BINCKHORST SYMPHONY

Thomas van der Schaft - 4277775

Graduation Report

Public Building - Music Marvel

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A.
Graduation plan

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Thomas van der Schaft
Student number	4277775

Studio		
Name / Theme	Public Building Graduation Studio / Music Marvel	
Main mentor	Stefan Witteman	Architecture
Second mentor	Piero Medici	Building Technology
Argumentation of choice of the studio	How people experience, use and form spaces is a really interesting topic. Therefore, I had started the urban architecture in February. I discovered, however, the scale of the city did not meet my interest as much as buildings. In addition to switching from the realm of cities towards buildings, I find the topic of the studio of a building for music very exciting. As a member of the student music association, my passion lies in making music as well. Combining both the fields of architecture, music and the public interaction may lead to a thrilling graduation project.	

Graduation project	
Title of the graduation project	Binckhorst Symphony
Goal	
Location:	Binckhorst, The Hague
The posed problem,	The given site for the Music Marvel that has to be designed within the graduation studio is within the Binckhorst area on the edge of The Hague's inner city centre. Within the next decade, the Binckhorst area is about to be transformed from an industrial area into a new urban district that aside of its industrial function will provide commerce, housing and public spaces. Together with the physical transformation of the area, the identity of the area is prone to change. The introduction of cultural programming as well as the strengthening of the existing culture has to be a priority within the redevelopment of the Binckhorst area. Music,

	as one of the drivers of culture, has to power to affect the way in which the identity of the district is being shaped. The introduction of a music venue within the area seems to be a golden opportunity to support and shape the cultural shift within the area, as well as a space to express this identity to its surroundings.
research questions and	How can the identity of the Binckhorst area be articulated through the musical and architectural expression of music venue? To reach an answer of this question, the following topics need further research: 1) What is the intented identity of the Binckhorst area? 2) What musical elements can be distinguished within musical composition? 3) How can these musical elements be used within architecture? 4) How can these musical elements be used within the design for the Binckhorst area?
design assignment in which these result.	The final result of the project will be the design of a music venue and its surroundings within the Binckhorst area. Special emphasis will be on the musical expression of the surrounding area through the architecture of the building.

Process

Method description

Site analysis:

To formulate which identity of the Binckhorst area should be expressed through the music venue, additional analysis needs to be done to better understand the identity of the area. Therefore, the site analysis from quarter one. In addition, new developments plans, visions and policies from the municipality of the Hague and project developers will be taken into consideration. From these, the proposed identity of the Binckhorst area will be conceptualised.

Literature review

Through literature review, answers will be found for the following questions as stated before: What elements can be distinguished within a musical composition? In what way do these musical elements relate to elements that can be used within architectural design? These will result in hypothetical design solutions that can be used within the further design project.

Reference projects

In addition to the literature review, reference projects will be taken into consideration. The purpose of this is twofold. Firstly, it can be seen as a test to see whether the conclusions from the literature review can be used in practice. Secondly, the reference projects form an additional library of design solutions that can be used

within the design of the music venue. Emphasis will be on the work of Dudok and Libeskind. Although both were active during different time periods, both combined music and architecture within their designs. The practices of Dudok and Libeskind, however, differ drastically from one another. In addition to these two, design solutions from other projects will be taken into consideration. Together with the results from the literature review, the findings from the reference projects will form a definitive list of solutions that can be used within the further design.

Design research

Using the results from the literature review and reference projects, a design for the music building will be made. Through the design process, the findings of the research will be tested within the context of the Binckhorst area and the parameters that follow from the intended identity.

Planning

Up to P3:

Development of design strategies in combination with research into music and architecuture.
Development technical principles

Up to P4:

Technical elaboration and detailing
Finalisation of design

Up to P5: Finalisation for presentation

Literature and general practical preference

Barnstone, D.A., (2015) Willem Martinus Dudok: the lyrical music of architecture. *The Journal of Architecture, 20(2), 169-192.* DOI: 10.1080/13602365.2015.1025812

Beesen, R. J.,(2016) "Music and Architecture: An Interpresence. *Masters Theses,*. 314. DOI: 10.7275/7977419

Bergeijk, H. van, (1996). *W.M. Dudok; componist van de Architectuur.* Wormer: V+K Publishing/Immerc

Capanna, A., (2009). Music and Architecture: A Cross between Inspiration and Method. *Nexus Network Journal,* 11(2), 257-271

Ghaemi, D., (2020). The link between architecture and music. *Pantheon//*, 25(1), 15–18.

Jencks, C., (2013). Architecture Becomes Music. Retrieved from: https://www.architectural-

review.com/essays/architecture-becomes-music on 04-01-2022

Libeskind, D. (1991) *Daniel Libeskind: Countersign.* London: Academy Editions

Lundy, M., Sutton, D., Ashton, A., Martineau, J., Martineau, J. (2010) *Quadrivium*. Kerkdriel: Librero

P., Petrovski, S., Chatzopoulou, N., Mania, K. (2016). Reciprocal transformations between music and architecture as a real-time supporting mechanism in urban design. *International Journal of Architectural Computing,* 14(4), 1-9.

Trickett, T., (2018). Architecture as Music: A personal journey through time and space. 382-390. DOI: 10.14236/ewic/EVA2018.71.

Walden, D., (2014). Frozen Music: Music and Architecture in Vitruvius' De Architectura. *Greek and Roman Musical Studies. 2*. 124-145. DOI: 10.1163/22129758-12341255.

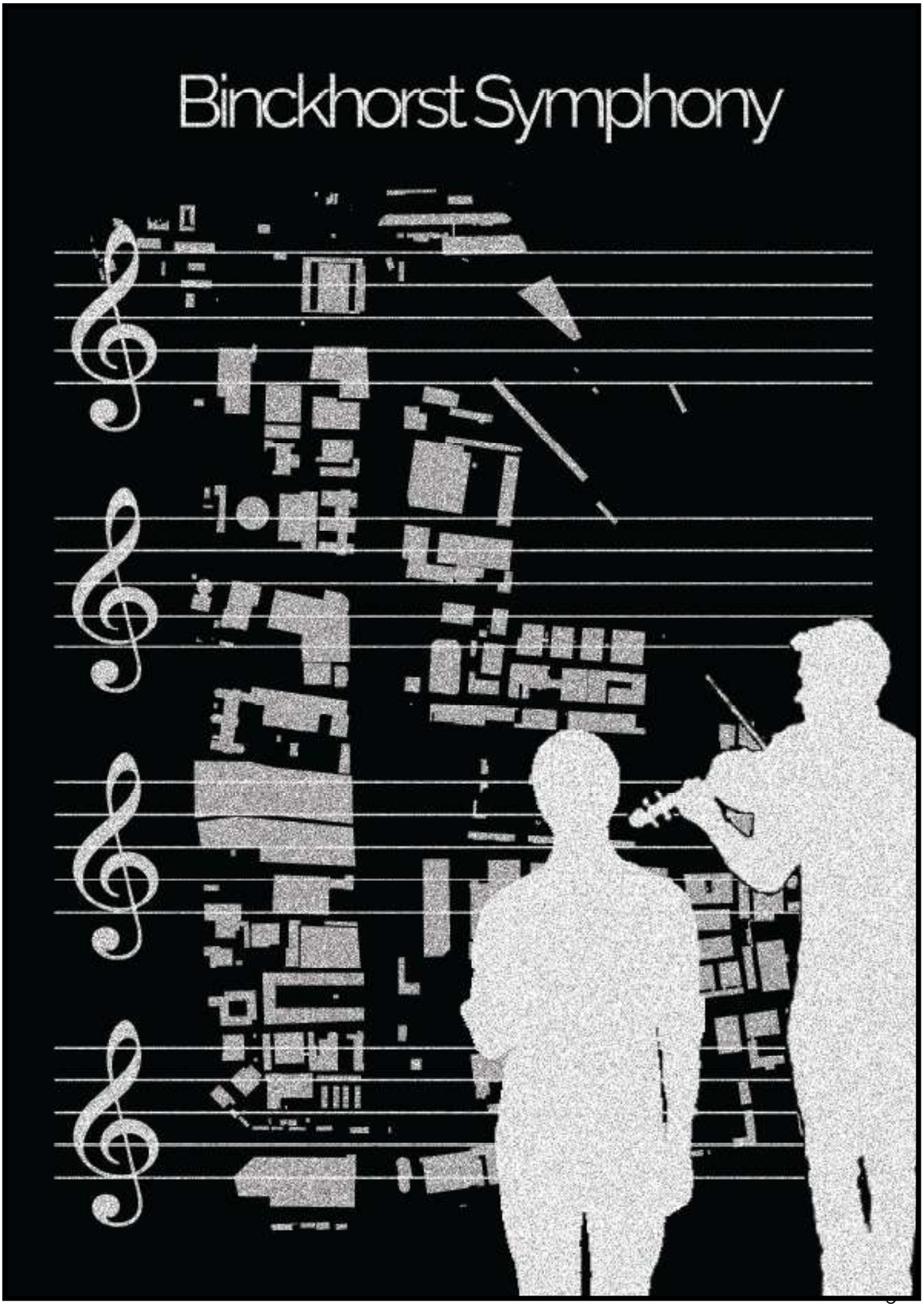
Waterhouse, P., (1921). Music and Architecture. *Music and Letters* II(4):323–31.

Reflection

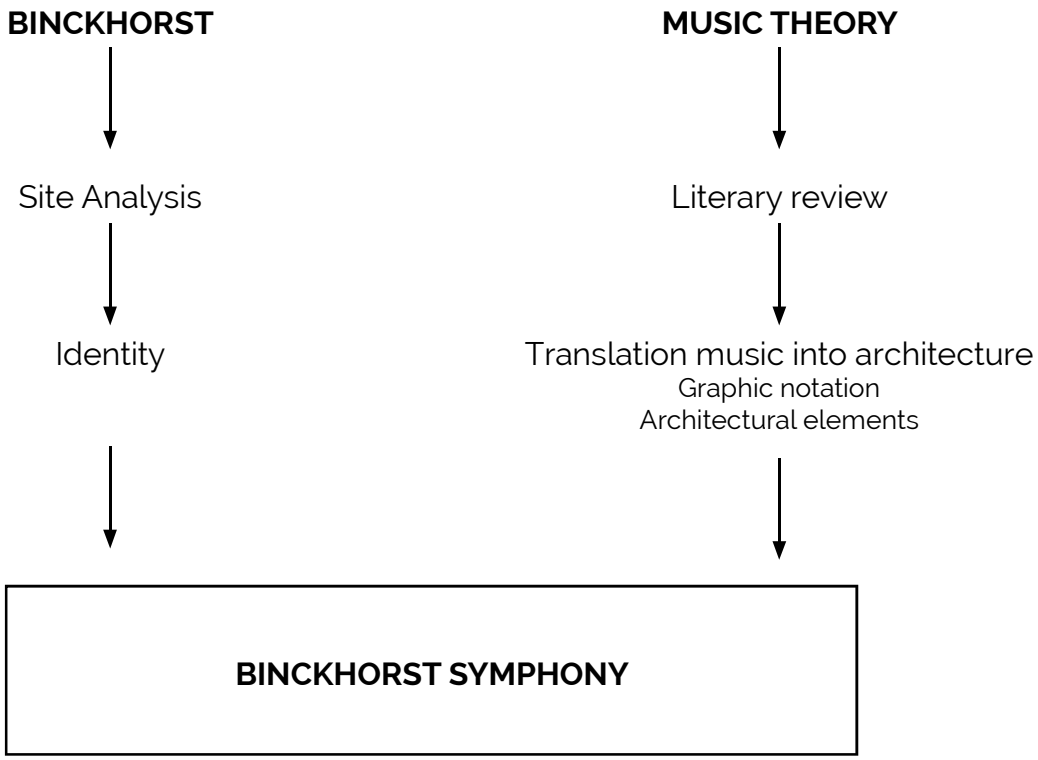
1. The design of a music venue closely fits the studio theme as a form of public building. In addition, the project seeks the connection to the city and makes the city's identity explicit through the design of design of the building.
2. Within the larger discipline of architecture, this project aims to further understanding of the relationship between music and architecture. It is an addition to the broader research field of architecture as a whole, by looking for methods outside of common architectural practices. Through the connection of architecture to music, a new, interdisciplinary language can be created that can be used to find new architectural forms.

B1.
Design manifesto

Binckhorst Symphony



B2.
Theory research


BINCKHORST
MUSIC THEORY
Site Analysis
Literary review
Identity
Translation music into architecture
Graphic notation
Architectural elements
BINCKHORST SYMPHONY

Abstract

Although both architecture and music can be seen as separate forms of art, similarities can be found between them. Music can be seen as the organisation of sounds. Architecture on the other hand mostly deals with the organisation of spaces. Both, however, trigger a deeper understanding and emotional sense within people.
Music can express intangible elements within the area through sound, opposed to more commonly used visual media to which architecture is more related. Architecture, however, is mostly seen as a tactile medium and compromises the tangible elements within built environment. When designing either music or architecture, the results are on the one hand from the illogical chains that are made with liberal associations of the mind, and on the other hand from logic of the deformation of typological order, a deconstruction or a composed theme. A consequence of this is an extreme abstraction and the creation of a concept. But it is what architecture shares with all other forms of artistic expression. (Capanna, 2009)

The given site for the Music Marvel is within the Binckhorst area on the edge of The Hague's inner city centre. Within the next decade, the Binckhorst area is about to be transformed from an industrial area into a new urban district that aside of its industrial function will provide commerce, housing and public spaces. Together with the physical transformation of the area, a cultural shift will occur.
Culture is a vital part within the urban context. It binds people and places together, gives meaning to lives and sites and it has to play a central role within sustainable development (Duxbury, e.a., 2016). Therefore, the introduction of cultural programming as well as the strengthening of the existing culture has to be a priority within the redevelopment of the Binckhorst area. Music, as one of the drivers of culture, has to power to affect the way in which the identity of the district is being shaped. The introduction of a music venue within the area seems to be a golden opportunity to support and shape the cultural shift within the area, as well as a space to express this identity to its surroundings.
The performed music, however, is only heard within the building at specific times. The building itself, however, will remain and has the possibility to express the musical identity within the Binckhorst all the time. The main question of the research can be therefore stated as the following: "Considering the relationship between music and architecture and using principles from both disciplines, how can the Music Marvel become a driver of the identity within the Binckhorst area?"

sona/Empathy Diagram/Map

Sampling and Found Objects

See

Harbor

Industry

Traffic

Nature

* office, (dance) school, architect, club, event venue, restaurant, (wholesale) store, apartment, charging station, cemetery...

Hear

SAMPLE COLLECTION

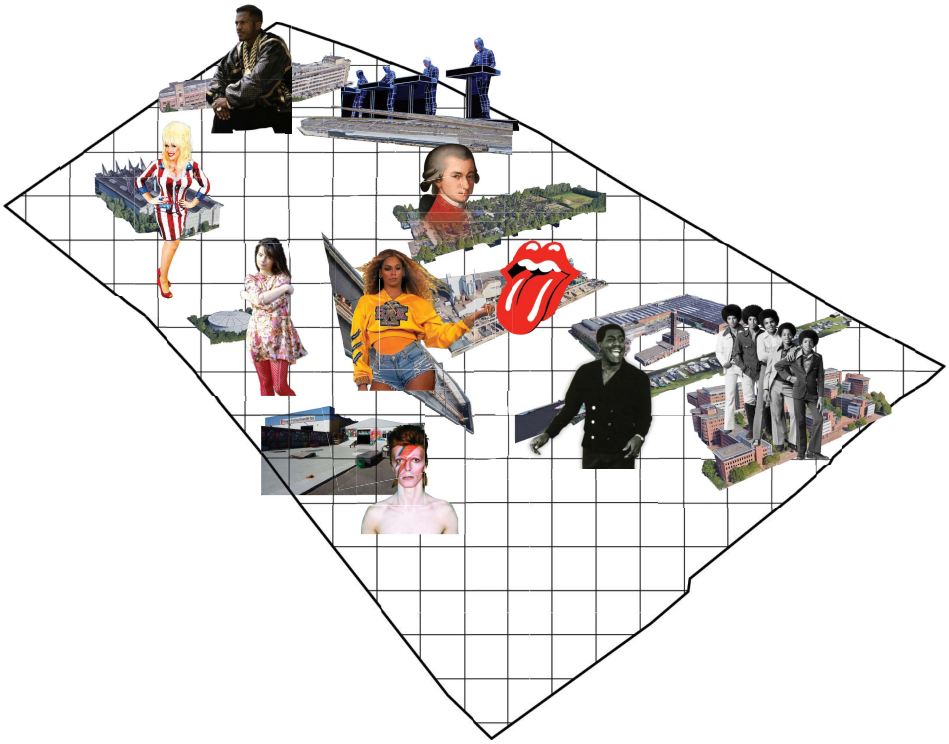
Feel	Think	Do
Lonely Empty Desolate Loud Energetic	Recreation Work Industry Tourism Emptiness	Walk Swim Observe Listen Smell Drink
Messy Complicated Noisy Desolate	Transformation Trash Large Scale Infrastructure Dynamic Machine	Listen Observe Plan Drink Smoke
Loud Strange Hasty Barbaric Dirty	Opportunity Grotesque Connection	Observe Chat Drive Bike Run
Calm Overgrown Rebellious Stubborn Savage	Insufficient Quiet Animals	Cycle Explore Yawn Sit Smell Meditate

Scenario

	I like	I wonder	I wish	What if?
	Port related heritage connection to water	Is the water a connection or barrier?	Better connection across the water	The entire waterside becomes public space?
	Components of a machine Small lives of the vacant lot	How industrial heritage can be re-used?	Different activities (industry, commerce, residential) can coexist within the area.	Industrial facilities can also be used as an event venue?
	Getting into the city center as fast as possible	If I want to take the bicycle or the car	The neighborhood was not as car oriented as it is right now	The area was more pedestrian oriented
	That nature is fighting against the industrialization of the Binckhorst	if adding plants will help soften the industrial noise	For more public space to allow nature to blossom	Nature was also used as a sound insulator?

WHAT IF?

THE BINCKHORST WAS A MUSICAL FESTIVAL



NOTATIONAL SYSTEM

INDEX MODELS

SOUND SAMPLE MONTAGE

c.
Design Brief

BACKSTAGE
150 m²

STAGE
300 m²

MAIN HALL
1000 m²

BAR / FOYER
300 m²

TICKET OFFICE
50 m²

CLOAKROOM
50 m²

TOILETS
200 m²

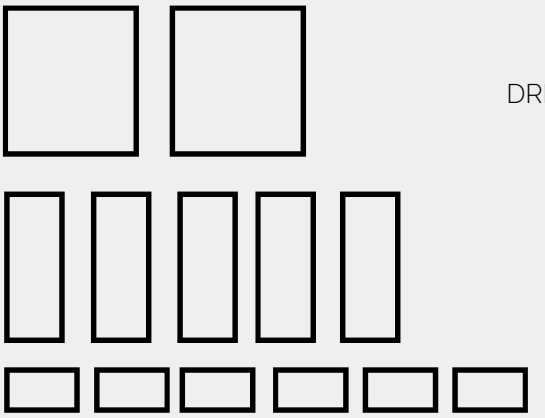
CAFE
300 m²

REHEARSAL ROOM
300 m²

REHEARSAL ROOM
100 m²

REHEARSAL ROOM
300 m²

REHEARSAL ROOM
100 m²



DRESSING ROOMS

2 x 90 m²

5 x 40 m²

6 x 15 m²

OFFICES
200 m²

FIRST AID
30 m²

BICYCLE PARKING
500 m²

LOADING AREA
150 m²

STORAGE
50 m²

TECHNICAL SPACES
1200 m²

Building Programme & Area

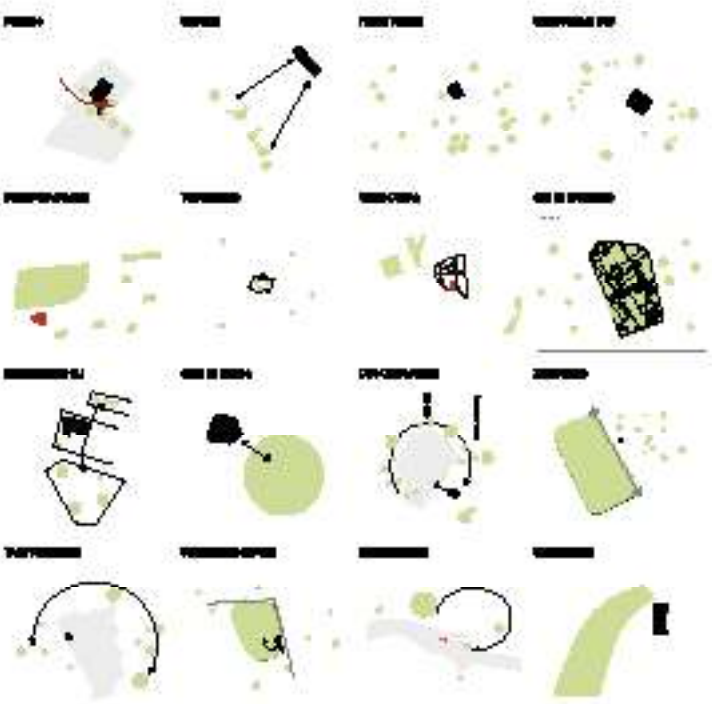
Venue			
Audience (seated)		1000	
GFA		12000	m2
Concert Spaces			
Main Hall		1000	m2
Stage		300	m2
Back stage		150	m2
Stage director's room		x	
Audience access			
Bar		300	m2
Entrance / Foyers		x	
Ticket office		x	
Wardrobe		50	m2
Toilets		8m + 12f	
Dedicated access			
Artist entrance		x	
Artist foyer		x	
Practice rooms			
- Large		2 x 300	m2
- Small		2 x 100	m2
Dressing Rooms			
Small	1p	6x 15	m2
Medium	6-8p	5x 40	m2
Large	25p	2x 90	m2
Office space		200	m2
First aid room		30	m2
Support			
Loading area		1 truck	
Bicycle parking	400b	500	m2
Storage		50	m2
Technical spaces		10% of total	
Additional			
Cafe		300	m2

D.
Research journal

D1.
Research book

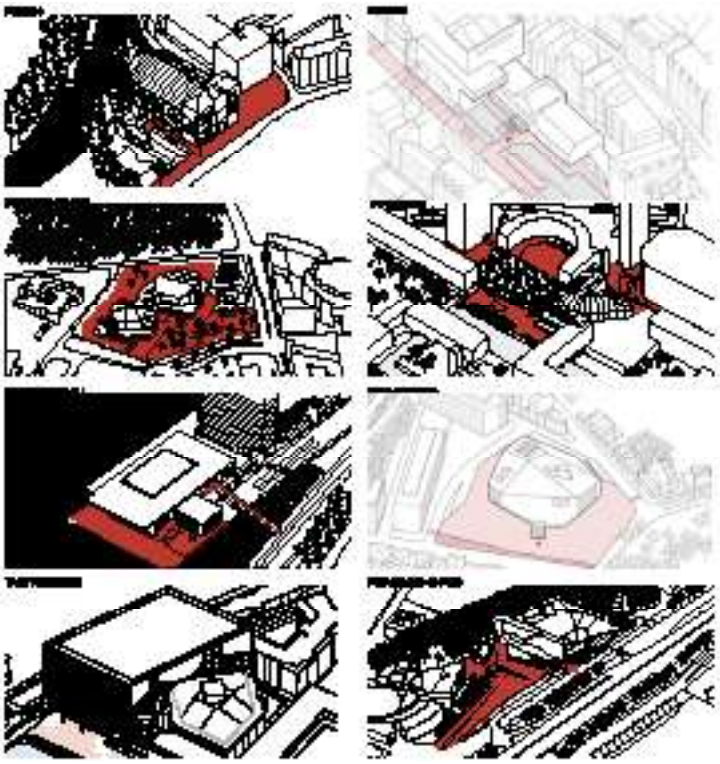
Case studies

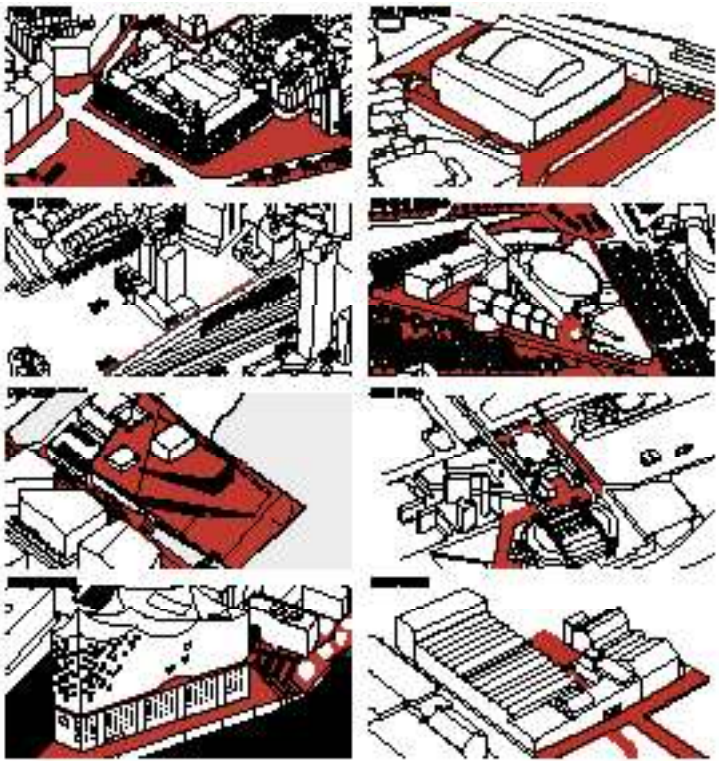
Green



Water

Form





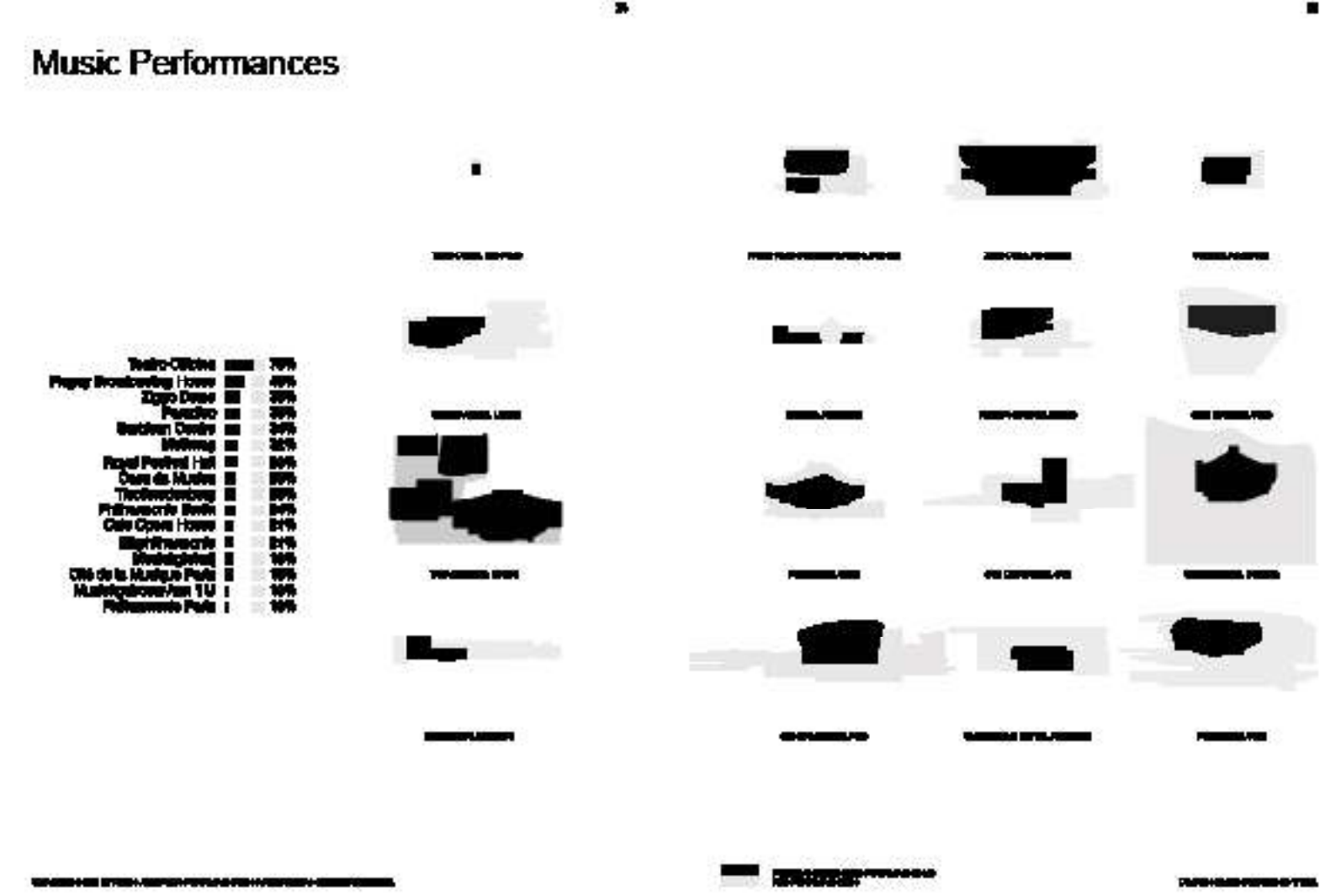
City

Green
Most music venues are connected to green and / or a qualitative public space. If there is enough green space in the close proximity and if that green space is of high quality, most venues have quite a clear relation with it (such as walkways and sightlines through the Parc de la Villette with the Cité de la Musique).

Water
Buildings that are located next to larger bodies of water seem to be more monumental in architecture than venues which are not. This is especially visible in the Oslo Opera House, the Elbphilharmonie and Muziekgebouw aan 't IJ.

Form
The public spaces in front of the music venues seem to be of great importance, both for crowd control (for example in the case of the Ziggo Dome) and for creating an icon (referring to the Casa da Musica). Because of the importance, most public spaces are surrounding the entire building. The Oslo Opera House and the Barbican take this one step further by having the possibility to walk on top of the buildings. Muziekgebouw aan 't IJ creates a public route through the building.

Music Performances



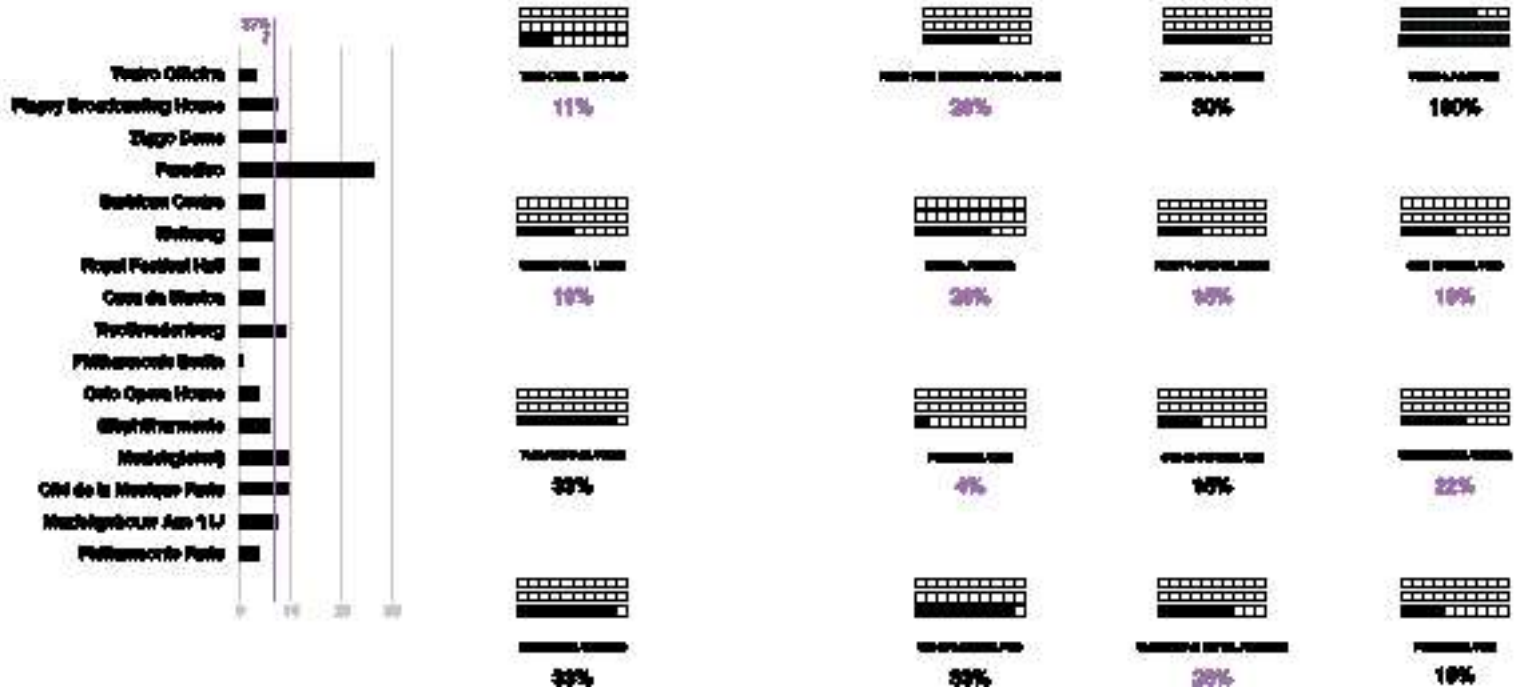
Music Circulation

Connection

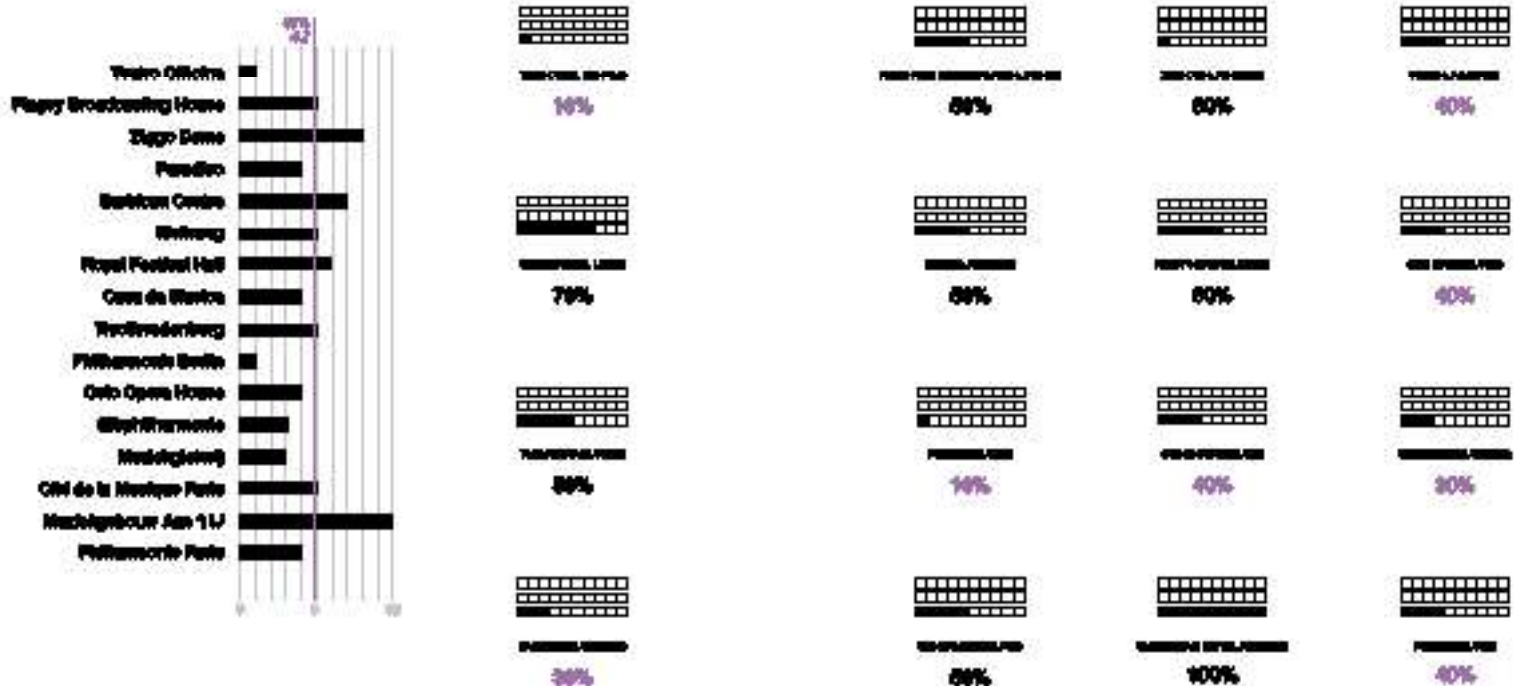
Situation of the music hall
Most of the symphonic halls have the main hall located in the core of the building. This creates an acoustic bufferzone to insulate the sound. In addition, it leaves the possibility to create transparent facades within interfering with the main hall.

Circulation
Circulation mostly takes place around the hall, providing access from multiple sides. While some music venues provide a direct routing from the outside towards the hall, others allow a more scenic route through the buildling.

Diversity by Genre



Diversity by Functions



Culture

Diversity by genre
Most venues offer a selection of musical genres. While some are specialised in few musical genres - mostly the symphonic halls - others offer a broader range.

Diversity by funcion
While built to host concerts, many halls are also used for other events, like theatrical shows, lectures, parties and more. Especially Muziekgebouw aan 't IJ has been built as flexible as possible in order to make it suited for a very diverse selection of events.

Site

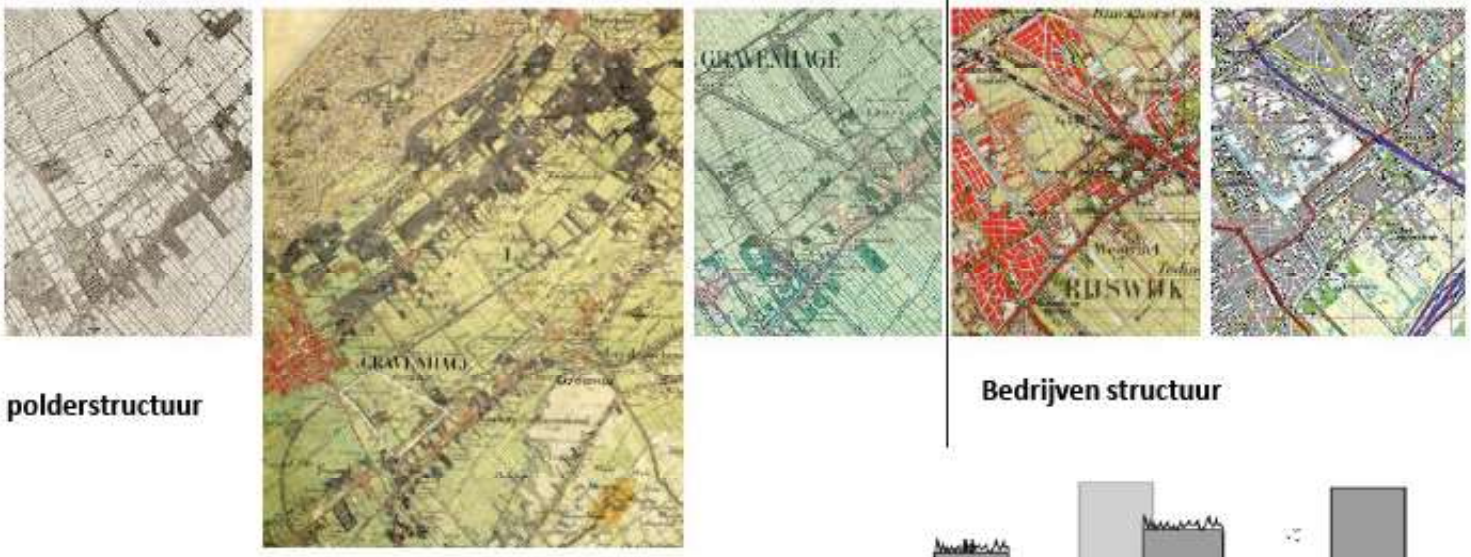
Binckhorst & the role of water

2 september 2021

Binckhorst Environmental

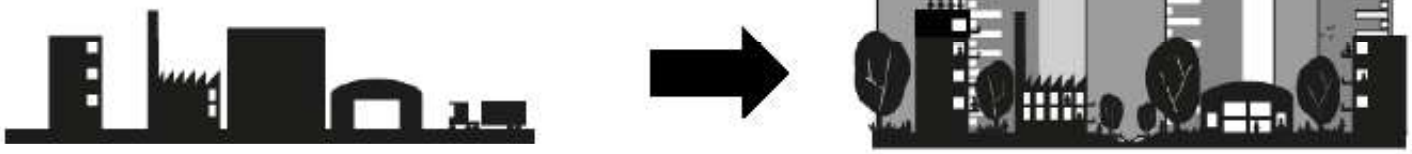
Transformation of the Binckhorst

1711 1850 1900 1940 2000



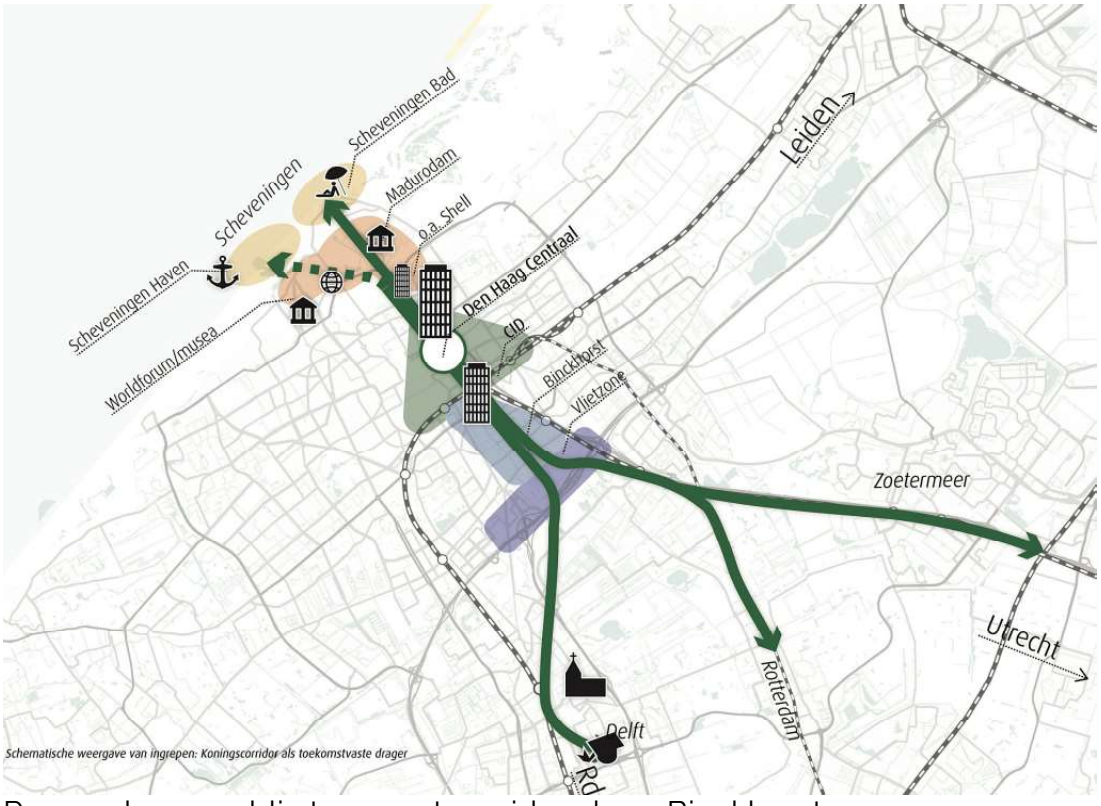
polderstructuur

Bedrijven structuur



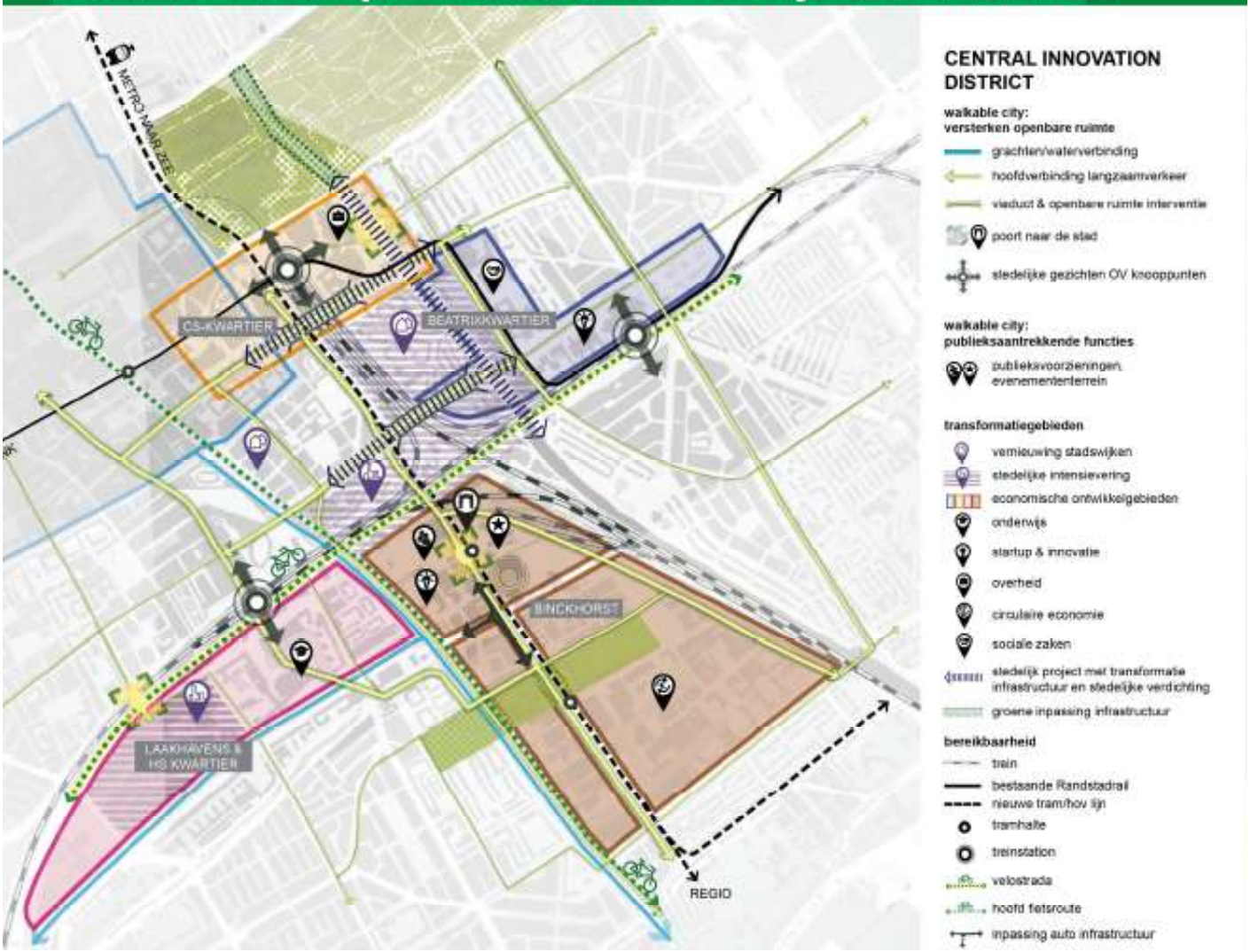
bedrijventerrein 2000

hoogstedelijk, klimaat en menselijke maat 2030

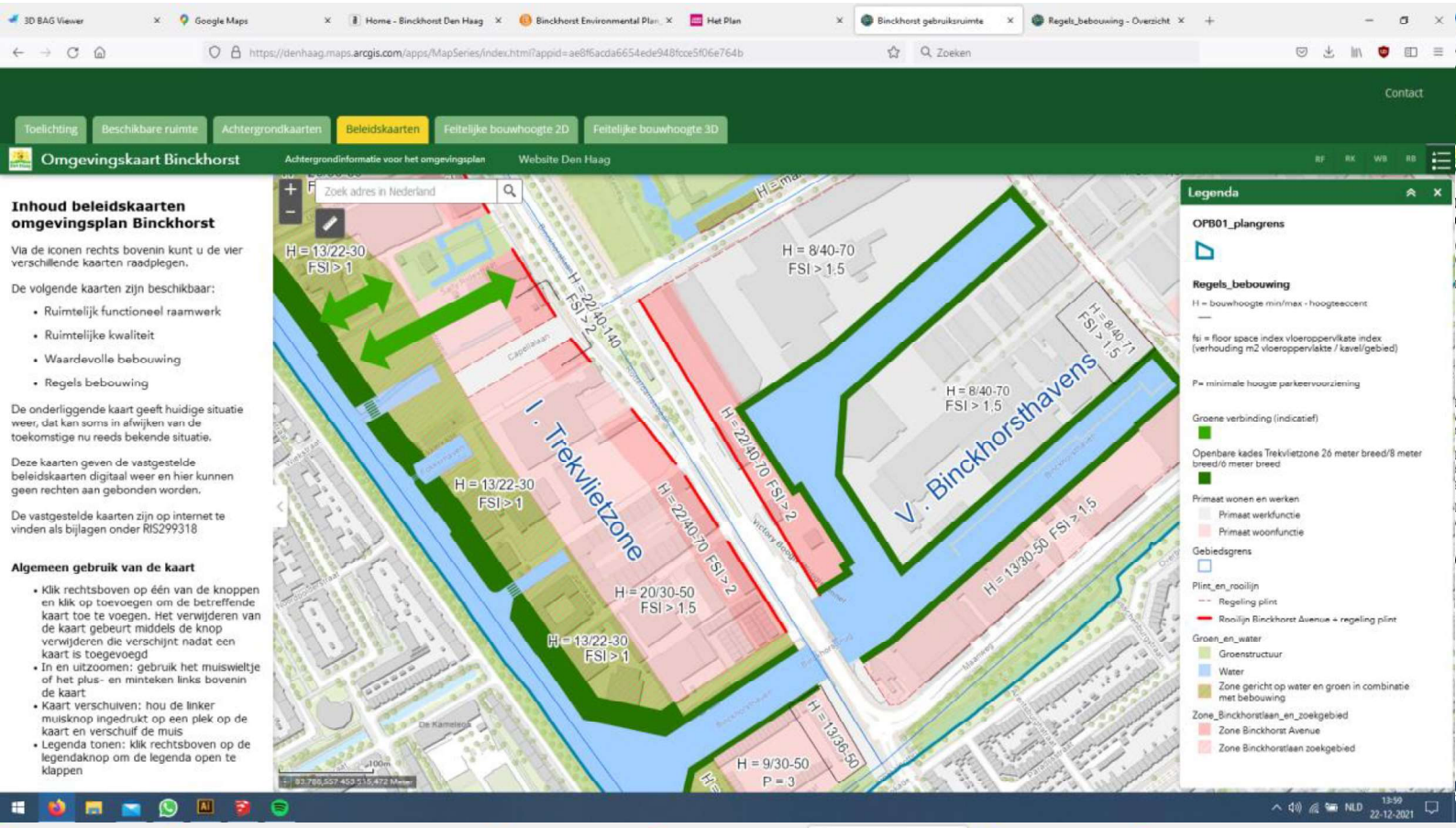


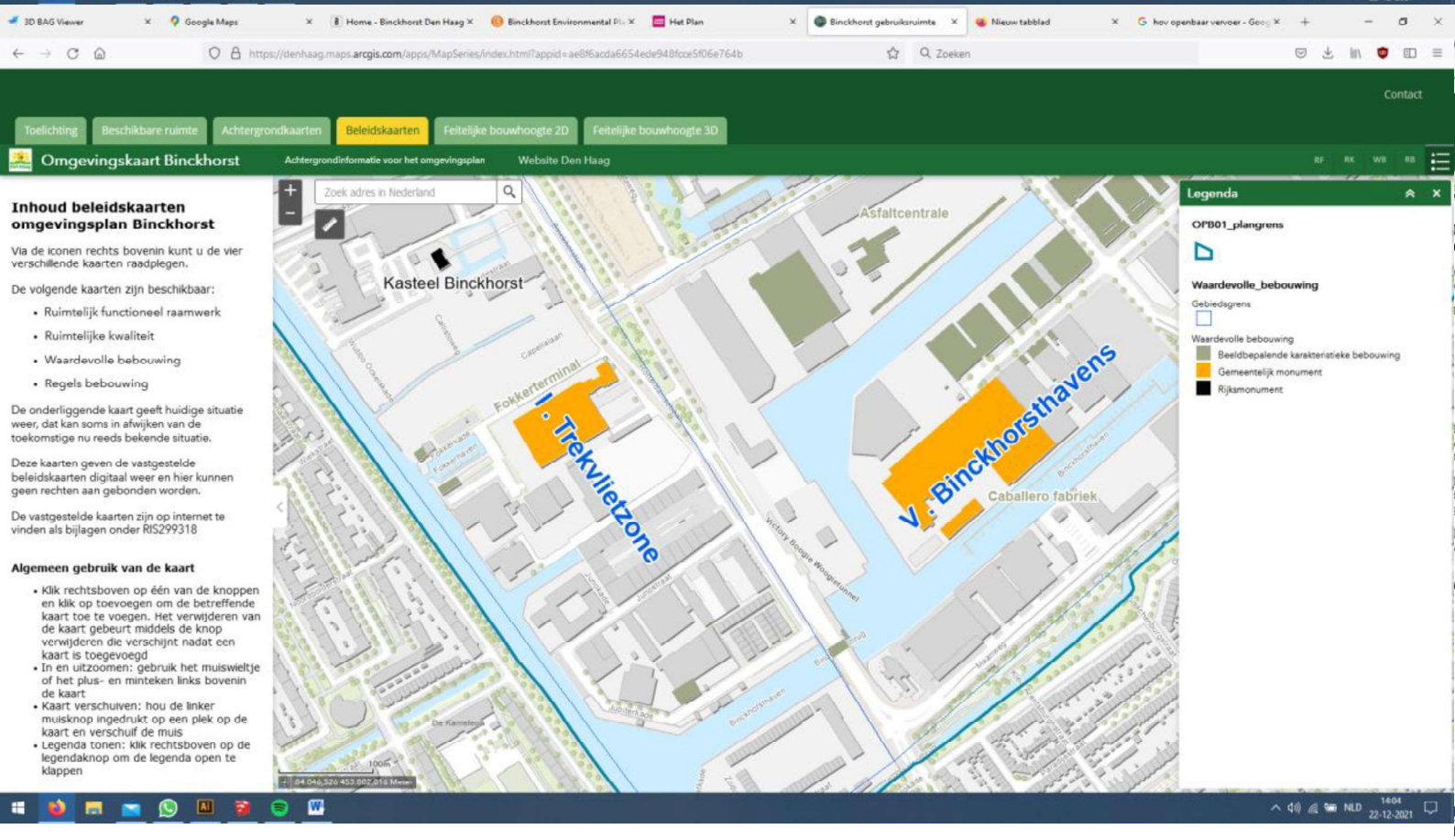
Proposal new public transport corridor along Binckhorst

Binckhorst as part of CID, inner city densification



Policy Maps


Contact
Toelichting
Beschikbare ruimte
Achtergrondkaarten
Beleidskaarten
Feitelijke bouwhoogte 2D
Feitelijke bouwhoogte 3D
Omgevingskaart Binckhorst
Achtergrondinformatie voor het omgevingsplan
Website Den Haag
Inhoud beleidskaarten omgevingsplan Binckhorst
Via de iconen rechts bovenin kunt u de vier verschillende kaarten raadplegen.
De volgende kaarten zijn beschikbaar:
Ruimtelijk functioneel raamwerk
Ruimtelijke kwaliteit
Waardevolle bebouwing
Regels bebouwing
De onderliggende kaart geeft huidige situatie weer, dat kan soms in afwijken van de toekomstige nu reeds bekende situatie.
Deze kaarten geven de vastgestelde beleidskaarten digitaal weer en hier kunnen geen rechten aan gebonden worden.
De vastgestelde kaarten zijn op internet te vinden als bijlagen onder RIS299318
Algemeen gebruik van de kaart
Klik rechtsboven op één van de knoppen en klik op toevoegen om de betreffende kaart toe te voegen. Het verwijderen van de kaart gebeurt middels de knop verwijderen die verschijnt nadat een kaart is toegevoegd
In en uitzoomen: gebruik het muiswieltje of het plus- en minteken links bovenin de kaart
Kaart verschuiven: hou de linker muisknop ingedrukt op een plek op de kaart en verschuif de muis
Legenda tonen: klik rechtsboven op de legendaknop om de legenda open te klappen
Zoek adres in Nederland
H = 13/22-30 FSI > 1
H = 8/40-70 FSI > 1.5
I - Trekvlietzone
V - Binckhorsthavens
H = 20/30-50 FSI > 1.5
H = 9/30-50 P = 3
Legenda
OPB01_plangrens
Regels_bebouwing
Groene verbinding (indicatief)
Openbare kades Trekvlietzone 26 meter breed/8 meter breed/6 meter breed
Primaat wonen en werken
Primaat werkfunctie
Primaat woonfunctie
Gebiedsgrens
Groen_en_water
Groenstructuur
Water
Zone_Binckhorstlaan_en_zoekgebied
Zone Binckhorst Avenue
Zone Binckhorstlaan zoekgebied


