



VIVID CORE

A new primary care center in Vadstena

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Task

The task is to develop a new Primary Care Center in Vadstena, Östergötland County. The Primary care center serves almost 7500 patients around Vadstena and is today located in an older building not suitable to modern standards.

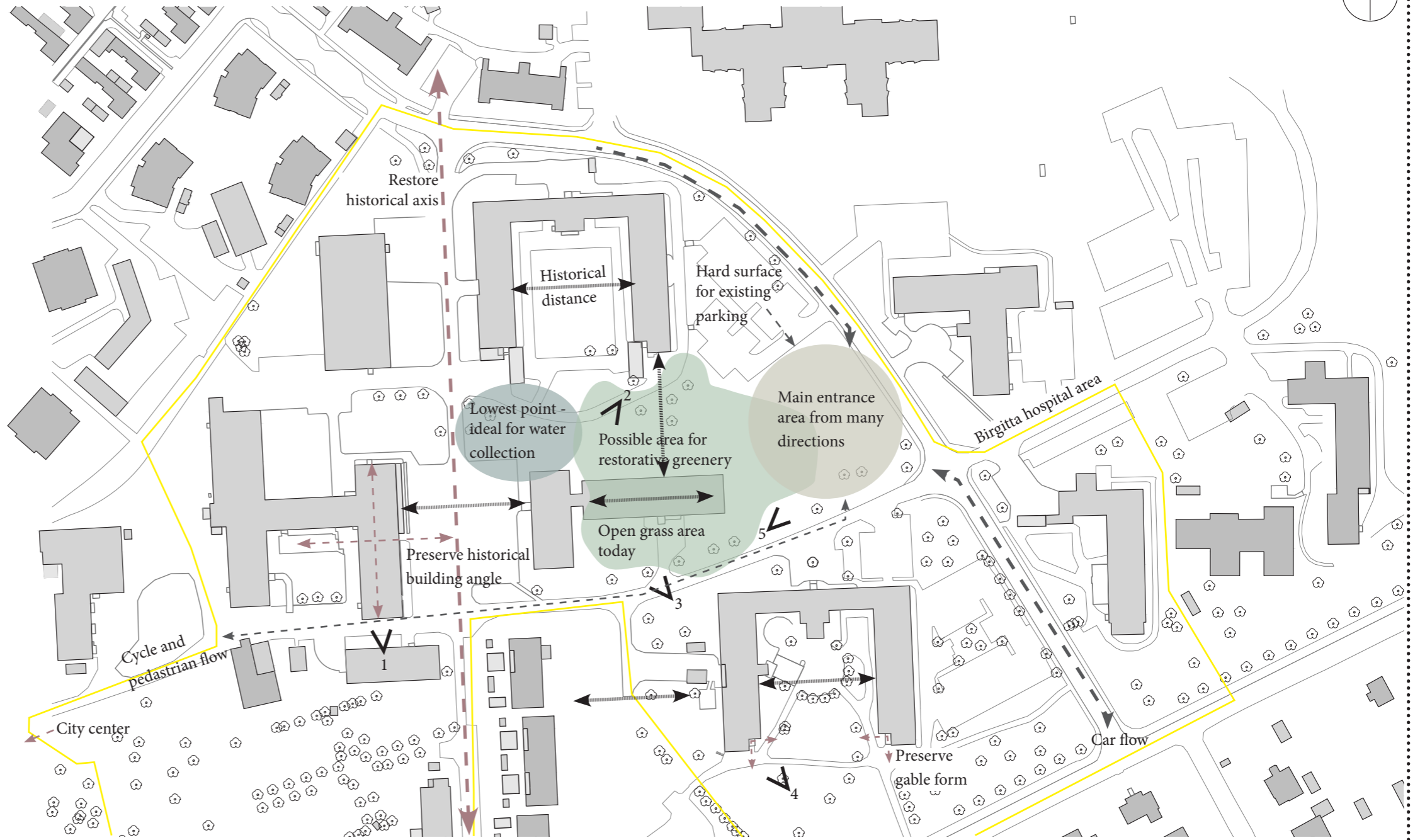
The site is located within an old historical area called Birgitta hospital area where buildings have been built since the early 1900's. From the municipalities side, one of the buildings are planned to be demolished and the other, next to the square, can be kept as part of the new healthcare building. However, an actual proposal is under development.

The Primary care center is planned to be 3000sqm BTA and include a Primary care center, Dentist, Child care, Family center and support functions. It is also required to plan for a 500sqm extension of the building for an inpatient care unit. However, the extension is not required to be detailed in the drawings but showed in the site plan/floor plans as a possible extension area.

The Primary Care center has almost 160 patients visiting per day and 37 staff including nurses, doctors, and dentists are working there.



Site analysis



Site pictures



1 The buildings in the area have painted or slammed yellow walls with red brick underneath

2 The grey "socket" is characteristic for the area also the white window frames

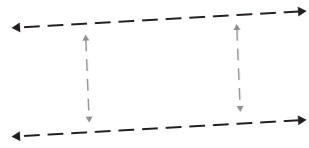
3 Another characteristic feature is the red roof-tiles and simple/strict window placement. The buildings are also placed like buildings in park, all with the same angle where existing roads follow their own rules.

4 The U-shaped buildings have these smaller gables.

5 The green areas today only consists of older trees and large grass areas.

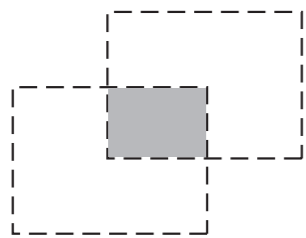
Design strategies

Brief and logistics



Flows

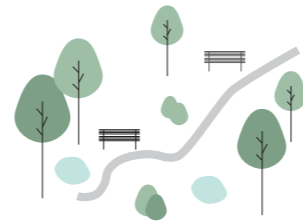
Creating separated external entrances so visitors can easily orientate themselves before entering the primary care center. Design for internal flows for staffs and patients that facilitate their work efficiency and reduce the likelihood of conflict between patients and staffs.



Shared administration

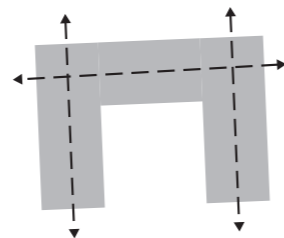
According to the latest research, almost 20% of the doctors/ nurse's administrative work is today done at home. Open workspace instead of personal offices is more efficient as the desks are used by different people during the day. In the administration department, staffs share the open-plan office, which facilitates work efficiency and information exchange, thereby creating a more harmonious and inclusive work environment.

Site and context



Park

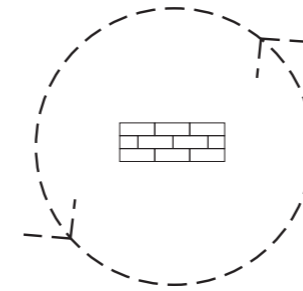
Today, the surrounding of the existing buildings with grass and trees results in an uncertainty if it is allowed to enter the area. By designing a park, the area will be more open and inviting to public. It will also serve as a recreational area with positive effect on creatures and provide views for the primary care center.



Heritage

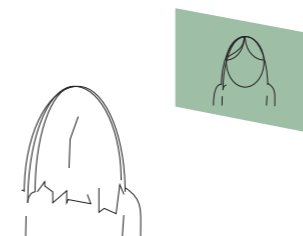
The surrounding buildings in the Birgitta area are all orthogonal with a 3° rotation comparing to north/south and east/west direction. To fit in the local context, new building is supposed to follow this direction and speak the same language as the existing ones.

Sustainability and future proofing



Local and sustainable materials

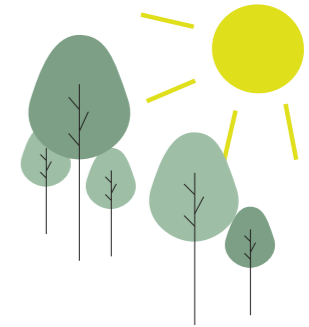
The old bricks will be reused in the new building together with new materials that are mainly produced near Vadstena. The building will also challenge possible unsustainable materials, but it will be important to keep the connection to the heritage of the site.



Digital healthcare

Since there are many elderly in Vadstena, it is beneficial for patients to talk to specialist doctors in other cities through digital platforms. There are special digital rooms in the primary care centre where staff can help elderly with the technique. There will also be smaller telephone and meeting/ conference rooms for the staff to have consultation and meetings with patients or colleagues from other cities.

Health promotion and EBD



Green spaces and a lot of daylight

Greenery and daylight are beneficial for the health and well-being of staff and patients, including decreasing stress. Views of nature and a lot of natural light should be connected to the new building design.

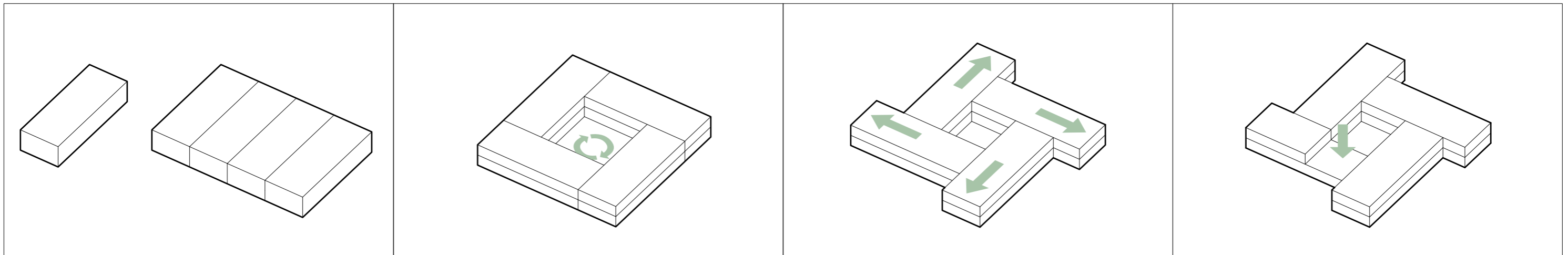


Water collection

Since the site is low in altitude meters (also very close to lake Vättern), it has a risk of inundation. It will therefore be important to create areas where water can be taken care of and work as a buffer for drought.



Building volume



3000sqm module volume

The building volume according to the brief was 3000 sqm. To connect the building to the existing site, we took the measurements of an existing volume on-site with square meters of almost 750sqm (on 2 floors). To get 3000 sqm, the volumes were added together in 4.

