## THE ART FACTORY

THE CULTURAL CENTRE FOR THE FINE AND PERFORMING ARTS

PROJECT JOURNAL

Melanie Kwaks

## Visiting Hembrug

#### Literary Discription Hembrug Area

It was an Indian summer's day in October when I visited the Hembrug area in Zaandam. I drove by car towards the site and what I noticed upon arrival that it is a remote area. I entered the Hembrug area from a road that lies in the west and had to go through a small forest to get to the area. This forest stretches out to the north side all the way towards the channel that lies in the east surrounding the Hembrug area and closing it off from the city of Zaandam. The channel, on the other hand, bends around the area towards the south where it continues along. When I got through the forest I saw these old factory buildings on the periphery of the area that stood there proud and tall, carrying the memories of the past. I drove past it on the east side where there was a parking lot. When I stepped out of my car, near the expedition building, the warm air of the Indian summer's day welcomed me in the Hembrug area. The ambiance was so peaceful and quiet, between all the green of the forest and the periphery with the old factory buildings. You could hear the birds sing; the rippling water of the channel and in the distance you could hear people talking. There was no indicator that could possibly tell me that this area once was one of the biggest weapon factory sites in the Netherlands. It is hard to imagine that the destruction and despair that weapons bring came from such a peaceful place like this. First I walked around the expedition building, the old train track and train wagon that stands in front of this building reminds the people of today how this particular building was used back in the day.

I moved on to the next building, here used to be the incinerator factory. This brown brick building looked like it consisted out of two buildings that were placed against each other. One wide and low the other narrow and high. What immediately draws my attention is that the building had no roof; this has been replaced by corrugated sheets which lies on the existing steel roof construction where the original roof once was. Time was doing its job on the old factory the heavy steel doors which used to be painted green but over the years the paint started to scale off. There were a lot narrow tall steel windows with glass-bars all around the building but especially on the part of the facades where could have been a first floor I wonder if there maybe was. The small narrow windows catch my eye, they seem to be paired but there is a variation of tall and small windows but they are all equally narrow. Is there be a system or pattern or is it this way because of practical reasons, it makes me curious. When I went inside, the inside was completely stripped. There were traces of a first floor or balcony that used to be there but this was gone now. The space was defined by the concrete walls with old steel beams in the openings and a plinth of yellow brown tiles on the walls. The only thing that still stands in this wide open space is a small office box made out of steel framed windows painted in a dark green color. Was this where the boss would sit? This office box stands on the edge of the ground floor of this building, missing some glazing here and there. There was nothing left of the incinerator factory that once was up and running here. Because of the roof that was missing, the sun shined bright inwards from the top of the building through the steel construction and gave an art like light work on the brick walls. The floor was made out of concrete and through the cracks there were growing plants. This whole scene gave a very apocalyptic feeling, as if nature was taking over and the building was given over to decay.

# Visiting Hembrug



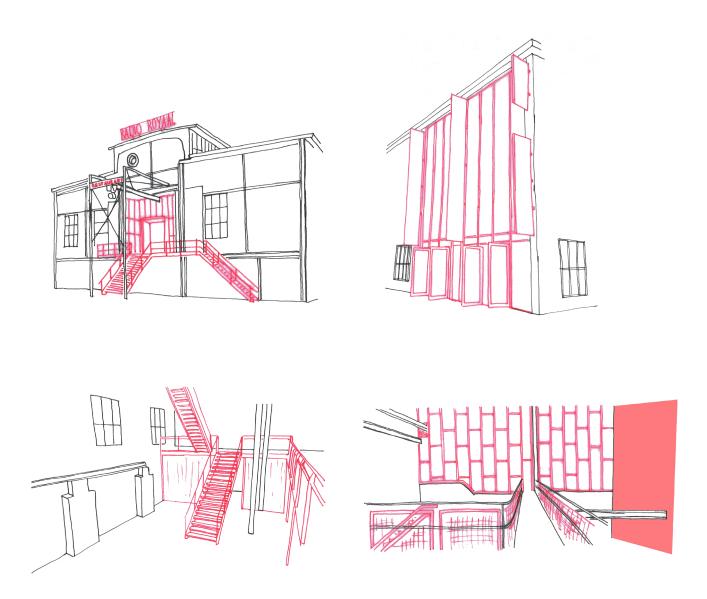




## Research Strijp S

# What interventions are made to transform the existing building into its new program?

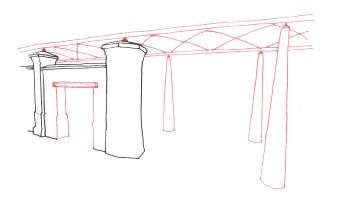
An intervention happens when there is a mismatch between the existing function and the new function. To transform a building into its new function different intervention methods are being used: harmony, neutral and contrast. The different interventions that were needed in the building can be treated differently to find a match with an intervention method. There is a balance between the different intervention methods.

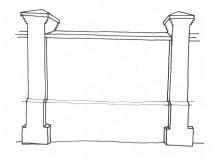


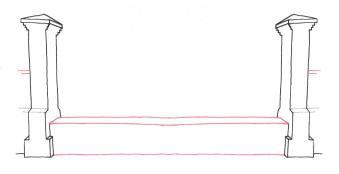
### Research Ceramique

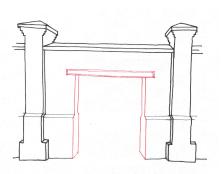
# What interventions are made to transform the existing building into its new program?

An intervention happens when there is a mismatch between the existing function and the new function. The factory walls transformed from a wall that kept people outside to an element with openings that now serves as a monument. To transform such an object into its new function different intervention methods are used: harmony, neutral and constrast. The different interventions that were needed in the object can be treated differently to find a match with an intervention method. There is a balance between the different intervention methods.

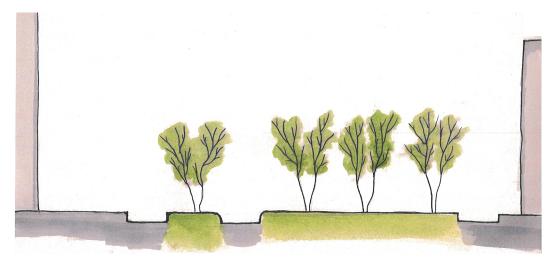




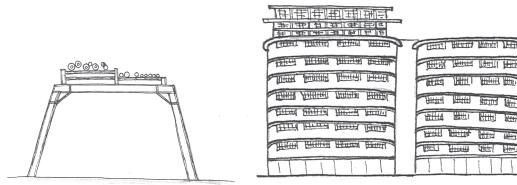




## Visiting Strijp S

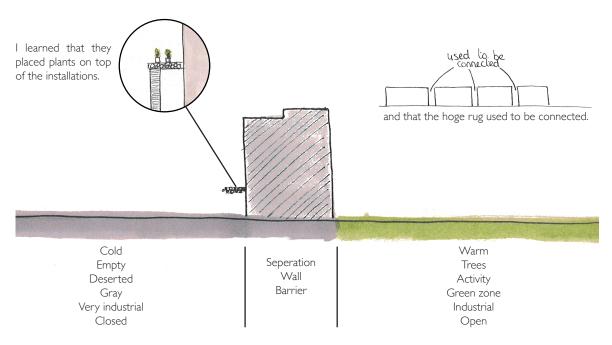


In strijp S I learned that there was a green zone behind the hoge rug.



I also learned that the installations serve as entrance gates to strijp  $\ensuremath{\mathsf{S}}$ 

and that the structure on top of the Veem building was used as a PE room for the people who worked at the factory.



What I discovered was that the hoge rug feels like a seperation between 2 areas. I area that is deserted and feels a bit strange, like you are not supposed to be there. It still gives the feeling of a closed of area. The other area feels more inviting, because of the green and all the activity that is happening there.

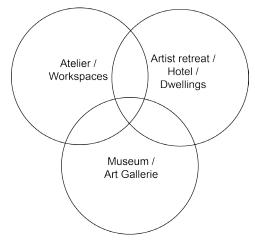
# Campus North - Hembrug



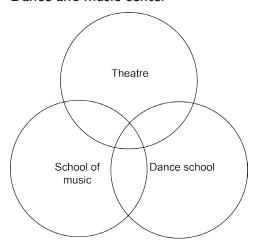


## Function ideas

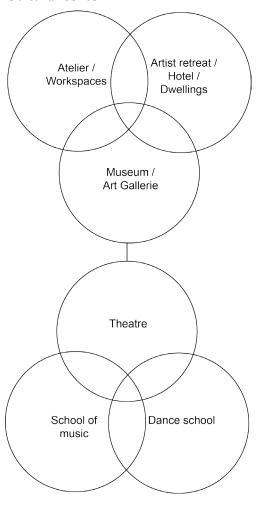
#### Fine arts



#### Dance and music center



#### Cultural center



#### Personal Statement

When I visited Hembrug for the first time I did not expect that it used to be a weapon factory site. I really liked the atmosphere of the area especially the balance between the industrial elements (factory buildings & the pipeline) and nature. It felt apocalyptic and that nature had taken over this site but that people started to reclaim it again. It also felt hidden from the outside world, because it was very quiet, only a few people who worked on the area were there. I wondered how this area was developed and where each building was used for:

After researching the Hembrug area I learned that it was an isolated factory site due to confidentiality reasons from the military but today it is open for the public. I would like to draw more people into the area to bring in more cultural and residential functions with my design. This way I hope the area becomes less isolated and more involved with Zaandam.

There were 3 factory complexes, the weapon factory, cartridge factory and ammunition factory. For the layout of the area they made use of the functional logic of the production process to develop this site. This meant that the representative buildings were on the North Sea Canal side because the entrance of the site used to be there. Behind the representative buildings the production halls were situated where the weapons/cartridges/ammunition were made. On the very back of the area there was the storage buildings located.

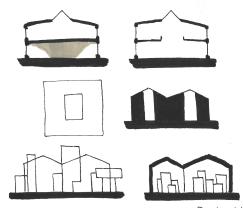
Campus North is an ensemble that used to be on the back of the area. When the Hembrug area opened up for the public the entrance changed to this side. For my design I would like to think about how Campus North can serve as an entrance for the whole Hembrug area.

Campus North consists out of an open space with a few buildings. If we look at the name; campus means open space or field and north comes from its position in the north of the Hembrug area. I intend to keep the open space in front of the weapon depot as a public square where activities can occur. This I would like to combine with the new function I have in mind.

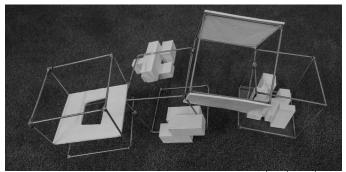
In our research we looked deeper into 2 of these buildings; the weapon depot and the machine hall. The weapon depot transformed over the course of time into an office building and was recently restored. The machine hall was used for the production of

civil machinery and is vacant and was neglected in maintenance. This is why I think the machine hall is still an empty canvas on how to transform this building. In terms of function for both I see a combination of residential functions with cultural functions. With cultural functions I'm thinking about an art gallery and/or museum, artist retreats, artist workspaces, workshop rooms and even yoga studio's.

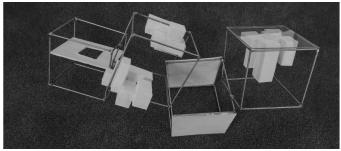
For my etude I made a sculpture where different design ideas were minimalized. The sculpture refers back to the functions I have in mind for the area. Each cubic represents one design idea, because my thoughts about the design are still going back and forth, therefore the cubes are not placed in a straight line. The sculpture can also move in every direction to see the designs from different angles. This represents my design process.



Design idea sketches



Etude sculpture



Etude sculpture

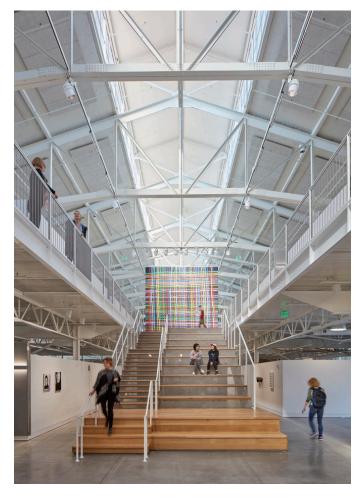
# DESIGN PROCESS MACHINE HALL

### Start reference Machine Hall

Fort Mason Center for Arts & Culture LMS Architects 6500 m2

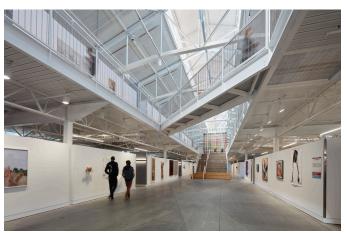
This reference has a lot of similarities with the machine hall and the function that I want for my design. Only here the fine arts are combined with a theater and I want more space to practice the performance arts. I like how the space is used and the construction is still visable inside of this building.



