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Gråbrødre skole

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Robert Schuman plein

Arketyper

KADK - Bachelor portfolio

Naturcenter

En till en

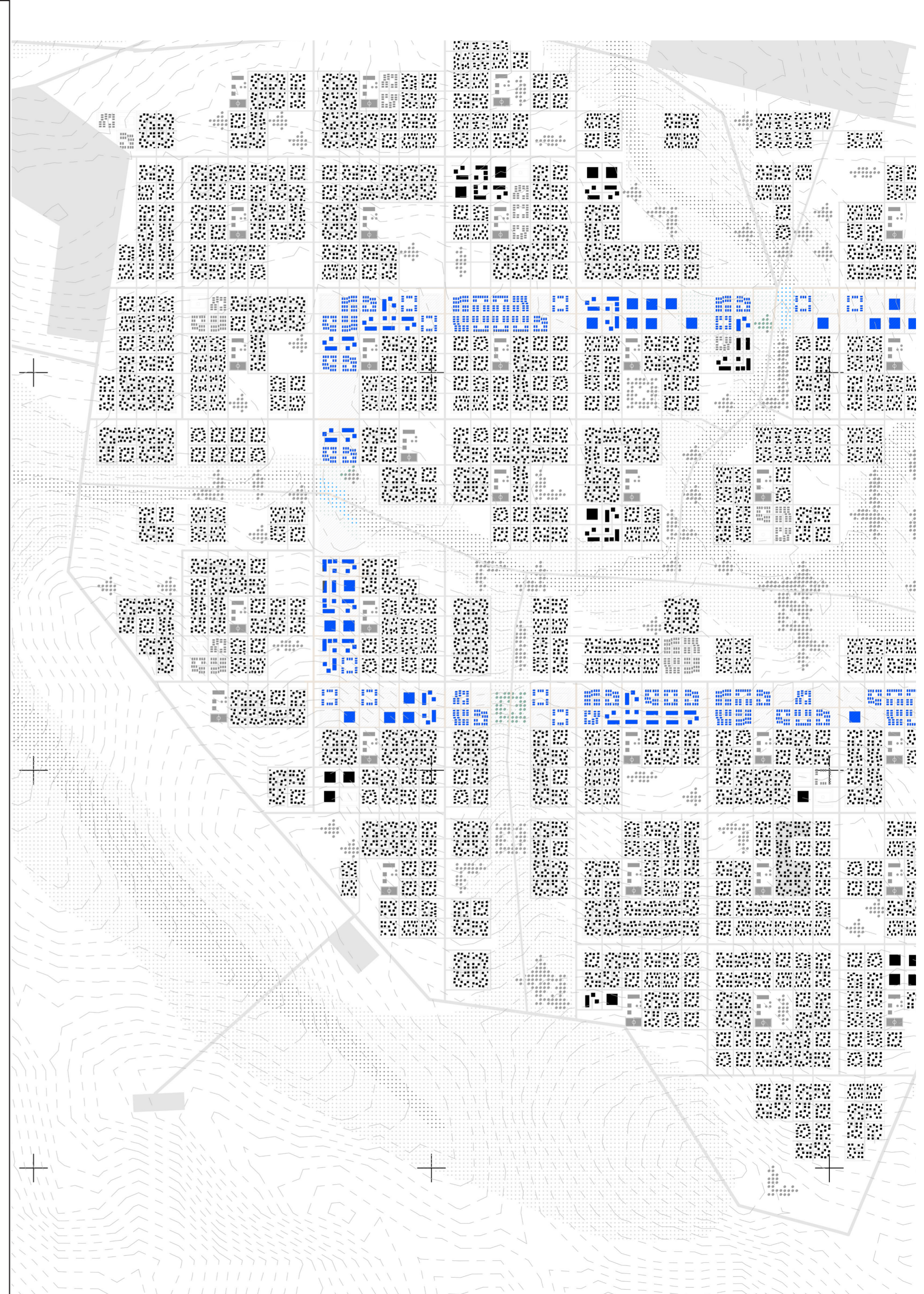


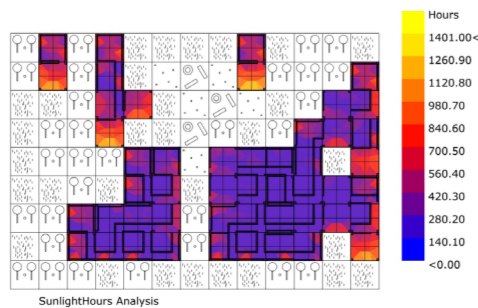
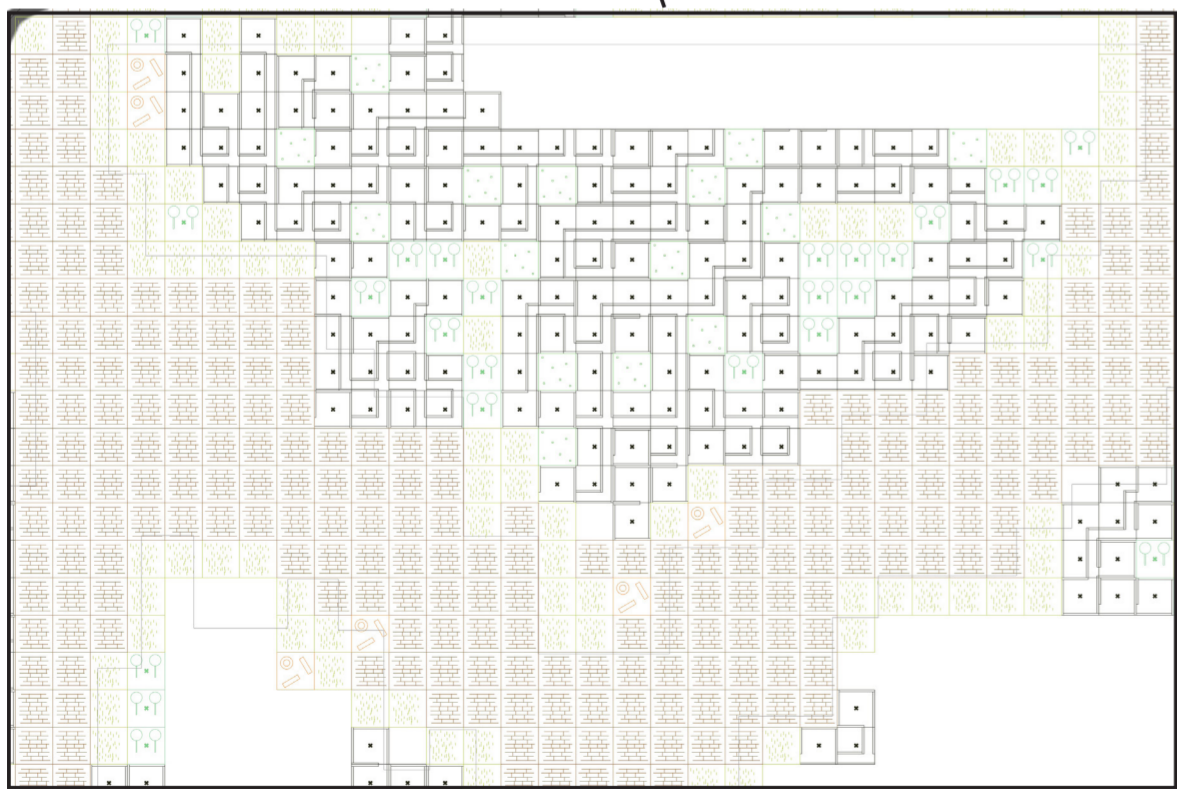
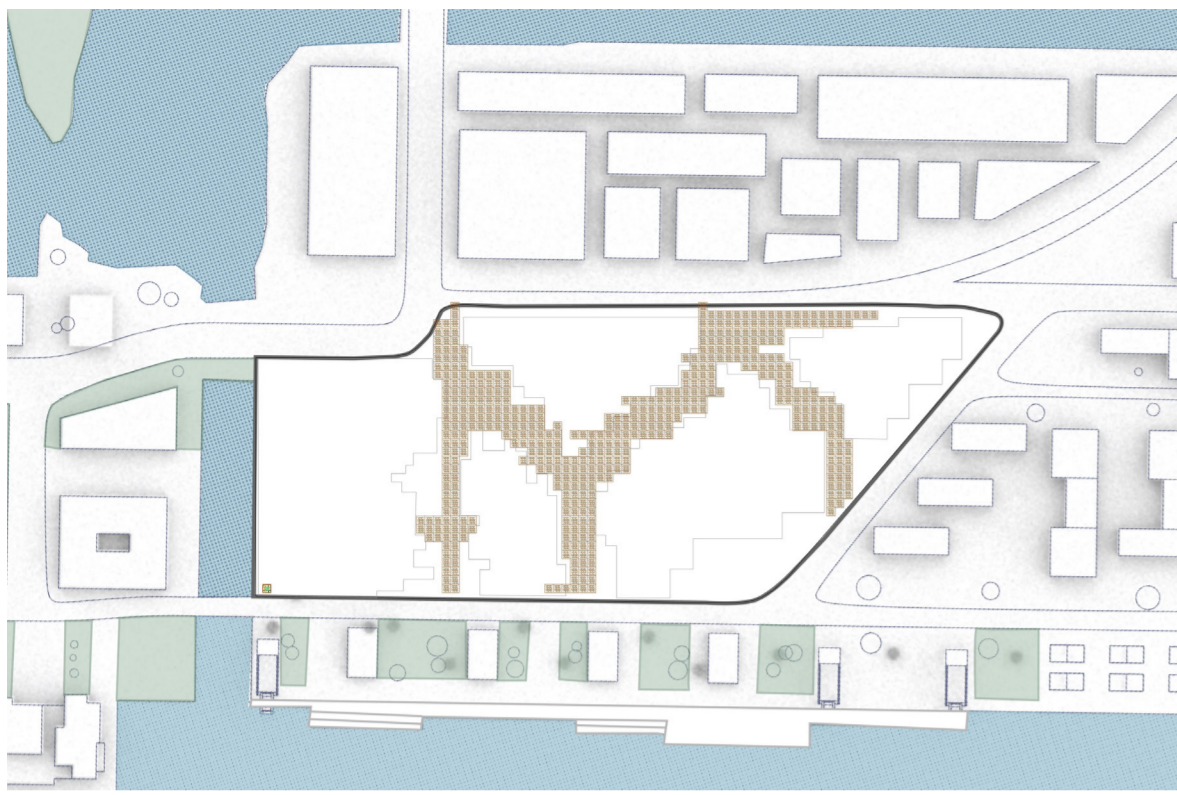
100M

My thesis project 100M is investigating the intersection between humanitarian shelter planning and technology. The project has looked at how a specific algorithm for game world generation called wave function collapse can be used to automate and streamline the design process of emergency shelter layout. To investigate its design capabilities a grasshopper framework was developed with custom components that leverages the algorithms strengths while maintaining a workflow that is based on human input.

