

REMAIN CALM

A CENTRE FOR HEALING THE STRESSED



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MASTER THESIS

REMAIN CALM

A centre for healing the stressed

“How can healing environments be used to facilitate the recovery of those suffering from high levels of stress?”

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A B S T R A C T

Long periods of stress without time to recover is a common and increasing problem in our society. As it often leads to a higher risk of complications down the road, such as mental health problems and fatigue syndrome, it's important to prevent these cases from escalating and to provide people with help and support no matter where they are on the spectrum of health and stress.

The aim of this project was to design a healthcare centre for those who need help in dealing with their stress-levels both in the long-term and in the short-term through healing environments and holistic therapy for stress-management activities such as psychotherapy and mindfulness.

The exploration was conducted through literature studies about healing and stimulating effects that built environments can have on our health and how stress can be reduced and managed through different therapeutic activities. Literature studies surrounding biophilic- and salutogenic design contributed to a large scope of the research, resulting in design strategies which were implemented in the project through explorative sketches and digital modelling.

The project resulted in the design of a centre that specifically targets stress-reduction and management through healing environments and supporting activities. A place where the stressed receive support, tools, and guidance in their journeys towards greater health.

- keywords -

healing environments, stress, biophilic design, salutogenic design, holistic therapy

STUDENT BACKGROUND

BACHELOR

- Chalmers Architecture -
2016-2019

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AUTUMN 2019:

Sustainable development and the design professions 7,5 hp

Future visions for healthcare, housing and work 3
Healthcare architecture 22,5 hp

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urban design 3,0 hp

Architectural heritage and transformation 22,5 hp

AUTUMN 2020:

Master Thesis Preparation 7,5 hp

Future visions for healthcare, housing and work 1
Residential Healthcare 22,5 hp

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INTRODUCTION

- origin of the thesis -

The topic for this thesis originated in my own personal relation to the subject of mental health and stress, as someone who's experienced long-term physical symptoms without any support from the healthcare system- leading me onto the path of creating a place I felt was missing. I wanted to contribute to the subject by emphasizing the need for a space where anyone can learn to manage their stress in a better, successful way.

P U R P O S E

- a gap in the system -

Long-term stress is a growing issue in our society and its negative spiral could lead to serious health problems in the near future or further down the road (Hjärnfonden, 2017). For people suffering from stress in Sweden, there's not really anywhere to turn to unless the case is already severe (e.g. fatigue syndrome). In these cases, you would go into a rehabilitation program consisting of different forms of therapy (Stressmottagningen, n.d.). The rehabilitation of fatigue syndrome is focused on improving the health aspect of the person. A newer take on rehabilitation for burnout victims has recently become more popular, spreading across the country - garden therapy (Lagerstedt, 2018), and this is one of the main inspirational concepts for this thesis project. A place that's dislocated from your everyday hospital environment, that fills the gap where even the less severe cases are offered help in a more preventative, educational approach.

- the traditional environment -

In most healthcare facilities today we see long, dark corridors, a lack of daylight, stiff lighting, poor outdoor views (if any) and sterile colors and materials. And generally, we're not allowed to move beyond a waiting room until we are called to go somewhere else, following a nurse or a doctor.

As someone who's spent a lot of time in healthcare spaces and looked through many references in previous projects, I feel comfortable stating that in the majority of the cases, there's no focus on creating any types of healing environments in your everyday healthcare settings. In order to provide patients with the ultimate spaces for healing and stress-reduction, I will actively move away from the traditional hospital environment in this project.

RESEARCH QUESTION

How can healing environments be used to facilitate the recovery of those suffering from high levels of stress?

- sub-questions -

What design approaches can be used in regards to healing environments?

What activities support the reduction and management of stress?

AIM

- project intentions -

To create spaces where stress is successfully reduced and health is improved in healing environments.

To design a place where those suffering learn to cope with, manage and build resilience to stress.

To investigate a new approach to the typical health-care building that is specifically made for helping people suffering from stress

METHOD

The main approach used was research for design. Literature studies were done on stress, biophilic design, salutogenic design, healing environments and holistic therapy. The goal was to find research-based design approaches and activities that have relevant impacts on the specific target group. Research by design was used in the creation of the design proposal through hand-sketching and digital modelling.

The sources used were mainly peer-reviewed scientific articles, reports, books and websites. The research was formulated into specific design strategies for both biophilic and salutogenic design, which were then implemented in the design proposal through research by design. A site analysis was conducted to provide more site-specific design approaches and strategies.

- delimitations -

The project will be of a smaller scale to put more focus on the details of the project, finding a lot of promising research and where the research findings connect with the design.

The project will not focus on a specific target group in relation to stress, tending to every age, gender and wherever people are on the spectrum of health.

BACKGROUND

HEALTH

- what is it -

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

- (World Health Organization, n.d.)

- mental health -

“A state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community.”

- (World Health Organization, n.d.)



STRESS

- an introduction-

Stress is something that everyone experiences in their lifetime, some more than others, and some to much further extents (Pietrangelo, 2020). Stress could be triggered from any situation in our lives, from everyday tasks to serious events. In some cases it might even be a helpful reaction in the sense that it could assist with coping in certain situations.

Stress is a cautionary, bodily reaction (the “survival instinct”) when challenged with what the brain perceives to be a threatful situation (Folkhälsomyndigheten, n.d.). Folkhälsomyndigheten stresses how if a person endures a long-term activation of this reaction without proper time for recovery, there’s a large risk of developing both somatic and psychiatric diseases. Some diseases linked to this issue include cardiovascular diseases, depression and burnout, which can take a long time to fully recover from.



- a growing issue -

Since the 1990's, stress-related mental illness has increased around the world and according to the World Health Organization it's the fastest growing issue and threat to people's health in the future (Hjärnfonden, 2017). Hjärnfonden mentions how one of the major contributing factors to people's stress is their work and the excess of it. The currently dominating (and increasing) group that is being negatively impacted by stress is women under the age of 45 with higher educational degrees (Folkhälsomyndigheten, n.d.).

- statistics -

74200 Swedish people (of which 76% were women) took sick leave due to stress-related illnesses in 2016 alone.

The number of reported work-related illnesses caused by stress has more than doubled between 2012 and 2015, from 700 to 1500.

The general long-term sick leaves have increased by 80% since 2010. 60% were due to mental illness but it's undisclosed whether they were stress-related or not.

- symptoms -

If symptoms of long-term stress start to manifest, it's important to be wary and to seek help before things have a chance to escalate for the worse. (Hjärnfonden, n.d.)

The following symptoms are important to note:

- Sleep disturbances
- Impaired memory and concentration
- Mood changes and prominent emotional reactions
- Difficulty managing requirements/time pressure
- Bodily symptoms, pains and tensions
- Affected heart and immune system
- Declining social life
- Impaired ability to recover (e.g., from rest)

H O L I S T I C T H E R A P Y

- body - mind - soul -

To be able to design for stress-reduction we need to know about holistic therapy. Holistic therapy is a person-centred, integrative care approach that uses both traditional and non-traditional treatments, focusing on the individual as a whole (Cherry, 2021). Cherry mentions how it seeks to positively influence the overall wellbeing and health of people by considering the mental, physical and spiritual aspects rather than specific problem-solving. She further explains how this holistic approach can help those suffering from different psychological conditions like anxiety, emotional difficulties and stress. The practices of this therapy allows for individuals to recognize and connect the aspects of their lives that are negatively impacting their health and wellbeing. Another benefit of a holistic program is the educational aspect and the ability for people to bring what they learn into their daily lives even after the program is over (Cherry, 2021). This is especially important for those learning to cope with stress and anxiety as most exercises are focused on stress-management. Considering the possibility that many users seek help before their problems have a chance to escalate, this approach is particularly fitting.

- combination therapy -

What I bring with me to the project is that the program will include a combination of psychotherapy, complementary therapies and activities - tending to all aspects of health: the physical, mental, social, and so forth.

- tailor-made programs -

I also want to highlight that by allowing patients to have their own treatment programs which are based on their individual needs and preferences, the optimal road to healing and recovery can be created for every participant in the centre.

PROGRAM CONCEPT

SUPPORT & EDUCATION

The support and education in the centre includes private psychotherapy as well as group therapy along with an overall sense of community in the centre for social support during their journeys, creating meaningful relationships and an understanding that they're not experiencing their health problems alone. The educational aspect also includes available literature and information in the centre regarding to the different activities available, stress-management and so forth, allowing the users to educate themselves further.

RELAXATION

The approach to relaxation is based on the concept of mindfulness-based stress reduction within holistic therapy. This area focuses on bodywork in order to promote the connection between ones' mind and body. Examples of activities that are used for bodywork include: breathing techniques/exercises, guided imagery, meditation and relaxation. Other activities include more physical activities like yoga and tai chi.

CREATIVITY & RECREATION

Creativity and recreation is another holistic way of reducing stress along with building social relationships, promoting self-expression by the development of skills and improving people's emotional well-being. The activities in this centre include art creation/painting, crafts and gardening.

T A R G E T G R O U P

The centre proposed in this thesis is a place for those who need support in their journeys towards healthier lives, where stress is no longer a problem. The target user, is anyone who is experiencing stress, no matter the gender, age or wherever they are on the spectrum of health. The centre will offer them a place to relax, strengthen their minds and assist them with tools that they can use far after their time in the centre is done.

Weekly activities such as yoga, psychotherapy or gardening could be a preventative approach to those who are experiencing high levels of stress, with no or less severe symptoms. The centre would offer users a change of scenery with healthy activities/therapy, benefitting from time spent away from home/work/education by providing a break in everyday routines and stressful cycles, along with giving them tools for stress-management.

Weekly programs could be a treatment approach to those experiencing more severe symptoms, fatigue syndrome and those who are on sick-leave from work as a result.

In addition to this, the centre will be able to rent out certain spaces for external courses and meetings.

S T A F F

In this centre the workers consist of a range of multi-competences such as therapists/ counselors as well as instructors/teachers for the range of activities, covering every need of the facility. The staff could either work full-time in the centre or part-time, dividing their time between nearby healthcare facilities or other jobs.

PERSONAS

- examples of users -

Marie, 40

Marie has been overloaded with work for the past year and has recently been experiencing physical symptoms of long-term stress and is taking a precautionary step to prevent it from getting out of hand. She, with the help of a counselor create a program for her in the centre where she'll come in a couple of times a week for psychotherapy and additional activities that they feel are appropriate for her healing. In addition to this she'll be offered a place to relax, heal and create supporting social relationships.

Peter, 30

Peter has taken time off work due to symptoms of burnout including trouble sleeping, constant fatigue along with dizziness. He and a counselor agree on a weekly program for him, including most activities available that he feels comfortable with. He will probably spend a couple of months in the centre.

Filippa, 20

Filippa has been feeling extremely stressed about her studies and feels like she needs time away from home. She signs up for a yoga class in the centre where she'll go once a week to relax and take her mind off school.

School class, year 6

A class from a nearby school goes on a daytrip to the centre. Here they are divided into smaller groups and receive a couple of presentations on mental health.

BODY OF
RESEARCH

HEALING ENVIRONMENTS

- what is it -

Healing environments can be described as a way of designing for the stimulation and support of people's healing capacities, and this can be done by looking at a range of health influencing factors (DuBose, MacAllister, Hadi, & Sakallaris, 2018).

- how it works -

There are many ways in which built environments can benefit a person's healing (DuBose, MacAllister, Hadi, & Sakallaris, 2018). The authors explain how architectural elements themselves can have direct impacts, however in most cases the architecture causes a behavioural response which then can lead to healing. An environment can either facilitate or hinder healing behaviour and emotions from occurring. As the process of healing is very different from person to person, it all comes down to the participation and receptivity of the individual person, as well as their prerequisites.

- design frameworks -

This thesis uses two design frameworks in relation to stress and healing: biophilic and salutogenic design.

- positive distraction -

The presence of nature in our everyday lives has been proven to positively affect our mental health and there are many health benefits to spending time in nature (Ulrich, 2012). Some of them include a reduction in cortisol levels (stress-hormone), lower blood pressure and improved short-term memory. Greenery could even assist in preventing heart-disease (Boverket, 2019). In his most well-known report, Ulrich brings up how the design and surroundings of healthcare environments play big roles in patient experience and recovery. The results of his study concluded how the wrong type of view could lead to more stress and pain, and this is where nature in the form of positive distraction comes in, re-directing the patient's attention away from themselves. His studies have shown that patients having windows towards natural scenes recovered faster and experienced less pain and stress than patients with windows facing brick walls. Additional places where patients could spend time in green outdoor areas could further support their rehabilitation journeys (Ulrich, 2012).

- therapeutic gardens -

Patrik Grahn is a professor of landscape architecture and has done extensive research on nature's positive effects on people's well-being (Grahn, n.d.). He is one of the founders of the rehabilitation garden in Alnarp, Sweden, where nature is used actively for its healing purposes. The treatment programs in this place consists of gardening along with psycho- and physiotherapy. This type of therapeutic gardening has been shown to be very effective in cases of fatigue syndrome and usually lasts about 12-18 weeks (Lagerstedt, 2018). Patients are encouraged to wander away from their tasks around the gardens in order to find places where they can simply exist and find peace in nature.

