

GREEN FOOTPRINT

COMMUNITY HOSPITAL AT WIESELGRENSPLETSEN



INTRODUCTION

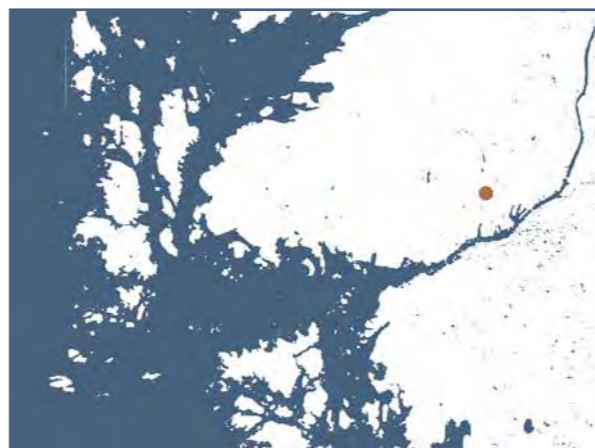
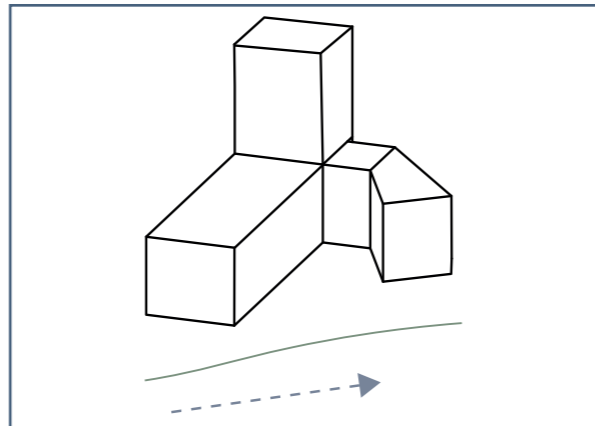
ABOUT THE TASK

The task is to design a community hospital at Wieselgrensplatsen in Hisingen, Gothenburg. The brief includes a combination of specialist clinics, primary care and other healthcare facilities. The size is about 20,000 square meters. The hospital should have the potential to meet the future needs.

The whole plot should become a welcoming place for the city. A mobility hub is planned to be built inside the plot, which should not overlap with the hospital. Due to limited area of the site, organizing outdoor space is also an important design part.

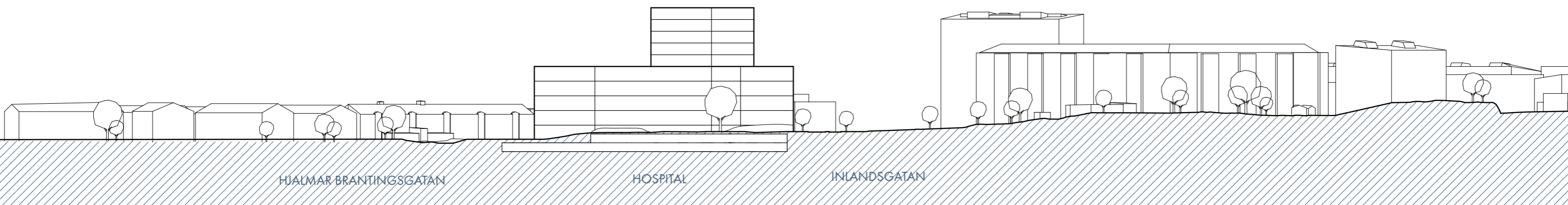
The site is at Wieselgrensplatsen, in the corner of Inlandsgatan and Hjalmar Brantingsgatan, located in the north-west part of the city Gothenburg. A site considered to be a prioritized development area in the future.

In the neighbourhood there are some residential buildings, an existing hospital and an arena. A tram goes next to the site, with a tram stop close to the plot of the hospital. In the future, a swimming pool and an ice rink will be built next to the arena. Inside the existing plot, a gas station, a fast-food restaurant and a public parking garage is located.



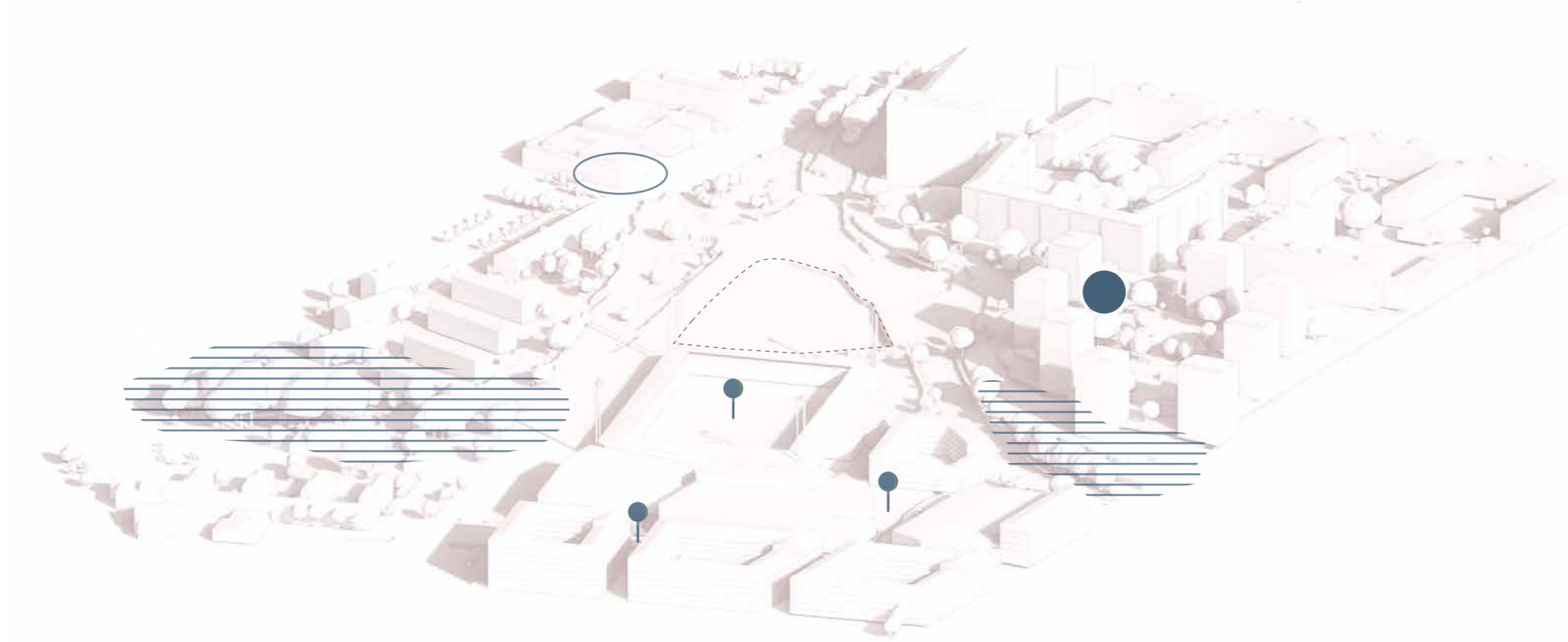
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SITE ANALYSIS

SURROUNDING FUNCTIONS



-  ACTIVITY BASED FUNCTIONS
-  WIESELGRENSPLATSEN & PUBLIC FUNTIONS
-  HIGH RISED BUILDINGS
-  GREEN AREAS

The surrounding functions in the area is mainly activity based, with Bravida Arena as the closest neighbour.

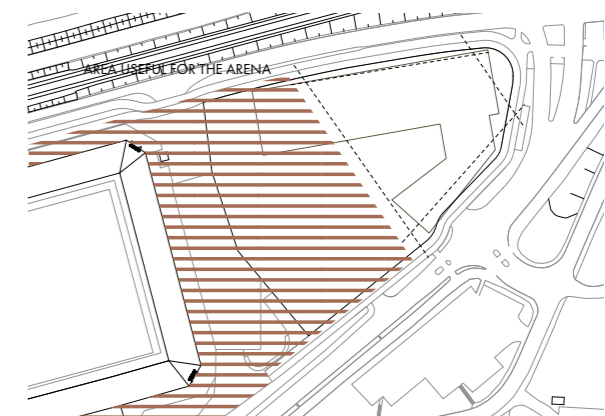
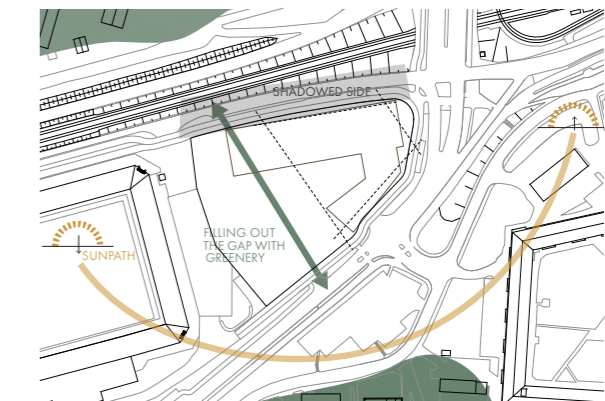
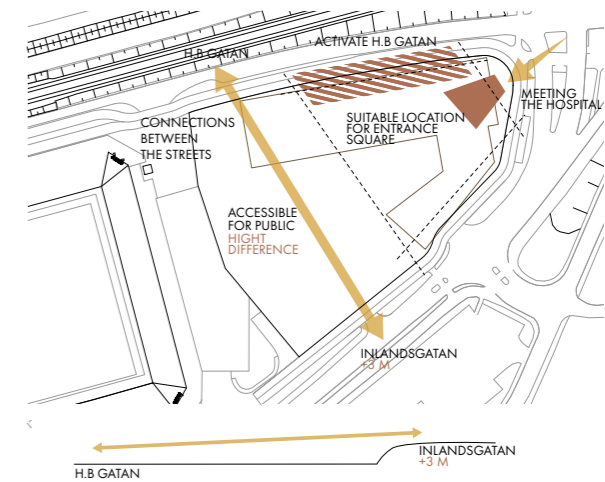
From Wieselgrensplatsen, its public functions and the tram station is where most visitors are predicted to arrive towards the hospital. Hence facing the main entrance and make the hospital visible towards that direction is proposed.

South to the plot is higher tower blocks, arguing to make a landmark hospital with the same language.

South and north to the plot are large green areas. Today the plot is a gap in the urban plan considering green space and the aim with the plot is to fill out the gap with a park and green roof to minimize hard surfaces in the city.

The plot is meant to be a compound area for the whole city and to invite people from the area, but mainly for the sport facilities nearby. With larger events in the arena the plot of the hospital can be used for heavy audience and supporter flows for example.

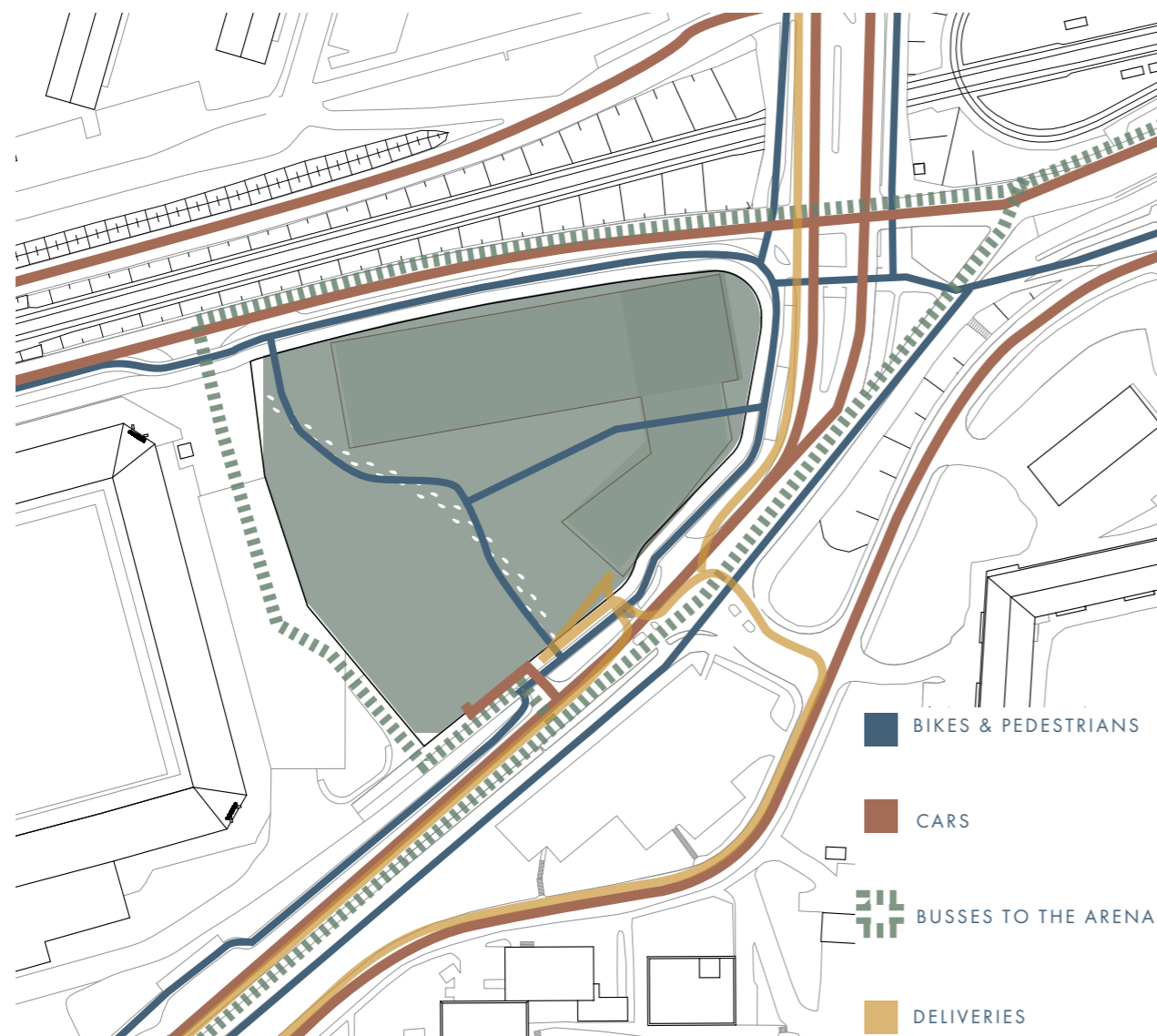
Illustrations of general aims.



