

KÄRRA HEM



Group 8:

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P1: Exterior perspective of main entrance to the assisted living facility

Program

The project was to design an assisted living facility for people suffering from dementia in Kärä, a suburb north of Gothenburg. The facility should include 10-12 units and approximately 100 apt. The apartment size was not allowed to exceed 35 sqm. Aside from this, there was also part of the project to include public activity in the village and to minimize the spread of infection without compromising life quality, due to Covid 19.

The concept of dementia village has been a role model for the project. The concept was first developed in the Netherlands where the idea was to create a living environment that had the qualities of a village. An accessible and sheltered area that promotes autonomy. The outdoor environment is an important part of the village concept hence research shows positive effects as: less stress, less aggression and frustration, increased physical activity and reduced use of medication.

Residential healthcare

As part of the Swedish welfare system the Social Services Act states that all elderly have a legal right to care when their physical and cognitive abilities fail. The Swedish assisted living facilities is a specialized form of housing offering the most fragile elderly an around the clock attendance and care.

Research shows a development in societies around the world where the age group of 60-80 years are the most rapidly increasing compared to other ages. Although improved medical care has extended life expectancy and prolonged the "active stage" of life, the aging population will challenge architecture when it comes to satisfying this increasing group.

The Swedish regions and county councils have a need of replacing existing healthcare facilities to meet the demands of future healthcare needs. Research shows that an improvement of healthcare environments has a direct influence on the improvement of healthcare.



Hogeweyk, Netherland - the first dementia village in the world

Dementia

Today approximately 140 000 people suffer from dementia in Sweden, and over 20 000 develop dementia every year. Due to an aging population the number of people suffering from dementia are rapidly increasing. Dementia is a collective name for several different diseases. The diagnosis is not a sickness in itself but a symptom caused by sickness or injuries. Even though the risk for dementia gets higher with a higher age there are also younger patients suffering from dementia due to ex. head injuries. Dementia can be hard to define and could also appear as a combination of different diagnoses. The four most common are:

- Alzheimer
- Vascular dementia
- Lewy body dementia
- Frontal lobe dementia



People suffering from dementia have difficulties remembering things. Most commonly the short time memory is affected. This includes symptoms as:

- Hard to find words when talking
- Forgetting names
- Saying the same thing over and over
- Difficulties understanding your surroundings
- Hard to handle familiar tasks



Dementia could also affect your personality in different ways:

- Less interest for what you used to like
- Less ability to take initiatives
- More anxiety, sad or irritated

These different symptoms can make you less willing to take part in social contexts and create social withdrawal. It is also common to feel ashamed of your symptoms.



Things that could be helpful when you suffer from dementia are:

- Routines and strategies
- Social contexts make you feel better
- Same activities in an easier way
- Physical activity
- Good food
- Connection to relatives

Kärä

The district Kärä is situated about 10 km north of Gothenburg city center near Nordre älv. It takes 25 minutes to go here by bus from Gothenburg city center and 45 minutes by bike. The area was mainly developed in the late 60's early 70's and the urban planning was influenced by its time with traffic separation and large car free areas.

On the eastern side of the area the European highroad 6 is passing. On the other side of the highway there are mainly big industries. Inside Kärä there is one main road from south to north, where the bus stops in three places. From west to east there is a pedestrian street connecting the area.

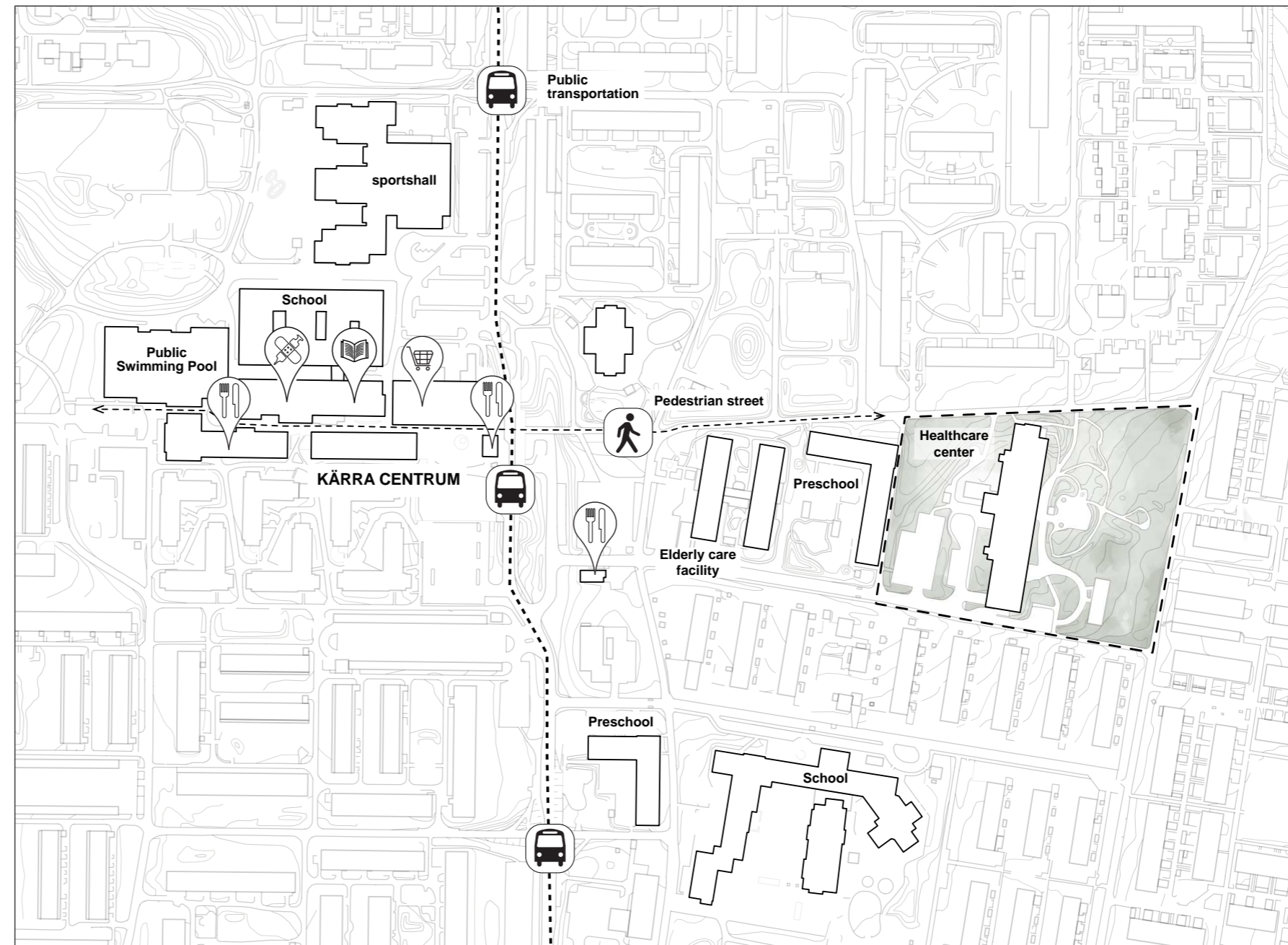
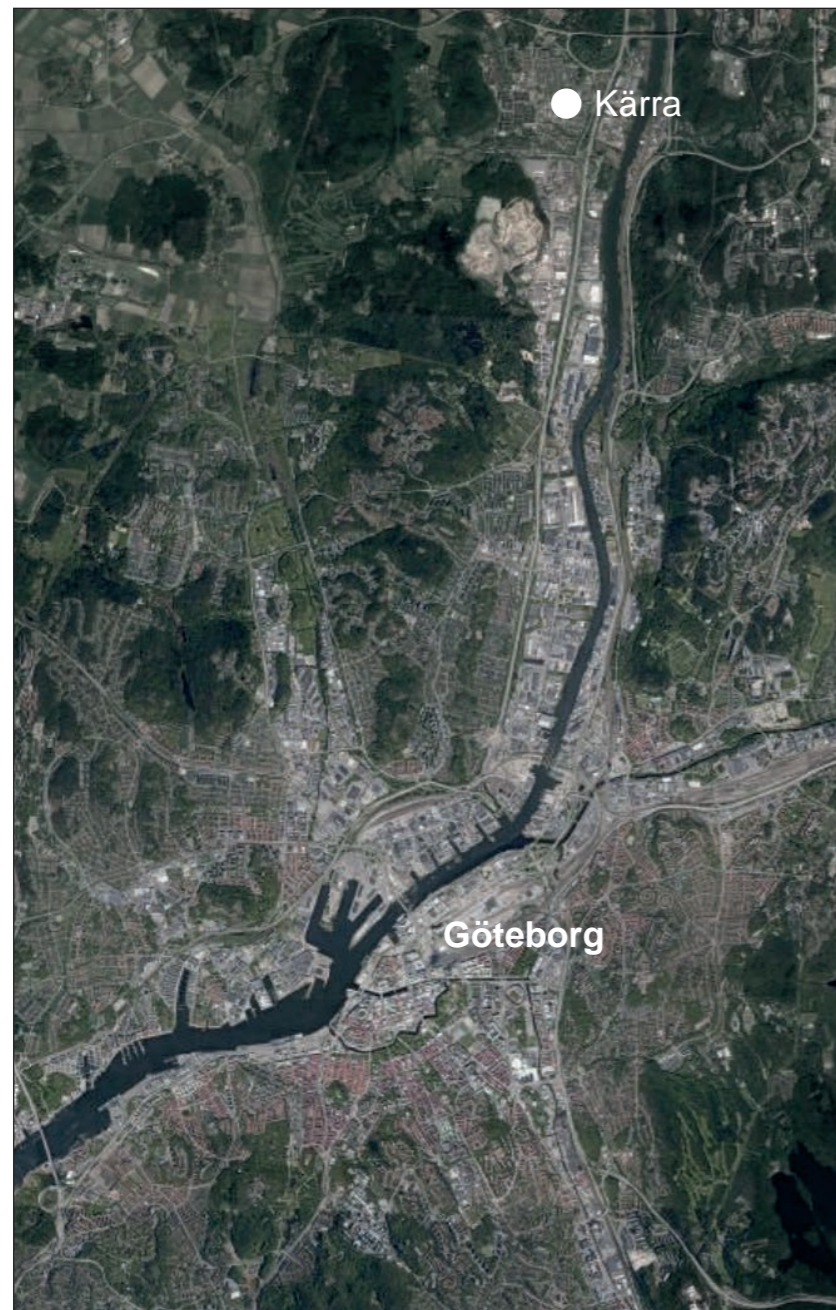
Kärä is dominated by housing, both row houses and tenancies. The area has many big yards, lots of greenery, activities, sports facilities, schools and pre-schools and a local center with activities like library, grocery store, pharmacy and restaurants.

