

RETHINKING OFFICE SPACE AS A PLACE TO AGE

Converting an Office Building into
an Assisted Living Facility for
People with Dementia
using a Case-Based
Approach



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Chalmers School of Architecture 2025
Department of Architecture & Civil Engineering
Examiner: Marie Strid
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CHALMERS
UNIVERSITY OF TECHNOLOGY

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Abstract

With rising numbers of people with dementia and increasing office vacancies, this thesis explores how existing office buildings can be repurposed to meet the needs of Assisted living facilities for people with dementia. The study addresses environmental and social aspects through the example of Högsbo, an area dominated by offices and warehouse buildings, currently planned for transformation into a mixed-use residential district.

The aim was to identify strategies for converting office spaces into high-quality living environments for people with dementia. Special attention was given to the specific needs of residents, such as orientation and comfort, while considering the building stock. These included adapting the building stock and extensions to enhance the building performance and user well-being.

Guided by the research question “Is it possible to transform office buildings into high-quality living environments for people with dementia?”, the thesis applied an evidence-based design approach. Analysis of reference projects and literature provided the foundation for design strategies, further refined by the Human-centered-design theory.

The results demonstrate the ecological and social potential of adaptive reuse while highlighting key challenges inherent in office typologies, such as narrow floorplans and variation in floor heights. To address these, spatial and structural strategies are proposed, ensuring both functional and atmospheric qualities to meet the demands of the residents with dementia.

By combining architectural adaptation with the specific need of the target group, this work contributes transferable insights for the ecological, economic, and social sustainability of future office-to-housing conversions.

Keywords: Assisted Living Facilities for people with dementia, office building, wayfinding, conversion

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Student Background

KLARA JOHANNA HÜBNER



My motivation to study architecture is primarily based on personal experience. Already as a child, my mother’s MS made me realise how crucial an inclusive built environment is for the quality of life and independence. During my bachelor’s degree, this impression was deepened by a student job in a neurological rehabilitation centre, where I experienced the impact architecture can have on recovery and everyday life. Eventually, my grandfather’s dementia encouraged me to take a closer look at forms of housing and spatial requirements for people with cognitive impairments.

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INTRODUCTION

This thesis explores the potential to solve the demand for dementia housing through a conversion of an office building and including possible challenges. By combining mainly two independent developments in architecture, the increasing number of individuals living with dementia resulting in a lack of suitable accommodations, as well as increasingly unused office buildings, while considering the need to save materialistic resources.

The aim is to investigate how key elements of dementia housing can be integrated into a conversion of an office building. While considering the size and layout of the living and common spaces, in dementia housing, and the wayfinding of the user. Additionally, it considers the aspect of economic and ecological sustainability and building identity change by the implementation of design strategies developed for this specific case.

In the process of developing these strategies, a design-orientated approach is pursued. Based on theoretical approaches and case studies, similarities are identified leading to said design strategies. These are then applied in a design proposal and finally reflected upon.

The field of architecture for people with dementia is constantly evolving through research. While also the awareness that demolition and rebuilding is not a practice for the future is now widely recognised among architects (Dynes, 2021). By exploring the possibilities of a complex conversion, it is intended to create incentives for other conversions, which have been less popular up to now.

Is it possible to transform office buildings into high-quality living environments for people with dementia?

What does a successful outcome depend on and what compromises must be made as part of the conversion?



Background

The project covers multiple problematic developments, which are elaborated in the following.

NEED FOR ADEQUATE HOUSING FOR PEOPLE WITH DEMENTIA

It is estimated that more than half a million people in the Nordic countries suffer from dementia. The number is rising due to demographic change and the increasing age of the baby boomers (Nordens välfärdscenter, 2024).

In Sweden specifically, the number of cases in 2019 has been 150 thousand, which is about 1.4% of the population. Estimates suggest that 20-25 thousand people develop the diseases every year. The forecast for 2050 is 253 thousand individuals with dementia (Demens I Siffror | Demenscentrum, 2024). As a result, the demand for adequate housing is rising due to the increasing sufferer.

OFFICE BUILDING DEMANDS

The demands on office buildings are constantly changing, both technically and in terms of design. Thus buildings are standing empty for longer, as well as owners having problems finding new tenants. The consequences are either renovation, conversion or, in most cases, demolition. In addition, remote working is becoming more popular in the wake of the Covid-19 pandemic and large companies are planning to reduce their office space by around 10%. In Brussels, this has already led to a trend in which office buildings are being converted into flats (Beeckman et al., 2024).

LIMITED RESSOURCES

Approximately half of the environmental impact of a building are generated by its construction alone. Common materials such as glass, steel and concrete are carbon intensive. And while great progress has already been made in building technology in the last 20 years, for example with heat pumps and automated blinds, there is still a lot to change in the use of building materials. This is not just about the materials used, but also about the way they are installed. The better materials can be separated from each other during dismantling, the better the recycling options (Lewsen, 2023).

In addition to the energy used to produce the materials and maintain the building, the waste generated during construction and demolition should not be neglected. Mineral waste accounted for 3,129,000 tonnes in 2022, around 23% of total construction waste for the year. Only soil accounts for a larger share with 8,994,00 tonnes, approx. 66% (SMED, 2024). This is significantly reduced by converting instead of new build.

Within the framework of climate resilience this thesis covers various goals of the **UN Sustainable Development Goals**, which can be categorised into environmental, economic and social aspects.

ENVIRONMENTAL

A well thought-out internal organisation of the building and the associated strategic use of daylight impacts the living qualities. It can also reduce the need for additional energy-intensive systems such as air conditioning.

In addition, waste generation is avoided in the conversion, as the excavated earth can be dispensed with. Resources are also saved even during gutting, as the energy-intensive load-bearing structure is retained.

ECONOMICAL

Converting the building will not only create living space, but also workplaces. However, it also creates incentives for other companies, such as a healthcare provider, in the immediate surroundings by shifting the target group. This supports the principle of ABC cities (Arbete, Bostad, Centrum) (Aria, 2021). Nonetheless, the associated financial burden on public funds resulting from the development of new accommodation, which are tailored to dementia, can not be neglected.

SOCIAL

As it is a common assumption that dementia is an inevitable part of ageing, the diagnosis process is made more difficult, which in turn leads to stigmatisation and discrimination through the denial of an appropriate living environment. One consequence is the loneliness of those affected, which can be avoided by providing an accommodation fitting their needs (WHO, n.d.).

To also reduce premature mortality, a well-tempered environment is needed, among other things, as cardiovascular disease is associated with cold indoor environments in vulnerable groups, such as the elderly and the sick. In this case, this is considered through a refurbishment, as it is assumed that the given insulation values of the offices are not sufficient for housing.

Given the focus on German and Swedish case studies, in the following a brief explanation of the **Architectural contexts of dementia care** in both countries and their similarities and differences is given below.

SWEDEN

Care and accommodation must be provided by the municipality, with primary and specialist care increasingly being handed over to private companies and financed by the public. In Sweden, people with dementia can stay at one's own home for as long as they wish whilst home help, food, and access to daycare provided by the municipality eases the deficit in assisted living facilities. Assisted living facilities specially tailored to dementia usually consist of residential groups, with each 6-10 residents. In addition, people with dementia who are also physically impaired receive customised dementia care, either in a nursing home or a specialist geriatric home (De Waal, 2013).

GERMANY

As in Sweden, the aim is to guarantee care at home for as long as possible. Around 40% of dementia sufferers in Germany are accommodated in institutions, while most are cared for in private households. For cases such as dementia, long-term care insurance was established in 1994, which, unlike health insurance, only covers part of the costs incurred. In addition, only 2% of them use geriatric day care. The partially segregated model of care, by mixing sick and non-ill people in the same residential unit, is implemented in about half of the nursing homes in Germany. Costs arising from specially tailored care, including a higher staff density and architectural adaptations, are passed on to the resident (De Waal, 2013).

An area of 30m² per person is recommended for a needs-based living space for assisted living communities. While an average of 7.08 residents are provided with 35m² of residential space each, 44% of them are accommodated in less than 29m². The optimum distribution of individual and communal areas is 50% each (Kremer-Preiß & Narten, 2004).

TRANSNATIONAL FOCUS

Both Sweden and Germany emphasise care in the individual's home for as long as possible. In dementia housing, familiarity is promoted through predominantly personalised room furnishings and generous communal areas for a range of activities. While in Germany, dementia housing communities, in which six to twelve residents are accommodated, are popular. Where each resident has their designated room with their own furniture and shares the kitchen, living room and bathrooms with the other residents (Wegweiser Demenz - Andere Wohnformen, n.d.). In Sweden, on the one hand, flats and houses of people with dementia are specifically adapted to their needs according to the recommendations of SilviaBo, Queen Silvia's foundation, but those with dementia are also accommodated in residential groups, which are often separate departments in care facilities (Lundström, 2007).

Methodology

In this thesis, the approach was based on the Frayling (1993) model, which distinguishes between research for, through and into design. The stages were applied as follows.

Research for Design

By collecting information, a well-grounded basis for the decision-making process is formed. In this case, this is carried out through literature as well as a conversation with a facility manager.

Research into Design

The information gathered from research for design is gathered in the design strategies. These are partly in the context of the conversion, but also the aspects of dementia related architecture.

Research through Design

In the final step, the design strategies are applied to the selected building. The aim is to find specific architectural solutions to the theoretical design strategies. These proposals are also reflected in the Discussions chapter.

The case-based approach is chosen for all three stages, including the collection of information and the development of the design strategies. Ultimately, the findings are tested and developed in the case of the office building in Högsbo, Gothenburg.

Methods

RESEARCH FOR DESIGN

Method: Literature

By collecting existing knowledge, information can be gathered specifically on the desired topic. The combination of individual sources creates a bigger picture, which forms the basis for further methods and design steps (Hanington et al., 2019). The analysis of existing evidence forms the basis for understanding the needs of people with dementia and for them appropriate accommodation. This method is part of the development of the design concepts. But also when comparing the typologies as part of the conversion, the literature is a reliable source in terms of exploring and identifying similarities and differences between assisted living and office buildings. The informations were used to formulate the architectural approaches, which address utilisation-independent criteria for the residential environment of people with dementia. However, the operational analysis is also based on findings from the literature, which discusses the legal requirements as well as work processes and other utilisation-based criteria.

Method: Case Studie

In case studies, detailed knowledge is gained about a single case or several related cases. In the process of obtaining data, the focus is on the interrelationships while the quality is determined by the diversity of the cases. In addition, the process of a case study is similar to the design process, in which a problem is identified and hypotheses are formulated and tested through interviews, observations and other methods (Hanington et al., 2019) For this thesis, the case studie is used in addition to the literature review to gain insights into the qualities and shortcomings of assisted livings for people with dementia. This involves analysing the organisation of the building at different levels of detail, i.e. how the building is accessed and where the accompanying functions, such as the staff area and the commercial kitchen, are located. However, the design of the individual rooms is also included in the analysis.

Method: Interview

Interviews are a qualitative research method in which personal experiences, opinions and perceptions are collected. Depending on the objective, these can be structured, semi-structured or open-ended. Interviews provide a detailed overview of utilisation needs. However, care must be taken to ensure a sensitive approach and clear dialogue in order to avoid bias (Hanington et al., 2019). In this work, the analysis of the Villa Videbeck case study was supplemented by an interview with the facility manager. This made it possible to clarify aspects that are barely mentioned in the literature. However, other aspects, such as the specific solution to aspects like noise reduction and staff accommodation, were also addressed.

RESEARCH INTO DESIGN

Method: Programmatic and Functional Zoning

The principles of zoning can be divided into physical factors, such as temperature, humidity, natural lighting and acoustics, and functional factors, such as visual reception, furnishable and communication spaces. These vary depending on the activities and needs of the users (Stetsky et al., 2023). As already mentioned in the case studies, the spatial programming and design strategies, as well as the design, are structured according to functions. This takes into account which specific requirements need to be met, such as a separate entrance and whether rooms need to be positioned on the façade. However, the size of the residential clusters and the shared use of rooms, such as conference or meeting rooms, is also an important aspect. Daily routines, availability of daylight and support for orientation in the building play an important role in the development of the strategies. The findings of the case studies and literature were used to identify affiliations and separations of functions. Access to outdoor spaces is also highlighted, as well as horizontal and vertical communication. Furthermore, this methods is used as an abstract type of brief, due to the fact that some aspects of the implementation are limited by the existing building and the plot. For the possibility of tailored solutions, the utilisation of most functions is more important than the specific floor area.

RESEARCH THROUGH DESIGN

Method: SWOT-Analysis

A project or similar is analysed based on the criteria of strengths, weaknesses, opportunities and threats. This allows complex framework conditions to be analysed in a structured manner and can highlight potential scope for action and possible challenges in the further course of the project. In this thesis, this method is used to analyse the general conversion of an office building into assisted living for people with dementia. But it is also used to specifically analyse the implementation. This involves some distant overlaps, but also differences. By analysing the site before the actual design process, this created an awareness of specific challenges and a targeted response to them.

Method: Sun-Analysis

By analysing the hours of daylight and the progression of sunlight and shade in relation to the location, orientation and use of a specific area, it serves as a basis for design decisions. In this way, the lighting and the associated quality of stay can be assessed more specifically. Whilst the analysis can affect the building structure itself, it can also be used to analyse the daylight distribution inside the building. This method is applied in the implementation through a Grasshopper analysis in the outdoor area. The existing building is analysed first and the analysis is repeated continuously throughout the design process. Among other things, this influences the depth of the inner courtyards.

Theories

EVIDENCE-BASED-DESIGN (EBD)

Evidence-based design is defined by the use of design criteria that has been scientifically determined and tested based on specific measurable effects. The approach is to identify symptoms and the associated underlying needs. Based on these, the architectural intervention should be selected. In the process, the best current empirical findings on the connections between architecture and human health are used (Koppen et al., 2022).

Many stakeholders are involved in designing dementia-friendly living spaces. However, they can only contribute to the design process with the knowledge that falls within their expertise. At the same time, the aspects that can be attributed to architectural components are not necessarily clear. Therefore, unbiased factors are important, which can lead to innovation through the addition of experience (van Hoof et al., 2015). It is important to bear in mind that an assisted living facility is not just a living space, but also a workplace for specialised care staff and other employees, such as kitchen and cleaning staff. This means that there are different requirements for the usability of the facility.

Well-known **common design strategies** based on EBD in the healthcare sector include the use of daylight to reduce stress and anxiety, as well as the observation of nature for distraction and the resulting increase in well-being (Koppen et al., 2022). Furthermore, does the inclusion of environmental factors such as daylight conditions, lead to the optimisation of an Assisted Living Facility in terms of the building and its utilization.

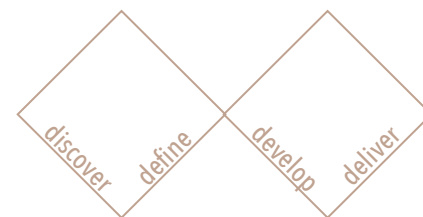
Specifically in this **design**, EBD is implemented by gathering information from studies for general criteria of the built environment to support dementia residents. This includes criteria for the built environment, but also the specific uses and functional requirements.

HUMAN-CENTERED-DESIGN (HCD)

Human-centred design is about identifying human needs for the development of a product or service. The design aspect is related to both the process and the result. Results can also include services, procedures and strategies and should be aimed at improving an existing situation (Melles et al., 2021).

A common way of visualising HCD is the **double diamond model**, which was developed by the British Design Council in 2004. The first diamond on the left is the problem finding diamond, in which the problem is first understood through discovery and then formulated through definition. Based on the defined problem, various ideas are first developed in the second diamond and these are then tested, improved and finally delivered to find a solution. The four steps are repeated and refined in order to come as close as possible to the ideal solution or even to determine it (Melles et al., 2021).

Figure 1 **double diamond model** (after the Design Council, n.d.)



The first step in the thesis involved identifying the problem. A surplus of existing buildings and the influence of demographic change on the property market. This was defined in the next step. Specifically, that offices remain unused and that more accommodation needs to be created especially for people with dementia. An implementation was then developed and revised several times over the course of the project. Once the best possible solution had been found, the result was presented.

COMPARISON OF EBD AND HCD

Whereas EBD relies on medical studies and other quantitative data, HCD uses qualitative methods such as interviews and prototyping. EBD is often used in healthcare and architecture, where the verifiability of solutions has a significant impact. However, HCD is also used in other professions, such as product design. The aim is to find a user-centred solution that does not necessarily have to be based on scientific evidence. Specifically, it can be said that EBD is used based on standardised values, while HCD is adapted more specifically to individuals and the context. Both methods focus on the needs of a specific user and complement each other in the design process.

Delimitations

RELATIONSHIP BETWEEN SPACES

The project focusses on the relationship between rooms and key aspects of appropriate accommodations for people with dementia. Consequently, although it involves the adaptive reuse of an existing building, structural interventions are deliberately limited to what is strictly necessary.

Outdoor areas are also planned as part of the implementation, but no specific planting and detailed programming, as this would be better solved by a landscape architect.

While the thesis addresses general architectural strategies, the implementation relates to the conversion of a specific building. Making it closely tied to the conditions and characteristics of this particular site.

However, the required accompanying functions, such as employee areas, and their extent are also taken into account. Whereby the kitchen is only vaguely planned with the aim of showing the flow of food and employees and the connection to the rest of the building and the associated distribution of meals. Functions that could benefit from the assets of assisted living were also included in the scope of the design.

STRUCTURAL ASPECT OF THE CONVERSION

This project investigates the conversion of existing office buildings, whereby only the load-bearing elements of the original structure are preserved in the implementation. Non-load-bearing components are removed in their existing form due to insufficient energy properties and possible pollutant contamination, which cannot be ruled out in buildings from the 1960s to 1980s. This is an approach that would also be expected in the context of a realistic conversion.

The warehouses on the property are not part of the design scope of the study. As their structure and use are not compatible with the requirements for assisted living, they fall outside the focus of this study.

LAWS & GUIDELINES

As the implementation is carried out in Högsbo, Gothenburg, the building regulations for dementia housing in Sweden/Västra Götaland are applied.

While the requirements for room sizes and spacing are based on the recommendations of the Swedish Standards Institute (SIS), part of the task is to adapt these to the conditions of the existing building as well as to the specific design criteria for people with dementia.

Fire safety aspects are taken into account as part of the conceptual scale. Aspects such as escape routes and fire compartments are based on the BFS 2011:26.

SWOT - Analysis FOR ACCOMMODATING ALF FOR DEMENTIA IN OFFICE BUILDINGS

S

Strengths

ECOLOGICAL SUSTAINABILITY IN CONSTRUCTION

Conversion significantly reduces the environmental impact of a building. However, the impact varies greatly depending on the changes made and the conditions of the building (Frey et al., 2012). This applies not only to the area already sealed, but also to the grey energy invested in materials, transport and construction.

SOCIETAL RELEVANCE

Firstly, the demand for office buildings is decreasing, resulting in vacancies. Secondly, dementia is on the rise due to an ageing society, and with it the need for appropriate accommodation. This allows to compensate a deficiency of assisted living facilities with an abundance of office buildings.

EXISTING BUILDING INFRASTRUCTURE

Office buildings usually have qualities that favour a conversion to residential use. This applies on a horizontal level to communication through centrally located corridors, as well as vertical communication through lifts, which is common to both typologies. In addition, the necessary technical supply systems are provided, which are required for example for ventilation.

TIME SAVING COMPARED TO NEW CONSTRUCTION

Due to existing structures, such as the foundations and load-bearing elements, time-intensive construction phases are not required. This also applies to utilities such as electricity, water and sewage connections, which have to be connected to the public network in a new build, as well as installations in the building. Which, as a result, favours savings in construction costs.

W

Weaknesses

RESTRICTIONS DUE TO BUILDING GRID

One challenge that arises when using an existing building is the restriction imposed by the present load-bearing elements and the resulting grid. These cannot be changed without serious intervention and are associated with considerable costs, meaning that changes are only implemented in exceptional cases. Furthermore, the grid also determines the room layout and design, challenging the accessibility.

COSTS FOR CONVERSION OFTEN MORE EXPENSIVE THAN FOR NEW CONSTRUCTION

While the specific cost difference between a new build and a conversion depends heavily on the existing building and its use, it can be stated that in most cases a conversion is more expensive than a new build. However, it should be noted that in a study by Shipley, Utz and Parsons (2006), the price of new residential buildings became more favourable with increasing size, while the price of reuse increased with size. The price of new commercial buildings increased with size, while no clear pattern could be recognised for reuse.

O

Opportunities

COLUMNS PROVIDE FREEDOM FOR NEW FLOOR PLAN

As office buildings are usually built as skeleton structures, the absence of load-bearing walls allows flexibility in the space organisation. By using lightweight walls between columns, adjustments can be made quickly and cost-effectively as requirements change. In addition, common areas can be easily created without walls visually dividing the space.

TRANSFORMING VACANT SPACE

By creating a new required use for space for which there is little or no demand, the owners of the building benefit financially. This is due to costs that arise despite vacancy, such as heating a property. If the building is not maintained because the owner aims to minimise expenses, the property often deteriorates, which can be avoided by repurposing it.

DEVELOPMENT OF NEIGHBOURHOODS

Integrating a new function into a neighbourhood revitalises it. As a result, new target groups are created for businesses and community organisations. It also ensures social integration and contributes to reducing stigmatisation and isolation.

FREEDOM FOR NEW CONCEPTS

As the skeleton construction and no existing care-based concept exist, the spatial layout can be freely designed. However, it is also possible to incorporate alternative living models and functions, such as the integration of partial commercial use of the building.

T

Threats

BUILDING STOCK

Due to the different usage of office and residential buildings, this can have an impact on the possibilities for conversion. Among other things, this can influence the quality of daylight. But the supporting structure also affects the possibilities in terms of specific aspects such as room dimensions. In addition, office buildings are not designed for accessibility, which can lead to height differences in buildings and narrow corridors. Furthermore, contaminated materials can make a conversion impossible. This must be taken into account in the inventory.

CONFLICTS OF INTEREST

The accommodation of dementia residents involves stakeholders from different areas. On one hand, affected people who need to find a home that supports their declining cognitive abilities but also takes into account the potential physical limitations so that they can maintain a self-determined life for as long as possible. In addition, care staff whose work processes need to be carried out in an efficient manner. Municipalities are responsible for the accommodation of those in need and have to deal with the financial consequences. And architects, who have to combine all these aspects.

ASSISTED LIVING FOR PEOPLE WITH DEMENTIA

Access to long-term care in Sweden is needs-based, but due to local autonomy there are no standardised regulations regarding the scope of assistance in relation to the need for care. Whereby residential care takes place in a long-term care facility, which includes a small apartment with unlimited care.

In Sweden, around 42% of those affected are accommodated in residential care facilities. There they spend an average of two and a half years until the end of their lives (Sm-Rahman et al., 2022).

At the beginning of the chapter, the typology of office buildings is compared with that of assisted living facilities. The similarities and differences are emphasised. This is covered both on a smaller scale and in terms of internal organisation.

Information is also provided on architectural aspects that are independent of utilisation and an operational analysis. This includes the daily routines of people with dementia, as well as the design of the rooms based on their use and legal requirements.

Three case studies are also carried out, which vary in detail and address the spatial programme as well as the floor plan configuration itself.

This is followed by spatial programmes. Dealing with the structure of the residential cluster as well as the functions in the facility itself and the spatial relationships between the uses accommodated there.



Typology

OFFICE BUILDINGS

Although open-plan offices were still being built in the 1960s, justified by the transparency and oversight of work processes and the development of a sense of community, there was also the cellular office, which was usually used as a one-person or multi-person room for small groups. Group rooms were used as an intermediate size, enabling the exchange of information in working groups and providing an improved working environment compared to an open-plan office.