It is clear that there are aspects of shelter planning that automation could help address, both speed and quality is paramount in the initial phases of development. Some shelter camps stand for 10-20 years and become makeshift cities. One of these camps is Azraq camp in Jordan for which I created an alternative layout using the algorithm. For this case the algorithmic approach showed potential in adding rule based variation to break up the current monotonous layout. The approach also could help generate detailed options fast by letting the designer paint in typologies in certain areas, as well as automatically placing typologies based on terrain input to the framework. This could allow generation of options that follow the general shelter guidelines and quickly lets the designer explore the solution space. In practice a fast and detailed design process could help visualize the final output and generate quicker and better feedback from locals, as well as helping the shelter team find a more optimal opinion quicker. It also showed that this automation aspect potentially could introduce more complex urban design principles and variations that would otherwise be too time consuming to design. While this project aims to showcase the potential of this

THESIS

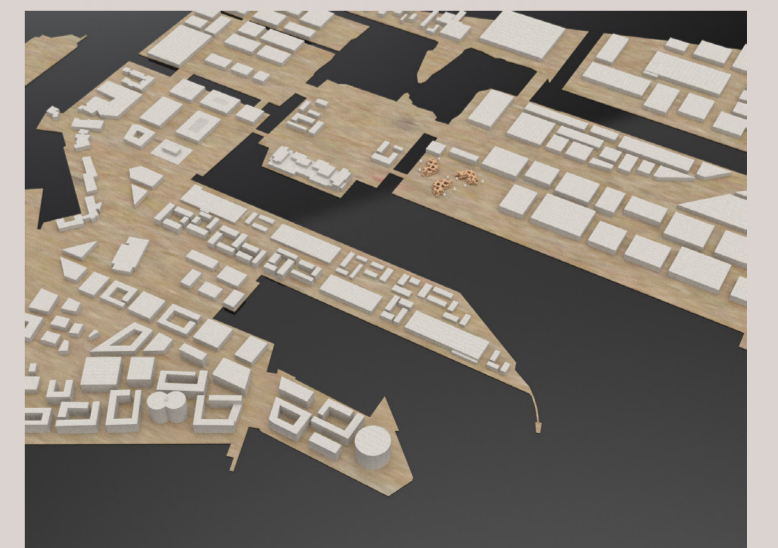
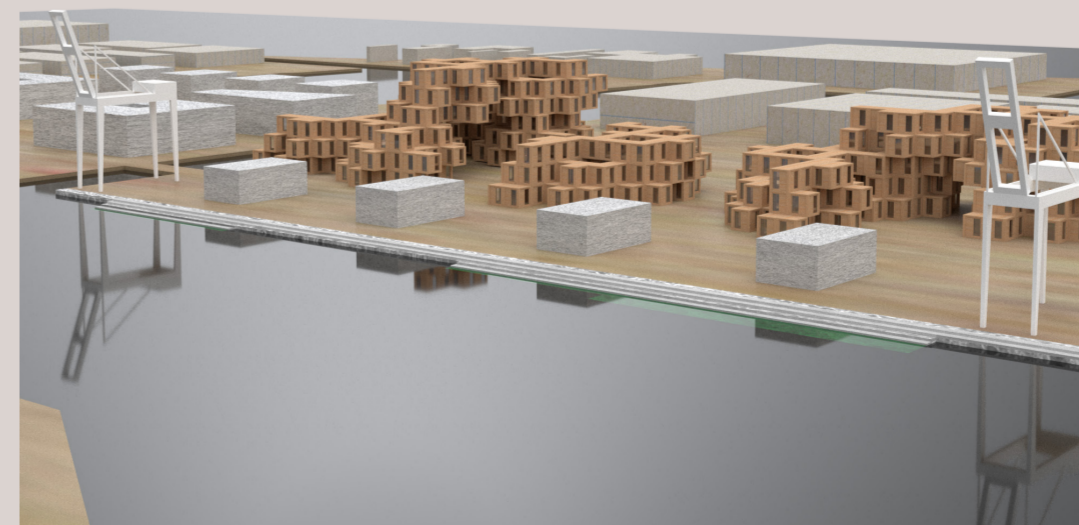


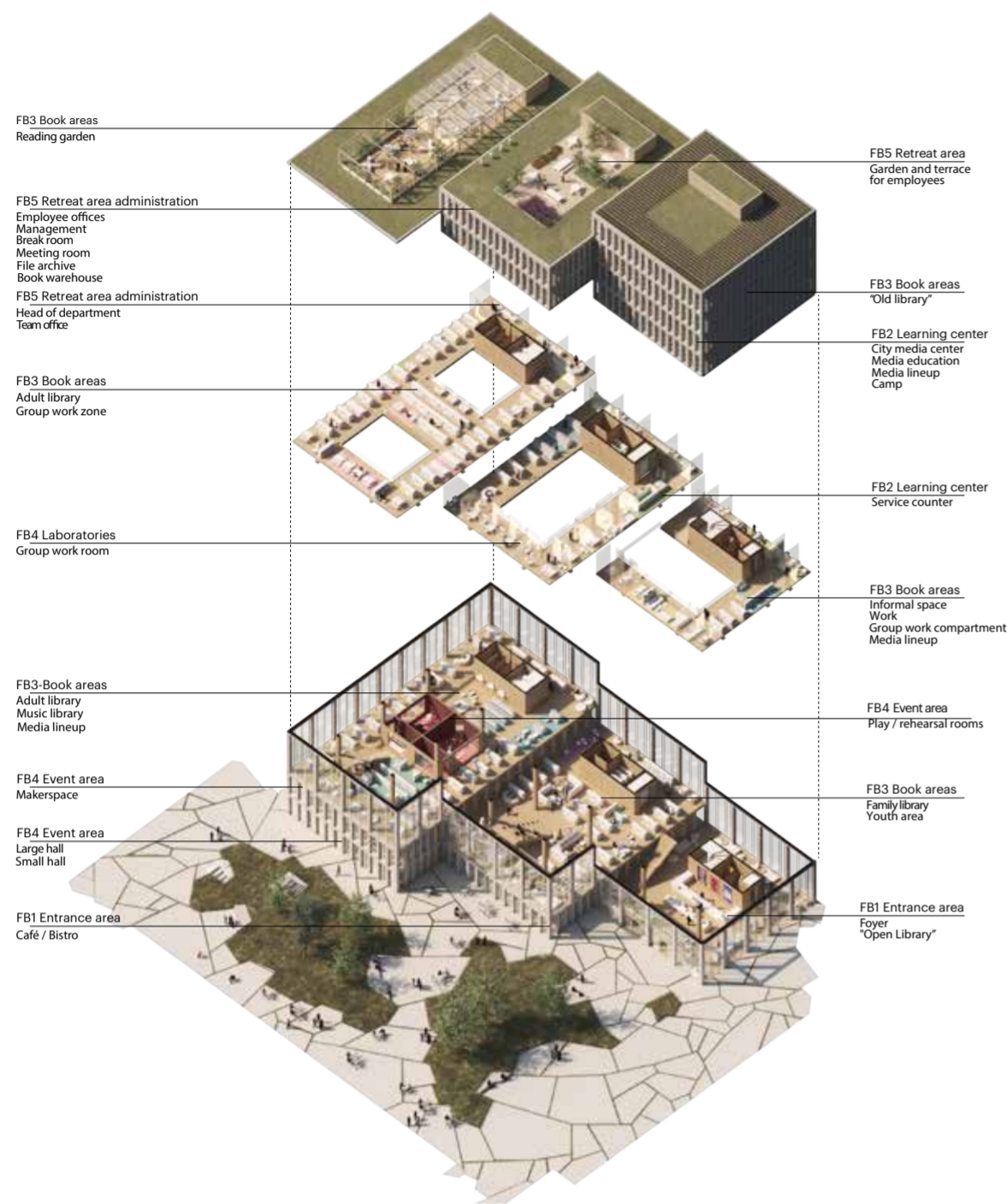


Intelligent Modular Structures

This project aims to combine a vision of sustainable modular fabrication with an automated generative design system leveraging the wave function collapse algorithm. The idea is to leverage a variation of 12 wooden prefabricated modules to generate floorplan where the modules automatically assumes the correct position in relation to each other. This approach also allows limited design input from the designer during the process and can be used to generate several floors by simply running the algorithm again within the roof area of the previous floorplan. The kind of structures that emerge has a distinct design language with much variation. Architecturally this approach can be viewed as drawing upon some structuralist design principles and also takes on a similar expression. The design follows rules but has a complexity and variation in implementation just like structuralist concepts. This approach has the potential to allow for more complex design systems while allowing for a simple design narrative. Like Moshe Safdie's Habitat 67, this positioning of this project in Nordhavn at Orientkaj aims to strike a balance between suburb and city, with a medium type density this style is suitable for. However the concept is different in that it focuses on sustainable materials and living with CLT modules.

CITA





Mannheim Library

This was a competition for a new library in Mannheim, Germany. During the project we also collaborated with swizz landscape studio Vulkan.

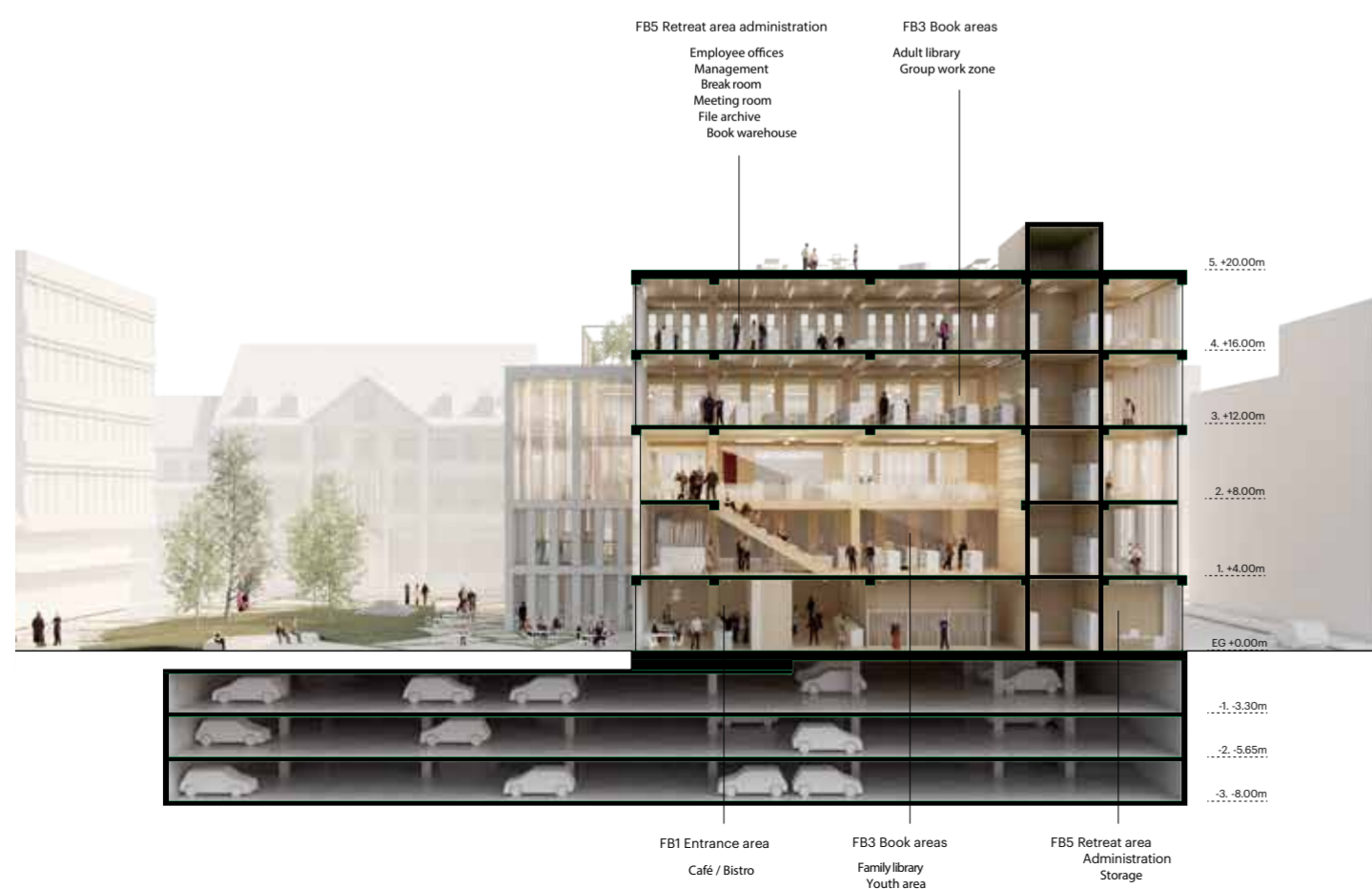
The team consisted of an architect, me and another intern. We worked closely together to try to meet the complex demands and wishes of the client, as well as to contribute an original perspective.