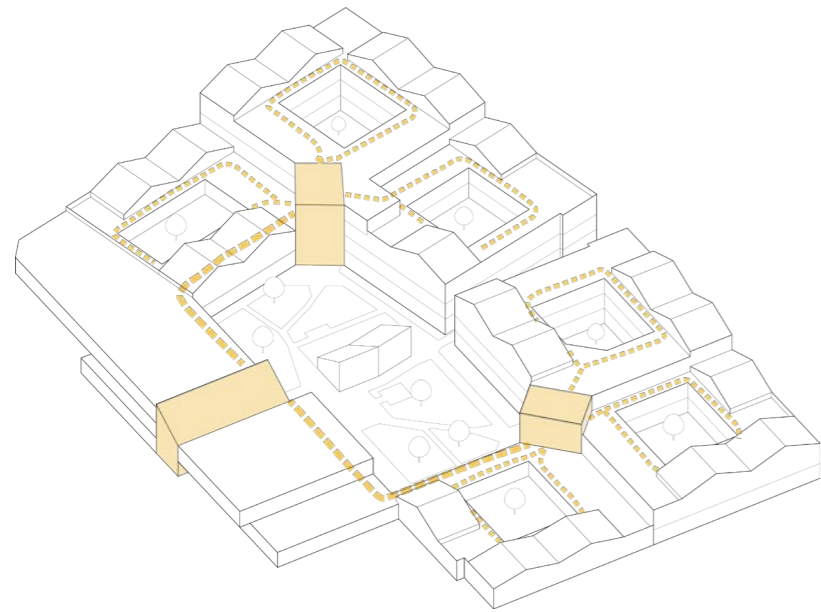
Half of the inhabitants in Kärä are highly educated. The middle income of the area is 25 300, which is 7% under Swedish average. The biggest party in the area is the conservative party Moderaterna. 53 % are under 19 years old and the middle age is 42.

The area is planned to go through a refurbishment and densification with about 300-500 new apartments. This plan has been a reference for the new proposal.

The site

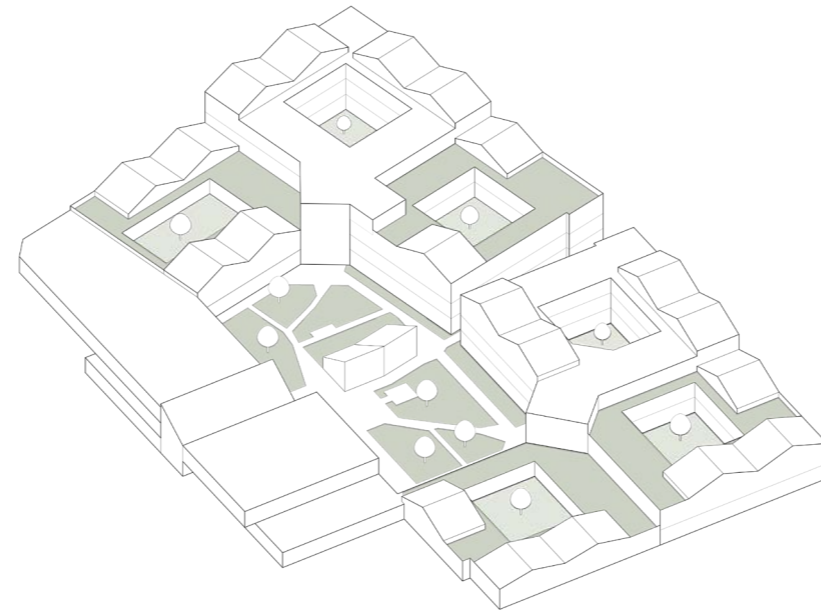
The site for the project is located east of Kärä local center. The existing building in the site was built to serve as an elderly care facility in the 70's but is today used as a temporary elderly care facility as well as a healthcare and children's care center. The building is today suffering from bad structural conditions due to water damage in the foundation. This is an effect of the varying height levels in the site and the lack of day water assembling. The building has a typical institutional floor plan layout with smaller rooms gathered on both sides of a dark core. It is surrounded by large green areas and a pre-school.