Integrated waiting area in the center

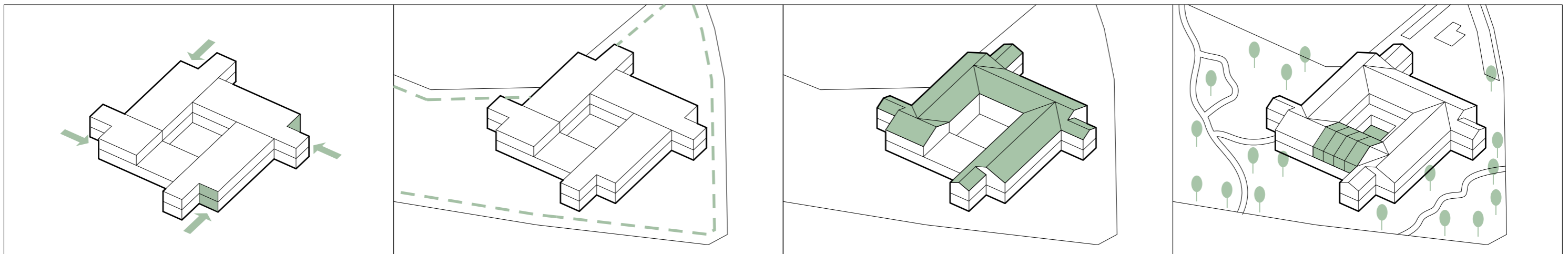
To create a centered waiting area with a lot of daylight and examination rooms surrounding it, the volumes were placed in a square position.

Stretch out the wings for a slimmer form

The wings were then stretched out to create short gables. This helps to break down the scale of the building and create a slimmer building form that connects to the surrounding buildings. It also enabled a division of the site that connected to our site analysis and client's brief.

Lower the floor for atrium lighting

The south part of the first floor was then removed to maximize the sun- and daylight within the atrium and waiting areas. This also helped with daylight in the functions surrounding the middle part of the first floor.



Gables like the surrounding buildings

To break down the scale and connect the building more to the surrounding buildings, we pushed in the corner façades. This also enabled a more private entrance for the ambulance and infection room.

Adjust building to site boundary

The building was then rotated and placed more precisely on the site within the 3° heritage building angle.

Pitched roof connected to heritage

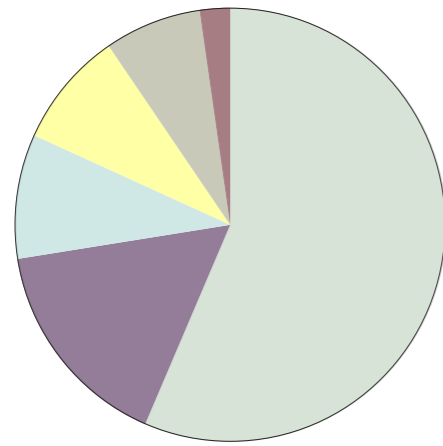
To connect the building to the site and heritage, a pitched roof was added and adapted to all the connections between the four volumes.

Greenhouse and context

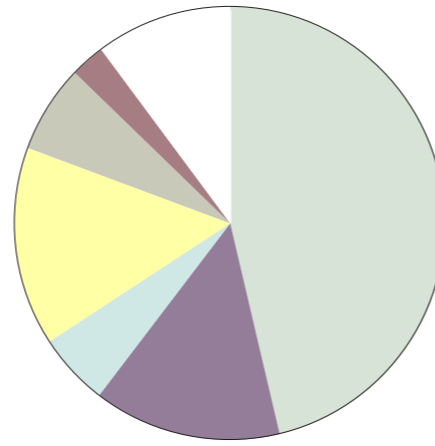
To longer the season for the usage of green areas and add a green context on floor one, a greenhouse was added in the south. This still allows a lot of daylight into the middle atrium and provides a more restorative environment for both staff and patients.

Brief

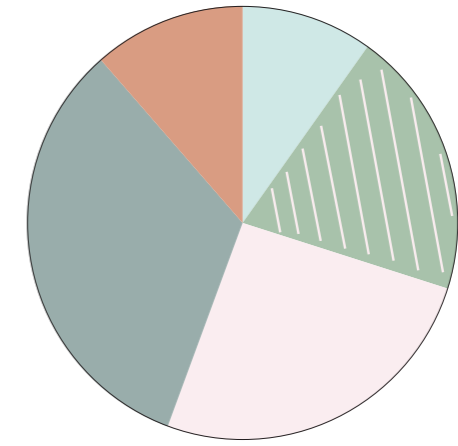
Programme diagrams



Before challenging the brief



New building



Existing building

- Primary care center 845,5 m²
- Shared/ staff rooms 130 m²
- Public dental care 240 m²
- Technical/ support space 109 m²
- BVC and family center 139 m²
- Emergency 34 m²

Total: 1497,5 m²

Multiply with factor 2: 2995 m²

- Primary care center 726,9 m²
- Shared/ staff rooms 233 m²
- Public dental care 221 m²
- Technical/ support space 103 m²
- BVC 85 m²
- Emergency 40,6 m²
- Greenhouse 160 m²

Total: 1409,5 + 160 m²

Total BTA: 2979 m²

The shared space have increased because all conference rooms have been moved to a common position for everyone to use

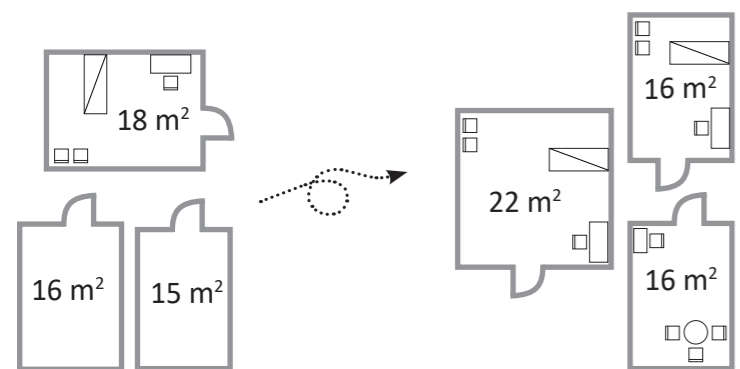
- Family center 69 m²
- Café 230 m²
- Open preeschool 140 m²
- Common functions 80 m²
- Musician school 180 m²

Total: 699 m²

Total BTA: 1152 m²

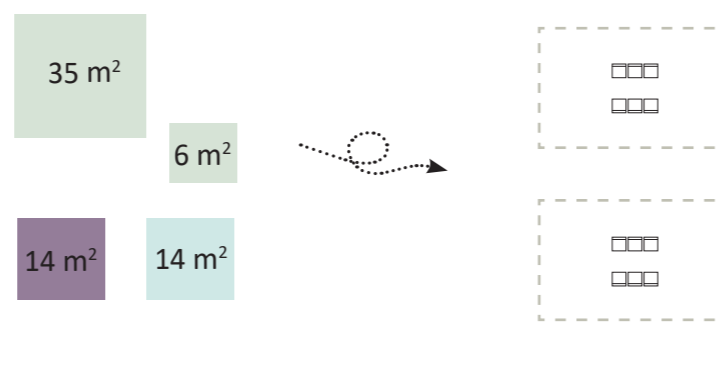
Flexible examination rooms

From the brief, the room sizes of the PCC examination rooms were changed from 18, 16, and 15 sqm to 22 sqm and 16 sqm. This creates more flexible rooms that can be used and changed for different types of functions depending on needs.



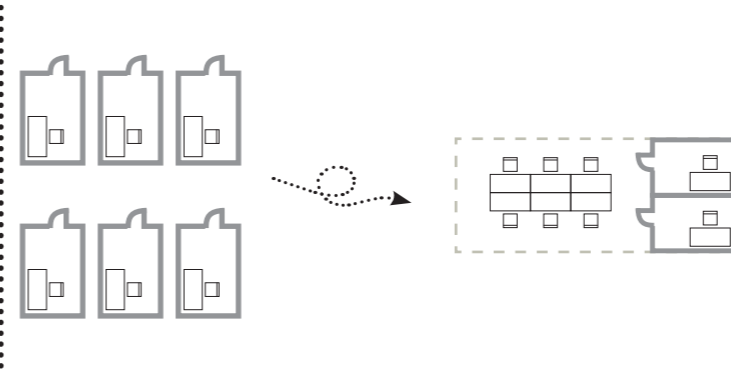
Common waiting areas

Combining waiting areas saves both space and creates neutral environments for all patients.



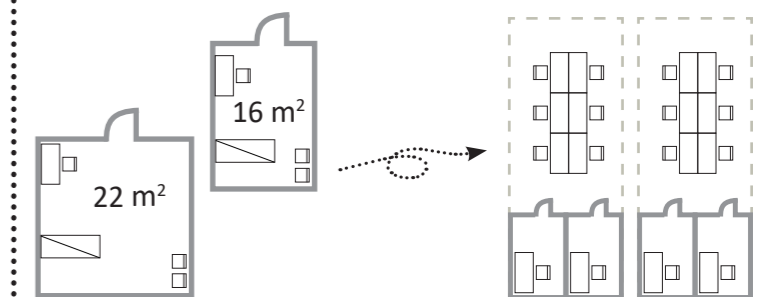
Open administration

Administrative work has been moved from one or two people offices to a more open workspace with smaller telephone and meeting rooms and the administrative work within the examination rooms has been moved to a shared space.



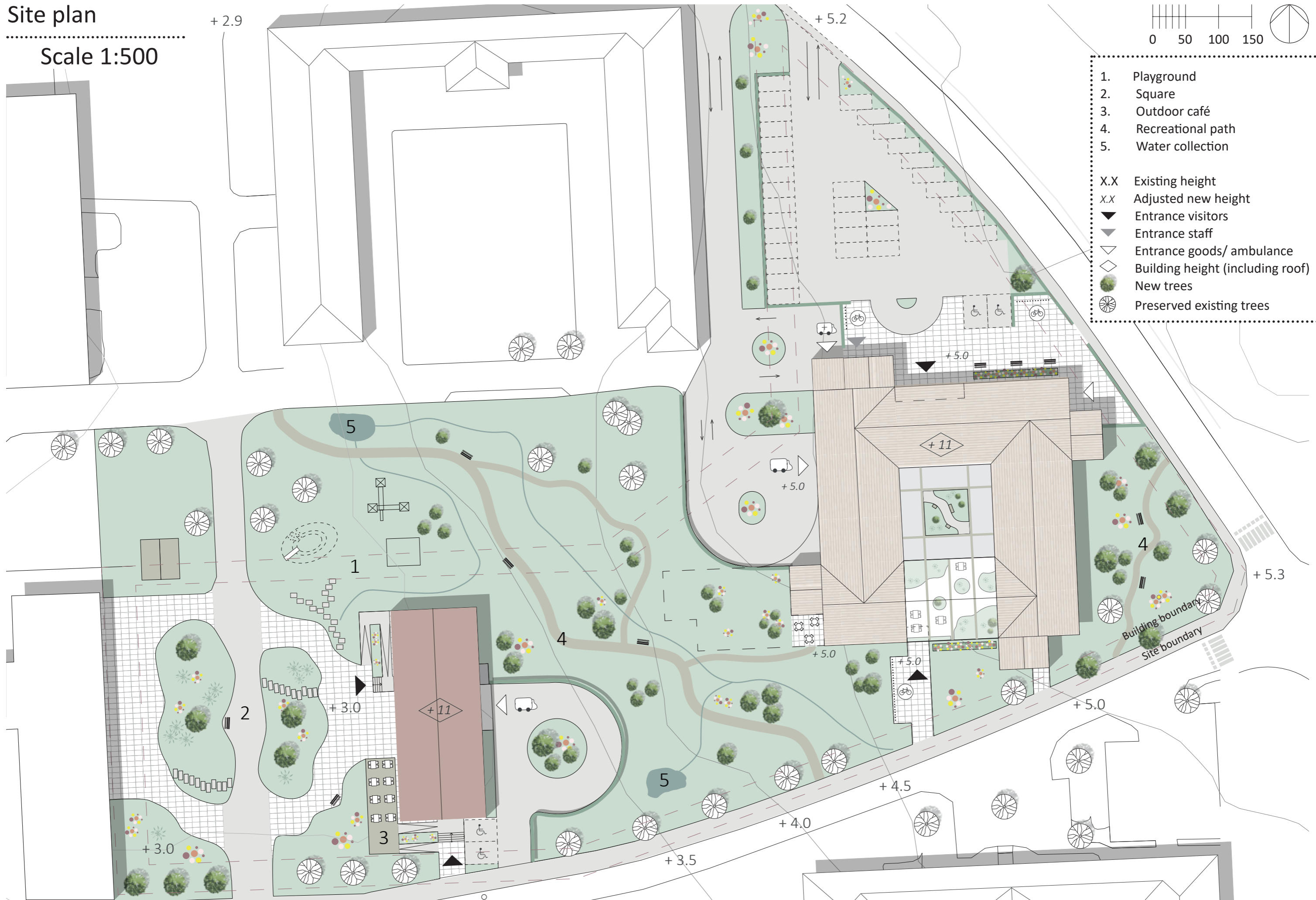
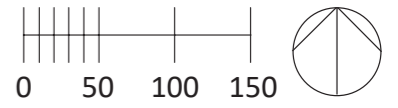
Administration in shared space

