Juryboekje

studentenSTAALprijs 2021

Master Architectuur

MA01

Eileen Neumann

MEMA, Meanderend Museum Antwerpen

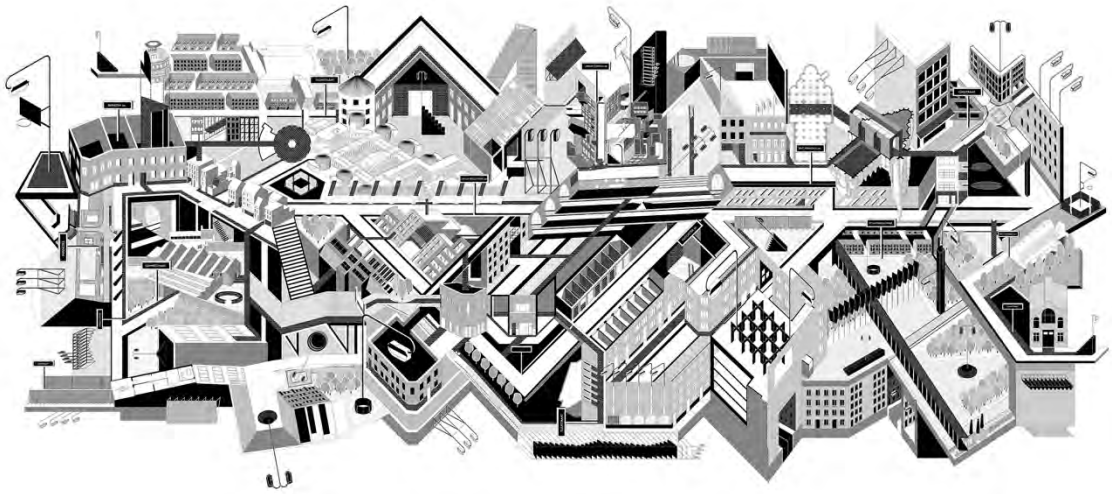
Ook Prepainted Metal Trophy

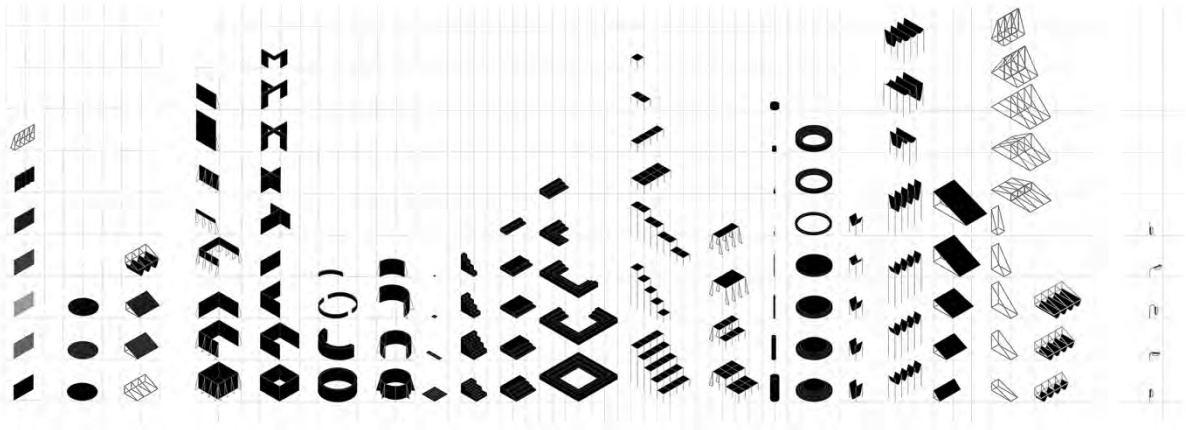
MEMA is een nieuwe museum typologie die meandert door het bestaande stedelijke weefsel en zoekt naar nieuwe relaties tussen kunstwerken en publieke ruimte doormiddel van minimale ruimtelijke interventies

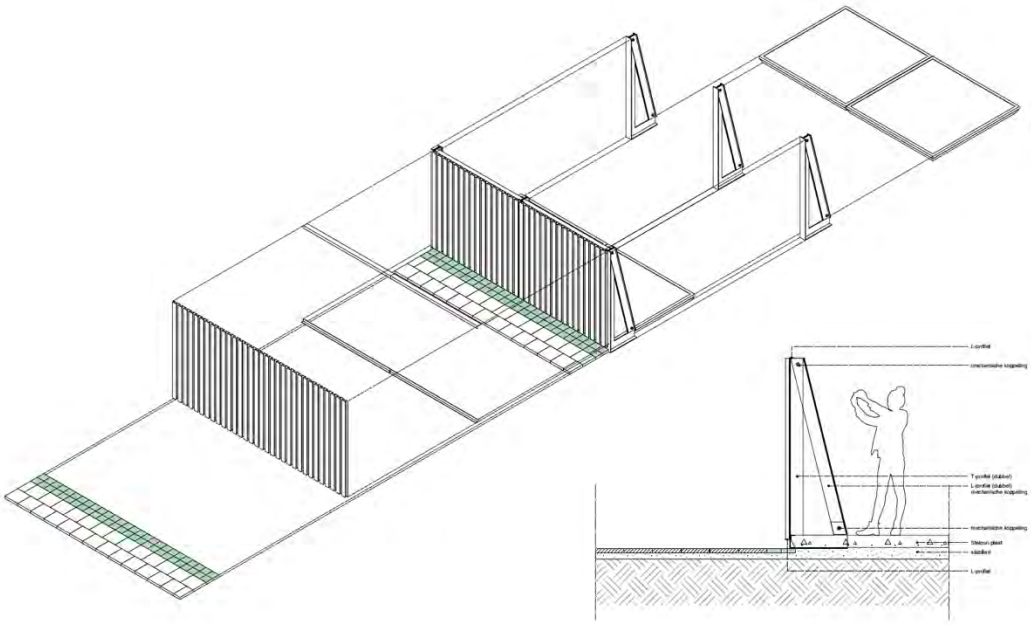
MEMA luidt het einde in van het museum als autonoom icoon met witte en generieke ruimtes en gaat in tegen de bestaande bouwcultuur. Een cultuur van spektakel architectuur en het onophoudelijk verkavelen van open ruimte. MEMA brengt de kwaliteiten en de schoonheid van het alledaagse naar voren. Binnen deze bescheiden architectuur gaat het museum opzoek naar specifieke ruimtes om lokale kunst tentoon te stellen zodat een intrigerend dialoog en interactie ontstaat tussen de ruimte, de ingreep en het kunstwerk.

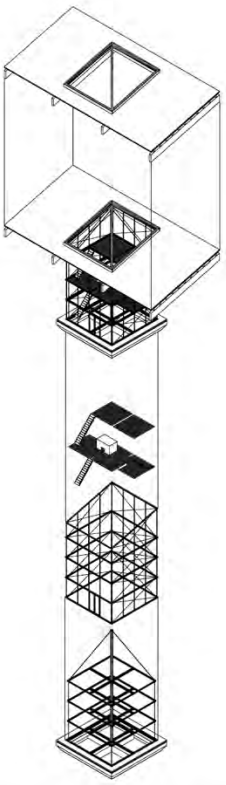
MEMA introduceert nieuwe gebruiksperspectieven en interventie typologieën voor leegstaande ruimtes en terreinen die een stad reeds heeft. Het museum onderzoekt hoe minimale ingrepen of micro-interventies een maximale impact teweeg brengen zowel in het museum als in de publieke ruimte. De interventie is een gebeurtenis van het museum waarbij handelingen en de collectiviteit in de buurt verbeterd wordt. Het museum manifesteert zich als een nieuwe culturele as, die constant groeit en krimpt, zaden plant en uiteindelijk sporen achter laat.*Als het museum in de toekomst verder meandert laat het kwalitatieve gebouwen en nieuwe open ruimte achter zich en gaat het opzoek naar nieuwe wijken om hier een zelfde proces op te starten. Deze onconventionele architectonische oplossingen omtrent de herbestemming van gebouwen gaan in tegen de wegwerparchitectuur en het alom aanwezig ruimtegebrek.*

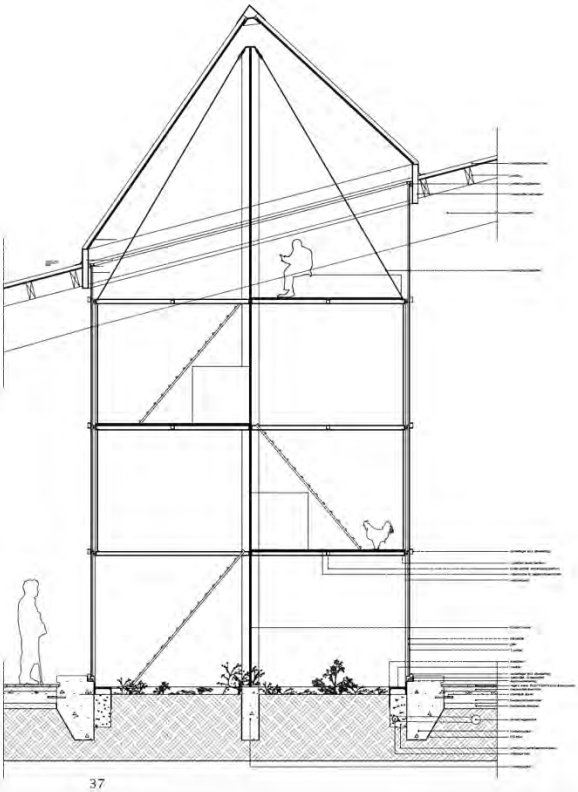
MEMA gebruikt Seefhoek en Borgerhout, buurten grenzend aan het historische centrum van Antwerpen, als case studie. Deze buurten herbergen een grote populatie mensen met een migratieachtergrond en worden vaak gezien als sociaal achtergestelde buurten. Decennia van ongecontroleerde stadsplanning en chaotische gelaagdheid van gebouwen hebben deze gebieden weinig kwalitatieve openbare ruimte gegeven met een groot aantal onbewoonbaar verklaarde gebouwen. Zowel deze wijken als het stadscentrum hebben veel te lijden onder de kwaliteit van de gebouwde omgeving en het productief gebruik van stedelijk weefsel.

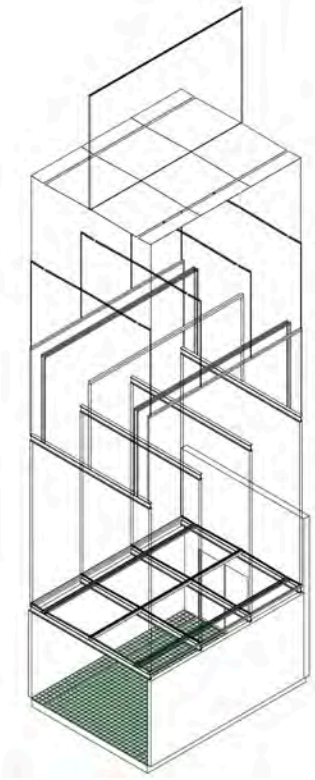


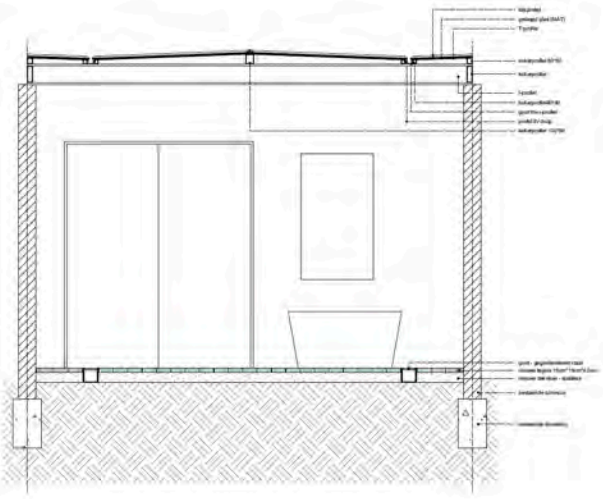












MA02

Cagla Idil Bulut

Fun Palace 2.0

Fun Palace 2.0 - project explanation:

In an effort to spatially discuss and address some notions such as indeterminacy, flexibility, play, network, virtuality, predictions, etc., this thesis aims to update the original project of Fun Palace (C. Price, 1964) and see what it would represent in the 21st century. Fun Palace was a project which predicts, with cybernetics and game theory, what the users might need and transforms itself accordingly. The original plan uses steel to accommodate flexibility, and on top of that, the new version uses it metaphorically to emphasize the endless possibilities of what the building can be and to denote the new machine age we live in. The use of steel also underlines the ever-closing gap between liquid-solid, and the working relationship between software and hardware in architectural design. Its "scaffolding" structure is kept as it is but the spatial organization and the circulation, the ground floor, and the predictive qualities of the project are changed regarding how concepts of indeterminacy, liquidity, play, narratives, and predictions (with AI) are understood today.

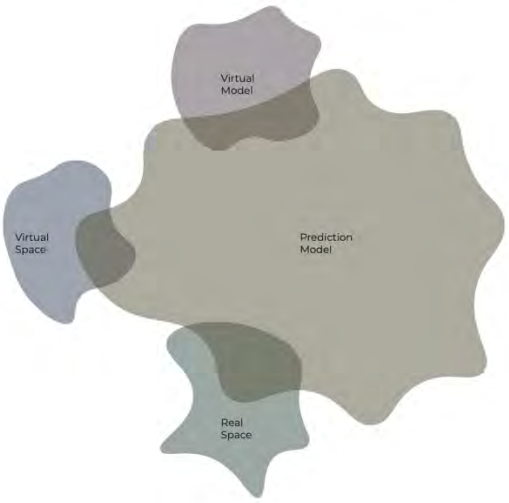
The building is constantly being transformed according to the predictions made by the AI, with the modular buildings parts and the moving crane. New spaces and connections are being (un)built all the time. The building is in flux and it will never look the same twice. The ground floor takes a more liquid form with the moving pillars. The pillars create spaces above ground where several different programs can play out simultaneously. Below ground, the pillars create a dynamic labyrinth which is a result of all the data that is used for the predictions regarding what the building should be at that specific moment.

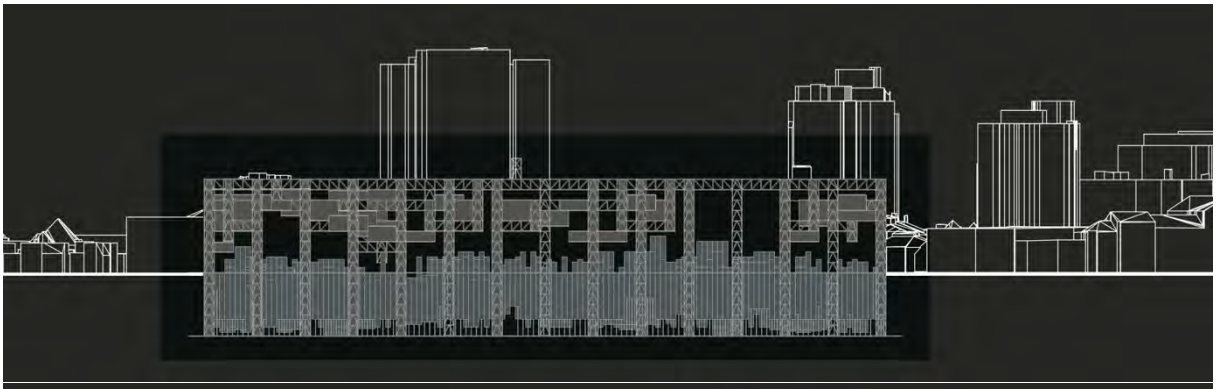
When the aforementioned concepts are applied to the original plan, it makes up the Fun Palace 2.0 which becomes more enslaving than what it was originally. Play becomes a key element for the narratives and the narratives are inseparable from the prediction model. The prediction model is becoming very invasive, implying a "smart" totalitarian system. Therefore, Fun Palace 2.0 is almost a prison in which people are free to come and go, but their (inter)actions within the building are not free as they are dependent on how the building is shaped. Even when they leave their virtual presence is still there.

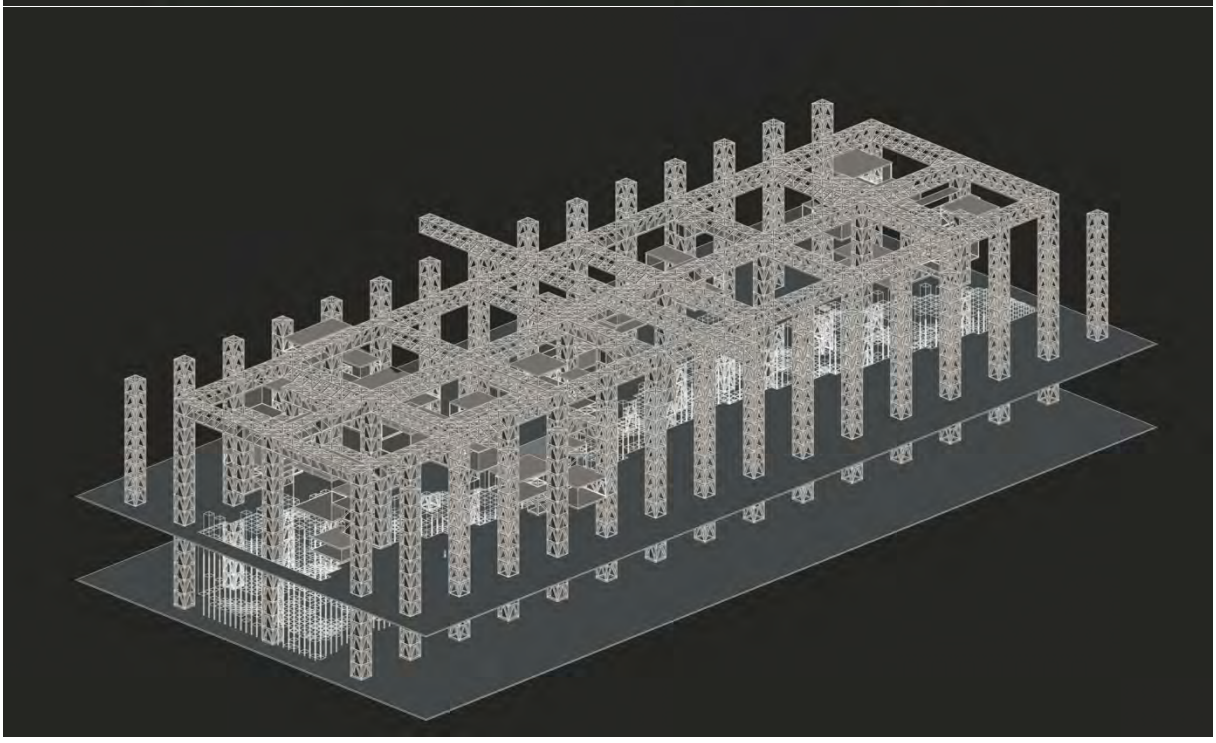
Fun Palace 2.0 might be seen as a starting point to address some complex notions that are mentioned within hypermodernity in a spatial context. This thesis tried to explore that in writing, with architectural design and materialization through visuals and physical models.