I was a part of the entire process, from reading the brief and creating an overview over the project, to making volume studies, solutions for the plans, parking garage, interior, technical drawings, sections and facade proposals. This helped me to understand the different phases of a competition and how Rhino, that we used most during the project, could be implemented in the different stages of the design process.

On the right a render by my colleague Paul mas. The trinity of the building and the facade can be seen.

In the axonometric drawing on the right by my colleague Iga Swiercz the interior concept can be seen.

In the section on the right made by me the void in the middle of the library can be seen as well as the building in relation to the site, and the garage.



ADEPT

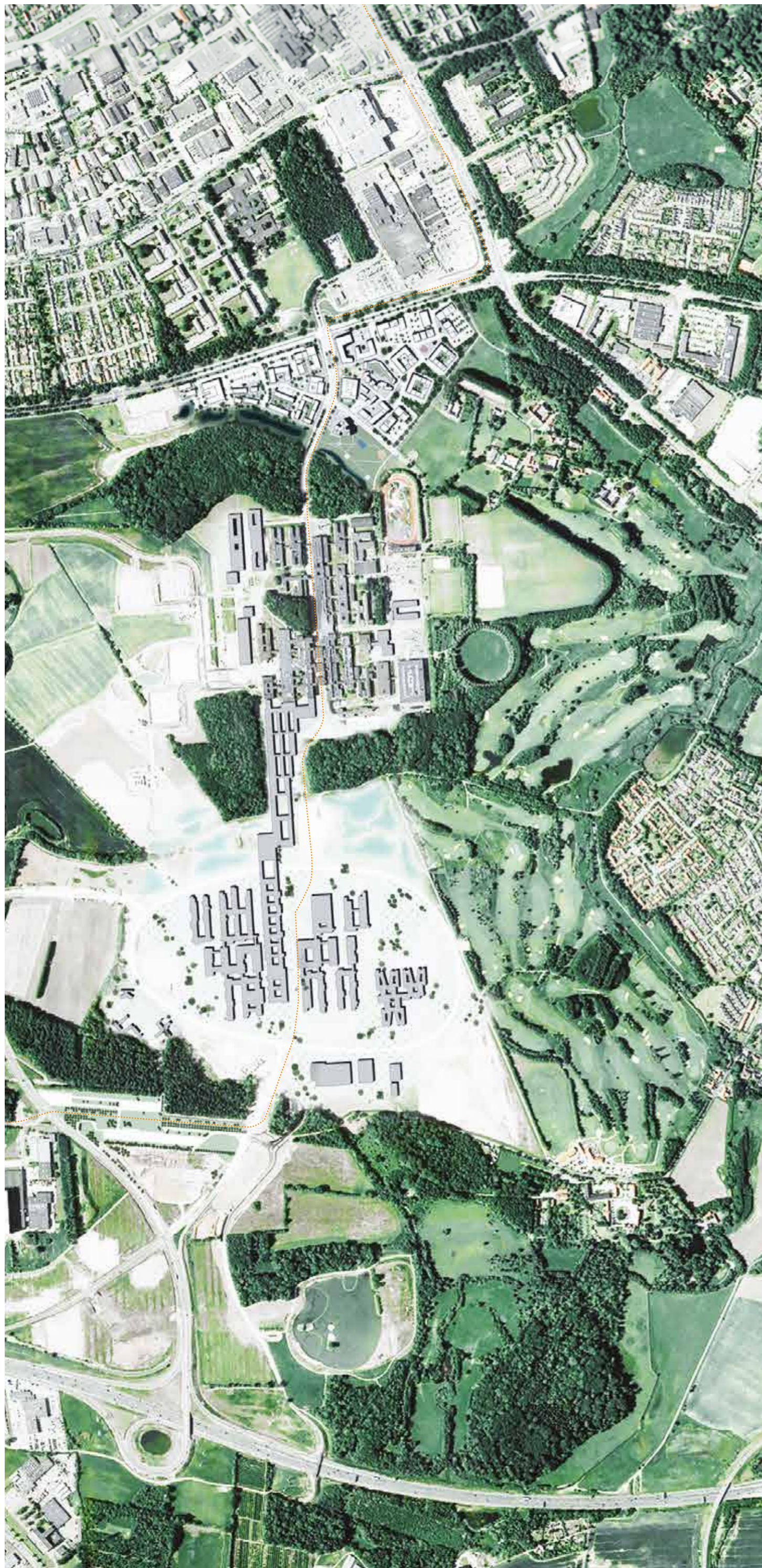


Nivå bymidte

I built, together with a colleague, this model of nivå city center. The project aimed to better integrate the city center with adjacent areas of varying styles. The new citycenter was to offer buildings with overlapping functions, and more green areas.

ADEPT

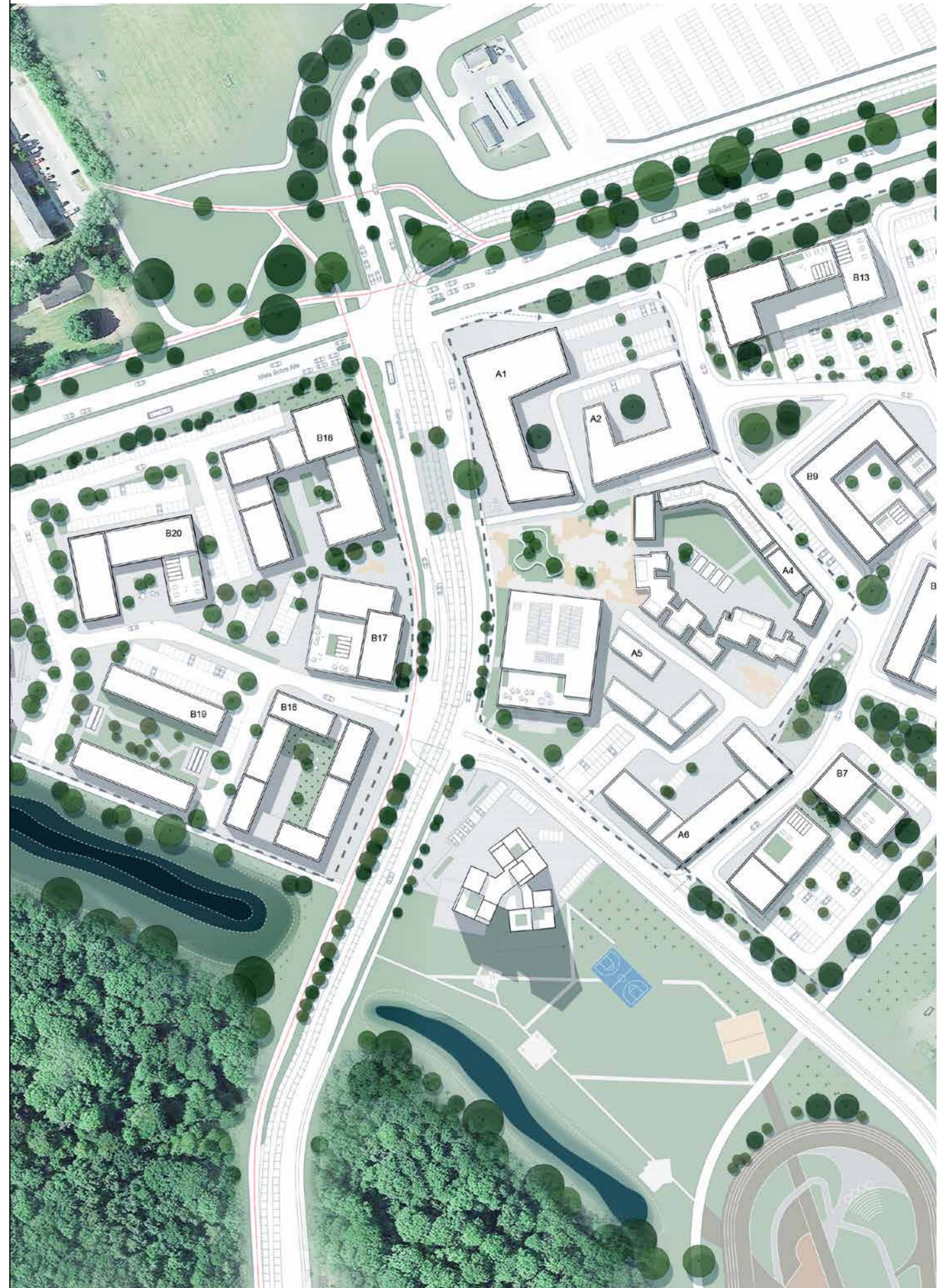




Cortex Park

These are maps over the new Cortex park, in Odense. The project was already won and they needed some presentation drawings. I detailed an existing drawing in 1_2000, and made a drawing in the same style in the scale 1:10 000. I learnt a lot about working in Illustrator during this task and how to merge photos and drawings.

ADEPT





Gråbrødre skole

This was a competition for converting an old school into apartments. An additional house was also added and designed on the site. The competition focused on sustainability, and on integrating the new buildings with the existing context. My contribution was facade studies for the new building but also production of plans and facades for the final presentation. KHR ended up winning this competition.

I don't take credit for the renders however I they showcase the facade concept I was a part of developing. I also made the situation plan on the right.