Almost 50% of the staff's workload is administrative work. To create a more flexible space and increase the usage of the examination rooms, administrative work has been moved from the rooms and gathered in a shared space for both doctors and nurses. This solution, among the previous, has allowed us to decrease the number of examination rooms from 26-21.



Site plan

Scale 1:500



- 1. Playground
- 2. Square
- 3. Outdoor café
- 4. Recreational path
- 5. Water collection

- X.X Existing height
- x.x Adjusted new height
- ▼ Entrance visitors
- ▲ Entrance staff
- ▽ Entrance goods/ ambulance
- ◇ Building height (including roof)
- New trees
- ⊗ Preserved existing trees

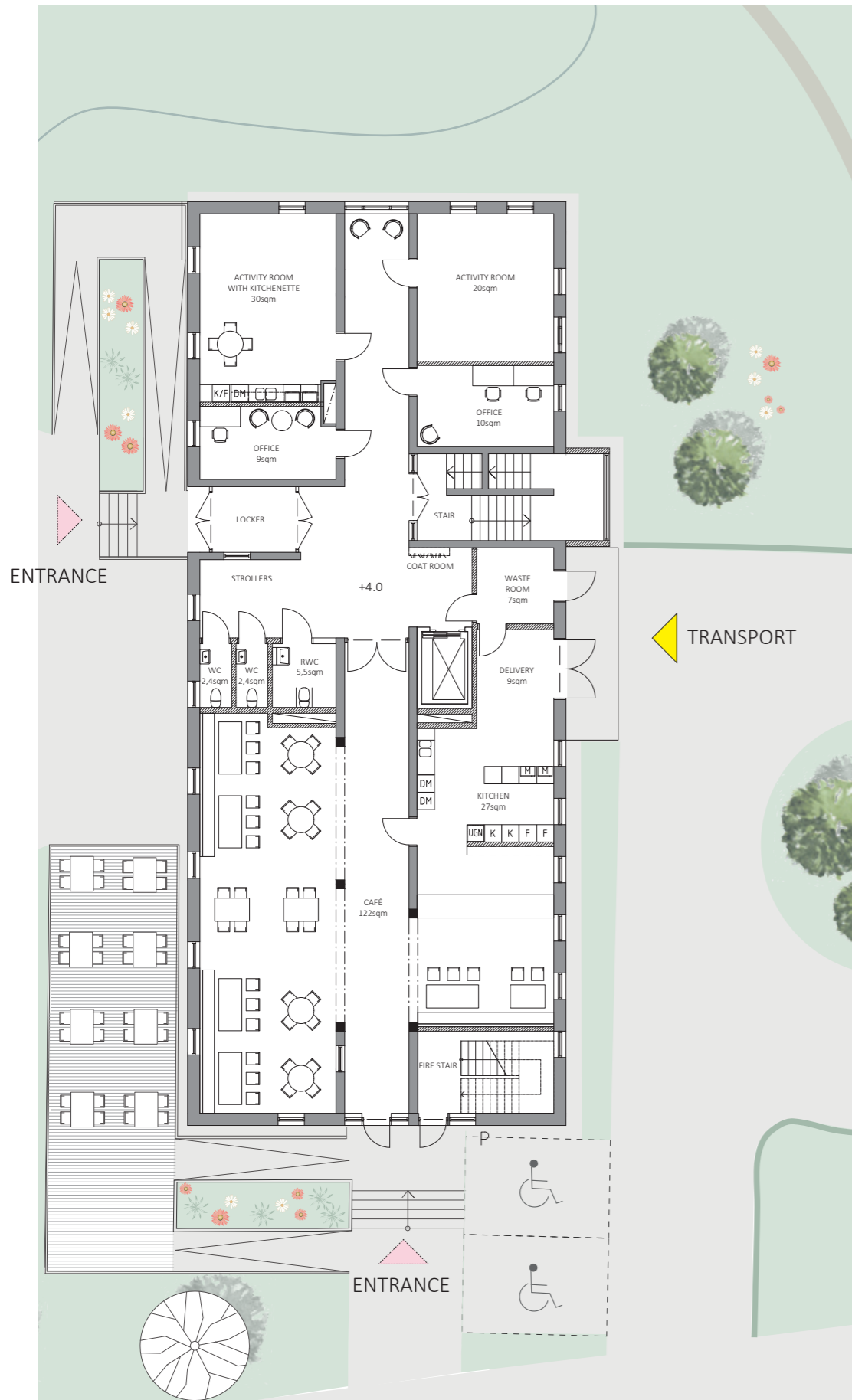
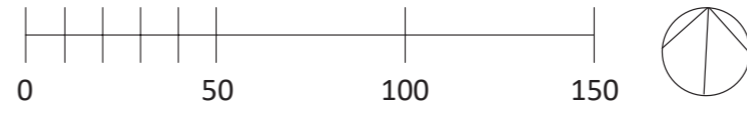
Exterior perspective

Bird view



Floor plans, existing building

Scale 1:200



Ground floor

The existing building will mostly remain as it is today except for some minor changes in the interior structure and functions. The musician school will be kept and added functions are an open preschool, café, and a family center. The family center is moved from the PCC to here to create a more neutral environment for them. They could also be connected and collaborate with both the open preschool and the musician school within the building. Since the open preschool and musician school can have different hours of usage, their premises are shared on floor 1. If the musician school is open when the preschool is open, they have additional rooms on the same floor.

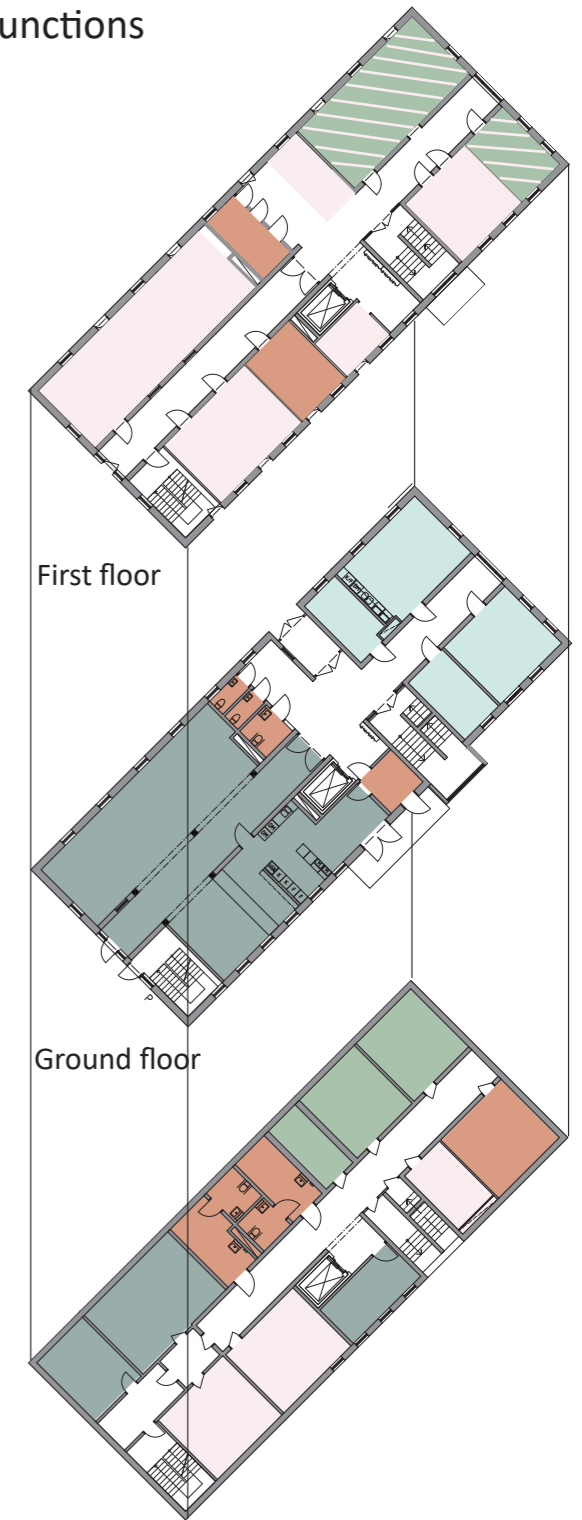
— Existing wall
 ▨ New wall



Basement

First floor

Functions



Basement

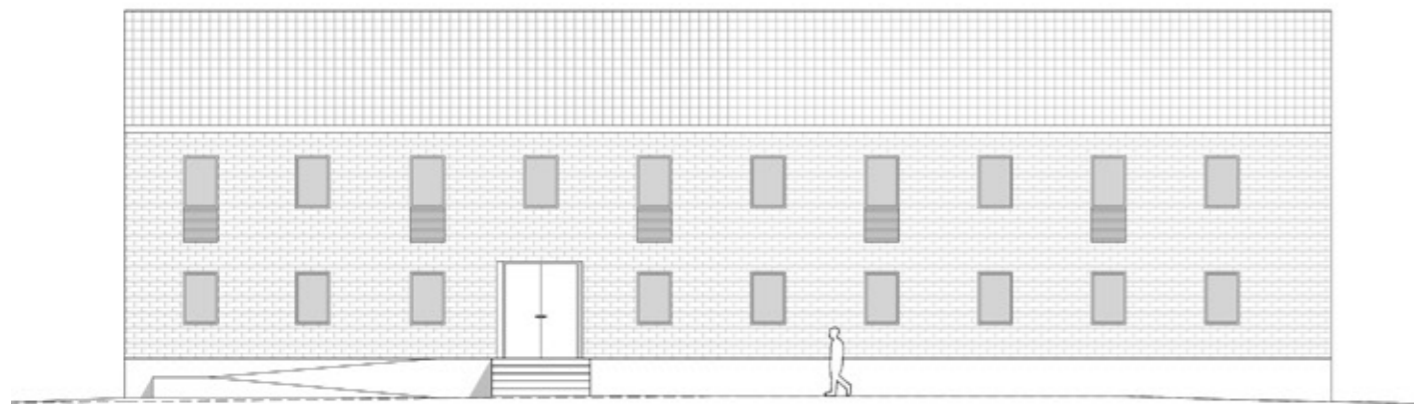
- Family center
- Open preschool
- Musician school
- Café
- Common functions

