

xDOMAIN - CITY of the FUTURE

*Graduation MsC track Architecture*

P5 PRESENTATION

08.07.2020

CEM ADA 4163370

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*P5 presentation*

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**I. Introduction** | theme & research

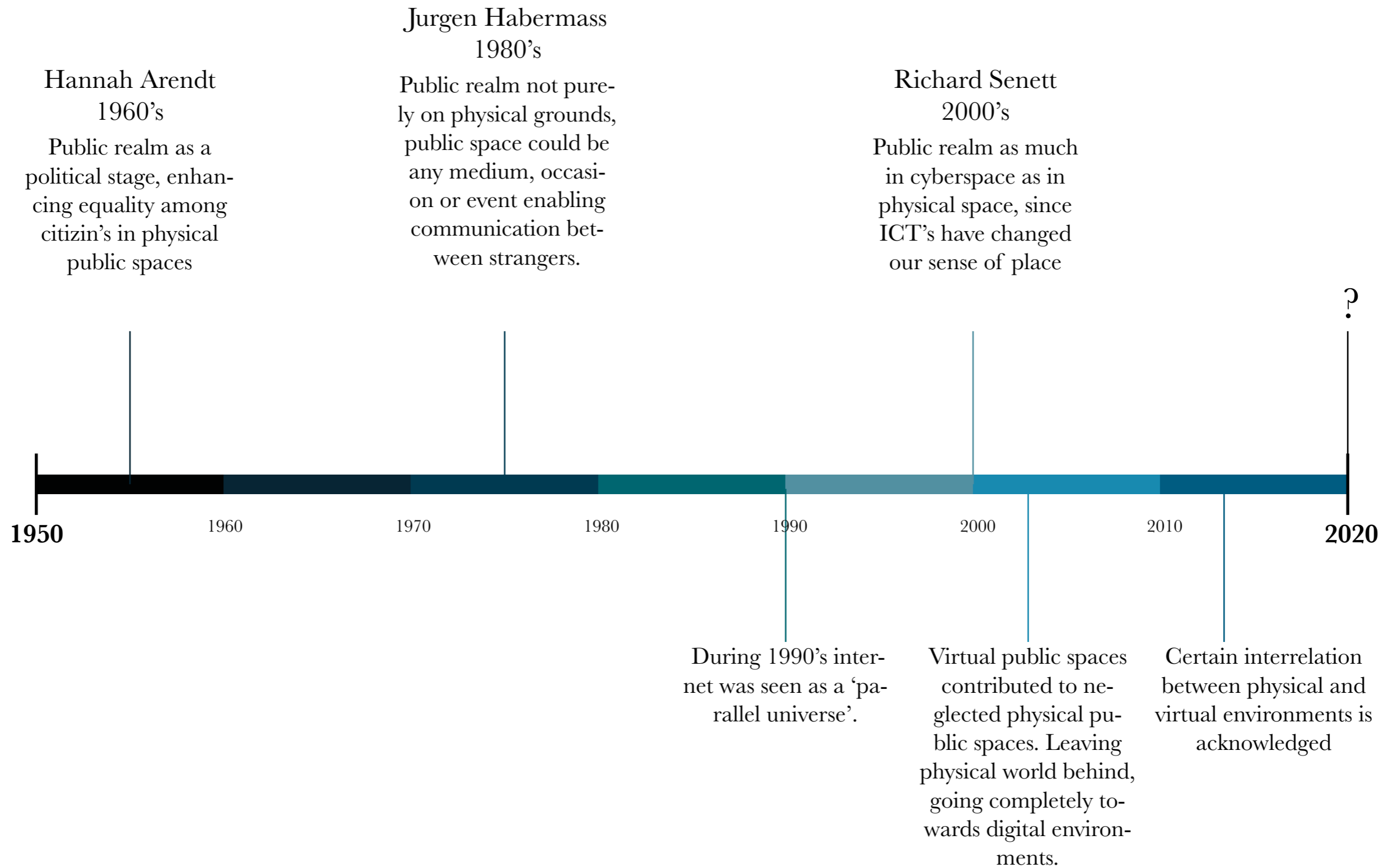
**II. Design evolvment** | connectivity, accessibility

**III. Design input** | adaptability

**III. Design** | the Urban Theatre

# THE SHIFT IN THE ROLE OF PHYSICAL URBAN SPACE

*since the emergence of the digital era*



# STATEMENT

*There is a need for a re-consideration of public space as just physical and material space.*



The public realm in traditional public space

*Before*

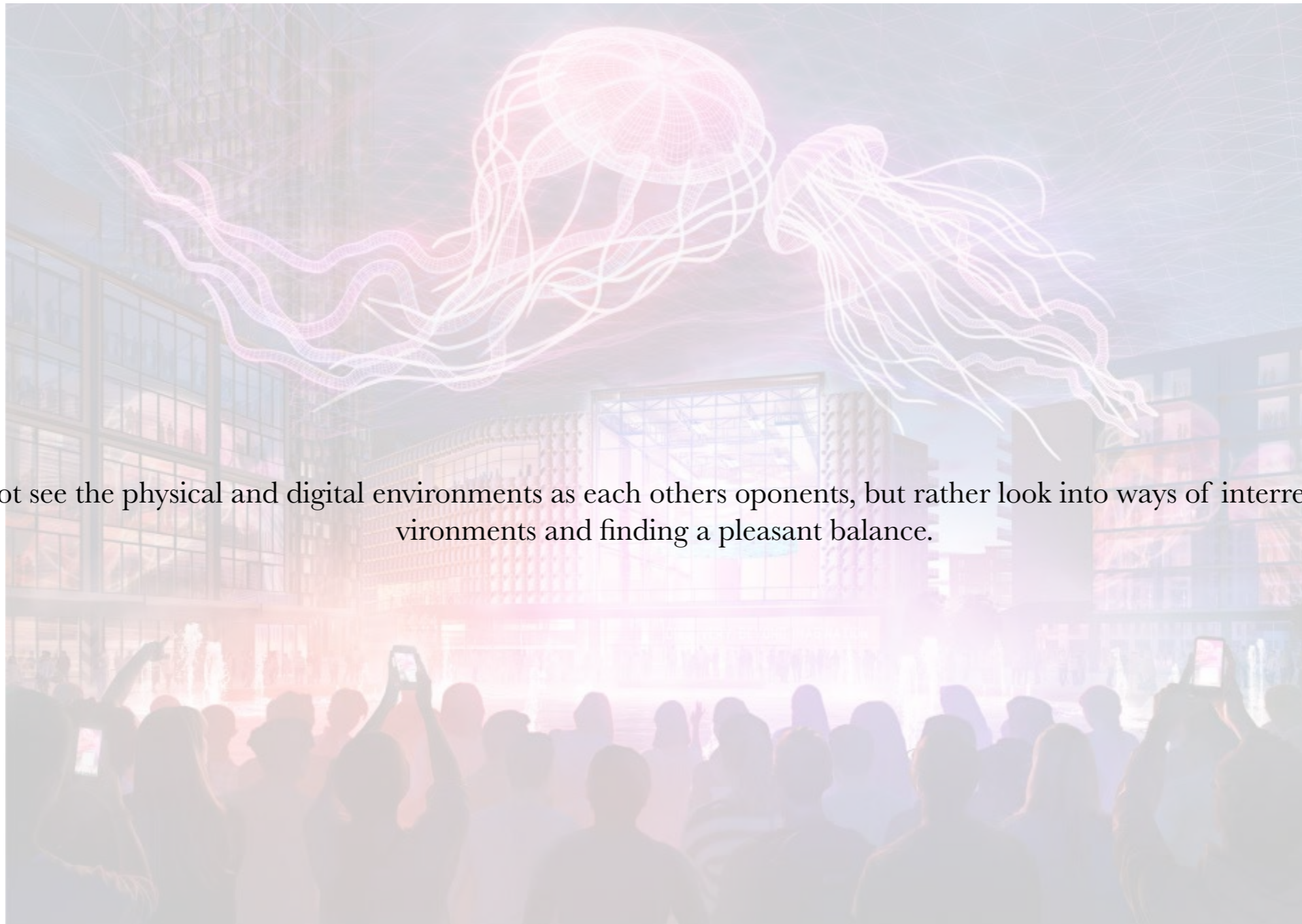


The public realm in virtual public space

*Now*

# INTERRELATING PHYSICAL AND DIGITAL PUBLIC SPACE

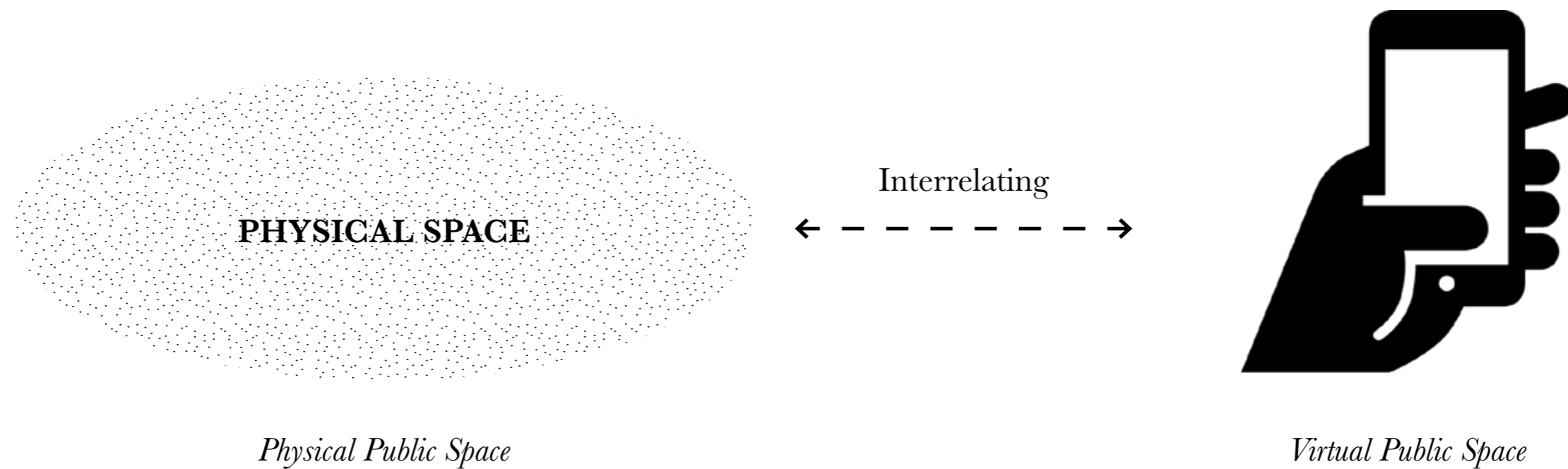
*in future urban space types*



We should not see the physical and digital environments as each others oponents, but rather look into ways of interrelating both environments and finding a pleasant balance.

# THE INTERSECTION OF PHYSICAL AND DIGITAL PUBLIC SPACE

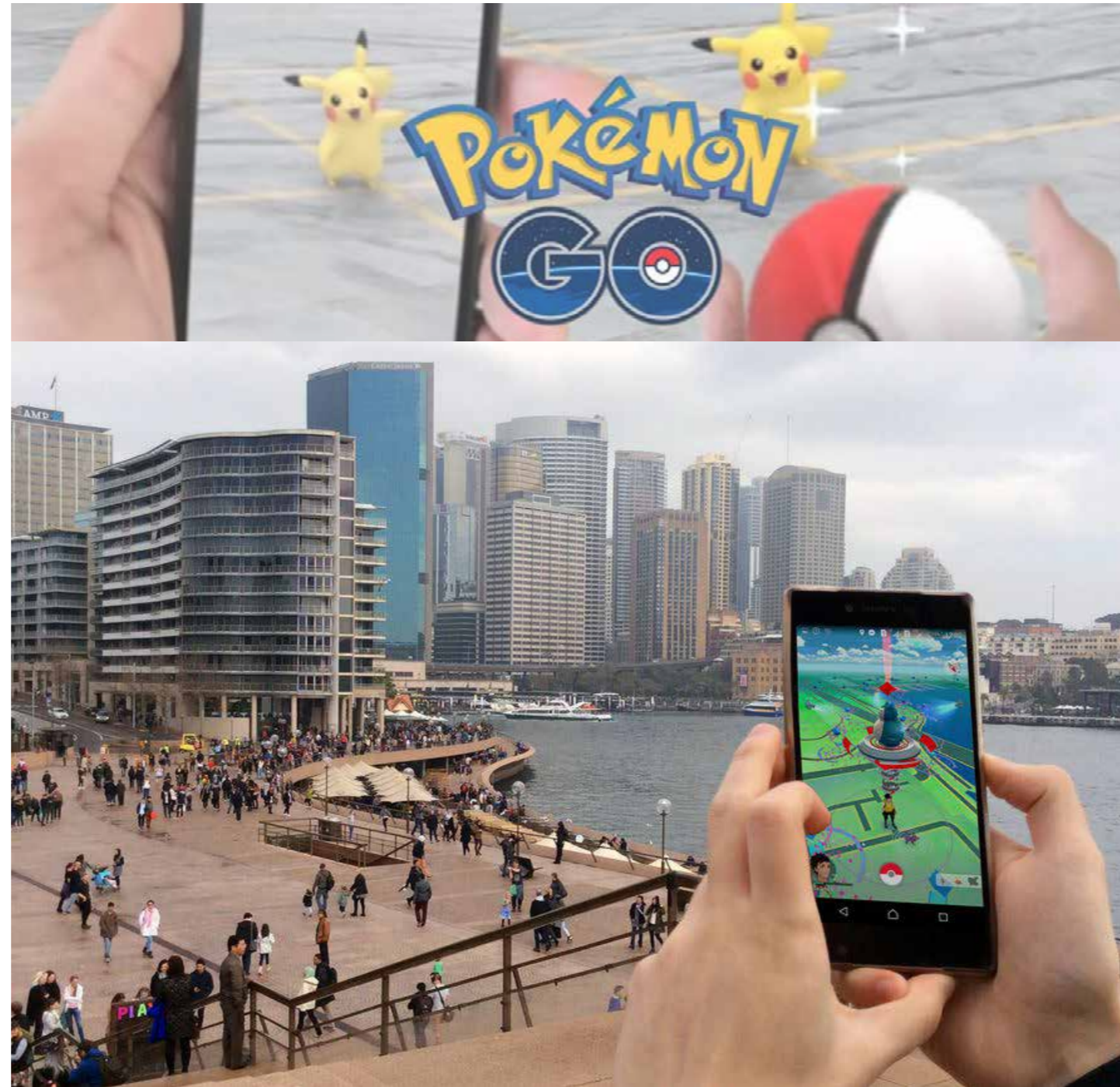
*how?*



“Intersecting the physical and digital public spaces by elaborating on the qualities and advantages of both worlds, whereby a more balanced out interrelation will arise in order to serve the public realm at its best.”

# INTERRELATING PHYSICAL + DIGITAL

*recent phenomenon of Pokemon Go showed a way to do it*

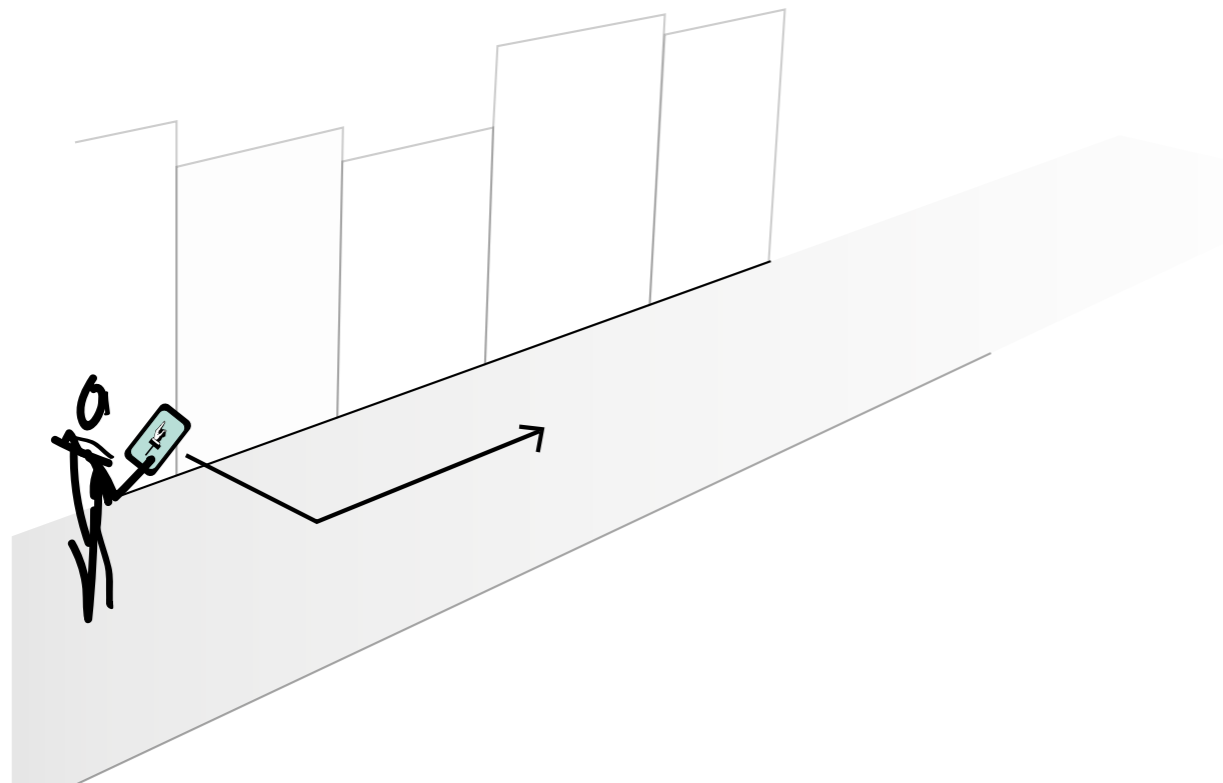


Already a good example where physical and digital environments meet. But...



# INTERRELATING PHYSICAL + DIGITAL

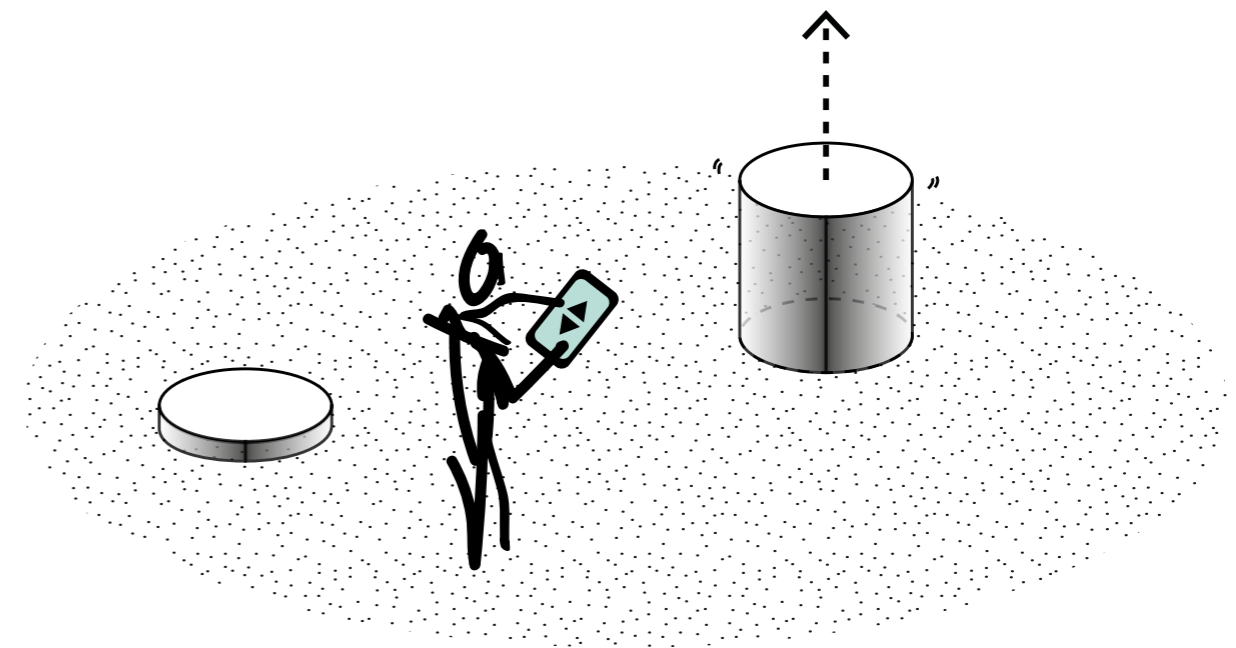
*invert the argument: designing a physical space that attracts or invites digital use/users*



A digital intervention leads people to physical space

*Programmer's role*

vs.

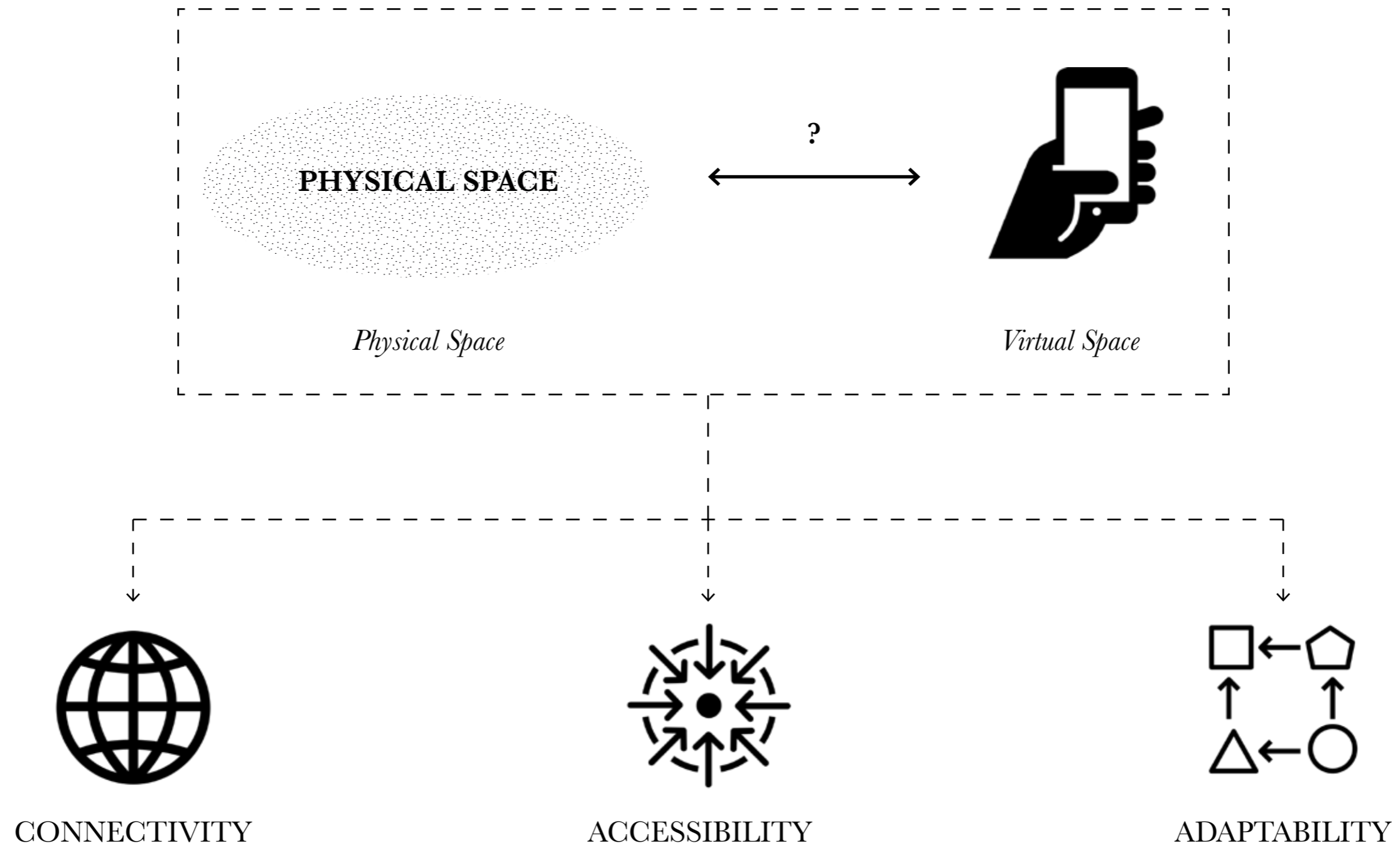


The design of physical space attracts digital use(-rs)

*Architect's role*

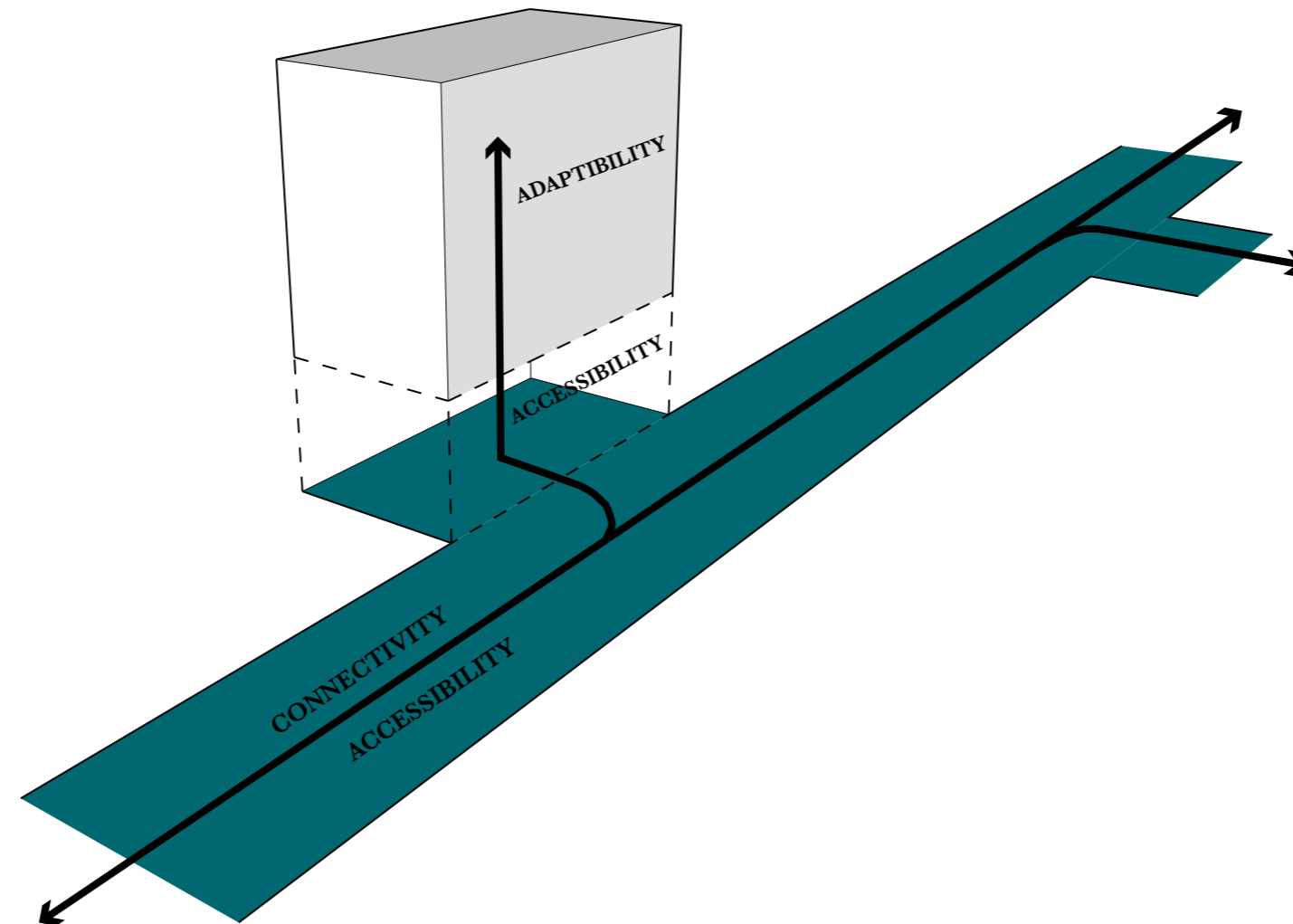
# INTERRELATING PHYSICAL & DIGITAL

*through the three domains of connectivity, accessibility and adaptability*



# CONNECTIVITY, ACCESSIBILITY AND ADAPTABILITY

*initial schematic diagram*



“A continuous connecting path gives access to both interior and exterior public spaces, of which the more user-specified spaces could be adaptable according to the activities or events that are taking place in it.”

