

YOU EAT

WHAT

YOU SOW

an open farmyard for living and learning



CHALMERS

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Studio: Matter, Space, Structure

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THANK YOU!

To my examiner Morten Lund and supervisor Claes Johansson, for your ability of understanding and seeing possibilities.

To my fellow studio members, both for your advice in times of doubt and your laughter therebetween.

To friends and family for believing in me and having that endless patience.

ABSTRACT.

Since urbanization the perception of being part of a larger whole has changed. Our previously rooted and essential feeling for being part of nature is becoming increasingly vague. This thesis aims to investigate how architecture can celebrate and showcase natural resources and the way in which we live off of nature. How can architecture work as a learning tool and subconsciously affect our feelings, values and therefore also our behaviour?

It is my belief that the atmosphere in architecture is the strongest tool to deeply influence people on an emotional level. Therefore this project starts from within, both spatially and within the mind. Form follows, not only function, but feeling.

The investigation is executed through the design of a small-scale farm yard in the village Replot, located in a world heritage archipelago in Finland. The village has history of fishing and farming but nowadays most of its inhabitant's work in the

city. The functions are structured around a path reflecting the story of farming; from the fertility of soil, through the elements and time of growth, to the celebration of the harvest. Each of the three parts has its own specific spatial character based on the sequence of farming. The farmyard addresses different types of users and lengths of stay. For example the visitors could be a couple, taking a stroll there and buying some rye-bread made from scratch in a class that has been taken place at the yard. Long-term visitors can check in to one of the rooms for a weekend or a longer escape to live and work on the farm, however there are also permanent residences on the yard.

Imagine if farming could be given a public function and through that, the concept of small-scale farming could be revitalized. The character of the farmyard's architecture aims at both making a statement in the homogeneous typology and reconnect to it. It aims at strengthen a small village's identity and history.

INTRODUCTION.

Before industrialism, man and nature had a close bond. Your opportunity to provide for your livelihood were directly tied to your local environment, its natural resources and ecological systems. As a consequence, the understanding of the nature became intuitive and based on perceived knowledge. The link between action and consequence was direct. Urbanism, the city living is generally considered as a part of a sustainable life, but how does it affect our awareness on the effect of our lives on nature. "Not in sight, not in mind." In Falk Heden's "Att sinnliggöra relationerna mellan människa och natur", she states that only intellectual knowledge is not enough to provide the insight and motivation to change. Because even though we are often aware of the impact that our actions cause, in today's complex systems requires a "greater mental effort and higher degree of commitment for us to act responsibly." It also requires that we become emotionally involved in changing and that it is likely that we need to enable all our possible knowledge acquisition abilities to move towards sustainable development.¹ The tendency to perceive sustainability as just a trend entails a danger, since a trend is something you can consciously choose to waive, without major consequences.

The discussion of sustainability often deals with the three parameter's of sustainability (economy, environmental, and social), but what about the meeting points between these aspects. Can a socially sustainable architecture (aesthetics, functions etc.) have synergetic environmentally sustainable affects.

The inspiration for this take its start in works of architects such as Tadao Ando, Peter Zumthor, Glenn Murcutt, Alvar Aalto and Juhani Pallasmaa. All examples of how architecture work with the subconscious ability of the human mind to understand and absorb an atmosphere.

This master thesis combines topics that are too little discovered together. The discussion of architecture as the experience of space lacks the issue of environmental sustainability. While as the discussion of environmentally sustainable built environment lacks in the issue of architecture as an experience of space. Additionally, I think since the notion of atmosphere is so slippery, it is important to develop this into concrete design projects. The existing projects that consciously consider atmospheres seem to be disconnected societal issues.⁴ This project would however reflect upon how atmospheres can increase environmental consciousness.

¹ Falkheden, L. (1999) Att sinnliggöra relationerna mellan människa och natur. I Lokalområdet som strategi för en hållbar stadsutveckling, sid.177-220 [Avhandling] Göteborg: Chalmers tekniska högskola.

² Lecture by Kristel de Myttenaere, Chalmers, 20-09-2013

³ <http://architectureau.com/articles/arthurs-metaphor/> (14.09.23)

⁴ Borch C. (2014) *Architectural Atmospheres on the Experience and politics of Architecture*. Birkhäuser Verlag GmbH, Base



Tadao Ando

Peter Zumthor

Design to reveal Space and Light versus instead of space and Light to reveal the Design.²



The Arthur and Yvonne Boyd Education Centre, completed in 1999., designed by Glenn Murcutt. Where the actual journey to Riversdale prepares the visitor for the surprise of the experience on site.³



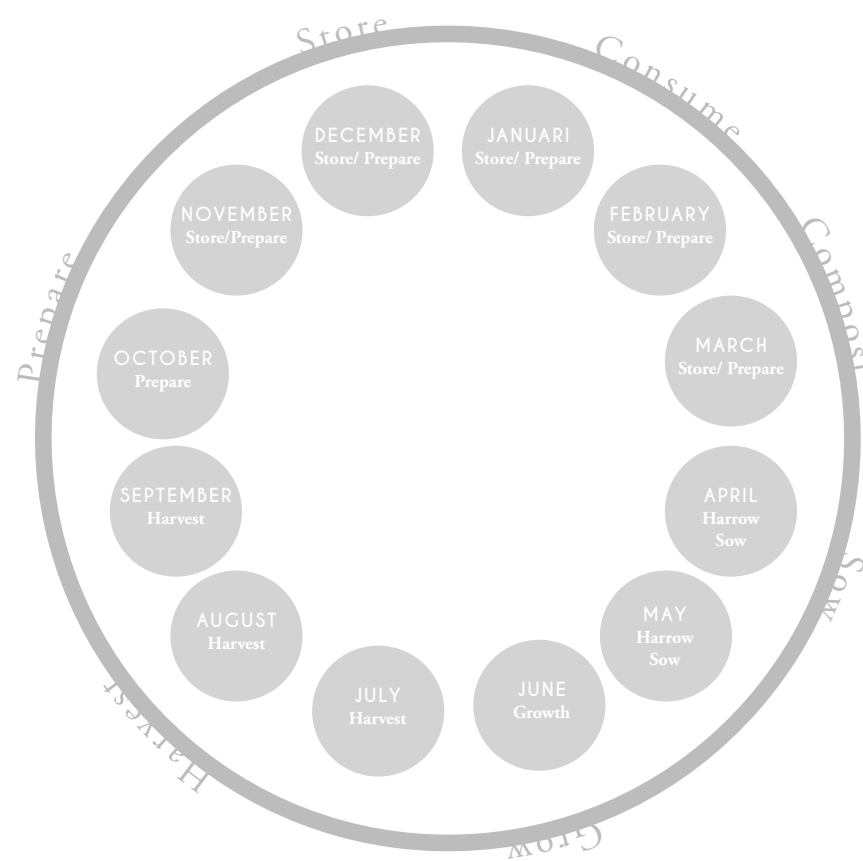
Architecture that embraces and reveals the nature has been done, but not architecture that empathizes the cultivated nature. What happens when man and nature meets?

Pictures from: <http://www.archnewsnow.com/features/Feature18.htm> and <http://www.hitherandthither.net/2010/07/villa-vals.html> and Lecture by Kristel de Myttenaere, Chalmers, 20-09-2013

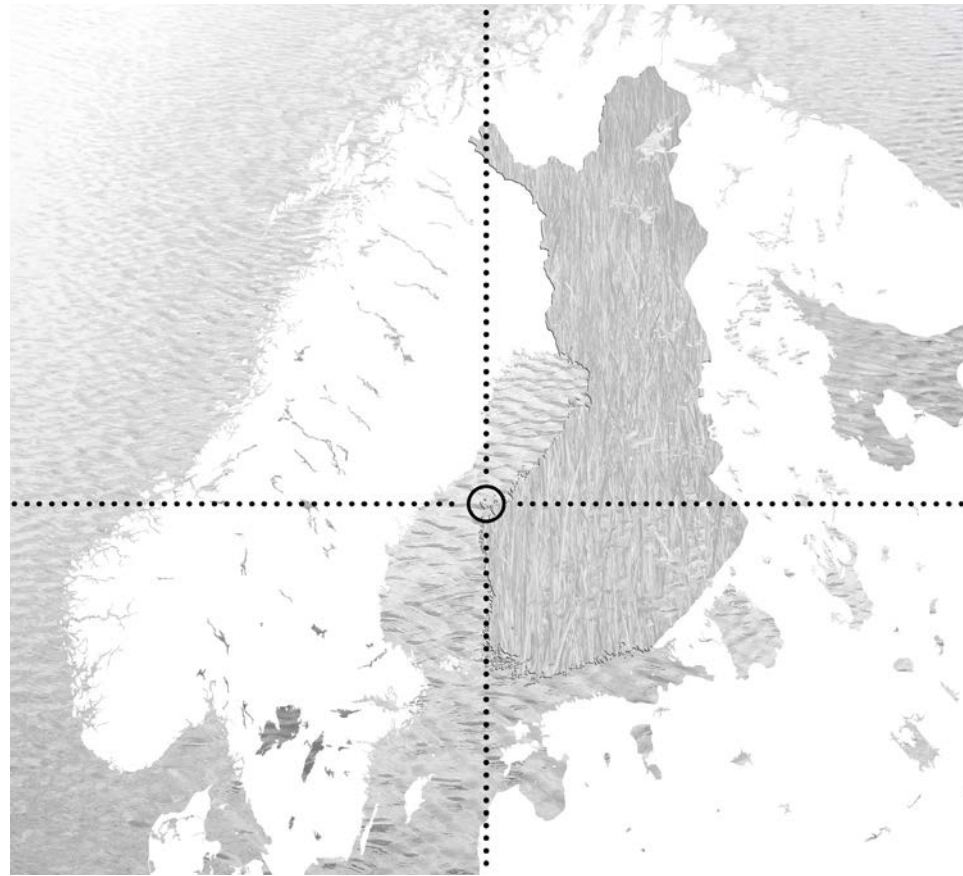
Lost connections.

Since urbanization the perception of being part of a larger whole has changed. Our previously rooted and essential feeling for being part of nature is becoming increasingly vague.

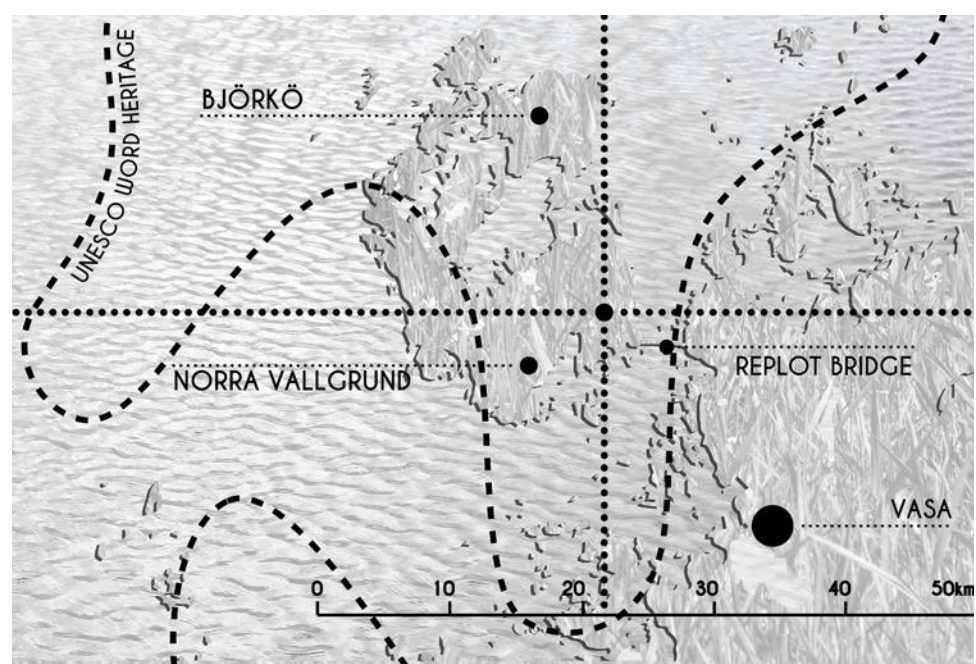
This thesis aims to investigate how architecture can celebrate and showcase natural resources and the way in which we live off of nature. How can architecture work as a learning tool and subconsciously affect our feelings, values and therefore also our behavior?



The farm year.



Location.



Replot Island.



Replot village.



Site.

PLACE.

Replot village is a small but slowly growing village with about 350 households. It is located on Replot island in the world heritage archipelago of Korsholm, outside the city of Vasa. Initially most of the houses clustered around today's village centre, but the settlement is today far dispersed. The built cultural environment of Replot village is considered to be of national importance. The seaside, in a walking distance from the centre, plays an important role as meeting place during summer, with the guest dock, swimming beach and Café. The village has also transformed from the farming and fishing community it used to be, to a village where many of its inhabitants commute to their jobs on the mainland.⁵ However there are still a few sheep left and the village still has a lot of hay field, making the harvesting of the hay an important part of the summer activity. The history of farming and fishing is evident in the building typology. Most of the building

stock consists of one family houses, with one to two storeys high houses and the long outbuildings, with one storey. Today there are many summer cottages around the village and maritime activities play a large part in the culture of the region. Since the archipelago was appointed as a world heritage the municipality of Korsholm has ambitions to strengthen the touristic and recreational profile of the village. The cultural services are located outside the municipality and there is a threat that the local identity is undermined. Still there is a strong community sense in the village and a trend towards small society clubs and events. The atmosphere in the village and between neighbors is generally quite open and familiar. Imagine if farming could be given a public function and through that, the familiarity in the village could be taken advantage of. At the same time the concept of small-scale farming could be revitalized.



PLAN REPLOT
Scale 1:5000



CONCEPT.

“Mountain, stone, water – building in the stone, building with the stone, into the mountain, building out of the mountain, being inside the mountain – how can the implications and the sensuality of the association of these words be interpreted, architecturally?”

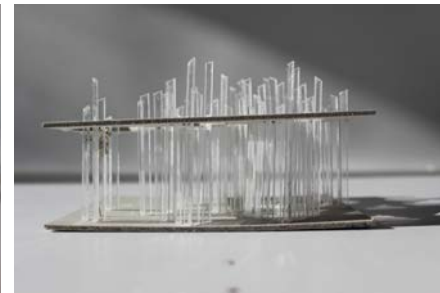
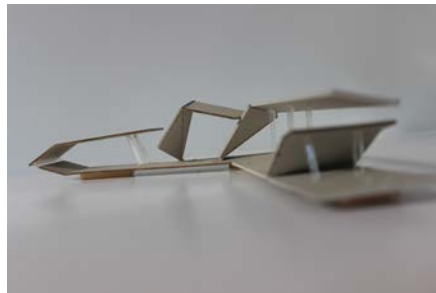
Peter Zumthor

How can the feeling and the implications of nature manipulated by man be interpreted architecturally. How can that atmosphere create a feeling of being part of something bigger.

It is my belief that the atmosphere in architecture is the strongest tool to deeply influence people on an emotional level. Therefore this project starts from within, both spatially and within the mind. Form follows, not only function, but feeling. How can architecture work as a learning tool and

subconsciously affect our feelings, values and therefore also our behavior?

The purpose of the farm is to create a setting where the process and the requirements and the whole process behind food can be experienced. The farmyard brings the local community and tourists together in the village to grow, prepare and enjoy local foods. Both the structure of program and the character is reflecting the life cycle of the production of food: harrowing, sowing, growing, harvesting, storing, preparing, dining, and composting. As a visitor or inhabitant you help to complete each stage, allowing the farmyard to become a setting for getting close to the cultivated nature and experience gathering learning activities with all your senses.





