PORTFOLIO 2008-2014

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M. Sc. in Architecture

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Bachelor

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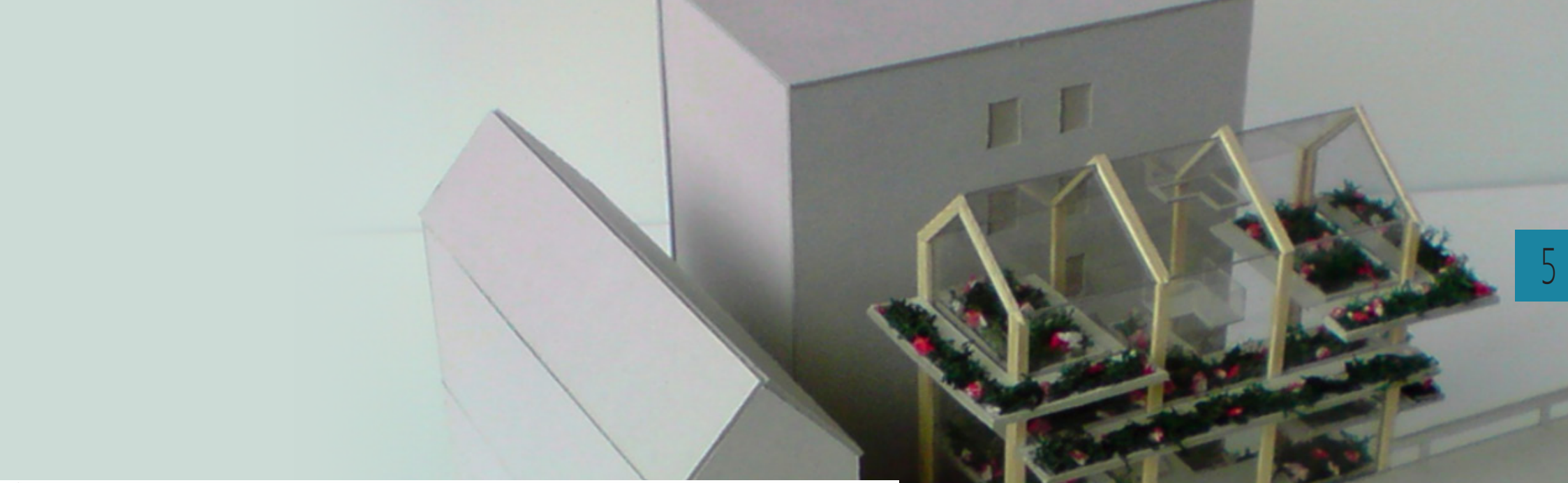
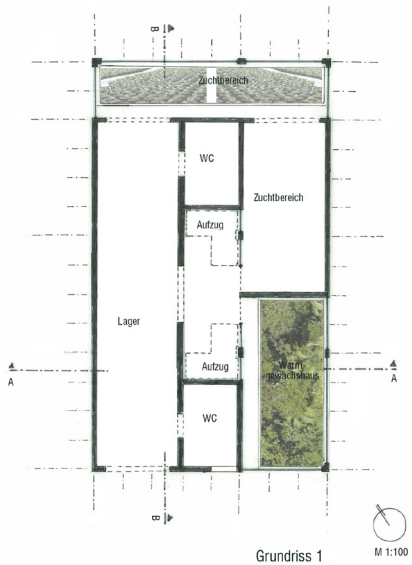
GREEN HOUSE | Introduction to Design

Strong boundaries influence this project: the structural environment and the space allocation plan. It demands creative ideas for the production flow and working spaces in a flower nursery. The formal language of a green house is retained to underline the unusual location of a flower nursery in the center of the city, but the inside structure is changed from the ordinary horizontal plane layout into a vertical platform layout.





Grundriss 1 M 1:100

Grundriss 2 M 1:100

Grundriss 3 M 1:100

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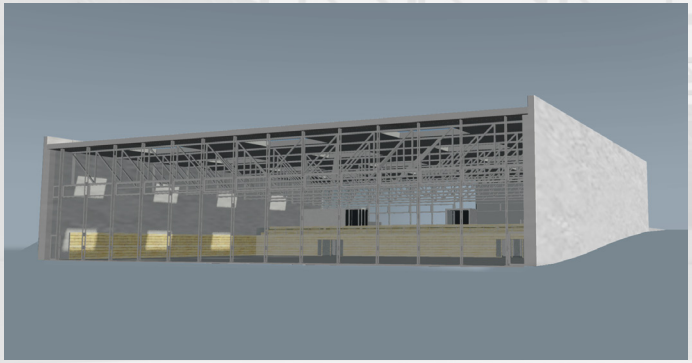
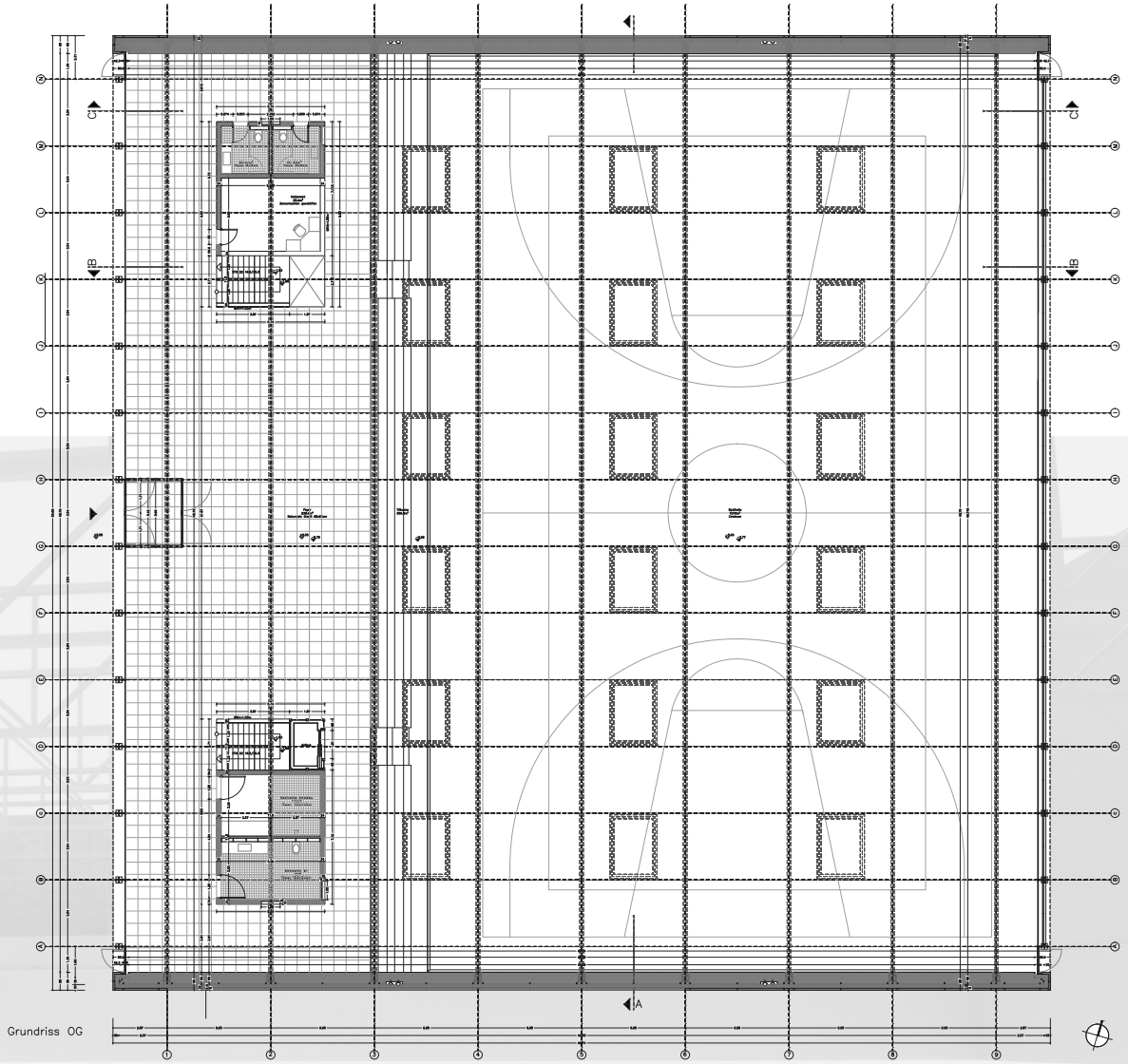
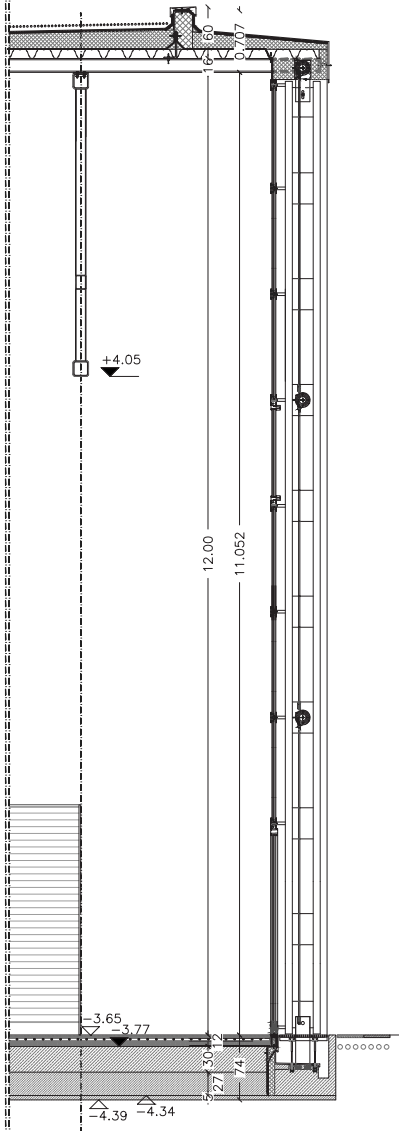
SPORTS HALL | Integrated Project

The RWTH sports hall at Königshügel had to be redesigned in an extensive project within groups. The goal was to practice teamwork and integrated planning for space functionality, contractual frame work and building technology. My group worked on a concept of an open layout to support a wide view on the Lousberg landscape of Aachen.