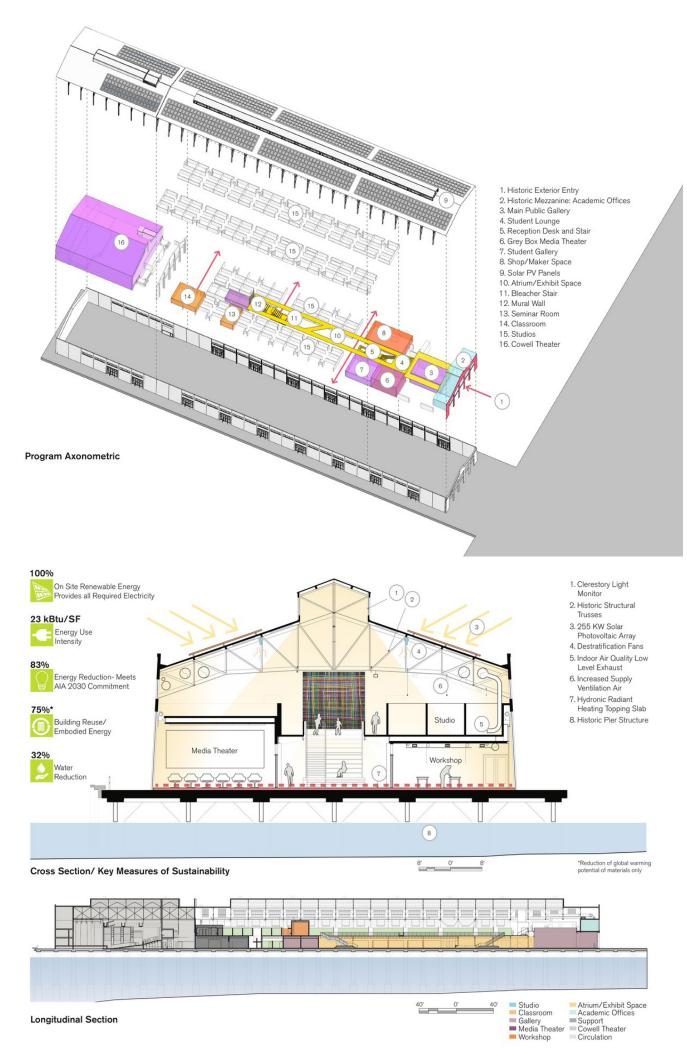








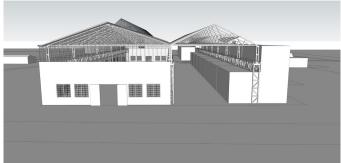


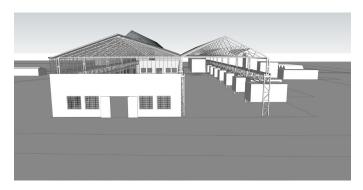


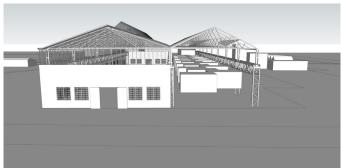
# Dwelling options

options for dwellings



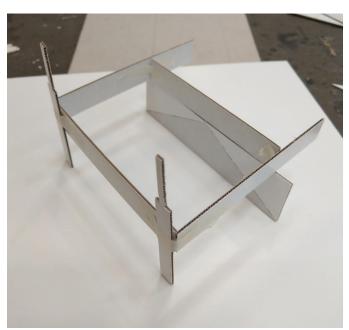






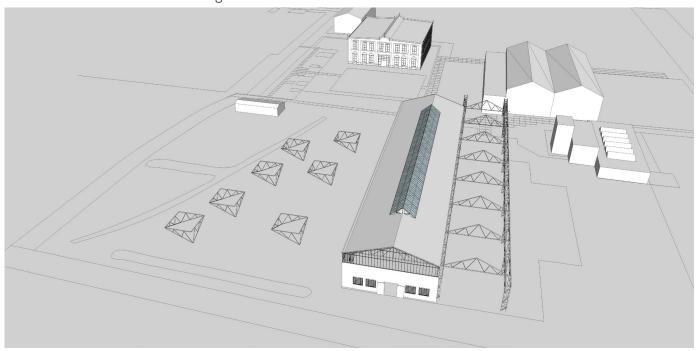








#### Reuse roof trusses - artist dwellings



#### Malopolska garden arts





Paganini



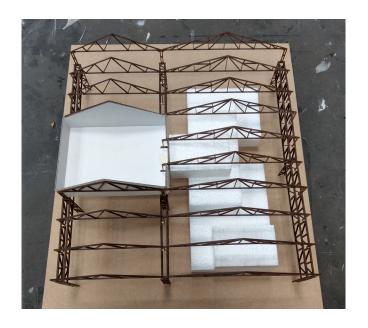


# Mass study

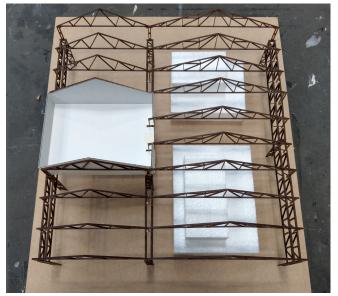
#### Machine hall





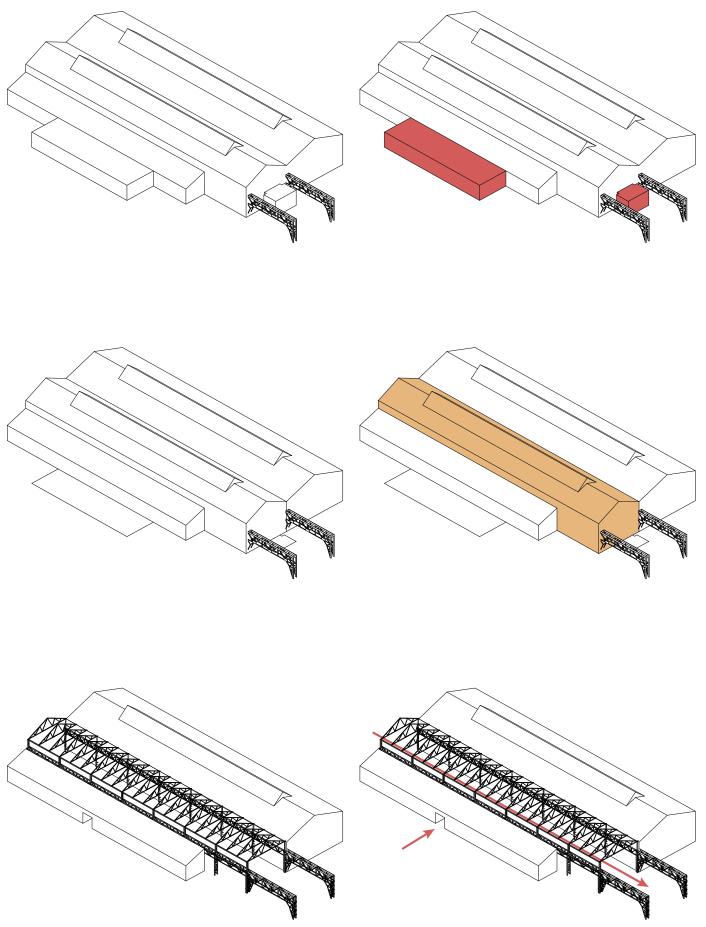




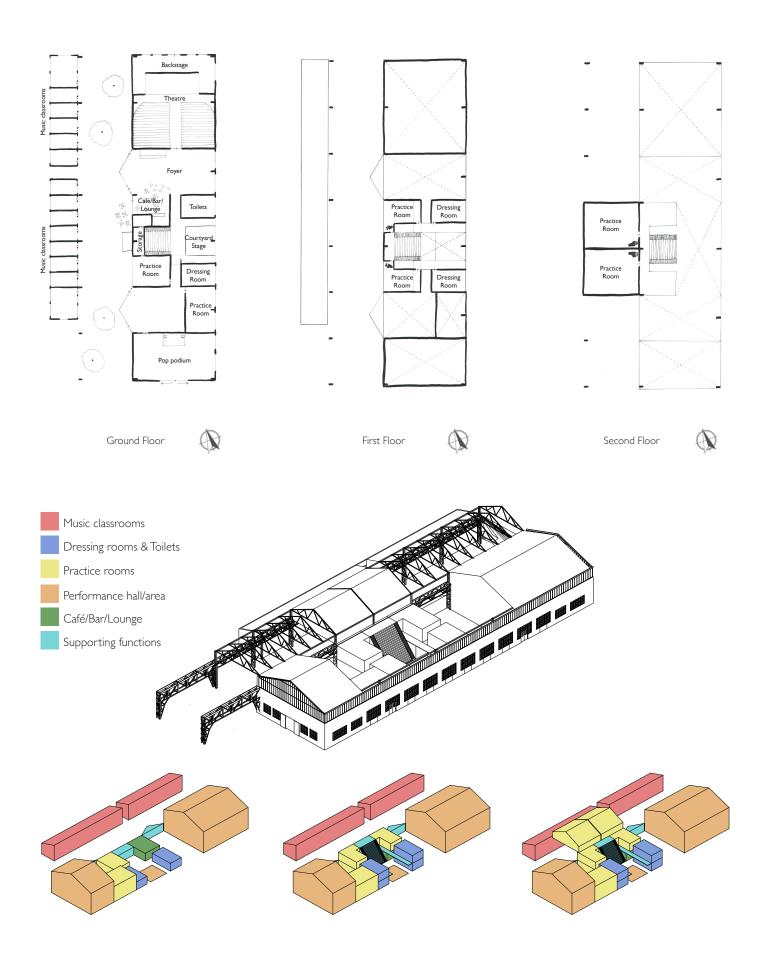




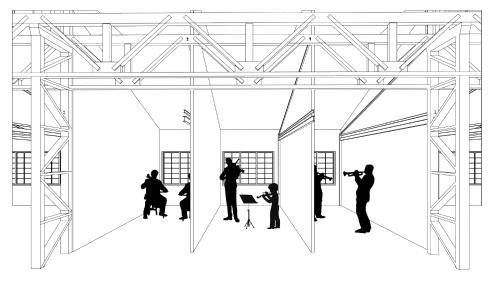
# Demolition drawings



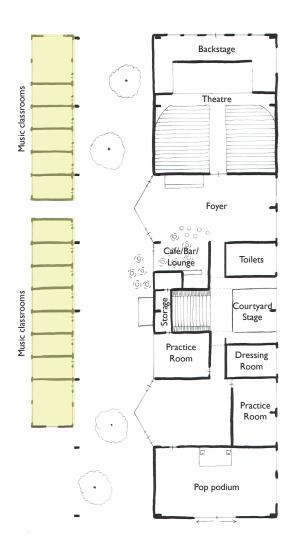
## Floorplans and function



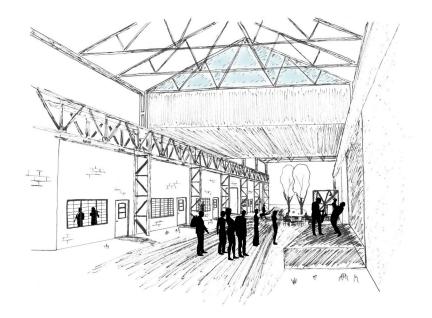
## Music classrooms







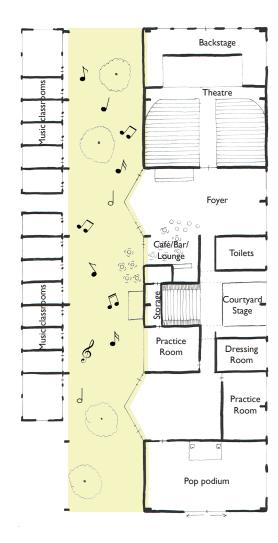
## Music street



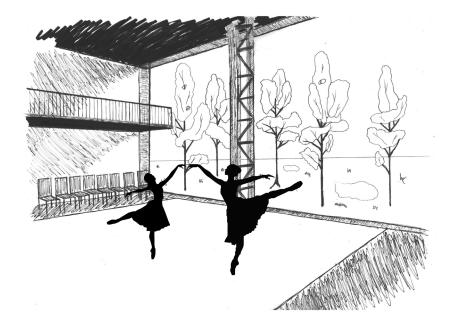




Reference: Małopolska Garden of Arts / Ingarden & Ewý Architects