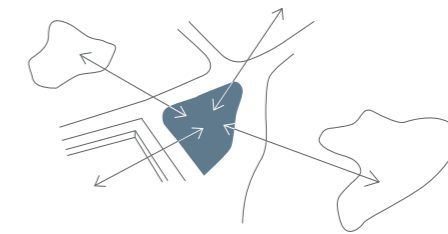
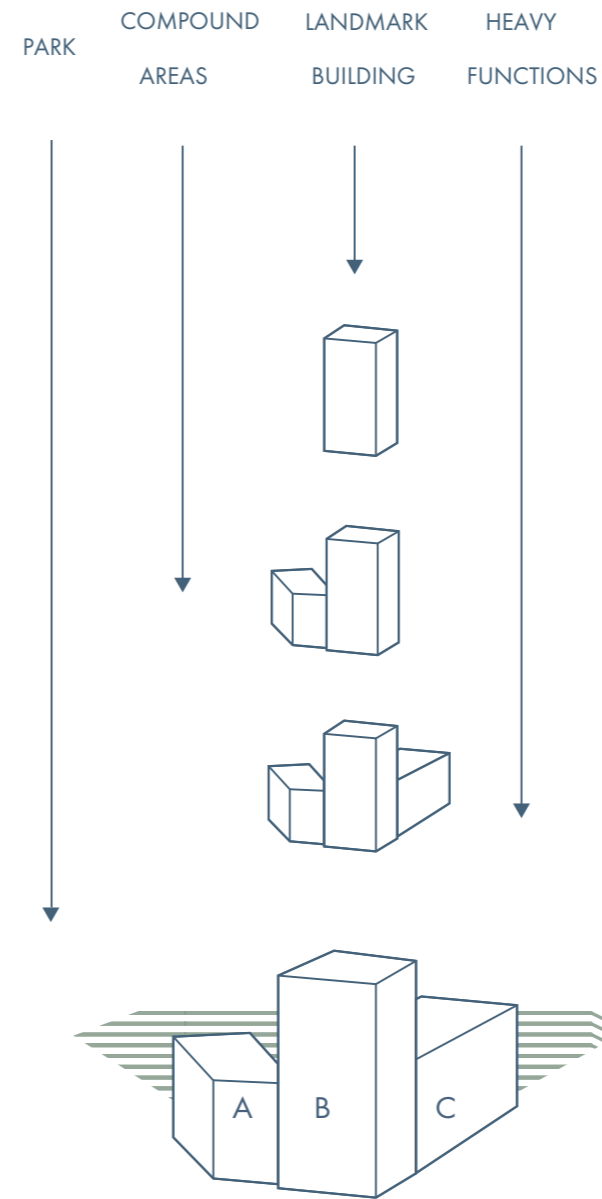
CONCEPT DESIGN

MOTTO: "A GREEN FOOT PRINT"

WISHED EXTERNAL FLOWS

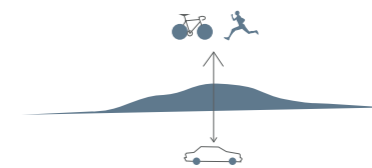


WELCOMING THE CITY



CONNECTIONS

Wieselgrensplatsen, the surrounding sport facilities and the surrounding green areas are important connections. With the footprint of the hospital the building acts like a landmark towards Wieselgrensplatsen and gives room for a big park on the plot.

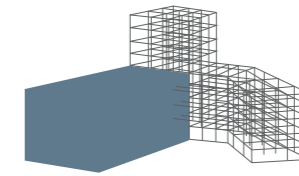
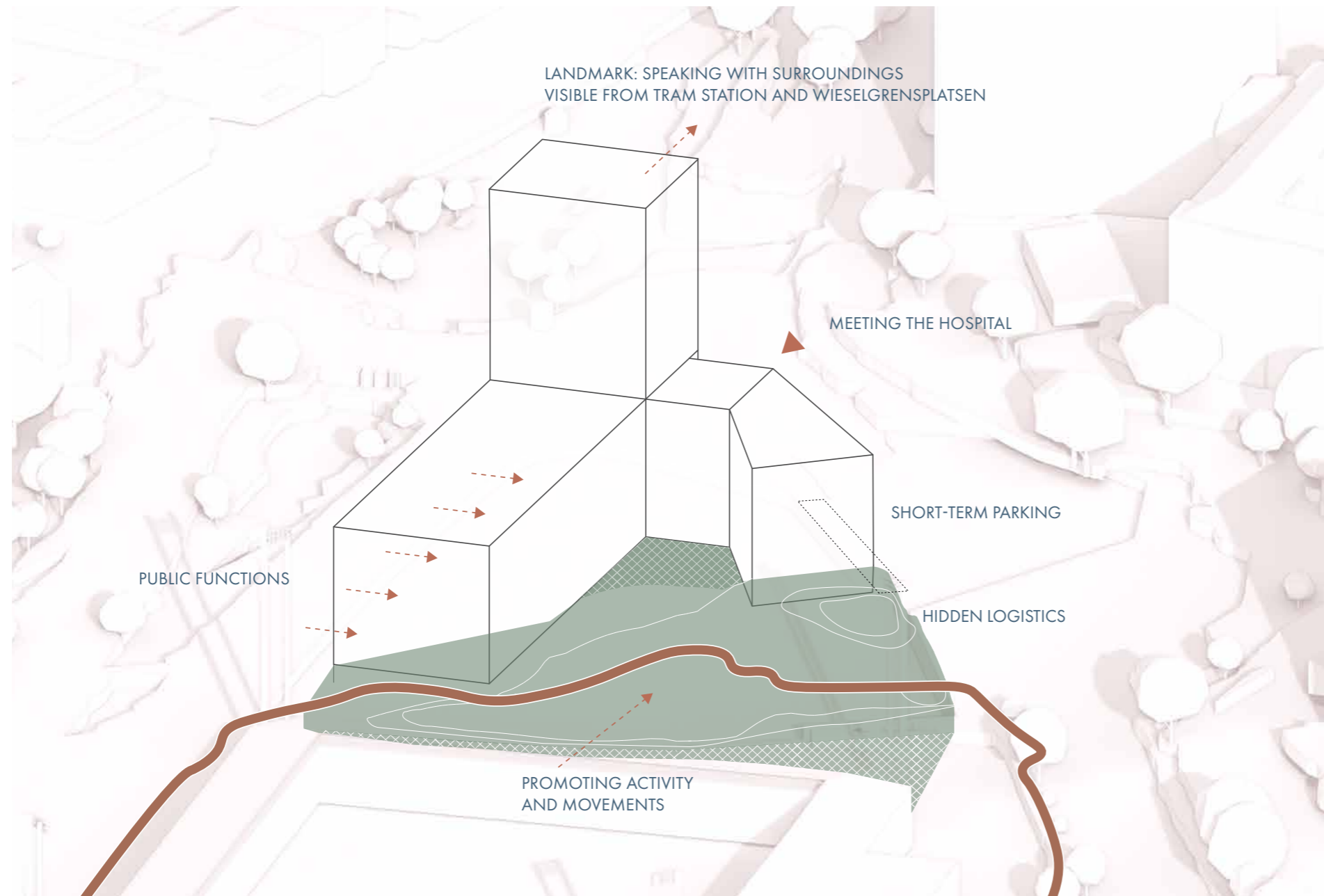


HIERARCHY FOR VARIOUS TRANSPORT

By shaping the landscape the accessibility for bikes and pedestrians is prioritized. Cars are placed in the basement to promote people to take the bike and public transportations and to minimize the hard surfaces in the urban area.

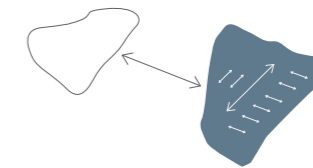
CONCEPT DESIGN

ARCHITECTURAL CONCEPT



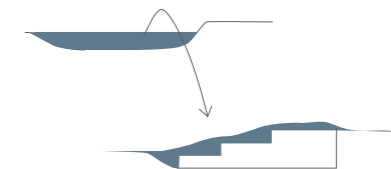
WOOD STRUCTURE

A post and beam structure in wood is used where it is suitable. Wood itself makes it a landmark building. The tall building B placed in the corner of the site connects and welcomes the surrounding. In building C, for heavy functions, a concrete structure is used to handle vibrations.



ACCESSIBILITY TO GREENERY

By adding a park the proposal fills out the gap of greenery in the area. A future pedestrian bridge could connect Ramberget in the south with the green area in the north. As a proposal the same pavement is used next to the arena to respond to the urban heat island effect and contribute to a more sustainable future.



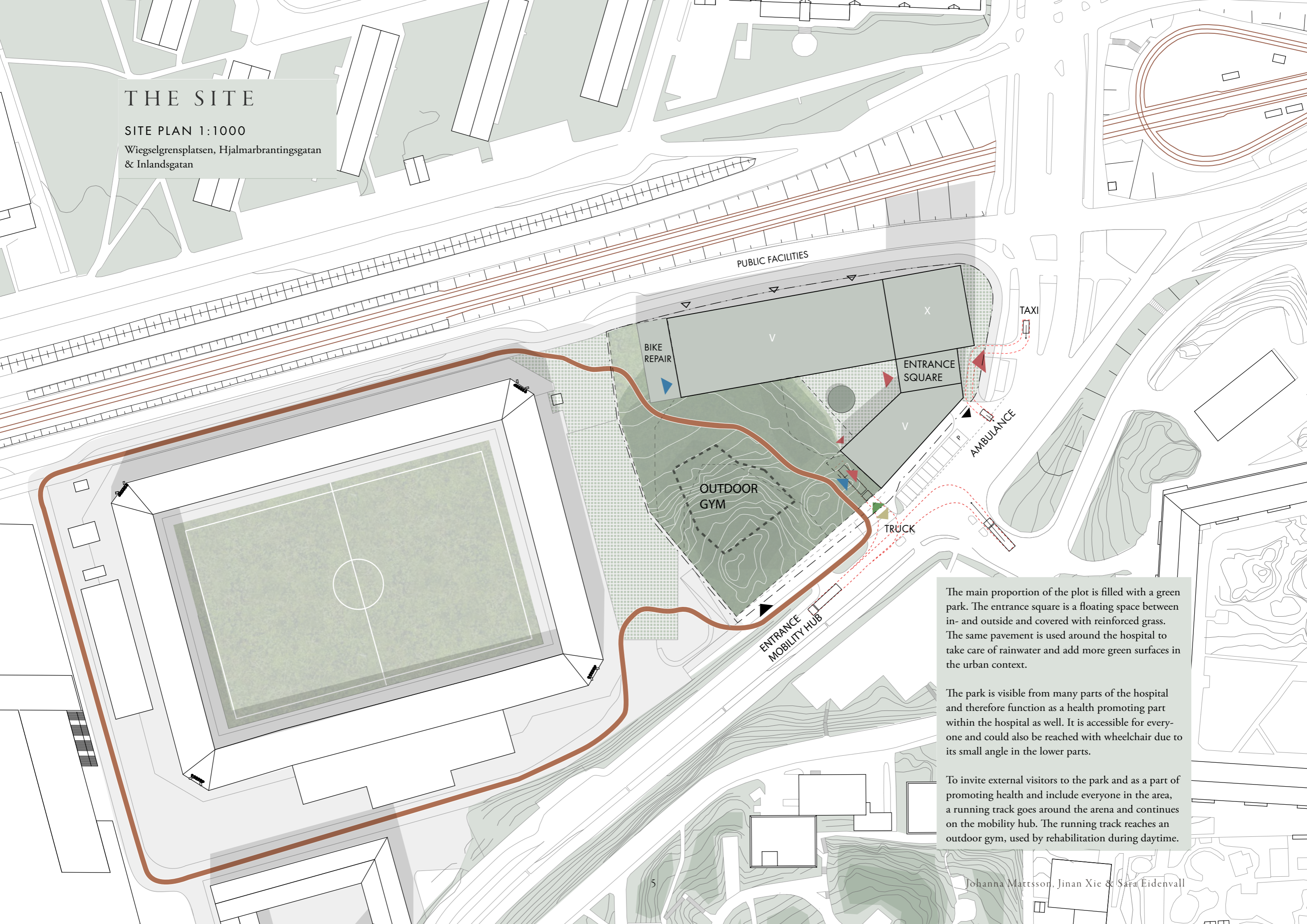
SHAPING THE LANDSCAPE

Shaping the landscape makes the height difference between Inlandsgatan and H.B.gatan evened out and enables pedestrians to reach from one side to another (3 m height difference). The soil left from the digging is then put on top of the mobility hub to enable plants to absorb rain water.