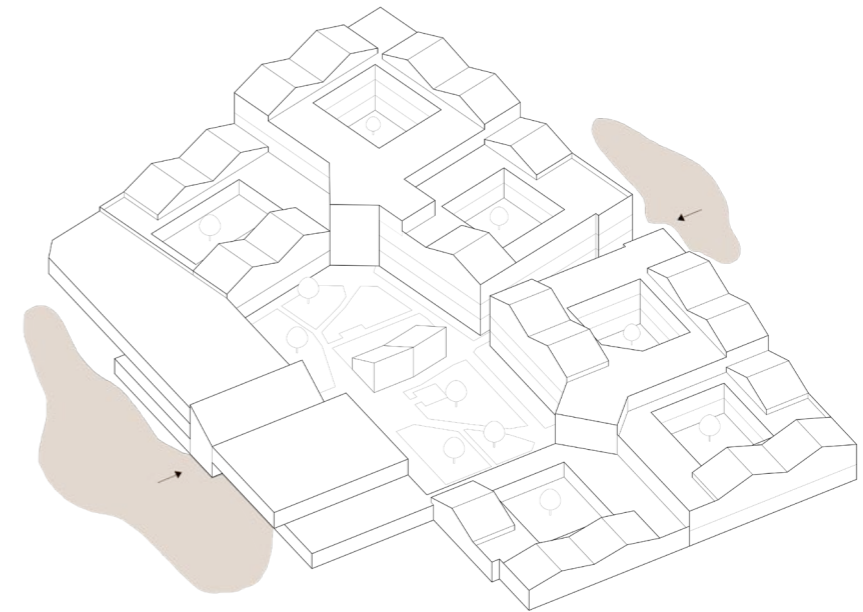
Communication

A big focus has been put into creating good connections within the village by creating a readable orientation with three main nodes. To create good moveability for the residents and a comfortable work environment for the staff an indoor connection throughout the building has been enabled. The compact volume also supports a more efficient workflow for the staff when it comes to management and supervision. A lot of work was also put into making every unit separated. A way to minimize the risk of infections spreading between units, but also to create a safe and calm home environment that enhances the feeling of privacy and integrity.



Safe outdoor environments

With dementia comes the inability to take part in society as you were used to. This lack of freedom and autonomy could cause depression and raises important questions about safety and mobility. To meet the necessary feeling of autonomy this project aims to create a safe outdoor environment for all residents in different scales and with different activities. These outdoor spaces act as sheltered zones in the facility.



Active surroundings

In the design process a lot of work was put into connecting the facility with Kärä centrum to bring the surrounding society closer. But as this is an assisted living facility for people with dementia it was also important to create a safe and calm home-environment for the residents. As a result, the aim has been to invite the public close to our facility by proposing a square in front of the building and a community park on the eastern side.



Site plan

The project

A big focus in the project was to enhance the connection from Kärra centrum to the site. The walking path north of the site has been connected to the building through a square that also gathers the functions of pre-school, healthcare center and children's healthcare center to the dementia village.

The square creates an active area for the residents in Kärra and brings life to the site. For both social and economic reasons the green area is an important part of the existing environment. In the proposal it serves as a health promoting park for the whole community with fully grown trees,

a public garden with cultivation lots, fruit trees, and an outdoor gym. In the future this area could be used for further development or remain as a green oasis for biodiversity and handling day water. To keep the existing car restriction in the area the deliveries to the building are located to the south.

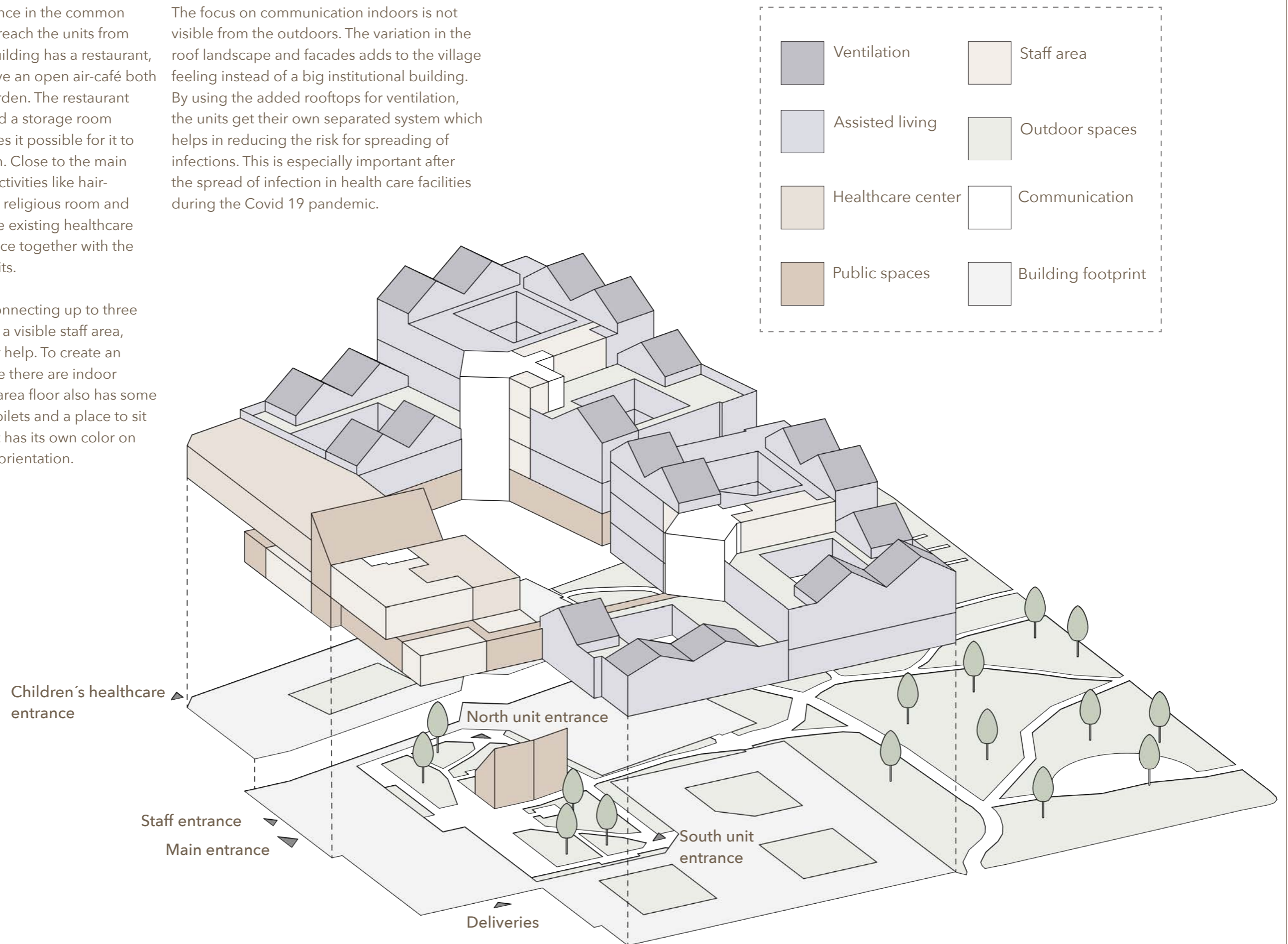
Functions

From the big open entrance in the common building it is possible to reach the units from indoors. The common building has a restaurant, with the possibility to have an open air-café both in the square and the garden. The restaurant also has a small stage and a storage room for the tables which makes it possible for it to be used as an auditorium. Close to the main entrance there are also activities like hair- and foot-care, workshop, religious room and gym. On the first floor the existing healthcare center has got a new space together with the administration for the units.

The unit entrances are connecting up to three units on each floor. It has a visible staff area, where visitors can ask for help. To create an open and bright entrance there are indoor balconies. The entrance area floor also has some services for visitors like toilets and a place to sit down and wait. Each unit has its own color on the door to facilitate the orientation.

