

## M HKA museum of co-existence

**co-existence** noun [ U ] (also coexistence)

the fact of living or existing together at the same time or in the same place

*Cambridge Dictionary*

**Project Journal**

**Interiors Building Cities | An Architecture for Art**

Matthew Tan | 4793315 | 2022/2023





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### M HKA museum of co-existence

This graduation project rethinks the open museum through **co-existing**. A public institution in today's day and age should not only be used by regular museum visitors. According to me the institution also serves a role in the city and neighbourhood it sits in. Especially in Antwerp, a multicultural city with people from very diverse backgrounds, I envision my museum as an important place for gathering and encounter for these diverse people in the city: **non-museum visitors** with encounter as a first way of mutual acceptance and co-existing.

This theme of "co-existing" is furthermore expanded with co-existing between humans and **non-humans**. My project is about creating a truly open museum: not only for humans but also for non-humans, as there is a necessity to do this. Cities are becoming more and more densified by buildings, and this means that the city's ecosystems get disturbed with less space for insects, birds, bats and plants. Extensive research into the urban

ecosystems in nature have led to strategies to invite a new, wider audience to the museum: animals and plants.

I'm creating a dialogue between park and buildings. By inviting nature, into and around the building, spaces become bio pleasant and comfortable. Two of these spaces are the **Urban Living Room** and **Winter Garden**. By doing this and using plants inside for a healthy atmosphere, I'm also able to invite non-museum visitors to the museum. Just like a living organism, the museum is flexible in its use and adapts to the changing conditions (summer/winter and day/night). During the design, the cycles of nature were a key inspiration.

The projects aims to set an example with regards to the **nature inclusive design strategy** and the **topic of co-existing** (between humans & between humans and non-humans) as these topics are two relevant and important topics which are applicable to many densified and multicultural cities in the world.



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**Materialization, texture, gloss, light**

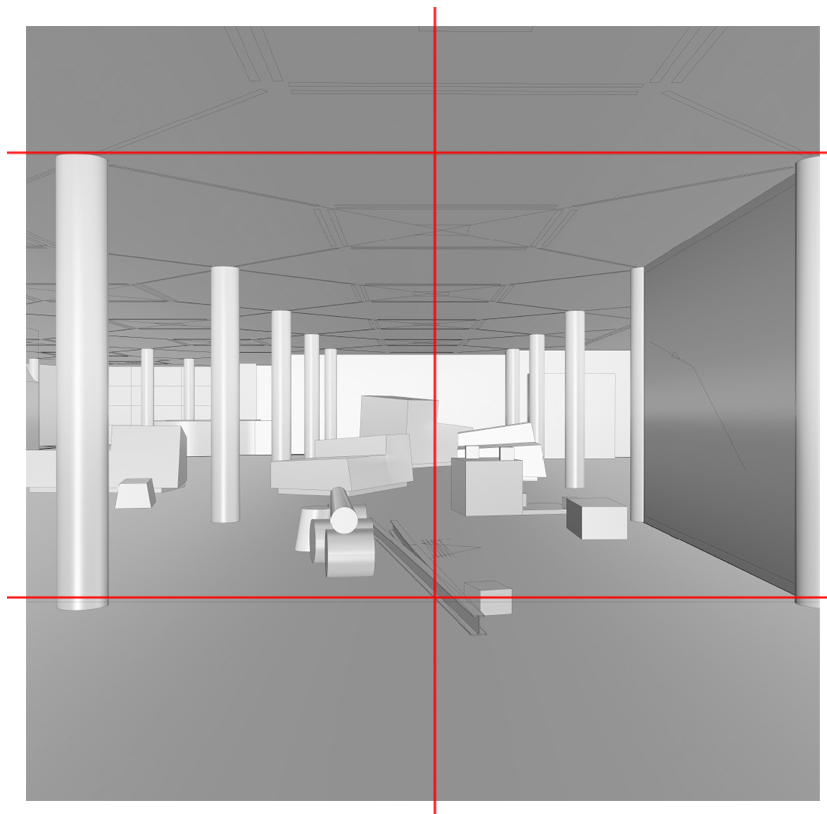
Thomas Demand, Repository (2018)

The art by Thomas Demand as inspiration for our model and picture. How different types of paper can give the illusion of all kinds of material. In the image above for example: a table cloth, carpet, wall or shelves. Also with the influence of natural or artificial light for the space.

## Museum Abteiberg, Mönchengladbach

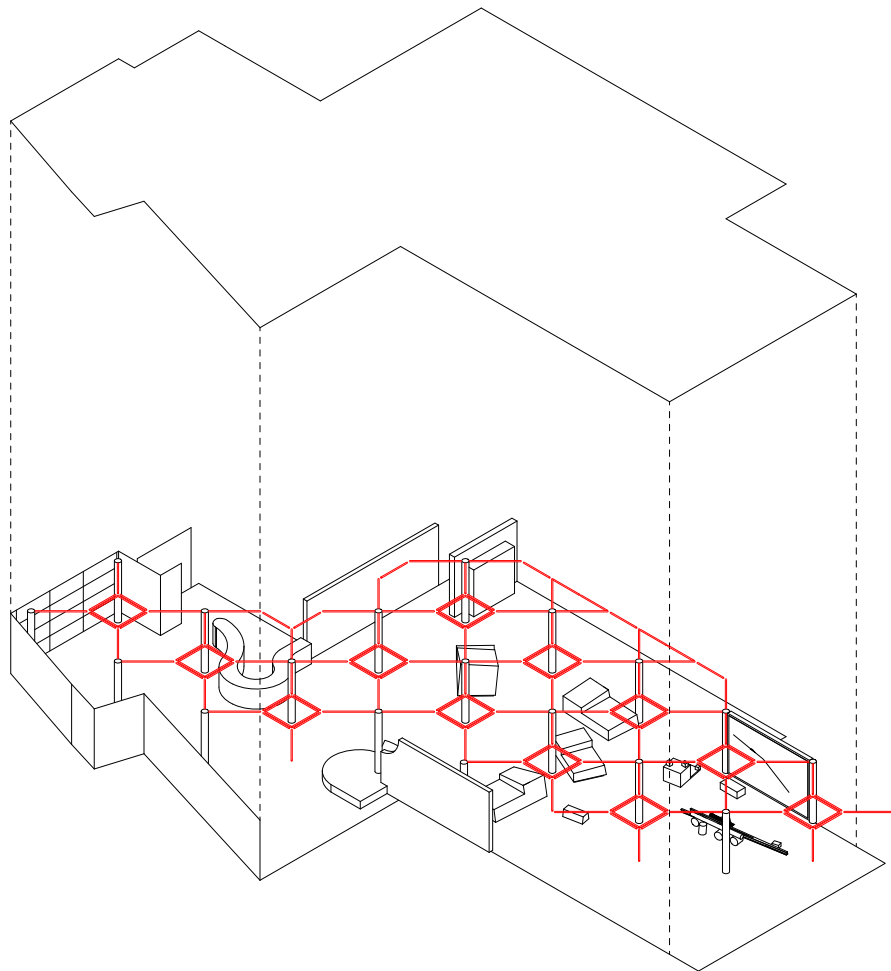
Architect: Hans Hollein

Picture taken in 1982



### Proportions, focal length, placement, grid

Computer 3D modelling of the space: Iterative process of 3D modelling and comparing to the picture to be recreated. Knowledge about both the camera settings and space. Research by looking and serving as a base for the physical model.



### **Digital Model**

Using our digital 3D model to set our foundation for the physical model.





### Grids, tolerances

Upside down model making due to the **strict grid** of the Museum Abteiberg. This way we were better able to line up the columns with the pattern of the lights.

The strict grid also has its consequences in practice, concerning **tolerances during the building construction**. In the earlier stages of the constructural works of the building, people work less accurately. During the later stages of construction: the finishing, people work more accurately, on the centimetre precise. Here, the inaccuracies can be fixed or hidden.



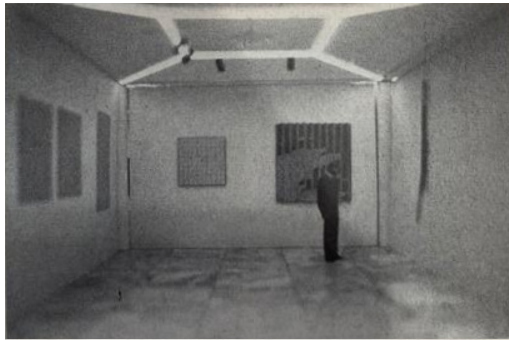
**Lighting, daylight, artificial lighting, colour warmth and tone**

The main form of light in the museum was the artificial lighting in the ceiling, but other than that we also had some windows in the building with some daylight coming through (also of different intensities and warmth of colours). This is why we used bright studio light, which gave an even, white tone. The phone flashlight on a lower setting was used to simulate daylight.



**Testing the lights**  
Pictures, testing out the lights on the ceiling





*Innenraummodell 1 : 50,  
darunter eine Lichtstudie in einem  
Innenraummodell 1 : 20  
(ausgewählte Variante)*

Bauwelt (Germany)  
Volume 70 | Issue 25 | July 6, 1979 | p. 1073-1077

In this German magazine Bauwelt I found some pictures of **1:50 competition physical models**. The design here is very similar to the executed final design however it is clear that it has been refined a lot afterwards.



Architectural review (UK)  
Volume 172 | Issue 1030 | December 1982 | p. 52-71

In this international magazine I found a picture of the same **exhibition by Joseph Beuys in 1982**. This picture helps us because it shows a different angle of the same space in colour.



A + U architecture and urbanism (Japan)  
February 1985 | p. 66-91

In A + U, a Japanese magazine I found some **extra pictures of the area in the very back of our picture**, also in colour. This helped us because the image we are recreating is quite of low quality and this meant that the elements in the very back were very difficult to distinguish.

### **Archival Research Museum Abteiberg**

Hunting for reference imagery of Museum Abteiberg in old magazines: photos, axonometric drawings, plans, sections, elevations.



Photo: Joseph Rykwert (1982)



Joseph Beuys  
Straßenbahnhaltestelle (1976)



Joseph Beuys, Unschlitt (1977)

### Identifying important artworks

In order to model them correctly and information about the exhibition and artist.





Original image in black and white with blue tint.



Model photograph in colour





Model photograph in similar blue tint as the original photograph

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## Individual Reflections

*Reading Responses: written in collaboration with Yiyin Yu and Mikolaj Cichocki. As we've already submitted the complete reading responses once, I only highlight some personal aspects per reading or podcast which were especially significant for my personal development.*

### Week 1 - The Modern Art Museum as Public Space

#### BBC Radio 4 - The Reith Lectures, Grayson Perry - Beating the Bounds

In his lecture, Grayson Perry touched upon the subject of: "What is the value of Contemporary Art?". According to him, Contemporary Art has a social-cultural value. It is an expression of creativity, can raise awareness, can help people with their feelings and also, it is a product of its time. It was important for my graduation topic because I think this underlines the value of the research that I am conducting for my graduation as well as that it underlines the value for the design of the museum of Contemporary Art itself.

#### Pimlott, M. Visibility, spectacle, theatricality and power: the problem of the museum.

Mark talked about the **white cube** and its questionable 'neutrality'. It is about the relation between viewers and the works of art over the period of the museums existence. The spaces of display and the way of curatorships have become and integral part of the display of contemporary art. Viewers perceive the work within a prescribed spatial setting and therefore the spatial quality of the room where the artworks are being placed and exhibited play a crucial role.

### Week 2 - The Modern Art Museum as Urban Event

#### Klonk, C. The Dilemma of the Modern Art Museum.

In her book, Charlotte Klonk talks about the Kassel Documenta. I was inspired on the dispersed structure and periodic (temporary) character of the Kassel Documenta as it offered this new way of viewing art in contrast to the museums with only permanent exhibition which were the only ones available at that time. As a result, the Documenta offered a more **immersive encounter with art**.

#### The Bilbao Effect #1: Bilbao, Spain. Guggenheim Bilbao's director general disuses the city's world renowned transformation.

The topic of the possible '**local importance**' of the museum sparked my interest in this podcast. In case of the Bilbao Museum the psychological effect that the museum had on the local population was especially interesting to read. Because the museum in Bilbao was this very large and impressive architectural gesture. It gave the local population a certain feeling of proudness to their city. I don't necessarily think that this large gesture is the solution for Antwerp, because it is a very different city (Bilbao was at that time in a large industrial decline), however the 'local importance' in a different way remains of great interest to me.

### Week 3 - Culture, Race and Privilege in the Modern Art Museum

#### BBC Radio 4 - Thinking Allowed, Culture and Privilege.

The main topic of this podcast is about the exclusion of races or other groups of society in culture. The work of Orian Brook shows that these inequalities do exist in culture, and that we shouldn't just focus on the great value that art has on the society. But also be critical on the participation of certain groups in culture. Not limiting access on art display and making the threshold for visiting art as low as possible.

#### English, D., Barat, C. Blackness at MoMA: A Legacy of Deficity

I'm inspired by the efforts by MoMA with racial blackness: the **social responsibility of the Art Institution**. It can help to improve social justice by holding various activities, events and programmes at different scales in the city and engaging with different communities. For example: physically going inside these communities with the "Studio Museum" in Harlem.



#### Real encounters with art at documenta 14:

Westpavillon (Orangerie) and Karlssau Park. Real encounters with art.  
(Source: courtesy of the artists and documenta 14)

### Short Personal Essay on the issue of Belgian Politics and awkward situation of Flanders and Wallonia.

During the debate this morning what I found most interesting was the Flanders VS Wallonia issue: **what is the societal role of the M HKA in the political discourse in Belgium?**

The political situation in Belgium is very complex. In short, the country can be distinguished in two parts. The northern more wealthy Dutch speaking part Flanders and the southern less wealthy post industrial French speaking part Wallonia. This leads to a difficult political situation in Belgium. For example: if Flanders receive subsidies for an infrastructural project, Wallonia also wants to receive an equal subsidy, even if it doesn't need it. Furthermore, the general view on the country as a whole is that the Flanders part wants to split from Wallonia, while the Wallonian part wants to remain together with Flanders as a whole.

The issue is which position the M HKA should take in this political discourse. M HKA is a cultural-heritage institution of the "Flemish community". It is the only museum for contemporary art of the "Flemish community". And quoting from their own website: *"The M HKA aspires to play a leading role in Flanders and to extend its international profile by building upon Antwerp's avant-garde tradition"*.

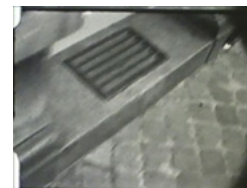
It being part of the Flemish community is a very important matter. Since its foundation it has been founded by the Flemish community. It means that it does not operate completely independently. The Flemish community has its own Flemish government with own ministers. The Flemish minister of Culture (Currently: Jan Jambon of the N-VA) therefore, has an influence in the direction the M HKA should be taking. This issue is also visible in the possible future repositioning of the museum from the M HKA to the TVHK (Toekomstig Vlaams Museum voor Hedendaagse Kunst/Future Flemish Museum of Contemporary Art). This would definitely lead to controversy in the country.

The question is which role the M HKA should take in this political discussion. If it follows the line of the Flanders politics, it could divide Belgium as a country even more. Also if the M HKA is pro Flanders, what would the Wallonian counterpart of the M HKA, the MAC's (Musée des Arts Contemporains de la Fédération Wallonie-Bruxelles/Wallonian Museum of Contemporary art) do? The MAC's is from the "French community" in Belgium and the Hainaut Province. Would the MAC's become pro French, to counteract the M HKA's position or would they stay neutral in this debate?

#### Sources:

- On the possible merging of M HKA with two other Flanders museums in Antwerp <https://www.vrt.nws.nl/2022/09/20/fusie-vlaamse-musea/>
- On the failed first design competition of the M HKA <https://www.dearchitect.nl/245595/debacle-open-oproep-m-hka-in-antwerpen>
- On the design brief of the first design competition of the M HKA <https://www.vlaamsbouwmeester.be/nl/instrumenten/open-oproep/projecten/oo3702-antwerpen-m-hka>

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**Jacques Lizène, M HKA Ensemble**  
 Paintings  
 Sculptural Art  
 Silly Sequence of Video Art

### “Everyday Art, Ordinarily”

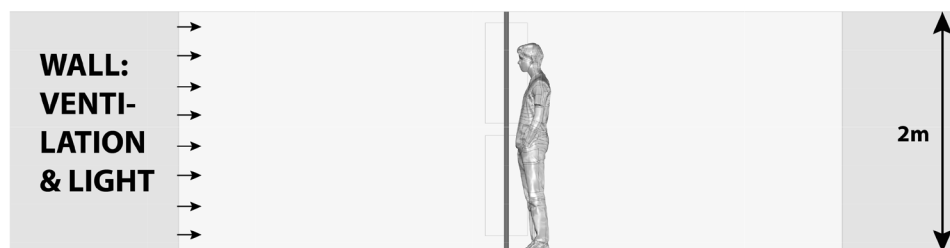
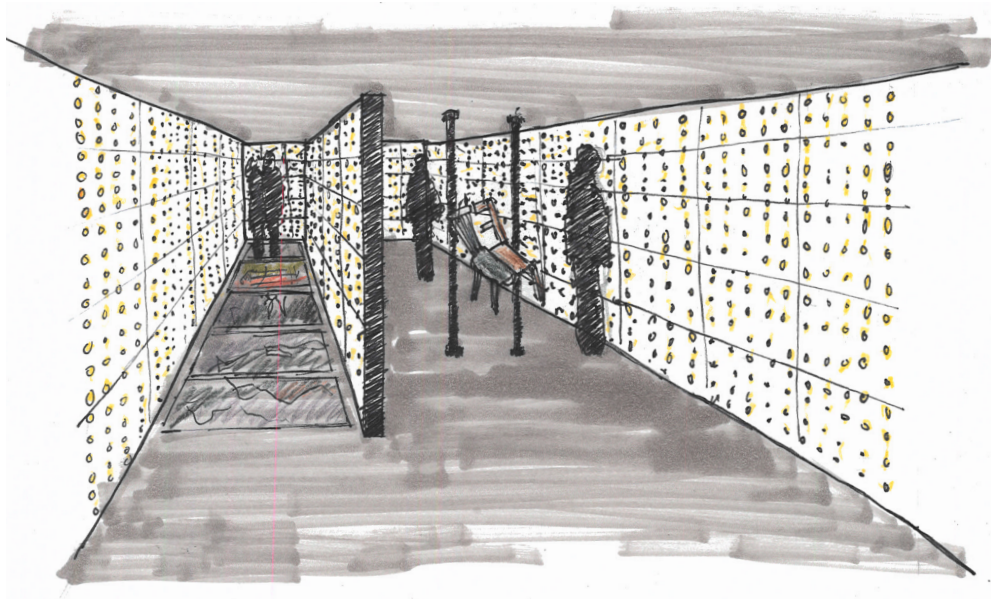
**Research on Jacques Lizène, his art and his oeuvre.**

Jacques Lizène  
 Liège, Belgium  
 Born: 1946  
 Died: 2021

His art is characterized by being “experimental art”. He rebels against and is mocking the “elite art world”. Lizène describes his art as being all about “mediocracy”. The art also has a “relation with life” (whether it is about embracing or not embracing life). Lastly, he often uses “everyday objects” as the centre piece of his art like chairs, bricks or the city.

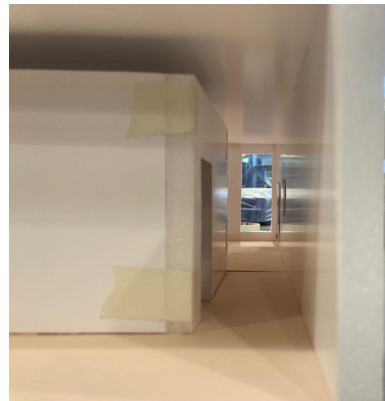
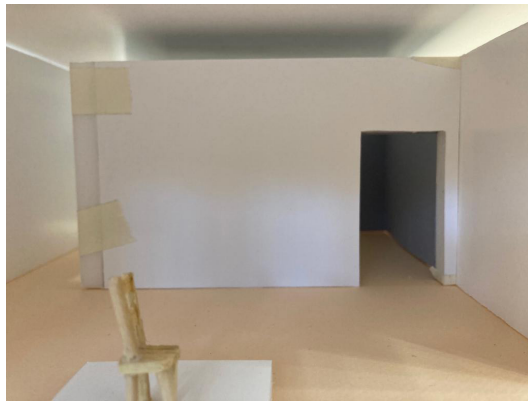
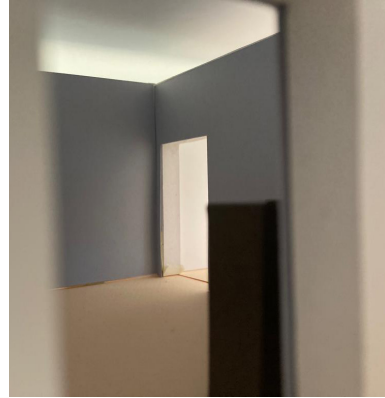
This specific ensemble, curated by the people from the M HKA, is characterized by the common theme of *ordinarity* and the relationship with *everyday life objects*. Even though Jacques Lizène has a wide oeuvre of very different types of art: paintings, sculptural art and video art, the overarching theme of *ordinarity* holds these types and the ensemble together.





### Experimentation, human scale, materiality

I did lots of experimentation in the first iteration of the design. I tried to challenge the ordinary of the artworks by giving it a very anti-ordinary space. In a way exactly the opposite of what the artworks are. Therefore I came to a design which had a very low ceiling, uncommon for art spaces, completely non-white cube and no relation with daylight. I came to the conclusion that this was too much in terms of experimentation and ended up kind of killing the art. It was not the right approach. I needed to make a museum with more general spaces which are applicable for every type of art.



### **Design Development, Non Specific Space, the White Cube**

The second iteration (actually a completely new second design) that I made the following week can be described as the pure, white cube approach. I thought that this would be a safe starting point for further development in the following weeks. I thought that my first design was not suitable for further development.

The design features the relationship with the outside through windows, a corridor and two kinds of rooms. A small one and a large one.

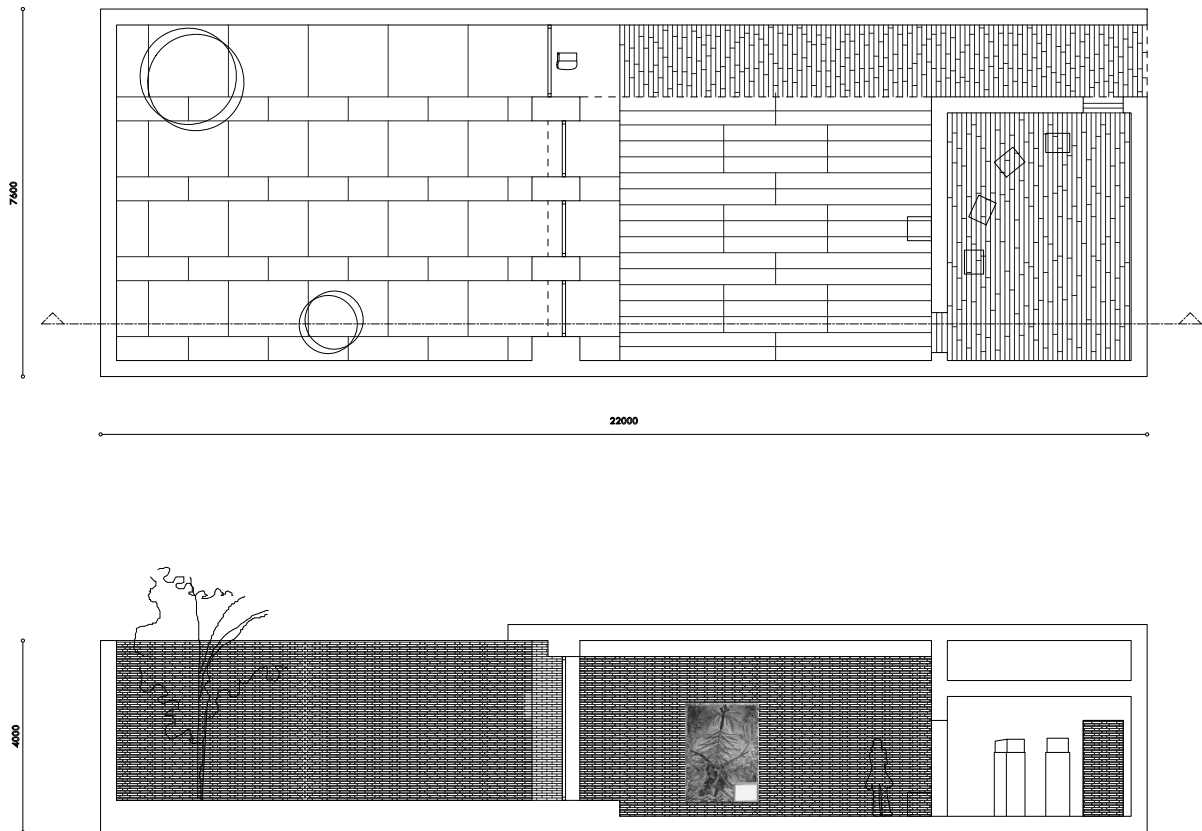
The proportions were still off in this design. Mainly the size of the door frames were not right and too big.



### **Pre P1 Design, Topics of Scale and Slippage**

The third iteration features mainly improvements to the previous design. I kept using my model to test out improvements to the concept. For example: the lowering of the ceiling in the corridor and seeing which effect it has. Also the placement of the chair in the window and creating a base for it in front of the windows. Furthermore I sharpened the concept of the three spaces with the courtyard outside as one of the three spaces by placing trees there and cutting of unnecessary space out of the model. Also I resized the door frames so that the scale of the model was right.





## Floor Plan and Section

### Concept of Proportion

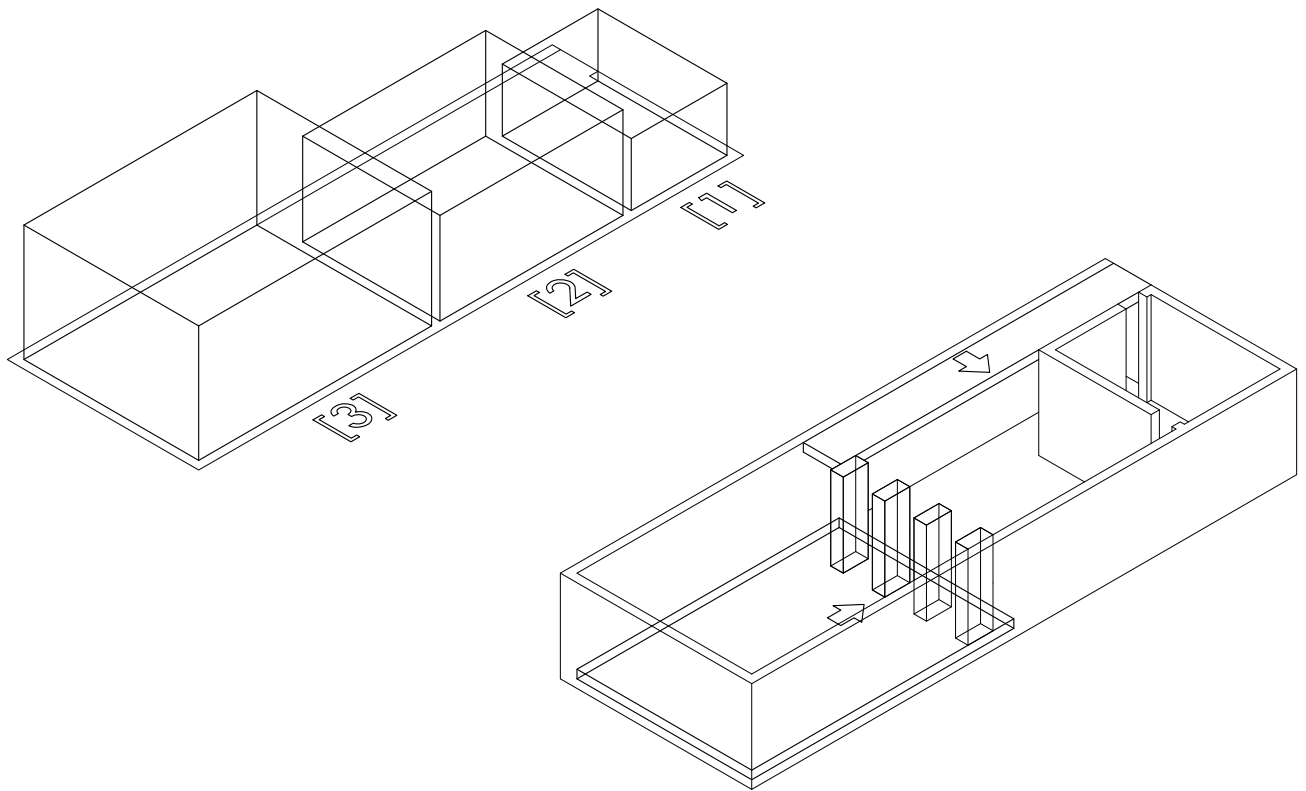
Size of Floor Patterns

Confrontation of Art vs Reality (the Chair)

### Concept of Slippage

Courtyard (Floor and Wall Continue in the Corridor Inside)

Confrontation of Art vs Reality (the Plant)



### Concept Diagrams

#### Concept of Proportion

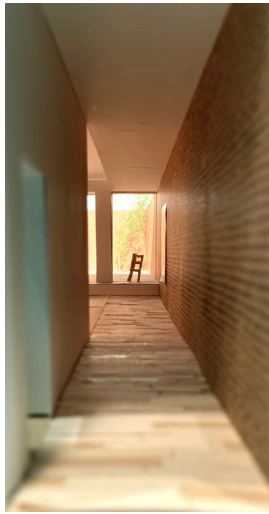
Sequence of the Corridor

+ Rooms from Small to Large in the same Proportion

#### Concept of Slippage

Definition of Spaces

Flowing over in an Elegant Way



### Eye Height Photographs

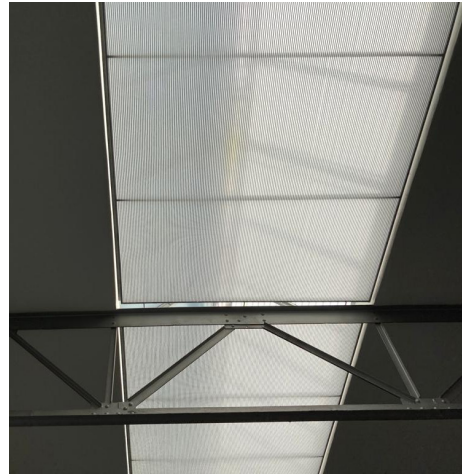
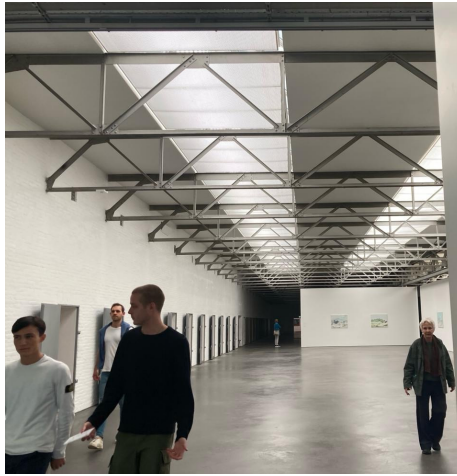
Sequence of the three Rooms "Sequence, Proportion, Slippage"

0. Corridor
1. Small Room
2. Large Room
3. Courtyard

### Reflection on the Ensemble Design

With the design of the ensemble for Belgian artist Jacques Lizène I took his artwork as a starting point. His oeuvre consists of a wide variety of art and the art is characterized by the notion of ordinary/informal. The starting point for the design was based on the **relation with the outside** using the courtyard. Also the diversity of art was important in terms of the multiple rooms of display. The concept of proportion and the concept of **slippage** were central in my design. The design is based around a corridor with a sequence of three rooms, each increasing in size while remaining in the same proportion of the smallest room. The sizes of the smallest room were derived from the typical domestical house. For example: the height of 2,80m and the typical domestic parquet flooring. The concept of slippage revolves around the elegant way of defining spaces and flowing of spaces into each other: by slightly lowering the ceiling of the corridor it flows over into the exhibition room and by slightly raising the floor of the courtyard, it can effortlessly flow over into the large room.

