

# GRADUATION REPORT







# TABLE OF CONTENT

RESEARCH BOOK	5
P2	7
P2 RETAKE	59
P3	91
P4	105
P5	127
DESIGN JOURNAL	133
P2	135
P2 RETAKE	217
P3	243
P4	321
P5	391
FINAL DESIGN	415

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# RESEARCH BOOK

CONCLUSION P1  
SITE RESEARCH  
RESEARCH DESIGN POSITION  
RESEARCH DESIGN BRIEF



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**CONCLUSION P1**

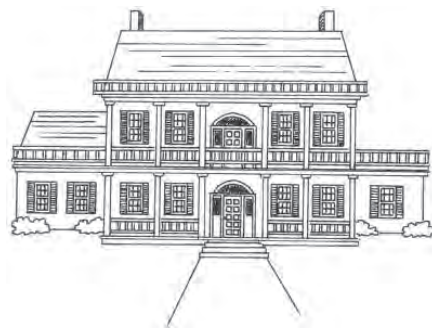
# CONCLUSION THEMATIC RESEARCH

## History

When they introduced a ferry connecting the old city in the North of Rotterdam with Katendrecht and Charlois, the opportunity for rich people to escape out of the dirty city and catch fresh air was born. The wealthy residents of the city started building villas in Katendrecht. However, this part of the city was destroyed during the development of the harbour.

When the harbour Maashaven was build Katendrecht was destroyed to make room for it. This event helped the city to continue diffing large harbours and grow as a harbour city. To house the workers in the harbour Tarwewijk, a neighbourhood of Charlois, where our site for the museum is, was made,

Our site lays next to the harbour Maashaven. It is the oldest part of Tarwewijk and was the first area to be developed around 1914 to house harbour workers.



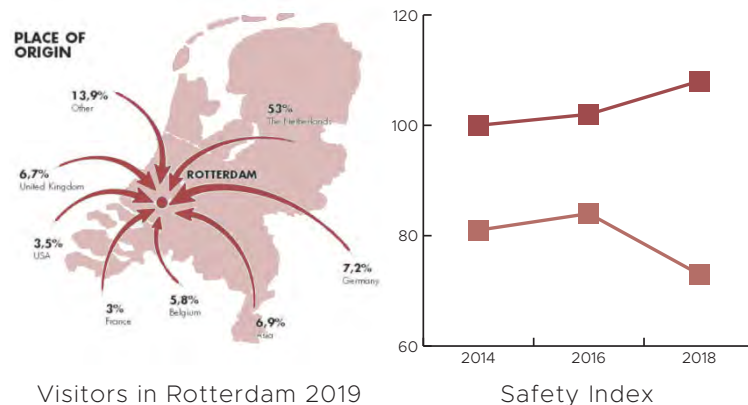


## Power

Rotterdam has compared to especially Amsterdam a more Dutch oriented tourism. Amsterdam focuses a lot on the international tourism. Between 1996 and 2012 Rotterdam had an increase of 50%. The city started working on their skyline and was becoming the iconic high-rise city of the Netherlands, which helped with a rapid growth of tourism and also led to a rethinking of the tourism strategy for the city. In 2019 a shift was happening. Rotterdam made it very clear that they wanted to keep their integrity and authenticity and not become a second Amsterdam.

One of the oldest migration streams are from the colonies and especially Indonesia. Migration is hugely determined by prospects and job opportunities. In 1911 during the harbour strike many Chinese sailors came to Rotterdam South to work as break strikers. After the war, the government, industries and companies needed workers to solve the void left by emigration and many Italian workers came to the city. Migration was always used as a tool to make money. Their lives were never taken in consideration. There was never a real housing plan and the housing provided was of low quality. When after the oil crisis in 1980 the immigrants decided to stay, the migration consequences became a real issue. Today immigration is seen more as a problem instead of the solution.

For Rotterdam South, still many fears and problems are visible. The City and especially in coherence with the harbour has a big problem with drug trafficking. After trying to scare of drug scenes, a very big one is still happening to this day in Millinxbuurt in Rotterdam South. The biggest problems for Tarwewijk lay in the areas of safety, liveability and public housing.



# CONCLUSION THEMATIC RESEARCH

## City

Public water front's often lack diversity. A typical waterfront consists of a flat pedestrianized area which is raised 3m from the water level, sometimes a bike lane, some type of vegetation and some type of urban furniture (e.g. a seating item).

Think of the use of the quay while designing it.

Our design location is partly situated on a long walkable quay and partly on a non-public industrial quay (See p. 37 in Thematic Research 'City').

Conclusions: The city is divided into North and South by the river. The north has more construction and more diverse typologies. The South is more homogeneous with buildings from the same time period. There are only three routes connection the North with the South. The parks in the North side of the city are more adapted to city development. They are near museums, restaurants and tourist sports. In the South the parks are with less infrastructure.

The neighbourhoods in the South are less developed in comparison to the North.

The waterfront is used briefly and is strongly affected by weather conditions (like winds, rains). The most common activities are walking, jogging and walking pets.

Tarwewijk has remained almost the same in its urban fabric, building typologies and functions since the 70s. The urban fabric has low diversity. Tarwewijk is built with an urban block and has mostly row housing. The neighbourhoods are surrounded by urban barriers like tram, streets, dikes and the metro line, separating them from the outside. The pedestrian areas around the site have low air quality and noise pollution. The waterfront has interesting views, but is underused. The cultural centre in the South is focused around Zuidplein and Rotterdam Ahoy, but disconnected from our site.

## Connection

While most museum were established for the purposes of education and learning, collection, conservation, research and enjoyment, today the economic role of museum has become more important. they have become aware of their potential to add value to their community by attracting cultural tourists and became key partners and the tourist industry.

Due to the geographical barrier of the river, the site in Rotterdam Zuid is disconnected from the city centre in the North and the cultural centre (Museumpark in the North). The South at the moment has no institutions to hold art fairs, like Art Rotterdam and Object Rotterdam. Once the new museum is established, it could for another cultural anchor point to get increase the connection between the North and the South and get tourists to this part of the city.

Tarwewijk can be seen as a physically well connected neighbourhood because of the two metro stations, Maashaven Metro Station and Zuidplein. However, the use of car is very visible in the neighbourhood. AN important connecting street is located directedly next to the site and many parked cars are seen in the neighbourhoods.

The neighbourhood Tarwewijk offers casual programs and feasible walking distances for daily activities for its residents, due to it being a residential settlement from the beginning. However, unfortunately the car oriented infrastructure forms disrupts the continuous flow of the pedestrian connection. They dyke forms a visual and physical barrier.



# CONCLUSION THEMATIC RESEARCH

## Culture

Rotterdam has introduced more than 1000 works of art in the public space in the last three quarters of the century. There is no other city in the Netherlands that pays so much attention to art. However, not every statue in the streets adds something to the location. It can also just stand there and not influence or improve the atmosphere of the area.

Marco Pastors, director of NPRZ (National Programma Rotterdam Zuid), said that the main priority of the development of Rotterdam Zuid in the future is not increasing the cultural value in the area, but to first increase living standards for the residents to keep them in the area. However, the culture of the neighbourhood is already there, just hidden from plain view.

Many artists moved from the city centre to the Merwe-Vierhavens to find affordable places for their creative work. Now many of them moved to Charlois. Places like these start booming with the pleasant atmosphere produced by the artists and continue to feel like this after they leave.

The North side of the city has predominantly high culture, whereas the South has vernacular culture. These two have different levels of approachability. This layering from high to vernacular culture starts with the institutions like museums and goes all the way to the individual daily life of people. In between we have layers of musical events, public art and the art processes.

In the South artists incorporate stories of the South into their art, which then often be exhibited as a part of the high culture in the centre of Rotterdam.

## People

The Tarwewijk shows a high concentration of population with migrant background living in cheap social housing.

There is a high social cohesion specifically in the neighbourhoods of Tarwewijk and Charlois due to relatively high participation in religious activities, weekly contacts with neighbours, volunteering and sports. The residents of Tarwewijk do not feel very connected to the neighbourhood and therefore often move away really fast.

The NPRZ (Nationaal Programma Zuid) has a program to support high school graduated in finding jobs. However, due to the high amount of people that don't have a high school diploma in Rotterdam Zuid, a lot of them come not in consideration for the program.

The amount of alcohol and drug use in Tarwewijk is relatively low, probably because of religious believes. However, the health in the neighbourhood is relatively bad compared to Rotterdam.

Visits to cultural activities and facilities are related to educational degree and not to income. However, even though Tarwewijk has not a high education degree, there is a large interest for the topic. This could provide opportunities for an inversed approach: the unsuspected interest for cultural institutions, like museums, can stimulate education instead of education stimulating the demand for a cultural facility. The museum could provide a starting point in stimulate higher education.



**SITE RESEARCH**

# SITE

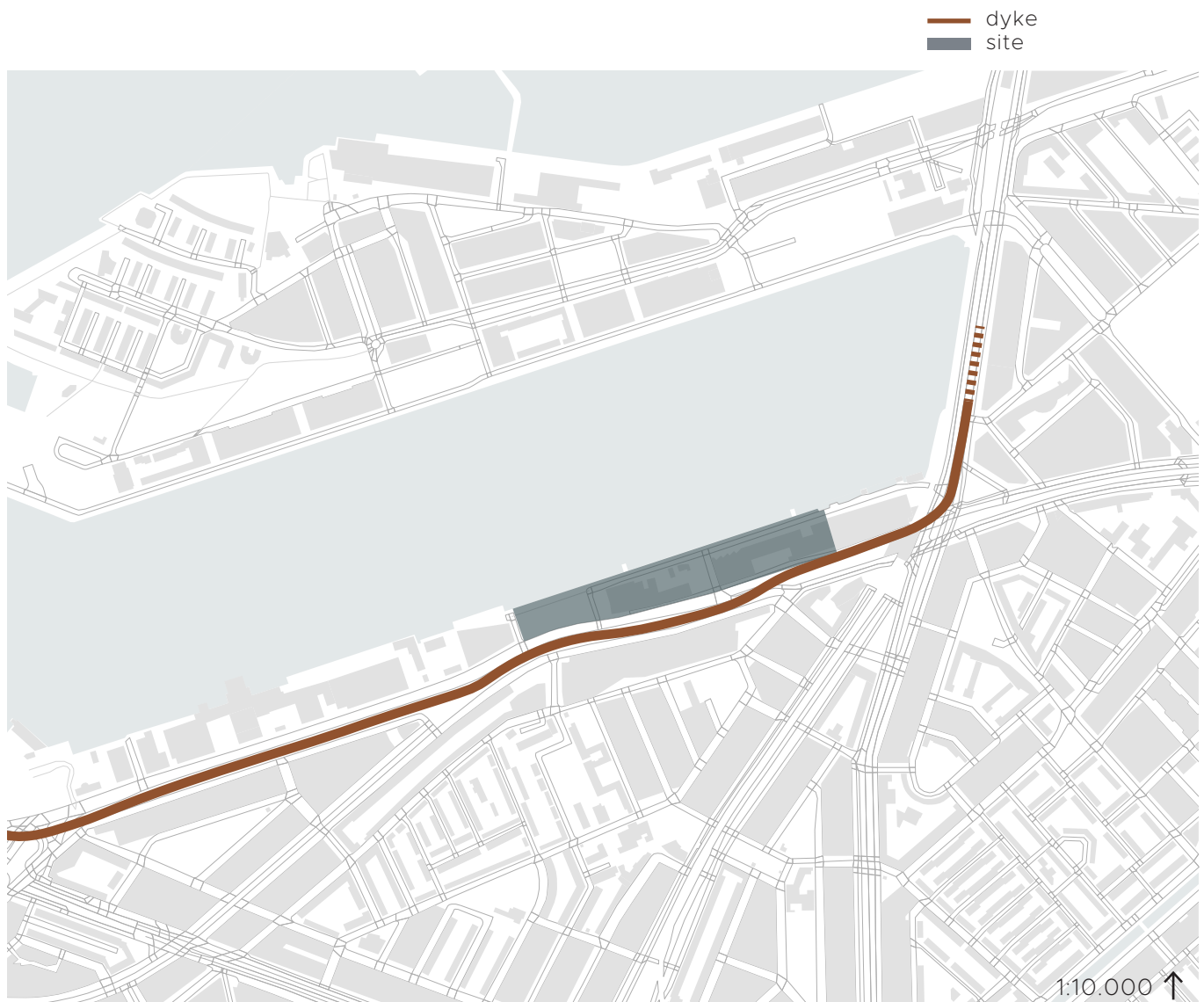
## Tarwewijk

Our site is located at the Maashaven in the neighbourhood of Tarwewijk. Tarwewijk is a neighbourhood located in the northeast of Charlois in Rotterdam Zuid. The district mainly consists of single family houses in the form of porch houses of low quality. There are also some shops and many schools.

When the Maashaven was built in 1905, housing of Tarwewijk was built for workers in the harbour. Our site is located next to (former) grain companies and warehouses (ex. Meneba, Quaker and Maassilo).

Due to high level of crime the neighbourhood has been declared as a security risk area.

Between our location and the residential area a dyke and a big street are located which form a barrier between the neighbourhood and the more industrial area, where our museum is located.















# CONTEXT

## Site conditions





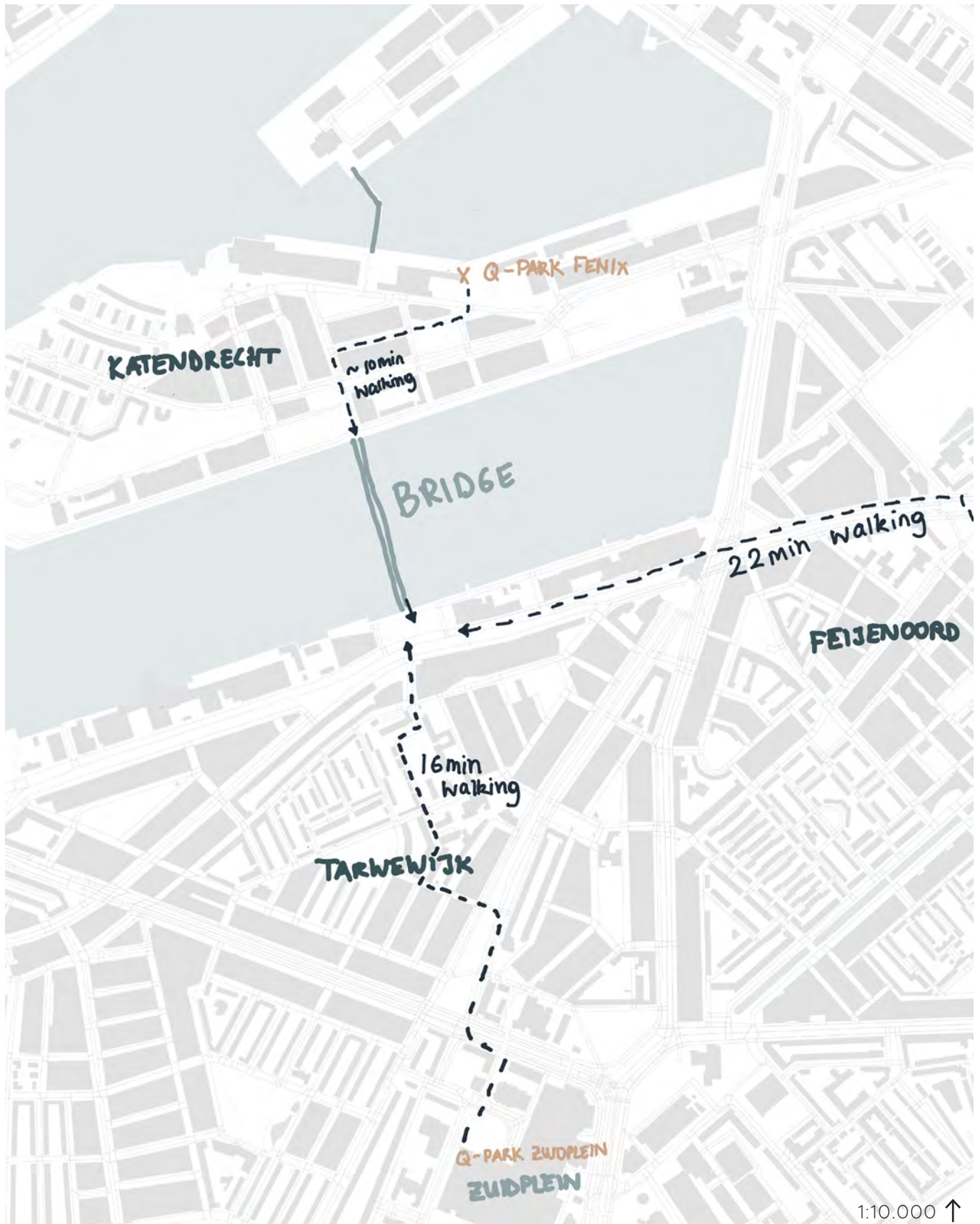
# CONTEXT

Routes to site - public transport

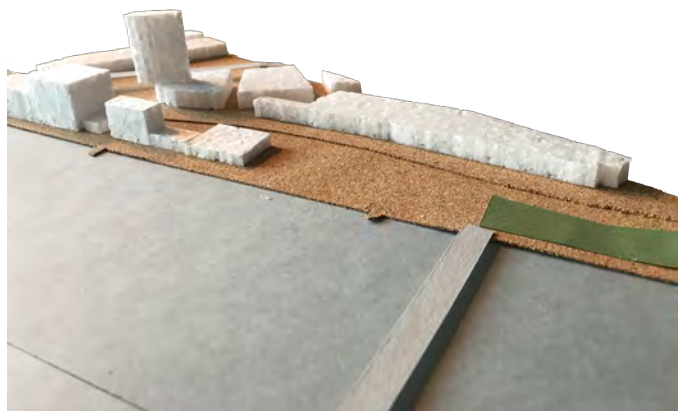
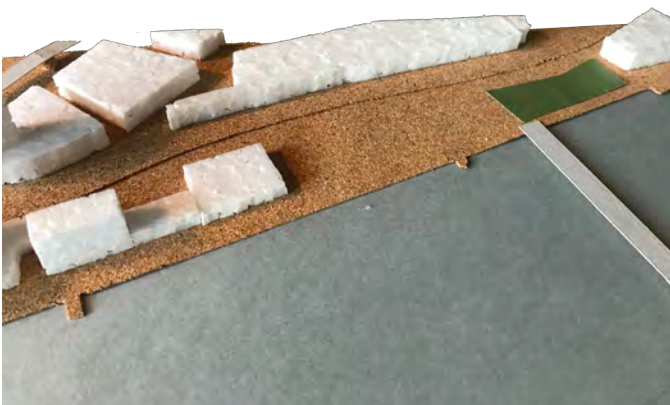
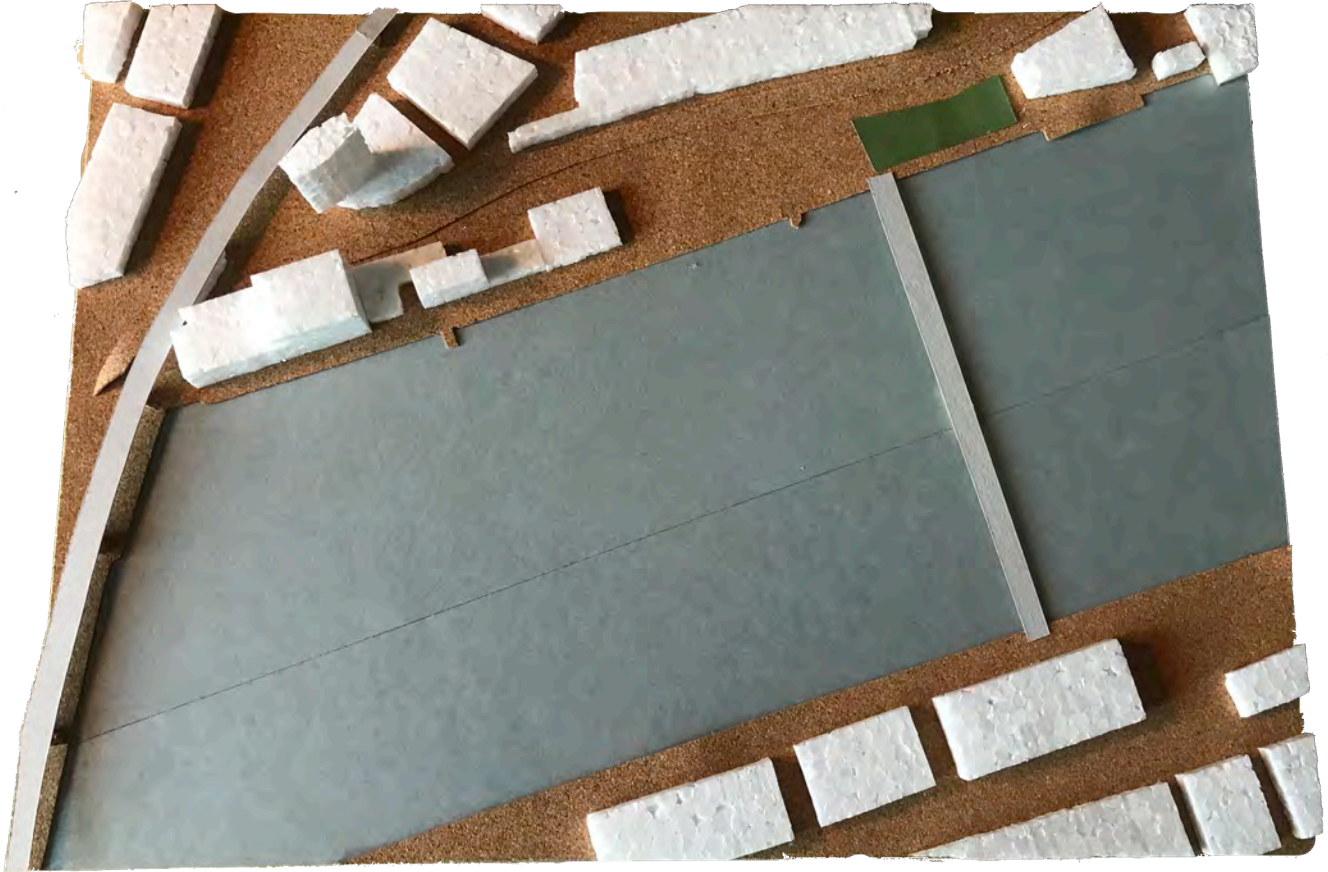




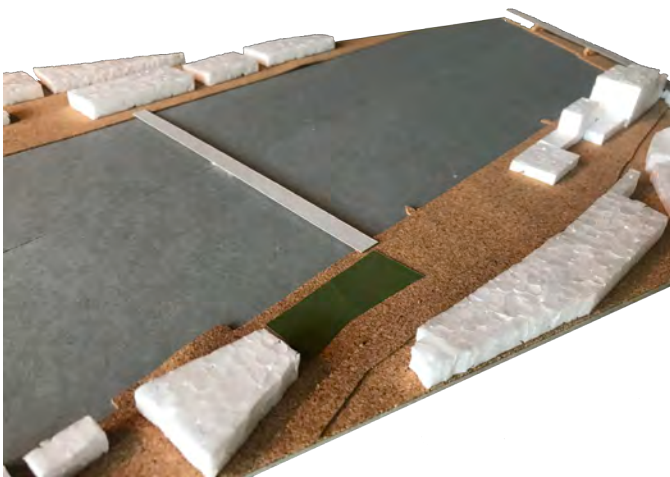
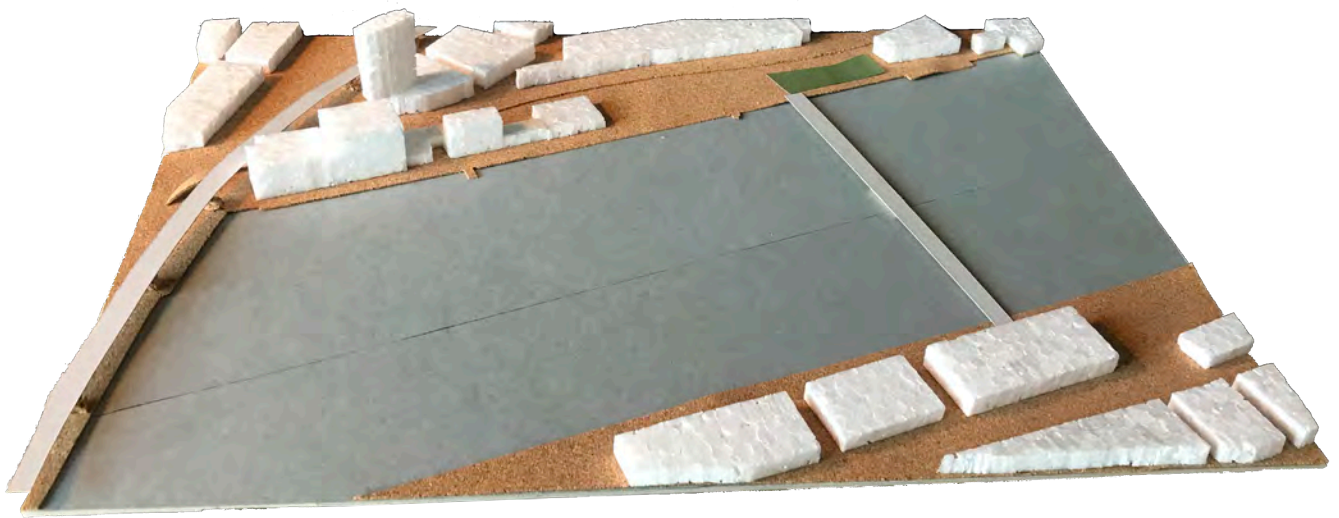
## Routes to site - parking garage



# SITE MODEL









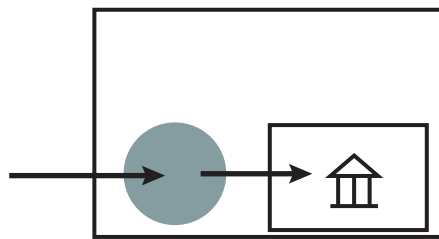
# RESEARCH DESIGN POSITION



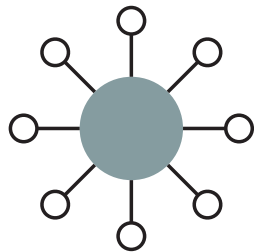
# ATTRACTING VISITORS

The museum will have a multifunction space, that will focus on meeting other people, connecting with them and also put a lot of focus on the engagement with art.

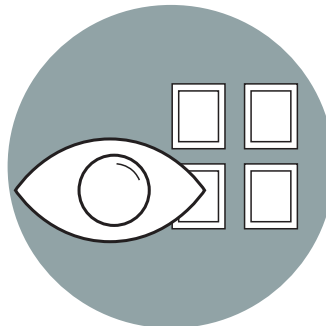
This space will have a sneak peek exhibiton to get visitors interessted in the museum. Furthermore, the space needs to be places central to ensure all visitors to the building will pass through it.



The space will attract visitors from outside into the building and pull visitors to enter the exhibitions



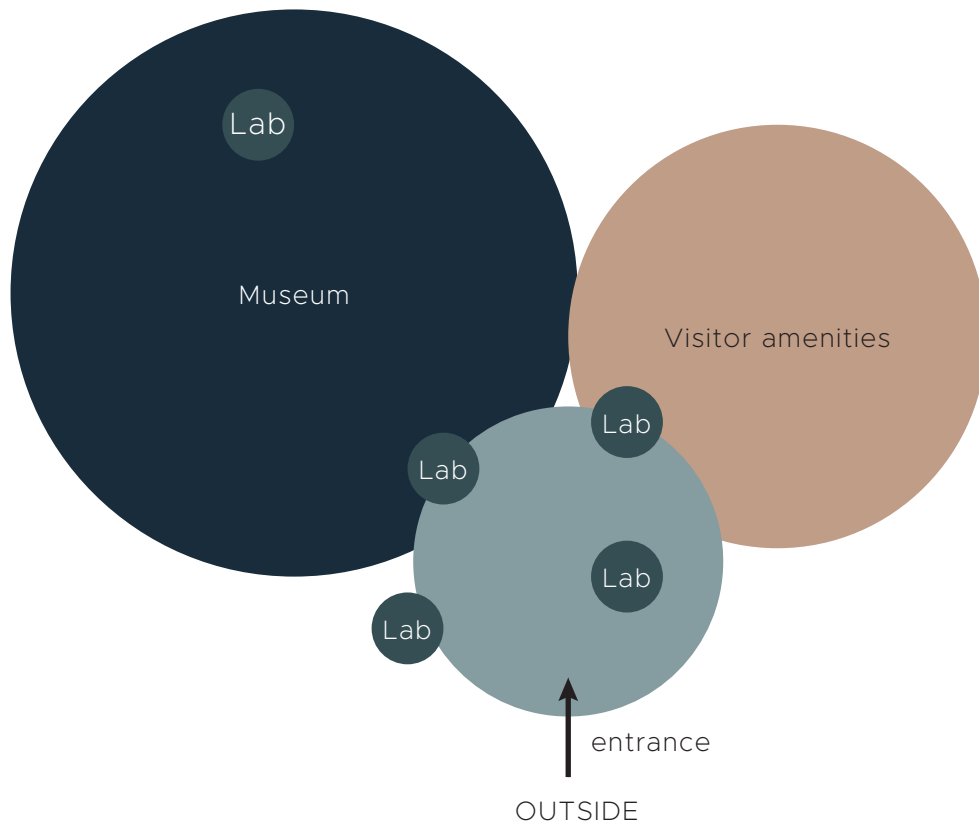
central point in building



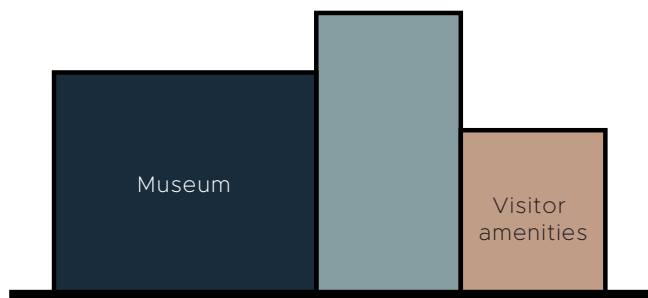
sneak peek exhibition

How could  function?

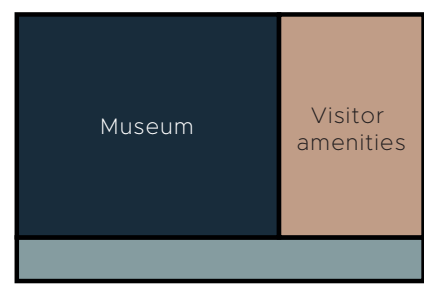
#### SPATIAL RELATIONSHIP



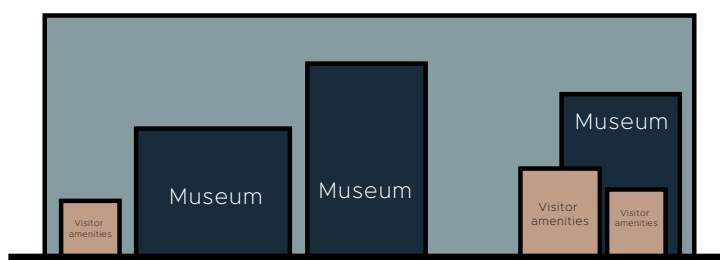
#### DESIGN CONFIGURATION



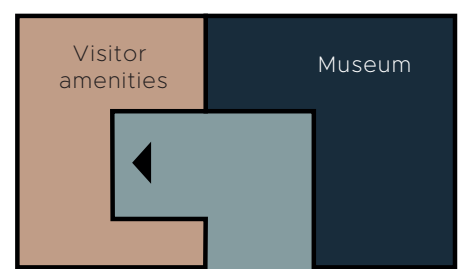
Atrium model



Hallway model



Cubes with big roof

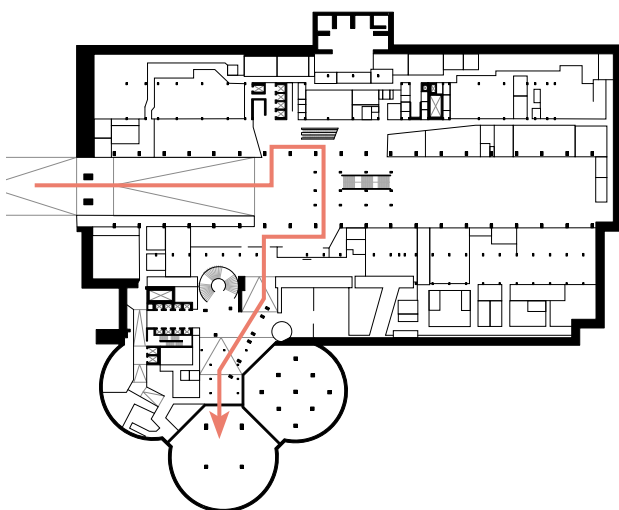
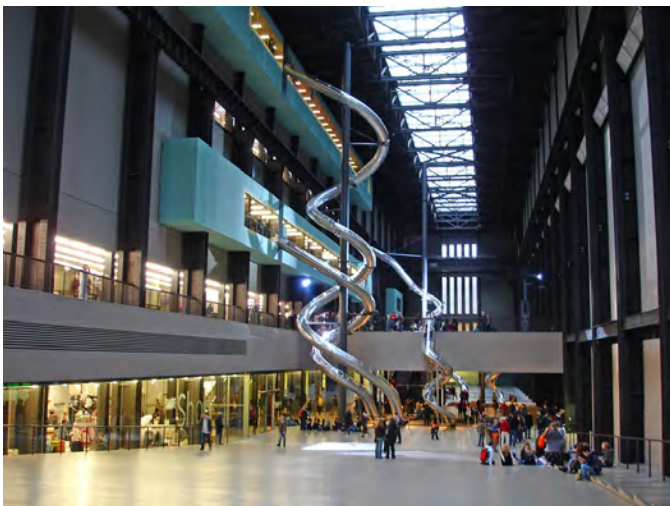
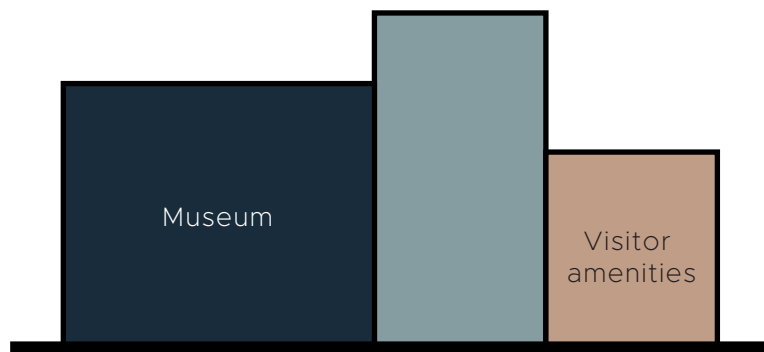


Open plaza model

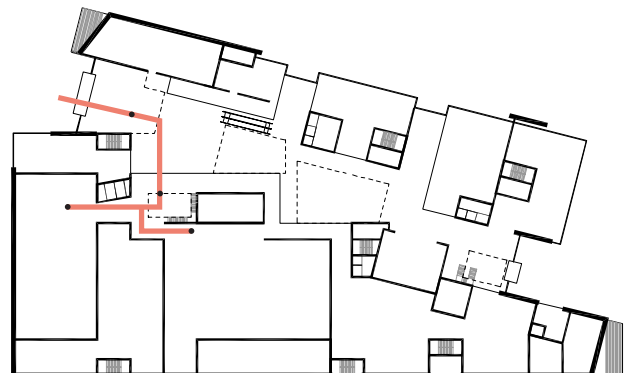
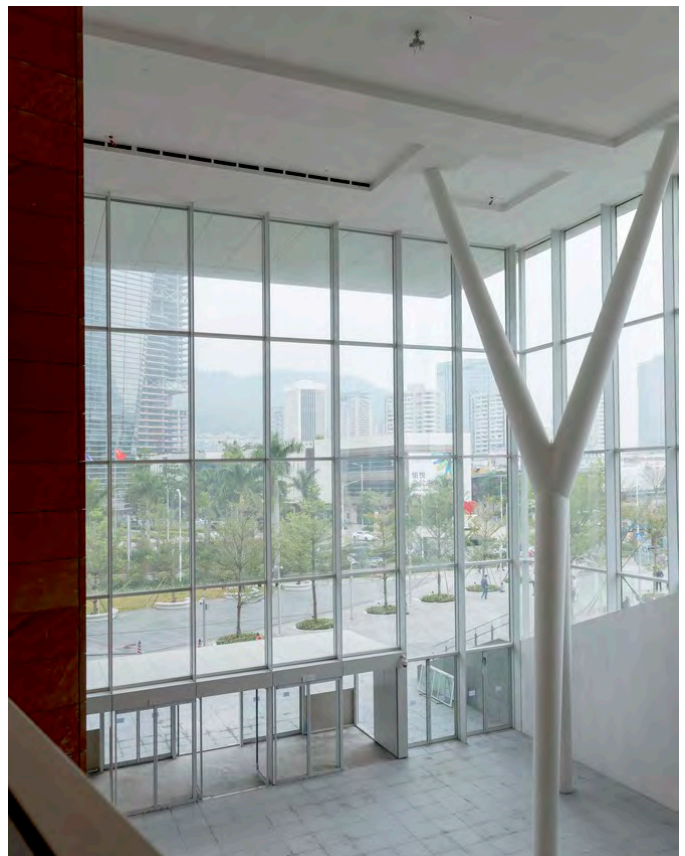
# BLUE SPACE

## References Case Study

Atrium model

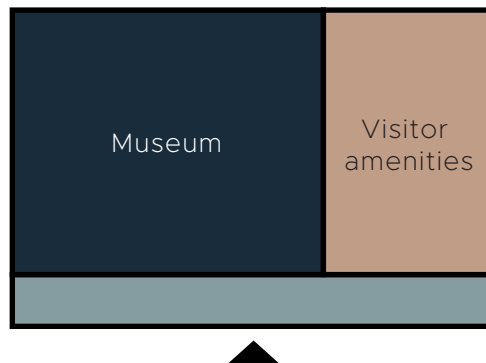


Tate Modern

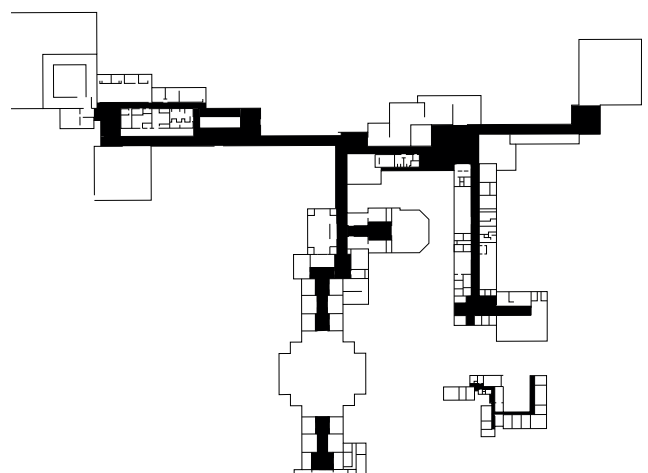
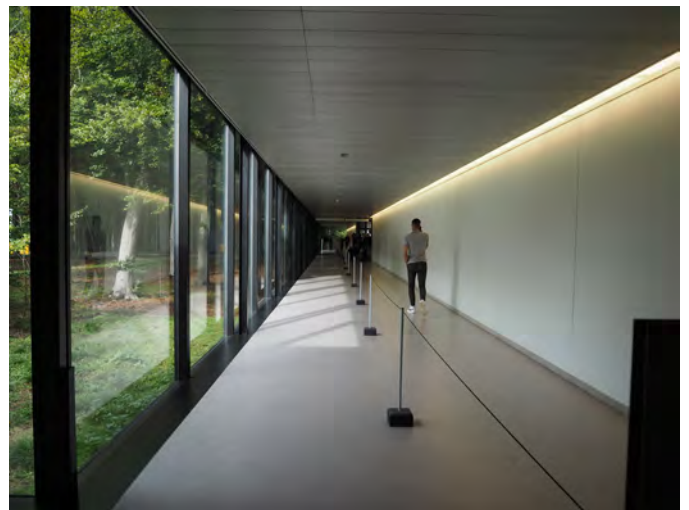


Design Society the Sea World Culture and Arts Centre

## Hallway model



Transparent to outside/ city

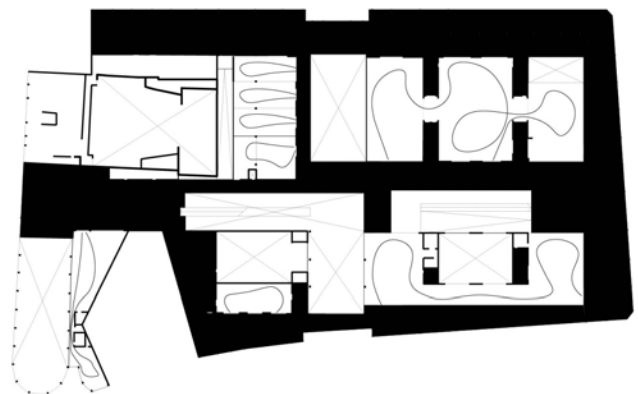
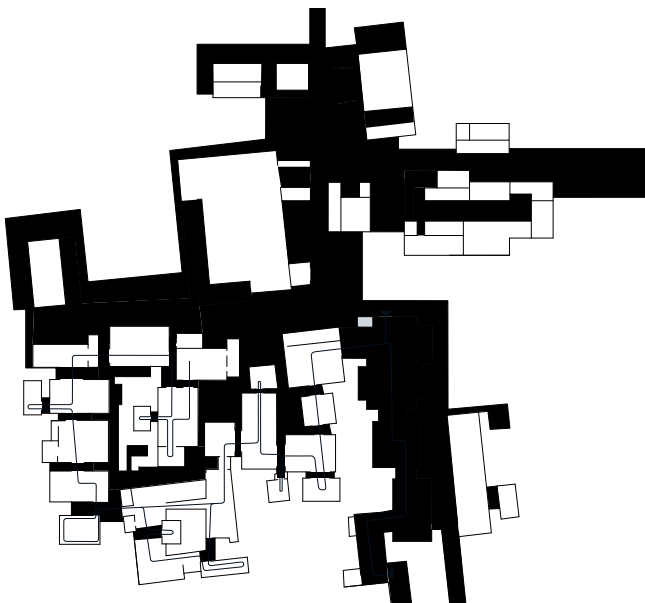
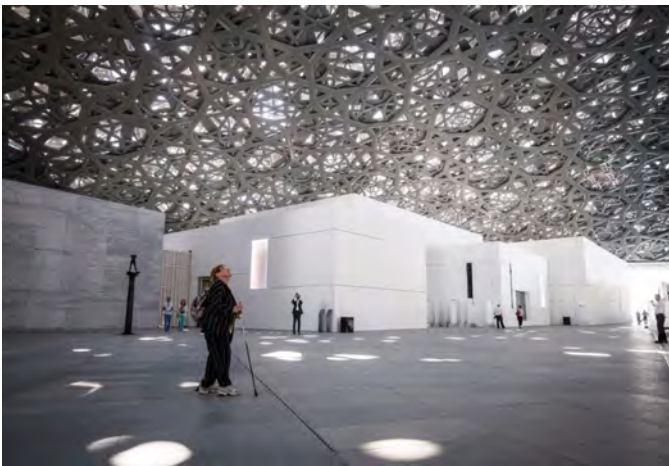
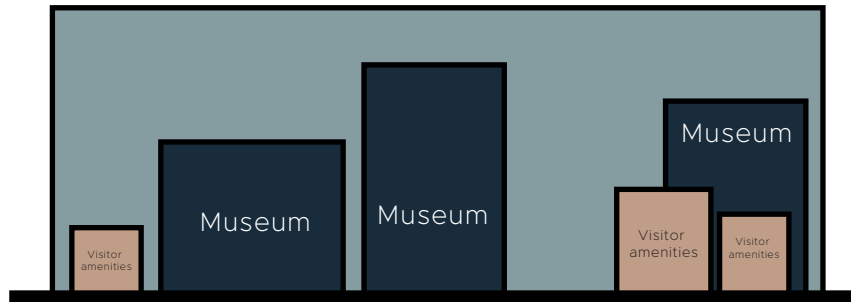


Müller Kröller Museum

# BLUE SPACE

## References Case Study

Cubes with big roof

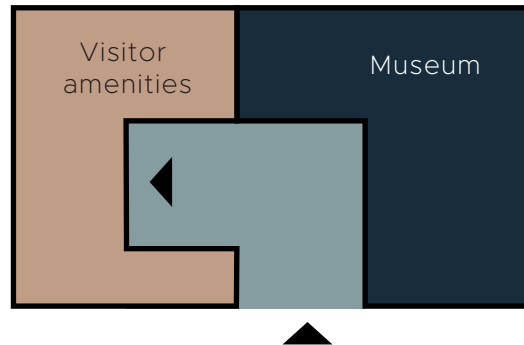


Louvre Abu Dhabi

Kanal



## Open plaza model



Pull visitors into the museum



# DESIGNING THE MANIFESTO

## Important topics to show

Museum in neighbourhood

Museum reaching out into neighbourhood

Locality

- local people to engage
- local artists
- local themes

Dialogue, Collaboration, Education

Labs

Diverse art display

Sneak peek exhibition: pull effect  
central point

connection to other side of water/ dyke





# CASE STUDY

## Labs at LocHal, Tilburg

LocHal today is a driving force for innovation, co-creation and knowledge sharing. Everyone can participate.

The LocHal is a library that also houses other companies and has 6 Labs with different themes to bring people together and learn from each other.

### **DigiLab**

DigiLab focusses on the latest technology. Visitors can experiment with new technology and the most modern hardware and software. 3D printing, virtual reality, programming robots and building games.

### **FoodLab**

The FoodLab is not about cooking classes, but about nutrition itself. During food events, people can learn what exactly is on your plate, what its nutritional value is, where it is produced and what innovative technologies were involved.

### **FutureLab**

FutureLab focusses on designing the future of Tilburg. It is about what kind of city we want to live in 10 years, thinking of rapid urban growth. It focusses on designing the future city with technological and social innovation, thinking of the climate and new forms of living.

### **GameLab**

In GameLab gamers and supporters can learn new skills in all kinds of areas. People can improve their gaming skills, learn from others, take a game design course and just talk about all ins and outs about gaming.

### **TimeLab**

TimeLab focusses on the history, present and future of the city of Tilburg. Here small exhibitions will be shows with a all kinds of objects, photos and films about a specific theme. Tilburg traditions and rituals are also highlighted.

### **WordLab**

This place focusses on books, writing and reading. The WoordLab is a breeding and meeting place for lovers of language, literature and creative writing, a place where people will find new teachers and companions.

Look at chapter 'P2 - LABS' in Design Journal  
for chosen LABS in the final museum





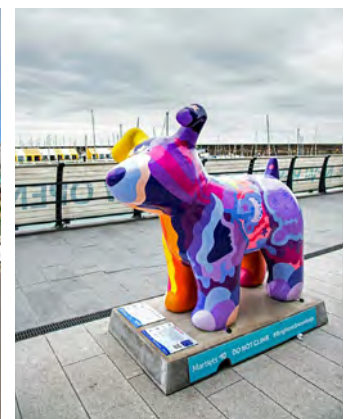
# CASE STUDY

## Art Installation, Sussex

A Case studies for an art installation in the neighbourhood would be the 'Snailspace' (2018) or 'Snowdogs by the sea' (2016) art installation organized in Sussex.

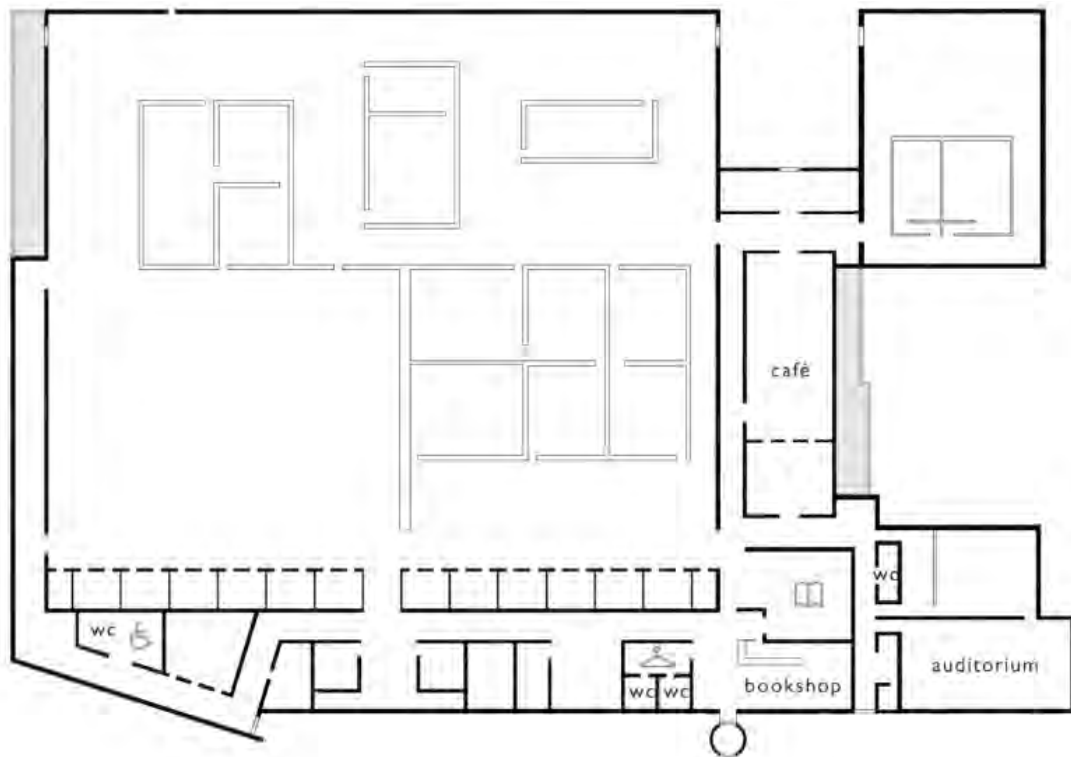
Here fiberglass sculptures of the form of an 'animal' are painted and designed by different people, exhibited in the city and then auctioned off to gain money for a good cause.

For the 'Snailspace' art installations the British illustrator Nick Sharratt ran workshops to design 57 small snails and with help from sponsors the big ones were created.



'Snailspace' and 'Snowdogs at the sea' art pieces in Sussex

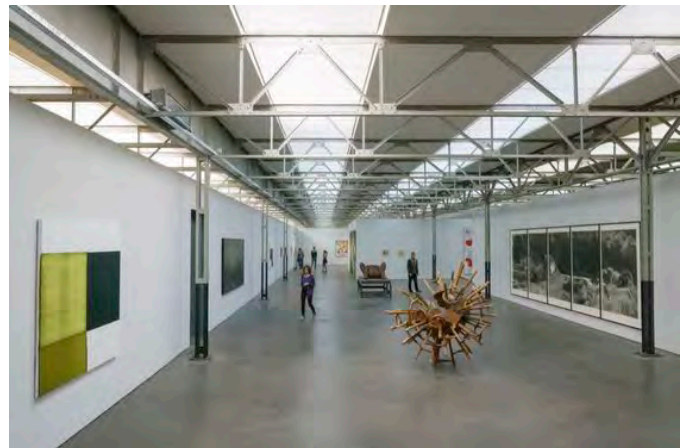
## Interior at Pont, Tilburg



Before



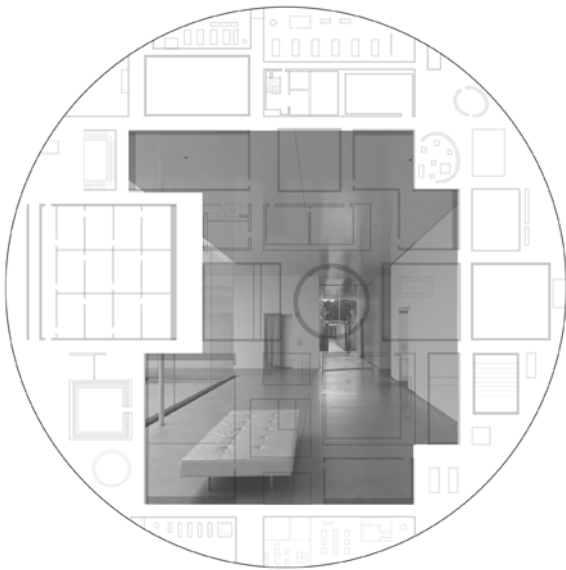
Now



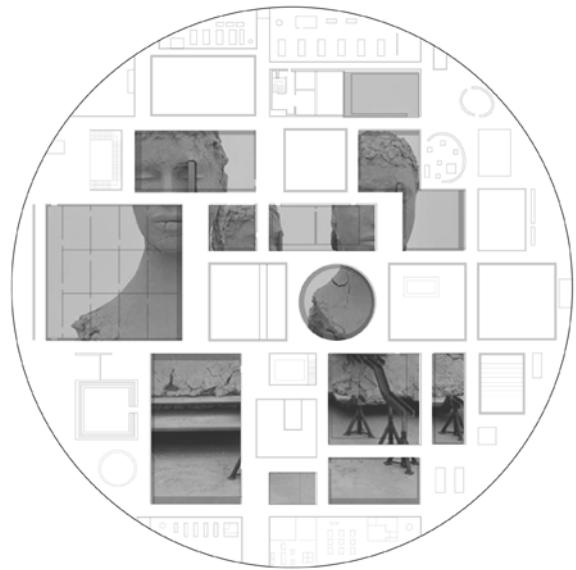


# CASE STUDY

## 21st Century Museum of Contemporary Art, Kanazawa



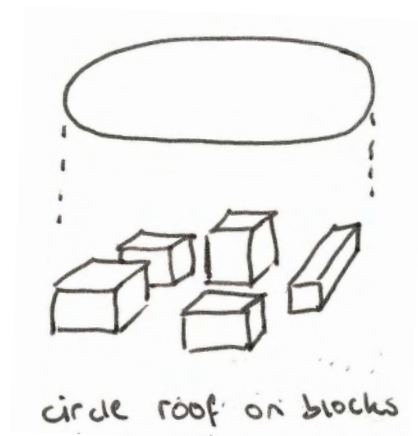
Exhibition area



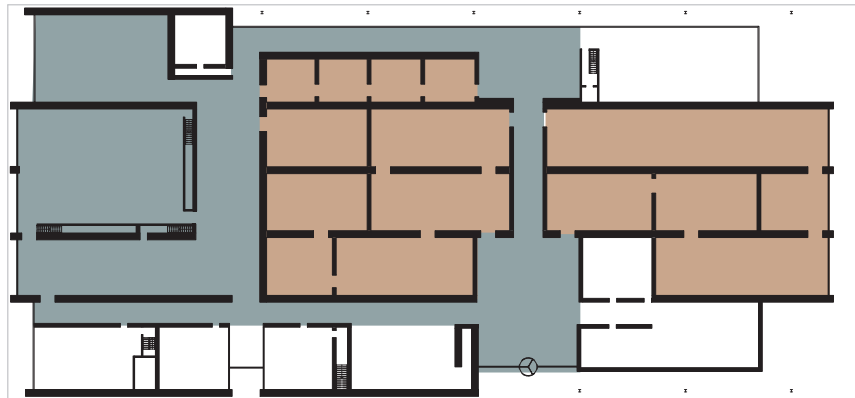
Gallery spaces



Community spaces



## Voorlinden, Wassenaar

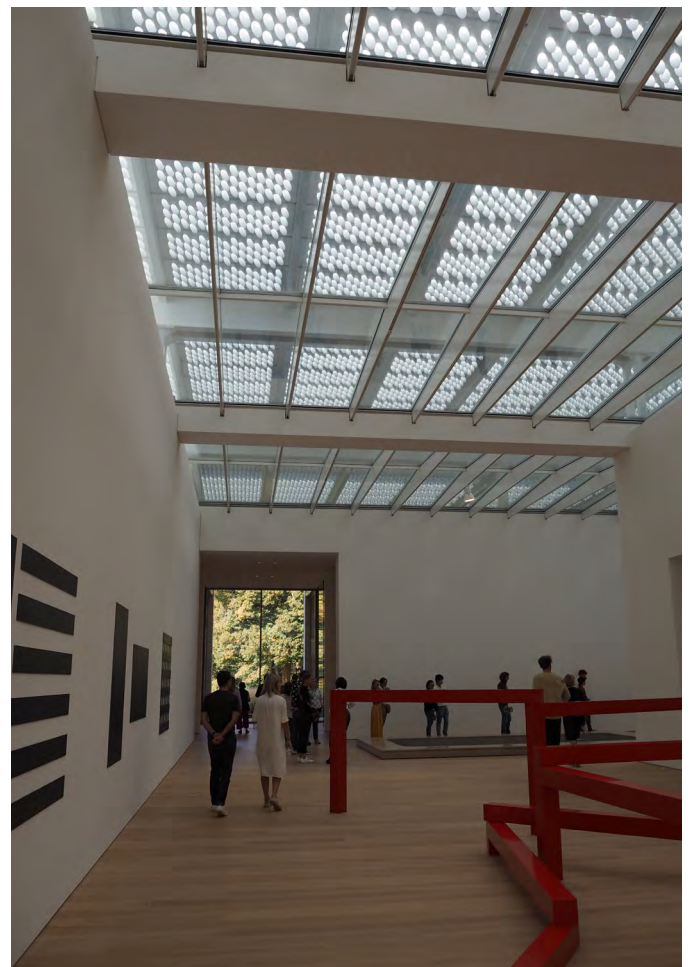


2 options of gallery spaces:

- blue spaces represent the overflowing circulation space into exhibition spaces
- brown spaces represent the white cube concept gallery spaces and are dedicated to the art instead of art and circulation



Dedicated gallery space (brown)

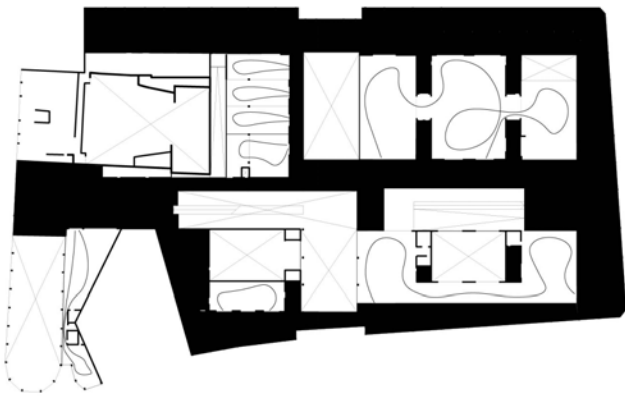
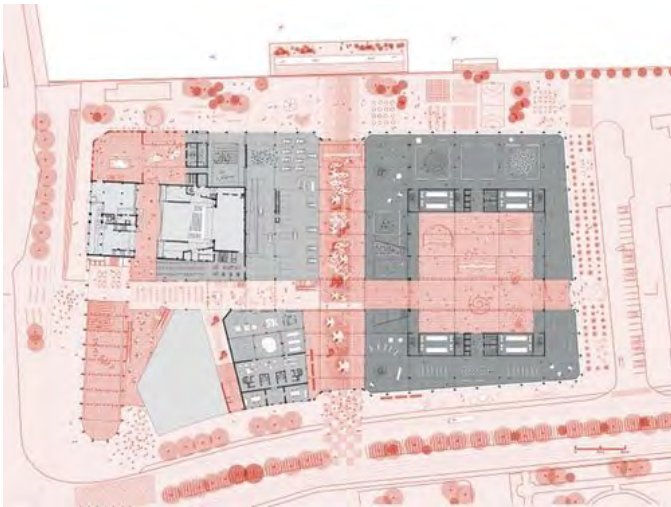


Multifunctional room used for circulation & gallery space (blue)



# CASE STUDY

## Multifunctional circulation space at Kanal, Brussels



Circulation space at Kanal in Brussel



## Parking at Maritiem Museum, Rotterdam

The Maritiem Museum in Rotterdam does not own their own parking facilities. Due to the very central location of the building, on the website they advertise to come by bike, walking or public transport.

For car parking they recommend to use the nearby located parking garage with a 20% discount. Or use parking in the city.

The Maritiem Museum recommends the APCOA parking garage at Hartmansstraat 35, which is a walk of 6 min.

This could be an option for my museum as well. In Chapter 'Context' the nearby located parking garages are mapped.

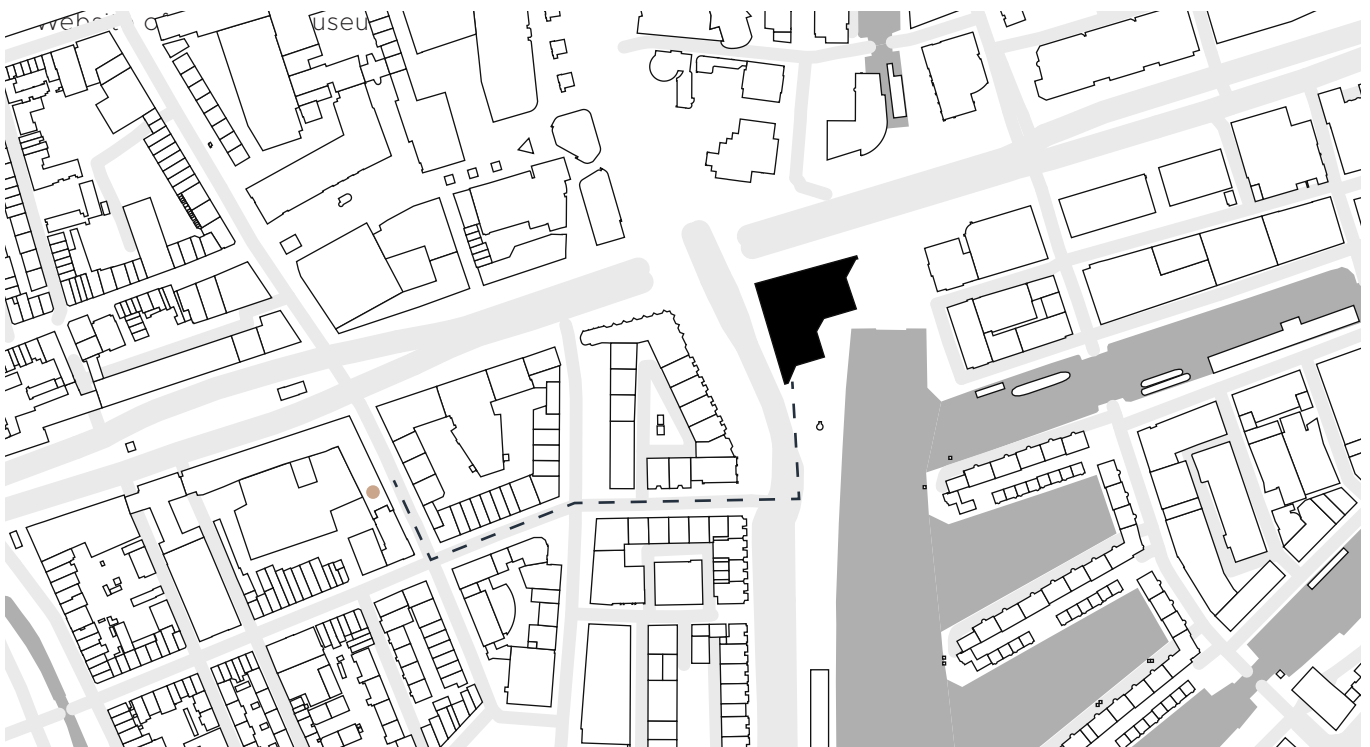
### Are you coming by car?

The Coolingsingel will be renovated in the coming years into a boulevard with lots of greenery and space for pedestrians and may be temporarily (partly) closed. The Maasboulevard is (partly) closed for major maintenance. [Click here for advice on your route to the museum](#)

#### Parking: 20% discount with your ticket

The museum does not have its own parking, but you can park in the immediate vicinity, along the Schiedamsedijk or in the parking garages in the center. We offer you a 20% discount on the nearby APCOA parking garage at Hartmansstraat 35 in Rotterdam. For this you need the parking ticket, which you can get as soon as you enter the parking garage. So do not choose the option to pay directly with your bank card, then we cannot offer a discount. Show your parking ticket upon arrival at the Maritime Museum, in combination with your e-ticket or confirmation of a group reservation for a stamp on your parking ticket, which will give you a 20% discount when paying in the garage. [Click here for more information about the Apcoa parking](#)

Maritiem Museum Website





# COMMUNITY CENTRES

## Community centres in Rotterdam Zuid

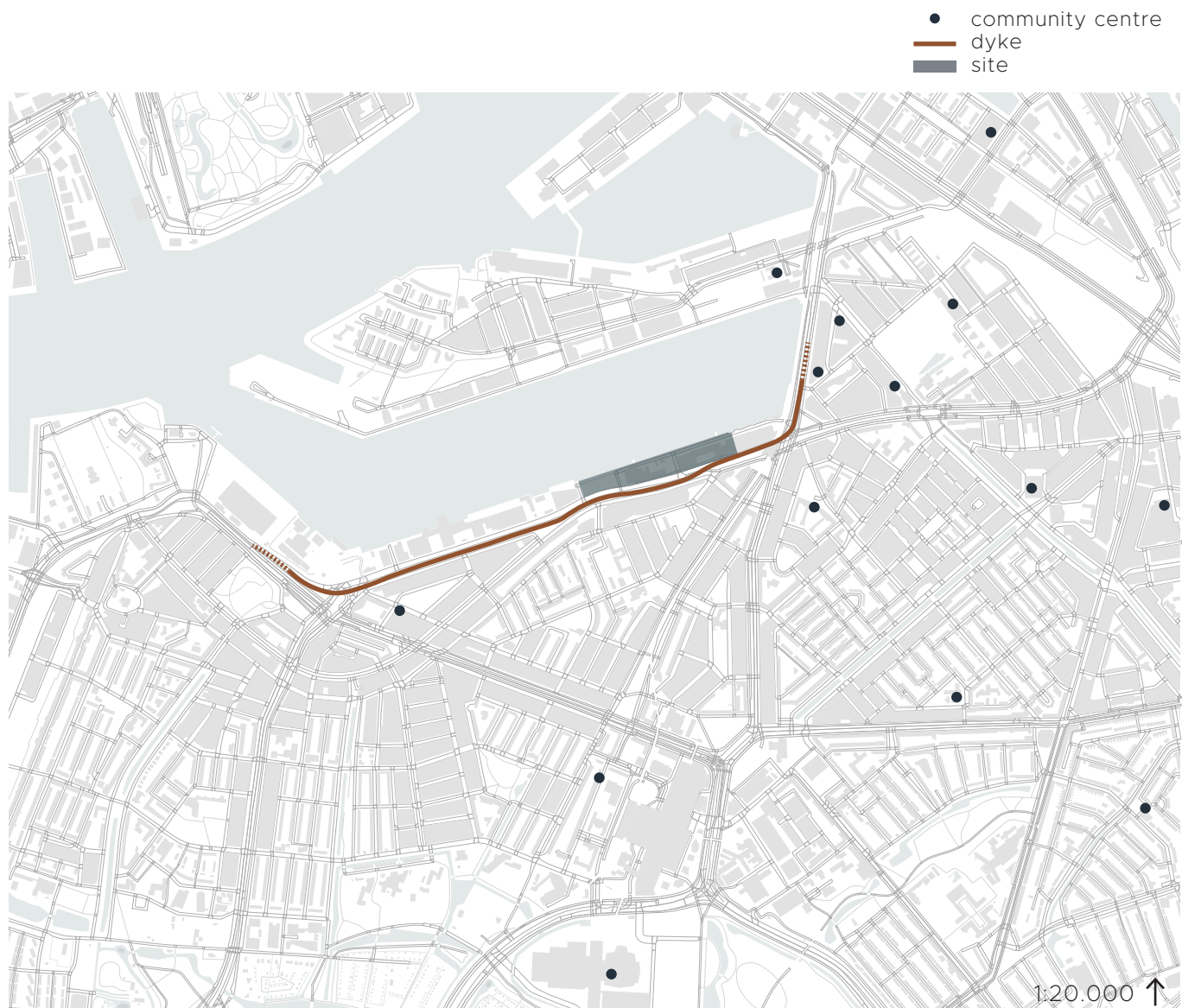
### Dock Charlois

Dock is a welfare organization that supports people in improving their lives and the lives of others.

They make the connections between Care and Welfare and residents who need extra help. With activities for children, youth, adults, home help, language lessons and help with administration and finances.

### Gemaal op Zuid

Activities to connect residents and visitors with each other. Events are organized that benefit the neighbourhood.



Huis van de Wijk De Peperlink  
House of the Neighbourhood 't Klooster  
Huis van de wijk Hillevliet/ Humanitas Hillevliet  
Huis van de Wijk De Brink

These are a meeting points for young and old, where you can organize, learn, ask and do all kinds of things. Here people can do voluntary work or follow/give activities such as a language course, lessons in healthy eating or exercise. Attention is paid to youth with special activities. And there is room for initiatives from residents.

#### **Irene**

Is a meeting place of the district where activities are organized for and by residents of all ages.  
For example: Dutch language lessons, bingo, Tai Chi and theater.

#### **Stichting Nida Zuid**

Nida consists of activating, motivating and stimulating citizens by offering various activities and projects for young and old. The foundation strives for a society in which citizens live together in harmony. With its activities, It also tries to contribute to a balanced integration of migrants in the Netherlands.

#### **Stichting House of Hope**

They connect local residents by organizing activities together and strengthen them by providing professional help and letting them contribute themselves. This way they know how to cope better together and they get more life in the Tarwewijk, Beverwaard and Katendrecht districts.

#### **Theater Zuidplein**

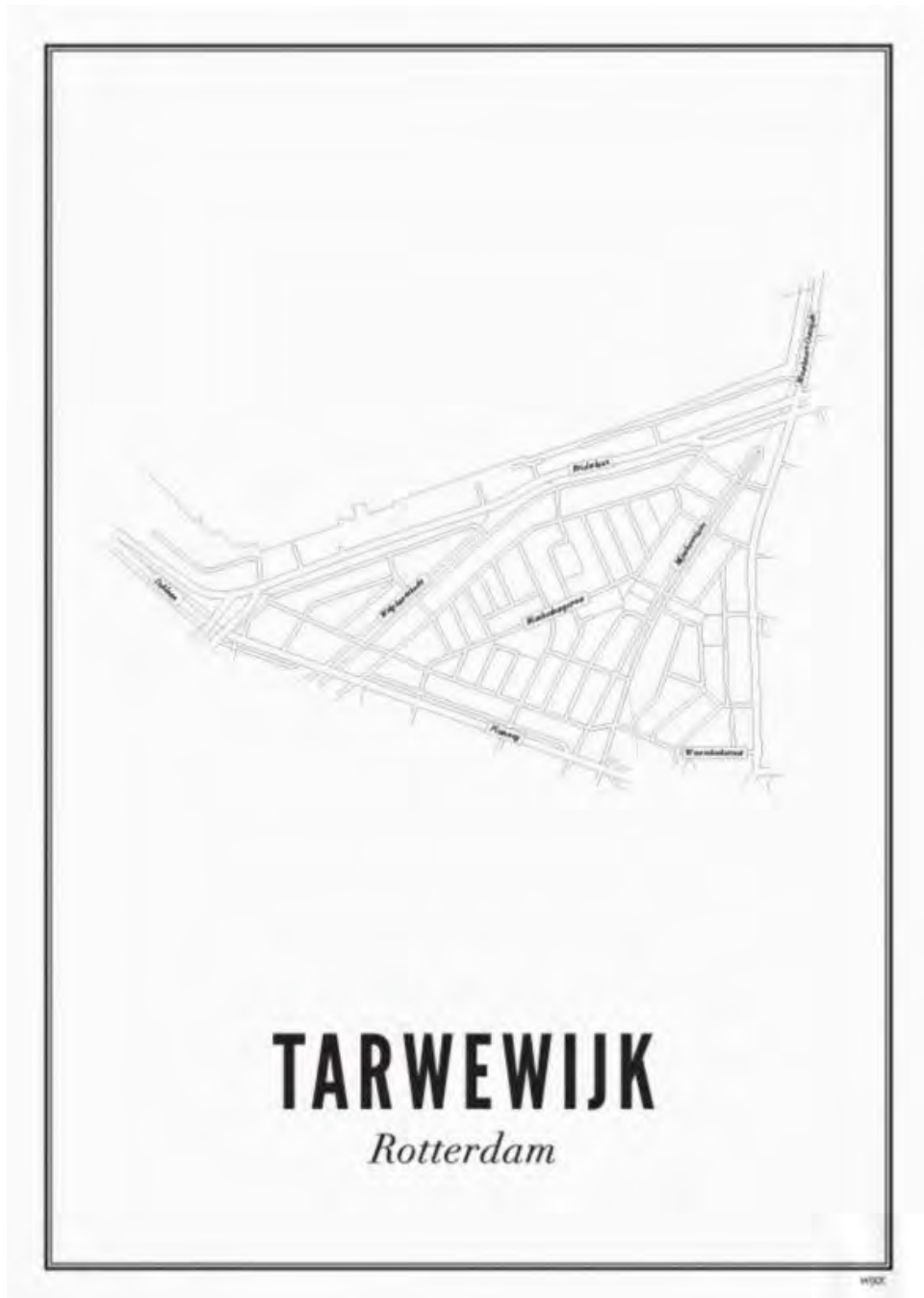
Theater Zuidplein wants to be more than a stage for audiences from the city and the region: it must really be a place for local residents. Their program based on the demand of residents. With young stand-up comedians, the hip-hop scene and Bollywood nights, the organization managed to attract a new, young audience. In addition, many youth performances are made in collaboration with schools.

#### **Centrum voor Jeugd en Gezin**

The Center for Youth and Family (CJG) is the place where parents, carers, children, young people and professionals can come with questions about health, parenting, growing up and care.

# TARWEWIJK NEIGHBOURHOOD

Housing





Look at chapter 'P2 - Design Ideas' and 'Development 4 Designs' in Design Journal for the Design Idea 1 corresponding to this research



For Design Idea A/ 1 the concept is based on extending the visual look of the neighbourhood to the museum. Tarwewijk mainly consists of housing and by bringing these pointed houses to the design, a visual connection would be built. However, as you can see in these pictures, the housing projects in the neighbourhood are mainly straight blocks instead of pointed family houses as the visual exterior of Design 1 indicates.





# RESEARCH DESIGN BRIEF



# CASE STUDY

## Helsinki brief

### Preliminary area schedule

Please note: The below figures and percentages have been rounded up or down for simplicity and should be treated as approximate figures for guidance only.

ASSIGNED AREAS				
	Net Square Meters	Net Area	Gross Area	Notes
<b>Exhibition</b>	<b>3,920</b>	<b>56%</b>	<b>32%</b>	
Exhibition Galleries	3,920			flexible spaces, fully wired
<b>Programs and Events</b>	<b>565</b>	<b>8%</b>	<b>5%</b>	
Flexible Performance/Conference Hall	500			275 movable seats
Green Room	incl			
Control Room/Projection Booth	incl			
Simultaneous Translation Booth	incl			
Movable Stage Platform	incl			
Seating, Stage, and Equipment Storage	incl			
Technician Office	incl			2 staff
Dressing Rooms	incl			
Multifunction Classroom/Laboratory	65			30+ seats with tables and storage; suitable for all media
<b>Multi-purpose Zone</b>	<b>300</b>	<b>4%</b>	<b>2%</b>	
Project Space and / or Atrium	300			
<b>Visitor Services</b>	<b>190</b>	<b>3%</b>	<b>2%</b>	
Visitor Screening/Bag Check	100			queuing area in unassigned space
Coat Check/Lockers	60			queuing area in unassigned space
Ticketing and Information Desk	20			
Storage	10			
<b>Retail</b>	<b>300</b>	<b>4%</b>	<b>2%</b>	
Museum and Design Store	250			museum-related and design merchandise
Stock Room and Offices	50			including area for 3 staff; assume additional off-site warehouse
<b>Dining</b>	<b>700</b>	<b>10%</b>	<b>6%</b>	
Cafe/ Bar	200			120 seats (1.7 square meters/ seat); plus seasonal outdoor seating
Formal Restaurant	130			focus on Finnish food; 55 seats (2.3 square meters/ seat)
Kitchen	370			serving cafe and restaurant
Catering Prep/Staging Area	incl			
Receiving	incl			
Offices	incl			assume 1 office, 2 workstations
Trash Room	incl			refrigerated
Storage	incl			
<b>Offices</b>	<b>500</b>	<b>7%</b>	<b>4%</b>	
Administrative Offices	130			10 staff
Curatorial, Exhibition Design, Publications, Archivist Offices	110			9 staff; 3 temp
Education Offices	30			6 staff
Marketing and Development Offices	100			8 staff
Conference Rooms	75			1 room 20 seats; 1 room 10 seats
Shared Work Room/Copy Room/File Storage	55			
<b>Collections Storage and Management</b>	<b>350</b>	<b>5%</b>	<b>3%</b>	
Art Storage	100			short-term storage only
Shipping/Receiving	50			
Crate Storage	50			
Uncrating/Staging	50			
Shared Art Prep/Conservation Studio and Equipment Storage	70			including 7 staff
Registrar, Conservation, Exhib. Design & Tech Offices	30			5 staff offices
<b>Maintenance and Operations</b>	<b>230</b>	<b>3%</b>	<b>2%</b>	
Security Office/Control Room	20			1 staff
Custodial Office	20			1 staff
IT Server, Workroom, and Staff Offices	35			3 staff
Supply, Equipment, and Seasonal Furniture Storage	40			
Landscape and Grounds Maintenance Equipment	25			assume outside contractor & off-site storage for large equipment
Staff Lunch Room/Lounge	65			30 seats
Locker Rooms	25			2 rooms; 25 lockers each
<b>Total Assigned Areas</b>	<b>7,055</b>	<b>100%</b>	<b>58%</b>	
UNASSIGNED AREAS				
	Net Square Meters	Net Area	Gross Area	Notes
<b>Total</b>	<b>5,045</b>			<b>42% of gross building area</b>
Lobbies	incl			assumes generous social/circulation spaces
Circulation	incl			
Restrooms	incl			
Art Loading Dock	incl			
General Loading Dock	incl			
Mechanical/Electrical/Plumbing	incl			
Partitions, Structure, Shafts, Stairs, Elevators	incl			
<b>Total Gross Museum Area</b>	<b>12,100</b>			<b>100% museum net+ unassigned</b>
<b>TOTAL BUILDING AREA</b>	<b>12,100</b>			
	gross sm			

## ON6 Het Nieuwe Instituut brief

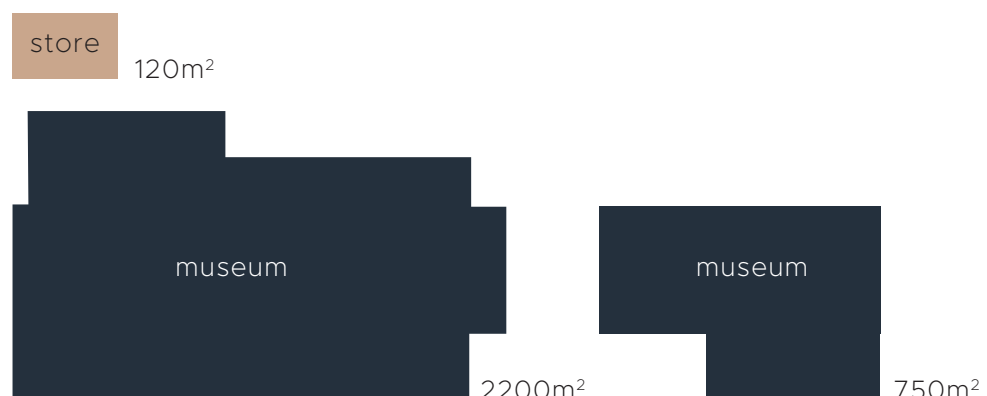
Vereenvoudigd programma van het bestaande PvE

Programma	Onderdelen	Totaal m <sup>2</sup>	Klimaat
Foyer	Foyer, Kassa, Winkel, Garderobe, Toiletten (45m <sup>2</sup> )	650	-
Horeca	Café, Bar, Keuken, Berging	300	-
Museum	4 Museumzalen, Multi-inzetbare ruimten	3500	T = 20-28° 25 m <sup>3</sup> /h per persoon
Kantoren	Kantoren, Overleg ruimten, Pantry, Toiletten	300	T = 20-28° 25 m <sup>3</sup> /h per persoon
Archief	Archief, Techniek, Opslag	3500	'Warm grotklimaat' RV 50% +/- 10% T 16-20°
<b>Totaal gebouw</b>		<b>8250</b>	

## Voorlinden, Wassenaar



Ground Floor 1:1000  N

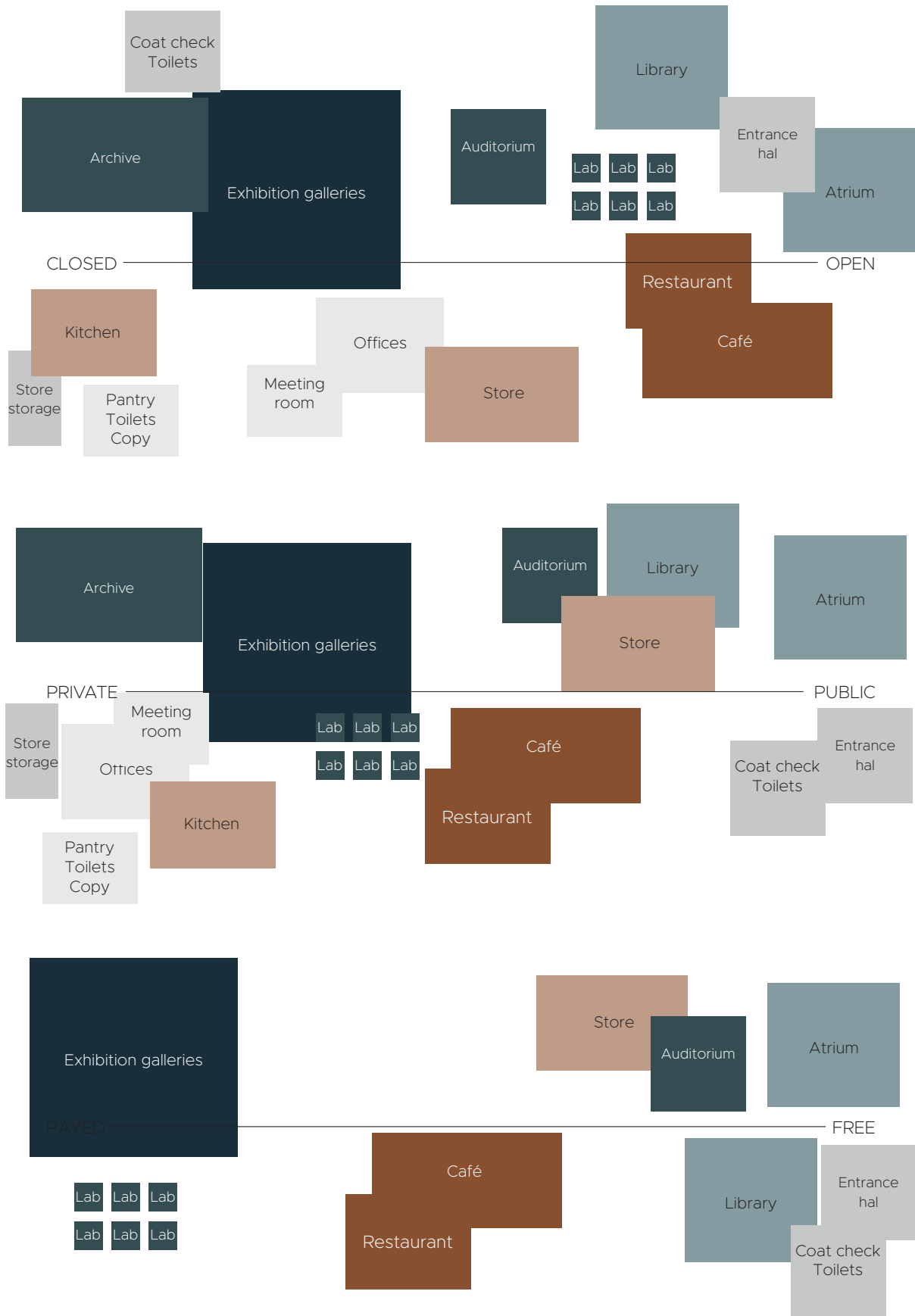


# PROGRAM

Scale

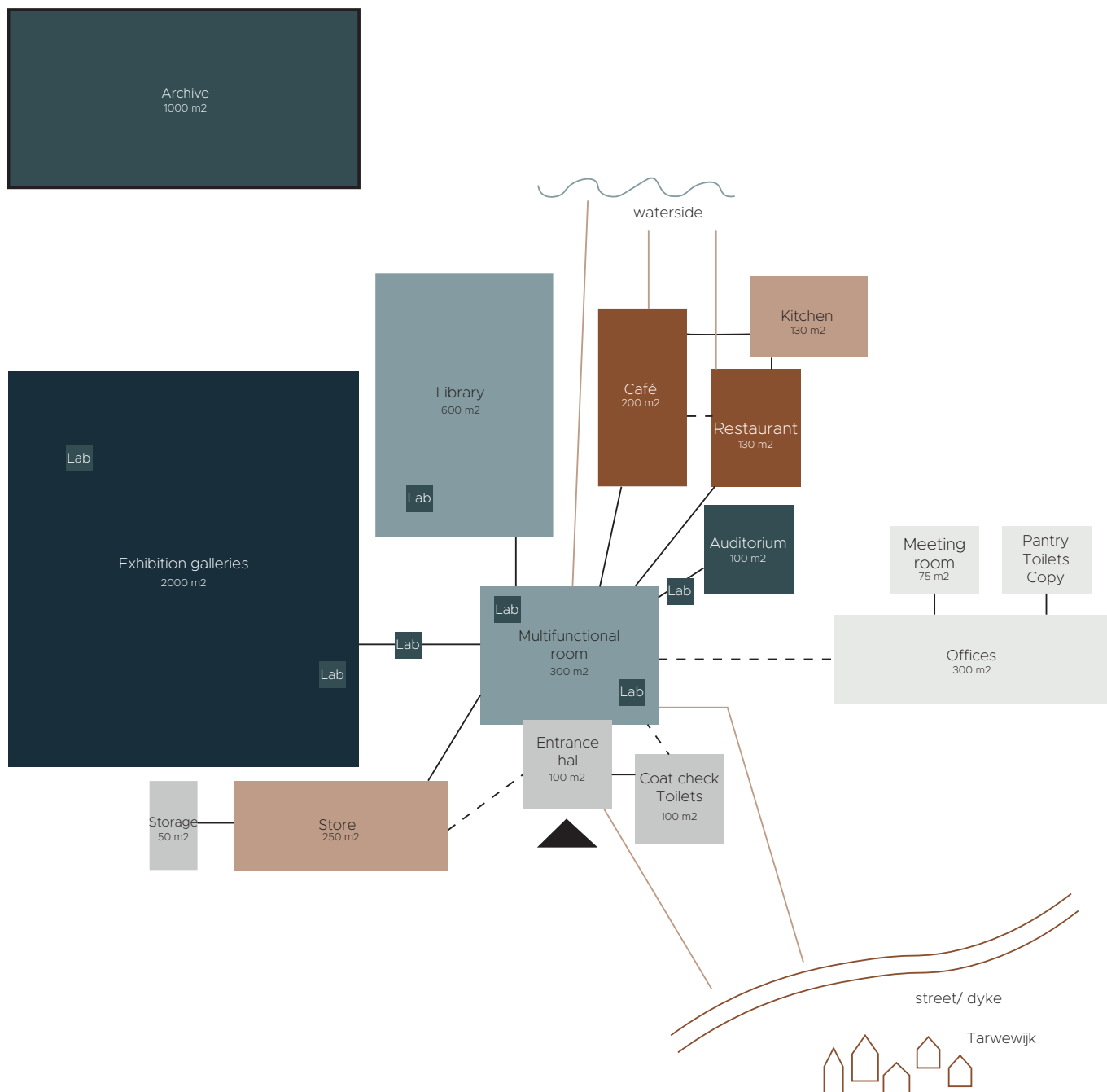


## Relation



# PROGRAM

## Spatial relationship



# PRELIMINARY AREA SCHEDULE

ASSIGNED AREA	ROOM	NET m2	NET AREA %	GROSS AREA %	NOTES
<b>Exhibition</b>	Exhibition Galleries	1820	27%	16%	T=20-28° 25m³/h per persor with/without daylight ventilation
	Museum 1	600			
	Museum 2	470			
	Museum 3	450			
	Museum 4	300			
<b>Program &amp; Events</b>	Auditorium	200	3%	10%	150 seats
	Control room, Storage, Technical Office	incl.			
	Labs	275	4%		
	Lab 1	20			
	Lab 2	55			
	Lab 3	25			
	Lab 4	65			
	Lab 5	35			
	Lab 6	75			
<b>Visitor Services</b>	Information desk & ticketing	20	0%	1%	
	Coat check & Lockers	60	1%		
	Storage	10	0%		
<b>Multipurpose zone</b>	Blue Room	2000	30%	18%	for events/ exhibitions etc./ entrance/ main circulation
<b>Retail</b>	Museum and Design Store	120	2%	1%	museum-related and design merchandise
	Storage & Offices	30	0%		
<b>Dining</b>	Cafe, Bar	200	3%	4%	free for entrance
	Restaurant	130	2%		free for entrance
	Kitchen	100	2%		either for cafe and restaurant or two separte
	Storage	55	1%		
	Prep/ Staging Area	incl. in Storage			
	Trash Room	incl. in Storage			
	Office	incl. in Storage			
<b>Offices</b>	Work spaces	300	5%	4%	T=20-28° / 25m³/h per persoon 38 staff
	Meeting rooms	75	1%		
	Copy room/ Storage	55	1%		
	Pantry and toilets	25	0%		4 toilets
<b>Archive</b>	Art Storage	1000	15%	9%	not freely accessible with/without daylight ventilation
<b>Maintenance &amp; Operations</b>				1%	
	Security Office/ Control Room	40	1%		
	IT Service	35	1%		
	Staff Lunch Room/ Lounge	65	1%		
	Staff Locker Room	25	0%		
<b>TOTAL</b>		6640	100%	64%	
<b>UNASSIGNED AREA</b>					
<b>Total</b>		4660			36% of gross building area
	Circulation	incl.			
	Restrooms	incl.			on every floor
	Art Loading Dock	incl.			
	General Loading Dock	incl.			
	Mechanical/ Electrical/ Plumbing	incl.			
<b>TOTAL</b>		11300			



RESEARCH TARWEWIJK  
RESEARCH COMMUNITY CENTRE



RE

02

ESTAKE



**RESEARCH TARWEWIJK**

# TARWEWIJK

The Neighbourhood

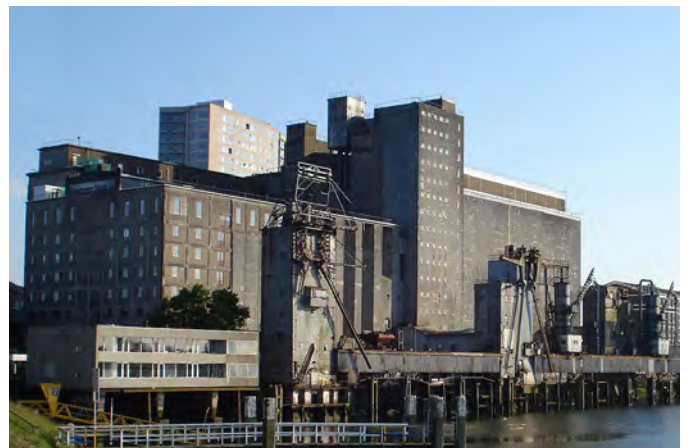


Tarwewijk lays next to the Maashaven. It is enclosed by the harbour and Zuidplein. It is a quiet residential area in a big city. The district is characterized by the many open spaces.

Area: 1,14 km<sup>2</sup>

Number of households: 6.355

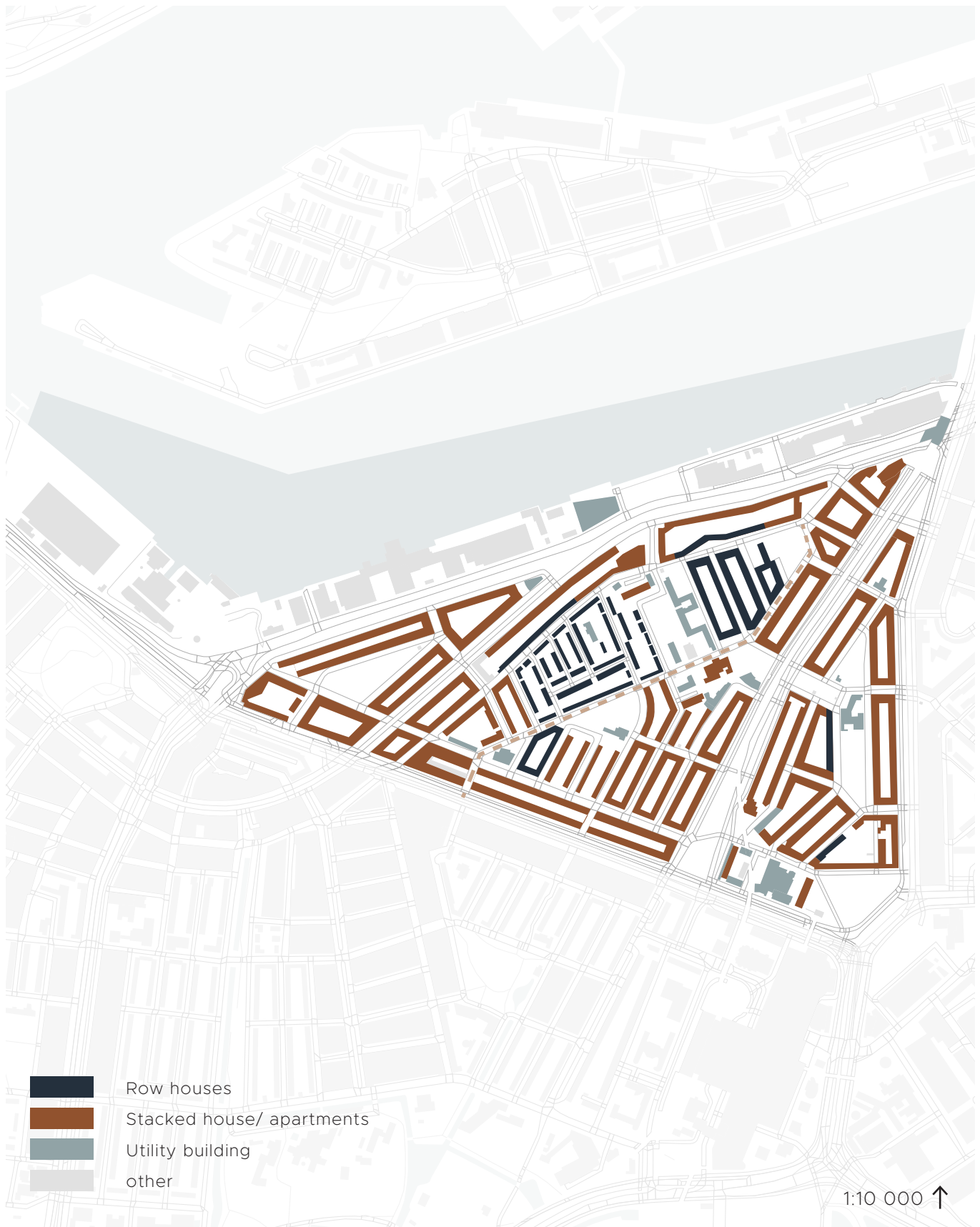
Number of residents: 12.265





# TARWEWIJK

## Housing



## ROW HOUSES



## STACKED HOUSES



Many of the houses in the area became social housing.