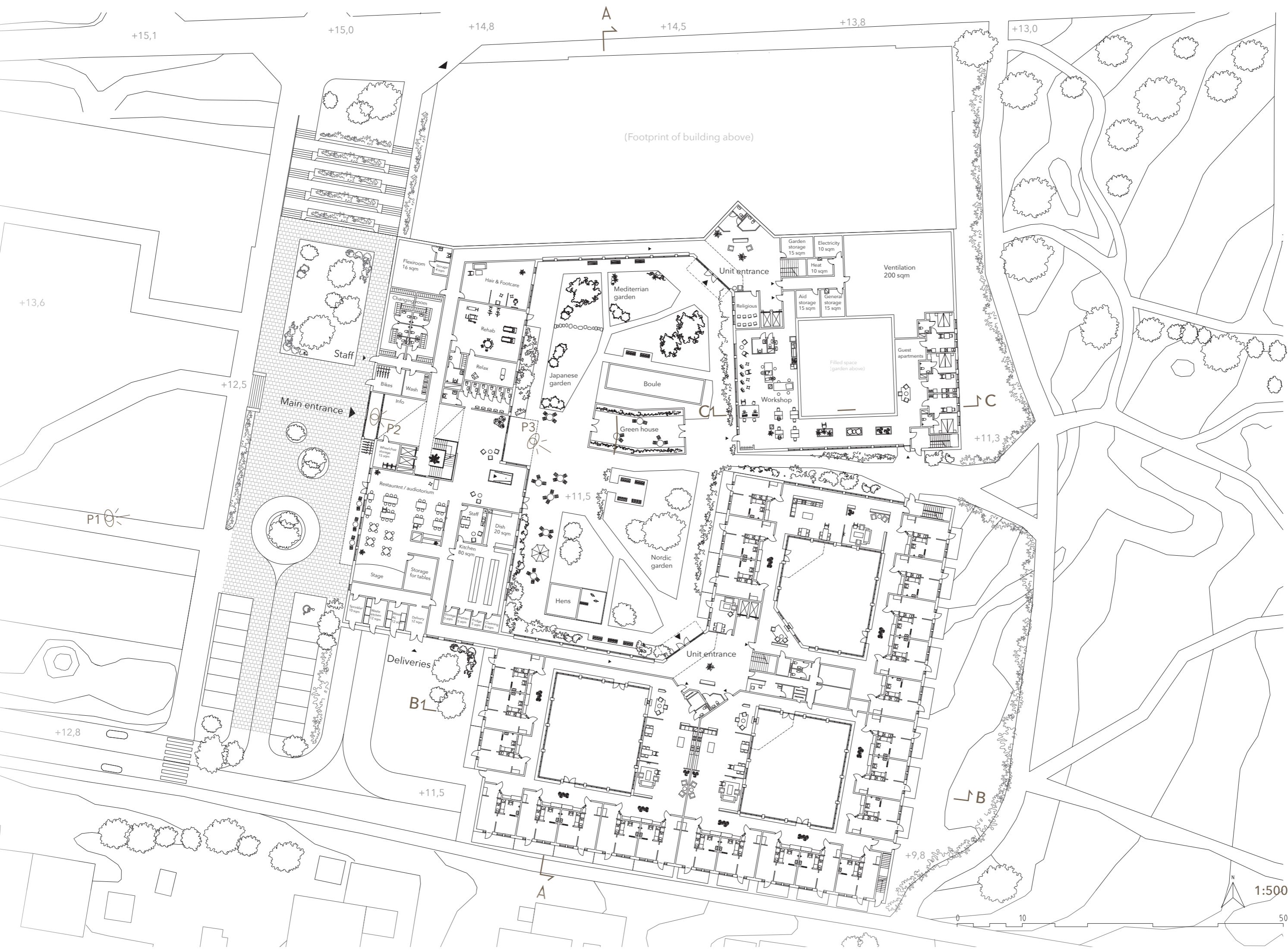
Appearance

The focus on communication indoors is not visible from the outdoors. The variation in the roof landscape and facades adds to the village feeling instead of a big institutional building. By using the added rooftops for ventilation, the units get their own separated system which helps in reducing the risk for spreading of infections. This is especially important after the spread of infection in health care facilities during the Covid 19 pandemic.

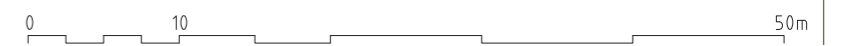
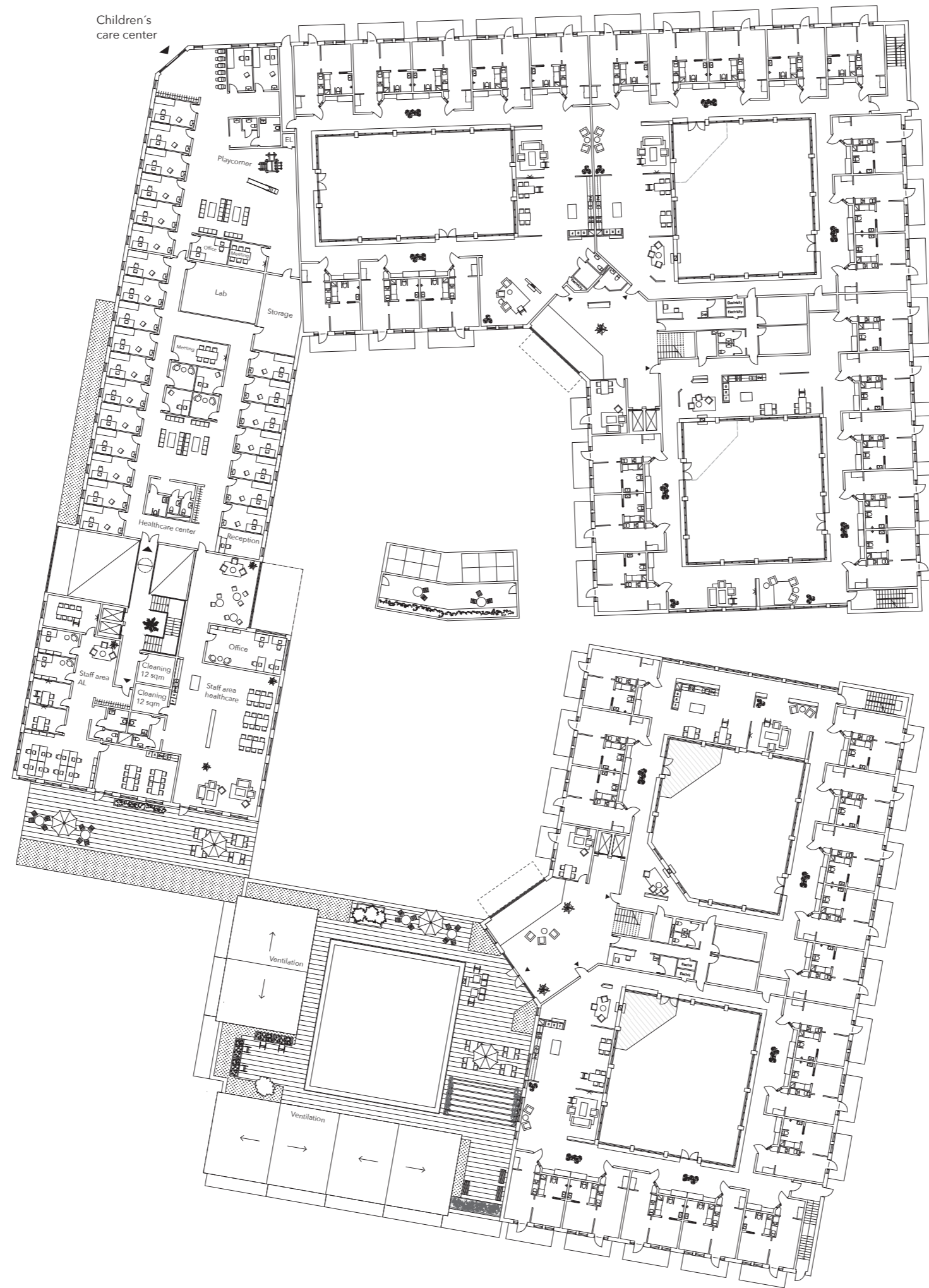