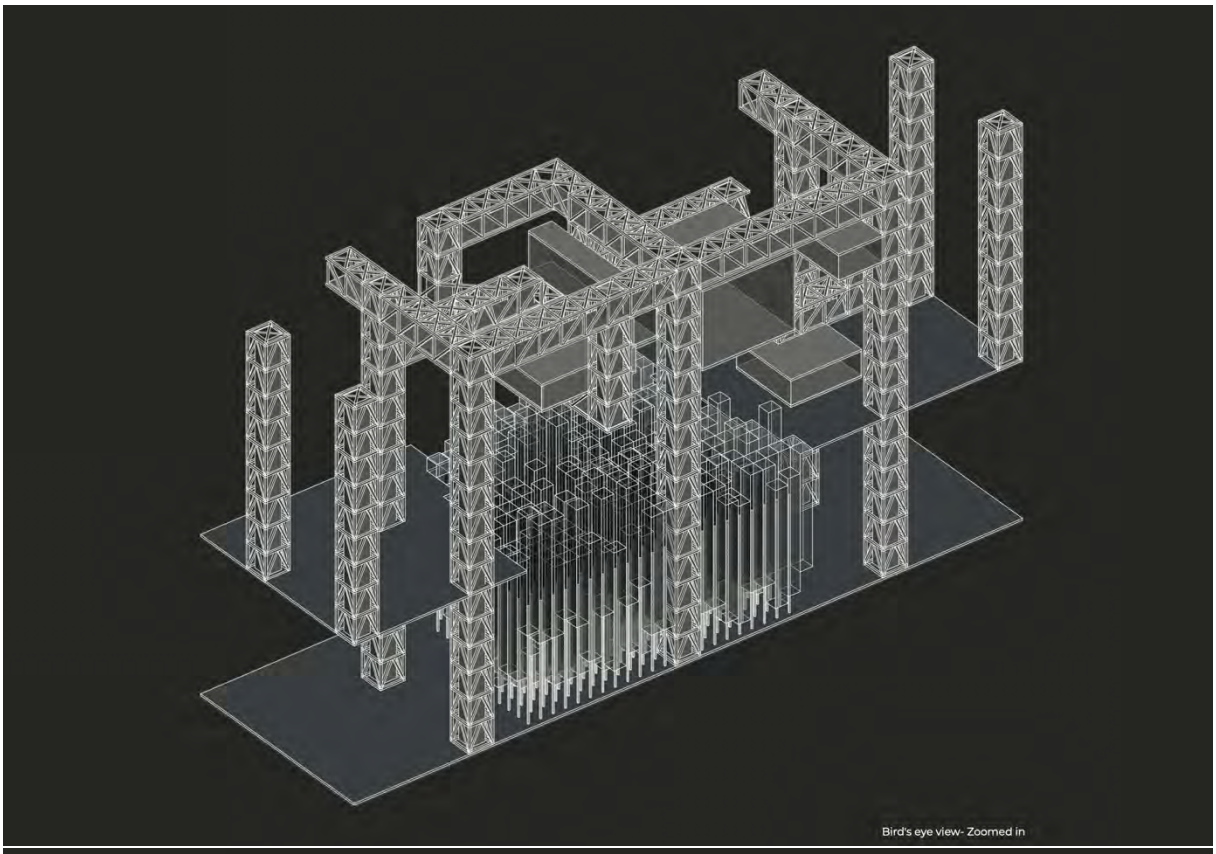
Figure 08.1
Concluding diagram from collective research

Figure 08.1
Updated diagram for Fun Palace 2.0

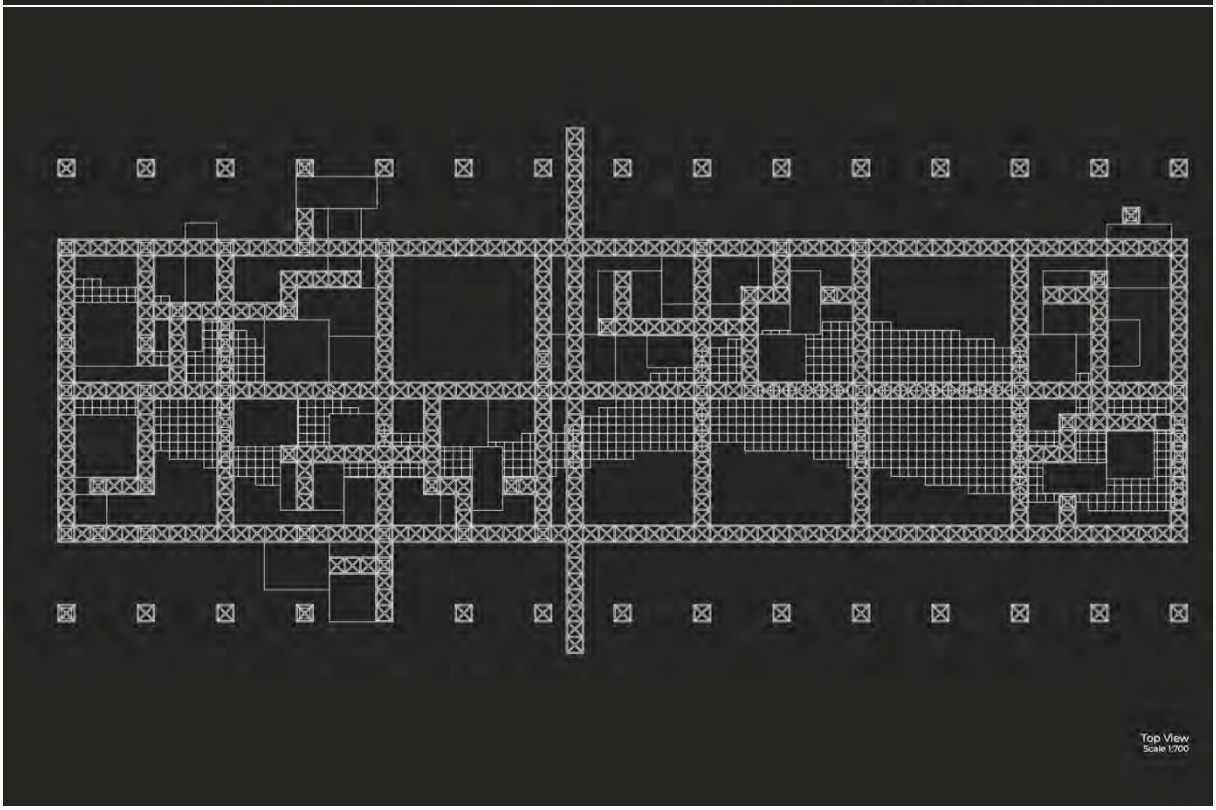




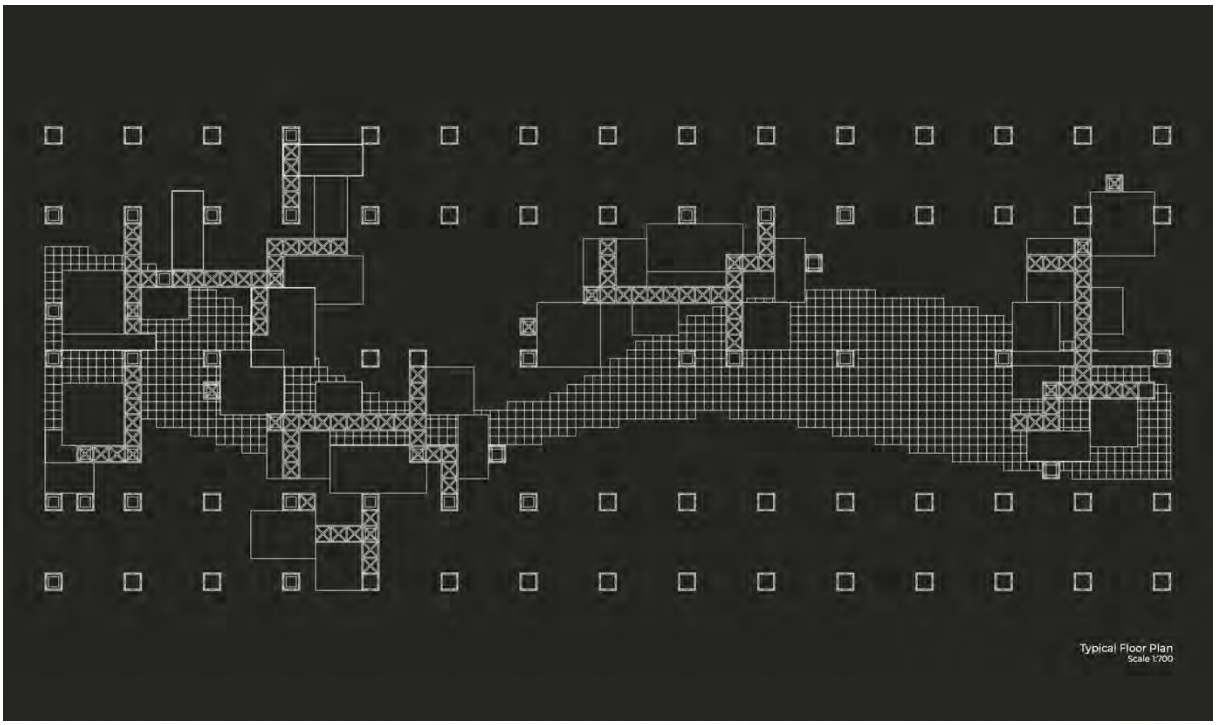


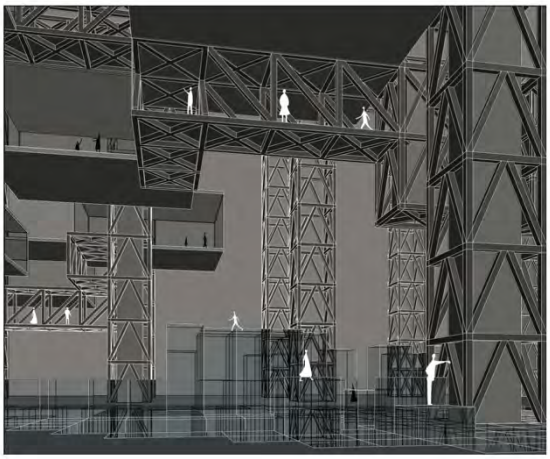


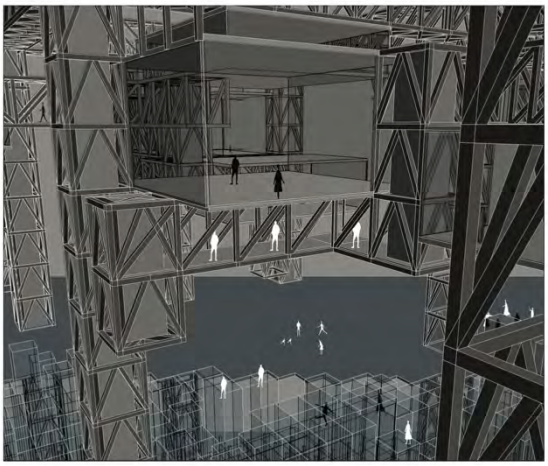
Bird's eye view- Zoomed in

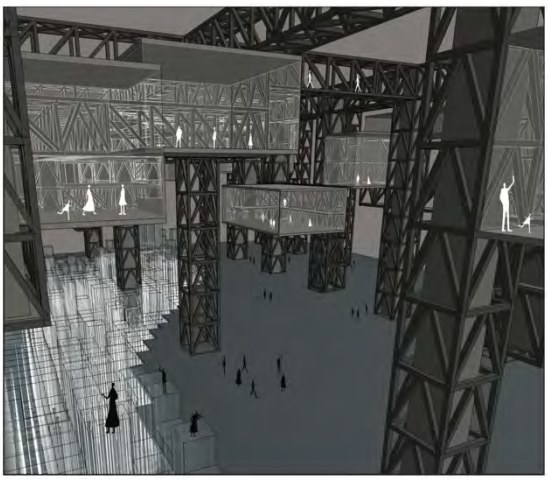


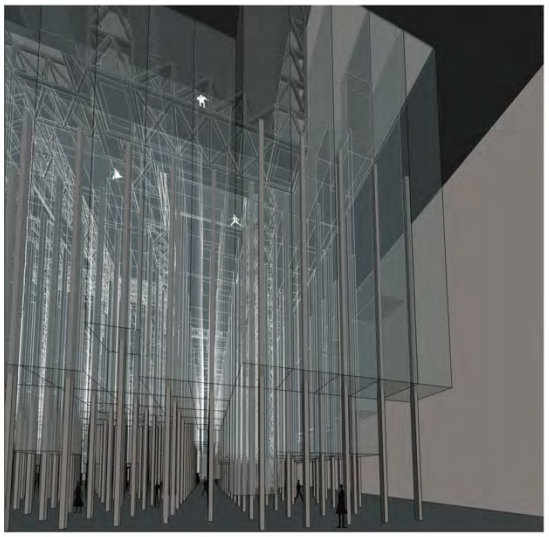
Top View
Scale 1:700

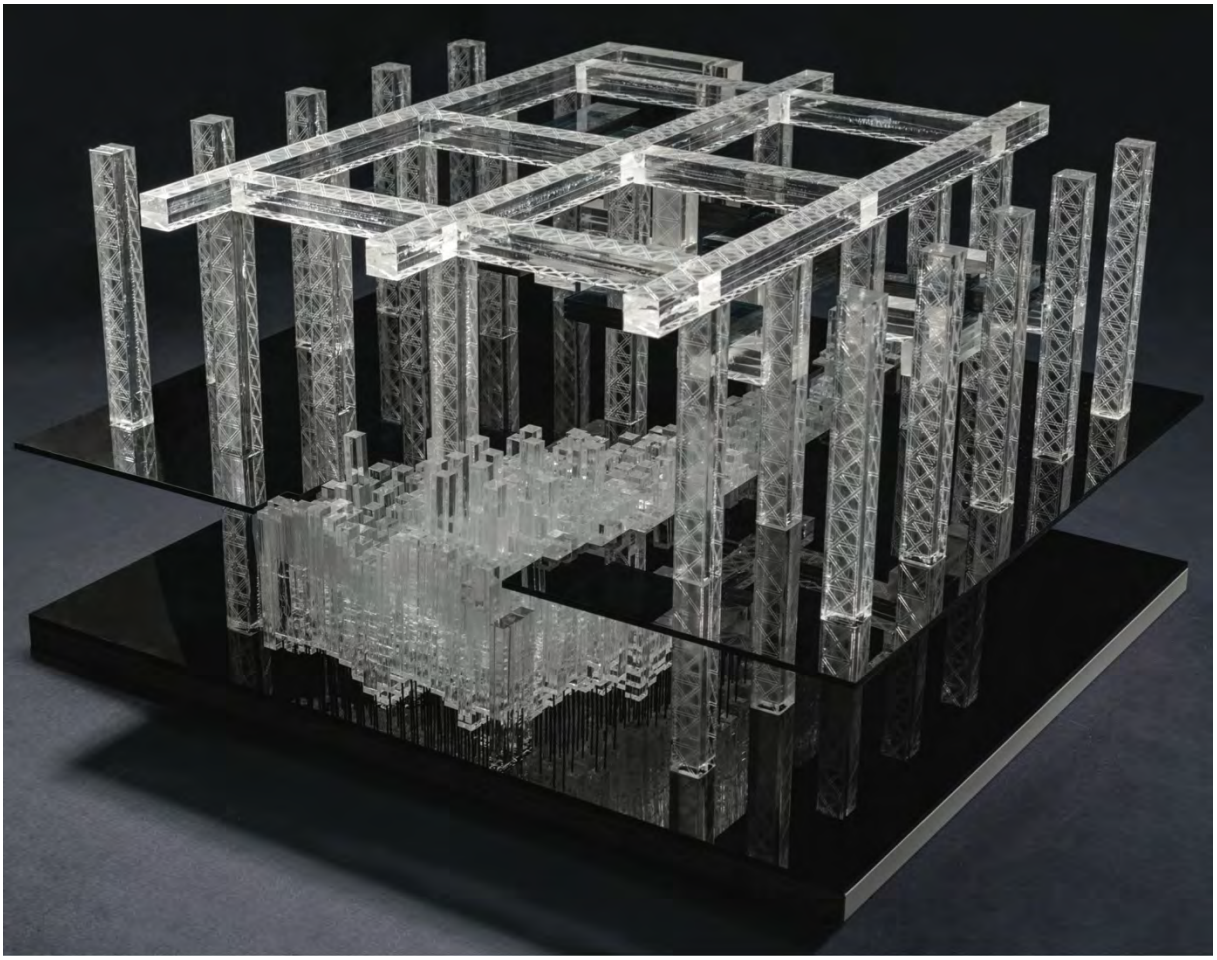

Typical Floor Plan
Scale 1:700











MA03

Jorn van Wegen

Remote Architecture

The project is situated on a remote island on Scotland, where the population is slowly depleting. The proposed building aims to attract new residents to the island, as a way to start repopulating and revitalising the remote and rural areas of Scotland that have been emtpying out for decades. The target group is people who want to get away from the hustle and bustle of city life, and instead, want to live a life of contemplation and self sufficiency. The building mimics its harsh environment with its cold and hard materials, where rough concrete provides a protective cocoon to its residents. On the inside metal window- and door- frames together with a steel plate staircase complement the harsh and cold concrete, while the smooth metal finishes provide a contrast to the rough concrete interior finishes. The rough timber slats provide a welcome warmth to the hard cave-like interior. A big steel truss helps to lift the massive concrete volume high above the Scottish cliff-edge.

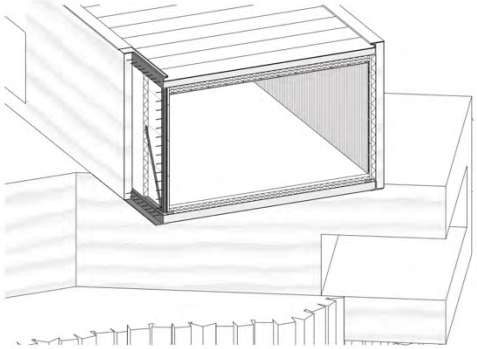
REMOTE ARCHITECTURE

Repopulating the remote island of Ulva, Scotland

JORN VAN WEGEN
BIG HOUSE GRADUATION STUDIO

The central staircase will consist of a thin layer of plate steel that will seem te levitate in the light filled central void. The folding doors, too, will be finished with a thin steel plate that can close off the pool in its entirety.

The steel surfaces are to have a black 'oiled' finish. Its smoothness, and almost 'wet' appearance will offer a stark contrast with the rough concrete, which in turn softens the interior space.



The massive concrete overhangs that create a dramatic interplay with the harsh Scottish basalt-rock cliffs, are supported by large steel trusses.

The hidden truss makes it possible for the building to create a pronounced tension between the cliffs and the building itself. Where the basalt cliff columns stand up vertically, the buildings seems to make an almost impossible gesture by floating over them, without giving away how the heavy concrete stays up twenty metres above the sea.

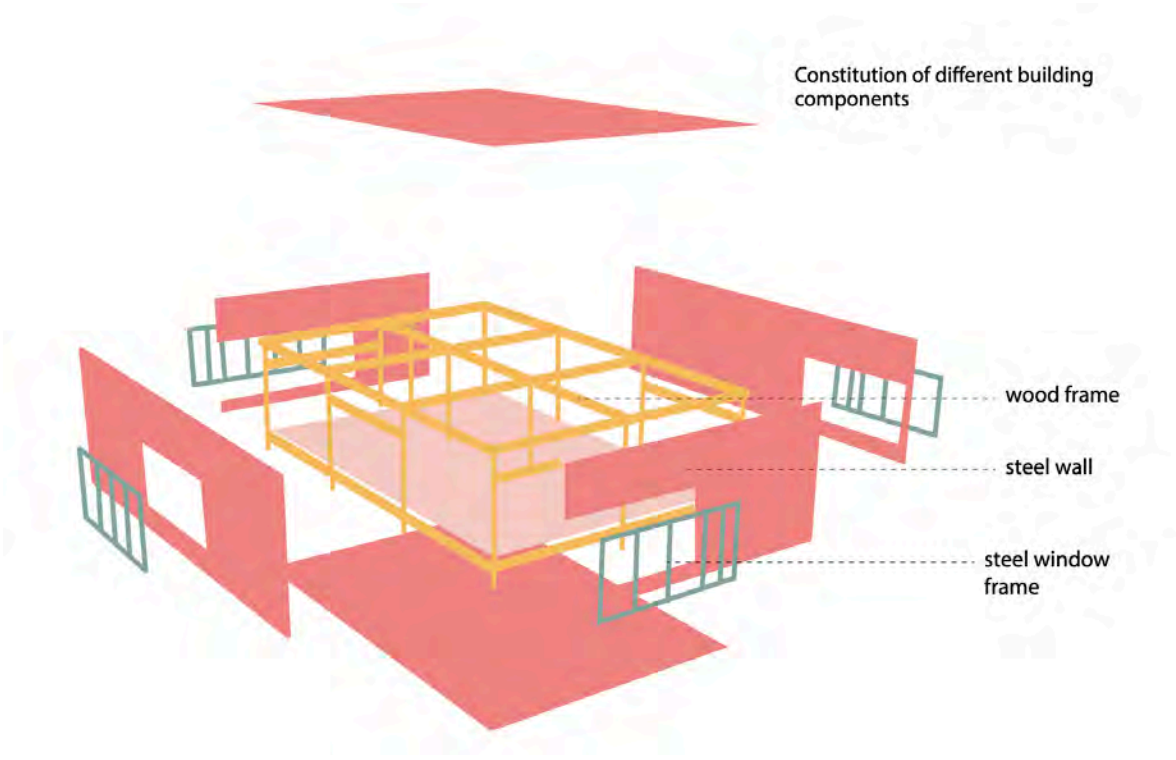
MA04

Di Wu

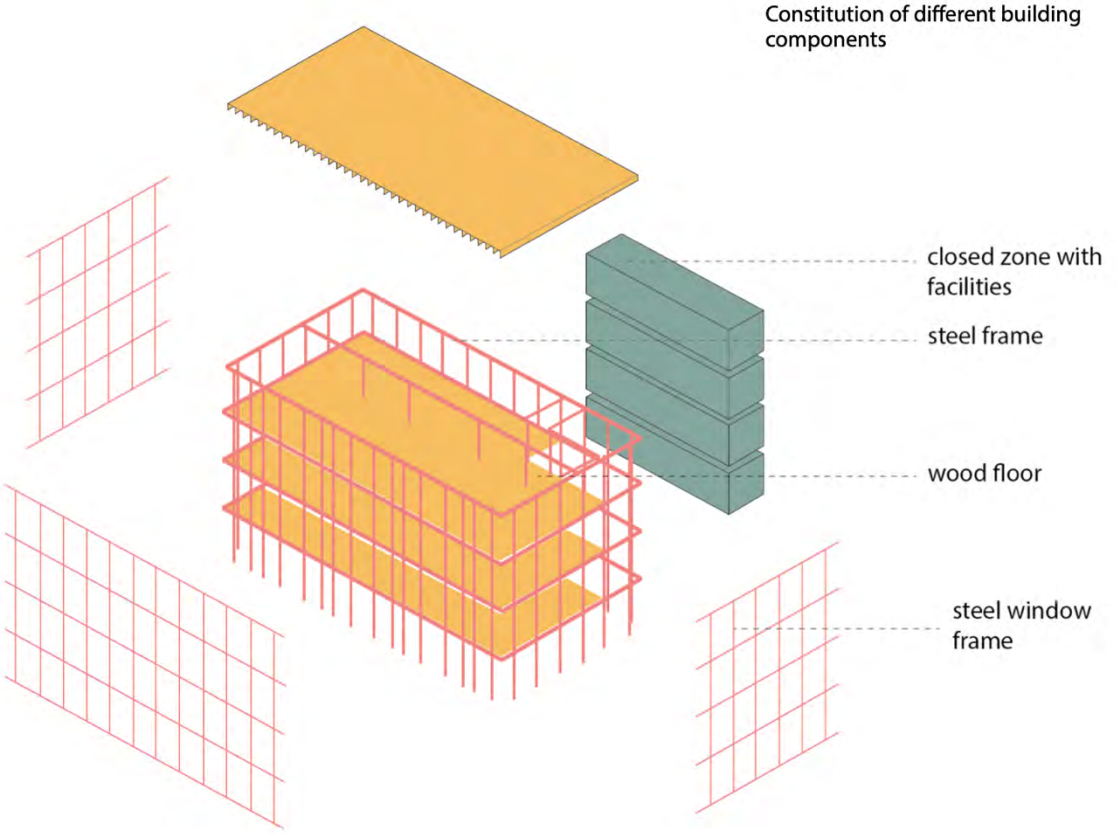
Design for Disassembly strategy in architecture design to achieve a circular built environment

Ook Prepainted Metal Trophy?