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### Museum De Pont & Van Abbemuseum

Main difference in interior is that Museum De Pont is a **typical white cube**, whereas the Van Abbemuseum is not and features an interior which is based as a **sequence of spaces** which together act as one continuing traffic space.

Museum De Pont has a traditional "white cube" approach. It features beautiful diffuse natural daylight coming through the shed-roof across the entire floorspace. Due to the single-level museum and the fabric in front of the sheds to keep out direct sunlight. This way artworks will not be damaged.

The Van Abbemuseum was typical for its idiosyncrasy in all levels. First of all it is not a typical white cube, but it is a sequence of spaces or a route through the whole buildings. Also it has many different types of spaces and multiple views through the whole space in a way that people see themselves and other viewing art.

## **Personal Visit to Museumnacht The Hague**

### **Museum as an activity**

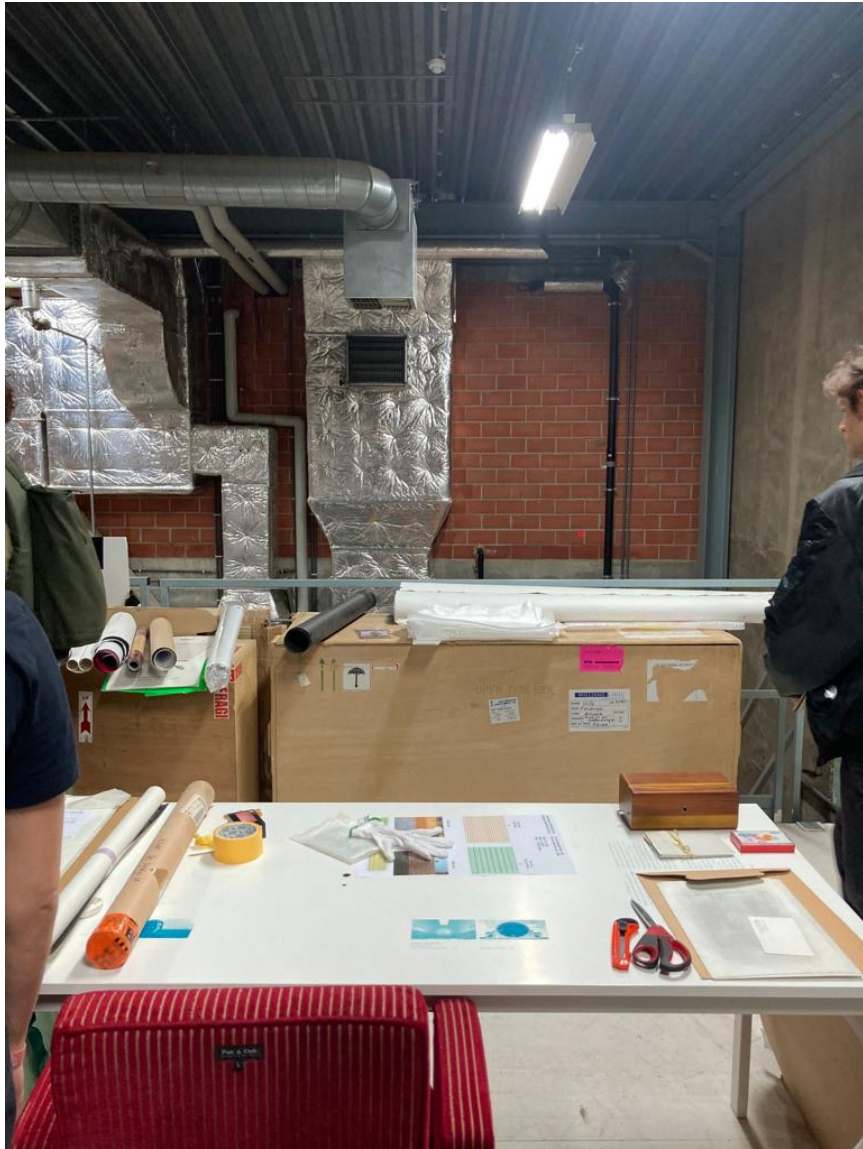
I visited the Museumnacht in Den Haag this week. The Museumnacht is one day per year that almost all museums in the Hague are open from 20:00 to 01:00 in the night. Apart from being open so late in the evenings, the cultural institutions also organize all sorts of activities to engage the visitor even more like: roller skating in the town hall, doing painting classes, escape rooms, etc. etc. The Museumnacht relates very much to the text: "Among Others. Barat" and the discussions after our site visit to De Pont and Van Abbe. It is about attracting a more diverse (also younger) group of people to the museums by offering more than just the museum. My personal opinion is that I really liked this whole "experience of culture", I saw this as an activity and enhancement of the experience and I could see a similar approach work to get a younger audience in contact with museums.





**New Public Park in front of M HKA**  
Biggest Potential of the Site





### **Art Storage**

Conditioning of the space: large Air Handling Shafts and Ventilation Ducts



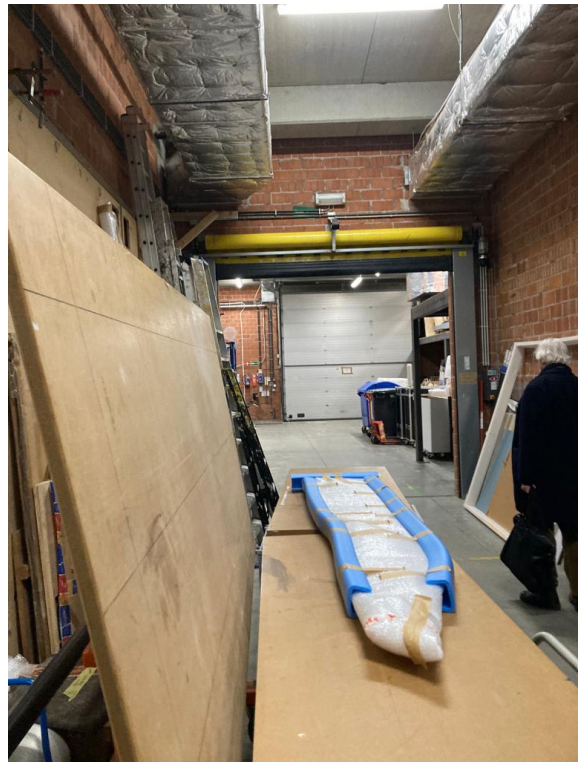
**Archive Documentation**  
No Daylight Necessary, Shelving and Mobile Cabinets



**Collective Space Employees**  
Relation with daylight



**Restoration Workshop**  
Tall Space for tools, machines and material

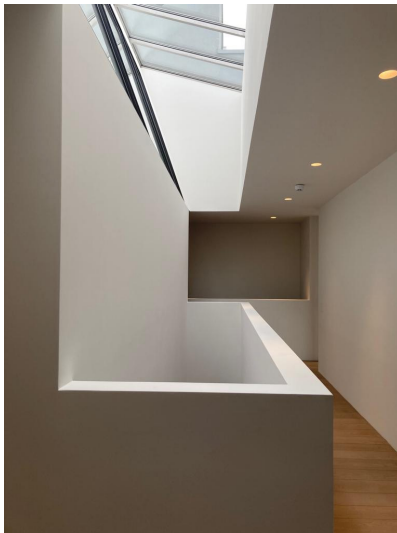
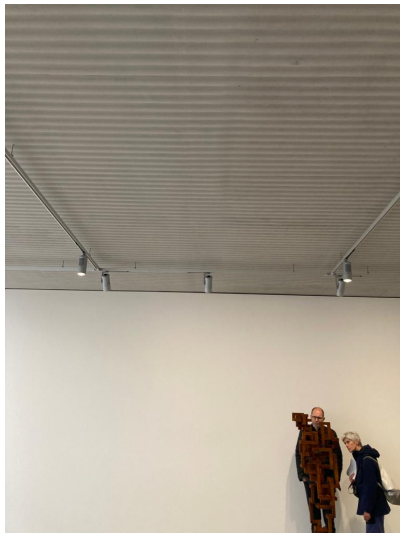






**Bozar**

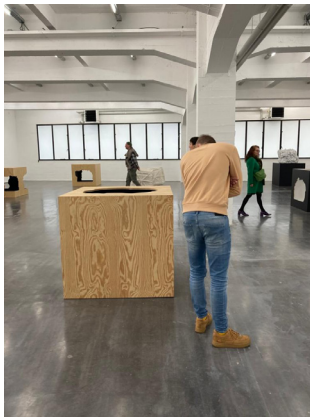
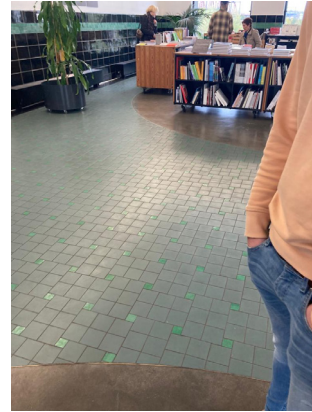
**Ventilation duct** is hidden above the translucent ceiling. However it is still visible for the visitor and gives an uneven lighting from the ceiling because it is placed too closely at the ceiling so it casts a shadow.



### **Xavier Hufkens**

#### **Transitional spaces & Routing (own fascination)**

About transitional spaces and its materiality. Picture of detail groove of the threshold of two spaces. Route through the museum. The play of sequence of closed rooms which are isolated from the outside and **open rooms which have exciting encounters with light and nature.**



## WIELS

### Museum as a Social Catalyst

WIELS (the museum) and BRASS (the cultural centre of Vorst, a village and municipality in Brussels) **organise educative and socially-artistic activities**. This adds to the national and international value of the museum. It really **involves the neighbourhood in what it does** and therefore WIELS contributes to the cultural and economical rise of Vorst. For example due to the publicly accessible garden between WIELS and BRASS with a kitchen garden, play field etc. Also WIELS organises yearly activities for and with inhabitants of Vorst and Brussels.

Source: <https://nl.wikipedia.org/wiki/WIELS>





### Second Site Visit - Community Garden during the Winter

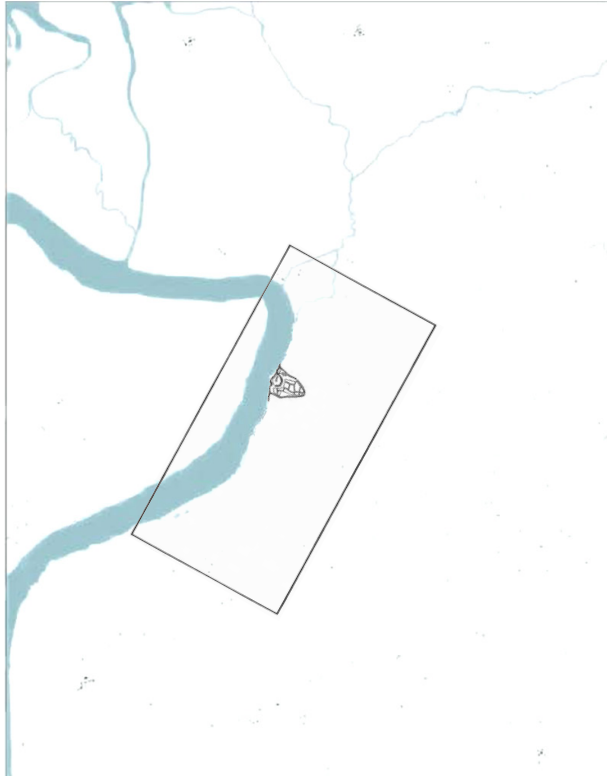
In the winter (28/02/2023) I visited the project site again for further research into the neighbourhood. I came across this community garden in Park Zuiderdokken along the project site. Unfortunately I saw that the community garden could barely be used in the winter due to the cold temperatures.

Therefore I'd like to reserve space in my winter garden to offer a semi conditioned space where, during the winter, the community garden can still fulfil its function.

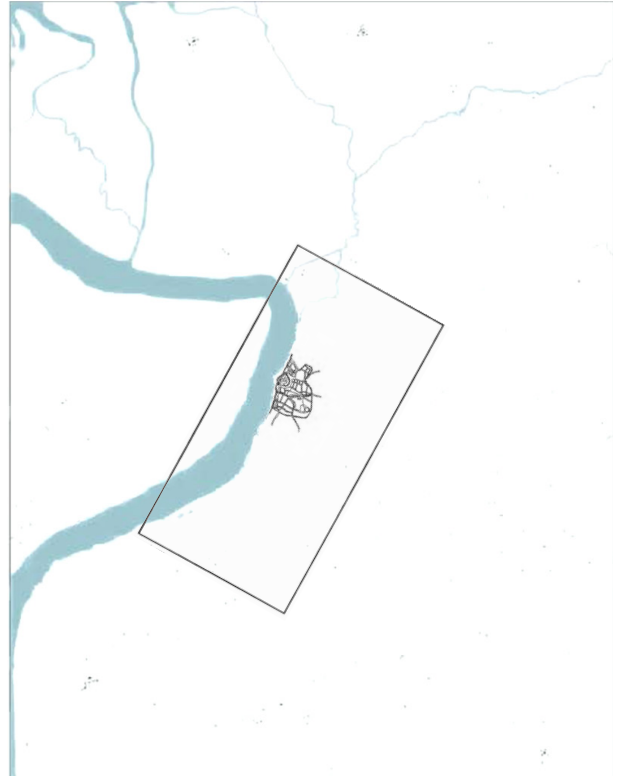
### Personal Reflection on Site Visits

1. Historically, the main function of a contemporary art museum is to provide a place for exhibiting, preserving and collecting art. However, the museum of the 21st century has become more than just that. Museums should also serve other social and cultural functions (much related to the topic of inclusivity in the research seminar). The M HKA has a rich 35 year history and during this time it's building has undergone multiple renovations to still meet the requirements of the museum. Additional other functions such as **involving the neighbourhood more** in M HKA's activities can add to the national and international value of the M HKA. **WIELS in Brussels is a good example** of this. They have a 'kitchen garden', organize yearly activities with the neighbourhood and collaborate with the local cultural centre. I am interested in the possible architectural instruments we can use to contribute to a more social inclusive and cultural museum with M HKA as the case study.
2. Antwerp is currently in a rapid development. Multiple large scale interventions such as the 'Nieuw Zuid' residential area, the **'Park Zuiderdokken'** and the 'Kaaizone' Scheldt Quays are currently being undergone. The M HKA is located in the centre of these developments. Therefore the M HKA can become a connecting element to these developments. With the current M HKA building, I don't feel that the museum can succeed yet in this. Due to the very closed architecture of the current building, the M HKA has a very introverted character which, from the outside does not feel very inviting to enter for people from the surrounding neighbourhood. Also, when walking through the 'Museum Neighbourhood' with the KMSKA, FOMU and M HKA, I don't yet experience this cultural museum hub. I am interested in the continuation of the route in the museum, outside the building and to continue the relation between museum and city from inside of the museum as well as from the outside. The spatial sequence of closed rooms (pure white cubes in a way) followed up with open rooms with exciting encounters with light, nature and the city attracts my attention. This encounter with the outside is also something which I've researched in the design of my ensemble.
3. The proposed site for the M HKA is currently being used for the court building. Although this building is planned for demolition, the question should also be asked whether the building is valuable and whether it can be used for a new M HKA. Taking inspiration of Gordon Matta Clark, I'm interested in the careful cutting and opening of the building to create double height spaces and interesting relations between subsequent rooms, transforming a very closed court building (private) to a more opened museum building (public). While preserving the heritage aspect of the old building.

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950



1250



1450



1650

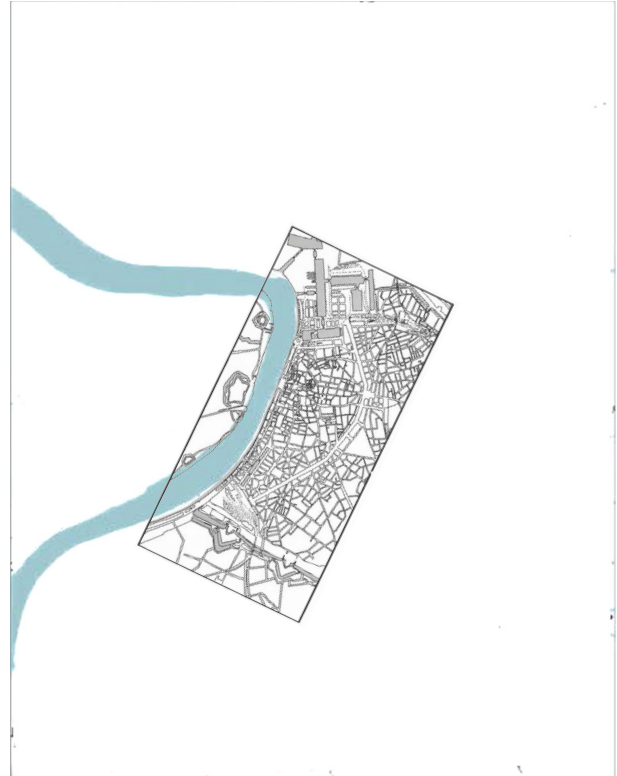
### Historical Site Analysis

Antwerp as a Harbour City. **Changing relations with the Harbour** as the city expanded. First, city and port were fully interconnected. Later, the city and port became closed off of each other by a lock and finally the port moved up north further and further and it became completely separate from the city.





1830



1900



1912



1969

*Expansion of Antwerp. Maps adapted from: Vanreusel J. (1990).*



### Redesign Park Zuiderdokken

Former Harbour area Southern Docks Harbour is currently being transformed currently into a **city park** which is the **largest potential of the site**. Maximizing advantage of park location. Rather than seeing all developments in Antwerp separately. Building into the Zuiderdokken park to get this museum and park and city more interwoven.

**Library**

Collective Library +

Filter Sort Q ... New

Cover	Title	Year	Author	Tags	who read	Availability
	Ways of Curating	2014	Hans Ulrich Obrist	curatorship collaboration	Julia	on the drive
	Towards another history of art in Belgium from 1975 to the present day	2002	Koen Brams	MHKA art ecologies curator History	Wessel	on the drive
	The Haunted Museum: Institutional Critique and Publicity	1995	Frazer Ward	anti-institutionalism History	Wessel	on the drive
	The Constituent Museum	2018	John Byrne (ed.) et al.	MHKA public collaboration art ecologies	Julia	physical copy
	Stop Painting (Leaflet)	2021	Peter Fischli	painting conceptual art History	Wessel	on the drive
	Space Vacuum (Spatium Vacuum)	2016	Wim Goossens, Arnaud Hendrickx	MHKA public collaboration History	Emir	physical copy
	Rotor lecture	2022	Rotor	lecture	Passcode: #g39&Y5*	online

Calculate

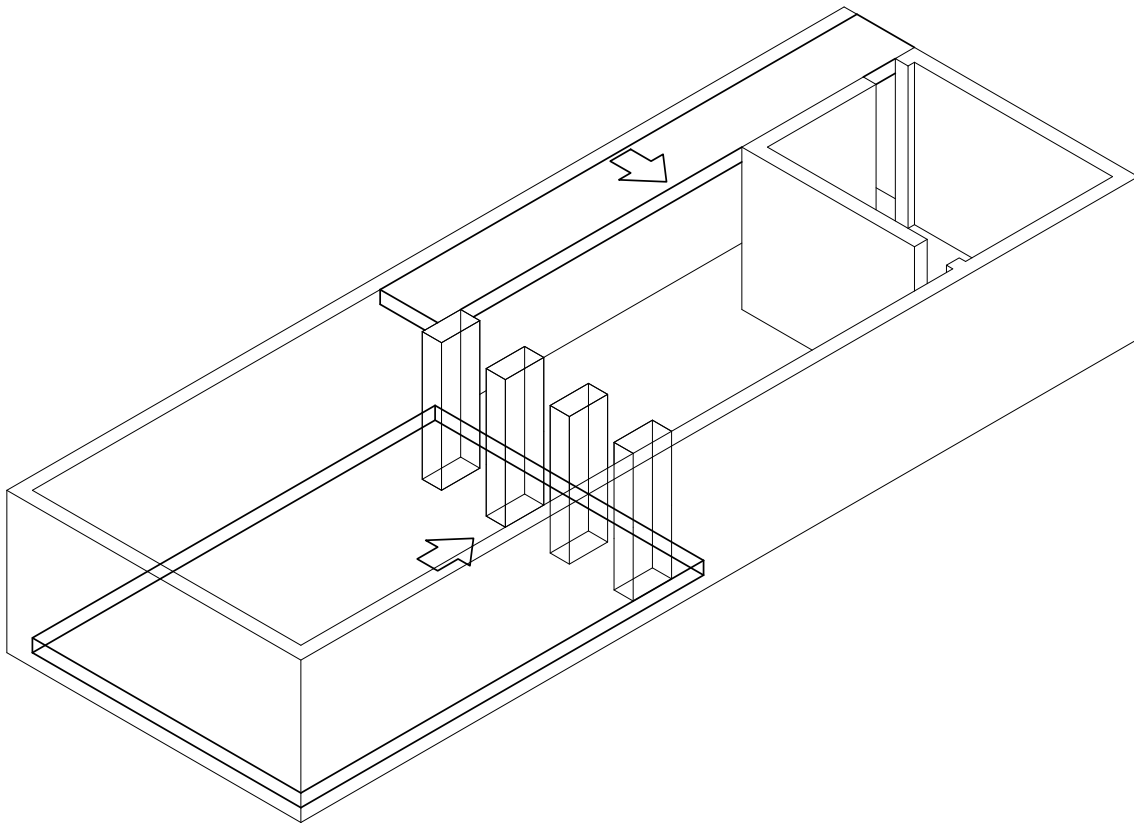
## Collective Notion Database

As I was part of the research group I helped with developing our collective Notion database which is accessible for everyone in the group.

The four themes were:

- Urban History + Site
- Museum Families
- History of contemporary art in Flanders + Brussels
- M HKA



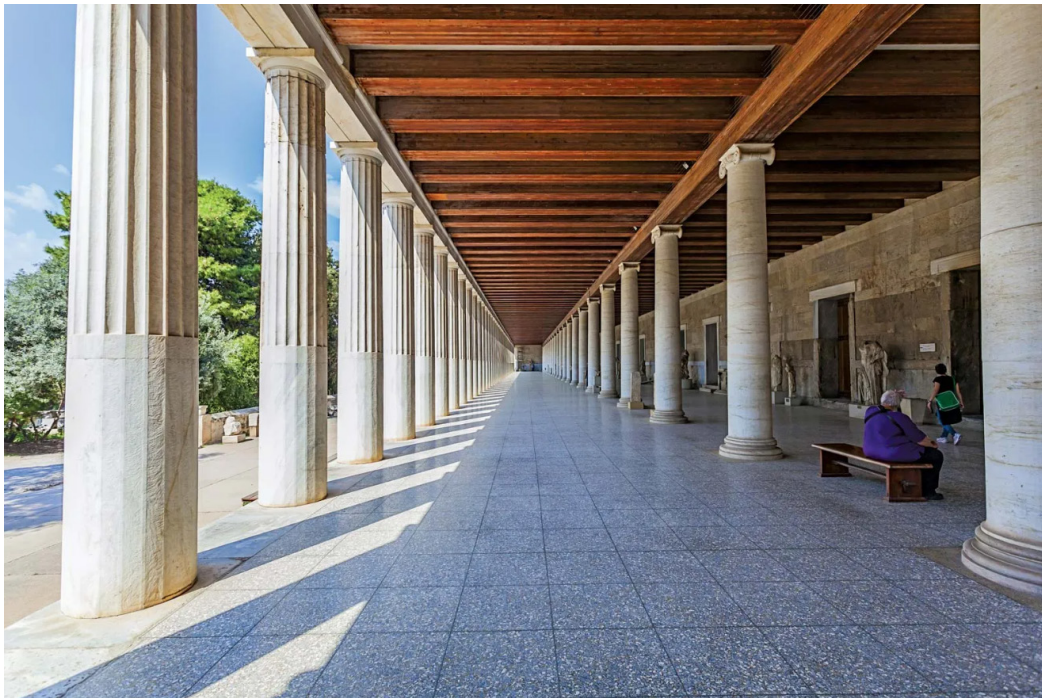


### Ensemble Project

#### **Slippage** (noun)

defining spaces and flowing over in an elegant way.  
*introduced in the design of my "ensemble"*

**"Tool of Slippage"** referring back to Ensemble: to be used  
in new M HKA to **soften the relation between museum and  
neighbourhood and to better interweave/flow over such a  
big building into the Antwerp city fabric.**



**Reference “Permeability”**

**Collonades**

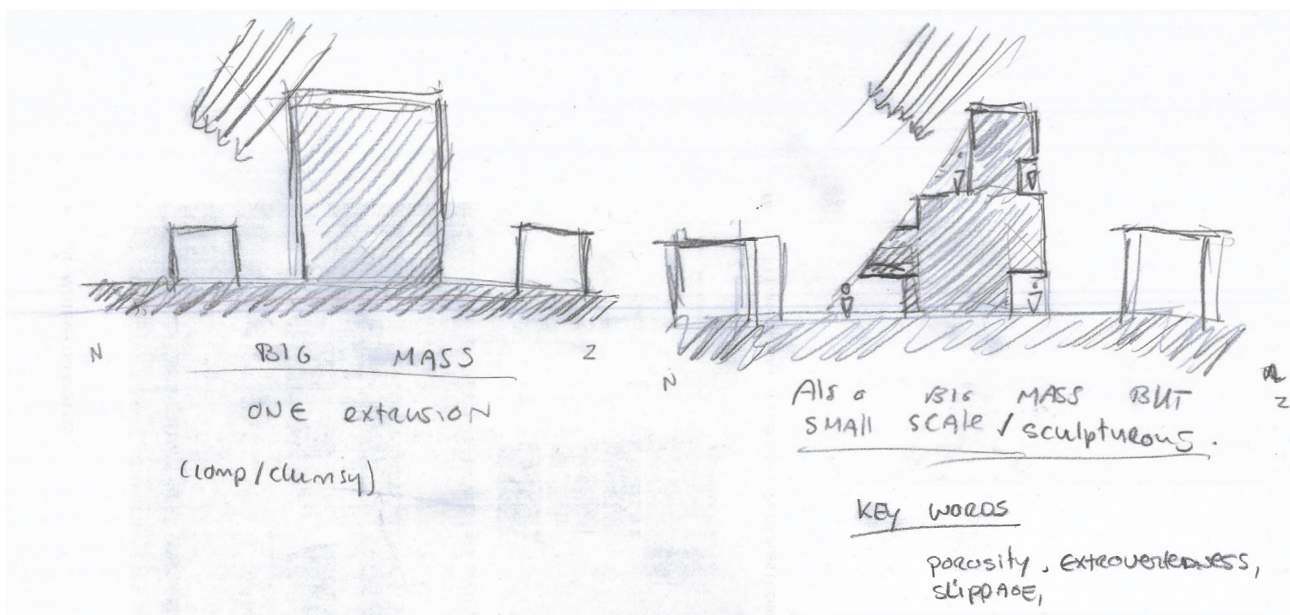
Concept of slippage between inside and outside



**'Introverted' current M HKA & Court of Appeal**

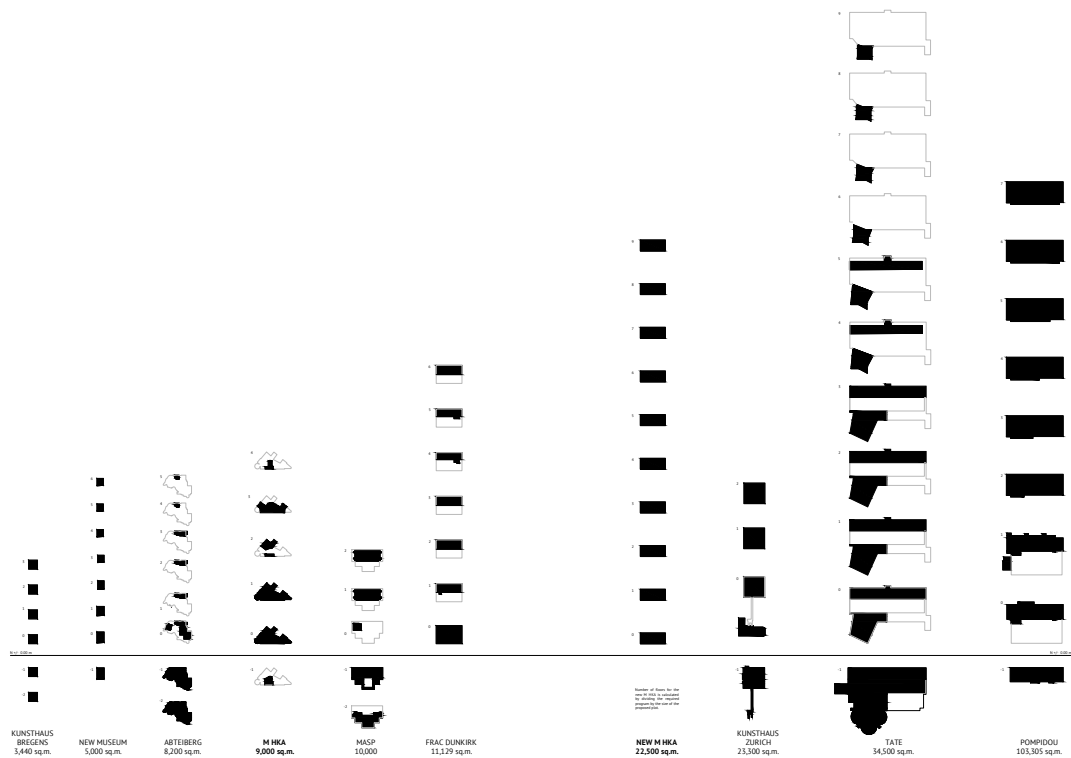
When walking through the 'Museum Neighbourhood' with KMSKA, FOMU and M HKA, I don't experience this cultural museum hub yet.