Contact
Toelichting
Beschikbare ruimte
Achtergrondkaarten
Beleidskaarten
Feitelijke bouwhoogte 2D
Feitelijke bouwhoogte 3D
Omgevingskaart Binckhorst
Achtergrondinformatie voor het omgevingsplan
Website Den Haag
Inhoud beleidskaarten omgevingsplan Binckhorst
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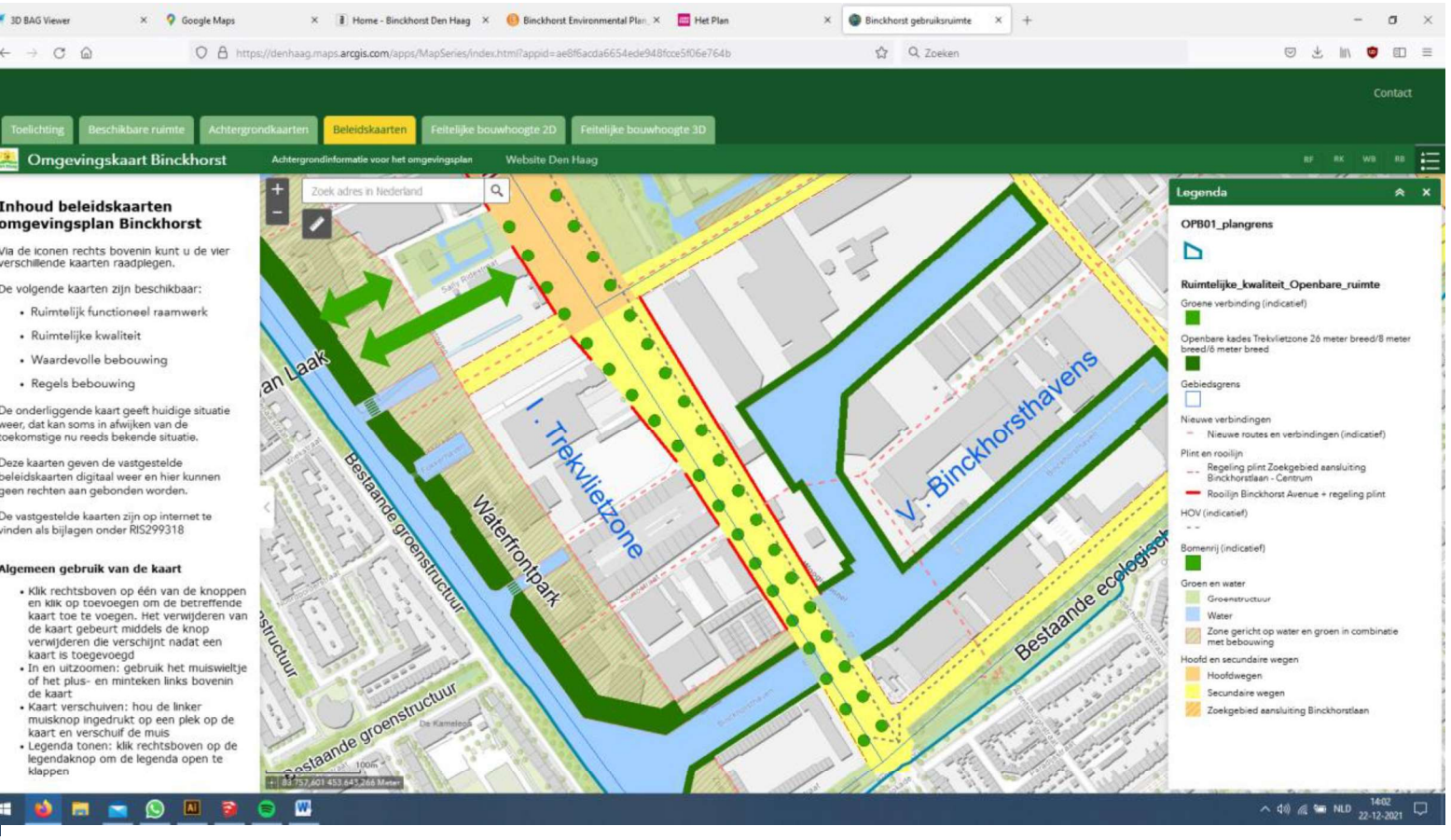
Legenda tonen: klik rechtsboven op de legendaknop om de legenda open te klappen
Zoek adres in Nederland
Kasteel Binckhorst
Asfaltcentrale
Fokkerterminal
I - Trekvlietzone
V - Binckhorsthavens
Caballero fabriek
Legenda
OPB01_plangrens
Waardevolle_bebouwing
Gebiedsgrens
Waardevolle bebouwing
Beeldbepalende karakteristieke bebouwing
Gemeentelijk monument
Rijksmonument


Contact
Toelichting
Beschikbare ruimte
Achtergrondkaarten
Beleidskaarten
Feitelijke bouwhoogte 2D
Feitelijke bouwhoogte 3D
Omgevingskaart Binckhorst
Achtergrondinformatie voor het omgevingsplan
Website Den Haag
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Waardevolle bebouwing
Regels bebouwing
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De vastgestelde kaarten zijn op internet te vinden als bijlagen onder RIS299318
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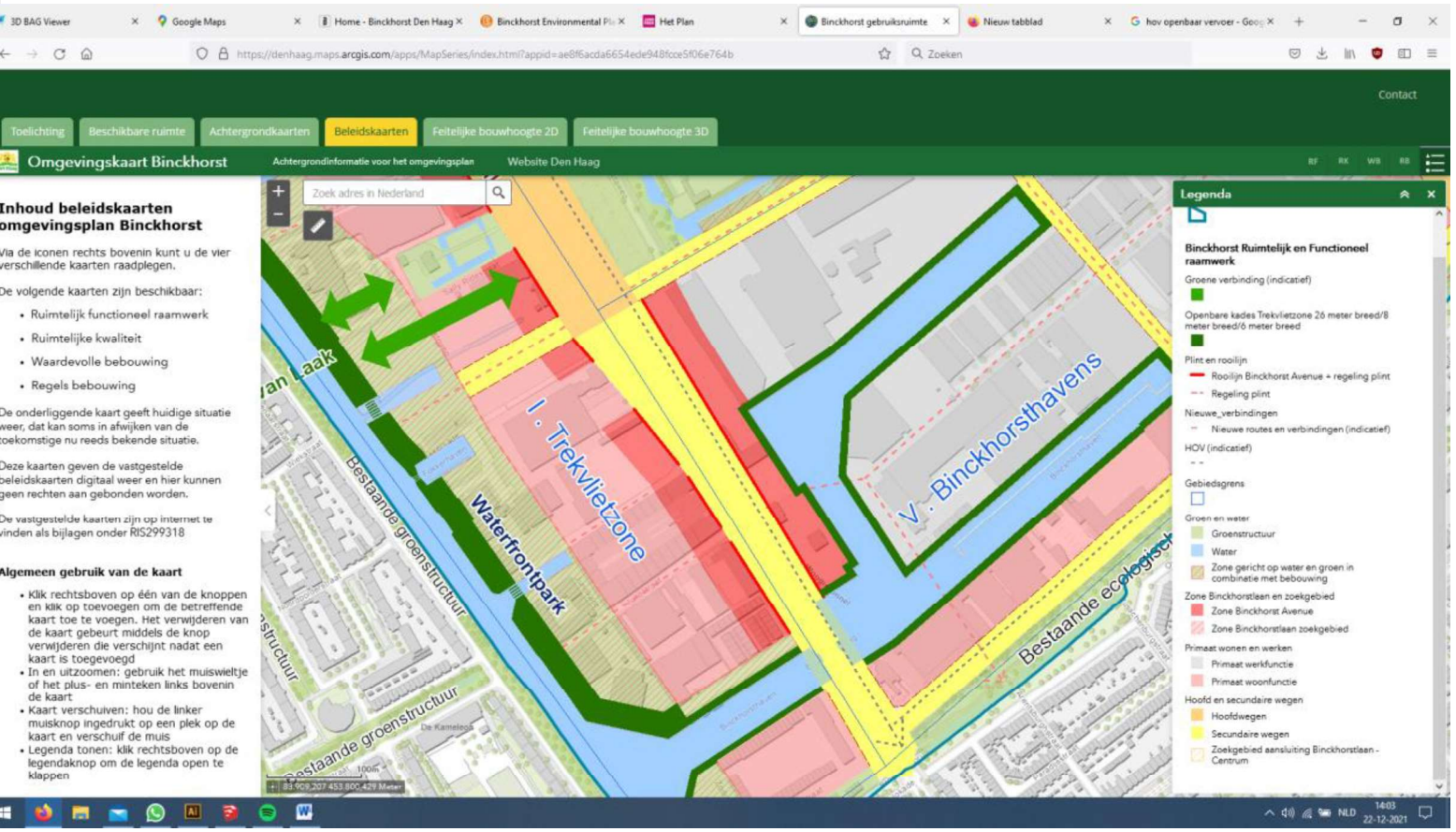
Klik rechtsboven op één van de knoppen en klik op toevoegen om de betreffende kaart toe te voegen. Het verwijderen van de kaart gebeurt middels de knop verwijderen die verschijnt nadat een kaart is toegevoegd
In en uitzoomen: gebruik het muiswieltje of het plus- en minteken links bovenin de kaart
Kaart verschuiven: hou de linker muisknop ingedrukt op een plek op de kaart en verschuif de muis
Legenda tonen: klik rechtsboven op de legendaknop om de legenda open te klappen
Zoek adres in Nederland
I. Trekvlietzone
Waterfrontpark
V. Binckhorsthavens
Bestaande groenstructuur
Bestaande ecologisch
Legenda
OPB01_plangrens
Ruimtelijke_kwaliteit_Openbare_ruimte
Groene verbinding (indicatief)
Openbare kades Trekvlietzone 26 meter breed/8 meter breed/6 meter breed
Gebiedsgrens
Nieuwe verbindingen
Nieuwe routes en verbindingen (indicatief)
Plint en rooilijn
Regeling plint Zoekgebied aansluiting Binckhorstlaan - Centrum
Rooilijn Binckhorst Avenue + regeling plint
HOV (indicatief)
Bomenrij (indicatief)
Groen en water
Groenstructuur
Water
Zone gericht op water en groen in combinatie met bebouwing
Hoofd en secundaire wegen
Hoofdwegen
Secundaire wegen
Zoekgebied aansluiting Binckhorstlaan


Contact
Toelichting
Beschikbare ruimte
Achtergrondkaarten
Beleidskaarten
Feitelijke bouwhoogte 2D
Feitelijke bouwhoogte 3D
Omgevingskaart Binckhorst
Achtergrondinformatie voor het omgevingsplan
Website Den Haag
Inhoud beleidskaarten omgevingsplan Binckhorst
Via de iconen rechts bovenin kunt u de vier verschillende kaarten raadplegen.
De volgende kaarten zijn beschikbaar:
Ruimtelijk functioneel raamwerk
Ruimtelijke kwaliteit
Waardevolle bebouwing
Regels bebouwing
De onderliggende kaart geeft huidige situatie weer, dat kan soms in afwijken van de toekomstige nu reeds bekende situatie.
Deze kaarten geven de vastgestelde beleidskaarten digitaal weer en hier kunnen geen rechten aan gebonden worden.
De vastgestelde kaarten zijn op internet te vinden als bijlagen onder RIS299318
Algemeen gebruik van de kaart
Klik rechtsboven op één van de knoppen en klik op toevoegen om de betreffende kaart toe te voegen. Het verwijderen van de kaart gebeurt middels de knop verwijderen die verschijnt nadat een kaart is toegevoegd
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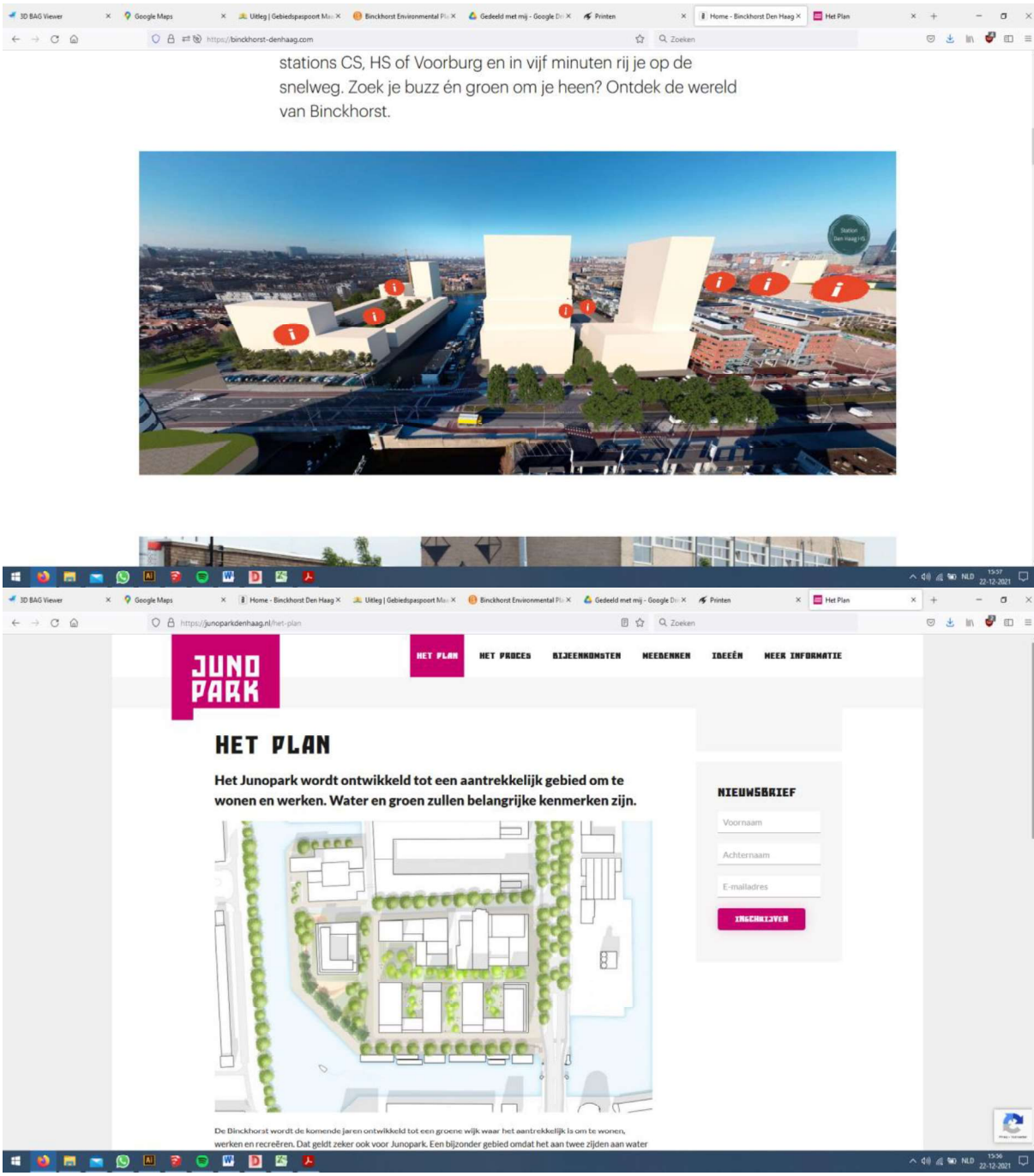
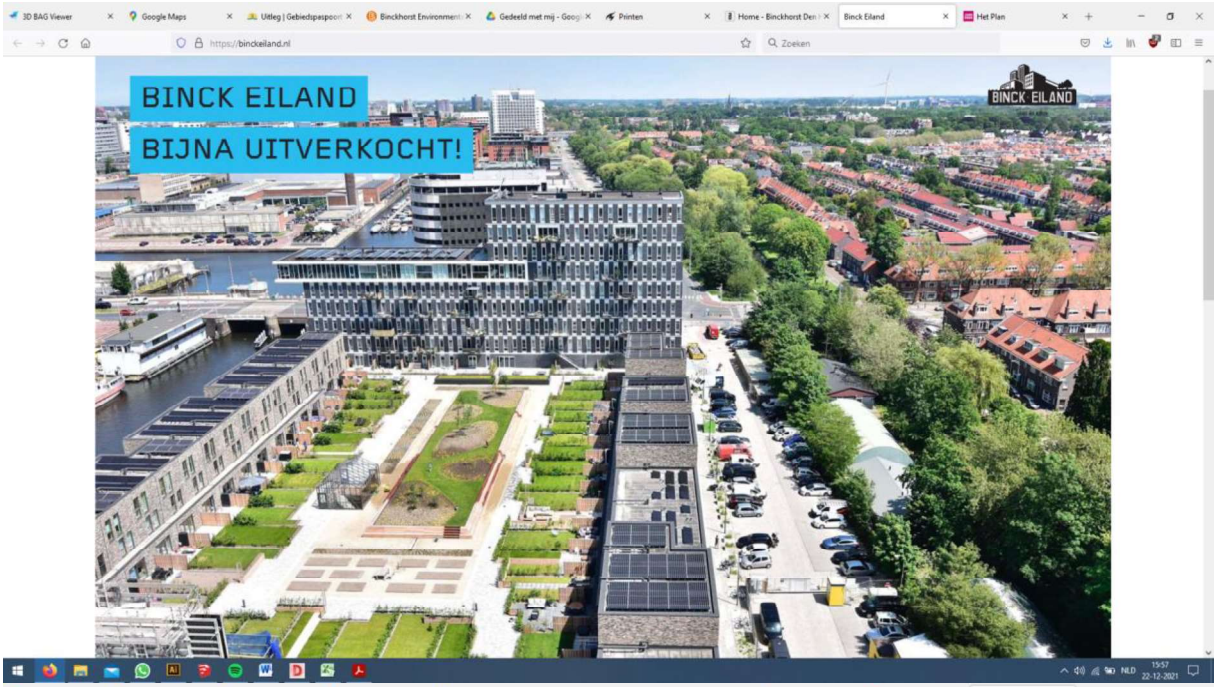
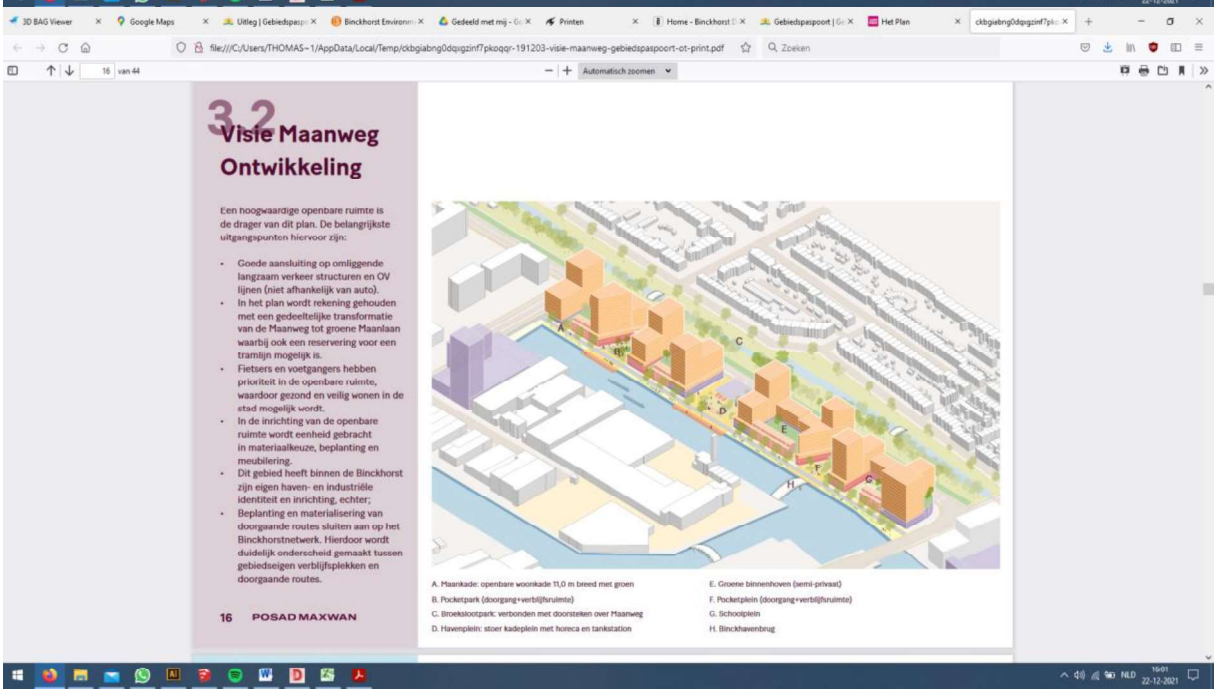
Legenda tonen: klik rechtsboven op de legendaknop om de legenda open te klappen
Zoek adres in Nederland
I. Trekvlietzone
Waterfrontpark
V. Binckhorsthavens
Bestaande groenstructuur
Bestaande ecologisch
Legenda
Binckhorst Ruimtelijk en Functioneel raamwerk
Groene verbinding (indicatief)
Openbare kades Trekvlietzone 26 meter breed/8 meter breed/6 meter breed
Plint en rooilijn
Rooilijn Binckhorst Avenue + regeling plint
Regeling plint
Nieuwe_verbindingen
Nieuwe routes en verbindingen (indicatief)
HOV (indicatief)
Gebiedsgrens
Groen en water
Groenstructuur
Water
Zone gericht op water en groen in combinatie met bebouwing
Zone Binckhorstlaan en zoekgebied
Zone Binckhorst Avenue
Zone Binckhorstlaan zoekgebied
Primaat wonen en werken
Primaat werkfunctie
Primaat woonfunctie
Hoofd en secundaire wegen
Hoofdwegen
Secundaire wegen
Zoekgebied aansluiting Binckhorstlaan - Centrum

Future developments







3.2 Visie Maanweg Ontwikkeling

Een hoogwaardige openbare ruimte is de drager van dit plan. De belangrijkste uitgangspunten hiervoor zijn:

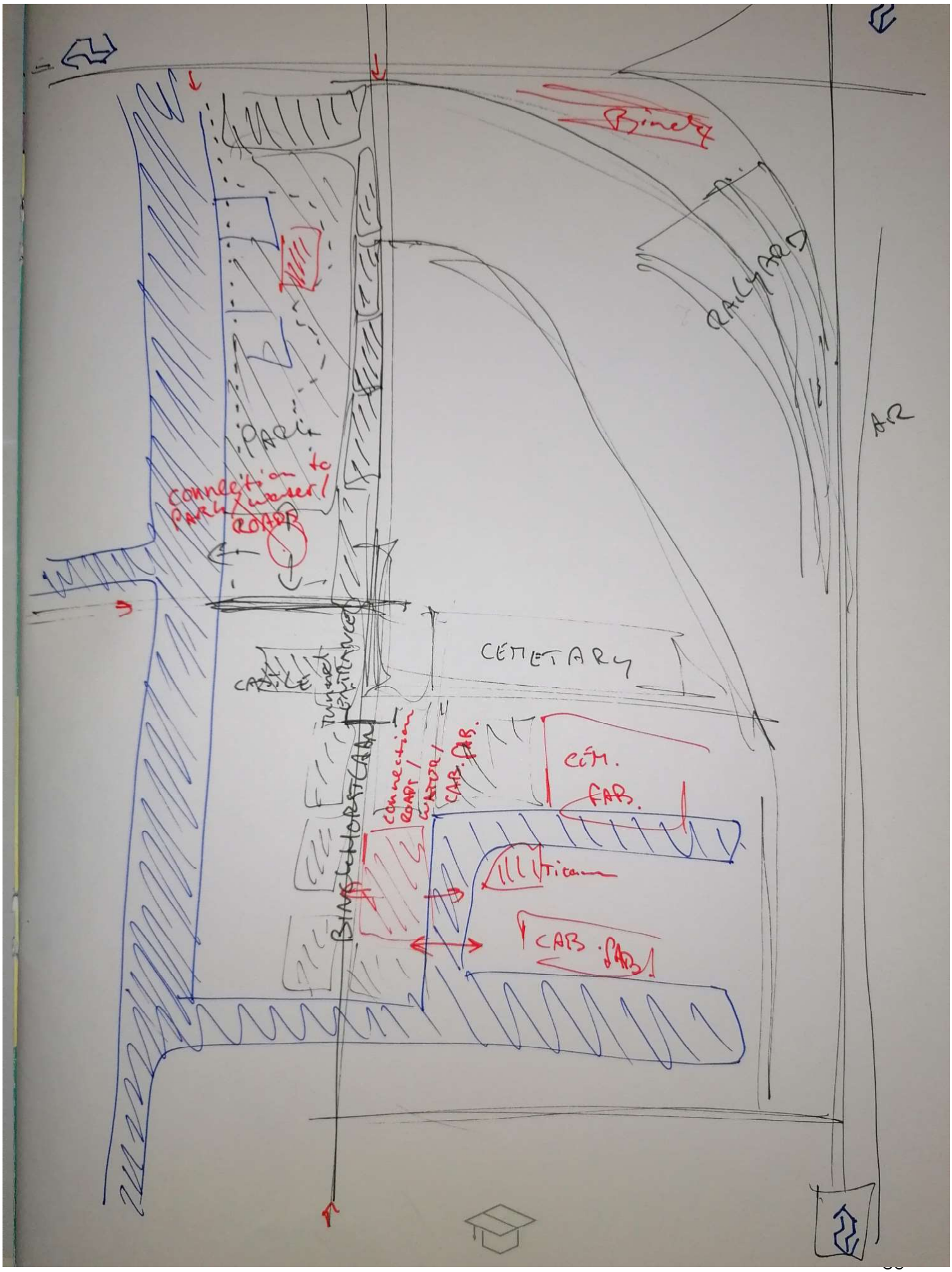
- Goede aansluiting op omliggende langzaam verkeer structuren en OV lijnen (niet afhankelijk van auto).
- In het plan wordt rekening gehouden met een gedeeltelijke transformatie van de Maanweg tot groene Maanlaan waarbij ook een reservering voor een tramlijn mogelijk is.
- Fietsers en voetgangers hebben prioriteit in de openbare ruimte, waardoor gezond en veilig wonen in de stad mogelijk wordt.
- In de inrichting van de openbare ruimte wordt eenheid gebracht in materiaalkeuze, beplanting en meubilering.
- Dit gebied heeft binnen de Binckhorst zijn eigen haven- en industriële identiteit en inrichting, echter;
- Beplanting en materialisering van doorgaande routes sluiten aan op het Binckhorstnetwerk. Hierdoor wordt duidelijk onderscheid gemaakt tussen gebiedseigen verblijfsplekken en doorgaande routes.

16 POSAD MAXWAN

A. Maankade: openbare woonkade 11,0 m breed met groen
B. Pocketpark (doorgang+verblijfsruimte)
C. Broekslootpark: verbonden met doorsteken over Maanweg
D. Havenplein: stoer kadeplein met horeca en tankstation
E. Groene binnenhoven (semi-privaat)
F. Pocketplein (doorgang+verblijfsruimte)
G. Schoolplein
H. Binckhavenbrug

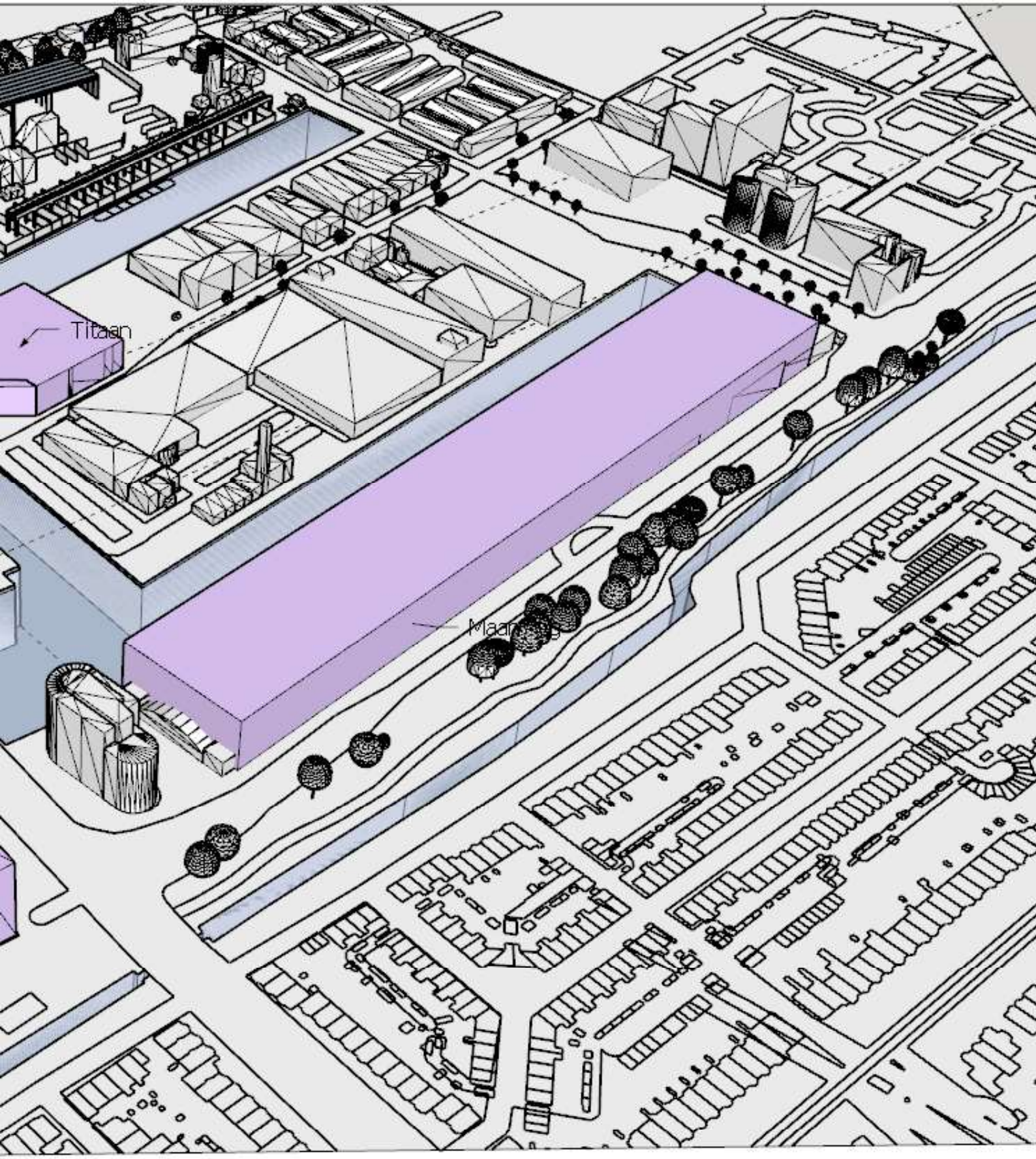
2.601
2.602
2.603

2.134.



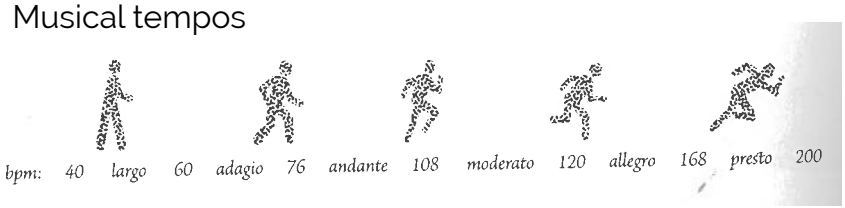
Binder
RAILYARD
AR
PARK
connection to PARK/water/ ROADS
CEMETARY
CASTLE
Tunnel Entrance
BINDERHORSTLAAN
connection ROADS / WATER / CAB. FAB.
CEM. FAB.
Ticam
CAB. FAB.

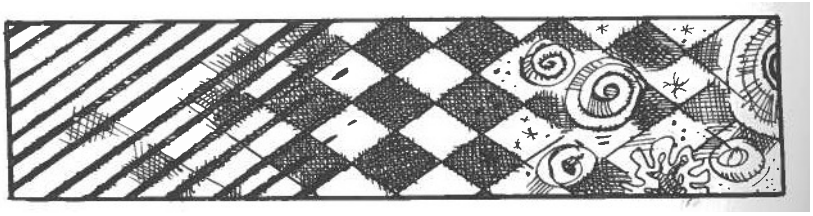
opa.
Binckeil


Titaan

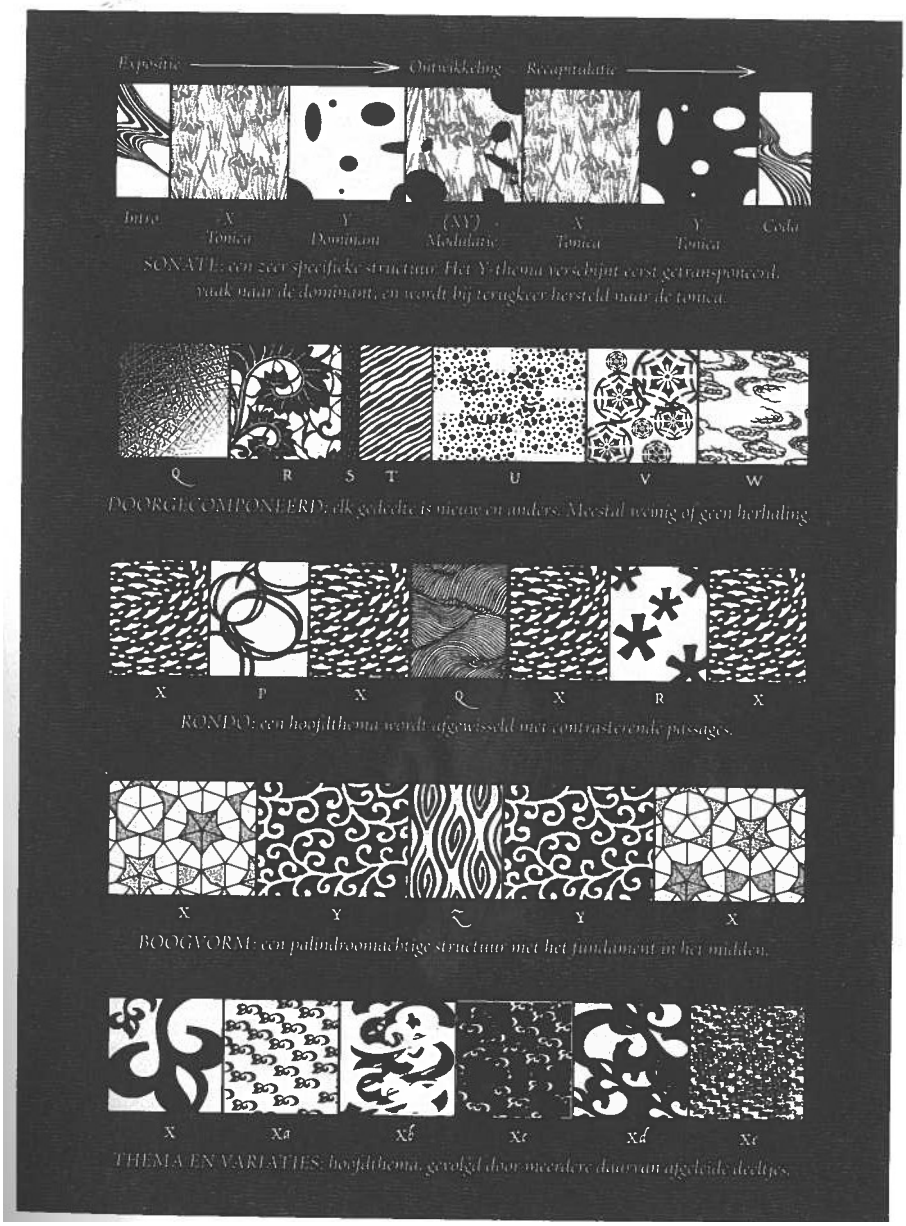
Architecture & music

Musical tempos





Musical development



Musical forms

From: Lundy ea (2010). Quadrivium

Symphony Composition

4 movements of a symphony

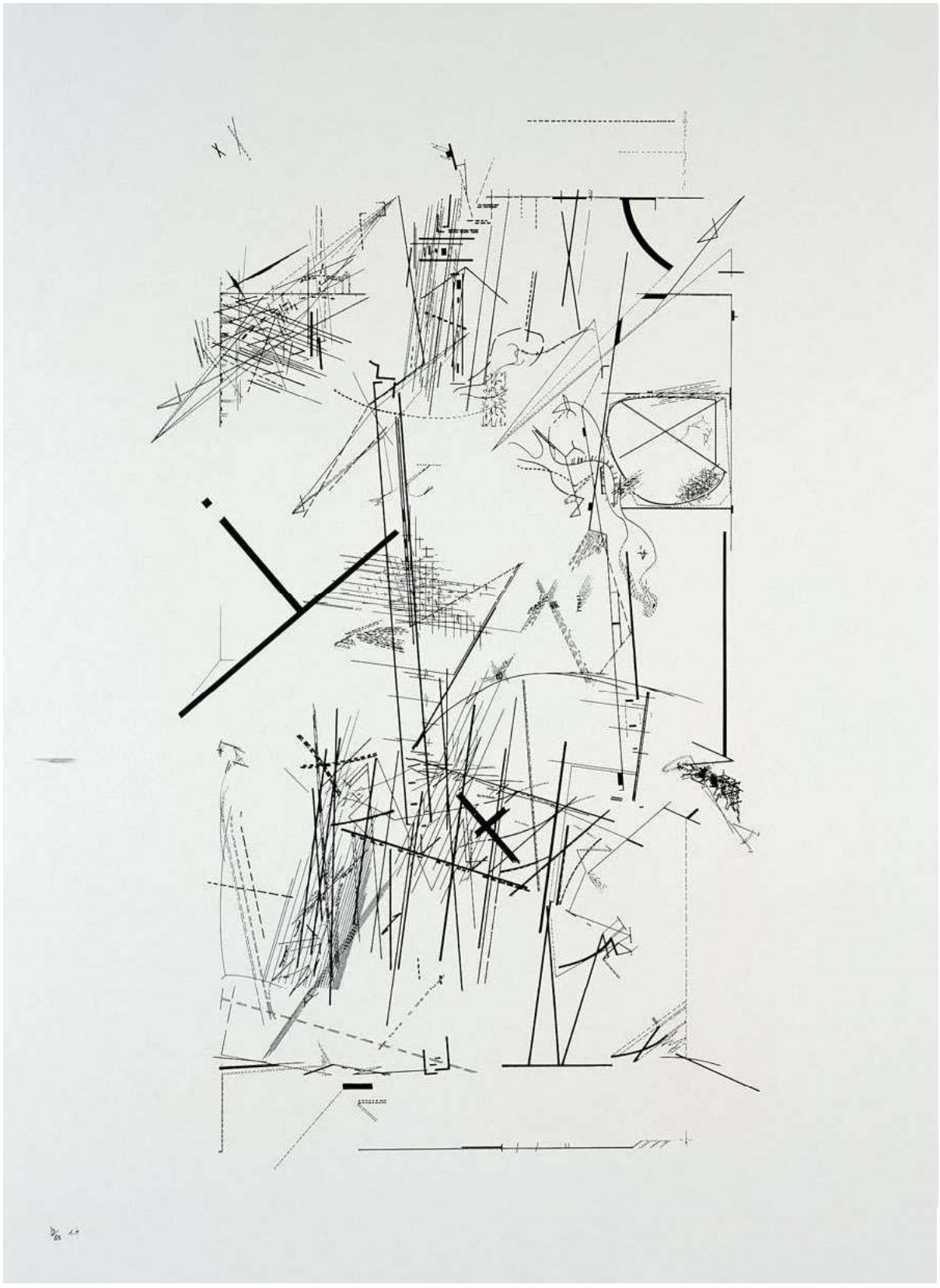
1. Allegro - Exiting & Lively
   Getting attention
   Mostly in sonate form:
   Exposition > Development > Recapitulation
   A > *B* > *AB* > **A** > **B**" > **A**
   A strong, *B* lyrical

2. Largo - Slow & Lyrical
   Point of relaxation after energetic opening
   Songlike and relaxed
   No fixed form

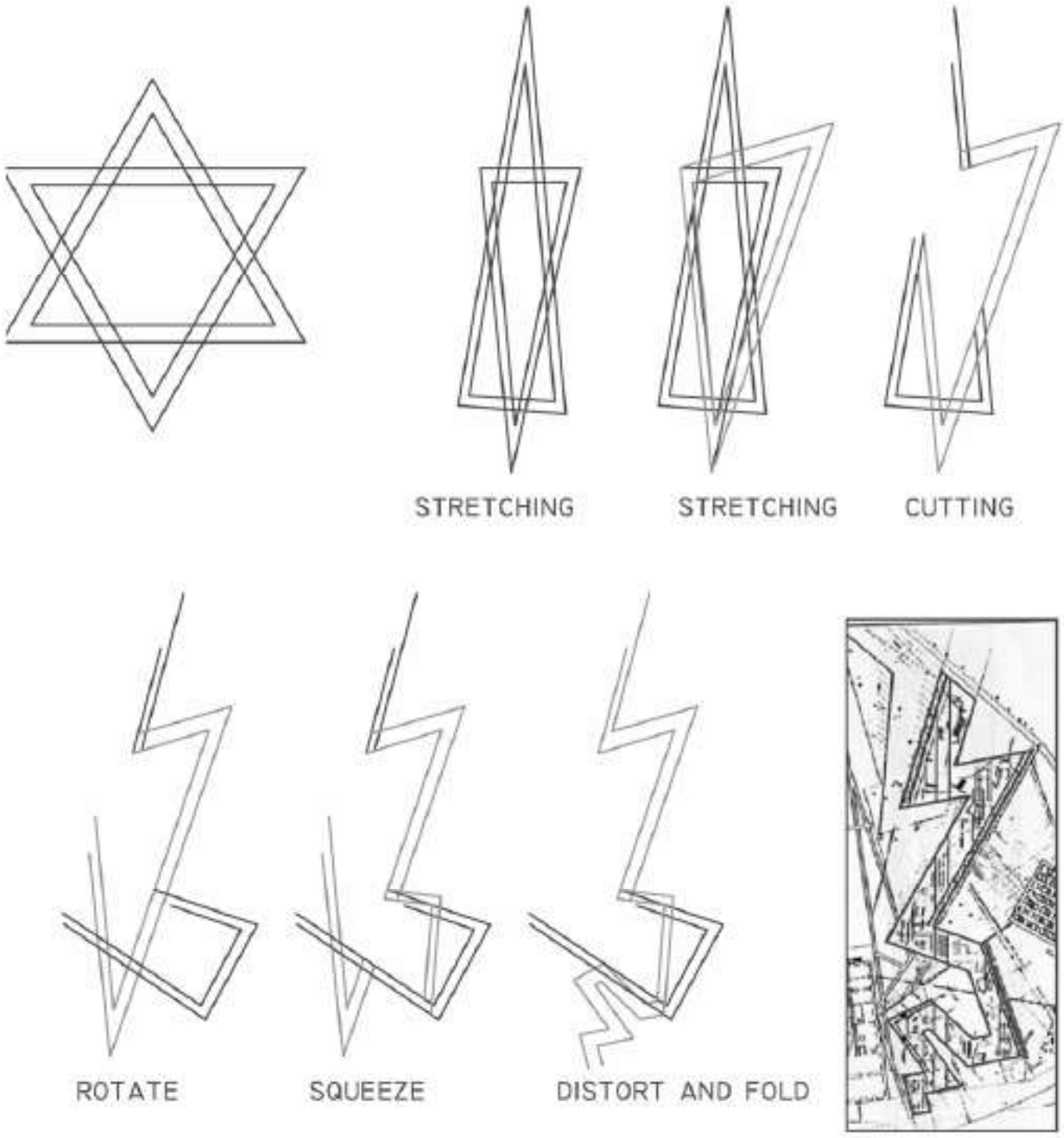
3. Light spirited & Dancy
   Either:
   Minuet (dance) > Trio > Minuet, or
   Scherzo (joke / lighthearted tune) > Trio > Scherzo

4. Finale, rollicking
   Focussed on having a good time
   Mostly in sonate form or rondo form:
   A > B > A > C > A > ...

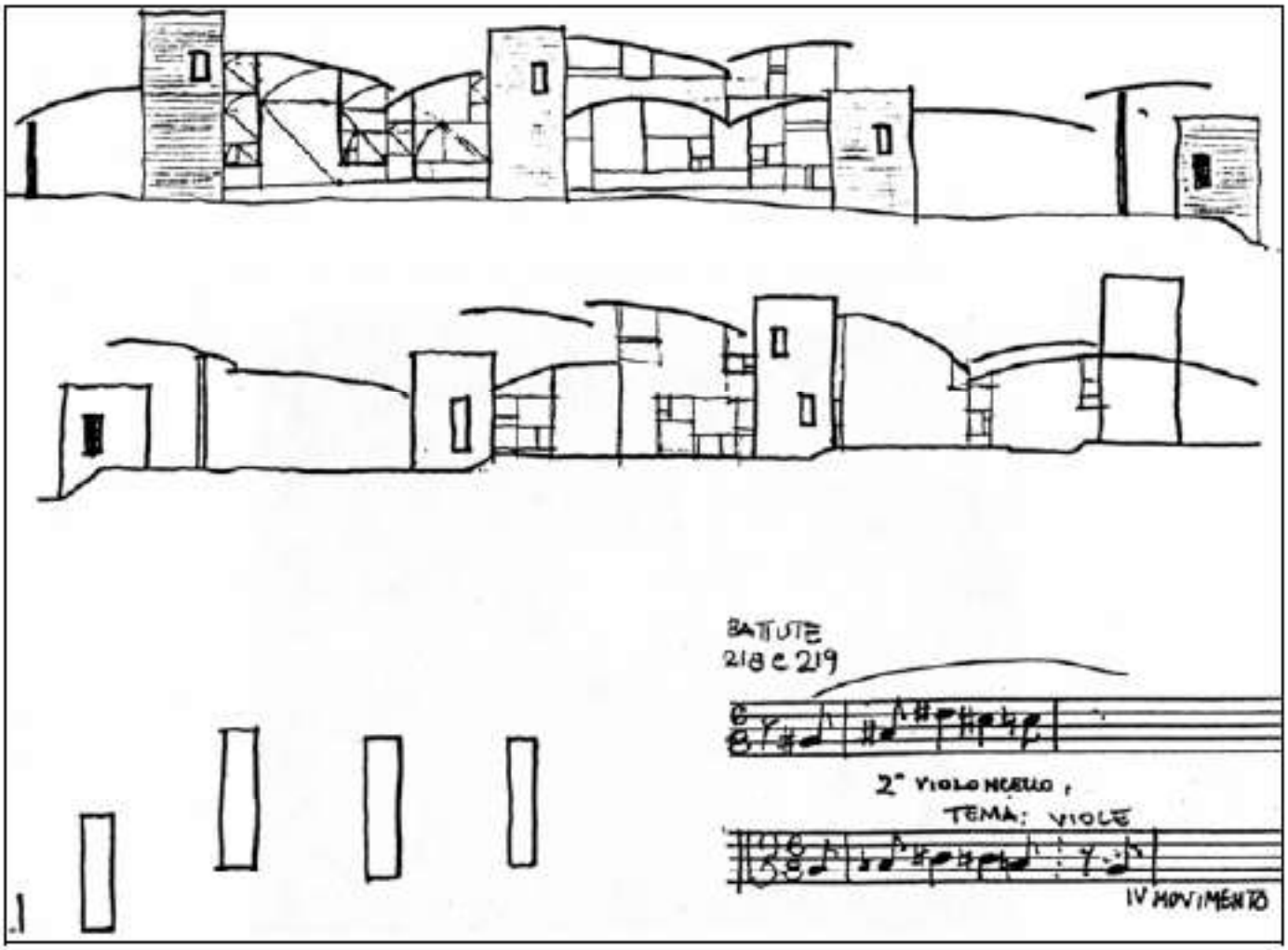
https://www.dummies.com/article/academics-the-arts/music/general-music/classical-music-the-movements-of-a-symphony-141999



Libeskind - Design Jewish Museum



From: Capanna (2009). Music and Architecture; a cross between inspiration and method



Comparison of Bartòk's specular composition and Holl's Stretto House: Parts with strong percussion are followed by lyrical string sections.
From: Capanna (2009). Music and Architecture; a cross between inspiration and method

MUSIC // RHYTH

Dudok, Stadsschouwburg Utrecht, NL (1940)

M & TEMPO

Xenakis, Convent of Sainte Marie de la Tourette, France (1960)

MUSIC // KEY &

Coop Himmelb(l)au, Dalian Conference Centre, China (2012)

HARMONY

3XN, Muziekgebouw aan 't IJ, Amsterdam NL (2005)

MUSIC // INSTRU

AHH, Tivoli Vredenburg, Utrecht NL (2014)

UMENTATION

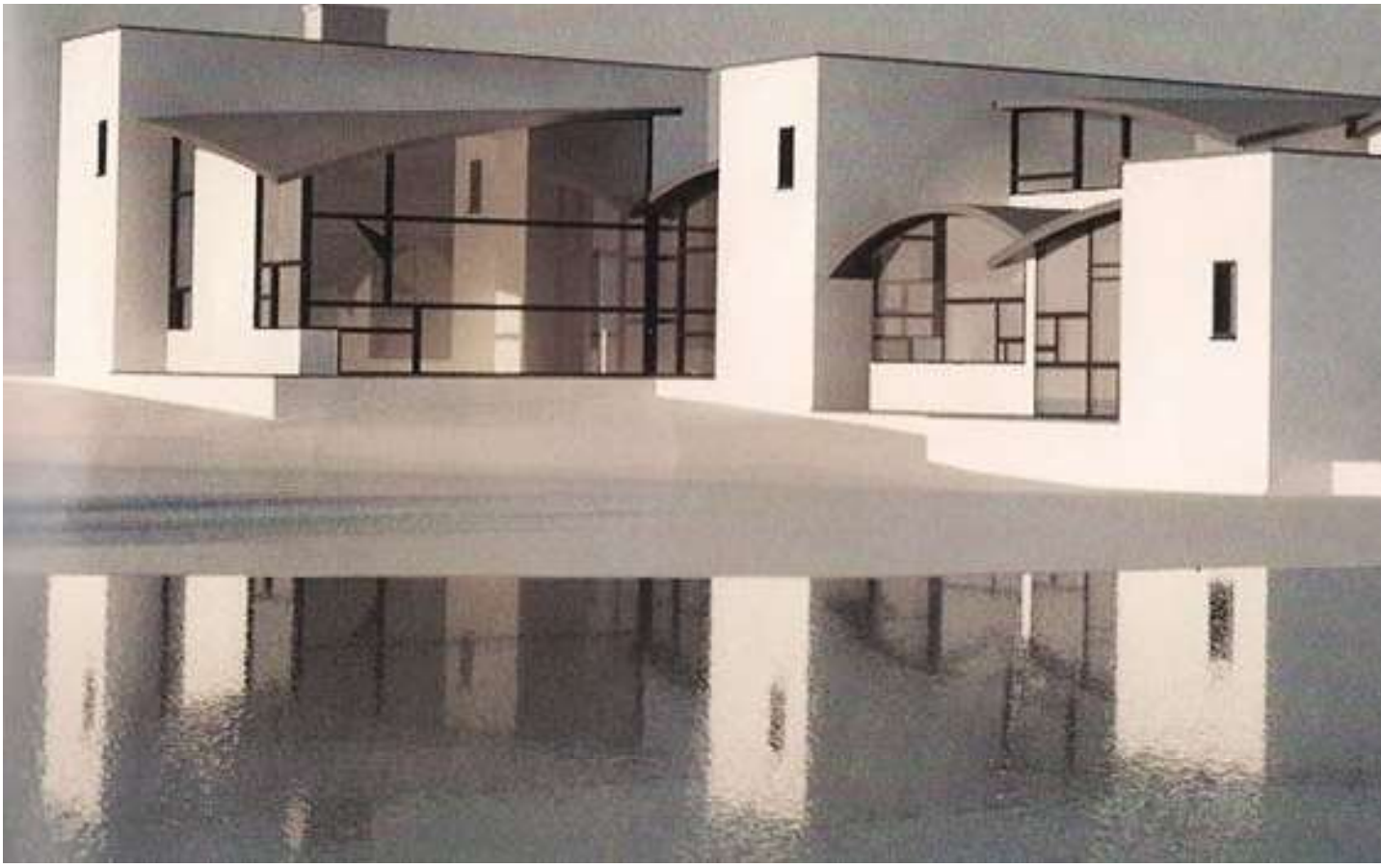
MUSIC // MELOD

Dudok, Hilversum Town Hall, NL (1931)

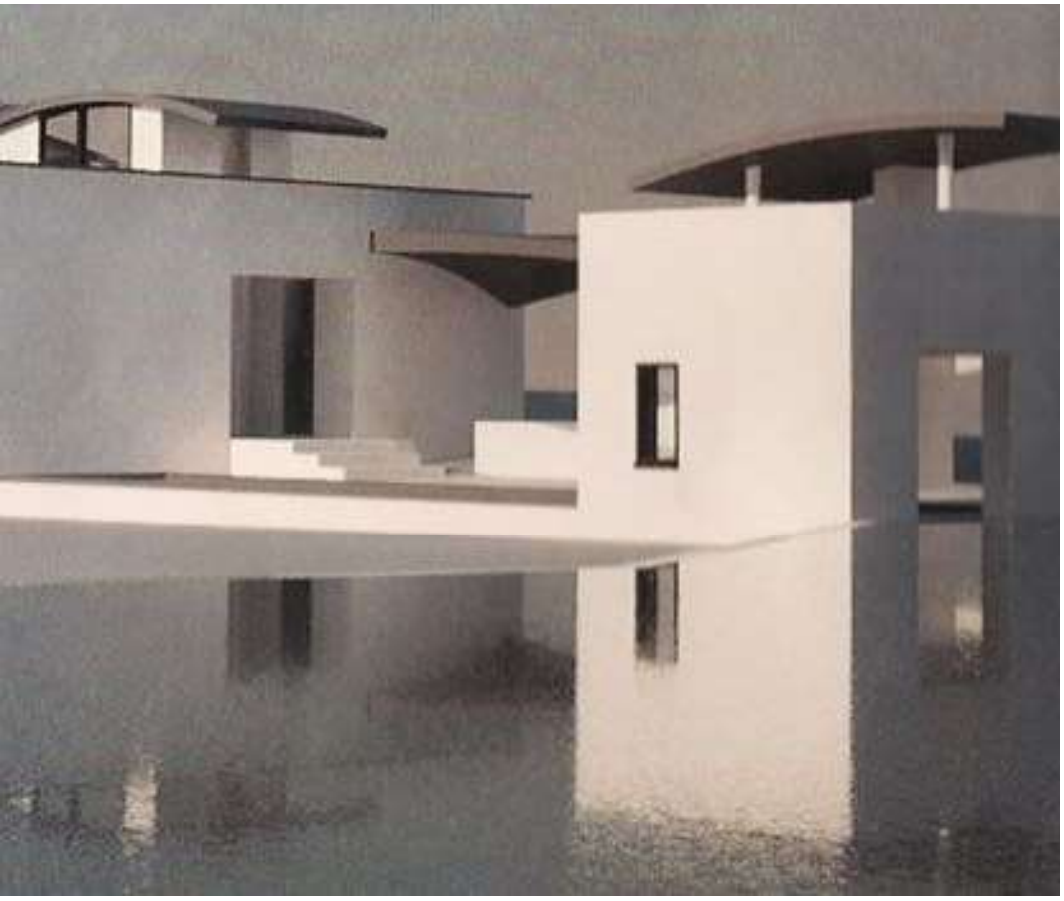
DY

Conference Centre, China (2012)

MUSIC // FORM



Steven Holl, Stretto House, Texas USA (1991)