## APARTMENTS



The Blankenburgstraat functions as a divider between the low-rise working-class houses with a village feel and the more urban world with middle class houses.

What is notable, is that there are no free standing family homes and no '2 onder een kap' (2 under one roof) to be found in the area.



# TARWEWIJK

## Landmarks



1 Maassilo



4 Dordtselaan



2 School de Globe (monumentality)



5 Brielselaan with dyke



3 Gym Tarwesterk

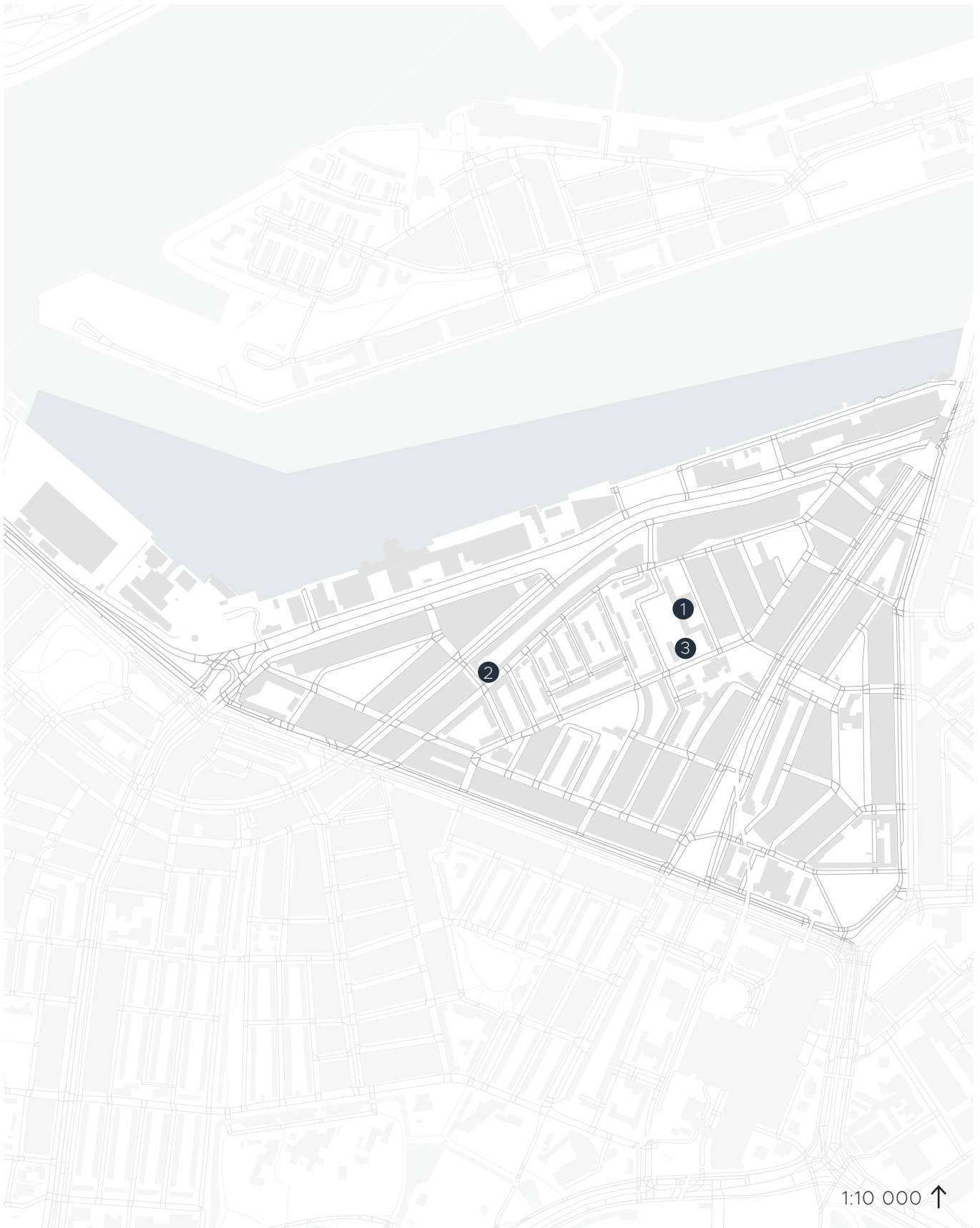


6 Mijnsherenlaan with metro (stateliness)



# TARWEWIJK

Landmark: school Globe





The only Rijksmonument in the neighbourhood is the school Globe (dot 1). The school has however a second location (dot 2) and a newly built gym (dot 3).

2



1



2



1



3

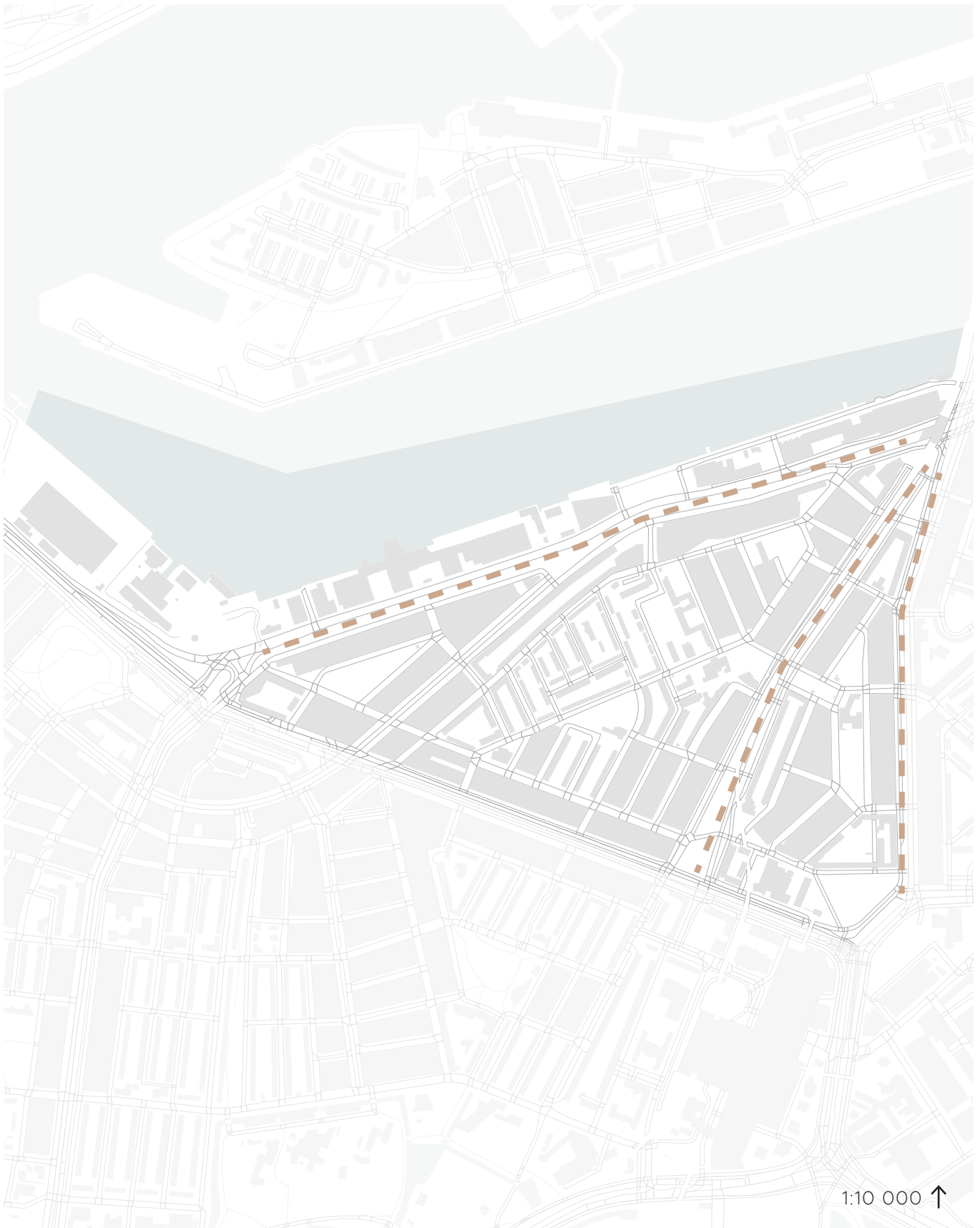


1



# TARWEWIJK

## Major Roads





Mijnsherenlaan



Dordtselaan



Brielselaan with dyke



# TARWEWIJK

## Public spaces





1



5



9



2



6



10



3



7



11



4



8



12



The public spaces are spread almost evenly around the neighbourhood. There is no hierarchy, they are comparable in size and function. Most of the public spaces in Tarwewijk are green and do

not have a specific function. Because the spaces are not defined clearly, they don't feel inviting. Whereas the spaces with a specific function are used more and feel safe.



# TARWEWIJK

Favourite place to stay by residents



1 Maastunnel entrance - park



2 Tarwestraat



3 Playground



4 Public space



Information from video 'Cultuurhistorie Rotterdam-Zuid: Tarwewijk' (retrieved from <https://vimeo.com/214453691>)

# TARWEWIJK

Metro Line - Mijnsherenlaan









# TARWEWIJK

## Conclusion

In the history of the Tarwewijk, two major interventions have happened that today still have impact on the feeling of the neighbourhood.

The first one being the Globe school by van der Steur. Starting in 1920, school buildings were not hidden anymore in building blocks, but pulled out of them and put at more prominent spots, like with this school. The school today is the only Rijksmonument in the Tarwewijk and brings with its architecture - gigantic size and beautiful location - a positive impulse on the development of the neighbourhood. In 2015 a gym was built next to the school by Ziegler, Branderhorst and Artesk van Royen Architecten. The difficulty with this design was to strengthen the school in a contemporary way. What is immediately striking is how well the new building connects with the existing complex.

The second one has a more negative connotation. In 1968 the metro line was opened between Central station and Zuidplein, which ran through the Mijnsheerenlaan in Tarwewijk. However this one was built above ground, even though there was a lot of protest by residents to make a tunnel instead. This was another proof for the residents of the deprivation of Rotterdam Zuid. The earlier designed grand parkway by Witteveen with a lot of quality was now destroyed.

The history of Tarwewijk shows us with these two major projects how a grand intervention can change a character of a neighbourhood and how it can give a direction into the future development of a neighbourhood. This gives me a big opportunity to use my building and improve the feeling and especially the reception of the Tarwewijk.



Look at chapter 'P2 Retake - Tarwewijk' in  
Design Journal for the conclusion of this  
research



**RESEARCH COMMUNITY CENTRE**



# COMMUNITY CENTRE

## Program

### WHAT IS A COMMUNITY SPACE?

somewhere for local people to gather and connect  
it can house social activities and possibility to share  
interests + services like counseling and support in  
different matters

### FOR WHOM?

Local community  
All ages  
Artists and non-artists

### POSSIBLE PROGRAM

#### Multipurpose spaces

- event space
- meeting space
- market
- workshops
- playground
- garden

#### Culture

- exhibition space
- performance space
- cinema
- studios
- workshops

#### Physical activity

- Fitness rooms
- Dance studio
- Skatepark
- Chess boards
- Yoga studio

#### Education

- Library
- Daycare
- Youth Centre
- After school activities
- Language courses
- Hobby & craft courses

#### Food

- Restaurant
- Cafe
- Farmers market
- Community kitchen
- Community garden

#### Extra Supplies

- Restrooms
- free WIFI
- Computers
- Water
- Emergency centre
- Tourist info
- Recycling facility
- Counseling program

## Dutch Community centre 'buurthuis'

Community centres have, partly due to the increase in scale since 1990, in many cases become part of local and regional welfare organizations. However since 2012 there has been a sharp decline in the number of community centres in the Netherlands, because several municipalities decided to close these facilities due to budget cuts. Often residents themselves start community centres.

The program of community centres in the Netherlands is mainly based on education and meeting and relaxation activities. Furthermore, welfare is an important program part of buurthuizen.



# COMMUNITY CENTRE

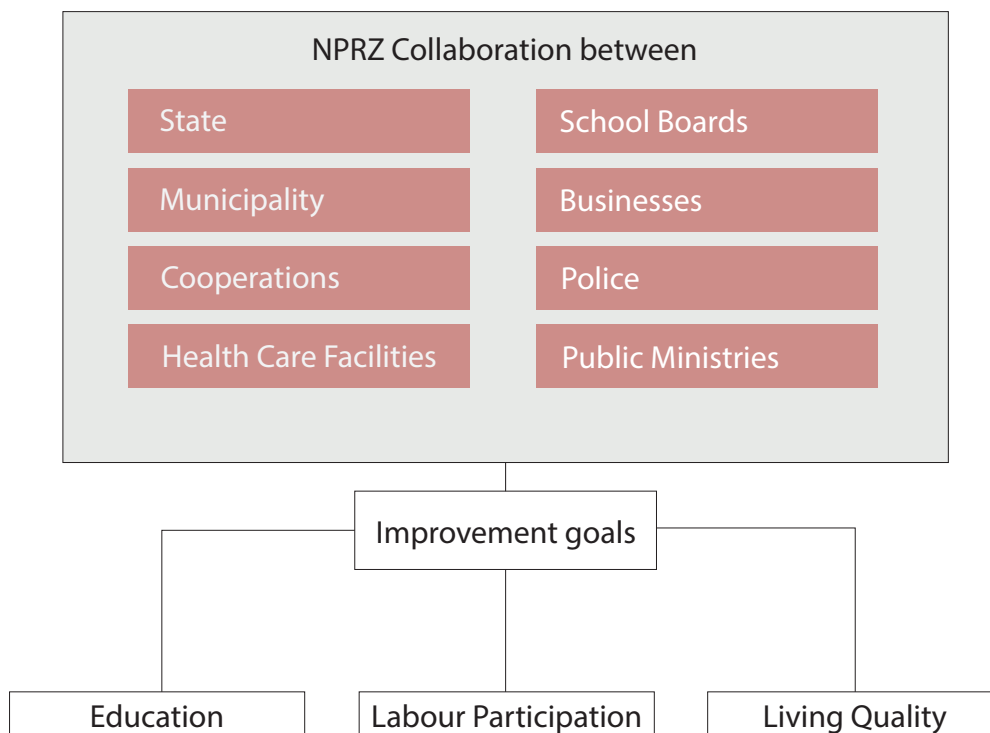
## Nationaal Programma Rotterdam Zuid (NPRZ)

The NPRZ is a collaboration between multiple parties, with the aim of getting Rotterdam Zuid up to the levels of the G4. They mostly focussed on education, labour participation and living conditions. Culture was not highly prioritized by the NPRZ. However since 2018 Carolien Gehreis was appointed as director of culture, culture became an important theme. The NPRZ wants to offer inhabitants to live a life that is usual for a big city. This also includes a good cultural infrastructure. The quality and quantity of this infrastructure should be fitting for the youth as well as the elderly.

The NPRZ offers students 10 more hours at school to improve skills, like sports or cultural related. However, due to the organization, they end up again in the same space, getting educated by the same people.

That is why, I think it would be a good idea to offer the children a different living environment with my art centre to come and learn new skills.

Organization of NPRZ



Look at chapter 'P2 Retake - Community centre'  
in Design Journal for the conclusion of this  
research

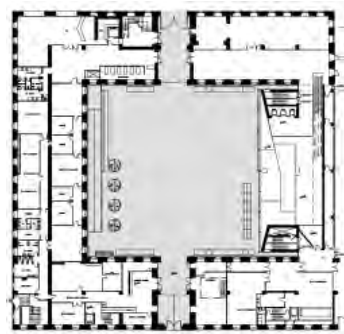


# COMMUNITY CENTRE - CASE STUDY

## Centre de Cultura Contemporània de Barcelona

By Helio Piñón and Albert Viaplana  
Barcelona, 1802-1993, 15,000m2

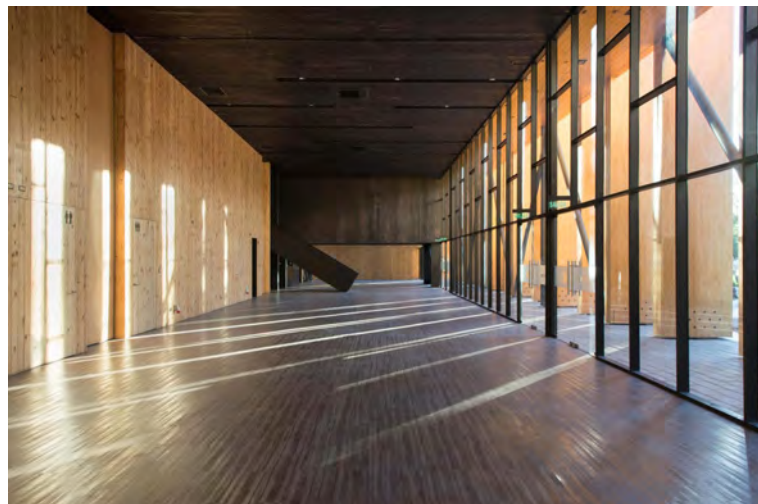
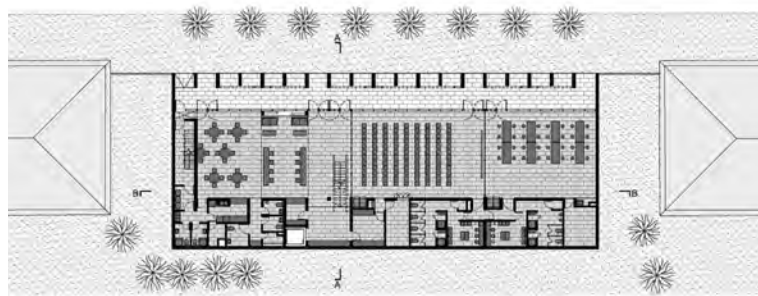
The CCCB organizes exhibitions, debates, festivals and concerts, film cycles, courses, lectures, and other activities. It encourages creation using new technologies and languages, explores and promotes the ongoing fusion of languages and different genres, and takes in-house productions to other national and international arts centres, museums and institutions. The underlying aim of these activities is to generate debate, thinking and reflection on the theme of the city and public space, and other issues that define current affairs. It addresses issues with the aim of linking the academic world with creative processes and citizens in general. The CCCB is also an open space for creators, associations and freelance programmers with whom it has forged links over the years.



## Constitución Cultural Center, Chile

By Alejandro Aravena | ELEMENTAL  
Chile, 2015, 829 m<sup>2</sup>

Main space with flexible division  
Computer room  
Cantine/Kitchen  
Office (upper floor)

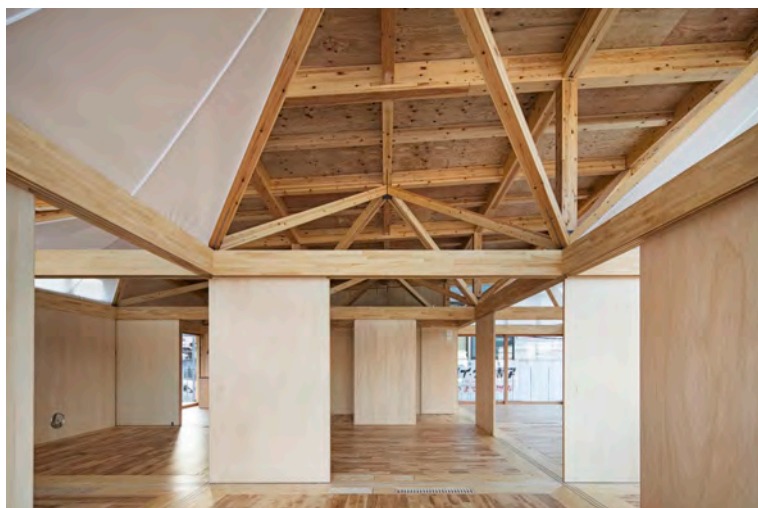


# COMMUNITY CENTRE - CASE STUDY

## Substrate Factory Ayase, Kanagawa

By Aki Hamada  
Kanagawa, Japan, 2017, 290m<sup>2</sup>

Exhibition and events space for the local community. This community space has removable exterior walls and adjustable interior screens, meaning it can easily be adapted to suit different activities during different times. It is a very flexible space.

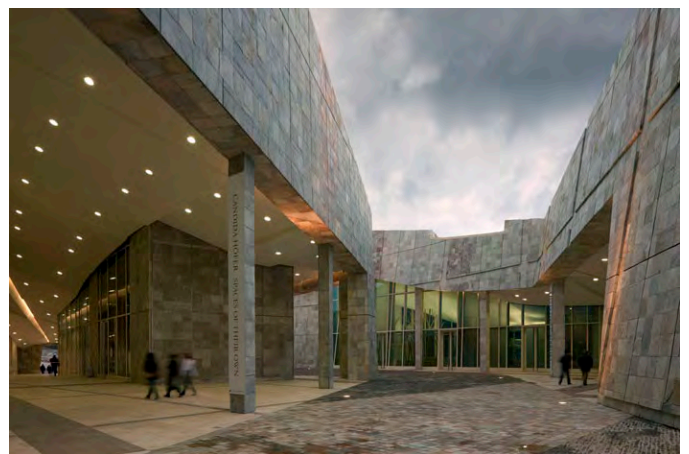
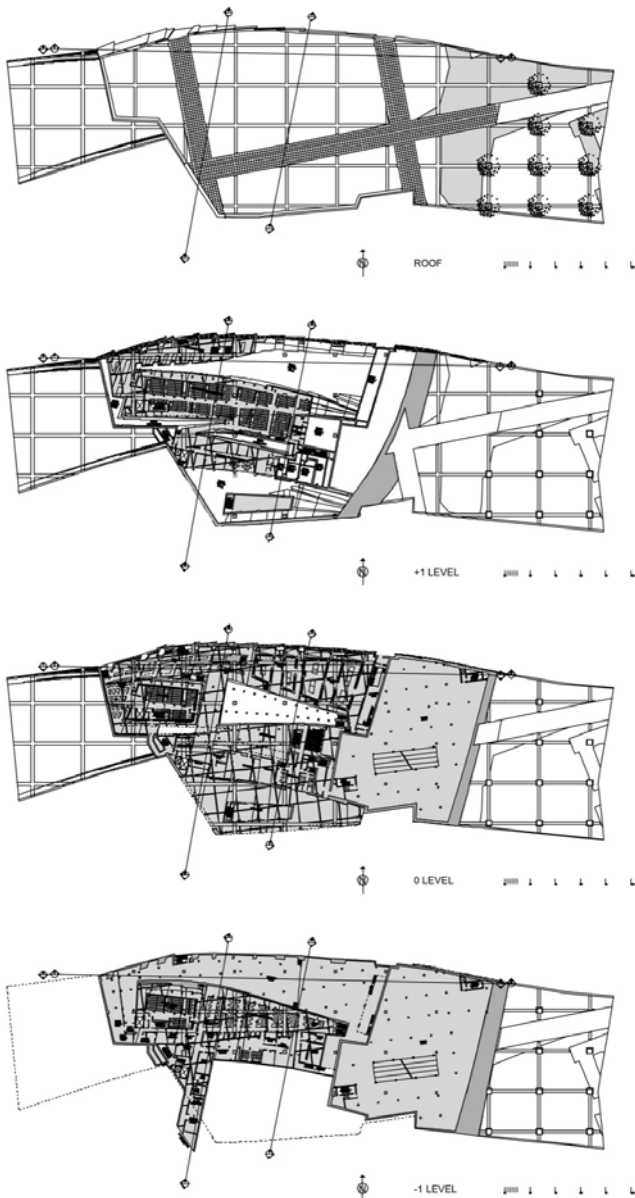




## A Cidade da Cultura, Spain

By Eisenman Architects  
Santiago de Compostela, Spain, 2011

The project's six buildings are designed as three pairs: the Galicia Museum and the International Art Center; the Center for Music and Performing Arts and the Service Center building; and the Galicia Library and the Galician Archive. The paths, or pedestrian streets, between the buildings are also open to a public square, which is surrounded by the six buildings and has water and landscape elements.





RESEARCH PLAN  
CASE STUDY  
SITE REFERENCES



0

3



# RESEARCH PLAN



# COMMUNITY ROLE IN INSTITUTION

## Civilizing the museum (Gurian)

How to enhance the community-building role that an institution plays?

by putting more attention into the planning and budgeting of space, space mix and unexpected use

spaces as mixed-use environments must be present if community building is to succeed

JANE JACOBS: liveable city

- wide and pleasant sidewalks
- frequent opportunities to turn corners
- clear separation between public space and private space
- mix of useful services
- services for many hours of the day, including night
- opportunities for loitering and encouragement of people watching

-> this leads to social interchange, informal surveillance

## Putting Jacobs' elements of liveable city in a museum

outdoor mixed-use spaces

arrivals hall

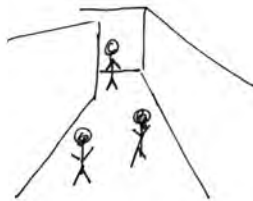
nonprogrammed museum space

most concentrated and differentiated activities

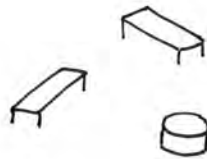
city in a museum

thinking of museums' internal spaces as

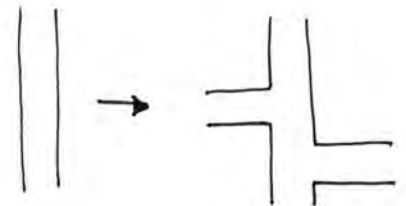
neighbourhoods



strolling opportunities



comfortable opportunities for  
hanging out  
-> people watching opportunities



frequent corners



seperation between  
private & public



mix of services



service for many hours of the  
day, especially night

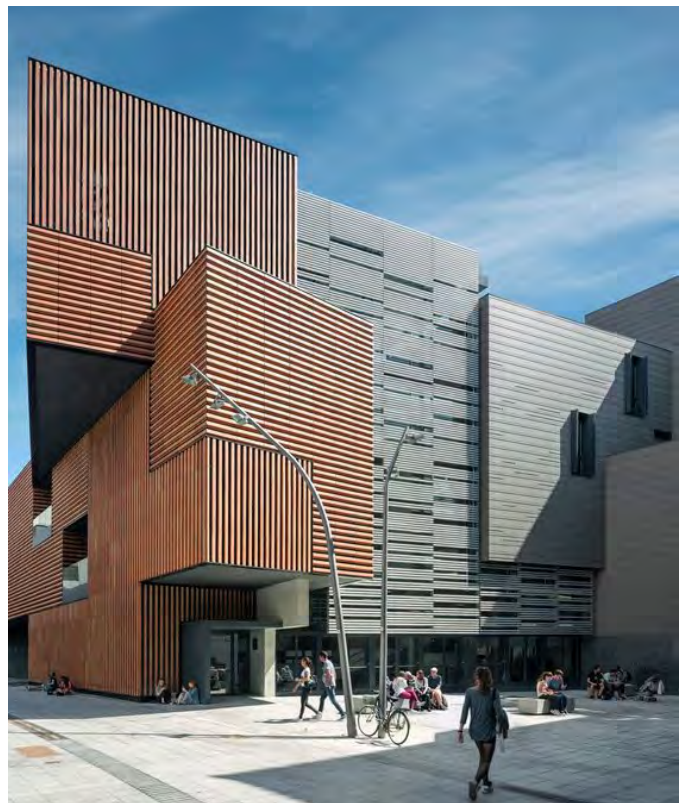
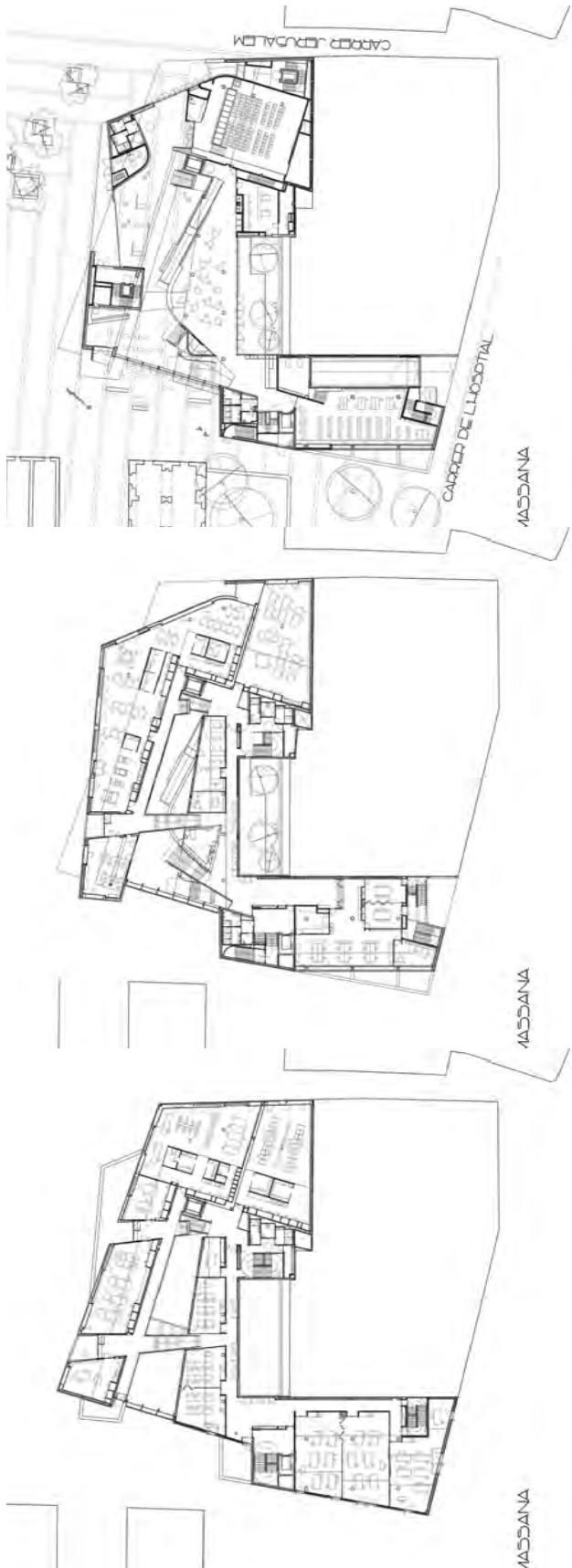


# CASE STUDY



# CASE STUDY

Escola Massana, Art and Design Center by Estudio Carme Pinós

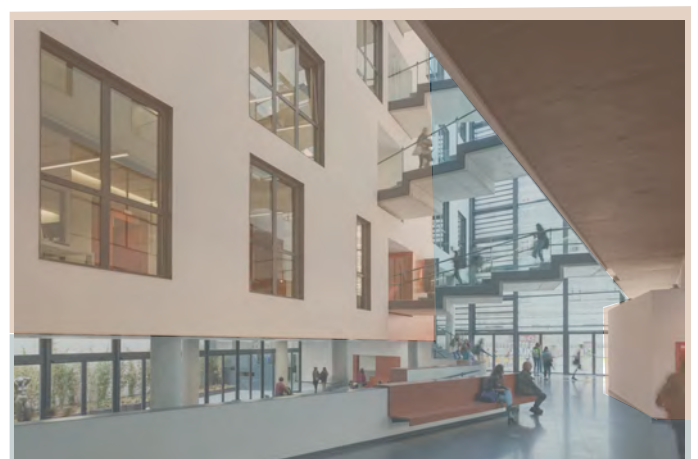
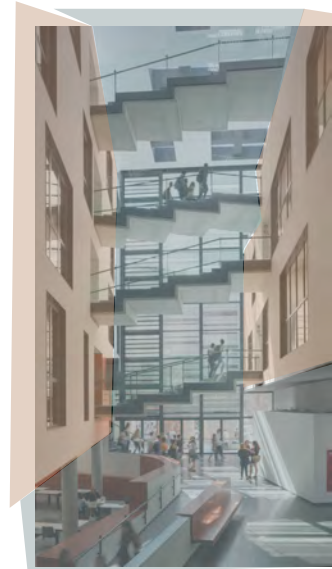
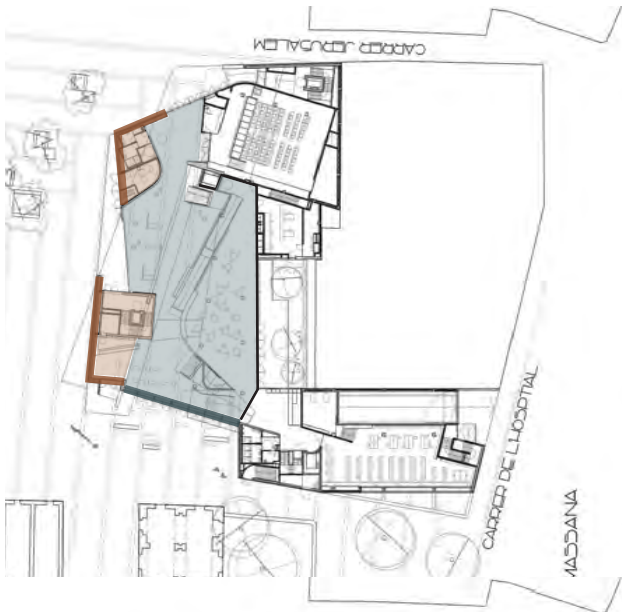


art school  
building is split (volumetrically and facade) to respond to surrounding constructions

- giving it a more unique and sculptural character
- and diminishing bulkiness

Look at Chapter 'P3 - Design Proces' in Design Journal for my configuration explaining the connection between public and private functions

private  
public





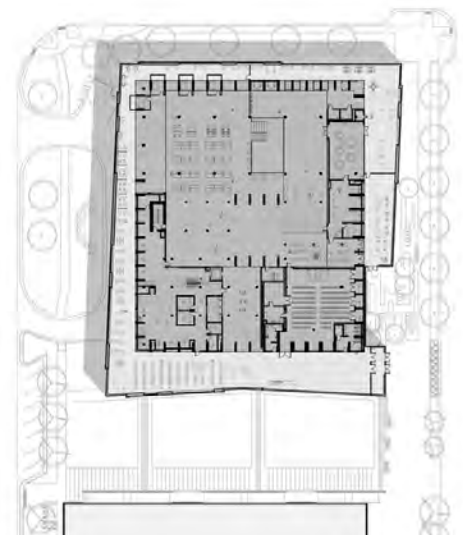
# CASE STUDY

## Lawrence Public Library



transformation from  
library to including a  
community centre

the new functions  
surround the existing  
library





## Verbeke Foundation





# CASE STUDY

Ostermalm market, Stockholm



span max 12 m  
small span 2,5 m



Look at Chapter 'P3 - Building technology' in  
Design Journal for my climate concept and  
structure concept

## Koning Willem I College, 's-Hertogenbosch



SITE REFERENCES  
BT REFERENCES  
BT RESEARCH



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4

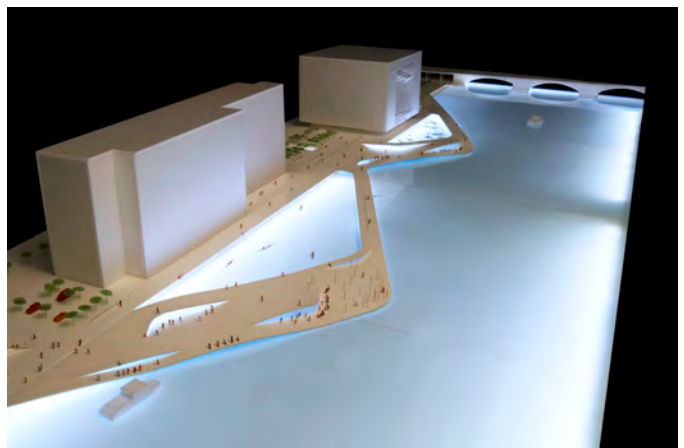
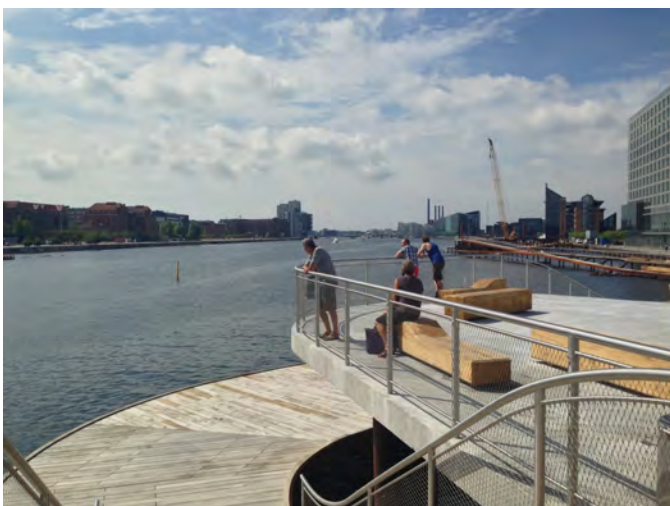




## **SITE REFERENCES**

# QUAY BRIDGE SYSTEM

Kalvebod Waves, Copenhagen





# QUAY

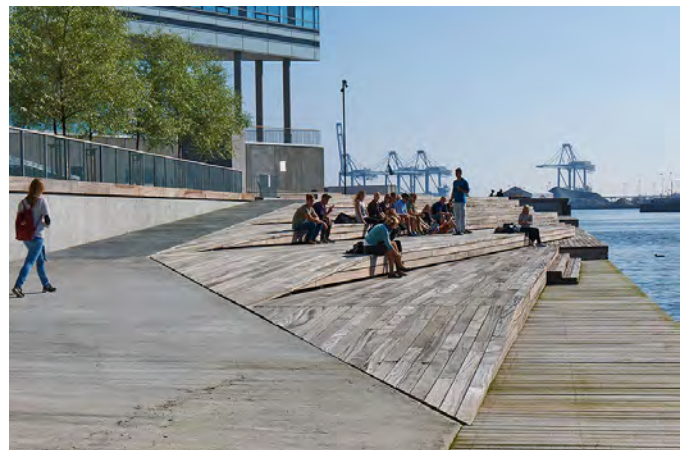
Look at Chapter 'P4 - Site Development' in  
Design Journal for the site design



VMX Katendrecht



VMX Noordbuurt



Navitas Park, Arhus



# PLAZA

## Israels Plads, Copenhagen







Jardin Portuaire, France  
Water from the harbour is placed into bags.



Castle Lackenbach park, Austria  
object surrounds the park, as a frame that can be  
used to sit and play

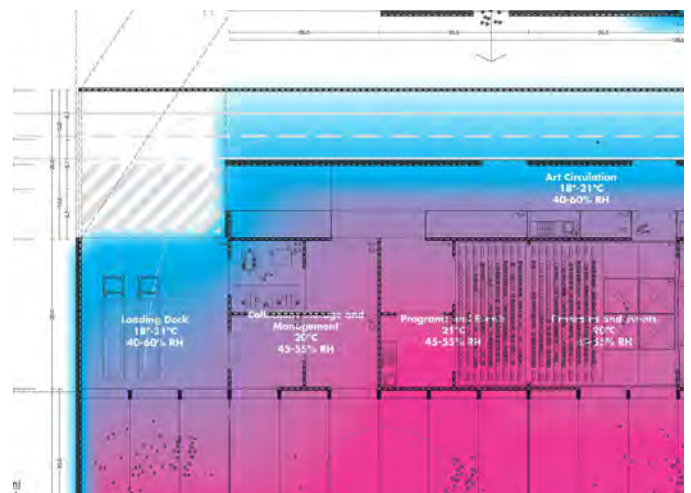
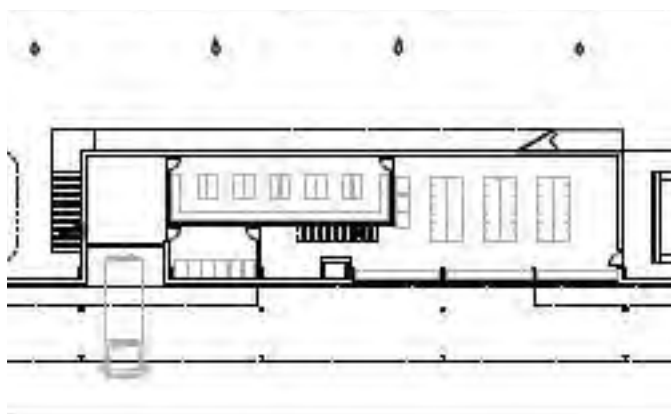
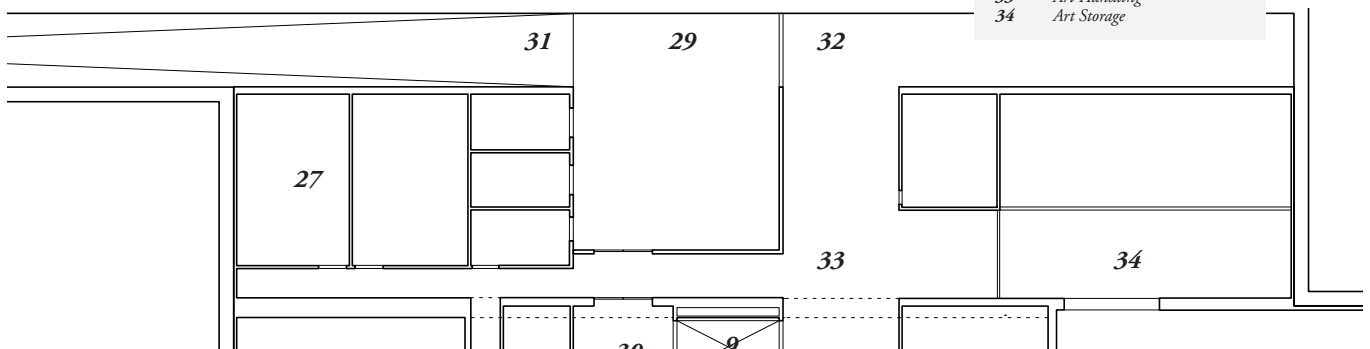
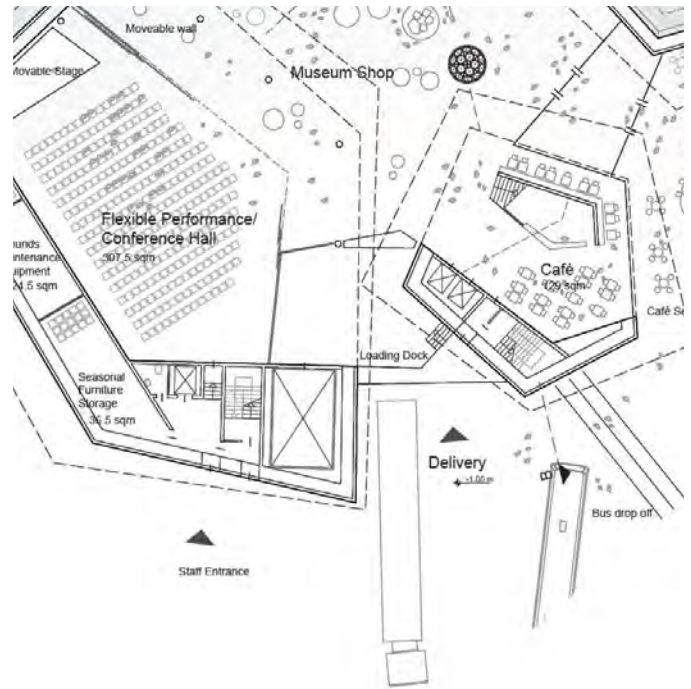
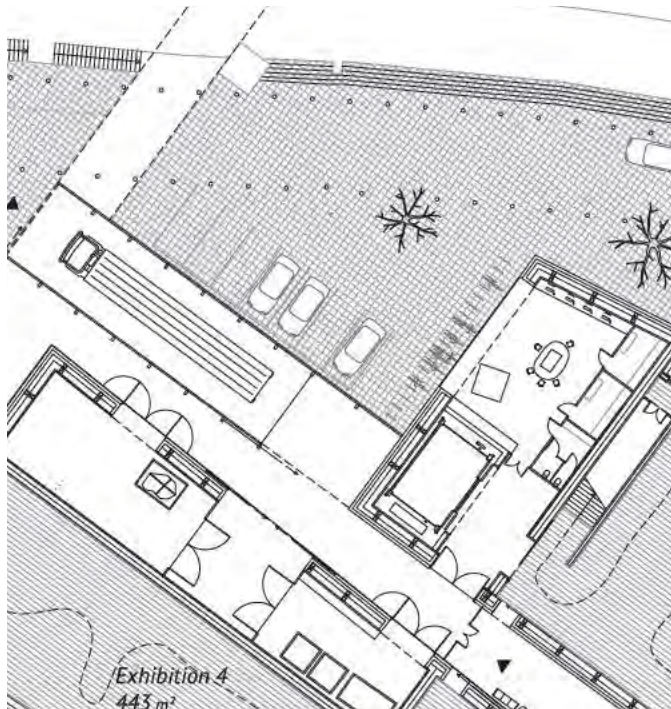


# REFERENCES LIBRARY



# COLLECTION MANAGEMENT

Helsinki Guggenheim Designs



1:500





## **BT REFERENCES**

# CLIMATE - MEETING ZONE

## Case Study

meeting zone will be similar to a market, station, etc



Ostermalm market, Stockholm



Book Mountain, Spijkenisse



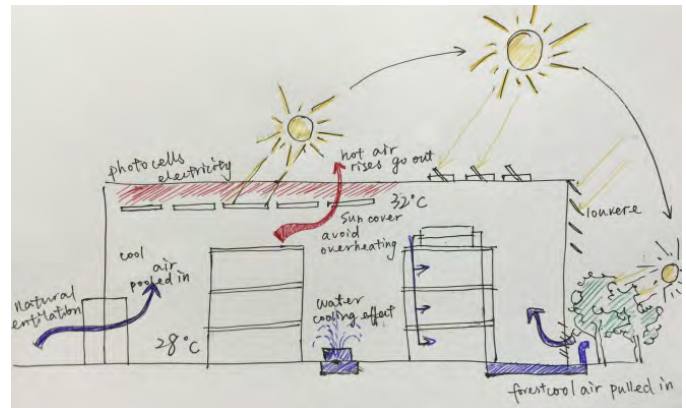
Kanal, Brussel



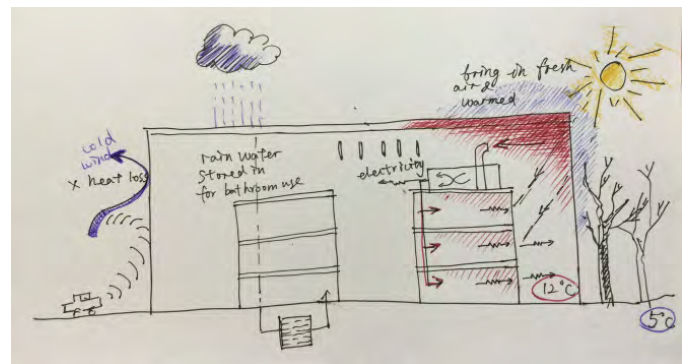
De Pont, Tilburg

- multi-purpose library
- to eliminate the 10% illiteracy rate among the population, it was necessary to allocate a number of functions in addition to library functions
  - library 5300m<sup>2</sup>
  - environmental education centre 112 m<sup>2</sup>
  - a chess club 140m<sup>2</sup>
  - an auditorium
  - meeting rooms, business offices
  - shops 839m<sup>2</sup>
- a pyramid made of glass and glulam timber
  - public authorities wanted to build a construction that would be inviting rather than threatening
  - library is about 20m high, beams measure about 90cm
- The underground parking level and the cosiness of wood make the library easy to heat in winter, thanks to the greenhouse effect
- it is kept cool by natural ventilation in summer
- photovoltaic panels ensures that the complex consumes clean energy

## Herne Mont Cenis, Germany



SUMMER



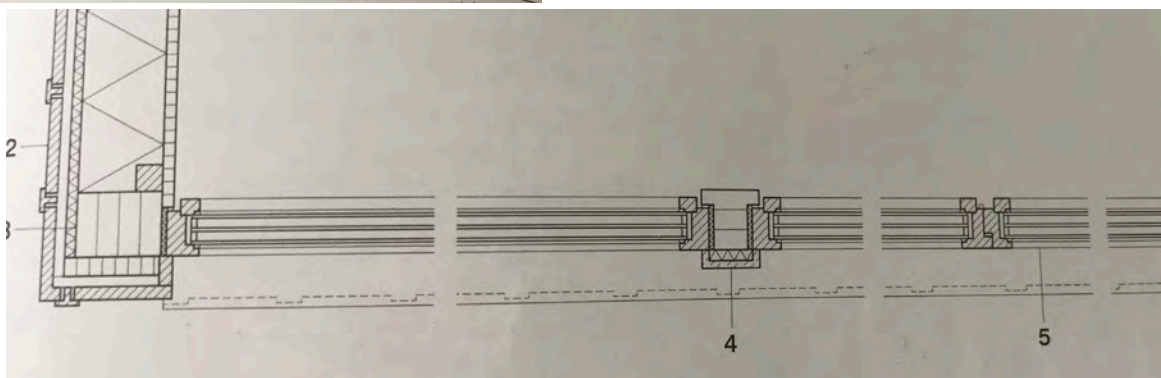
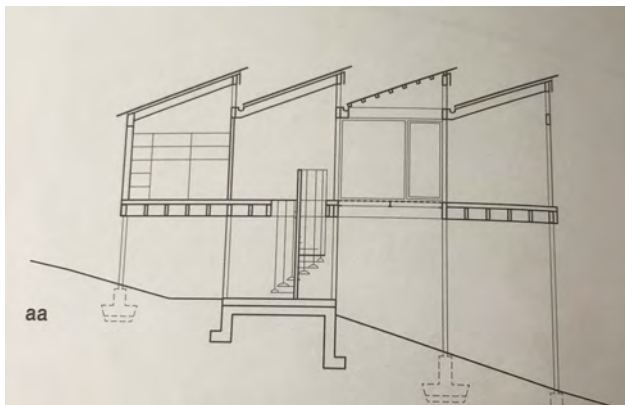
WINTER

- high-tech skin with motorized openings and timber structure
- underground ducts for fresh air supply (underground cooling in summer and warming up the air in winter)
- Low energy: the large passively heated indoor areas achieve energy savings of 23% over normal construction
- Outer glass shell: the individual buildings beneath the shell can be constructed simply but still with protection against wind and rain and with a warmer "outdoor" temperature.
- Especially in winter, the community is like a greenhouse and the shell provides a buffer zone for individual buildings inside
- Roof and facade elements can be opened and ensure sufficient airflow by natural means.



# DETAIL - COLUMN STRUCTURE OUTSIDE

Casa CCFF, Switzerland



## Higgs Kantoor, Utrecht

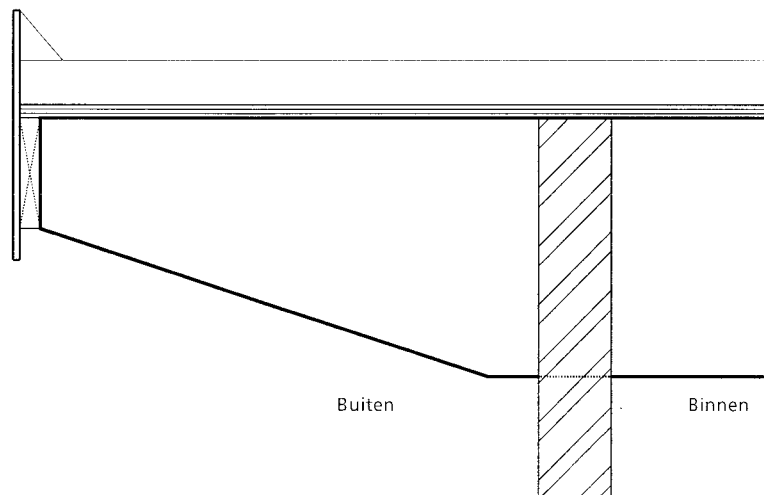




**BT RESEARCH**

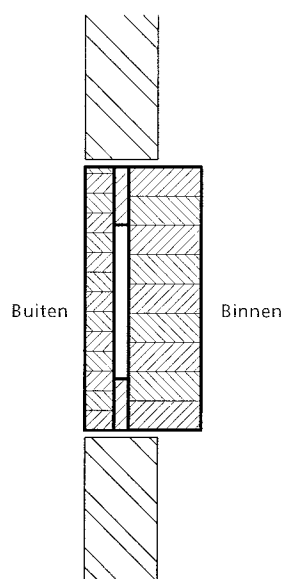


# COLUMN OUTSIDE - INSIDE



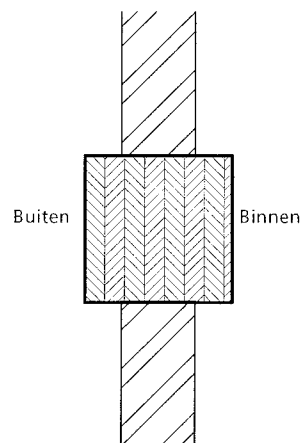
## Detail 0702

ligger door gevelconstructie  
kan indien voldoende onderdak  
in N.E.-vuren worden uitgevoerd



## Detail 0703

ligger als scheiding buiten-binnen



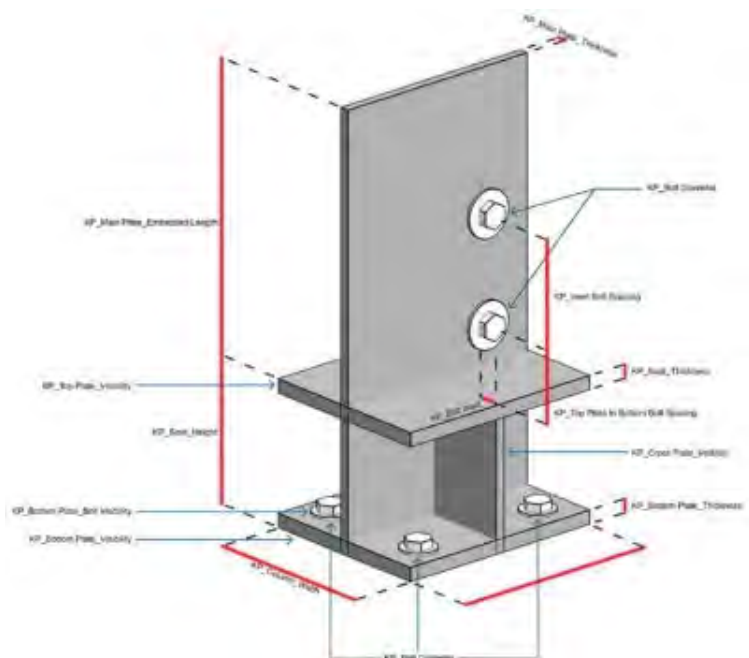
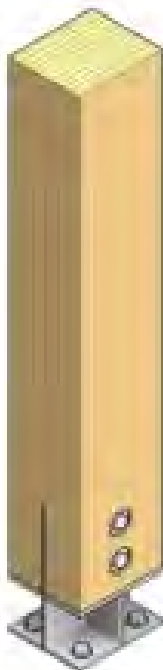
## Detail 0704

kolom als scheiding buiten-binnen

## A close-up photograph showing a metal bracket with multiple screws securing a wooden beam to another wooden structure. A green level is visible on the left side of the frame.



## KNIFE PLATE CONNECTOR



# FACADE PANNELLING

DERAKO facade system

**DERAKO**<sup>®</sup>  
Solid Wood Systems



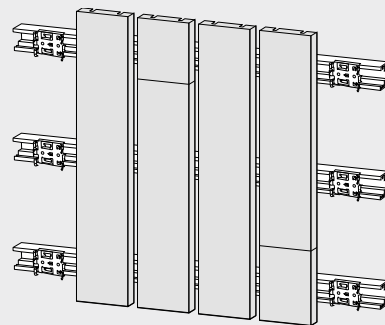
Reference image



Western Red Cedar



De standaard uitvoering met thermisch gemodificeerd grenen en prefab profiel inclusief demontable clips.



## Standaard uitvoering verticaal:

Lamel maatvoering is 20 x 90 mm met een voeg van 10 mm.

Lamellen stramien is 100 mm.

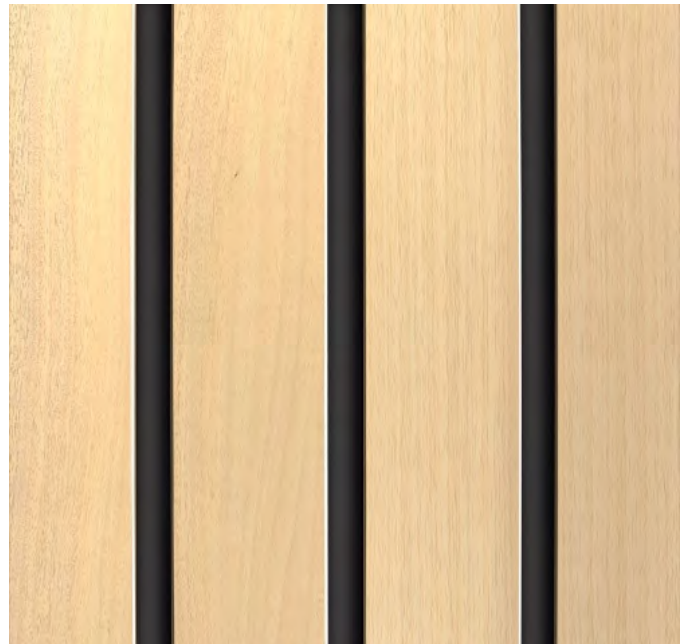
De lamellengte wordt bepaald door de beschikbaarheid grondstof.

# FALSE CEILING IN PAVILIONS

## DERAKO system



Reference image

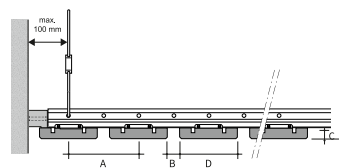


Ayous

- 1 = Massief houten lineair paneel
- 2 = Zwart akoestisch vezelvlies (voorgemonteerd)
- 3 = Lineair profiel
- 4 = Clip (niet demontabel, voorgemonteerd)
- 5 = Paneel fixeerpen
- 6 = Snelhanger\*
- 7 = Nonius hanger (toepassen bij buitenplafond)\*
- 8 = Kopse mes en groefverbinding.

\*Deze items worden niet meegeleverd

Segment voorbeeld



A = Module  
B = Voeg  
C = Paneeldikte  
D = Paneelbreedte

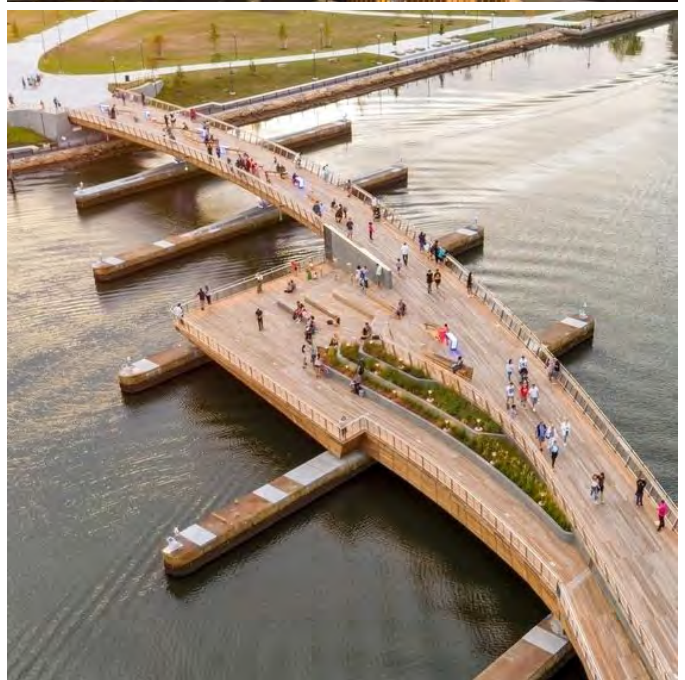
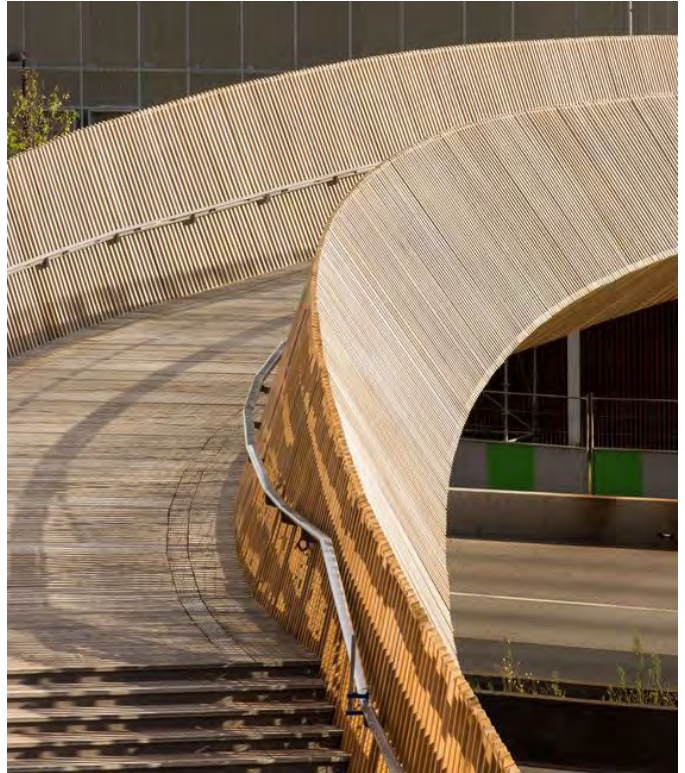






05

# BRIDGE REFERENCES









# BIBLIOGRAPHY

## Images from

- Google Images
- own Photos
- Pinterest
- Website of OMA about Kanal Project (<https://oma.eu/projects/kanal>)
- ArchDaily (<https://www.archdaily.com/>)

## Information from

- Bouwkunde ON6 Brief
- Case Study Booklets
- Google Maps
- Helsinki Brief
- Maritiem Museum, Rotterdam (<https://www.maritiemmuseum.nl/adres-route>)
- Research Booklets P1
- Website of LocHal, Tilburg (<https://lochal.nl/maken-experimenteren>)
- Website of snailspace Brighton (<https://www.snailspacebrighton.co.uk/>)
- Website with Sociale Kaart Rotterdam (<https://www.socialekaartrotterdam.nl/>)
- Pieters Bouwtechniek
- Website of Floornature about Book Mountain (<https://www.floornature.com/>)
- Website of Metsäwood (<https://www.metsawood.com/>)
- Website of ArchDaily (<https://www.archdaily.com/>)
- Website of Heko Spanten (<https://www.hekospanten.nl/>)
- Website of Derako (<https://www.derako.com/>)



2

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# DESIGN JOURNAL



PROBLEM

MUSEUM BRIEF

DEVELOPMENT PRINCIPLES

DEVELOPMENT DESIGN

DEVELOPMENT DESIGN BRIEF

P2 DESIGN

APPENDIX



0

2



**PROBLEM**



# PROBLEM STATEMENT

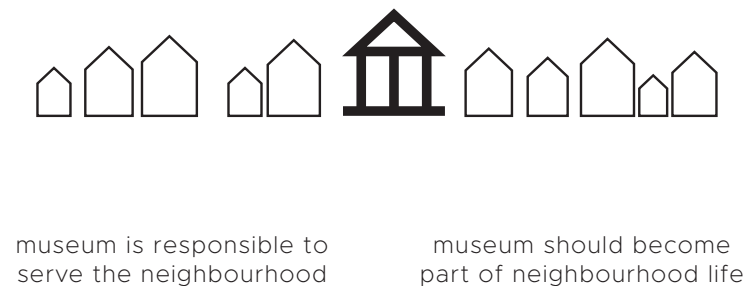
## Museum of today...

The museum of today is made for the general public, it has an international character. Unfortunately, this international character makes it very generic and does not tend to the specific location. The same museum could be standing anywhere and still show the same art. The museums of today are losing their individual identity.



## Museum of tomorrow...

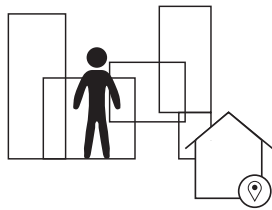
To make the museum more specific to its location and make it for the people living in the area, I want to make a museum that focusses on Locality. The museum is responsible to serve the neighbourhood and be inbedded in it. It should become part of the neighbourhood and the people living there.



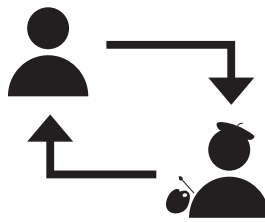
# ANSWER

## Statements

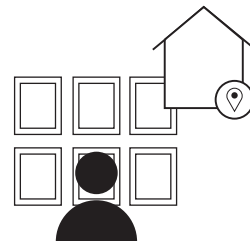
The museum should focus on Locality.  
It should focus on getting local residents to the museum and engage with the museum and the art. The museum will focus on getting local artists to participate with the local visitors by holding workshops and collaborating on future exhibitions. The type of exhibitions held at the museum will deal with the local subject matter (local topics, issues, identity and traditions).



get local people to  
engage with museum  
& art



get local artists to  
participate with the  
local visitors



type of exhibition  
that deals with local  
subject matter



# MUSEUM BRIEF



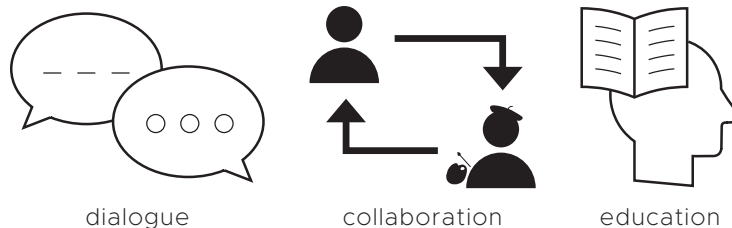
# VISION

## Vision for the building

The museum should be a save space for people to come together, learn and broaden their horizon. And at the same time it should represent the art and the society it lives in. The museum is going to be a meeting place for artists and residents from the city. It is supposed to stimulate the people to engage with art and the artists with the people. The museum should be dedicated to local artists and their works and at the same time to the local community with showing exhibitions themed around the local subject matter. Local can be understood as from Rotterdam Zuid, the city Rotterdam and South Holland and will be further explained in chapter 'local'

### BUILDING

- Museum as a platform to connect residents with each other AND art(ists).
- Be a hub for dialogue and engagement with critical ideas, collaboration with artists and local organizations.
- Be a platform for the local community to come together, learn about art and work together with the artists.



### ART

- Highlight artists from Rotterdam and South Holland and their impact on Dutch and international context.
- Focus mostly on contemporary art from the 20th and 21st century.
- Focus on temporary exhibitions built up around themes that handle local themes, topics, issues and history of Rotterdam.
- Build an archive of permanent art, that can be (re) used for the temporary exhibitions.
- Bring in (permanent) art with competitions.



## Vision for the museum - museum with community oriented functions

The museum will be used as a platform for local subject matter and to highlight artists from Rotterdam and surrounding areas. The focus will be on contemporary art from the 20th and 21st century. The museum will be actively reaching out to the neighbourhood and communities unfamiliar to the art culture, instead of waiting for them to come and participate. To do so the museum will have different projects, workshops and exhibitions to get these people engaged with the artists and the art. These kind of projects and activities will be talked about later. By extending itself into the neighbourhood, I hope the museum can form a platform with a local identity to come together, learn and engage with and from art(ists).

To make the museum specific for its site and location, the museum will focus on local subject matter. The museum will focus on local topics, like issues, the identity and traditions. It will additionally focus on art from artists living in Rotterdam and surrounding areas, including the Netherlands and artists that have a connection with the city. Furthermore, it will have exhibitions that concern the people living in the area, Rotterdam and especially neighbourhoods in the South of the city. These could include exhibitions about the Rotterdam harbour, the working class in the city or about immigrant groups living in the South.

With these exhibitions, the museum will be able to collect art over time and store in its archive. This art can then be reused for different exhibitions in the future. The exhibitions will be very diverse in size, duration and art forms.



actively reaching out into neighbourhood

# LOCAL

## What does local mean for this museum? Community & artist

To make this museum more specific for the location, the city Rotterdam, it will focus on the locality, on the local subject matter.

The primary focus of the local area will be Rotterdam Zuid with a close secondary focus of Rotterdam. However, locality can also be seen as South Holland and going so far as even sometimes the whole of the Netherlands.

### ARTISTS

Artists can be from the whole of the Netherlands. However, in general it will focus on artists born in the area or currently living here. However, it can also go further into artists who have lived here, take big inspiration from the area or who have any form of connection to the area.

### VISITORS

The building is going to be a museum with community related functions. The museum wants to reach out into the neighbourhood and city – thinking of Rotterdam Zuid and Rotterdam – to get the people involved in the museum, engaged with art and local themes.

### THEMES

The museum will focus with its exhibitions and workshop themes on the local subject matter. This can be seen as any themes relating to the city Rotterdam, the residents living here or interests shown by visitors. Examples would be the harbour of Rotterdam (history), the local music scene in Rotterdam Zuid (music), about the working class or immigrant groups and many more.



# VISITORS

## Expected visitor groups

The museum will focus on visitors for the community related spaces (Labs) and their activities, on visitors to the museum, on artists that collaborate with the museum and additionally on visitors to the café and restaurant.

The biggest expected group for all of these functions are visitors from Rotterdam and surrounding areas. However, the museum will additionally expect day trip tourists from all of the Netherlands, as well as a few international tourists that come for a specific reason. This reason could be interest in the architecture of the building, in a specific exhibition the museum is viewing or the collaboration happening in the museum.

The Labs will be focussing on visitors from Rotterdam and surrounding areas with a few exception from the whole country. This is because of accessibility and the size of the group. The planned lectures, symposiums and performance will have a wider range of expected visitors (the Netherlands) because these can have a larger group attending and will probably appeal to a larger group of visitors.

The café will mainly host visitors to the building/museum. In summer months it will also function as a bar and have seating outside viewing over the waterfront. During these months the museum expects visitors that solely come for this function. Therefore the 'sneak peek exhibition' will function as a pull effect to get the visitors interested in the museum as well.

The restaurant will mainly focus on visitors from Rotterdam and tourists that only come for this specific function. Here again the 'sneak peek exhibition' will function as a pull effect to get the visitors interested in the museum as well.

The museum, labs, workshops and lectures will be for people of all ages and educational background. To achieve this they will differ in topics and display to accommodate the different age groups.



# COMMUNITY

## Activities

**'LEARNING, COMMUNICATING, COLLABORATING, CRITICAL THINKING, CREATING AND EXPERIMENTING'**

By reaching out into the neighbourhood, offering different activities and involving artists and non-artists, the museum hopes to get many local visitors to come to the museum and engage with art. The museum will focus with their activities and exhibitions on the local subject matter and always keep art in mind.

These activities will be held around a specific topic and will keep 'learning, communicating, collaborating, critical thinking, creating and experimenting' always in mind.

To achieve these goals, the activities will range from lectures to workshops. The responsible person employed by the museum, will organize these activities always in collaboration with other parties. The activities will include lectures, workshops, meet-ups, discussions, lessons (musical instrument, art lessons, acting etc.), curating exhibitions and more.

The spaces to hold these activities, will have interiors specific for the different kinds of projects held in them. Examples can be studio spaces for painting or making sculptures, rooms ventilated well enough to work with casting or spray painting or rooms with wood working machines.



local

## Program

The museum is supposed to be a platform for people to come together and learn with and from each other. It will be reaching out into the neighbourhood and the city to get people to the museum and engage with the art and artists, instead of waiting for visitors to come. To achieve this the museum will have dedicated spaces for these (community related) activities.

### AUDITORIUM

The museum will have a multifunctional auditorium. This can be used by the museum for exhibitions and for community related activities. The room can host lectures, performances, symposiums, presentation or events. This space will be very flexible in how it is used.

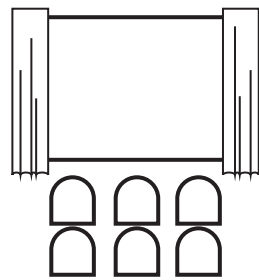
### LABS

The museum will have different labs focussing on a specific topic.

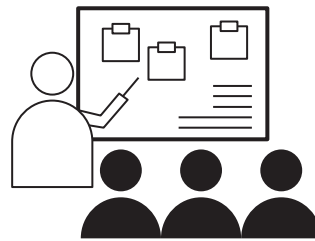
These spaces are rooms with interior dedicated to its specific topic. Here groups can hold discussions about a theme, hold workshops, have talks and more.

### ORGANISATION

The museum will have someone (or more) responsible for activities happening in these rooms. This will be organized cooperatively with other parties. The idea can come from anyone, visitor to the museum, people living in the neighbourhood, artist, business etc.



auditorium



LABS

# ART DISPLAY

## Curatorial Program

### EXHIBITION

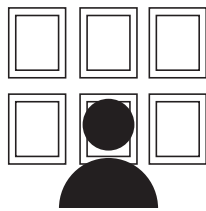
The exhibition rooms need to be able to exhibit many kinds of mediums and made therefore flexible in use. The majority of the rooms will have (diffused) daylight with some exceptions of a possibility with no daylight coming in.

### AUDITORIUM

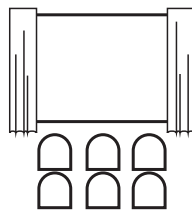
The museum will have a multifunctional auditorium. This can be used by the museum for exhibitions and for community related activities. The room can host lectures, performances, symposiums, presentation or events. This space will be very flexible in how it is used.

### ARCHIVE & MANAGEMENT

The building will have a climatized, on-site archive to be able to store art they acquired over time and to offer an archive for art by already deceased artists.



exhibition



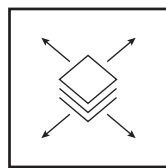
auditorium



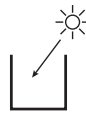
archive

### EXHIBITION SPACES

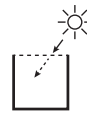
- flexible to hold many different art forms
- majority will have (diffused) daylight with the possibility to have rooms with no daylight



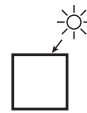
flexible  
exhibition space



daylight



diffused  
daylight



no  
daylight

## Theme of the art

### EXHIBITIONS

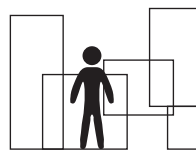
The exhibition spaces will hold temporary exhibitions of different kinds of art forms. These can include paintings, sculptures, video, digital art, photography, collages of drawings etc. To be able to hold all these different mediums, the exhibition spaces need to be made diverse in use.

The exhibitions change on a regular schedule, featuring bigger and smaller exhibitions, as well as longer and shorter exhibitions. The art shown can be travelling art exhibits or specifically designed for the museum, together with results from workshops and symposiums happening at the museum.

### CONTENT

The exhibition spaces should engage the viewer with art. While curating the exhibitions, the social interaction and experience of the art should be kept in mind.

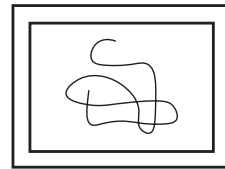
In terms of content and what the museum will exhibit, the museum will have a very diverse art display. The content will be based around themes that concern the local subject matter and can change in form of display a lot. It will focus on contemporary art from Rotterdam with exceptions made.



engage with art



local themes



contemporary art

### ART WORKS

Because of the temporary, very diverse exhibitions the art work will be made of many different mediums.

- paintings
- sculptures
- video, film
- digital art
- photography
- collages of drawings etc.

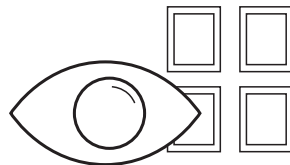


# ART DISPLAY

## Sneak peek exhibition

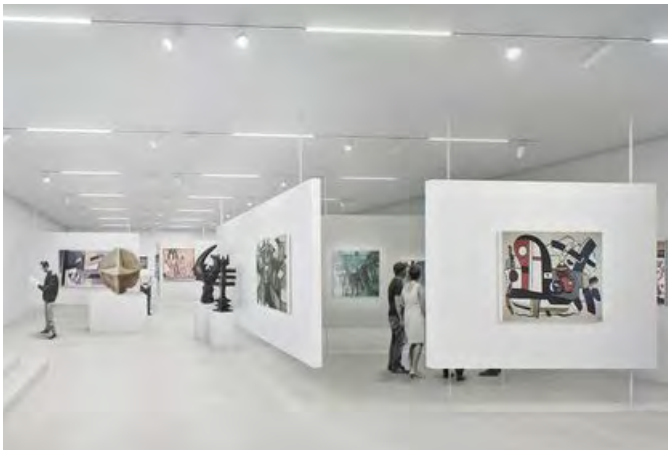
The museum will have a 'sneak peek exhibition', which will function as a pull effect to get visitors that come for other functions of the building besides the museum, interested in the museum. This exhibition space will be placed in a very central space, in order that visitors will always pass it and engage with it.

It will be an opportunity to invite the visitors further into the museum and help them break the barrier of entering it. It will be open at all times and exhibit a small part of the exhibitions happening at the time in the building or give an introduction to it.



'sneak peek exhibition'

## References



Different kinds of walls to exhibit art & Unconventional art display



# PROGRAM

## Visitor amenities

### MUSEUM STORE

A museum store will be located near the exit and open to everyone. It will consist of a selection of items from designers from Rotterdam Zuid and museum-related and artist-related books. Furthermore it will have exhibition catalogues and other specialized merchandise.

### CAFÉ

The building will have a cafe, that offers something to drink and a small snack like cakes, sandwiches or soup. During warm weather it will be open later and function as a bar with outdoor seating at the waterfront. This way it can attract visitors that are not coming specifically for the museum.

### RESTAURANT

To also include a night time activity and keep the building liveable after museum hours, a formal restaurant will be included in the building with a nice view over the city. To still keep the connection between all visitors and the museum a small exhibition space will be kept open at all times (the sneak peek exhibition) and in view for the visitors while getting to the restaurant.

### COAT CHECK & LOCKERS

At the ground floor, nearby the entrance there will be self-service lockers and a staffed coat and back-check counter.

## Additional Program

### OFFICES

For the staff there is going to be an open- office space and meeting rooms. Other spaces like break-out spaces, kitchenette and printing rooms should be provided.

### TECHNIQUE

The museum will have technical rooms to accommodate the perfect climate for the exhibitions rooms.

### MAINTENANCE

The museum should be designed with practicality in mind. Surfaces need to be easy to clean, durable and easy to maintain. Fittings and service equipment need to be easily replaced or repaired, but with a long life expectancy.

### ACCESSIBILITY

The building needs to be accessible to everyone. Ramps and lifts need to be placed in logical positions. The experience of the building should be equal to all, regardless of age or physical ability.



# INDOOR ENVIRONMENT

The indoor environment of the exhibition spaces should have a temperature of 22°C +/- 2,5°C with a relative humidity of 51% +/- 5%. The ventilation of the rooms should be of good quality.

The exhibition rooms should have a clean and flexible look. Most of the rooms will have (diffused) daylight with some exceptions.

The offices will have a climate between 20 and 28°C. Ventilation will be 25m<sup>3</sup>/h per person. The office space will have a lot of daylight to improve working quality.

The archive will have a warm cave climate and keep the temperature between 16 and 20°C. The relative humidity in these rooms need to be kept to 50% +/- 10%. The archive will have no daylight and a system to keep all works well organized. It will be closed off from the public and only accessed by authorized personnel.

The public spaces, like restaurant, café, foyer etc. will have an average climate with no specific restrictions. These rooms will have a lot of natural daylight and a friendly open feeling. These spaces will have views to the surrounding city and waterfront outside. Acoustics should be carefully considered in these spaces.





# **DEVELOPMENT PRINCIPLES**

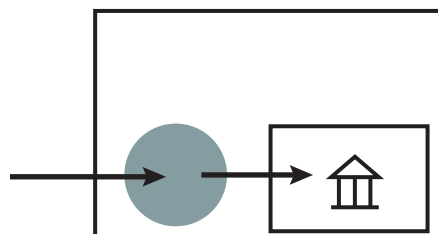


# ATTRACTING VISITORS

To prevent that visitors that come to the building for functions other than the museum (ex. community functions or public functions) get disconnected from the art museum and not visit the museum, there will be a sneak peek into the museum. An opportunity to invite the visitors further into the museum and help them break the barrier of entering it (and with this paying for the museum).

There will be an open and free exhibition at all times. This exhibition can specifically represent one or multiple exhibitions at the time happening in the museum or be a more loosely connected art display to the exhibition. It should engage and captivate the visitor of the building with art and intrigue them to visit and see more of the museum.

To enhance this intention of the open exhibition, it needs to be situated fairly central and be a connecting part of different functions in the building. This free and public exhibition space can be situated in a central atrium that functions as the entrance space and connecting room to other functions in the building.



should...

attract visitors from outside into the building  
AND  
pull visitors to enter the exhibitions

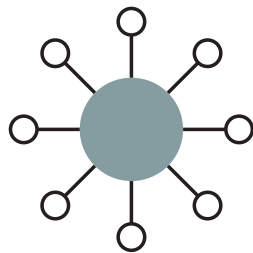
## What is ● ?

This multifunction room will be a place to meet and connect with other people. It will function as a pull effect to get visitors that come for other functions interested in the museum. For this to happen freely accessible exhibition space will be placed in the space.

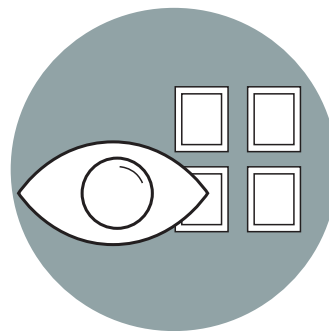
To ensure everyone comes past the exhibition spaces, the place will be a very central space in the building and connect all other functions to each other. This will lead to visitors always passing it and engaging with it.

The space will be like a public plaza. It will be open and freely accessible.

The sneak peek exhibition will exhibit a small part of the exhibitions happening at the time in the building or give an introduction to them to make visitors interested in the exhibition happening in the museum.



central point in building

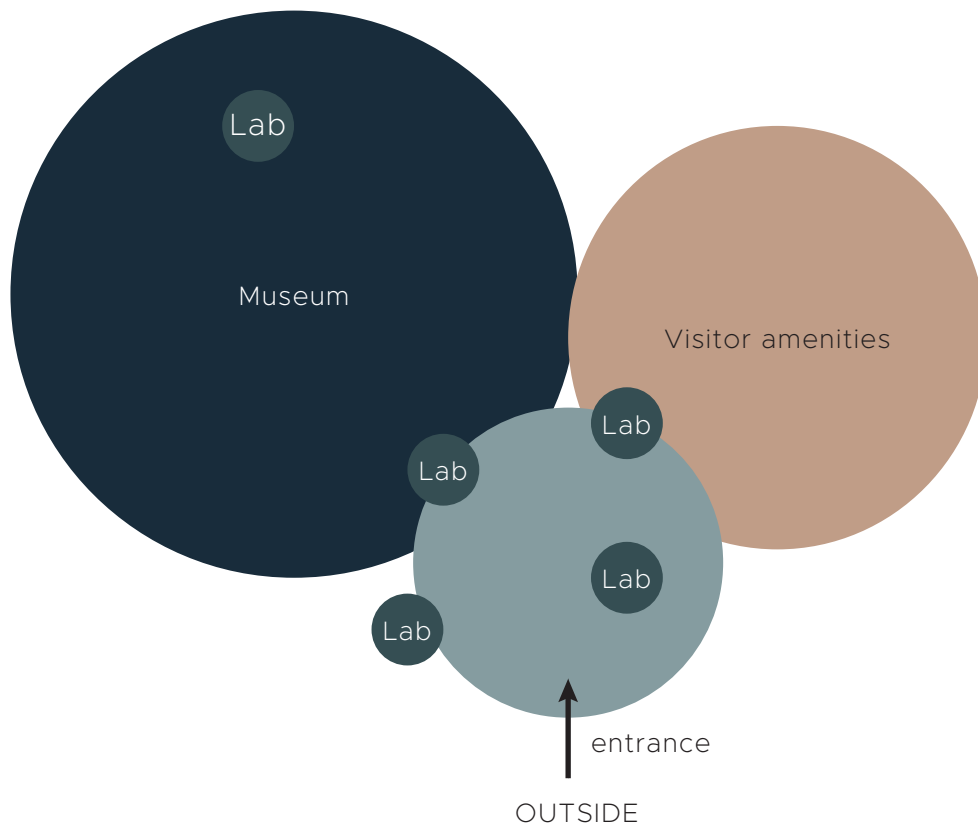


sneak peek exhibition

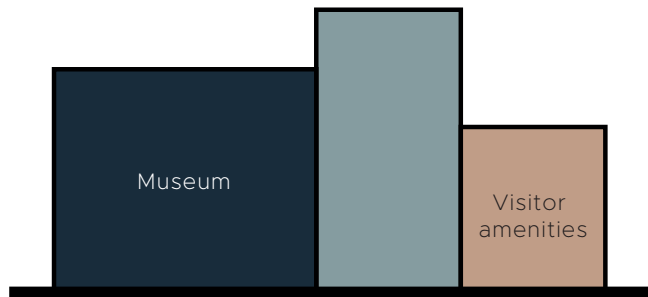
# ATTRACTING VISITORS

How could  function?

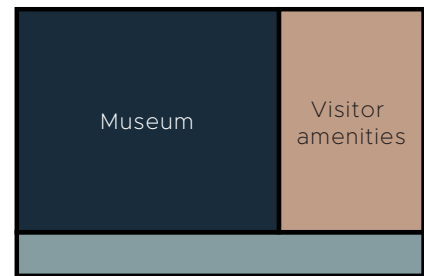
SPATIAL RELATIONSHIP



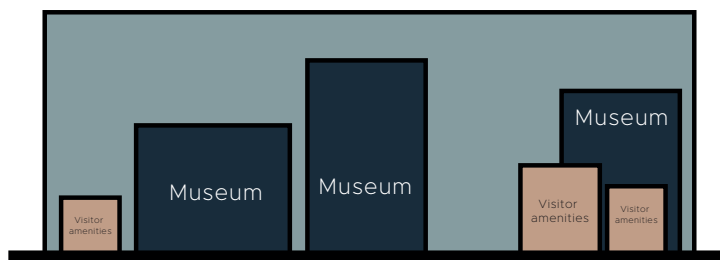
## DESIGN CONFIGURATIONS



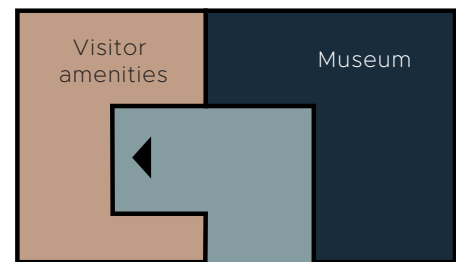
Atrium model



Hallway model



Cubes with big roof



Open plaza model



# LABS

Look at chapter 'Case Study - LocHal' & 'Moodboard - LABS' in Research Book for a case study and reference pictures

The museum will have different labs focussing on a specific topic.

Interior dedicated to its specific topic

Groups can hold discussions about a theme, hold workshops, lectures and more.

## OPTIONAL LABS

### StudioLab

will focus on painting, sculpturing

### CastingLab

room with good ventilation

for casting, spray painting etc.

### WoodLab

will have different kind of wood working machines

### DigitalLab

will have 3D printers and other technologies to make art with

### PerformanceLab

will focus on acting

will be bigger with a small stage

### CuratorLab

will focus on teaching/learning how to curate an exhibition and work together on future exhibitions

# EVENTS

Look at chapter 'P2 - Case Study - Art Installation, Sussex' in Research Book for a case study of an art installation in the neighbourhood

Events will be part of the museum experience to enhance the engagement of artists and the residents of Rotterdam Zuid and the city.

## ART COMPETITION

The museum will hold an art competition once a year, where artists and non-artists, young and old can participate in different categories. These competitions will hold a theme every year.

There could additionally be a more architecture related competition, where pavilion gets designed with the winner getting it build and put in front of the museum.

## ART FAIRS & ART FESTIVALS

Additionally art fairs and art festivals will be held to engage the public even more with the museum.

## ART INSTALLATION NEIGHBOURHOOD

A special event the museum organizes will be an art installation, where residents and artists can design art for the neighbourhood. This could be similar to the 'Snailspace' (2018) or 'Snowdogs by the sea' (2016) art installation organized in Sussex.

# MANIFESTO

## Final Manifesto









# **DEVELOPMENT DESIGN**

# SKETCHING

## First Ideas

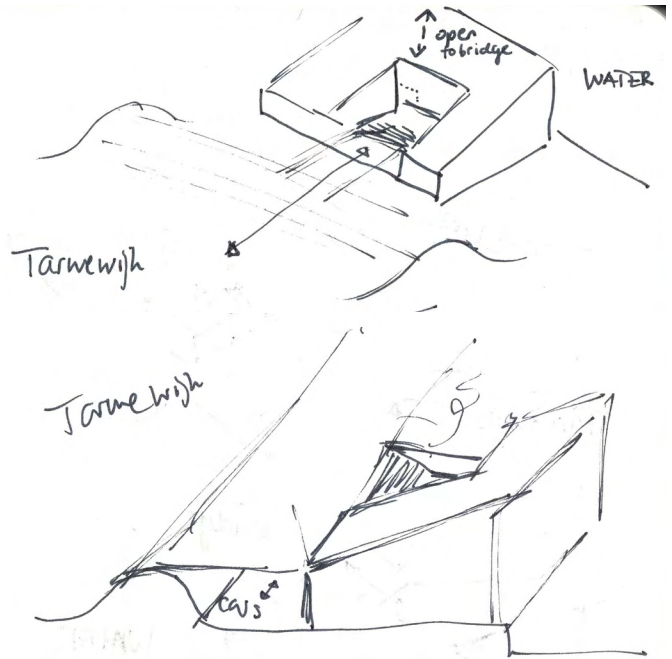
### IDEA A

- extend neighbourhood to museum
- use point roofs next to each other but one big building underneath
- different functions
- different materials
- open & closed -> depending on function



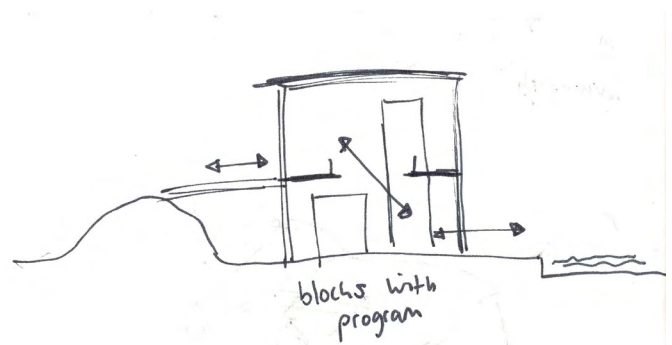
### IDEA B

- connection to neighbourhood over dyke
- cars hidden underneath
- people enter the building from dyke going down to plaza
- roof



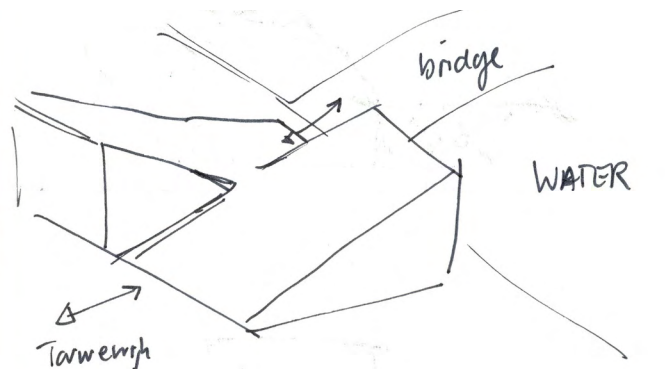
### IDEA C

- Building on 2 floors
- entrance on upper floor from neighbourhood via dyke
- entrance from bridge on ground floor from water side
- connection in building



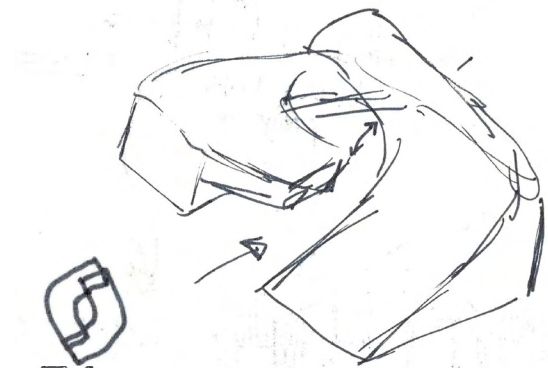
### IDEA D

- same importance to connection to bridge & neighbourhood
- make building symmetrical
- ramp on both sides going up and connecting in middle



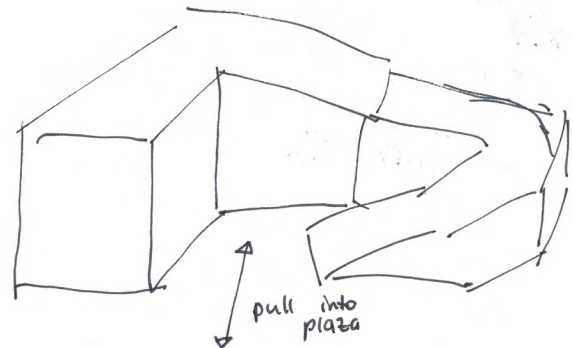
#### IDEA E

- same importance to connection to bridge & neighbourhood
- make building symmetrical
- twisting ramp going up with plaza in middle



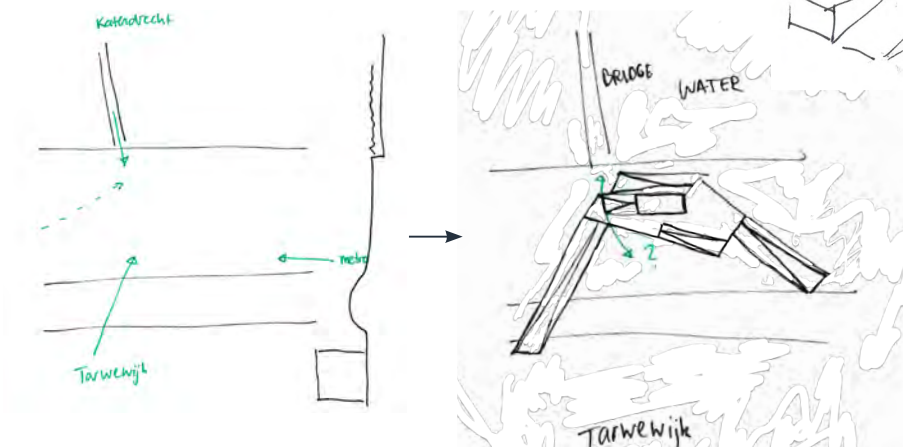
#### IDEA F

- plaza with slope around going upward
- connection only to one side



#### IDEA G

- ramps and different levels



#### IDEA G

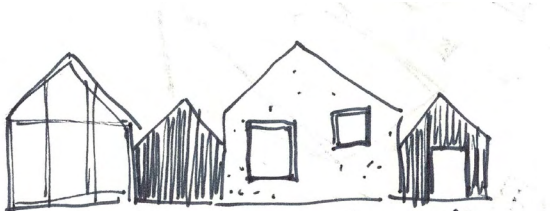
- different blocks of program with one big roof on top



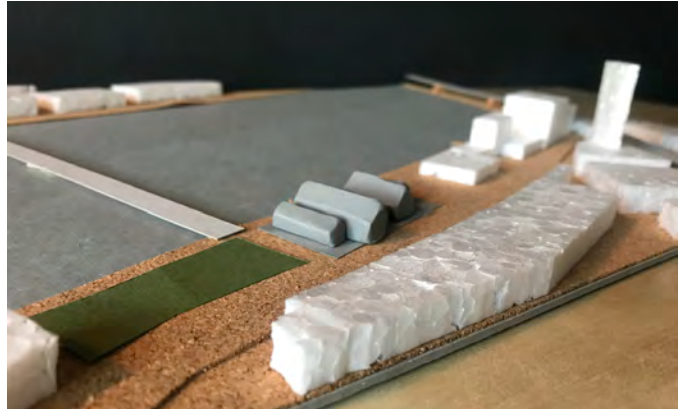
# DESIGN IDEAS

## Analyse

### IDEA A

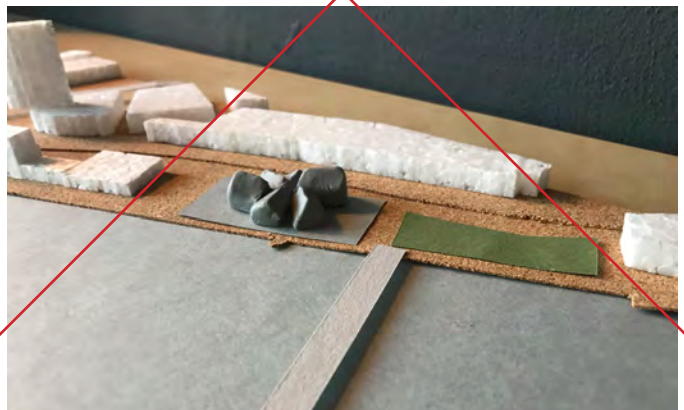
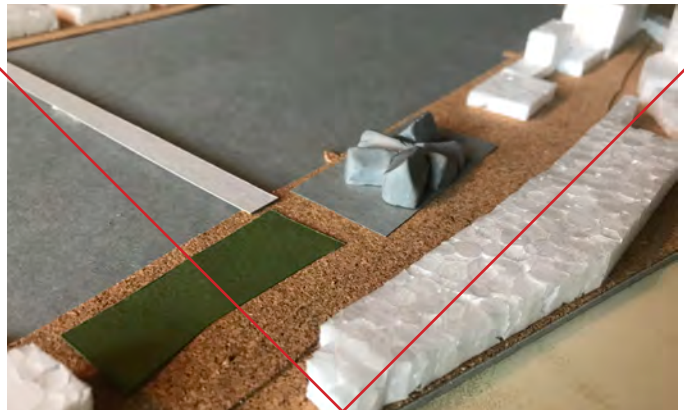


- + visual connection with residential neighbourhood
- + different functions & materials per 'building' possible
- + open & closed possible per function
- how to implement multifunctional room? atrium?
- does it radiate 'museum'?