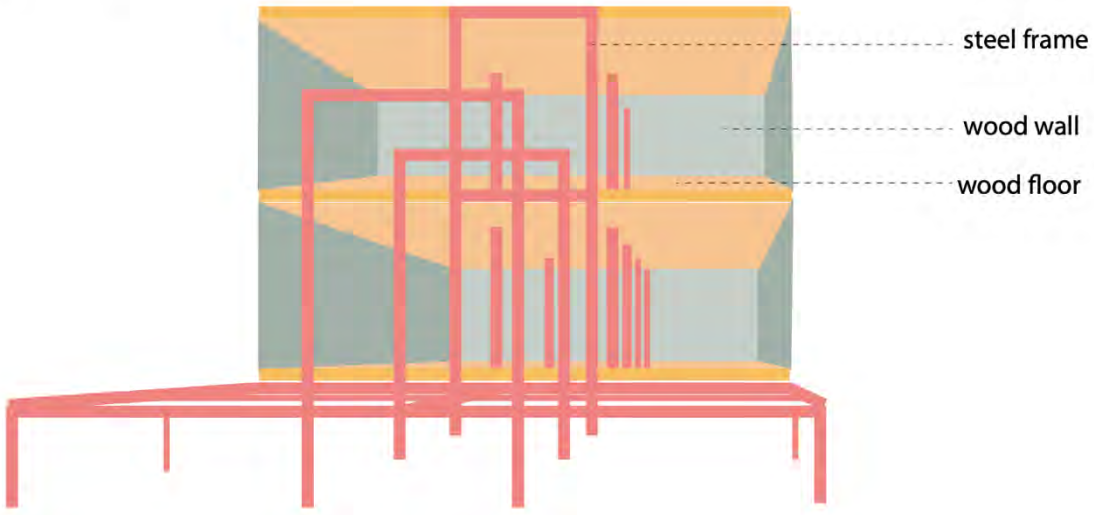
This project will focus on the research of the implementation of Design for Disassembly(DfD) strategy in architecture design. As building materials have crucial influences to the environment and take important position in achieving a circular built environment. Therefore, this project will combine the concept of DfD strategy and bio-based materials by researching how to implement DfD strategy by using bio-based materials in architecture design project. To narrow down the research target and based
on the scientific fact that adaptable buildings as well as modular buildings are good strategies to design mental healthcare architecture. Mental healthcare architecture will be taken as an example function in the design part of this project.

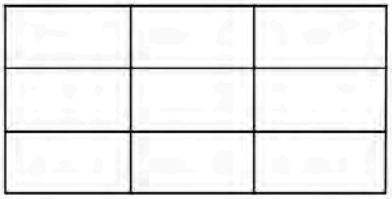


Constitution of different building components

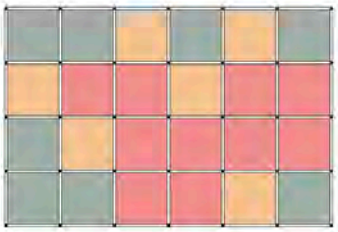


Constitution of different building components



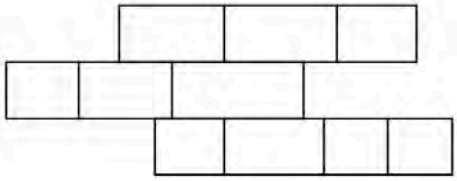


Frame Structure



Repeated Panels

Long-span Structure

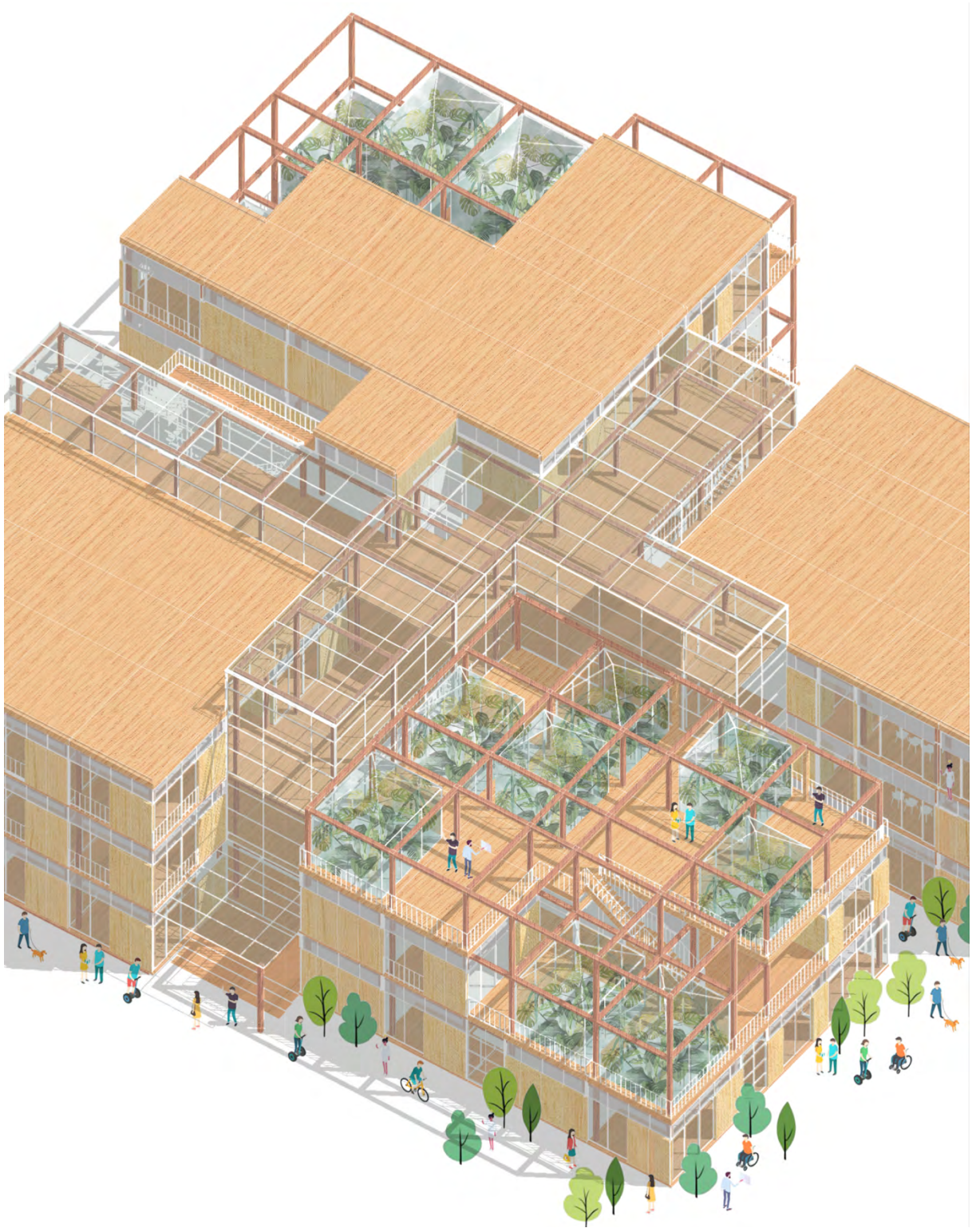


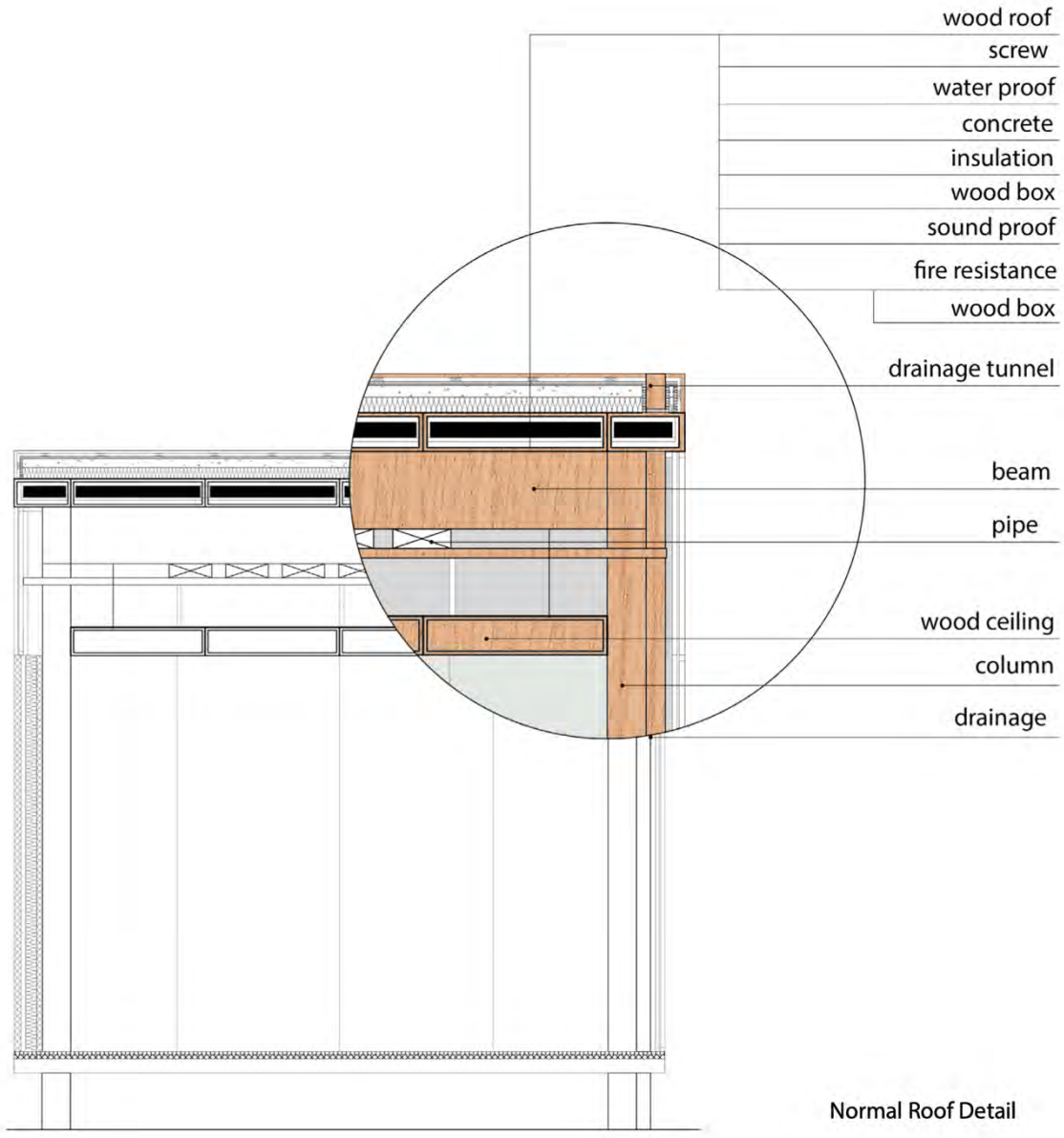
Linear sequence

modules

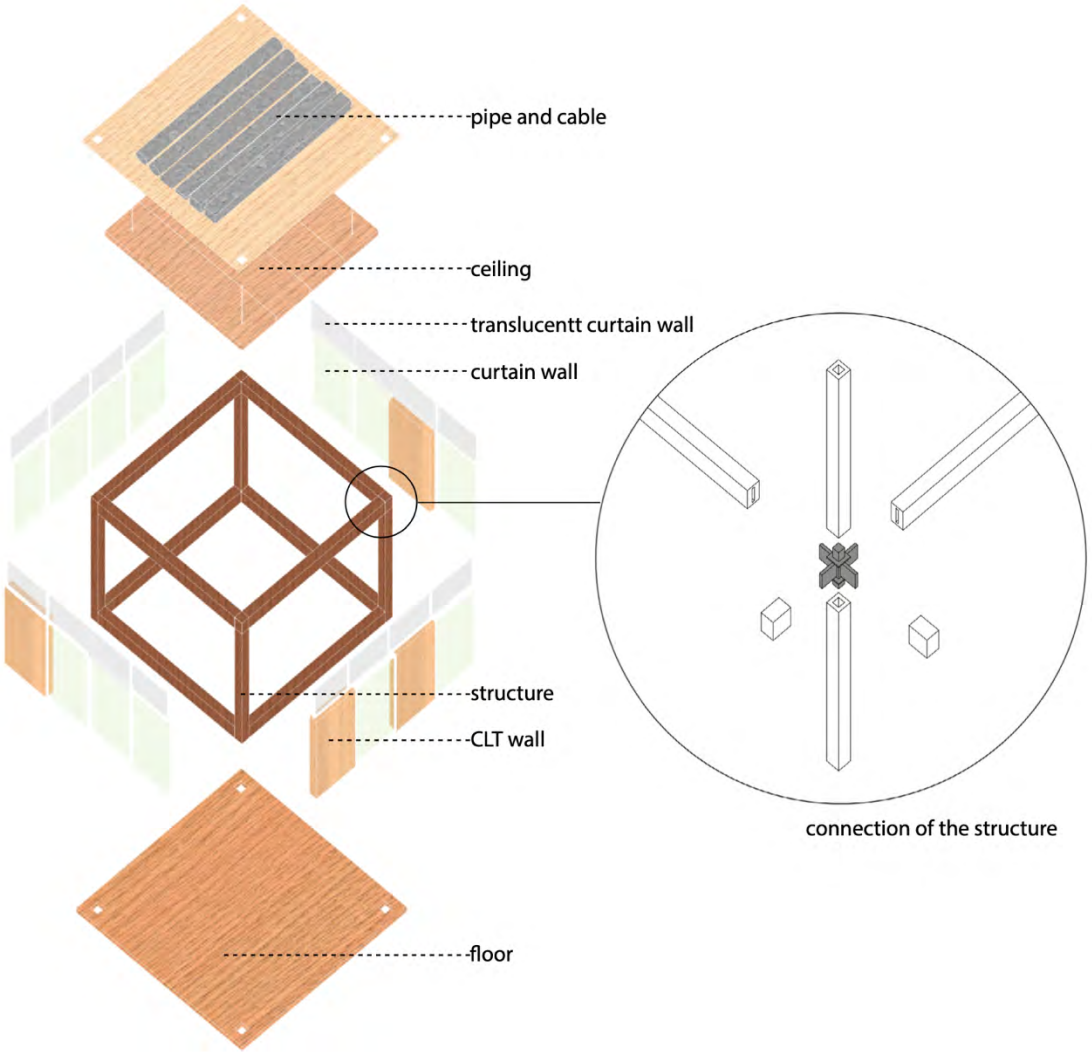

BOSCH


Office
Technical room
Technical room
Storage room
Examination room
Examination room
UP
Office
Office
Office
Storage room
Examination room
DN
Examination room
DN
UP
UP
Workshop
Diningroom
Kitchen
DN
Bedroom
Bedroom
Bedroom
Bedroom
Bedroom
Workshop
Workshop





Normal Roof Detail


pipe and cable
ceiling
translucentt curtain wall
curtain wall
structure
CLT wall
floor
connection of the structure