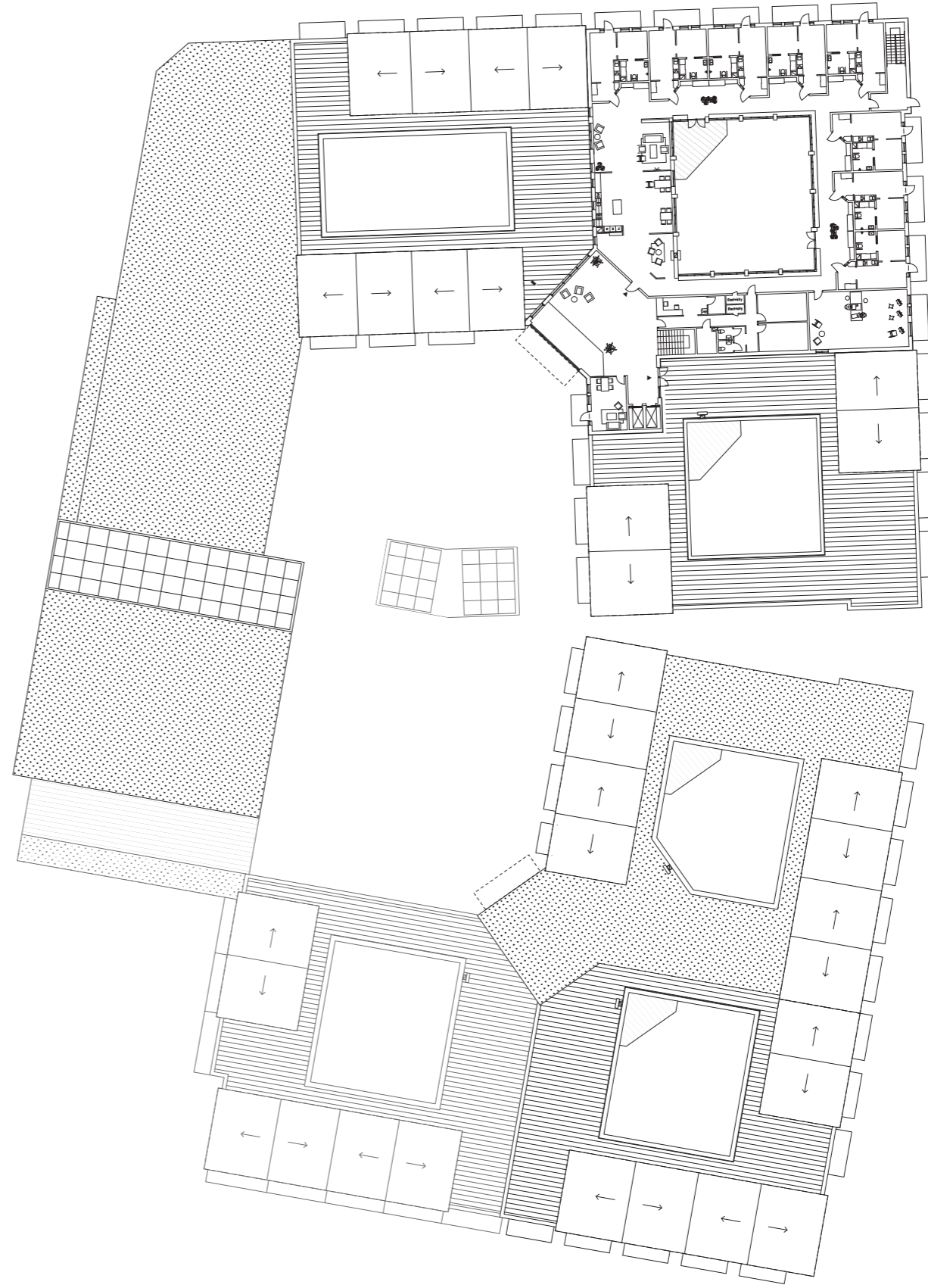
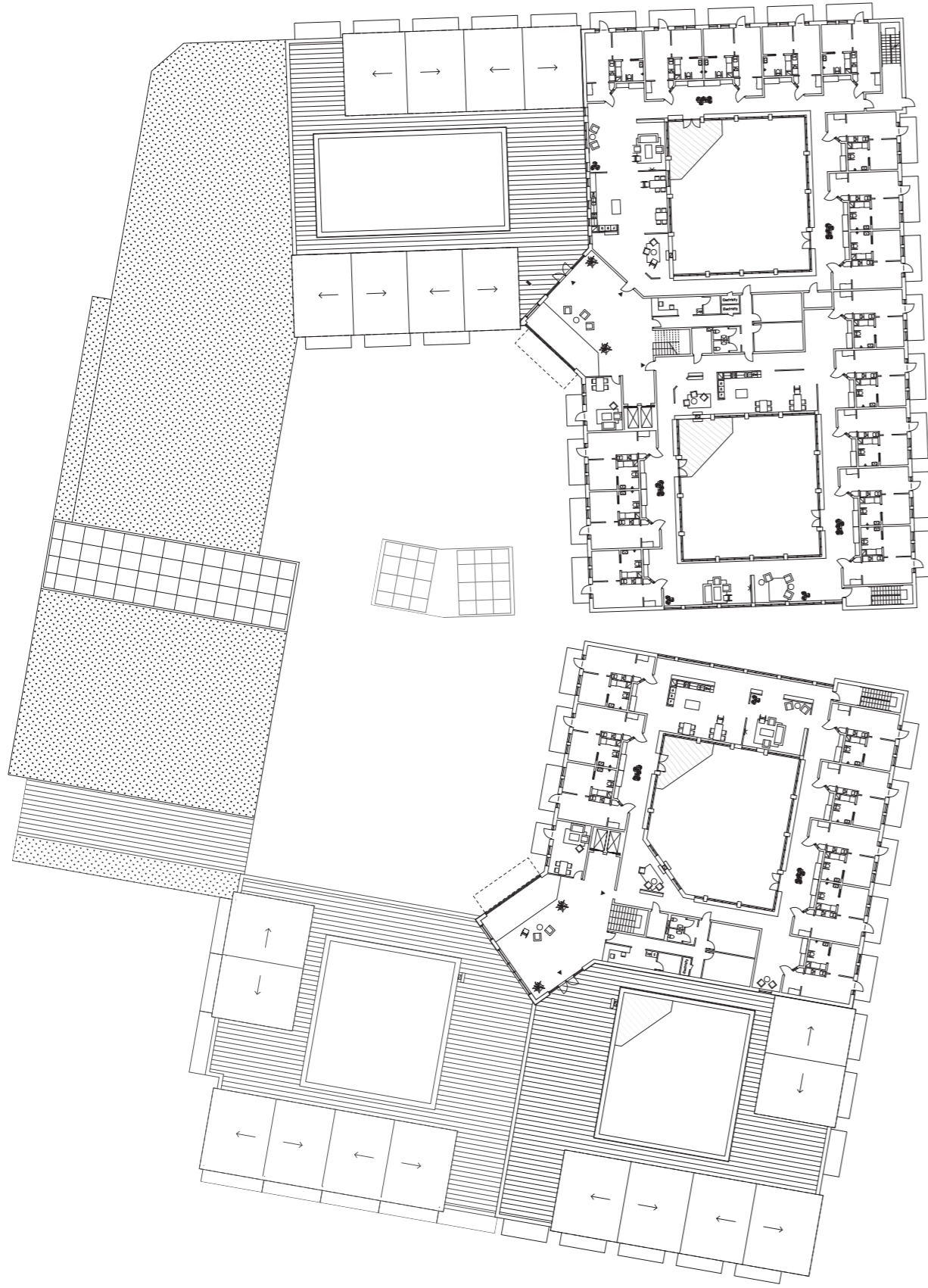