THE SITE

SITE PLAN 1:1000

Wiegsgrensplatsen, Hjalmarbrantingsgatan
& Inlandsgatan



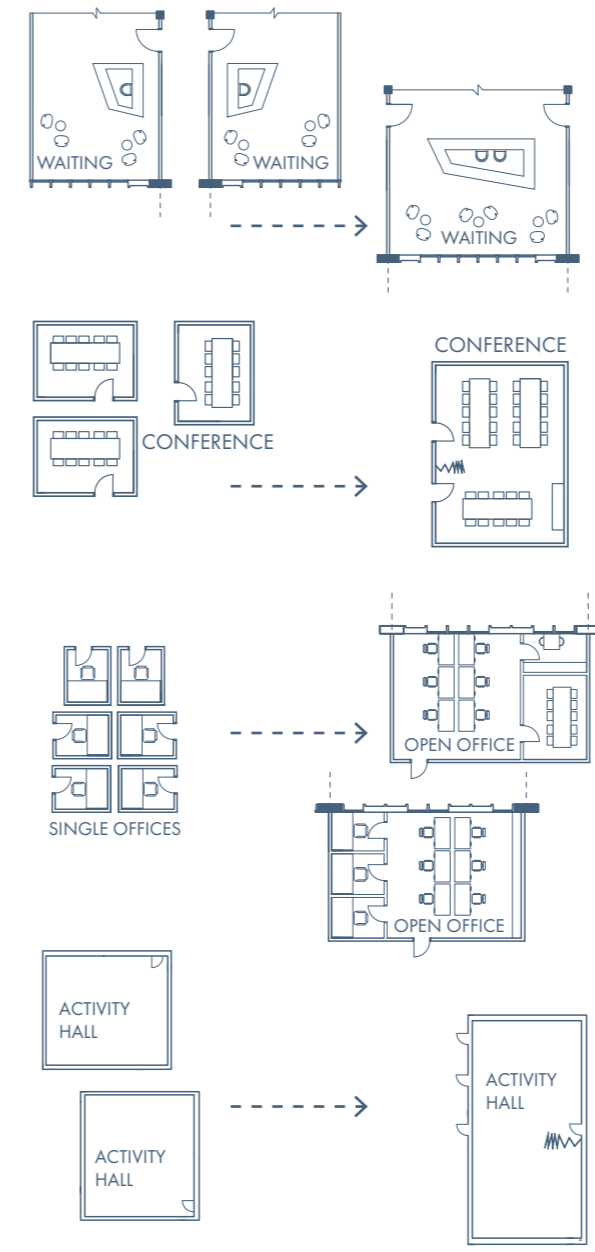
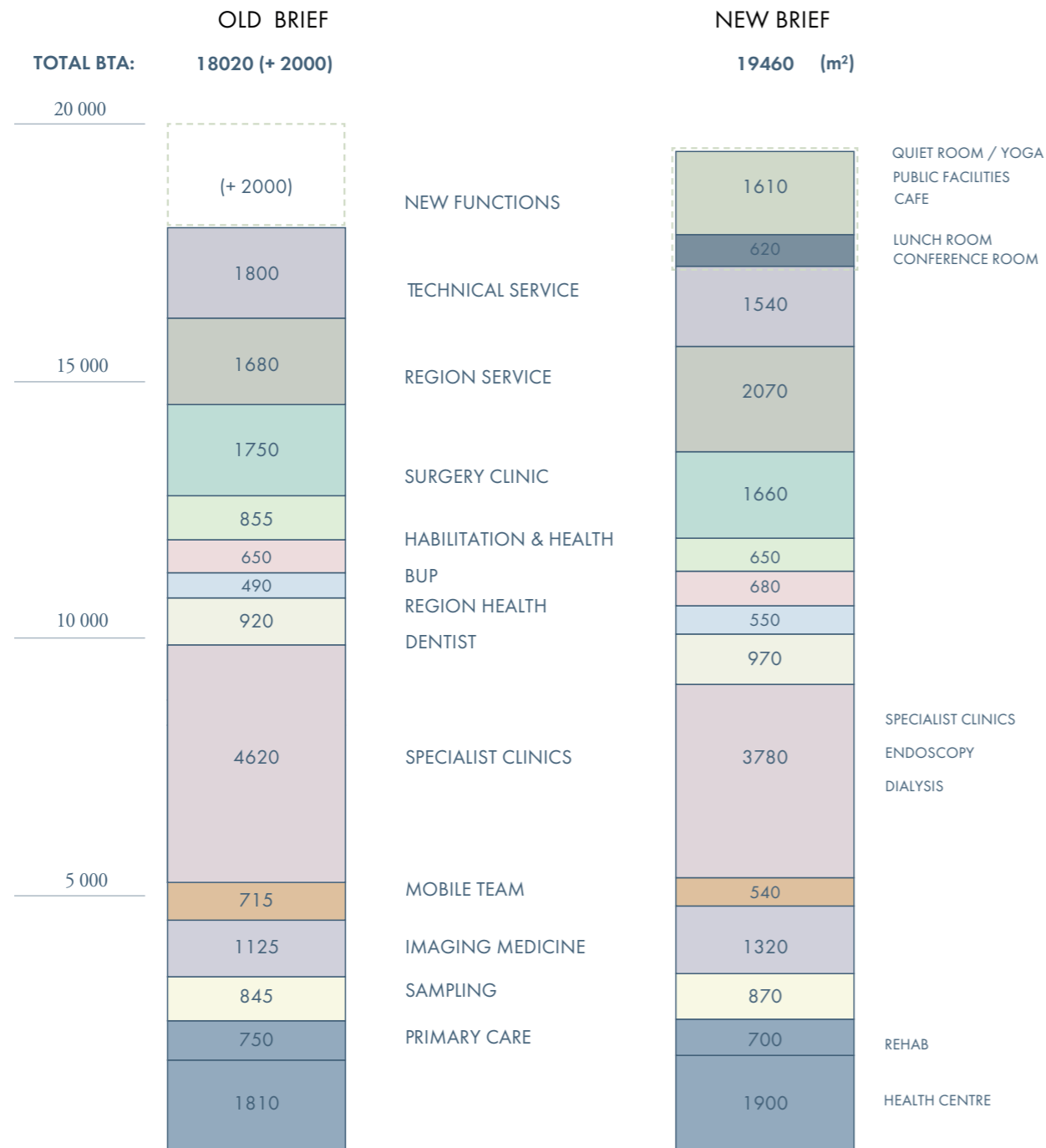
The main proportion of the plot is filled with a green park. The entrance square is a floating space between in- and outside and covered with reinforced grass. The same pavement is used around the hospital to take care of rainwater and add more green surfaces in the urban context.

The park is visible from many parts of the hospital and therefore function as a health promoting part within the hospital as well. It is accessible for everyone and could also be reached with wheelchair due to its small angle in the lower parts.

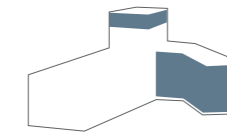
To invite external visitors to the park and as a part of promoting health and include everyone in the area, a running track goes around the arena and continues on the mobility hub. The running track reaches an outdoor gym, used by rehabilitation during daytime.

THE BRIEF

PROGRAM AND THE CHALLENGE OF THE BRIEF



Compound areas.



COMPOUND AREAS

WAITING AREAS

Combining the waiting areas of change departments, a larger waiting area has a possibility to contain more functions, improve the patients' waiting experience, and improve the efficiency of the room.

STAFF AREAS

All the meeting rooms are centrally arranged on the top two floors. These rooms can be used by all departments during working hours, or they can be rented out to the public in the evenings and weekends. Dividable rooms can meet the needs of meetings with different amount of people.

ADMIN OFFICES

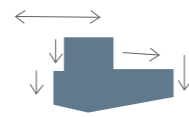
Change independent personal office rooms to open office space. The open office is more conducive to getting sunlight in the deep room, and the space saved can also provide functions such as quiet room, rest, and team discussion.

ACTIVITY HALL

The merging double-story large activity hall provides the possibility for more kinds of indoor activities. Doors that lead directly to the outdoors are installed in the activity room to increase the utilization rate of the outdoor gym.

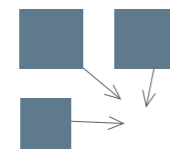
OVERVIEW OF PROGRAM

DISTRIBUTION OF DEPARTMENTS



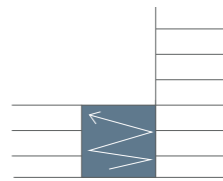
BREAKING THE VOLUMES DOWN

With different volumes in the different buildings department can be divided depending on their function. This also gives possibility to have different opening hours within the hospital. A high rise volume towards Wieselgrensplatsen makes the hospital visible and a landmark. The lower volumes, A and C, makes human scale and by putting public functions in ground floor it activates the street.



GENEROUS STAFF AREAS

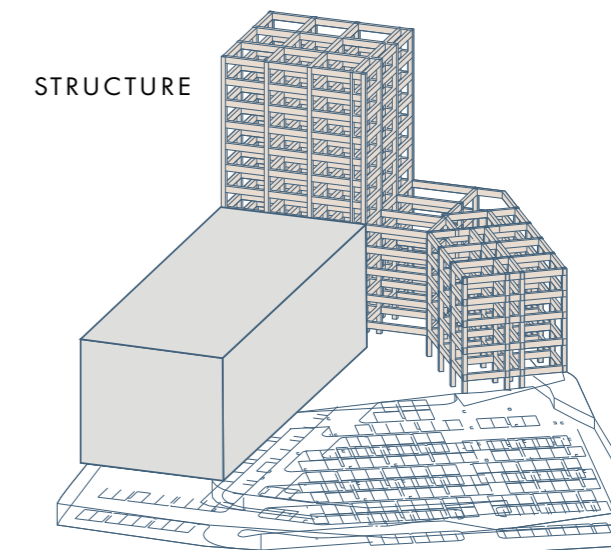
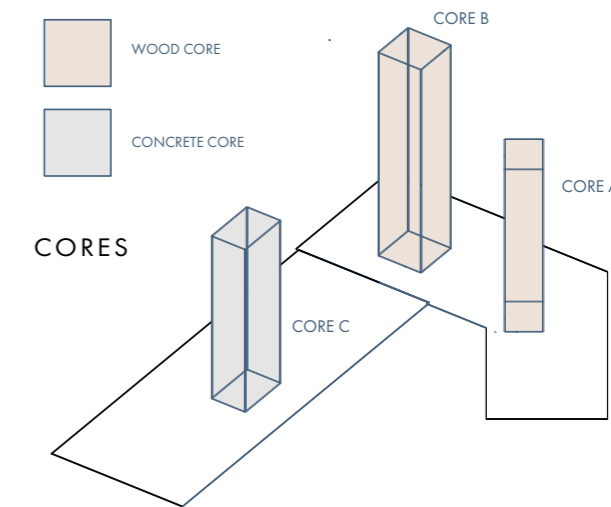
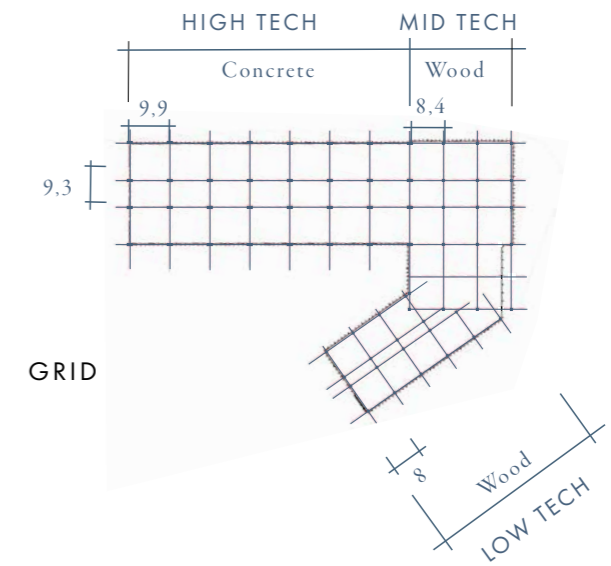
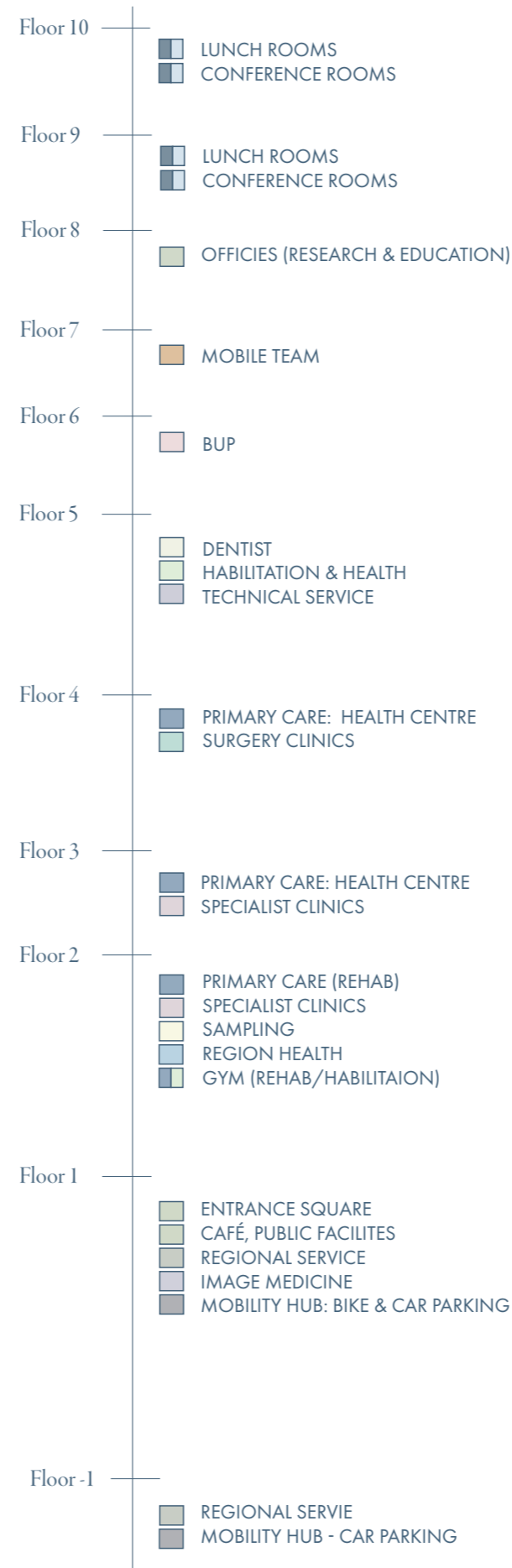
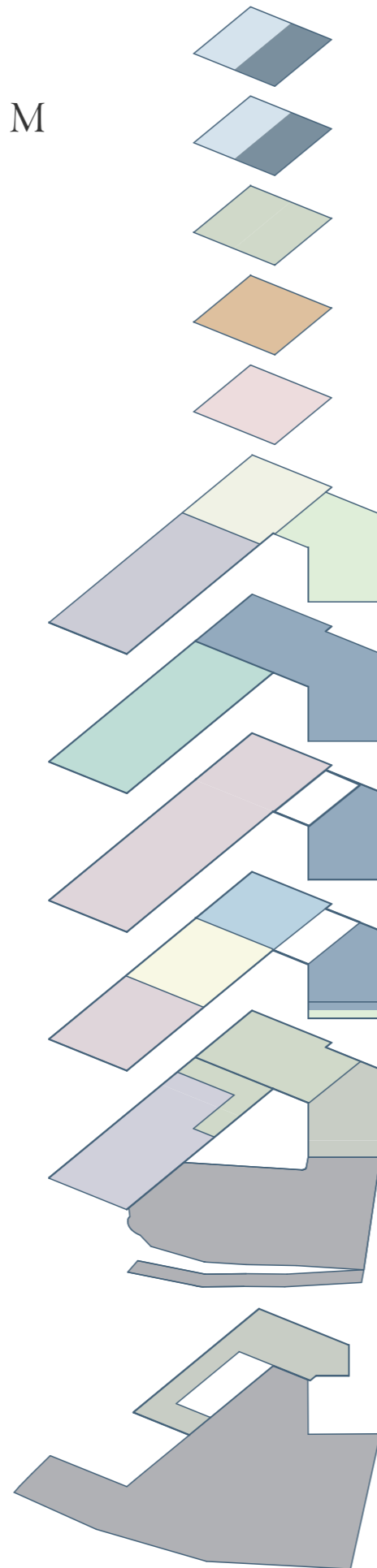
On the top floors of building B generous staff areas with lunch rooms and conference rooms are gathered to invite staff to meet between departments. Smaller coffee rooms and group rooms are placed within each department for shorter breaks.