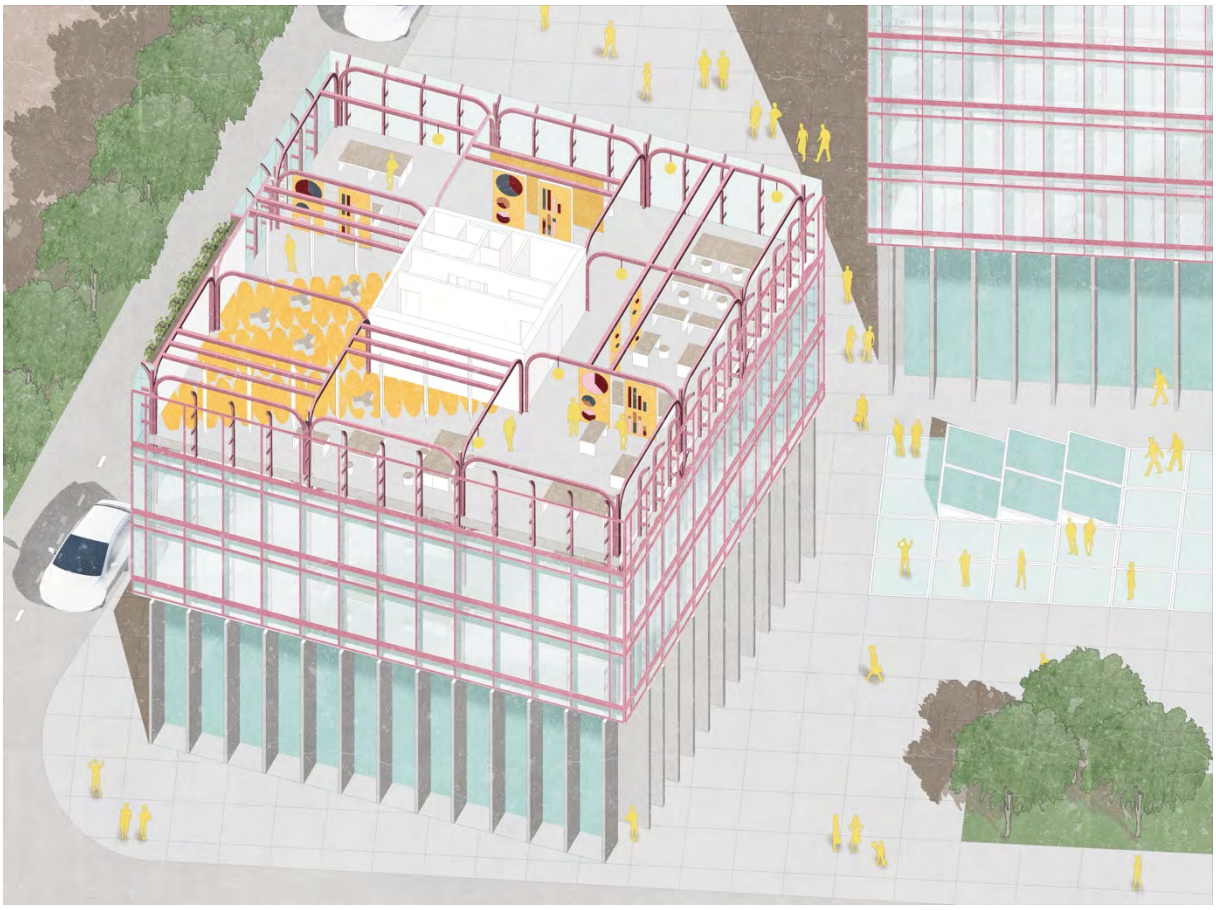
MA05

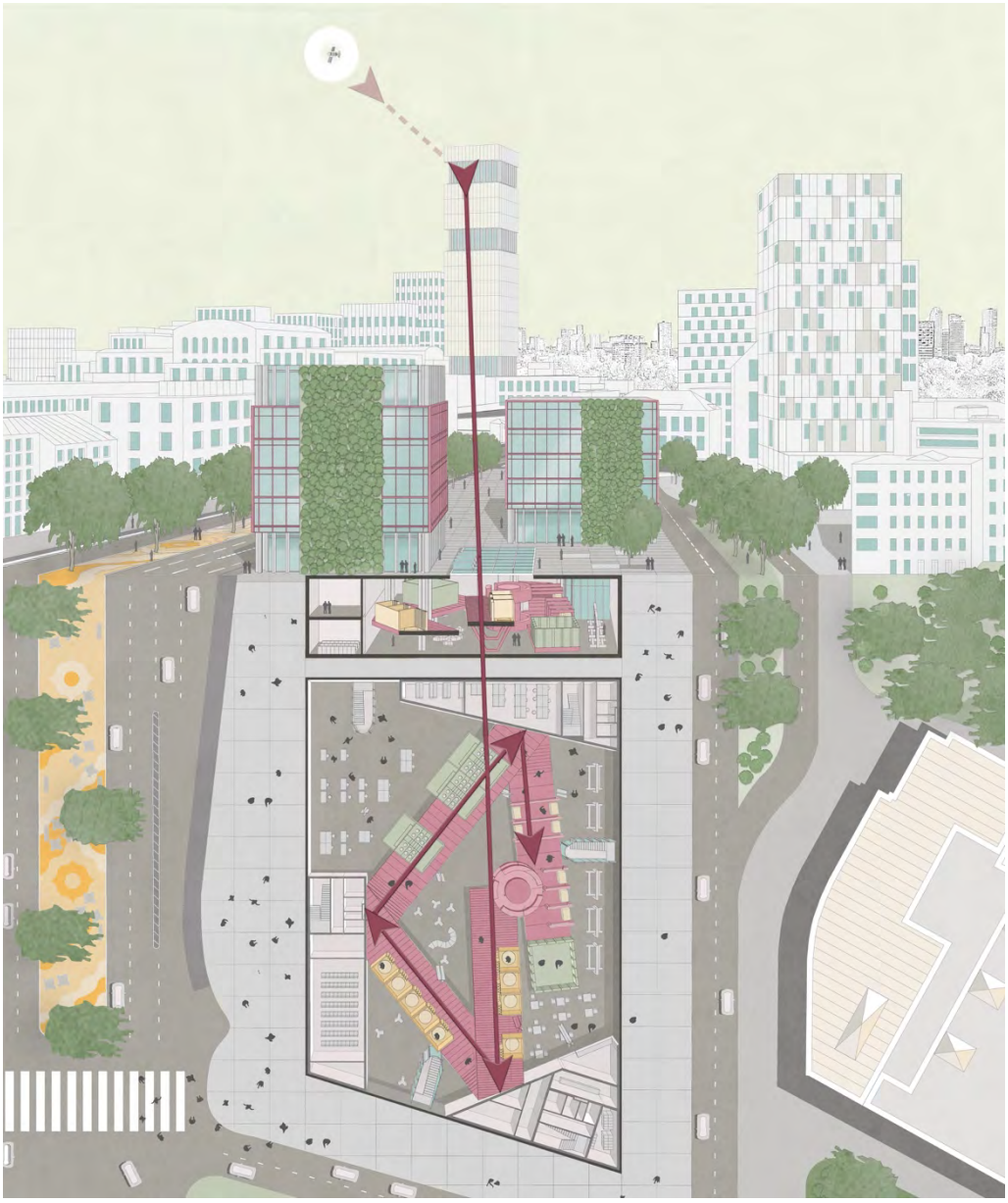
Olga Gumienna

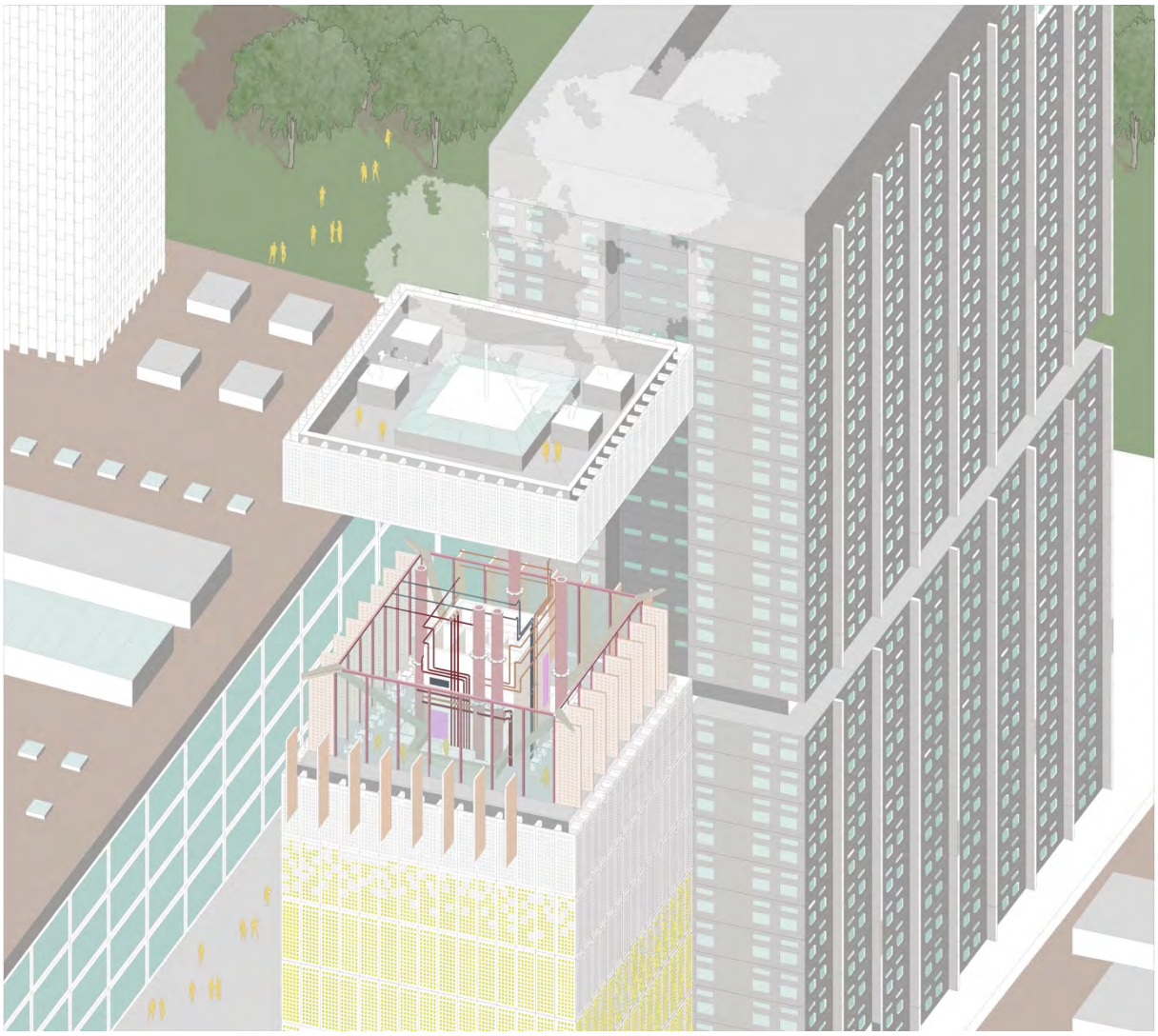
Space of Signal

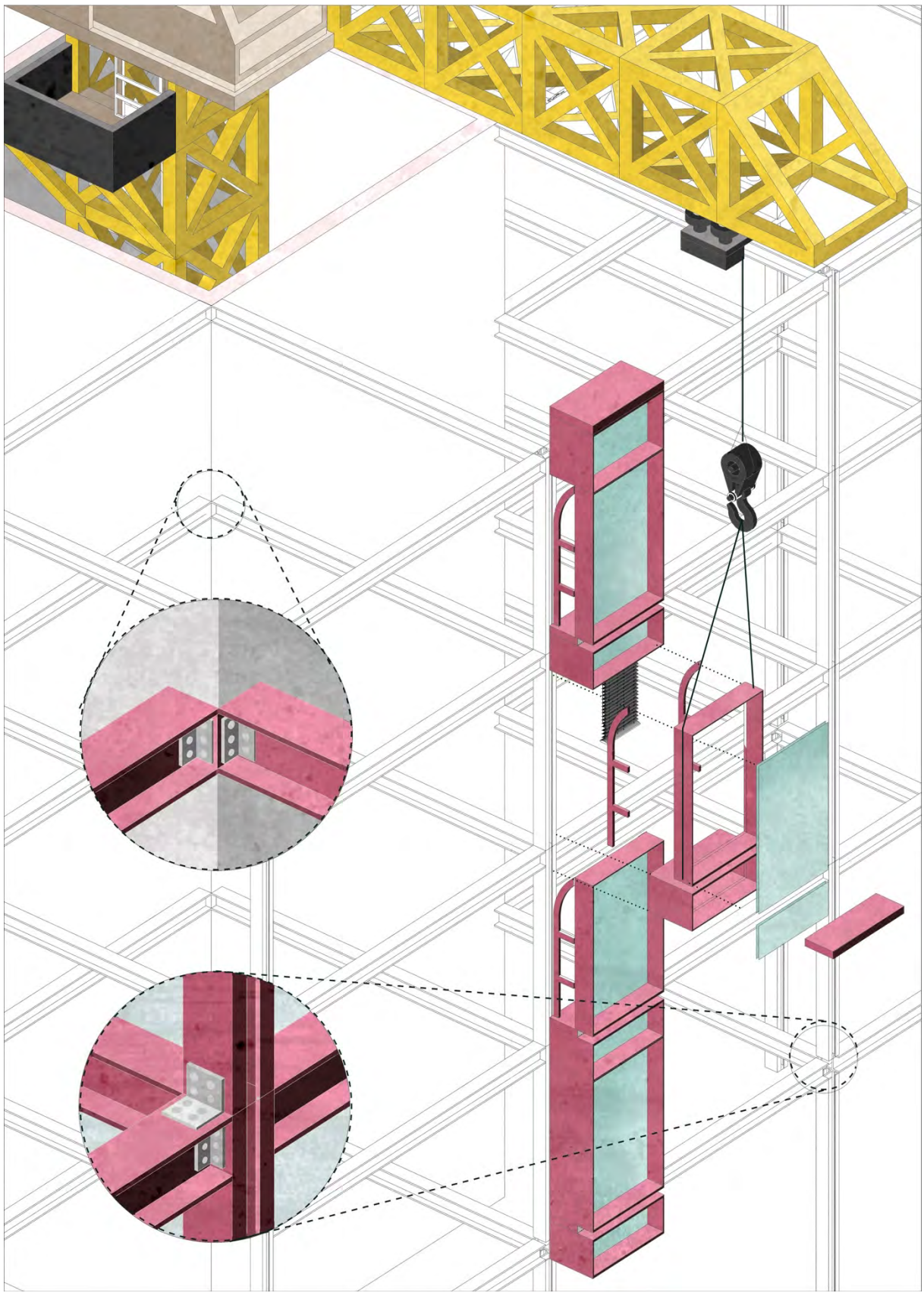
Ook Prepainted Metal Trophy

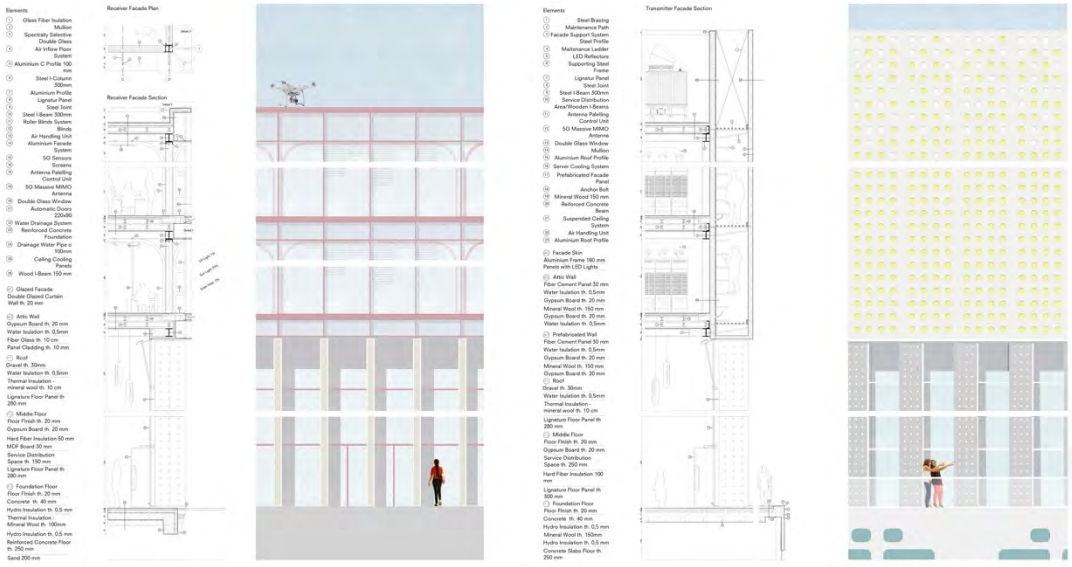
The project Space of Signal in a speculative design that explores the potential impact of 5G signal on built environment. The scope of the project may be defined as 5G implementation model consisting of signal transmitter and receiver, where the primary spatial topic will be the relation between two buildings. Both facilities are designed with a particular focus towards the urban relation between facilities, efficient placement of antennas, materiality and spatial consequences within each building. The project will therefore embrace the different architectural qualities required by signal transmitter and receiver. By looking through the scientific lenses of signal streams and directions, the final outcome depicts, how the built environment that surround us continuous to be shaped by individual dimension of signal.











Facade Detail
scale 1:20

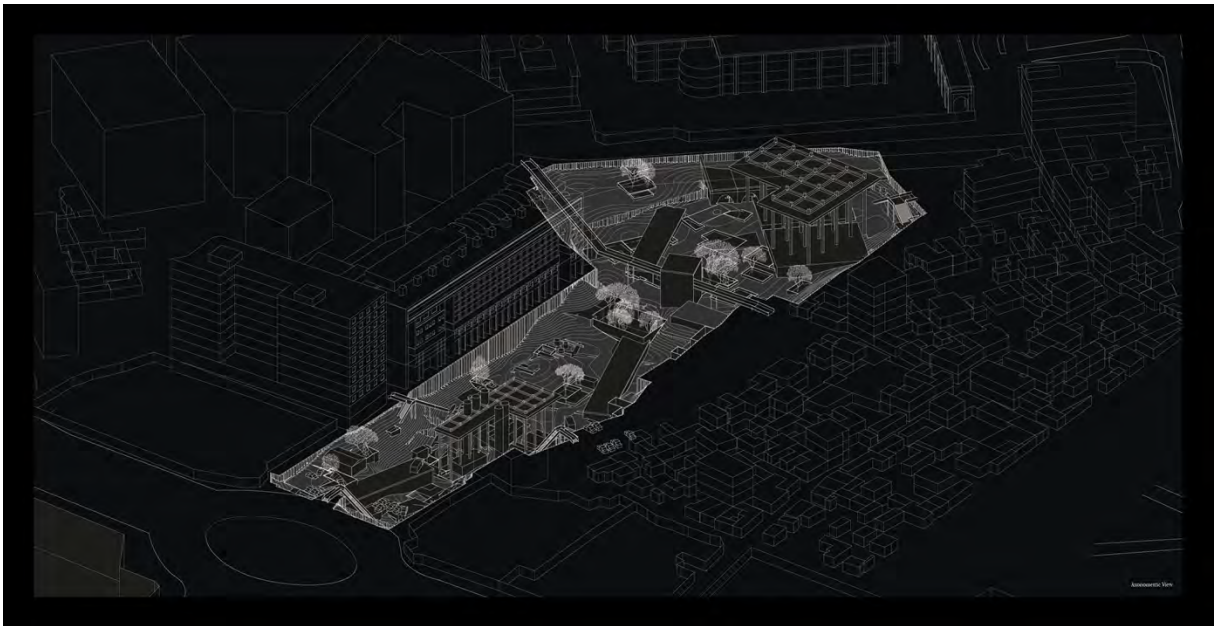
0 60 120 240 480cm

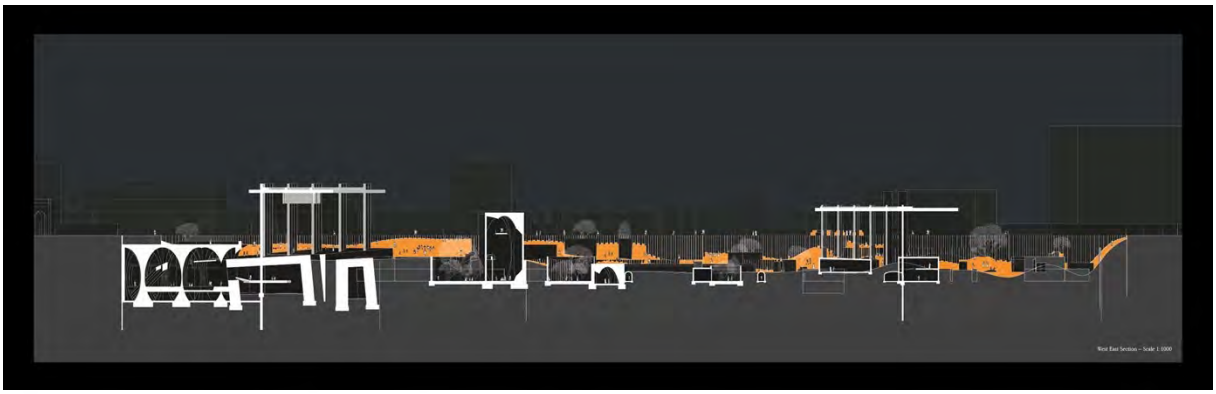
MA06

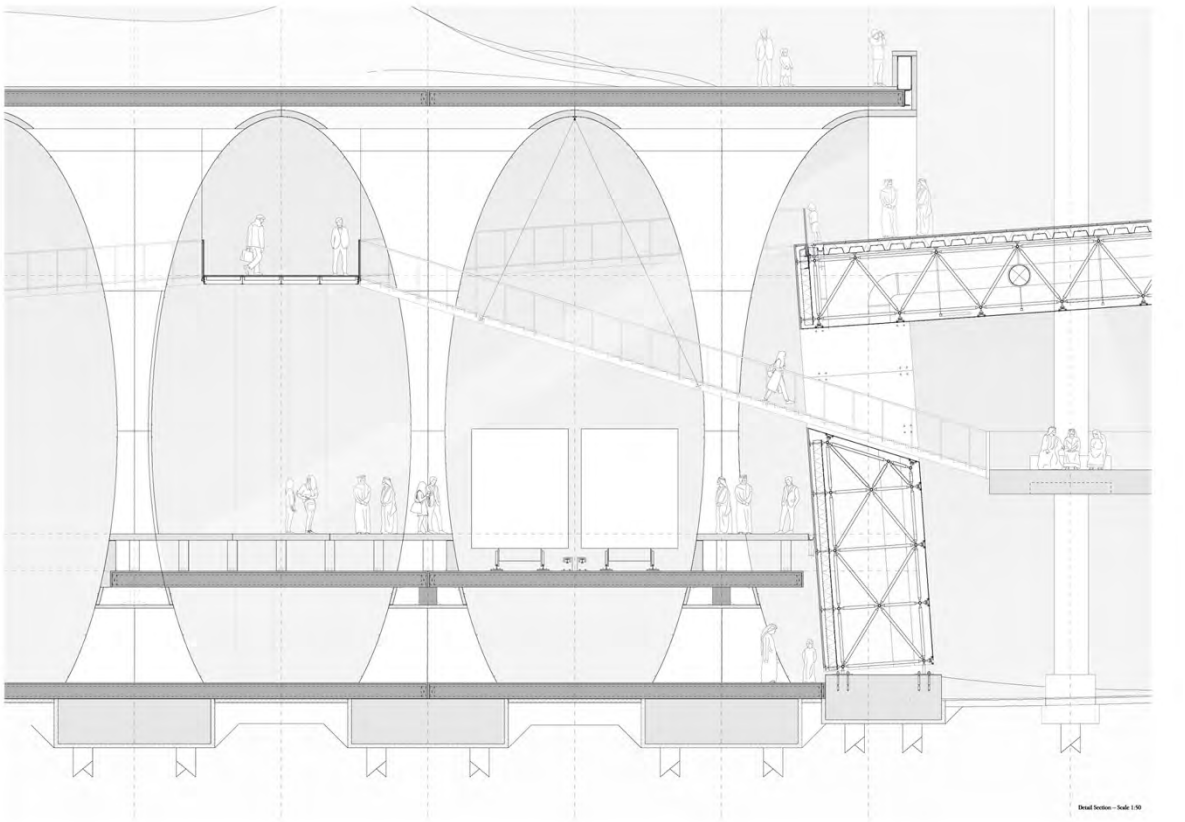
Kaj Boonstra

Hidden Myths in the Infectious Landscape

Hidden Myths is a transgressive architectural manifestation. It is a symptom of and reaction to a larger phenomenon; a series of Infectious Voidscapes that can be found throughout the city of Mashhad (Iran), existing of sites in which all architectural forms of existence have been erased. Hidden Myths activates the forgotten memories of one of these sites through a series of procedures, which create architectural elements that become programmatic constellations, that regenerates everyday life inside the Voidscape. An example of this is the element 'Retaining Walls', that with re-used steel sheet piling, outlines the site, creates new accessible depths within the site, and generates the basis for a new landscape within the city. Hidden Myths' procedures, elements, and constellations, together, create a landscape that it is simultaneously full and vacant, alive and provisional, and thus provoke a negotiation with the nature of the Voidscapes found in Mashhad, with the intention of uniting the people that reside, visit, and embody the city. It is through combining the religious cosmology of the site with everyday inhabitation, that slowly become apparent the invisible myths that are hidden within this Voidscape.