BIOPHILIC DESIGN

- biophilia -

To understand how biophilic design works, we first need to look at a notion called “biophilia”. Stephen R. Kellert explains this as the human need to be around natural systems and processes in his book about biophilic design (Kellert, 2011). As the context of the human evolution mainly took place in natural environments, among natural features, the affiliation with nature proved to be vital for enhancing both physical, intellectual and emotional fitness – programming it into our biological code.

- biophilic design -

Biophilic design is a way of designing using this innate connection to nature and natural elements in order to create positive health and healing outcomes (Kellert, 2011). Kellert explains that by introducing design elements that are considered “biophilic” it’s possible to achieve results such as improved emotional well-being, stress reduction and healing for those experiencing it. He further brings up how biophilic elements, such as natural shapes, patterns and light and space can be implemented in a variety of ways including direct, indirect or symbolical approaches in design. The direct approach to using biophilic elements refers to human contact with regular natural features such as daylight, greenery and animals. The indirect approach refers to a contact with nature which requires human assistance in order to function and flourish. This includes indoor plants and artificial water features (with or without aquatic animals). The symbolic approach uses representative design of the natural world instead of actual contact with it (Kellert, 2011).

SALUTOGENIC DESIGN

- moving towards health -

Salutogenics explores a person's capacity to maintain and move towards health despite any presence of causes of disease, looking at the entire spectrum of wellness and illness as linear (Antonovsky, 1996). Antonovsky explains how it explores the common factors keeping all of us healthy rather than those making us ill and talks about environmental support rather than treatment. According to his theory on salutogenics, health and resistance to illness is the product of a state of mind that has a strong sense of coherence (SOC). The supporting factors of this sense of coherence are feelings of manageability, comprehensibility and meaningfulness, building people's confidence in the predictability of their internal and external environments.

“Salutogenic architecture has the capability to also support enhanced patient manageability, comprehensibility and meaningfulness, and their collective synthesis: the sense of coherence, in other words to help a person through the natural process of recovery.”

- (Golembiewski, 2017)

SALUTOGENIC DESIGN

Comprehensibility is the ability to understand one's context and circumstances (Golembiewski, 2017). This is a general problem when it comes to regular hospital environments as it's not expected of patients to understand their health conditions or surroundings. This is all in the hands of hospital staff, nurses and doctors. To counter this we need to provide patients with confidence and an ability to comprehend the environments they find themselves in. A way of doing this is by purposefully creating buildings that read as something other than your typical hospital or institution.

Manageability is the ability to handle everyday realities given one's circumstances (Golembiewski, 2017). This is generally what hospitals are planned for, staff manageability and the maintenance of patients, but that's usually it. By working with manageability you could enhance a patient's resources for recovery. This could be done by creating a sense of control and power, as well as equality, rather than hierarchy among patients and staff by including e.g. informal places.

Meaningfulness is the intensity of one's personal connections and desires in life (Golembiewski, 2017). In hospital environments people are more often than not completely removed from anything that gives meaning to their existence, surrounded by long, plain corridors, negative emotions, lacking aesthetics and social isolation. Meaningfulness could be created by promoting a sense of belonging (for example, creating spaces where social relationships can be built) or allowing for patients to find inspiration and meaning from nature. In a recent study, meaningfulness has also been found to be associated with personalization and a sense of ownership, specifically in office environments (Forooraghi, Miedema, Ryd, & Wallbaum, 2021).

DESIGN APPROACHES



BIOPHILIC DESIGN

by bringing biophilic features into the design, you increase the patients' abilities to heal by improving their sense of well-being and reducing their levels of stress



HOLISTIC THERAPY

by focusing on all aspects of the individual, a holistic treatment approach increases the chances of a patients' recovery, as well as their management of - and resilience to stress



SALUTOGENIC DESIGN

by supporting and strengthening the sense of coherence among patients, you can improve their own abilities to maintain and move towards a state of health

REFLECTION ON RESEARCH

- reflection -

The research I did for this thesis provided me with a lot of information which was both new and familiar to me from previous projects. The thing about healing environments is that it can be applied anywhere and isn't specifically targeting the user group which I'm designing for, even though one of the contributing aspects is indeed stress-reduction.

The main contribution of healing environments that I will bring into the design is the positive effects of nature and natural features in combination with the holistic therapy activities. I want to create an overall health-promotive and stress-reducing environment by bringing health-promotion into as many aspects of the centre as I can. This is why I'm also bringing a concept that was introduced to me during this stage into the scope of research dedicated to the centre - salutogenic design. In regards to the research I found, I will mainly work with the concept of a home-like environment in order to create a space that makes people comfortable and calm.

- reference project -

The Maggie's centres were introduced to me during my research stage and contributed with some of the inspiration for both activities and the idea of creating a place where staff and patients spend time together outside of the official activities, making the centre into something more than a healthcare facility by providing a real sense of community amongst all users. A bit of visual inspiration for the exterior of my project was also received from Maggie's Yorkshire centre.

S I T E & C O N T E X T

LOCATION



————— G O T H E N B U R G —————

- Ramberget -



S I T E

- qualities -

Ramberget is located centrally in the city of Gothenburg. Despite its proximity to the city center the area provides a break from the urban areas due to its sheer altitude and natural surroundings. The project site is located on the north-eastern side of the mountain away from the more popular areas. Its location on the “first plateau” (ca 50möhh) makes it easier to access. As it’s not a particularly popular spot to visit for those not owning dogs, the area offers a calm, quiet place to slow down, reflect and appreciate the nature up close and the urban from afar.



- sun conditions and sea levels -



SPACE

- project site -

The immediate area of the project is an open, gravelled field surrounded by a wired metal fence. On its eastern side, the fence opens up towards the paved path. On the western side of the field it opens up towards nature and on the northern side it remains closed. The southern side of the field connects to a raised part of the mountain rock, acting as a natural border of about 10 meters in height.

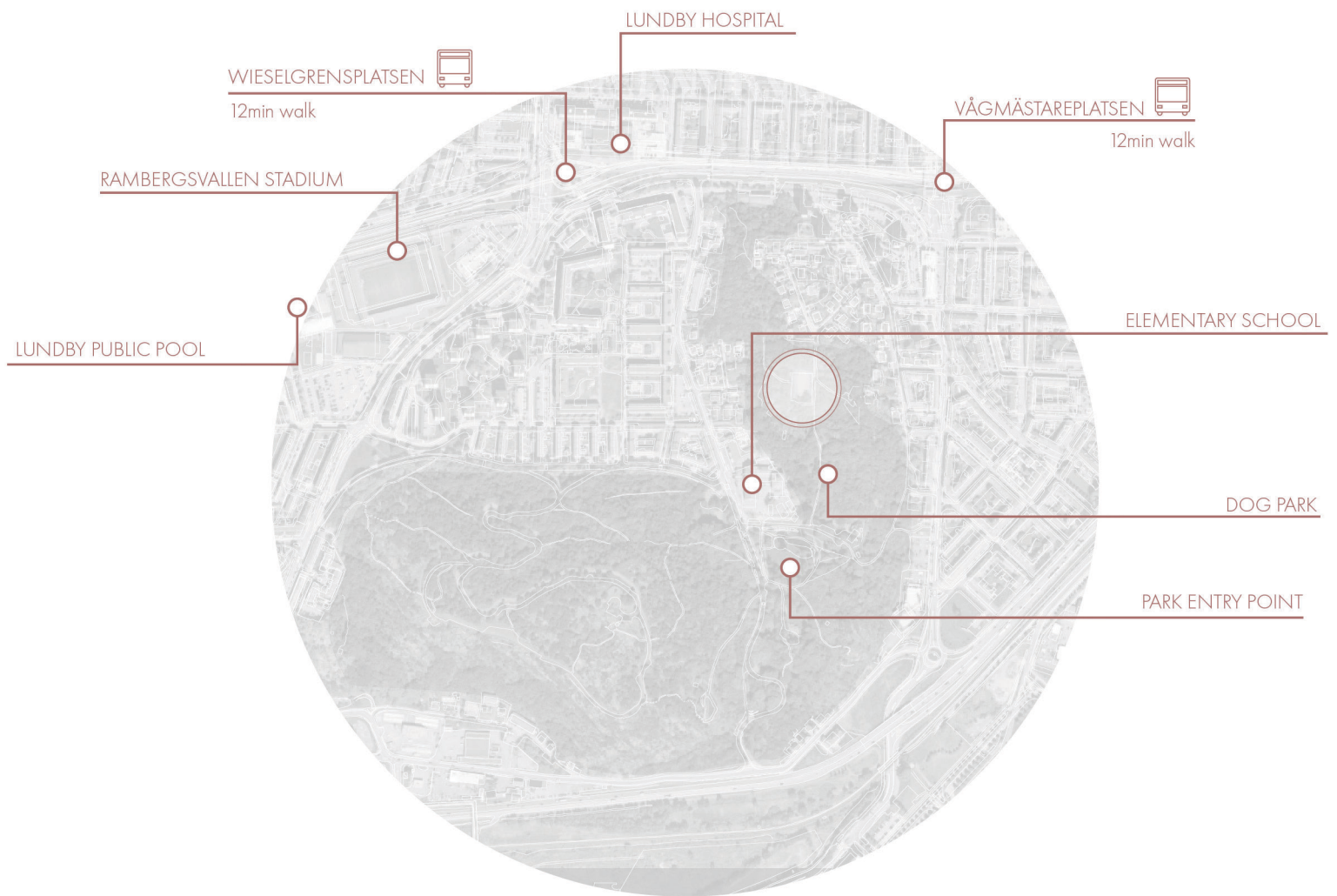


CONTEXT

- site & surroundings -

Ramberget, also known as Keillers Park, is a mountain located on Hisingen in Gothenburg. It's essentially made up of two parts or "plateaus": one that is about 50 meters above sea level and the other one stretches up to about 87. The mountain offers its visitors a range of activities including tracks through the forest, open green areas and several viewpoints. On the first plateau you find a large elementary school built in 1916, a playground, a youth facility and a park with a pond. The second plateau consists of trails and roads leading up to the mountain top.

The project site belongs to the residential area Brämaregården and neighbours to Kvillebäcken and Rambergstaden. Some of the main streets, stops for public transportation and areas for shops and services (on Hisingen) are situated around these parts. This provides the site with closeness to public transportation and services in several directions.



- surrounding functions -



CIRCULATION

- the movements -

The site area has a quite low circulation of people and vehicles as it's located away from the popular areas of the mountain. This part consists of a dog park and lesser visited, small trails through a deciduous forest with views of the city. It also borders to a residential area with private villas, which then leads down the mountain. Visiting the site, I only encountered a handful of people in this area, most of which were walking their dogs or simply passing by. The people moving in this area are most likely living in the neighbourhood or nearby, and dog-owners.

- approaching the site -

The site can be reached from several directions. You can walk or bike from the main parts of the mountain, passing by the open green area with its duck pond. Coming from the northern side, you walk or bike through the residential area with villas. You can reach it this way by car, as well as park nearby. Several tram and bus-stops are available at walking distances of about 10-15 minutes.



- approaching the site -



- refuge -



- spaciousness -



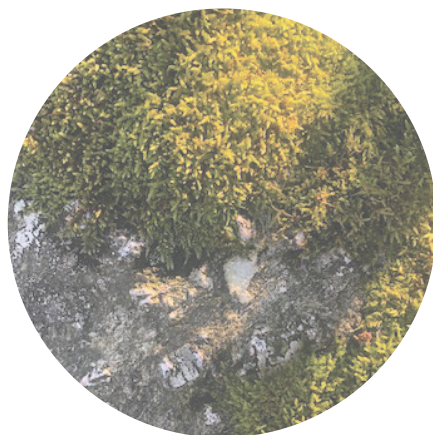
- prospect -



- spectrum of light -



- tactility -



- tactility -

DESIGN INTERVENTIONS

The design tools collected are based upon the acquired research, both directly and indirectly - directly meaning that they were mentioned in literature, and indirectly meaning that I created them from an interpretation of the research or reference projects.



BIOPHILIC AMBITIONS

- surrounded by nature -

Nature will be present at all times of the day and during all seasons of the year. It will be available both through views and through dedicated space for plants indoors. For this project, big windows and glazed corridors provide the centre with natural light, views and access to both green courtyards (which have an abundance of evergreen plant species) and the surrounding deciduous forest, which compensates with clearer views of the cityscape as the leaves fall (as well as with indoor plants). Indoor plants receive dedicated space through indoor planters, a conservatory, and regular pots on floors, tables and shelves. The biophilic feature of water is present in the centre in the form of a water pond with a waterfall, available for the additional stimuli of users, contributing to the healing environment.

- essence of nature -

The main material used for the building is wood as it's a biophilic material. This will be used in facades, structure and interior floors and ceilings to provide an overall essence of nature in the centre. The wood also creates a visual connection to the local materials and materiality of the villas nearby.

- sustainable approach -

Along with sustainable materials, the building answers to sustainability in several ways. All natural landscaping is protected by placing the centre within the boundary that is the gravelled area. Greywater is harvested from green roofs, filtered and used for plant irrigation/watering and flushing toilets. Solar panels are installed on some of the green roofs, providing the centre with electricity.