KHR



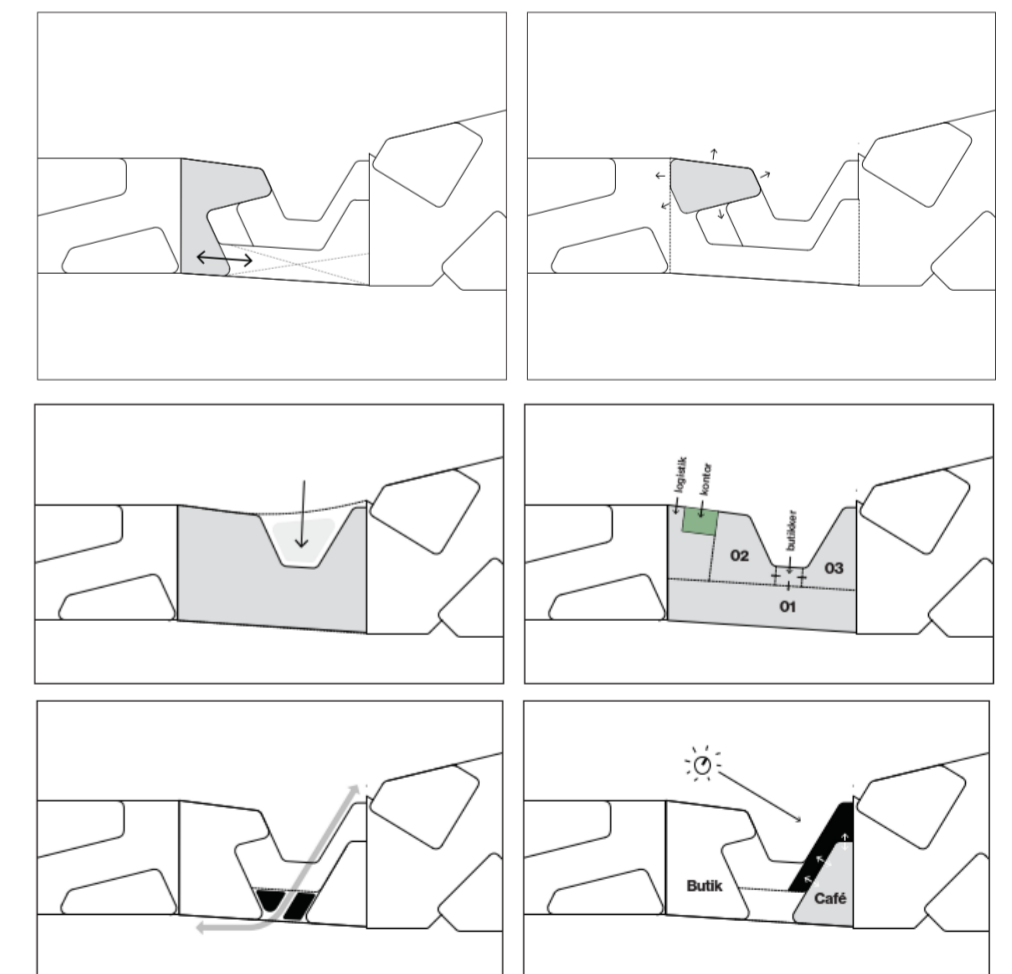
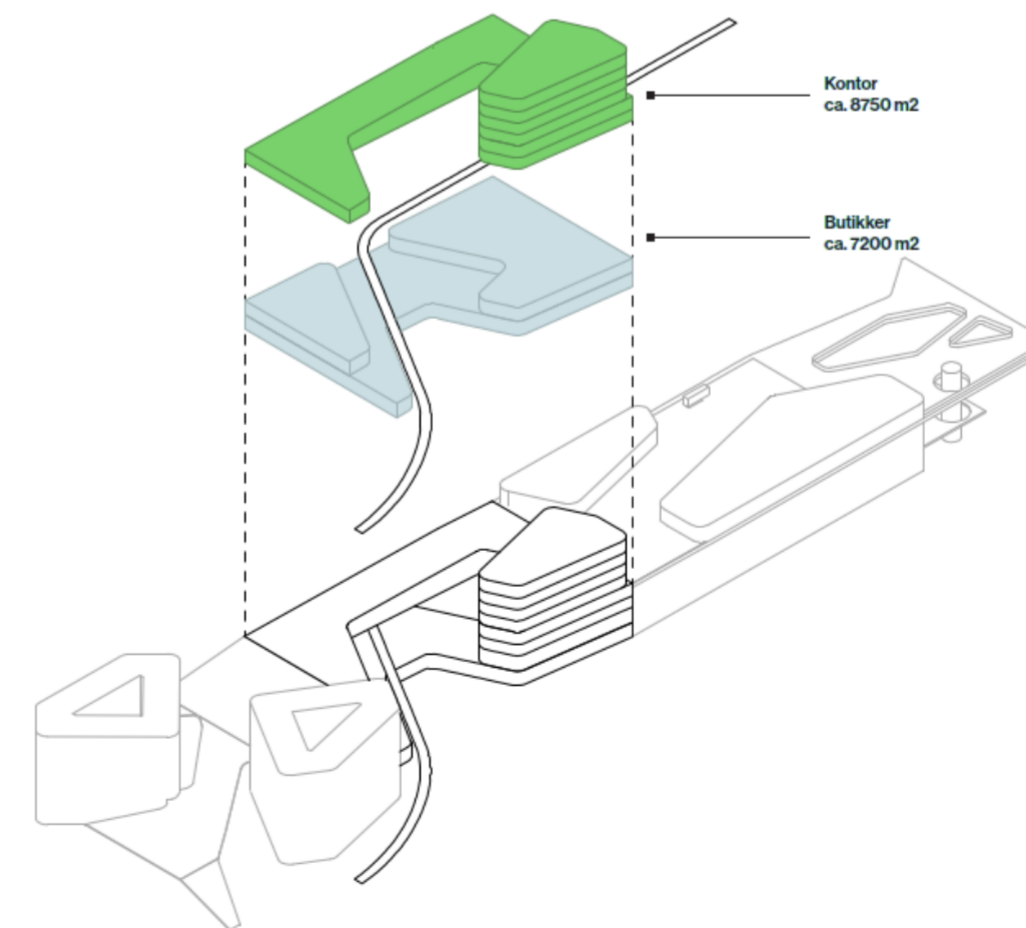


Carsten Niebuhrs Gade

This was a competition for how to convert an old school into apartments. An additional house was also added and designed on the site. The competition had focus on sustainability through recycling, and on making something that honored the old building style and the style of the area. My contribution was facade studies for the new building but also production of plans and facades for the final presentation. KHR ended up winning this competition.

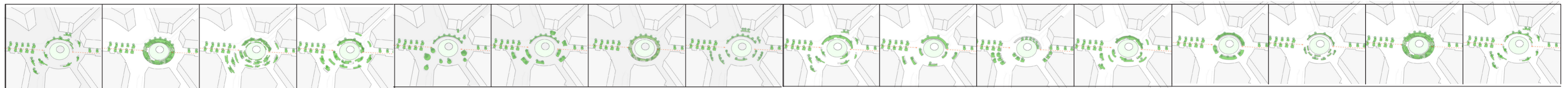
The render seen on the right was created by my colleague. The drawing however was created by me. And the rhythm in the facade present on the right.

COBE



Robert Schuman plein

COBE



Exploring the journey from idea to reality in a small 3x6m format. The goal was to design a proposal that later could be constructed in full scale. Picture: inter-linked series of houses in a suburban context. Render by vray for 3DS Max

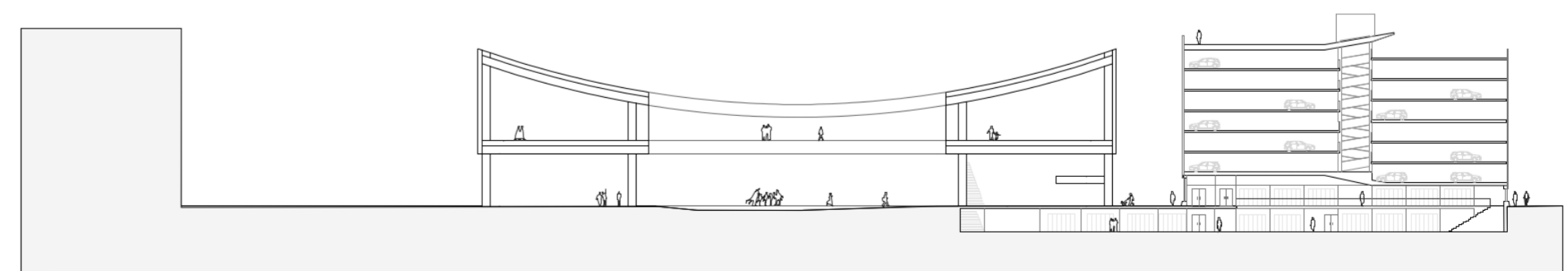
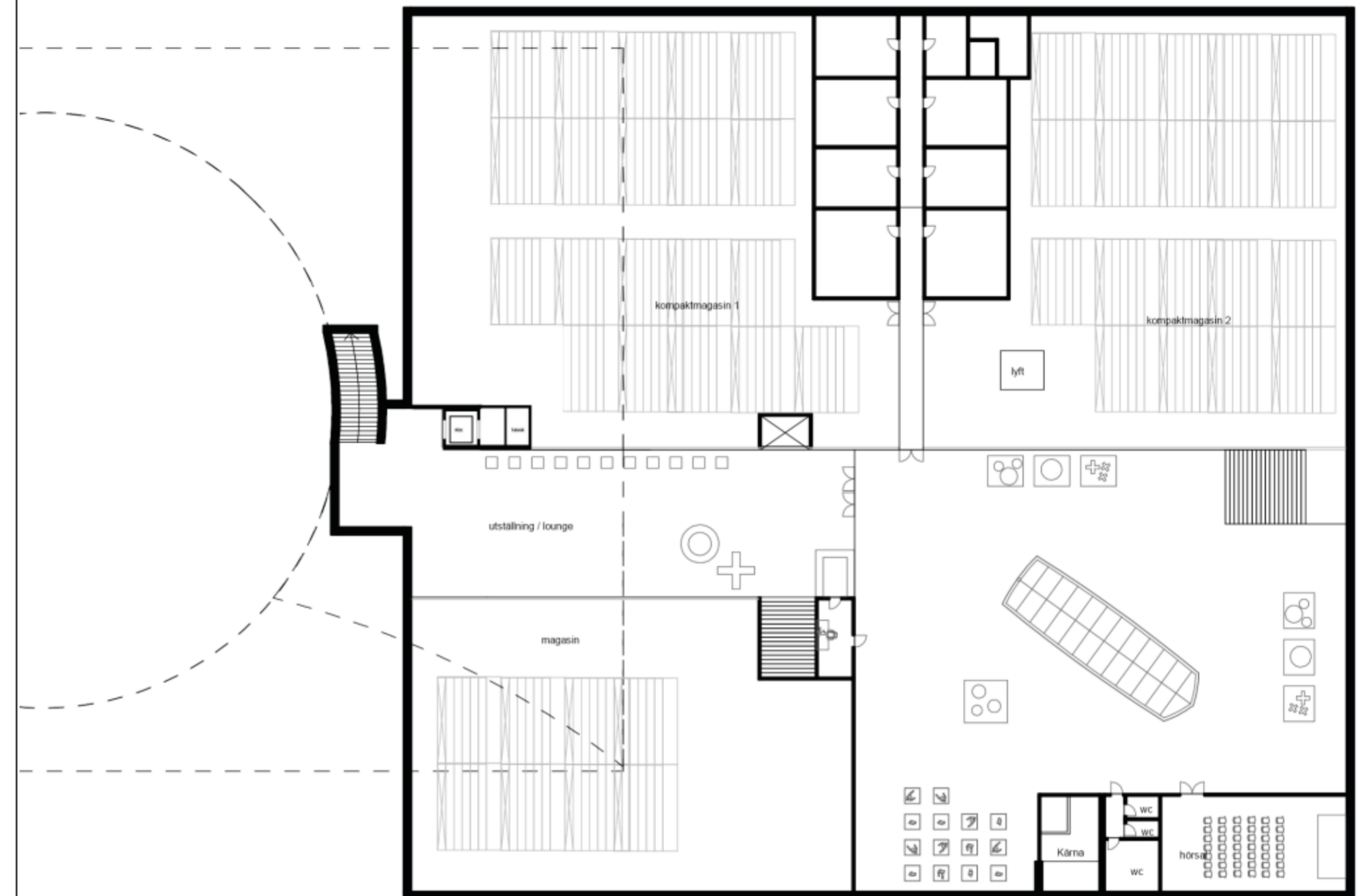


Arketypen

Me together with an architect was responsible for the proposal of a art archive in Lund next to the previously won proposal for Science Center. The process consisted of meeting the new demands from the client and at the same time uniting Science Center and the new space in a functional and aesthetic way. The idea was to put as much of the archive as possible on display and to make to underground passage to the Arkityp into a generous space that enabled exhibitions of sorts. I was responsible for assembling a new plan aswell as producing material for the presentation.