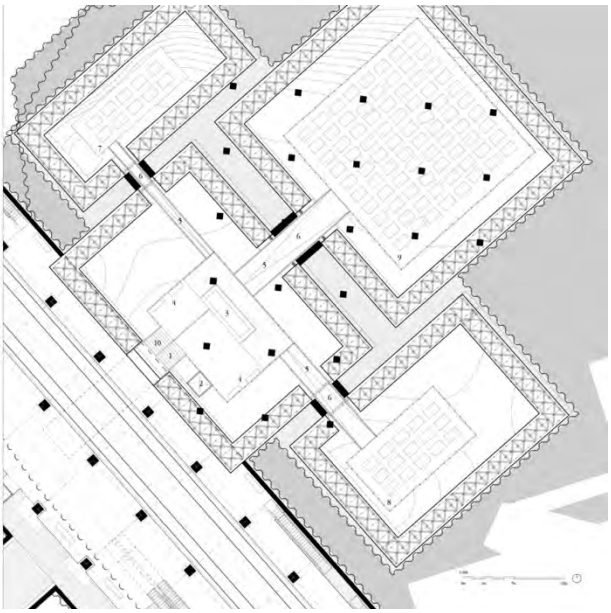


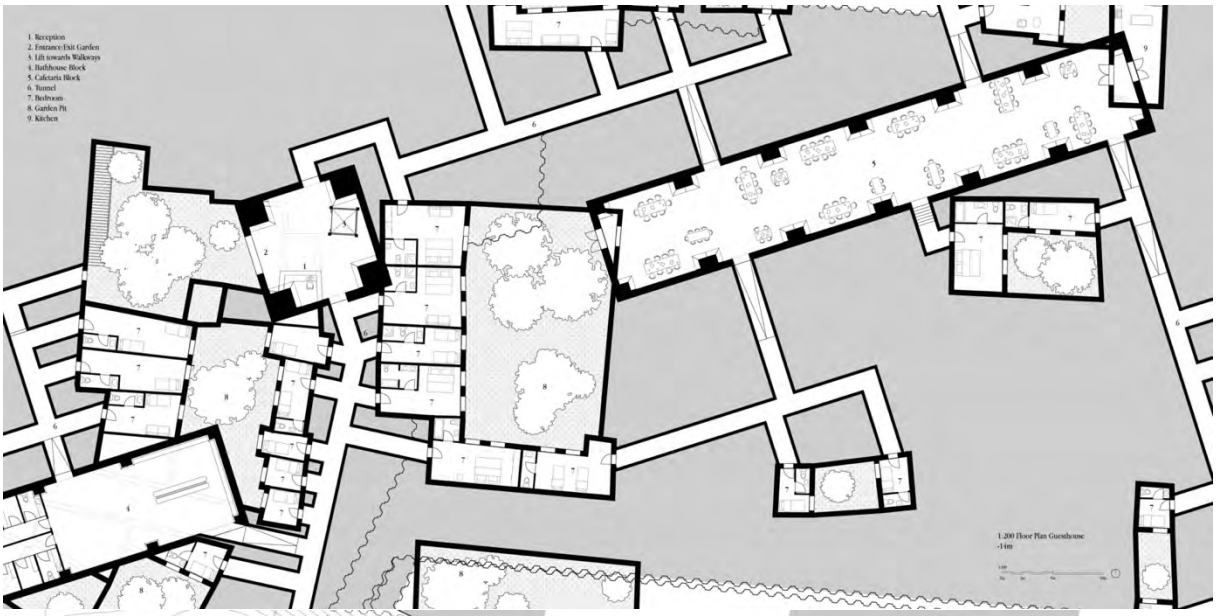




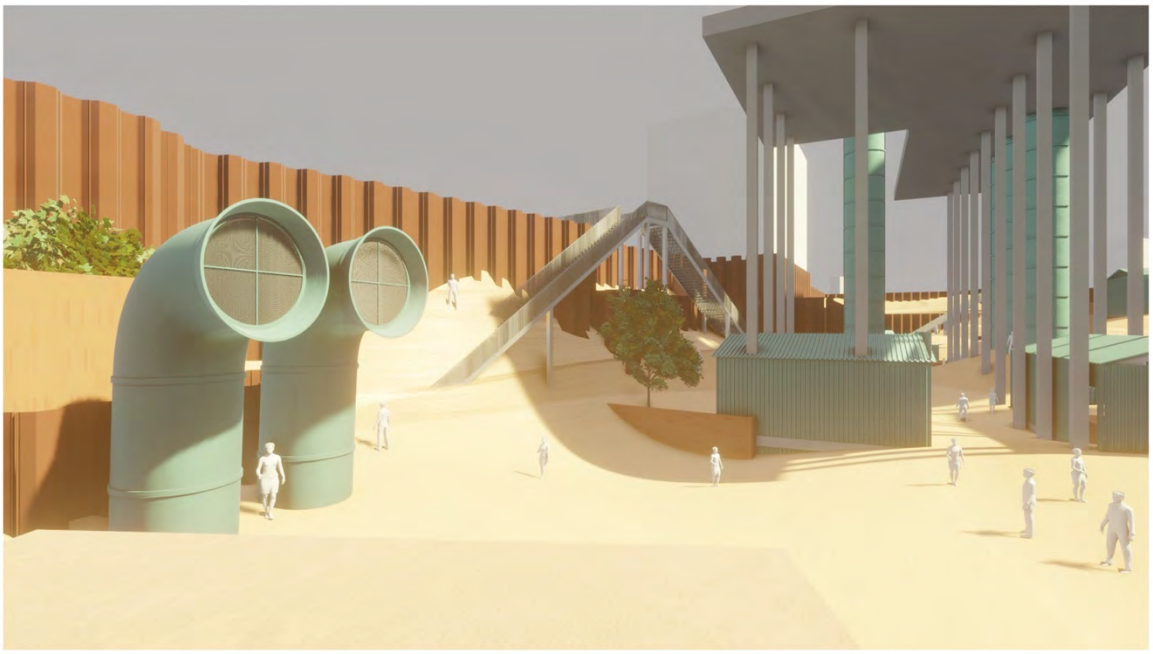
1:200 Floor Plan of Prayer Rooms
-14m

1. Entrance Walkway
2. Elevator
3. Welcome Desk & Shoe Storage
4. Area for taking off Shoes
5. Walkway towards Prayer Room
6. Connective Brick Tunnel with Soundproof Curtains
7. Prayer Room S (10 people)
8. Prayer Room M (15 people)
9. Prayer Room L (60 people)
10. Exit Walkway




1. Reception
2. Entrance/Exit Garden
3. Lift towards Walkways
4. Bathhouse Block
5. Cafetaria Block
6. Tunnel
7. Bedroom
8. Garden Pit
9. Kitchen
1:200 Floor Plan Guesthouse
-14m


1:200 Floor Plan Gift Shop
-5m
1. Gift Shop
2. Bazar Block
3. Silo
4. Walkway Stairs Entrance
5. Garden Pit
6. Canopy Columns



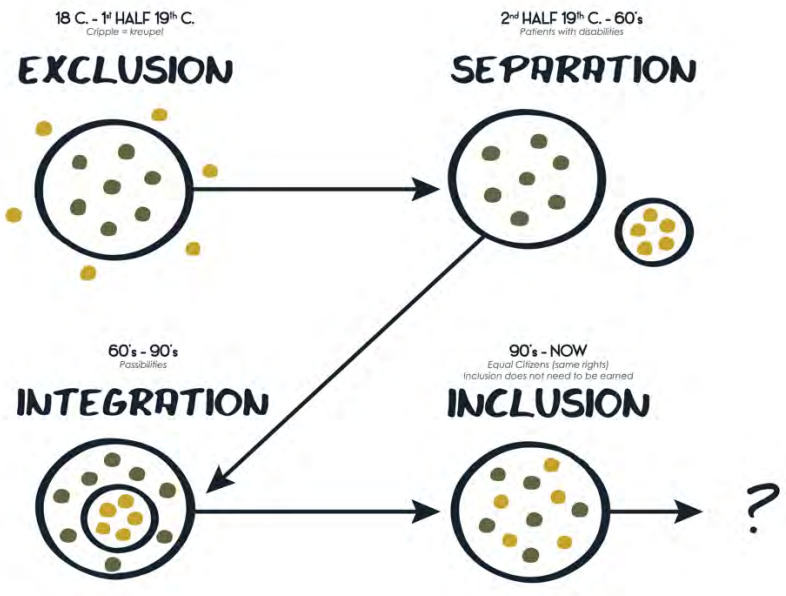
MA07

Martijn van Leeuwen

Onbeperkt Wonen: Living independently in a stimulating residential environment for young people with a mild intellectual disability

Ook Prepainted Metal Trophy

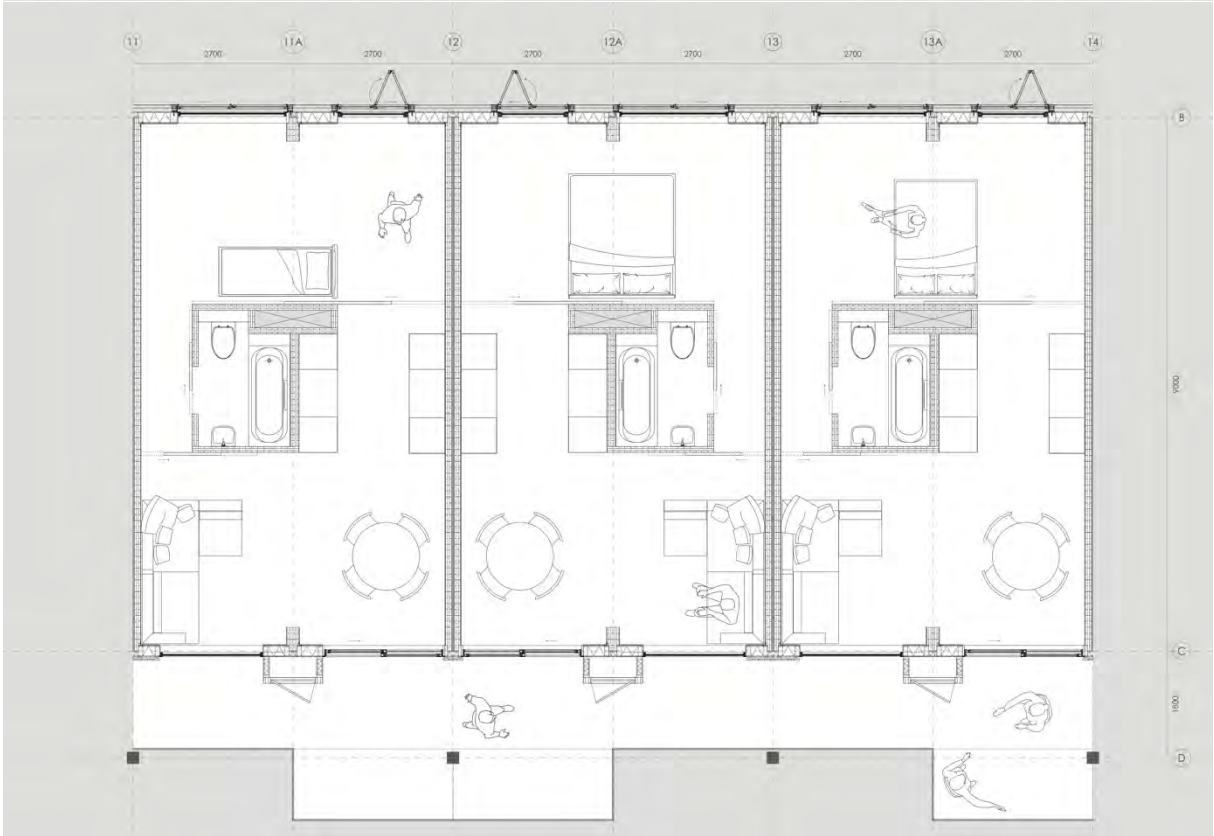
In which way can the design of the residential environment contribute to the social self-reliance of young people with a mild intellectual disability?" The building creates a safe and supportive environment for these people, where social contact is stimulated and people can determine their own privacy. A totally prefabricated building with a hybrid construction. The span is made of a steel framework, where the dwellings are created out of CLT modular elements. The facade is mounted on site, where bipv panels on a aluminium hooked-on casette system are integrated to create a energy neutral building. People can create their own privacy, for instance when they have too much incentives. Alumium perforated bi-fold shutters mounted on a raleway system provides privacy when people need it. Furthermore these shutters have a double function as sunscreens. Because of the individually moving shutters, the building never looks the same and gives a monolithic impression when all shutters are closed. This refers to how one of my users describes here mild intellectual disability: "Je ziet niks aan de buitenkant.. maar als je naar de binnenkant gaat, dan zie je van alles."