Strategy Court of Appeal: demolishing Court of Appeal, as it does not align with my wishes for openness, limiting factor.



### Sculpted Building: Sketch. More kind towards neighbouring buildings:

I've always found the museum program to be very massy. An approach is to make the building sculptural to **cast less shadow on the neighbouring streets** for example.



## Precedent Study

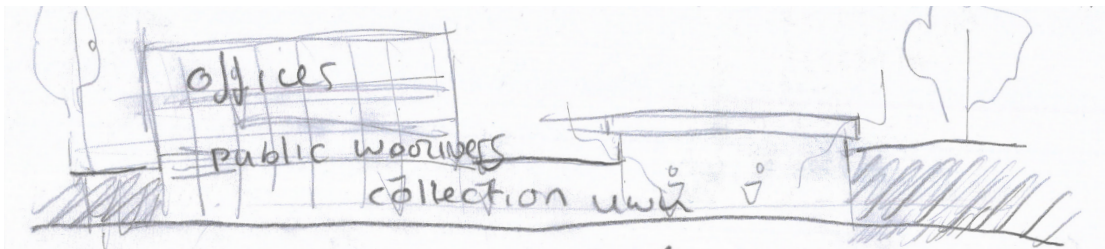
“M HKA as a tower” if brief was to be followed for 100%

	Program of Requirements		My Building Proposal		Percentage of Brief		Changes to the Brief
	m2 (Net)	m3	m2 (Net)	m3	% m2	% m3	
Collection Component	3032	16408	3032	15007	100 %	91 %	More smaller cabinets
Exhibition Component	3150	19800	3150	16913	100 %	85 %	Lowered ceiling tallest art spaces from 8 to 7m
Library & Archive	1901	7470	1785	6203	94 %	83 %	
Forum	3608	25140	1597	11328	44 %	45 %	Reduced forum heights and m2.. Replaced with collective outdoor forum..
Back office							Cinema & Auditorium flexible which can be closed/opened from the forum
..[workplaces]	375	1688	423	1696	113 %	100 %	
..[art handling]	1531	9748	977	6470	64 %	66 %	Removed interior depot to the antwerp ringroad 675m2
..[logistics and technical]	704	3143	542	2414	77 %	77 %	Bicycle storage, shared together in the zuiderdocks garages
..[administration]	727	2545	615	2202	85 %	87 %	
<b>TOTAL</b>	<b>15028</b>		<b>12121</b>				
Outdoor							
..[in the park]	0		9000				
..[on the terraces]	350		830				

## Brief Analysis Lowering The Buidling

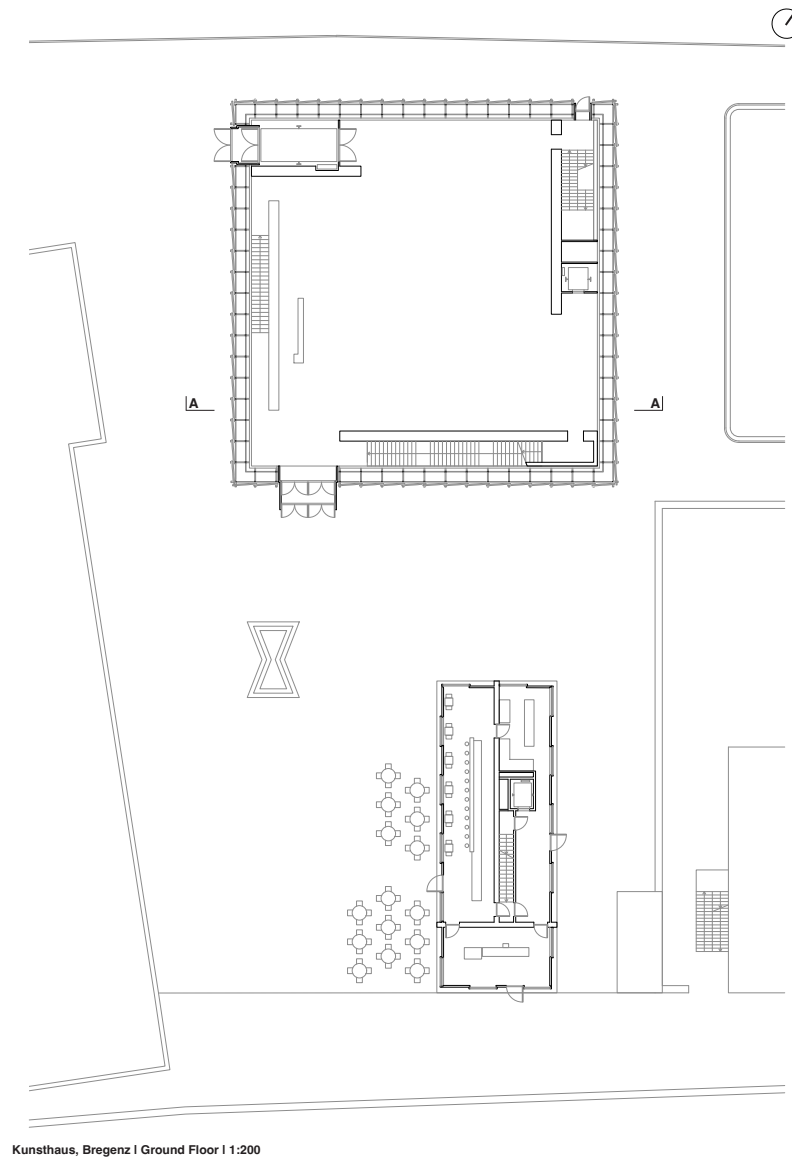
- Changes needed: Less shadow on neighbouring buildings
- Lower art spaces (more intimate - lower building)
- Public Forum (reduced size in m<sup>2</sup> and m<sup>3</sup>, as part is outside)
- Shared functions among buildings in the park





**Dispersed Building Sketch:**

Building in the Park and on the Plot to engage more with the park.  
Underground connection between different building volumes.

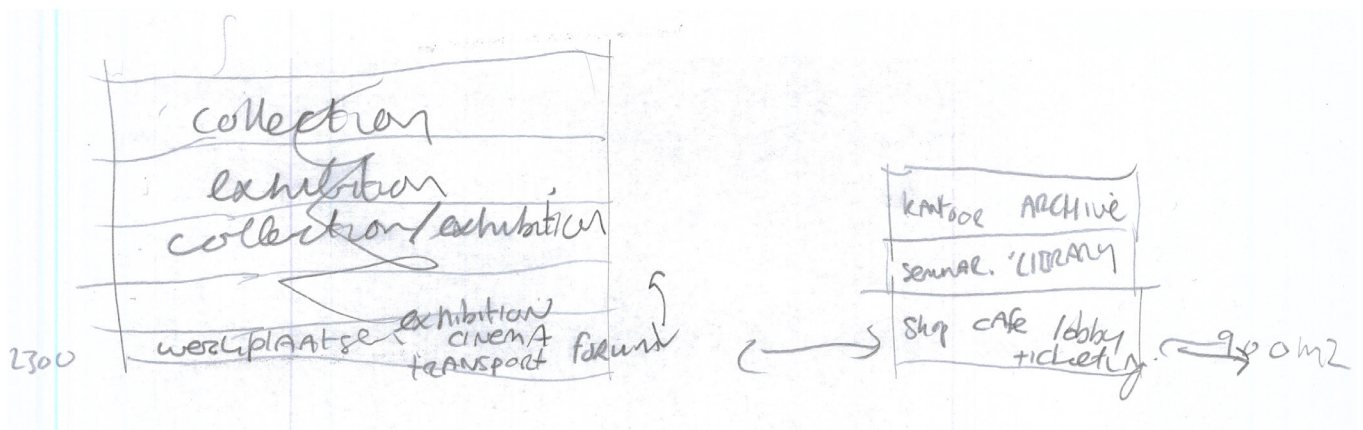


### Reflecting Back to Research Precedent

#### The Dispersed Museum - Kunsthhaus Bregenz (Peter Zumthor):

This precedent shows the typology of the dispersed museum. A topic which I also want to develop in my design.





### Main Building + Pavilion

#### Dispersed Museum, Introduction of the Pavilion

A main building on the plot and a pavilion in the park. The pavilion houses the main public functions on the ground floor such as shop, cafe, lobby and ticketing. The main building has an open ground floor with three levels of exhibition stacked above.



**Reference “Pavilion Typology”**

Smithsons Garden Building St Hilda's (1971)

Alison and Peter Smithson

Oxford, United Kingdom

- The Smithsons were during their work often working on the getting the best **relation with the surrounding park**. This is an example of the St Hilda's college. It is a relation with a more 'park' atmosphere. The layering of the facade is especially interesting for the 'slippage' between building and park.



### Reference “Pavilion Typology”

Serpentine Pavilion

Main Building, Pavilion and Nature.

- Serpentine Pavilion is a good example for a pavilion type inside nature. Although the Serpentine Pavilion is a temporary structure and does not have concrete museum functions like a cafe or museum shop it does illustrate how the **relation between main building, pavilion and park** can be achieved in a well balanced way.

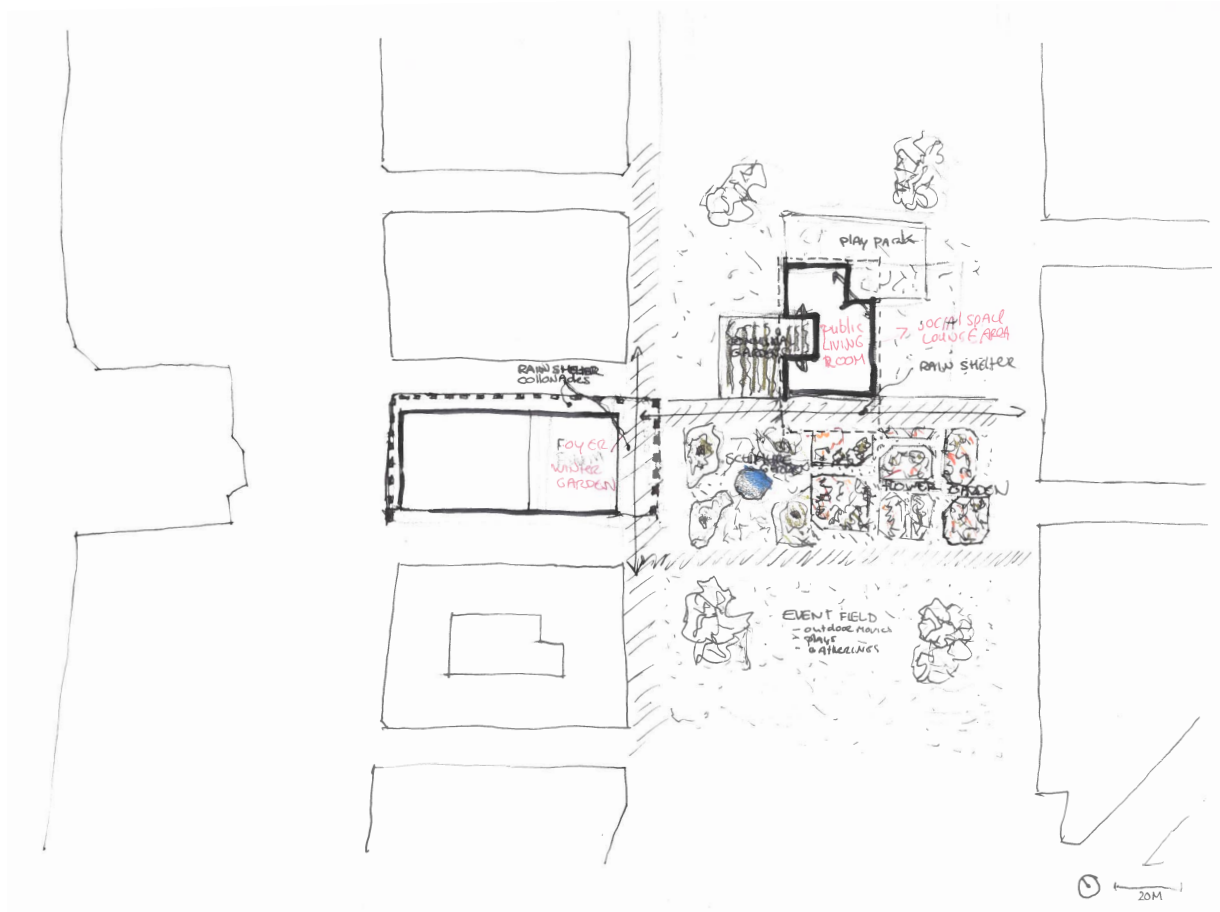




**Reference “Museum in a Park”**

Museumpark Boijmans van Beuningen Rotterdam

- Water Features, Artworks



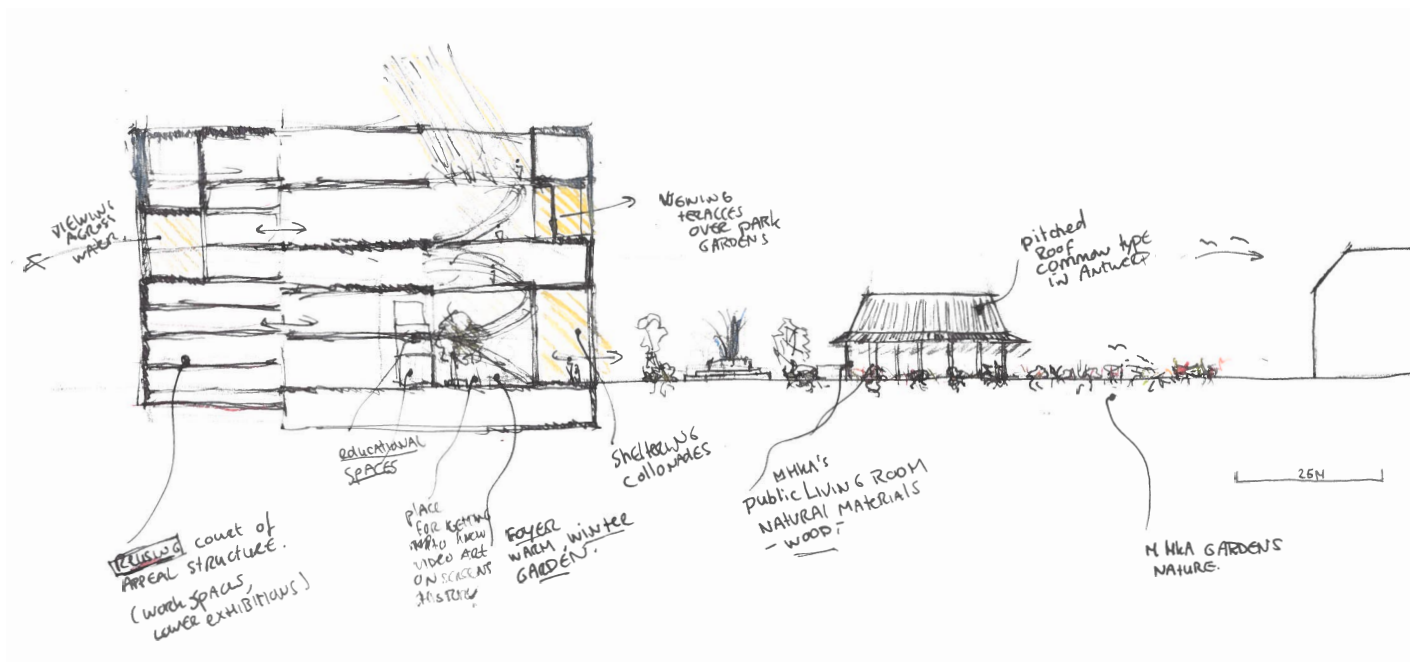
### Gardens of M HKA

#### Developing the character of the Outdoor Forum

Instead putting most of the forum space inside the building, some of it is outside in the park. I also **create five different gardens**: sculpture garden, flower garden, community garden, play park and event space. This way they attract to a larger audience.

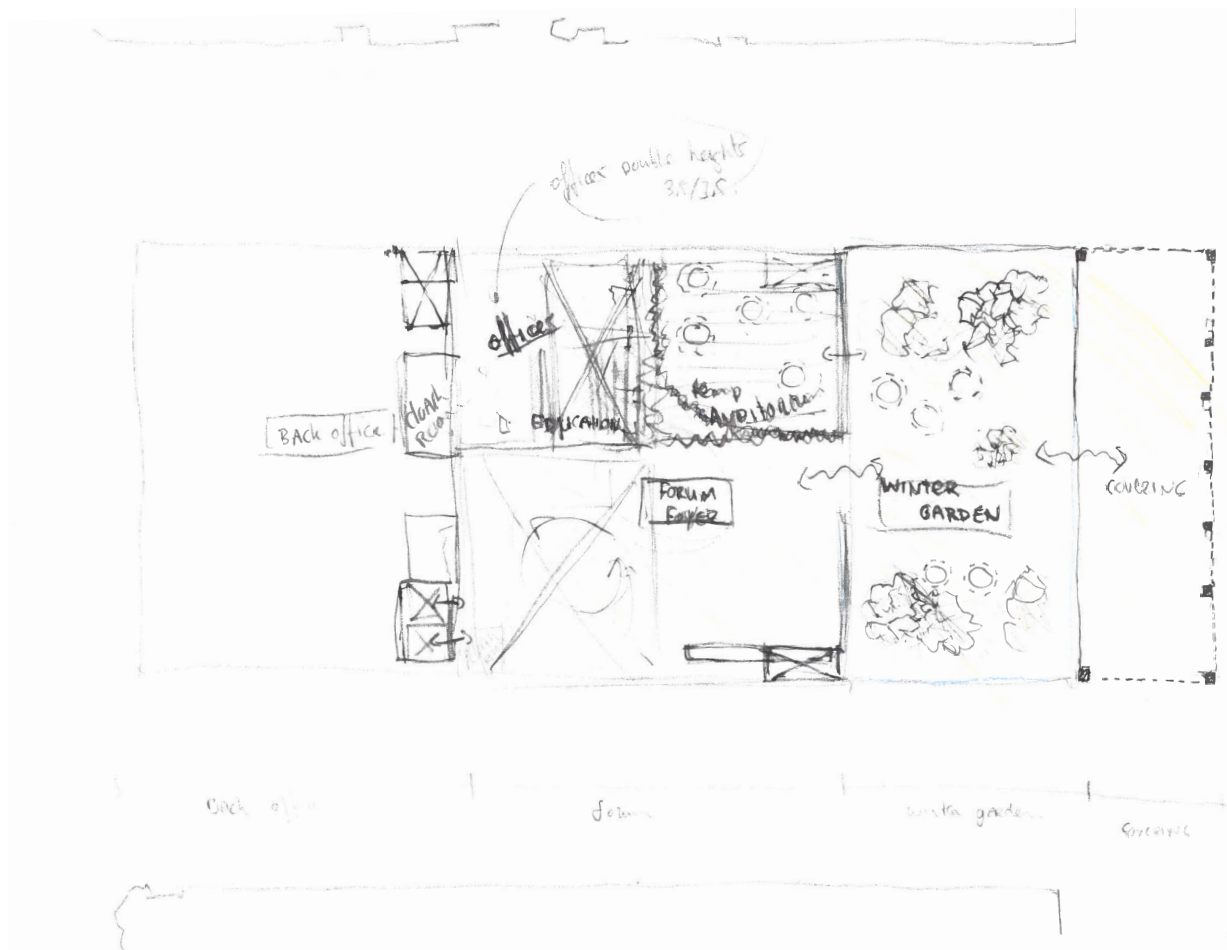
Also here I introduce two new aspects of my design: the 'public living room' and the 'winter garden'.





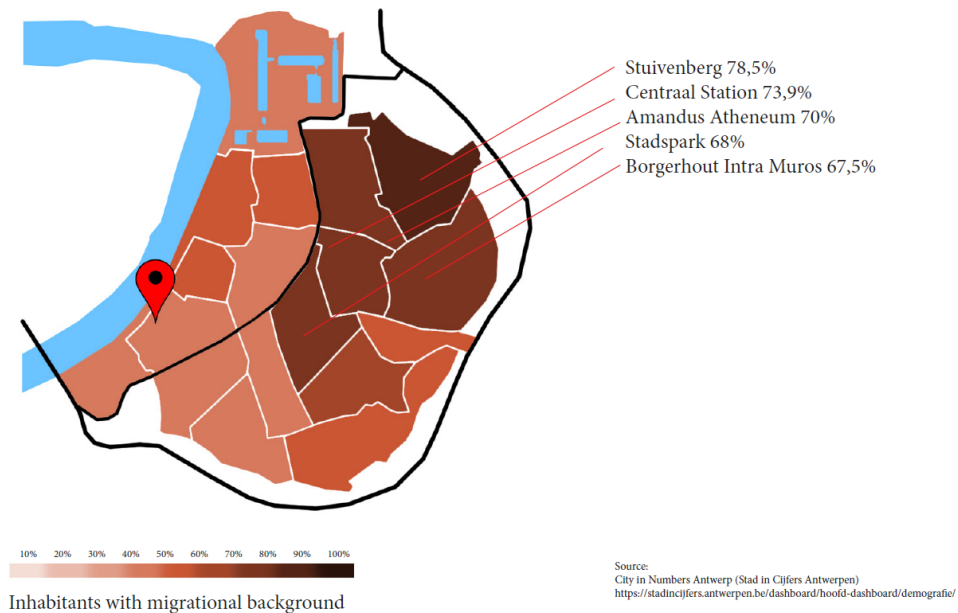
### Relationship between Buildings and Gardens

The two buildings have different relationships with the garden. The pavilion building should have a distinctive shape which is **human scaled** and kind to the park. The large building has viewpoints from **terraces on the building** which are looking over the park and over the Scheldt.



### Public Ground Floor with **Winter Garden** (Character of the Interior Forum)

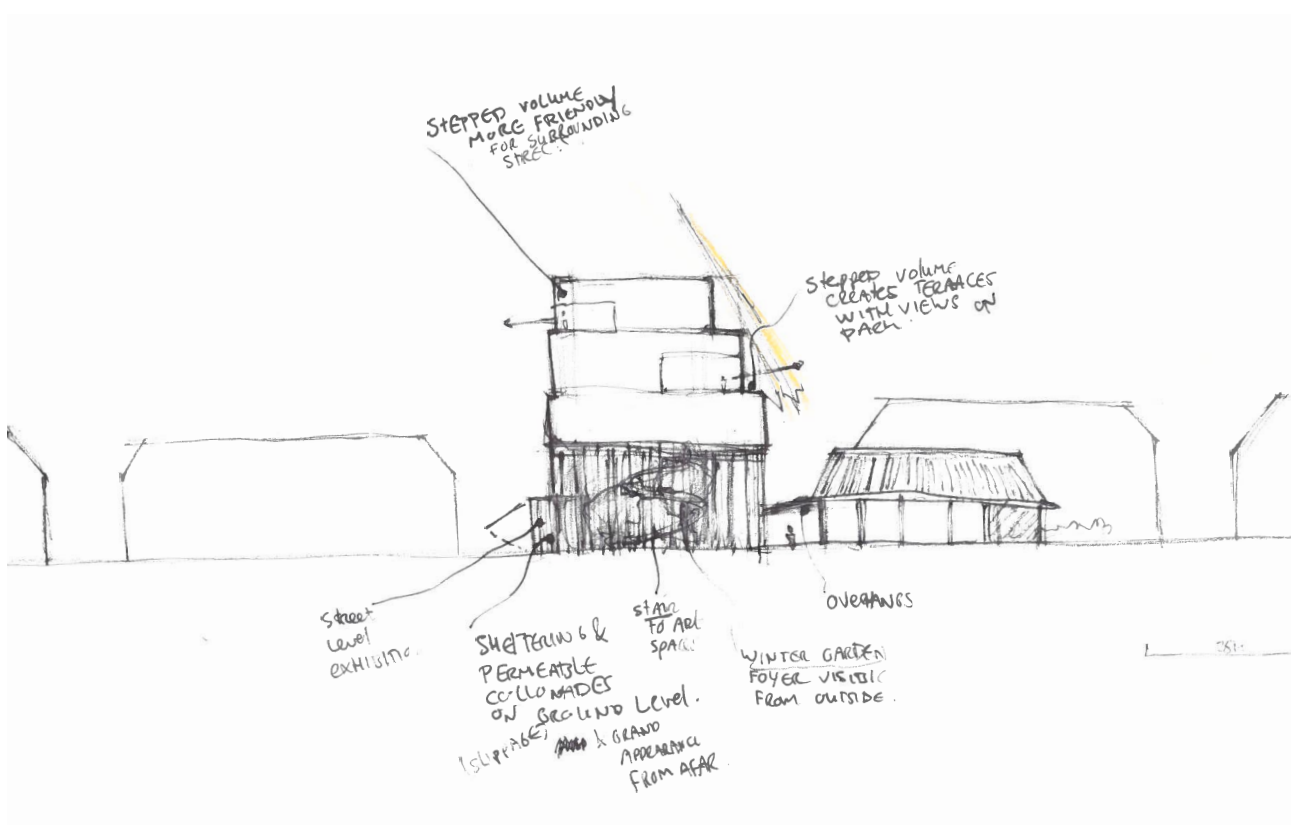
The Main Building's ground floor should have a public character. I make a sequence of three public spaces starting with a 'covering', followed up by a 'winter garden' which is a continuation of the outdoor park space and the 'forum space' inside with a cafe and educational spaces which aid in underlining this public character.



6



**Publics for the M HKA: Both Museum visitors and Non-Museum Visitors**  
 Antwerp: a diverse and multicultural city with more people coming from migration background than native Belgians



### Shape of the Main Building & Pavilion

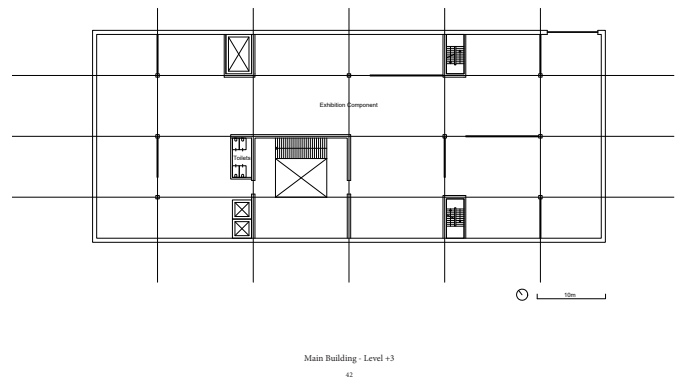
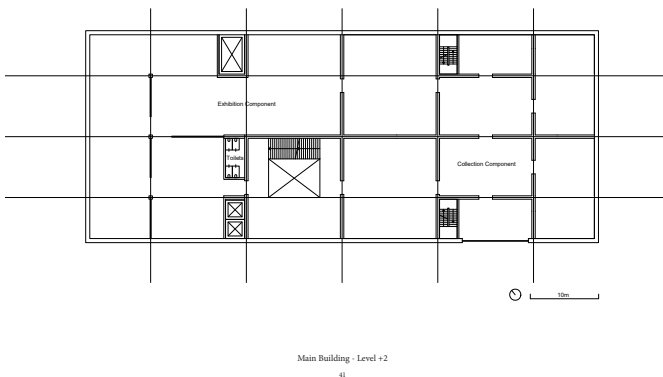
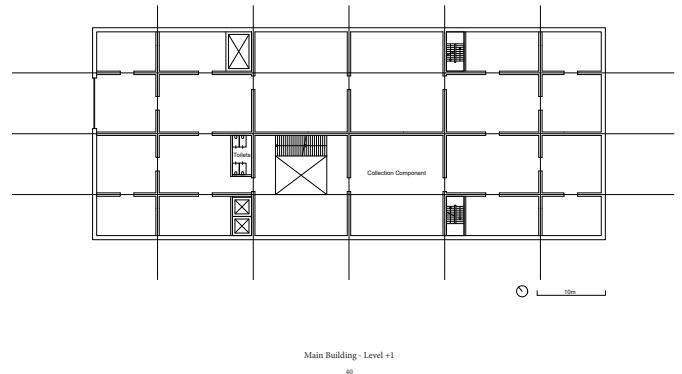
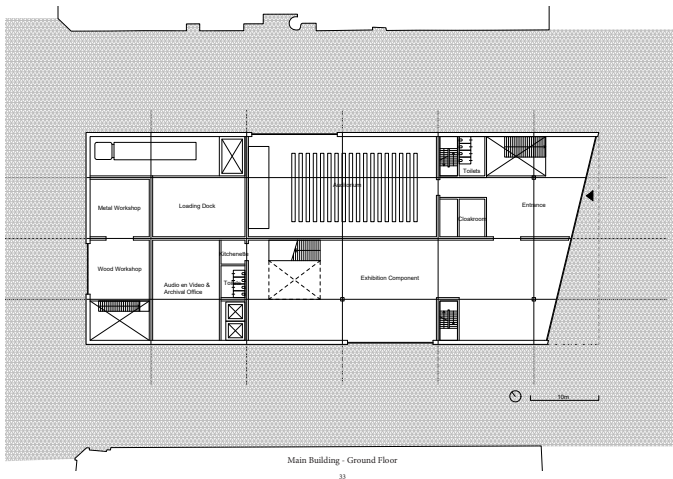
I've shaped the main building to be **kind to the neighbouring streets**.  
Off-setted the top floors to allow for more sunlight in the streets.



**Reference “the Issue of Floor Heights”**

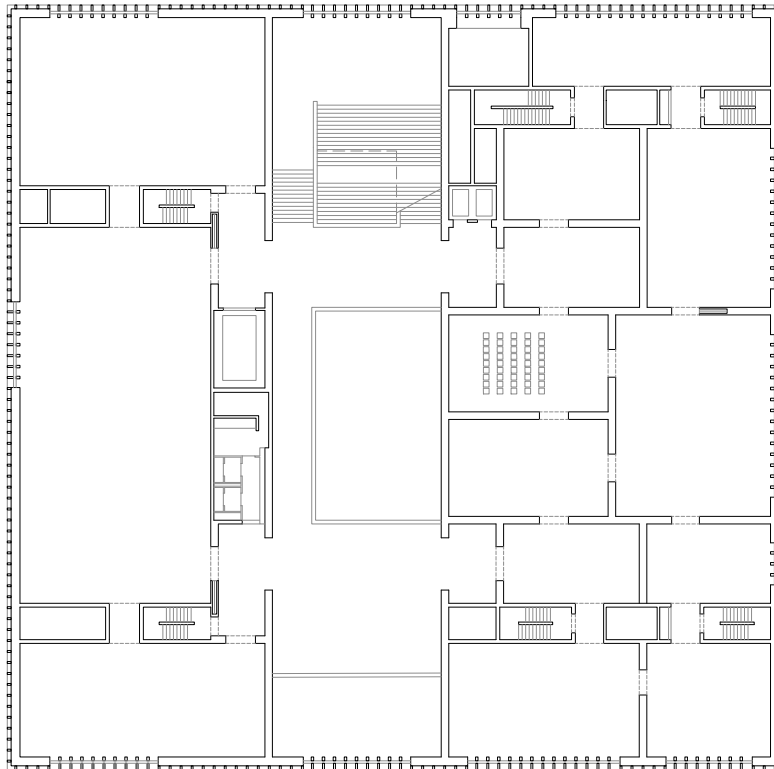
Akademie Der Kunste is a good reference for me to get an understanding of the floor heights. This **ground floor is kept relatively low**. My pavilion building had quite large (oversized) floor heights.