## Performance areas

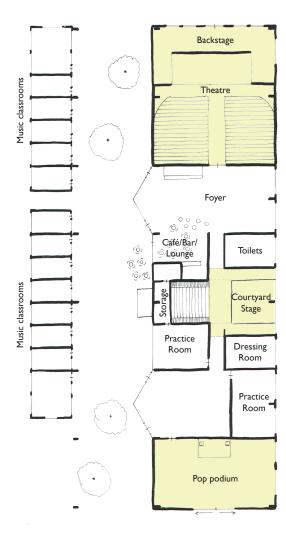




Reference: Paganini / Renzo Piano

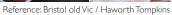


Reference: White Oak Music Hall / SCHAUM/SHIEH



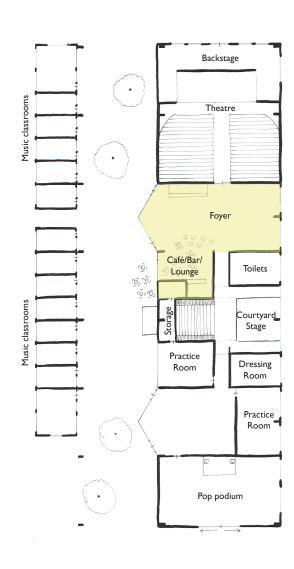
# Foyer

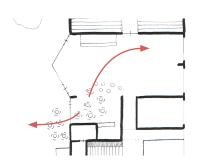






Reference:Theater de kampanje Den Helder

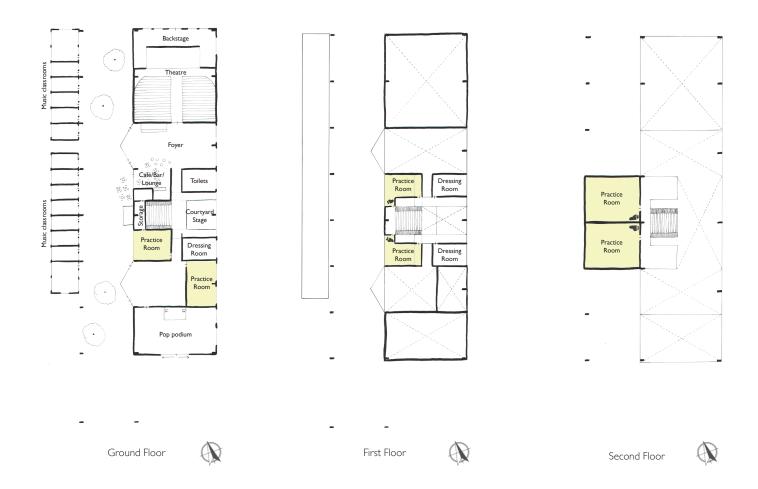




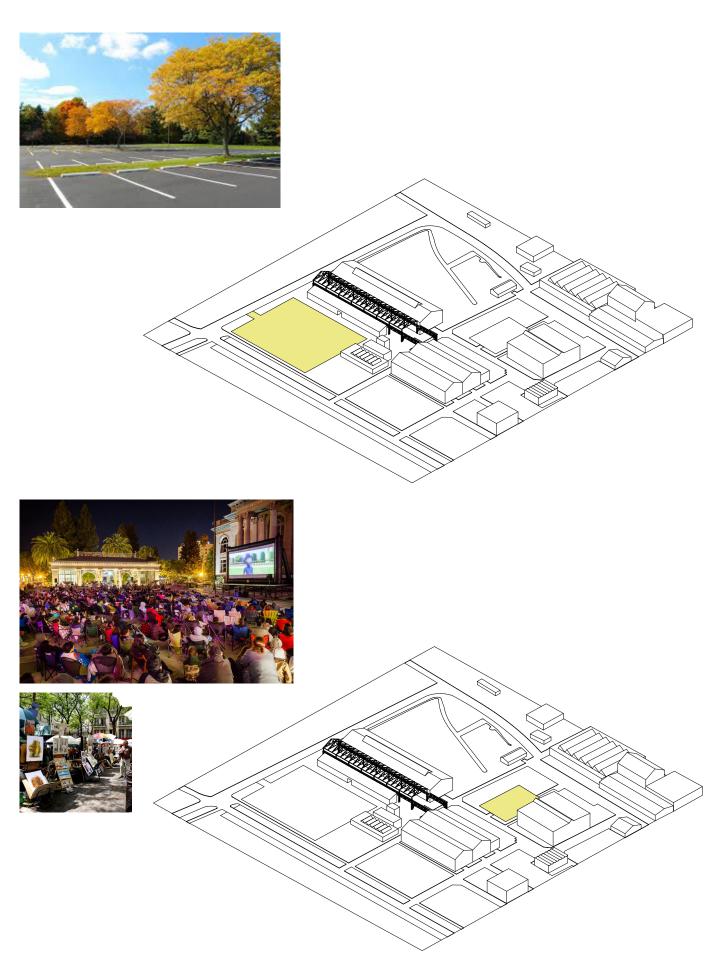
## Practice classrooms



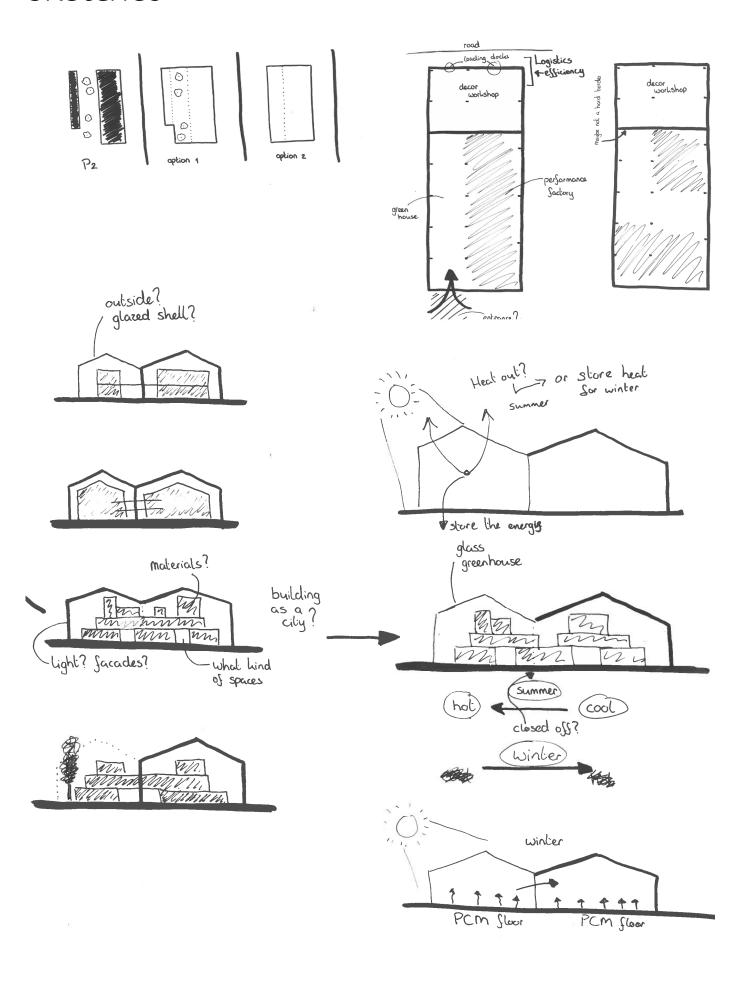




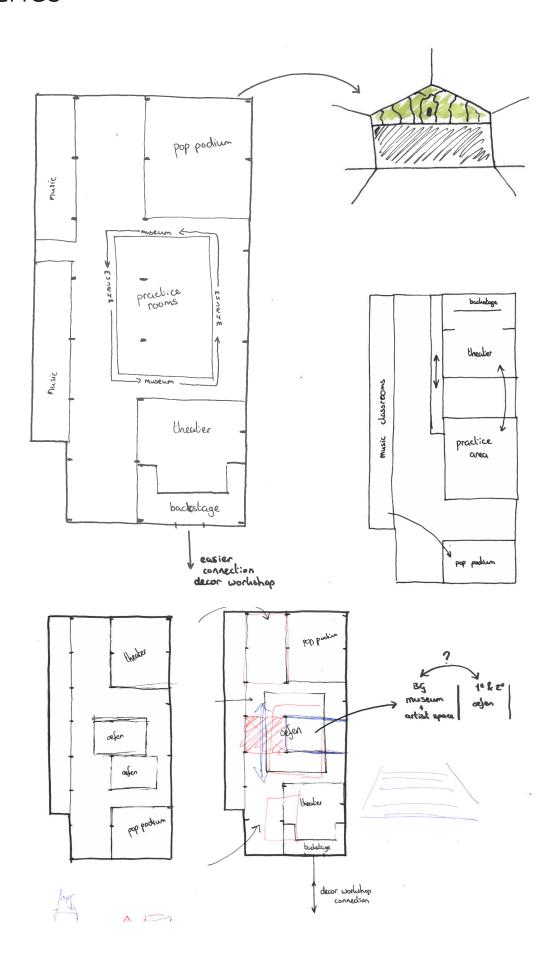
# Campus North



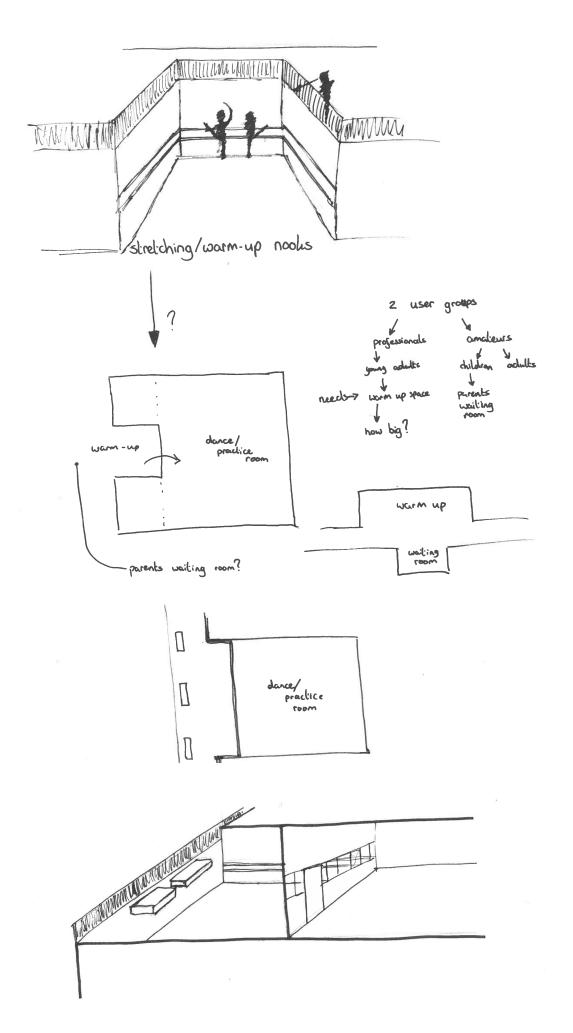
### Sketches



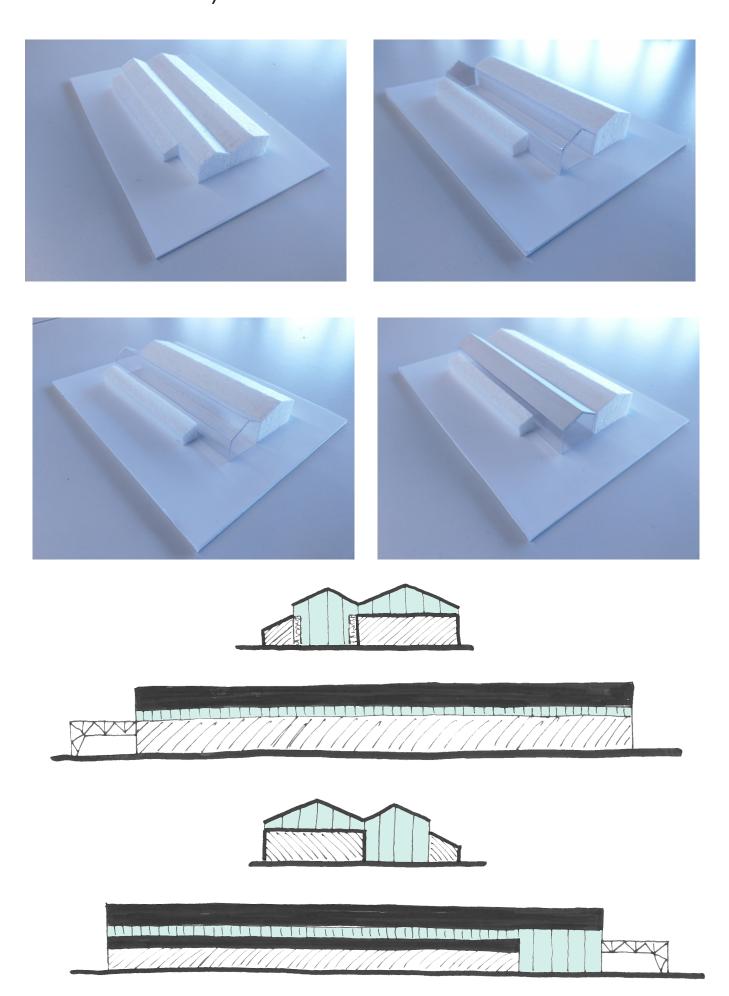
## Sketches



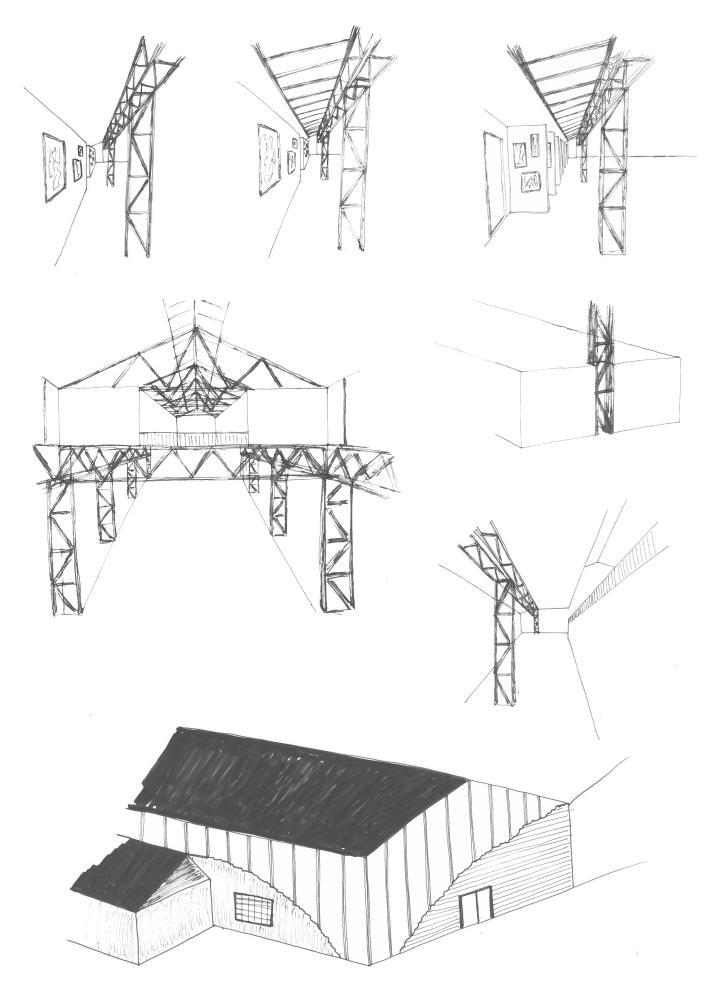
### Sketches



# Facade study



# Spatial sketches



# Mass model study









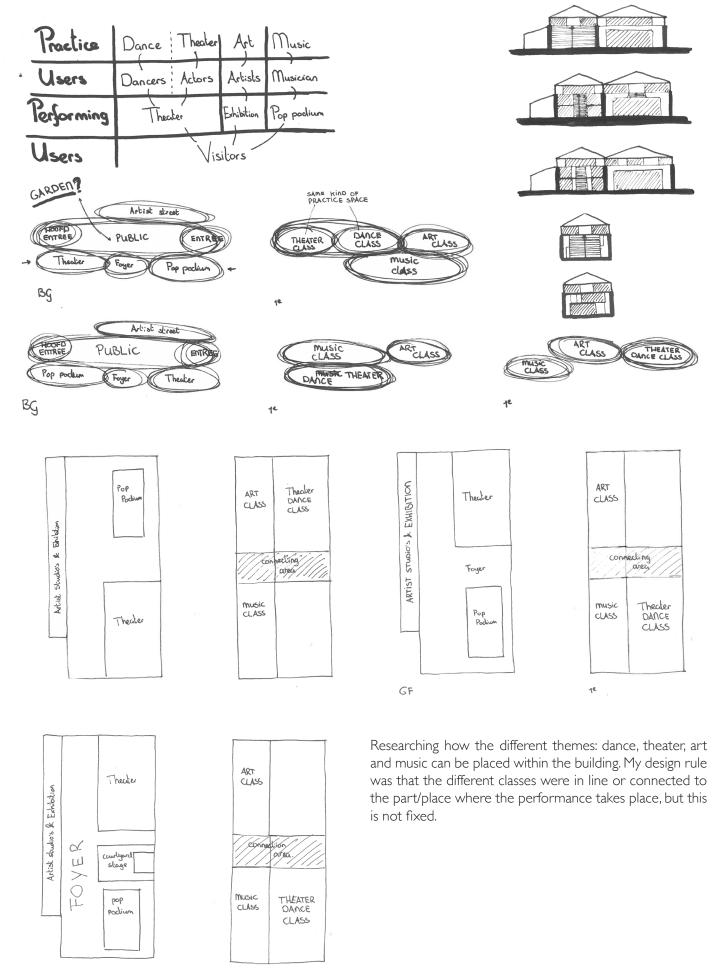


Different tests to create rooms/volumes in the machine hall.

Main idea: to create different parts of the building in different ways according to the different themes that I have in the cultural center.