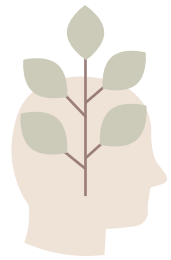


Fig 1. presence of natural features

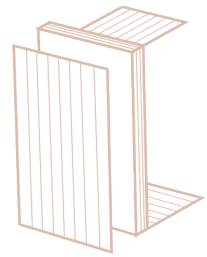


Fig. 2 wooden building



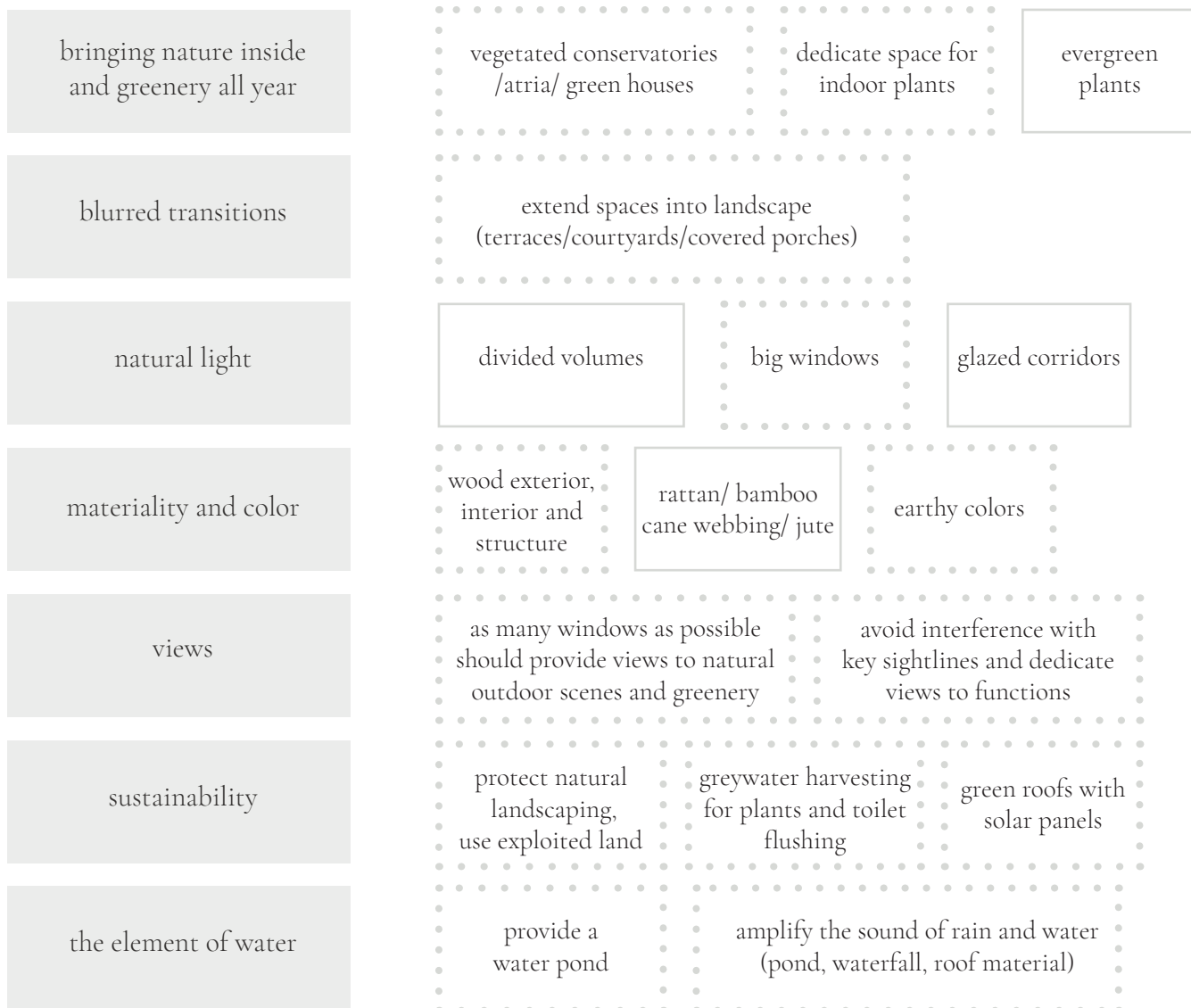
Fig 3. sustainability



DESIGN STRATEGIES

BIOPHILIC DESIGN TOOLS

• direct | indirect





SALUTOGENIC AMBITIONS

- community -

Shared functions for users and staff will promote a sense of equality, community and bring an opportunity to build social relationships amongst everyone in the centre. The functions include the entrance, kitchen and livingroom, changing rooms, conservatory, courtyards, as well as bathrooms.



Fig. 4 a sense of community

- stepping into a home -

Focusing on the idea of self-empowerment and ownership - the journey starts at the entrance where users are welcomed by a homely hallway instead of a reception. Here they put their belongings in the common closet and move freely into the building, making themselves at home. For the sake of safety, users will receive access cards which will let them into the centre.

By creating a network of uninterrupted pathways through the entire centre, the users are given the opportunity to move around freely, explore, and find their favorite spots to relax or socialize between scheduled activities.



Fig 5. home-like environment

The interior concept is based on home-like furniture and decor including fabrics like carpets, curtains and cushions. Lighting will include features such as floor- and wall-lamps (spot-lighting) emitting warm points of light to create a comfortable, calm atmosphere and avoid hospital associations.

- a calming journey -

The pathways were made into something more than in-between spaces by giving them quality views, sightlines, dedicated space to sit, as well as indoor plantations. By doing this they create an overall atmosphere and idea that you should slow down, relax and remain calm during your time in the space. The corridors shouldn't merely be about getting to the next activity, they should be a part of the healing journey.

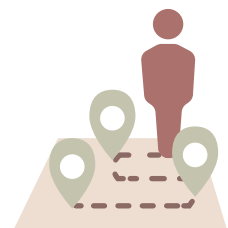
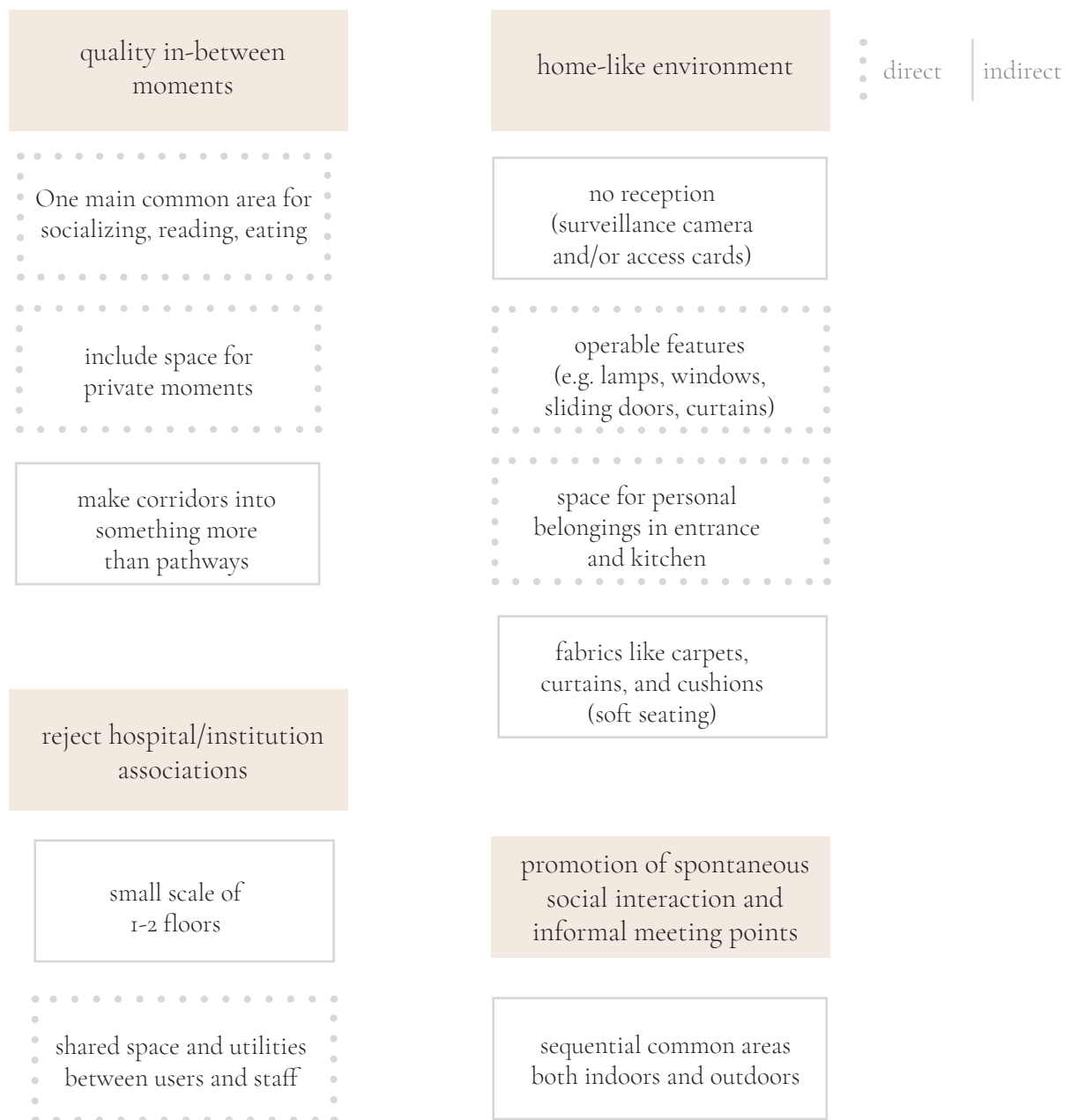


Fig. 6 parts of a whole journey



DESIGN STRATEGIES

SALUTOGENIC DESIGN TOOLS



DESIGN PROPOSAL

F U C T I O N S

- building programme -

Category	Function	Nr	Sqm	Total
SUPPORT & EDUCATION	Group therapy	1	17	17
	Pivate therapy	2	11	22
	Flexible room	1	14	14
	Library	1	10	10
CREATIVITY & RECREATION	Creative workshop + gallery	1	62	62
	Green house	1	26	26
	Conservatory	1	14	14
	Sensory garden	1	136	136
	Community garden	1	100	100
RELAXATION	Movement studio	1	38	38
	Guidance studio	1	25	25
	Meditation room	2	6	12
	Relaxation group	1	13	13
	Relaxation private	1	8	8
GENERAL	Entrance	1	13	13
	Kitchen +	1	66	66
	Livingroom			
	Wc	4	3-4	14
	Changing room + showers	1	23	23
	Staff room	1	19	19
	Office	1	15	15
	Storage /cleaning	4	2-6	15
	Technical space	2	4-6	11
Indoor area:		607		
Total centre:		843		

THE STUDIOS

- movement studio -

In the movement studio, more physical activities like yoga and tai chi take place, encouraging mental and physical relaxation and helping to release tensions and emotions in the process. Alongside these effects, mood-boosting endorphins can be released, which are able to positively affect the way we handle stress (Cronkleton, 2021).

- guidance studio -

In the guidance studio, the mental and inward-focused activities take place such as guided imagery, guided meditation and breath-work, giving the patients tools for stress management but also knowledge that they can bring home and continue to use after their time in the centre.

- creative studio & gallery -

In the creative studio, users are able to take on creative endeavors, making art projects as a form of art therapy helping them to slow down, de-stress and release emotionally whilst expressing themselves creatively. The gallery offers a place for users to display and watch each others projects. This space can also be rented out to external creative courses in for example croquis.