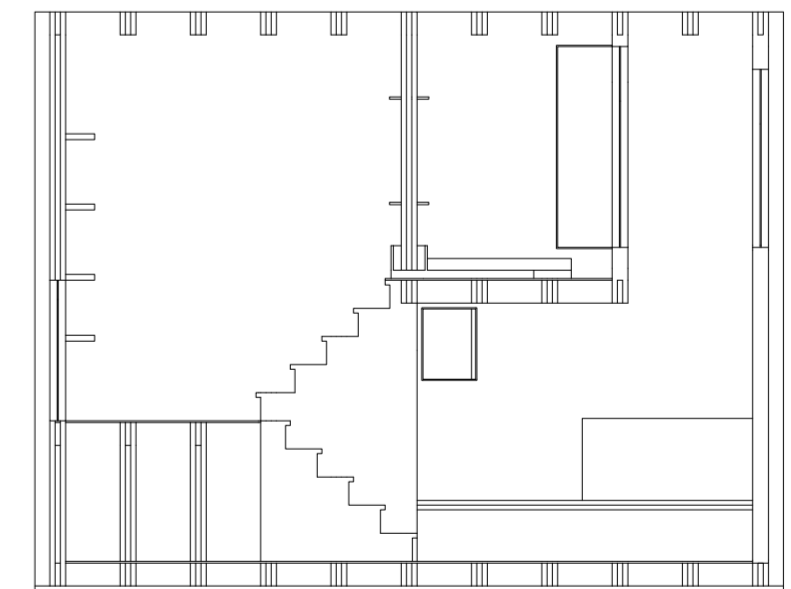
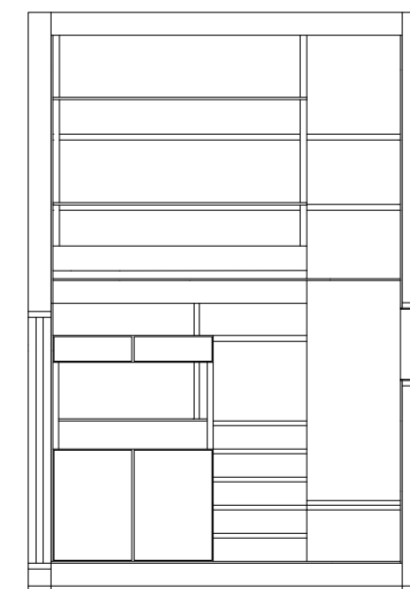
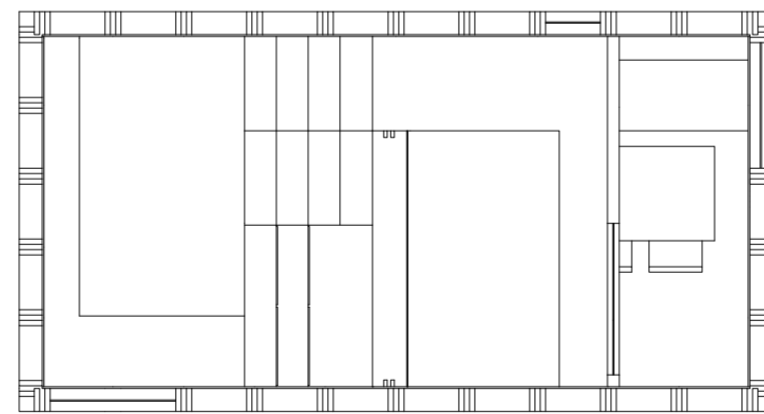
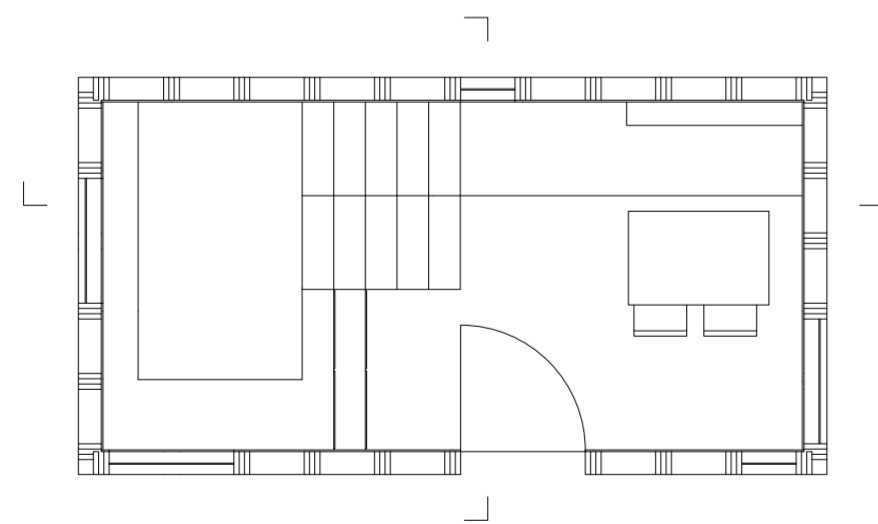
The drawings are made by me using Rhino, and the render by a colleague using Enscape.

COBE



En till en

FOURTH SEMESTER



Exploring the journey from idea to reality in a small 3x6m format. The goal was to design a proposal that later could be constructed in full scale. Picture: inter-linked series of houses in a suburban context. Render by vray for 3DS Max

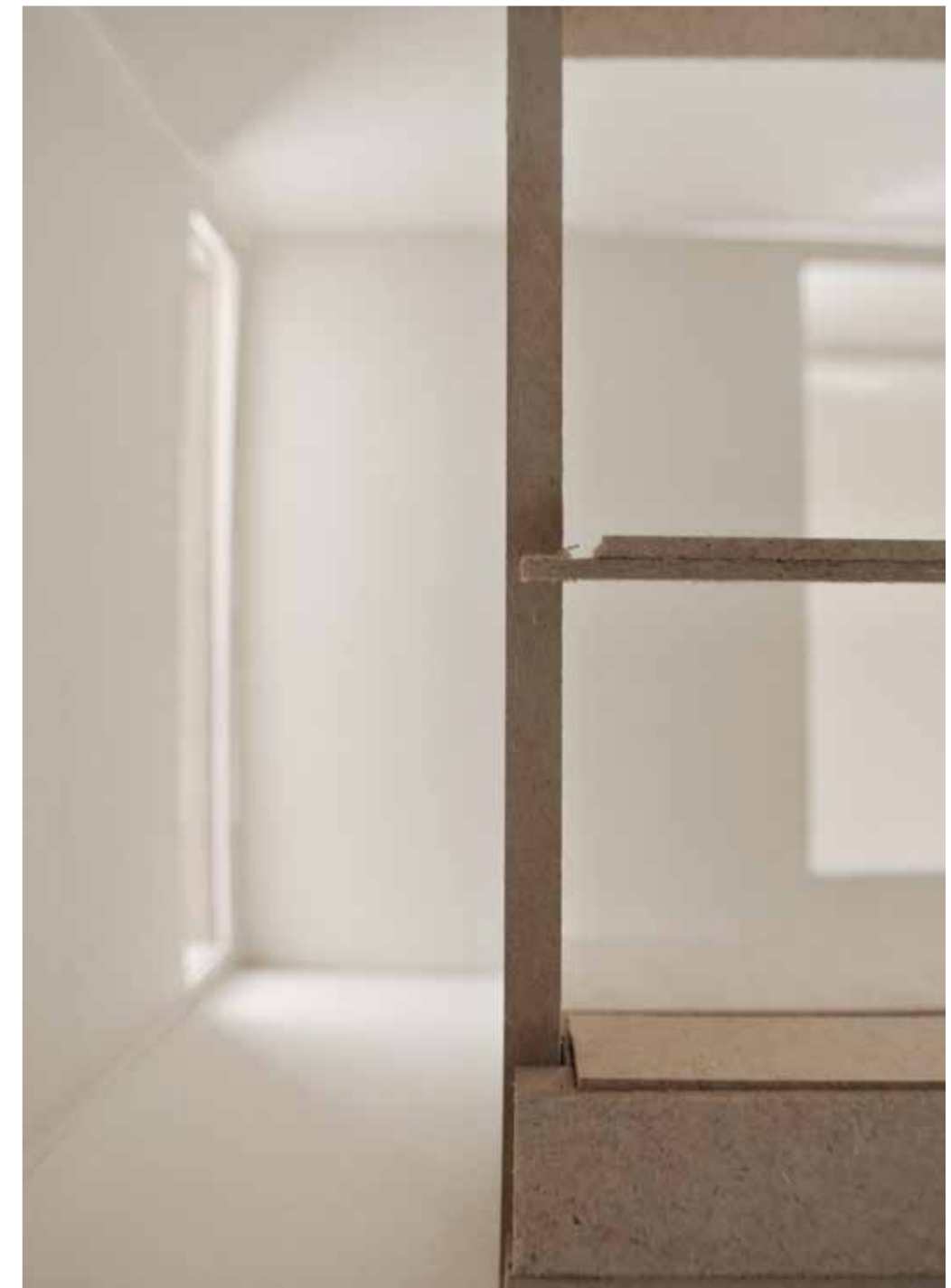
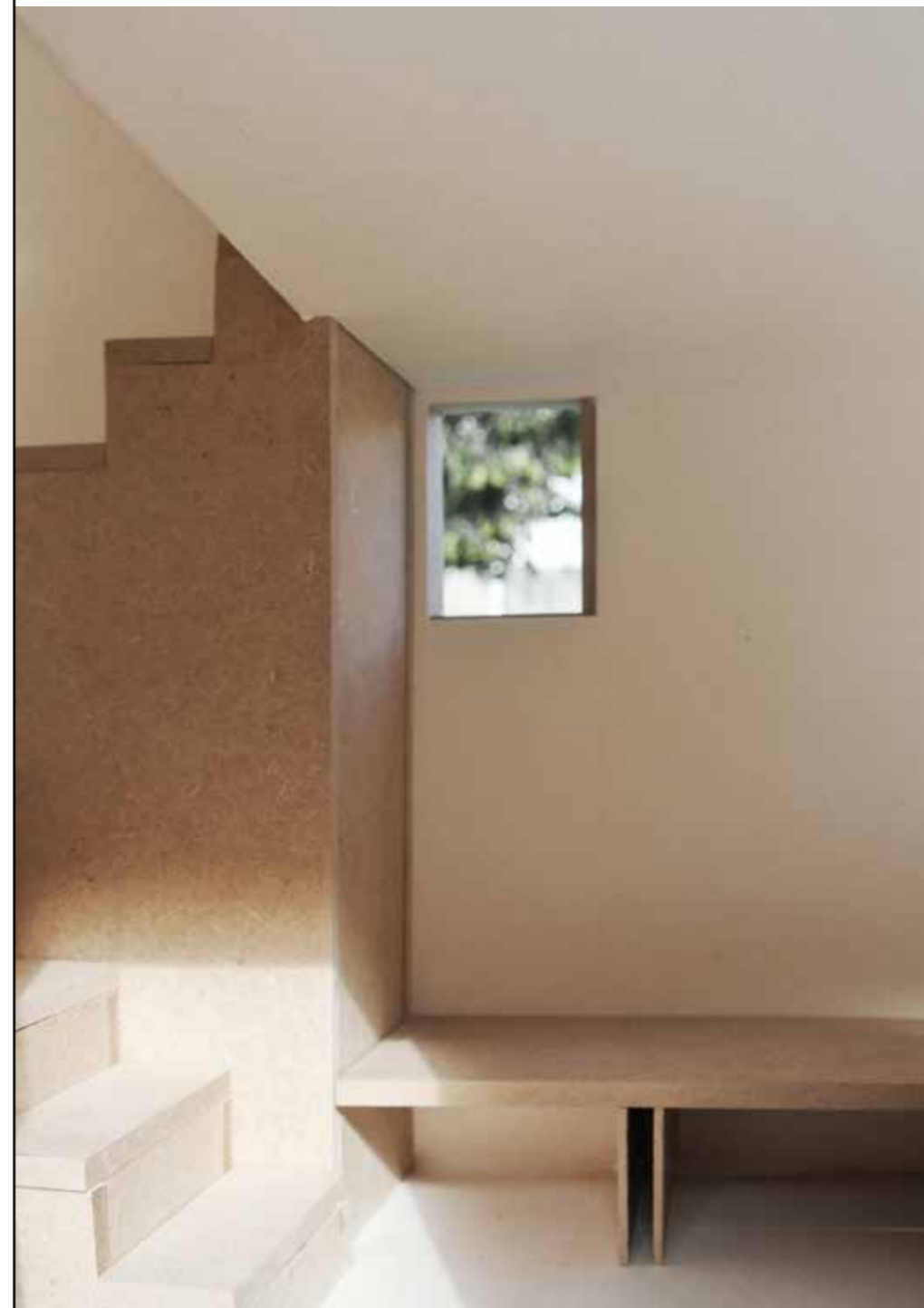


En till en

The entrance. Movement is centralized in the building to maximize functionality. The spaces branch out from the staircase, seen in the upper model photos and the lower render.