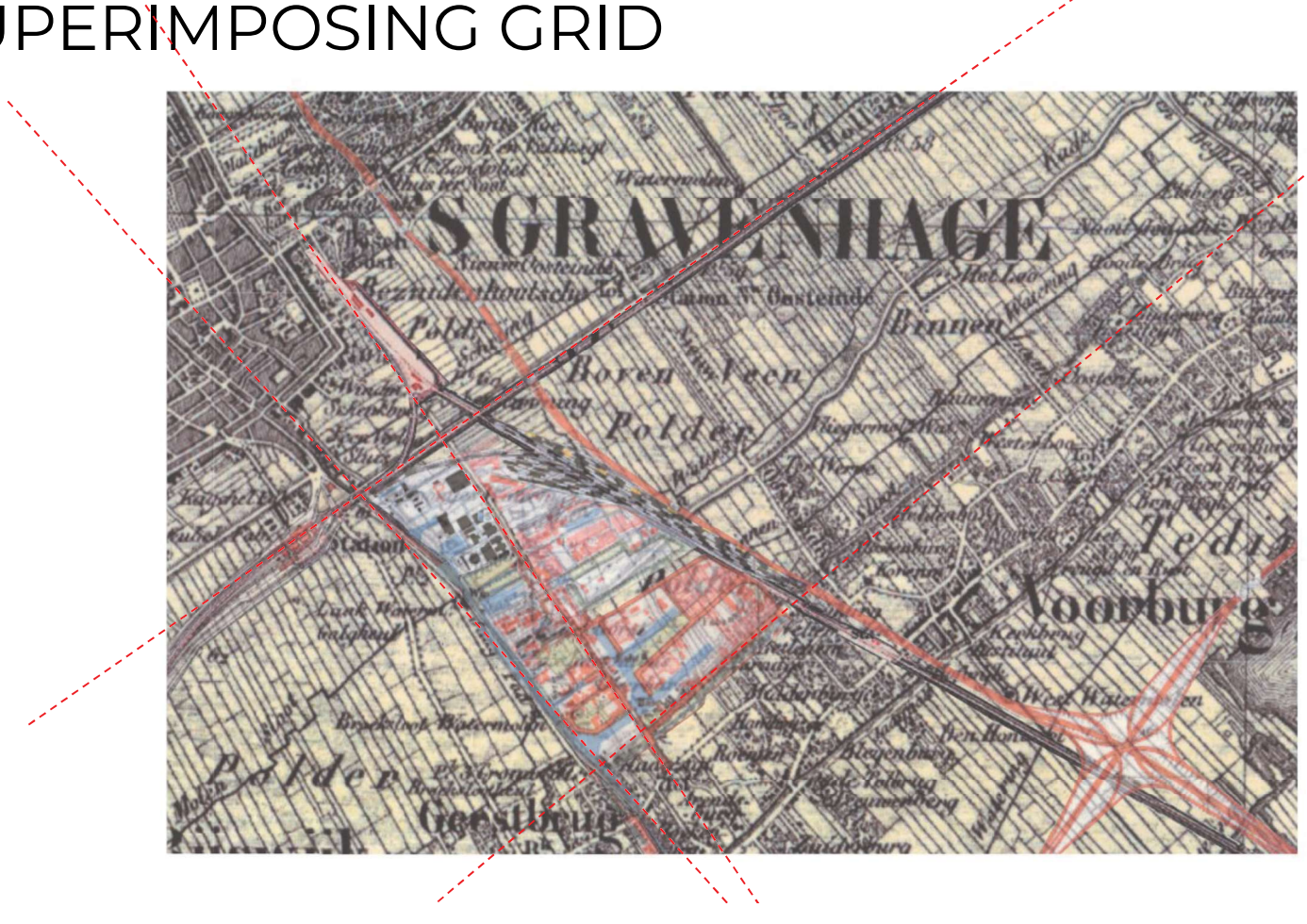


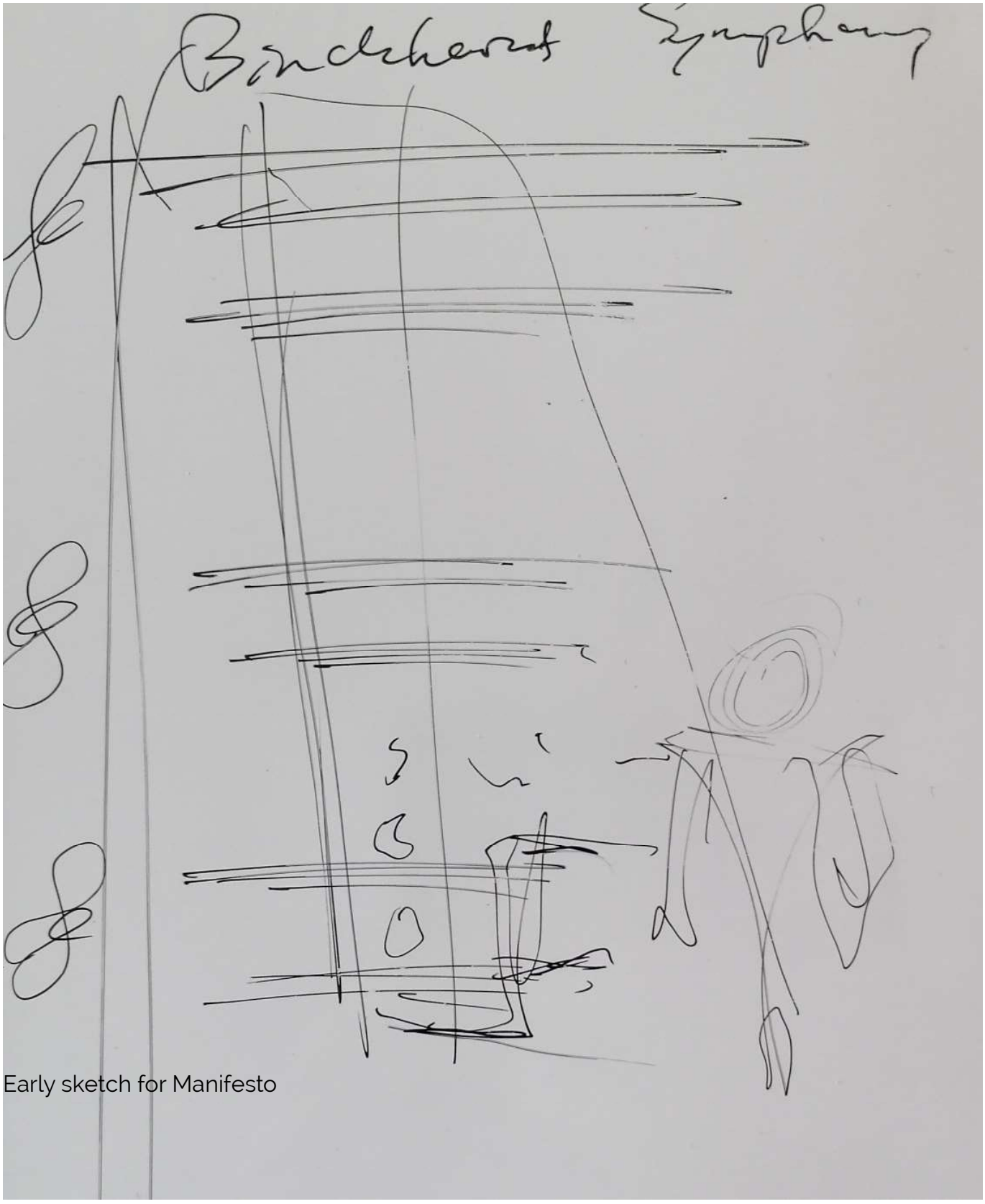
D2.
Design journal

Deliniation research

THROUGHOUT THE YEARS

SUPERIMPOSING GRID





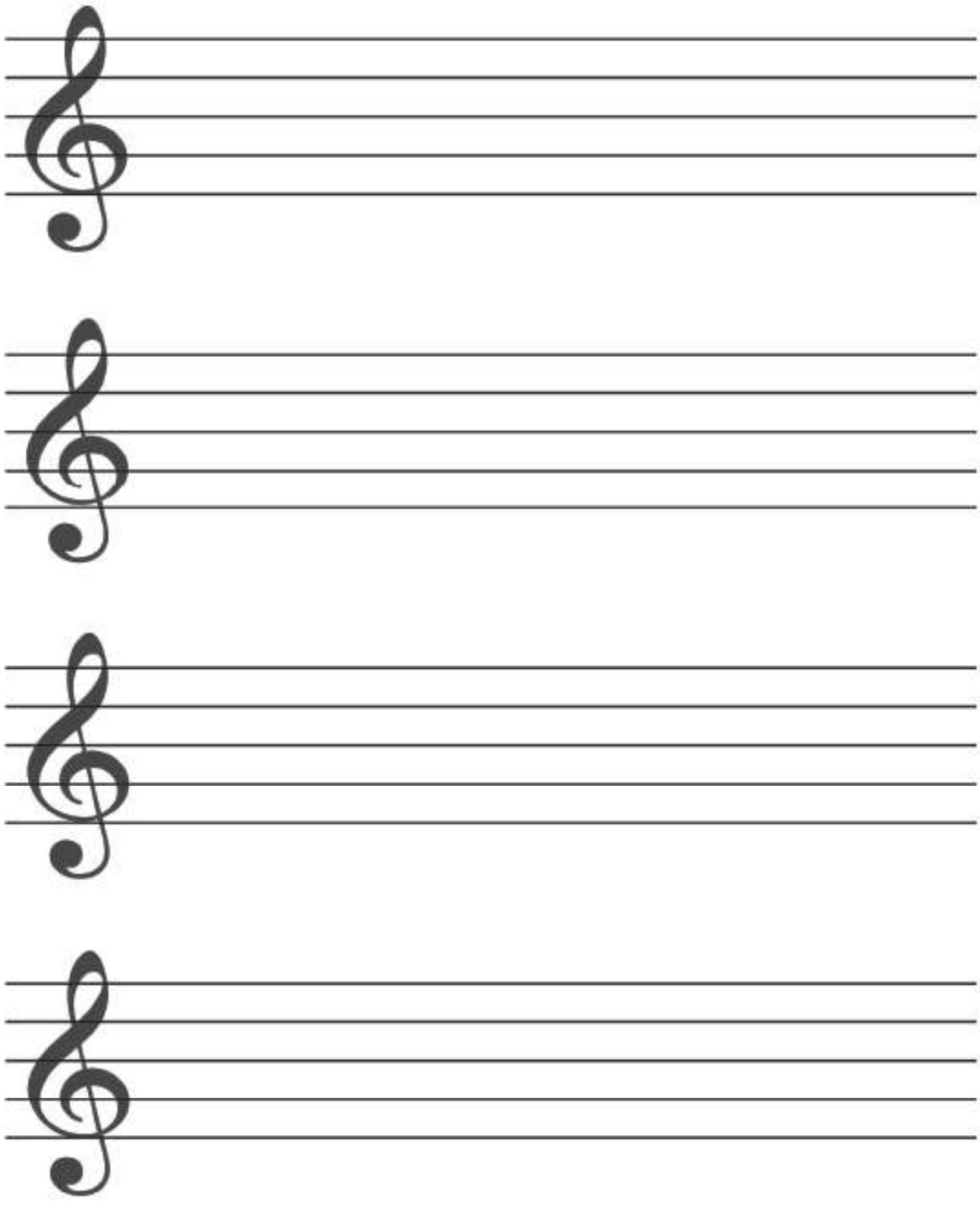
Early sketch for Manifesto

The manifesto is a visual interpretation of three elements which create the Binckhorst Symphony. One of the statements in the manifest is the base for the architecture and the music that will be experienced within the music venue that will be designed. It emphasises the correlation between the disciplines of music and architecture, how they can be read and composed simularly, and the interaction between the built environment and its users.

1. The disciplines of architecture and music are comparable. Both can evoke a deeper understanding when experienced.
2. Music can be used as a means in architecture to express certain untangible ideas.
3. The role of the visitor is twofold. Not only is the person a passive spectator, but also forms an integral part within the broader composition of the built environment.

The base layer is a stylised map of the Binckhorst area, where the music venue will be situated. To understand the area, you must not only know the exact building. You will need a deeper understanding of its untangible elements like its culture and identity. As the Binckhorst will change rapidly during the coming years, it is important to strenghten those qualities by making them more explicit within the architectural design of the venue.

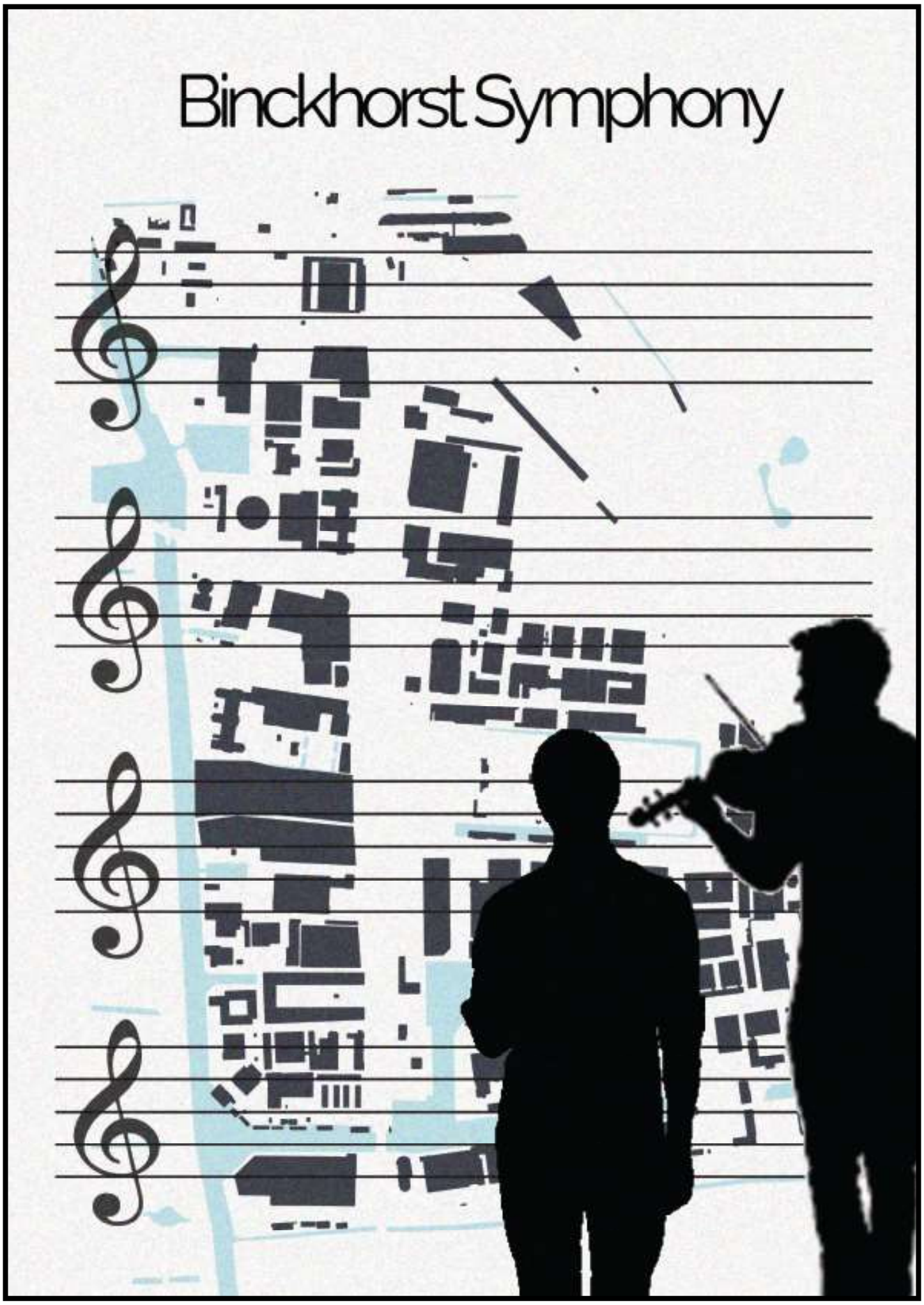
Binckhorst Symphony



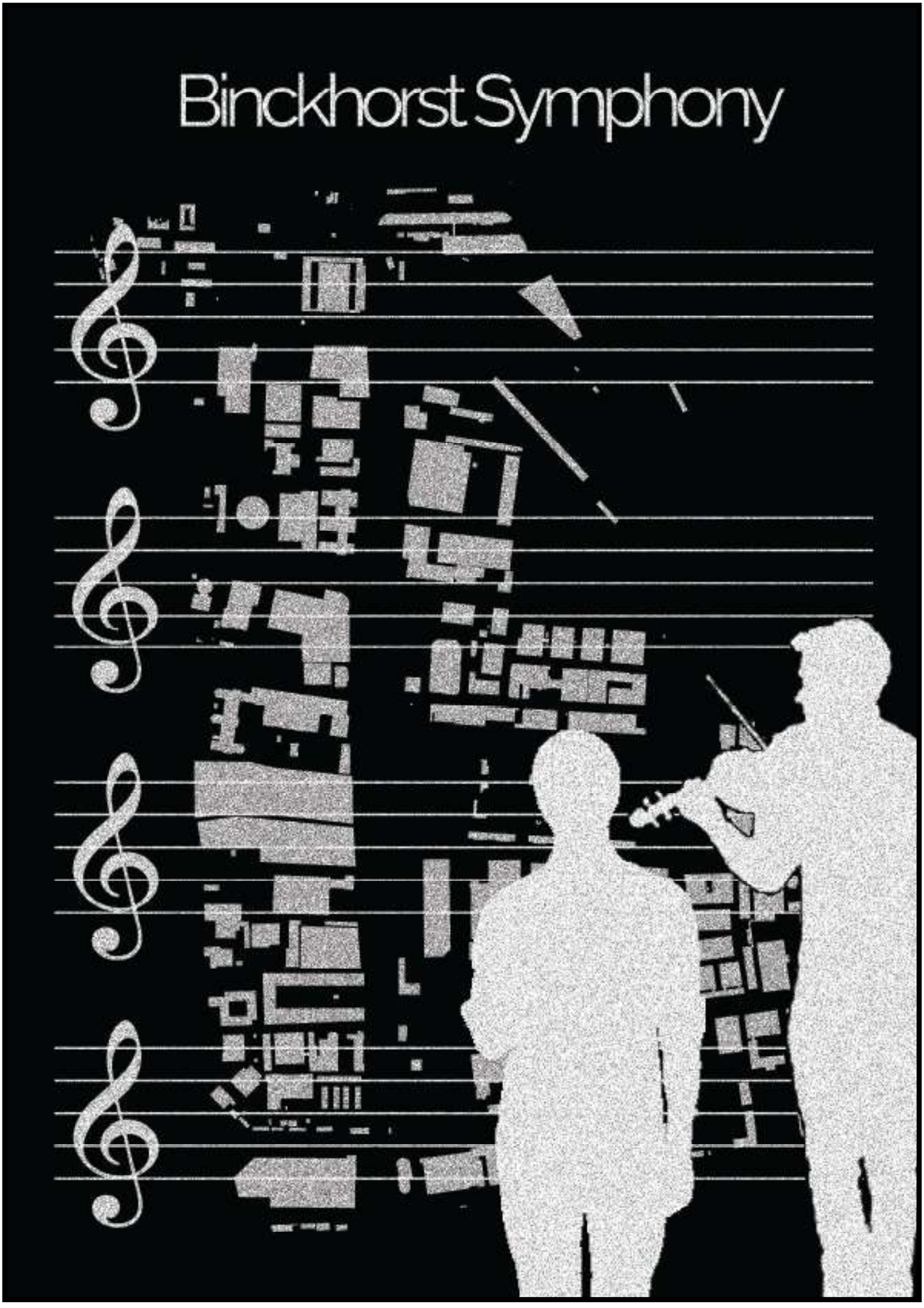
Through the superimposition of the classic staff that is usually used as a way to notate music, you are invited to reconsider the identity of the area. With the use of the staff, the map of the Binckhorst suggest a musical composition within the area. The experience of the area as a musical piece gives additional meaning and a deeper understanding.

The people in the foreground are placed to interact with the area and its music. The two people represent the duality of the people within the area. Not only are you a listener that experiences the area as you interact with it, but by interacting you also become a part of the composition as a whole.

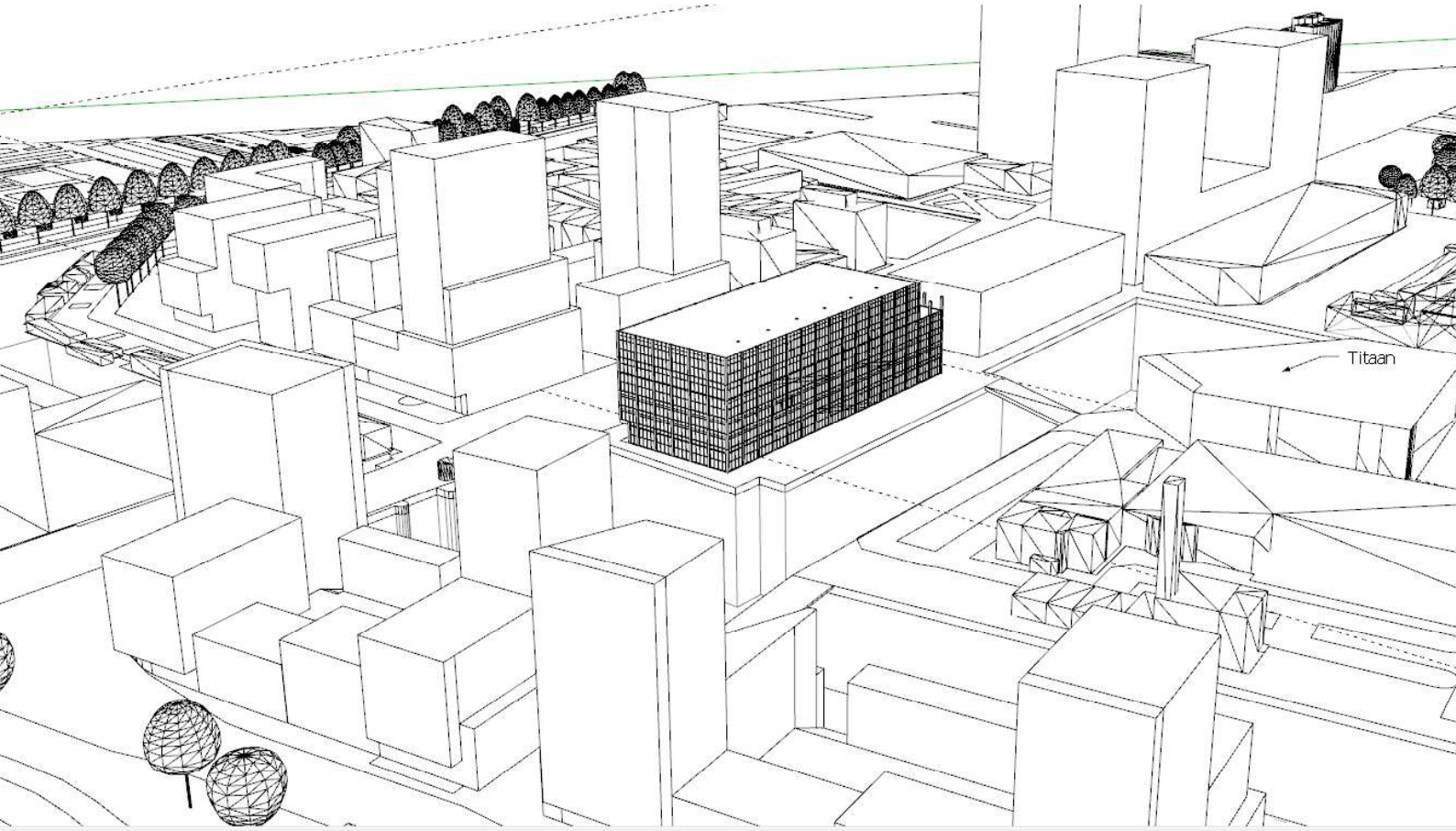
Binckhorst Symphony

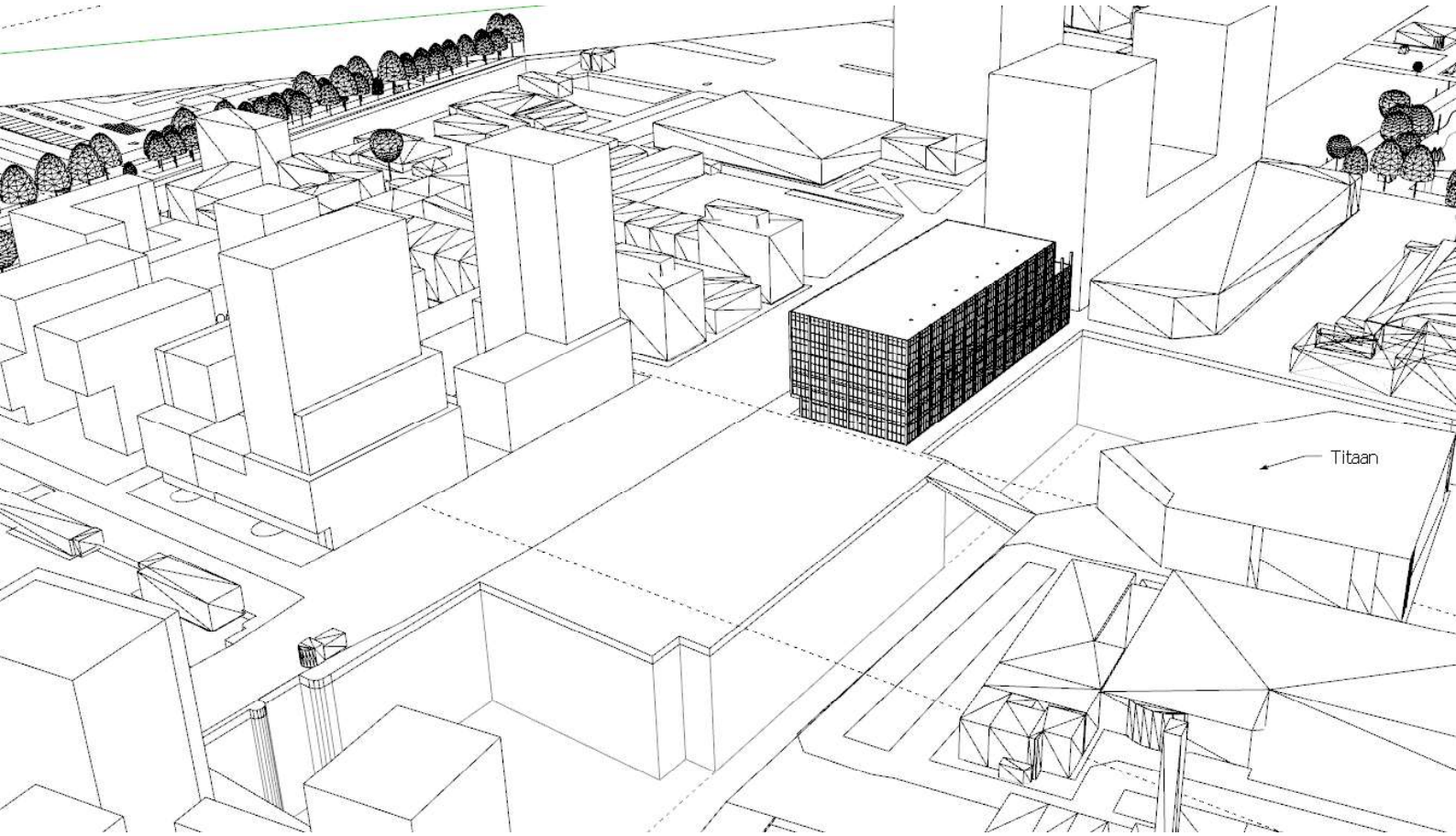


Binckhorst Symphony



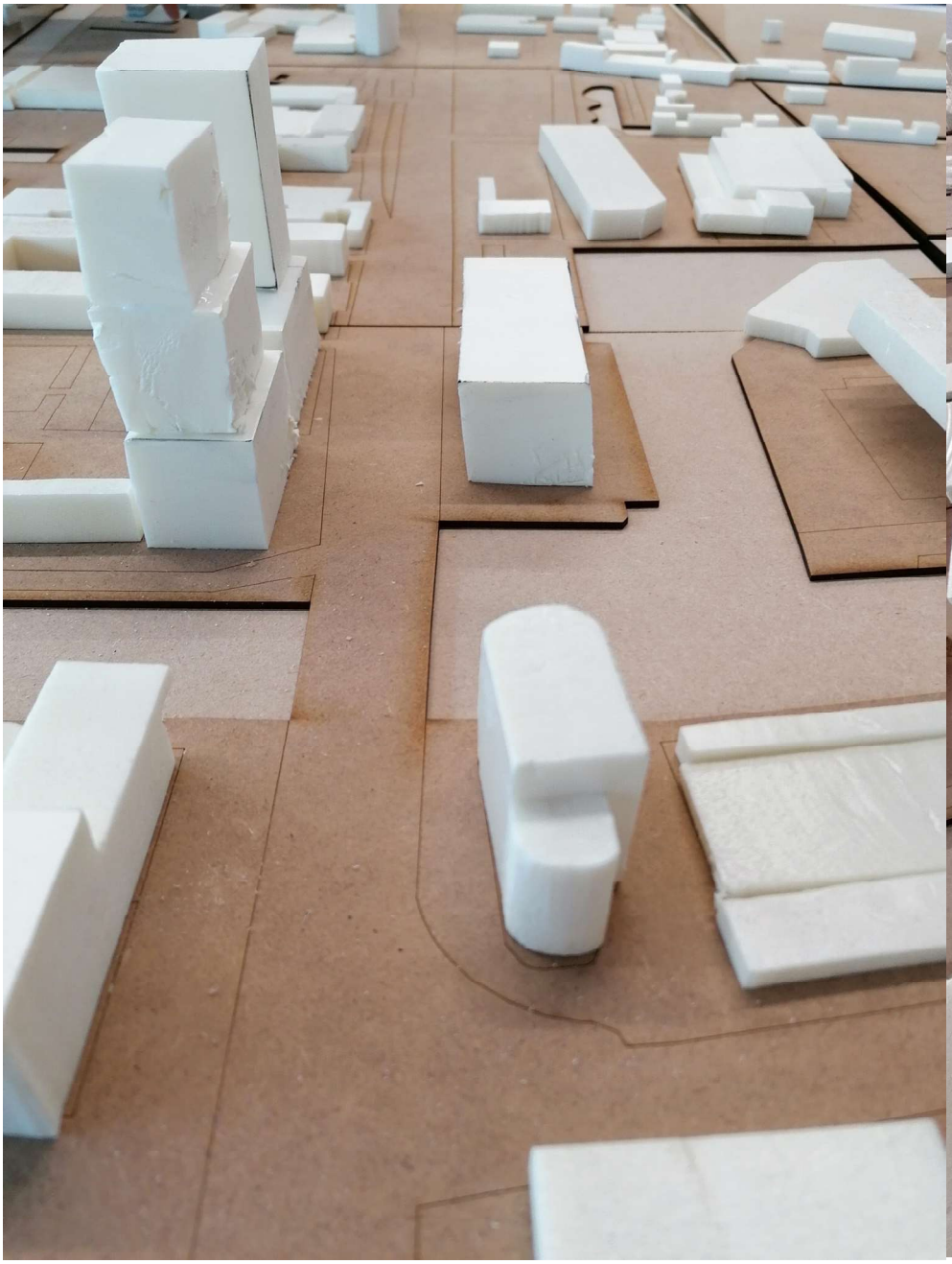
Preliminary design

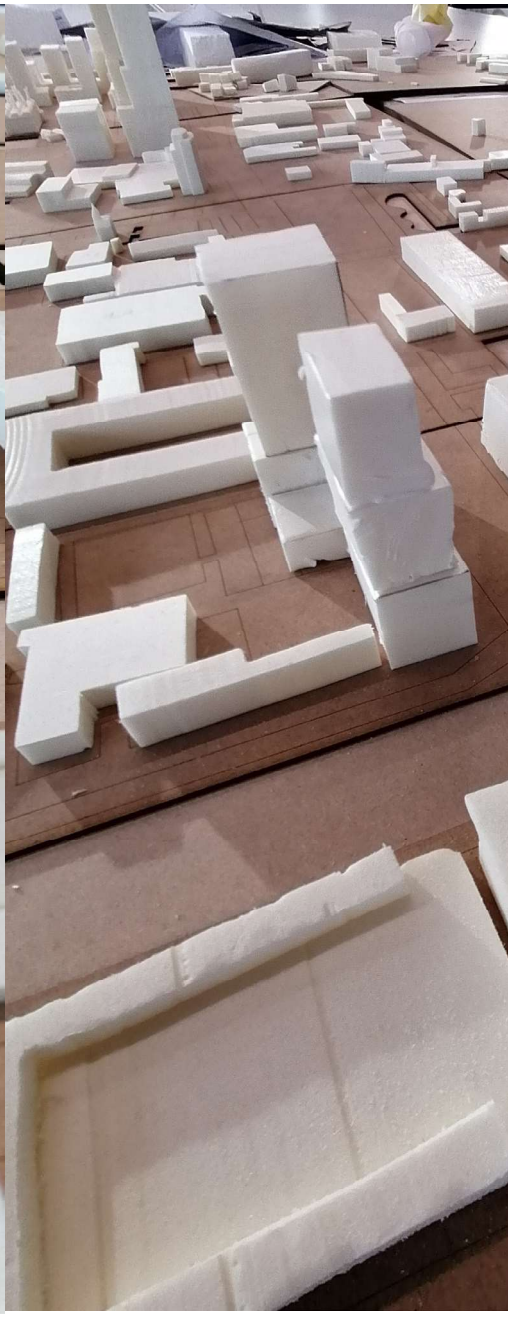

Titaan

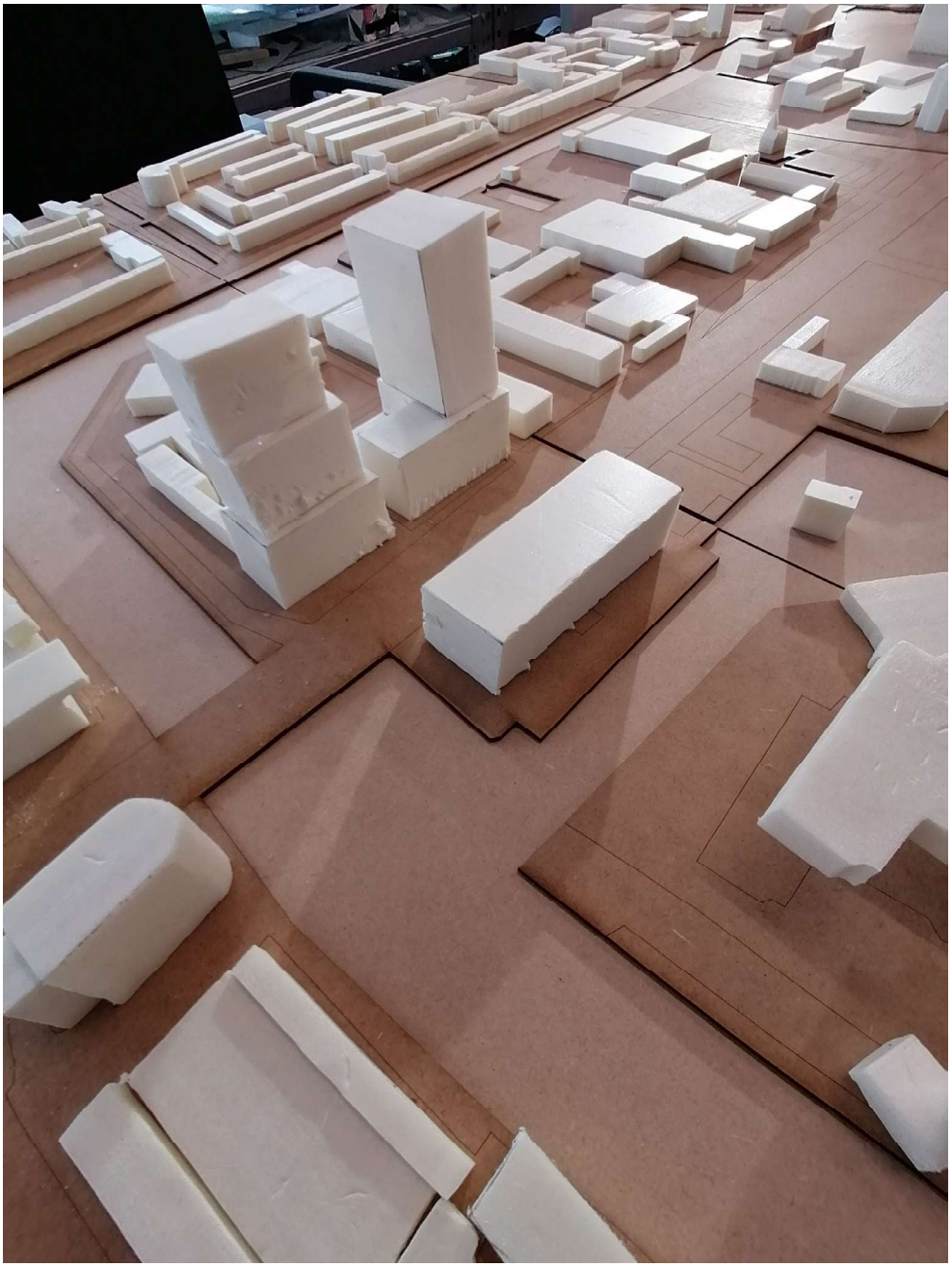

Titaan

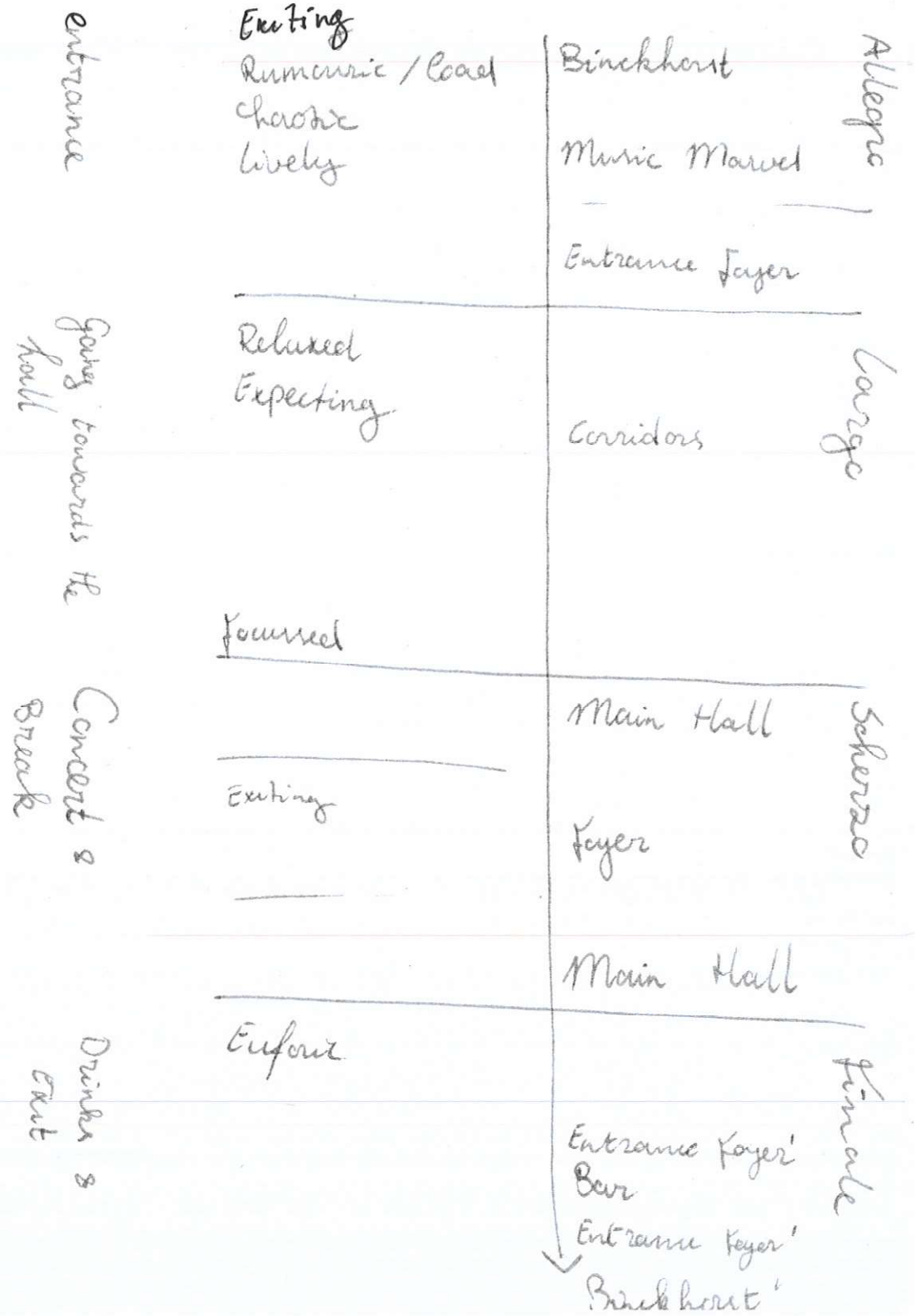
MAIN BOULEVARD
JUNOPARK
BINCKHORST AVENUE
BINCKHORST SYMPHONY
PUBLIC QUAYS
CONNECTION TO WATER
CONNECTION TO BINCKHAVEN AREA
BINCKHAVEN
TITAAN
HOT SPOT
MAANWEG

JUNOPARK
BINCKHORST SYMPHONY
PLAZA?
BINCKHAVEN
TITAAN
SIGHT THROUGH HARBOUR
MAANWEG

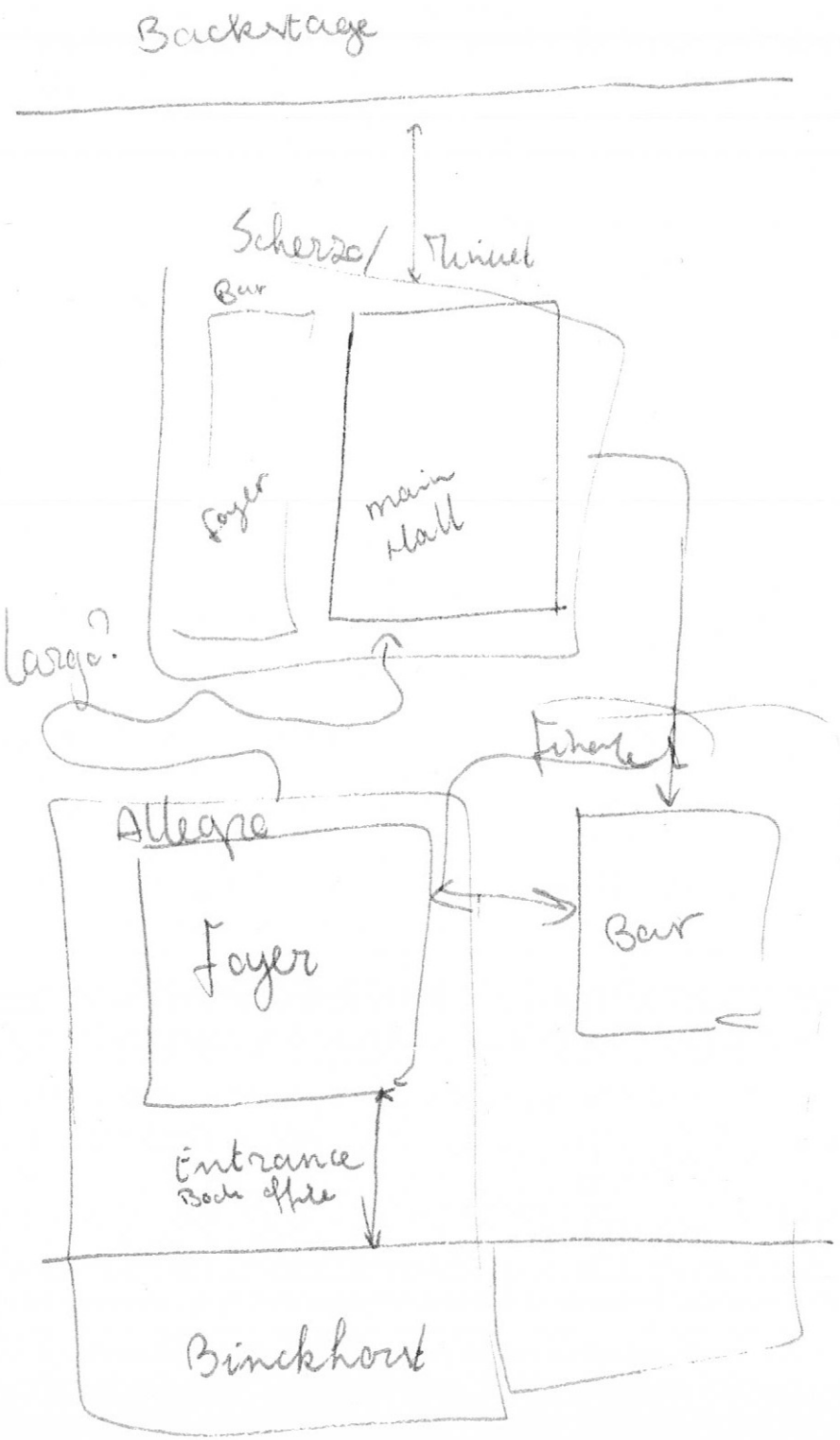








entrance	Exiting Rumouric / Coad Chaotic Lively	Binckhorst Music Marvel Entrance Foyer	Allegro
Going towards the hall	Relaxed Expecting Focussed	Corridors	Largo
Concert & Break	Exiting	Main Hall Foyer Main Hall	Scherzo
Drinks & Exit	Euforic	Entrance Foyer' Bar Entrance Foyer' Binckhorst'	Finale


Backstage
Scherzo/ Minuet
Bar
foyer
main Hall
Largo?
Allegro
Foyer
Bar
Entrance Box office
Binckhorst

“Musical” Programme

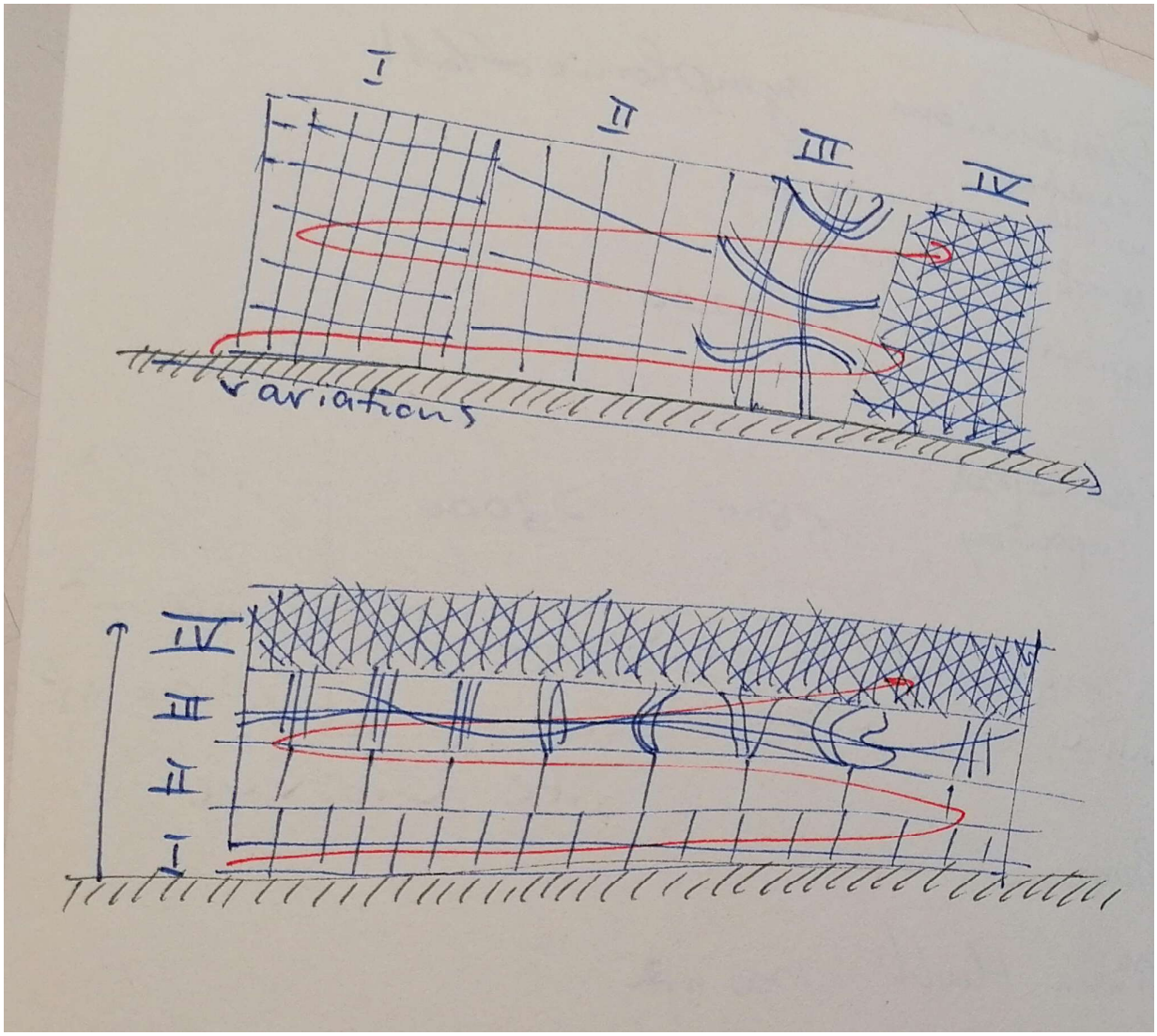
I **Exiting / Lively**
Focussed on streetscape
Entrance
Grand Cafe

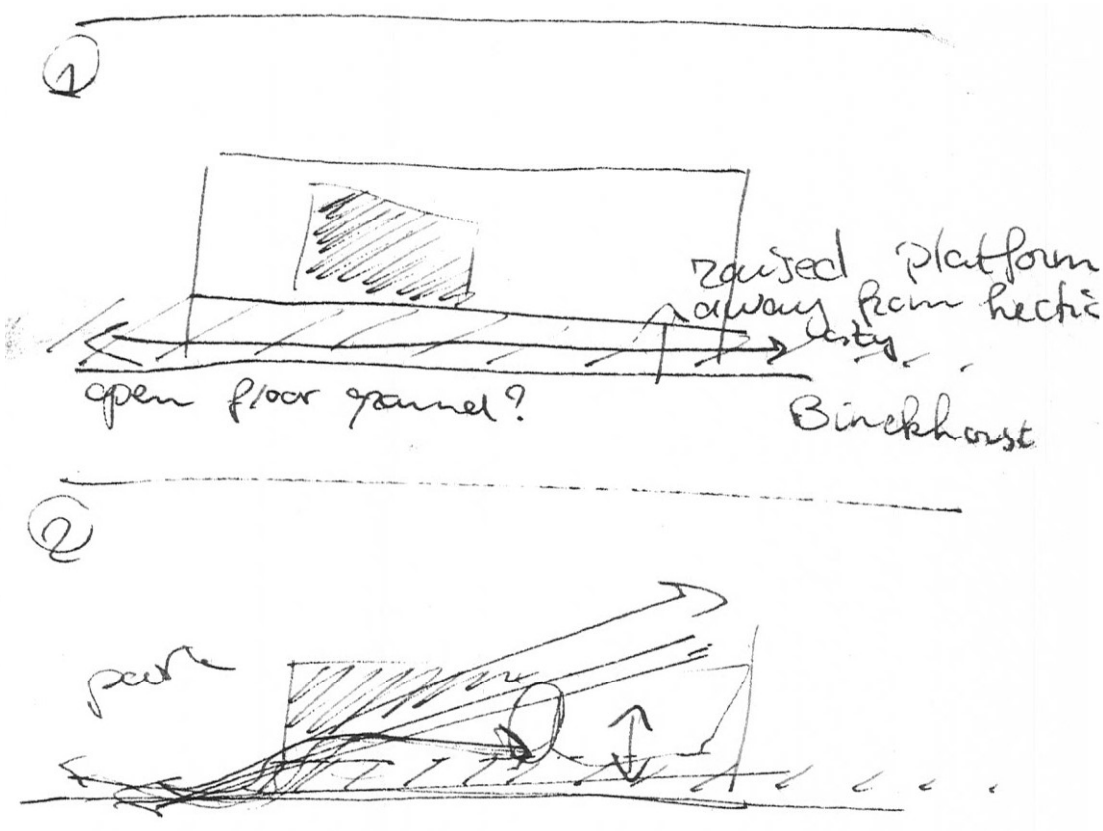
II **Slow / Lyrical**
More calm, setting a relaxed atmosphere
Offices
Stop for visitors, maybe cloakroom?