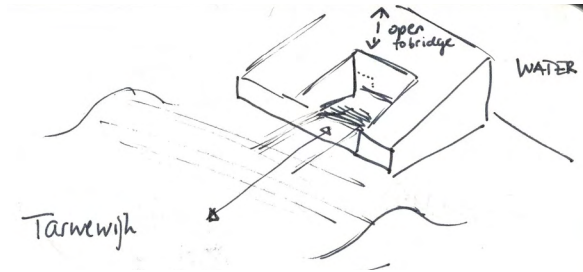
### IDEA A2

- option on parallel houses
- + different functions & materials per 'building' possible
- + open & closed possible per function
- looks weird
- does not radiate 'museum'





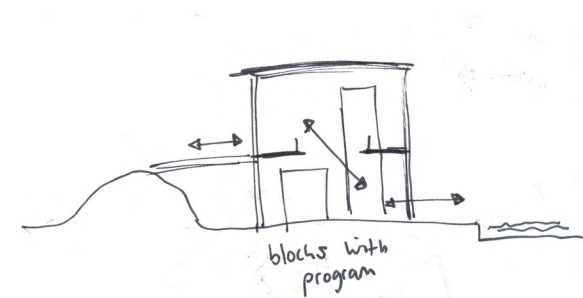
## IDEA B



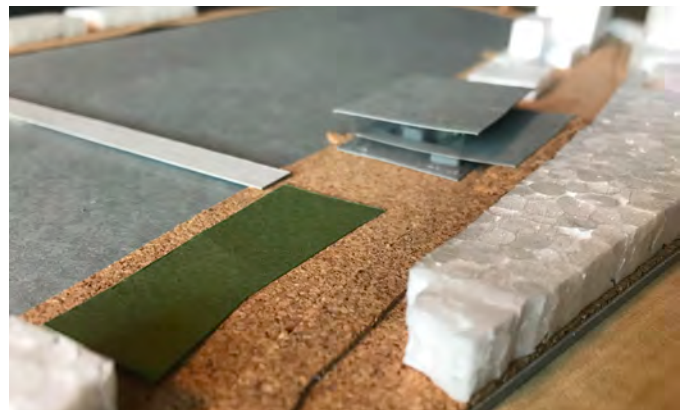
- + walkable connection with neighbourhood over dyke
- + view to water ->
- is big view necessary for museum?



## IDEA C



- + walkable connection with neighbourhood over dyke
- + open space in building
- + program can be distributed in squares
- better connection with bridge possible?

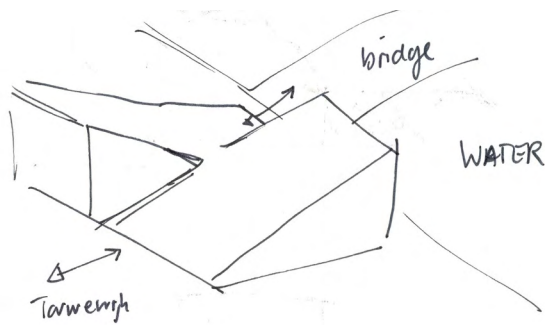




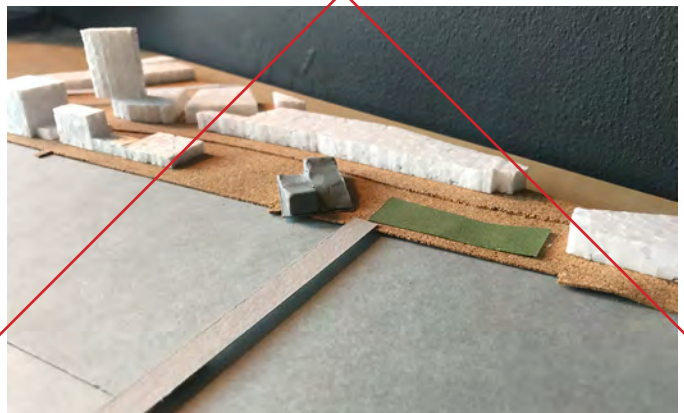
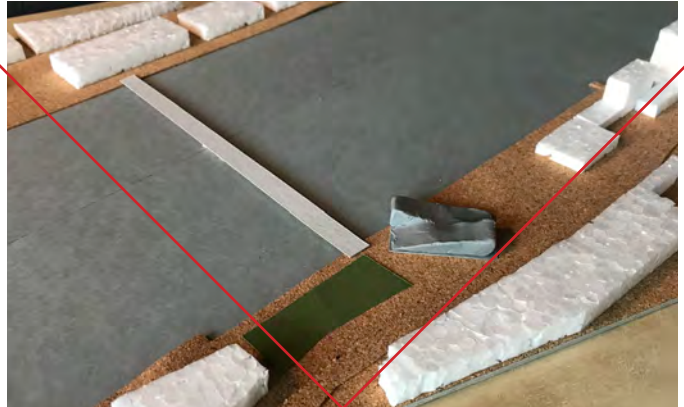
# DESIGN IDEAS

## Analyse

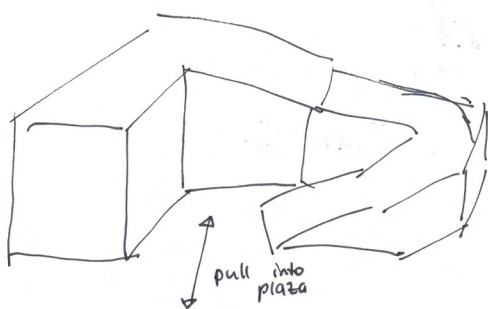
### IDEA D



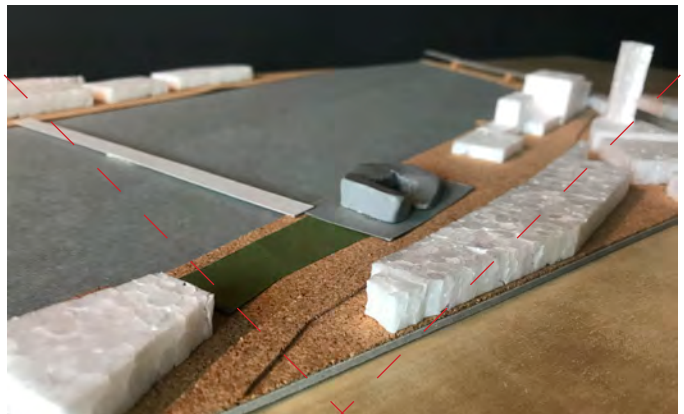
- looks weird



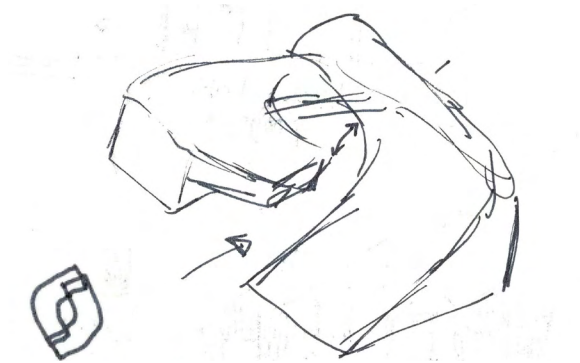
### IDEA F



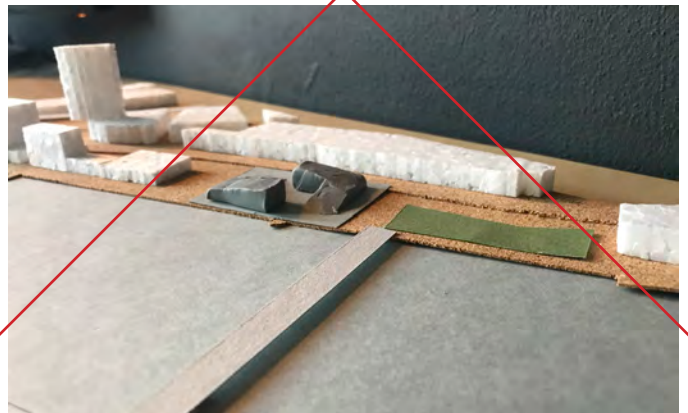
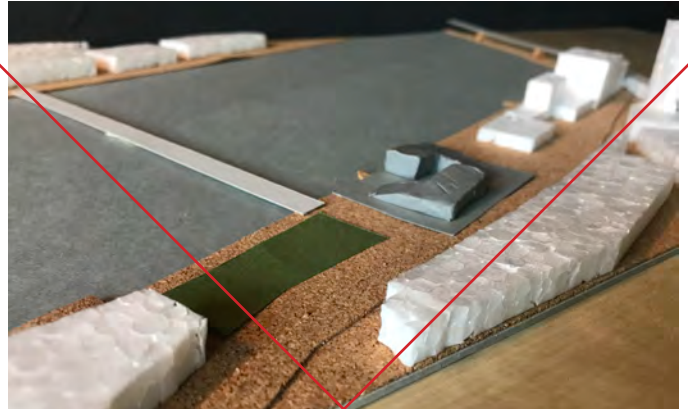
- + plaza to pull people to museum
- + roof accessible from ground floor
- closed off to water/ no connection to plaza



## IDEA E

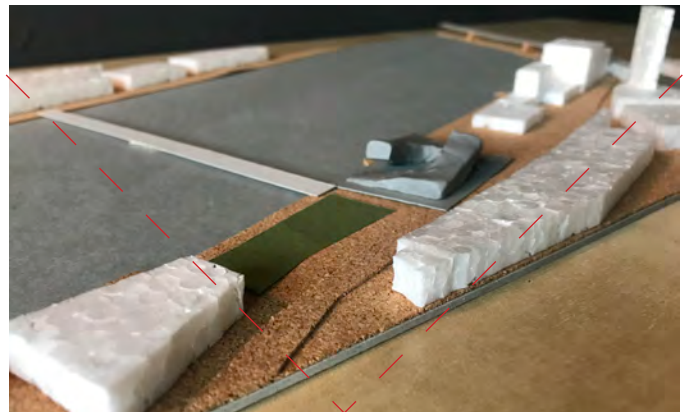


- + plaza connected with street side and water side
- + roof accessible from ground floor
- two separate buildings
- looks weird



## IDEA E2

- + plaza connected with street side and water side
- + roof accessible from ground floor
- less separate but still separate buildings

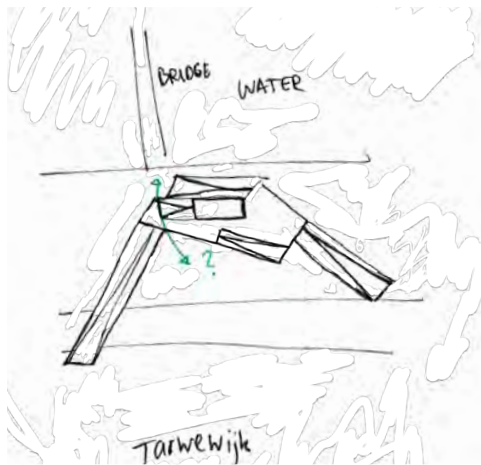




# DESIGN IDEAS

## Analyse

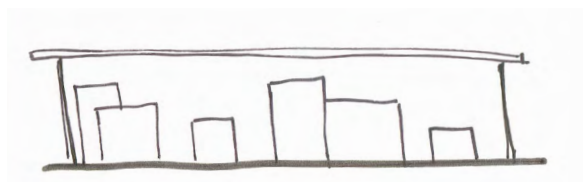
### IDEA G



- + walkable connection to bridge, neighbourhood & metro
- + plaza in front
- does it look like a museum?



### IDEA H



- + big multifunctional space around blocks with program
- + program can be distributed in squares
- connection with neighbourhood?

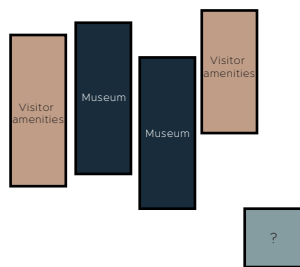
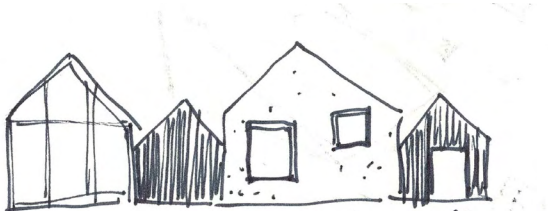




# DESIGN IDEAS

## Favourites

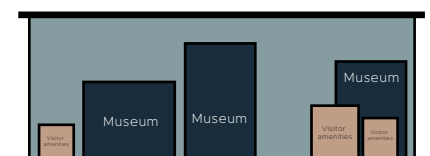
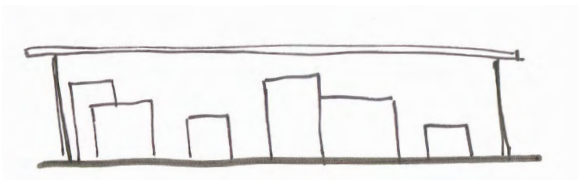
IDEA A -> DESIGN 1



Cubes with big roof

### ***Neighbourhood Art Centre***

IDEA H -> DESIGN 2

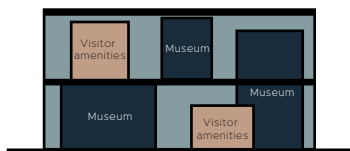
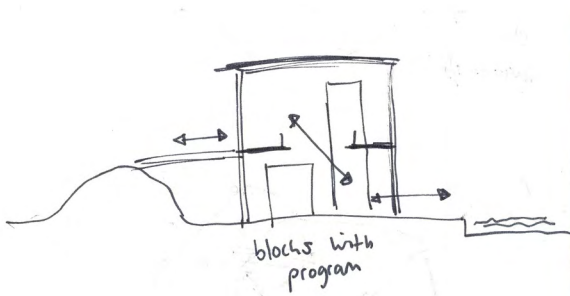


Cubes with big roof

### ***Rotterdam Art Centre***



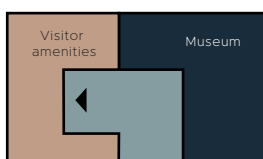
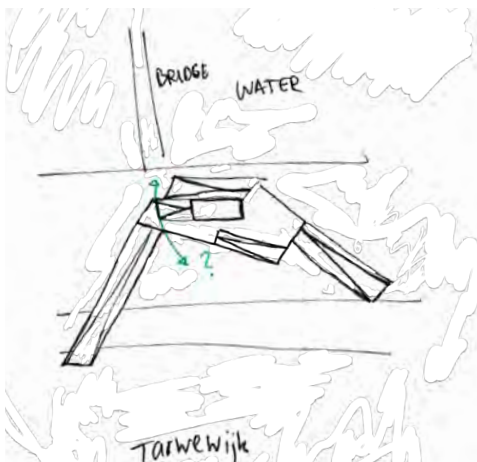
IDEA C -> DESIGN 3



Cubes with big roof

## Neighbourhood Museum

IDEA G -> DESIGN 4

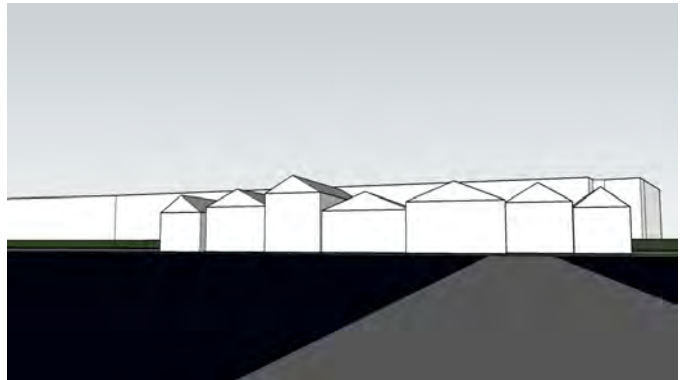
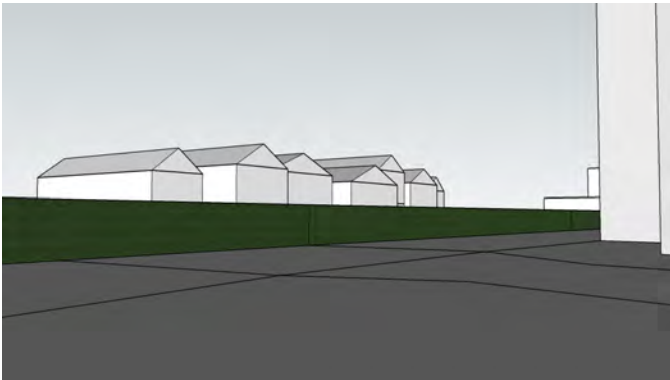
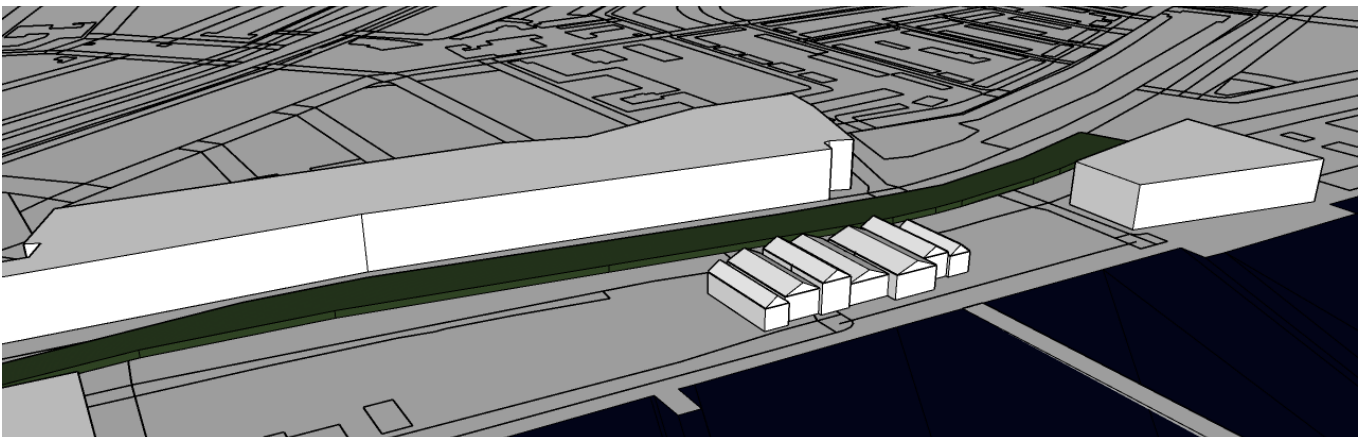


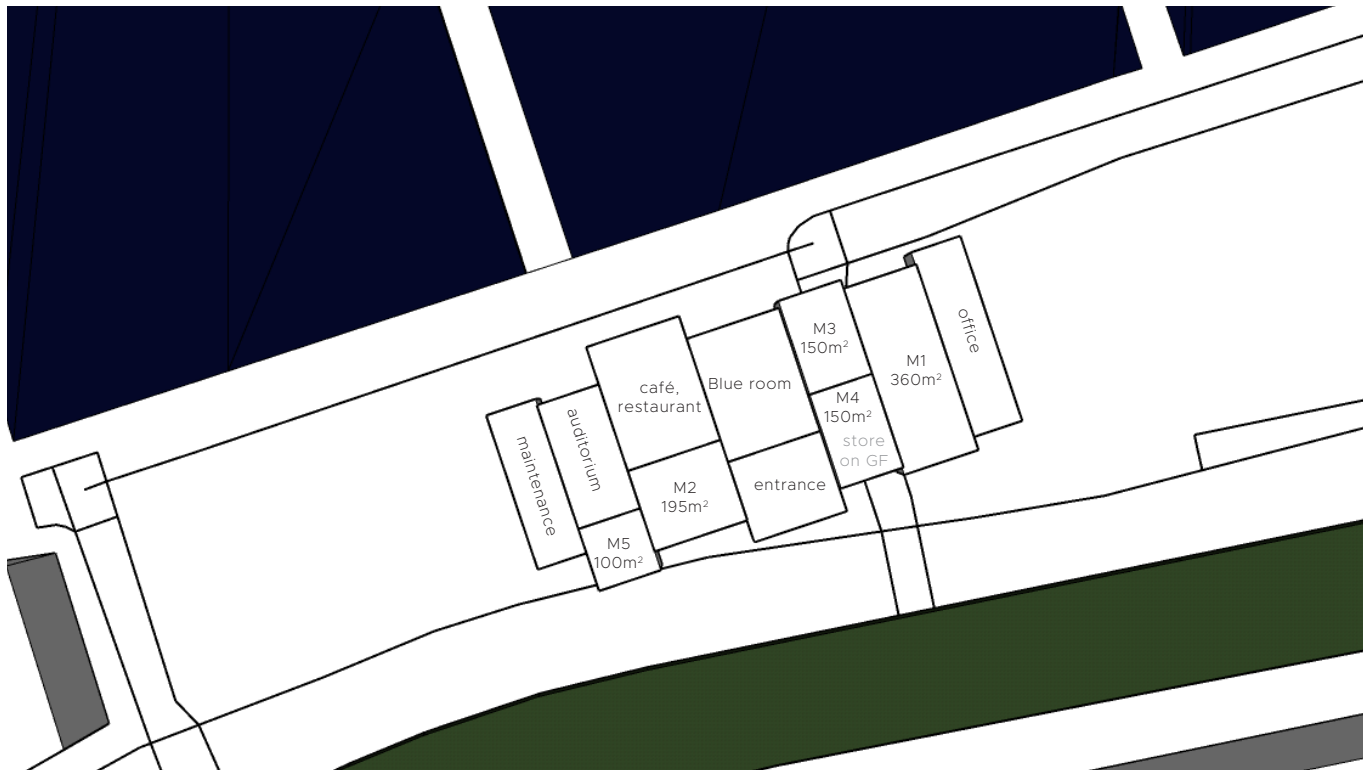
Open plaza model

## Rotterdam Museum

# DEVELOPMENT 4 DESIGNS

## Design 1 - *Neighbourhood Art Centre*





Floor Plan

## STRENGTHS

- visual connection with small scaled housing of neighbourhood
- Design very explosive
- the spereate 'buildings' can be designed specific for its program (width, length and height)

## WEAKNESS

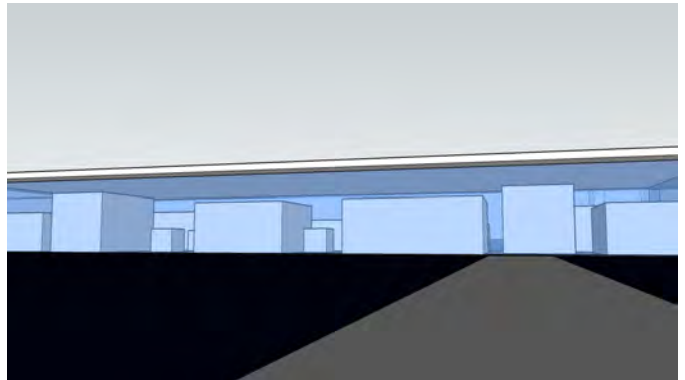
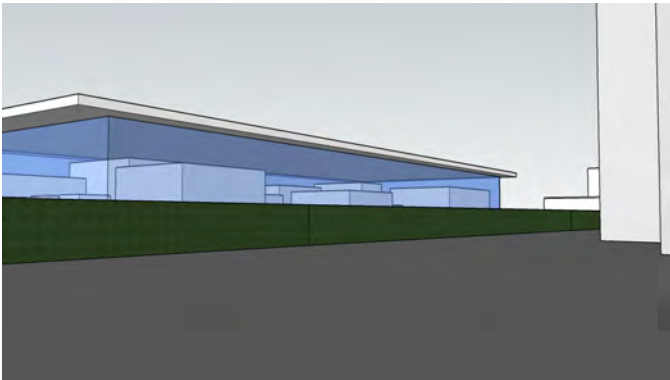
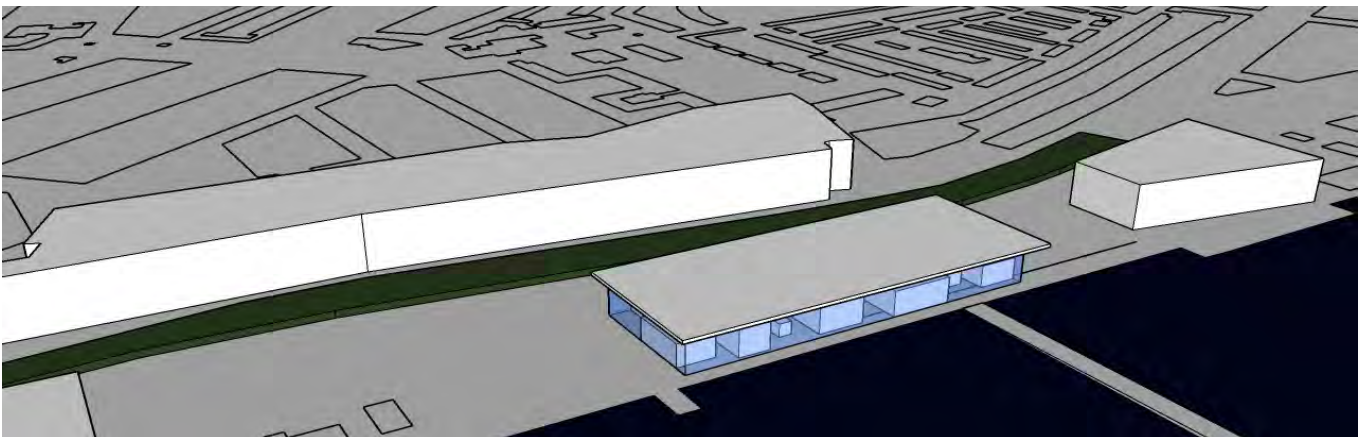
- How to connect the different programs with each other? - Routing
- How to implement multifunctional room? - Blue room
- not very specific for location

## NEIGHBOURHOOD ART CENTRE

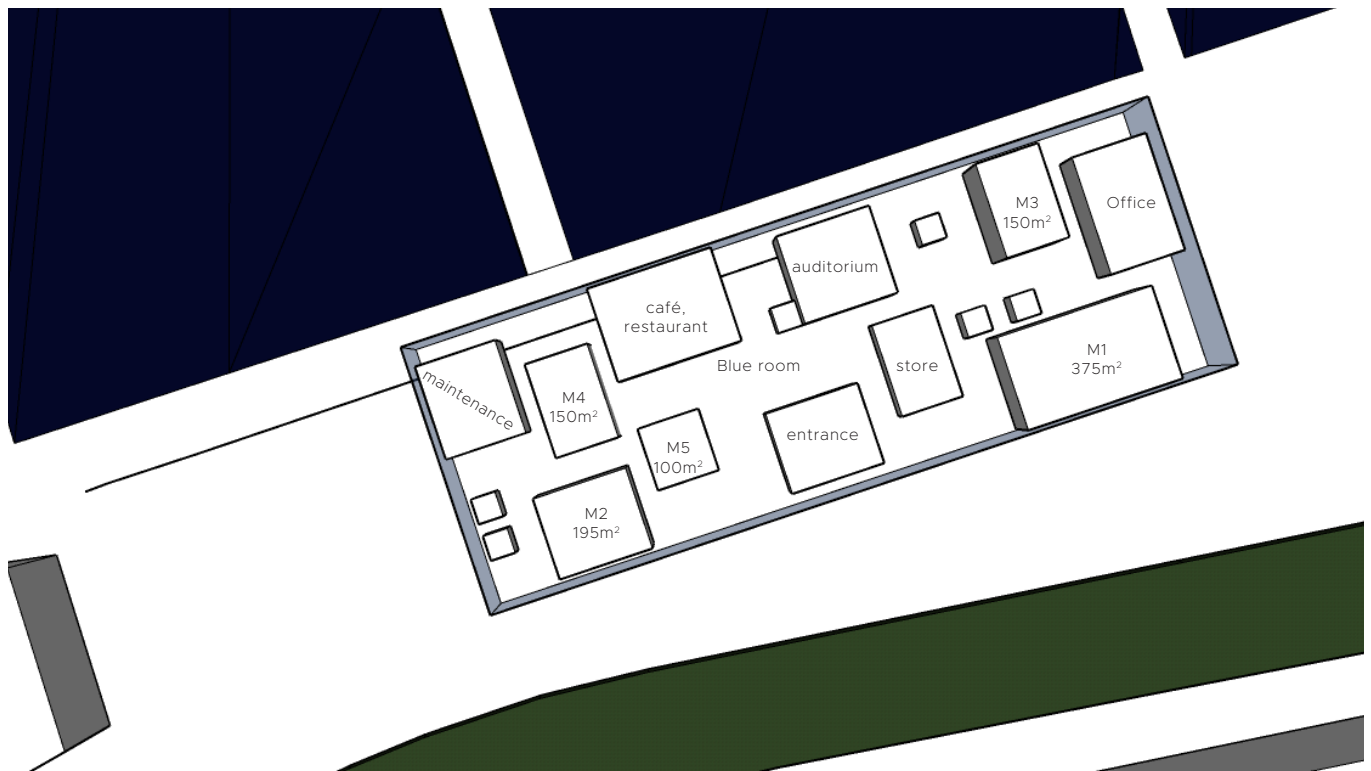
- With its design referencing to the neighbourhood, the museum is well implemented in the neighbourhood. Furthermore it is kept small scaled and functions more like an art centre than a museum.

# DEVELOPMENT 4 DESIGNS

## Design 2 - *Rotterdam Art Centre*







Floor Plan

### STRENGTHS

- Design could be based on a storage hall -> reference to harbour and history of wheat storage in Tarwewijk
- rooms can be designed specific for its program (width, length and height)
- multifunctional space (blue room) wide spread and can be used in many different ways

### WEAKNESS

- Why this design on the location? not very site specific yet
- how to divide payed spaces from free space

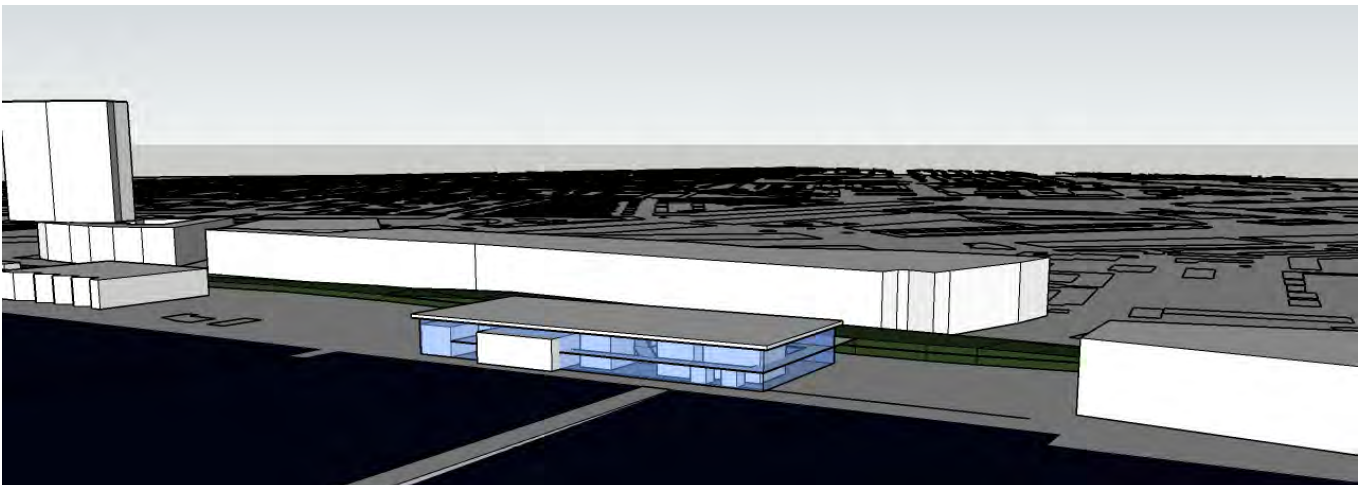
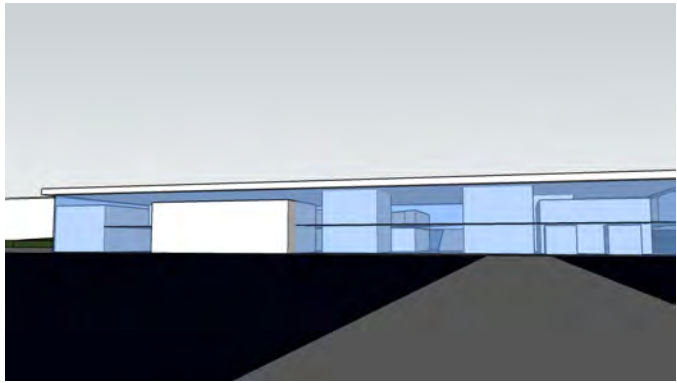
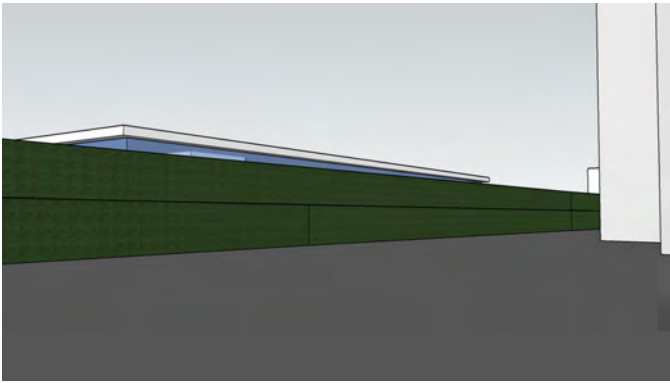
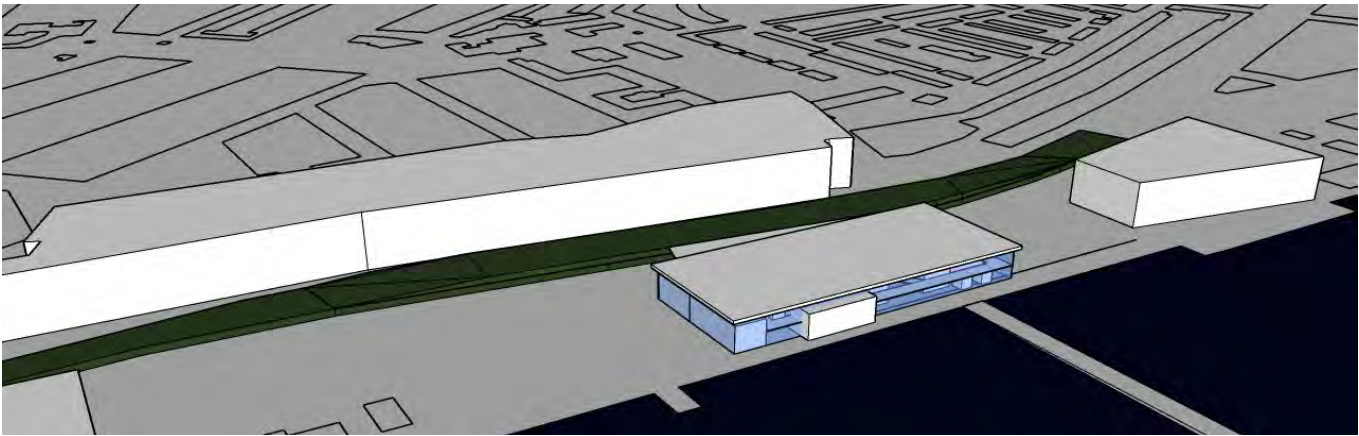
### ROTTERDAM ART CENTRE

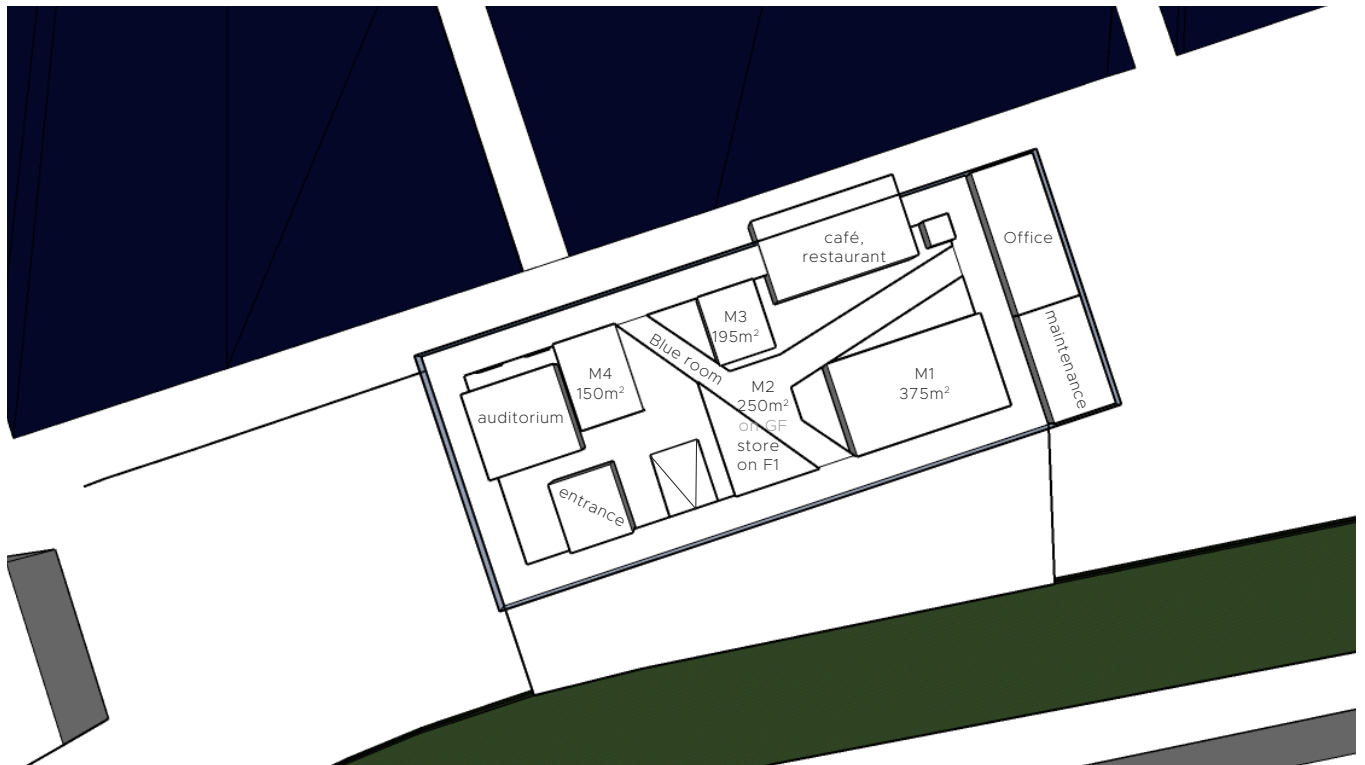
- Museum radiates a more international feeling because of its not site specific design and at the same time because of all the functions in the building feels like an art centre



# DEVELOPMENT 4 DESIGNS

## Design 3 - *Neighbourhood Museum*





Floor Plan

### STRENGTHS

- Connection from neighbourhood (dyke) and from water side on different levels
- Design is very flexible and go in a lot of directions
- rooms can be designed specific for its program (width, length and height)
- multifunctional space (blue room) wide spread and can be used in many different ways

### WEAKNESS

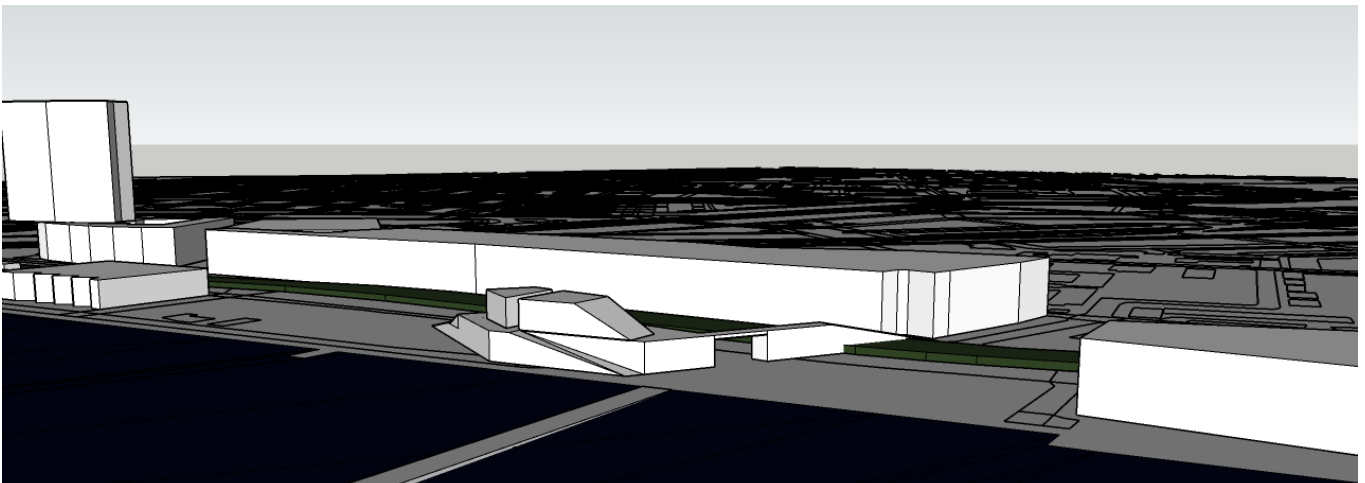
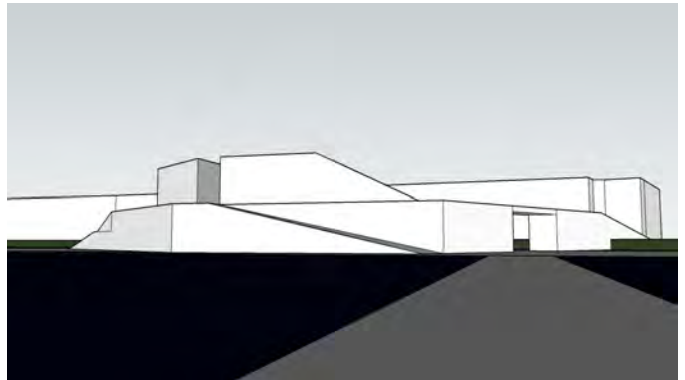
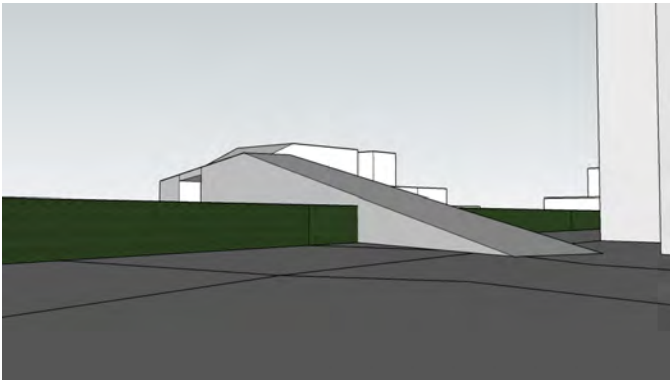
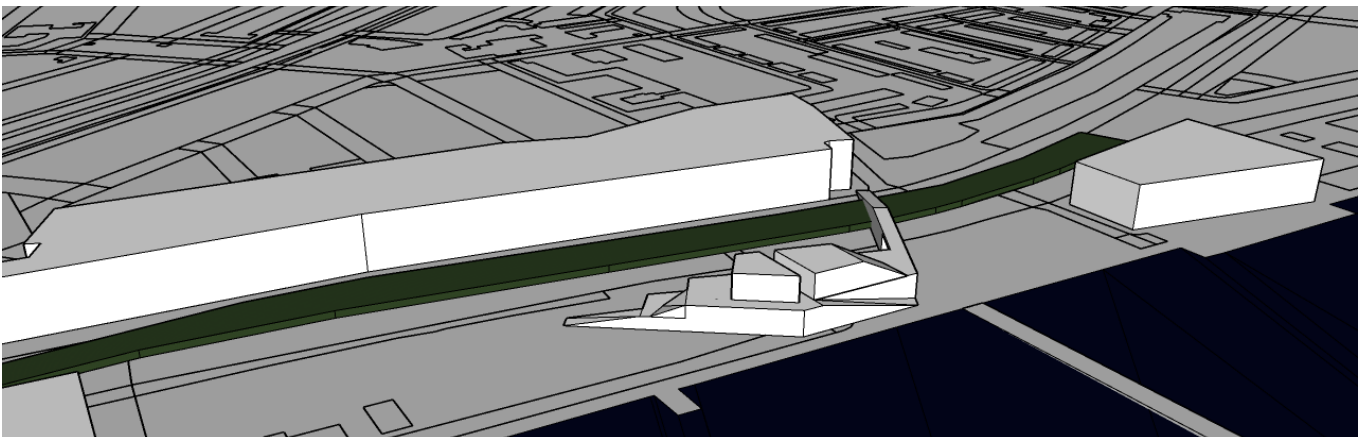
- how to divide payed spaces from free space (maybe with different floor levels?)

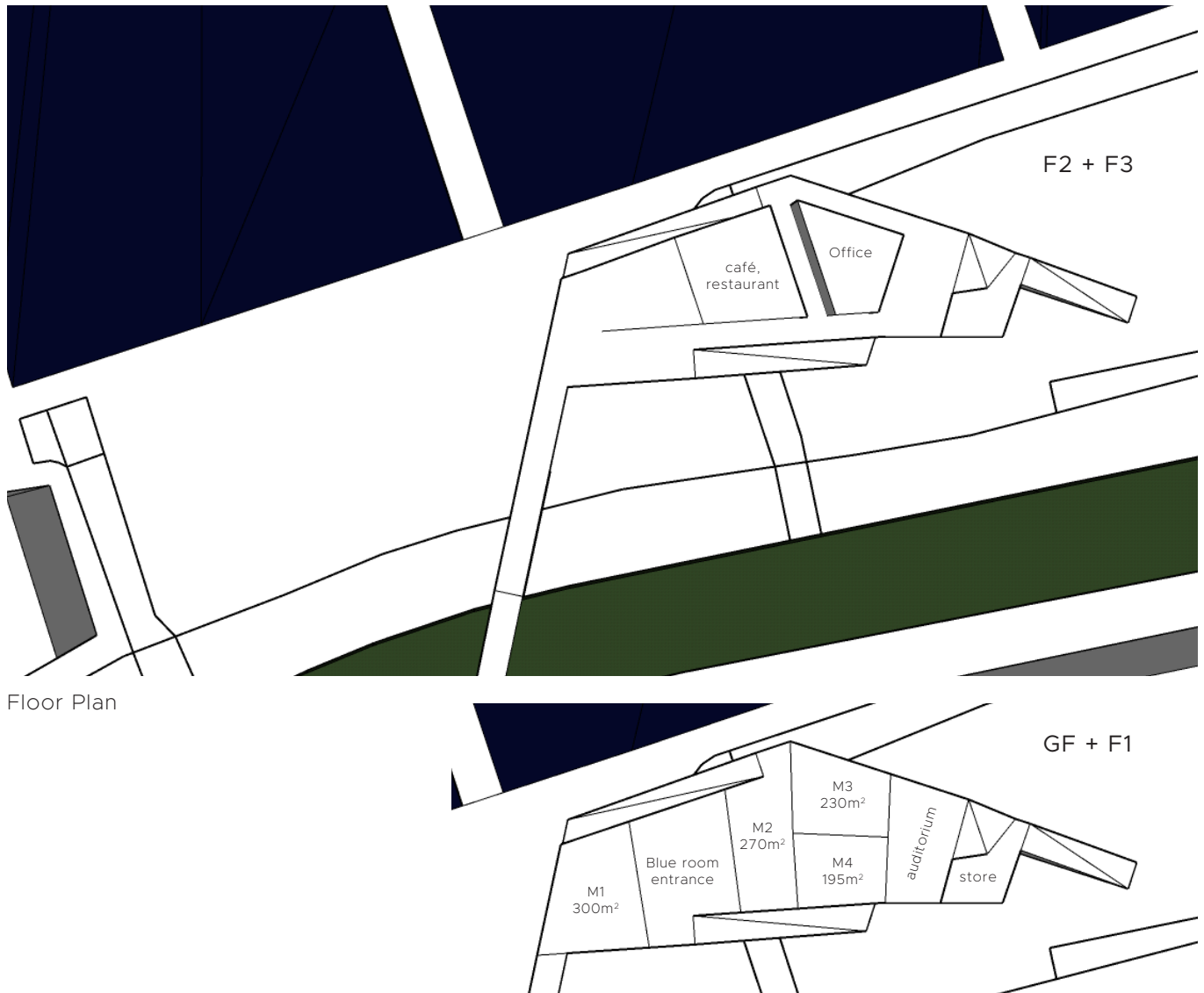
### NEIGHBOURHOOD MUSEUM

- Museum radiates the grandness of a museum but with the visual connection on two levels to neighbourhood and waterfront still keeps it grounded into the neighbourhood

# DEVELOPMENT 4 DESIGNS

## Design 4 - Rotterdam Museum





### STRENGTHS

- very explosive design
- connection with ramps to different sides

### WEAKNESS

- Implementing all functions in the design can be hard
- barrier between the plaza on the street side and the waterfront
- Design very limiting

- can the building be turned around? plaza on water front or two plazas

### ROTTERDAM MUSEUM

- museum radiate a more international feeling, not very site specific

# CHOICE DESIGN

## Concept

### WHAT IS IMPORTANT IN MY DESIGN?

Museum about...

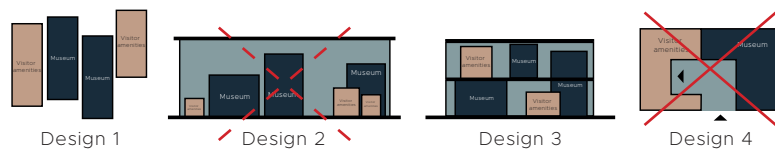
- dialogue
- collaboration
- education

Activities to get people engaged: Labs & Events

Museum implemented in neighbourhood

Designed specifically for site

Historicizing the area

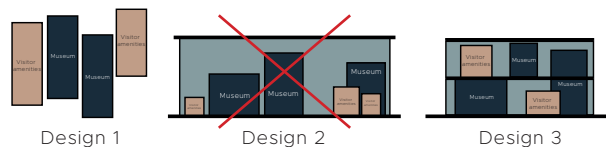


Museum 'Platform to connect'

Locality

- local visitors
- local artists
- local themes

Connection to neighbourhood and waterfront

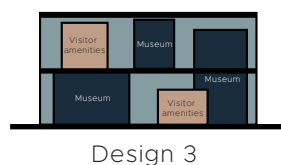


Multifunctional room as central point of building: as pull effect to get people



### FINAL PRODUCT:

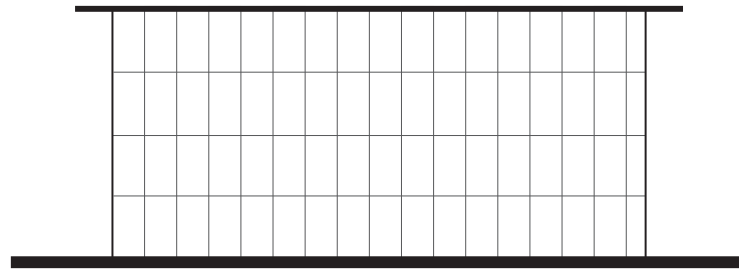
- central room as multifunctional space connecting all functions
- Connected to neighbourhood via dyke & connected to waterfront on ground floor
- Appearance can be historicizing with look of warehouse



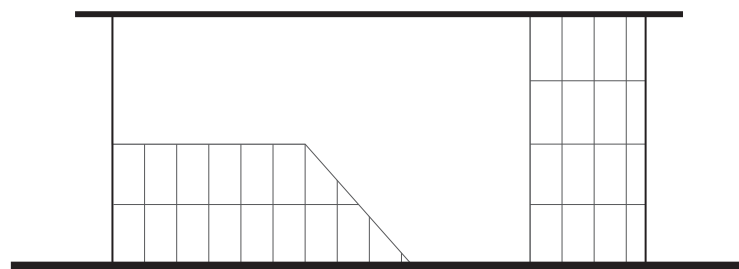


# FACADE CONCEPT

Look at chapter 'P2 - Moodboard - Exterior' and  
'Moodboard - Materials' in Research Book for  
reference pictures and the materials



all glass with a roof on top



add closed elements where needed

- light reasons
- function behind the facade

makes the facade more interesting



# DEVELOPMENT DESIGN BRIEF

# PROGRAM STUDIES

Scale



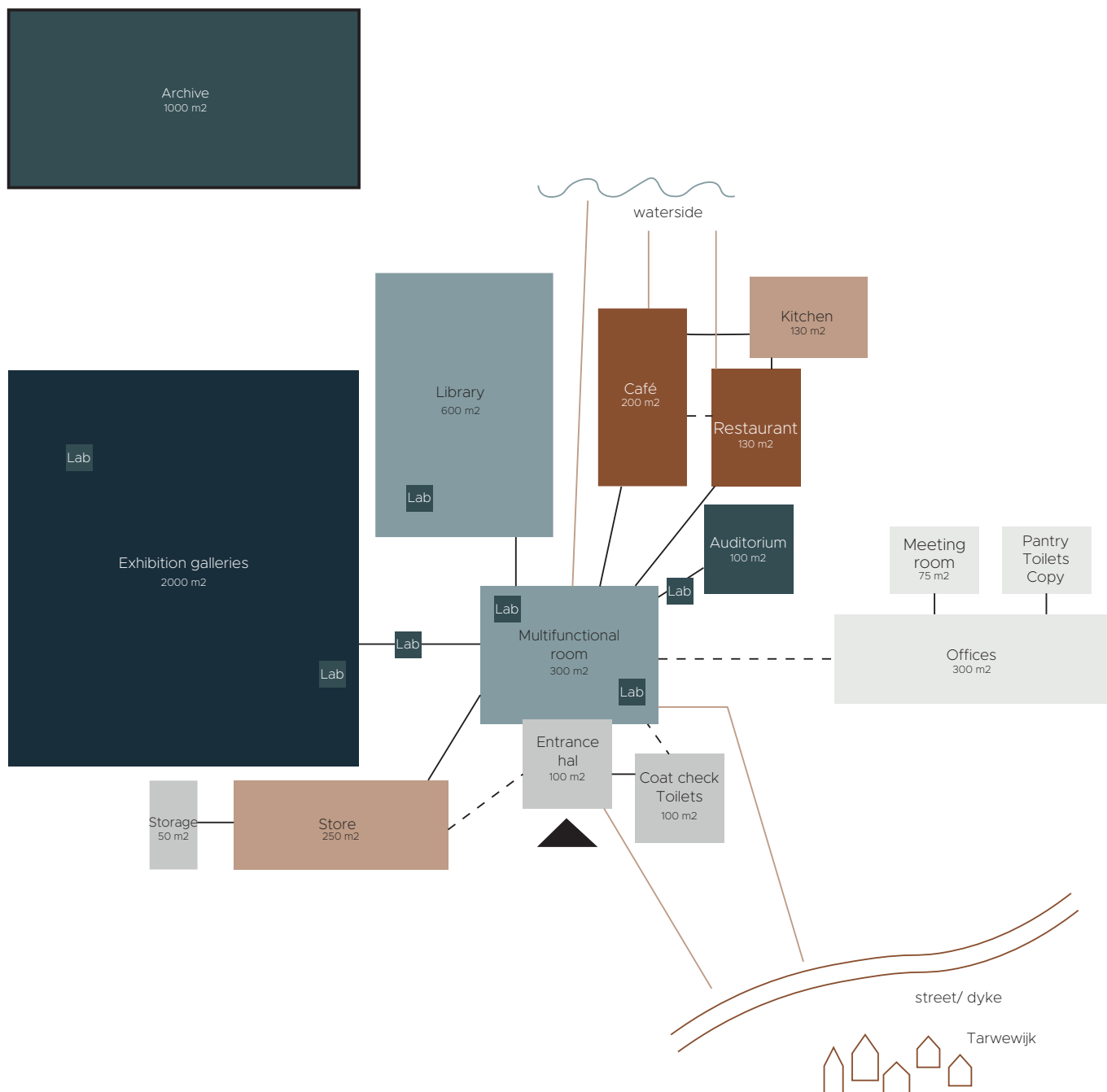
## Relation



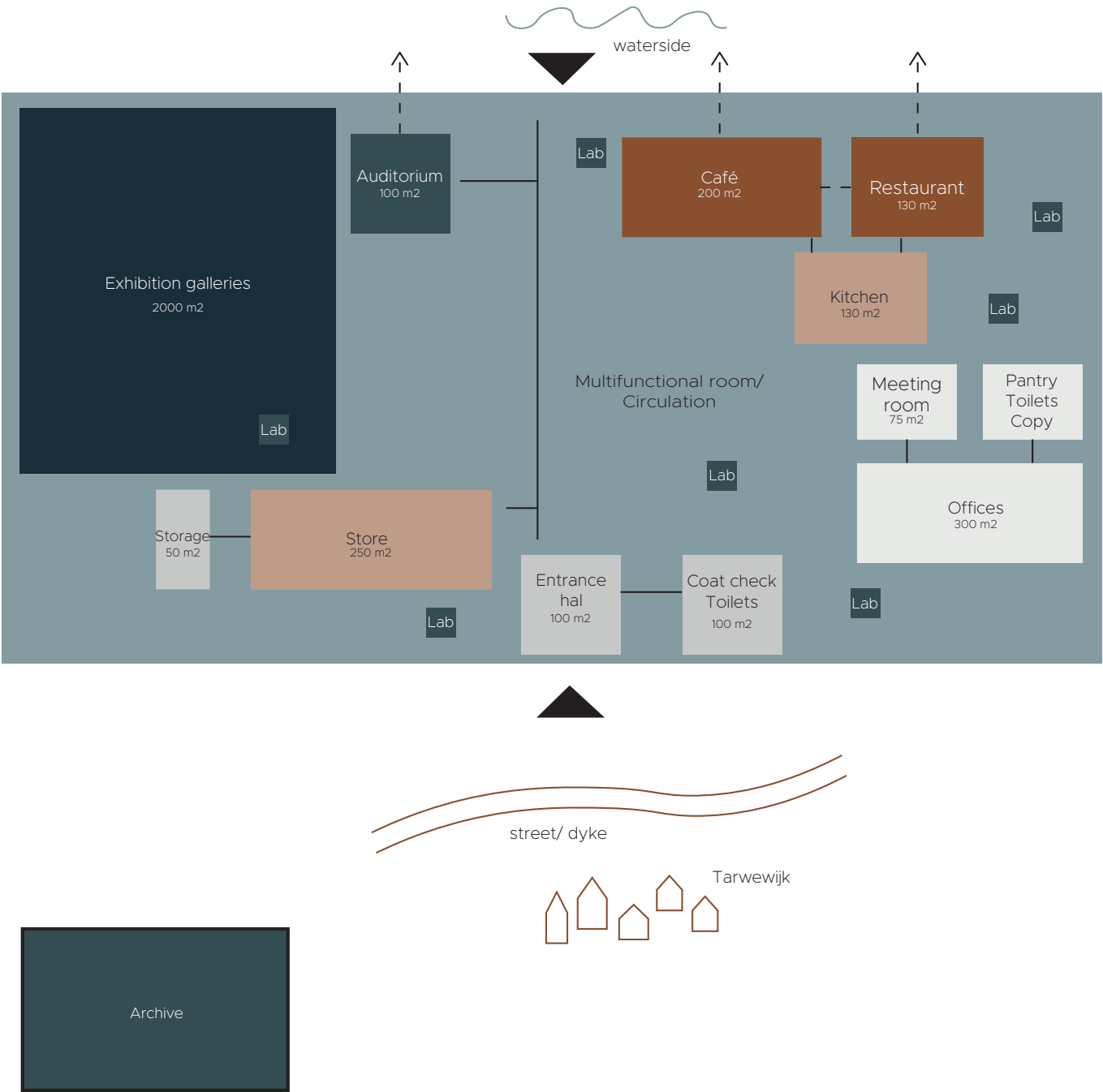


# PROGRAM

## Spatial relationship



Final Adjacency Diagram



# PRELIMINARY AREA SCHEDULE

ASSIGNED AREA	ROOM	NET m2	NET AREA %	GROSS AREA %	NOTES
Exhibition	Exhibition Galleries	1820	27%	16%	T=20-28° 25m³/h per person with/without daylight ventilation
	Museum 1	600			
	Museum 2	470			
	Museum 3	450			
	Museum 4	300			
Program & Events	Auditorium	200	3%	10%	150 seats
	Control room, Storage, Technical Office	incl.			
	Labs	275	4%		
	Lab 1	20			
	Lab 2	55			
	Lab 3	25			
	Lab 4	65			
	Lab 5	35			
	Lab 6	75			
Visitor Services	Information desk & ticketing	20	0%	1%	
	Coat check & Lockers	60	1%		
	Storage	10	0%		
Multipurpose zone	Blue Room	2000	30%	18%	for events/ exhibitions etc./ entrance/ main circulation
Retail	Museum and Design Store	120	2%	1%	museum-related and design merchandise
	Storage & Offices	30	0%		
Dining	Cafe, Bar	200	3%	4%	free for entrance
	Restaurant	130	2%		free for entrance
	Kitchen	100	2%		either for cafe and restaurant or two separate
	Storage	55	1%		
	Prep/ Staging Area	incl. in Storage			
	Trash Room	incl. in Storage			
	Office	incl. in Storage			
Offices	Work spaces	300	5%	4%	T=20-28° / 25m³/h per person 38 staff
	Meeting rooms	75	1%		
	Copy room/ Storage	55	1%		
	Pantry and toilets	25	0%		4 toilets
Archive	Art Storage	1000	15%	9%	not freely accessible with/without daylight ventilation
Maintenance & Operations				1%	
	Security Office/ Control Room	40	1%		
	IT Service	35	1%		
	Staff Lunch Room/ Lounge	65	1%		
	Staff Locker Room	25	0%		
TOTAL		6640	100%	64%	
UNASSIGNED AREA					
Total		4660			36% of gross building area
	Circulation	incl.			
	Restrooms	incl.			on every floor
	Art Loading Dock	incl.			
	General Loading Dock	incl.			
	Mechanical/ Electrical/ Plumbing	incl.			
TOTAL		11300			

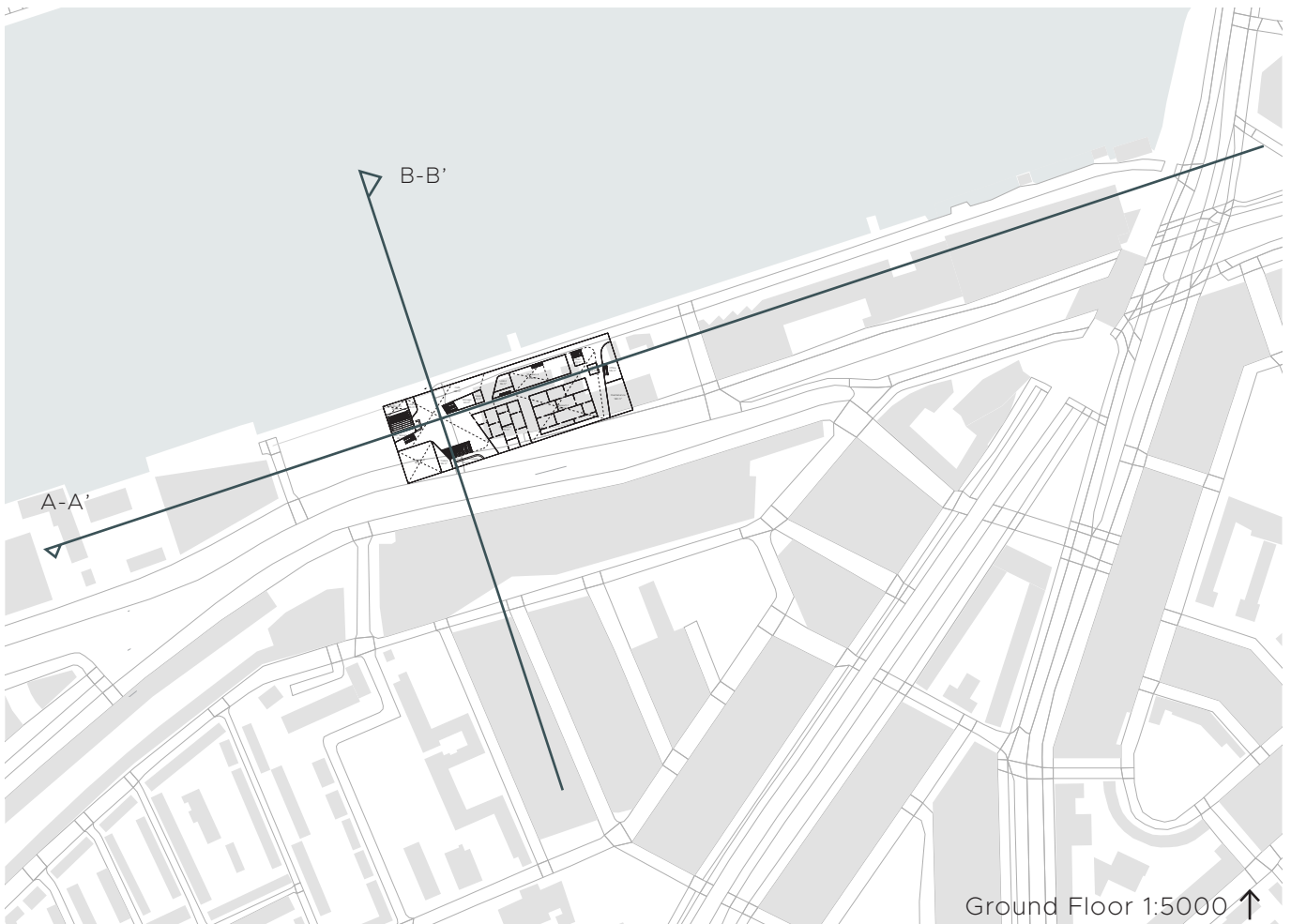
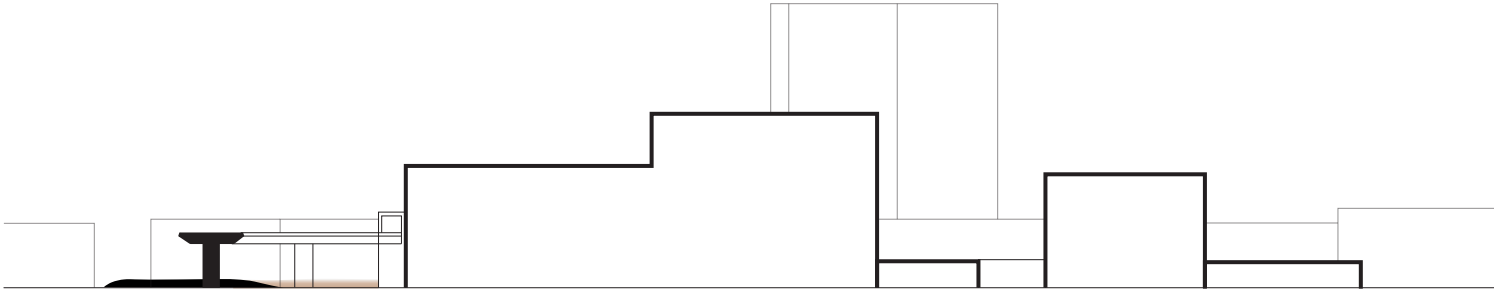


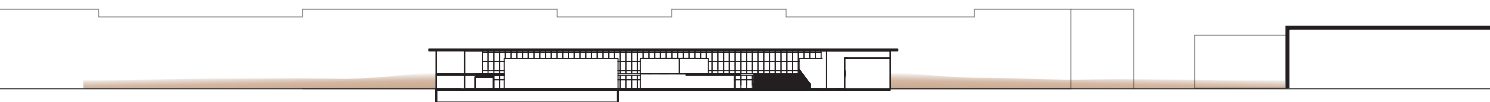




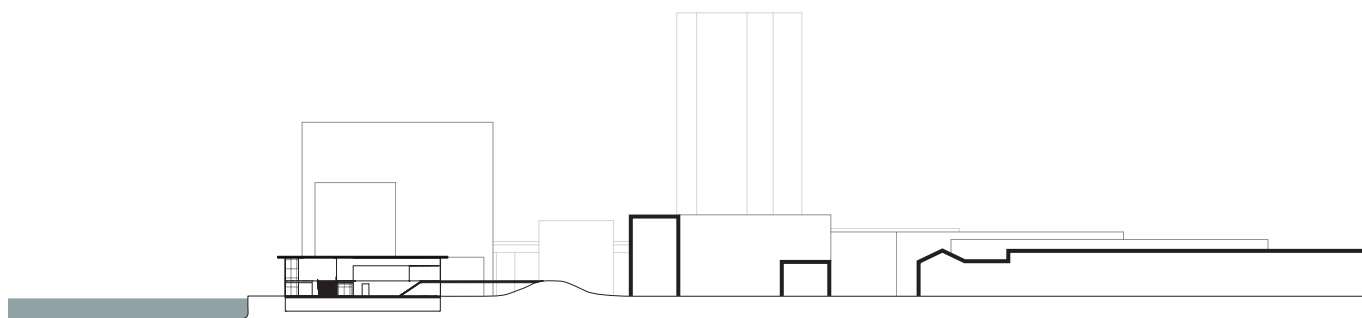
## **P2 DESIGN**

# SITE PROFILE





Section A-A' 1:2000



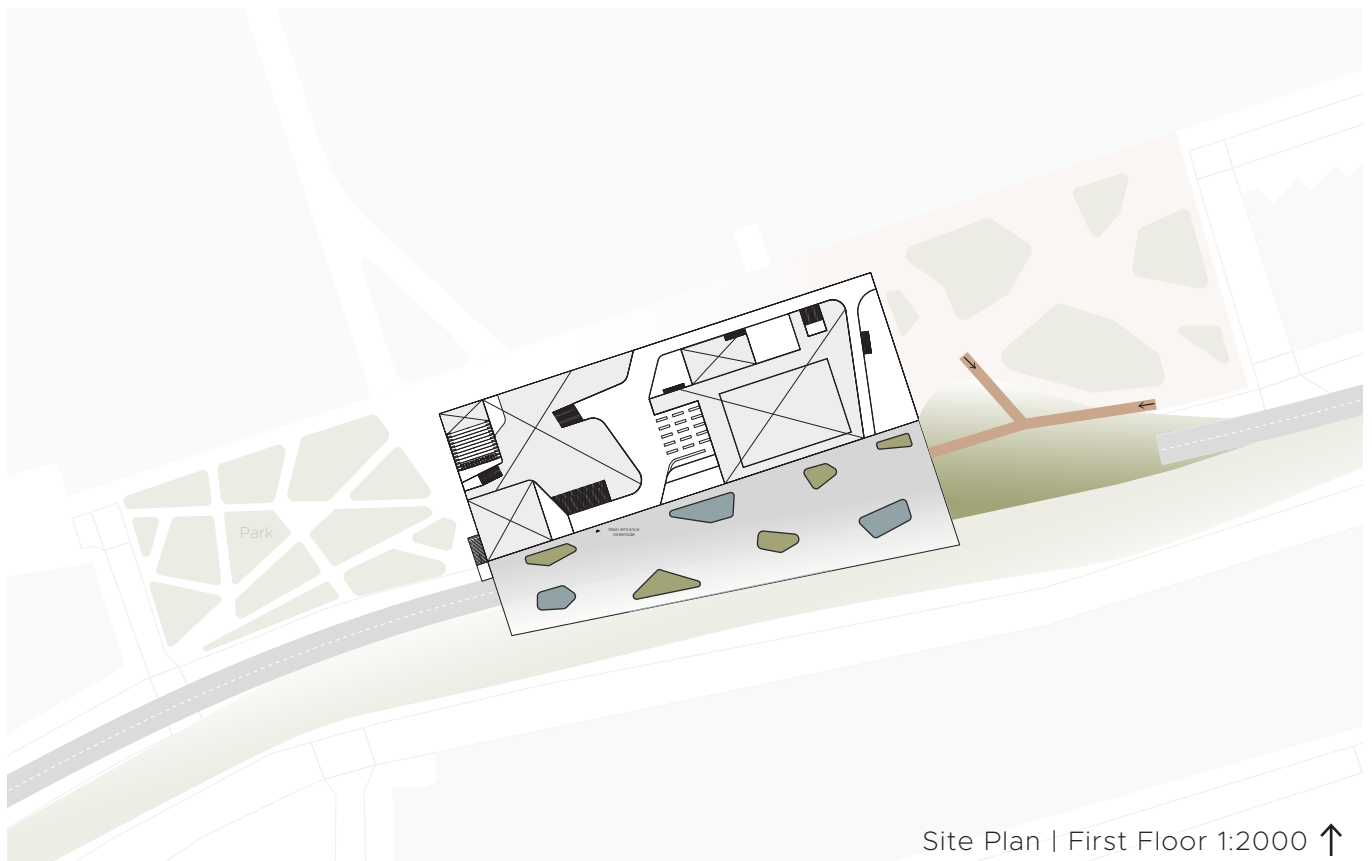
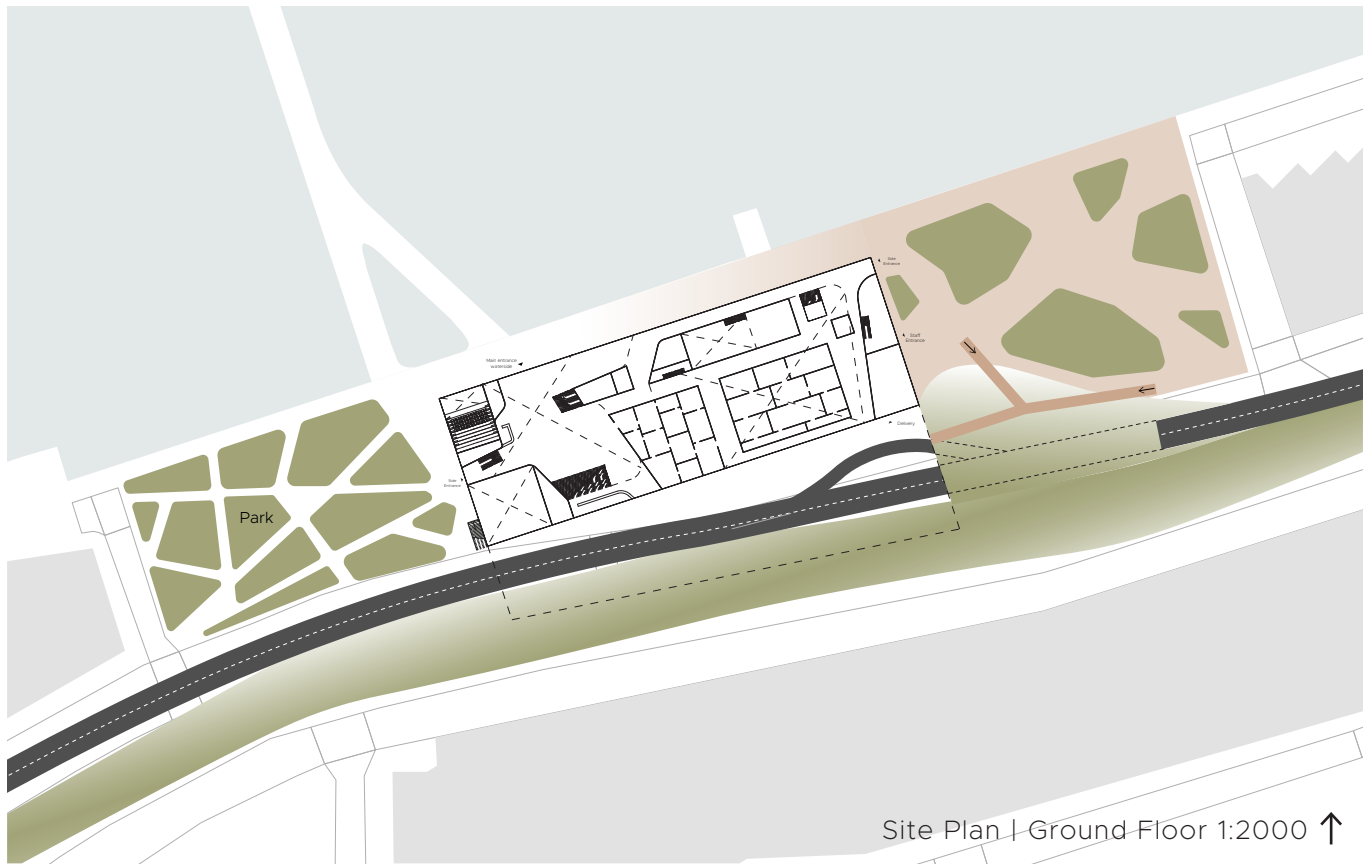
Section B-B' 1:2000