KNOWING / FEELING.

Before industrialism, the understanding of natural resources was intuitive and based on perceived knowledge. The urbanization, with its large infrastructure of products and food, distorts this connection to nature. "Not in sight, not in mind."

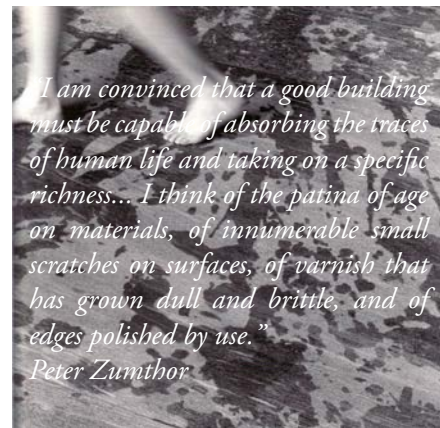
Today our knowledge about the effect of our lives on nature is mostly based on what we read and hear. However there is a difference in knowing and knowing, the first one you have read or heard, the second is something you feel, something that effect your values. It is my belief that intellectual knowledge is not sufficient to move towards sustainable development, it requires emotional involvement. It requires that we perceive it with all our senses.

This project celebrates the man-cultivated nature.



IDENTITY.

How can a small village's identity and history be strengthened? Imagine if farming could be given a public function and through that, the concept of small-scale farming could be revitalized. The character of the farmyard's architecture aims at both making a statement in the homogenous typology and reconnect to it. It aims at strengthen a small village's identity and history, be an active point in the village, support the different association existing in Replot and connect to it's history of farming.



"I am convinced that a good building must be capable of absorbing the traces of human life and taking on a specific richness... I think of the patina of age on materials, of innumerable small scratches on surfaces, of varnish that has grown dull and brittle, and of edges polished by use."

Peter Zumthor



PROXIMITY TO NATURE/ELEMENTS

Physical closeness to natural elements and functional space. Highlighting natural elements.
Blending exterior with interior. Traces of nature, weather, time, life.



RESOURCES / ORIGIN

The functions are structured around a path reflecting the story of farming. This story is divided in three parts, three characters. From the fertility of soil, through the elements and time of growth, to the celebration of the harvest. Each of the three parts has its own specific spatial character based on the sequence of farming.

INSPIRATION.

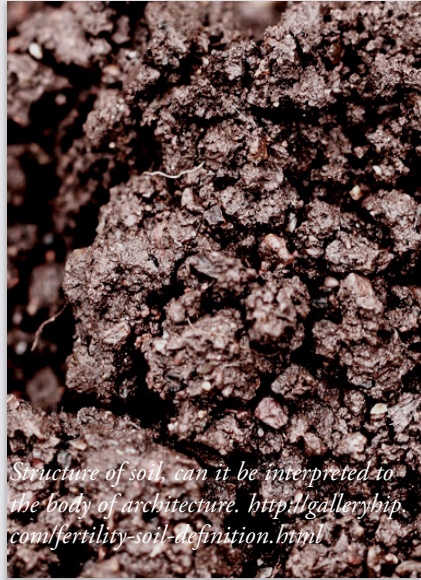
Different sources of inspiration has been used in the ambition to catch an atmosphere. Such inspirations were not only other architectural projects or theories but I tried to mainly use other type of inspirational sources. These sources were taken from the three different characters in farming that the design is based on, soil, growth and harvest. Mostly the inspiration was a feeling connected to one of these three parts. In order to pin down that feeling, I used elements, pictures, movement and phenomenons



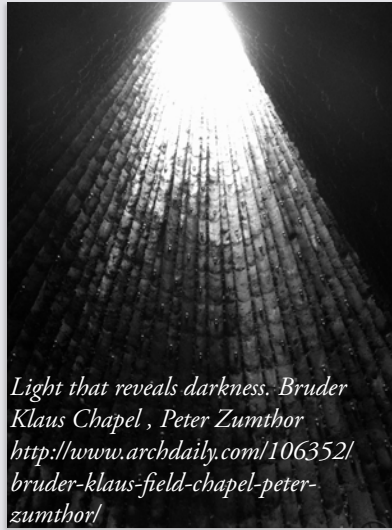
SOIL



Narrow, heavy, seducing



Structure of soil, can it be interpreted to the body of architecture. <http://galleryhip.com/fertility-soil-definition.html>



Light that reveals darkness. Bruder Klaus Chapel, Peter Zumthor <http://www.archdaily.com/106352/bruder-klaus-field-chapel-peter-zumthor/>

GROWTH



Photo: Loïe Fuller. <http://www.histoire-image.org/plein-cadre/index.php?i=1071>



The shape of the wind. Floating. Hotel by Peter Zumthor



Japanese Pavilion, by Junya Ishigami. <http://tmagazine.blogs.nytimes.com/2008/09/16/venice-architecture-biennale-gaga-for-zaha/>



rain workshop at Kanagawa Institute of Technology in Japan by Junya Ishigami Architects. Photo: Edmund Sumner <http://www.dezeen.com/tae/junya-ishigami/>

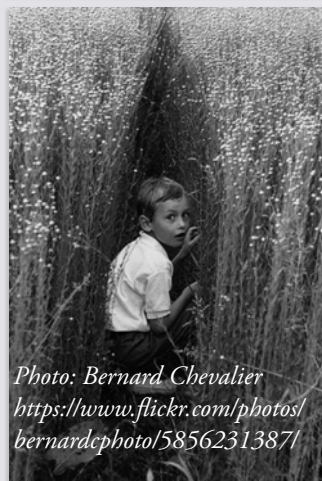
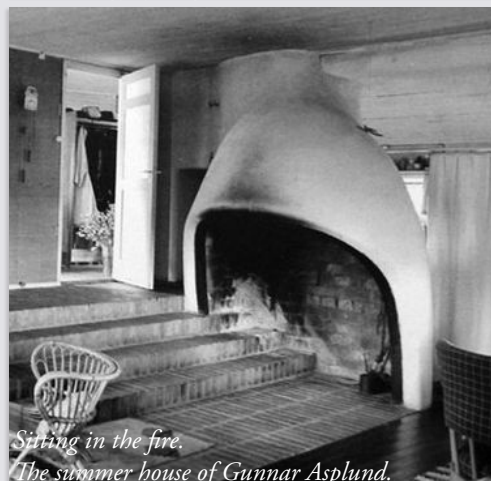


Photo: Bernard Chevalier <https://www.flickr.com/photos/bernardcphoto/5856231387/>



Sitting in the fire. The summer house of Gunnar Asplund.



Reflections.



Movement of water.



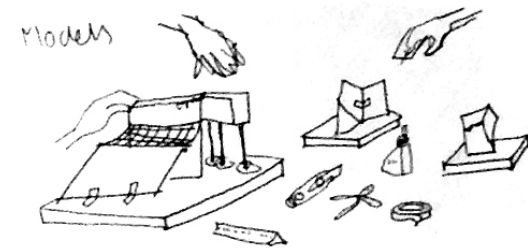
Movement of water.

HARVEST

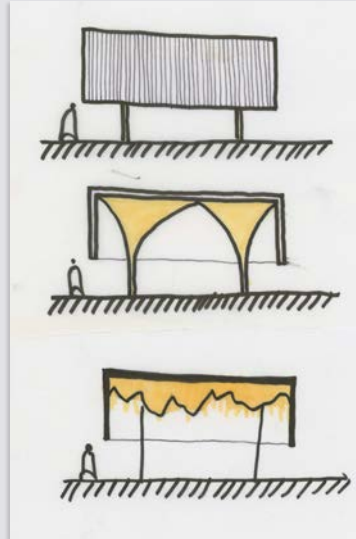
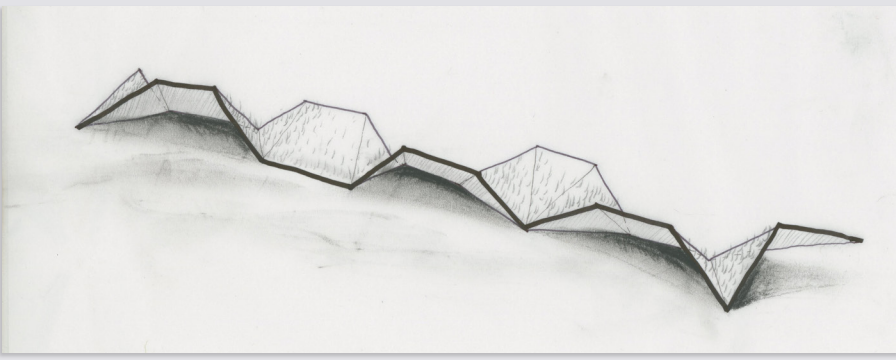
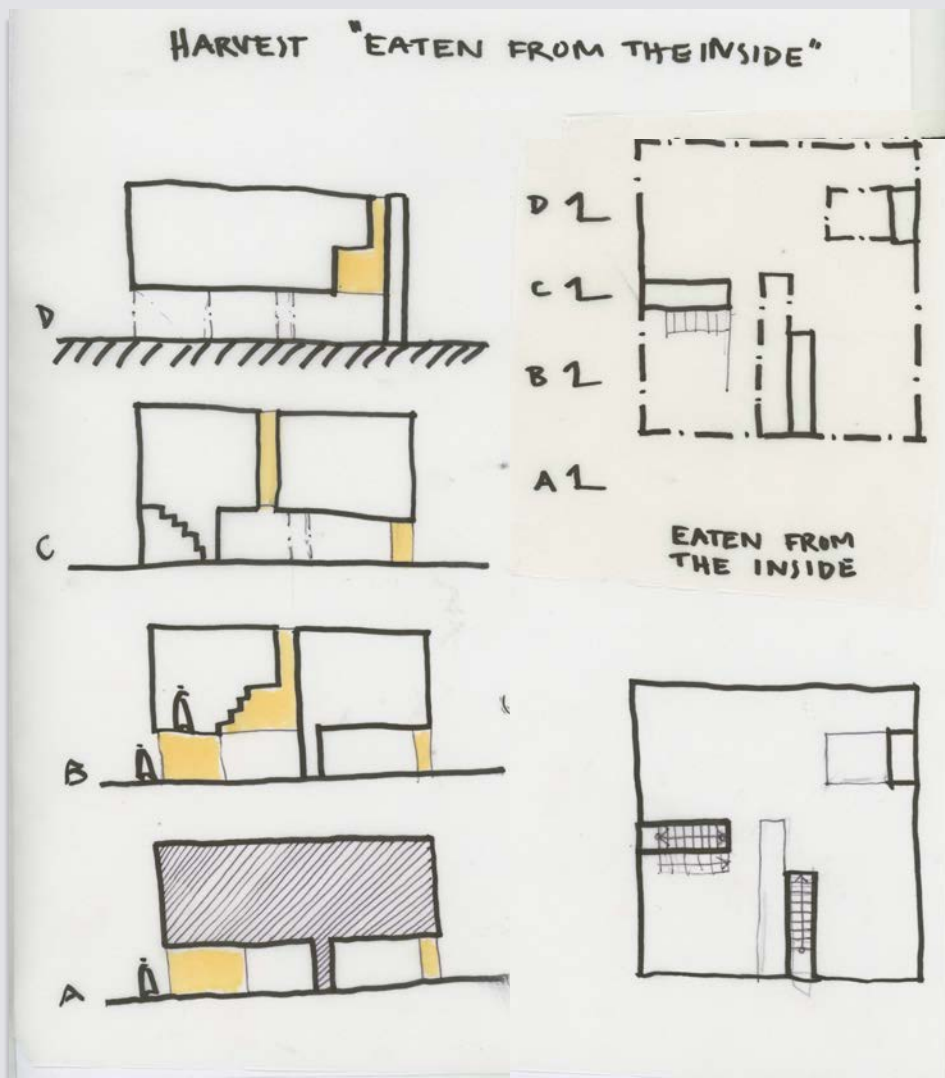
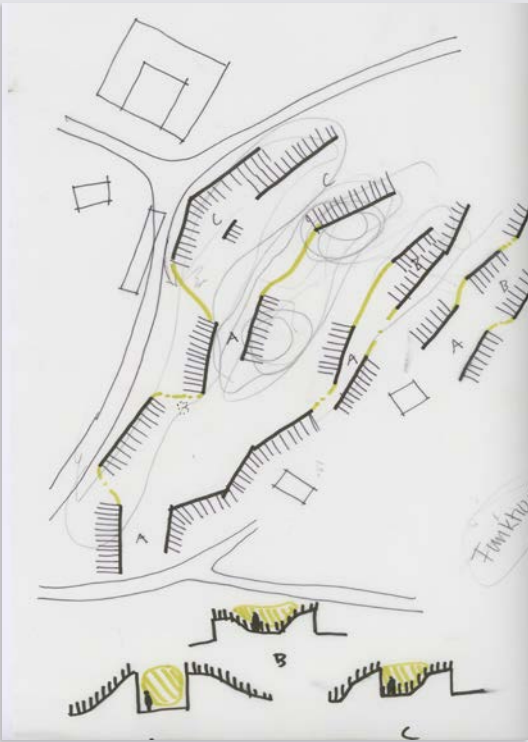
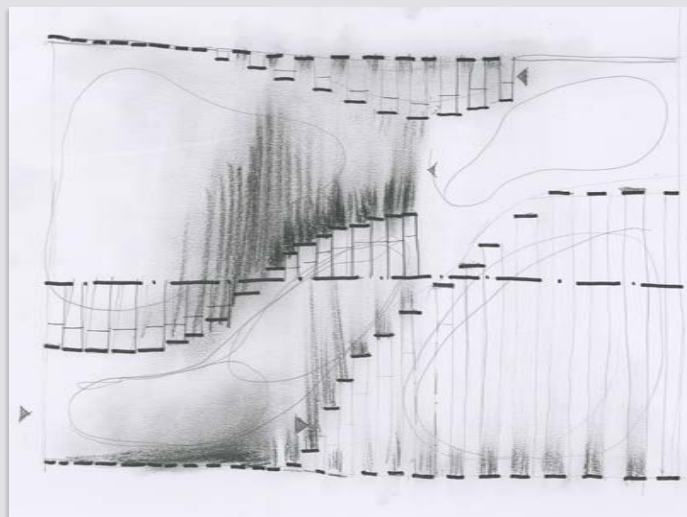
INSPIRATION
Focus, concept, spatial ideas, site.

SKETCHES AND MODELS.