Dachaufbau:

Attikaabdeckung Alumiumblech
Kiesschicht 80mm
Stahlblech, beschichtet
bituminoese Bahn, zweilagig
Waermedammung
Stahltrapezblech

Nebentraeger 160/160mm
HE-B Profil
Obergurt Binder 180/180/12.5mm
Stahlprofil
Fachwerkriegel 120/120/6.3mm
Stahlprofil, verschweisst

Fassade:

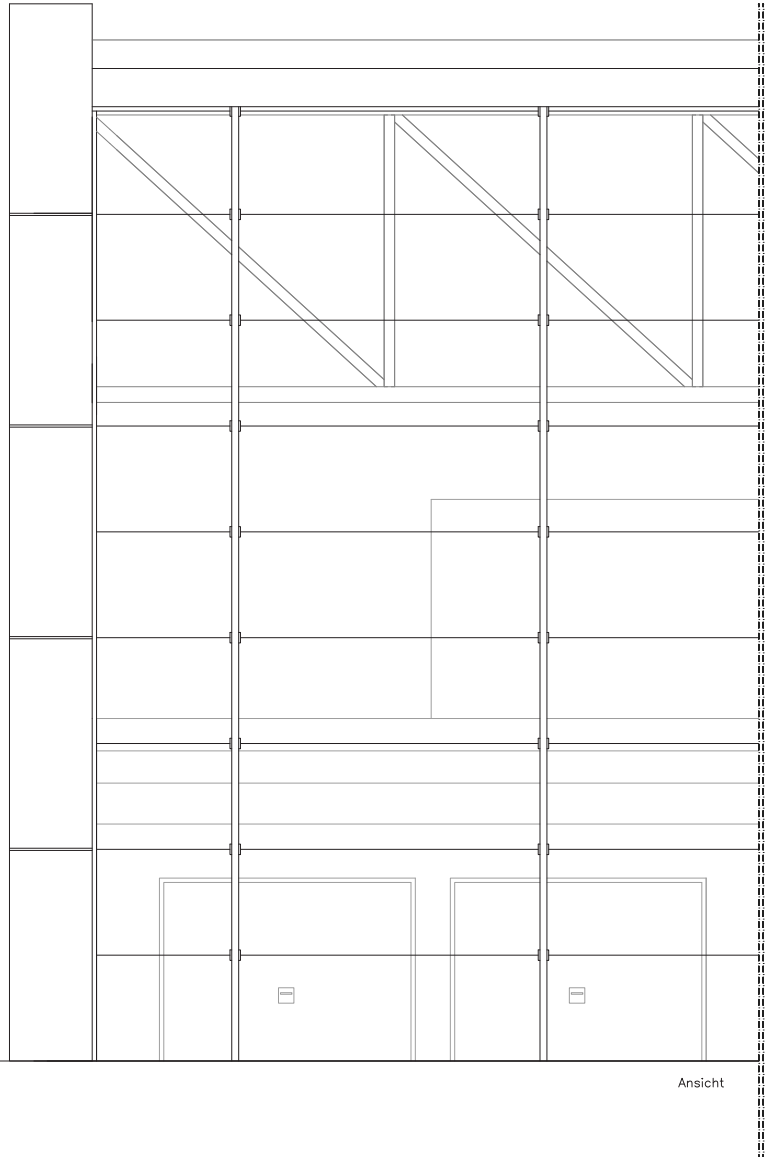
flexible EPDM-Dichtung
Fassadenklemmhalter Stahl
Isolierungverglasung:
ESG 12mm
VSG 2x10mm

Fussbodenaufbau Innen:

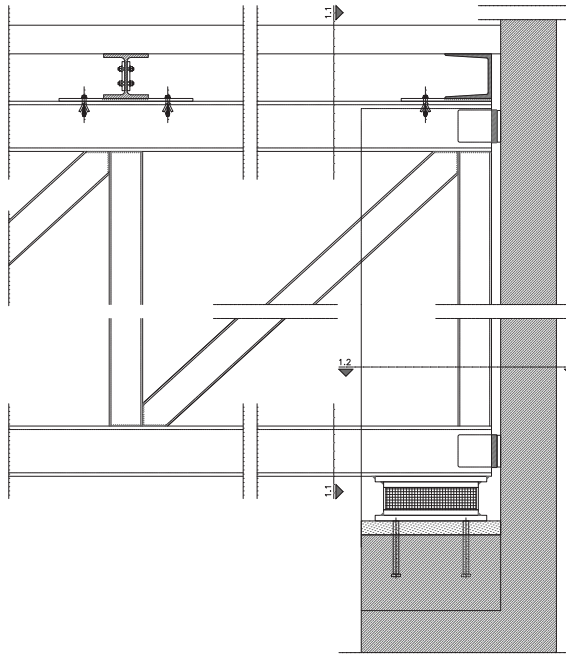
Oberbelag, Lindur
Birkensperrholzplatten 2x9mm
Elastikschicht 15 mm
Lastverteilschicht aus verzinktem
Stahlblech 0,6 mm
Fussbodenheizung 300 mm
Zusatzdaemmung gegen Erdreich
Bodenabdichtung auf Rohboden
Rohboden Stahlbeton 300mm
Magerbeton 270mm
Sauberkeitsschicht 50mm

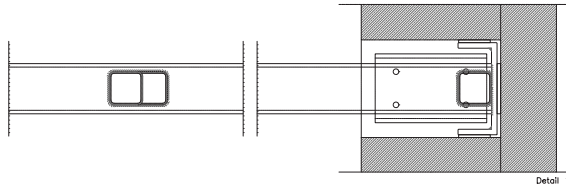
Fussbodenaufbau Aussen:

Fassadenrost 22/22mm



Ansicht

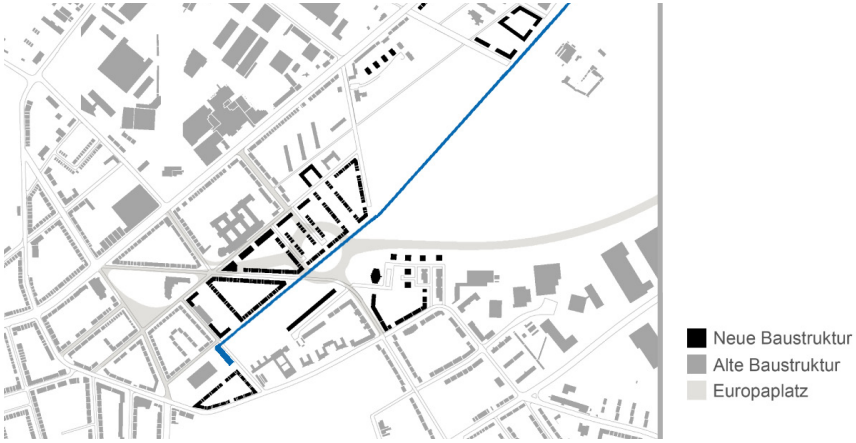




Detail

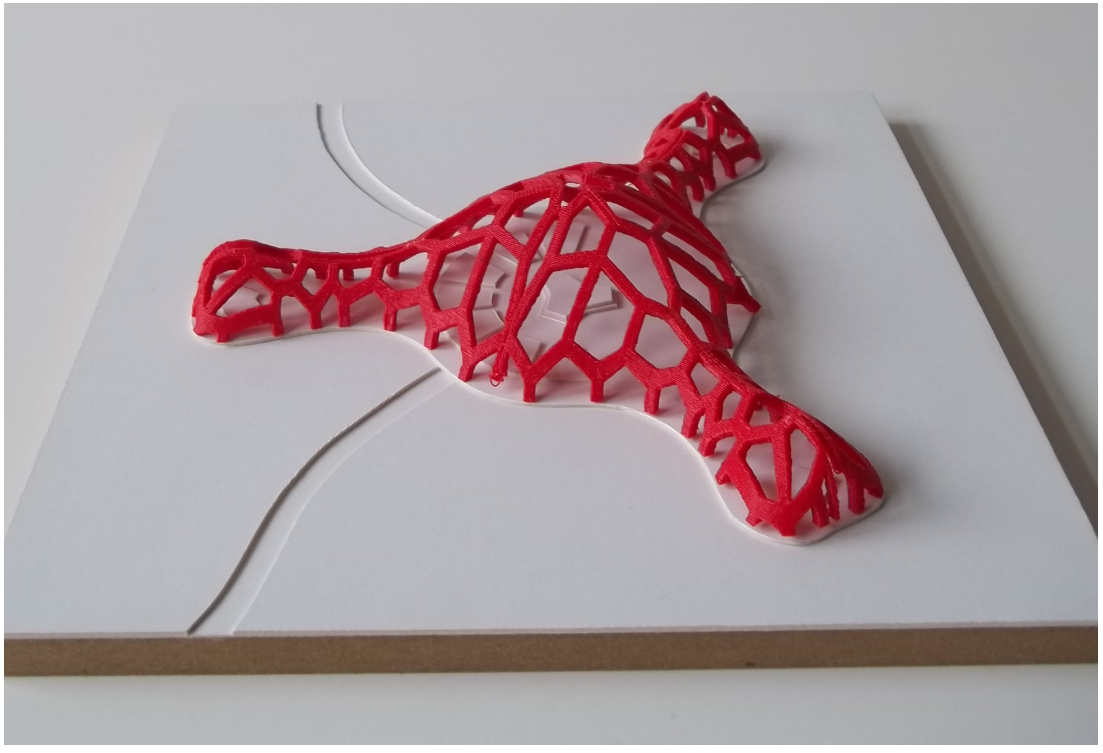
EUROPAPLATZ | City and Landscape

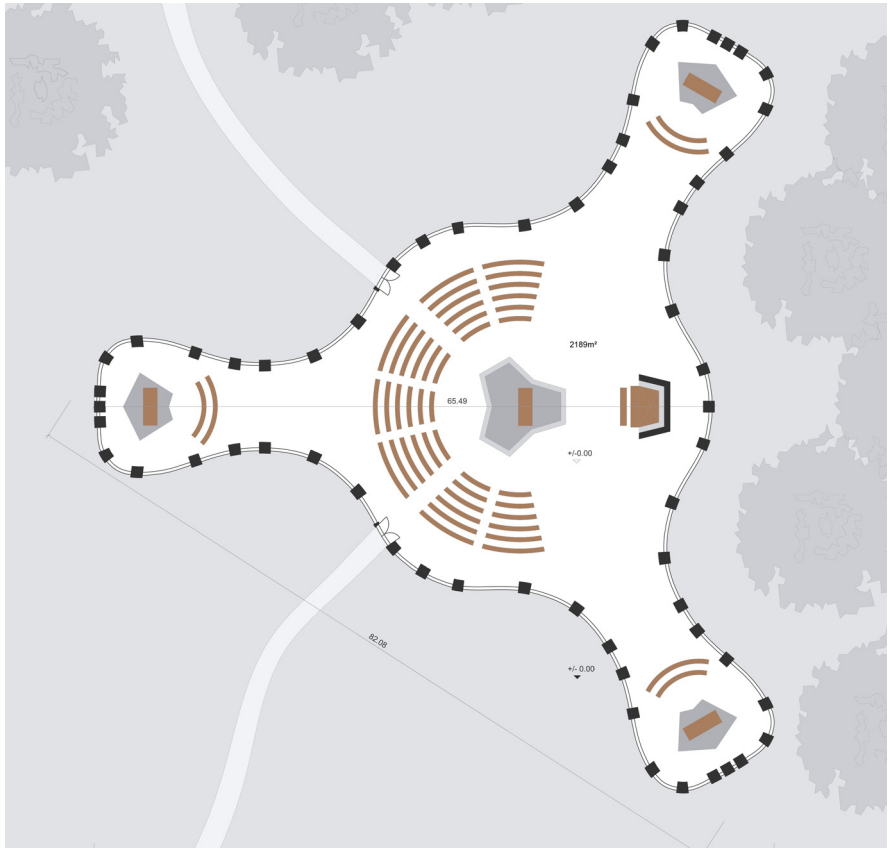
After analysing the urban quarter around Europaplatz a structure plan was made to enhance the quality of living. The basic principle was to interconnect green spaces in this area. A new park with attractive perimeter development fades smoothly into the countryside. The little brook Wurm is the connector between city and country side.