My themes are: Dance/Theater, Art and Music

# Programm and floorplan study



### References - Dance



Expensify Portland - ZGF architects



Studio Wayne McGregor Open Space Design



HIPBN Boston Ballet School



Shed #19 - Andrea Olivia

# References - Facade



Acceso Colegio Alemán de Puerto Varas - MORAGA-HÖPFNER



Rodeca facade elements



La Ruina Habitada, Jesús Castillo Oli Arquitecto

### References - Theater



"Angels' Dance" - XXI Century Theater in the former Sant' Anna's Church



Theater Budapest



Theater de Kampanje - Den Helder

## References - Music



Sinergia Cowork Palermo



Theater de Kampanje - Den Helder



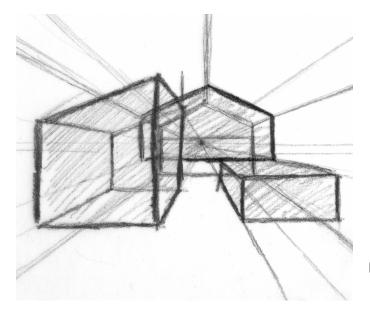
St. Anns theater - Brooklyn

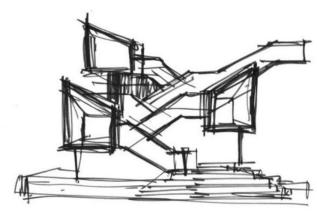


Concertgebouw Arnhem

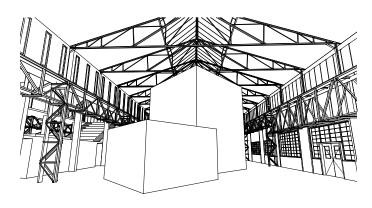


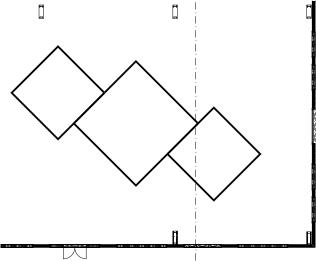
# Dance department

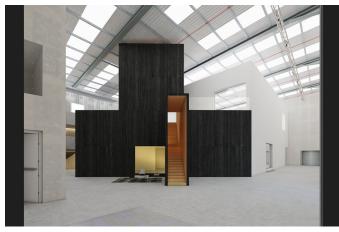




Expensify Portland - ZGF architects

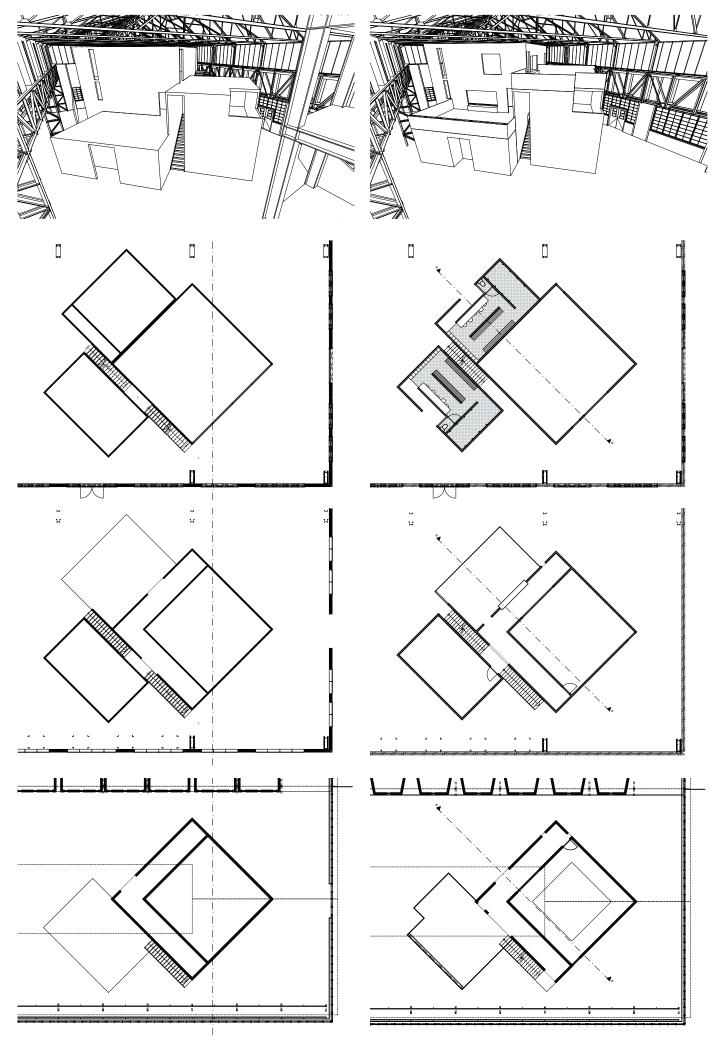




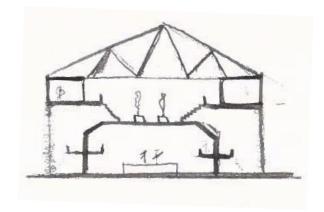




Studio Wayne McGregor Open Space Design



### Spatial idea music department



For the music department with poppodium I took my mass study to an other level to see how the functions would fit in if I used the mass model option.

The poppodium will be a stand alone box where on top people can hang out and wait till their classes begin or where parents can wait for their children who have their music class.

From there you can acces the music classrooms one split level above.

I really liked this option, but I'm now thinking of using the theater also as poppodium. Where the seating is retractable. But then I'll lose this image that I like so much.

The reason to use the same space for theater and music is that Cultural Centers often have difficulties with filling the program, but event spaces like a theater and poppodium generate money for the Cultural Centers. So there has to be a balance between performing and practicing.

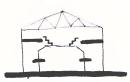
But my main goal was to create a space where people can practice and learn the arts. The space where they can perform and show the skills they learned is an extra bonus.





pop podia shaped for view on top and accustics inside sightlines + feedback lines

on top of pop pactia box -> greenery functions as a wait space for music classes



Plateaus, accesable from wait space, listed in above. plateaus around pop box



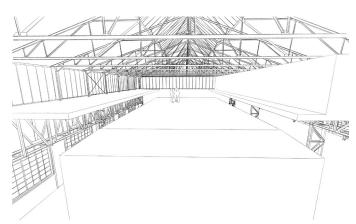
music classrooms

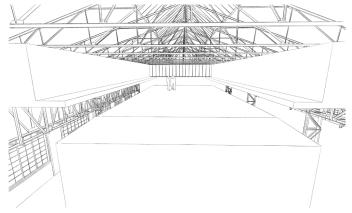


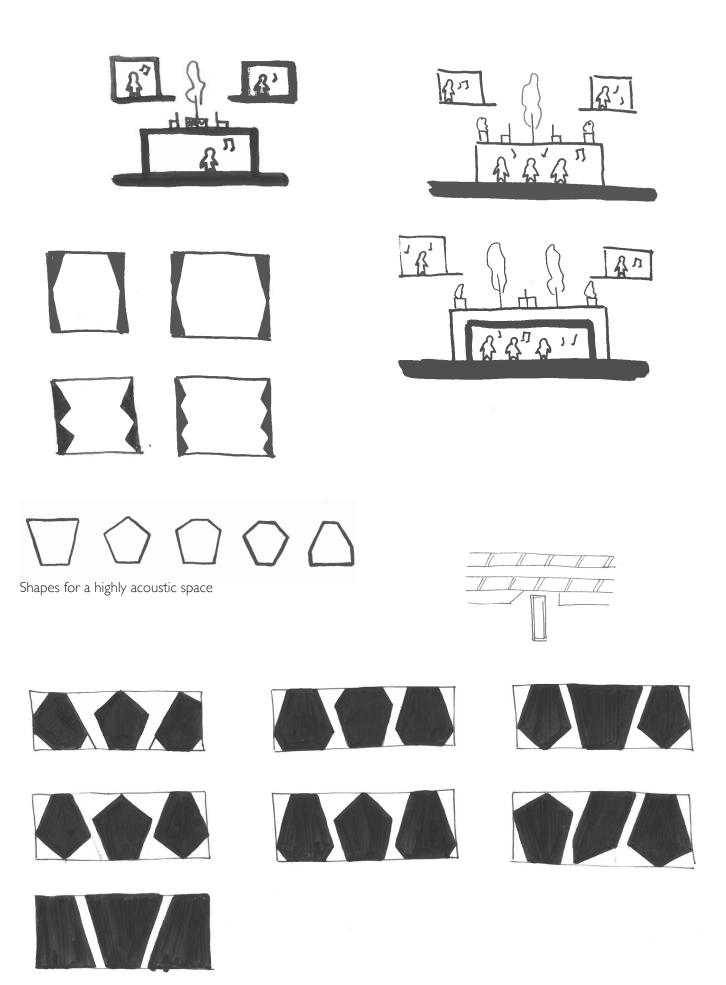
bars and silling area around the pop box

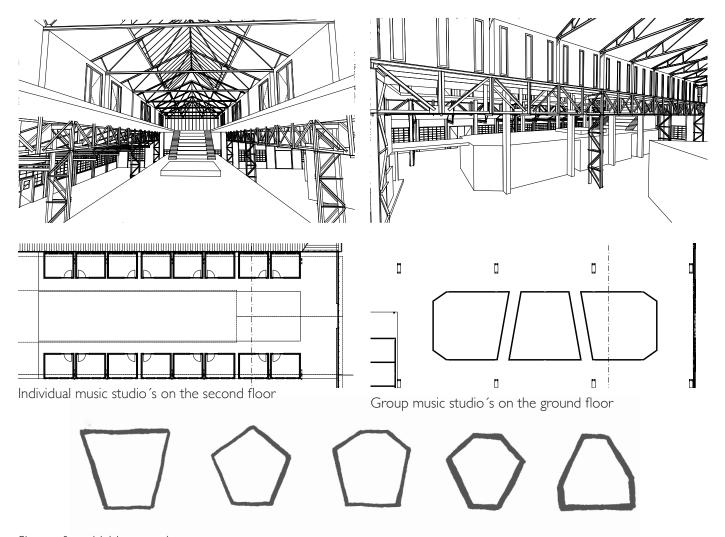


Sinergia Cowork Palermo





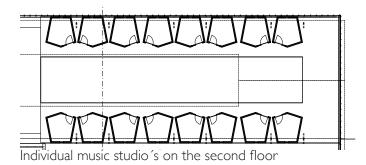




Shapes for a highly acoustic space

For the music department my aim was to see if I can get acoustically ideal rooms. I had a few options and to see which one would give architecturally also the most interesting space I tested some shapes out. I choose the one that comes out in a point, because this gives an interesting and dynamically landscape of rooms on the outside.







# Route through the building



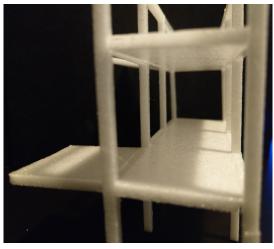
Federal Center South Building 1202 - ZGF Architects

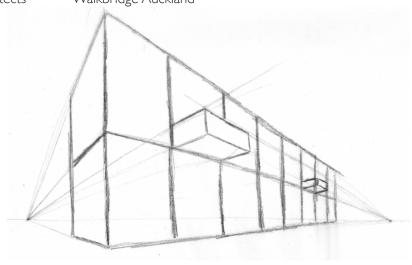


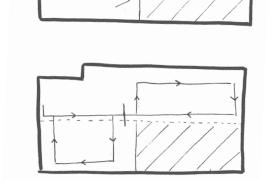
Walkbridge Auckland

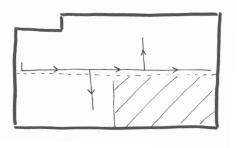








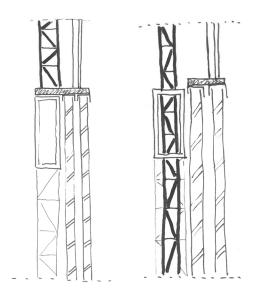




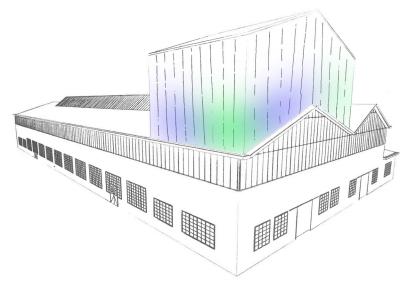
### Theater







By lifting the roof I need an extra steel structure that can carry this roof. I thought of 2 options, I being on top and one that goes through the crane track.



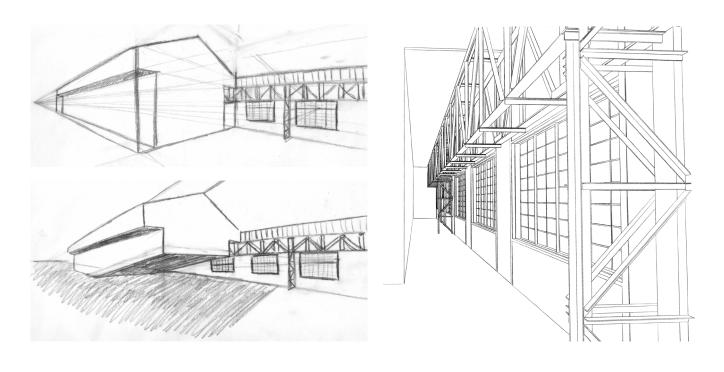
For the theater a stage tower is required, this stage tower needs to be between 15 and 30 meters high. The ceiling in the machine hall is 13 meters high, therefore I choose to lift the roof and create a stage tower box on top of the existing roof. Just like in the reference project Theater the Kampanje in Den Helder.

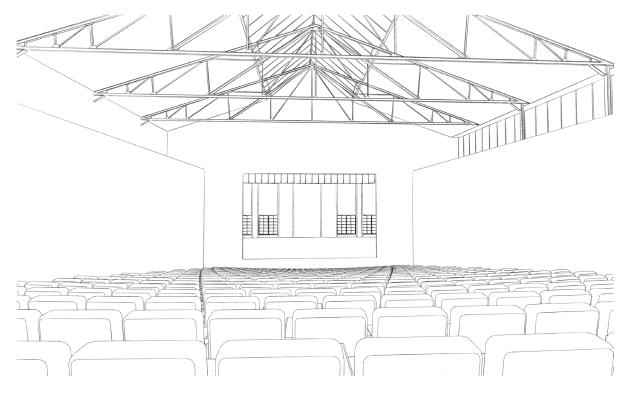
The idea is to make this stage tower translucent but with a matt finish. So when it's dark the light that hits the stage luminates the stage tower above, so that from the outside, it is noticable when there is a show going on.

The difficulties I see with it that it also let daylight in, so I wonder if I need curtains if there are rehearsals during the day. Or when there are shows in summer when it gets dark around II p.m.

So maybe it has to be a closed box but then there can be lights in the facade to still be a beacon to let people know that there is something happening inside of the building.