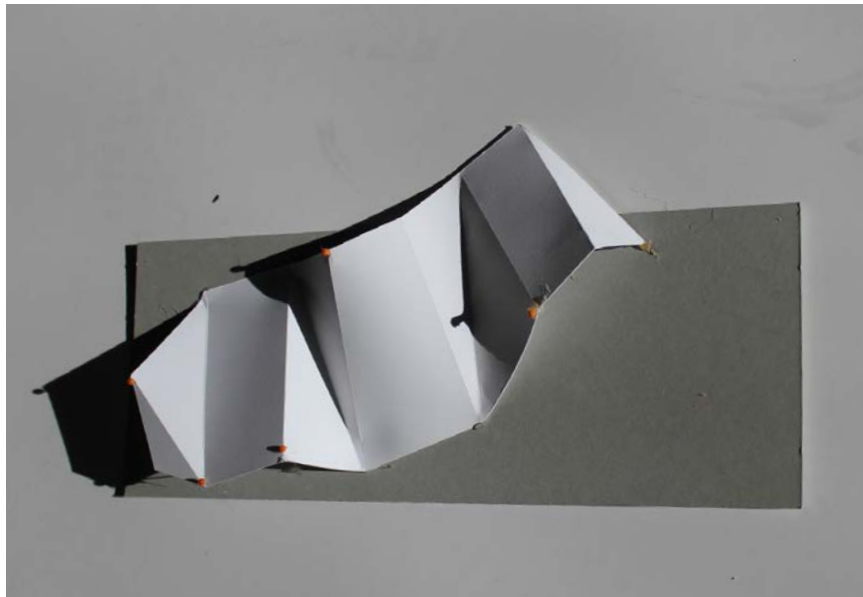
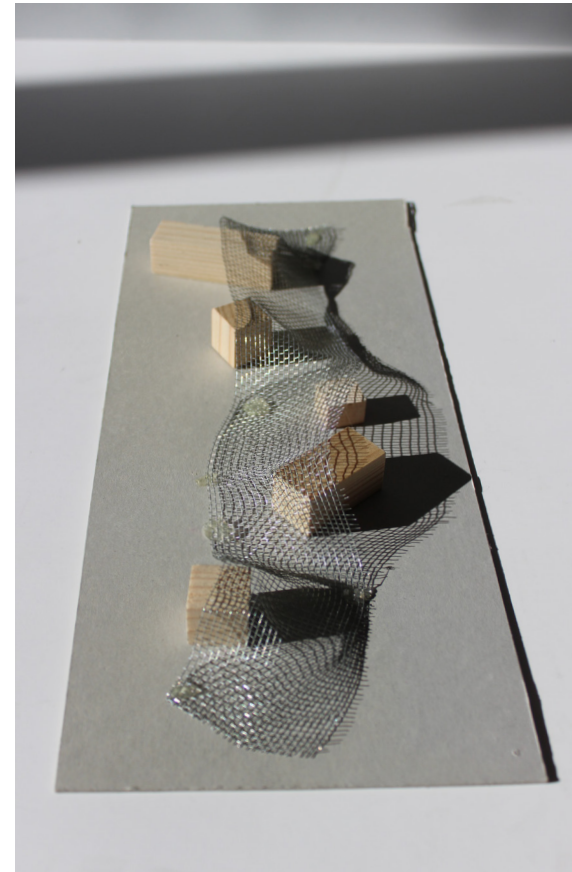
My method has been to keep the ideas and sketches very broad and open in the beginning. In a design process it is all about asking the right questions and then suggesting answers that could be the right ones. In this thesis the order of those two were switched around. The vast variety of answers were as subconsciously as possible developed through simple sketches and physical models. As a way to find inspiration, elements, feelings, happenings were translated into space and matter. And the questions were then developed through the sketches as a way to analyze the design. There was always a constant switch between these two methods.

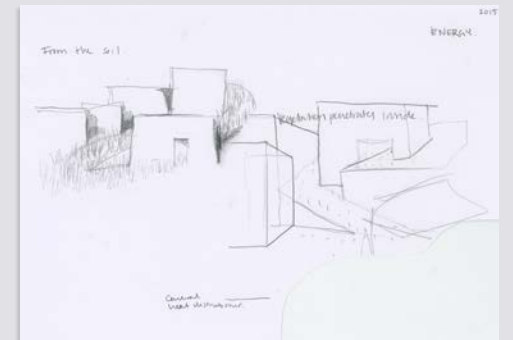
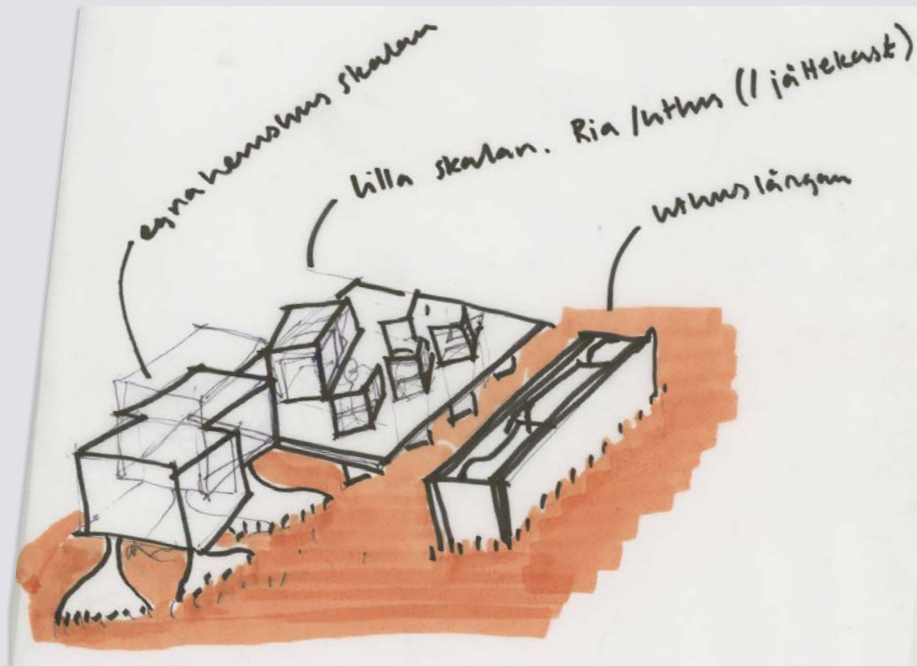
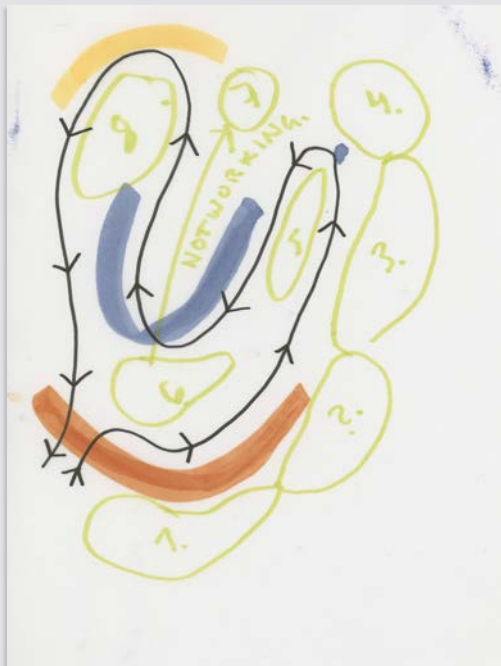
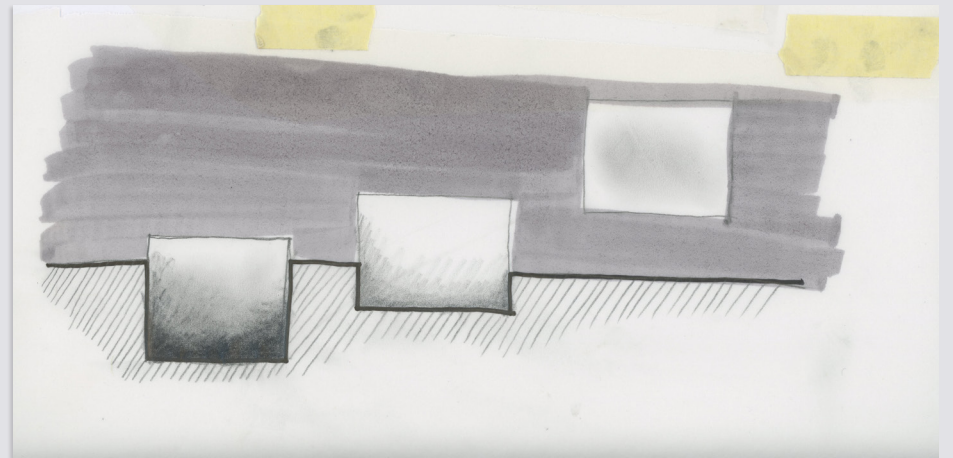
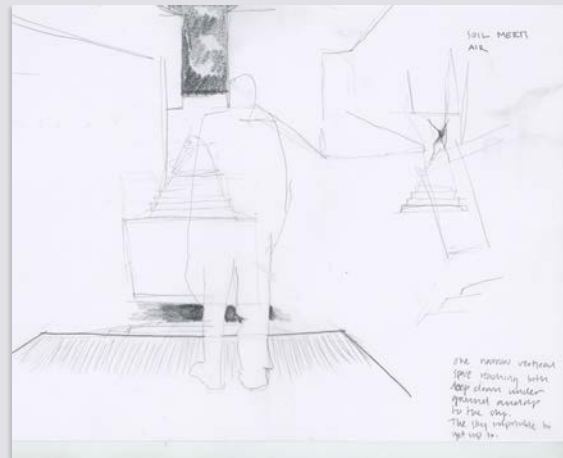
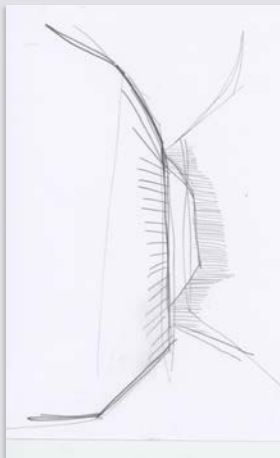
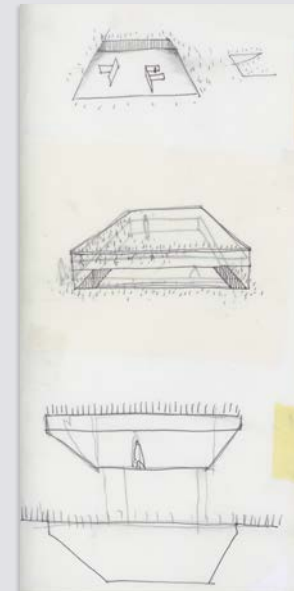
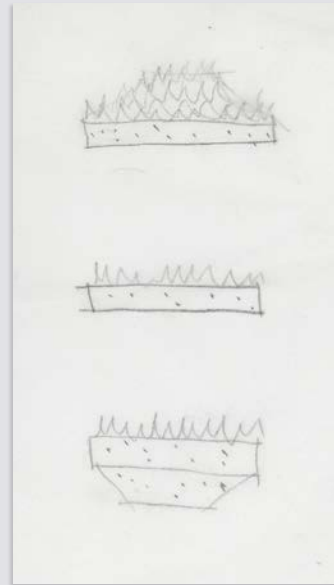
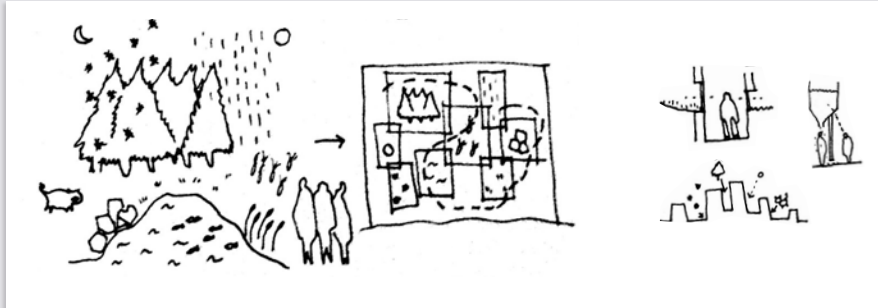


As sketch method models were used both as method to develop initial concepts and to grasp space in further development of the ideas.



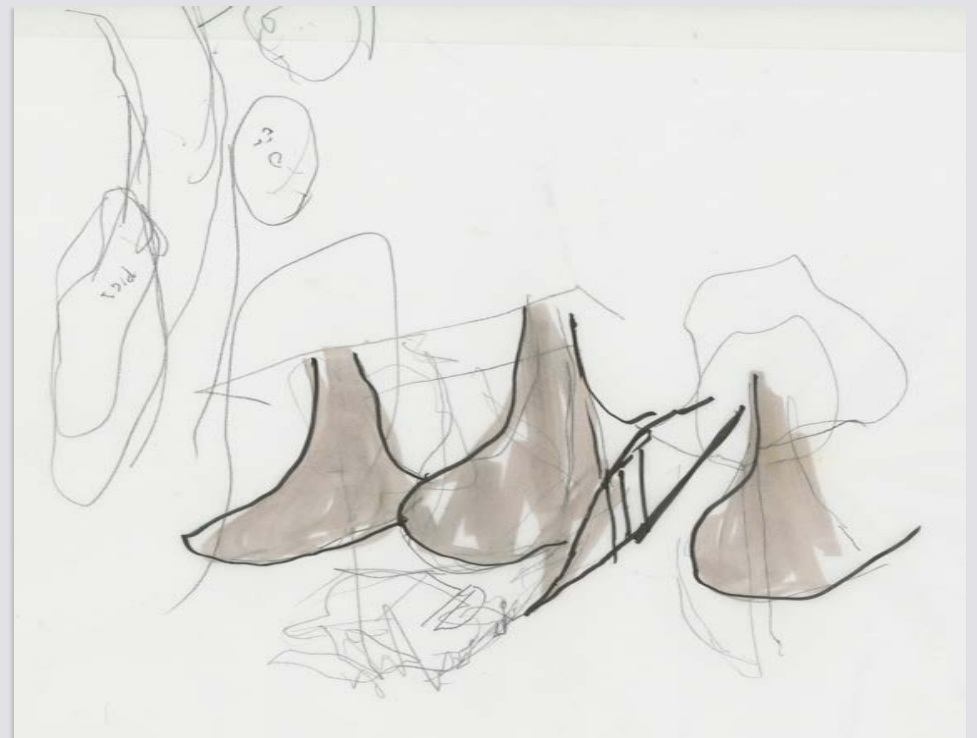
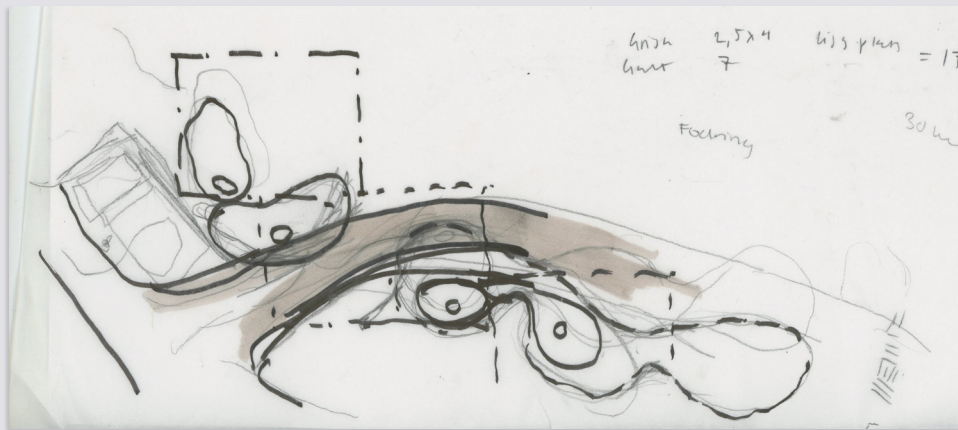
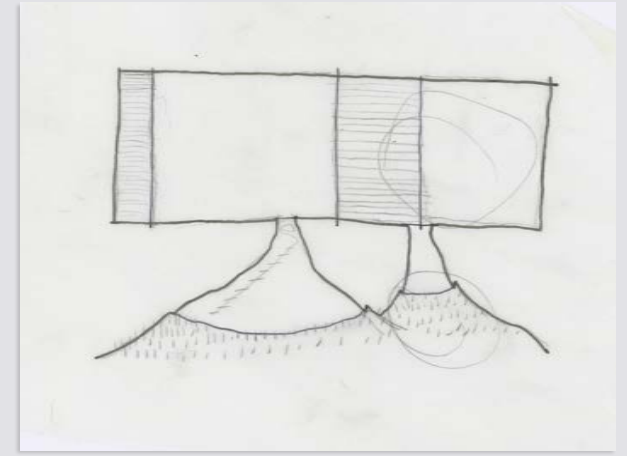
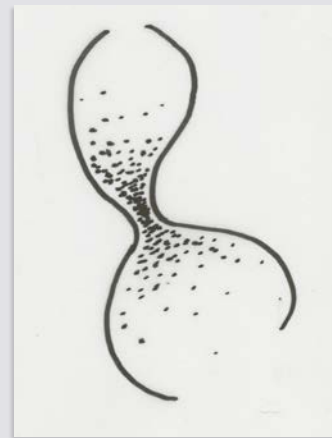
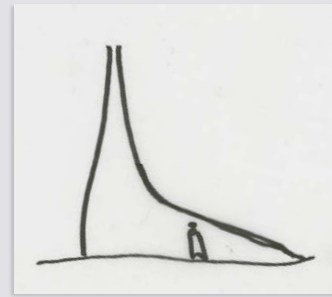
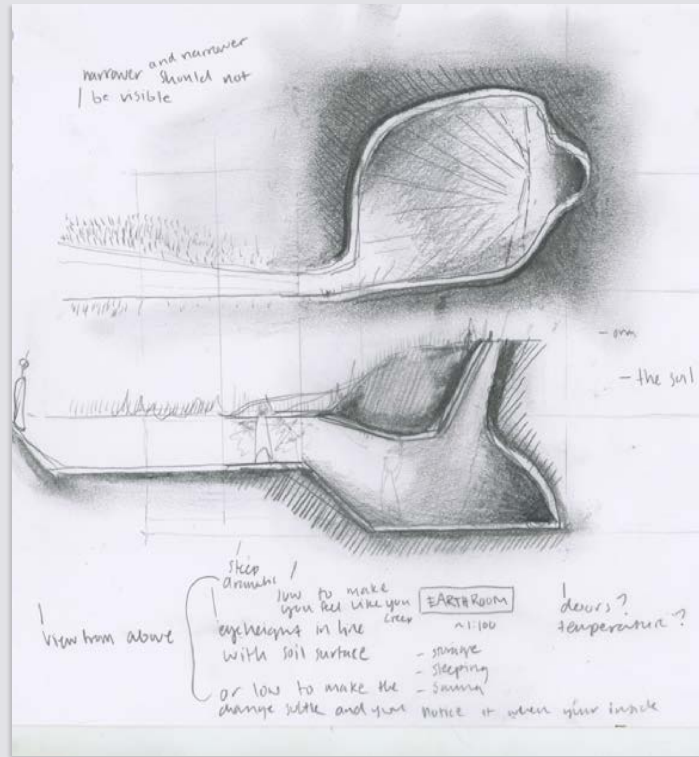
KILLED DARLINGS