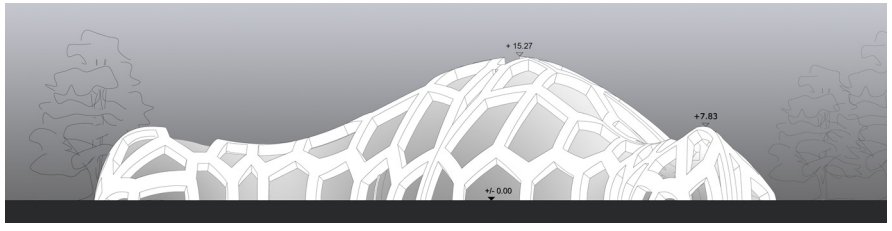


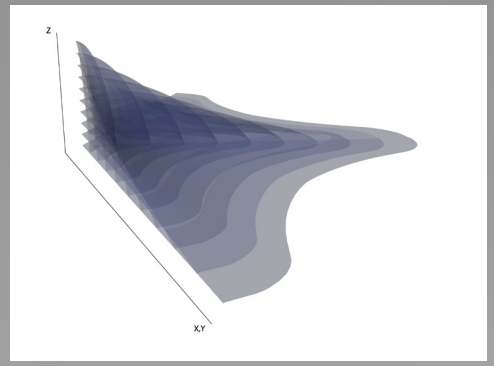

Parkanlage
Kopfsteinpflaster
Wurmbeck
Talstraße
Cafe
Sonnendeck
Vitalstation
Schule
Spielplatz

SKIN DEEP | Bionics and Parametrics

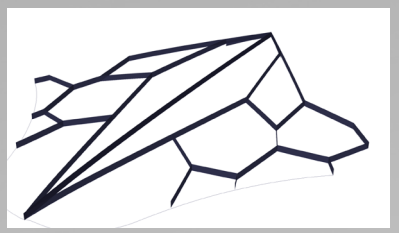


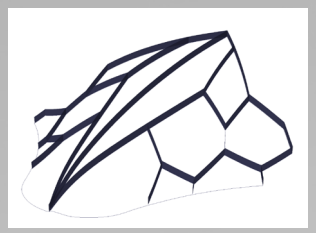




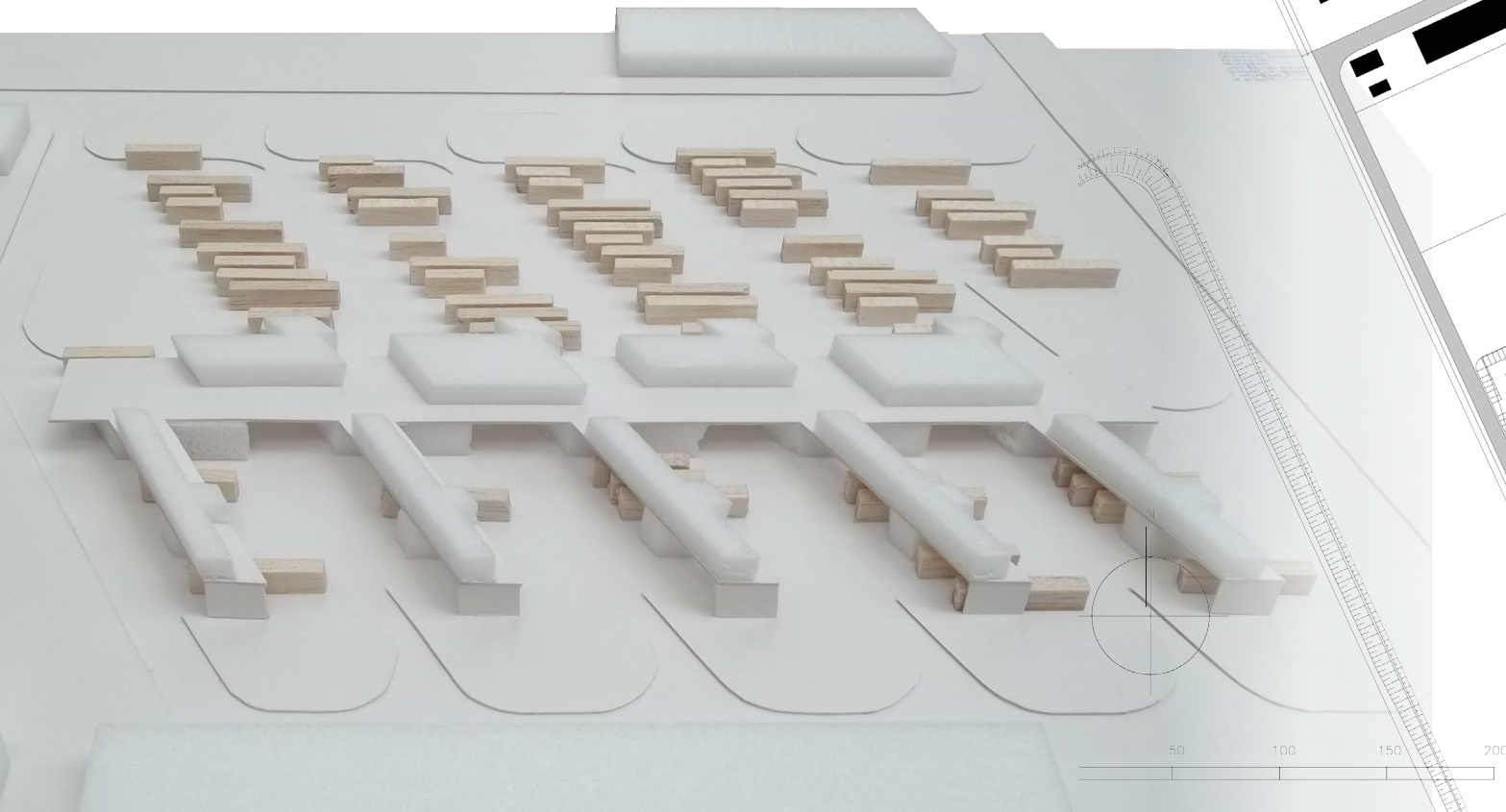


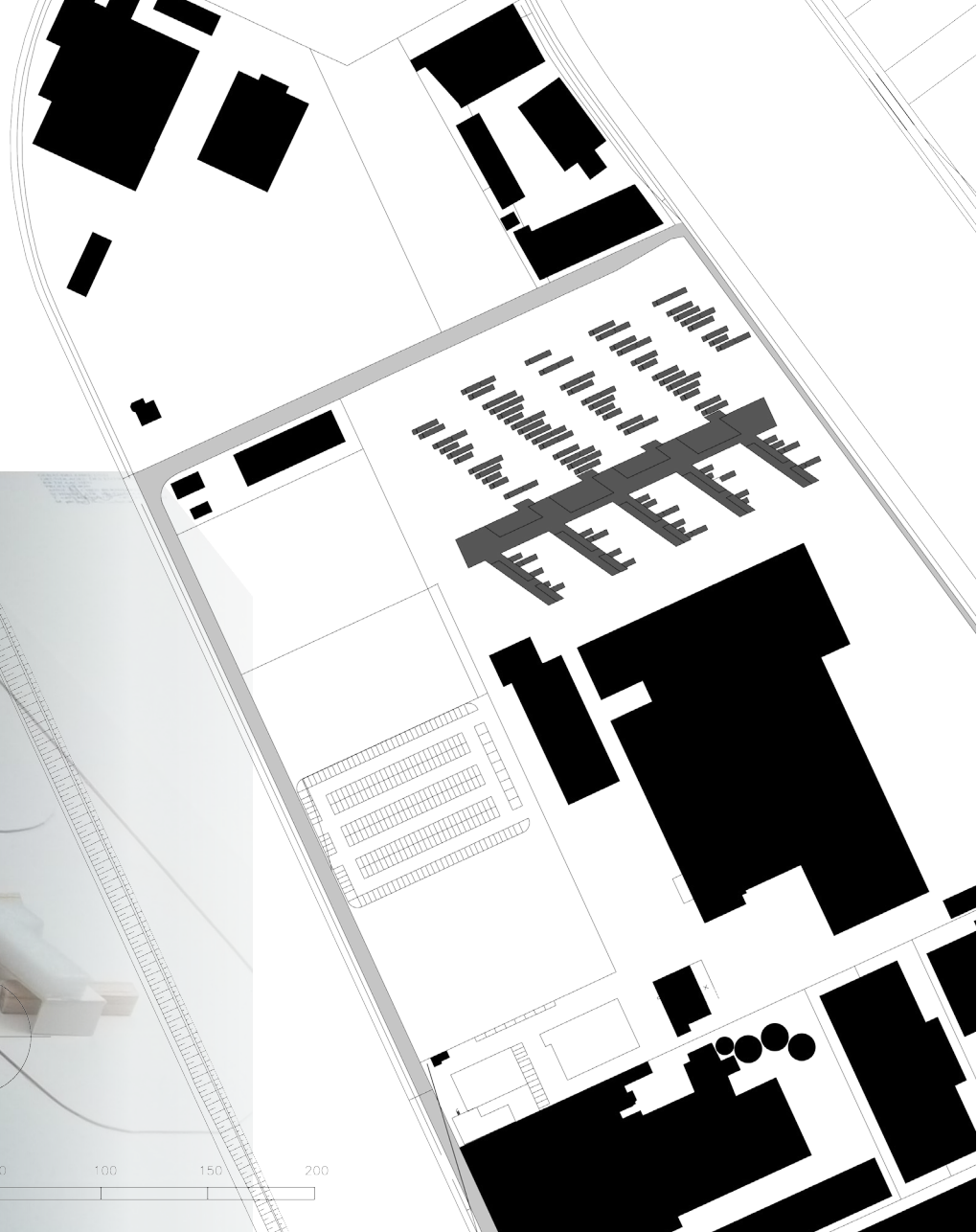
Developed out of the analysis of a microorganism called Diatomea we generated a parametric model for a freeform building envelope. The designing process “Top-Down Buttom-Up” was the guideline for this project. After deciding on the shape of the building the function was applied. An extraordinary church with three oratories and a main hall was created for the inside, the Three-Kings-Church.