Shutters Closed - 21/03/2021 13:00

WEST FACADE ELEVATION 1:200

Shutters Open - 21/03/2021 13:00

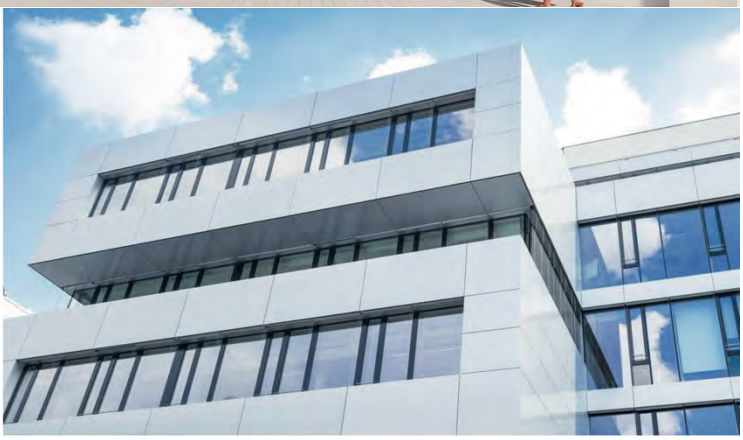


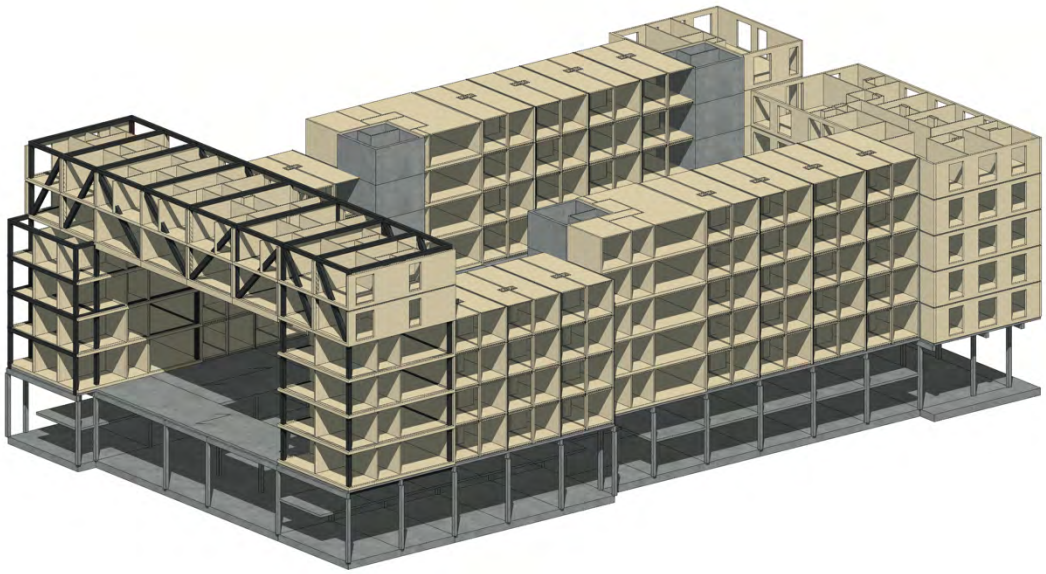
BIPV PANELS

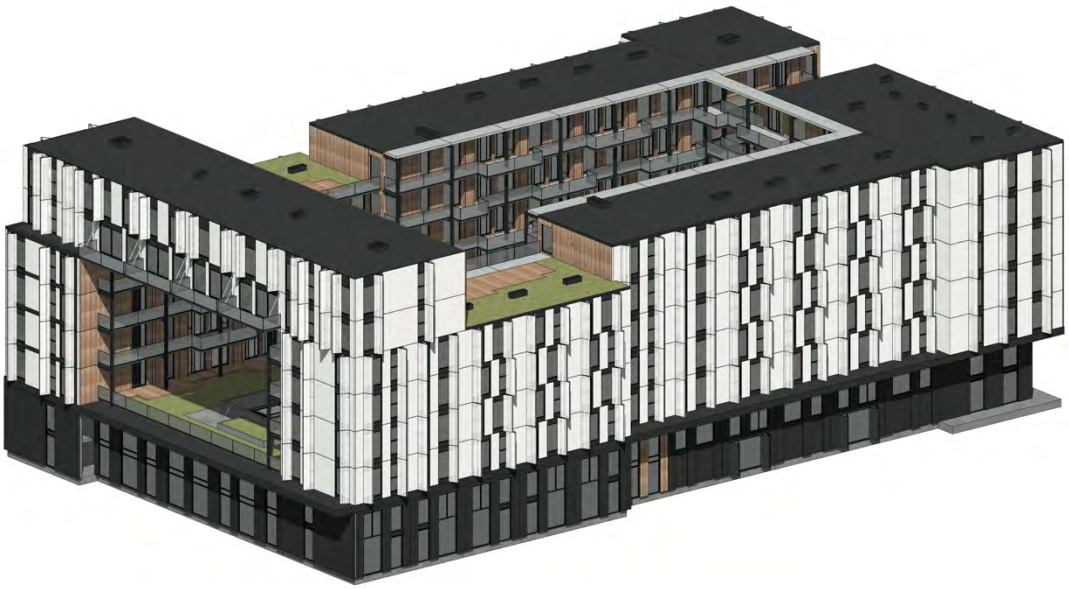
Building Integrated PhotoVoltaic

SOLAXESS

white solar technology

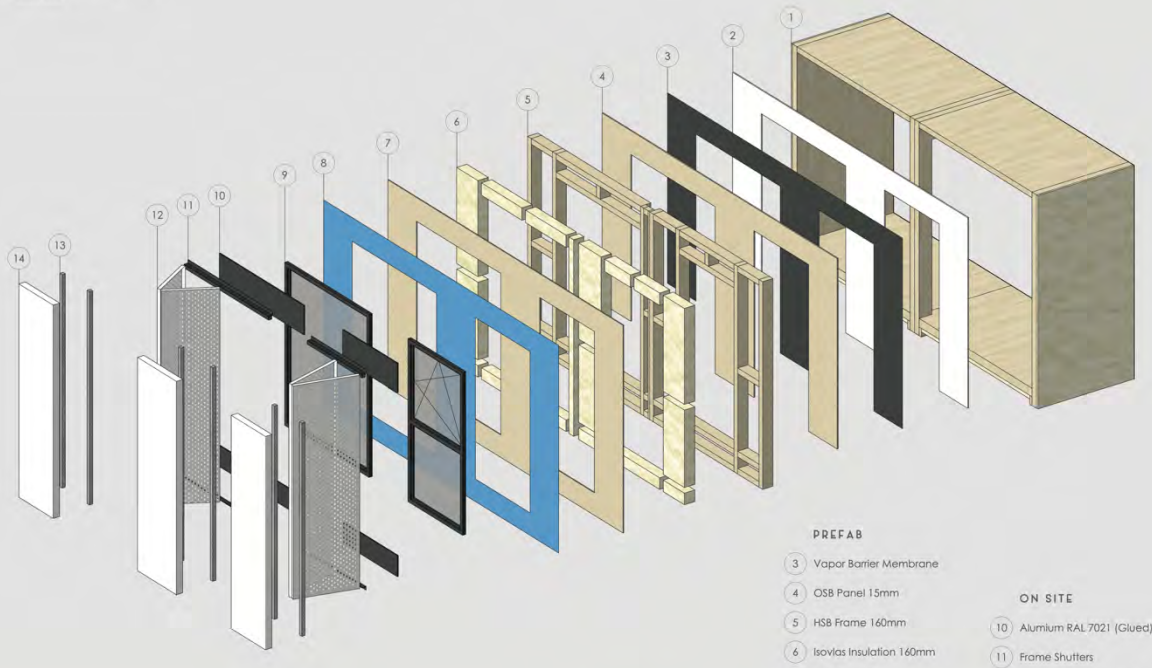






FACADE ASSEMBLY

Exploded View



1 CLT-Module

2 Gypsum Board 12.5mm

PREFAB

3 Vapor Barrier Membrane

4 OSB Panel 15mm

5 HSB Frame 160mm

6 Isovlas Insulation 160mm

7 OSB Panel 15mm

8 Waterproof Vapor-Open Membrane

9 Alumium Window RAL 7021 with HR+++ Glass

ON SITE

10 Alumium RAL 7021 (Glued)

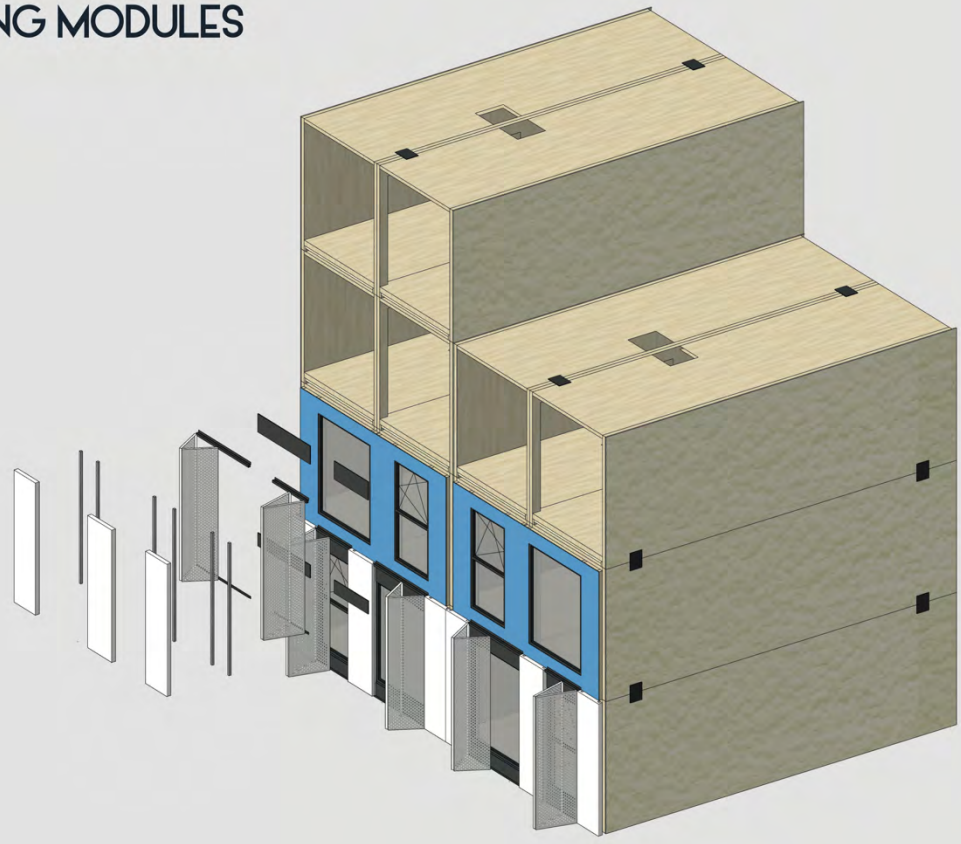
11 Frame Shutters

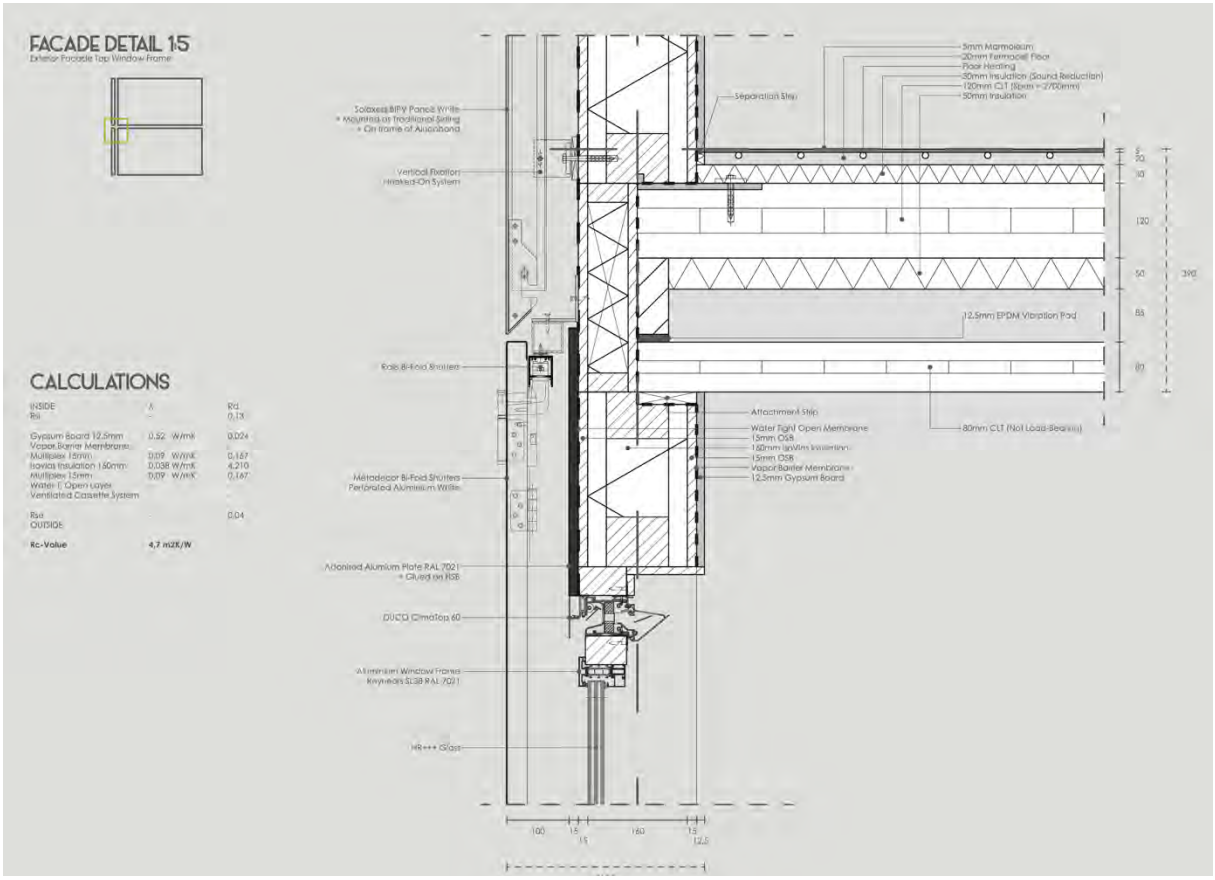
12 Alumium Perforated Shutters Bi-Fold MetaDecor

13 Alucobond Hooked-On Cassette System

14 BIPV Panels Solaxess

STACKING MODULES




FACADE DETAIL 1:5
Exterior Facade Top Window Frame
CALCULATIONS
INSIDE
Rsi
Gypsum Board 12.5mm
Vapor Barrier Membrane
Multiplex 18mm
Isover Insulation 180mm
Multiplex 18mm
Water & Open Layer
Ventilated Cassette System
Rse
OUTSIDE
Rc-Value
4,7 m2K/W
5mm Marmoleum
20mm Fermacell Floor
Floor Heating
30mm Insulation (Sound Reduction)
120mm CLT (Span = 2700mm)
50mm Insulation
Separation Strip
Solarex BIPV Panels White
+ Mounted on Traditional Siding
+ On frame of Aluminium
Vertical Rainscreen
Hinged-On System
Rolo Bi-Fold Shutter
Attachment Strip
Water Tight Open Membrane
15mm OSB
150mm Isowin Insulation
15mm OSB
Vapor Barrier Membrane
12.5mm Gypsum Board
12.5mm EPDM Vibration Pad
80mm CLT (Not Load-Bearing)
Métadecor Bi-Fold Shutters
Perforated Aluminium White
Anodized Aluminum Plate RAL 7021
+ Glued on RSB
DUCO Climatos 60
Aluminium Window Frames
Keyhinds SLSB RAL 7021
HR+++ Glass
100
15
150
15
125
20
30
120
50
85
80
390

Prepainted Metal Trophy

PMT01

Kirsten van Santen

The Mall in Rotterdam

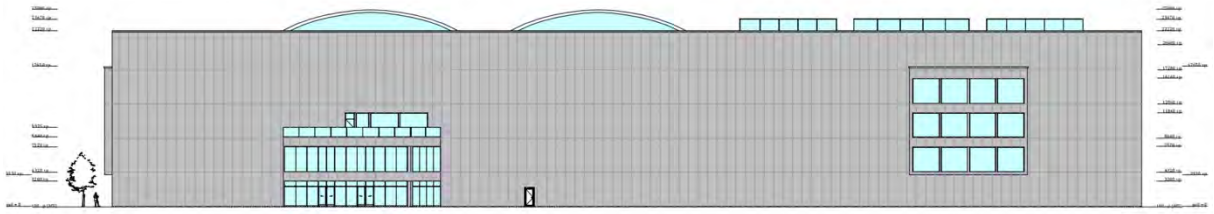
De tweede prijs staalSCHOOLprijs gaat naar Kirsten van Santen. Op de plek, waar in Rotterdam de Zalmhaventoren I verrijst, plaatst Krista een eigentijds winkelcen- trum met restaurant-faciliteiten. Een mooie oplossing voor die locatie volgens jurylid Sander van Eerden, die zelf heeft mee-ontwor- pen aan de Zalmhaventoren.

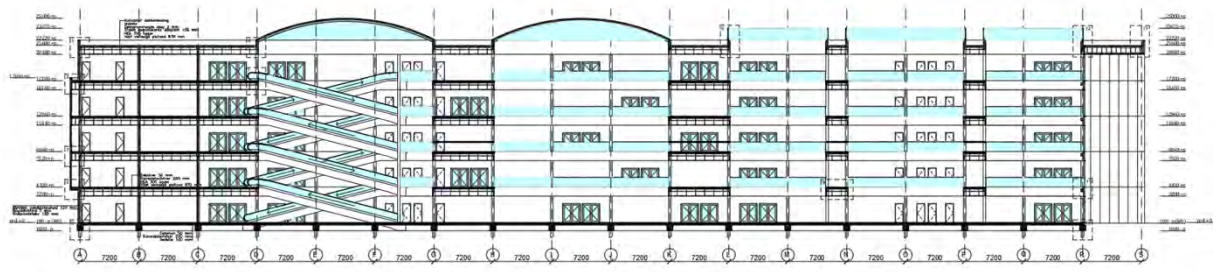
Het is vooral de weldoordachte eenvoud van het plan die indruk maakt. Aan de noordzijde liggen de retail- en horecaruimten op lijn naast elkaar. Aan de zuidzijde zorgt een slinger voor een plein- achtige binnenruimte met atrium. Het filmpje dat de afstudeerder van het gebouw maakt, toont fraai de indrukwekkende omvang van dat centrale deel. De bovenlichten leiden het daglicht helemaal naar beneden toe en lokken het winke- lende publiek naar boven.

Die eenvoud ziet de jury ook terug in de materialisatie. Zoals de utilitaire staalconstructie die ontwerpvrijheid biedt. En in de combinatie van metalen sandwich- panelen voor de dichte geveldelen en aluminium vliesgevels voor de open delen. De gladde materialen en de strakke detaillering geven The Mall een luxe uitstraling.
De bouwkundige uitwerking is vol- wassen en realistisch. Natuurlijk zijn er verbeterpunten. Zo is de gevelopbouw onnodig dubbelop. Een metalen sandwichpaneel kan heel goed zonder kalkzandsteen binnenspouwblad. Of neem een geprofileerde metaalplaat als bui- tenblad. Die biedt ontelbaar meer vormgevingsmogelijkheden. Ook dubbelop is het even zwaar gedimensioneerde staalskelet in beide richtingen. In de richting die de vloe- ren overspannen, doen de vloeren het stabiliserende werk en is hooguit een lichte koppelstaaf voldoende. Deze onnodige overdimensionering zag de jury in bijna alle plannen.

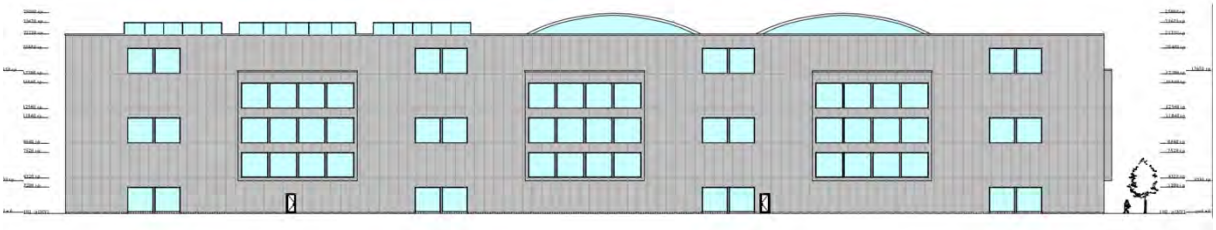
Los van deze verbeterpuntjes is de bouwtechnische uitwerking uit- stekend. De jury is onder de indruk van de eenvoud en de praktische, logische wijze waarop deze is uitgewerkt.

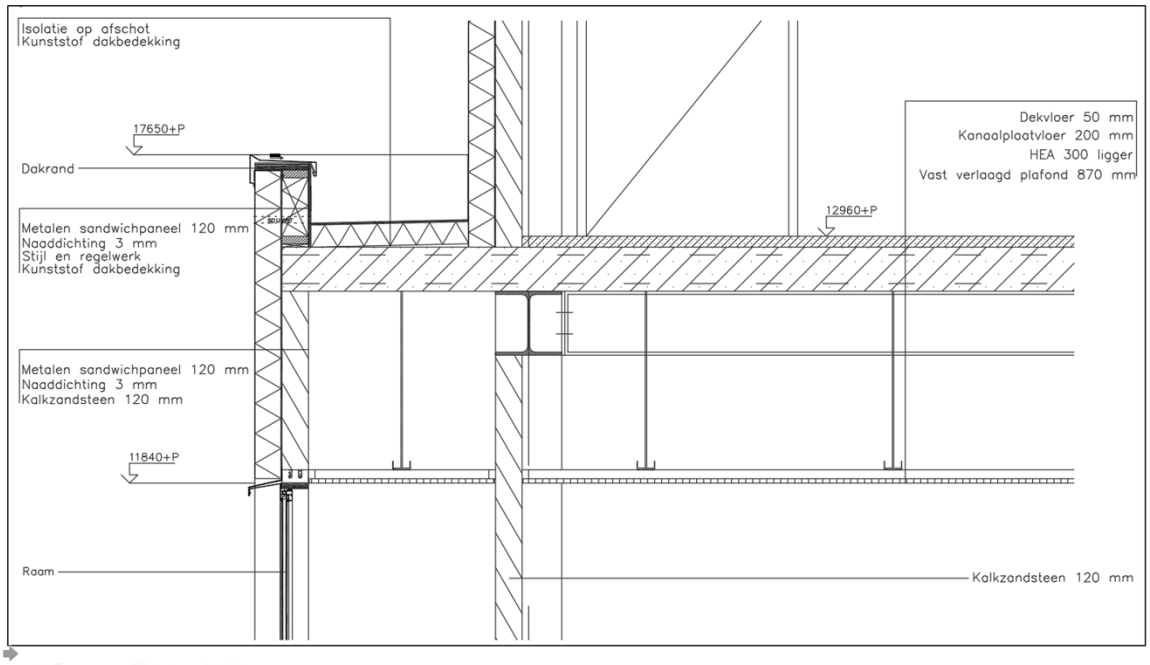

legenda:
winkels
winkels
restaurants
coffee corner/ mini lunchroom
security
toiletten
vluchtroute
opslag/technische ruimte
verkeersruimte



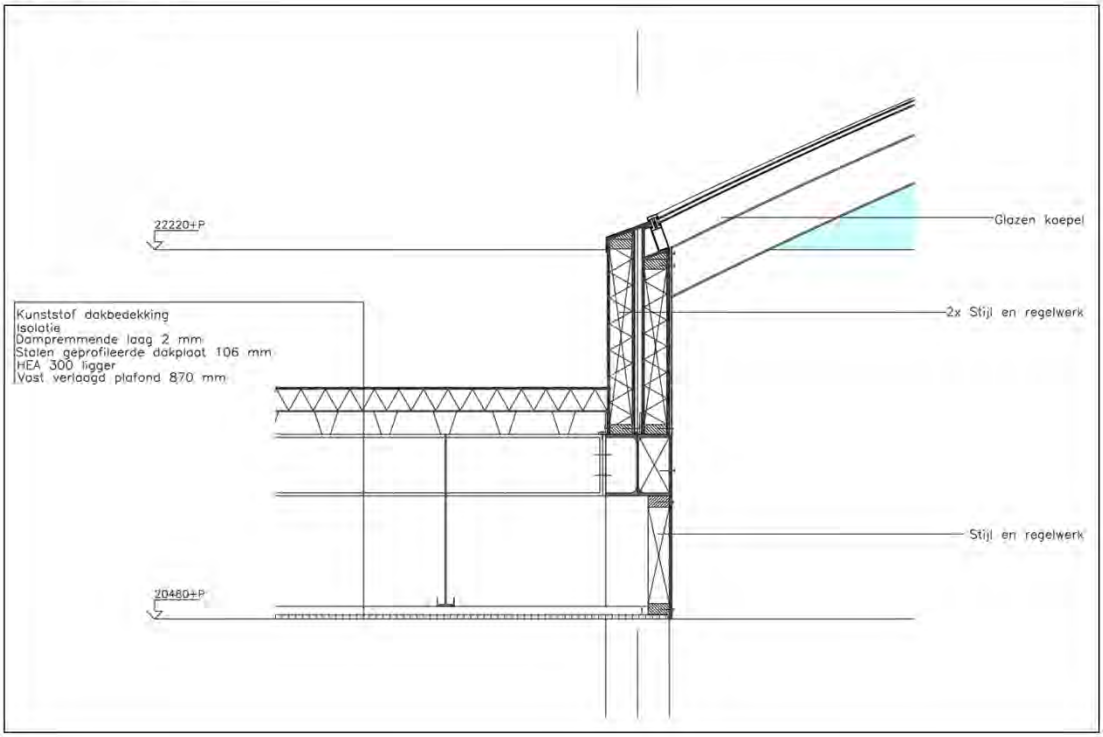


doorsnede AA

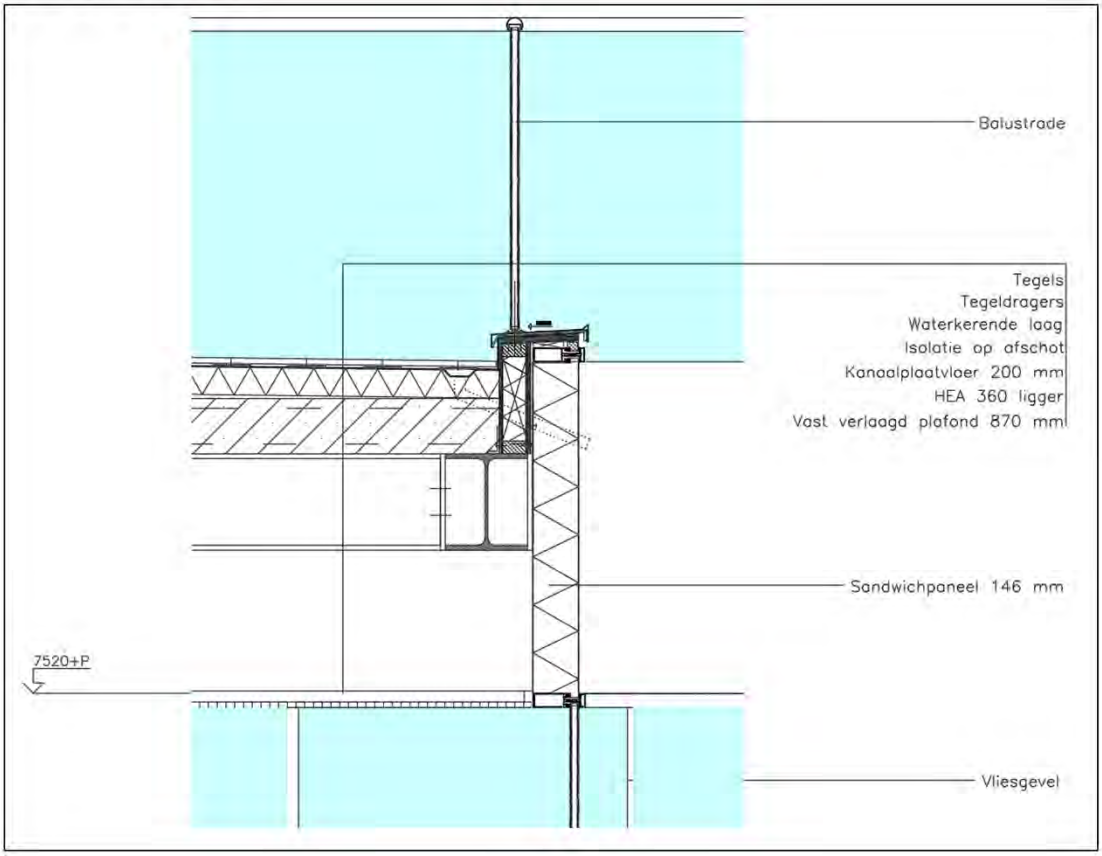



Isolatie op afschot
Kunststof dakbedekking
17650+P
Dakrand
Metalen sandwichpaneel 120 mm
Naaddichting 3 mm
Stijl en regelwerk
Kunststof dakbedekking
Metalen sandwichpaneel 120 mm
Naaddichting 3 mm
Kalkzandsteen 120 mm
11840+P
Raam
Dekvloer 50 mm
Kanaalplaatvloer 200 mm
HEA 300 ligger
Vast verlaagd plafond 870 mm
12960+P
Kalkzandsteen 120 mm