INTERIOR ORIENTATION

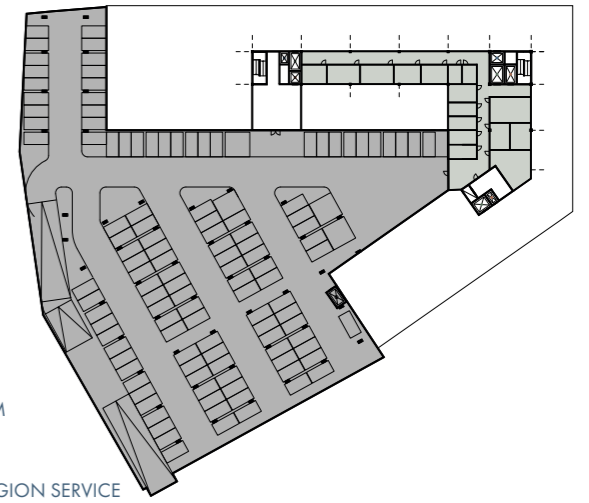
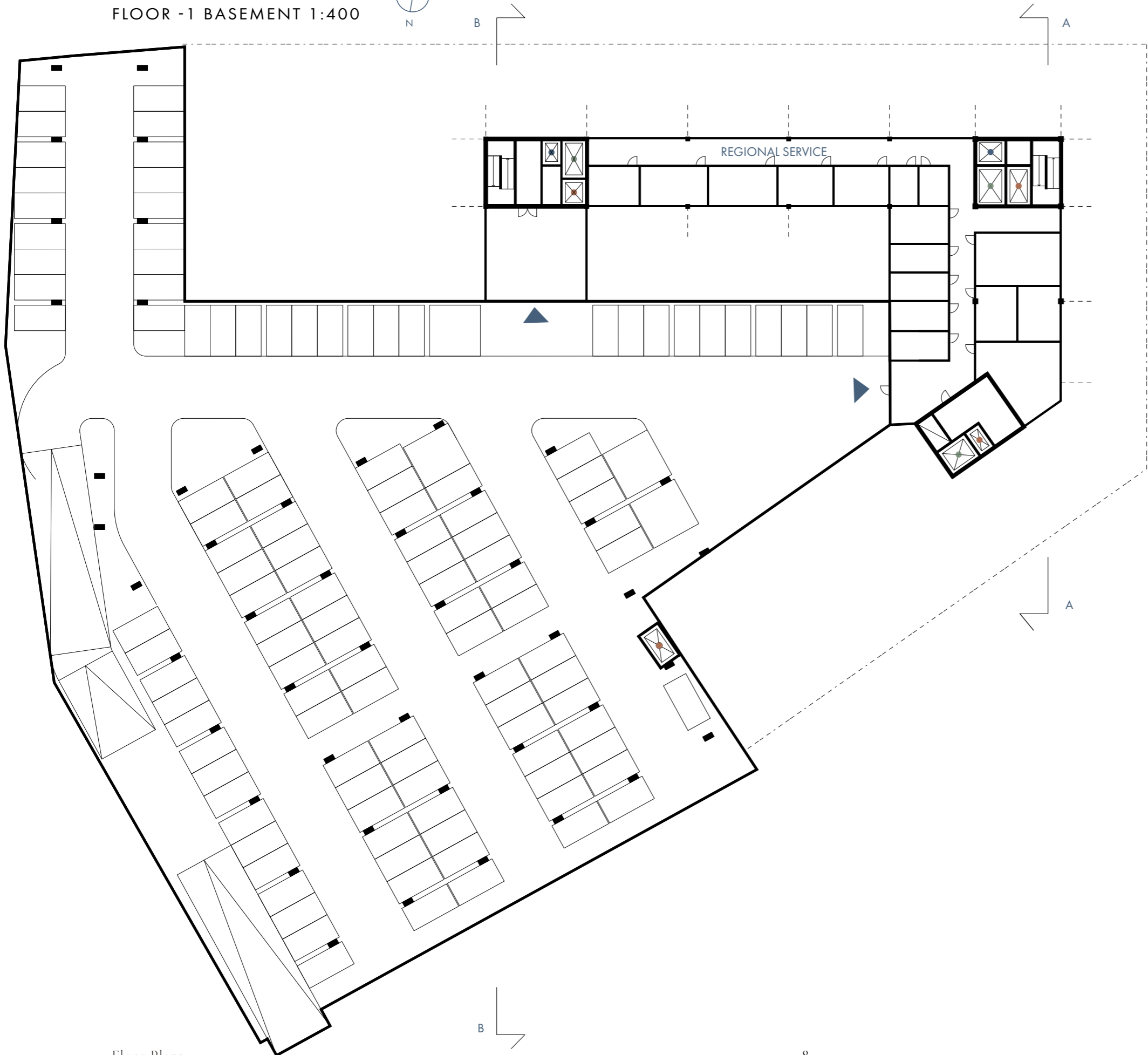
With a transparent facade the entrance square is easy spotted for the patient. The entrance square divides the compound areas in building A from the heavier functions in building C, which is visible in the open square.

The functions of the entrance, such as navigation and easy access, is combined with a sculptural staircase and attractiveness to welcome patients.



FLOOR PLANS

FLOOR -1 BASEMENT 1:400



PROGRAM

REGION SERVICE

MOBILITY HUB



FLows

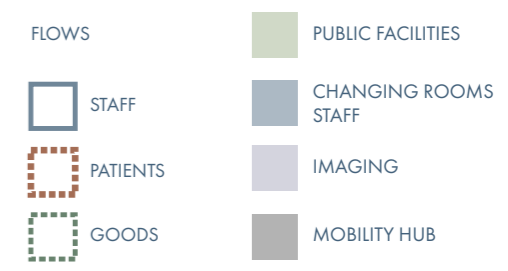
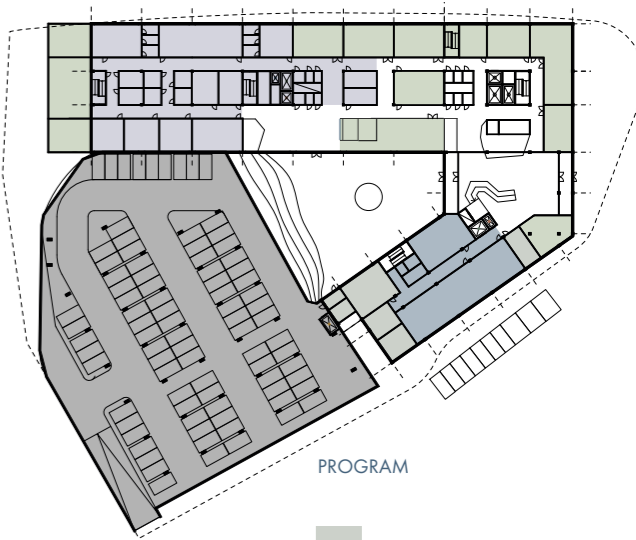
STAFF

GOODS

The basement of the hospital and the first floor of the mobility hub is dug down under ground. Staff reach directly into the hospital to all cores A, B and C when parking in the basement of the mobility hub. However, due to safety risk the patients have to go to the entrance square via the elevator in the mobility hub.

The goods transfers through the basement of the hospital, from core A to be distributed to the rest of the hospital through core B and C. Region service is distributed in the basement and provided with 50 extra square metres storage due to future pandemic situation.

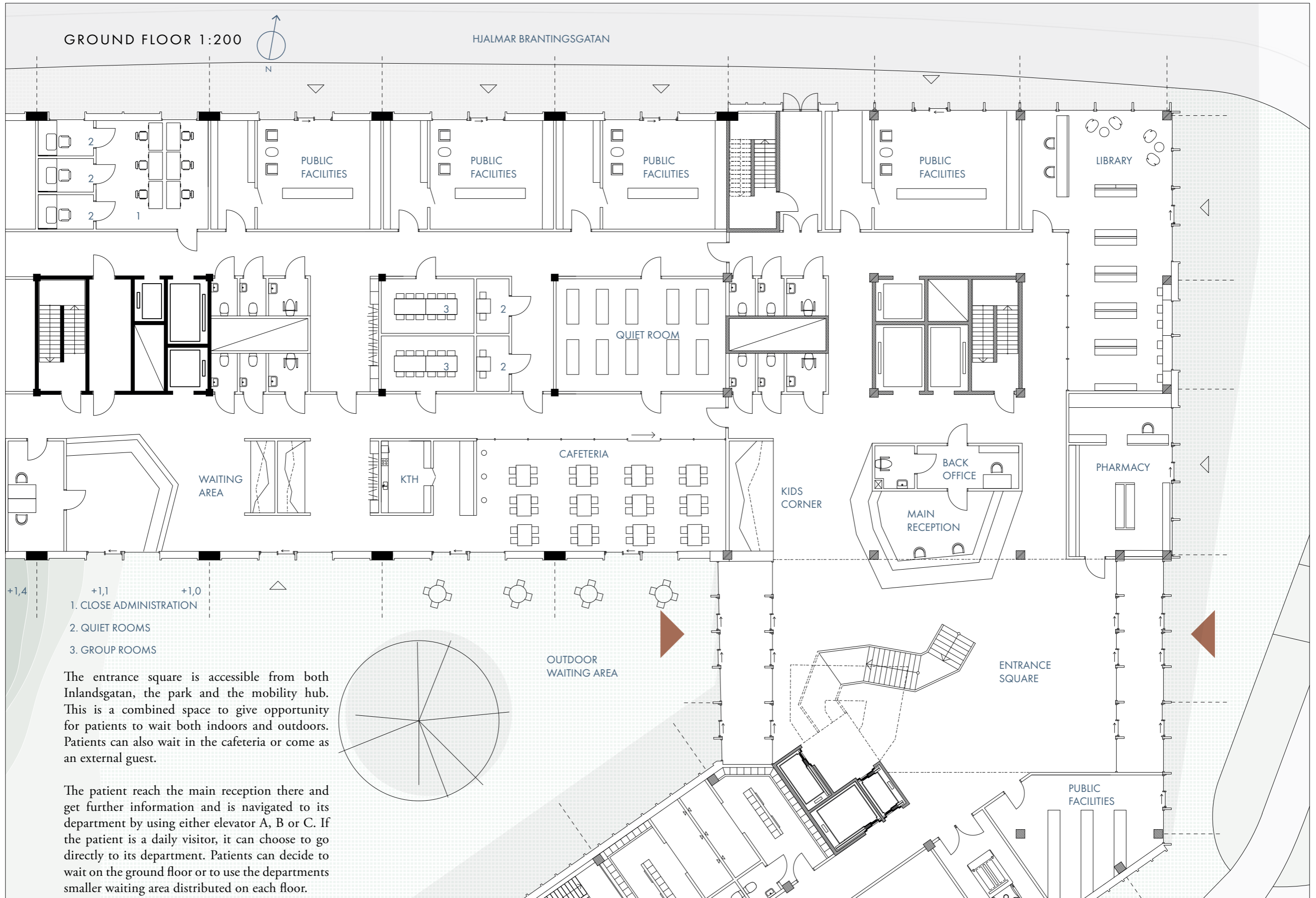
FLOOR 1 - GROUND FLOOR 1:400



- 1. CLOSE ADMINISTRATION
- 2. QUIET ROOMS
- 3. GROUP ROOMS
- 4. COFFEE ROOM
- 5. SLEEP ROOM/STAFF AREAS
- 6. PATIENT ROOM
- 7. PATIENT ROOM SPECIAL
- 8. DISINFECTION ROOM
- 9. EXERCISE HALL
- 10. LABORATORY
- 11. DRUG ROOM
- 12. CHANGING ROOM
- 13. SAMPLING ROOM
- 14. RWC/WC
- 15. BIKE PARKINGS
- 16. ULTRASOUND
- 17. CONTROL ROOM
- 18. AMBULANCE BAY
- 19. TRUCKS

Ground floor can be reached from Hjalmar Brantingsgatan in the north and Inlandsgatan in the east and partly south. Along Hjalmar Brantingsgatan public facilities, such as pharmacy, library and stores are placed to activate the facade and contribute to the future development as a main street in the district.

From the top floor of the mobility hub the patient walks to the outdoor entrance square to then continue inside to the main reception. The goods is delivered in an integrated part of the mobility hub under the slope.