### First Iterations of Floor Plans

The hierarchy of space, the circulation core, and principle of **larger museum spaces in the centre and the smaller 'cabinets' on the sides**. Global distribution of spaces where I have the most **public functions facing the park** and the less public function such as the **art handling facing the back of the building** (facing the Scheldt)



Kunsthhaus Extension, Zürich | 1st. Floor

### Research Precedent

#### Floor Plans of Kunsthhaus Zürich (David Chipperfield):

Similar Museum in terms of Scale. This museum is very similar in terms of scale to the proposed M HKA so I looked at these floor plans for the interior distribution of spaces.

## P2 Feedback and Reflection

Main topics to further develop.

### 1) 'Anti-Museum' Quality / History

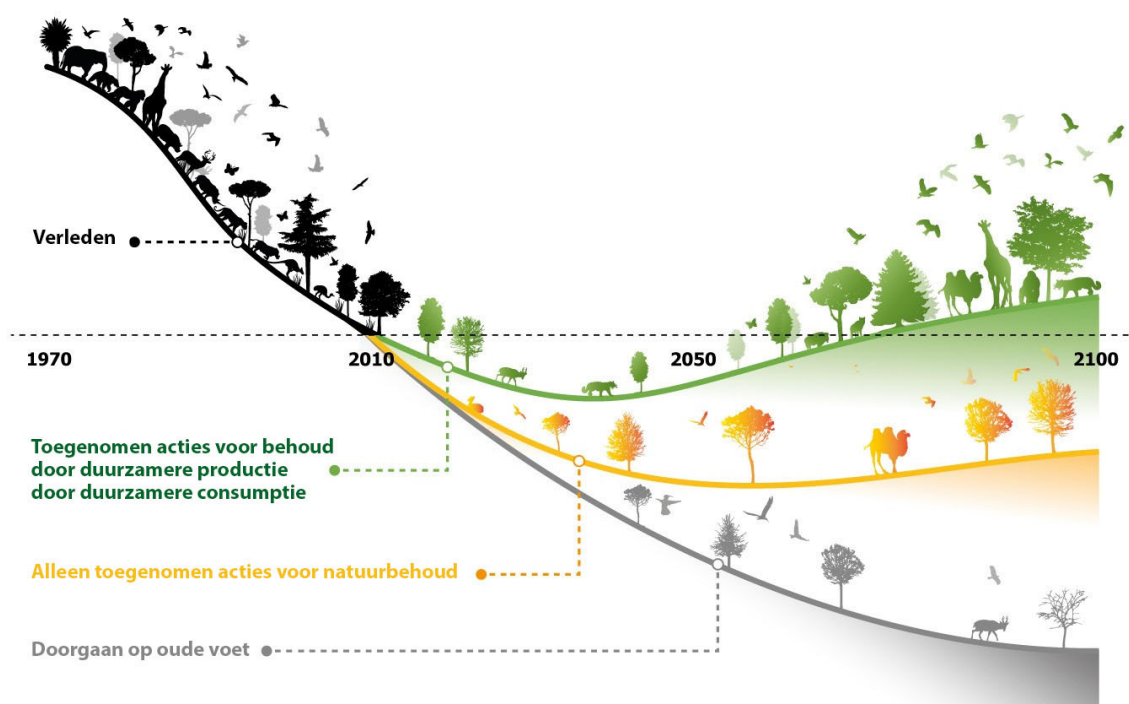
- Very public interior, atmosphere triggered by seasons.
- Relation between art spaces & anti-museum & with the natural wishes.

### 2) 'Example/Prototype' the small pavilion building as an example for the functioning of the big museum? With the public living room in the pavilion and the winter garden in the big museum.

- That in the winter when its cold public living room/winter garden can be put open for shelter.
- Small pavilion is for neighbourhood, big winter garden more for the city?
- Easy access to art space above: low-threshold way to come into contact with art

### 3) 'The changing seasons'. Because my forum is mainly outside. With the **life cycles of nature**. And that the museum might have a different function and use/ is being used in a different way in different seasons. Atmosphere triggered by the seasons. What does it offer to its broad public?

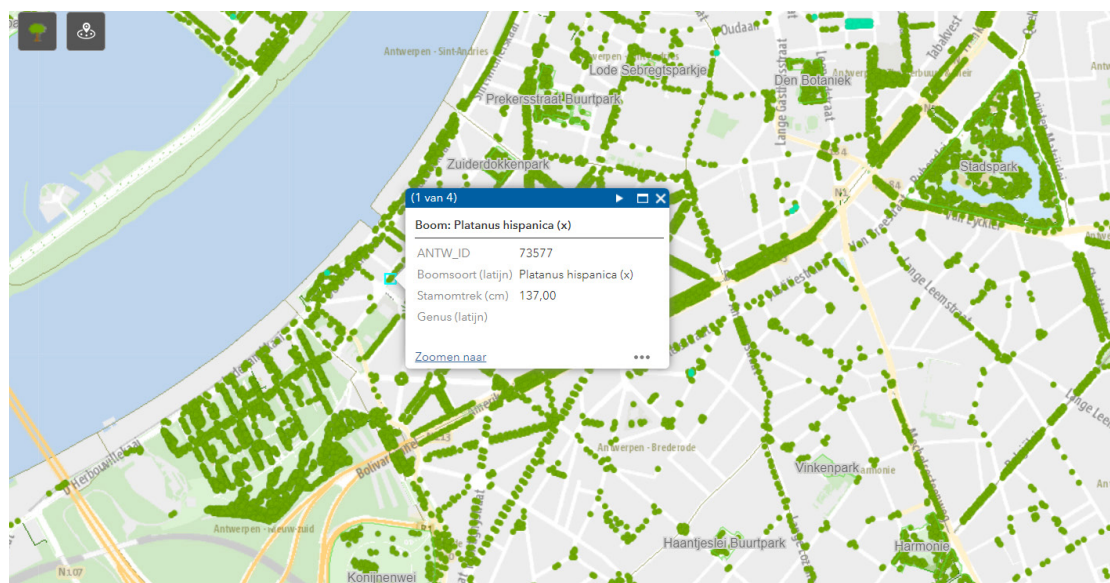
- The museum both for **Humans as well as Non-Humans**
- M HKA: A building that lives and adapts just like a living organism
- In summer warm, shading from sun hotness
- Each season museum has a different use (spring, summer, autumn, winter)
- Research into current condition of city Antwerp? How does it work now. What are the possibilities now, what are the programs for inclusivity now, and what are the collaborations between museums now.



**Topic of co-living with Humans and Non-Humans in the city.**

Lecture on city ecosystems co-living with nature and the benefits that it can have for the humans in the city.

Source: Ecologist Robbert Snep from Wageningen University & Research.

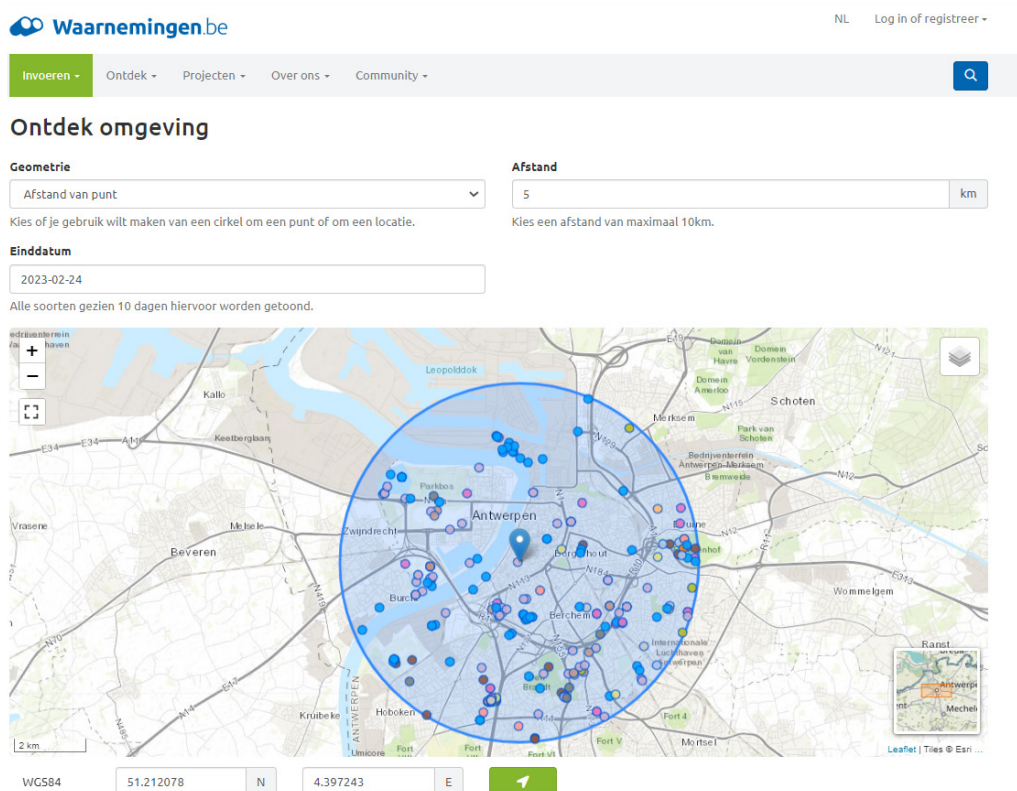


#### Trees Database Antwerp: Existing Tree Species (Non-Humans)

- *Acer pseudoplatanus* (Sycamore, Dutch: Gewone esdoorn) along Visserskaai & IJzerenpoortkaai streets
- *Platanus × hispanica* (London plane, Dutch: gewone plataan) along park Zuiderdokken.
- *Acer campestre* 'Lienco' (Field maple, Dutch: Spaanse aak) along the quay.

Source: Groen Inventaris <https://stadantwerpen.maps.arcgis.com/apps/webappviewer/index.html?id=82de71e7731a478bae275440268b2867>





### Database of Spotted Birds in Antwerp: a list with the most appearing bird species in Antwerp.

- Great Tit (Koolmees)
- Robin (Roodborst)
- Wood pigeon (Houtduif)
- Dunnock (Heggenmus)

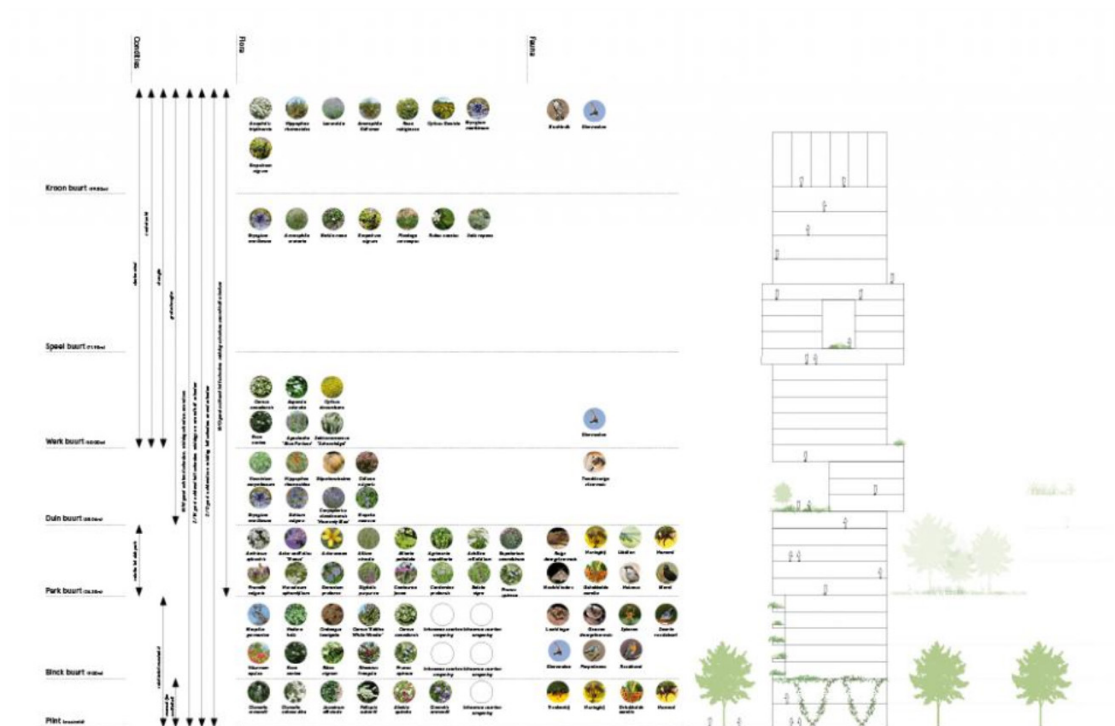
Source: <https://waarnemingen.be/>



### Nest Boxes in Antwerp - Existing Ecosystem

Different Animals have Different Requirements for their Nests:

Source: <https://www.antwerpen.be/nl/overzicht/ecohuis-antwerpen/nieuws/ga-eens-vogels-spotten-in-antwerpen>



### City Ecosystem: Animals in the city live on different heights

- Terraces at different heights with space for plants and nests (note: most species live within the 30 meter range from the ground)
- Flora and fauna in the collective spaces on the façades and balconies
- Building Nature Inclusive (Flora and Fauna)

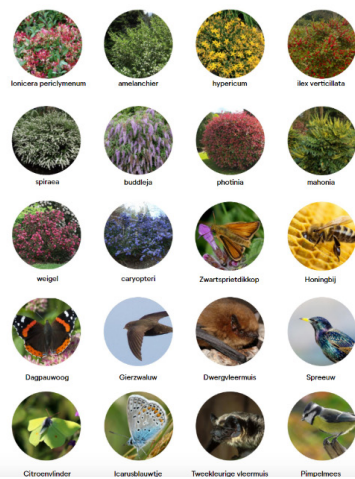
### Different Animals that live in the city

- Bats
- Butterfly's
- Bees
- Insects
- Birds

Source: Flux landscape architecture



## Biodiversity



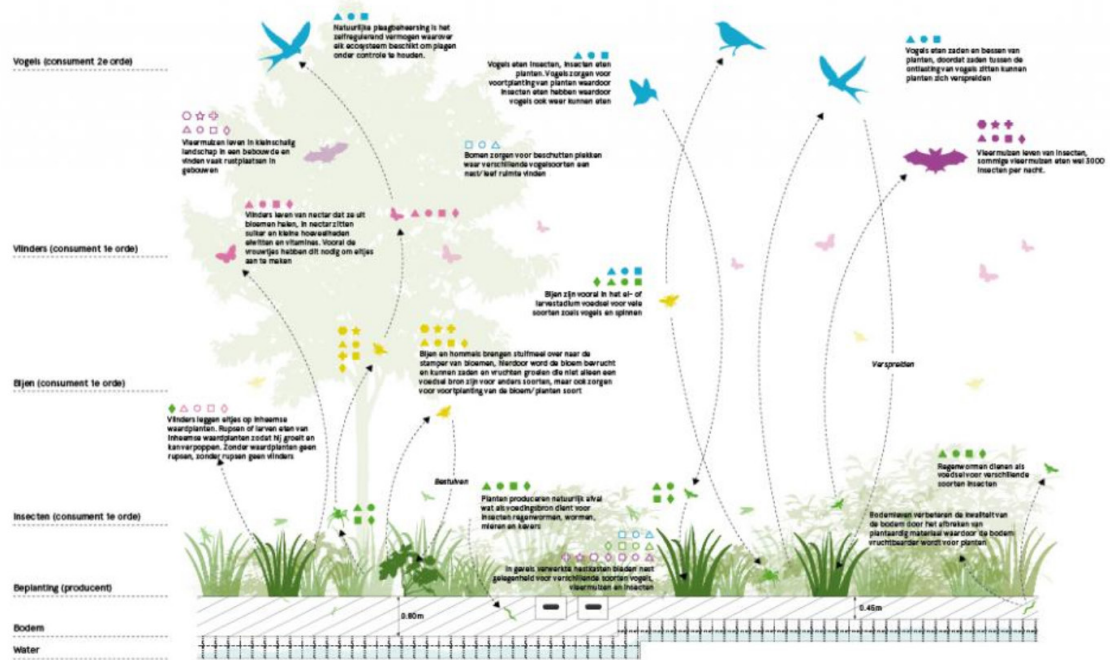
The migration to the city continues. Dutch cities continue to grow and the quality of life is coming increasingly under pressure. The consequences of this urbanisation on the human ecosystem such as flooding, heat stress and increased CO2 emissions - are becoming increasingly visible. At the same time, the habitat of birds, bees, butterflies and other insects is being severely curtailed by the increasingly crowded construction of cities and the petrification of the living environment. SAWA's design marks a turning point in this development and contributes to a healthy living environment.

In cooperation with city ecologists and biologists, SAWA was designed to be nature-inclusive. For example, there are fixed flower and planter boxes on the terraces and balconies. The planting is site-specific (depending on the orientation to the sun and the height in the building) and chosen in such a way that the plants provide food for the animal species. Nesting boxes will be placed on and around the building to provide a safe haven for birds and insects. In this way, SAWA connects to the existing ecological structures in the city and increases the biodiversity of the neighbourhood.



**Planters with a mix of different plants on different heights on the facade**

Source: [https://issuu.com/meiarch/docs/sawa\\_gidsje\\_en\\_20210714\\_issuu/24?ff&experiment=last-page](https://issuu.com/meiarch/docs/sawa_gidsje_en_20210714_issuu/24?ff&experiment=last-page)

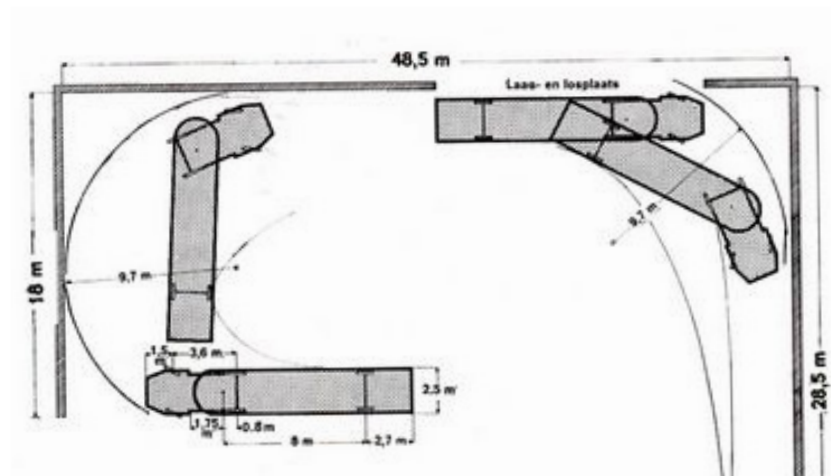


Different layers of the ecosystem and their function within. It is important in the design to incorporate all layers to achieve full working ecosystem.

- Plants (Non-Humans) - Producers
- Insects - Consumers of the 1st order
- Bees - Consumers of the 1st order
- Butterflies - Consumers of the 1st order
- Birds - Consumers of the 2nd order
- Bats - Consumers of the 2nd order

Source: <http://www.fluxlandscape.nl/nl/trekvlizetzone-nature-inclusive>

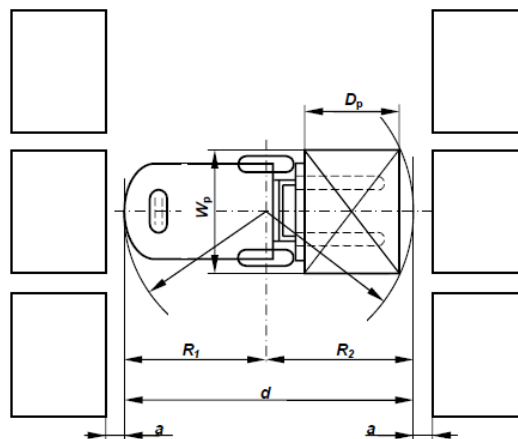




Allowing for the turning radiuses of several logistical/art handling vehicles in my Floor Plans.

#### Radius of an Art-Truck

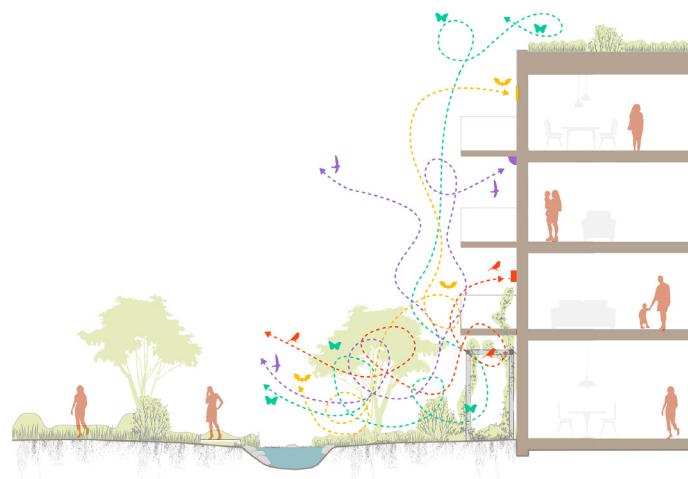
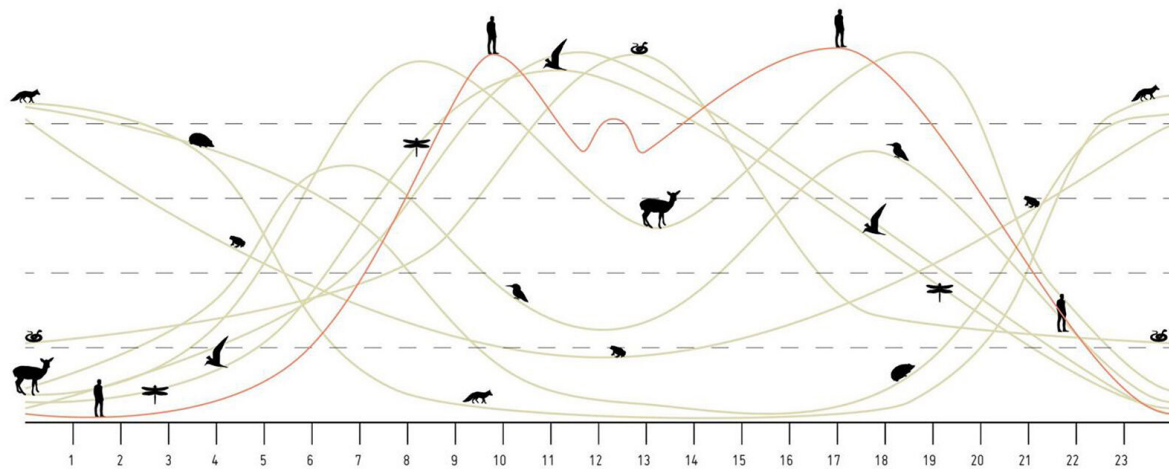
- Length of Truck + Trailer: 15 metres: **minimum radius of 9.7 metres** should be accounted for. For extra tolerances I'm working with a radius of 10 metres in my floorplans.



#### Radius of Compact Forklift:

- Choosing for a 3 wheeled type of forklift as they have smaller turning circles.
- Minimum diameter** to account for: **3.2 metres**.

Source: <https://mitsubishiforklifts.co.za/blog/3-wheel-vs-4-wheel-forklifts-everything-you-need-to-know/>



### Drawing Inspiration from the (life)cycles in Nature

#### The Activities of Humans and Animals during a natural day (24h Cycle)

Humans and some animals have activity peaks during the day, these animals rest during the nights. Other animals however, such as bats are more active during the night.

#### “Activity of animals during summer and winter” (Annual Cycle)

During the colder months, some animals go into rest, are less active or behave in a different way. This can be used as inspiration for my building which can be used differently in different months.

Source: [https://rijnboutt.nl/actueel/nieuws/bloom-merwede-blog-4-de-relatie-tussen-mens-en-dier/?utm\\_source=linkedin&utm\\_medium=social&utm\\_campaign=blogfrancesco](https://rijnboutt.nl/actueel/nieuws/bloom-merwede-blog-4-de-relatie-tussen-mens-en-dier/?utm_source=linkedin&utm_medium=social&utm_campaign=blogfrancesco)



### Winter Situation

In colder and rainy months, winter garden can be used for shelter. Offers space inside for the neighbourhood & community garden



### Summer Situation

Winter Garden, **street in the middle opens up** and the plants in pots become outside.

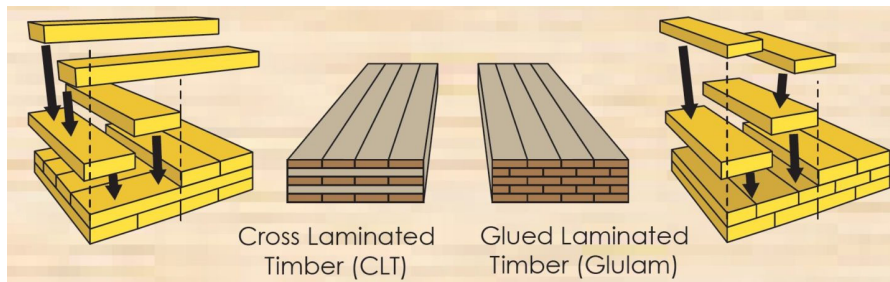




**BOSK Project (Trees in the City in Planters):**

A project in the Dutch province of Friesland where in the summer hundreds of trees in pots were distributed across the city. Every other week it changed its location in the city. It is a nice inspiration for the trees in my winter garden to be able to be moved out to the sun in the summer and to be retreated into the winter garden in the winter.

Source: <https://arcadia.frl/projecten/bosk/?cn-reloaded=1>

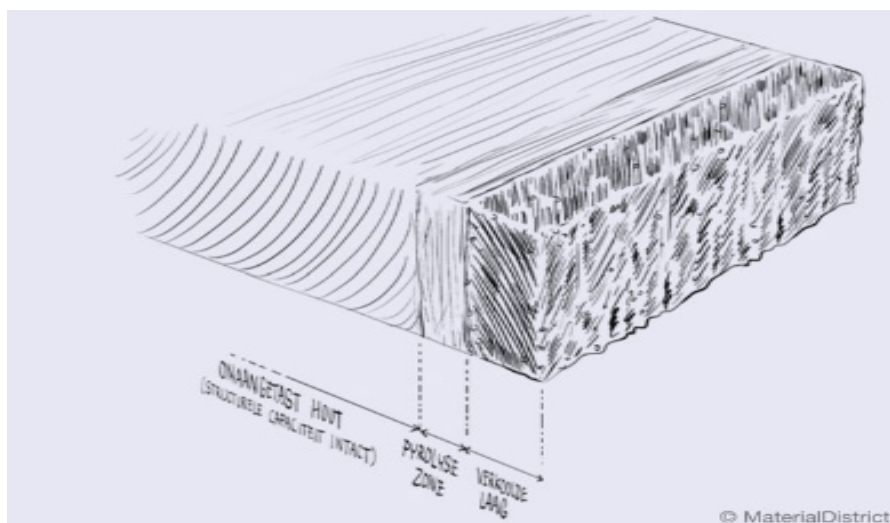


### Research: Using Structural Wood

Differences between CLT (Cross Laminated Timber) and Glulam (Glued Laminated Timber)

- Glulam: Columns + Beams
- CLT: Planes (Walls/Floors/Roofs)

Source: Brooshakian, Vahid. (2016). Re: What are the advantages of cross laminated timber compared to glulam and solid wood?



### Wish to show the wood in my museum building without the need to cover it Different Strategies for Fire Safety

1. Oversizing the Wood (outside layer becomes the charred layer which protects the inner wood from the fire)
2. Fire retardant panels (e.g. plasterboard)
3. Sprinklers

Source: <https://klimaatweb.nl/nieuws/houtbouw-hoe-duurzaam-en-veilig-is-het/>

"Oversizing the wood" has my preference as it means that the wooden columns and beams can stay visible in my building.





**Chalk Painted Wood**

Natural Oils/Treatments for the Glulam and CLT Panels.

Source: <https://www.dezeen.com/2017/10/08/thewoodbuilding-prefabricated-wooden-holiday-home-clad-charred-timber-boards-architecture/>



**Facade Cork Detailing - Tactility (Vertical Relief Pattern)**

Production process of Cork panels: under high pressure compacted and then cut up in pieces.

Source: <https://facadesplus.com/casa-quattro-answers-the-call-for-sustainability-with-wood-straw-and-cork/>





### Reference: Cork Screw House Berlin

Rundzwei Architekten BDA

Source: <https://bigsee.eu/cork-screw-house-berlin-staaken/>

### Research: Cork on Facades - Information from Experts

I Emailed Andreas Reeg from "rundzwei Architekten BDA" the Architect from Cork Screw House in Berlin with some **questions about using cork on façades** and in particular in terms of its appearance and manufacturing process

- Darkness of Panels (Changes depending on the light and weather)
- Changes when exposed to sun (UV)

Dear Matthew,

The cork used for the panels is from the first peeling of the cork oak tree. These first peeling are not dense enough to be used for the bottle cork production and would usually be thrown away. The cork panels are produced with this first cork as well as some waste cork from the bottle cork production.

The colour is very dark as a result of the production of the panels ("baked" at 200°C). The colour then lightens up, when exposed to UV light and the weather in general. But the nice thing is that it is really depending on the day and light falling on the cork. When it is a rainy day the cork darkens quite a lot. Then when the sunlight dries it out, it turns very bright again. The colour on our images might be a bit too light though due to the exposure used when photographing.