III **Dancy**
Light spirited, Having a good time
Foyers
Bar

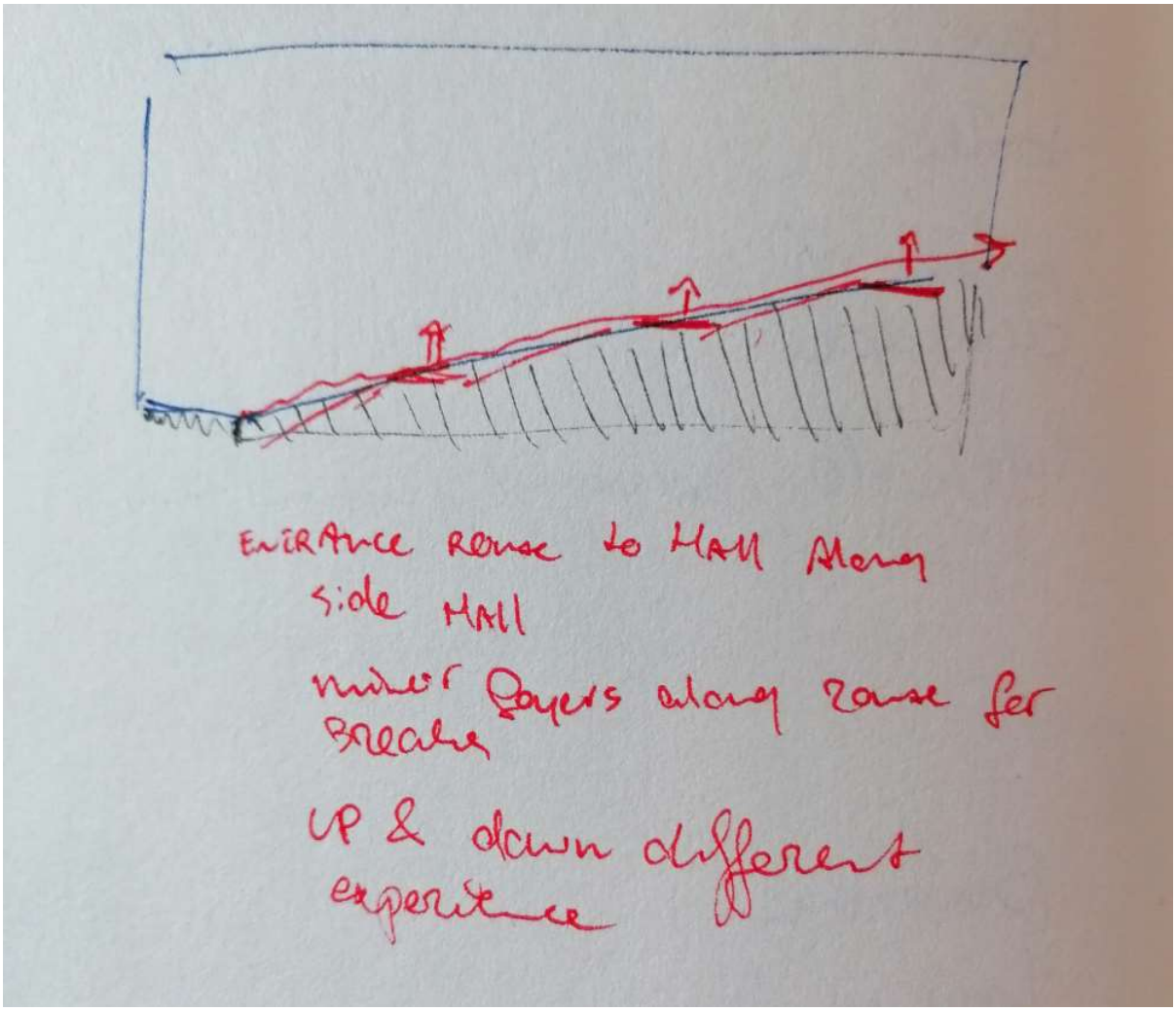
IV **Euphoric**
Bombastic
Concert halls

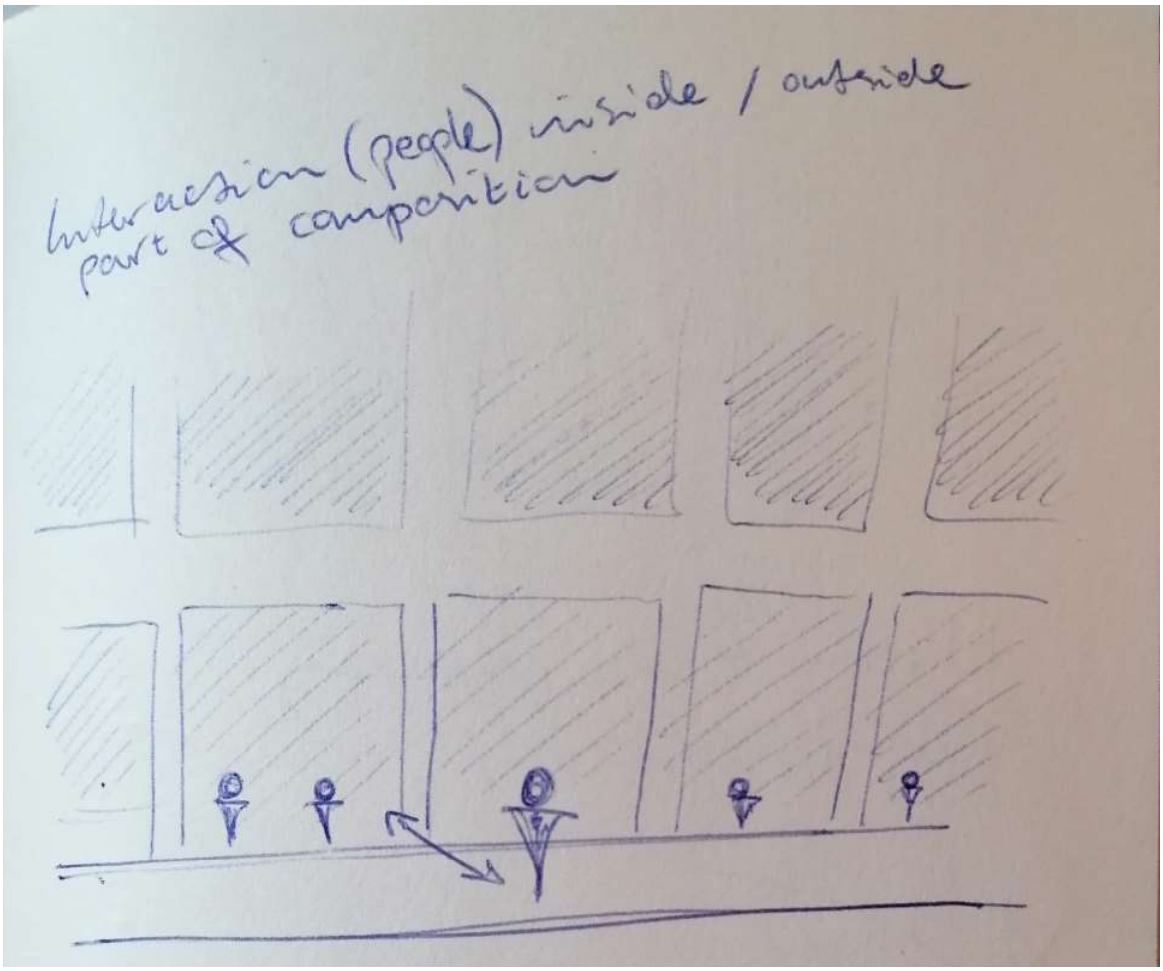
Musical variations in Binckhorst Symphony



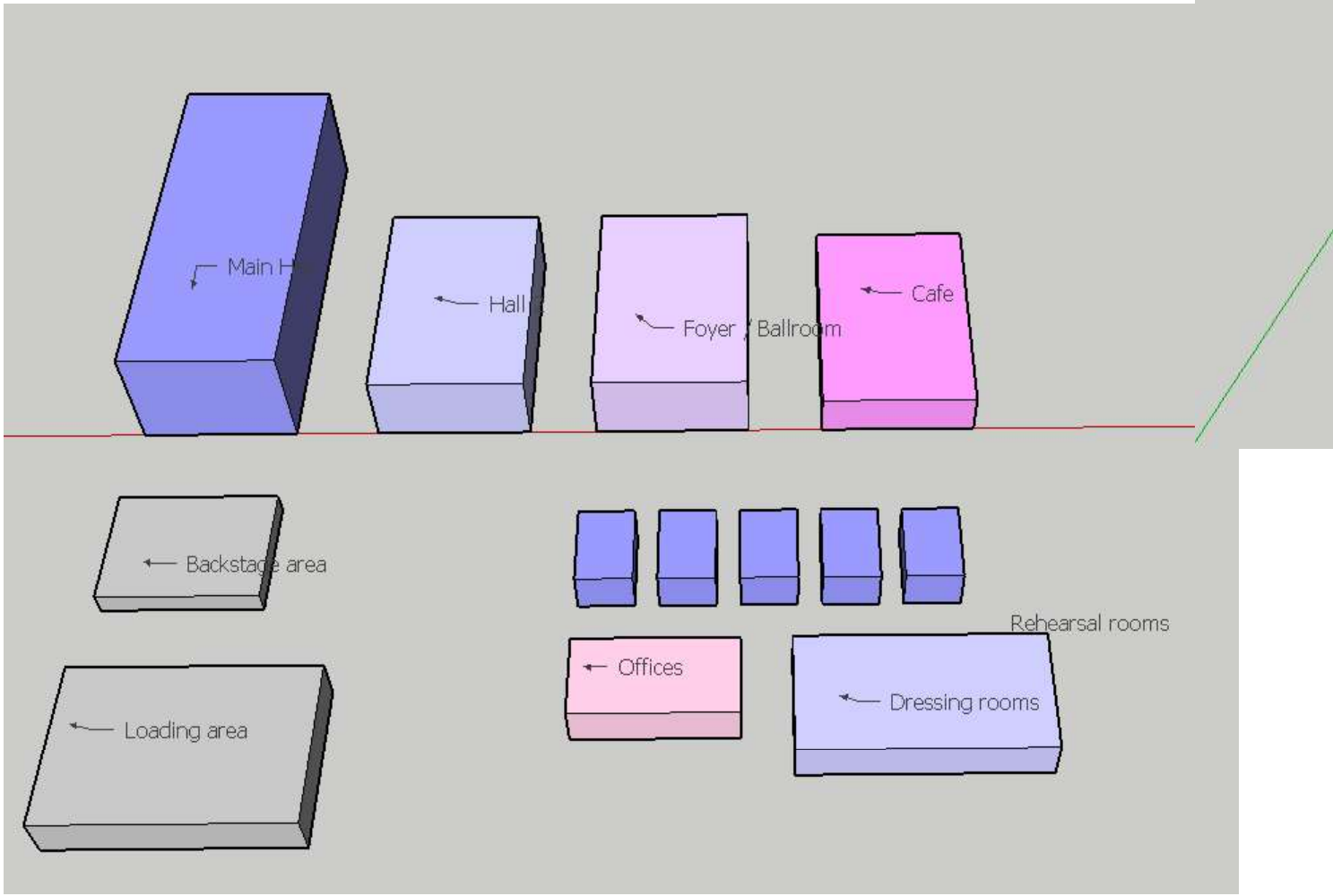


Inclusion of public space

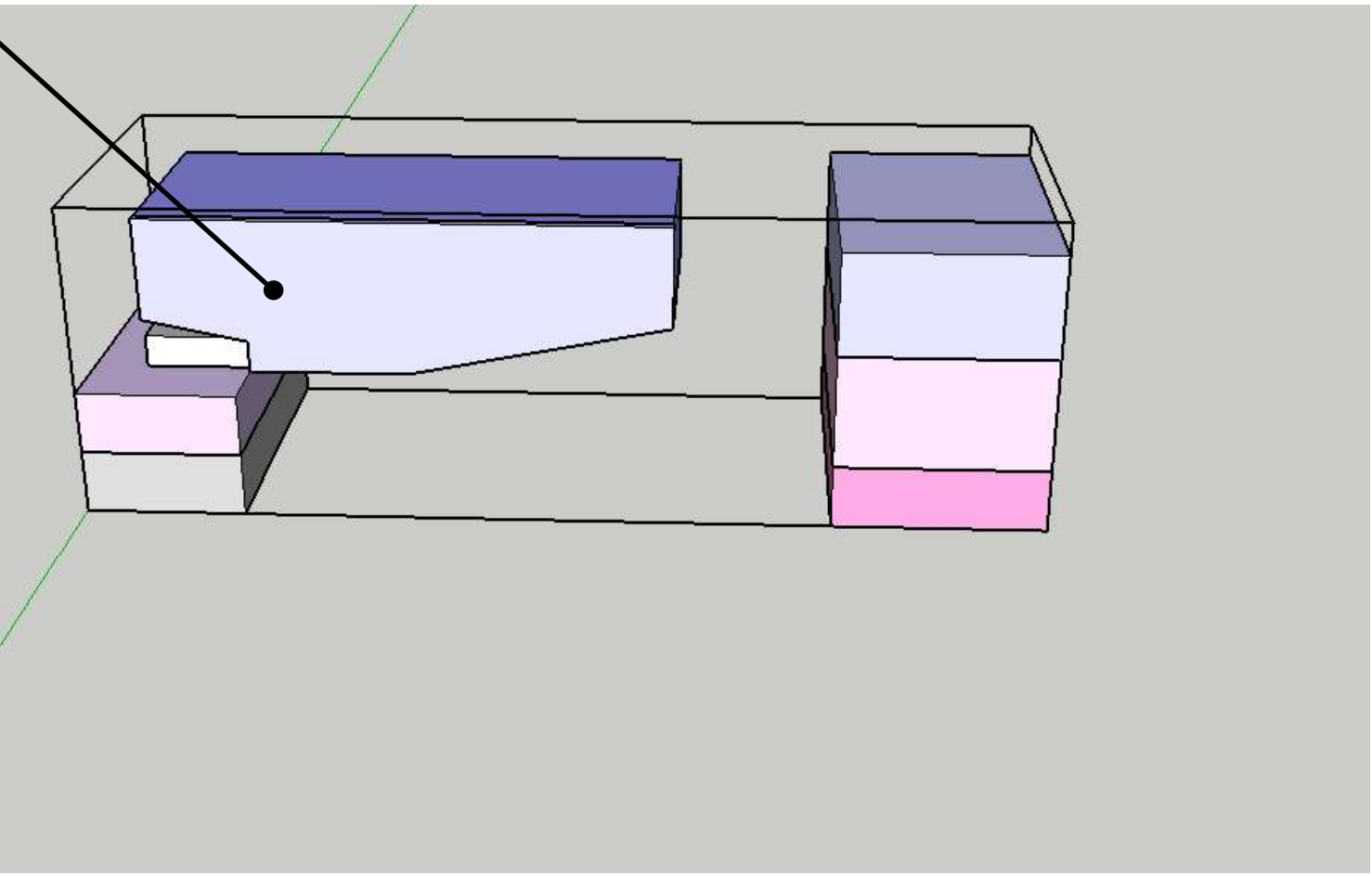


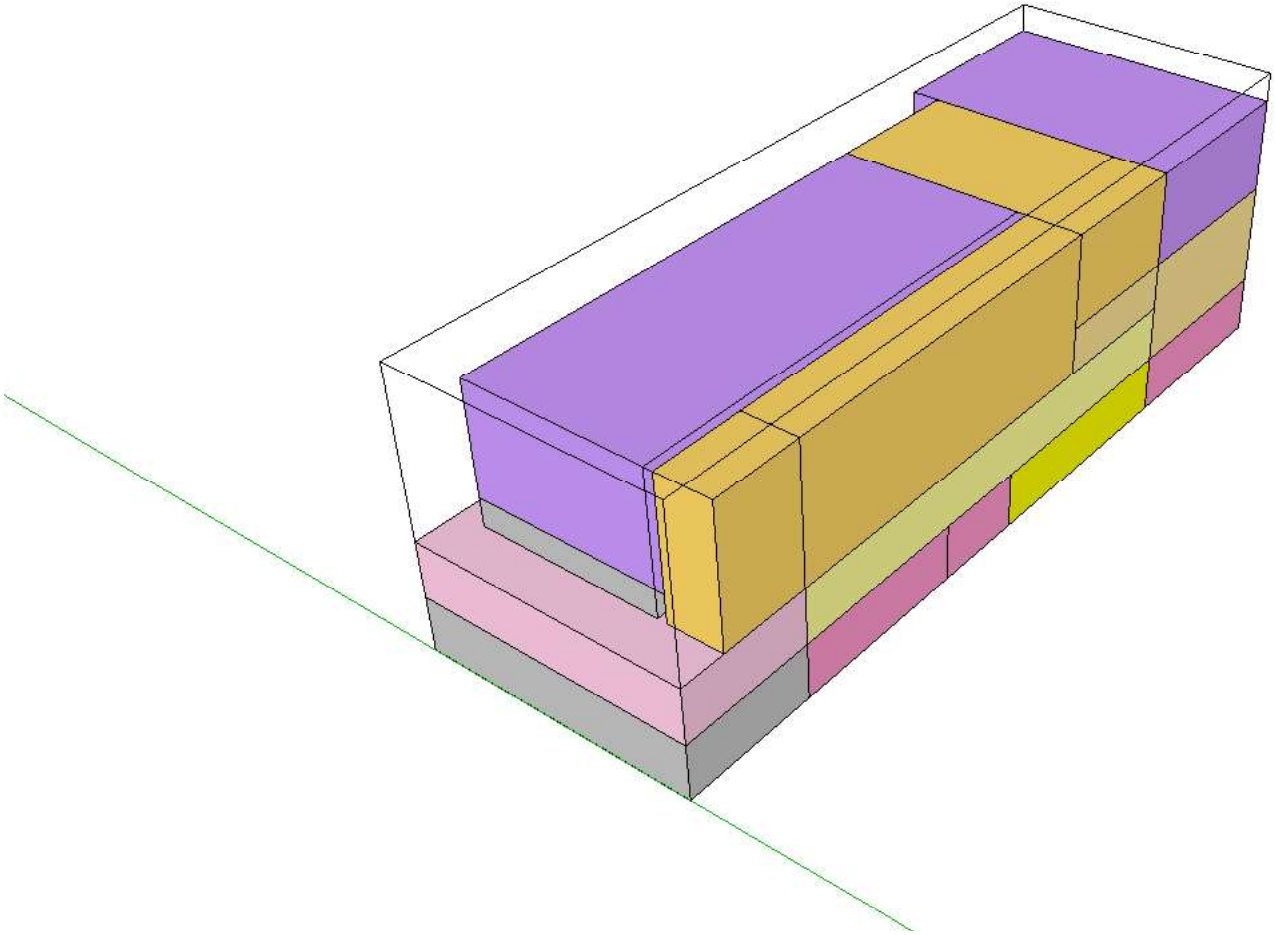

interaction (people) inside / outside
part of competition

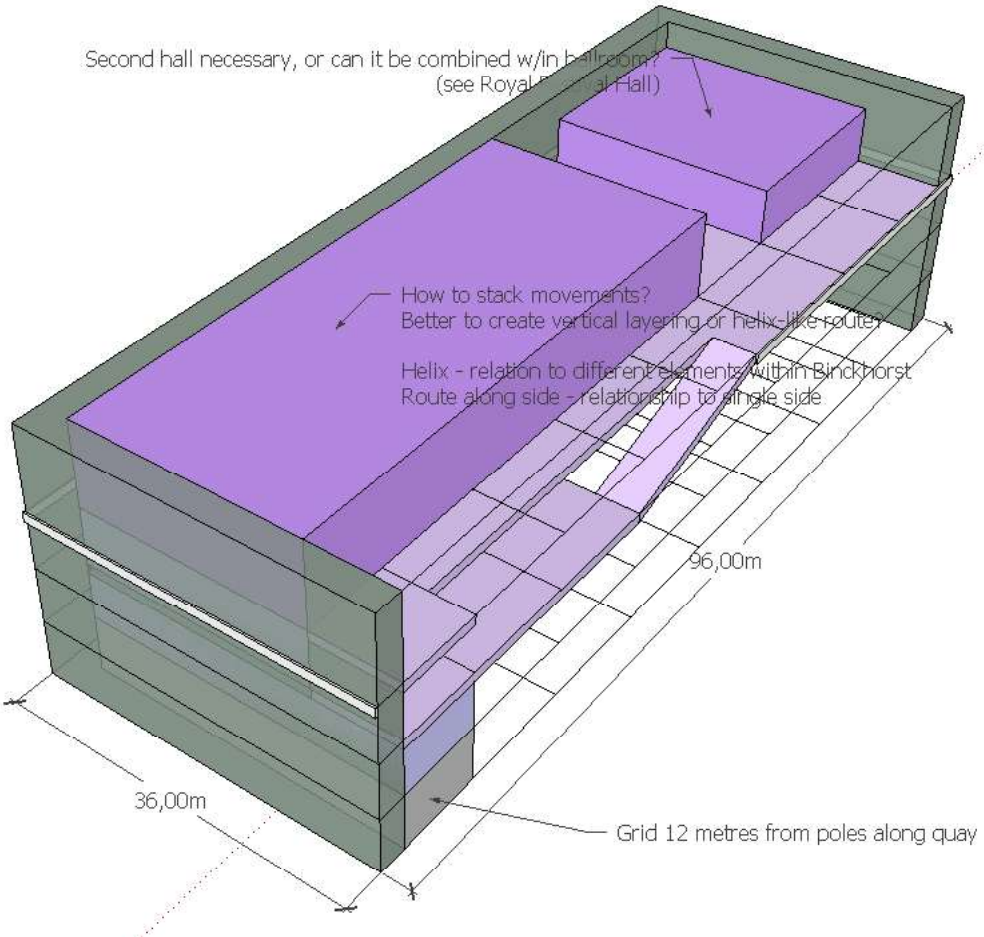
Sh
(c

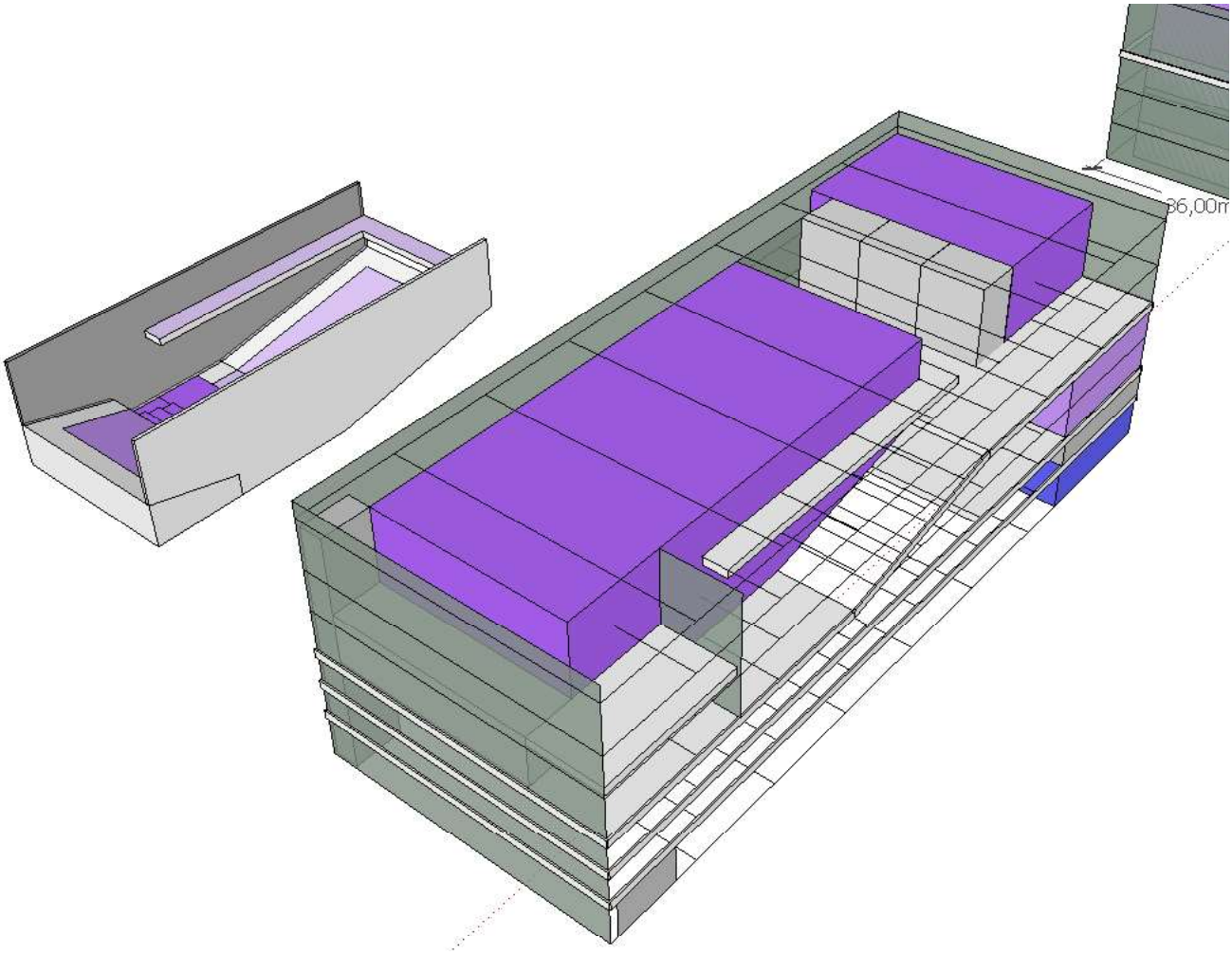

Main H
Hall
Foyer / Ballroom
Cafe
Backstage area
Loading area
Offices
Rehearsal rooms
Dressing rooms

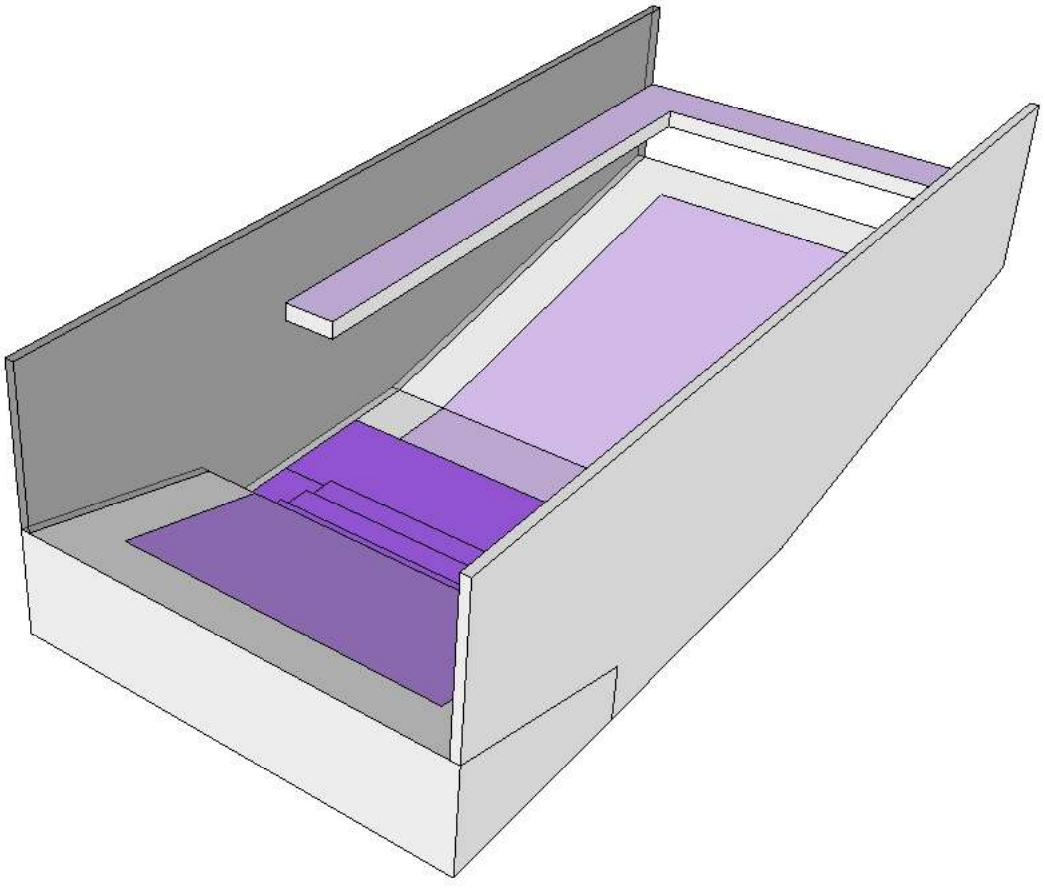
hape main hall like Casa da Musica
apacity 1238)

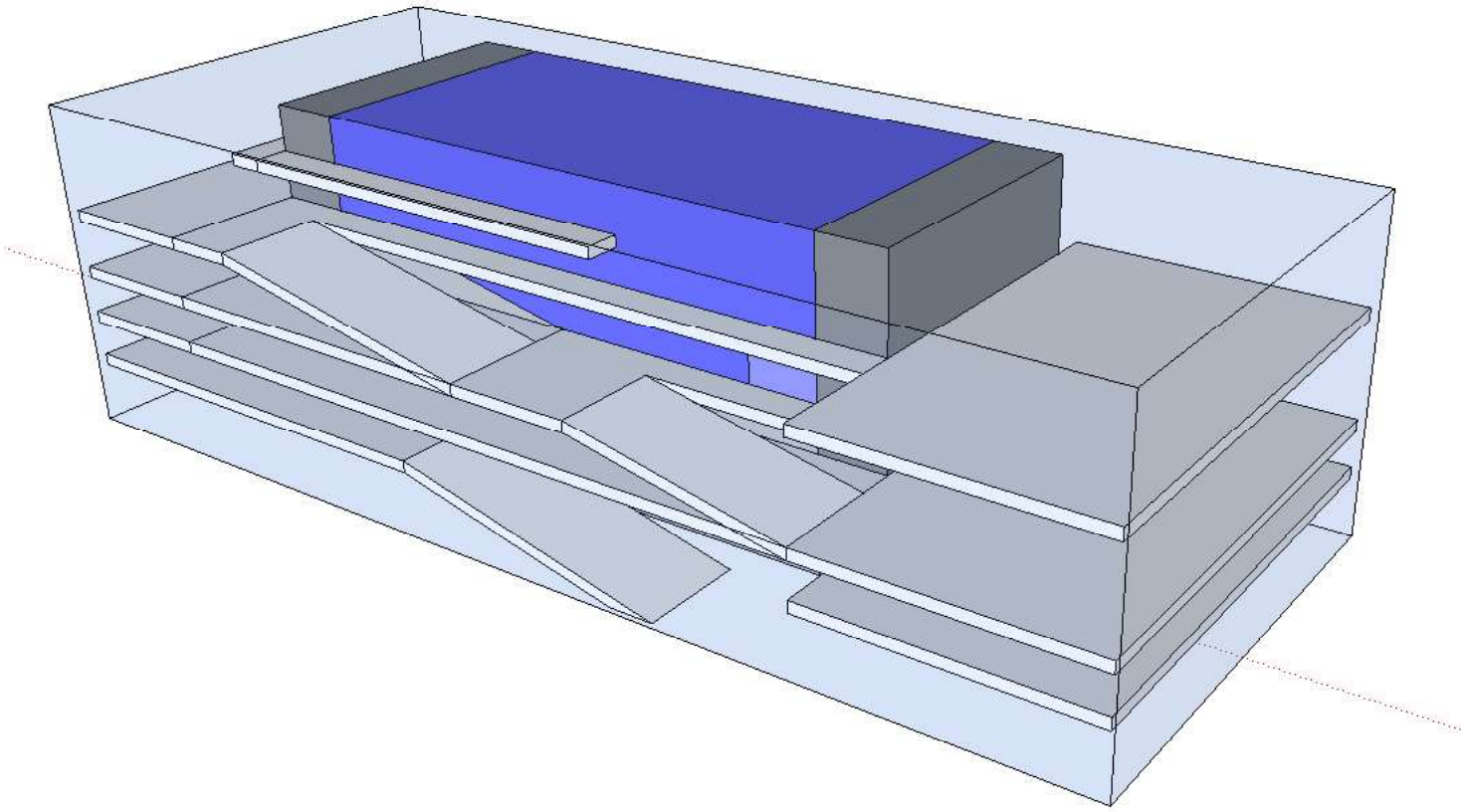





Second hall necessary, or can it be combined w/in ballroom?
(see Royal
l Hall)
How to stack movements?
Better to create vertical layering or helix-like route?
Helix - relation to different elements within Binckhorst
Route along side - relationship to single side
96,00m
36,00m
Grid 12 metres from poles along quay


36,00m





E.
Schematic design

Binckhorst zones

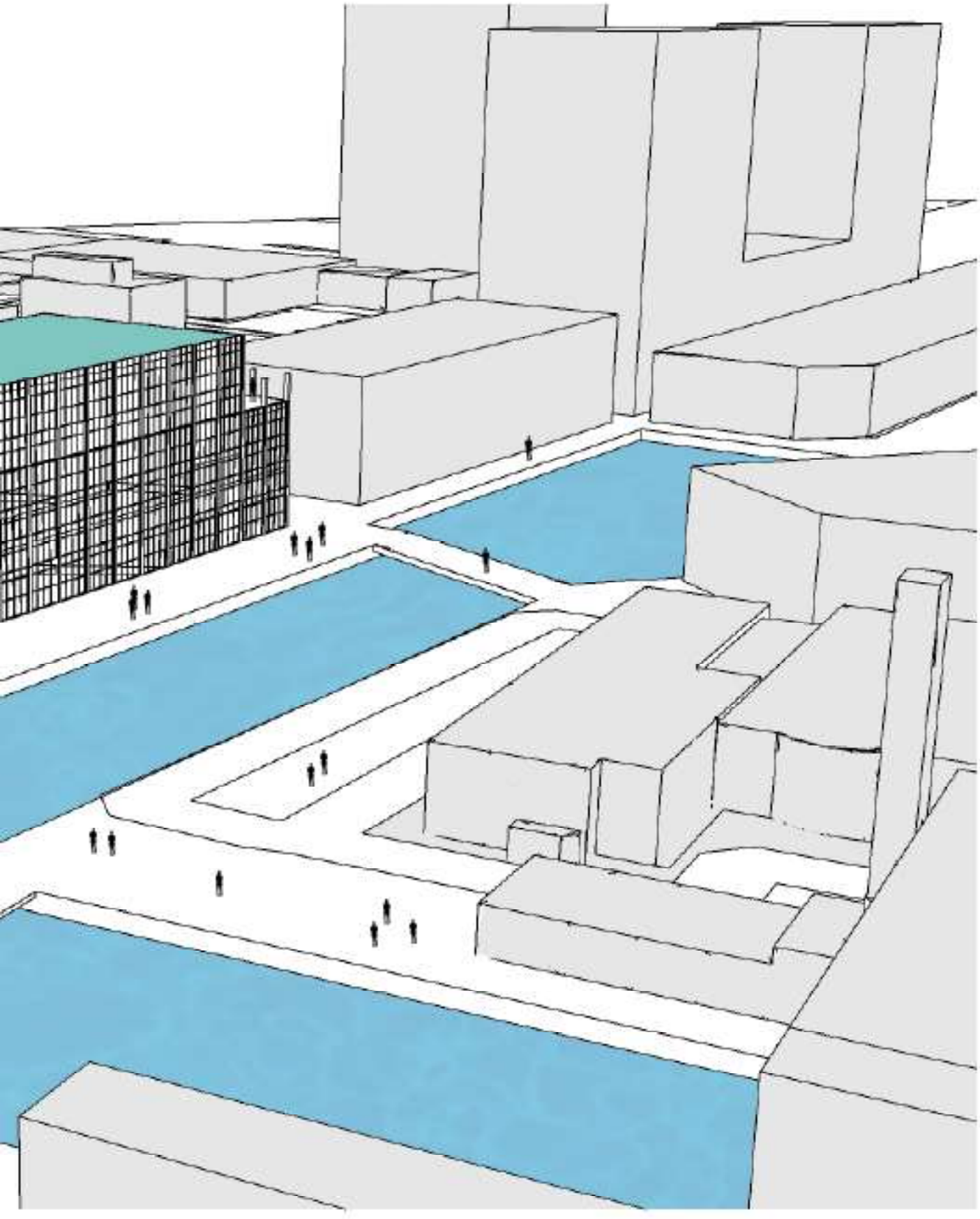
TREKVLIETZONE

BINCKHORSTLAAN

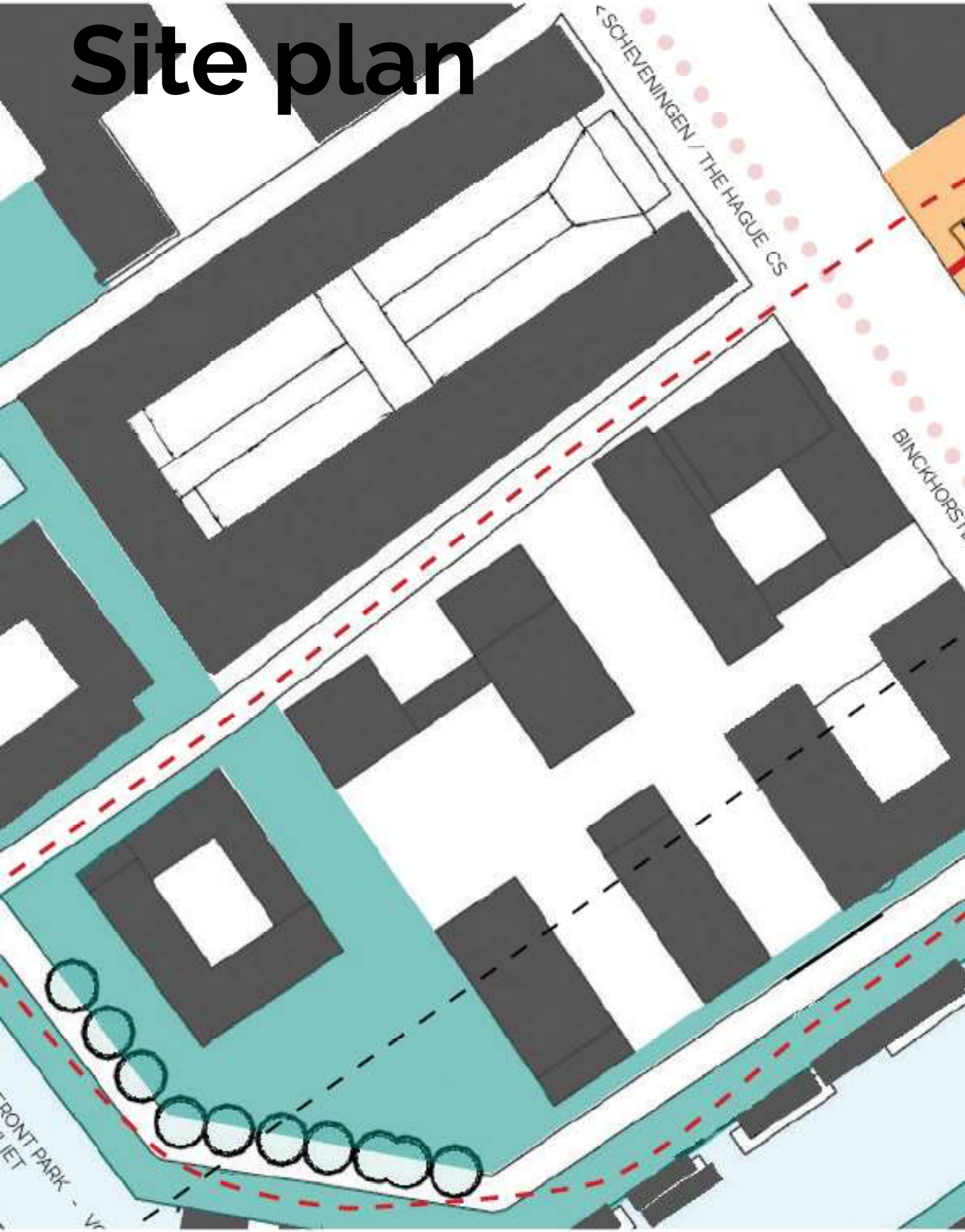
BINCKHAVEN (Impressions:: Municipality of The Hague)

BINCKHAVEN

Site

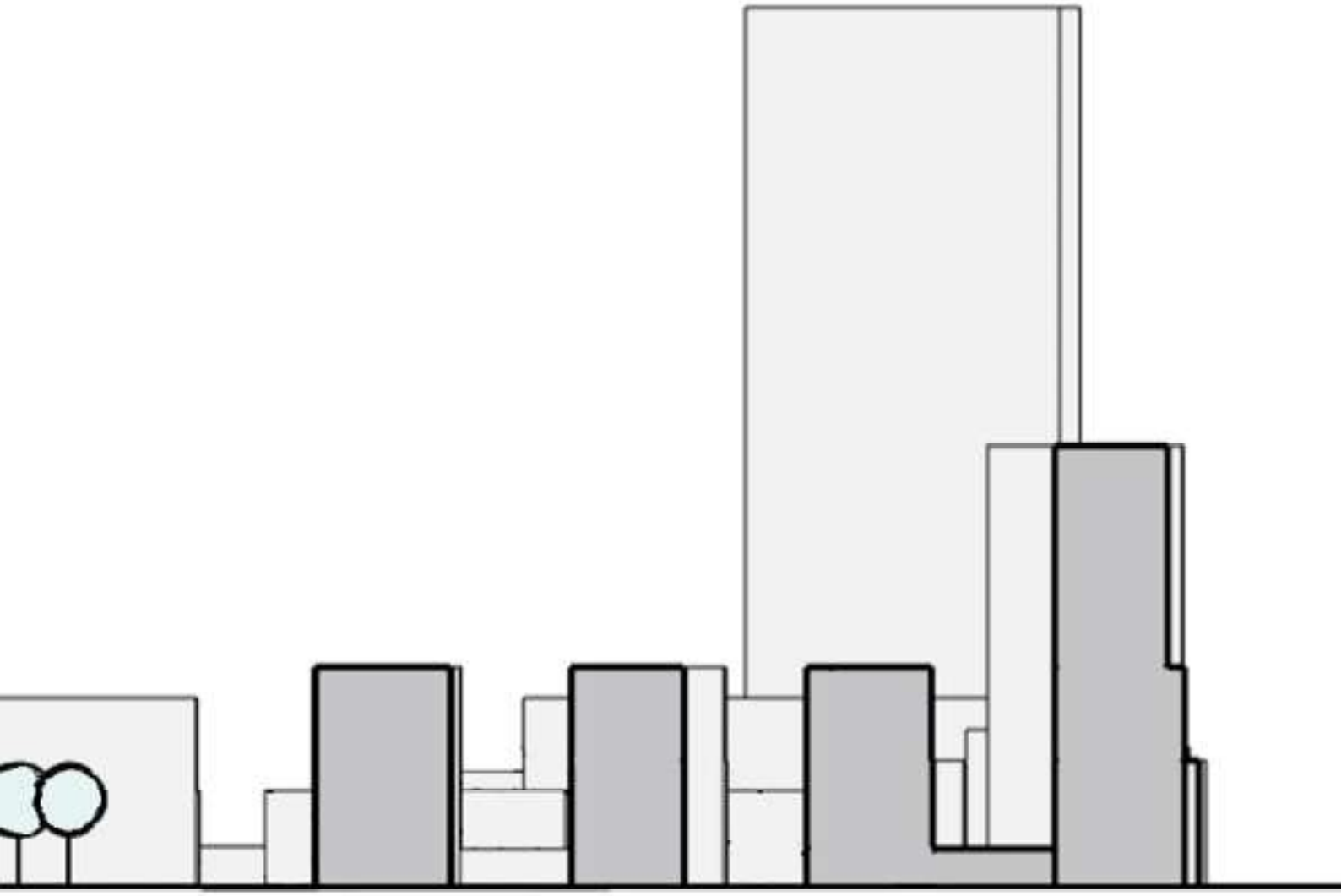


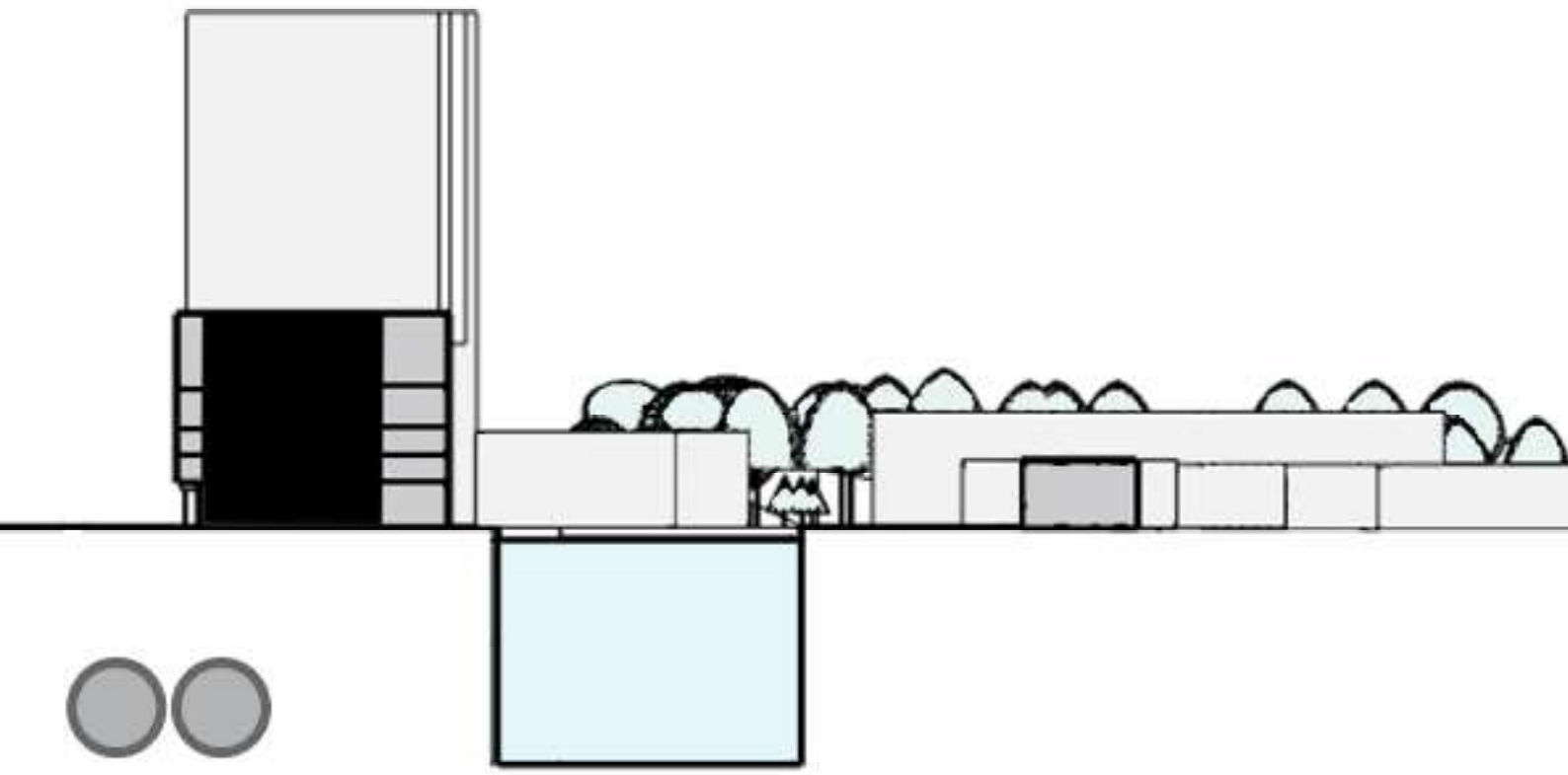
Site plan



MAIN ENTRANCE
OFFICES
LOADING
ARTISTS ENTRANCE
CAFE
DELFT
0 5 10 m

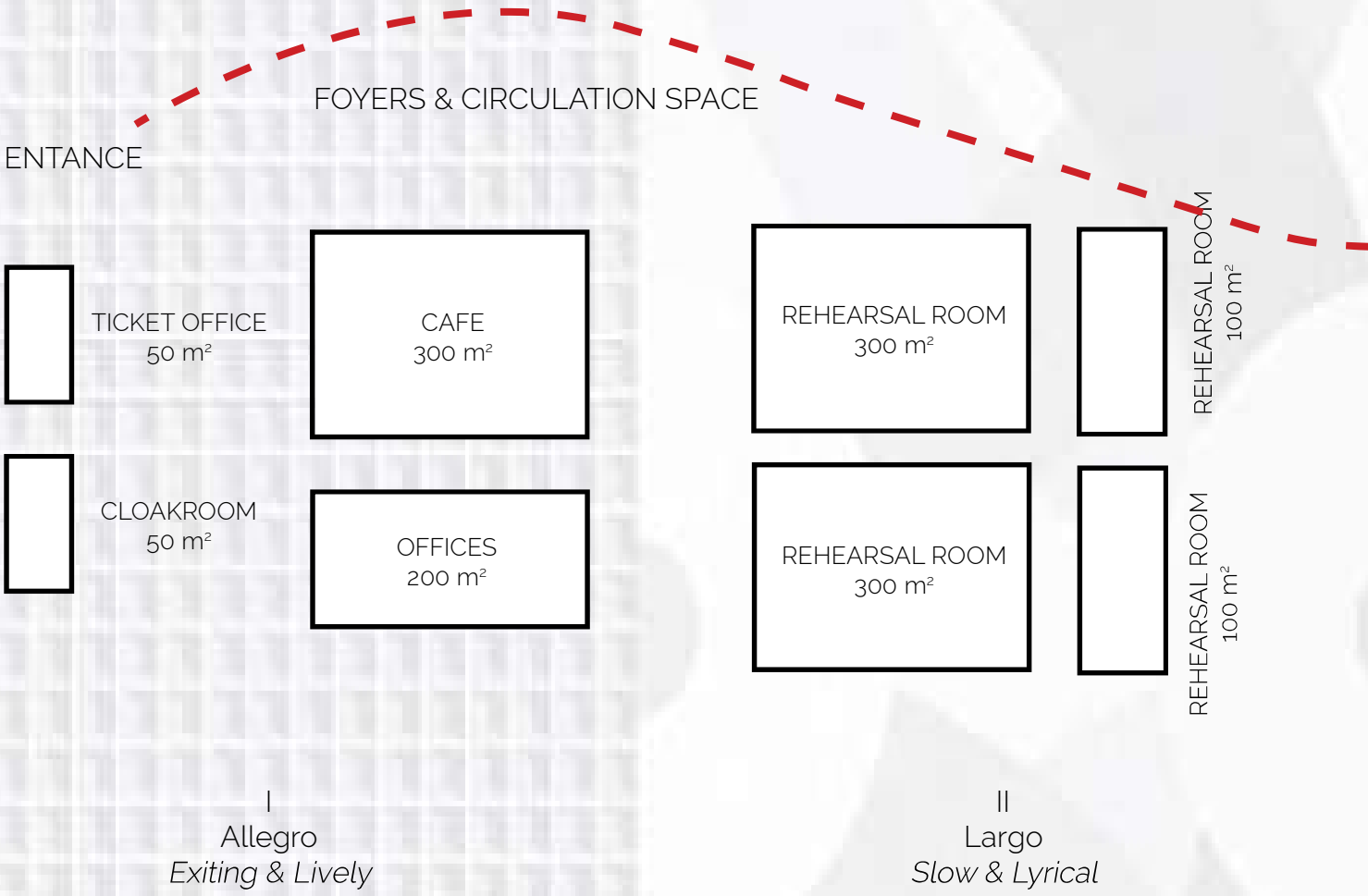
Site section

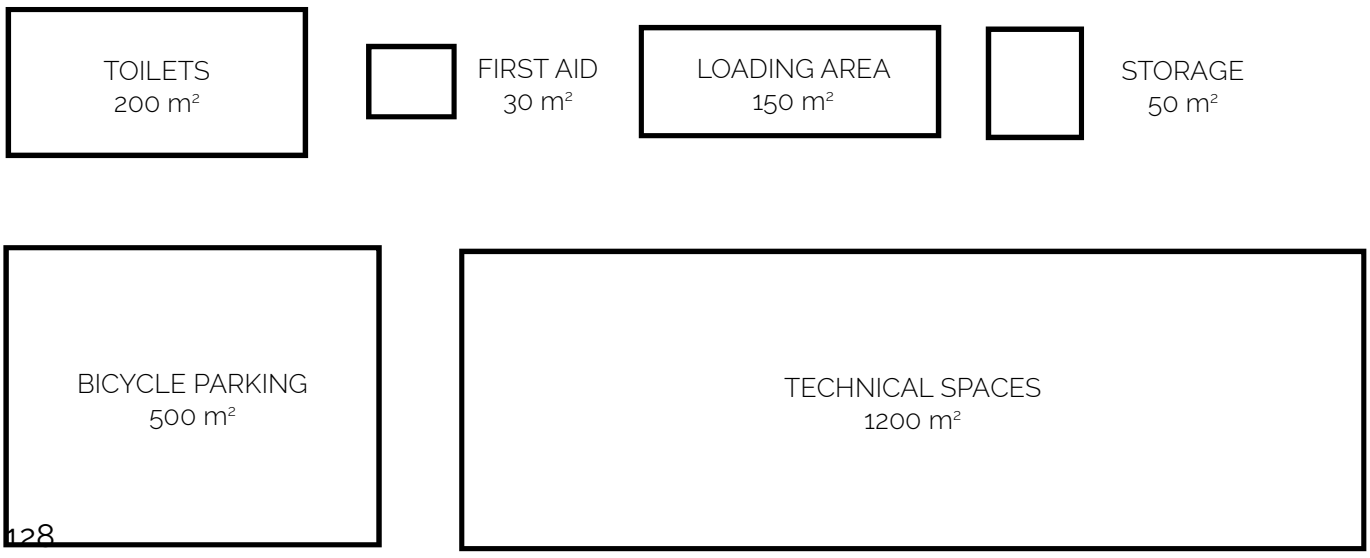




0 5 20 m

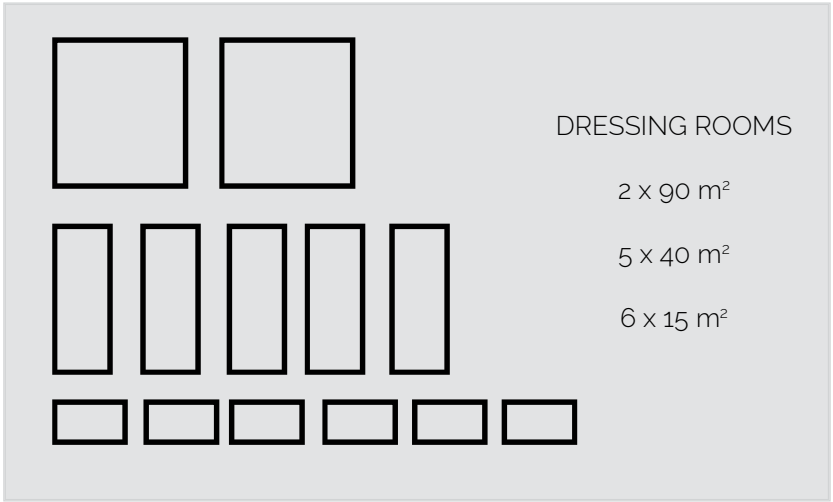
Organisation





III
Scherzo
Light spirited & Dancy

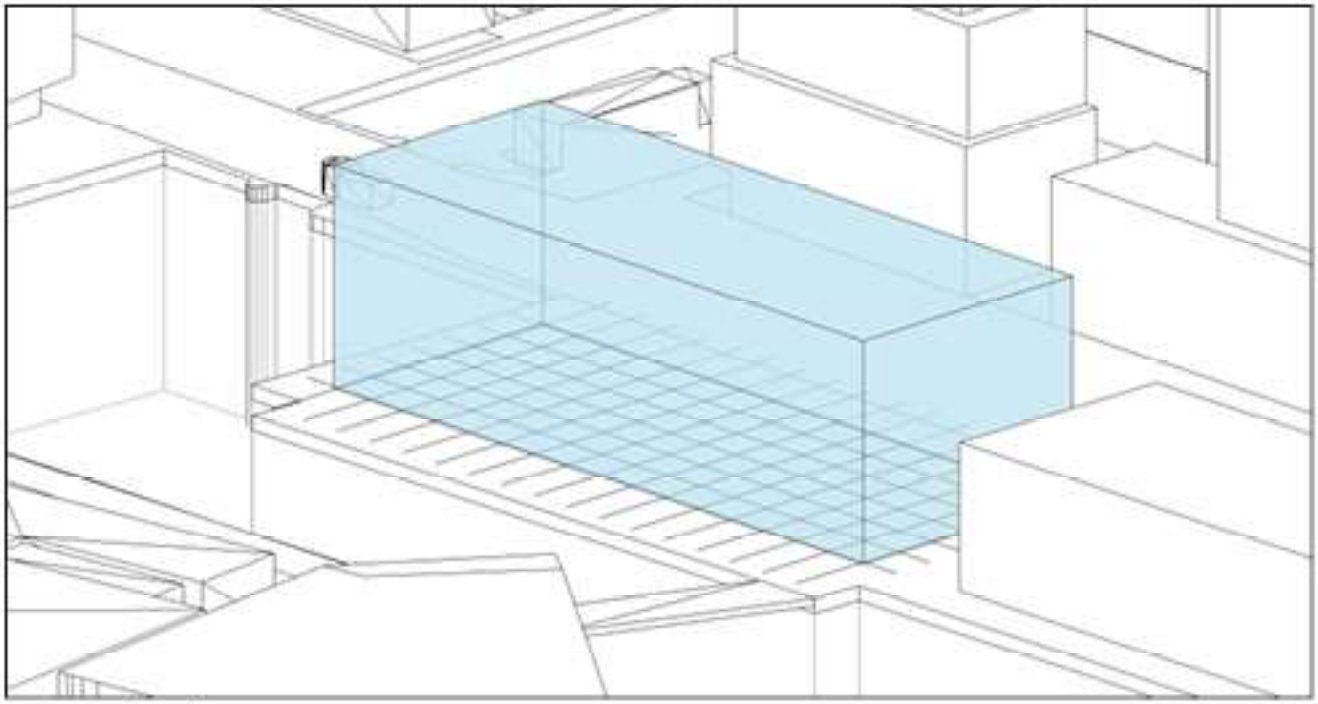
IV
Finale
Euphoric



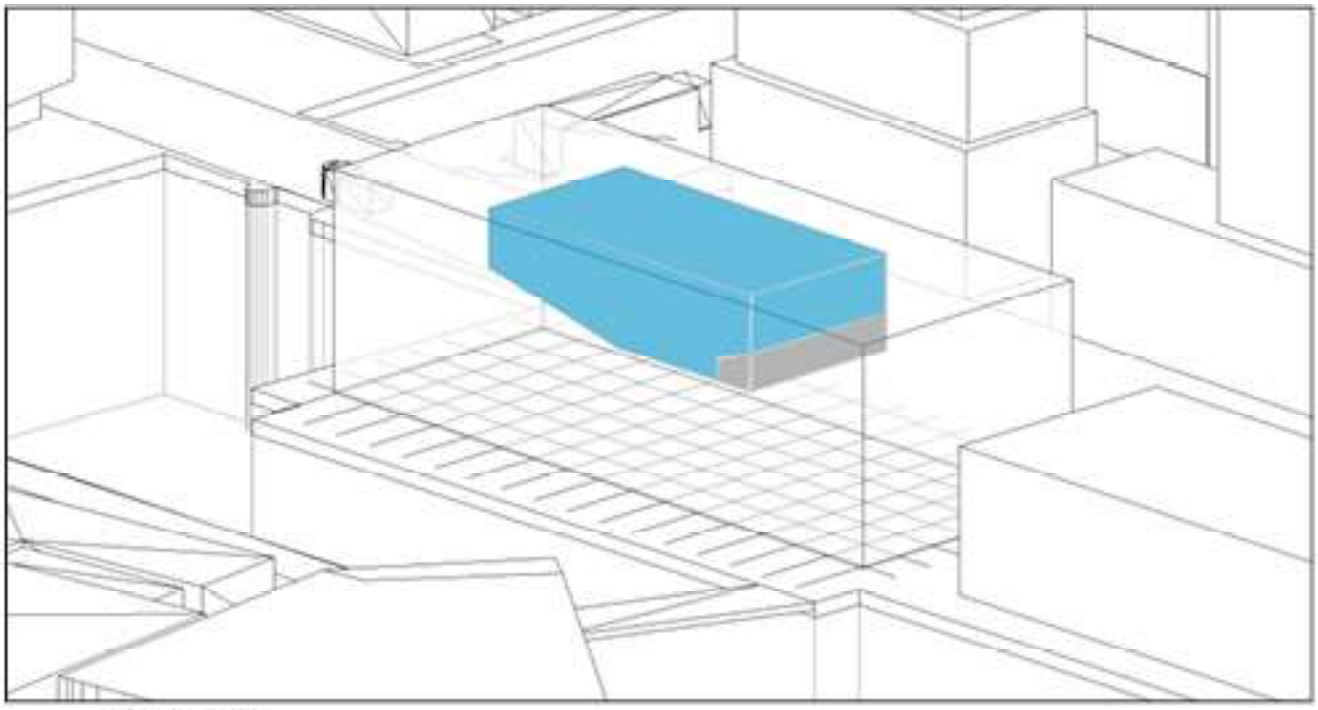
Con ...