**I. Introduction** | theme & research

**II. Design evolvment** | connectivity, accessibility

**III. Design input** | adaptability

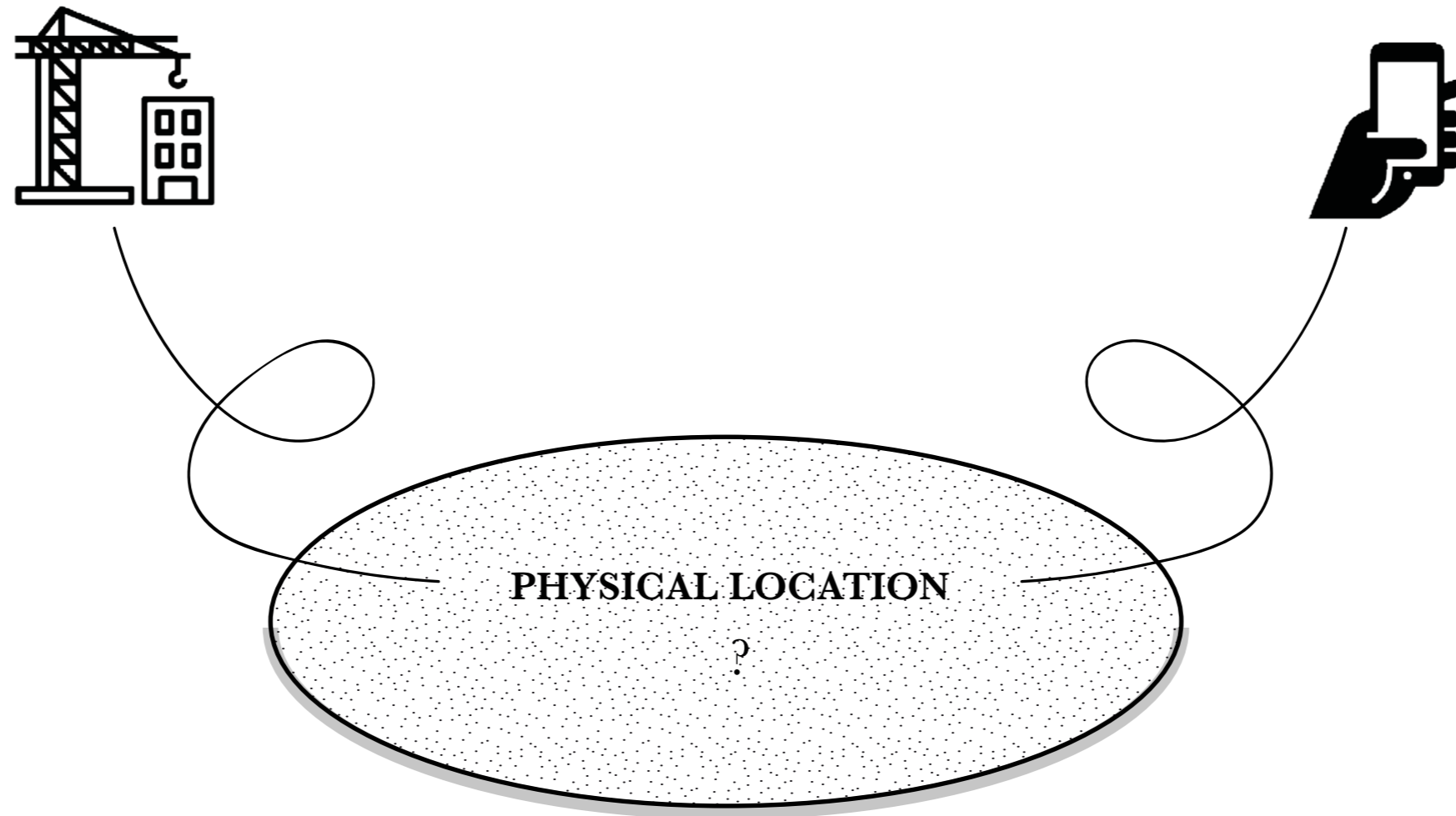
**III. Design** | the Urban Theatre

# LOCATION FOR IMPLEMENTING 'PHYGITAL APPROACH'

*searching a physical location for intersecting with the digital*

physical location in need of development

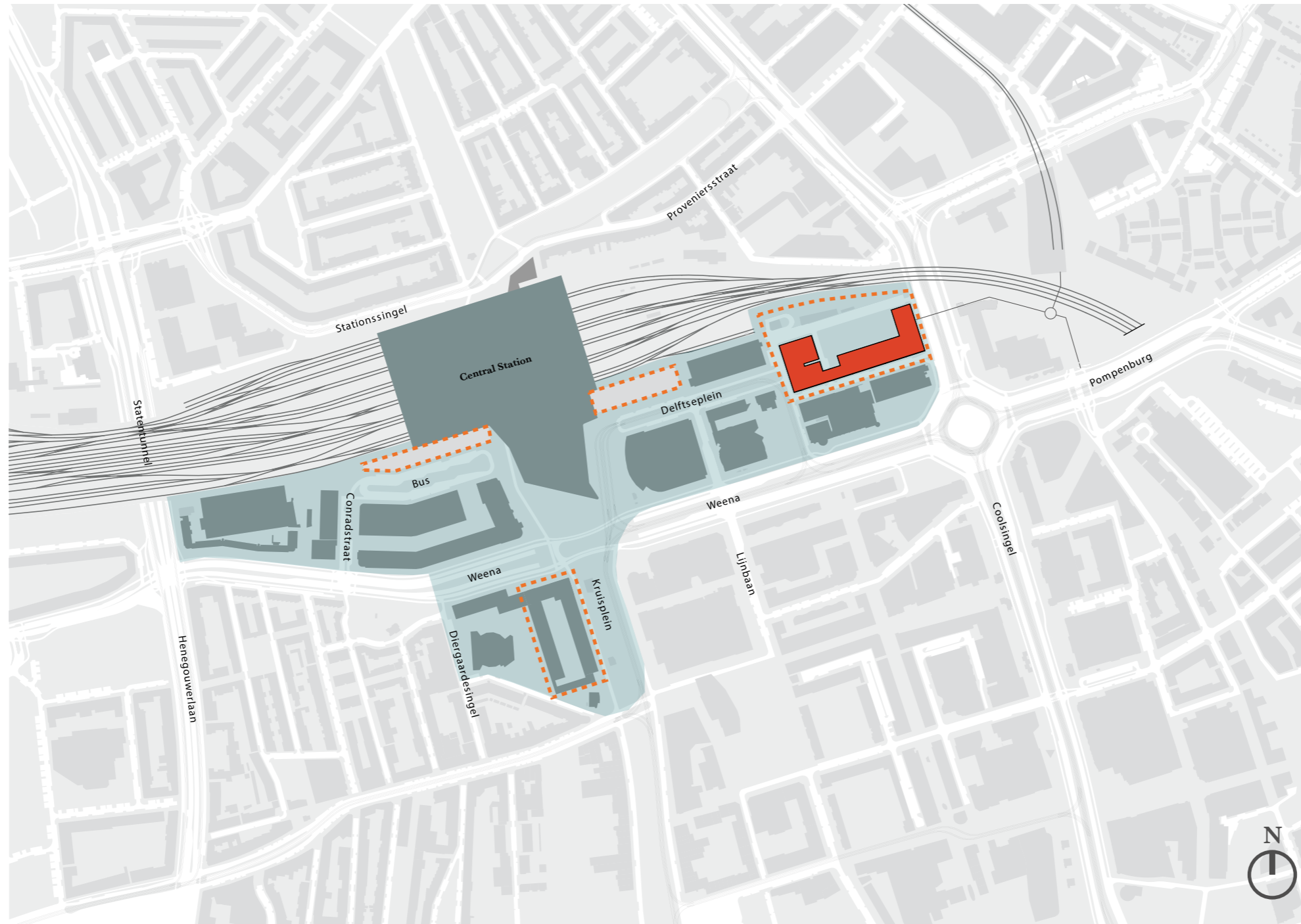
with already much digital impulses and activities in the area



# SCHIEKADEBLOK: ROTTERDAM CENTRAL DISTRICT-EAST

*one of the areas to be developed within RCD*

“Mixone”



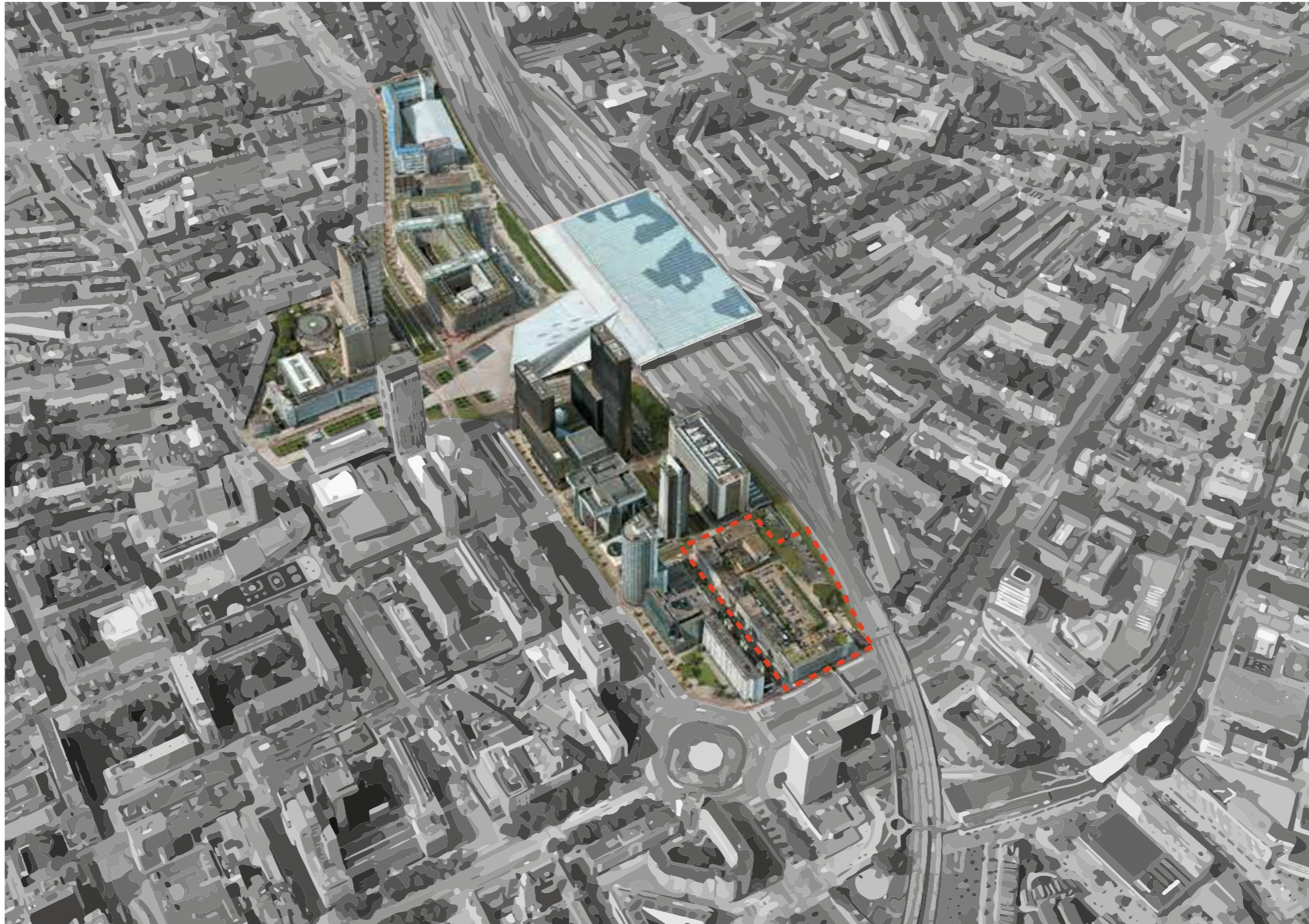
“Glocal”

Ambitions for RCD: CONNECTING, creating ACCESSIBLE PUBLIC SPACE for PEDESTRIANS and stimulating SOCIAL ENGAGEMENT

# SCHIEKADEBLOK AND ROTTERDAM CENTRAL DISTRICT

*one of the areas to be developed within RCD*

“Mixone”

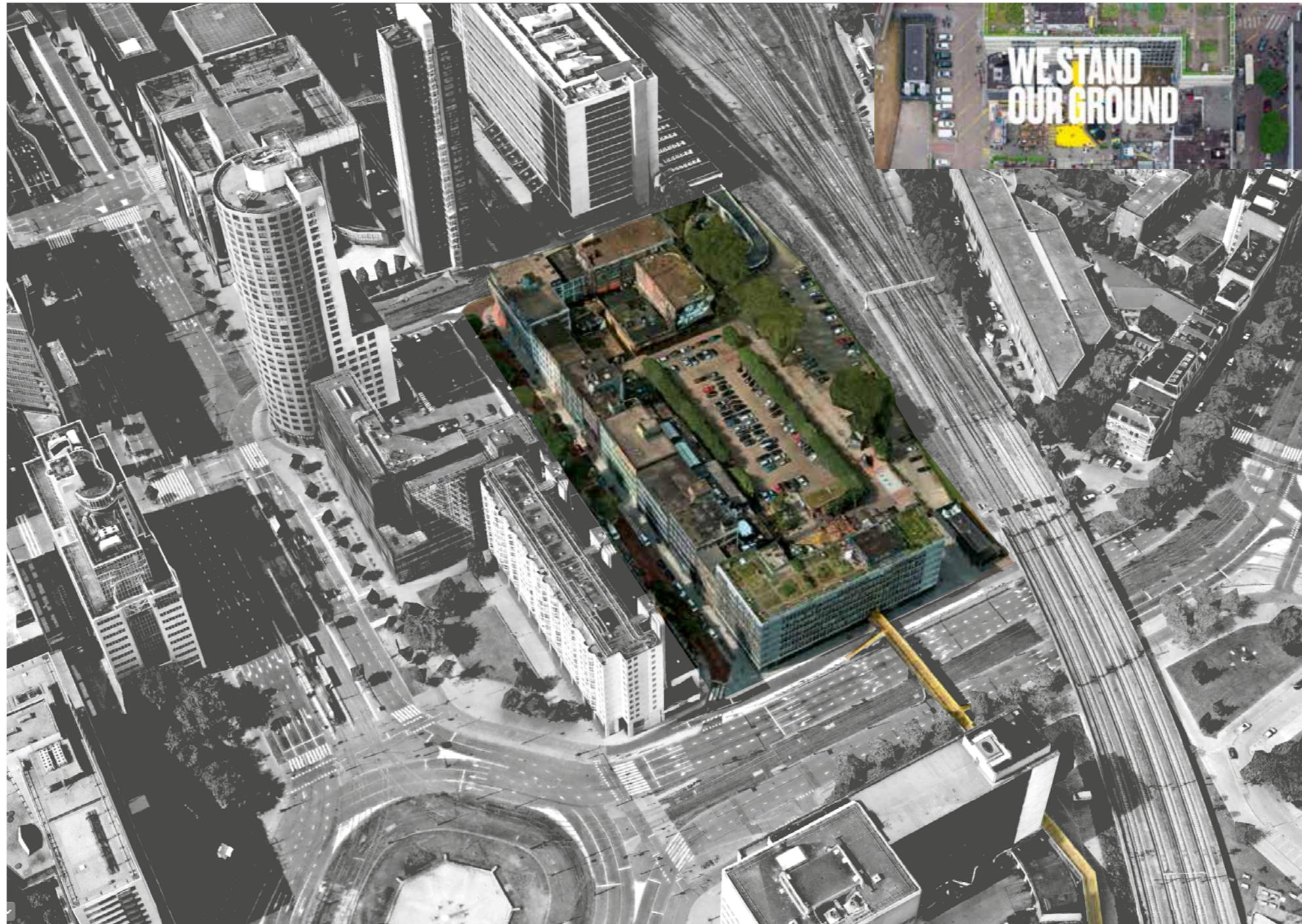


“Glocal”

Ambitions for RCD: CONNECTING, creating ACCESSIBLE PUBLIC SPACE for PEDESTRIANS and stimulating SOCIAL ENGAGEMENT

# SCHIEKADEBLOK: A RICH HISTORY

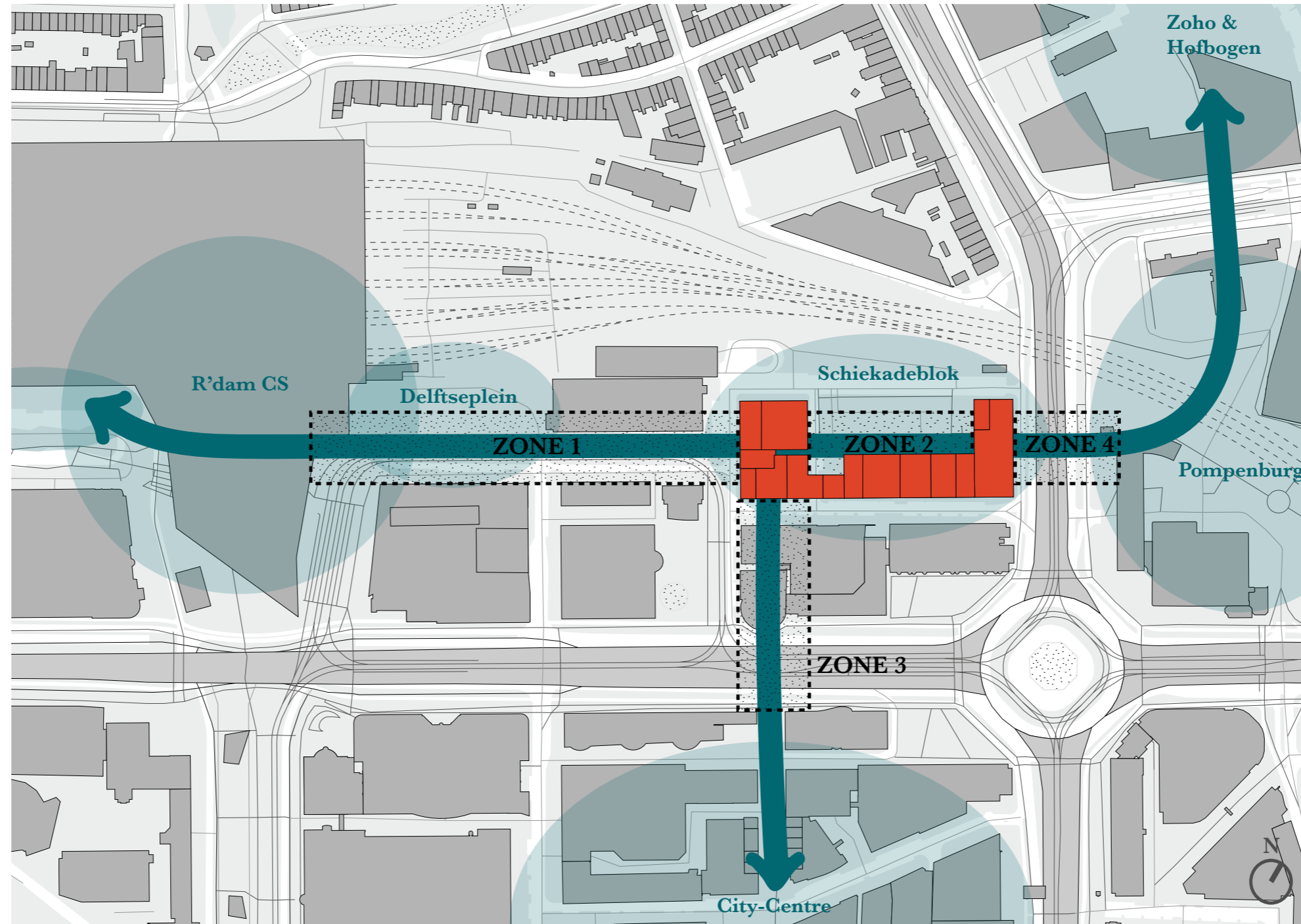
*'Wederopbouw', Maaskant, 10 Years of attempting to develop, Real estate scandal, Private initiatives for the public, standing ground*





# CONNECTIVITY AND ACCESSIBILITY OF SCHIEKADEBLOK

*which led to a overarching masterplan regarding the connectivity and accessibility of SKB*



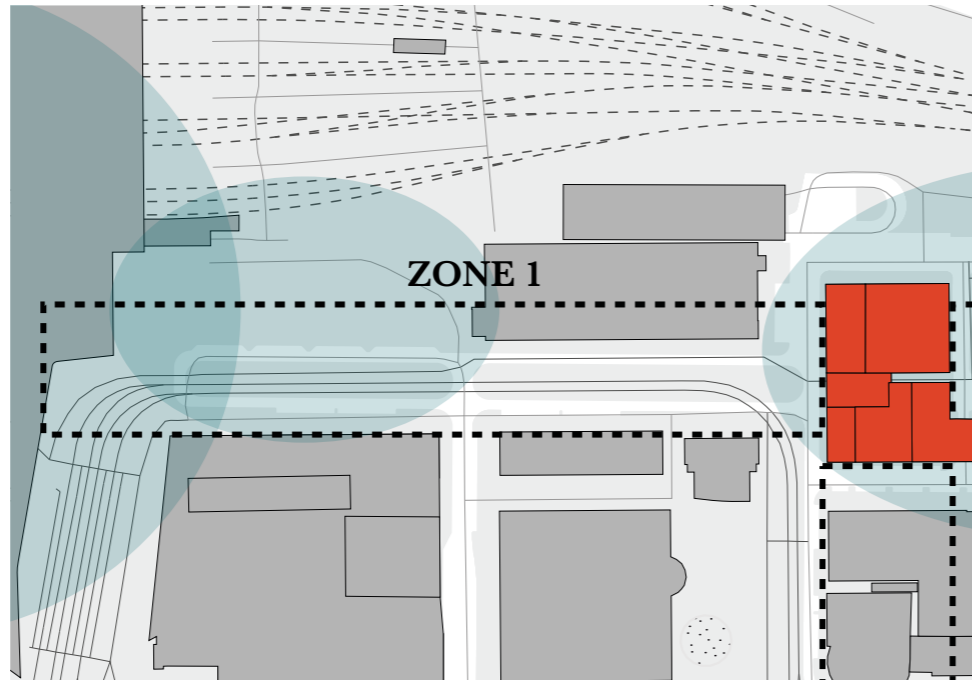
Schiekadeblok is at the intersection of a connecting network and therefore plays an important role.

To create this interconnecting network, the connectivity and accessibility of the 4 illustrated zones have to be worked out.



# ZONE 1 | CONNECTIVITY AND ACCESSIBILITY

*zone 1 is meant to connect Rotterdam Central Station and the Schiekadeblok*

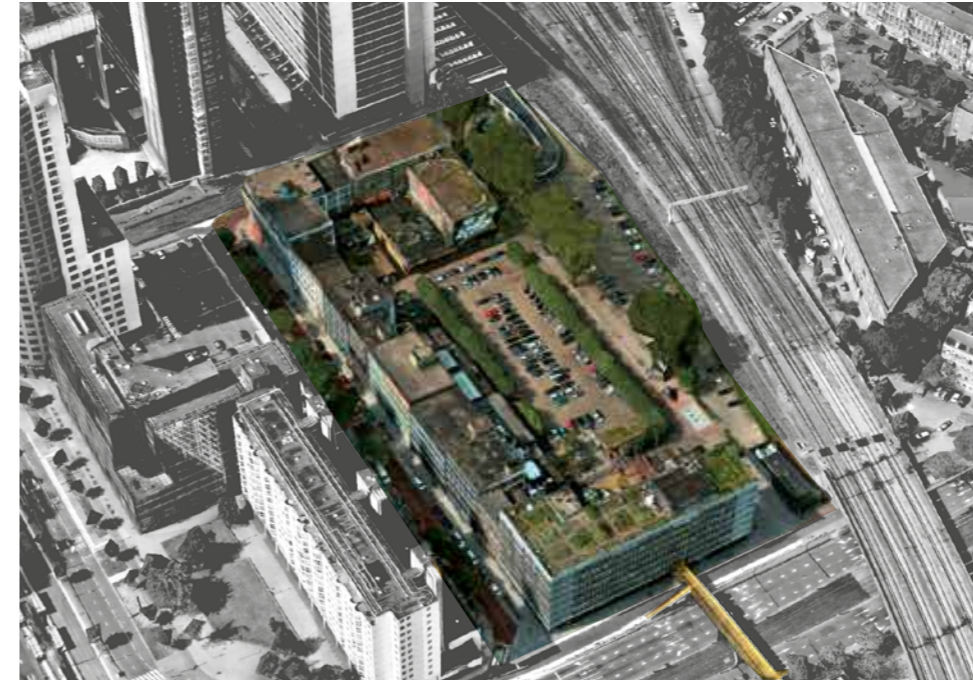
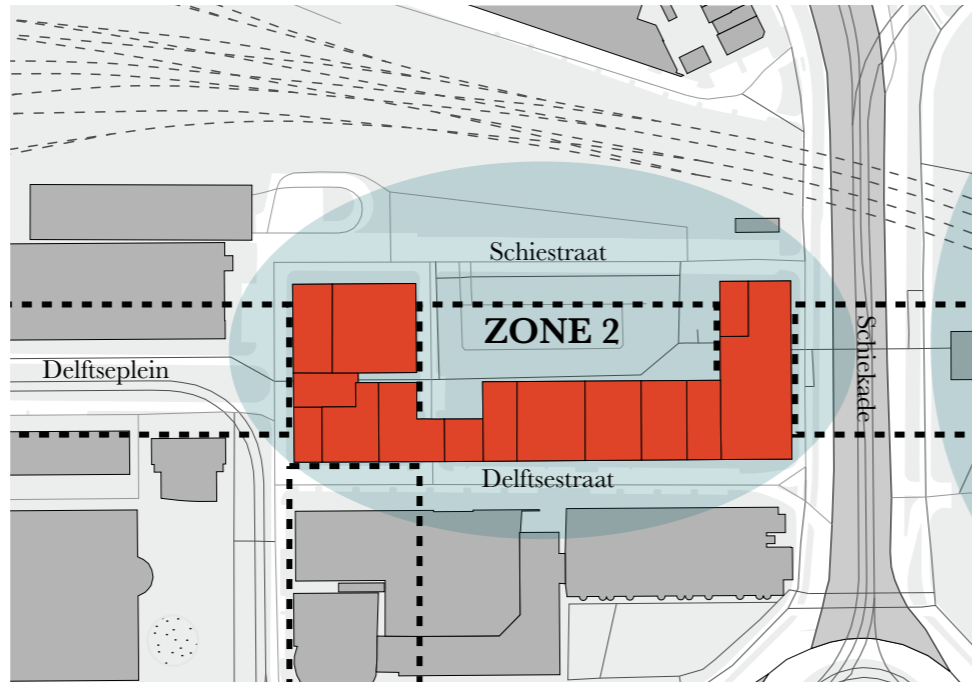


However, the 'connection' exists mainly of tram-lines and taxi-stand, confusing pedestrians whether they should go that way at all.

Also, few people leave from this side-exit of Rdam CS and the ones that do, head mostly directly to the trams. This zone currently does not invite pedestrians.

# ZONE 2 | CONNECTIVITY AND ACCESSIBILITY

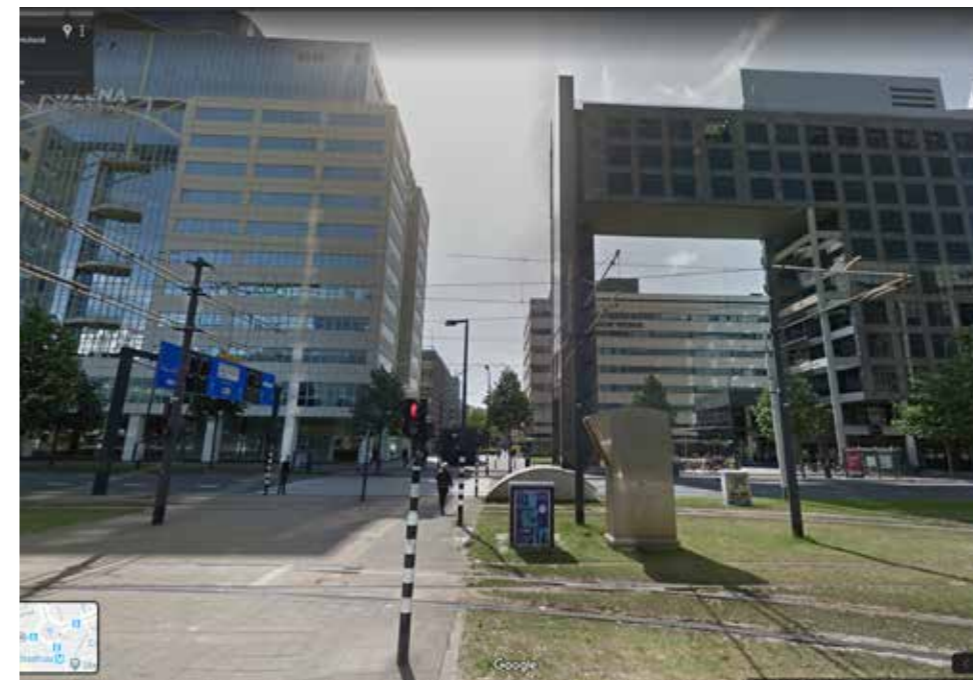
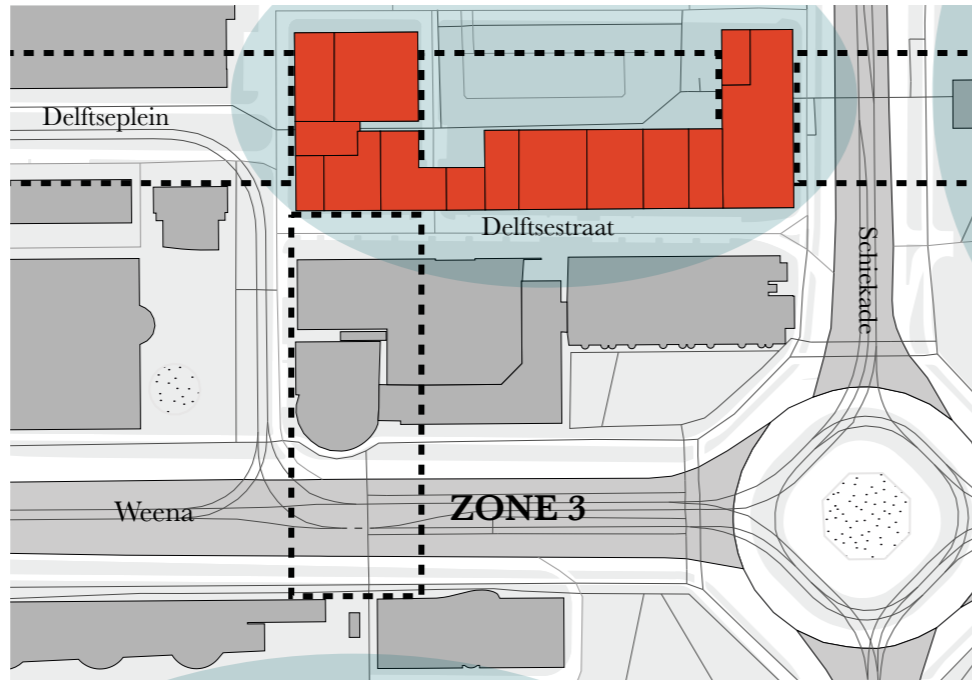
*zone 2 is the inner-court of the Schiekadeblok*



...And in potential meant to be the a transit zone between the different areas. However, currently it is for the most part just a parking lot and does not fulfill the role of interconnecting areas.

# ZONE 3 | CONNECTIVITY AND ACCESSIBILITY

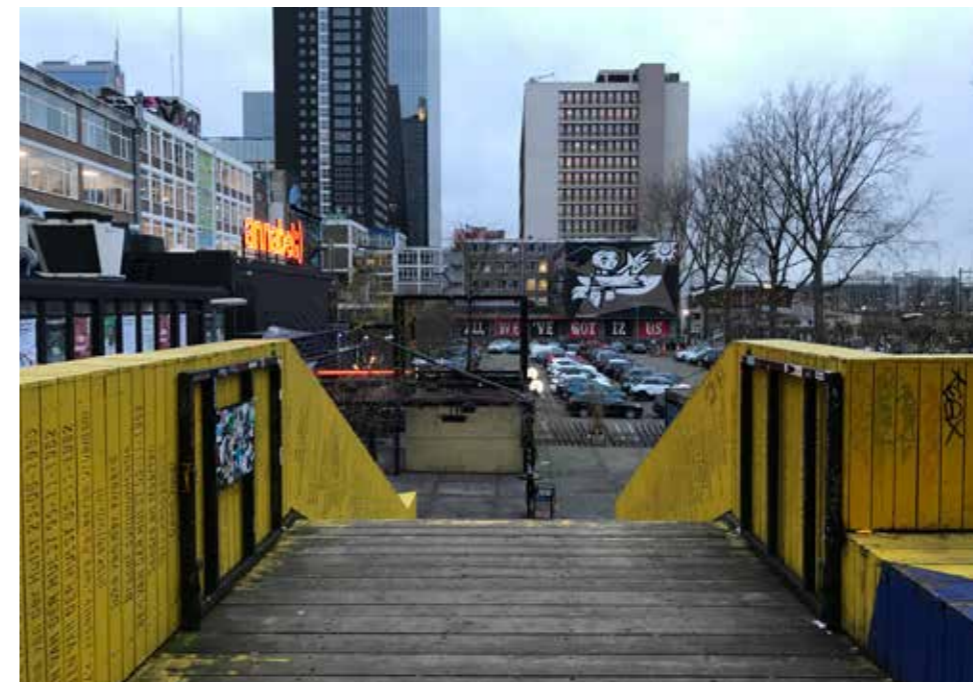
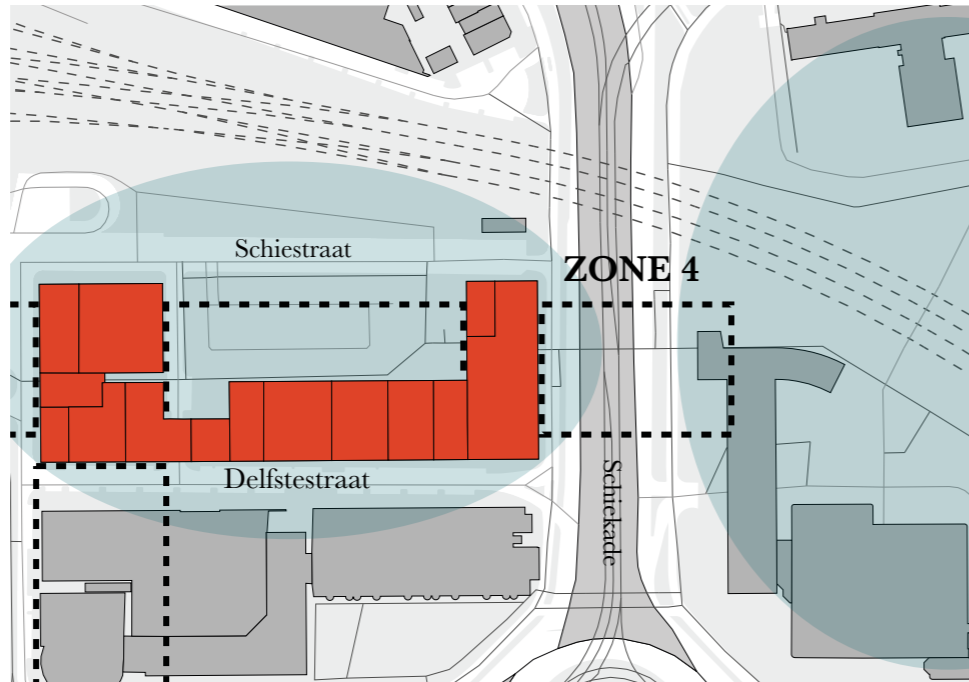
*zone 3 is the part that should connect Schiekadeblok to the Lijnbaan, which is the city centre*



And therefore the Weena, one of the main-infrastructure axes of Rotterdam, with a massive flow of traffic during the whole day needs to be crossed. Currently not inviting and also visually the connection lacks.

