test subject to study the flexibility of balancing privacy, publicity, and unknown future markets.

1.2 FRAMING AND PROBLEM FORMULATION

The visions and understanding of mixed functions on the ground floor needs to be expanded and therefore this study will explore a different kind of solution to come with alternatives. This solution is called *bokaler*. As explained in the background it is hypothesized to solve many of the issues today, but is it a “desirable” typology?

Although being a 20 year concept is not widely explored and not clearly defined. That means studying diverse ways of mixing residential and working activities will be the focus of this report, as well as studying what the consequences could be.

The complexity a project like this will face is creating a premise that has privacy but also welcoming qualities. People using the premise need to feel safe as well as the people experiencing the place from the outside, the users should also see that there is an opportunity to work within the premise.

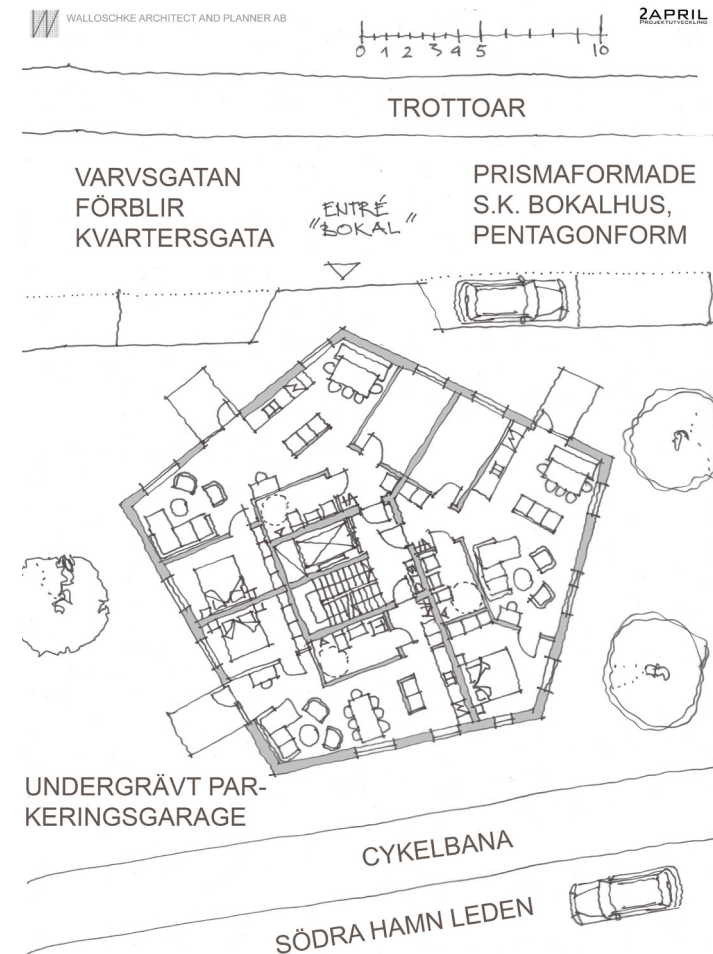


Figure 1.3: Residential premise concept and proposal by Hans Walloschke (Walloschke, 2020)

The research started within a course called "architectural typologies" led by the supervisor of this research. The participants of that course will work on another part of the long road of *Södra Hamnleden*. They will take care of the west side (B in figure 1.1.) and the east side (A in figure 1.1) will be the area this report has influence on. Together this project and the participants will create a physical model combining A and B. This research will not influence their result and vice versa.

However, the participants are colleagues and work together collectively in regards to the site.

1.3 PURPOSE AND RESEARCH QUESTIONS

The purpose of this project is to explore the possibilities of implementing and combining residential and working functions to premises placed in the bottom floor of a city building, in regards to Swedish societies. Walloschke's hypothetical buildings will be used to test the findings of the research.

The intention is to combine the "desirable" qualities of residential and occupational premises, to see if they can balance on each other without compromising each others "desirable" qualities. An urban environmental consideration will also be researched to understand how the typology melds with the rest of society. For the sake of *bokaler*, a "prosperous" *bokal* premise can blend the desired qualities of a residential apartment and an occupational premise without compromising the quality of each other.

The purpose is to design, understand and study *bokal* floor plans for a bottom floor, to consider the "desirable,"

"favourable" and "prosperous" qualities, functions, and relations between all the different occupations and spaces. In this instance adjectives like "desirable" means qualities and functions that have a positive relation to the public. Qualities and functions that have been established through studies.

Therefore the main research question and secondary research questions will be:

- What are the qualities and values of *bokaler*?
 - » Could they fulfil the values and visions of sustainable urban societies?
 - » Do they contribute to social, safe, flourishing, and attractive urban environments? Is the concept of *bokal* premise a typology that can thrive in Swedish society.

The research will also support the design of a proposal. The goals of that project will be:

- What are the considerations that should be

taken into account when designing a *bokal*?

- » How should *bokaler* be designed?
- » Can those generalized ideas be implemented to the site?

The project presentation will include:

- Floorplans of the *bokal* premises
- Renders of the building
- Site plan
- A physical model
- Elevations and sections
- Layouts of the remaining functions; cellar and residences

1.4 BOUNDARIES

The master thesis report is divided into two parts. One part will focus on the concept of *bokaler*. What qualities that typology have and how it can affect other typologies, visions of urban planning and themes that relates to the statement “living cities.”

Architectural solutions are not singular and there are many ways to achieve the goals of a "living city." Any concept that consider mixed purposed use will not be studied as the hypothesis is about *bokaler* only. The research will not consider other concepts of mix use premises.

The scarcity of the typology (*bokaler*) means reaching out and analysing the few that are known. The amount of *bokaler* that will be analysed depends on how much each design differ from each other. Preferably all researched cases should be unique in order to avoid unnecessary case studies. The unique factor can be a solution or quality that can affect the design phase.

The scarcity of the typology is also a limit to the research. Research will

include multiple parties and sources to constrast the potential lack of data. More on what those sources are will be expanded upon in chapter 2: Methodology.

Live-work premises as a world-wide concept will not be considered in this report. This study will only focus on the Swedish interpretation of *bokaler* to get a good comparison regarding Swedish regulations, values, and architecture. Comparing live-work premises outside Sweden is a study in itself.

The research will look at the typology holistically but will put the most effort in architectural design and conceptual theory. Topics regarding economics, sociology, psychology, and construction will not be a focus but will be mentioned because of the holistic perspective.

The holistic approach is because of the scarcity of *bokaler*, as with more aspects to consider there are more data to be found. The benefit of the holistic approach is then that no major issues (that can be found with the typology) are missed. The issues found are important for the second part of the re-

port.

The second part of the report will be about applying the design, replicating, and proposing a design of a *bokal* to a real case site. A disclaimer here, this part is focusing on replicating the found desirable conditions for *bokaler* and in second hand what it means for the urban landscape. Research on the site is still needed for the context, but it is not the main objective of the research and the amount of time allocated to the objective will therefore be an aspect of consideration.

Focusing on it being an actual solution for the planned site would be a whole other project. Testing the considerations found in the research and inquiries are more important for this thesis.

The site is limited to a smaller strip of the road *Södra Hamnleden*. The site will be designed in close collaboration with the supervisor and other students as the physical model will be covering a large part of the road. (See figure 1.1)

It is also important to consider that the site itself has its own conditions and boundaries.

2. METHODOLOGY

2.1 INTRODUCTION

The background and framing had a broad focus that needed answers from several topics. Some of it is already studied and can be read in books, some of it is subjective, contextual, and situational. The choice of method needed to be able to handle all these different perspectives, contexts, and opinions. It required information handling that later can be implemented further to design a conceptual proposal.

According to Ahrne & Svensson (2015) the first step was to figure out what way was the best to collect data. In this research it was considered that many people had information that would be useful. The demographic considered everyone from the potential and current users of the *bokal* typology, architects that had designed the *bokal* typology, and several others that might had insight on the problem

like municipality staff, experts within building technology. The research had although, limited its scope to only architects and users of *bokaler*.

Using other people as information made this research and empiric data of qualitative nature. In scientific research that can be troublesome since it deals with subjectivity and complex perspectives (Ahrne & Svensson 2015). To make the data and information gathered reliable Ahrne & Svensson (2015) mentions three courses of action, transparency, triangulations, and feedback. Transparency is about being clear about the origin of the information and being critical of it. For instance, is there any political subjectivity lying behind some information, that could affect the information. Discussing and reflecting the information to see if something became misconstrued in the process of the research is therefore important. Triangulation is about relating

the methods, the data, the theory to two other methods, data, or theories, to achieve more context and substance to the research. Lastly feedback is discussing the result with the people that have been involved with the research, as an example those who have been interviewed. Ahrne & Svensson (2015) also mentions generalization, which means that the data and results should be able to be applied to other research in the future, something that is often criticized for lacking in qualitative studies.

The information was gathered in multiple ways. The inquiries was conducted in a manner of a case study research and the overall thesis as an architectural programming method. The methods were chosen to be able to merge a research phase with a design phase, that together create a logical bond and context to each other.

The research was working parallel

with a course called "architectural typologies". The participants of that course were important to some elements of the research. The participants of the course were also in some aspects colleagues and team project members. As one of the common goals of their course and this research was to create a physical model of the site (the south harbour of Luleå city peninsula).

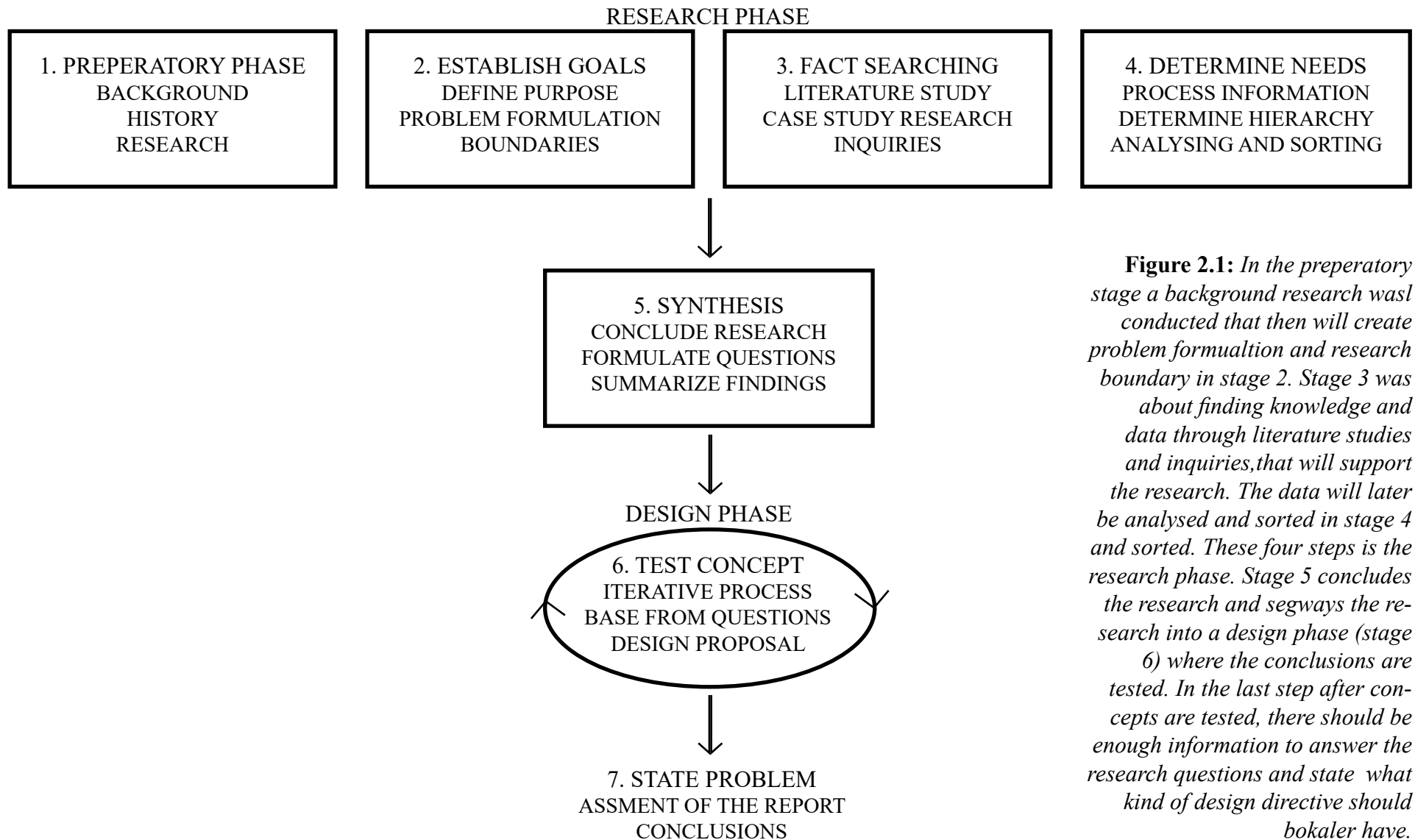


Figure 2.1: In the preparatory stage a background research was conducted that then will create problem formulation and research boundary in stage 2. Stage 3 was about finding knowledge and data through literature studies and inquiries, that will support the research. The data will later be analysed and sorted in stage 4 and sorted. These four steps is the research phase. Stage 5 concludes the research and segways the research into a design phase (stage 6) where the conclusions are tested. In the last step after concepts are tested, there should be enough information to answer the research questions and state what kind of design directive should be made.

2.2 ARCHITECTURAL PROGRAMMING

The overall method this study used is an architectural programming process. This is a method described by Peña & Parshall in their book Problem Seeking (2012). The method can be divided into two processes, an analysis or in this case a research phase (programming) and a synthesis phase (designing). The programming is the process of collecting information about a specific project and analysing it. The conclusions and results of it are the design proposals.

The method followed five steps in order to be able to visualize the concept in the design process (Peña & Parshall, 2012):

1. Establish goals
What is to be accomplished and why?
2. Analyse facts
Find out what the existing conditions are.
3. Determine the needs
Prioritize the requirements.
4. Testing concepts

Test and investigate solutions.

5. State the problem
Simplify everything down to a solvable question.

Usually, the third and fourth step are switched, but in the project part of the last step was to try solutions and see if the values found were replicable. According to Peña & Parshall (2012) it is a customary practice to switch around the steps if the process needs it to. The five steps was integrated with the structure of the report and but does not necessarily use the same words, see figure 2.1 for an illustrative representation of this edit.

The fifth step is the last step, as it concludes and answer the research questions of the report. Problem statements can vary from a hypothesis' to a criteria, the different variations create different circumstances for the design phase.

In this case the research questions was to find a defined design premise; specific conditions that could be used as a general design directives.

The five steps can be combined with four considerations (Peña & Parshall, 2012), although only the two first considerations will be of interest in this research:

1. Function (People, activities, relationships)
What will happen in the building?
2. Form (Site, environment, quality)
What is there now and what will be there?

The different considerations focus on different details of the project, which was used to separate and categorize information and data. Table 2.1 shows a summary of all the different details that could be considered to the respective consideration. Not all details was ultimately considered in the synthesis to avoid an overwhelming amount of data and to focus on the details and data considered through the analysis to be more important. For instance, FORM-NEED considers how site affects the cost. This is not pertinent in this research.

The design phase uses the information from the research phase which is best

described as an iterative process where several ways of implementing the demands, needs and concepts are tested. The mindset needed to be focused on solving the problem instead of seeking it. If the programming phase is to be abstract and explore possibilities the designing phase is about being convergent and finding a way (Peña & Parshall, 2012). This phase was iterative and accomplished through trial and error.

Some adaptations and considerations were needed, to be able to use this method. This method usually intended for real architects with real clients in real scenarios, which was not the case of this project. Peña & Parshall (2012) mentioned in the book about different programs where the involvement of users, clients and other consults are varied. The project team included the supervisor as the client, and the participants of the course architectural typologies. Although the participants of the course work on a separate project, there was an association of a common client and a synthesis of the sites. The consultants were the architects that were interviewed, and the users of existing *bokaler* today were

Table 2.1: Architectural Programming - Synthesis Matrix

	GOAL	FACTS	NEEDS	CONCEPTS	PROBLEM
FUNCTION	Individual identity Interaction/privacy Hierarchy of values Security Progression Segregation Prime activities Priority of relationships	Statistical data User and community characteristics Behavioral patterns	Requirements needed in the project: <ul style="list-style-type: none"> • Functional alternatives • Area requirements: <ul style="list-style-type: none"> » by organization » by space type » by time » by location 	Grouping of: <ul style="list-style-type: none"> • Service • People • Activity Priority and hierarchy Functional relationships and communications Mixed or separated flows	Unique and important performance requirements that will shape building design.
FORM	Efficient land use Community relations Community improvements Social/psychological environment Individuality Wayfinding Projected image	Site Analysis Surroundings Psychological implications Point of reference	Mostly focuses on the costs influenced by: <ul style="list-style-type: none"> • Site development • Environment • Building Building overall efficiency factor	Density Safety Neighbours Orientation Accessibility Character	Major form considerations that will affect building design.

both potential users of future *bokaler* and specialist as their knowledge in this case were specifically about user experience of *bokaler*. The users were reached out to via surveys. The last role went to the author of this thesis, which connects all the actors involved, as the head architect. The architect, the colleagues and client represents the project team. The client (supervisor) also had consultants and specialists that were brought into the project. These experts focused on the site and the physical model. See figure

2.2 for an illustrative representation of the people involved.

Another consideration was that this process is used from scratch to concept, concept to building. In this case there already was a concept of the shell and functions of the building (See Figure 1.2 and 1.3). This would not affect the process, as there was still room for testing concepts and research, it would though save time in applying a concept to the site.

In the consideration “form”, there was a lot of focus on the site and environment that was not specifically about the *bokal* premises. Some are brought up in other aspect such as workshops about the site, but as for the *bokal* research, it was focused on how the site forces characteristics and physical design choices on to the building.

2.3 THEORETICAL STUDIES

Peña & Parshall (2012) describes that there are cases when there is a need of preparations before tackling the project. There was a preparatory stage in this case, and this preparatory phase became more important later in one of the inquiries.

Literature reviewing in this project had two types of nature, one focused on design and the other on research. Design inquiries were conducted to gain a familiarity with types of precedents and facts for action, while research inquiries are more focused on methodological approaches and to ground the project in proper theoretical and philosophical starting points. (Groat & Wang, 2002)

On finding literature relevant to the topic (Groat & Wang, 2002):

- The literature (that is being researched) should address a specific issue that is relevant to the inquiry that is being studied.

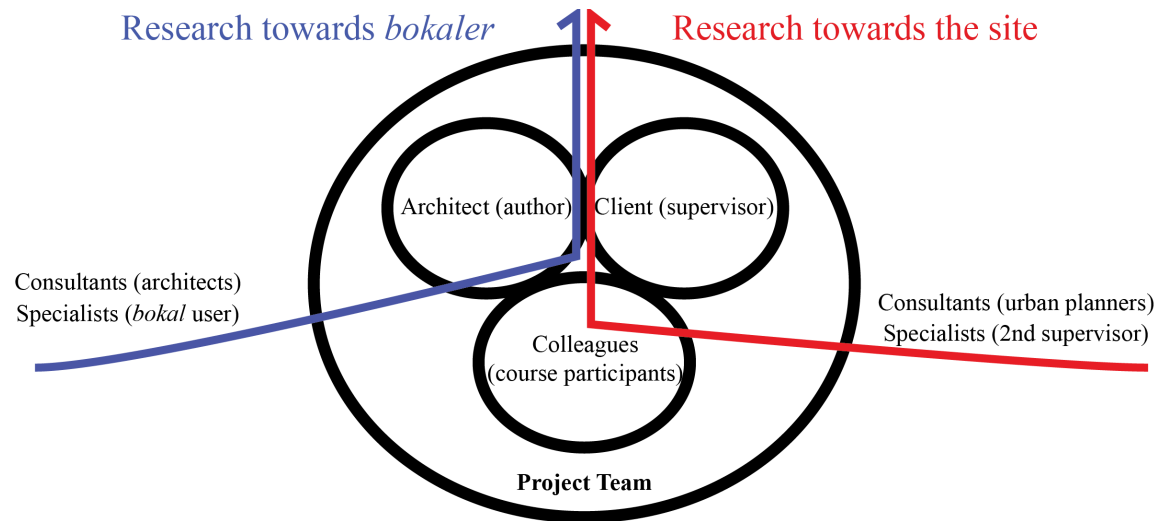


Figure 2.2: The participants of the project in regards to the research

- The results from the literature should contribute as an expansion of, an addition to or a deepening of understanding and information that is relevant to the inquiry of what is being studied.
- After studying the literature, the findings from the research should be able to stand on its own (independent from the original study) for others to be able to understand the usefulness of the research.

One of the main objectives with the literature review was to find theoretical grounds for the later design inquiries. All theories was not be directly attached to the *bokal* typology, some focused on the outdoor environment and what makes an urban space great. This was because of the holistic perspective, that the space of the *bokal* did not end with the premises walls. The exterior environment also affects the premise. This report dived into the qualities of a “desirable” work environment and a

“desirable” residential environment. The study also focused on literature studies to get a better understanding of residential and commercial environments and how they influence the wellbeing of a person. As well as how the public space and private space affect each other.

The second phase and the practical part of this case study rested on aesthetical ideas, and the findings brought forward in the inquiries. No specific and extra literary research was needed in this area.

2.3.1 Literature study

The literature finding method was to use databanks such as google scholar, libris and diVA and using search keywords to find literature relevant to this research. Although smaller variations were made as conscious choice when searching literature depending on what the topic was. Topics regarding desirable functions were mostly found in books since terms such as “desirable” and “qualitive” are an un-reliable and an un-scientific search term. A lot of effort was also made by browsing through the university library related to topics such as work

environment and architecture. Literature that were referenced in the reports and literature were also read to get a deeper understanding of the topics.

These were the search terms: work environment; residential, architecture; office, architecture; urban environment, work, home; *bokal*

A clarification of the rules from *BBR* (the National Board of Housing-, Building- and Planning’s Building Regulations), *AFS* (The Swedish Work Environments Authority’s constitution), and other guidelines was also researched. This was so that the minimum requirements were clearly defined when it comes to creating a floor plan, with multiple uses. These regulations were found on their respective web page in the form of a pdf-file.

2.4 INQUIRIES

As already stated, there are several and separate kinds of inquiries in this research. One focused on getting information from users of *bokaler* in Sweden and another from the architects. The architect was preferably those who have been involved with a *bokal* project in Sweden, but a low rate of answers led to broader scope of architects. These inquiries were achieved by surveys and interviews, respectively. Then there was an desk study on the actual *bokal* typology and its variation of design. This study compared itself to what is seen as desirable according to literature. Some minor research on the site was conducted as well in order to get context. The three different inquiries were conducted in no specific order. They were conducted simultaneously.

A comparison between research methods brought up by Groat & Wang (2002) was made to clearly define what method should be used and how that method should be used to achieve the best result. When considering all the different kinds of methods the re-

search was considering, the method of choice matched best with the case-study method.

Case-study method has the freedom of combining various kinds of empirical data as long as it relates to a common “case study.” In this case, all the different type of inquiries were linked to a specific typology.

2.4.1 Case study research

To get more information and a better understanding of the context and relations in the typology. There are a lot of variations of how a *bokal* could look like and studying their layout with the help of context from architectural qualities and values could create more grounded arguments according to examples brought up by Groat & Wang (2002). Case studies can be used to explain the cause of why people think that way. Together with the other two inquiries a clear and holistic picture is made, with the possibility to cross reference between the inquiries.

Since case studies are open ended and have broad focus, it is important to ground the research and guide it with theoretical development (Groat

& Wang, 2002). It is like a blueprint of what is being studied when looking at the layout and context of the *bokal* typology.

Being an empirical form of research, it is good to have a wide range of sources when conducting a case study. In this research a literature study for theoretical background and knowledge from both users and architects created a wide range of sources. There are also instances of other sources and context about each *bokal*. It is important to know about as much as possible to understand the full context of the object that is being (case) studied. (Groat & Wang, 2002)

Groat & Wang (2002) asks the question of how many cases should be studied. In this research there was multiple variations. The reason for that is the wide range of designs, and at the same time the scarcity of the typology. The cases that were chosen should have an impact on the overall study and should have reason to be researched.

At the same time, research with multiple cases should not focus on multiple issues and research topics to be

manageable. Within boundary the case study focused mostly on the architectural functions that affect the quality of life.

Six variants of the typology were found to research in this project located in Stockholm, Malmö, Göteborg and Karlskrona. They range in size and have different solutions to how the functions are mixed. More specifically they are known by the name: *Hammarby Sjöstad*, *Bennet's Bazaar*, *Norra Sorgenfri*, *Smygmaskan* and *Kilströmskajen*. The *bokal* layouts were redrawn in a cad-program to explore potential qualities and opportunities within. The layout of these *bokaler* were re-drawn in order to explore possibilities and test concepts on existing premises. This created more insight for when the concepts were tested again during the design phase.

This research method embodied qualities that are alike other research methods such as qualitative, experimental, or correlational, but it is still its own research method (Groat & Wang, 2002). Granted, it mostly involves quantitative or qualitative data, but the data can be used in similar to

correlational and experimental (Groat & Wang, 2002). In terms of problem seeking (Peña & Parshall, 2012), this research method involves three steps out of five; analysing facts, determine needs and testing concepts. The other research methods involve fewer steps. The extensiveness of the method can lead to some traps. There is potential for over-complication, the causality can become complex, and many sources can be difficult to integrate in a coherent and understandable way. It is also difficult to do well since this method has less established rules and procedures than other design research methods (Groat & Wang, 2002). To combat these problems a clear boundary was established, the boundary is broad but focus on specific architectural qualities. The broadness of the scope leads to an inability to dive deeper into certain topics.

Other types of study methods usually relies heavily on specifics and preparations. This method allows the researcher to be able to be explorative, open minded and to have a broad focus. It later created possibilities in the design phase have plenty of options and ideas to choose from. It is also

better to have a holistic perspective, when determining what the future holds for this typology.

2.4.2 Interviews

A lot was focused on how other architects have solved the problems, and if they have solved the problem. By studying other architectural projects in Sweden, a greater understanding and greater knowledge was gained to handle this concept. This was achieved by first reading about the projects to see what the goals were then combined with interviews to see if the goals were achieved. The interviews were conducted with users of the premises and with the architects to get both perspectives. In connection to architectural programming, they were simulating the consults and the users of the project, important participants, and contributors (Peña & Parshall, 2012). The interviewing method was chosen because it is the best way to understand another person's perception, values, experiences, and observations (Osvalder, Karlsson, & Rose, 2015).

The best way to get the information needed for this project is through unstructured interviews, because of the

freedom of being able to ask to follow up questions. Peña & Parshall (2012) describes the qualitative data in architectural point of view to be very concisely a way to find out: what is to be achieved and how to achieve it. Therefore, the unstructured interviews will only be adapted for architects. Not only are they experts in the subject but interviews are also highly resource-intensive data collectors if it is carried out on a large scale. Which will be considered when it comes to the boundary of this project. Osvalder, Karlsson, & Rose (2015) recommends 3-6 people, maximum of 12.

Another drawback is that it will be hard to compare the data collected, since none of the projects are truly identical. Peña & Parshall (2012) described that a lot of work will be focused on categorizing the data and discarding the irrelevant information.

Osvalder, Karlsson, & Rose (2015) continues to describe that it is important to give context to the interview, by describing the purpose, how the information will be used, and where the interviewees can get the results. Unstructured interviews are explorative,

suited for those who have a vague idea of what is important but has not much domain knowledge. There are no guided answers, everything is open. Peña & Parshall (2012) on the other hand wrote that preparations are important, it is good to be knowledgeable in the topic to ask the right questions so that the interview is on topic and in that way being able to avoid unnecessary data, hence the preparatory phase of literature studies.

Peña & Parshall (2012) wrote about the ethics of and the handling of interviews. That recording interviews can feel intimidating for the interviewee and affect the results. In the case of not consenting to being recorded Peña & Parshall (2012) suggested having an extra person taking notes during the interview. To be transparent as some of these interviews had potential to become very subjective the interviewees were asked to be recorded and named in the report.

Other golden rules of interviewing Peña & Parshall (2012) brought up are communicating clearly and using graphical presentations and keywords to aid transparency and reducing fil-

ters between the interviewer and interviewee. Summarizing often and returning to the main concept until they are clarified is also a good strategy.

Due to time constraints, lack interviewees and the fact all interviews were made via videocall, the choice to have unstructured interviews went to semi-structured. This made it easier to compare the interviews, but it also meant that more research was needed before the interview (Osvalder, Karlsson, & Rose, 2015).

The architects that were interviewed were a mix of 3 architects that have been involved with *bokal* projects in Sweden and 2 who had not been involved:

A1: Jan Ytterborn, Urban planner

A2: Anton Kolbe, Architect – involved with *bokaler* in *Telefonplan* and premises on the bottom floor.

A3: Kenji Miyazu, Architect – involved with *bokaler* in Bennets Bazaar

A4: Frida Jorup, Architect – works with the National Board of Housing-, Building- and Planning

A5: Unnamed Architect (UA) – involved with *bokaler* in *Kilströmskajen*

2.4.3 Surveys

Questionnaires were conducted on the users. Peña & Parshall (2012) described them as a method to get information about functions, operational and quantitative data. Something that is more adaptable for users since they are not as knowledgeable in the subject. They are also more in numbers, and interviews are as already stated a vast information source that can create a data clog.

Peña & Parshall (2012) gives several guidelines to creating surveys. Questions needed to be formulated in a way that the answer is aligned with what is being researched and nothing else. The assumption should be that the information given in the survey is new to the user, so questions should be delivered with clear clarity. Surveys should be brief and simple, and testing the surveys before using them is encouraged.

The users are diverse and come various parts of Sweden. They have various kinds of layout and other environmental factors that will affect their perception of the *bokal*. That is why the survey only focused on how sat-

isfactory they are, how they are used and what they like about the possibilities. This is also because surveys are limited to being superficial. With the help of theories and studies about the qualities about the workspace and the home some analysis on the layout and the environment were also be conducted. It helped and made it easier to compare those various layouts of the *bokaler* later.

The survey was made with google survey (see appendix C), then posted to each address with mail. In each package there was a copy of the survey and an envelope to be able to send it back. The mail was sent to 5 locations in Sweden to 63 *bokaler*:

Stockholm, *Hammarby Sjöstad* (25)

Malmö, *Bennet's Bazaar* (8)

Malmö, *Norra Sorgenfri* (9)

Göteborg, *Sverigehuset Kubik* (16)

Karlskrona, *Kilströmskajen* (5)

No surveys can be sent to *Smygmaskan* as it is not built yet.

2.4.4 Workshops

Workshops are discussion sessions where the people involved talk about a subject, an issue, or a project. The workshops were a later addition to the

process and initially not a part of the planned method. Workshops of this kind can be compared to explorative discussions and have a considerable risk to become anecdotal and subjective (Peña & Parshall, 2012). To keep it scientific it is important to ground arguments with facts and theory, and to separate subjective opinions from the discussion.

The workshops in this research were aimed at the design of the urban environment. A videocall with colleagues, the supervisor, and the urban planners in Luleå were made to discuss proposals and ideas regarding for instance the site *Södra Hamnleden*. The colleagues oversaw *Södra Hamnleden* west of the South Harbour Plaza.

Another workshop regarding the current findings of *bokal* inquiries was made half-throughout the process. This workshop included colleagues and supervisors no other external interests. After a presentation about *bokaler* a discussion about the topic was made. Results from this session affected interviews that had not been done prior. From this point forward analysing the typology started whilst

other inquiries were still not completed, due to time.

2.4.5 Mental mapping - Lynch method

Lynch's mental mapping method was used to create a simplification of complex society. It can be used to see where the working points are. By identifying the building blocks of the area, the edges, the landmarks, the paths, and the spaces. This simplification will support the new mapping of the area and support future arguments of placements of activities and objectives (Lynch, 1961).

The method was used to see if the design choices might affect the site. As this is not the goal of the research and only addition to the design proposal, not much time was spent here. A before and after site was handed to some colleagues to comment on. For this to have any scientific value the amount of people commenting on the mental map had to be many. Unfortunately the time and resources did not exist and since the design of the site was not a priority, the mental maps were seen more as a feedback tool to be used during workshops.

2.5 ANALYSIS

2.5.1 Inquiries

After collecting data from users, architects and collecting perspectives from the case studies, the analysis phase commenced. By using Ahrne & Svenssons (2015) three course of action: transparency, triangulation, and feedback the data was analysed and comprehended. Especially triangulation was a useful tool to find if similar issues, topics, or opinions resurfaced. Triangulation is used to cross reference the different perspective to see if they agree or not. In other words the method compared the data from the different inquiries to see if the data is replicatable.

The case study research was analysed to find desirable qualities and values that would match with *bokaler*, this time also from different perspectives (residential, occupational, and urban). In this analysis the layouts of existing *bokaler* were used as tests and analysed and compared with the information collected from the literature study.

Reflections that had been brought up in the *bokal* workshop were trans-

formed into concepts and values that could be tested in the design proposal. It was not one of the main inquiries and was not further analysed. It was a way of getting feedback on what was current findings of the research.

2.5.2 Site workshops

The group involved with project of designing *Södra Hamnleden* (the participants of the course "architectural typologies") had a meeting discussing the topics brought up during the workshop. Arguments for and against certain solution were evaluated before deciding on a conclusion and a design. Working in groups, feedback became a recurring model of reflection of the data. But since the site itself is not part of the research of *bokaler*, this will be presented in the design proposal.

2.6 SYNTHESIS AND DESIGN PROCESS

2.6.1 The strategy

When the research phase was completed, a synthesis was created in order to create clarity of what should be tested in the design phase to replicate values of *bokaler*. This was achieved by summarizing all previous chapter in a matrix using the aforementioned architectural programming. The chapter serves as a presentation of the result from the architectural programming method.

Discoveries and observations from the case-studies and the analyses were summarized to get a clear view of the problem, need and concept, by using the problem seeking or "architectural programming" method. The synthesis is presented with a table where the steps in relation to the categories. The purpose is to find different hierarchies and find solutions that fit to the same framework, meaning multiple occupations can fit into the finished product with as minor changes as possible (Peña & Parshall, 2012). It was mentioned earlier that the steps can

rearranged, in this case the "testing concepts" was saved to as the last step to test the stated problems. This choice was made in order to validate the conclusions made through the synthesis.

The design phase is based on all previous findings and context. As Peña & Parshall (2012) claims, there are multiple ways to achieve the architectural goals. The design phase therefore will work iteratively to test multiple possible solutions before arriving to a conclusion. The conclusion was evaluated the same way the case studies were analysed, to see if the values indeed were addressed satisfactorily.

2.6.2 The tools

The tools used in the design phase was mainly ArchiCAD for the design of the *bokal*, site, the cellar, and remaining residents. As the proposal presented in the newspaper was a sketch (see figure 1.2 and 1.3), the building had to be drawn in ArchiCAD. Through the process SIS (Swedish Industry Standard) and feedback from the supervisor was iterated to create a base for the building. Next step was to add all the other functions to the buildings from the inquiries, site-analyses, and

the workshops. Using the same iterative process only using a wider range of sources other than SIS. Once content with an exterior design the actual *bokal* premises could be worked on. Like the method instructs, it possible to jump between steps. In case the already established BIM-model does not cooperate with the *bokaler*, adjustments will be made.

Once complete the BIM-model was exported into Twinmotion to render pictures. Twinmotion was chosen because of its easy-to-use workflow and fast render time.

One design was chosen to be made into a physical model. The model was scaled 1:200 and included other building along the road *Södra Hamnleden*. The model was built by gluing flat surfaces together, the flat surfaces were cut-out using a laser cutter (RD-Works8).

RDWorks8 can only handle dxf-files, which means that BIM-models and the current dwg-file covering the city landscape needs to be converted. Pdf-files of old buildings along the road was used as template to draw the facades in Revit and ArchiCAD. Colleagues worked alongside to create an almost three-meter-long model that

contained whole *Södra Hamnleden*.

3. LITERATURE STUDY

3.1 BOKALER

The National Board of Housing, Building and Planning had a workshop in 2015, they invited experts from various parts of the industry to talk about the problems and the opportunities of the concept. They studied the concept from different perspectives to find potential issues such as: local plan, building regulations, construction regulations, work environmental regulations, rental, and tax legislation.

The issue is: apartments (residential environments) and occupational premises (work environments) have been divided into separate functions. Making it difficult to blend these two functions legally, and as of today, there is no specific chapter dedicated for *bokaler* in the legislation. (Johansson, Birgersson, Estlander, & Jarbrink, 2015)

3.1.1 Local plan

The local plan is only an obstacle of time. If the local plan states a specific ratio of occupations and residence that would hinder the establishment of *bokaler*, there is an interval of time stretching 5-15 years before that can be changed. During the time that local plan is changed there are risks that the proposal can be appealed, which will add to delay. In many cases where there has been a separation of functions, for example in *Miljonprogramsområden*, this is not a problem since those local plans were suburbs established in 60s and 70s. (Johansson, Birgersson, Estlander, & Jarbrink, 2015)

3.1.2 Building regulations

Occupational and residential premises have different regulations which makes a mix of those difficult to regulate (Johansson, Birgersson, Estlander, & Jarbrink, 2015). One of their bigger examples were fire safety. In

Sweden fire safety is divided after function and occupations, and these occupations are placed in separate fire isolating areas or “cells.” They have different requirements regarding escape routes and capacity withstand fire. For instance, for residences there is a particular rule that states that one apartment should be able withstand fire for an hour (BFS 2011:6). Every residence should be protected and isolated from a fire caused by a neighbour so that it is possible to exit the building safely even if people were asleep when fire started. If there is a need of connection, inform of escape routes or in this case as *bokal* premise, between these functions special designed doors must be implemented (Johansson, Birgersson, Estlander, & Jarbrink, 2015). In the end it is the highest requirement that should be applied (Johansson, Birgersson, Estlander, & Jarbrink, 2015). Same conclusion came to other topics such as noise and ventilation. This is only practical

if the two functions are stagnant. If the owner of the *bokal* were to change the spaces of functions, expand the family or business, this solution is no longer applicable.

As for accessibility the biggest difference is what type of wheelchair it should be designed for. In a residence it is acceptable to design for an indoor wheelchair that has a turntable of 1300 mm, while occupational premises often should be designed for outdoor wheelchairs that have a turntable of 1500 mm. Residences with only one level should be accessible in that whole plane, although when the residence has multiple levels, only the entrance level needs to be accessible. For occupational premises, all planes and levels should be accessible unless it is unapplicable for the line of work. (BFS 2011:6; Arbetsmiljöverket, 2020)

3.1.3 Construction regulations

Similar to the building regulations there are differences between residences and for occupational premises, mostly when it comes to imposed loads. Residences need to be able to withstand 2 kN/m² while offices need 2.5 and groceries 4. Like building regulations, the authors suggest dimensioning after the highest value. (Johansson, Birgersson, Estlander, & Jarbrink, 2015)

3.1.4 Work environmental regulations

According to Johansson, Birgersson, Estlander, & Jarbrink (2015) there are no specific differences in practice of the law when working from home or from a designated space. Both premises should withhold the appropriate standards for the line of work. The dimensioning factor is although the number of employees and functions that come with it. Some occupations require additional spaces such as a changing room. Johansson, Birgersson, Estlander, & Jarbrink (2015) suspects that there is a risk that not all function will have room and therefore suggests only sole proprietorships taking place in *bokaler*.

3.1.5 Provision regulations

When food, drinks and tobacco are being sold, manufactured, or managed in restaurants there are certain regulations that must be followed. It has to do with hygiene of the food, staff, and cleaning. For *bokaler* in that line of business Johansson, Birgersson, Estlander, & Jarbrink (2015) suggests a clear division between the residence and the occupational premise.

3.1.6 Rental regulations

This topic has a lot to do with the terms of service, as the renter is commonly not allowed to have commercial activity within the residence (Johansson, Birgersson, Estlander, & Jarbrink, 2015).

To solve the rental agreement is to hold the contracts for the residence and the occupational premise separate. This way it is apparent what rules should be applied for each space, which will facilitate disputes (Johansson, Birgersson, Estlander, & Jarbrink, 2015). Although there is nothing that hinders two separate people to rent the two different parts of the premise.

Another solution Johansson, Birgers-

son, Estlander, & Jarbrink (2015) brings up is to see the whole premise as a residence but with a workspace. The advantage of that is that the renter has a security of tenure and can decide for him-/herself what to do with that space. It becomes easier to administer since there is only one contract and it is easier to define. The disadvantages come from the property owner and the municipality that cannot regulate what kind of use the workspace is used for. There is nothing that stops the renter to use the designated workspace for residential use instead. If the intention of *bokaler* is to create more and benefit local entrepreneurs, this will hinder that vision.

The conclusion Johansson, Birgersson, Estlander, & Jarbrink (2015) came to was that there is no specific hindrance from this law. According to the law it is allowed to have a part of the residence designated for work if it follows all the other regulations. The workspace will fall under the rest of residence and seen as a part of the residence (not as an occupational premise). Although the contracts for the residence and for the occupational premise should be held separate to se-

cure that *bokal* is used for mixed purposes.

3.1.7 Taxing regulation

There is a difference when it comes to how a residence and how an occupation premise is taxed, the prices of those two functions are controlled by different markets and regulations. Even here Johansson, Birgersson, Estlander, & Jarbrink (2015) claim that it is simply easier to separate the two functions. Though it is also stated that it is possible to account for the percentage of space an occupation occupies within a home. If it is the opposite, that the residence is a part of the workplace it is more difficult to determine what benefit comes with the residence being a part of the workspace and is being paid for through the occupation. (Johansson, Birgersson, Estlander, & Jarbrink, 2015)

3.1.8 Three variations of the typology

According to Johansson, Birgersson, Estlander, & Jarbrink (2015) *bokaler* can be designed three ways. When *bokaler* are considered to have the workspace and the living space are separated. The National Board of

Housing, Building and Planning saw most possibility to establish the regulations based on living spaces and complement with some spaces that are suited for other occupations without risking the integrity of other parts of the building. Legally in that design the whole premises would become a residence and should be considered as such when it comes to tenancy. Although it is important to be able establish work environmental laws where needed. Johansson, Birgersson, Estlander, & Jardbrink (2015) considered the situation where occupational and residential functions are mixed within the premise not suitable for use. Since the laws of workspaces and laws of living spaces differ too much from each other. A third option was to consider *bokaler* as a workspace where a person can spend the night if they must. Or just use a part of the workspace for residential purposes. According to the National Board of Housing, Building and Planning this was the least suitable way to use *bokaler*. There could be a huge risk of not living up to the standards of health, security, and residential design. Neither would the tenant have any security legally when it comes to rent and

possession. (Johansson, Birgersson, Estlander, & Jardbrink, 2015)

3.2. DEFINING A DESIRABLE ENVIRONMENT

The term “desirable” qualities were thrown around a lot in the initial chapter. It will be defined here. The term architectural quality is something that Rönn has studied for years and describes it as:

- Architectural quality is a loose term, and there will never be a defining statement to “what is good architecture.” “Prosperous” architecture occurs all the time and will be discussed in reinterpretations and revisions for all time.
- Architectural quality is something positive, and architectural object can be something beautiful or ugly. It is matter of setting a standard to an object. It is unlike other ways of standardisations like ISO 9000 since

it does not use neutral terms. (Rönn, 1998)

In other words, it is something subjective and can be defined by interviewing people and differs from case to case. In another report Rönn (2010) describes this definition even further. There is an aesthetical approach and a technical approach to quality. The aesthetical approach searches for experiences and values (a “good” quality), while technical approach searches for attributes (the right quality). Another definition Rönn wrote down was:

- Architectural quality can be answered by false or true statements. In this definition architecture quality is a method to reach goals, effectivity, and useability, etc. It reflects knowledge, experience, and practicality to solve design problems. (Rönn, 1998)

Since this definition of architectural quality is affected the least by subjectivity, it will be the definition used in this thesis in order to achieve a degree

of scientific standard.

3.2.1 List of required functions

AFS:2020 (the Swedish Work Environment Authority's constitution) makes a list of essential functions that may be needed to create a better psychosocial environment (or work environment in general) (Arbetsmiljöverket, 2020):

- Designated space for dining, drinking water and resting.
- Staff areas for recovery and taking short breaks. The staff areas quality should not be compromised by placing storage and workspaces in the same area. This will only counteract its purpose.
- A space to store and change clothes, preferably separated by gender. For example, a changing room or a spacious bathroom or another separable room as an alternative.
- In lines of work where there are hygienic risks there should always be an access to a shower. Showers should be in proximity to a changing room or a washing room and be separated by gender.
- There should be at least one toilet per 15 employees. An accessible toilet should exist in the workspace and the size is usually around 2,2 x 2,2 meters.
- Communications, hallways, and corridors are necessary to be able to traverse through the office. Wheelchairs are often the dimensioning factor; diameters range from 130-150 cm depending on if it is for indoor or outdoor use.
- A corridor should be at least 120 cm wide for two people to pass and comfortably pass each other.
- An office space is also a space for other occupations, cleaners as an example needs space to

be able to do their job as well.

If the *bokal* is intended to the primarily residence for the user there are some requirements and functions that needs to exist in the premise. According to the National Board of Housing, Building and Planning building regulations (BFS 2011:6) it should contain:

- A room for hygiene. With all the needed supplies.
- A separate space for a bed. A nook, corner or recess will do.
- A space for dining, preferably close to where food is made.
- A possibility to make food.
- A seating area, that can be separated from the rest of the residence suited for social activity.
- An entry space, where outdoor clothes can be stored.
- A space for storage
- A space for washing and drying clothes if no exterior washing area exists.

3.3 THE DESIRABLE RESIDENTIAL ENVIRONMENT

Nylander & Forshed (2003) in a research studying desirable values of a residence, could according to them be traced back to Vitruvius' three pillars: beauty (*venustas*), sustainability (*firmitas*), and comfortability (*utilitas*). Not all factors will be included here only those that affect the layout of the premise.

3.3.1 Openness and enclosure

The enclosure and openness hugely affect the perception of interactivity between outside and the inside and other relations between rooms and spaces. Openness can give the feeling of space, lightness, and "airiness," but it can also lead to the feeling of living on display. Whilst enclosure can enhance privacy, intimacy, and integrity but it can feel too secluded and cut off from the world or unwelcoming. (Nylander & Forshed, 2003)

3.3.2 Daylight

Daylight can be used as guidance in movement through the apartment, by

seeing the light in another room, and it strengthens the apartments axiality. This can also be combined with the feeling of enclosure and openness; an open room feels more open with the help of more sunlight. Daylight can also be a haphazard for the apartment. Daylight is a wanted part for the comfort in an apartment but can also create discomfort in form of glaring effects and intrusion of privacy. The placement and design of windows become important in this case. The sill height of windows is a key factor for views to the outside world. The availability to look outside from a sofa or a bed gives a huge value to the apartment. (Nylander & Forshed, 2003)

3.3.3 Flexibility and generality

Rooms can be pre-determined in advance with special functions with storages or closets, which is prosperous architecture. These rooms with certain window dimensions and spatial quality have preconceptions of what that room is supposed to be. But the rooms that do not have the possibility to not be determined in advance have also a noteworthy value. It is a balance between being able to let the residents decide where to put the living room

and giving every room the correct amount of integrity. Another opportunity to give the residents creativity can be by including a big empty room, where placement of furnishings is not clear. This is a widespread practice seen in studio apartments. (Nylander & Forshed, 2003)

3.3.4 Movement

When the rooms contrast from each other and have different qualities, those singular rooms characteristics are enhanced. Examples of this could be by having a small room or hallway before the bedroom to increase intimacy, or a gradually becoming to a more open space would enhance the welcoming feeling of a living room. Working with rhythms and contrasts between rooms are important tools when working with movement. (Nylander & Forshed, 2003)

The ability to travel through the apartment around in a circle has its own value. It creates a feeling of completeness and flexible movements. While dead ends also have their purposes, they can create intimacy, section, and divisions in the apartment (Nylander & Forshed, 2003).

Prosperous architecture can be valued in many ways, and some values cannot co-exist. Conflicts in design can arise when designing both flexibility and intimacy.

3.3.5 Room organization

Room organization is about relations between privacy and public spaces within the apartment and outside. Hard contrasts between public spaces and private spaces are easier to notice. Therefore, gradually increasing privacy through obstacles, weather protecting, or welcoming features play a vital role for integrity. (Nylander & Forshed, 2003)

Certain rooms are more public than others. More private rooms should if possible be placed towards the courtyard or the less busy parts of the city. As seen from the entrance to the apartment the more public spaces such as the living room and dining room are those rooms that should be seen first and then the organization of the rooms should gradually and successively become more private. (Nylander & Forshed, 2003)

Nylander & Forshed (2003) claim that

integrity and security among residents can be achieved in two ways; not enforcing community and collectiveness and being able to spectate over the people in the area.

3.3.6 The relation to the city

When considering the relation to the city it is important to see the whole picture. A district is built in the same ways of the interior layout of a building, factors such as movement, openness and room organization are used in the same way. (Nylander & Forshed, 2003)

The authors mention a lot of considerations when it comes to the building and the rest of the district's characteristics. The meeting between the street and the building, the boundaries between districts, and activities in the bottom floor must follow the bigger picture of the district's character. (Nylander & Forshed, 2003)

3.4 THE DESIRABLE WORK ENVIRONMENT

The work environment is an umbrella term that considers the physical environment, the relationships between people (the psychosocial environment), the relation towards the work (leadership and organisation) and medicinal work-related topics. (Zanderin, 2005)

The most two interesting parts for this report are the physical and psychosocial environment.

The physical environment considers the surroundings at the place where people work. It is nature, buildings, other people and machines, everything except yourself. How these things and invisible forces affect our five senses, indirectly and directly. (Denward, 2005)

The size of a workplace is determined by what kind of occupation is taking place. The definition of workplace is a space where work is carried out and that includes the staff areas and the collections between. A workplace

can be both outside and inside, permanent, or temporary. It can be an office, a school, a restaurant, a gym, a bar, etc. The Swedish Work Environment Authority's (AFS) constitution acknowledges that their guidelines for workspaces are best applied to offices spaces, but it can also be used for other types of workplaces. An office space size is determined by four parameters: what the occupation is, how it is organized, the equipment and furnishing. Take an occupation where a lot of the tasks is carried out by phone. Such a job needs a bigger space, so that it is easier to not disturb co-workers phone calls. (Arbetsmiljöverket, 2020)

3.4.1 Light

There are two general types of light subjects in the work environment. One is about the visual ergonomics and the other about light ergonomics (Denward, 2005). Light environments refer to the lightning conditions, how bright, directions, reflections, and absorptions. While visual ergonomics refers to the individual needs for a good visual environment. For example, older people are more likely to need glasses and are more sensitive to contrasts. (Boghgard, et al., 2015)

Bad light environments can lead to glare and strained eyes, which can lead to lack work performance and well-being and even musculoskeletal pain (headaches)(Boghgard, et al., 2015). sssdsdOther problems are safety issues, such as lack of orientation. Lighting with the help of clear markings can minimize accidents and make it possible to traverse safely through the workspace (Arbetsmiljöverket, 2020). Strong contrasts between rooms can give glaring effects. But having no lightning difference at all can also have a negative effect on the spatial impression. This can happen when workspaces are placed by a wall of windows (Boghgard, et al., 2015). Denward (2005) means it is better to rely on spot lightning. Bohgard, et al. (2015) explained that it is better to spread the lighting in general within the workplace, than to have directed lighting. Large areas with sharp contrast of luminance within the field of sight should be avoided. This includes changing from a dark room and a bright room. Changes between different luminated zones should be made less contrasted and made more gradual instead. Daylight affects the body's

biochemical process, and its variation is important for the rhythm of the day and for the seasons. In terms of workplace daylight can cause problems as in undesired shadows and glares. Lightning planning is about avoiding these problems, but at the same time taking advantage of the daylight. (Boghgard, et al., 2015)

A guideline from the Swedish Work Environment Authority's constitution is to not to have room deeper than 6-8 meters and for the window to constitute 10 % of the office space floor. (Arbetsmiljöverket, 2020)

3.4.2 Noise

Sound is our most important communication channel aside from light, but it is also one of the easiest ways to disrupt a "good" work environment. Noise is easily defined as unwanted sound. It is disorganized sounds, echoes, ventilations, traffic, and sounds that are rich in content can be considered as noise. The technical advancements society has made in the years has increased the amount of noise in the work environment. Noise can lead to discomfort, communication problems and even impaired

hearing, all of which is not wanted in a work environment. (Denward, 2005)

Denward (2005) explains that there are three general solutions to prevent noise in the workplace: remove the source, obstruct the dispersion of the noise, and wear personal protective equipment.