# NOLLI MAP



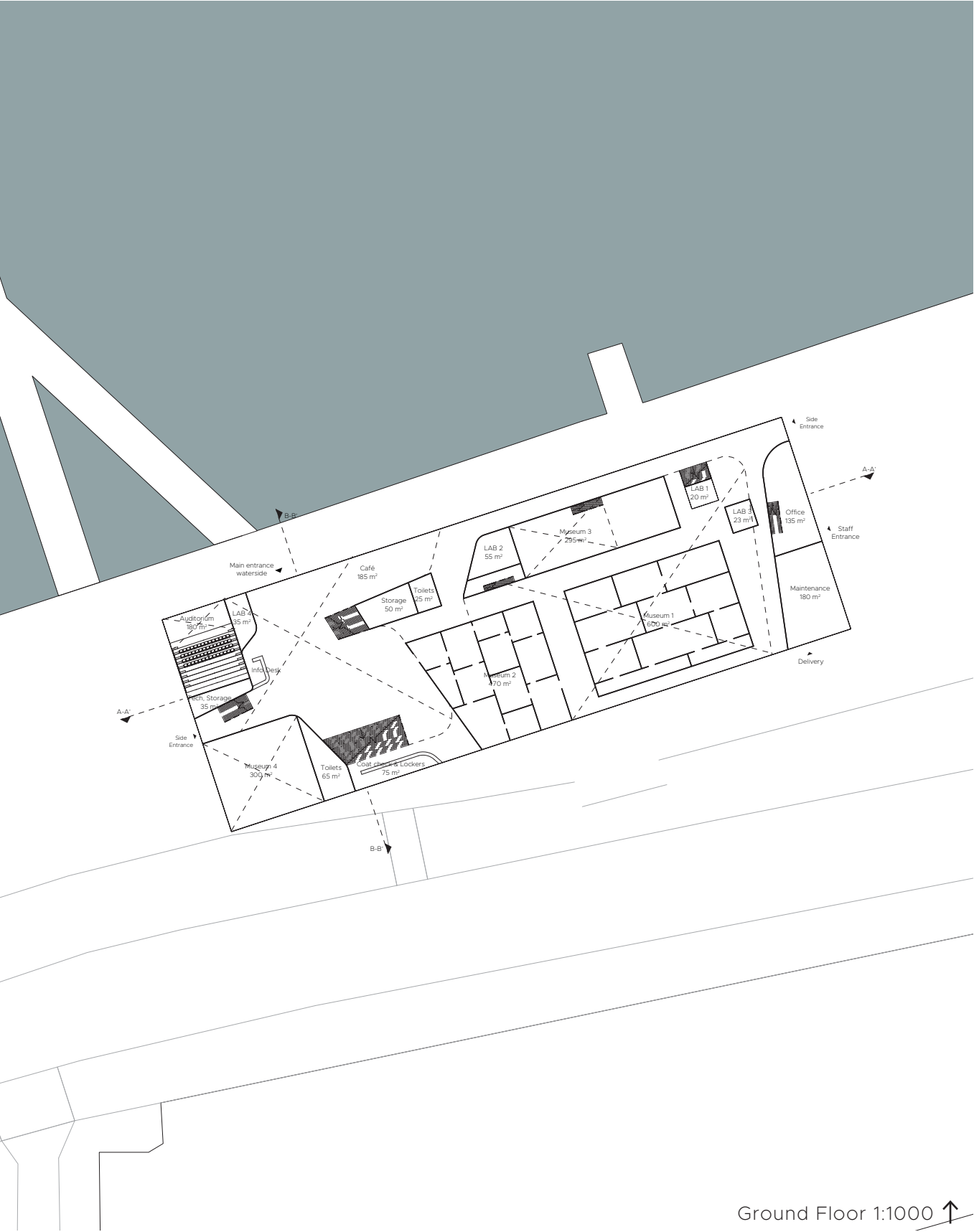
Nolli Map 1:5000 ↑

# SITE PLAN

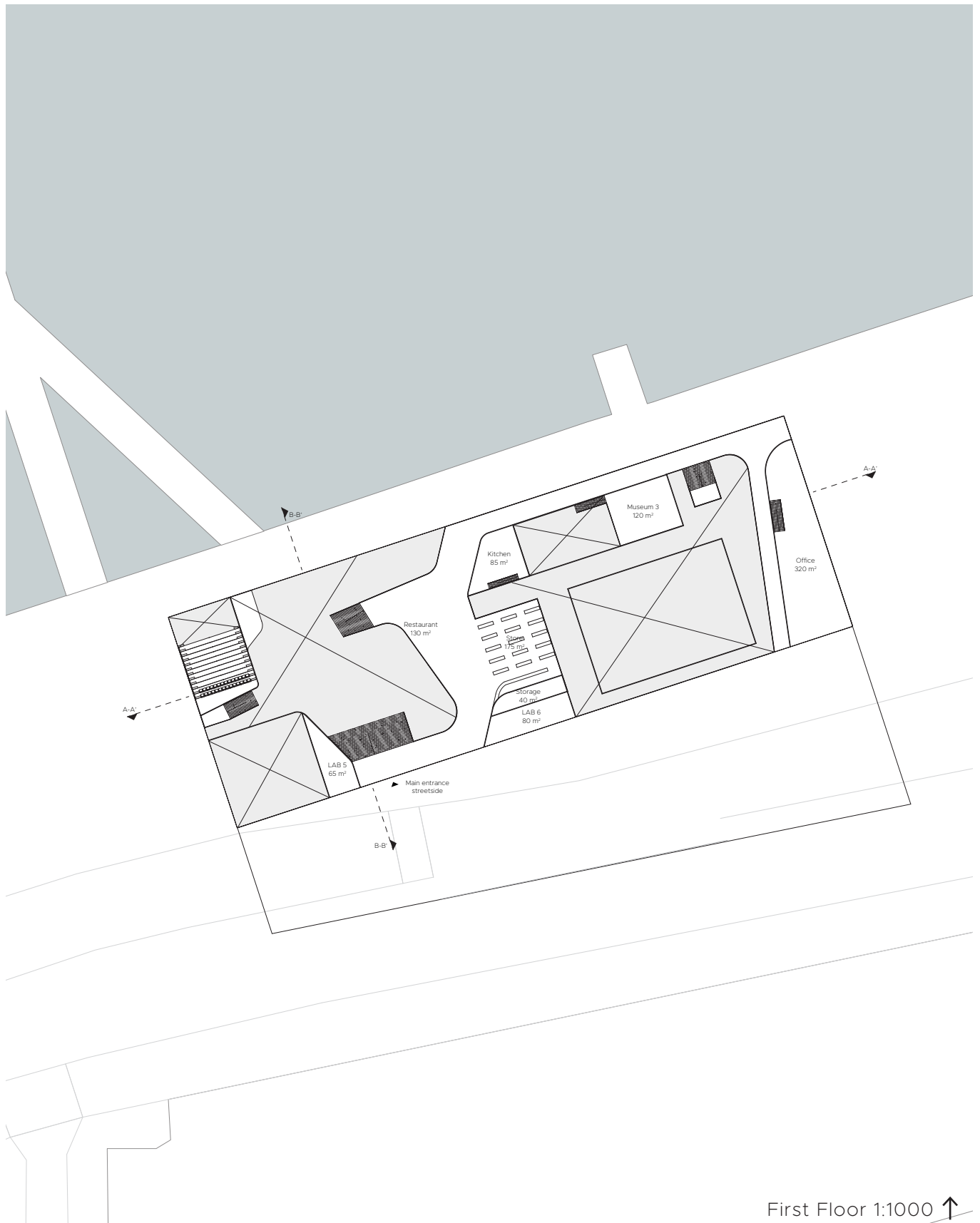




# FLOOR PLANS

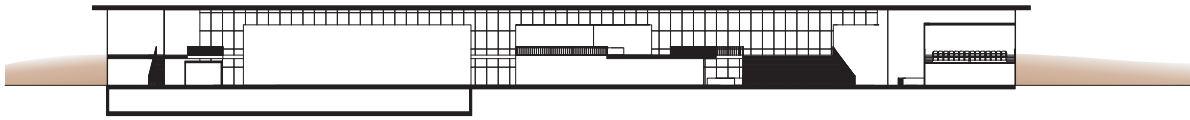


Ground Floor 1:1000 ↑

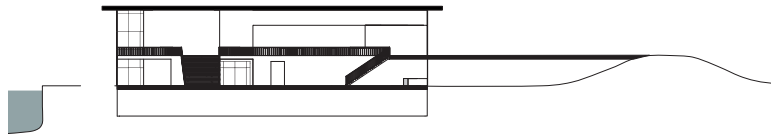


First Floor 1:1000 ↑

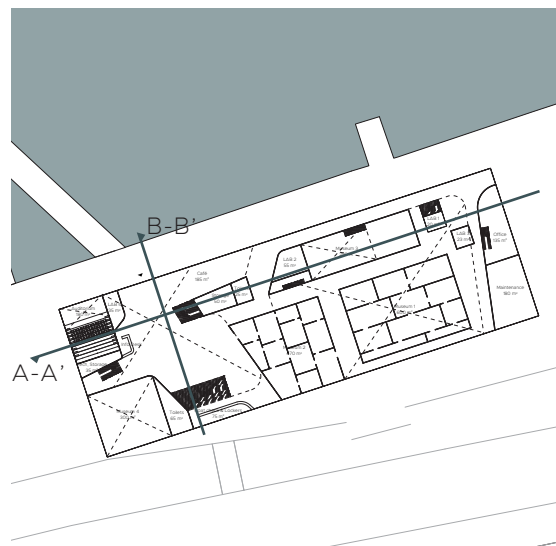
# SECTIONS



Section A-A' 1:1000



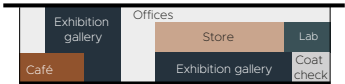
Section B-B' 1:1000



Conceptual sections with program

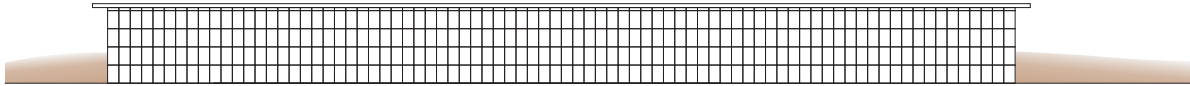


Section A-A' 1:1000

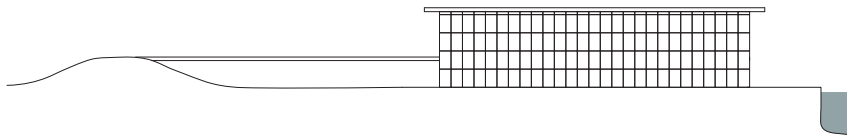


Section B-B' 1:1000

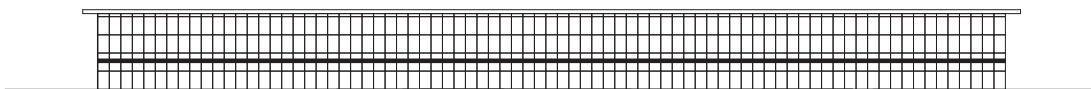
# ELEVATIONS



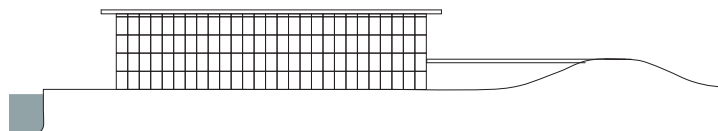
North Elevation 1:1000



East Elevation 1:1000



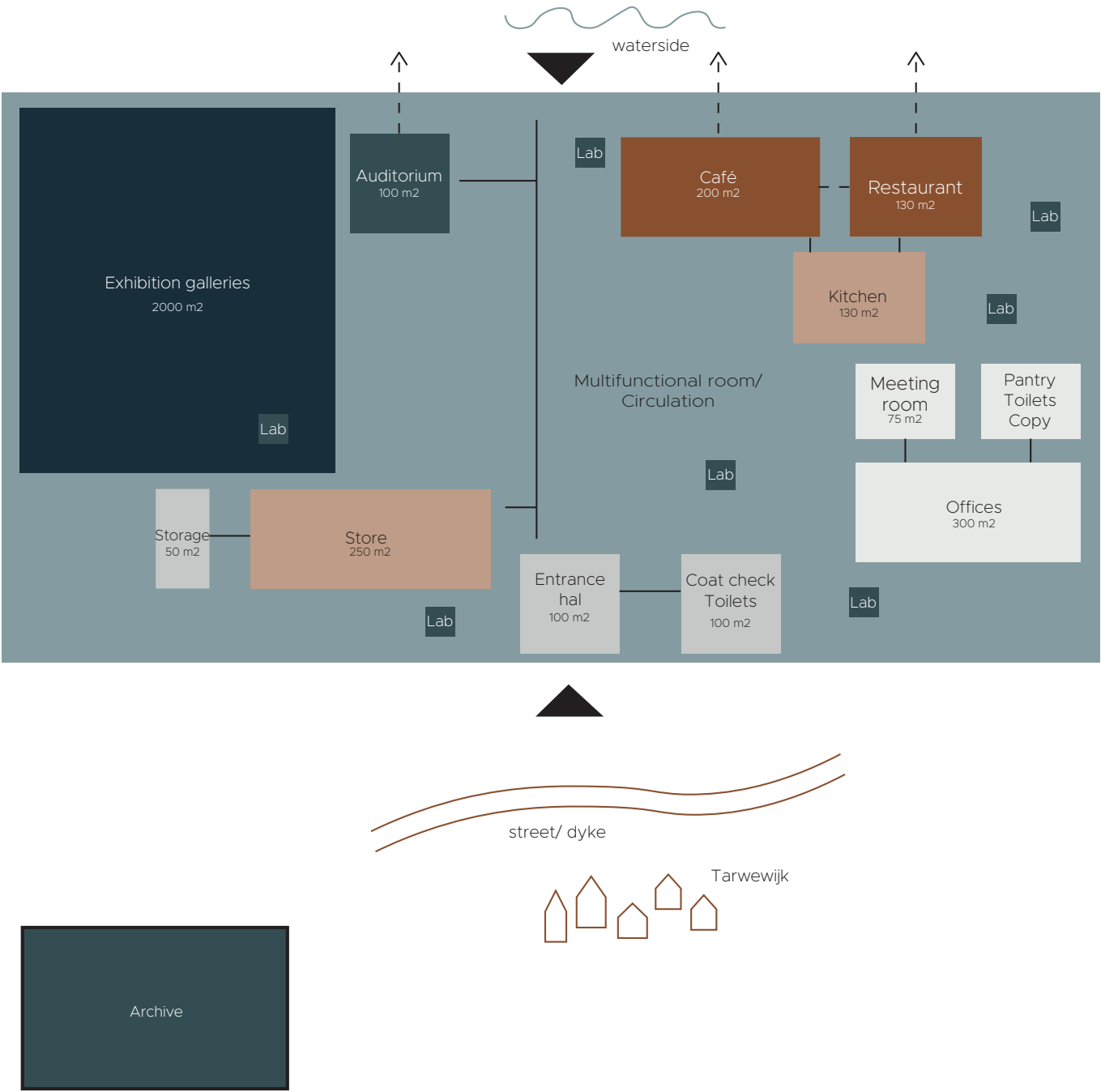
South Elevation 1:1000



West Elevation 1:1000

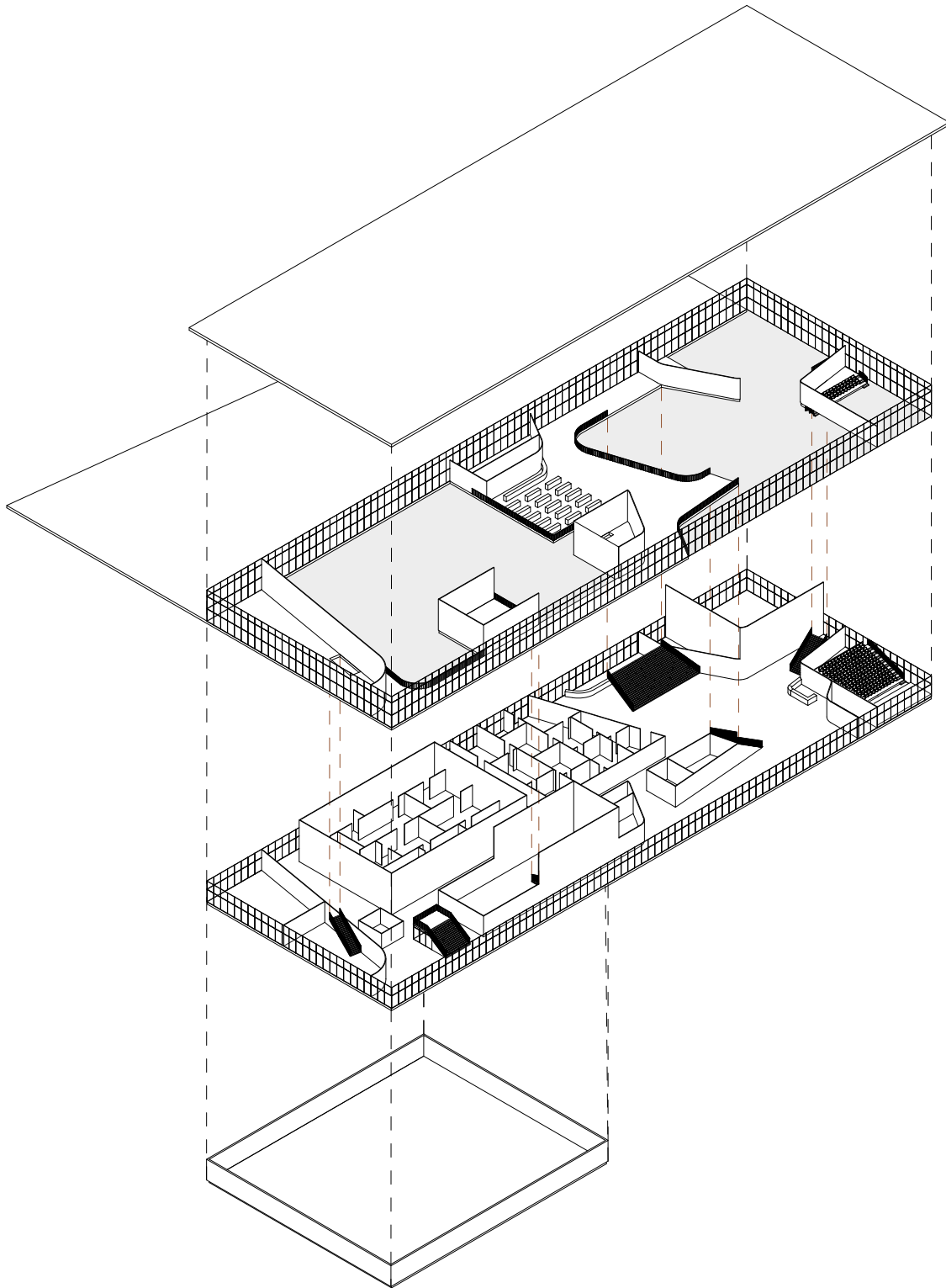


# ADJACENCY DIAGRAM

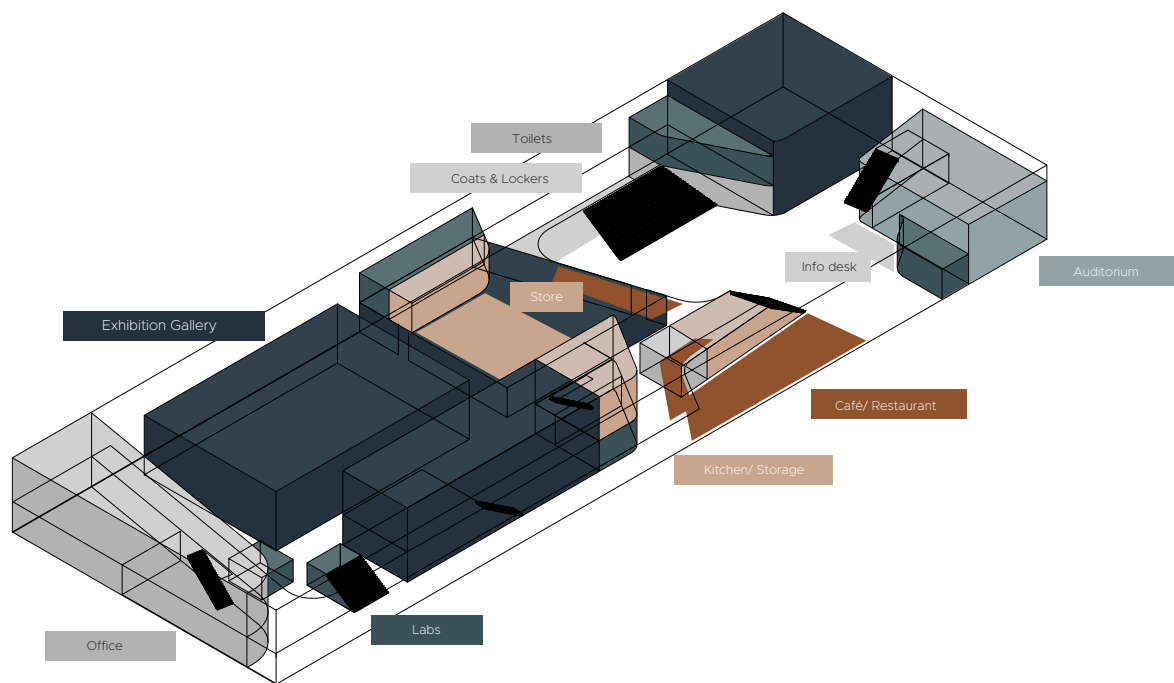


# AXONOMETRIC DRAWING

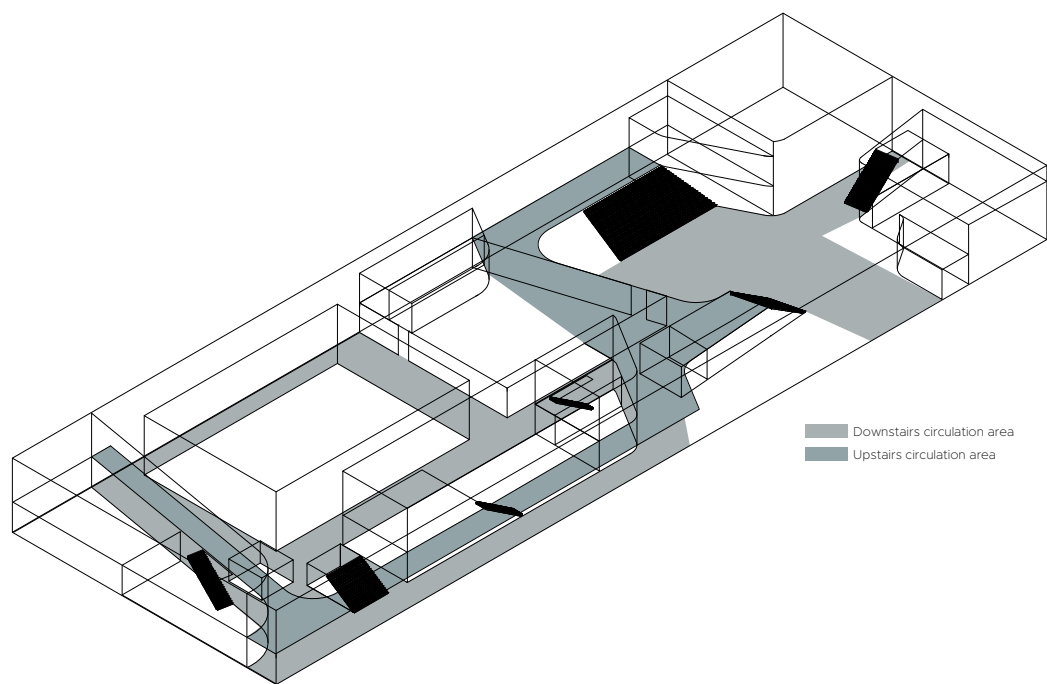
Spatial Structure



Program Diagram

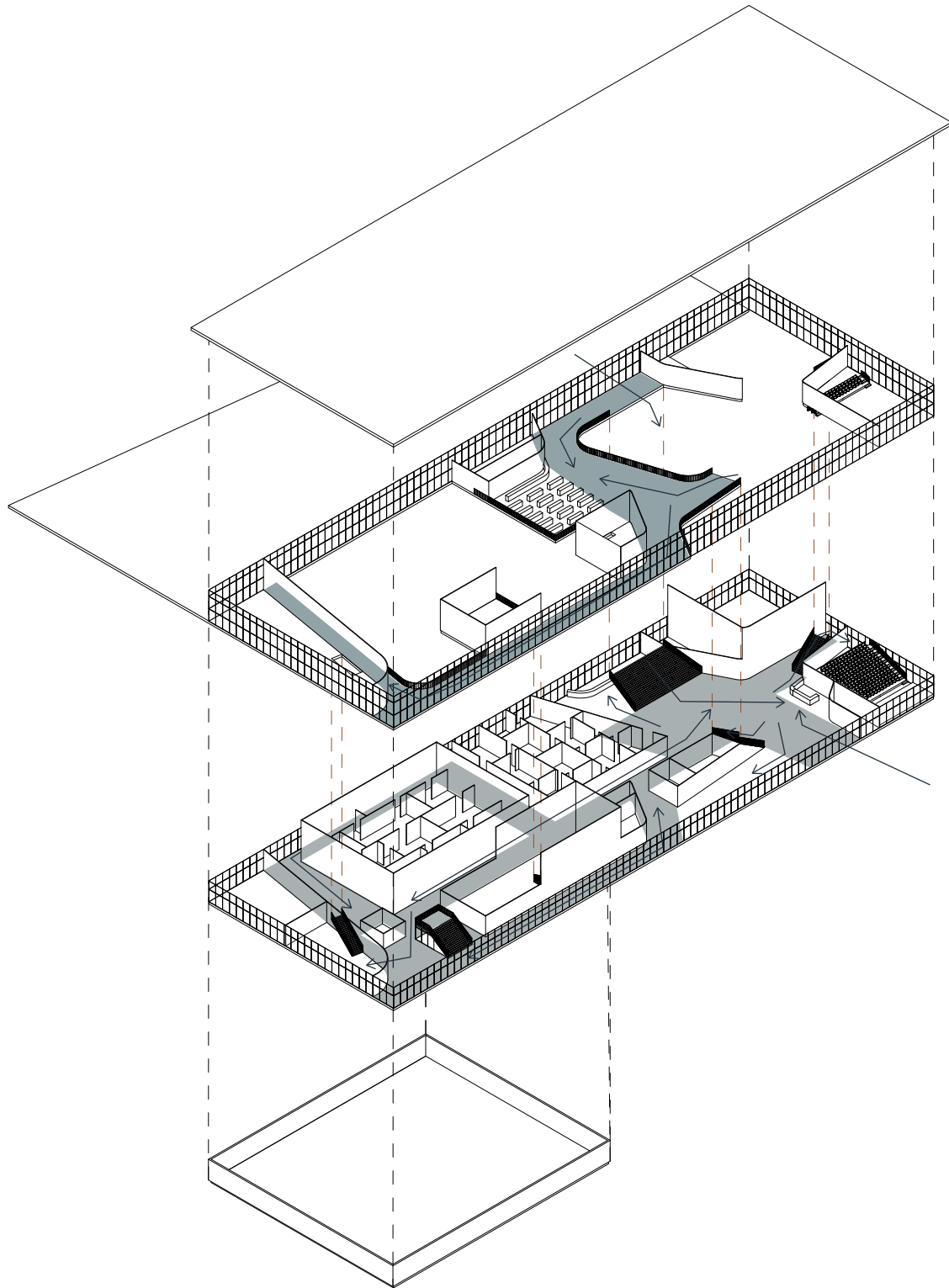


Circulation Diagram

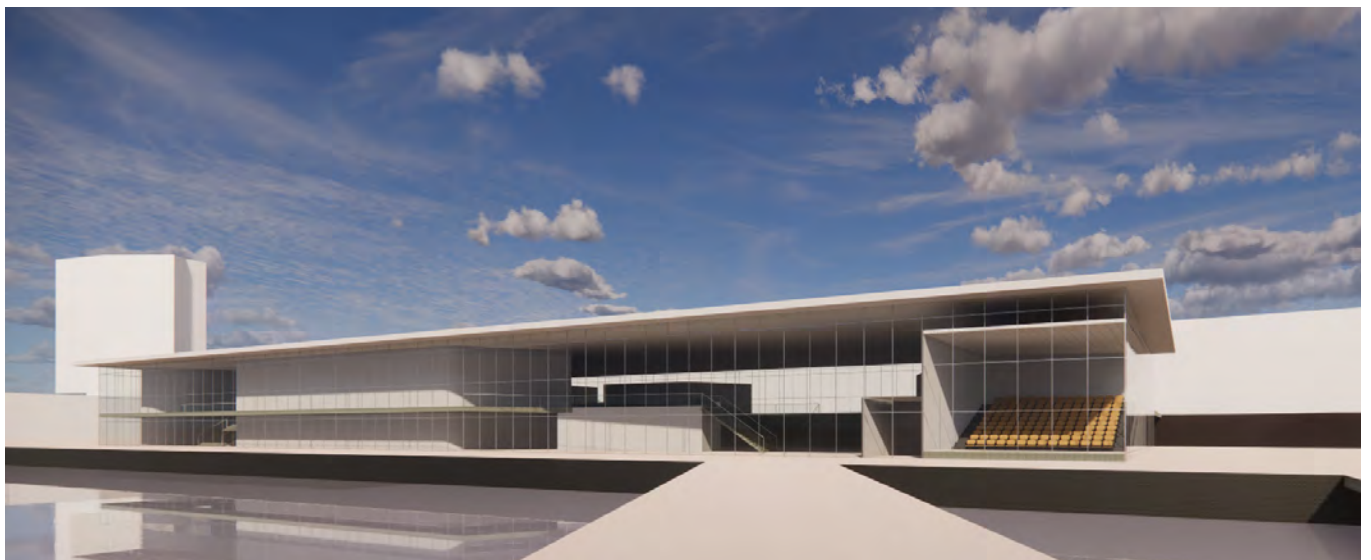
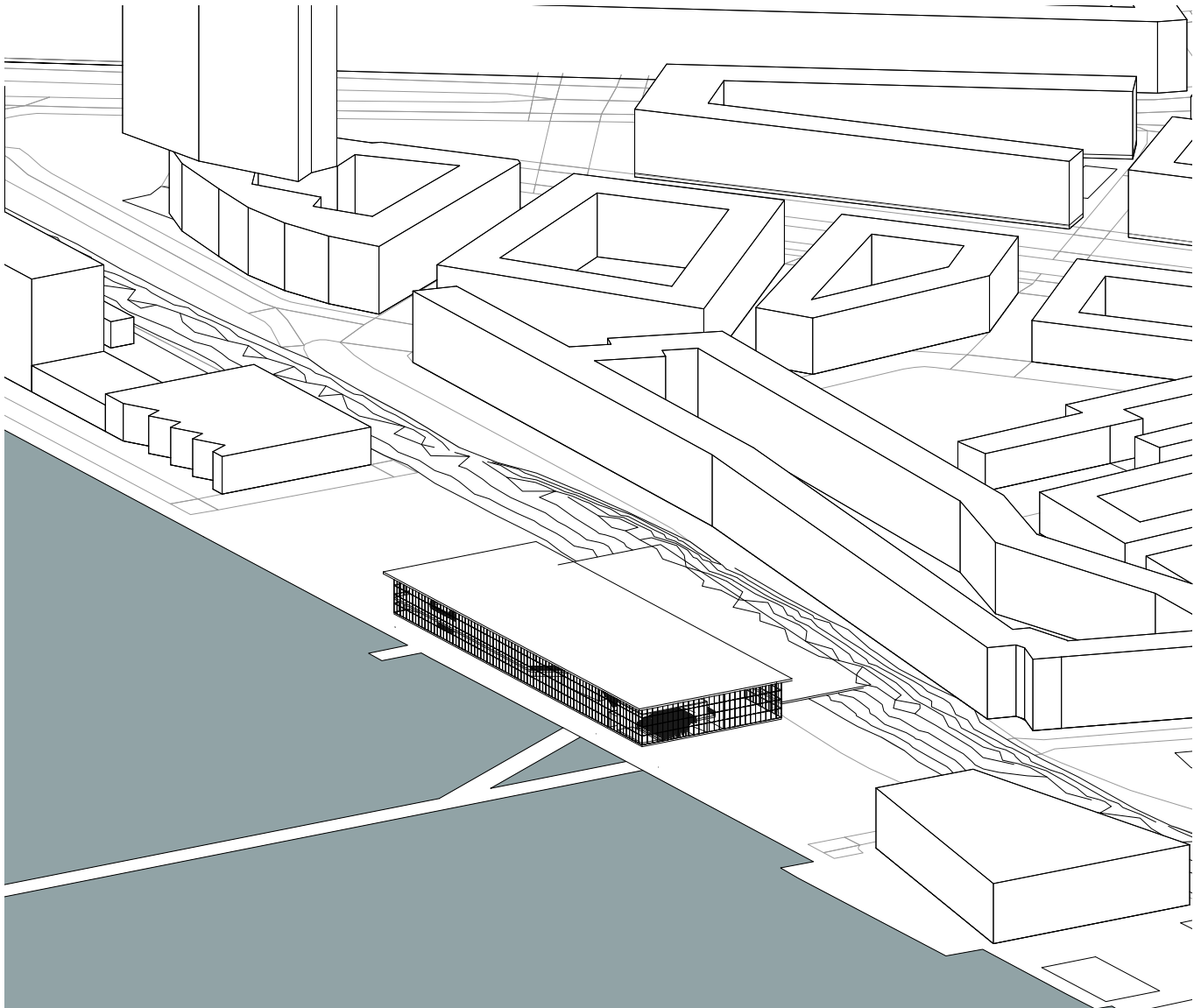


# AXONOMETRIC DRAWING

## Circulation System

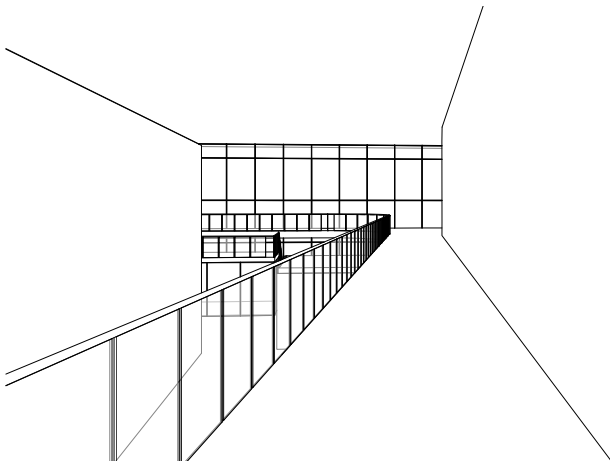
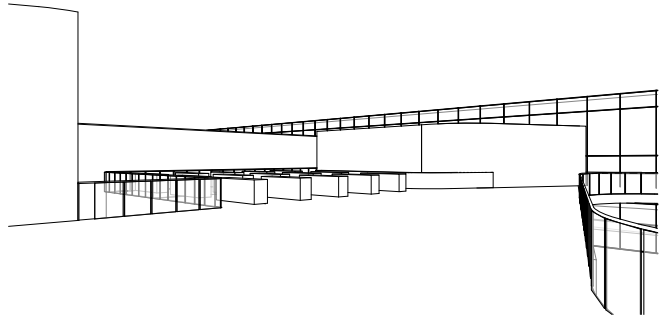
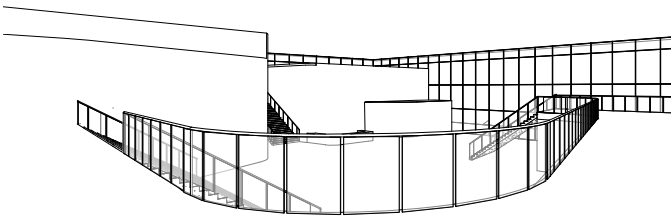
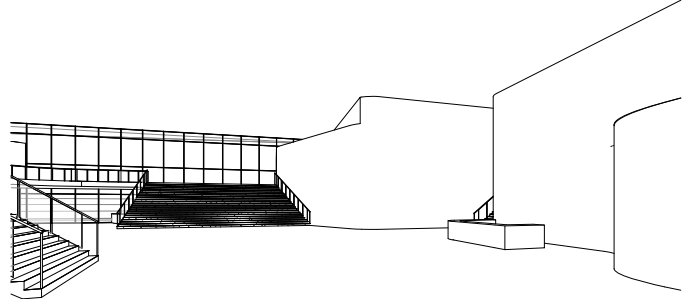
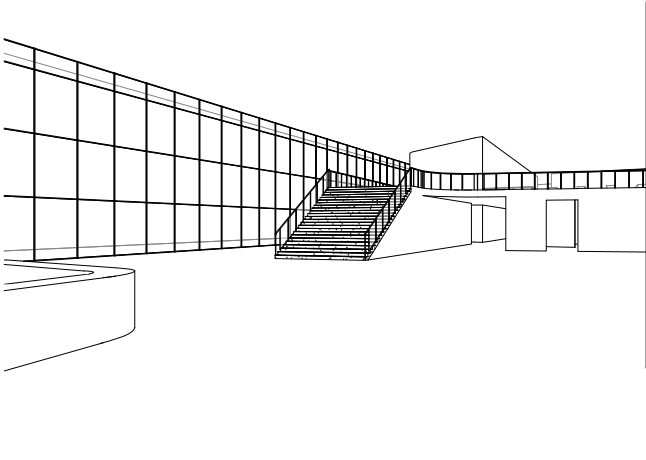


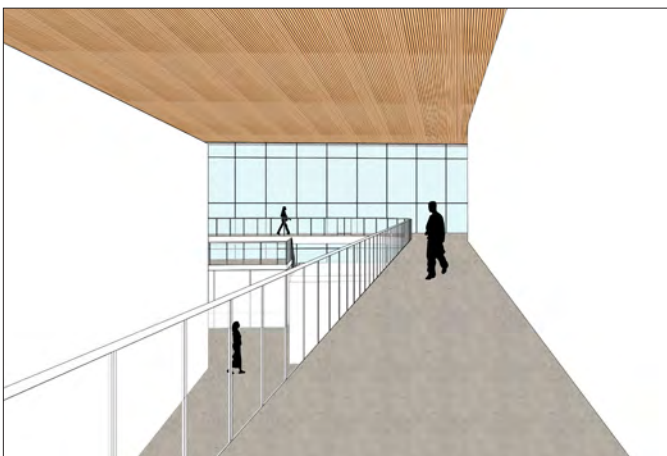
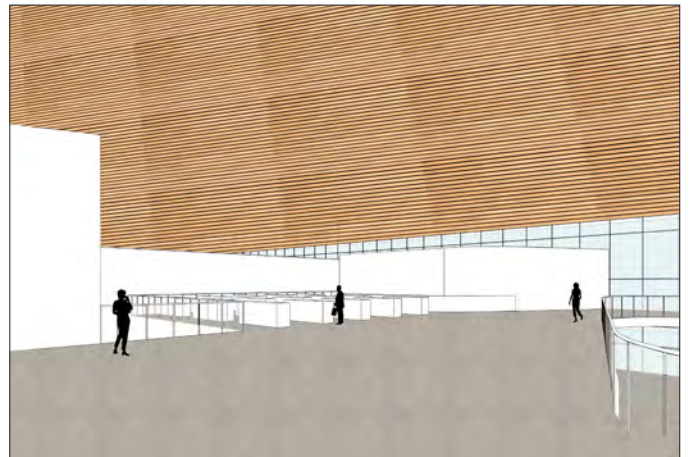
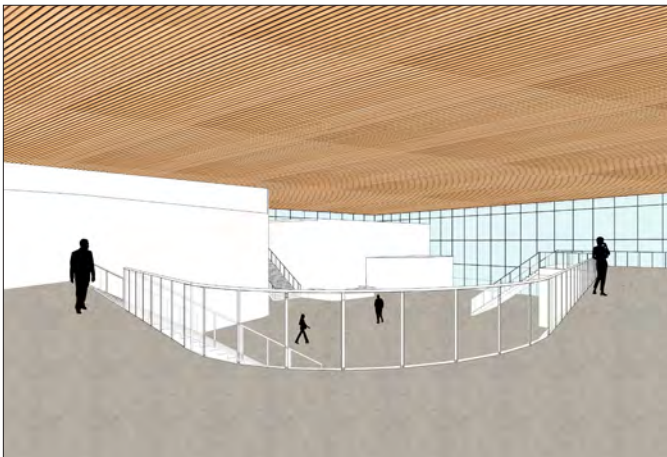
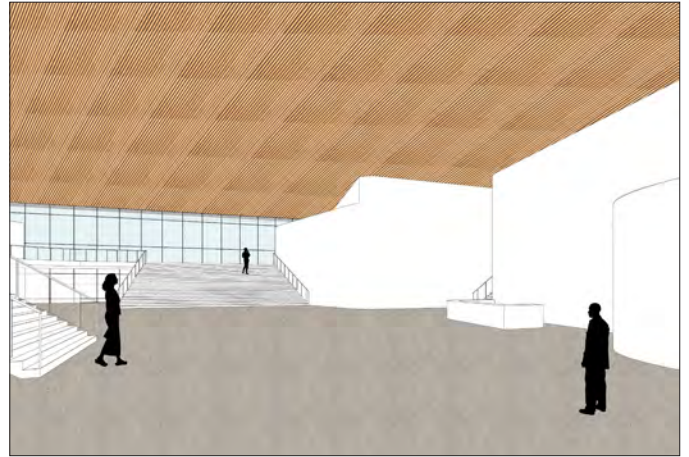
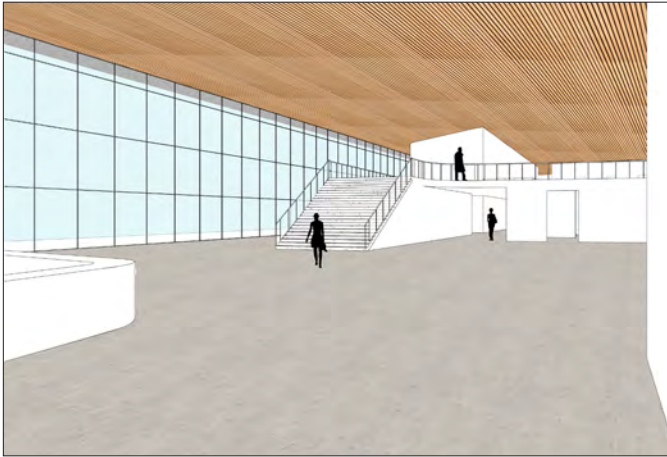
# BIRD EYE





# INTERIOR PERSPECTIVES



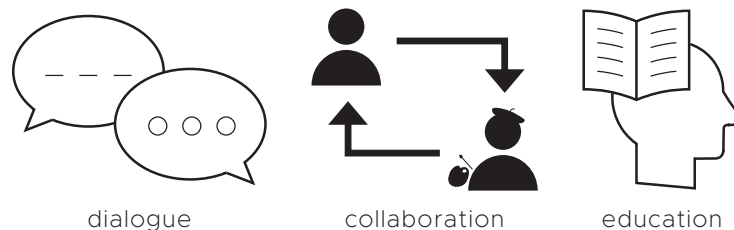


# POSITION TOWARDS MULTIPLICITY

My Museum is based on the idea of combining a museum with other activities to increase the engagement from local residents. This means that the building is not only used as a museum to come see art, but also for visitors to come and engage with it. This can mean attend lectures or symposiums, but also learn how make art themselves during workshops.

Additionally the main and central space in the building is a multifunctional space. This space is meant as an entrance and circulation space, it connects the different functions to one main space. And at the same time it contains a freely accessible sneak peek exhibition space to get visitors attracted to enter the galleries as well. Along with an opportunity to show art by visitors made during workshops. Furthermore, the space can be used for art fairs or as a gathering space before an important screening or symposium in the auditorium. This multifunctional space is very flexible and its use can change in the future.

The exhibition spaces are designed in a flexible way to enhance the usability and changeability for different exhibitions over time.





DESIGN DEVELOPMENT  
P2 RETAKE DESIGN

RE



02

ESTAKE

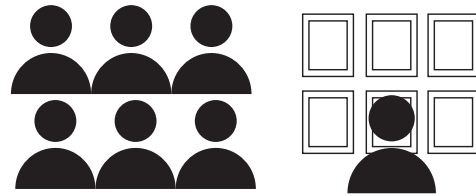


# **DESIGN DEVELOPMENT**

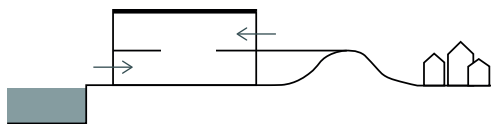
# WHAT IS IMPORTANT FOR THE DESIGN?



connection to water, dyke and tarwewijk



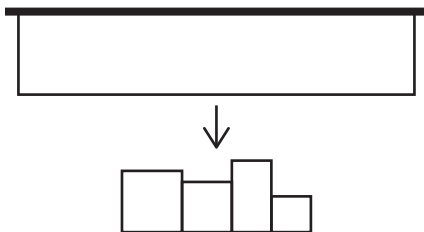
more community & gallery space



3 entrances, on 2 levels

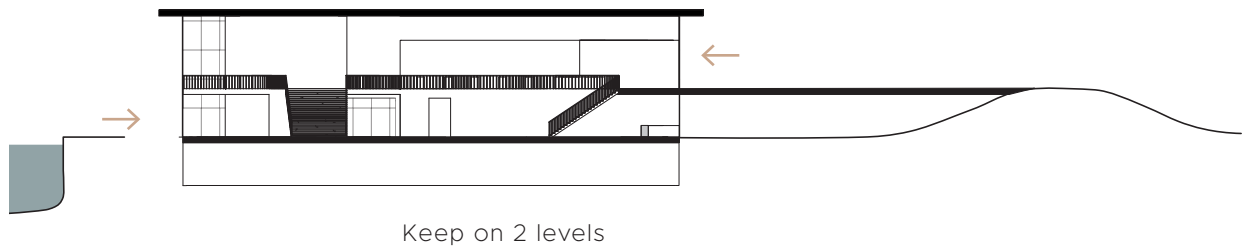


emphasize community functions



make building more small scaled

## Entrance



walking routes to site



entrance into building/ multifunctional space



# TARWEWIJK

## Conclusion

In the history of the Tarwewijk, two major interventions have happened that today still have impact on the feeling of the neighbourhood.

The first one being the Globe school by van der Steur. Starting in 1920, school buildings were not hidden anymore in building blocks, but pulled out of them and put at more prominent spots, like with this school. The school today is the only Rijksmonument in the Tarwewijk and brings with its architecture - gigantic size and beautiful location - a positive impulse on the development of the neighbourhood. In 2015 a gym was built next to the school by Ziegler, Branderhorst and Artesk van Royen Architecten. The difficulty with this design was to strengthen the school in a contemporary way. What is immediately striking is how well the new building connects with the existing complex.

The second one has a more negative connotation. In 1968 the metro line was opened between Central station and Zuidplein, which ran through the Mijnsheerenlaan in Tarwewijk. However this one was built above ground, even though there was a lot of protest by residents to make a tunnel instead. This was another proof for the residents of the deprivation of Rotterdam Zuid. The earlier designed grand parkway by Witteveen with a lot of quality was now destroyed.

The history of Tarwewijk shows us with these two major projects how a grand intervention can change a character of a neighbourhood and how it can give a direction into the future development of a neighbourhood. This gives me a big opportunity to use my building and improve the feeling and especially the reception of the Tarwewijk.





## Opportunity for Balkon aan de Maas



connecting space



recreational space



meeting space



# COMMUNITY CENTRE

## Program

The main purpose of the multipurpose space (meeting zone) is to meet other people and get in contact with art (sneak peek exhibition). It is also the perfect space in the museum to hold markets with self-made art, jewellery etc.

The community centre will have labs and classrooms to teach about an art form, a language or a music instrument. It will also include studios to practice art together with others and to learn from them.

For further education and self-study time, the building will have a library with computers.

The theater will present the possibility for acting-, yoga- and dance classes.

### POSSIBLE PROGRAM

#### Multipurpose spaces

- event space
- meeting space
- market
- workshops
- garden

#### Culture

- exhibition space
- performance space
- studios
- workshops

#### Physical activity

- Dance studio
- Chess boards
- Yoga studio

#### Education

- Library
- Youth Centre
- After school activities
- Language courses
- Hobby & craft courses

#### Food

- Restaurant
- Cafe
- Community kitchen
- Community garden

#### Extra Supplies

- Restrooms
- free WIFI
- Computers
- Water
- Tourist info
- Counseling program

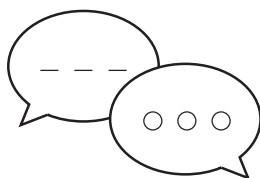
## Dutch Community centre 'buurthuis'

The program of community centres in the Netherlands is mainly based on education and meeting and relaxation activities. Furthermore, welfare is an important program part of buurthuizen.

To bring in more community spaces in Tarwewijk, that at the same time is organized by payed people, my museum will be the perfect combination to educate residents, give a place to meet and spend their time with a possible new hobby related to art.



education



meeting



free-time  
activities

## Goal for the community centre

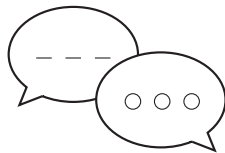
The community space is supposed to be a safe space for people to come during their free time and meet others, learn about art and engage with art. It should be accessible for all and present no hesitation.

There are not enough community centres because of funding problems -> option to combine with museum (institution)

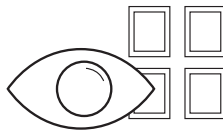
NPRZ: frame of reference is very limited because the cultural education is limited to the classroom. The museum could be a different location to teach children about art and get them engaged with art.

### ACTIVITIES

#### MEETING SPACE



Dialogue  
meet others



connect with art -  
sneak peek exhibition

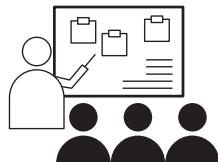


market

#### LABS

#### CLASSROOMS

#### STUDIOS

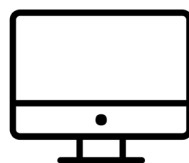


Labs, classrooms, studios, library & theater are places to learn tools for cultural expression.

#### LIBRARY



study



computers

#### THEATER



acting



yoga



dance





## **P2 RETAKE DESIGN**

# LOCAL & INSTITUTIONAL

COMMUNITY CENTRE

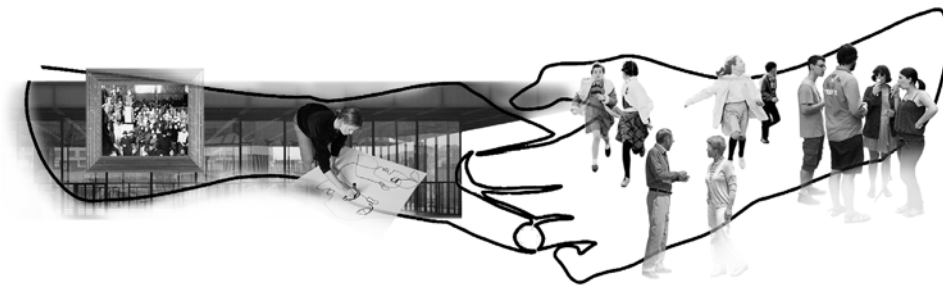
*place to learn  
for the people*

ART CENTRE

*place to educate  
by an institute*



*How to connect small with big?*



not only connected



but also intertwined

# MISSION STATEMENT

The museum will be a combination between a museum and a community centre. This is to enhance the learning possibilities and engage visitors more with art and each other. By being involved in the story and making, the visitors will learn more from it.

It will be a community centre for the people of Tarwewijk and an art institute for the people of Rotterdam. Here they cannot only see art, but also meet others, attend workshops and get educated about culture. It should become a symbol of Tarwewijk and change the neighbourhood for the better to improve its reputation among others.

It will hold exhibitions, workshops, talks, discussions for everyone to participate and be involved in making art and telling stories through art. It will also present an opportunity to learn by yourself or with others in the studios and library.

The art centre will represent the perfect place for the residents of Tarwewijk and Rotterdam Zuid, to improve their cultural education in combination with a place to meet and spend their free time with art related hobby's.

# ARCHITECTURAL LANGUAGE

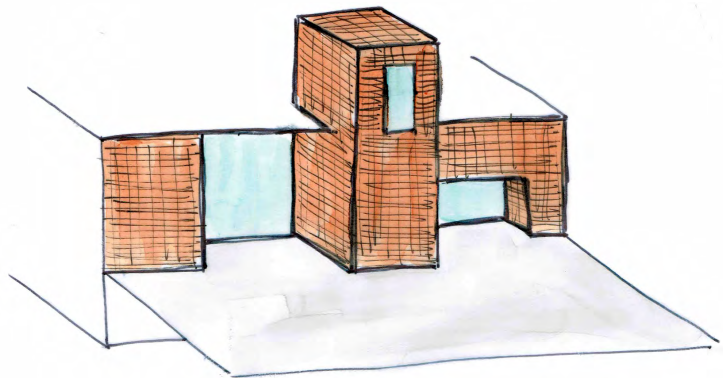
## Community Centre



Globe School - van der Steur



Tarwesterk - Artesk van Royen Architecten en Ziegler, Branderhorst



To reference the local - the Tarwewijk, the material of the community side will be brick. With this material and clever designing the space can be made with a human scale. The new gym Tarwesterk will be used as a reference on how to make a contemporary way of designing a monumental building with brick for the neighbourhood.

To do so the façade will be divided into smaller cubes, that are offset into all three directions. A taller cube could function as a tower overlooking the neighbourhood and function as a new symbol for the Tarwewijk.

This side of the building represents the community, the people of Tarwewijk. It needs to radiate a more human and domestic feeling, whereas the institute side of the building represents a bigger scale, the city and the museum.

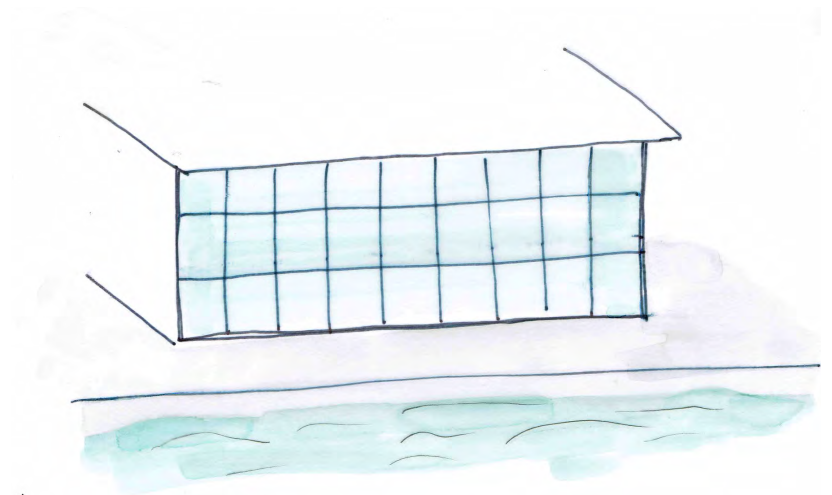
## Art Centre



Learning Center of the Polytechnique school in Paris-Saclay University



Neue Nationalgalerie - Mies van der Rohe

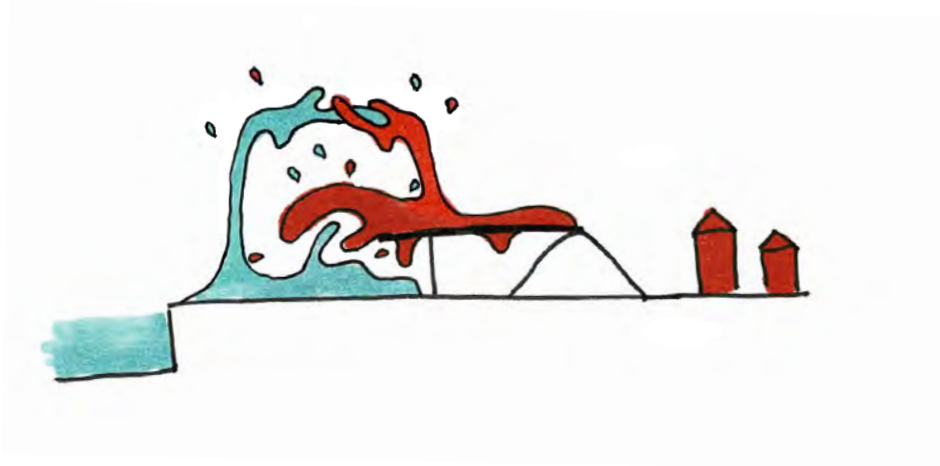


The Museum side of the building, overlooking the harbour will have a grand and urban feeling. It will be made of a glass curtain wall overlooking the harbour and the city. The waterside of the building will be representing the institute and the city. It will radiate a kind of monumentality and at the same time keep a transparent and airiness feeling.



# ARCHITECTURAL LANGUAGE

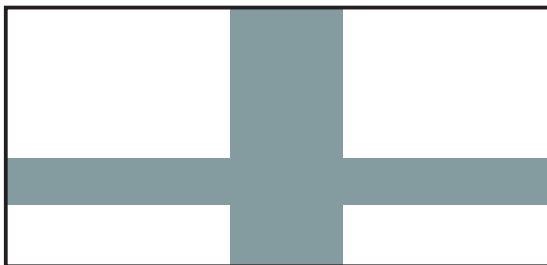
Concept - Community Centre & Art Centre



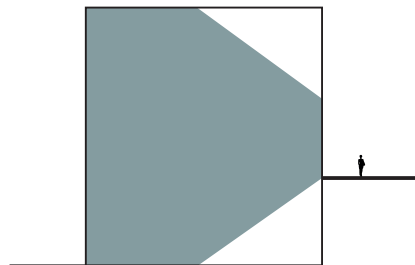
the two worlds come together and intertwine on the outside of the building (outer shell) and on the inside (program)



A hard and a soft world come together and intertwine on the outside and on the inside of the building



The elongated building is intersected in both directions with the meeting zone (also circulation)

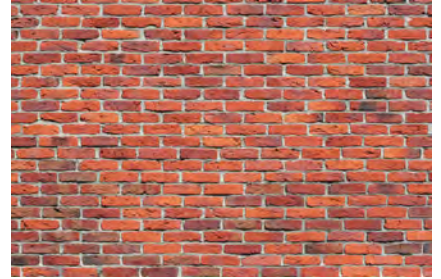
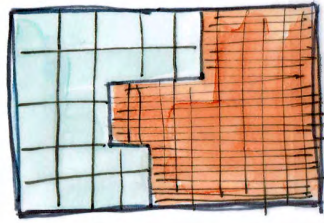


The meeting zone runs from a human scale to an urban scale

## Transition Facade



Museum

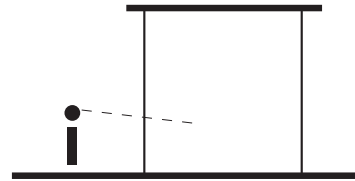
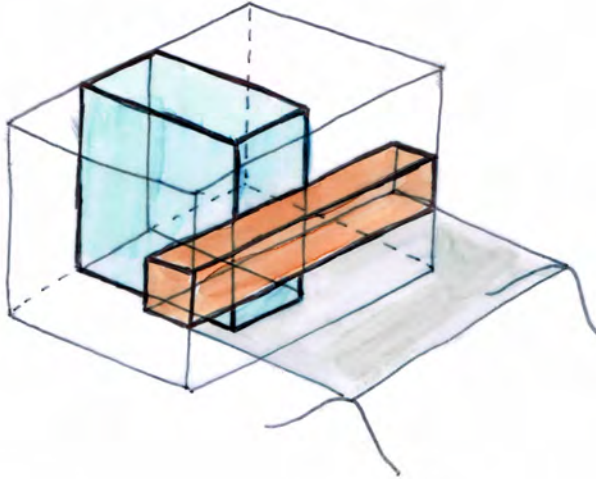


Community centre

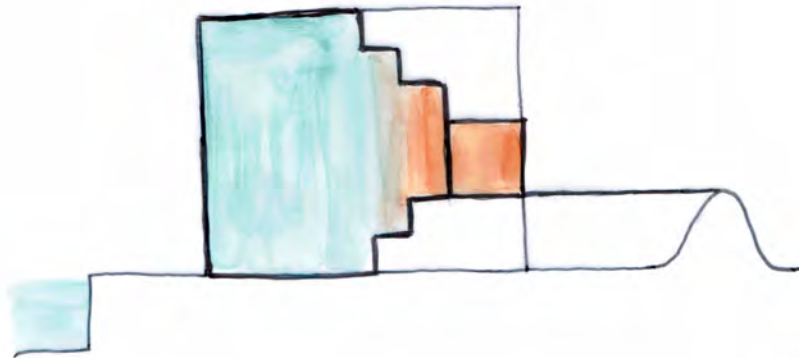


# MEETING ZONE

Connecting the two scales



community functions need to be visual to make it more accessible



## Sketching



Local

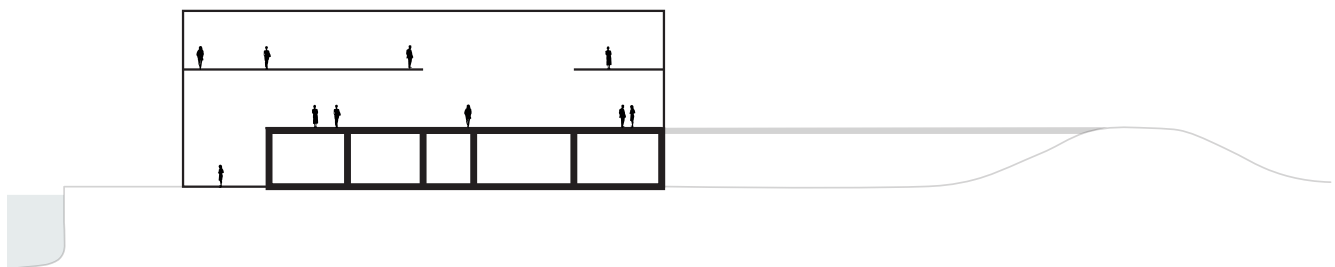


Institutional



# PROGRAM

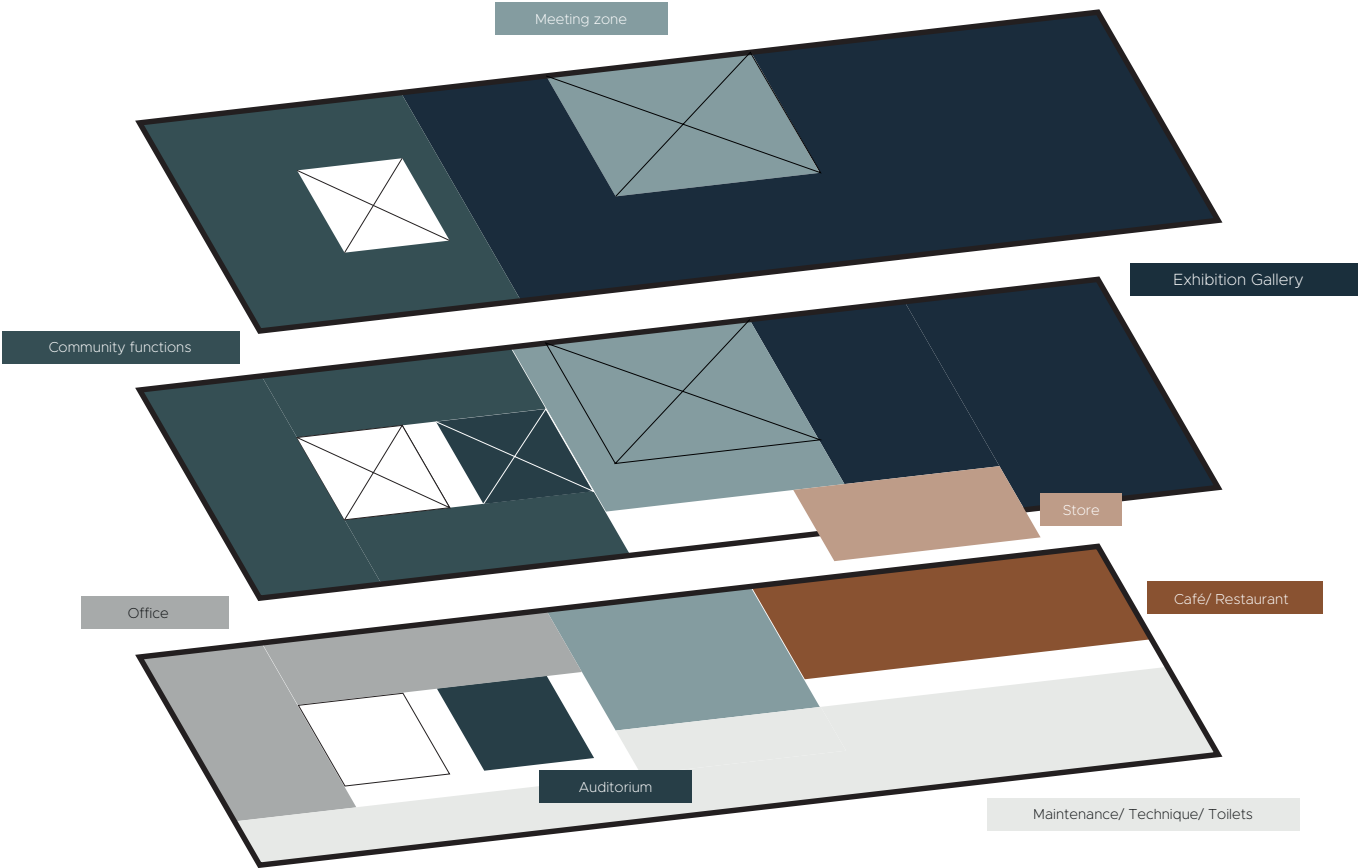
Division Private - Public



The spatial setup inside allows a division between a more private and smaller rooms on the ground floor and the more public and open spaces above. The community functions will mainly be situated on first level visible from the square.

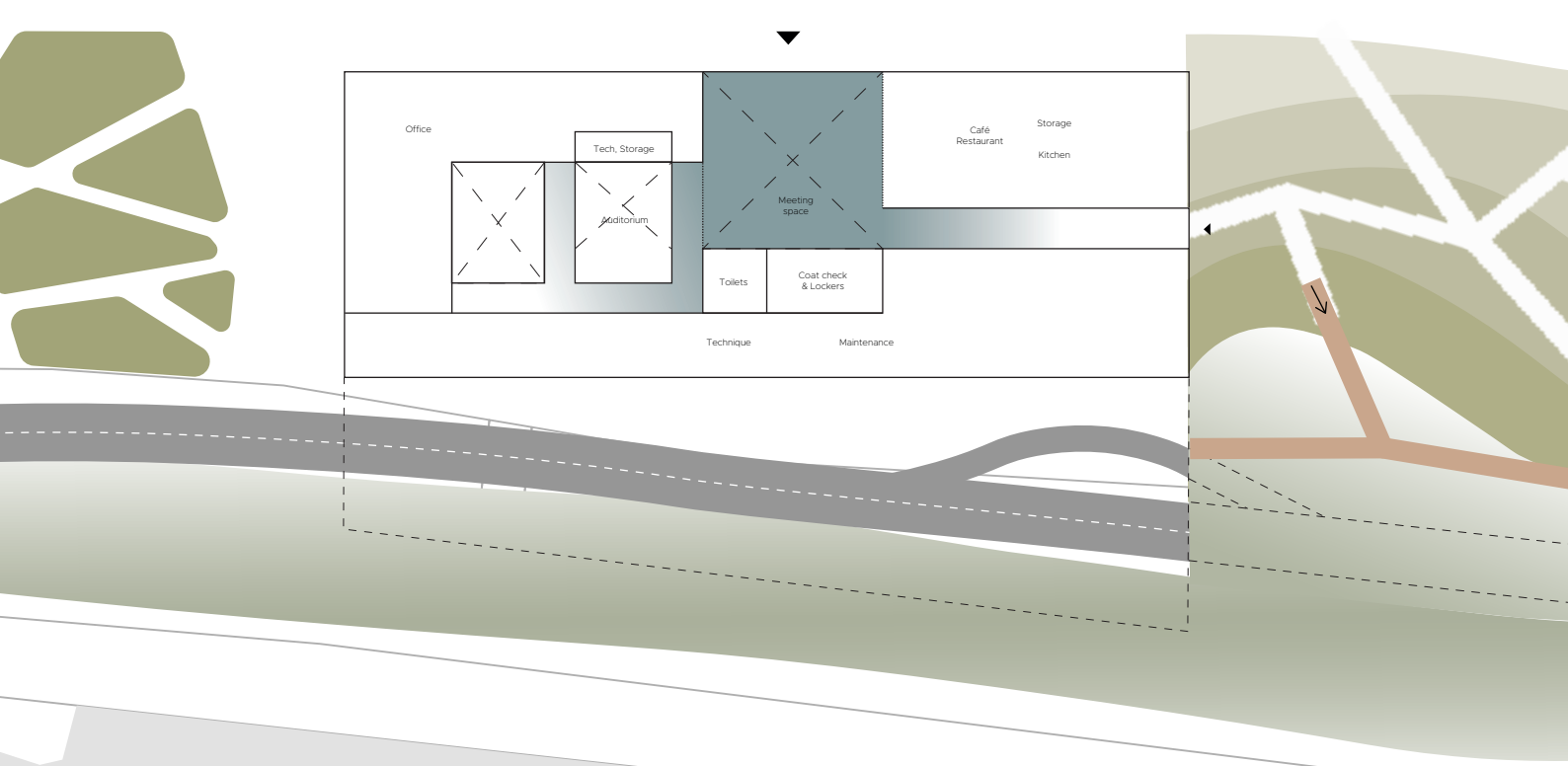


Zoning



# PROGRAM

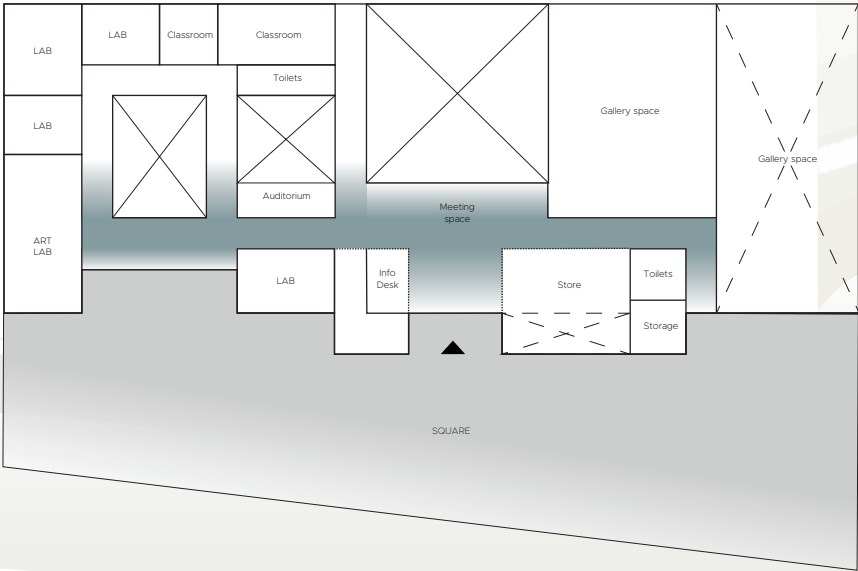
Floor 0



Library			Gallery space		Meeting space	Gallery space	Gallery space
LAB	○	○	Auditorium			Gallery space	
Office						Café/ Restaurant	Maintenance
SECTION						Archive	

1:1000 ↗

Level 1

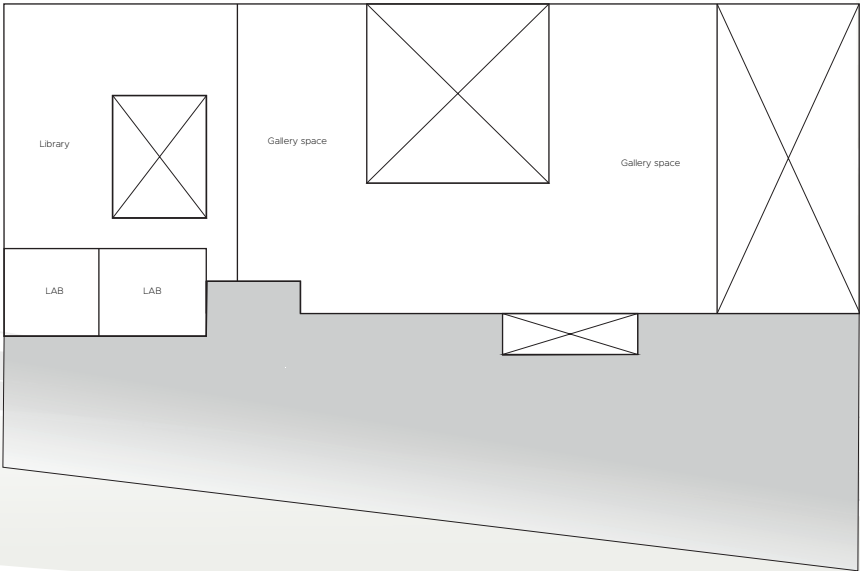


Library			Gallery space		Gallery space	Gallery space
LAB	○	○	Auditorium	Meeting space	Gallery space	Gallery space
Office					Café/ Restaurant	Maintenance
SECTION					Archive	

1:1000 ↗

# PROGRAM

Level 2



Library			Gallery space		Gallery space	Gallery space
LAB	○	○	Auditorium		Meeting space	Gallery space
Office						
					Café/ Restaurant	Maintenance
					Archive	

SECTION

1:1000 ↗

# PRELIMINARY AREA SCHEDULE

ASSIGNED AREA	ROOM	NET m2	NET AREA %	GROSS AREA %	NOTES
<b>Exhibition</b>	Exhibition Galleries	3000	35%	23%	T=20-28° 25m³/h per person with/without daylight ventilation
<b>Program &amp; Events</b>	Auditorium	200	2%	9%	150 seats
	Control room, Storage, Technical Office	incl.			
	Labs	370	4%		
	Lab 1	25			
	Lab 2	25			
	Lab 3	50			
	Lab 4	70			
	Lab 5	100			
	Lab 6	100			
	Library	600	7%		
<b>Visitor Services</b>	Information desk & ticketing	20	0%	1%	
	Coat check & Lockers	60	1%		
	Storage	10	0%		
<b>Multipurpose zone</b>	Blue Room	2000	23%	15%	for events/ exhibitions etc./ entrance/ main circulation
<b>Retail</b>	Museum and Design Store	120	1%	1%	museum-related and design merchandise
	Storage & Offices	30	0%		
<b>Dining</b>	Cafe, Bar	200	2%	4%	free for entrance
	Restaurant	130	2%		free for entrance
	Kitchen	100	1%		either for cafe and restaurant or two separate
	Storage	55	1%		
	Prep/ Staging Area	incl. in Storage			
	Trash Room	incl. in Storage			
	Office	incl. in Storage			
<b>Offices</b>	Work spaces	300	4%	3%	T=20-28° / 25m³/h per person 38 staff
	Meeting rooms	75	1%		
	Copy room/ Storage	55	1%		
	Pantry and toilets	25	0%		4 toilets
<b>Archive</b>	Art Storage	1000	12%	8%	not freely accessible with/without daylight ventilation
<b>Maintenance &amp; Operations</b>				1%	
	Security Office/ Control Room	40	0%		
	IT Service	35	0%		
	Staff Lunch Room/ Lounge	65	1%		
	Staff Locker Room	25	0%		
<b>TOTAL</b>		8515	100%	64%	
<b>UNASSIGNED AREA</b>					
<b>Total</b>		4800			36% of gross building area
	Circulation	incl.			
	Restrooms	incl.			on every floor
	Art Loading Dock	incl.			
	General Loading Dock	incl.			
	Mechanical/ Electrical/ Plumbing	incl.			
<b>TOTAL</b>		13315			



DESIGN PRINCIPLES  
DEVELOPMENT CONTEXT  
DESIGN PROCESS  
P3 DESIGN  
BUILDING TECHNOLOGY



0

3



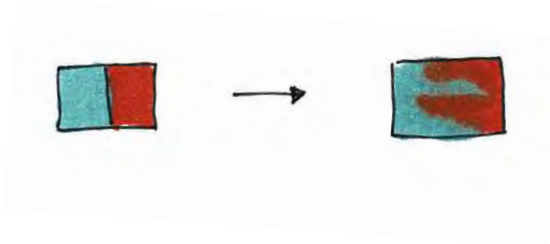
# DESIGN PRINCIPLES

# GUIDING THEMES

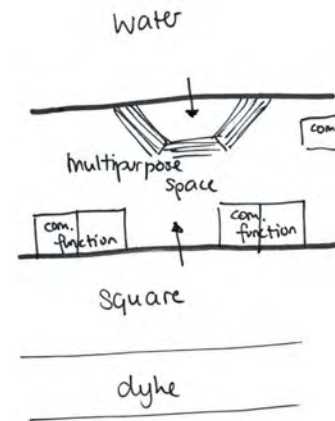
## Week 1

Moving away from 2 worlds colliding and focusing more on the combination of the two worlds

- thinking more multifunctional
- the (international) museum on a smaller scale (more domestic feeling) -> look at material



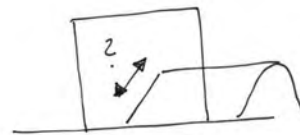
connection to dyke  
community functions connected to square on local side



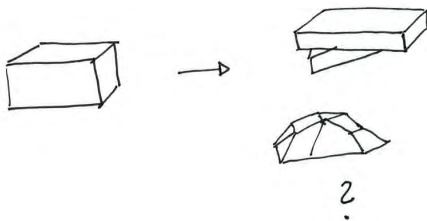
Looking at the museum more as a city in a museum (referencing Jane Jacobs)

- more diverse people coming
- more people come to the place to just be here (use it as part of their daily life)

But how to connect the two levels?



Going away from the square building

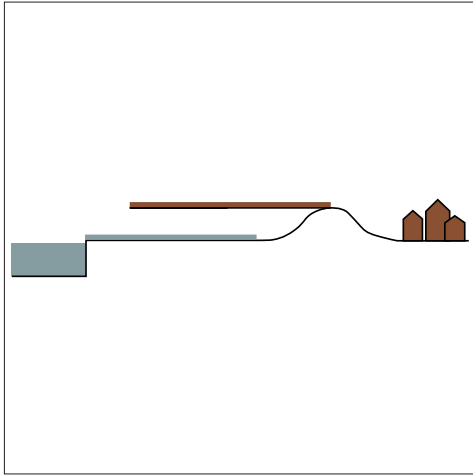


Use two big interventions of tarwewijk





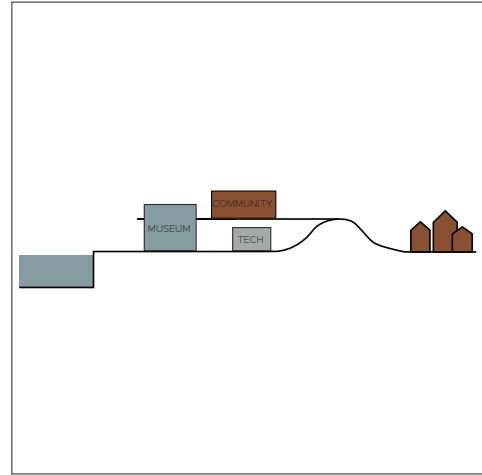
## Final for P3



### 2 LAYER STRUCTURE

Use the two layer structure to connect the two worlds

- **Museum side on the Waterfront**
- **Community side on dyke level (Tarwewijk)**



### DIVISION OF PROGRAM

The **museum functions** will be situated on the **ground floor**, sticking through the floor for visual connection. And the **community functions** will be on **dyke level**.

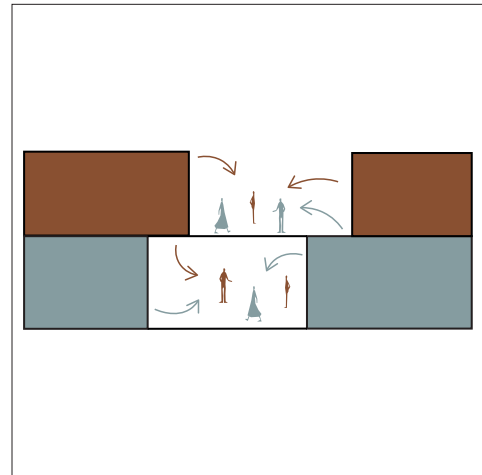
Other private functions will be on ground floor in the area of the building with less daylight.



### ROUTING

Use routing in building **for people to pass the art** and get interested.

Have **strolling opportunities** and **frequent corners** for people to feel comfortable (Jane Jacobs - the livable city).



### COLLIDING OF TWO WORLDS

The inbetween space becomes a **meeting zone** for different groups of people to **meet and engage** with the other activity.

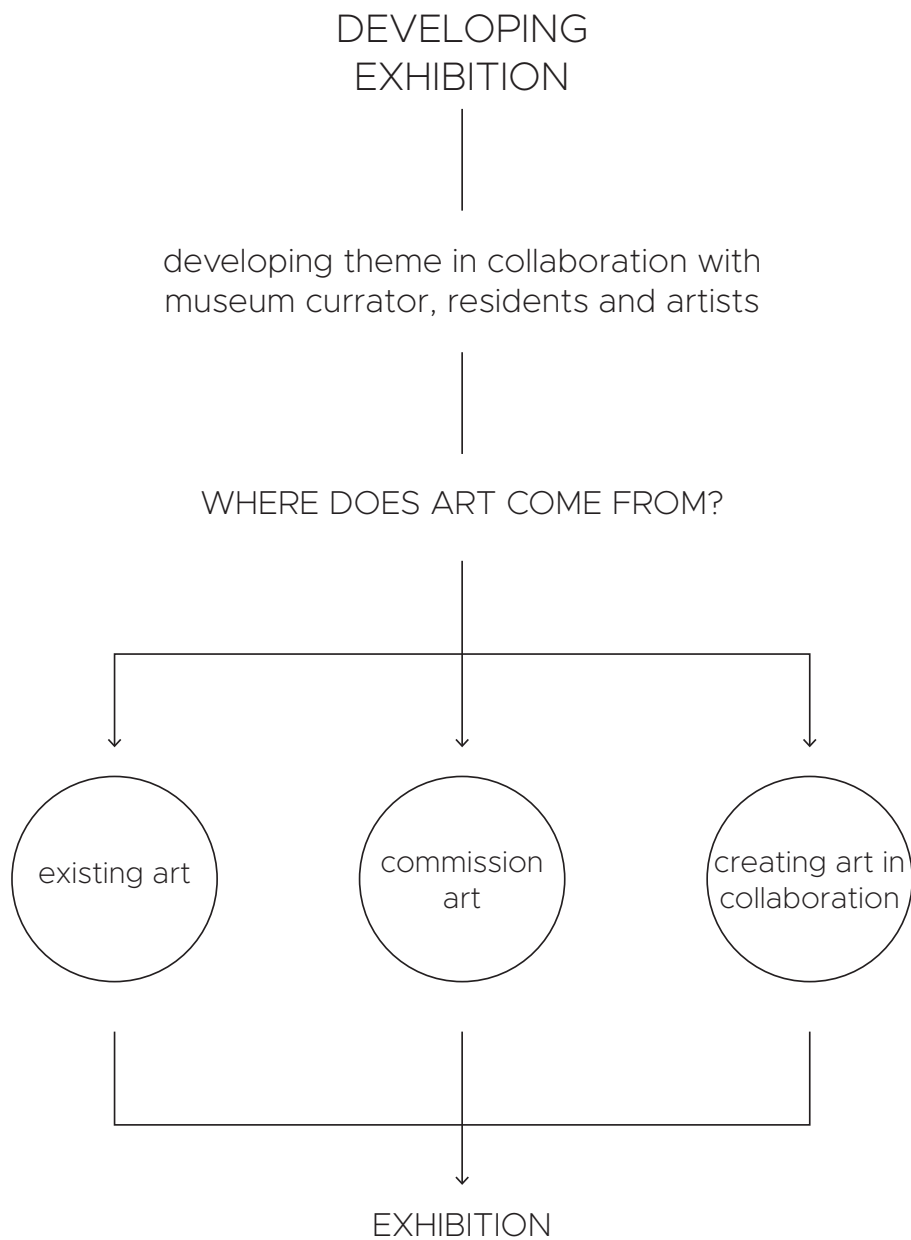
It will be the place where people **come into contact with art** in a low-threshold way.

# MISSION STATEMENT

*The Neighbourhood Art Centre stimulates the incidental engagement with contemporary art and making it more accessible for anyone. It fosters interaction between individuals and communities, and artists.*

# EXHIBITION

Developing a exhibition



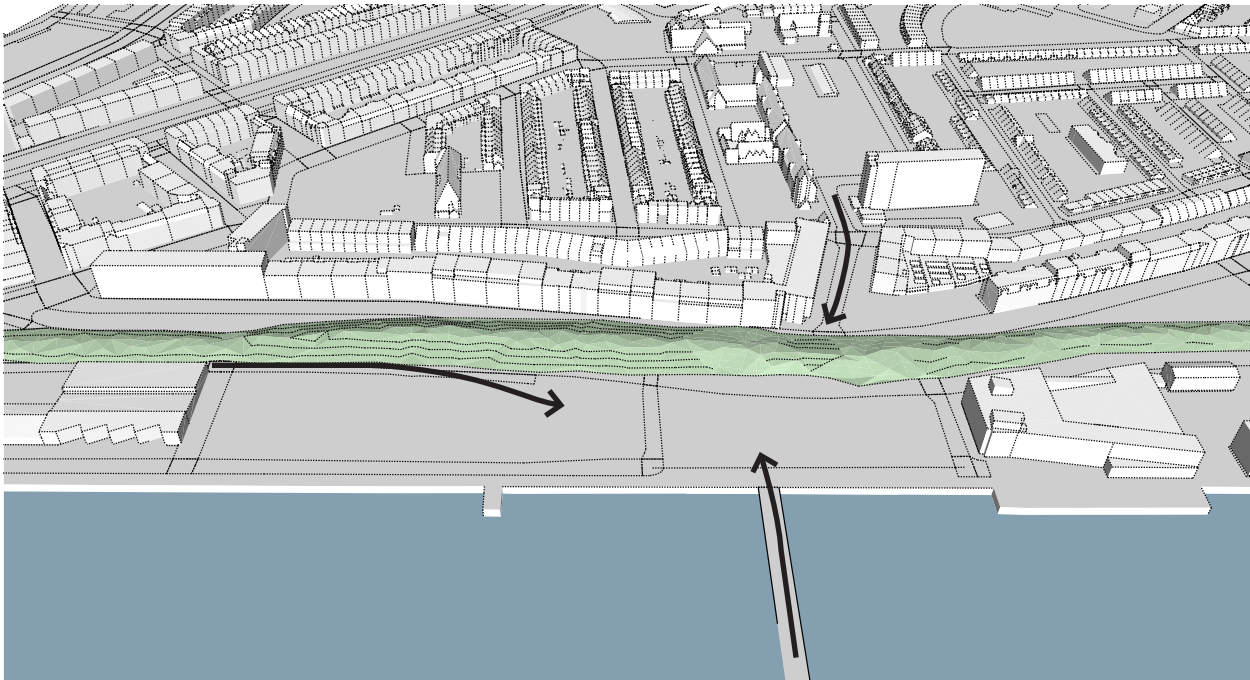


# DEVELOPMENT CONTEXT





# ARRIVAL ROUTES

Existing routes to site



The nearest Metro stations and public parking garages, used by museum visitors, are mainly on the North side. Visitors will be using the bridge connecting Kattendrecht and Tarwewijk. By splitting the **bridge** in two and **lifting up one part** visitors can **enter** the building on **two levels**. Visitors mainly coming to use the building as a community centre will come from the South.

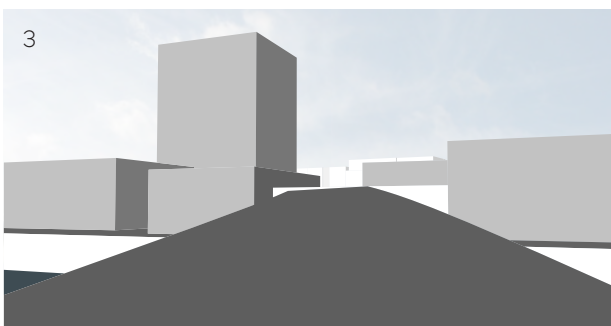
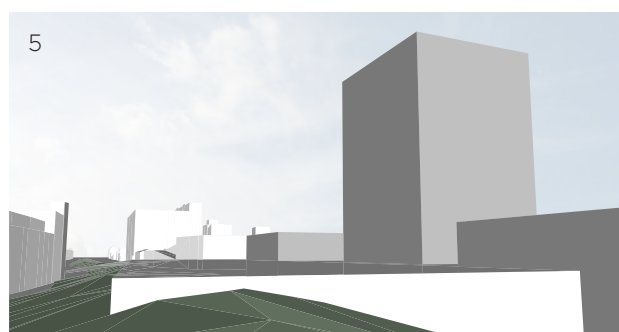
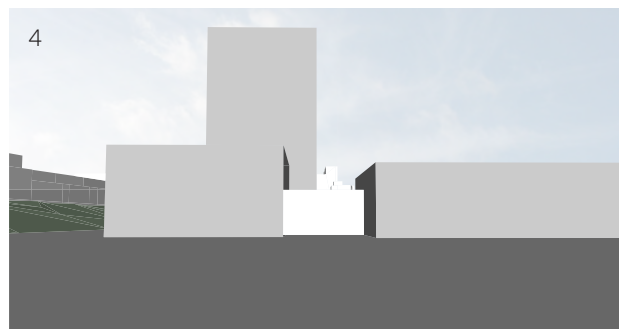
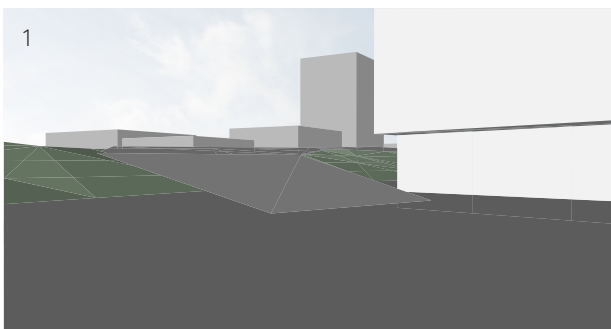
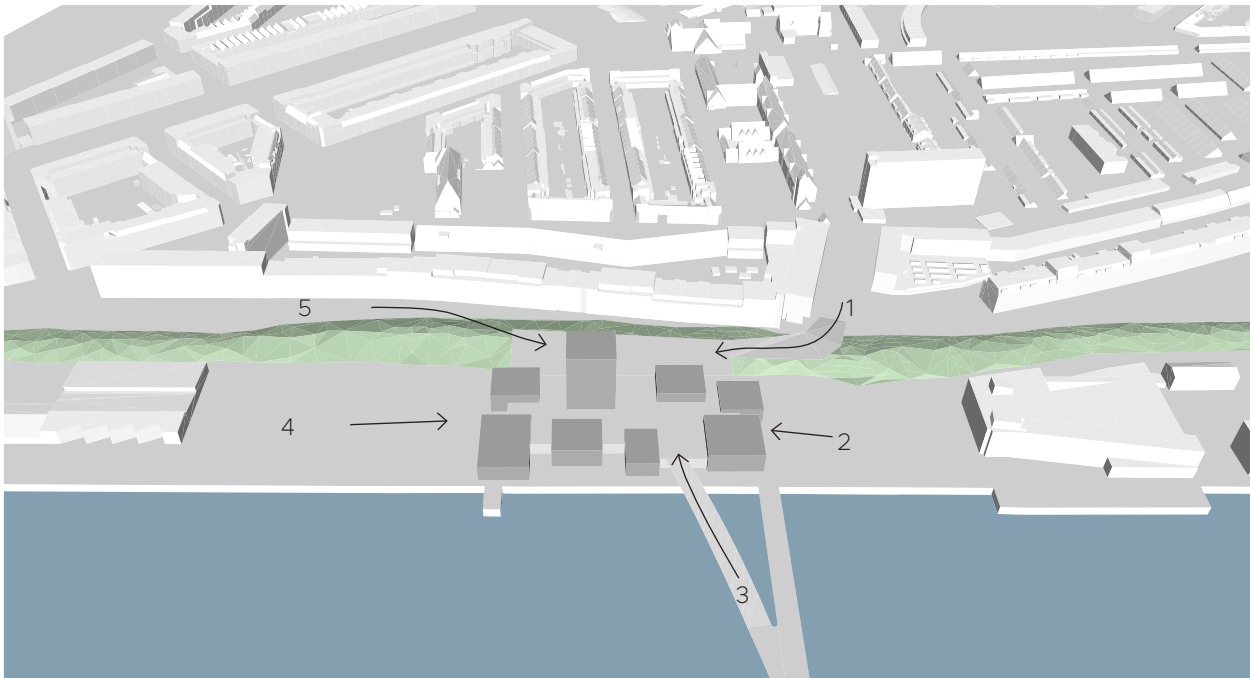
-  Community visitors
-  Museum visitors



Routes to site - OV & parking garage

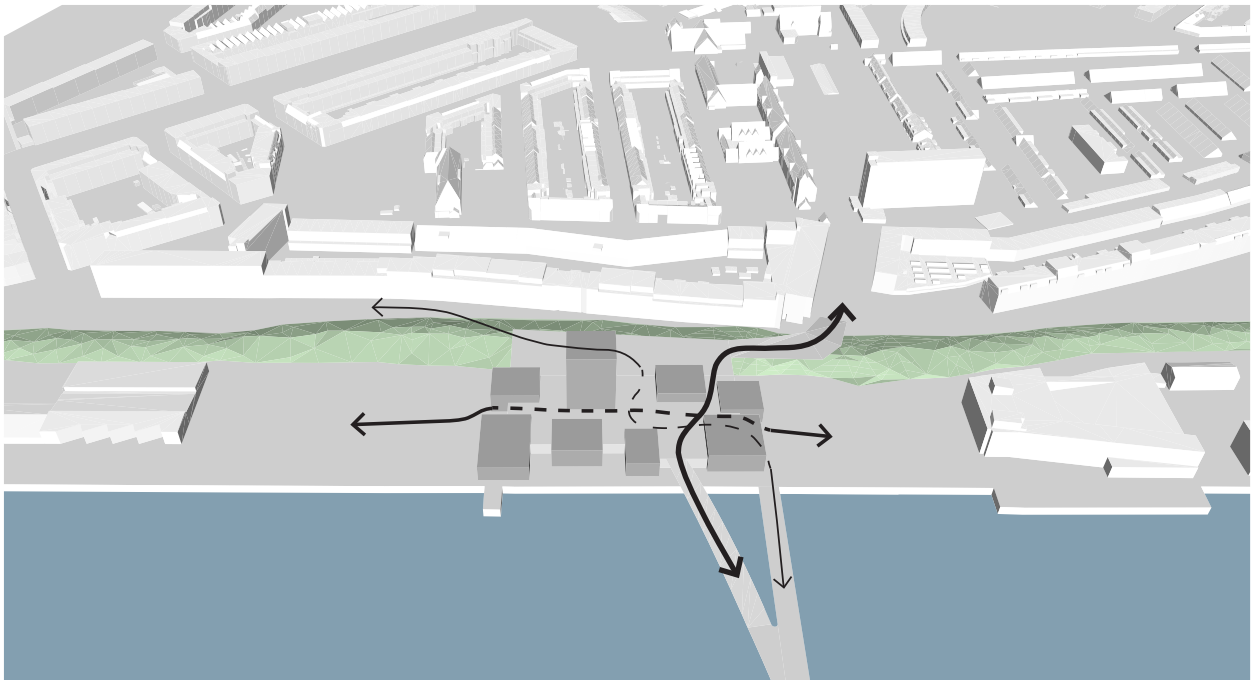
# ARRIVAL ROUTES

Reaction of building





## Creating connecting routes



the design creates new routes



The design is supposed to create routes through and over the building. These should offer the possibility to get in contact with the community and the art and get visitors interested to explore more.

The impression on the left shows the connection between the bridge with the Tarwewijk. The impression on the right shows a connection through the building.

# DYKE TRANSFORMATION



The original dyke has a height difference to the street of 2.5 meters. I will add 2 meters on top of this to create a public space connecting the building with Tarwewijk on dyke level. The street will go inbetween the building and the dyke underneath the deck.