Facades

Scale 1:200

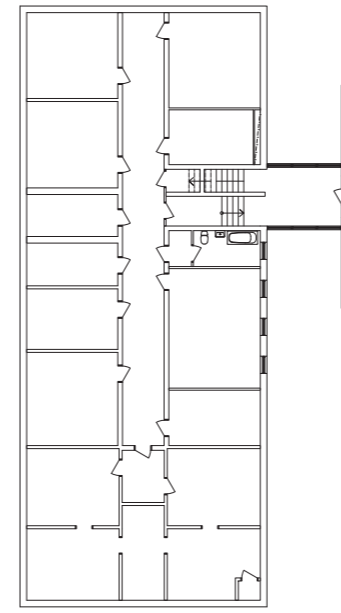


East

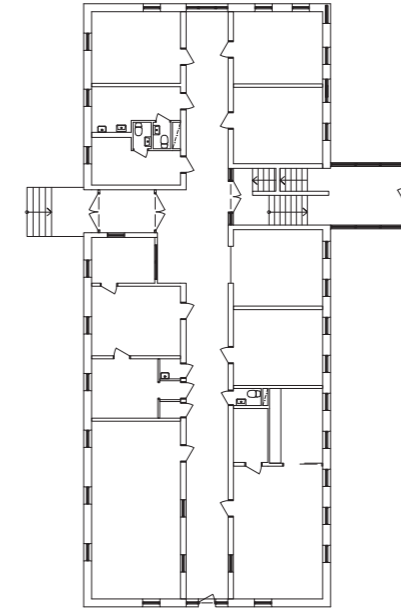


West

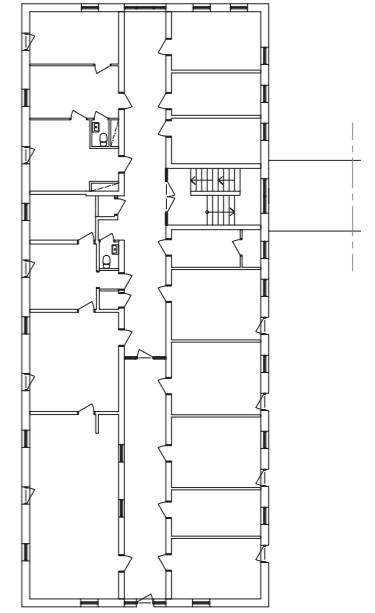
Original drawings



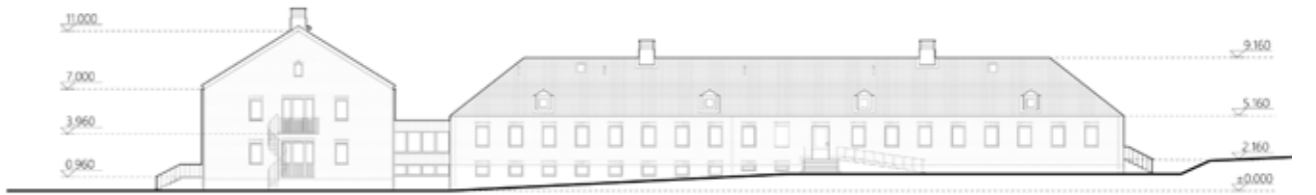
Basement



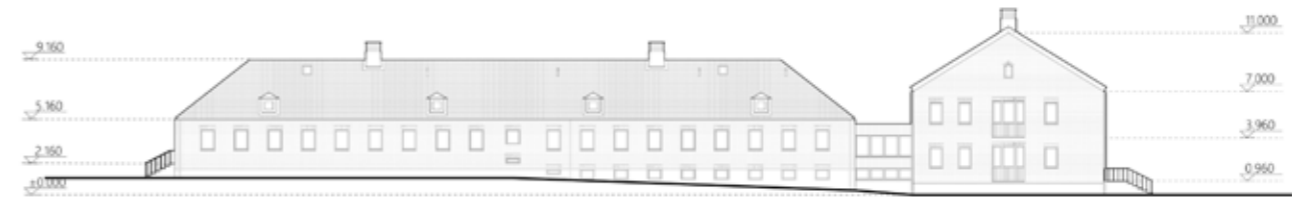
Ground floor



First floor



South



North



East

West

Ground floor
Scale 1:200



Staff flow

Staff enters through the staff entrance in the north, collecting their clothes from the linen storage nearby, and then taking the elevator or stair to the first floor. When going home, they leave the dirty clothes in the laundry room near their entrance/exit.

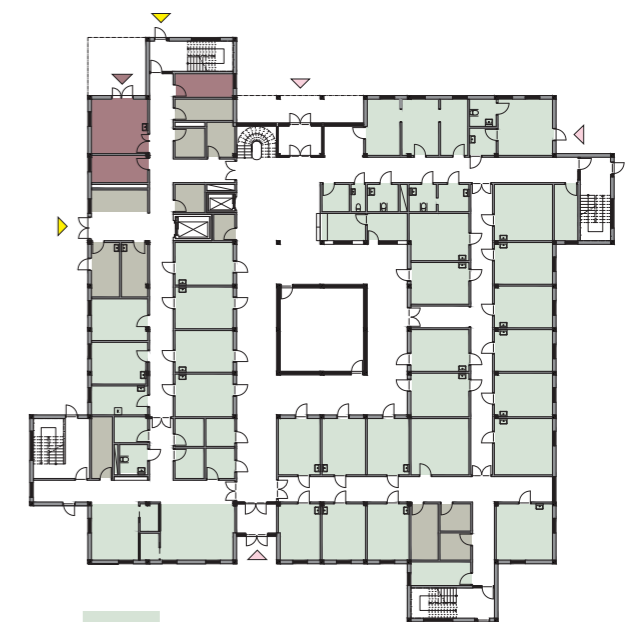
Patient flow

Patients can enter from both the north (main entrance) and south (smaller entrance). The visitor to the primary care center can either register digitally or go to the reception in the north. Then, they sit in the waiting room and either get picked up by a doctor for an examination or are called into one of the examination rooms connected to the waiting area. Patients for BVC, psychosocial, and dentist take the stair or elevator to the first floor.

Goods flow

Goods enter from the west side of the building directly connected to all the main storage/supply, garbage, and cleaning rooms. From these rooms, the goods are then transported further in the building to local storage or supply rooms. Goods for the first floor are transported with the goods elevator.

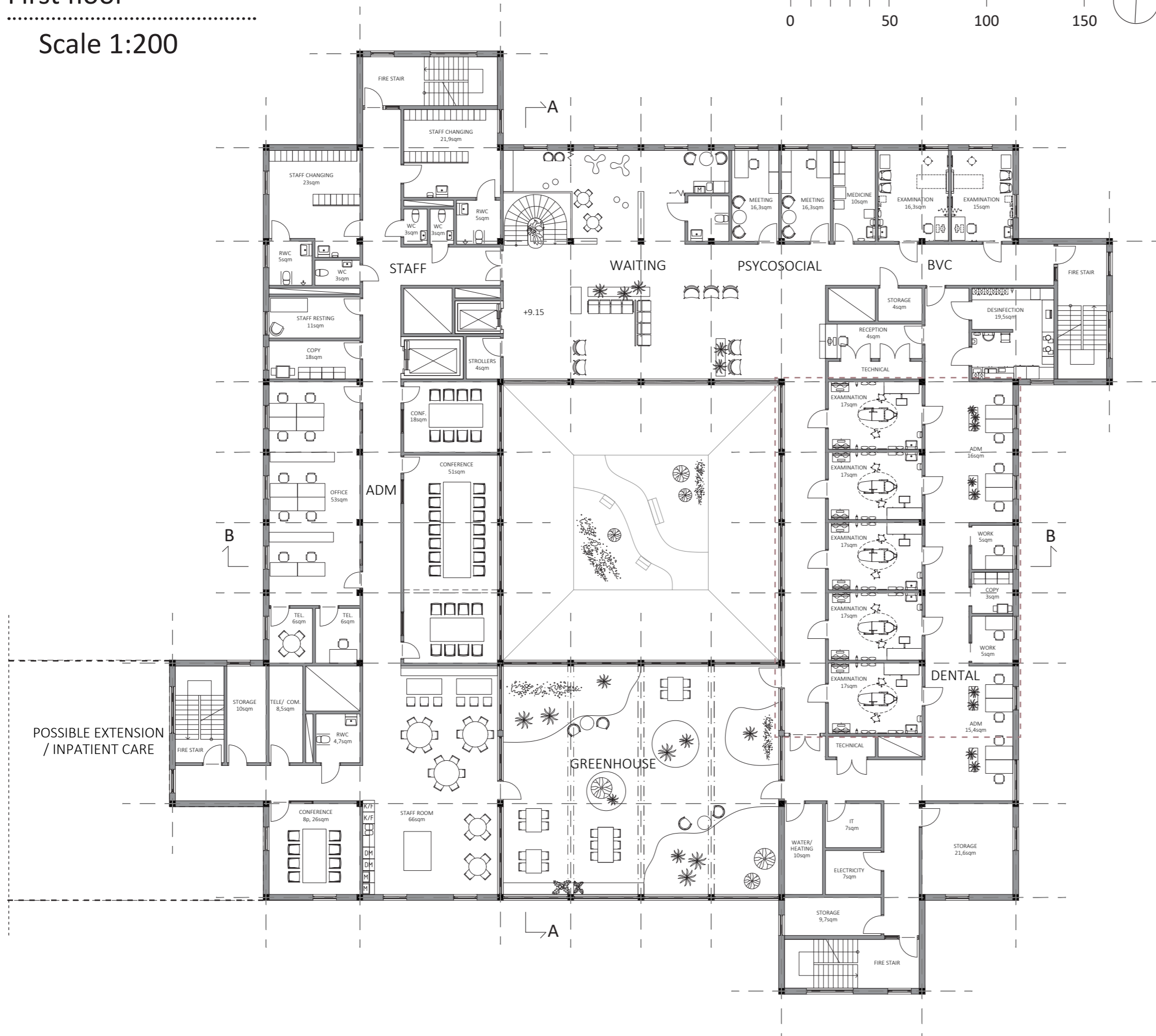
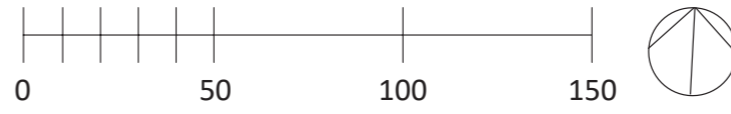
Functions



- Primary care
- Emergency
- Technical/ support space

First floor

Scale 1:200



Staff flow

From the elevator or stair, the staff enter and change in one of the changing rooms, they can leave their lunch in the kitchen and then go to their administrative offices.