GROUND FLOOR 1:200

HJALMAR BRANTINGSGATAN

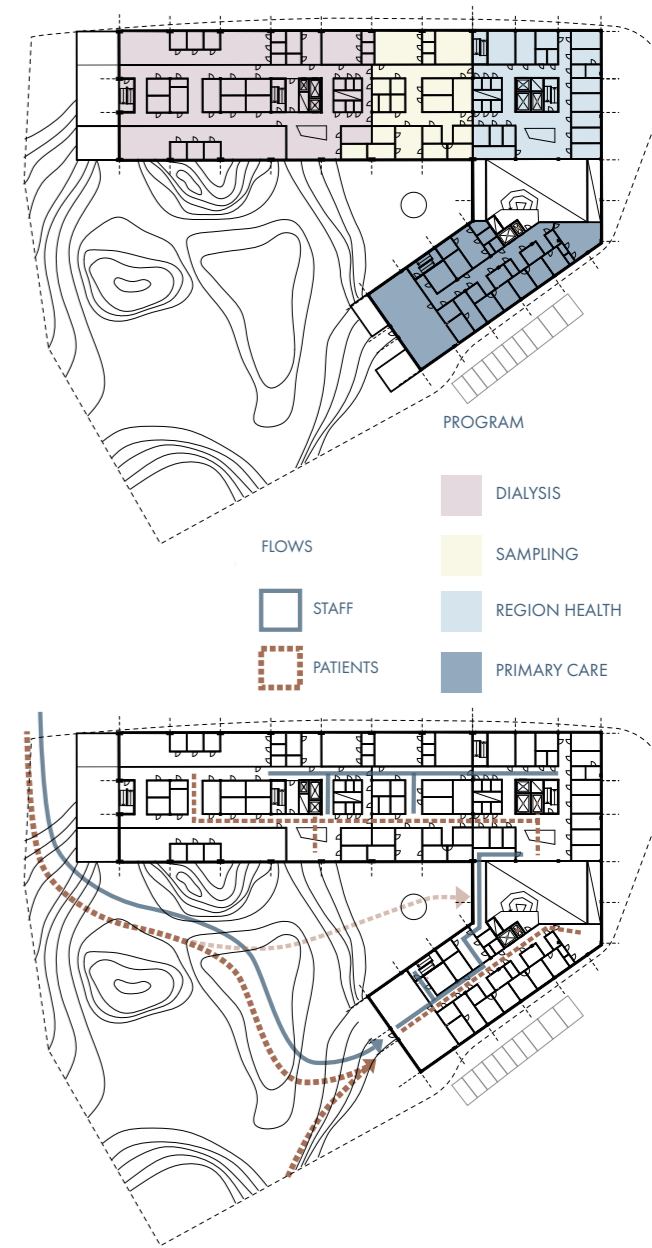


The entrance square is accessible from both Inlandsgatan, the park and the mobility hub. This is a combined space to give opportunity for patients to wait both indoors and outdoors. Patients can also wait in the cafeteria or come as an external guest.

The patient reach the main reception there and get further information and is navigated to its department by using either elevator A, B or C. If the patient is a daily visitor, it can choose to go directly to its department. Patients can decide to wait on the ground floor or to use the departments smaller waiting area distributed on each floor.



FLOOR 2 - WITH SURROUNDINGS 1:400



- PROGRAM
- DIALYSIS
 - SAMPLING
 - REGION HEALTH
 - PRIMARY CARE
- FLows
- STAFF
 - PATIENTS

- 1. CLOSE ADMINISTRATION
- 2. QUIET ROOMS
- 3. GROUP ROOMS
- 4. COFFEE ROOM
- 5. SLEEP ROOM/STAFF AREAS
- 6. PATIENT ROOM
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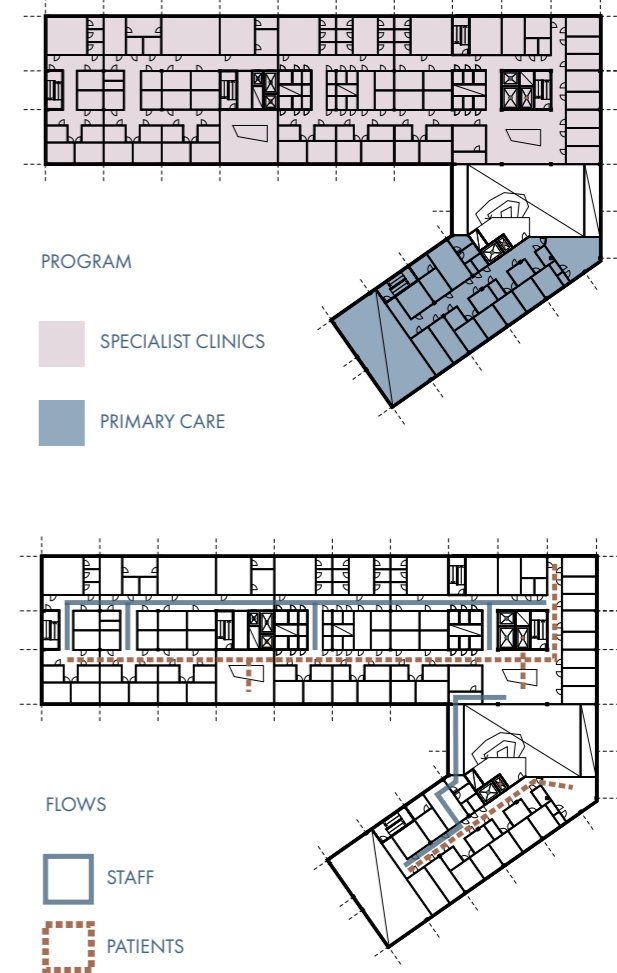
From the second floor there is a direct access from Inlandsgatan to the slope as a pedestrian. This is also the level to reach the exercise hall in A on from the park. Hence, it enables the primary care to have rehabilitation in the outdoor gym and the activity hall is reachable for external users during night. The running track passing around the arena merges the hospital with the active sport facilities in the surroundings.

In building C the specialist clinics with dialysis is divided into two bigger rooms faced towards both north and south. Patient visits every day can vary the view to look at the more busy Hjalmar Brantingsgatan or the calm and green park.

FLOOR 3 1:400



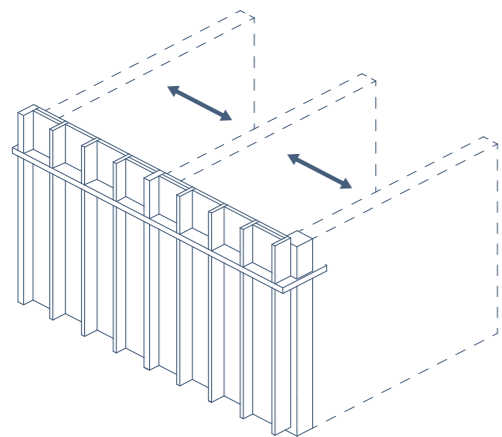
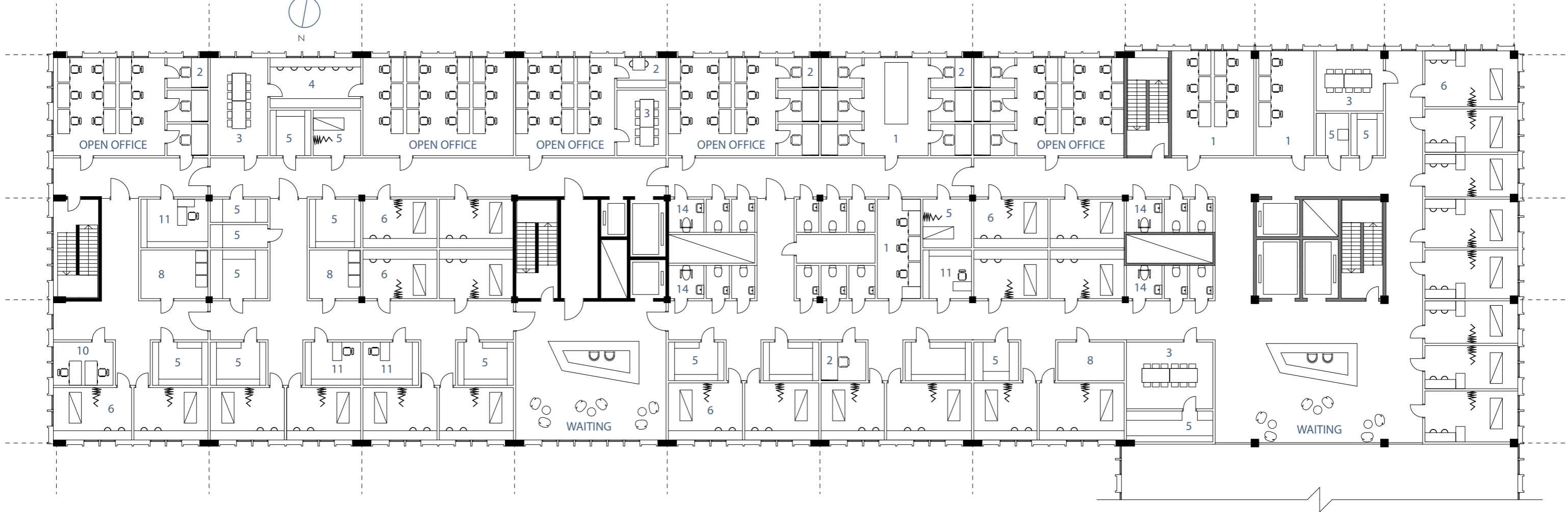
- 1. CLOSE ADMINISTRATION
- 2. QUIET ROOMS
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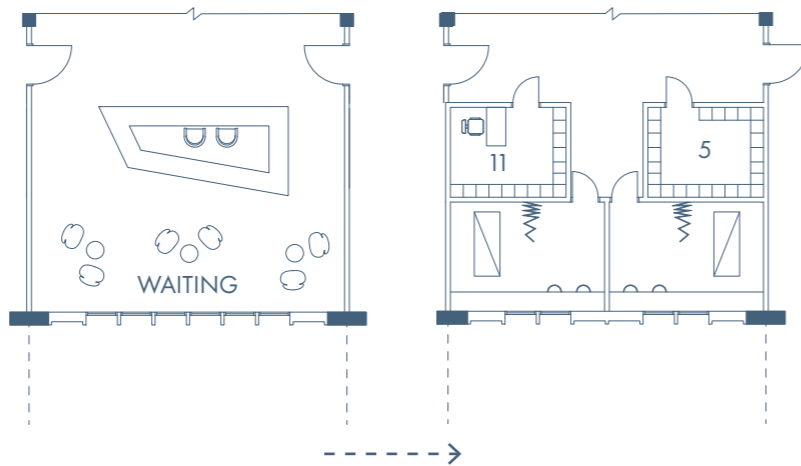
In building A the primary care continues between floor 2-4. An internal staircase for staff makes the different floors available within the department. In this way different floors can have different opening hours for future scenarios. In this case, third floor allows to be opened also in the evenings and weekends.

Between building A and B the staff can move on a bridge inside the entrance square.

FLOOR 3 1:250



Flexible walls and transformed waiting areas for future proof. Integrated small rooms next to patient rooms.



FUTURE PROOFING

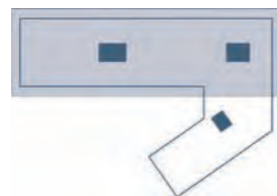
Future digitalisation could mean moving to more flexible receptions. The entrance square will be more important and function as a waiting area for the whole hospital. This provides waiting areas on each floor to evolve as patient- or admin rooms. Changeable modules in facades enable future changes, where inner walls can be moved and attached to different sections in the structure.

Some patient rooms are provided with a smaller administration room to make the staff flow more efficient. Here they can make smaller administration work between patient meetings.

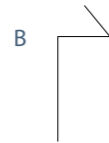
FLEXIBLE FLOOR PLAN

Most patient rooms are placed along the south facade to access daylight. Some additional patient rooms are placed in the core section of the grid. These are only to be used when the patient number is high since they do not have day light. This means the staff- and patient flow is divided in different corridors.