Since the 1980s, office space has changed in terms of flexible utilisation. One model is the combi-office, which offers both individual rooms and group workstations, allowing the workplace to change throughout the day to suit requirements.

A common axial dimension is 1,50m, which with a wall thickness of 10cm leads to a clear room dimension of 4,40m, making it economical for modular offices with double workstations. Depending on the width of the corridor, office buildings with two bays usually have a building depth of 12-13m (BauNetz, n.d.). Another common axial dimension of office buildings is 1.,5m, which enables room widths of 3,80m, with an average usable area of 18m². This is used when an office needs to accommodate both work space and a meeting table for up to four people, but also allows a high degree of flexibility in the case of standard furnishing.

In addition, the majority of administrative buildings are two-floor systems, which allow daylight into all workspaces and require a small communication area. In rooms with a height of up to 3 metres, the ceiling is usually not suspended and technical installations are exposed while the corridors are used for installation tracks. In higher rooms, the ceilings are panelled and potential technical installations are concealed (Kister, 2022).

ASSISTED LIVINGS

While assisted living in Sweden can generally be described by Andersson as 'a subdivision into smaller units, or groups with shared spaces for social interaction' (2020), it can more specifically be said that assisted living consists of the spatial components of apartments with an area of 30-40m², which are accessed via corridors that form the horizontal communication areas, as well as spaces for communal use by residents, for communal activities and staff. The aim is to prioritise the function of the home over care provision.

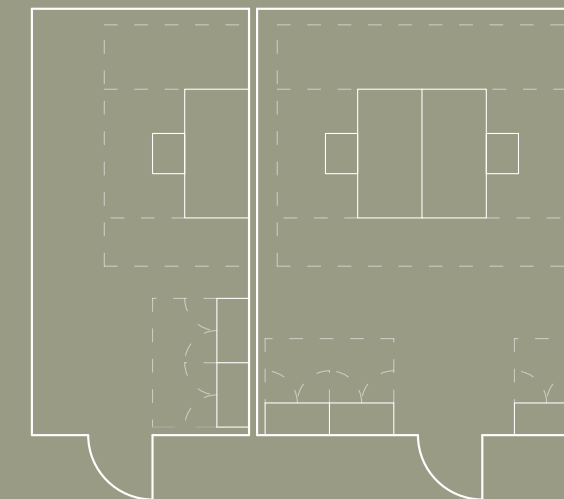
When planning an assisted living facility, it should be noted that there is no legal framework regarding the general conditions of the dwellings and only good physical accessibility is provided. Although one of the main reasons for moving into an assisted living facility in Sweden is loneliness, which is why physical independence should not be the only consideration.

Trends in facilities that are health-promoting include access to nature, including the aspect of accessible therapeutic and healing natural environments, physical activities and a well-beeing environment provided by sensory impressions that go beyond everyday necessities. A development in assistive technologies can also be recognised, which will have a long-term impact on the appearance of elderly housing. (Andersson, 2020)

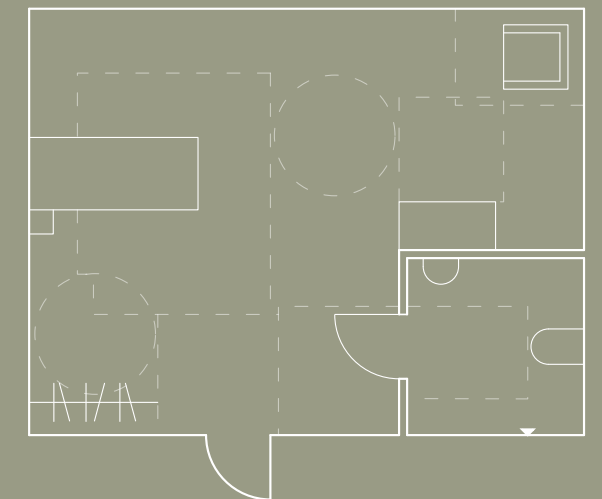
SIMILARITIES

The space for a workplace is between 22.4 - 28.9m² depending on the space programme (Kister, 2022), whilst the target for a small apartment is around 30 - 40m² (Andersson, 2020). As shown in the diagram, this results in various possibilities for developing appropriate flats from office space. Another aspect is the conversion of larger spaces, such as meeting rooms, into shared spaces.

The floor plans below are based on an axial dimension of 1.35m and a window dimension of 1.40m. Therefore, the rooms, after deducting a wall thickness of 10cm, are 5.30m x 6.90m and around 36.5m² in size.



↑ Floorplan Offices (14m² + 22m²)



↑ Floorplan Assisted Living Apartment (31m² + 5m²)

Typology HORIZONTAL ORGANISATION

CENTRAL ACCESS CORES

Vertical access to multi-storey buildings is provided by stairs and lifts, which are partially or exclusively located in shafts and cores that also serve to stiffen the building (Sandaker et al., 2022). The horizontal access extends from these. Fire protection must also be considered when positioning these, as they are part of escape routes. The offices or residents' rooms are lined up along those corridors, which form linear or circular structures depending on the size of the building.

HORIZONTAL ACCESS

Options for accessing the rooms within the floor include external corridor access, also known as access gallery, and internal corridor access. External aisles are more common in residential buildings, as they provide barrier-free access to many flats and, depending on their size and design, can be used as communication areas. However, this also has the disadvantage that the rooms facing the corridor lack privacy. With interior corridor access, the corridor is usually orientated from north to south in order to avoid unequal qualities in the adjoining areas. Consequently, without contact to an outer wall, natural lighting and ventilation are not possible. However, positive aspects of this layout are the high variability of the individual levels, as well as a high level of economic efficiency due to a small envelope area (Jocher et al., 2012).

LINEAR ORGANISATION

In terms of housing, a linear organisation can provide access to flats, but also to individual rooms. In contrast to residential buildings, two linear corridors are also used for offices, whereby the rooms enclosed by the corridors have no façade contact and are therefore used for service functions.

This type of organisation offers good orientation for the user, can be easily planned and implemented using standardised modules and is also economical in the case of a double-loaded corridor. Disadvantages are the potential formation of dead ends (Androsics-Zetz et al., 2022) the lack of landmarks or variety in the layout making these corridors appear monotonous in a care context and they are often long, narrow and lack natural daylight (Jocher et al., 2012).

CIRCULAR ORGANISATION

The circular principle, in which the corridor forms a closed path, thus creates inner courtyards and atriums. The concept is also known as a block or atrium system (Gasser et al., 2012). Depending on the size of the building, the corridor is either along a façade or within the centre of the building.

The advantages are efficient utilisation of space on larger plots, circular movement areas and several ways of reaching a room, as well as inner courtyards protected from the surrounding area. Disadvantages are that, depending on the courtyard size and surrounding building height, the courtyards receive little daylight and can appear restrictive. In addition, the corner rooms created by the layout are a challenge in terms of daylight availability and the associated usability (Jocher et al., 2012).

ADIDAS LACES

The multi-award-winning Adidas Lace building, designed by Kadawittfeldarchitekten, offers 1700 workplaces on a total of six storeys. The shape of the building creates an atrium in which walkways run, reminiscent of the Laces that tie the façades together. This allows people to move through the building without having to cross other departments. At the same time, meeting points are created (Adidas Laces / Kadawittfeldarchitektur, 2011; kadawittfeldarchitektur, n.d.-a).

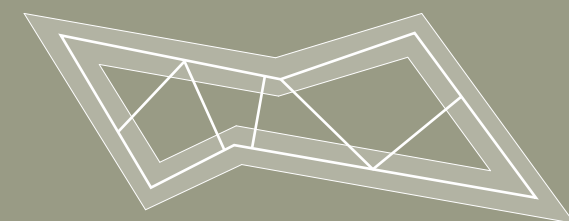


Figure 2 - adidas Laces in Herzogenaurach, Germany
by kadawittfeldarchitektur
(after kadawittfeldarchitektur, n.d.-a)

KOMPETENZZENTRUM DEMENZ MÜNCHEN

The building tract has 118 rooms for residents with dementia spread over four floors in a residential group structure. The northern side of the building borders the main road, while the southern side borders a residential area. While a circular organisation prevails in both volumes, it forms an inner courtyard on one side and frames internal rooms on the other. The two volumes are connected by glazed walkways (Feddersen Architekten, n.d.).

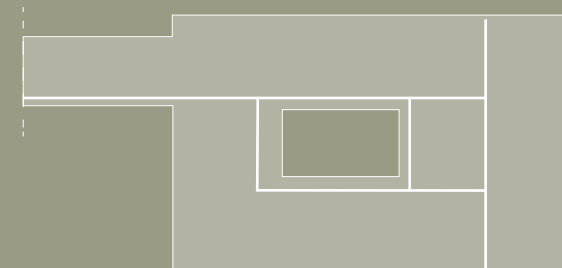


Figure 3 -Kompetenzzentrum Demenz München in Munich, Germany
by Feddersen Architekten
(after Feddersen Architekten, n.d.)

VILLA VIDEBECK

The accommodation consists of four wings, each with three floors. The wings are connected by a central structure, creating courtyards between the wings, which are framed by buildings on three sides. The corridors are predominantly straight and the nine rooms and common areas in the residential groups are lined up along a linear flow. The rooms face north-west and south-east (Villa Videbeck - Lidköping kommun, 2022).

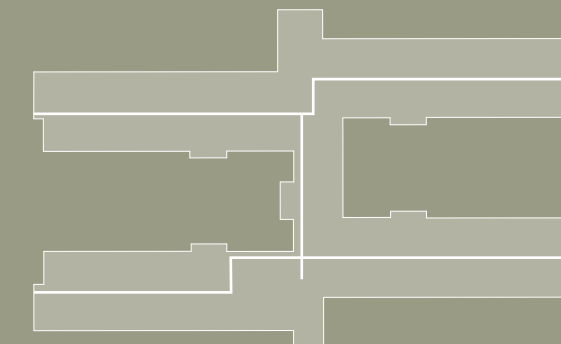


Figure 4 - Villa Videbeck in Lidköping, Sweden
(after Sandén, n.d.)

GRÜNENTHAL BÜROGEBÄUDE 411

Workspaces for around 200 employees are spread over seven floors. The offices workstations are located along the long sides and orientated north-west and south-east. The spacious area between the offices is furnished with lounges, copy islands, archives and coffee points. In addition, seating groups offer opportunities for meetings. This creates two main corridors and, despite the furnishings, the communication area is bright and open thanks to the glass installation (kadawittfeldarchitektur, n.d.-b).

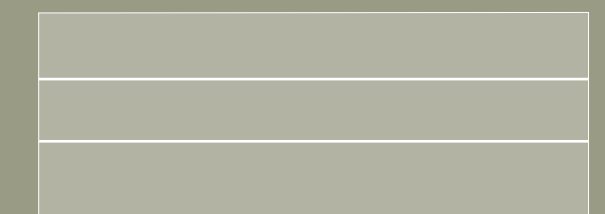


Figure 5 - Grünenthal Bürogebäude 411 in Aachen, Germany
by kadawittfeldarchitektur
(after kadawittfeldarchitektur, n.d.-b)

Architectural Approaches

When accommodating people with dementia, the immediate environment has a significant influence on the development of the disease and their quality of life (Ghamari et al., 2025). It is also relevant that the environment is perceived intuitively rather than cognitively in the case of advanced illness (Feddersen & Lüdtkke, 2017). Safety should not be neglected either, as the risk of falls and associated hospitalisations increases and they recover poorly, threatening to slip into a vicious circle (Ghamari et al., 2025). The criteria relate to the spatial, sensory and navigational aspects associated with dementia.

WAYFINDING

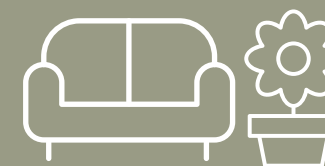
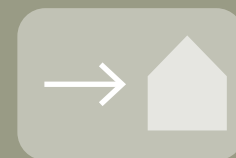
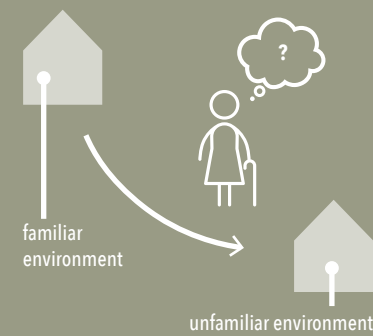
Based on reports, up to 41% of people with dementia get lost at least once in a familiar environment. The resulting distress and anxiety are exacerbated by moving from a familiar environment to a new one (Charras et al., 2024; Zeisel et al., 2020).

SIGNAGE Whilst signage should ideally be tailored to the individual and their cognitive needs, it can generally be said that pictograms and simple words are effective (Charras et al., 2024). It also helps to supplement these with elements that appeal to other senses, such as sound or surfaces. They should also be designed in contrasting colours and not be lost in the surroundings in order to remain legible, as well as being positioned at eye level above the handrails (Ghamari et al., 2025).

LANDMARKS Landmarks help to recognise places and support decision-making at junctions. However, it is important that these are not overstimulated and thus have a counterproductive effect (Charras et al., 2024; Zeisel et al., 2020).

CORRIDORS Floor plans with simple, straight corridors and small corners are the most effective in terms of orientation. However, circulation with many corners is problematic (Charras et al., 2024; Ghamari et al., 2025; Zeisel et al., 2020).

OUTDOOR When it comes to the design of outdoor areas, it is important to consider the rules regarding landmarks, adequate seating and lighting, just like indoors. Care should also be taken to ensure that it is located on a quiet street. Furthermore, weather-independent seating options should be offered (Feddersen, 2014; Ghamari et al., 2025).



LIGHTING:

Due to the frequent vision impairments of people with dementia, lighting has a major influence on safety and orientation, but also influences the homelike atmosphere (Charras et al., 2024; Landmark et al., 2009; Zeisel et al., 2020). An orientation value is 300-700 lx at a work surface height of 80 cm (Ghamari et al., 2025). Depending on the daylight conditions, artificial lighting may be required. The intensity depends on the individual perception of the occupant and the possibility of adjustment should be taken into account during planning. The circadian rhythm can also be stimulated by a dynamic lighting system as a result of the decreasing sensitivity to light, which often disrupts sleep patterns (Brankaert & Kenning, 2020; Feddersen, 2014; Ghamari et al., 2025). This involves using bluish light during the day and warmer light at night (Ghamari et al., 2025).

REMINISCENCE THERAPY:

Using the resident's personal furniture and pictures to help them remember events, experiences and activities from the past (Brankaert & Kenning, 2020; Feddersen, 2014; Zeisel et al., 2020). This helps to maintain the person's identity and increases wellbeing, as well as reducing depressive symptoms (Zeisel et al., 2020). Music can also be part of this therapy in combination with visual stimulation (Brankaert & Kenning, 2020).

HOMELIKE ATMOSPHERE:

To create a homelike atmosphere, a facility should have a maximum of ten residents, whereby the preference for a quiet or restless environment varies from resident to resident. A smooth transition from public to private spaces, homelike furniture and décor, ADL (Activities of Daily Living) kitchens and informal activity spaces encourage interaction and create a homelike atmosphere that simultaneously promotes the autonomy of the residents (Brankaert & Kenning, 2020; Ghamari et al., 2025).

FLOORING:

With the floor, attention should be paid to shock absorption in order to avoid falls. A thickness of at least 3.5 mm is recommended, but 5-10 mm is better. On the other hand, the flooring should be smooth, non-porous and therefore easy to clean, ideally only with water to avoid strong odours. Vinyl, for example, fulfils these criteria (Ghamari et al., 2025).

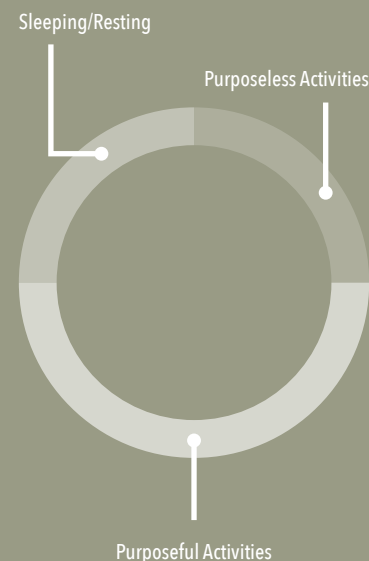
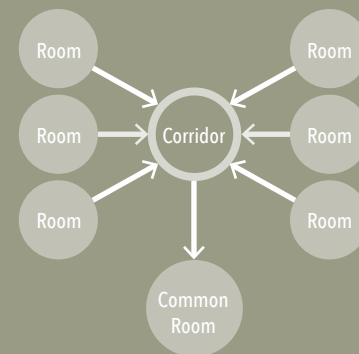
Operational Analysis

As already explained in the architecture approaches, certain aspects should be taken into account to support dementia residents, regardless of the function of the room. This section looks specifically at the various areas and required functions in order to create a framework for the building programme.

In general, it should be noted that orientation is particularly supported in smaller residential groups with included communal areas and short corridors (Landmark et al., 2009). It should also be considered that residents are more likely to perceive other residents as neighbours due to the lack of close relationships. It is therefore important to design the flats as private areas of retreat and the common areas as meeting places (Andersson et al., 2014).

In addition, sufficient space for the increasing use of aids such as lifts, wheelchairs and walking aids must be taken into account during planning. This is particularly problematic for documentation spaces if they are not located separately and are inaccessible to patients, or if entrances are blocked. But sanitary spaces are also affected by these issues (Andersson et al., 2014; Nord, 2013).

To assess the prioritisation of room functions, it is important to understand how residents spend their time. In the study of Adlbrecht, Nemeth, Frommlet, Bartholomeyczik and Mayer (2022), the behaviour of residents was observed over the course of the day from 7am-8pm. The findings are that during this period the participants slept and rested about a quarter of the time. Another quarter was spent on so-called purposeless activities, such as sitting and wandering. In the remaining time, the residents carried out purposeful activities, which included reading, eating, chatting and watching TV. At midday in particular, walking and recreational activities made up a significant proportion, around 27%, of the measured assessments. Specifically documented activities include exercising, sports, dancing, spiritual or religious activities, handcrafts, arts, music, singing, playing cards, playing a game, doing a puzzle, reading, writing, crossword puzzle, using the computer, sensory stimulation, watching television or listening to the radio.



APARTMENTS AND BATHROOM

The Social Service Act states that municipal authorities must provide special housing (in Swedish: särskilt boende) for the elderly in need (SFS 2001:453). The apartments in an assisted living facility are the resident's private accommodation, which the resident rents. They are financed by grants from the state, which cover a maximum of 35 m² for the apartments (Andersson, 2013). The usual size of residential groups in Sweden is six to ten residents (Charras et al., 2024; de Waal et al., 2013).

To ensure accessibility in the flats, the Swedish Standard Institute has set a higher standard (in Swedish: höjd nivå) for group homes for people with disabilities in their guidelines for the interior dimension. This benefits both the residents and the staff, who have more space to care for the residents by providing greater distances between furniture. However, it is also noted that the standard is not a requirement by an authority, but that the stated specifications must be met if an increased standard is advertised (SS 914221:2006).

The minimum requirements in the apartments are at least one room for personal hygiene areas, areas for daily social interaction, sleeping facilities, cooking areas including a dining area, everyday tasks, general storage and an entrance. The size of the apartments may be reduced if there is space for eating and social interaction in other common areas. In practice, flats usually include a kitchen, a dining space and common areas. These are often not spatially separated from each other and coexist in one room. In most cases, the bathroom is positioned along the corridor with access from the room or via an access hall leading to the room. Only rarely is it located on the façade. The entrance hall often also houses a wardrobe (Nord, 2013).

COMMON AREAS

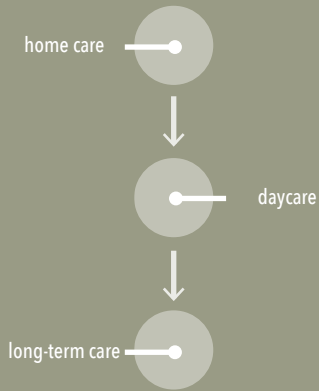
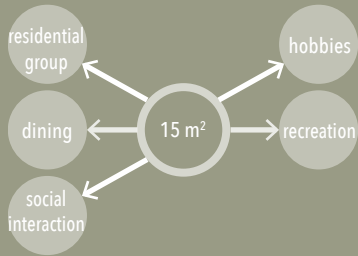
As with the apartments, the common rooms are financed via a state grant. A maximum of 15 m² per flat is subsidised. However, it should be noted that this area does not only apply to the residential groups. The areas for dining, social interaction, hobbies and recreation are divided between the residential groups and spaces in the rest of the building (Andersson, 2013).

Regarding the use of common areas, it should be noted that care work tends to focus on collective activities. In addition, residents have meals in the common areas together with other residents and staff (Nord, 2013). While kitchen units are integrated into the dining areas and apartments, these have a predominantly atmospheric function with a view towards safety and hygiene. Nevertheless, the dining area is one of the most frequently used areas, as regular meals are a routine and other activities are based around it (Andersson, 2013).

Due to the limited contact outside the facility and the usually few visitors, the common spaces are the places where most social interaction takes place (Andersson, 2013). People with dementia prefer environments where things are taking place. This applies to dining and living areas as well as outdoor areas. The restlessness of individuals and the associated urge to move can be understood as an attempt to perceive themselves and their environment and to stay in contact with it. A balance should therefore be provided between calm and active environments. The corridors provide a place for movement, which is complemented by pictures, views and colourful furnishings to stimulate perception. It should also be ensured that the boundaries between private and communal areas are clearly defined. (Feddersen & Lütke, 2018)

STAFF

An assistant living facility is not only a home for people with physical and cognitive disabilities, but also a workplace. The functions required to care for the residents therefore matter. However, the opportunities for regeneration during breaks and the effectiveness of the working day also have an impact on the well-being of employees (Andersson, 2013; Andersson et al., 2014). When planning, it should be considered that different numbers of carers are present in the facility throughout the day, whereby 24-hour care is ensured. Doctors are provided by the public health system as for all residents in Sweden. Services that impact the staff in their spatial and functional circumstances are the preparation of all meals by the staff as well as laundry and cleaning (Andersson, 2013; Andersson et al., 2011).



DAYCARE

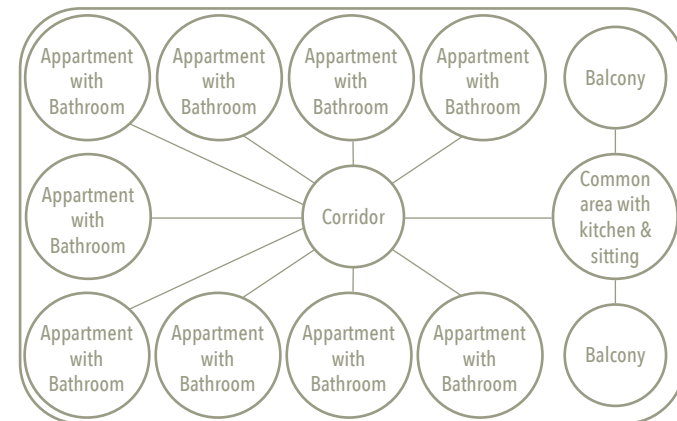
The Alzheimer's Association definition of Daycare or Adult Day Centres is „Adult day centers offer people with Alzheimer's and other dementias the opportunity to be social and to participate in activities in a safe environment.“(n.d.). While this definition is very general, also due to the varying scopes, it can be stated that this type of care usually lies between home care and long-term institutional care. In a study by Samuelsson, Malmberg and Hansson (1998), various daycare facilities for elderly people in Sweden are analysed. While one of five categories was facilities for elderly with dementia, the general aim of the institutions is to counteract social isolation. Commonly listed activities are outings, festivities, bingo, coffee parties and needlework. Another aim is to relieve informal caregivers. In Sweden, the majority of daycare services are provided by the municipalities, with the social aspect being emphasised rather than medical care (Måvall & Malmberg, 2007).

