



WAVE

LIFE GATEWAY
JÖNKÖPING

A NEW ADDITION TO RYHOV HOSPITAL

CHALMERS UNIVERSITY OF TECHNOLOGY
ARK 262 - VÅRDENS ARKITEKTUR - FALL 2015
ENA SREDANOVIC HANNA HOLMGREN NINJA WESTBERG

CHALLENGES & GUIDELINES

TO PREVENT INSTEAD OF TREATING

Life Gateway Jönköping is a new concept, aiming to look 10 years ahead of time, into the healthcare service at Ryhov Hospital. The new concept consists of one entrance - unifying the whole hospital. Life Gateway will be the meeting place between citizens and healthcare where you as a patient are invited to take bigger part of the service given.

In 10 years time education, both for students, hospital staff and citizens, will be more important than ever - therefore a new learning centre is crucial. The emergency process will change and patients who are not extremely sick will get to meet a new department instead which is called "Investigation". As working with preventive healthcare becomes more and more important - a new rehabilitation centre will be added. Healthcare also aims at treating people in their homes when possible, therefore the department "Home care" will be created and have its base at Ryhov.

The project **WAVE** wants to answer these requirements.



NATURE & DAYLIGHT

- Care for the greenery and parks
- A great need of terraces for patients and staff
- A good work environment for the employees



SUSTAINABILITY

- New energy systems that will not contribute to CO2 emissions



COLLABORATION

- More meeting rooms for different type of meetings



MEDICAL INNOVATION

- "Hybrid rooms" are needed
- Acute should have separate infection track
- Acute needs imaging + labs



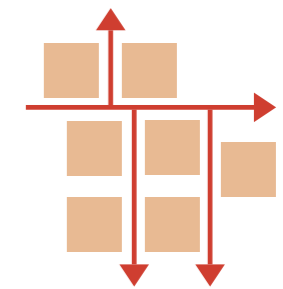
PATIENT CENTERED

- Strengthen the patient's position and participation



FLEXIBILITY

- Rapid changes of functions and program within healthcare
- Education has increased - new lecture rooms are needed
- Acute has to be planned for a growing flow

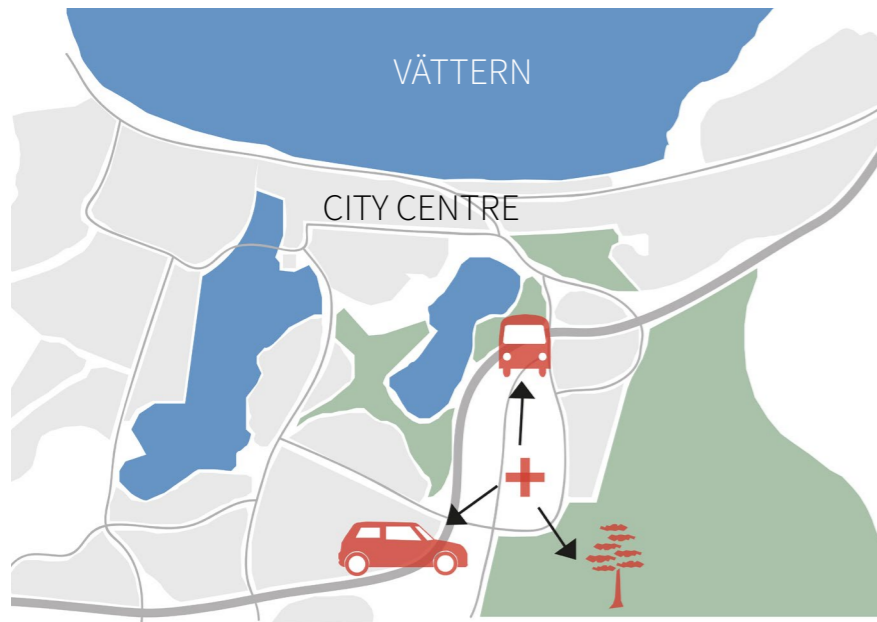


FLOWS & WAYFINDING

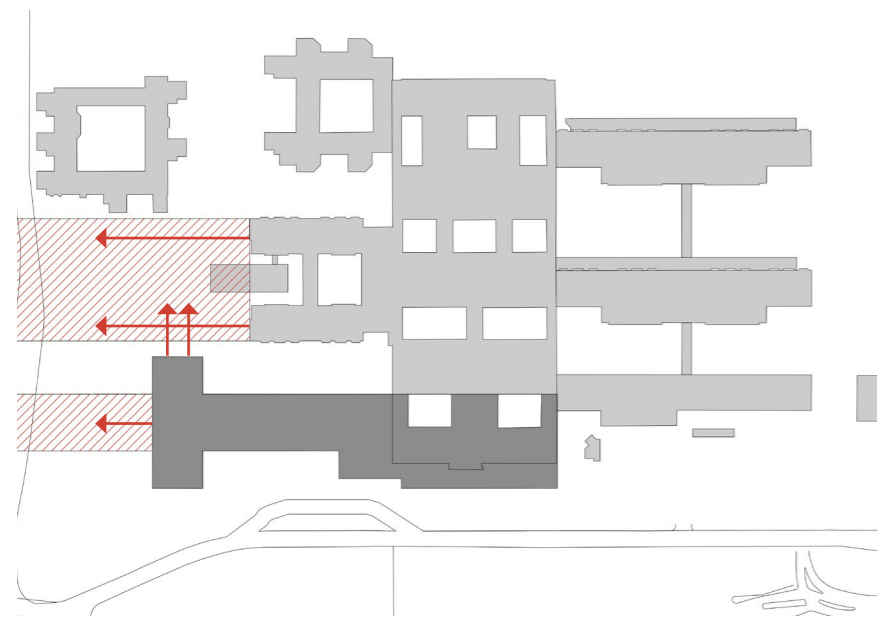
- Big lack of parking
- Too few elevators and not separated flows
- The restaurant is hidden from main entrance and the corridors
- Unclear and unattractive entrance situation
- Big trauma rooms are needed with direct access to operation and intensive care
- Acute process requires multi-professional care and short distances to important functions

from "Länssjukhuset Ryhov Översiktsplan" by Region Jönköpings län august 2015 (the development plan of Ryhov hospital)