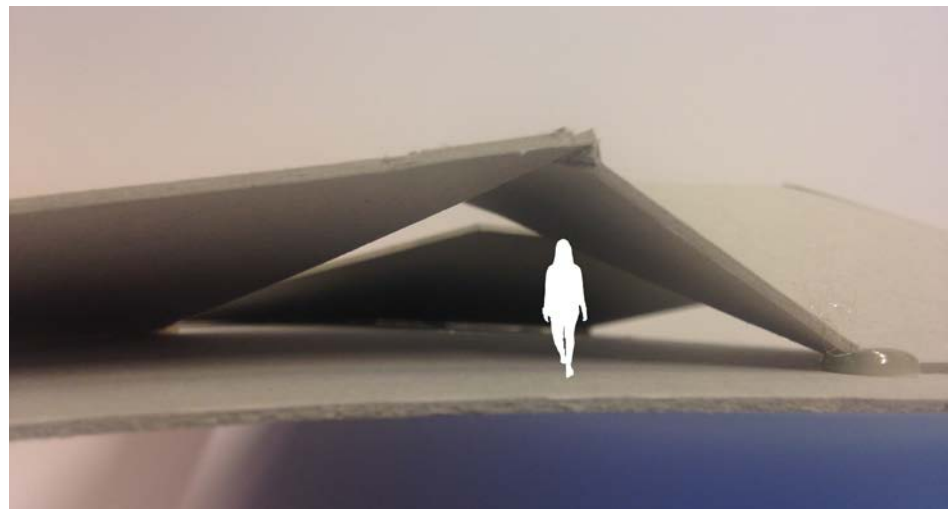
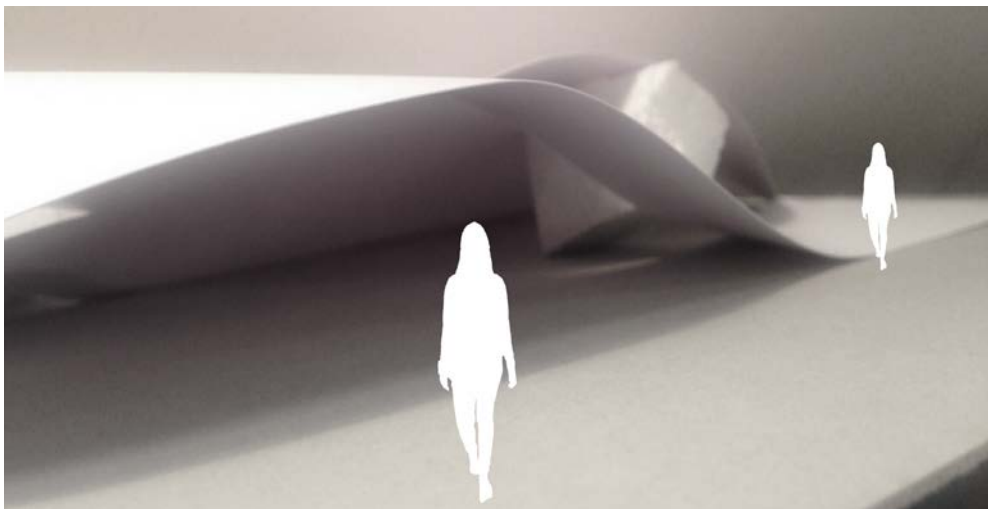
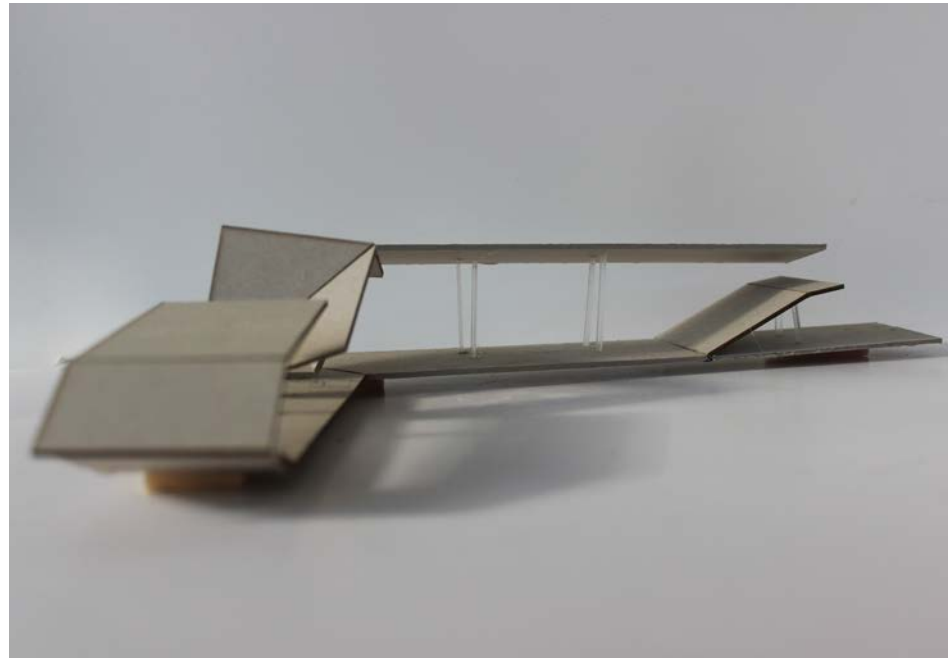
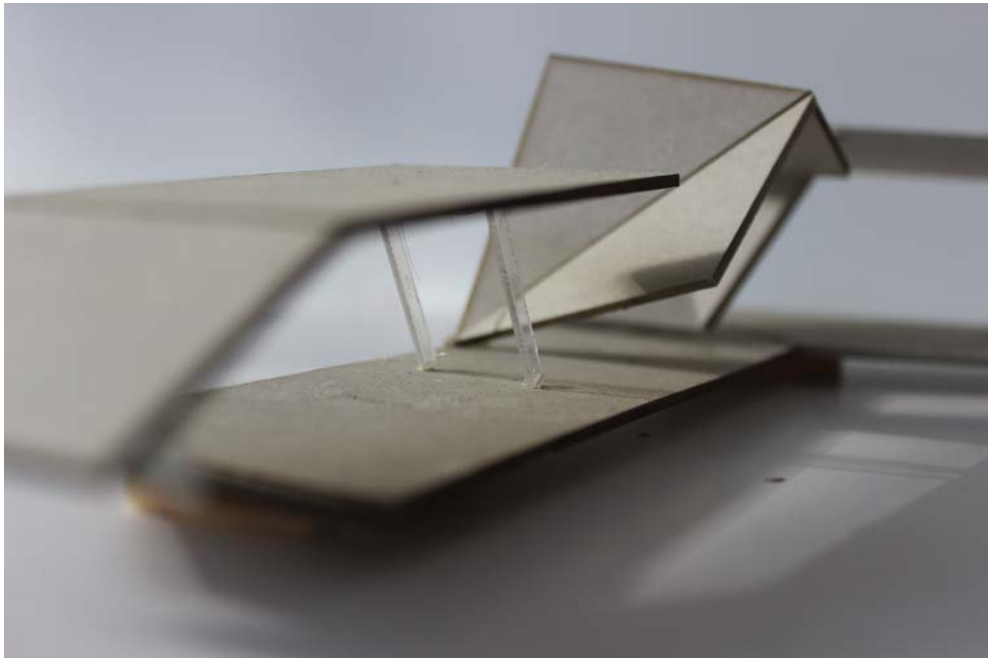


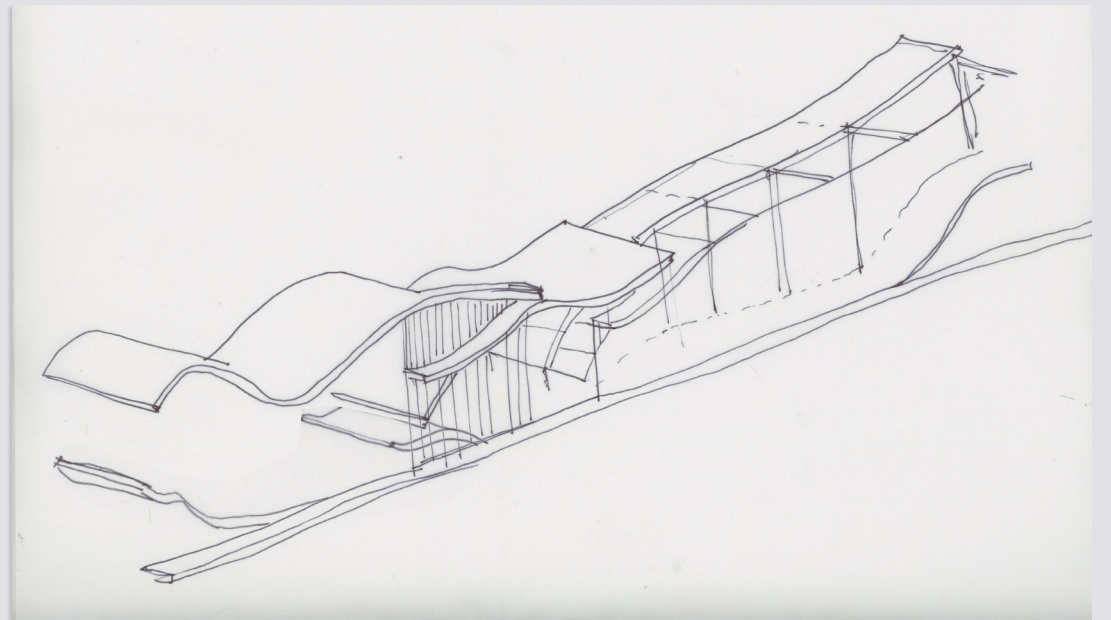
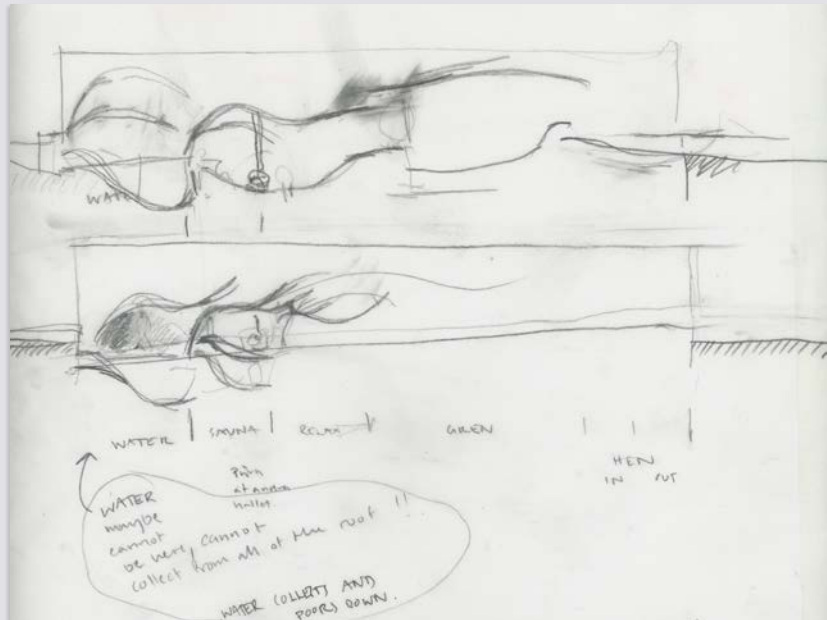
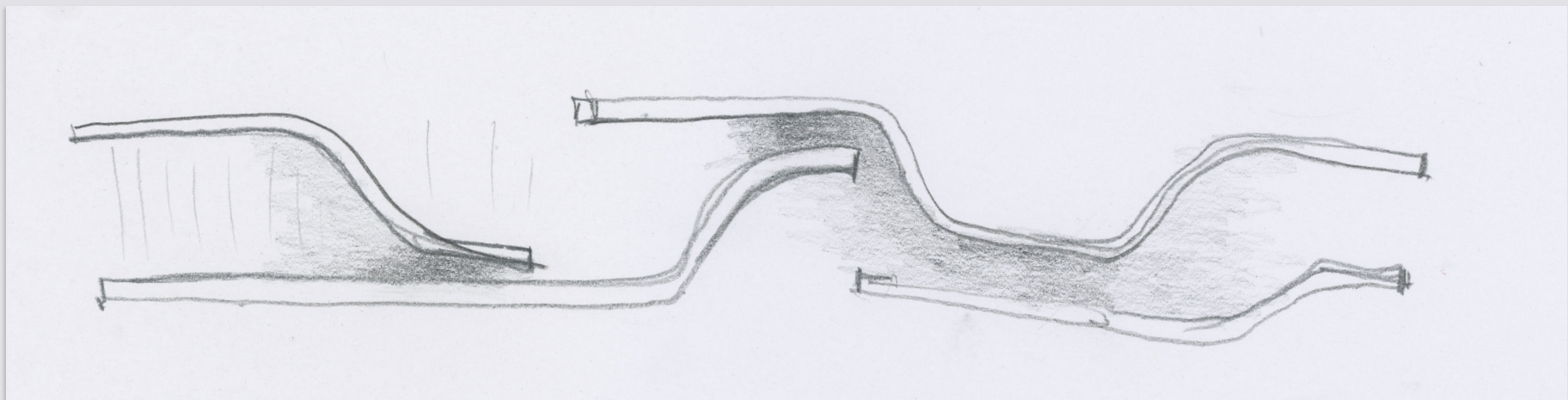
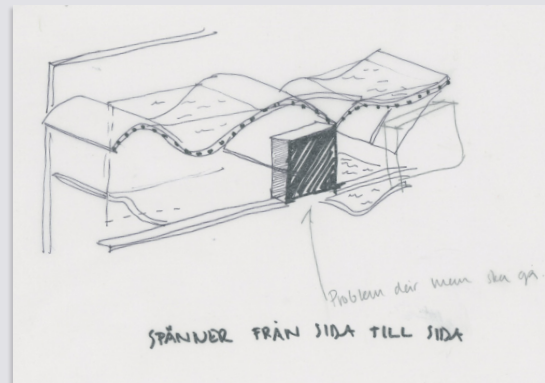
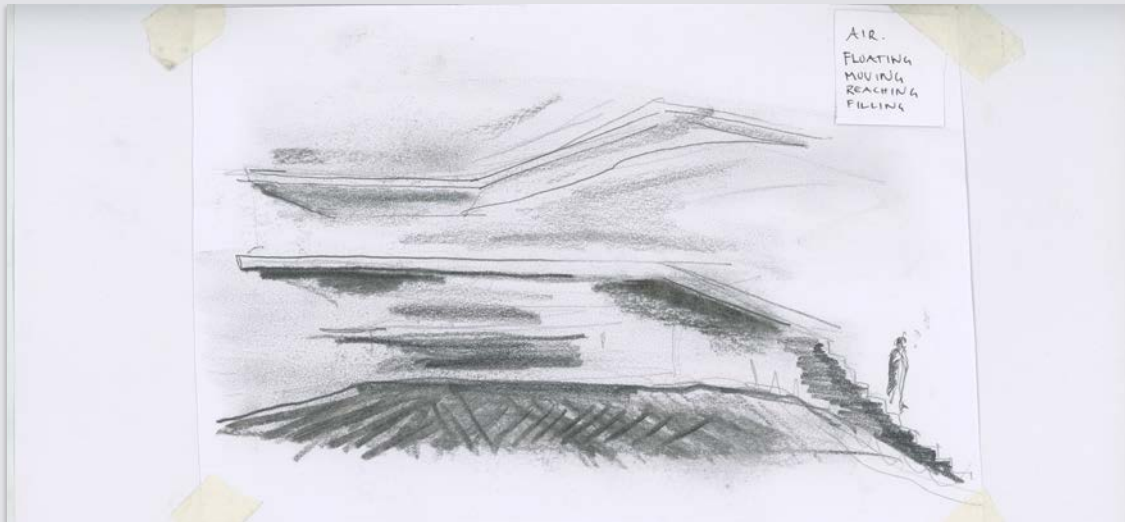
GENERAL SKETCHES
Focus, concept, spatial ideas, site.