Solutions can be incredibly detailed from how the layout of the premises. There are four major factors to design the layout to achieve a better sound environment: movement, function, integration, and location quality (Hellström, 2012). The focus should be on logistics, reduce movement and give route options through the office, separate functions by having loud activities and equipment in designated areas and rooms, build a hierarchy of what can be more tolerable to noise to integrate and plan buffer and locations accordingly (Hellström, 2012).

3.4.3 Psychosocial environment

An office space can induce stress. Working in small personal space infringing, isolated spaces or in spaces shared by many people, can create an environment where it is difficult to concentrate and focus (Arbetsmil-

jöverket, 2020).

The psychosocial environment about how an individual perceives the environment and the effects and can affect a person more than the actual physical environment. People prefer different environments, and the environment affects the people differently. (Håkansson, 2005)

In terms of creating good conditions for a psychosocial environment in a physical environment it is both leaderships (Bohgard, et al., 2015) and creating means to increase or decrease units, regrouping, moving equipment (Ahlberg, et al., 1985; Gullström-Hughes & Westerberg, 1998).

3.5 THE DESIRABLE OFFICE ENVIRONMENT

More recent research by Kölborg & Mähler (2015) also noticed that desired residential qualities worked to describe desirable offices too, they used those parameters to describe offices. According to other studies a more generalization can be made (Ahlberg, et al., 1985): future offices need to be adaptable to circumstances, to be able to have both secluded and social workspaces, to quickly switch from formal and informal conversations as well as provide good ergonomics for the employees. Yet when designing office spaces, it is often suggested that rooms should be separated by function. Rooms such as staff area, quiet rooms, meeting rooms, storage, and copy rooms are few examples of rooms that can be placed separately from the individual workspaces (Arbetsmiljöverket, 2020). Ahlberg, et al. (1985) also mentions the importance of characterization and organization of the rooms. They should be distinct, have clear views so it is easier to find each other and cooperate. To have the

possibility to move freely through the office space and having some areas feeling more open or secluded give the organization freedom to implement multiple activities. Studies has also shown that there are still people who dislike working in open office landscapes and function based (ST, 2021). And lastly there is a difference of design needs between what kind of project it is taking place inside the office. A project with a short duration of time needs to have more movable furniture in the office, while projects with longer duration need adjustable furniture. This is because short projects need to adapt to tasks while long projects need to be ergonomic. This affects the space usage between the two. (Gullström-Hughes & Westerberg, 1998)

Ahlberg, et al. (1985) conceptualize four types of office spaces that benefits four distinct types of values: technical sustainability, human needs, architectural characteristics, and lastly economic efficiency.

3.5.1 The technical office

This layout is designed to include all diverse types of work characteristics. There are individual work rooms,

spatial enough for a lot of different equipment. There are special designed rooms such as conference rooms, dark “projector” rooms. The layout is rich in distinctive characteristics to the point of being packed and almost cramped. It devotes a larger space to shafts to

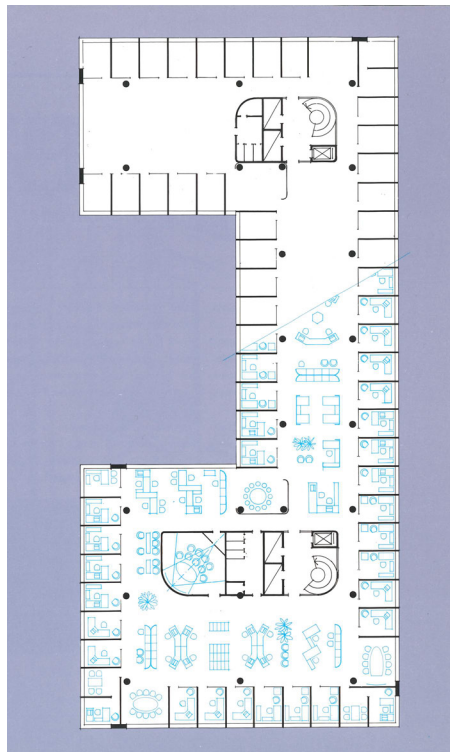


Figure 3.1: *The technical office, unscaled (Ahlberg, et al., 1985).*

be able to service friendly and future ready for greater use. While it is effective in its space usage, it is not really promoting spontaneous meetings, almost claustrophobic. (Ahlberg, et al., 1985)

3.5.2 The human office

The layout is supposed to promote individuality and community. Tasks can be solved in private and in group rooms. The important aspect is that

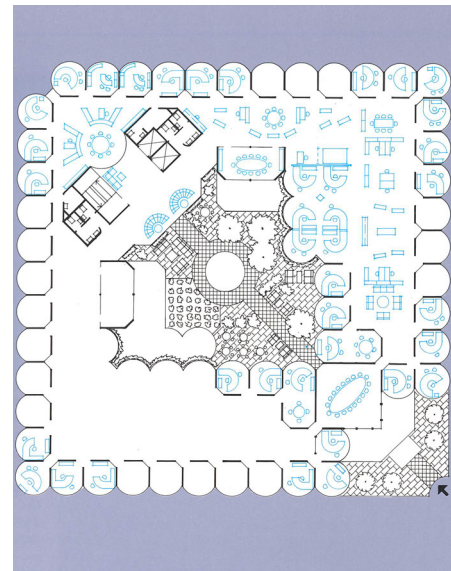


Figure 3.2: *The human office, unscaled (Ahlberg, et al., 1985).*

every office space is spatial, has good lighting, and that the lines between informal and formal spaces are blurred. Other qualities like plants and atrium/enclosure provide a good harmonious atmosphere. Everything in this office layout is designed after human needs. Drawbacks are inefficiency of space and the lack of distinctive characteristics of rooms. (Ahlberg, et al., 1985)

3.5.3 The architectural office

The layout focus on having rooms with different quality, size, and characteristics. Community and communication are the main aspect of this layout. The rooms are shaped in a way to define the purpose of the room. There are no corridors and no individual office spaces. Spontaneous meetings and informal contact are encouraged as well as formal. The drawbacks are the inefficiency of space usage and individuality. (Ahlberg, et al., 1985)

3.5.4 The economical office

The common office space in Sweden is about 22-25 square meters per person. In the USA it is 20 and in Tokyo it is about 11-12,5. In Sweden one person office spaces are more commonly used and in Tokyo people often sit

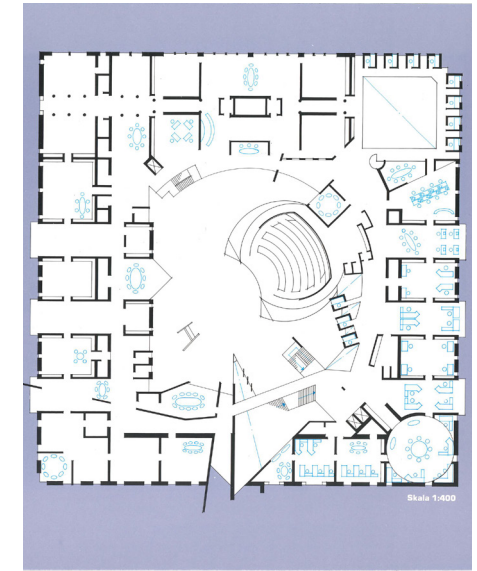


Figure 3.3: *The architectural office, unscaled (Ahlberg, et al., 1985).*

together. The question was if Sweden should adopt their qualities to plan out more economic effective spaces. But still using singular office spaces. They managed to conceptualize an office space with 2,4x3,0-meter spaces. It has its drawbacks when it comes to visitor possibilities, but it also provides conference-, meeting- and chat rooms. The heavily reduced rooms make it possible to invest in larger rooms where people can meet, take a

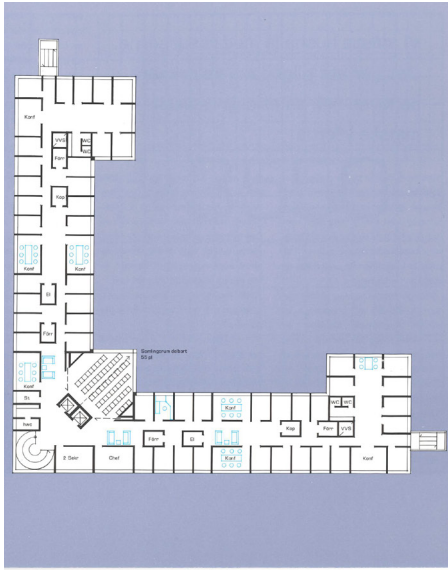


Figure 3.4: *The economical office, unscaled (Ahlberg, et al., 1985).*

break or party. (Ahlberg, et al., 1985)

3.5.5 The home office

Working remotely from the office has its advantages and disadvantages. For the person taking part of the method, it can mean more effectively planning out work strategies, less travel and therefore a higher possibility of choosing where to live. It also becomes easier to mix private and work life, although that can be a double-edged

sword. Some disadvantages are the risk of social isolation, the possibility of making a career becomes slimmer and it worsens the possibility of developing competence. (Aronsson, 1996; Hallberg & Saar, 2020)

From the company's point of view, it can mean more productivity amongst the workers, less costs as they do not need to rent out space for the workers. It becomes easier to keep employees (there are cases where pensioners work from home as an example), and there are fewer sick days reported. On the downside: the leadership becomes harder to manage and the possibility of creating a community becomes harder too. (Aronsson, 1996)

Mixing work into the living space can have its upsides and downsides. Hultén (2000) mentions the possibilities of being able to work wherever is a freedom that is not found in ordinary office spaces, but welcoming work into that private space can affect the boundaries of private life and work. A recommendation therefore is to have a separated room for work. Hultén (2000) also saw a flexibility in time, saving time by not commuting

to work, and being able to take breaks whenever the need arises are valuable reasons to work from home.

In Hultén's (2000) study she only interviewed women who worked remotely, so there was already a lot of focus on gender roles in this study, but that will not be the focus here. In the interview the women seemed distracted by the housework and worked many hours daily because dabbling between work and home occupations took a lot of time. For the majority, the housework was a nice recess from work. But working from home did require them to always be available, leading to blurring the lines between work and private life. Most of the women had a designated workspace, but not everyone had the luxury of having a space only designated to work. For some it was the kitchen, a desk in the bedroom and that seemed to affect negatively on work and private life. Leading them to always thinking about work and becoming more stressed.

In the end it seemed that the issues were not a problem. The interviewed women preferred this lifestyle over working in another location. Having the opportunity to spend time with the

family is too valuable. (Hultén, 2000)

Aronsson's (1996) study also interviewed some remote workers, this time the demographic was more diverse. Some of the interviewees did not even work from home. But for those worked from home a trend of an increased workload was seen among the workers and the lack of feedback and support from colleagues were lacking. Yet the workers stated the same upsides as the other study. (Aronsson, 1996)

Hultén's (2000) study concluded that it might not be possible to separate work and private life in the home if introduced into the home. It does not, inherently, must be a terrible thing, it is up to the individual to balance that kind of lifestyle. The women in the study found their own way of balancing work and private life and so did the people in Aronsson's (1996) study. Yet they believed that a balance between work and private life would be more enabled if there were a workspace available in their apartment.

According to the Swedish tax authorities, it is possible to withdraw some of

the rent from the apartment, if a part of the apartment is used as an office or other occupation. This comes with an asterisk. On their site (Skatteverket, 2021) they give an example of what is a valid home office space and what is not. An occupational space that is not valid for withdrawal from rent are spaces that may be an individual room but still can be used for residential use. A home office is not valid as an example.

A valid workspace must be secluded from the rest of the apartment and have an own entry way from the building's staircase or from the street. The workspace has the equipment needed for the works intended use, including appropriate lighting. The workspace must be seen to only be intended for occupational use and must be seen as necessary for the occupation to be able to run. It can also be to separate smells and to separate toxic elements from the rest of the apartment. Further, the employer is not allowed to provide other any occupational space. The occupational space is only to be used for work and be seen as an absolute necessity. (Skatteverket, 2021)

What self-employed or people that work from home with office work can get deductions on are equipment's. If the equipment is intended for office work, it can be deducted from the taxes, or one can get a compensation if the purchase is booked correctly. (Langskilde, 2021)

3.6 THE DESIRABLE PUBLIC SPACE

In this chapter focus will turn to the outdoors spaces. When living on the bottom floor the connection and design of the space in between building plays a significant part to the overall experience. The study has a holistic perspective and considers the effect the city has on *bokaler*.

A desirable urban environment is a complex concept that require an understanding of human behaviour and how the environment affects us. It can be summarized to the concept of safety and security (Uittenbogaard, 2020). Security is about the actual risk of being exposed to overt crimes. Safety is a subjective feeling and is defined by how secure the individual feels (Uittenbogaard, 2020). In terms of building safe environments (situational prevention) there are three factors that will be used in this research but there are many more (Uittenbogaard, 2020). The three used in this research are: design, social control and mix of functions.

Uittenbogaard (2020) describes that creating a safe environment is an act of balance, when seen from a situational perspective. That securing the city can create good social control. Although "opening up" and becoming more inclusive and safer can give the opportunity to create an elevated level of social control. When read, this can be interpreted as being a spectrum where the social control is either shared (safe) or owned (secure). Comparable to gated communities and public spaces. Or it can be interpreted as a scale, where security and safety complement each other but should be balanced so that they do not overpower the other. Another interpretation is similar to Herzberg's two-factor theory (Dannert, 2020; VBM, 2021), where security is comparable to hygiene and safety is comparable to motivation. Meaning that security creating only good social control is the bare necessities but can be evolved to safety which creates a higher social control.

3.6.1 Design

Attractiveness is a term often used by municipalities and architects and is not only an axiom. Design conveys the identity of an area and has a signif-

ificant impact on how secure and safe a place feels. Design is a way of directly communicating what is important to the area. Aspects as history, what kind of activity, movement and variation mix into the identity of the place. It is about creating a unique and attractive place to visit, “a place full of life.” (Uittenbogaard, 2020)

Tangible subjects are affecting the feeling of safety or what attracts a person to a place. Room proportions can have an impact seen in studies made by Gehl (2011) and Herzog and Flynn-Smith (2001) although it is never the determinant factor of feeling unsafe, more like an added effect. Other factors that were more impactful to feeling of unsafety were: shadows, mystery and setting care. Setting care is about how much is shown that place is being cared for. A broken window is an often-used example that the setting is not being cared for (Herzog and Flynn-Smith, 2001). A study made by Whyte (1980) observed that people tend to be drawn to space where they can either hide from sunlight or bathe in it (depending on the weather), water and vegetation. Aspects that play a role in “attractiveness” is the choice of

materials, art, colours, vegetation, and how the human scale is being used. It is about expressing that this is a place to care for (Uittenbogaard, 2020). Same goes for benches which Gehl (2011) also comments on. More will be written about his study later but factor like height differences, doors, lighting and stairs, signals control but can also become an excluding effect. (Gehl, 2011)

Architecture and design alone will not solve everything, yet it can be conducive and promote certain behaviours. Designs can stand in the way of desired behaviour and in another way support and give a broad spectrum of possibilities. (Gehl, 1971)

3.6.2 Social control

Activities and social occurrence increase in intensity when people are well acquainted, but that does not mean that low-intensity contacts are not valuable. Seeing and hearing other people are in Gehl’s words a complex emotional type of interaction that gives people a sense of participation and community. It is a type of interaction that can build connections and grow in intensity as well as main-

tain already established connections. Low-intensity connections are a way to build trust in people, a stranger that a person regularly seen in daily commutes becomes a “familiar” person. Low-intensity connections also inspire people to join and attract more people to a place. For passive participants it still is a form of stimuli. The experience of not seeing any people can become a very dull and unsafe feeling. (Gehl, 2011)

Social control is about being able to see another person and to be seen by another person. It is a mutual overwatch on each other. There are two types of control, formal and informal. Formal control are people in the line of occupation that are supposed to retain order. Informal control is done by residents and even passers-by of an area. By simply being there, a person can supervise the area, and minimize the risk of a crime being committed. And this sense of control can be strengthened if this supervision can be dealt from both the street and the buildings. Safety and security affect social control both indirectly and directly. Direct influences are when, as already stated, people can directly see

everything that is happening in public, semi-public and semi-private spaces. While indirect control is the feeling of always being under supervision by other people. (Uittenbogaard, 2020)

This is a living-city according to Gehl (2011), a city which people are more likely to visit and spend time outdoors. The reason to why people feel unsafe or in danger is because of the lack of power an individual pose to affect their environment. It is about control, trust in the community and other people, and being able to handle situations when things do happen. (Heber, 2007) According to a study by Dolmén (2002) there was a higher risk of being alarmed when then there was a lack of social control.

3.6.3 Mix of function

Being able to see other people is not enough either. Everyone can have an unobstructed view on a street without it being any activity there, if nothing happens then nothing happens (Gehl, 2011). An unmixed city is described by Gehl (2011) a city that favour spaces with specific functions, car flow and the spaces between buildings are great and the outdoor spaces are im-

personal. In these situations, it is often seen that the people tend to stay indoors and dwell in private outdoor spaces. The unmixed city was a product of the 1960s, where the city was divided into three functions: work, residents, and centres (Uittenbogaard, 2020). Somewhere along those ideas there were questions of what is private and what is public, which led to a segregated connection between the life in courtyards and the street. There was more focus on creating safe courtyards and less on the urban environment. This modern way of thinking and functionalism has led to several problems in aspects such as anonymity, social control, crime, and safety. (Uittenbogaard, 2020)

These districts were built during a period where there was a pressure to build fast, cheap and plenty. The common criticism is that these districts were not unique in design, the communications to those districts where bad and the outdoor environments were not being taken care of. (Boverket, 2020) The issue about segregation, Sabet (2020) claims, an advanced and complicated problem that have roots in socioeconomics, it has affected perceptions and created biases against those districts.

Even though there is a combination of issues being dealt with here it always has its roots in segregation or separation.

In contrast Gehl (2011) describes mixed cities as a city that favours pedestrians, has mixed functions, and the spaces between functions need to be smaller. Mix of functions is promoting and including different activities and occupations in the area.

The activities in a mixed city should preferably have different occupational hours, so that they overlap each other and so that there always are people visiting the place. Possibilities of a vast range of demographic by including a mix of functions also creates a safer environment. Mix of functions creates inclusivity. Attracting people to the area creates safety in numbers of people. (Uittenbogaard, 2020)

4. INQUIRIES

4.1 CASE STUDY RESEARCH

This chapter is a summarization of case studies and explorations of existing and upcoming *bokaler*. More pictures of exploration of the floor plan and layout can be found in the appendix A. Some of the typologies also has photographs displaying the façade experience. There are additional pictures to be found in the appendix D.

The *bokaler* studied in this research is placed in *Hammarby Sjöstad* (Stockholm), *Bennet's Bazaar* (Malmö), *Norra Sorgenfri* (Malmö), *Smygmaskan* (Malmö), *Sverige huset Kubik* (Göteborg) and *Kilströmskajen* (Karlskrona).

4.1.1 Hammarby Sjöstad

It was in connection with this project where the term *bokal* was coined. In total there were 25 of them built in

apartment houses and tenant-owner associations (Härnäck, 2003). There were no strict divisions between the two occupations, and they were under the same contract, and defined as workspace premises.

A study from 2005 by Backlund showed that 6 out of those 25 premises were used for the mix-use purpose. The 19 other premises were used as a residential premise or as a workspace. (Johansson et al., 2015)

The study showed that the *bokaler* was not adapted for residential use in prior. They should be seen as an opportunity to stay the night if needed. The opportunity to blend residential and occupational functions in this variant of the typology was particularly difficult. (See figure 4.1).

There are about twelve of these premises in Stockholm, along the south side of the street *Båthbyggargatan*. One of

the premises is bigger than the others although any layouts were not found, and the layout that was found on a real estate agency, and they commented that the scale of this picture might differ from reality (Savic, 2020). The realtors describe the premise to be a nice 51 square metered apartment with an addition of a 22 square meters big terrace in the back directing towards the sun in a south direction. The courtyard itself is described as big and beautiful with a lot of vegetation. The apartment has 3,4 meters headroom within the apartment and suited for both residential and as a workplace with the availability to overnight stay. It is an open and social apartment and claims to have a lot of “villa-feeling” because of the terrace and the garden in the courtyard. The combination of the social storefront, equipped with a kitchen and connection to other shops, with the serene and calm garden and bedroom, the realtor describes the apartment to have the best of both worlds.

The social living room or storefront is described to have an unobstructed view but also claims to hinder perusal from the street. While the bedroom has room for a 180 cm wide bed and a wide space for storage. The bathroom is completely equipped with a toilet, washstand, shower and even has space for a washing machine. In front of the bathroom there is room for a workspace. The apartment can be entered from the street and from the courtyard. The apartment also has access to a meeting place, laundry rooms, a gym, and an overnight stay apartment. The relation to the city is described to be near public transportation, shops, and gyms. (Savic, 2020)

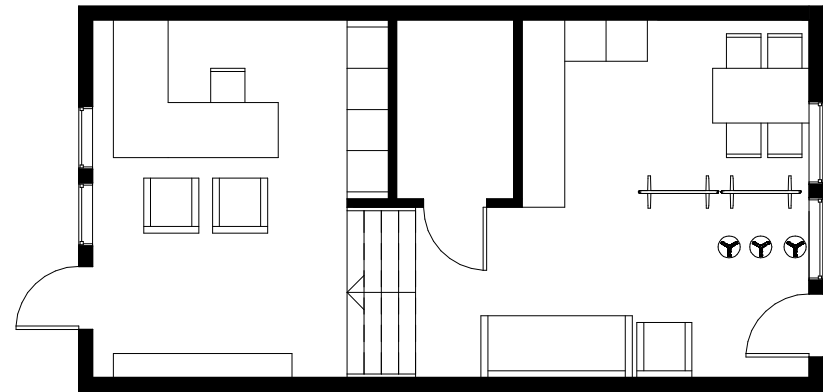
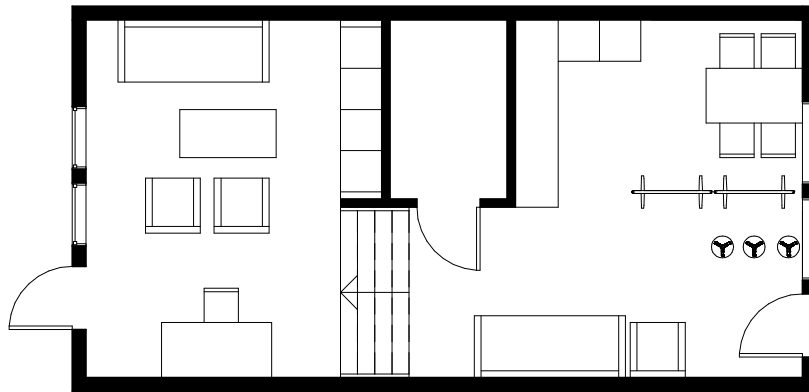
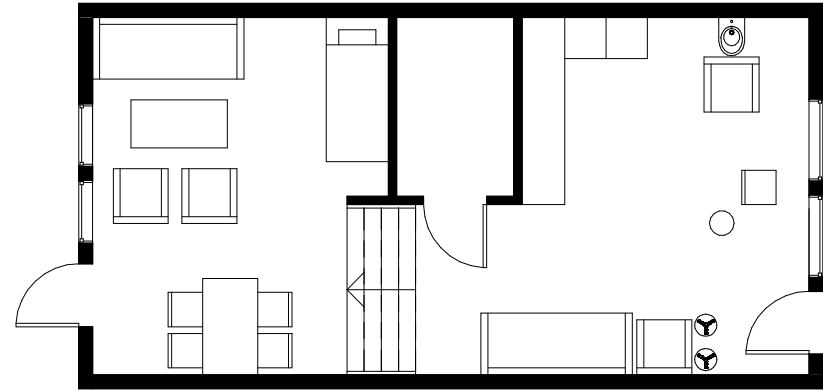
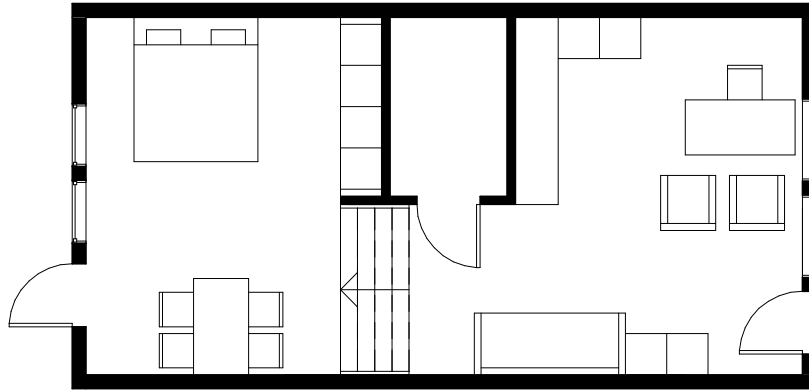


Figure 4.1: *Examples of tested and redrawn layouts for Hammarby Sjöstad*
Original layout distributed by Savic (2020).

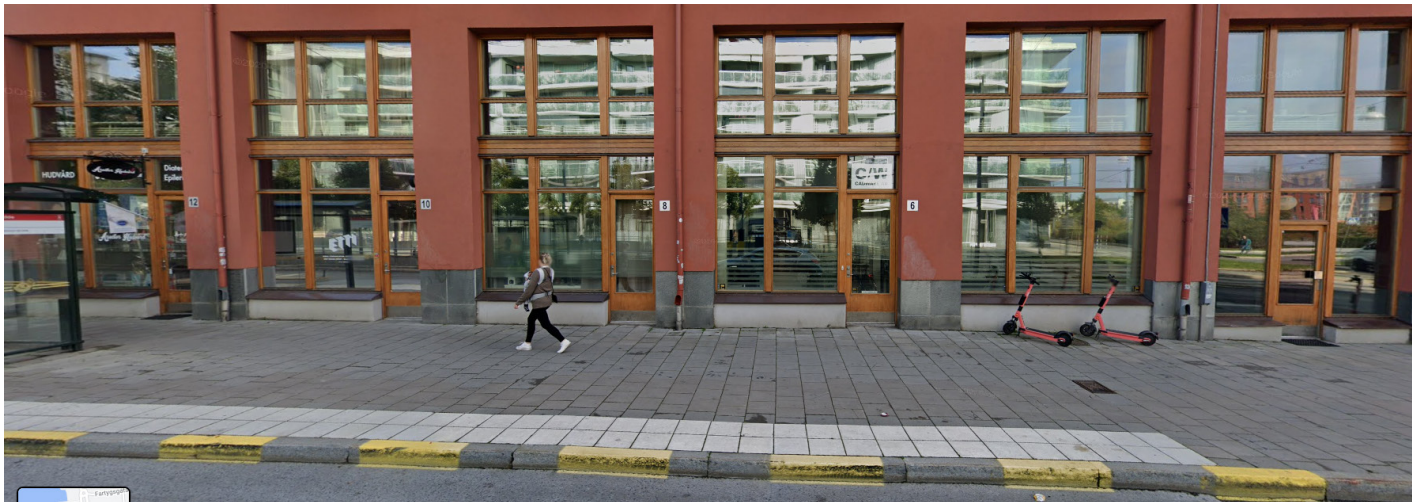


Figure 4.2: *Example of windows being on display in bokal premises. In this instance of Hammarby Sjöstad (google, 2020)*

Figure 4.3: *Example of windows being on display in bokal premises. In this instance of Hammarby Sjöstad (google, 2020)*

4.1.2 Bennet's Bazaar

Eight *bokaler* were built in the Örtagård in Rosengård, Malmö. These eight new premises were built in front of another existing building like an arcade. The buildings are connected in the bottom floor and there is room for a small garden space in between. In this case the two premises are not under the same contract. But there is a cooperation between the tenant and the renter, in how the regulations of the contract. The renter is not allowed to live in the apartment if they do not wish to use the *bokal*-part as well. Although the tenant promised a replacement housing in that case.

These *bokaler* were built to promote entrepreneurship, networking, creating good role models in the area. Another reason was to create a reason for other parts of the city to visit the area and create a stronger connection with the rest of the city. It was seen as a successful concept as it has been highly visited and used. It has been seen as one of leading examples of what to do with segregated areas, how to make these areas more attractive and sought out. Not much can be said about the *Bennet's Bazaar*, since it is an outsider in this study, being placed in a more suburban area and is built years after the original building. It is also praised

by the National Board of Housing, Building and Planning to be the best solution regarding its typology (Johansson et al., 2015). The *bokal*-part of the building is open in space. There are some cases where the headspace is 2.3 meters instead of the otherwise 2.9 meters. The 2.3-meter-high enclosed spaces mark where it is intended for the shopkeeper to meet the customer, while the more open space is where the customer is allowed to roam (mkb.se, 2010). This variant of the typology has the benefit of space to be able to hold all different functions that are seen to be needed in a *bokal*.

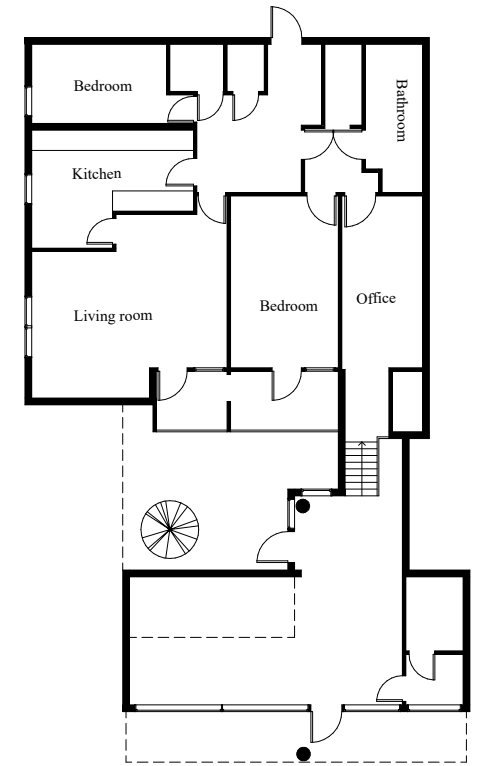


Figure 4.5: Redrawn example of a Bennet's Bazaar bokal.

Original layout is found at mkb.se, (2010)



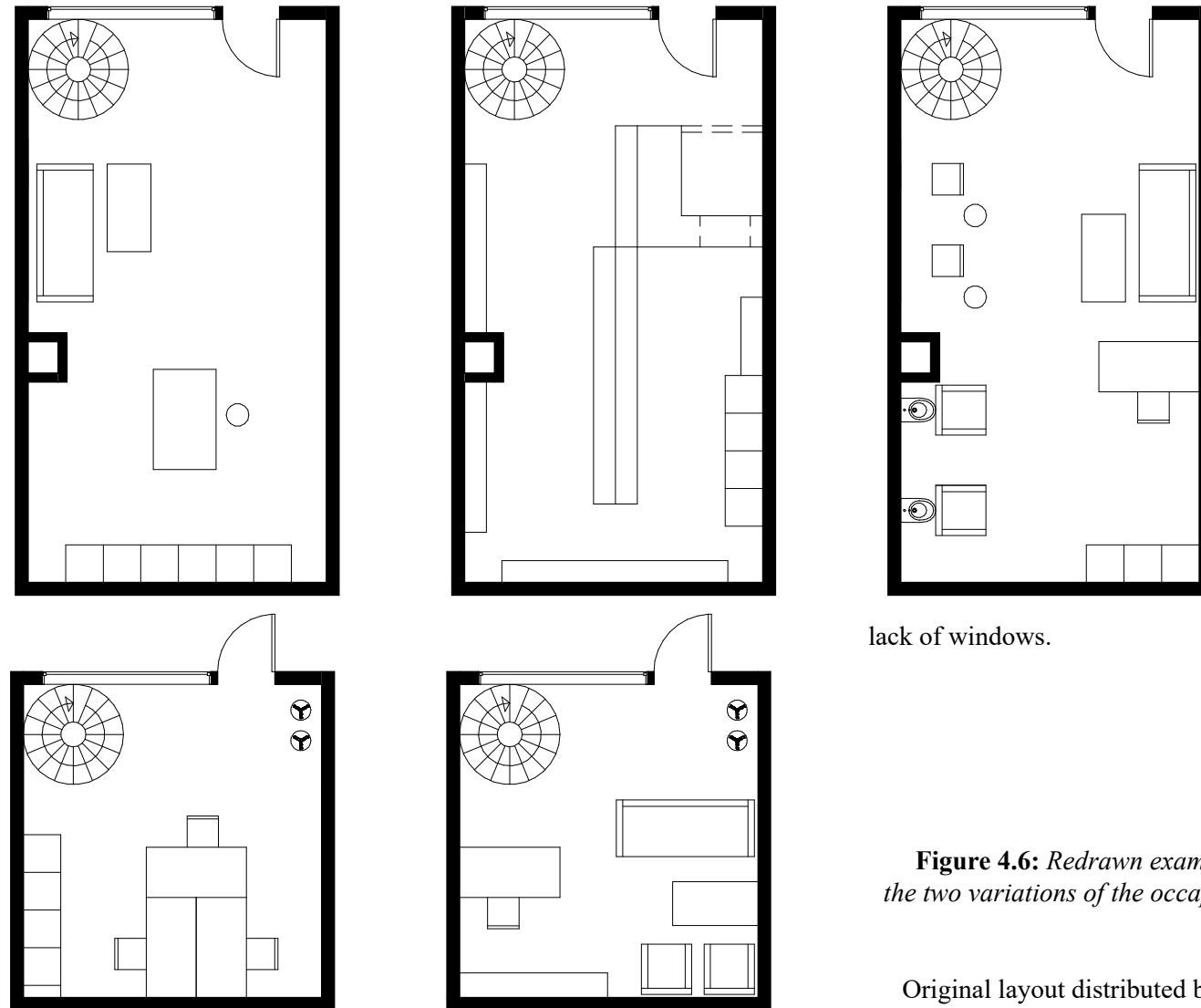
Figure 4.4: Example of windows being on display in bokal premises. Picture taken place at Bennet's Bazaar (mkb, 2010)

4.1.3 Norra Sorgenfri

The same tenant-owner association created another production of *bokaler* in Malmö. This was placed in a part of the town called *Svante*. There were nine that were to work as a mixed occupational resident. It could be an office, a studio, or a workspace. The premises were rented as an apartment and were not designed as premises used for the public. The possibility to take in visitors were enabled by having entries from the street and a second entrance from an attic corridor into the apartment. This is an example of a *bokal* that is divided between levels. Having the bottom floor dedicated for work and the upper floor for living. (Gustafsson, 2019)

As a pure office this *bokal* worked well and do not need any more space function. Some examples of the occupational space of the premise can be found to the right. More examples can be found in the appendix C.

Notice how the smaller version is a perfect home office size where a small amount of clients or co-workers can be invited. In the larger version there are more opportunity to have multiple functions a downside though is the



lack of windows.

Figure 4.6: Redrawn examples of the two variations of the occupational space.

Original layout distributed by Stålhammar (2021).



Figure 4.7: *Example of windows being on display in bokal premises. Picture taken place at Bennet's Bazaar (mkb, 2010)*



Figure 4.8: *Example of windows being on display in bokal premises. Picture taken place at Bennet's Bazaar (mkb, 2010)*

4.1.4 Smygmaskan

A new building in Malmö is being planned to be built. In this project there are although only two *bokaler* planned to be built. Both are residents combined with an office space. The resident and the office have two separate entries. And like all previous *bokaler* they are placed in the bottom floor. The most interesting part of this project is the scarcity of the concept but still including the concept in the first place, and that it is one of the few examples where the functions of living and working is clearly divided. This is the closest example to what the National Board of Housing, Building and Planning found as the most exemplary solution to how the concept should be handled. It divides the residential part from the workspace with a thicker wall that works according to fire safety protocols. The connection between the two functions is also as simple as it comes, a door. The layout also clearly marks out what kind of function the workspace is meant to be, an office. Office like occupations was the National Board of Housing, Building and Planning recommended the most (Johansson, Birgersson, Estlander, & Jarbrink, 2015).

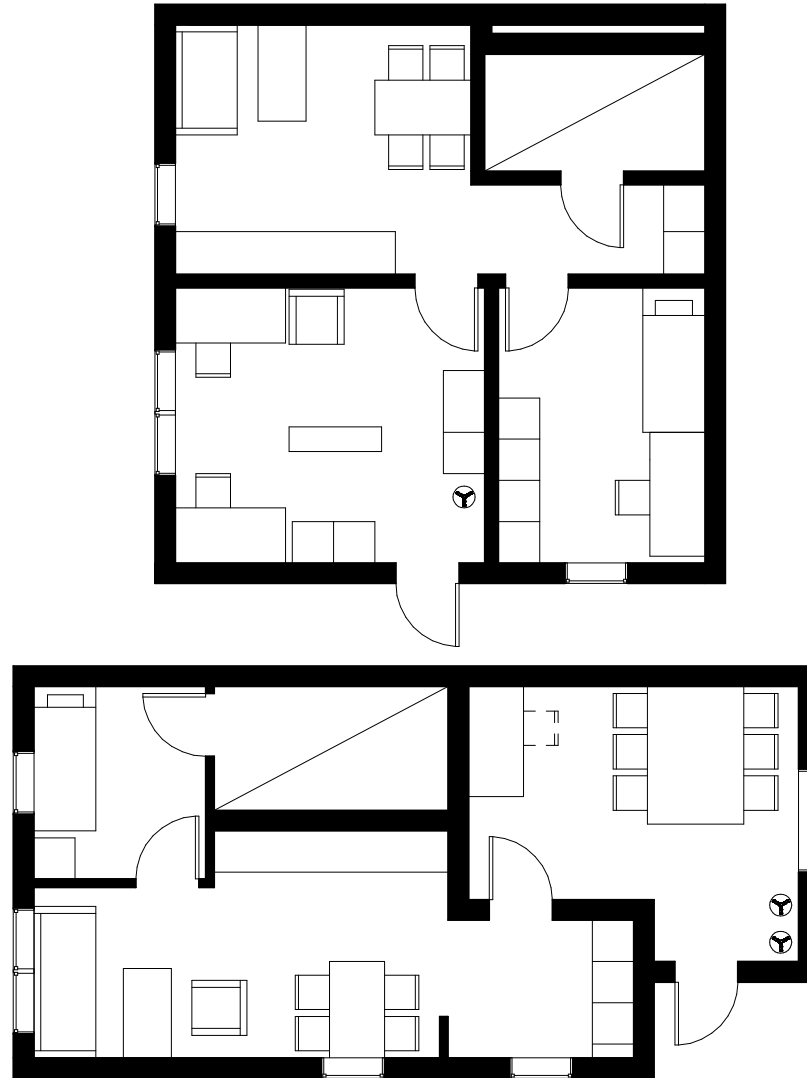


Figure 4.9: Redrawn examples of the two variations and tested layouts for *Smygmaskan*.

Original layout distributed by mkb-fastighet.se (2021)

The small size of the occupational space seem to be not suited for anything else than a office, which it perfectly suited for.

4.1.5 Sverigehuset Kubik

This is an example of *bokal* that is more focused on being a residential home before a mixed occupational space. This is a residential apartment that has one and a half stories. The second half story of the apartment is only used as a small bedroom, an alcove. The total height of the apartment is 4.4 metres. The studio apartments have the entrance connected directly from the street and looks like a storefront. Its entry is directly connected to the living room. Including the living room first floor contains a kitchen, a dining room, storage, and a bathroom that has room for both a dryer and a washing machine. The apartments range from 29-53 square meters, where the bedroom has a view over the living room from an attic. The larger apartments have another room that can be used as a library or office. The architects Bornstein Lyckefors, and call this style Human-Brutalism. And tends to the school in architecture where raw materials are the central theme. It is claimed to be able to have mixed occupations within. By combining office, galleries, studios, yoga studio, an office for therapy sessions, beauty salon etc. (Johansson G., 2021)

These *bokal* premises were small and had the same problem as *Hammarby Sjöstad* with being able to have both residential and occupational functions at the same time. Because of that reason further and deeper exploration was ignored.

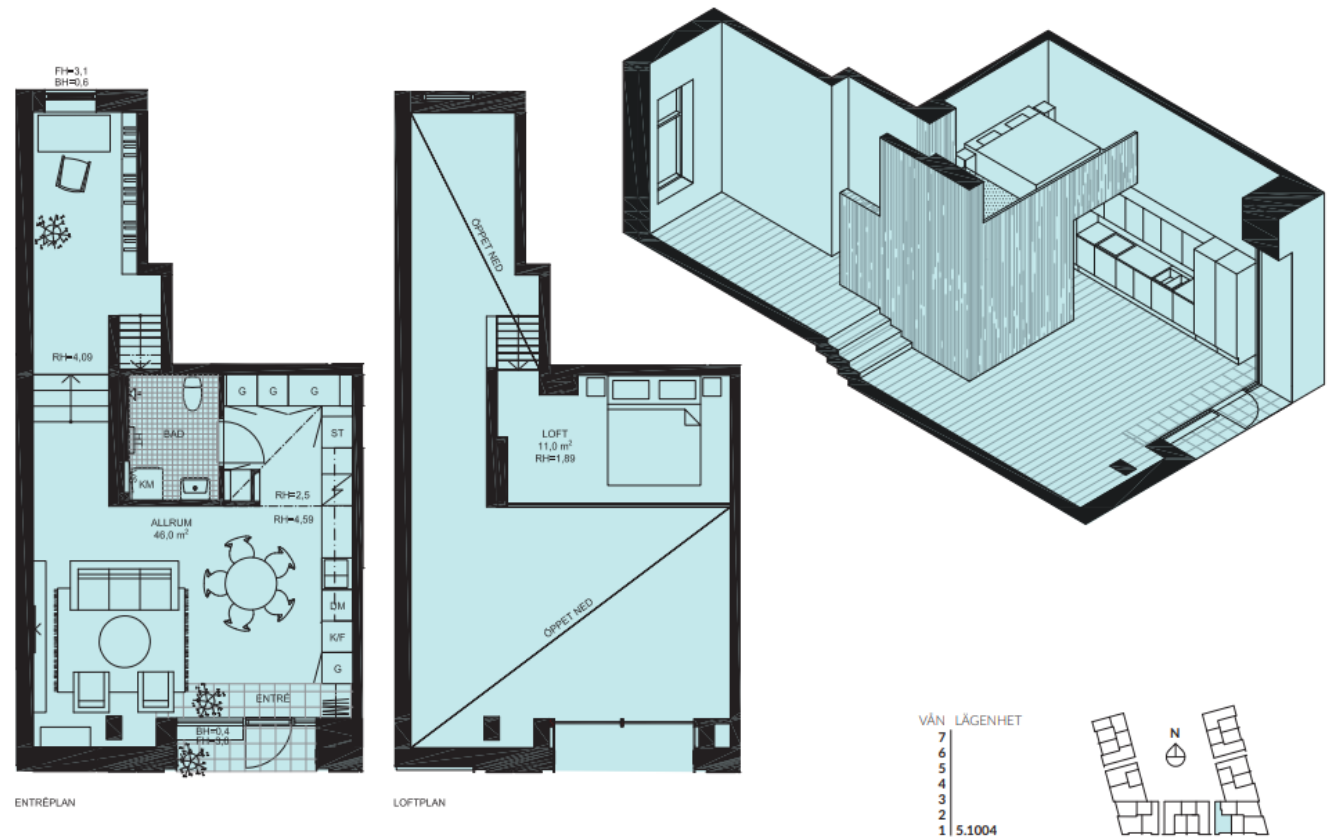
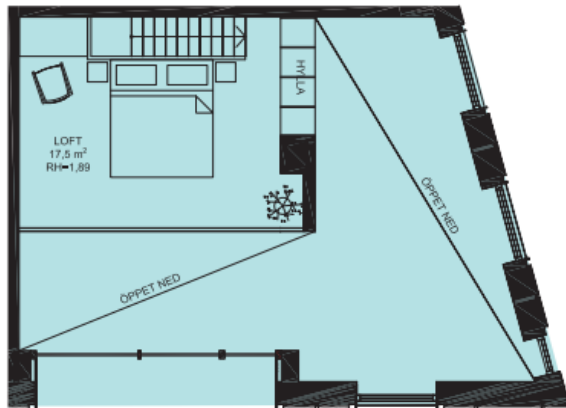


Figure 4.10: An example of the multiple variations of Sverigehuset Kubik.

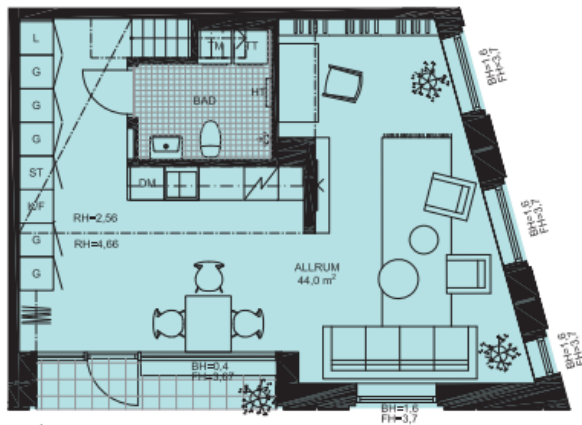
This is one of the larger variations. Notice how it has the office towards the courtyard instead of the street.
(nyaboendet.se, 2020)

Figure 4.11: An example of the multiple variations of Sverigehuset Kubik.

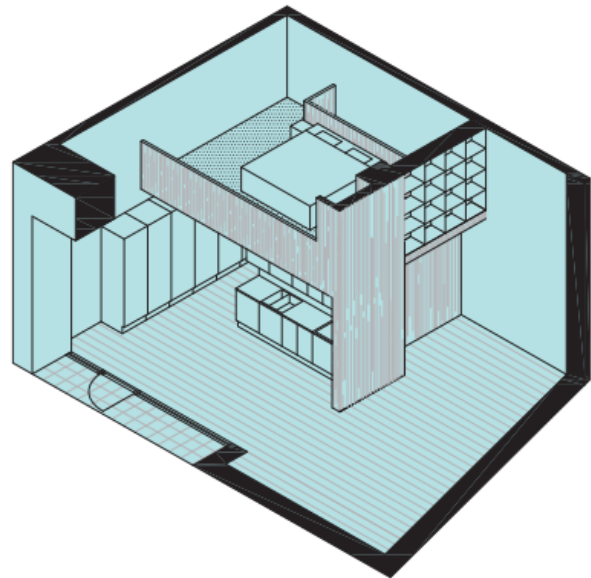
In this example the office is placed aside from the living room.
(nyaboendet.se, 2020)



LOFTPLAN



ENTREPLAN



VÅN LÄGENHET
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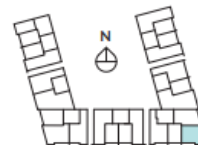




Figure 4.12: *A collage of examples of the facade of Sverigehuset Kubik.*

(Kjellander, 2021)

4.1.6 Kilströmskajen

Kilströmskajen is a former parking spot located on the centre peninsula of Karlskrona. The early goals of this project were to create a new area that is unique to its neighbours, the new plot was also to give something back to the city to sustain social qualities, as well as the building was to be built in wood in the highest capacity possible. Early inspiration was drawn from old wooden buildings like Sweden's longest wooden building (*Respslagarbanan*), Sweden's largest church built in wood and many other wooden buildings placed along the harbour, which was important to the city's history. To preserve the tradition of a wooden city was important to the project. (Brandt, 2021) The three buildings are now completed as of 2021, it has five *bokaler* on the ground floor, and a restaurant facing the waterfront. The residential apartments vary strongly in size, and many are maisonettes. An underground parking lot is placed underneath the courtyard which all five *bokaler* are connected to. (kilstromskaj.se, 2021)

Being so small these *bokal* once faced similar issues as other variants. The architect explained later in the pro-

cess when interviewed that they were intended to be rented together with other apartments in the area. As a purely occupational space it can indeed contain a small business. But it suffers in that case from one issue the National Board of Housing-, Building-, and Planning pointed out of not

being directly connected between the two premises Johansson, Birgersson, Estlander, & Jardbrink (2015).