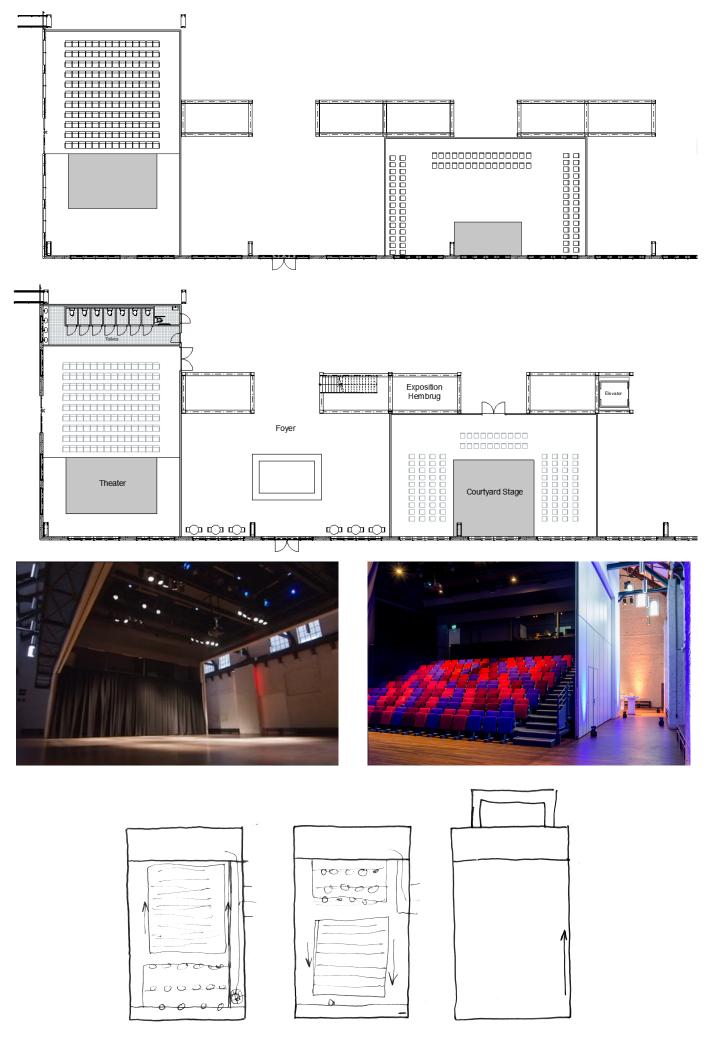
I'm still on the fence about this addition, it does not feel entirely right.

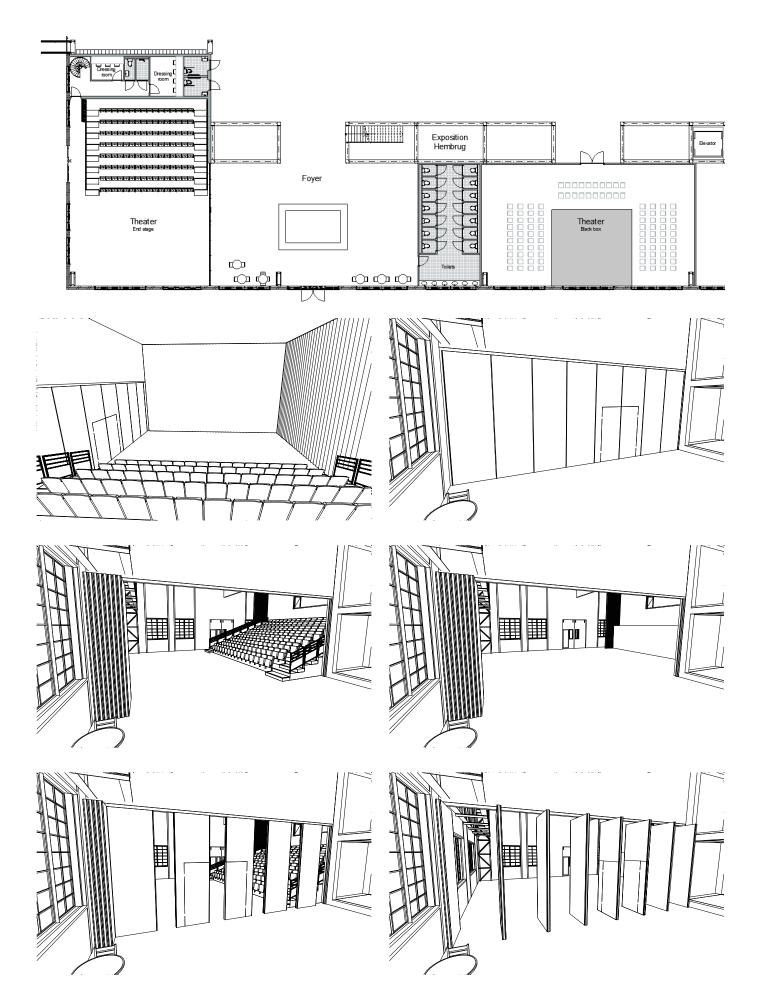




Now the question was, why this size theater? This theater can fit 600 people, and the stage matches the maximum decor sizes that the weapon depot can built. Is this neceecary? Why can't this theater be 2 smaller theaters that will fit within the existing building?

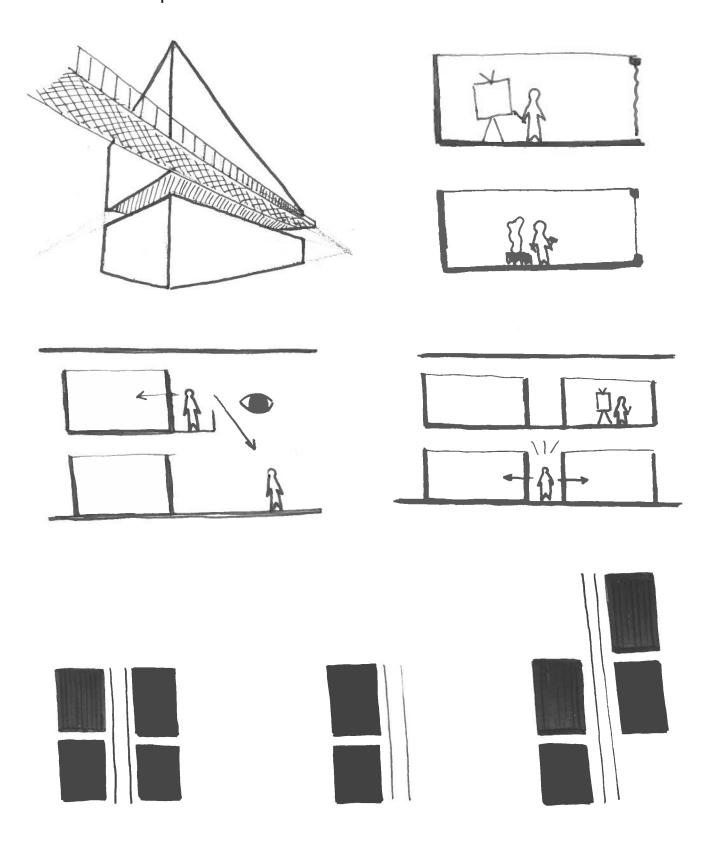
With this new insight I need to rethink this and see what else is possible.





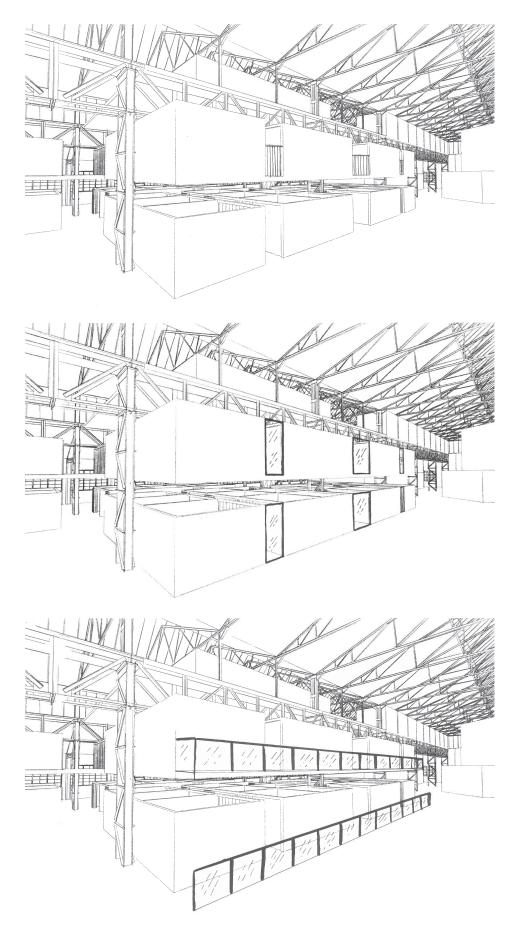
The theater can fit 128 people and can be used in different ways. There is a panel wall that can slide away to open up the space. The theater seats are retractable, so the space can used be used in multiple ways. Probably I have to look into the technique and materialisation if its possible like this.

## Artist department

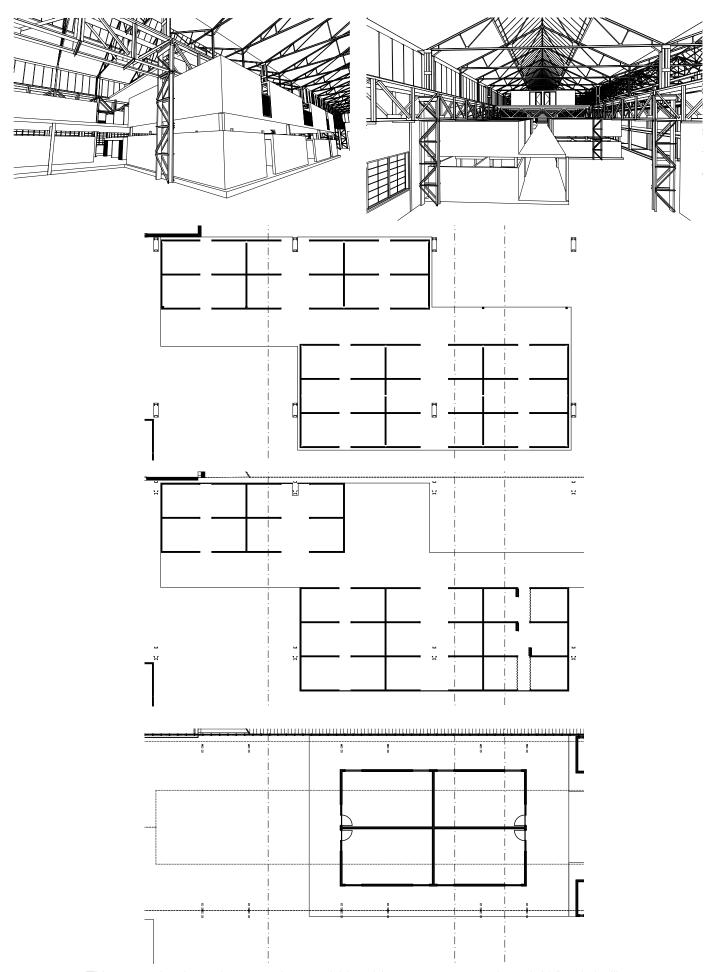


For the artist department I looked at different sightlines to determine how this part of the building should work. In my first drawing I created a really dense and introvert space, and in the second drawing I drew an option where the ateliers would open up more in order for sightlines to go further into the building.

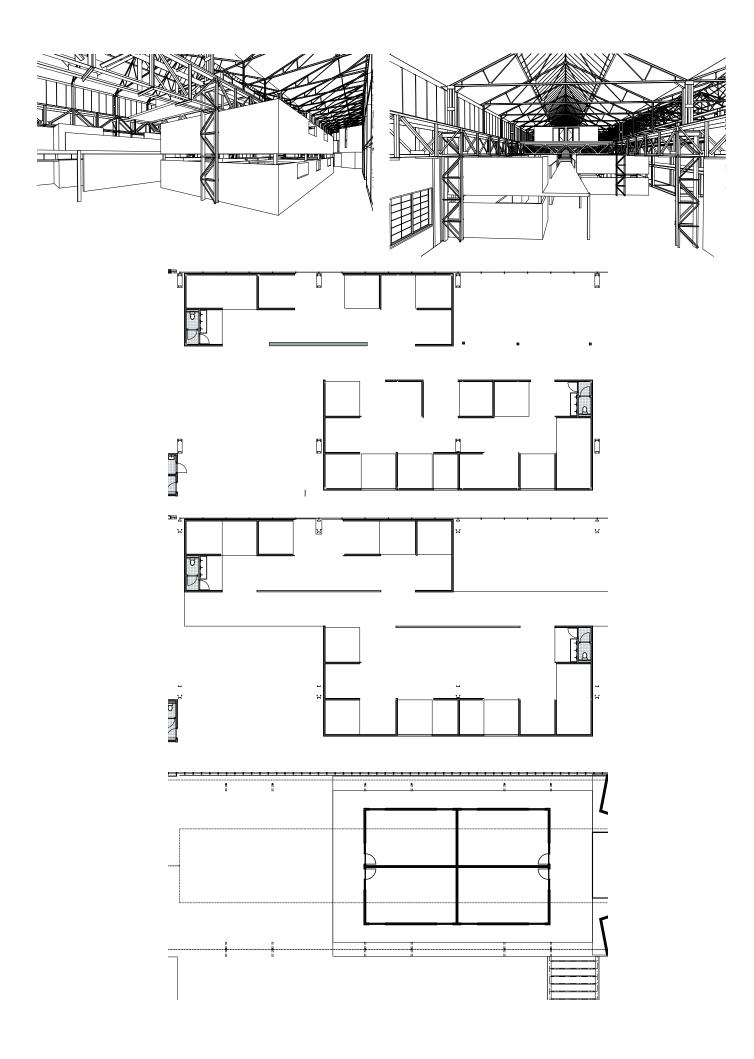
For me it is important that the contact with the machinehall will not be lost, but also that the artists feel like they have their own space, so I thought of a way to combine the closed spaces with the open ones.



Here I treid to find a way to use balustrades and glass to close off the openings but still maintain an open view.



This set up for the artist spaces is very rigid and I'm not very sure about it. What I do like is where the ateliers are located, the sightlines and that on the 2nd floor the classrooms are situated. I also like how the ateliers stick a little through the construction axes. Maybe I need to look into a more playfull placing of these ateliers.

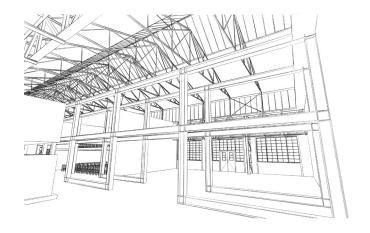


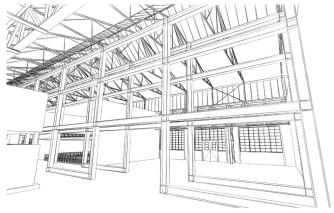
## Expositie Hembrug



Exhibition warehouse of the Museum of Industry and Labour, Rodengo









Kompasrichttoestel A.I. 61 ca. 1961 - ca. 1976 hoogte 27.0 cm breedte 12.0 cm diepte 12.0 cm Objectnummer: H-00312 Kompasrichttoestel A.I. 61 gemaakt door de Artillerie Inrichtingen. Een kompasrichttoestel (KRT) werd (KRT) bij de Artillerie Meetdienst gebruikt voor plaatsbepaling en oriëntatie van de stafkaart. Op het toestel zit een plaatje met daarop de tekst: 'Kompasrichttoestel / A.I. 61 / D.v.d. Duiz / nr. 023' en het Al logo. Het toestel Al 61 was de opvolger van de eerder door de Artillerie Inrichtingen geproduceerde A.I. 56.