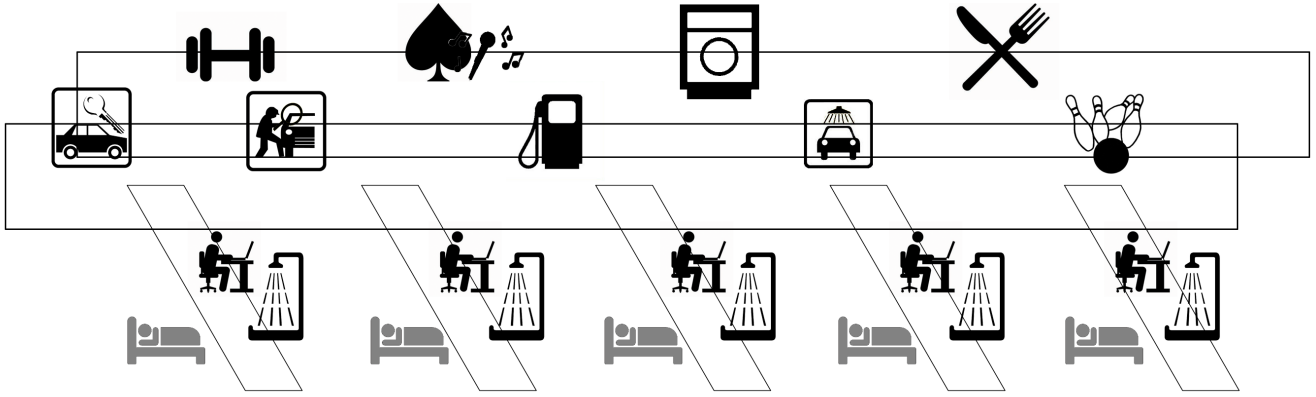




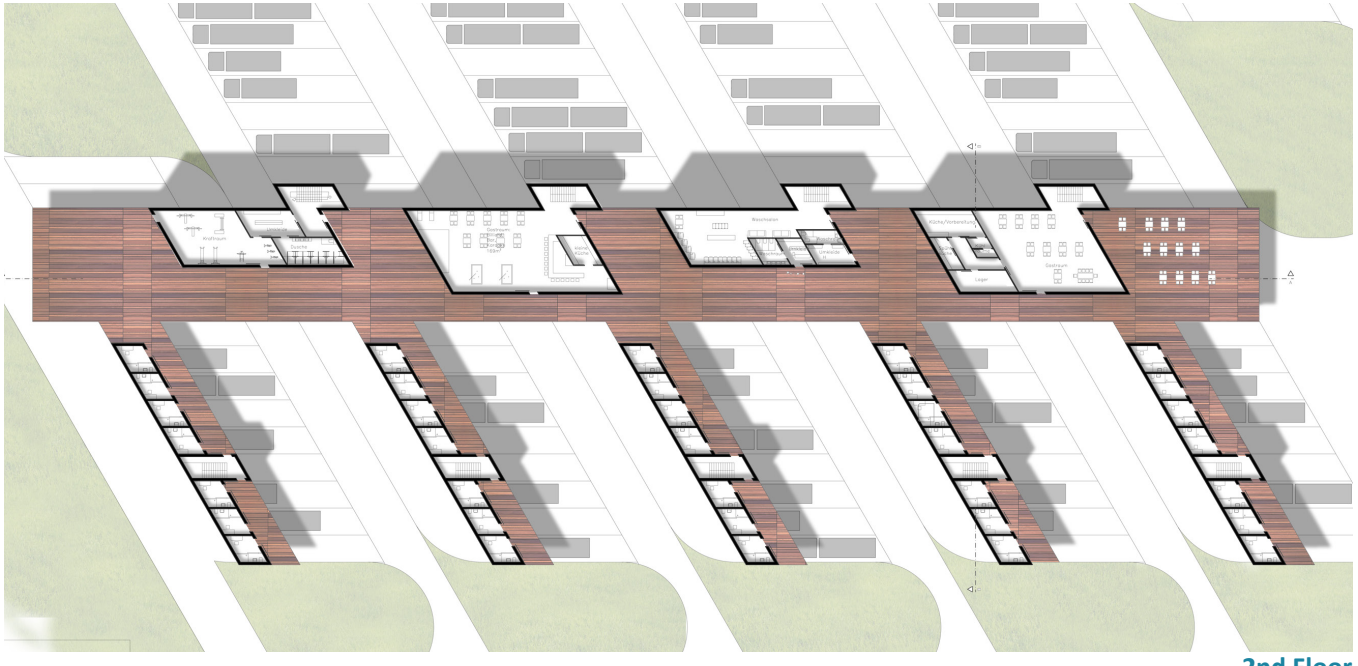
12 TRUCK STOP | Architctural Typologies



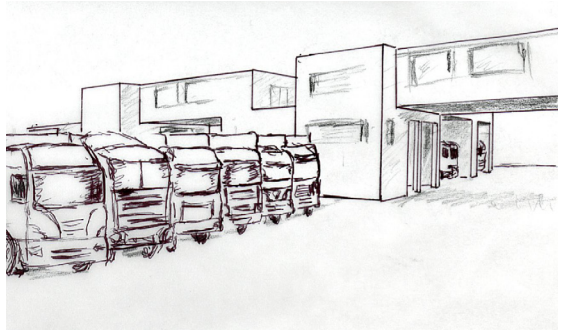




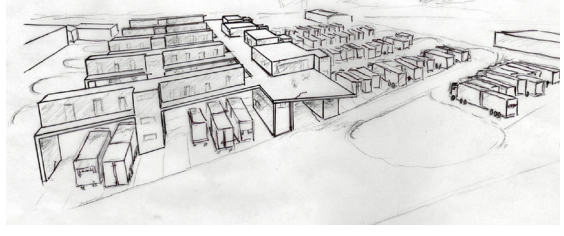
Pikto Top View



2nd Floor



Neuss industrial harbour gains more attractivity by an innovative truck stop. The operator improves with the truck stop his competitive ability as an important center of trade and industry. This architectural typology is developed much further to fullfill the needs of trucker and truck.



Internship

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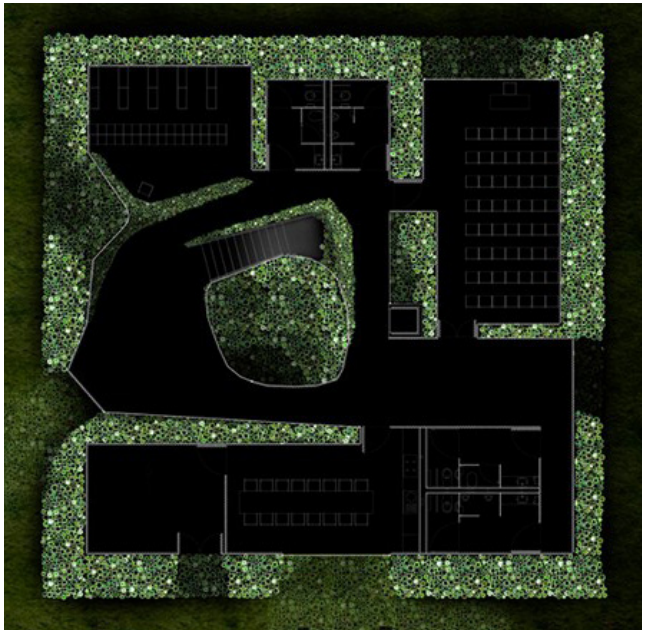
LA CAJA FRIA | Menis Arquitectos

Caja Fria is a competition project that won the 3rd place, where I was involved in visualisation. It´s an interesting project in Costa Rica for ecological building for a company.



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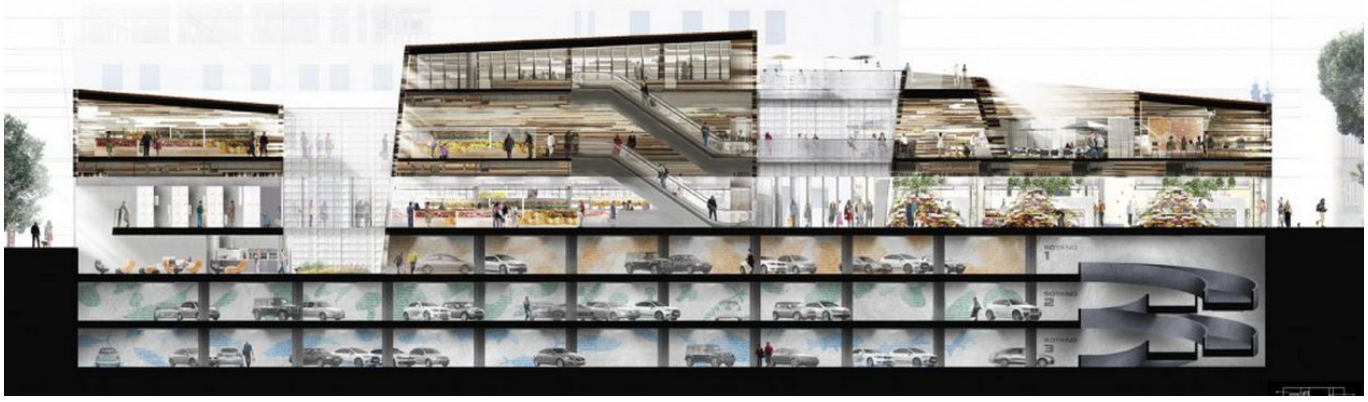
EL MERCADO | Menis Arquitectos

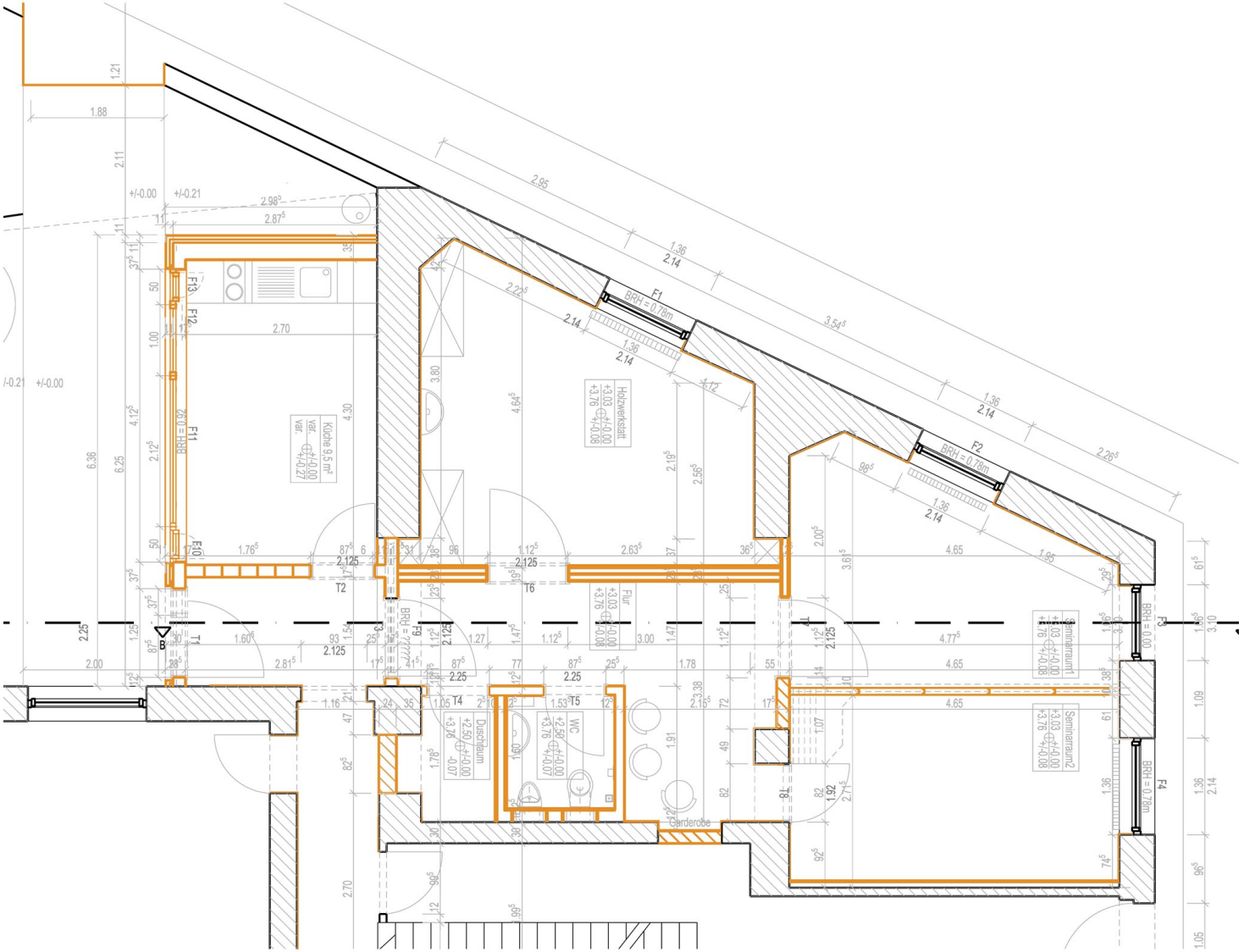
Another a project, where I was able to improve my skills in visualization. Due to my expirience in planning vehicle arragements druing my bachelor's thesis I was responsible for the layout of the parking decks.



Engagement

HÊVÎ | Jugendbau

Der Verein Hêvî e.V. hat sich zur Aufgabe gemacht Schüler aus benachteiligten Familien, ins besondere mit Migrationshintergrund in ihrer schulischen und persönlichen Entwicklung zu unterstützen. Studenten des Bauingenieurwesens, die sich in diesem Verein engagierten, nahmen im August 2011 am Wettbewerb “Jugend belebt Leerstand” des Bundesministerium für Verkehr, Bau und Stadtentwicklung teil um dem Verein ein neues Vereinsheim zu schaffen. Mit dem Gewinn dieses Wettbewerbs wurde es möglich eine alte Kneipe in der Stolbergerstraße in einen Ort für Hausaufgabenbetreuung, aber auch für handwerkliche Arbeiten mit einer kleinen Holz-und Fahrradwerkstatt umzubauen. Ein neuer Anbau mit Küche als Begegnungsraum, war mein Hauptbetätigungsfeld als ich Mitte 2012 zu dem Projekt dazu stieß. Ich habe den Anbau von der Detailplanung über die erste Steinlegung bis zum Fassadenbau betreut und habe selbst mitgebaut.