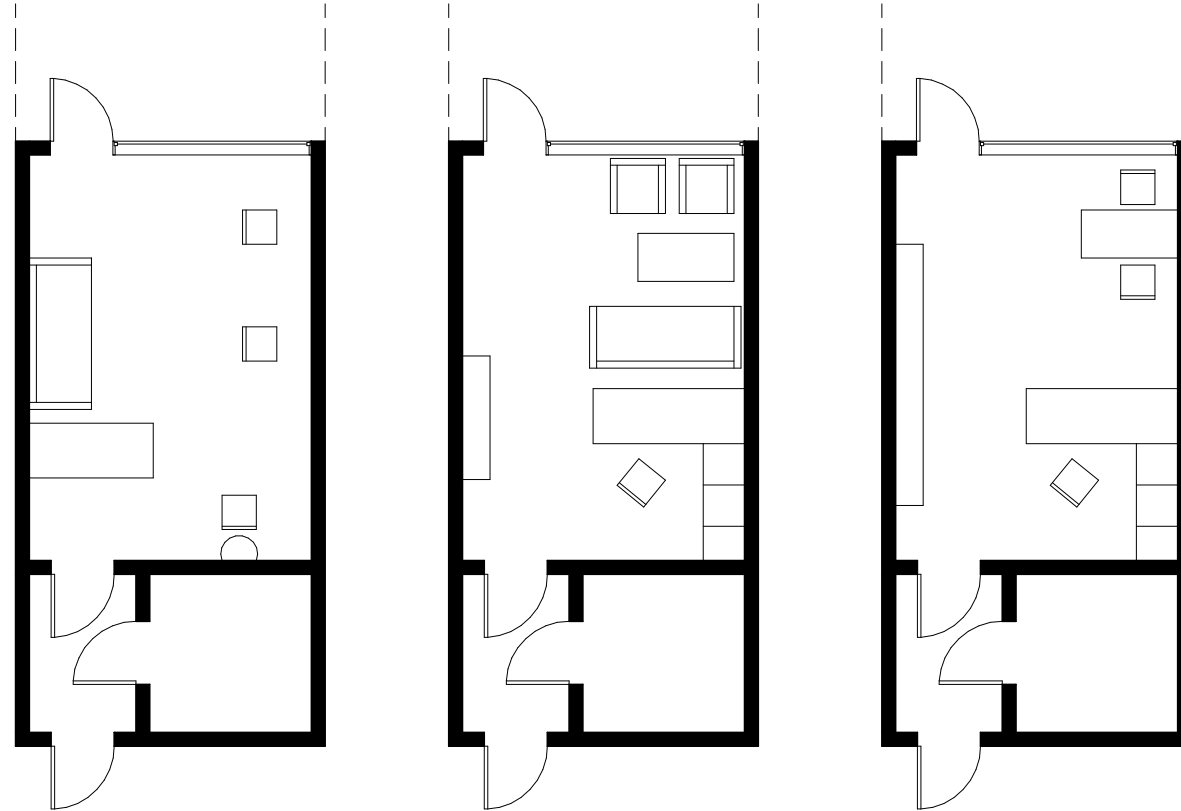


Figure 4.14: Examples of redrawn and tested layouts for Kilströmskajen bokaler

Original layout distributed by kilstromskaj.se (2021)

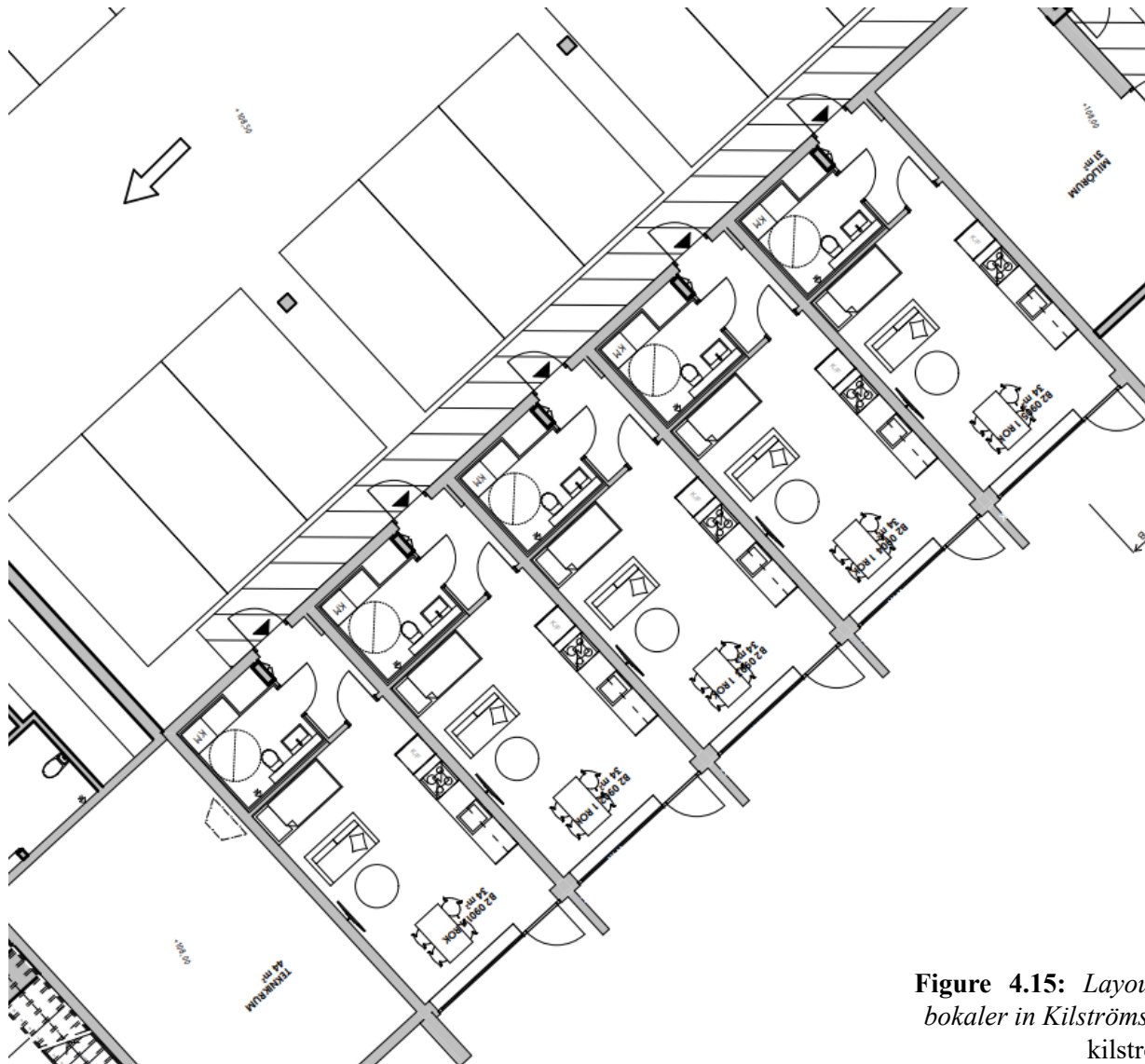


Figure 4.15 is how the Kilströmskaj *bokaler* were marketed. Five studio-apartments on the bottom floor.

Although being completed there were no answers recieved from these *bokaler*. The reason is that there are no occupants in these five *bokaler*. According to the unnamed architect no one bought the *bokal*. The spaces today are used as a small micro-hotel owned by a nearby restuarant.

The architect claimed again that the *bokal* was supposed to be bought by owner of other apartments in the same block for using it as a seperate work-space.

Figure 4.15: Layout over the five *bokaler* in Kilströmskajen. Unscaled.
kilstromskaj.se (2021)

4.2 INTERVIEWS OF THE ARCHITECTS

This is a cojoined summarization of all the interviews in this project. See appendix B to see the transcript of the interview. All except one interview is transcribed, one of the architects behind *Kilströmskajen* in Karlskrona. The reason to why his interview is transcribed was due to pressing time, and there was no time to ask for consent.

The architect's definition of what a *bokal* is:

Everyone seemed to agree upon that the typology is in concept a place where both residential and occupational functions. Some architects gave their own spin on it. Some compared it to other cultures, the situation we are in now regarding the pandemic. And some commented on the flexibility to adapt the premise into other functions in the future by designing with broad strokes, designing a premise have qualities for being both fully occupational premise and a fully residential premise.

When asked about the concept of *bokaler* and what its strengths and weakness, they said:

The architects echoed a diverse range of issues that were brought up in the National Board of Housing-, Building-, and Planning report, such as taxing rules. One architect also underlined that there needs to be good conditions for *bokaler* to thrive and said that maybe our society is not shaped to support smaller businesses. Although many seem to think that *bokaler* is a way to support mixed functioned cities and to create social bottom floors there were some hesitations among some architect pointing fingers to the issues.

The architect that designed *Kilströmskajen* said that the visions of *bokaler* was never finalized. Thinking that it was potentially because of a culture clash. While family-owned businesses are common in other countries, they are not in Sweden. The weakness really is that there is an unwillingness to invest in the concept. The *Kilströmskajen bokaler* were sold to a nearby restaurant to be used as a micro-hotel.

Is there some quality that needs to be

compromised or favoured in the design process?

This question gave a wide range of answers that is difficult to summarize to a unilateral response.

From an urban viewpoint: Opportunities to social control and a mix of functions are important to create. Safety can be designed while security can be added in later phase.

Bokaler should be designed after the site's context. *Bennet's Bazaar* became a successful commercial street because there already was a large quantity of people passing through that district. Interpreting *bokaler* elsewhere would require another type of design. In a quiet district live-office premises would probably be more suitable (or *bokontor* in Swedish).

Bokaler is in a way the fourth room, a fourth function in the home. A workroom does not need to be much, a small chamber that has windows can be enough. In the case of *Kilströmskajen* this fourth room was disconnected from the other apartments as the intention was that people in other apartments were to rent both a *bokal* and an

apartment. Two separate premises that are not directly connected.

When asked about their opinion on the bottom floor apartments:

Bottom floors according to the architects is a very social space that should be designed as such. It should have a strong connection and easy accessibility to the street and that we in Sweden are often bad at promoting and seeing the values of bottom floor premises. Bottom floors should be designed like Nordhavn in Copenhagen according to the urban planner. With the help of the hybrid zone, courtyards, balconies, large windows and multiple entries the architects have the possibility to promote such life in the bottom floor.

Yet the *Bennet's Bazaar* architect also stated that it is impossible to enforce social life on the street. That this is important to remember when designing residences on the bottom floor, that not everyone is keen to live on the bottom floor. City life can according to this architect come in various degrees and that small city life should not be forgotten when designing the bottom floor. Social control can come in the shape of a small dog saloon to an office.

The *Kilströmskajen* architect did not fully agree with this last point. Saying that the bottom floor should generate life, perhaps in the form of small businesses and entrepreneurs, but academics cannot do that in the same extent. Following up with that *bokaler* in that sense might not contribute to social city life, since they might become micro-offices.

The interviews were often used for guidance and a platform for discussion to hear what experts think about some solutions. Therefore, there were a lot of discussion on miscellaneous things: In the interview with the architect behind *Bennet's Bazaar* scale was greatly discussed. In this case the *bokaler* was created for a quite large scale. The architect claims that municipalities often think of the larger scale, but it is in the small case that most of the urban life occur within. Connecting it to the *bokal* typology, he thinks that *bokaler* and urban life could benefit if the scale was a bit smaller too. Not everything has to be commercial. Offices in residential areas can create social control and safety too. Designing for small encounters in bits and pieces can together become a great jigsaw of city

life.

It was discussed about safety issues and that the hybrid zone could be one solution:

The architects are unanimous in thinking that there is nothing really avoiding the exposure that exist on the bottom floor. "It is to be expected," said one architect. Although they also said there are ways that for the occupants of bottom floor to use the street on their own terms. Even though it is later up to the owner to maintain the use of these spaces, these spaces provide needed functions that should not be ignored.

As some architect pointed out there are instances of an outdoor space in front of the façade. In *Bennet's Bazaar* there is an area shielded by a large roof that can be used a space to market your business or products.

Other examples of for business practices is that it can be used an outdoor serving, waiting room referring to the pandemic. In *Kilströmskajen* there is a quite large outdoor space that according to the architect self is a pleasant function to use.

As the urban planner and spokesperson for the hybrid zone there were a lengthier discussion about this topic. According to him the hybrid zone should be around 0.6-1.5 meters when intended for residential use, 3 meters when intended for occupational use. The hybrid zone should be raised 80 cm up in the air if it is in residential use, to improve social control from the residents.

The architect working for the National Board of Housing-, Building-, and Planning was interviewed as an expert in accessibility. She works at the National Board of Housing, Building and Planning. She has not worked with *bokaler* before. To be clearer no one has asked her anything about accessibility problems with *bokaler*, and there has been no update or changes since the report by Johansson, Birger-er-sson, Estlander, & Jarbrink (2015).

When discussing the background of the project and the hypothesis of what *bokaler* can solve she agreed and added that it may also solve some safety issues (social control).

When discussing typologies in that

exist, she was mostly surprised about the restrooms in *Bennet's Bazaar* that were only designed for indoor wheelchairs and not for visitors that would have outdoor wheelchairs. She compared *Bennet's Bazaar* to a shopping mall with its solution. She also thought that it was questionable that in some cases there were no restrooms at all. Some discussion came to two conclusions: That it might be because it is not designed to have visitors at all, only to be a personal office. Or the *bokal* part is somehow also not seen as part of the residence. The actual residence with all its functions starts on the floor above.

Having staircases and alike is not an accessibility problem if it the functions lost are replaceable. This also goes along with what was stated before that the actual residence is considered to begin on the upper floor not the bottom floor.

What it all comes down to is that she believes that it is possible to create premises that are according to the standards of accessibility of both residence and occupational functionality, since both are similar and demanding.

What matters most if the *bokal* itself is supposed to bring in customers or not. In the literature study as an example AFS:2020 brought up that a larger amount of people requires more restrooms. (Arbetsmiljöverket, 2020)

Some transparency here; it was expected to have more issues to discuss when it came to the typology. Since she had not much knowledge about *bokaler* in general it became very opinionated which she tried to sustain from. What the interview focused increasingly on after a while was quick questions about how to mesh accessibility and design. Here she said that there are many issues that are often forgotten as an example cognitive accessibility. Or that she found it to surprising that many in the *bokal* typology is designed for larger families.

4.3 USER SURVEY

This is the result from the user survey aimed towards the users of the *bokaler* aforementioned in chapter 2.4.3.

Ten users answered the survey. No answer came from *Ben-net's Bazaar* and *Kilströmskajen*. Their survey template can be found in appendix C.

Everyone that uses their *bokal* for residential purposes, admitted that their *bokal* is their primarily residence. Although the majority of the users mixes both occupational and residential activities within the premise. (See chart 4.1)

It is most common that either two or one persons lives in a *bokal*. In chart 4.3 it claimed that about 83 % of the users lives together with someone or alone. In one case where the *bokal* was used for occupational purpose only, there were four people working there. They used the premise as an office for their consulting work which incidently is prime occupation type in *bokaler*. (See chart 4.2)

Chart 4.4-4.6 show as wide spread

of different types of usage within the premise. According to chart 4.4 the occupational and residential functions are either mixed together or not, there are no seemingly favourable way. Among the user there are many who have residential functions among occupational functions in the bottom floor (chart 4.5) but the majority have their occupation there. On the the upper floor (if there is any) that chart (chart 4.6) is flipped.

The overall satisfaction of *bokaler* can be described as a value of 4.5 out of 5.

While there were some complaints about certain issues, like hearing the outdoor pedestrians from the street, too much sunlight, not feeling completely safe and accessibility. No one answered a score below 4 in a scale from 1-5. There was also a miscellaneous complaint that there was no available restroom for customers when there was a clear separation of residential and occupational functions.

Most of the dissatisfaction is found in chart 4.12 (regarding security and safety) where two thirds of user gave low scores. Chart 4.9 (flexibility), 4.11

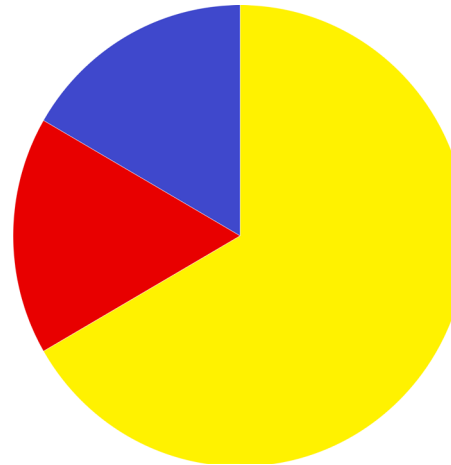
(privacy) and 4.13 (accessibility) were given middle tier scores. The highest score was given to the light environment (chart 4.7) followed by sound environment (chart 4.8) and organizational layout of the *bokal* (chart 4.10).

Chart 4.1: How is the *bokal* used?



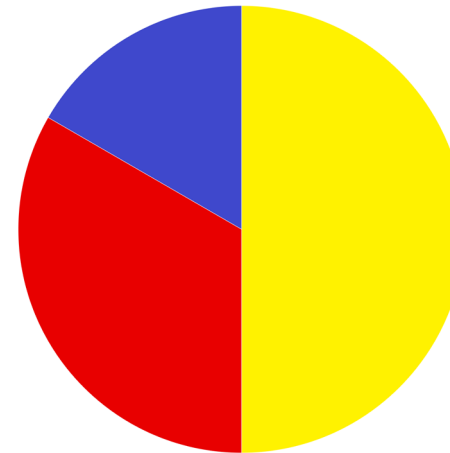
- 56 % uses the typology for **mixed** purposes (both residential and occupational).
- 33 % uses it only for **residential** use
- 11 % uses it for **occupational** use only.

Chart 4.2: Type of occupation?



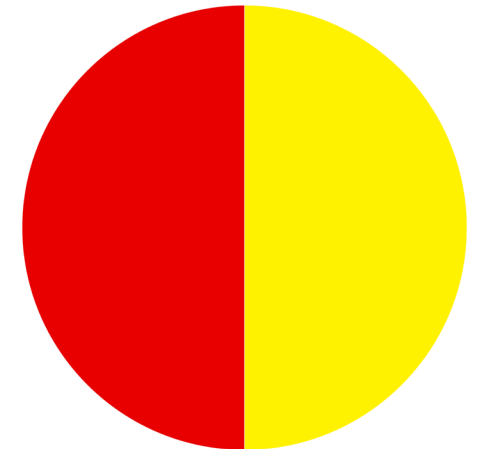
- 67 % works with consulting.
- 17 % works with service.
- 17 % works with selling.

Chart 4.3: Amount of users in the *bokal*?



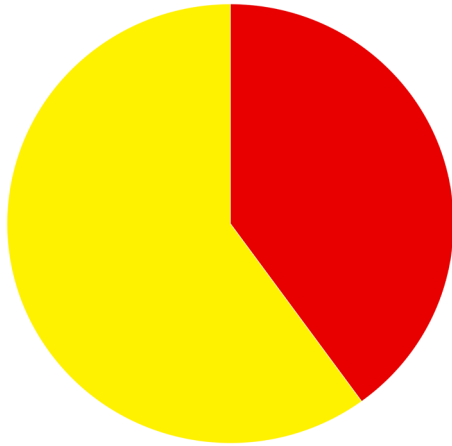
- 50 % works/lives alone.
- 33 % works/lives together with someone else.
- 17 % works/lives together with several others (more than two).

Chart 4.4: Are residential and occupational functions mixed?



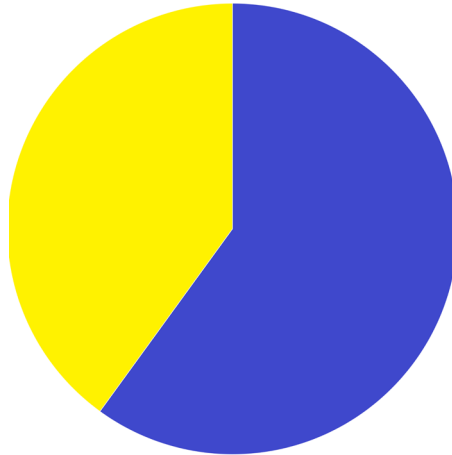
- 50 % mixes functions
- 50 % do not mix functions

Chart 4.5: What is the asserted function to the bottom floor (if multiple floors exist)?



- 60 % Uses the ground level for both living and occupational
- 40 % uses the ground level for work only.

Chart 4.6: What is the asserted function to the upper floor (if multiple floors exist)?



- 40 % Uses the upper level for both living and occupational.
- 60 % uses the upper level for living only.

The users and occupants of *bokaler* described how they experienced environmental values within their premise. The charts display how satisfied user are with a specific environmental factor. The X-axis ranges from 1 (very dissatisfied) - 5 (very satisfied). The Y-axis displays the amount of percentage.

Chart 4.7: How satisfactory is the *bokal* light environment

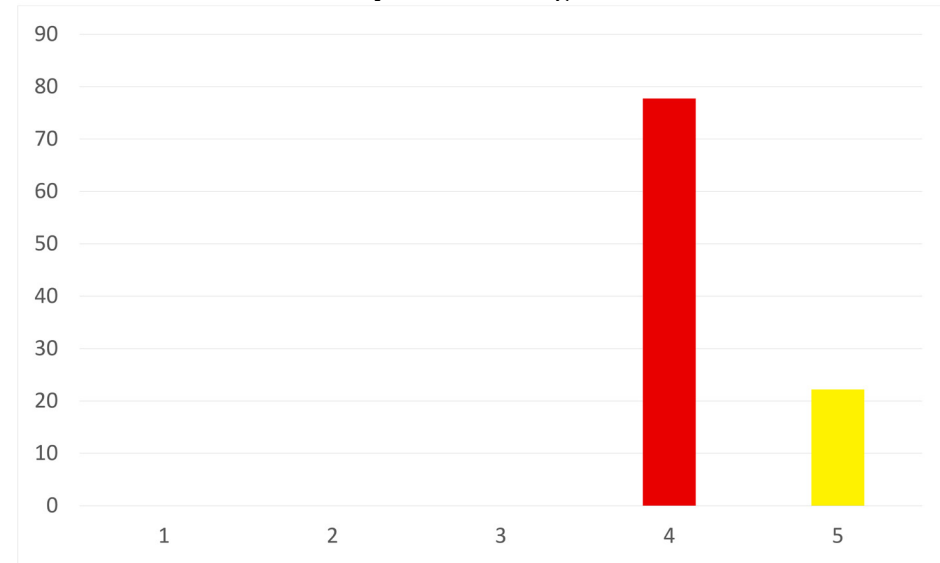


Chart 4.8: How satisfactory is the *bokal* **sound** environment?

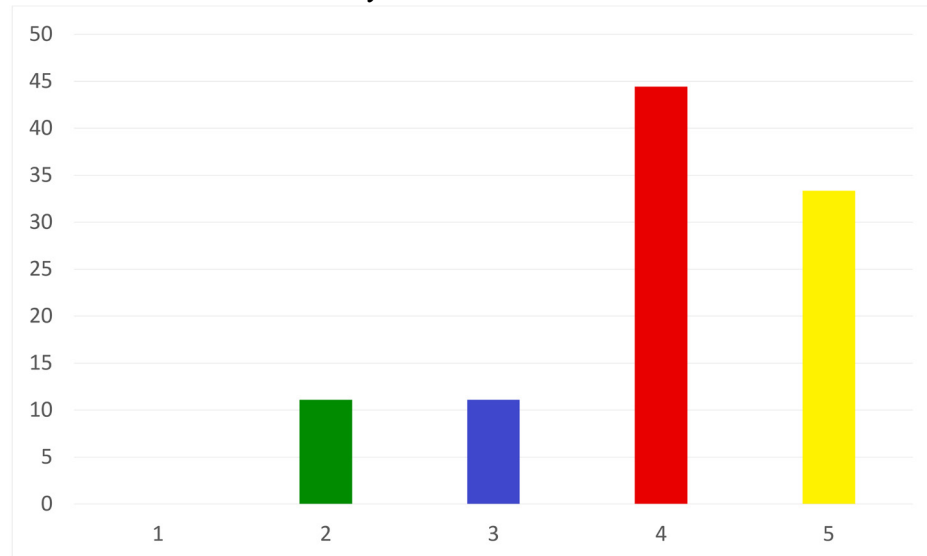


Chart 4.9: How satisfactory is the **flexibility** in the *bokal*?

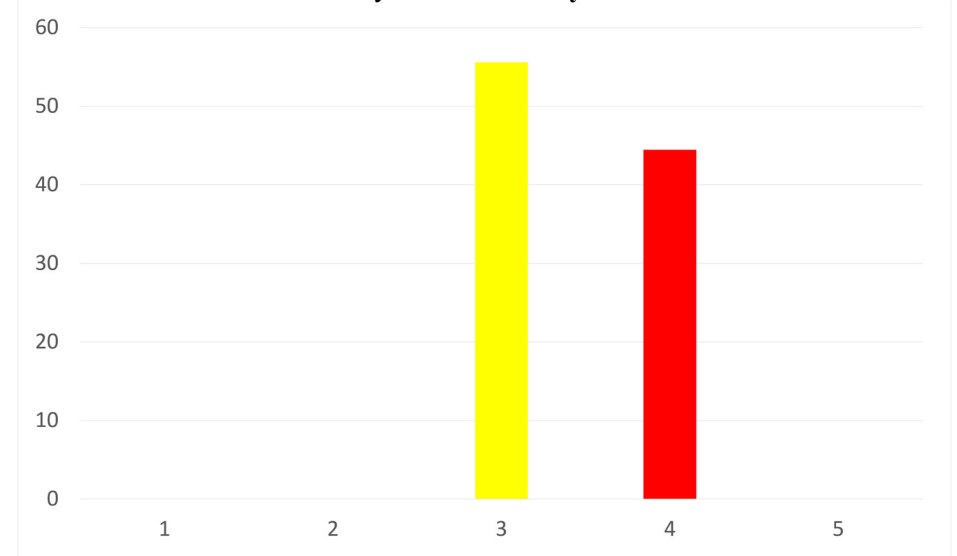


Chart 4.10: Is the **organisational layout** of the *bokal* logical?

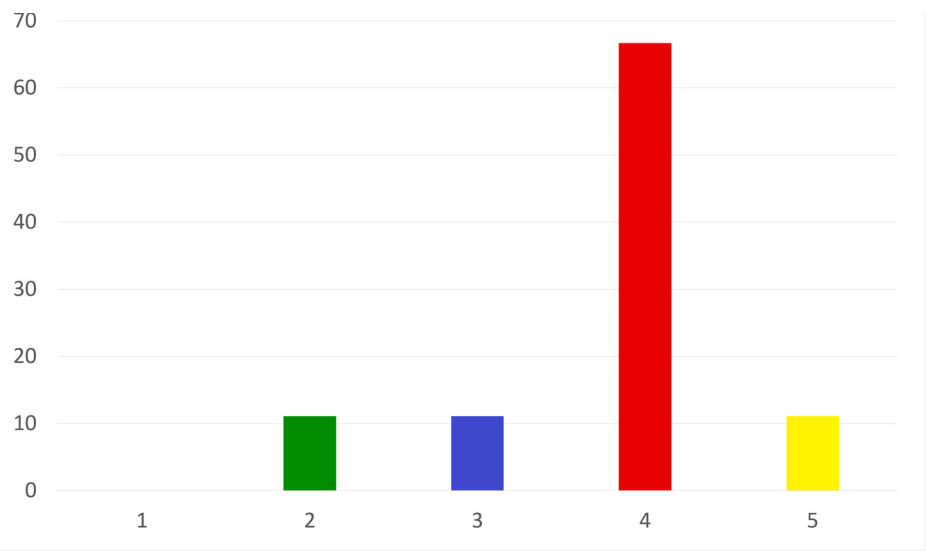


Chart 4.11: How is **privacy and integrity** experienced?

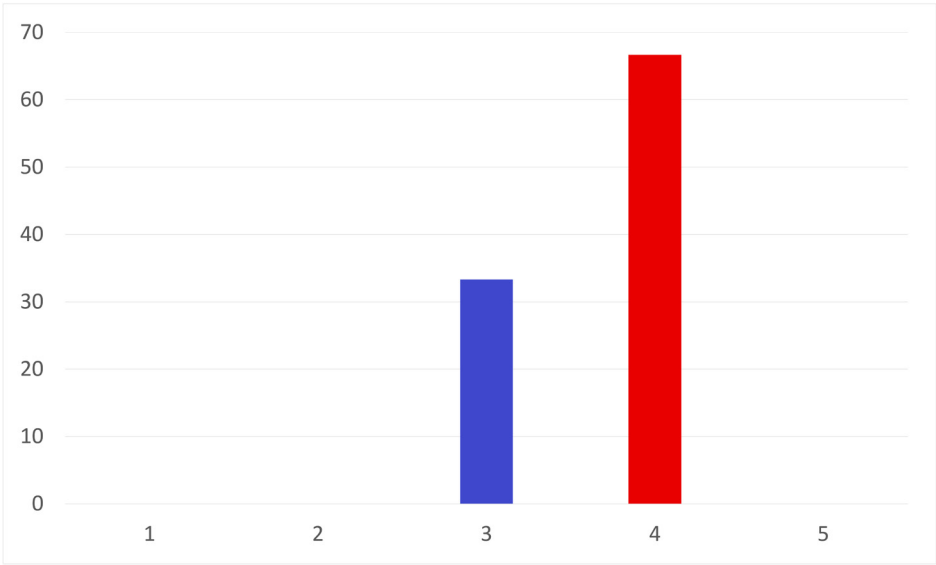


Chart 4.12: How are **safety** and **security** experienced?

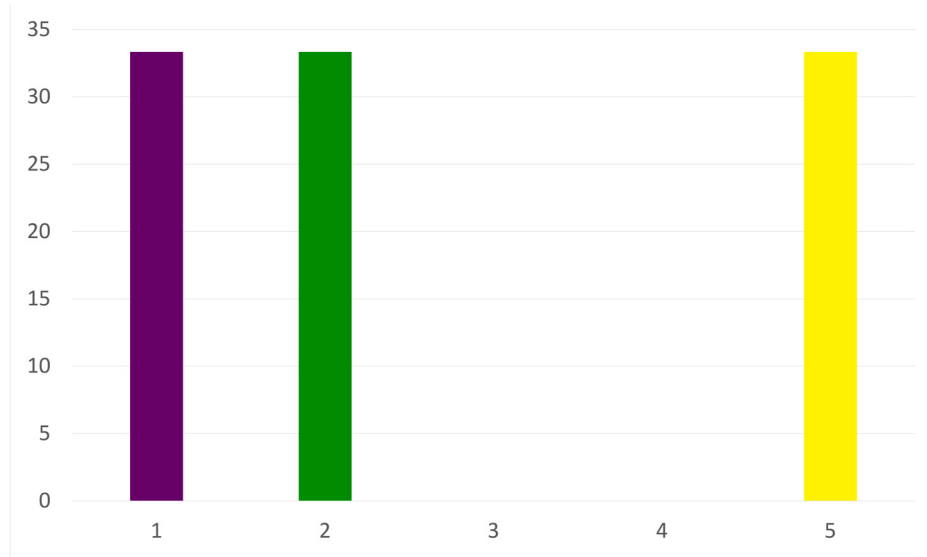
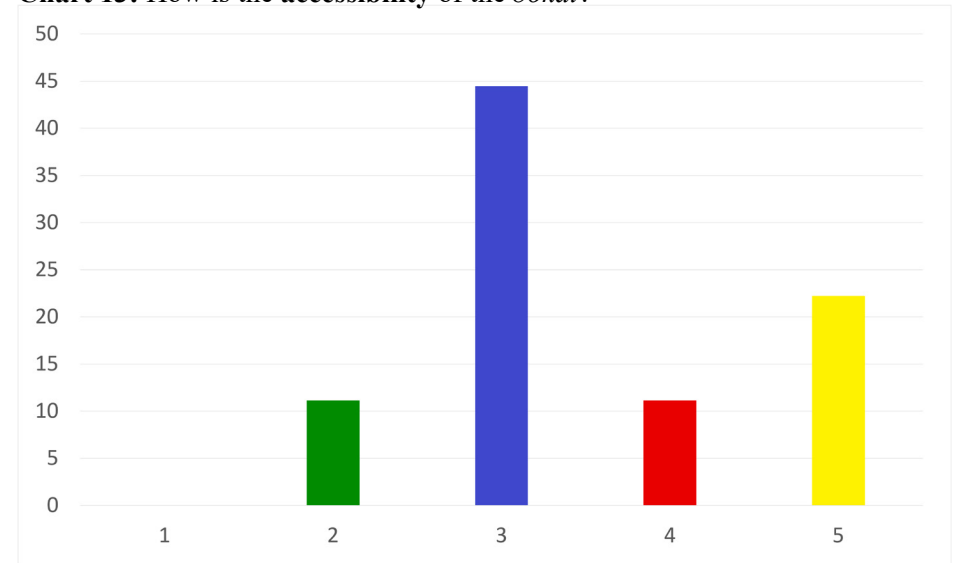


Chart 13: How is the **accessibility** of the *bokal*?



There were question in the survey that asked the users to explain further of why they choose to use bokaler or to further explain their dissatisfaction with the issues.

4.3.1 Users expanded views (advantages)

The users were asked to explain why they choose to be an owner of a *bokal*, and the answers were often likeminded.

There is a sense of autonomy, and you can more easily control your business. For example, a user explained that they get to market their paintings for free. Or being able to work whenever they want and can more easily coordinate with clients. Being able to work on an impulse.

You are close to work which has both it benefits but comes also with a price as it is hard to separate work and leisure.

You get to have your own office. Which is expanded by another that they are allowed to keep their equipment laid out and do not have to tidy after themselves. One had a educational business practice and having an office creates the possibility to have

a room designed for educational purposes.

A user also claimed that it keeps the cost of rent down.

4.3.2 Users expanded views (concerns)

When asked to expand on their views regarding issues with the *bokal* design. There was a widespread of comments. There were many comments coming from *Sverigehuset Kubik* that daylight, noise and exposure was an issue. Pointing out that they have a big window and is closely connected to the street. There was also a singular case where users of that variant found it hard to find room for two home offices.

In *Norra Sorgenfri* there were a case where a user pointed out that there was a lack of functions in the intended occupational space. Namely there was no restroom for the clients, the owner had to invite the clients into their apartment and was seen as a privacy issue.

Another user stated that the design of the *bokal* was reminiscent of a warehouse or and an occupational space

which created safety issues. That people on the street did not have the same respect towards the premise compared to if it would have looked like a residence. Another user said that having a courtyard helped to contrast the exposure towards the street.

4.4 WORKSHOPS

4.4.1 Traffic workshop

An interview or workshop about the site in relation to the traffic was organized. The participants were traffic planner Joakim Sundén, landscape architect Viktor Wäppling, architect and professor Hans Walloschke and some of his students. Wäppling sent the reports and excel-documents afterwards to analyse. The workshop started with an introduction and a background about the site.

Discussions about the site specifically about the traffic have been in constant debate since at least the 90s. This discussion has been taking place for 35 years with nothing happening. All visions that have been presented from architects have all decreased the impact from *Södra Hamnleden* by making decreasing the width of the road. The arguments for decreasing the flow of traffic in *Södra Hamn* is that it is over dimensioned. Studies have shown that there is an increase of people moving to the peninsula, but the cars are slowly decreasing in amount. (Sundén & Wäppling, 2021)

Studies show that the number of cars in within the city centre has decreased from 63 % to 55 % 1984 to 2002. While the number of cars passing through the peninsula has increased. (Luleå Kommun, 2012)

There is also a slight increase of cyclists. But the trend of pedestrians is harder to determine because they are more affected by weather conditions in comparison to the other three. Their study shows that at least 61 % want busses should be prioritized even if it affects car traffic negatively. (Sundén & Wäppling, 2021)

The route is severely over-dimensioned today. There are about 17000 cars using the road today. This type of road with two lanes in both directions is dimensioned to be able to handle 50000 cars in both directions (Sundén & Wäppling, 2021). Therefore the solution the municipality came up with, as seen in figure 4.13 and 4.14, was to place singular lanes for car traffic and placing a lane that prioritizes public transport instead of the second lane. The extra green area is seen as bonus.

The municipality's view of achieving this is by providing more assets to public transportation and by building more densely on the peninsula. Creating a more pleasant urban environment that promotes pedestrians and cyclists. Other visions are placing parking spaces in proximity to the links or entrances to the peninsula and that people should be able to enter and go from the same link. The workshop talked about how the “car lobby” often brings forth the argument that in Norrland in north of Sweden is more bound to cars because of long distances between destinations and because of weather conditions. Although here the consults brought up a study that showed that Luleå uses cars and public transport to the same extent as any other city in Sweden. There was a comment that those who are against a decrease of cars in the city are often more verbal and louder than those who are for a decrease. (Sundén & Wäppling, 2021)

There was a question if roundabouts were a solution to create better flow in combination with a decrease of car lanes. Sundén & Wäppling (2021) explained that circulation sites are



Figure 4.16: *Suggestion of Södra Hamnleden based upon Vision 2050 made by the municipality. The red line marks the section (Luleå Kommun, 2021)*

indeed a democratic way of passing through the city and is especially a workable solution when traffic is equal from all directions. The reason his solution did not include these sites throughout the traffic route is because of the space usage necessary for them to work (Sundén & Wäppling, 2021).

The workshop concluded with the notion that the municipality had concocted a solution that could be seen as the minimum of what could be. Sundén and Wäppling claimed that it was possible to produce stricter solutions than

theirs. There are upsides and downsides to every solution stated Sundén & Wäppling (2021).

4.4.2 Bokal workshop

The workshop involved colleagues and supervisors. Results from other inquiries was presented as well as the concept and examples of live-work

premises. After the presentation it was free to discuss.

Among the colleagues there was an agreement that many of the *bokaler* were quite small.

While many architects are focusing on creating offices where people can work, the participants of this workshop gave the example that nowadays people can work anywhere, due to modern technology. The important room that needs to be designed for is the room where the client and the occupant can meet. Someone also wondered why there was some instances where there was restroom in the oc-

cupational space and in majority there were none.

One of the participants talked a lot about how it is weird that some did not have two entrances, specifically it was weird because work environments require two entrances. A comparison then was made between *bokaler* and student housing. Where some student apartments are not equal to other apartments, often since a person is not a student for a big portion of his or her life. Some newspapers have indeed said that the *bokal* concept is great for those who are just starting to build their business, but then the un-

solved question was: is it meant to be outgrown?

The consensus of this workshop was that there should be more *bokaler* that are bigger in size, so many of these typologies are suited for one person only, which is very limiting.

There were three interviews after this workshop left. The one with the architects behind *Bennet's Bazaar, Kilströmskajen* and the interview with the accessibility expert architect was a direct result of this workshop.

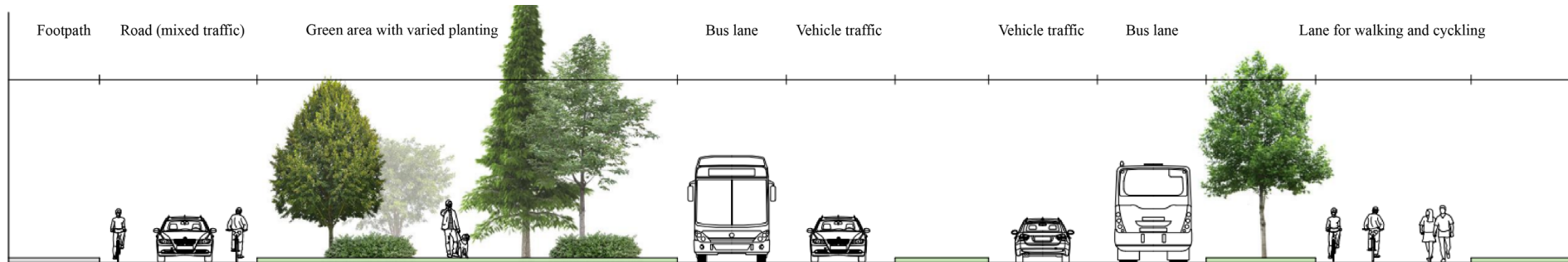


Figure 4.17: Section of the suggestion of Södra Hamnleden based upon Vision 2050 made by the municipality. (Luleå Kommun, 2021)

5. ANALYSIS & DISCUSSION

5.1. METHOD

To analyse the data there will be a combination of methods. Architectural programming (Peña & Parshall, 2012) uses the five steps and four factors in order to categorize and sort the data so that it becomes more comprehensible. A reminder that in this research only the function and form factor is being researched. Functions are what happens inside of the building such as activities and relationships between spaces. Form relates to the site both physical and psychological, what you see and feel.

By the end of this chapter the needs of a *bokal* premise should be clear.

While Ahrne & Svensson (2015) uses transparency, triangulation and feedback to validate and increase reliability. Those three inquiry methods (interview of architects, user survey, and the case study) will be used to compare

and validate claims and observations. The end goal is to be able to find what focus values are for the concept. It will be summarized in the synthesis. The workshop does not have a scientific ground to stand upon and should only be seen as an explorative discussion on the topic of *bokaler*.

After analysing the data of the inquiries focus will turn to the quality of a *bokal* premise. It will assess the needs of the premise from a residence, a workspace and how it relates to urban space. This analysis will mostly rely on reflections from the case study where tested layouts were made on existing *bokal* premises. To not become a subjective analysis, it will relate to the literature study.

5.2 TRIANGULATION OF INQUIRIES

5.2.1 Survey – Case study research

Users of *bokaler* that have answered the survey are in the majority satisfied with their conditions, although many complained about the quality of life regarding some factors. Some were crucial and some a major annoyance. The most major problems were the lack of possibility to have multiple functions, and in some cases the exposure (safety and security) of living on the bottom floor.

The exposure issue seems as a widespread issue as pictures of the façade where many occupants of *bokaler* had covered their bottom floor windows. (See figure 4.2, 4.7 and 4.12 for instance)

Bokaler in Sweden are used in different ways. Some use it for housing

only, some for work only and some for both. The question was in this study if it is possible to create a good space for those functions simultaneously and to co-exist. When looking at the singular cases through the lenses of the theoretical study it seemed difficult to see how many of the typologies to be able to sustain both living and working.

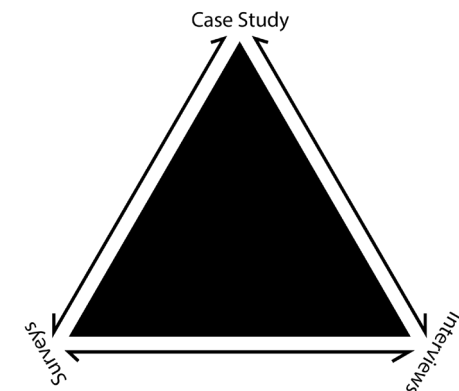


Figure 5.1: Graphical representation of the triangulation analysis method

Exceptions were *Bennet's Bazaar* and *Norra Sorgenfri*. Those two cases had clear boundaries and distinctions between what is meant to be residential and occupational. (See figures 4.5 and 4.6)

Since residential and occupational qualities can be analysed by the same factors (Kölborg & Mähler, 2015) the most important thing is how the two functions are valued. Many of residents seemed to put high demand of safety and not being exposed, when considering a good residential space. While considering the occupational demands, it seemed to be aimed more at the opportunity and flexibility. Those two values have the potential to clash and are not always well mixed. Similar opinions surfaced when people had to work from home like the opportunity to work from home, as the flexibility is valued but not necessarily how the work and life are mixed (Hallberg & Saar, 2020; Hultén, 2000). Therefore, dividing the two larger functions seems to be a must, which is also the same assessment the National Board of Housing, Building and Planning recommended (Johansson, Birgersson, Estlander, & Jarbrink, 2015).

Whether it is better solution is by dividing the functions by floors or by section (public functions towards the street and private functions towards the courtyard) cannot be determined here.

Another common issue was the lack of functions. And even less room considering the various functions *AFS* listed. One function in the case study had to be compromised for another. Whether it is a restroom in the proximity to the intended workspace, or the dedicated staff area for the workers. Open floor plans have the better possibility to share functions but as live and work functions are not well mixed it may not be a good solution, but it may depend on the people and the type of occupation as seen in the studies made by Hallberg & Saar (2020) and Hultén, (2000).

As some users also explained is that the dedicated workspace has quality in being only a workspace and not shared with other functions. On the other hand, not mixing functions is not space efficient and could possibly mean two restrooms, or two lounges/living rooms (one for the residence

and one for the occupation), which leads to larger premises.

Considering all that it is not difficult to see why it is often seen as a sole proprietorship, as one person takes up less space, and as some variations of the *bokaler* could not fit two home offices within the same premise.

In the end it seemed again to be a correct assessment Johansson, Birgersson, Estlander, & Jarbrink (2015) concluded about *bokaler*. That it is only in cases where the occupation does not invite many people into the premise, only then is it possible to handle all the requirements. To be able to invite many customers or to have many employees, the *bokal* premise must have a large space to be able to fit all those functions.

The case of seeing it as a home office, seems to have its benefits regarding social control and more autonomy, which is good for the psychosocial environment, although a bit lonely. Although regulations regarding taxing and renting might discourage people from this.

5.2.2 Interview – Survey

There is some contrasts in the data be-

tween survey and interviews. According to one user it was cheaper for them to live and work in a *bokal* considering their type of lifestyle, while from the architects' side there is a belief that it is expensive and hard to manage regarding renting and taxing. Another contrast is whether architects believe the users can thrive. It seems that the autonomy and being able to make money on the small scale is enough for the users to continue their passion. Since the focus was not on cost and economy this of course cannot be confirmed completely. But it seems that small businesses can thrive without the help of urban planning probably with the help of online presence.

This is all speculative and the survey did not ask the users whether they were thriving or just keeping themselves afloat. Due to a small amount of data from users it is also difficult to determine anything. There is also a big difference between the different occupations taking place in the *bokaler* of Sweden and the financial state among users can vary.

Considering the possibility that users are thriving and considering that architects think that the site has a huge

influence, the best assessment that can be done here is that it is situational and *bokaler* should always have the context of the site in mind.

There is an acknowledgement among users and architects that bottom floor premises are exposed and can make people feel unsafe. About two thirds of the users in the data thought felt unsafe. While many architects claim that there is little to do to solve this issue. Living on the bottom floor means being able to cope with exposure. Although, design measures can be done to minimize the impact, but it is difficult to control how people feel as one architect explained. In the interviews there was an agreement that they can contribute to “lively” cities by creating social control, but as seen in the inquiry the users dislike being on the display and the only way to show that there are people watching the urban space is by putting them on display. The architect behind *Kilströmskajen* (A5) said during the interview that academics cannot contribute to social life in the way that commercial businesses can. While another architect contradicted and claims that it that those kinds of activities can invoke the

feeling of safety. The latter architect is backed up by the literature study as Uittenbogaard (2020) and Gehl (2013) claims that just seeing people creates a feeling of safety. What A5 probably was thinking is that commercial activity creates more interactivity between people, it attracts more people and therefore has more potential to become “safe”.

5.2.3 Case study research – Interview

From looking at all the different cases and interviews it seems that if *bokaler* are to thrive in Swedish societies they must thrive in the context of their site. No *bokal* except *Bennet's Bazaar* was known to be placed in people dense area. Other variations were placed on outskirts or any generic urban city block. The question of how vulnerable small businesses are in general could be disputed, but claiming that *bokaler* will fully flourish in Swedish society without the help of urban context cannot be done. In other reports there are cases where small business other than *bokaler* that has been forced to close due to economic issues (Linn, 2018; Molnar & Tekie, 2018). Those studies are a critic of how commercial activ-

ity is not always a viable option and should not be seen as such. In that case *bokaler* are flexible and do not have to be commercial, and often is not according to this reports survey.

A more recent example of a *bokal* “failure” is *Kilströmskajen* as those premises did not become a *bokal* at all. There can be several reasons to why it failed. It could be the site, that it was placed too close to the outskirts of city centre or that no one was interested in sole proprietorships. It could have failed because it was separate premise, it could also have confused potential buyers since it was presented as a studio apartment, it did not really show the possibility to work there.

For so long Swedish societies have been divided by functions (Uittenbogaard, 2020) that it could be that there is a hesitancy among swedes to start their own small business without the right site contexts.

During both the interviews and the workshops there was a huge interest in how the city meets the *bokal*. How should that be handled?

In the workshop there was an idea of

having a customer greeting place in connection to the entrance. A public space for the owner, while all the other residential rooms including the living room is somewhere else.

The interviewed architects were instead more curious about the zone between the façade and the rest of the city. A space that clearly marks the kind of business is taking place there or a space for residents to claim and have control over. In figure 4.3 and especially figure 4.8 this is not the case, and the business becomes anonymous because of it. Better example is *Bennet's Bazaar* that is shown in figure 4.4 Since there are no concrete solutions to change how people feel about safety, this is a design that will be considered in the design phase as an option.

5.3 BOKAL QUALITIES

5.3.1 Residential qualities

As an apartment all *bokaler* had all the functions and qualities for a preferable residence. To assess all of them individually and keeping it short is not possible. Instead, this section deals with two issues that were reoccurring. Having large windows was a commonality that all bokaler had, and with that comes exposure. If people are expected to live on the bottom floor, there are two things that the apartment needs: a room that can be seen as separate from the street and space in front of the façade i.e., a balcony. In many instances there were closed of façades (see Figure 4.2, for instance). As stated by Nylander & Forshed (2003) hard contrasts between public and private zones are more easily noticeable and therefore seen as a negative design choice.

All *bokaler* could not sustain long time living. There was always only one bedroom (except for *Bennet's Ba-zaar*) and therefore there was no room for families to grow in these apart-

ments. The lack of space and multiple rooms is not necessarily a problem in itself, as according to Nylander & Forshed (2003) studio apartments can be flexible in design. Although, together with additional functions that comes with a workspace, space and flexibility becomes an issue. Leading it to potentially becoming a temporary stay comparable to student-housing.

5.3.2 Workspace qualities

The premises are often small and therefore do not give a lot of flexibility for multifunctional workspaces. In a traditional sense these cases would be closest to an economical office as all the other require rooms with specific functions. Considering that the work environment is only suited for a small amount of people (maximum of 2) although gives more leeway for flexibility. In all cases there might be something that the occupation must compromise from *AFS* checklist of must-have-functions.

Daylight and lighting is about even distribution according to Boghard et al. (2015) and according to Arbetsmiljöverket (2020) windows should cover by 10 % of the office floor and not be

deeper than 6-8 meters. With big windows, the deepest room being around 8 meters and few room divisions, all *bokaler* were in all considered to be good.

Noise is more difficult to assess, and that study relied more upon what the users thought regarding that factor. But considering Hellströms (2012) noise reducing design choices *bokal* premises that separate work and residence by floor or rooms are the better alternative, since all the premises are too small to consider any other solution.

In summarization the *bokaler* could be divided into three categories regarding work environmental qualities and how each could be adapted to:

Bokaler with open floor plans, such as *Hammarby Sjöstad*, gave opportunity for the users to use the *bokal* as they wish. Suitable for home office and occupations with less functions overall. An occupation that requires divisions for hygienic reasons is not suitable in these typologies. They could work well with social types of work where the user meets the customer if the user is comfortable

with it. (See figure 4.1)

Bokaler that are divided by level, such as *Norra Sorgenfri*, could according to Johansson, Birgersson, Estlander, & Jarbrink (2015) hold more diverse mix of functions but requires solutions regarding accessibility. If there are multiple exits it can work. This category is not limited to a type of work, instead it is limited based on its size, flexibility, and movement. (See figure 4.6)

Bokaler divided by walls has the same benefits as the previous but has a problem regarding how it is designed logistically. *Smygmaskan* is a *bokal* that had this type of design, and it had a problem of differentiating what is private and what is public. Compare it to *Hammarby Sjöstad* if that case would have a wall dividing the room towards the courtyard and the room facing the street. (See figure 4.1 and figure 4.9)

Several variations of layouts in the

floor plan were explored to assess what kind of work is best suited for this kind of typology. Office-like occupations are the easiest to implement as they require the fewest functions (in smaller offices). (Consider the smaller occupational spaces in figure 4.6 and 4.9)

5.3.3 City relation

The site around of the *bokal* may influence the size of the typology. While there is only one instance in this report that is placed in a more suburban surrounding it is safe to say that those areas often have more unused space and have room for such solutions. The cases are placed in denser parts of the city and require thought-out solutions when it comes to how the city meets the typology. The better solution amongst those cases were the cases where the division happens in several times. The residential area is placed in the most private sector, then the dedicated workspace and then lastly the area in front of the façade. Pictures of the façades show that *bokaler* with a larger controlled “*hybrid zone*” are more open to be on display (see figure 4.4). The architects interviewed seemed to agree that this was an op-

tional solution to this situation.

These occurrences often create opportunities for social control to thrive and Uittenbogaard (2020) have made similar examples. A clear example of this observation is by comparing *Bennet's Bazaar* to *Norra Sorgenfri* or *Hammarby Sjöstad* to *Sverigehuset Kubik*. (See figure 4.2, 4.3, 4.4, 4.7, 4.8 and 4.12)

The better example being *Bennet's Bazaar* as it has many qualities that support an interaction between the *bokal* and the street, both by having the largest space marked with a roof that also protects passers-by from weather. Whilst *Norra Sorgenfri* has a direct connection to the street and users here are trying to create distance from the street by closing off and barricading themselves.

Regarding other topics in urban environmental qualities. The case that stood out were *Bennet's Bazaar*, which is placed close to a town square or *Hammarby Sjöstad* which is close to an important traffic node. The other sites close to the *bokaler* had hardly had any support for optional and social activities.

Bennet's Bazaar is the singular case

where the *bokal* is an extension and only allowed for occupational use. The residential space is a building behind that extension. With a division like that it is difficult to how occupants would feel unsafe and exposed. *Bennet's Bazaar* uses the occupations as its “shield” towards the street so that the residence does not have contact with it.

5.4 DISCUSSION

There should be different kinds of *bokaler* since it has to be adapted to the site. A3 said *Bennet's Bazaar* works well because it was already a place with a lot of traffic, therefore *bokal* in the traditional sense worked well there. In districts where there is less traffic, A3 suggested that maybe *bokontor* could be a solution. *Bokontor* (live-work premises designed for office spaces) would still allow people to visit the district around the clock but with less density of people. *bokontor* could also be placed in any apartment. Unlike commercial businesses it does not need the connection to the ground floor.