1 Locatio

2 Grid

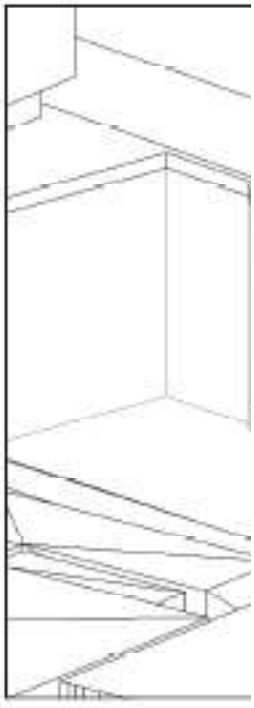


3 Envelope

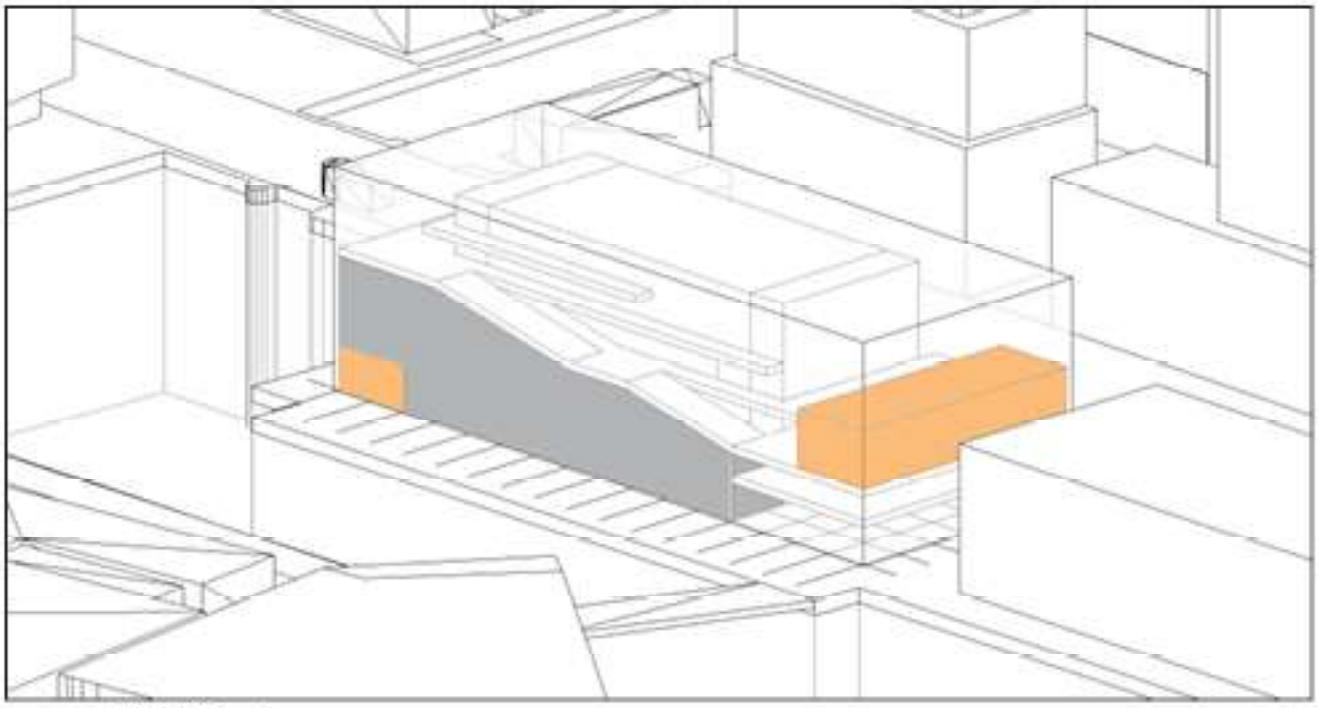


4 Main hall

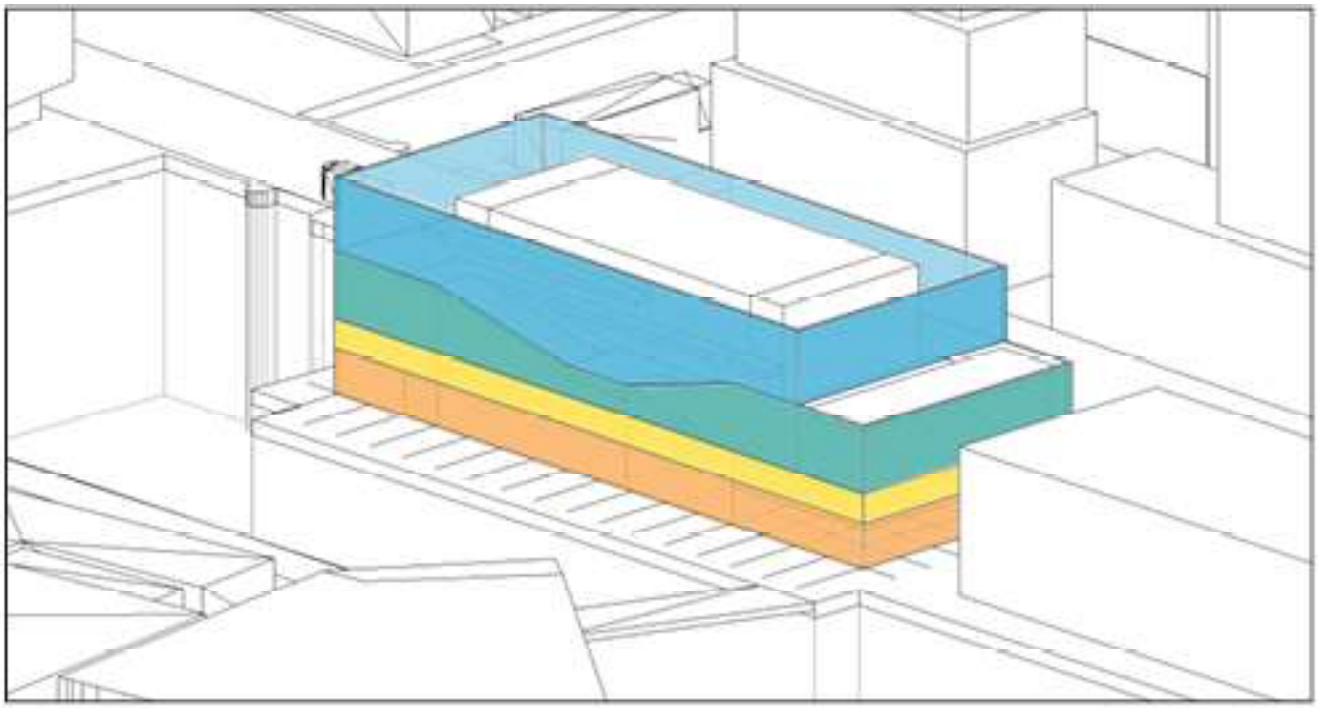
5 Service



6 Routing

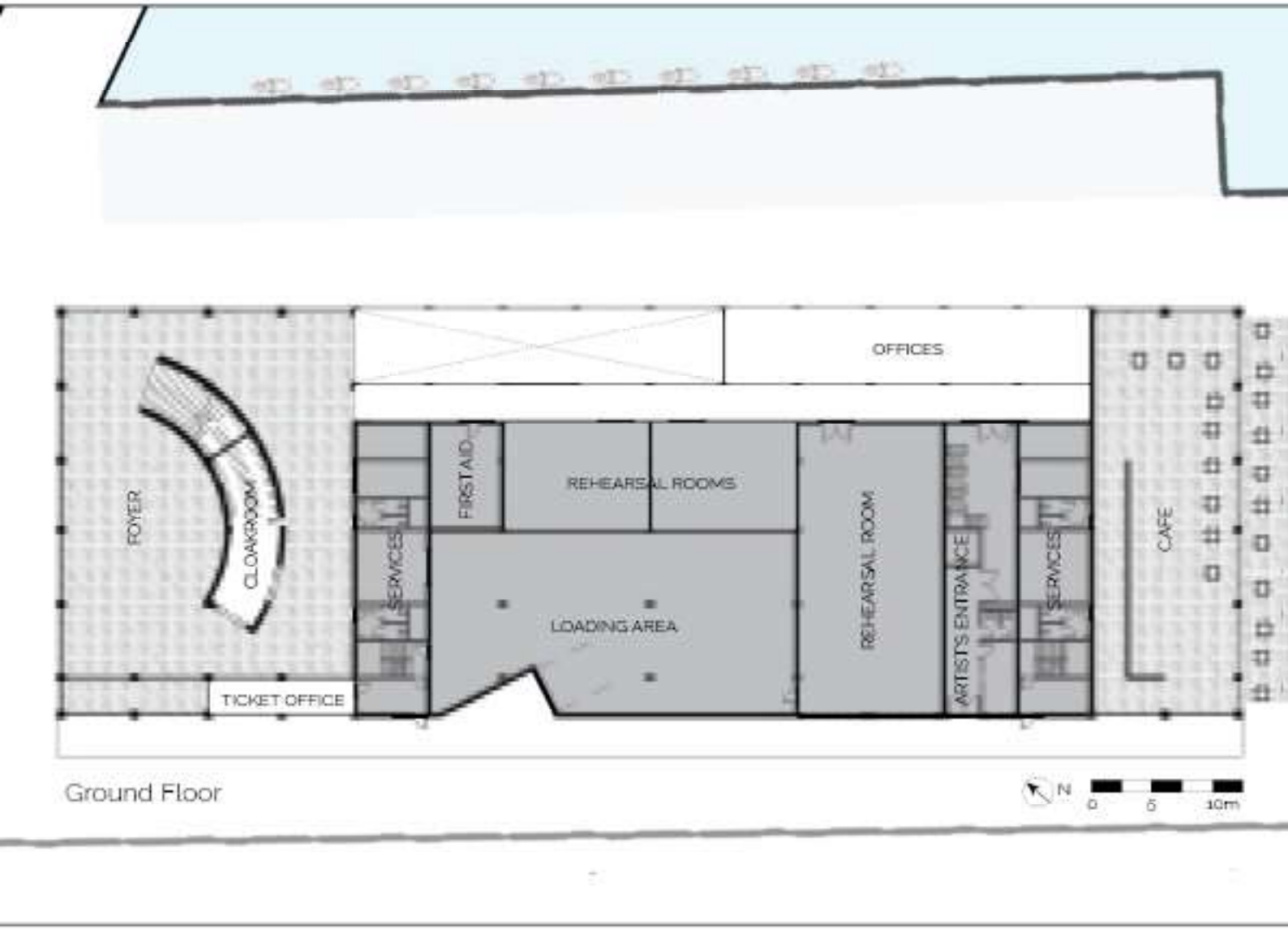


7 Additional programme



8 Facades & expression

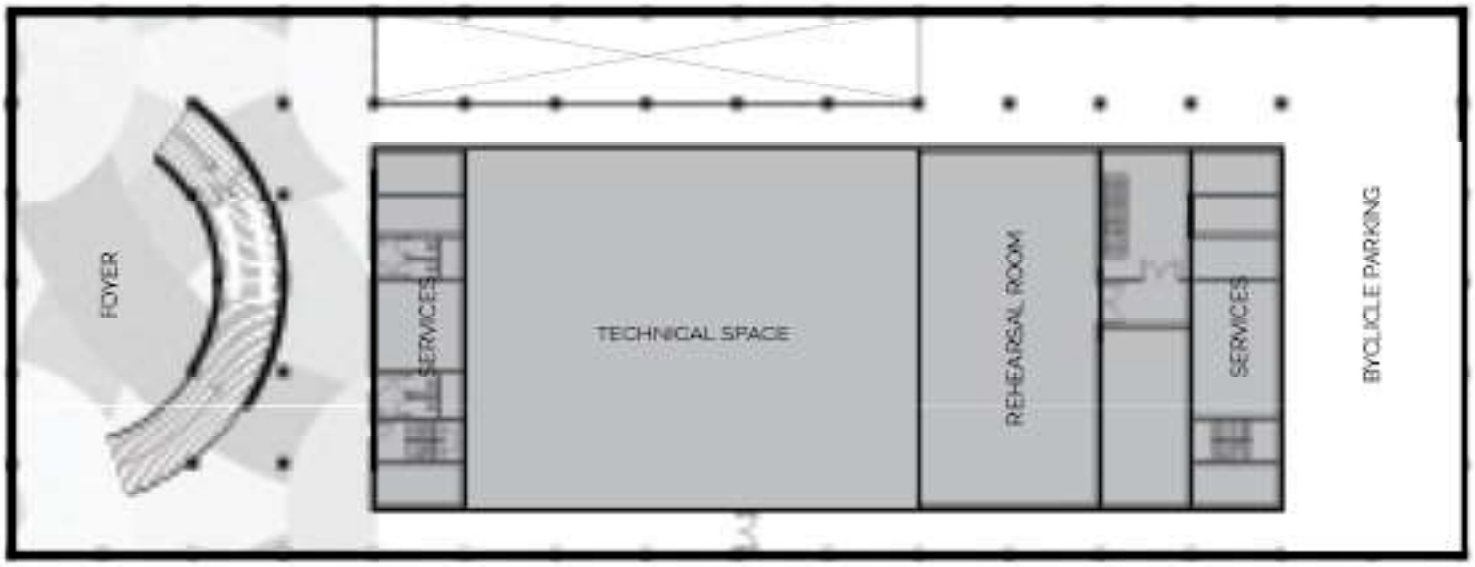
I Allegro



Ground Floor

Allegro
Energetic vibe
Focussed on streetscape
Moderate size of elements
Mix of materials
Moderate rhythm

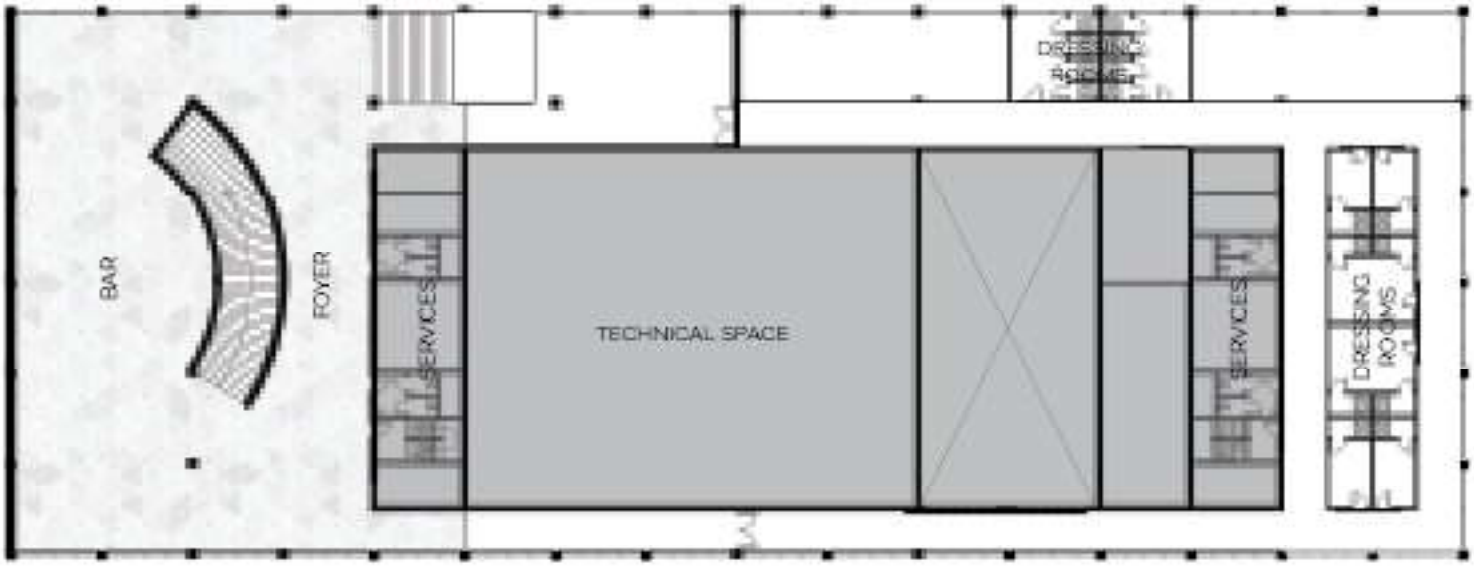
Il Largo



1st Floor

Largo
Calm atmosphere
Inward focus
Large, sweeping elements
Unity in materials
Slow rhythm

III Scherzo

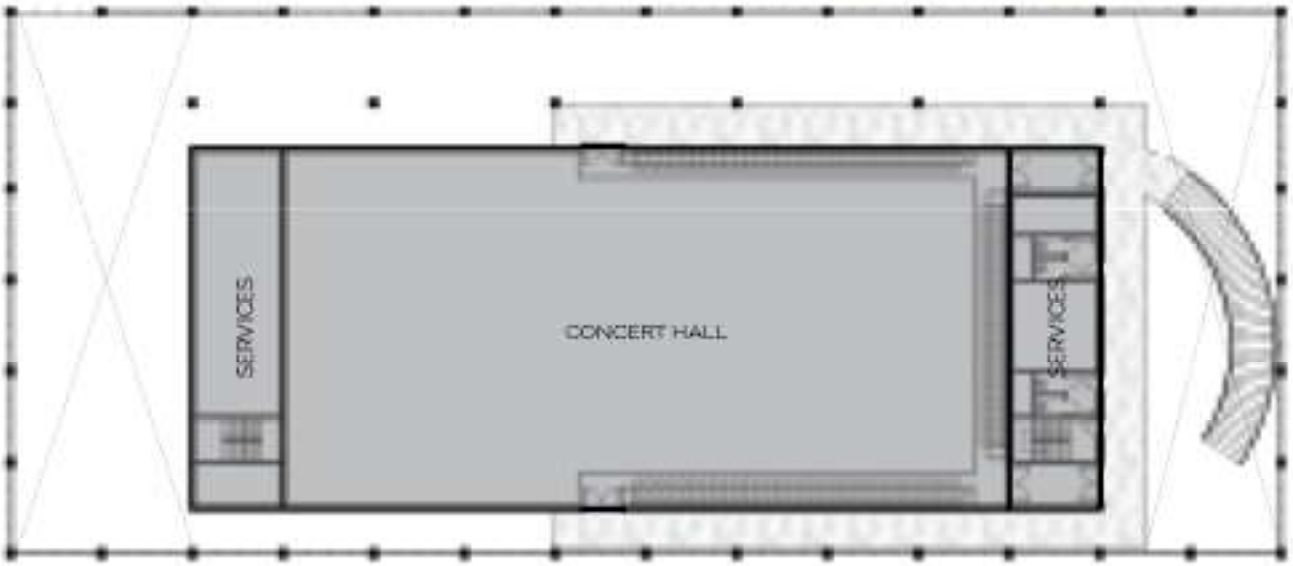


2nd Floor

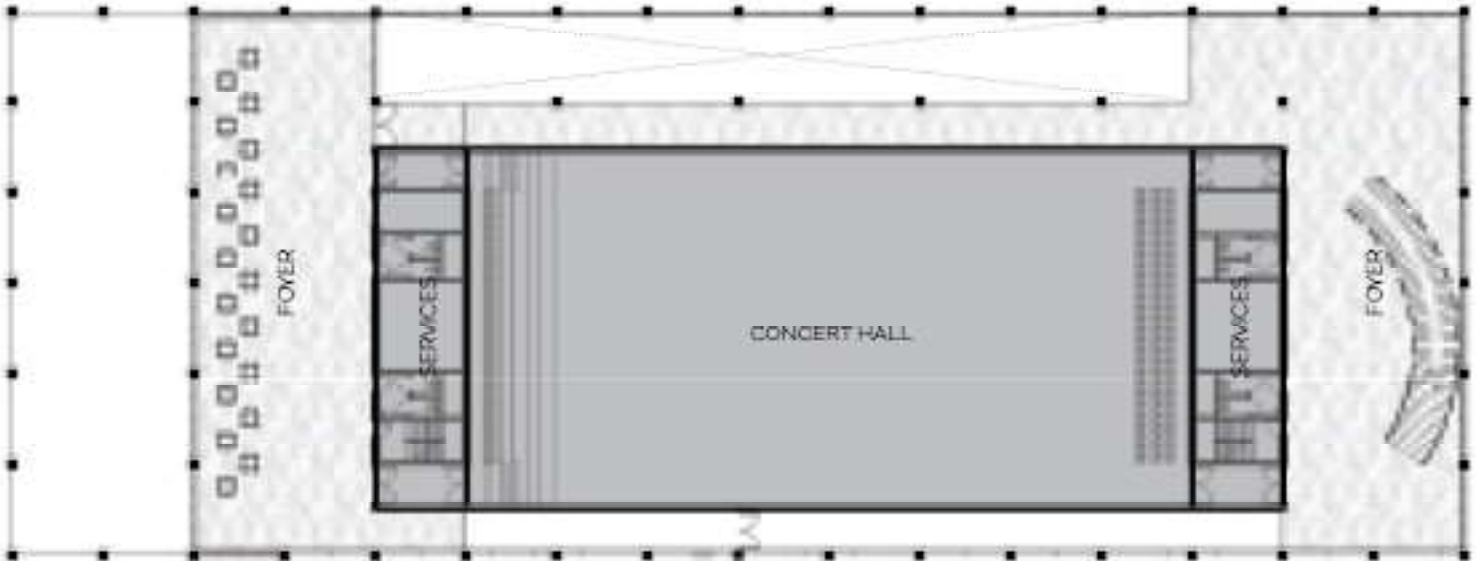
Scherzo
Joyful atmosphere
Focussed on activities
Mix of large and small elements that interact
Clash of materials
Moderately fast rhythm

IV Finale

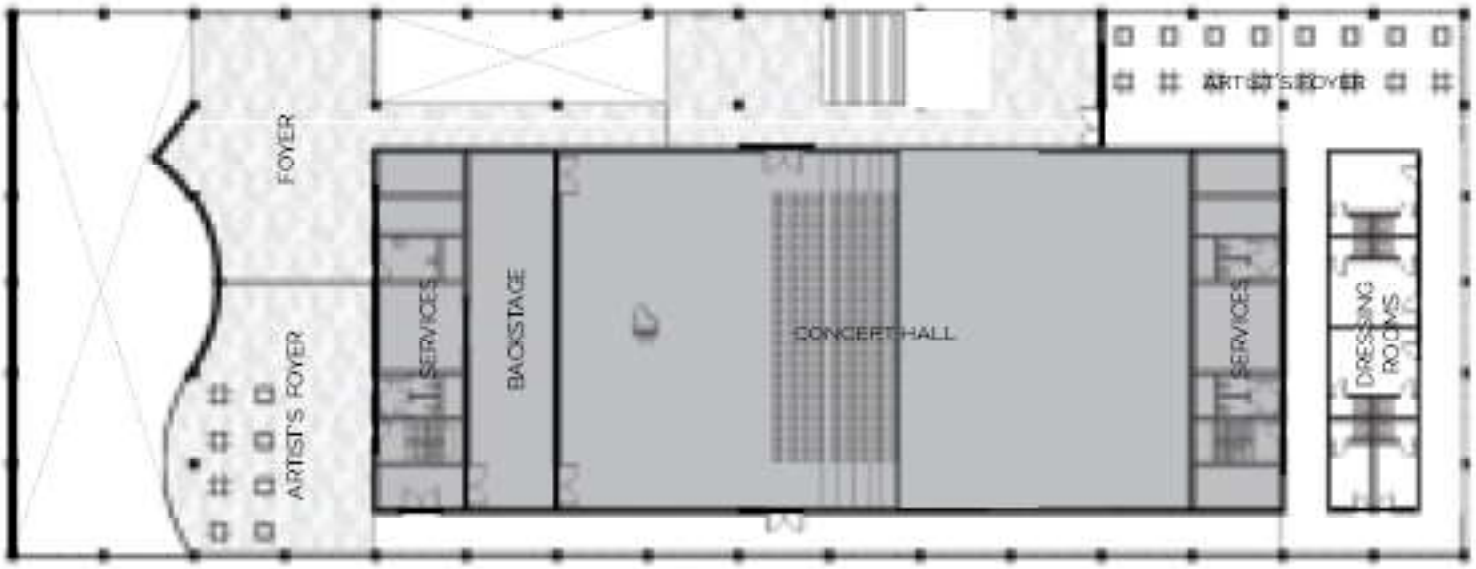
Finale
Euphoric vibe
Focussed on cityscape
Large elements & volumes
Mix of materials
Moderate rhythm



5th Floor

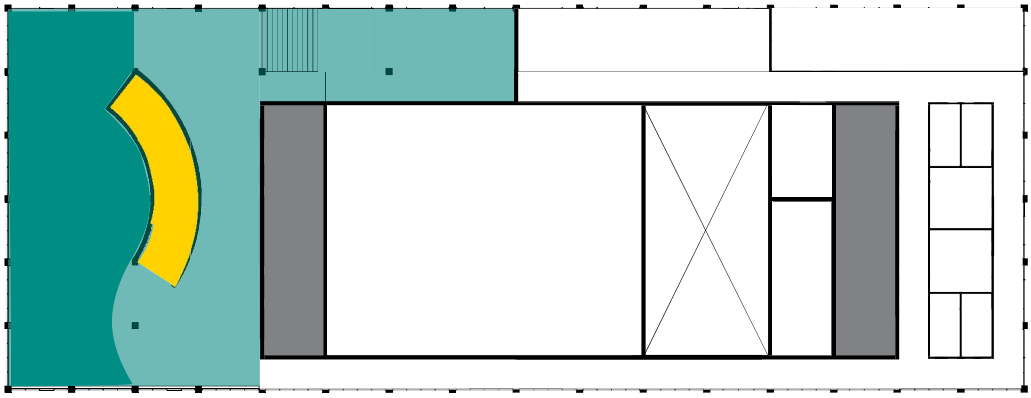


4th Floor



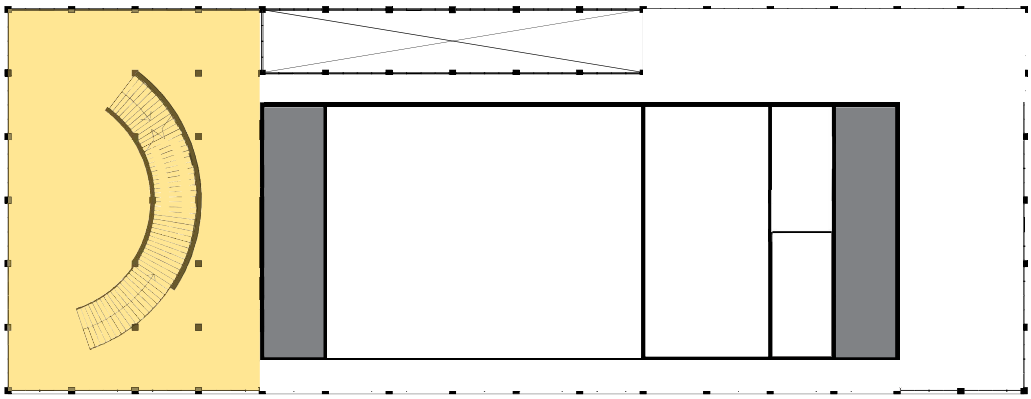
3rd Floor

IV Finale



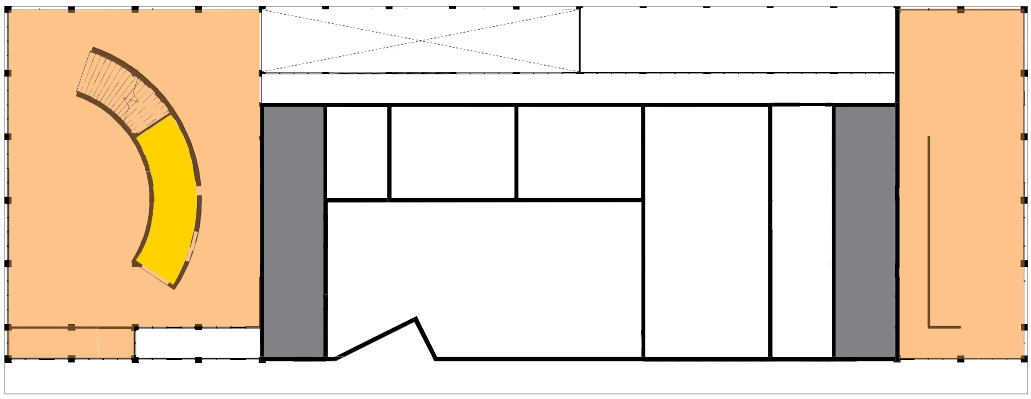
2nd Floor

N 0 5 10m



1st Floor

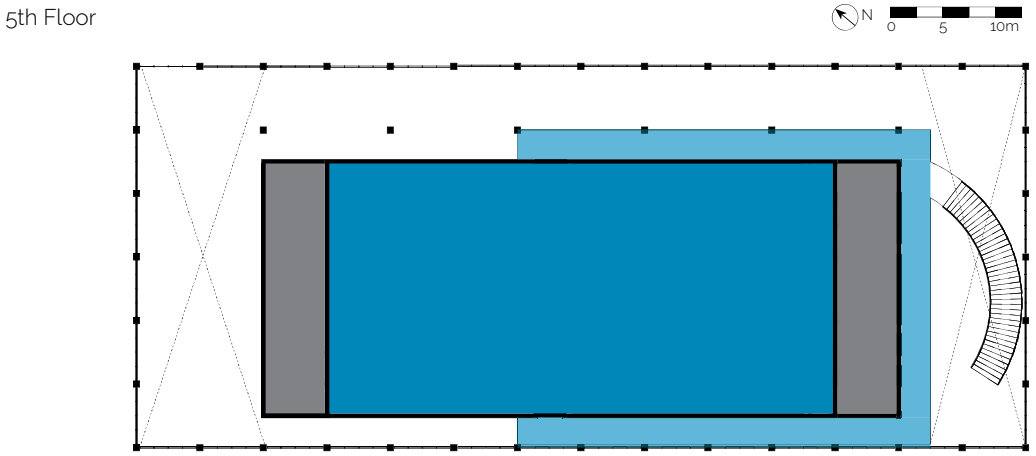
N 0 5 10m



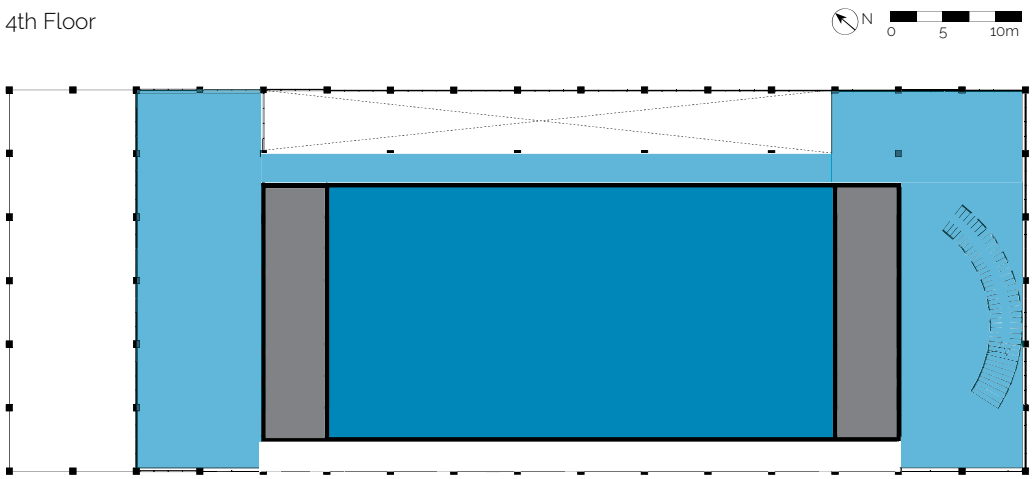
Ground Floor

N 0 5 10m

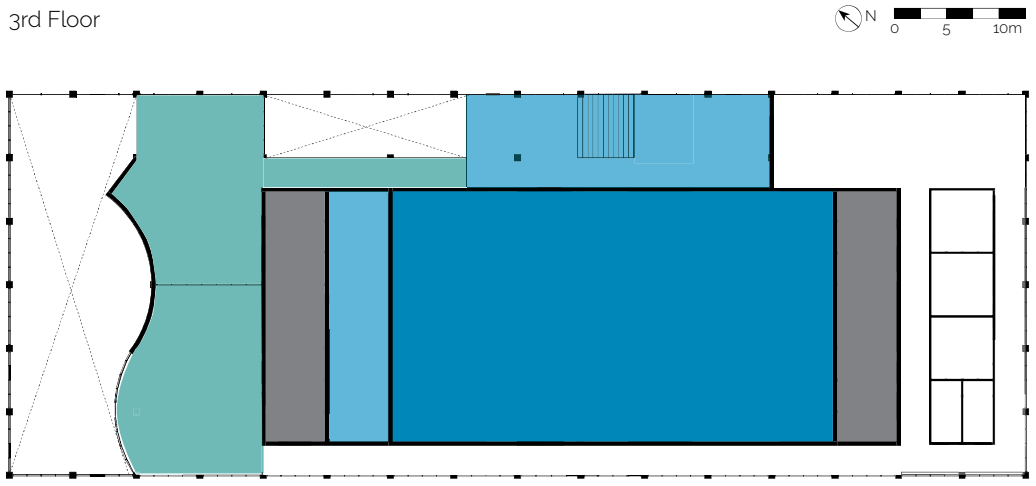
5th Floor

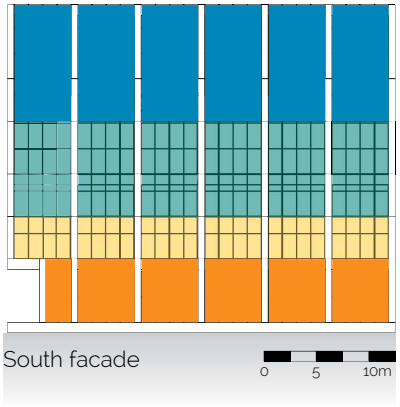


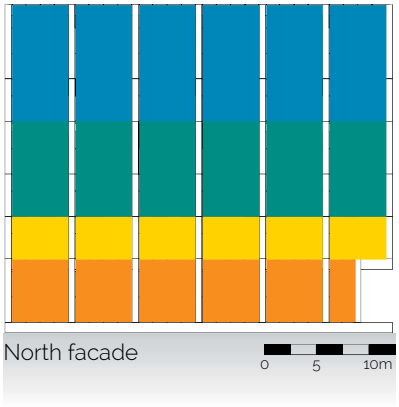
4th Floor

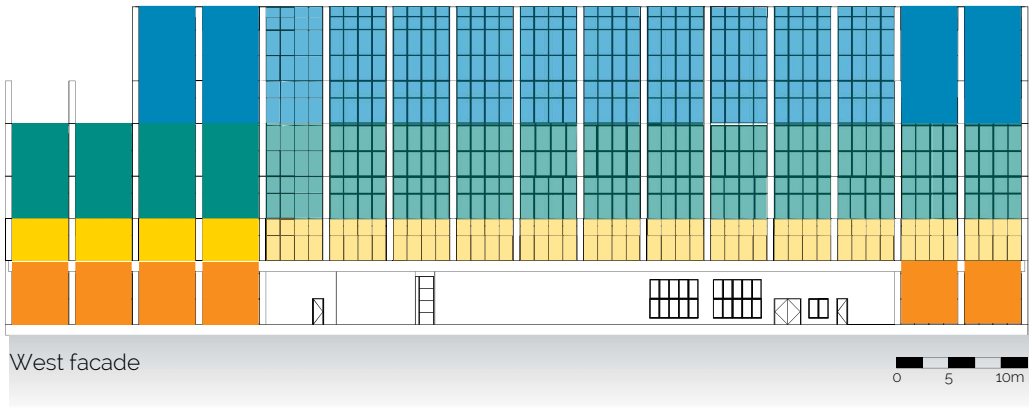


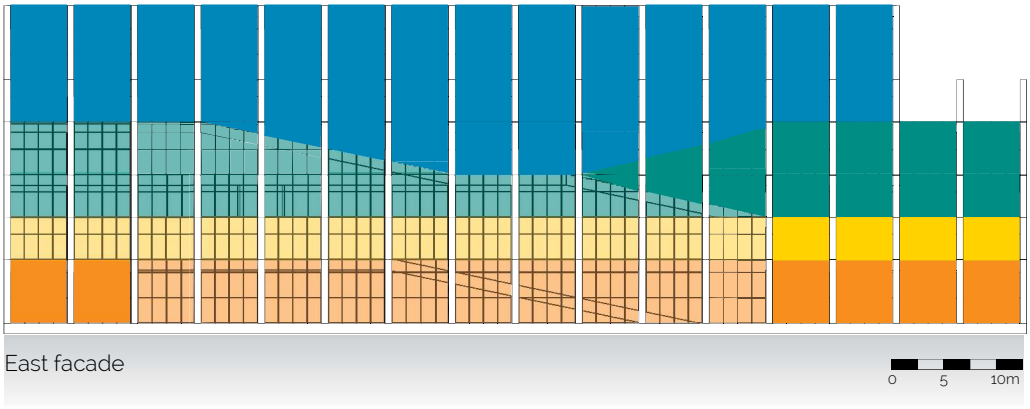
3rd Floor

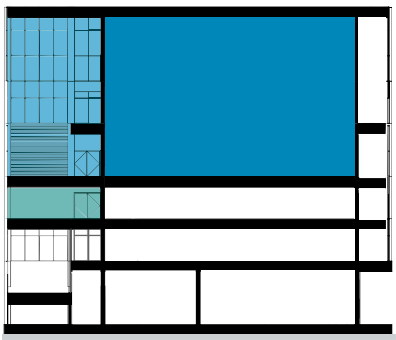



South facade
0
5
10m

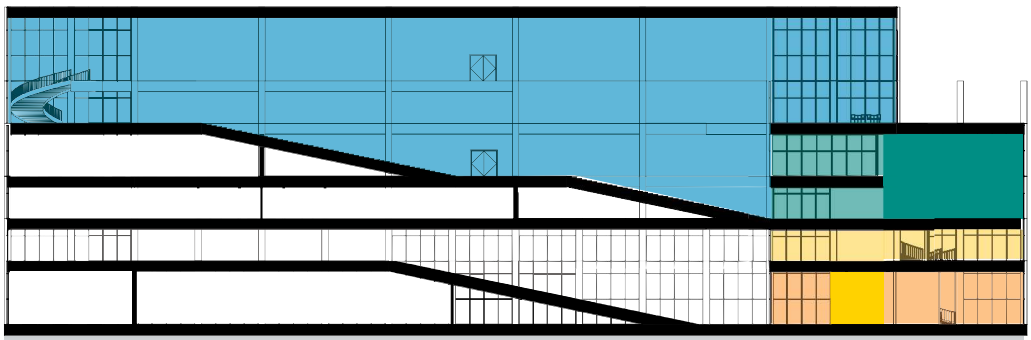

North facade
0
5
10m


West facade
0
5
10m

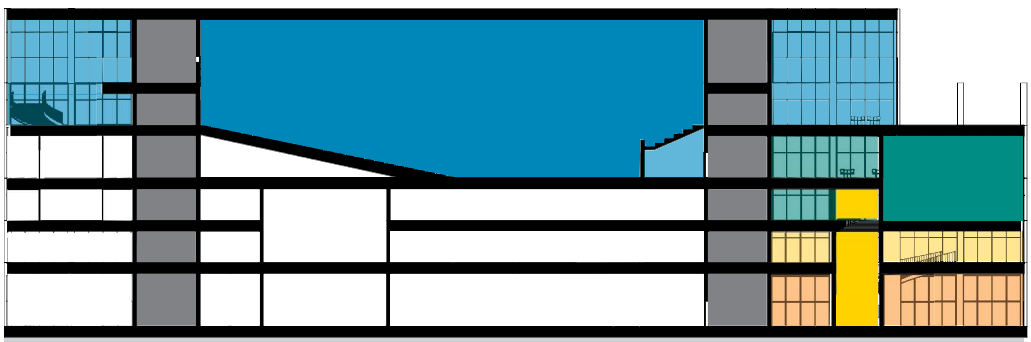

East facade
0
5
10m



Cross-section

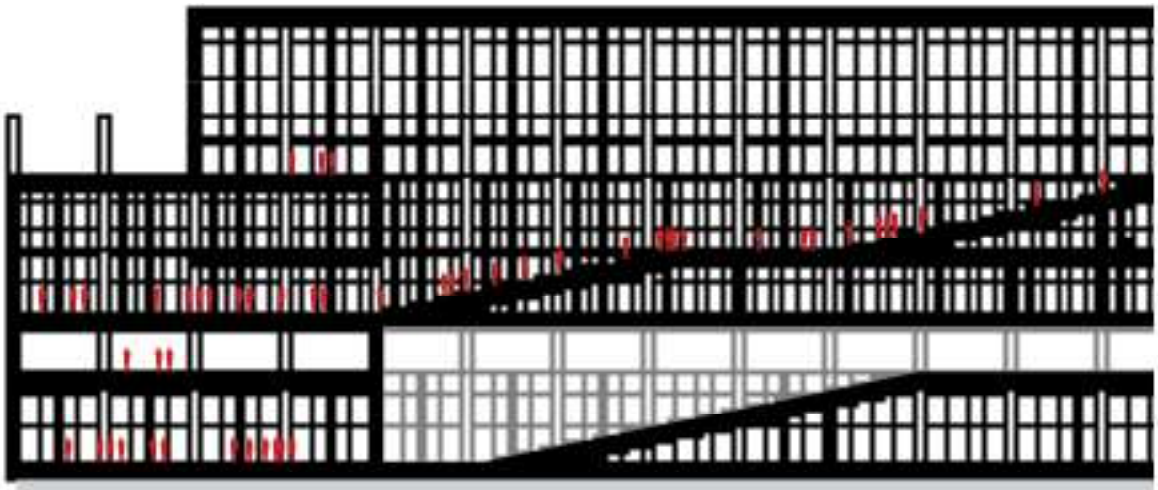


Section Main stairway

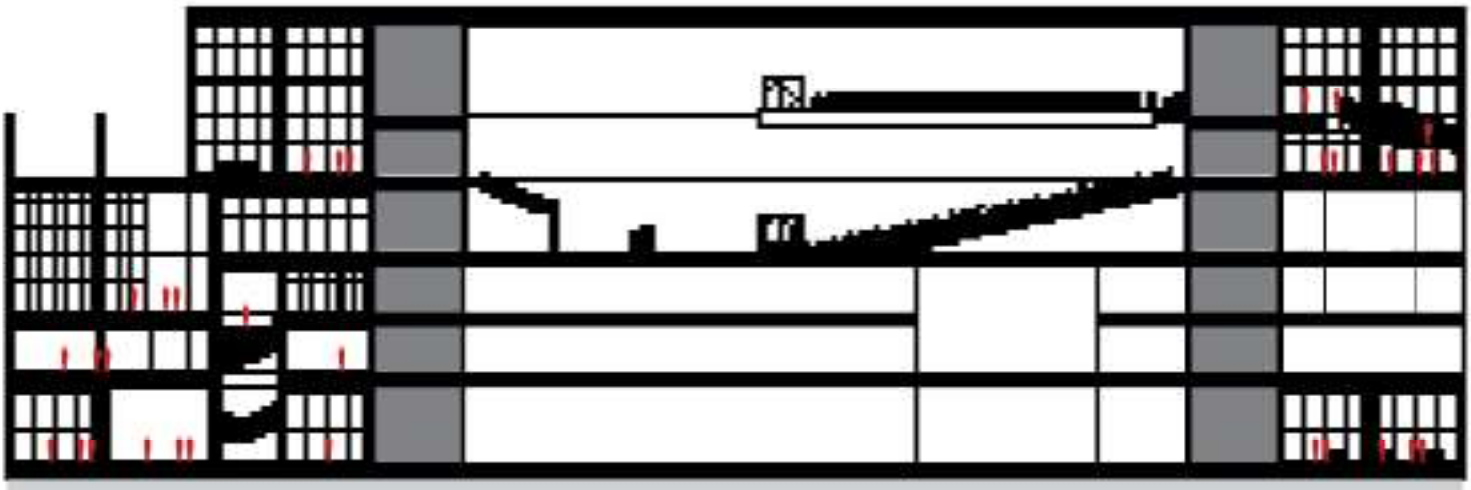


Section Concert Hall

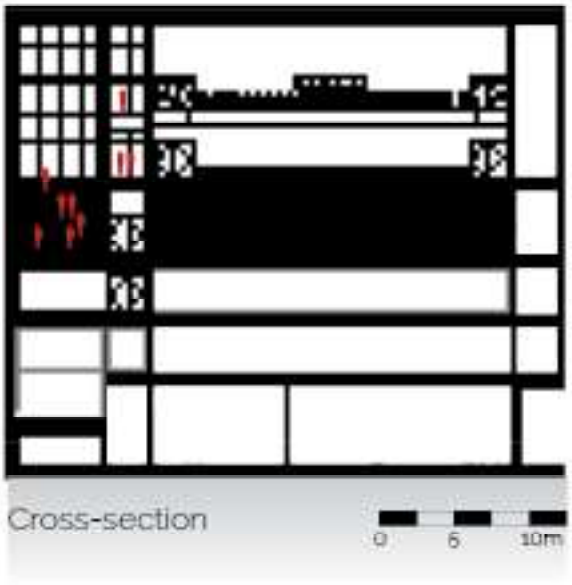
Sections



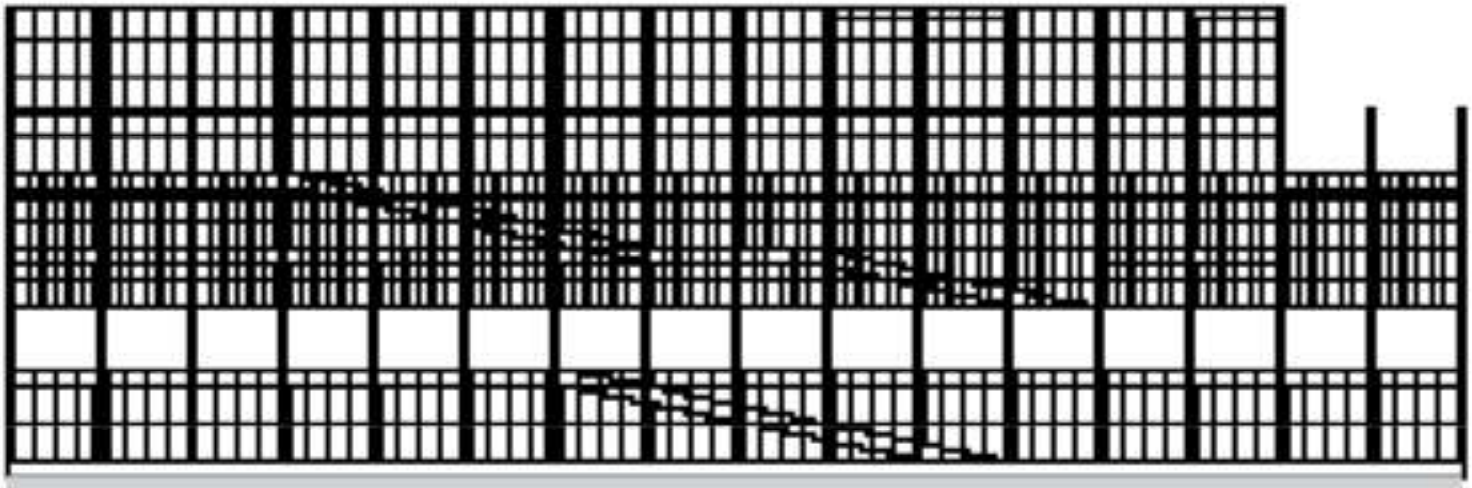
Section Main stairway



Section Concert Hall

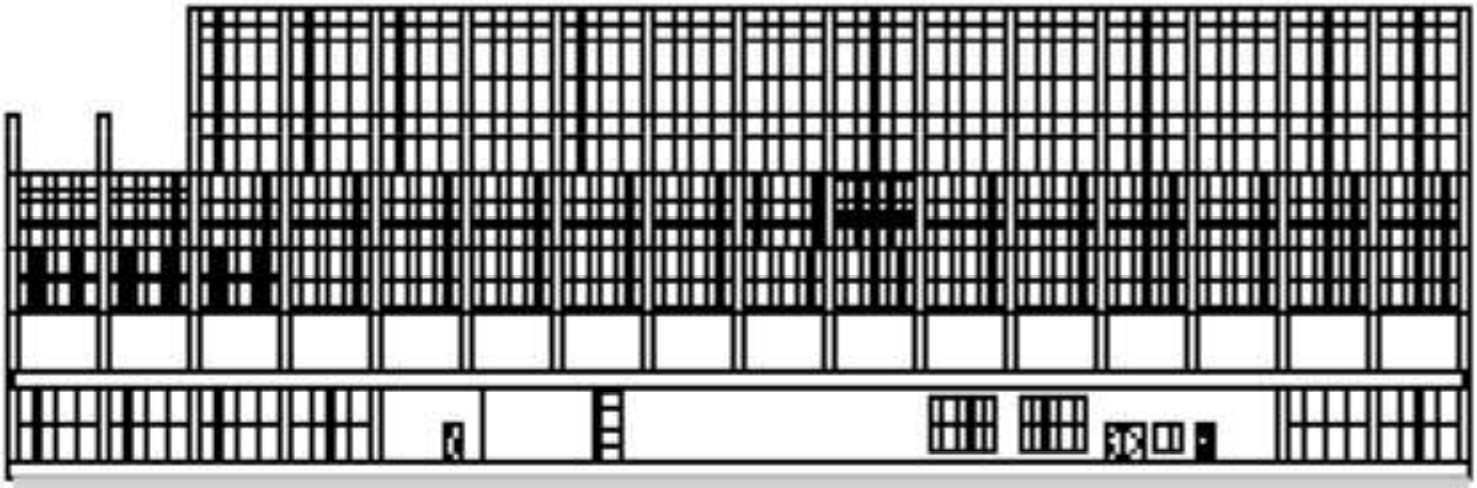

Cross-section
0
5
10m

Facades



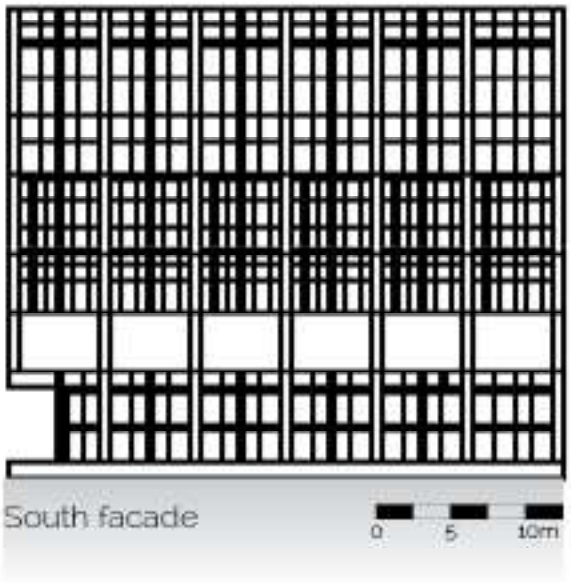
East facade

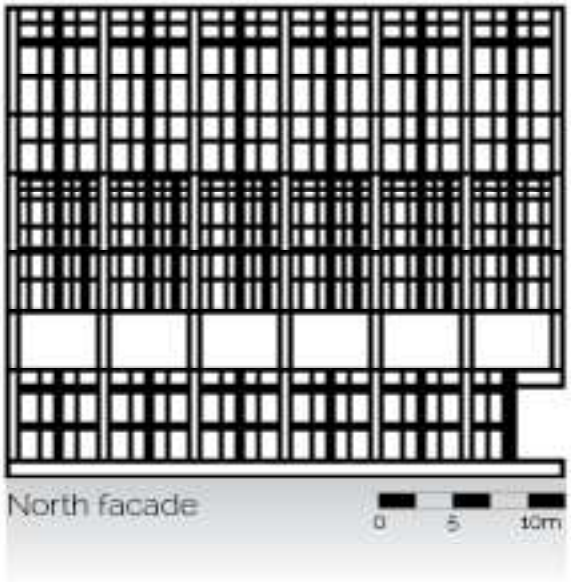
0 5 10m



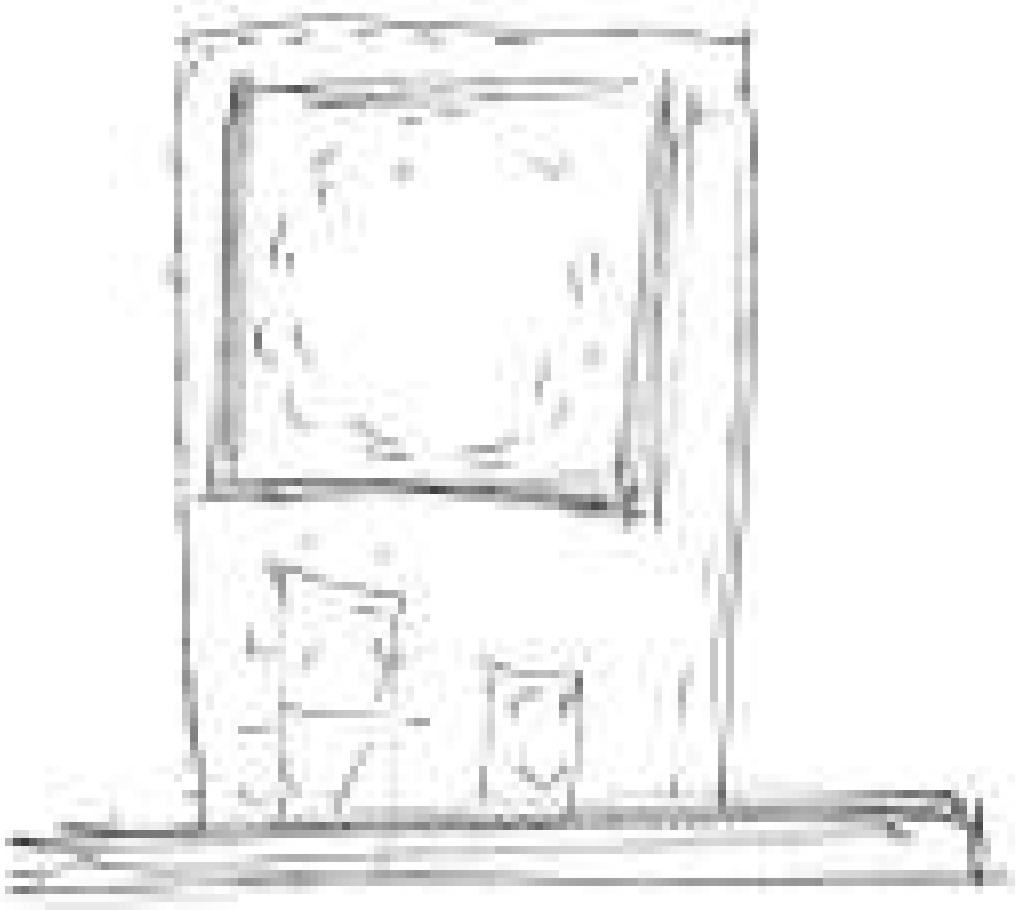
West facade

0 5 10m


South facade
0
5
10m

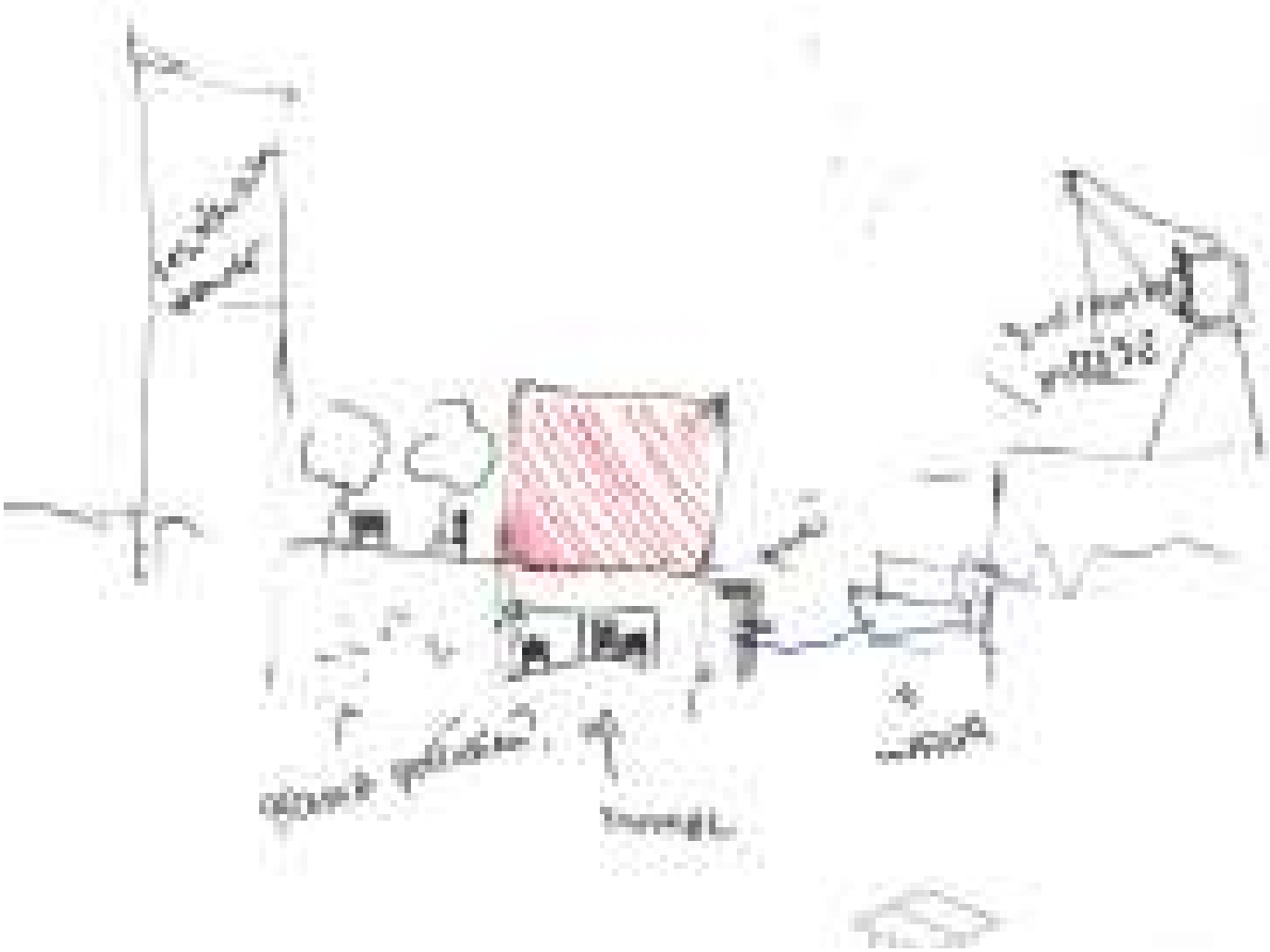

North facade
0
5
10m

F.
Parameters to construct



Circularity

Flexible structure, easy to adapt



Site

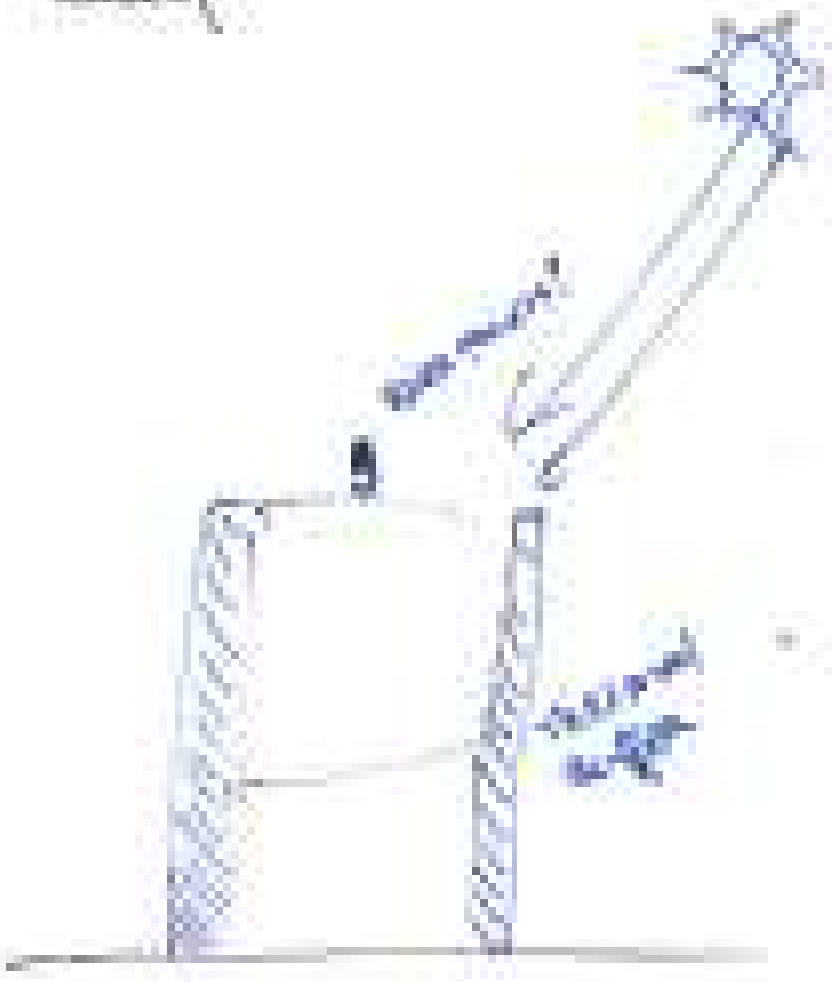
Pollution:
- noise
    - traffic
    - industry
    - public activity
- ground (contaminated soil)