# ZONE 4 | CONNECTIVITY AND ACCESSIBILITY

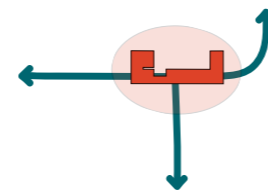
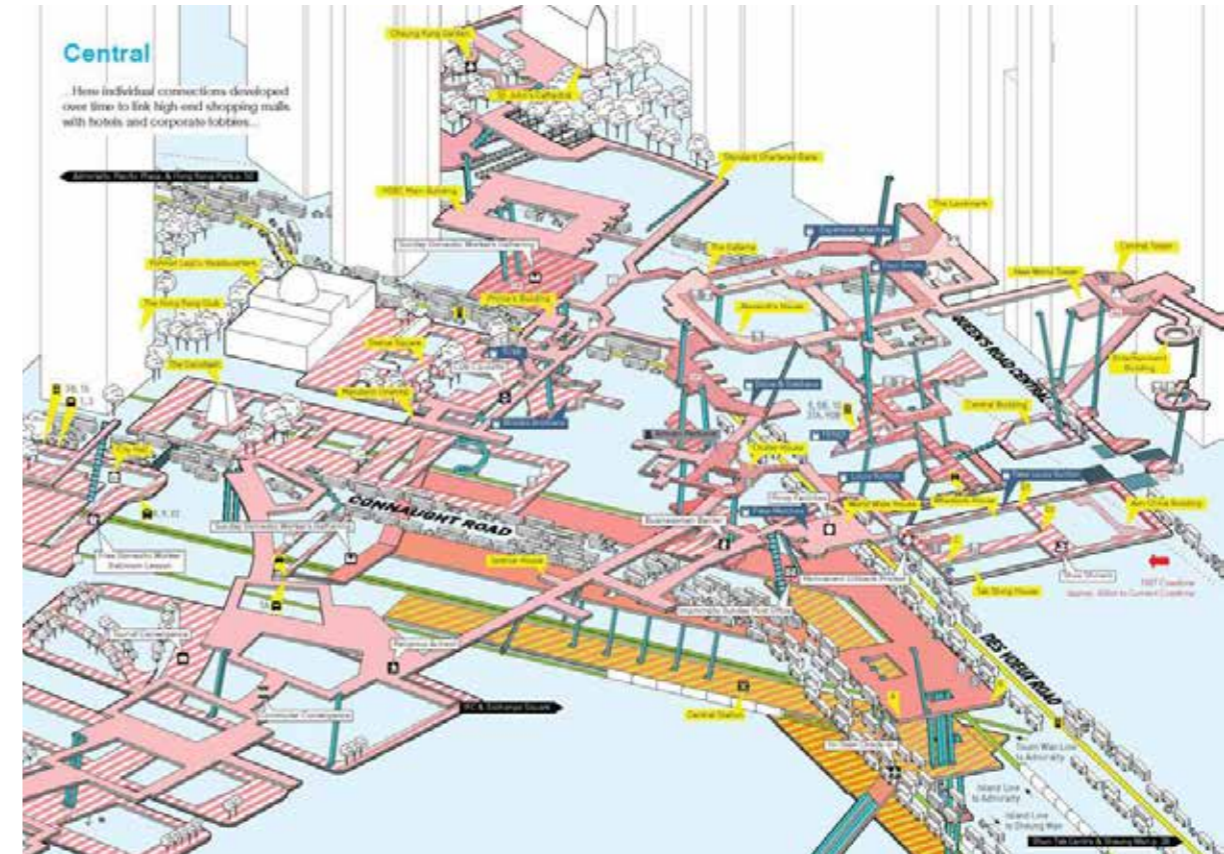
*zone 4 is the part that connects Schiekadeblok to the Pompenburg area and further up North*



The Luchtsingel-project seems to offer potentially a good solution for solving the connectivity and accessibility problem, but the downpart is that in its current situation, the bridge does not connect attractive places and still has some accessibility problems.

# AN ELEVATED PUBLIC INFRASTRUCTURE FOR PEDESTRIANS

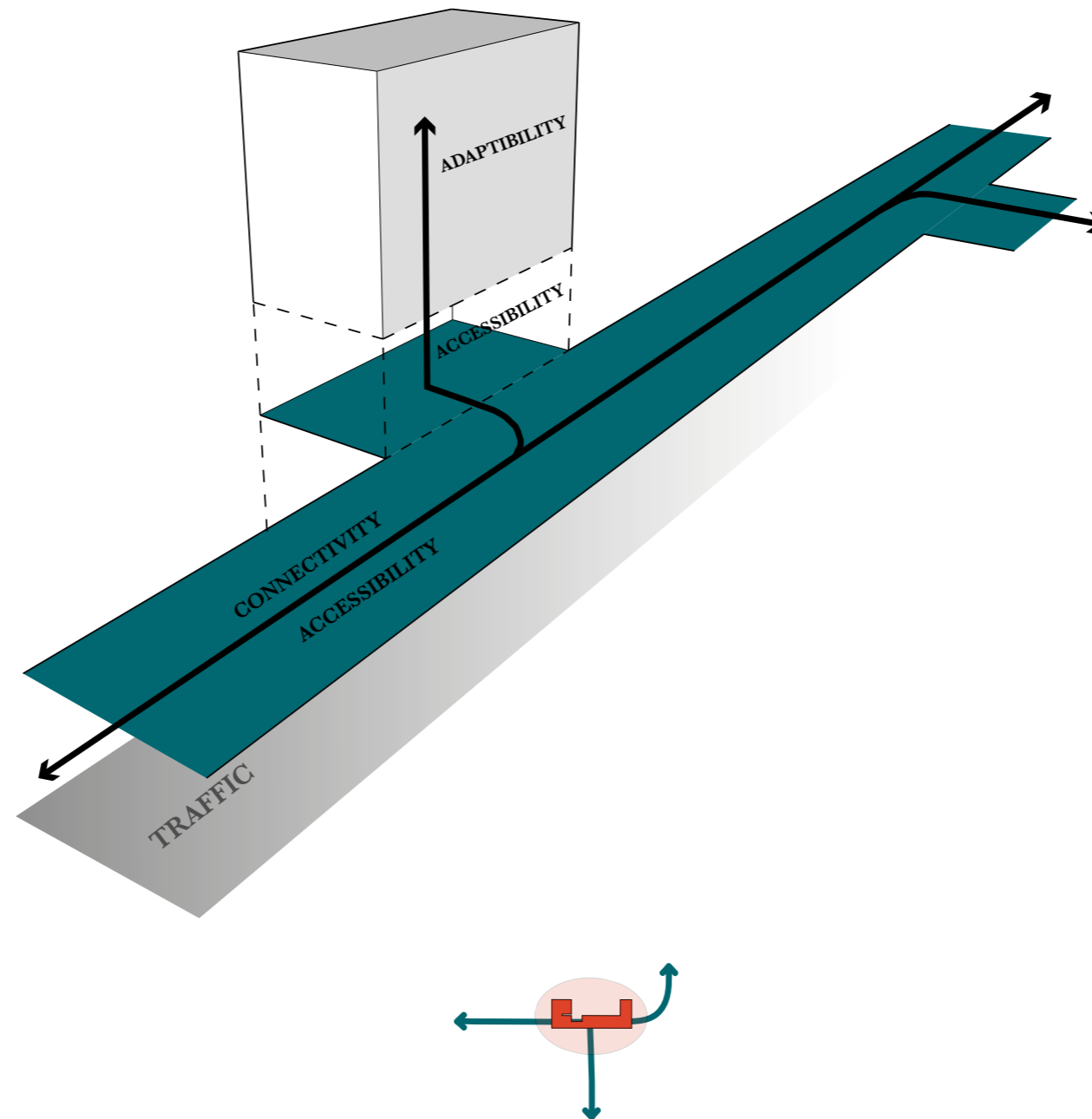
*of which Tokyo is an extreme, but good example as a “city without a ‘public’ ground”*



“Creating an elevated circulation network for pedestrians. A continuous entity that runs through RCD or even the whole city, connecting the public space hotspots on multiple layers, flowing through both the urban exterior as well as building interiors.”

# A NETWORK OF ELEVATED PUBLIC SPACE FOR PEDESTRIANS

*updated concept diagram*

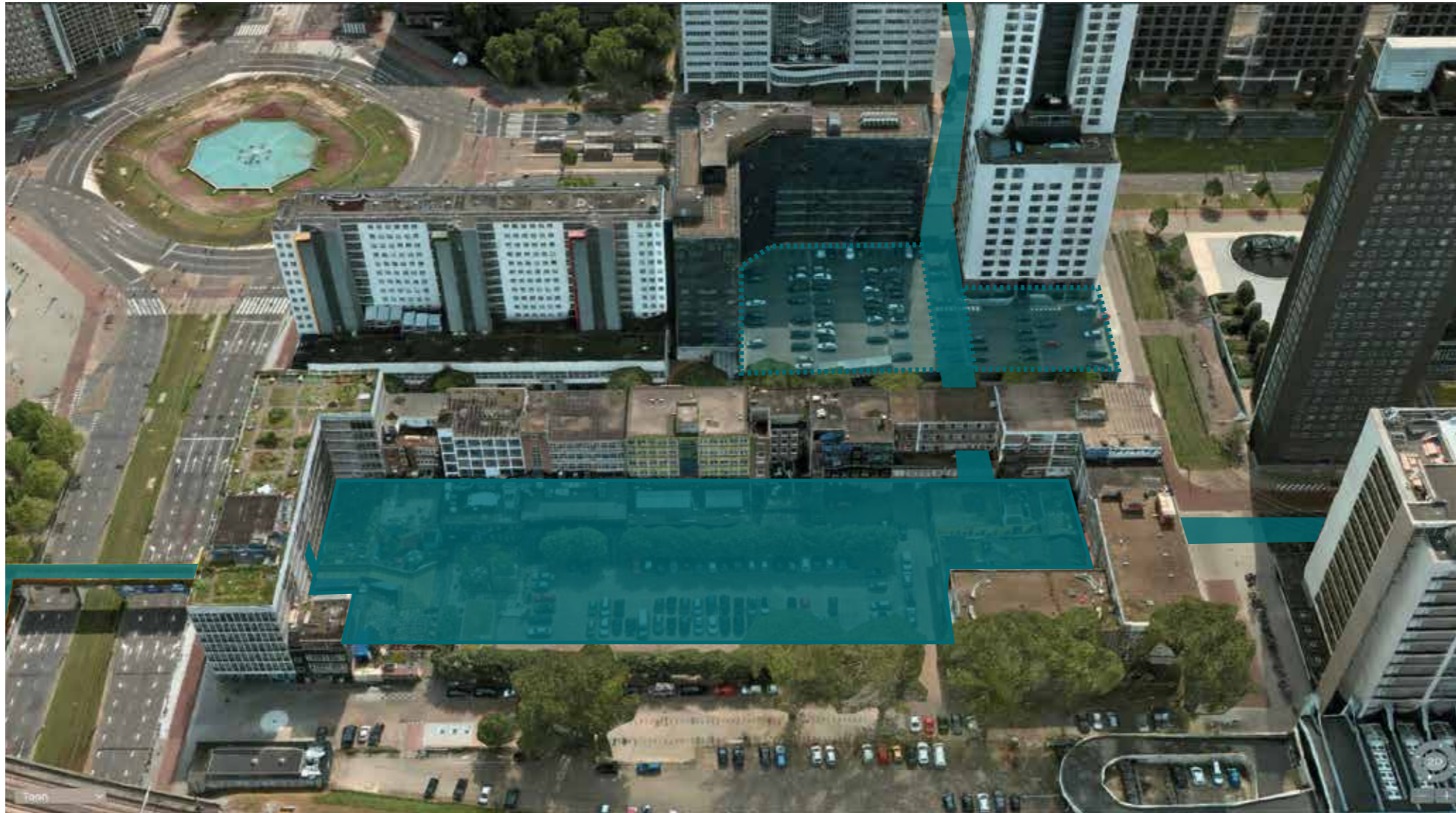


“Creating an elevated circulation route for pedestrians. A continuous entity of publicness through RCD or even the whole city, that connects the public space hotspots on multiple layers, flowing through both the urban exterior as well as building interiors.”



# A NETWORK OF ELEVATED PUBLIC SPACE FOR PEDESTRIANS

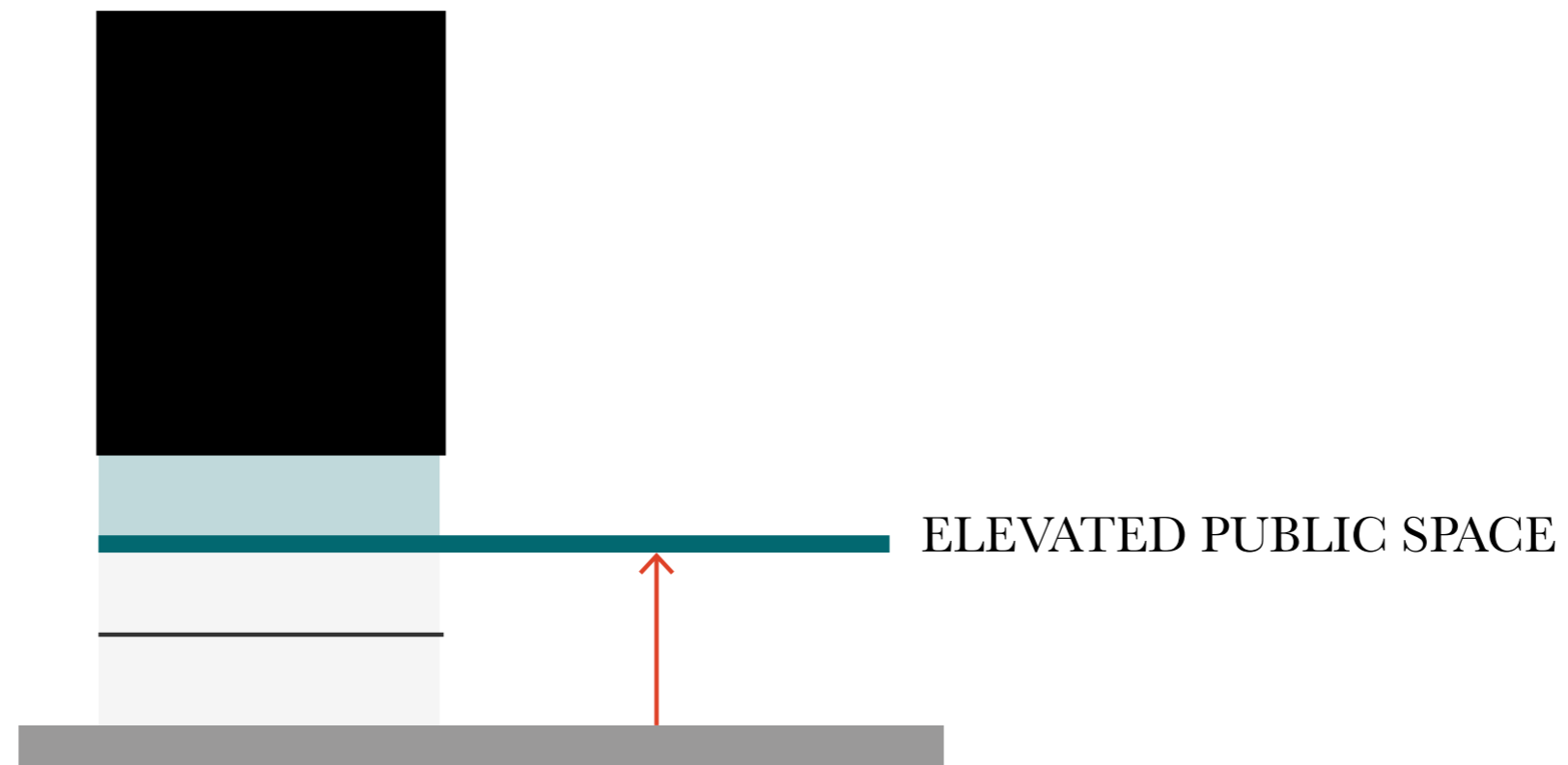
*concept projected on the location*



Elevated paths intersect at a raised deck with public space in Schiekadeblok

# A NETWORK OF ELEVATED PUBLIC SPACE FOR PEDESTRIANS

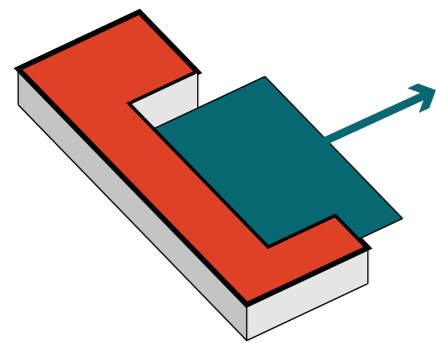
*advocating on the fact that the groundlevel around Schiekadeblok is no longer attractive for pedestrians and should be 'raised'*



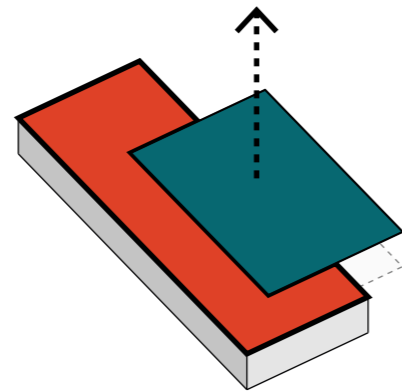
How will the new design for the Schiekadeblok address this elevated publicness?

# NETWORK OF 'ELEVATED PUBLICNESS'

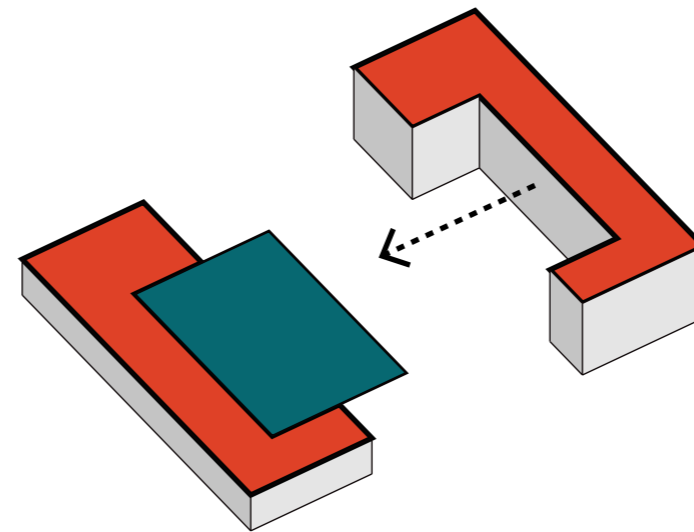
*all intersecting at the elevated deck within the inner courtyard of the Schiekadeblok*



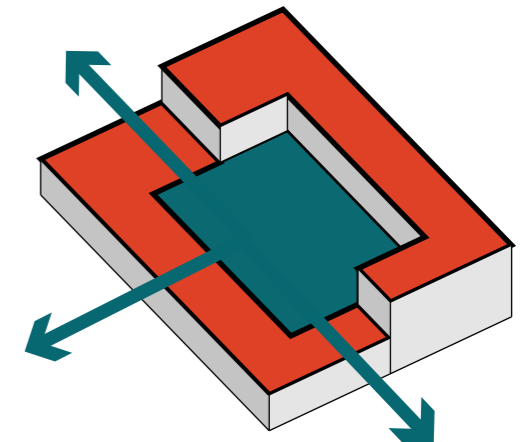
1 Current situation



2 Public space to a raised deck



3 New volumes react

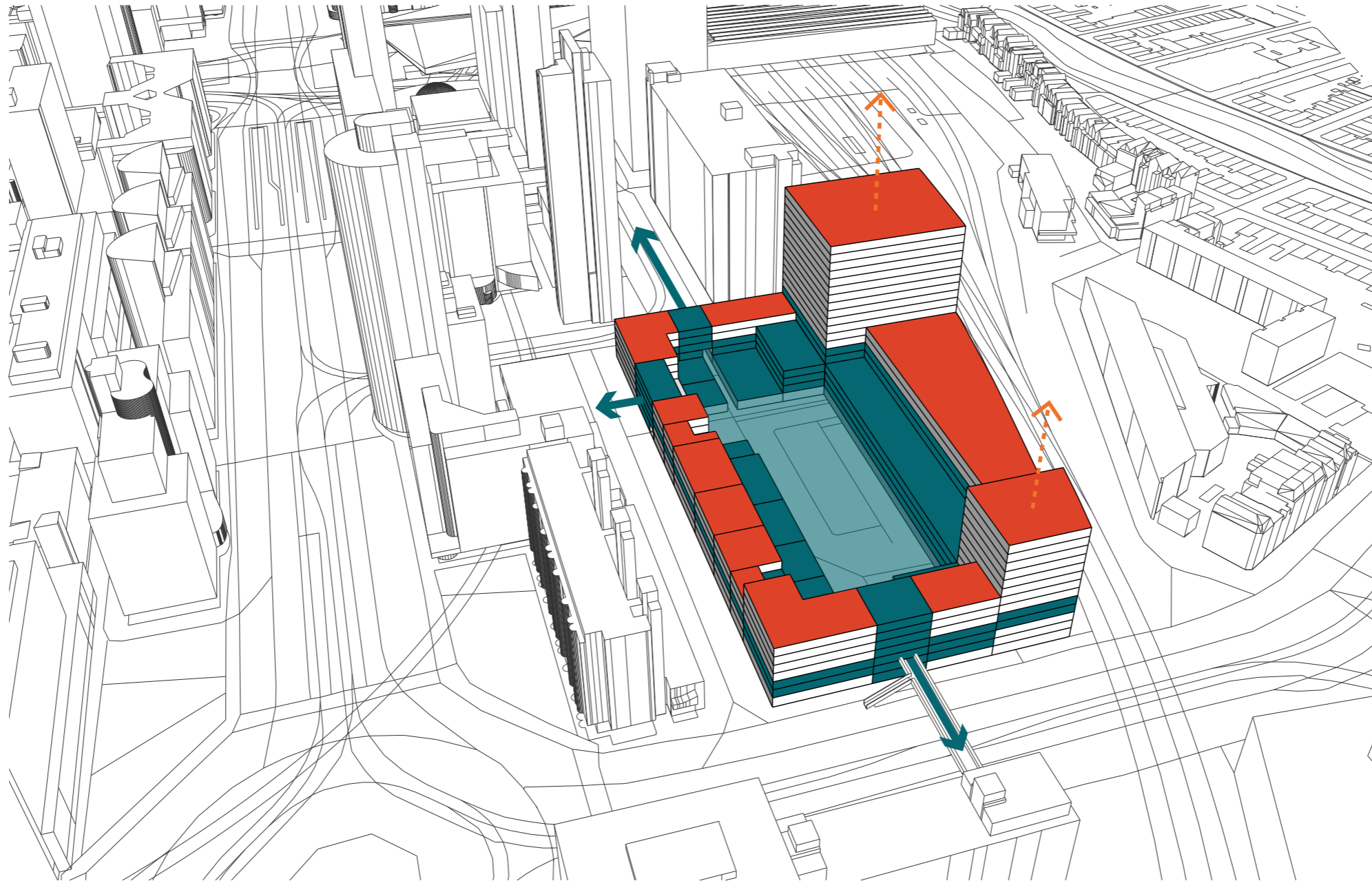


4 New 'reversed' situation

By organizing the new volumes in such a way that the public space opens up towards the important connections like the City Centre and gets a 'backbone' against the train-tracks.

# NETWORK OF 'ELEVATED PUBLICNESS'

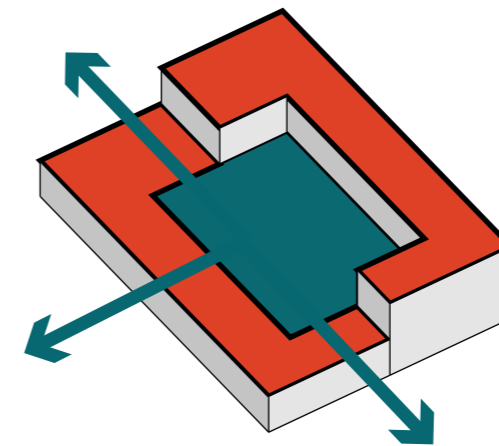
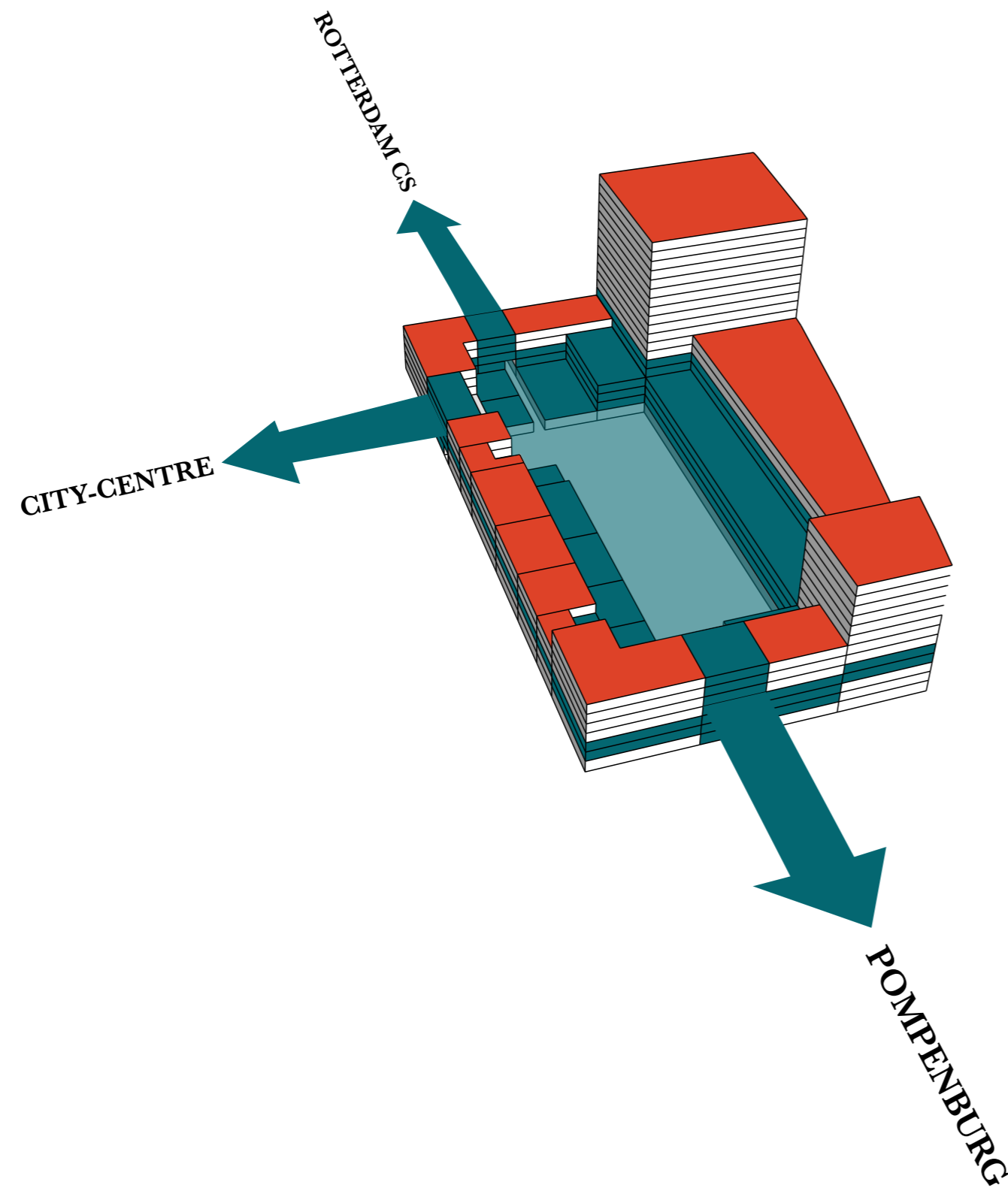
*How will the current and new building-blocks react to this elevated public deck?*



Creating a new Schiekadeblok that houses an elevated, multilayered and multifunctional public space deck, that connects and gives access to other public hotspots in the area of Rotterdam Central District.

# NETWORK OF 'ELEVATED PUBLICNESS'

*connecting and giving access to public hotspots in the area of Rotterdam Central District*



## ELEVATED PUBLIC SPACE

+ CONNECTING

+ GIVING ACCES

- ADAPTABILITY?

**I. Introduction** | theme & research

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**III. Design input** | adaptability

**III. Design** | the Urban Theatre

# 'ADAPTAPTIVENES' OF THE SCHIEKADEBLOK

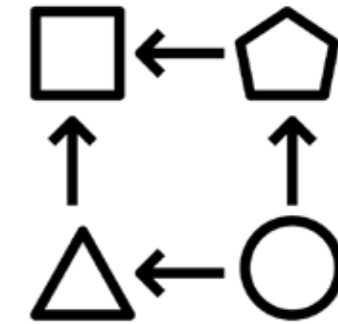
*what will be the role of the domain of ADAPTABILITY?*



CONNECTIVITY



ACCESSIBILITY



ADAPTABILITY

?