F U C T I O N S

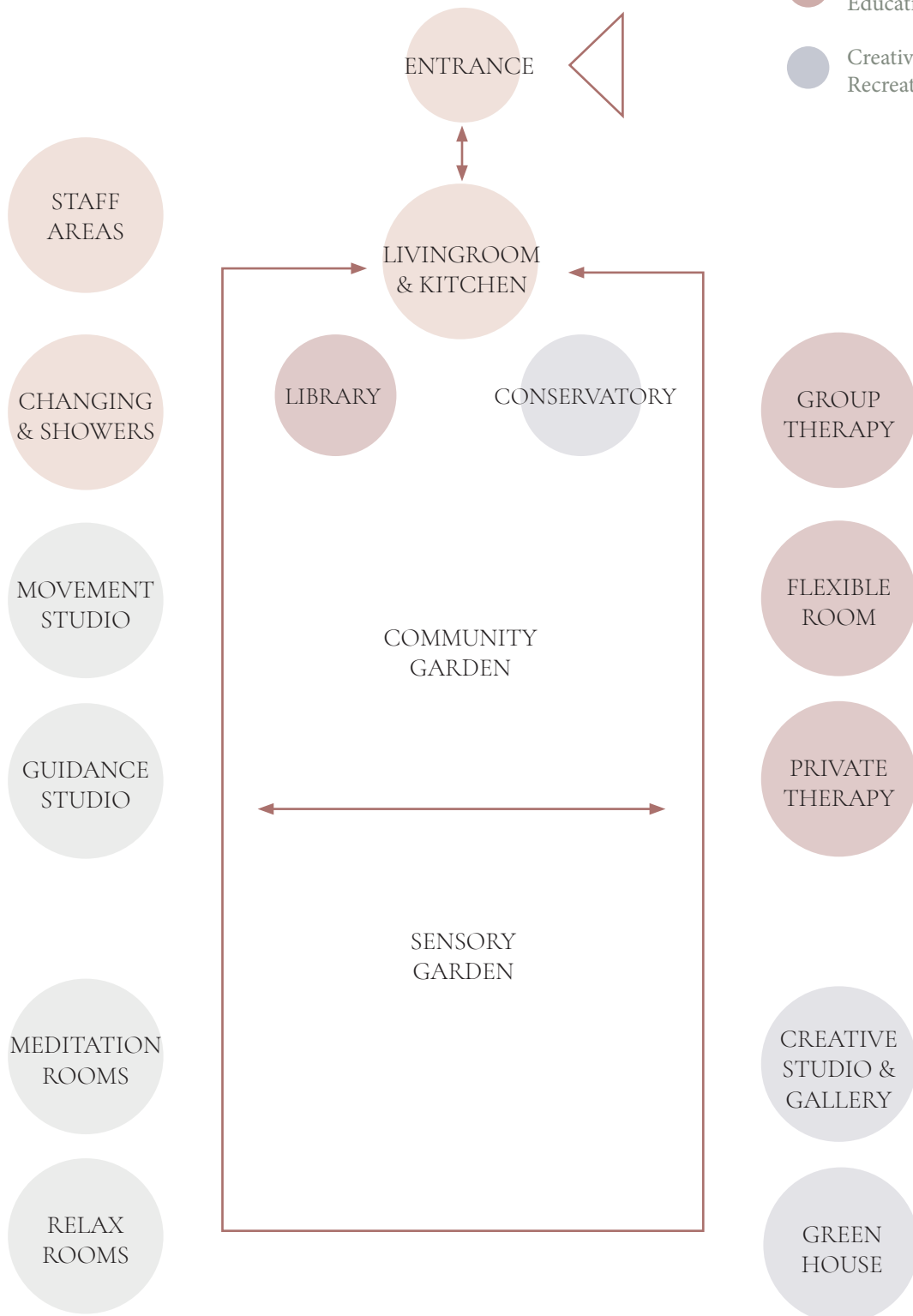
- program organization -

General areas

Relaxation

Support & Education

Creativity & Recreation



SHAPE DEVELOPMENT

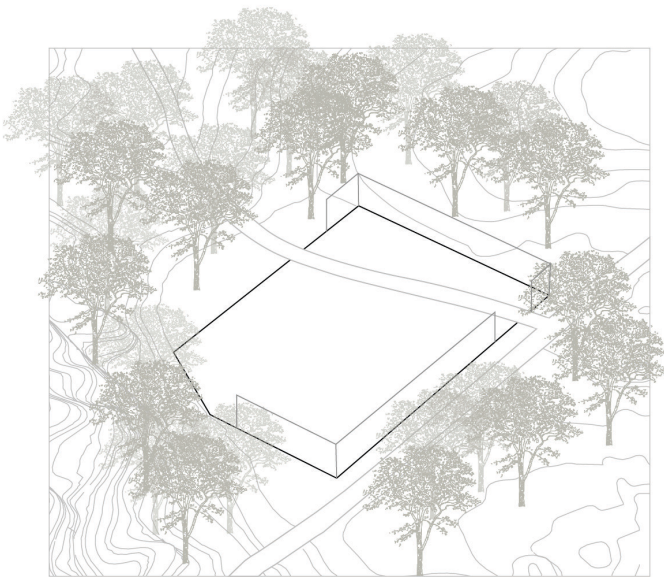


Fig. a: site today

- The site today consists of a gravelled area, partially surrounded by a metal fence. This exploited area serves as a boundary for the project.
- Prior to the development of the shape, the choice was made to keep the building on a single floor, keeping the scale low and providing an immediate connection to the outdoors throughout the centre.
- Due to the program size in relation to the size of the gravelled area, the functions will be located towards the outer parts of the plot in order to receiving more space for the courtyards.

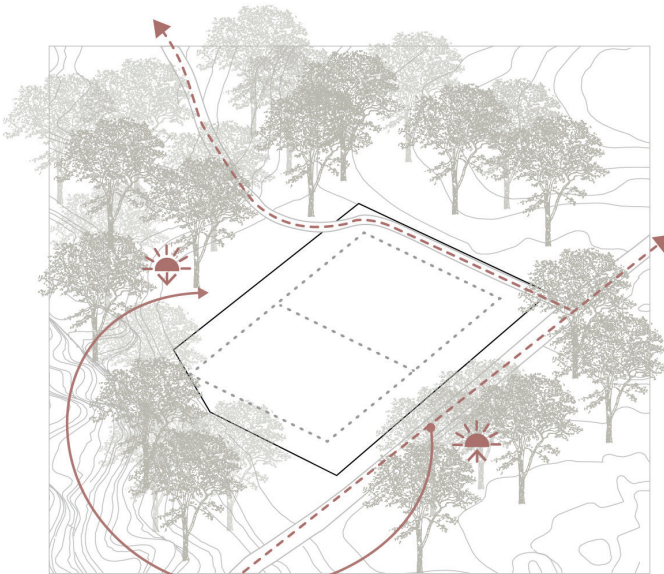


Fig. b: trails, sun path, grid

- The fence is removed and the pedestrian trail is moved towards the northern edge of the plot.
- The grid lines for indoor communication are laid out on the site. By letting the building simply follow the shape of the gravelled area, all functions will have at least one window facing east, west or south, offering an abundance of natural light. The additional centered line offers a range of movement options within the building as well as southern light to additional functions.
- By following the grid, space will be created for multiple courtyards, completely surrounding the centre with nature. By keeping the communication lines straight, multiple sightlines will also be available throughout the centre.

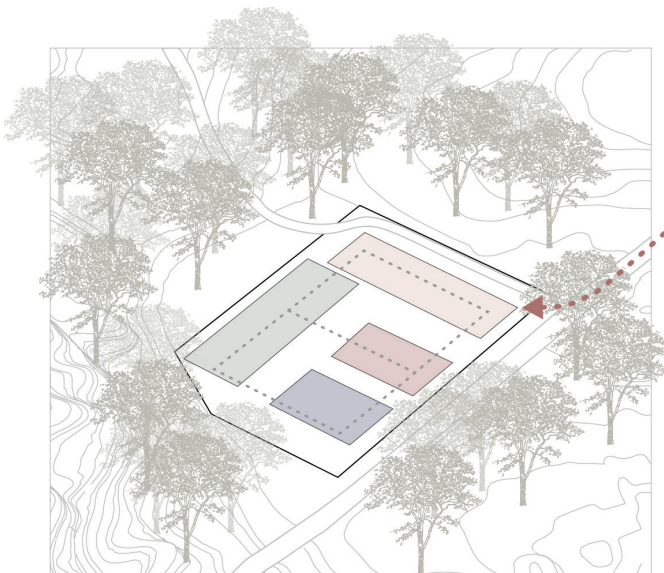


Fig. c: function layout

- As the plot offers views to nature in all directions, the functions were arranged based on their levels of privacy.
- The general areas are located in the northern part as there's no immediate need for private views. Additionally, the entrance is placed towards the north-eastern side of the plot, in the direction where most visitors will arrive due to the more practical network for cars, bikes and the closest stop for public transport.
- The relaxation block is placed away from all exterior paths to ensure a higher level of privacy.
- SE and CR are placed in such a way to receive varying levels of privacy, providing a range of views between their activities. SE is however located closer to the staff areas.

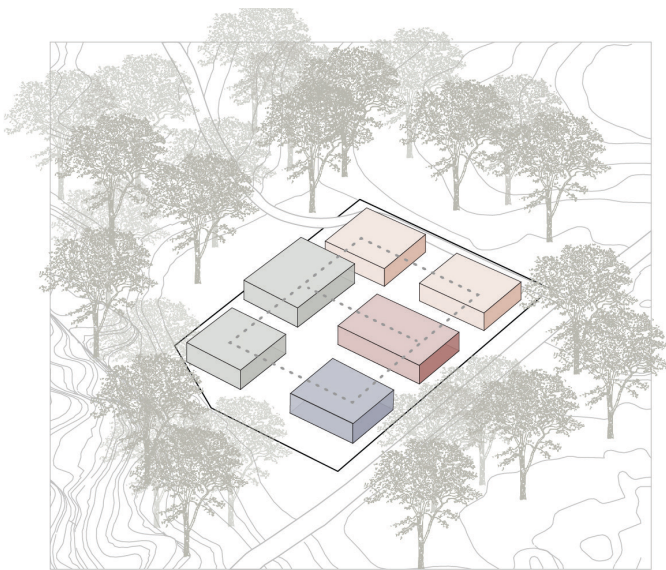


Fig. d: volumes, further division

- To bring more daylight into the buildings as well as increase the village-look, the blocks are divided further based on the functions. The entrance and livingroom area is now a separate block from staff rooms and additional general areas. The relaxation areas are divided based on the need for staff to be present. By doing this, the staff-flow is kept on the northern half of the plot, creating a sense of independence and control for patients in the south as creativity & recreation is mainly independent as well.
- By locating the communication lines toward the middle of the divided blocks, the structure will give off more of a village-look, promoting the idea of a home-like environment as well as creating a visual connection to the residential area of villas nearby.

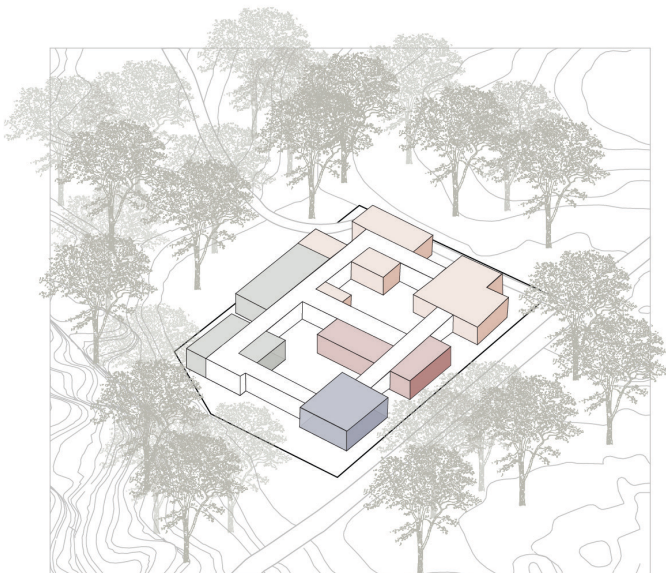


Fig. e: corridor volumes, specific room placement

- The corridors are placed according to the communication lines, placing the functions either inwards for more private courtyard-views or outward for views of the deciduous forest landscape. In certain areas the corridor is merged with the function. In these cases, the room is a common area (livingroom/kitchen and creative studio/gallery).
- A choice was also made to make the positioning of rooms a bit more irregular than symmetrical. The idea behind this was to move away from hospital associations and to mimic the irregularity of the natural environment.
- The entrance has been highlighted through a retraction of the corner.

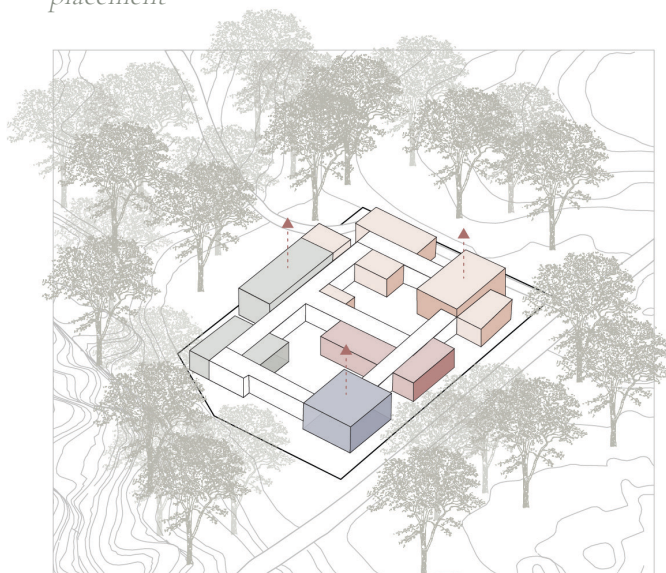


Fig. f: varying ceiling heights

- Three volumes slightly increase their ceiling heights to match the proportions and atmospheres of the rooms: The kitchen/livingroom, creative studio/gallery and the block for physical activities and exercises.
- In regards to shadows, the height increase won't disrupt any daylight qualities considering the small difference, but also the location of the functions towards the edges of the plot, meaning that these shadows only affect certain areas during mere portions of the day.