Resident neighbours

Off-street parking

Tunnel (approx. 20m depth)

Harbour quays
- provide accessibility & public space
- need structural reinforcement



Energy

Heating & cooling
- use of thermal mass
- buffer zones along facades

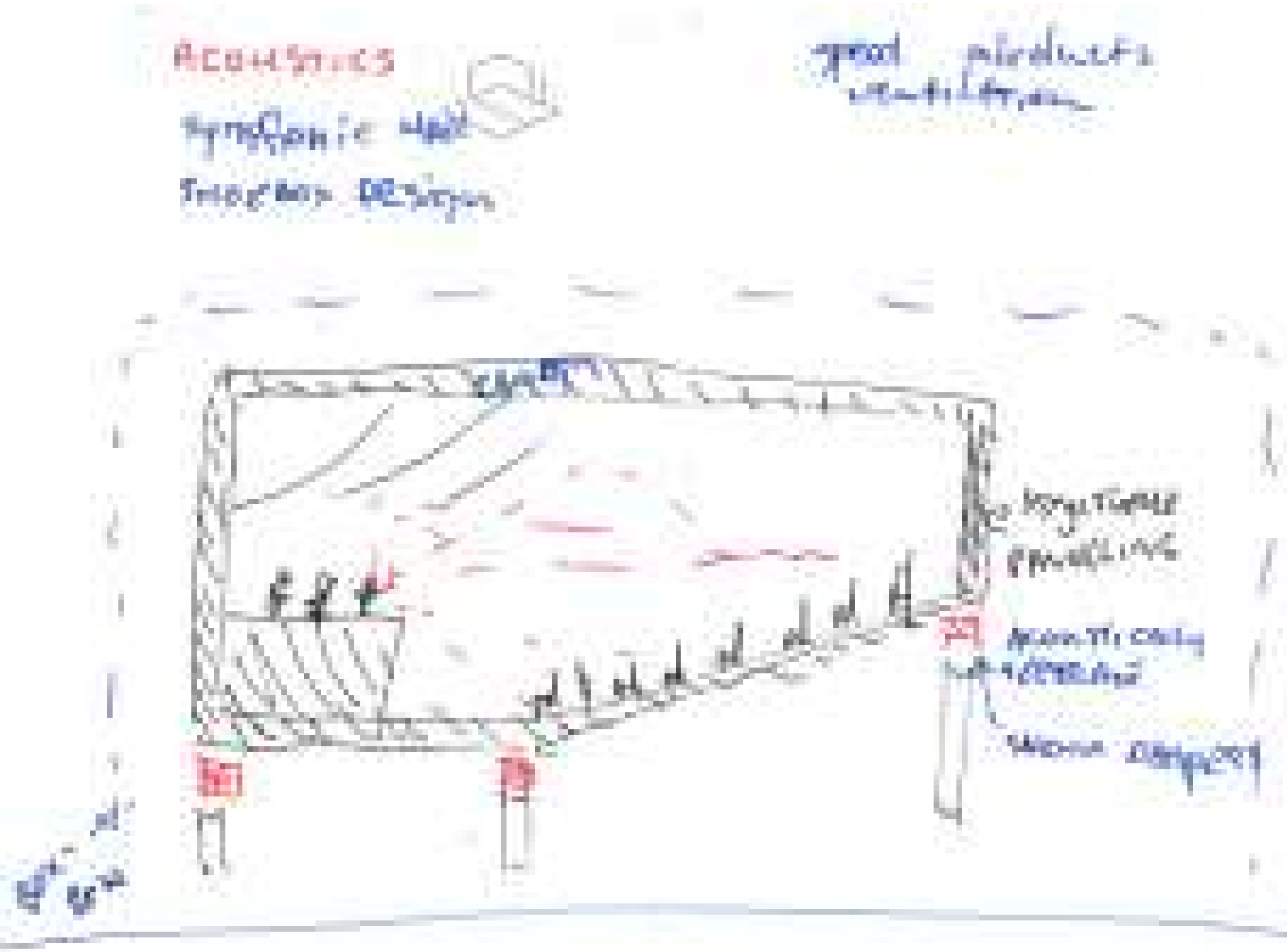
Lighting
- solar panels

Materiality

Appearance

Acoustic quality

Durability



Acoustics

Acoustic insulation
- both in spatial and structural elements

Music hall (symphonic music)
- shoebox design
- architectural elements to improve sound
- adjustable acoustic quality

Disturbance through ventilation system

Multiplicity

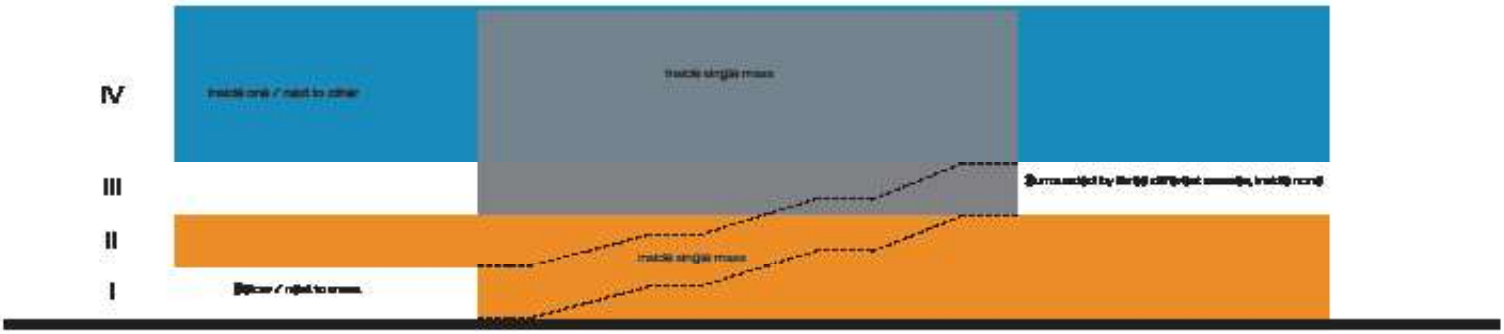
Musical experience forms an additional, meaningful layer within the architecutre of the building.

Multifunctional spaces that can be used when not necessary for concerts.

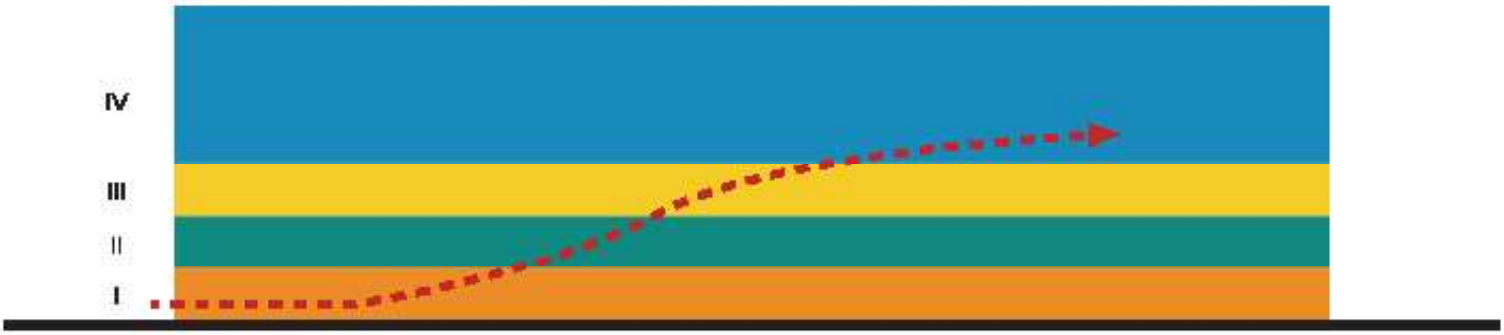
Additional public functions for the neighbourhood.

G.
Process Documentation

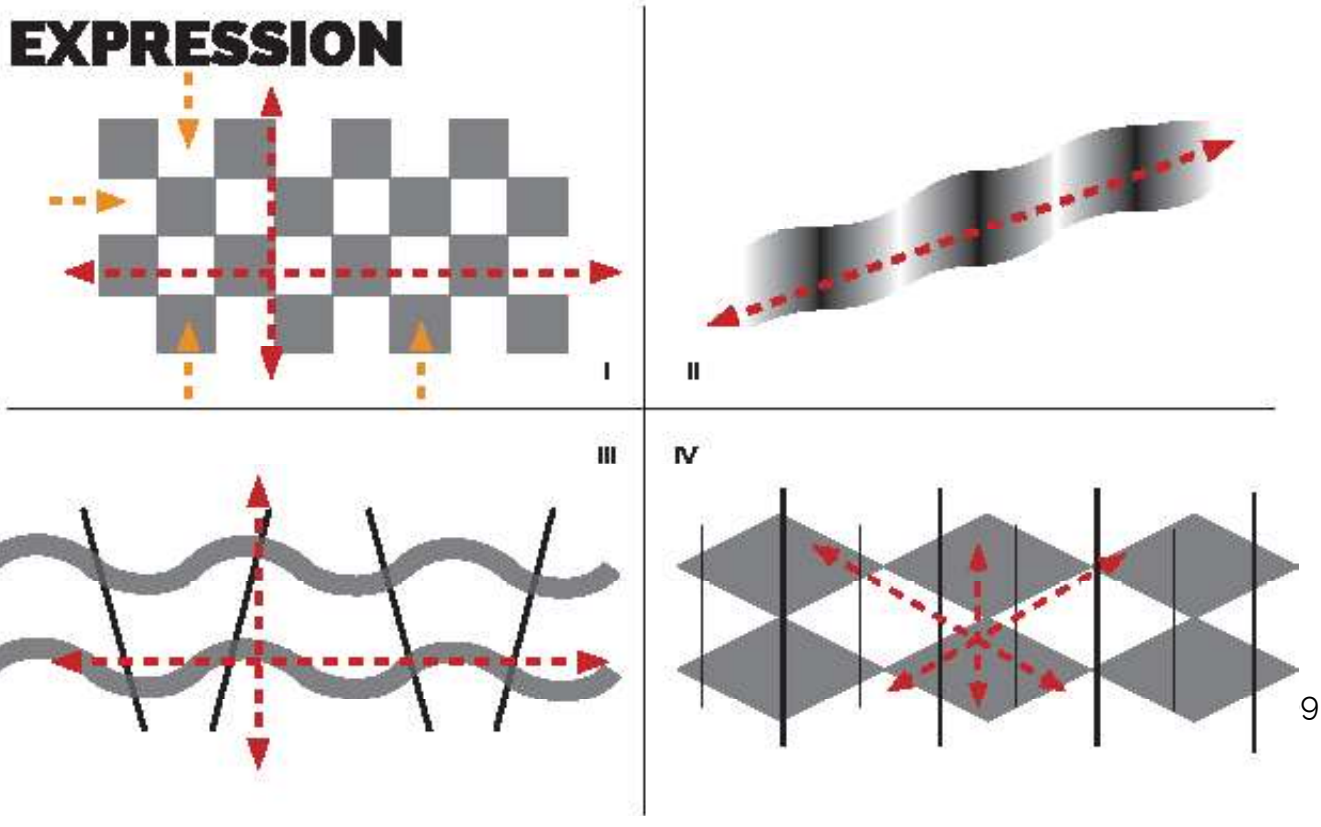
KEY MASSES



MUSICAL ZONES

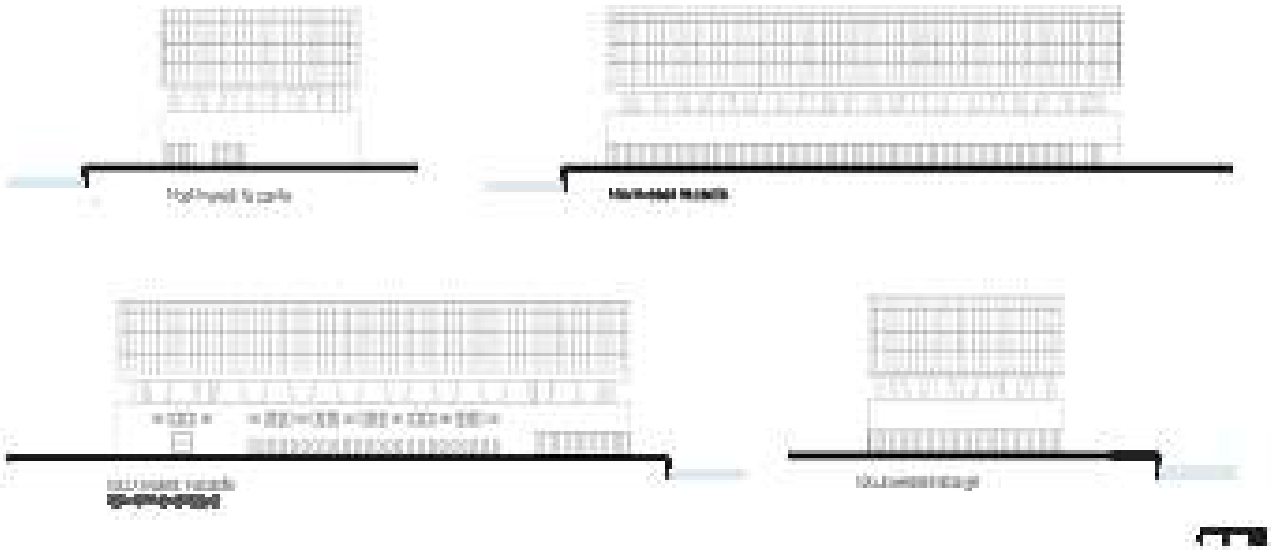


EXPRESSION

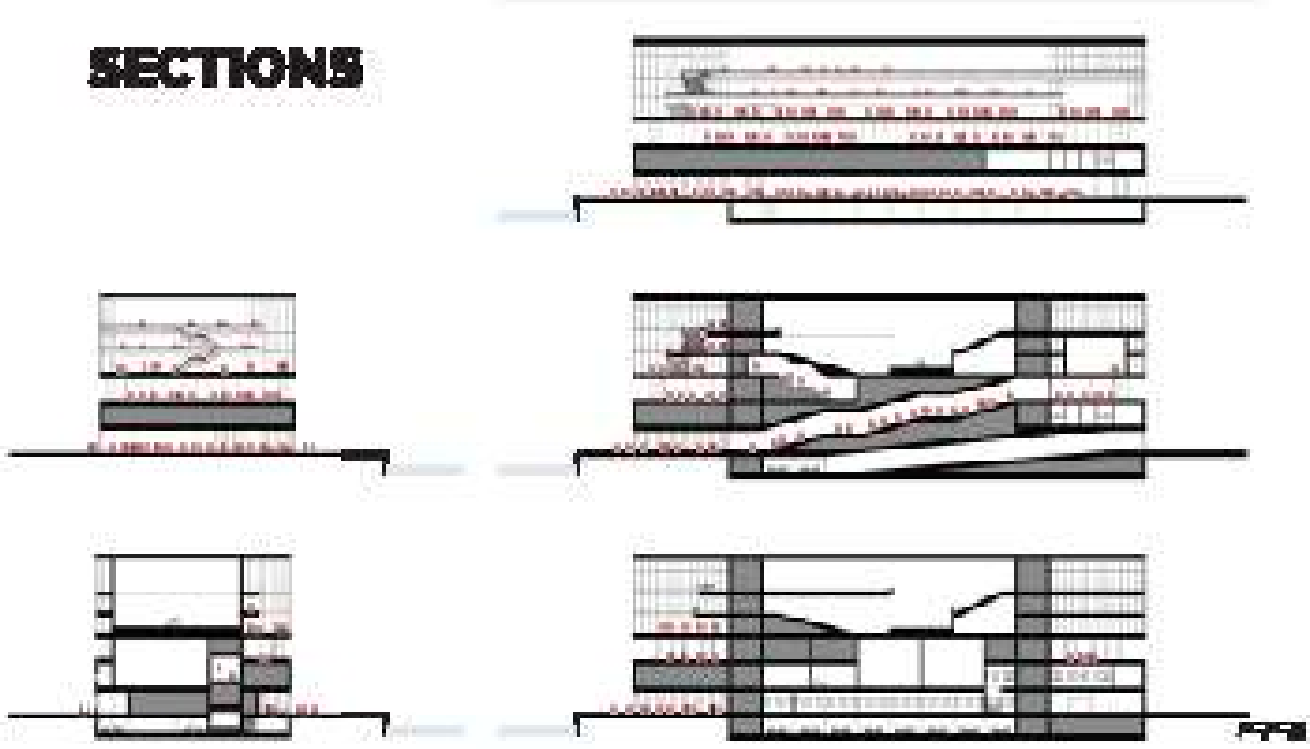


CREATING A SYMPHONY

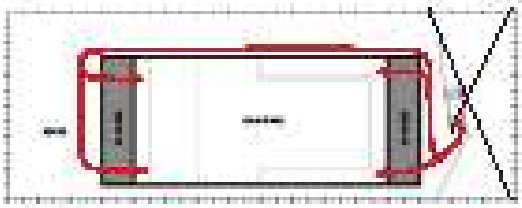
FACADES

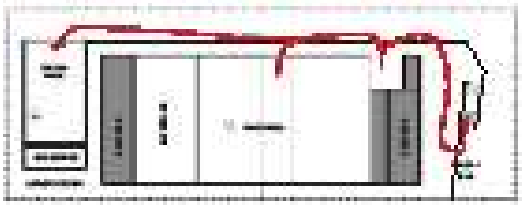


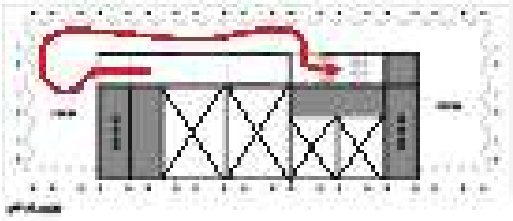
SECTIONS

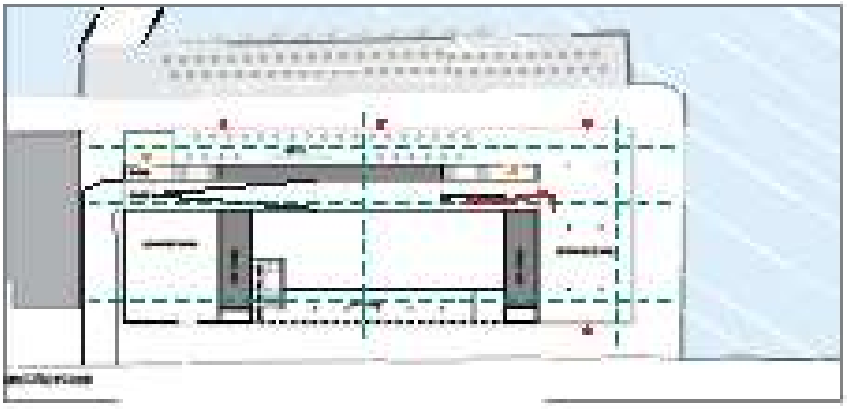


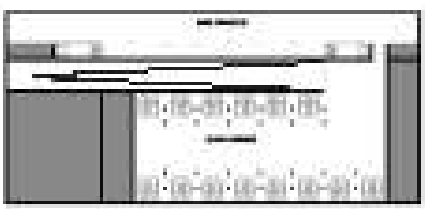
FLOORPLANS











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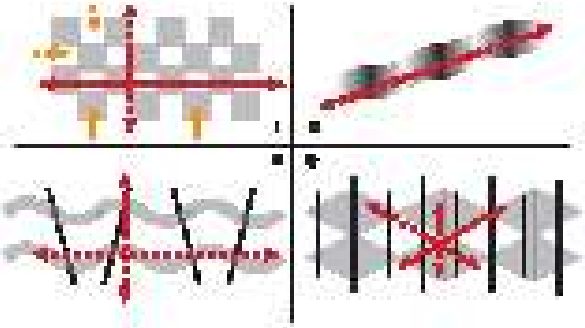
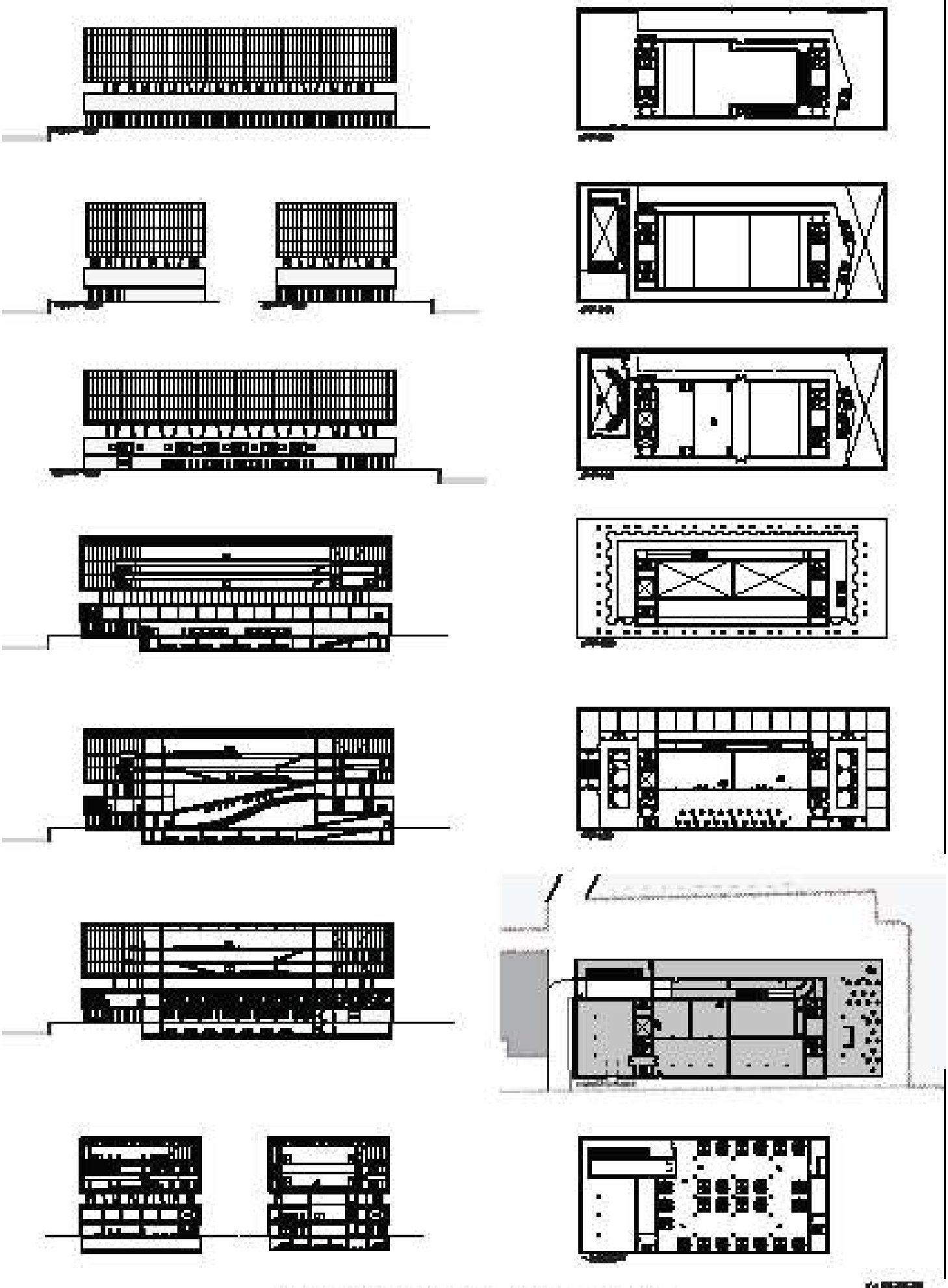
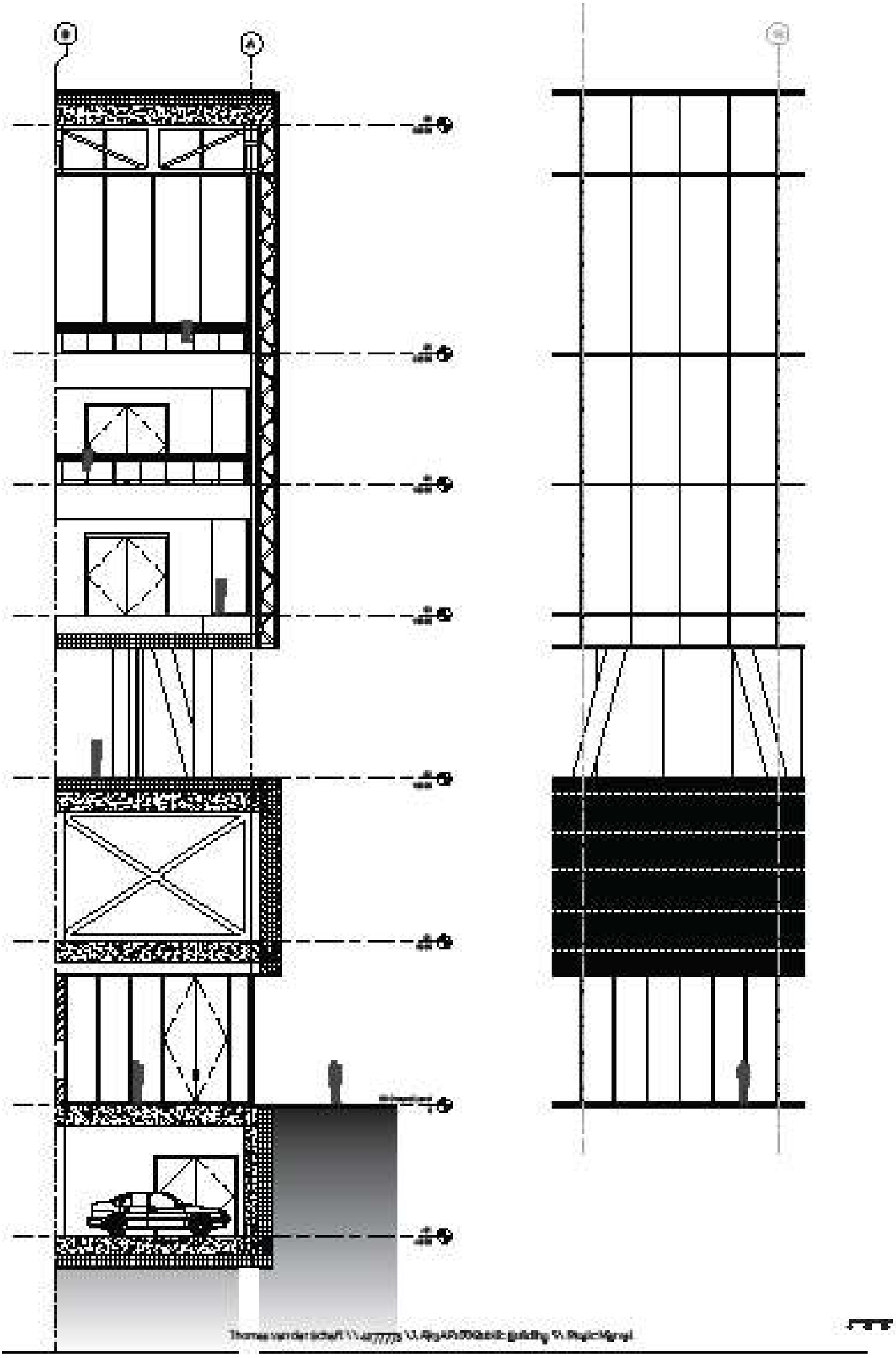
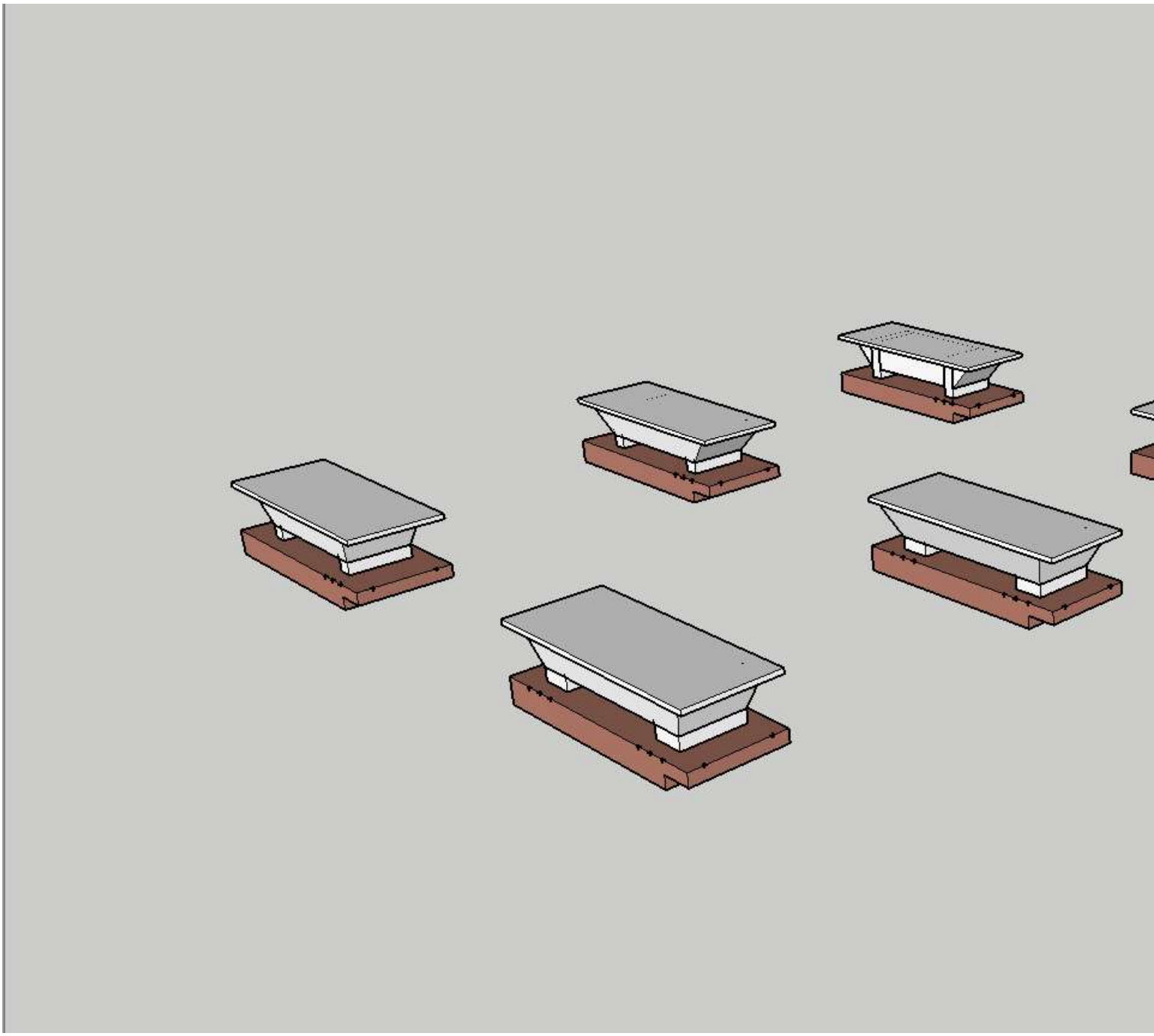
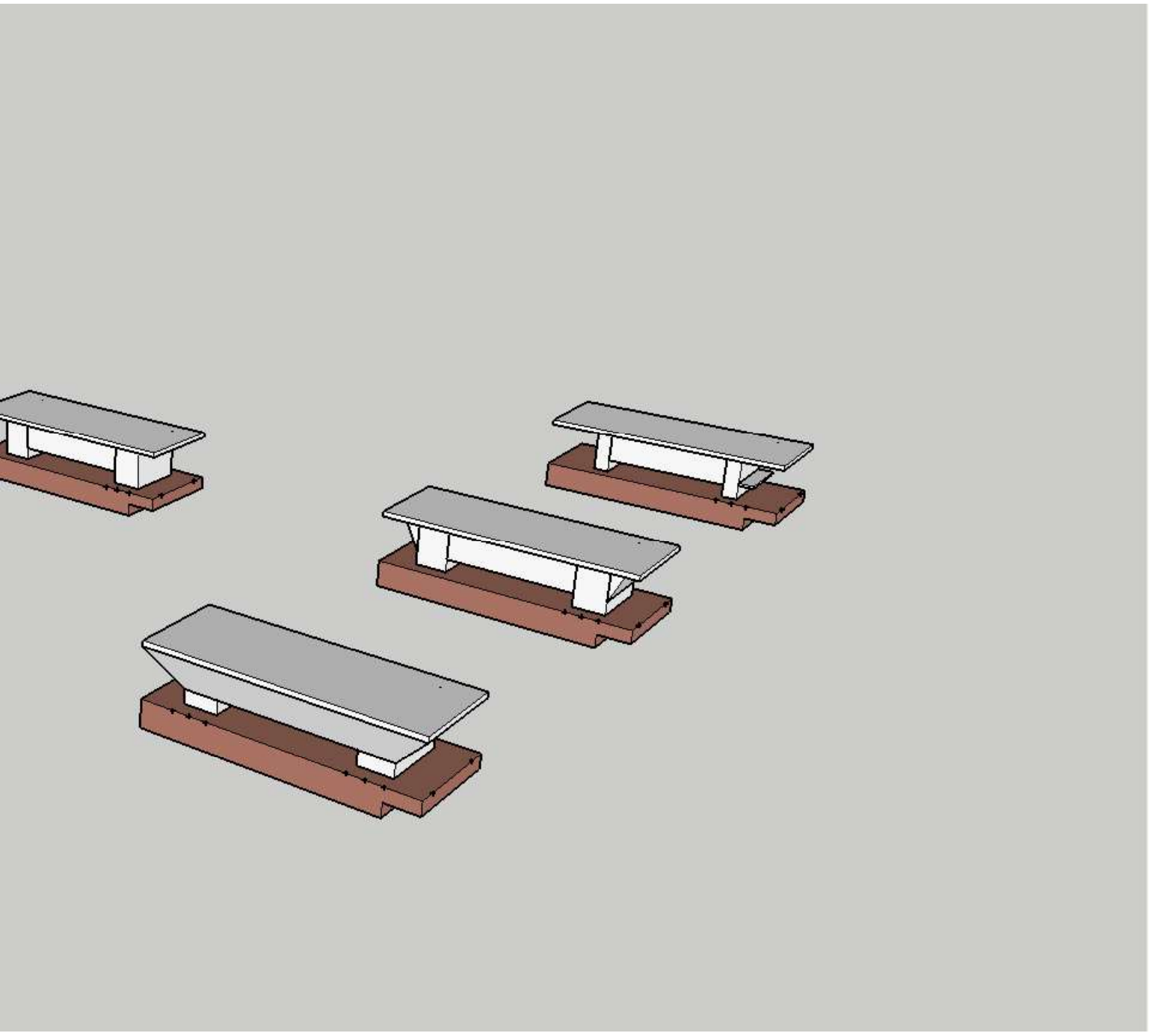


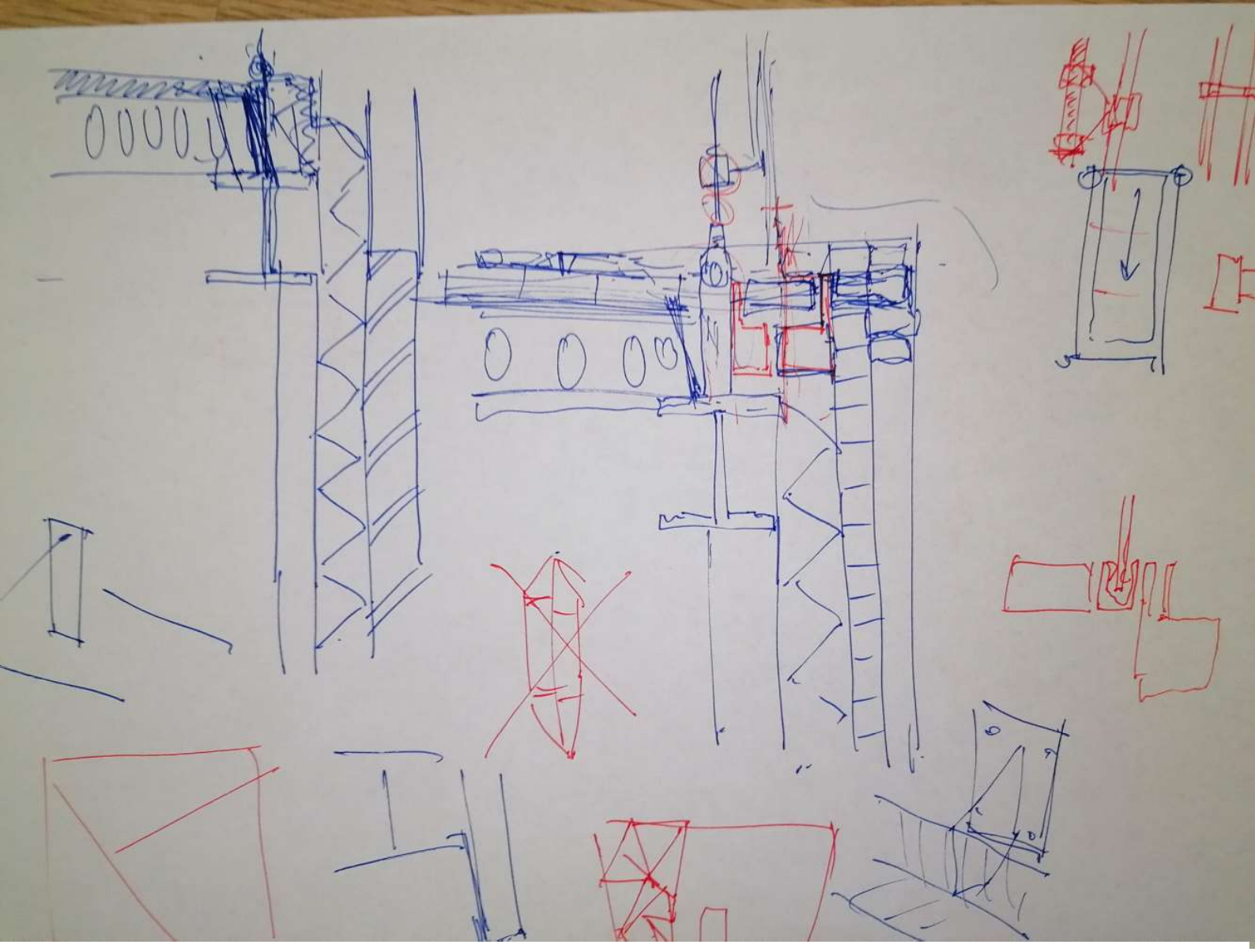


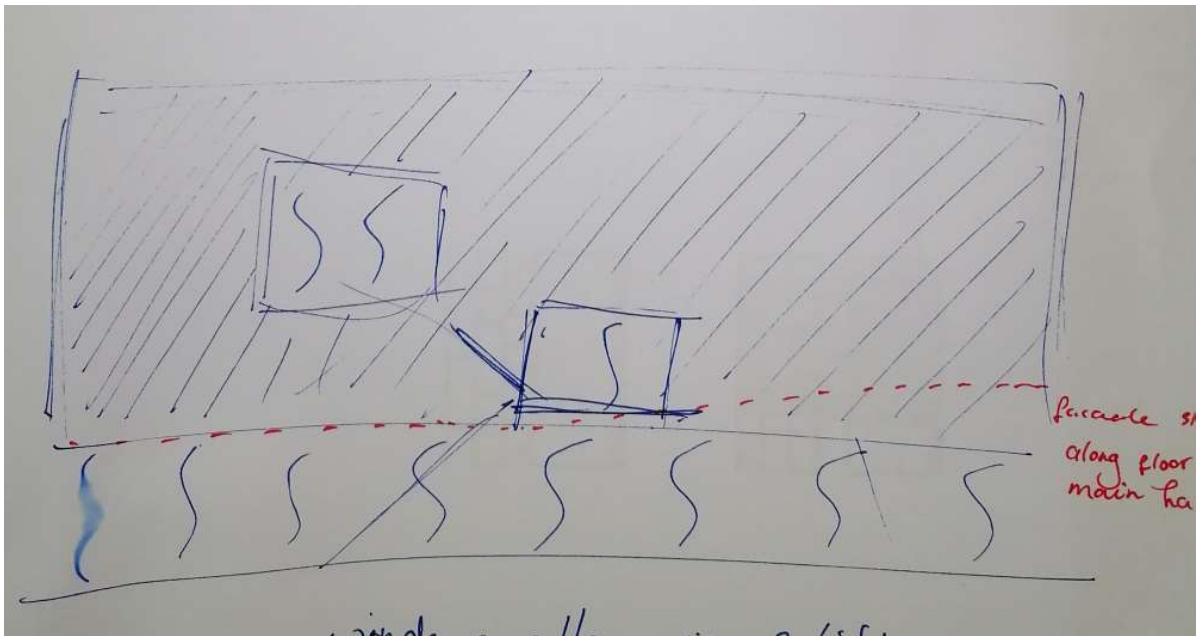


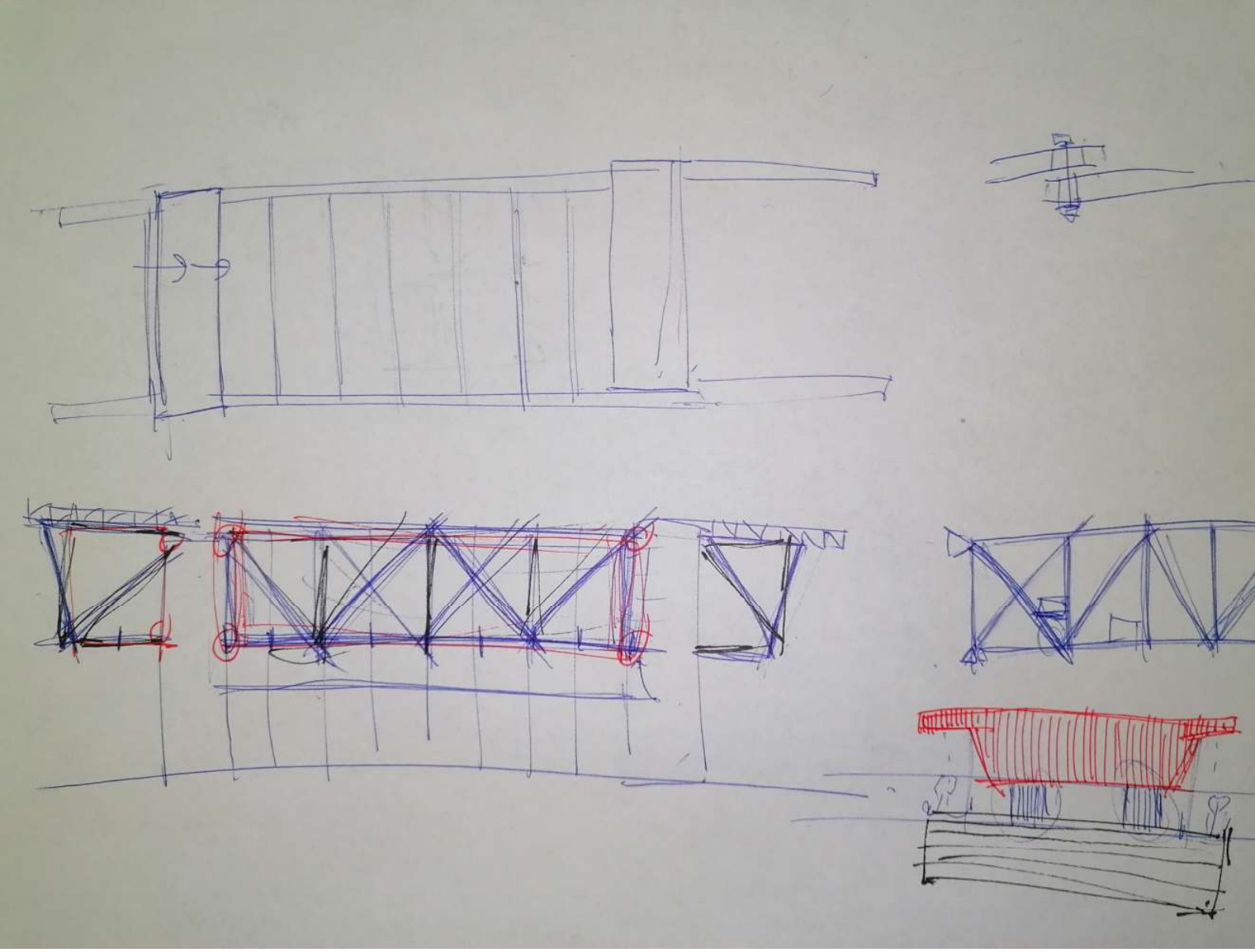
Form studies

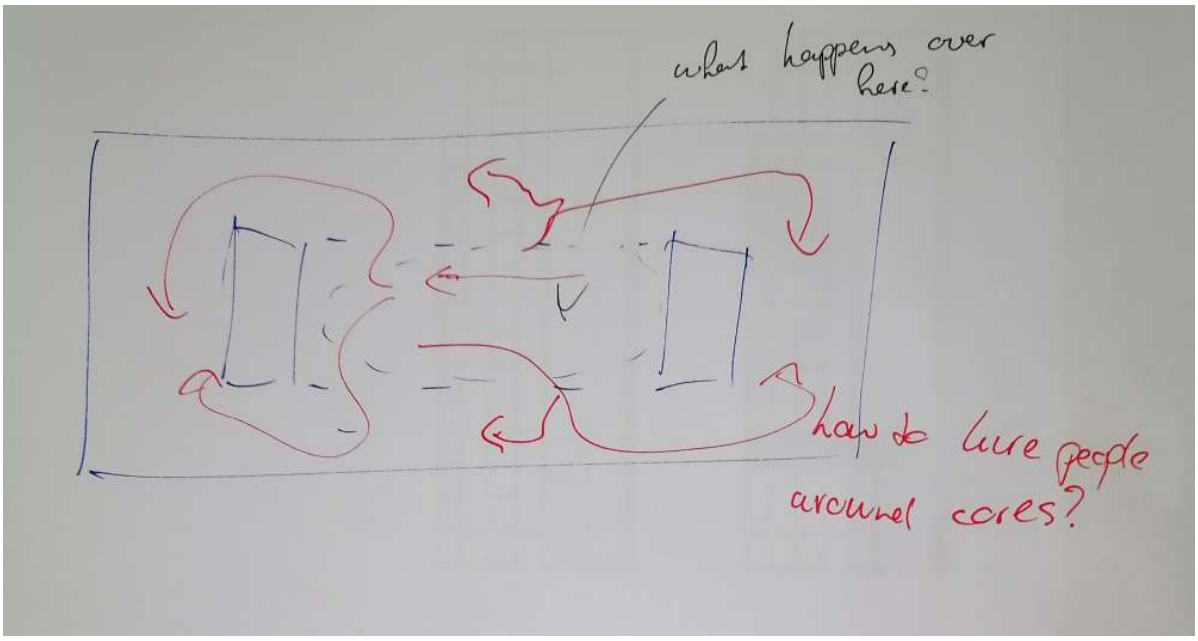


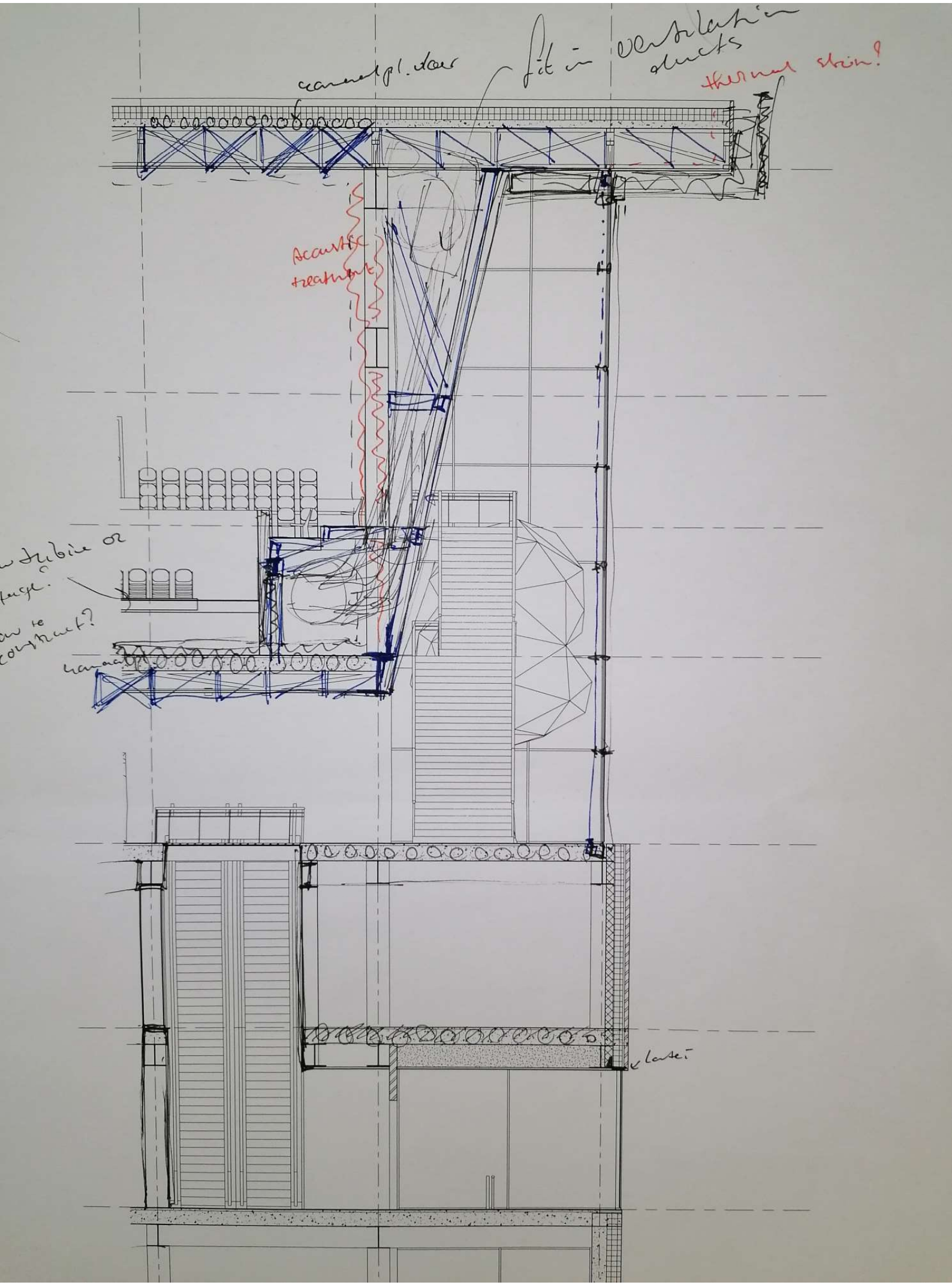




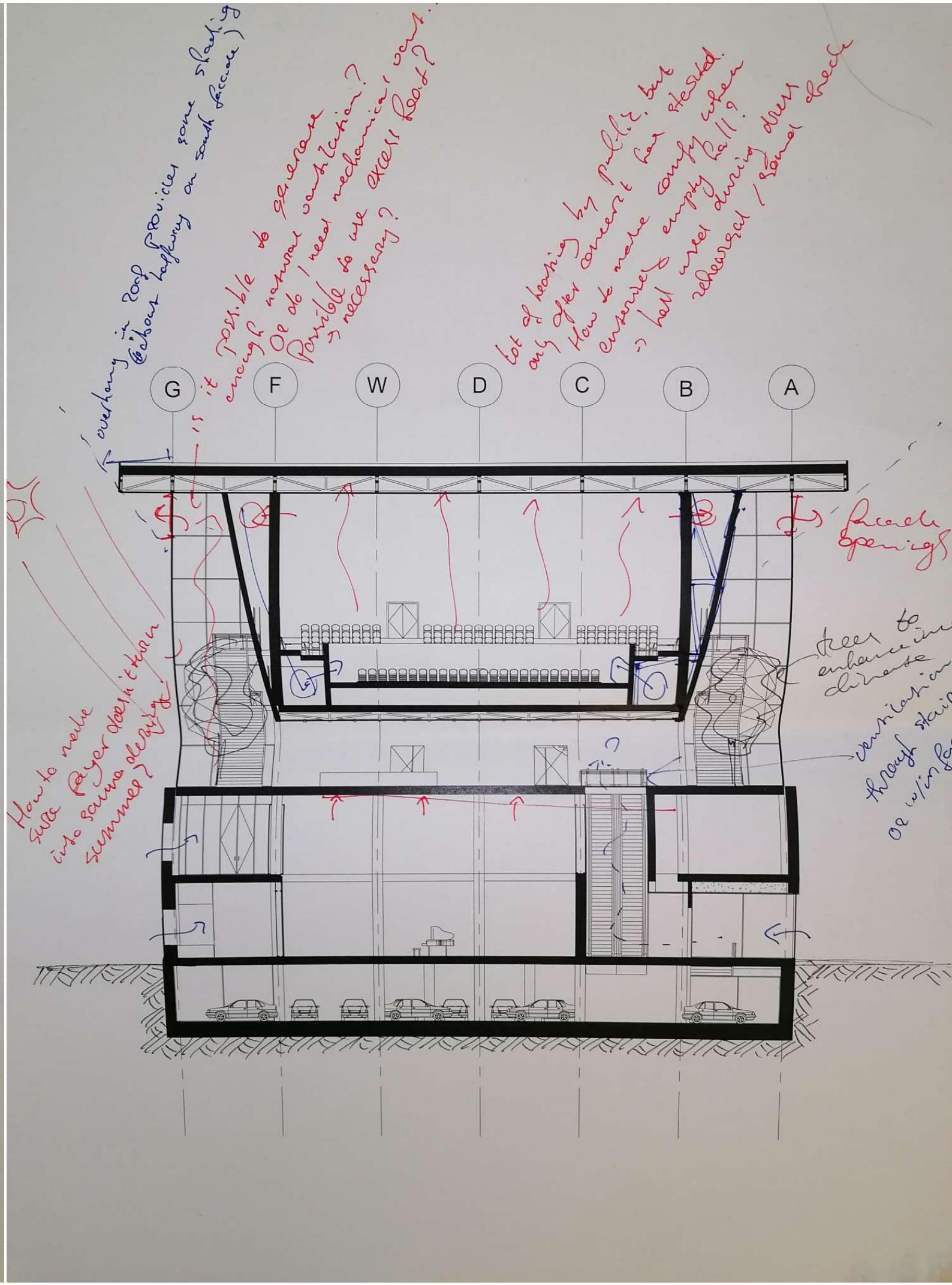

facade
along floor
main



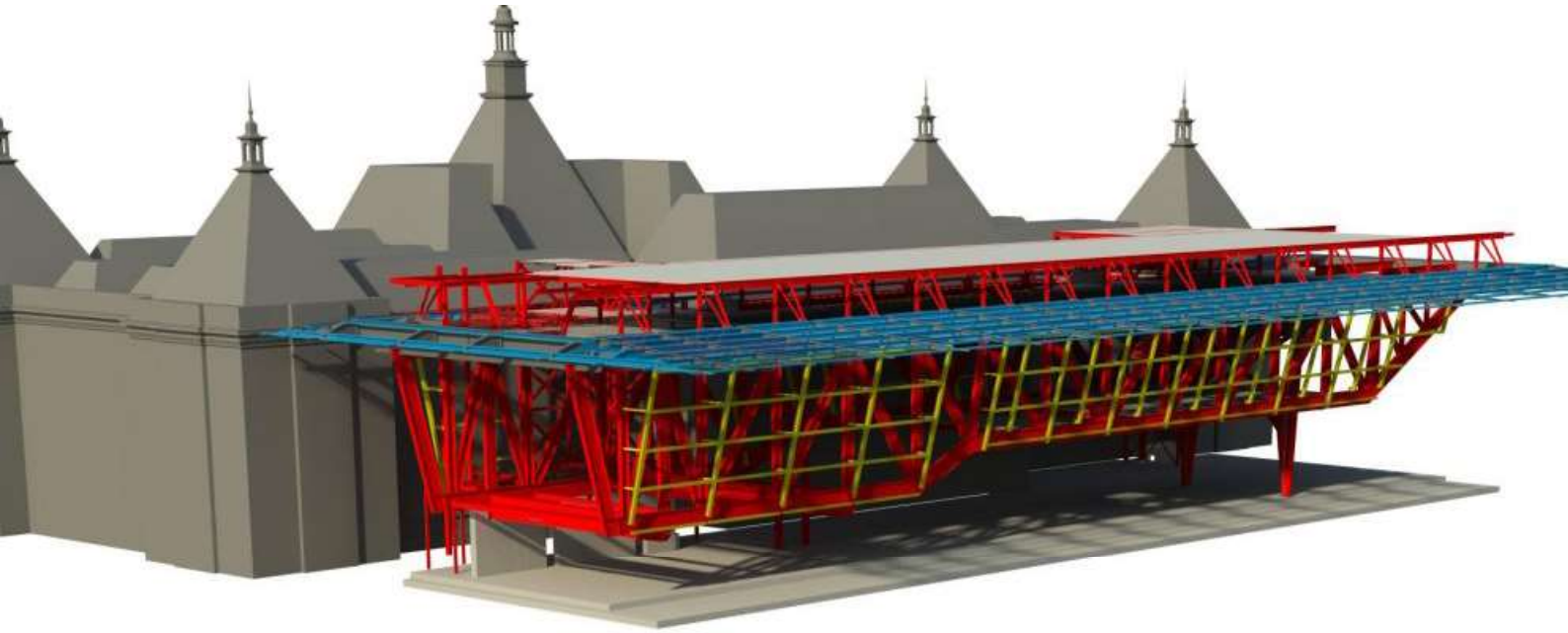

what happens over here?
how to lure people around cores?



fit in ventilation ducts
thermal strain?
Acoustic treatment

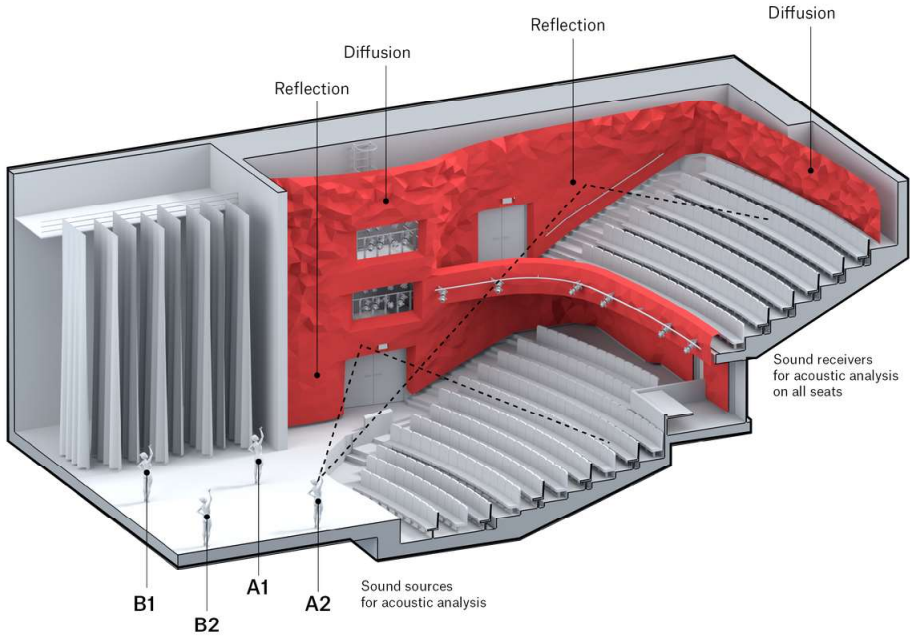

G
F
W
D
C
B
A
overhang in roof provides some shading (about halfway on south facade)
is it possible to generate enough natural ventilation? Or do I need mechanical vent... Possible to use excess heat? → necessary?
lot of heating by public, but only after concert has started. How to make comfy when entering empty hall? → hall used during dress rehearsal / sound check
facade openings
trees to enhance in climate
ventilation through stair or w/in fa
How to make sure layer doesn't turn into sauna during summer?