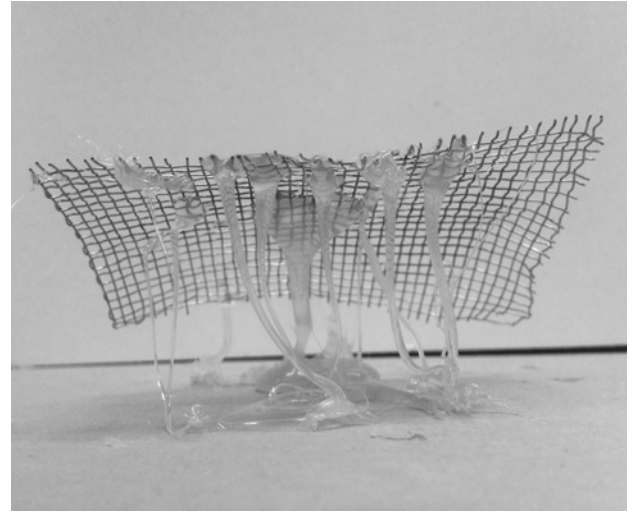
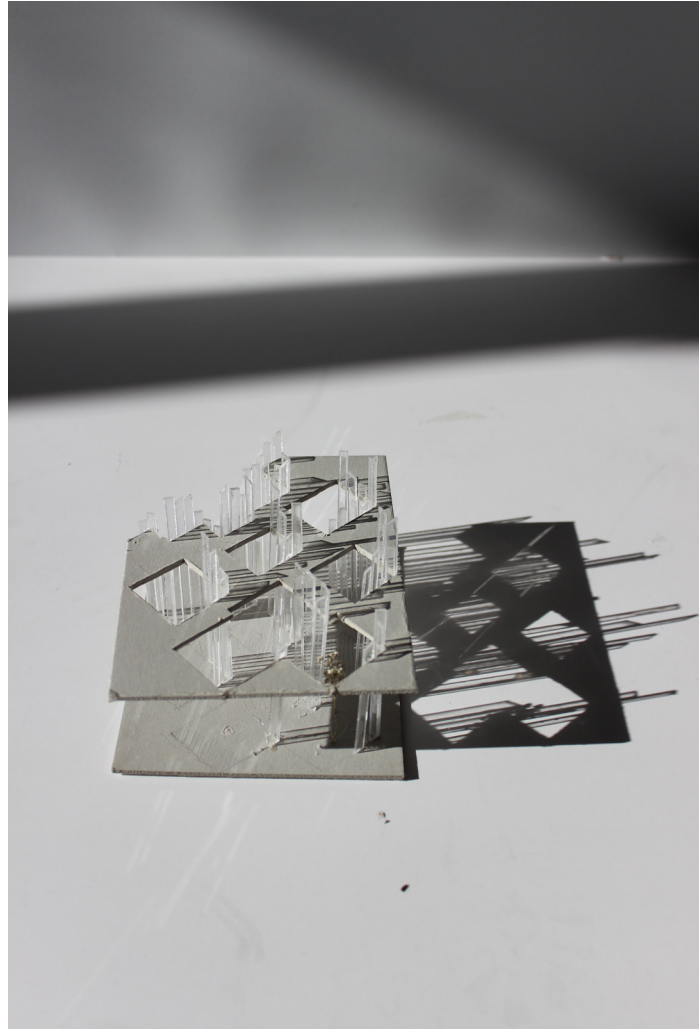
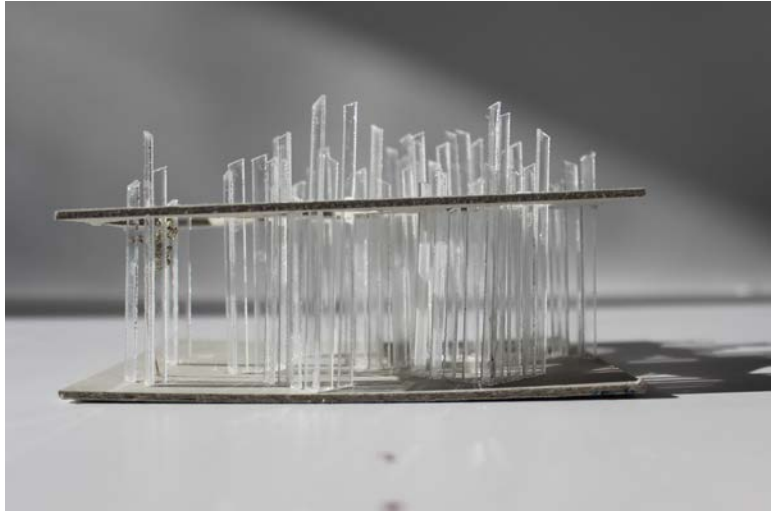


SOIL SKETCHES
Focus, concept, spatial ideas, site.



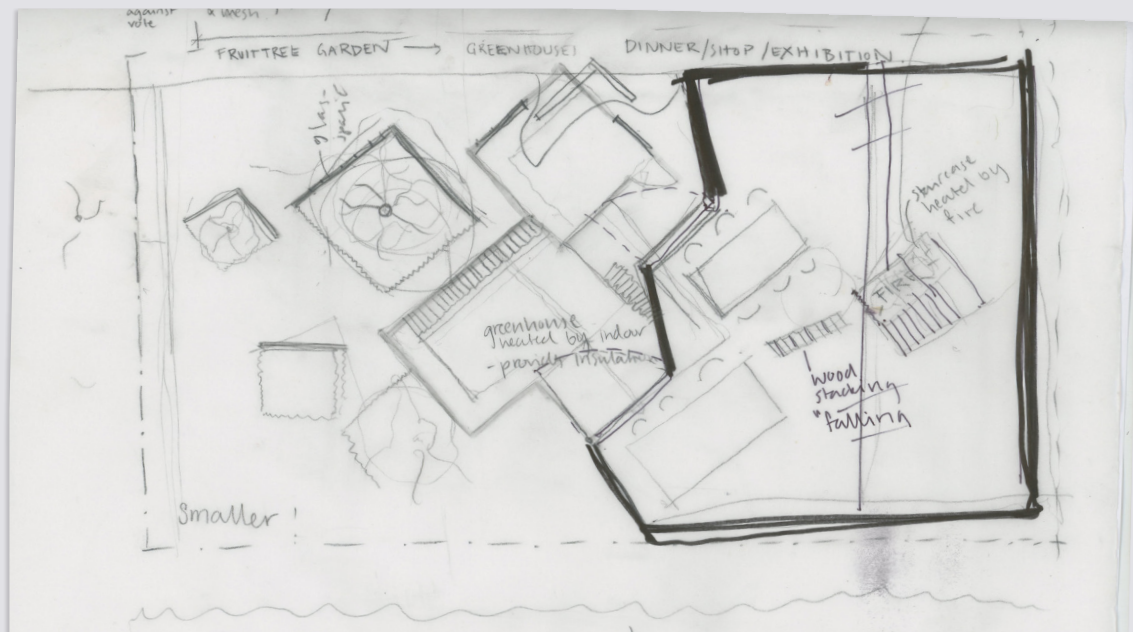
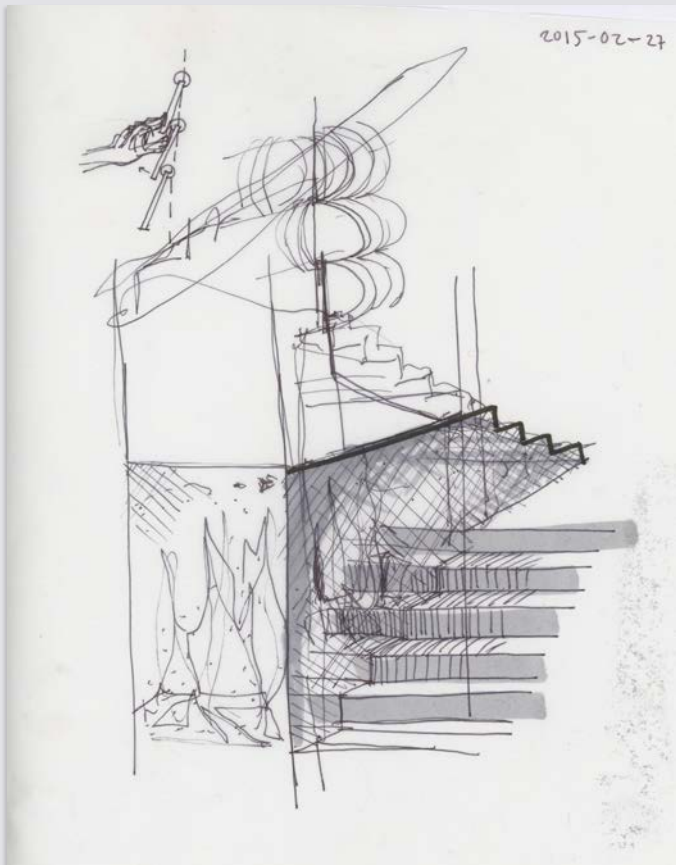
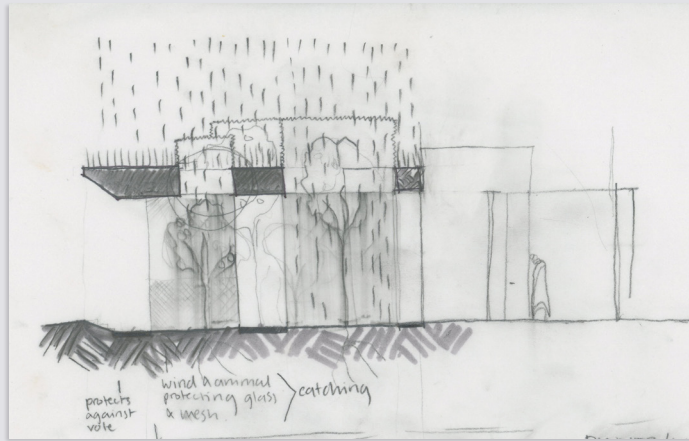
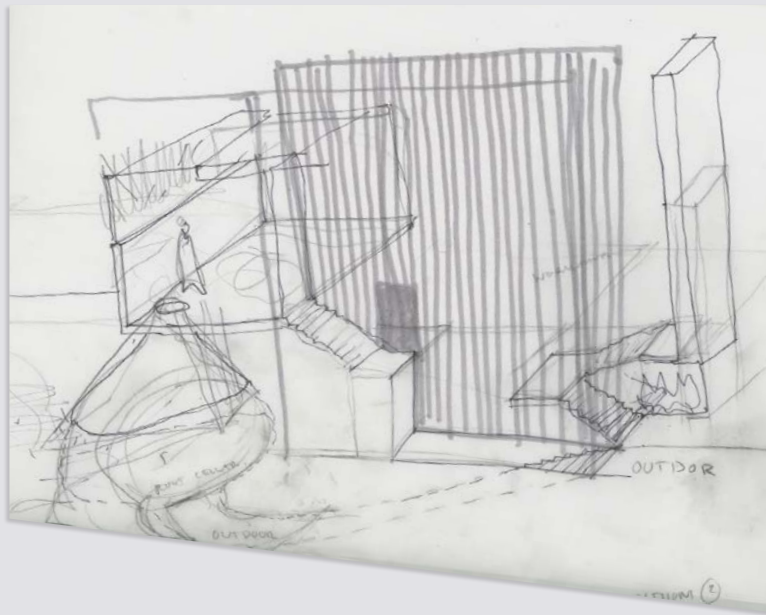


GROWTH SKETCHES
Focus, concept, spatial ideas, site.