# **‘ADAPTAPTIVENES’ OF THE SCHIEKADEBLOK**

*to what extend will the schiekadeblok be adaptive?*

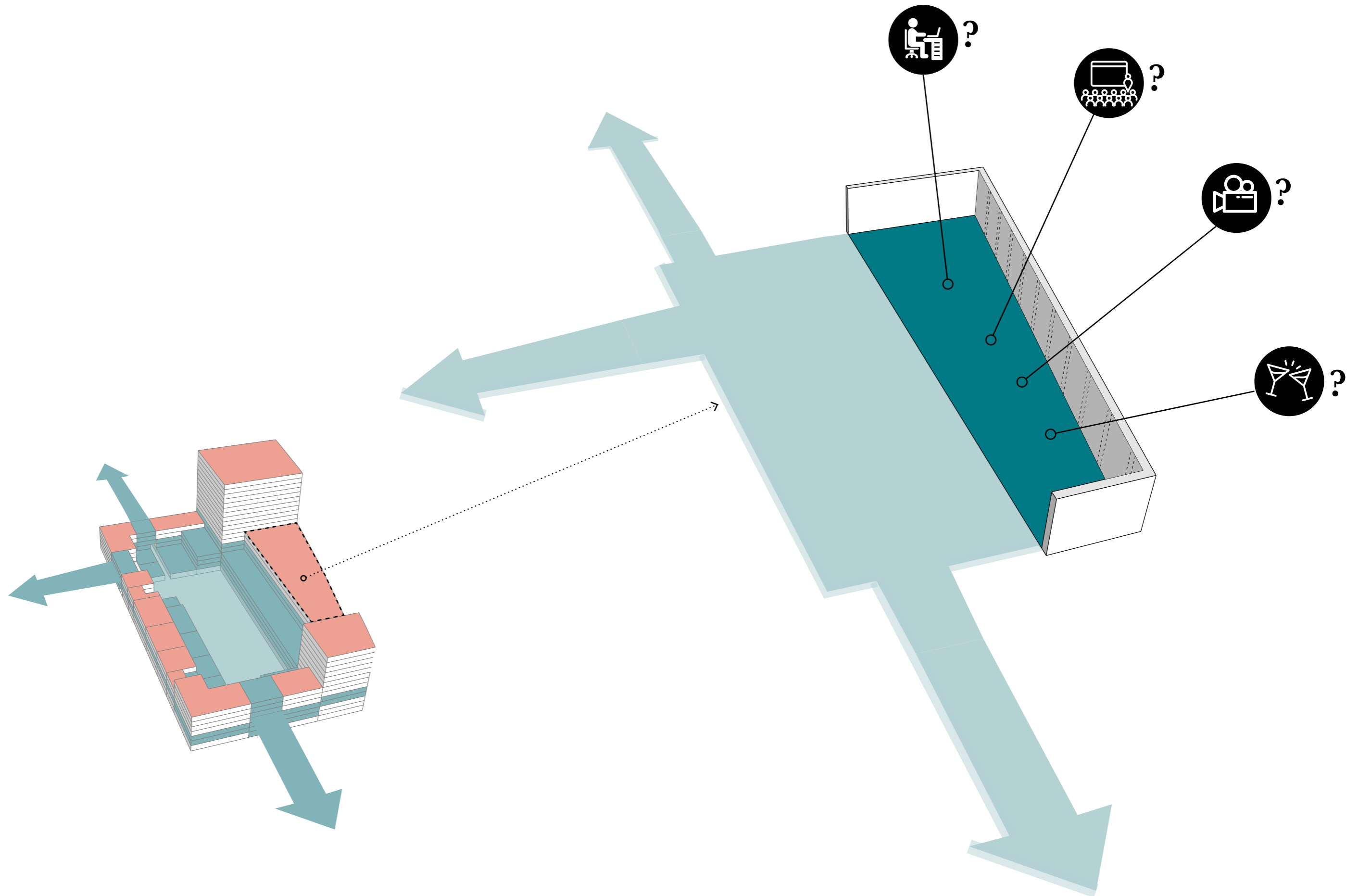
How can the design of a physical space be adaptive, especially now that we are in a time that due to the digitalization our environments get less and less permanent and more changeable.

Can the design of the physical space of the Schiekadeblok adapt to this phenomenon?



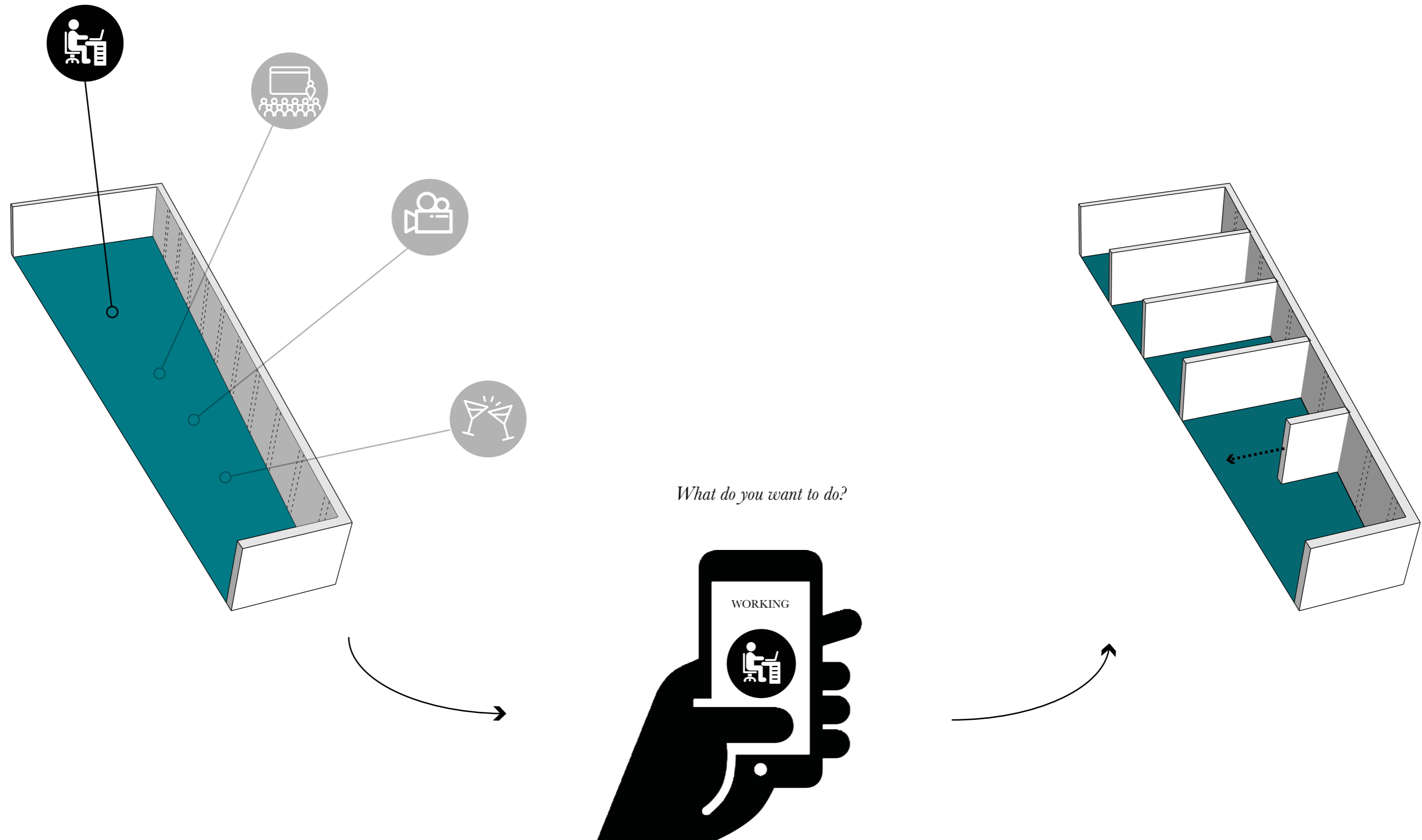
# MAKING THE PUBLIC SPACE ADAPTIVE; INITIAL IDEA

*how can the physical public space in its spatial organization adapt to the activity that will take place in it?*



# MAKING THE PUBLIC SPACE ADAPTIVE; INITIAL IDEA

*want to work? Just take the app!*

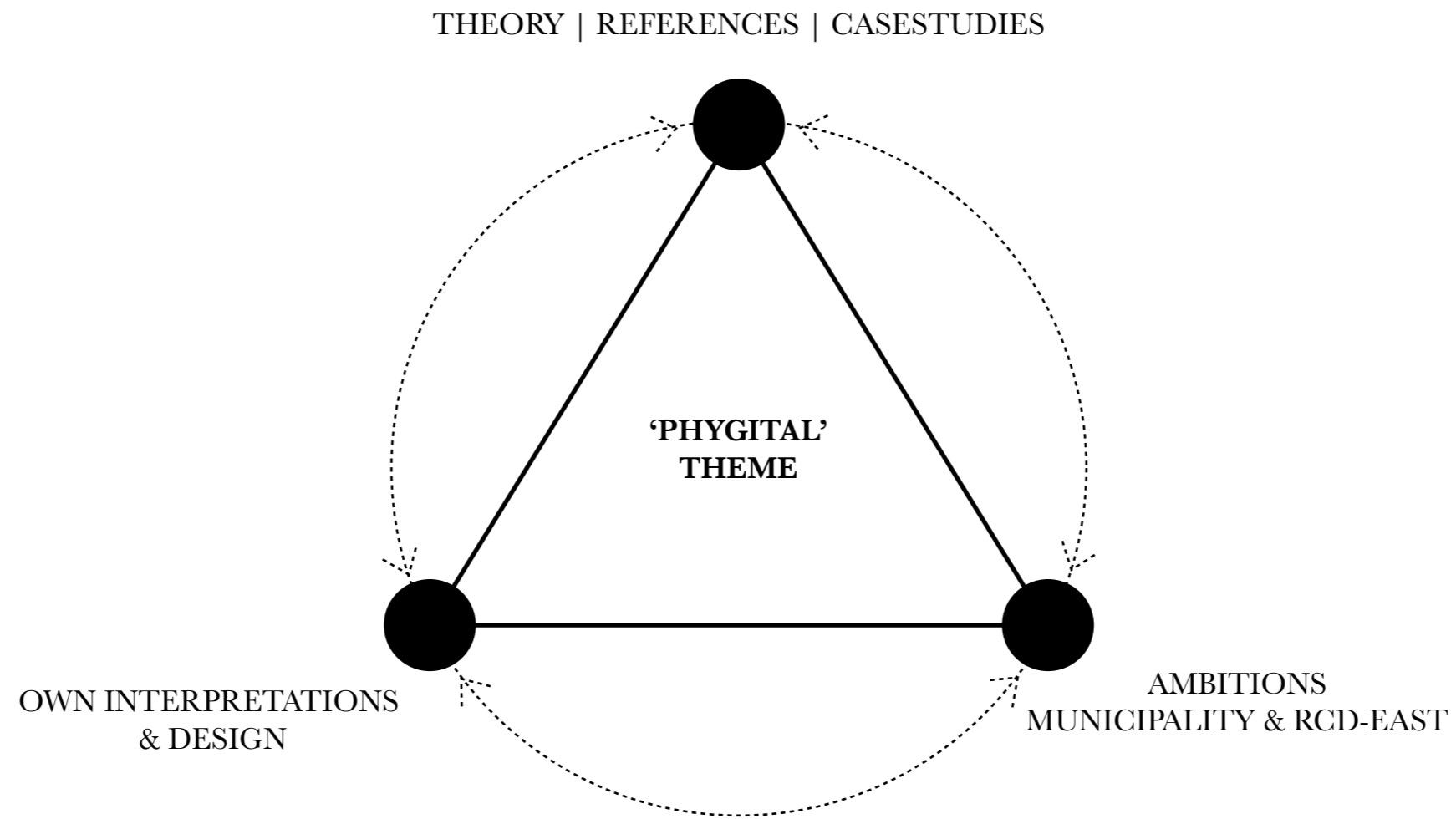


*What do you want to do?*

The use of digital technologies to control the adaptiveness

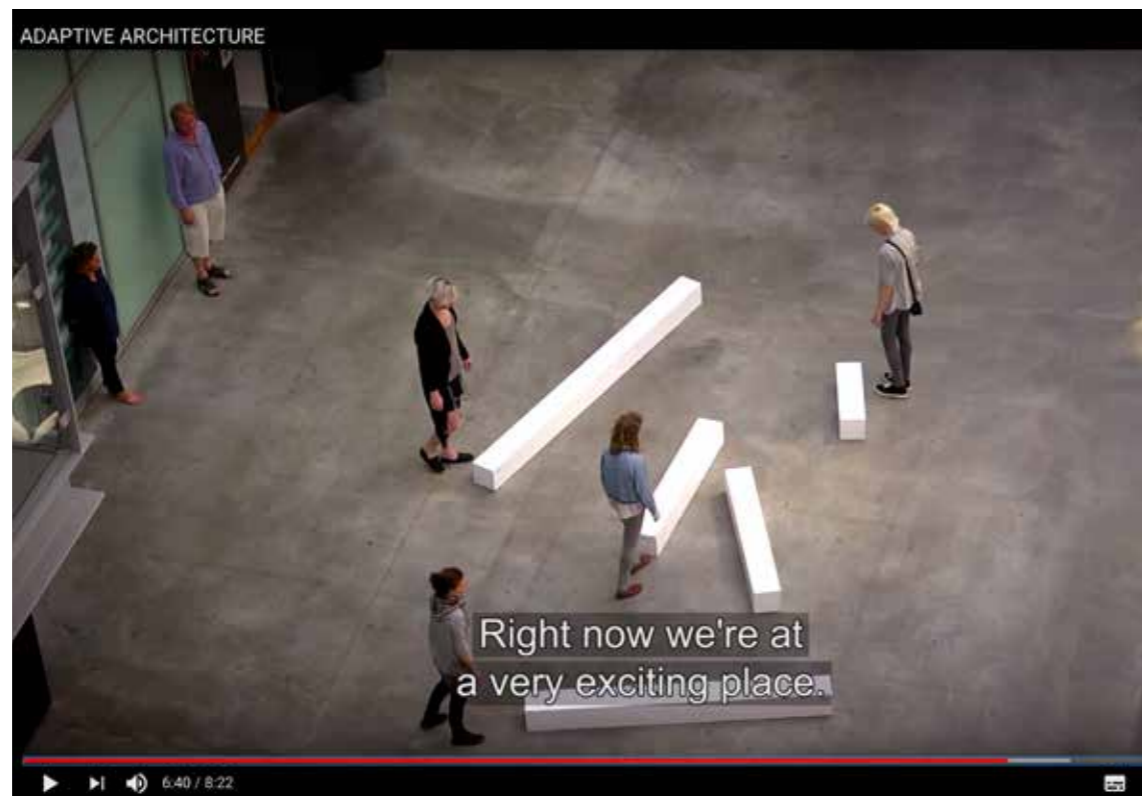
# WORKING METHOD

*in approaching the domain of adaptability*



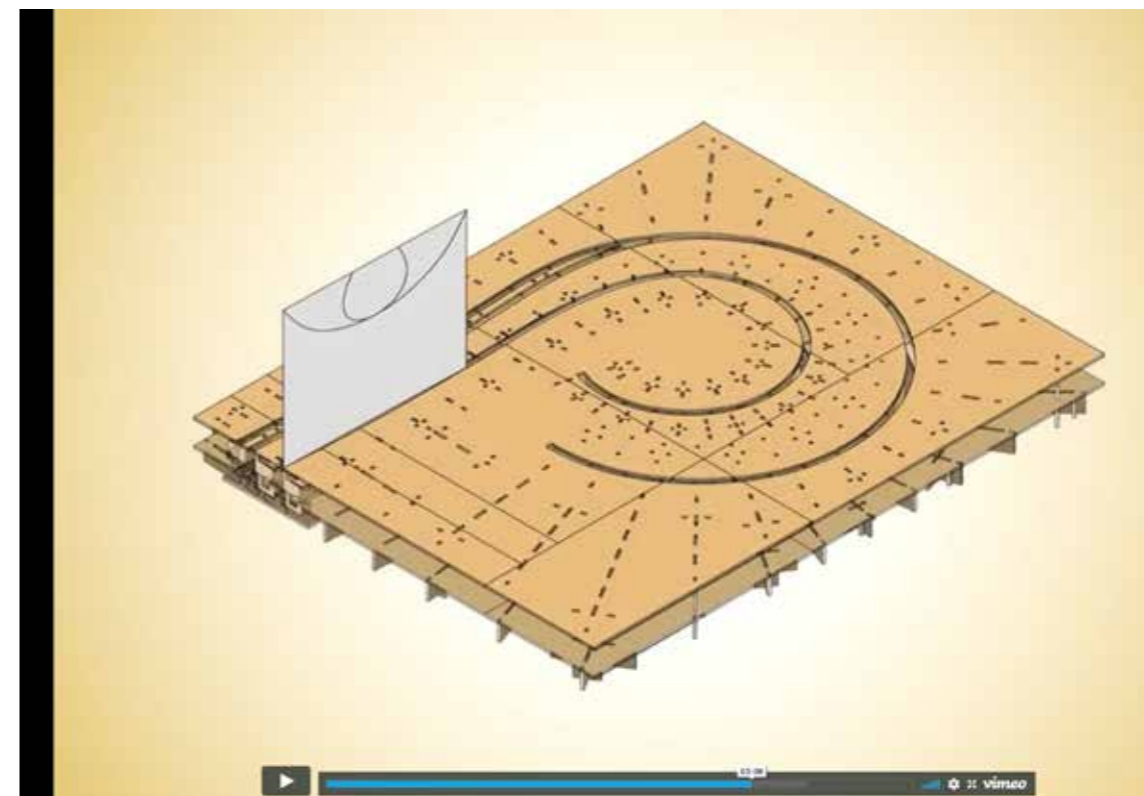
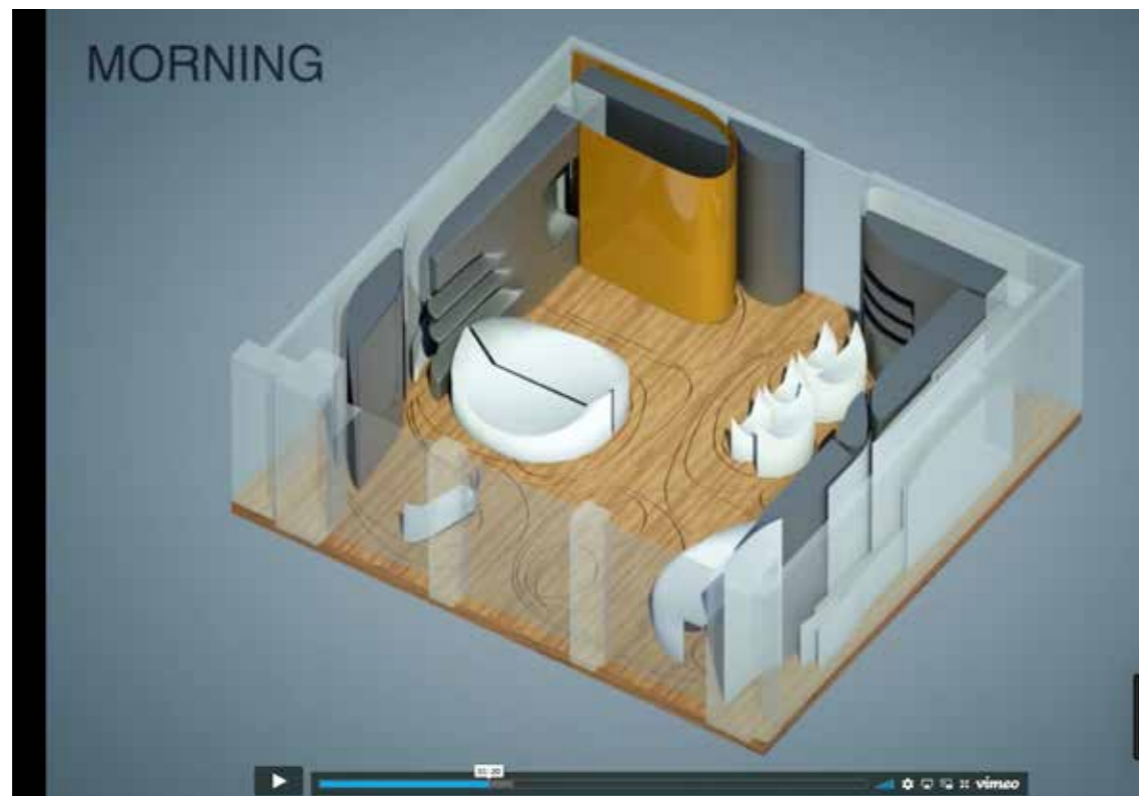
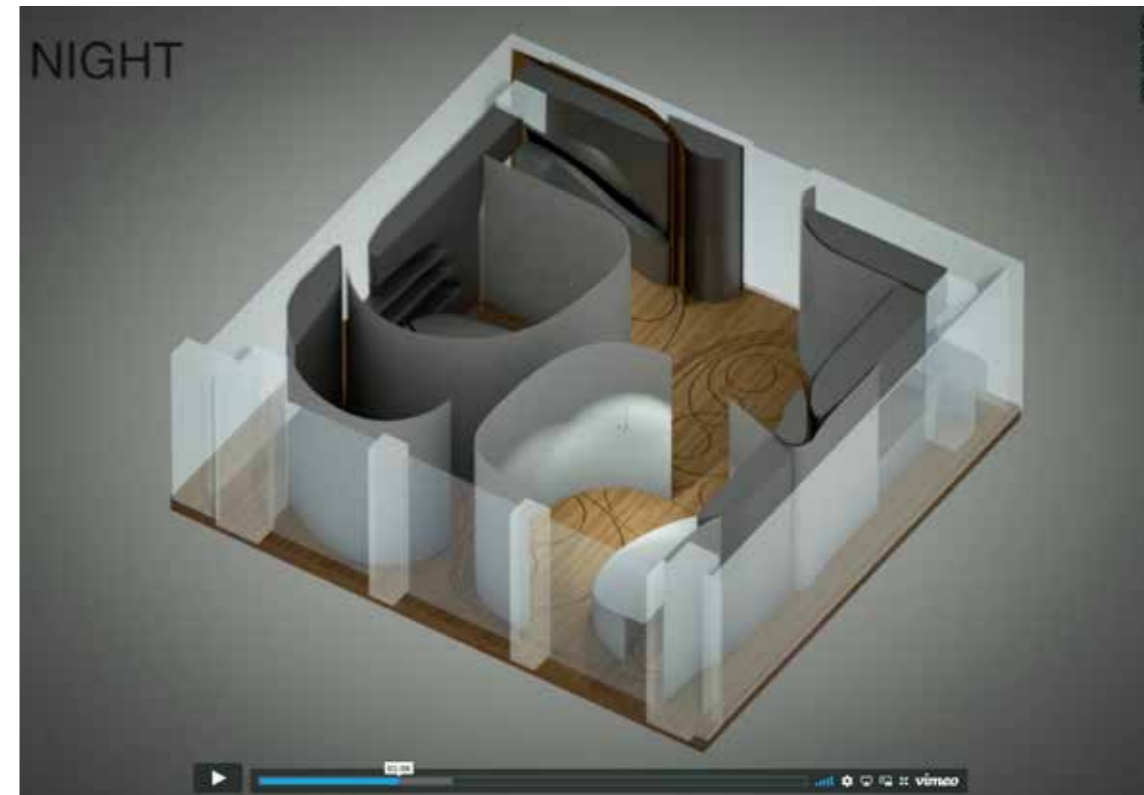
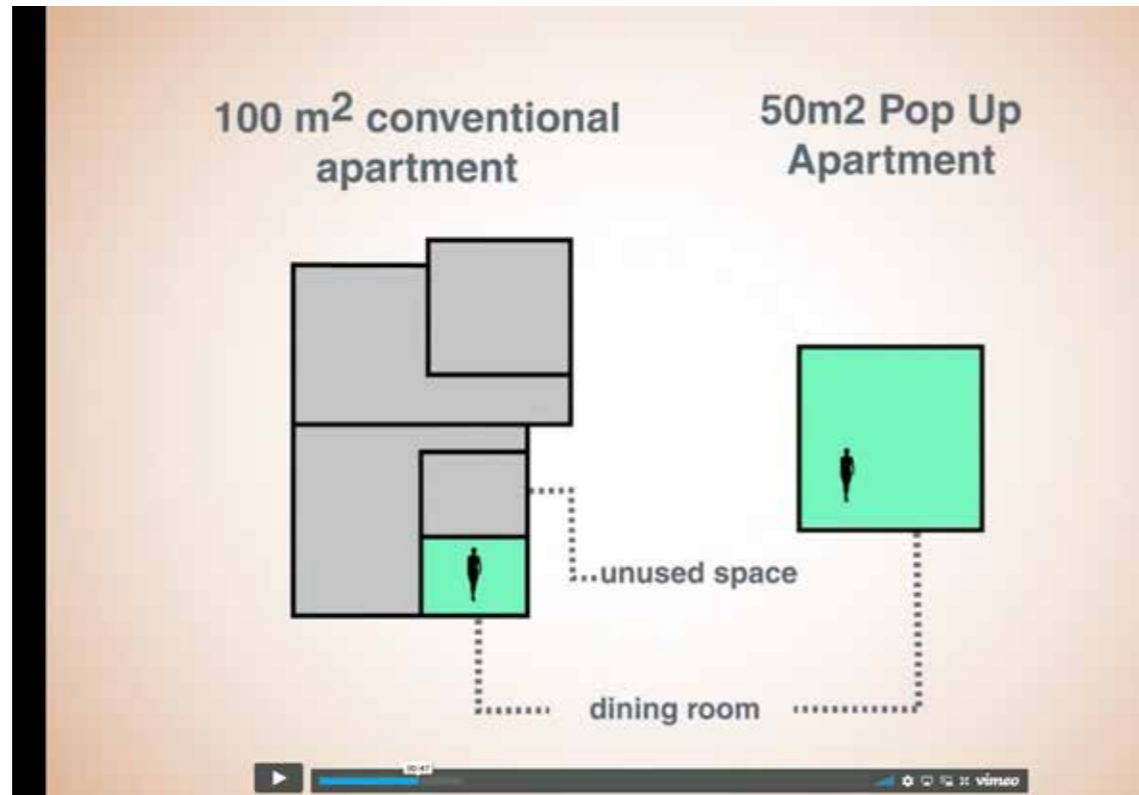
# MAKING PHYSICAL SPACE ADAPTIVE

*through kinetic architecture*



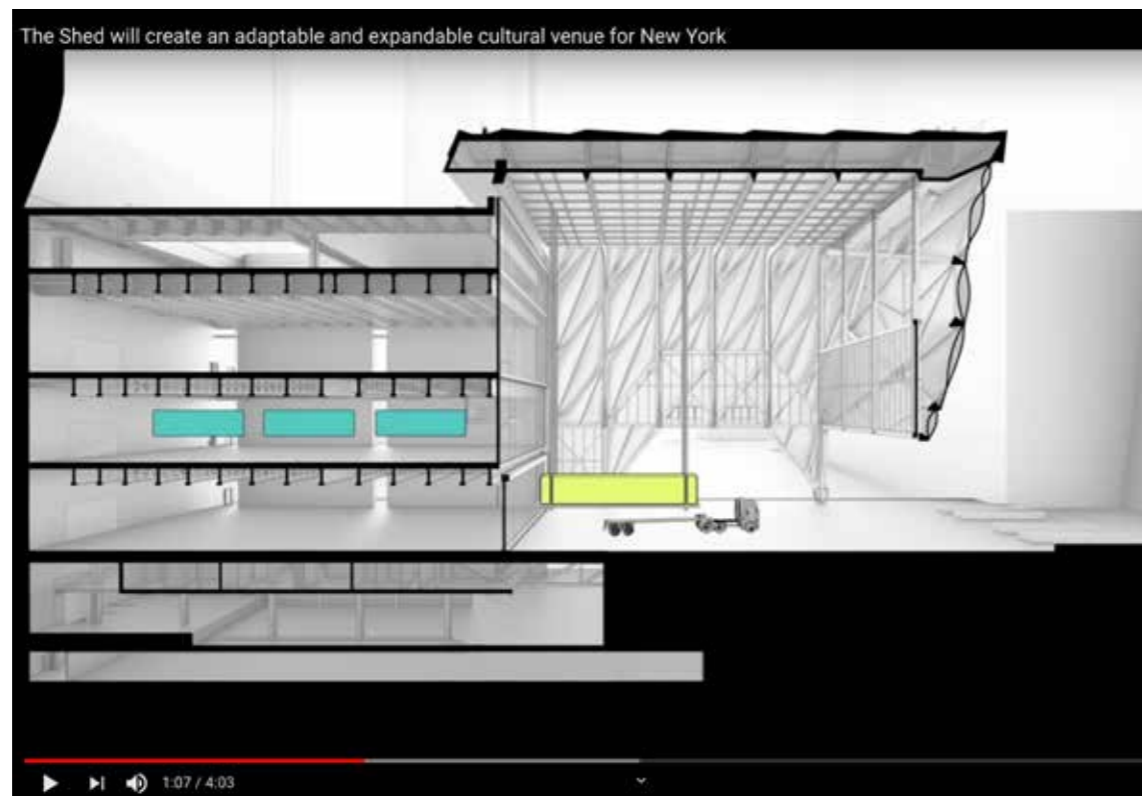
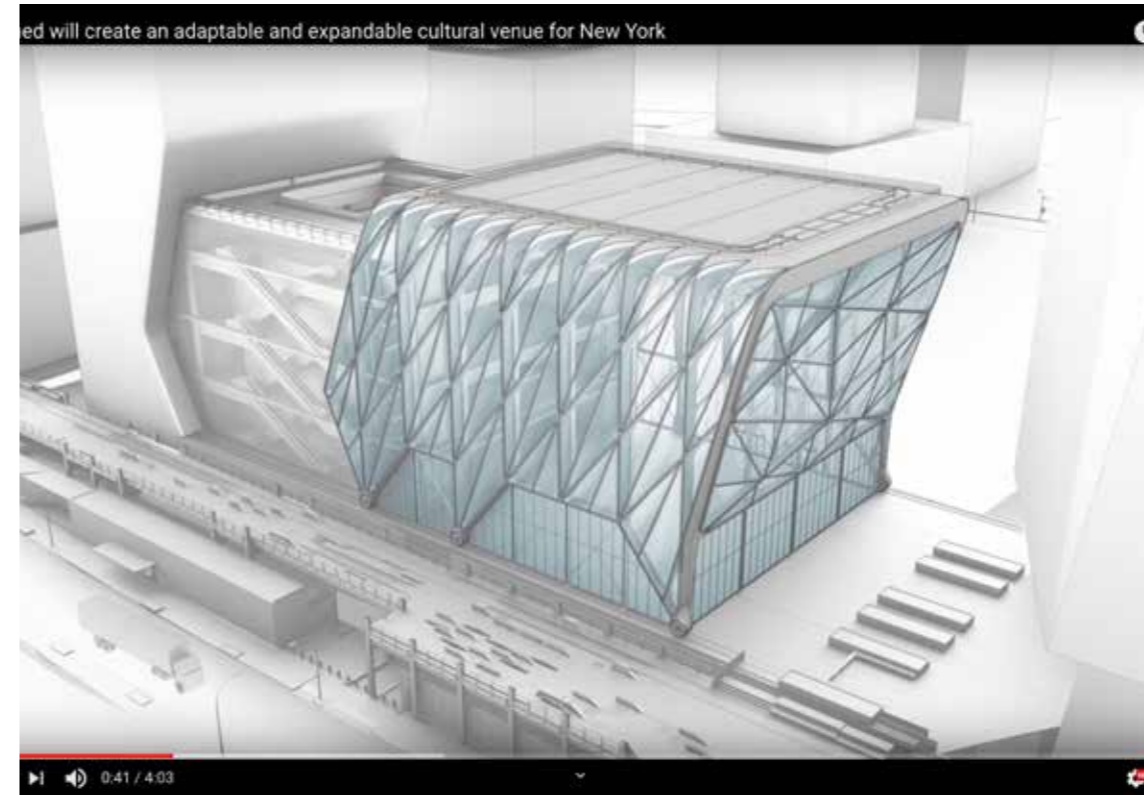
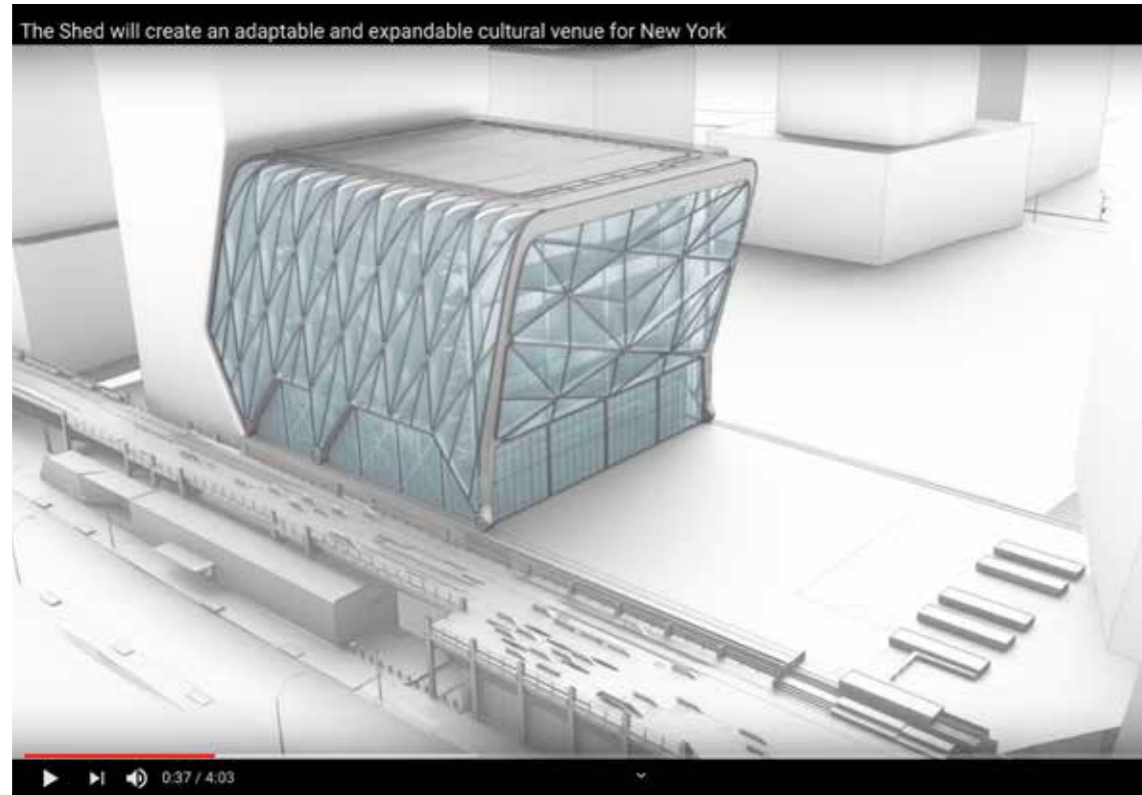
# MAKING PHYSICAL SPACE ADAPTIVE