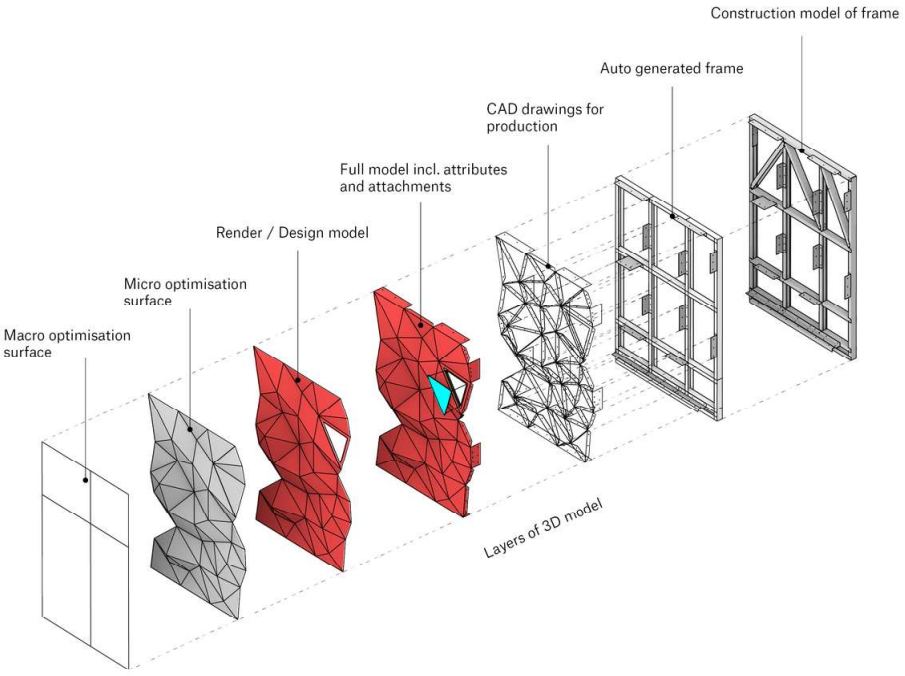
Reference
Stedelijk Museum Neutelings Riedijk



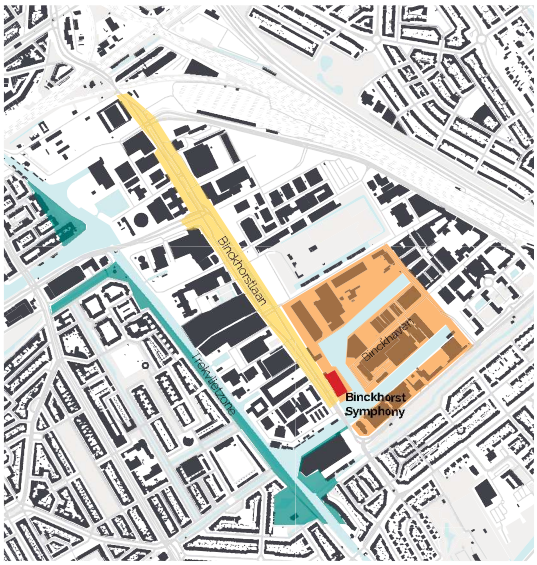
Reference
INHolland Delft
Octatube

Reference
Zuidpleintheater
Studio RAP


Diffusion
Reflection
Diffusion
Reflection
Sound receivers
for acoustic analysis
on all seats
B1
B2
A1
A2
Sound sources
for acoustic analysis

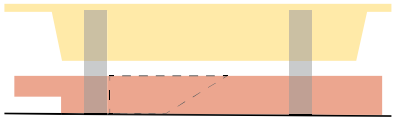

Construction model of frame
Auto generated frame
CAD drawings for
production
Full model incl. attributes
and attachments
Render / Design model
Micro optimisation
surface
Macro optimisation
surface
Layers of 3D model

BINCKHORST SYMPHONY

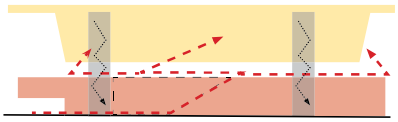


BINCKHORST AREA

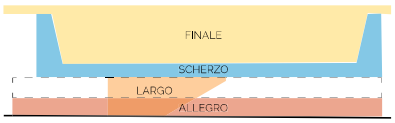
SITE



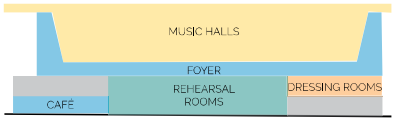
KEY MASSES



ROUTING

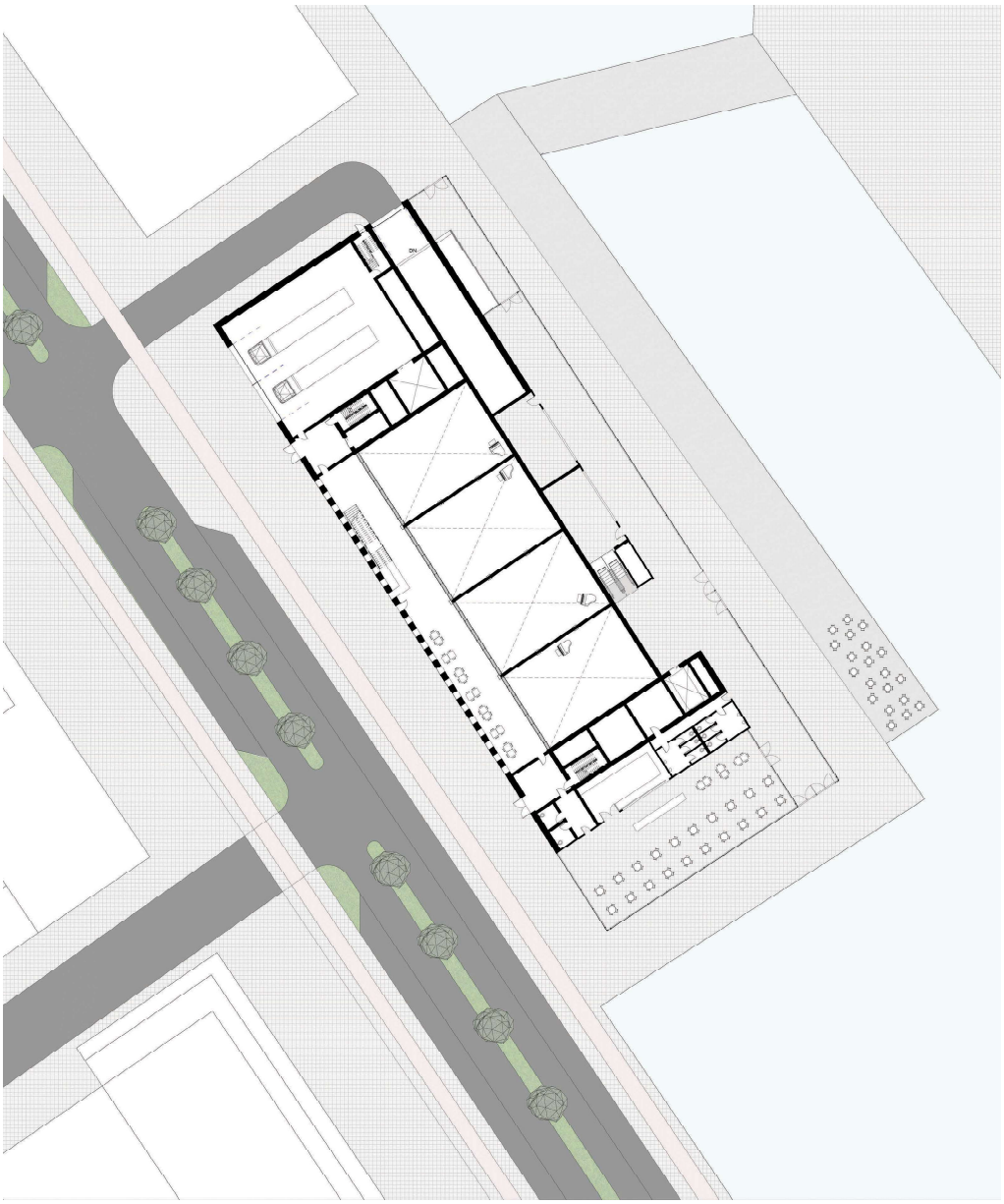


SYMPHONIC ZONES



PROGRAMMING

BUILDING DESIGN PRINCIPLES



GROUND FLOOR - ENTRANCE, CAFE & REHEARSAL STUDIOS

BINCKHORST SYMPHONY

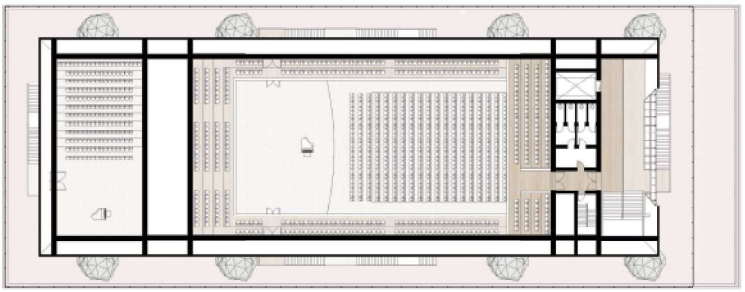
FINALE - MAIN HALL

SCHERZO FOYER

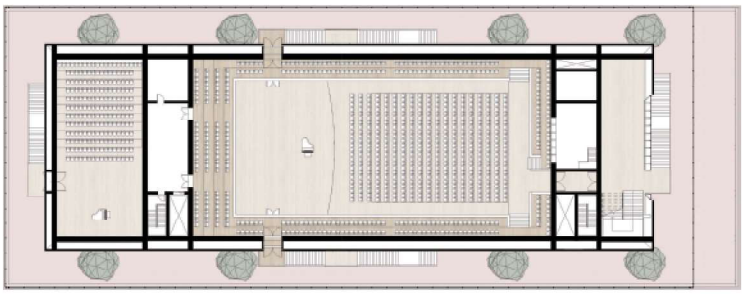
LARGO - MAIN STAIRWAY

ALLEGRO - ENTRANCE HALL

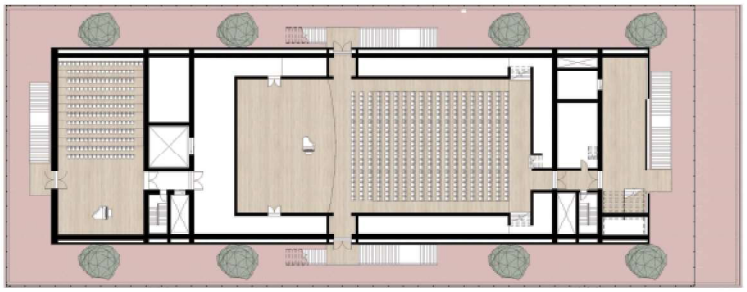
APPROACH FROM SOUTH



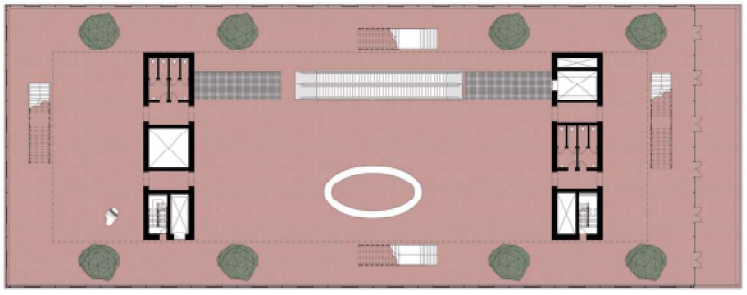
5TH FLOOR - BALCONY LEVEL



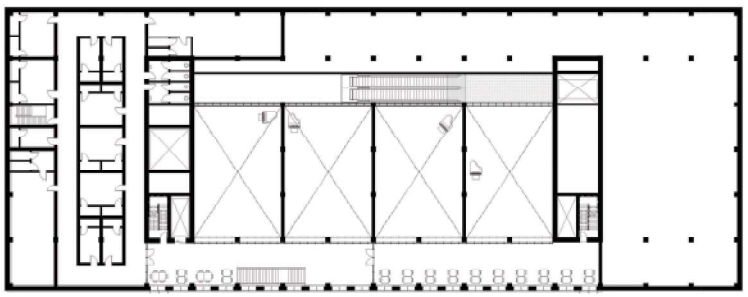
4TH FLOOR - MAIN HALL UPPER RING LEVEL



3RD FLOOR - SMALL HALL & MAIN HALL LOWER LEVEL

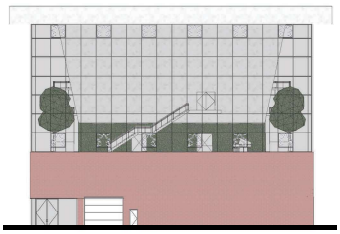


2ND FLOOR - FOYER

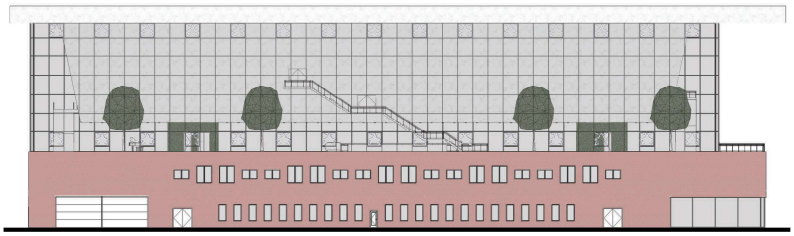


1ST FLOOR - DRESSING ROOMS & OFFICES

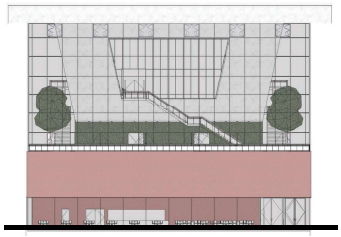
BINCKHORST SYMPHONY



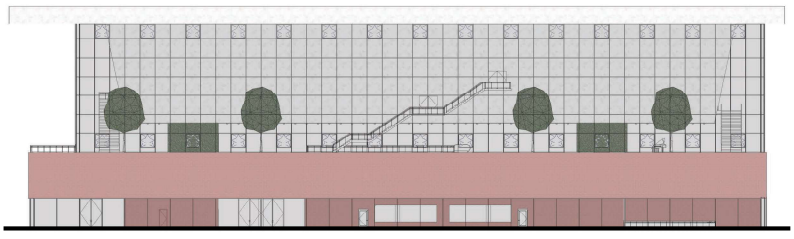
NORTH FACADE



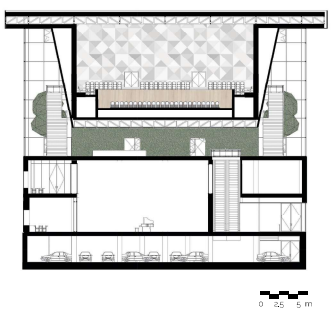
WEST FACADE

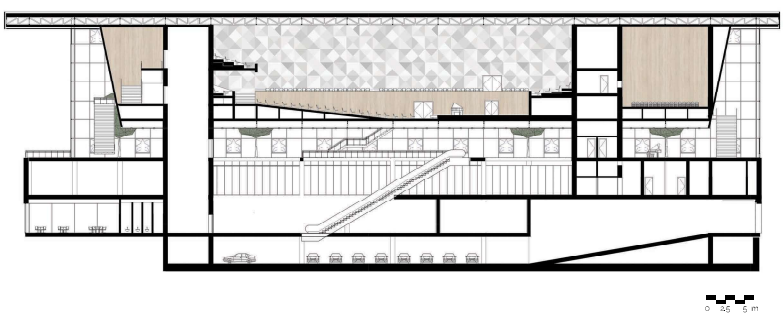


SOUTH FACADE

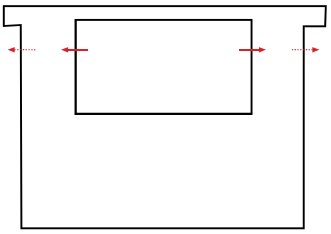


EAST FACADE

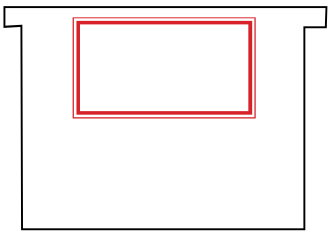




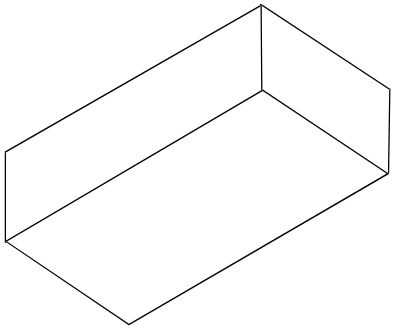
BINCKHORST SYMPHONY



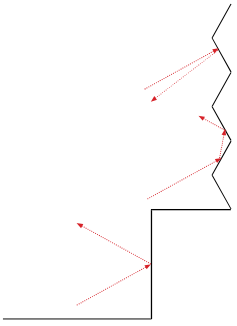
"EGG IN A BOX" - NO HALLS ALONG FACADE



INSULATE HALLS ACOUSTICALLY

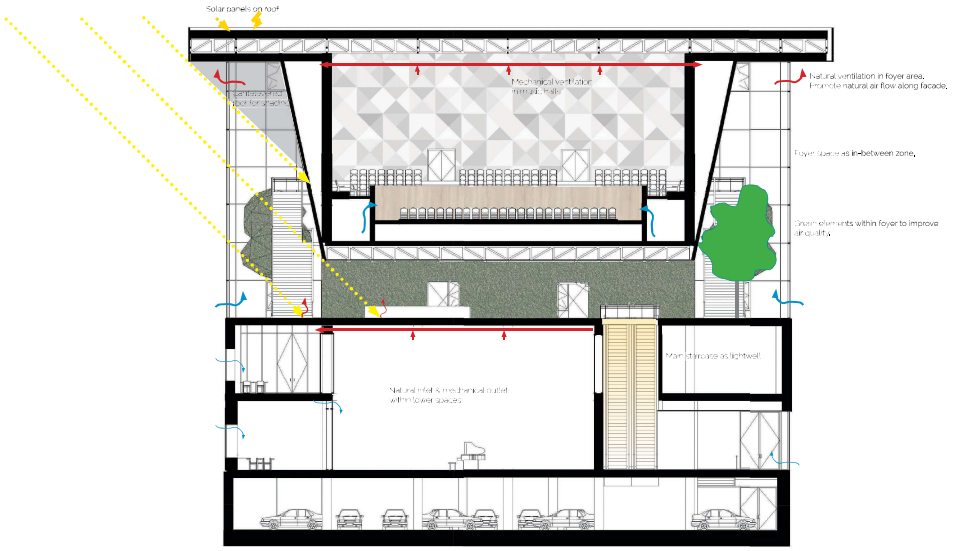


SHOEBOX SHAPED HALLS

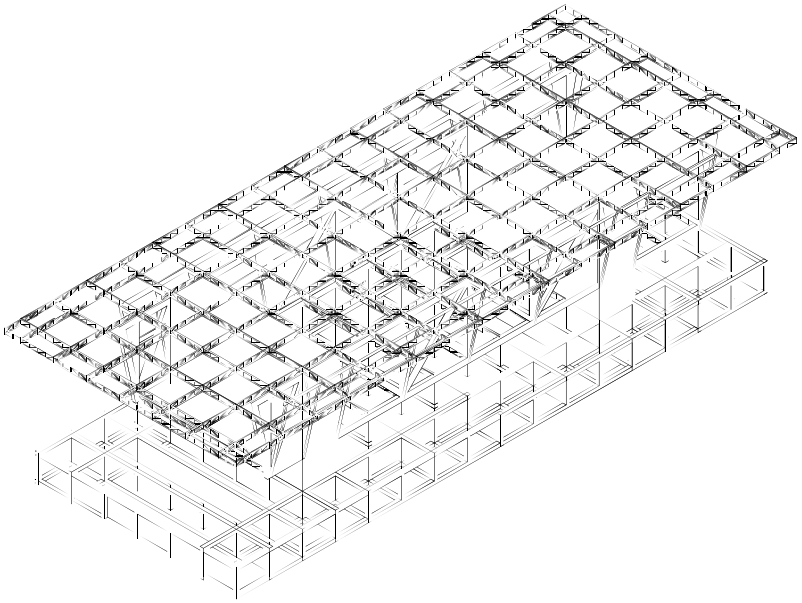


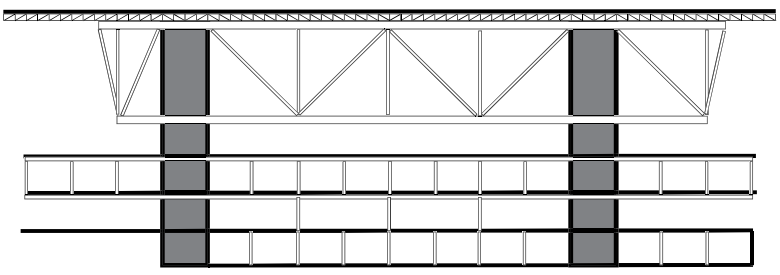
REFLECTION AND DIFFUSION

ACOUSTICS DESIGN PRINCIPLES

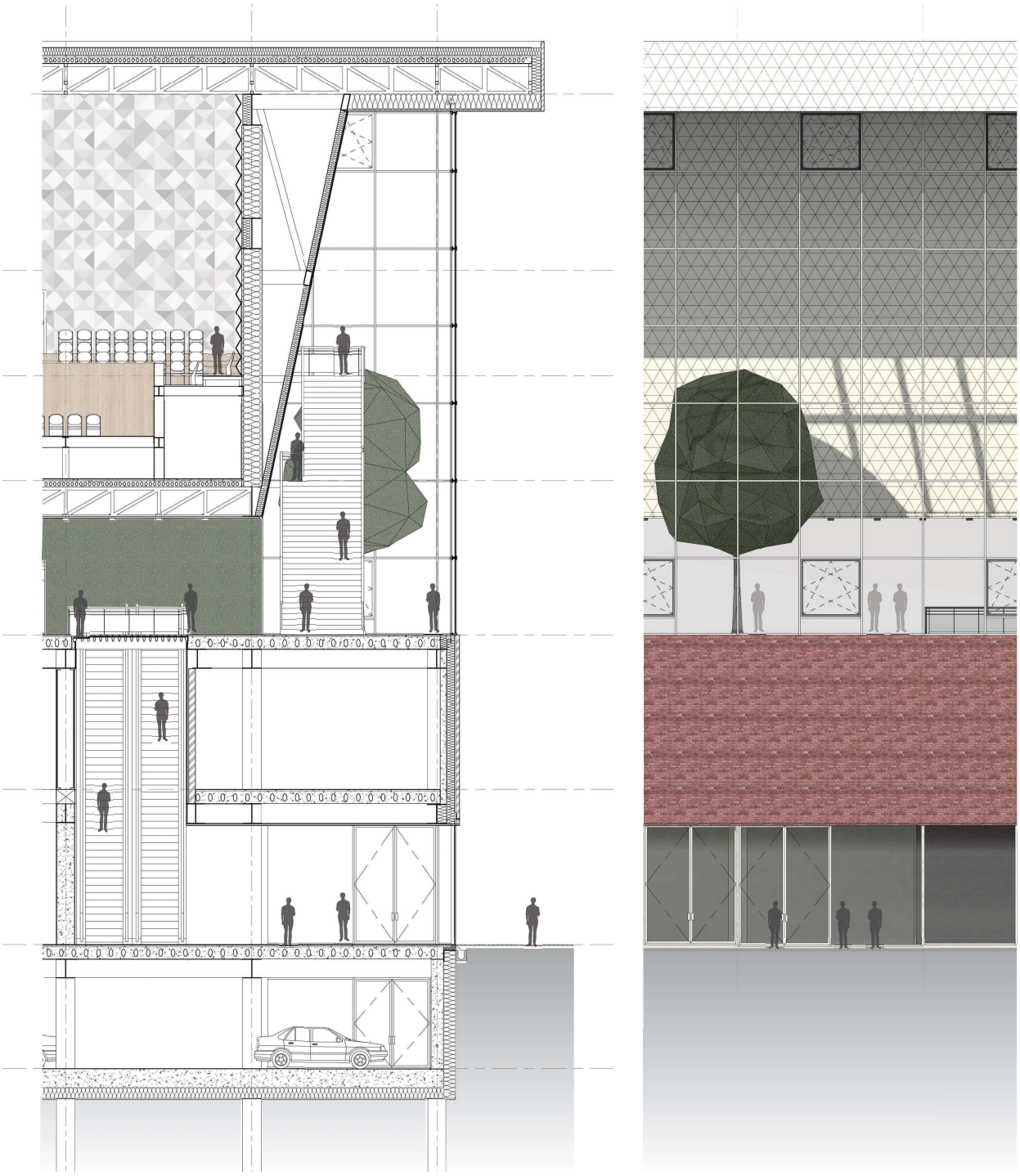


CLIMATE DESIGN PRINCIPLES





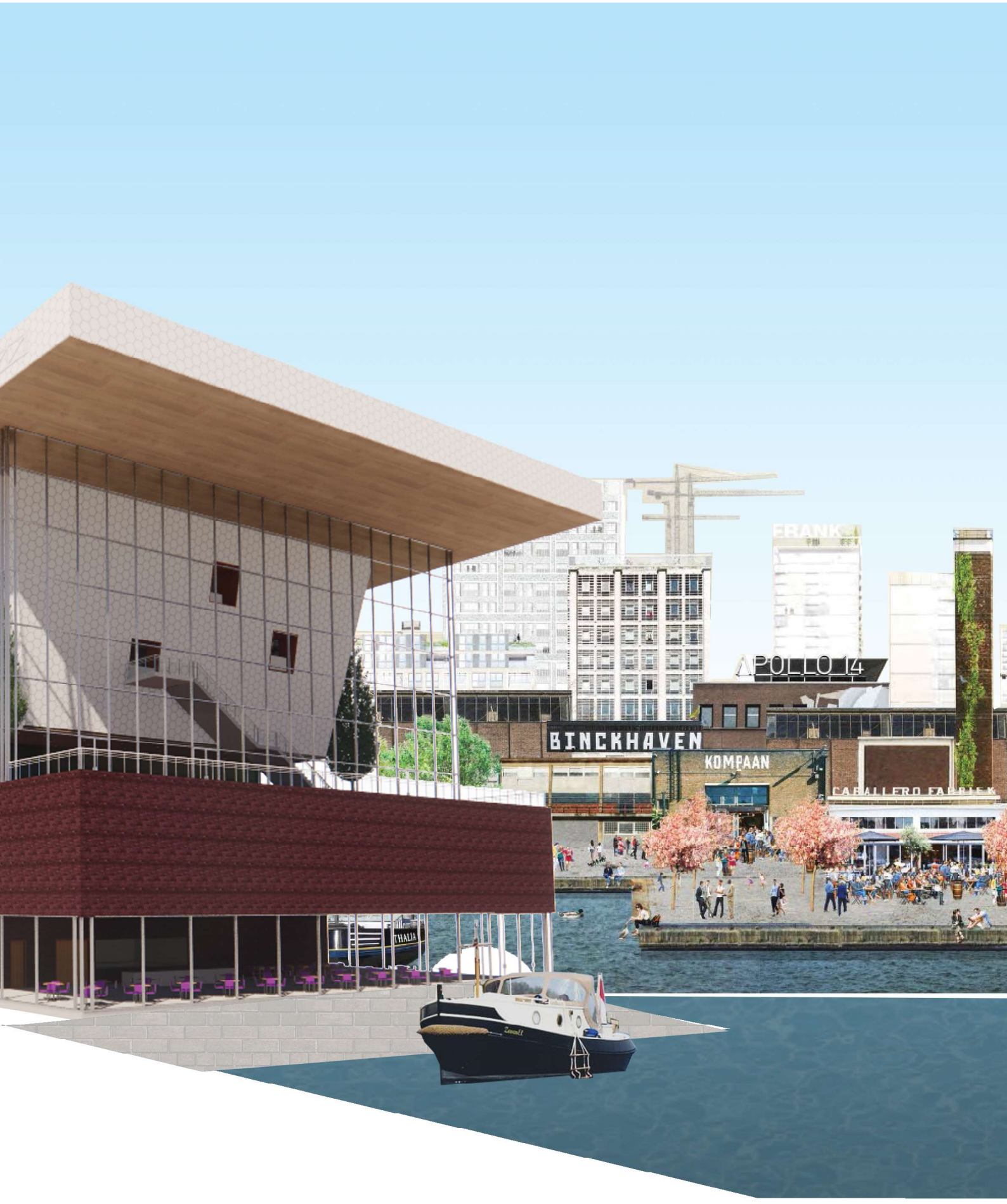
STRUCTURAL DESIGN PRINCIPLES

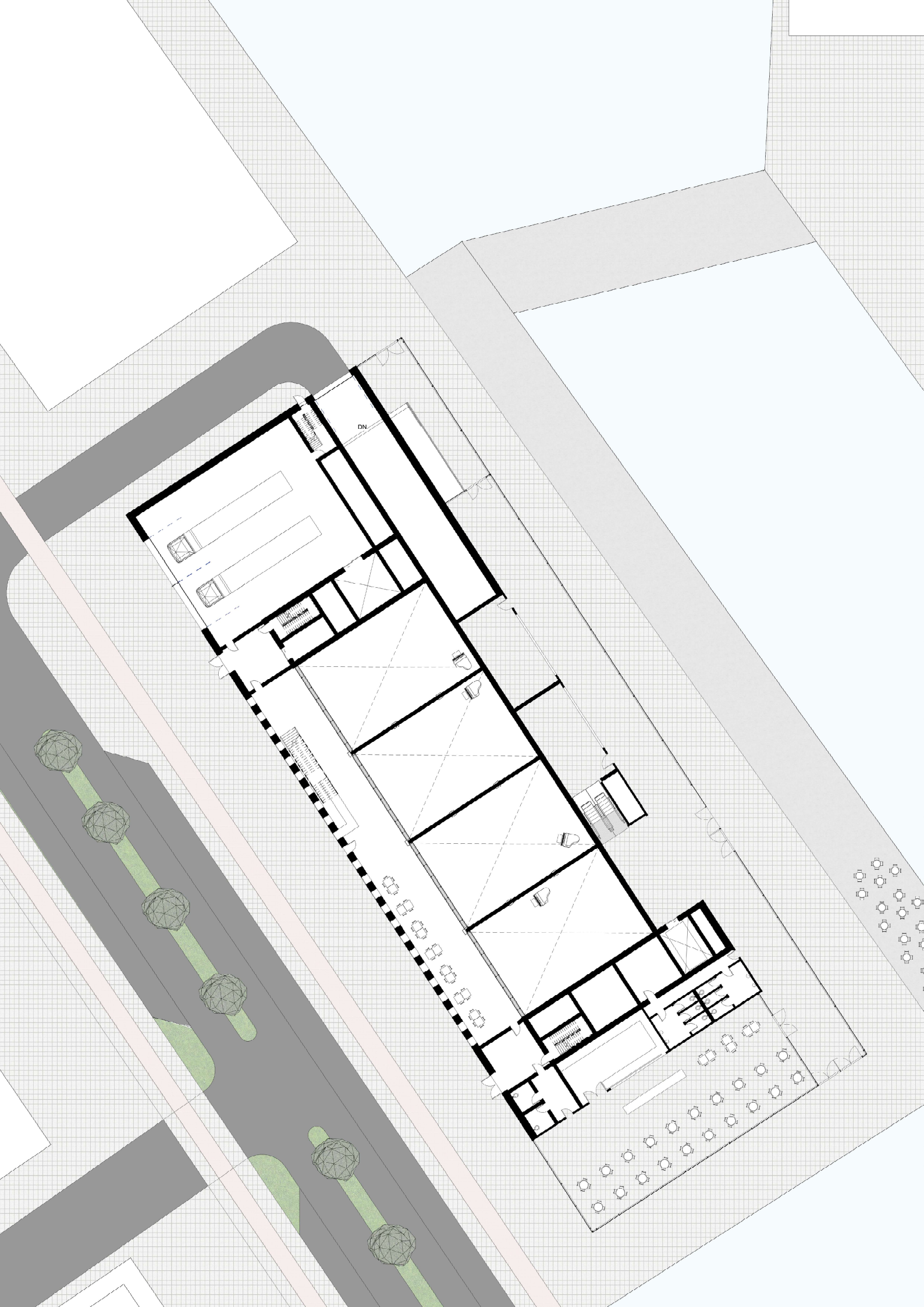


FACADE DETAIL

H.

Final Design


FRANK
APOLLO 14
BINCKHAVEN
KOMPAAN
CABALLERO FABRIEK
THALIA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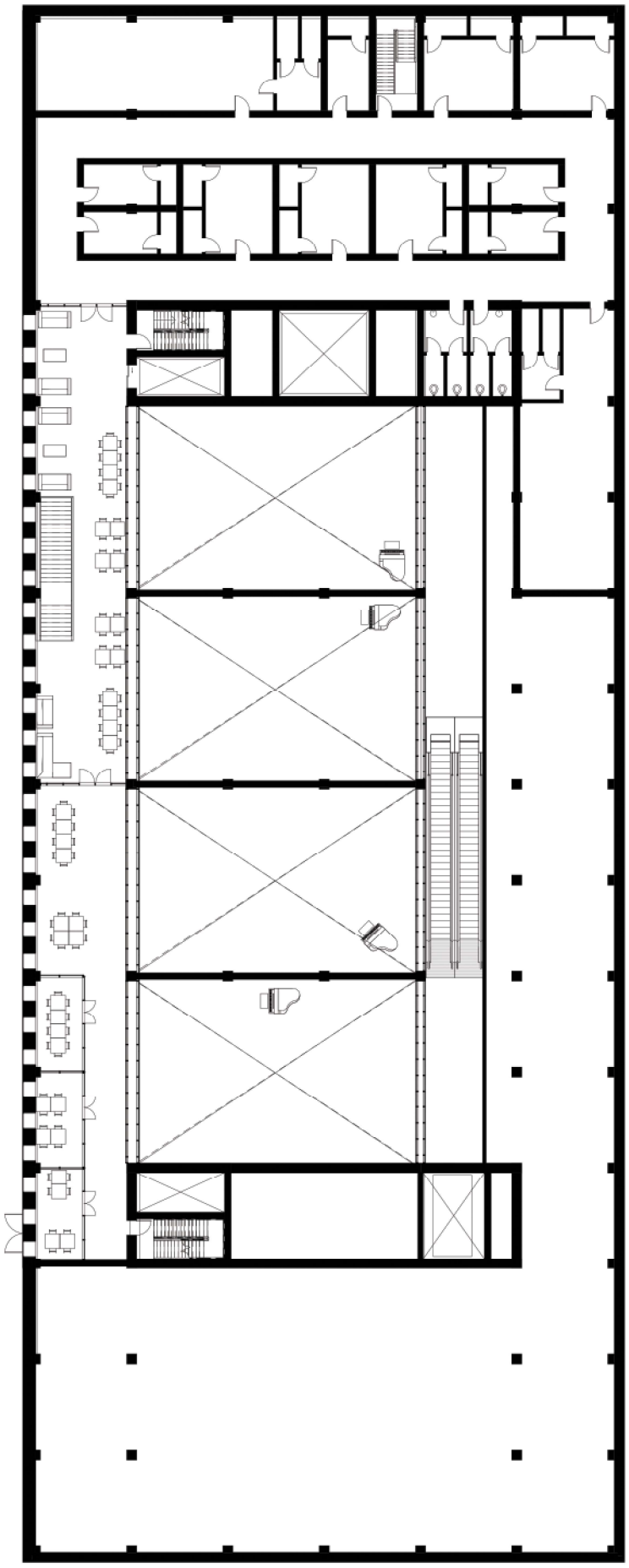