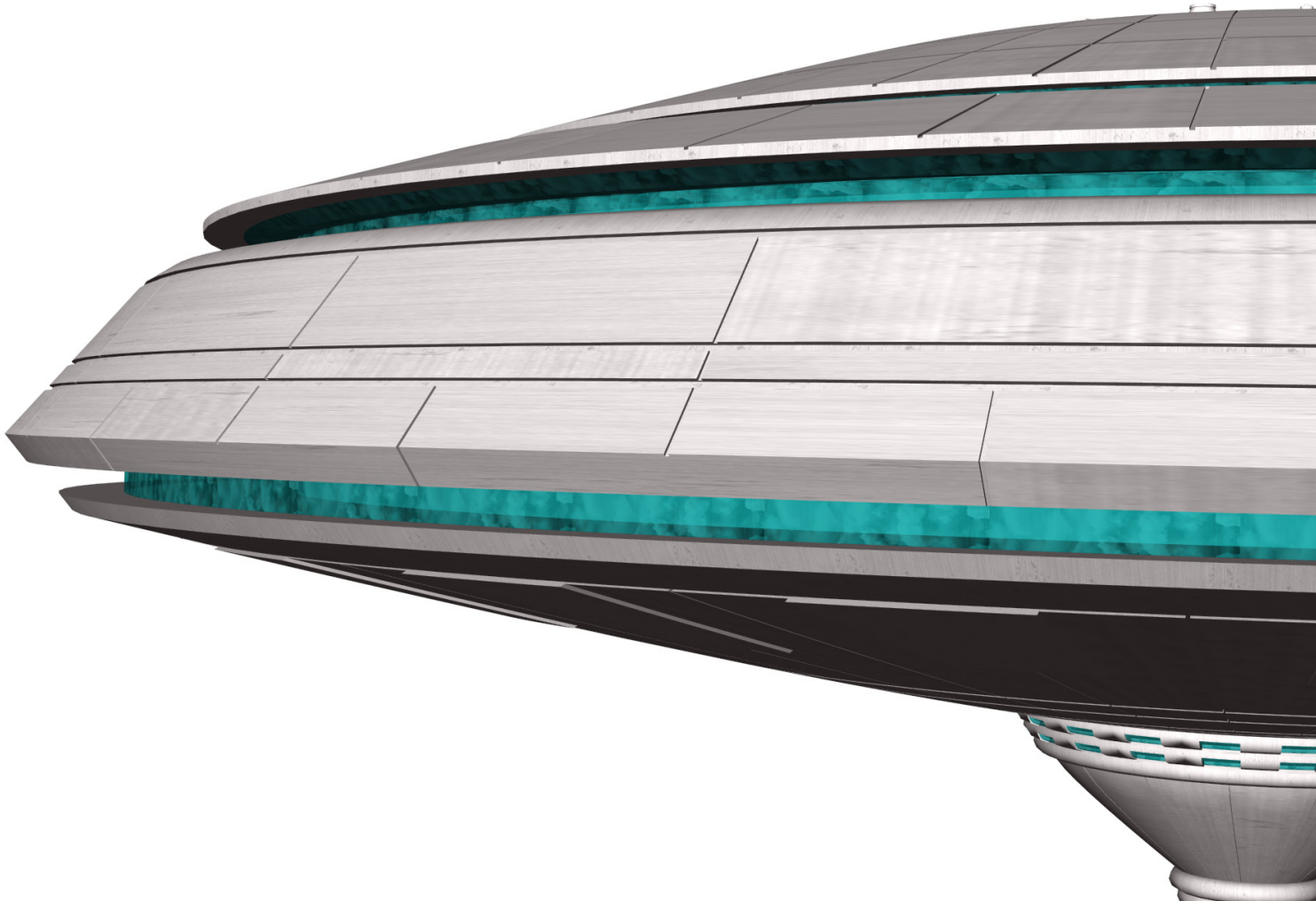

Holzwerkstatt
Küche 9,5 m²
Flur
Duschraum
WC
Garderobe
Seminarraum1
Seminarraum2
F1
F2
F3
F4
T1
T2
T4
T5
T6

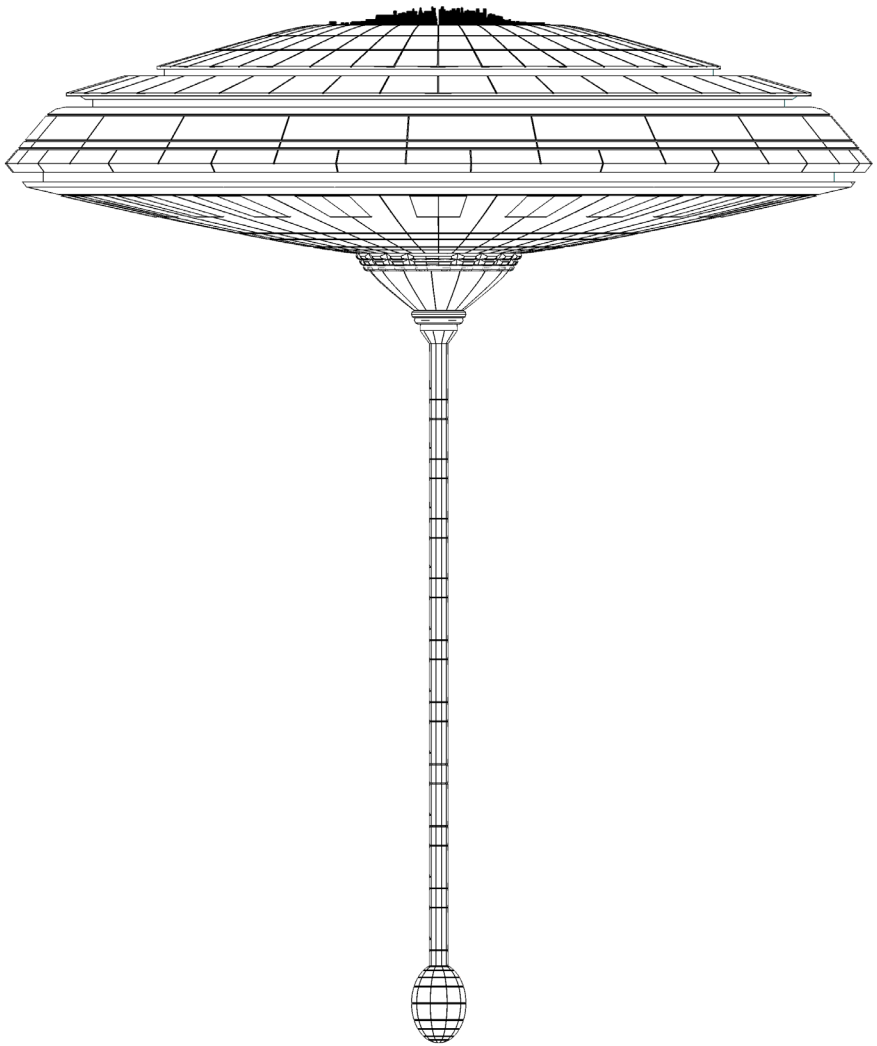

37%
AUF MÖBE
AKTION
...6Mio.€

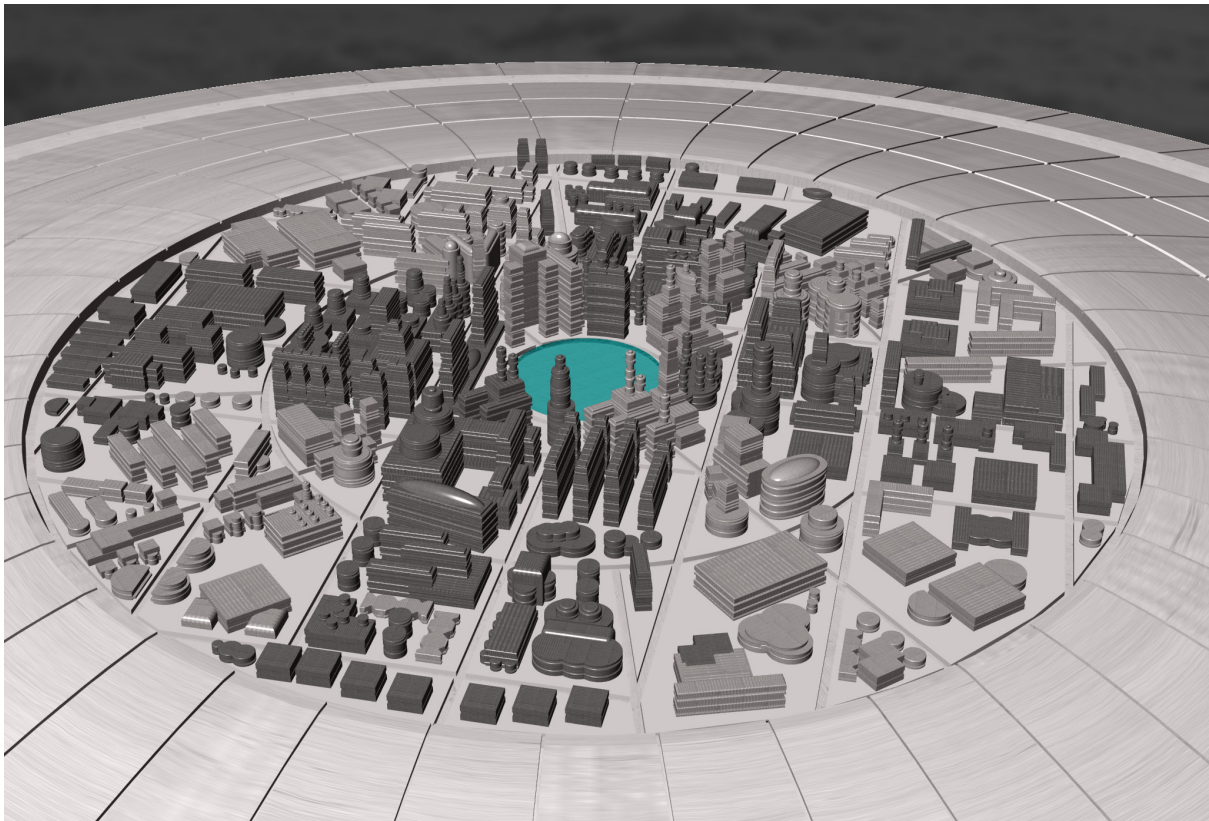
Master

26 CLOUD CITY | Rhino Course

Cloud City is a setting of STAR WARS saga. Decades after the success in cinemas all over the world the atmospheric design is still impressive for the eye of the beholder. The picture of a flying saucer changes into a luxurious city sight and still keeps the industrial and technical character of gas production. It´s a exiting combination of fuctionality and loftiness.



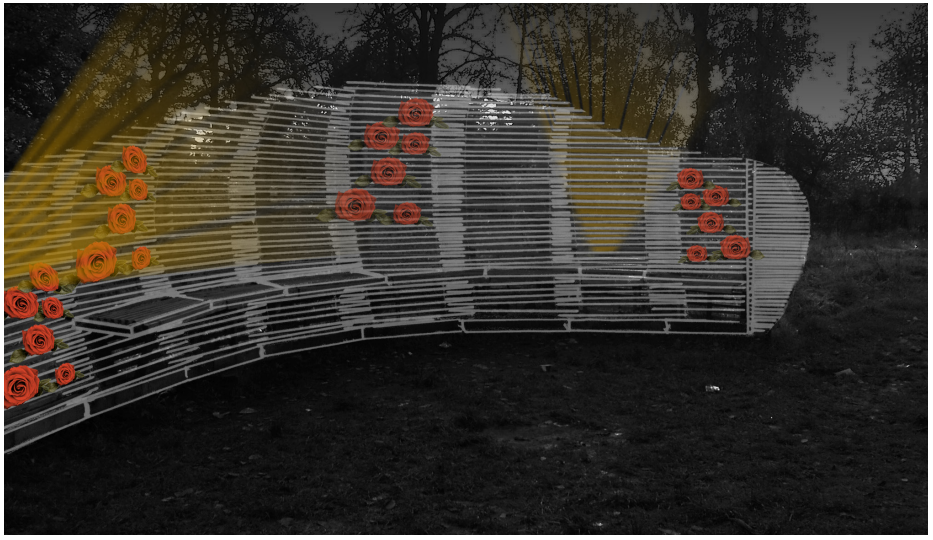




WINTER LIGHTS | Landscape Architecture

In a competition for the RWTH students garden my contribution was chosen for realisation. Theme of the light design was the scenery of Hans Christian Andersens fairytale “The Snow Queen”. In the wooden pavilion we created the rose garden. Back-lit paper roses decorate the inside; colourful spotlights illuminate warmly. Gerda, the main character, stays here in search of her lost friend Kay. She forgets him, but the roses remember her to continue searching for Kay. In the old palm house we built a setting for the ice palace. At the end of the journey Gerda finds Kay at that place. The snow queen holds Kay captive by freezing his heart. Gerda’s warm tears are melting the ice in Kays heart and the ice queen’s spell is broken. In the draft bits of broken glass take the shape of ice crystals. In the realisation icicles made from transparent plastic film and cold white light conjure up a wintery and freezing atmosphere.