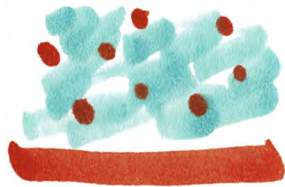


# DESIGN PROCES

# POSSIBLE CONFIGURATIONS

## Museum & Community

MUST



community spaces connected to square/ Tarwewijk

Mix of other functions with multifunctional spaces

Square

Tarwewijk



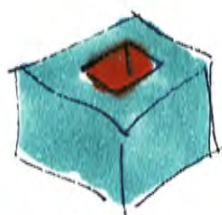
under/ above staircase



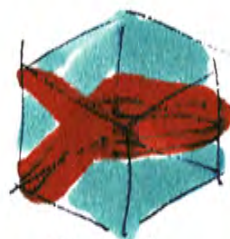
layers



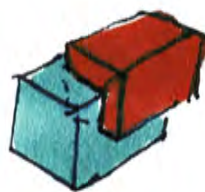
museum core



community core



spiral

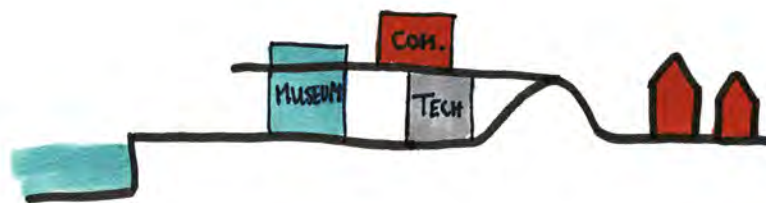


2 boxes

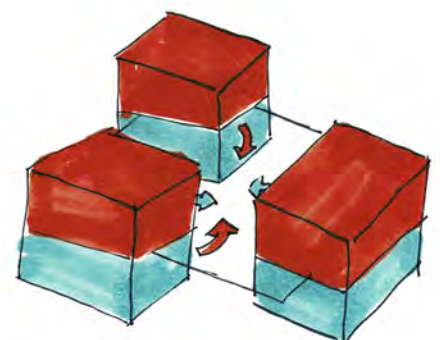
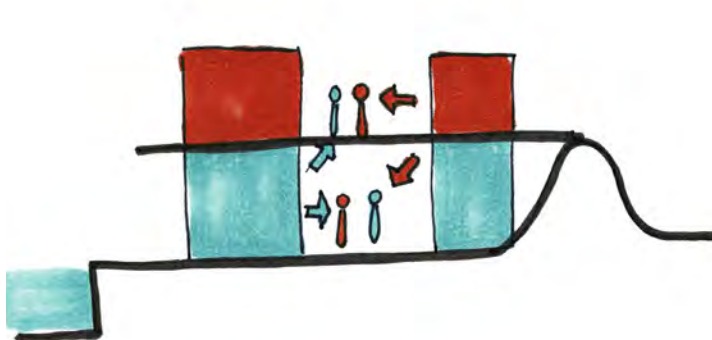
→ MIX

two worlds are too separate -> mix more

## Configuration week 2



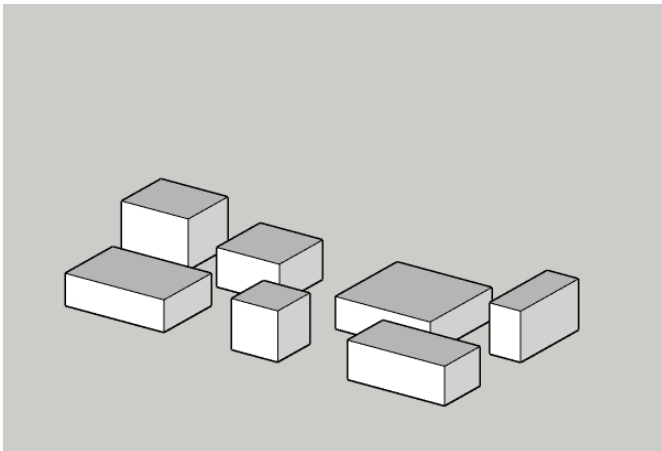
museum on ground floor  
community functions on dyke level



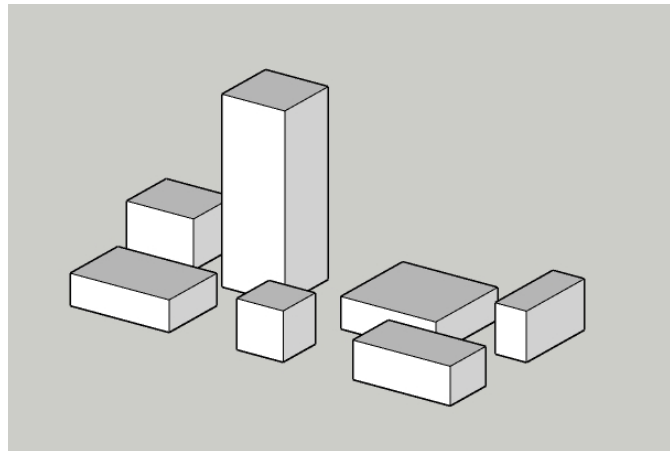
inbetween space becomes a meeting zone  
for the different groups of people to meet  
and get engaged with the other activity



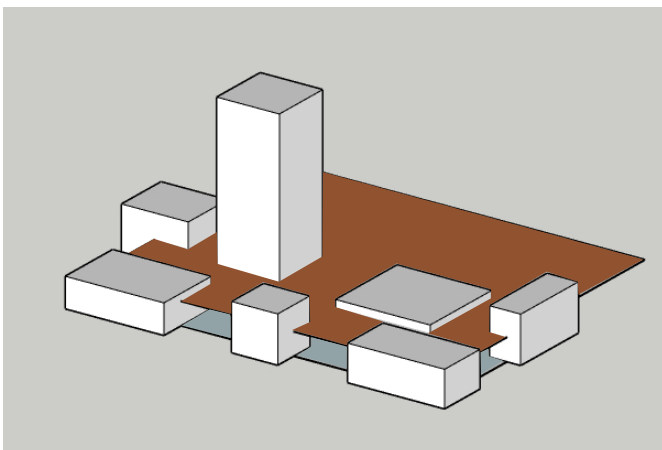
# DESIGN CONCEPT week 2



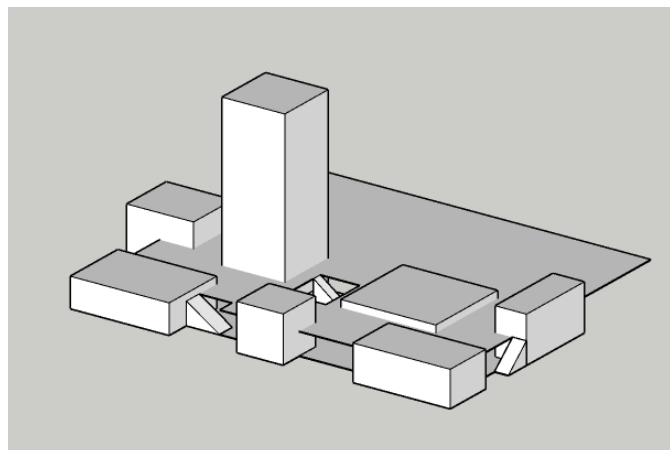
1 Pavillions with more private functions  
(specific use, multipurpose)



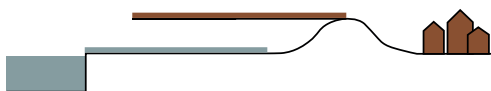
2 Landmark/ Symbol for Tarwewijk



3 Public inbetween space on 2 levels (dyke & water)  
here art and society meet & intermingle  
(open: low threshold & very accessible  
-> low key museum)

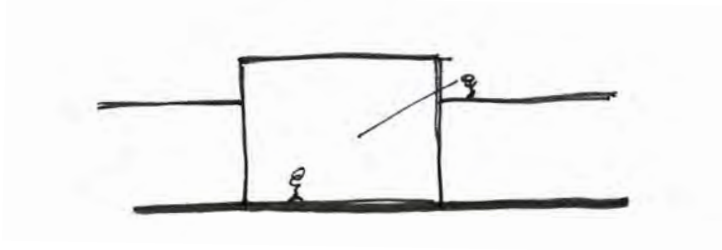


4 many Connections (visual & physical) between the  
two public meeting zones

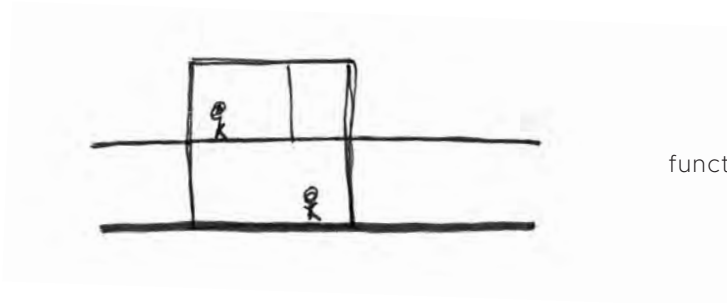


## Pavillions

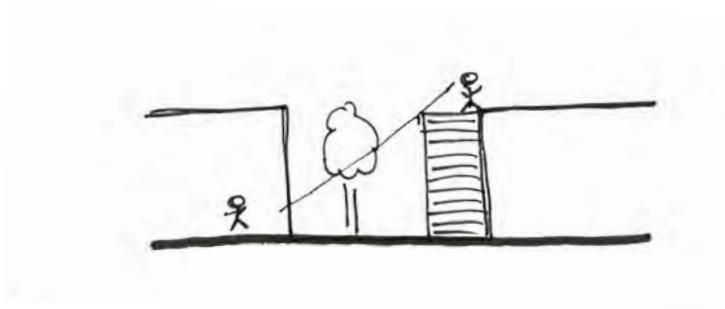
visual connections between 2 levels



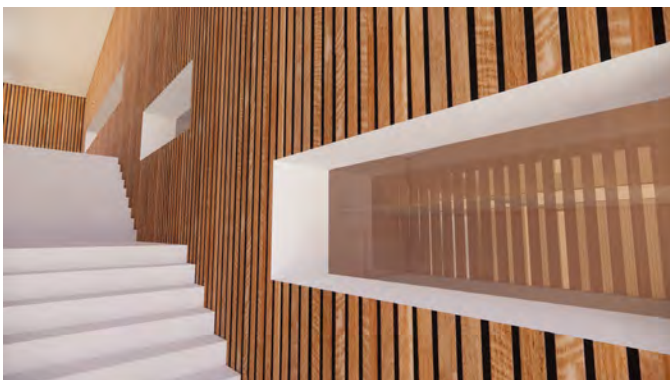
visual connection to pavillion



functions on two levels



opening - visual & physical connection



example visual connection to pavillion



visual & physical connection between two layers

# PROGRAMATIC LAYOUT week 3

Preliminary area schedule

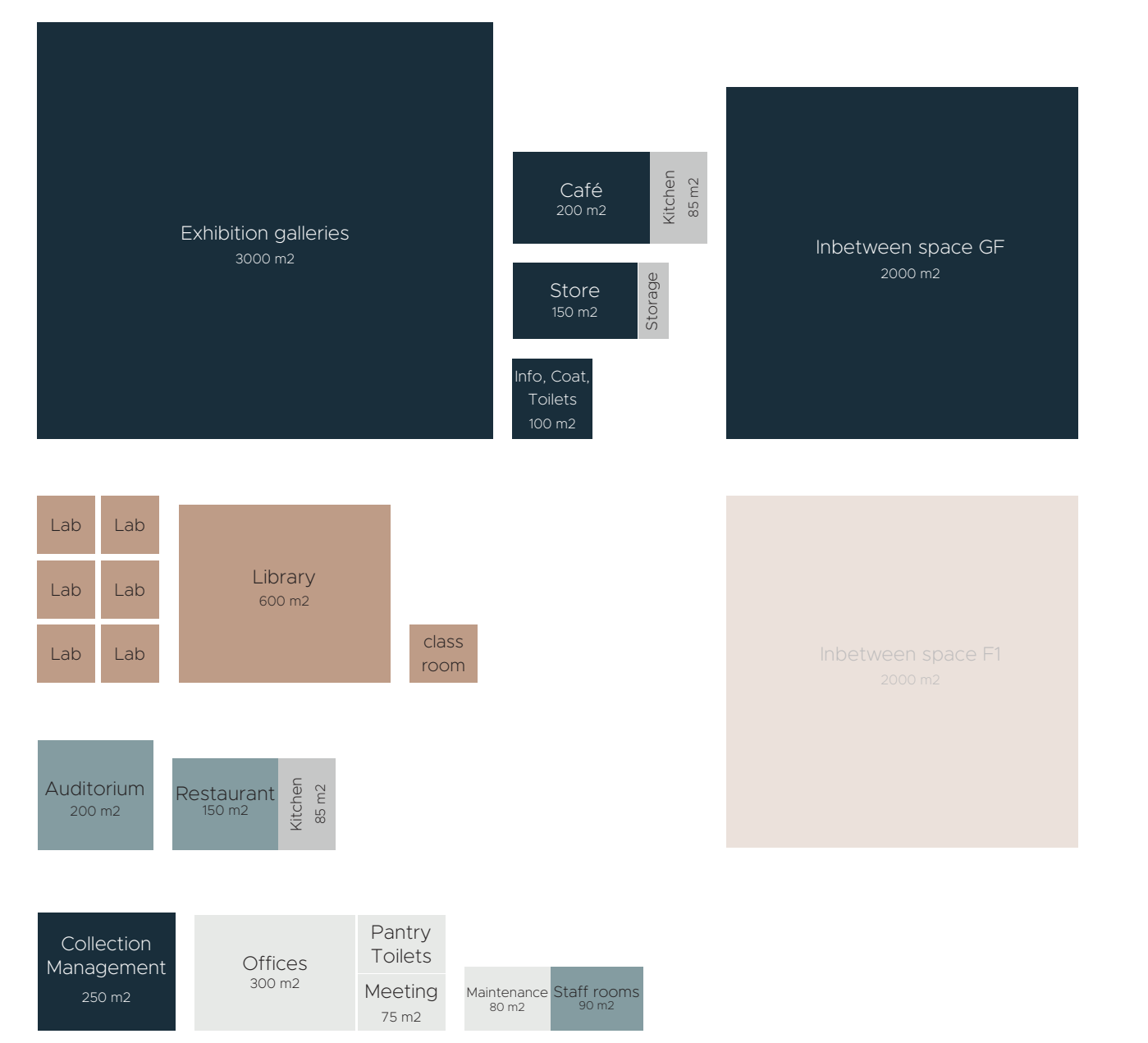
ASSIGNED AREA	ROOM	NET m2	STORY HEIGHT	NET AREA %
<b>Exhibition</b>	Exhibition Galleries	3000	> 1	28%
<b>Program &amp; Events</b>	Auditorium	200	2	2%
	Control room, Storage, Technical Office	incl.	1	
	Library	600	1	6%
	Labs	370		3%
	Lab 1	25	1	
	Lab 2	25	1	
	Lab 3	50	1	
	Lab 4	70	1	
	Lab 5	100	1	
	Lab 6	100	1	
	Classroom	65	1	1%
<b>Visitor Services</b>	Information desk & ticketing	20	1	0%
	Coat check & Lockers	60	1	1%
	Storage	10	1	0%
<b>Meeting zone</b>	inbetween space indoors	2000	1	18%
	inbetween space outdoors, Kunsttuin	2000	open	18%
<b>Retail</b>	Museum and Design Store	150	1	1%
	Storage & Offices	30	1	0%
<b>Dining</b>	Cafe, Bar	200	> 1	2%
	Kitchen	85	1	1%
	Restaurant	150	> 1	1%
	Kitchen	85	1	1%
	Storage/ Trash Room	incl. in Kitchen	1	
	Prep/ Staging Area	incl. in Kitchen	1	
	Office	incl. in Kitchen	1	
<b>Offices</b>	Work spaces	300	1	3%
	Meeting rooms	75	1	1%
	Copy room/ Storage	55	1	1%
	Pantry and toilets	25	1	0%
<b>Collection Management</b>	Art Storage/ Archive	1000	1	9%
	Shipping & Receiving	50	1	0%
	Crate Storage	50	1	0%
	Uncrating/ Staging	50	1	0%
	Shared Art Prep/ Conservationg & Equip	70	1	1%
	Register, Conservation, Exhib. Design ..	30	1	0%
<b>Maintenance &amp; Operations</b>	Security Office/ Control Room	40	1	0%
	IT Service	35	1	0%
	Staff Lunch Room/ Lounge	65	1	1%
	Staff Locker Room	25	1	0%
<b>TOTAL</b>		10895		100%

GROSS AREA %		NOTES	
19%	T=20-28° 25m <sup>3</sup> /h per person	with/without daylight	ventilation
8%	150 seats		
	flex	CuratorLab	
	perm	CastingLab	
	perm	DigitalLab	
	flex	PerformanceLab	
	perm	StudioLab (painting, sculpturing)	
	perm	WoodLab (wood working machines)	
	flex		
1%			
25%	for events/ exhibitions etc./ entrance/ main circulation		
1%	museum-related merchandise, local products, art supplies		
3%	free for entrance 30% of total floor space free for entrance 40% of total floor space		
3%	T=20-28° / 25m <sup>3</sup> /h per person	38 staff	
	4 toilets		
8%	not freely accessible	with/without daylight	ventilation
1%			
69%			

Museum related  
 Community related  
 Mix use  
 Technical/ behind the scenes

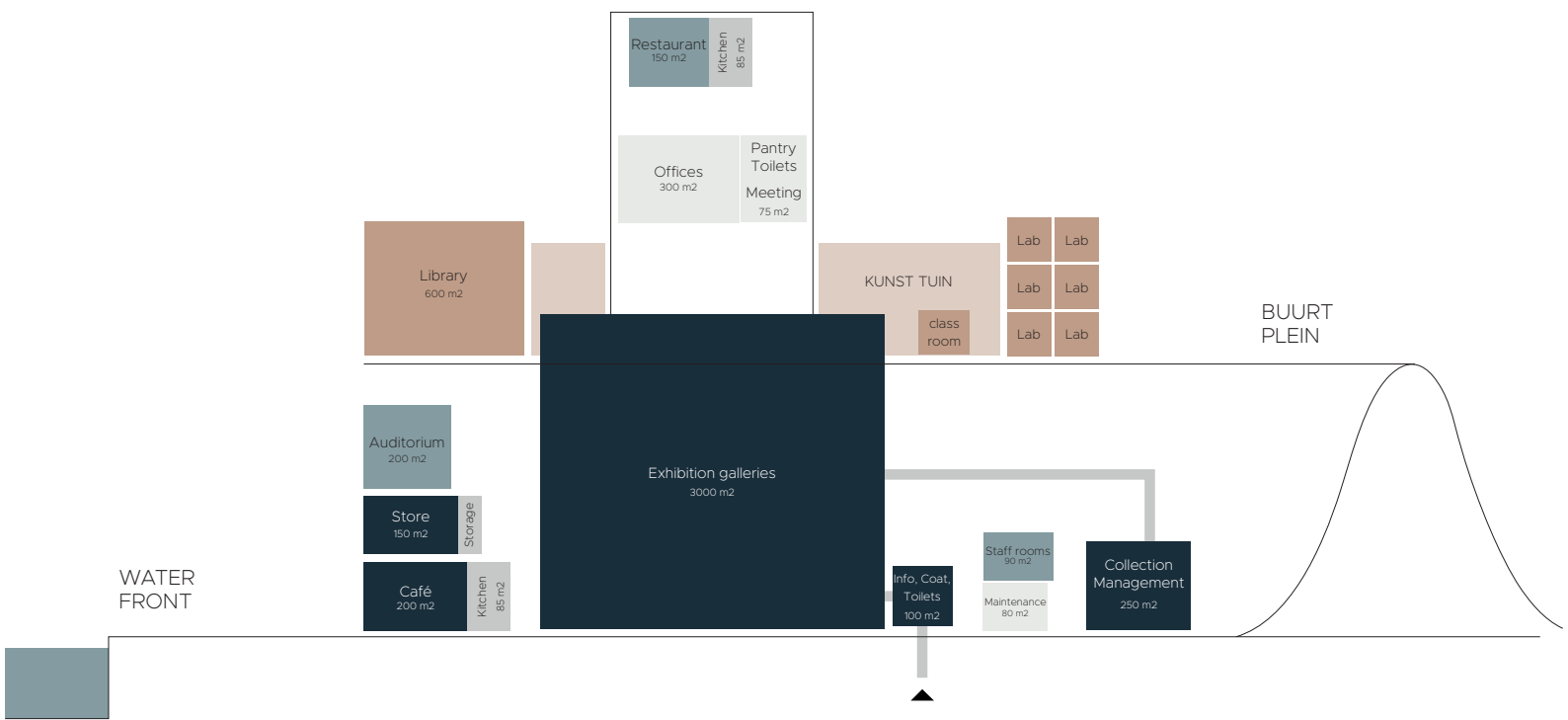
# PROGRAMMATIC LAYOUT week 3

Program overview on scale





Spatial relationship - section



## Sketching

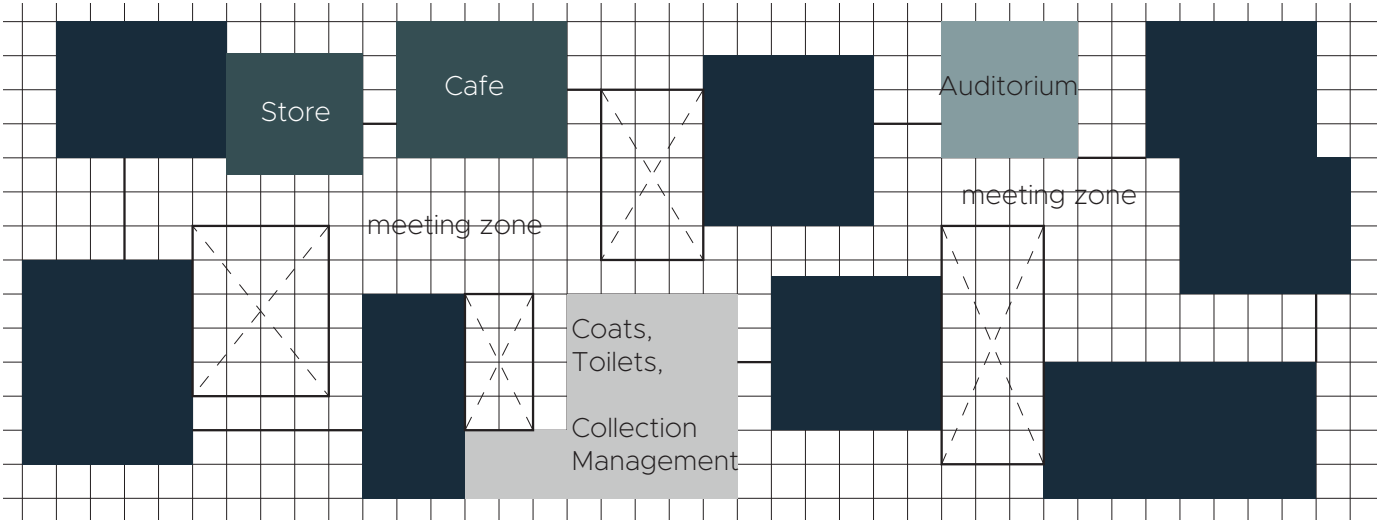
Hand-drawn floor plan of a building layout on graph paper. The plan shows several rooms and corridors. Rooms are labeled with 'M' and numbers: M 320 (top left), Store (top left, blue outline), cafe (top center, blue outline), M 320 (top center-right), And. (top right, blue outline), M 640 (top right), M 380 (bottom left), M 288 (bottom center-left), coats (bottom center-left), toilets (bottom center-left), collection managen. (bottom center-left), M 360 (bottom center-right), and M 510 (bottom right). There are also blue-outlined rooms with cloud symbols and a dashed box. Corridors are marked with lines and small vertical bars. A staircase is shown near the M 320 room on the right. A water feature is indicated near the And. room.

268 | DESIGN JOURNAL P3 - DESIGN PROCES

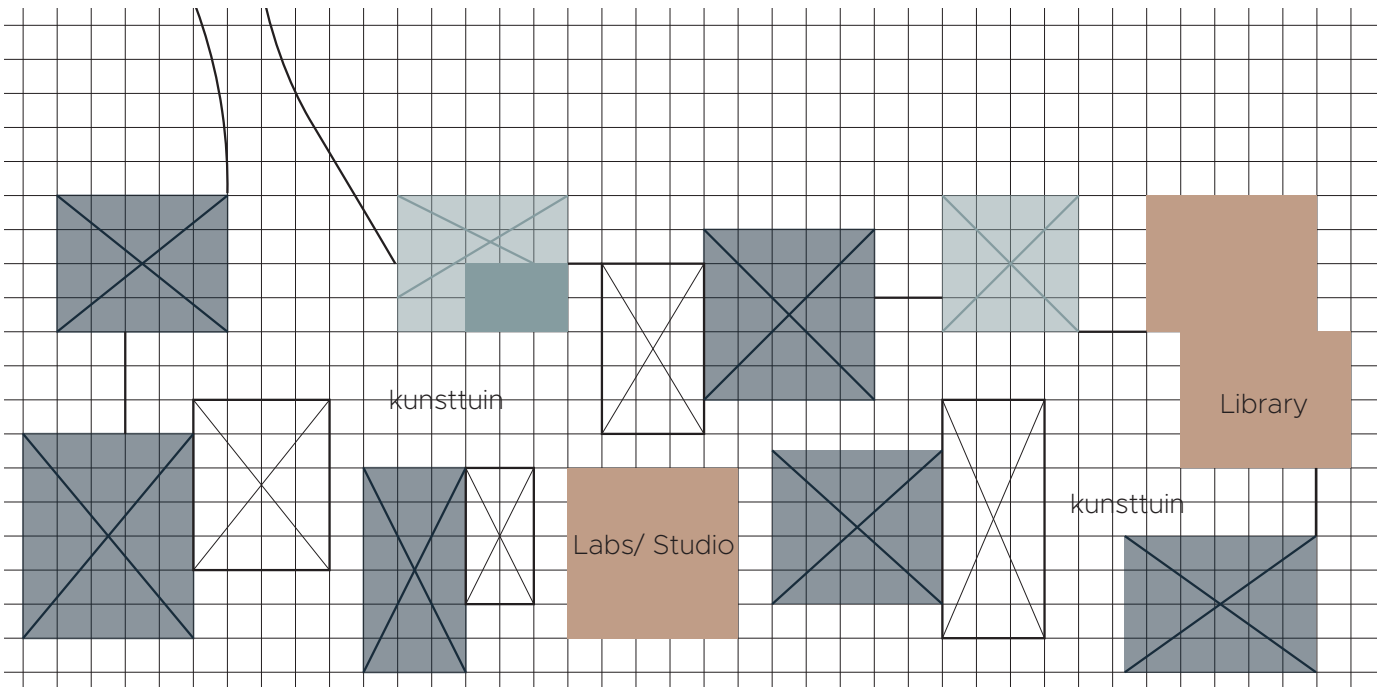
Program

GROUND FLOOR

Exhibition space

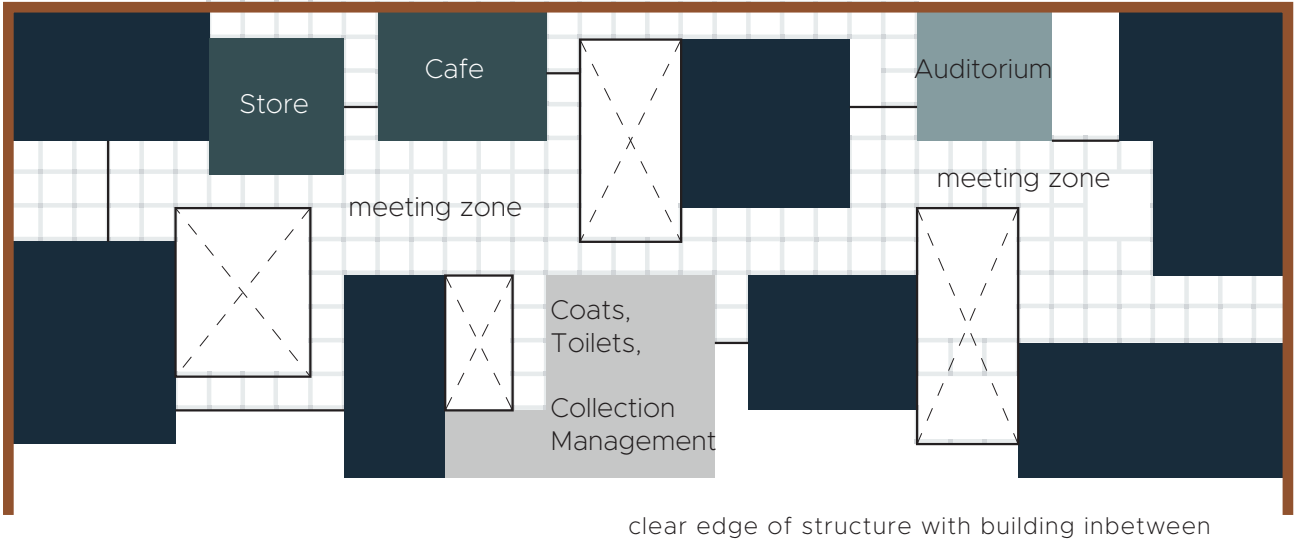


FIRST FLOOR

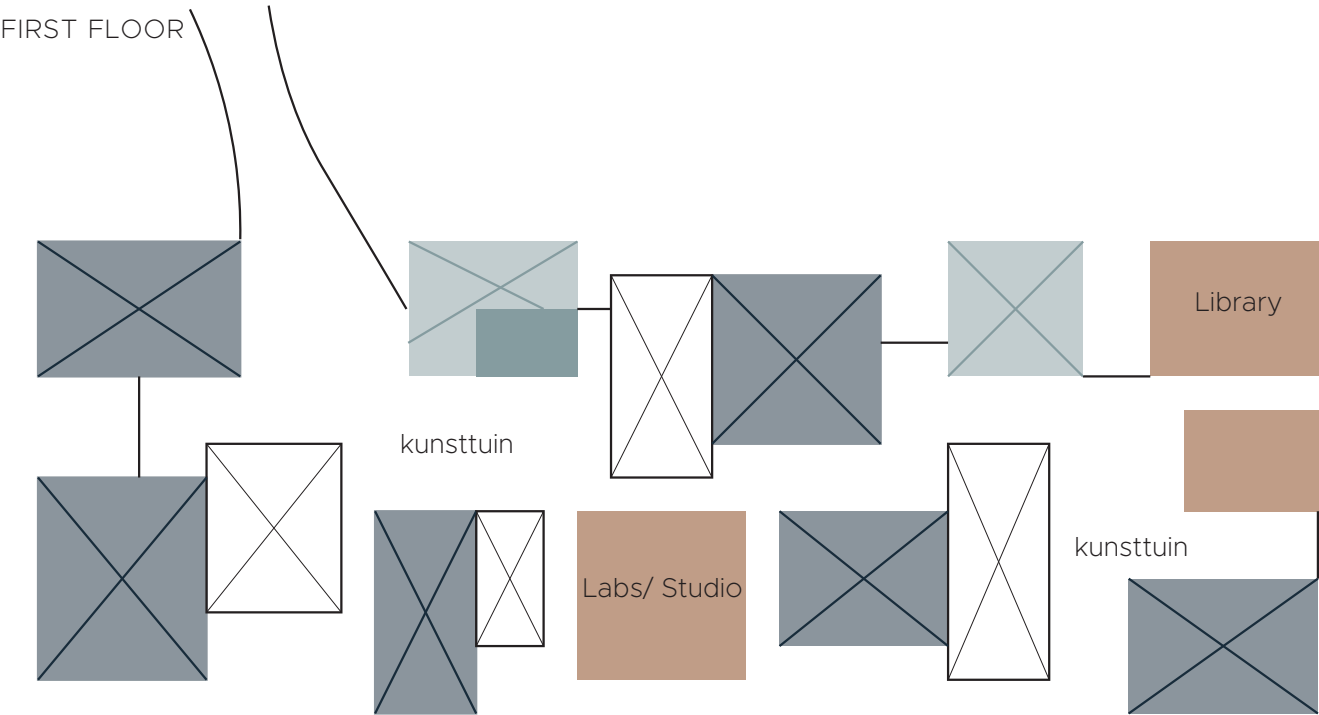


# DEVELOPMENT week 7

## GROUND FLOOR

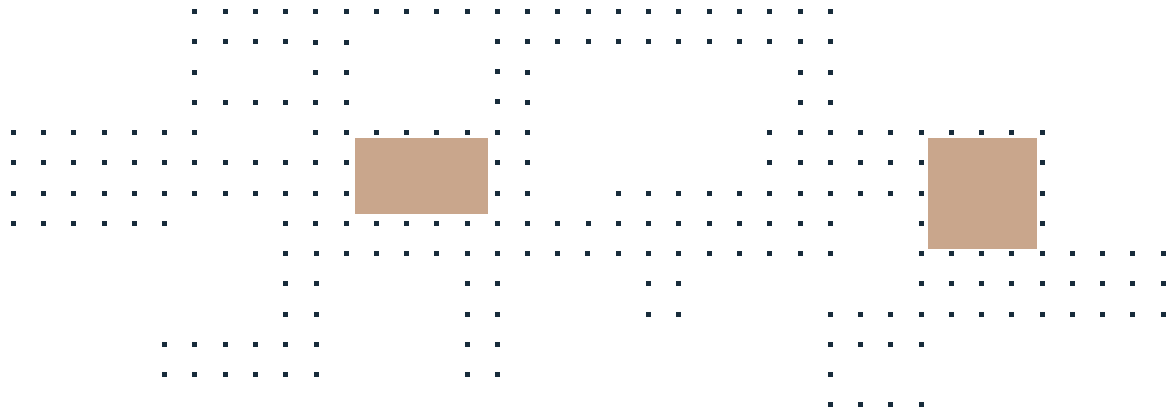


## FIRST FLOOR



## Column structure in meeting zone

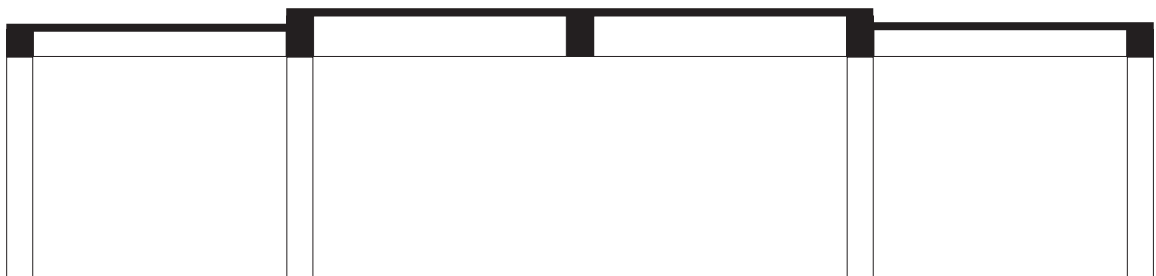
The building has columns at all grid intersections in the meeting space, except in the two big halls. Here the beams and ceiling are taller.



column hallway



open hall





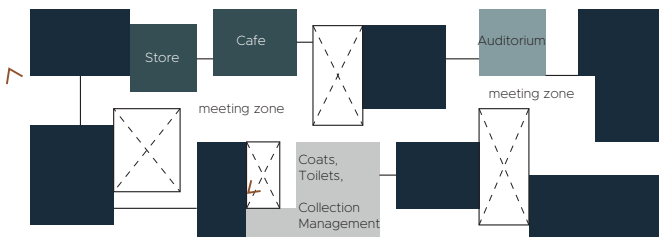
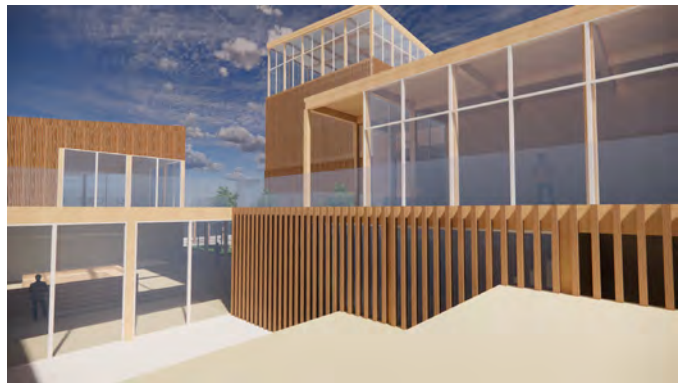
# DEVELOPMENT week 7

Tower in line of building



I chose to put the tower in line of the building

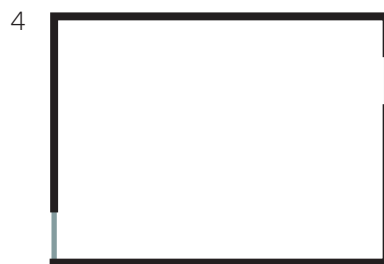
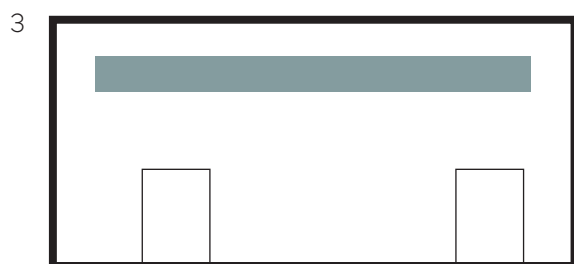
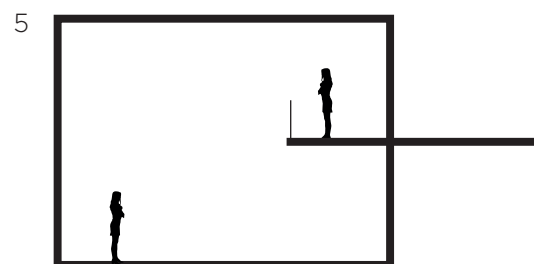
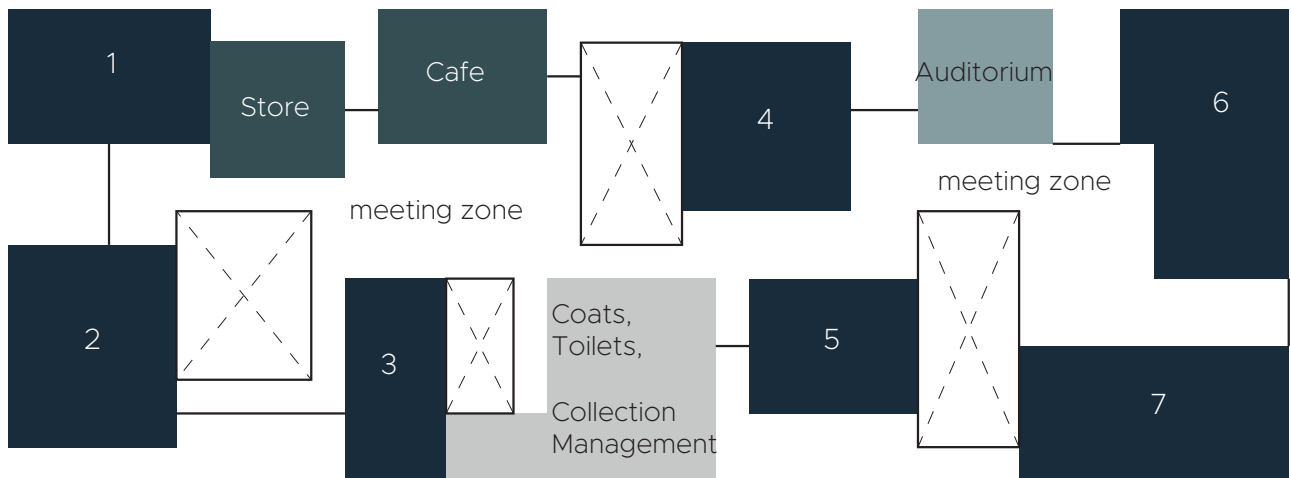
## SPECIAL FACADE DESIGN



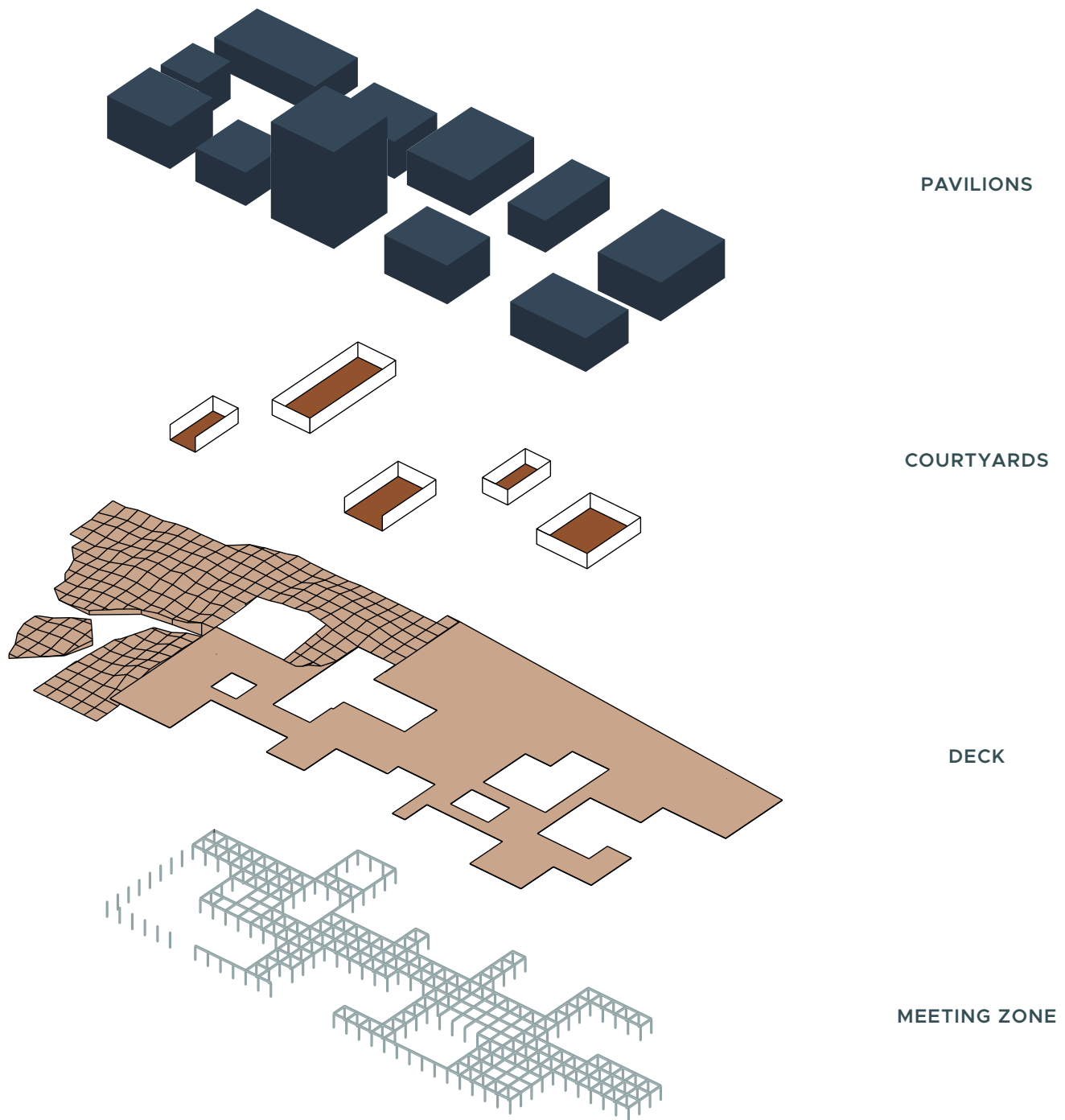
Some spots of the building have a special facade, I chose to work with the same panelling of the closed walls and remove some of the panelling so you can look through



# EXHIBITION GALLERIES



# DESIGN ELEMENTS



The building is build up with 3 design elements:

**Meeting Zone** (glulam structure)

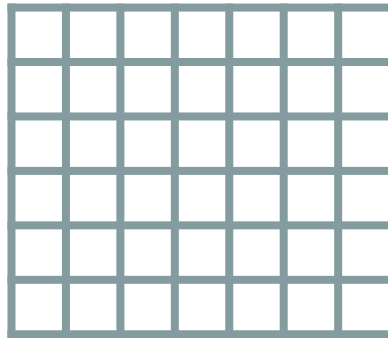
**Pavilions** (Galleries & Community functions)

**Courtyards** (Openings)

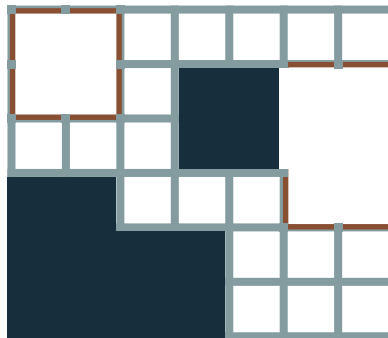
The deck covers the building and connects the different elements to each other.

## Concept column beam structure

the structure of the meeting zone has priority/  
first rank



pavilions/ courtyards are added to this structure  
as second priority



# DESIGN ELEMENTS

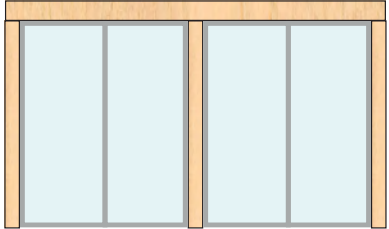
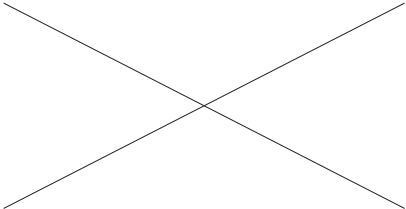
## Facade design

meeting zone/  
public space

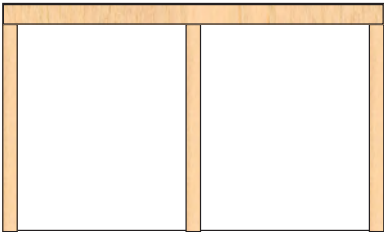
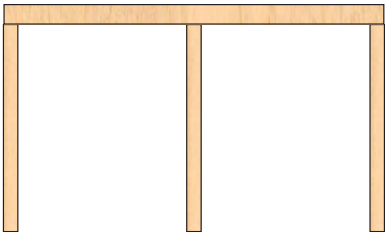
museum pavilion

courtyard

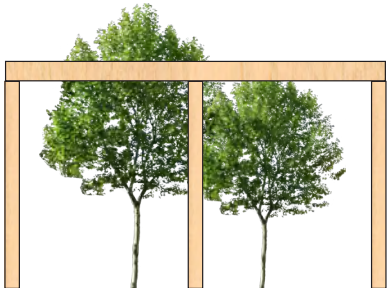
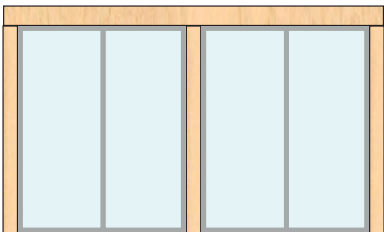
inside/ private



inside meeting zone/  
public



outside



# Material Functions

## MUSEUM



Secondary School Sauland, Norway



naturum Kosterhavet, Sweden



## MEETING ZONE



Ostermalm market, Stockholm



BMW Artville, Belgium





**P3 DESIGN**

# THE NEIGHBOURHOOD ART CENTRE





# NOLLI MAP



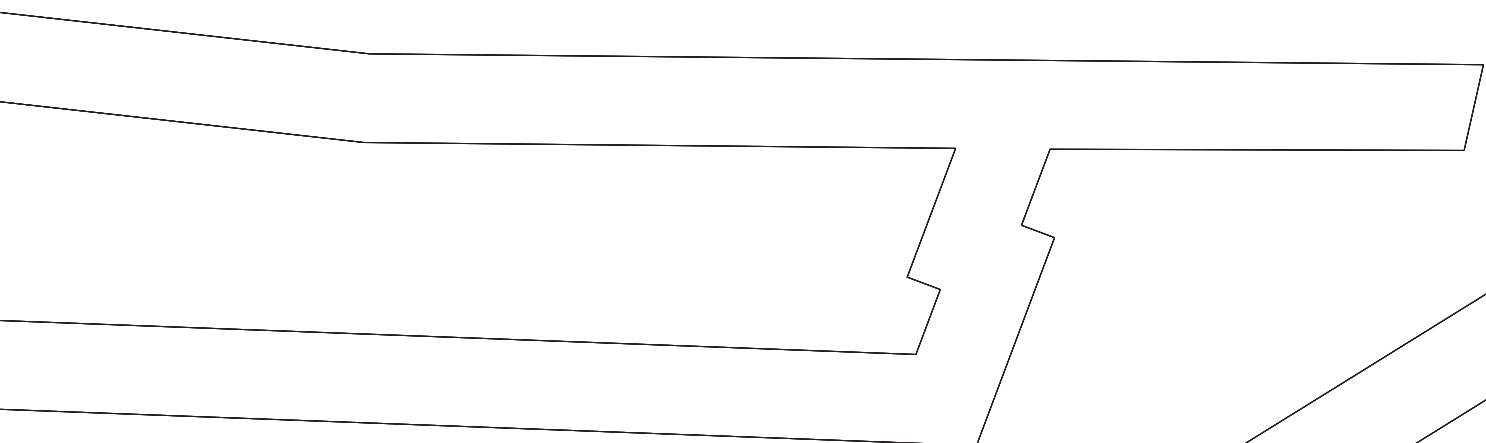






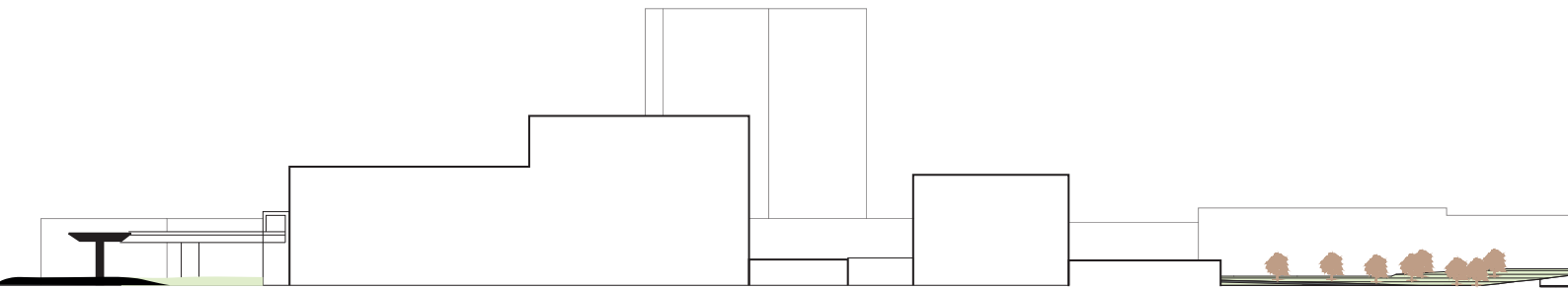
# SITE DESIGN



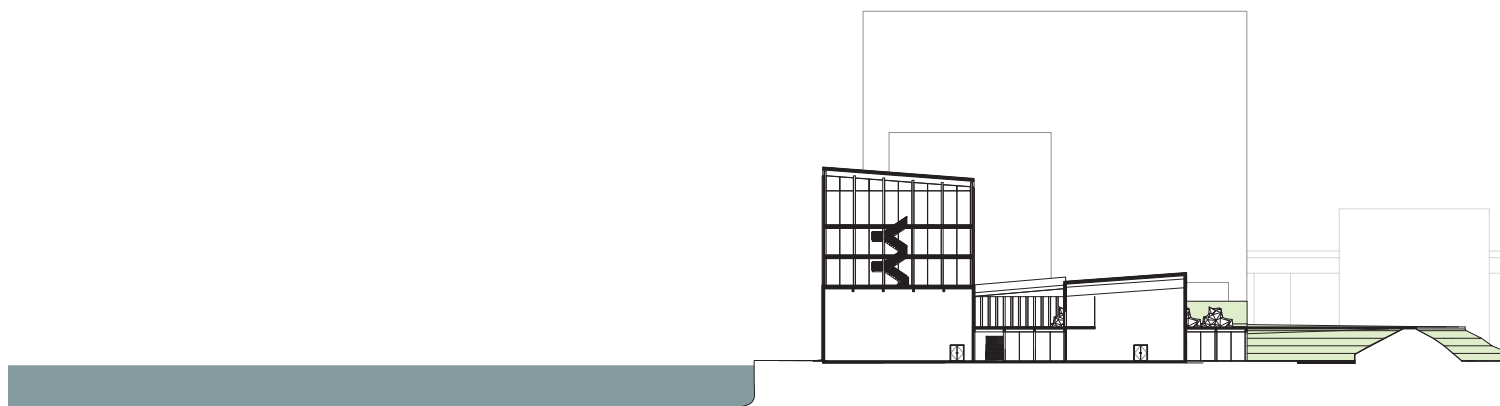


1:1000 ↗

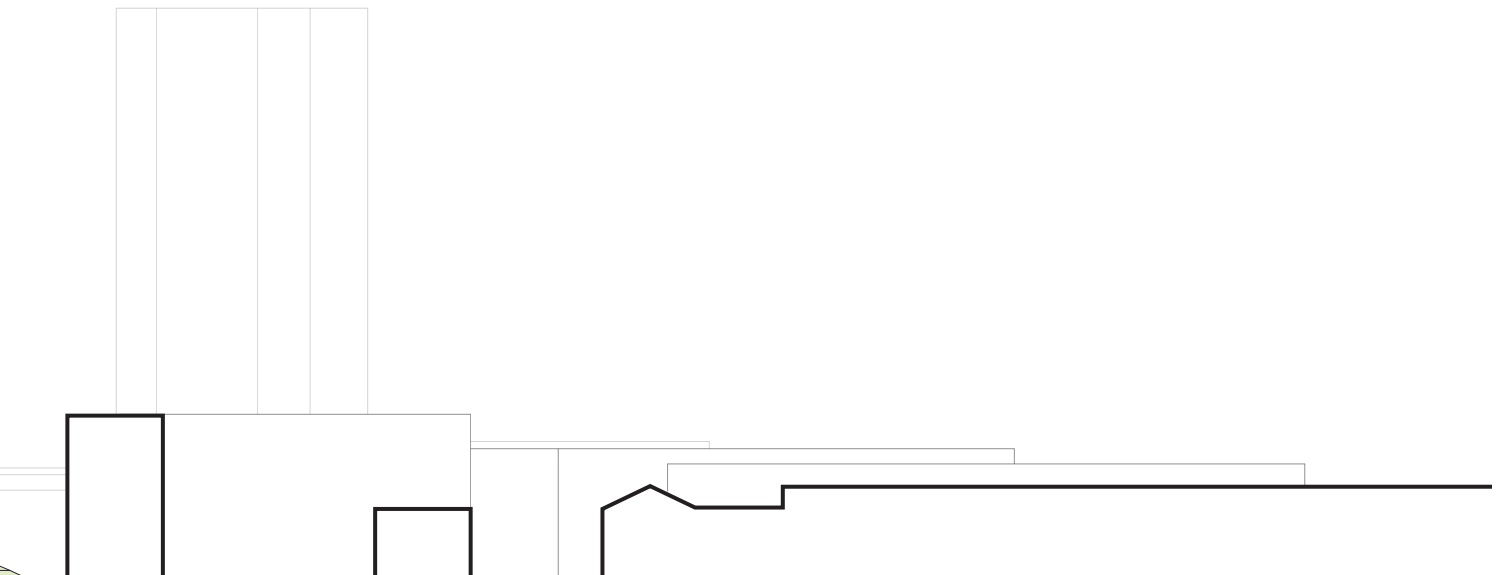
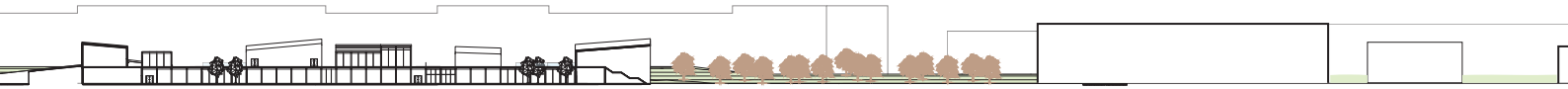
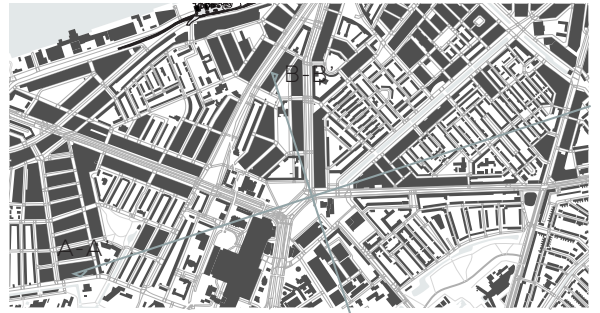
# SITE PROFILE



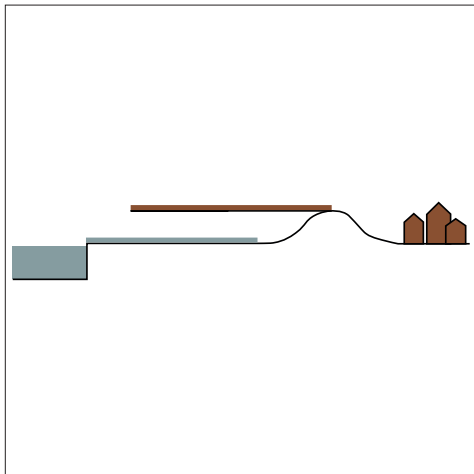
Site Profile A-A' | 1:2000



Site Profile B-B' | 1:1000



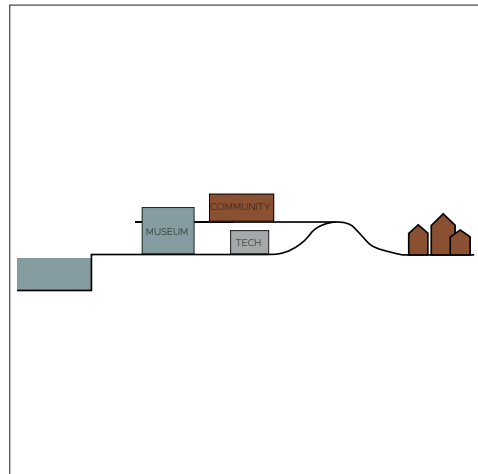
# GUIDING THEMES



## 2 LAYER STRUCTURE

Use the two layer structure to connect the two worlds

- **Museum side on the Waterfront**
- **Community side on dyke level (Tarwewijk)**



## DIVISION OF PROGRAM

The **museum functions** will be situated on the **ground floor**, sticking through the floor for visual connection. And the **community functions** will be on **dyke level**.

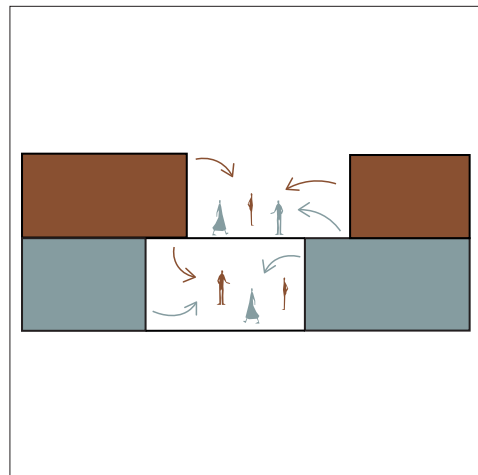
Other private functions will be on ground floor in the area of the building with less daylight.



## ROUTING

Use routing in building **for people to pass the art** and get interested.

Have **strolling opportunities** and **frequent corners** for people to feel comfortable (Jane Jacobs - the livable city).

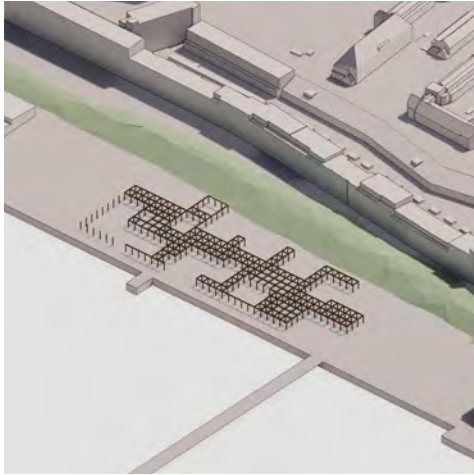


## COLLIDING OF TWO WORLDS

The inbetween space becomes a **meeting zone** for different groups of people to **meet and engage** with the other activity.

It will be the place where people **come into contact with art** in a low-threshold way.

# CONCEPT DESIGN



## STRUCTURE

The structure of the building connects everything together. It is built up of Glulam columns and beams based on a grid of 4x4.



## DECK

The Glulam structure is covered with a right-angled deck and an organic structure. They connect the two worlds together horizontally.



## PAVILIONS

Pavilions are placed within this public space to accommodate the (more private) programs. They reach from the ground floor through the deck into the sky.



## OPENINGS

The deck is broken open with courtyards that connect the two worlds vertically, in a visual and physical way.



# PRELIMINARY AREA SCHEDULE

ASSIGNED AREA	ROOM	NET m2	STORY HEIGHT	NET AREA %
Exhibition	Exhibition Galleries	2610	> 1	36%
	Gallery 1	350		
	Gallery 2	400		
	Gallery 3	260		
	Gallery 4	300		
	Gallery 5	290		
	Gallery 6	540		
	Gallery 7	470		
Program & Events	Auditorium	230	2	3%
	Control room, Storage, Technical Office	incl.	1	
	Library	300	1	4%
	Labs	360		5%
	Lab 1	95	1	
	Lab 2	90	1	
	Lab 3	60	1	
	Lab 4	55	1	
	Lab 5	35	1	
	Lab 6	25	1	
	Classroom	130	1	2%
Visitor Services	Information desk & ticketing	30	1	0%
	Coat check & Lockers	60	1	1%
	Storage	10	1	0%
Meeting zone	inbetween space indoors	1760	1	24%
	inbetween space outdoors, Kunsttuin		open	0%
Retail	Museum and Design Store	250	1	3%
	Storage & Offices	incl.	1	
Dining	Cafe, Bar	220	> 1	3%
	Kitchen	85	1	1%
	Restaurant	150	> 1	2%
	Kitchen	85	1	1%
	Storage/ Trash Room	incl. in Kitchen	1	
	Prep/ Staging Area	incl. in Kitchen	1	
	Office	incl. in Kitchen	1	
Offices	Work spaces	300	1	4%
	Meeting rooms	75	1	1%
	Copy room/ Storage	55	1	1%
	Pantry and toilets	25	1	0%
Collection Management	Art Storage/ Archive	200	1	3%
	Shipping & Receiving	50	1	1%
	Crate Storage	50	1	1%
	Uncrating/ Staging	50	1	1%
	Shared Art Prep/ Conservationg & Equip	70	1	1%
	Register, Conservation, Exhib. Design ..	30	1	0%
Maintenance & Operations	Security Office/ Control Room	40	1	1%
	IT Service	35	1	0%
	Staff Lunch Room/ Lounge	65	1	1%
	Staff Locker Room	25	1	0%
TOTAL		7350		100%

GROSS AREA %		NOTES	
23%	T=20-28° 25m <sup>3</sup> /h per person	with/without daylight ventilation	
9%	150 seats		
	flex	CuratorLab	
	perm	CastingLab	
	perm	DigitalLab	
	flex	PerformanceLab	
	perm	StudioLab (painting, sculpturing)	
	perm	WoodLab (wood working machines)	
	flex		
1%			
16%	for events/ exhibitions etc./ entrance/ main circulation		
2%	museum-related merchandise, local products, art supplies		
5%	free for entrance 30% of total floor space free for entrance 40% of total floor space		
4%	T=20-28° / 25m <sup>3</sup> /h per person	38 staff	
	4 toilets		
4%	not freely accessible	with/without daylight	ventilation
1%			
		<div></div> Museum related <div></div> Community related <div></div> Mix use <div></div> Technical/ behind the scenes	
65%			

# BIRD VIEW

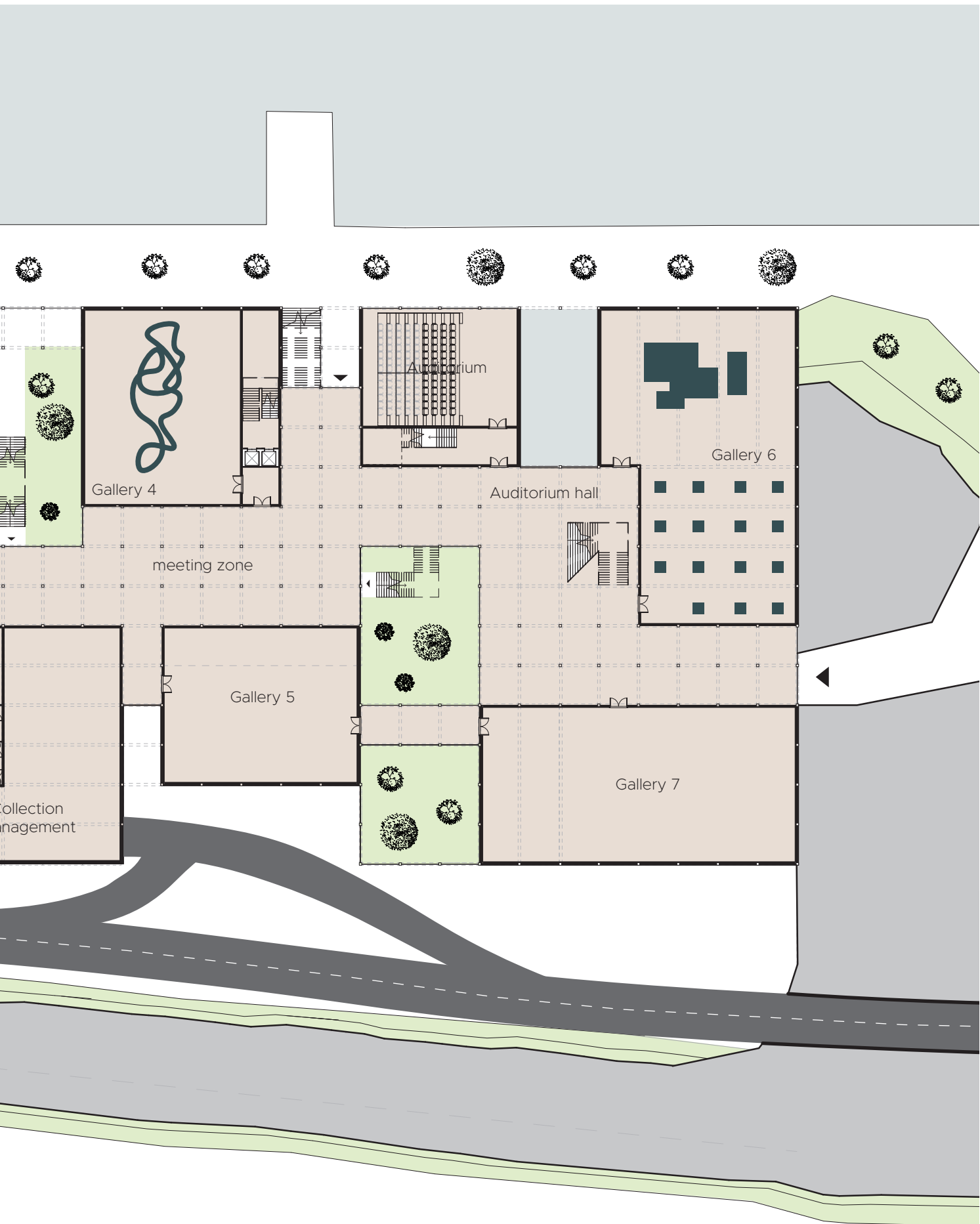




# FLOOR PLAN

Ground Floor



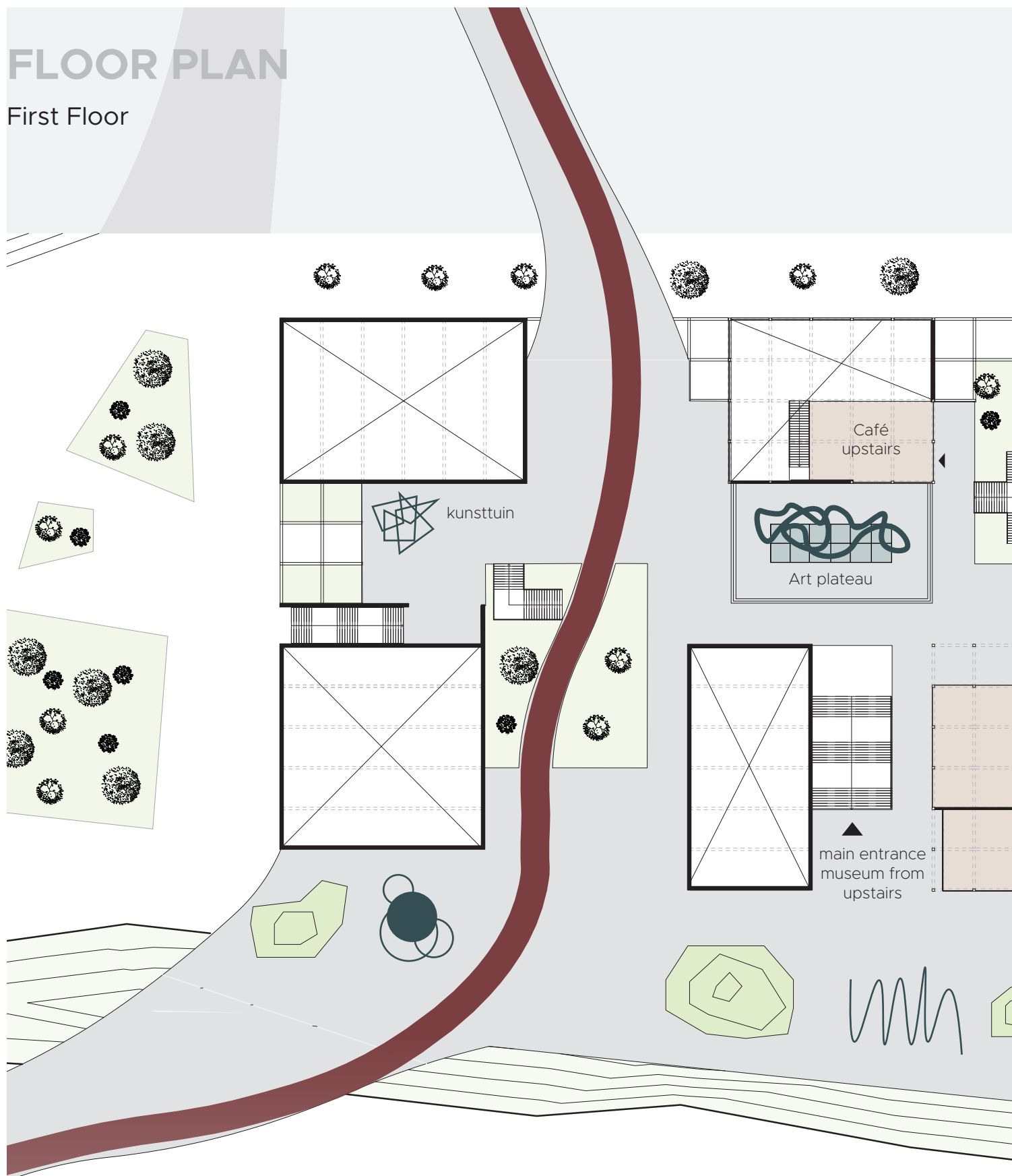


1:500 ↑



# FLOOR PLAN

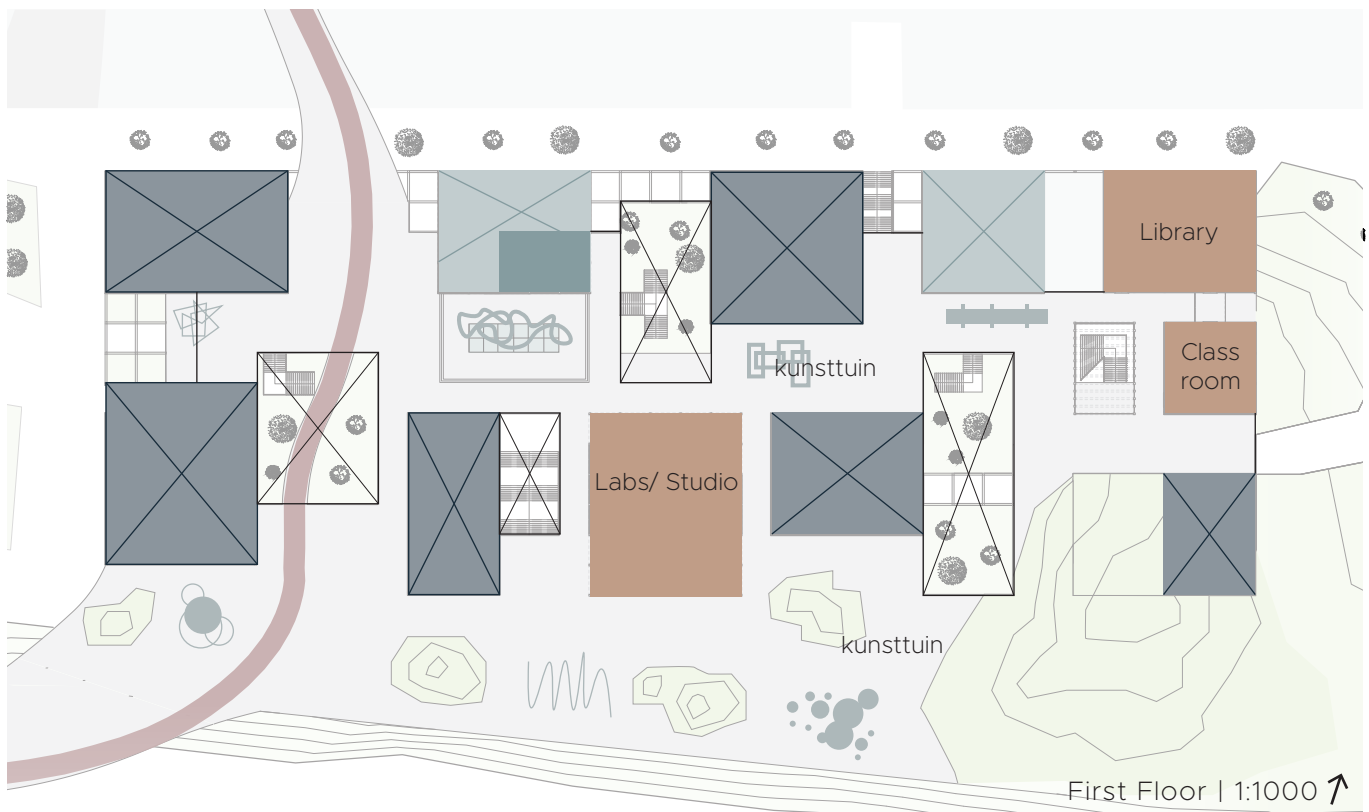
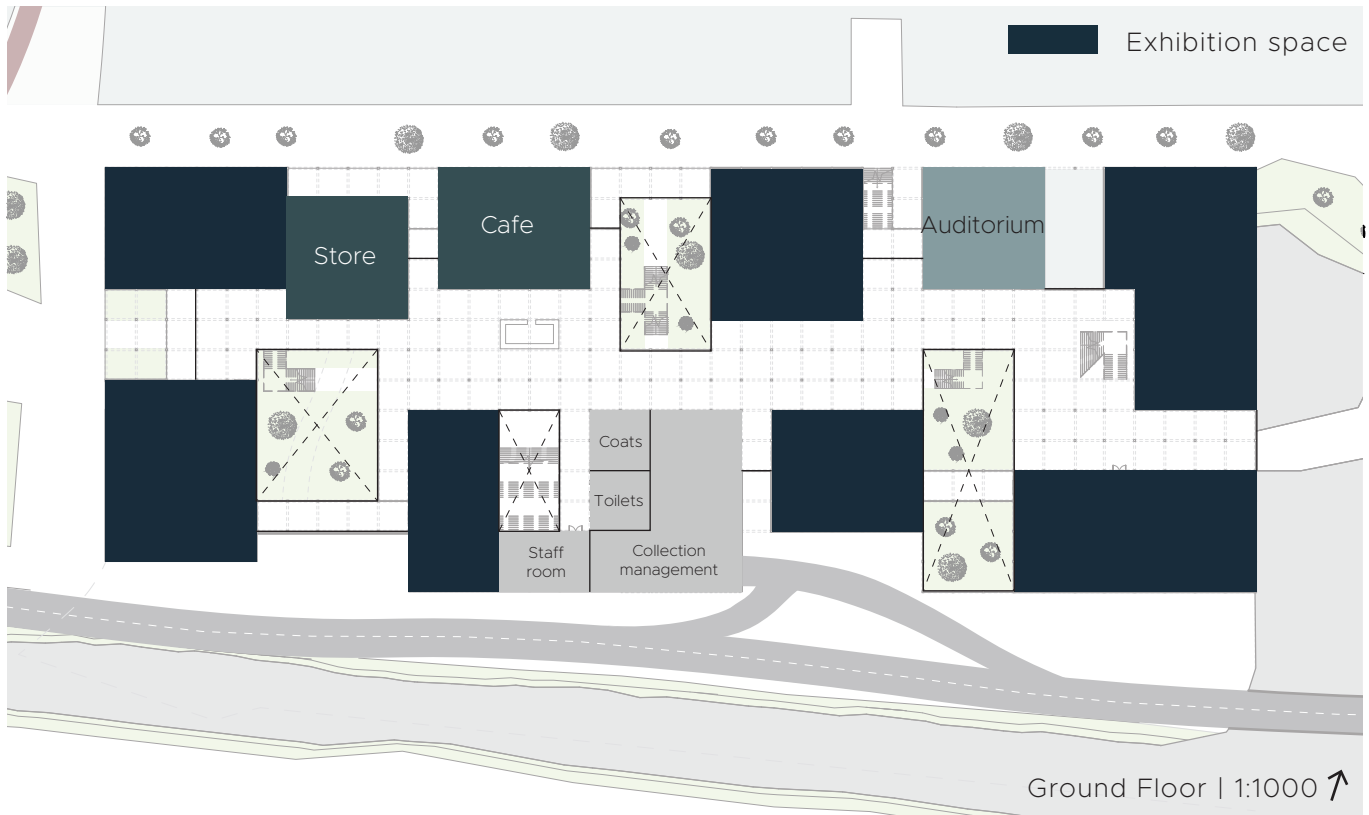
## First Floor



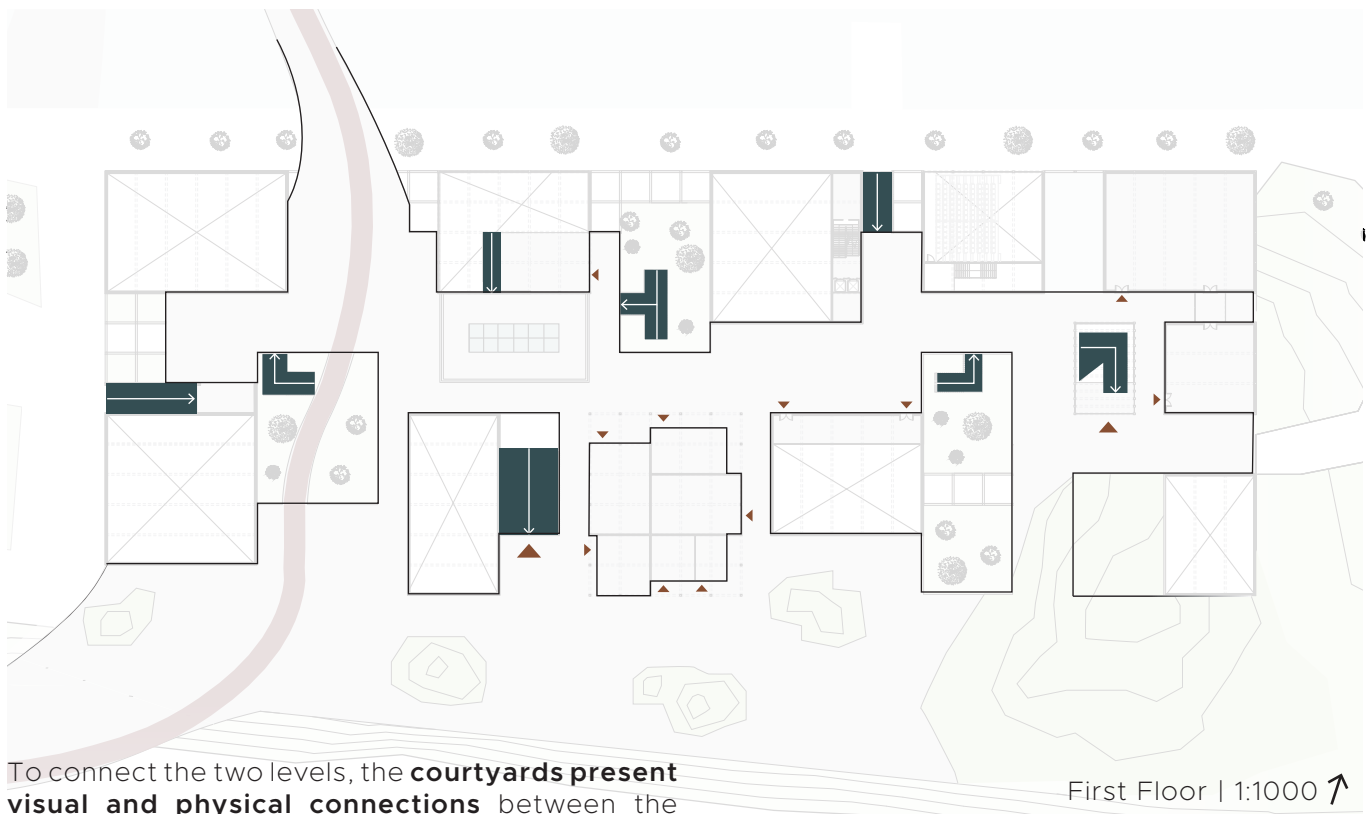


1:500 ↗

# PROGRAM



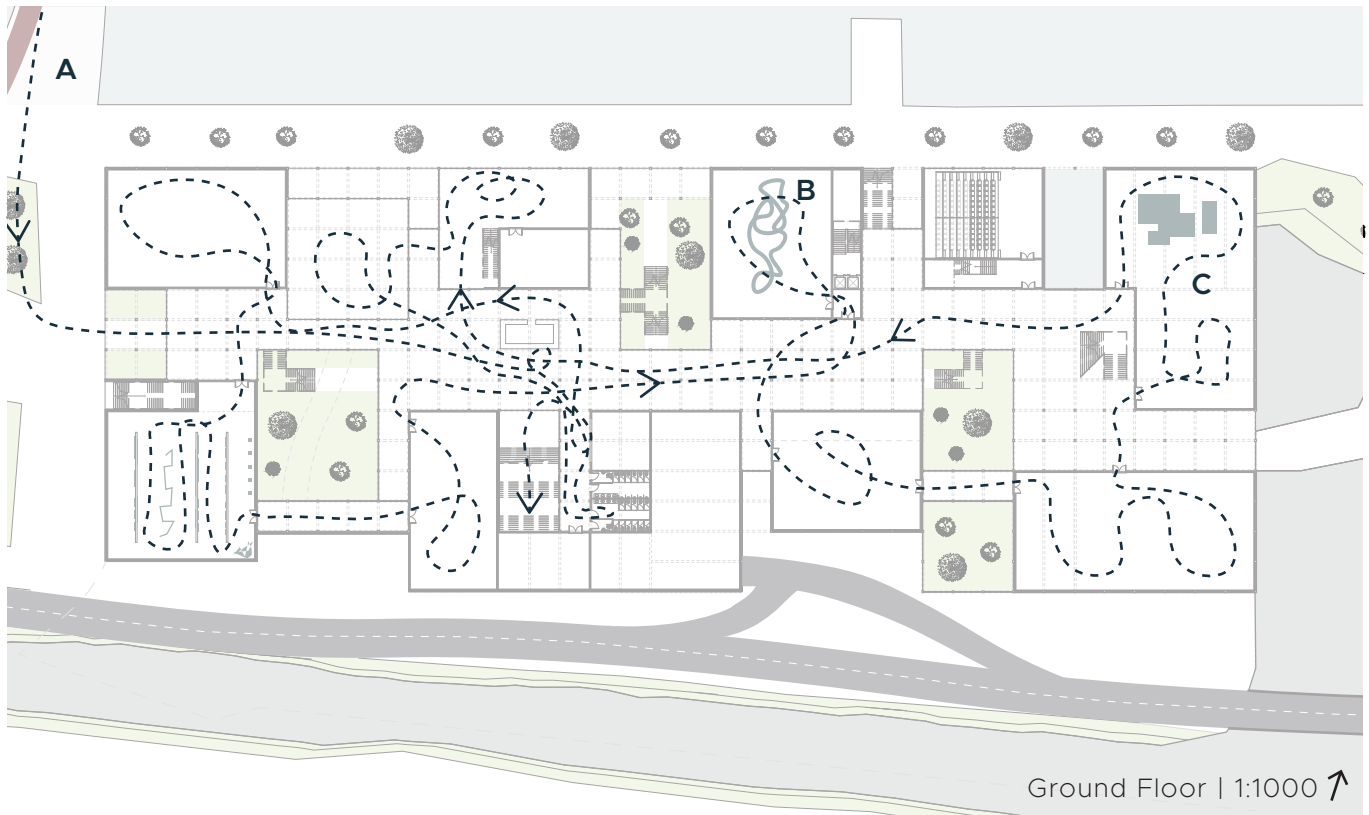
# CONNECTION TWO FLOORS



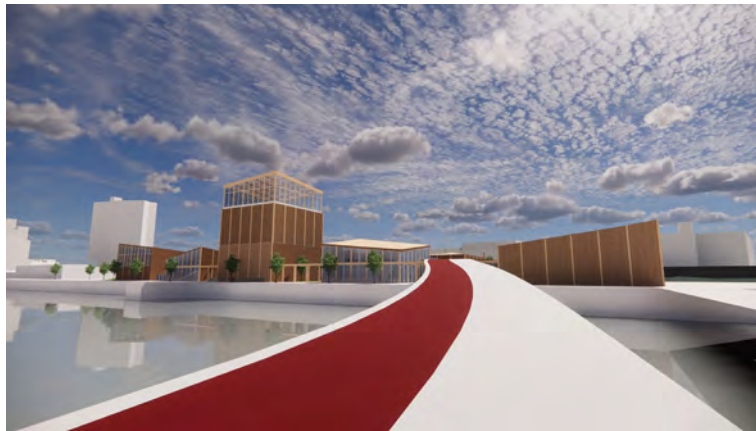
To connect the two levels, the **courtyards present visual and physical connections** between the two. In this map the different physical connections (Stairs) are visible.

# ROUTING

Museum visitor



A



B



C

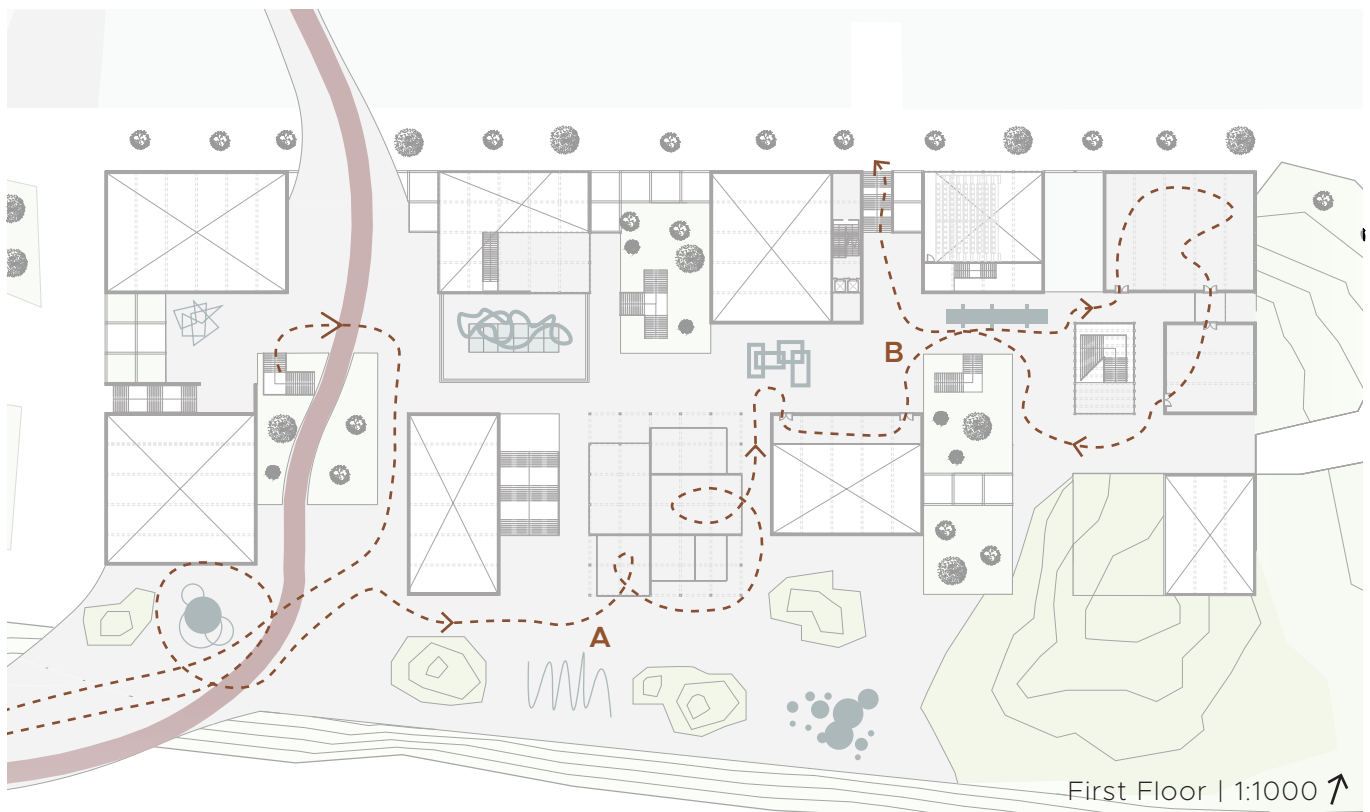
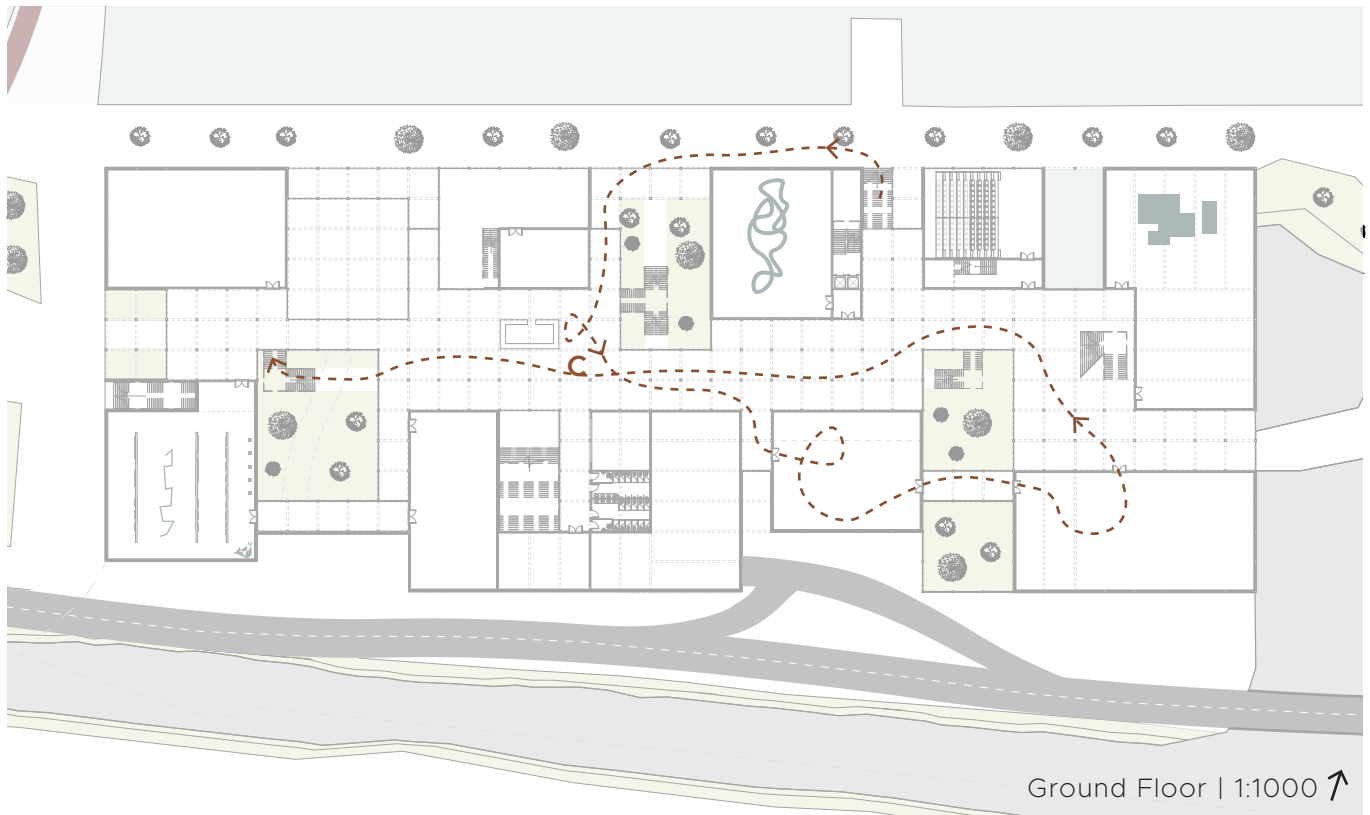


A museum visitor will enter the building and probably go straight to the museum entry hall with info desk and coat storage, after that he can wander through the museum like he wants and enter the galleries in everyway possible. At the end he can visit the café downstairs and the shop, get his coat and go upstairs to check out the kunsttuin, before going home.



# ROUTING

Community visitor



A



B



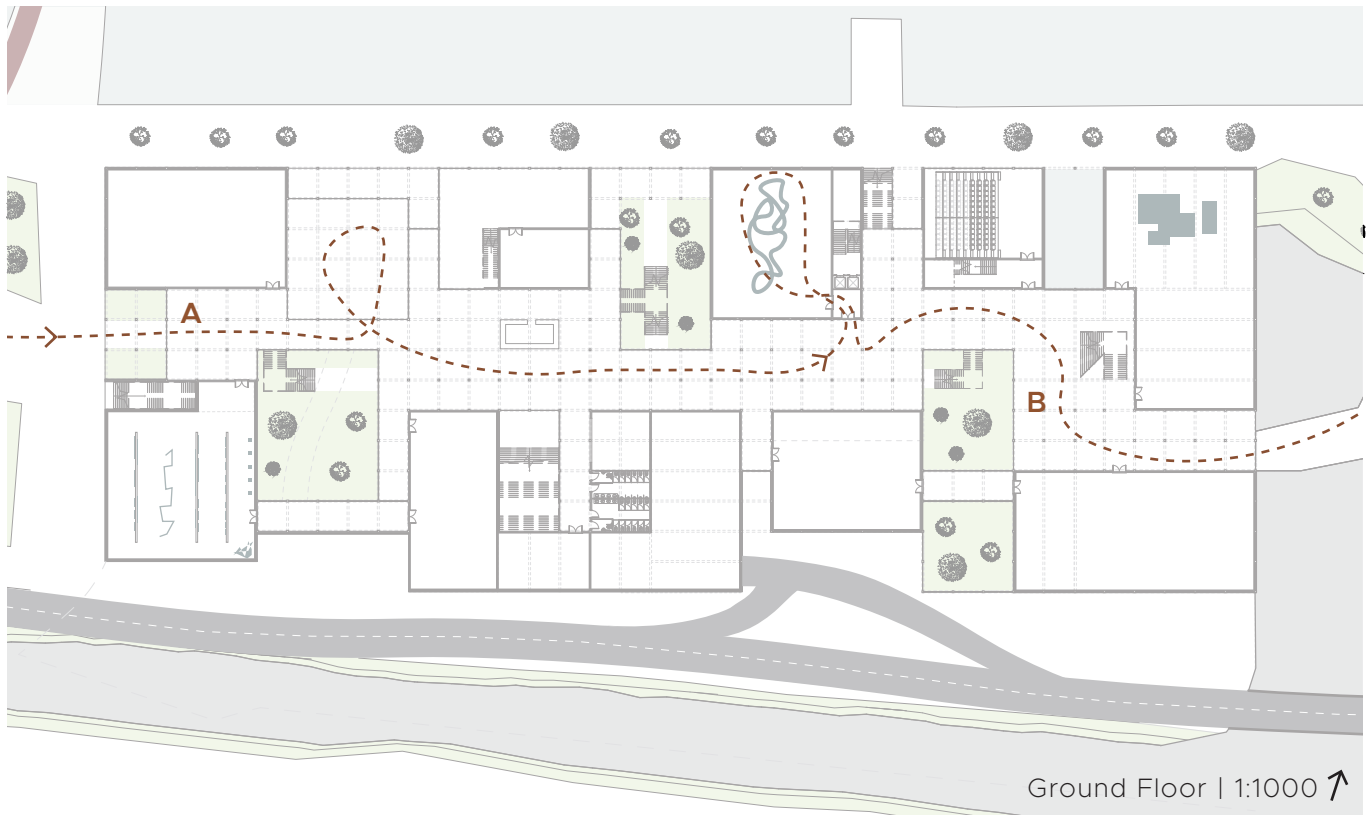
C



A visitor from Rotterdam South that comes for an art class or workshop will most probably come from the south and enter straight on dyke level. Here he can visit the labs, check out some art in the kunsttuin and look inside a gallery downstairs before getting a book at the library. After liking the sneak peak of the exhibition he decides to go downstairs and enter the free museum gallery, before going home.

# ROUTING

Community visitor



A



B



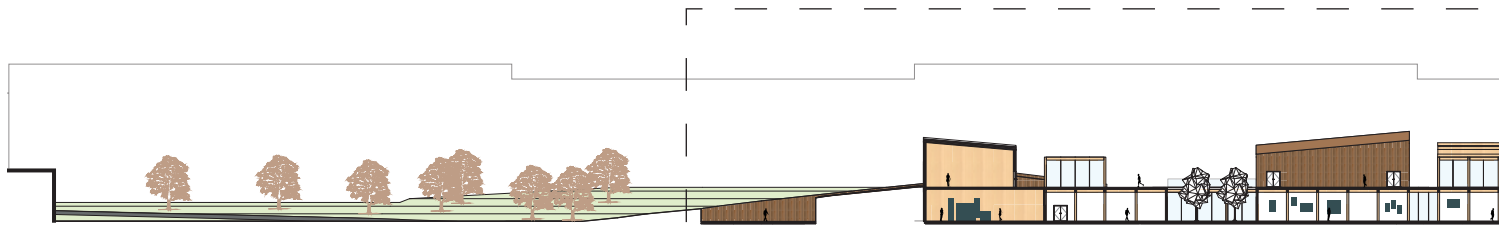
C



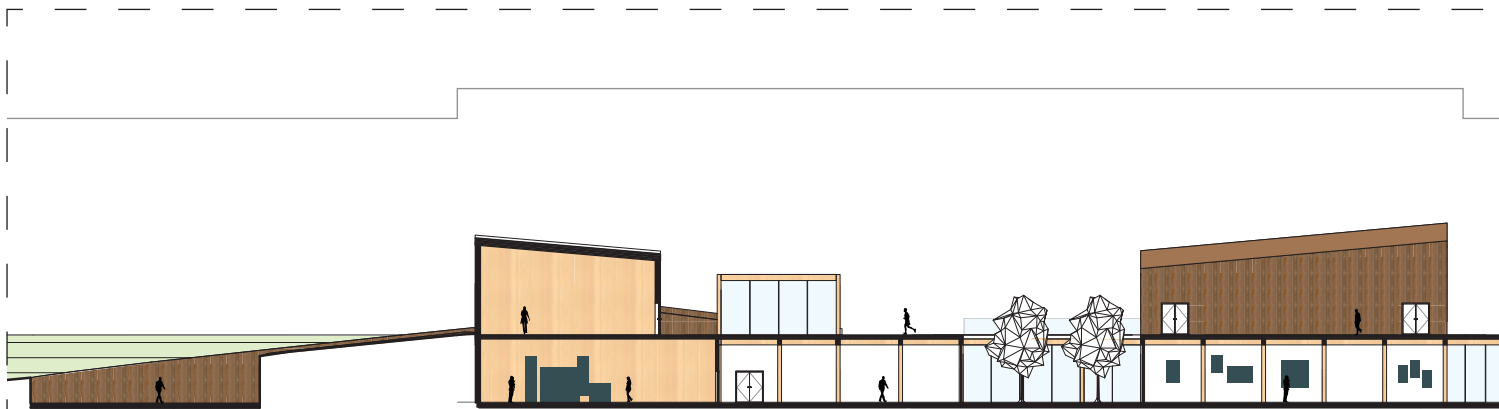
Passerby number one, downstairs, comes from the west and decides to walk through the building instead of around it, first he gets a book at the museum store and then while walking through the building, he decides to enter the new exhibition in gallery 4, before leaving the building on the other side to head to the metro.

Passer by number two, upstairs, comes from the metro station and decides to walk over the building to head to his home in Tarwewijk. He gets interested by the art displayed in the kunsttuin and decides to investigate a little further, before using the connection over the street to the Tarwewijk.

# SECTION



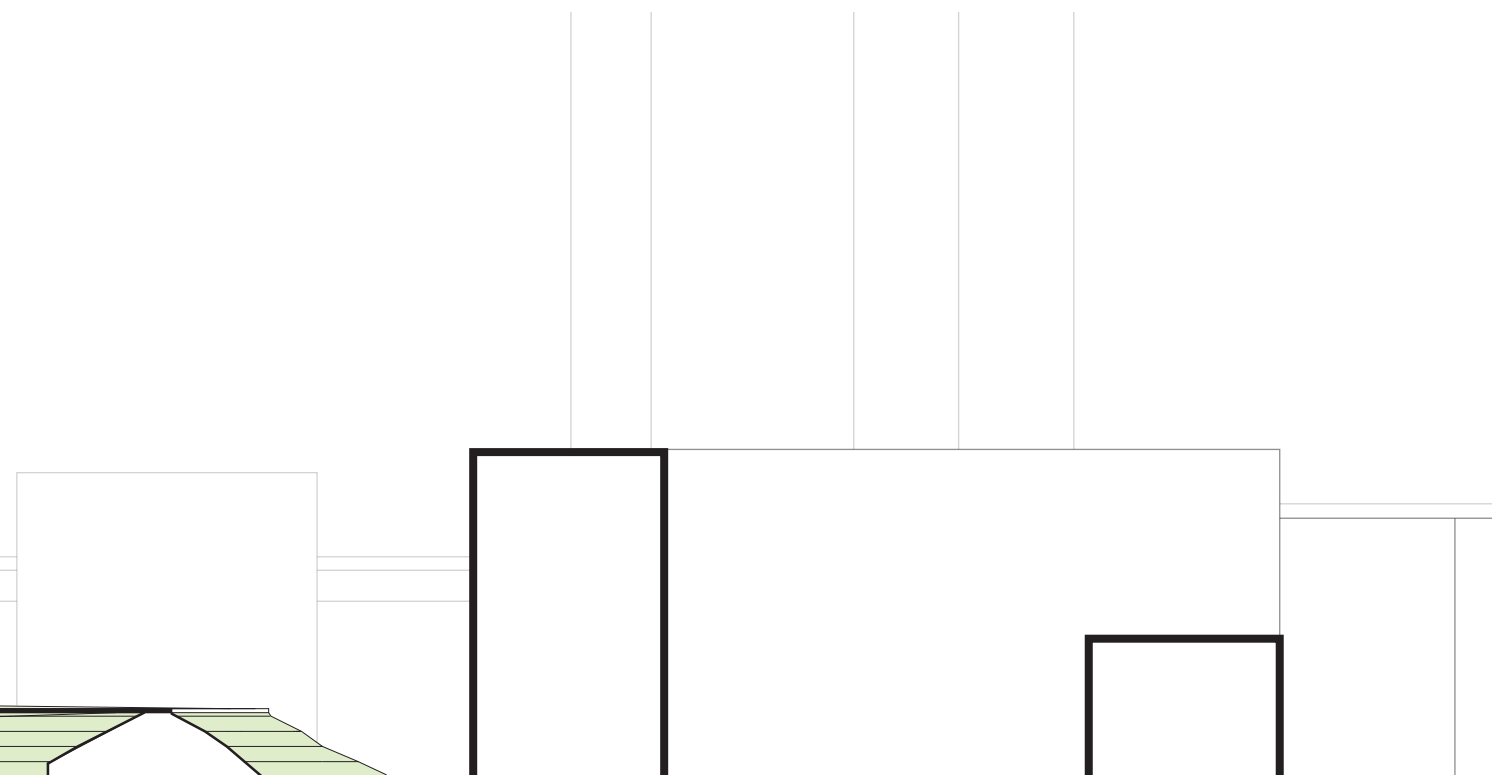
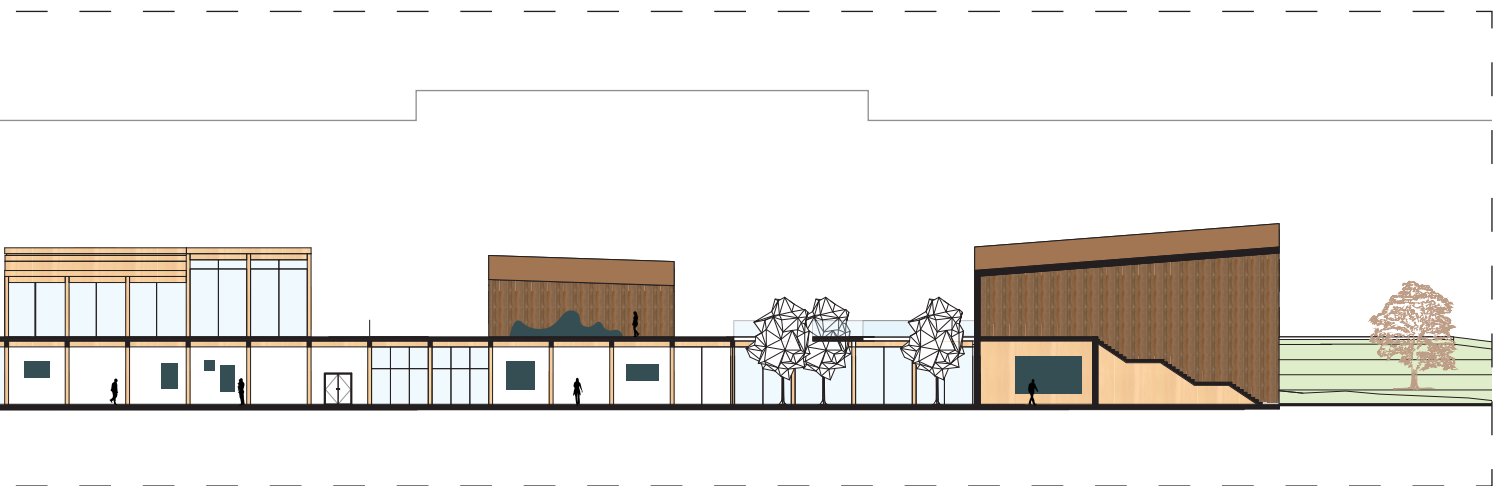
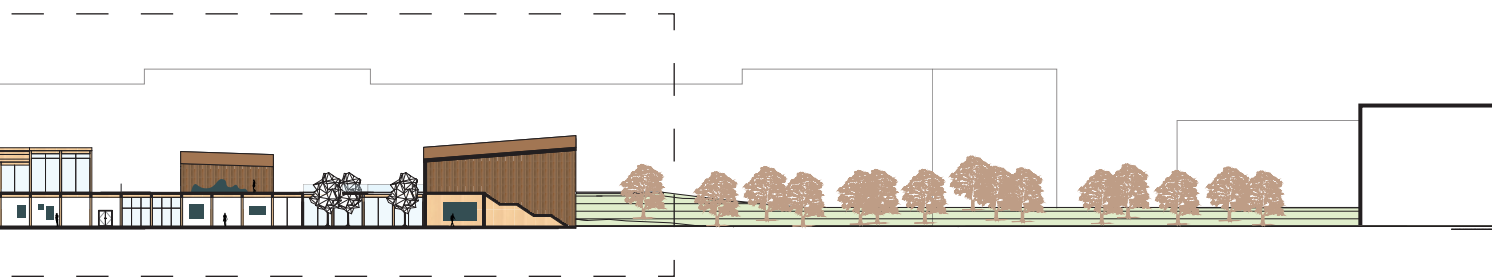
Section A-A' | 1:1000



Section A-A' | 1:500



Section B-B' | 1:500







# **BUILDING TECHNOLOGY**

# Cross Laminated Timber (CLT)

## Benefits



### RENEWABLE & ECOLOGICAL MATERIAL

healthy building material that grows back in a short term

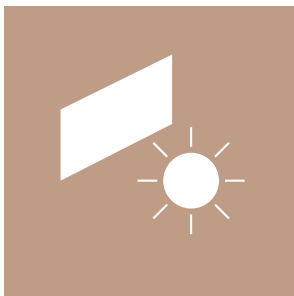


### DEMOUNTABLE/ REUSABLE MATERIAL



### CO2 STORAGE

CO2 is retained in material for a long time



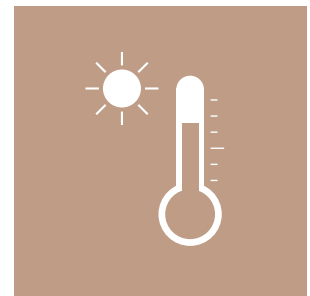
### WARM FEELING

Natural and healthy indoor climate  
Material radiates warm feeling, reduces stress & helps against depressive feelings



### LIGHT CONSTRUCTION METHOD

Light, fast & dry construction -> less CO2



### CLIMATE

uniform temperature and humidity  
Thermally insulating

### CLIMATE CHARACTERISTICS

Wood moisture content: 12% (+/- 2%)  
Heat conductivity:  $\lambda = 0.10 \text{ W/m}^2\text{K}$   
Heat capacity:  $c = 1.60 \text{ kJ/kgK}$   
Vapor diffusion resistance:  $\mu = 60$  (at 12% wood moisture)  
Airtightness: Airtight from 90 mm or 3 layers

### POINTS OF ATTENTION

- stability
- impact noise

Next to these benefits, I also chose to work with CLT and Glulam structures because of aesthetic reasons. The material presents pleasant spaces and has a more homely feeling.