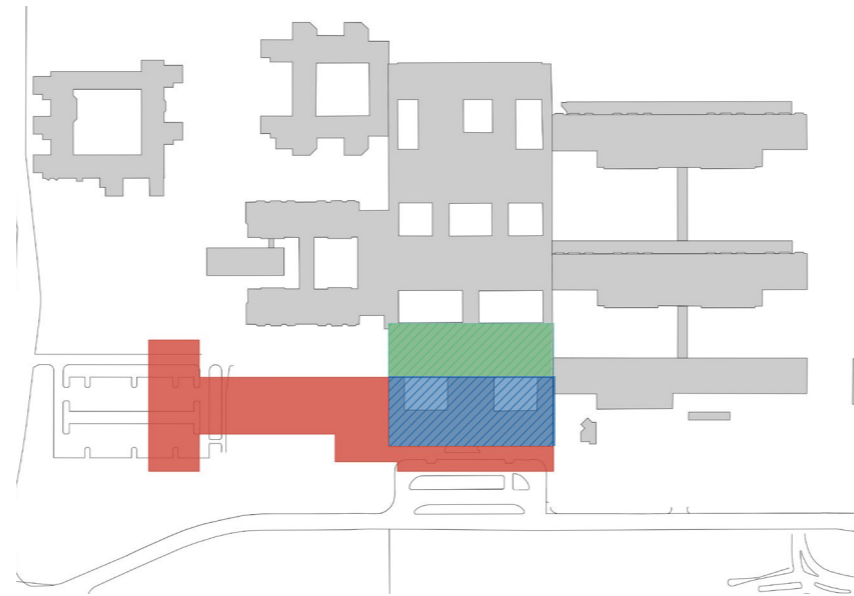
JÖNKÖPING & RYHOV



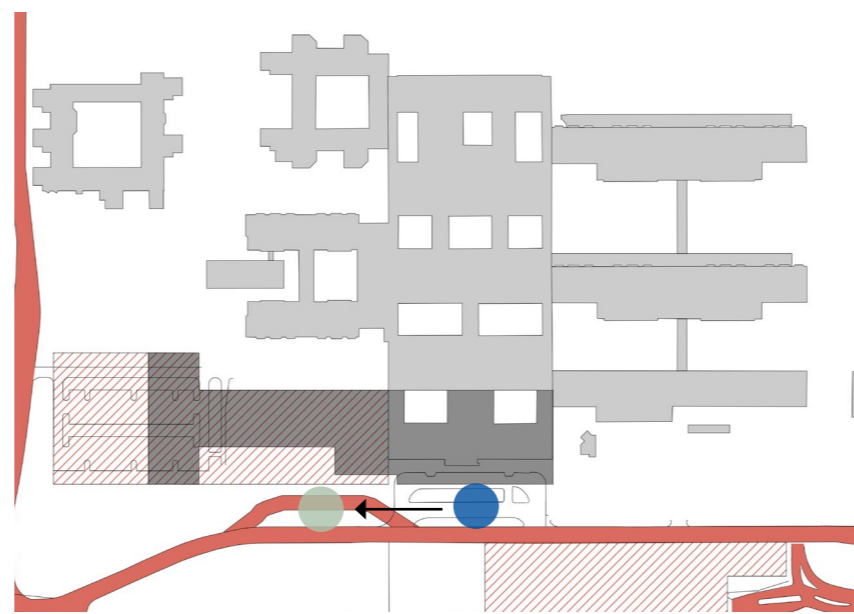
- GREENERY
- WATER
- URBAN AREA



- ← CORRIDORS THAT CAN BE EXTENDED
- FUTURE EXTENSION POSSIBILITIES

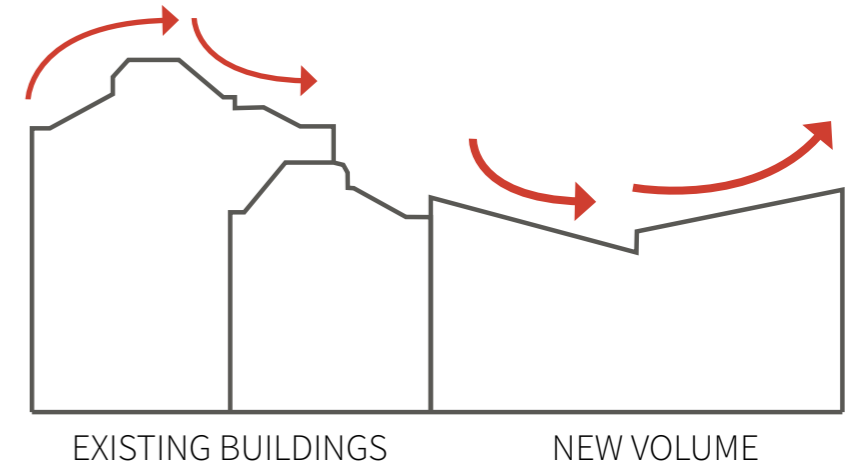


- KEEP EXISTING PART - REFURBISH THE INSIDE
- DEMOLISH EXISTING PART - BUILD NEW STRUCTURE
- NEW STRUCTURE

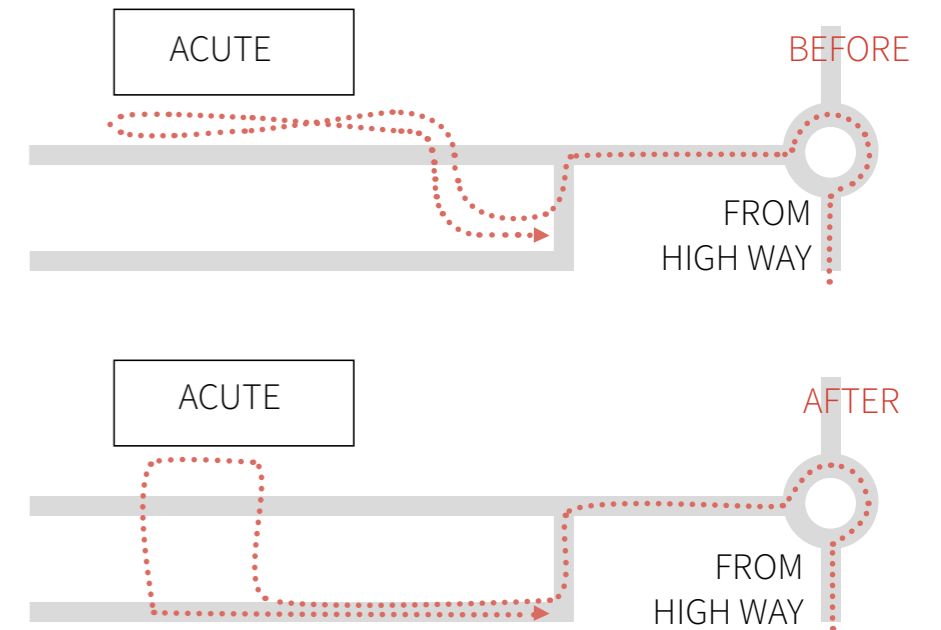


- BUS STOP TODAY
- BUS STOP TOMORROW
- ROADS TOMORROW
- PARKING TOMORROW

CONCEPT



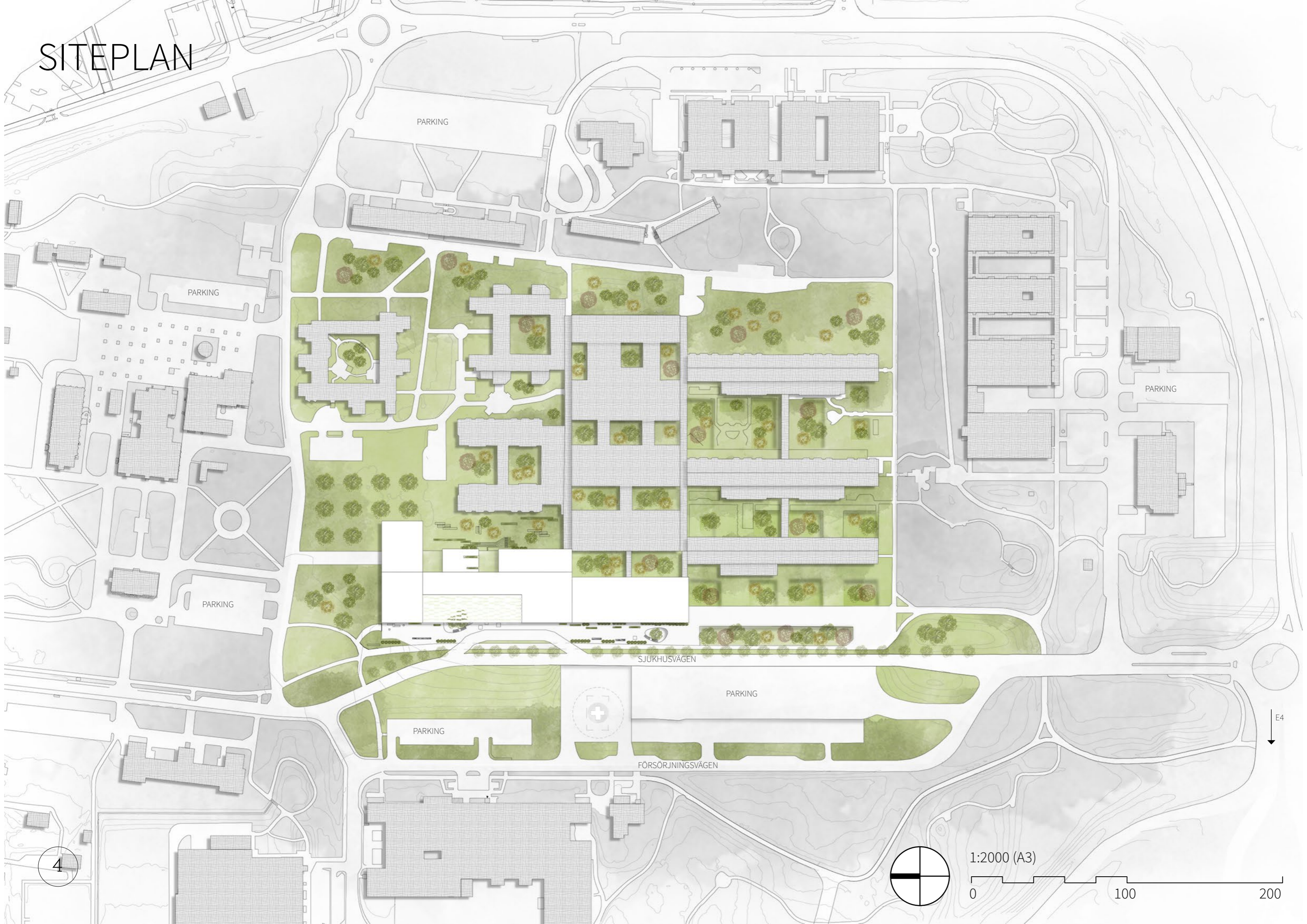
TO BUILD ON TO THE WAVE THAT RYHOV ALREADY IS AND UNITE THE WHOLE HOSPITAL IN ONE ENTRANCE UNDER THE WAVE



⋯ AMBULANCE ROUTE

TO MINIMIZE NARROW AND UNNECESSARY TURNS

SITEPLAN



PARKING

PARKING

PARKING

PARKING

SJUKHUSVÄGEN

PARKING

PARKING

FÖRSÖRJNINGSVÄGEN

4

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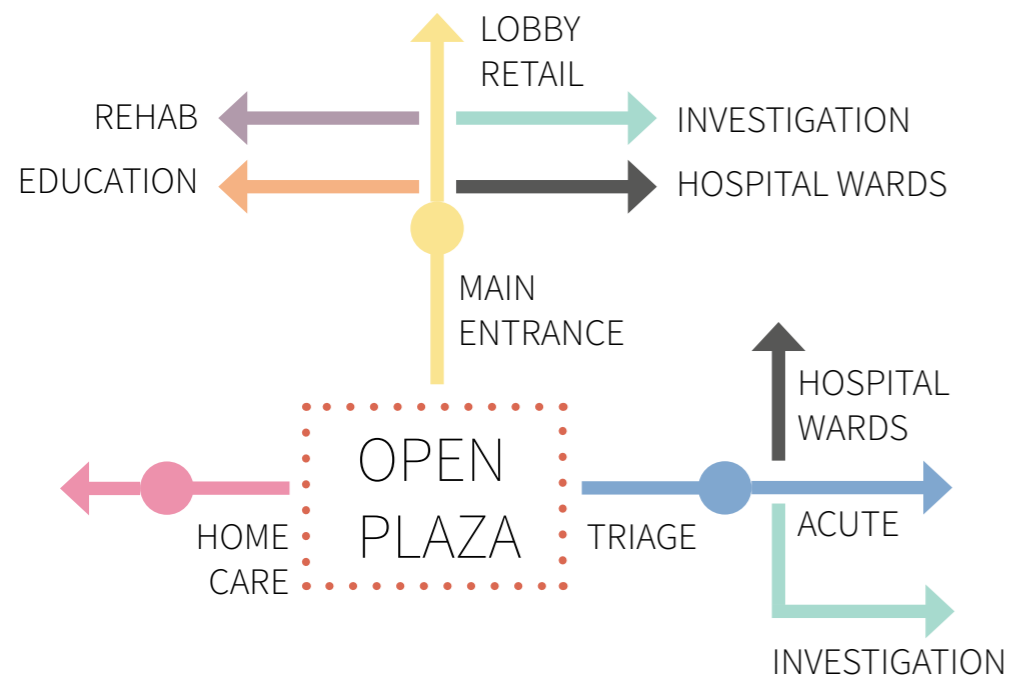
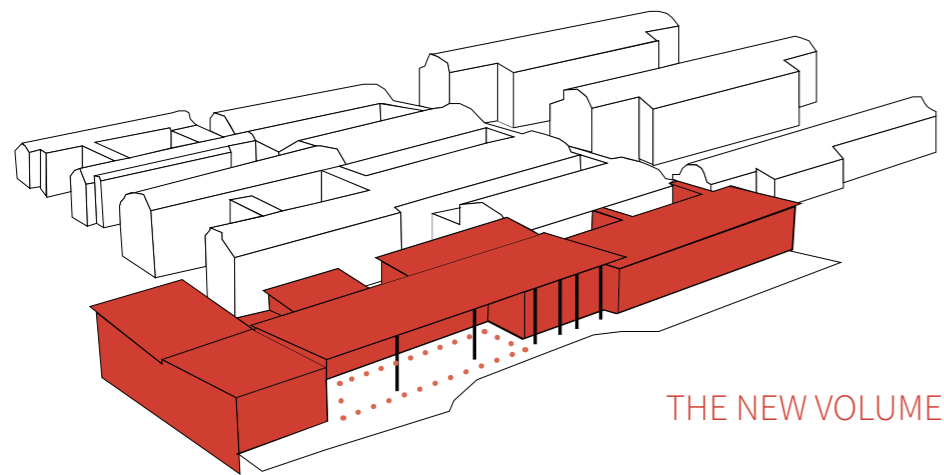
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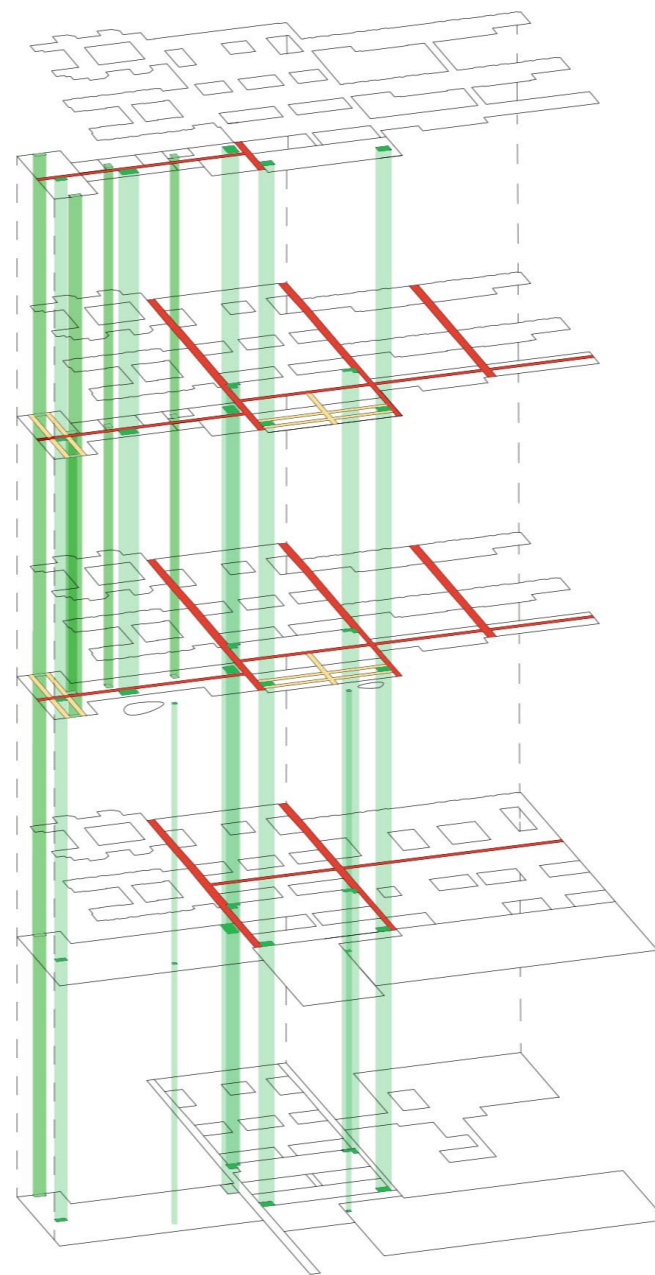
E4

FUNCTIONS & VERTICAL COMMUNICATION



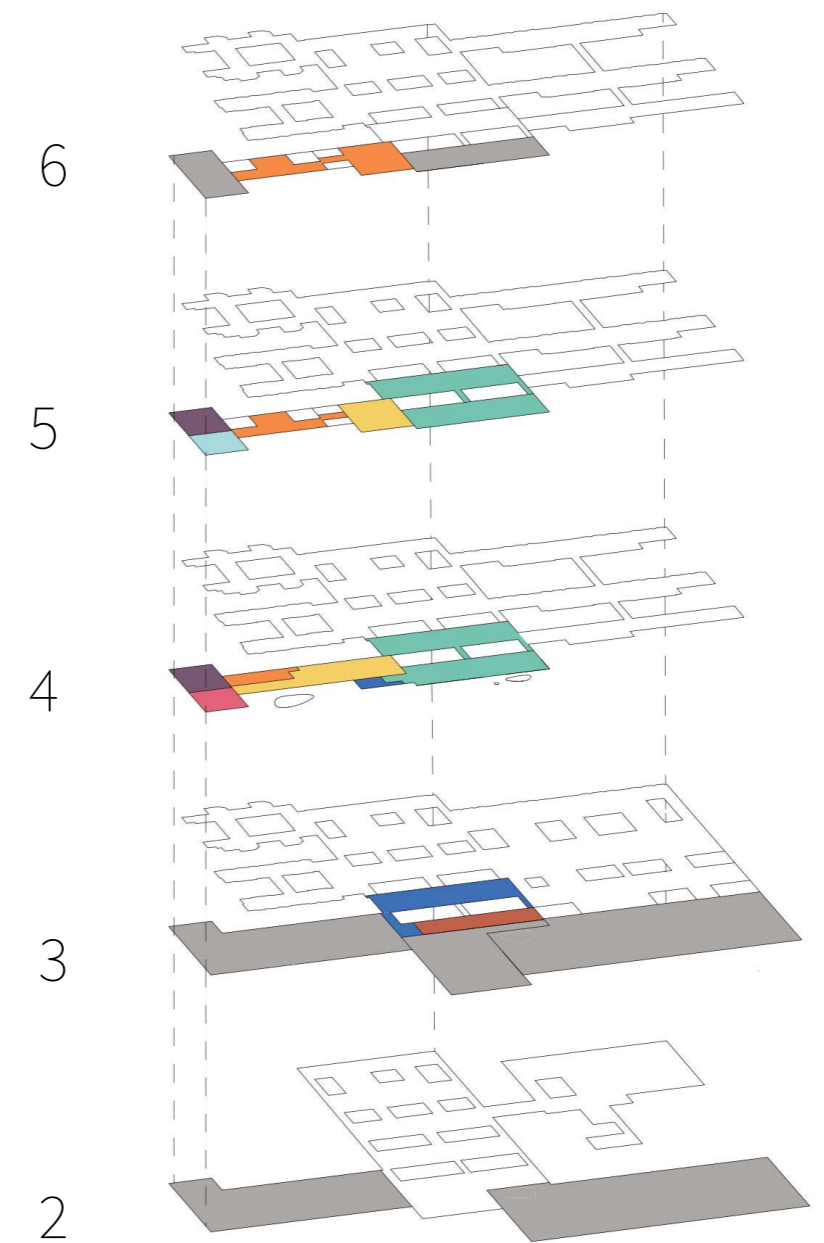
ENTRANCE SITUATION

Patients, students, visitors and staff are all entering via the hospital's new plaza. From the plaza three entrances are available: the main entrance, the emergency's triage or home care. Inside the main entrance one finds the lobby, a library and a clear design of how the visitor moves further into the hospital. In the acute the visitor is greeted by a triage, which then leads on to the emergency, investigation, or to a particular ward.