*through adaptive kinetic architecture*



# MAKING PHYSICAL SPACE ADAPTIVE

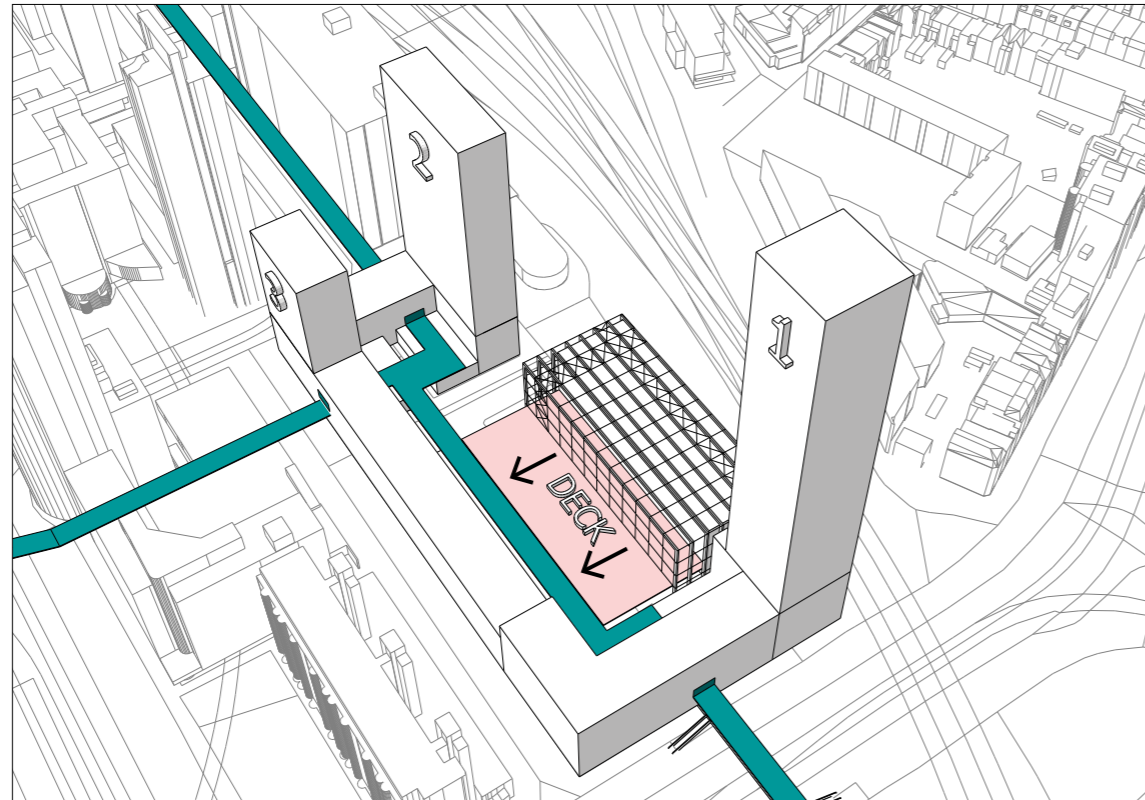
*through adaptive kinetic architecture*



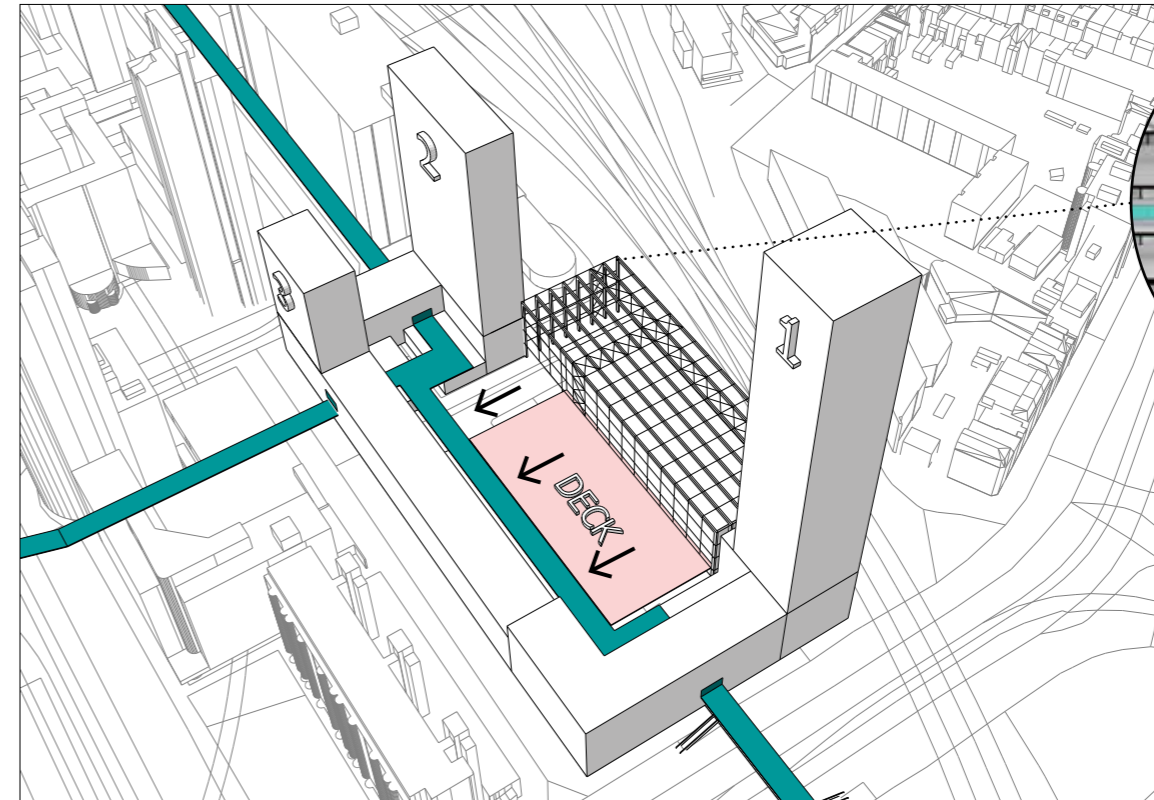
Main reference; the Cultural Shed in New York. Different scales of adaptability within one design.

# PROJECTING IDEAS ON SCHIEKADEBLOK

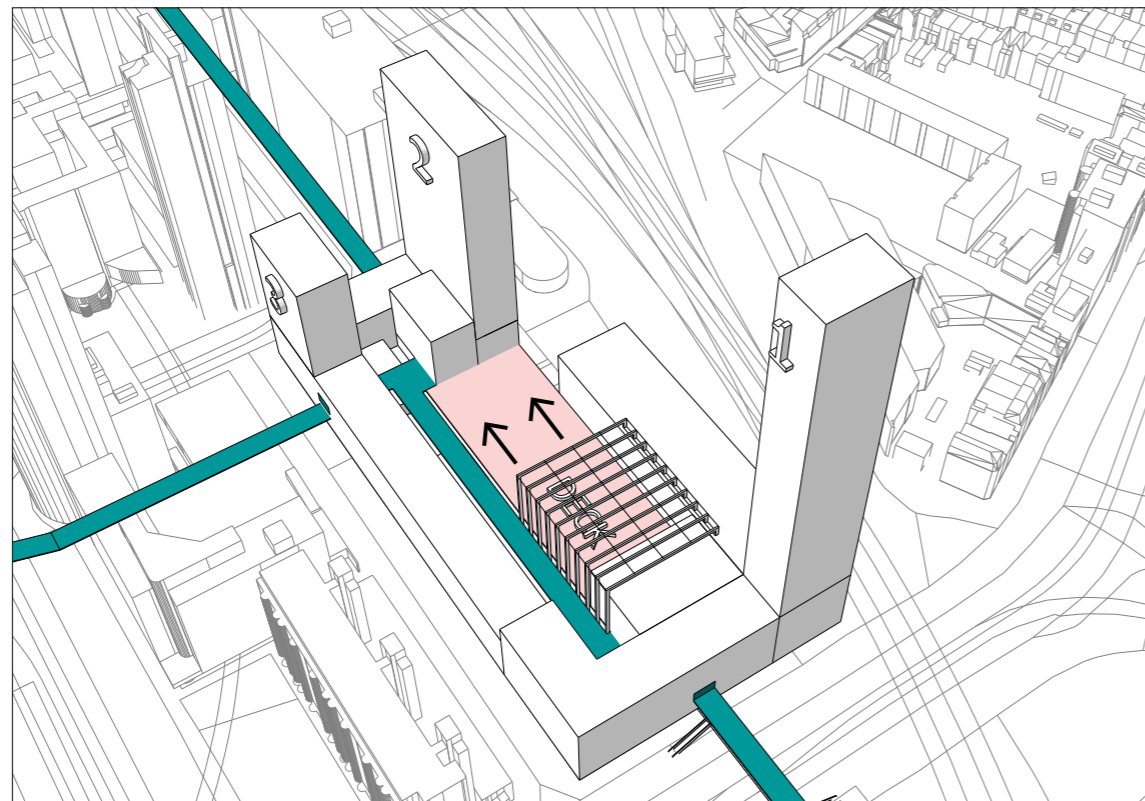
*exploring the possibilities of using moveable parts to facilitate different configurations within the Schiekadeblok*



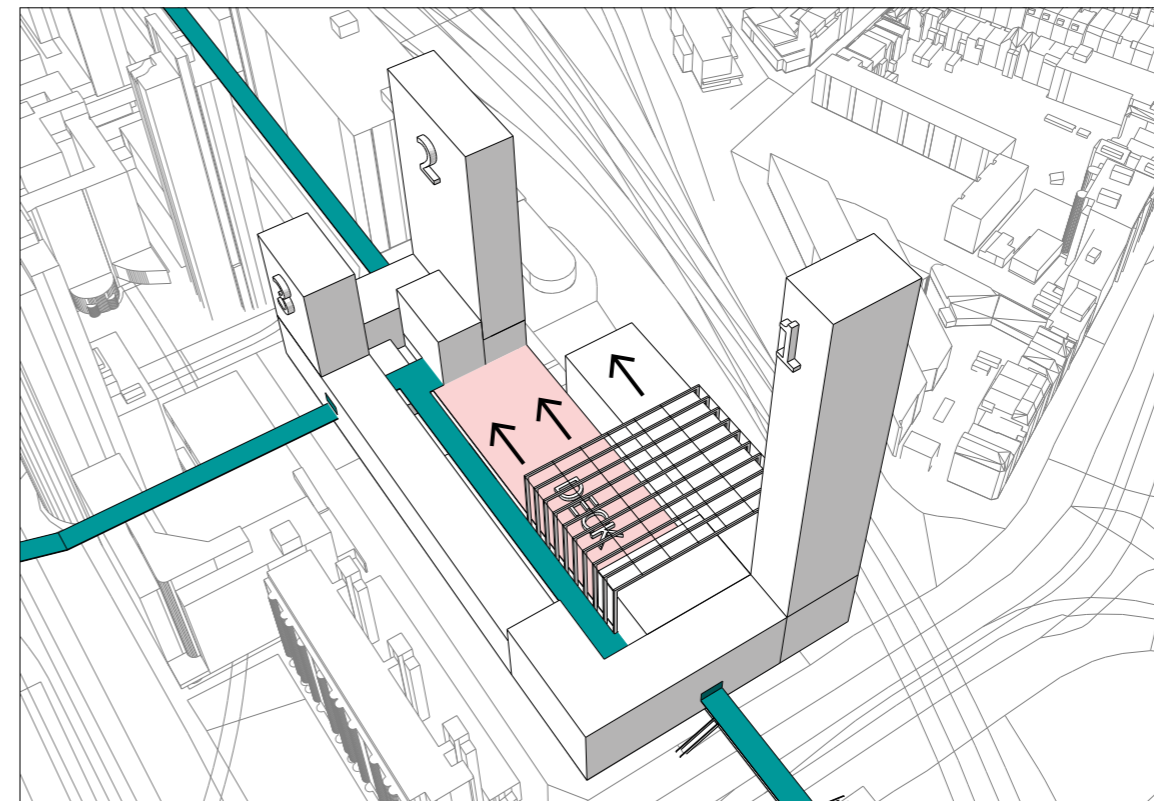
North-West Extension



North-West Extension



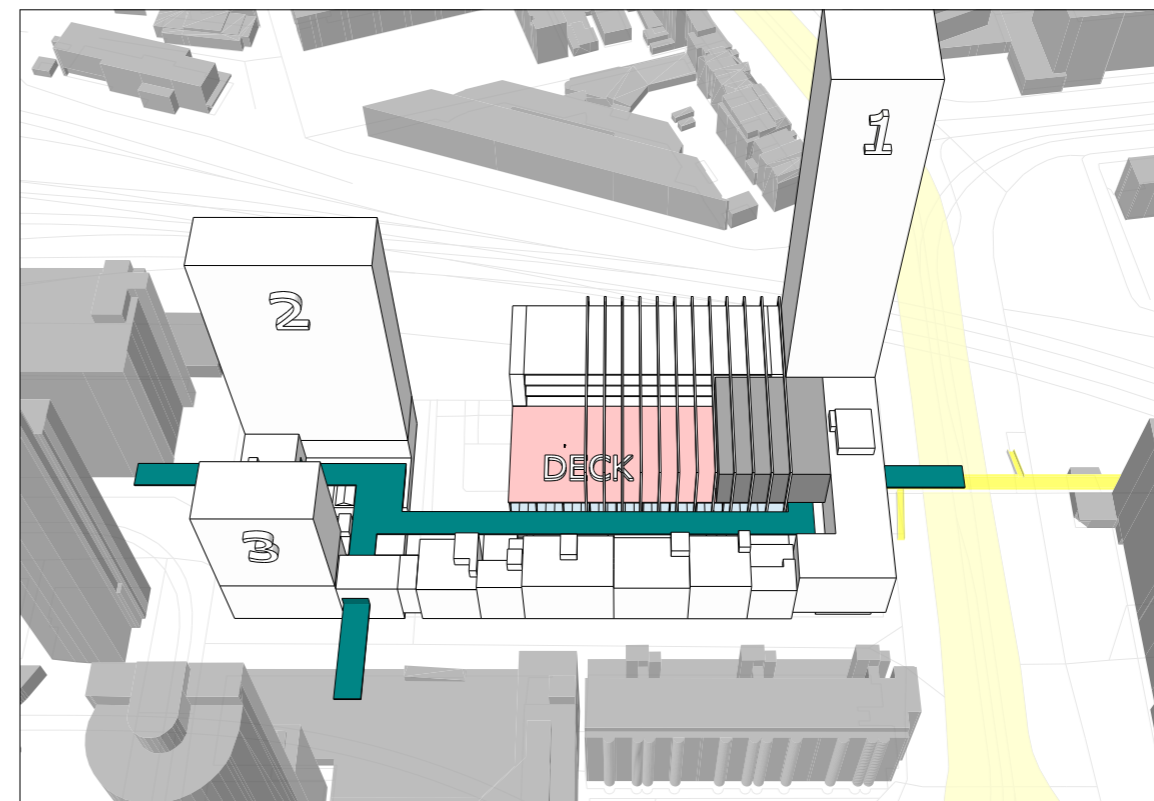
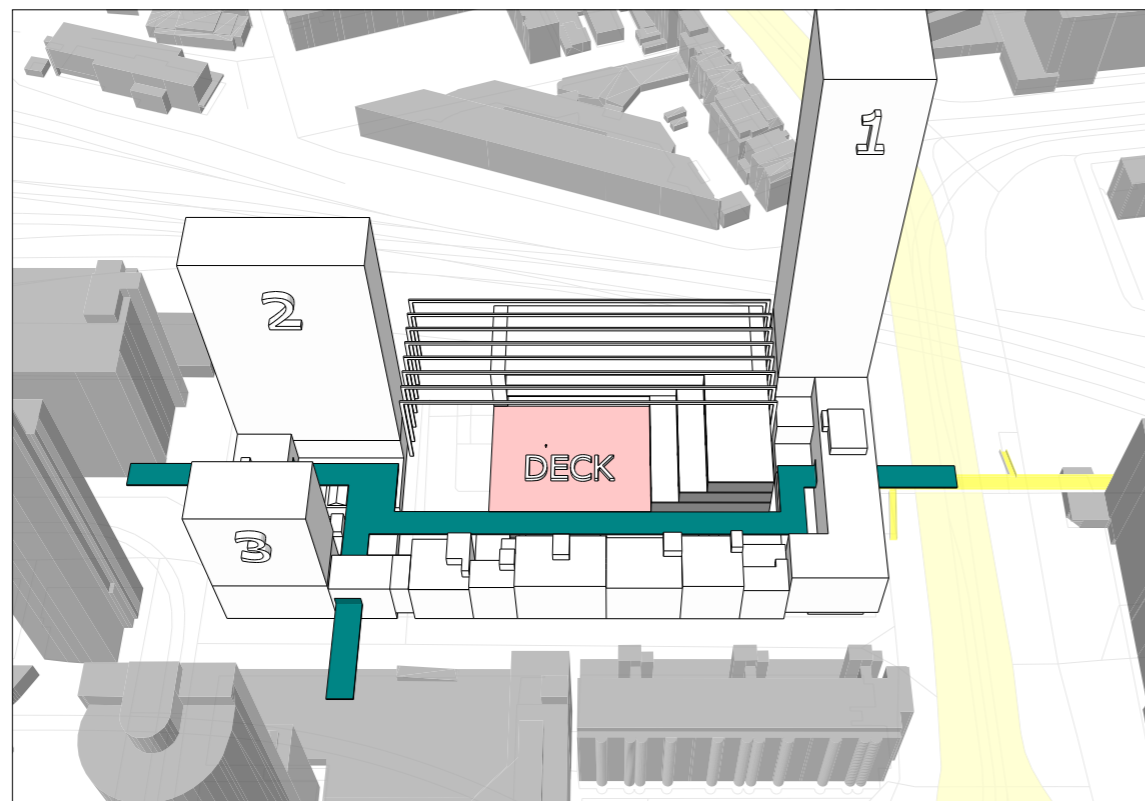
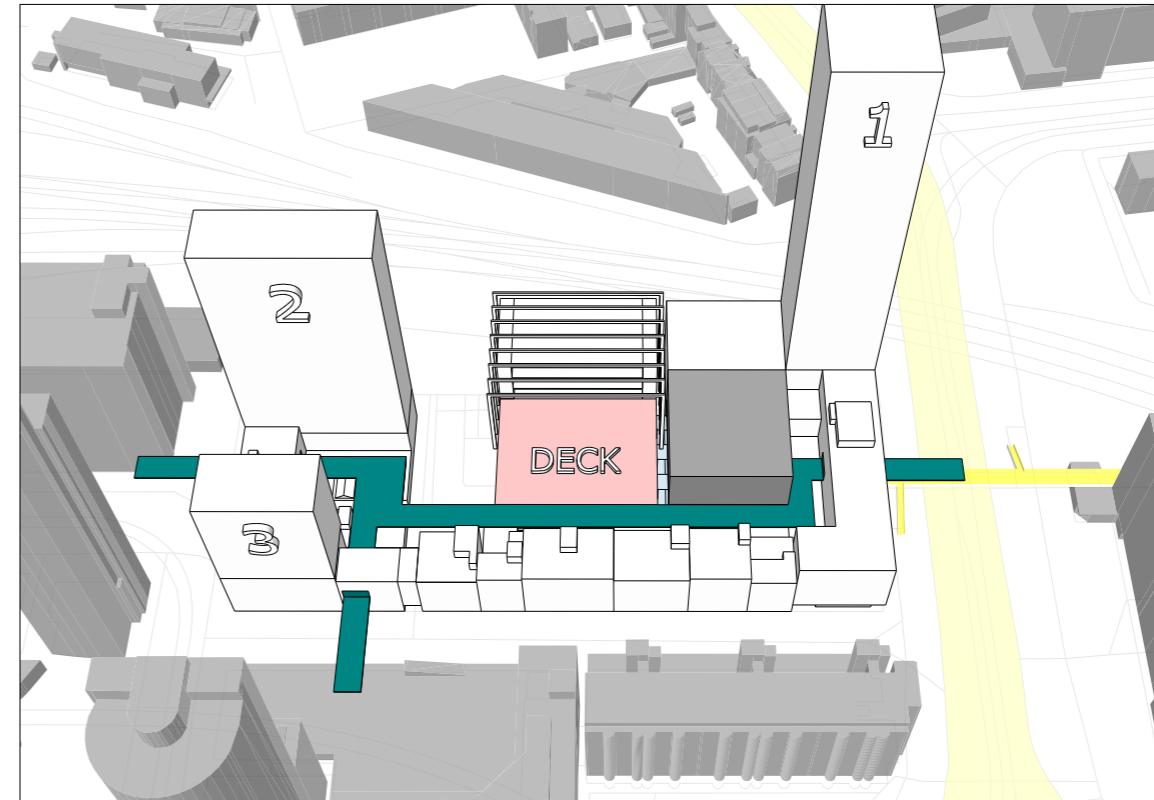
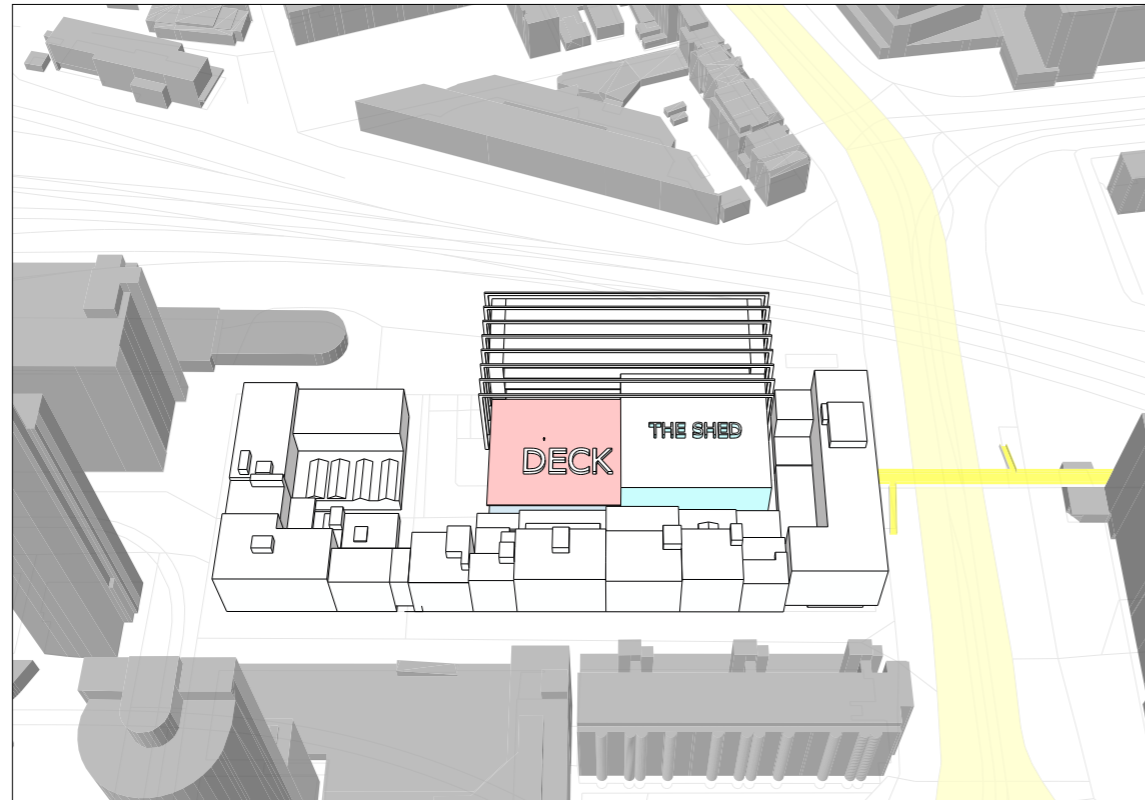
South-East Extension



South-East Extension

# PROJECTING IDEAS ON SCHIEKADEBLOK

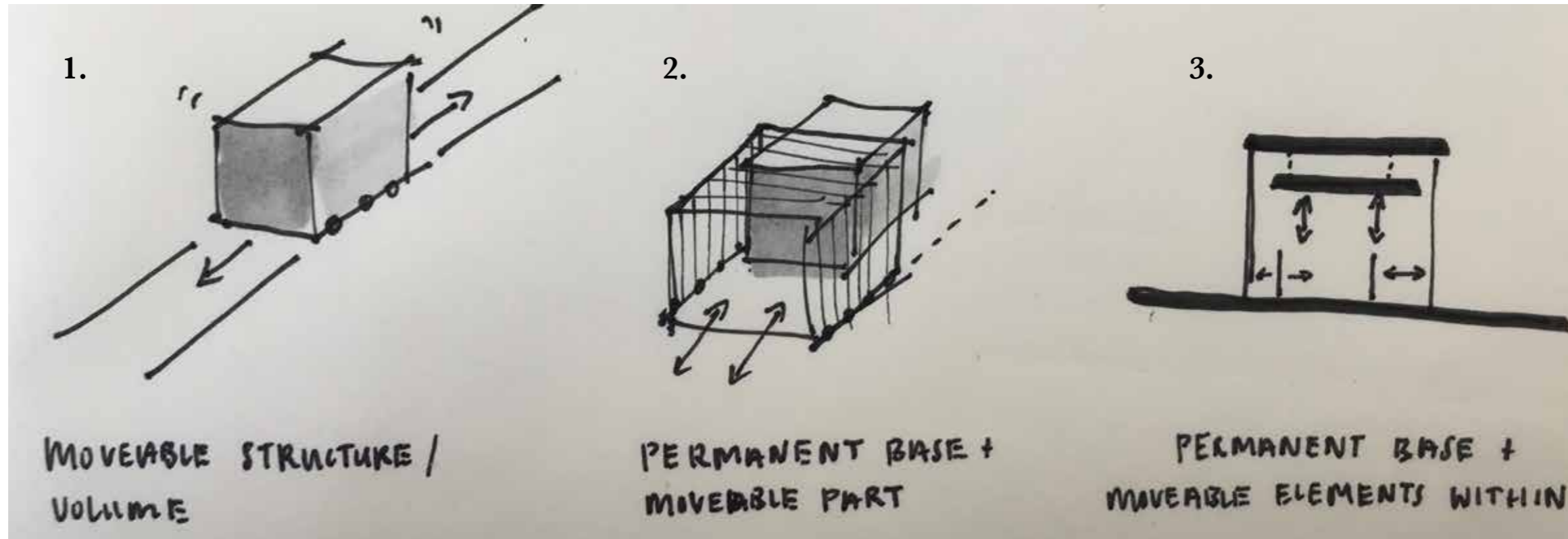
*soon stumbled upon the enormous scale of the Schiekadeblok; multiple volumes with different features of adaptability?*





# DIFFERENT SCALES OF ADAPTABILITY

*adaptability through moveability*



The huge scale of the Schiekadeblok offers possibilities to apply different scales of adaptability to multiple volumes instead of creating one giant volume

# DIFFERENT FORMS OF ADAPTABILITY FOR DIFFERENT TARGET GROUPS

*using different approaches to adaptability to address the different target groups based on their needs*



**CITIZENS**  
in the public spaces



**COMPANIES**  
business & service



**CREATIVE SECTOR**  
place for making &  
creating



**EVENTS**  
local/global, management &  
organization



**HORECA**  
food & nightlife



**VISUAL ART PERFORMANCES**  
dance, theater, pop, hiphop  
etc.

The different scales of adaptability also provide possibilities to address the target groups differently

# ADAPTABILITY FOR DISTRICT-EAST ASSOCIATION & USERS

*with their multi-layered vision for the Schiekadeblok*

“TEMPORARITY AS AN OPPORTUNITY”

PLACE FOR INNOVATION

LOCAL START-UPS AND GLOBAL BUSINESSES

THE URBAN SCENE OF ROTTERDAM



‘RAW’ CHARACTER

SPACE FOR CREATIVITY AND MAKING

SPONTEOUS AND BOTTOM-UP DEVELOPMENTS

‘GLOCAL’ & ‘MIXONE’

RESTAURANTS, BARS, CLUBS, EVENTS



# BUT ALSO ADAPTING TO THE PUBLIC

*pedestrians that are passing by along the elevated walkway or are visiting for the public facilities or events*

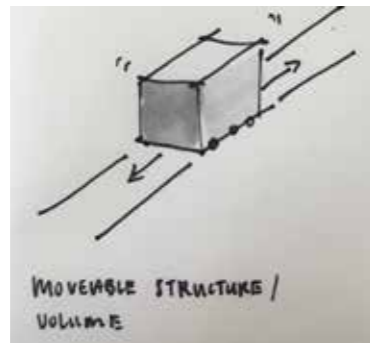


**CITIZENS**  
the public realm

Public space that adapts  
to the needs of the public

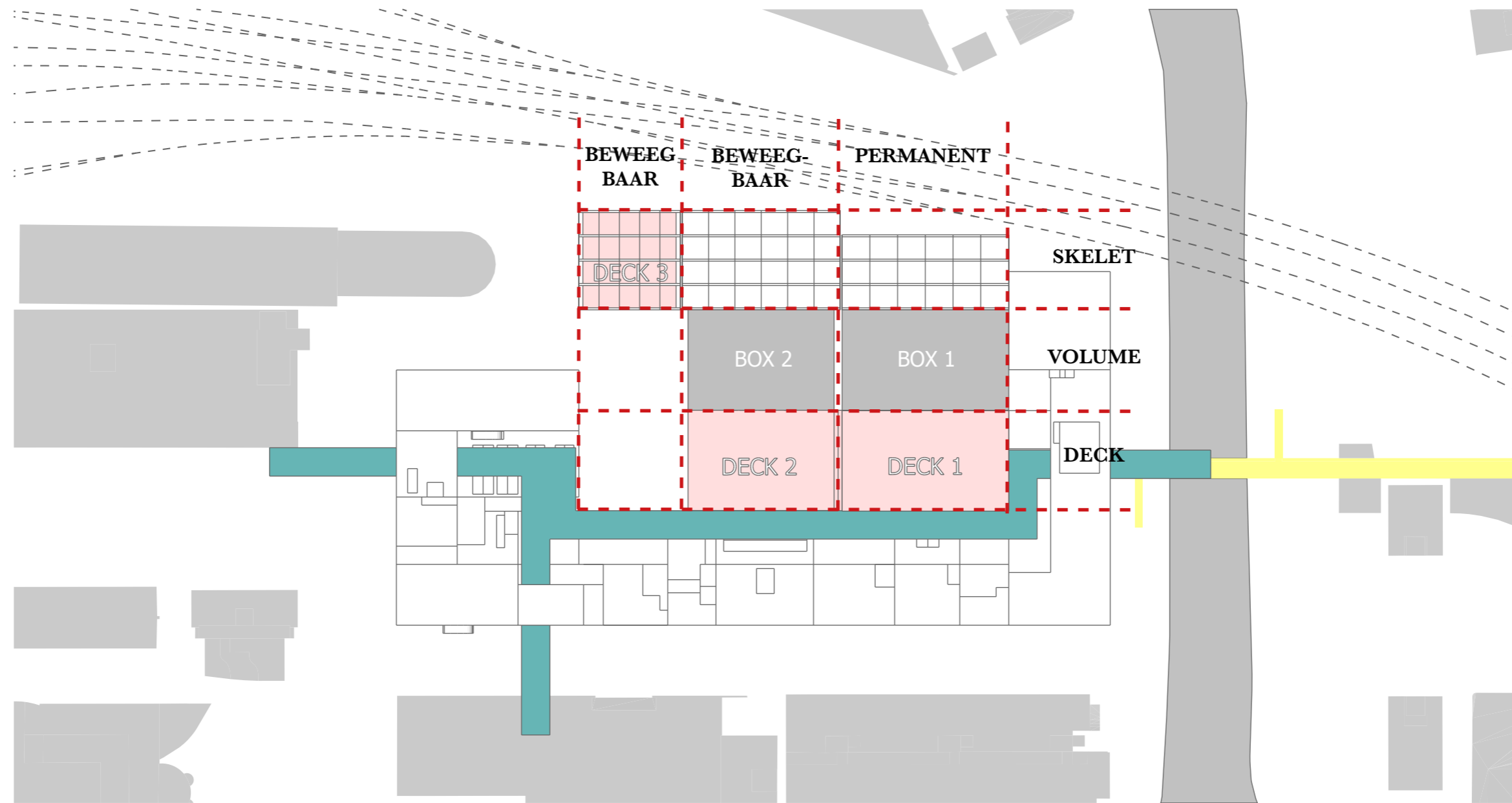
# WHAT SCALE OF ADAPTABILITY SUITS WHAT PROGRAMME?