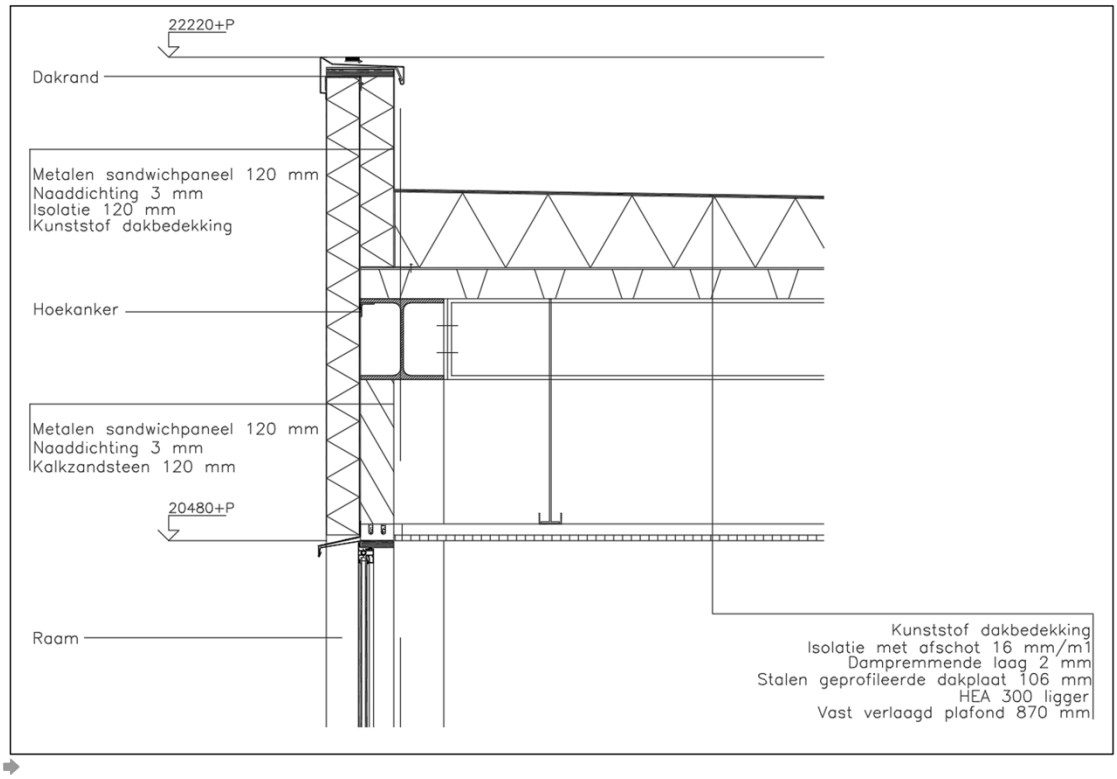
DETAIL 6

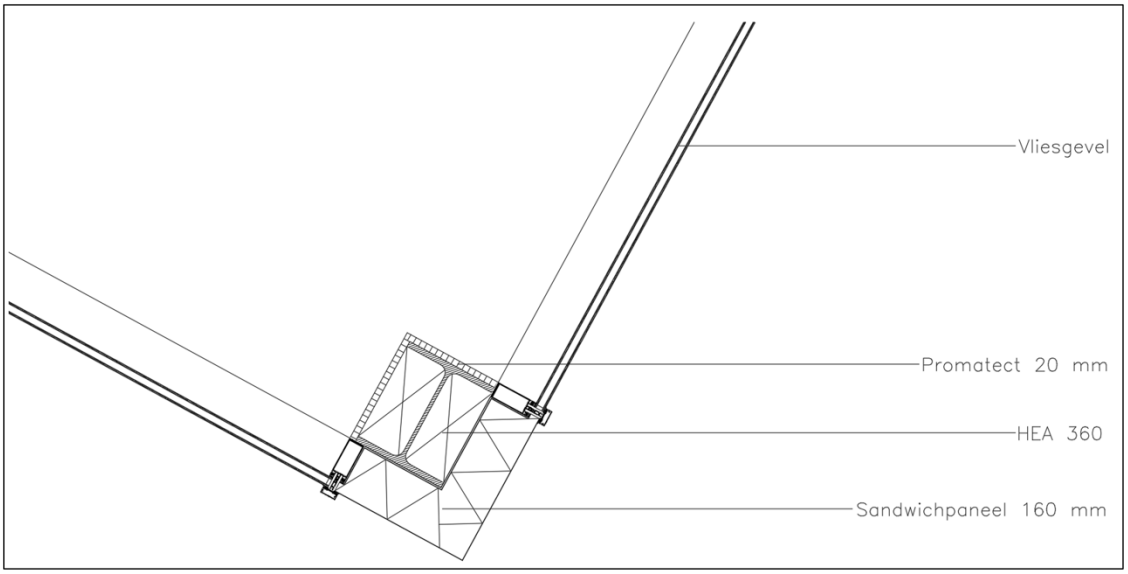

22220+P
Kunststof dakbedekking
Isolatie
Dampremmende laag 2 mm
Stalen geprofileerde dakplaat 106 mm
HEA 300 ligger
Vast verlaagd plafond 870 mm
20460+P
Glazen koepel
2x Stijl en regelwerk
Stijl en regelwerk

DETAIL 19



DETAIL 21



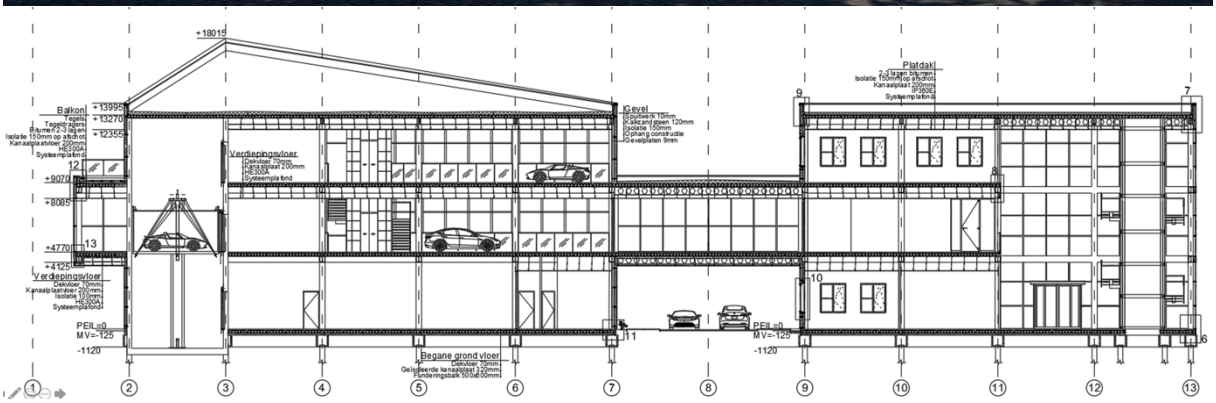

Vliesgevel
Promatect 20 mm
HEA 360
Sandwichpaneel 160 mm

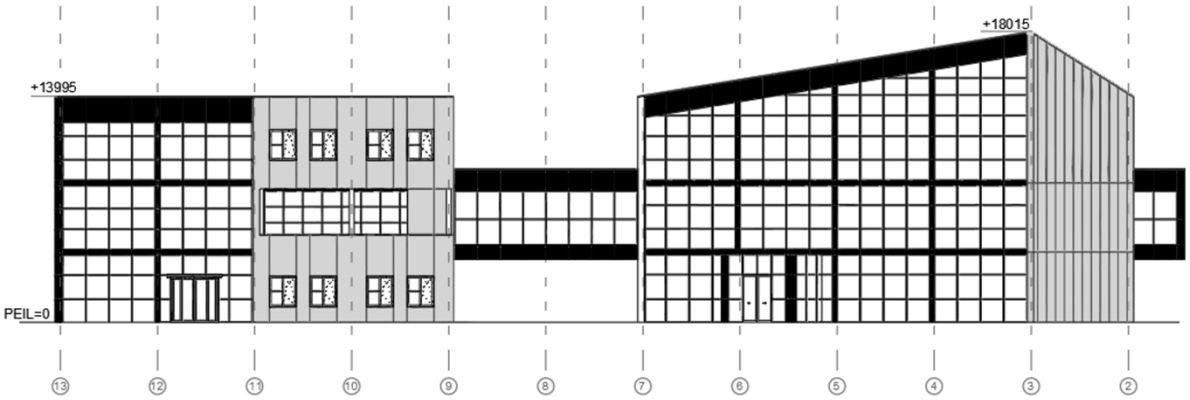
PMT02

Pieter Tackenberg

Autoshowroom en kantoor voor Tesla in Haarlem

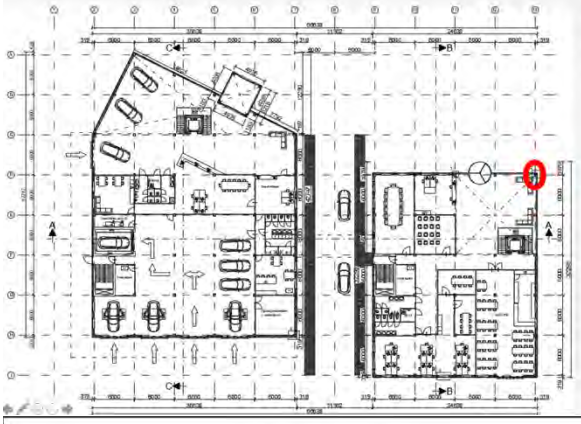
Volgens de jury van de staalSCHOOLprijs is Pieter's project volwassen, volledig en vooral ook goed gedetailleerd. Je kan zien dat over de ontwerpstap- pen goed is nagedacht. Een verbeterpunt is om te vertellen waarom elke ontwerpstap is genomen. Maar aan de uitwerking is te zien, dat Pieter ontzettend veel plezier had in het architectonisch ontwerpen en bouwkundig detailleren. De metalen gevelbekleding past helemaal bij de functie van het gebouw: de glans van de Tesla's spiegelt in het glimmende aluminium van de huid van de showroom.

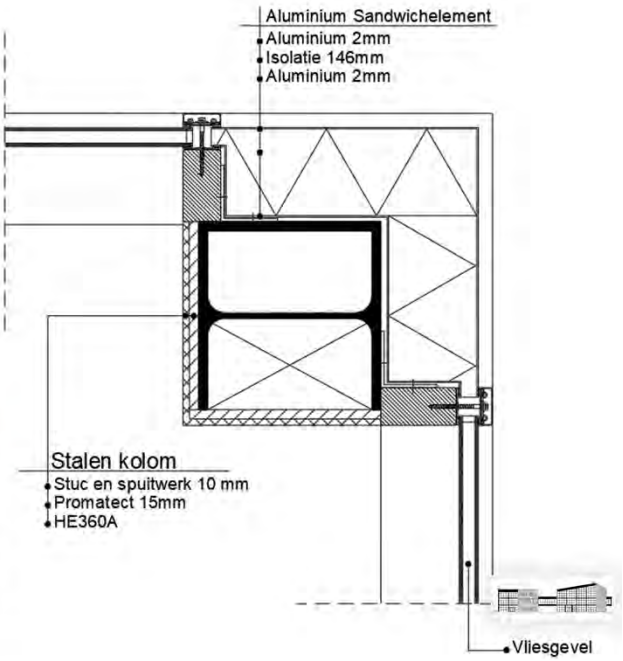

+18015
Balkon
+13995
+13270
+12355
+9070
+8085
+4770
+4125
Verdiepingsvloer
PEIL±0
MV=-125
-1120
Gevel
Platdak
Begane grond vloer
1
2
3
4
5
6
7
8
9
10
11
12
13



DETAIL 2

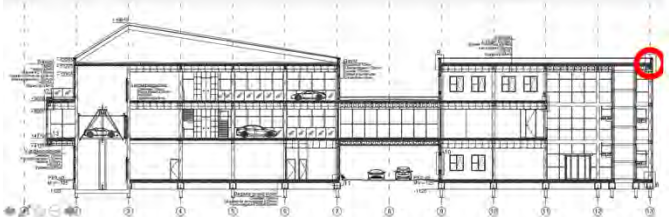
Vliesgevel hoek met sandwichpaneel

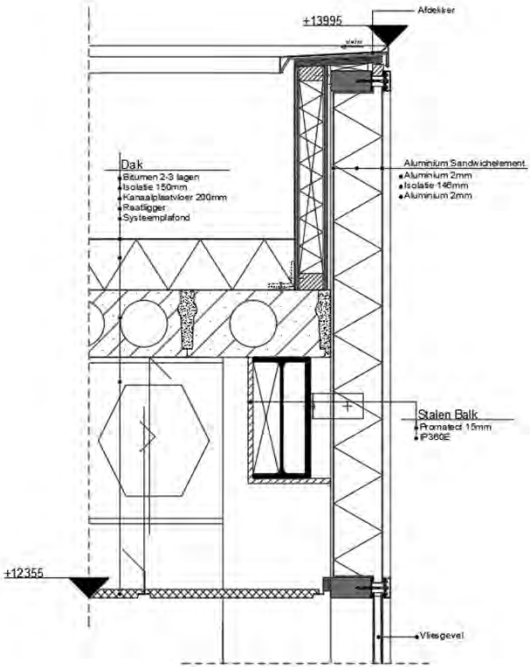




DETAIL 7

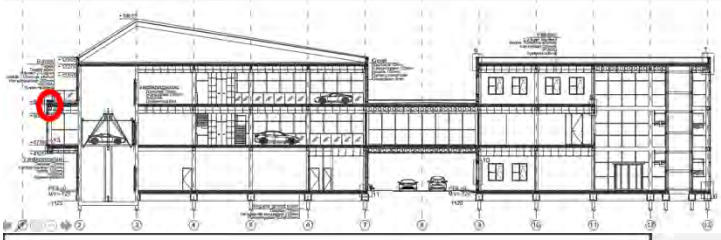
Aansluiting dakrand met vliesgevel

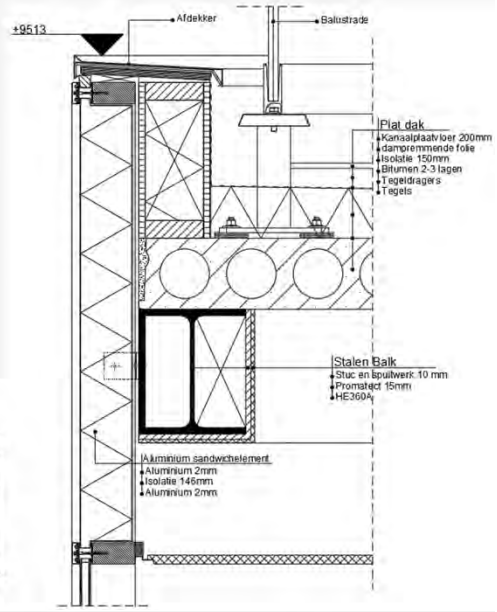




DETAIL 12

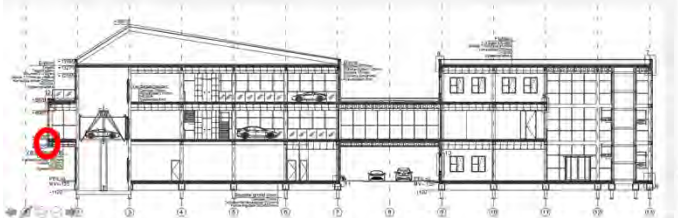
Terras op dak uitkraging

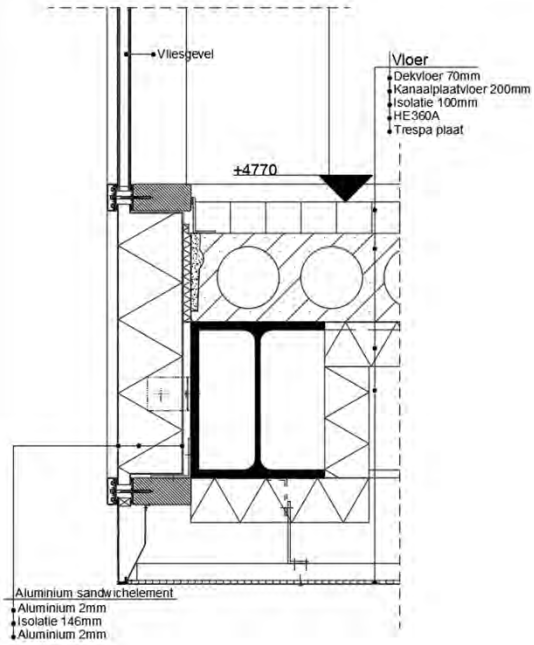




DETAIL 13

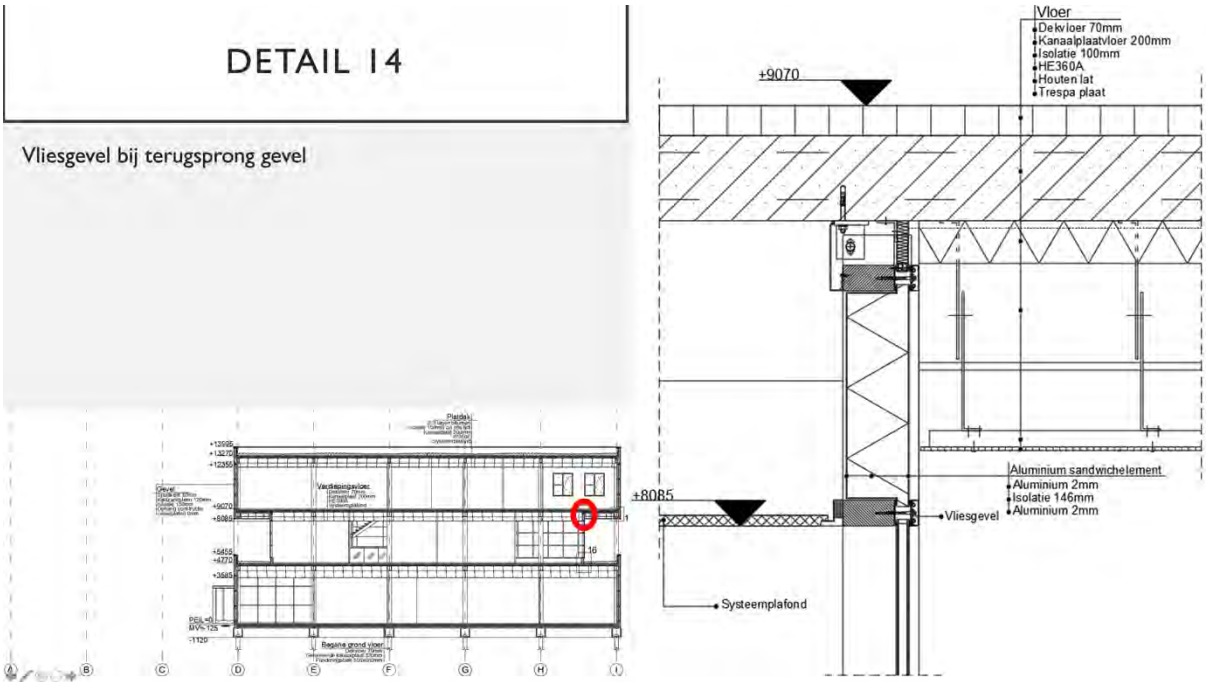
Vliesgevel bij uitkraging

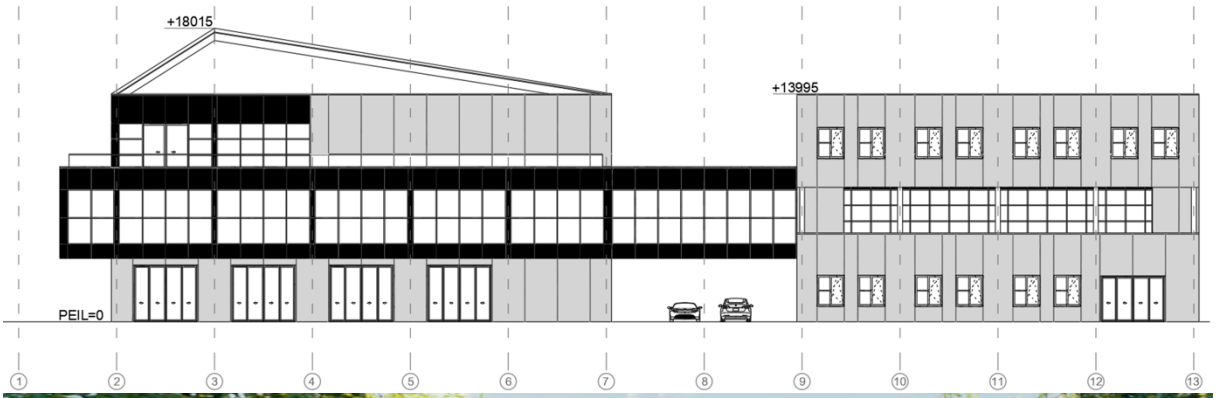




DETAIL 14

Vliesgevel bij terugsprong gevel





PMT03

Jeroen Pospiech

Justice for Data – A Right Future in the Smart City

Justice for Data is een onderzoek naar de toekomst van Smart Cities. In de opkomende Smart Cities gaan ontwikkelingen razendsnel, maar de burgers van deze steden worden soms voorbij gestreefd. Zij weten vaak niet wat hun rechten zijn, noch waar terrecht kunnen met vragen of aanklachten. Een oplossing voor deze problemen is het bouwen van een rechtbank die specifiek deze wetgeving vertegenwoordigd. Waar het ontwerp aan de ene kant duidelijke referenties zoekt in de bestaande typologie van de rechtbank, wil het ook modern en open zijn. Geen monumentale bunker die burgers vooral afschikt en weinig informatie loslaat, maar een gebouw waar licht, lucht en ruimte ademen en dat burgers verwelkomt. Daarom is het gebouw gematerialiseerd uit een combinatie van hout en staal, waardoor een slanke vormgeving en veel openingen mogelijk zijn, en wat ook de ronding in het dak en de vrije overspanning mogelijk maakt.