VERTICAL COMMUNICATION

- ELEVATORS
- STAIRS
- MAIN CORRIDORS



FUNCTIONS

- REHABILITATION
- HOME CARE
- EDUCATION
- LOBBY / RETAIL / FOOD
- ACUTE
- TRAUMA
- INVESTIGATION
- PARKING / VENTILATION



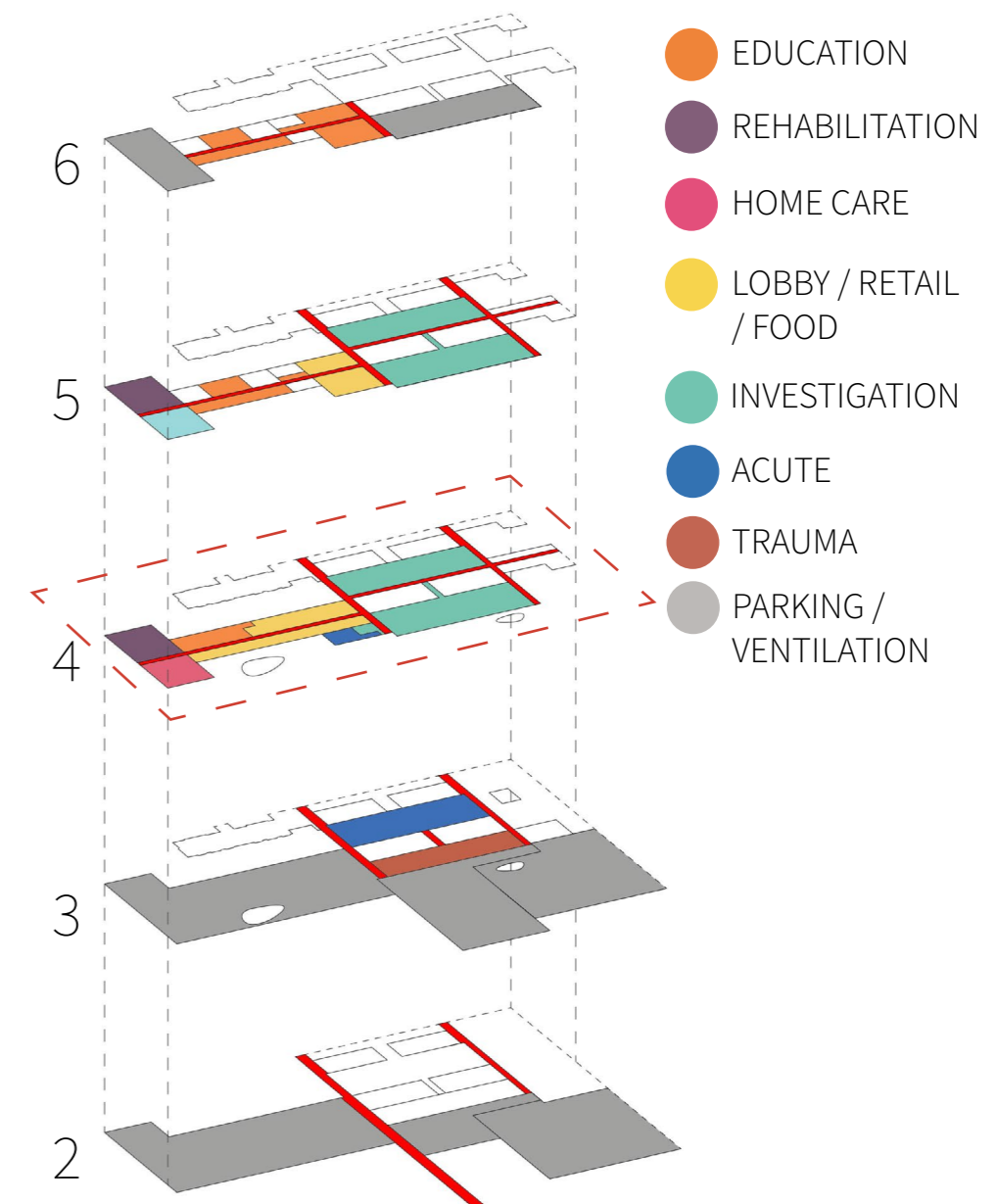
FLOOR 4

THE ENTRANCE FLOOR

The visitor using the hospital's new main entrance is greeted by a grand vertical opening, which gives a clear overview of the different floors and connects functions vertically.

On the first floor the visitor is facing an information desk, a café with views of the greenery, a learning centre, a healthy food store and a pharmacy. Further into the building is an auditorium, rehabilitation centre and home care placed.

Investigation is the buffer zone in between the existing hospital and the new addition. In this section new types of rooms are designed for the healthcare of the future, such as meeting rooms where the doctor and patient can talk, study rooms for group discussions as well as rooms where patients can stay over night if necessary.

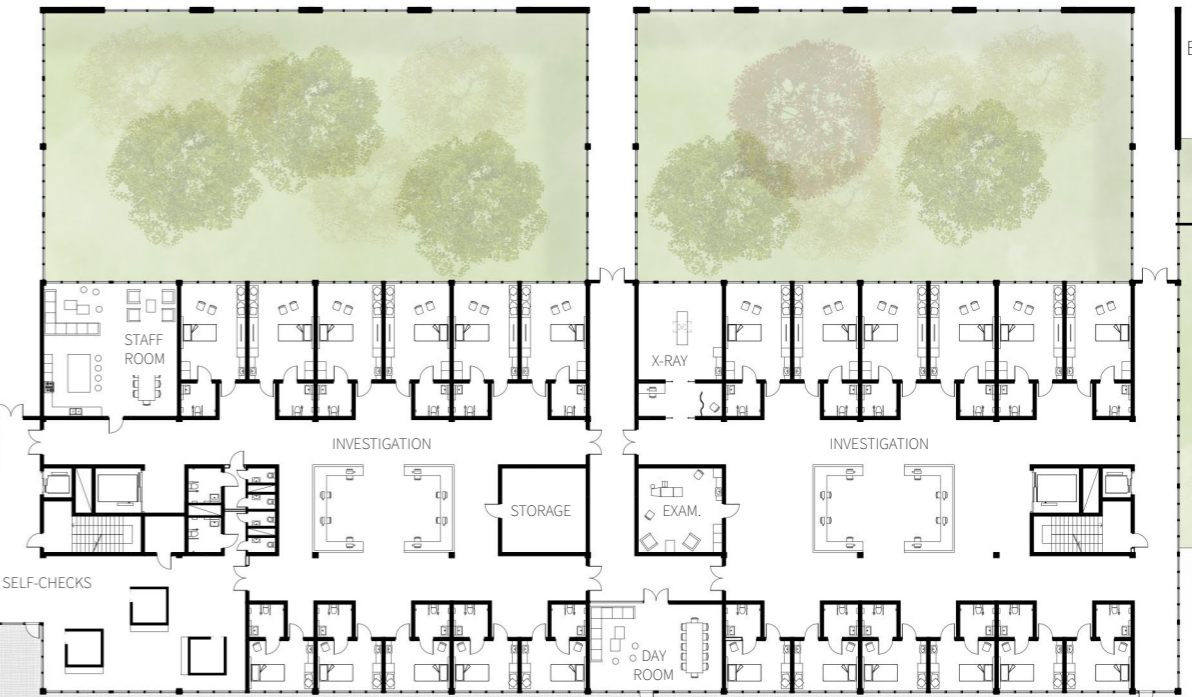
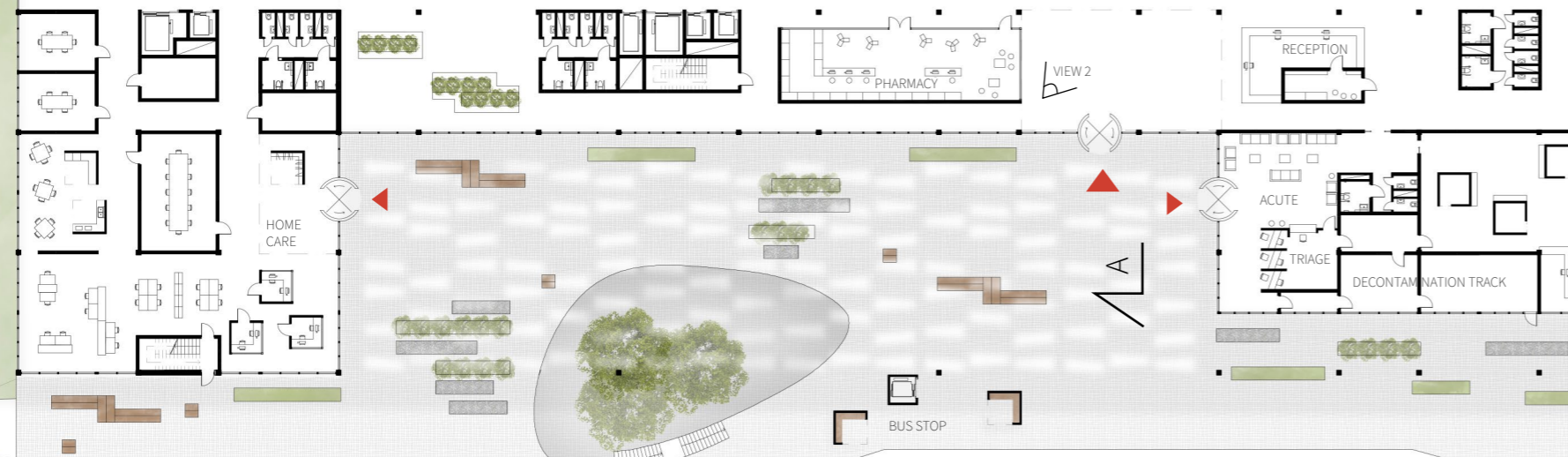
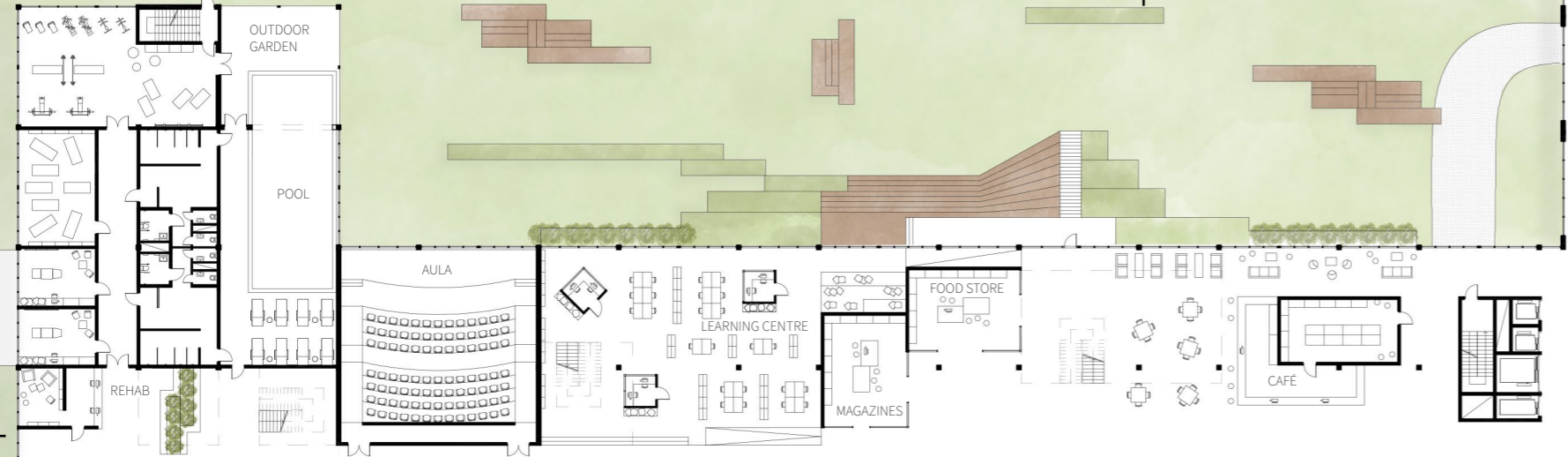
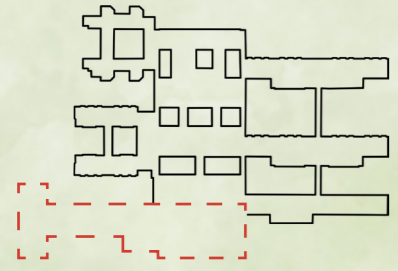


THE EXTRUSION SHOWS THE NEW + REFURBISHED VOLUME

CLINICAL PHYSIOLOGY &
CLINICAL CHEMISTRY

EAR
NOSE
THROAT

CARDIAC DEPARTMENT



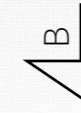
EYE DEP.