Upper render: Light effect on the bedroom wall on the second floor. Yellow reflected light from south meets blue skylight from east during the afternoon. Lower render: Light reflection created by the second floor window in the dining area.

FOURTH SEMESTER

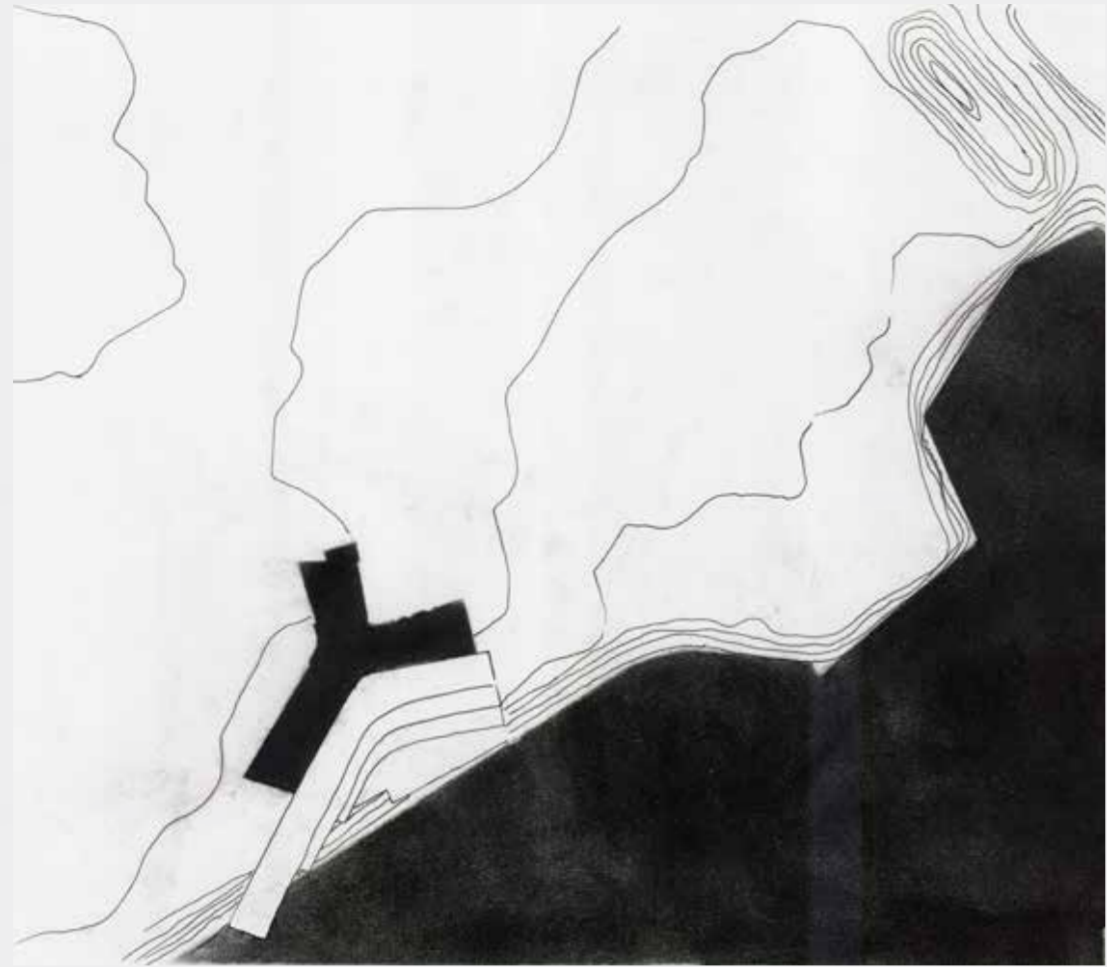


Naturcenter

SECOND SEMESTER



Sydhavnstippen has slowly transformed from industrial dump to nature reserve, but old blocks of concrete and industrial waste are still a present reminder of its past. The new building's solid block like shapes was inspired by this theme, to honor the story and blend into the landscape.



Naturcenter

The facade were broken up to lead light into the structure, but kept uniform with a wooden screen to keep the solid feel of the shape.

The building body acts as a wall between the nature reserve and the commercialized area near the water. The bridge allows for smaller water vessels to enter the building via the river.

SECOND SEMESTER

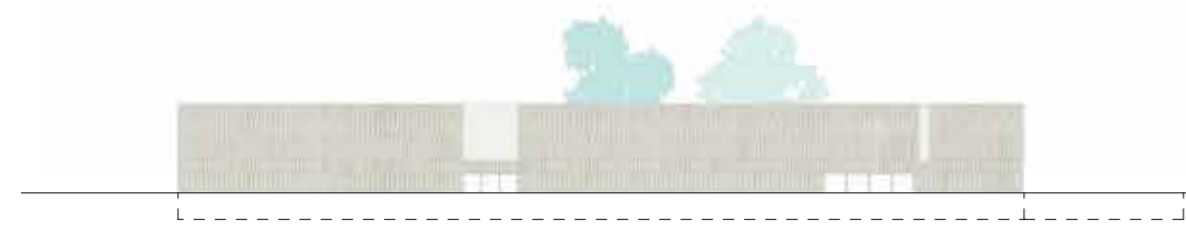


Køge Krematorium

FIFTH SEMESTER



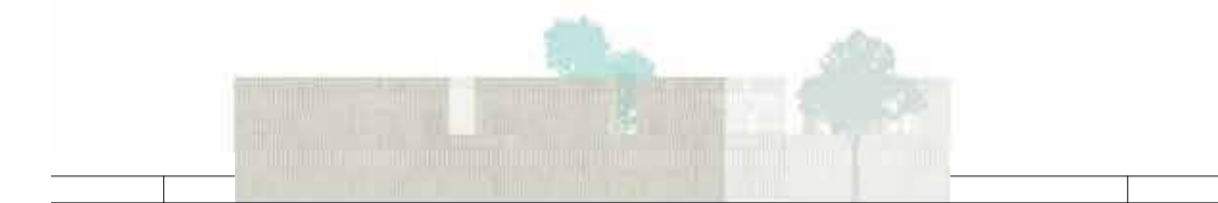
We were assigned to draw a proposal for a new crematoria in Køge havn. On the picture, the facade inspired by the granite pier nearby, can be seen. The paced pattern in the facade pays homage to the natural drilling holes present in the stone on the site (first picture).



South facade



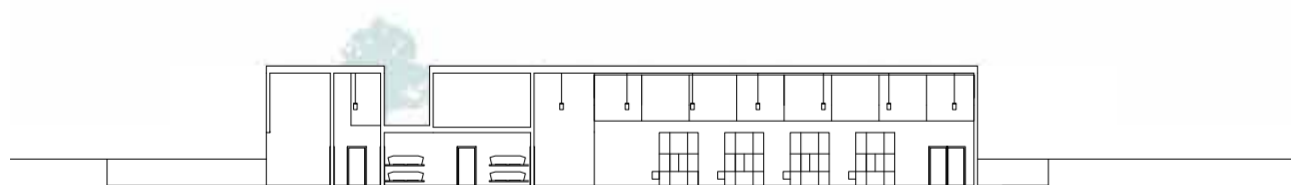
North facade



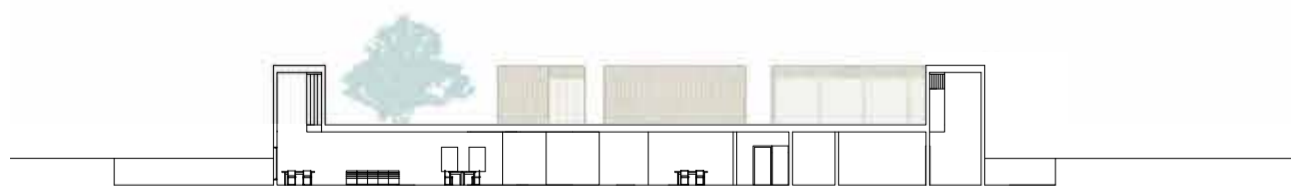
East facade



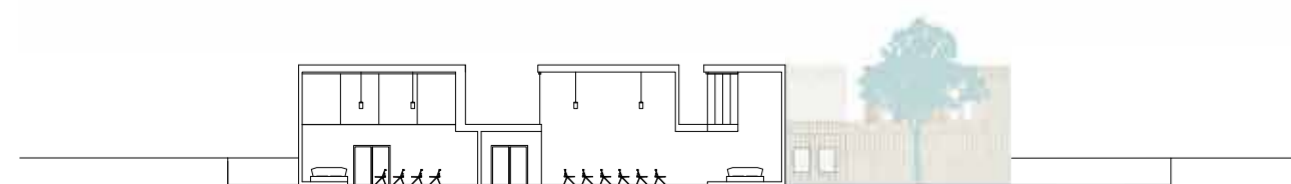
West facade



Section C-C, Oven room towards east



Section B-B, Staff department towards east



Section A-A, Large and small chapel towards west

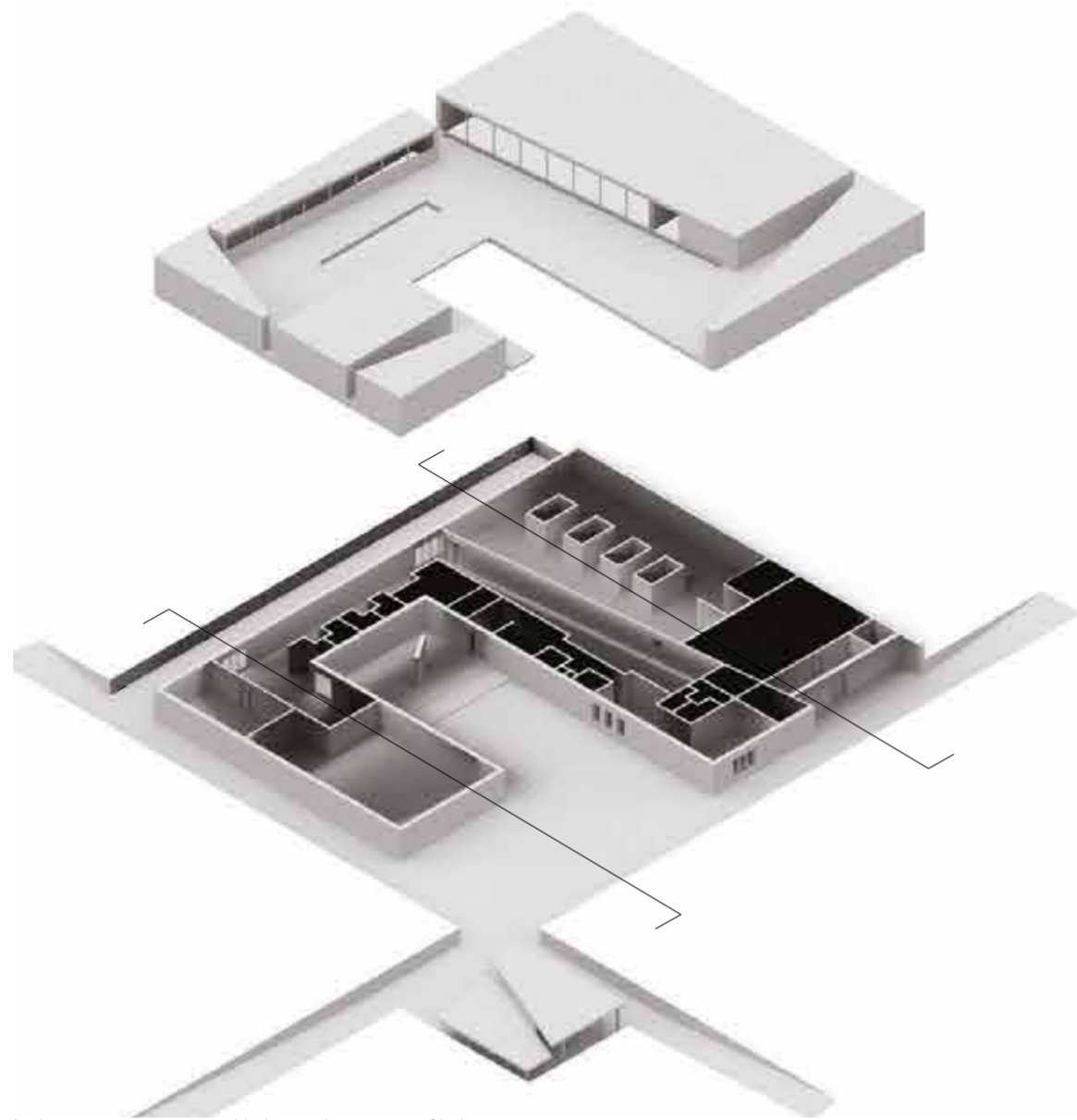
Køge krematorium

The facades and sections on the left show the submerged roads in relation to the building. There are two roads on the site, one that extends the existing road from the city, and one that creates a connection from the nature area south of the building to the water north of it.