Mit freundlichen Grüßen

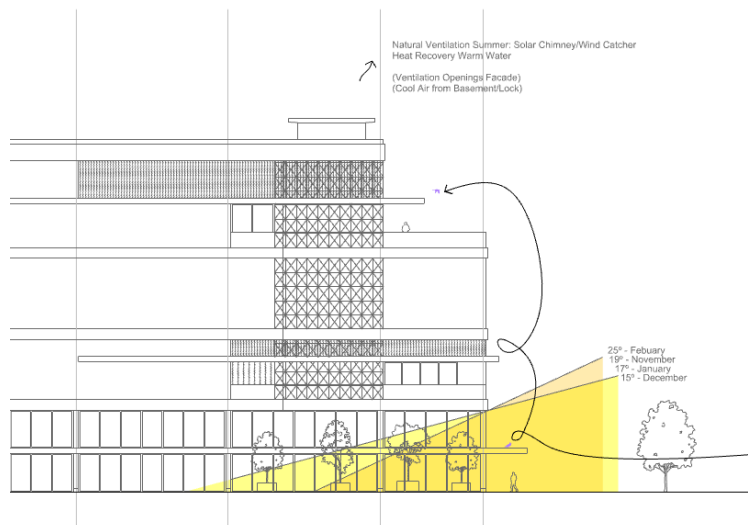
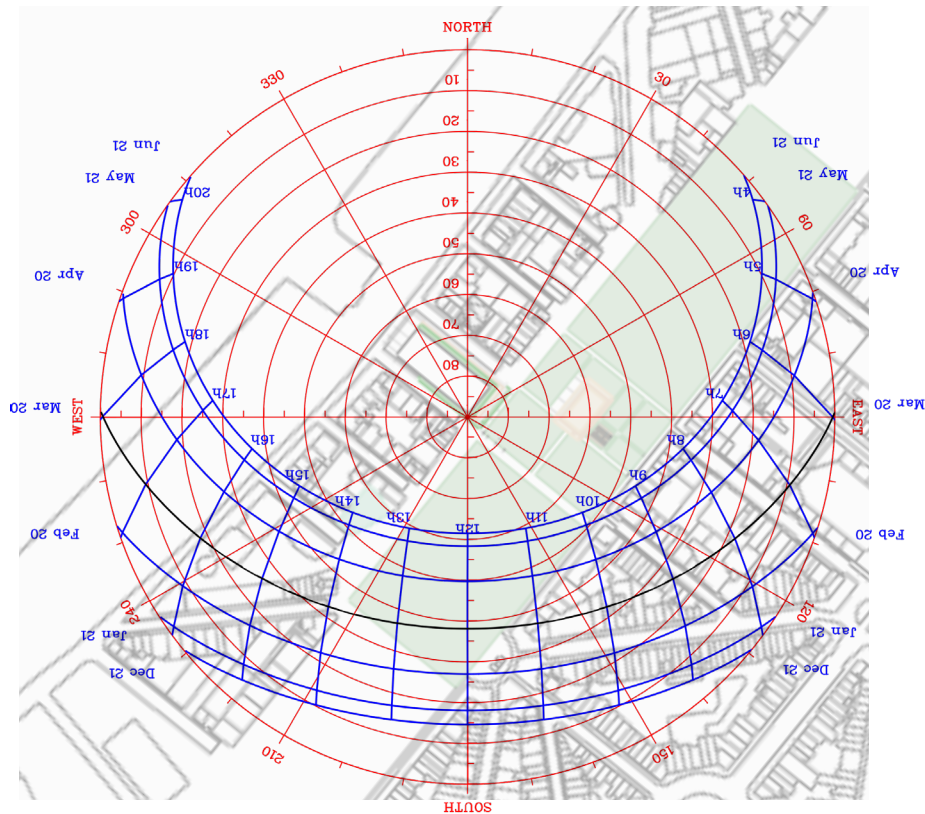
Andreas Reeg

Dipl. Ing. Architekt (BDA / AKB / ARB)



rundzwei Architekten BDA

Reeg & Dufour PartGmbH



### Solar Analysis Winter Garden

Laying over the solar diagram above the plan of the project.  
In order to check which **facade orientations** have the **largest sun exposure**.

Checking **how deep the sun can enter** inside the winter garden during the winter situation. Sun angles are drawn for the months February, November, January and December.

Source: <https://weerman.nu/voorbeeld-pagina/zonnepanelen/zonnestand-per-maand-in-nederland/>



## Schema biobased bouwmaterialen

### Legenda

Lettertype:  
schuingescreven kenmerk over bouw materiaal  
normaal bouw materiaal, bewerkt waardoor niet herbruikbaar  
vetgedrukt grondstof als of bouw materiaal, te gebruiken als bouw materiaal

### Kleur van de lijnen:

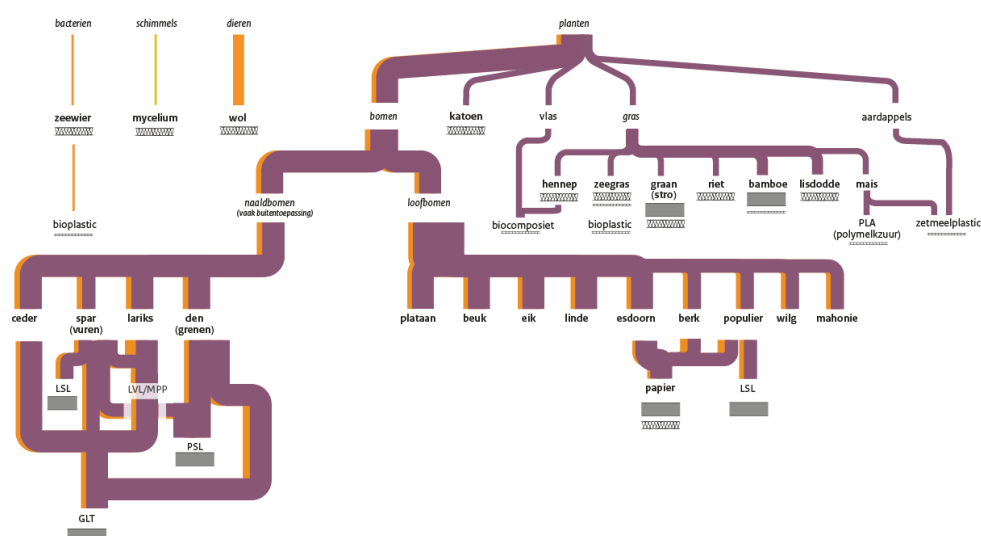
landbouw  
restproducten  
artificieel/focade ongebonden

### Dikte van de lijnen:

binnen een maand te oogsten  
binnen een jaar te oogsten  
binnen 25 jaar te oogsten  
binnen 50 jaar te oogsten

### Symbolen:

isoliërmateriaal  
afwerkingsmateriaal  
constructie materiaal



## Scheme of Biobased Materials

Types of Wood, bioplastic and other biobased materials.

- LVL: fir, pine (spar, den)
- Oak: deciduous tree (loofboom)

Source:

*Inspiration book biobased and nature-inclusive building*, 14  
February 2023, Board of Government Advisors



[illegible]

There is a **synergy between Park** Zuiderdokken, the **Natural Quay** on the Left Bank of Antwerp **and the building** with its different façades.

## Maatregel 1. Neststenen voor vogels

Vogelsoort	Inbouw/uitbouw	Minimale/maximale hoogte (meter)	Minimale broedruimte en materiaal	Oriëntatie	Aandachtspunten
Huismus, Koloniebroeder	Beide	3/15	<ul style="list-style-type: none"> <li>15 x 8 cm (opening van neststenen minstens 50 cm uit elkaar)</li> <li>Houtbeton**</li> </ul>	Noord of oost of in schaduw van dakgoot/overstek van 30 cm	Minstens zes neststenen bij elkaar plaatsen (lieft niet boven ramen)
Gierzwaluw Spreeuw Koloniebroeder	Beide	4/40	<ul style="list-style-type: none"> <li>43 x 17,5 x 17,5 cm (type Zeist werkt goed)</li> <li>Opening vlakbij bodem van nestkast</li> <li>Houtbeton**</li> </ul>	Noord of oost of in schaduw van dakgoot/overstek van 30 cm	Minstens zes neststenen bij elkaar plaatsen (lieft niet boven ramen)
Witte kwikstaart	Uitbouw	3/10	<ul style="list-style-type: none"> <li>19 x 18 x 18 cm</li> <li>Houtbeton of plantaardig vezelbeton</li> </ul>	Noord of oost	Liefst niet boven ramen
Zwarte roodstaart	Beide	6/20	<ul style="list-style-type: none"> <li>19 x 18 x 18 cm</li> <li>Houtbeton of plantaardig vezelbeton</li> </ul>	Noord of oost	Liefst niet boven ramen
Huiszwaluw Koloniebroeder	Uitbouw	6/10	<ul style="list-style-type: none"> <li>17 x 43 x 17 cm</li> <li>Houtbeton** met lichte kleur</li> </ul>	Noord of oost of in schaduw van dakgoot/bij voorkeur witte overstek van 30 cm	<ul style="list-style-type: none"> <li>Minstens zes neststenen bij elkaar plaatsen.</li> <li>In de buurt van water, bijv. onder een brug.</li> <li>Liefst niet boven ramen</li> </ul>
Slechtvalk	Uitbouw	80/120	<ul style="list-style-type: none"> <li>64 x 80 x 62 cm</li> <li>betonplex/metaal</li> </ul>	Noord of oost, niet met opening richting zuidwesten	Hoogbouw (≥80 meter) (lieft niet boven ramen)

## Maatregel 2. Kasten voor vleermuizen

Vleermuiskasten bestaan in inbouw- of uitbouwmodellen en zijn gemaakt van houtbeton of keramiek (inbouw).

Soort kast	Minimale hoogte	Minimale afmetingen	Oriëntatie	Aandachtspunten
Zomerkast	4 mtr	50 x 20 x 2 cm compartimenten	Kan op alle windrichtingen	Liefst niet boven ramen
Kraamkast	4 mtr	80 x 70 x 3 cm compartimenten	Zuid of west	<ul style="list-style-type: none"> <li>In de buurt van groen en water</li> <li>Liefst niet boven ramen</li> </ul>
Winterkast	4 mtr	80 x 70 x 3 cm compartimenten	Noord of oost	Liefst niet boven ramen
Kasten voor tweekleurige vleermuis	30 mtr	70 x 50 x 3 cm compartimenten	Noord/oost/zuid/west	Hoogbouw (≥30m) (lieft niet boven ramen)

## Maatregel 3. Hotels en stenen voor insecten

Hotels en stenen voor insecten bestaan in inbouw- of uitbouwmodellen. Plaats insectenhotels en -stenen in de buurt van nectar- en stuifmeel dragende bloemen, planten en struiken.

Soort insectenvoorziening	Minimale hoogte	Minimale afmetingen	Materiaal	Oriëntatie
Bijensteen	variabel	21 x 10 x 6 cm	Houtbeton	Zuidwest
Vlinderhotel	3 mtr	15 x 13 x 23 cm	Hout	Zuidwest
Insectenhotel	variabel	100 x 100 cm	Verschillende materialen; steen, hout, kurk	Zuid

## Requirements for Nests (Birds, Bats) and Insects (Bees, Butterflies)

Using this information later in my detailing of the facade.

- Orientations (North & East)
- Heights
- Measurements/Sizes
- Material

Source: *Natuurinclusief bouwen en ontwerpen in twintig ideeën*, Amsterdam, december 2018, Gemeente Amsterdam



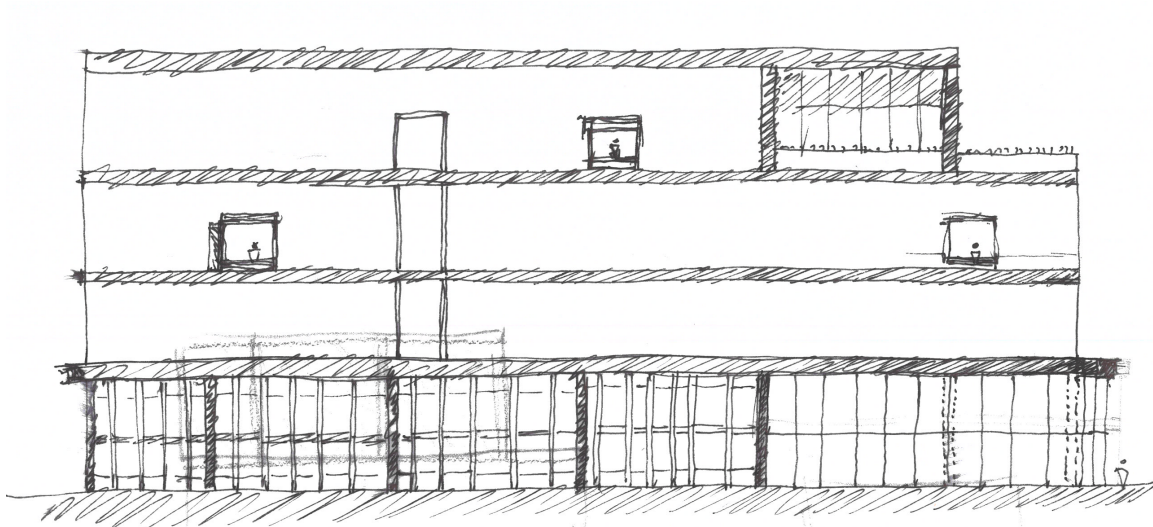
#### Specific Requirements per Bird Type in Antwerp.

- House sparrow (colony breeder **minimum 6 nests together**) (**façade greenery closeby for shelter**)
- Starling (façade green 3m high within 5m distance)
- Black Redstart
- Peregrine Falcon
- Swift (colony breeder minimum 6 nests together)
- House Martin (water + clay nearby)

*Colony Breeder: type of bird that breeds in colonies.*

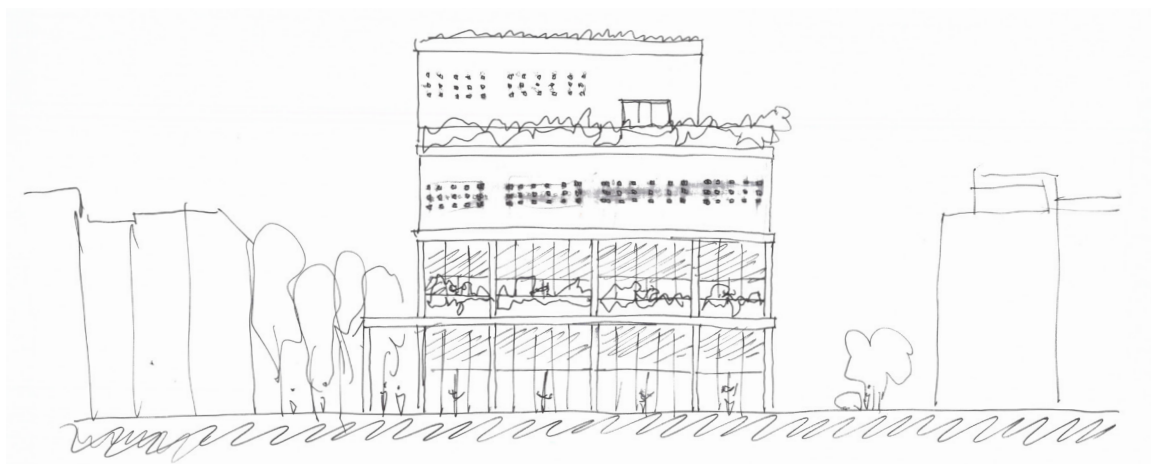
#### Requirements for Nesting Stones for Birds.

- Each bird species uses its own specific nesting stone.
- **Place the nesting stones on the northeast side of the facade (and not above windows). On the northeast side, the nests don't get too much sun.**
- Swifts and house sparrows are colony breeders. Therefore place at least six stones together.
- For the **house sparrow and the starling it is essential that there is at least three meters high upright greenery present within a distance of five meters from the nest location.** For example, façade greenery and/or a hedge or (prickly) shrub. In this greenery, these species find shelter and food (insects).



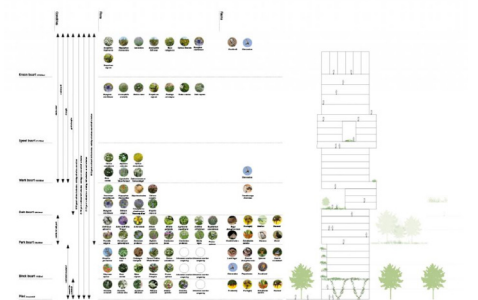
### First Facade Sketches

Horizontal lines on the façades which show the spaces behind.



### Redesign of Park Facade with Greenery

Integrating planters, nesting opportunities and birds nests inside the facade.



(Week 2.8) Reflecting Back to Research on the Cities Ecosystem  
Animals in the city live on different heights

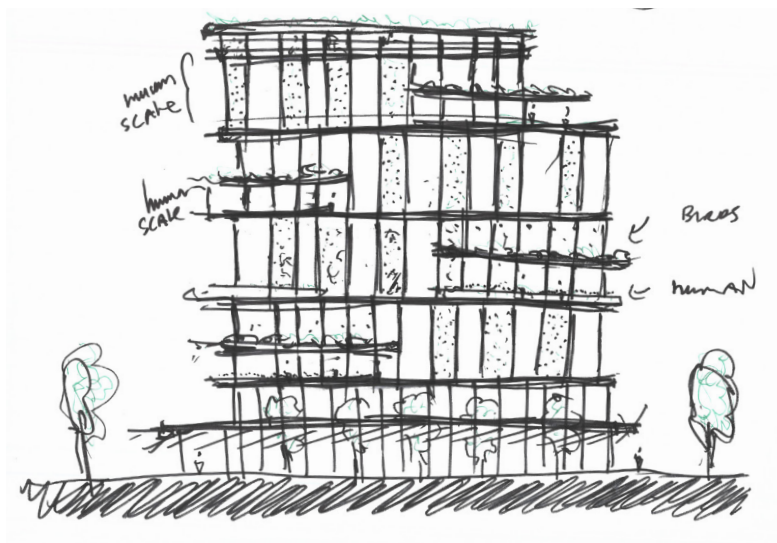
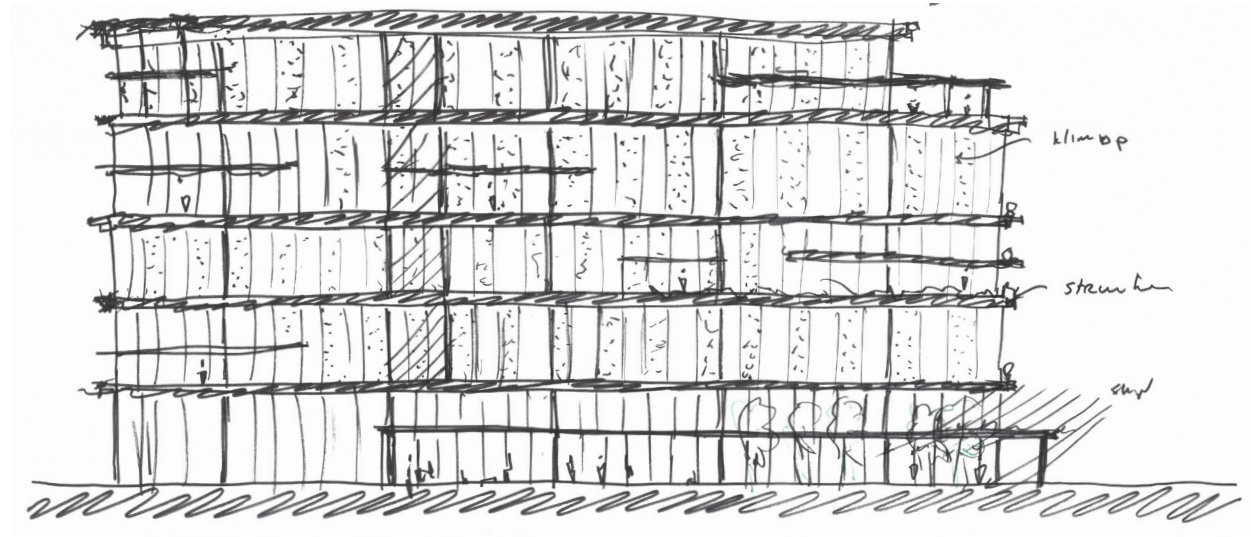
### P3 Feedback and Reflection

Notes that Denzel, René and Frank made during my P3 presentation highlighting the themes and remarks. The biggest remarks are in terms of the “human scale of my building”, so this is the main point which I’m going to address.

#### Notes:

- How is the winter garden doing?
- They wonder how much sun is coming into the building, need to know about that in the end?
- Timber truss instead of steel for the ventilation pipes. Or lowered ceilings?
- Daniel: building seems small
- Daniel: I don’t understand the scale of the building. Canopy of the building is enormous 8 meters while you are designing a detailed/timber (small feeling/friendly/domestic building I think)
- The trees won’t get any sunlight, the trees will die. Only trunk will get a bit of sunlight.
- Scale of building/building elements
- Your pavilion looks cute on the drawing but feels big in the model
- Daniel enjoys the clarity of the plans, but problem is the density in plans: missing toilets etc! Public buildings have a lot of toilets! Disabled toilets cloakrooms etc! Look at the reference projects from begin of the year





### Implementing the “human scale” in the facade following P3 feedback

#### Adding more horizontals to accentuate the human scale of the facade.

Because of the tall ceiling requirements for the (art) spaces, the human scale was sometimes lost in the facade. For example resulting in a very tall 9m canopy. Therefore, I added additional horizontals on the spaces where there is an interaction with the outside. On these intersections, the extra horizontal divides the area up in two where the bottom area is for humans and the top area is for birds and plants.



Old Facade: No Human Scale



New Facade: **More Human Scaled**

#### Old and New

- Adding more horizontals to accentuate the human scale of the facade
- Making sure more sunlight enters through to the winter garden.



### Reference Stadsserre van Zin Brussels

Greenery Advisor: Plant- en Houtgoed

Source: <https://www.51n4e.com/projects/espace-nord>

### Research on Indoor Plants - Information from Experts

I Emailed Jeroen Deseyn from “Plant en Houtgoed” the greenery advisor of the Stadsserre Project in Brussels. With some **questions about the use of greenery inside of buildings and the issue of getting enough sunlight for the plants.**

- When natural daylight is not possible: Artificial grow light with the right light spectrum for photosynthesis
- Possible species to use: Ficus & Howea
- Large Growers for Indoor Plants: Fachjan & Nieuwkoop

Planten in ZIN Brussel



Jeroen Deseyn <[jeroen@plantenhoutgoed.be](mailto:jeroen@plantenhoutgoed.be)>

Vandaag, 10:44

Matthew Tan; [info@plantenhoutgoed.be](mailto:info@plantenhoutgoed.be)

Alles beantwoorden

Beste Matthew

De plantenkeuze is inderdaad cruciaal in het ontwerp. Dit betreft een binnenbeplanting in een kantoorruimte met een zeer strikt klimaatregime. Om die doelstellingen te halen, zijn er zonneweringen: lamellen, automatische screens aan de ramen en ook een bepaalde coating op de ramen. Dit betekent dat het lichtspectrum die de planten nodig hebben voor fotosynthese niet beschikbaar is. Dus moet er gekeken worden naar artificieel groeilicht.

Kamerplanten zijn zoieso al vaak planten voor schaduwsituaties: Ficus-soorten, Howea-soorten, enz.

Vriendelijke groet

Jeroen Deseyn  
Landscape architect & Biologist

Dag Matthew,

Bucida moet heel veel licht hebben, is eigenlijk een buitenboom voor tropisch klimaat.

Je kan ten rade bij grotere kwekers. Zij bieden voor alle soorten ook grote maten aan.  
Voorbeelden: Fachjan, Nieuwkoop.

Vriendelijke groet

Jeroen Deseyn  
Landscape architect & Biologist





**Reference: Langeveld Building Rotterdam**  
 Interior Planting: COPIJN  
 Source: <https://www.copijn.nl/projecten/interieurbeplanting-langeveld-building-erasmus-universiteit/>

### Research on Indoor Plants - Information from Experts

I Emailed Gerrit van Engelenburg from “Copijn” the greenery advisor of the Langeveld Building in Rotterdam. With some **questions about the use of greenery inside of buildings and the issue of getting enough sunlight for the plants.**

- Suppliers of Interior Plants <https://fachjan.nl/> & <https://www.nieuwkoop-europe.com/nl>
- Interior Spaces are grown on light situations in indoor spaces
- The lack of light can be supplemented by using LED Grow Lighting



Engelenburg G. van (Gerrit) | Copijn <[gerritvanengelenburg@copijn.nl](mailto:gerritvanengelenburg@copijn.nl)>

Vandaag, 15:18  
 Matthew Tan ✉

Beste Matthew,

Dank voor de toelichting.

Hieronder de grootste leveranciers van interieurbeplanting:

<https://fachjan.nl/>  
<https://www.nieuwkoop-europe.com/nl>

Deze zijn allemaal gekweekt op de lichtsituatie in binnenruimtes. Het gebrek aan licht kun je eventueel aanvullen met LED-groeiverlichting.

Als je nog meer informatie nodig hebt hoor ik dat uiteraard graag.

Met vriendelijke groet,

Gerrit van Engelenburg  
 Operationeel directeur

tijds aanduiding	Maandag	Dinsdag	Woensdag	Donderdag	Vrijdag	Zaterdag	Zondag
8u00-8u59	2	2	3	2	3	1	0
9u00-9u59	3	16	9	15	14	2	0
10u00-10u59	4	28	18	29	23	14	18
11u00-11u59	2	54	46	56	53	66	78
12u00-12u59	2	38	34	38	36	48	62
13u00-13u59	2	46	42	53	48	58	79
14u00-14u59	1	52	52	53	53	80	102
15u00-15u59	1	40	44	40	50	81	89
16u00-16u59	0	25	30	30	28	59	55
17u00-17u59	0	11	13	33	11	22	19
18u00-18u59	0	4	5	46	2	3	2
19u00-19u59	0	1	6	45	0	9	0
20u00-20u59	0	0	6	31	0	11	0
21u00-21u59	0	1	3	15	0	12	0
22u00-22u59	0	0	2	4	0	12	0
23u00-23u59	0	0	1		0	4	0
<b>Totaal</b>	<b>18</b>	<b>318</b>	<b>312</b>	<b>490</b>	<b>322</b>	<b>482</b>	<b>505</b>

Source: table 8 – Distribution on a daily and weekly basis from the mobility test

functionele clusters	huidige situatie		toekomstige situatie	
	werknemers huidige MHKA	VTE	werknemers nieuw VMHK	VTE
cluster forum	32	29,2	41	36
cluster content	12	9,3	22	17
cluster art handling	8	7,1	13	6
cluster ondersteuning	13	12,2	18	12
cluster presentatie	13	12	15	15
<b>TOTAAL</b>	<b>78</b>	<b>69,8</b>	<b>109</b>	<b>86</b>
vermindering externe toezichters	10	10	20	0
<b>TOTAAL bestaffing</b>	<b>68</b>	<b>59,8</b>	<b>89</b>	<b>86</b>

### Analysis of Amount of Museum Visitors

Needed for Calculations for the viability and needed Capacity of my Natural Ventilation System

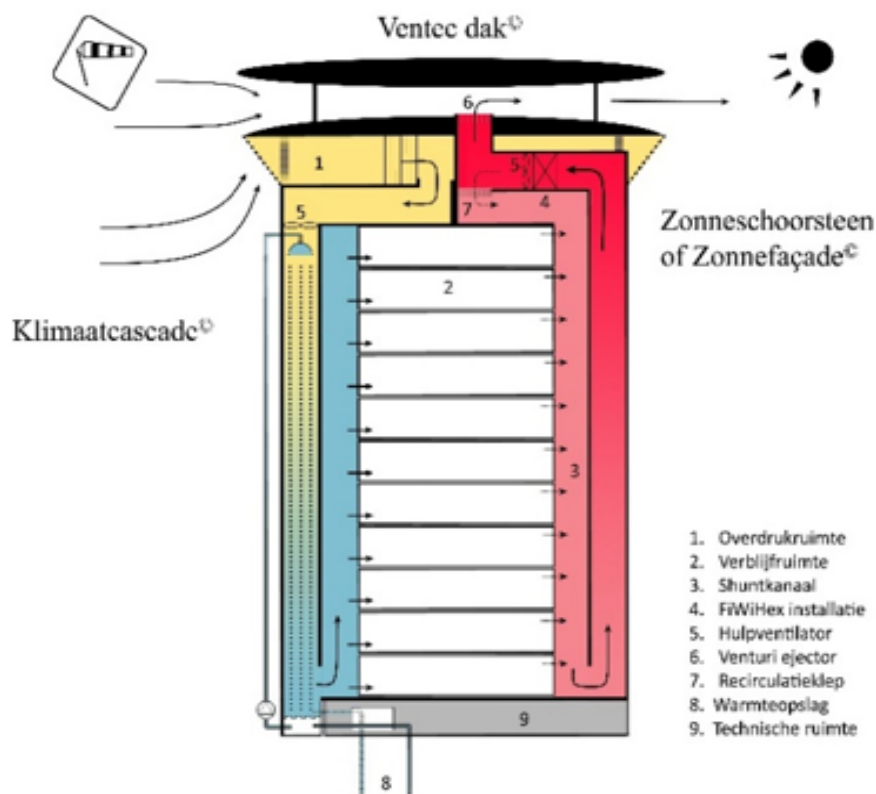
Current M HKA: maximum amount of visitors present at the same time + employees at the same time

- 177 + 68 people = 245 people

Estimated number of visitors new museum doubled

Future M HKA: 490 people at the same time





### Measurements of Natural Climate System Principle of Ben Bronsema

Quick Calculations for the dimensions of:

- Climate Cascade
- Central Air Supply Shaft
- Solar Chimney

To be ventilated surface area M HKA  
- 12.500m<sup>2</sup> net

Maximum amount of people in M HKA  
(assuming 12m<sup>2</sup> per person)  
- (12.500m<sup>2</sup>/12m<sup>2</sup> = 1042 people

Total Ventilation Capacity  
(assuming 50m<sup>3</sup>/h ventilation per person)  
- 1042 people \* 50m<sup>3</sup>/h = 52.100m<sup>3</sup>/h