P2: Interior perspective of main entrance



Floor plan - Ground floor



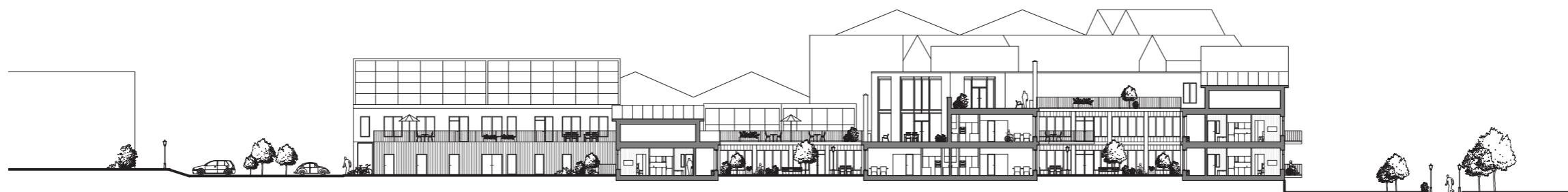


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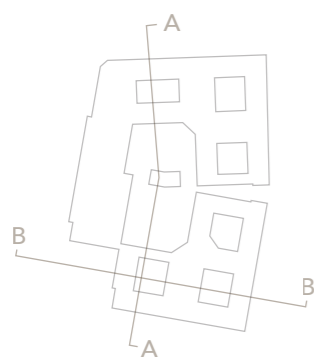




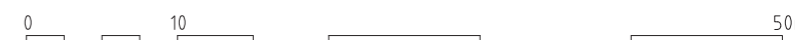
Section A - A



Section B - B



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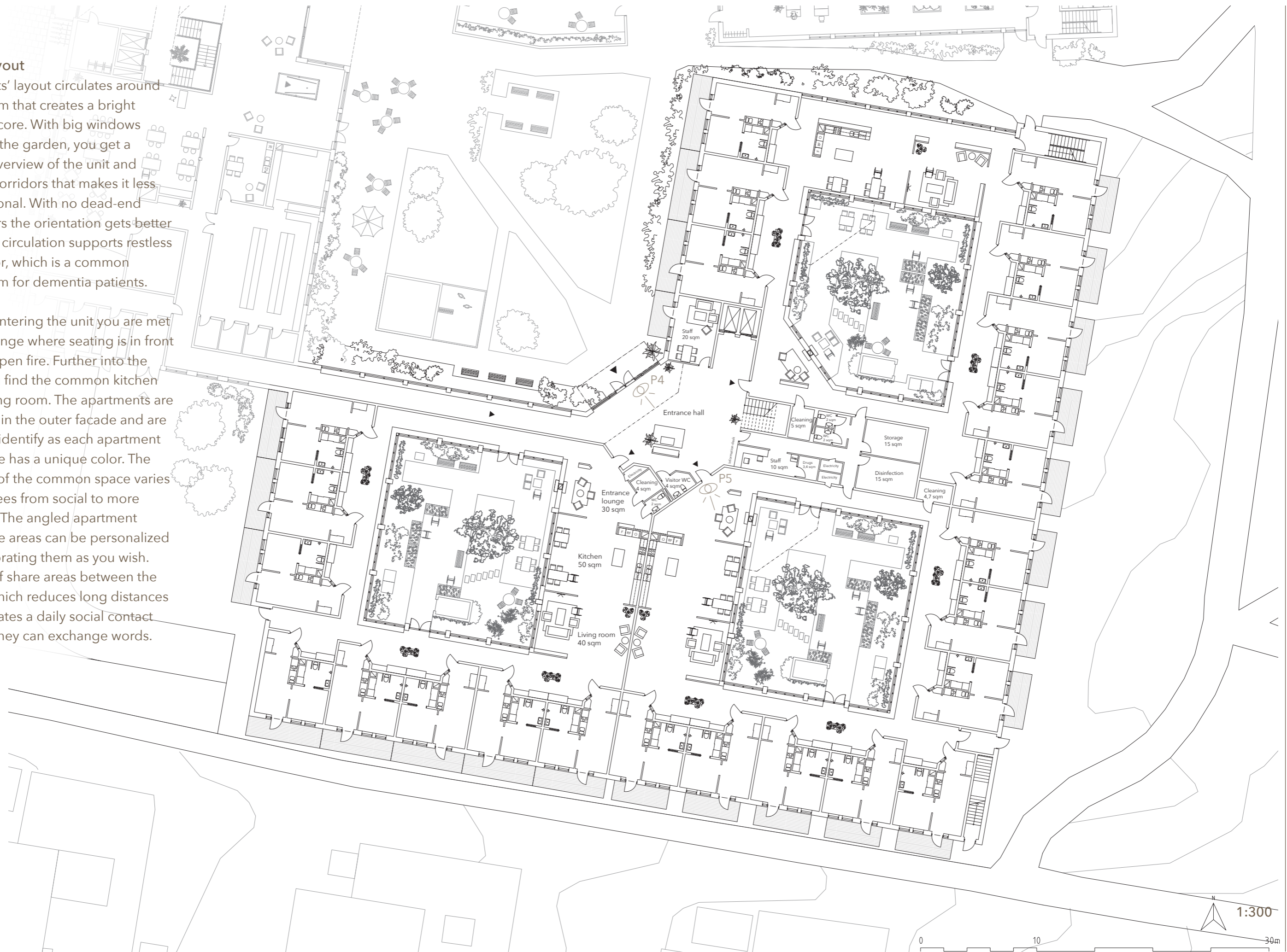


P4: Interior perspective of the main entrance to the units

Unit layout

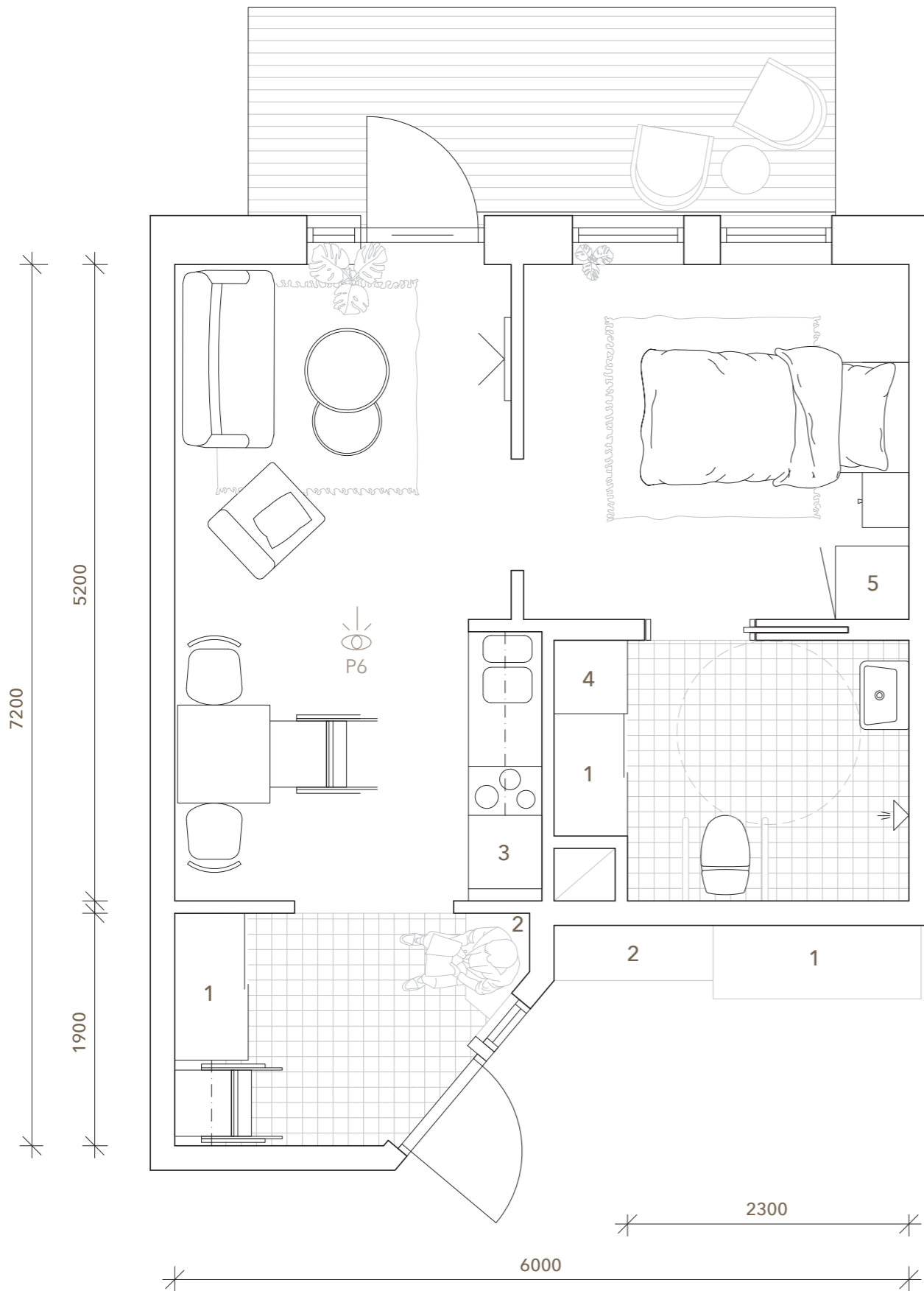
The units' layout circulates around an atrium that creates a bright central core. With big windows around the garden, you get a good overview of the unit and bright corridors that makes it less institutional. With no dead-end corridors the orientation gets better and the circulation supports restless behavior, which is a common symptom for dementia patients.