To show the true construction, the timber is visible in many places.

## References



# Cross Laminated Timber (CLT)

## CLT structures



**PURE CLT**  
CLT forms all principal structural elements.



more private functions  
(exhibition rooms, maintenance, technical etc.)

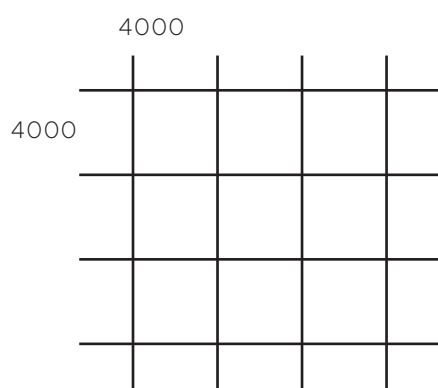


**TIMBER HYBRID**  
Utilizing CLT slabs with glulam columns and beams.



more public buildings  
(cafe, restaurant, community spaces etc.)

## GRID SIZE

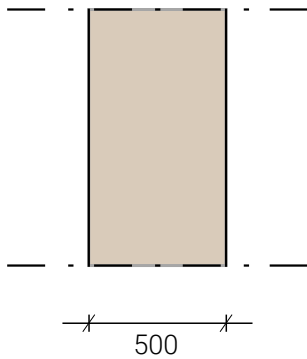


- > 4 m perfect hallway
- > CLT maximum size is 18-24 m

I will use CLT structures for more private functions, like the museum pavilions and maintenance etc. For the meeting zone and more public functions, I will use a Timber Hybrid construction to open it up and add windows.

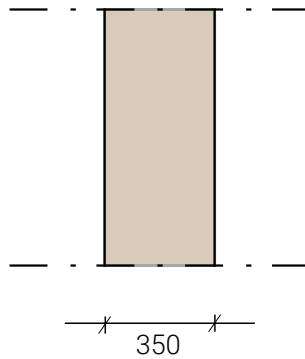
I am choosing to use a grid size of 4000 by 4000. This because the maximum size of CLT is 18 to 24 m (depending on manufacturer). And because 4m width is a good hallway size in my opinion.

## Vuistregels for designing

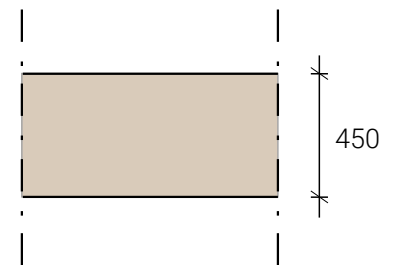


*Externe wand 500mm*

gevelafwerking - isolatie -  
CLT

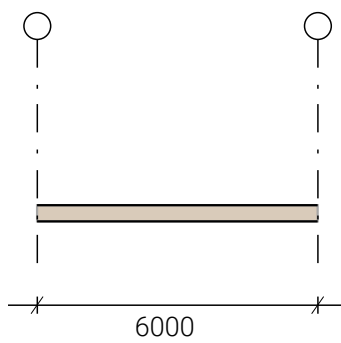


*Dragende- en woningscheidende  
wand 350mm*

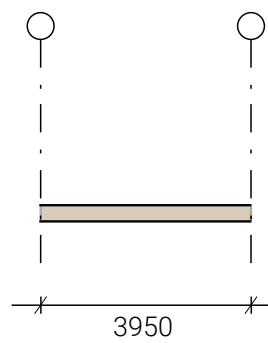


*Woningscheidende vloer 450mm*

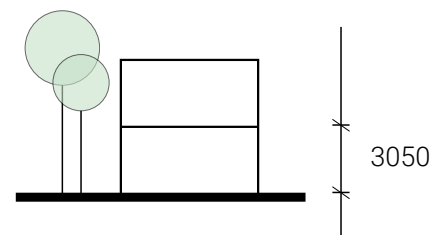
CLT + akoestische voorzieningen/  
dekvloer



*Maximale overspanning 6000mm  
Idealiter overspanning van 5400mm*



*Maximale overspanning  
3950mm bij Modulair bouwen*

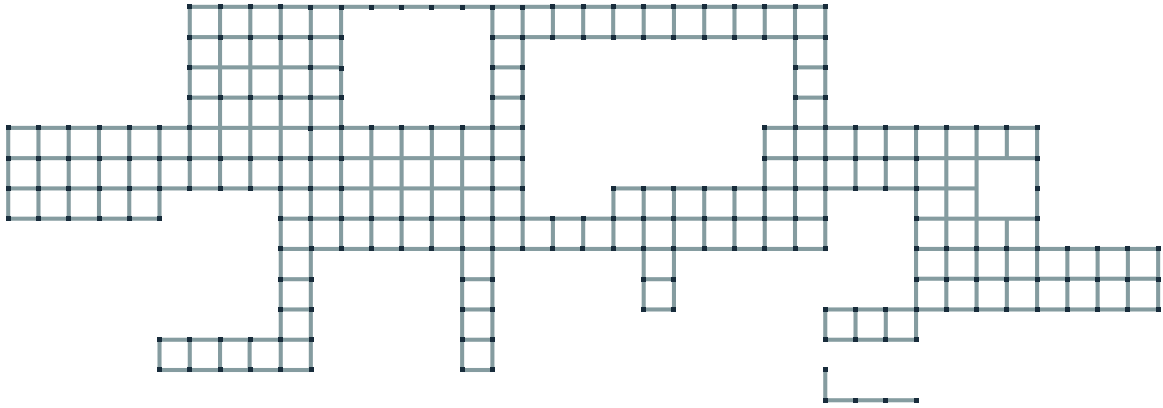


*Minimale verdiepingshoogte  
3050 mm*



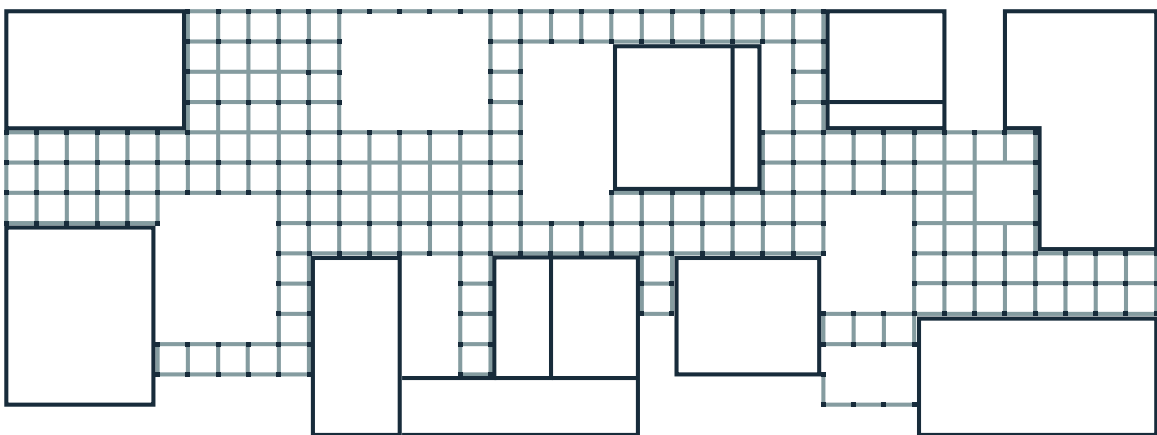
# STRUCTURE

## Columns & Beams



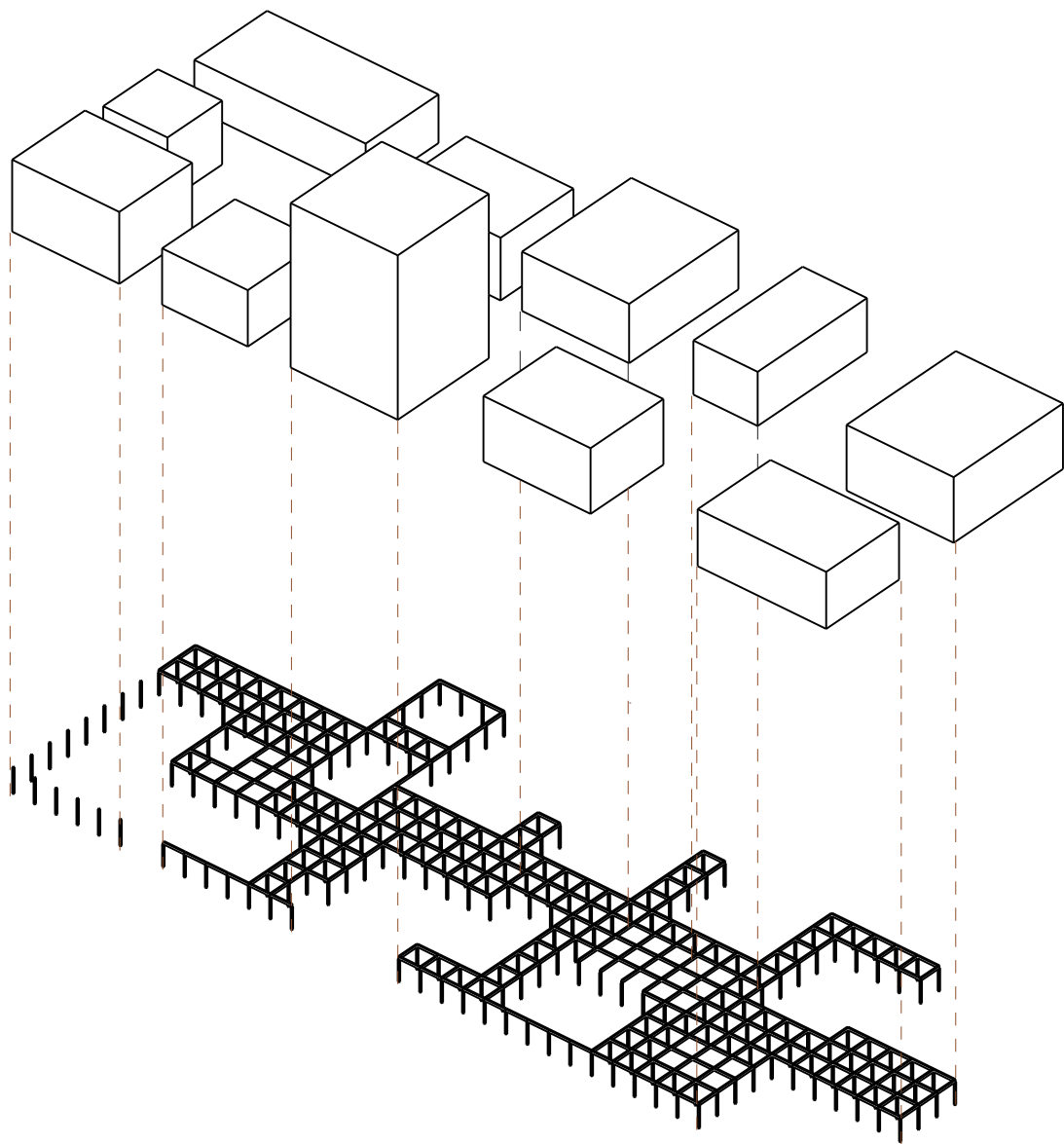
## CLT walls

1:1000 ↗



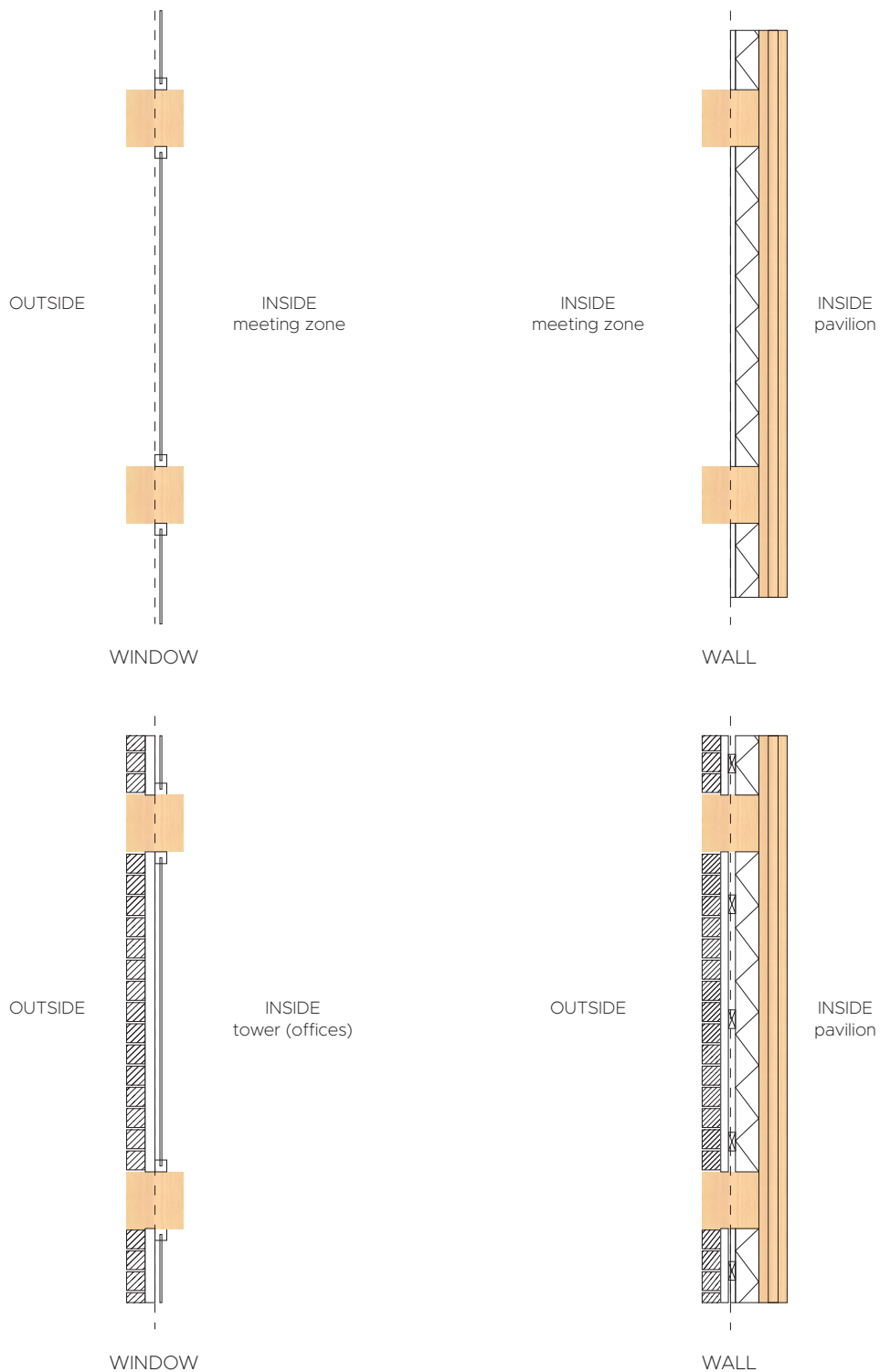
1:1000 ↗

The meeting zone structure is build up of 250x250 glulam columns and beams of 250x400. In the museum pavilions the beams span from one side to the other and change is size depending on the span length. A span length of 16m has roof beams of 800.



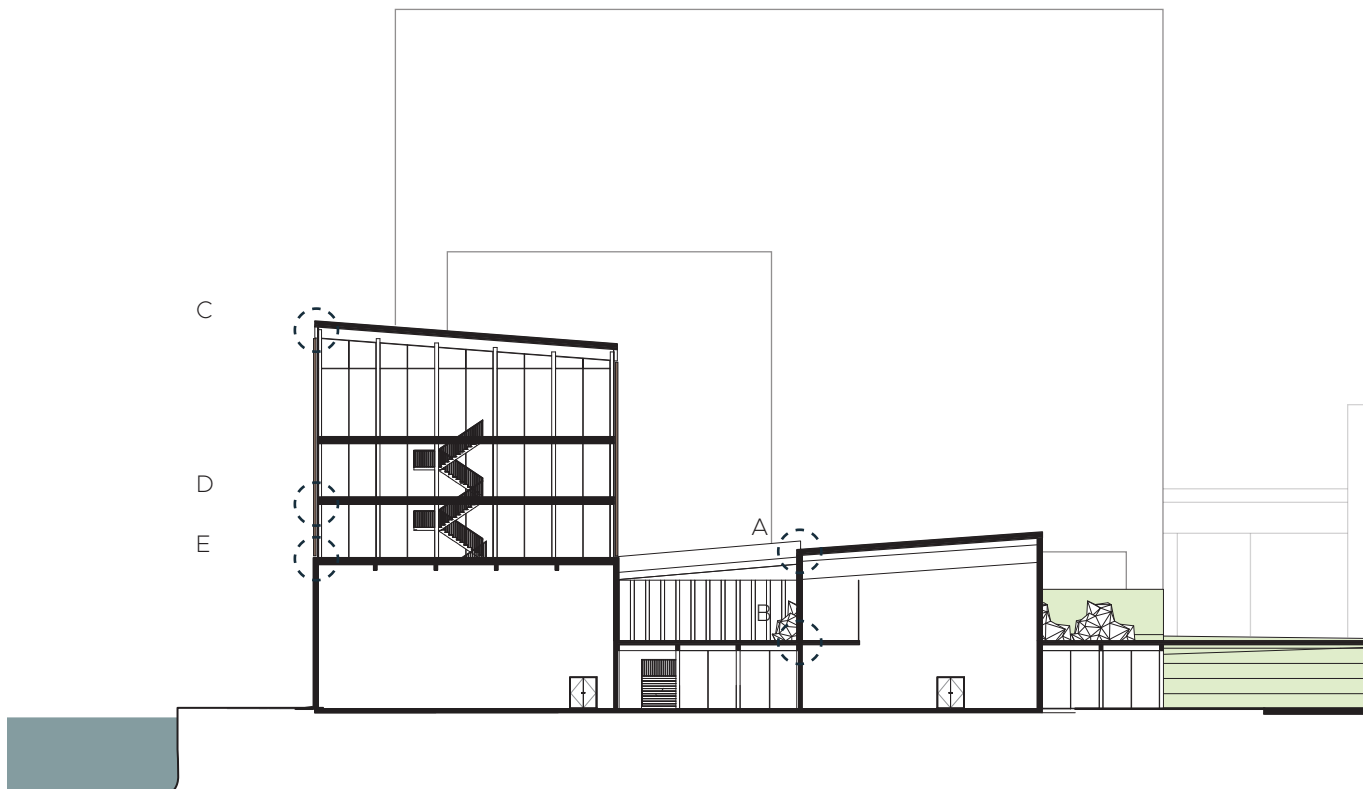
# DETAIL CONCEPT

The glulam column grid is based on a grid of 4000x4000. Inbetween these columns the facade is placed. Because the grid needs to be visible in the meeting zone, the facade elements (window, insulation) are placed halfway.



# DETAIL

Location



# CLIMATE

## Climate conditions

The building has three climate regions:

### EXHIBITION SPACES

Keep humidity levels and air temperature as constant as possible

Temp: 21C +/- 3C

Relative humidity: 55% +/- 5%

**PUBLIC SPACES** (Café, Store, Community Spaces)

### PUBLIC MEETING ZONE

can be opened in the summer

Exhibition climate

Public Spaces (Café, Store, Community etc)

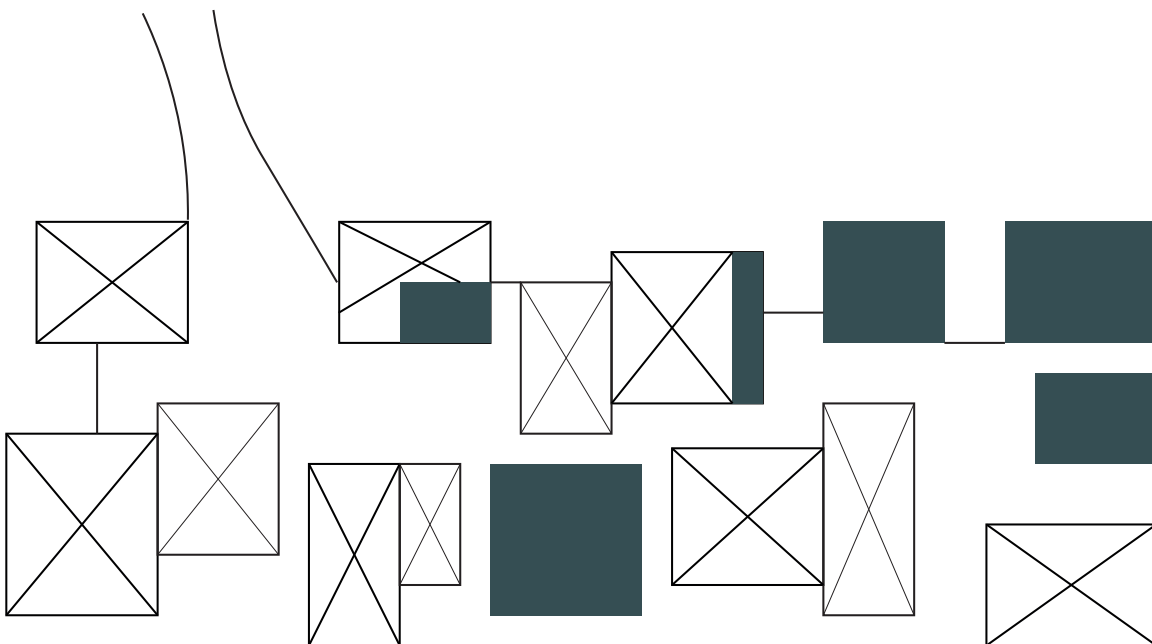
Public meeting zone (can be opened in summer)

regulations for air quality and heating requirements decreases

The building will have a **decentralized system** to accomodate all the pavilions.

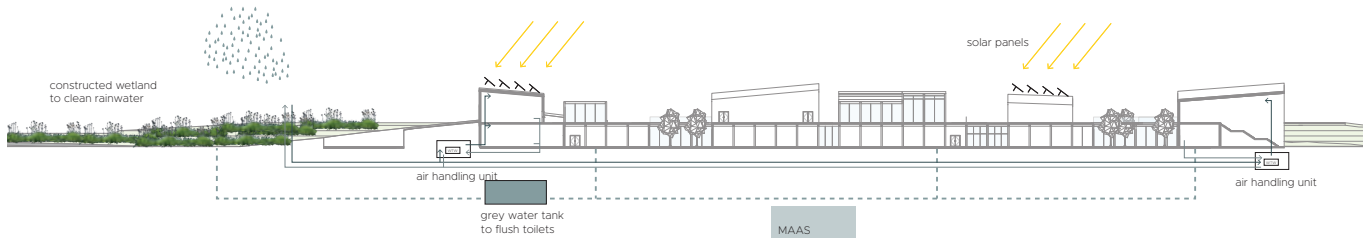


Ground Floor | 1:1000 ↗

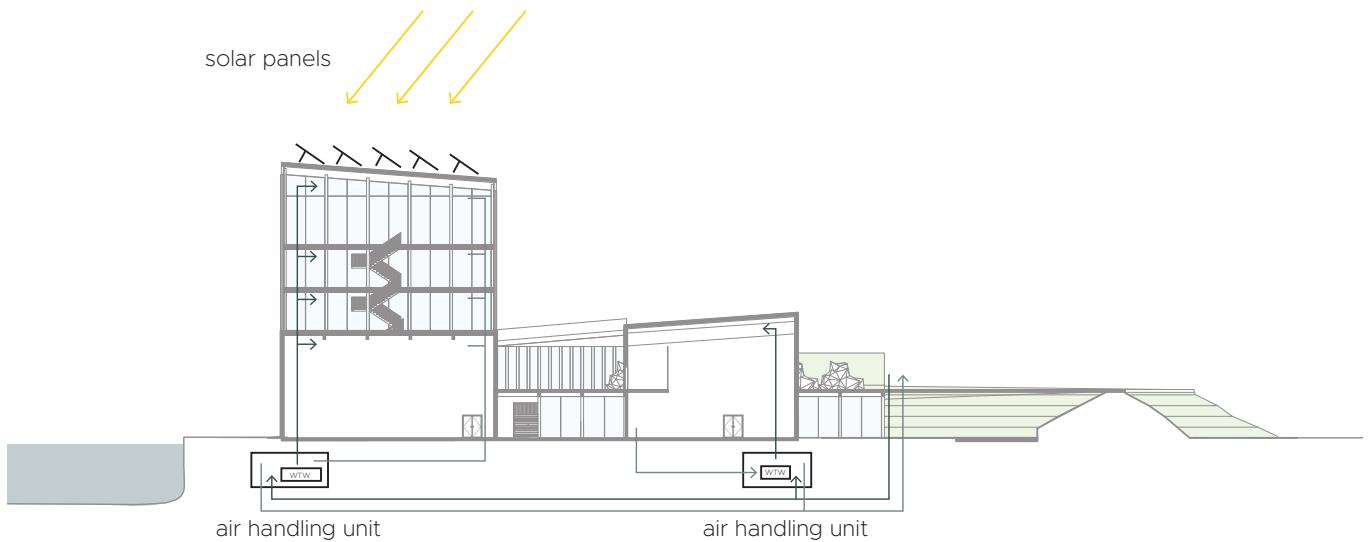


First Floor | 1:1000 ↗

## Climate concept

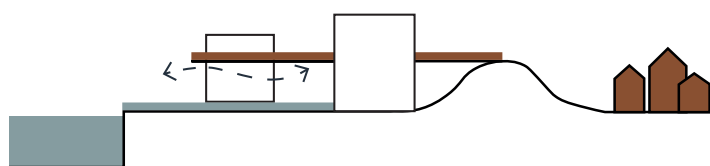
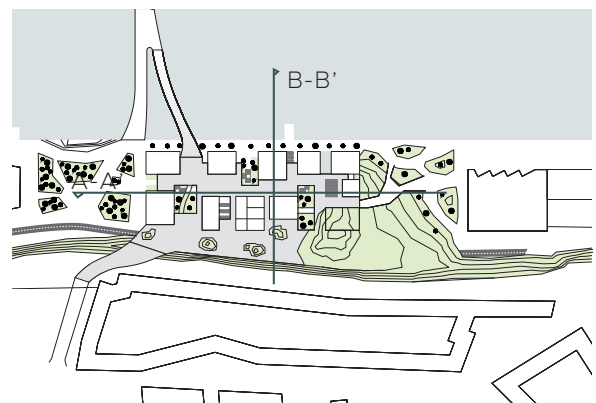


Section A-A' | 1:1000



Section B-B' | 1:1000

- **Constructed Wetland** to clean rainwater & collect **grey water** to flush toilets in building
- **Solar Panels** on south-east facing roof for energy production
- One **Air handling unit** with heat recovery per museum pavilion



upper level is outside  
lower level can be opened during the summer



SITE DEVELOPMENT  
DESIGN DEVELOPMENT  
ART  
BUILDING TECHNOLOGY  
P4 DESIGN



O

4



# **SITE DEVELOPMENT**

# MAASHAVEN - NELSON MANDELA PARK



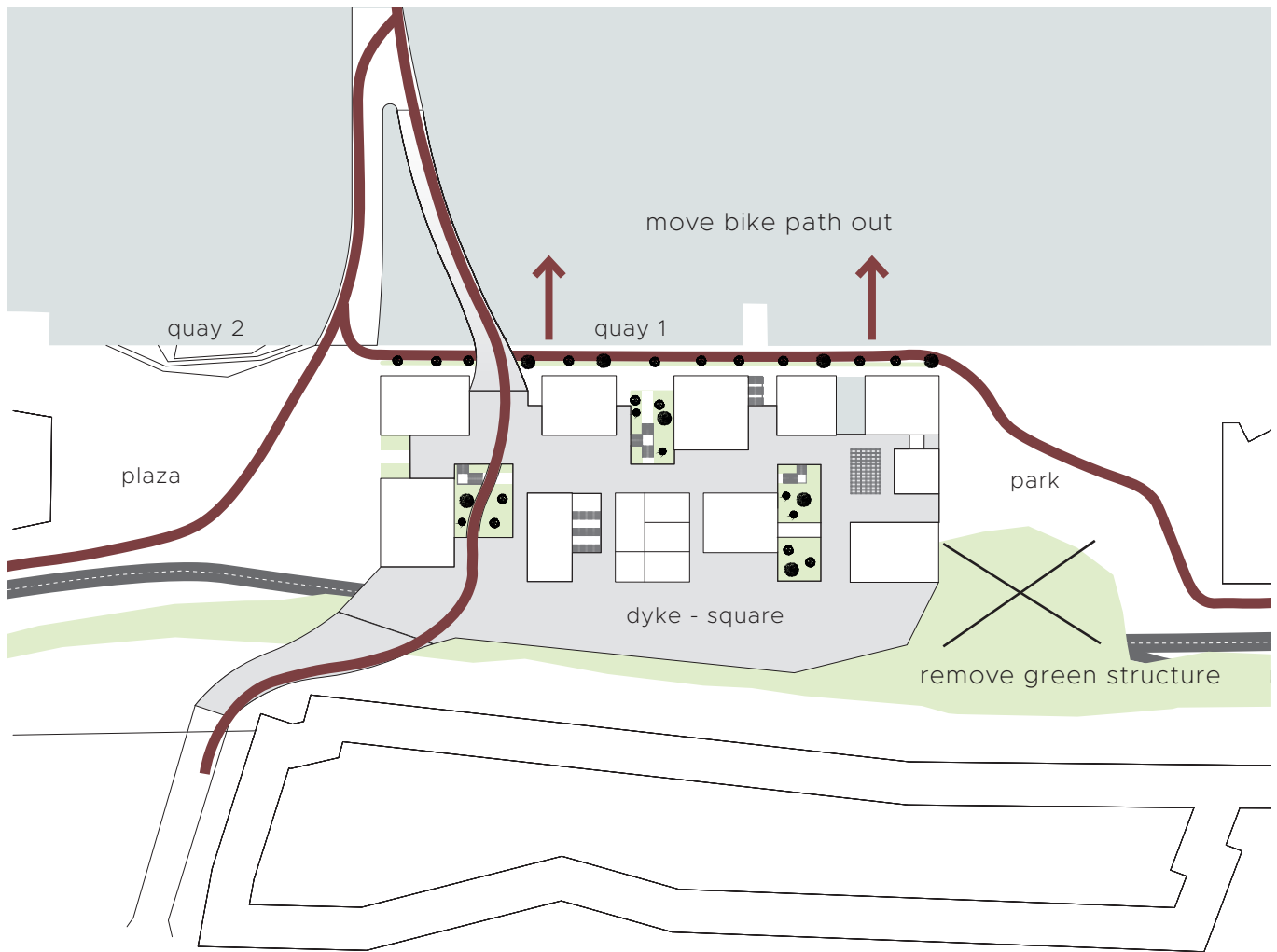
## Extension



By connecting the Nelson Mandela Park to my plot and integrating the bridge, a possibility to walk or bike in a circle is created. With this more people will come by my building.



# SITE DESIGN



QUAY 1: boulevard - meeting zone outside

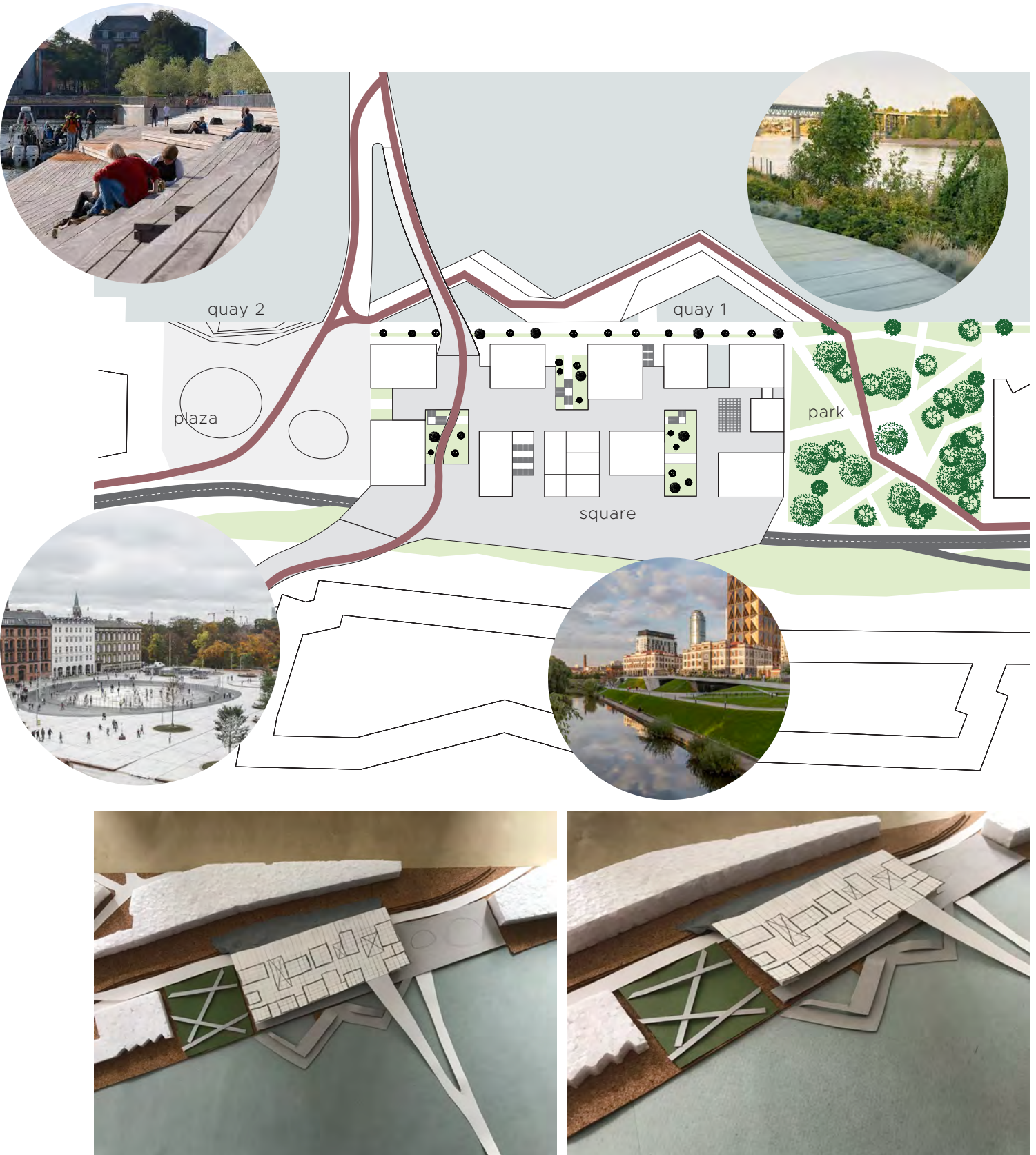
QUAY 2: staircases to sit

PLAZA: plaza with program

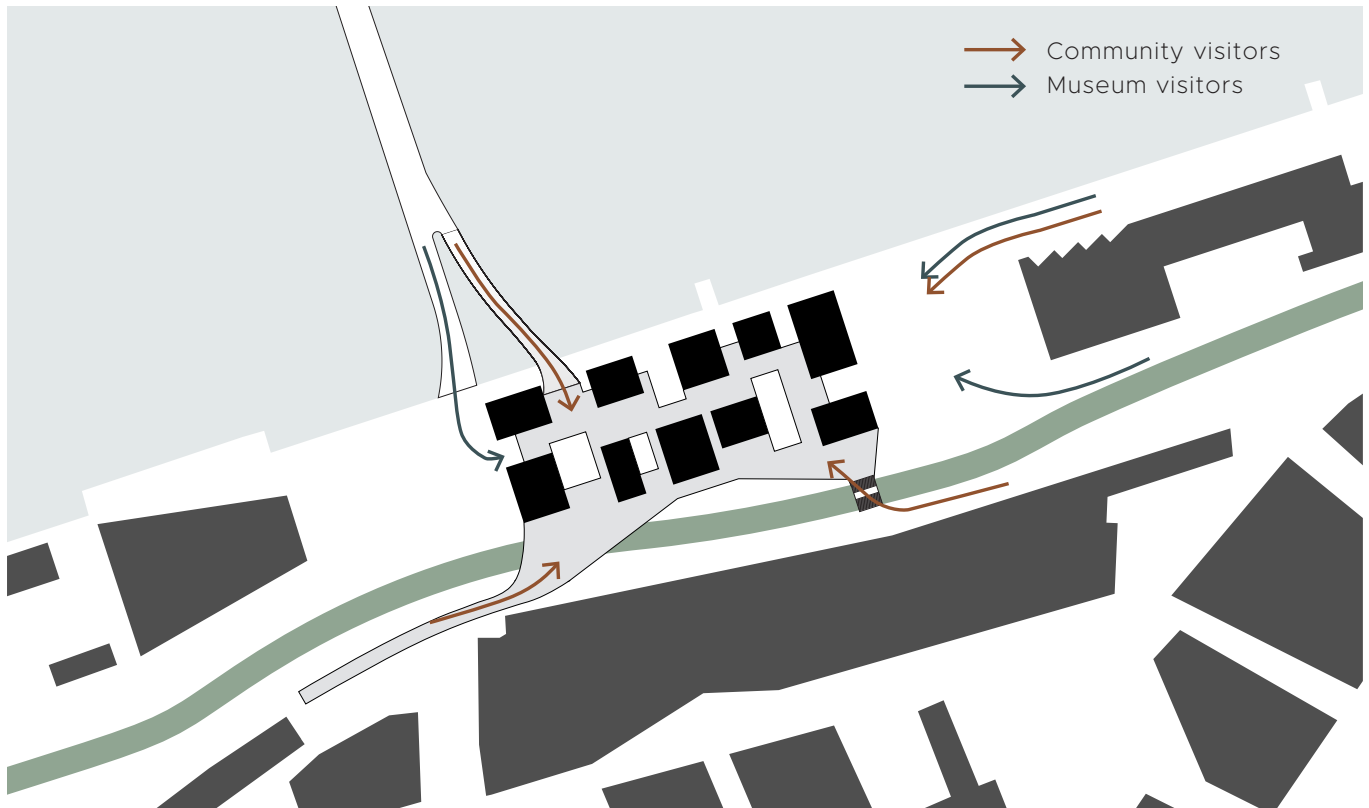
PARK: green recreation area

SQUARE: 'buurtplein' - connection 2 levels (deck, dyke, Tarwewijk)

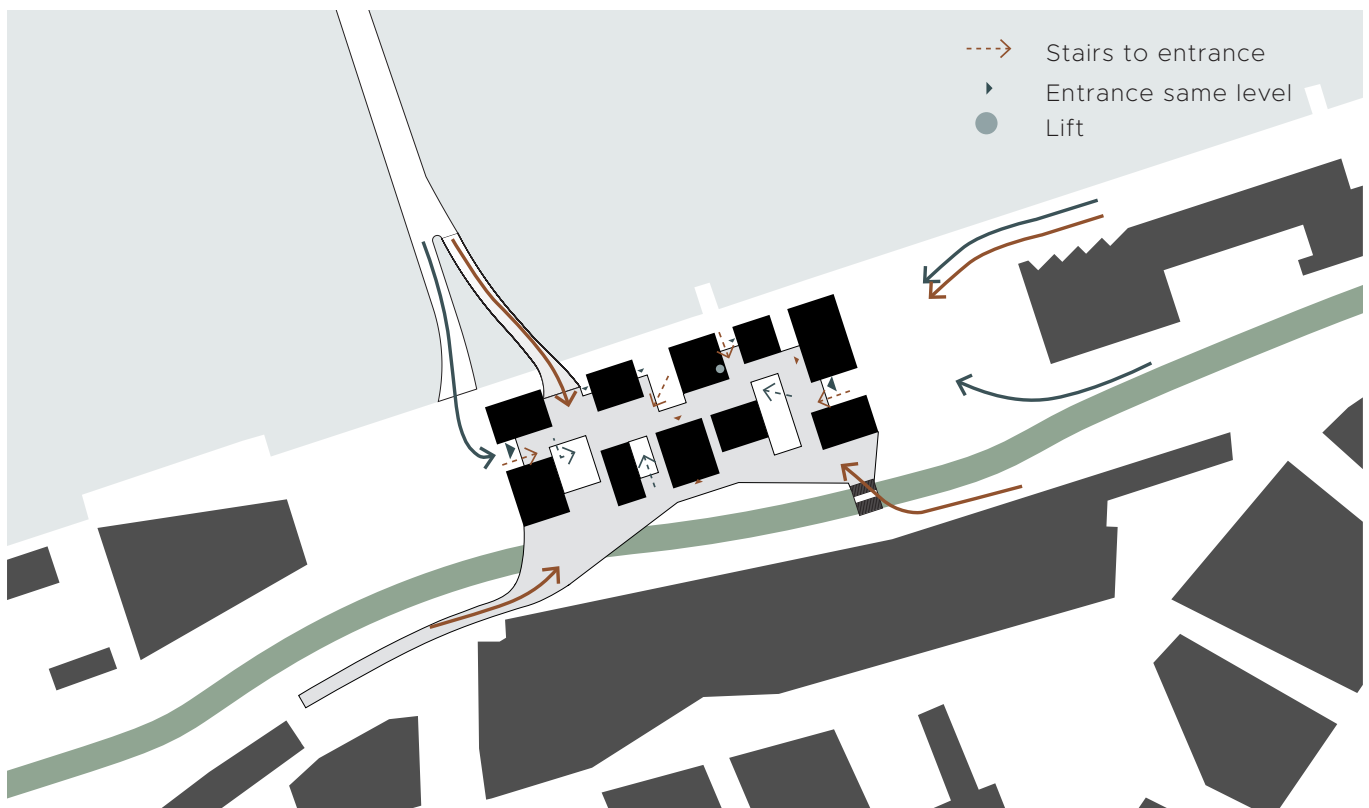
Look at chapter 'P4 - Site References' in Research Book for more reference images



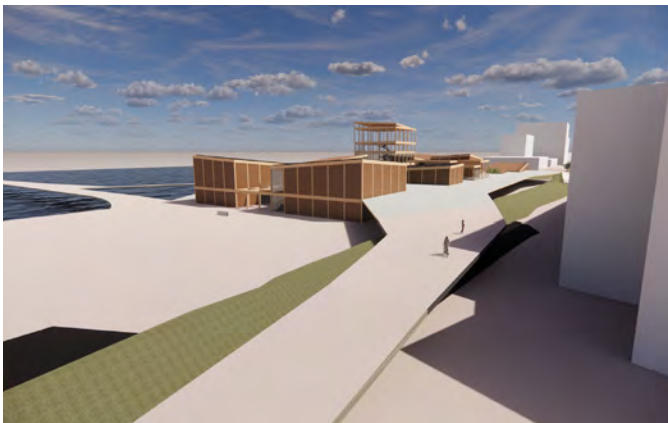
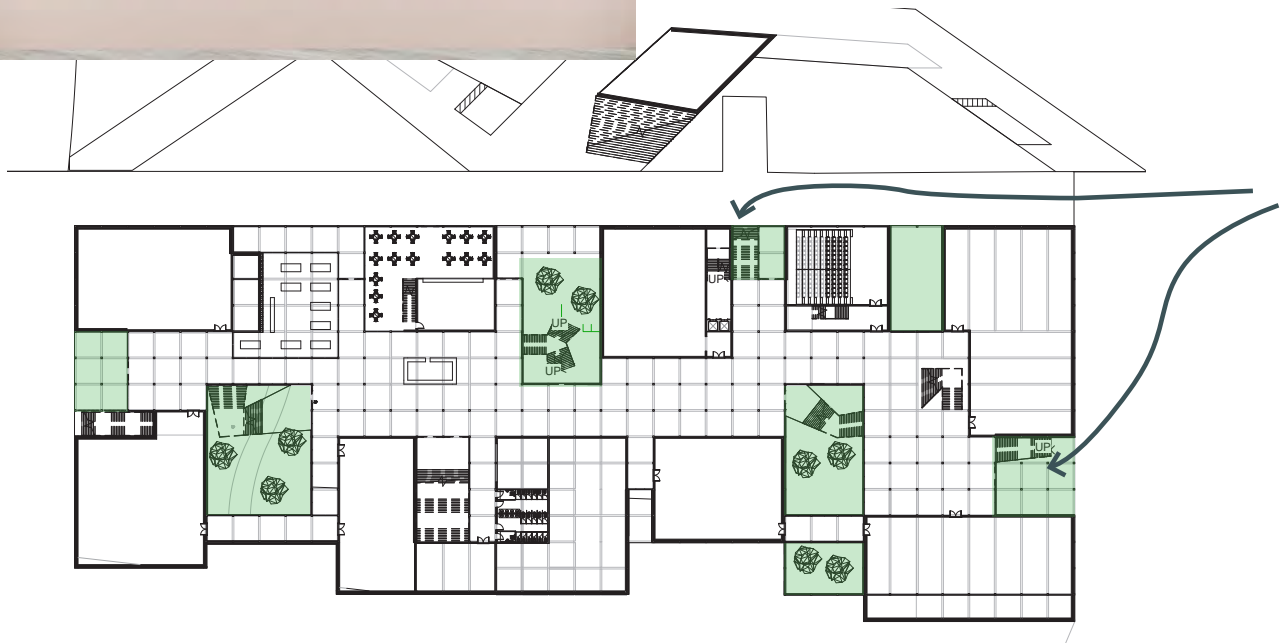
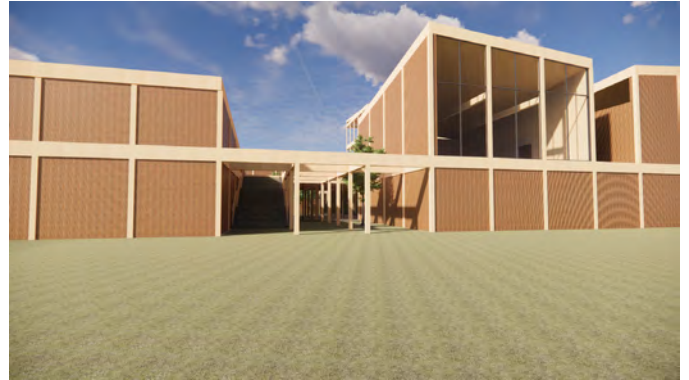
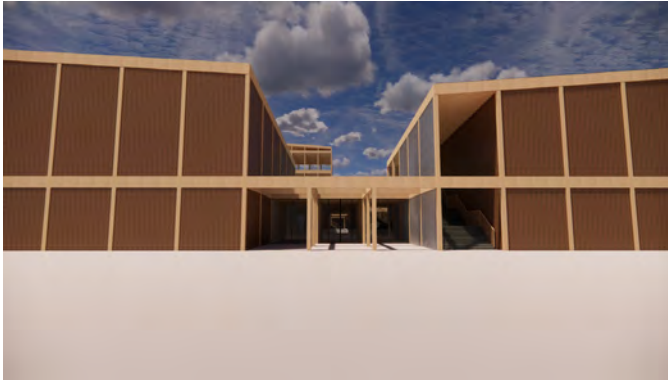
# ARRIVING ROUTES



Entrances

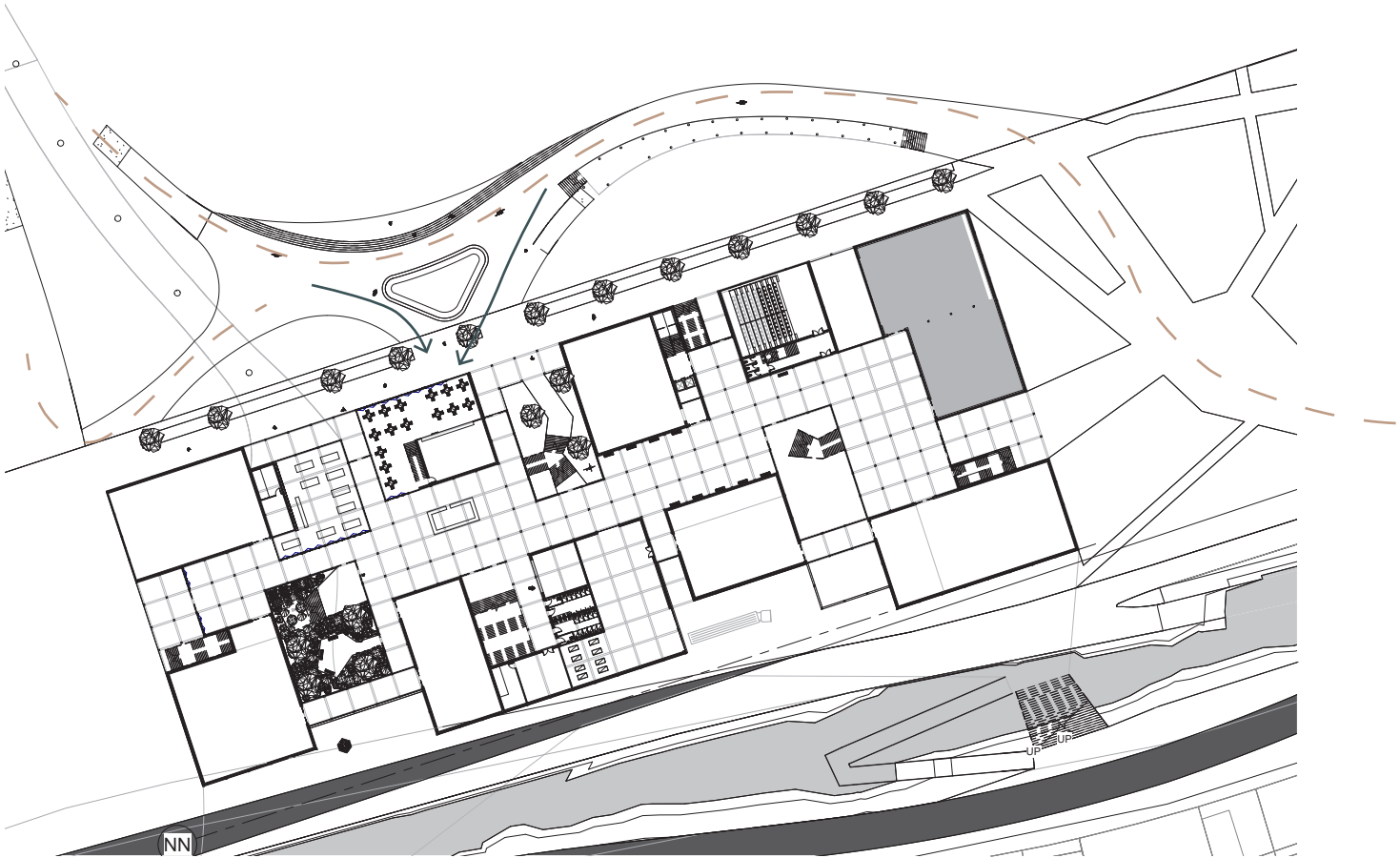


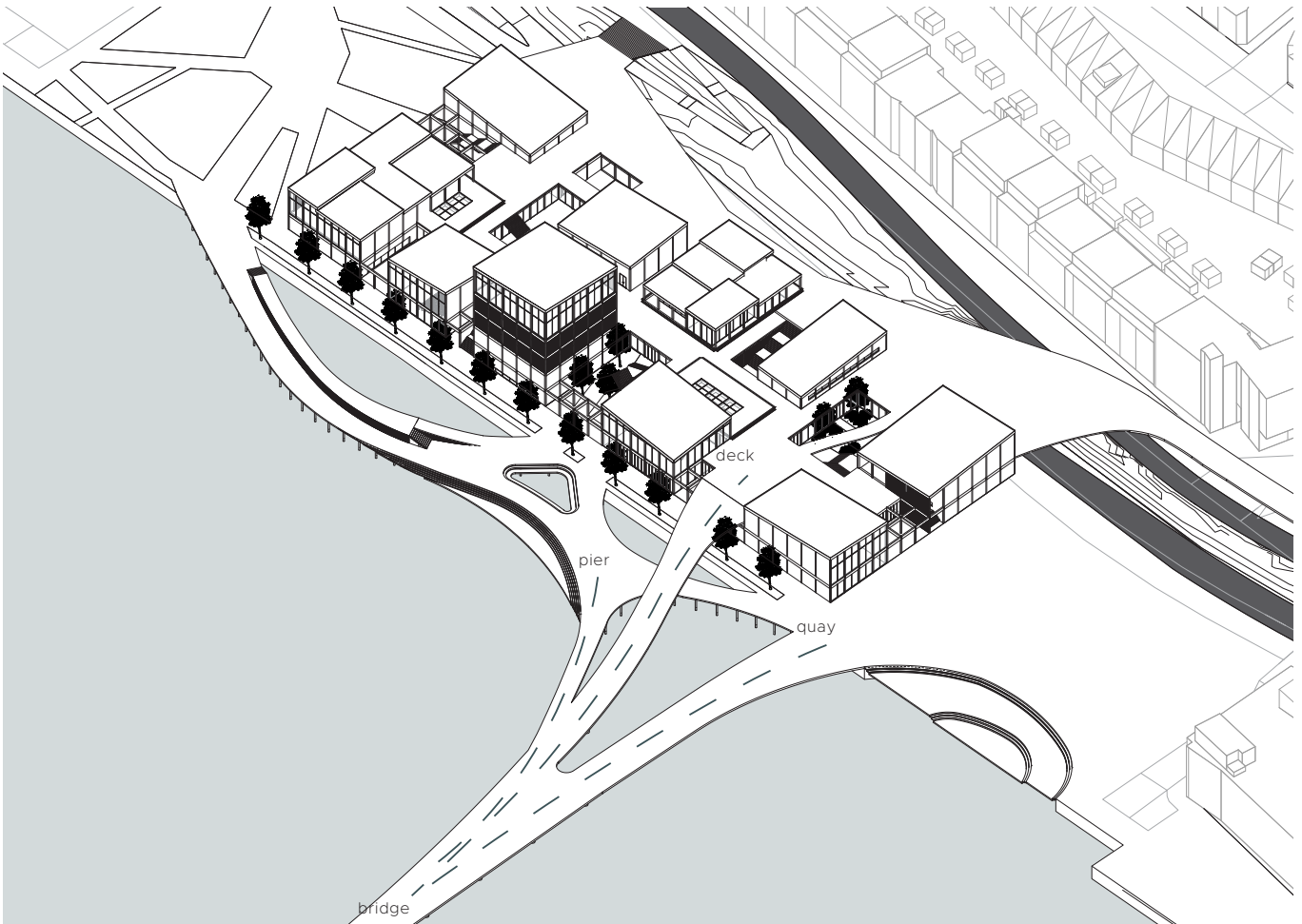
## Entrance & Connection 2 floors - courtyards





# PIER SYSTEM week 6









**DESIGN DEVELOPMENT**

# FACADE week 3

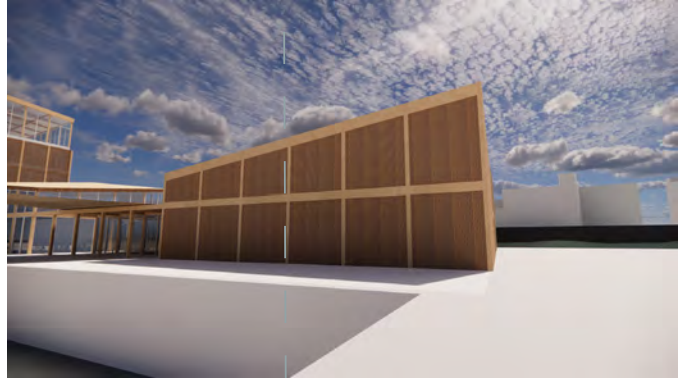
columns in same line with facade



columns set forward

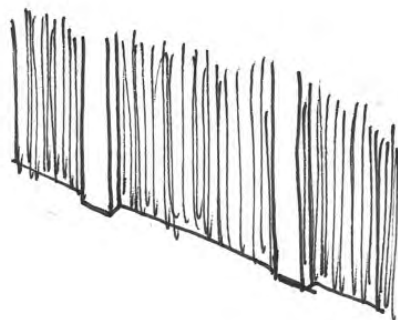
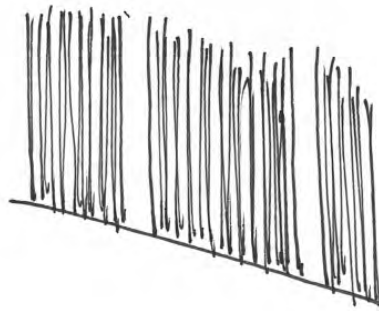
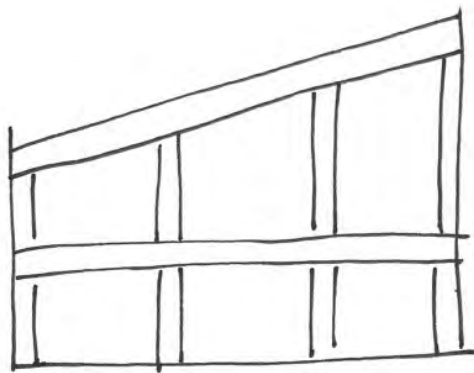
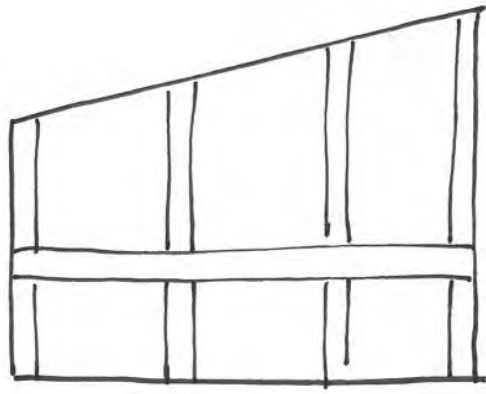


columns in same line with facade



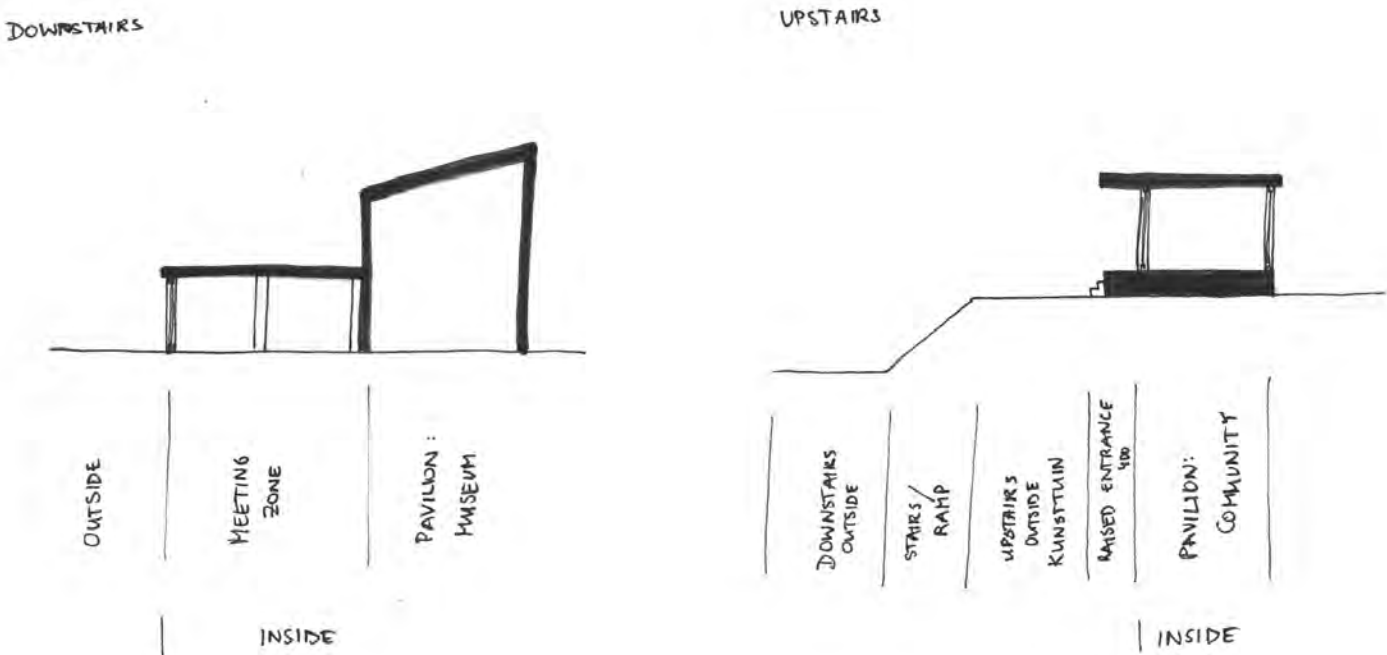
columns set forward



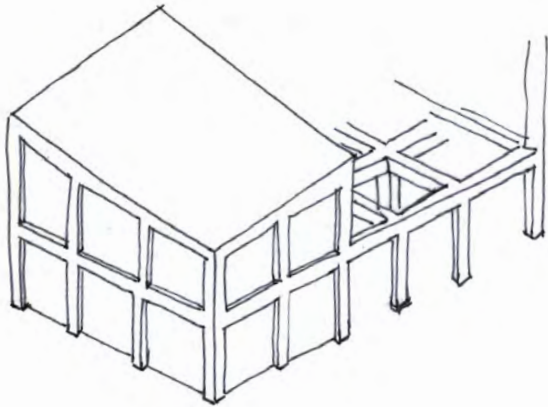


# DIAGRAM OUTSIDE - INSIDE week 4

Diagram Museum & Community

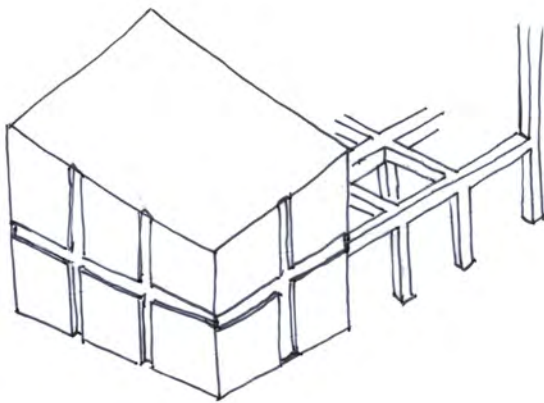


# FACADE DESIGN

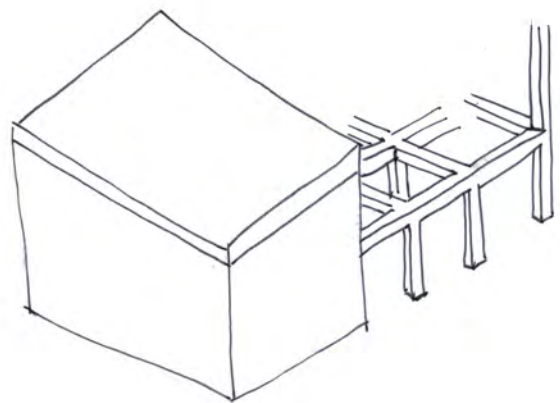


Now

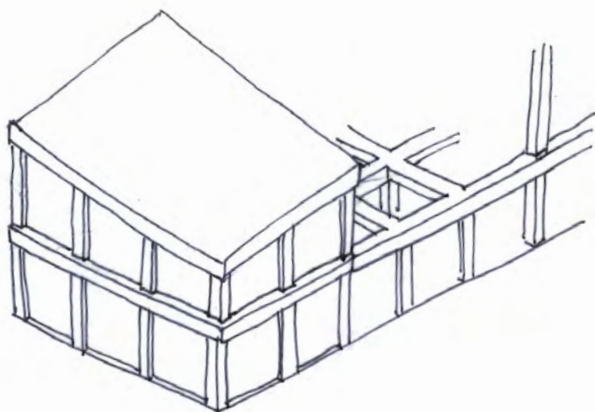
Final choice: Stay with what I have, but make structure 15mm wider to include insulation on beams connecting outside with inside.



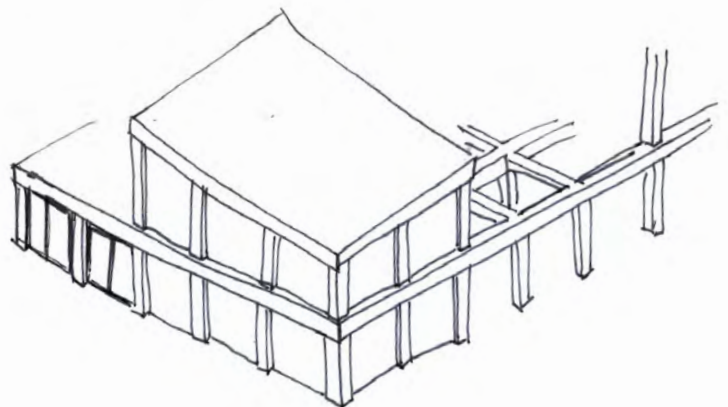
Remove structure in pavilion



No structure in pavilion



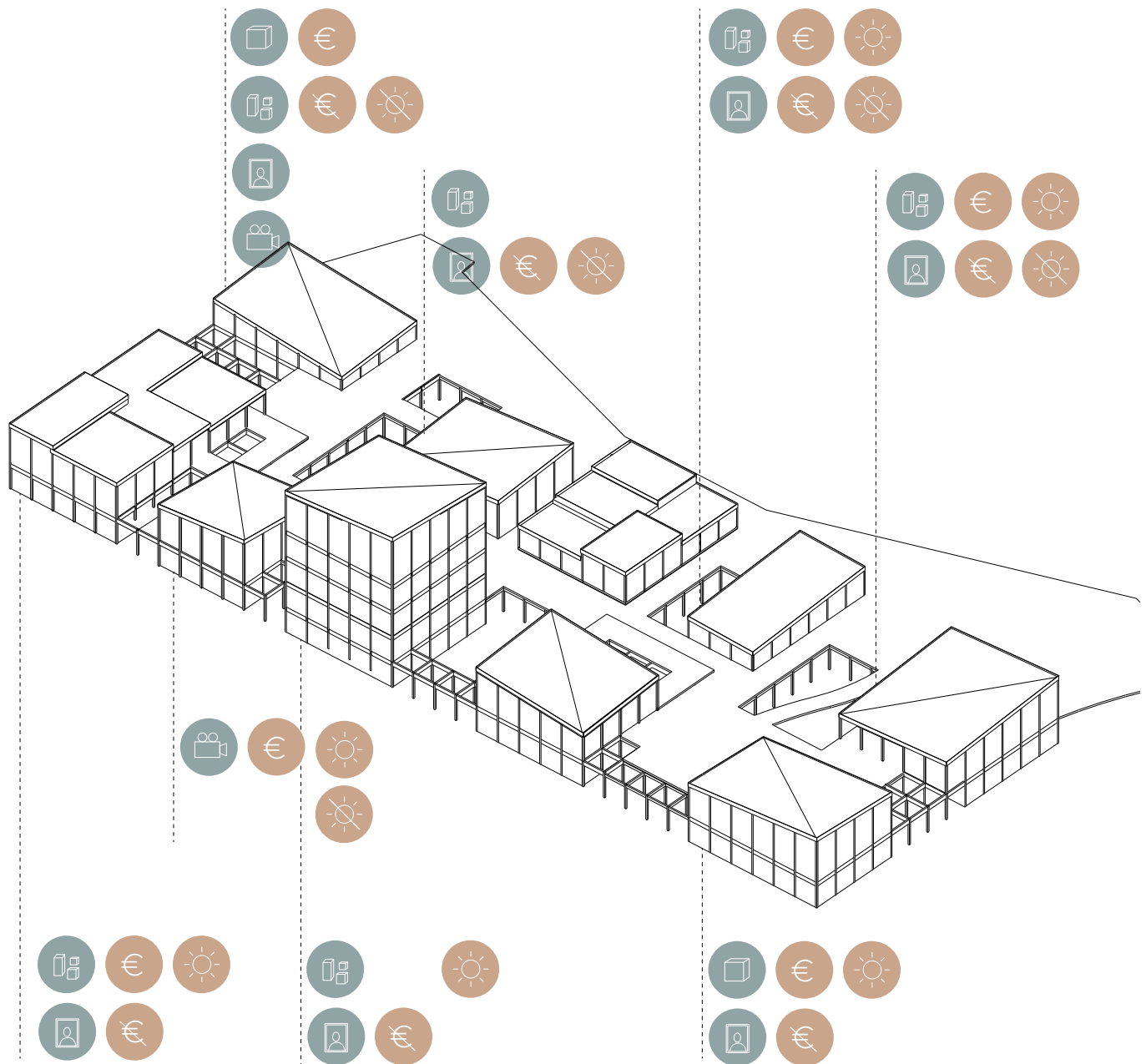
Wider beams everywhere



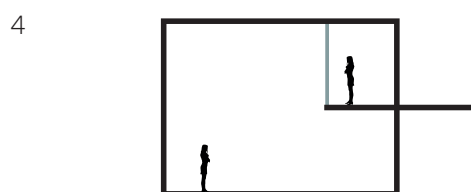
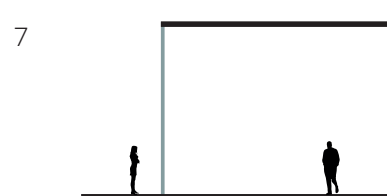
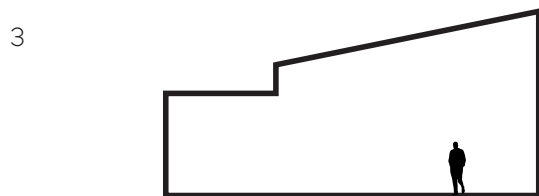
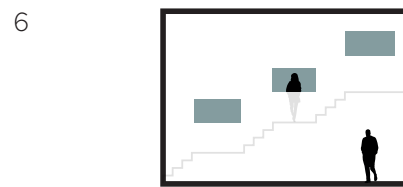
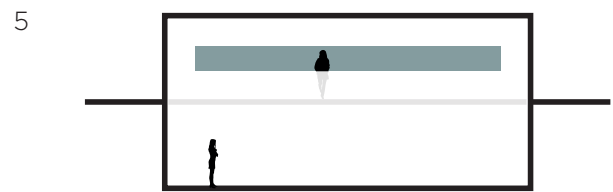
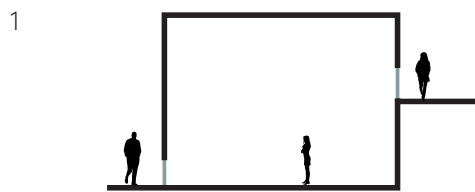
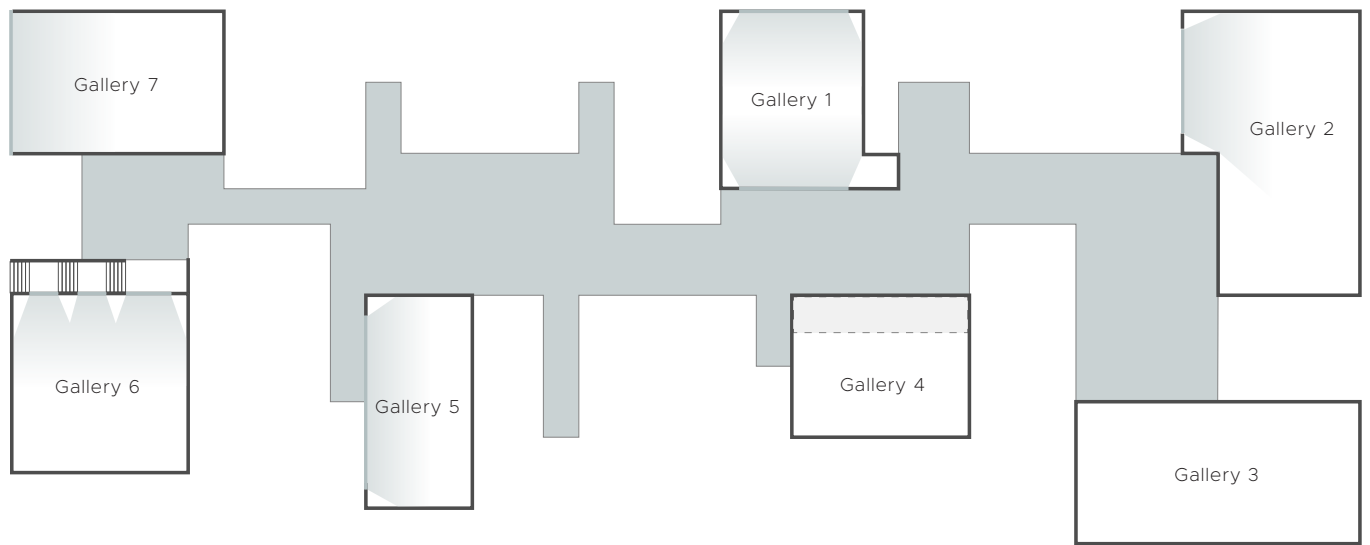
Wider beams only out outside  
& transition outside - inside



# EXHIBITION SPACES



- |  |                |  |             |
|--|----------------|--|-------------|
|  | Big Sculpture  |  | Payed       |
|  | Small Sulpture |  | Free        |
|  | Paintings      |  | Daylight    |
|  | Video          |  | No Daylight |



# EXHIBITION SPACES

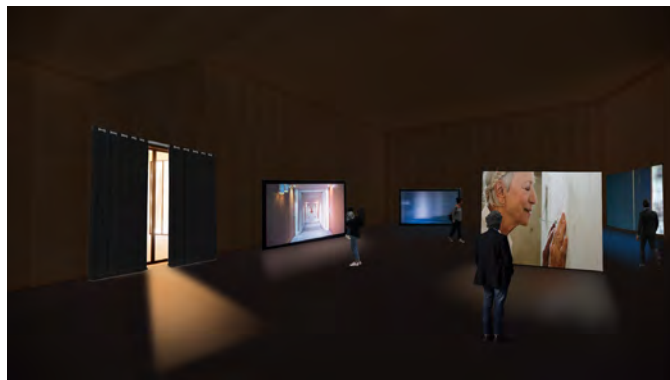
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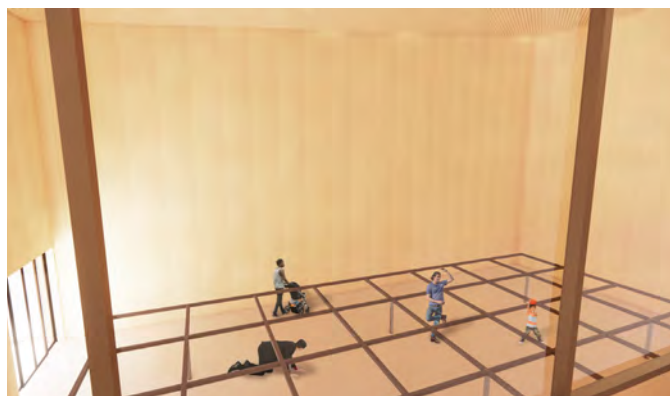
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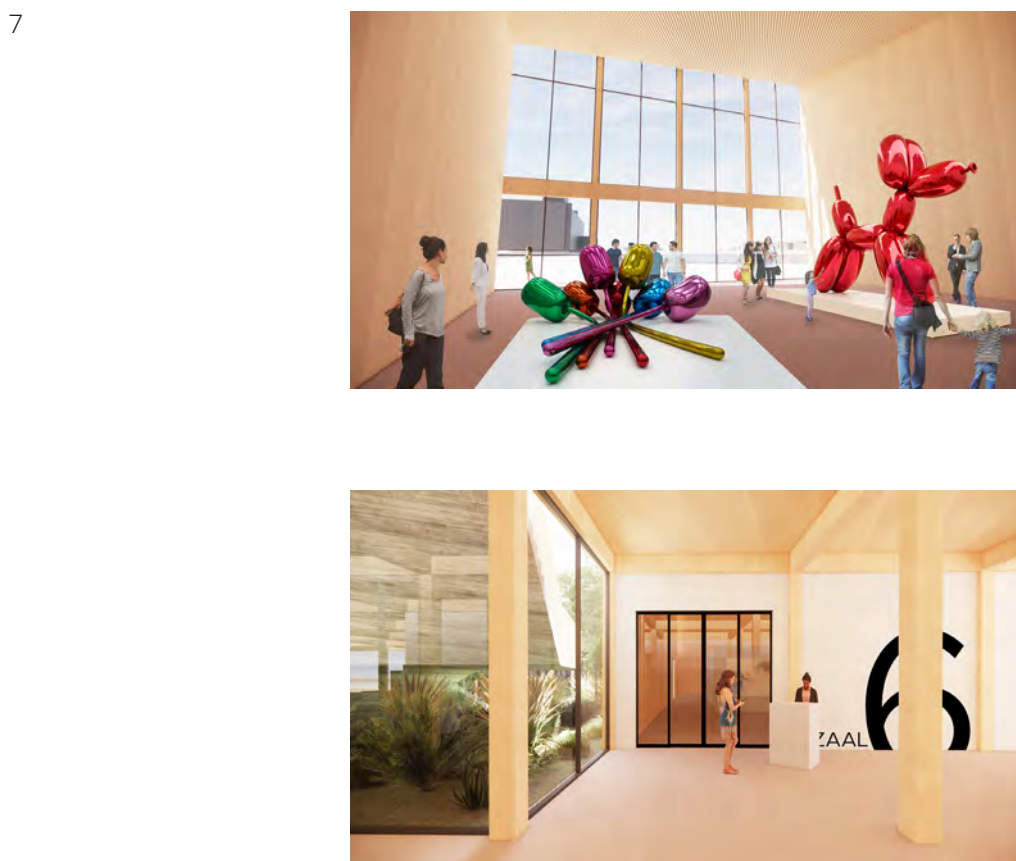
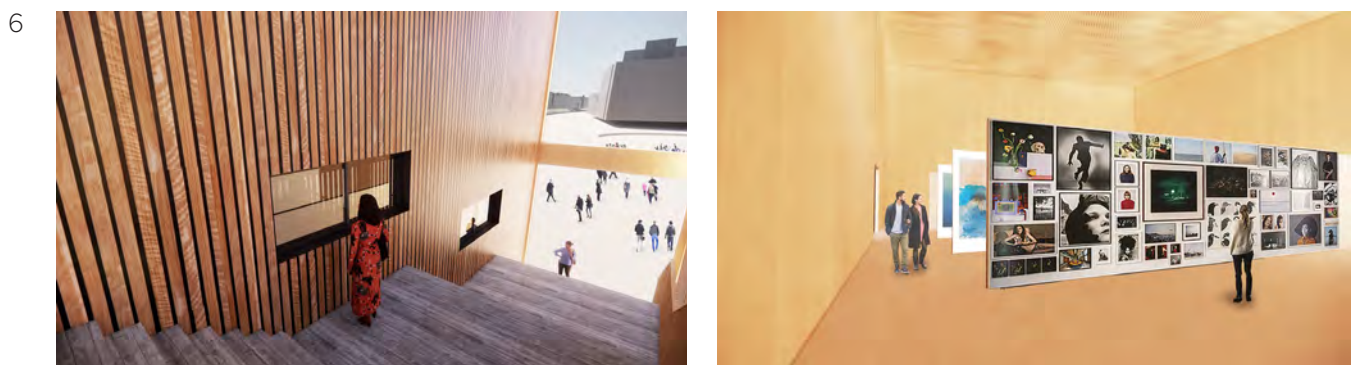
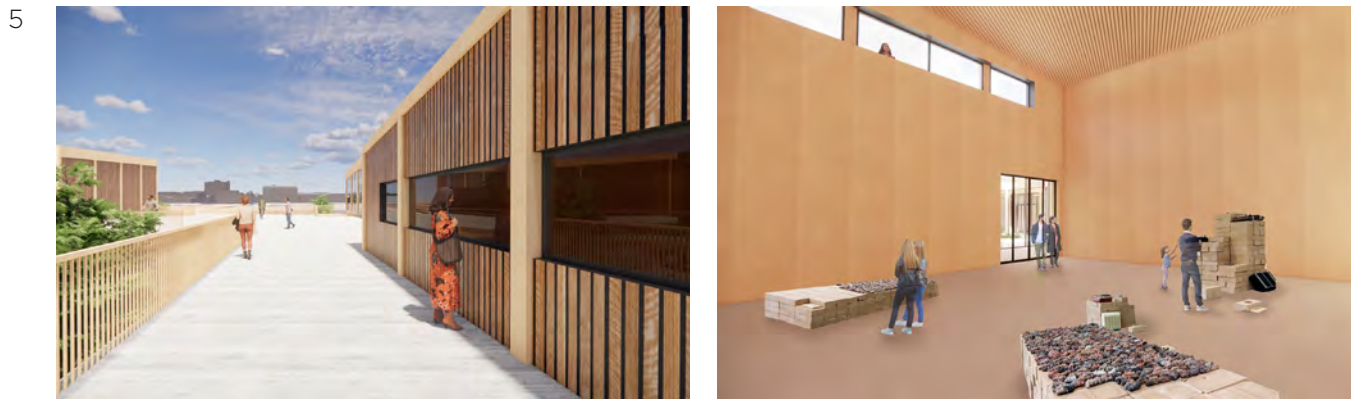


3



4







**ART**



# ART

low key	<b>art</b>
up & coming	<b>artist</b>
local	<b>theme</b>
contemporary	<b>exhibition</b>

Where does the art come from?

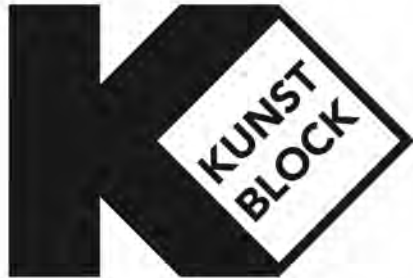
**workshop**  
creating art in collaboration

**artist**  
existing art  
commissioned art

**other institute**  
existing exhibition/ art

# COLLABORATING ART

## Kunst Block



Collaboration of the art institutes in the Rotterdam Art Quarter:

- CBK Rotterdam
- MAMA
- TENT
- V2\_
- Kunstinstituut Melly
- WORM

Kunstblock is founded to ensure the collective promotion of the institutes' events for greater visibility and impact.



# COLLABORATING ART

## New Current



The New Current is a platform for talented young artists that goes beyond solely presenting artworks and focuses on opening up the art world for a new generation.

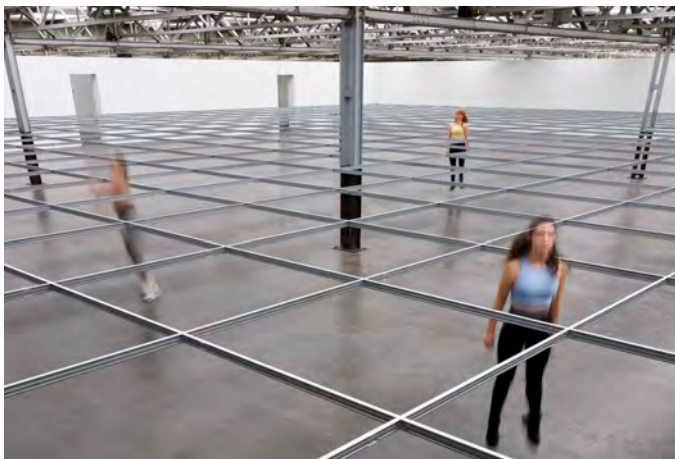
The New Current is a Rotterdam based platform for artists at the start of their career. The organisation produces a yearly thematic exhibition solely with works of artists that graduated no longer then five years ago. The New Current responds to the current situation within the art market. The domination of large galleries and art fairs creates a difficult position for starting artists who want to enter it. With the additional demise of smaller art spaces that focus on experimental presentations, it's becoming even more challenging for young talents to develop, present and prove themselves.