While there are no binding regulations for the establishment of day care centres for people with dementia in Sweden, there are examples in the international context. For example, the characteristics of ALFs are similar to home model centres in Australia. In this model, around 10-20 participants are cared for. This takes place in a domestic home designed context. Activities are individualised and predominantly household related such as gardening and meal preparation. Attendance varies from 3-5 hours once a week to five full days a week (Zeisel et al., 2020).

When accommodating people in daycare, it is important to ensure that they are not overwhelmed both visually and in terms of noise levels. Due to the higher density of temporary residents in the living space, the environment must be particularly supportive and adapted to the users.

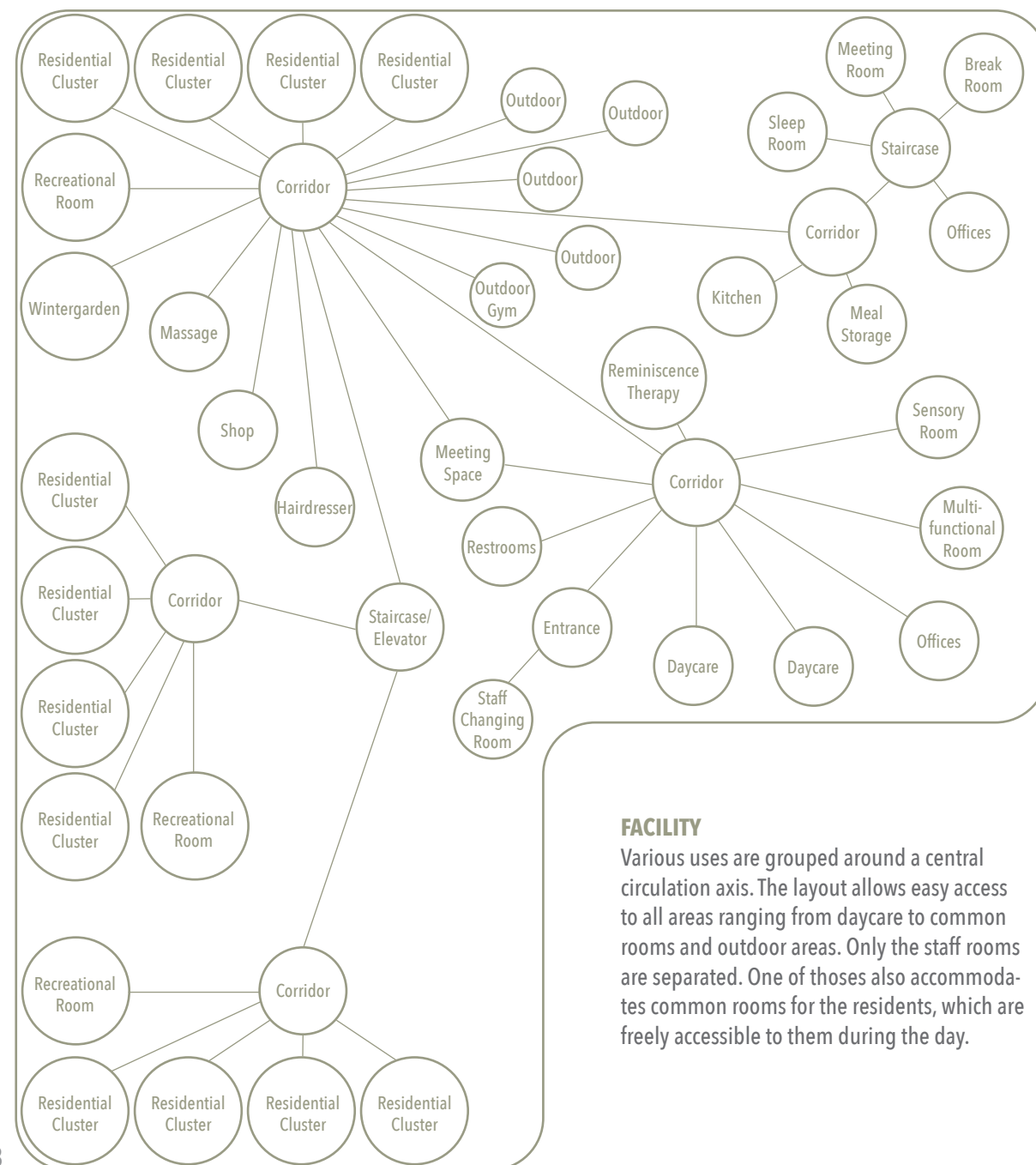
Case Study

VILLA VIDEBECK IN LIDKÖPING, SWEDEN



RESIDENTIAL CLUSTER

The residential clusters are organised as compact units with nine apartments each. Each of these has its own bathroom. Connected by a central corridor, the common living and dining area including kitchen can be reached. Two balconies extend the common area into the outdoor space.



FACILITY

Various uses are grouped around a central circulation axis. The layout allows easy access to all areas ranging from daycare to common rooms and outdoor areas. Only the staff rooms are separated. One of those also accommodates common rooms for the residents, which are freely accessible to them during the day.

SIGHTLINES

When entering the apartment, the view falls onto the window, which on one hand can help with orientation in relation to the time of day, weather and the associated daily rhythm. However, a potential effect could also be that, depending on the position of the sun and the time of year, the sun can cause glare. Shading can be used to counteract this. Furthermore, depending on the furnishings, the toilet can be seen from the bed, which reduces confusion and ensures safety for the resident.

LAUNDRY AREA

A laundry area is situated in the bathroom. While the washing machine is operated by the staff, it functions as a transition area from the room itself to the bathroom.

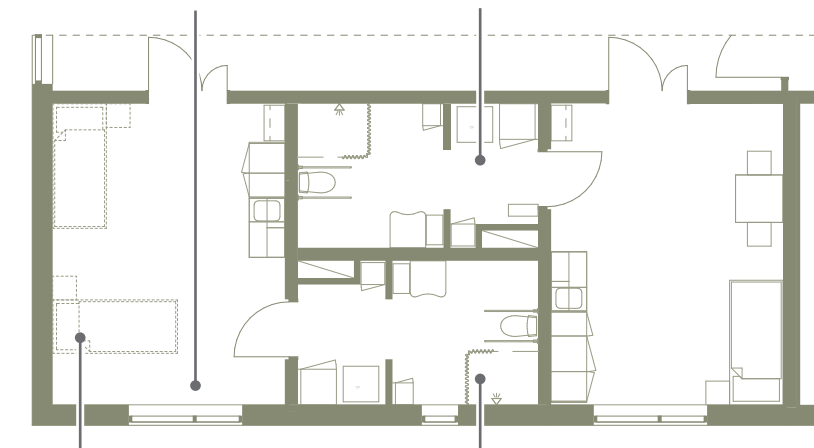


Figure 6 - Villa Videbeck in
Lidköping, Sweden
(after Sandén, n.d.)

ADJUSTABLE FURNISHINGS

Even though, apart from the bed, the resident supplies their own furniture, a wide range of options for arranging the room are shown. It is also shown how the furniture changes if the bed is moved to provide better care for the resident.

DAYLIGHT IN THE BATHROOM

Due to the layout of the rooms, only one bathroom has access to daylight. Daylight can reduce the risk of falls by minimising shadows. However, artificial light can be used to respond to the occupant's sensitivity to light.

CONVERSATION WITH SUSANNE

To gain an insight into day-to-day life and the layout of a facility for people with dementia, Susanne answered a few questions whilst showing me around Villa Videbeck.

It should be noted that the residents are generally able to move around freely. This means that the doors are open during the day, which reduces the urge to leave the facility. In addition, the outdoor area has a variety of features, including four courtyards between the buildings, a pond with a bridge, a workout area and a boules court.

To ensure orientation in the building, simple floor numbers are used in the lifts, the storeys are distinguished by different colours and personal features are attached to the doors of the apartments. Despite several floors, residents also use the stairs and live together in the residential groups regardless of the stage of their illness. Meaning that free rooms are assigned regardless of the stage of the disease.

As with the outdoor areas, Villa Videbeck offers numerous common rooms such as a winter garden, nostalgia room, fitness area or workshop, which is not used for working but for lingering. Meals are prepared centrally and stored in trolleys before being collected by a resident and carer. Breakfast and smaller baking activities, on the other hand, take place in the common rooms of the residential groups. Relatives can visit at any time, although overnight stays at the facility are not intended.

The materials have been selected for their functionality. Attention was paid to matt surfaces that avoid irritation and sound-absorbing pictures that dampen noise. Furthermore are seating groups in corridors colour-coordinated.

Staff areas are clearly separated, either by a concealing door frame colour or distance. Furthermore, electronic door locks on apartment doors ensure privacy.

DESIGN STRATEGIES

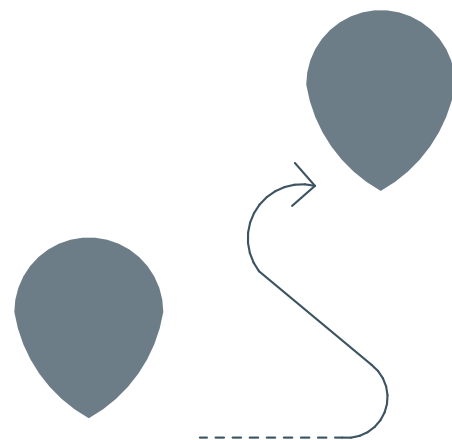
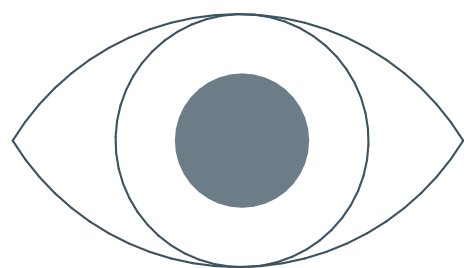
The project incorporates two key aspects. One relates to use by people with dementia, and the other to the partial conversion of a building. This results in two overarching thematic groupings, with each group consisting of four strategies.

When converting an office building into dementia accommodation, the strategies require to be well thought-out and tailored to the needs of people with dementia. This concerns both safety to prevent injuries and the layout of rooms to promote orientation. And also provide opportunities for activities and meeting points to maintain and promote the independence of residents for as long as possible. But most importantly compensate for deficits due to the use of people with varying degrees of cognitive impairment.

To ensure the long-term use and resilience of the building, aspects such as adaptability and flexibility must be taken into account. This also has an impact on economic efficiency and is more environmentally sustainable than potential demolition. While the given circumstances limit the possibilities for conversion, the design should take into account changing functions over time without requiring major structural interventions. However, the efficient use of space in the form of multifunctional rooms and utilisation across user groups are also crucial aspects.



Spatial Design for People with Dementia



SIGHTLINES

The use of sightlines supports orientation, which in itself reduces distress. This is particularly important in view with the residents moving from a familiar environment to a new, unfamiliar one. In addition, sightlines promote independence. Which in itself favours social interaction. Another aspect is that sightlines also make the environment more visible for carers and thus increase safety. In the design, this was implemented in the residential clusters through central corridors from which the rooms lead off. At the ends of the corridors are the common spaces for each residential group, as well as the roof terraces on the upper floor. The entrance to the daycare centre is also located on the ground floor opposite the access to the inner courtyard. Furthermore, the lift and staircase, which overcome the height difference between the existing and new buildings, are centrally located so that they can be seen from many directions.

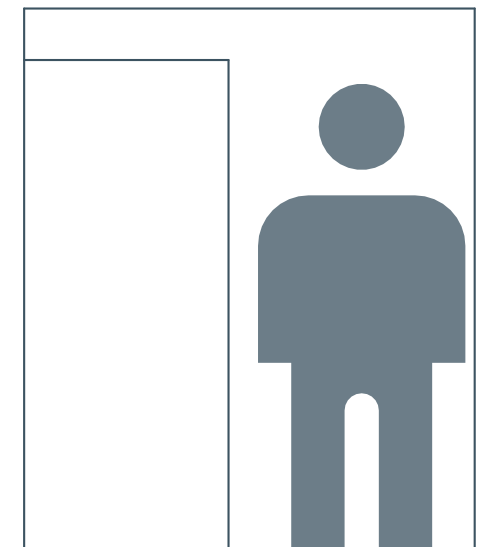
INTUITIVE WAYFINDING

Knowing that buildings tend to be perceived intuitively by residents with dementia (Feddersen&Lüdke,2017), the declining cognitive abilities must be compensated for by the built environment. Intuitive movement in the building promotes the establishment of routines, which also offer a sense of security. Another aspect is the stimulation of movement through intuitive movement. In the design, this has been realised by angling the entrances to the flats. In this way, residents are guided towards the common room of the residential cluster when they leave their apartment. Landmarks are also used, such as the targeted placement of services and common areas, as well as the colour accentuation of the room doors, in which each residential door has its own colour, to assist recognition.



HUMAN SCALE

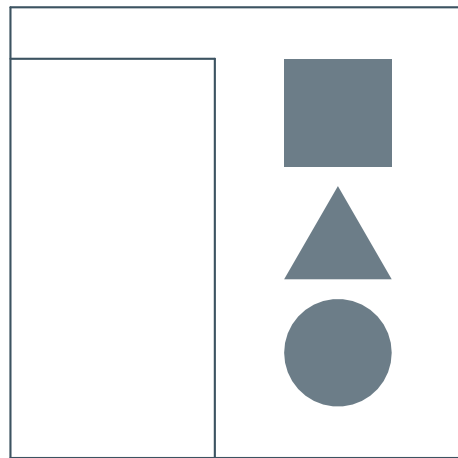
To promote the well-being of residents, attention must be paid to the scale of the accommodation. It should be borne in mind that people with dementia benefit from familiar living conditions. Even if a facility cannot offer the same environment as a single family home or a large flat, there are aspects such as normal ceiling heights and small group rooms that have a less institutionalised effect. Small rooms are also easier to survey and offer fewer sensory irritations, which in turn gives a feeling of control and is less overwhelming. In the design, this has been implemented through several small common rooms, which offer both different functions and sensory features. In addition, a kiosk-like space was created on the ground floor in the entrance area, which breaks up the width caused by the existing building. And the large, glazed Winter Garden on the upper floor is equipped with many plants, ensuring a pleasant indoor climate but also making the space more small-scale.



USER-ORIENTATED FUNCTIONAL SPACES

People with a wide variety of biographies, abilities and preferences live in assisted living facilities. This is also reflected in their leisure activities. Creating a sense of purpose through everyday activities is also an aspect to be considered when designing rooms. These can be combined with a service function such as a hairdresser, which fulfils several needs. Helping with tasks or other active activities can promote motor and cognitive skills. Thereby, independence is improved. Examples in the design include the kiosk, which offers an everyday activity but also challenges the residents cognitively. To support mobility and alleviate pain, there is a physiotherapy room with various equipment. Furthermore, a music room promotes social participation and can be part of reminiscence therapy. The design also includes recreational rooms for observing the surroundings, playing games and meeting fellow residents.

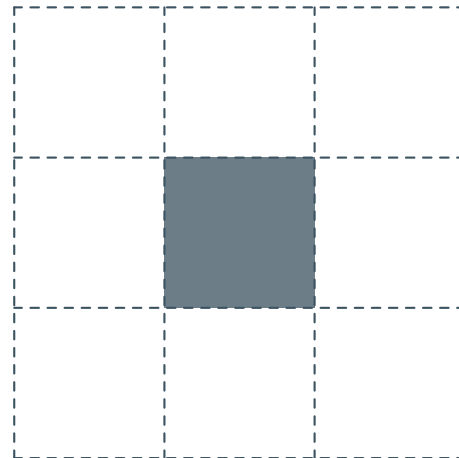
Adaptability and Flexibility



MULTIFUNCTIONAL ROOMS

The possibility of using rooms in a variety of purposes can be useful as space can be found spontaneously for the desired function. In addition, the needs of both residents and staff change over time. This makes it possible to react quickly and without serious financial consequences, as no structural alterations have to be made. Also, the residents are not disturbed and the employees are not restricted during ongoing day-to-day processes.

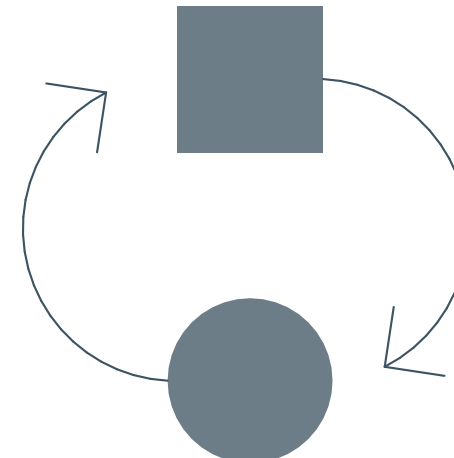
One place where this comes into play in the design is the winter garden on the upper floor. The space can be used as a retreat for the residents, but is also suitable for celebrations and larger programmes.



MODULAR STRUCTURES

The use of modular structures makes it possible to add to or dismantle parts of the building if necessary. In addition, standardised units that are repeated can be planned and built more quickly and cost-efficiently. Another aspect is the flexible arrangement and combination of units for example of apartments and offices. Changes can be made relatively easily. This also applies to the separation of load-bearing structure and utilisation unit.

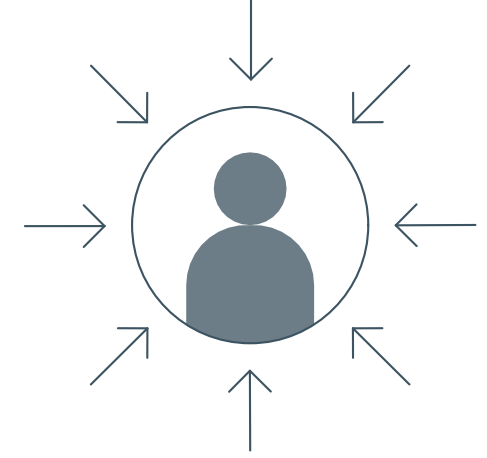
This was realised in the design by retaining the existing load-bearing structure and adopting the grid for the new building. In addition, two flats fit into three vertical fields of the grid. The repetition of these also makes built-in furniture, which is installed due to the existing grid, more economical. Furthermore, this enables an uncomplicated continuation in the case of an extension to the building.



ADAPTABLE APPARTMENTS

Due to the changing condition of the residents and the associated support required, it is important that the apartments can also be adapted. In addition, part of the reminiscence therapy is also the furnishing with own furniture for a feeling of homeliness. This also involves a certain degree of flexibility in terms of cultural and personal living requirements. Furthermore, it can be assumed that a residence that is designed for wheelchair-accessible use is also suitable for other future uses, such as student or senior housing, without the need for care. This itself is ecologically and economically sustainable.

These aspects were incorporated into the design through the different furnishings. For example, it incorporates plans for residents with only minor physical limitations. However, alternative furnishings are also shown, which are recommended if a resident becomes bedridden.



UTILISATION ACROSS USER GROUPS

The utilisation of a room by different user groups reduces room duplication, which also saves money on maintenance. In addition, rooms can also be used as short-term alternative options. And in the event of a change of user, for example from conference rooms to a counselling centre, the changes to be made are minimal. Furthermore, the space has the potential to be temporarily rented out or shared.

One example in the design is the conference area. This is primarily used by external guests. However, the connection to the staff area means that it can also be used by them.

DESIGN PROPOSAL

The design proposal translates the previously developed spatial and strategic findings into a specific architectural implementation. An existing office building in Högsbo, Gothenburg, is converted into a assisted living facility for people with dementia. The aim is to create an appropriate setting that offers security and creates a stimulating environment, while at the same time retaining the office building structures and creating extensions to suit the needs.

The design combines small residential groups with various common areas that provide different levels of stimulation, such as a winter garden and kiosk, as well as a music and physiotherapy room. The strategies of intuitive wayfinding, human-scale proportions and sensory stimulation were used to address the cognitive and emotional needs of the residents.

Lastly, the chapter addresses the fire safety of the residents and a cost estimate is made on the basis of DIN276.

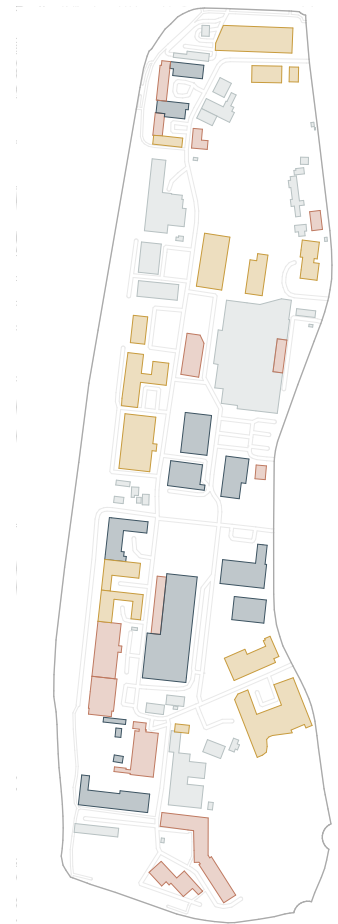


Site - Högsbo

REDEVELOPMENT AREA HÖGSBO

The area is currently predominantly an industrial area with offices and commercial use. In the southern part of the area is also a Hemssjukvården situated. Furthermore, the area is to be transformed into a mixed-use area (Översiktsplan För Göteborg, n.d.), which will reduce the institutionisation and isolation of this assisted living facility. The redevelopment will focus on creating a lively but not overly restless neighborhood environment.