Patient flow

The patients arrive from the main elevator or stair and directly enter their waiting room. They can either register digitally or the dentist reception can help them. As a visitor to the BVC or psychosocial, you get picked up by a doctor/nurse/psychologist and as a visitor to the dentist department, you enter directly into the examination room after getting called.

Goods flow

The goods are transported from the elevator to a nearby storage or supply room and vice versa.

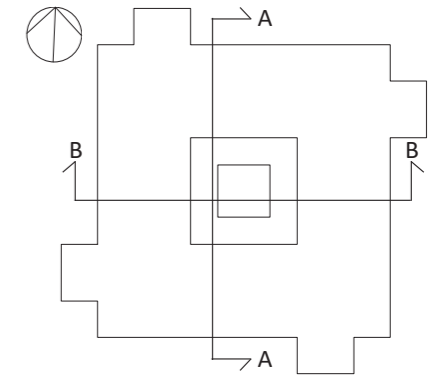
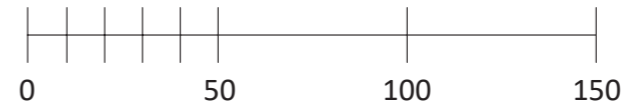
Functions



- Primary care
- Technical/ support space
- Dental care
- Child care
- Shared/ staff rooms

Sections

Scale 1:200



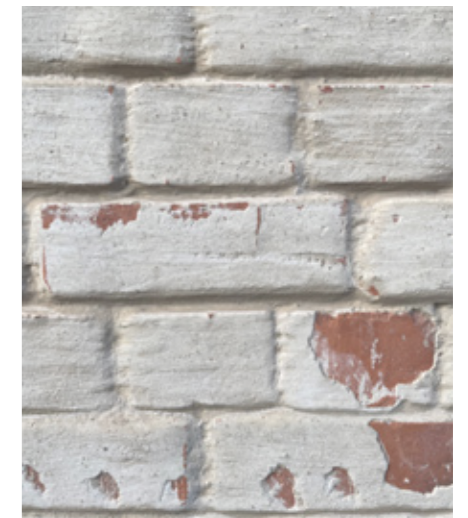
A-A



B-B

Resused bricks

Bricks from the demolished building will be taken care of and used inside the atrium in the new building where they will act as the skin there. The bricks are covered with cladding from the old house, this will be removed, and then the bricks will be painted in a lighter color within the atrium.



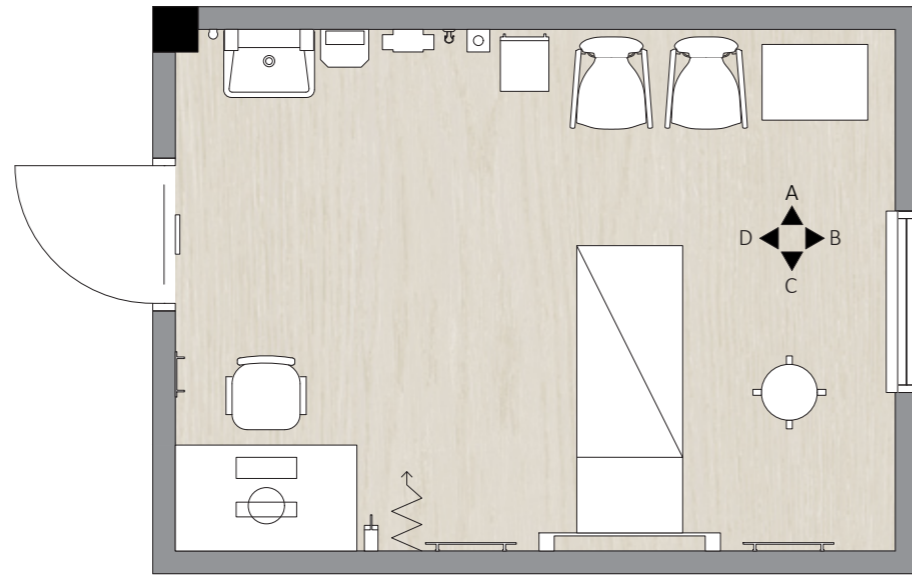
Interior perspective

Atrium



Examination room

Scale 1:50



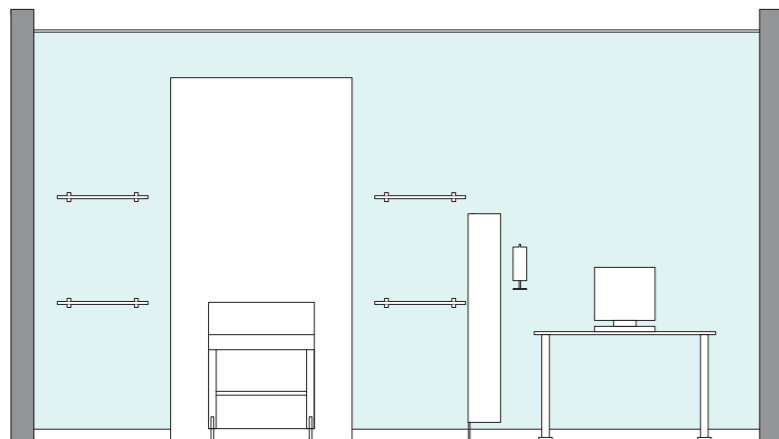
Functional room, floorplan



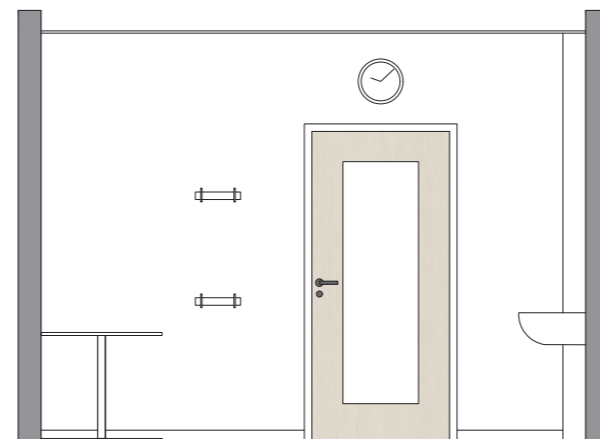
View A



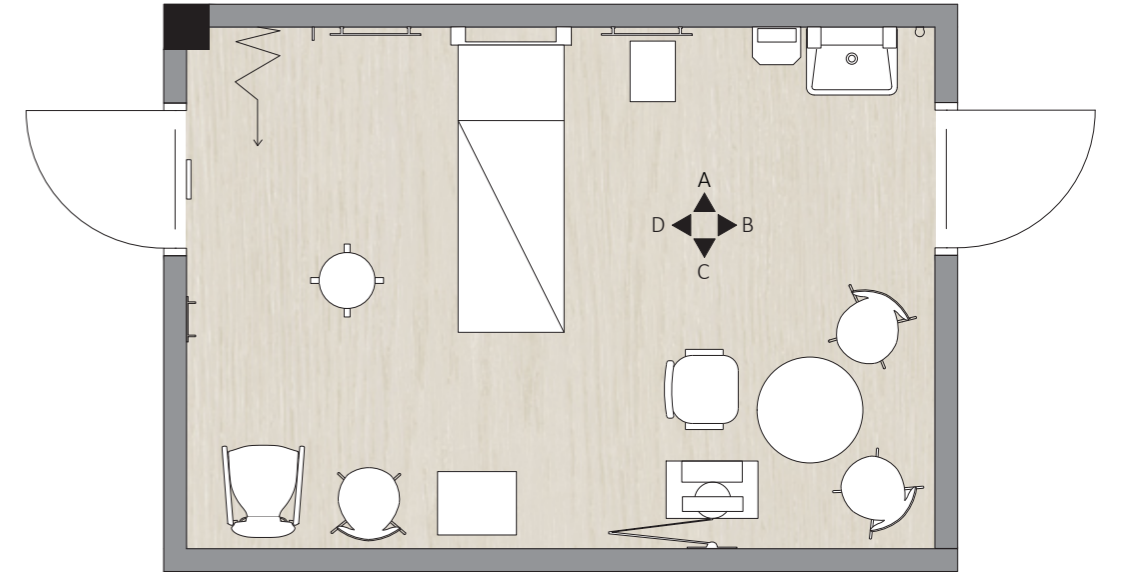
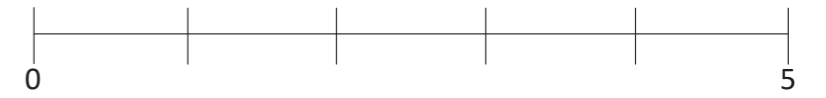
View B