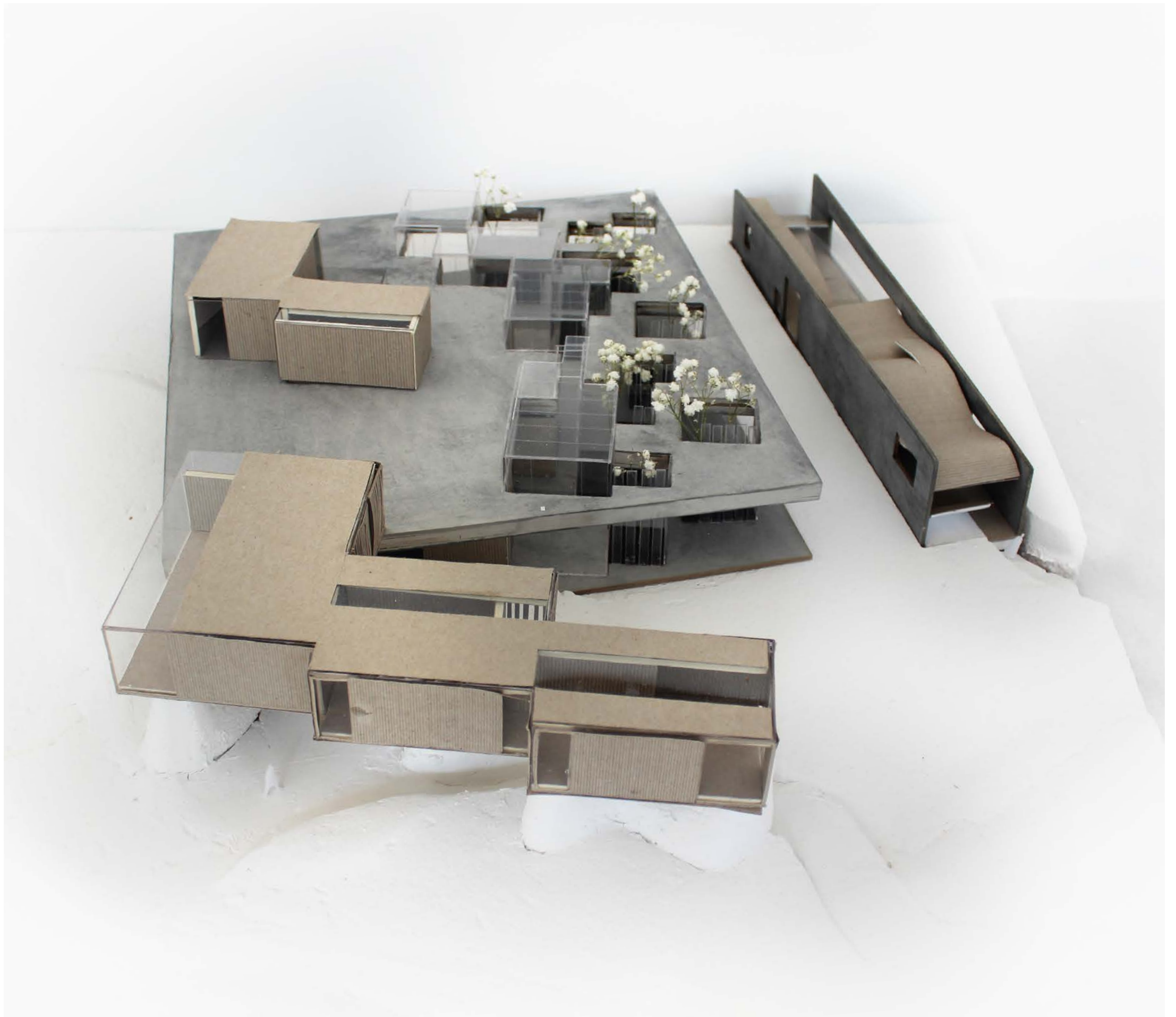
Verticality and vitality. Free movement.





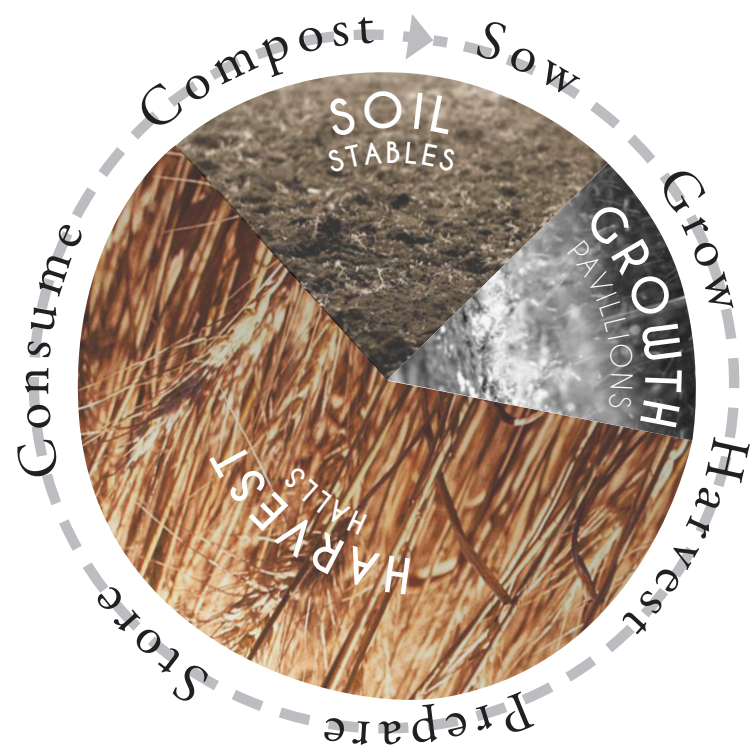
HARVEST SKETCHES



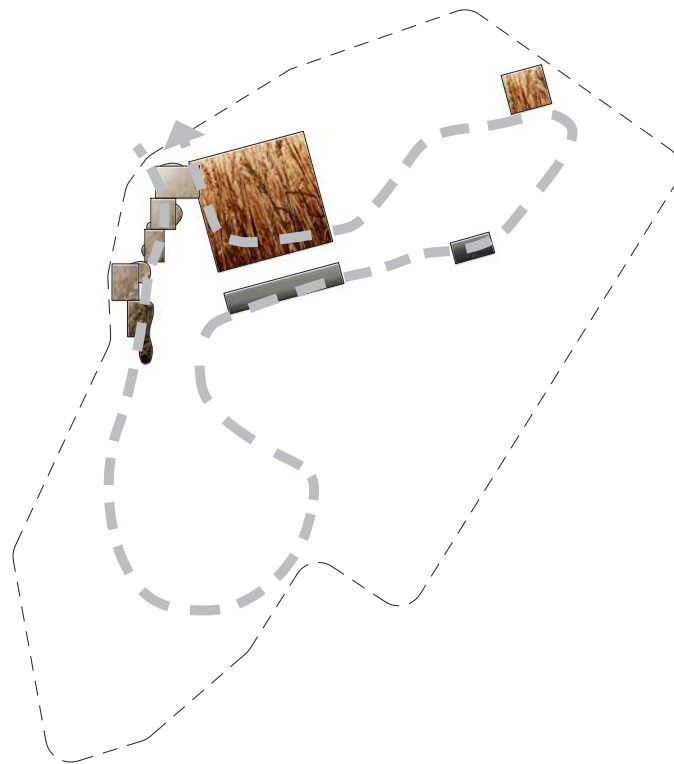


FINAL MODEL

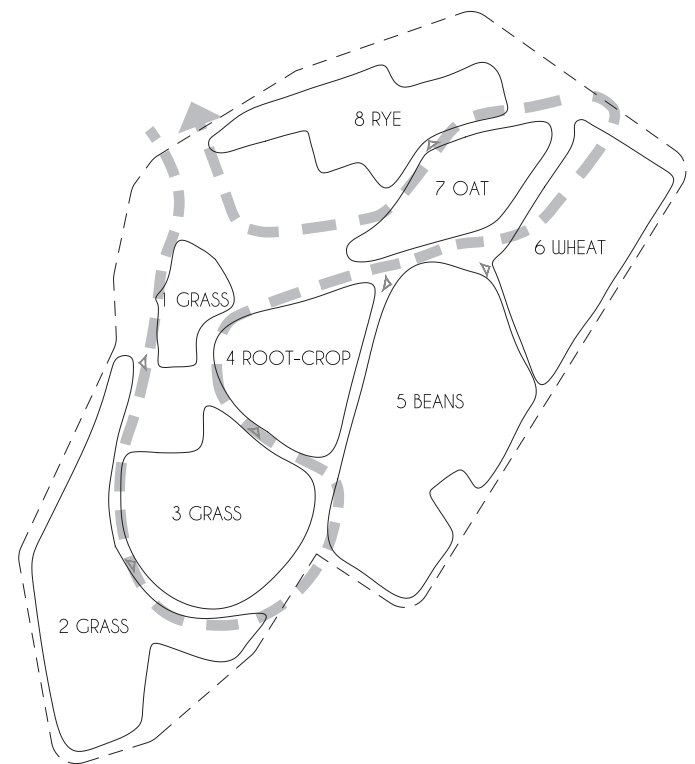
SITE.



The functions are structured around a path reflecting the story of farming. This story is divided in three parts, three characters.



The three parts and the path on the site. The character of the farmyard's Typology and volumes are both making a statement in the homogeneous typology and reconnect to it.



The path follows the crop rotation. The fields integrate with the built and they pierce in between the buildings. However a certain closeness between the houses is kept for functional connections in between them. Sun and fertile conditions has also determined the layout of the crops.

SOIL STABLES.

- A Entrance and wardrobe
- B Pig-stable for one boar and four soar, above two rentable double rooms.
- C Cow-stable for two cows, above two rentable double rooms.
- D Machine hall, above two rentable double rooms.
- E Permanent Residence for four households living permanently or long-term

GROWTH PAVILIONS.

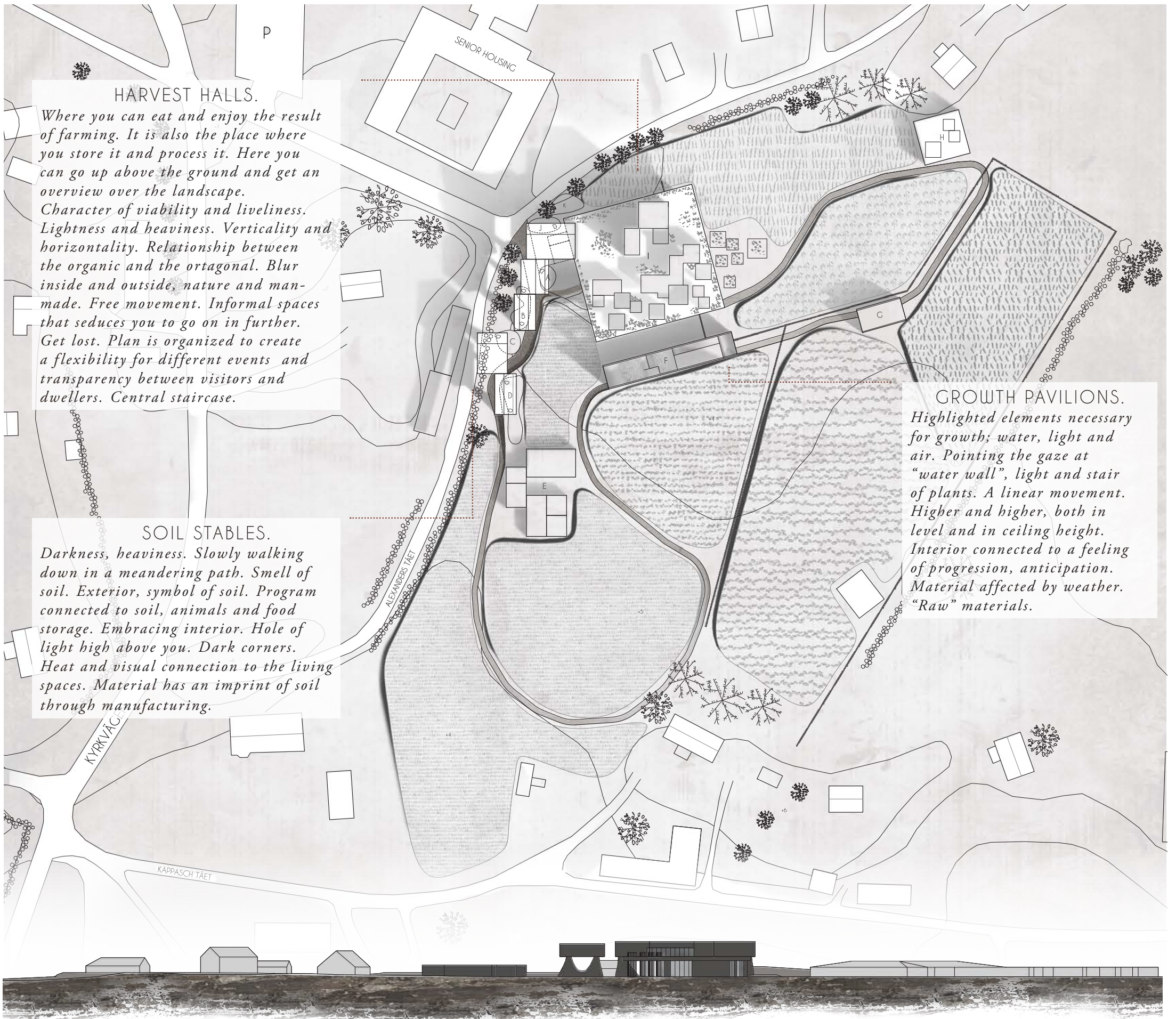
- F Sauna, water treatment center, green house, hen-house
- G Bee-hives and one rentable room

HARVEST HALLS.

- H Seed drying house and rentable room.
- I Harvest storage, kitchen/ workshop, social space, café/shop

SOIL STABLES.

- J Root-cellar, above two rentable double rooms.
- K Compost



HARVEST HALLS.

Where you can eat and enjoy the result of farming. It is also the place where you store it and process it. Here you can go up above the ground and get an overview over the landscape. Character of viability and liveliness. Lightness and heaviness. Verticality and horizontality. Relationship between the organic and the ortagonal. Blur inside and outside, nature and man-made. Free movement. Informal spaces that seduces you to go on in further. Get lost. Plan is organized to create a flexibility for different events and transparency between visitors and dwellers. Central staircase.

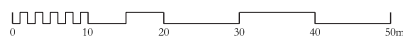
SOIL STABLES.

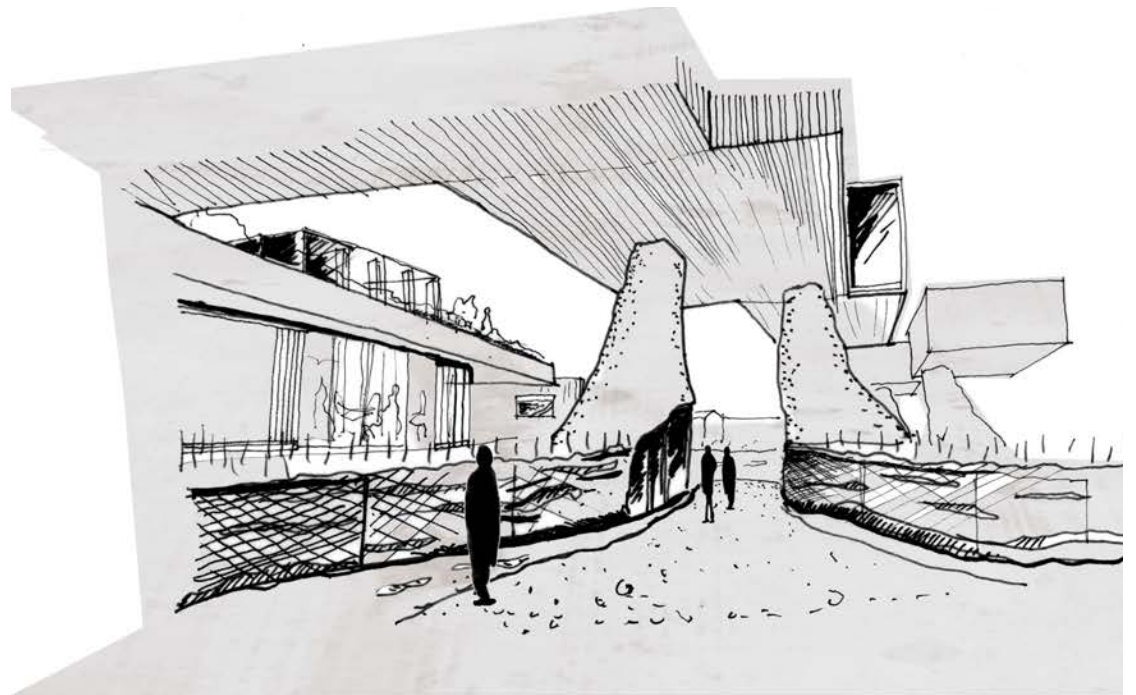
Darkness, heaviness. Slowly walking down in a meandering path. Smell of soil. Exterior, symbol of soil. Program connected to soil, animals and food storage. Embracing interior. Hole of light high above you. Dark corners. Heat and visual connection to the living spaces. Material has an imprint of soil through manufacturing.