*addressing the different users of the Schiekadeblok*



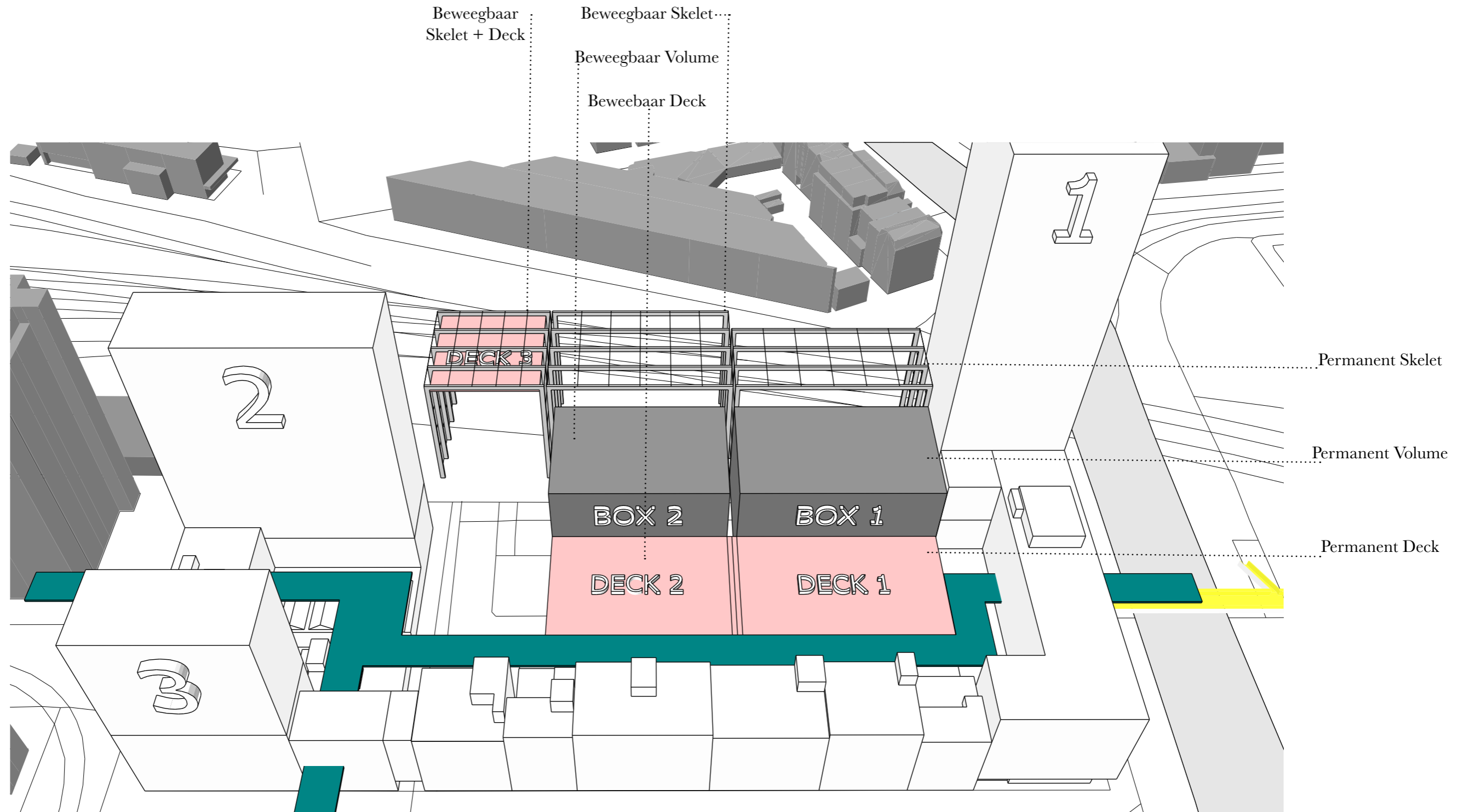
# SCHIEKADEBLOK AS AN URBAN MACHINE

*consisting out of different entities with different approaches to adaptability*



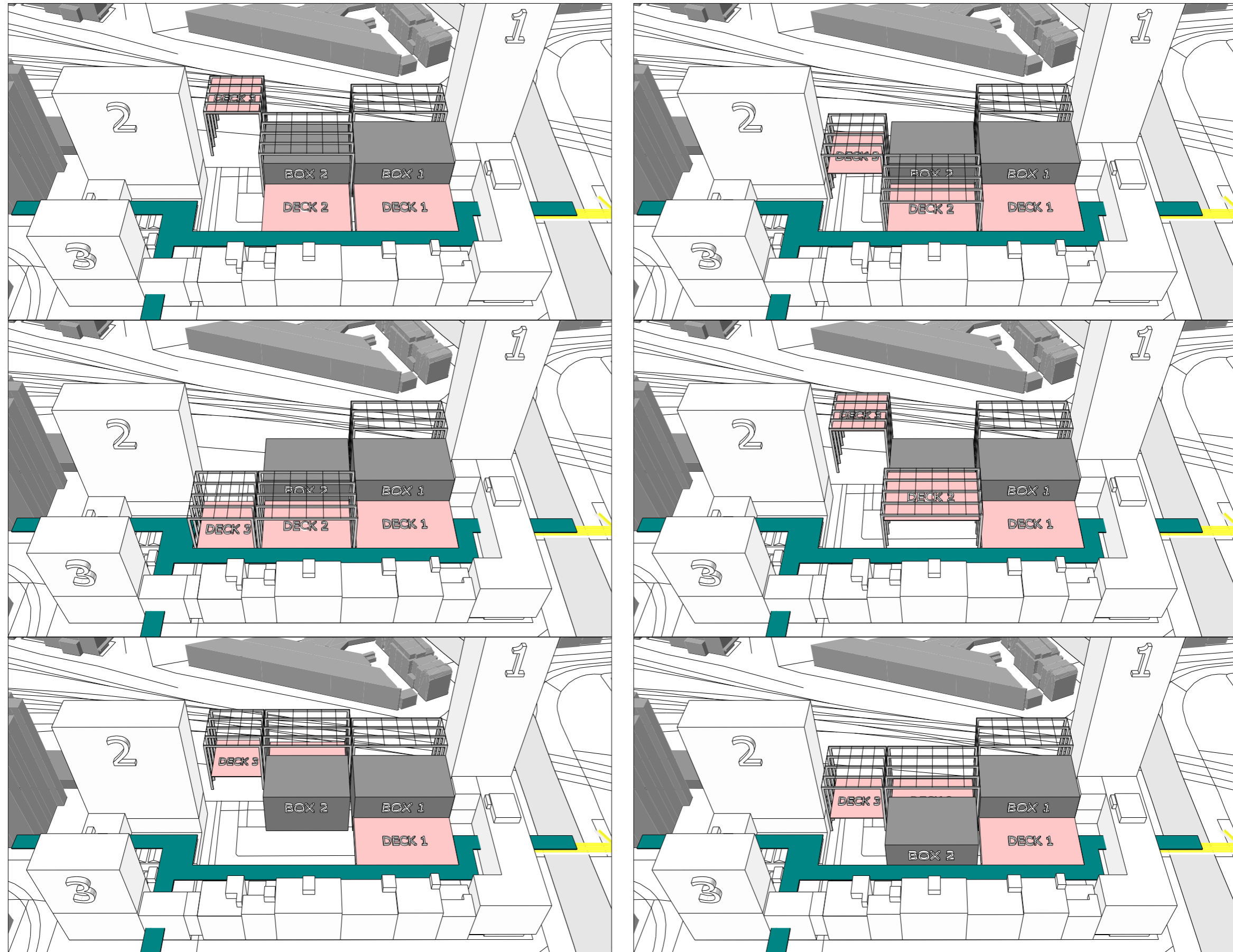
# SCHIEKADEBLOK AS AN URBAN MACHINE

*consisting out of different entities with different approaches to adaptability*



# SCHIEKADEBLOK AS AN URBAN MACHINE

*consisting out of different entities with different approaches to adaptability*





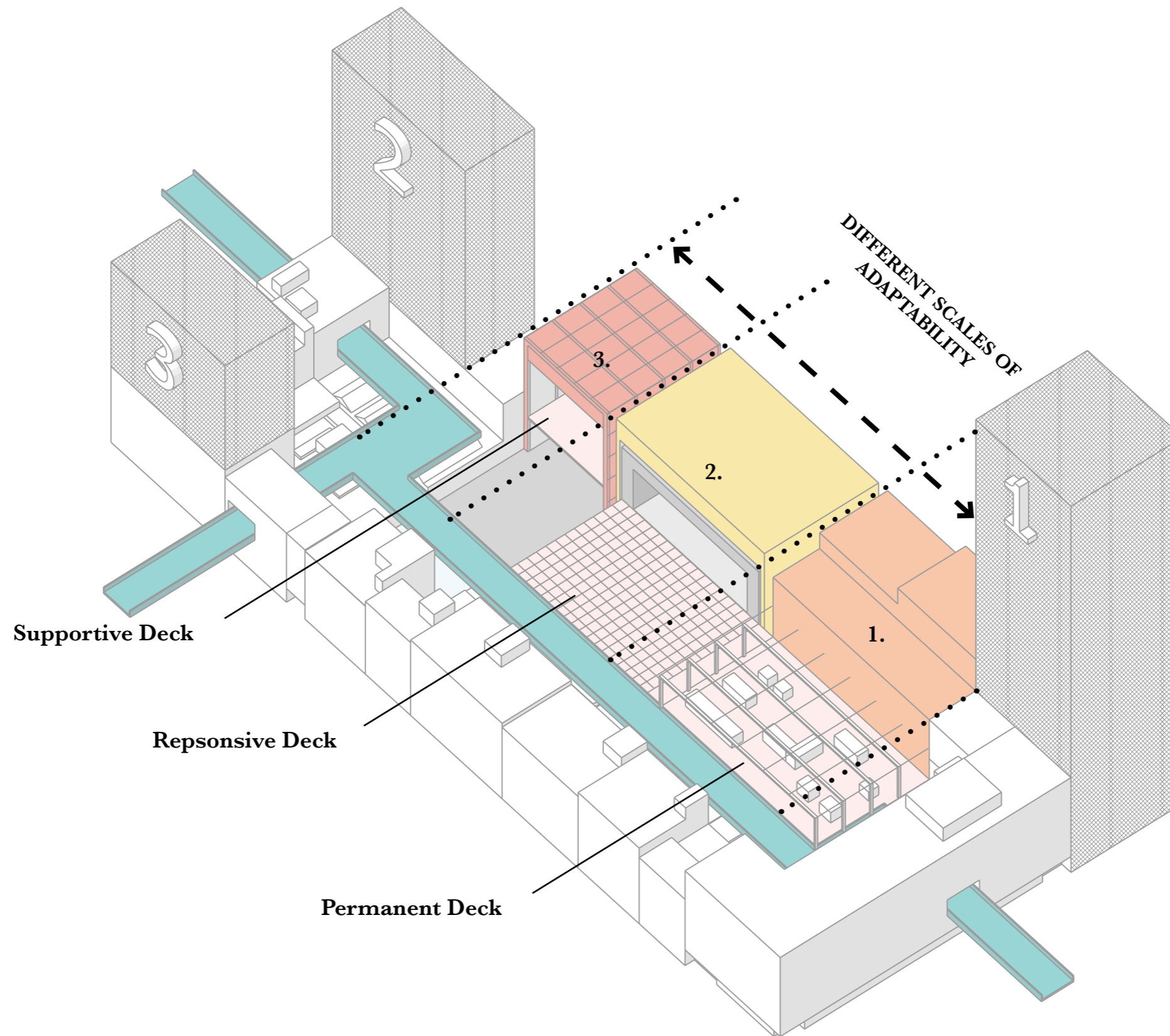
# SCHIEKADEBLOK AS AN URBAN MACHINE

*consisting out of different entities with different approaches to adaptability*

Adaptability through moveability.

# SCHIEKADEBLOK AS AN URBAN MACHINE

*approaching different scales of adaptability*

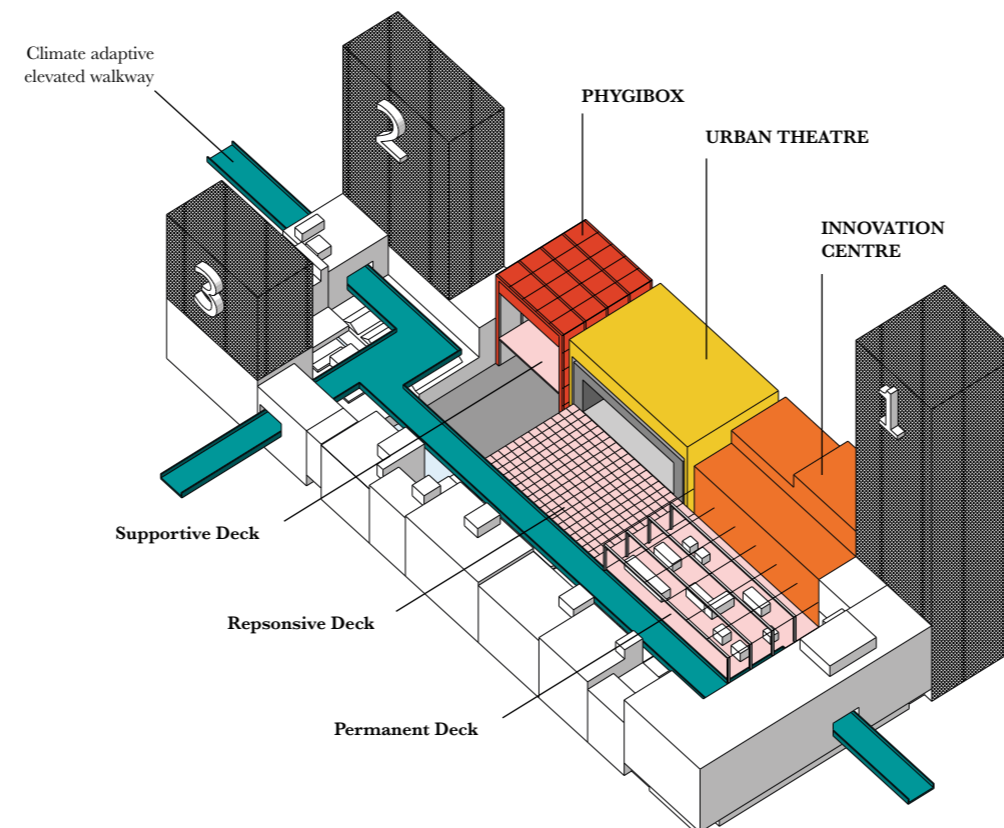


1. Permanent Volume with moveable elements within
2. Permanent base-volume with a extendable roofstructure
3. Moveable volume with a vertically moveable deck and the possibility to open-up or close the facades.

The different volumes and their corresponding decks represent different scales of adaptability.

# SCHIEKADEBLOK AS AN URBAN MACHINE

*an urban setting that is responsive through its moveability*



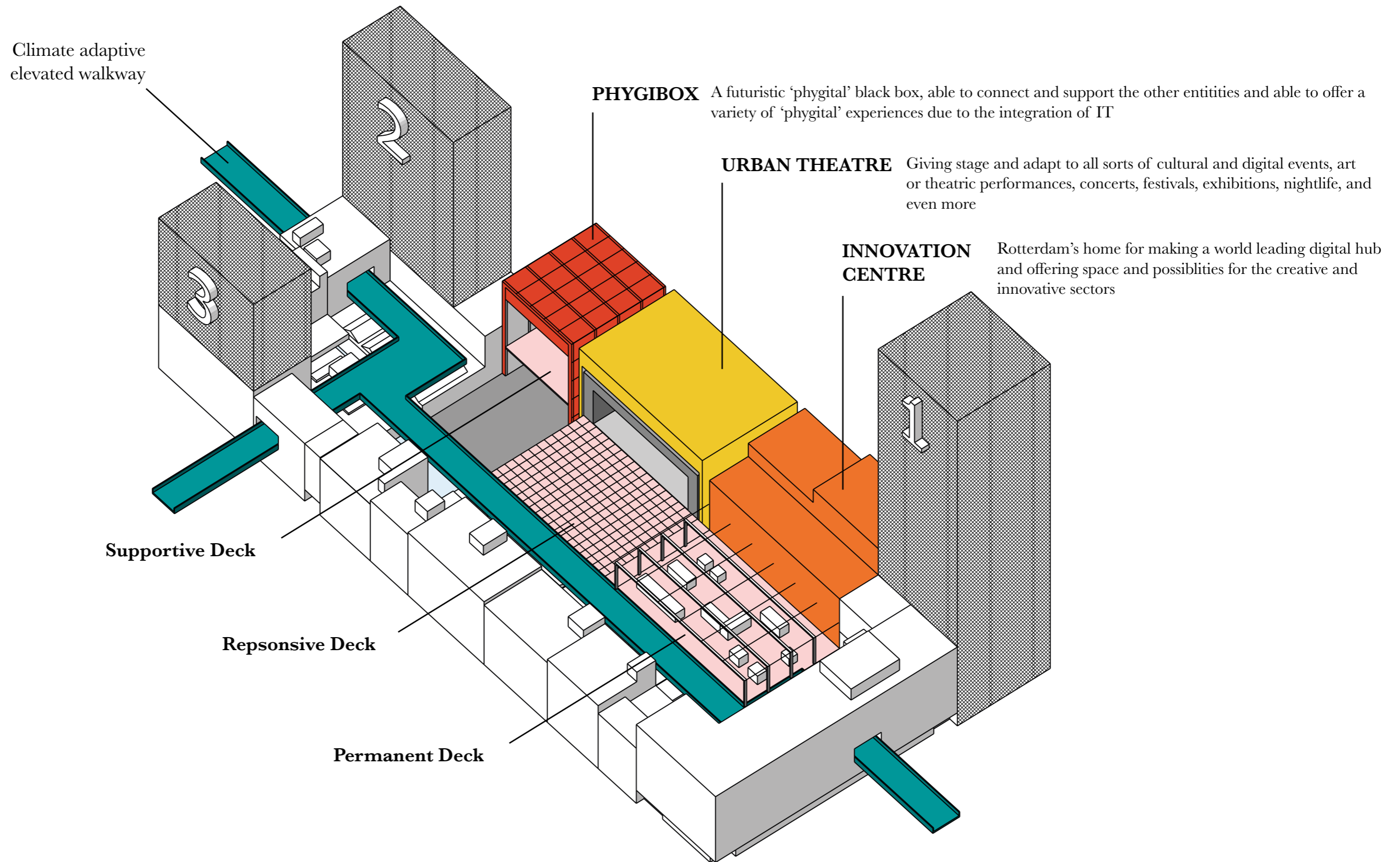
The individual building blocks stand for an autonomous functioning, an individual identity and character and represent temporality as an opportunity for development. They also form a cohesive ensemble that, through the mutual interactions, ensure a cooperative functioning as a whole. In addition, it is an ode to the historical building blocks of the Schiekadeblok, which were also built up out of individual buildings, which were realized at different times, eventually forming an ensemble.

The raised public deck ensures the linking of the three boxes. Just like the three different volumes, the deck also consists respectively out of three different zones, which can be either connected and interact with each other, or function separately.

The different volumes and their corresponding decks represent different scales of adaptability by their approaches to moveability.

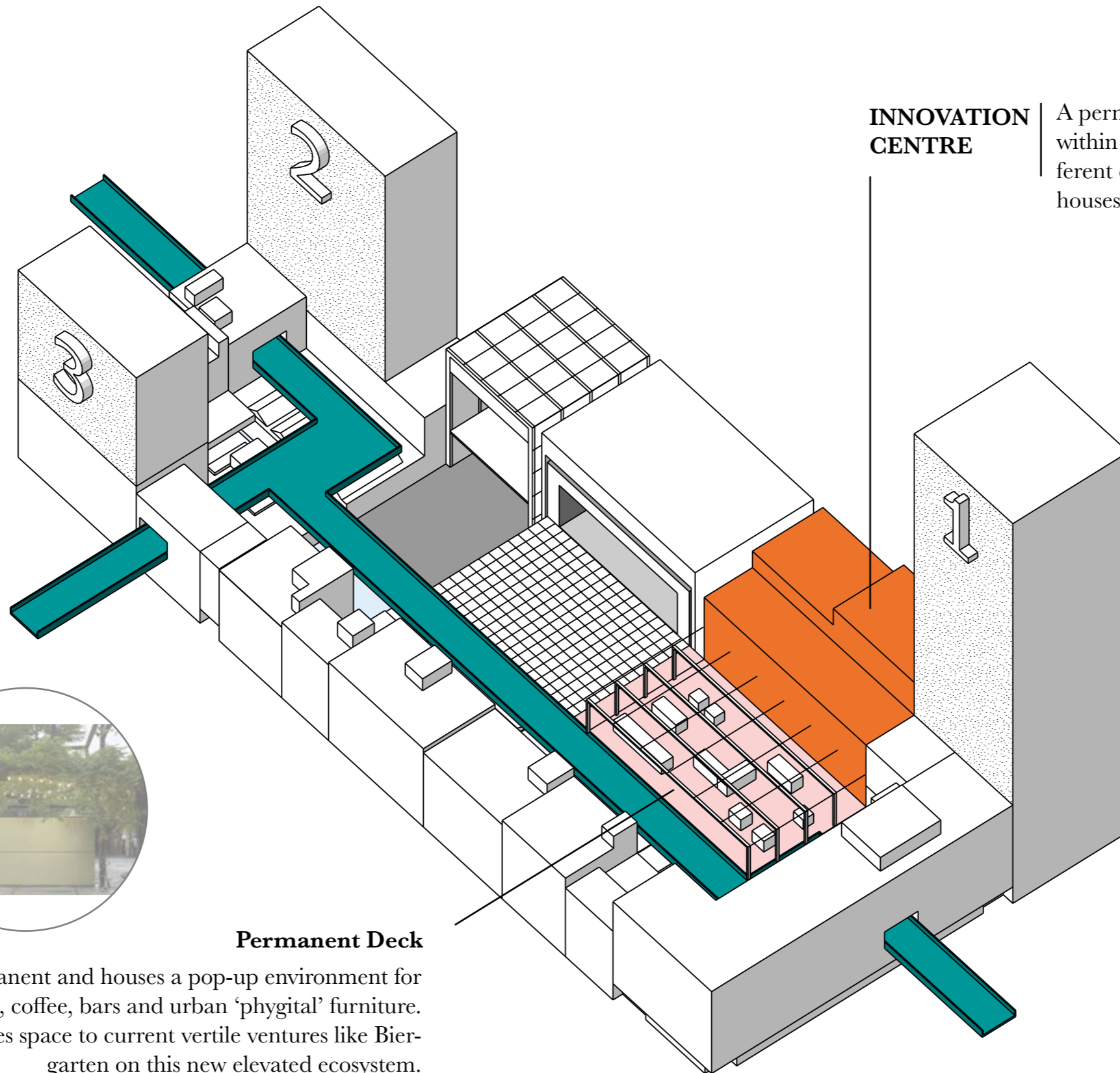
# SCHIEKADEBLOK AS AN URBAN MACHINE

*a data-driven responsive device*



# SCHIEKADEBLOK AS AN URBAN MACHINE

*the Innovation Centre*

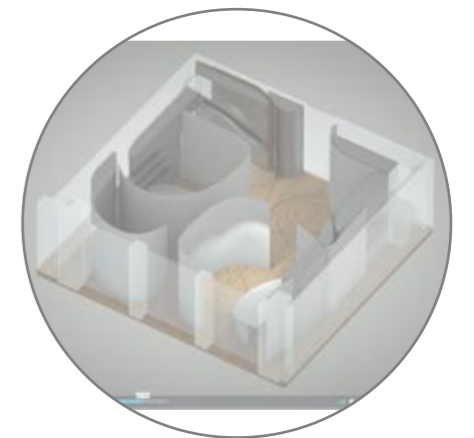


## INNOVATION CENTRE

A permanent volume with moveable elements within to adjust and adapt to different uses with different configurations in the floorplans. This volume houses the creative sector within District East .

### Permanent Deck

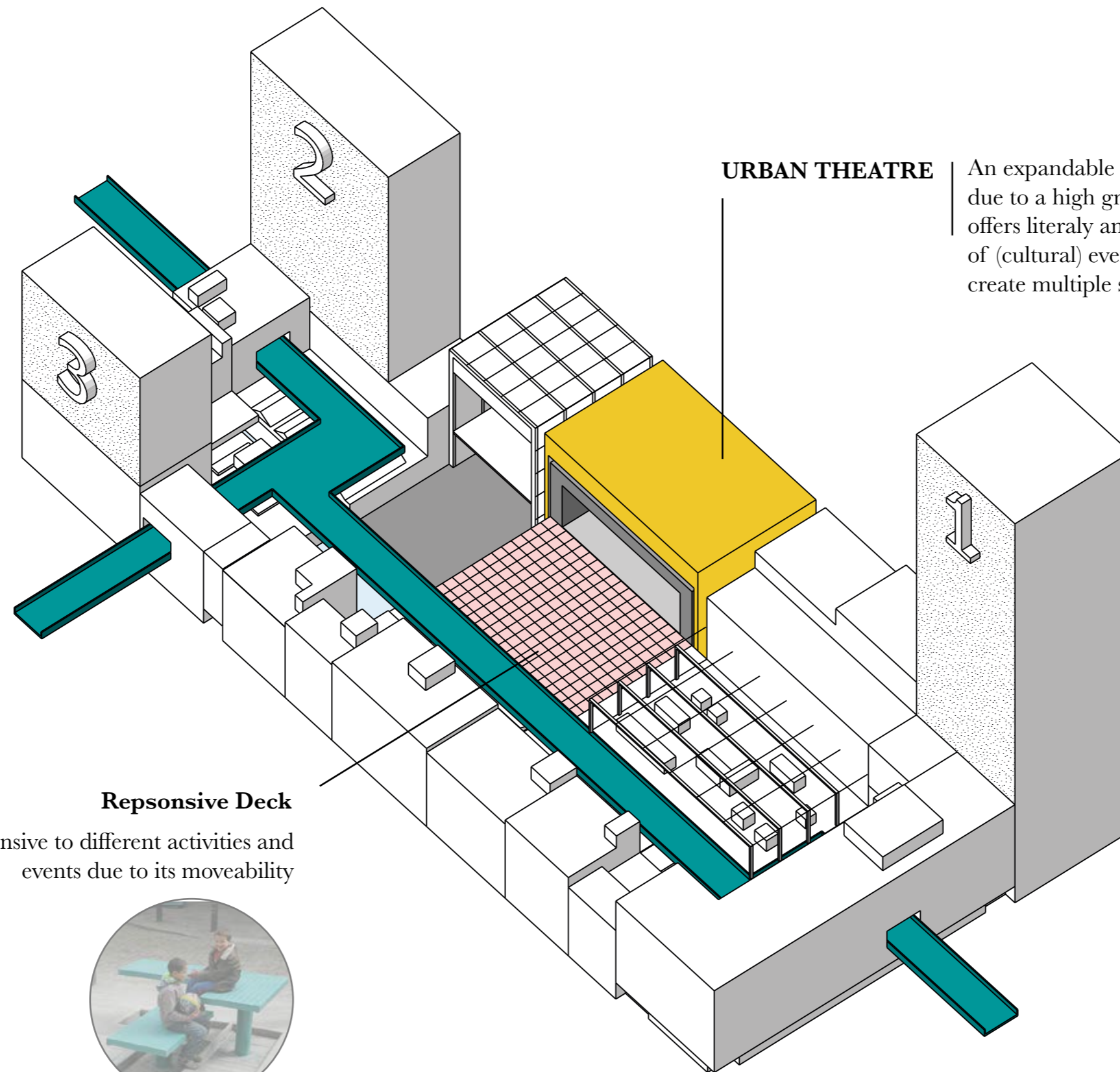
This deck is permanent and houses a pop-up environment for food, coffee, bars and urban 'phygital' furniture. It 'lifts up' and gives space to current vertile ventures like Biergarten on this new elevated ecosystem.