A *botik*, *bokiosk* or *bocafé* (a live-work premise designed for boutique or service work) is a kind of *bokal* that needs more space and great separation between the living and the working area. In contrast to office like work that often only needs a laptop and a desk.

Those are the extremes but there are types of work that needs a space to meet clients face-to-face, but the rest

of the work can be done elsewhere.

In preparatory stage of the urban planning of a city there might be certain areas where it is uncertain which way it will go in the future. Is it going to become more residential friendly or is it going to be a commercial district? Point is that there will always be hot spots for/with people. More commercial districts should have larger *bokaler* where it is possible to have more divisions and functions, yet one still can live in a separated area in its proximity so that there is still a mix.

This typology should have attractive hybrid spaces where the users can either sit and eat a Swedish *fika* or use it as an outdoor dining area for their business. This is a typology of *bokaler* with large enough windows to attract people in but small enough to not display the inside. This limit and ratio should be researched if it has not been already. The interior can of course have other solutions to protect the resident's integrity. A balanced interaction between the urban and premise is an integral part that should not be forgotten.

The most zealous and extremely critical conclusion to *bokaler* is that it is often a bad architectural design or environment. It is not often possible to hold all kinds of different functions that are otherwise required in real businesses, especially in the traditional sense. Many residential users feel exposed to the public with the big windows, exposed to noise and daylight. And there are often question marks regarding accessibility.

6. DESIGN PROPOSAL

6.1 SYNTHESIS

6.1.1 Re-introduction

In Luleå city peninsula there is an overdimensioned road that acts allegedly as a barrier for people from the inne city to reach the harbour. Hans Walloschke draw a concept of how the a small district can be placed upon the road so that would act as a bridge to the harbour and a continuation of the city grid, it would also redimension the road to a more suitable size. Figure 6.1 presents the concept, and will act as a template to upcoming test of *bokal* premises. The sketched floor plan is the floors above the *bokal* premise, in other words placed from floor 3-5 in the five story tall building. The *bokal* premise is imagined to follow the same outline of the floors above.

From the synthesis (see table 6.1) three things will be tested: the grouping of functions, interactivity between the premise and the urban space, and lastly adaptability. After that focus will turn to the design of the site backed up by arguments collected from workshops. Lastly assets such as parking will be discussed at the end of this chapter.



6.1.2 Architectural programming

This is a summarization of the research and project so far before diving into the design proposal and testing the concept to the site. Goals were established in the introductory chapter, facts were collected through inquiries and literature review, needs were analysed in the prior chapter.

The matrix below is summary of what was found in each step so that design problems can be formulated which will be tested in this chapter.

Function considers the buildings activity and relations between spaces, which in this case regards the interior design of the *bokal*.

Form considers the site, its quality and environment. In this case it is about the occupants individuality (integrity and privacy) and efficiency (to create good premises). Form also considers the urban design, but as stated in the boundary of the thesis that is a secondary objective.

Problem statements will finally found in the conclusion.

Table 6.1: Synthesis of the Architectural Programming

	GOAL	FACTS	NEEDS	CONCEPT
FUNCTION	A mixed functioned premise that provides desirable quality for both residential and occupational functions.	Conflicts have arisen when functions are mixed. Although many users have mixed functions anyways. The possibility to have multiple functions have been scarce.	All functions and activities need a designated space within the premise or a clear flexibility so that multiple variation of functions can be implemented within the premise.	Try different ways to <i>group function</i> and <i>activities</i> . Try variants of <i>functional relationships</i> and <i>communications</i> between rooms.
FORM	An improved community by mixing functions in a small city district. Achieved by the implementation of <i>bokaler</i> . More efficient land use and wayfinding by connecting the city to important recreational sites of the city.	Psychological implications: Users have complained about exposure towards the city. Site Analysis: The site is a small plot of land and not many functions might fit. During the traffic workshop urban planners doubted that circulation would even fit to the site.	(Not applicable) There is a need to protect exposing functions for the occupants.	Test the various degrees of social interaction. • <i>Safety</i> and <i>psychological implications</i> on the users of the building. Test <i>adaptability</i> between various occupations and various kinds of <i>character</i> to the site. Test density, much does fit?

6.2 GROUPING OF FUNCTIONS

Due to many issues with mixing and missing functions and conflict of regulations it is best to separate residential functions from occupational functions. Being a small business (the most common user of *bokaler*) or only owned and self-employed there were few functions that needed to be grouped.

6.2.1 In the occupational space

In most cases there is a need to have a disclosed space that can either be used for storage or as an office space/ staff area. Storages and office spaces have different needs, but since the premise has limited space and therefore limited functions. The functions will be largely sorted by "open" or "disclosed."

An open space in this case is the public space for customers to dwell in, it is the "corridor" that link functions, it is where functions that can be exposed and unwanted noise can be placed.

A restroom always seems beneficial as it is a long way to the bathroom and if the business allows clients, it is only good service to have.

These three functions were played with as they were seen as the most important and there was difficulty to fit in more additional functions other than them. The result can be seen above, scaled 1:200.

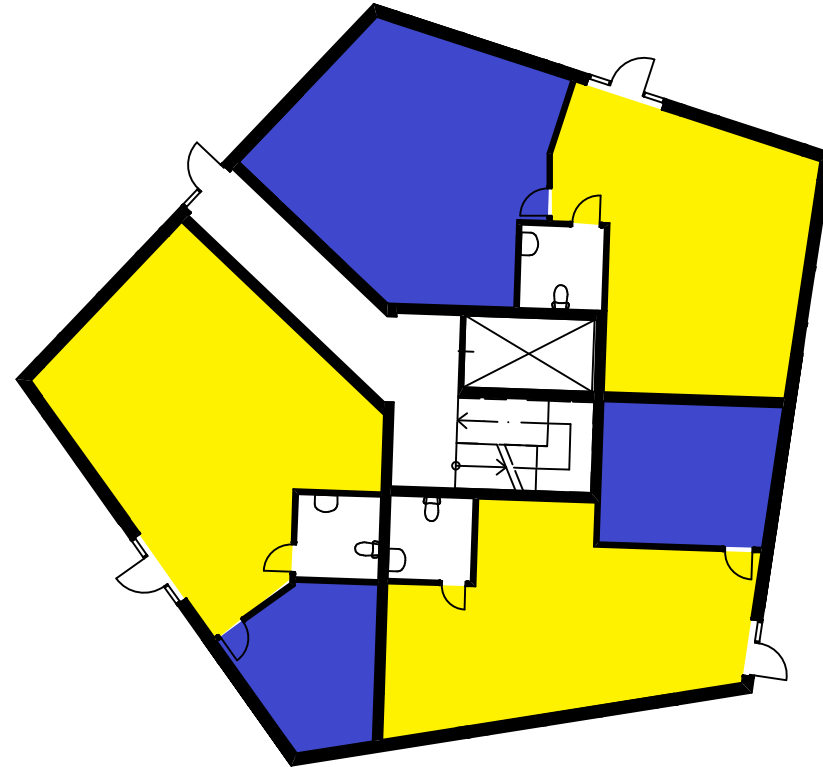


Figure 6.2: The result of dividing the bottom floor to smaller functions. The blue spaces are intended for storage or office spaces. The yellow spaces are the public spaces. Each premise has its own extra bathroom, dimensioned after outdoor wheelchairs.

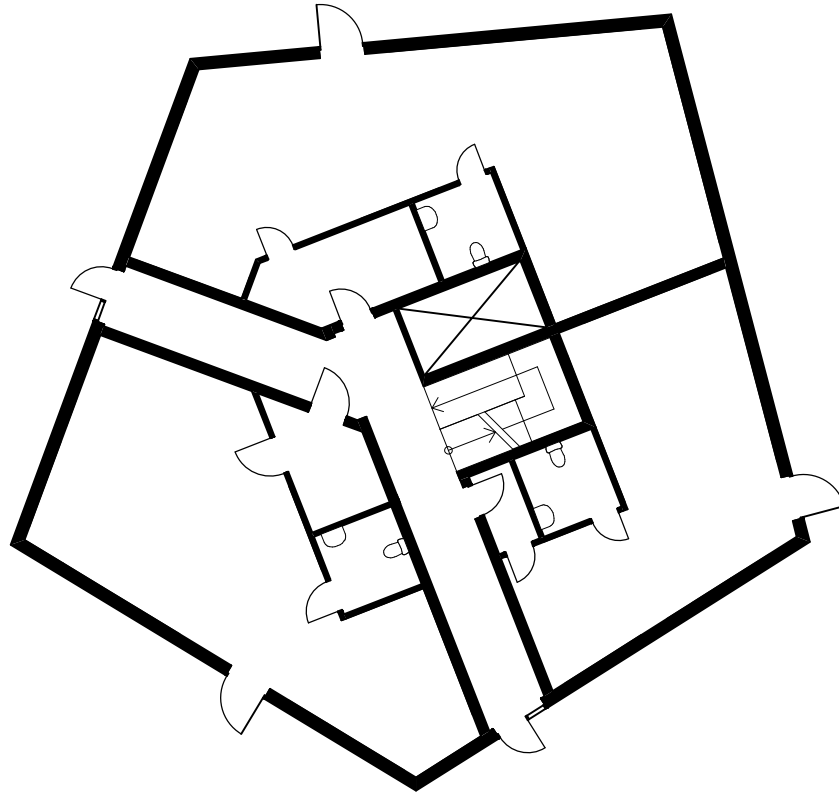


Figure 6.3: *A tested concept where functions divided by building staircase, 1:200*

6.2.2 Connection between the larger functions

Two concepts were tried here, divisions by floor and by walls.

The first option is having both residential and occupational functions on the same plane. As it only fitted residential qualities and maybe an office desk this was not explored any further. This kind of solution is also better when the building has a courtyard to protect privacy of the occupants. Which this building does not have.

The other option was dividing the function by level without a direct connection and instead with a back door that is connected to the building's corridors and stairs (see figure 6.3 for result). But the main advantage of *bokaler* is the direct connection between the functions. So that concept was also quickly abandoned.

The concept then was to fit in a staircase between the two functions. Walloschke's design proposal (see figure 7.1) was used for the upper floor residential quarters, although it had to be redesigned in most cases. The concept was tested with a spiral staircase and

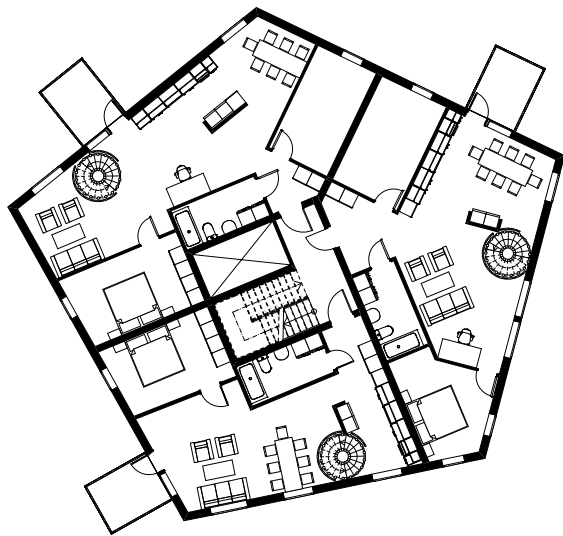
with more traditional staircase such as straight, U-shaped and L-shaped.

The result presented are the better solutions and how those then relate to the residential part of the premise.

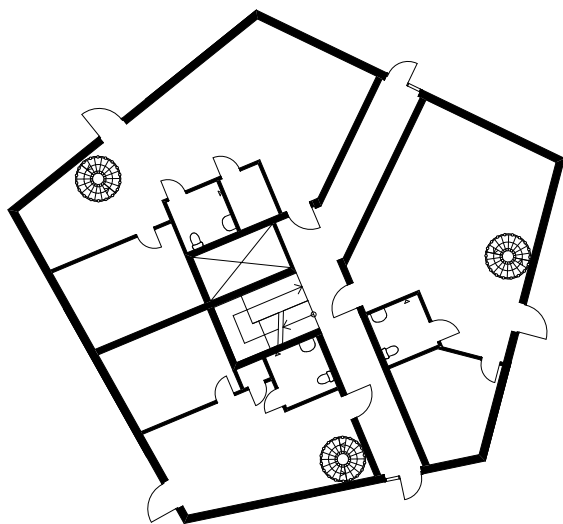
While the spiral staircase is easy to place in the bottom floor it was difficult to find a suitable placement in the upper floor.

While traditional straight staircase require more space, it was somewhat more flexible in the layout. It is also easier to surround those type of stairs with walls creating an extra division between occupational and residential functions, in case it is needed regarding the type of business happening in the bottom floor.

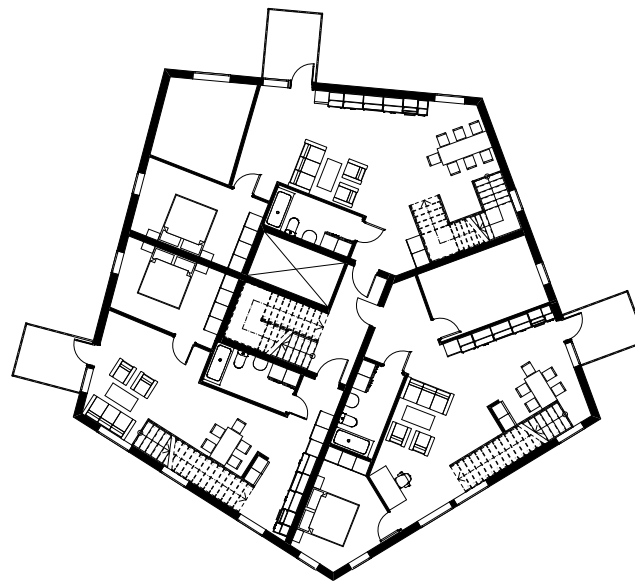
Upper Floor



Bottom Floor



Upper Floor



Bottom Floor

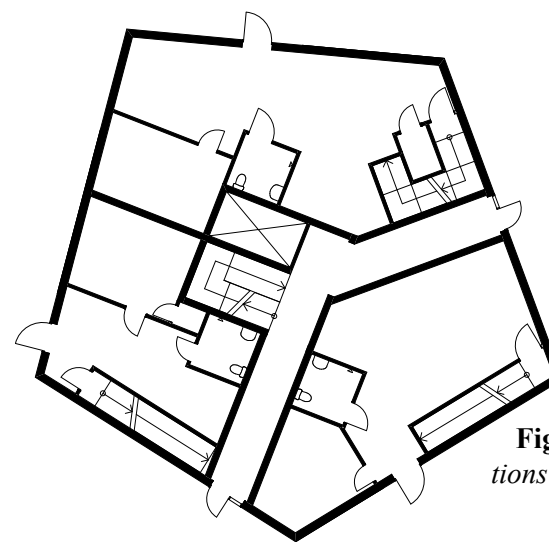


Figure 6.4: Examples of stair solutions between the functions (not final solution), 1:300

6.3 INTERACTIVITY

Interactivity is a spectrum that can mean taking distance from what is happening on the street or inviting it in. In this section solutions both inside and outside will be explored.

6.3.1 Interior

This was already considered in connection to the previous section, but the relation of the rooms in the occupational part of the premise is important. What kind of room should be encountered when entering the *bokal*, and what rooms should follow?

The first room that should be encountered are the rooms that are unaffected to visual exposure. In most cases those were occupations that invite customers and clients into the premise. The first thing that they would then meet is a lounge area. It is one way for the owner to be able to meet the client in a relaxed way and having a secluded office if there would be a need for it. For even more social businesses (commercial businesses) it was figured that the owner wants to be able to meet every customer that enters in order to have supervision over the people entering. For customers it is a way to

get help fast when they are looking for something specific. In those type of designs workspace was placed close to the entrance.

The end result was as seen in figure 6.5 that the entry door is placed so that the whole public area is seen. The private and secondary room is placed close to the entry door so that the owner can easily meet the client or customer. In order to later enhance the privacy or publicity other measures had to be considered.

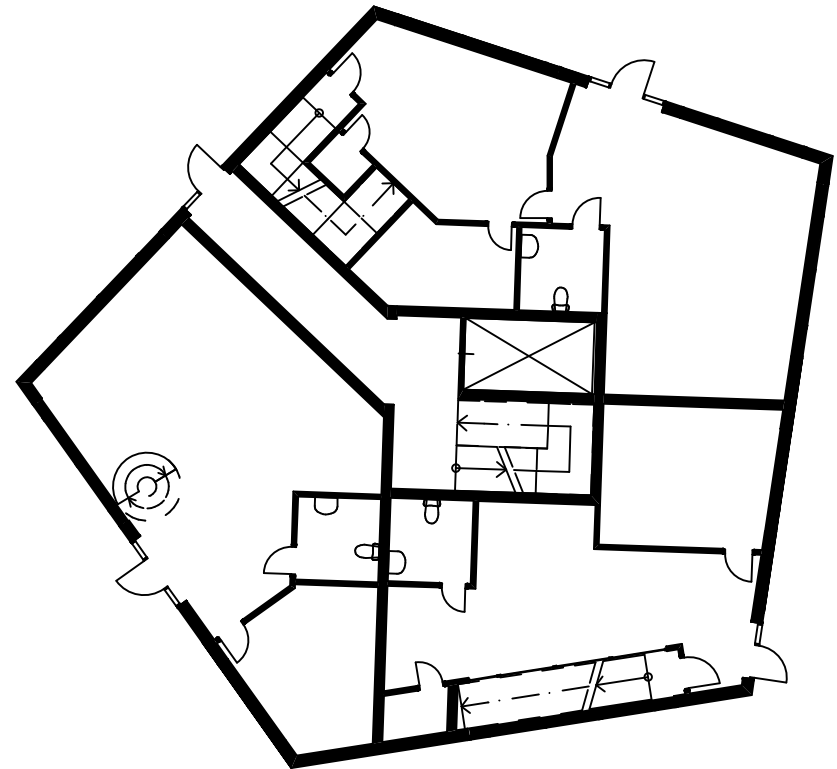


Figure 6.5: Result of grouping and room organisation testing, 1:200

6.3.2 Exterior

Another level of interaction could be the zone (or hybrid zone as some call it) that connects the street with the *bokal* occupant, an outdoor zone for them to use. Something that many architects that were interviewed agreed could be a good idea.

The essence of the space is to take distance from the street level but at the same time be able to interact with it.

Figure 6.6 shows different ways that zone can be used to take distance from the street life. From those quick ideas it was considered that those were not the way the social interactivity was wanted, and that most of them allowed few additional functions. The bench and the “staircase” had some potential, but they still had issues. The bench would have the same integrity issues that the proposal was trying to avoid. The “staircase” created distance but needed to showcase more additional functions.

Figures 6.7 shows further brainstorming on the concept of being able to use the “staircase” with extra high steps. Each step high enough to sit on, around 400 mm according to Bodin et al. (2015). Without railings so that

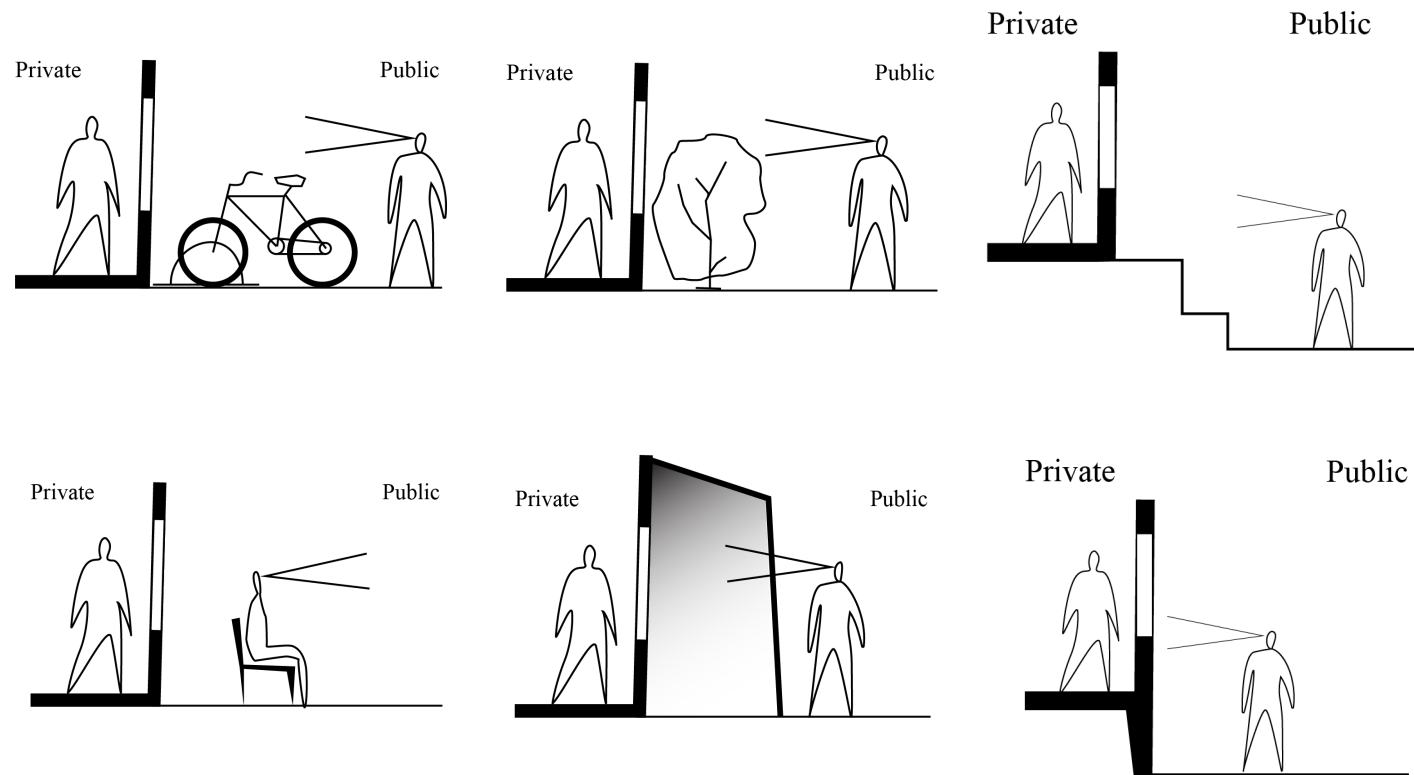


Figure 6.6: The result from a brainstorming session of some typologies of the hybrid zone

it is accessible even from the lowest level. The staircases can be used as a bench where you look out towards the rest of the city. It draws attention away from what is inside the building and instead on what is on display on that staircase, creating more privacy if wanted. As an example additional privacy can be implemented by placing more vegetation and plantation on the the "staircase". For those who want to draw attention to their business an idea can be to display goods or special offers. The staircase is placed close to the entranced so that it clearly marks the owner of the outdoor zone. Users of the *bokal* can use it to invite

people into their showroom, or they can use it to mark that this is a residence so that people can respectfully take distance from it.

The hybrid zone can be a wooden structure that can be dismantled during the winters to make snow ploughing done easier. But to potentially have activity during the winter as well, it might be an idea to have the hybrid zone in a sturdier element that is also morphed or phased onto the building's façade.

On of its important features is that it raises people using i from the ground. A sitting person should be in the same level as person walking by, so that

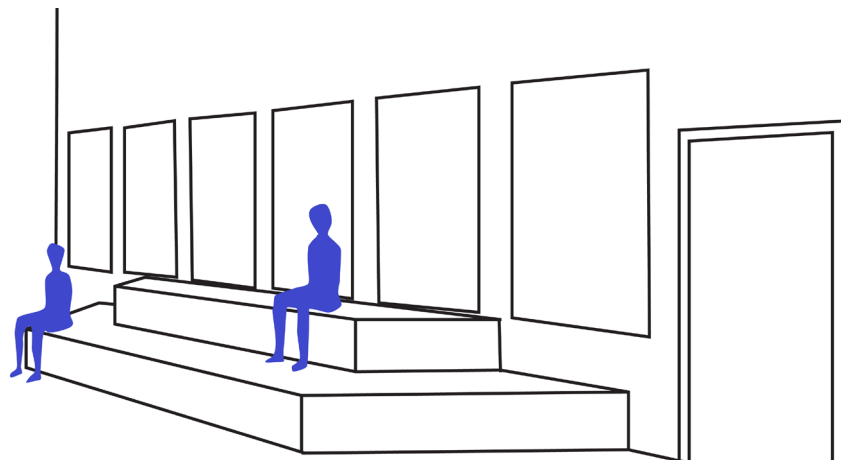
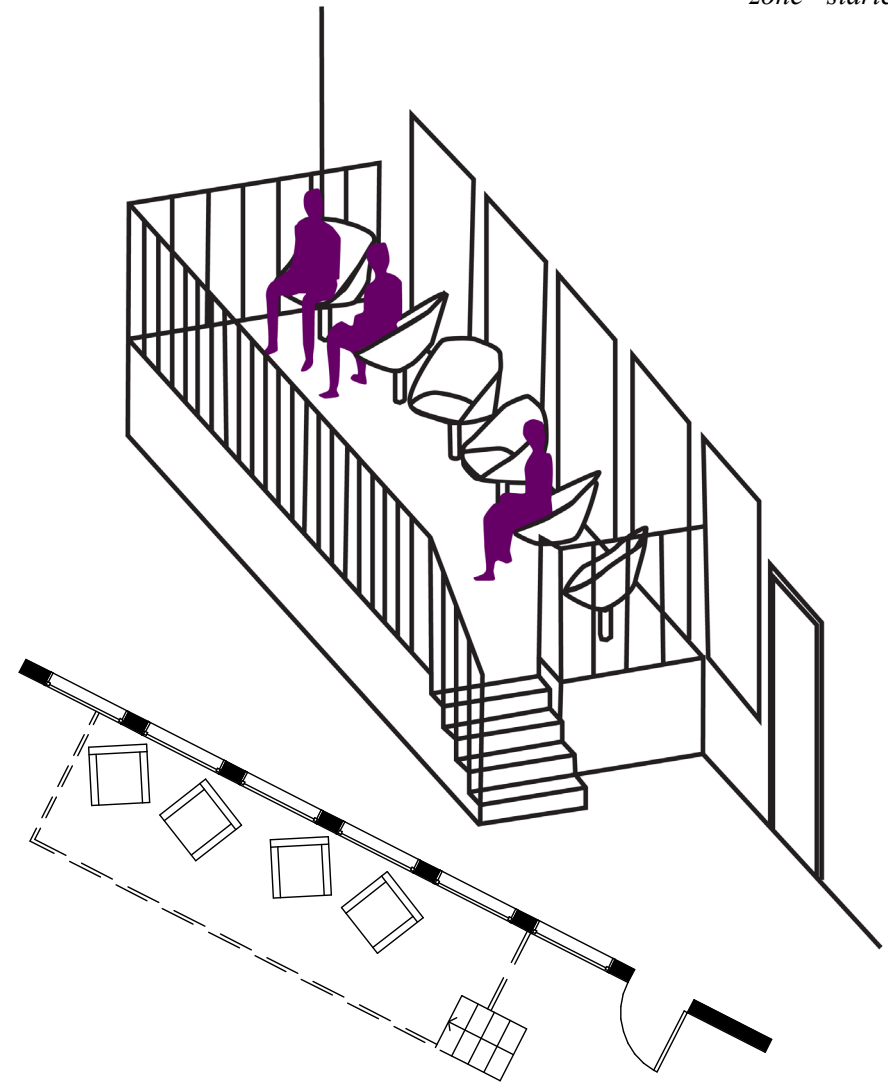


Figure 6.7: Brainstorming of hybrid zone "staircase"

Figure 6.8: Brainstoring of hybrid zone "staricase"



the do not feel inferior and therefore unsafe. It should in all instances be raised a little to give social control to whoever will use the premise.

In figure 6.8 the raised hybrid zone is designed for residential occupants in mind. With a surrounding fence it creates a greter clarity to who this zone is owned by. In this design some flexibility is lost in order to create more control for the occupant, for instance this design is potentially not as welcoming and the railings obstruct views for marketing purposes. Since the goal is to have occupations in the bottom floor, flexibility and marketing will be prioritized.

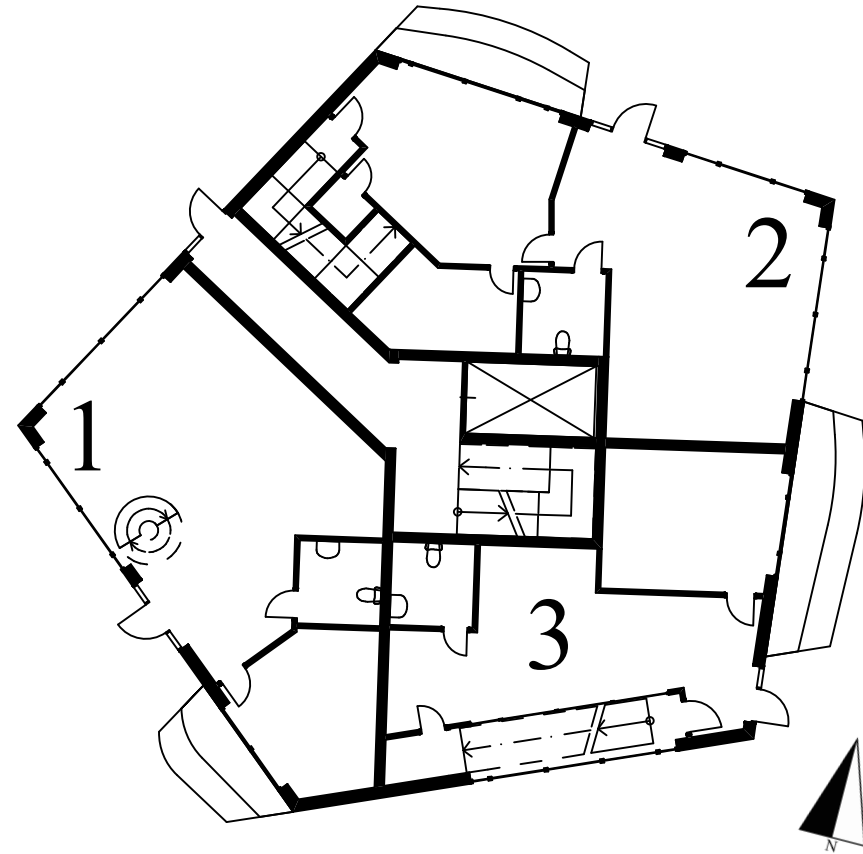
Figure 6.7 was therefore chosen as the design for the hybrid zone. It is difficult to create spaces that values all the needs for all potential functions. Having a smaller hybrid zone can suit is although important as soft barrier between the premise and the rest of the city. But as some architects mentioned in their interviews there is a chance that the zone is not used. To avoid this and meet the needs for any user it has to be clear who the plot belongs to. It must be flexible in use and prefera-

bly higher up than the street level so that the user does not feel powerless. Other needs such as being a permanent structure and being shielded from weather can solve clarity and design issues. It becomes more apparent that it is a zone to be used that way.

6.3.3 Windows

To create better interaction, large windows and curtainwall systems are placed in combination with commercial activity. While strategically placed windows can hide and hinder infringement on privacy. This creates a design conflict; large windows create opportunities for occupational functions to thrive while a strategic method would allow for adaptability if the *bokal* would become a fully residential premise.

The final layout of the concept seen figure 6.9 has parties of the wall being replaced with curtain walls, displaying the public space as much as possible. The private rooms (the smaller rooms) also has a curtain wall to create good natural lighting, but the hybrid zones are also strategically place out side of those rooms in order enforce some sort of privacy and retreat.



Another solution is also to cover the windows from inside if needed. This is not considered as failure since there is a clear distinction of what should public and private in the layout. The

Figure 6.9: *Final result of grouping, room organisation and city relation-testing, 1:200*

public spaces are meant to be exposed while the private spaces should be more versatile.

The east premise (premise no. 3) has a curtain wall that surrounds the staircase so in that case light must travel through windows to enter. This solution was not the most optimal, but it is figured that this premise also being the smallest should also be best apt for a home office solution, but this will be explored more in next chapter. The space underneath the stairs can be used as a display window or storage.

There was many versions of curtain walls that were tested throughout the design phase. In the physical model (figure 6.10) the bottom floor was fully enclosed with the curtain wall design. The diagonals on top of the glass façade is mirrored incline of the roof so the that the design of the façade becomes more interesting. Like a large wave that clashes with lower levels of the building. These examples show how the exposure of the bottom floor would lead to a building that is pleasant to visit and be around. The physical model does not display the hybrid zones because the supervisor did not



Figure 6.10: *Model of the Bokal building. (Walloschke, 2021)*



want them in the design and he since he is the owner of the model he gets the last say.

Figure 6.11, a rendered version of the building, shows another potential design for the glass on the façade. This design uses the glass more moderately with larger windows instead of curtain walls. It still has the mirrored incline of the roof but it becomes less apparent here. In this picture the hybrid zone display a spontaneous social interaction between friends.

There are more pictures like these in appendix E. It also displays the site more and other use of the hybrid zone.

Figure 6.12 shows the final CAD-version which is adapted after the interior layout. The hybrid zones do not exist as a 3D object in these elevations in order to minize clutter of information.

The elevations are views looking at the premise number 3 but on different buildings.

The layout is the same in all buildings

Figure 6.11: *Rendering of the Bokal building*

but in order to create a more lively design of the site the buildings are mirrored, rotated and have different inclines on the roofs. More pictures of this can be found in appendix E.

The left elevation show how the stairs in premise number 3 cover a large por-

tion of the curtain wall. Preferably the stairs should be light in its design so that they do not cover the interior as much.

The mirrored inclination from the physical model still exists in the design but the curtain walls are more

carefully placed and do not surround the bottom floor completely.

The importance of large windows in relation to *bokaler* is undetermined but it is often seen as welcoming feature, which is important for businesses to attract customers and clients. It is in

its relation to the residential function it becomes problematic. In this concept the residential function is shielded on the upper floor, but that did not help *Norra Sorgenfri* which is why the hybrid zone is placed in front of the room where more private work can take place.



Figure 6.12: Elevations of the Bokal building

6.4 ADAPTABILITY

Adaptability is about finding occupations that can work within this premise and to see if the design so far is flexible and can hold enough functions. So far, the design of the occupational space is divided into a private and public space, and it is connected to the residential function via stairs. The functions are enhanced with strategically placed rooms and exterior solutions.

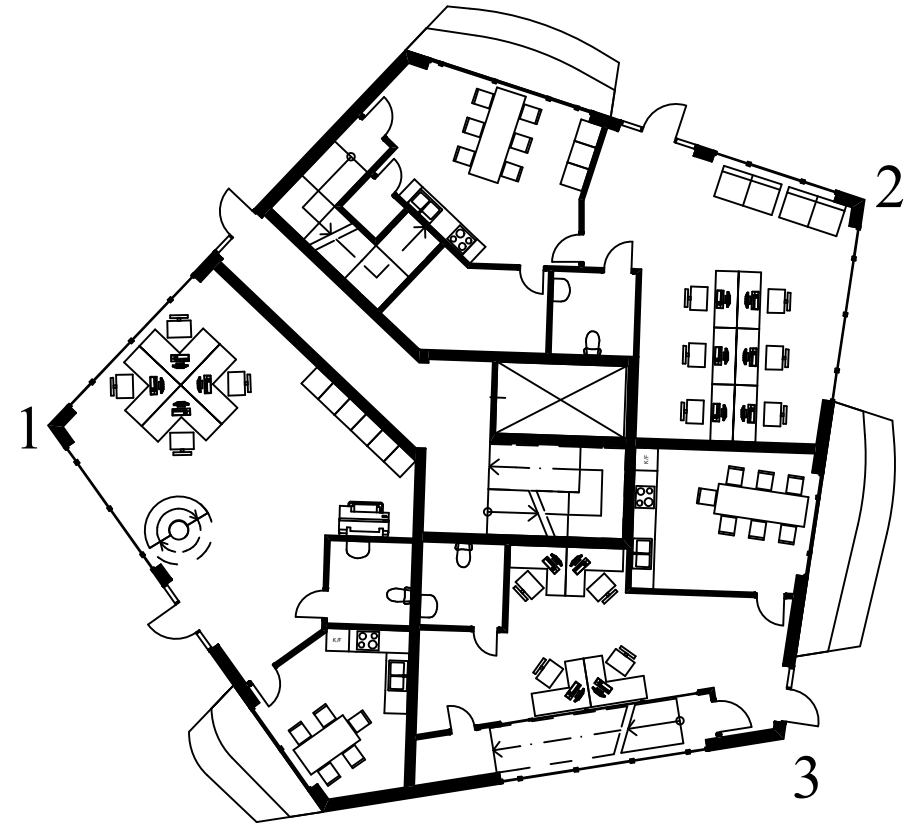
The sizes of the three premises greatly varies and therefore many functions were tested multiple times in order to see if all premises can contain that certain function. The functions that were tested are divided into these categories: residential, service, consulting, commercial and office-like workspaces. Since the size of the premises varies, the singular premises was challenged accordingly. As an example, the larger premise might be able to hold a café, but it is quite certain that other cannot.

6.4.1 Office concept

The first test was a traditional open spaced office, considerations was taken from Ahlberg et al., (1985) but when trying to increase the number of employees, functions and space were lost. Technical offices for example need multiple rooms for different equipment, and human offices need space for employees to work in groups and alone. If anything, this is a blend of an architectural office and an economical office. Architectural offices wanted large spaces where people could group in various ways and economical offices wanted to be able use the space effectively. If the equipment in the public space is flexible and mobile various ways of furniture layouts are achievable in various degree of space effectiveness.

The private function in this instance is used for staff dining area, which can be used for other purposes too, such as meetings and conferences. Premise number 1 (specifically the dining room) and 3 (specifically the office space) has small and difficult shapes to furnish, which results in all solutions being cramped.

Offices, occupations that are often



contain a large amount of people is apparent here difficult to place in small premise. Unless the actual occupation does not require extra functions, that do not require a specific meeting room or a room for loud equipment such as

Figure 6.13: *Office concept, 1:200*
a printer.

6.4.2 Consulting concept

In this test the concept of a lobby and office relation was tested. The public space can be used as a waiting room, a studio or a showroom, which all premises have space for. The east premise, being the smallest is best suited as a waiting room and not much more while the other two premises almost must be more than a waiting room because of the amount space.

The private space is an office where clients can have a private meeting with the business owner. It is hard to determine if the size of this room is too small and feel cramped. For therapists, ventures out to public space (when there are no other clients) might be a good idea if the enclosed space is a problem for the client. Although the size of the office is around the size of the “human” office Ahlberg et. al. (1985) suggested, meaning that for the owner at least it is pleasant.

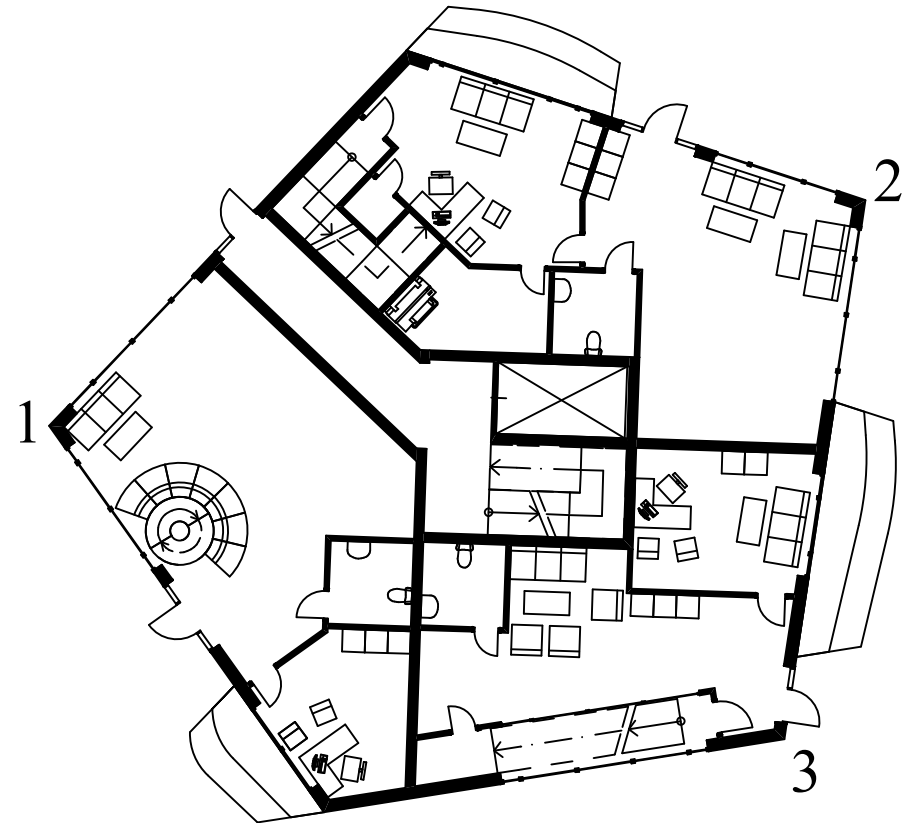


Figure 6.14: Consult concept, 1:200

6.4.3 Service concept

Here two types of service occupations were tested. Service that are taken place privately and service that is taken place publicly. Examples of private services would be physiotherapists,

dentist or office work that require meeting with clients privately. Examples of public services are tattoo parlours, hair salons and workshops.

The public space showed in all cases

that it was possible to have different functions, static as well as mobile. The private space showed also showed that it is possible to have multiple functions within the more enclosed space as well.

In the public service concept, the private space was tested with an office for multiple people in order to see the possibility to do so. Although in an occupation like these a private space

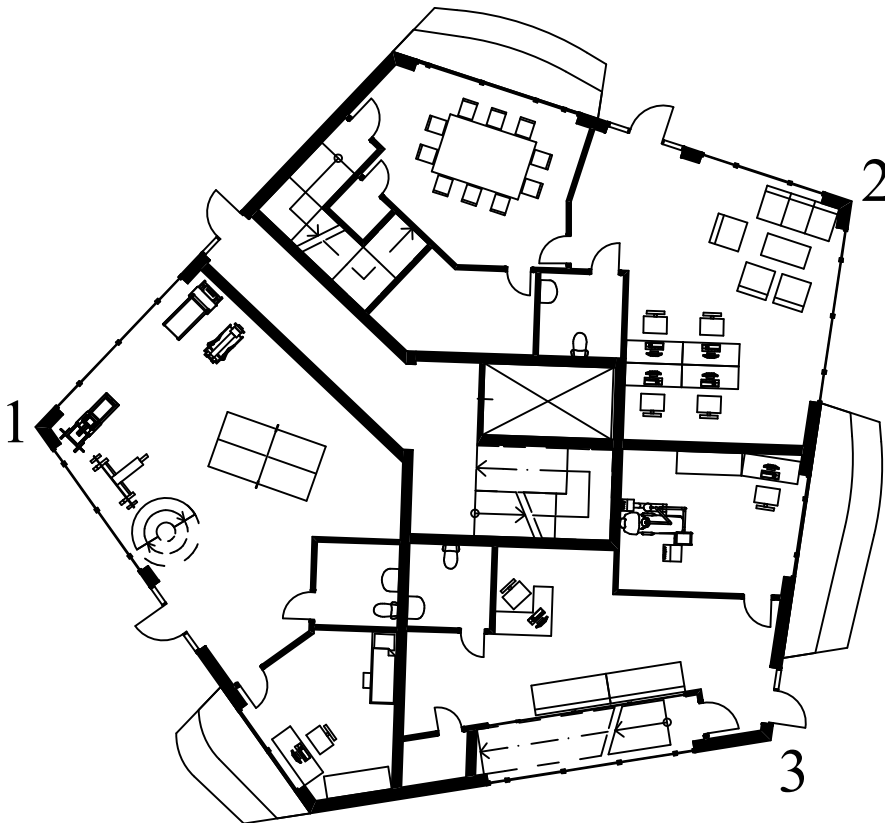


Figure 6.15: *Private service concept, 1:200*
1. Gym, 2. Service minded office, 3. Dentist

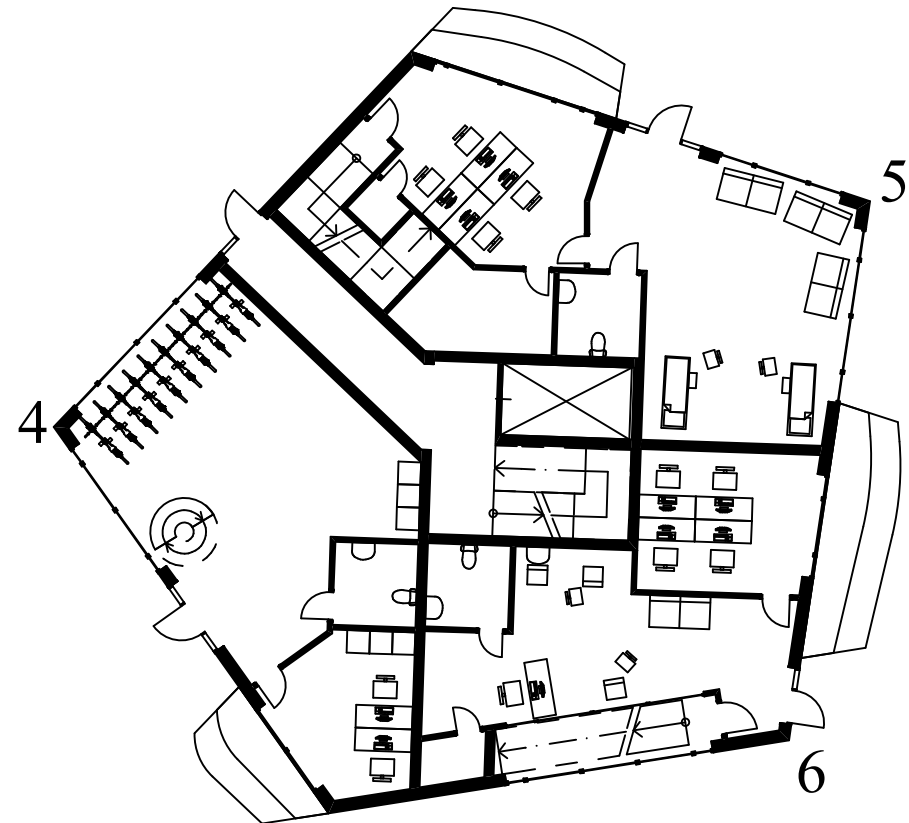


Figure 6.16: *Public service concept, 1:200*
4. Bicycle workshop, 5. Tattoo parlour, 6. Hair salon

that is seen in the figures 6.13 and 6.14 might be more interesting.

When testing this concept, it was the most apparent that not all premises have the same conditions. For instance, the dental office and the meeting room did not fit in the private space of the west premise. Although that premise is adaptable and flexible in its public space instead and it was easier to place the training equipment in that premise compared to the north premise.

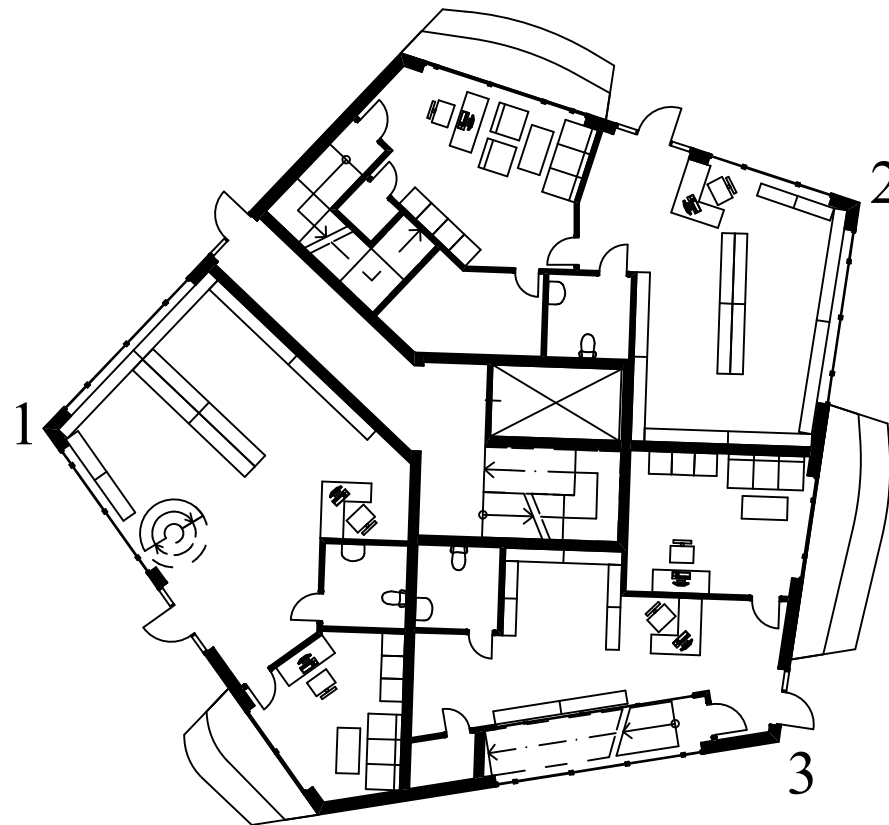


Figure 6.17: *Commercial concept,*
1:200

6.4.4 Commercial concept

The concept here is to be able see over the premise, accessibility for outdoor wheelchairs, but still have a quite large space for products to be stocked and presented. For the larger premise (2) and the west premise (1), the size was just enough to hold a small boutique. For the east premise the size was not quite enough, there is not much space for placement of products and there are many instances of narrow passages that seldom occurs in commercial businesses.

The private function here was designed as a small office where staff can also relax while still being able to oversee the entrance of the premise. Alternatively it can be used as a storage room. Which was a major function that was missed in these premises. Running a small boutique could work if the products sold are small, otherwise it can be difficult to store the merchandise. All things considered, premise number 2 might for that reason be the only suitable premise for commercial activity.

6.4.5 Miscellaneous concepts

Here the café/restaurant occupation was tested in the larger premise

(premise no. 2). The verdict is that it is possible, but the workspace is a bit cramped. While the public space can hold a fair number of customers the kitchen is quite small and is only suitable for one or two chefs. The kitchen

should also be adapted for easy made type of food that do not require a big range of equipment and ingredients. In the kitchen however there is space for washing and a smaller space for storage.

In premise number 1, an educational occupation was tested, a driving school as an example. The open space where the classes are taught gives many opportunities to design the classroom based on the needs. There is also room for additional functions like a small kitchen where a coffee and vendor can be placed. The private space is used here as an office/staff area/meeting room and is on the verge of being too small. Another solution like the one seen in 6.14. or 6.17 should maybe adopted for this example instead.

Lastly in premise number 3 a photography studio was tested. The private space was well suited for the actual studio, and with more versatile equipment like a laptop more depth can be given if that is needed. The public space is equipped with a smaller waiting room, an office desk and a plotter. After this test this premise is around the size that is adequate for freelance businesses and sole proprietorships.

6.4.6 Residential concept

For the sake of flexibility and adaptability residential functions was also tested in the bottom floor. The bedrooms were placed in the most private space found in the bottom floor which behind the exterior space (the hybrid zone) and was in all cases spacious enough to contain a double bed. The compromises and inconveniences occurred in the public space. In premise number 2, the dining table or the living room furniture might potentially clash. And in the premise number 3 there is not enough space for a full living room. Preferably no bedroom would be placed in the bottom floor, but for the sake of accessibility it was tested anyways.