GROWTH PAVILIONS.

Highlighted elements necessary for growth; water, light and air. Pointing the gaze at "water wall", light and stair of plants. A linear movement. Higher and higher, both in level and in ceiling height. Interior connected to a feeling of progression, anticipation. Material affected by weather. "Raw" materials.

SITE PLAN
Scale 1:1000 (Original scale 1:500)

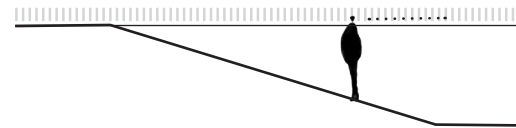
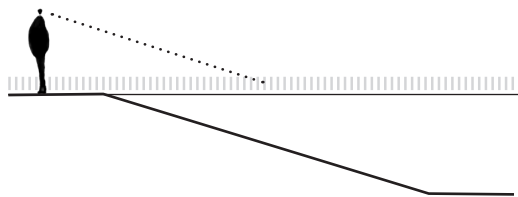


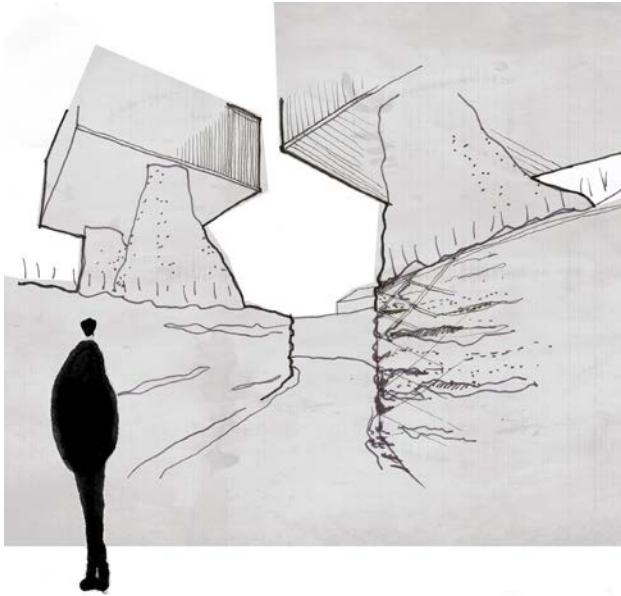


When you approach the site, you can see the uplifted boxes, working as sort of an entrance flag all the way from the main road and the large parking lot, connected to the healthcare center and the church. You get a hint of the path piercing through the ground.

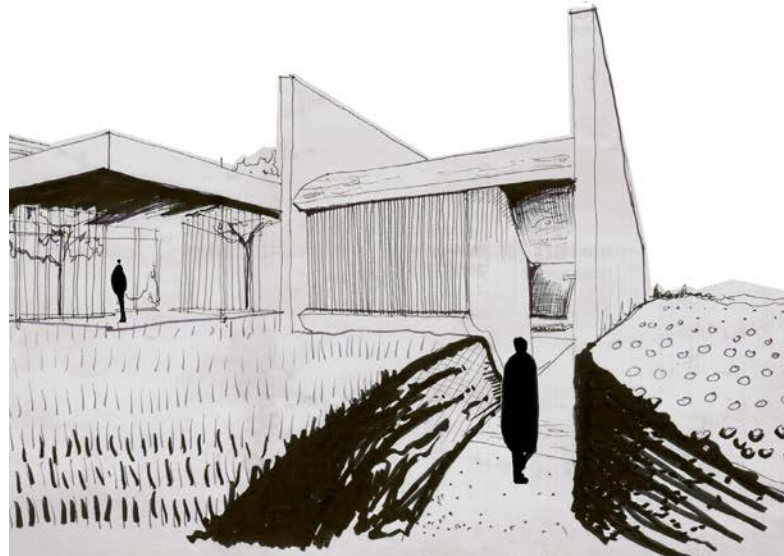
Closer up to you see underneath and between the free form concrete. Here your eye level is aligned with the ground level. The path goes deeper and deeper into the ground.

Relation to the ground.

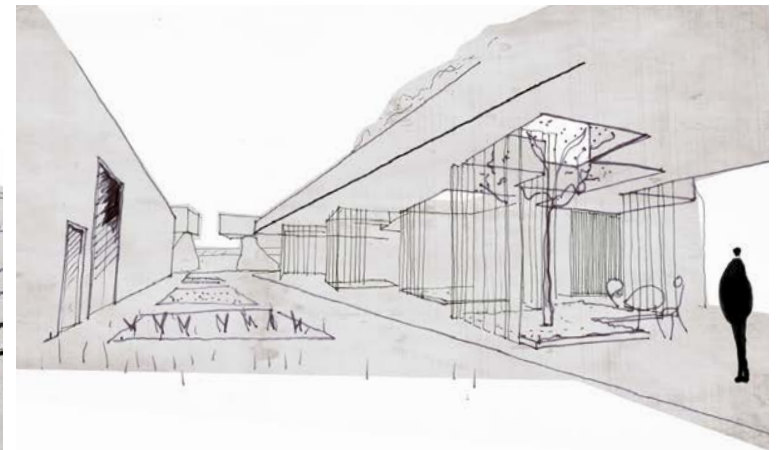




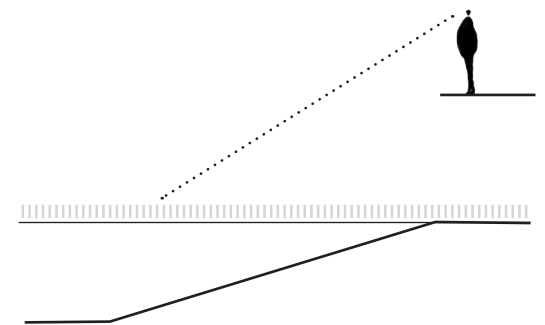
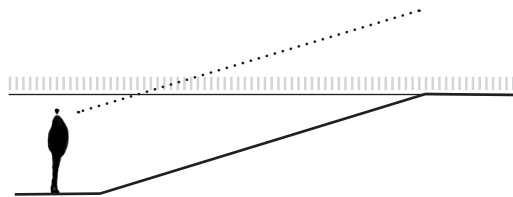
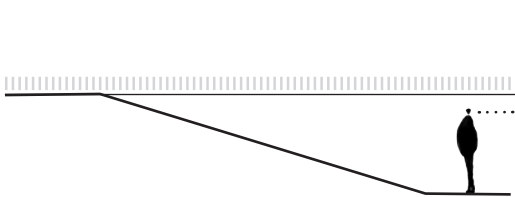
Until you your eye height is completely under ground level. The soil is supported by a thin metal mesh to let through the smell of the soil. The ground is covered with gravel.



After walking underground you finally reach the "Growth pavilion", where you begin to walk up again to finally reach the surface of the ground again.



When you get to the Harvest halls, you start search your way in and in between. In the Harvest Halls the ground level is elevated up and you can go up on the roof, get an overview over the whole area and pick fruits in the level of the tree crowns.



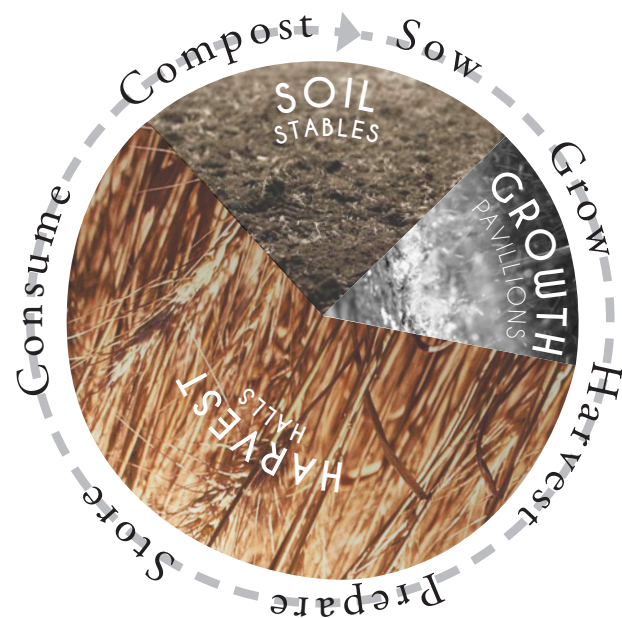
ENTRANCE.

The farmyard addresses different types of users and lengths of stay. For example the visitors could be a couple, taking a stroll there and buying some jam made from scratch in a class that has been taken place at the yard. Or you are a schoolchild who there on a theme-day from school. Here you can come on a workshop of sowing in April and then come back for a follow-up-workshop in September, when you learn how to bake the traditional rye bread of the area. Space can be rented for parties lectures, workshops, community. Long-term visitors can check in to one of the rooms for a weekend or a longer escape to live and work on the farm, however there are also permanent residences on the yard. Here is an example of possible dwellers:



The 2 owners of the farm are a couple who just retired and moved back to the village where they are from.

1 caretaker is a single women in her 40s. She is an experienced farmer who takes care of the crops and during the winter she also takes care of the administration and care taking of the common areas.



One young family of 4 lives here permanently. The parents both work 5 hours a week on the farm, which covers part of their food expenses.

A young couple of 2 just moved back to Replot to start a family.



1 senior in his late 80s lives here, he has help from the senior housing just across the street but mostly he takes care of himself.

During summer there are 2 summer workers during July and August. One of them also lives here during the time and one of them lives in Replot.

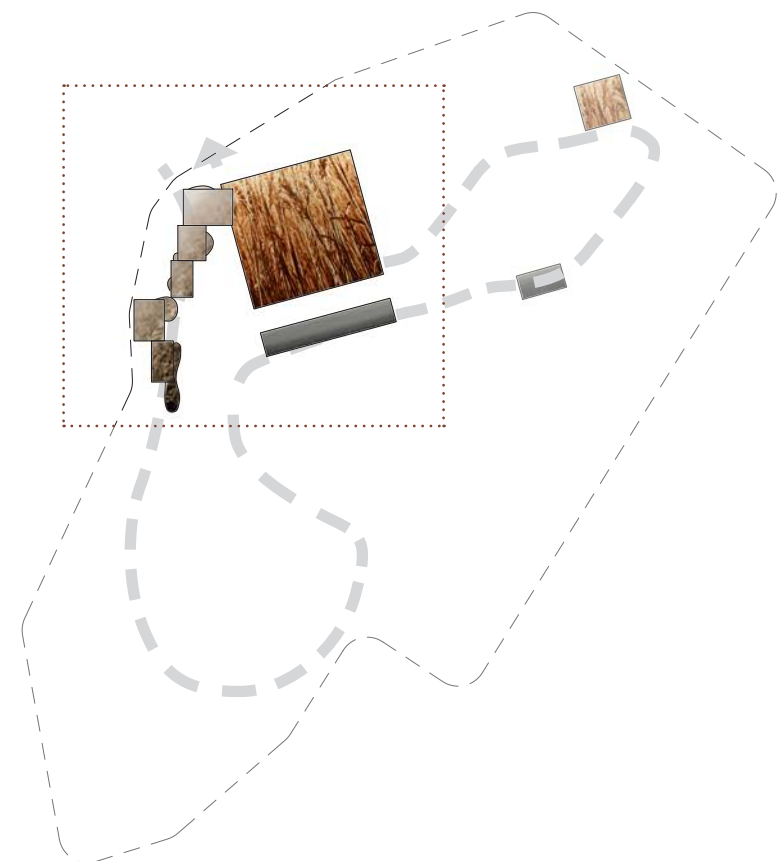


A group of 4 friends are staying for two weeks as part of their Nordic vacation.

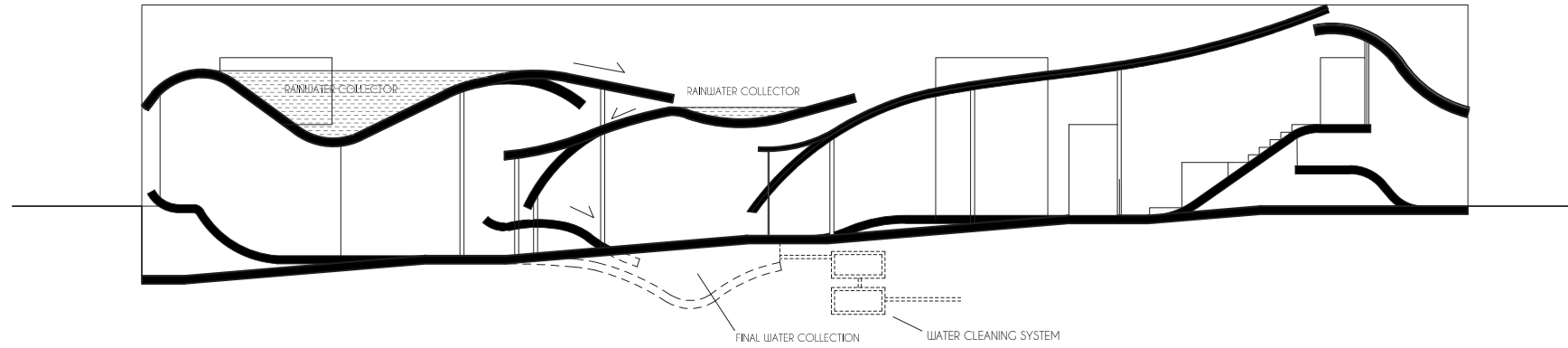
1 man from Stockholm lives here for half a year as a part of his recovery-leave from work.