Draaibank DR I Artillerie Inrichtingen kleur groen

ca. 1939 - ca. 1970 hoogte 132.0 cm breedte 141.0 cm diepte 63.0 cm

Objectnummer: H-00502



#### **Tafelboormachine**

ca. 1950 - ca. 1973 hoogte 173.0 cm breedte 35.5 cm diepte 78.0 cm

Objectnummer: H-00605

Draaibank DR I Artillerie Inrichtingen kleur groen, inclusief losse tandwielen en snijkoelvloeistof installatie. Gemerkt met Al Hembrug Nederland. Deze draaibank werd gemaakt en tevens gebruikt door de Artillerie Inrichtingen.

De DR I draaibank is gemaakt om kleine onderdelen te draaien, inclusief schroefdraad e.d. Een hoogwaardig produkt dat hoog stond aangeschreven door zijn kwaliteit en betrouwbaarheid. Oude DRI draaibanken vonden na de invoering van geautomatiseerde draaimachines vaak hun weg naar privé schuurtjes voor hobby gebruik. De DRI draaibanken werden ook in bedrijfsscholen gebruikt om leerlingen op te leiden. Bij de draaibank (.01) zit een bedieningsvoorschrift (.02) in een kunststof multomap.

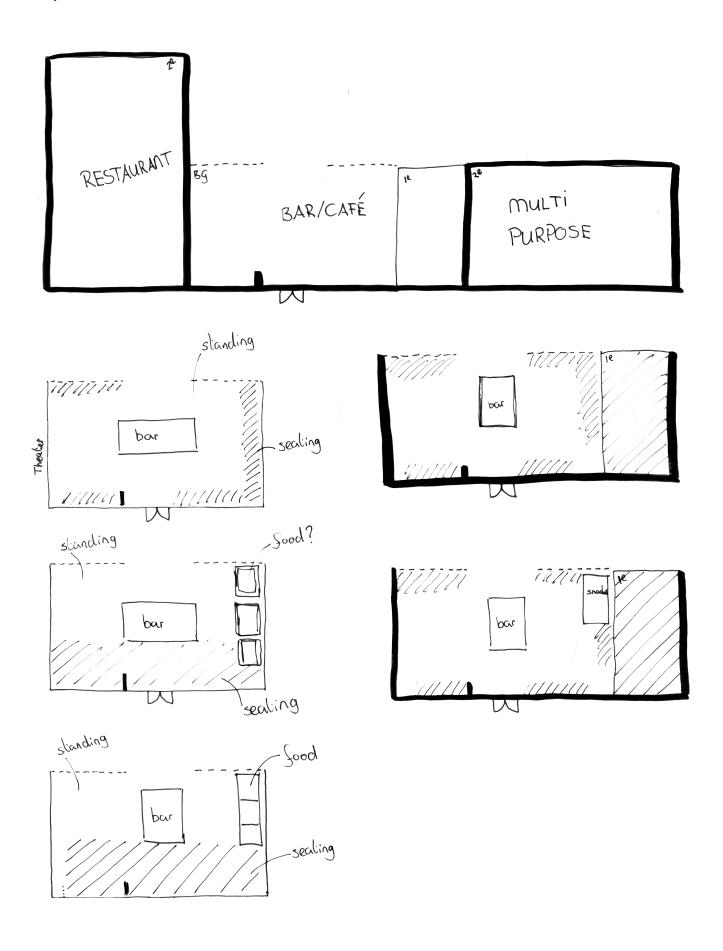
Tafelboormachine gemaakt door Artillerie Inrichtingen Hembrug Nederland. Aan de zijkant links zit een fabrieksplaatje met het driehoekige A.I. logo met daaronder een plaatje van Lindeteves Amsterdam, de handelsmaatschappij die de verkoop verzorgde voor de gereedschapswerktuigen van de Artillerie Inrichtingen. Voor op de voet zit nog een plaatje met het Al logo en het nummer 4208 I, dit is waarschijnlijk het interne registratienummer van machines en gereedschappen.



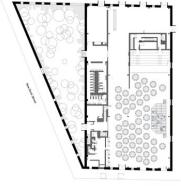
#### Schaafbank Artillerie Inrichtingen (AI)

ca. 1920 - ca. 1960 hoogte 148.0 cm breedte 83.0 cm diepte 63.0 cm Objectnummer: H-00501 Schaafbank Artillerie Inrichtingen (AI) met merktekens AI Hembrug Nederland en intern machinenummer AI 480.15. Deze schaafbank is jaren in de bedrijfschool gebruikt...

# Foyer



### FLEXIBLE THEATER



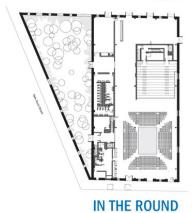
**GALA** 

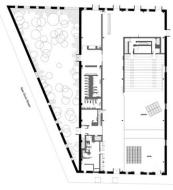


**CONCERT** 

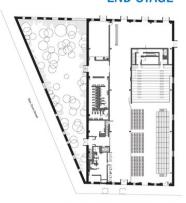


**END STAGE** 





TWO SHOWS



LINEAR END STAGE

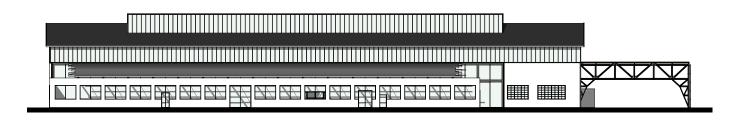


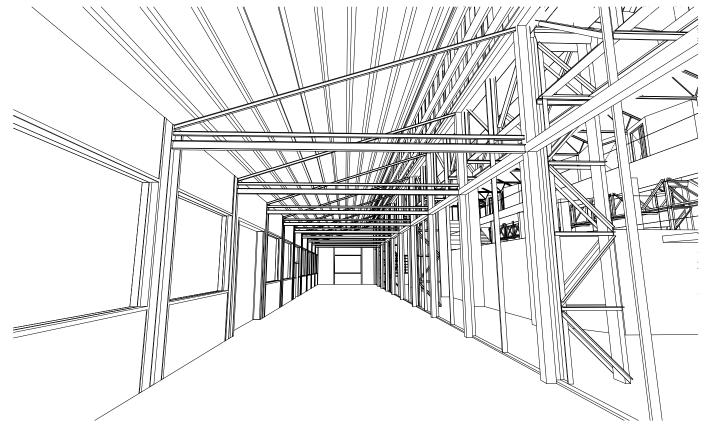






# Outside





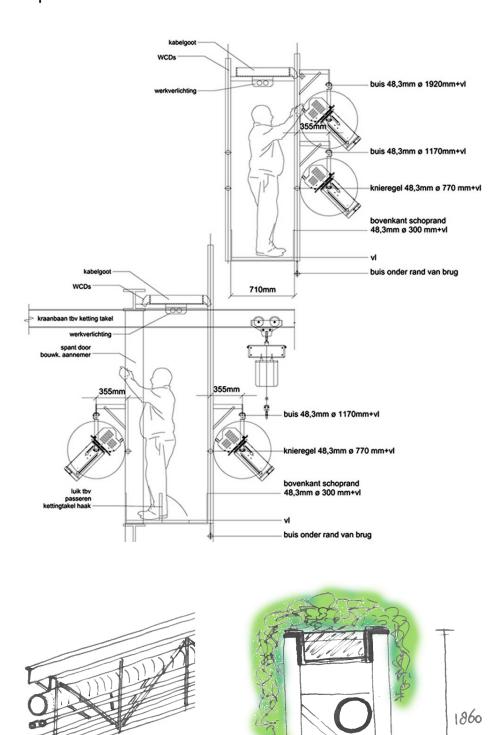




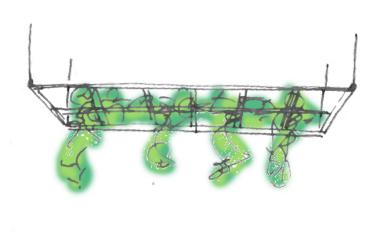


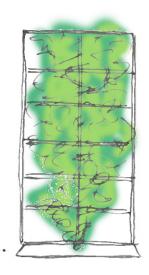


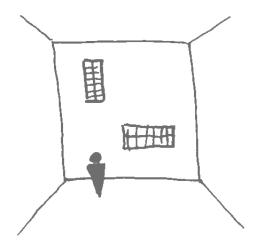
# Re interpretation steelstructure



# Reuse steelframed windows









### **Materials**

My first thought about what materials to use:

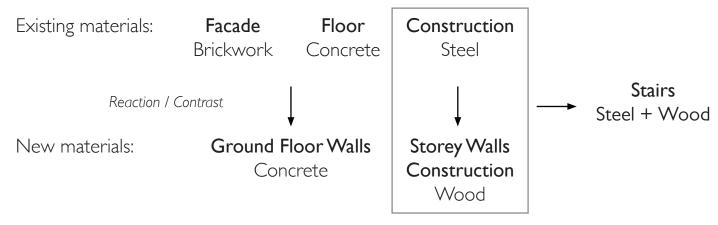


Creating a set of rules to apply on the new volumes



With the new added material I wanted to react on the existing ones. I want to create a contrast. The concrete reacts on the stone like material of the existing walls and floor. As a transistion from the existing to the new, the ground floor spaces will be made out of concrete. This will be the foundation for the new construction for the storey floors. As a contrast to the existing steel structure I choose wood. Wood is an excellent product to use as a structure but also as finishing material. For the rise points, the vertical traffic route I thought to bring one existing and one new material together so therefore I choose steel and wood.

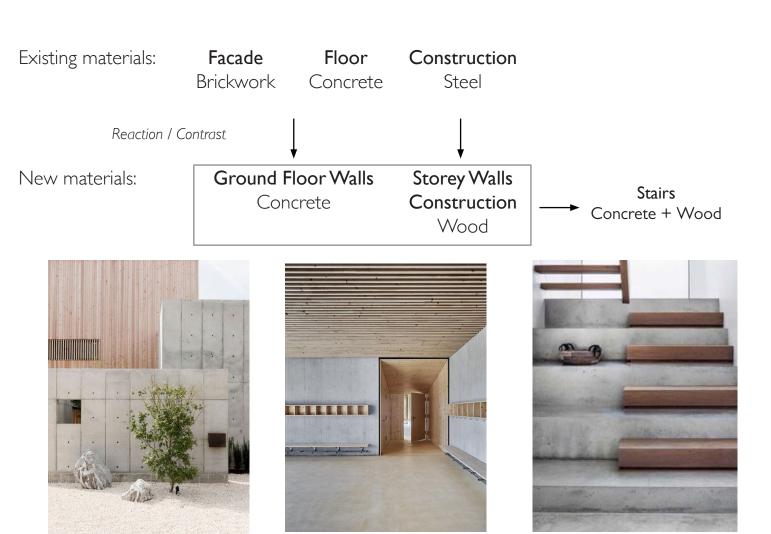
I think these materials work well together from an aesthetic point of view and they create the industrial look that I imagined for my dessign.