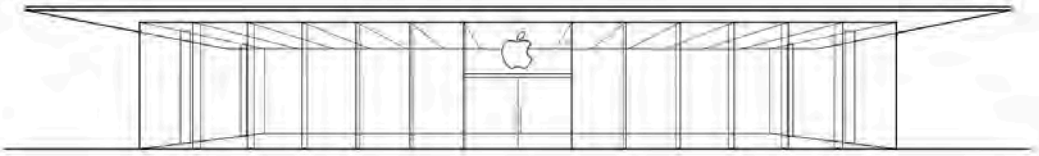


Figure 2.18: Perspective drawing of Apple Stanford, Palo Alto. Built in: 2013. Architect: Bohlin Cywinski Jackson.

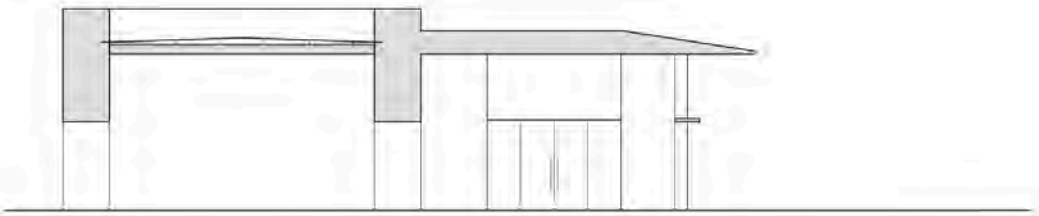


Figure 2.19: Section drawing of Apple Stanford, Palo Alto, showing the tapering of the roof in order to create the paper-thin effect. Built in: 2013. Architect: Bohlin Cywinski Jackson.

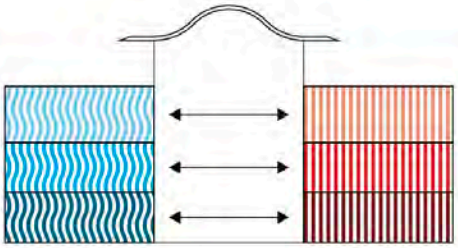


Figure 2.40: West-east section of resulting partition between the different levels: restricted on the ground floor, public on the first and private on the top, with connecting atrium in the middle. Scale: 1:500

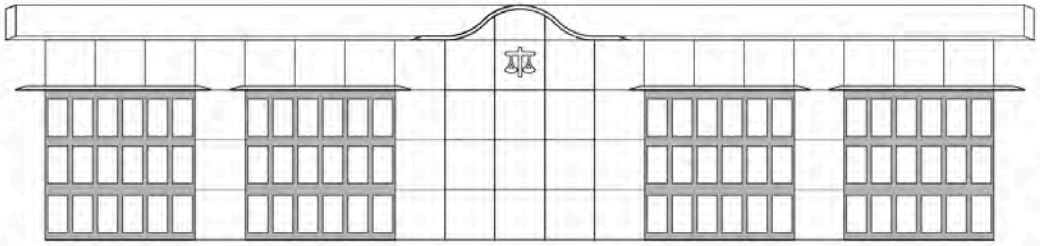


Figure 2.41: West elevation of data courthouse design. . Scale: 1:500.

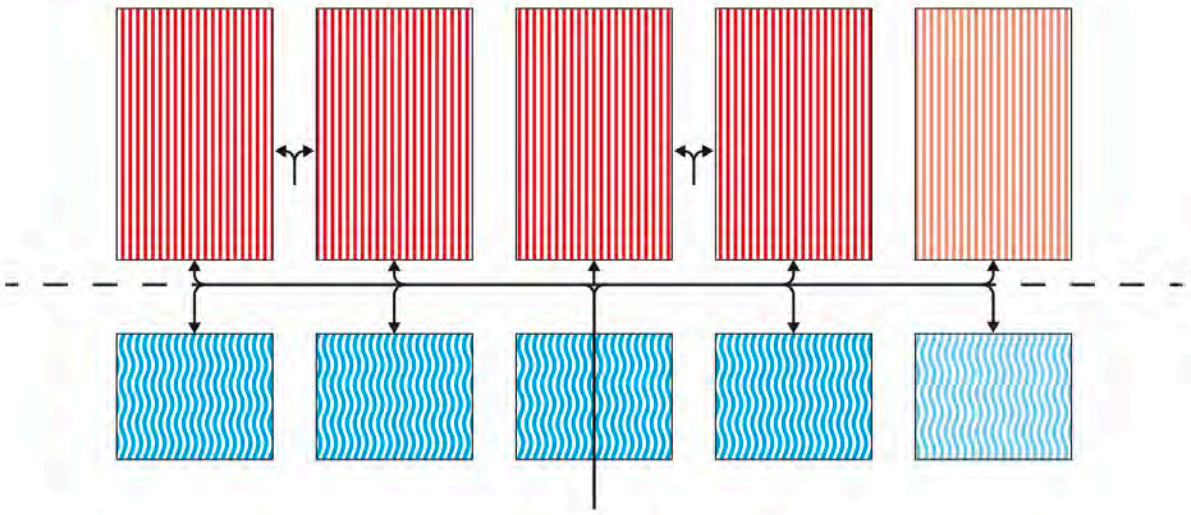
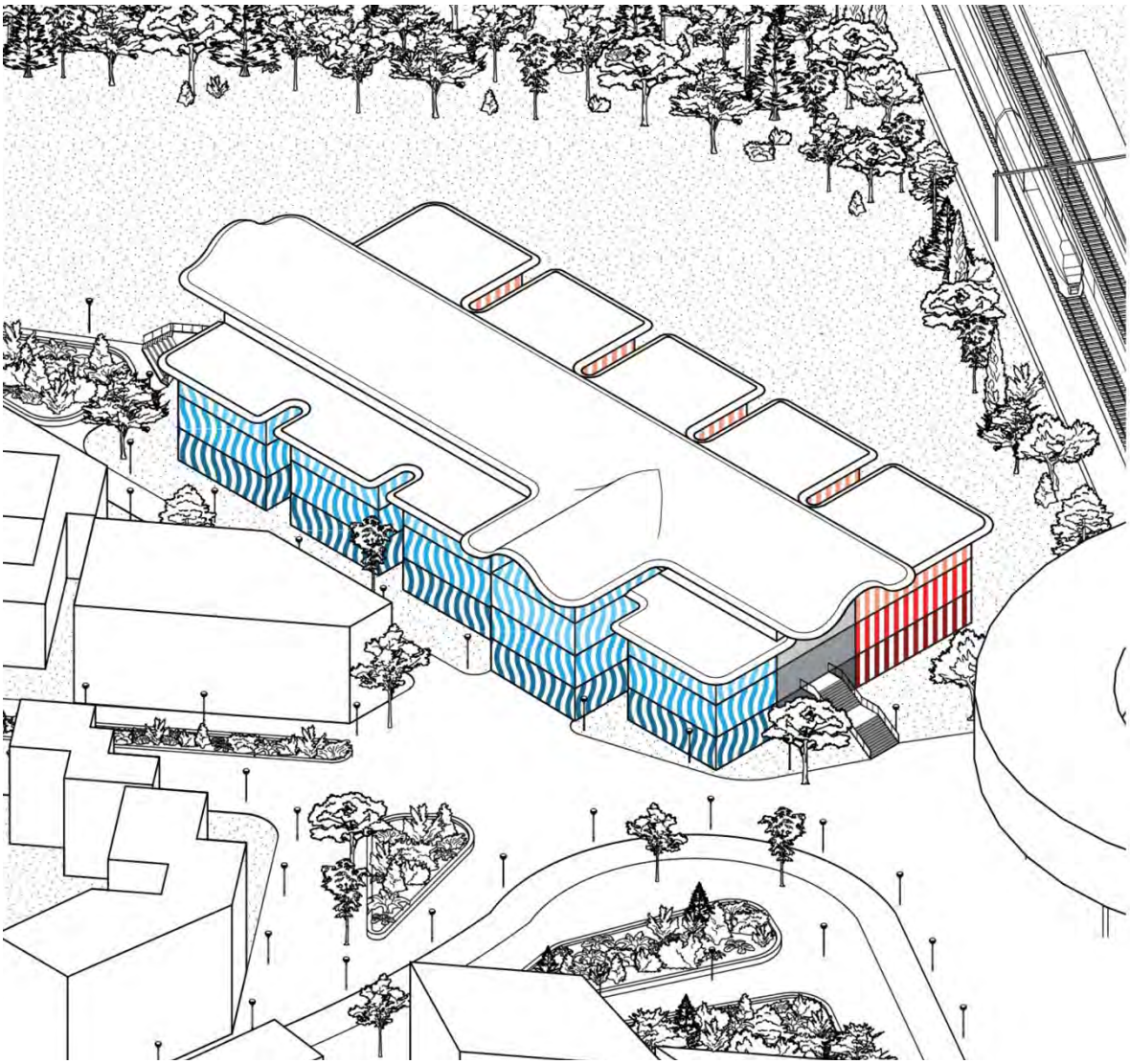
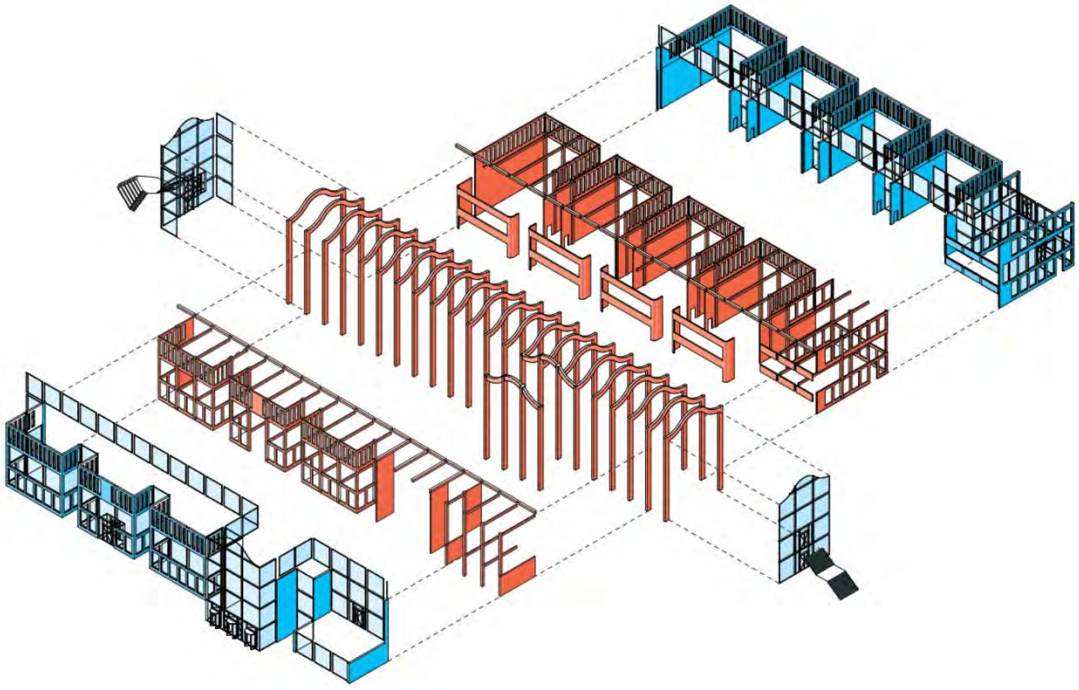
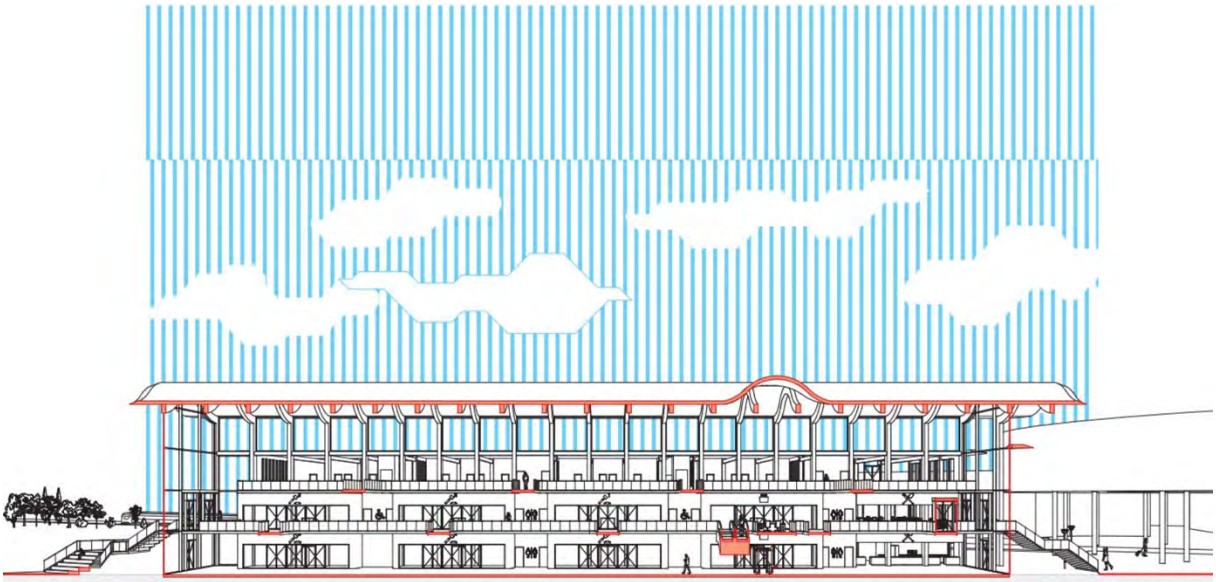


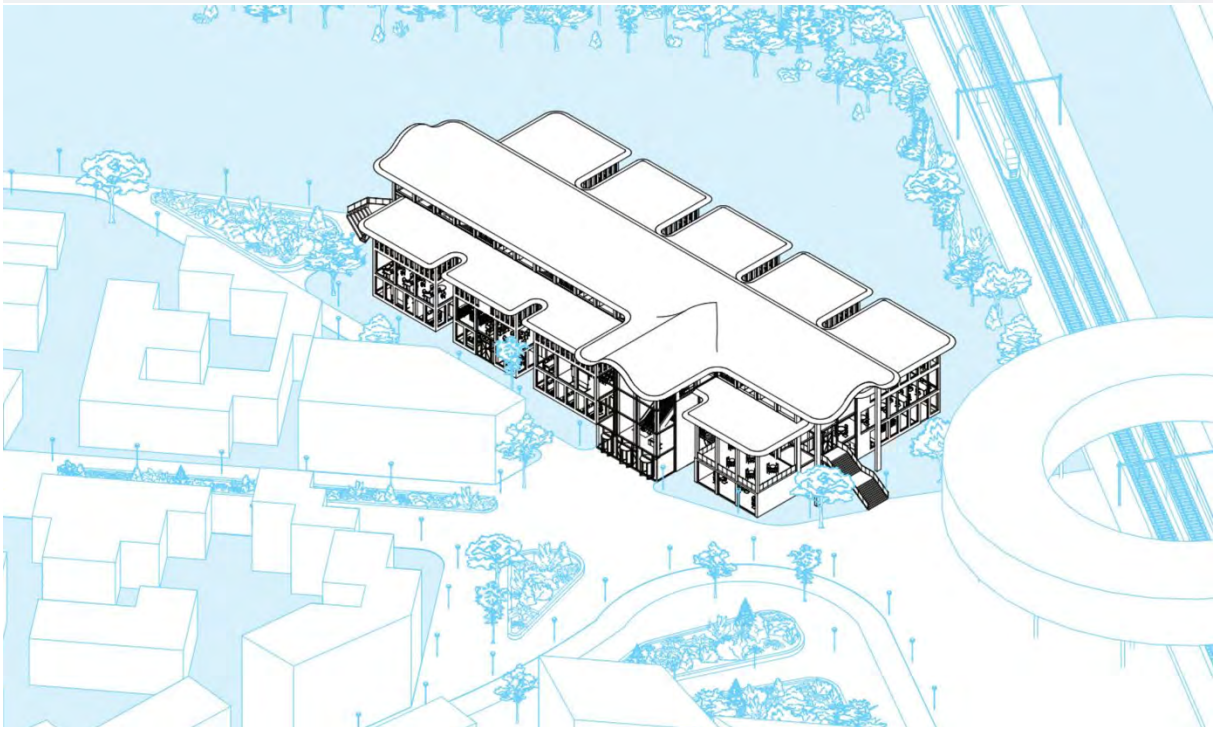
Figure 2.42: Conceptual first floor plan of data courthouse design, with rigid functions in red and flexible functions in blue. Scale: 1:500.







11



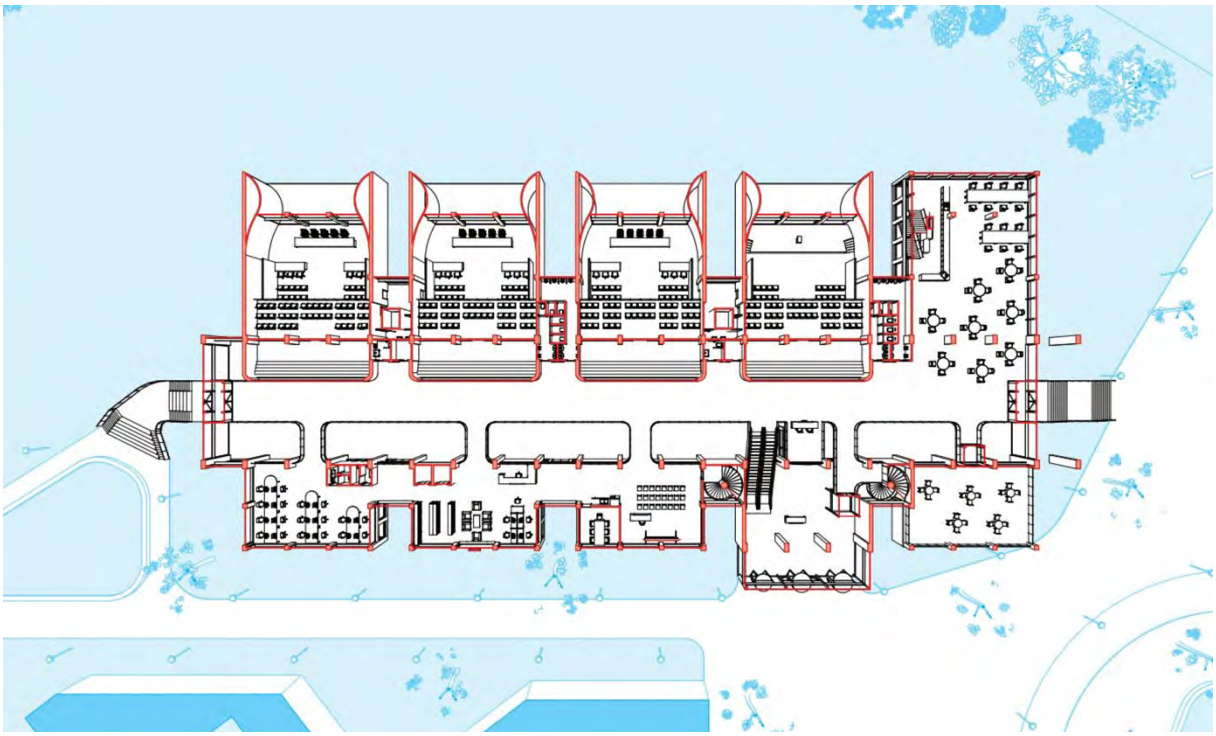


Figure 3.66: North(east) elevation. Scale: 1:300

Figure 3.67: South(west) elevation. Scale: 1:300.

Zie voor Prepainted Metal Trophy ook:
MA01 Ellen Neumann
MA04 Di Wu
MA05 Olga Gumienna
MA07 Martijn van Leeuwen