Placing all the vital functions in the bottom floor creates opportunity to have more room for leisure in the upper floor (see figure 6.20), for instance a piano seen in premise number 3. In premise number 2 an extra bedroom was placed. It would make more sense to place the leisure functions and social functions such as the kitchen in the bottom floor so that the more private functions in the upper floor as already explained in 6.3 Grouping of

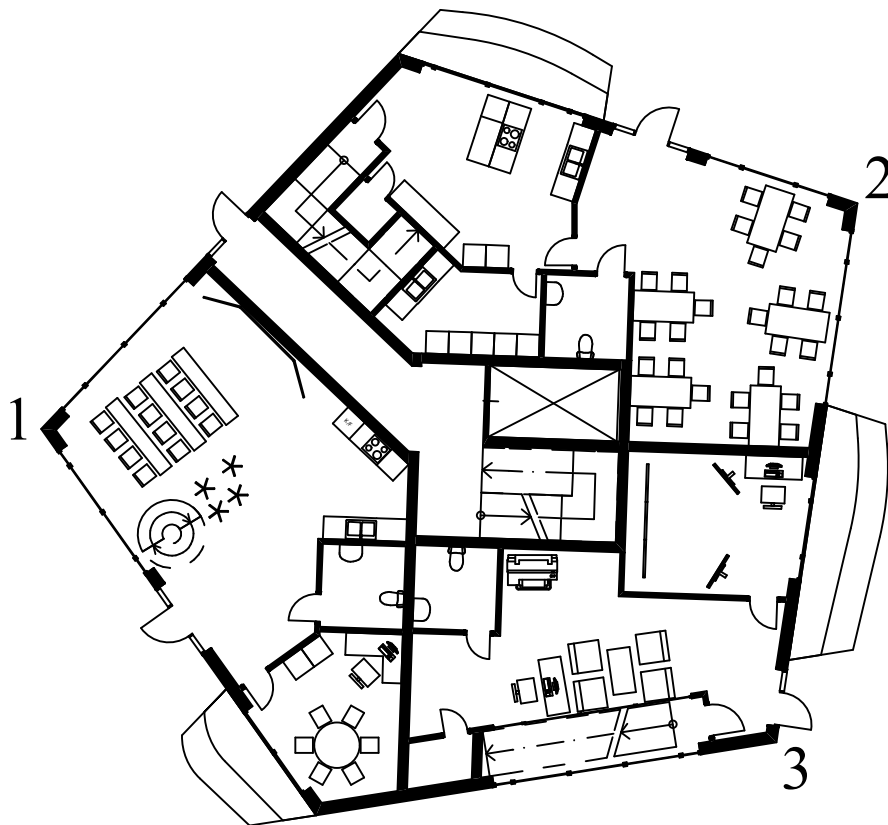


Figure 6.18: *Miscellaneous concept, 1:200*
1. Lecture hall, 2. Café/Small restaurant, 3. Photography studio

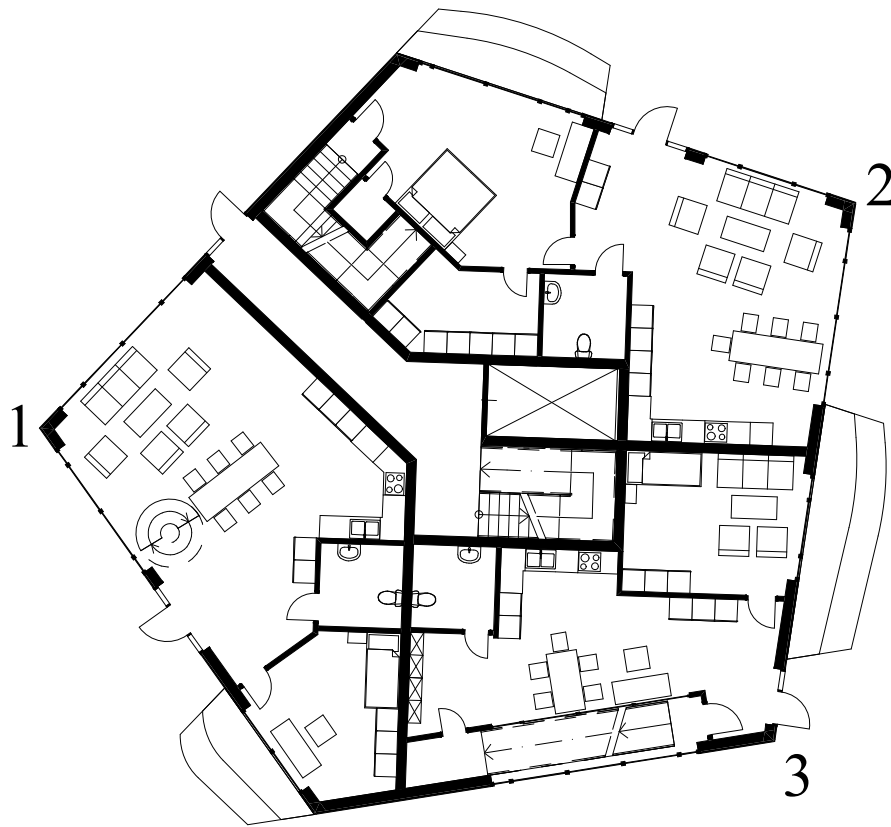


Figure 6.19: *Residential concept (bottom floor), 1:200*

Functions. Another idea could have been to place a home office or the piano in the "private" space, together with the kitchen and other recreational spaces in the bottom floor. Whilst the

living room, bathrooms and bedrooms are on the upper floor. Other concepts have shown that this is achievable.

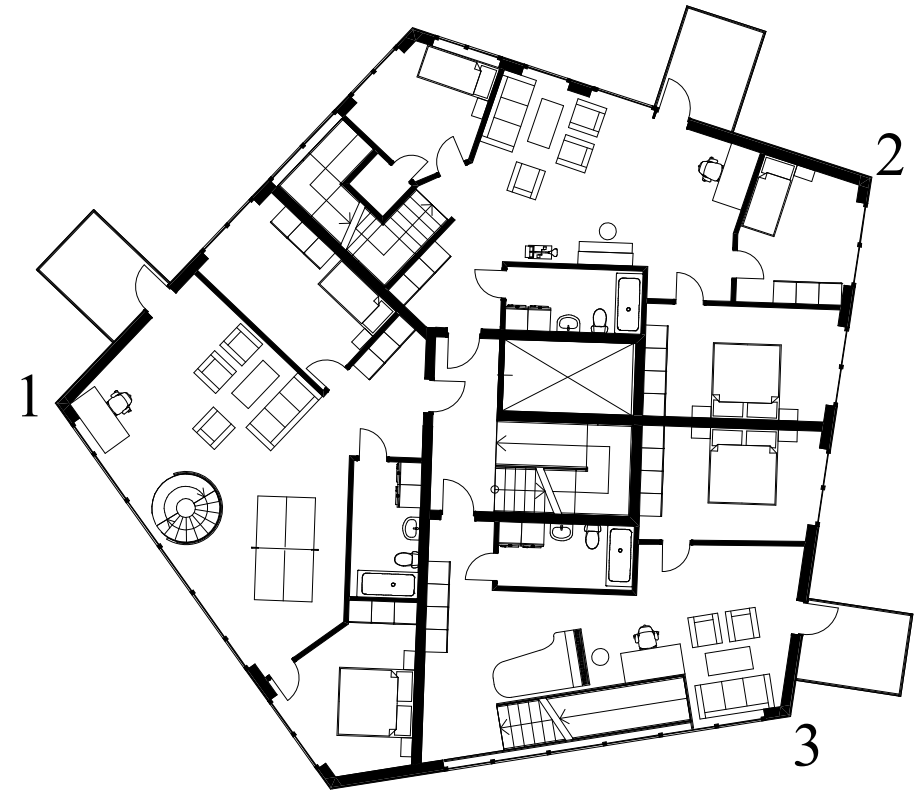


Figure 6.20: *Residential concept (upper floor), 1:200*

6.4.7 Adaptability assessment

While it was on the brink of being cramped at some instances, the three premises were well adapted to hold different types of occupations. A lot was thanks to the division of functions within the occupational space but

also that it was allowed this amount of space. If the intended occupation of the premise is an office intended for one person, the size of the *bokal* was as big as possible and preferably with dividing functions. Since those walls and doors can separate odours

and therefore increase the possibility of allowing more mix of occupations. Odours could for example be a problem for the residential function in figure 6.15 where a gym and a physiotherapeutic occupation was tested, since there is no wall in between those functions.

If the work is intended to no more than two people, almost any occupation can take place in these premises. Some premises did have their limitations regarding space, but it was shown that in some cases smaller spaces are better.

The north premise (premise no. 2) was the most balanced premise where the public and private space was approximately the same size. Almost any occupation that can take place here. The west premise (no. 1) had its strengths in being the most social premise and should contain occupations where that is prioritized. The east premise (no. 3) was the most independent premise that did not have the biggest public space but a fair amount of private space. In this premise, occupations that require only a few clients at a time or no visitors are best suited.

6.5 SITE PLAN

The site became a lot like the envisioned version presented by Walloschke (see figure 6.1). Some minor changes regarding street, parking and overall flow occurred.

6.5.1 Mental map of Luleå south harbour

Figure 6.21 presents a simplified and extended view of how the site looks like now. Only the buildings and roads are present in the picture. Figure 6.22 presents a mental map of the same area. Many roads are ignored and there is scarce selection of paths (green lines) being used. *Södra Hamnleden* is viewed to be the biggest barrier (red lines) but some other branches from that road are also seen as a barrier. The colleagues divided the mental map into two or three districts; the South Harbour Plaza, Tutti-Frutti houses (these two were combined into the South Harbour in some cases) and the inner-city centre (which is everything north of *Södra Hamnleden*). Landmarks are the south harbour crane and for some the west tower of Tutti-frutti houses. Nodes were seemed very personal and sel-

dom drawn. Some thought that there were no nodes (yellow circles) in the frame and instead stated that *Storgatan-Smedjegatan* was a more important node. Nodes that were placed within the picture were scattered on the edges of the South Harbour Plaza.

6.5.2 Urban design

To continue the grid system that exists in Luleå peninsula, the barrier on the façade of the Tutti-frutti houses needs to be dealt with. Opening up the barrier to the courtyard of the Tutti-frutti buildings will create potential new paths. Even though these paths might not take up as much space or will be

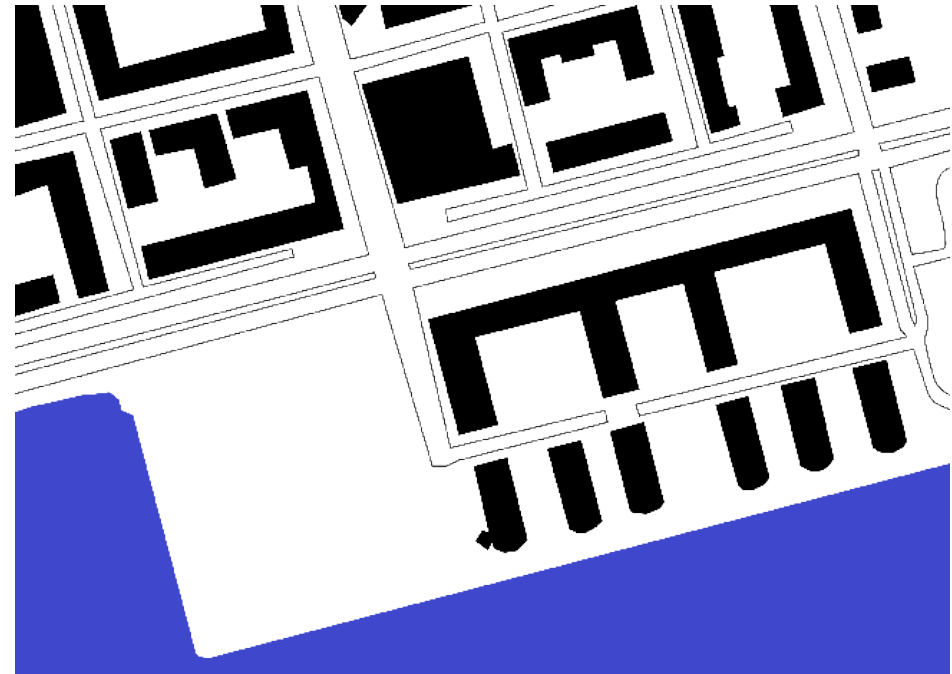


Figure 6.21: Figure-ground map of the site, unscaled

used as much as the the already existing paths. It will disrupt the current traffic and it will also act as small streams that collectively create a great river. The disrupt of the flow of traffic which will give more power to the pedestrians may increase the value of visiting the area.

The new paths that passes thorough the Tutti-frutti buildings is achieved by redesigning the sheds that has acted as boundry towards the road. The new design of the shed was skewed so that it created an opening into the courtyards of these buildings. The passage is about 4 meters wide, so that people with bicycles and pedestrians can en-

ter and pass through, yet still not be inviting enough since it is a semi-private courtyard.

Since narrowing the road will force a lesser flow of cars in this area Södra Hamnleden will become less of a barrier.

Nodes will remain the same. The new paths will not as already stated not add more flow but empower it. A potential new node might be the area east of this new area. Here a small park of sorts can be placed.

Landmarks is believed to remain the same, since the five new buildings will make a bigger impact on the traffic than on pedestrian traversal. Which, as already stated, will benefit the pedestrians ultimately. Although that means from a pedestrians view, the new buildings will not create new landmarks. Since landmarks are often goals that you head towards, for instance the crane at the South harbour plaza. The *bokal* buildings is more of a new stepping stone towards the already existing landmarks.

It is believed that districts will also remain. Adding the five new buildings

will either add to the city's district or the Tutti-Frutti's. They themselves are too small to create their own district, but at the same time they are unique and have a whole other function then what the building surrounding it has. Therefore it is not with hundred percent certainty, these can become landmarks and a smaller distinct area. It depends on the success of the *bokaler*.

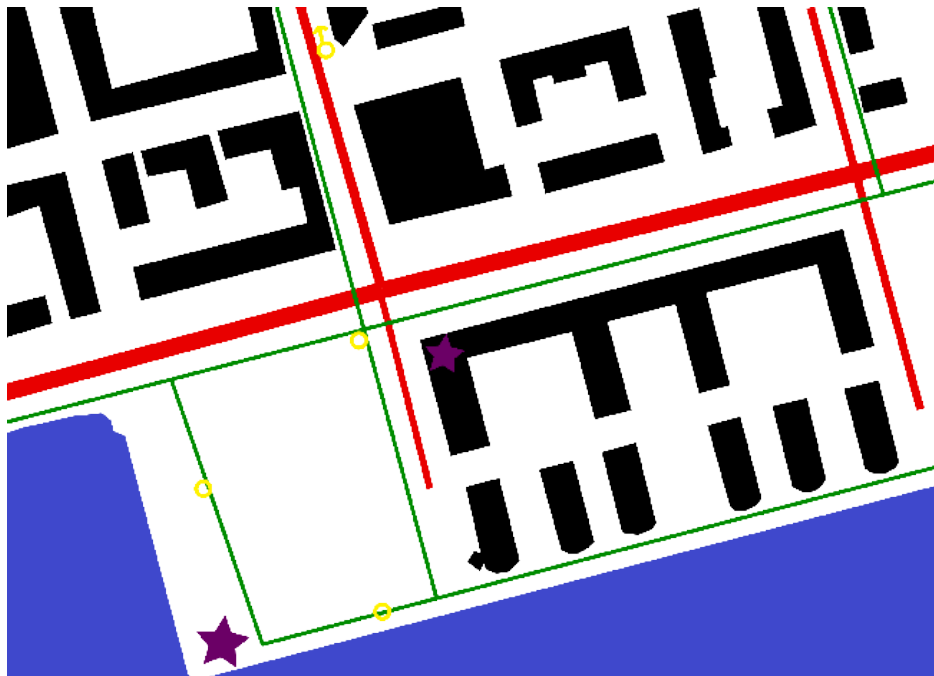


Figure 6.22: *Mental map of the site, unscaled*

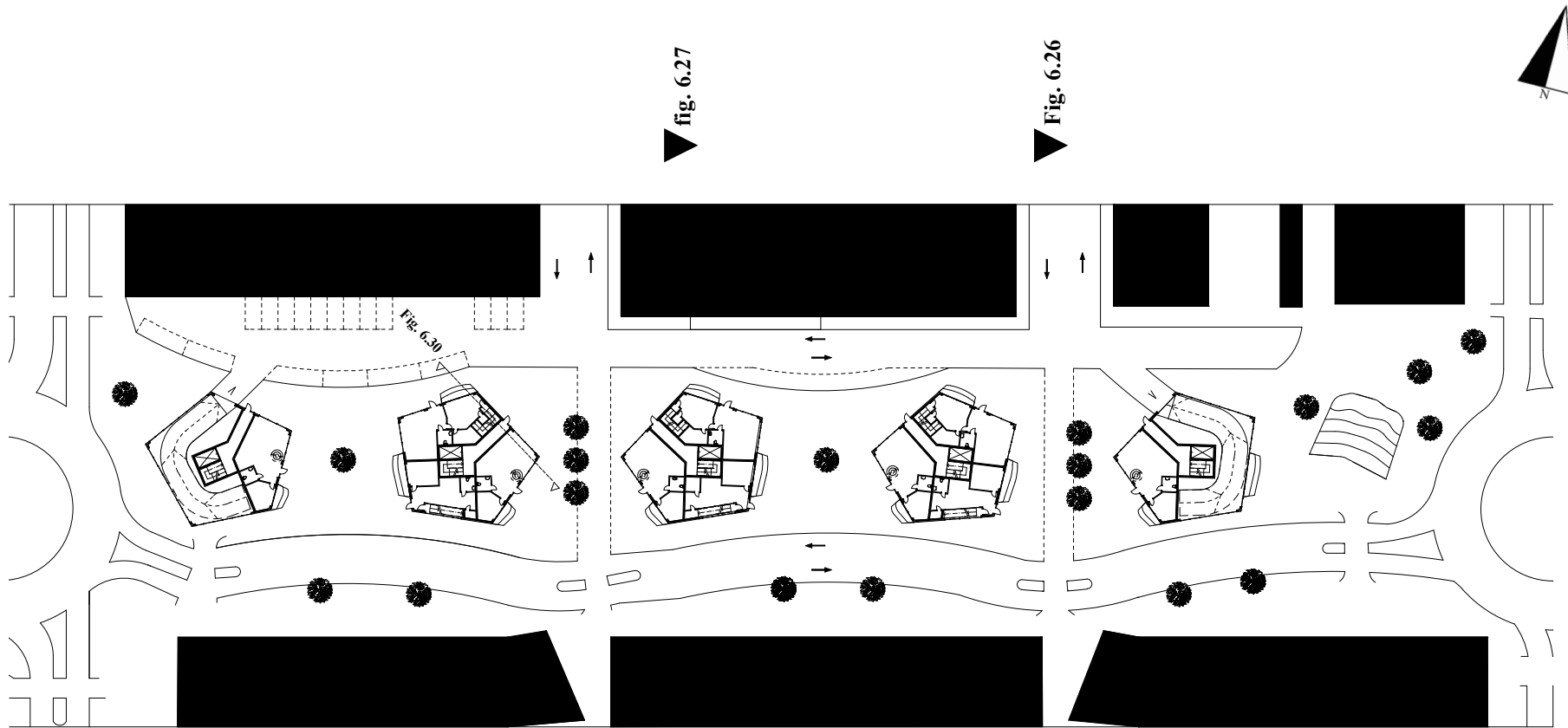


Figure 6.23: *Proposed site plan,
1:1000*

*Figure 6.26 and 6.27 are sections
displaying the street.*

*Figure 6.30 is a section of one of the
buildings*

6.5.3 Mix of function

The mix of function has been focus and argument in this research. Mix of functions can be achieved in ways according to Uittenbogaard (2020). For instance it can be achieved by placing a variation of residences so that a district where people from different backgrounds, life styles and economical status can live there. This has been achieved by the *bokal* buildings alone. Another way to achieve mix of function is to have different societal functions such as occupations and residences co-existing. This is also achieved by the *bokal* buildings alone. Project for public spaces (a non-profit organisation with interest in public spaces) explain a general rule to which is similar to achieving a mixed purpose area, and that is to give people ten reason to seek and visit the space (PPS, 2009). The site already has 11 potential stores and it has paths that lead to important landmarks in Luleå. Public spaces and recreational areas that create social and optional activities as Gehl (2011) call them is the missing piece to this site and. In figure 6.23 there was a sun deck and a micro park that was placed on the east side of the site. There are also

two additional areas that could have something extra that attracts people. Benches and weather protection can of course be placed here but it very similar to the sun deck. Possibility for young people to play outside is and stay is according to Stenman, one of the supervisors to the project an excellent way to attract people. Therefore placing a small basket ball court or a skate ramp in close proximity to this place would not be a bad idea.

6.5.4 Intersection

Even though the municipal traffic planners advised not to use roundabouts the workshop participants decided that it creates a completer and more harmonic concept. It may be safer according to some studies (Belin, 2019).

On the downside the flow can become uneven if there is not the same amount of traffic from every direction and according to the traffic planners the roundabouts are big in size (Sundén & Wäppling, 2021). The design proposal used another roundabout in the city as template for dimensions. To be more exact 37 meters in diameter with a singular lane that is 8 meters wide.



Figure 6.24: *Proposed mental map due to changes, unscaled*

6.5.5 Street width

Due to scarcity of space the street width is in ratio to the height of the buildings, around 1:1. This creates an enclosed feeling of the district that is being created here.

On the north side (above the new buildings) where it was decided that the least amount of space is needed it was decided to have 14 meters in

width. Bodin, et al. (2015) gave that size as an example of the least width a street with cars involved need. The example Bodin, et al. (2015) gave was of a one-way street, this has been re-designed in this case (see figure 6.25). Parking spots on one side of the street was scratched to make room for a two-way street.

On the south side where the heavy

er traffic resides there was space for 16-meter-wide street depending on how the buildings are placed.

The platform the people in figure 6.25 are standing on is a representation of the hybrid zone.

It is significantly more narrow, compared to today. There is only one car lane each way, it was of more importance to make the street attractive

for pedestrians and cyclists so there is space for them on both sides. The car lanes compared to Bodin's, et al. (2015) example, is a bit wider so that there is still room for heavier traffic to pass through. The street is also curved so that the cars must slow down. The road is curved almost like a switch-back to slow down traffic. This way it is possible to have a road that has slower traffic, at least that is what is

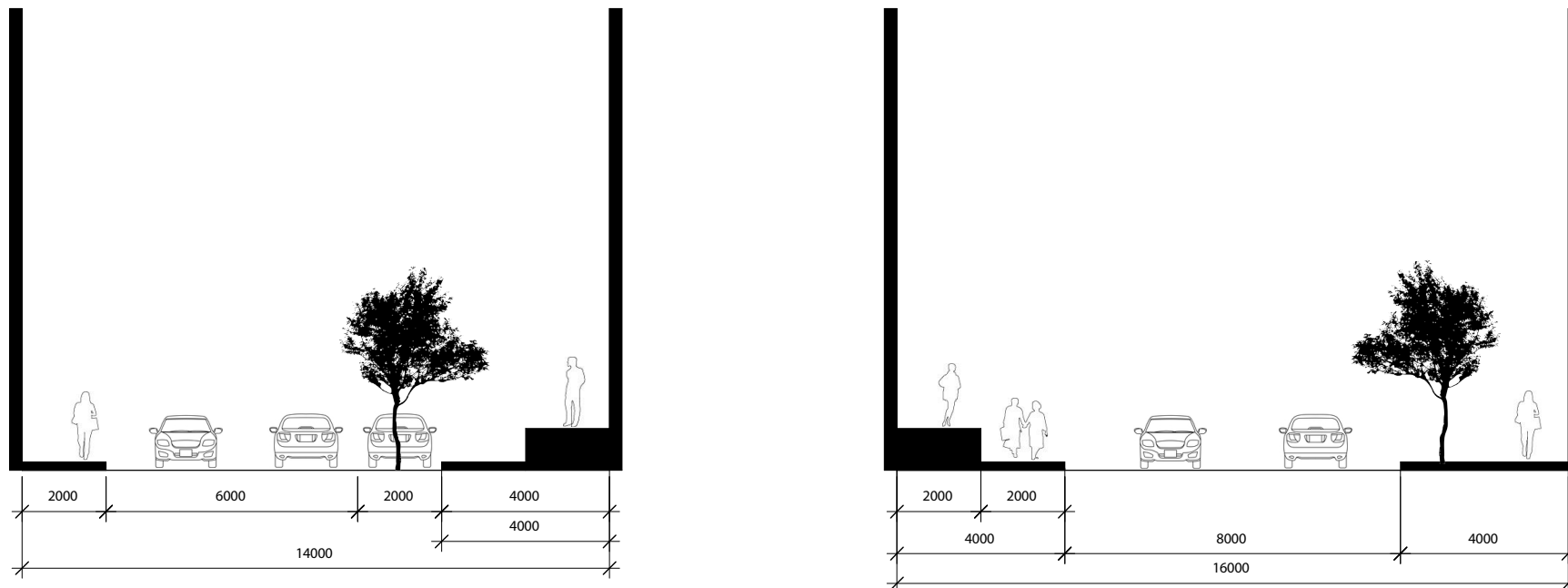


Figure 6.25: Street section based on standards according to Bodin et al. (2015). Left picture is the north side of new buildings, the right picture is Södra Hamnleden. This is not an actual section of the street, it is the widest the street gets and it shows how all the functions would fit in that scenario.

hypothesised.

The actual sections (figure 6.26 and 6.27) of the street turned out to have similar measurements, only a couple decimeters differed. In many cases the distortion of the buildings meant that the hybrid zones were placed towards the courtyards between the *bokal* buildings and gave more space for pe-

destrians.

Although in some cases paths were as narrow as two meters. Which is okay for pedestrians according to Bodin's, et al. (2015), but it infringes on the buildings' integrity as it becomes so close to the road.

The placement of trees along Södra Hamnleden became more scarce than

it was originally planned. During the process it had to be minimized in order to give space for potential cyclists.



Figure 6.26: Street section of the site. See figure 6.23 to where on the site. 1:250

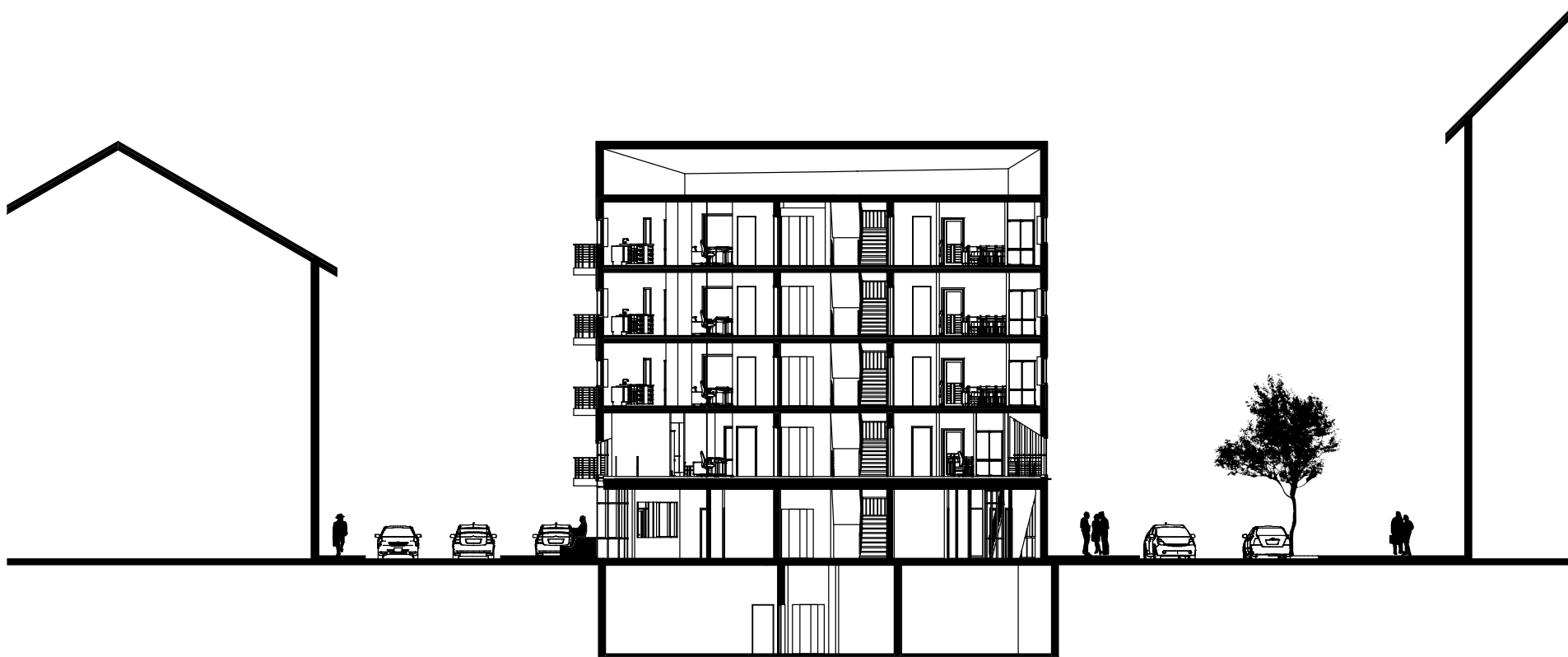


Figure 6.27: *Street section number 2.*
See figure 6.23 to where on site, 1:250

6.6 OTHER UTILITIES

6.6.1 Ramp

The ramp down to the parking lot will in this case be part of the building, meaning that two building will lose two potential *bokal* premises each. The ramp inside the building can only fit one lane and therefore the need of two. If the ramp was placed in its own building only one ramp would have been needed since it could have been designed to fit two carlanes. Although that building would then interfere with a potential public space, which is for the sake of site attractiveness put to higher regard.

The ramp ratio is 1:7 or 15 % according to Bodin et al. (2015). Another source describes a desired inclination

of 10 % (Norconsult, 2015).

6.6.2 Parking

There were three calculated scenarios that would be compared to see how well this parking lot would be able to meet the needs of the city.

Scenario 1: According to an inquiry by Luleå municipality, 66 % want better conditions for pedestrian, bicycle and community transits (Granberg & Ljunblad, 2016). An extreme assessment would be to only allow 33 % parking spots (a third of those who live in the conceptual buildings) for those who do not want to change. Which is calculated approximately 40 cars.

(2 people per apartment x 3
apartments per level x 4 levels

x 5 buildings x 0.33 "need of
car ratio").

Scenario 2: Another scenario is based on the amount of people that can have cars and have a license, 86 %. In that case, based on the same formula, there should be 103 parking spots.

Scenario 3: The last scenario is based on that there are around 570 cars per 1000 people in Norrbotten (Transportstyrelsen, 2021). Resulting a need for 68 parking spots.

The proposal has room for 55 cars, only enough for scenario 1.

A change in the formula and limiting the amount of cars per household creates a more positive conclusion.

Scenario 1: 20 cars

Scenario 2: 52 cars

Scenario 3: 34 cars

The proposed design has two ramps with one way traffic and 55 parking spots. Following the scenario that 86 % of citizens have a car and license and that there is only one car per household, there will be a need of 52 and there was room for 55. Requirement well met.

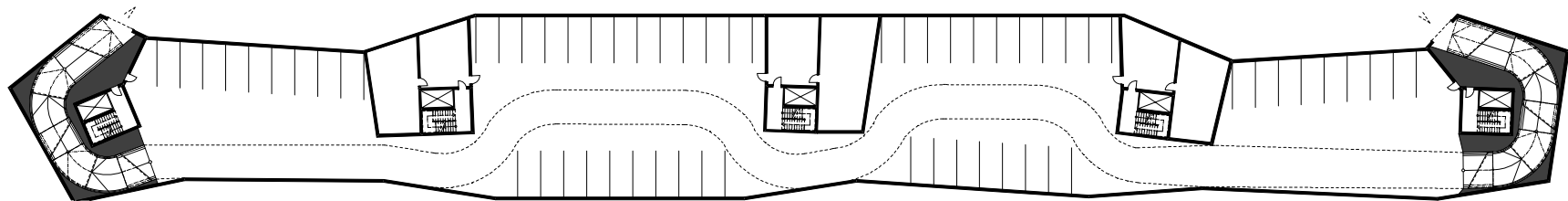


Figure 6.28: Design proposal of the cellar plan. Featuring underground parking and ventilation rooms, 1:750

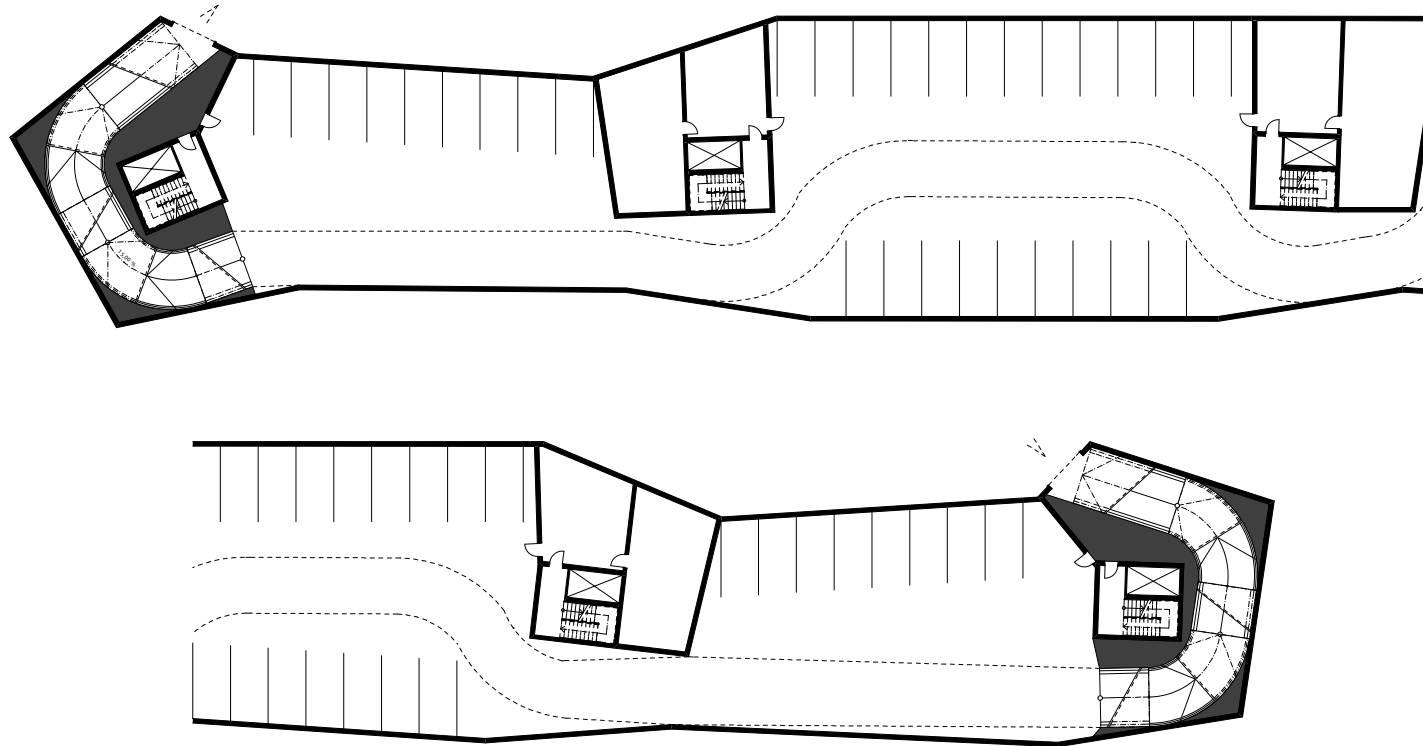


Figure 6.29: Design proposal of the cellar plan. Featuring underground parking and ventilation rooms, 1:500

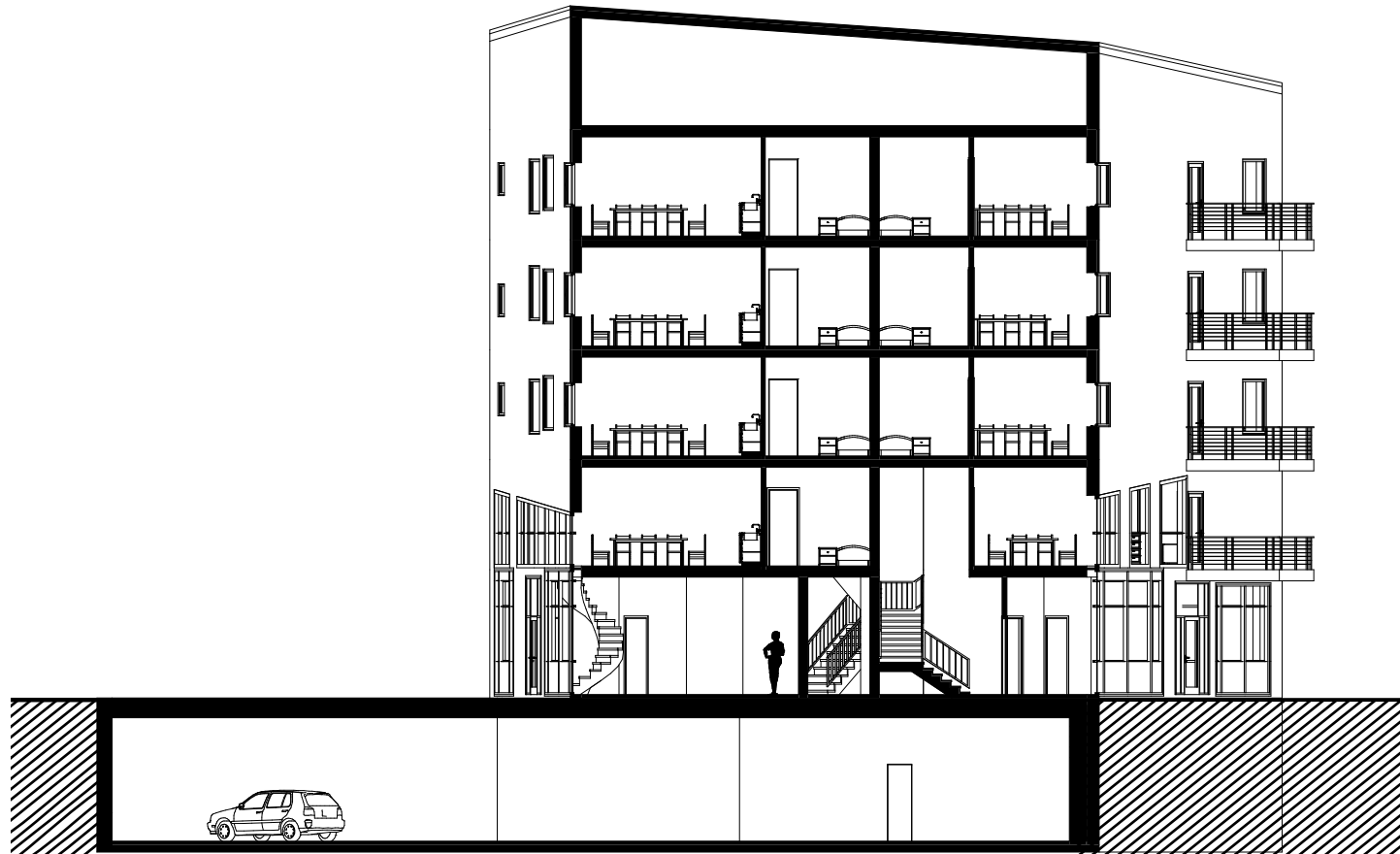


Figure 6.30: *Section of bokal building, 1:200*

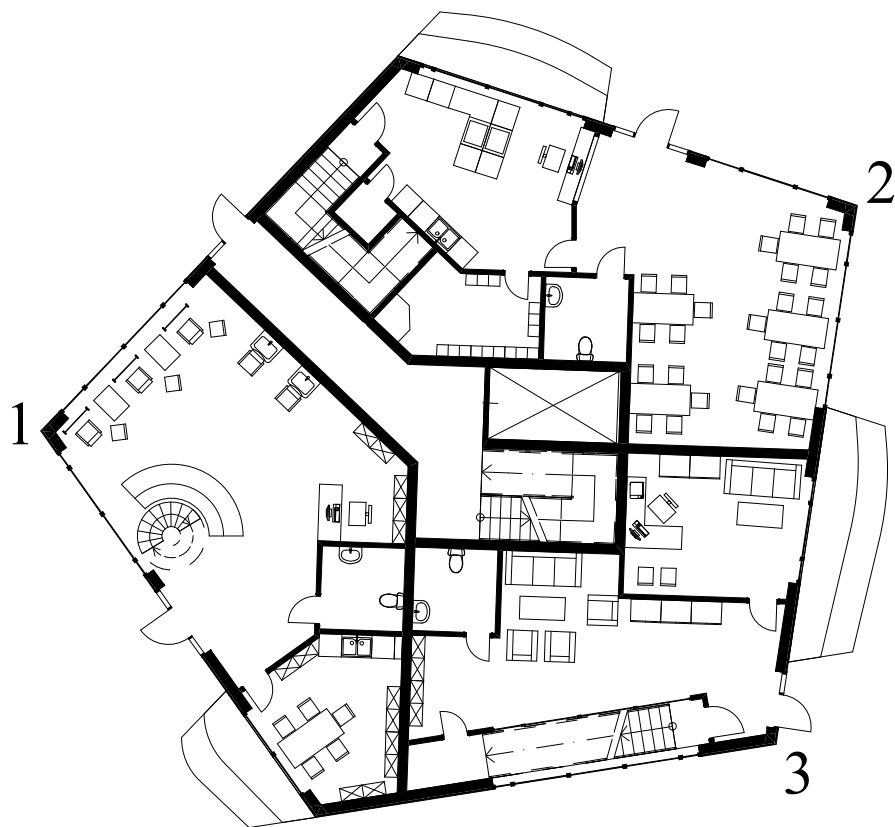


Figure 6.31: Final design proposal of the bottom floor bokal with the preferred occupations, 1:200
 1. Hair salon, 2. Small restuarant, 3. Consultant

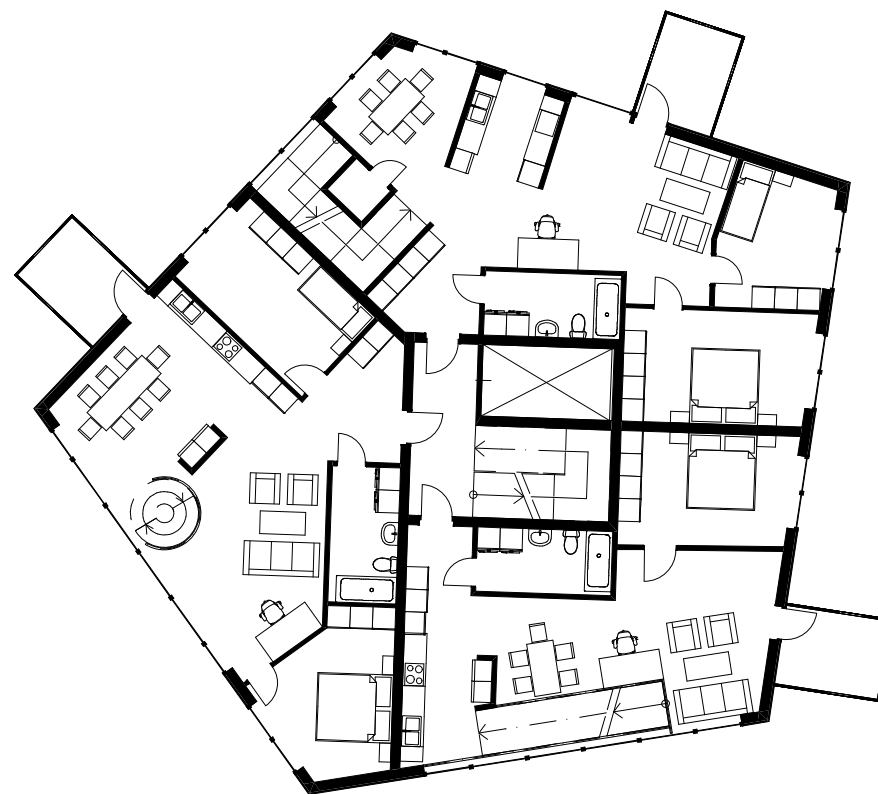


Figure 6.32: Final design proposal of the residential upper floor of the bokaler, 1:200

6.7 FINAL ASSESSMENT

Figure 6.31 and 6.32 shows the final version of the *bokal* apartments or *bokal* premises. Compared to other variations of the same typology they are significantly larger. A common *bokal* is around 50 square meters these are above 50 square meters per level.

Being able to have space for all the different functions is important, but it will come with a price. Unless the division of the two larger functions (residence and work) gives leeway for users to be able to have tax withdrawal from the workspace it is difficult to see how this may be economically available.

On an individual level the *bokal* premises have their own strengths and weaknesses, as already stated in the assessment about the adaptability. Premise 1 flourishes in social types of occupation, under terms that the clients are invited or have booked appointment. Which is why it has a hair salon as its final occupation. Although it is still undetermined if the disclosed space

works best as a staff area or as storage. In this instance it is both, as hair product do not require that much space. The only problem here is potential smells can spread up the residential floor.

Premise 2 is the *bokal* that has the best conditions for more spontaneous meetings. Since it is balanced in both of the divided areas there are a lot of opportunities that can take place there. For the final presentation therefore a small restaurant was chosen, a restaurant that serves a specific type of food for example sushi.

Premise 3 is a *bokal* suited for the freelancer, for example artists, photographers, or in this case a consultant. It is a premise that is small and therefore require more intimate types of meetings, and it does not have space for multiple employees so the occupation has to be suited for a single person.

The final residential function of the *bokal* premise seen in figure 6.32, is more or less an ordinary apartment only it has a staircase that takes up a lot of space. Space that could have been for better dining spaces or living rooms or additional bedrooms or storage.

Even in this case the residences are

one out of three times smaller and do not support a longer future. Specifically premise 3, which only has one bedroom, a small living room and a cramped dining space. It may become a space that grows out of rather quickly.

If the site had been in favour of placing everything on a singular level instead of multiple, in other words, if there were space for a courtyard, the *bokal* design would have looked a lot different. Those kind of premise would require a lot of space if they were to look anything like the premises that were conceptualized here. In a city environment like the site in this case, *Hammarby Sjöstad* would have worked if it was double the size (see figure 6.33). By placing the original corridor in the middle of the premise and placing the exact same functions on the other side it can easily become an apartment where you can work and live in, but the apartment becomes around 100 square meters because of this.

What the inquiries and analysis found was close to what was reported by Johansson, Birgersson, Estlander, & Jarbrink (2015). The report and this

research agree upon a lot regarding what should be considered when designing a *bokal*. For instance, that the two bigger functions (occupational and residential) should be separated from each other for best implementation of regulations, but also for the sake of quality of life. In terms of residential factors (Nylander & Forshed, 2003), the most important applicable to *bokaler* are “room organisation” and “relation to the city”. As integrity and the fact that the site affects the concept a lot.

There is an issue of creating attractive occupational space as prevalent in many variations of *bokaler*. Where having room for all distinct functions is the biggest issue design-wise. Therefore, the typology only applicable for occupations that have a small number of diverse functions. Home offices are the best kind of occupation to implement as those require the least amount of space and can thrive anywhere. In medium sized occupational spaces, which is the most common, it can be possible to have business like a hair salon, tattoo parlour or a consulting firm. In larger premises even more flexibility is possible, but it requires

premises that are larger than 35 square metres.

Specific values about *bokaler* are hard to generalize, since architectural values best suited as means of achieving goals (Rönn, 1998) and design of *bokaler* can go a variation of direction. Therefore, this study chose to put the value at combating issues that came up often in many of the cases.

There are many ways according to both Gehl (2011) and Uittenbogaard (2020) to achieve social and attractive cities, but the solutions cannot rely on one concept and can be achieved in many ways. Regarding *bokaler* specifically, it will have trouble thriving in Swedish societies as there are due to cultural social values. An architect said it best during their interview: “As humans we tend to follow “norms” and “patterns” formed of living and how the society looks like.” Also explaining it can be redesigned but because that the physical environment is viscid it cannot always adopt fast enough.” With the pandemic ending soon and with a change in values seen in the ST report (Hallberg & Saar, 2020) that might change quicker than expected.

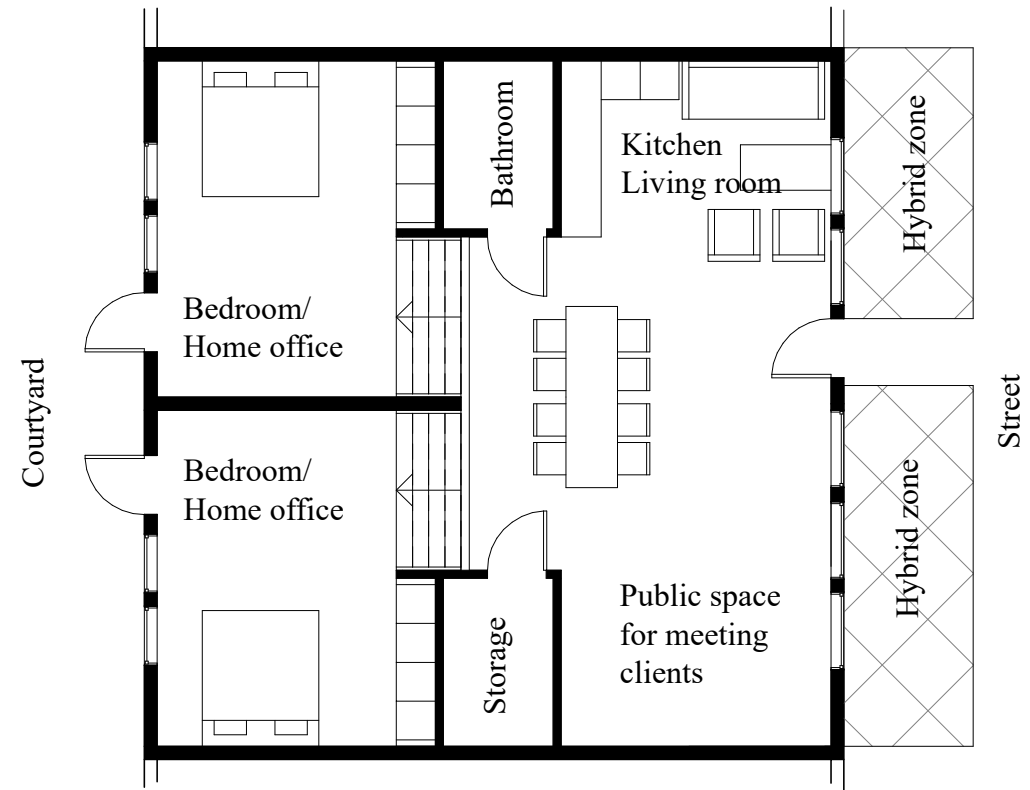


Figure 6.33: *Quick reimagining of Hammarby Sjöstad bokal, 1:100*

This quick concept is basically a merger of two bokal units. It gives an hint of how big bokal premises have to be if all functions are placed in one level. A singular unit was around 50 squaremeters.

7. REFLECTIONS & CONCLUSION

7.1 REFLECTION ON THE RESEARCH

To be as trustworthy as possible many different design research methods were compared before the one used in this report was chosen. Through interviews, literature, surveys and workshops the research have tried to build as much context as possible in order to achieve a trustworthy and evidence-based conclusion. The method that has been used in this report created a good basis to cross reference and check different sources as much possible. For transparency, the method involved a lot of work, and the workload has therefore affected the result. If more time was allocated to user survey, for instance, maybe more data would have been accumulated.

During this project there was a realization of how work combining two kinds of studies could amount to.

Combining a case study research with a design method architectural programming is not usually done by one person (Peña & Parshall, 2012). The case study grew larger with data when more questions to explore appeared. Balancing that with the design project became too big of a task for one person. A more distinct focus for the research should have been set with clearer boundaries, or the design project should have been the sole focus.