#### 1) Dimension Climate Cascade

(52.100m<sup>3</sup>/h)/(3600x3,5m/s) = **4,1m<sup>2</sup>**

#### 2) Dimensions Central Air Supply Shaft

(52.100m<sup>3</sup>/h)/(3600x2,0m/s) = **7,2m<sup>2</sup>**

Width x Height max 3:1

**W = 4,70m**

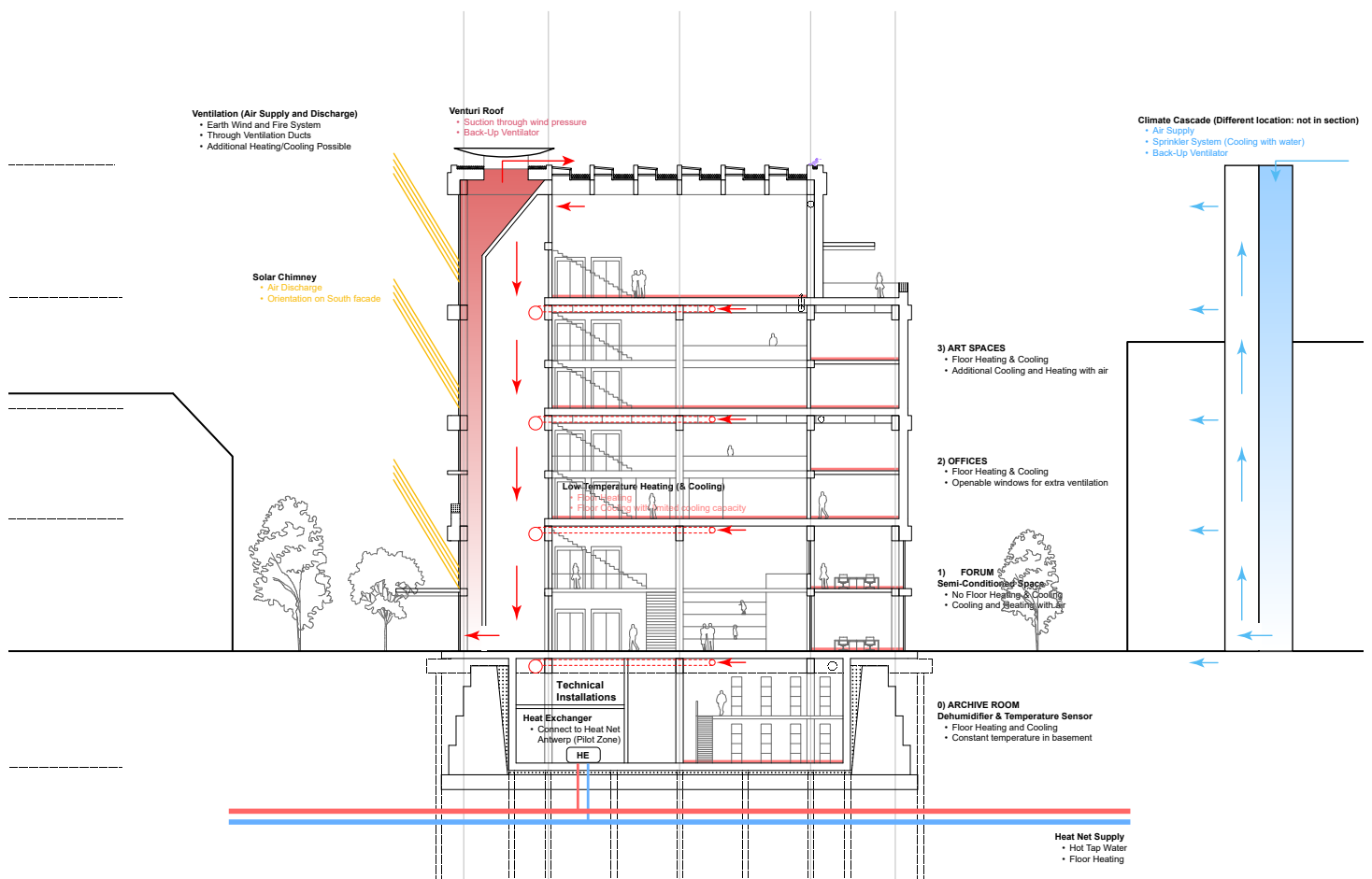
**H = 1,60m**

#### 3) Dimensions Solar Chimney

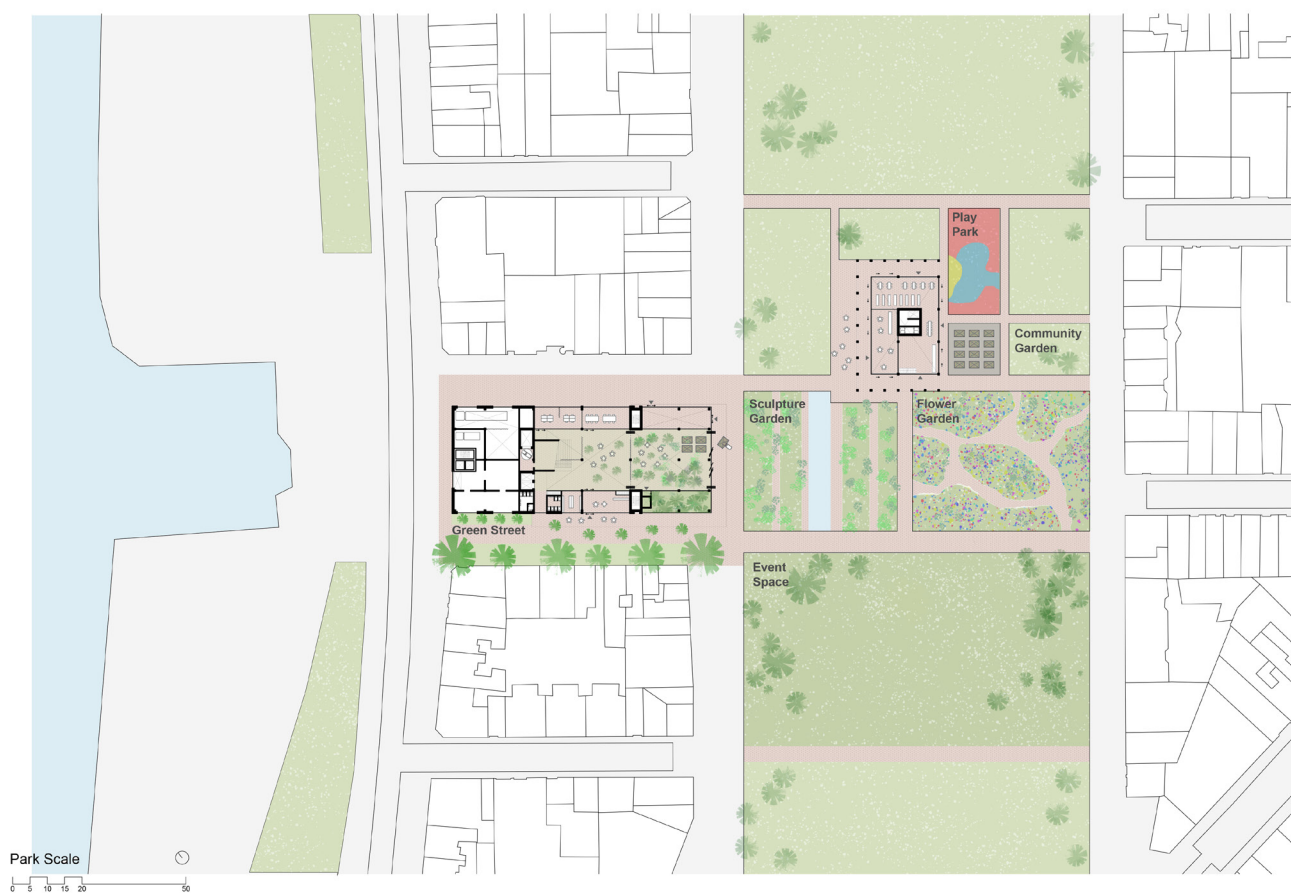
(52.100m<sup>3</sup>/h)/(3600x1,5m/s) = **9,6m<sup>2</sup>**

**Minimum Depth: 0,7m (for cleaning)**

**Width 13,7m (at south facade)**



**Climate Section M HKA**  
Integrated the Earth, Wind and Fire system  
within the building



**M HKA, the dispersed museum**  
 Outdoor Forum, Public Pavilion and  
 Building on the Plot.



### **M HKA Winter Garden: Space for Community Garden Boxes in colder months**

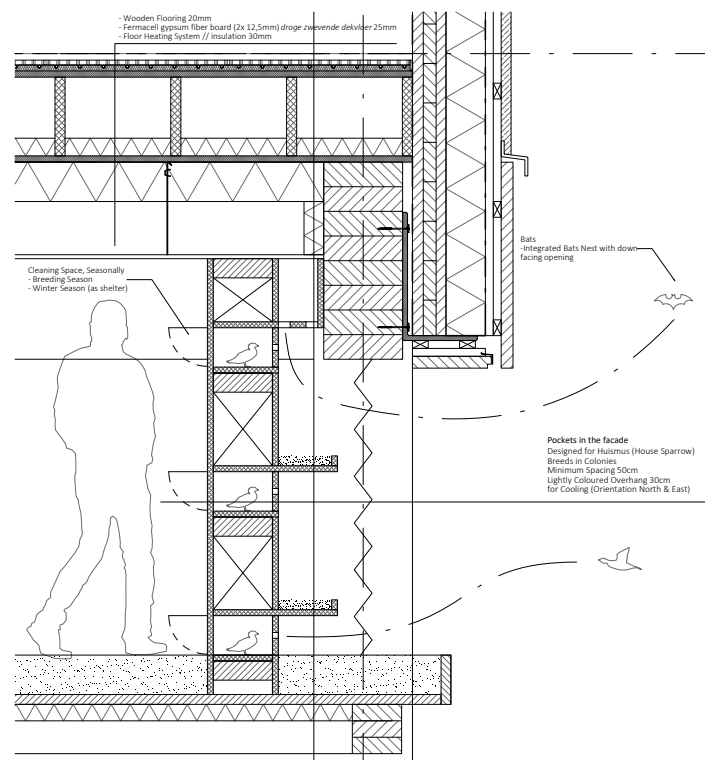
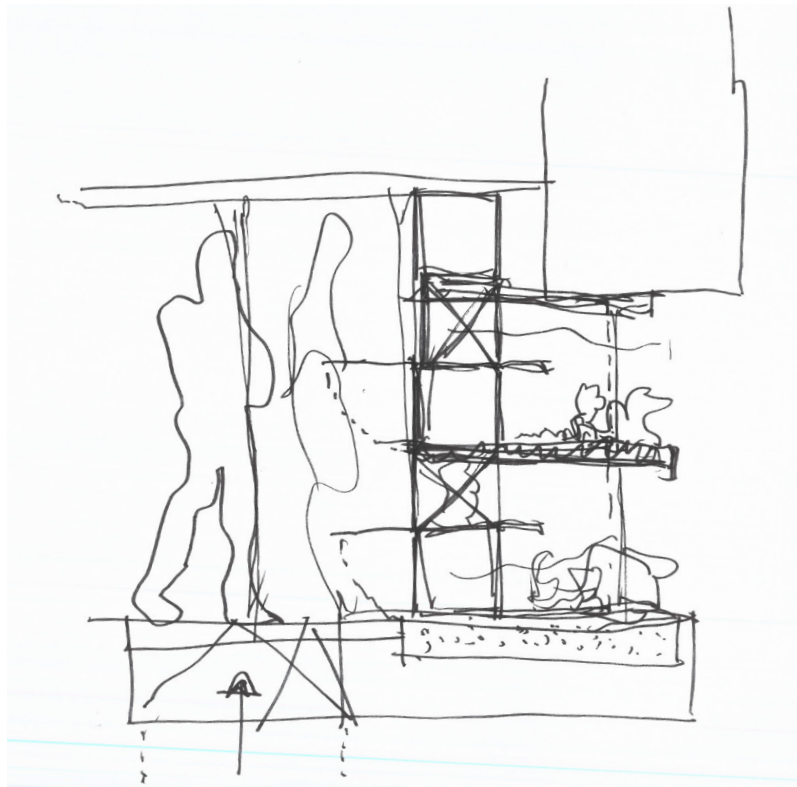
I've reserved space in my winter garden for the community garden in the winter. This way, the community garden with important social function in the neighbourhood can be used the whole year through.



### **(Week 3.8) Reflecting Back to Site Visit:**

#### **Community Garden inactive during the Winter**

I found it such a shame that the community garden in Park Zuiderdokken was unable to be used in the winter months because of the cold.



**Detail 2**  
 Birds/Bats Nests Detail  
 1:5 (Rescaled to 1:15)

### Facade with Inhabited Edges

With the information from the research on birds, nests and sizes, I sketched out the necessities for the birds. For example the size of the birds nests, the wish for a 30 cm overhang for the birds nests which cast shadow for cooling, and the possibility to clean the birds nests twice a year, by providing access for people from the back.

(Week 3.9) Reflecting Back to Research on birds, nests, sizes A table with specific information on birds, species, nest sizes

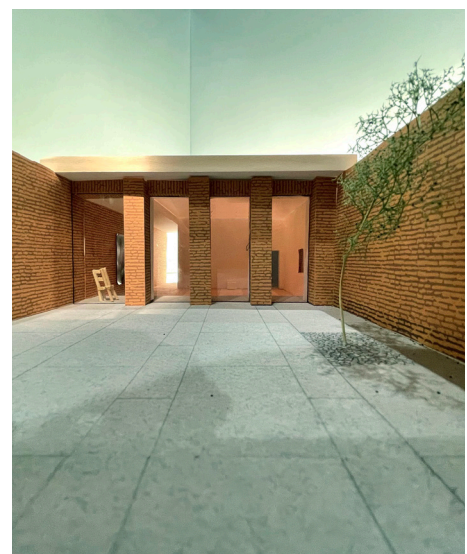
Vogelsoort	Inbouw/uitbouw	Minimale/maximale hoogte (meter)	Minimale broedruimte en materiaal	Oriëntatie	Aandachtspunten
Huisemus, Koloniesbroeder	Beide	3/15	<ul style="list-style-type: none"> <li>15 x 8 cm (opening van neststerven minstens 50 cm uit elkaar)</li> <li>Houtwater**</li> </ul>	Noord of oost of in schaduw van dakgoot/overstek van 30 cm	Minstens zes neststerven bij elkaar plaatsen (liefst niet boven ramen)





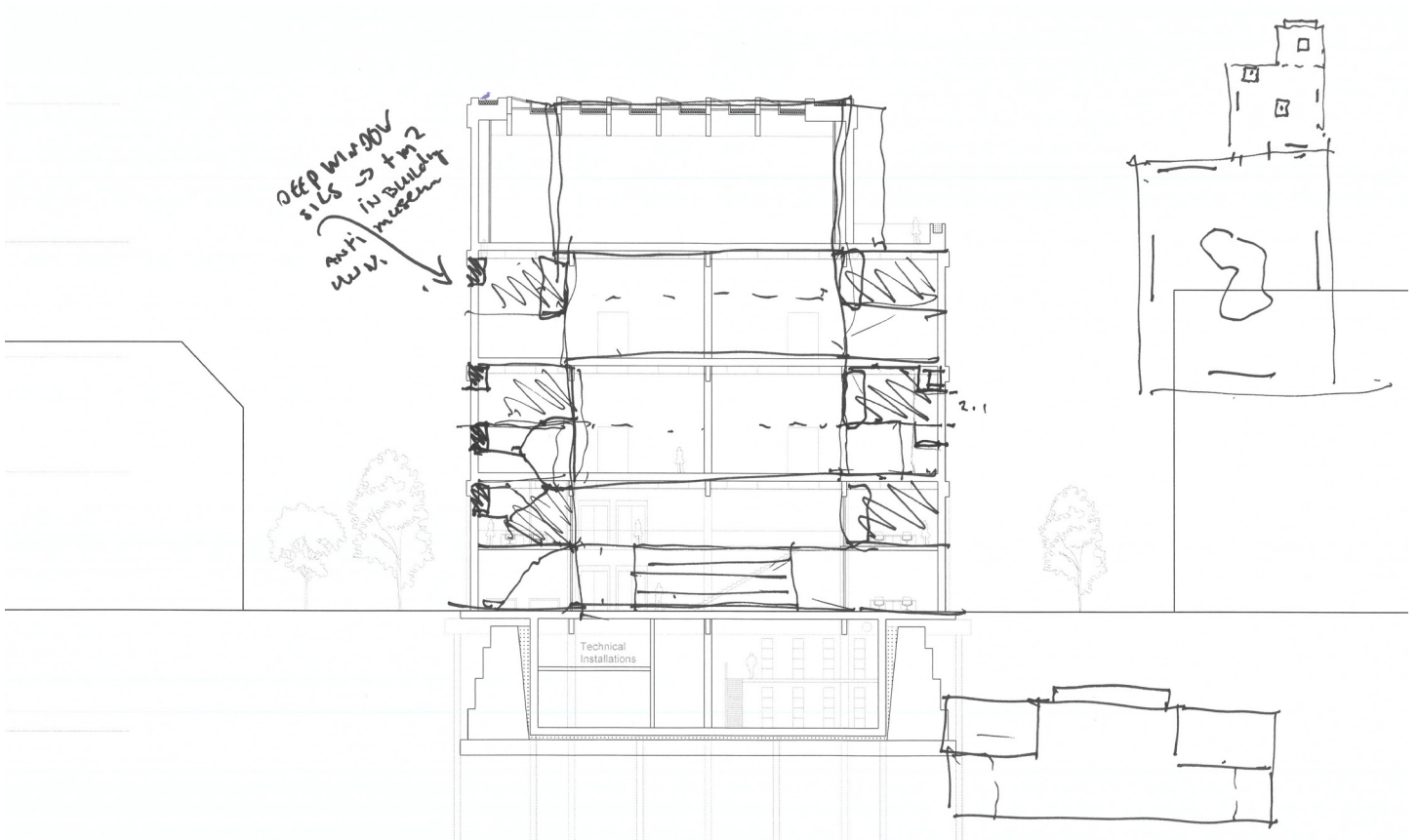
**Loggia: Outdoor Area with and Planters with all types of greenery**

Loggias, with greenery as a visual element in the room and, sometimes as a place to step out of the art spaces, acting as a **unique room in the sequence.**



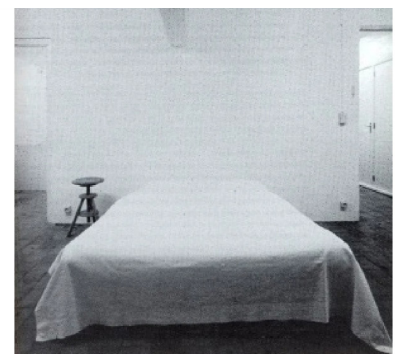
**(Week 1.9) Reflecting Back to Ensemble P1 Design - Courtyard outdoor Area**

Courtyard: outdoor area as a third room in the sequence of art spaces.



**Smaller, More intimate Art Spaces the sides**  
**and larger art spaces in the centre.**

The idea of intimate art spaces can be nicely related  
 to the anti-museum research. Idea Developed During  
 tutoring with Daniel + Sam



CHAMBRES D'AMIS  
 Jan Hoet, 1986

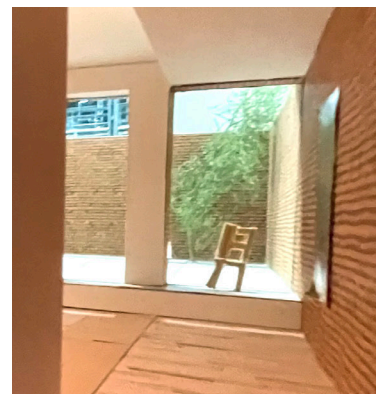
Chambres d'amis was an exhibition curated by Jan Hoet that took place in 58 private homes in Ghent, Belgium between 21st June and 21st September, 1986. The artists took over the living spaces of the regular Belgian townspeople and created a site-specific installations in each house. The list of artists included Bruce Nauman, Pissarro, Lawrence Weiner, Daniel Buren and many more.

**(Week 1.6) Reflecting Back to Anti-Museum Research -  
 Chambres d'amis, Museum Display in Intimate Setting**  
 Chambres d'amis, was an exhibition which took place in  
 58 private homes in Ghent, Belgium. In the 'private home',  
 which is the epitome of intimate art display.



### Deep Windowsills for Art Display

The Deep windowsills eliminate the need for a separate art pedestal and also introduces a certain informality to the space which fits the M HKA collection.



### (Week 1.9) Reflecting Back to Ensemble P1 Design

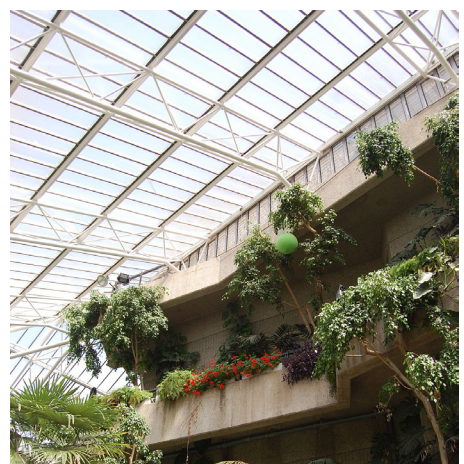
Deep Windows for Art Display. The Window sill is extended which eliminated the need to have a separate art pedestal.





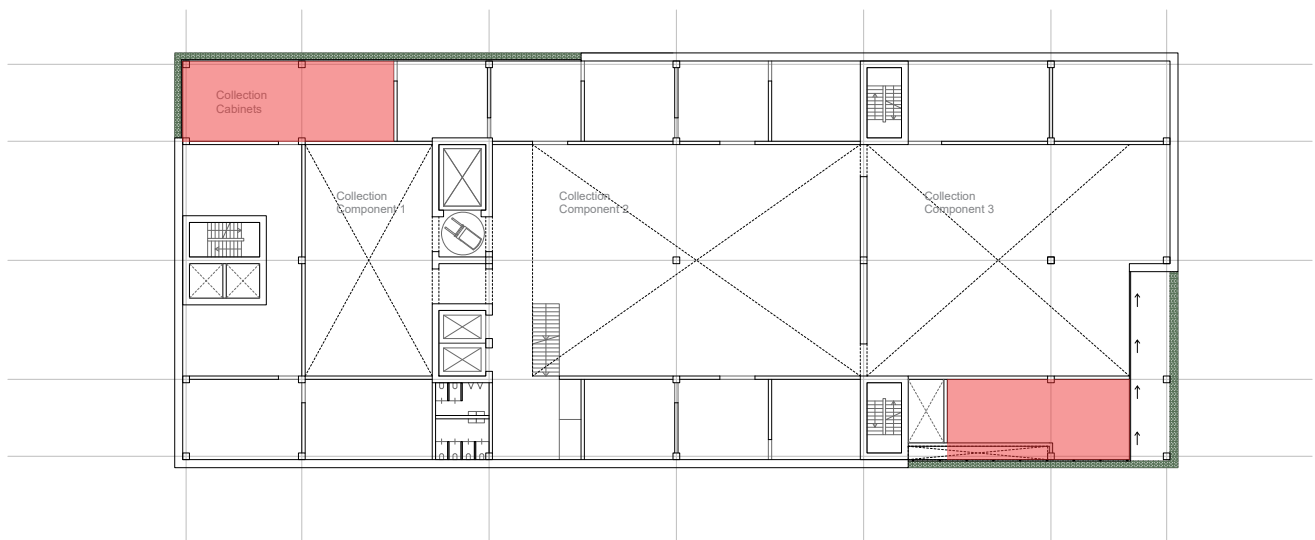
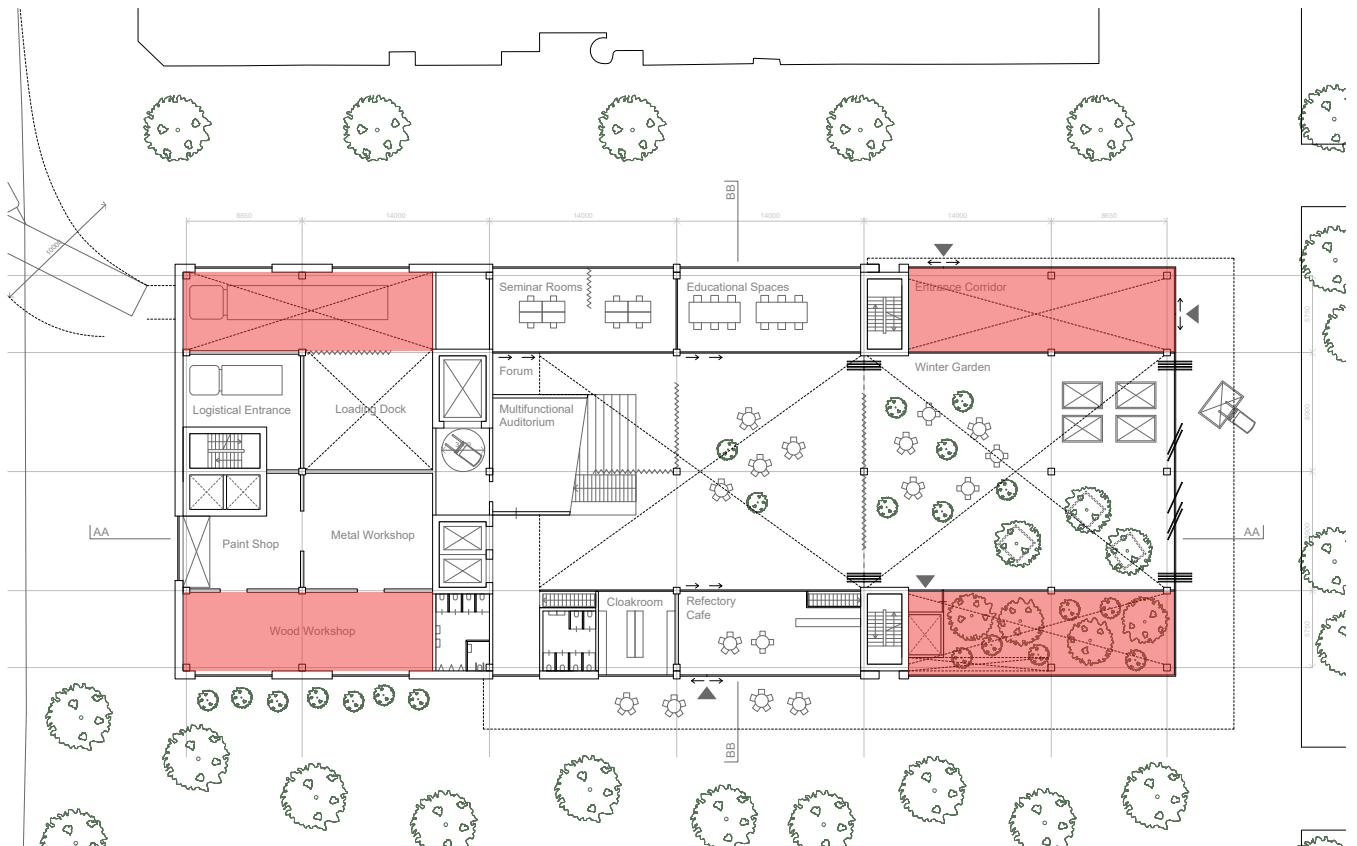
### Interior Foyer

Inviting both Humans and **Non-Humans** into the museum



### Reference: Barbican Greenhouse

Inspiration for Inviting Non-Humans inside the museum



### Interesting Corners

Able to see into Truck Loading Dock, Entrance Corridor, Winter Garden, Wood Workshop and Art Spaces with relations to the outside.

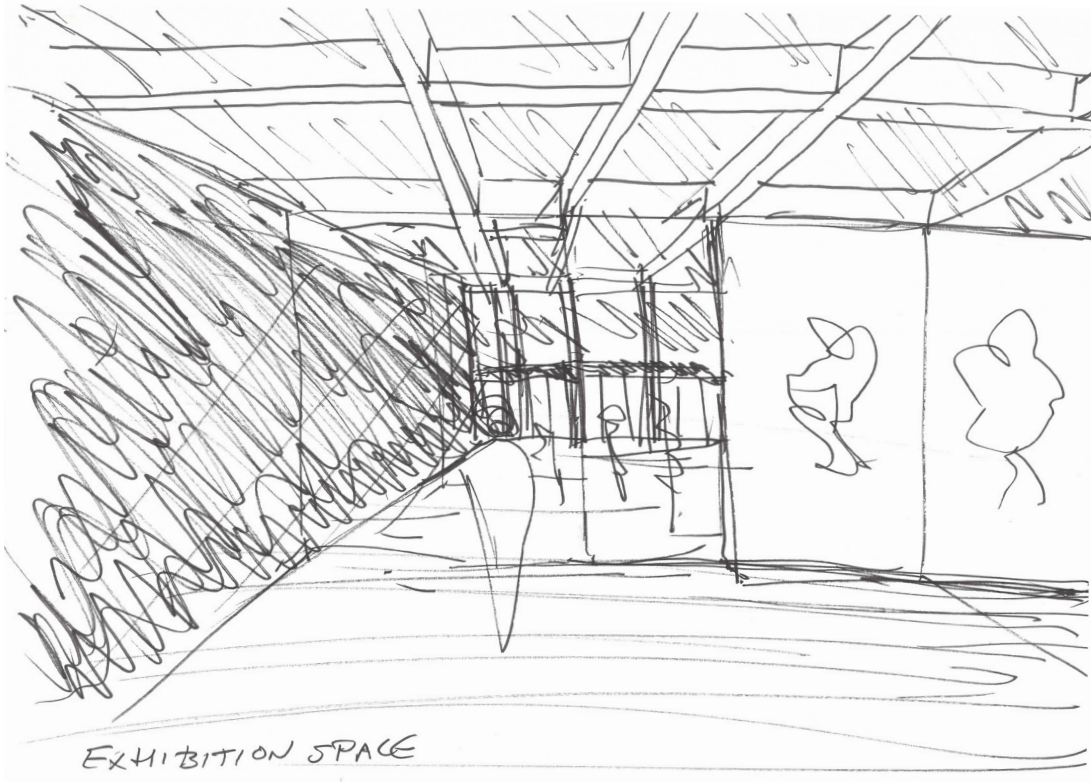




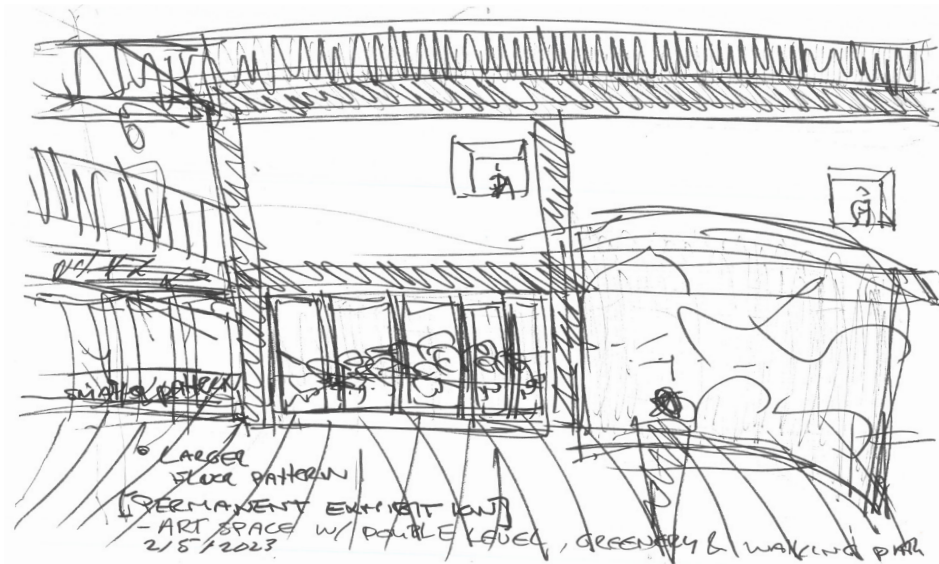
**Ground Floor Engagement**  
 Glimpse into the Truck Loading  
 Dock from the street



**(Week 1.9) Dia Chelsea Ground Floor Engagement**  
 Dia Chelsea is a nice reference because this museum  
 aims to have a good connection with the neighbourhood.  
 It achieves this by having large openings on the ground  
 floor



**Sketches on Interior Atmosphere - Art Spaces & Forum**  
Top Floor Exhibition Space with cassettes and sky lights in the roof for natural day light.