A climate responsive pergola that folds out 'umbrellas'.

# SCHIEKADEBLOK AS AN URBAN MACHINE

*the Urban Theatre*



## URBAN THEATRE

An expandable volume with maximum flexibility due to a high grade of moveability. This volume offers literally and figuratively a stage for all sorts of (cultural) events and activities, due to its ability create multiple spatial staging settings.

## Repsonsive Deck

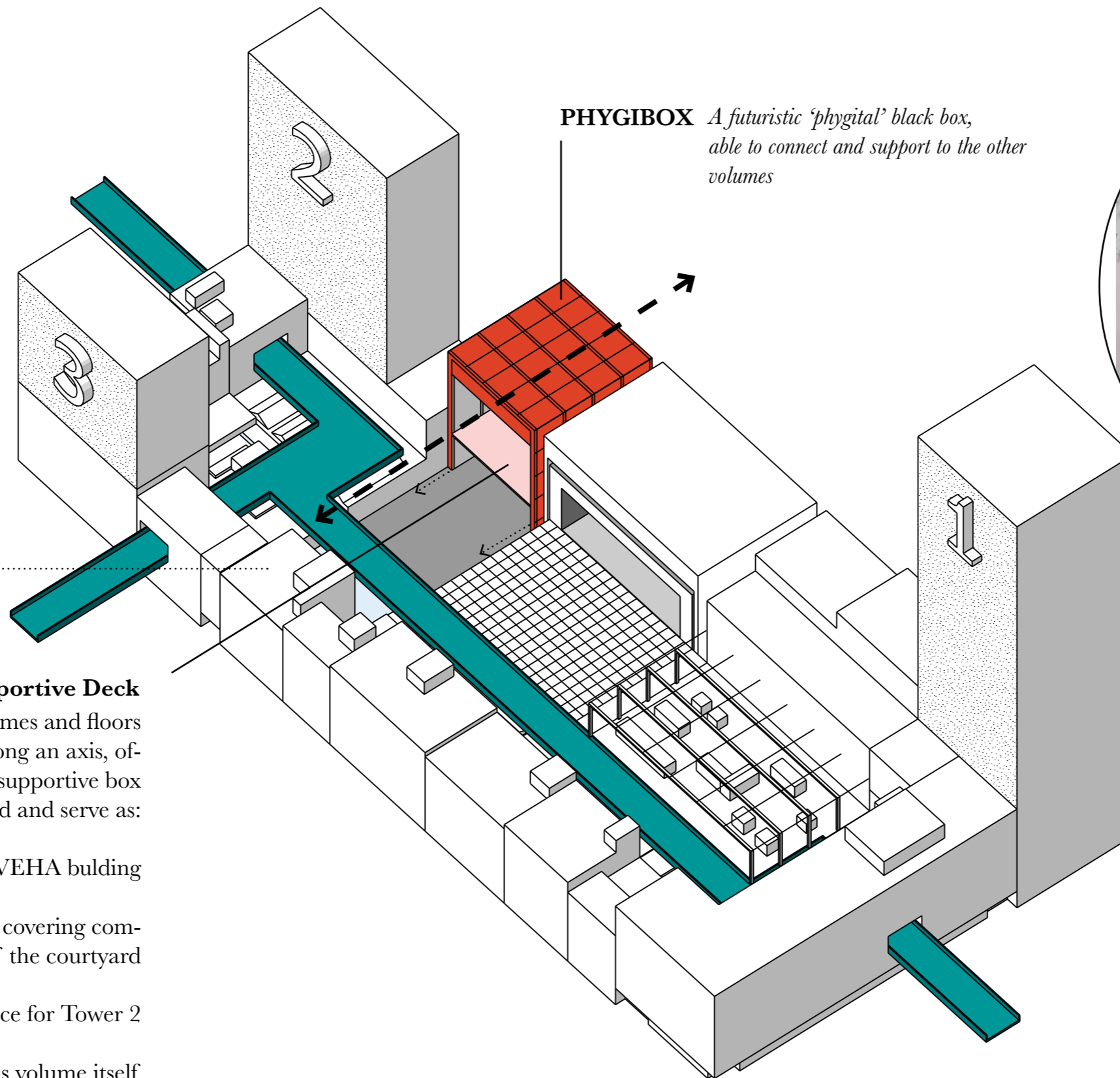
A deck that is responsive to different activities and events due to its moveability



# SCHIEKADEBLOK AS AN URBAN MACHINE

*the Phygibox*

Former ESVEHA building was the first to be built in 1950. Also: it is the only building without an expansion volume on the courtyard; that's where the newly Phygibox will come in.

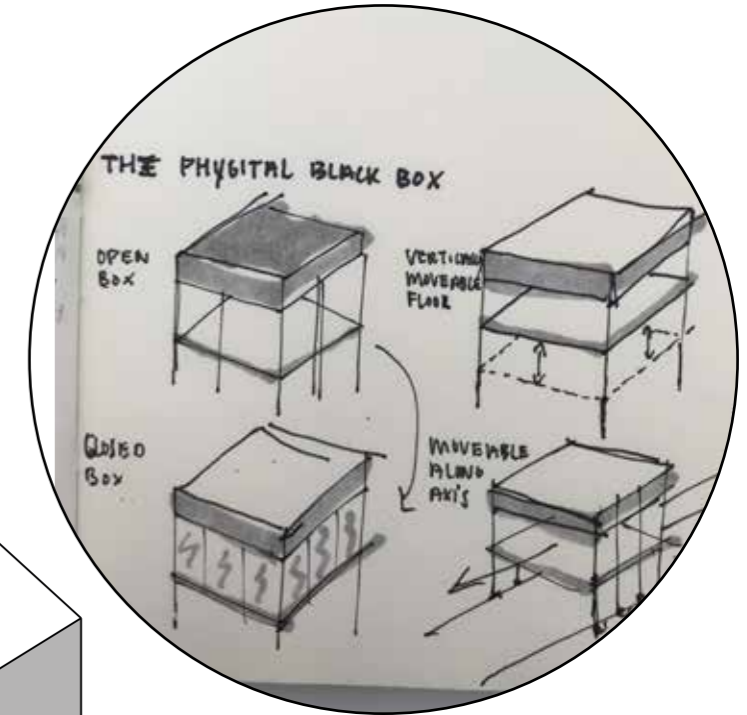


**PHYGIBOX** *A futuristic 'phygital' black box, able to connect and support to the other volumes*

## Supportive Deck

This deck can connect to multiple volumes and floors within the SKB because it can move along an axis, offering a variety of configurations; this supportive box can be attached and serve as:

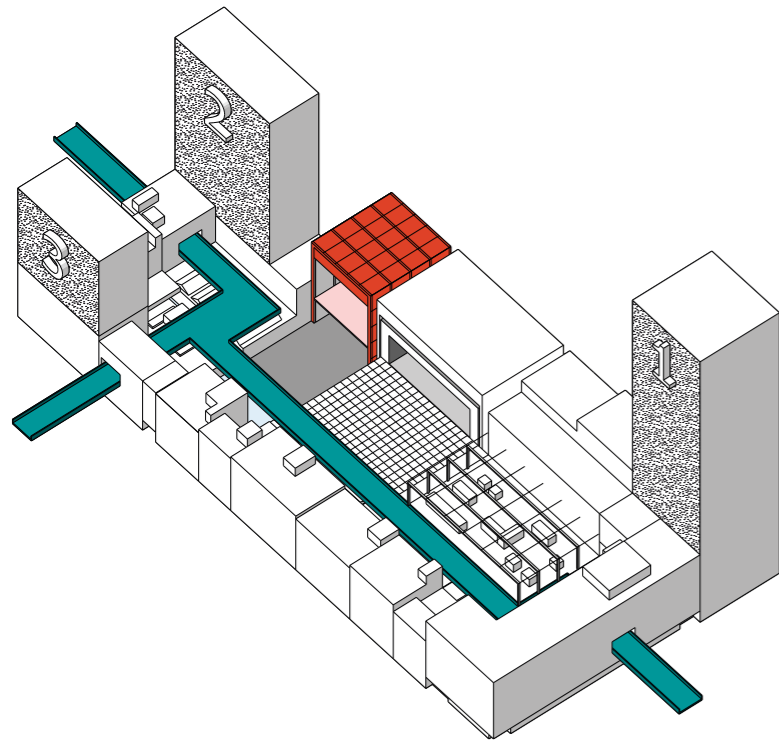
- an expansion to the former ESVEHA building
- an extension of the other two decks, covering completely the whole span of the courtyard
- a connecting floor/space for Tower 2
- also an autonomous volume itself



# SCHIEKADEBLOK AS AN URBAN MACHINE

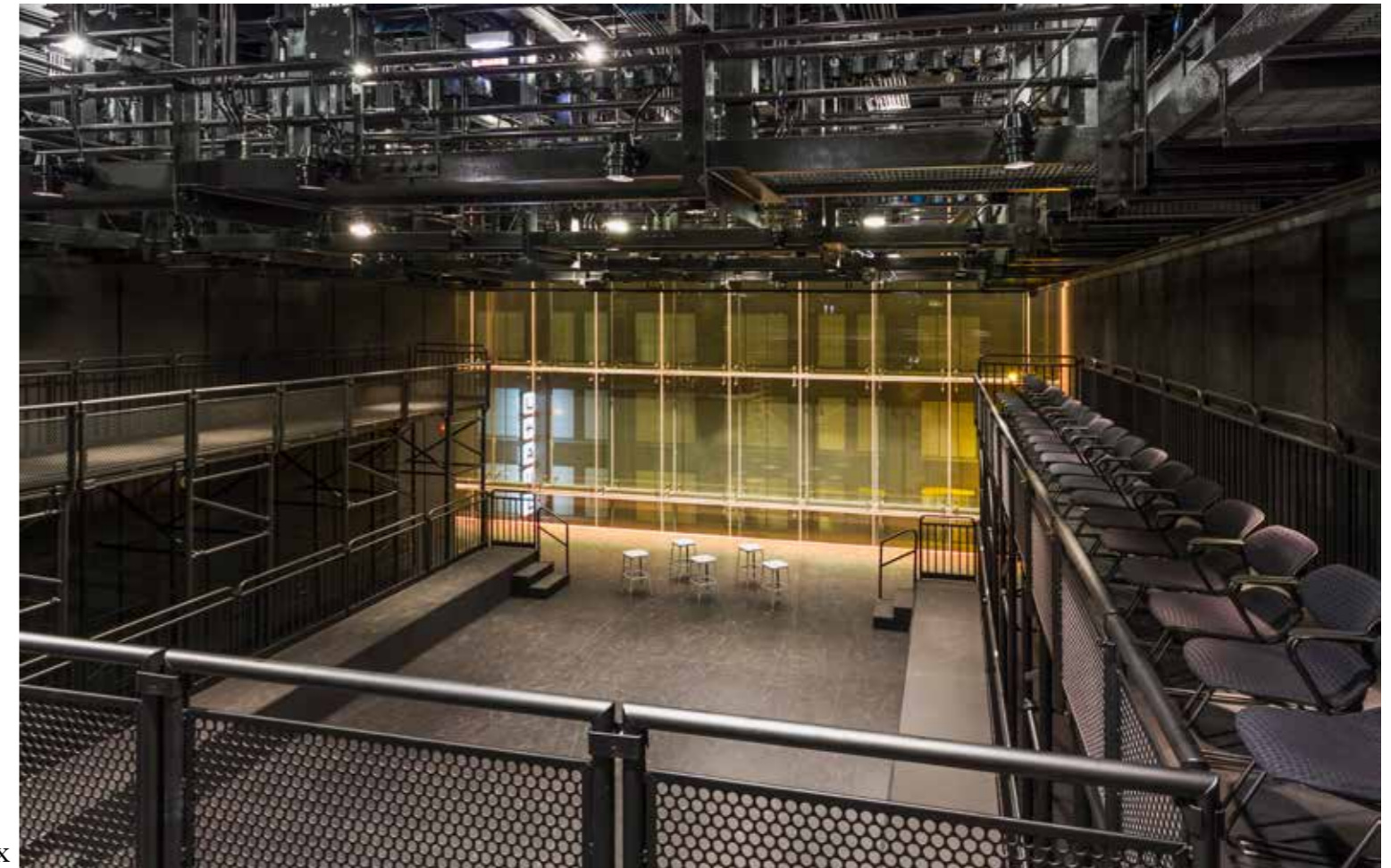
*the Phygibox*

## THE PHYGIBOX



The Phygibox is a Futuristic, data-driven, Digital Black Box. Equipped with high-end IT and Sensoring Technologies that are able to interact and respond to the users. In contrary to the Urban Theatre, the Phygibox reacts with the people in shorter time-spans and adapts faster to smaller scale and spontaneous events or activities.

The Phygibox will be used by Schiekadeblok tenants for product launches, talks, screenings, exhibitions and presentations, (in)formal gatherings, but also by the local community for cultural events and nightlife.



A Futuristic Digital Black Box





**I. Introduction** | theme & research

**II. Design evolvment** | connectivity, accessibility

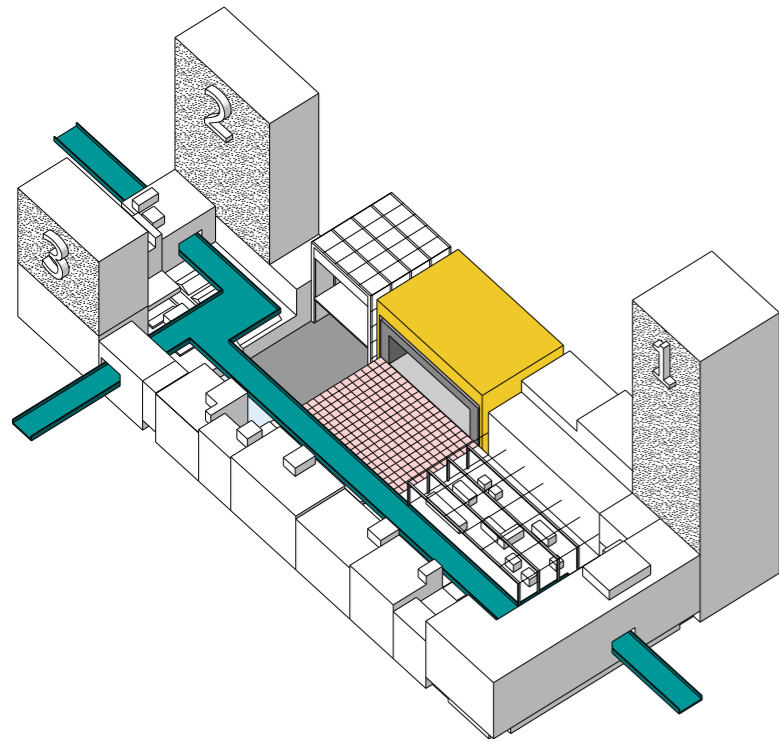
**III. Design input** | adaptability

**III. Design** | the Urban Theatre

# SCHIEKADEBLOK AS AN URBAN MACHINE

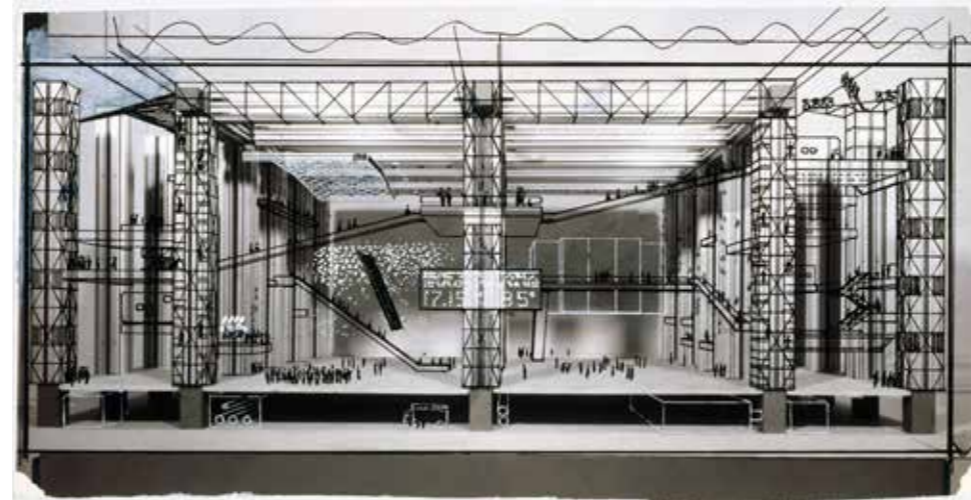
*the Urban Theatre*

## THE URBAN THEATRE



The Urban Theatre will be used by both Schiekadeblok tenants and citizens for (cultural) events like art or theatric performances, concerts, exhibitions, festivals, nightlife, product launches, talks, screenings, exhibitions and presentations. The adaptability of this Urban Theatre offers literally and figuratively a stage for a wide variety of events and activities that need relatively large (expandable) spaces.

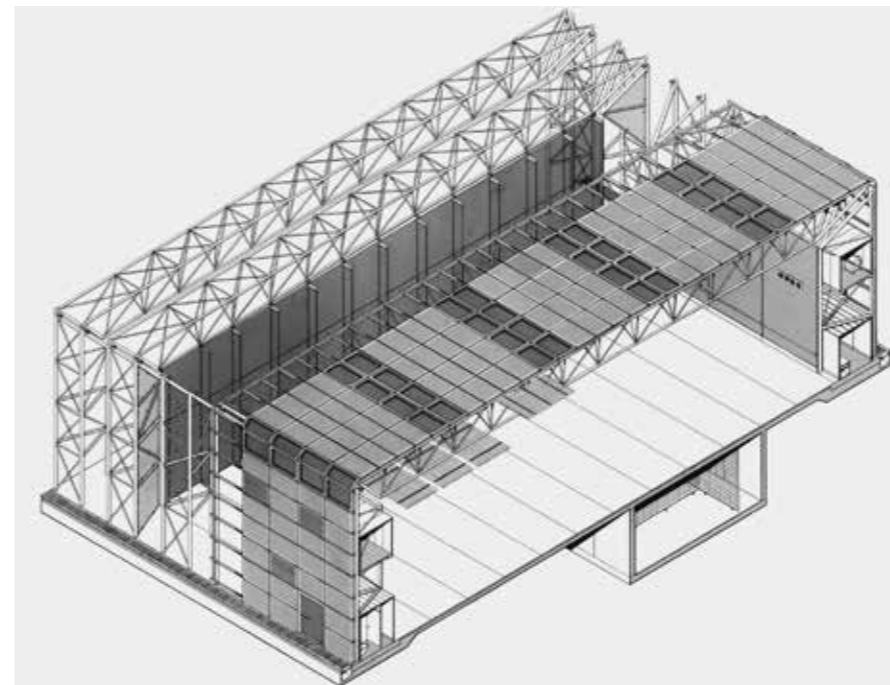
An expandable volume with maximum flexibility within, due to its ability to move and create different spatial settings.



Fun Palace | Cedric Price



Centre Pompidou | Rogers & Piano



Sainsbury Centre | Foster



The Shed | Diller Scofidio + Renfro

# SCHIEKADEBLOK AS AN URBAN MACHINE

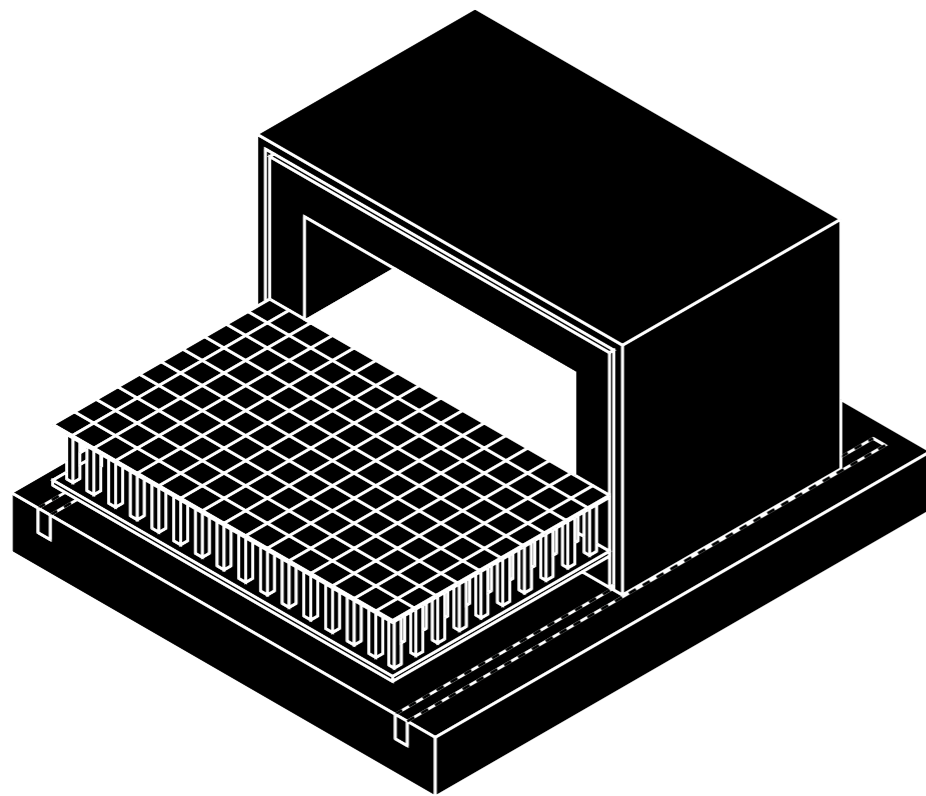
*the Urban Theatre*

To what extent can the moveability of the Urban Theatre be responsive and adaptable to different spatial settings?

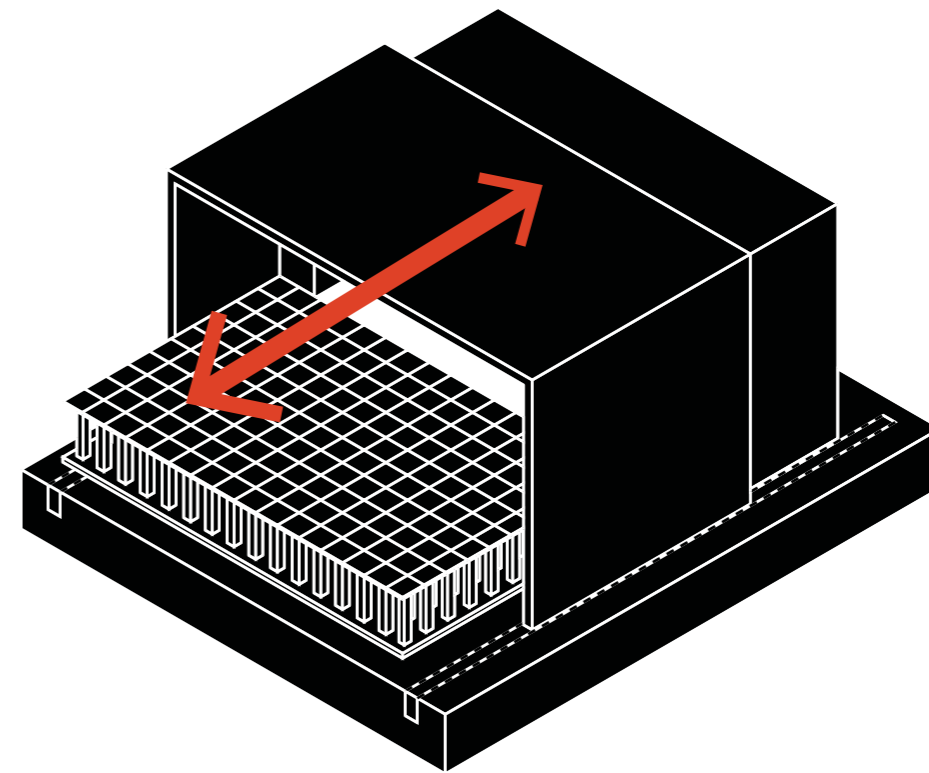
What are the moveable elements that facilitate this?

# SCHIEKADEBLOK AS AN URBAN MACHINE

*the Urban Theatre*



Basic Configuration

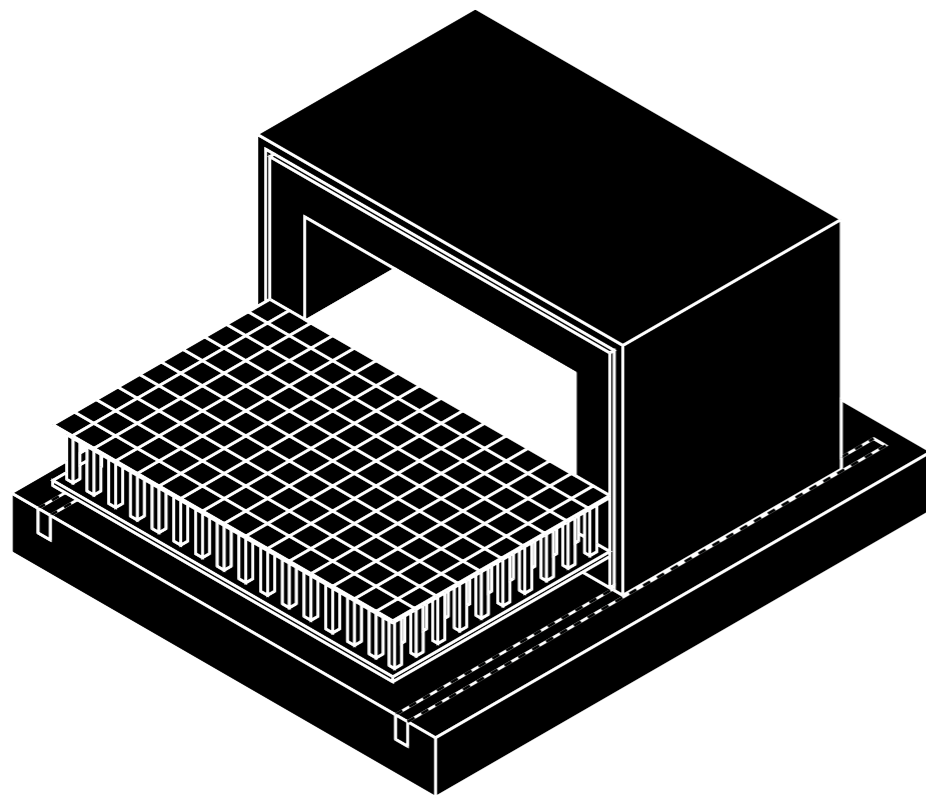


Telescopic Roof moves

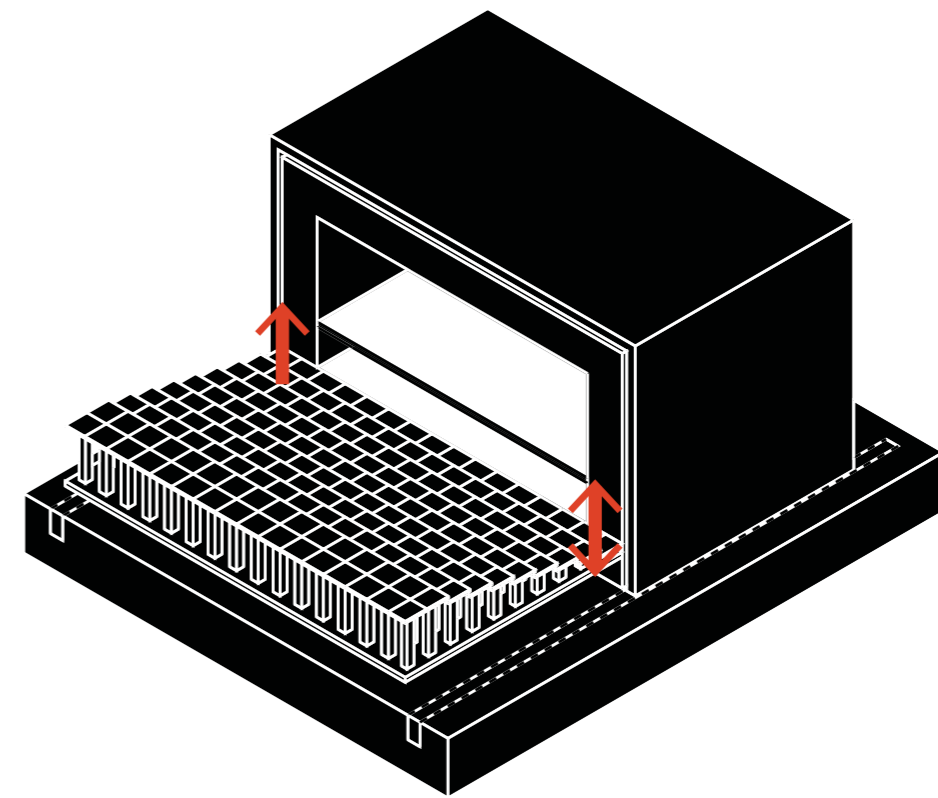
The Urban Theatre consists out of a primary, permanent base-building and a secondary shell around it. This (detached) Telescopic Roof Structure can extend over the base-building, doubling the colum-free space from 25m x 30m to 50m x 30m.