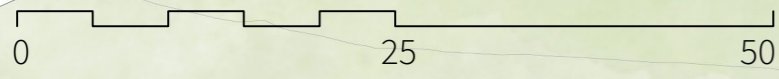
VIEW 2

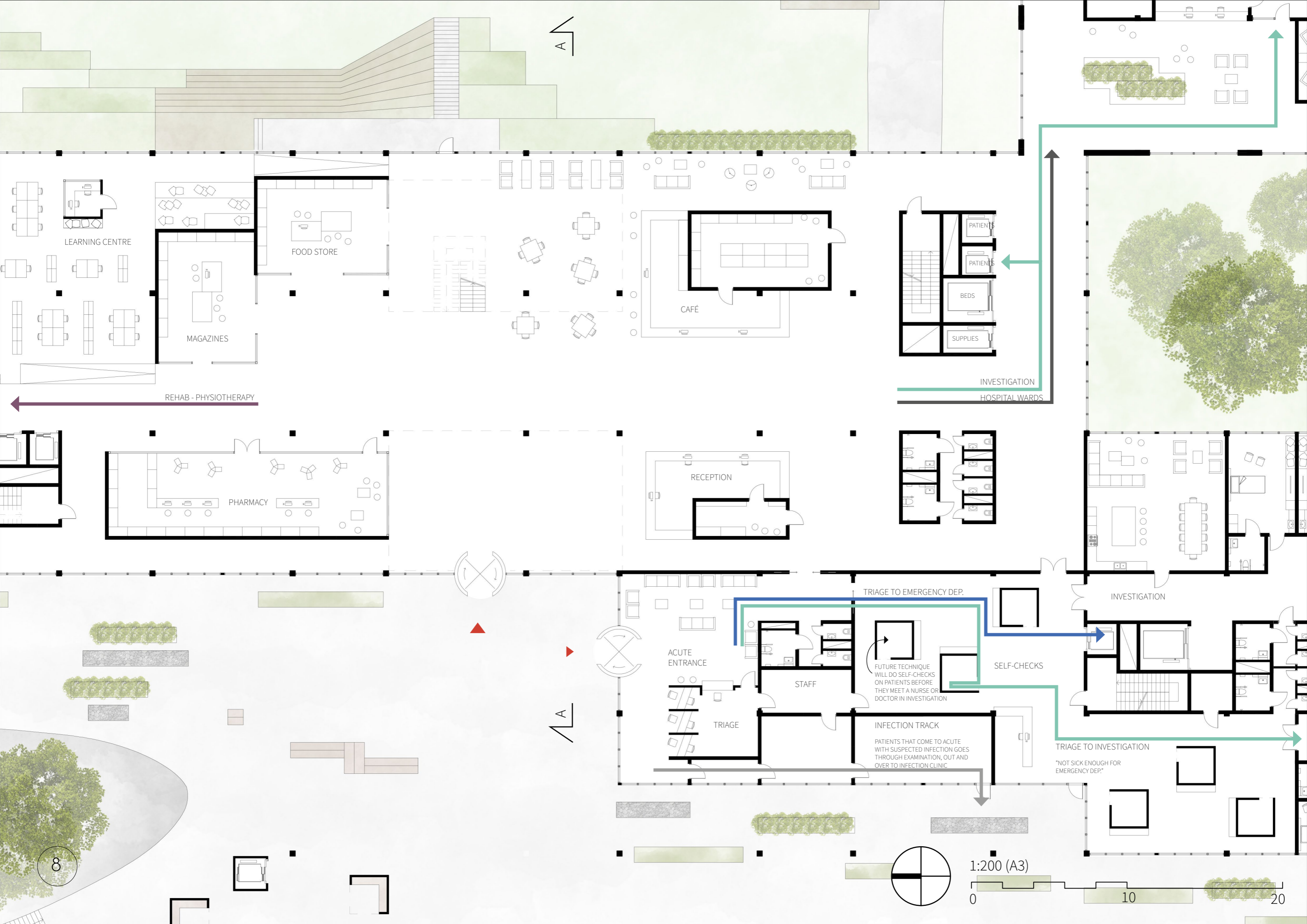


VIEW 1



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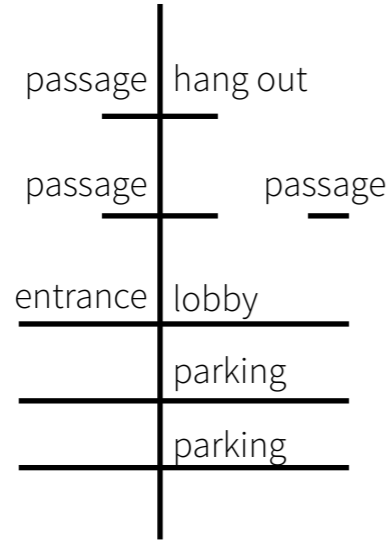




FLOOR 4

ENTRANCE FLOOR

The flow in the new addition of the hospital is similar to how ants move in an ant's nest. There are a number of central, vertical communications from where different functions bloom out. These functions have a visual connection to each other through openings in the floor slabs.



When the patient arrives to the acute, he, or she, comes into the triage. The triage will separate the emergent cases from less serious problems and staff will send the patient further into the building.

If it is less serious the patient will be sent to the Investigation department, he or she passes to the next room where the "check in" boxes are available. In these boxes the patient can examine their own heart rate, weight, length etc, and then await a call for examination.

If the triage indicates a very emergent case the patient will be sent directly down to the emergency room, via elevators.

In the triage room, if infection is suspected, the patient is sent via an infection track. The patient will be examined in an isolation room, sent out and further to the infection clinic.



SECTION A-A

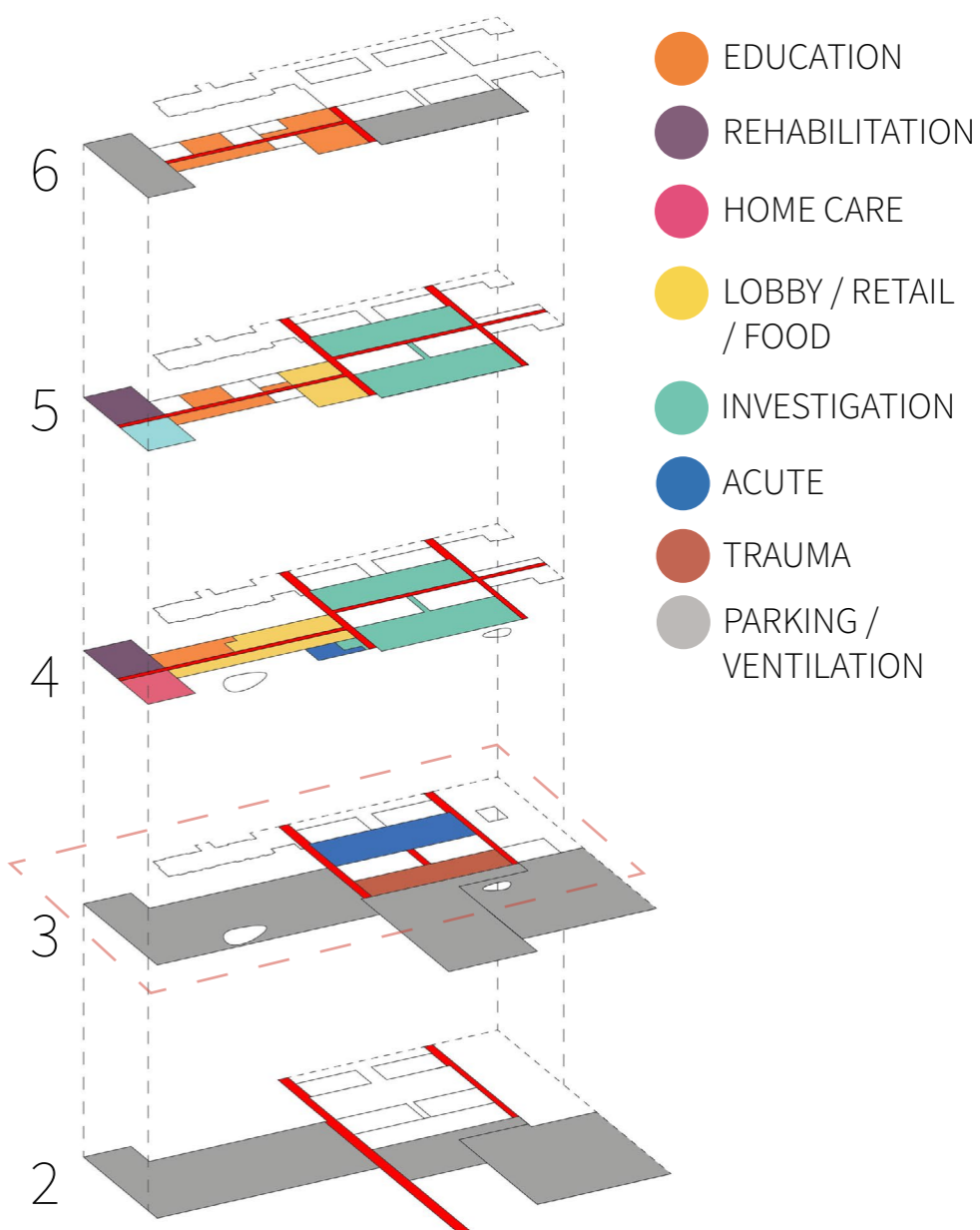
0 10 20 1:200 (A3)

FLOOR 3

"HOT FLOOR"

On this floor the ambulance garage is located next to the trauma department in order to create the most effective flow and treatment. Thereafter, the patient is close to the ICU. If the ambulance arrives with a person that is not critically injured the patient is immediately led to the emergency room for further treatment or via elevators to the investigation floor one level up.

When a patient is walking from the triage point, he or she waits by the acute desk before further examination. Patients may also arrive through the garage when arriving, critically, by car.