All lunch rooms and conference rooms within each department is gathered on the top two floors in building B. Instead each department is assigned with a smaller coffee room and group room for shorter breaks next to the open offices along north



FLOOR 4 1:400



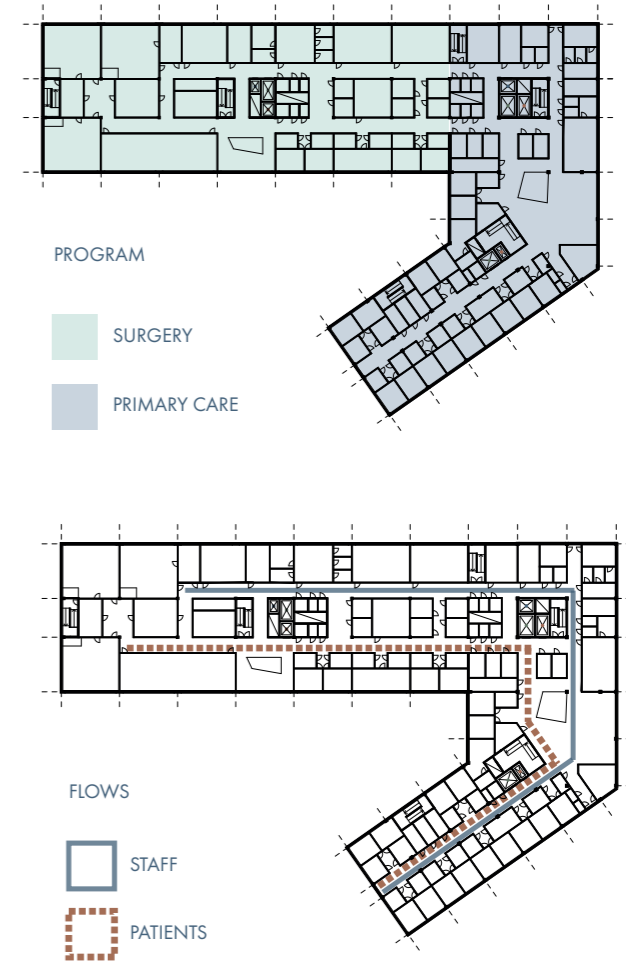
- 1. CLOSE ADMINISTRATION
- 2. QUIET ROOMS
- 3. GROUP ROOMS
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- 15. BIKE PARKINGS

- 16. ULTRASOUND
- 17. CONTROL ROOM
- 18. AMBULANCE BAY
- 19. TRUCKS

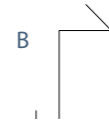
- 20. PREPARING FOR OPERATION



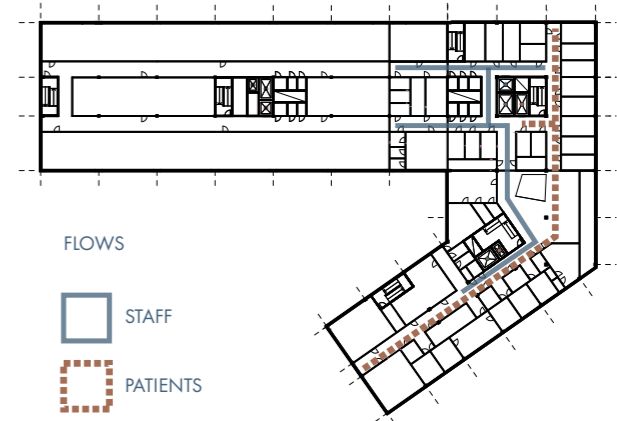
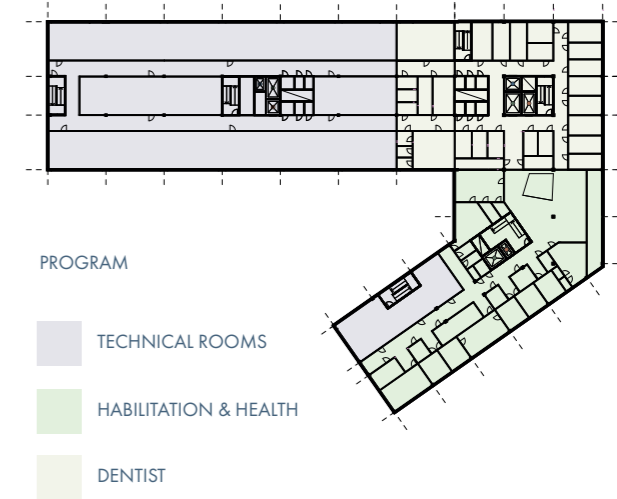
Floor four is fully covered above the entrance square and primary care use both building A and B. Building B is only for administration and could also be used by the surgery department if needed. Above the entrance square a lobby is placed with the same language as below. It works as a waiting area and a place for staff to interact with each other.

The surgery department is distributed on the fourth floor in building C due to its heavy functions. The amount of ventilation that the operation theatres need could then be taken care of above each theatre in the technical room.

FLOOR 5 1:400



- 1. CLOSE ADMINISTRATION
- 2. QUIET ROOMS
- 3. GROUP ROOMS
- 4. COFFEE ROOM
- 5. SLEEP ROOM/STAFF AREAS
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The fifth floor is the highest floor in building A and C which means large areas of technical rooms. Habilitation and health is distributed within building A and the dentist department in building B. A shared lobby between the departments densified the waiting areas and interaction between the departments. For future scenarios additional floors can be added.

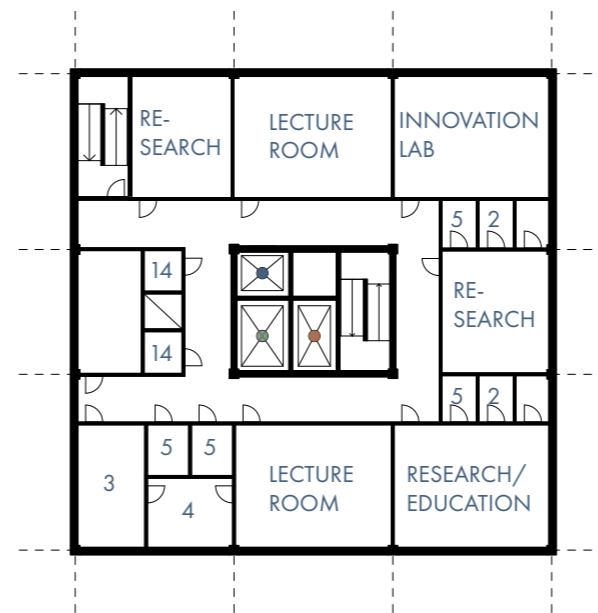
FLOOR 6, 7, 8, 9 & 10 1:400



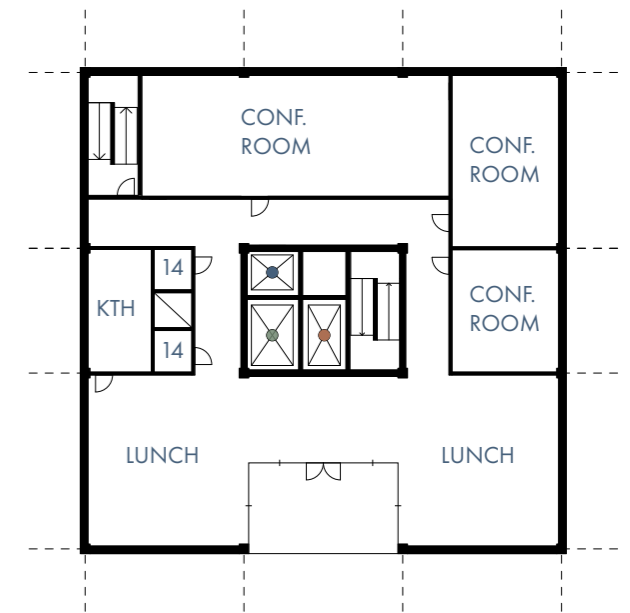
FLOOR 6



FLOOR 7

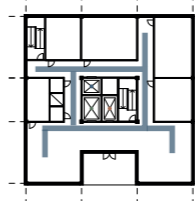
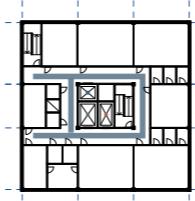
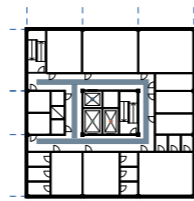
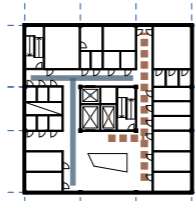
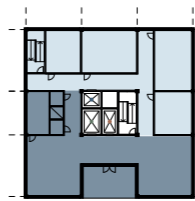
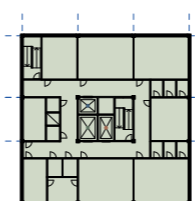
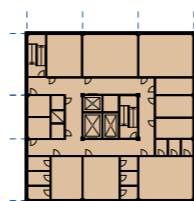
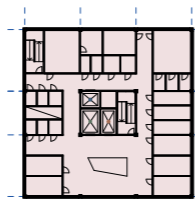


FLOOR 8



FLOOR 9 & 10

- 1. CLOSE ADMINISTRATION
- 2. QUIET ROOMS
- 3. GROUP ROOMS
- 4. COFFEE ROOM
- 5. SLEEP ROOM/STAFF AREAS
- 6. PATIENT ROOM
- 7. PATIENT ROOM SPECIAL
- 8. DISINFECTION ROOM
- 9. EXERSICE HALL
- 10. LABORATORY
- 11. DRUG ROOM
- 12. CHANGING ROOM
- 13. SAMPLING ROOM
- 14. RWC/WC
- 15. BIKE PARKINGS



Each top floor have daylight in every direction. During night time the top floors can be visible as a lantern from the surrounding, since the areas can be rented out to external stakeholders. Floor 7-10 is for staff and does not require any patient flows.

Floor 7- Mobile team is moving towards a partly digital future, hence they are provided with light rooms further up in the building. With core B they access directly to the mobility hub in the basement.

Floor 8 - An additional function in the building is a research department is placed. This can be rented by medical students, PhD students and doctors for research and education within the subject.

Floor 9 & 10 - Two top floors are identical with gathered conference rooms and lunch rooms. During lunch the conference rooms can be used with lunch meetings and during the rest of the day the lunch rooms can also be used for gatherings.

PERSPECTIVE

INTERIOR - ACTIVITY HALL



INSIDE BRIEF

The activity hall works as a compound area, and belongs to rehab and habilitation during working hours and can be used by public in the evenings and weekends. Staff can also exercise during lunch breaks. The removable foldable wall in the middle, can easily divide into two independent activities.

CONNECT OUTSIDE

The activity hall is in the second floor, the same height as the slope outside. Doors to the west lead directly to outdoor gym, exercising outside will be convenient for patients. These doors will also help to create a better flow for the staff who go to hospital by bike.

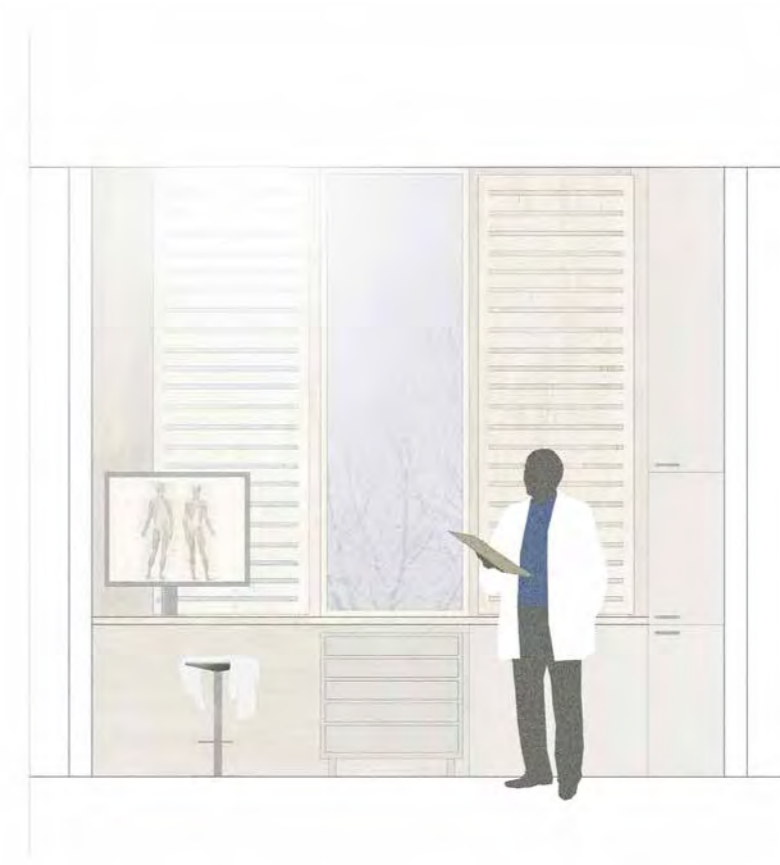
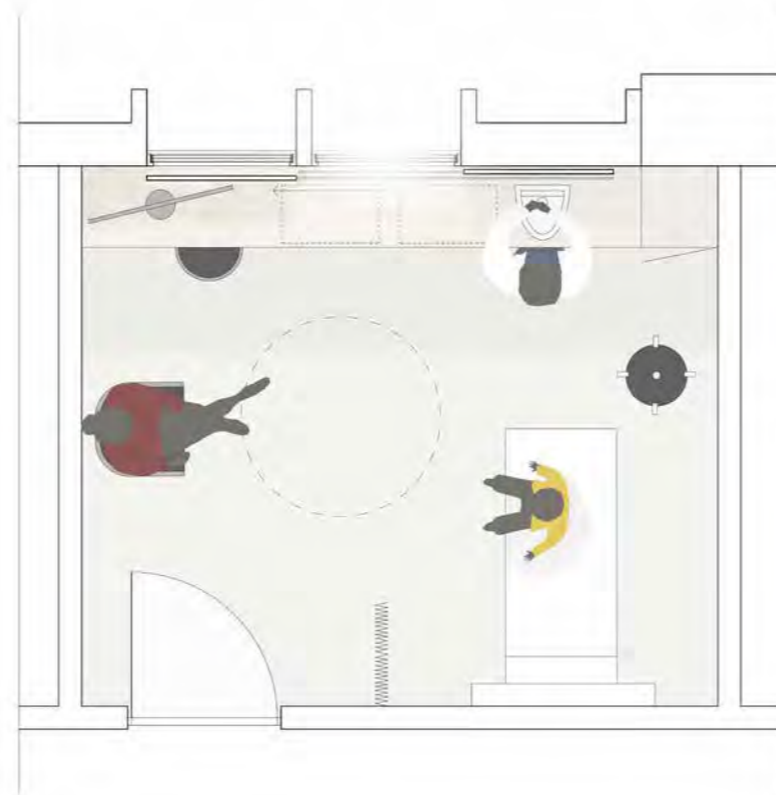
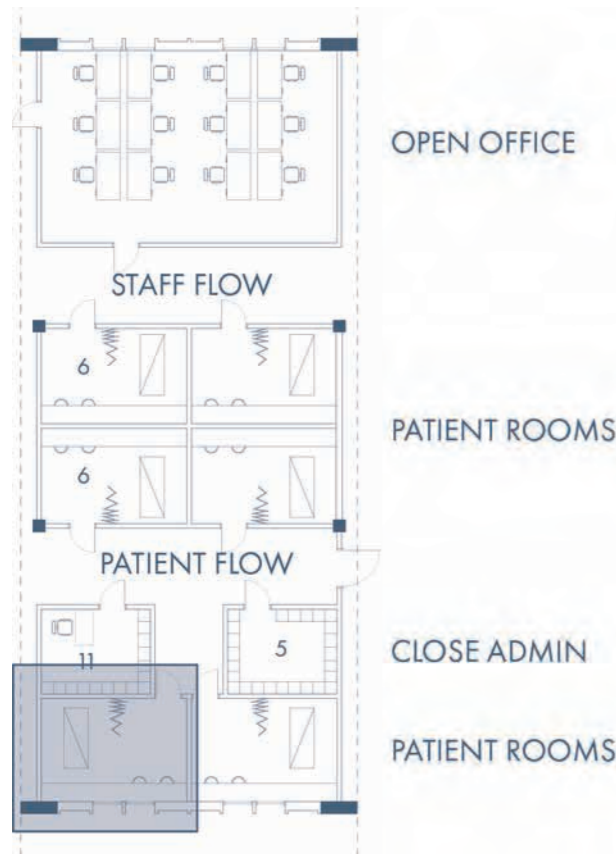
STRUCTURE

Glulam roof trusses are installed in the activity hall to meet the requirements of a larger span. Two-floor-height glass walls in the west can introduce the sunlight during cold seasons.