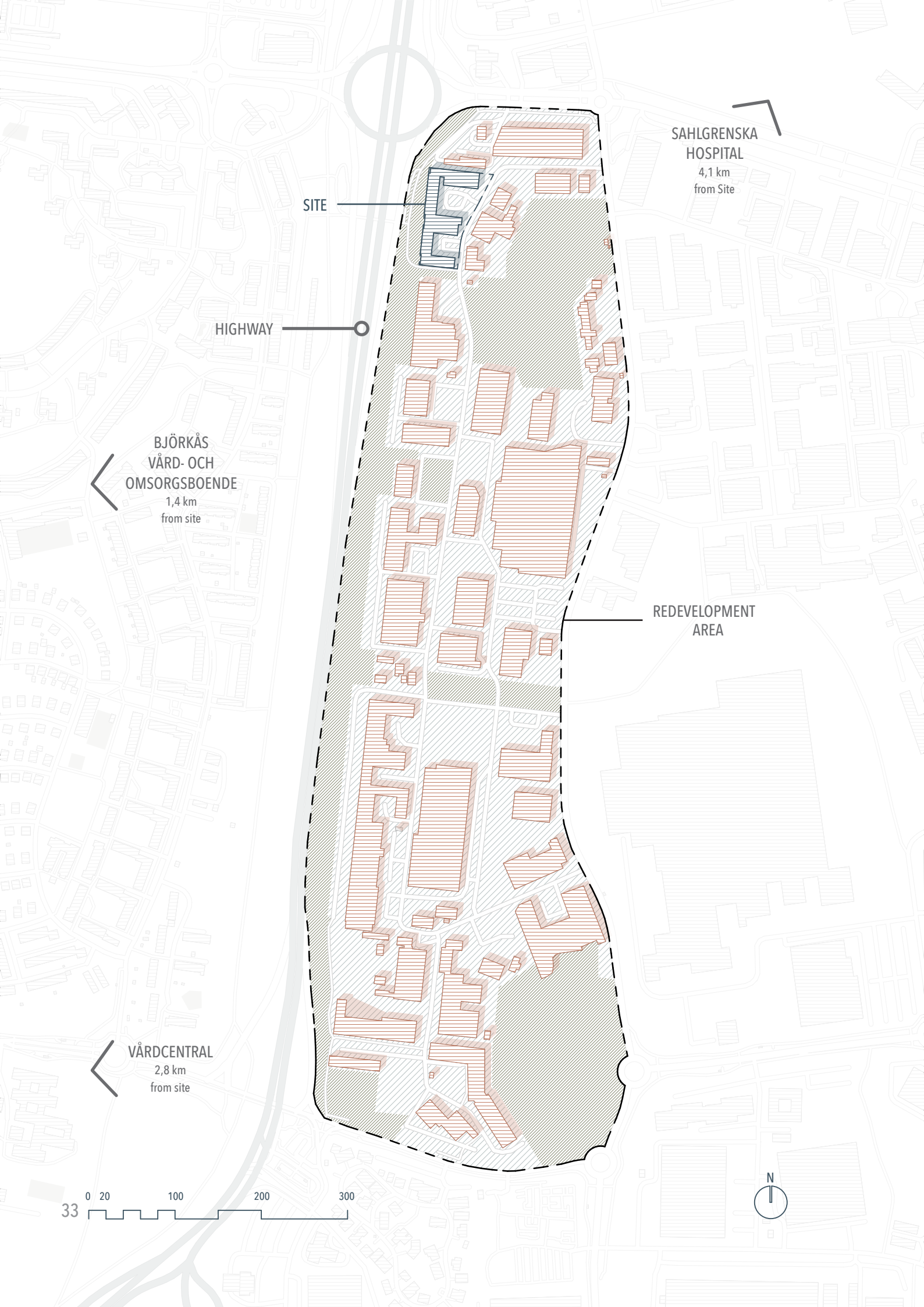
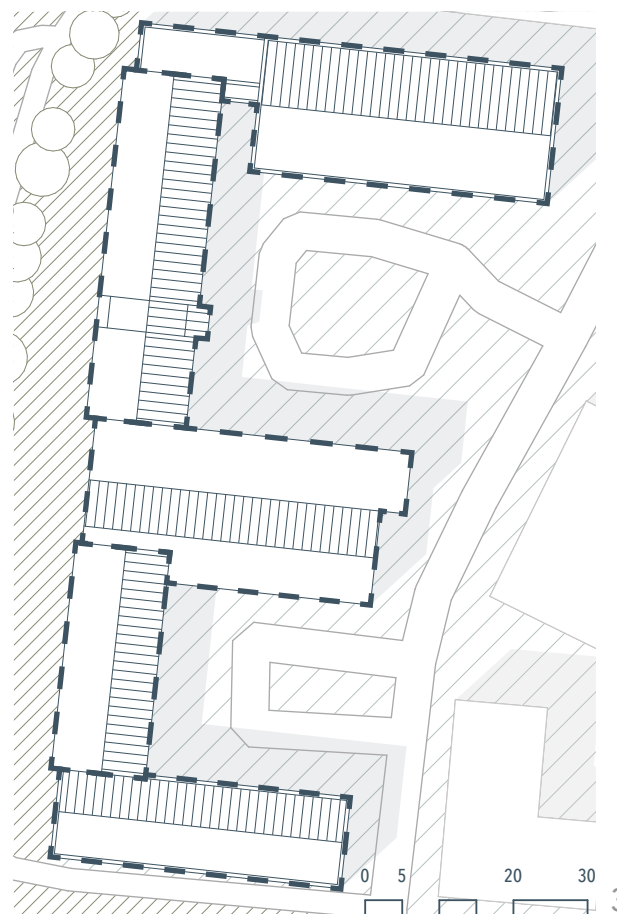
Specifically, the transformation of the southern part of Högsbo is expected to introduce 8,000–11,000 new residents, with the highest density planned along a future boulevard with a tram line. The current situations includes former industrial sites such as the Pripp brewery and shopping center 421. Part of the redevelopment is to create a finer-grained urban structure including public green spaces and improved pedestrian and cycling connections.



- Offices
- Warehouses
- Other usage
- Mixed usage

E A ROSENGRENS GATA 5, 7, 9

The current structure of the property consists of north-south orientated warehouses and east-west orientated office units. Most of the buildings were built between the 1960s and 1980s. In the 2000s, the northern office unit was extended through the addition of a central staircase and further office space. The open spaces between the buildings are currently used as car parks, separated from the public space by fences.



SWOT - Analysis for the Conversion of the Site Högsbo 6:6

S

Strengths

LARGE PROPERTY
Due to the plot area of around 6000m² , it is easily possible to accommodate additional functions such as a daycare centre in the building.

PLOT DEPTH
As the plot is between 44m to 73m deep, additional building volumes can be placed parallel to the existing office buildings and formed into courtyards using orthogonal volumes. These shield the street noise and offer a recreational outdoor area.

O

Opportunities

FUTURE DEVELOPMENT
Since the area is part of a redevelopment area, the possibilities for the integrating function are very open. Given that the target use is mixed-use, functions can also be integrated that could be used by potential future residents.

FREEDOM IN THE DEVELOPMENT
Due to the planned redevelopment of the area, it can be assumed that the detail plan will also change. This allows for predominantly unrestricted possibilities for the realisation of the site.

W

Weaknesses

DAYLIGHT SUPPLY
Given the position of the existing offices, the supply of daylight inside the building is limited. This makes it even more important to plan the utilisation and placement of the function accordingly.

EXISTING BUILDING PARTIALLY UNSUITABLE
Since the warehouses are unsuitable for conversion or the work involved would be too costly, they have to be demolished. However, it is possible to reuse materials.

T

Threats

BUILDING DEPTH
12m is the building depth of the office buildings. This poses challenges in terms of accessibility in the flats and accessibility.

GROUND LEVEL
The first floor of the existing buildings is half a storey above ground level. A lift is installed in the associated stairwell to overcome this height. However, this must be taken into account in the extensions.

Site - Pictures of Stock



WEST FACING FAÇADE
This image clearly shows the difference in height between the ground floor and the surrounding area. In addition, the warehouses and mix used building volumes can be distinguished from the office buildings due to the different floor levels.

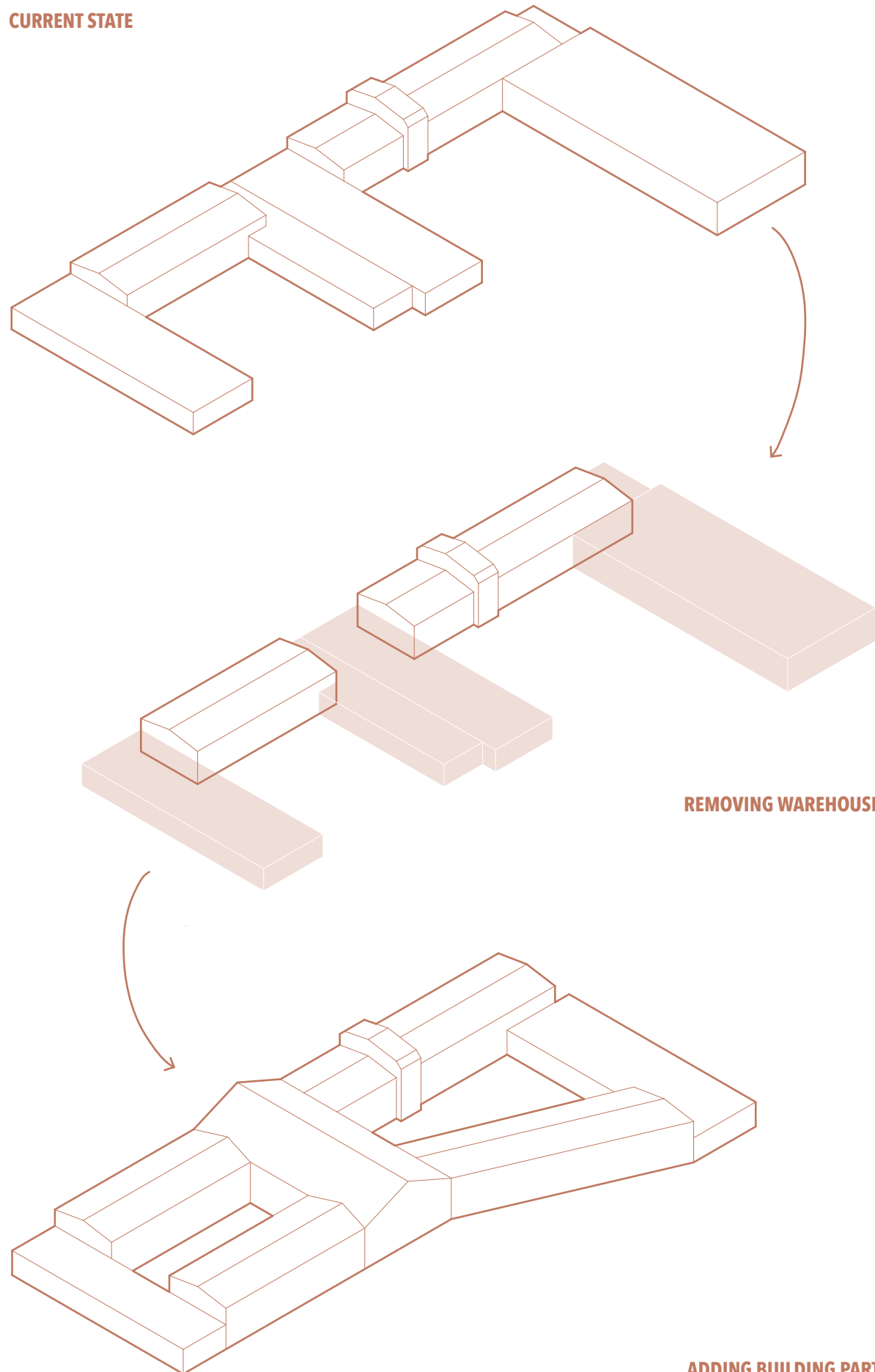


OFFICE BUILDING NORTH - EAST FACING FAÇADE
The central staircase core stands out due to its prominent deeper body, but also the increased building height and materiality. The two-storey building forms together with the two adjoining warehouses a parking space.

OFFICE BUILDING SOUTH - EAST FACING FAÇADE
The façade design is very similar to the northern office building. However, it does not have an exposed stairwell, but also forms parking spaces through the neighbouring buildings.



CURRENT STATE



REMOVING WAREHOUSES

ADDING BUILDING PARTS

CURRENT STATE

The initial state is an existing structure with several large warehouses arranged parallel to each other. Though the building components appear functional, they are highly fragmented and are only occasionally operationally connected by shared entrances due to their independent use. For the most part, however, the building units only share walls.

REMOVING WAREHOUSES

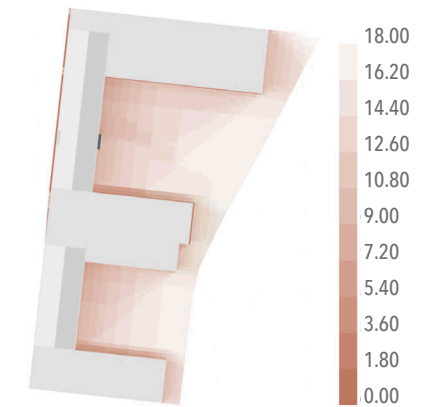
Removing the warehouses creates space for redevelopment. This is particularly critical at the point where the warehouses and office buildings previously met. The potential for a new connection emerges there, which also deals with the height difference between the existing building, which is half a storey above the surrounding area, and an extension. The remaining central axis of the existing structure is thus preserved and continues to serve as the backbone of the composition.

ADDING BUILDING VOLUMES

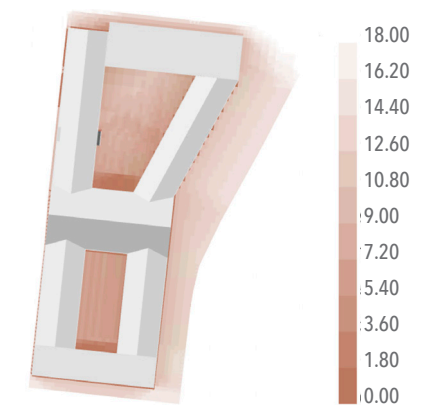
In the final step, new volumes are added that respond to the remaining structures. A mostly glass volume is integrated as the central part of the vertical and horizontal communication, which also serves as a representative entrance. In addition, two structures will be added in the eastern part of the site, which are oriented along the site boundary. Single-storey volumes will be placed to the south and north, providing space for roof terraces on the upper floors for the residential clusters. As a result, all parts of the building follow the boundaries of the site and form two spacious inner courtyards.