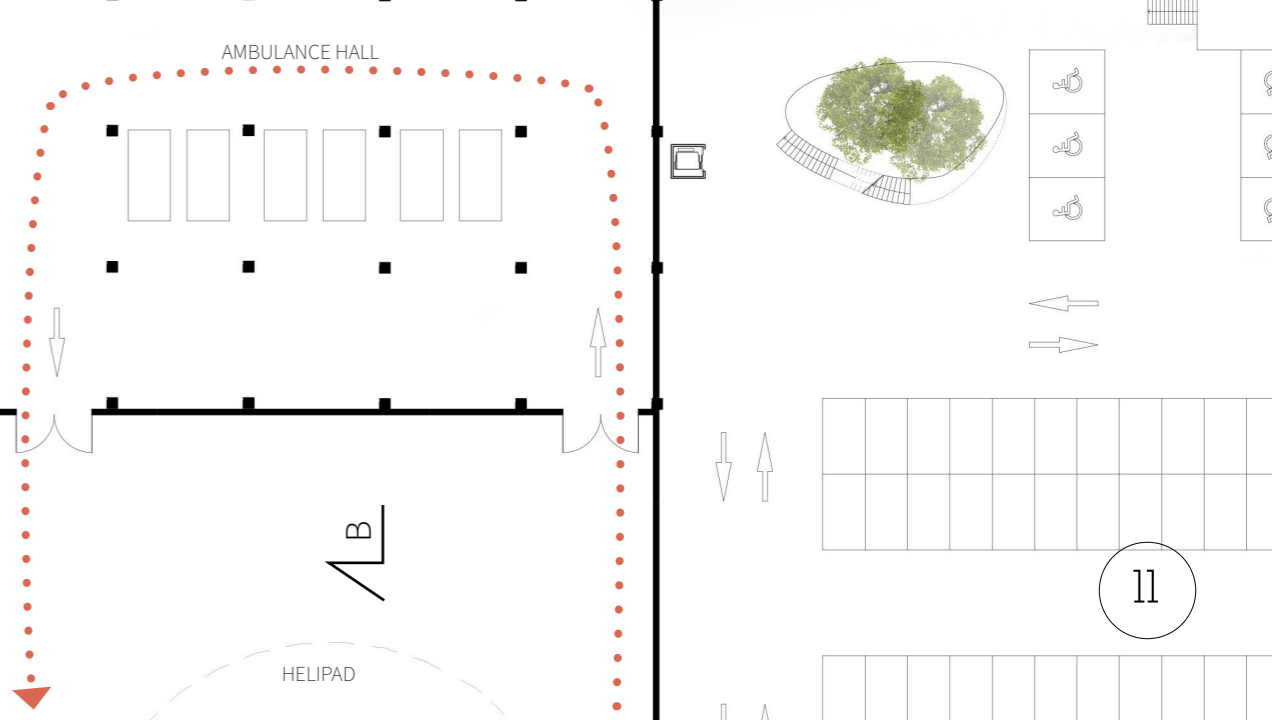
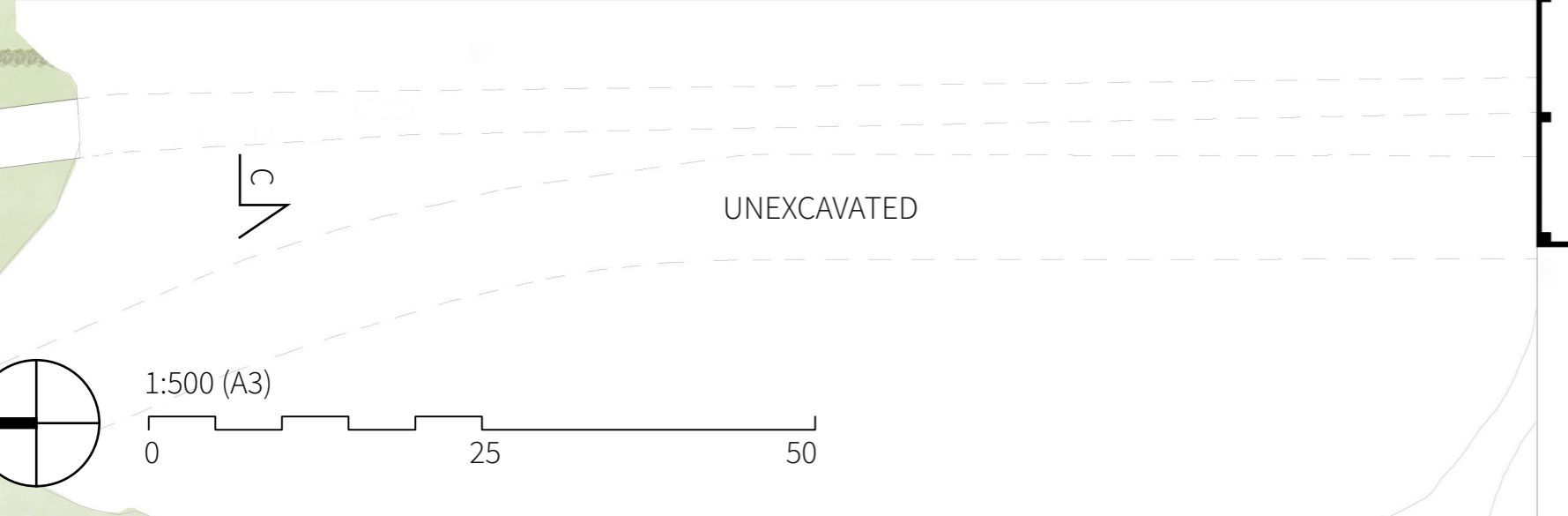
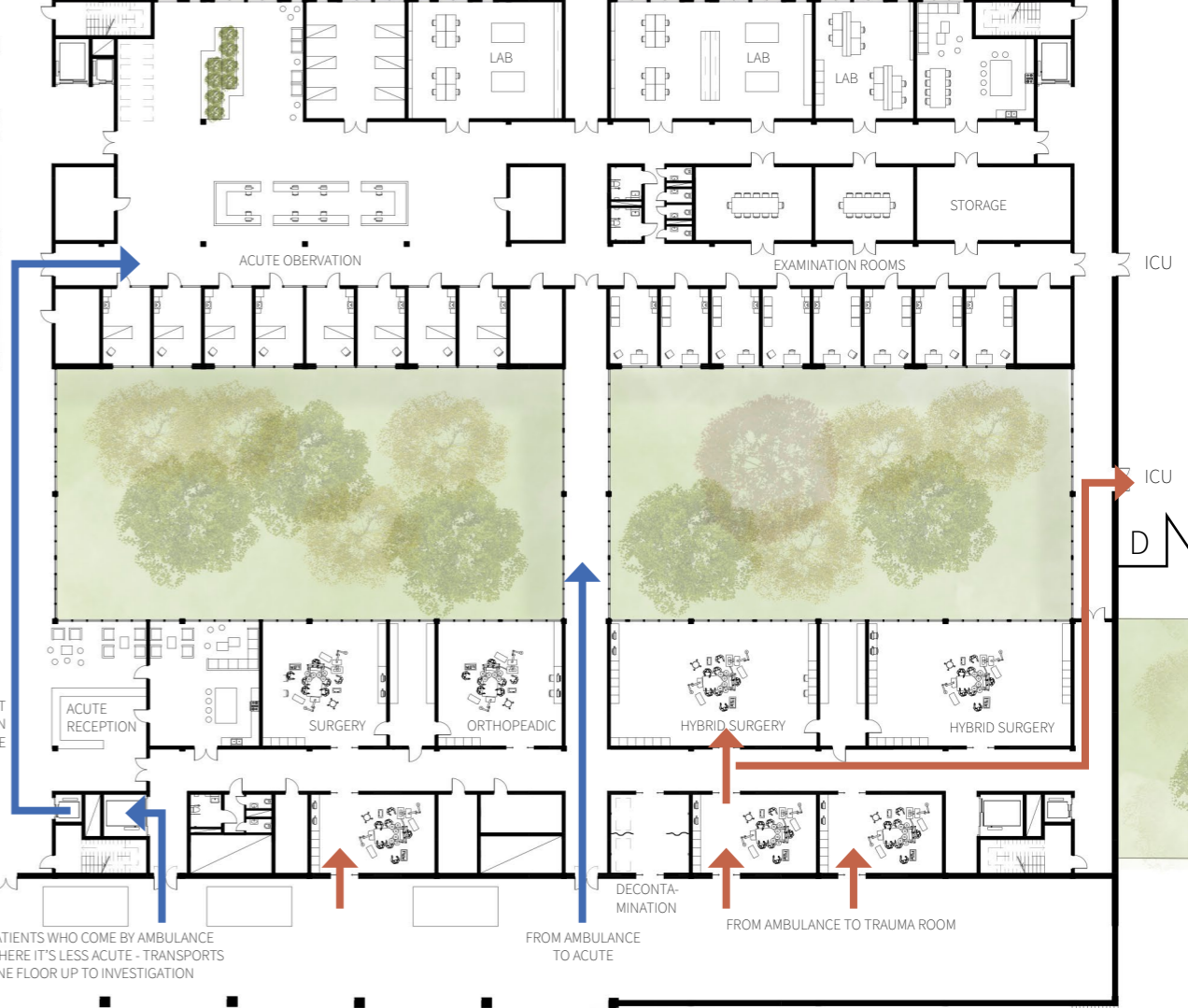
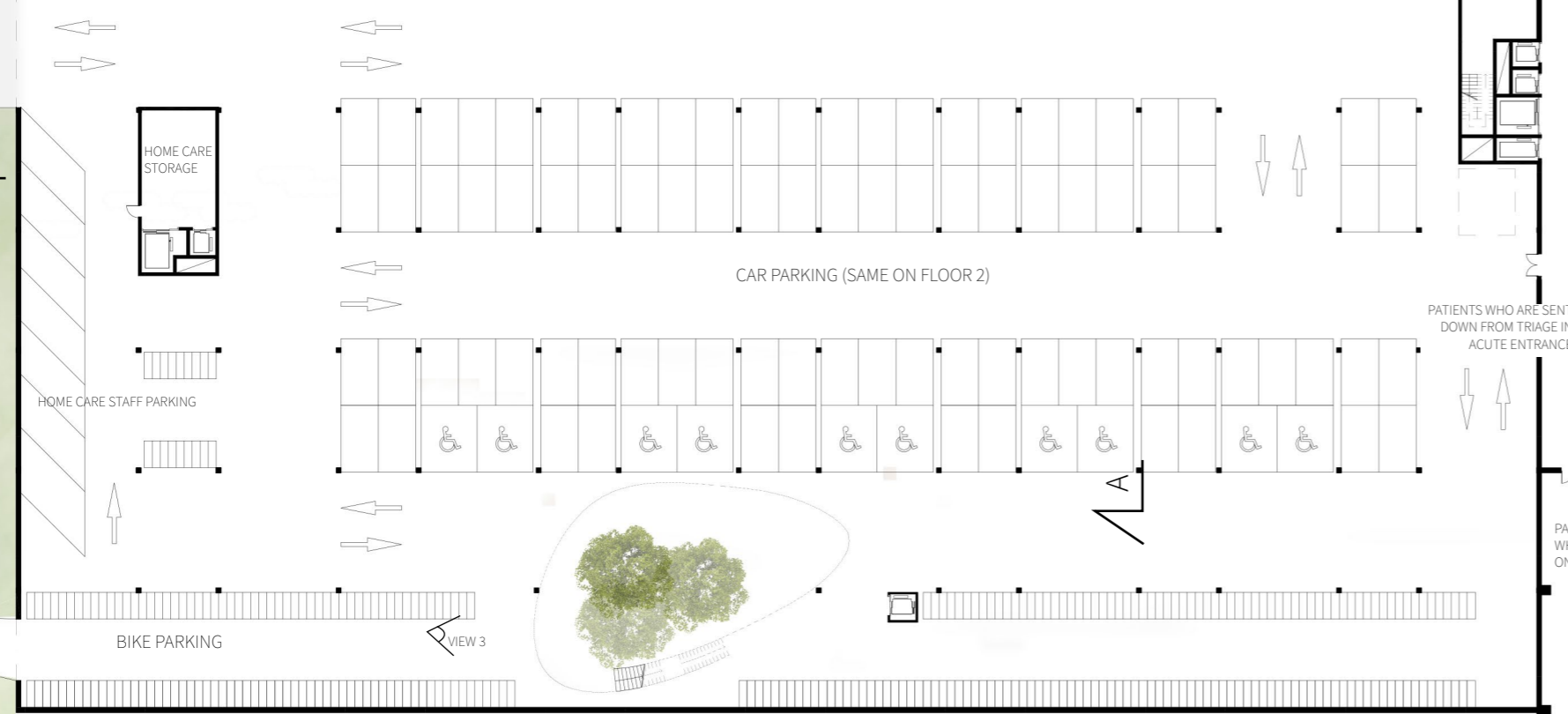
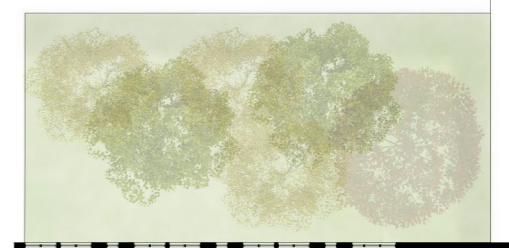
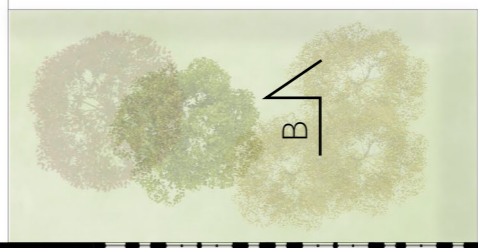
THE EXTRUSION SHOWS THE NEW + REFURBISHED VOLUME