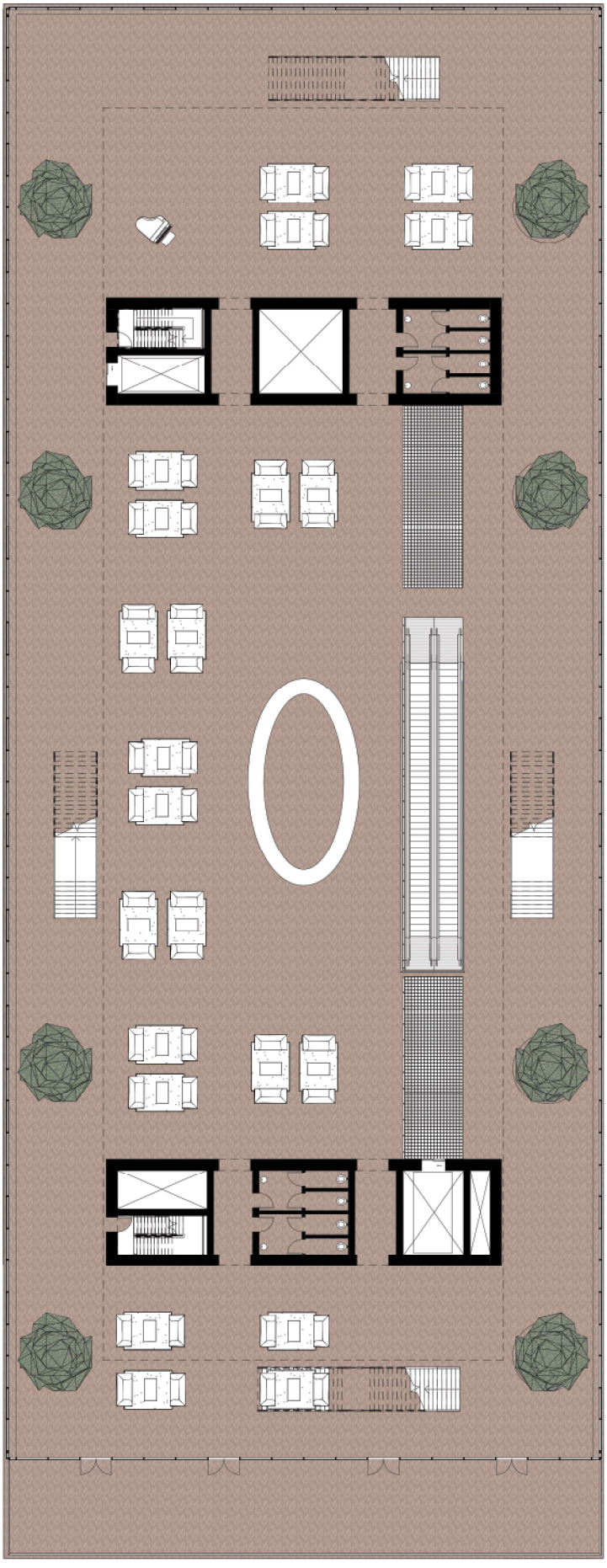

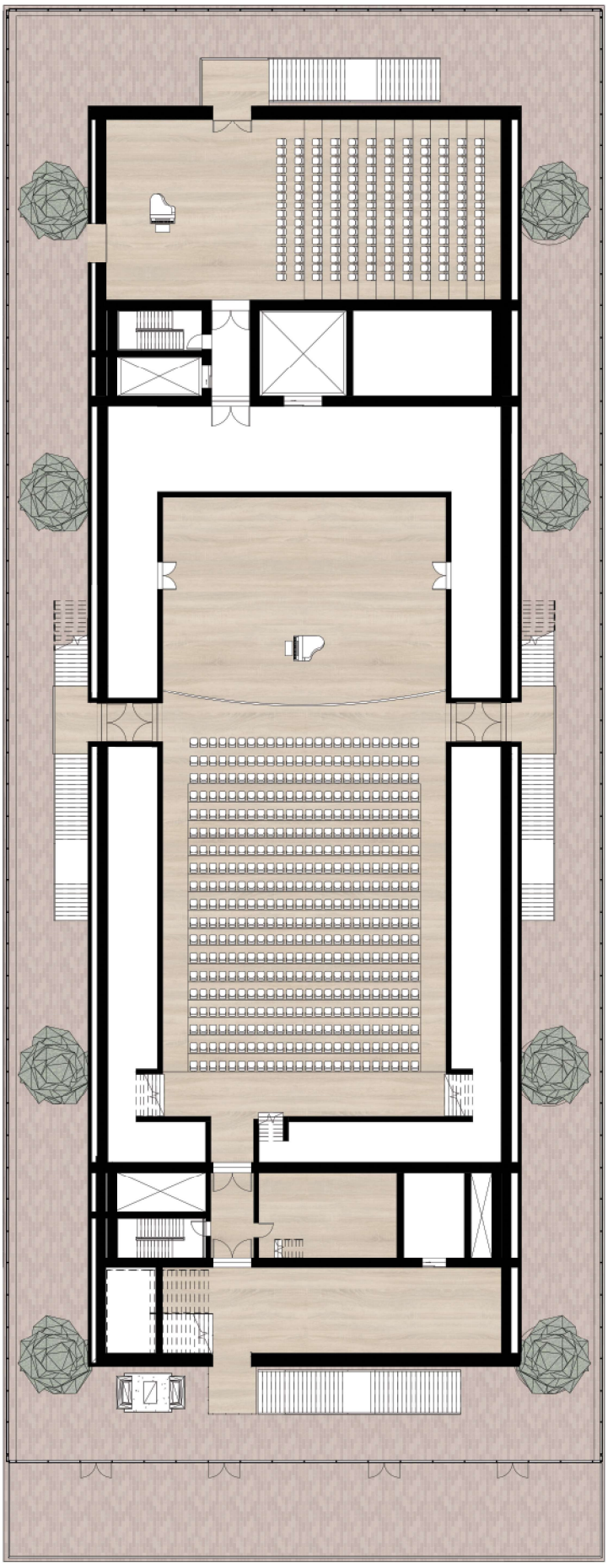

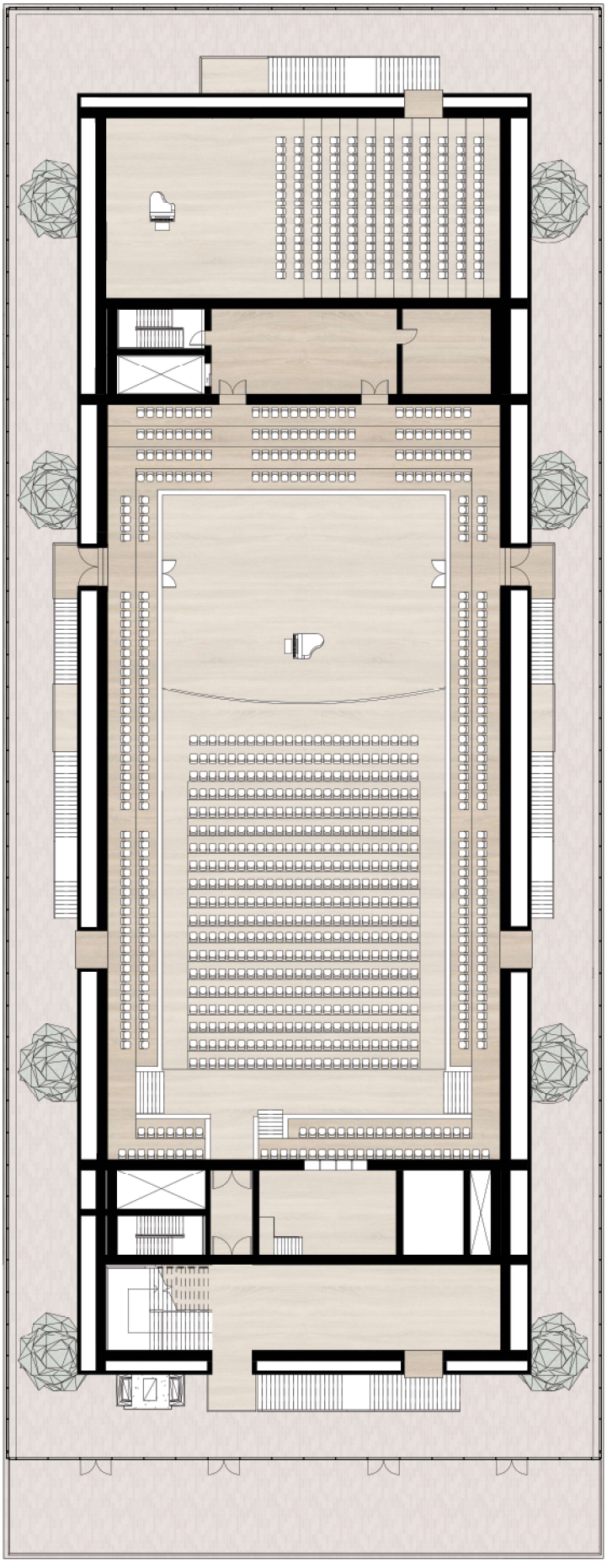

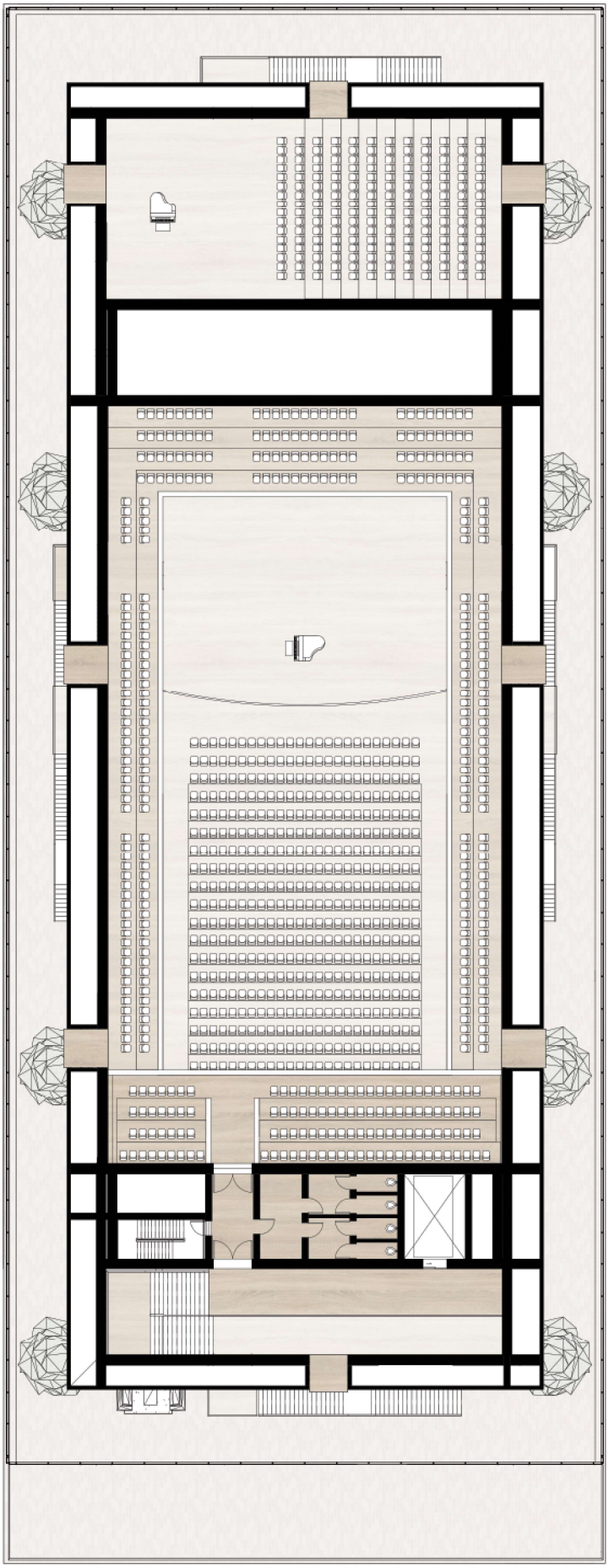

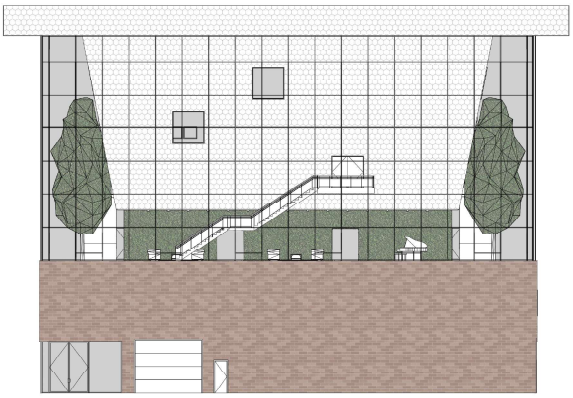

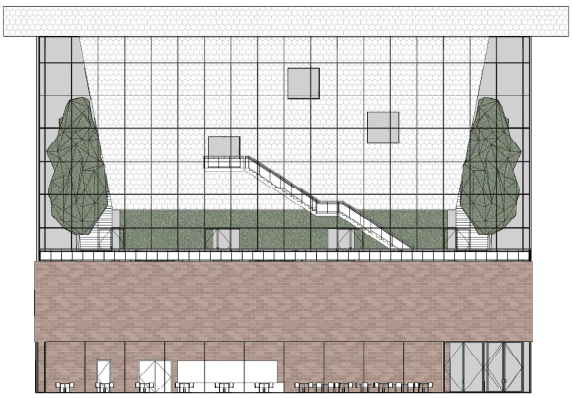

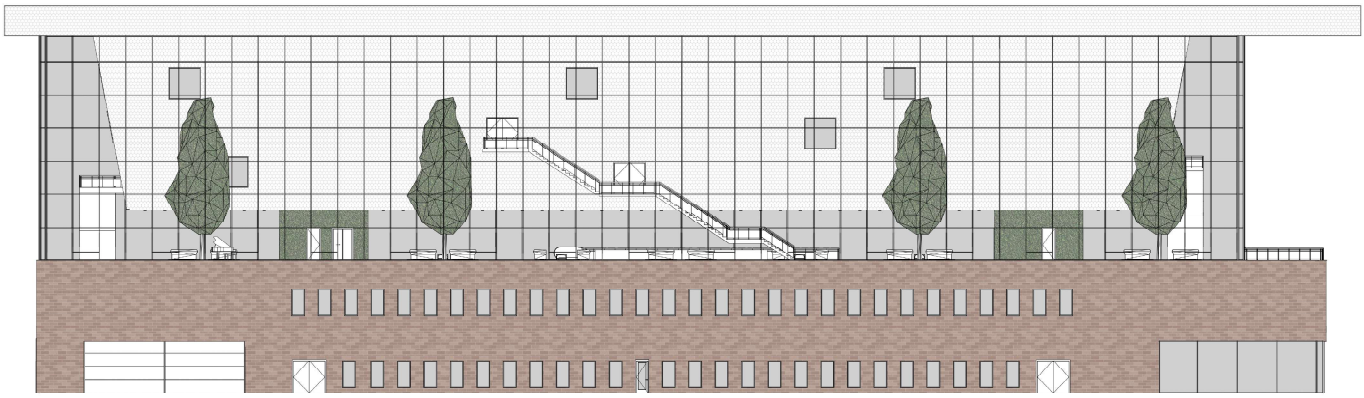

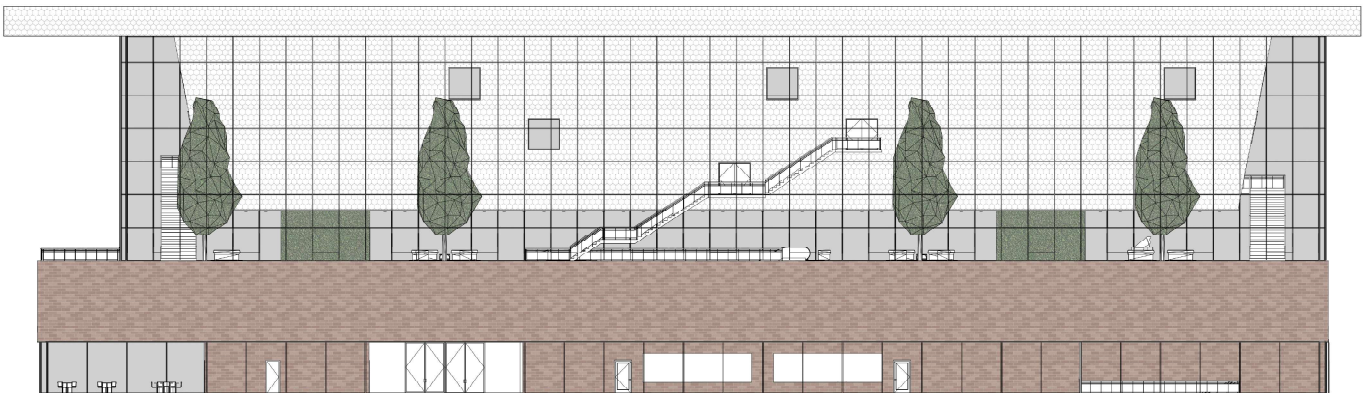

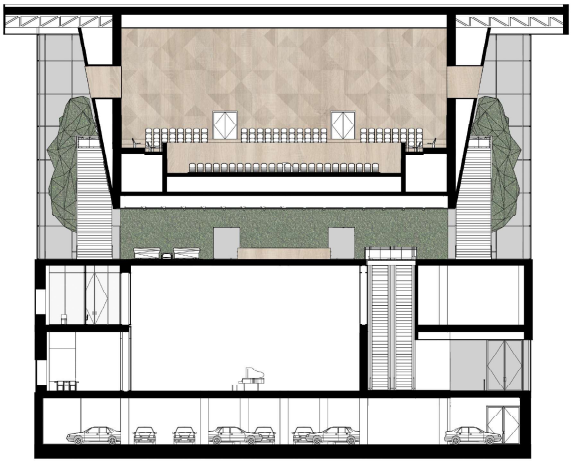

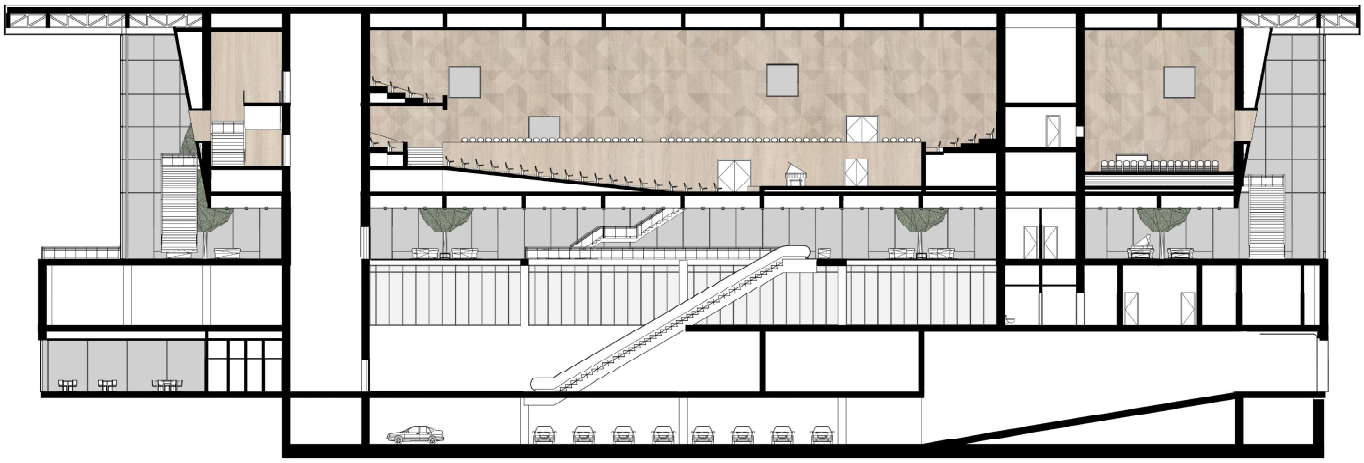

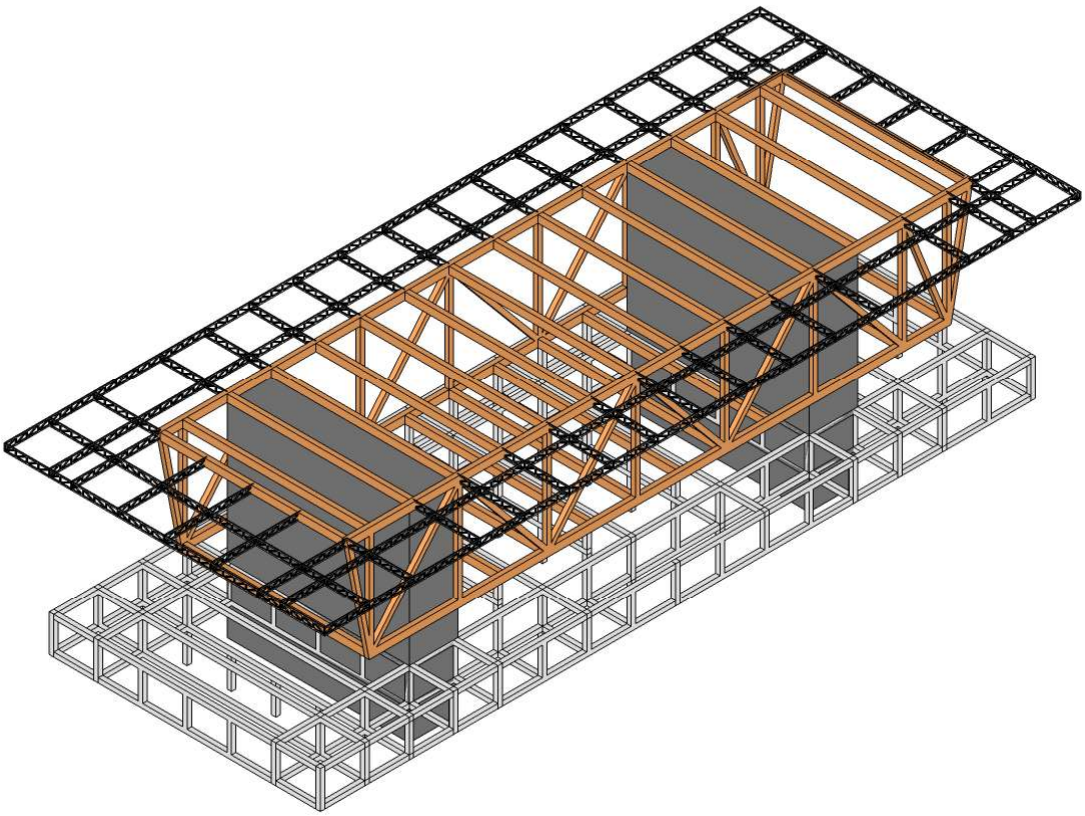

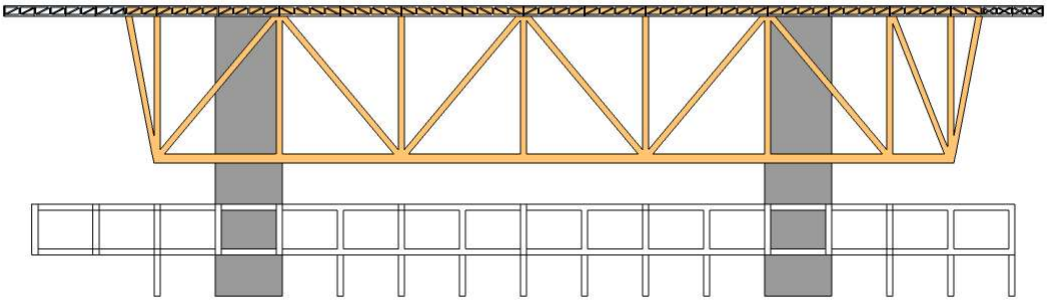

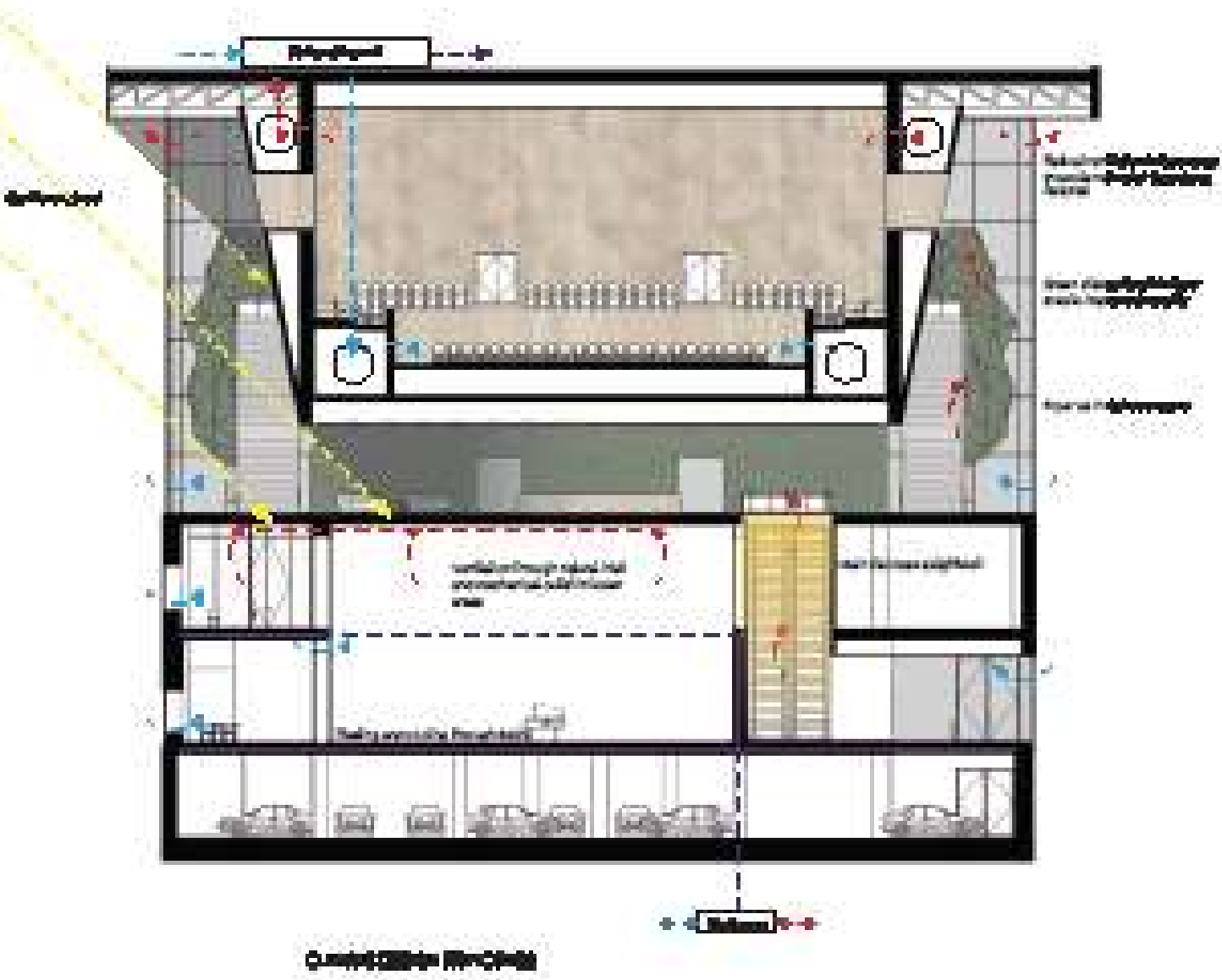

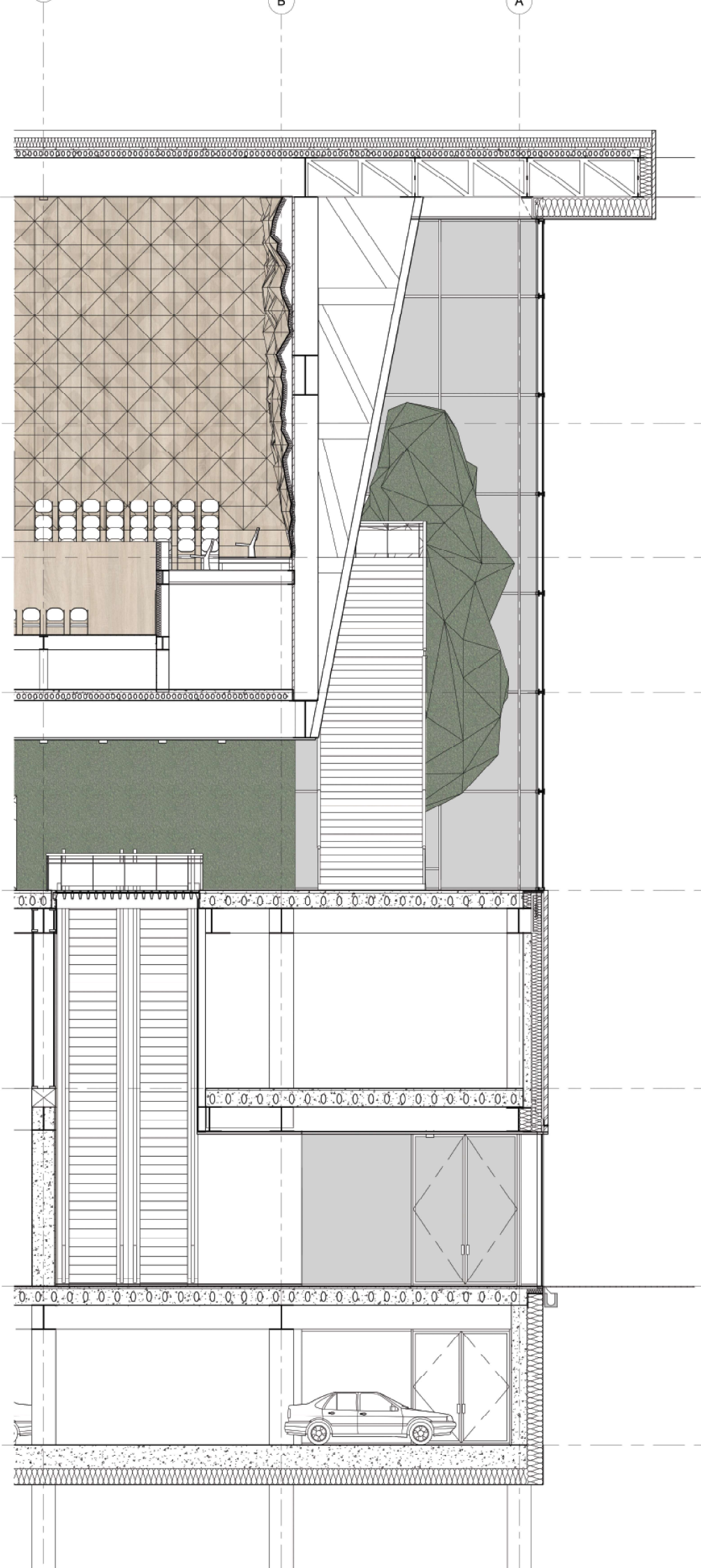
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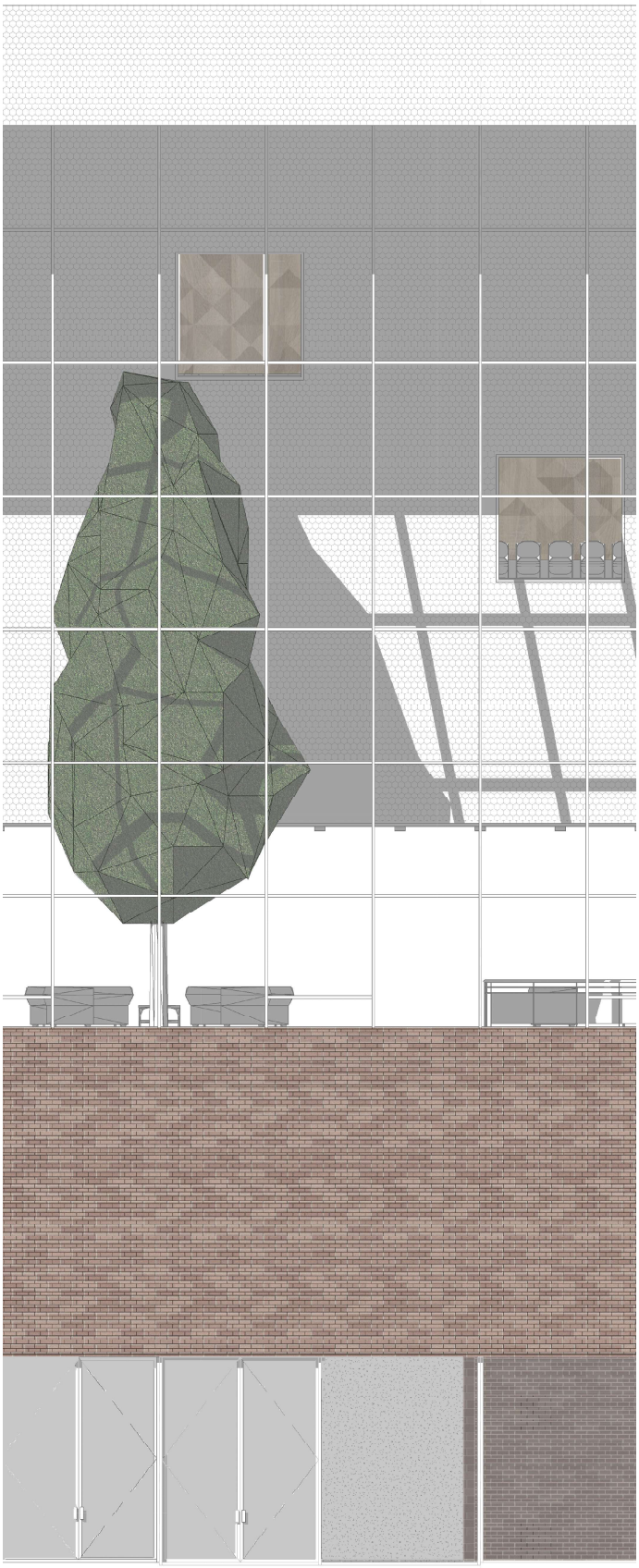
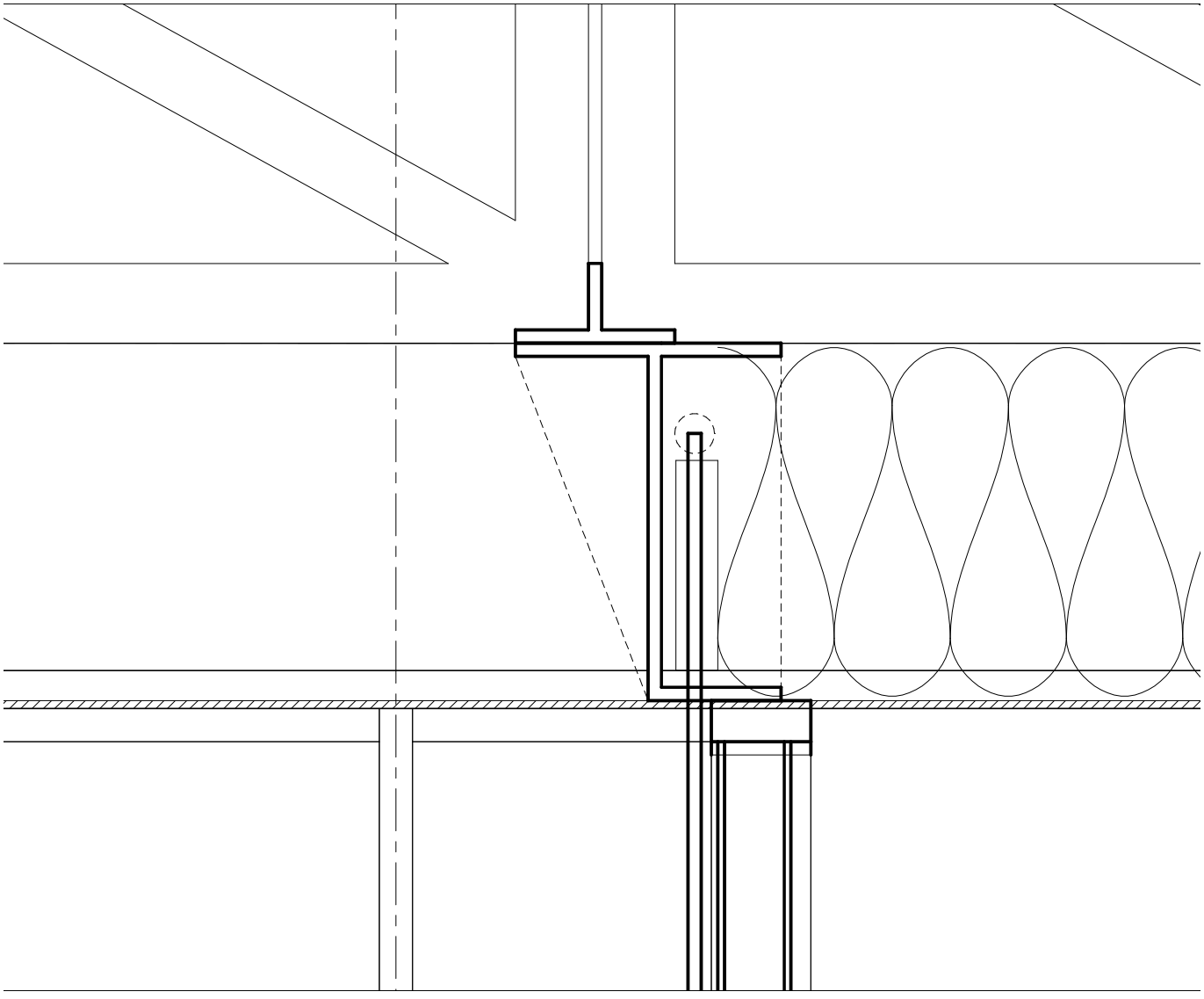
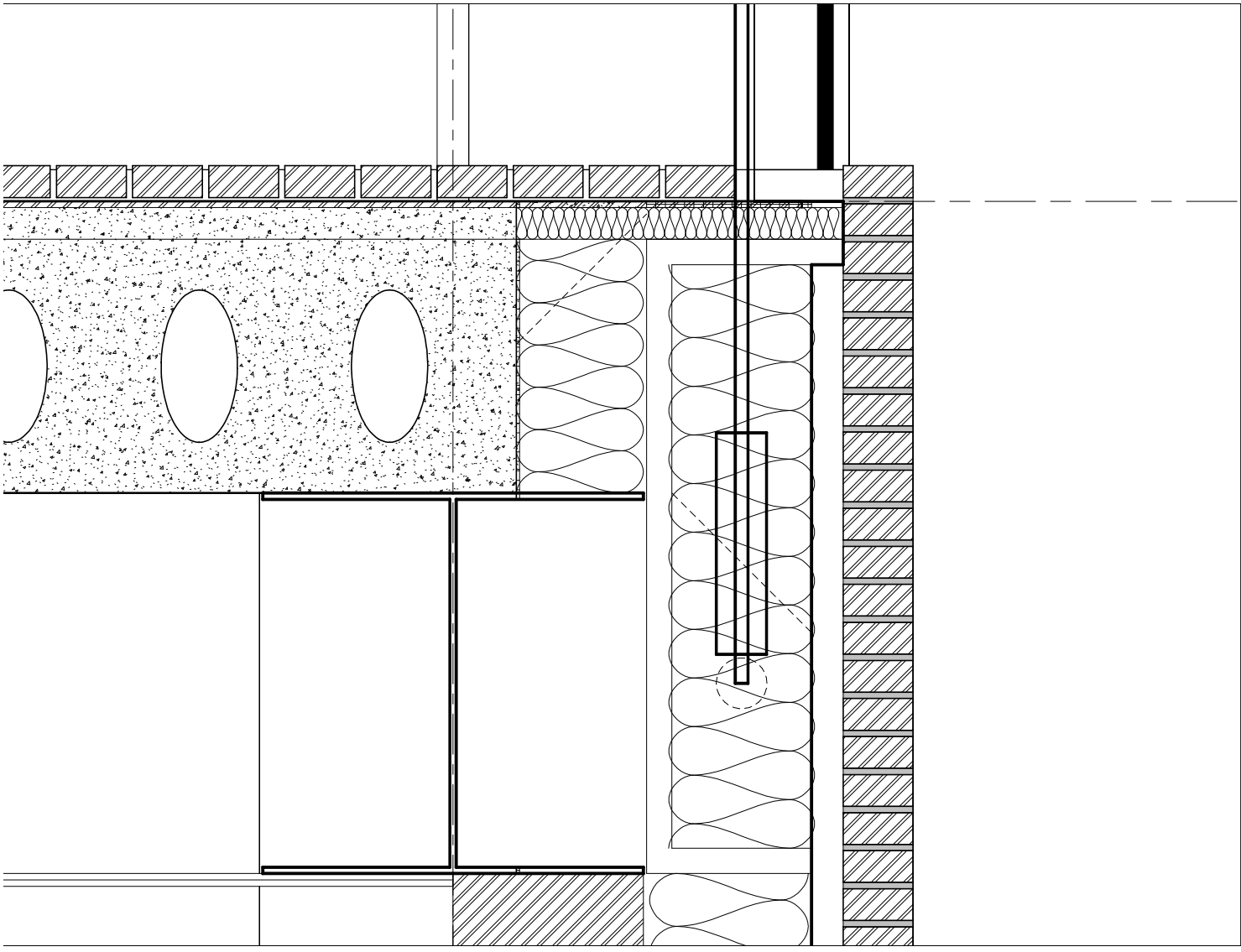
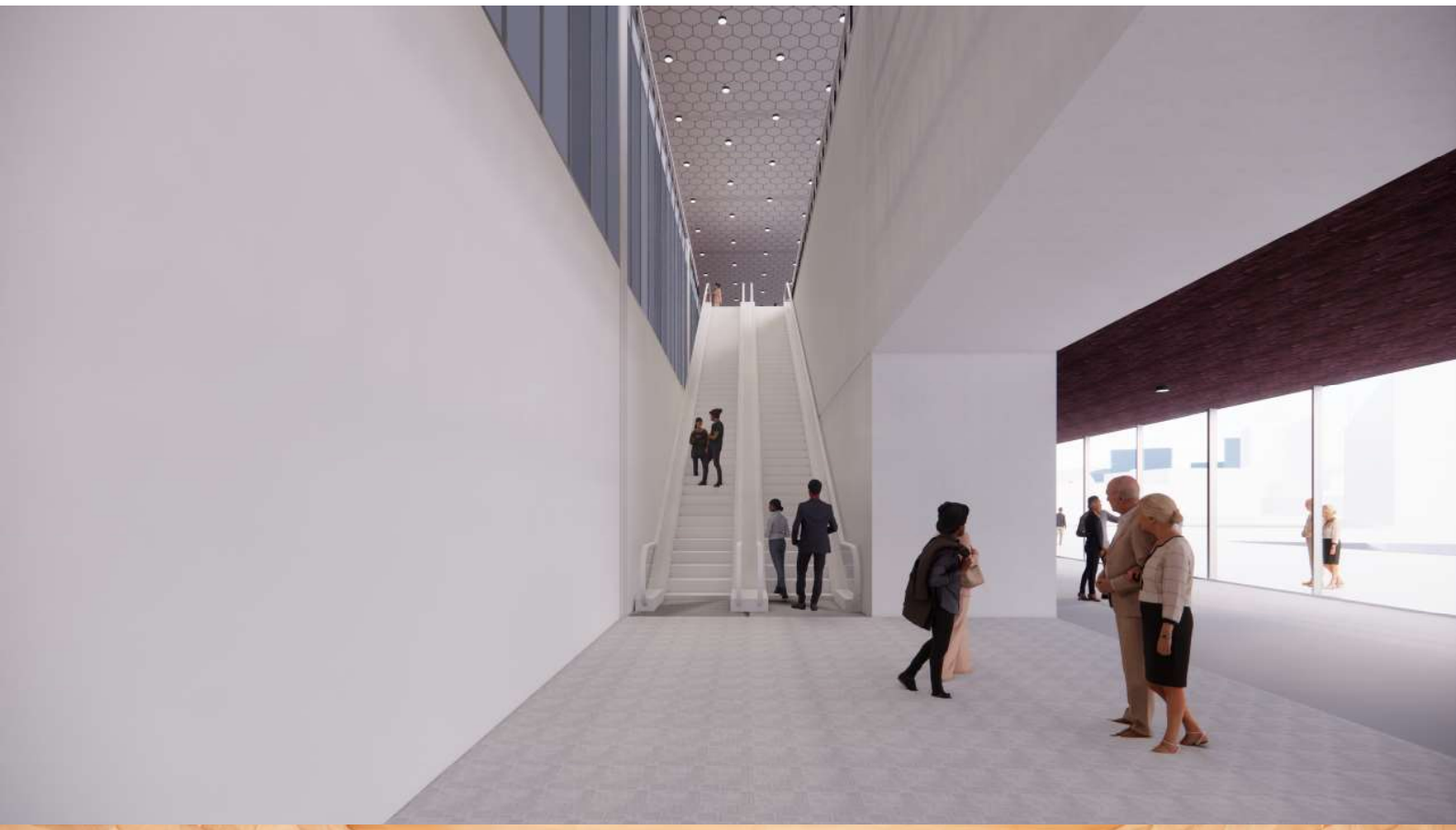




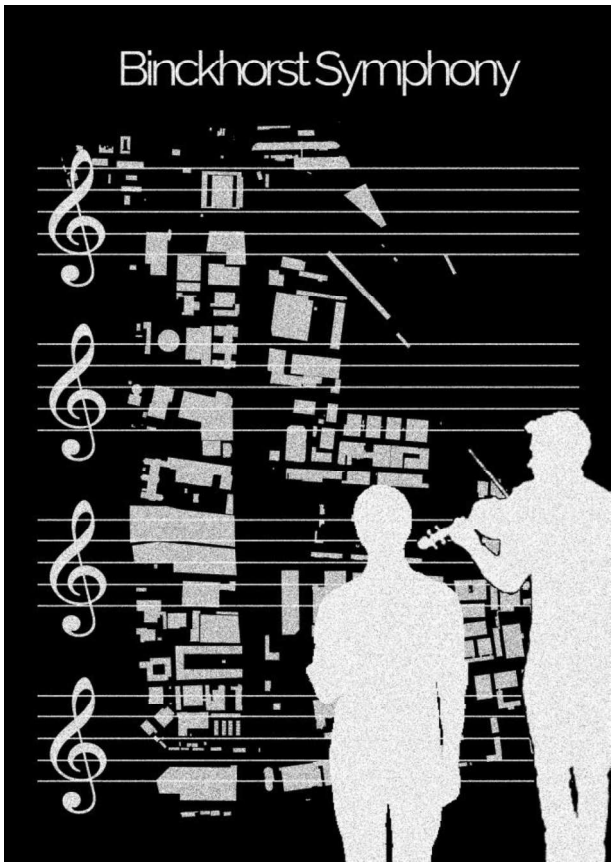




I.

Reflection

From my personal interest in architecture and classical music, the Public Buildings graduation studio felt like a natural choice for me when the opportunity arose to design a Music Marvel. The theme of the studio, *City, Culture, Connection,* focuses on the role of music venues within the city. Public buildings in general can enrich the area in which they are built by activating their surrounding area. Cultural activity, in addition, has the ability to express and enhance the identity of the neighbourhood, creating a sense of place that is unique to each location. To enhance the concept of multiplicity within architecture, not only can we create multifunctional spaces, but add new layers of meaning as well. Within the built environment, we can express the common identity of the city, connecting the people within it to the location. The question therefore arose in what way architecture can express this local culture.



With the design of the Music Marvel during the last months, I have been operating within the realms of both music and architecture. Both disciplines are very different in their respective mediums. Architecture primarily deals with space, while music deals with sound. Both however, have the power to move people emotionally and carry across different messages. In addition, similarities within organisation, structure and the practice of both exist.

During the exploratory phase, my fascination led more and more towards reading the Binckhorst area as a musical composition. Looking through the lens of both an architect and a musical composer, people become musicians within an orchestra. Activities are musical solos within a symphony. The built environment becomes the score that dictates the whole concert. As a listener, you yourself become both the listener, as well as a musician. Through the manifesto, I have tried to express this.

As an additional way to impose a deeper meaning within the architecture of the Music Marvel, I have explored the connection of both disciplines similar to the practices of architects like Vitrivius, Dudok, Libeskind and others.

Within this spirit, the question arose in what way the identity of the Binckhorst area can be articulated through the musical and architectural expression of the music venue.

Throughout the last months, I have noticed I usually like to think through many possibilities before coming up with a design to answer a question. This results in a process in which the design of the building is developed further through large iterations, each trying to answer the central research question in a better way. Especially after P2 and P3,

large changes have been made within the design. Points of friction between the concept and the architectural scheme led to radically different designs at each point. During the process, I have tried to redefine the design to fit the original concept, using elements from the theoretical musical components as defined in the theory research and their connection to architecture.
Important are some of the case studies researched during the first phase of the studio, especially the Royal Festival Hall (Matthew, London, 1951) Muziekgebouw aan 't IJ (3XN, Amsterdam, 2005) and Elbphilharmonie (Herzog & de Meuron, Hamburg, 2017). During the design process, spatial concepts of these buildings have been integrated within the design, testing to see if these solutions were applicable for the Binckhorst Symphony.

In order to "compose" the building, the original idea arose to organise the building like the four movements of a musical symphony. While this idea is still there and can be clearly distinguished within the design, the way in which each movement has been developed has changed over time. The feedback made me think about different design solutions and new perspectives for the music marvel. I used the feedback to further develop the design and appreciated the given feedback.
Classical music is traditionally composed as a forced sequence of music through time. Musicians and listeners have no say in the way musical elements follow each other. In a building, however, visitors can move freely throughout the space. It is impossible to set a specific experience to the way each movement unfolds. Within the Binckhorst Symphony, the focus during the process has therefore been mostly on the activities and different atmospheres within each zone.
As I began the design, the idea of "composing" the symphony was really to create a sequence in a melodic line, in which architectural elements follow up on each other. However, during the design process, this idea has shifted towards a more modern type of composition, in which different musical elements can be shifted around. Classical music is in this sense more about a strict movement, while spaces also allow for people to hold still within one location. Within the music – or space when talking about architecture – it is therefore more important to create a specific atmosphere than to create an enforced melodic sequence of tension and relaxation. Less of the music is set in stone, but more of an atmosphere is created which provides a framework for the visitor to take the space of a musician and to create their own music collectively. Even more than the spatial design, programming of the space has played an important role in this aspect. The role of the visitors as musicians can be directed by suggesting specific activities. Where do people behave like an orchestra working together, and where does it turn into a cacophony in which everyone plays their own solo? By the way people behave, it can either create a lively, calm and focussed, joyous or euphoric atmosphere that corresponds with the character of the different symphonic movements. Musical elements like key, tempo, volume and instrumentation can help to create this atmosphere. In the design of the building, this is done mostly through the large architectural volumes that define the spaces, materials used within the space and the dimensions of constructional elements.

While treating the building segments as separate, somewhat like a cadavre exquis, the constraints of the plot toward the building size made it difficult to really shape the different parts while simultaneously creating meaningful, coherent spaces. Especially in the second

and third movement this became clear. In addition, transitions between different movements have been changed from hard transitions into a more fluid, continuous space.

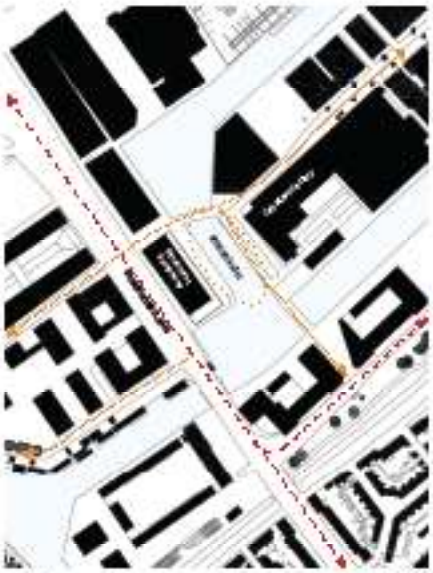
Composers regularly used and developed on folk tunes from specific regions. Originally, I therefore intended to use specific elements from the Binckhorst area. This however, quickly changed. Now, the Binckhorst forms a backdrop for the interior spaces as the Music Marvel frames the different elements. The relationship between interior and exterior allows for the Binckhorst to come into the building and engage with the visitor. The activities within the Binckhorst area are continued within the plinth of the building. As the position of the visitor changes, it can discover different elements within the area. On the ground floor this means the Binckhorst extends to within the building. On the second floor, the public plaza with views all around mostly forms a viewing platform and shows the Binckhorst from another angle. This makes it possible to reflect upon the area.

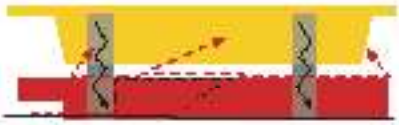
For me, the last months have made me understand in a different way the relationship between architecture and music. While the built environment can indeed be read like a musical score with rhythm, volume, instrumentation, the real music only comes to be when users fill the space with activity. Not only is the user of public spaces there to listen, but must also actively participate within the orchestra. By expressing implicit values within the architecture and acting upon it together, the public can really make music. I have learned that, as an architect, you cannot enforce a specific idea or sequence of actions. People are always free to improvise to some extent. However, you can create the conditions to which the orchestra can comfortably play and create the "sound" of your ideas.

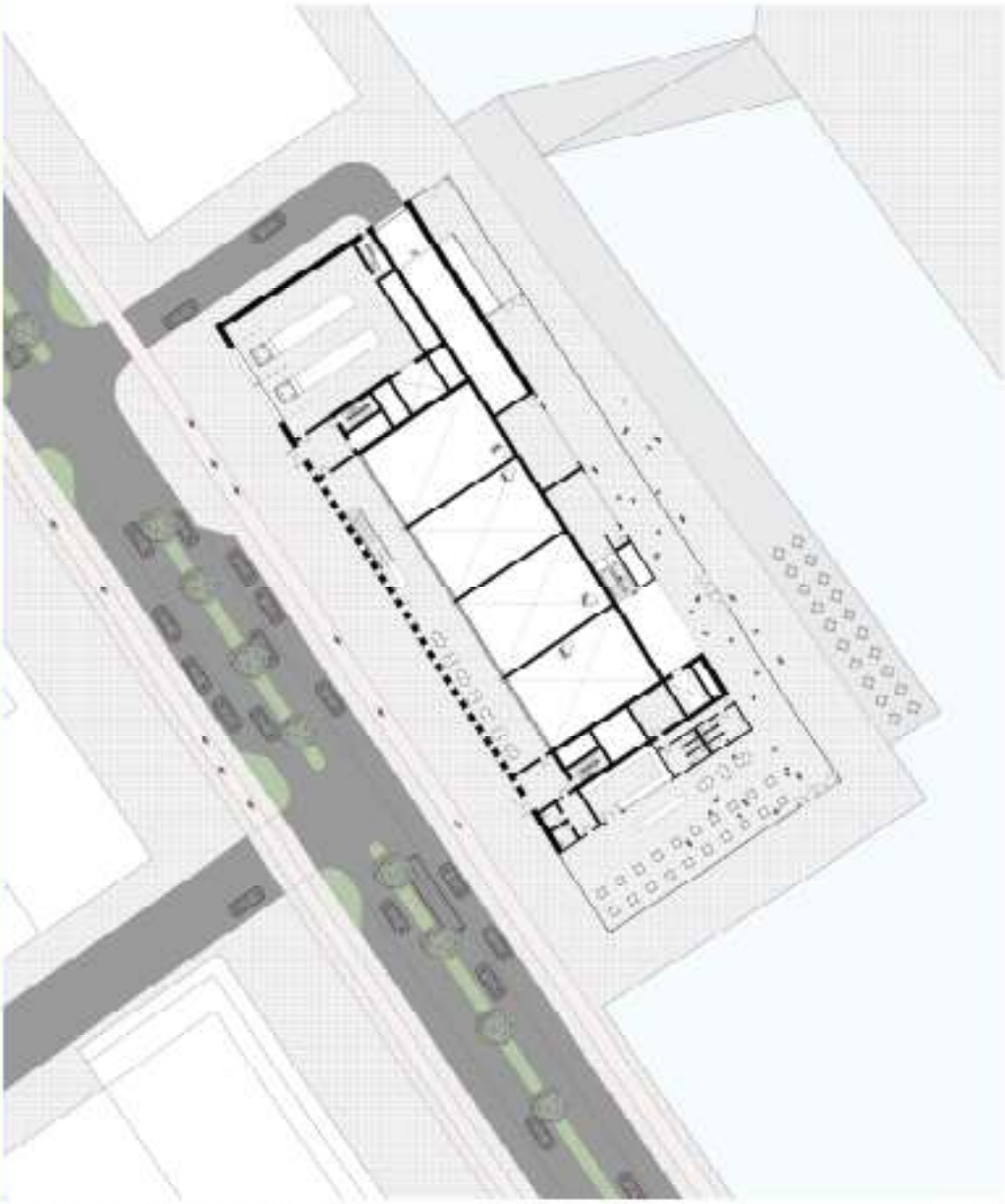
J.

Posters

BINCKHORST SYMPHONY







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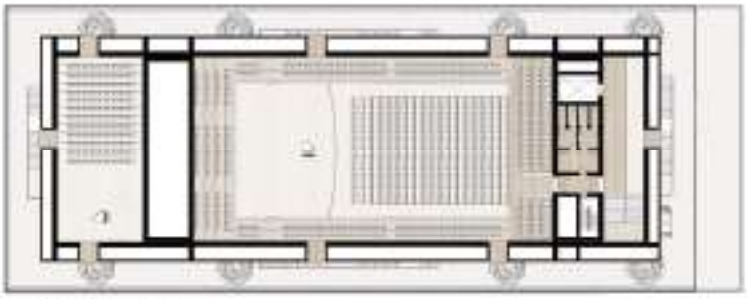
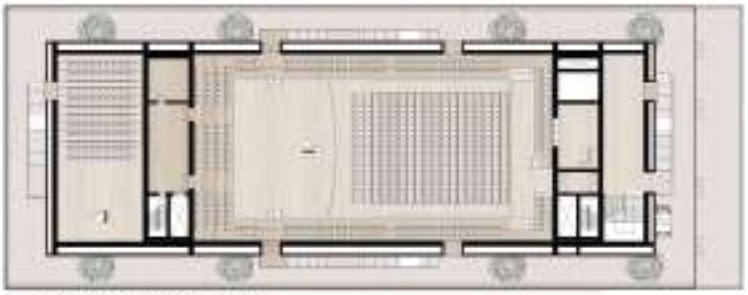
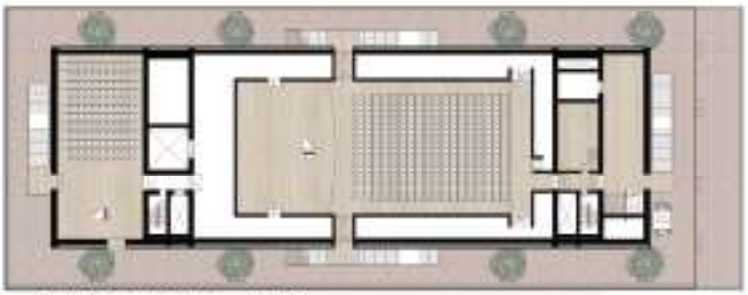
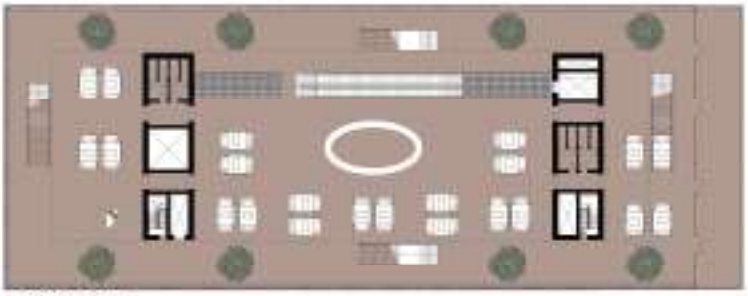
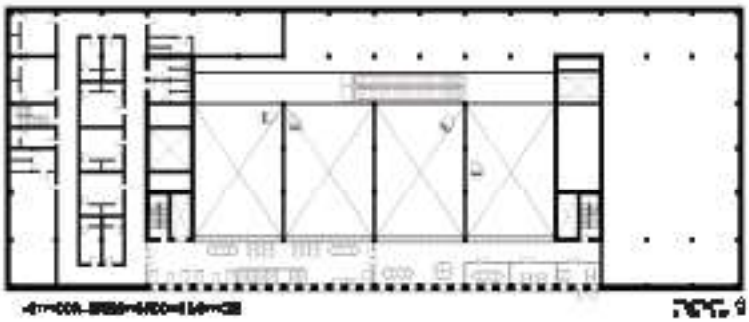
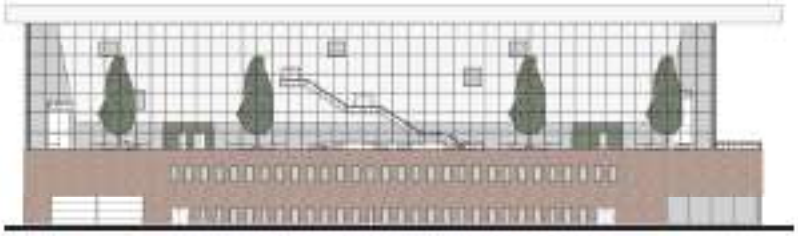


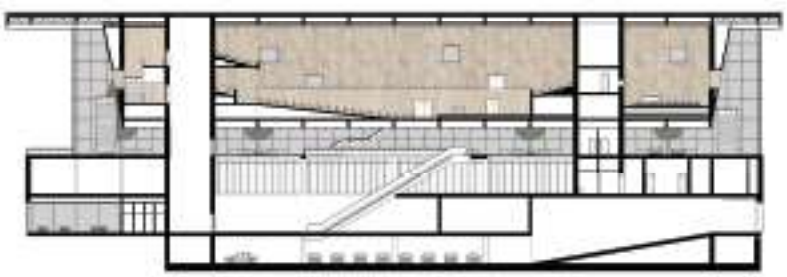




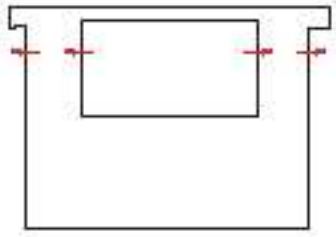


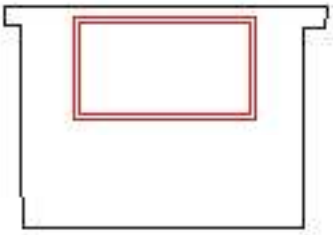


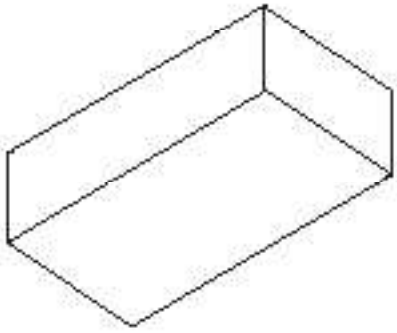


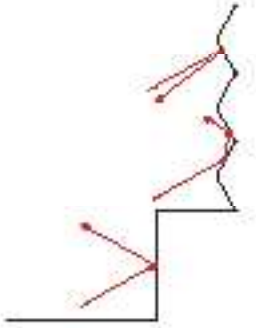


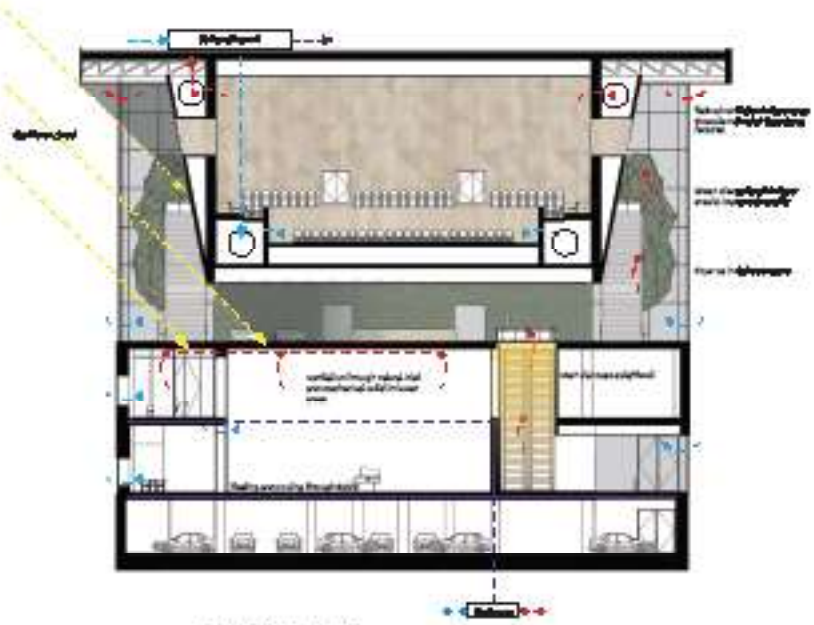
BINCKHORST SYMPHONY

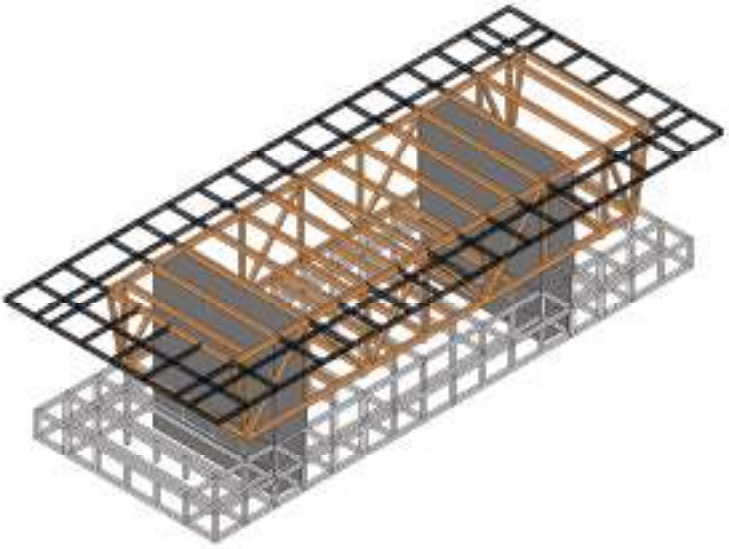


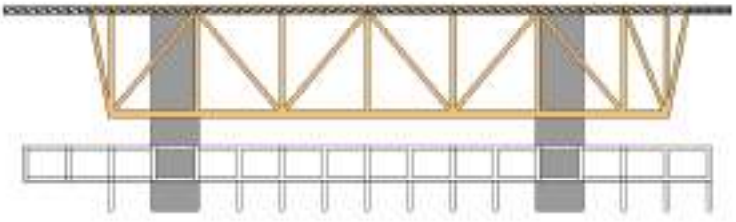
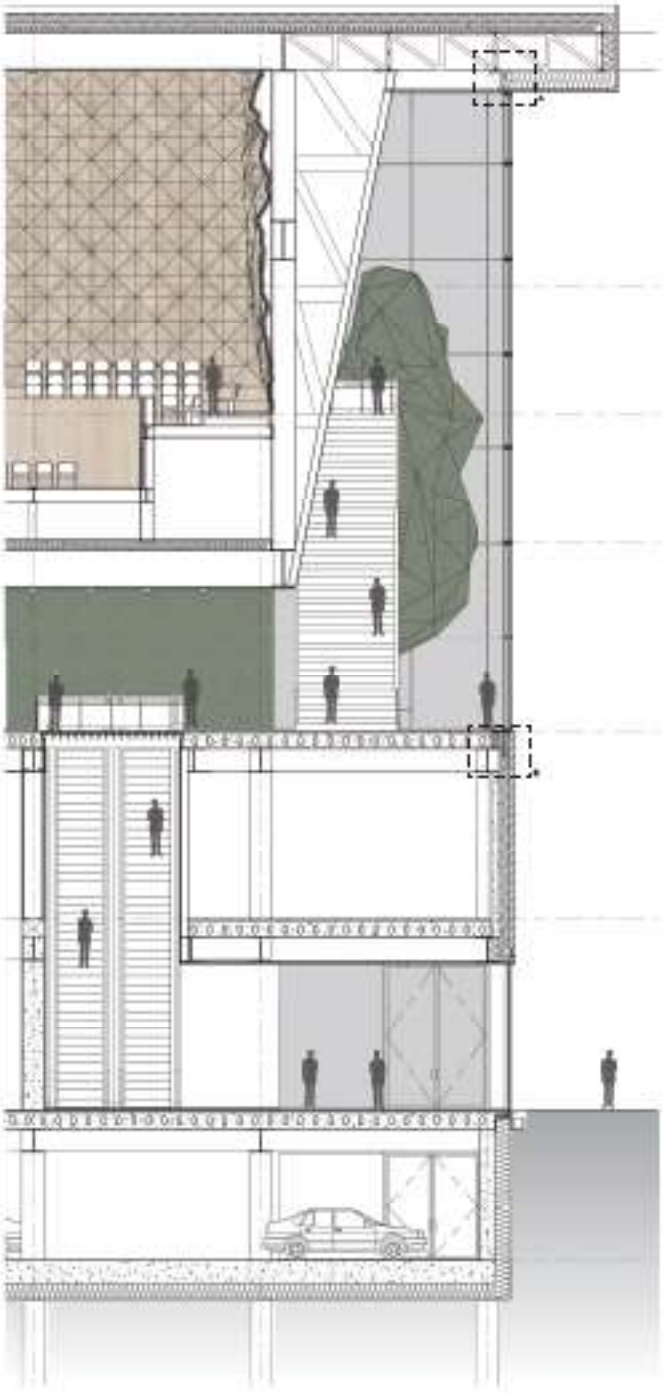
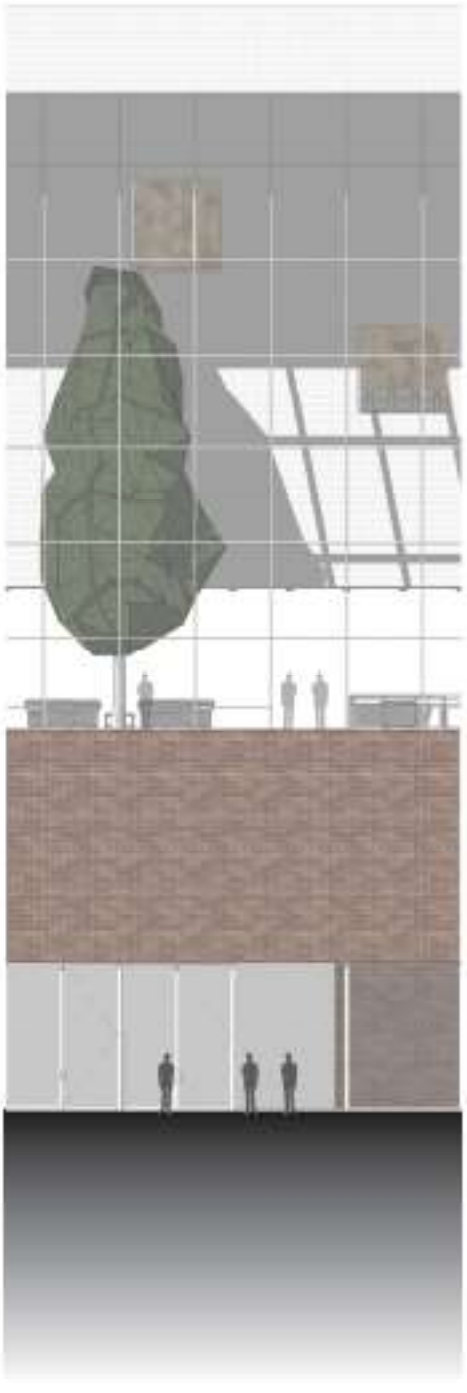
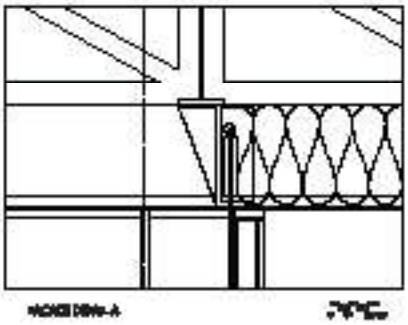
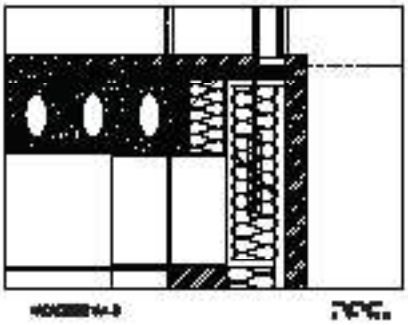








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