# EXAMPLE ART

Contemporary Art - De Pont





# EXAMPLE ART

## Participatory Art



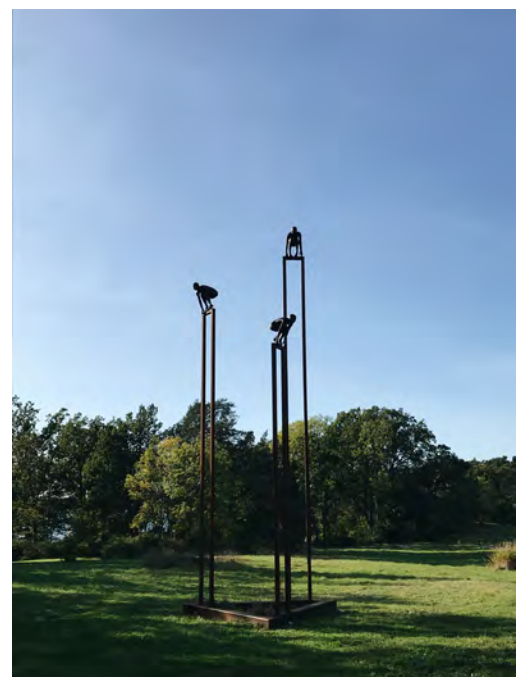


## Kunsttuin



Verbeke Foundation

Artipelag



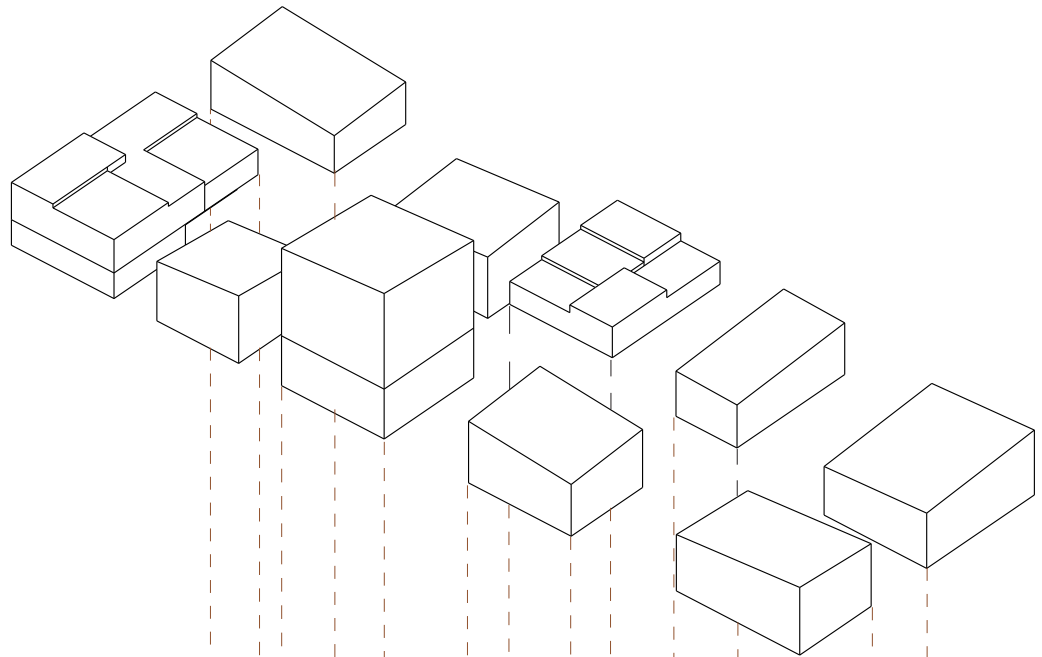




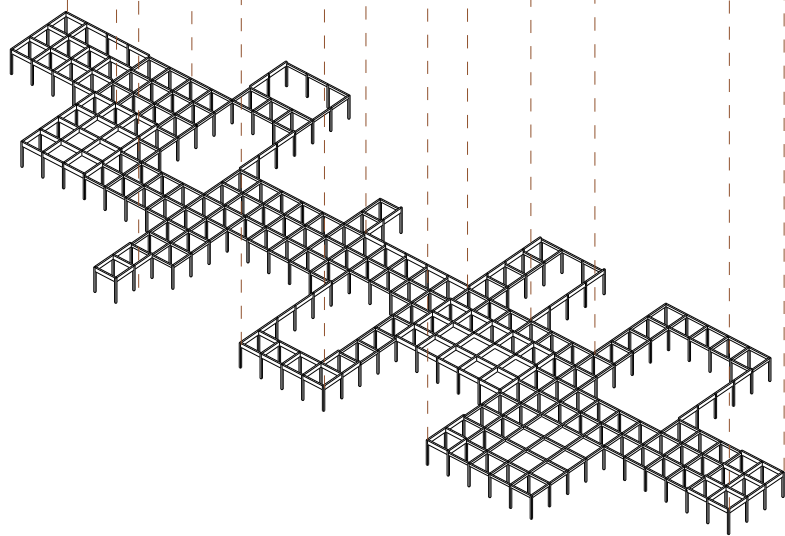
# **BUILDING TECHNOLOGY**

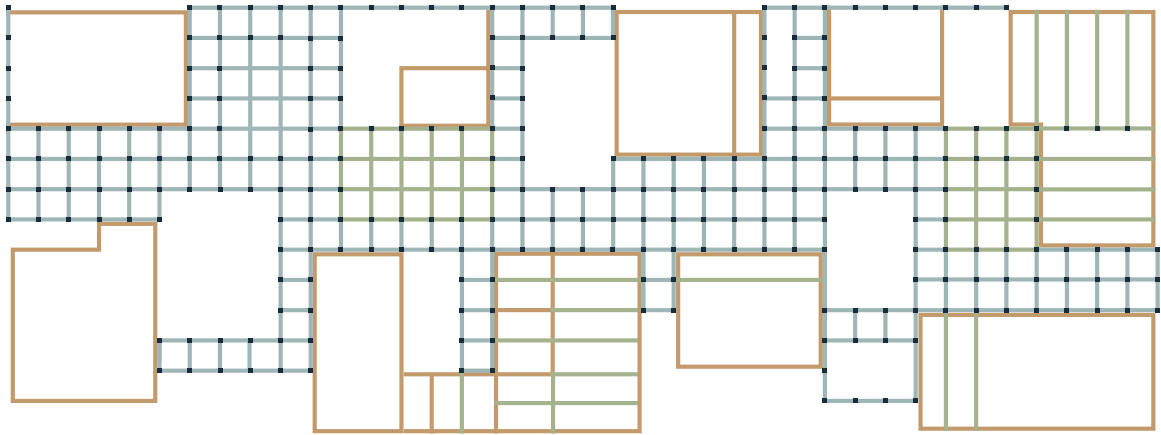
# STRUCTURE

CLT PAVILIONS

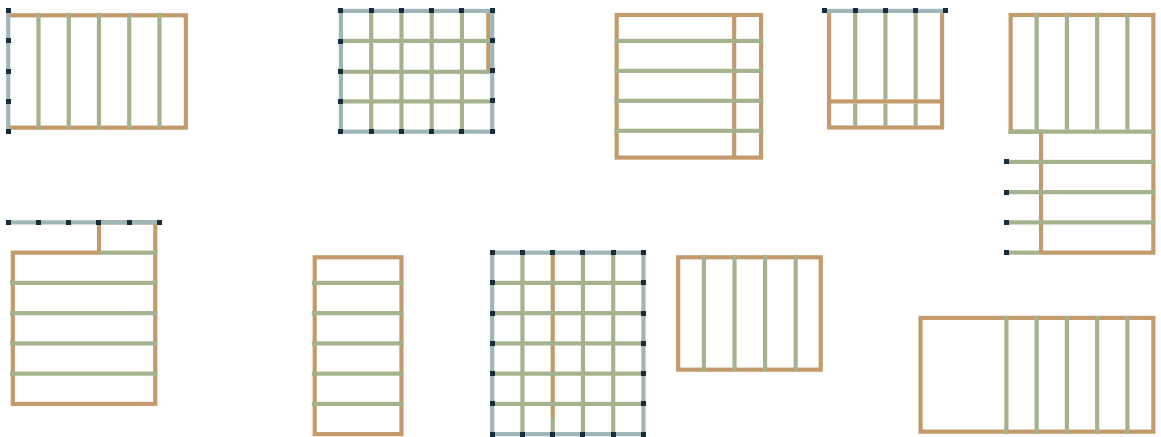


GLULAM STRUCTURE

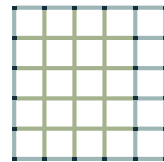








Floor 1 1:1000 ↗



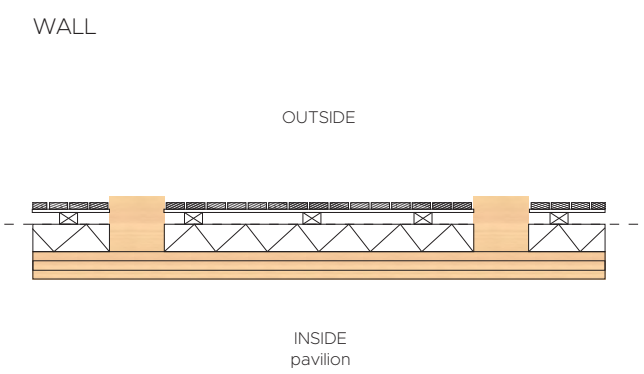
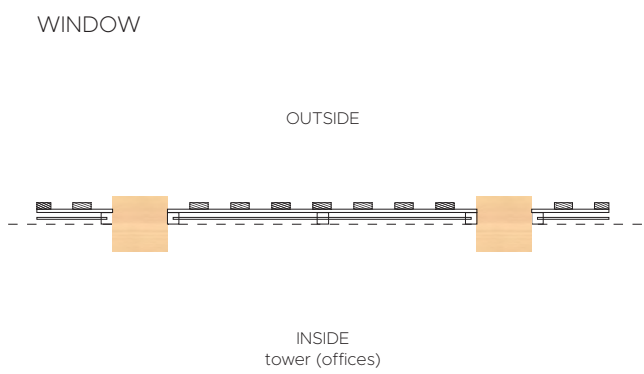
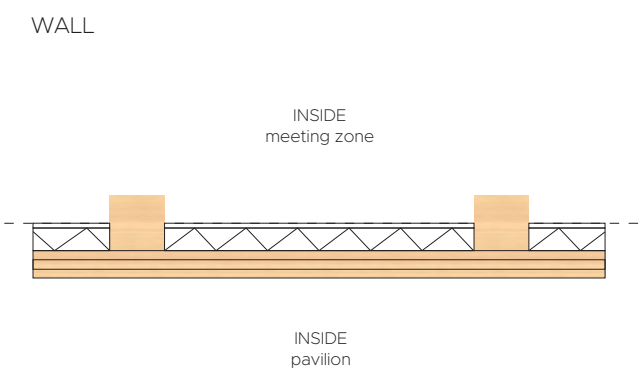
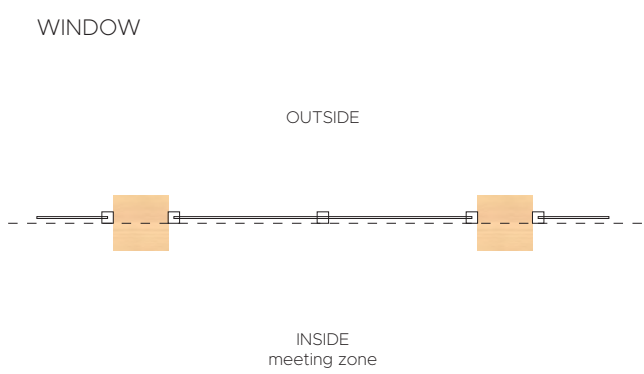
Floor 2 1:1000 ↗

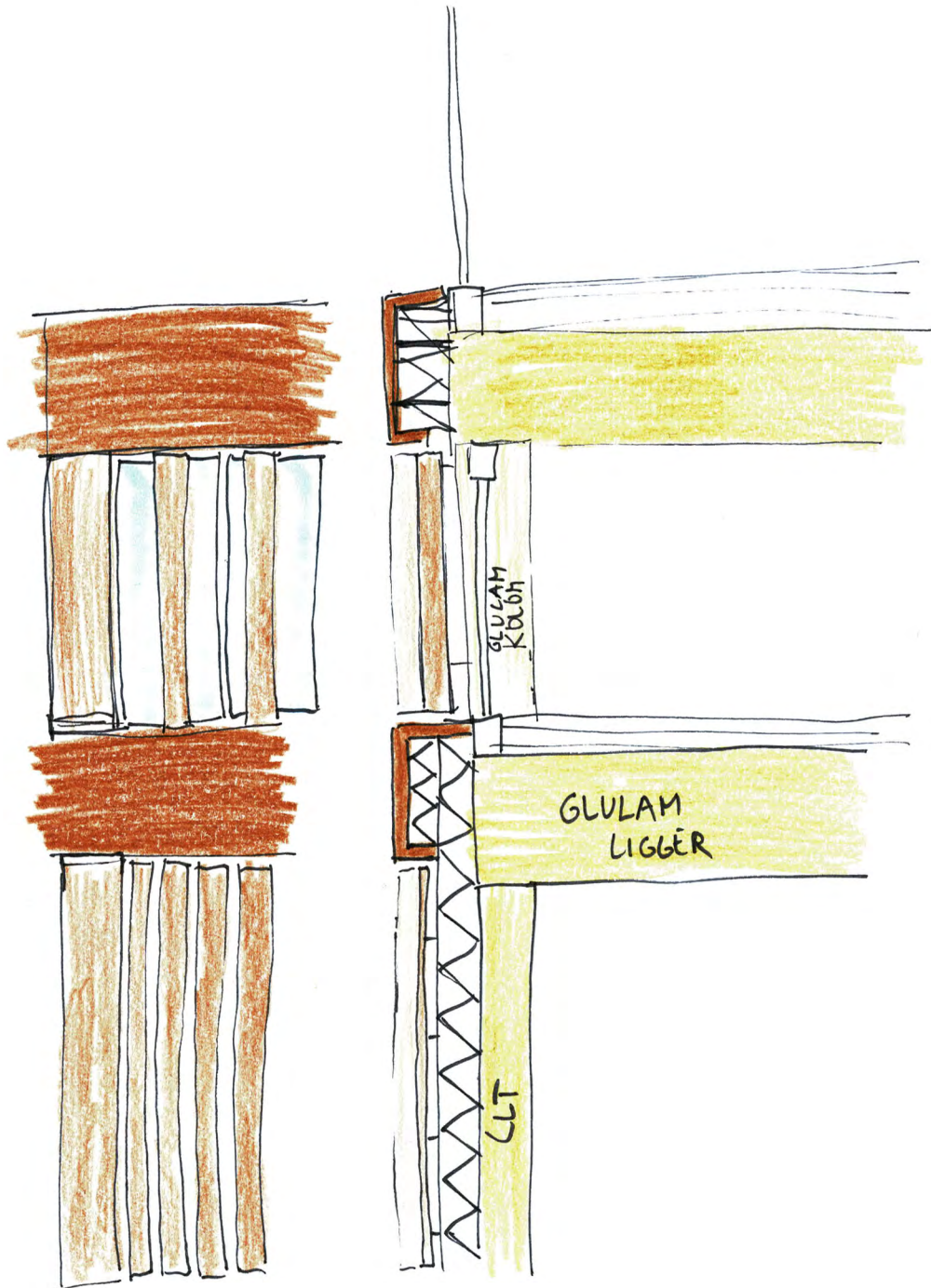


Floor 3,4,5 1:1000 ↗

-  CLT 150mm
-  Glulam Column 265x265
-  Glulam Beam 265x400
-  Glulam Beam 265x800

# DETAIL CONCEPT

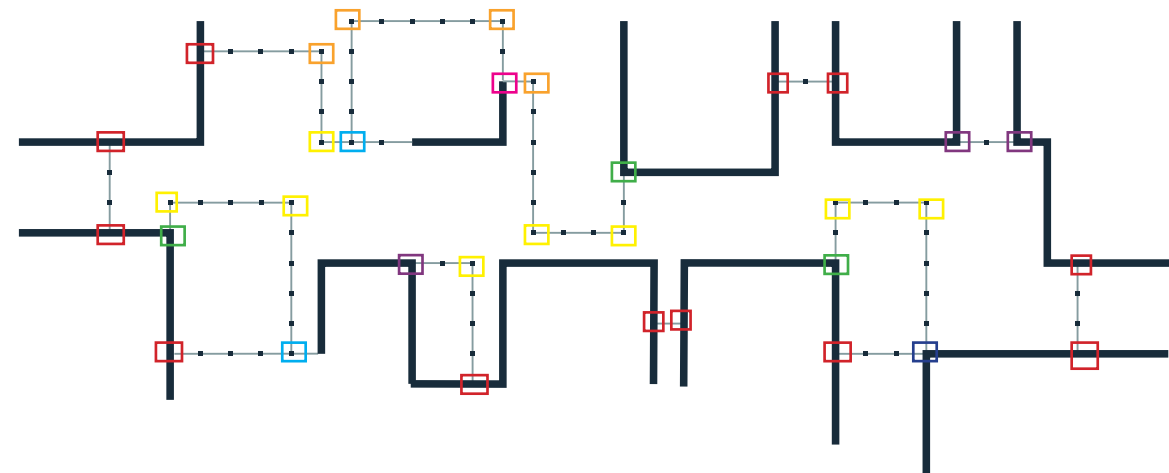




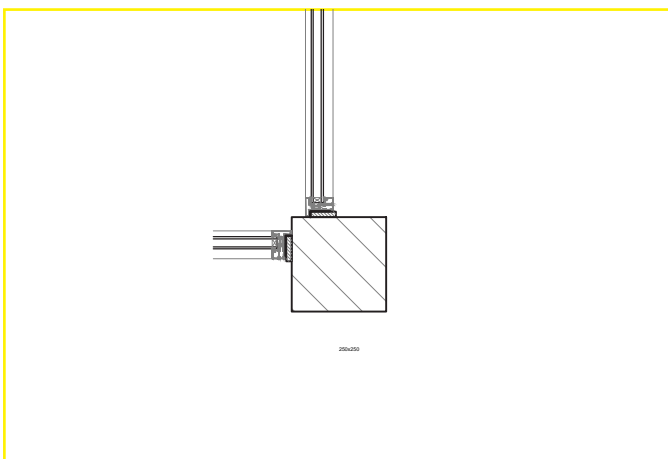
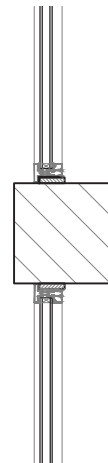
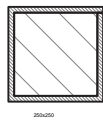


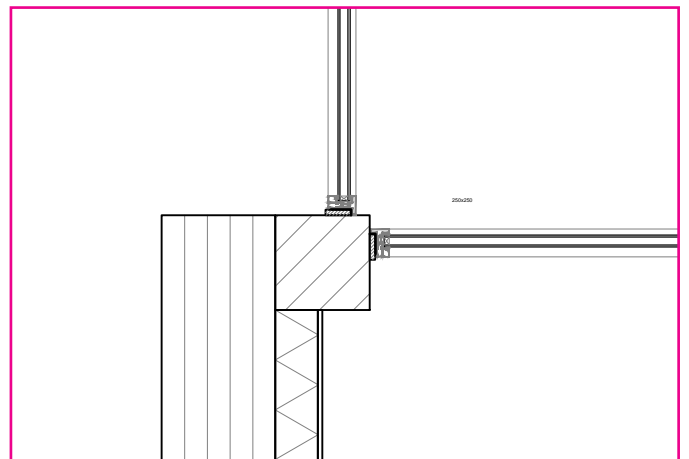
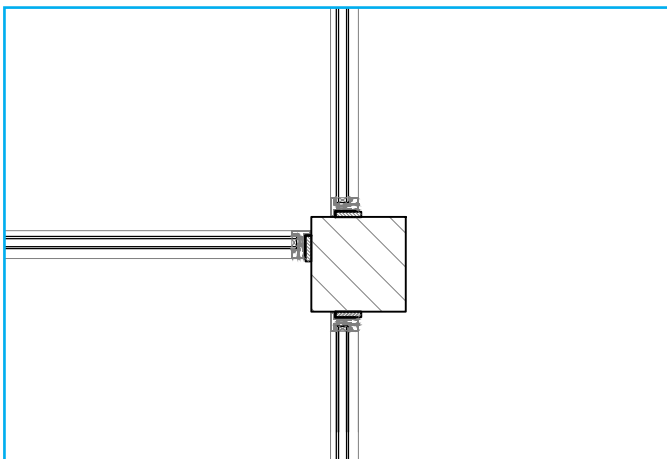
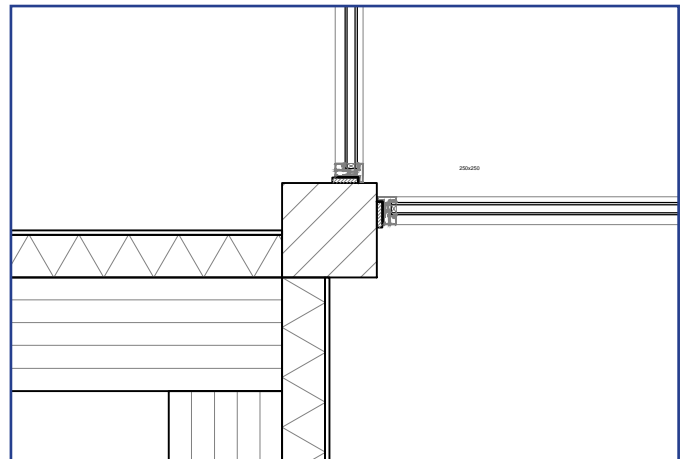
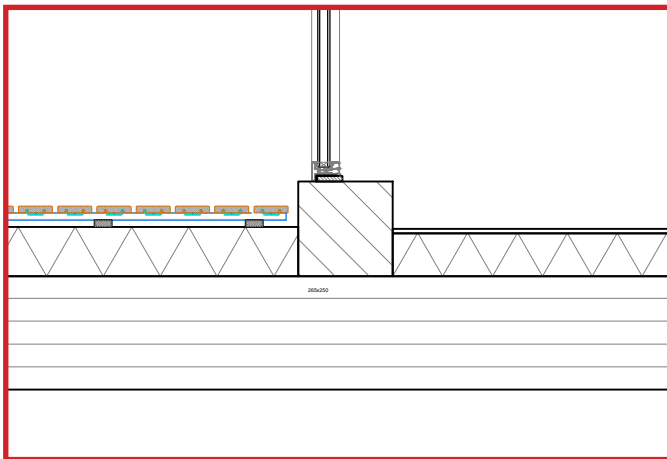
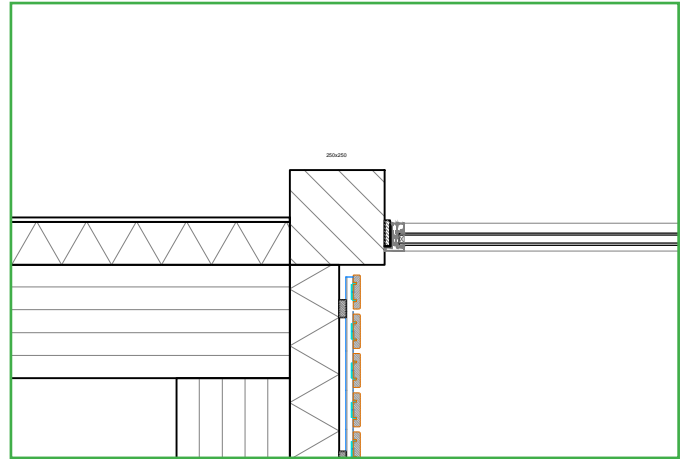
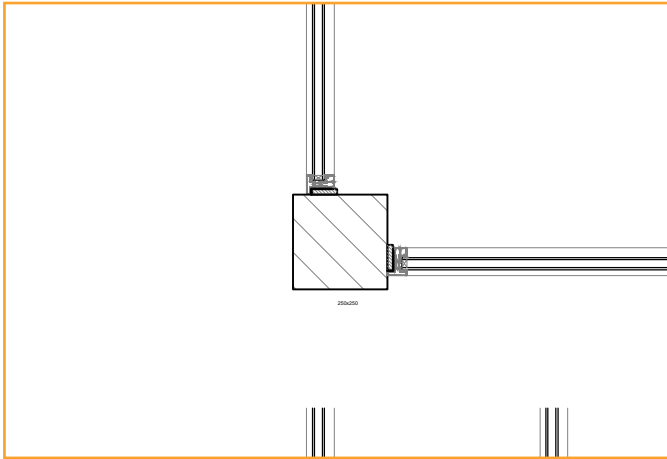
# COLUMN DETAILS WITHOUT INSULATION

Column 265x265

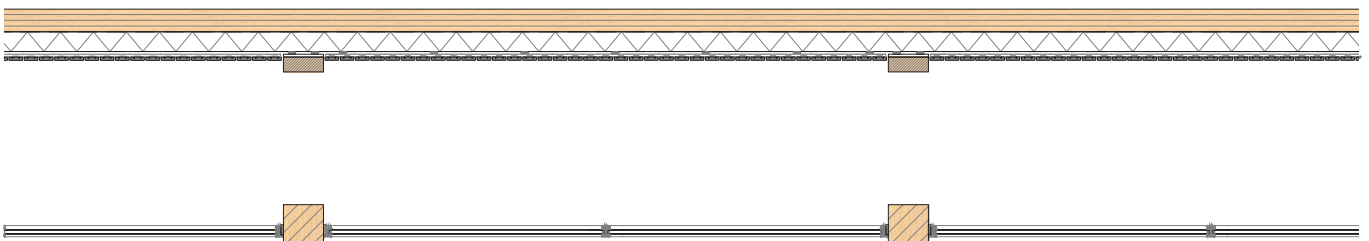
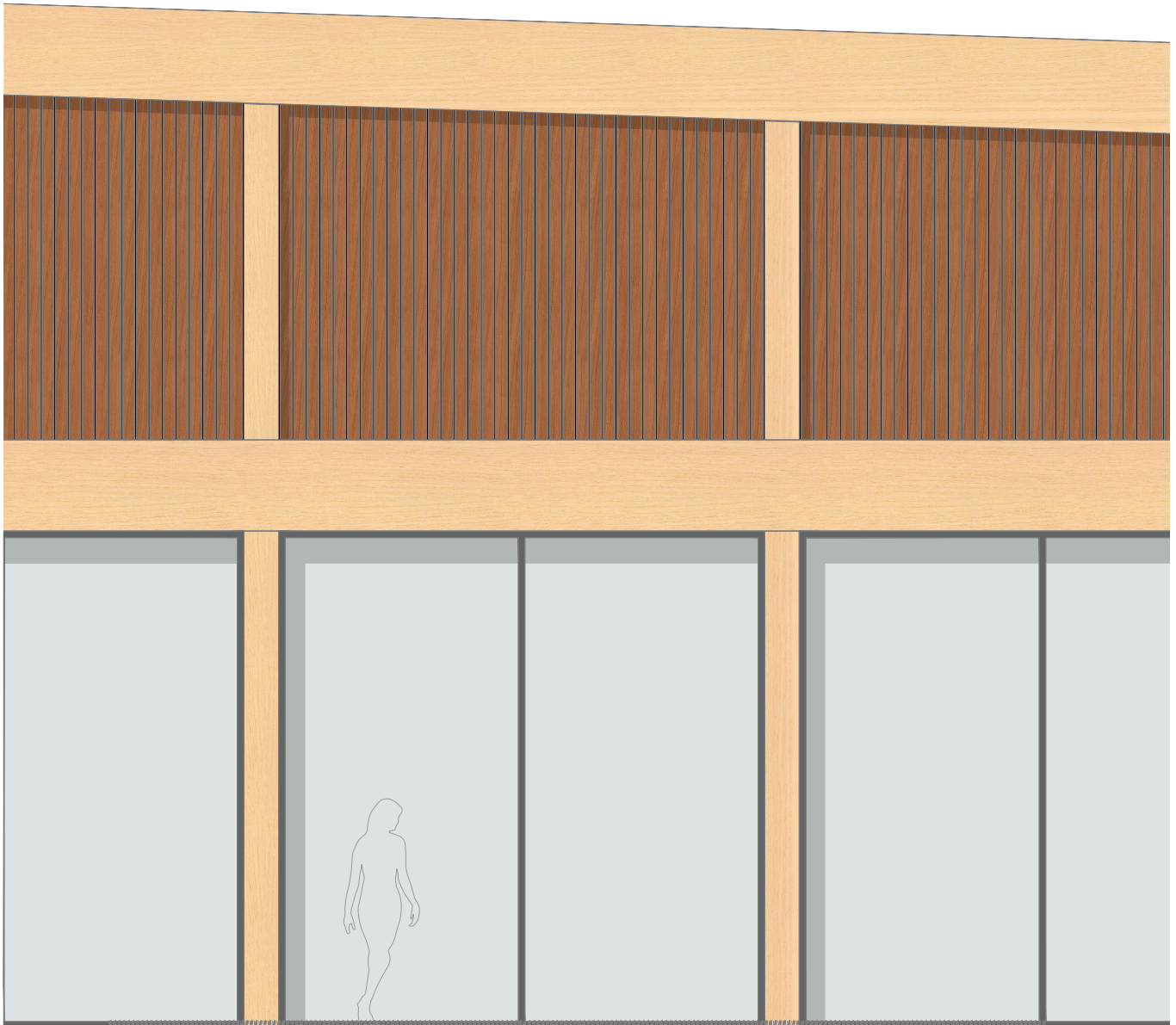


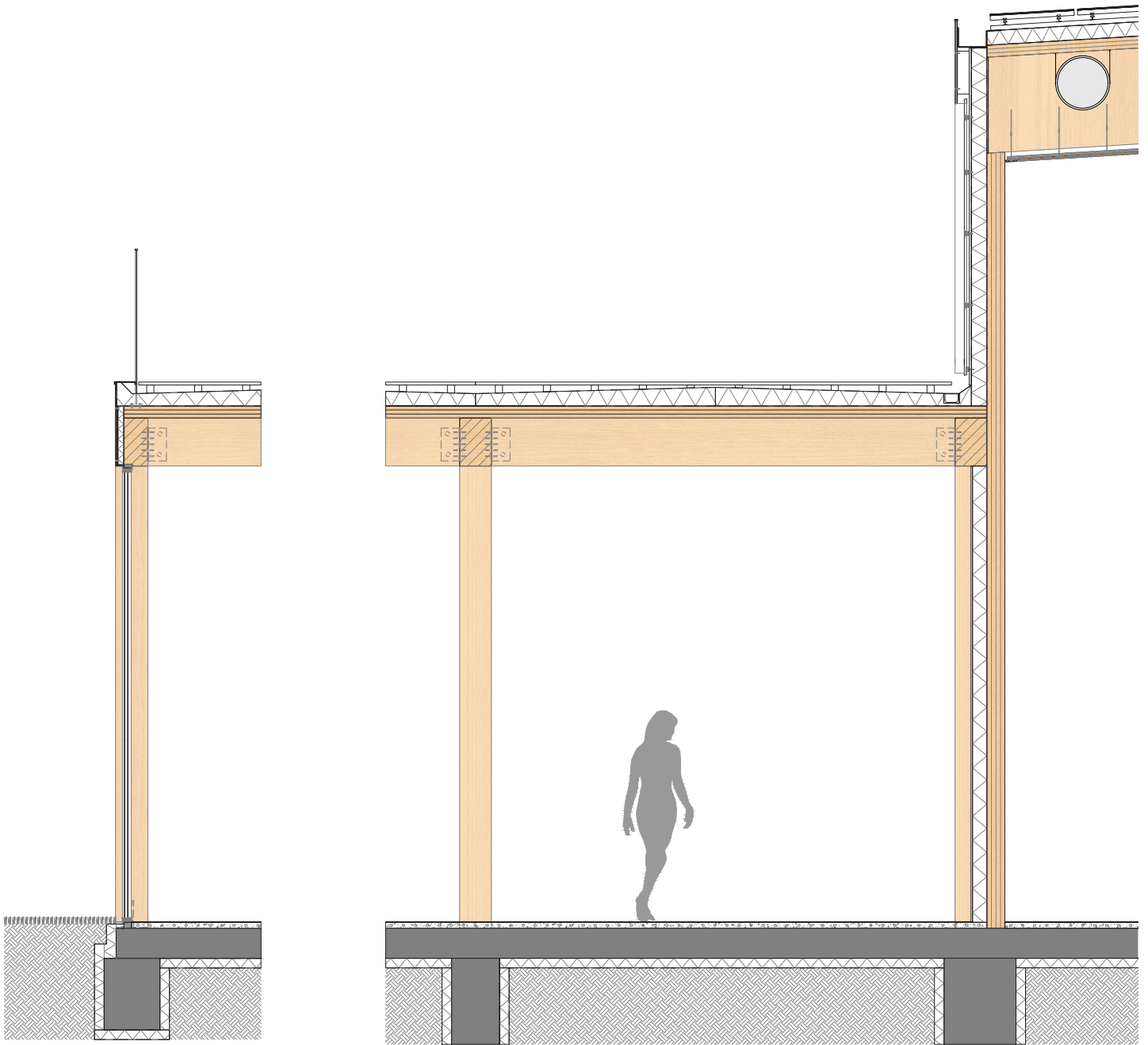
— wall to pavilion  
— ■ curtain wall - outside





# DETAIL 1:20

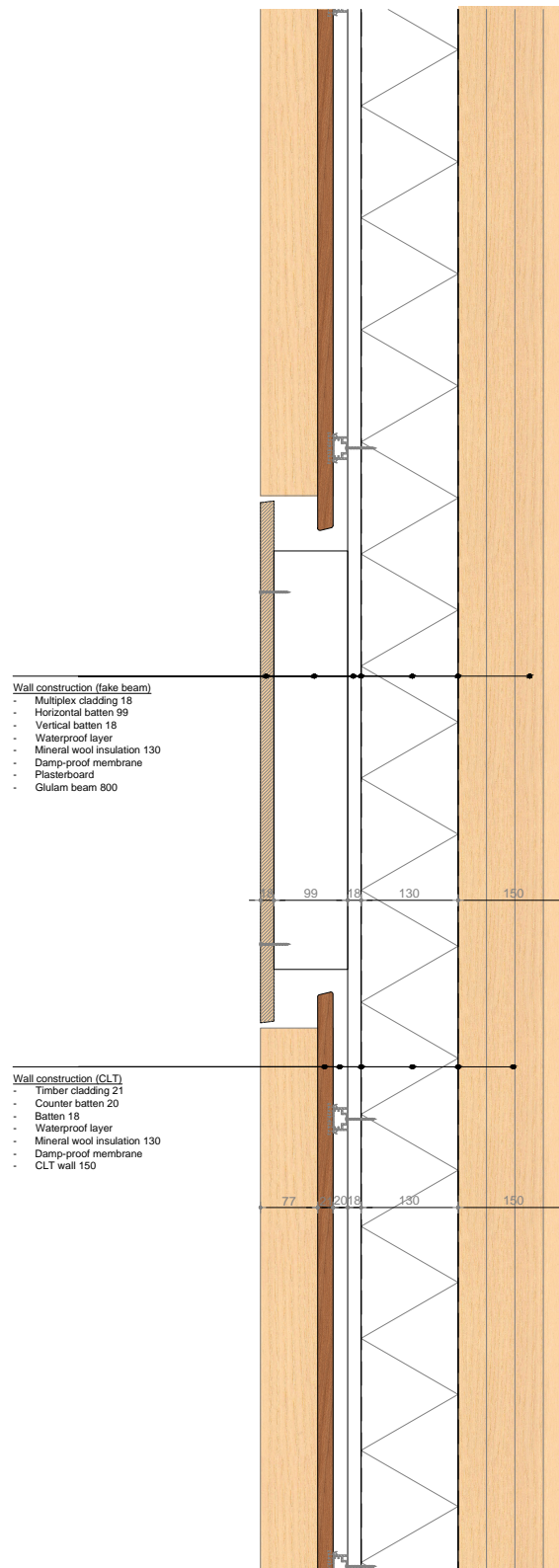


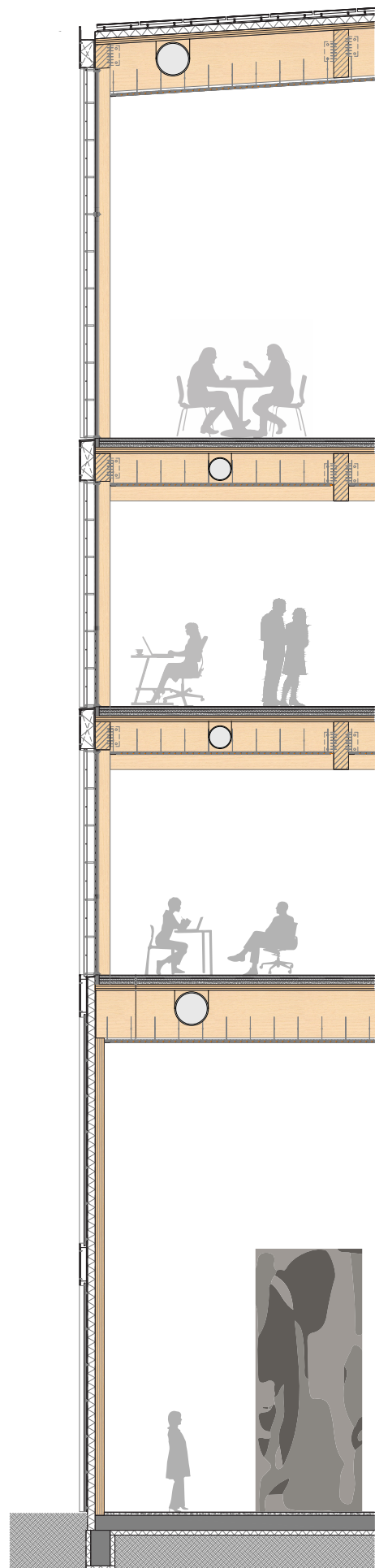
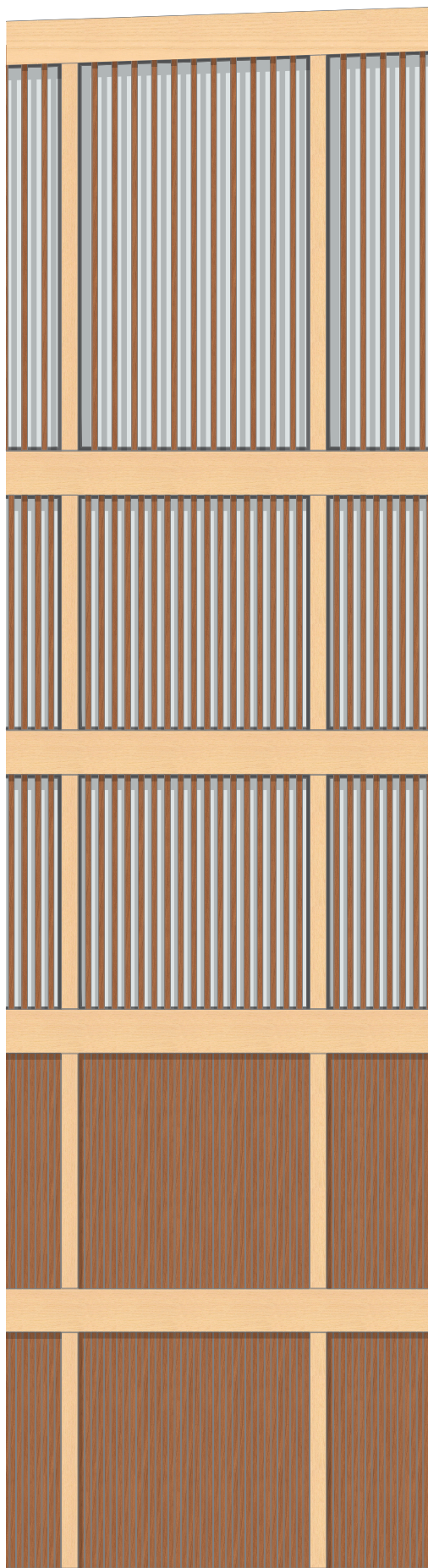


Detail 1:50

# DETAIL TOWER 1:20

## Fake beam in Pavilion Facade







# R<sub>c</sub> CALCULATION

Dak Pavilion

constructie laag	d	l	R	$\Delta T$	T
	grootheden	m	W/(m.K)	(m2.K)/W	°C
lucht buiten					-10.0
overgangswaarde R <sub>e</sub>			0.04	0.2	
					-9.8
1 Wood decking	0.075		0.00	0.0	
					-9.8
1 Waterproof layer	0.002	0.17	0.01	0.1	
					-9.8
2 Insulation (rigid foam)	0.12	0.02	6.00	25.9	
					16.1
3 Damp-proof membrane	0.002	0.17	0.01	0.1	
					16.1
4 CLT	0.1	0.13	0.77	3.3	
					19.4
overgangswaarde R <sub>i</sub>			0.13	0.6	
lucht binnen					20.0
Totaal			6.96	30.0	

6.3

Dak Meeting Zone

constructie laag	d	l	R	$\Delta T$	T
	grootheden	m	W/(m.K)	(m2.K)/W	°C
lucht buiten					-10.0
overgangswaarde R <sub>e</sub>			0.04	0.2	
					-9.8
1 Wood decking	0.025		0.00	0.0	
					-9.8
1 Waterproof layer	0.002	0.17	0.01	0.1	
					-9.8
2 Insulation (rigid foam)	0.12	0.02	6.00	25.9	
					16.1
3 Damp-proof membrane	0.002	0.17	0.01	0.1	
					16.1
4 CLT	0.1	0.13	0.77	3.3	
					19.4
overgangswaarde R <sub>i</sub>			0.13	0.6	
lucht binnen					20.0
Totaal			6.96	30.0	

6.3

#### Gevel Pavilion

constructie laag	d	l	R	$\Delta T$	T
grootheden	m	W/(m.K)	(m2.K)/W	°C	°C
lucht buiten					-10.0
overgangswaerstand $R_e$			0.04	0.2	
					-9.8
1 hout afwerking	0.058		0.00	0.0	
					-9.8
1 waterkerende laag	0.002	0.17	0.01	0.1	
					-9.7
2 isolatie mineral wool	0.13	0.05	2.60	15.3	
					5.6
3 Dampremmende laag	0.002	0.17	0.01	0.1	
					5.7
4 CLT	0.3	0.13	2.31	13.6	
					19.2
overgangswaerstand $R_i$			0.13	0.8	
lucht binnen					20.0
Totaal			5.10	30.0	

4.5

#### Glulam Ligger - meeting zone

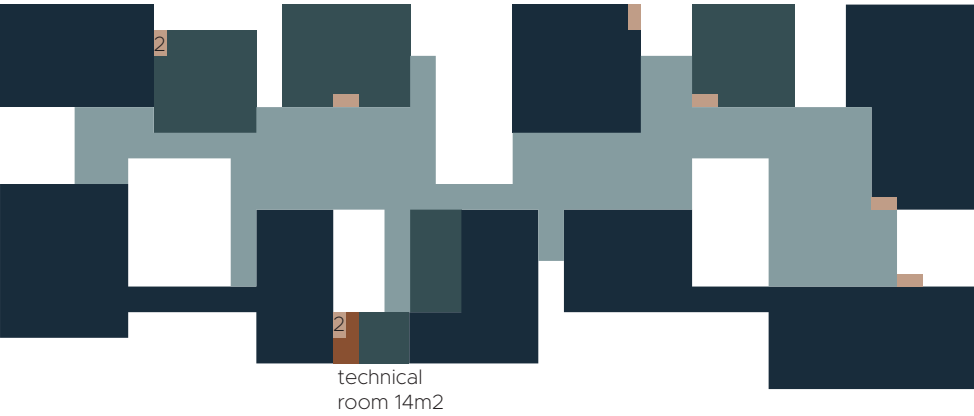
constructie laag	d	l	R	$\Delta T$	T	p
grootheden	m	W/(m.K)	(m2.K)/W	°C	°C	f
lucht buiten					-10.0	
overgangswaerstand $R_e$			0.04	0.3		
					-9.7	
1 hout afwerking	0.015	0.11	0.14	0.9		
					-8.9	
1 waterkerende laag	0.002	0.17	0.01	0.1		
					-8.8	
2 Isolatie kingspan	0.05	0.018	2.78	17.9		
					9.2	
3 Dampremmende laag	0.002	0.17	0.01	0.1		
					9.2	
4 Glulam kolom	0.2	0.13	1.54	9.9		
					19.2	
overgangswaerstand $R_i$			0.13	0.8		
lucht binnen					20.0	
Totaal			4.65	30.0		

0.265

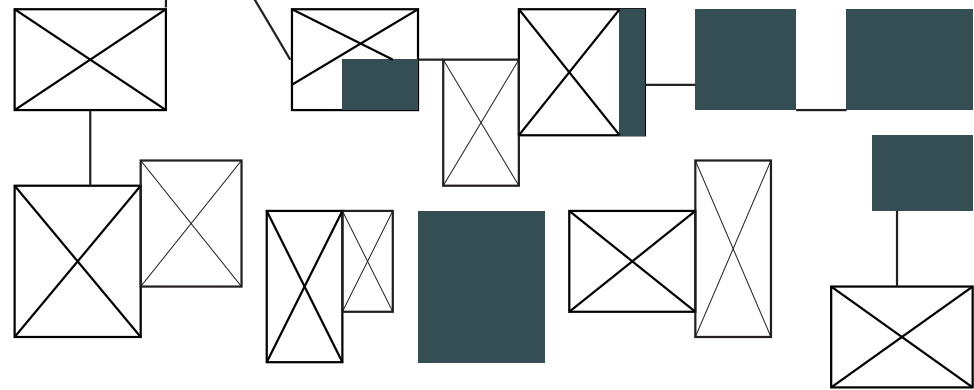
4.5

# CLIMATE ZONES

Ground Floor



First Floor



- Exhibition climate
- Public Spaces (Café, Store, Community etc)
- Public meeting zone (can be opened in summer)
- air handling unit

↓ regulations for air quality and heating requirements decreases

# CLIMATE SYSTEM

The building will have a **decentralized system** to accommodate all the pavilions.

## Exhibition climate

- Keep humidity levels and air temperature as constant as possible
- Temp: 21C +/- 3C
- Relative humidity: 55% +/- 5%
- all pavilions will have their own air handling unit (size: 5m x 1.5m x 1m; room: 3m x 6m) with heat recovery system

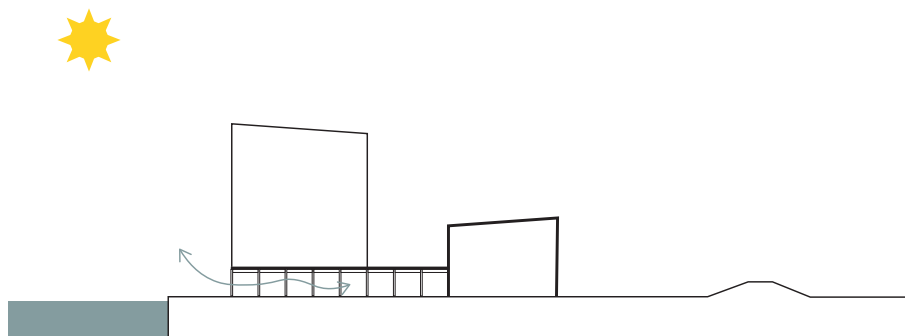
## Public Spaces (Café, Store, Community etc)

## Public meeting zone

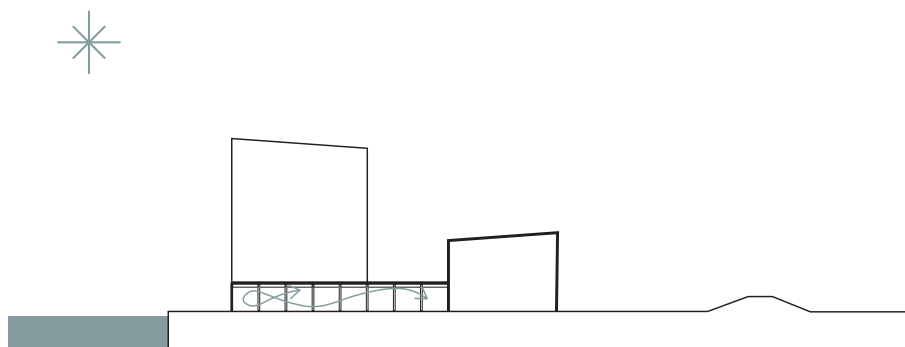
- basic climate: floor heating, overflow ventilation from the pavilions, mechanical exhaust with heat exchanger
- can be opened in summer (installation will be turned off)



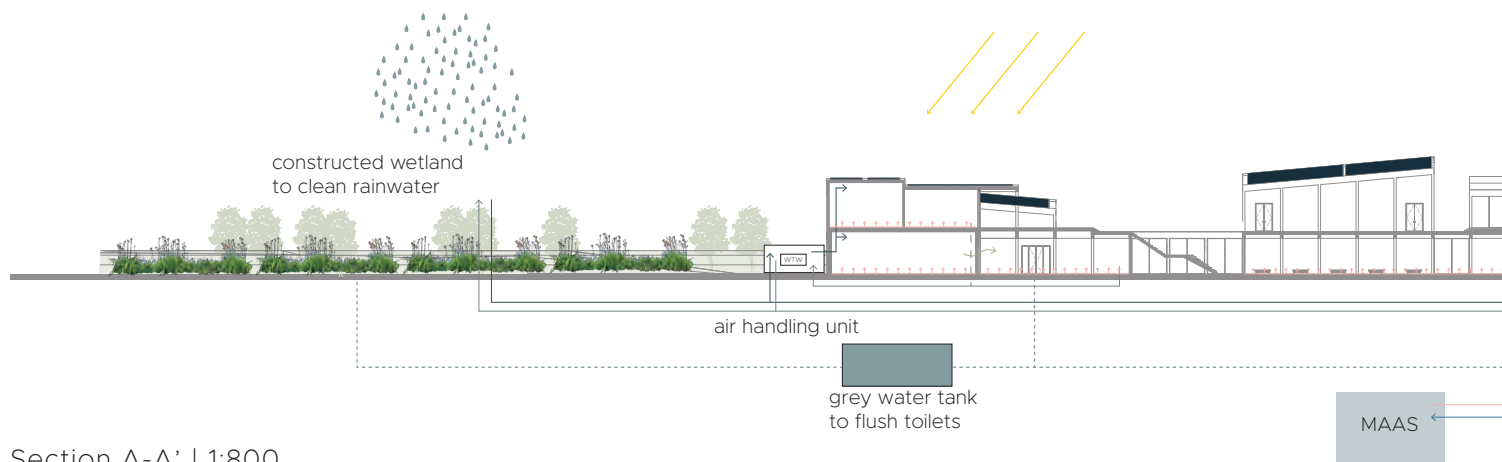
Ventilation concept



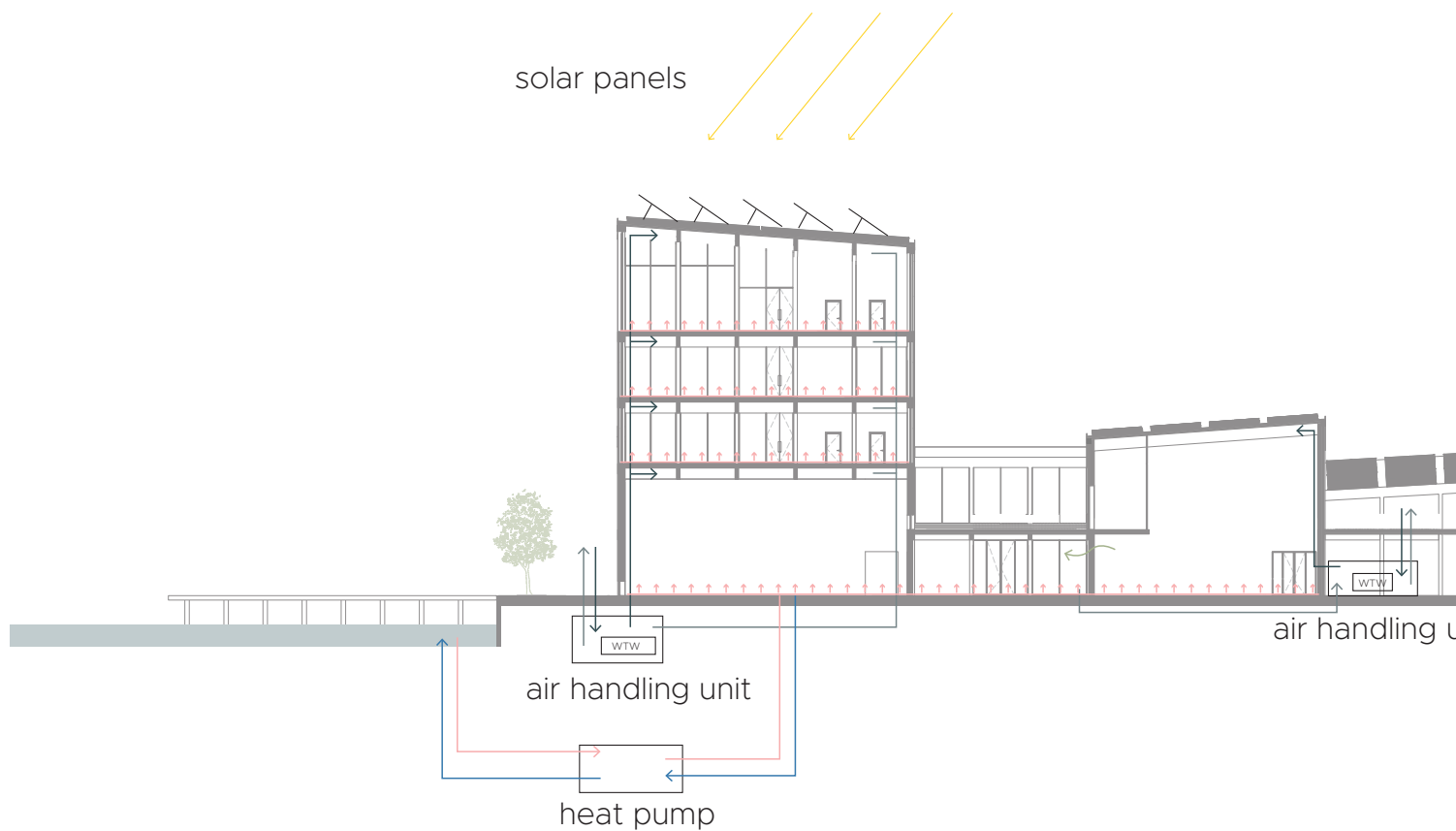
The meeting zone opens up in summer, while it is closed in winter



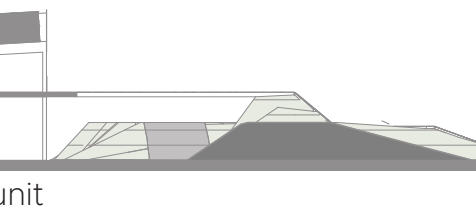
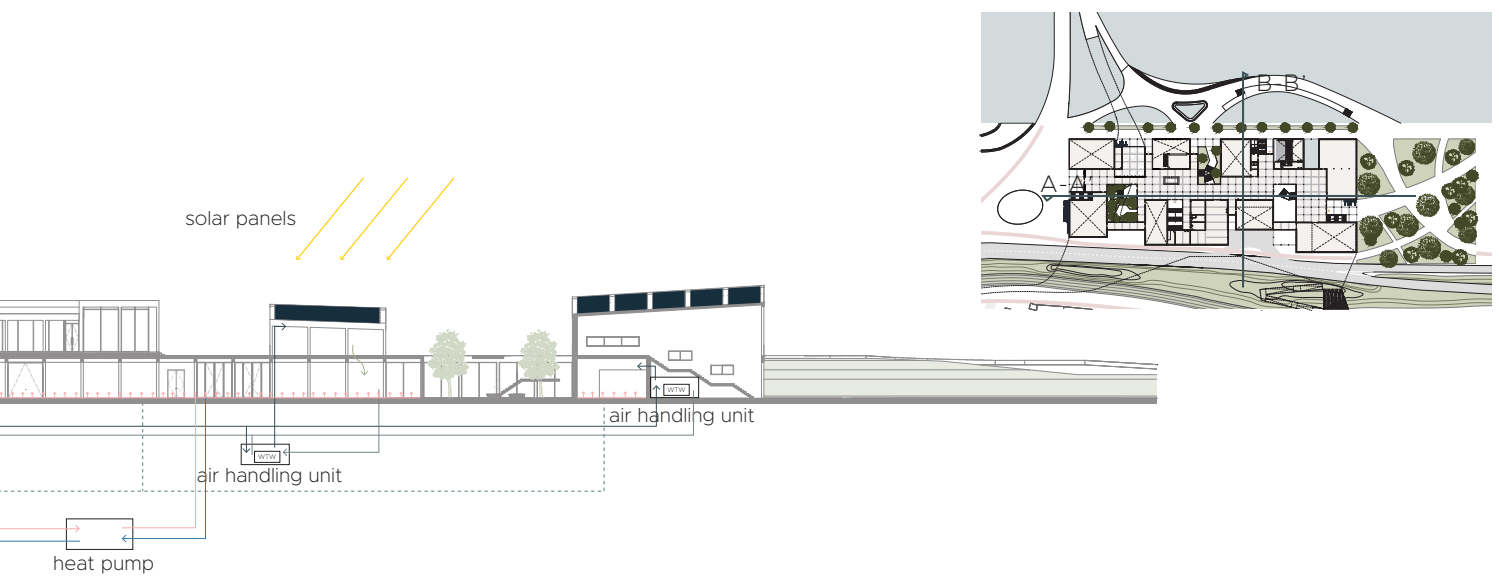
# CLIMATE CONCEPT WINTER



Section A-A' | 1:800



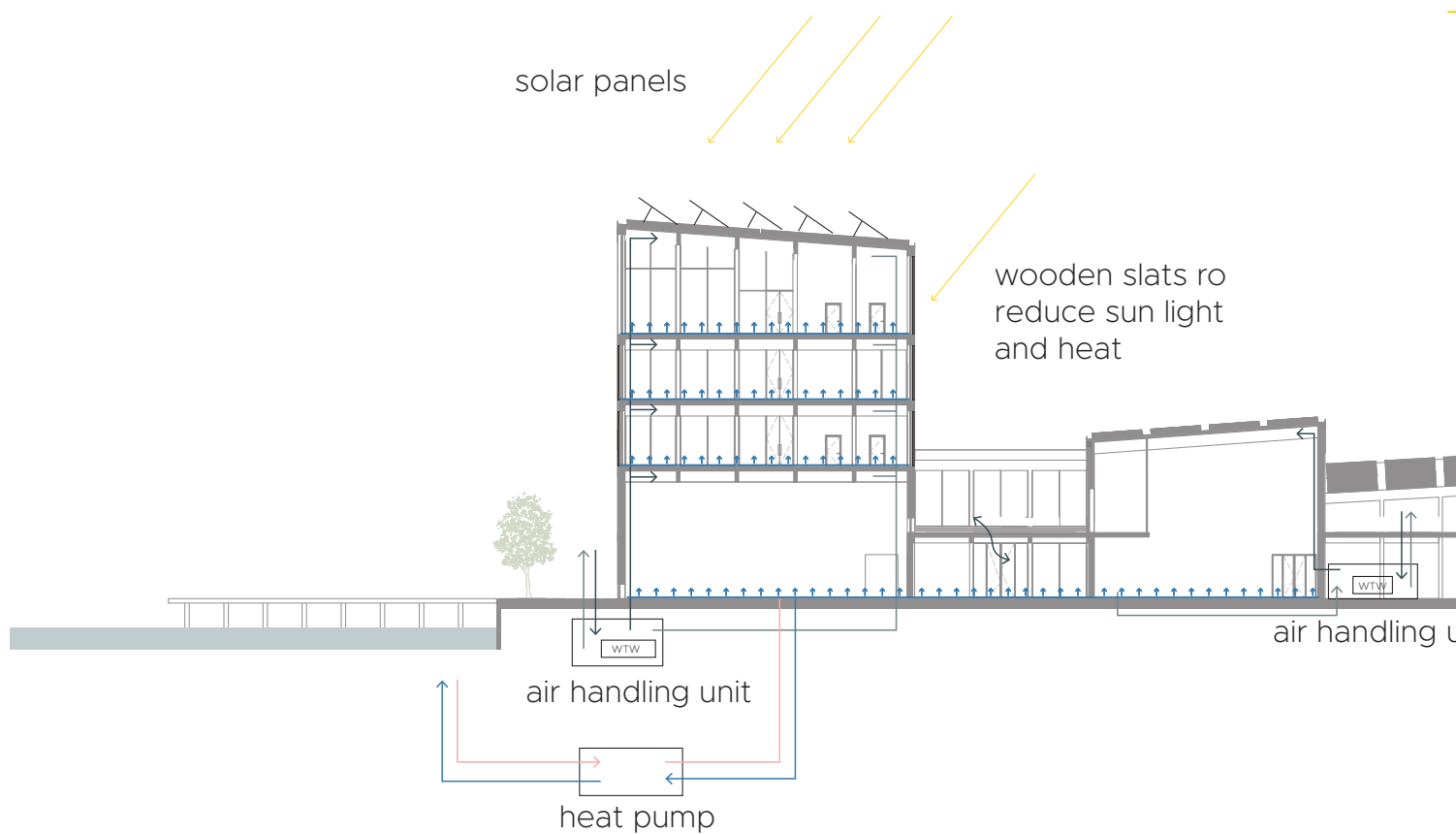
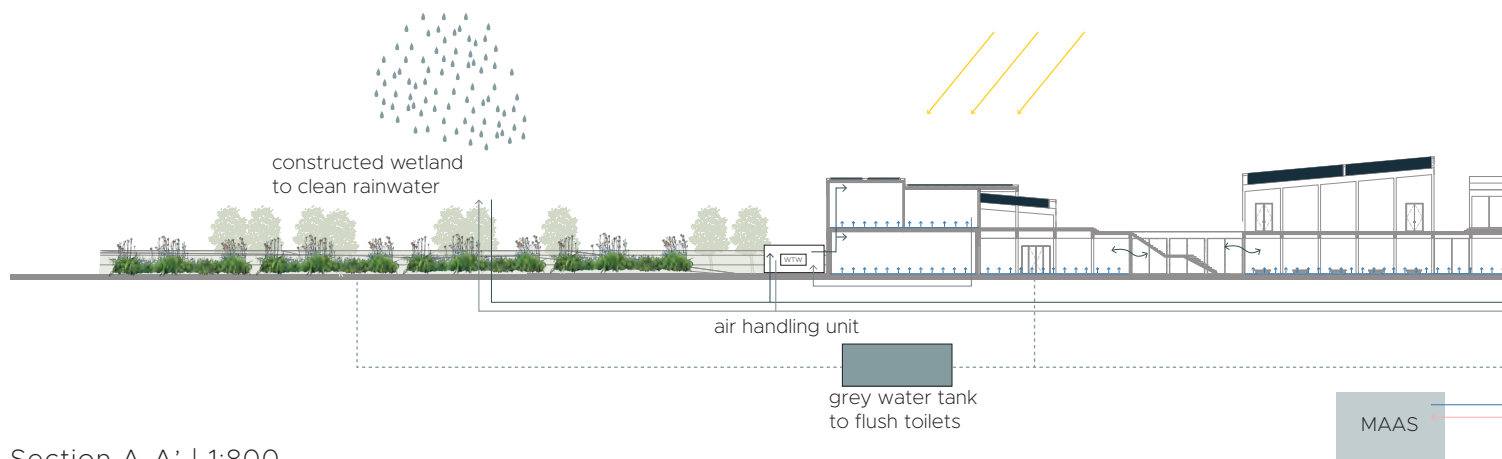
Section B-B' | 1:500

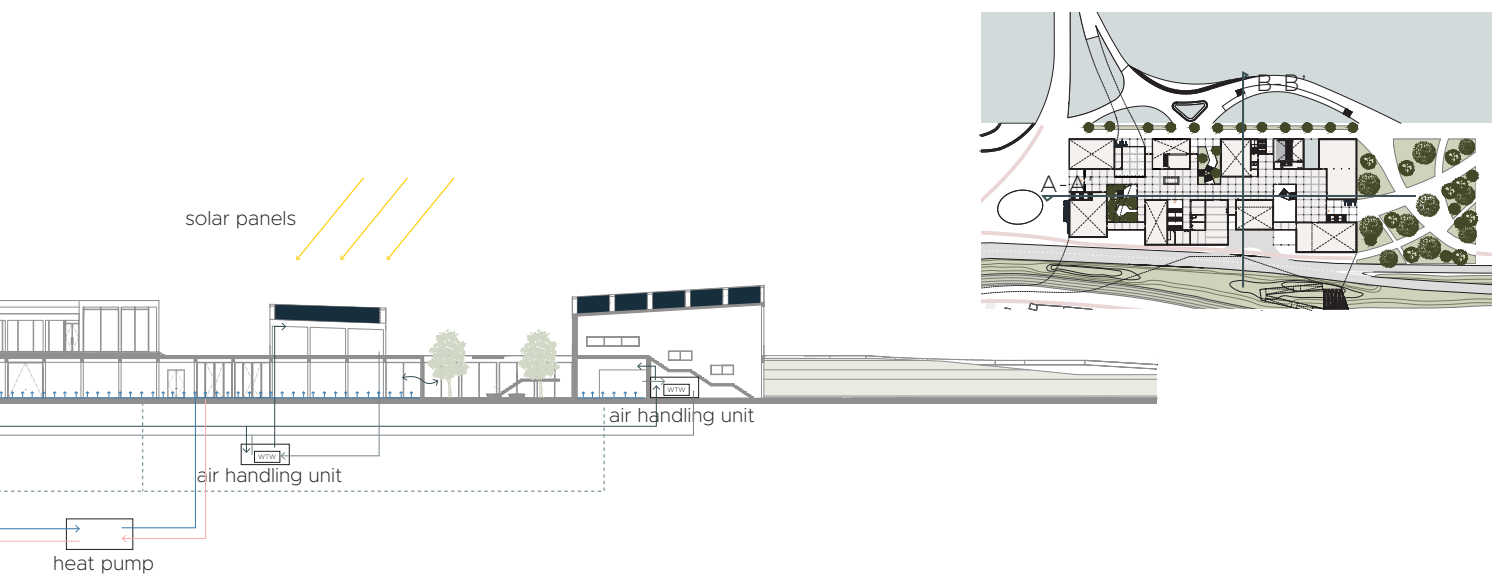


- **Solar Panels** on roofs for energy production
- One **Air handling unit** with heat recovery per museum pavilion - air ducts are placed behind false ceiling
- The air in the Meeting zone comes from an overflow system from the pavilions
- **Heating** happens with water from the Maas
- **Constructed Wetland** to clean rainwater & collect **grey water** to flush toilets in building

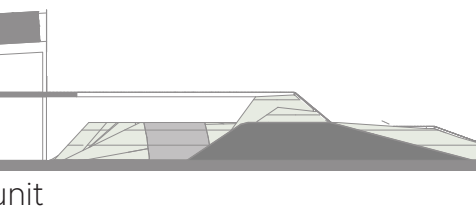


# CLIMATE CONCEPT SUMMER





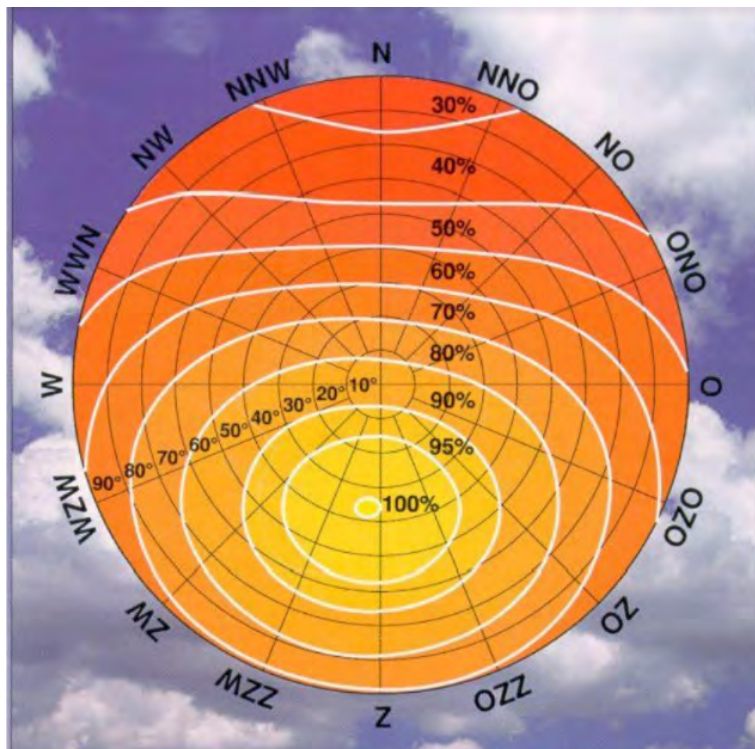
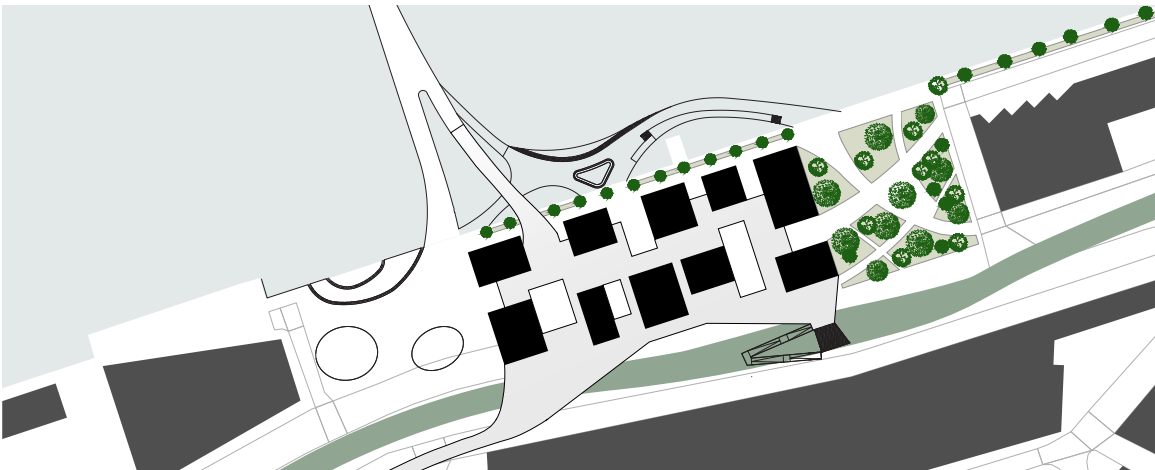
- **Solar Panels** on roofs for energy production
- Wooden slats to reduce sunlight and heat in tower
- One **Air handling unit** with heat recovery per museum pavilion - air ducts are placed behind false ceiling
- Meeting zone is open during nice days and has a natural ventilation system
- **Cooling** happens with water from the Maas
- **Constructed Wetland** to clean rainwater & collect **grey water** to flush toilets in building



# ENERGY

pv-cells on roof

Angle of roofs all present around 90° of rendement of the cells  
around 2500m<sup>2</sup> roof area







**P4 DESIGN**

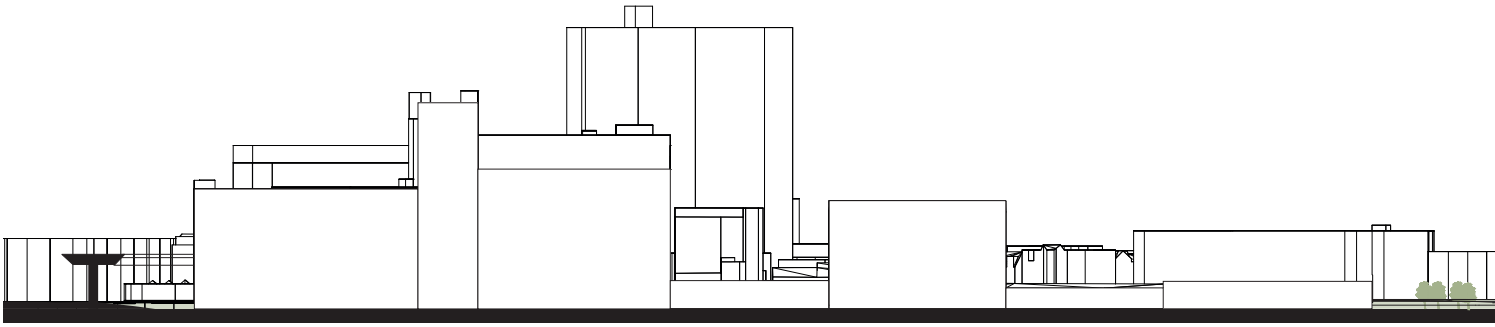


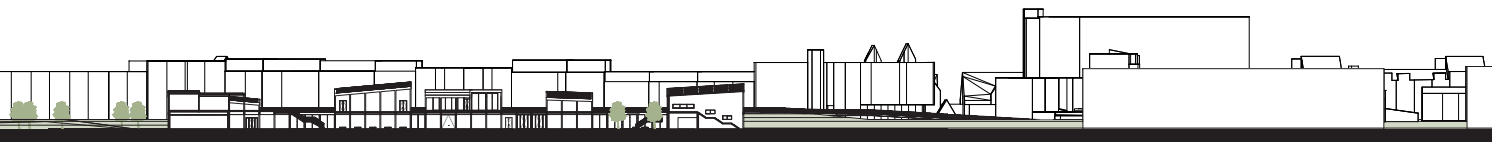




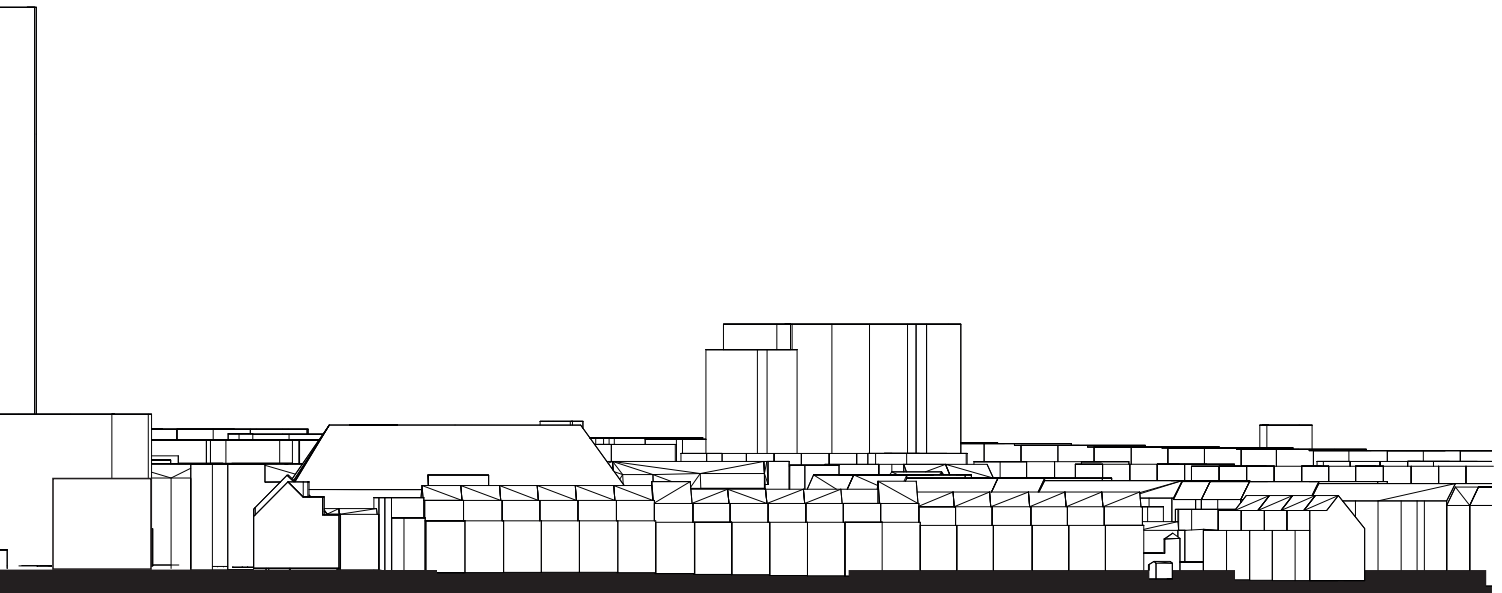


# SITE PROFILE





Section A-A' 1:2000



Section B-B' 1:1000

# SITE MAP







# SITE PLAN



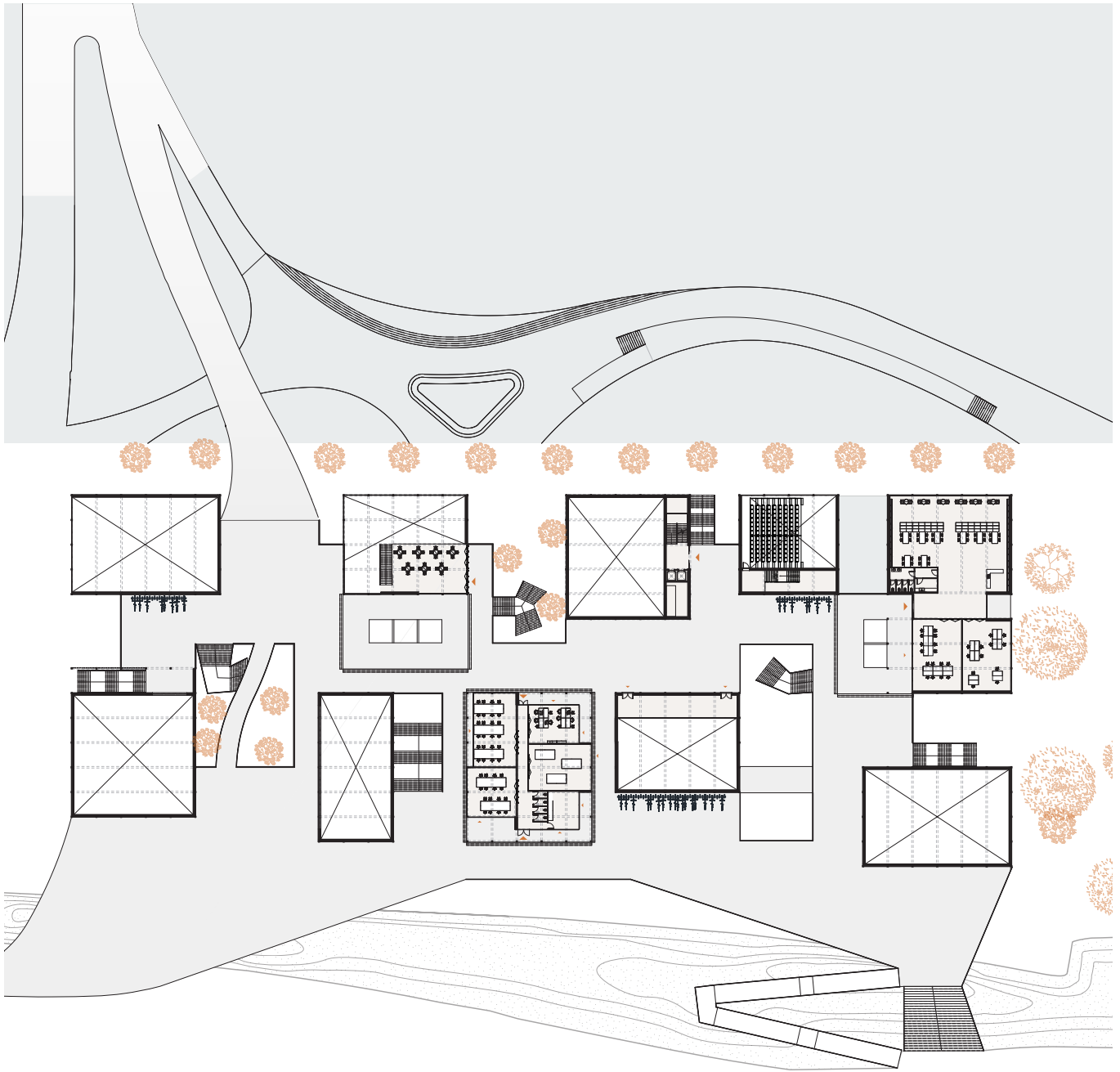
Site Plan 1:2000 ↑



# FLOOR PLAN



Ground Floor 1:1000 ↗



First Floor 1:1000 ↗



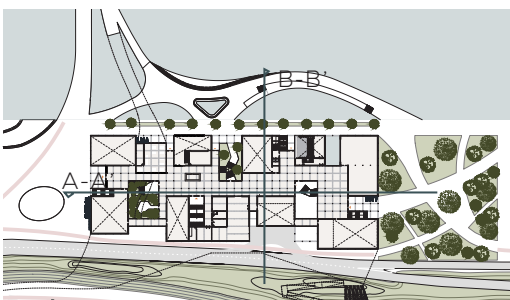
# SECTIONS



Section A-A' 1:1000



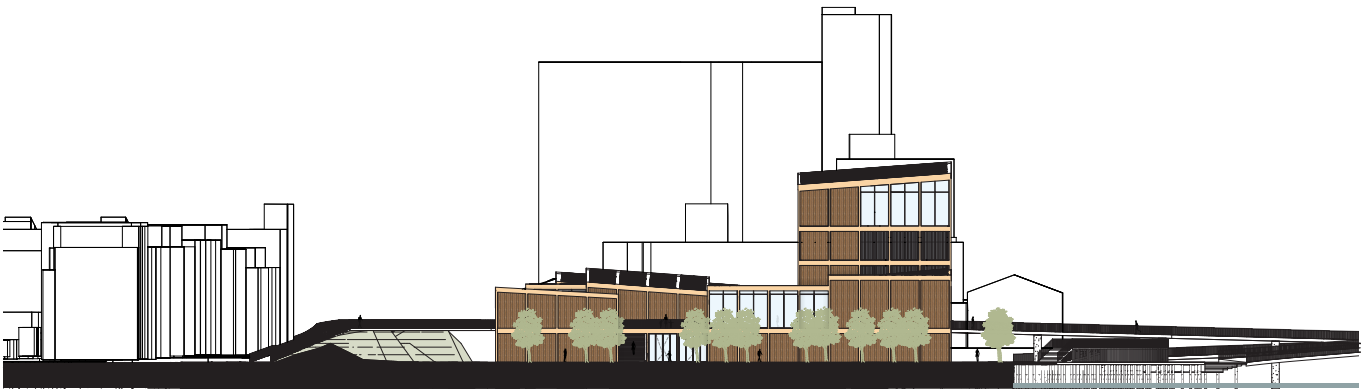
Section B-B' 1:1000



# ELEVATIONS



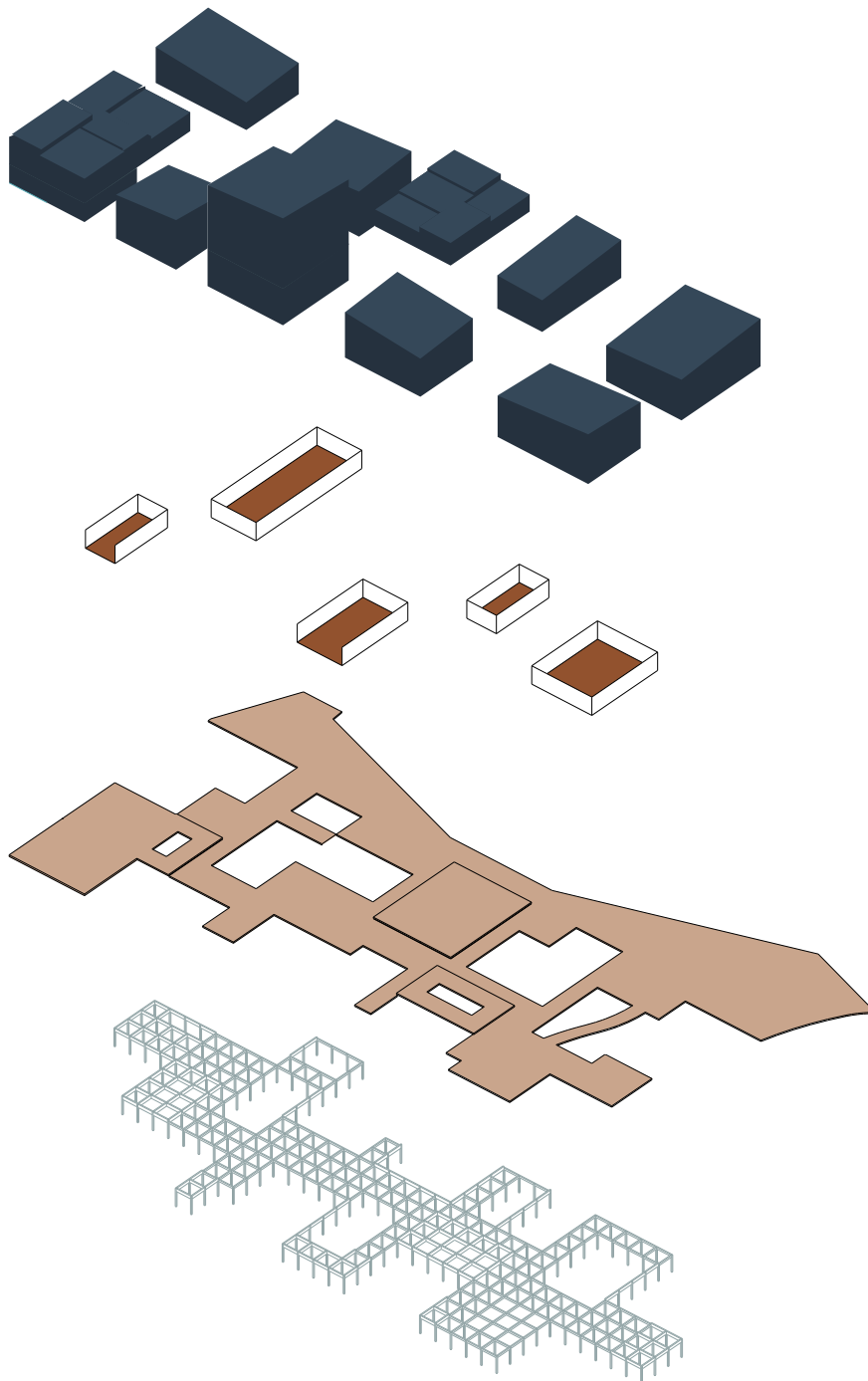
North Elevation 1:1000



East Elevation 1:1000



# DESIGN ELEMENTS



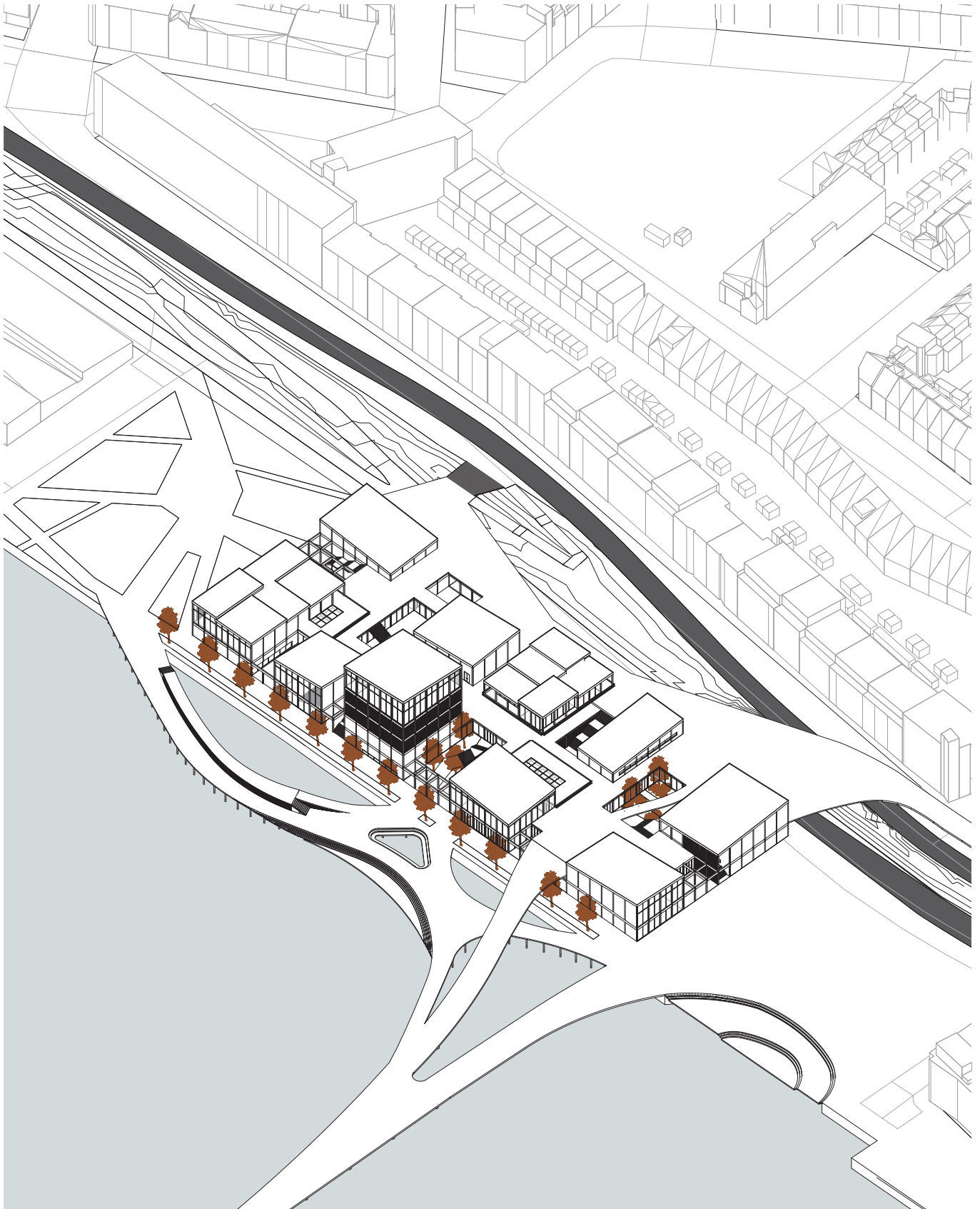
PAVILIONS

COURTYARDS

DECK

MEETING ZONE

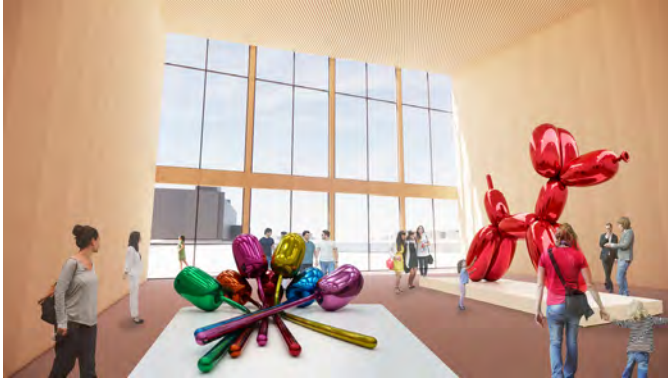
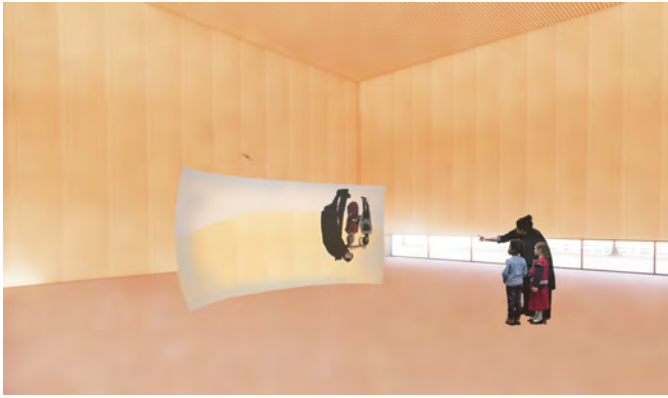
# BIRD EYE



# INTERIOR PERSPECTIVES









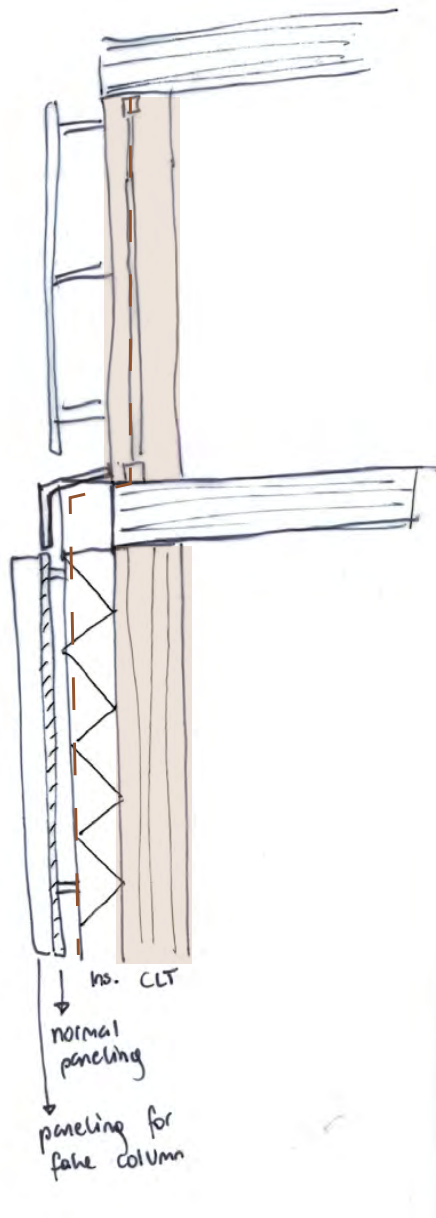
05



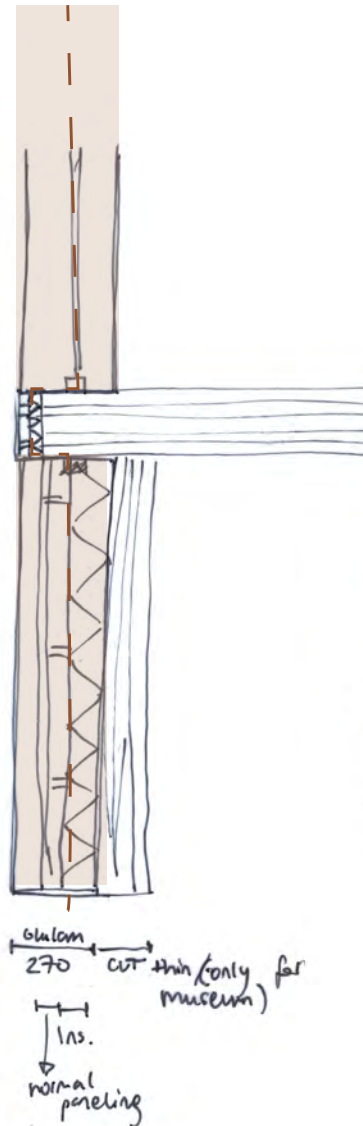
# BUILDING TECHNOLOGY STUDIO

## Tower Detail

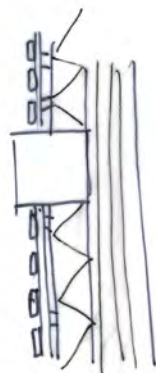
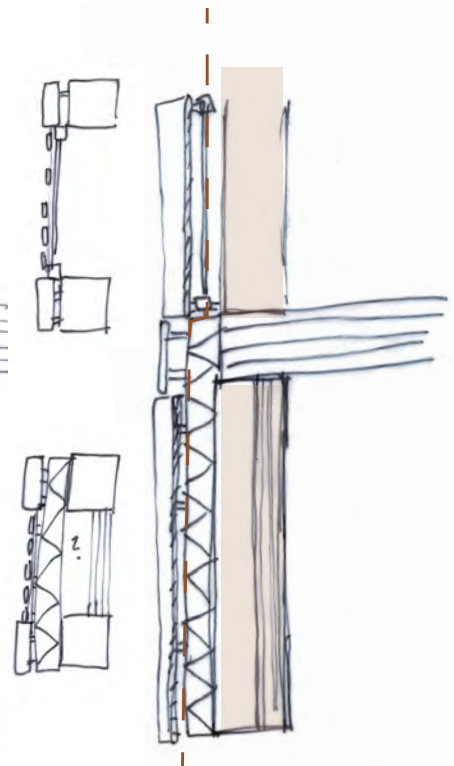
GLULAM ON CLT



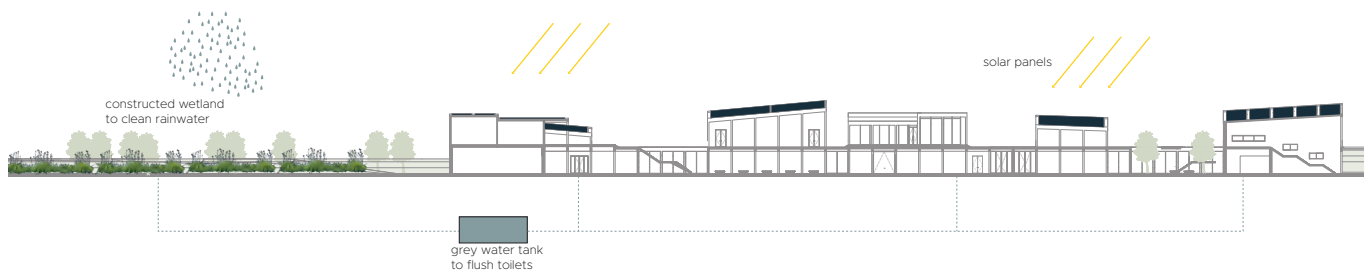
GLULAM ON GLULAM  
(INSIDE & OUTSIDE)



GLULAM ON GLULAM  
(INSIDE)



## Heavy Rainfall: Wadi system in park



## AGING TIMBER

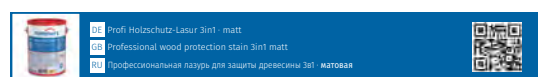
Aqua HSL-35/m

remmers

3 in 1 werking:

- impregnering,
- grondering en
- voor- en aflak.