Finding the right people to interview (*bokal* users and designers) took a great amount of time that was hard to account for. The stagnant process led to an expansion in the boundary and live-work premises outside Sweden was researched. The few found were of course cut from the research for being out of boundary, but it is an example of wasted time. Being stagnant in process also led to conclusions and reflections being completed early, which then had to be revised when more re-

sult finally came.

In the end the inquiries created a good overall background in order to obtain validation and reliability.

7.1.1 Case study research

Since this research method relied most on prior studies it is regarded as the most objective. Instead of only comparing the data to other inquiries it was also compared to read literature. According to Groat & Wang (2002) it demanded the research to use various sources and reflection from other theories in order to be used correctly. The research here confirmed a lot of results that were found in the other two qualitative and subjective inquiries. Some criticism though is that fewer cases could have been chosen. Variations such as *Hammarby Sjöstad*, *Sverige-huset Kubik* and *Kilströmkajen* all got similar verdicts regarding their design.

7.1.2 Interviews

Finding architects and contacting

them was difficult, and some of the architects had not been working with the *bokal* typology for years making details unreliable.

A lot of architects were too busy to have an interview. Allocating time to transform the interview into a survey would have been dissatisfactory. Since they have a lot of knowledge about the concept *bokal*, and it is important to be able to ask to follow up questions about the project, a possibility that surveys do not allow.

Interviewing through digital platforms created distance, which would not have been as prevalent if the interviews would have taken place face-to-face. Using graphics and pictures would have created deeper explorative interviews. This was tested in some interviews but due to faulty technics was later ignored completely.

7.1.3 Survey

Finding the correct address for the users was a challenging task. It is pos-

sible that the lack of answers from *Bennet's Bazaar* is a consequence of that. Another option would have been calling them through phone but since they were too many to interview in that way it was avoided all together.

The amount of people that answered the survey was few, 10 out 63. Not enough to make any real conclusions about the typology but some trends could be found. Although at the same time, the designs and site of the analysed cases was so varied that it would have been difficult to compare them in the first place.

The lack of answers affected the statistics concluded in the research. For instance, is the number one type of occupation in *bokal* premises consulting work, are occupational and residential functions mixed? Issues that are prelevant in *bokaler* were never found out. More extensive data about the use of a *bokal*, it would almost be worthy a redo of this research, that time only focusing on the user.

7.1.4 Workshops

Feedback is one of the three validation methods Ahrne & Svensson (2015) suggests to use in order to create a re-

liable research. Usually the feedback is supposed to be with the interviewed subjects, but due to complications this was not applicable. To be able to have some sort discussion and reflection on the result from anyone outside, a *bokal* workshop was added. It was not used in the research since it was implemented late to the process.

The workshop had its benefits as gave some perspective into the research. It was not the most scientific of them all, mostly because of lack of planning, but it created clarity in what was not fully translated to the people who are not that familiar with the concept. Nothing that was discussed in this workshop regarding the concept *bokaler* was seen as fact for that reason. It was a way for people to familiarize themselves with the concept and ask questions.

If there was time to spare more workshops focusing on deeper issues should have been implemented. A later workshop could have been in combination with the synthesis of the research and that could have been discussed.

7.1.5 Design process

Adapting the inquiries to design was an interesting method. It created a basis of understanding and a starting point for the designing of the *bokal* premises in the proposal. The only drawback is the time consumption in relation to the rest of the process.

7.2 CONCLUSIONS

7.2.1 What are the qualities and values of *bokaler*?

Bokaler are designed to benefit small business owners. There are many cases of them also benefitting freelance workers or people working from home. For occupants the advantage is autonomy over their work and life. Design values such as flexibility, openness or even multiple functions can vary between concepts, since it depends on what the *bokal* is intended to be. There is a significant difference from what a home office and a commercial business need. A value that is seen often among *bokal* users and in prior studies in regards to mixed functions; is though the room organisation between residential and occupational. People that work from home and *bokal* users wants a separation between work and private life. They seem to value the possibility to have a designated area (or room) for where the work can take place. They like to be close to work but also to take distance from it.

Architects also claimed that the layout create advantage in regards to safety, by placing the functions that are allowed to be exposed in the front.

The owners of *bokaler* are seldom big companies and therefore pose little power to change society and need culture and urban environments to contribute them to thrive and then create social and attractive urban environments. *Bokaler* therefore value a society where small businesses can thrive. A city where rent is high is therefore no place for a *bokal*, nor is a empty suburban area if the occupation of the *bokal* needs customers.

7.2.2 What are the considerations that should take place when designing a *bokal*?

Through architectural programming and problem seeking, the research has found these three problem statements can be applied and considered when designing a *bokal*. There are other considerations applicable, due to the unique of conditions to a site. These design conditions were seen applicable to all cases that were tested and studied in this research.

Since the site is large contributor to the success of bokaler (context such as flow of people and economy), it is important to consider how it may affect the concept.

The site does not always need work opportunities to create a mix of functions and not all “types” of *bokal* premises are fit to a site. Space, flow of people and opportunity varies whether it is a consulting or a commercial business.

Since there are conflicts within regulations and a discomfort among users regarding "grouping of functions", a way to organize the spaces, activities and functions need to be addressed.

Occupational and residential functions do not mix but they can help each other and should be placed where they thrive the most. Residential functions are more sensitive to exposure while occupational are more compatible with it. A separation also allows freedom and flexibility in the occupational space as well as creating more ease to define what space should be rented and taxed accordingly.

Since the users want to security and the urban planners want attractive and social cities, a way to balance interaction between the exterior and interior zones need to be addressed.

Especially if the *bokal* is placed on the bottom floor. The interaction with the street can create better opportunities for the business to thrive in forms of marketing and outdoor serving, or it can create ways for the resident to take claim of the street. Either way benefits the occupants.

7.3 FURTHER STUDIES

Since the scope in this study was a bit too wide for its own good, and there are several things that could be researched more in depth. There were also many things that were not considered due to a lack of knowledge and too much workload.

One instance of further studies is to compare abroad live-work premises to *bokaler*. Do live-work premises flourish in other parts of the world, or specific countries? Is it easier to implement live-work premises abroad? Is it only a matter of culture? Is there any difference in the layouts?

When comparing how the concept was developed in other countries than Sweden; some sort of strict rule should be considered. For example: only focusing on a country like Sweden or close to, or on a country unlike Sweden to get contrasts. Either way the amount of data can accumulate quickly and become difficult to handle.

In Sweden focusing on more specific topics that were most troublesome or

hardest to overcome could be looked into. Regulations and legislation on taxing and renting was one of these. As someone who is not an expert in the area it becomes difficult to assess or find any potential loopholes. Is there really no way to meld residential and occupational functions onto one contract, and how would a contract like that look like?

Then there were considerations such as costs, that were not considered at all. If more data about the financial state of *bokal* users were reported will the concept seem more beneficial to society or would it strengthen the claim that *bokaler* cannot flourish in Swedish societies?

In a way the home is changing drastically. Many signals that the ability to work from home might be a new needed feature, but are there further factors and areas that will change in the future? Are certain functions in the home redundant or are more functions needed? If there functions that are redundant, in either a occupational or the residential premise. A revaluation of those functions could benefit the *bokal* concept, as it suffers from an

overload of functions.

Exposure was a significant and current issue, in regards to safety and security on the bottom floor. More solutions and ideas to address those issues should be explored. According to Uittenbogaard (2020) there are other ways than creating distance between the street and the interior premise to create the feeling of safety.

And overall, one should keep an eye out for live-work concepts. Since it was introduced in the early 2000s it has had a slow progress and development. With the interest of working from home growing there is a possibility that this is the push the *bokal* concept needed. In a future where the density of people is not bound to specific places on a certain time, it might be more profitable to be the owner of a *bokal*.

Future development might find that a certain *bokal*-type might be more integrateble than others. For instance small *bokal* (or *bokontor*) that do not require large premises or large amount of customers. This was also reflected earlier, but research only focusing

on getting data on how the *bokaler* is used would be interesting. The data could then support what kind of *bokaler* should be build in the future.

8. SOURCES

8.1 LITERARY SOURCES

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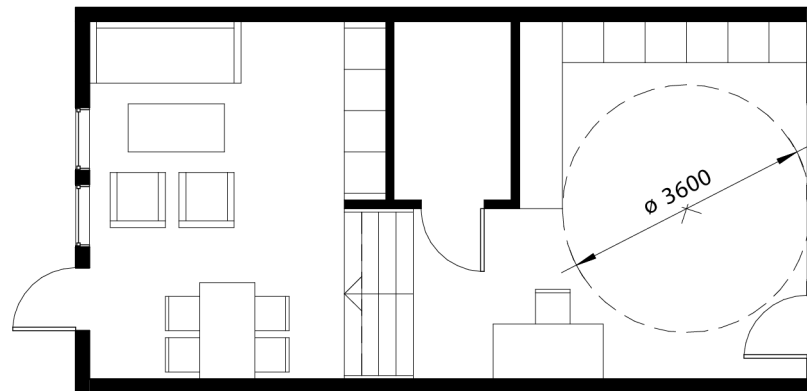
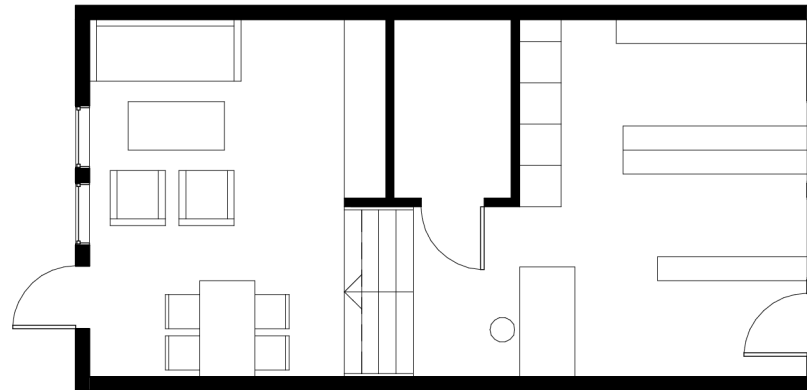
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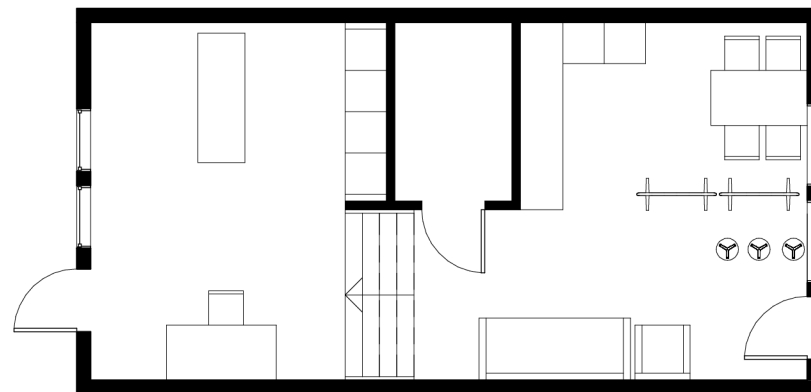
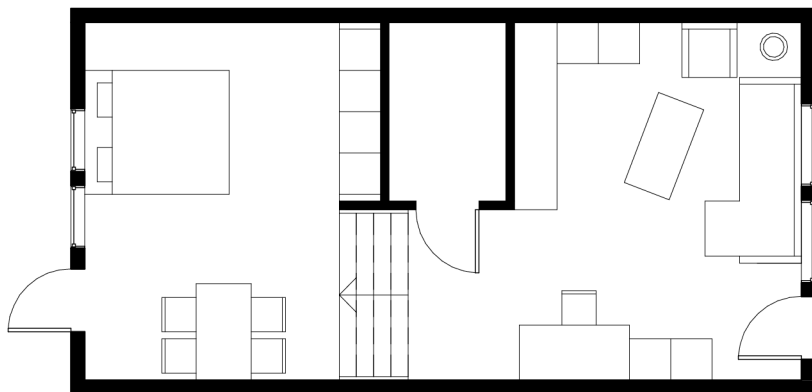
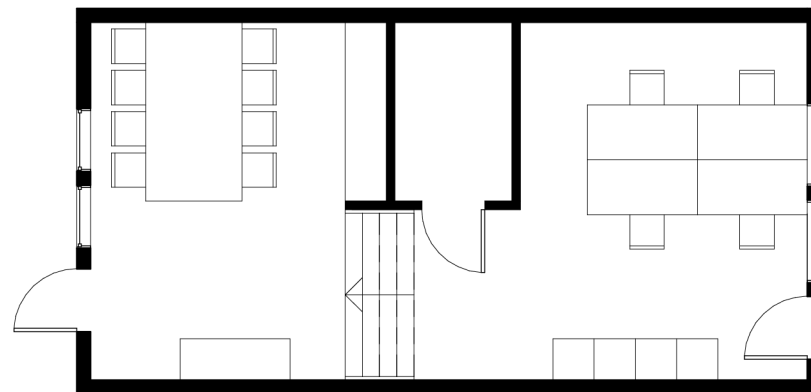
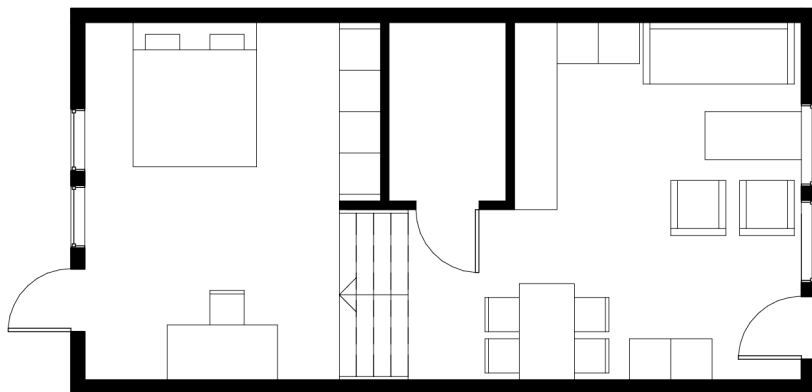
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9. APPENDIX

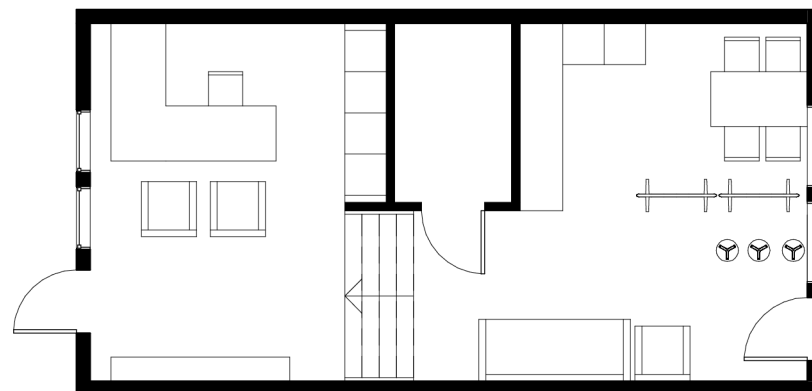
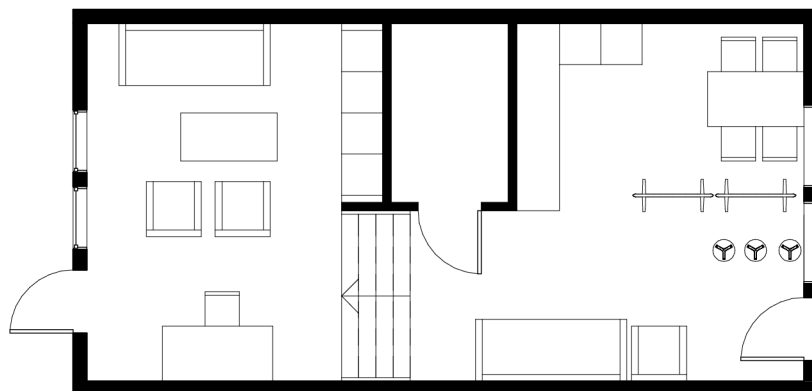
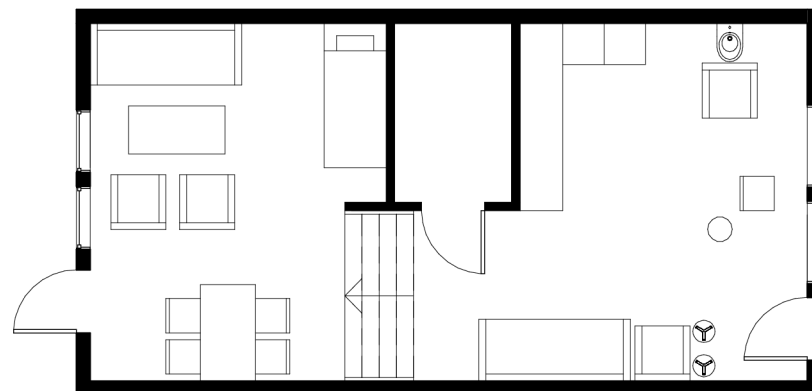
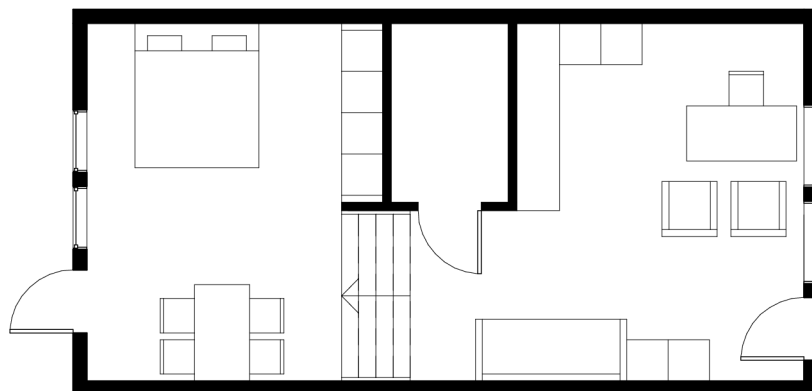
APPENDIX A: *BOKAL* LAYOUT EXPLORATION



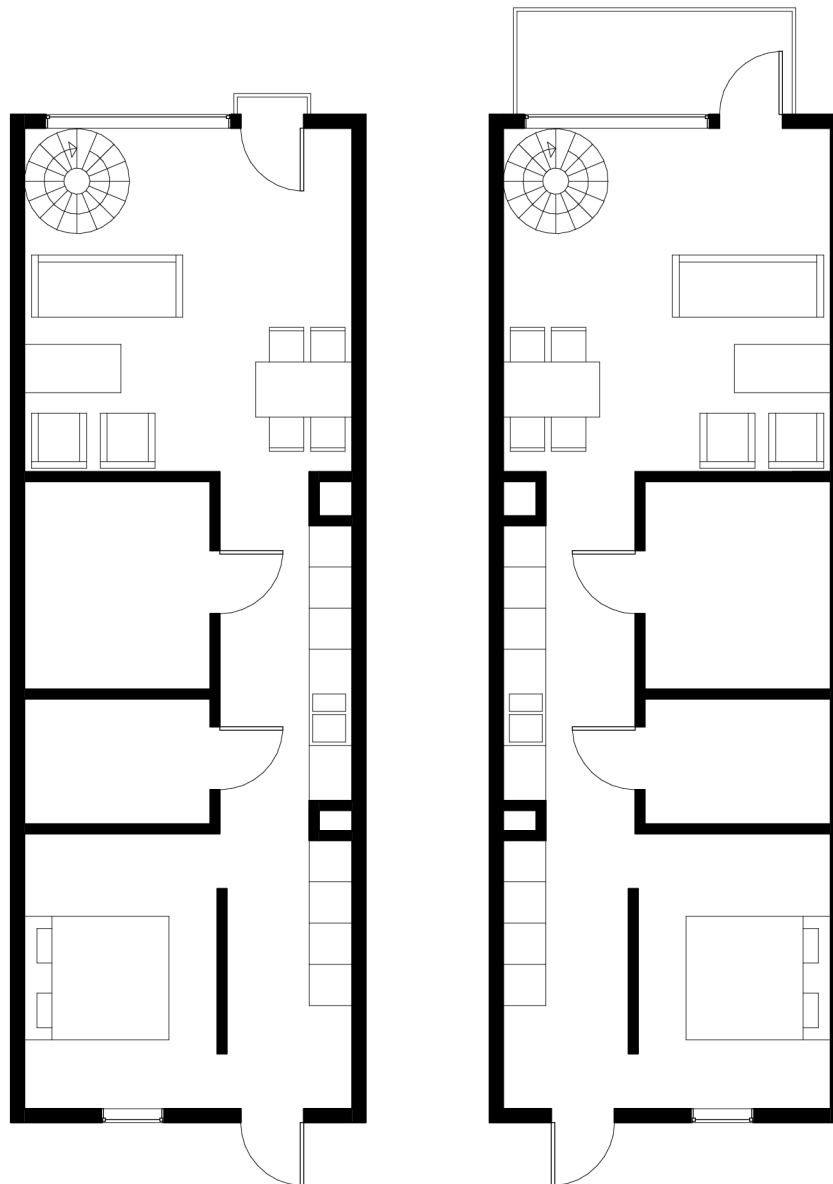
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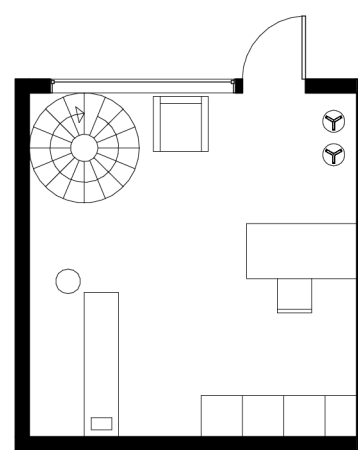
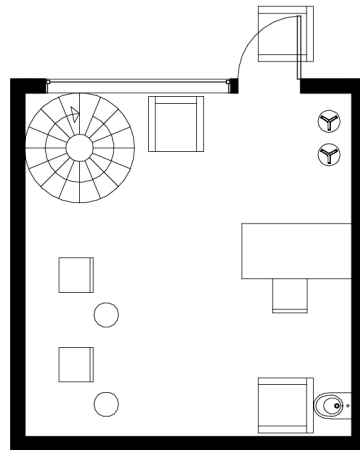
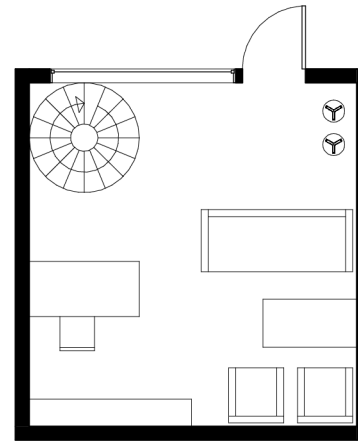
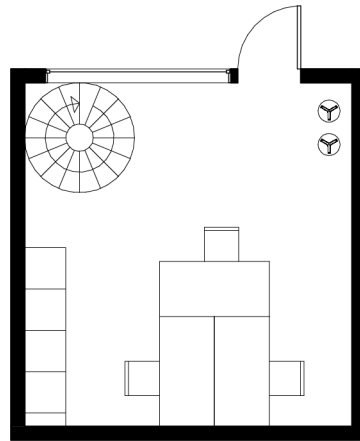
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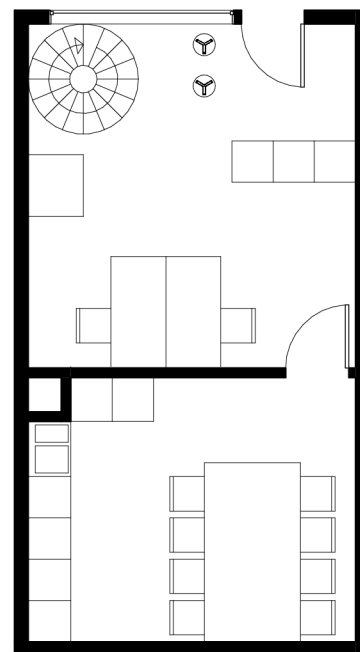
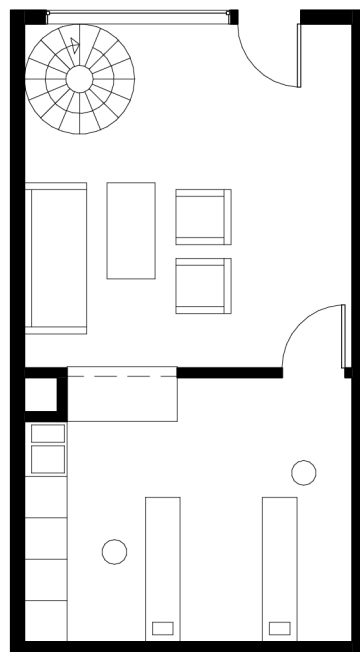
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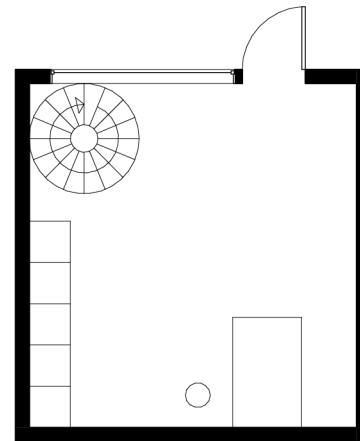
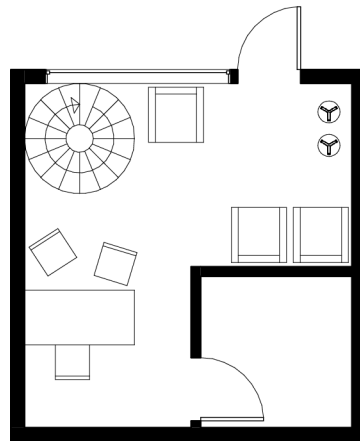
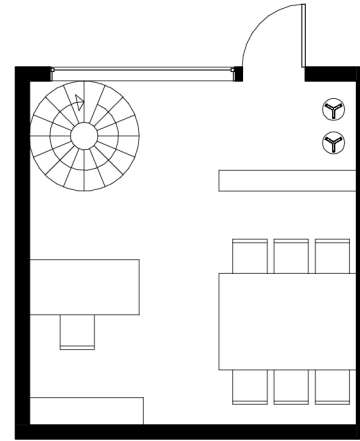
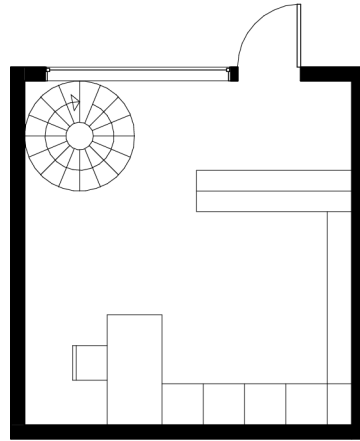
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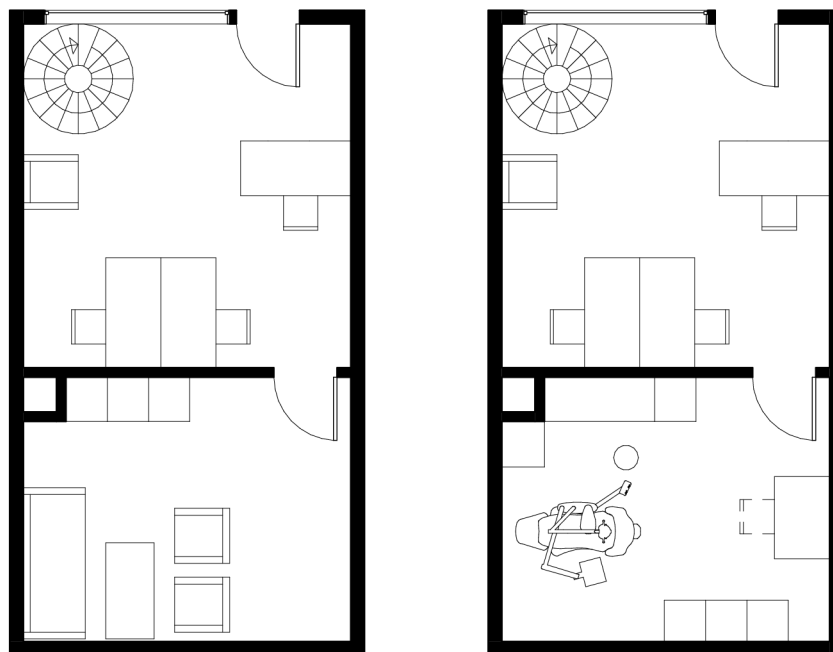
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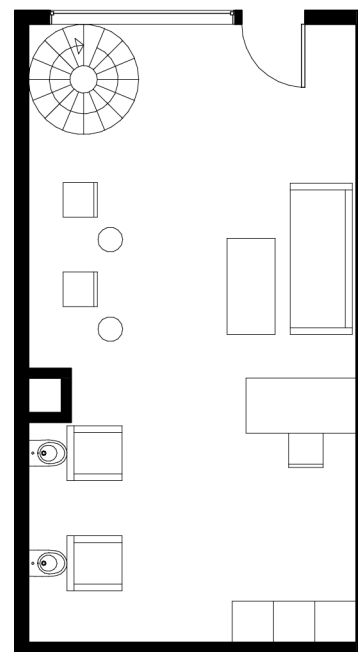
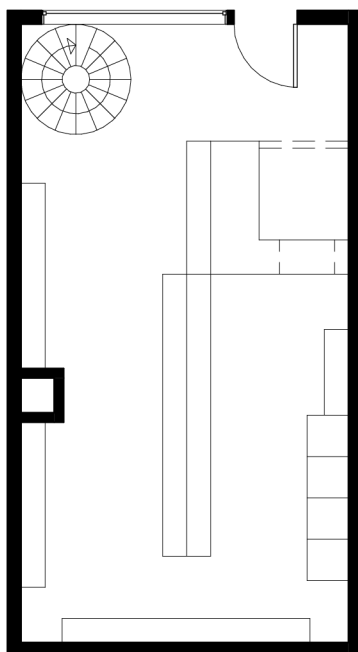
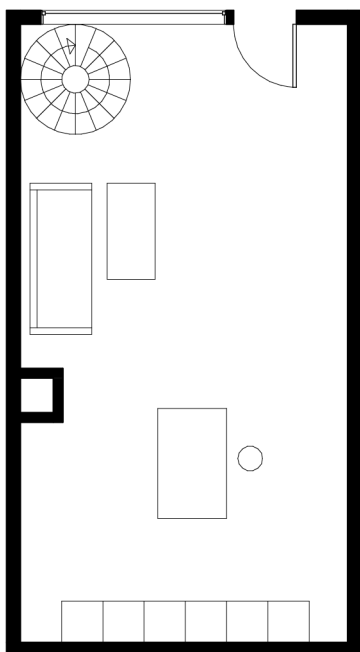
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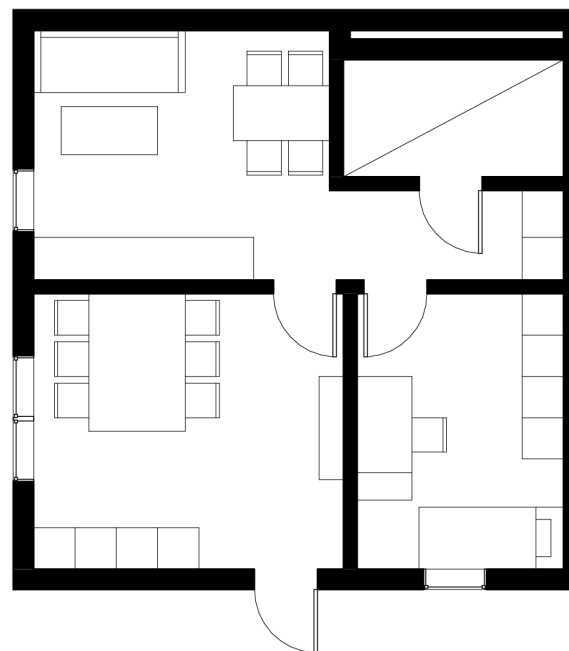
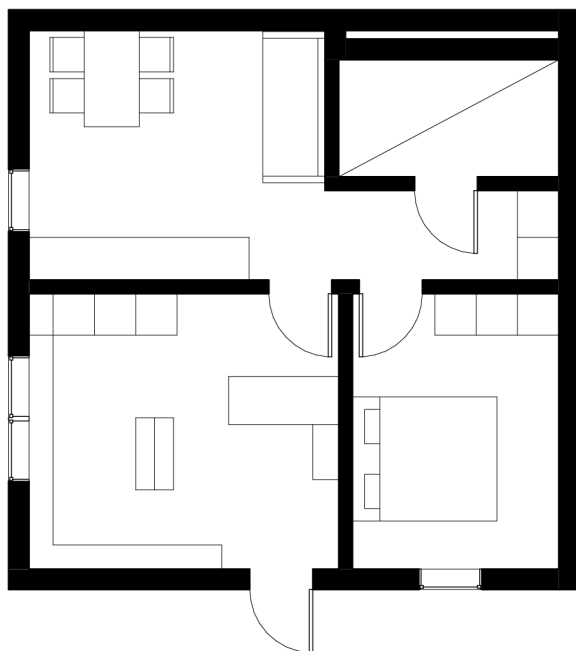
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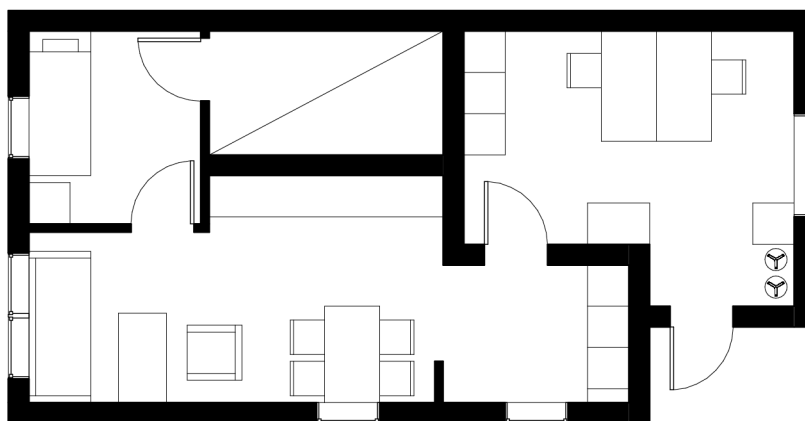
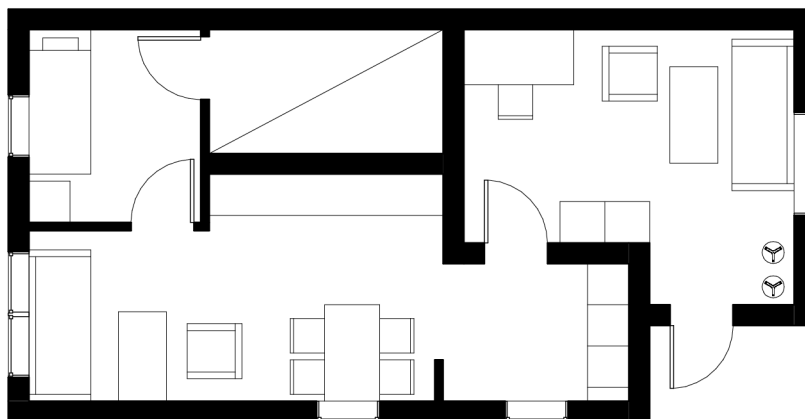
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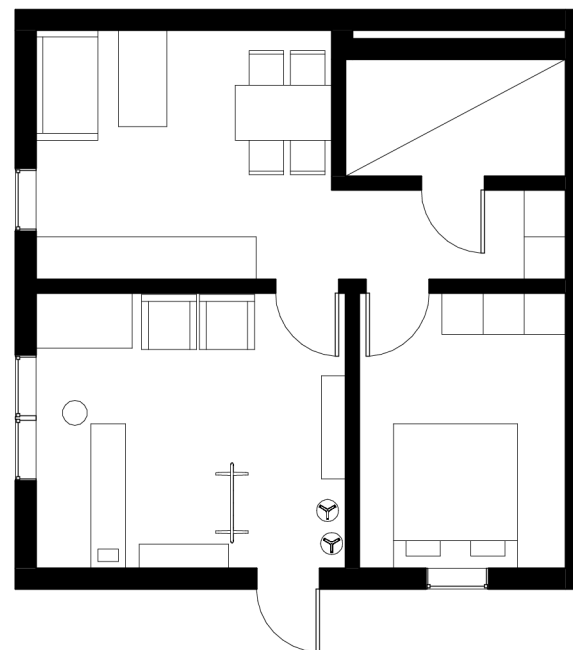
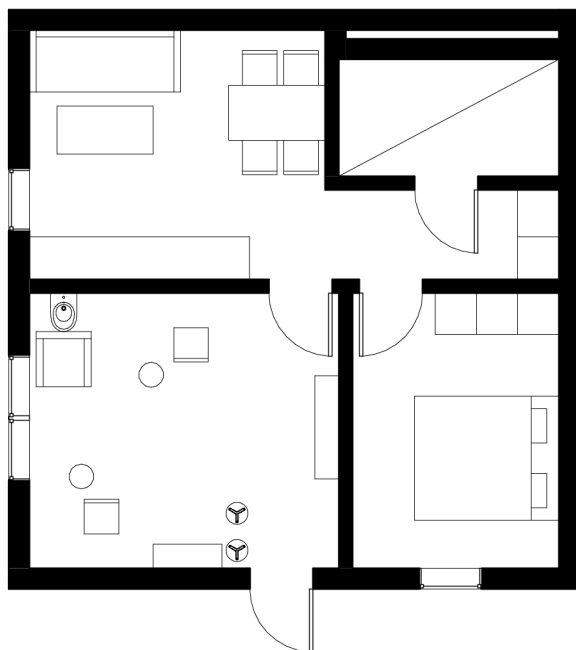
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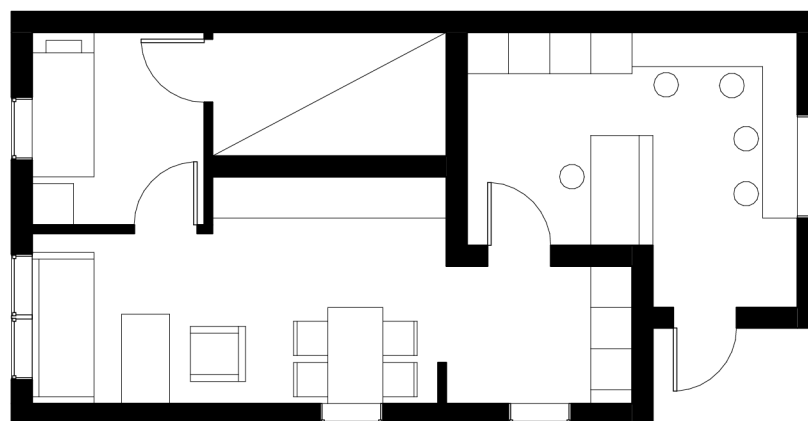
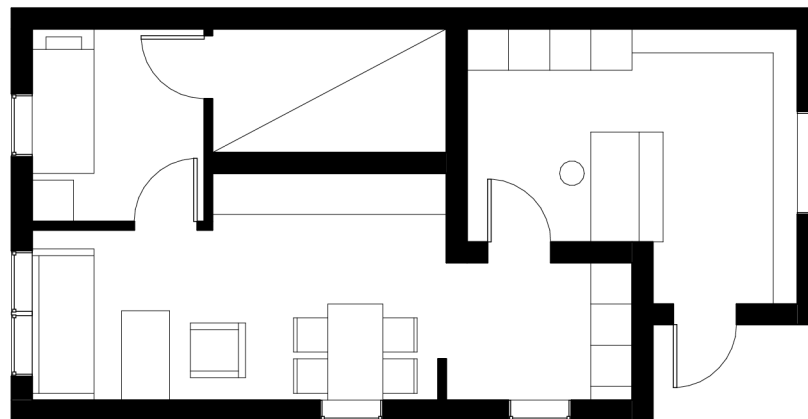
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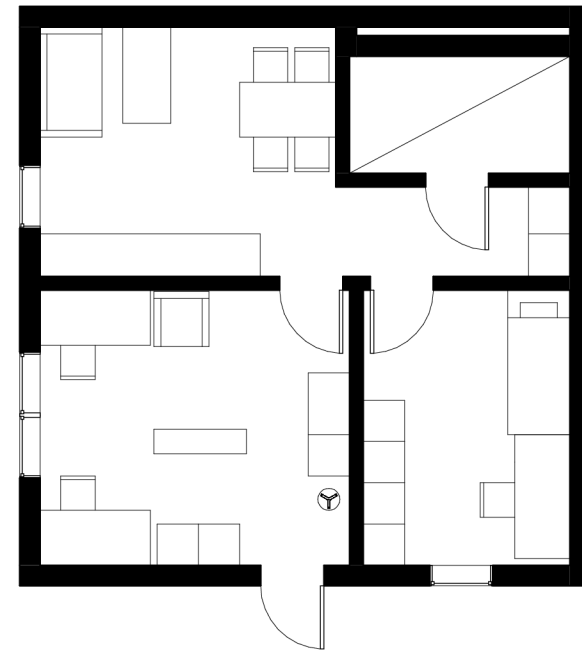
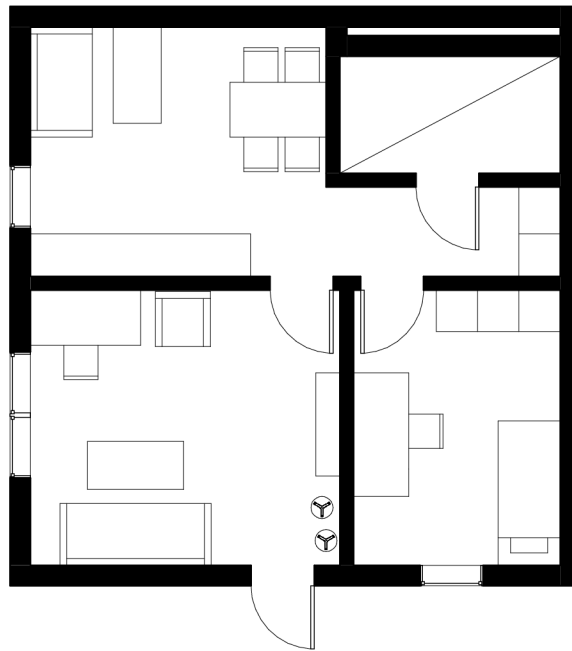
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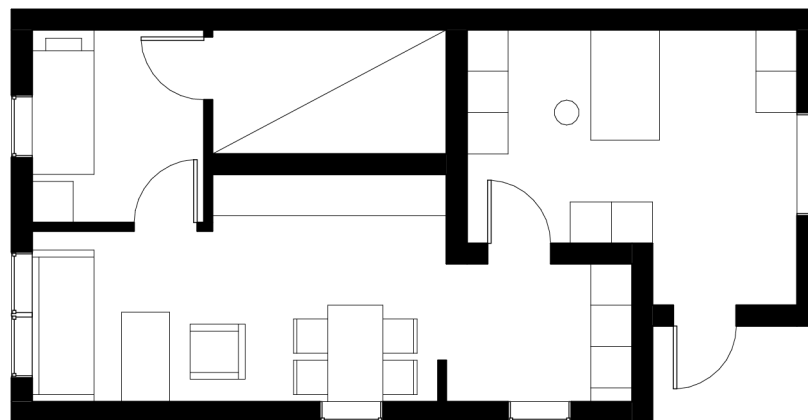
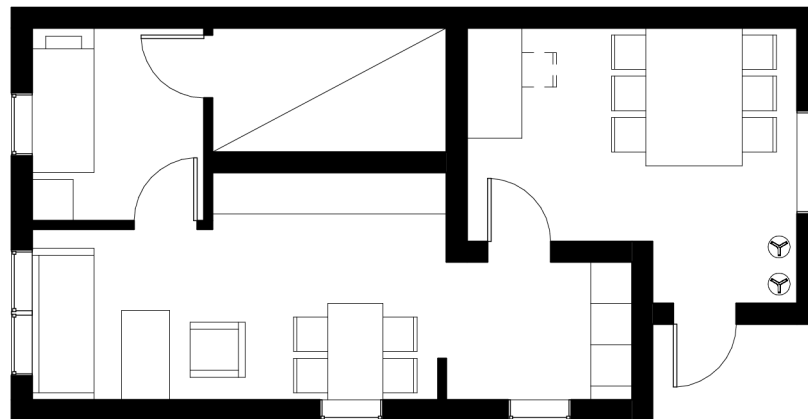
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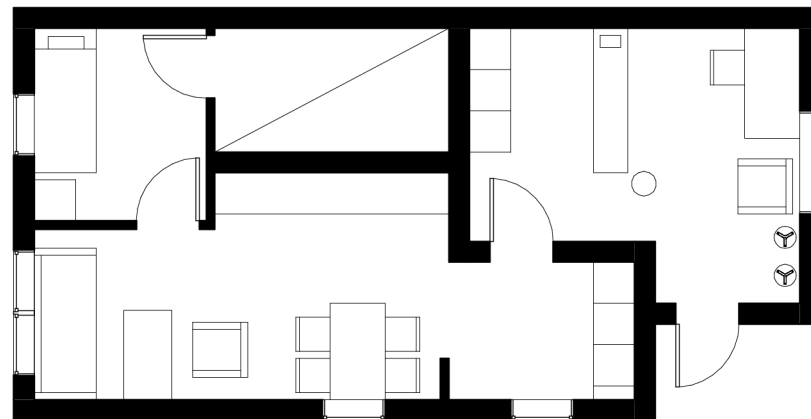
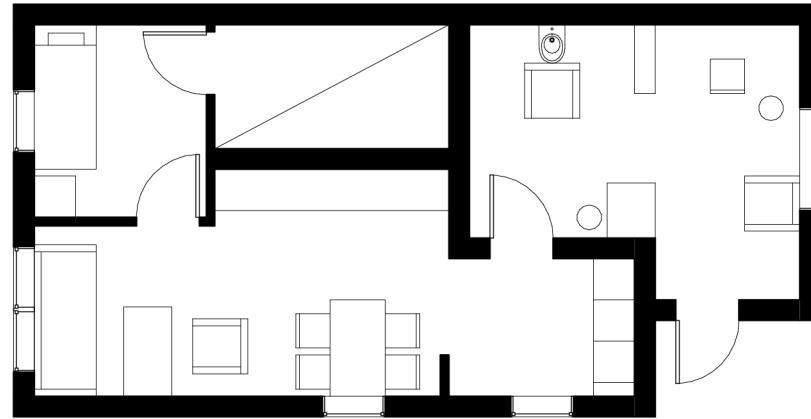
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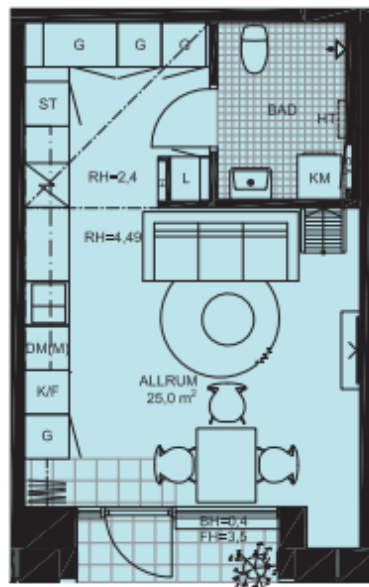
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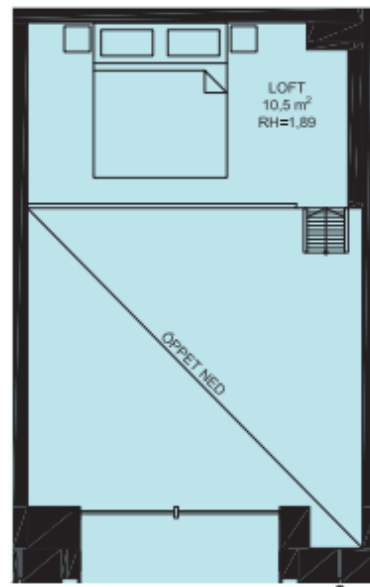
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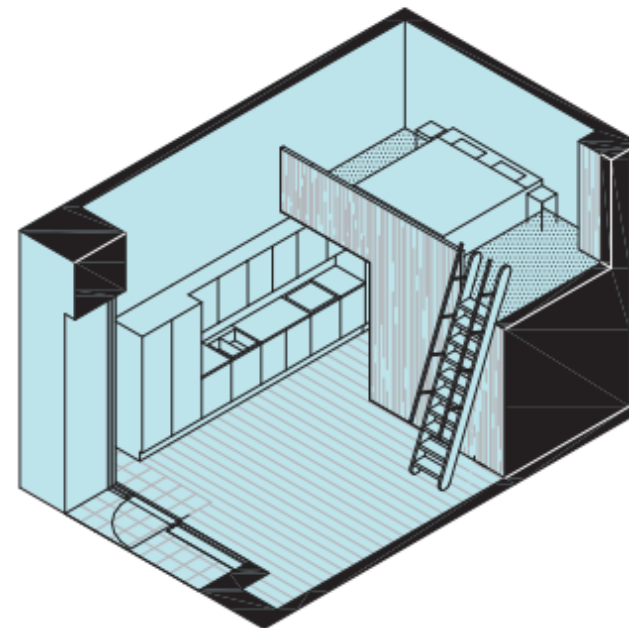
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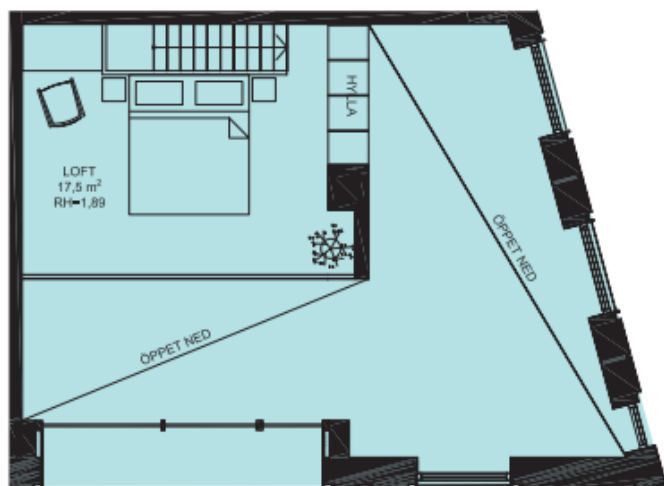
nyaboendet.se (2021)

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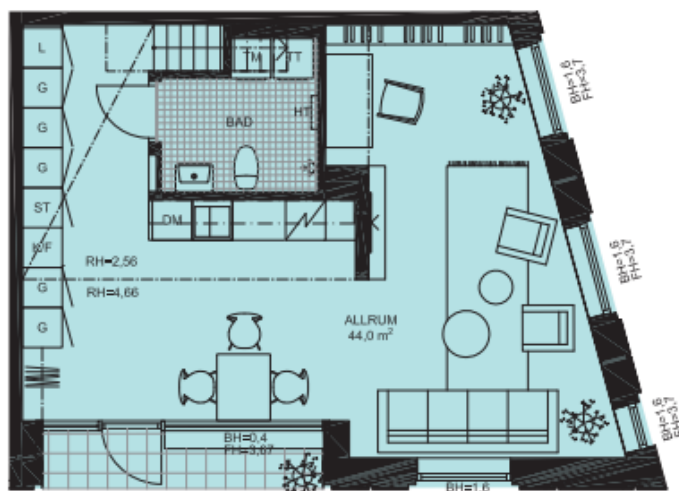