CARDIAC DEPARTMENT

CARDIAC DEPARTMENT

SURGERY
RADIOLOGY
ONCOLOGY
MATERNITY

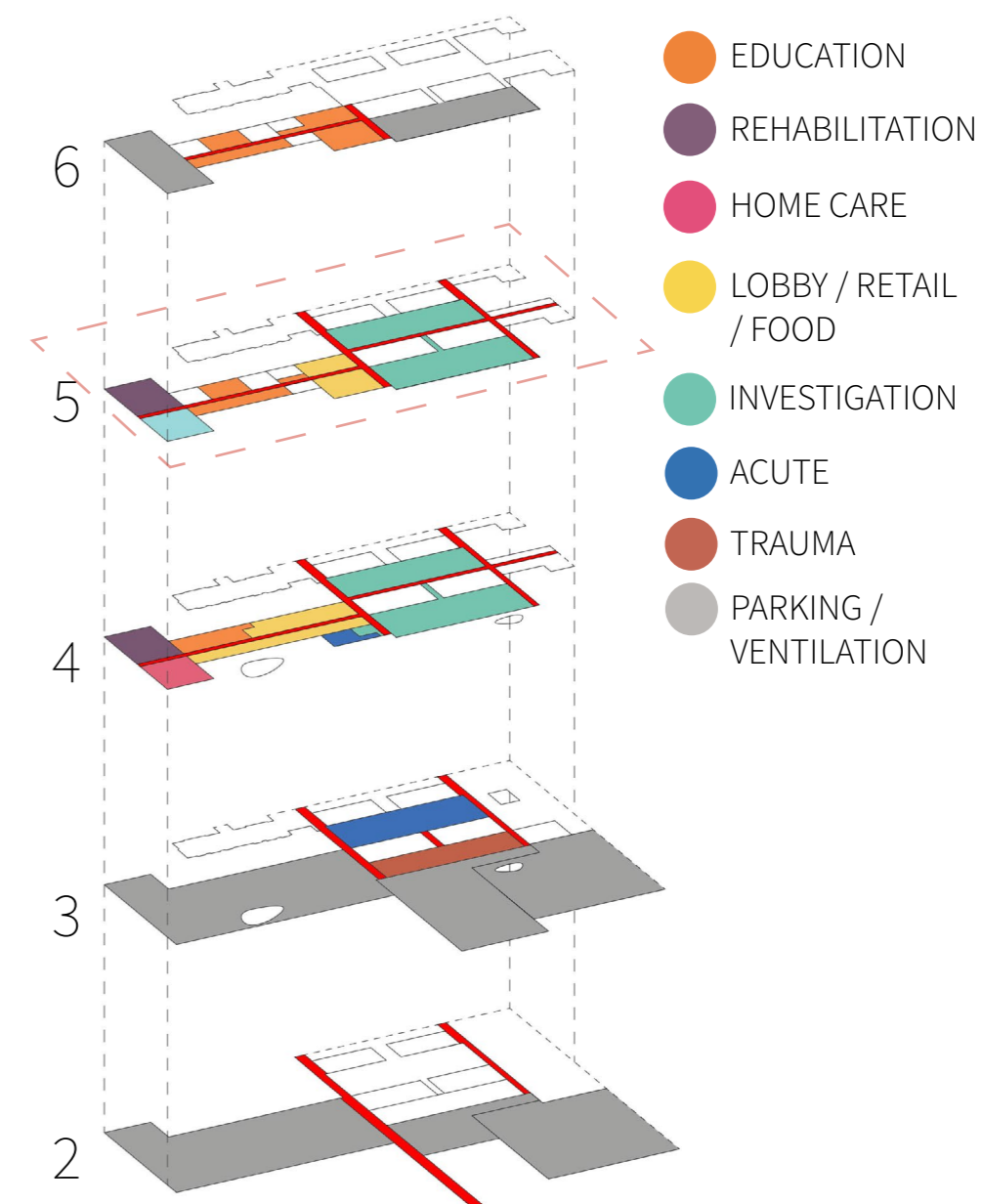


FLOOR 5

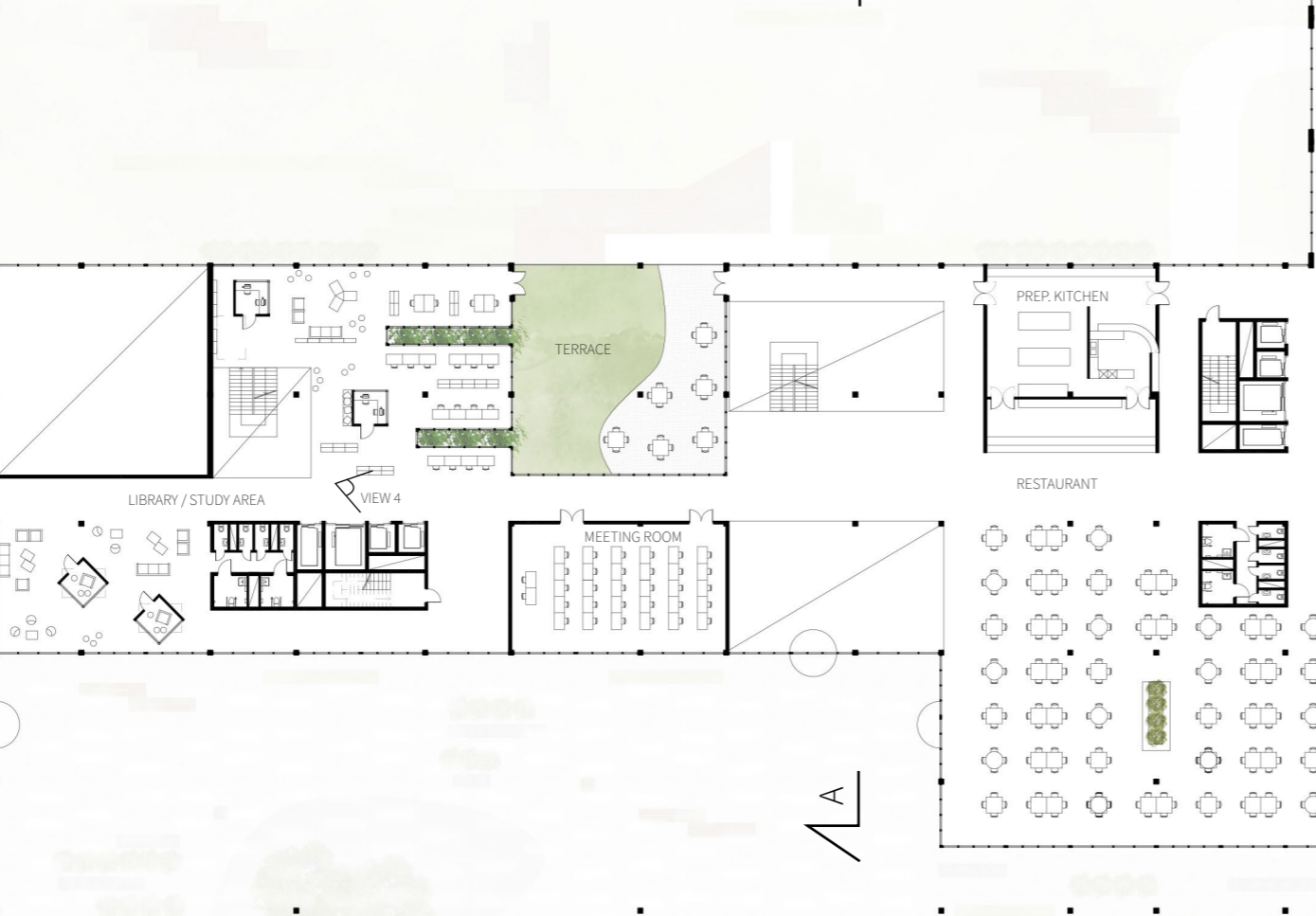
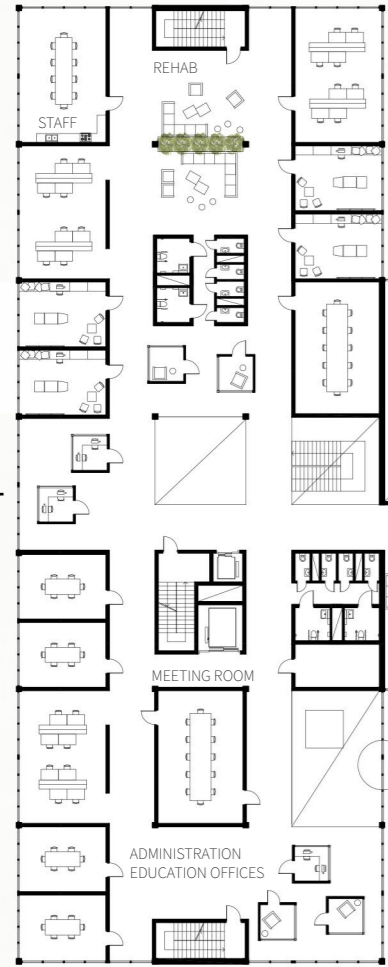
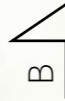
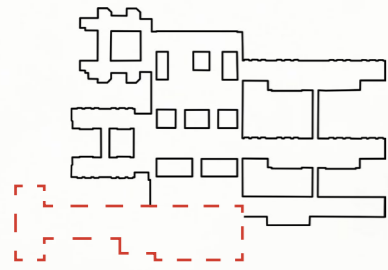
The restaurant Matilda is moved to a more central location in order to find it more easily than today. The restaurant has views in several directions, and there is an opportunity to sit outside on the terrace.

The library continues from the 4th floor and up to the 6th floor, surrounded by nature. The rehabilitation also continues on 5th floor and administration of education is placed above the home care.

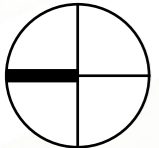
The investigation is designed the same on floor 5 as on floor 4, in order to collect functions and to create a generality in the plan.