Form-finding

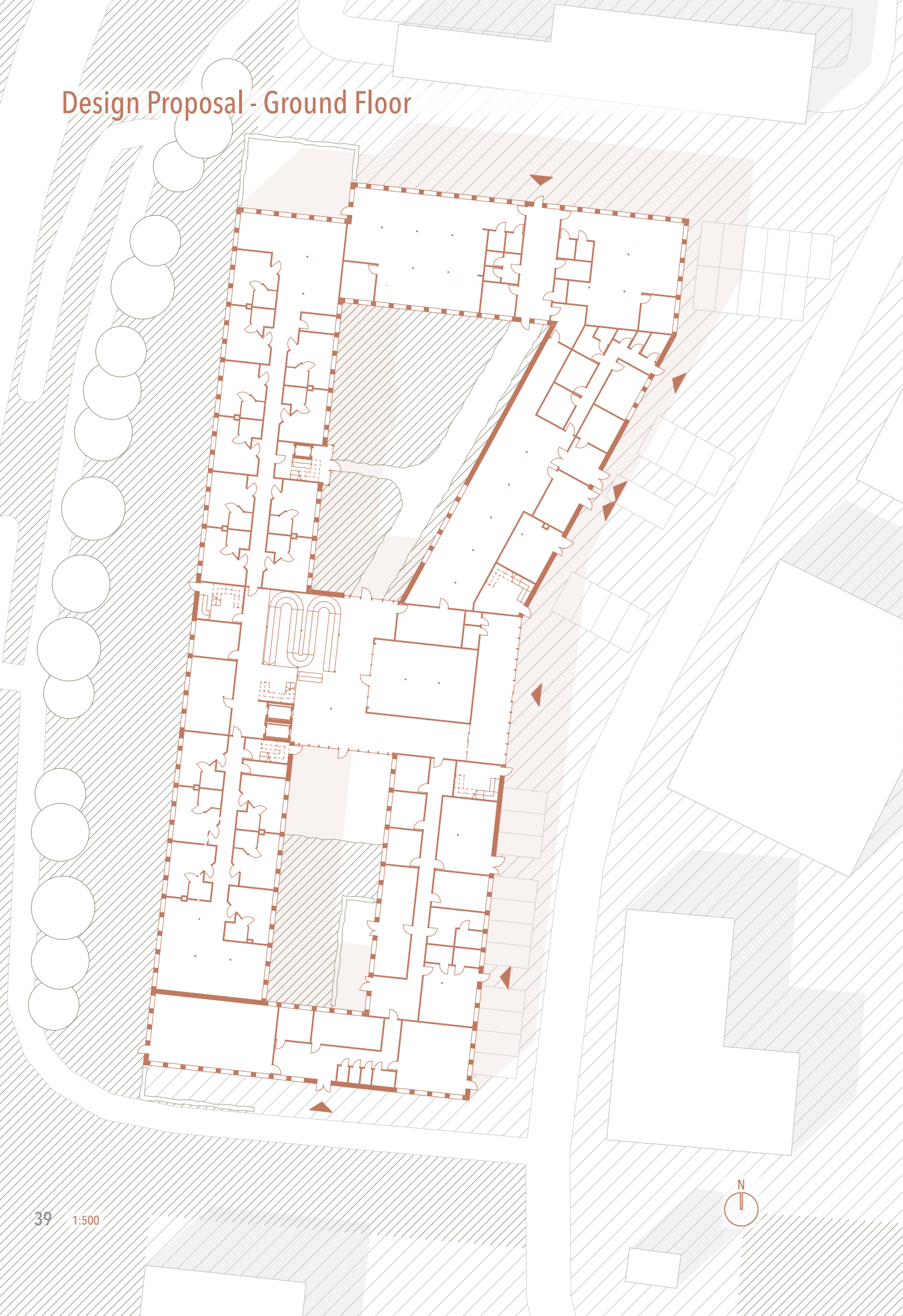
DIRECT SUN HOURS - BUILDING STOCK



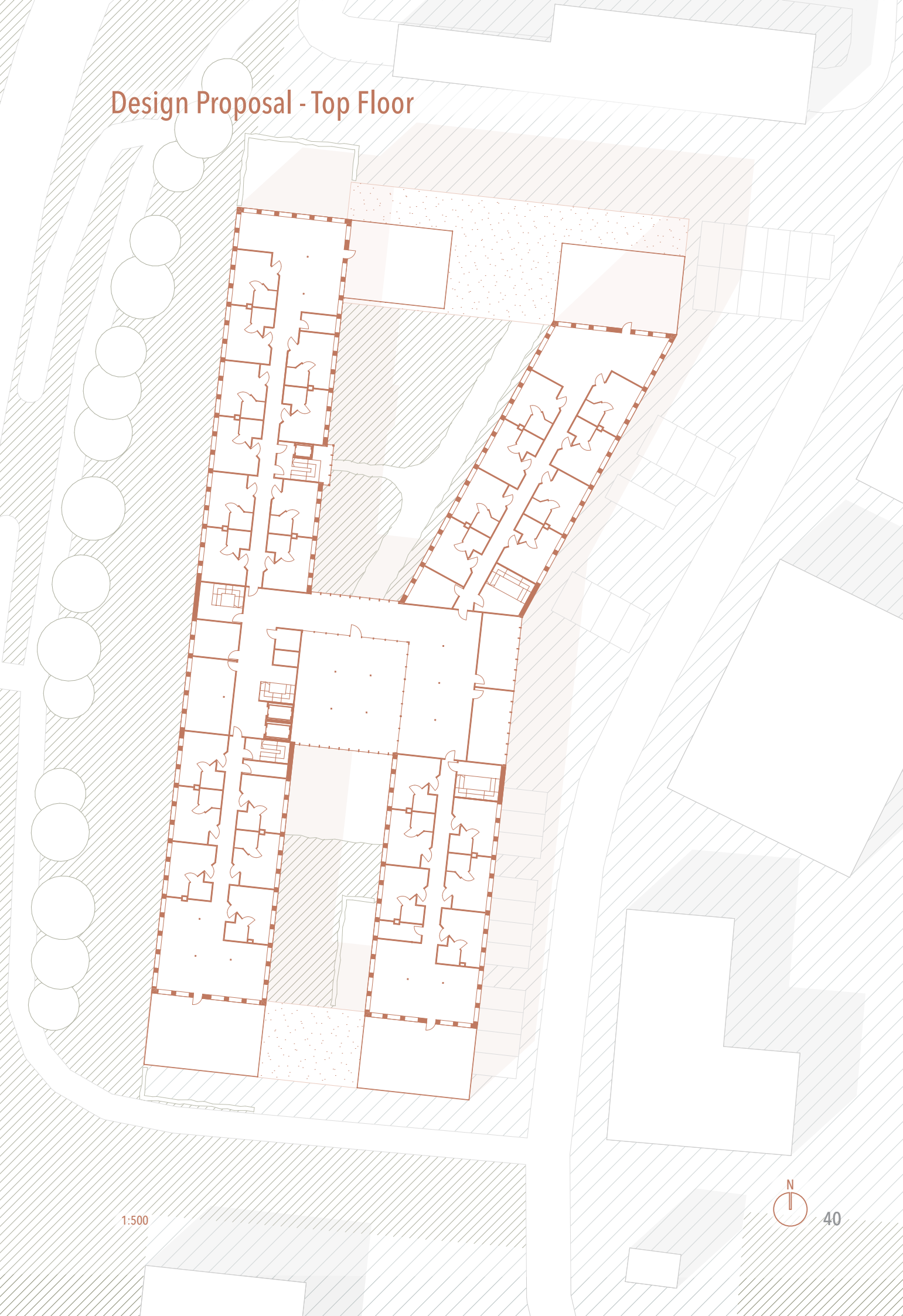
DIRECT SUN HOURS - PROPOSAL



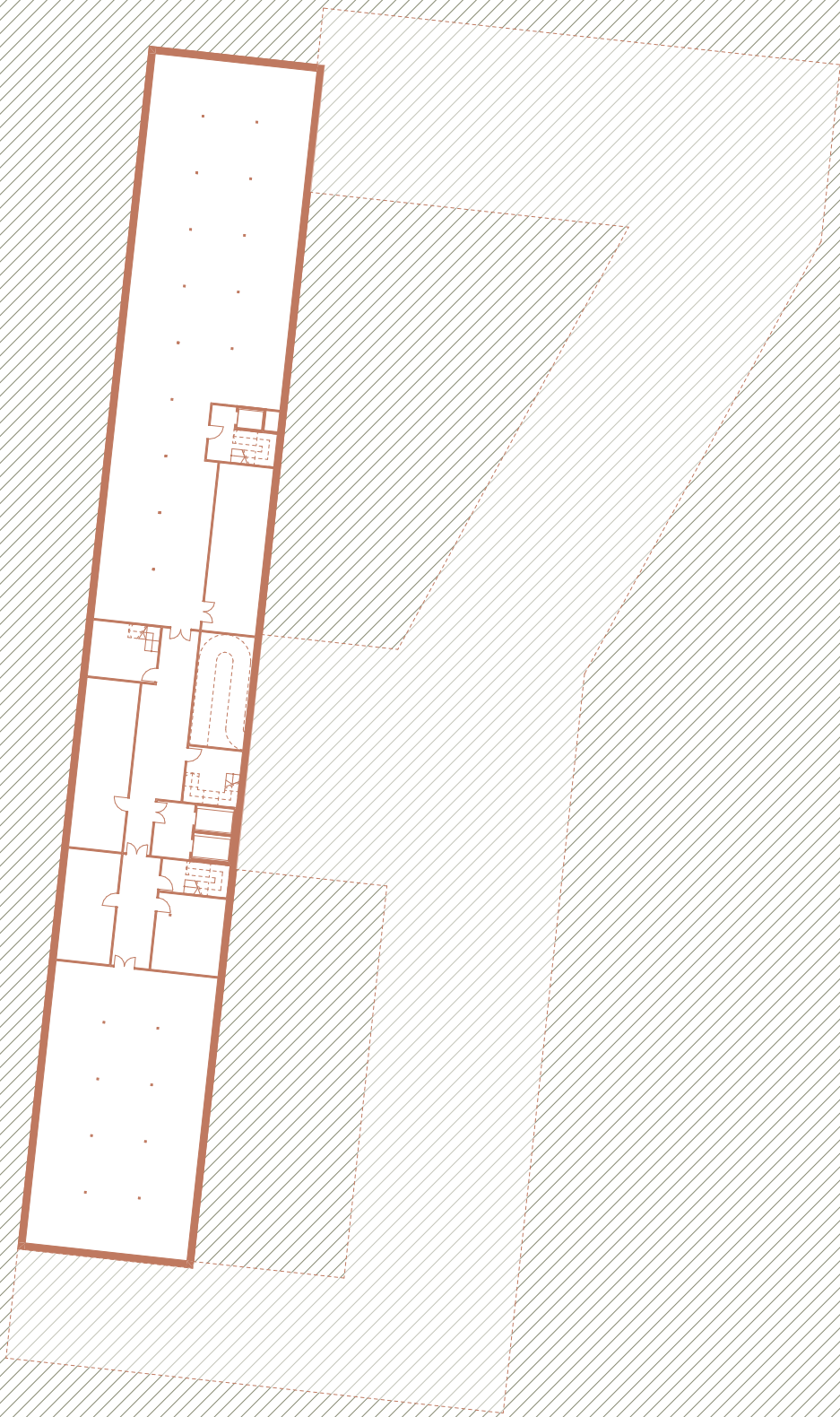
Design Proposal - Ground Floor



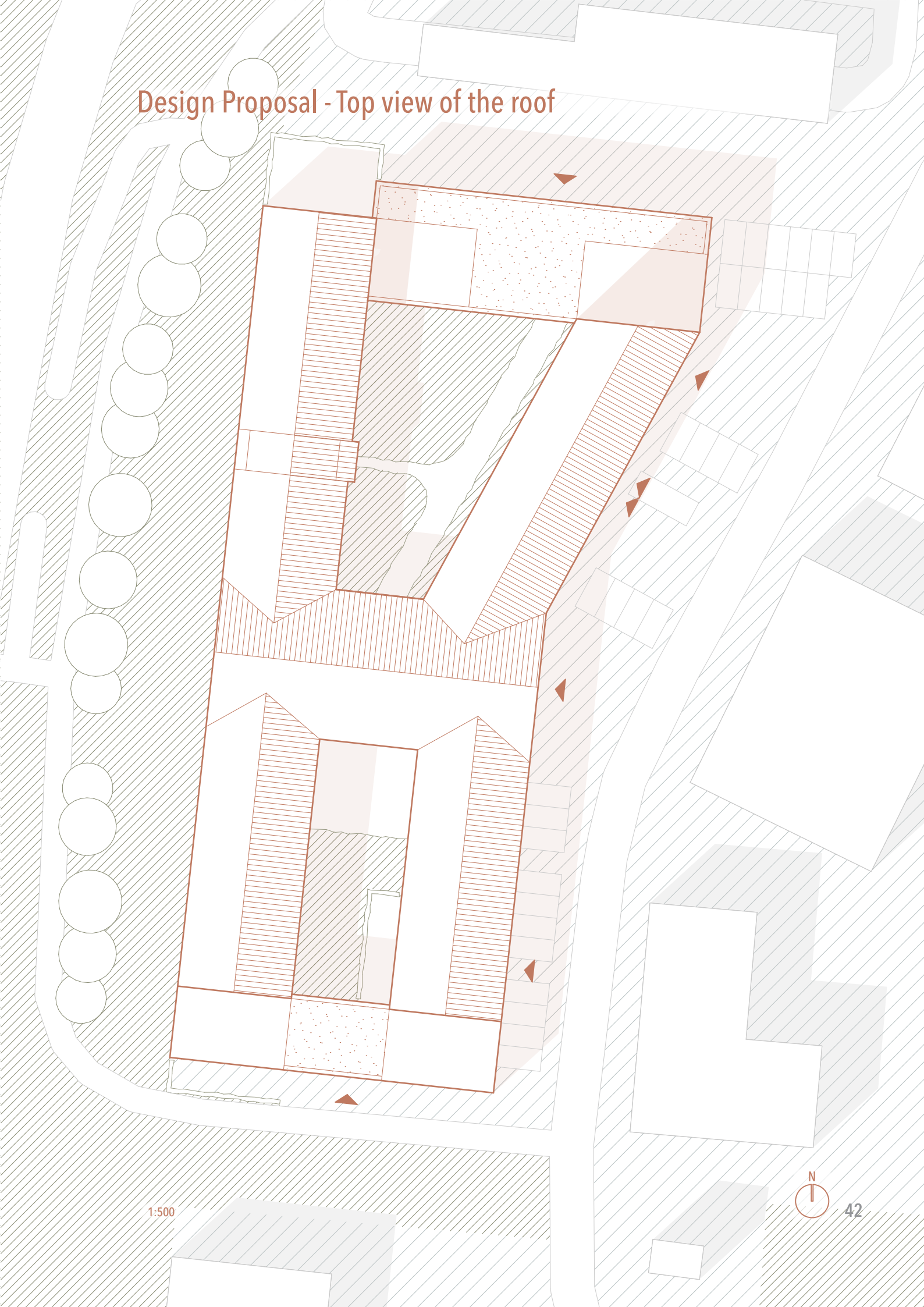
Design Proposal - Top Floor



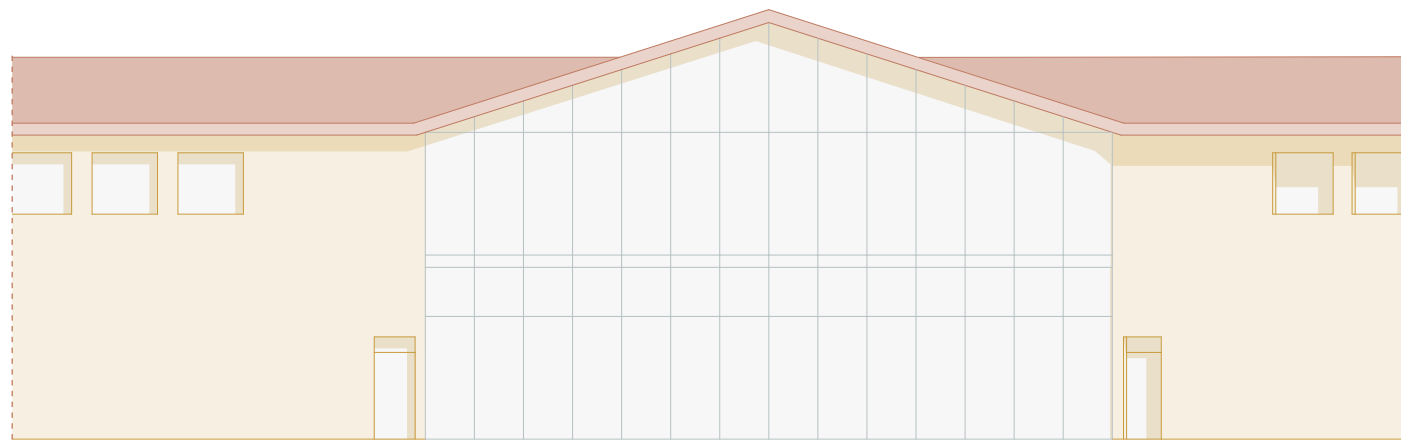
Design Proposal - Basement



Design Proposal - Top view of the roof



Design



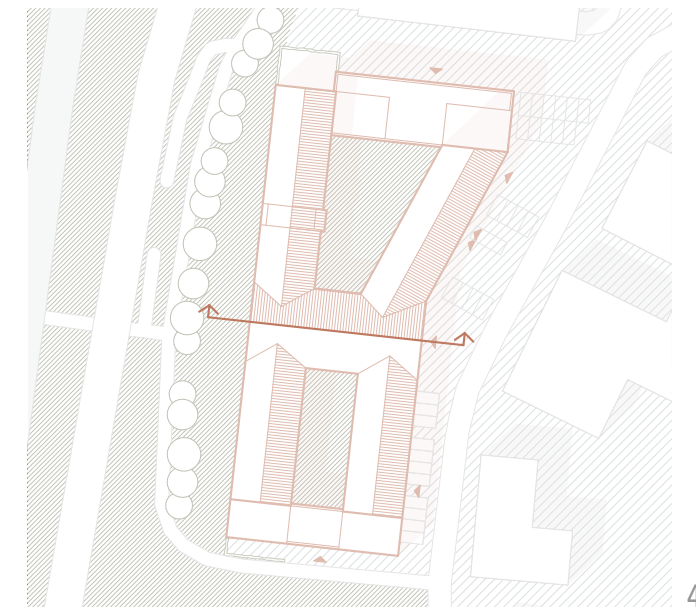
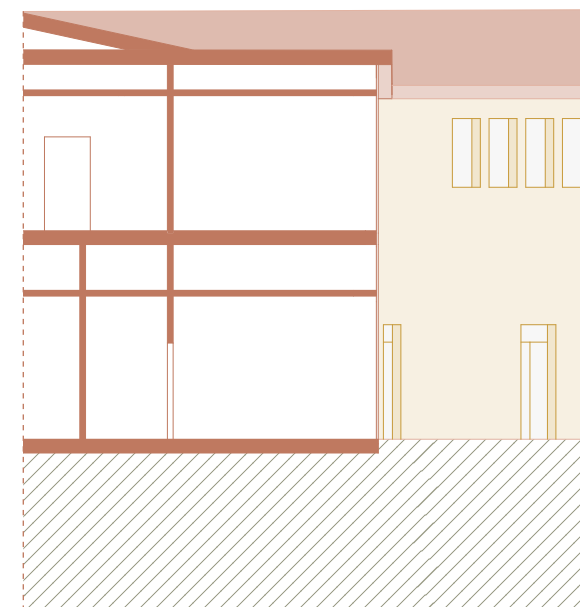
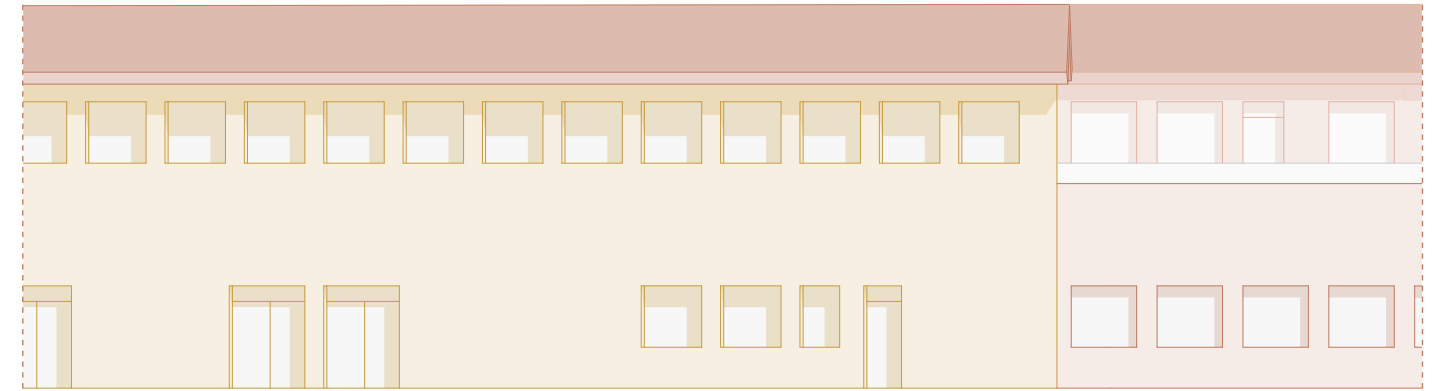
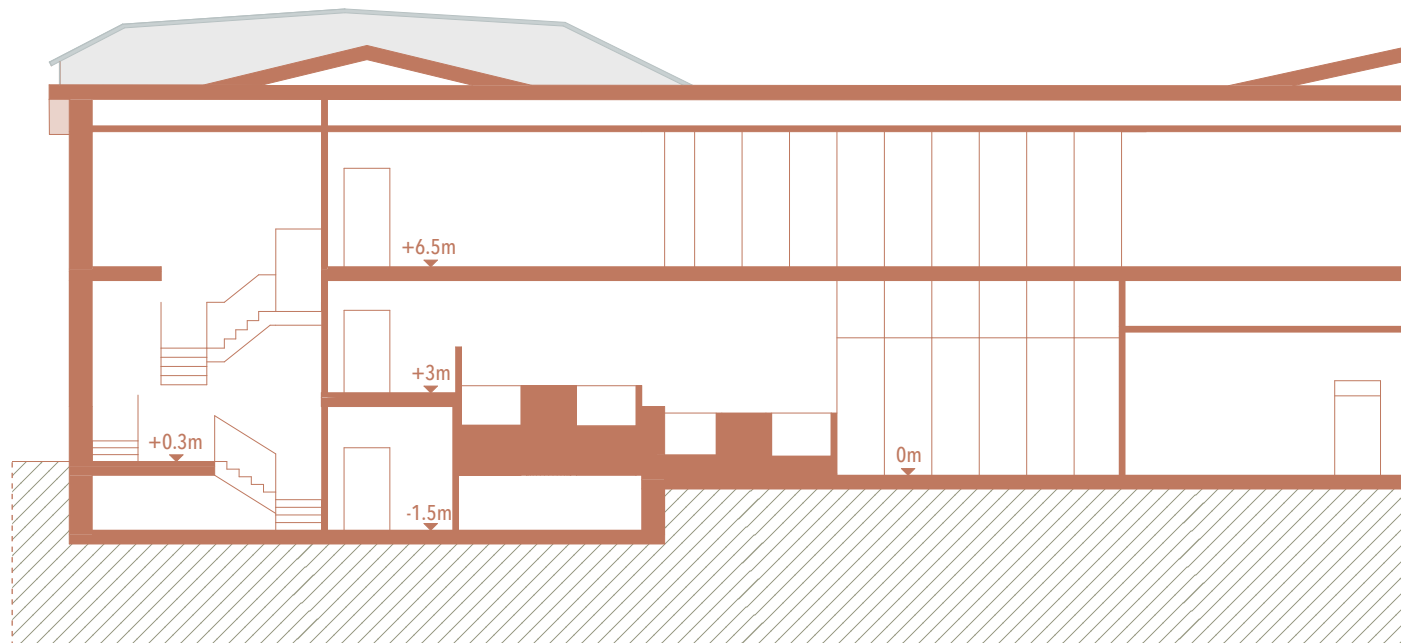
ELEVATION EAST

The east elevation is divided into a single-storey part to the north and south and a two-storey unit. In the centre, the entire complex is divided by a cross wing that stands out towards the street with a large glass front and represents the main entrance. The ground floor also houses delivery- as well as employee entrances and emergency exits.

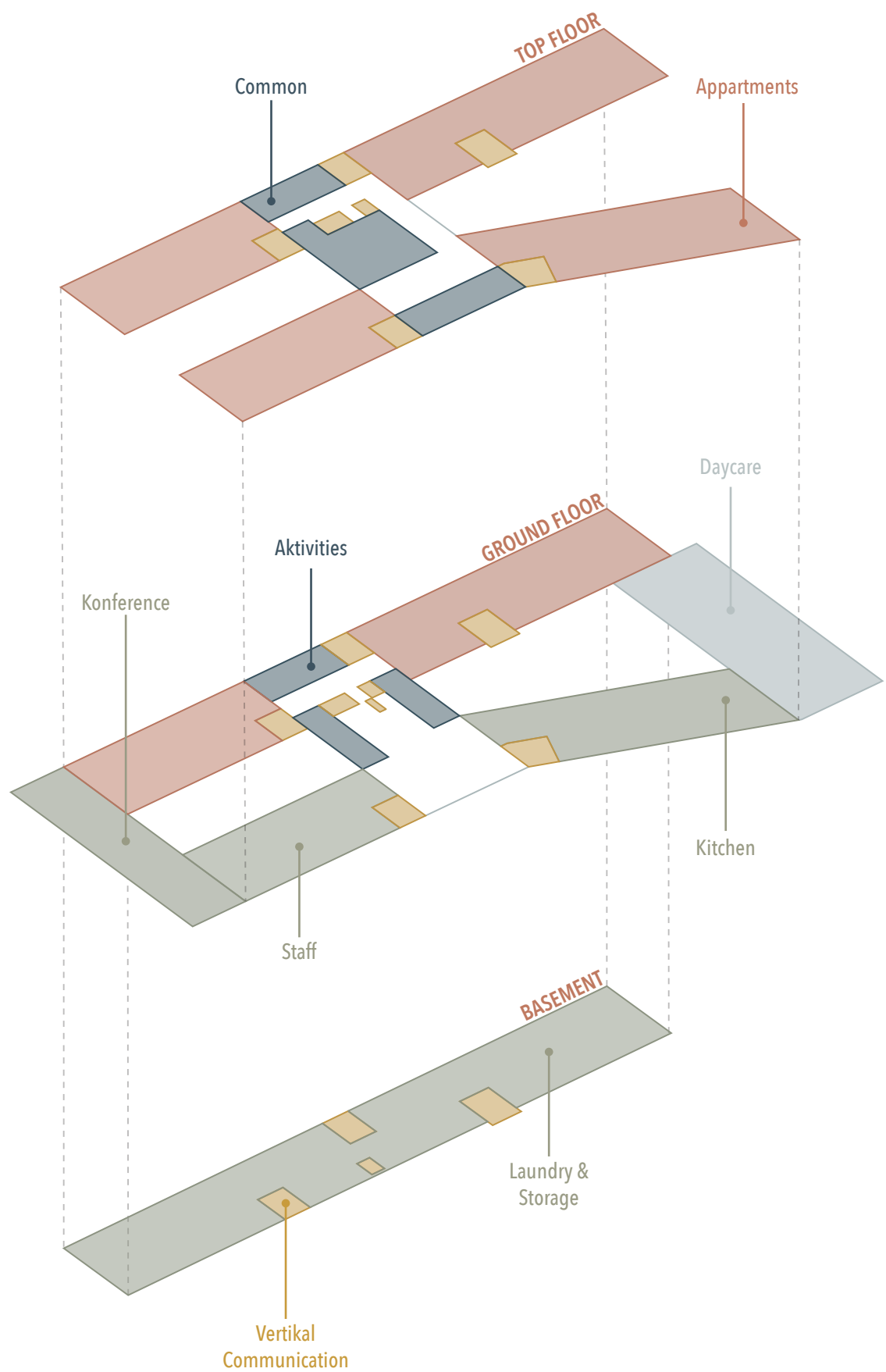
The façade design is in brick, which can be exposed to the weather and is easy to maintain. Its colour scheme is limited to red and yellow clinker bricks, which can be found in buildings in the immediate surroundings. They are also be used in the further remodelling of the redevelopment area , as its commonly used for the construction of residential buildings.

SECTION

The main entrance in the cross wing is at 0.00m. While the existing building is 1.50m higher. In order to overcome this height difference with wheelchairs and walkers, a ramp has been installed. The gable of the cross wing runs orthogonally to the street. In the existing building and the wing parallel to the street, the gables follow the long side of the building.



Zoning



The functional zoning clearly divides the building into public, common and private areas. This emphasises the functions that operate independently of assisted living, as well as those that are required for daily operations and their relationship to each other.

GROUND FLOOR

Both public and private functions are located on the ground floor. However, functions for daily operations, such as the kitchen and the staff area, are also situated there. The northern area contains the daycare centre, which is located independently of the other functions apart from a connection to the kitchen. The two residential clusters, each with six and ten residents, are based in the former office buildings. Both the commercial kitchen and the staff area are located along the street, each of which require their own entrances for food deliveries and waste disposal, among other things, but also in terms of hygiene and efficiency in the staff's workflow. The technical rooms, which must be accessible from the street, are also located there. Both horizontal and vertical communication takes place in the central structure. However, common areas such as the physiotherapy, examination rooms and kiosk are also located there so that they are central for all residents. The courtyards are also accessible from there. The conference area is located in the southern part of the building. Whilst this has its own access, it can also be used by the staff.

TOP FLOOR

The upper floor is primarily reserved for residential use. Each of the four clusters consists of a linear arrangement of appartments, which are accessed via corridors. The winter garden is located in the centre of the middle volume, but other common functions are also located nearby. These include the music room, the living room and the hairdresser. In addition, a room is located centrally, which is intended for the storage of cleaning products, among other things. Vertical communication is located close to the central volume, as are the emergency staircases.

BASEMENT

Support functions that do not require much daylight are located in the basement. Storage and technical rooms as well as the central laundry are located here. The vertical access ensures short distances to the service and common areas above.

Appartments

COLUMN FROM STOCK

As changing the axe dimensions of the existing building would not be economical, it was incorporated into the design. In this apartment, the column is between the bathroom and entrance area and blends in inconspicuously.

ANGLED WALL

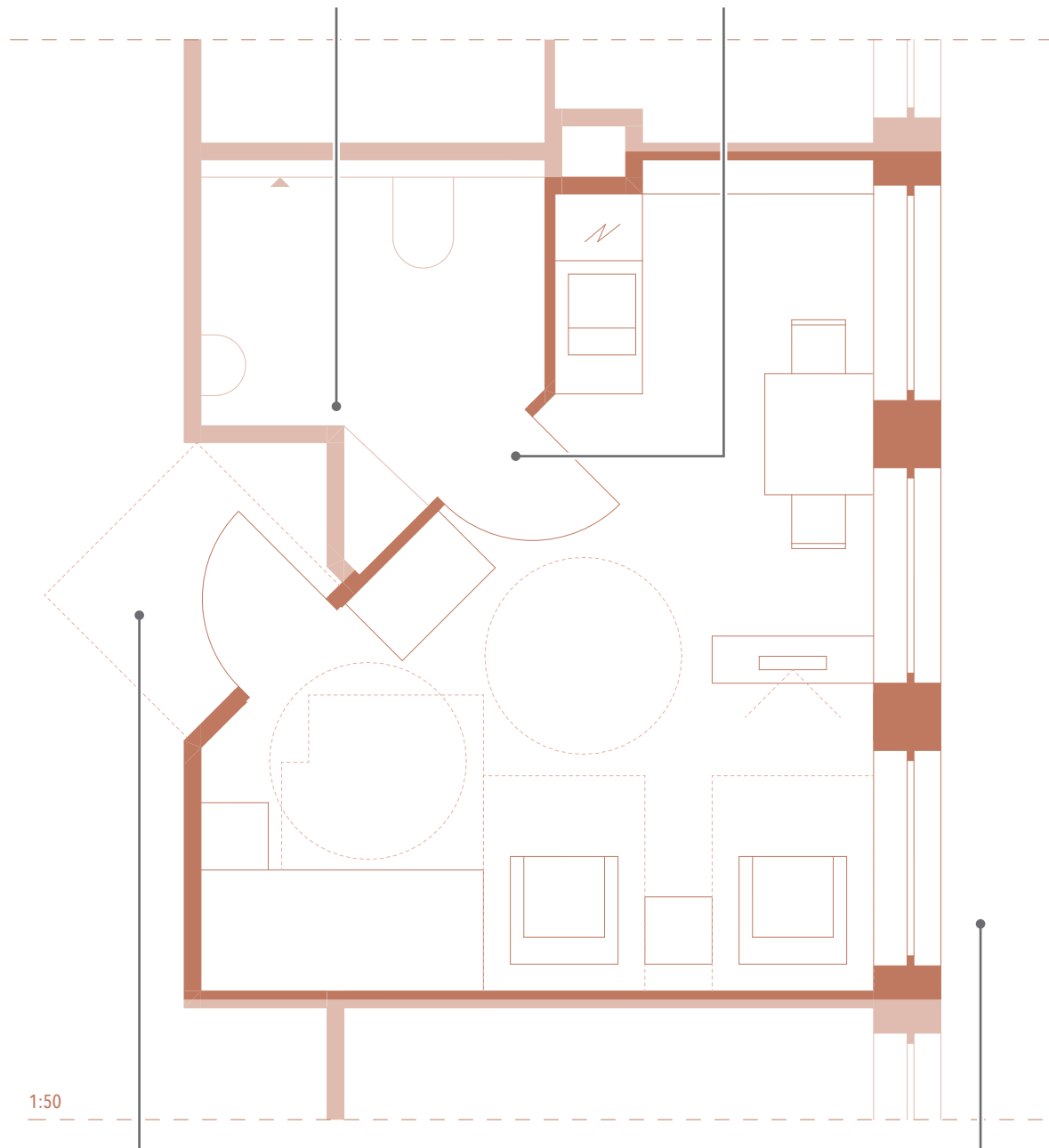
By angling the wall towards the bathroom, the door can be seen from almost every perspective in the room. But this also solves the narrowing of the room by the bathroom without dividing the room.