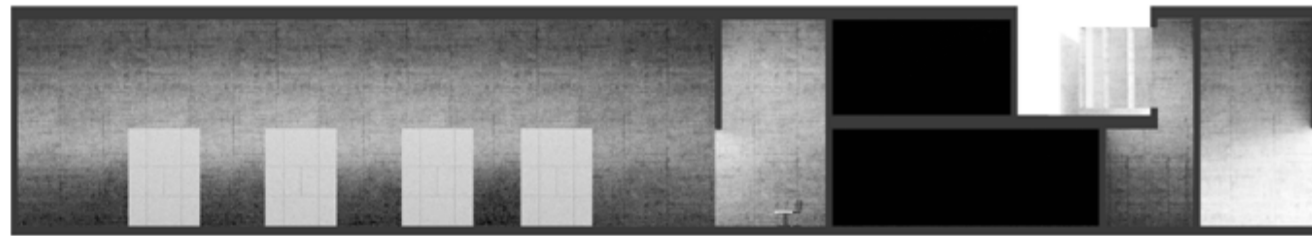
The reason for submerging the roads slightly was to create a more private zone in front of the crematoria. As you go down your view also changes slightly and you get closer to the ground on the site, and the focus gets to be on the grass, the flowers and the sky. This was a way to also keep in touch with the beautiful nature on and around the site, while creating a more private space.

FIFTH SEMESTER





Light-axometric, natural light in relation to roof lights



Light section over room B-B,



Light section large chapel A-A,

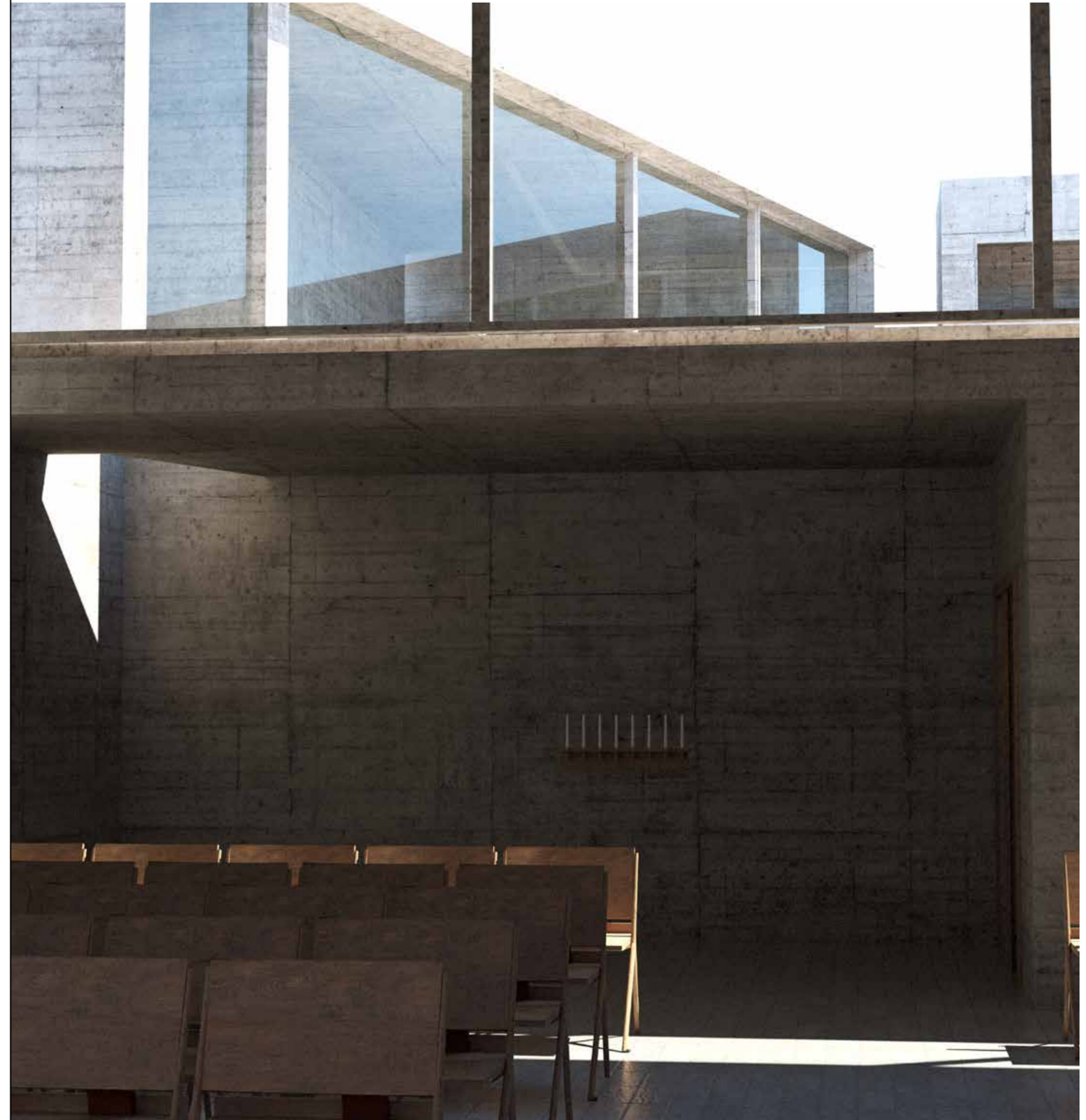
Køge krematorium

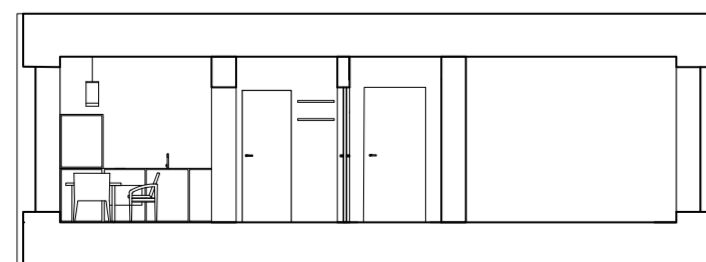
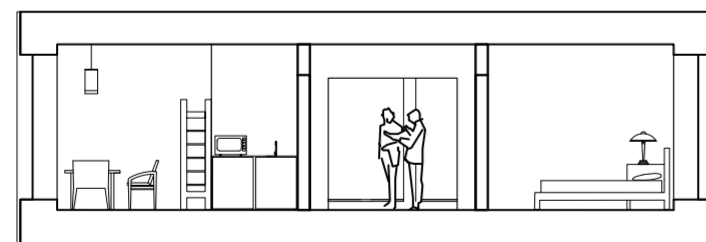
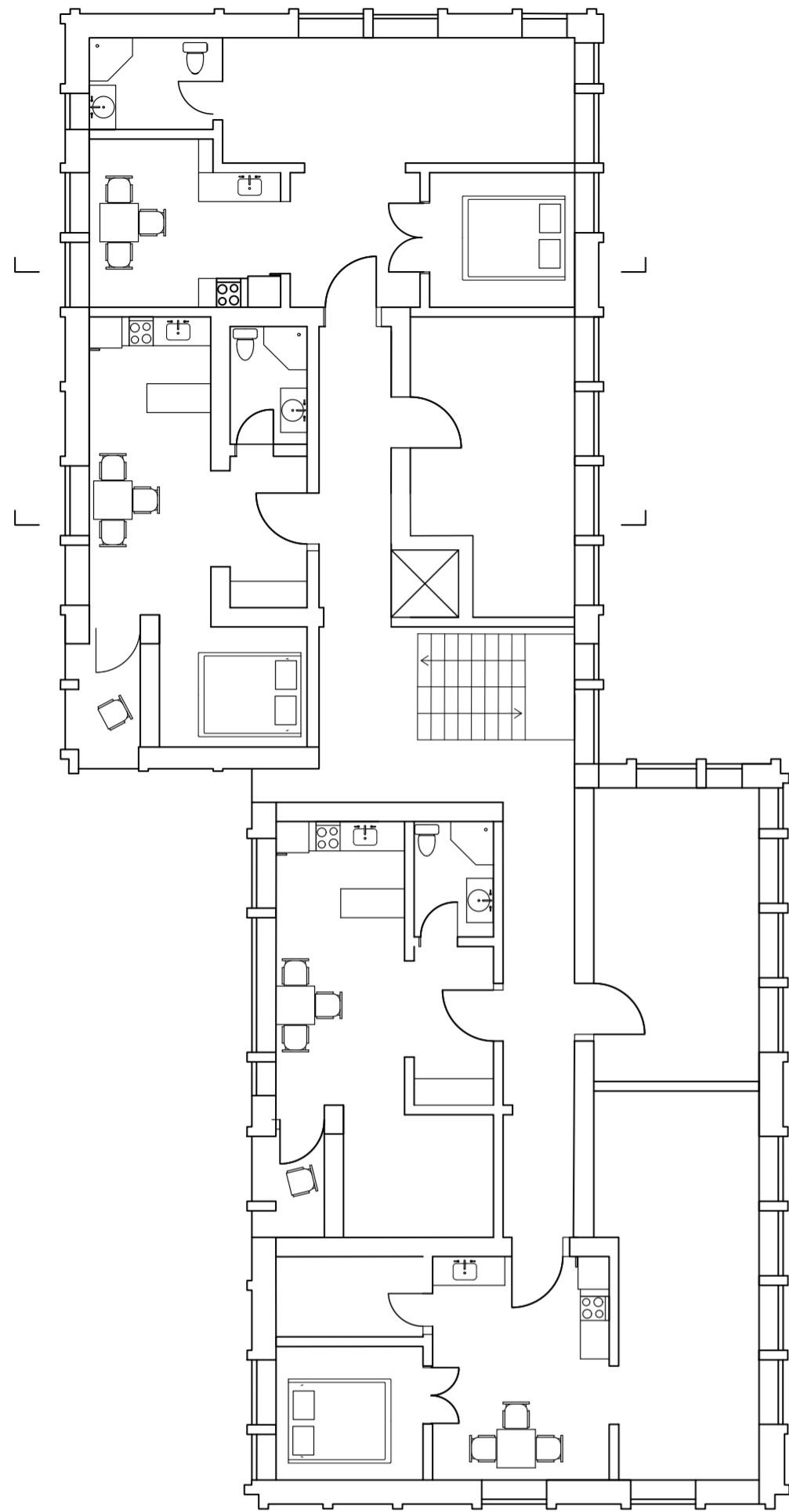
The most original feature of the building is probably the huge rooflights.

In the light sections and axonometric drawing, the flow of daylight in the different rooms can be seen.

The function of the roof lights are to modulate the room height and emphasise the rooms they are placed on top of. Their large size of the windows also allowed for less windows in the building facade, and a more private setting inside.