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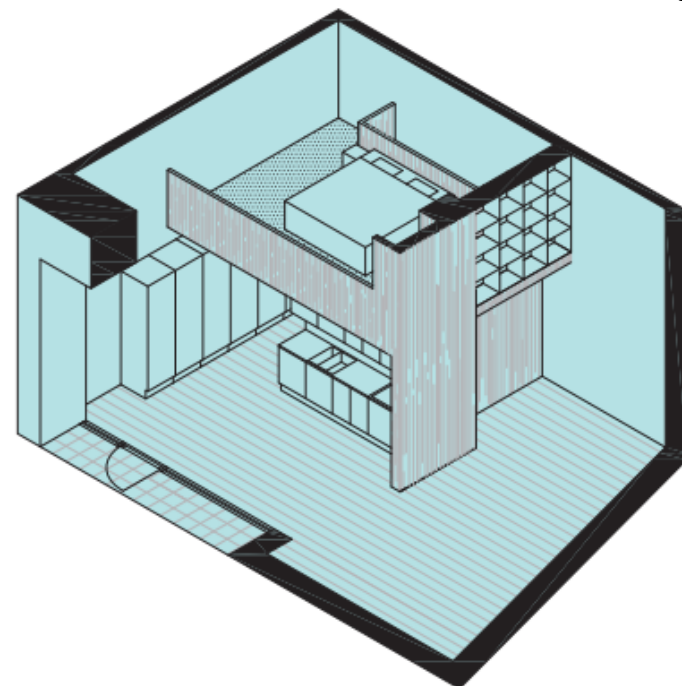
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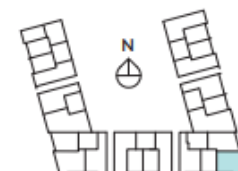
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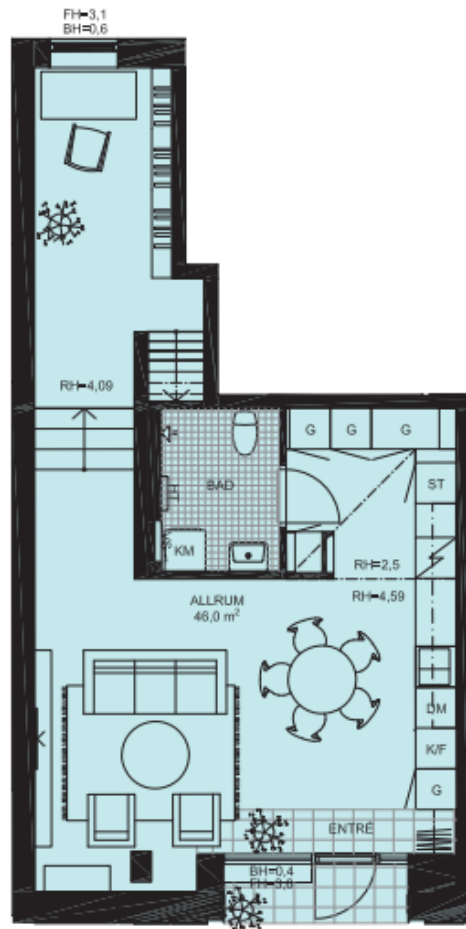


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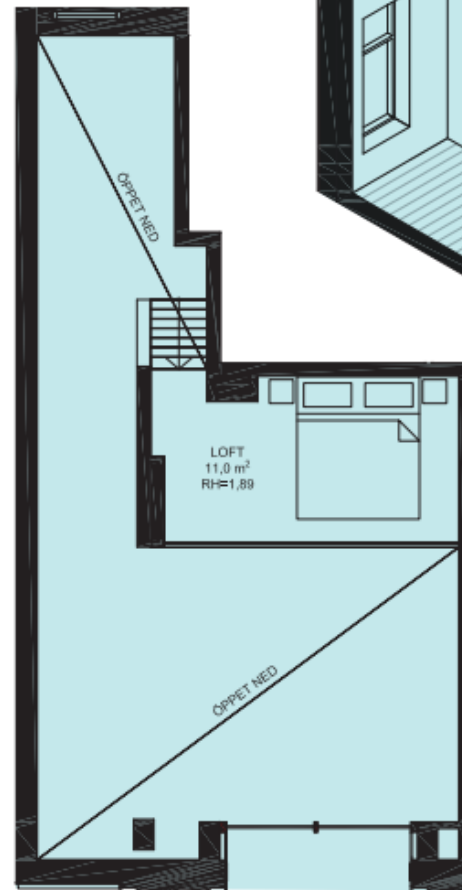


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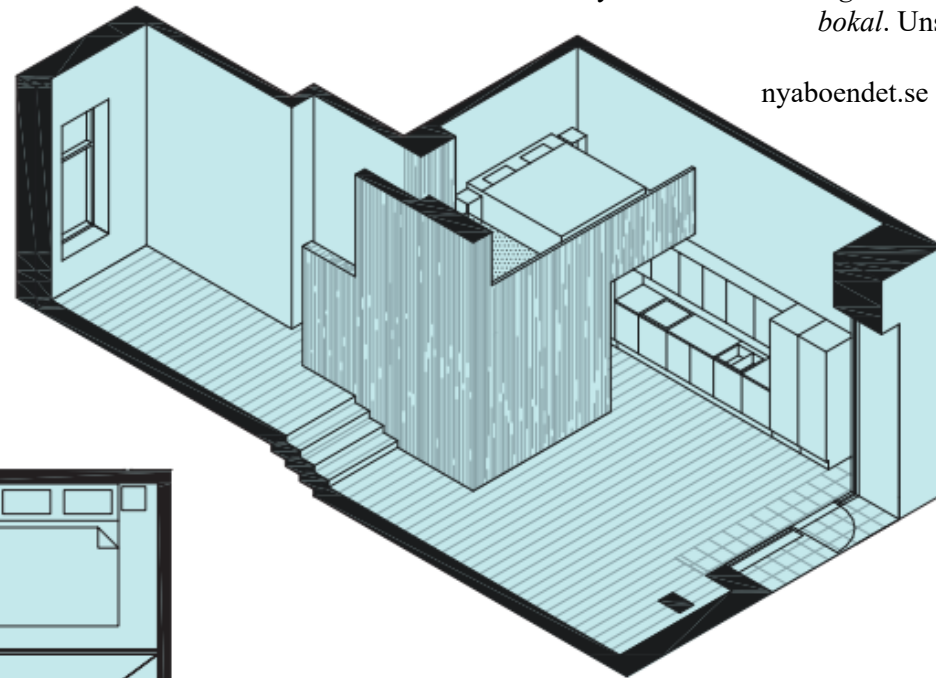
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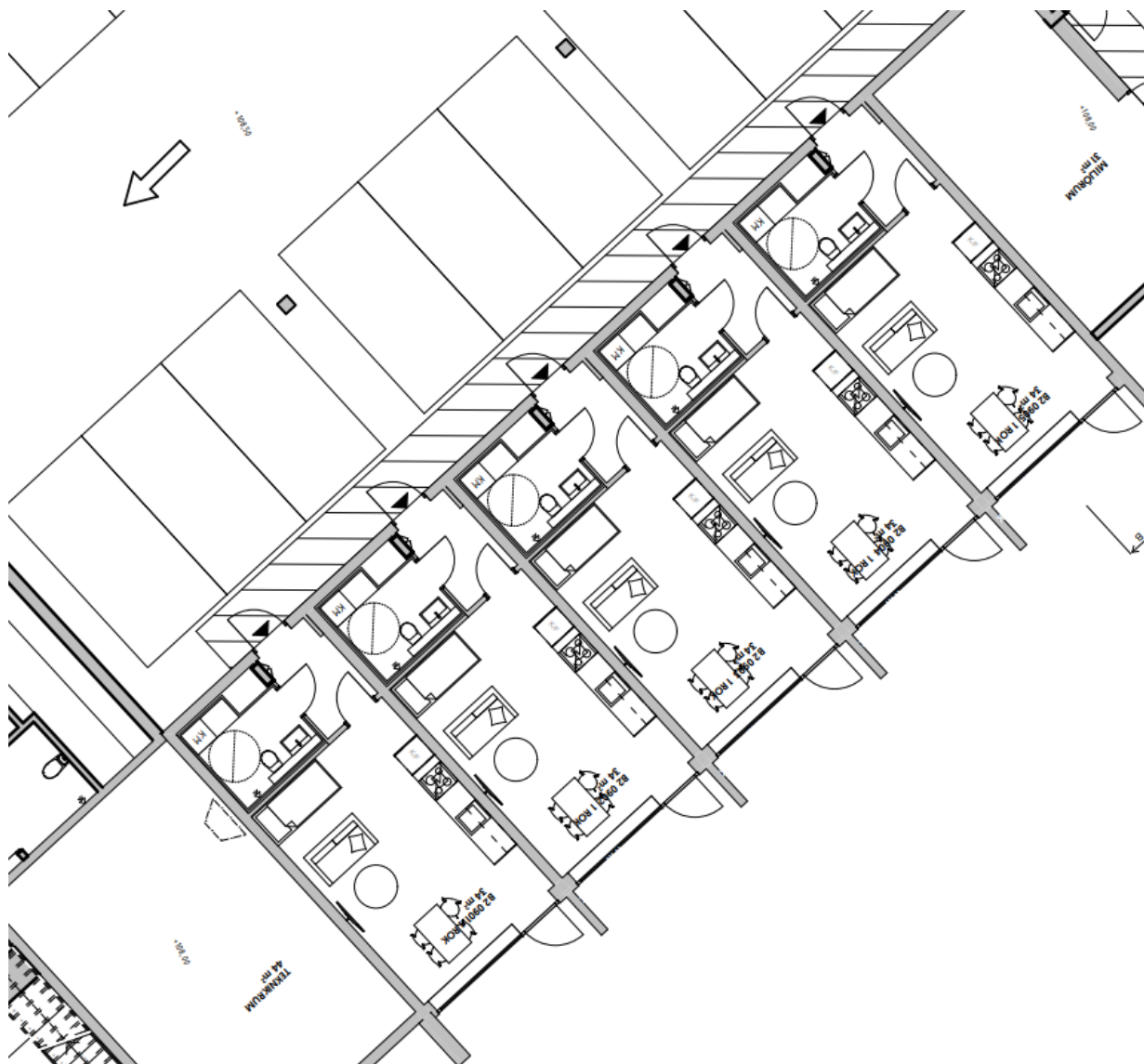


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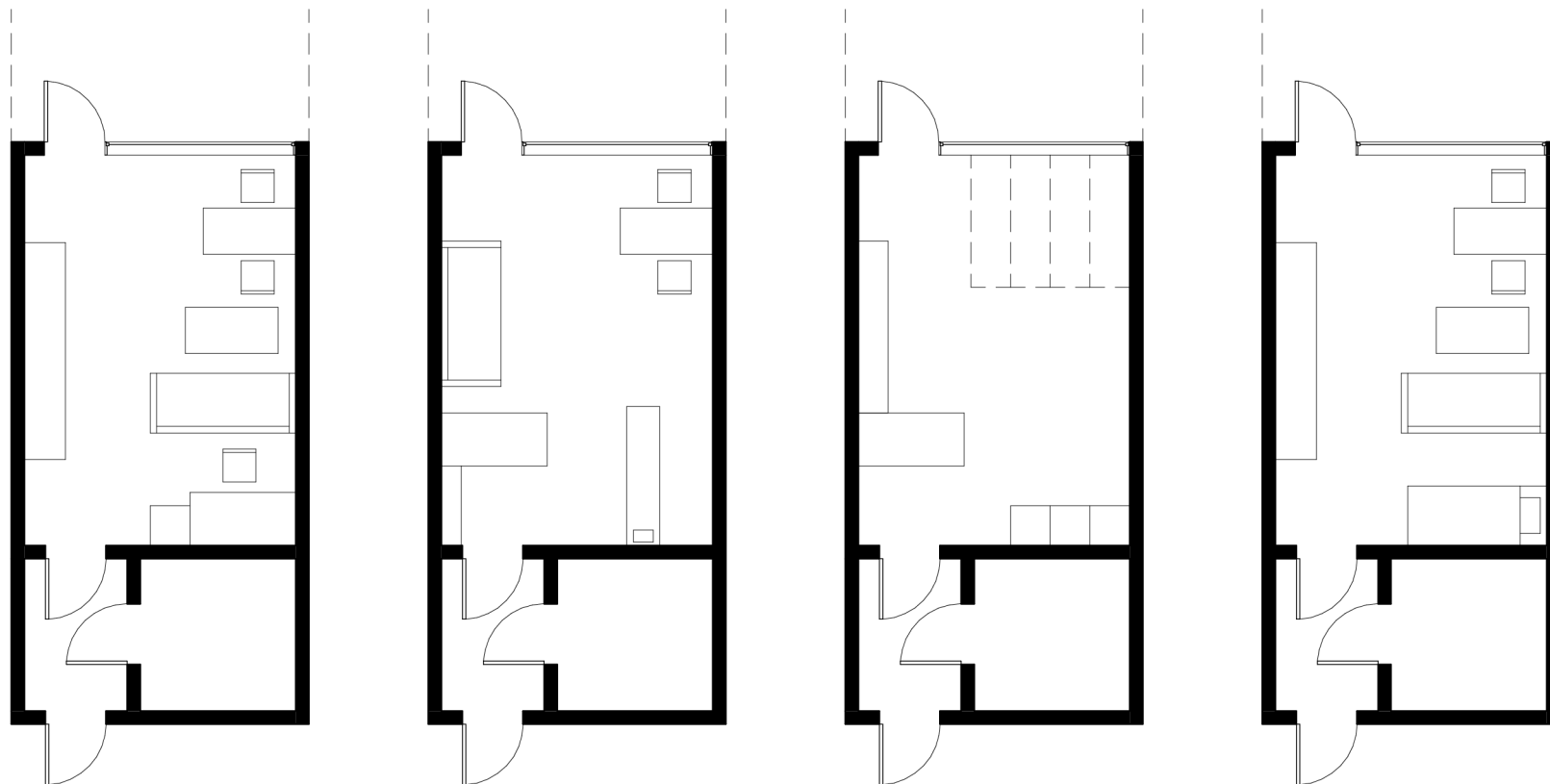
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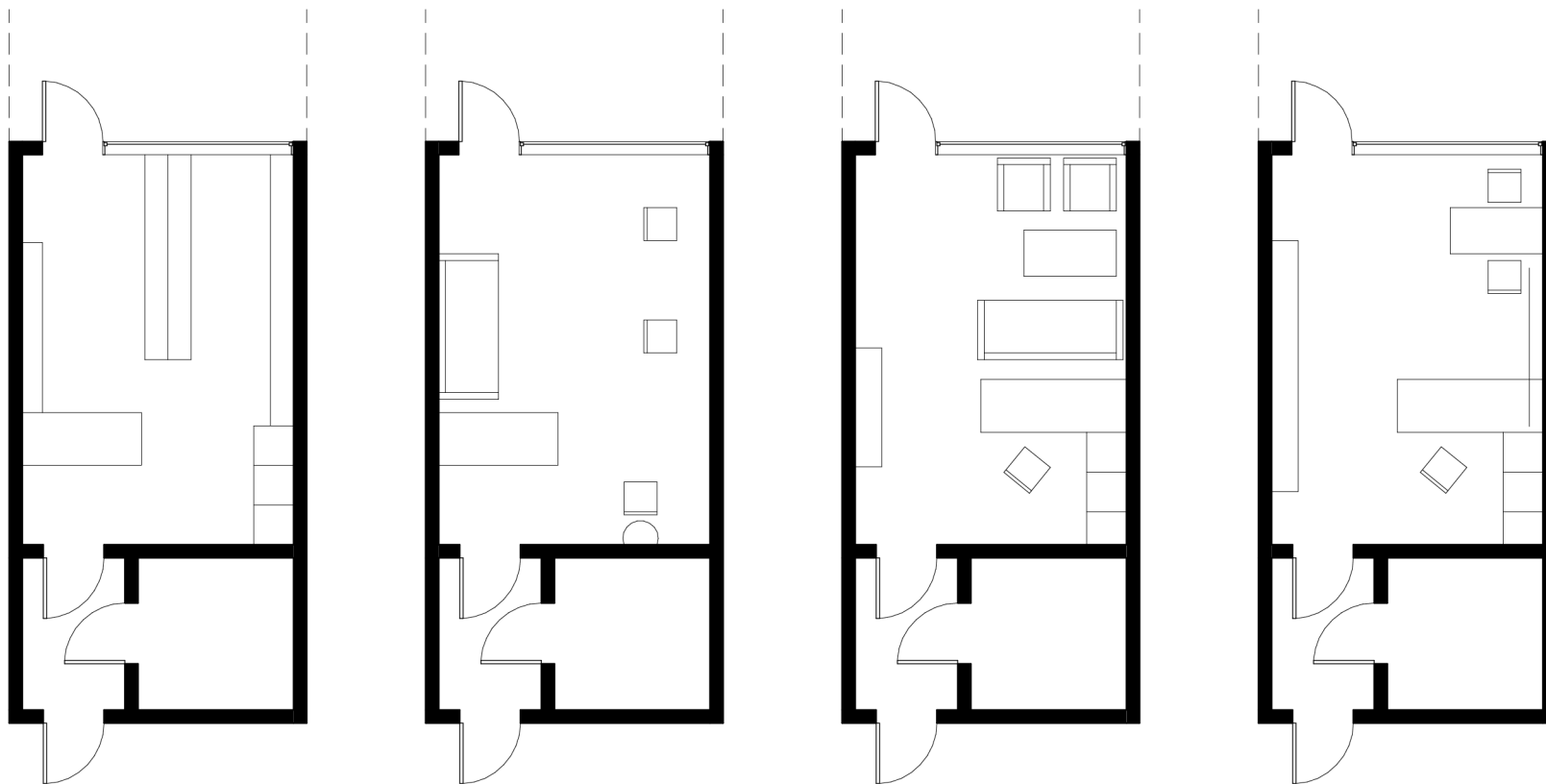


Layout over the five *bokaler* in *Kilströmskajen*. Unscaled.

kilstromskaj.se (2021)



All *Kilströmskajen bokal* layouts are of the scale 1:100 and dimesioned after *SIS* normal standards.



All *Kilströmskajen bokal* layouts are of the scale 1:100 and dimesioned after *SIS* normal standards.

APPENDIX B1: TRANSCRIPT OF THE INTERVIEW WITH JAN YTTERBORN

2021-04-09
10:30-11:10

After asking for consent to record the interview and shared greetings, the interview started. The transcript is translated to english from swedish. The interview took place through teams, and it is the first time the author has been the host of such a meeting. There were some connective issues during the interview that clipped the audio from both ends that may have resulted in some misunderstandings, but listening to the recorded version has scarce instances of audio being clipped.

A = Author

J = Jan Ytterborn

A: I am going to start directly with big questions if that is okay.

J: It is okay

A: I have read the book *Botryggt2030* that you recommended during a conference in Huddinge I believe. In the book they discussed that there was a balance between safety and security, and I was wondering if it was because there is a spectrum of safety/security. Where safety benefits the pedestrians while security benefits people indoors. Or is it building blocks, what do you

think?

J: I am not the author of that book, but I think that it is very good in many aspects, because it brings together ideas from both urban planning and thoughts about safety and security. In regards to the term safety versus security (you probably already know this, but I want to clarify it), is that safety is about the perceived feeling of safety, while safety is something else. It is the actual, physical security, that you create protection and barriers. And they are very dissimilar. You can say that [security] is what creates gated communities, that way of thinking about security: to keep the threats outside [the community]. While safety is a humanistic idea that more people all around creates a heightened safety, and not to forget >>ICE<< on the streets (as you probably know, I suspect).

A: Yes.

J: How do we create environments that make people feel safe? I think that what is exciting with book *Botryggt2030* is that they try to find ways to positively structure an environment so that it is more safe and secure. I think

that it is a nice way to start the discussion around safety and security, for the reason of asking oneself “what are we doing in the city”, we are supposed to be building for people, but I think that we have gone far astray from that way of thinking. I think that we have to focus more on how we design street environments and cities that cherish human values and want the best for[/from] people.

And there I think that the author of the book *Botryggt2030* (he is an urban planner that also works with these topics), it is something nice about a person that already has knowledge in urban planning also works with safety and security. The book itself brings up some examples of where good urban planning and the safety terms goes hand in hand. Normally when you talk about safety and security it is from police and surveillance companies that you hear about, and about how you should keep the threat out. And not about how to create an integrated city, and how we in a smart way can create an environment where there is an informal surveillance by having people of flesh and blood on-site.

[He takes a pause and then continues]: That is something that I think is nice

with this book, it brings about a new way (in regards to safety) of thinking about how to actually look at the holistic view of building a city.

A: Ah, okay. So just to clarify and try to answer the question, is safety and security (being different in approaching the problem) something that you have to meet in the middle with? Do you have to work with shells and barriers (which I suppose you want invisible) and in the meantime find ways of attracting people without pushing them away with those boundaries?

J: In an environment where people move about, and where there is a social control, there will be less crime. If we instead have an environment with lots of barriers and protection against intrusion etc. We will instead get a street that is bad, [a street] no one wants to be at. And we possibly get a courtyard that is safe... ..but not so good.

That is why we should probably limit the possibility of having those completely private courtyards and boring streets. Instead we should have courtyards that partially open up and show itself to the street. It is then you get the feeling of “wow, that place seems

wonderful”. That is why we should not forget about the hybrid zone, the space where the building meets the street, that is something that I think is super central. Since the courtyard may be a private zone, and where urban planners need to focus on safety and security is at this hybrid zone, where the facade meets the street. Here we can establish the interaction between and we already see international examples already doing this in example Nordhavn in Copenhagen. In this instance they have achieved establishing this two-side bottom floor.

As we are talking about urban planning terms I am often met by municipalities saying: “yes, we want activities and boutiques on the bottom floor, everywhere.” And I usually answer: “in what city do you see activities being held on every bottom floor?” In the biggest city in Sweden, Stockholm, as an example, there are shops along Karlavägen, but as you take a step into a block there is nothing there, just residents. So that’s why... [he pauses] Activities and occupations are great, but they maybe only display 10 or maybe even 5 percent of the length of a facade, the rest is residents. [That is why] we have to start working with

residential apartments that meet the street, in a new way. That’s my mission as an urban planner. It [the hybrid zone] is there where one can sit and take a [swedish] fika on this tiny patio, while the neighbours come by, or a person one feels an attraction to, or an old lady with a weird dog. [All that] gives quality of life. And that interaction is something that I think is super central.

A: Yes, that was something that drew my attention to you in the first place. You had a suggestion of having a hybrid zone with the depth of 0.6 meters? If I remember correctly.

J: Yes... Not 0.6 meters. We had 0.7 meters in Sigtuna, and in other projects we’ve had 1,2 meters and etc. The hybrid zone that I showed was 55 centimeters from Nordhavn and that is the smallest, smallest hybrid zone that I’ve seen. But it works! The result will be a narrow staircase down to the street with a small set of furniture. I don’t really have any defined measurement there, because that was one of your questions.

For an effective use of time some

questions were sent in prior. The question he is referring to is: What is the optimal hybrid zone according to you? Regarding size, function and flexibility.

J: So what are some good measurements on hybrid zones? I would say something between 0.6 meters to 1.2-1.5 meters. Depending on where it is. And I don’t think that you should dictate the conditions of how it should look like. The conditions you should dictate is that it becomes a zone that is used by the people that live on the bottom floor. And there is also another dilemma. And that is also that in Swedish municipalities management of the land. The pavements, the street and the estate are divided by hard drawn lines. That becomes a problem when many urban planners also agree that it is important with clear borders between the private space and the public. I don’t believe that. I believe that they are wrong, [between borders] the hybrid zone is the social zone that allows one to be able to greet people, and in the context of neighbourhoods can overlook what is happening in the area. So I believe that one should focus more on helping people coming in

contact with each other, rather than the opposite. The municipalities also deflect saying: “who should take care of snow removal, whose responsibility is that?” It’s not complicated, it is the property owners job. “Yes, but how do we know where the border is, etc? And our machines are so wide.” There is such animosity to change, because they are stuck in the old ways that are wrong. We are building cities for people to thrive and to keep humanity to keep moving forwards and not the opposite. Just because there is paper stating that the snow ploughs have a blade width of 3 meter instead of 1,5 meters or whatever it may be.

A: Since it is like having a small plot of land, can’t it be taken care of by people living in the building?

J: And that is how it must be. Then there is a difference between condominiums and tenancies. Condominiums tend to care for their property and close environment more since they own it. While tenancies don’t. That is why it is important to mix condominiums and tenancies within the same district and street. Because that can lead to tenancies being inspired

by condominiums way of care. It is about setting a good example across the street.

And to be able to step out onto the street. Normally one is not allowed to place pots with flowers, chairs and tables on the pavement. Instead it is a functional dimension already stated by the municipality, and you get a fine for breaking it. But that is what the hybrid zone allows, it becomes your zone instead.

Then there is another thing about the hybrid zone, and that is when you build a house. The foundation of the building will cover more ground and has to be outside the boundaries of the facade line.

On every detail plan that is drawn now it says that stormwater should be handled by the owner of the property. And by moving in you get that space. So it has a double utility meaning. Otherwise it would be hard to have a roof that tilts towards the street.

A: Moving on to another question. Do you think that it will be different if the building in question has another typology. As an example is there any difference between a lamella housing, a highrise or a block? Some of these

typologies do not necessarily have a back side? I’m asking this question since I have a highrise as an example in my project. And I get the feeling that it always needs to be a backside... especially if there are mixed activities in the building.

J: It depends... Research is clear on what is seen as qualities. Evidence is a group that has dropped 2012 and 2016 [...] investigations that show urban qualities. They have found eight terms, which is very exciting really. Because it talks about block structures. Something that is important to the attractive city. Entrances towards the street, and blocks... they don’t have to be enclosed, you can have glances into it, or have portals, etc.

But the point house as a form is [unintelligible] not urbanly placed. It depends on what you mean... If the lamella buildings are in close proximity to a block and the other buildings are lower all around. And you place this highrise building among the streetlife, you get a corner that has two fronts that is towards the street, and two fronts towards the courtyard. The result is 50-50 in that way. But if you place the [typology] in a real city-

scape. I would never place a individual house in that way [from the street], it is far too anti-urban. Because it is the street that is the urban space.

So what you can ponder on is where you place that building or if in this case it is a case-study and you can’t [place it], you can suggest [alternatives]. You can make up arguments for placing it out on the street. If you want to achieve this “urbanity”.

A: Thanks, now I’ve got some things to think about so I will leave it there. So, you are talking a lot about creating residential life on the bottom floor and around it. In my project I’m thinking about having bokaler - a premise where it can be either residential or occupation in the same premise, or they can co-exist. My question then is if it is still possible to have a hybrid zone if the premise inside is an office, boutique or any other activity? Will that semi-private zone affect the premise negatively?

J: No, it works really well. I would say it this way. The hybrid zone in front of an occupational premise should be even wider, 3 meters or in approximately. Because then you need

to be able to place [more] tables and chairs. And that is another thing that is so crazy. That we don't build cities that is designed for activities and occupations. Instead one has to ask for permission to place outdoor servings. Hybrid zones would automatically solve that problem. That way you can have an outdoor serving as long as you like. If you'd like to have an outdoor serving during the winter, fine. The municipality should not have a say in that. Because [with hybrid zones] the urban plan is designed that way. It can also be a flower shop or an architecture firm, that just places some chairs and tables on the street.

The idea of *bokaler* is really good, but the tax system is really bad. You can not withdraw space if you had a whole business there. That is something that affects the scarcity of *bokaler*. It was built in *Hammarby Sjöstad* but it took a long time before it worked. But now it works for those who have a lot of money. And it is a little bit nice to have a five meter headspace, and some kind of living space in the back. Then there is different requirements on fire and noise handling, etc. Depending on if it is an apartment or an occupation. So it is a grey area that hinders work-

ing with *bokaler*.

Looking back on the recording now, it is evident that the microphone on the computer used in this interview is not the best.

A: [unintelligible]

J: I'm sorry?

A: It is often more costly since the difference in requirements means a different budget.

J: Yes and above all, if the *bokal* is 50 square meters and the apartment is 70 square meters. You still pay for 120 square meters. But you don't have the effectivity. You do not have a five room apartment, if you have many children or something. It also depends on how much capital people are interested in paying, and how many? It is super nice with big premises but the question is; is there a need? Economy is really important in this industry, and you have to know if there is a target group. If the tax rules had been better, you'd be able to withdraw those 50 square meters for rent equivalent to an office or occupation. Then there would

be plenty of *bokaler*.

He then jokingly said: Write to the politicians to change those rules, then you'll see that things will happen.

[Both laugh]

A: Right, the best solution [according to *BBR*] is dividing those two premises. So that there is no direct connection. That the connection is through the building's staircase or courtyard.

J: Yes, yes, quite so... But then you can have it [*bokal*] anywhere...

A: Yeah...

J: Like, then you have no connection, and that defeats the purpose. The pros of a *bokal* is being able to double exploit. You don't need a toilet. You don't need a kitchen in the workplace. Because all that you already have in the apartment. So it is an efficiency to it, which you can't partake in if you separate those two. It is a dilemma that I think is really a shame that the tax system is what is.

A (Asking a hypothesis): If the bottom floor is an office and you pay that floor

accordingly as an office, but then suddenly you decide that the family needs an extra bedroom and you decide that you are going to refurnish a part of the office into a bedroom. So that you get an additional bedroom but a smaller office. Will that automatically affect the rent?

J: Well, not since you can't withdraw everything. So if you get to withdraw a small pay from the rent. It will not affect much. But I still think you should run with the concept of *bokaler*. Because you will otherwise lose a little edge and excitement that I think you are going for.

A: Alright, thank you.

J: I just want you to know that you know that there are some problems with the concept [*bokaler*]. And that is something you can argue about. As an example: "I am aware that it is tax-wise problematic, that you can't withdraw rent from the occupational area. [...] But I hope for a change in the law. Since I believe that this will thrive the urban life a lot."

A: I agree, it is in concept more flex-

ible...

You talked about the municipality being ambiguous in regards to their view of living cities, living bottom floor... ..and I don't know what living facades would be...

J: It sounds like it could be plasticity in the facade. That it should happen all kinds of interesting things in the facade. Decorations, balconies etc. It is not much about functionality...

Although I usually talk about a division three. The bottom floor is something that diverges from the rest of the facade. And then there is the roof (something that I see in older cities), that something happens on the roof, also separate from the facade. There on the top there is something else, an attic, a terrace, or something. It is something that you can look up to and say: "When I have the money, I will buy that so I can live there, party there." That there is something awesome there so that there is an aspiration of a life at the top.

A: That seems fair, that is something that I haven't thought of much.

Another thing that I came up with now; do you think that the hybrid zone

varies in size in regards to traffic.

J: It is more about the relation to the sun. As an example, north-east is a [...] position. All other positions work.[...] [The hybrid zone] is probably something that would be used during the morning or afternoon. And nothing that will be used during big dinners (unless the hybrid zone is adequate in size). It is more likely to be used during morning and afternoon. And it also depends if it is an occupation or a residential [hybrid zone]. Most likely is six o'clock [in the afternoon] and later. That is when the people are home and can enjoy themselves. [...] Then regarding the traffic. It is a functional dimension. People need to be able to pass by on the pavement. You may need 2,25 meter pavement, maybe you have a bicycle track (that is about 2 meters) and maybe a parking zone of 2,5 meter. And then you add as much as you need to the rest [of the street]. It depends on where you place the facadelife. Should you have a hybrid zone of 1 meter or 1,5 meters or an occupational 3 meter? I have a hunch that you want to be able to place the facadelife wherever you want... [...] If you had a high-rise building in

a block, then you'd be able to have occupations around it and a hybrid zone in with the appropriate size (maybe two meters) while the rest of the block that is meant for residential can have an hybrid zone of 1 meter. If there are limitations on the street, there is a possibility to move that facade in and out a bit. For then you give your high-rise building a little more dignity.

A: I see that we have gone for half an hour now so I want to thank you for taking this time to be interviewed by me. [...] Am I allowed to ask you some more questions, or do you need to get to another meeting?

J: No, if you have any more questions you can just ask them.

A: You mentioned hard barriers between and soft transitions. Is the hybrid zone meant to be used by only the residents or is it meant to be used by pedestrians as well? Can you see it as an additional shell to the building?

J: It is absolutely not a shell. It is a zone that gives possibility to socially interact. And it happens on the conditions of those who live there. It also decorates the street, with flowers and

furniture. It makes the street seem more nice and pleasant to visit. In the meantime those who live in the premises (or work), can mix with those on the pavement. Although the hybrid zones meant for residents should be lifted up 80 cm, approximately. It so that those who live there should be able to control the street a little bit more and not feel like an exhibition. And that feeling is a problem here in Sweden.

Create a bottom floor that has extra high head space, 2.9 or 3 meters. And this something Swedish people are a little bit tardy to understand, but in Denmark the bottom floor is sold for more money than the apartments above. In Sweden it is commonly said that: "no one wants to live on the bottom floor, the bottom floor is bad." No, that is clear as [...]. There is nothing there!

[In Denmark] there is space to the courtyard, and the opportunity to establish a hybrid zone. It is a building that is more pleasant and has a more human scale. Here exists the social zone where you say hello to your neighbours. There are a lot of positive opportunities to work this way. The hybrid zone has to work when

the owners are not home designers. It should not be an obligation to decorate it fantastically. It should work even when it is not used. With the help of a railing or whatever the hybrid zone is still yours.

A: So it is important that the first level is still a little bit higher level from the ground? For flexibilities sake what will that matter for changes in activities (from resident to business)? Should the solutions for the hybrid zone be temporary?

J: If it is a bokal one can take the stairs up the [residential part of] *bokal*. The accessibility is solved with an elevator. Sometimes we have played with piled up floors, a slab that from the street is raised up. The access points have been from the building's stairwell. Then you can choose how far in you will work with this raised up floor. So from the street it's like walking beside a hallway besides a display window [where the hybrid zone is placed]. The functionally disabled can still enter through the street or the elevator. It is one solution that you try. We haven't been able to see this design come to life in any project, but we have includ-

ed it in several.

A: Once again, I want to thank you for taking time to talk to me.

J: Don't mention it. It was fun to be able to contribute.

APPENDIX B2: TRANSCRIPT OF THE INTERVIEW WITH ANTON KOLBE

2021-04-23
11:00-12:10

A = Author
AK = Anton Kolbe

[I forgot to press the record button, so this transcript starts in the middle of a sentence. According to my manuscript of questions I should have asked him about the projects regarding the *bokal* concept that he has been involved with, for example *Telefonplan*. In his concept it was both described as “studio townhouses” and *bokaler*.]

AK: A project that is interesting in this regard is a project called *Vallastaden*. Do you know of it?

A: I do not.

AK: There was an exhibition there two years ago. In its first stage. And then there was a pretty special local plan, that controlled the number of levels but not the height of the levels. Which led to that many had extra high room heights. Especially on the bottom floor. A typology that is comparable to a typology and concept like *bokal*. So, there was bottom floors with extra high room heights and mezzanines. And then in another stage which was

not a part of this exhibition, I have also drawn condominiums with this design. That you can call... I guess we can talk about that also... The definition of *bokal*... But it is a kind of ground floor apartment, that has a room height that is similar to premises intended for occupations. The biggest difference is of course compared to traditional apartments that instead of 2.70 meters in height, [inaudible]. So, conceptually we haven't described it as a studio townhouse but how it is built is pretty similar. So, I recommend you checking out *Vallastaden*, that has that kind of bottom floors. It is a more luxurious condominium.

A: Right, so my first question was actually going to be what your definition of *bokaler* is... So, you define it as apartment that looks like a commercial/occupational premise? Often... it is often described as premise with a mix of those functions, but you describe it as residential with other occupational characteristics?

AK: I think... Like, what we did in this White project [*Telefonplan*]... It is often easier to sell residences than it is to sell occupational premises, so the

customers felt like they had a bigger pressure to create a bottom floor that was still a little more city like. But as I said from the building contractor's perspective is still easy to rent. This is something you are familiar with, this is quite common. And then it said in the local plan that it could be both residential apartments and occupational premises. And the thing with these concepts, it makes kind of vague what exactly you are supposed to characterize this premise as, is it just an occupational premise or is it resident with extended possibilities? Then it is of course a juridical question on what exactly is allowed to be there [occupation-wise]. For instance, that you are not allowed to run a restaurant there... So, my definition of what *bokaler* is that it is a residence that gives the possibility to live close to the street and to work from home. Rather than an occupational premise that you can live in. Then of course it depends on what the customer orders... If I was to decide I would have a distinct place where you would work that is combined with a residential space. I would though say that it is often a pure residence that has the characteristics of an occupational premise.

If that helps, regarding the definition... But then in the end it depends on what the contractor orders...

A: No, it's okay. I'm just curious to what architects think since there is such a huge variety of *bokaler*, that it almost feels like there is different interpretations of what it is.

But yes, next question is...

AK: Okay, but a question to you then... As I remember it. Mats Egelius coined the term in *Hammarby* when it was built, and then I do not know if it was de facto that it was written in the local plan, making it possible to build those *bokaler*... Do you know if the term has any juridical and is seen as something that is one of its kind? Its own typology so to speak

A: It is just a term describing the concept. In *Hammarby Sjöstad* the premises were described to be occupational premises where there was a possibility to "stay the night". It was described in the newspapers at least no to be the primarily residence. That led to its own problems that people started to

live there permanently even though it wasn't the original idea...

AK: But that is something that it has become now? Another thing that we talked about in *Telefonplan* was that it might work as an apartment the first ten years. But later down the line when there is another pressure [need] it could become premises for occupations and commercial activity. That those kinds of functions and activities need higher room height and shouldn't be built away, but as residences one can have that luxury of having that high ceiling. That if you had built 2.7 meters from the beginning, which is acceptable for living standards but not for occupational standards. So that is something that they had brought forwards as builders that it might be an attractive solution to be able to transform residences to commercial businesses in the future.

A: Interesting, I am thinking the same. That I think *bokaler* do have that possible flexibility to be both a resident or occupational or both.

Anyways, when it comes to *bokaler* there is often these big windows that

can make the residential users feel exposed. Users that I have interviewed, have for instance seen this as a problem. So how do you see... What do you think about the concepts strengths and weaknesses?

AK: So, I would say like this. If you live on the ground floor you will get that exposition regardless. Unless you have a forecourt or hedge etcetera. But that takes away the urban aspect of it all. So, if you look at this way... If you have an urban environment, with a pavement or pedestrian street and then the façade, and of course the premise directly after. Then I have in those projects that I have been involved with often suggested that there is some kind of privacy protection. Some kind of blinds and sun shielding in the first set of windows, around 2.2 meter high. Then above you have another set of windows so that you are still able to let in daylight. So that you can see what the weather is etcetera. So that you can have it shielded of in eye height so to speak. However, I do not think that you can get away with that it will feel somewhat exposed living in a typology like that. Then you can of course work with a forecourt that

in the beginning creates some kind of boundary. Between the private and the public, that in the future is able to remove. Because when it comes to the urban feeling it often so that the city wants more pavement to use and so. But the problem lies in the distinction between boundaries.

Another way of thinking is to place all the private functions a level above the ground floor and having all the public functions on the ground floor and allowing more exposition. It depends of course on the person who lives there. Those people who feel that way aren't necessarily the people seeking these type of housing, but there are of course instances of people taking what they're given. But in the same time I know people that would seek out these type of houses. Those people that maybe work inside their kitchen and is okay with the exposition into the room.

Have you gotten in touch... Or rather were those people who were appreciative of those premises or something that just ended up with?

A: That is question that I did not ask.

However, even though many seemed to complain about privacy issues they seemed to be overall satisfied with their *bokal*. So, I myself find it kind of ridiculous that they complain but then answer that they like living there...

AK: Well, the extra height is not something you joke around with. It is extra cubic metres that you probably do not have to pay that much extra for. That is something that I would have asked for... And then if it is easily fixed with privacy protections, I would choose to live there...

A: We have now talked a lot about privacy regarding *bokaler*. But do you see any other strengths or weaknesses? Especially so that you don't find yourself in some kind of design trap that creates issues.

AK: Good question... I am thinking... That the contact to the ground level can... You get a connection to multiple sides and entrances. But I am thinking. Like, the publicity and the privacy are in the end the core of it all. And this can be solved or formed in many ways. Like it doesn't have to be divided by levels, it can also have a front

and a back. One facing the street the other the courtyard. That you create layers of privacy and publicity that way instead... Other than that, I think that you get access to more space compared to what you otherwise would have. Maybe even for a lesser price... But what else can it be? Nah, I don't know... Space and light... and the direct connection to a courtyard and the street. Those are some qualities that could outweigh the privacy issue.

A: Okay. I have spoken with another architect about the "hybrid zone". I think you were on that page a bit earlier. But the hybrid zone is a zone in front of the façade where the user can claim as their own and meet the city on their own terms. This can be used according to this architect by residents and for occupational activities alike. What do you think about that solution?

AK: Ah, I think so... In my own thesis I studied a similar type of zone. That it wasn't necessarily a hedge or a balcony in front of the façade. But rather a wall of sorts with lots of openings that then would create a new space between the city and the façade. So that it wasn't... Because that was something

that I wanted out of that project... That it was not going to be a small hedge but rather an urban space. And these layers needed to be designed in different ways. Because how would you know, as a passer-by, how would you know which outdoor space belongs to a resident or to a café. They can look the same, and I don't know if it has to do with how you put up signs... I don't remember how I solved it, but... I wanted the outdoor space to be able to express whether it was a private or public area. It can be a bit ambiguous... Like suddenly people just randomly sit on your porch... But that might not be a problem maybe it is signs after all. But it is an interesting solution. It takes a little space from the urban space... And I don't know what the other architect thought that this space would be a hard pavement or garden forecourt. It depends a lot on what kind of interface it is. How is it supposed to feel? What kind of business are talking about etcetera.

A: Right... The architect gave me a dimension around 2-3 meters, for occupational activities that is. Whilst residential zones can have the dimension a minimum of 0.6 meters to around

1.5 meters. In with from the façade that is...

AK: Right, so this was a zone that was directly outside the façade? A place where you can place chairs and some pots etcetera? Something that shows your personal space a bit... That is something that I think is quite common actually. In *Vallastaden* you are not allowed to open the doors beyond the property boundary. That is why all façades there are moved inwards a bit to create space from that boundary, which creates this kind of space. Then it is the question of how well this space is taken care of. But I think the idea was to create that kind of zone...

A: Right, true. Do you think that is because they are not properly marked from the beginning? That they lack some kind of level difference or something like that?

AK: Right... I mean in some case regarding *bokaler*, when there is an accessible entrance from the buildings corridors and in some cases, they are directly connected to the street. Both has their own consequences. That if you have an accessible entrance from

the street but still has height above the street automatically creates more privacy for the residents... I mean there are many boutiques where you need to climb to steps of stairs, but that wouldn't work today... If we did not have strict accessibility regulations that would have been a fully acceptable premise as well. But I do not think that regulations would allow a customer to take detour through the buildings corridors to enter a commercial premise.

A: Right, I found one *bokal* concept where there was only one entrance, which was through the premise office space which then led to the apartment in the next room. There I found it interesting, especially considering what you have said now that there was not a second entrance.

AK: They did not?

A: No, only one entrance... So, I was wondering why they designed it that way. Regarding fire safety and such...

AK: But since they were on the first floor, they could they not escape through a window? And this case there

perhaps was no attic?

A: No there wasn't. Everything existed in on plane there.

AK: No for that's the thing. If there is an attic, and only one entrance to that premise, that attic needs to be open and "circulated". Only the ground floor is allowed to reach the ground floor...

A: Only the ground floor? So, what about two levels?

AK: I mean that the attic can exist in side the [three dimensional] space of the premise, but its beam is not allowed to reach the façade. And for that reason, you are not allowed to build a fire separating wall on the attic either.

[Anton Kolbe was drawing a quick sketch illustrating the premise, the premise looks like the *Sverigehuset Kubik* premise].

The reason behind this is... is so that one is able to smell the smoke if a fire starts. Which in order creates a problem for those who dislike very open layouts. For if you have the bedroom there on the attic. I guess it is okay if

you are a bachelor or a couple but... It means that you have no separation to noises and smells from the kitchen. And it also means that you have a hard time selling this concept to bigger families. So, they become quite big as well in order to create room for all the function required in the bottom floor. They cannot be small like they are in Tokyo. It also creates difficulties to have other activities there if it feels to exposed regarding the "wall-less" bedroom.

In *Telefonplan*, the space here then was quite high so that it was seen a two story apartment. This also led to that had to be a secondary entrance. This way it was allowed to have walls around the bedrooms. It also created more free space and was also the reason why we called it "studio town-houses". It became a two story unit...

A: So that was allowed? Like if we say that there is a spiral staircase dividing the two levels. Is the opening between the attic and the ground floor always necessary?

AK: If we compare *Vallastaden* and *Telefonplan* from each other... Like in

Vallastaden we did not have two complete stories there was only one entrance therefore we were force to have an attic that did not have any walls and the attic floor was not allowed to reach the façade and had to have a railing to prevent falling. *Telefonplan* was two stories and had multiple exits, and therefore had bedrooms with walls, etcetera. This although created a very big premise but we thought that it was justifiable sine it had space for two adults and two kids. It becomes like a two bedroom apartment that still has a big attic. Are you with me?

A: I think so... I am thinking of a *bokal* that exist in *Malmö*. I am thinking of screen sharing the layout now.

[When I started screen sharing my computer froze and I had to reset the zoom call. I also forgot to check if I was recording so this transcript starts in the middle of a question. The context here is that we are talking about the *bokaler* at *Norra Sorgenfri*.]

AK: You are allowed to build a non-accessible upper level even in ordinary housing. In other words, you are allowed to build... I don't know if

it is because... I don't remember where that rule comes from but... But however, you are not allowed to put in a building complex... How high was it?

A: That building was two levels starting from the ground, out of five is six levels.

AK: Ok that surprises me a little, usually you are allowed to do so it is a maximum of three levels. Because then it is a house without an elevator. Did this apartment have connection to the elevator?

A: So, this apartment had connection to an attic corridor from the courtyard.

AK: Alright, alright. So, there is an alternative way to enter the building.

A: [Me showing a picture of the layout.] So, they enter the residential part from here...

AK: Well that seemed to be a nice way to organize the layout. This way you both have a contact to the street and from an elevator, privately that is.

A: I was thinking like... Often when

it comes to *bokaler*... that you want to have some kind of circulation. In a report from *BBR* there was concern regarding fire protection between functions. In this case it would be compromised I assume with the hole in the ground?

AK: Right. So, this was an open spiral staircase?

A: Yes. And the case you brought up you talked about this circulation and being able to see the fire or notice it faster instead by having an attic instead of a full second floor...

AK: It has probably fallen in under the category of full residence. That even bottom floor where it is intended to be some kind occupation is part of the residence. So, this is in not its own workspace... So, I think that our customer in this case did not want to hassle with the jurisdiction, and just went with a full residence. Just with the quality to be able to work.

So that is a clear distinction. You probably could have solved it by... like if the staircase had a door and was within its own room. But that may lose

the feeling that you might get from descending down to your workspace. But it is a difference between an open border... But you maybe don't want an open border or connection if you have your customers downstairs. I don't know...

A: Yeah, it maybe has to do something with what kind of business you are running.

AK: Yeah...

A: The people that I have interviewed from this place seemed to work with some kind of consulting type of business. One was some kind of educator. Like they only invite a small amount of people at a time. Like they control the flow people entering...

AK: Exactly like they are not a boutique, like...

A: Exactly

AK: I understand.

A: Like, then they have designed the layout, or described the use in their drawings and layout that the bottom

floor is intended to be an occupational premise slash boutique...

AK: How... How did they motivate... How did they get through with concept?

A: I don't really know. I haven't gotten any answers from that architect in particular.

AK: Okay, but you don't think that it was like... Like the whole premise is a residence but it has the opportunity to have businesses in the bottom floor?

A: You may be correct there. Just looking from how the realtors market these premises. They market the bottom floor to be a part of the residence and do not show the potential for businesses.

AK: And it is in those grey areas that it becomes interesting, that many would be able to run business there... Like it is possible to have a dentist on the fifth floor in an ordinary apartment as well. So that is probably an important connection or aspect of it all... How it is categorized and what it is seen as... You probably wouldn't be able to have

a sushi restaurant there for instance.

A: No...

AK: But would have been nice, like...

A: Exactly, like that would have been the most optimal. Like giving the opportunity to have full freedom of what kind of business can be taken place there... But I don't know how that would be possible... My supervisor seems very keen on finding solutions where those kinds of businesses can take place there as well. That restaurants or alike can be placed in the *bokal* as well. But then you would need some kind of clear boundary between the two functions...

AK: Oh, so you are not only going to do a report you are also going to present a proposal...?

[Small talk about the master thesis, the method and its goals]

A: So, I also like to talk to you architects that have been involved in something like this project. And discuss regarding solutions like the attic corridor etcetera. Or how one can create

opportunity to have a wide range of occupations without being bothered by smells and other hygiene problems.

AK: Maybe it can be some kind combination? One can create some kind of variation. That some *bokaler* are smaller in the occupational part but with a bigger apartment and other premises have a bigger occupational premise but a smaller apartment? And that they don't have to rely on the same concept. Instead that they can have different functions. Some may have clear distinctions between the functions regarding fire safety and such, and other may be unclear and integrated with a smaller bedroom. That could be something interesting that there is some kind of variation so that it is not only one concept that you copy.

A: Yes, maybe...

But how do you look at being able to enter the residential part through the building's staircase and elevator instead through an interior staircase inside the premise?

AK: So, you don't have any connec-

tion to the street?

A: No, you still have that...

The scenario is only that you don't have a direct connection inside the premise through a door or a staircase. That in this case the connection between the resident and the workspace is connected by the building's collective staircase...

AK: So that it is more independent? I think then that can't argue that they are really connected and associated at all. In that case anyone could rent that premise... And that may be a solution but the synergy... The effect of it may be that some would live and work in those premises and some would use it another way. We don't really know how they would be used if they were completely independent from each other but at the same time that may be the only "correct" solution...

A: According to *BBR* maybe...

AK: Yes, maybe... Exciting... It was although some time I had a project like this. So, I don't know how it is regulated. The fire safety I can understand

but when it comes to other regulations that you demand from occupational premises and residential apartments in the bottom floor.

A: What do you mean or...

AK: Like how should the fire safety precautions look like, accessibility and so on... Since it was a while now, I don't really have fresh memory of how it should be... But it sounds like an exciting project...

I worked and studied for a long time in Japan. There it is pretty common that there are small businesses and small apartments. Like small cafes and small restaurants. But that may be a problem when it comes to Swedish regulations. Everything from grease separator, separate washing rooms and accessible restrooms. But it would have been exciting to see.

When it would have been the most topical to discuss this concept is in the case where it is already a high density of urban life. That there is a high demand for occupational premises, like offices, but also boutiques and restaurants. Often when test these concepts

you often choose a more “virginal” place where this pressure doesn’t exist yet. The most interesting is if this would have been placed in a very urban environment. And that is not necessarily so easy... But maybe you can test that. I don’t know how your site is placed regarding the flow of people. But that plays a big role, I think.

A: Yeah, exactly... Well, it is placed approximately 500 meters from the most commercial streak in *Luleå*. Not that far I think...

AK: Right... The thing is that you often associate the concept to start-up businesses that doesn’t really need those big premises. You like associate it with one kind of urban life. But it can also be a way to create another type of city life. Today it is more topical than ever now that so many work from home. Not that you run in and out from each other’s premises. But the need to have a more equipped office, when you work from home. It feels very topical... So that can you probably do a fun twist with, regarding the pandemic...

A: Regarding start-ups... The thought

has struck me that this feels like a temporary housing in the same capacity as student housing...