When entering the unit you are met by a lounge where seating is in front of the open fire. Further into the unit you find the common kitchen and living room. The apartments are located in the outer facade and are easy to identify as each apartment entrance has a unique color. The design of the common space varies in degrees from social to more private. The angled apartment entrance areas can be personalized by decorating them as you wish. The staff share areas between the units, which reduces long distances and creates a daily social contact where they can exchange words.





P5: Interior perspective of common areas in the unit



Apartment, 34,8 m²

- 1. Wardrobe/ Storage
- 2. Bench with storage
- 3. Combined refrigerator and freezer
- 4. Washing machine
- 5. Cabinet for storage of clothes

A home

Many recipients in residential health care spend the majority of the time in their own apartments. The apartments in this project were therefore planned to have separate rooms for different activities although the small size of 34,8 sqm. This creates the feeling of a home rather than a hospital room and could make the step of moving from your previous home to a new one less stressful.

Integrity and individuality

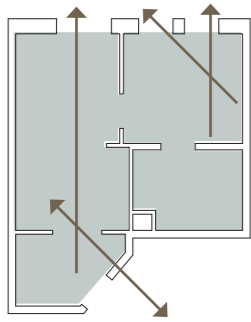
A main challenge in designing residential healthcare facilities is the care for each resident's integrity and individuality. The individual apartments are for that reason an important factor of this project. By focusing on the design of the surroundings of each apartment the project aims to make the feeling of home and individuality to be carried out in the more public areas.



P6: Interior perspective of the apartment

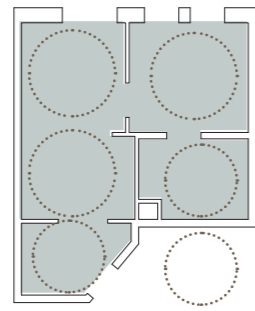
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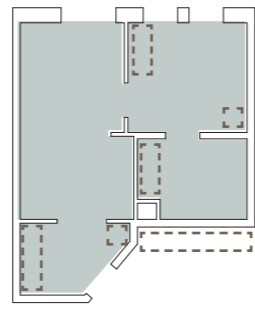
Views

When entering the apartment you have a straight sightline out to the balcony. A small window by the entrance creates contact with the corridor. From the bed you have a good view of the outdoor environment.



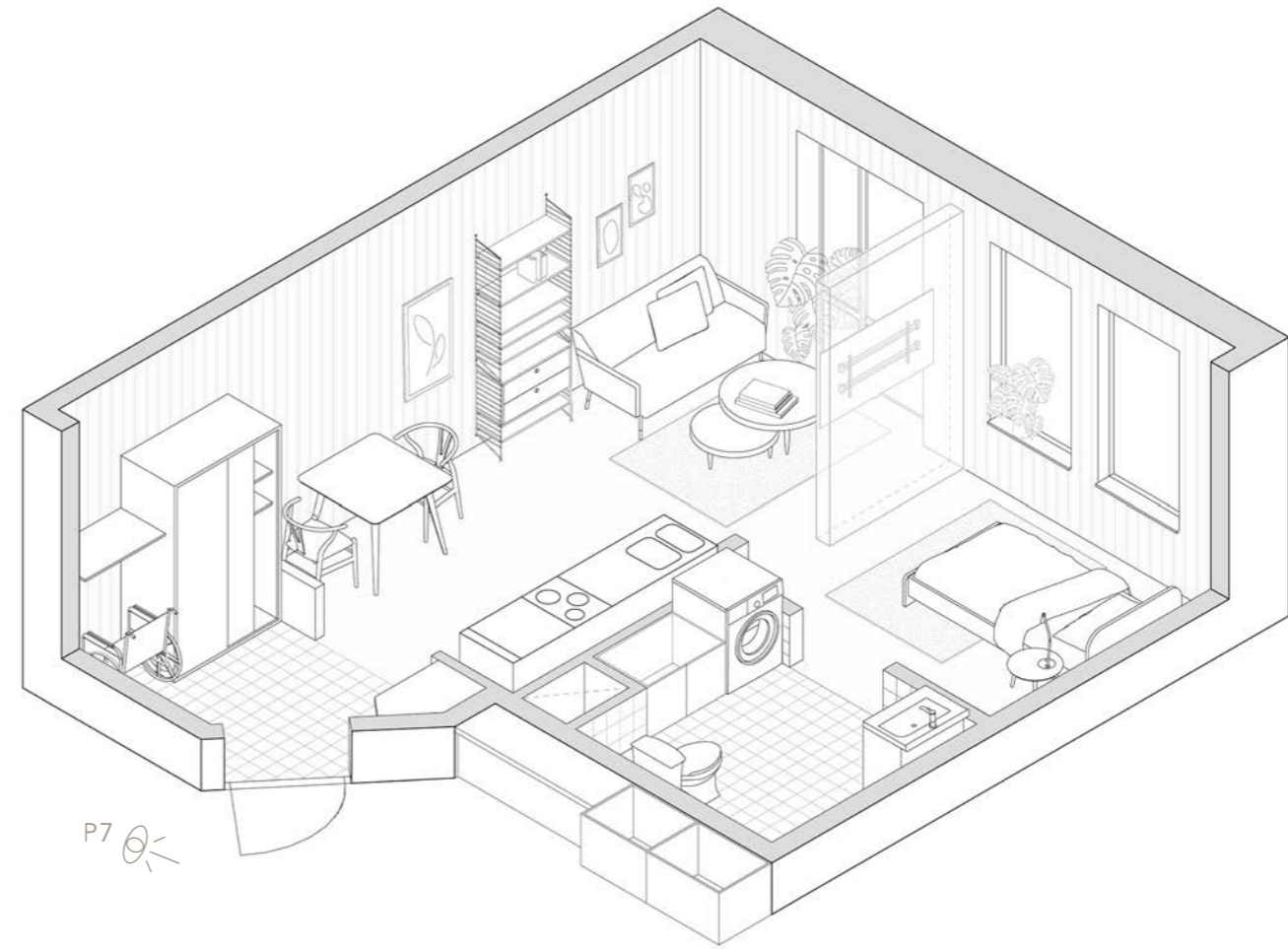
Zoning

A clear layout creates several rooms within the apartment. This makes it feel more like a home.