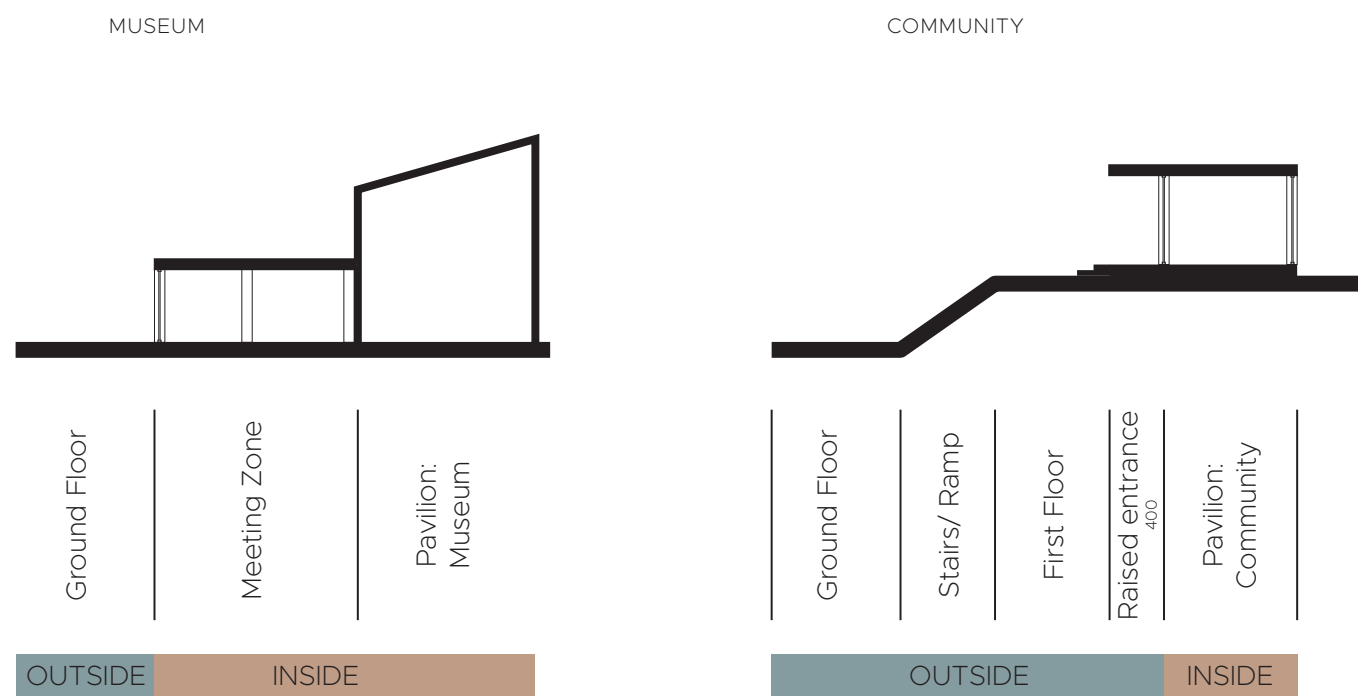
beschermt tegen vocht en werkt preventief tegen blauwzwam, schimmel en algen



Sonderfunktion (Art.-No. 7120 auf Anfrage lieferbar) - Special colours (Art.-No. 7120 available on request) - Цветовые варианты (Art.-No. 7120 по запросу на заказ)

# COMMUNITY - MUSEUM

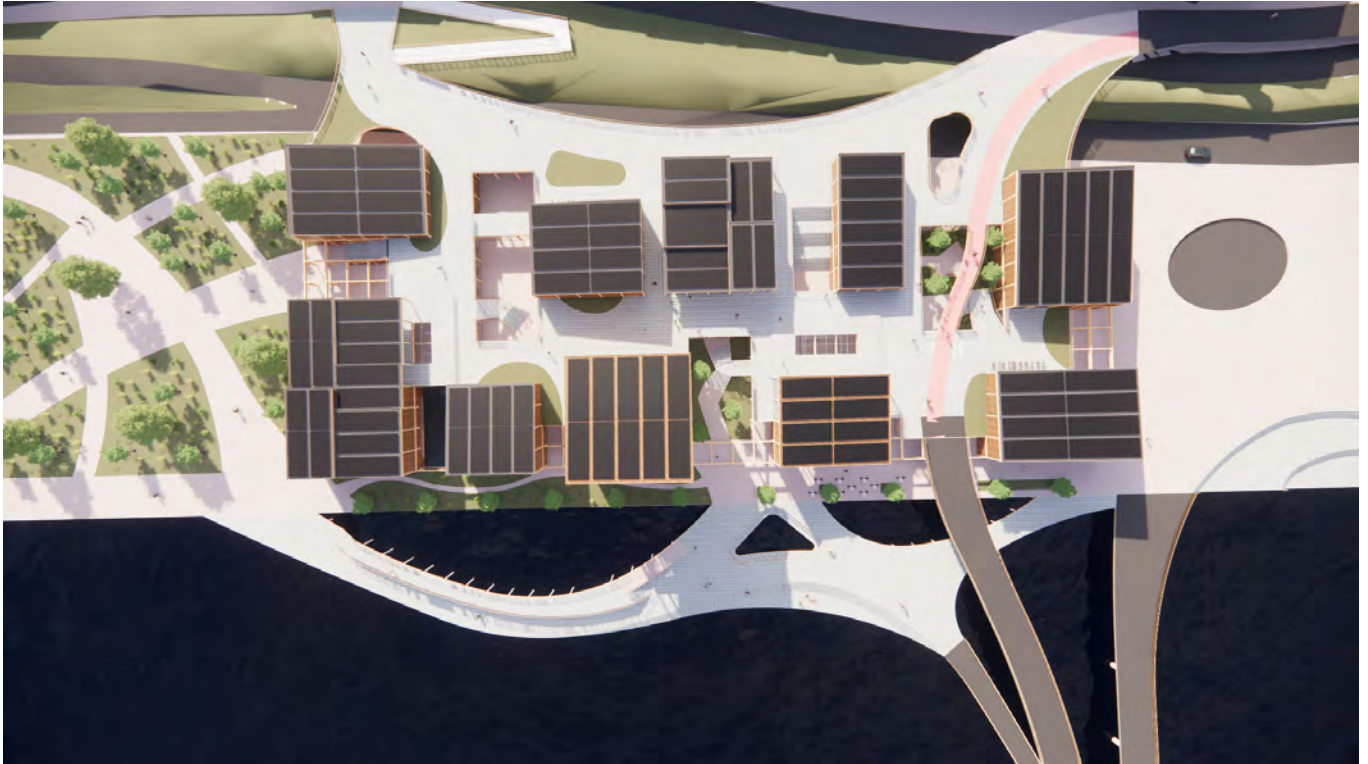
## Approach



## Facade design



# DECK DESIGN





# COMMUNITY



# STAIR DESIGN

private courtyards:  
- private green



closed  
design

public courtyards:  
- public green  
- sculpture courtyard



open  
design

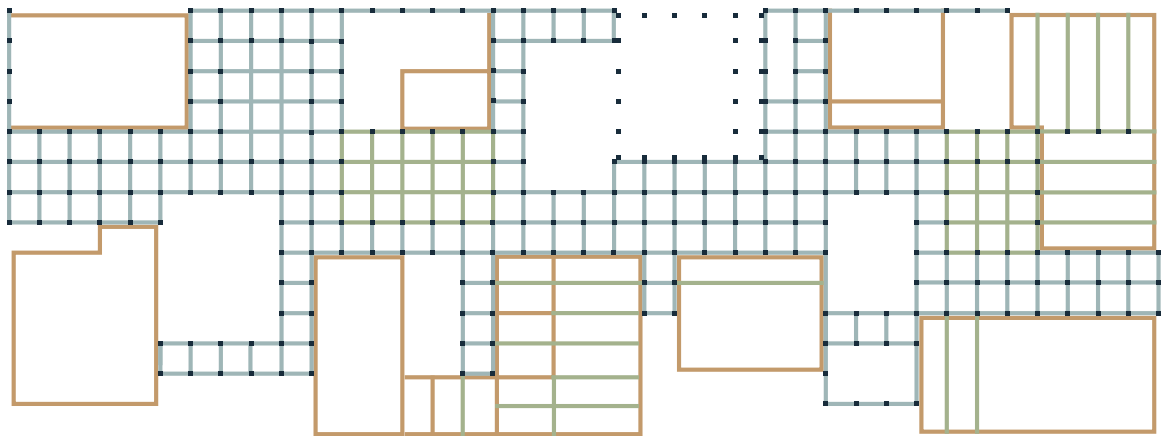
+ with something behind  
eg.: - stair courtyard  
- entrances (often air handling unit)



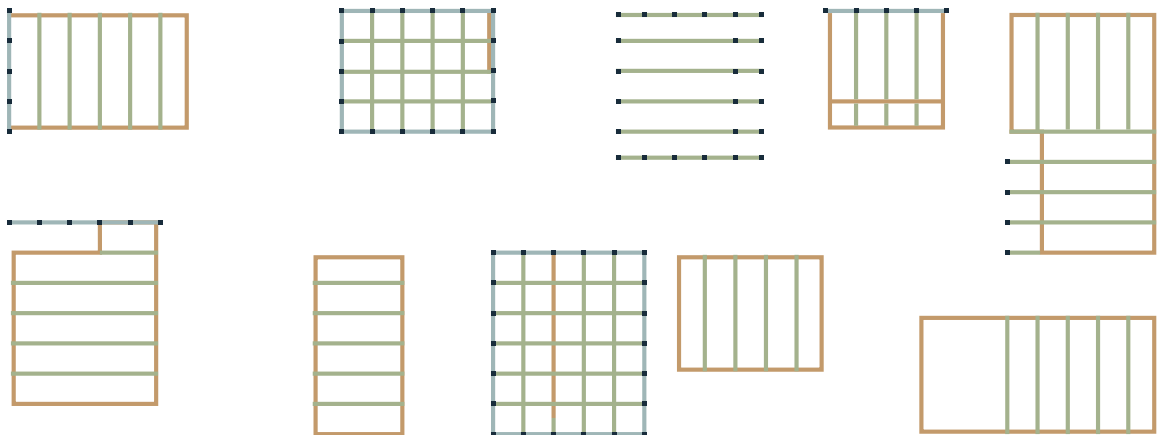


# **BUILDING TECHNOLOGY**

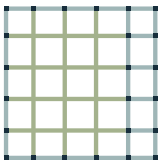
# STRUCTURE







Floor 1    1:1000    ↗



Floor 2    1:1000    ↗

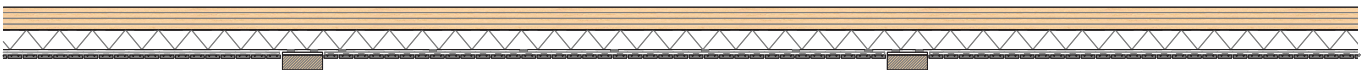
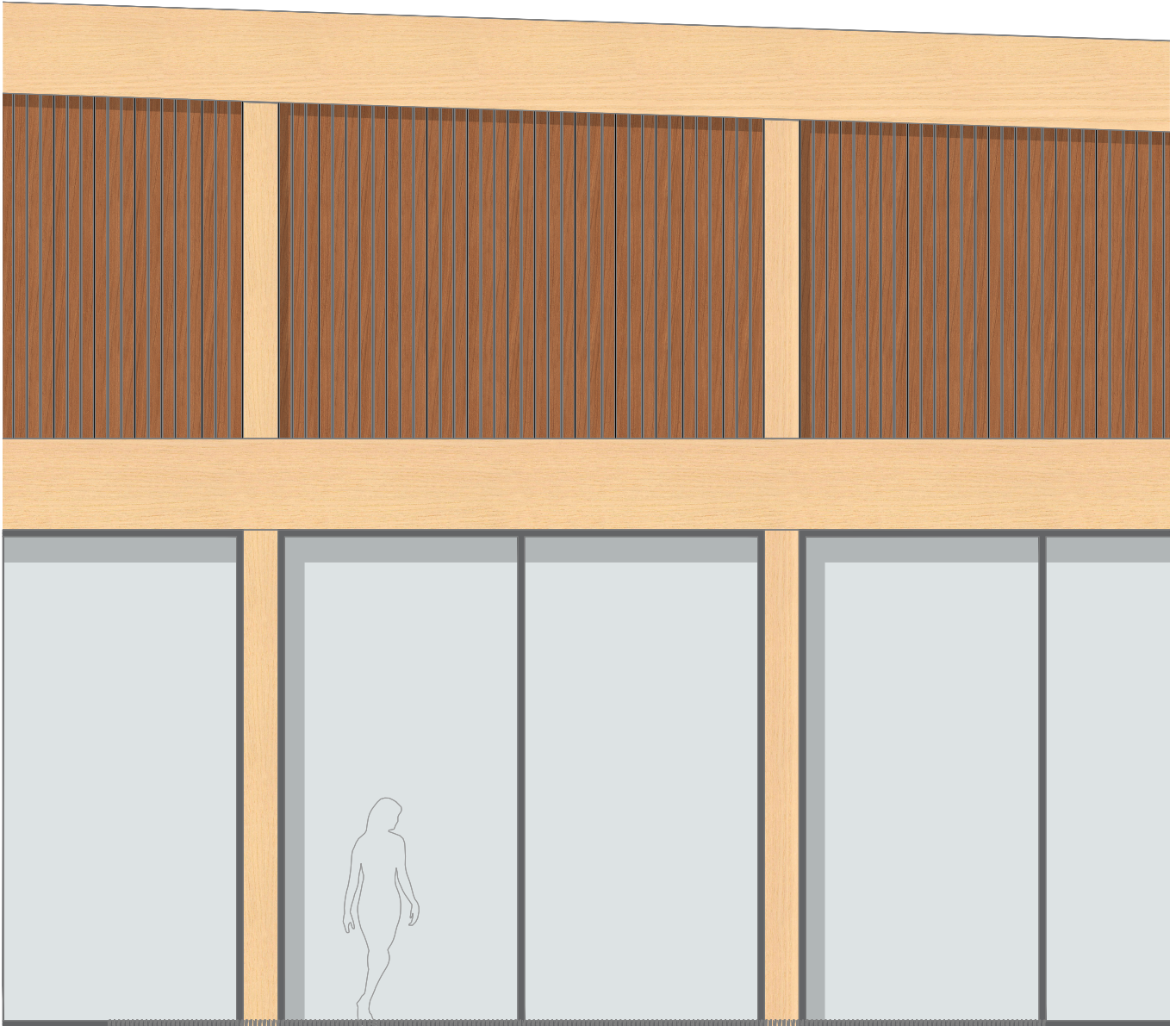


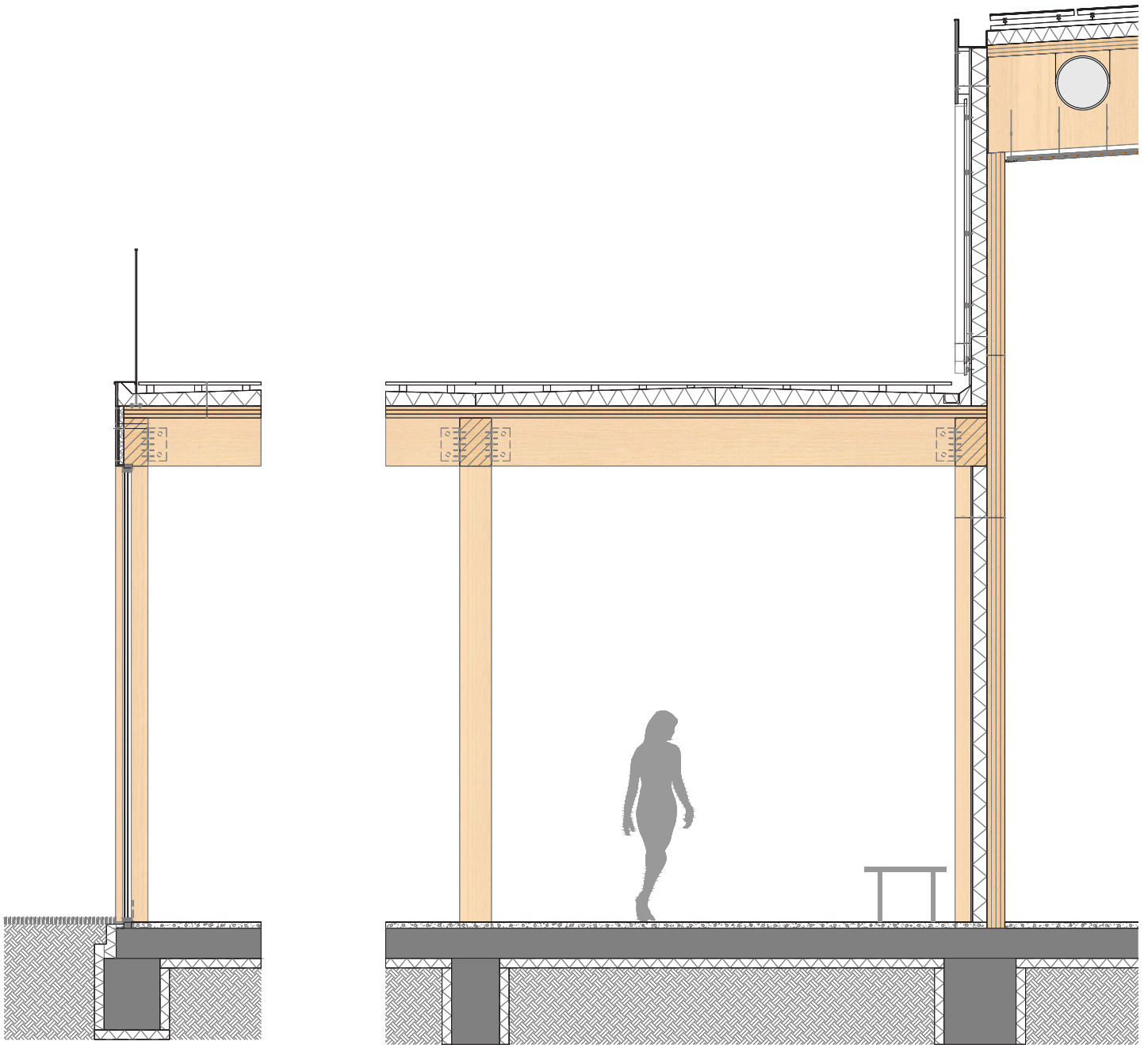
Floor 3,4,5    1:1000    ↗

-  CLT 150mm
-  Glulam Column 265x265
-  Glulam Beam 265x400
-  Glulam Beam 265x800



## DETAIL 1:20



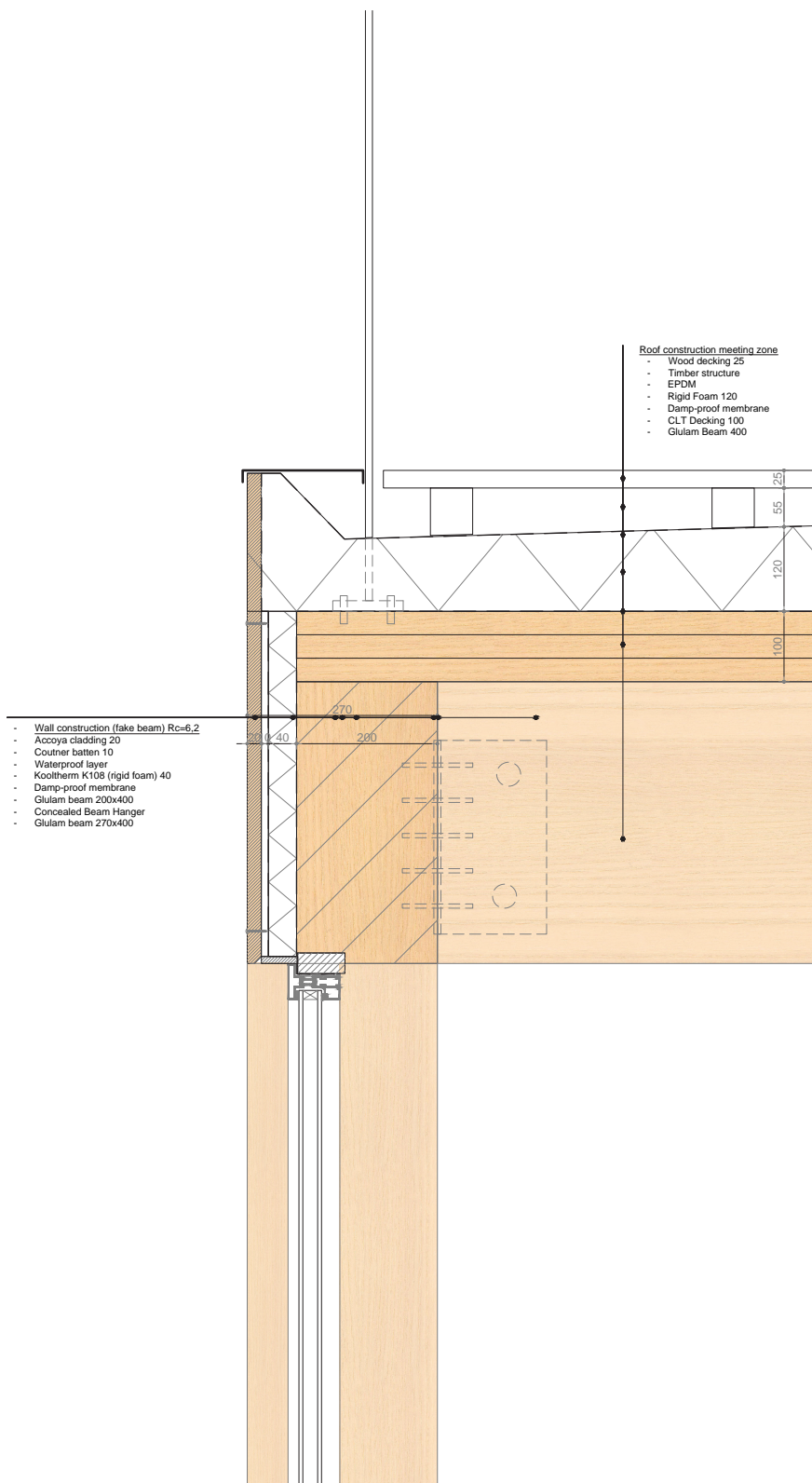


Detail 1:50

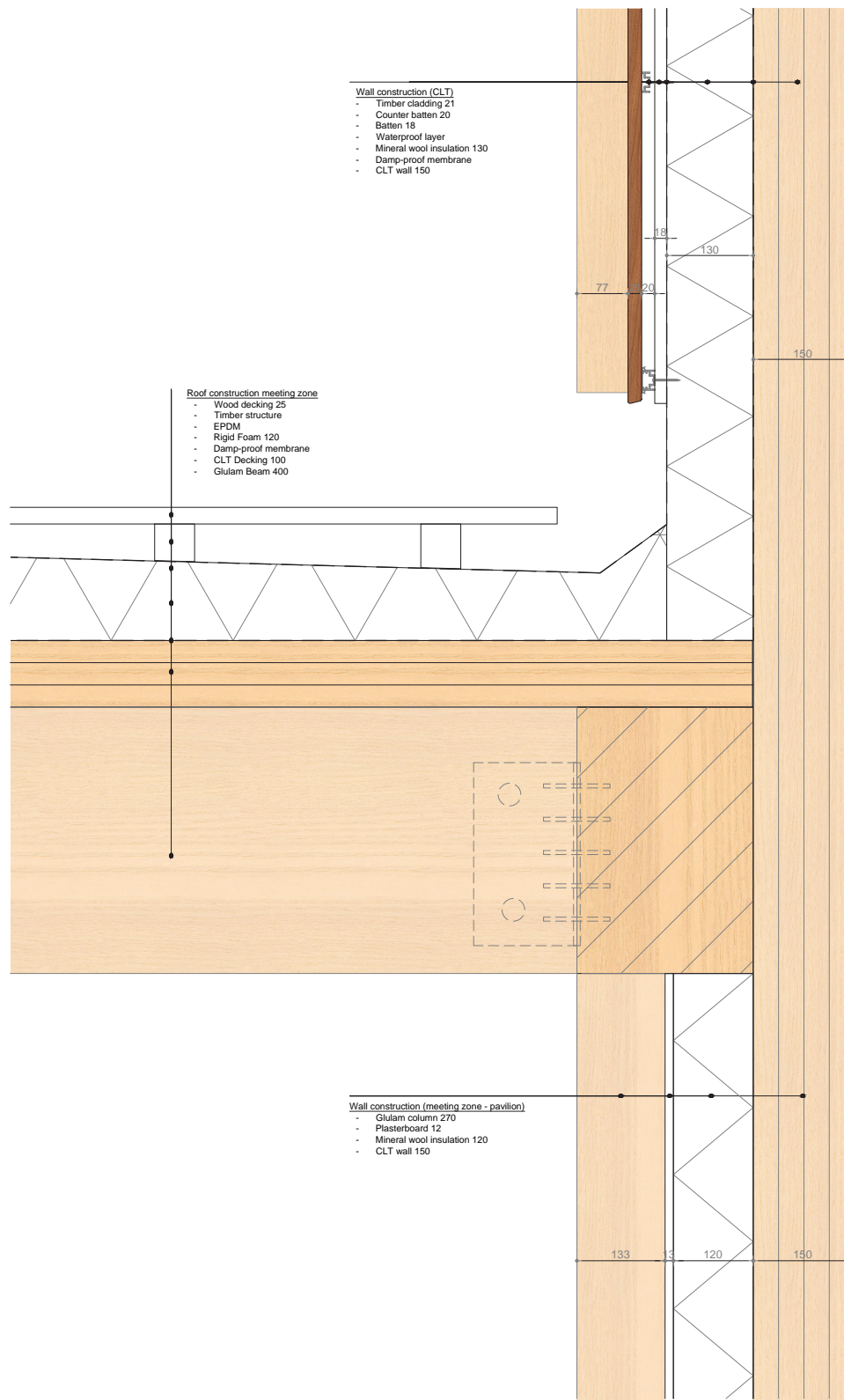


# DETAIL 1:5

Meeting zone - facade

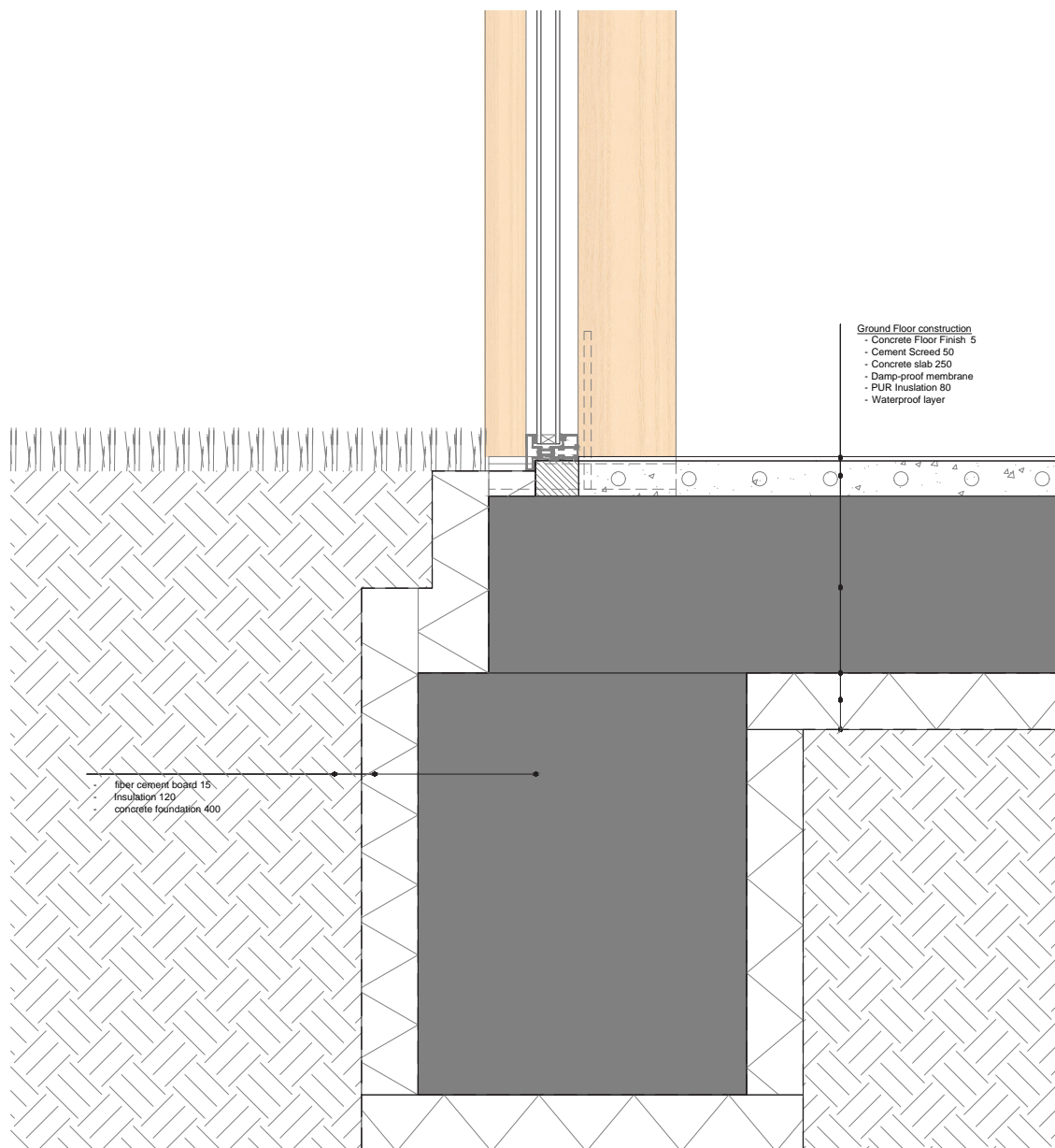


## Meeting zone - Pavilion

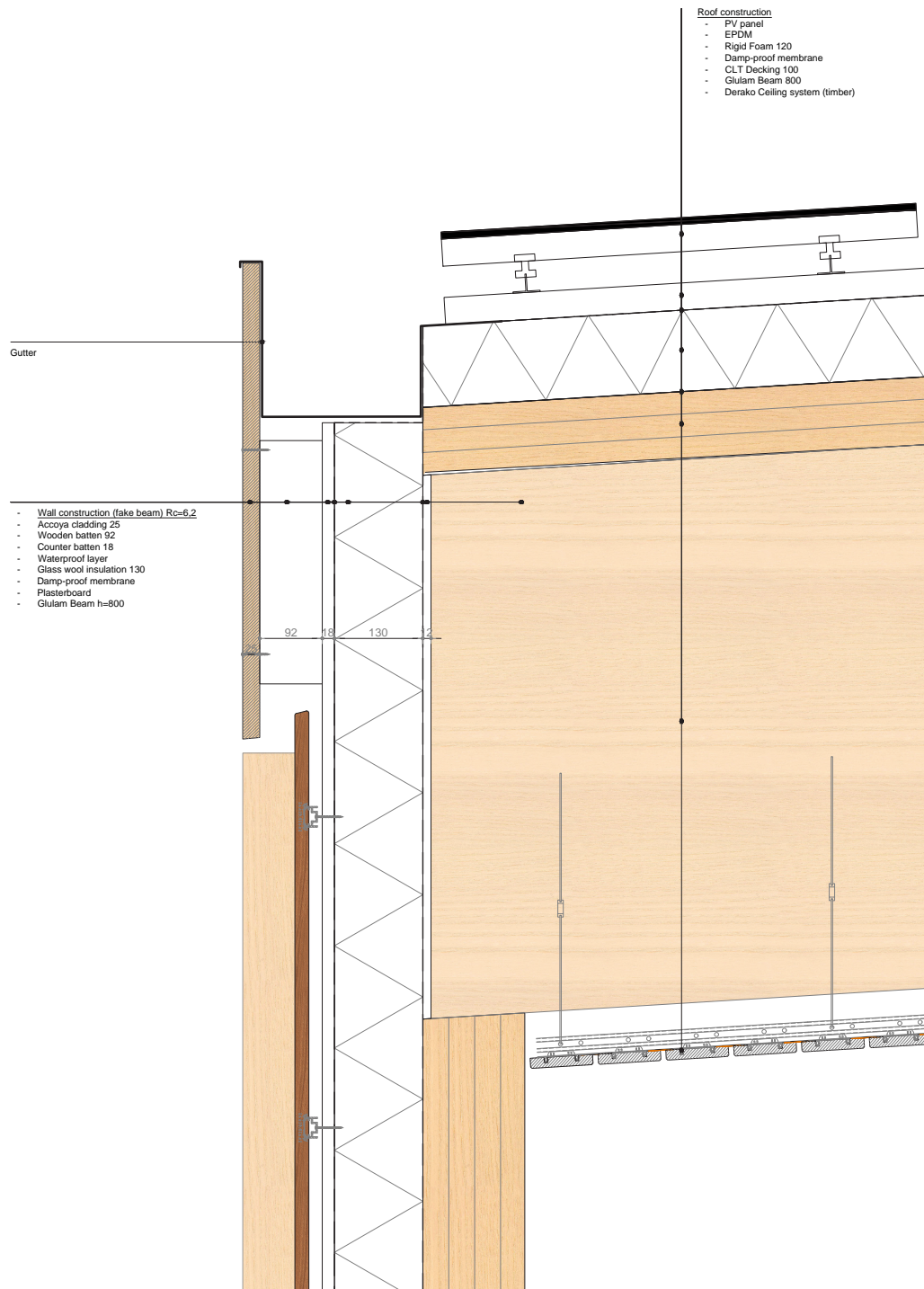


# DETAIL 1:5

## Meeting zone - Ground floor

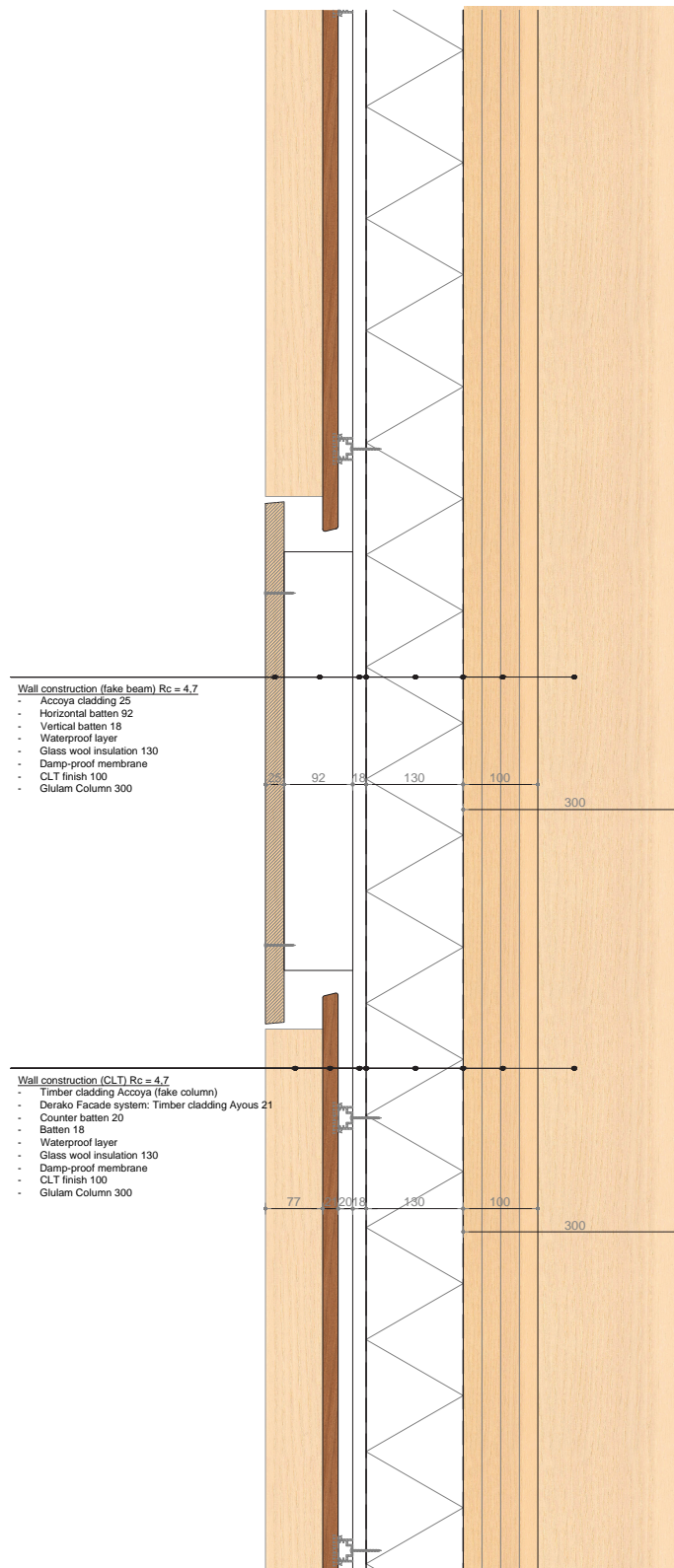


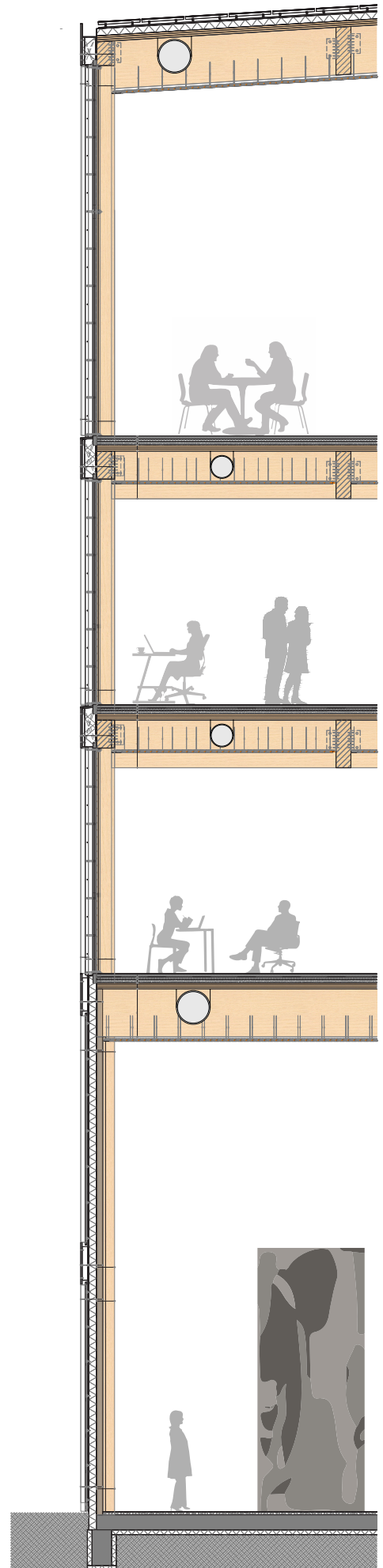
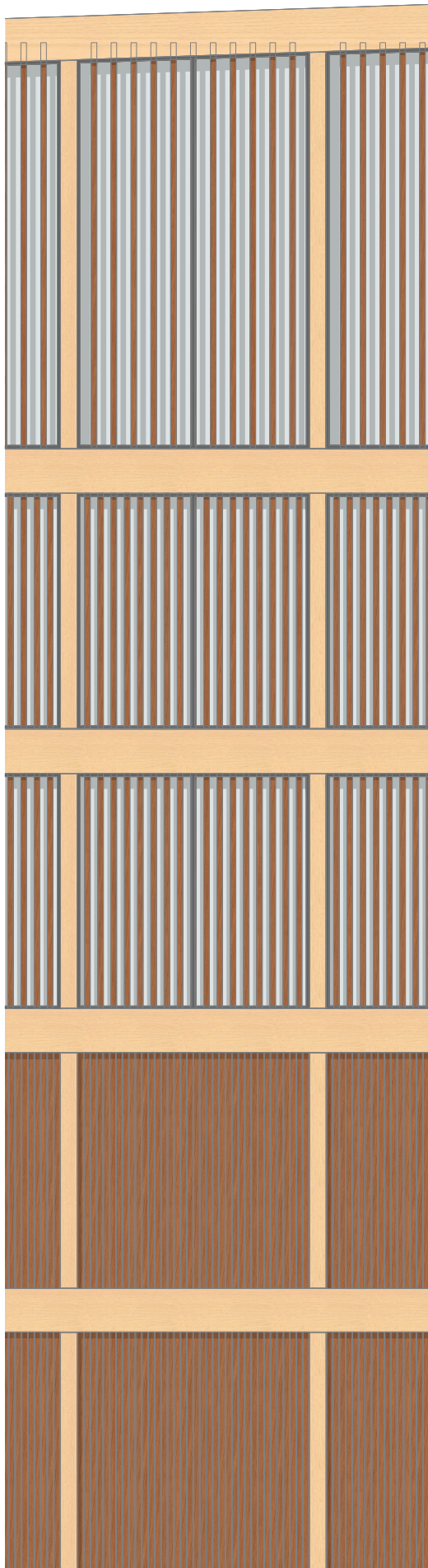
## Pavilion - Roof



# DETAIL TOWER 1:20

## Fake beam in Pavilion Facade

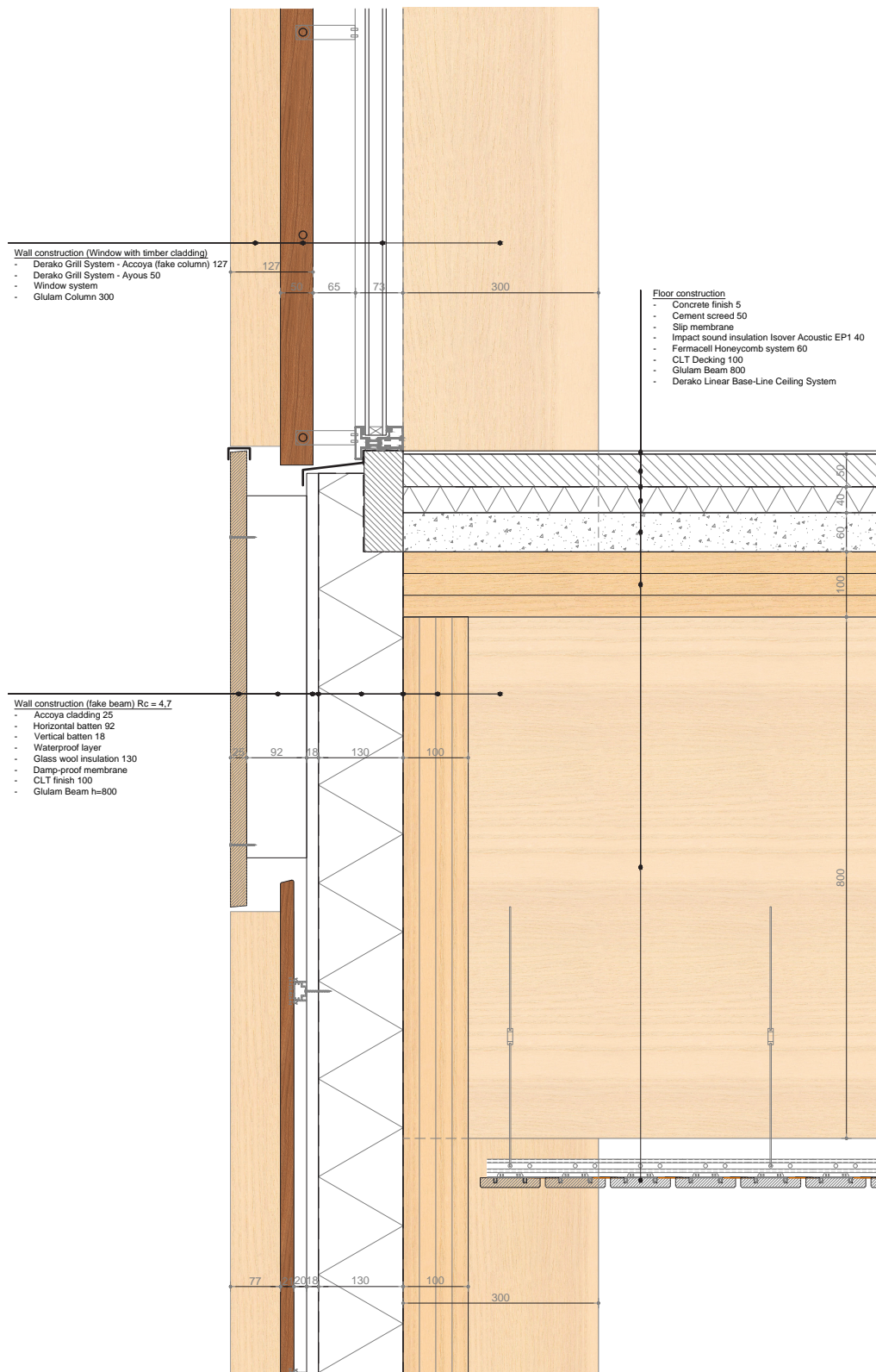




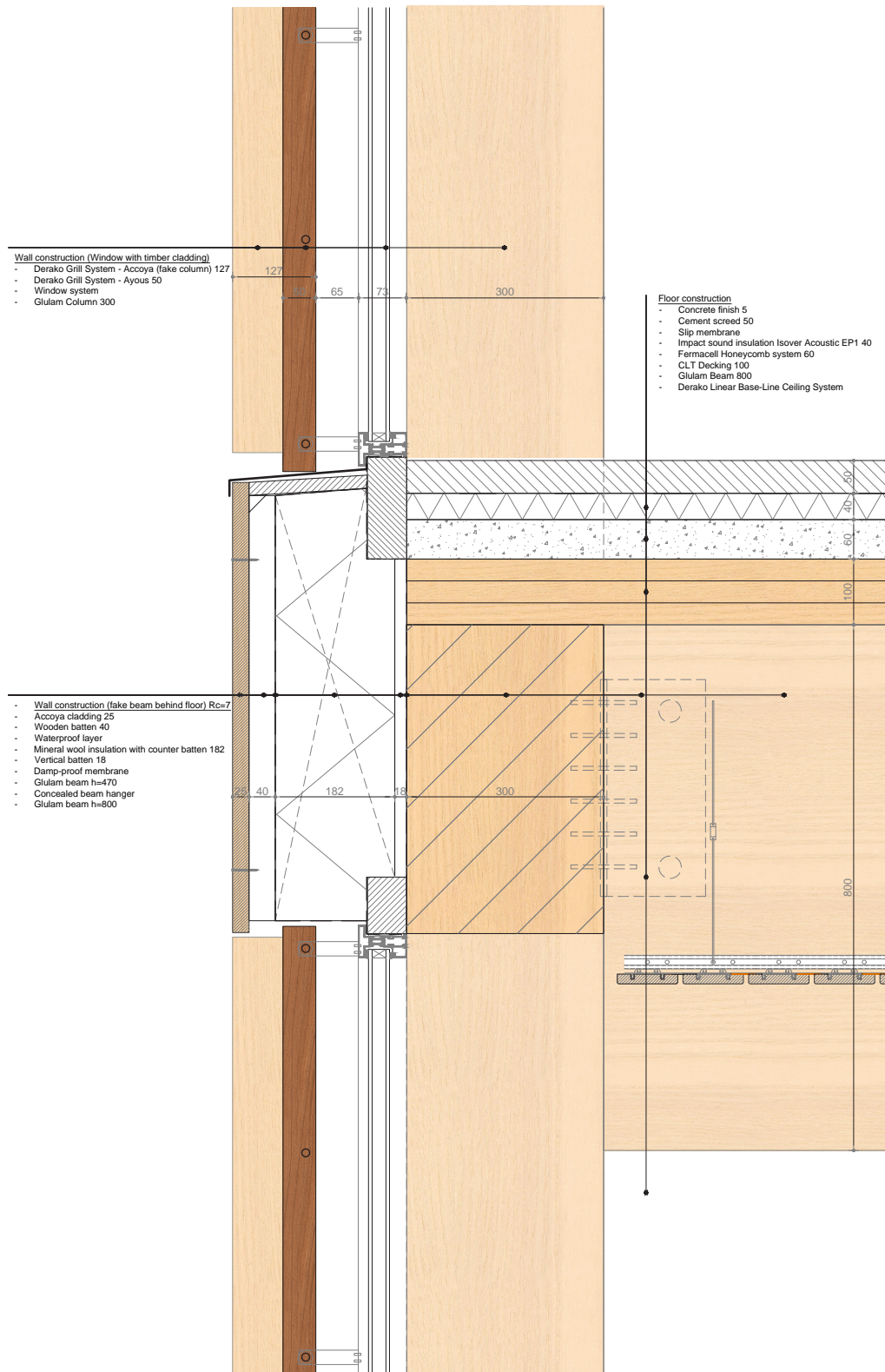


# DETAIL 1:5

## Floor Museum - Office

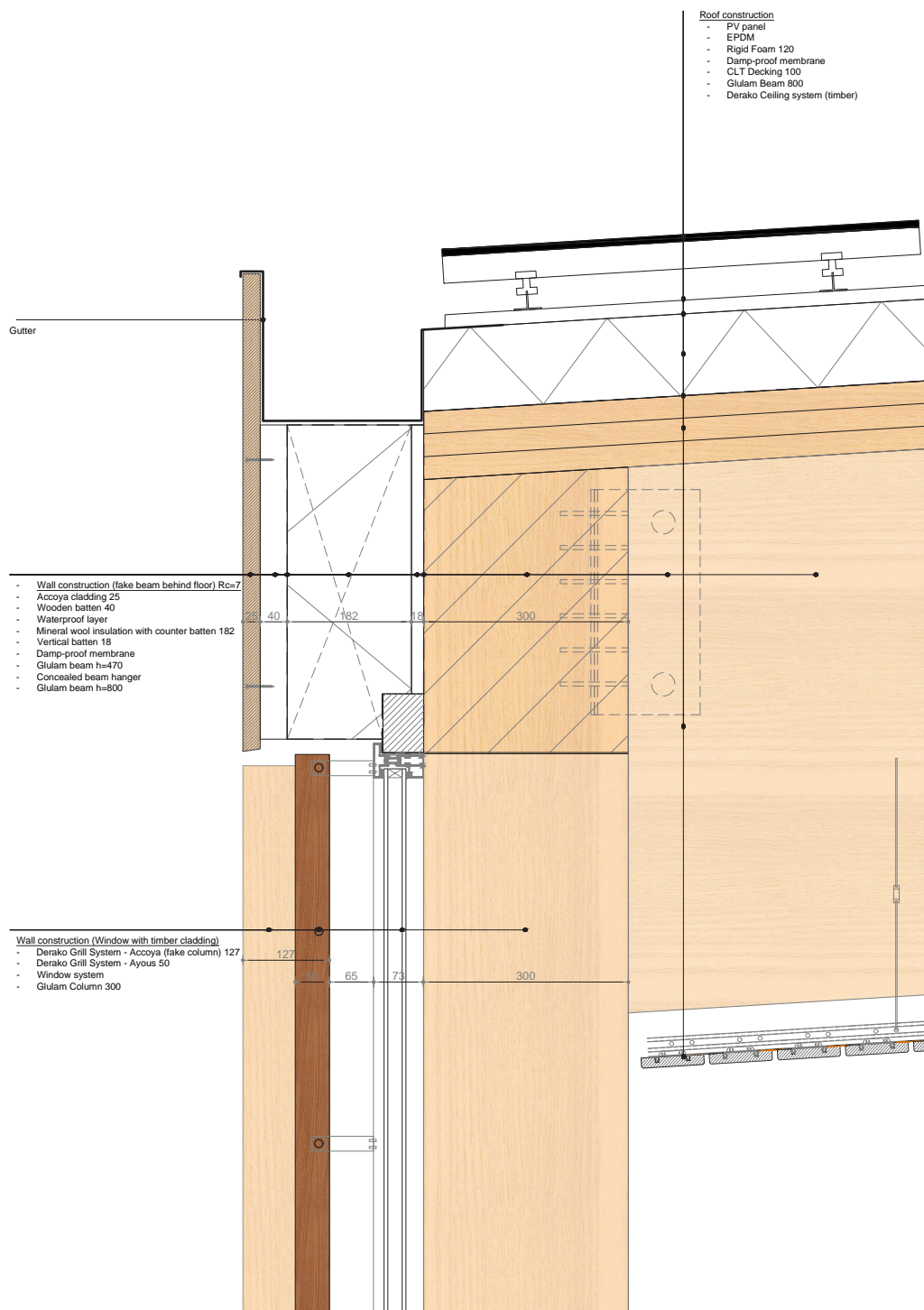


## Office - Floor

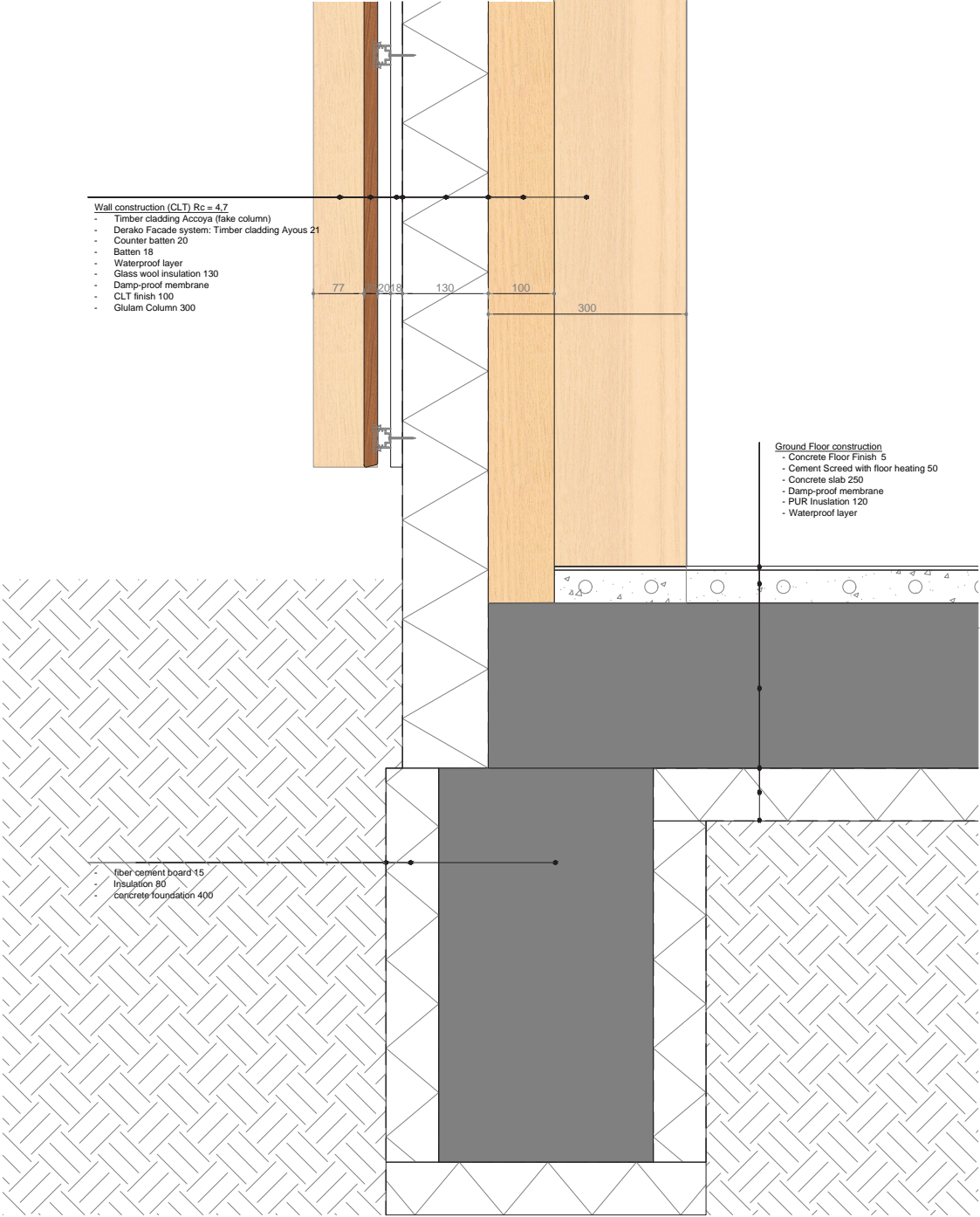


# DETAIL 1:5

## Restaurant - Roof



Pavilion - Ground Floor



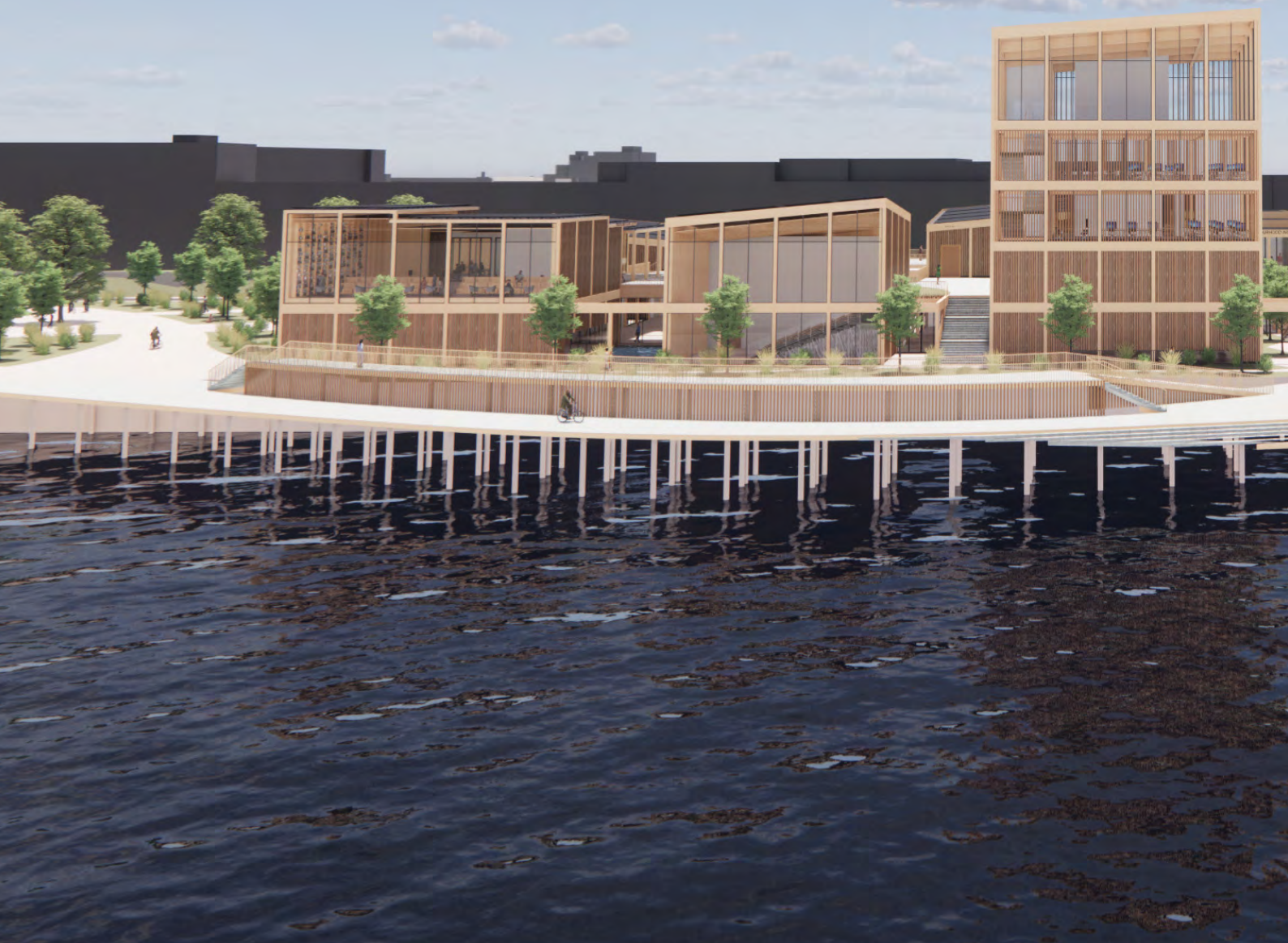
3

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# FINAL DESIGN

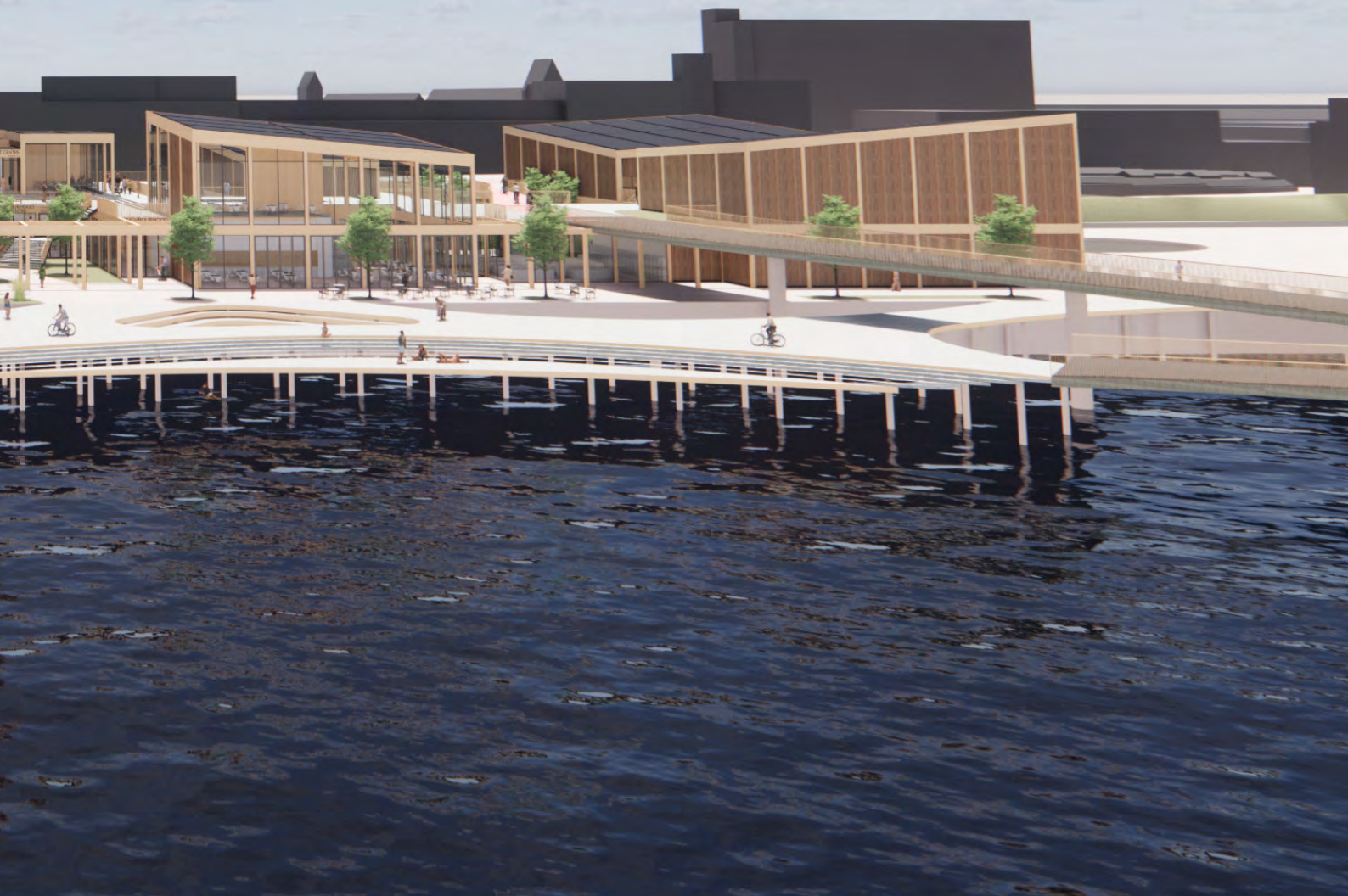


# THE NEIGHBOURHOOD

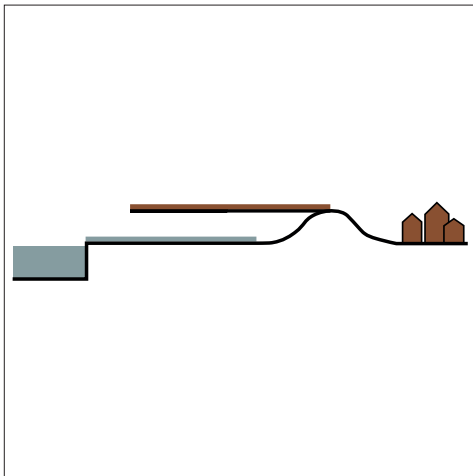




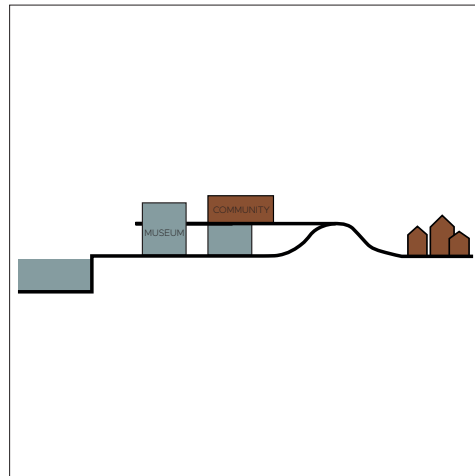
# FOOD ART CENTRE



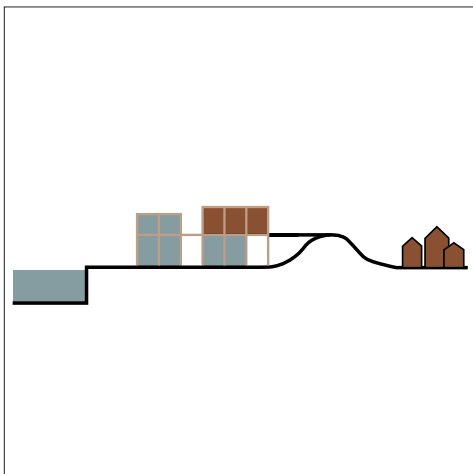
# GUIDING THEMES



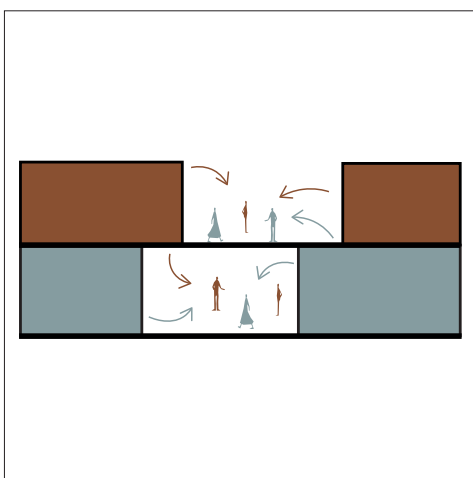
2 LAYER STRUCTURE



DIVISION OF PROGRAM



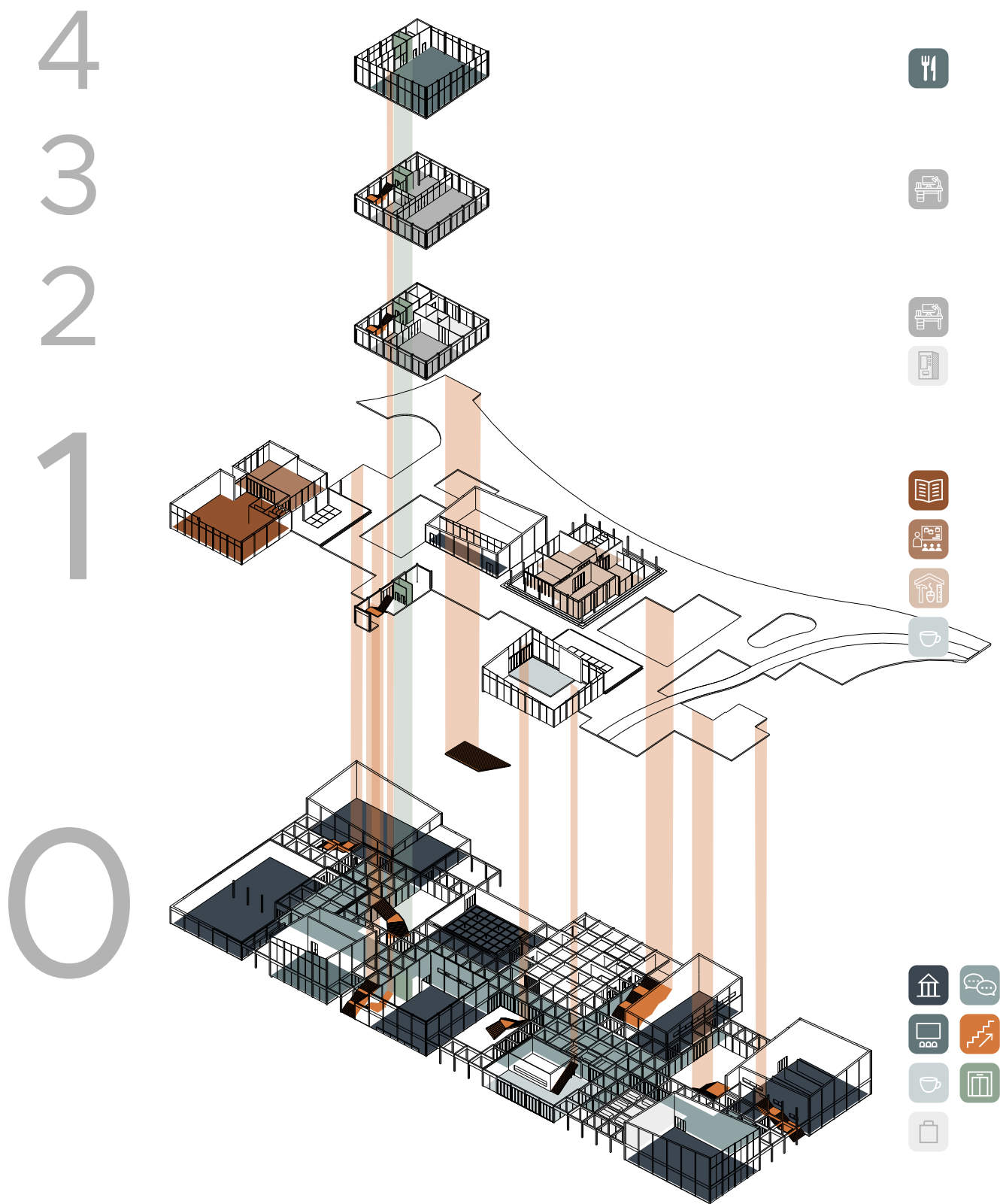
GRID



COLLIDING OF TWO WORLDS



ROUTING





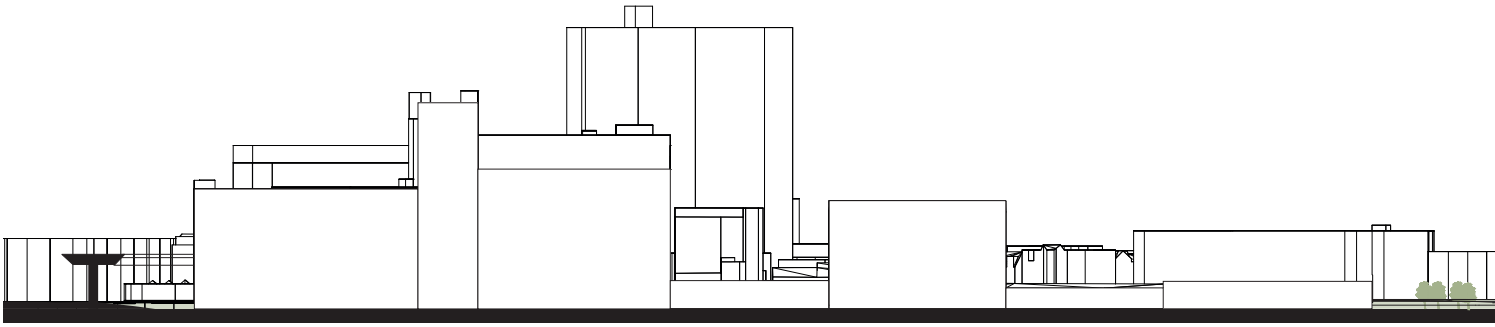
# COURTYARDS

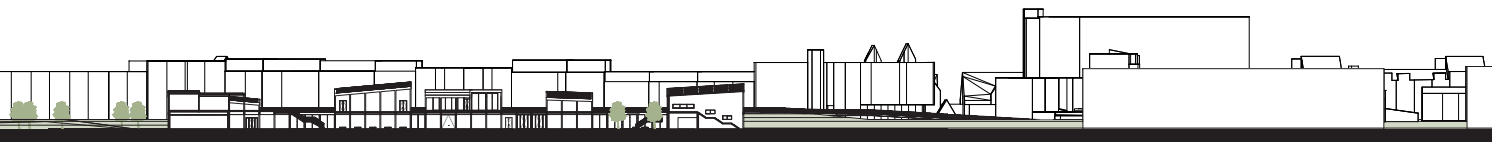




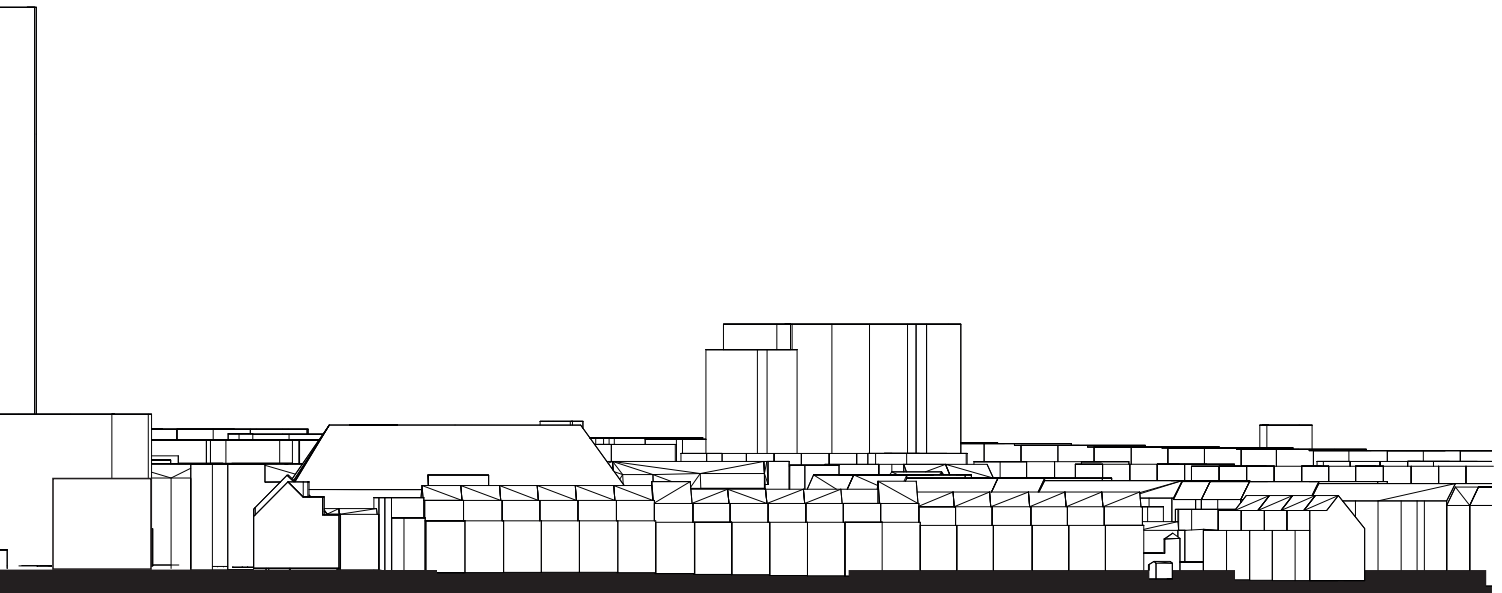


# SITE PROFILE





Section A-A' 1:2000



Section B-B' 1:1000

# SITE MAP





4a) 1:5000 ↑

# SITE PLAN



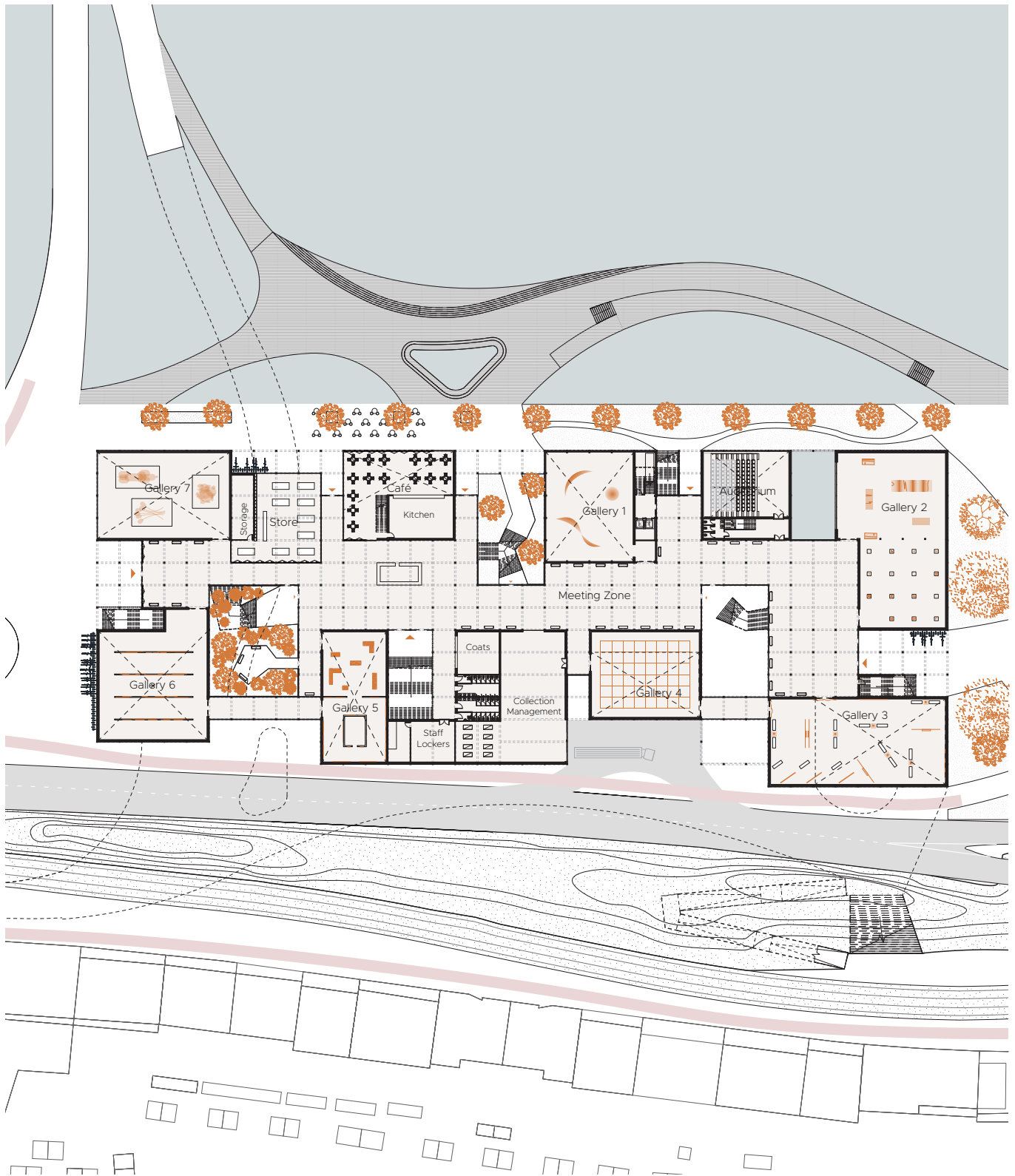
Site Plan 1:2000 ↑



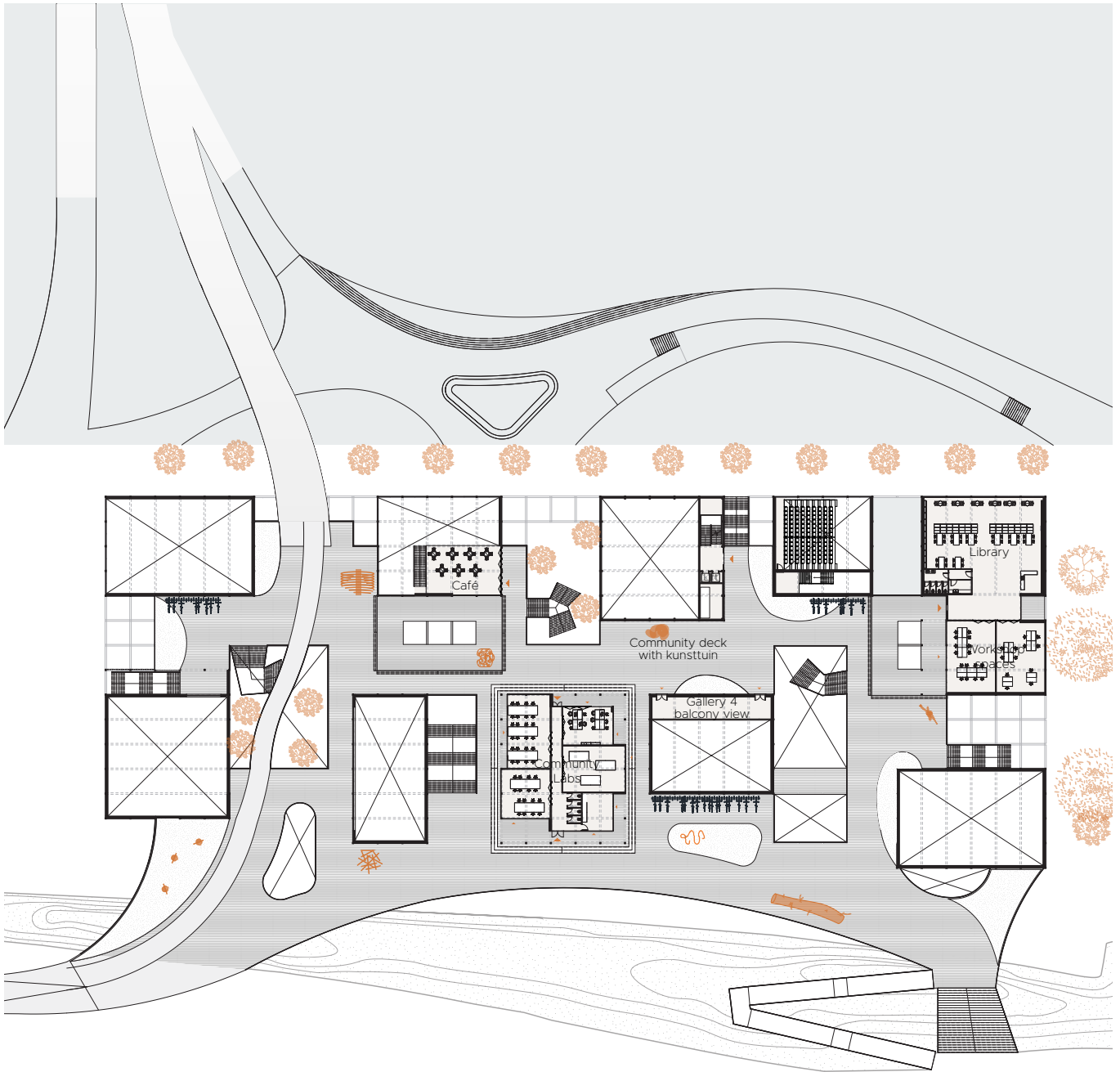




# FLOOR PLAN

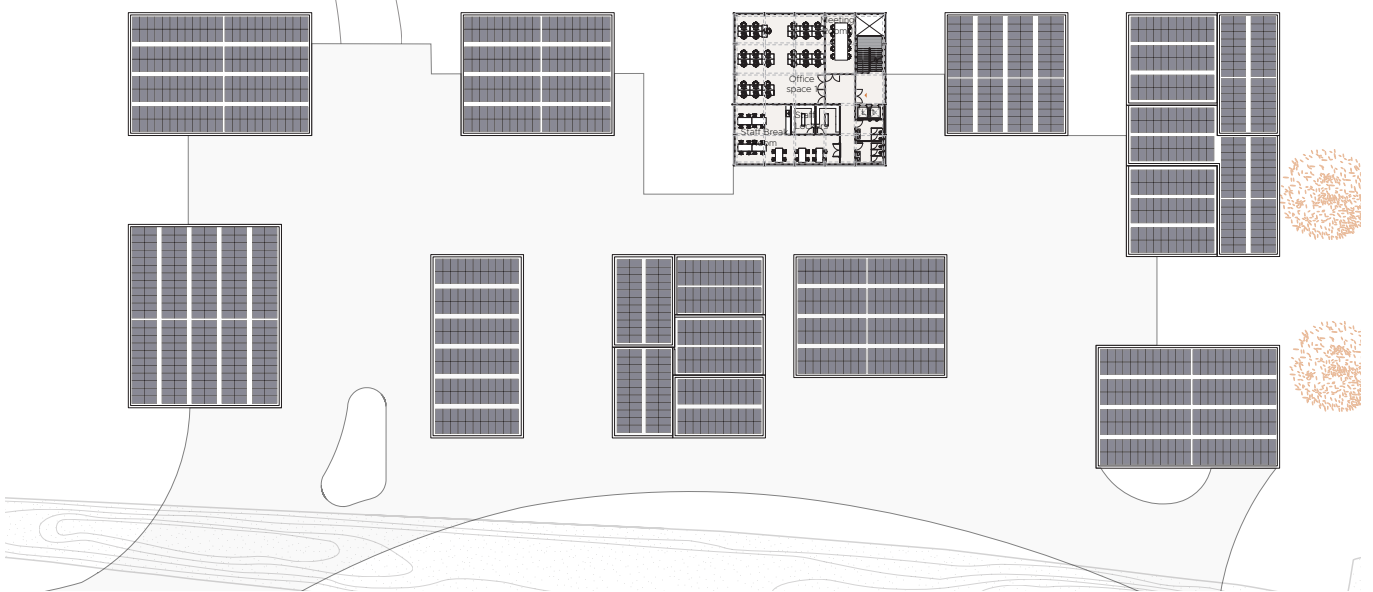
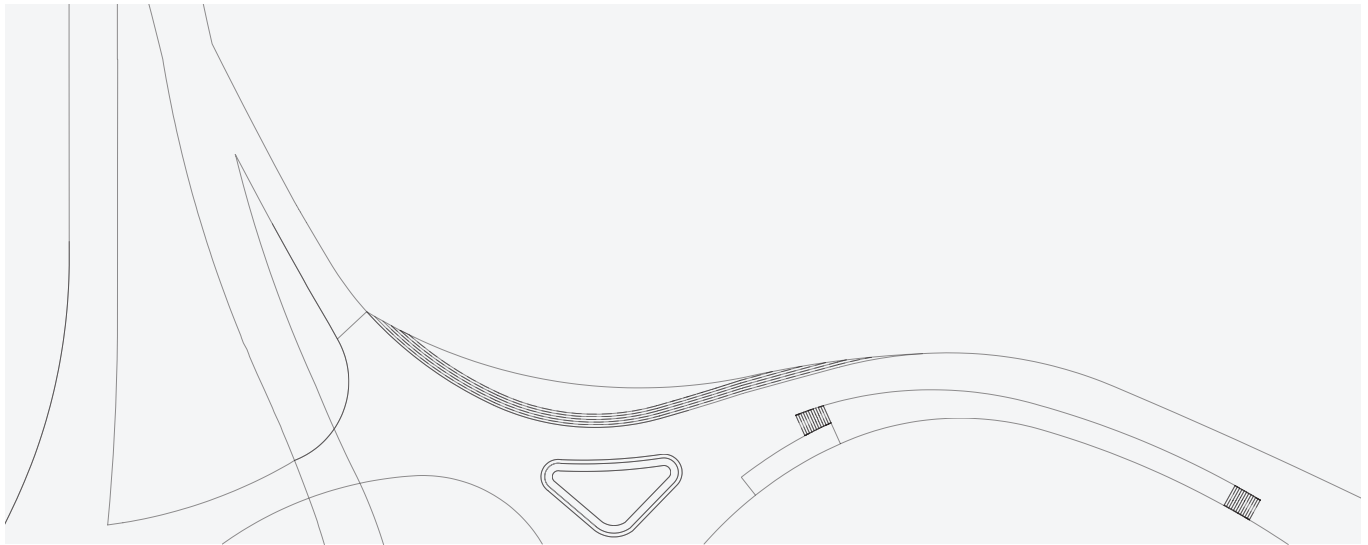


Ground Floor 1:1000 ↑

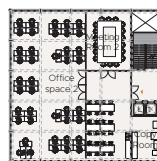


First Floor 1:1000 ↗

# FLOOR PLAN



Second Floor 1:1000 ↑



Third Floor 1:1000 ↑

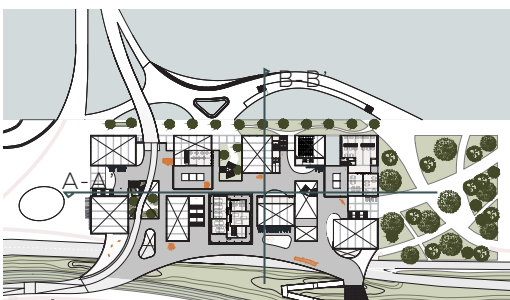
# SECTIONS



Section A-A' 1:1000



Section B-B' 1:1000



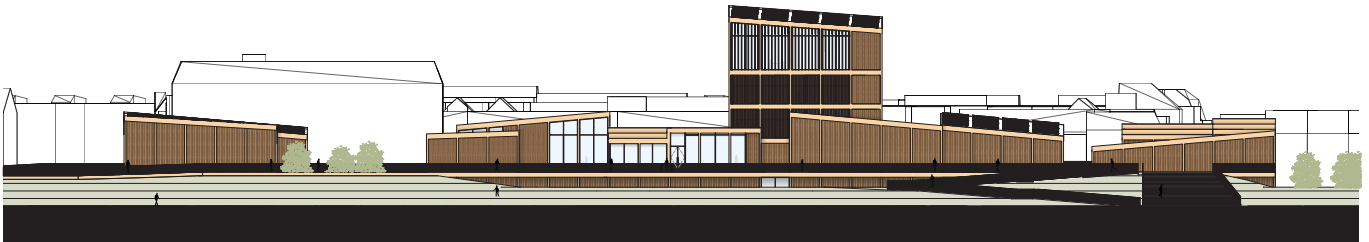
# ELEVATIONS



North Elevation 1:1000



East Elevation 1:1000



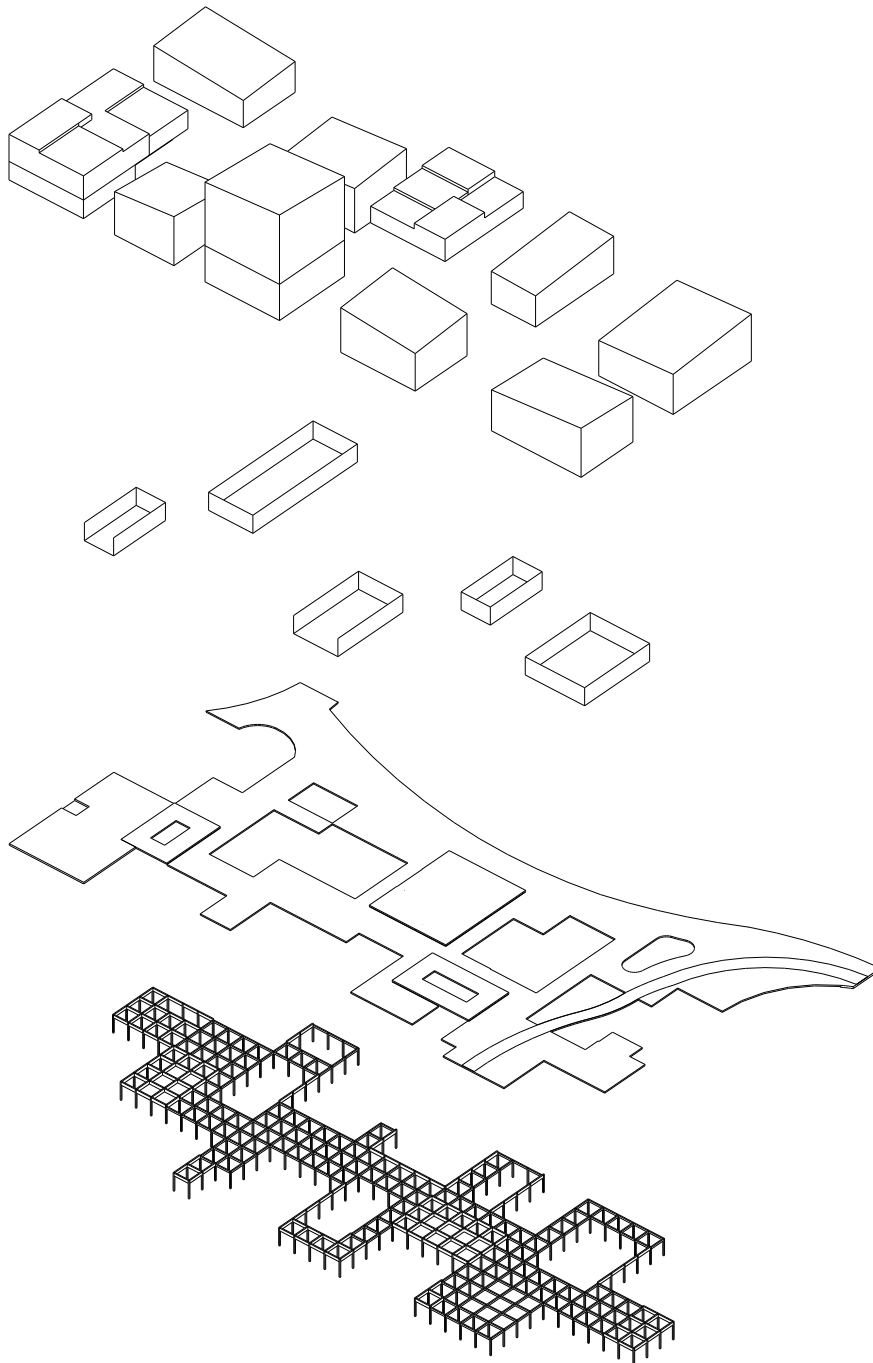
South Elevation 1:1000



West Elevation 1:1000



# DESIGN ELEMENTS



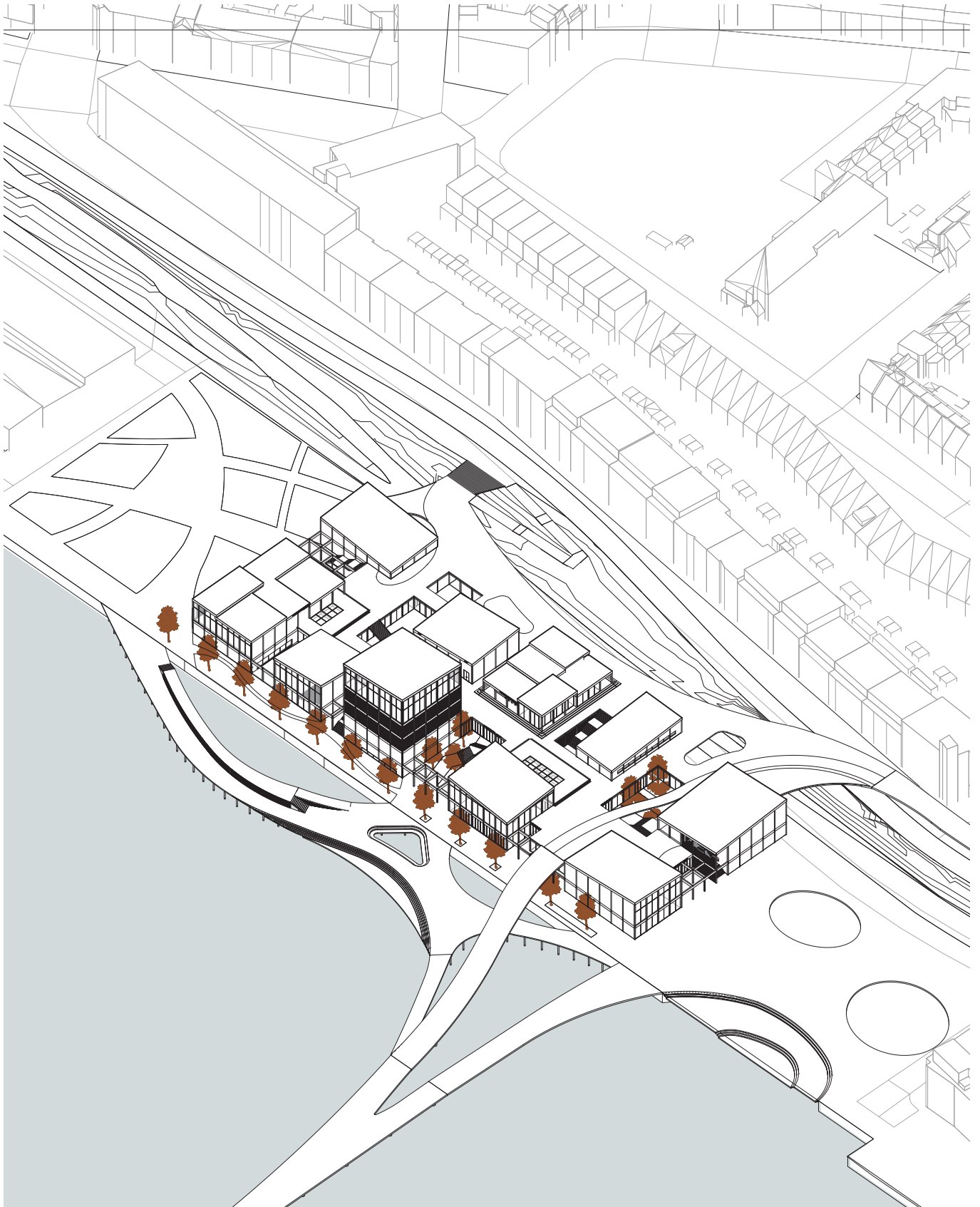
PAVILIONS

COURTYARDS

DECK

MEETING ZONE

# BIRD EYE



# COMMUNITY







# MUSEUM