FIFTH SEMESTER





Vertikal bolig

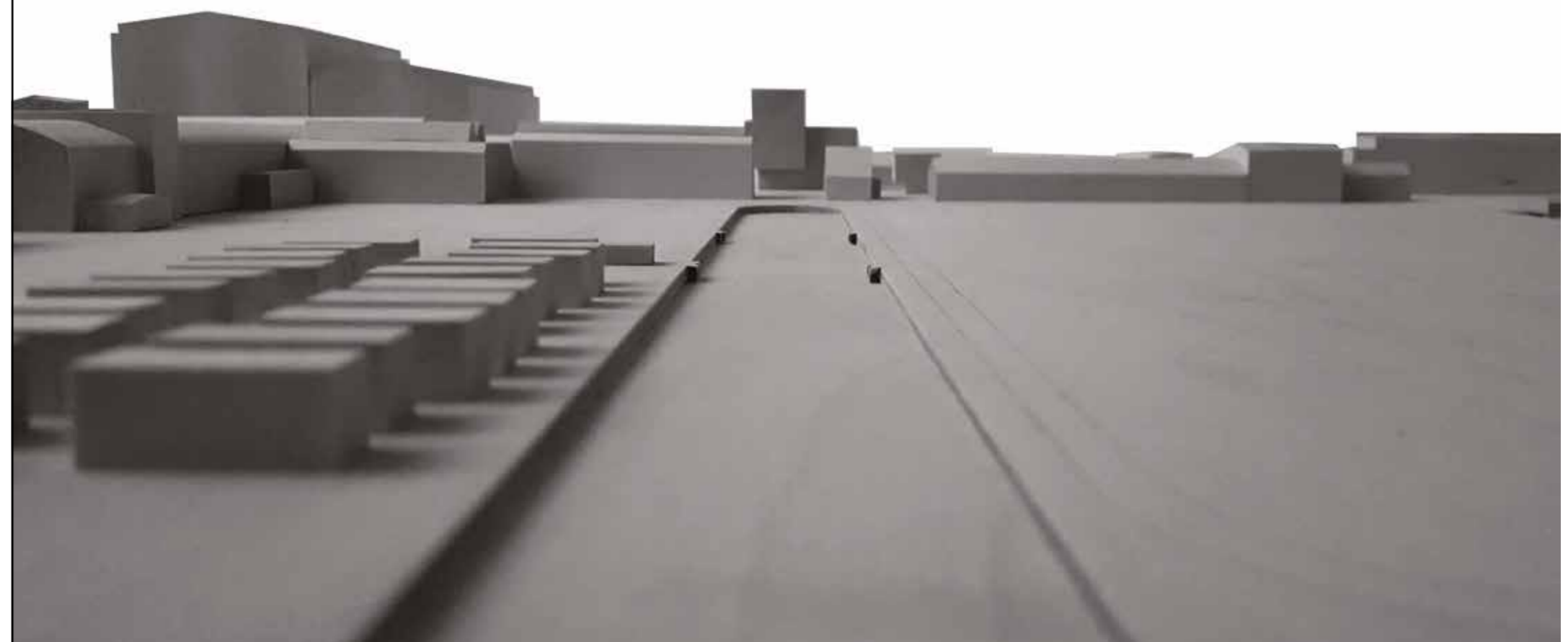
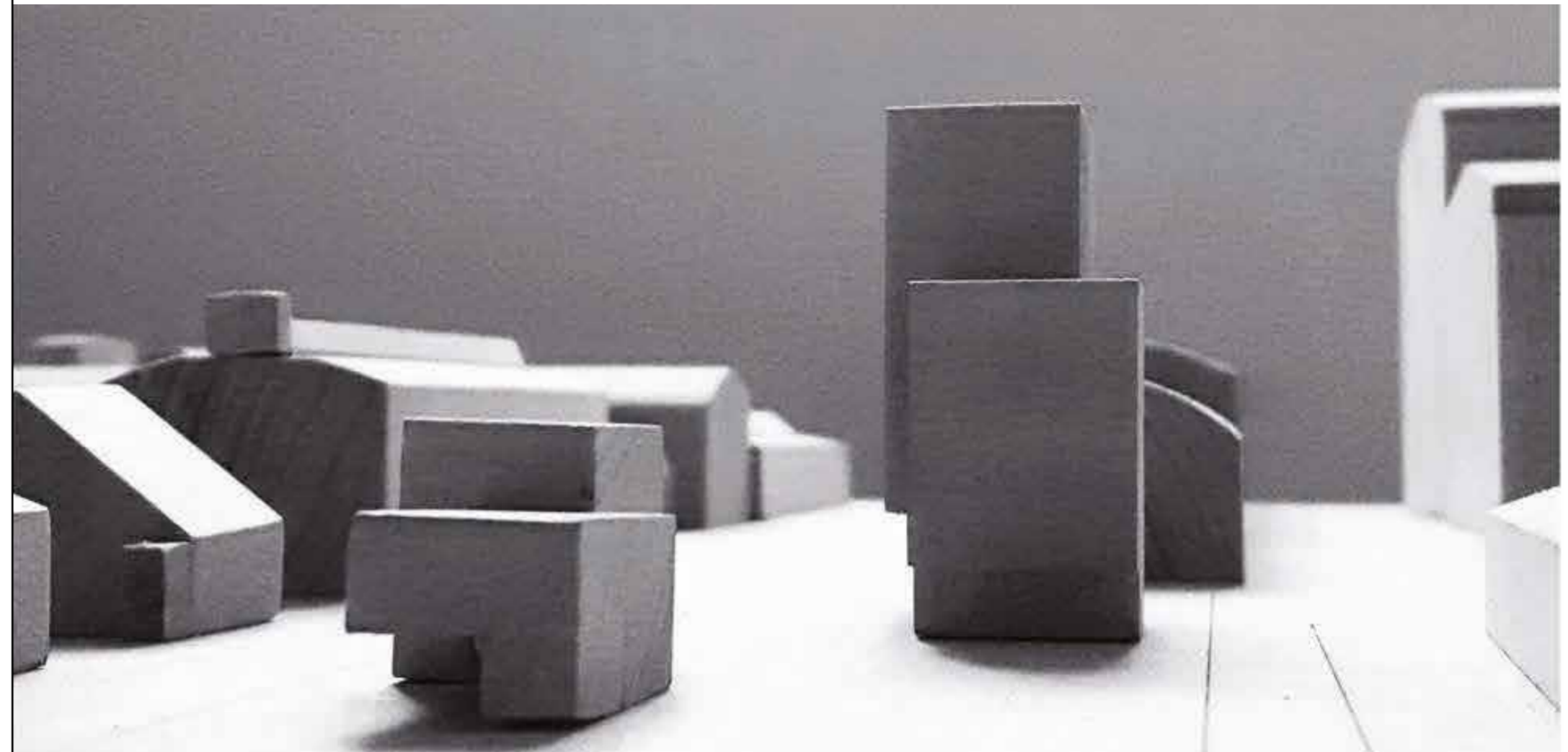
The assignment was to create a new residential building on Refshaleøen. The building should be built for artists, where space would be made for their work in terms of studios and workshops.

My approach was to use the building volumes to guide visitors diagonally over the site, from the parking and connecting roads onto Refshaleøens main street. (first picture on the right).

I made a smaller art gallery adjacent to the larger residential house. The gallery would be a way of promoting and raising the interest of the area, and a way for the artists to exhibit their work. The gallery building was placed so that it protrudes into the main street. This makes the building more visible and more public. (Second picture on the right)

The shape of the building plays off the duality of the large container hall seen on the right of the building. The placement of the building in front of one of the docks, guarantees a view over the water as the area develops. (third picture on the right)

THIRD SEMESTER



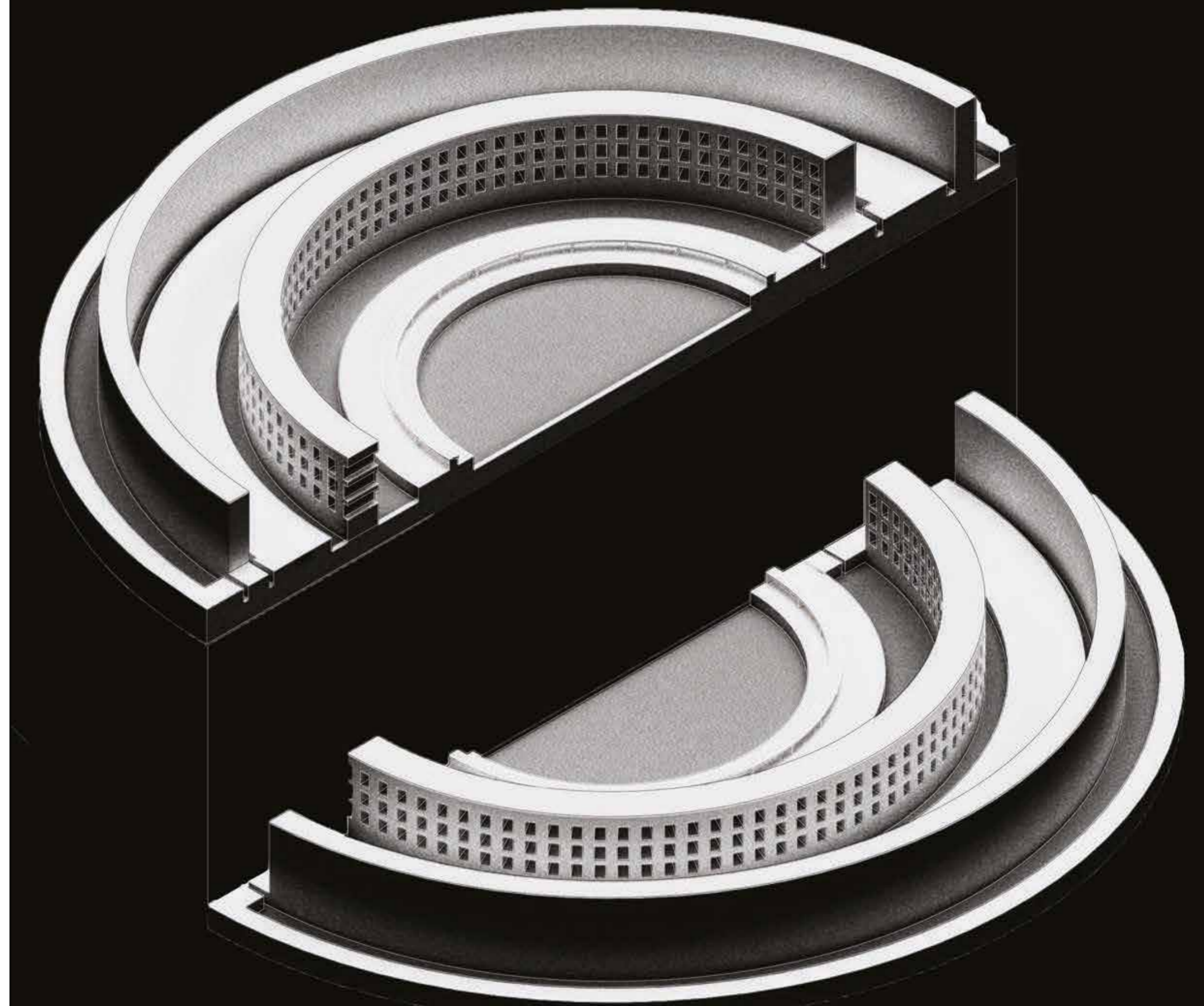


ROTUNDA

Inspired and directed by artist and professor Jakob Bang, we made plaster models by rotating a section cut out in steel while the plaster was slowly drying.

The models were on the borderline between abstract shapes and concrete representations of functions. We were assigned to imagine the models as columbariums and to make a more detailed computer model of them. For this I used the grasshopper plugin to rhino.

FIFTH SEMESTER





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