Realisation



Design

Design

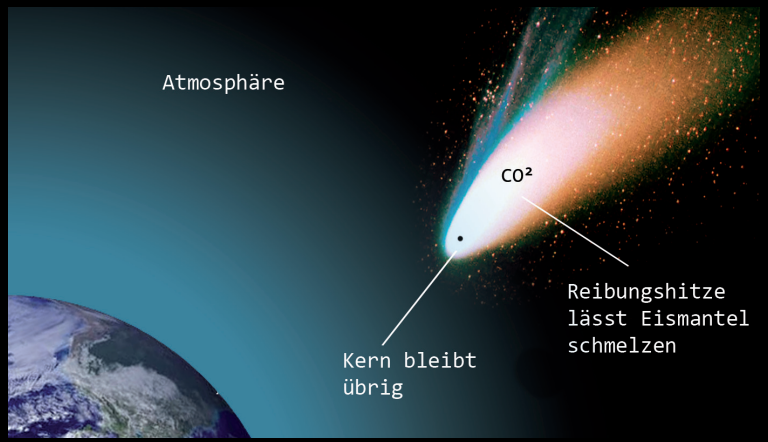
Design

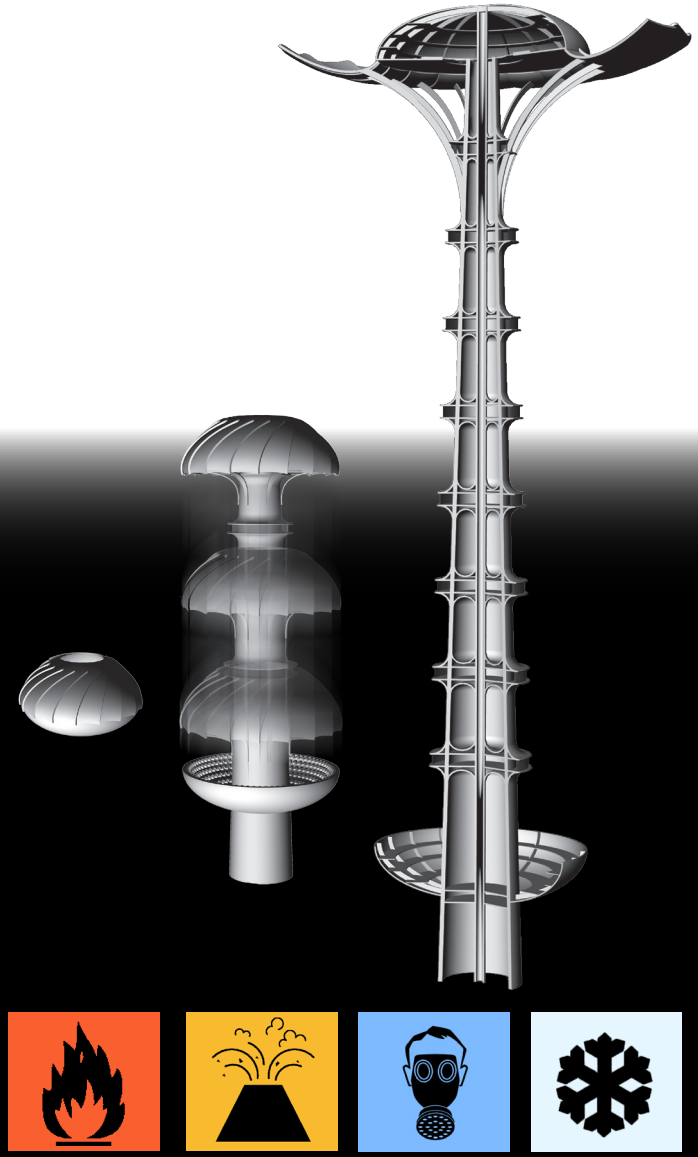
Realisation

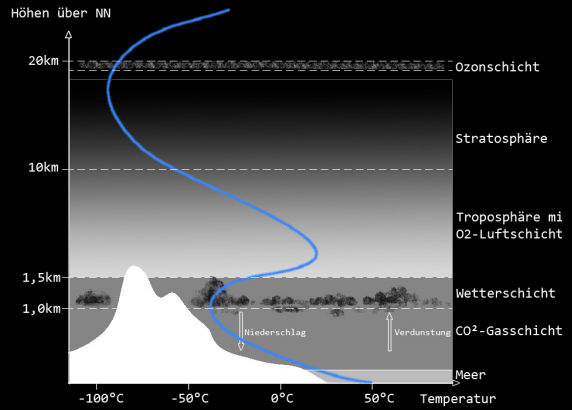
Design

HOW TO SURVIVE

Because of a threatening meteor strike human kind needs a place of refuge. The development to face this catastrophe is a capsule, where people can survive the impact and the following 20 years, durigng which the earth's surface won´t be habitable. While the new climatic circumstances create a 1,5km high atmospheric layer of CO^2 from the meteor, people build the HIGHRISE to reach over the CO^2-layer and settle there in freedom.

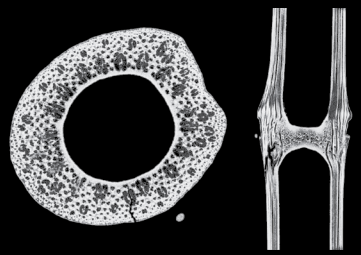




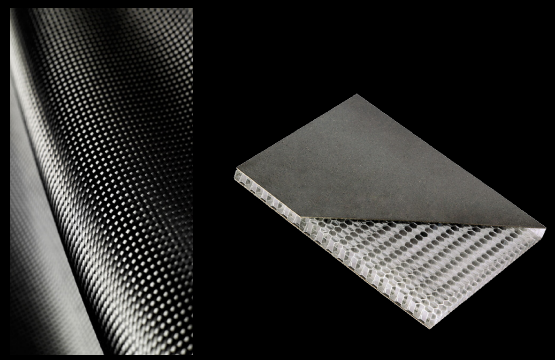


HOW TO BE STRONG

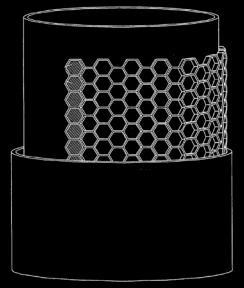
1,5km is an extreme height to reach, so there need to be new ideas and solutions for the construction. From the growing structure of bamboo it is possible to transfer a very firm and strong light weight construction. By further development of fibre technologies permanent weight can be reduced and external application of force can be equalized. Carbon as a composite material with honeycomb panels is used for the supporting structure.

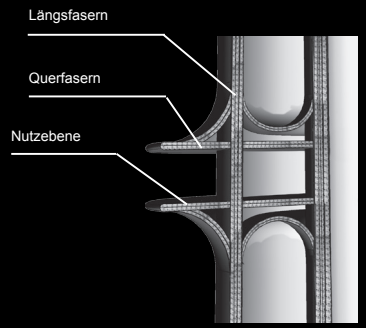


Bamboo as design principle

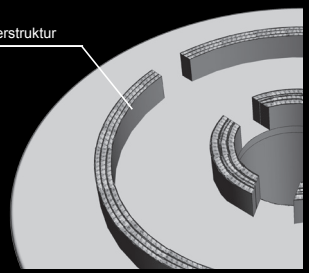


Carbon honeycomb panels





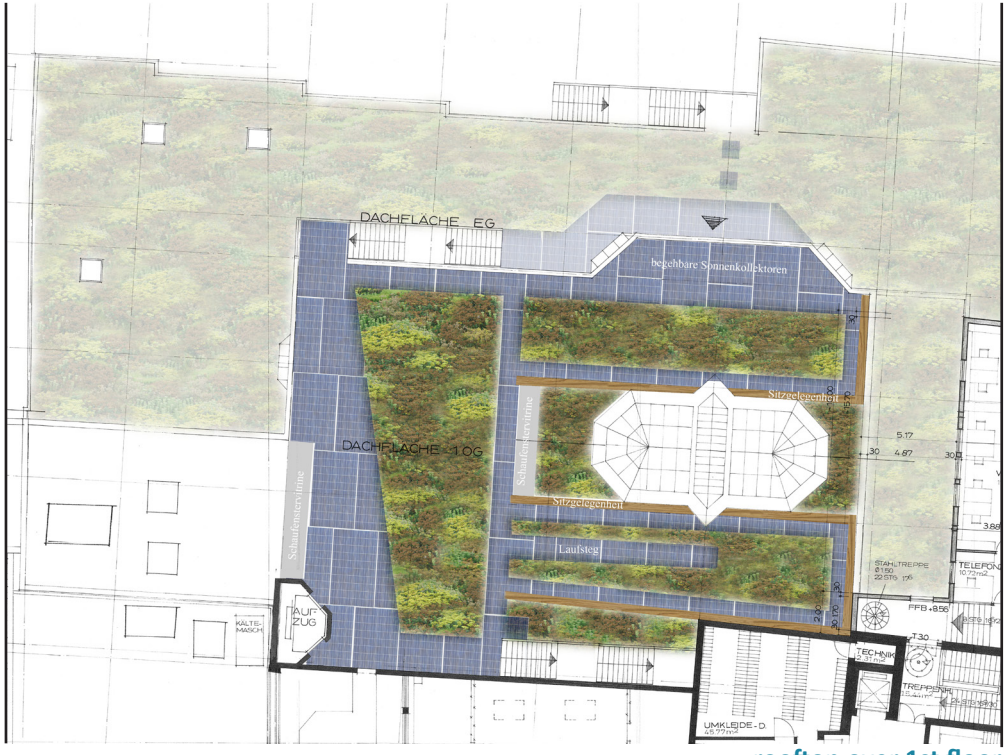
Vertical section of intermediate platform



Horizontal section intermediate platform

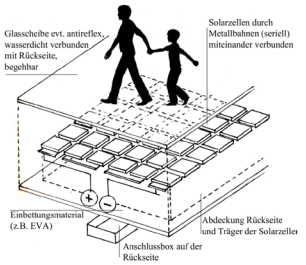

BREUER&WASEL
BREUER&WASEL
Hafen

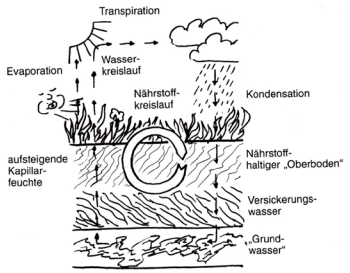

LIEBHERR

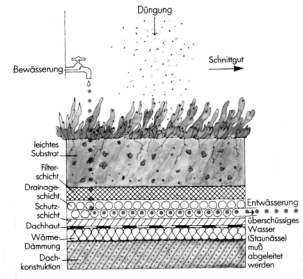


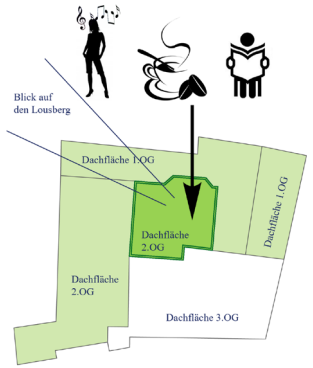
rooftop over 1st floor

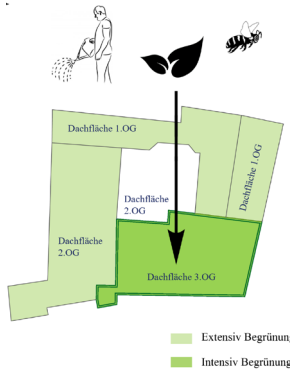
rooftop over 2nd floor











SinnLeffers in Aachen has a rooftop with a lot of potential. On top of the 1st floor I planned a place for lingering and meeting especially for the costumers at SinnLeffers. Seatings offer a leasure area and a beautiful view on the Lousberg mountain. With a long runway events such as presentations of new collections can take place, so that it becomes an attraction for Aachen´s citizens.