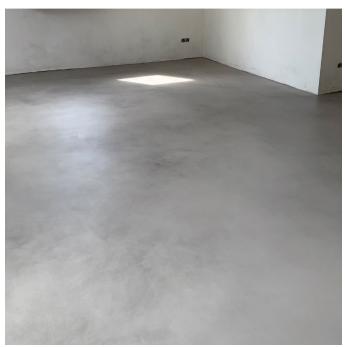


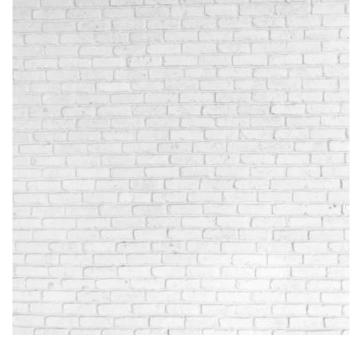




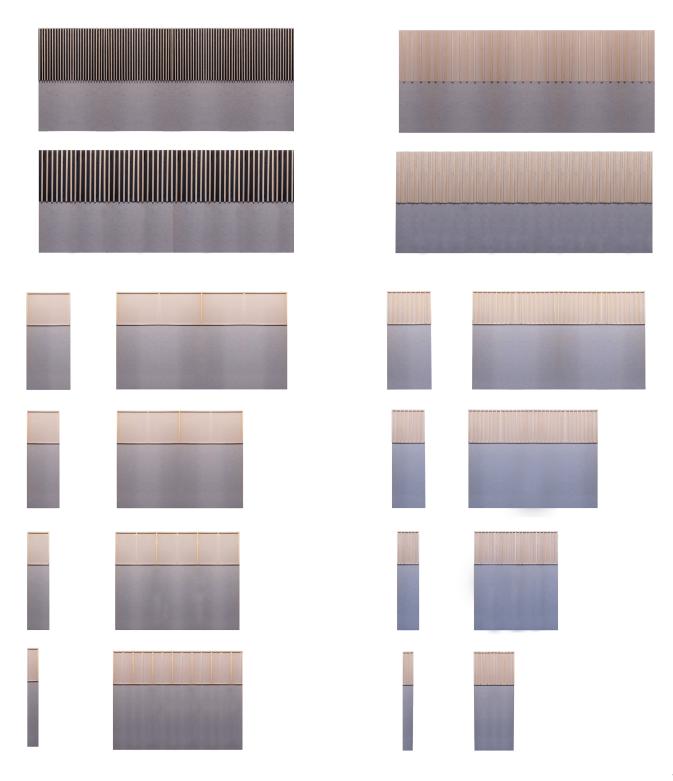


# General space

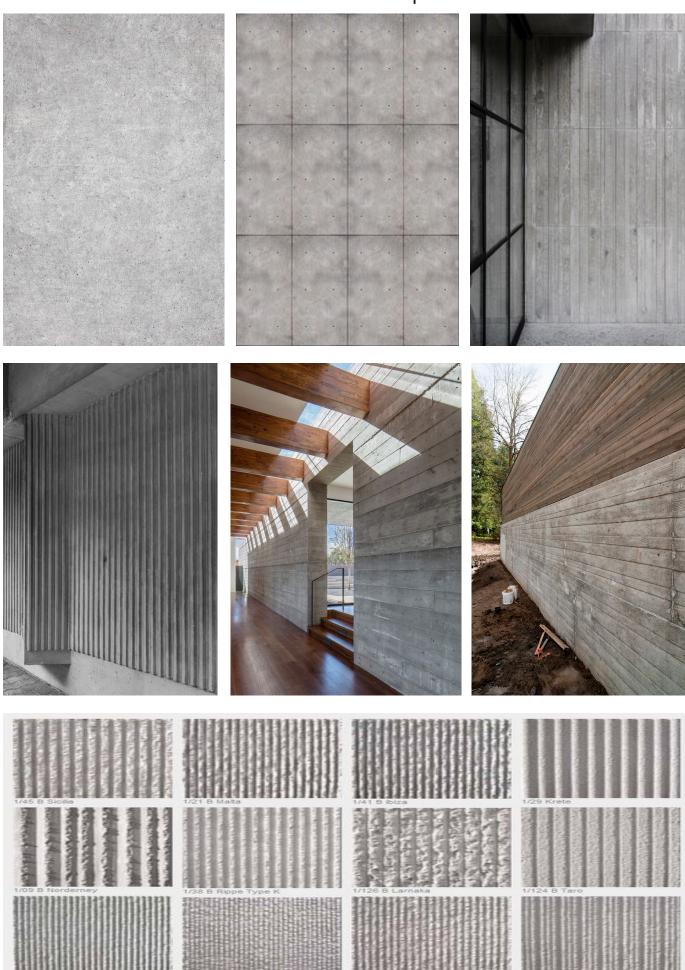




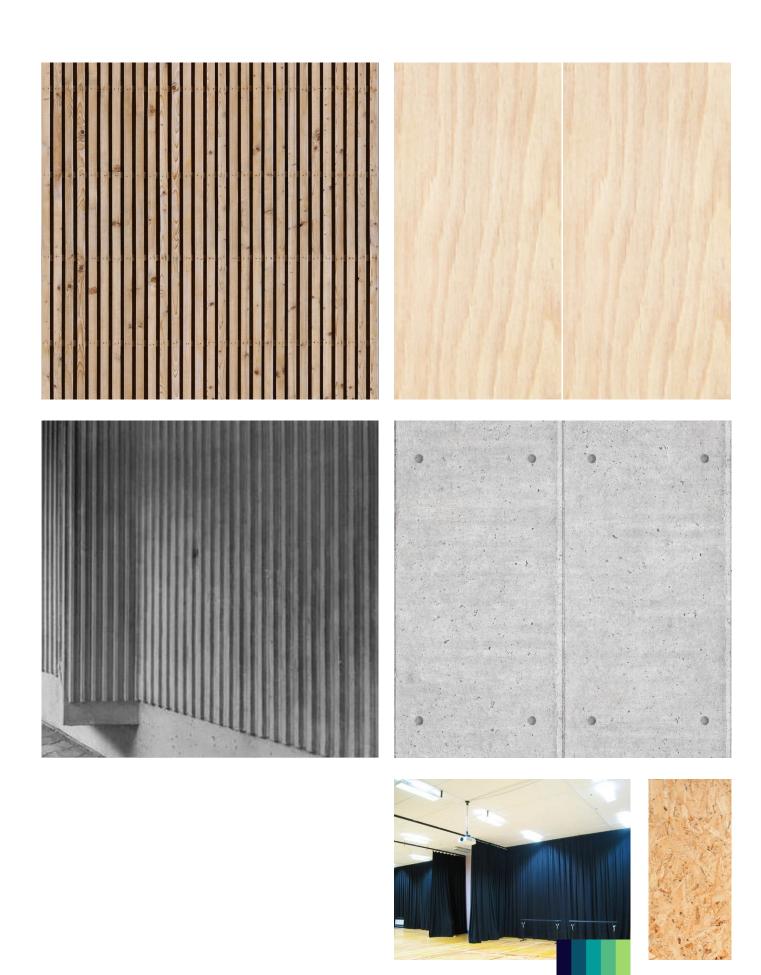
## Wood combinations with concrete



# Concrete textures/techniques



Music Artist



59

# Dance

# Performance



### Music Artist

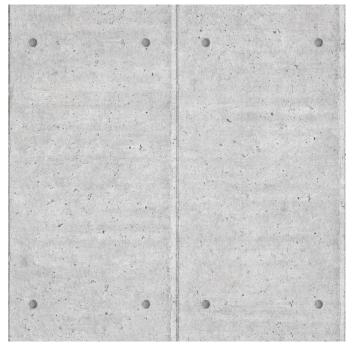


Bamboo planks Ecofriendly bulding material



Plywood & OSB plates
OSB plates: recycled pressed wood flakes







### Dance

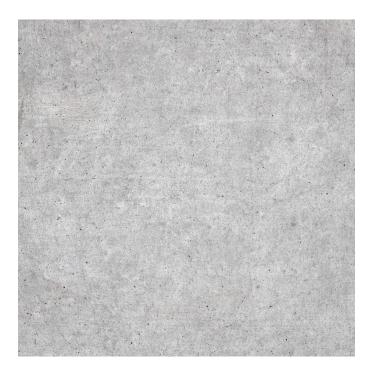
### Performance



Plywood & Wooden beams



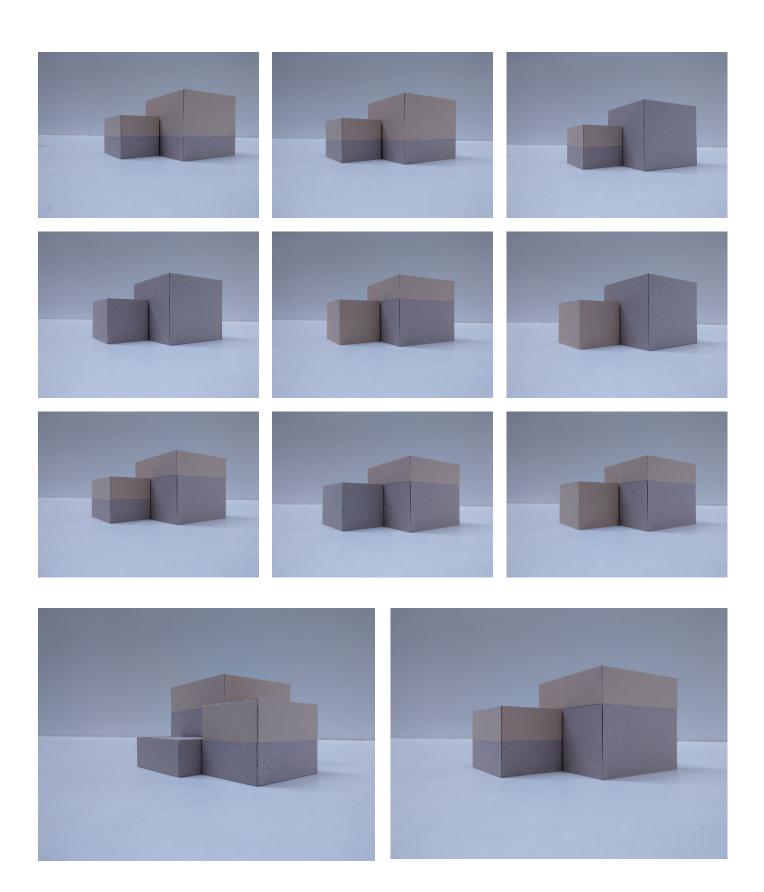
Recycled wooden planks





# Dance - test





### Acoustic Material Solutions



#### Wood-wool Acoustic Panel

In this drift of eco-friendly offices, wood-wool acoustic panels are just perfect. It contains simple elements like wood fiber and cement. It is counted under high performance, cost-effective noise absorbing material and is used widely. These panels not only provide a good sound shielding but it also enhances the look of the interior with its range of available designs. It also reduces echo and reverberation. Along with a good noise reduction, it also provides heat resistance.



#### **Moss Panels**

Well if you are thinking about nature, then this acoustic solution is a must-have. These moss panels are made from Reindeer moss which is hydrophobic (repel water). It has no roots and absorbs moisture and nutrients through the air. It also filters out toxins and is maintenance free. These are very effective at sound absorption, especially in the range of human voice.

It creates a new acoustic paradigm by bringing the outdoor feels inside the office. They can be used in meeting rooms to reduce unwanted sound. Moss walls are very trendy these days for office interior.



#### **Printed Acoustic Panels**

Don't want to compromise on the design aspect. Then, Printed Acoustic Panels is something that is hard to miss. These are basically acoustic boards with the printed surface finish. They are a better alternative to painting, as they also have the added benefit of sound absorption.

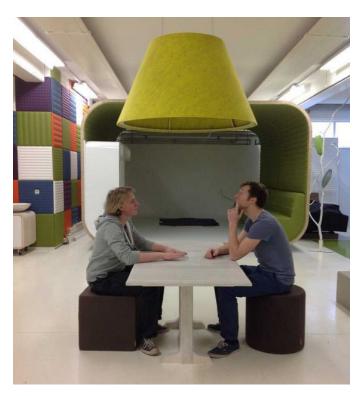
The demand for acoustic materials increasing with time, as the trends in the office interior design have also changed and we are in an era of collaborative workspaces where these solutions improve employee's efficiency by reducing stress and provide a noise-free office environment.

For more of such ideas related to interior designing visit www.ciaogreen.com



### Fabric Acoustic Panels

Want to avoid unwanted sound maintaining the interior look as well? Then these fabric wrapped sound absorbing wall panels are what you should have. The sound falls directly on the fabric and then gets absorbed by the soundproofing material behind the fabric. It gives a designer look to your office and is highly personalized. It is a decorative, durable and delivers premium sound quality.



#### Acoustic Furniture

Every conversation matters and at the same time, it is necessary to have comfortable, appealing interior. After a long thought, the answer found was simple- furniture. Acoustic furniture is designed with the aim to provide privacy and comfort, mostly in open plan offices. These are specifically designed to absorb the noises created within these spaces without affecting the overall sound levels in the office space.



### Ceiling Baffle

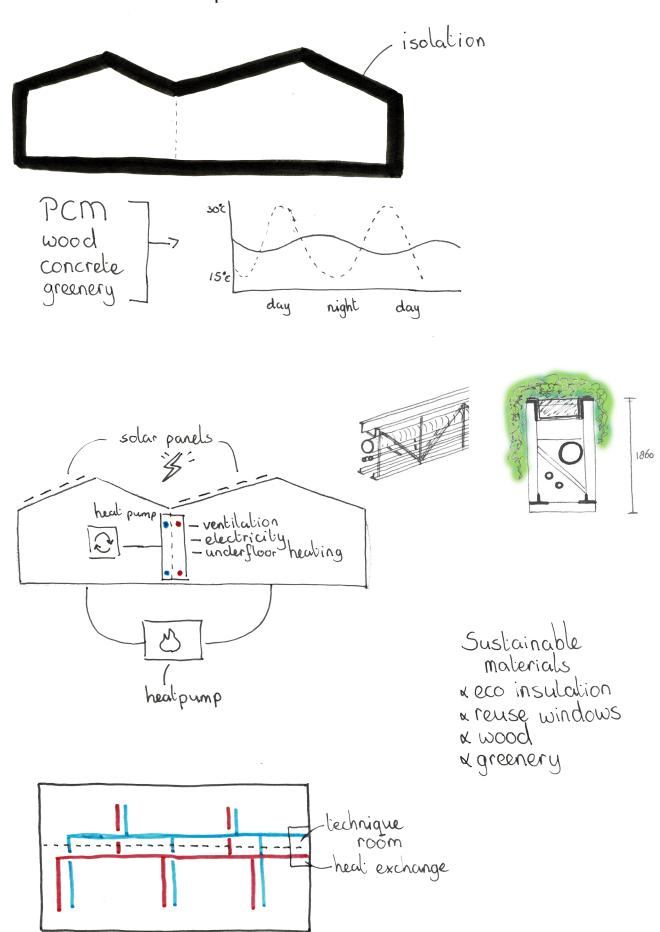
These are acoustic treatments that hang from the ceiling. These are good for large spaces. They reduce reverberation and gives you clarity in conversation. These ceiling baffles are highly recommended in offices. They redirect sound waves in a way that no echo is produced. This provides a brand new look to your office ceiling.



#### Acoustic metal panels

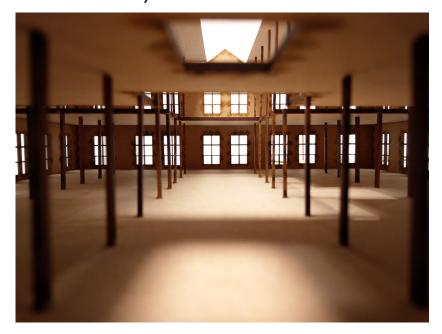
They are either made of perforated metal skins encapsulated in acoustical sound absorbers or are simply made of metal with wooden finish. This combination of metal and absorptive material is particularly useful in locations where durability and aesthetics are needed along with maximum noise absorption.