SHAPE DEVELOPMENT OVERVIEW

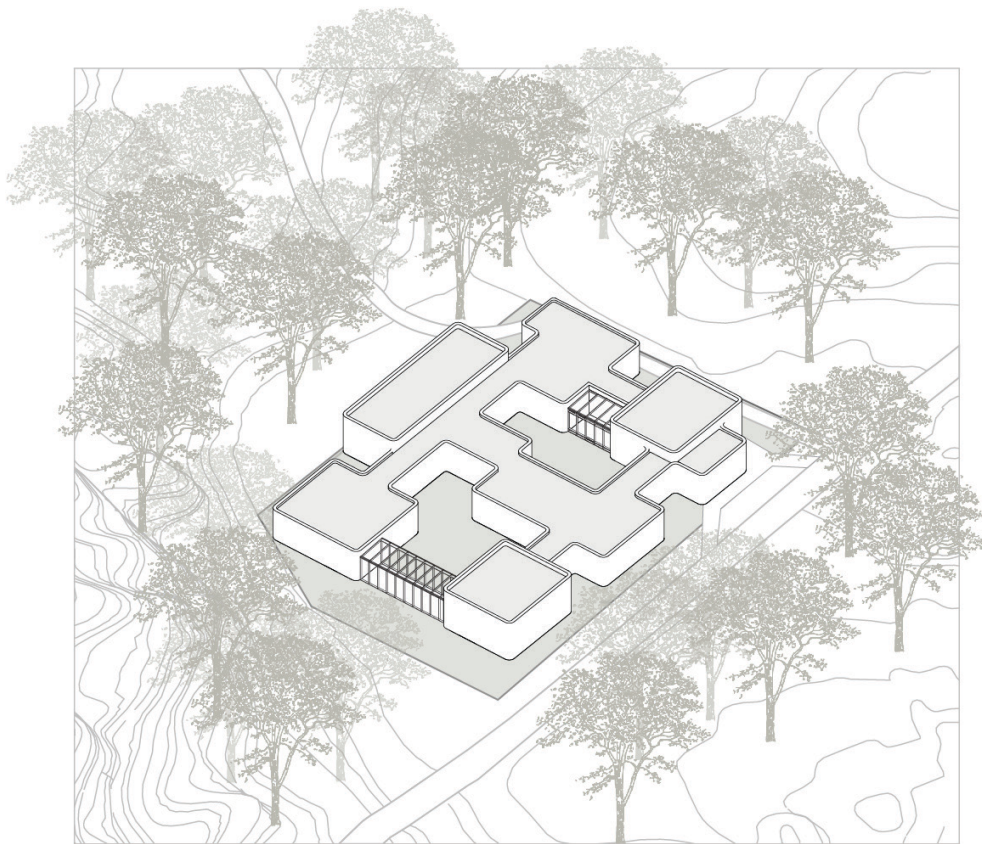
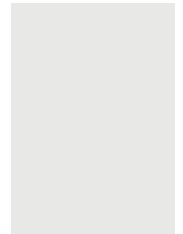
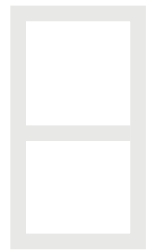


Fig. g: site filled with greenery

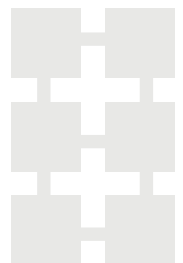
- Additional spaces for indoor greenery take their locations on the site where they'll receive an abundance of southern daylight. The green house is located on the southern edge of the plot, connecting to its respective category of creativity & recreation, and creating the option of moving through a green corridor. The heated conservatory is located in a southern position between blocks of general areas, providing a green view-point and space next to the main common area.
- All exterior edges are rounded, creating a softer impression on the site.
- The gravelled area is completely filled with greenery, filling the exploited gap and surrounding the entire centre with nature.



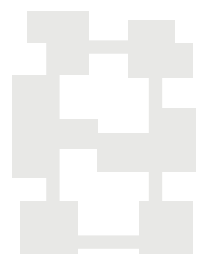
one floor



building grid



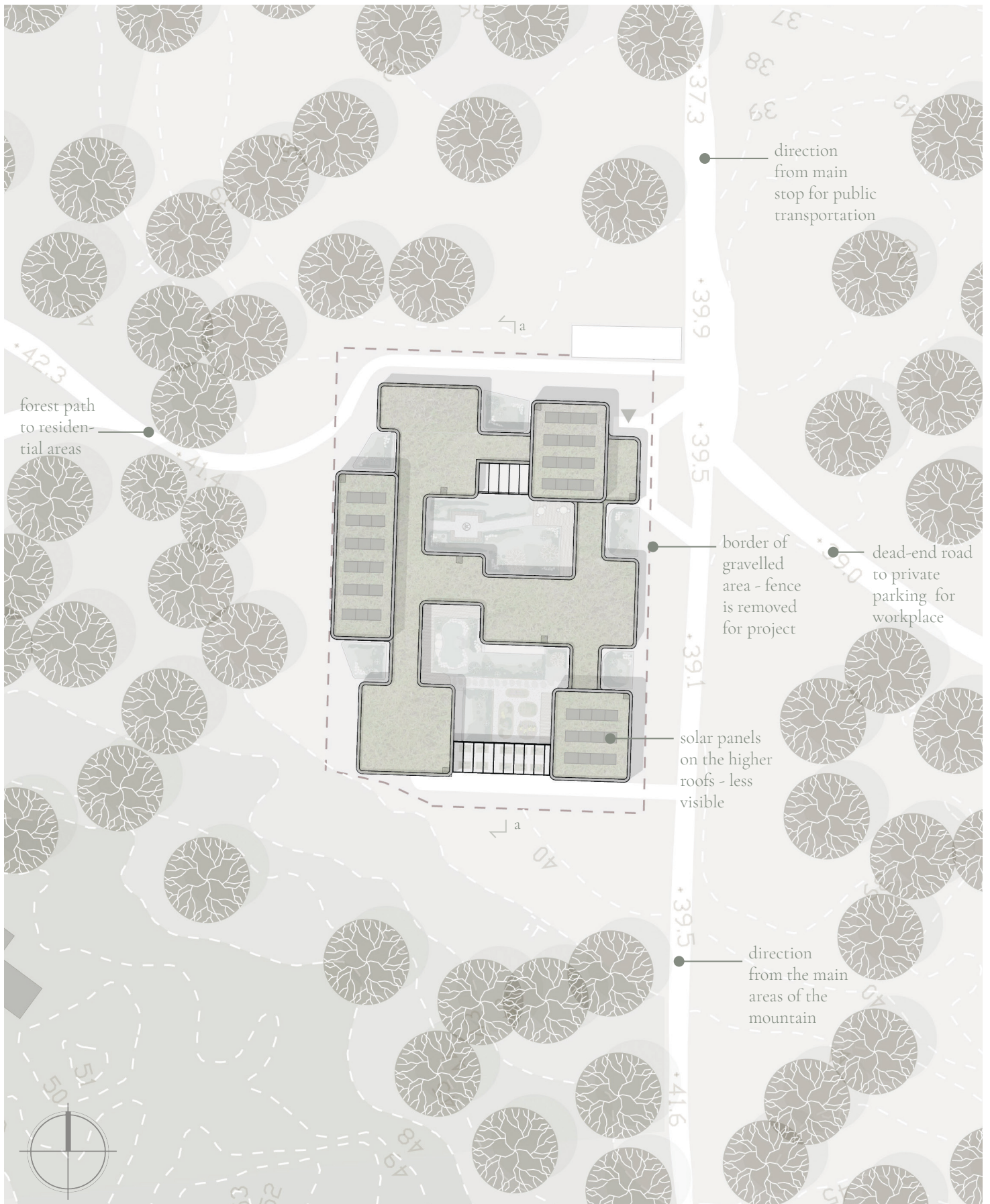
divided blocks



*room
positioning*

SITE PLAN

1:500



S I T E A P P R O A C H

- fill in the gap -

In regards to the strategies, an active choice to keep within the bounds of the gravelled area was taken, preserving the surrounding landscape and trees, merely using land that's already been exploited. The exploited gap has been filled with the centre, and new green areas both in the form of green roofs and new outdoor plantations.

- a single floor -

The number of floors has been kept down to one, with relatively low building depths, bringing in an abundance of natural light to all functions in the building and keeping the shadows small in the courtyards and between building blocks.

- blending in -

The shape of the building was made to imitate and blend nicely into the surrounding landscape. The rounded exterior edges are meant to mirror the lines of the natural environment, creating a smoother addition to the site with its soft borders. The small differences in building height both considers the change in atmospheres between activities in the centre, as well as the mirroring of the surrounding landscape on the mountain. The gaps between the buildings provide a place for greenery to embed the centre, providing a softer barrier between buildings and surroundings.



THE VILLAGE



Fig A. Visualisation of entrance area

- approaching the centre -

Visitors and staff are greeted by the small scale of the centre. The visually divided volumes of the centre makes it seem like a continuation of the residential area down the hill. Yet, as one gets closer and starts inspecting the structure they realize it's all connected. Through the glazed corridors they are able to see the greenery in the courtyards, and start to notice the subtle ripple noise of the pond. The warm lights of the interior look homely and inviting.

THE PLAN

- surrounded by nature -

To the east and west, all windows face the deciduous forest, city views and sunsets/sunrises. The windows facing inwards receive views towards one of the two courtyards landscaped with evergreen plants, seasonally blooming plants and flowers. As times get dark, solar powered lights assist in lighting up the gardens, keeping a consistent connection to nature.

- more than corridors -

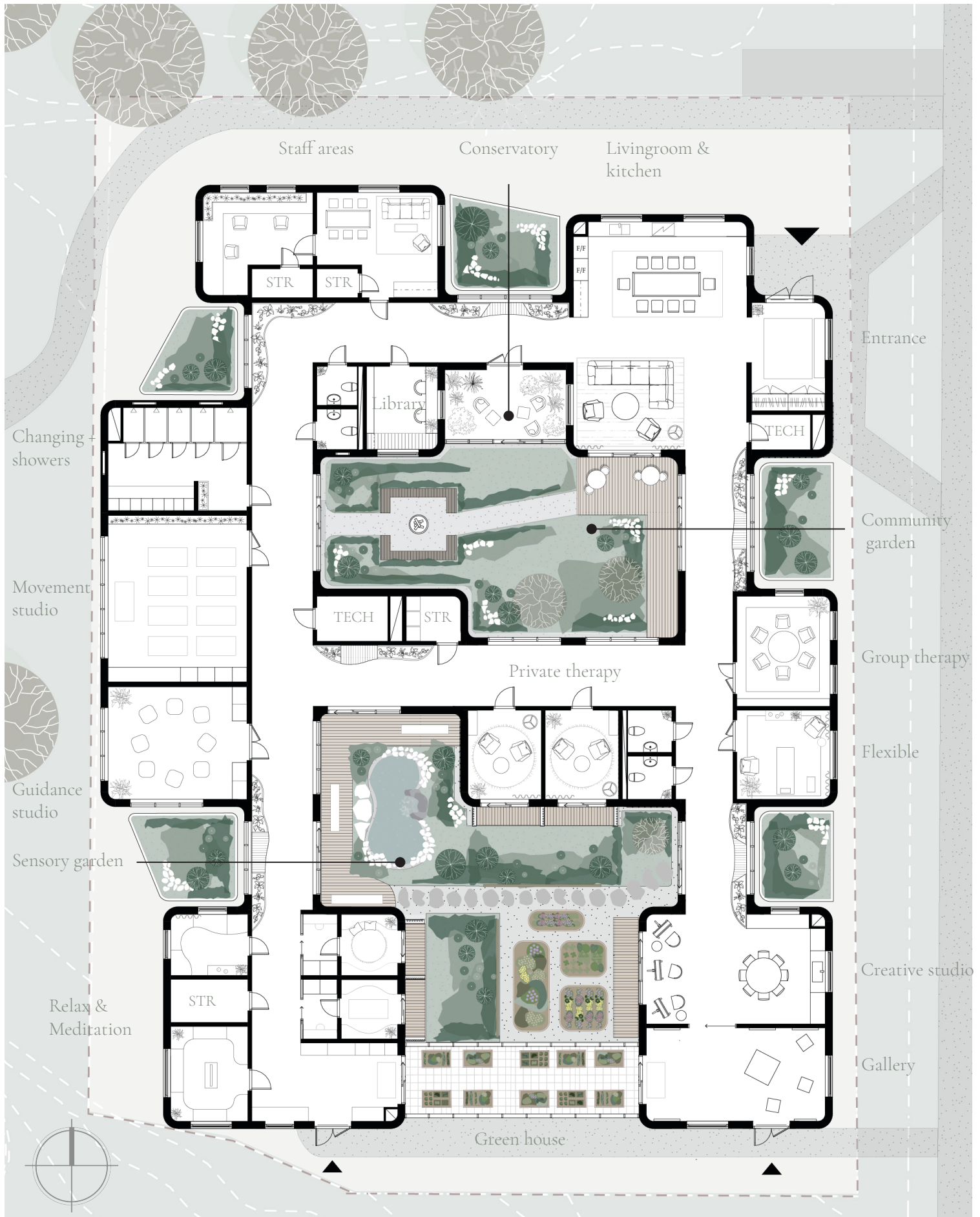
The corridors have been furnished with organically shaped planters with incorporated spaces to sit, providing not only space for indoor plants, but sequential areas throughout the centre for social interaction and private moments. The glazings of the corridors bring natural light and views towards nature, enhancing the connection to nature both for those walking through the centre and those who choose to spend a longer moment in these spaces.