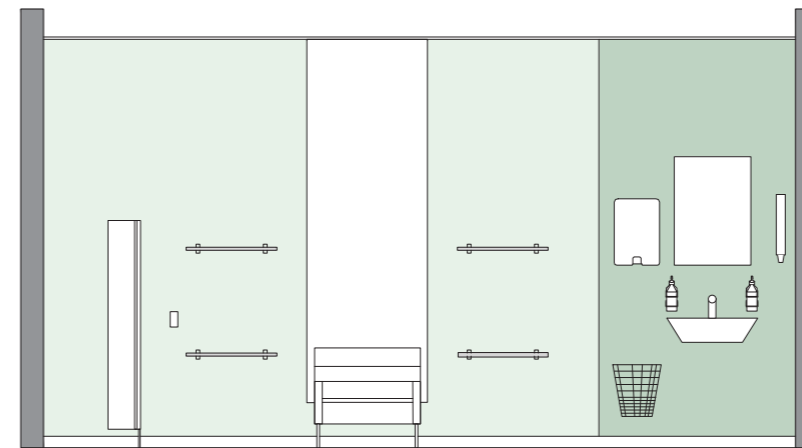
View C



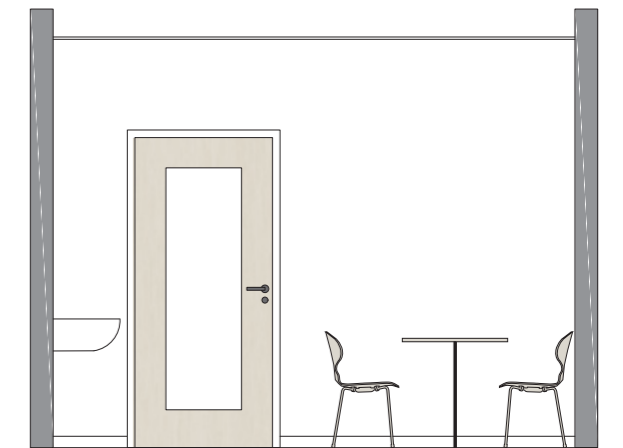
View D



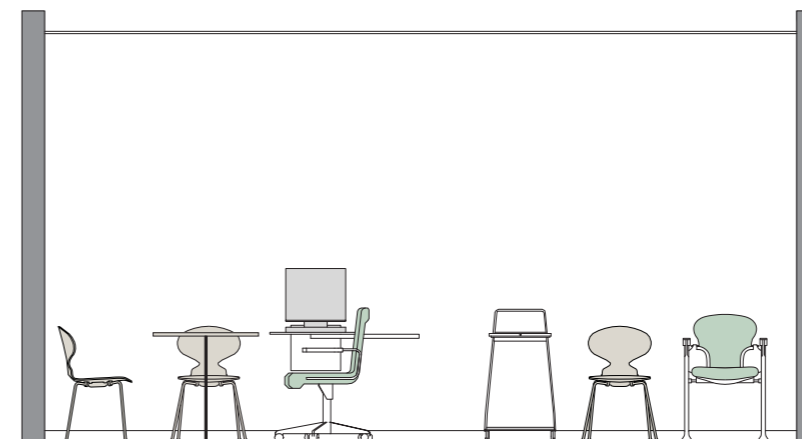
Conversation room, floorplan



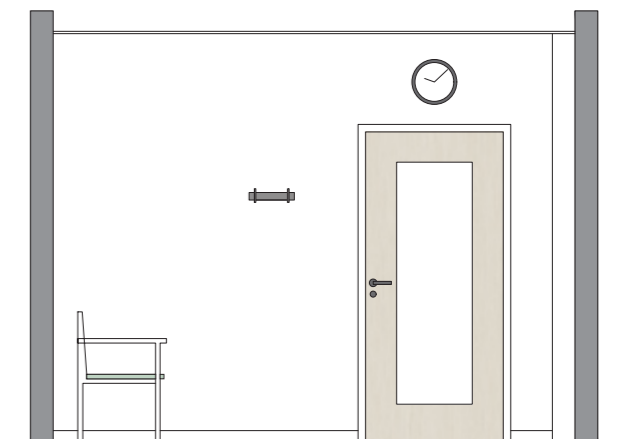
View A



View B

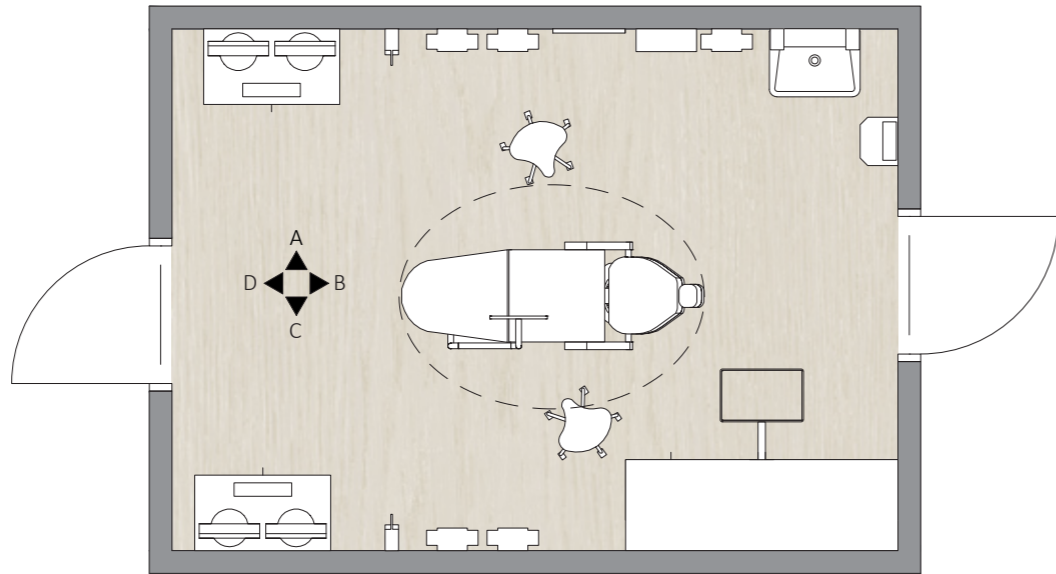
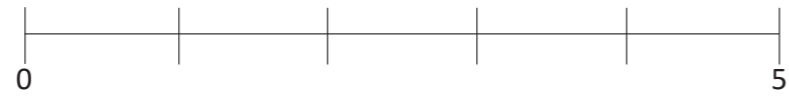