AK: But you can probably make it more public like it is an office, but it is placed on a public display and takes value in those urban qualities that exists on the bottom floor. And you can probably create a more long-lived premise where you work from home. In that case you maybe don’t run a restaurant, instead you have an office. Like two people that live in the same premise. But I think that can be a nice city life quality as well. Like an ordinary apartment but with the opportunity to work there as well and with a connection to the street. I think that, that can be a very popular thing for all those people that work from home. But that may not be as outgoing and apparent as other businesses. Like if I work from home, in those cases I am a lot less bothered by those who walk outside. In those cases, I would believe that it is rather nice. That you shift the concept a little, that the most public room is an office and rather than the living room etcetera where you play with your kids. But like you have gotten another opportunity, scenario,

now with the pandemic, that you can use. That occupational premises today doesn’t actually have to be commercial... Even if you have access to a bi office, you have this smaller home office, or a sole proprietorship situation.

Well, this has been nice. I need to go soon. Do you have any more questions?

A: Oh, sorry. It was not my intention to hold you too long... But I do have another question... Do you think that you need to compromise living or occupational qualities in order for them to coexist? Should you focus more on living or occupational qualities?

AK: Good question... It would have been interesting to see a thesis that focus more on the occupational part. Although if that [hypothetical] business grows it will take away from the qualities of living. I think that it would be interesting to see a *bokal* focusing on work, but it is quite important to focus on the residential as well... So that there is an agreement that there are functions in the residence that allows for more public exposition. Maybe that it coincides with a hobby, an of-

fice occupation or I don’t know. Maybe an occupation like chiropractic, so there is a business that does not invite the whole city. But still allows a big portion of the premise to be public and exposed. And exciting premise to develop. Is at least what I would do firstly... and to enrich the city where there is not any room for big restaurants. And regarding room heights and such are qualities that weigh more than the potential problem of being exposed. That may be quite a personal opinion but that is how I think.

When do you have to done with the master thesis?

[Small talk about the master thesis]

A: Right, but thank you very much for taking time to be interviewed.

AK: No problem. Bye!

A: Bye!

APPENDIX B3: TRANSCRIPT OF THE INTERVIEW WITH KENJI MIYAZU

2021-04-28
15:00-16:00

A = Author
KM = Kenji Miyazu

A: There is a lot of different types of *bokaler*, how would you define it?

KM: I think the name itself tattles what it is. It is a resident and an occupational premise that has a physical connection to each other to a degree... Yeah, basically to the point of that there is only a door in-between. That you don't have to cross the street to reach the occupational premise. It is just a resident and an occupational premise. Easily explained. It also works to place it (the resident) on top with a staircase in-between. But they have to physically be connected to each other. And as a parenthesis, you could say that a *bokal* is in fact looked from history of humans, an early form of residence. Maybe even the most common type of residence. That one used to live where one worked. The modern society has gradually abandoned that way of living.

A: What do you consider is the concepts strengths and weaknesses?

KM: Yeah, that touches little upon what

I just said, and that has to do with our way of living. Which leads to apparent weaknesses with *bokaler*. And that leads to that there are not that many *bokaler* in today's society. Because it is how we live. At least in west. With industrialization. In societies where we as of hundred years have worked at one place and lived at another. So that is...The question implies of course that it is a concept that you are trying to sell or promote. But I would say that from an urban planning perspective, from a macro and from historical perspective. It kind of deflects the needs of society, in a sense. But of course, you shouldn't forget that the physical environment defines us as well. As humans we tend to follow "norms" and "patterns" formed by the way of living and how the society looks like. Some of the are dated, but that is because the physical environment is viscid, and cannot always adopt fast enough. So, weaknesses and strengths...

Of course, when you start to ponder on the idea of working from home that has become more common during these times so can one maybe question if *bokal*... or *bokontor*

(a play on words:
bo = residence,
kontor = office).

You maybe see what I am striving towards.

A: [I nodded conformingly] See Home Office where this is explained.

KM: That we tend to stay more and more at home or in direct connection to our homes. And that is something very interesting, from an urban planning perspective. There are a lot of topics, that maybe are out of the ramifications of this interview. But there is a lot to this...

So, strengths... if you place your ear close to the ground, I think that there are many ways to design residences o that they don't have to be an *bokal* but a bottom floor apartment. That they can be built in a way that there is an office or some kind of "workroom". And by that I don't mean that you need great big spaces with high room heights and so on. To be able to achieve all the different requirements, I am thinking a very small type of business. But it is as I just said interesting to place the ear close to the ground and see where so-

ciety is headed. In the way we look on and defined what is a home and what is a workspace. If one become a little bit more broad-minded. In that discussion I think one will quickly come up with ideas on how apartments in particular those on the bottom floor, but also those who are placed in the upper floors, will be designed.

A: Interesting. Regarding society, there is thing on how in, urban planning, society has been separated through functionalism. Today there is a lot of talk about “the mixed city”. (A mix of functions). Is *bokaler* a step in that direction, a solution if you will, or do you think that it is a concept that will contribute to that vision?

KM: I don’t think that anything is solution. Instead, I think that every part is interacts. If there suddenly was a greater need for *bokaler*, then I think that people in charge would see to that need was fulfilled. But at the same time there should be more *bokaler* here and there so that maybe more people realize the service and possibilities that they give.

It would be interesting to see how

our tax system, that is good in many ways... But how our tax system is in way rigged and developed in a way to benefit big workspaces with collective agreement and son on. *Bokaler* is for all those smaller businesses. And this is how our tax system look like. It would be interesting if someone illuminated our tax system and how it encourages but maybe even counteracts many small scale businesses. Now we are talking about all those small businesses that is run by someone that already has employment somewhere else. But then to slowly, slowly flourish in to a business that could need a *bokal*. As an example. But it is not only the tax system, it is also how we take account for our pension, how will the sickness fund... That is, how will one be compensated if one becomes sick? So yeah, everything is connected. So, I would say that there are many other factors in society that primarily is connected to the politics of distribution. How that is directly affects small businesses. So with *bokaler*, maybe I forgot to clarify that... It is primarily for those who... It is for franchises like H&M as an example, it really is for those small businesses. So regarding if *bokaler* is a part of the solution... If

the policy was according to many that you are to benefit small businesses whether it being sole proprietorship or having a few employees, then *bokaler* maybe would be a part of the solution. But that is only speculation... Then it is also the question of what one will be allowed to consider in the tax returns. Maybe it is easy to define and set boundaries if the premise is classed as a *bokal* for a taxpayer. Don’t know...

A: You are bringing some good points that has to do with the next question or topic. *Boverket* has made a report where they consider regulations like taxes in regards to *bokaler*. As an example, they talk about the conflict of rent and how that should be solved. *Bennets Bazaar* which you draw was the exemplifier case on how should be solved. That the rent is divided into two parts but still connected so that one has to rent both the living space and the occupational space. Do you know if there were any other conflicts in regards to building regulations that you encountered?

KM: No, I don’t think so. Since it was clearly divided between the two functions, like you said. A lot was bene-

ficial from the fact that it was an existing building that got an extension. Because of that it became rather easy. The residence got a renovation but not to a degree where we needed to upgrade the requirements of that time. Although the *bokaler* was obliged to fulfil *BBR*. When it comes to *bokaler*, there is regulations regarding restrooms, room heights, lighting and so on. So, no we did not see any problems there.

A: Then if I ask specific questions about the drawings of the *bokal*? There is a staircase in the back of the *bokal* that leads up to the residence. Was that allowed according to accessibility?

KM: There I do not know if they simply assessed... I don’t remember if they were fully accessible... No, they weren’t. In other words, they were inaccessible apartments from the beginning and therefore did not need to fulfil any harder requirements regarding accessibility. But...

A: Okay considering that they were built in the sixties I can see that it was assessed in that way...

KM: Although, every premise had its own toilet, if I remember correctly?

A: Yes, but they did not seem to be accessible for wheelchairs. But I saw that there was a toilet for customers in-between two *bokaler* that was accessible for a person in a wheelchair.

KM: Yes exactly, but every toilet within the *bokal* was actually accessible for people with indoor wheelchairs.

A: Oh, alright.

KM: And during that time the requirement was that... Yes, they reasoned like this, the owner of the *bokal* could not normally sit in a wheelchair and could not have difficulties walking in stairs, and that was okay since it was an extension. Although it was not supposed to be unthinkable to employ a person in a wheelchair, periodically and permanent. That is why there is a toilet in the occupational premise. That I think we have in every single one. Maybe except one... Yeah, yeah, however that was at least the basic idea of it all. Then we could have a real RWC fitted for outdoor wheelchairs. And that was to cater the need if any of the

businesses had some kind of serving. There is some kind of limit around 14-16 persons... That you need to be able to offer a toilet that is designed for people with disabilities. We solved that by placing a communal toilet for this street. One or two, I don't remember. It has been some time now.

A: Yes, I think it was around 2008 or something like that... Anyways that seemed like reasonable solutions.

What do you think should be prioritized when designing a *bokal*, considering that residential qualities and occupational qualities? Is there something that don't mix well? How should the layout look like, in the best case scenario?

KM: In addition to the requirements set by *BBR* that you of course need to follow, I think I spontaneously feel that it depends on how occupational area is clearly defined and verge towards the residential part. If we take the concept I was on a while ago. With perhaps apartments on the ground floors, perhaps being made in such a way that one or a few rooms can be imagined to run a business in. But it

is not weird or out of the question if those rooms are turned into a bedroom or a living room. Then that there is some form of accessibility via some area of land from and to the street outside. So that if someone wants to hang up a hairdresser sign, it's like an easy thing to do. But then we come back again to renting, taxation, etcetera. What is what? Is there any flexibility there? There, I think when it comes to planning and detailed planning, it includes "business close to housing". It is part of what we call the "residential purpose". You do not need a plan change to do this because you have a small foot care clinic or a hairdressing salon in your home. As I have it described to me.

It does not conflict with the detailed plan, so to speak. However, there may be ... Since it is a tenancy, there may be conflict with the landlord. Who might say that "hey, you are not allowed to hang up a hairdresser salon sign since you rent this as a home. You're breaking a contract here". But let it be said in such cases where there is a soft possibility, where the *bokal* can simply be any room in the apartment. That it then turned out that no one wanted to

get their haircut in this area, you can take down that sign and then it will be a home again. Then I do not think it is ... In terms of design, it should work as both, but it is not so different. Very small-scale businesses do not have as different room needs as a home. There are not that big differences. There I would say that many homes could easily be converted into parts of a small room, already today.

Apart from that, if you want the home to have a more meeting, as it was with the *bokaler* at *Rosenård*. That the *bokaler* could be a travel agency, café, butcher shop, fruit shop, all that, right? Then I think that. Then it is good that there is clarity of what is what. And it feels obvious that there should be large windows to be able to expose goods and there should be room for burglary protection and sun protection, awnings all that. Some area in front where people can come by and reach the business. And with that said, you get to the most important part and it is perhaps more implicit, because I have also followed this since we worked with the *bokaler* in *Rosengård* and then it was relatively new, Although we eagerly argued

that this was ancient. City-wise, like this in the 2000s, it was seen as something new. Then you read in relatively many contexts that new districts have been planned for *bokaler*. As if it was something that would create life and movement, urban and a city feeling. That it was, so to speak, an ingredient that one would like to add to achieve a certain life in the city. I was extremely hesitant about it, since it was stubbornly marketed as the solution. In a sense then you do not really know what creates this (city) life. The most important thing that was our contribution to when the *bokaler* were planned at *Rosengård*, for *MKB* was to put our ear to the ground (to take that parable again) and see where people are moving today, already.

And then in that case, it was not that difficult. The municipality already had the number of bicycles crossed that area a day. Then we simply realized that there was a lane here today. And was it not difficult to ask the question, if I myself would rent a *bokal*... I realize that That this is my company and my rented home, it is a financial risk! Then it feels like where my business is located... It cannot reasonably

be located where the architect planner wants to be located. There should already be a city life. My store will then contribute to on rather than creating one. Requesting something like that from the person who is going to rent this *bokal* is quite a lot. In the small-scale economy .There are no margins to, like waiting for long periods for people to appear or for movement to occur. In newly built areas there, you can say that it will take a long time before any such pattern is established. Considering all our buying patterns, we know we like to go to Willy:s or Ica Maxi by car and that we shop and to shop other things. So I think you should be quite careful with small-scale business owners, so to speak. So our contribution was that *MKB* wants to invest, and then our first task was to find a place with the very best conditions for shop-owners.

One should be able to set up a tent today and be able to keep the business a float. If we could find such a route, well then we felt that there could be possibilities for *bokaler* to arise. *bokaler* must have a passing audience to survive. Then there are other types of *bokaler*, of course, a small travel

agency, as an instance, that may have many customers online, but who still wants a little exposure. You do not want to work directly in your home but still in close proximity.

There is a lot of types of businesses that can also contribute to life in a district. So I am not against it in that way but the cafe, the fruit, the meat and the souvenir shop if that is what you envision then it is important that there are conditions. That there is some basis for that commerce.

A: It is true that you managed to find a golden opportunity with the place, because the *bokaler* built today are often small in comparison. And they are usually adapted mainly for offices. But then you also said that offices can contribute to “living cities”.

KM: Of course it can!

A: Is it because they are visible? For another aspect that I also consider is the security aspect, with social control and things like that. So even if you cannot create lively areas or attract a lot of people, you can still place offices and the like to create safe or “good”

urban environments?

KM: Absolutely!

And if we say create life, I think we should be mature now in urban planning talks and take a step further. If you start thinking about it, it feels quite arrogant to say “now we will “create life” by doing blank”. I often say very clearly that we do not “create life”, its people that create life. End of discussion. Then you can give better or conditions for how now life chooses to be expressed. How it can be expressed. We could have the world’s nicest existing urban environment, Paris, London or a city in Italy, but suddenly half of its population are people who are totally uninterested in meeting each other. Then there will be no “life”. Or there may be another kind of environment that we do not associate with city life that has a great intimacy because the people after all dedicated to do so... “Like, we may live in slatted houses but we will have parties, we will theme days, flea markets and everything else”. It happens that people like that, just happen to come together. I think we architects should then, when planning, that we should be in-

credibly humble in the face of what it is we are really contributing.

And to be responsive is something that I think is central to the whole thing. And by that I do not just mean that we should calculate a lot of things like pedestrian movements, vehicle movements, or wind directions. Instead take it as it is! What really happens there? If something happens and where does it happen? Is there something we can do to carefully keep that kind activity there? And not to step in and say “We are now taking over here and making sure that this will become a new city center”. It is very much an attitude issue. But as I said, what you are saying here is that even if there are not the conventual social businesses like shops and cafés, there is still social control, if anyone is at home.

It was also one of the conceptual ideas with *bokaler*. And I think even if it is not in the form of *bokaler* or in any other way, that it is a very important issue that we on the firm try take part in when we can. Precisely the fact that it is the ordinary home even before the framework formerly *BBR* allows it to be. Already there, we have the oppor-

tunity to design residential neighborhoods in such a way that they become more like what you describe. That the street spaces, the public spaces get a higher degree of contact with the people who actually choose to be at home even during the day. So we do not have the society where 90 % of the population suddenly disappears from the residential areas and then comes back at 17:30, so that it becomes much more mixed.

More people are at home during the day and just as you say, it can contribute to those people sitting behind small windows on different floors. That if they choose to work at home in one way or another, try to have a business and live on the ground floor, they can actually enjoy having some contact with what is happening. And can this then be a basis for some kind of local community?

And with that said, it is nothing we can direct forward, but we can see if the physical structures constitute an obstacle to such a development, or not. This is the best we can hope for, and in my mind contribute with. To make sure there are opportunities, but

oh how easy it is you can think that you can direct this. The best we can hope for is that if in a x number of years after making such an effort go by and see “oh look there is something happening here, someone has put up a sign, someone is talking on the way in and out of the entrance”. Like a kind of micro-spark, a small city life. It is this city life that is talked about so frequently in all planning programs and plan descriptions that are made in Sweden. So we talk about this city life, as automatically something positive. On good grounds, but I feel that the insights into how this is actually created may differ quite a bit from case to case. But I’m very happy that you mention this with these low-intensity events that contribute to social control, is just one thing, but these meetings ... We also lack an effective language for these phenomena, we all know what they means to us.

A: What do you mean?

KM: Well, we all know what that means, for example, that you go somewhere in the context of a city. It may not happen that much, but suddenly when you walk around a corner. Then

you see that there is actually someone who has established a small dog spa. Like, and have put out two chairs and there are some who sitting and chatting right there. Or maybe there is someone who is on their way in and someone on their way out who talks a bit with about their dogs. And then we suddenly feel that this is a small community life that is going on there. And that’s what we’re after. And I like to see that it happens on different scales. From that kind of situation up to Piccadilly Circus. So we have quite a few steps on that scale, I would like to say.

Where many would be happy to live in a community, where there is an urban environment, where it is a little more towards the dog spa. And at the same time so ... what do we call this? We call this city life. We call it ... But it’s very obtuse. What do we mean by this? This little ... These little meetings ... We have no language for this. A meeting place is what we call it, at the same time you hear this: “Now we are going to plan this new district, and we are going to a lot of meeting places.” ... So? Are there park benches then? Is it good lighting? Well, maybe? Sometimes the lighting is good and

the benches are a good qualities for a meeting place, but is it just outside the same dog spa of 25 square meters and there are two plastic chairs in front and with one person that is on its way in and the another that is on its way out... You might wait so that the dogs not to crash, etcetera. Well yes, dog spa I do not know where I got that example from. But you understand what I mean. It can be anything in the small scale. Again, we come back to the fact that we are not directing this. But we like to think so, because we are solution-oriented. That we have to contribute something positive that is all the buzz. And I see it in myself and in my colleagues, in all the officials I work with. With everyone wanting to contribute something, but many times it is a question of how should we take a step back and as well as facilitate to do exactly what does not prevent spontaneous meeting places from arising in the first place.

A: Interesting, I have spoken with other architects about the hybrid zone. A “balcony” on the ground floor that could be medium for spontaneous meetings. But I am still wondering about the sensitivity of having a social

space on the ground floor where many people seem to feel exposed. What do you think?

KM: I think... For me, the question is divided into slightly different parts. One part is that it is different from person to person. It is not possible to answer what “one” wants. It depends on the person basically. Then I also think that it depends on how the home is organized. If you have your bedrooms, for example, only facing the street and outside, and a meeting place is created right outside. You may not be as amused by it. When one’s floor is basically at street level, not even raised even once. And that you do not have a barrier in between then I think that quite a few perceive the environment outside not hostile, so to speak. And that’s when the blinds go down, these protections start to appear you know. To protect against transparency. You still want a little light, so you place some kind fencing or something to not feel exposed. The next step is if you have a living room or other more public room, but it is not public in all situations either. Sitting and watching TV in your underwear and eating sweets then you also do not think it is so fun

that there is a lot of life and movement right outside. When we draw buildings we try to find where we can and where it is appropriate, in different ways, we try to see how apartments on the ground floor, even if they have an entrance. From a courtyard side or a staircase, that they have a secondary entrance from just the street. And sometimes it is also the case that it is combined with the fact that the residential floor is a few steps up from the street and has a microscopic garden area. So that you feel that what is right outside is your territory, and that is the key to it all. It makes sense. It’s not just like a balcony. Because you often see with balconies on the ground floor facing the street that it will be Ica bags storage and storage of bicycles. It becomes a rather passive environment. At best a buffer against the outside world, but if you should connect it so that it has one ... that it will be like a secondary entrance ... And then it comes again that it does not suit everyone but there are many who see it as a great quality of living on the ground floor. Either because you have a dog, that you have to go out x number of times a day. Super flexible to just sneak out that through the street

entrence, for example, than to walk through the stairwell and without the neighbors complaining ... Super comfortable! Or if you run twice a day, very comfortable then too. You do not want to wake your partner either for example and then it can be very practical to be able to sneak out that way, often then via a living room. Yes, there may also be a small gate that may also be a locked bar so that as you show that you own this territory and that you exhibit pots and appropriated this space. In those cases, I think it can be incredibly ... a very valuable environment. For those who have them needs and who think it is nice, to live on the ground floor. To quickly get in and out of your home. And then again not everyone is suitable for it. But there is a lot that. I think the territory outside someone’s home cannot just a block of pavement. So I think you have to raise many times the bottom of the floor. So that you get a little more distance, but if there is a small courtyard land, I think you can have like a garden. Many times when you enter a home, you have a bedroom on one side and a living room and kitchen on the other. And then out there you have your patio and which many many times can be

perceived as a kind of garden side. It's like one where there should be some peace and quiet. You should be able to open and have guests at home, even if it is the home's public environment, if you live on the ground floor, you can still feel the environment where you are outside. You want it to be, it should somehow be an environment that you have control over. But I think that the connection is... We try it in many projects as I said, and not everyone is on those notes. And it is also not certain that we do the right thing all the time. But that is the image so to say that you have the will to get out. And that's the picture I paint, it's the dog owner, the jogger. Then there are people who say "Nah I think people will feel insecure, Anyone can go in and walk on your patio." True, or that can be true, but I think that if there are reasonable conditions in the area in general. I think that these extra contact surfaces can rather increase security, there will be more movement. It is around this small gate that children can chat and departure from hanging out with their friends. Now I am just painting pictures ... These contact points from an urban planning perspective is where there is a lot in and out, this is where

things happen. Whether it is a shop or a home. It is something completely different if it is the main entrance of the home. If the entrance is located at the ground close to the home and it is an accessible entrance, we often try that but it is often becomes a secondary entrance. But when and where we can, we try to turn it into a main entrance. And then it becomes where you park your bike, and really your territory. And as I said, it also contributes to that city life, what should we call it. If now people are interested in living city life. There are those who just want to come home and close the door, even if you live on the ground floor, there will not be much city life. There will be no pots and with well-cut bushes that the rest of us may think looks nice. Which is fine it is that person's right to do so.

A: Is it okay if I ask one last question before we end this call? We never agreed upon a time limit?

KM: It's okay, but within an hour.

A: So, ten minutes left then according to my timer.

Partly my method is, for instance, to interview a couple of different architects who have worked with *bokaler* and will finally come up with their own picture of what a *bokal* should be and draw a floor plan after that. As I see it, I think it would have been useful to have live-work premises where the user can decide what to do with it. That they get to decide whether it should be a workspace, home or both.

How do you think one should design a premise like that in terms of layout?

KM: We were a little into it a couple of questions ago that there should be a light version of *bokal*. Where activities that should be possible to conduct in the workspace. For other reasons, there are other requirements that make it difficult to have a home in it. For example, huge sign windows. Large room heights. Lots of air exchange etc. But as you are aware, there is a lot that could happen in our cities as well as businesses that do not have those requirements. Then how do you design them in some special way...

I think that as it always is, when it comes to construction even though

many people want it not to be so. It's differ between cases. If you are building 200 townhouses on a flat field, then you make a house type that you copy. Or a couple of pieces. And that method has its benefits. In different ways then. And vice versa.

But just when it comes to cities and blocks, there are so many different factors that affect the outcome. Noise-exposed not noise-exposed. Topography not topography... etcetera. So it's really hard to say anything in detail except for one thing, I would say, in that case because you seem to be in, with the fact that what you are thinking about is not a *bokal* for someone who is going to have his little lawyer business. Who could sit on the third floor. For example. I think that is not really what you are looking for. I think you are looking for, with what is happening on the ground. And what it has to do with the urban environment.

I think it's great to meet you, because what you're doing is something we in the office have had discussions about for many, many years. At least since we made *Bennets Bazaar*. It is somehow something that I think is a way

forward in Swedish urban planning, in quotation marks because what do we mean by that.

Considering that premise. I think, if I am to say anything in general. I think it's the contact. The contact possibilities between the living area and the street space. I think that there it may be worth studying as well as different ways to do it. What happens if there are level differences. What happens if it is flat on the ground. What happens if you have a very narrow, crowded street. If you have a very wide front facing the street. What happens?

To do type floor plans is always very difficult, as I see it. Levels often arise, and even we who have the office in *Skåne*, we instead generate levels because we have an underground garages. Which causes the yard to be raised and sends up the entire ground floor. One meter or just under one meter. What then? Or we use intuition and do what we think is good. For the home for the ground floor to get up a little closer. And this is *Skåne* in many other parts of the country, so topography has been done in a different way. Which causes it to occur. And then

there are accessibility issues ... But as I said, many small businesses like this, which I get in my imagination when I hear you talk may not be... have the requirement that you do not have to offer an accessible room but it is more that you also have services that you can access online. But it is clear if you are going to have a little warehouse/studio, yes, how do you do then. Yes it can be a challenge. If there are levels. Then there is the forecourt, what does it look like if it is a block to the sidewalk? Many times when you plan, you are reluctant to do so. In the context of urban planning. You lay the facade ... If you want something to happen on the ground floor, you often want there to be a courtyard land of about one meter. And sometimes in combination with that meter should have the same pavement as the sidewalk so that you still experience that rum a sidewalk. And it has to do with responsibility and so on. Then the house here is often a drainage pipe that lies outside the facade boundary. So from that meter, sometimes two or three, sometimes more. When you plan for city quarters, it is usually one more, 1.5 to 2.5 maybe. But then it starts to get a lot. Somewhere there. What do you do with that

land there?

If it turns up a little business there on the ground floor and has a book there. Then it's worth its weight in gold with these meters. You can set up a sidewalk talker without having to apply for a permit and you can put out some tables and some chairs, even if it's just a nail salon, you can use these days, for example, to sit outside and wait... I am just brainstorming.

This is something that can tie back to the *Bennets Bazaar*, these suspended ceilings... In addition to creating a form so that they could represent the idea of this large-scale environment. Would it also create a zone like this, between where you pass and the window itself. Then you could exhibit some chairs where you can expose fruit and goods and that too so you use it as well. And there is nothing new in world history. It is rather the opposite, it is extremely common. This is the zone where you attract your customers. Such characteristics, the meeting between the premise and the environment outside. I would say that this intermediate zone, is extremely interesting how can it be designed. Under

different conditions.

A: Well then, I just want to ask a quick question. I did not see any clear markings of that zone in your drawings, or on site, but you saw that they were marked in the drawings. How is it implied that that zone should be used in a certain way if it is not clearly marked?

KM: If we are talking legally, then it is regulated, then there is a property boundary. It is relatively unproblematic. I mean, if someone stumbles upon something on your courtyard, you're responsible as a property owner. I do not know if I understood your question correctly...

A: How did you mark the zone? Because it did not feel like the zone was marked in a way that it was clear that it belonged to someone.

KM: It's a matter of a trader's way of seeing it. So, I vividly imagine that it depends on what kind of business you have. If you have a fruit shop, you are especially interested that that boundary of the zone is unclear. Not that it is not there, that it feels seamless. In *Bennet's Bazaar*, there is a large ceil-

ing that hangs over the zone that creates a room. Which then makes this zone feel attractive. You do not feel that you have to enter or think about buying fruit because you can just stand on the sidewalk and stand next to it and think outside... It is something extremely valuable with the climate, when it rains, you can go in there under the roof. Or the canopy is probably the usual alternative in the city. It's a little consideration for the customers.

If, on the other hand, it is an office that has sporadic visitors. It could be a travel agency, for example. Then maybe you are a little more interested that there is a little demarcation. And it could be a small courtyard for housing. A low fence, some tables, some chairs. Pots with some plants. An canopy so that you still have a zone. At your shop window so to speak... So that it will not only be an entrance but something one can stop and look at. Then it may not be necessary with this unclear boundary, but it may be better that it is clear. So it comes down to what you have for the purpose of this zone and to be on the ground.

This may well change over time. I can

imagine a street façade with apartments on the ground floor with the basic theme may be a yard with a well-cut hedge. (Those who do not have a business, yes they may drop this hedge to a height of 1.20 meters or what is now convenient to cut...) And a gate! So not just a gate that is always locked for those who do not use it. For those who jog or are out with the dog often come and go in that gate in that case all the time. Then for those who then wants the small salon with a small waiting area outside, equipped with maybe some coffee machine placed in a nice sunny position. The salon owners may cut this hedge down to knee height so that it does not feel too confined.

And when we talk about the fact that we are not the ones directing what is going to happen there, or even how. Simple structures and conditions are provided so that this zone and the connections (between the street and the yard) are not too sluggish, so to speak. It might have something to do with windows... It would also be a bit interesting (but it depends on the case as well), if it then perhaps is a larger room in the home that can be easily

converted into a living room with perhaps a little larger windows. But if it is a bedroom for many decades and then suddenly becomes a room ... Or as if the window is divided into a ways that make it easy to just put on such a frosted film when you do not want transparency. I do not know ...

But where the two worlds meet! (To spin back a little) The floor plan can look like a hundred different ways but the connection between the street and the yard is important. A long answer to a short question.

A: Thank you very much anyway for posing for this interview. I have gone too long now and I realize that you have go soon. But again, thank you very much it has given me a lot to think about.

KM: Thank you. It was fun to hear from you and to hear that you are researching about the questions like I said before we work with in practise but don't have the academic freedom like you do. It gladdens me to hear that there are more in this people that are asking these questions. I'm happy to follow what you come up with, even if

it is a link on the mail.

A: Thank you so much! Bye

KM: Bye!

APPENDIX B4: TRANSCRIPT OF THE INTERVIEW WITH FRIDA JORUP

2021-05-05
15:00-16:00

A = Author
FJ = Frida Jorup

A: Alright then I am studying Architecture Civil engineering at Luleå Technical University. And the background to my study is basically that as of 2000 there has been popped more and more live-work premises or *bokaler* as we call it here. It doesn't seem like that there is any clear definition on what those premises are. In the beginning it was an occupational premise that had the opportunity stay the night. Today's *bokaler* seem to be apartments with an extra room or space for office work. And I've read a report from *Boverket* that was written a couple of years ago that there were a couple of problems with *bokaler*, accessibility for instance. I don't really see how these problems are solved in the drawings. And wonder then how are they solved? I don't know exactly how they have solved these issues and therefore want to know you think they solved them.

FJ: Right, as an architect I work with accessibility issues a lot and work with the accessibility section. I am not that knowledgeable on *bokaler* and its

history. I have read the report, before this interview, the one that Anders Johansson wrote 2015. And talked with him a little before if something had changed. And he said that it hasn't. I have worked here for four years, and I have also not heard anything about there being an issue with *bokaler*. regarding accessibility and so on. Which makes me a little bit surprised that you called out to us at all, claiming that this is a potential problem. We haven't heard of it at least.

A: OK...Interesting... I have interviewed some users of *bokaler*, and they have commented on there being some issues regarding accessibility issues. For instance, there is one *bokal* that has a spiral staircase dividing the residential suite from the occupational suite. One has to walk around the whole building if they have disabilities and cannot use the staircase.

FJ: An important aspect we arrive to then is if it is existing buildings or if it is newly built.

A: It is from the early 2010s and were built with the *bokaler* from the beginning.

FJ: Then it sounds like that they are not up the standards of accessibility rules.

In the report from 2015, they conclude that... And you have read that as well, that one should follow the highest requirement. And when it is both *AFS* and *BBR* it is the sharpest requirements that one is supposed to follow. Which, by the sound of it is not what they have done here... It is required that it is full accessibility in newly built apartments.

A: Yeah, that is interesting...

FJ: So, I do not really know how they got around that... Although if it is an existing building can there within reason... solutions can be not completely 100 %, they do not really have to be 100 % accessible. But it is not supposed to be possible to go around the regulations in *BBR*, even if it is also an occupational environment.

A: Exactly, so I am not an expert in accessibility. But it feels like there is always some kind of compromise made or some kind of loophole...

The question is then... Are you allowed to have staircase in-between if you have an entrance from both street level and the level above?

FJ: It depends on the functions that exist on those levels. You are allowed to build an apartment with an interior staircase in-between. It does not matter whether it is a spiral, straight or angled staircase. As long as all those basic functions exist on the first floor. That is what *BBR* demands. Then you can have extra bedrooms and such on the upper levels. And that is okay... But you need to have all those basic needing functions... an accessible kitchen, bedroom and restroom etcetera needs to exist on the entrance floor.

A: Interesting, this case in particular all those functions existed on the floor above. And it has been like that in the traditional sense that you have the resident in the floor above and then the occupational below.

FJ: Okay, but there is an elevator up to the second floor? Then they probably have assessed that the second floor is where the apartments are. And they

are accessible since there is an elevator. So, I would believe that they have assessed it that way.

It is hard for me to comment on singular cases more exactly, but it sounds like that they have achieved the requirements. With the fact there is an elevator even though it is exterior to the *bokal*.

The way I have understood the concept *bokal*, they can exist in the immediate proximity to the apartment. It does not have to be within the same fireproof walls... so to say.

A: Yeah, and they should be separated when it comes to fire protection and such.

FJ: It is not recommended that they are within the same, but there is no actual regulation on this concept that states that it should be. It exists outside the applicable regulations and in this case, you have to try to apply either residential regulations or workplace regulations or both...

A: I have analysed those that *bokaler* that I have found, and it feels like that

primarily adapted those premises to *BBR* than to *AFS* when it comes to the layouts. Because in my understanding there is more requirements in accessibility in *AFS* than in *BBR*. I am correct?

FJ: I am not that knowledgeable in *AFS*, so that can mostly depend on what... Do they not have a lot of adaptations to what kind of work it is?

A: Yes, that is true.

FJ: So, if it is a home office or if it is warehouse, or whatever. They all have different kinds of prerequisites. But I mean... *Bokaler* is not always a place where you invite people from outside in? Like they do in public premises?

A: Not always, but there are cases where those exist. For instance, there are *bokaler* like that in *Rosengård*. One of the most famous examples I think...

FJ: Yes exactly.

A: I think that is one of the rare occasions where they have actually solved the accessibility issues, somewhat

well. Those were also an extension to existing building, so they already have leeway. They had a staircase in-between the residential and the occupational part of the building.

I talked a little bit with my supervisor prior to this interview. It was he who wanted me to explore this concept because he himself is developing a draft where *bokaler* is a part of it. And one of his questions were regarding accessibility and how they are solved because they seem so different...

I am trying to gather my thoughts since I was not prepared for this interview to go this way...

So, what I am understanding now regarding entrances. You are allowed to have an entrance towards the street with all the residential qualities one level above, if that level also has its own entrance?

FJ: You are asking tricky questions... You see... It depends... If it is a small house, then it is only required that the bottom floor is accessible. Then it is so that you are allowed to have an apartment that is... I don't know it of by heart right now. I would suggest you

looking it up on boverket.se. I think that there should be some illustrations and guidelines that should be helpful. Regarding when elevators are needed... Look up "*Tillgänglighet*" in *PBL* at "*Kunskapsbansen*". Here it says when and where it is needed. Did you find it, I think it is better if you read it yourself.

A: Yes, thank you, but I think we can drop this question...

FJ: I think you read this on the site, Boverket.se. Where they have done an analysis on when elevators are necessary, depending on how many levels there are etcetera. If the apartment has two levels... I think you should look at example three, it sounds like the scenario you are describing...

A: Yes, thank you it is not the easiest to find what you are looking for here.

Yes, but if we instead look at the possibility to mix functions, workspaces and residents. What is your personal opinion about that.

FJ: Yes, my personal opinion is that it is possible. It depends a lot on what kind

of occupation it is. To combine it with a home office seems excellent. But I do agree with a lot that is stated in the report. That you should assume that it is a residence and not a workplace and that is with heavy considerations to what is said regarding noise, fire protection and so on. There are many regulations that are stricter regulations in housing in general. But it seems so with what the report has assessed that the concept works best when the rooms the premises are separated but borders to each other. In compared to when it is completely integrated. For it seems to be the most complicated regarding rent agreements... Like, there are different rules regarding housing and occupational premises. And it perhaps is not the easiest thing to fix something like that.

But when it comes to accessibility specifically, I do not think that there are any problems there. We demand a lot already when it comes to accessibility for residential apartments... even so for workplaces. Of course, it is still the case of when it is in multiple levels and that the upper level then is not accessible. That situation like that occurs...

A: But what then is required for it to be accessible in-between those levels? Is it enough being close to the building's staircase and elevators?

FJ: Yeah, for it to be fully accessible an elevator needs to exist... But then there is a consideration if one needs to exit the building completely to enter an upper floor. That is an assessment that can be argued of course...

You don't really want to treat anyone differently just because they sit in a wheelchair. And you don't want to exit the building completely either. That seems weird...

But that is not anything that we regulate that strictly. But I think that is something that I think one should strive towards, that it is the same for everyone. No one should feel left out or mistreated in anyway.

A: Fair point. Does it then matter how it looks outside? Like the way towards the building's interior staircase?

FJ: Yeah, I mean, the site must be accessible as well. We have outdoor

accessibility regulations as well. Especially when it is a public space. Like the goal is for everything to be accessible. Then again it is different requirements whether it is an existing or new plot. If it is an existing, you are allowed to use the existing perquisitions. There is guidance in *HIN* if you are interested...

A: Well... Yes, thank you. Easy answers for complicated issues or how I should say it...

FJ: It is often so... It often comes down to case-to-case scenarios that needs to be assessed individually.

A: Depending on what kind of business it is there are different kinds of accessibility requirements... as I understand it. Regarding ramps and how many people are supposed to visit the premise and so on. Can it then not be argued that the *bokal* designed according to the wanted occupation first and then think of the residence?

FJ: I think that both should be weighed equally throughout the process. When considering both regulations the result should be a very accessible premise.

What you should not do is that choosing the lowest requirements from both and applying them. But that is not how *Boverket* intends the regulations to be used.

A: Alright... This went a lot faster than I thought.

FJ: Okay?

I mean like it has not happened that much regarding *bokaler* since 2015 as I understand it. So, the only thing I can refer to is that report. If you have any specific questions regarding the report, you can always contact Anders Johansson, the author to that report. He still works here at *Boverket*. You can send questions to me directly that I can then send to him if you want to... Like, how did you assess this, and what did you think of this, why wasn't this in the report etcetera.

A: Well, thank you. I am just looking through my documents if there is anything else I would like to ask you...

But just to be clear, you do think that it is possible to mix residential and occupational functions? Without com-

promising accessibility...

FJ: I don't think you have to compromise at all.

A: Yeah, that requirements are strict enough for it not to be a problem at all?

FJ: Well as long as you choose the strictest rules from both regulations it can certainly not become worse comparing to what is required for ordinary housing. Possibly even better with a fully accessible entrance... We do allow some stairs at the entrance as long as there is a possibility to place a ramp afterwards. When it comes to small housing... But that would not be allowed when it comes to a public premise.

Spontaneously, it feels like that a *bokal* would be more accessible compared what would be required out of a residence. Also, when it comes to toilets, there is a higher requirement when it comes to public restrooms. I am guessing a little bit now but is it not so that it is required that it is dimensioned after an indoor wheelchair inside a residence and an outdoor

wheelchair for a public premise? An indoor has a diameter of 130 and an outdoor a diameter of 150 centimetres? So that would be something that would make it even more accessible if it was dimensioned after public requirements.

A: Yes, thank you for saying that. It reminds me... Would you say that it would be a requirement to have a restroom in a *bokal* that has that kind of accessibility.

FJ: Well, a *bokal* is a residence, and a residence needs a restroom. So, yes? That is my immediate answer... But if it would suddenly change just because that it can be used by the public? I don't really know. I do not really know how one divides the public from the private inside a *bokal*. Especially if it is an integrated layout. If there is a restroom inside a public premise the need to be dimensioned after 150 diameters... Maybe not all... [inaudible] You need to check that more specifically later... how many is required.

I mean it is kind of tricky... Even if you combine the public to the private it does not automatically mean that ev-

erything becomes public...

A: Okay, that seems... Okay, I will now speculate... I said in the beginning that the recent *bokaler* that has popped up have been designed specifically for office like occupations... I guess that you could describe them more as "*bokontor*".

FJ: In other words, not accessible for the public.

A: Exactly. So, it is a home first with the additional opportunity to work from home. Not necessary a place where you would invite customers.

FJ: That I do not think is a hard situation to solve either... It is after all only you who work there.

A: Exactly. Whilst in other cases such as *Rosengård* and *Bennet's Bazaar*. There you see... Those *bokaler*, was designed to be used for commercial businesses first. I would say... All *bokaler* is used commercially in some way. For instance, selling meat, spices, there is also a hair salon there. And so on. Any way here every *bokal* is open for the public and has therefore

been equipped with an indoor wheelchair dimensioned toilet. With one singular restroom being placed outside in-between two *bokaler*, that is dimensioned for an outdoor one.

FJ: Okay, in that case it did not sound like they were following the rules... Since all those businesses are separately owned all of them should have an accessible toilet. It is like that all those businesses together is a shopping mall or a gallery. Then it would be another question but... If it had been a mall, it could have been acceptable to have a separate toilet that they share... Like, the restroom for the customers, is that how they have assessed it here? Interesting... Like that it is an outdoor gallery of some sort...

A: Yeah, it is kind of weird...

I recently had a workshop with my supervisors and colleagues. Where we came to the conclusion that *bokaler* seems to be, like student housing, temporary housing for but for young entrepreneurs. That they seem to only follow the minimum requirements, and not to be lived in for many years... It is often too small to grow a family in

these premises.

FJ: Oh okay, I did not know that they were so small.

A: Yeah, they are often small...

FJ: So, they are not suited for families...?

A: No...

FJ: ...the one's in *Rosengård*?

A: Those in *Rosengård* are suited for families! But that one is an exception on many accounts. It is an existing building that has gotten an extension. But all other *bokaler* is often only big enough for one person or a couple.

FJ: Well yeah, it is interesting to hear what it looks like out there. Because as I said there are no question being asked about *bokaler*. I do not seem to be any questions about it out there. It is often municipalities that ask us questions about how they should reason... And this seems like a concept where they should be getting some question marks...

A: Yeah, that seems weird... I agree that it is weird that there are not more people asking question about this...

FJ: Nah, our report is too crystal clear. So, they rely themselves on that.

But it does not seem to be that many new *bokaler* out there. If you were to look into the future, is it a concept that will grow?

A: Right now, I think, both yes and no... There is like you said many things that hinders it like renting and taxing. So that is one reason to why there might not be that many *bokaler*, that it otherwise would have been... But then we look at what municipalities and that they often talk about mix of functions and "the mixed city". There I the concept of *bokal* works in favour of that vision, because that means that you will automatically have both occupations and residents at the same place.

FJ: It is in a way to create safety and security. To have occupations in the bottom floor...

A: Right. In a way it may not be talked about enough for that reason... And of

course, is it not the only solution and it can have the same fate as already existing premises and become empty... Just because that street or road was not commercially profitable? But in the end, it may be the most flexible typology just because it allows districts to hold different functions automatically...

FJ: Mmm, yes interesting...

[Small talk about the master thesis and the method]

FJ: Anymore questions? Are you happy with my answers?

A: Yes, thank you. I am just thinking about the most common accessibility issues... We have already talked about stairs and toilets... Could there be any issues regarding passages and corridors? What I have read they can be around 700 to 800 millimetres.

FJ: If it is an ordinary passage... If there should be room for wheelchairs to turn...

A: I mean in-between furnishes...

FJ: Oh, okay we do not regulate loose furnishings only fixed... You just have to check *BBR* to be honest. Otherwise, it is mostly to be able to be able to rotate with a wheelchair and to place contrast markings.

A: How do you usually think when it comes to contrast markings and such? Now that it may affect *bokaler* if they have a lot of visitors for instance? What are the most common issues there?

FJ: Right inside one's own home it is mostly cognitive abilities... I think that we don't really have that much guidance there. And a home is often something you are really familiar with. In public premises it is more important regarding clarity. Like having clear signs, joint paths for blind (something that is more common in hospitals and such), self-opening doors for people with weak hands... It is more than just wheelchair diameters... But as for layouts and the drawings of buildings it is often just that becomes dimensioning. There are not that many other aids that affect the floorplan... I mean there is lighting and such that is not seen in drawings... So that there are not any

glaring effects from big windows.

A: Interesting, my supervisor wants me to have big displays of windows in the bottom floor where I am going to place the *bokaler*. Mostly in order to show that it is indeed a business there. I do understand the reason behind it... But as you say it may cause glares...

FJ: Ah, I do not think that big windows itself can cause glares, as long as you can shield of direct sunlight. A bigger issue is the contrast. For instance, that you walk through a darker corridor with a big window at the end. Then it creates such as strong contrast that may inflict blinding effect on the eyes. So, you may have to think about sun shielding if you are going to have big windows.

A: So, the building is kind of like a high-rise building with a curtain wall on the bottom floor. So, I am wondering to myself now how I would place canopies on that... Anyways that is a design issue...

FJ: Ah, well it is interesting how everything is connected. And I am thinking about those large glass panels...

That there should be some markings, something that often gets a boring solution. Like a piece of tape. Just because that is something that you forgot to do.

A: Those tape markings are they something are only around entrances?

FJ: No, they are also on the actual window. It is for those see bad or kids that can easily walk into that glass wall. There are people who have actually died because of that, and it is something that is quite serious. And there are many who laughs at this matter, because it sounds so ridiculous. But if it is so large windows, so that they can easily be confused with an opening, so is it not that uncommon to collide with it. It has to be some sort of contrast marking placed in one's line of eye height. And that of course depends on person to person. Something to think about.

A: Well, yes thank you for letting me interview you.

FJ: No problem, it seems like that you have a good supervisor so it will probably work out great.

A: Yes, thank you. Bye!

FJ: Bye!

Bokaler

I have contacted you because you are an owner to a typology called "bokaler". A subject that I am doing a master thesis on. Specifically if bokaler is a kind of typology that should be used more and if it has any favourable qualities.

If you are not aware of it already a bokal is a premise that is designed to for both occupational and residential usage.

I would really like to hear what you think of your bokal!

The survey will mostly focus on architectural topics and how that affects your perception of the premise.

*** Required**

1. What is you bokal address? Observe that you only have to write the street name it is so that I can separate the typologies later. *
-

2. What is the primarily use off the bokal? *

Mark only one oval.

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- ☐ Residential use
- ☐ Occupational use
- ☐ Both

3. How many occupants are there? *

Mark only one oval.

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5+

APPENDIX C: SURVEY QUESTIONS *(translated into english)*

4. In broad statements how satisfied are you with your bokal? *

Mark only one oval.

	1	2	3	4	5
Dissatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Satisfied

5. How satisfied are you with your bokal when it comes to... *

Mark only one oval per row.

	Very Dissatisfied		Dissatisfied		Okay	Satisfied	Very Satisfied
Lighting and Daylight	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sound and Noise	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Furnish-ability and Design	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Room Organization and Layout	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Privacy and Integrity	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Safety and Security	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessibility	<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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6. After answering previous question is there something you want to comment, explain or expand?

7. If you use your bokal for occupational use, what kind of occupation is it? *

Mark only one oval.

- ☐ Service
- ☐ Consulting
- ☐ Commerical and Sale
- ☐ Other: _____

8. If there is a mix of functions (occupational and residential), how are they mixed.

Mark only one oval.

- ☐ Mixed throughout the premise
- ☐ Separated by level
- ☐ Separated by rooms
- ☐ Other: _____

9. If the bokal is for residential use, is it your primarily resident?

Mark only one oval.

- ☐ Yes
- ☐ No

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APPENDIX D: *BOKAL*
FAÇADE





Picture of Norra Sorgenfri bokaler facade.

google (2020)



Picture of *Norra Sorgenfri bokaler* facade.

google (2020)



Picture of the facade of Sverigehuset
Kubik *bokaler*

Picture taken by Hedvig Kjellander
(2021)



Picture of the facade of Sverigehuset
Kubik *bokaler*

Picture taken by Hedvig Kjellander
(2021)



Picture of the facade of Sverigehuset
Kubik *bokaler*

Picture taken by Hedvig Kjellander
(2021)

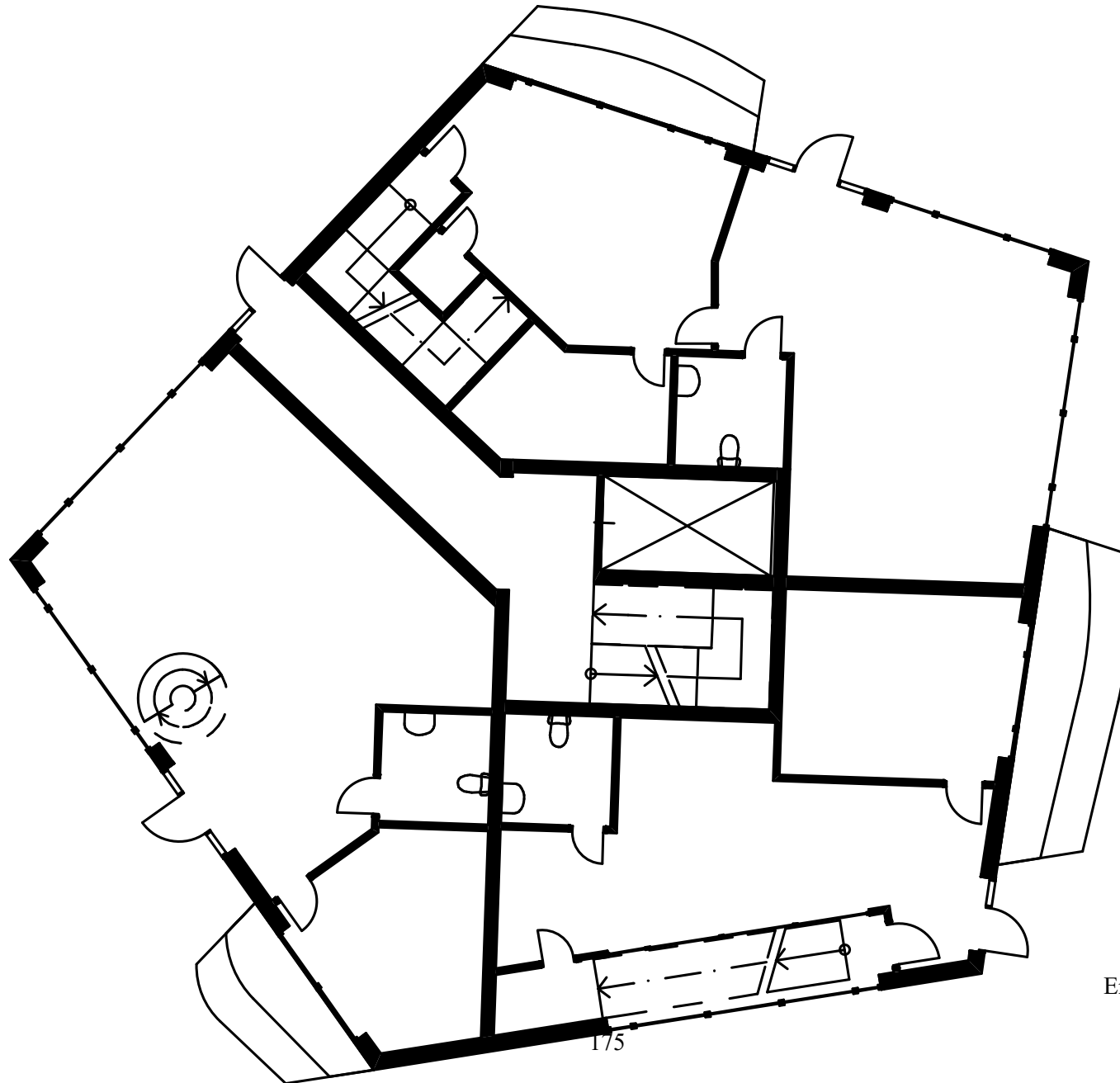
APPENDIX E: THE *BOKAL* CONCEPT



Elevation of the concept, the view
is taken looking from a south-east
angle, 1:200



Elevation of the concept, the view
is taken looking from a north-west
angle, 1:500



Empty *bokal* premises, 1:160



Upper floor of the *bokal* premises,
1:160



Floor 3-5, 1:160







Bokal building courtyard







Rendered view of the sun deck