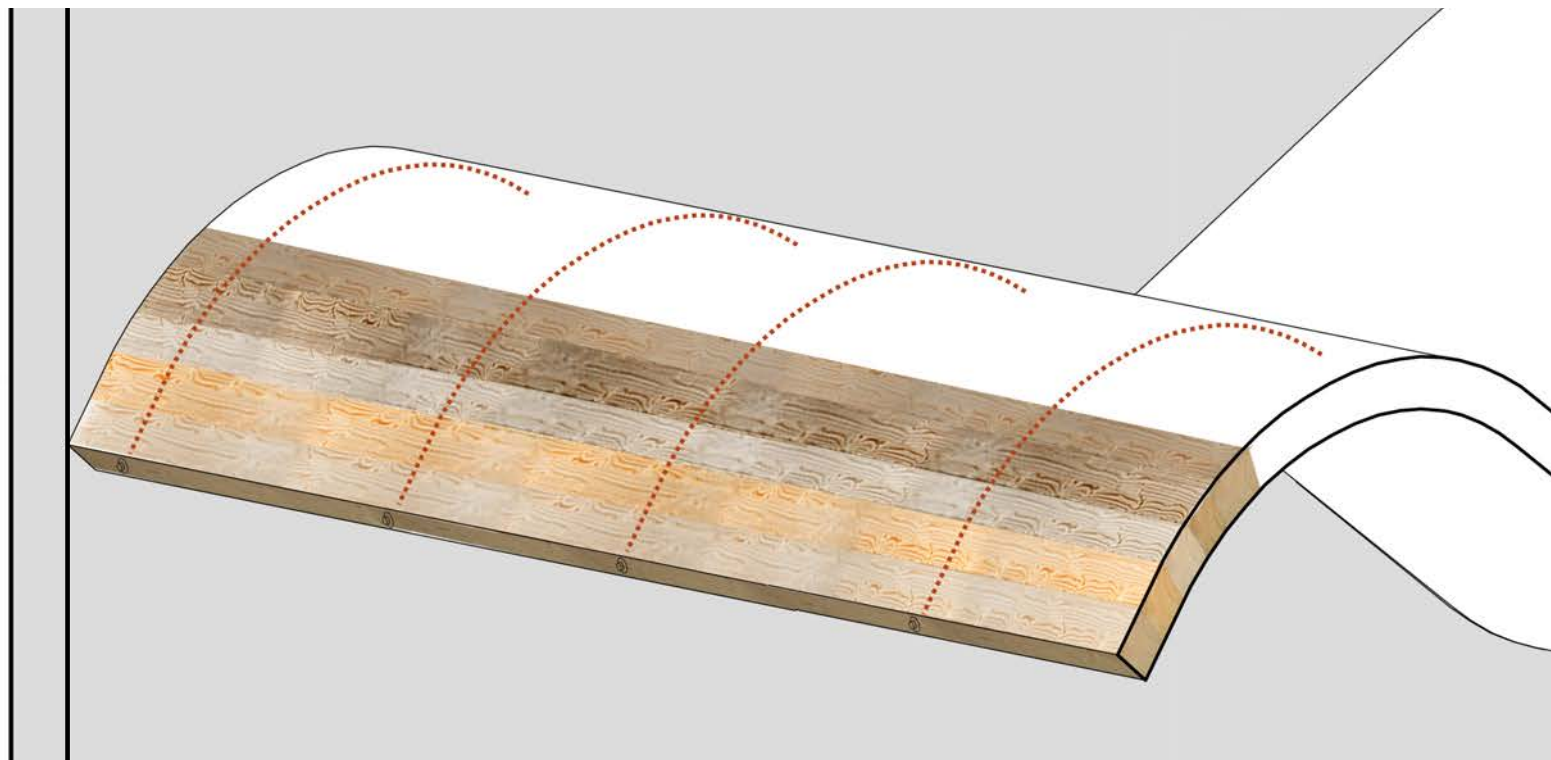
A group of 8 has a kick off for two days.

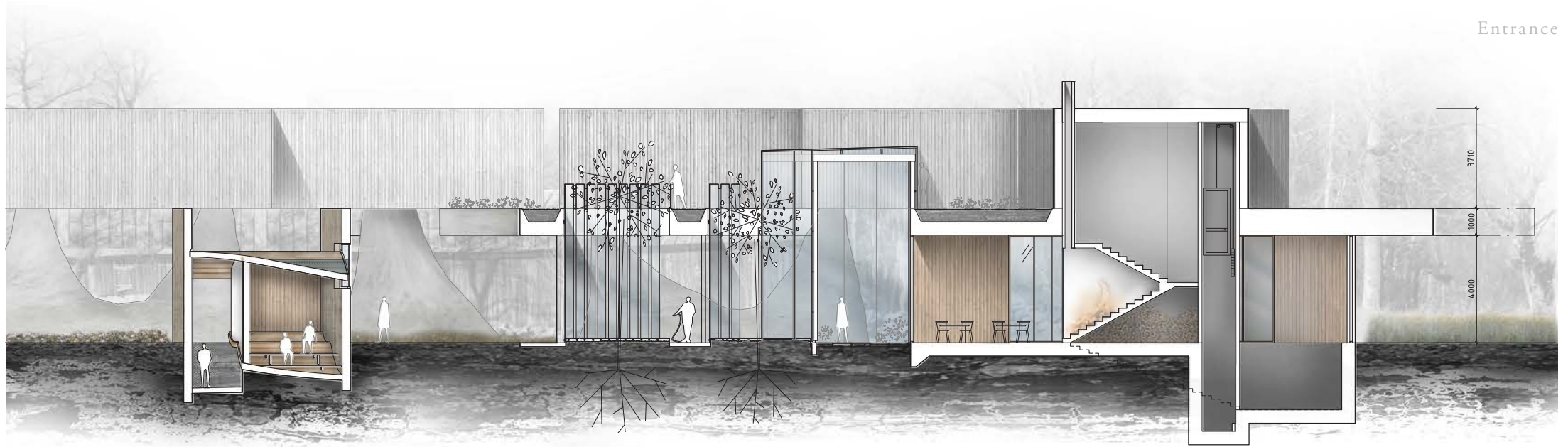




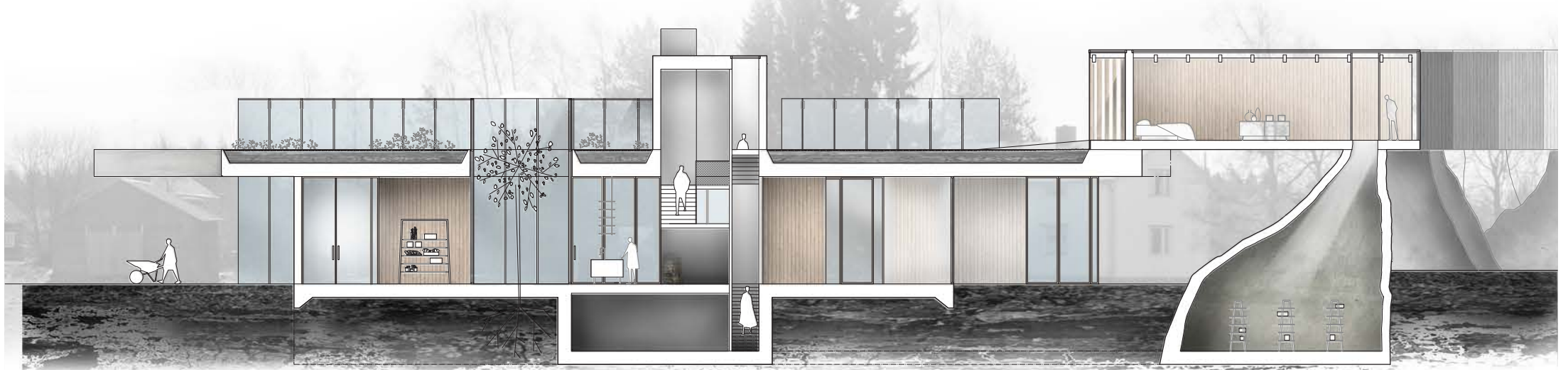
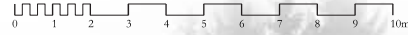


Rainwater is collected from the entire roof. The path of the rainwater is visible from the interior. From the exterior you can see the rainwater collection on the roof through a window. The water is then available to irrigate the fields.

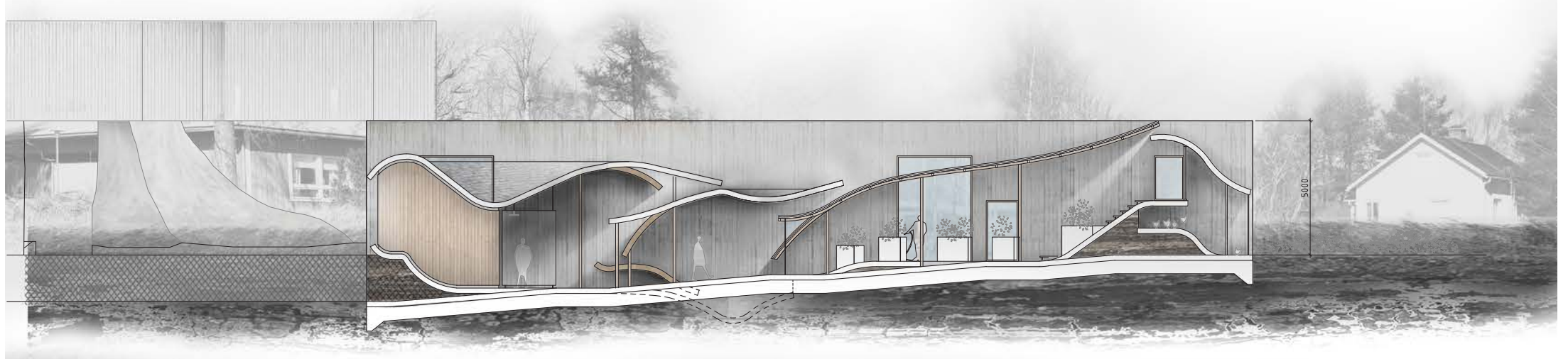
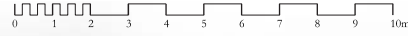




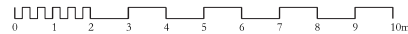
SECTION A - A
Scale 1:200 (Original scale 1:100)



SECTION B - B
Scale 1:200 (Original scale 1:100)



SECTION C - C
Scale 1:200 (Original scale 1:100)





The character of the Soil stables is heavy and dark, the space embraces you. The main light source is from the hole in the top far above. The light contrasts and enforces the dark edges of the space. The material is shotcrete, sprayed on soil which leaved an imprint after being removed.



The character of the Water pavilions has a strong flowy direction forward, it is designed to create a feeling of anticipation. You start your way through the horizontal building below ground level and than gradually move upwards until the end where you reach the surface of the ground. Also the ceiling height is raising in each room pass. The elements water and light plays a large role in the character of the Water pavilions.



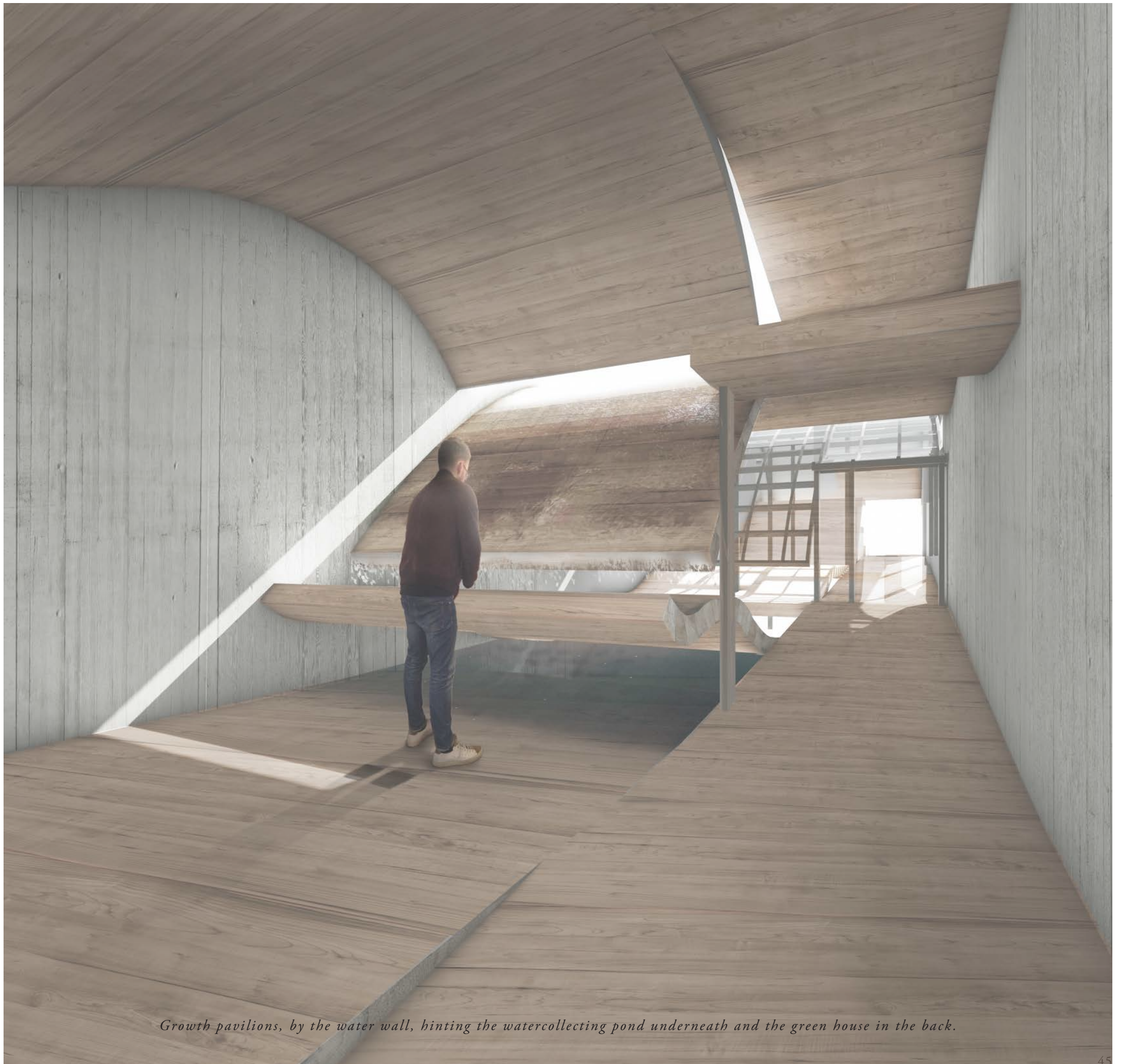
The space of the Harvest halls is characterized by the verticality of the glass panels and the wood panels, giving the impression of lifting up the heavy concrete roof. The trees and their holes through to the sky, blends the border between inside and outside, organic nature and orthogonal man-made. The space is arranged to create a free movement, allowing you to wander around through the many niches and get lost. This also allows for a flexible use of the space.



The staircase and the fireplace is located centrally in the Harvest Hall. Next to it is the long stair leading you to the root stable, back to the Soils stables and to the end of your path.



Soil Stables, in the root cellar.



Growth pavilions, by the water wall, hinting the watercollecting pond underneath and the green house in the back.

DISCUSSION.

In a traditional farmyard the process is hidden from the public. Also the workspaces and the living spaces are divided, which further leads to the process of farming being hidden away. The aim of this yard is to connect its visitors and the inhabitants to a human way of providing from nature. The investigation is to see how this connection can be strengthened through interpreting the story of farming into architecture.

Therefore the workspaces are part of the experience when you visit or live on the yard. The process of farming is highlighted both through distribution and plan organisation and through the character of the spaces.

The project highlights and takes advantage of cultivated nature, the place and the elements to make them all part of the spaces. The function of the farming is always present.

However this investigation has served maybe more as a tool to find new ways to experiment with architectural experiences, rather than bringing the project closer to its original aim.

This led to a series of architectural experiments, a library of tools that are crucial to explore spatial perception in architecture. Character. Feeling. Movement. Smell. Symbolic effects. Programming. Functional connections. Insight in usage. Language of shape. Contrasts. Interior and exterior. Horizontality - Verticality. Organic - Orthogonal. Light - Heavy. Distance and measurements. Temperature. Visual connections. Visual control and framing. Material. Weather and sun. Light.

All these tools were used as a means to highlight the connection between nature and human. However if that succeeded or not might not be the important thing. The important thing might as well be to use these tools in a conscious manner. To try to forecast how architecture can affect us consciously or subconsciously.



Harvest Halls.

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