### Interior Sketch

Sketching out my ideas for the art space with double level, greenery and a walking path on the left.



### Interior Render

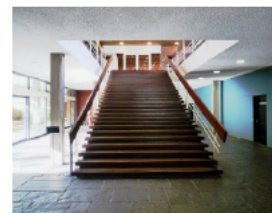
Ideas visualized in a render. Smaller cabinets on the sides and display on the deeper window frames (referring to ensemble design)



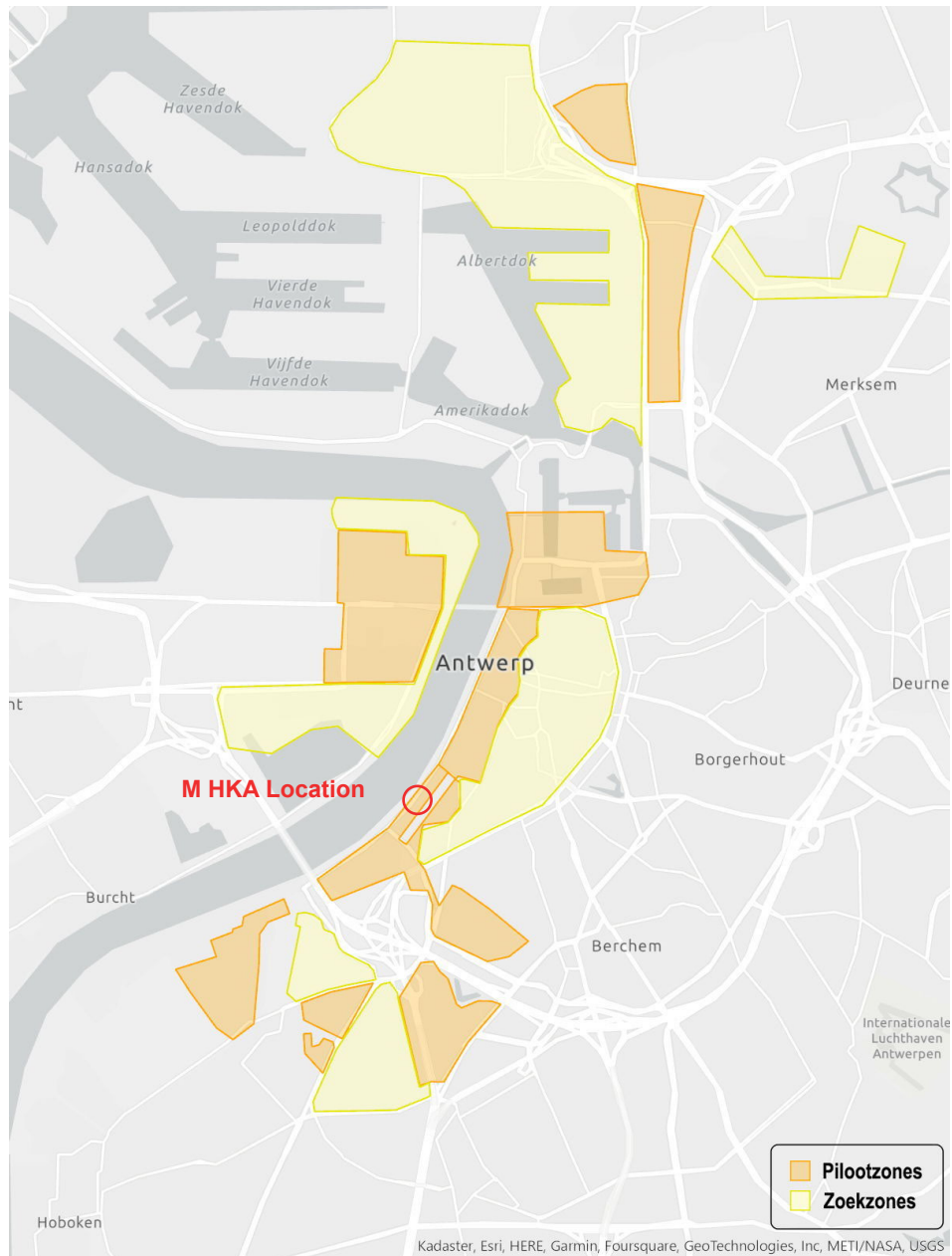


### Scale & Floor Height of my Pavilion M HKA Design

Lowered down to align with the **human scale**.



**(Week 2.9) Haus der Künste, Impact of Floor Heights,**  
In Akademie Der Künste, the ground floor is kept relatively low, in line with the **human scale**.



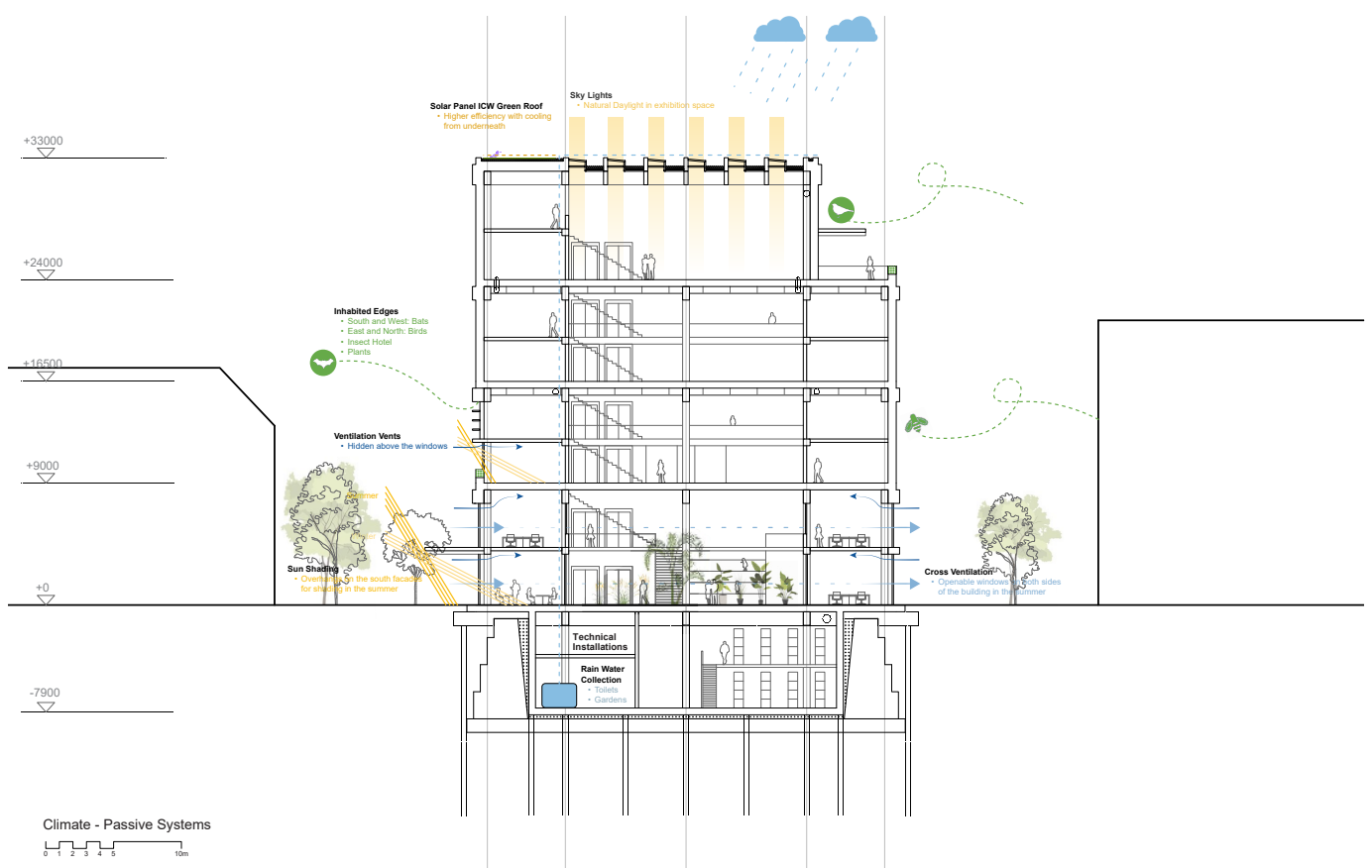
### Antwerp Future Heat Net

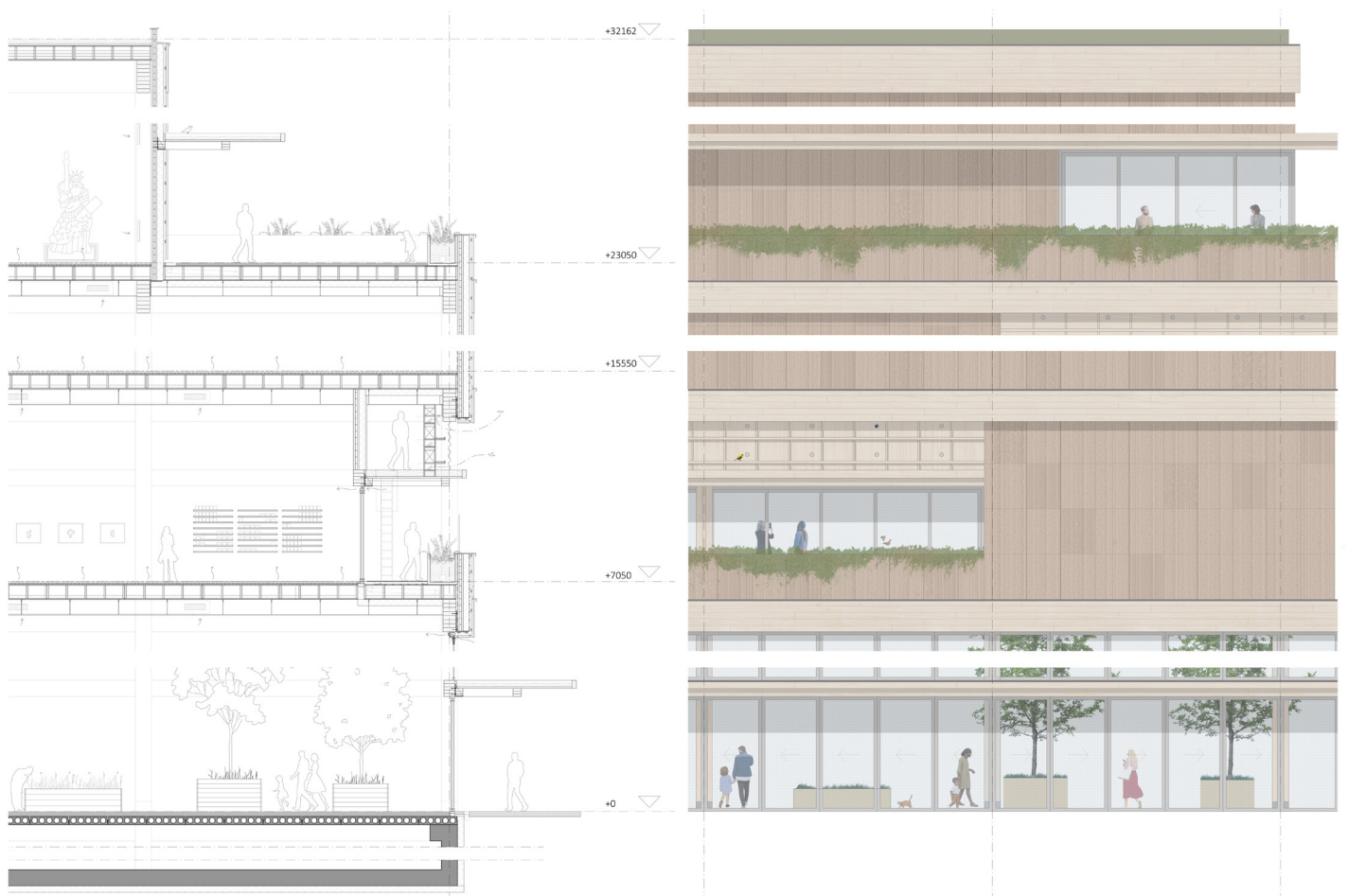
#### Connecting to future Developments Antwerp

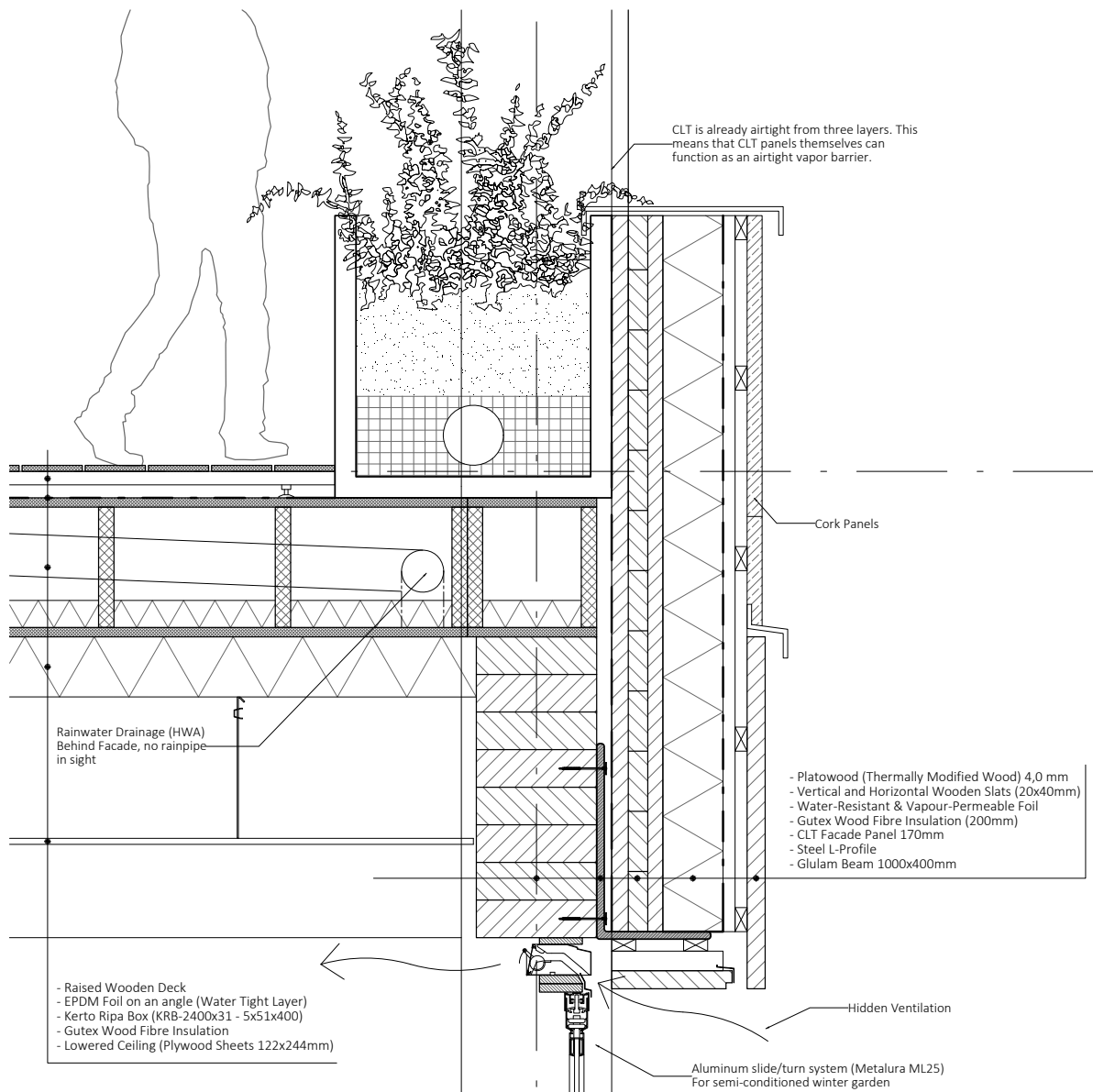
The site for the future M HKA is part of the Pilot Zone for the heat map of Antwerp. Therefore I can connect to this “heat net” to warm my building in a sustainable way.

<https://www.antwerpenmorgen.be/nl/projecten/warmtenetten/over>

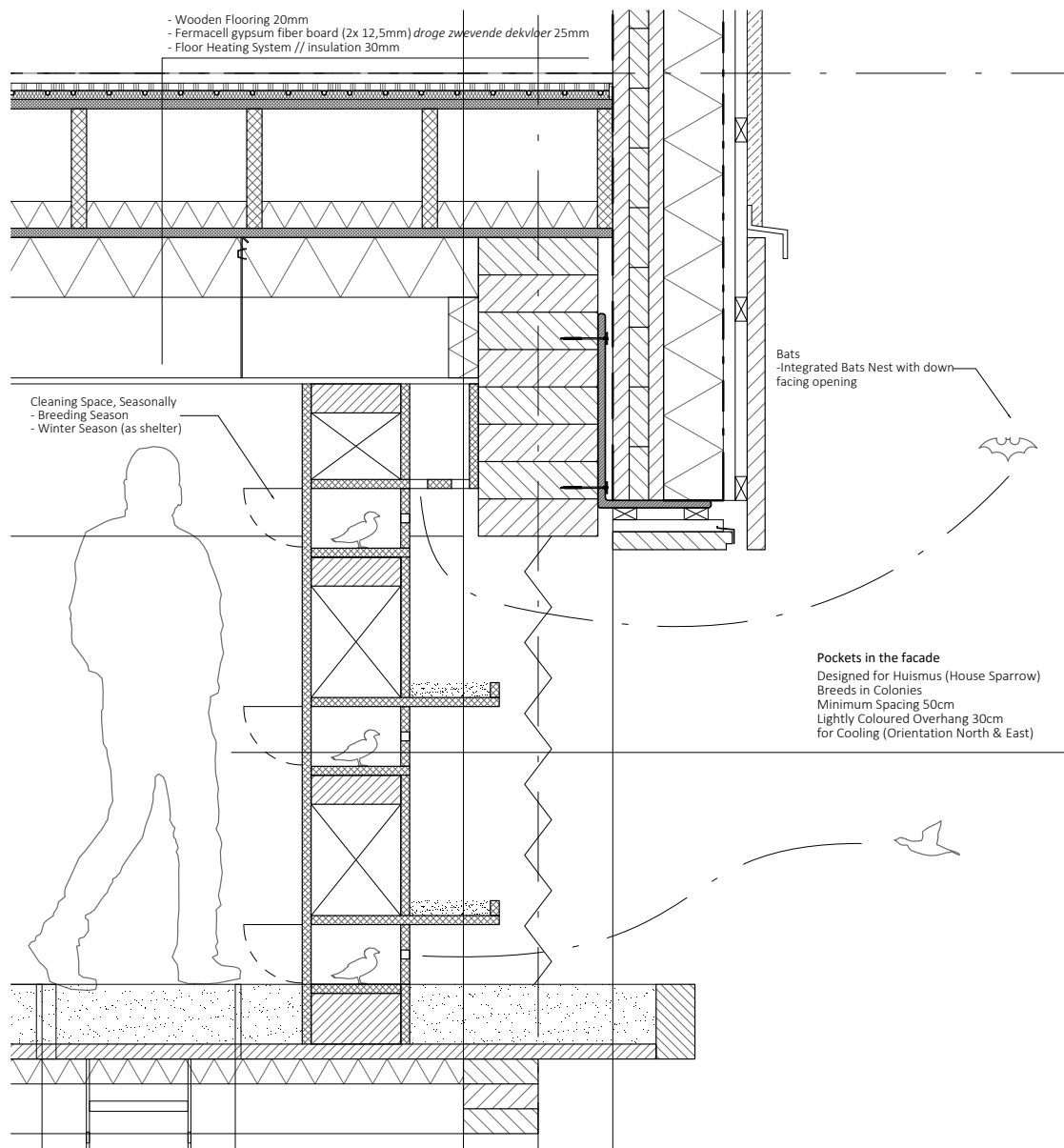




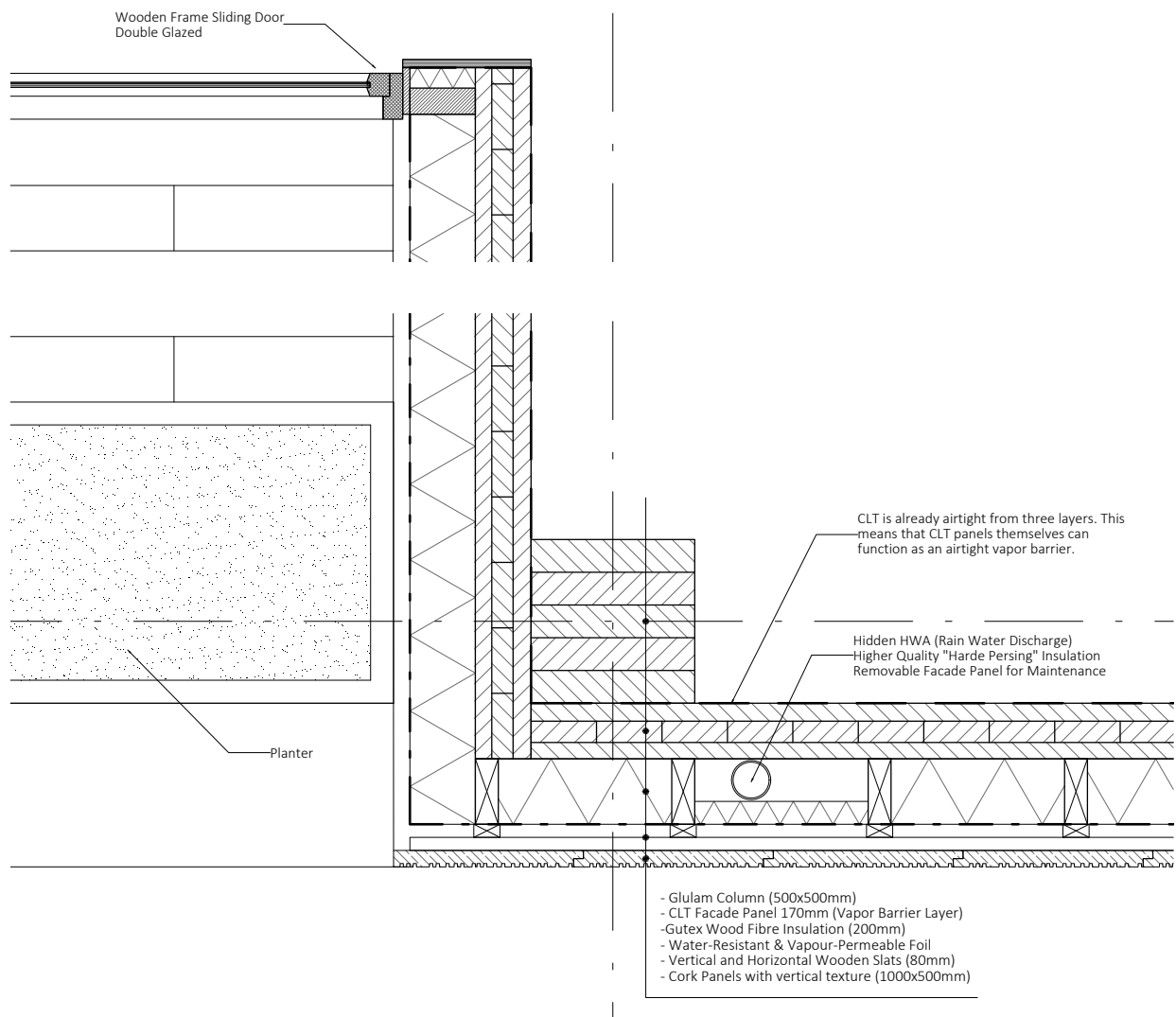




**Detail 1**  
Loggia and Hidden Ventilation Detail  
1:5 (Rescaled to 1:15)



**Detail 2**  
 Birds/Bats Nests Detail  
 1:5 (Rescaled to 1:15)



### Horizontal Detail 3

Horizontal Detail - Loggia: Wall Connection with Planters and Sliding Door  
1:5 (Rescaled to 1:15)





#### P4 Feedback and Reflection

Notes of the P4 Feedback Session. “Softening the interior” as the main theme. As well as seeking human/non-human interactions in the interior.

##### Notes:

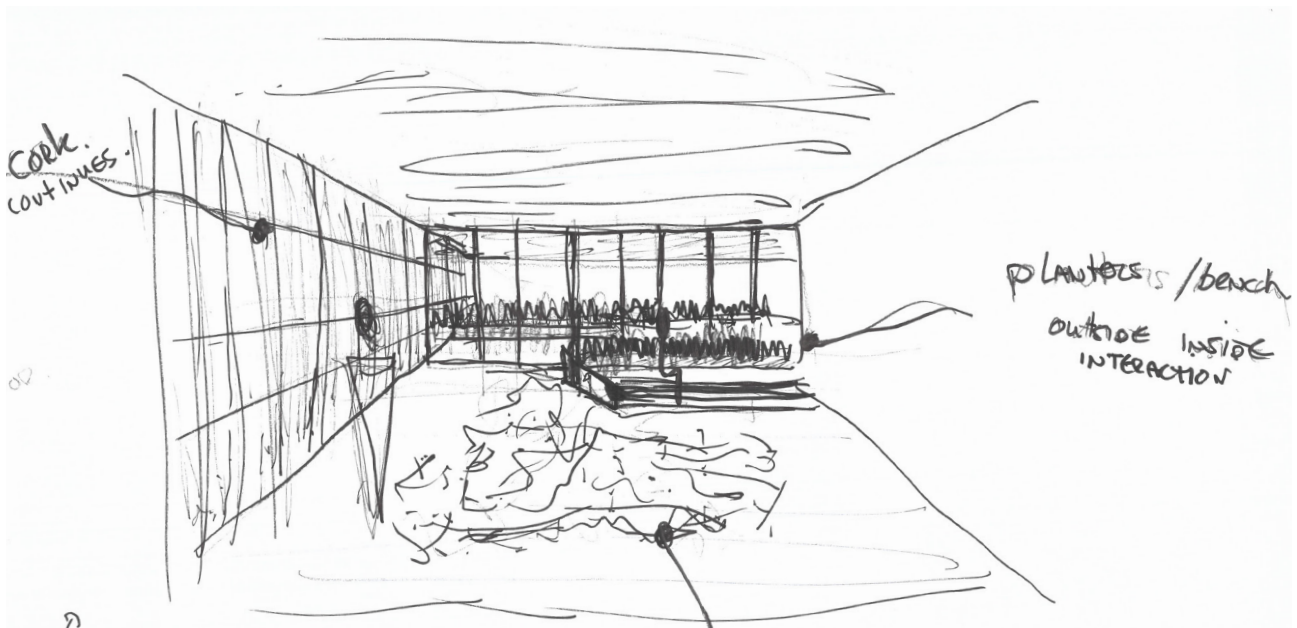
A museum as a place for many (for people, whether visitors or non-visitors, for humans and non-humans). How is the anti-museum feeling incorporated into your own all-accommodating environment? What are the effects on its appearance, particularly on the inside? There is the affordance for new audiences, the environments for non-human living creatures, for plants. Does this imply really fundamentally different environments? Does it imply a degree of inefficiency (a human measure)? The building sits in an environment, which already suggests a blurring of the boundary between human and non-human environments. Diagrams of construction/ structure strategy, communication/ circulation, distribution of services? Introducing us to the plan and its idea much earlier would be good; using this, you can also relate the idea of the use of the building to the uses of the park and garden. The ground floor plan is inseparable from that of the park, garden and pavilion. This has consequences for the position of the plan on the page, including the park and suggesting their deep relation. Visualisation package needs to be able to support your thinking more convincingly. Your views need to add a sense of involvement in the uses of the museum's affordances. Your position seems to suggest not only a sympathetic environment for works of the collection, but new directions for work of the future, which the environment is also hospitable to.

MK

In the 1:20 detail, you have resolved issues of CLT construction and that of horizontal elements. It seems that you might need more construction to sustain your projecting horizontal elements. How are the upper reaches of the building, containing birds' nests, maintained?

AT

There is a softening of the project that the outside of the scheme that is convincing, and one wonders about the effect on the interior. But where is M HKA in all this? How is it a home for its collections, for its art? Is this an ideal(ised) environment for art within? Might these environments take on the suggestion of informality of non-human/ human interactions?



#### P4 Feedback - Softening the Interior

Sketch of **Human/Non-Human** Relations in Art Spaces and bringing in the soft cork material for the **slippage** between inside and outside.



Offering M HKA **Unique Art Spaces** which you won't find in a typical White Cube Museum Building. Art Spaces have relations to the outside terraces with **Human & Non-Human interactions** between the people on the inside and the outside plants.



**Old Forum: No Human/Non-Human Interaction**



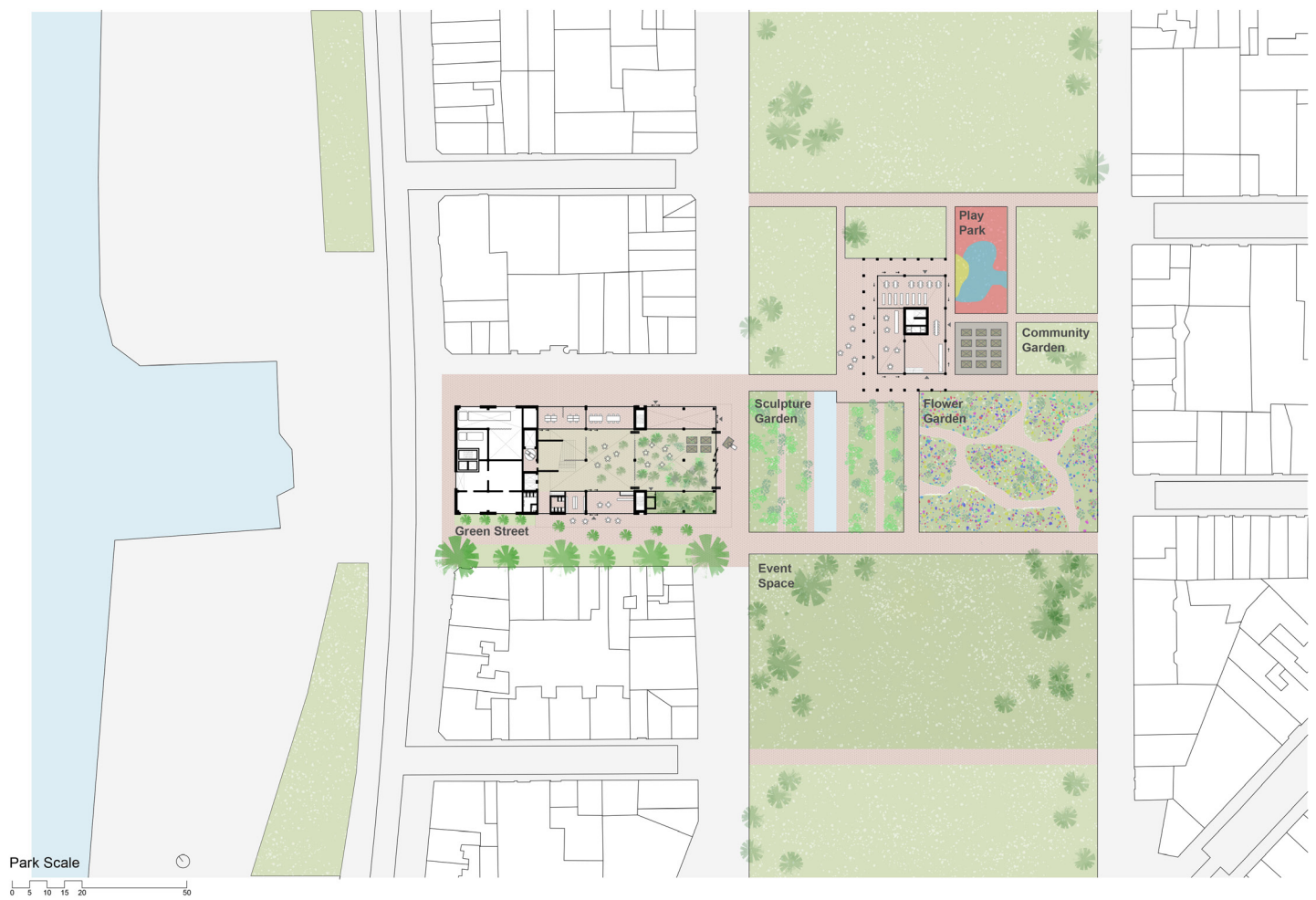
**New Forum: Human/Non-Human Interaction (Humans and Plants)**

### **Softening the Interior Forum Space**

- In line with the anti-museum feeling, the welcoming of “Non-Human” creatures in the Interior. With integrated “Planter-Benches” around the columns. Where humans are invited to sit and smaller plants (non-humans) are invited to grow around.