ANGLED ENTRANCE

The angled entrance in this apartment also directs the resident towards the common space when leaving it. In addition, the door leaf does not open into the corridor. This creates an arrival zone in the flat.

KITCHEN WITH FRIDGE AND SINK

While meals are prepared in the commercial kitchen and served in the common area, the kitchenette offers the opportunity to chill drinks or fill a glass of water without having to leave the apartment. A kitchen is also a central component of a home and, in this case, part of a homelike environment.

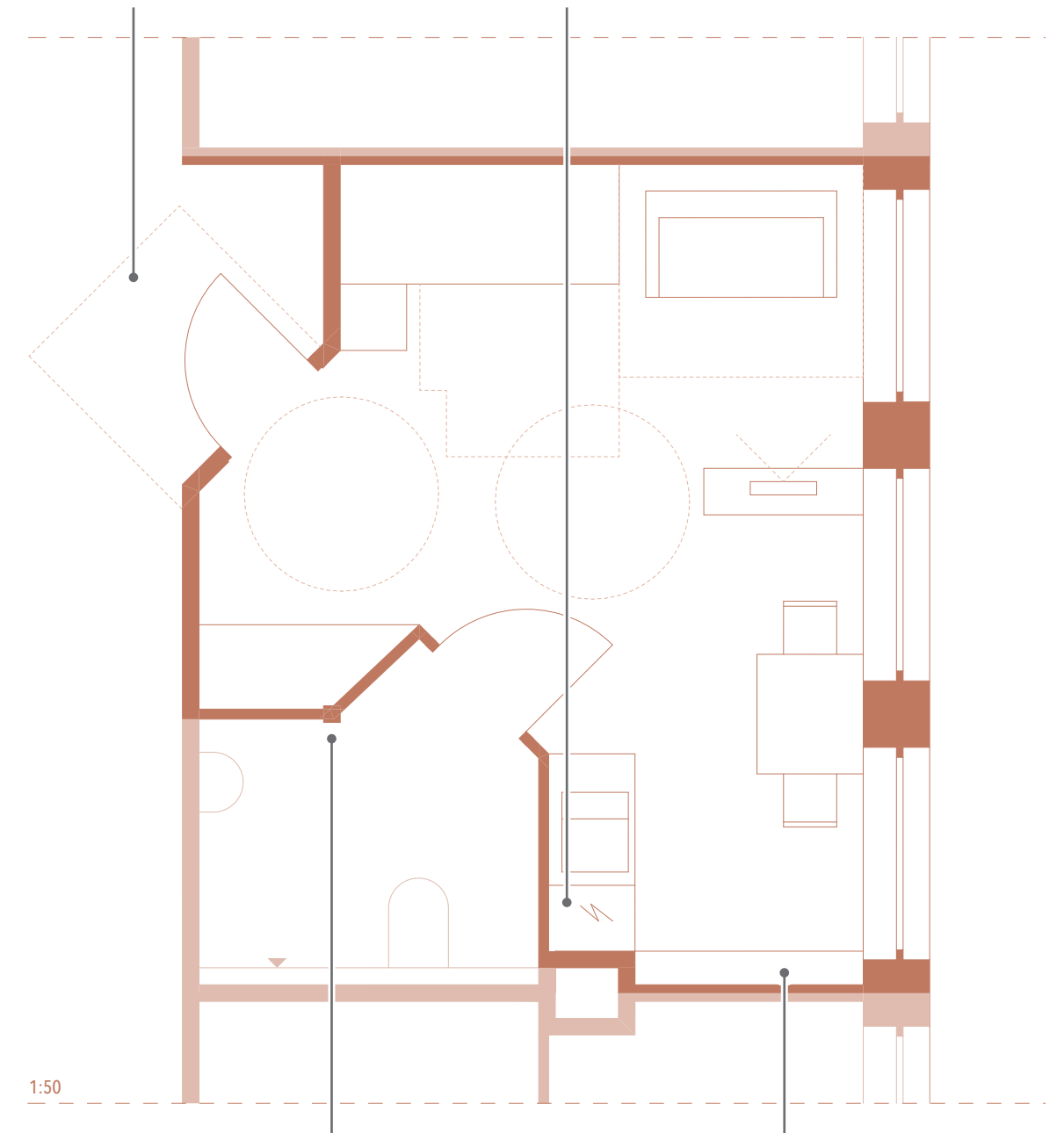


ANGLED ENTRANCE

The angled entrance guides the resident to the common space of the residential unit when leaving the apartment. This also breaks up the hallway and, in addition to the different coloured doors, helps with orientation. Another aspect is that the door leaf opens so that it does not extend into the corridor, thus preventing injuries.

WINDOW DIMENSIONS FROM STOCK

The window dimensions were retained from the existing building, which is crucial for economic efficiency. In doing so, the width of the windows in the existing offices was also used for the new extension, so that the building also looks harmonious from the outside. However, the balustrade height in the new building was set lower to allow wheelchair users to look out.



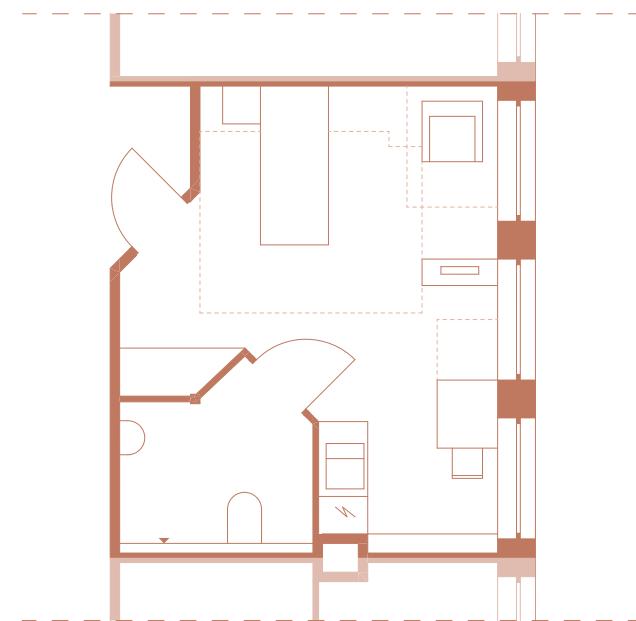
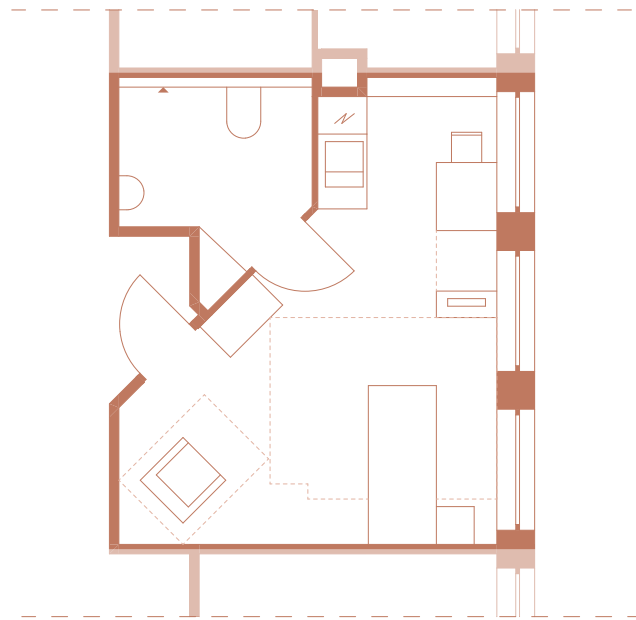
COLUMN FROM STOCK

The existing column frames the bathroom, but it is also concealed in the bathroom by a built-in cabinet.

BUILD-IN SIDEBOARD

The built-in sideboard fills the gap between the chute and the outer wall. This provides storage space and avoids the risk of injury due to corners.

Appartments



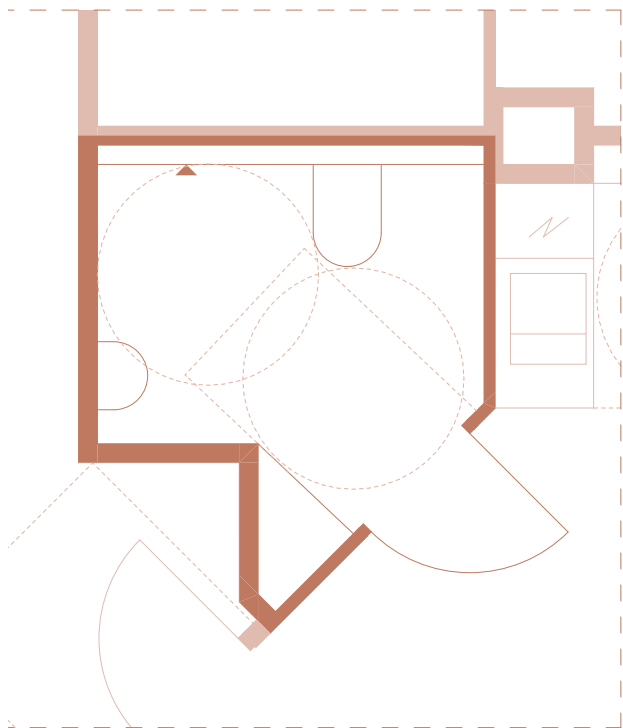
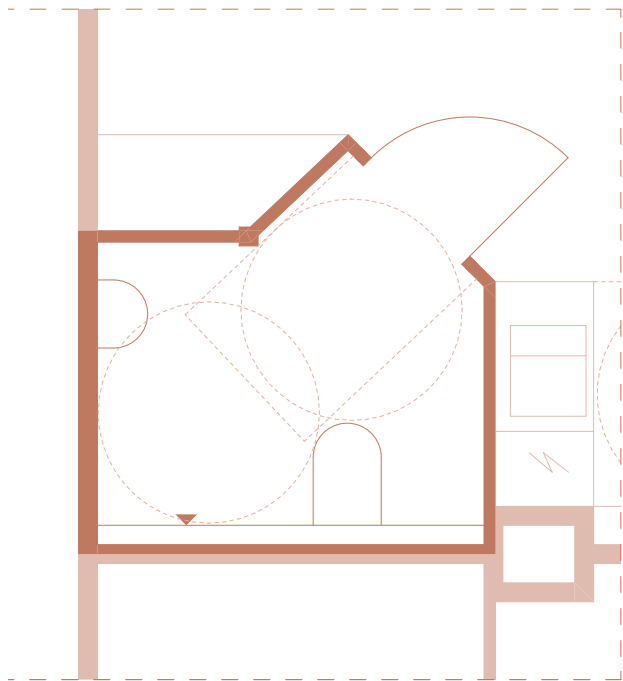
ALTERNATIVE FURNISHING

If the resident's condition changes, the furniture arrangement in the apartment can be changed. The bed is positioned so that staff can move around the bed more easily to provide care. In addition, a chair in the kitchen and an armchair are removed so that there is still room for visitors to sit while the resident is properly

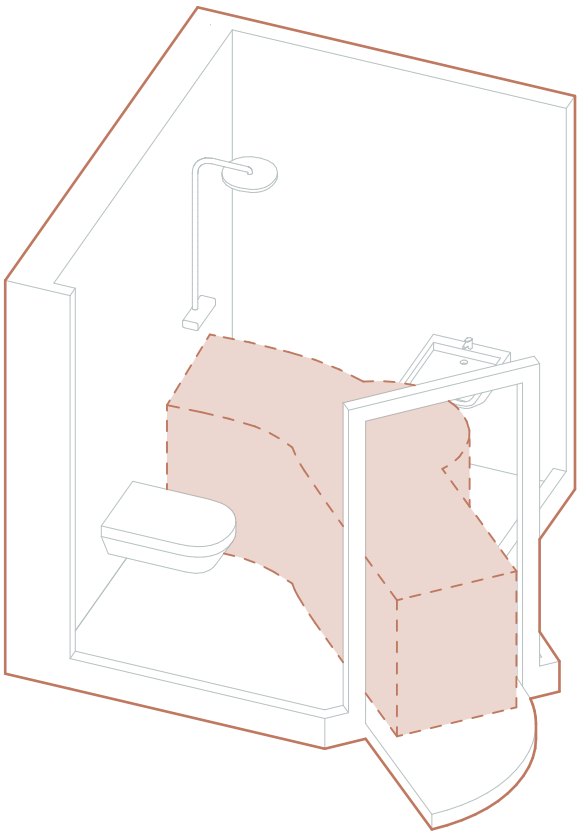
This furniture arrangement also creates a visual axis between the toilet and bed when the door to the bathroom is open.



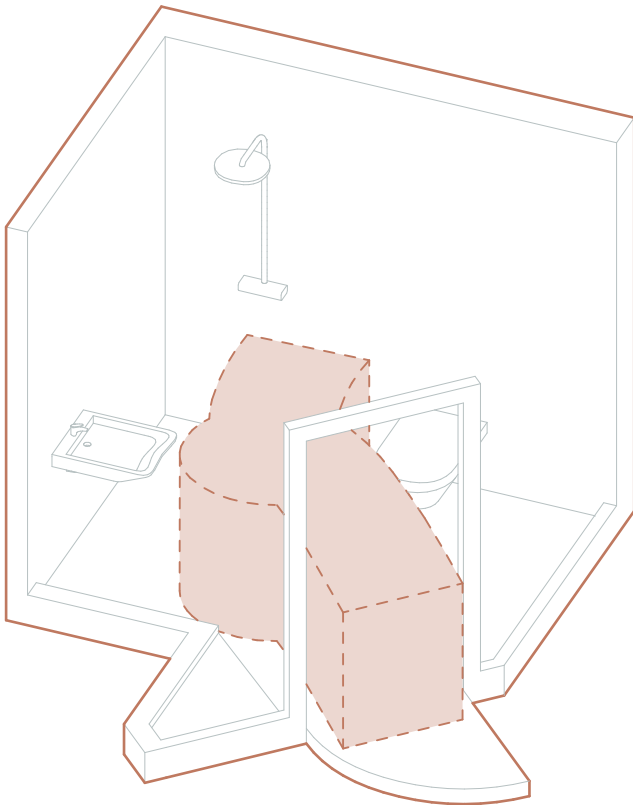
Bathrooms



1:50

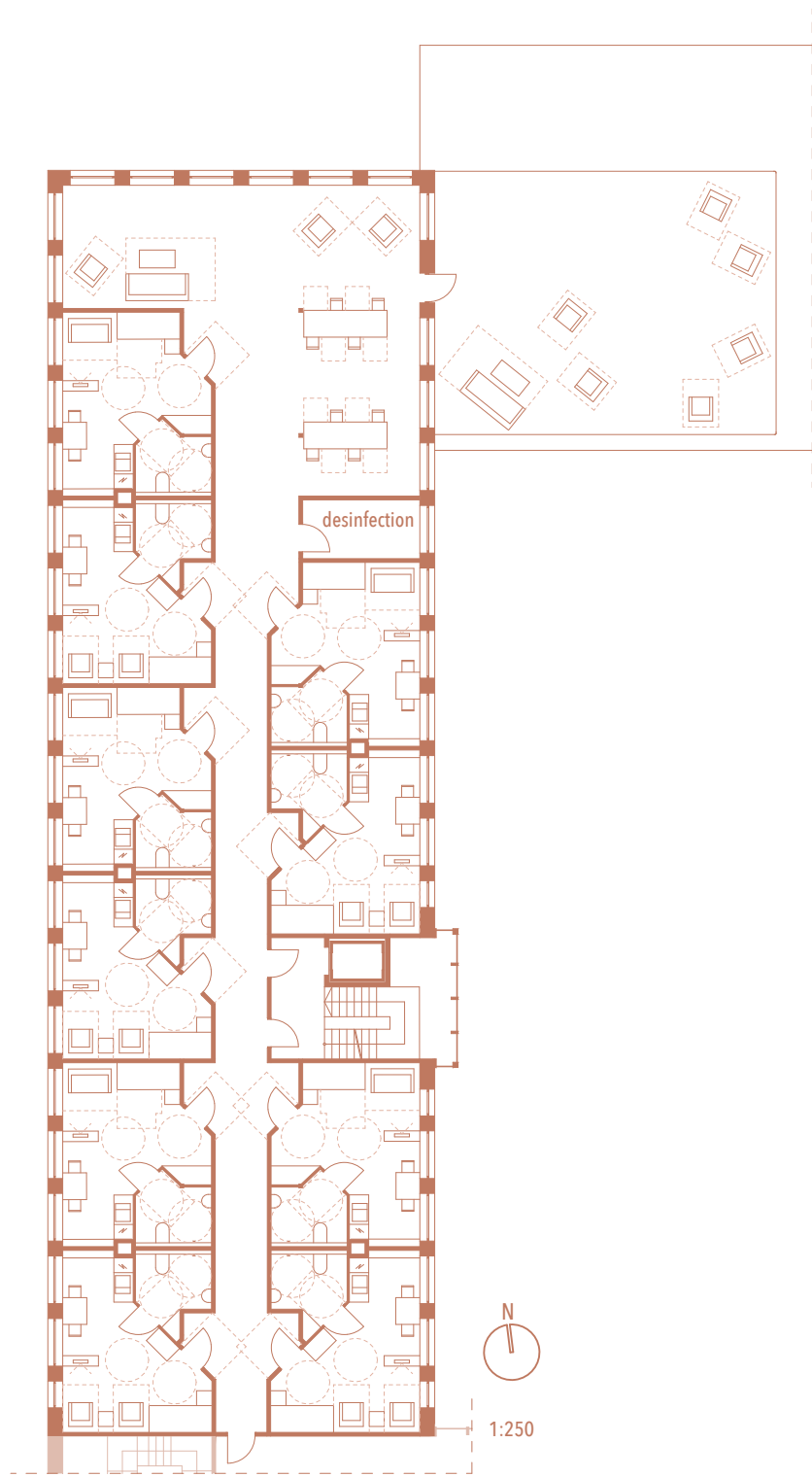


BATHROOM 1
This version offers a compact floor plan in which the shower, toilet and sink are arranged within a clear layout. When entering the bathroom, the toilet is in direct view. The wide access and sufficient manoeuvring space in the centre of the room make it accessible even with a wheelchair or walker.



BATHROOM 2
In this version, the view is also directed to the toilet. And here, too, there is sufficient turning space in the centre of the room, allowing safe use even with a wheelchair or walker. In addition, the niche created by integrating the column has been filled with a built-in cabinet. This provides storage space while also visually guiding into the centre of the room.

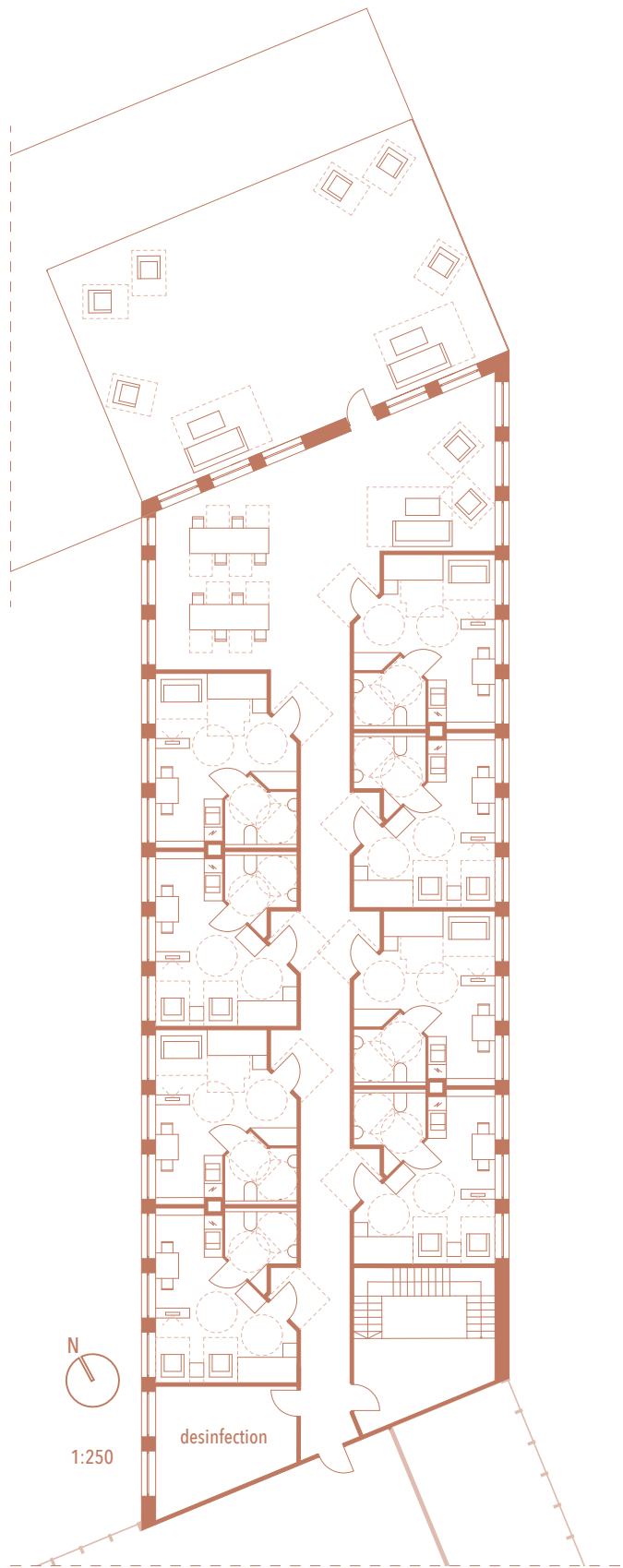
Residential Cluster



CLUSTER NORTH-WEST (10 APARTMENTS)

This residential cluster consists of ten apartments. At the northern end of the corridor is a common area with seating such as a sofa and armchairs situated. However, there are also dining tables for dining together. In addition, a roof terrace is located on the upper floor connecting to the common room.

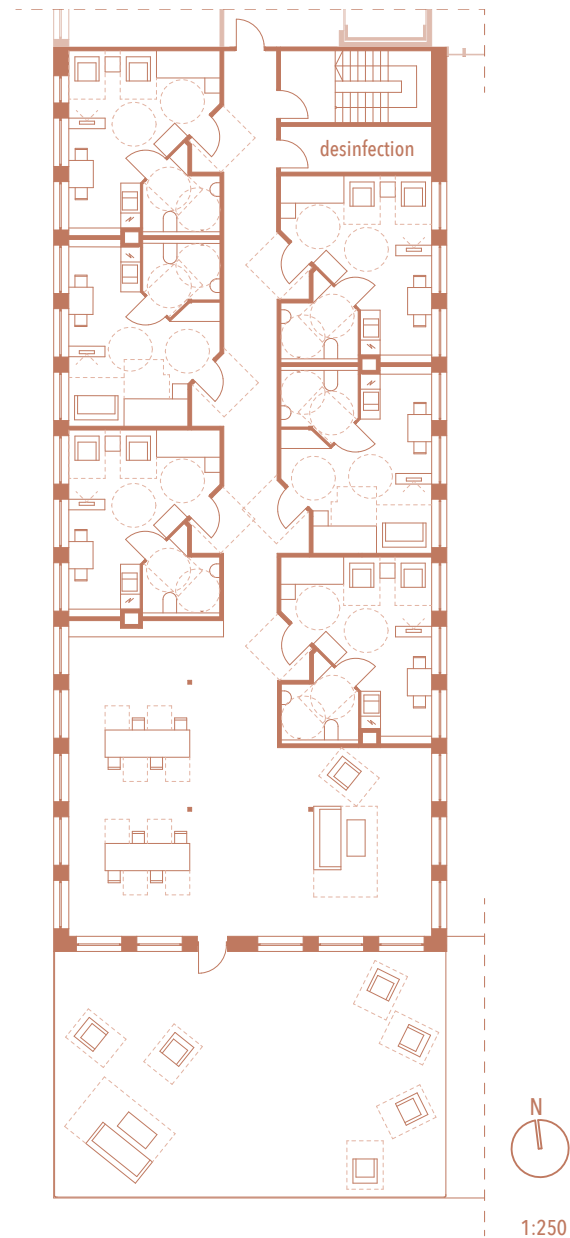
The stairwell from the stock, which is only intended for use in an emergency, is located about halfway along the corridor. The cluster is located once on the ground floor and once on the upper floor.