View C

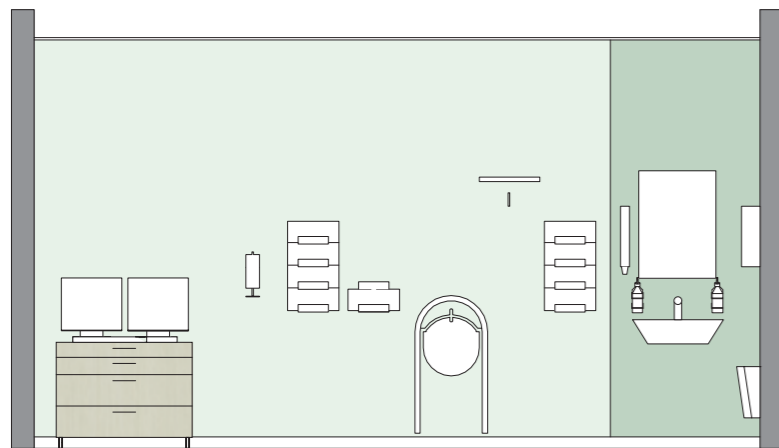


View D

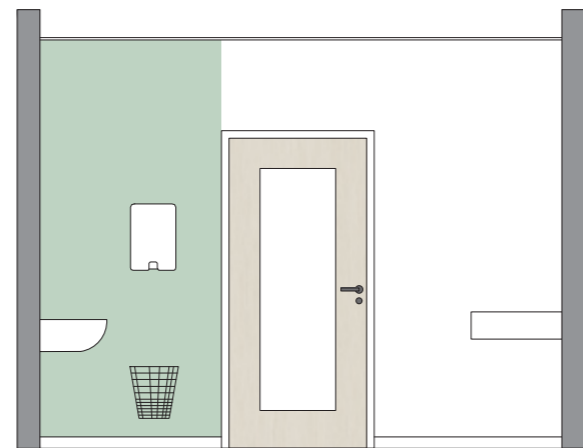
Examination room
Dentist, Scale 1:50



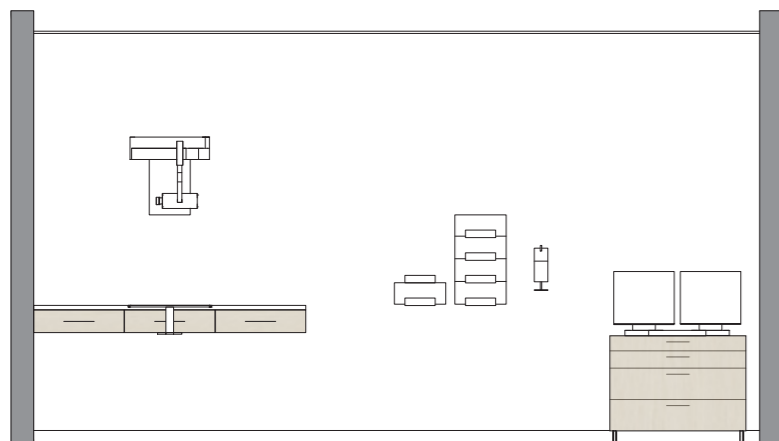
Floorplan



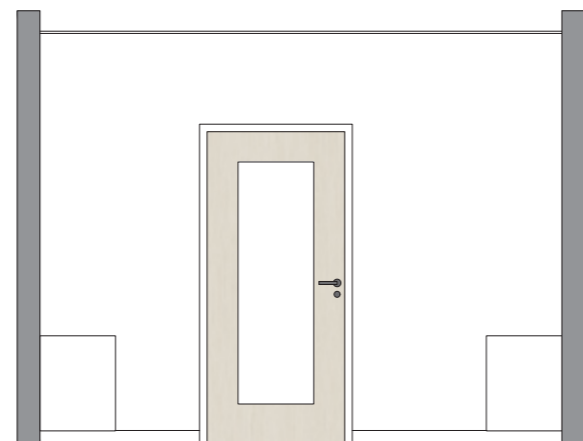
View A



View B



View C

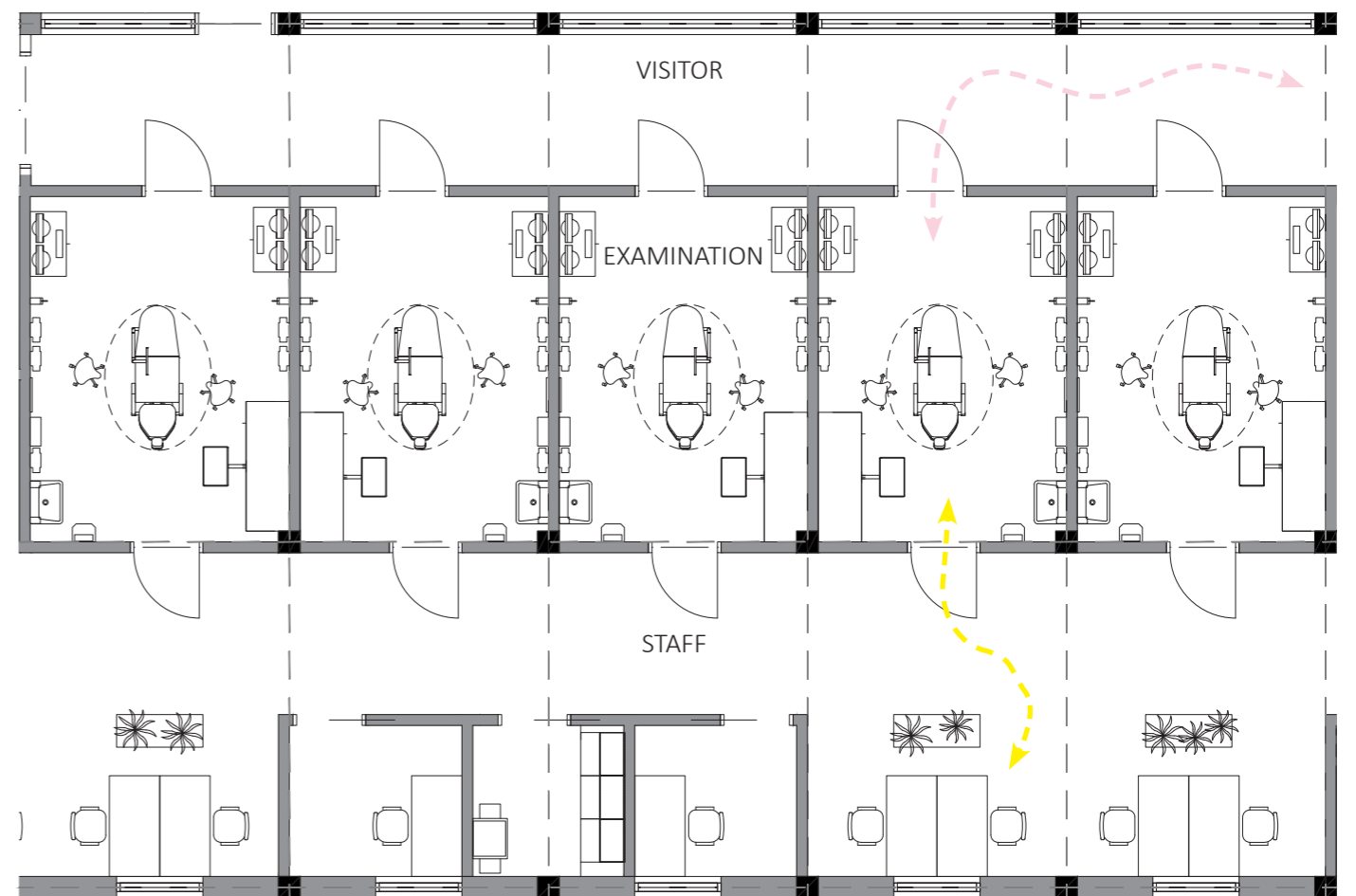


View D

Interior perspective from dentist waiting room



Inzoomed floor plan, part of dentist department



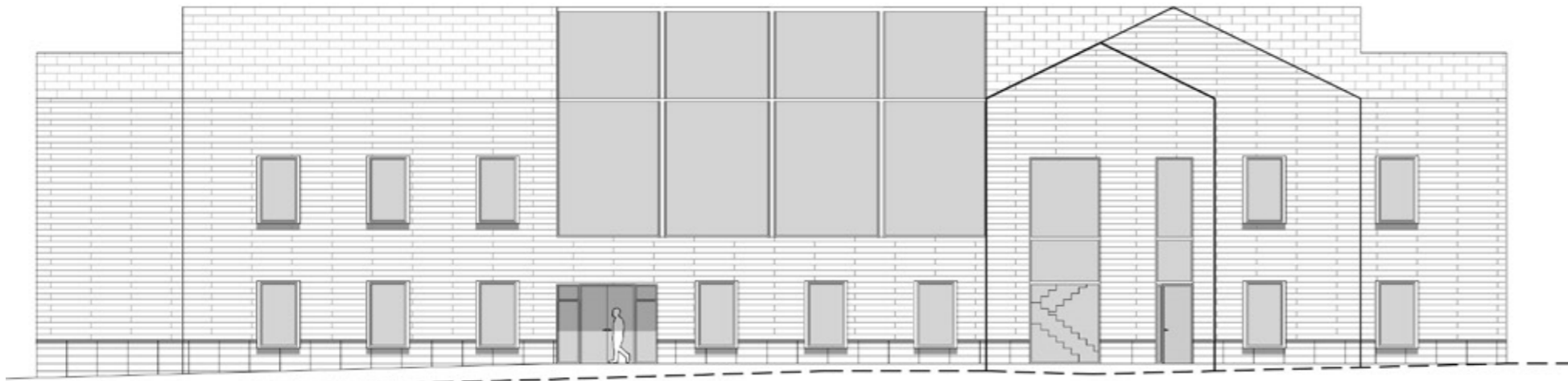
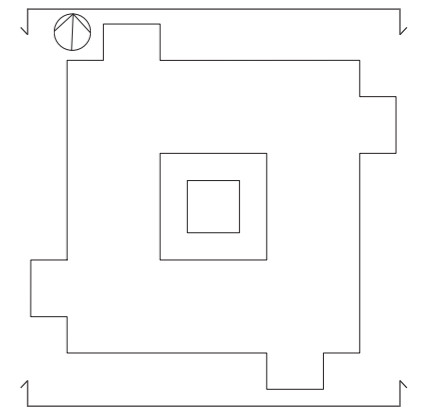
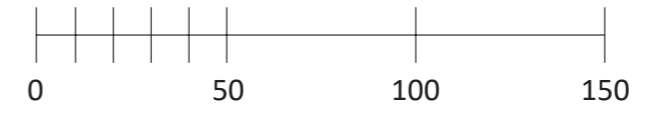
Interior perspective

View of dentist corridor



Facades

Scale 1:200



South

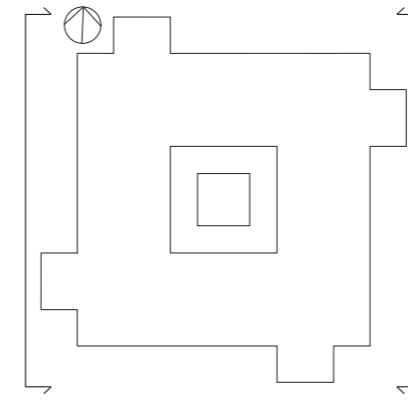


North



Facades

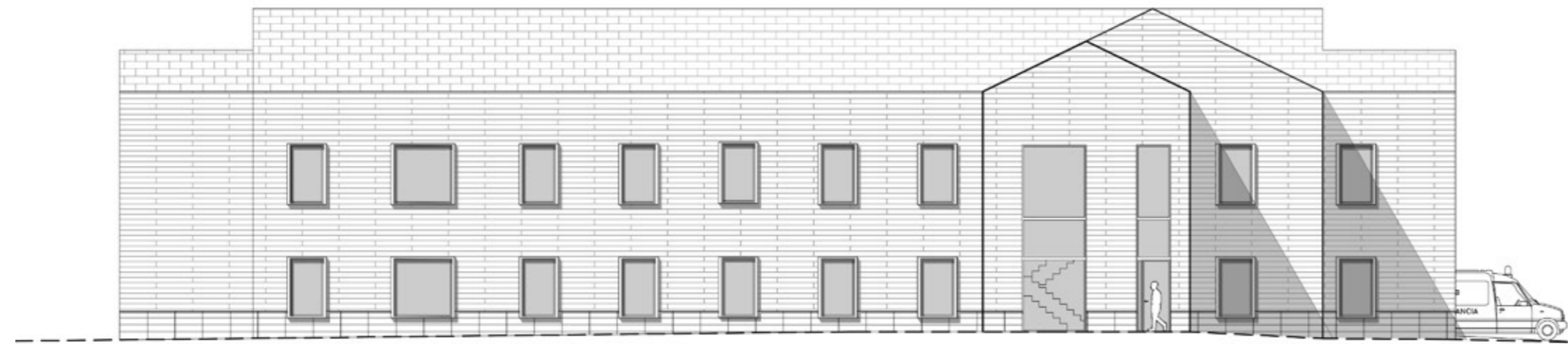
Scale 1:200



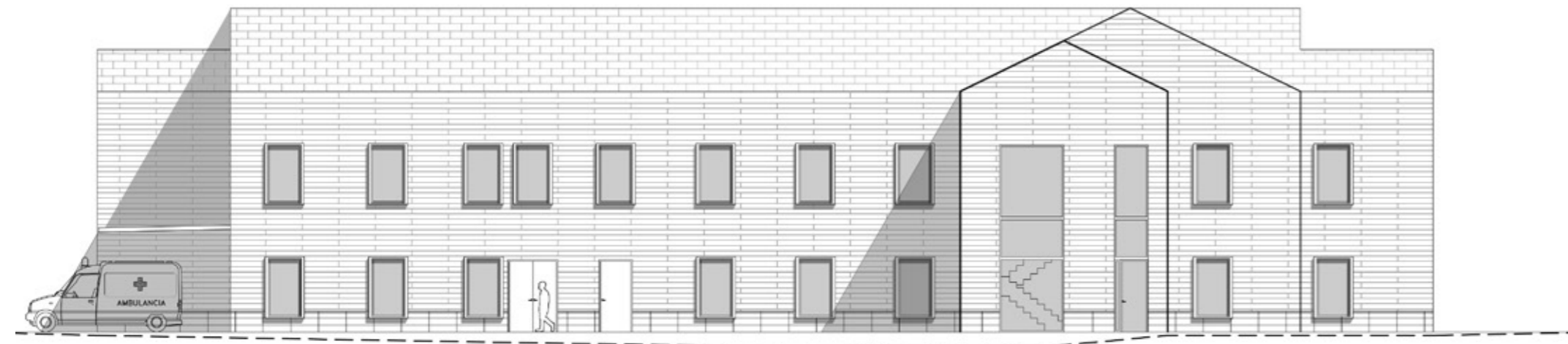
Facade materials

To connect the new building with the context, the façade material is light yellow/ grey bricks with a grey limestone sockel. The limestone is chosen for its local connection and production and for its grey color that can function as the heritage building sockel in a modern way. The windows are strictly placed within the building grid which creates a common language with the existing building facades on-site. They all have white window frames that connect to the heritage language.

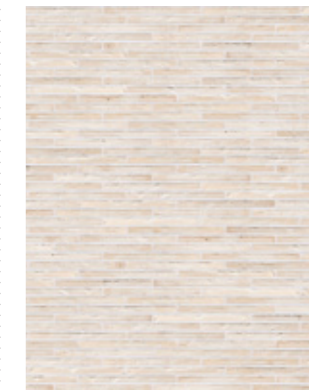
To separate the new and old, the windows have received a brick frame with a slightly darker brick that creates shadows and frames the window on the new building. It is also a way of integrating automatic solar blinds without them sticking out on the façade. Another modern feature is the brick roof tiles in the same color as the façade and the high windows on the gables.