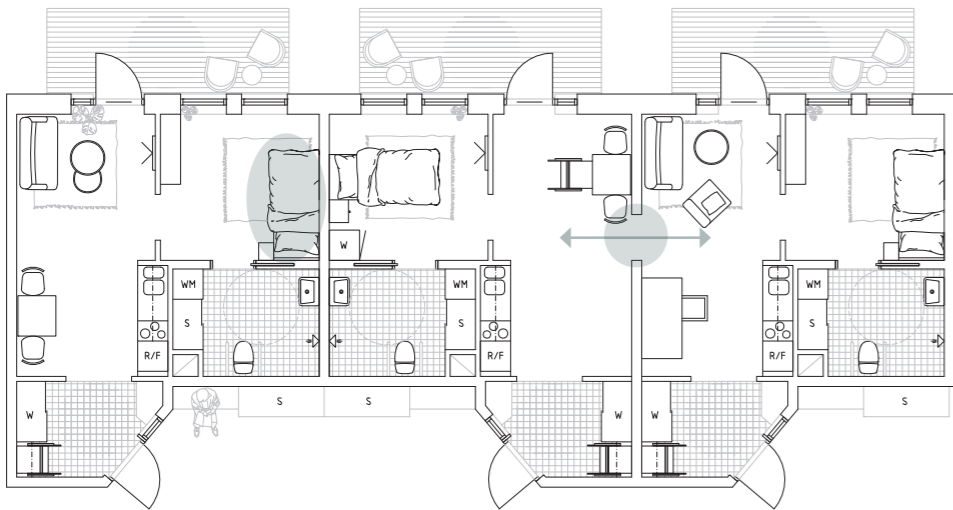


Storage

Integrated storage combined with unfixed cabinets and extra exterior storage makes it possible for the resident to bring personal belongings.



Axonometric perspective of the apartment



Furnishing

The possibility to rotate the bed creates a personalized caring situation for each individuals' needs.

Double apartment

The flexibility of opening up a passage between two apartments makes it possible for couples to live together.



P7: Exterior perspective of the apartment



Facade West



Facade South

Material and references

The facades have two different kinds of wooden panels and pigmented concrete to create a variation in the expression for a village-like feeling. The facades have horizontal dividers for readability and adapting to the surrounding buildings in Kärä, (see reference picture). The wooden panels are commonly used in the inner exteriors, on terraces and in the atriums.

Windows

The breast height of the windows in the apartments makes it possible for people sitting in wheelchairs or lying in bed to look out. The aim of the mullions is to link the expression of the windows and the balcony door together. The windows in common areas have a breast height to ensure a safe feeling for people suffering from dementia as ceiling-high windows can be confusing and create too much glare. All the windows have wooden frames to create a warm and organic feeling.

Ecological sustainability

To make the project more ecological sustainable the aim is to reuse the concrete from the existing building in our proposal. The glazed roof on the main entrance has integrated solar panels and thereby the angle on the roof for optimal sun absorption. Most of the flat roof has a sedum cover used by the insects living in the gardens, for a better biodiversity. The day water is gathered in a rain garden by the main entrance because that facade is facing the highest point of the site. The greenery would handle heavy rains, so the new proposal does not have the same problems as the existing building today.



Inspiration from different facades found in Kärä

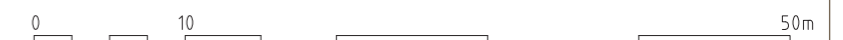


Example for variation in facade panel



Reference project for Kärä hems' facade expression.
SOA Architectes - Noisy Ecoquartier
Paris, 2018

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P3: Exterior perspective of big yard

Green areas

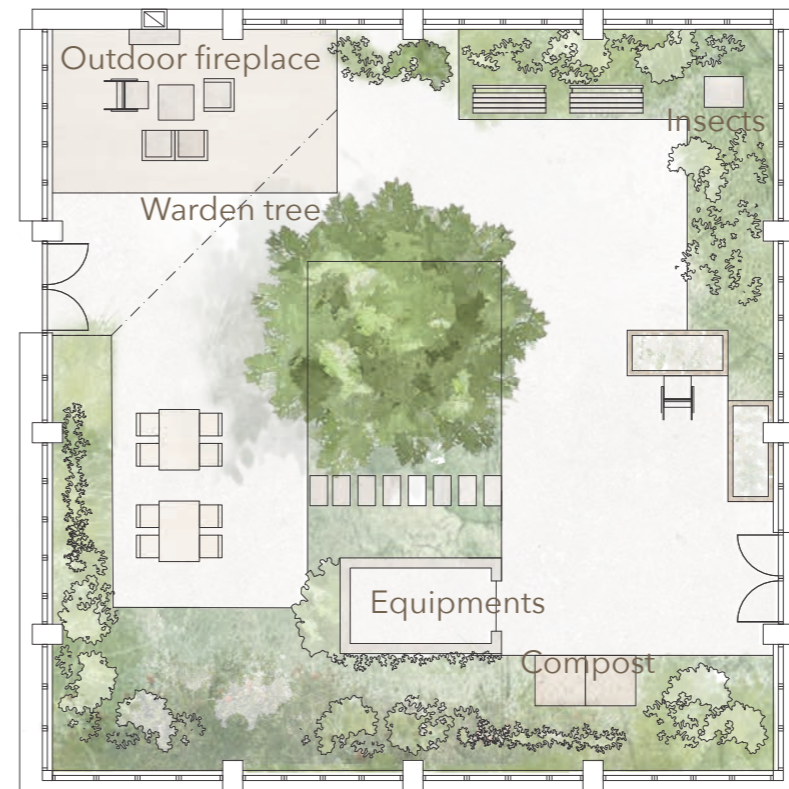
The outdoor spaces are divided into three different scales: the park, the yard and the gardens and terraces. The park on the eastern side of the facility is a public space that brings activity and life to the facility. The yard is surrounded by the facility building but is connected to the park. It serves as a green connection to different parts of the facility. The yard has different themes like Mediterranean, Japanese, and a Nordic with hens picking around. As the yard is surrounded by the facility the different activities in the building can move out under good weather conditions.

The small gardens in the unit's atriums are closed and safe environments. It has an outdoor fireplace, cultivation boxes, places to sit and an insect hotel. Units on the first and second floor have roof terraces instead, which also have their own fireplace, places to sit and cultivation boxes. In addition to that they have a good field of view over the bigger yard and the public park. The atriums are sheltered by a warden tree standing in the middle.



The warden tree

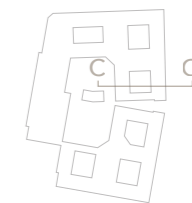
Traditionally the warden trees were old trees growing in farmyards in Sweden. They were believed to bring protection to the family home and save it from bad luck. The idea of bringing the warden trees into the project was to remind the residents of the seasons shifting and help them physically and spiritually connect with their surroundings. The tree's ability to reflect passing of time as well as continuity represents a constant core for each unit. The warden tree is also adapted in the building layout, where the trunk is the main entrance and the units are the branches.



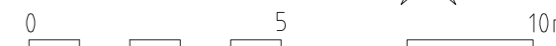
Floor plan of unit garden, 210 sqm



Section C - C



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Future visions for healthcare, housing and work 1:
Residential healthcare - housing for seniors

Autumn 2021 project:
Dementia Village in Kärra

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