CLUSTER NORTH-EAST (8 APARTMENTS)

This residential cluster is the middle cluster size with eight apartments. Just like the north-west cluster, there is a common space at the northern end of the corridor with seating such as a sofa and armchairs, as well as dining tables for shared meals. On the upper floor there is also a roof terrace connected to the

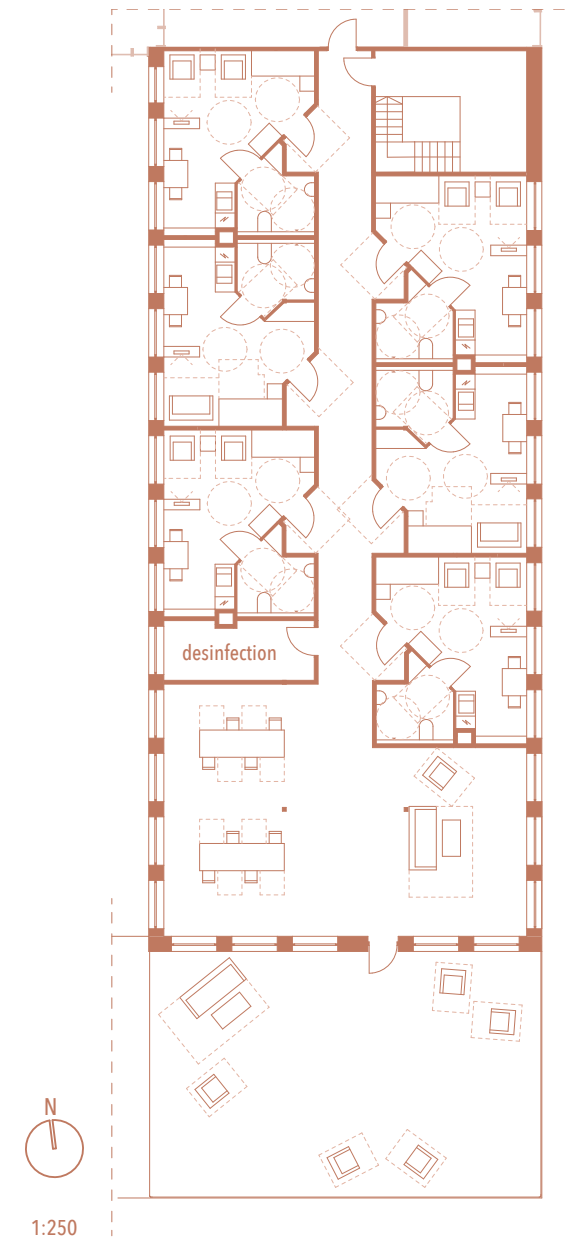
common room. Also situated at the beginning of the corridor is a small seating area with a view over the inner courtyard. Opposite is the emergency staircase located. This cluster is only located on the upper floor.



CLUSTER SOUTH WEST (6 APPARTMENTS)

This residential cluster is the smallest cluster size with six flats. This residential cluster also has a common area with seating, a dining area and a kitchenette at the end of the corridor. There is also a roof terrace on the upper floor that connects to the common room, which is south-facing in this residential cluster.

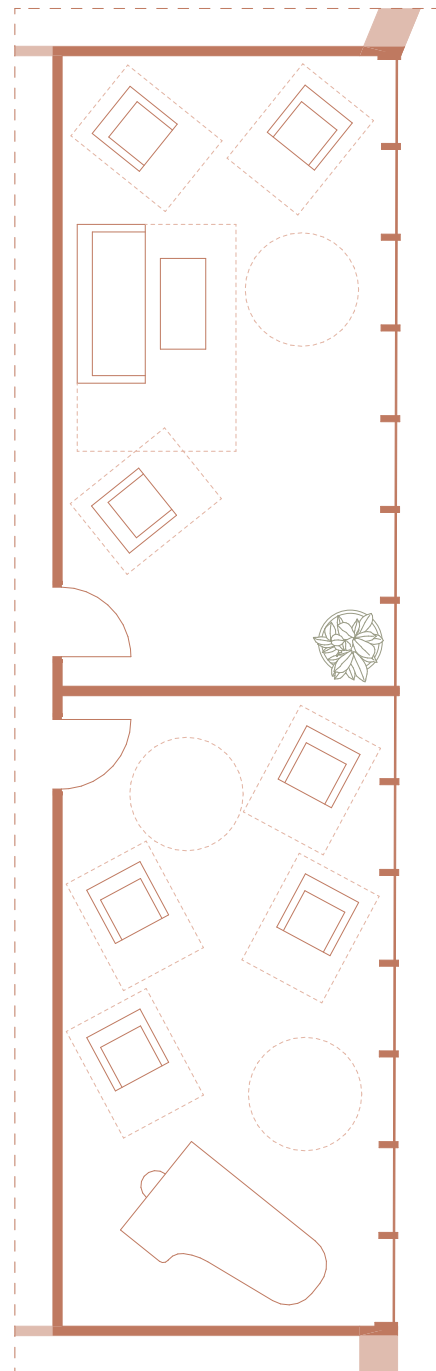
At the beginning of the corridor is a staircase from the existing building, which is not part of the daily use. There is also a small storage room next to the stairwell. Like the north west cluster, which is also located in the existing office building, this configuration is situated on both the ground floor and the upper floor.



CLUSTER SOUTH-EAST (6 APPARTMENTS)

This residential cluster, like the south-west one, has six flats with a common and a dining area. There is also a roof terrace connected to the common room, which is orientated to the south. As in the north-east cluster, an emergency staircase is located on the façade in the northern part of the corridor.

Common Rooms



LIVING ROOM

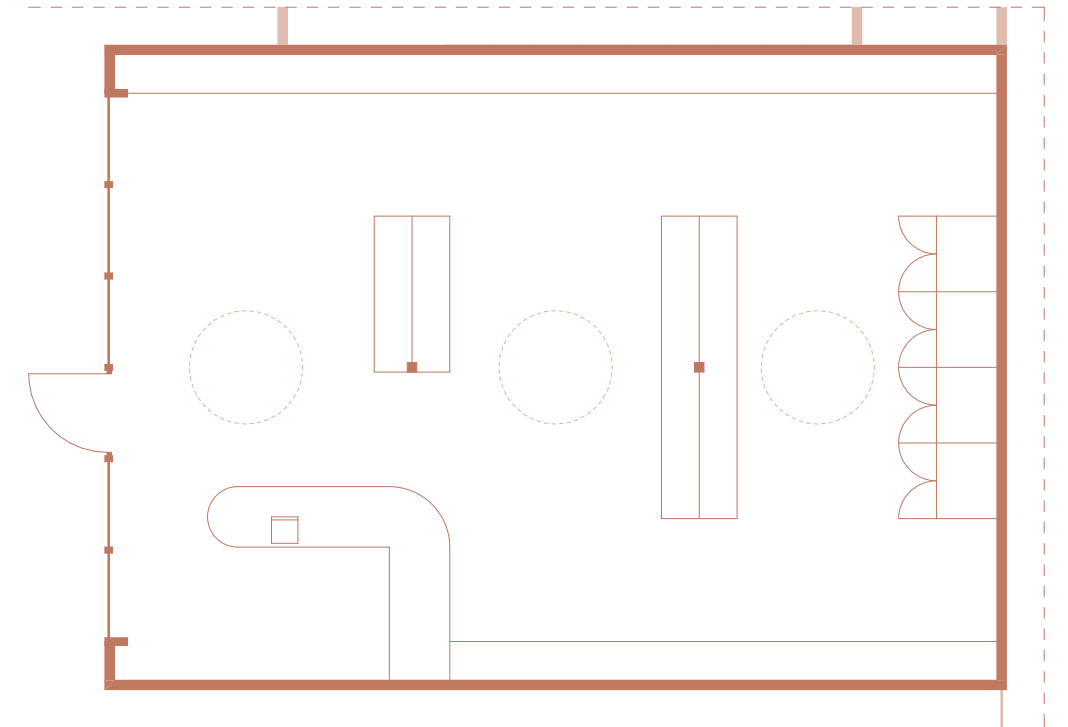
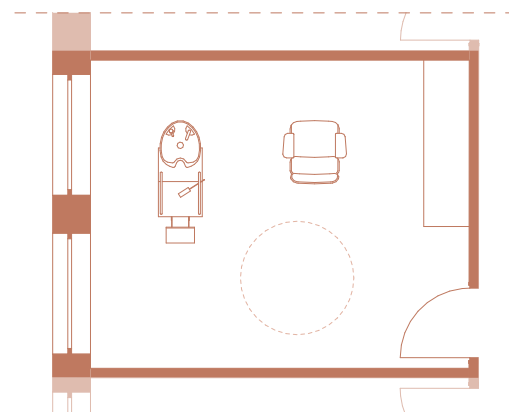
To provide an opportunity to meet outside the residential groups in a small setting, this room is located centrally on the upper floor of the building. The glass façade makes it easy to watch the activities in the new area. Although the room is also suitable for playing games or other activities.

MUSIC ROOM

With the help of musical instruments and joint music-making or listening, social contacts can be created. This can also be part of reminiscence therapy. As the room is located next to a group room and an emergency staircase, the resulting noises have no effect on neighbouring flats.

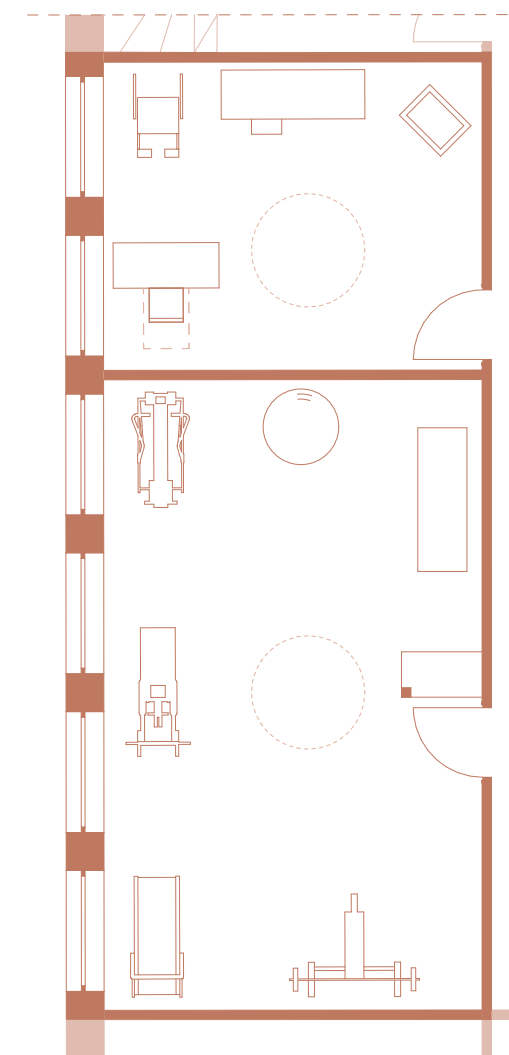
HAIRDRESSER

By providing a service, the room serves two purposes. Firstly, residents can enjoy personal care in a cosy yet more professional environment than their room. Secondly, it offers a sense of normality and the feeling of not having to miss out on such activities. All of this can still be carried out in a familiar, yet accessible environment.



KIOSK

The centrally located kiosk offers a meeting place, but also a feeling of everyday life and independence. It has a spacious layout so that a walker or wheelchair can easily manoeuvre around the shelves. Furthermore, the entrance is orientated towards the central staircase. Consequently, the function of the room can be easily identified enhanced by the glass wall.

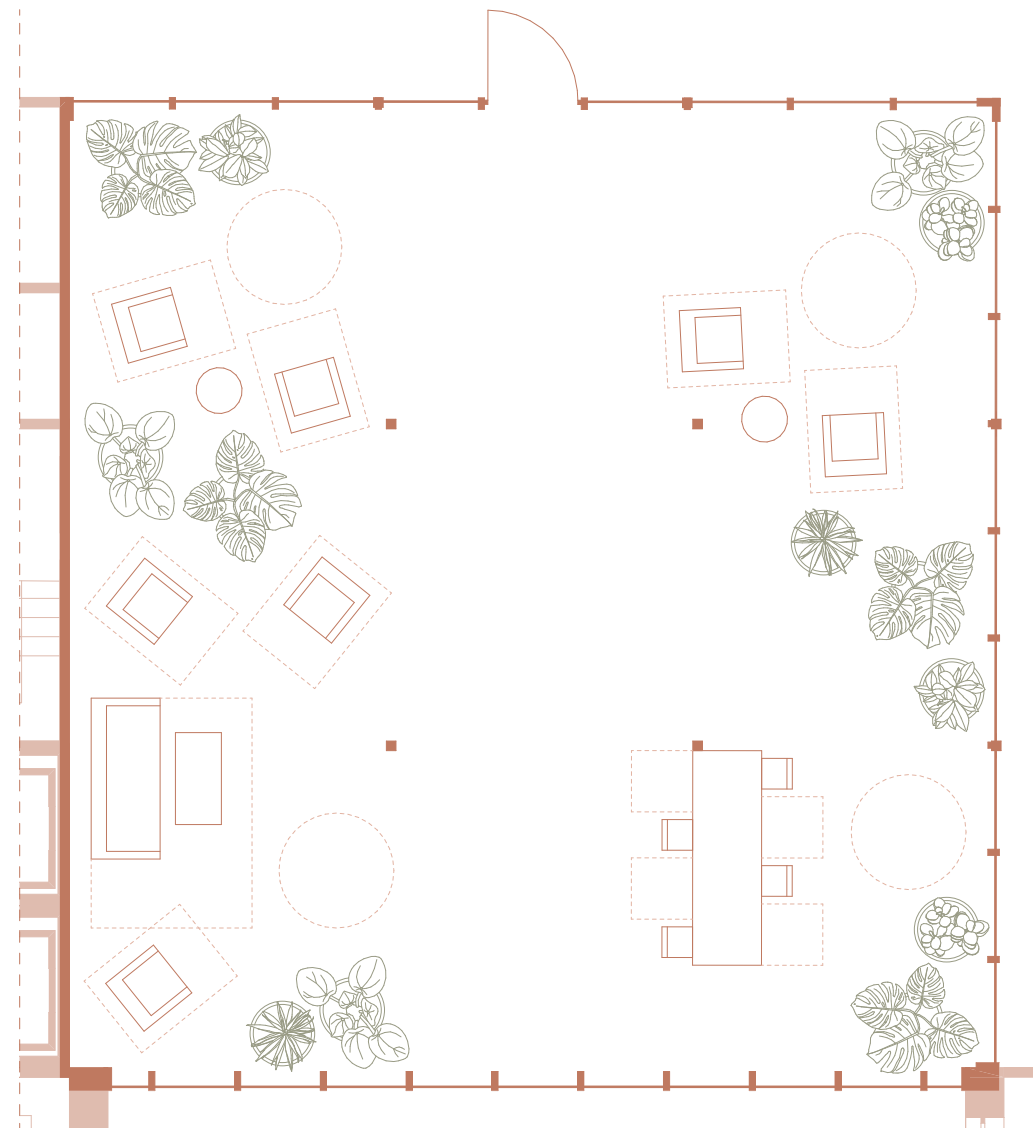


EXAMINATION ROOM

The room is suitable for medical examinations and consultations without disturbing residents' privacy. It can also be used for minor nursing procedures such as measuring blood pressure, checking wounds and administering medication. By integrating the room into the facility, regular health check-ups are possible, which in turn allows any changes that need to be treated to be recognised at an early stage.

PHYSIOTHERAPY ROOM

The room is equipped with exercise equipment. The aim is to create opportunities to promote the mobility and well-being of residents. The integration into the building makes it easier to integrate physiotherapy seamlessly into everyday life. In addition, the employees can use the room when it is not needed by the residents for example in the evening.



WINTER GARDEN

The winter garden is a light-flooded room that offers a view of the southern inner courtyard. People walking past can be observed through the glass wall. Complemented by plants, the room is similar to a garden, but can be used regardless of the weather. Furthermore, the room can be used for residents' parties. A small, enclosed room for the storage of chairs is located next to the winter garden.

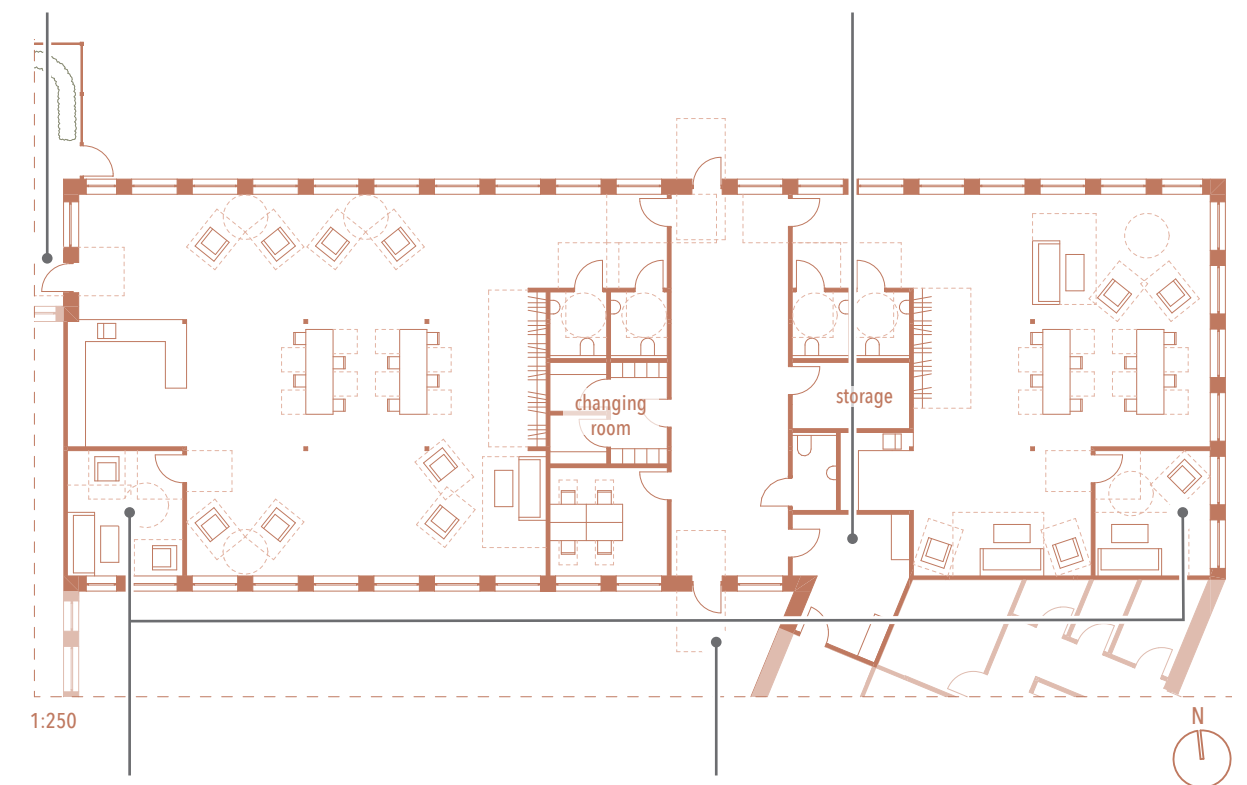
Daycare

OWN OUTDOOR AREA

In addition to using the inner courtyard, the larger group at the daycare centre also has its own outdoor area. It is protected by a light-toned varnished wooden fence to shield off the surrounding noise and to prevent guests from straying off the premises. This is concealed by an evergreen hedge for a welcoming environment. The 90 m² area is situated in a favourable position for watching the sunset.

CONNECTION TO KITCHEN

The connection to the kitchen is provided by a passageway in which the food is temporarily stored. This ensures that hygiene is maintained in the kitchen. The food trolleys can be taken from the room via the central corridor to the eating areas in the both groups.



SILENT ROOMS

There are smaller rooms in both groups for guests to retreat in. Furnished with armchairs and sofas, they invite the guests to relax. The rooms are also flooded with light due to large windows. As they are positioned decentrally in the groups, restlessness caused by other guests passing by is reduced.

ACCESS TO INNER COURTYARD

The centralised access to the inner courtyard reduces the unease that could occur if several entrances were available. This also favours clarity for the carers. In addition, the corridor is wide and illuminated by daylight, which improves orientation.

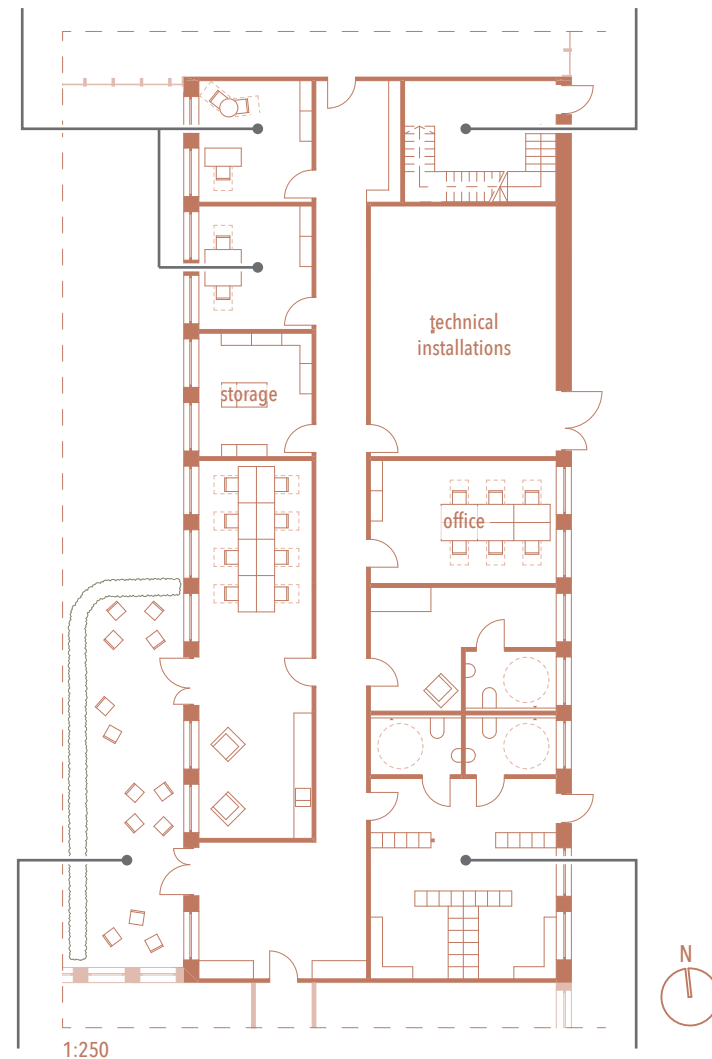
Staff

OFFICES OF ALF MANAGER & CARE MANAGEMENT

The ALF Manager's office is located near the entrance to the building section. In this way, visitors do not have to cross the entire employee area. Hence, employees can retreat, work and relax. Benches have also been placed in front of the office for any waiting visitors. The Care Management office is located next to the ALF Manager's office. This allows for short distances when making arrangements.