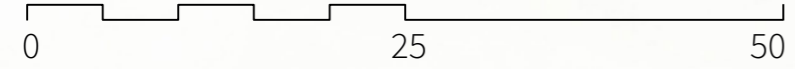
THE EXTRUSION SHOWS THE NEW + REFURBISHED VOLUME

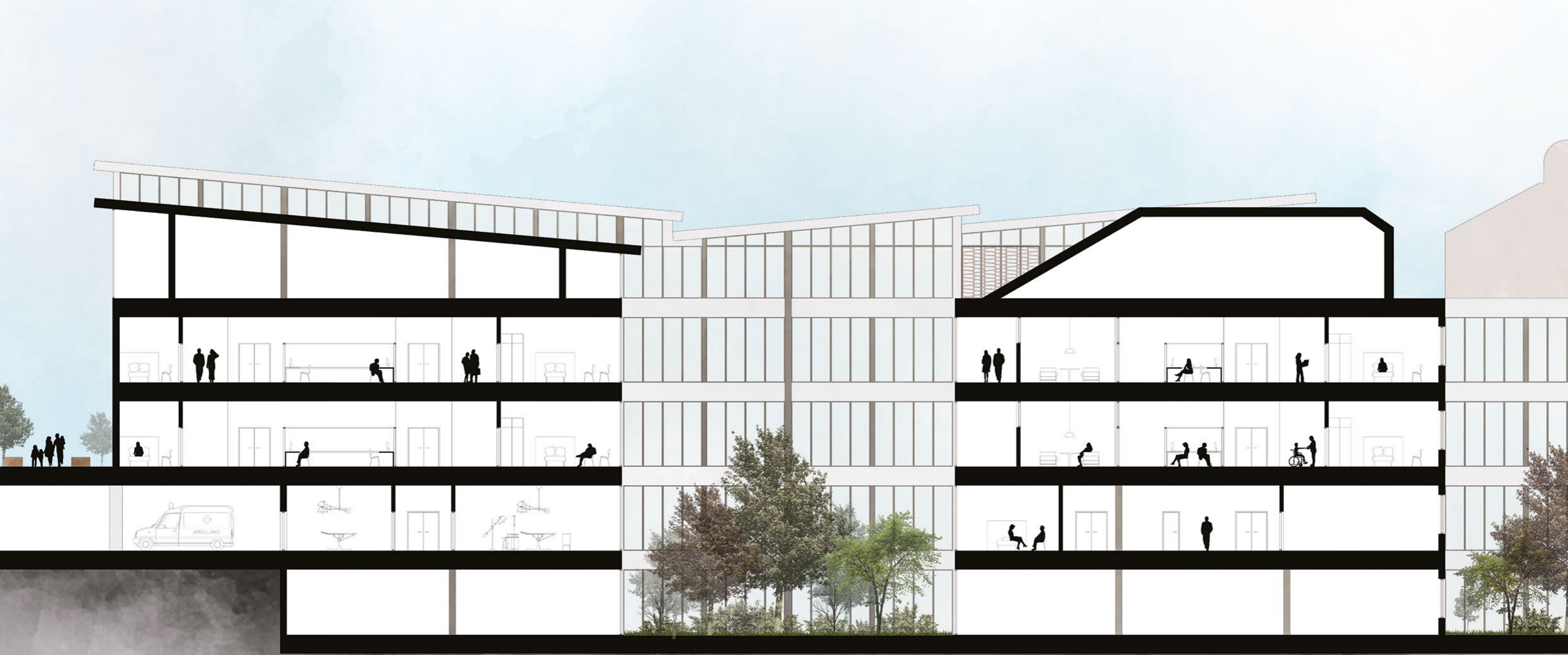


EYE SURGERY



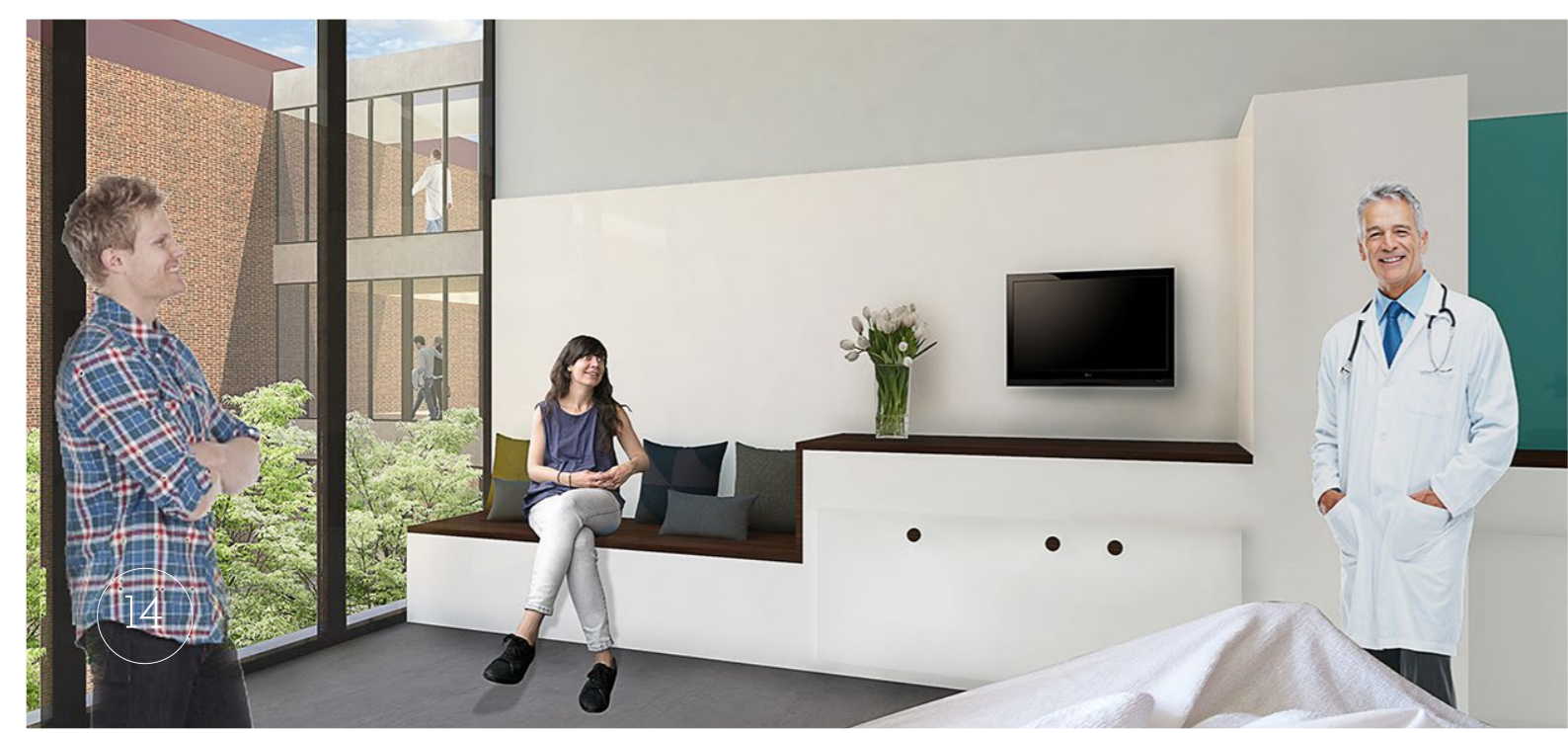
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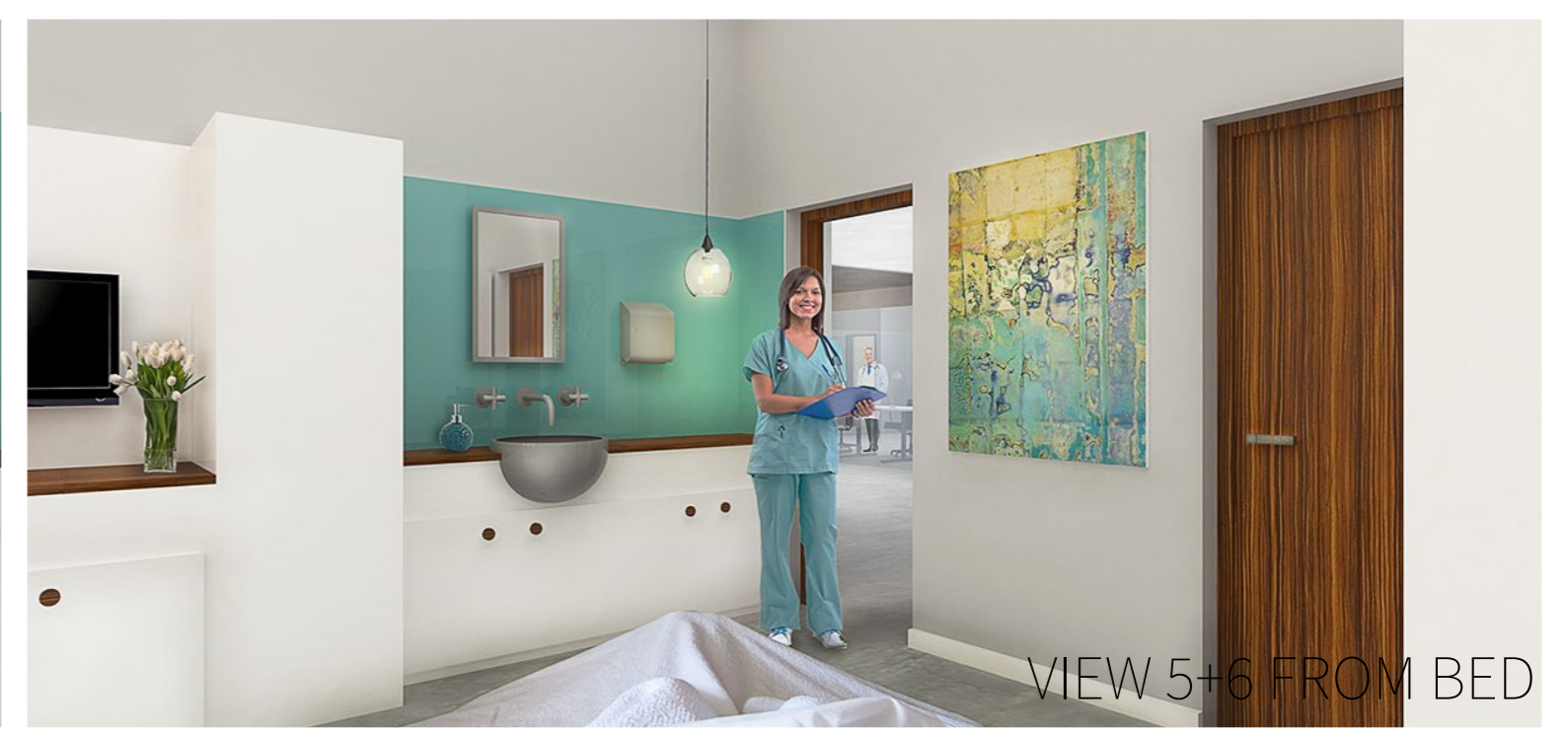


SECTION B-B

1:200 (A3) 0 10 20



14



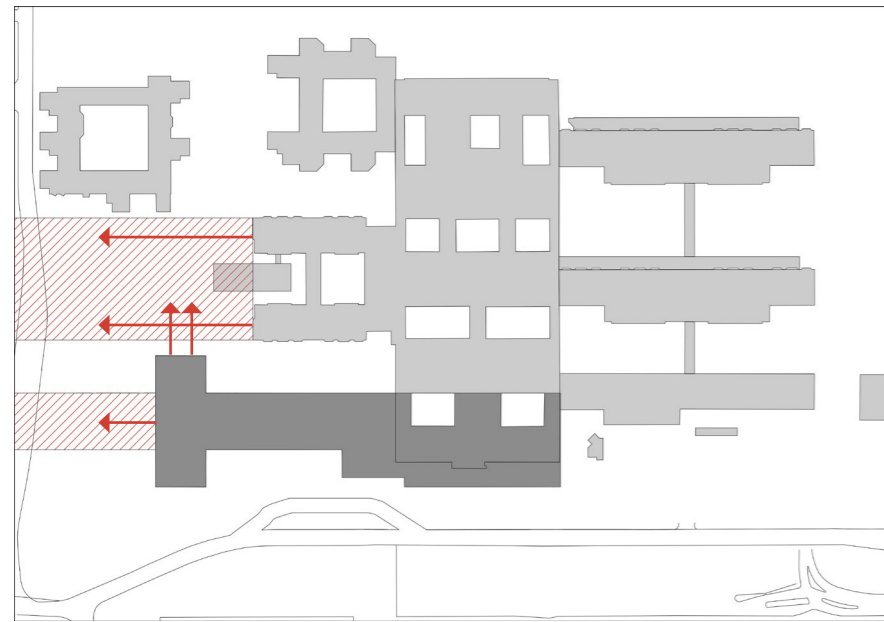
VIEW 5+6 FROM BED

ZOOM IN ON REHAB

FUTURE EXTENSIONS

Rehab is located in the building's northern part, close to nature. The floor plan is generally planned, facilitating flexibility for future new needs. The department can be transformed into a treatment center with patient rooms.

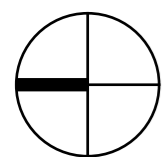
There are also good opportunities to extend the building, both to the north and to the east, in the future. To the east it is possible to connect with the existing hospital to create a good circulation flow.



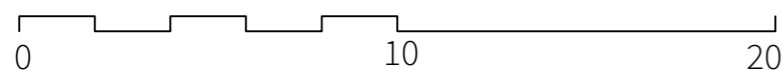
- ← CORRIDORS THAT CAN BE EXTENDED
- FUTURE EXTENSION POSSIBILITIES

The section to the left shows the connection between the investigation department and the courtyards in between. Greenery is one of the great qualities of Ryhov today, something the new addition continues to work with.

The views to the left show the patient's perspective from the bed. As a visitor to the investigation department you will have both visual connections to the green courtyards in all rooms as well as seeing the doctors and nurses in the observation station outside of the rooms, for every patient's safety and comfort.



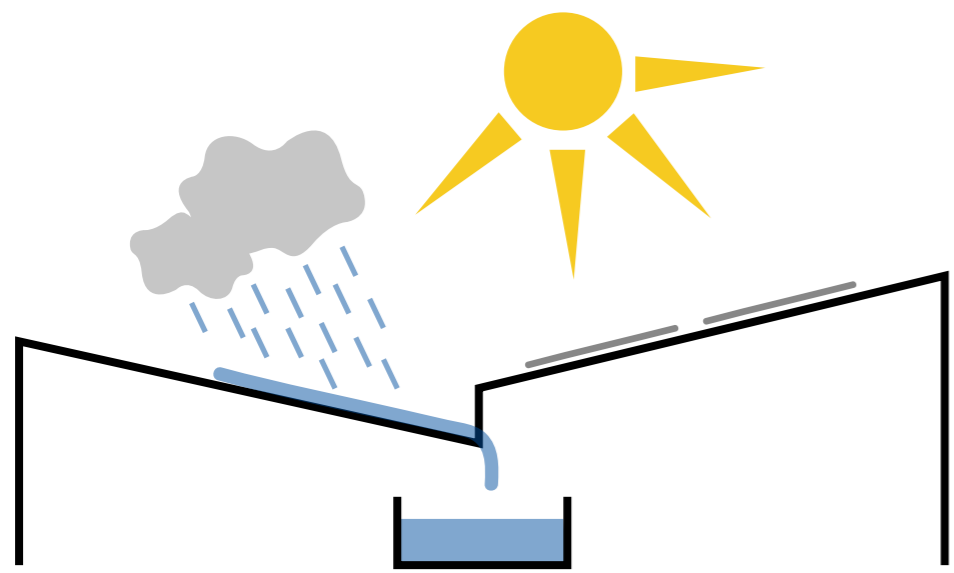
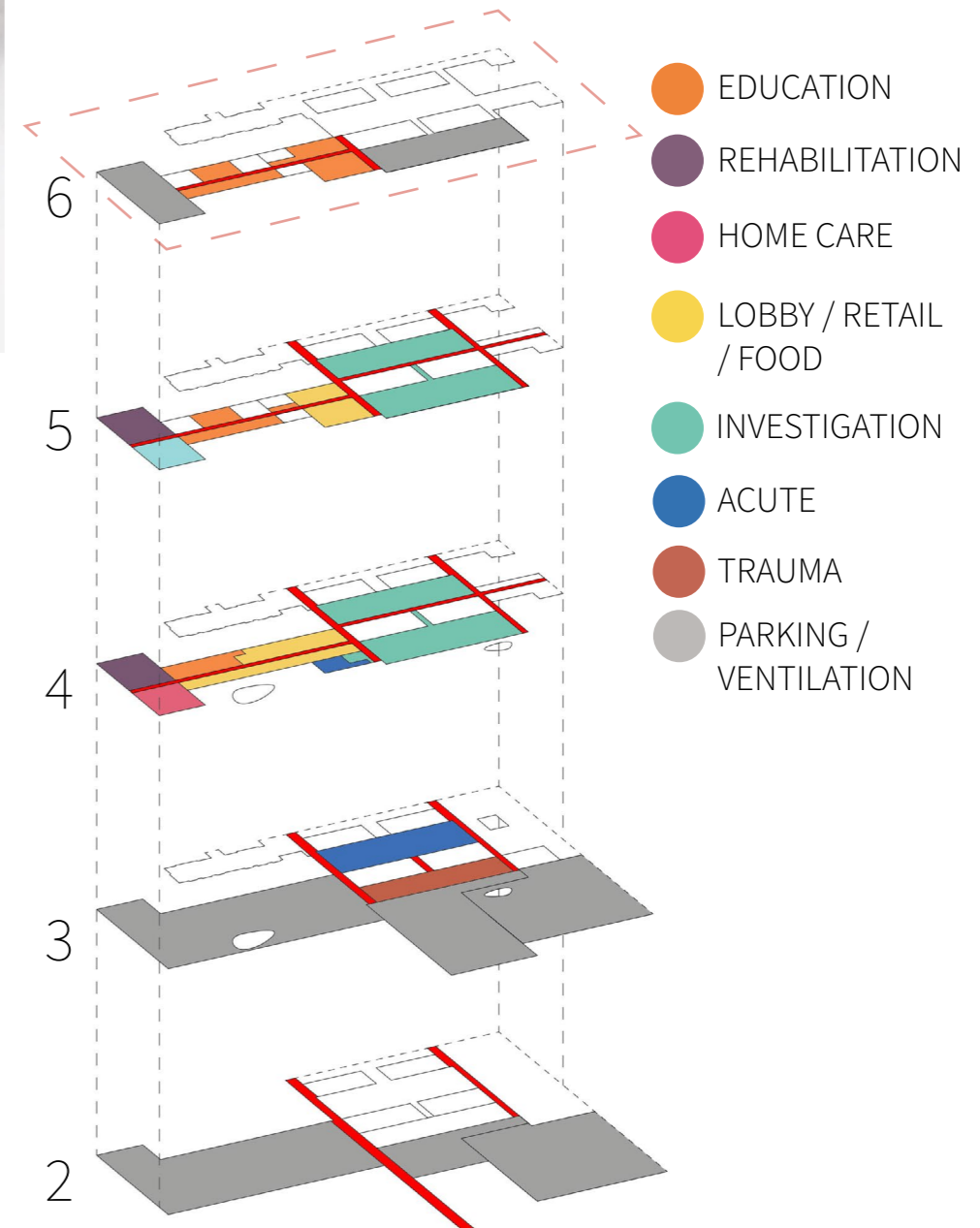
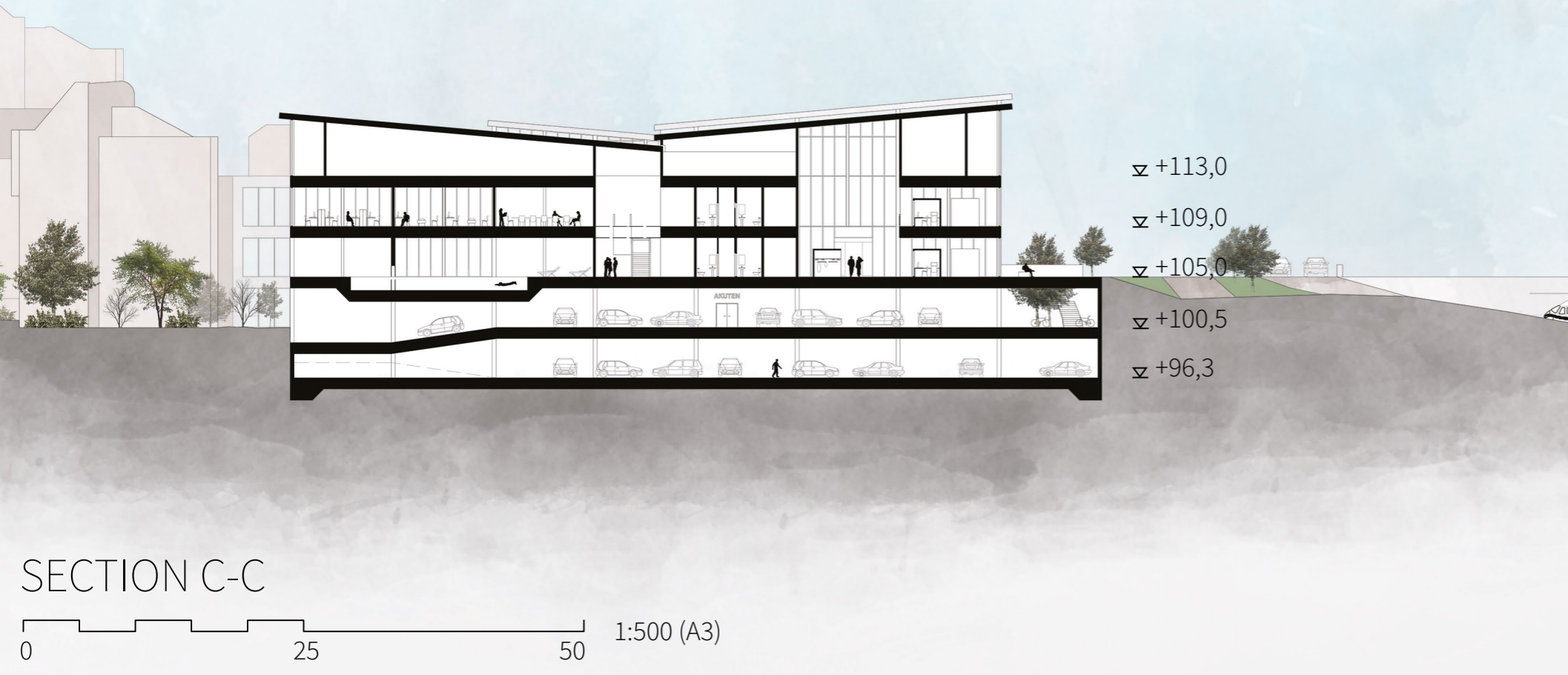
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FLOOR 6