- reflection -

Given the size of the plot in relation to the size of the program spread out on one floor, some qualities were probably sacrificed in order for others to be gained. For example, if more floors were added to the building, or it used space outside the bounds of the gravel, more land could be dedicated to outdoor areas. I do however think that for this site and for this program, more qualities were gained than were lost. Preserved landscape, a continuous, close connection to the outdoors, two smaller, intimate courtyards and an abundance of natural light.

FLOOR PLAN

1:200



0 1 2 5 10 15 20 M

PLAN DESCRIPTION

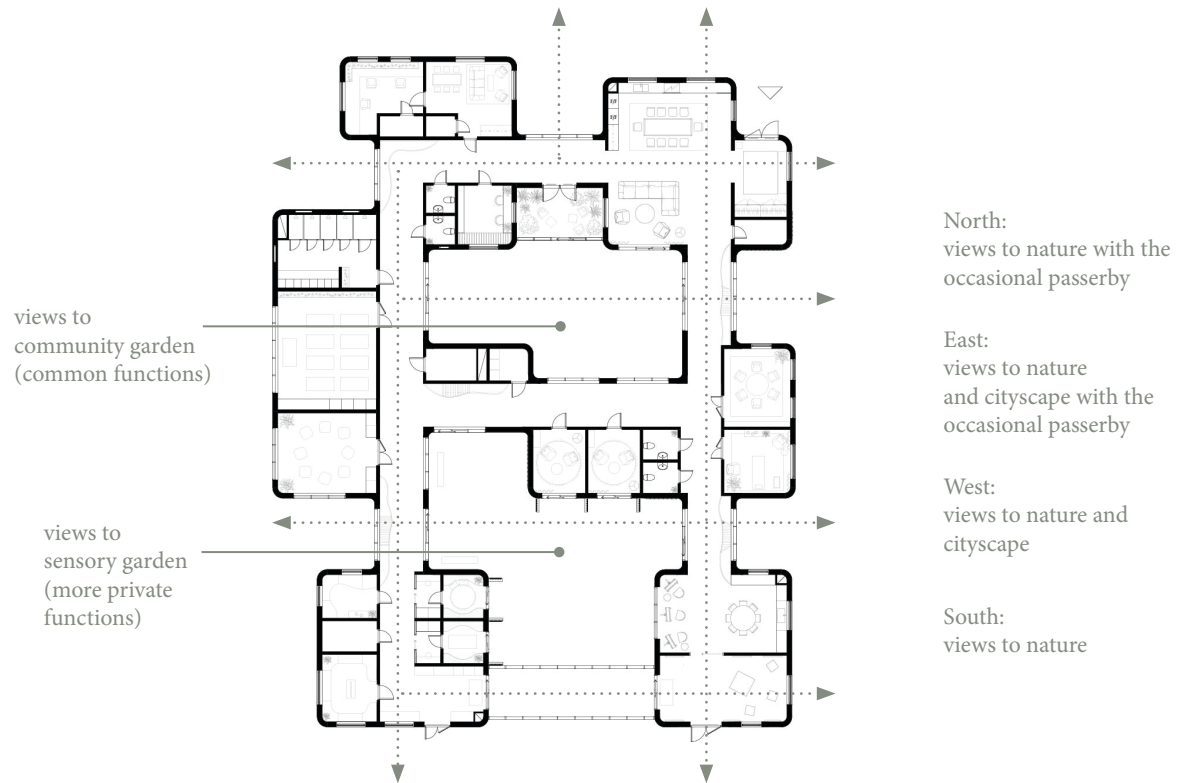


- movement and flows -

The movement within the centre happens through a sequence of spaces consisting of the categorized functions, divided by sections of glazed corridors, acting as sequential common areas with space to sit down alone or together, enjoying different viewpoints to nature between activities.

The sequence of space is also divided by flow, moving from shared activities between users and staff in the north to a core of teaching and learning (joint activities with patients and staff). Furthest away from the main flows are the independent activities where patients are the main users.

PLAN DESCRIPTION



- views and sightlines -

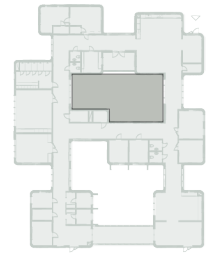
As optimal viewpoints are surrounding the entire plot, and the sun is free to penetrate the building from all directions, the views were grouped by levels of privacy and the types of activities taking place.

Sightlines are provided throughout the building to promote curiosity and exploration of the building. The sightlines provide a range of natural motifs of the surrounding nature while walking through the centre.

THERAPEUTIC GARDENS

- community garden -

The community garden is a place where users and staff can come together when the weather allows for outdoor social events. The purpose of this garden is to be an informal meeting point where bonding can take place in nature. Here they can spend time with activities like eating, gardening or bring out activities such as group therapy (perhaps around a bonfire) and yoga.



Community garden

- sensory garden -

The southern courtyard is a place where your senses get stimulated, which can assist in reducing people's stress and calming their minds. This garden consists of plants with varying colours, shapes and sizes but also a variety of contrasting elements and textures like pebbles, rocks and walls. There's a section of aromatic plants, stimulating the sense of smell, which can be appreciated up close or travel with the wind into open windows. Between the relaxation and therapy rooms you find a water garden, with the ability to stimulate sight, hearing and touch. Here, a water pond with a small waterfall is located with spaces to sit, watch, listen, relax and reflect. On warmer days, you could even sit by the edge and dip your feet in the water, and on colder days you could appreciate the scene from inside seatings.



Sensory garden

- green house -

The green house lets patients engage, hands-on, with nature in order to de-stress, building a closer relationship with nature. Here they can grow fruits, vegetables and herbs for the kitchen or to take home. More creative endeavors could also take place by learning to make bi-products like oils, ointments and herbal salts from the offerings of the gardens.



Green house

THERAPEUTIC GARDENS

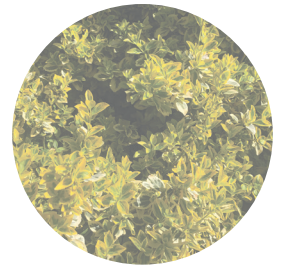


- evergreen -

The newly landscaped gardens and plantations surrounding the building will consist mostly of evergreen plants to ensure green views during all seasons of the year. These types of plants are usually conifers, bushes and climbers/ground covers, some of which bloom between spring and autumn.



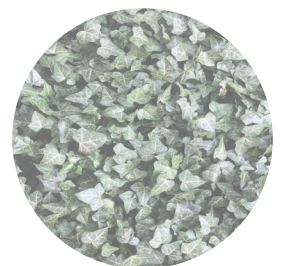
Conifer



Wintercreeper



Rhododendron



*Ivy (climbing /
ground cover)*

MATERIALITY



- interior -

The materiality within the building is based off of the biophilic and salutogenic tools, acquired through research. Hardwood flooring together with floor heating provides a homely, tactile experience, creating a pleasant foundation to walk on whether you take your shoes off, or bring a pair of indoor shoes. The walls mainly consist of sustainably-produced lime paint, which is a breathing, mould and bacteria resistant coating. Lime paint also gives off a more tactile, stoney impression. The colour of the paint is a warmer, light, sandy tone, complementing the interior wood.

Additional materiality includes that of the furniture and decor. Wooden furniture and decor will be most common together in earthy colors with elements of rattan. Wooden shelves provide space for plants on walls. Sheer, light coloured curtains let natural light in and create a soft atmosphere, yet give the option of privacy. Jute carpets provide both a tactile experience and a soft contrast to the hardwood flooring, in addition to being made from a sustainable, natural material.

MATERIALITY



- north facade close-up -

1:50

- exterior -

The materiality chosen for the facades is a cladding of vertical spruce panels that have been treated with iron vitriol to give off the impression that it's been weathered, turning it into a slight grey/silver tone. The panels are to be of irregular width and heights to match the variability of the building shape but also of nature. The purpose of the timber facade is to merge the centre with its natural surroundings and the treatment will turn it into a nuance that blends it more seamlessly into the colors of the surrounding environment. The more cool toned exterior will also create a notable contrast to the warmer interior color scheme.