EMERGENCY EXIT

The emergency exit leads to the fire escape for the shared flat above. Access to the stairwell is from the corridor on the upper floor. The end of the staircase is therefore close to the façade so that the distance is kept as short as possible. In addition, the staircase has two platforms instead of one so that residents with physical disabilities who are able to rescue themselves can descend safely and calmly.



OWN OUTDOOR AREA

Protected by a hedge from the southern courtyard lies the outdoor area. The 40 m² area can be accessed both through the break room and the end of the corridor.

CHANGING ROOM

Access to the changing room is through a separate entrance, as this is the first activity in a shift for some of the staff and increases efficiency. Two accessible WCs with showers are located next to the passageway. The lockers are arranged so that changing can be done in privacy. From the changing rooms the corridor of the staff area with access to the rest of the building can be reached.

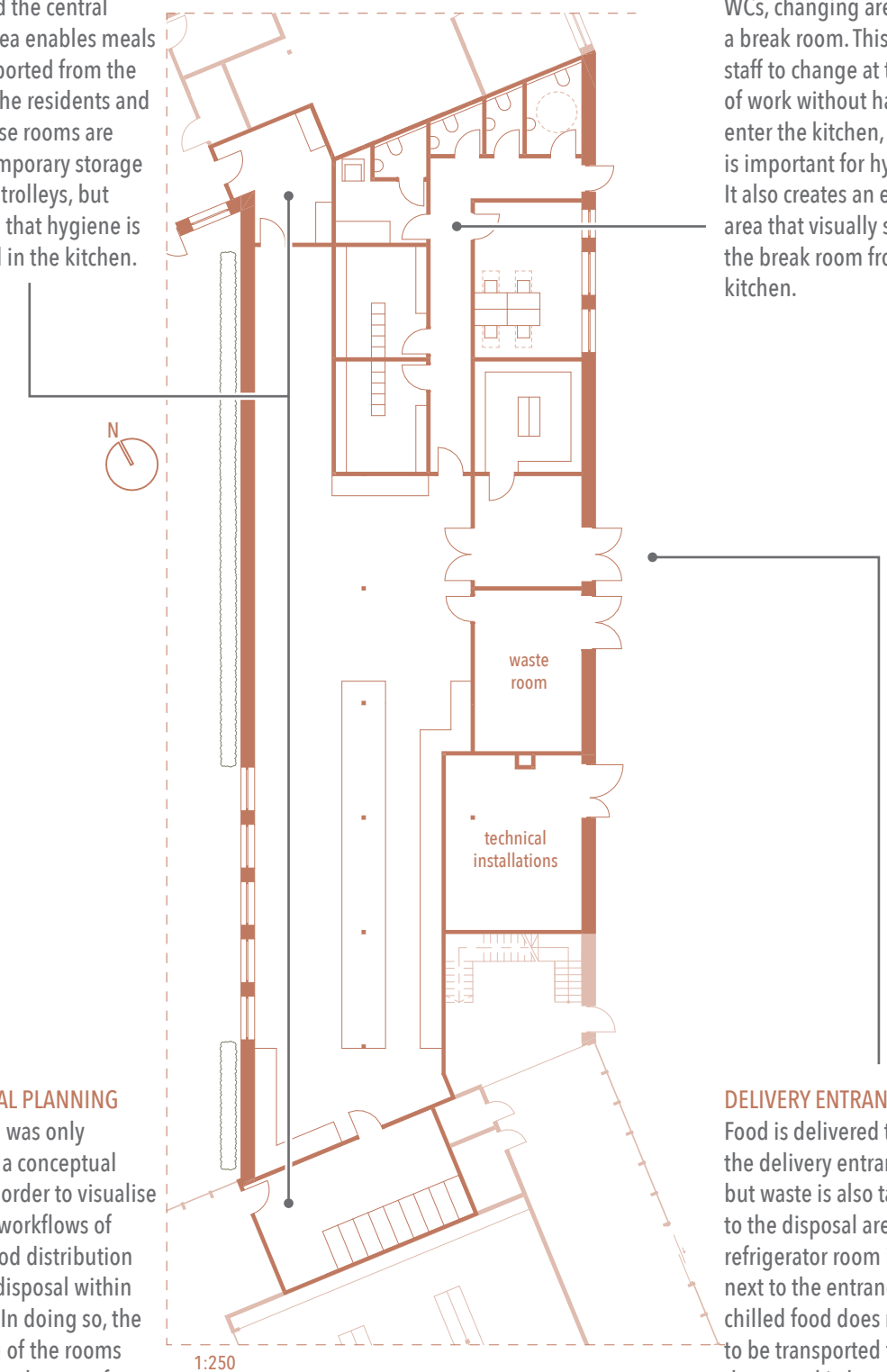
Kitchen

CONNECTIONS TO THE REST OF THE BUILDING

The connection to both the daycare and the central entrance area enables meals to be transported from the kitchen to the residents and guests. These rooms are used for temporary storage of the food trolleys, but also ensure that hygiene is maintained in the kitchen.

SEPARATE STAFF AREA

The kitchen staff have their own area, which consists of WCs, changing areas and a break room. This allows staff to change at the start of work without having to enter the kitchen, which is important for hygiene. It also creates an enclosed area that visually separates the break room from the kitchen.



CONCEPTUAL PLANNING

The kitchen was only planned as a conceptual element in order to visualise the spatial workflows of the staff, food distribution and waste disposal within the facility. In doing so, the positioning of the rooms in relation to the rest of the building or façade is important. However, the detailed design of workplaces was not considered in this context.

DELIVERY ENTRANCE

Food is delivered through the delivery entrance, but waste is also taken to the disposal area. The refrigerator room is located next to the entrance so that chilled food does not have to be transported through the warm kitchen. This area is separated to maintain hygiene.



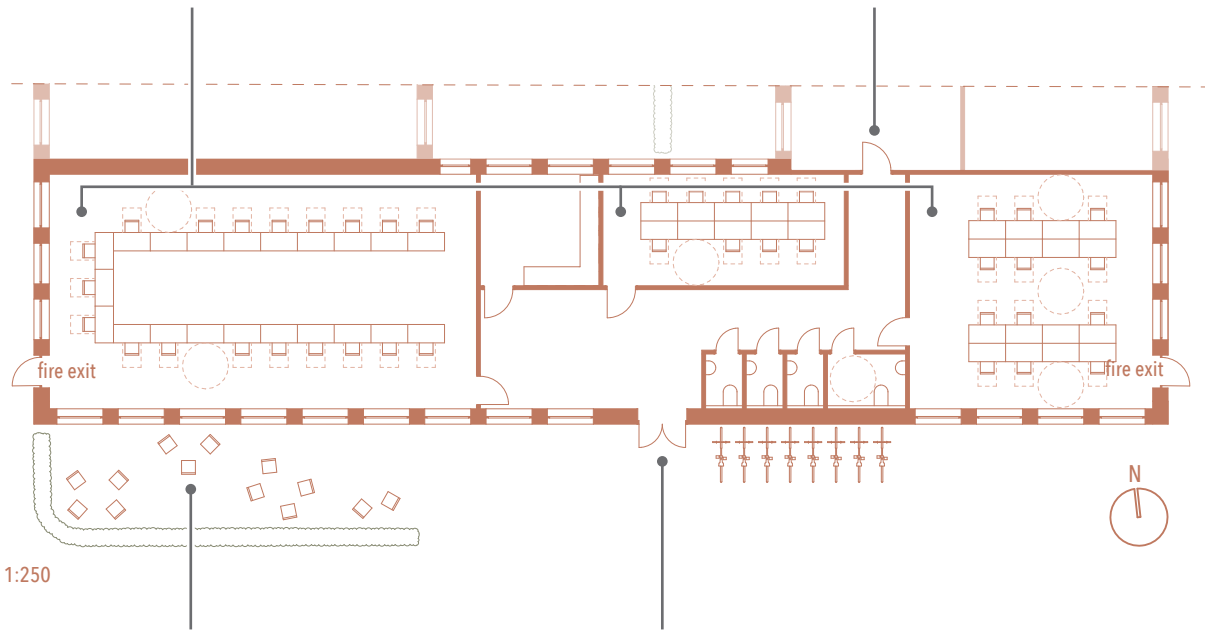
Conference Area

CONFERENCE ROOMS OF VARIOUS SIZES

This part of the building accommodates three conference rooms. These vary between twenty-one, sixteen and ten seats. The smallest room, for instance, can be used for confidential meetings and one-to-one conversations. The larger rooms are suitable for seminars and workshops. It is possible to use the rooms individually or by a larger group.

POTENTIAL USE BY STAFF

A connecting door to the staff area of the Assisted Living facility eliminates the need for conference rooms in the staff area. This allows the space to be utilised efficiently. The access to the staff area is electronically secured so that no external guests can enter the Assisted Living from the conference area.



OWN OUTDOOR AREA

In order to avoid any disturbance in the inner courtyards caused by the use of external guests, the area has its own outdoor area. Facing south, it is located next to the entrance. Sheltered by a hedge, it encourages informal conversations.

ACCESS VIA SEPARATE ENTRANCE

The separate entrance ensures that the operation of Assisted Living is not disturbed. As this is also the only entrance on this façade, it offers privacy. Next to the entrance is also space to park bicycles. The entrance area offers the possibility of a reception area. Furthermore, the entrance is centrally located so that all functions, seminar rooms, coffee kitchen and toilets are within a short distance.

Fire Safety

Section five of the Swedish Building Regulations (BBR) defines the fire safety regulations. These must be applied to new buildings and conversions. Topics addressed include fire protection classes, evacuation and rescue possibilities (Brandskydd, 2025).

OCCUPANCY CLASS (SWED. VERKSAMHETSKLASS)

Both assisted living and daycare fall into class Vk5B. Class 5 covers care environments (swed. Vårdmiljöer) and subclass B refers to the use of needs-based specialised accommodation by residents with physical or mental disabilities, such as dementia. The conference spaces fall under occupancy class Vk2A, as they are meeting places with which the people staying there are not familiar. Furthermore, less than 150 people can be accommodated there and no alcohol is served (Boverket, 2011). The different occupancy classes are due to the different and separate uses.

BUILDING CLASSES (SWED. BYGGNADSKLASSER)

In addition to the occupancy classes, there are also building classes (swed. Byggnadsklasser). These range from Br0, with a high protection requirement, to Br3, with a low protection requirement. When calculating them, the basement is usually disregarded as long as the ground floor is less than 1,5 metres above the surrounding ground level.

The building class of assisted living and daycare is Br1. This is due to the given occupancy class and the two stories. The conference part of the building, on the other hand, is Br3, as it is also a single-storey building (Byggvägledning, 2015).

Based on this, specific escape routes must be established. However, the individual components must be defined for this purpose.

FIRE CELL (SWED. BRANDCELL)

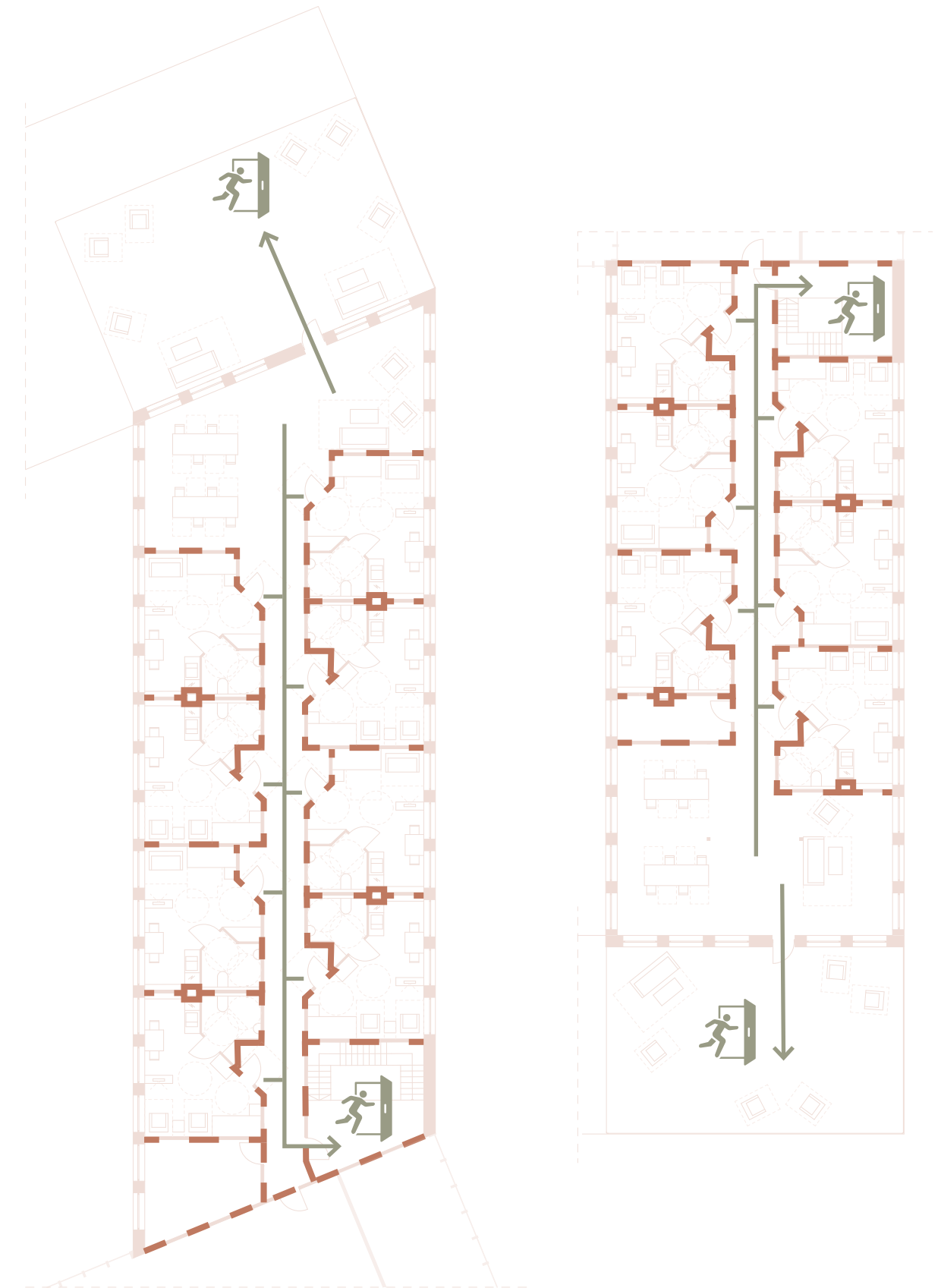
The individual fire cell is the smallest enclosed area in the building that is separated by fire-resistant walls, ceilings and doors. These are usually the individual flats and common rooms (Byggvägledning, 2015).

FIRE COMPARTMENT (SWED. BRANDSECTION)

A fire compartment is a larger area that is shielded by walls or other structural elements. This could be for example a wing of a building (Byggvägledning, 2015).

ESCAPE ROUTE (SWED. UTRYMNINGSVÄG)

Rooms in which people are not only staying temporarily must have two independent escape routes. If one route is blocked in the event of a fire, the other must still be accessible. This is to be ensured by a distance of at least 5 metres. In the case of the project, a corridor within a fire cell can connect the escape routes and lead from the flats to the escape stairwells. The maximum escape route length for both Vks is 30 metres. This can be increased to 45 metres with the help of sprinklers (Byggvägledning, 2015).



DISCUSSION

INTERPRETATION OF RESULTS

The result of the study make it clear that individual, site-specific planning is essential when converting existing office buildings into assisted living facilities for people with dementia. Aspects such as the location of the building, the dimensions of the site, load-bearing building elements and the existing access structure are crucial to the potential of a conversion. Due to the widely varying prevailing qualities of the building, the solution can only be generalised to a limited extent. A central finding is that in the specific case of the implementation, a socially, ecologically and economically sustainable conversion is possible. In addition, during the development of the implementation, it became clear that the integration of a daycare unit into an assisted living facility is a useful addition. This enables potential residents to familiarise themselves with the surroundings as guests in the daycare setting. This in turn can make it easier for them to settle into the facility as the illness progresses. One observation during the process of finding a building for conversion was that the office buildings had to meet specific criteria. The depth of the building was a particular challenge. If the depth of the building is too small, the flexibility of the room layout is severely restricted and if it is too wide, the lack of daylight negatively impacts orientation. The same applies to the orientation of the building. In addition, attention must be paid to clear boundaries in the outdoor areas to ensure the safety of residents and prevent disorientation.

CLASSIFICATION IN THE RESEARCH STATUS

By converting an existing building and demonstrating the possibilities, this work fits into the growing discourse that defines sustainability in construction not only through the choice of materials and energy efficiency in new buildings. It also shows that a conversion is not only ecologically sustainable, but can also be adapted to the very specific requirements for accommodating people with dementia. In doing so, the work addresses research approaches that are usually applied in new buildings.

REFLECTION

Despite the insights gained, the work also has some methodological and content-related limitations. An optimal scenario is also assumed when simulating the movement sequences in the bathrooms, which were adapted from the SIS standard to the context. However, if a larger wheelchair is required or other aspects are added, the movement sequence may turn out differently. In addition, the work is largely based on findings from the literature. This could be expanded through further study visits and interviews and then potentially lead to more information or other results. The SIS standards, which offer the highest level of accessibility, were taken into account during the design process. However, these standards were also adapted to the circumstances of the building, such as the given axial dimensions. The turning circle of 1.5 metres was used to demonstrate that accessibility is guaranteed. However, if special needs of individual residents were to be taken into account, this could have an impact on the design. In addition, the common spaces are above the subsidised areas of 15sqm per resident. I did not rely solely on the specification of the subsidised area, as on the one hand the existing buildings had an influence on the further planning and therefore the qualities of the spaces themselves were more important to me.

IMPLICATIONS

The thesis shows alternative ways of designing accommodation that support cognitive deficits. This is demonstrated, for example, by the angled entrances to the apartments and the unconventionally shaped bathrooms. Although the existing stock limits the possibilities, it also encourages innovative solutions. Municipalities can learn from these findings how to deal with existing buildings, but also developers if they want to avoid vacancies.

FURTHER RESEARCH

It is unclear to what extent the planning would also work in practice and how much the findings can be generalised. This includes adapting to other types of office buildings or even other building typologies, such as a more tower-like building. It would also be interesting to explore how much impact fixtures such as furniture can have on the architectural design. This would involve collaboration with other trades.

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FIGURE	TITEL	SOURCE	ADAPTATION
1	The double diamond	the Design Council. (n.d.). <i>The Double Diamond—Design Council</i> . Retrieved 2 April 2025, from https://www.designcouncil.org.uk/our-resources/the-double-diamond/	Visually adapted
2	adidas Laces in Herzogenaurach, Germany by kadawittfeldarchitektur	kadawittfeldarchitektur. (n.d.-a). <i>Adidas Laces</i> <i>kadawittfeldarchitektur</i> . Retrieved 5 April 2025, from https://www.kadawittfeldarchitektur.de/projekt/adidas-laces/	Own visual analysis of horizontal organisation based on original floor plan
3/8	Kompetenzzentrum Demenz München in Munich, Germany by Feddersen Architekten	Feddersen Architekten. (n.d.). <i>Kompetenzzentrum Demenz München</i> . Feddersen Architekten. Retrieved 5 April 2025, from https://www.feddersen-architekten.de/portfolio/kompetenzzentrum-demenz-muenchen/	Own visual analysis of horizontal organisation based on original floor plan
4	Grünenthal Bürogebäude 411 in Aachen, Germany by kadawittfeldarchitektur	kadawittfeldarchitektur. (n.d.-b). <i>Grünenthal Bürogebäude 411</i> <i>kadawittfeldarchitektur</i> . Retrieved 5 April 2025, from https://www.kadawittfeldarchitektur.de/projekt/gruenenthal-buerogebaeude-411/	Own visual analysis of horizontal organisation based on original floor plan
5/6	Villa Videbeck in Lidköping, Sweden	Provided by Susanne Sandén	Own visual analysis of horizontal organisation based on original floor plan, also adaptation of part of the floorplan

Appendix A - Interview Question Villa Videbeck

OUTDOOR AREA
-Which opportunities for spending time outdoors are particularly well received? (active or calm areas)
-How much care is required for staff to be present?
-Where are outdoor areas placed and how can they be accessed?
-How are residents prevented from leaving the premises?

DIFFERENT STAGES OF THE DISEASE
-Does the stage of the disease has an influence on the accommodation of the residents?

SEVERAL FLOORS
-Do residents have difficulty finding their way around the several floors?
-How suitable are several floors for the care provided by staff?
-How do residents cope with elevators?

DINING ROOM
-Are residents involved in the preparation of meals?

COMMON ROOMS
-Which function do the common rooms have? What is used a lot and what rarely? What is missing? For which activities is staff needed? (Which common rooms are used a lot and are there some that are used less?)
-Are there multipurpose rooms and which functions do they fulfill?
-How easily can the common areas be viewed from the staff's usual place of presence?

STAFF FACILITIES
-What is the location of the staff rooms? (advantages/ disadvantages)
-How are residents prevented from entering the staff facilities?
-What would the staff wish for in their facilities?

FURTHER SERVICES
-What other services etc. are well received by residents? (E.g. hairdresser, small store)
-How long/short are the usual visits from relatives and where are they usually spent? Is there a request/ possibility for relatives to stay overnight in a guest area?

INTERIOR
-Which materials and colors are used and do they have the desired effect on highlighting and concealing? And to what extent do the materials have an influence on the noise level?
-Which technical assistance systems are used and how helpful or obstructive are they? Which ones require assistance from staff?
-Can residents access all areas at all times? How is the night's rest handled?
-Are there conflicts between residents that can be resolved by the architecture or furnishings?
-How can residents be prevented from entering the private rooms of other residents?

Appendix B - Consent and Data Processing in Thesis

CHALMERS

Consent and information about processing of personal data in student thesis

I agree to my personal data in the form of:

First and last name, email address and position at the facility; as well as informations regarding the facility in the form of floorplans, pictures and potential audio recordings of interviews/conversations

may be treated by Chalmers University of Technology for the study

of analysing Dementia housings regarding their size and layout of the living and common spaces, as well as the wayfinding of the patients. Part of it is covered by a floorplan analysis supplemented by interviews and conversations with staff. Furthermore, pictures of the facilities, without showing residents, are used to highlight design aspects.

Information

Your personal data will be handled as follows:

The Data will be stored in a cloud, that only the Thesis Candidate has access to.

Selected content is published both in printed and digital form as part of the thesis. Before publication, the material is forwarded to the facility so that an opportunity to raise objections is given.

Your consent is valid until further notice. You have the right to withdraw your consent at any time. You do this through contacting klarahub@student.chalmers.se or registrator@chalmers.se

If you withdraw your consent, we will cease processing personal data we have collected with the support of your consent. Some information may be saved due to Chalmers obligations under Swedish archive legislation.

Chalmers University of Technology, org. No. 556479-5598 is personal data controller. You can find Chalmers privacy policy at www.chalmers.se.

As a participant you have the right to receive information about how your personal data is processed. You have the right to have incorrect information corrected, redundant data deleted, request that processing shall be restricted and data transferred to another actor. You also have the right to submit a complaint to the Swedish Authority for Privacy Protection (Integritetsskyddsmyndigheten). Do you have any questions about Chalmers's processing of personal data contact Chalmers's data protection officer at dataskydd@chalmers.se.

I agree that Chalmers University of Technology processes personal data about me in accordance with the above.

Place:	Signature
Date:	Name clarification

The form is drawn up in duplicate.



RETHINKING OFFICE SPACE AS A PLACE TO AGE

Klara Johanna Hübner