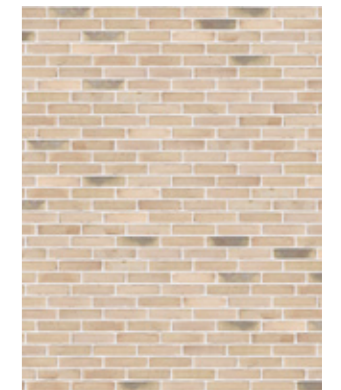
East



West



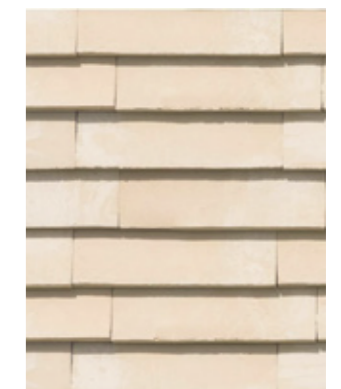
Facade brick



Window frame brick



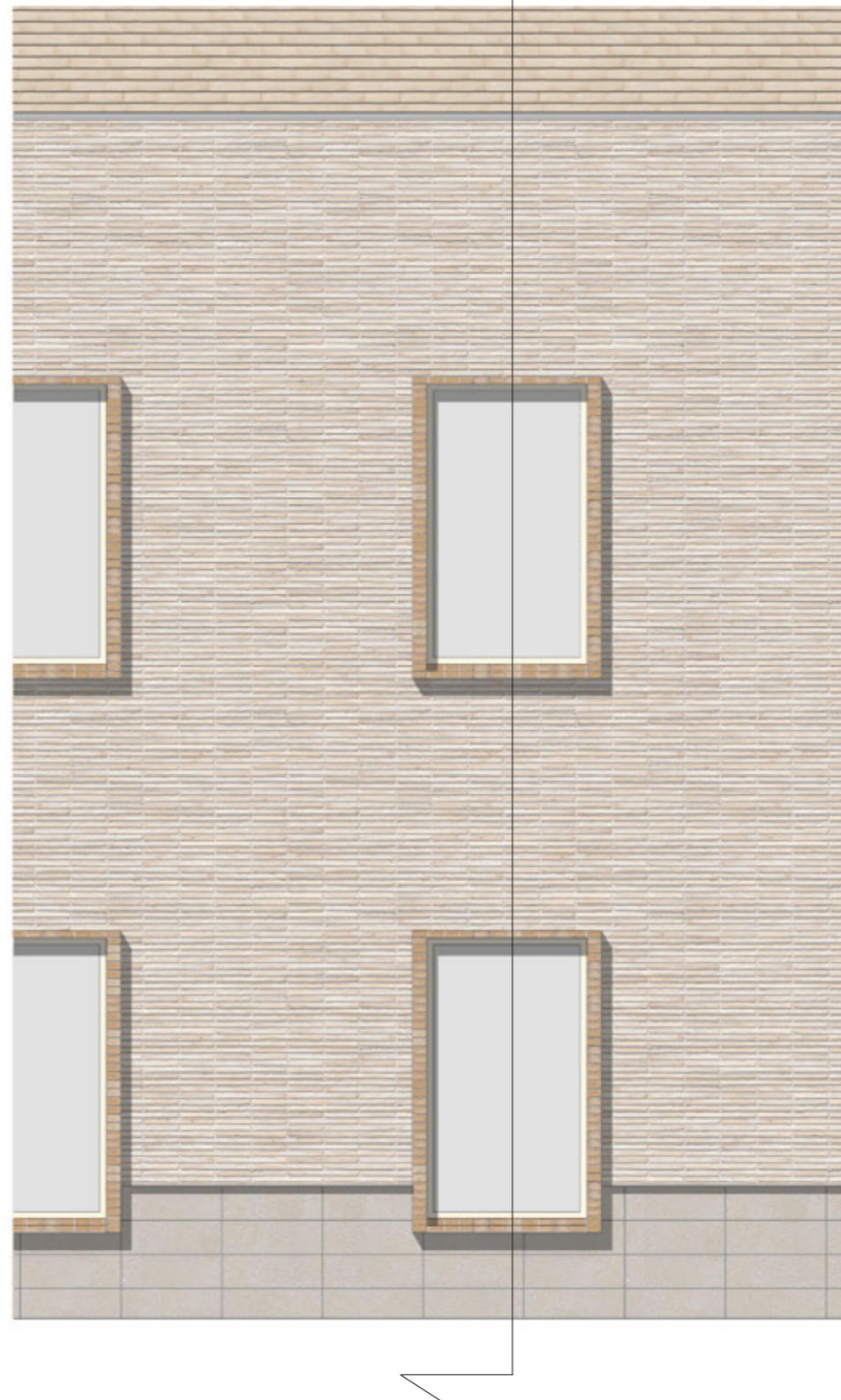
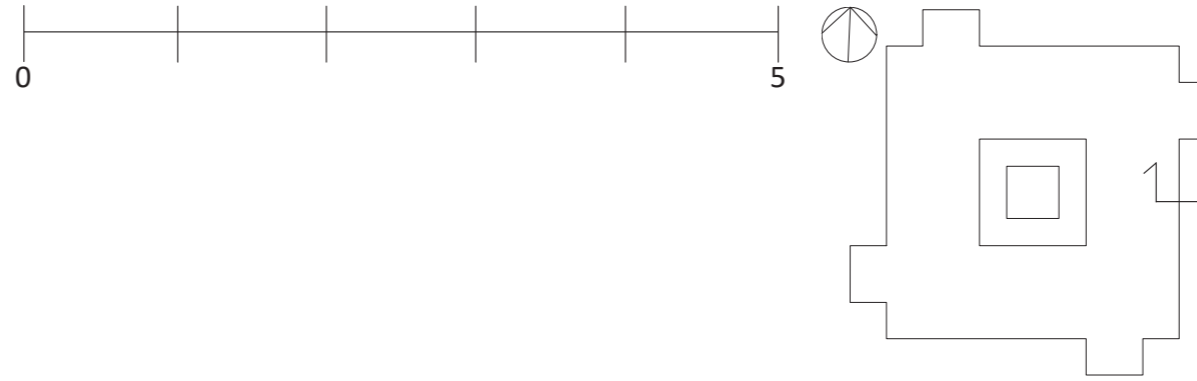
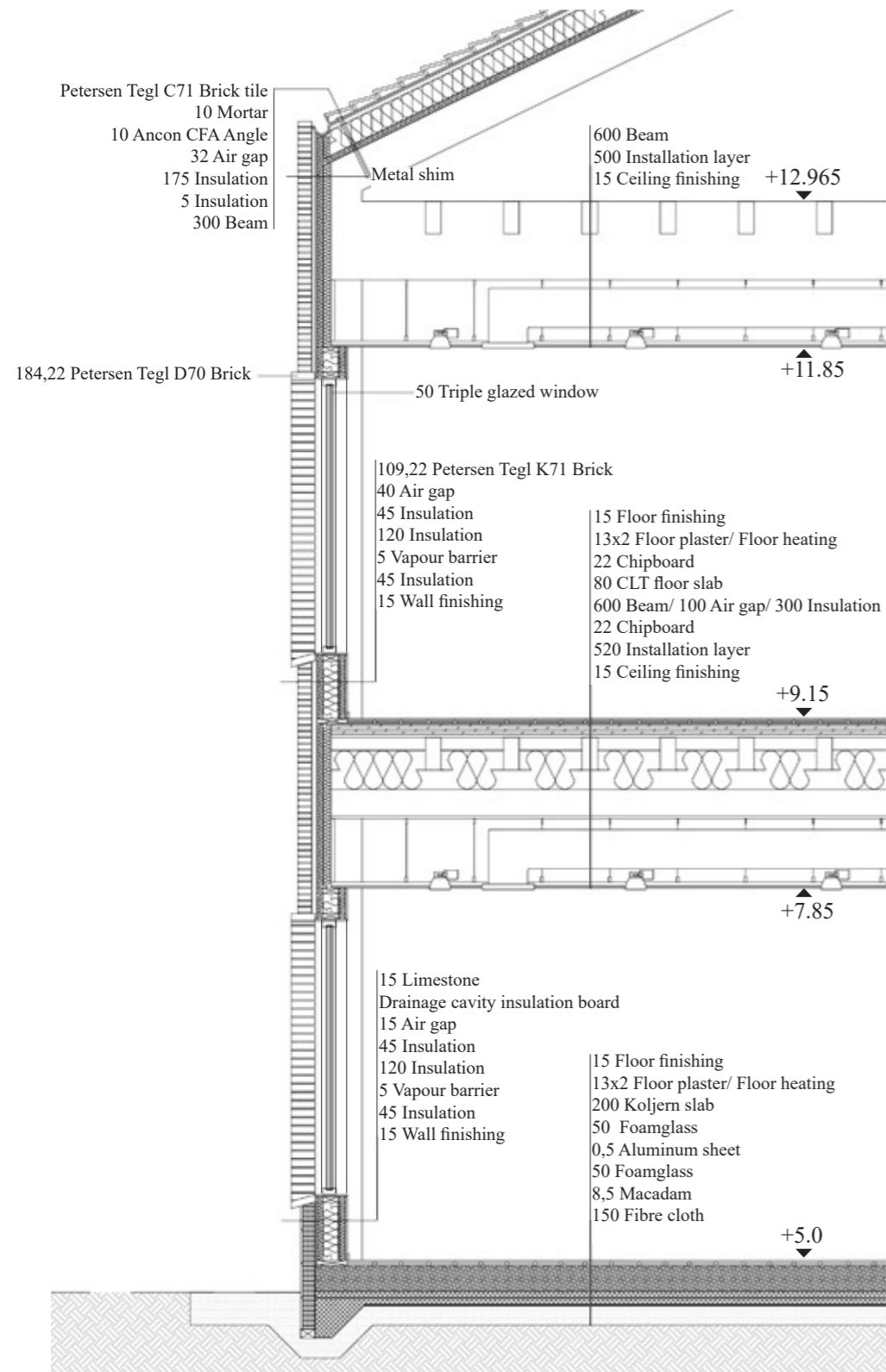
Limestone sockel



Roof brick

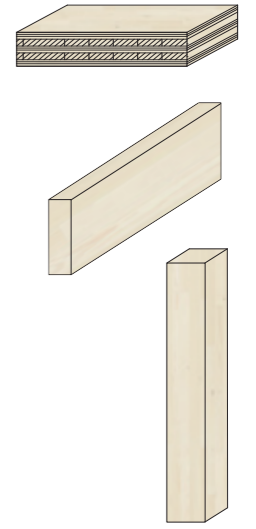
Detail

Scale 1:50

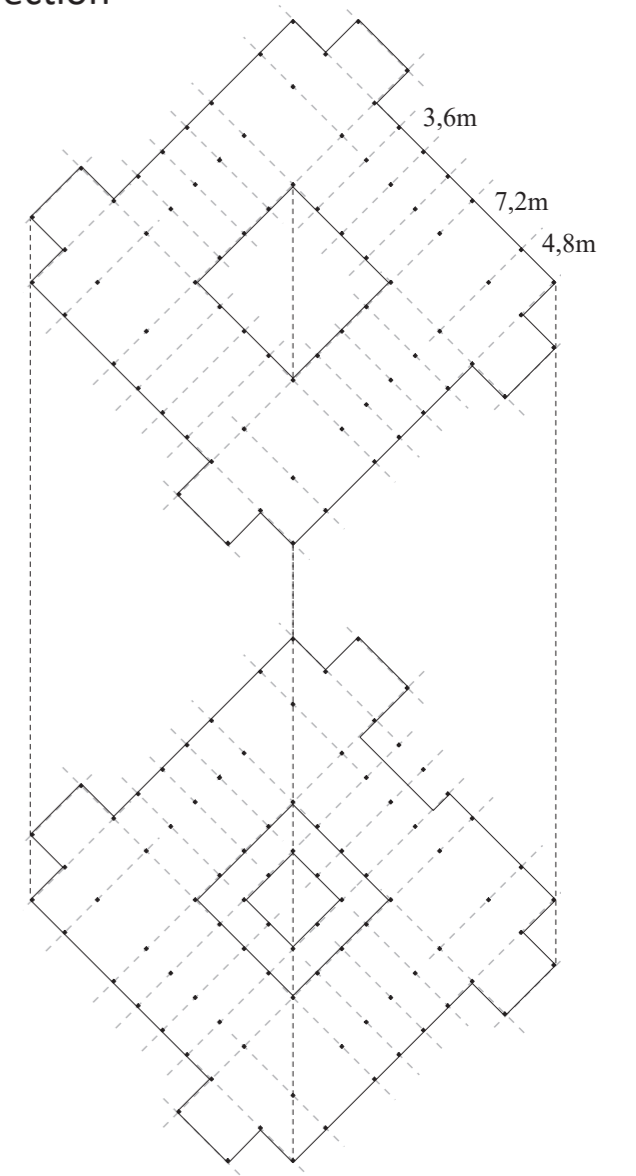


Construction

The load-bearing construction is a glulam-wooden pillar and beam construction built to create a flexible structure for the future usage of the building. The floor slab is a thin CLT-wood slab. The materials are chosen for sustainable and local production reasons. It creates a warm environment that has a beneficial impact on the visitor and staff's health.



Structural grid with primary beams direction



Exterior perspective

South entrance & park



Physical model