CONSULTATION ROOM

FLOOR PLAN & ELEVATION 1:50



ADMIN FLOW

The staff have the opportunity to use the space for admin after the meeting with patient for short work session between patient meetings.

NATURAL DAYLIGHT

Most of the consulting rooms are arranged along the south façade of the building, to get sunlight during the daytime.

MATERIAL

Wooden material for the inner walls creates a friendly atmosphere in the consulting rooms and helps to promote health and well-being.

SUN SHADING

Sliding wooden slats are installed at the interior side of the window, provide manual adjustments of sun shading. Here a so called "semi closed" facade-module for department is shown.

PERSPECTIVE

EAST SIDE - FROM WIEGSELGRENSPLATSEN

The high building could help with navigation within the district and as a landmark it states the important function a hospital has. The corner also activates the street from a human scale with glass openings.

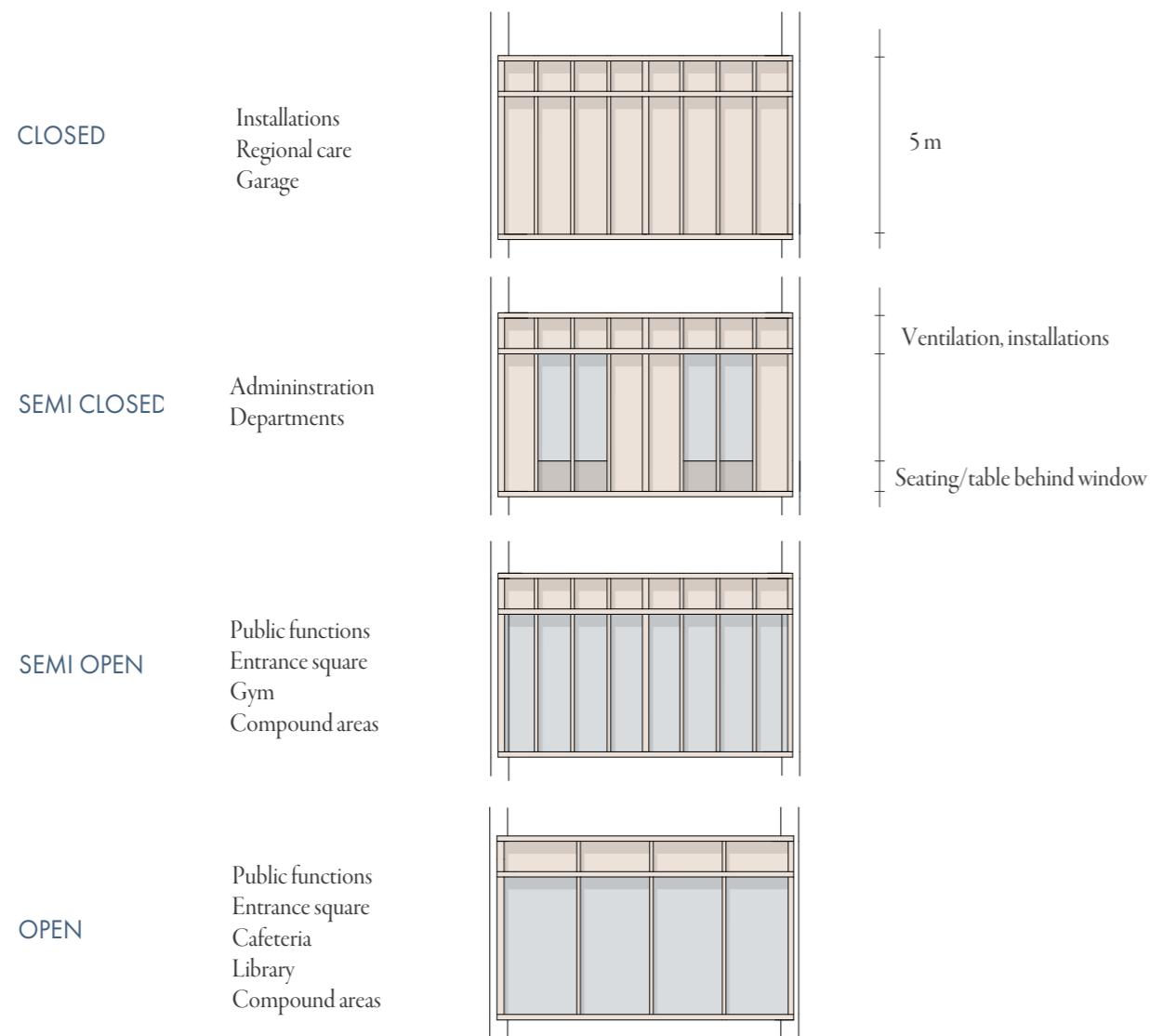
As a part of the high-rise building it serve as an important function in the surrounding area since it can be seen from a long distance.



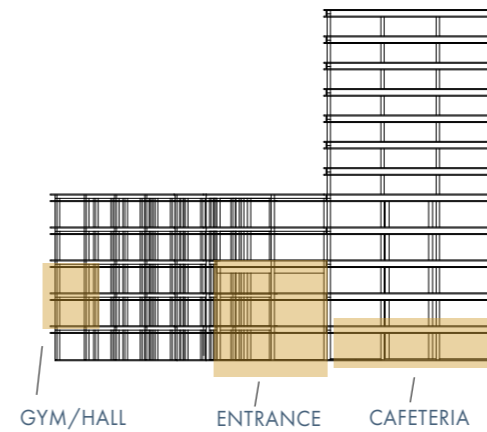
FACADE

CONCEPT OF FACADE MODULES

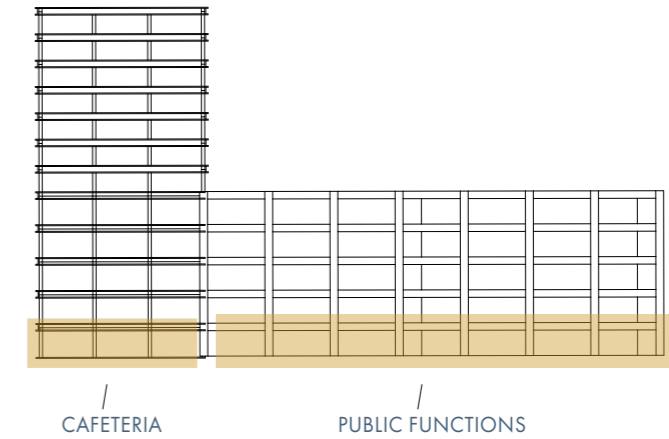
TYPES OF FACADE MODULES



FACADE
principle towards east



FACADE
principle towards north



The concept of the facade is arranged with four different modules on a scale from closed to open where the different modules reveals what is behind. The concept of the placement of the modules are made from an analyse of every function within the hospital. Each module is prefabricated and could be changed with future development of the hospital. It is attached on a post and beam construction in building A and B. In building C it is attached to the concrete structure.

The closed module is used where storage is, ambulance garage and logistic entrance is behind.

The semi closed is used in the majority of the facade. Here is the administration area and patient rooms where privacy is important. Integrated in this module are desks or seating area depending on the function behind. For privacy and sun-shading manual sliding elements on the inside of the facade is mounted.

The semi open module is used by the public facilities and staff areas.

The open module is used by the entrance square, cafeteria etcetera to invite everyone to the hospital.

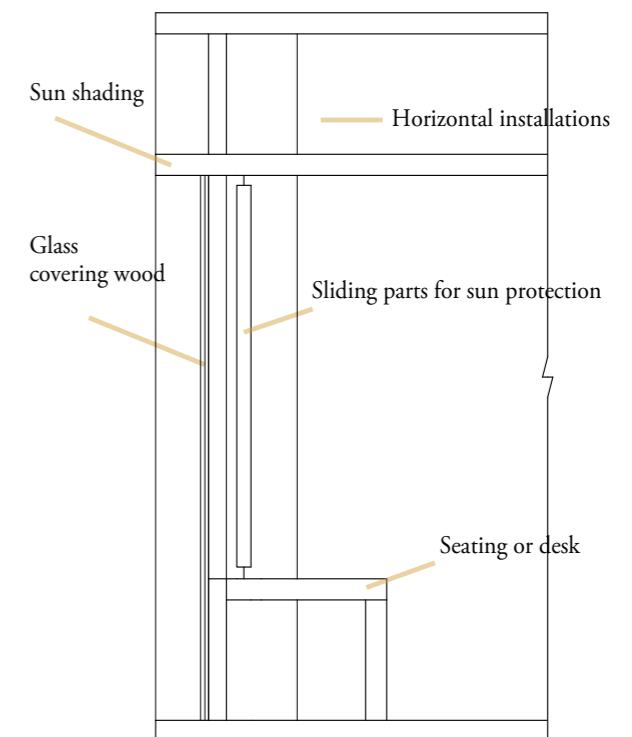
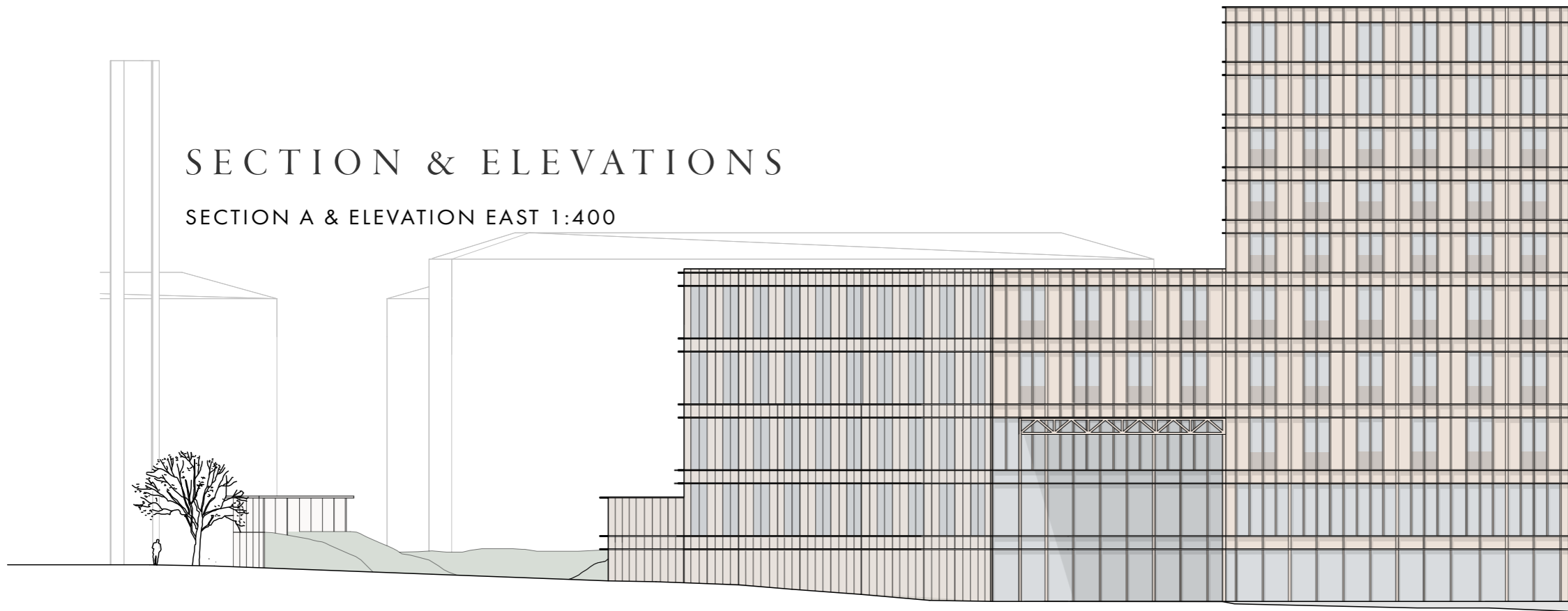


Illustration of window section.