On the rooftop of the 2nd floor I developed an Urban Gardening Project. People from the neighbourhood can rent an area on the roof to care for their own garden plot. The greening of the whole rooftop, extensive and intensive, has a positive impact on the micro climate and improves the well-being of people and ecology.

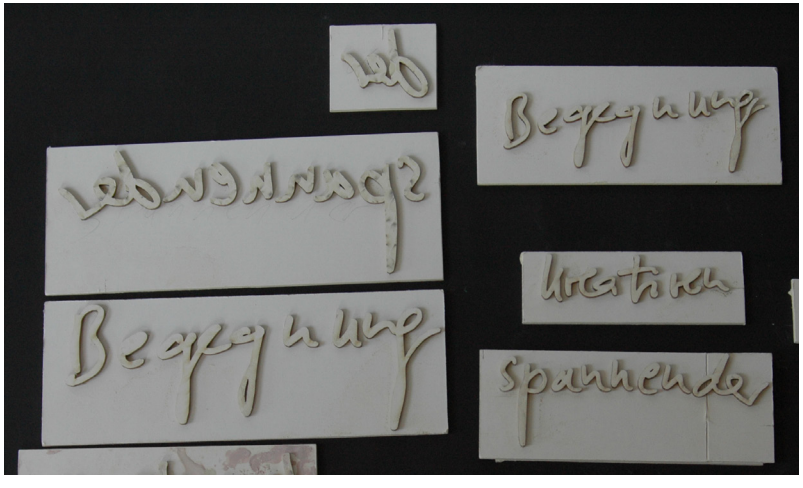
Special concept for SUN GARDEN is the accessible photovoltaic elements, that are used for the embodiment of the tracks.

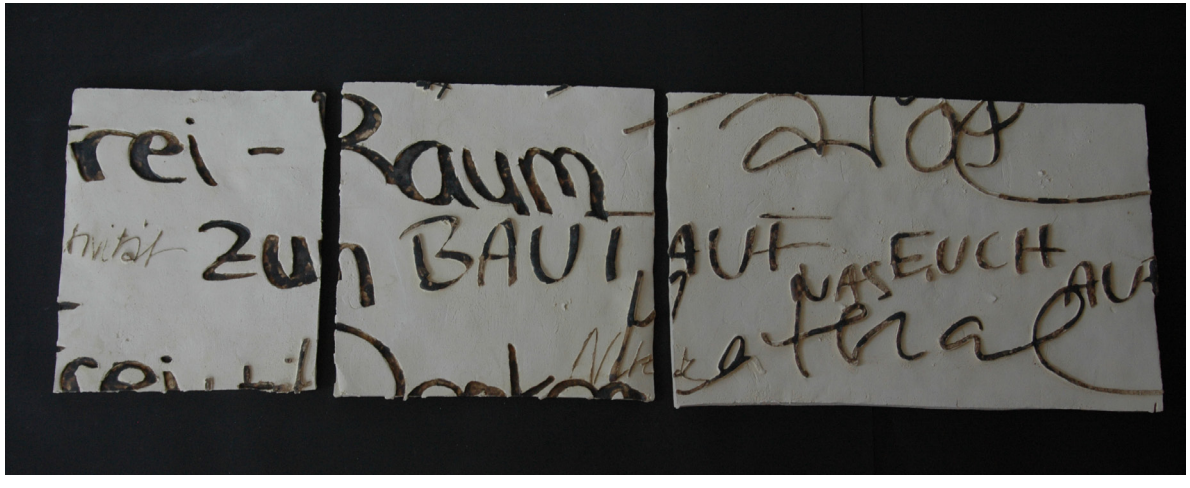
Zukunft
Motivation
Vision

FOR THE DEPOT | Sculptural Design

Theme

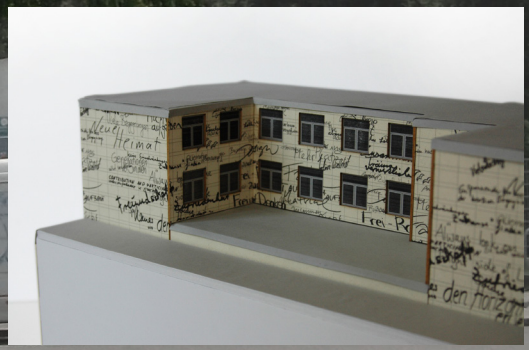
The group of building of the old train depot is going to be rebuild and refurbished for a cultural center. The head building gets a ceramic facade. The new facade represents institutions inside the building and becomes a identification for the city quarter and its citizen.





Concept and Creation:

Handwriting is an expression for identity and the written word is an expression for wishes and the vision of the future. Residents were asked to write down, what they wish for the future in the Depot and what motivates them for their future. This collection was devitalized. Furthermore, I made moulds for potter´s clay, which I used to create ceramic facade panels with the handwritten phrases.



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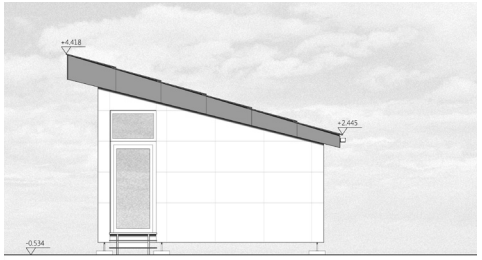
Initial Point for this project was the lack of capacities for learning environment at the RWTH University. Especially architecture students need more space, because of paper size and material and model making. For bachelor students working space is granted, but master students have to work at home since there are not enough facilities at University. So I was in search of a practicable edificial solution for this problem.

The WikiHouse (http://www.wikihouse.cc/) was the ideal construction system to make a concept for students to build their own working space, supported by university. For my design I developed a little shed for eight students and their needs. The construction was fixed but further work was needed to make that building weather resistant and still keep it simple and rebuildable for everyone. I designed a system for the facade and roof that has the same hooking system.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+2.445
-0.534


+4.418
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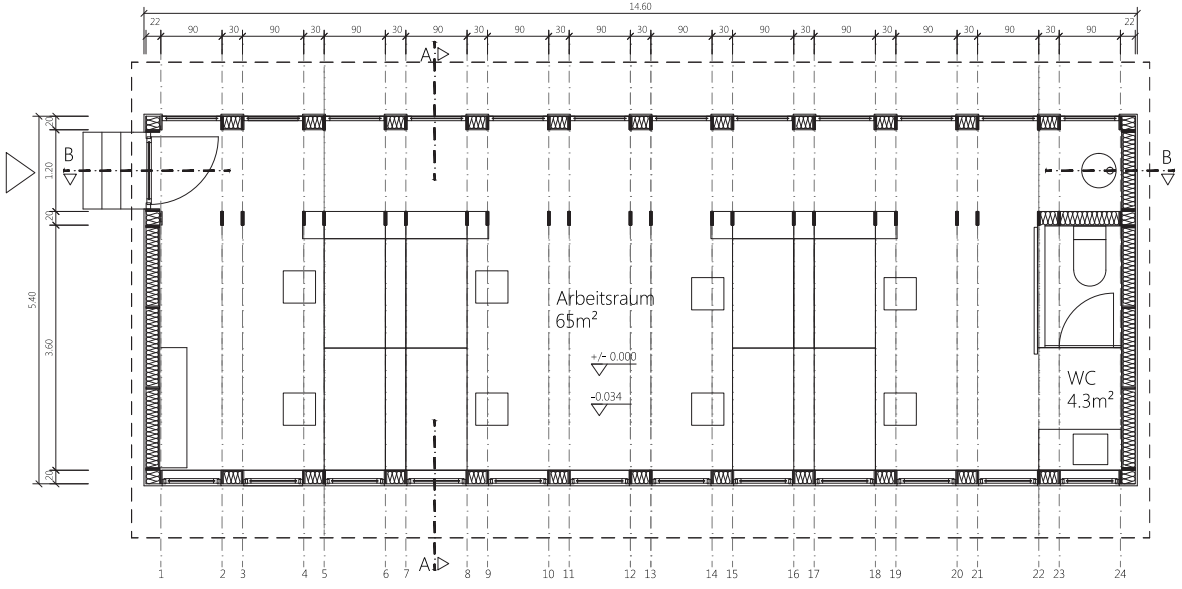
14.60
22 90 30 90 30 90 30 90 30 90 30 90 30 90 30 90 30 90 30 90 30 90 22
A
A
B
B
1.20
20
20
20
5.40
3.60
Arbeitsraum
65m²
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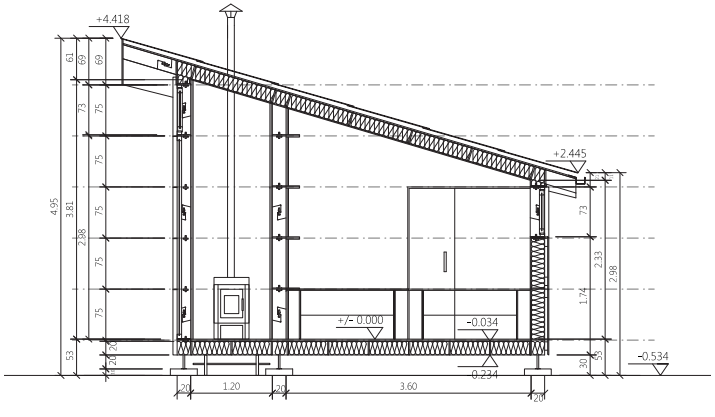
-0.034
WC
4.3m²
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24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3.81
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-0.234
30 55
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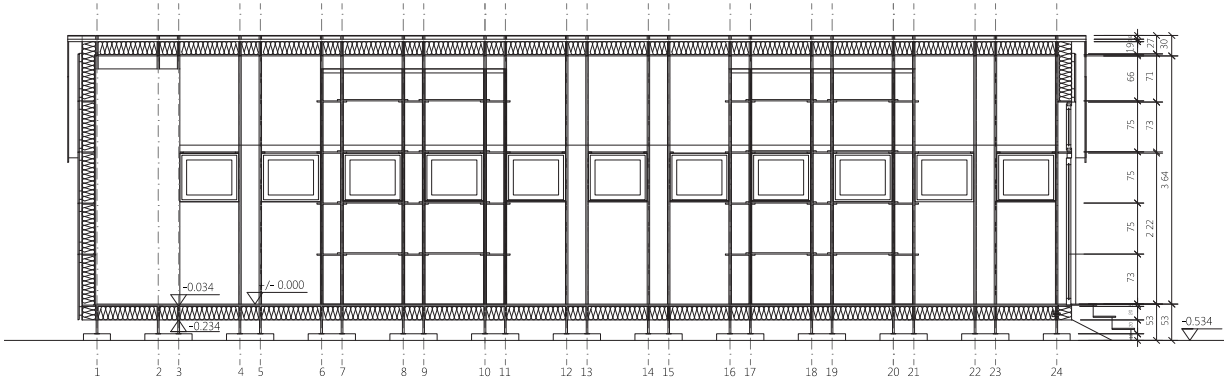
20 1.20 20 3.60 20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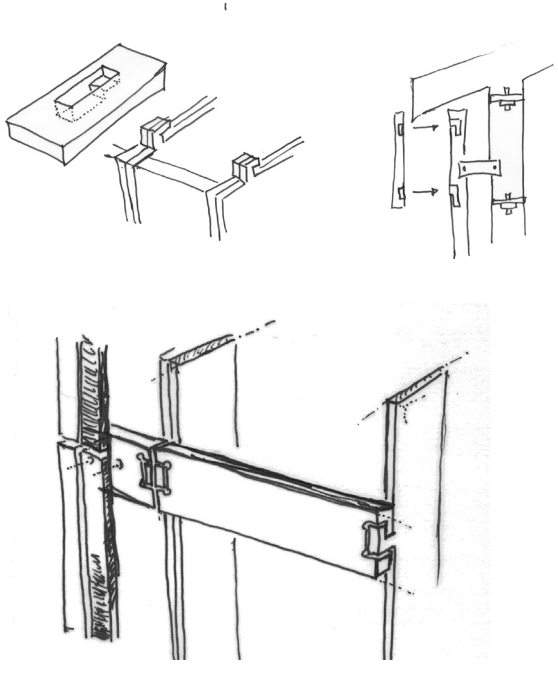
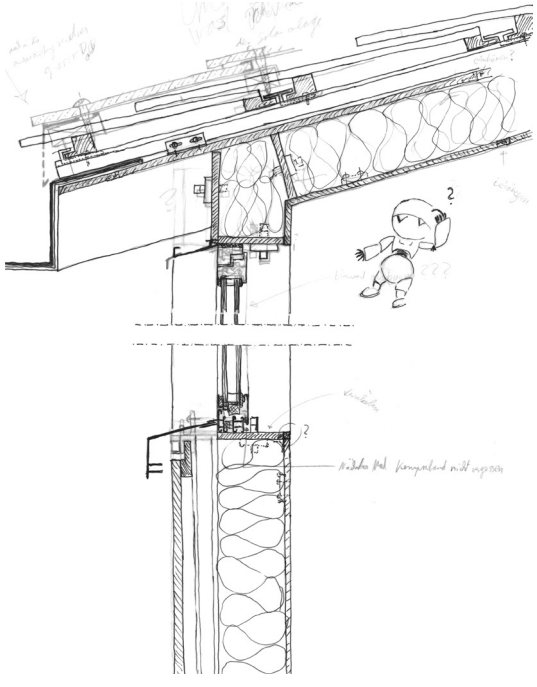
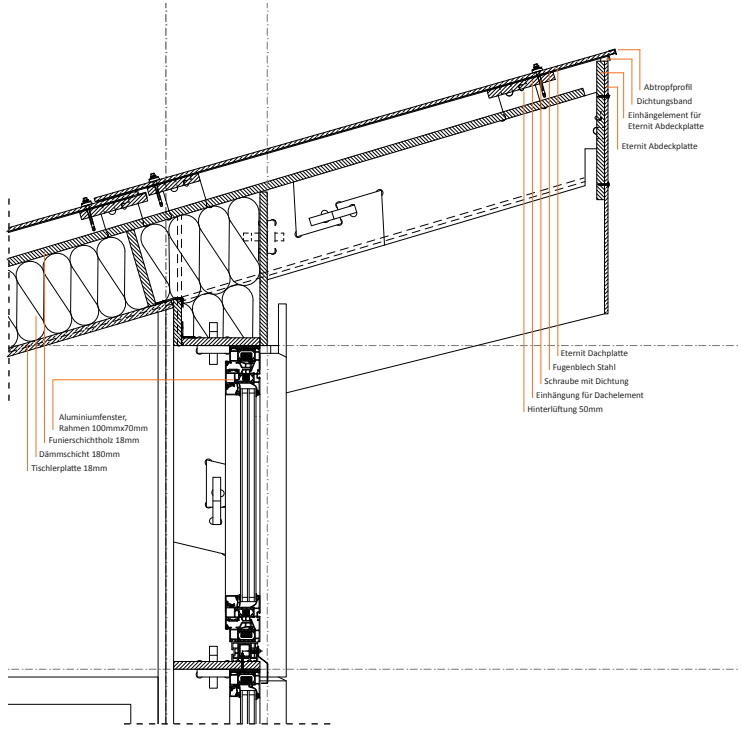
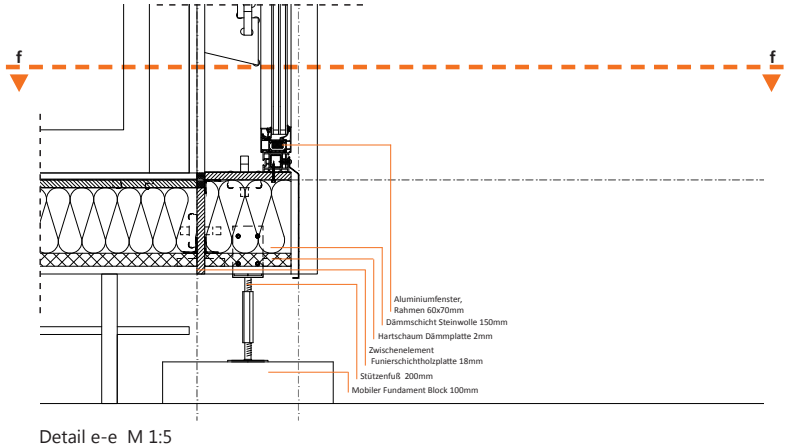
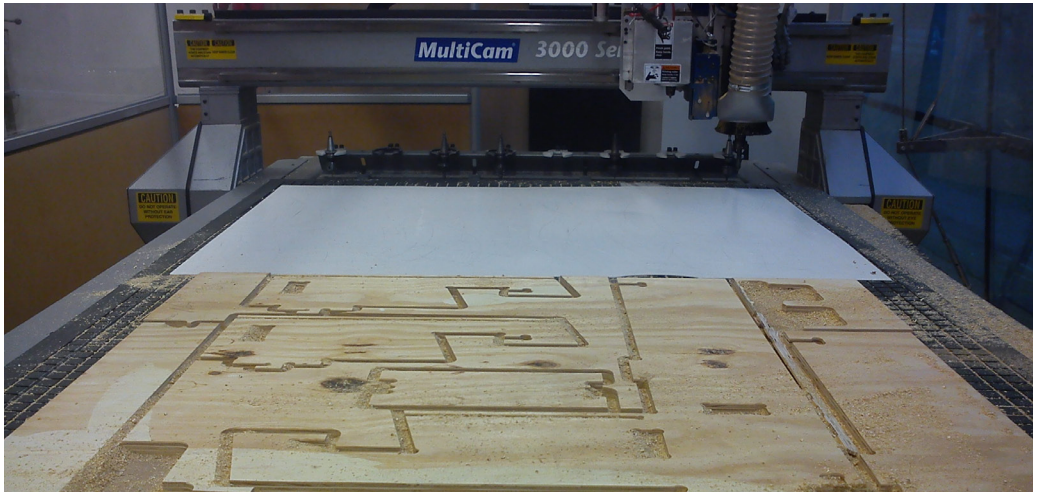