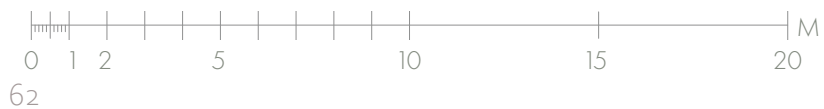
FACADES



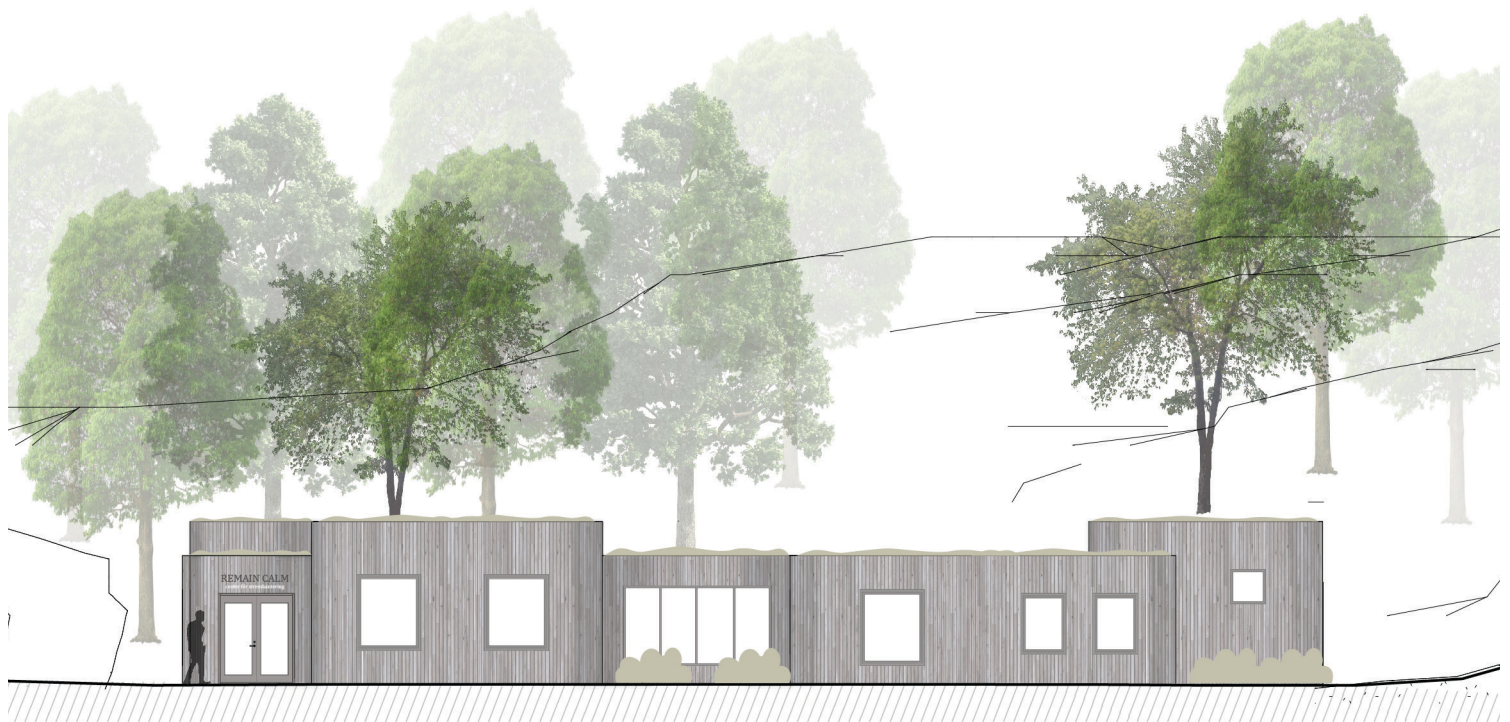
- facade west -
1:200



- facade east -
1:200



FACADES



- facade north -
1:200



- facade south -
1:200

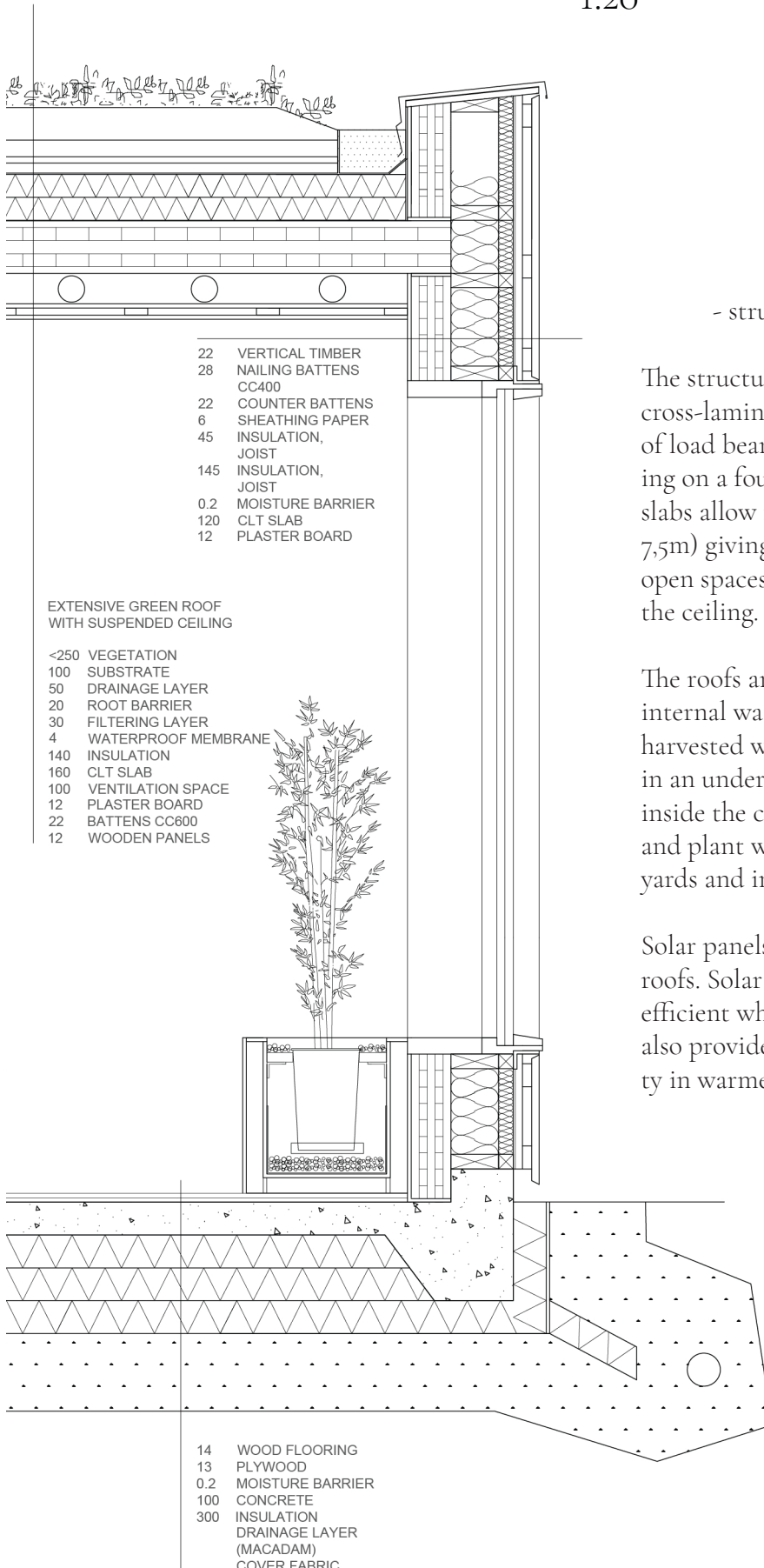
SECTIONS

1:200



SECTION b - b

1:20



- structure & sustainability -

The structure of the building is made of cross-laminated wood (CLT) in a system of load bearing walls and CLT slabs, resting on a foundation of concrete. The CLT slabs allow for longer spans (up to around 7,5m) giving the opportunity for large, open spaces. The ventilation is located in the ceiling.

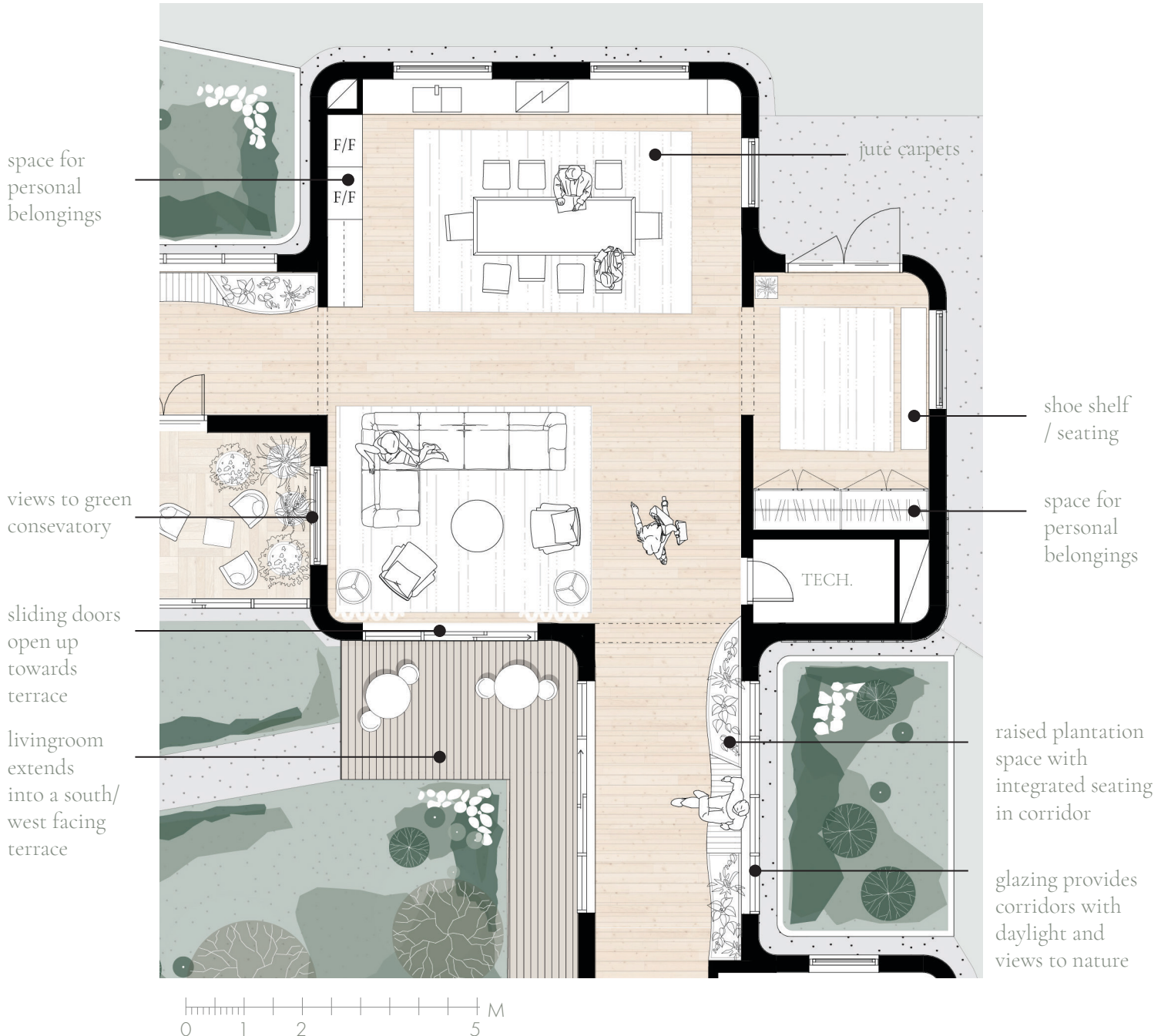
The roofs are flat green roofs with an internal water collection system. The harvested water is filtered and collected in an underground tank for different use inside the centre including toilet flushing and plant watering/irrigation of courtyards and indoor plants.

Solar panels are placed on some of the roofs. Solar panels are known to be more efficient when placed on green roofs, and also provide better climate for biodiversity in warmer months (Soprema, n.d.).

FLOOR PLAN

- living room & kitchen -

1:100



Instead of your typical waiting area, the living room and kitchen is the first thing you experience, walking through the entrance hallway. This is the main common area of the centre, but users are free to move around as they please. The open and bright corridors invite for exploration and seating is available both indoors and outdoors throughout the centre.

THE LIVING ROOM

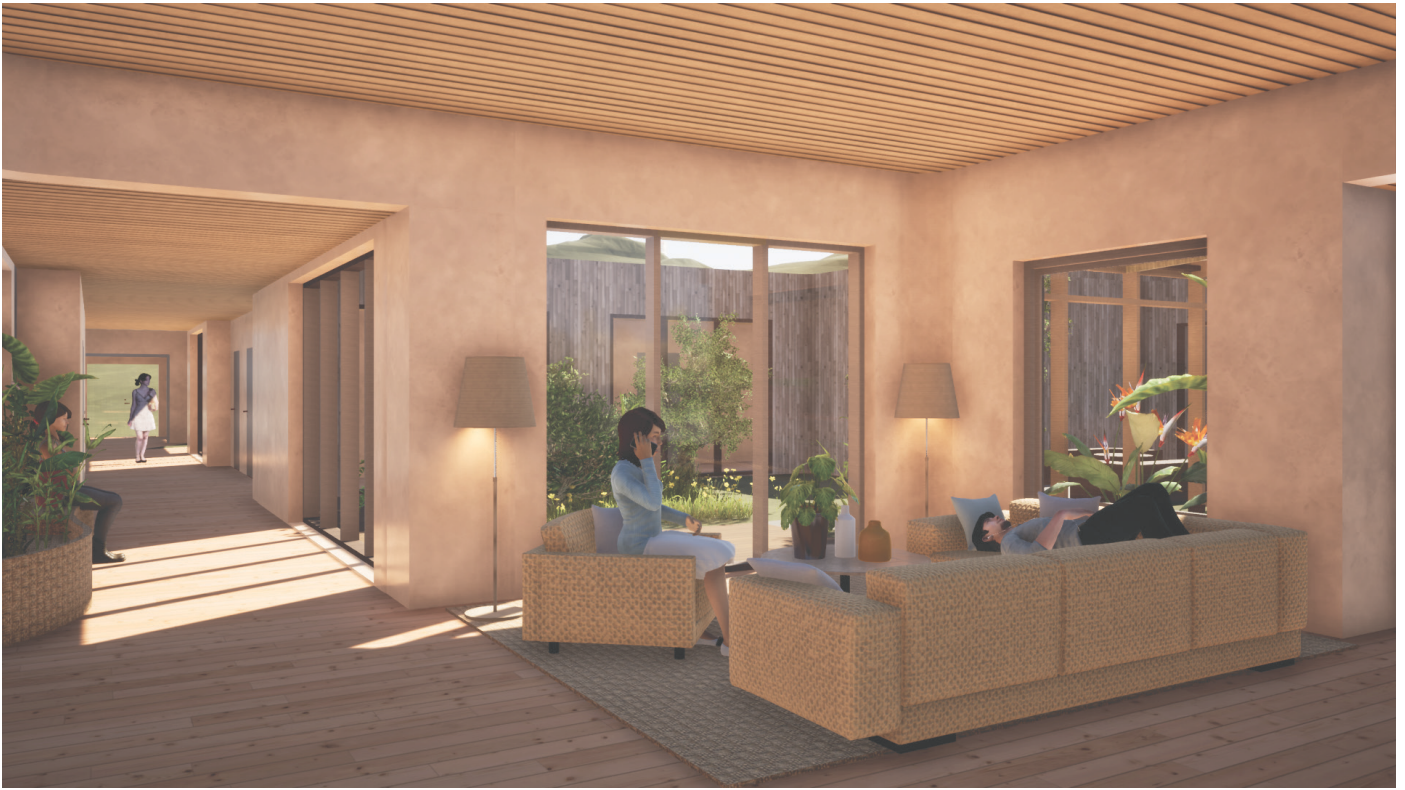


Fig. B Visualisation of living room area

- living room & kitchen -

This is a place where users and staff can spend time together before, between and after activities. The space is furnished to resemble a typical livingroom area with soft seating (couch and armchair), carpets and operable floor-lamps. The kitchen has one large table with many chairs to promote a sense of community among users and staff. To the kitchen they can either bring ready-made food from home, groceries for cooking (alone or together) or pay a small fee to grab whatever the centre keeps stocked in terms of fika. Coffee and tea is always brewing and free to grab at any time.