SECTION & ELEVATIONS

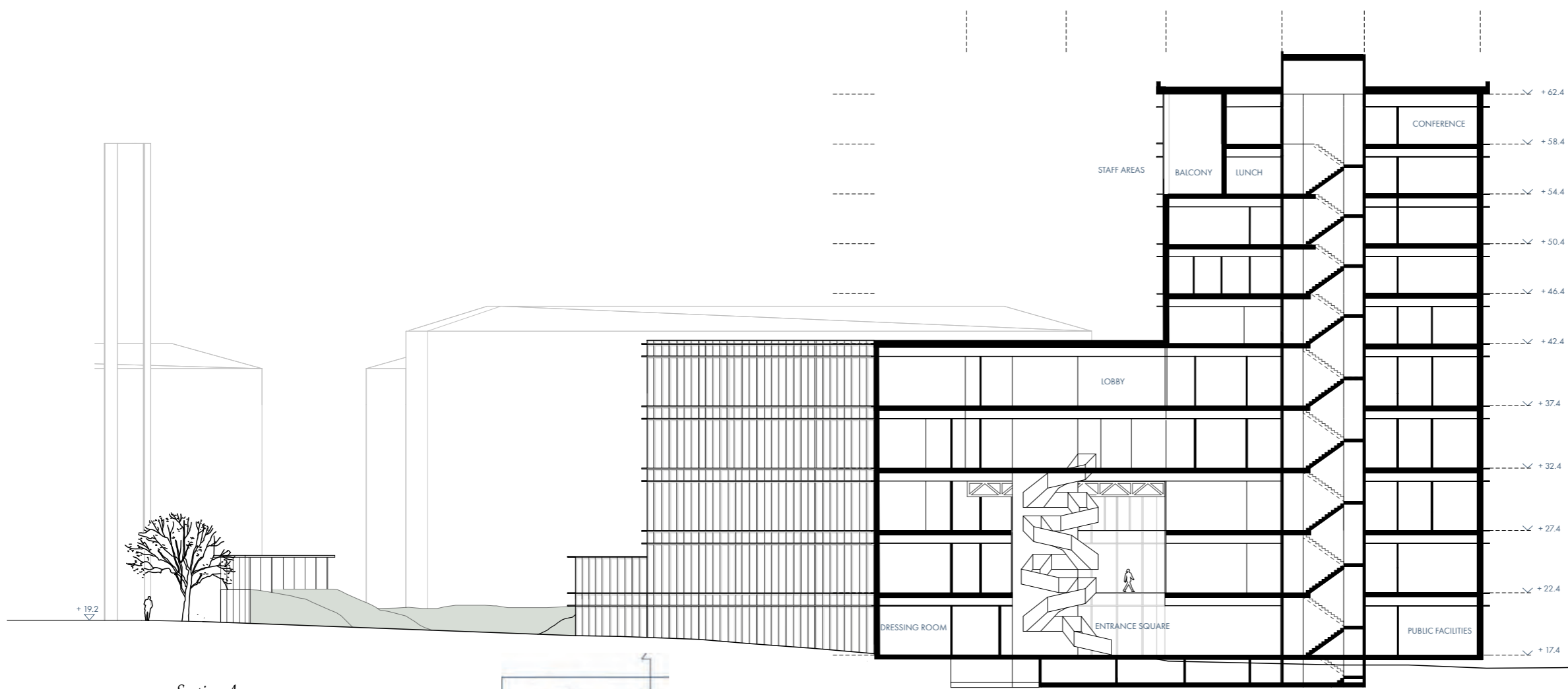
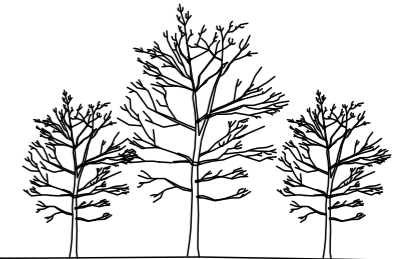
SECTION A & ELEVATION EAST 1:400



Elevation East

The entrance for goods is integrated in the facade along Inlandsgatan and covered by the park. This makes it possible to walk directly on the slope into the regional health and activity hall.

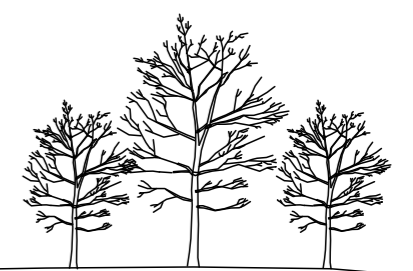
The truck is received in regional service department and will be transported to core A and then down to the basement to be further distributed.



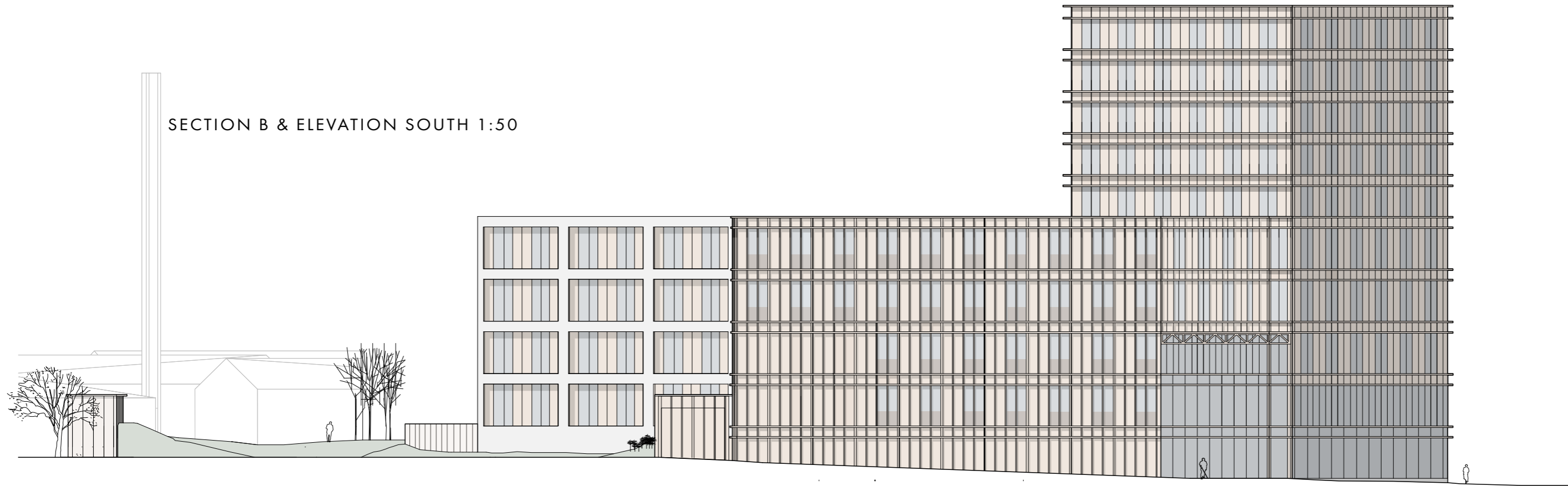
Section A

A sculptural staircase in the entrance square makes a statement to welcome the patient to the hospital. The same language is used for all receptions to help the patient re-cognate and navigate through the different departments. The entrance square stretches in three floor heights where the staircase figure as a sculpture.

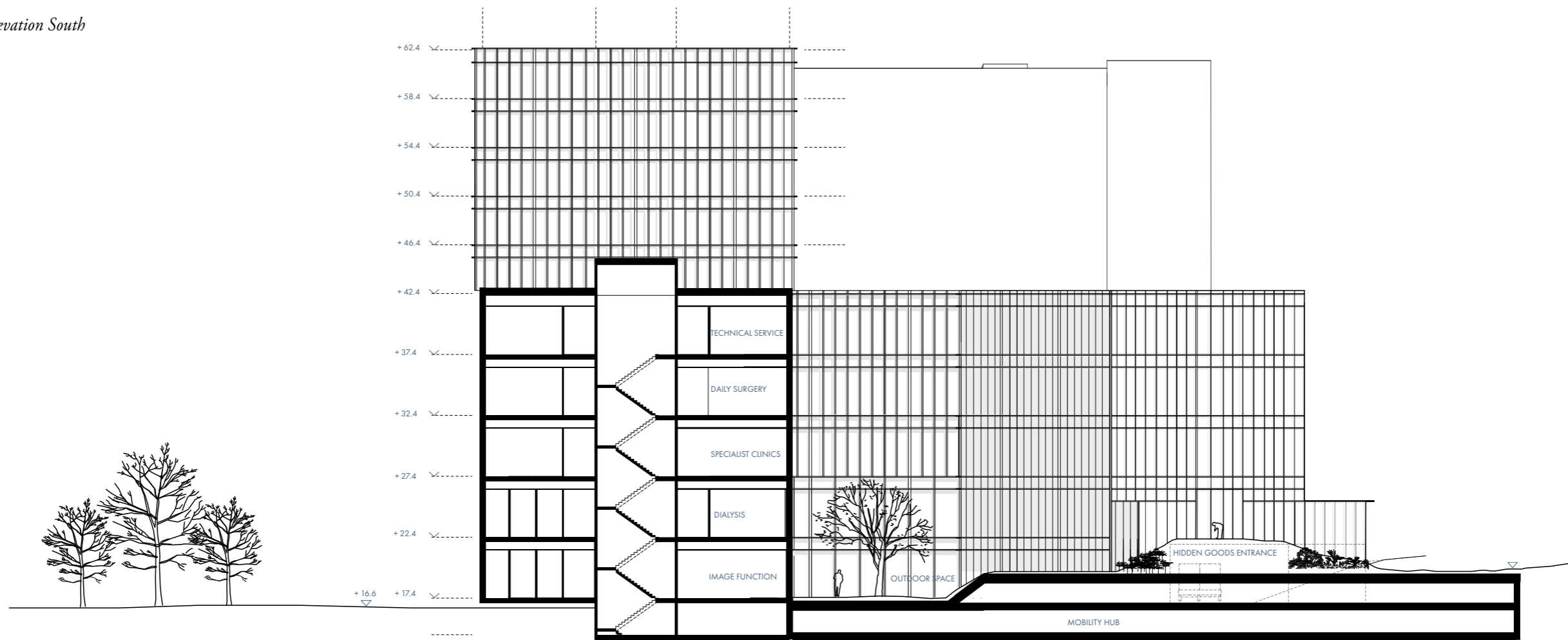
A balcony is integrated with the lunch rooms on floor 9 pointing towards the green area of Ramberget.



SECTION B & ELEVATION SOUTH 1:50

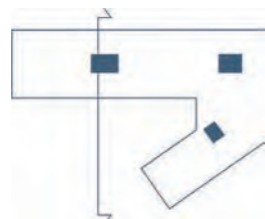


Elevation South



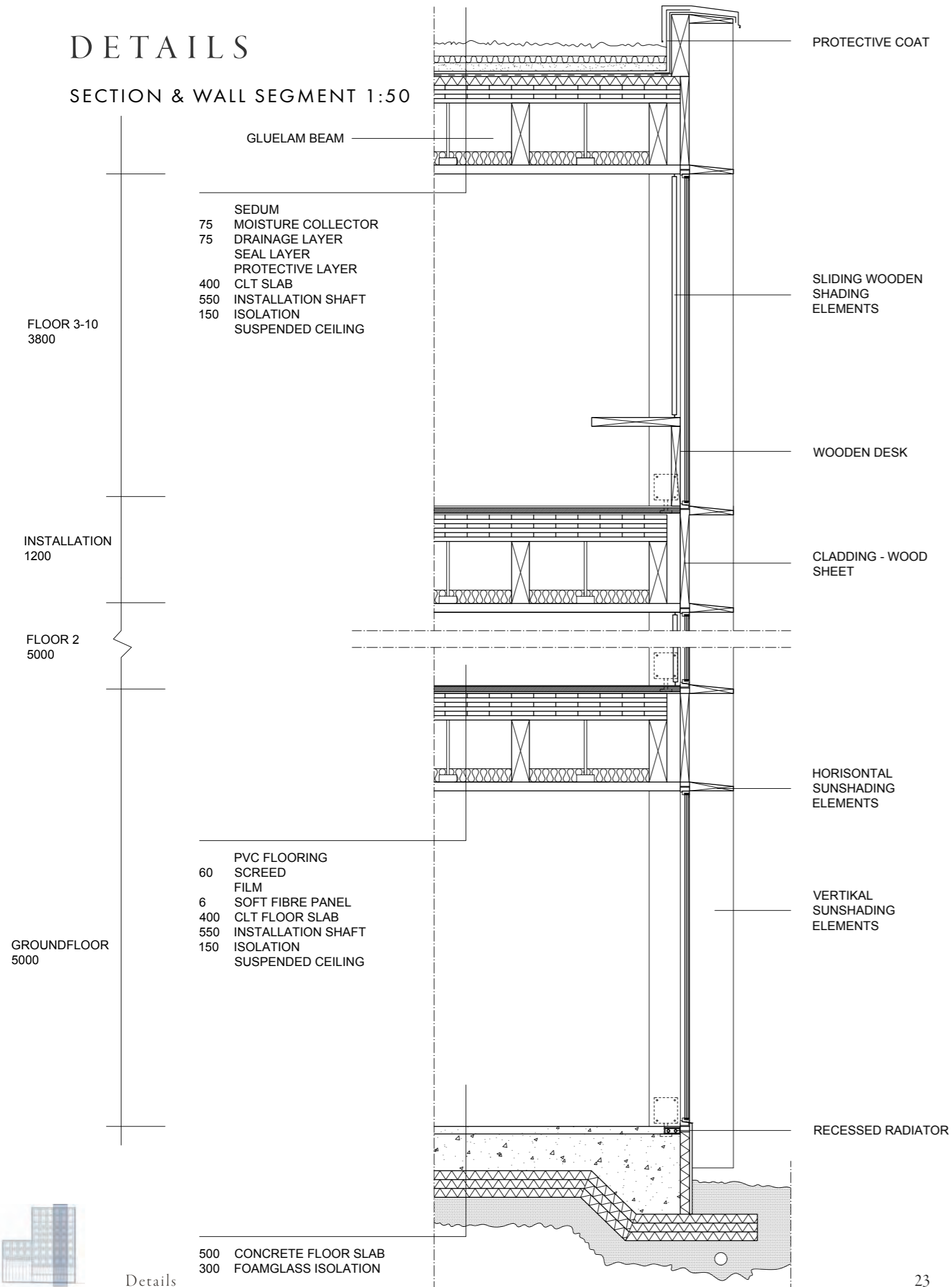
Section B

Sections & Elevations



DETAILS

SECTION & WALL SEGMENT 1:50



PERSPECTIVE

WEST SIDE - FROM ACTIVE PARK

The park on top of the mobility hub is meant to be a compound area for the whole city and to invite people from the area. With larger events in the arena the park within the hospital can be used for heavy audience and supporter flows.

The aim is to welcome the neighbourhood to the park meanwhile patients and staff have close access to outdoor spaces. This is also a way to promote health and to get more use of the plot during weekends and nights.

The running track is also adapted for everyone to use, hence placed in the lower parts of the slope. Especially the sport facilities nearby will use it.