Detail e-e M 1:5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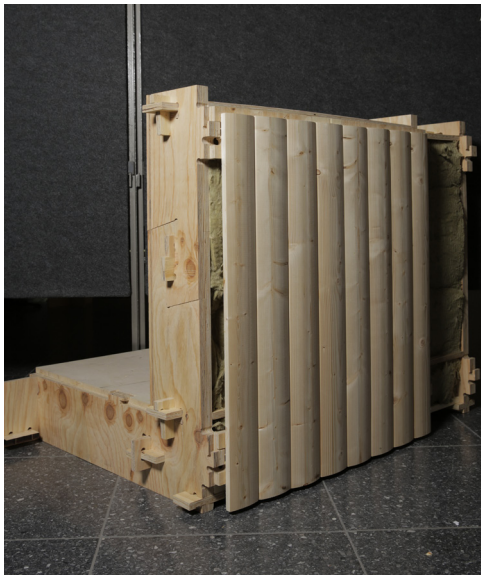
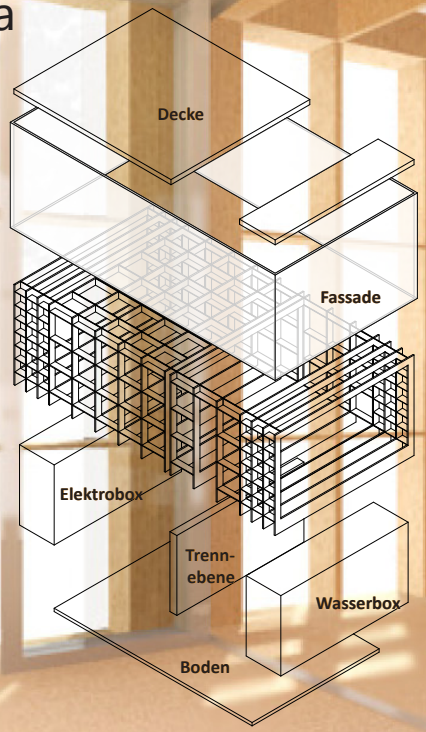
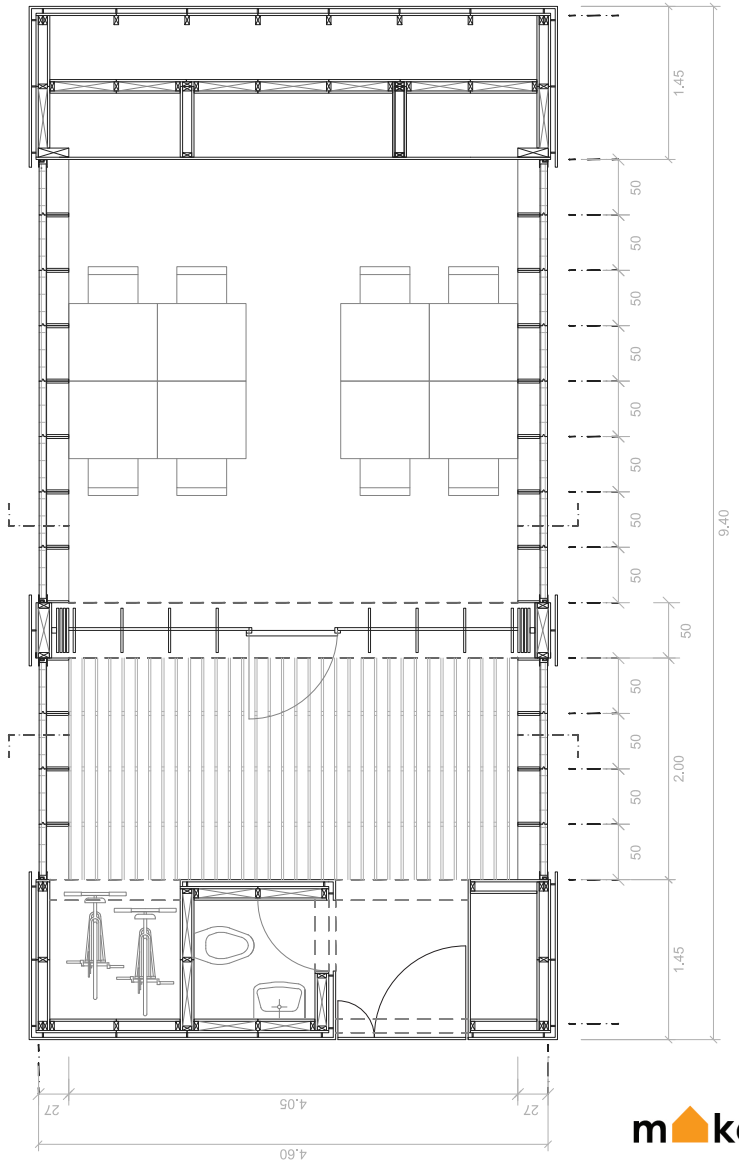



WIKI
Office Shed
WIKI
Entwurf
GRUNDRISS & SCHNITT
ANSICHT
WIKI
Aufbau
WIKI
Detail
VERTIKALSCHNITT
Dachanschluss
VERTIKAL SCHNITT
Fußpunkt
HORIZONTAL SCHNITTE

MAKERHOUSE | caad - extra

Als Weiterführung meiner Masterarbeit wurde dieses Projekt von Architektur- und Bauingenieurstudenten bearbeitet. Ein neues Konzept wurde entwickelt, mit dem Ziel eine höhere Modularität zu ermöglichen und die Technik in zwei separaten Funktionsboxen für Wasser und Elektrizität unterzubringen. So wird der Selbstbau für Studenten ohne Fachwissen erleichtert. Besonderer Gestaltungspunkt ist das Regalsystem als Tragwerk, dass sowohl Stauraum zur Verfügung stellt, als auch Innen- und Außenraum gliedert und ineinanderfließen lässt. Parallel zur Entwurfsarbeit wurde an Logistik, Marketing, Gebäudetechnik und Verbindungstechnik gearbeitet. Am Ende des Semesters baute mein Team den Einraum im Maßstab 1:1 als Mock-up, so dass es für die Fakultät und die Öffentlichkeit ausgestellt **werden konnte.**





makerhouse

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