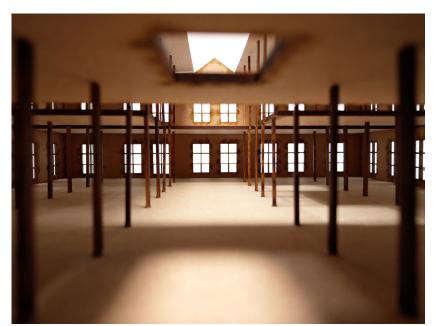
## Climate concept



# DESIGN PROCESS WEAPON DEPOT

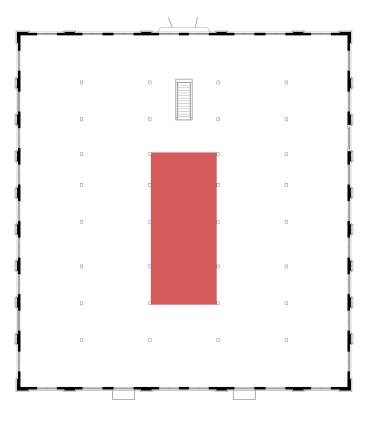
# Mass model study



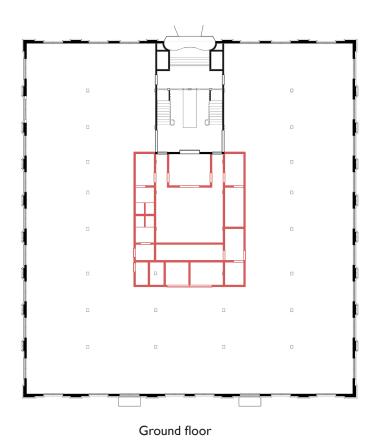




# Demolition drawings Weapon Depot



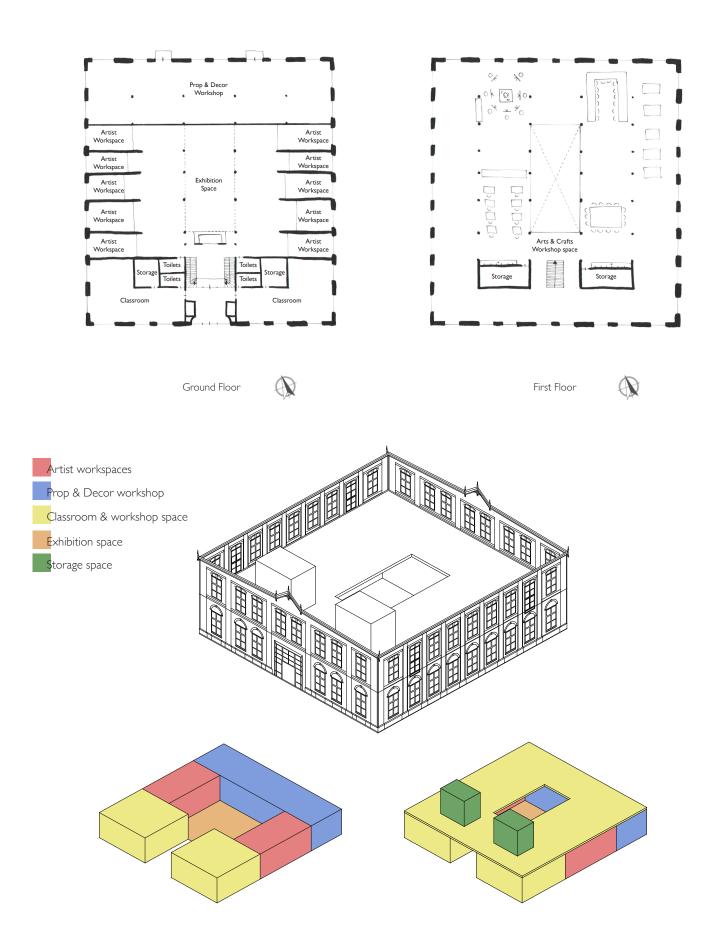
First floor





# Floorplans and function Weapon Depot

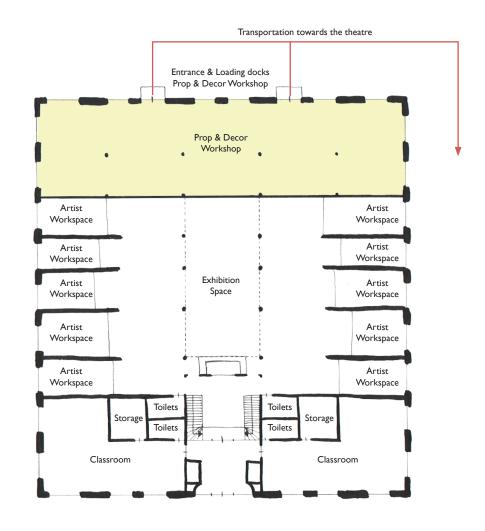
### Weapon Depot



# Decor Workshop





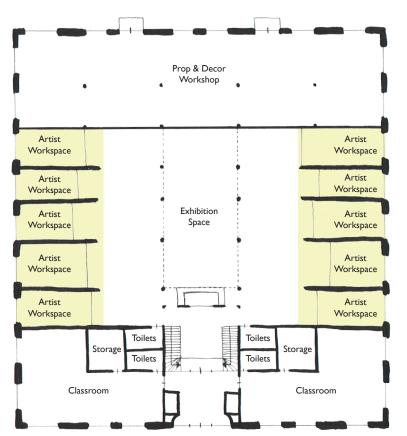




### Artist Workspaces & Exhibition



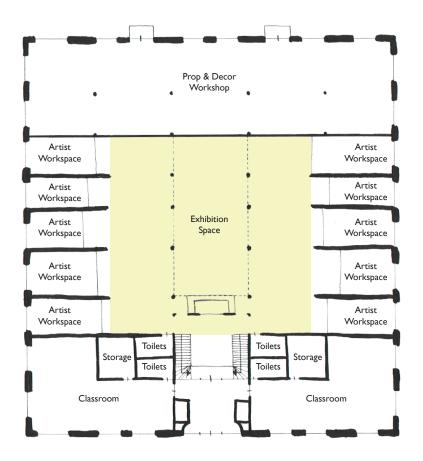
Reference: Fort Mason Center for Arts & Culture / LMS Architects



## Exhibition space







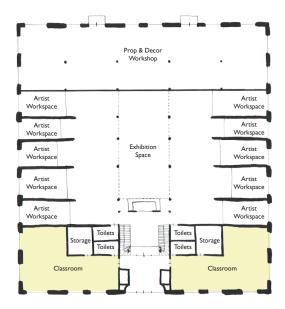


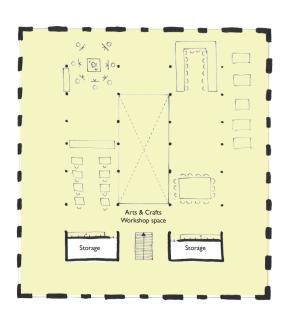
#### Art classrooms







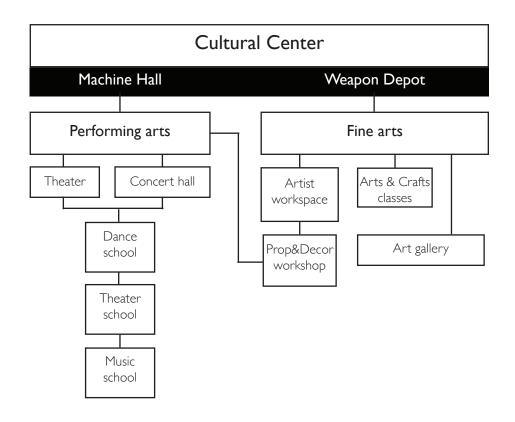


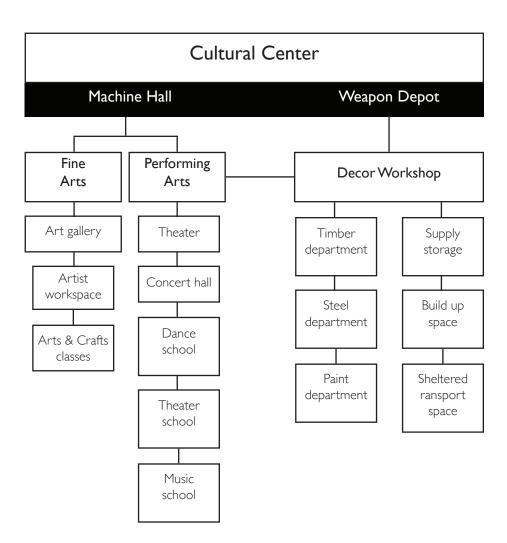




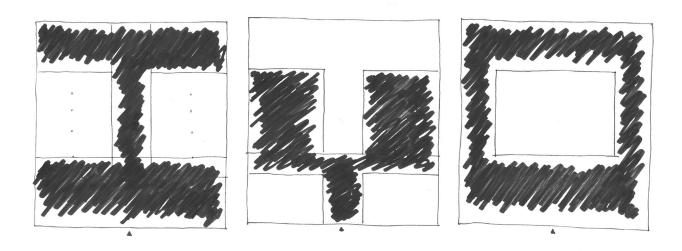


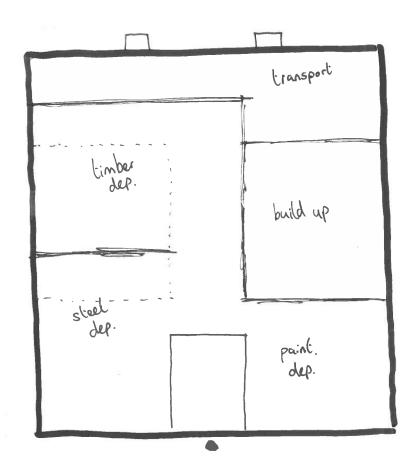
#### Program shift



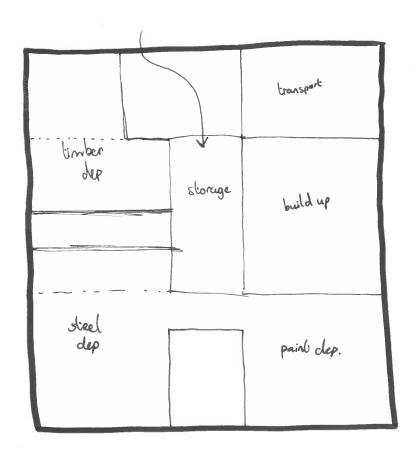


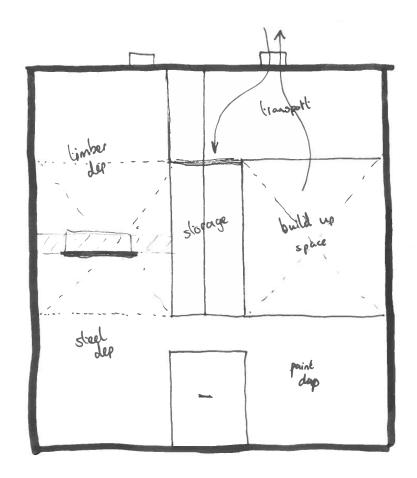
## Floor study



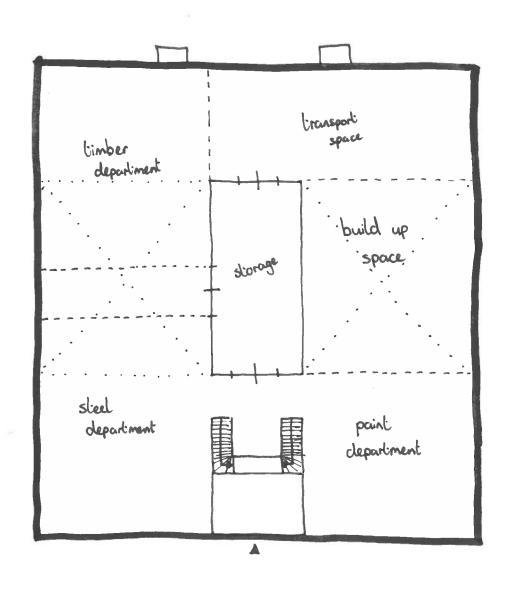


# Floorplan study

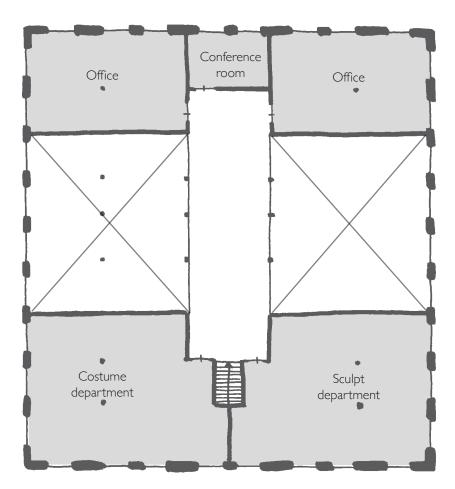




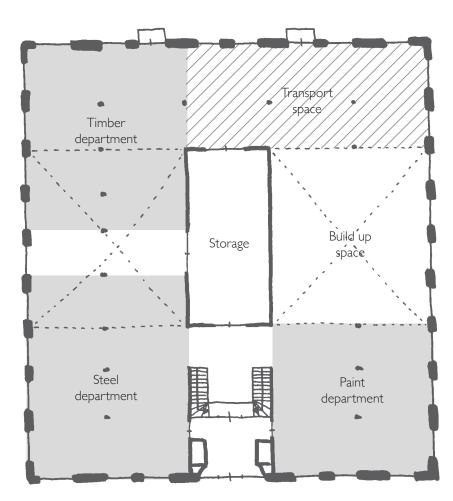
## Floorplan study



## Floorplan sketch

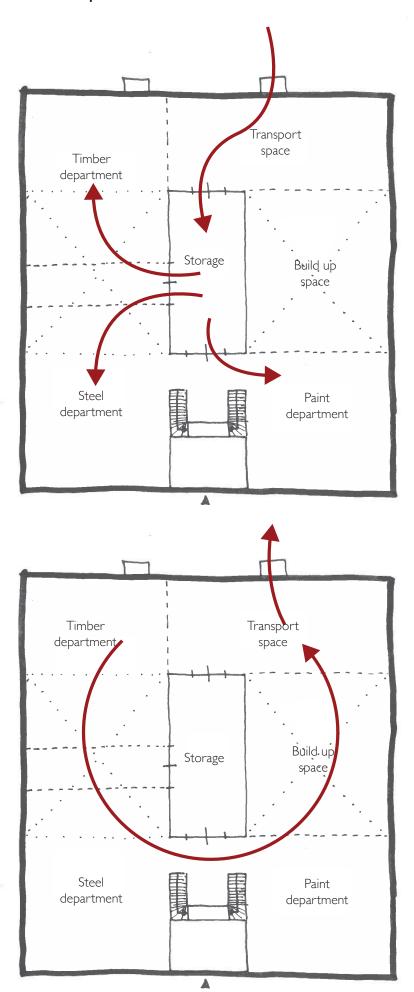


First floor

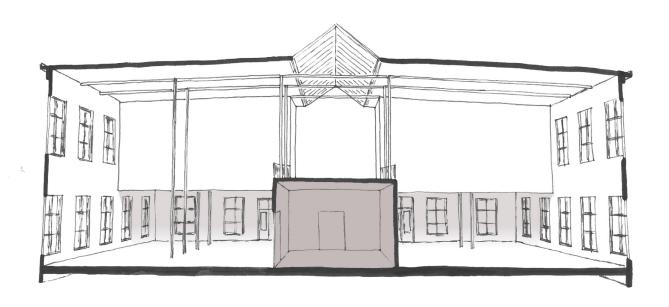




## Logistics floorplan



### Spatial study





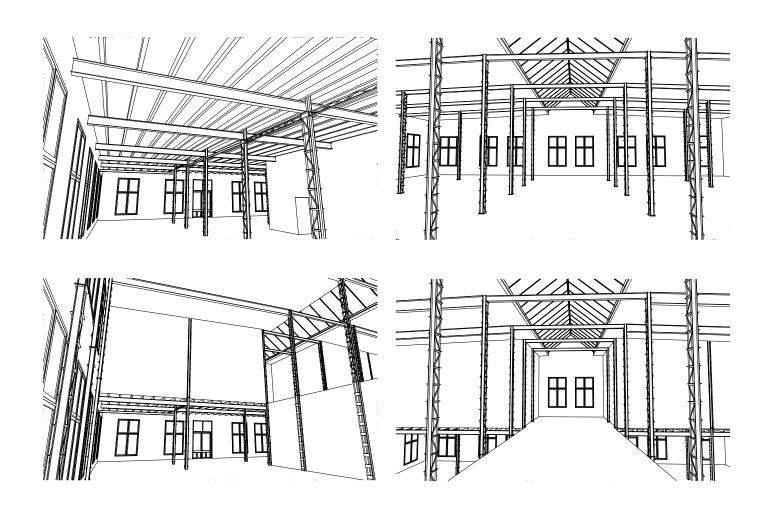


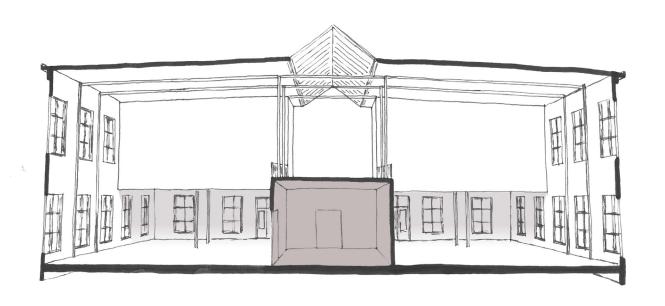






### Spatial study





#### Materials