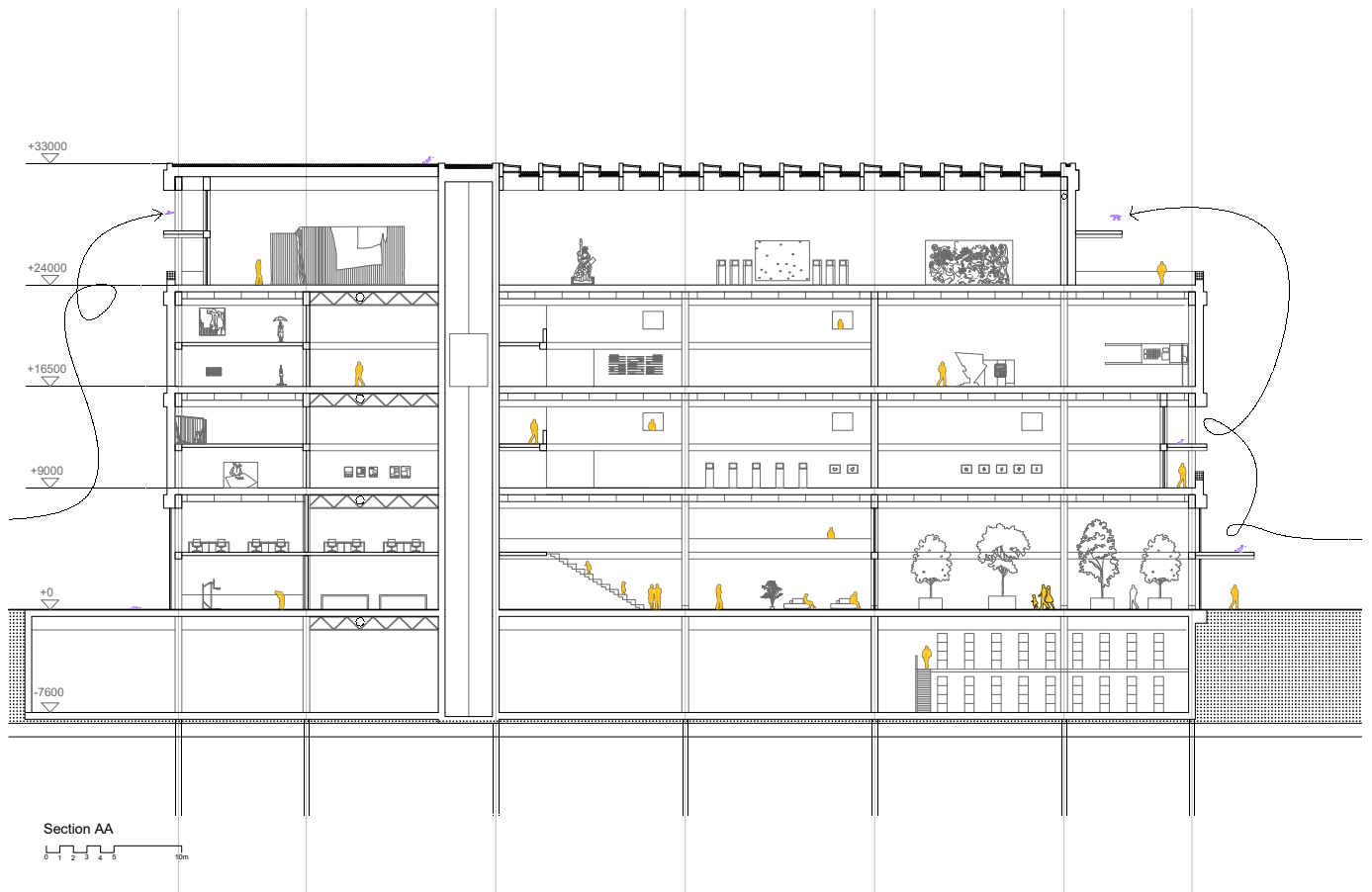


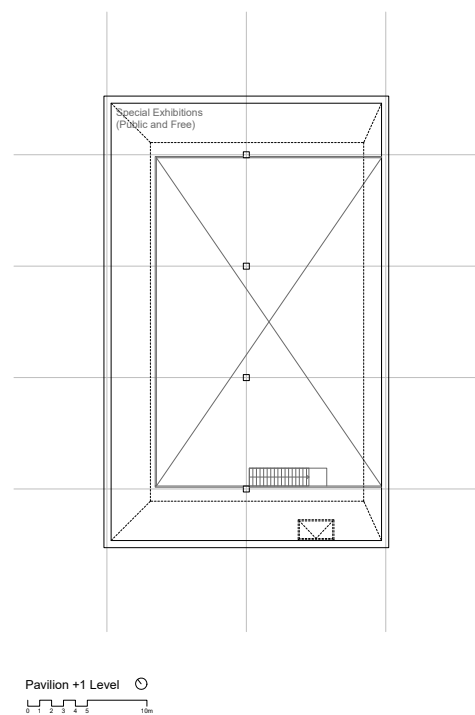
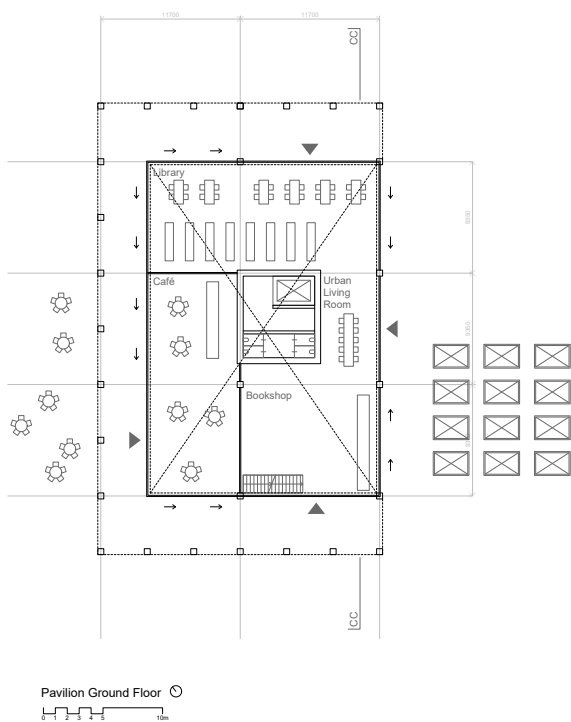
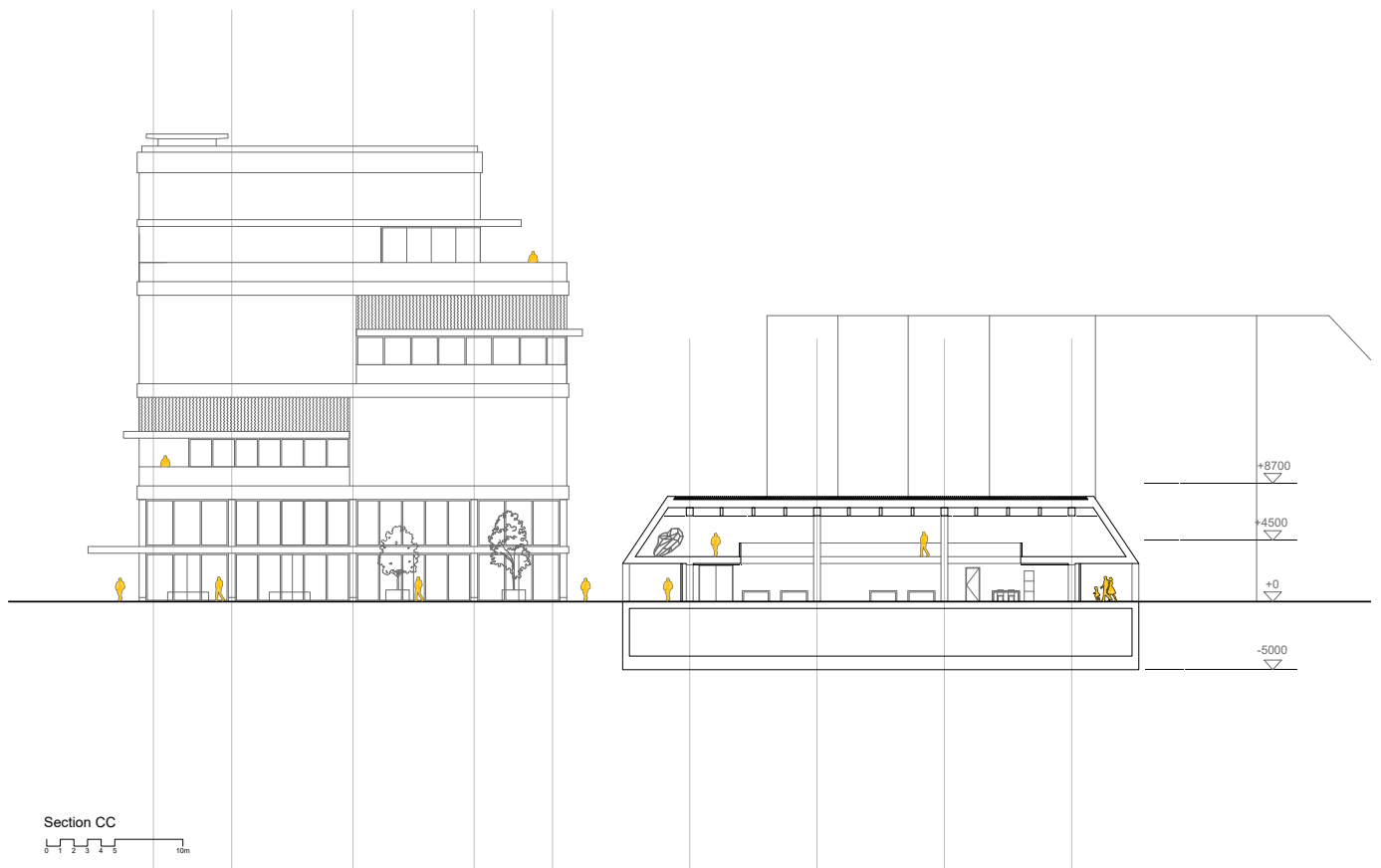


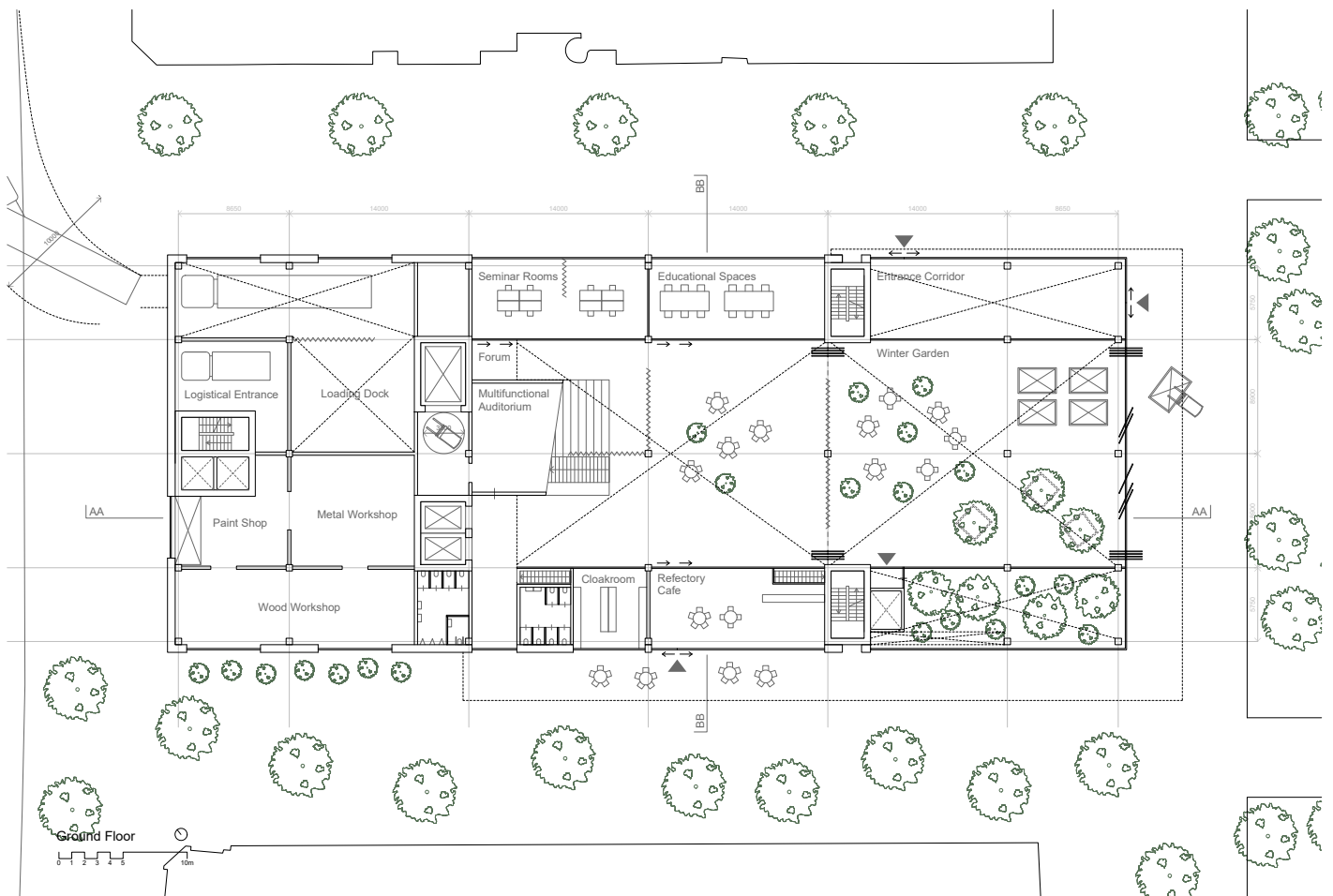


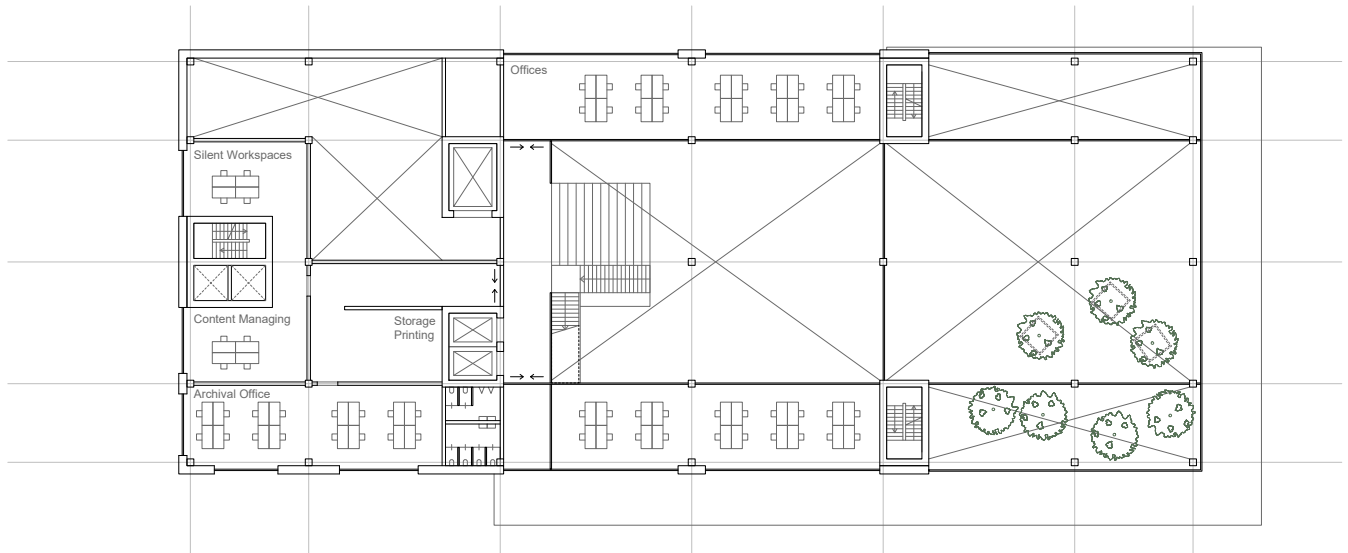
### Set of Drawings

- Sections, Plans
- Corner Art Spaces, intimate sides.
- Renders, Use of Space



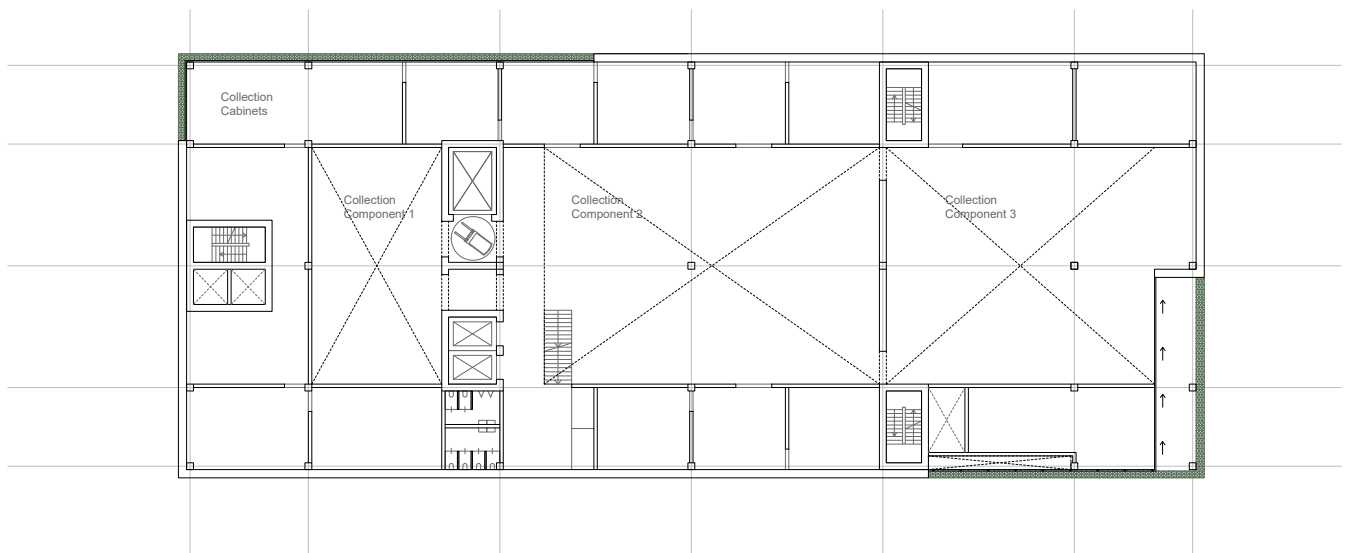






+0.5 Level

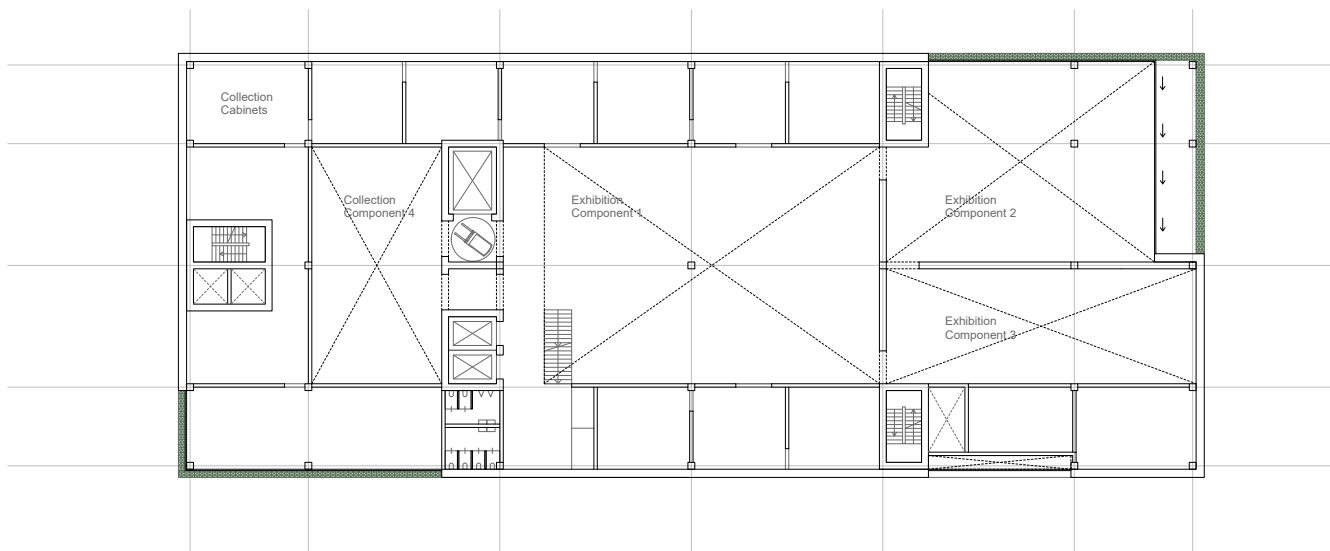
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+1 Level

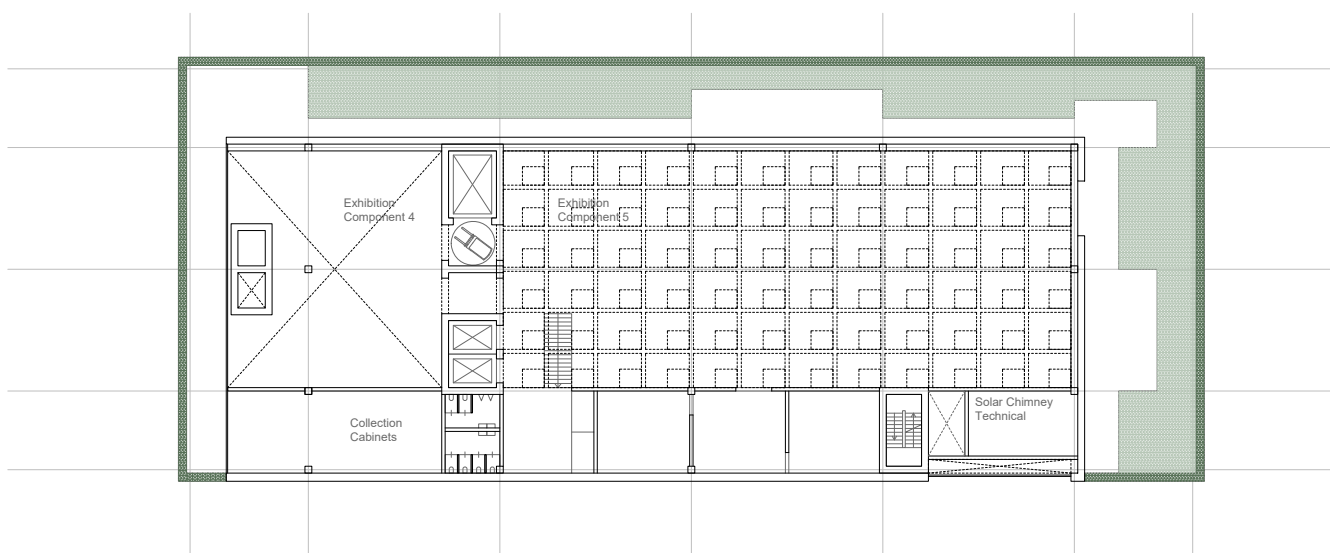
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+2 Level

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+3 Level

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- 01** Introduction
- 02** Looking Carefully / Precedents
- 03** Reading Around / Seminars
- 04** Ensemble Project
- 05** Field Trip
- 06** Design Proposal “Museum of Co-existence”
- 07** Reflection

### **Personal Design Statement (Architectural and Social Relevance)**

This graduation project rethinks the open museum through co-existing. A public institution in today's day and age should not only be used by regular museum visitors. According to me the institution also serves a role in the city and neighbourhood it sits in. Especially in Antwerp, a multicultural city with people from very diverse backgrounds, I envision my museum as an important place for gathering and encounter for these diverse people in the city, with encounter as a first way of mutual acceptance and co-existing.

This theme of "co-existing" is furthermore expanded with co-existing between human and non-humans. My project is about creating a truly open museum: not only for humans but also for non-humans, as there is a necessity to do this. Cities are becoming more and more densified by buildings, and this means that the city's ecosystems get disturbed with less space for insects, birds, bats and plants. Extensive research into the urban ecosystems in nature have led to strategies to invite a new, wider audience to the museum: animals and plants.

I'm creating a dialogue between park and buildings. By inviting nature, into and around the building, spaces become bio pleasant and comfortable. Two of these spaces are the Urban Living Room and Winter Garden. By doing this and using plants inside for a healthy atmosphere, I'm also able to invite non regular museum visitors to the museum. Just like a living organism, the museum is flexible in its use (e.g. the multifunctional auditorium) and adapts to the changing conditions (e.g. summer and winter). During the design, the cycles of nature were a key inspiration.

In terms of the transferability of the project results, The nature inclusive design strategy and the topic of co-existing (between humans & between humans and non-humans) are two important topics which are applicable to many densified and multicultural cities in the world. The design is of course depended on the specific conditions of the city and site, even within the city of Antwerp.



## Reflection on the Research and Design Process

The graduation year can be divided into four periods in which I performed various tasks of research and design which informed the design direction of my building.

During this one year period I kept this Project Journal from a week to week basis where I could reflect back on the performed research and design. This project journal was very important in the process as, in a way it became the mediator between design and research. Also, through this project journal I could refer back to some of the research done in the past, such as the ensemble design project or the precedents study. Sometimes, not all my research can immediately be applied to my design, however having this project journal allowed me to look back, and later implement this earlier research which hadn't found its way back to the project yet.

### P1 Feedback & Reflection

The first period was dedicated to getting a general frame of reference and literature from the topic of the contemporary art museum. We did this through several readings, podcasts, discussions and collective reflections. These general readings were very valuable to me for getting a general knowledge of the art world and the institution M HKA. Also, this research helped me with framing my own research question for my design.

The precedents study gave a frame of references of other museums of contemporary art. For example in terms of dimensions and way of curation. Together with museum visits, this research was helpful in understanding the contemporary art museum as a building.

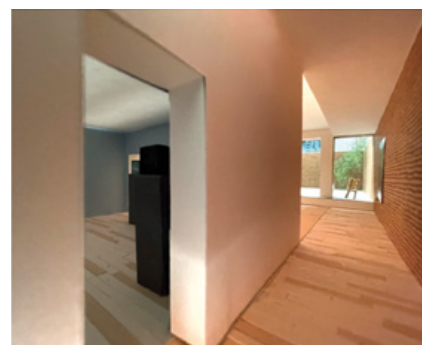
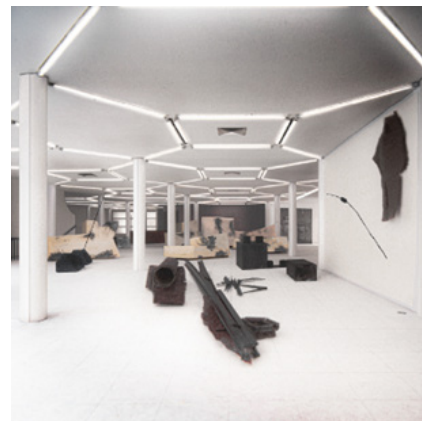
The period was concluded with the ensemble project. This project was valuable in two ways, firstly I got to know the collection of M HKA and secondly I could experiment with the first design of an exhibition space.

### P2 Feedback & Reflection "Forming my Concept"

Working towards my P2 I was trying to form my concept. Through my site analysis and future developments analysis I quickly came to the conclusion that I wanted to include Park Zuiderdokken in my design scheme for maximum interaction with the neighbourhood. The scheme at that time consisted of a pavilion in the park with an outdoor forum space in the park and the main building with museum on the plot. During this time I did lots of research into references of the pavilion typology.

The feedback that I received, was that I needed to refine my concept further. One of the main points was that the outdoor forum space should be more defined, instead of being rendered as a large empty square possessed by the museum I now envisioned it becoming different gardens co-used and maintained by the neighbourhood and the museum.

Another main point of feedback was that the main building would not be accessible to the public in my scheme, as my forum space was outside in the park. In my revision





Reflecting back on this, I feel that my concept was strong but that it needed more attention to detail. Also I had to think more through which implications my quite radical changes to the brief had. After all, I was happy with these changes to the concept and now felt that I had a solid basis for my design to build further on.

## “Refining Human Scale and Intimacy”

At the same time I've been continuing the design of the building, in particular the façade. During the P3 feedback sessions, the façade became an important moment of discussion. Horizontal lines play an important role in my façade and give a certain rhythm to it. However, because the art spaces are very high, I lost the sense of human scale in my façade and this did not align with my goals which I've stated during the P2. Therefore the topics of "human scale" and "intimacy" became central in the further development of my façade, but also subsequently in the rest of my building: in terms of section and floorplans.

### Pre P4 Feedback & Reflection “Pleased with the Project”

## Future Developments towards P5

Hand-drawn sketch of a building layout, likely a residential or institutional structure. The sketch shows various rooms and furniture, including a kitchen area with a stove and sink, a living area with a sofa and coffee table, a dining area with a table and chairs, and a bedroom with a bed. There are also several smaller rooms and a central hallway. The drawing is done in a simple, illustrative style with some text labels in red and black ink.