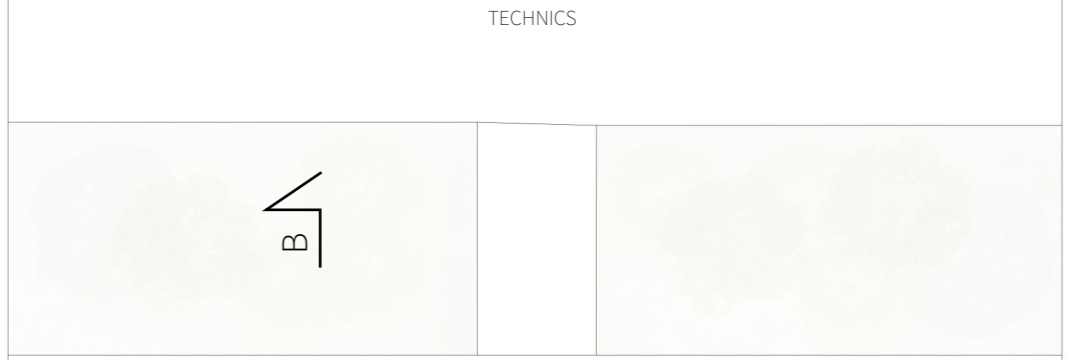
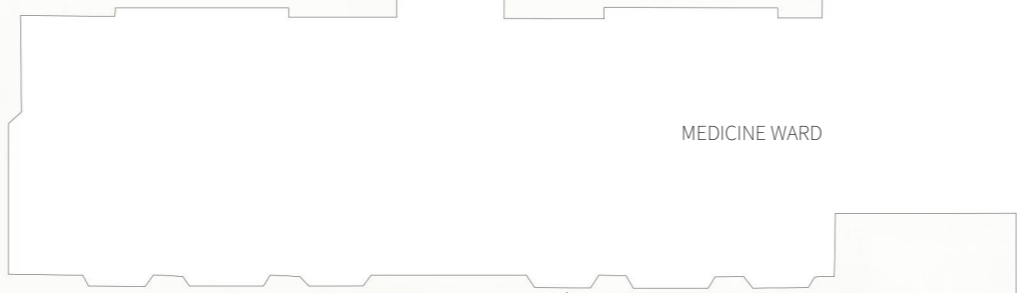
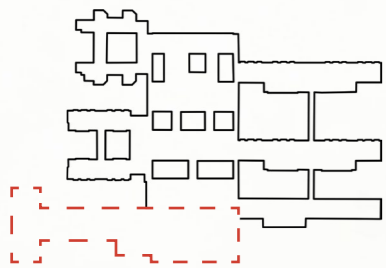
Floor 6 is similar to floor 5, but with more focus on meeting rooms. They can be used for conferences or lectures and are available both for students and staff from education as well as doctors, nurses or other hospital staff. The rooms are designed so that the audience both can focus on the lecturer and on each other, to provide a better learning environment that promotes collaboration and sharing of knowledge.

From the library/study area there is access to a green terrace to provide outdoor space for studying when climate allows.



The design of the roof has both aesthetical and functional reasons. The new roof is supposed to continue the already existing wave structure of the hospital roof to connect and respect the old building. But the inclination is also used to harvest energy from the sun through solar panels as well as collecting rain water. The rain water is collected in tanks, purified and then distributed in the building to help meet the large amount of water used in a hospital building.

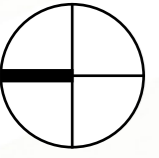
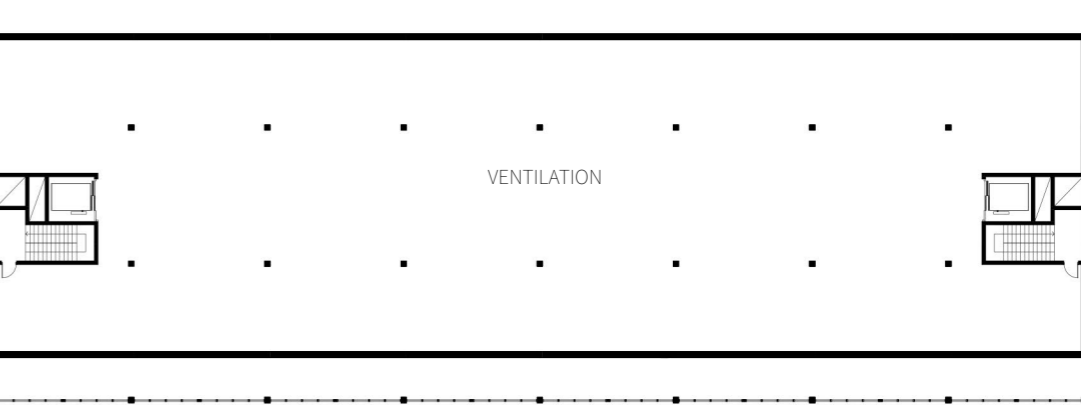
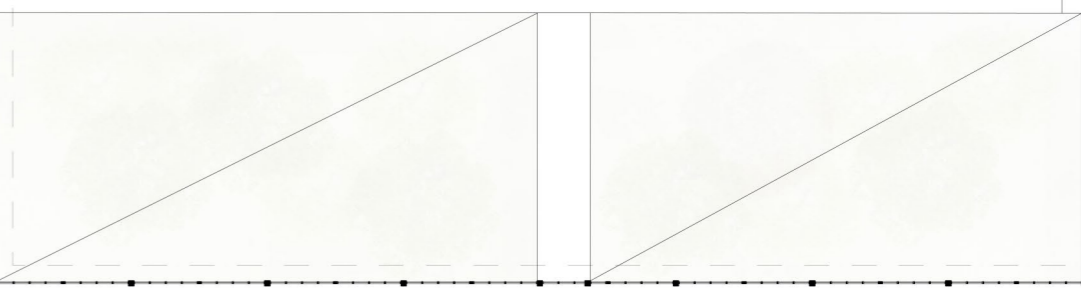
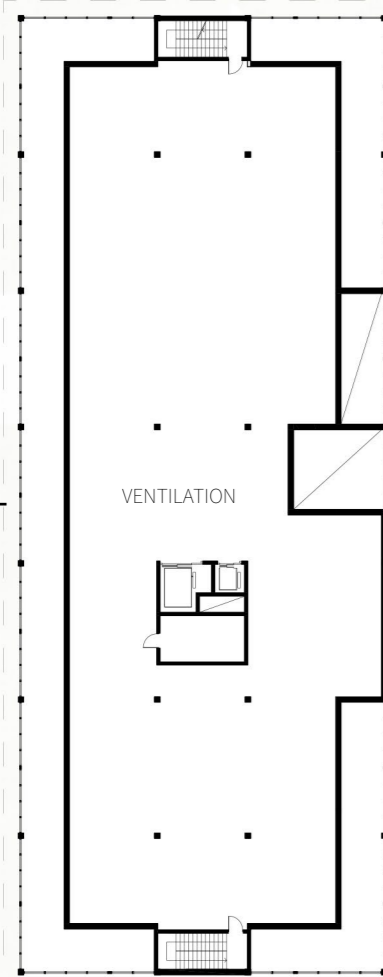
THE EXTRUSION SHOWS THE NEW + REFURBISHED VOLUME



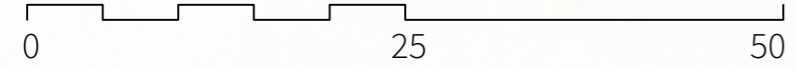
CHILDREN'S WARD



TECHNICS



1:500 (A3)



B

LONGITUDINAL SECTION



SECTION D-D

0 25 50 1:500 (A3)

The greenery has a strong influence on the building and facilitates wayfinding. In each corridor the visitor is moving towards the greenery or along with it.

In the refurbished part the old facade is left as it is today, but with larger windows to let in more light.



(CentroKakelochKlinker: <https://s-media-cache-ak0.pinimg.com/originals/9c/6e/c3/9c6ec36e4818a0b2caad8fc0003ea54a.jpg>)

Ryhov is characterised by its light brick and dark roof. The new addition continues on the same theme but uses brick in a new way. The façade consists of a glass skin, covered with slidable brick panels. The panels consist of linked bricks. The panels let light through, provides shade when the sun is set high as well as provide integrity in rooms where it is needed.

THE SAME BOX

DIFFERENT FUNCTION



Silent working box in Home care and Education



Bus stop box on the plaza



"Check in" box in Emergency and Investigation

ELEVATIONS



WEST ELEVATION

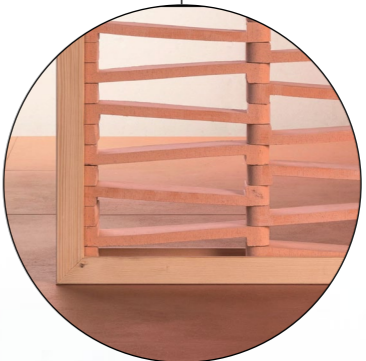


BUS STOP



OUTDOOR STAIRS

Learning center,
Paris' Ecole Polytechnique
sou fujimoto +
nicolas lainsé associés +
OXO architectes



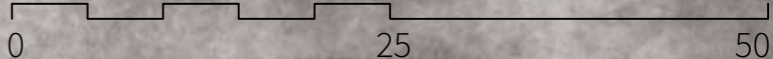
FACADE MATERIAL

Centro Kakerl och Klinker:
<https://s-media-cache-ak0.pinimg.com/originals/9c/6e/c3/9c6ec36e4818a0b2caad-8fc0003ea54a.jpg>



EAST ELEVATION

1:500 (A3)





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