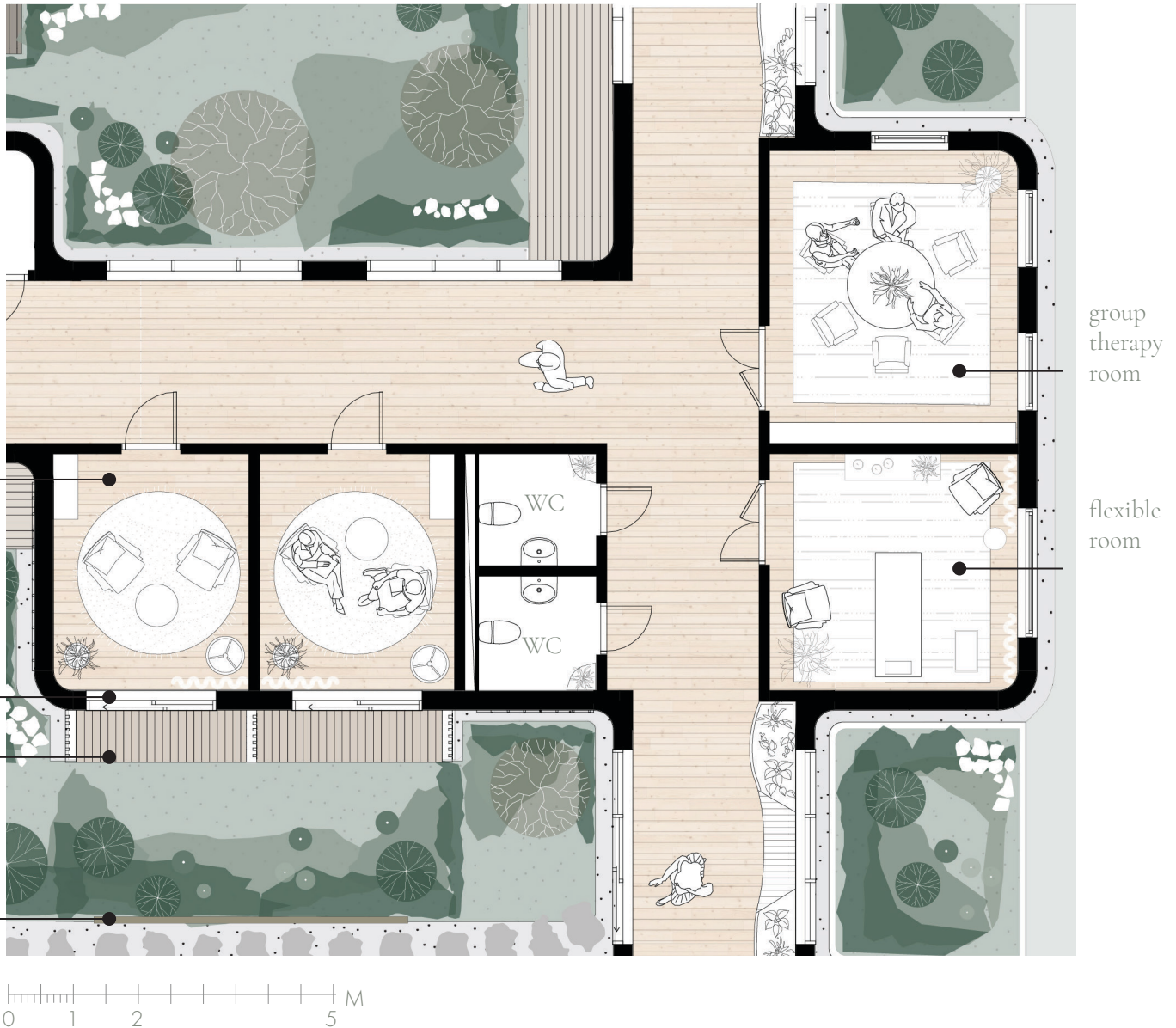
- surrounded by nature -

As seasons change and surrounding deciduous trees lose their green, the courtyards provide constant green views due to a range of evergreen plants. The glazed conservatory provides an additional green space and view-point in the centre with an abundance of indoor plants. Here, patients and staff can spend time feeling as though they are outdoors in nature, underneath the sky, all year round.

FLOOR PLAN

- support & education -

1:100



- therapy rooms -

The therapy rooms consist of two private rooms, a group room, and a flexible room that can be used according to the needs of the centre in terms of private sessions, smaller groups or other forms of therapy like physiotherapy. The views have been divided based on the level of privacy, with private rooms located towards the courtyard.

PSYCHOTHERAPY



*Fig. C Visualisation of private therapy room,
late afternoon*

- private therapy room -

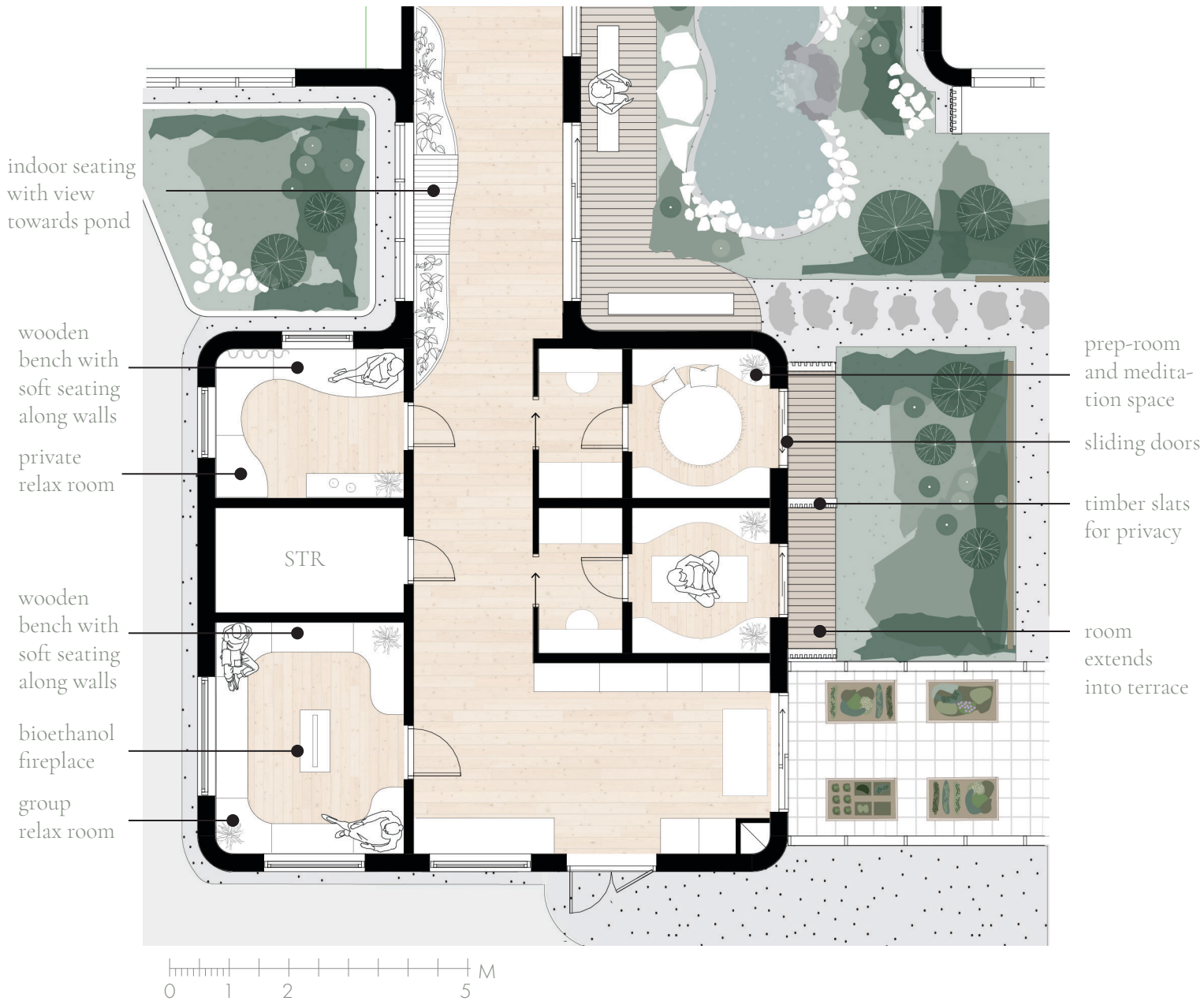
The private therapy rooms are placed toward the sensory garden where they will have a private, calm view towards nature. The atmosphere of the room is made to seem home-like and warm without any form of hierarchy between therapist and patient. The interior consists of two comfortable armchairs on a soft rug. The lighting of the room is spot-lighting in the form of floor- and wall lamps to increase a sense of home and remove any type of institutional feelings. Space has intentionally been dedicated to plants and additional decor on wooden shelves. The materiality is consistent with the rest of the building. Wooden floors and ceilings, and the stoney, warm lime-paint.

The room has been extended into the landscape through a small outdoor terrace, framed by wooden slats for an increased sense of privacy. The sliding doors allow for therapy sessions to be moved outdoors or simply to bring in fresh air along with aromatic smells and sounds of the garden. For sessions during darker seasons and times of day, solar powered lights lit up the outdoor scenes.

FLOOR PLAN

- relaxation and meditation -

1:100



- independent relaxation rooms -

The relaxation block with independent activities consists of the relaxation rooms (group and private) along with the meditation rooms. These are placed the furthest away from the main entrance, common area and flows to evoke a sense of privacy through the idea that little movement is happening outside the rooms.

RELAXATION

- relaxation rooms -

The interior spaces of the relaxation rooms are inspired by Friluftssykehuset in Norway. Integrated wooden benches covered with soft seating surround the edges of the rooms, providing the users with multiple choices of where to sit or lay down, whether it's in a corner or by a window. The benches have built in storage under some of the seats, providing the users with additional cushions, blankets, speakers and whatever else is necessary for them to create a space where they're allowed to simply relax and exist in the moment. The group relax room is equipped with a bioethanol fireplace, adding another layer to the natural elements present in the centre. In addition to being a biophilic feature, the fire will enhance the warm and comforting atmosphere by providing warmth, visual stimuli and in some cases, a sense of community.

- meditation rooms -

The meditation rooms are divided into a smaller preparation room along with a meditation space to indicate that a ritual is taking place. The pre-meditation room is where the user prepares for what is to come, which may lead to more fulfilling meditations. This small space is equipped with cabinets containing things to use during the meditation like candles, mats and cushions, speakers for music/sounds and aroma. The user is in charge of the space. The pre-meditation room also contains a small desk with a pull-out seating. Here they have the option to journal before and after the meditation, along with any other activity they find beneficial to their ritual.

The views from the meditation rooms are directed towards the sensory garden for privacy. The operable sliding doors allow the users to bring in fresh air, aromas from the garden and the sound of the water trickling in the pond. The rooms are extended into the garden through small terraces where users can choose to sit if they want to bring the meditation outdoors.

SECTION C - C

1:50



Section C-C through prep-room, meditation space and the small terrace extension framed by wooden slats with climbing plants

- meditation rooms -

The meditation space itself is decorated with raised, embracing surfaces along the walls. These are meant to be flexible in terms of use and it's up to the user how they want to use the space. The raised surfaces can act as seating, back-rest, and shelves for plants or candles. The main area for meditation is however on the floor, which has enough space for cushions and yoga mats to be laid out in all directions.

S U M M A R Y

- project intentions -

To create spaces where stress is successfully reduced and health is improved in healing environments.

To design a place where those suffering learn to cope with, manage and build resilience to stress.

To investigate a new approach to the typical healthcare building that is specifically made for helping people suffering from stress

REFLECTION

It wasn't until the end of the master thesis journey that a thought struck me about my own objectives surrounding this very project. I was talking about my thesis with a family member, which then mentioned how crazy it is that we've come to a place in this world where stress is such a large-scale issue that a place like this would have to be made in the first place. A place to prevent people from drowning in health issues caused by their stressful lives and the endless cycles of pressure that society puts us through. It's not normal, and it's not what we were built for, considering the negative emotional and physical responses our bodies react with.

Even though my project focused on creating a place for people to heal from unhealthy stress-levels, the overall concept of healing environments is something that I feel should be considered and applied in every project out there. Through simple strategies and design choices, a place could immediately contribute with healing and stress-reducing abilities, rather than merely existing. In a world that constantly tells people do to more, I feel as though it's our duty as architects to contribute to the well-being of the people, considering the fact that we design the spaces we spend most of our lives in. By actively incorporating space for greenery both indoors and outdoors, using natural materials, colors and textures, or merely directing a view towards a tree, we are able to improve the health of people, even if just by a little bit. I will certainly bring everything I learnt through my research to future projects and I also want to continue learning more going forward.

If I had the chance to do this thesis again I wouldn't have done it in such a lonely and independent way-alone in my apartment. I would've gone to campus and to friends a lot more to discuss the project as it really helped me with getting forward when I felt stuck, but unfortunately I didn't do this until it was almost done. What I learnt about myself is that I prefer working in groups as I'm allowed to keep a constant discussion going about the ins and outs of projects.

CONCLUSION

In this thesis I managed to explore both salutogenic design and biophilic design in regards to healing environments for stress-reduction, along with holistic therapy as stress-management activities. The project resulted in a smaller centre where users can walk around freely and claim the space as their own in a home-like environment. A place where staff and patients are seen as equals through shared space. A place where nature is all-surrounding and greenery is present all year around.

For this project I created a place where people could heal from stress in an overall healing environment. In regards to biophilic design, the focus became to design the built environment in a way where nature was a constant variable, whether that be a view towards nature from a large window, indoor plants, a corridor that brought in an abundance of natural light, or in the form of a natural material that would surround your very being in a room. The idea was to bring out a positive emotional and healing response in people wherever they spent time in the centre.

As for salutogenic design, some of the design strategies were mere interpretations of what I thought could contribute to a healing environment. I was working with the idea that how you are allowed to move around in a building, use and claim a space, and be given the opportunity to associate it to for example, a home, could increase your sense of coherence and promote health.

The difficult thing about the approaches I chose (salutogenic and biophilic design) is that I can't measure the healing effects that they possibly contribute with, making it an almost intangible thing in the end. Would people stay long enough in this space to receive the effects of the environment? Or would it eventually come down to the activities healing people back to health? Even so, though it may seem intangible, I still want to emphasize that if a space was made with an intention to promote healing, it's probably more healing than the space where no considerations were made to even try promoting health.

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REMAIN CALM

A centre for healing the stressed
Master thesis written by Sara Bergquist

Department of Architecture & Civil Engineering,
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