# SCHIEKADEBLOK AS AN URBAN MACHINE

*the Urban Theatre*



Basic Configuration

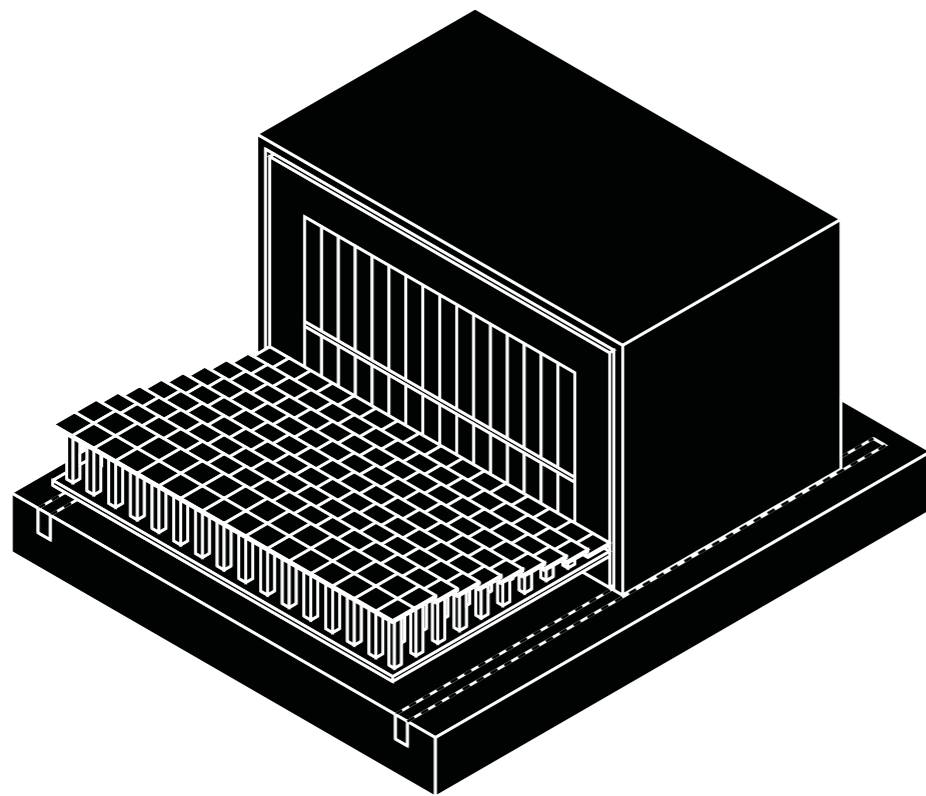


Telescopic Deck moves

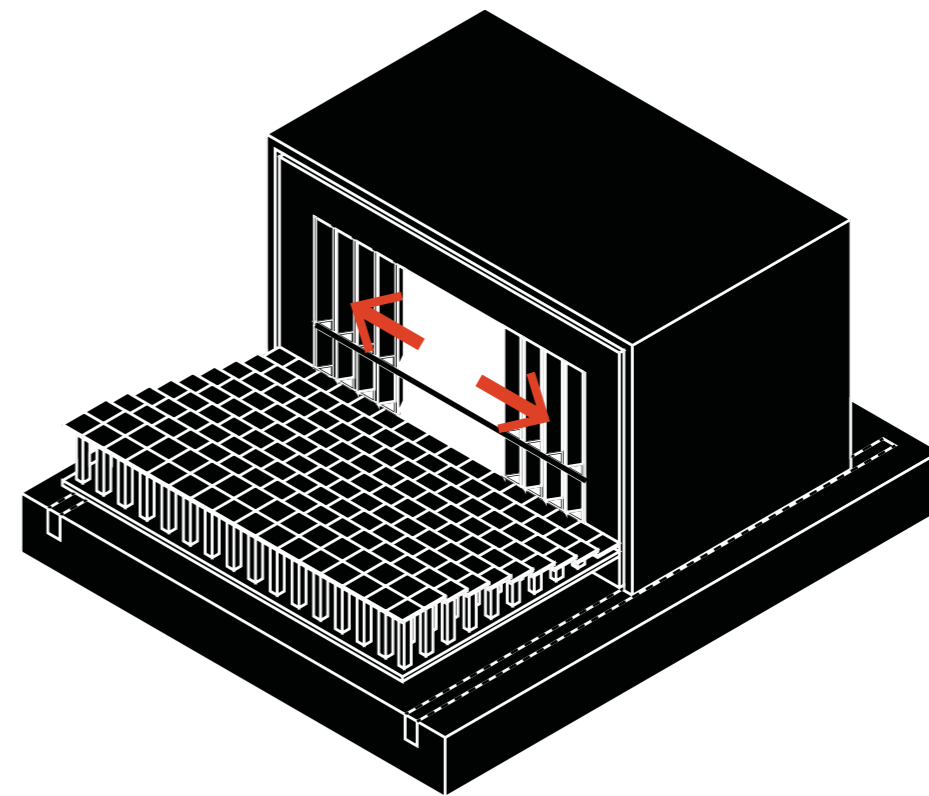
The Telescopic Deck can lower and rise between the levels +1 and +2. The deck is divided into plateaus of 2.5m x 2.5m, which can all individually move (vertically) because they are supported by telescopic columns.

# SCHIEKADEBLOK AS AN URBAN MACHINE

*the Urban Theatre*



Basic Configuration

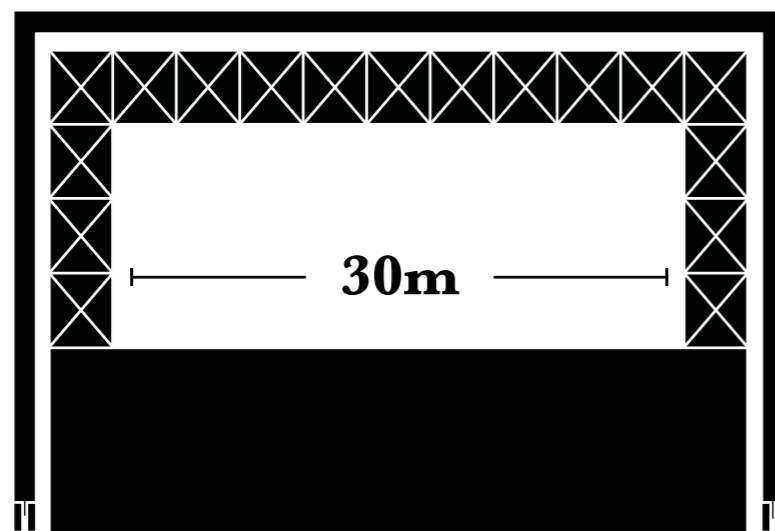


Openable Facade

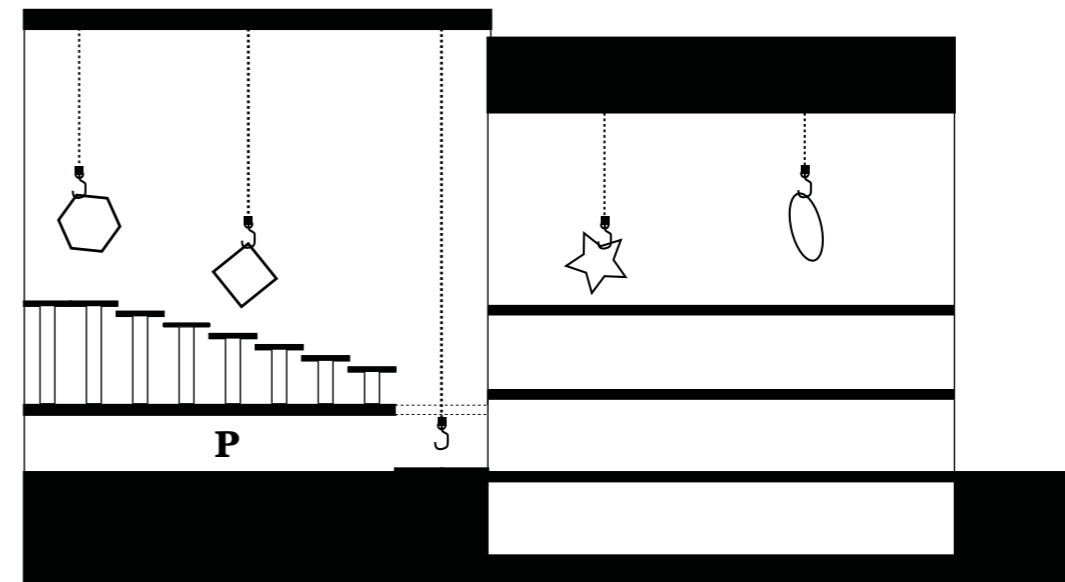
The facades of level +1 and +2 are openable by a foldable glass-wall system. This way they can adjust to the different configurations of the Urban Theatre, for example when the telescopic roof extends for bigger events or when the deck lowers to the restaurant (level +1).

# SCHIEKADEBLOK AS AN URBAN MACHINE

*the Urban Theatre*



Column-free span of 30m



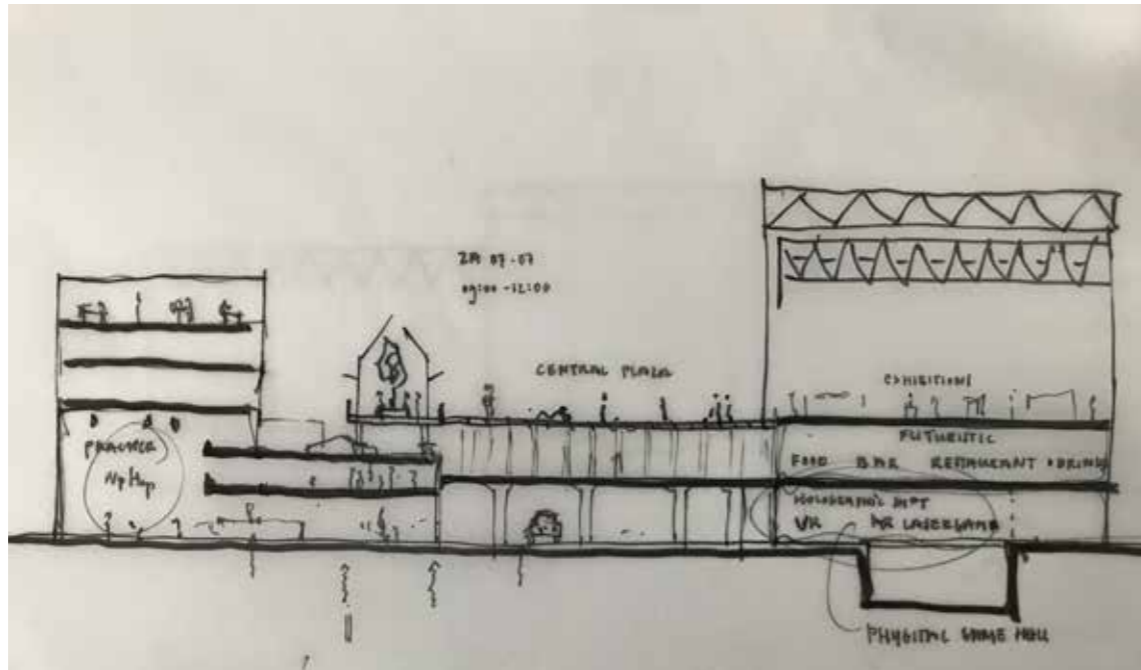
Crane-technology integrated in roofstructures

The Urban Theatre offers a column-free main event space at level +2 of 25m x 30m (extendable to 50m x 30m). The integrated hoisting-systems in the roof-structures offer a variety of possibilities, both logistically as well as for the events. 4 plateaus combined of the telescopic deck are able to lower all the way to the ground level, which is for parking and logistics. The dimensions are 5m x 5m ( 2 parkingspots).

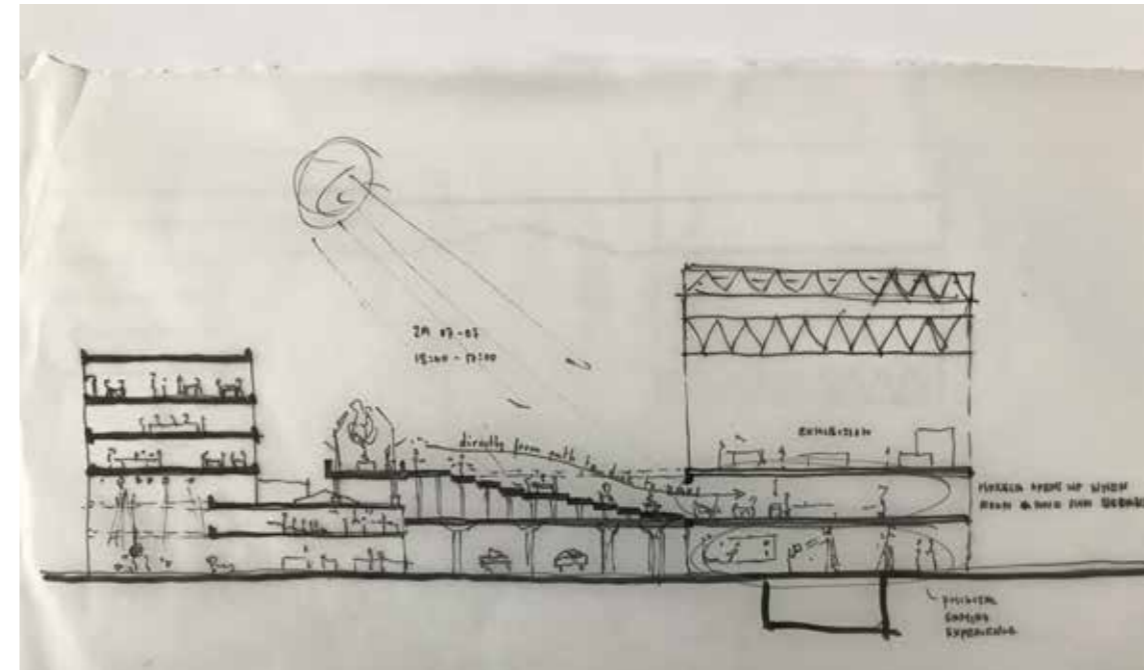
# SCHIEKADEBLOK AS AN URBAN MACHINE

*thematic sections showing narrative of the different configurations of SKB during a day*

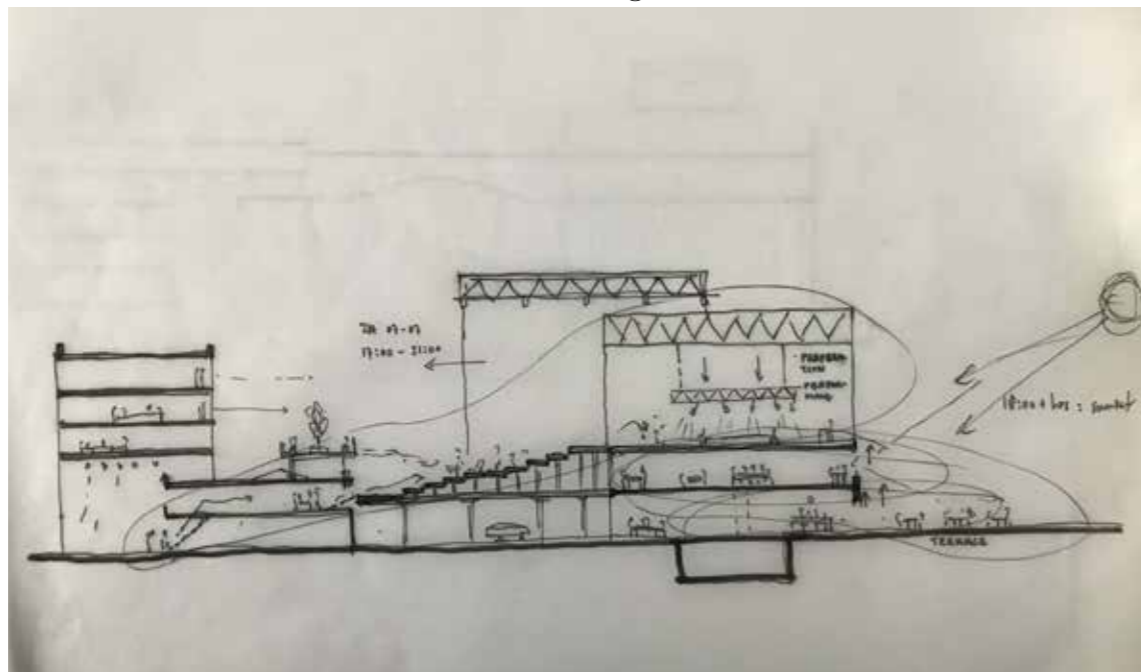
Dayshift narrative of the Urban Theatre



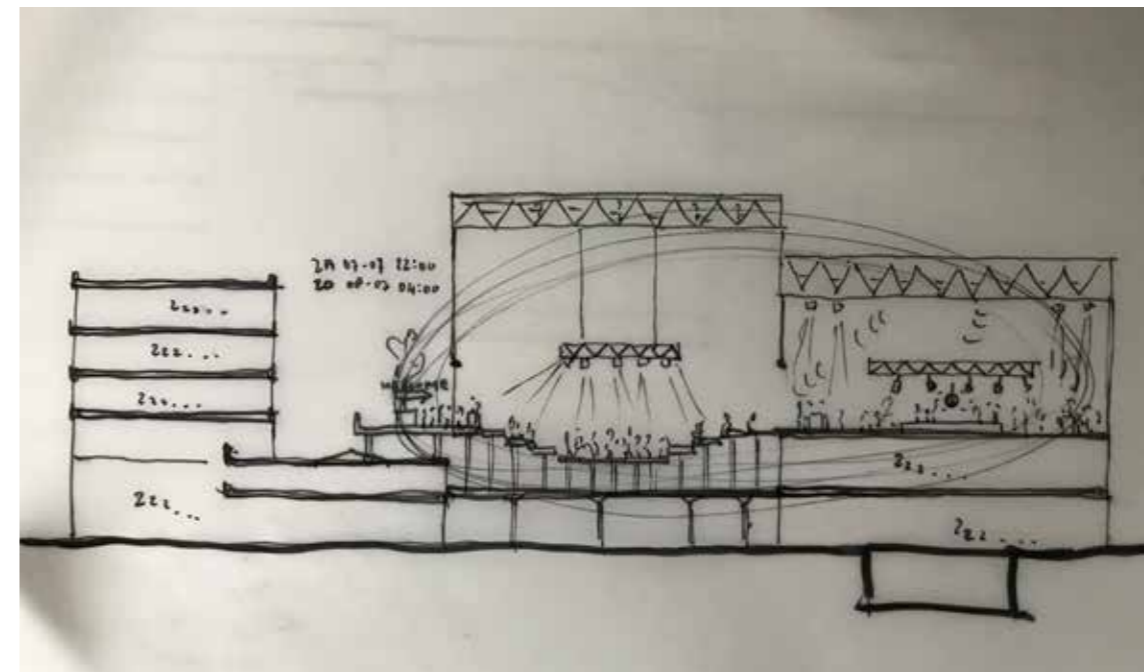
morning



noon



evening

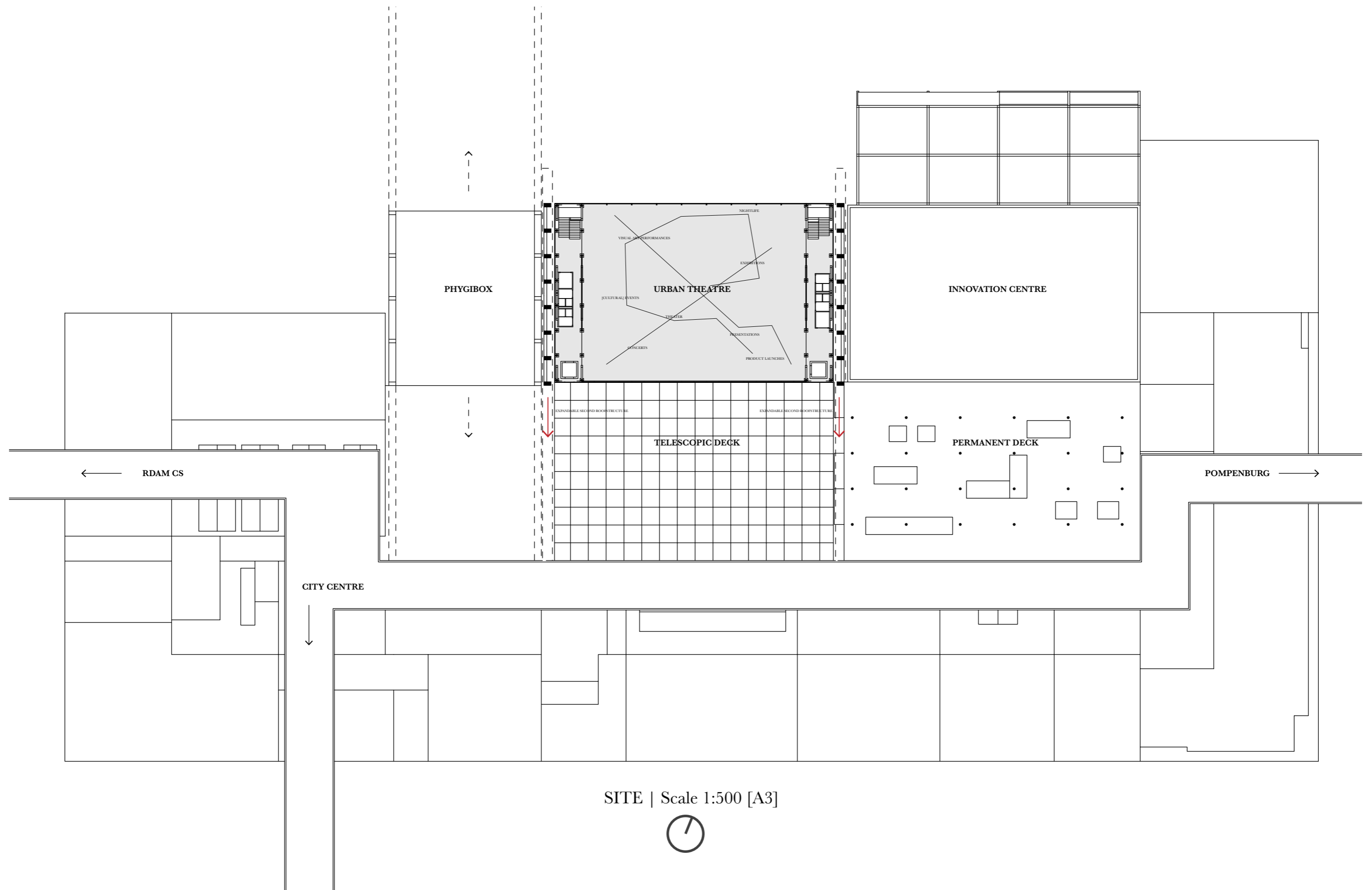


night



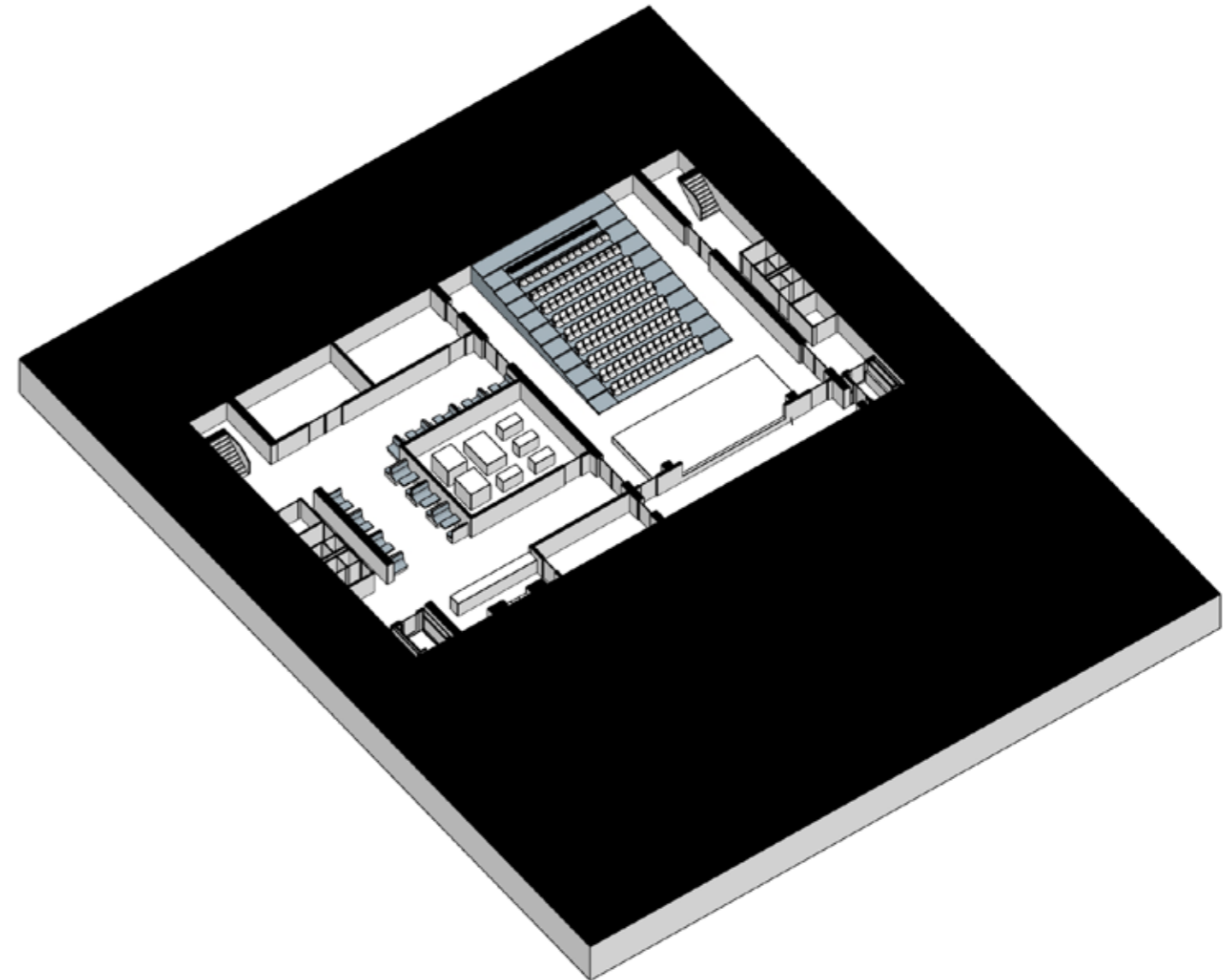
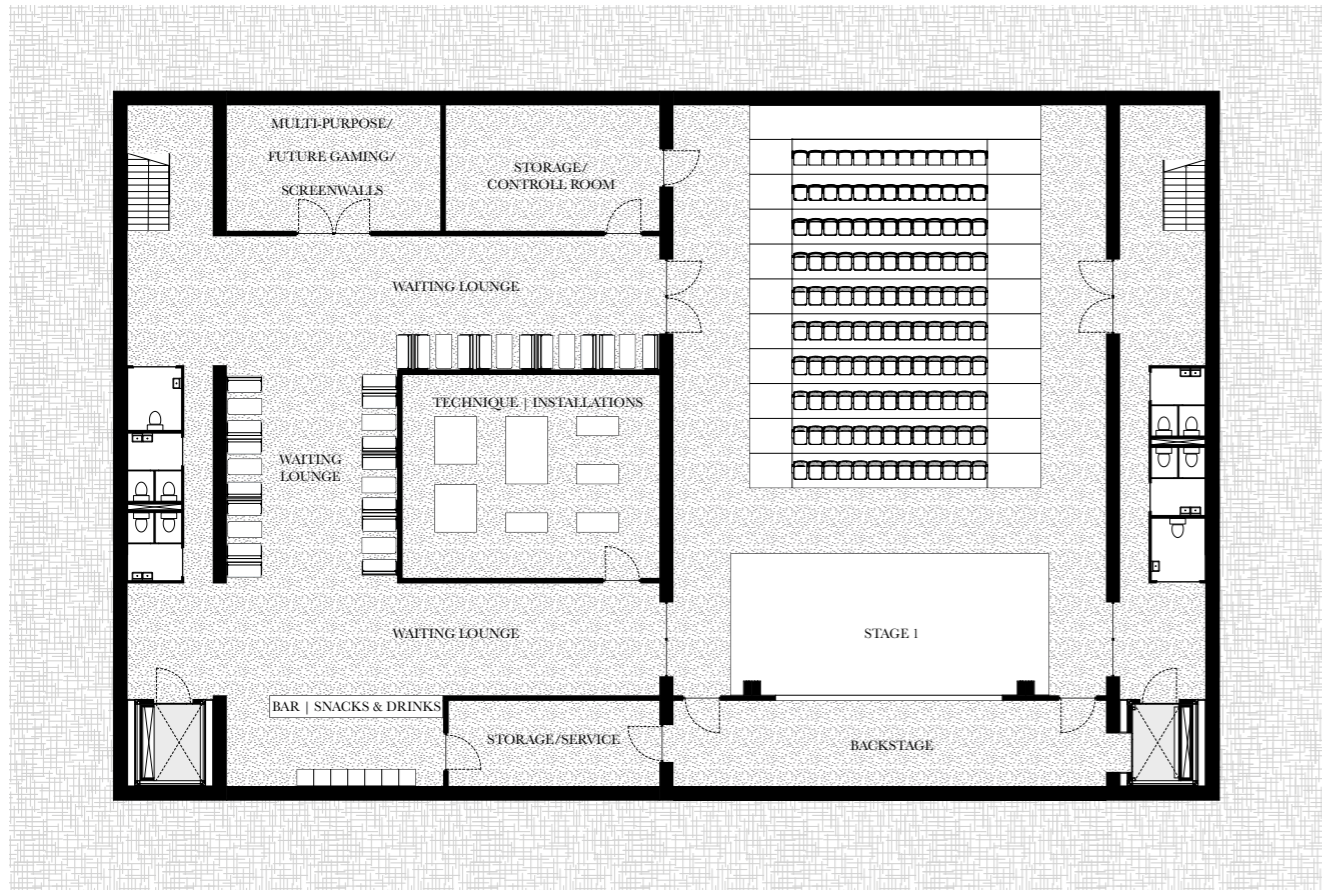
# SCHIEKADEBLOK AS AN URBAN MACHINE

*and the Urban Theatre*



# THE URBAN THEATRE

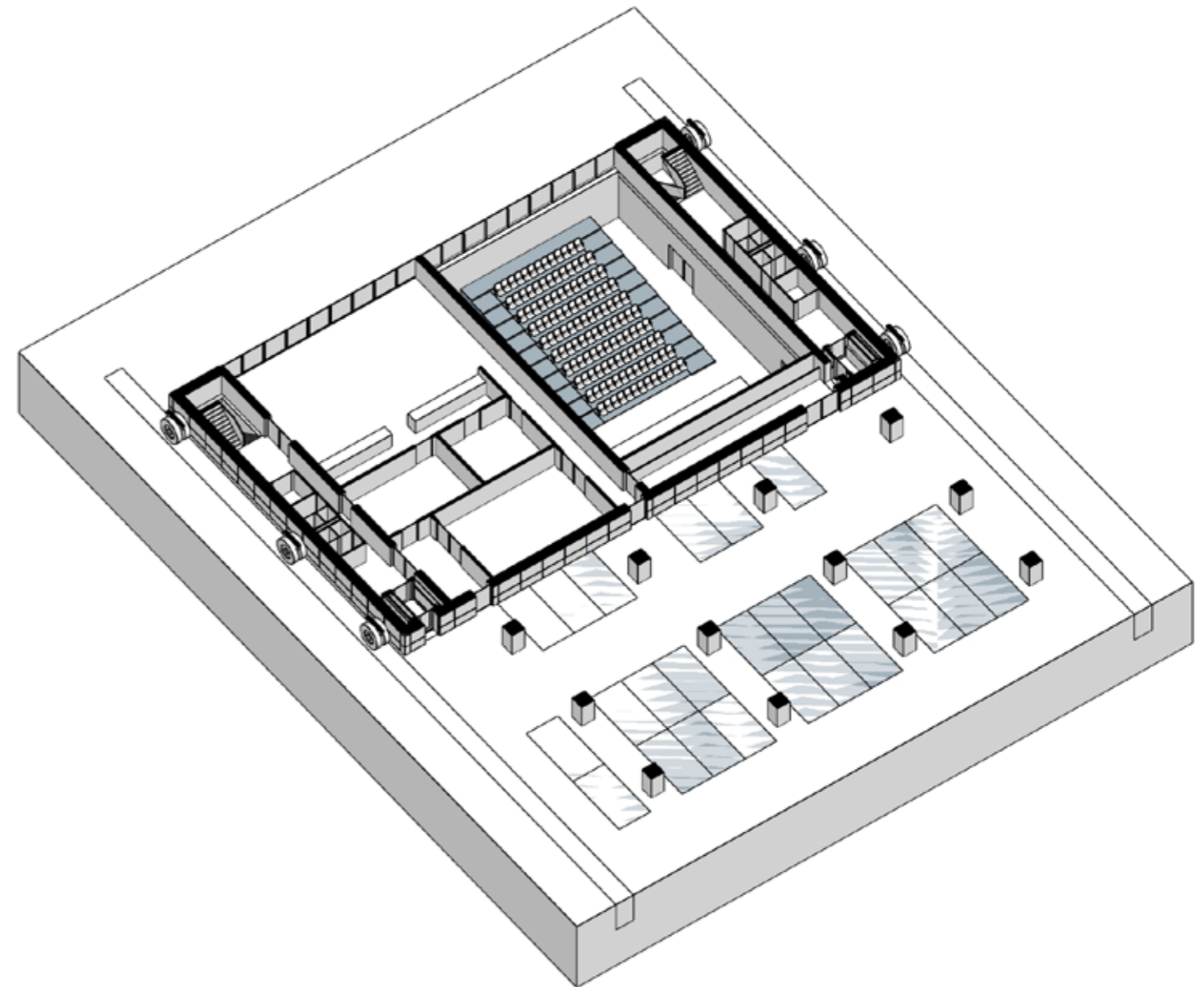
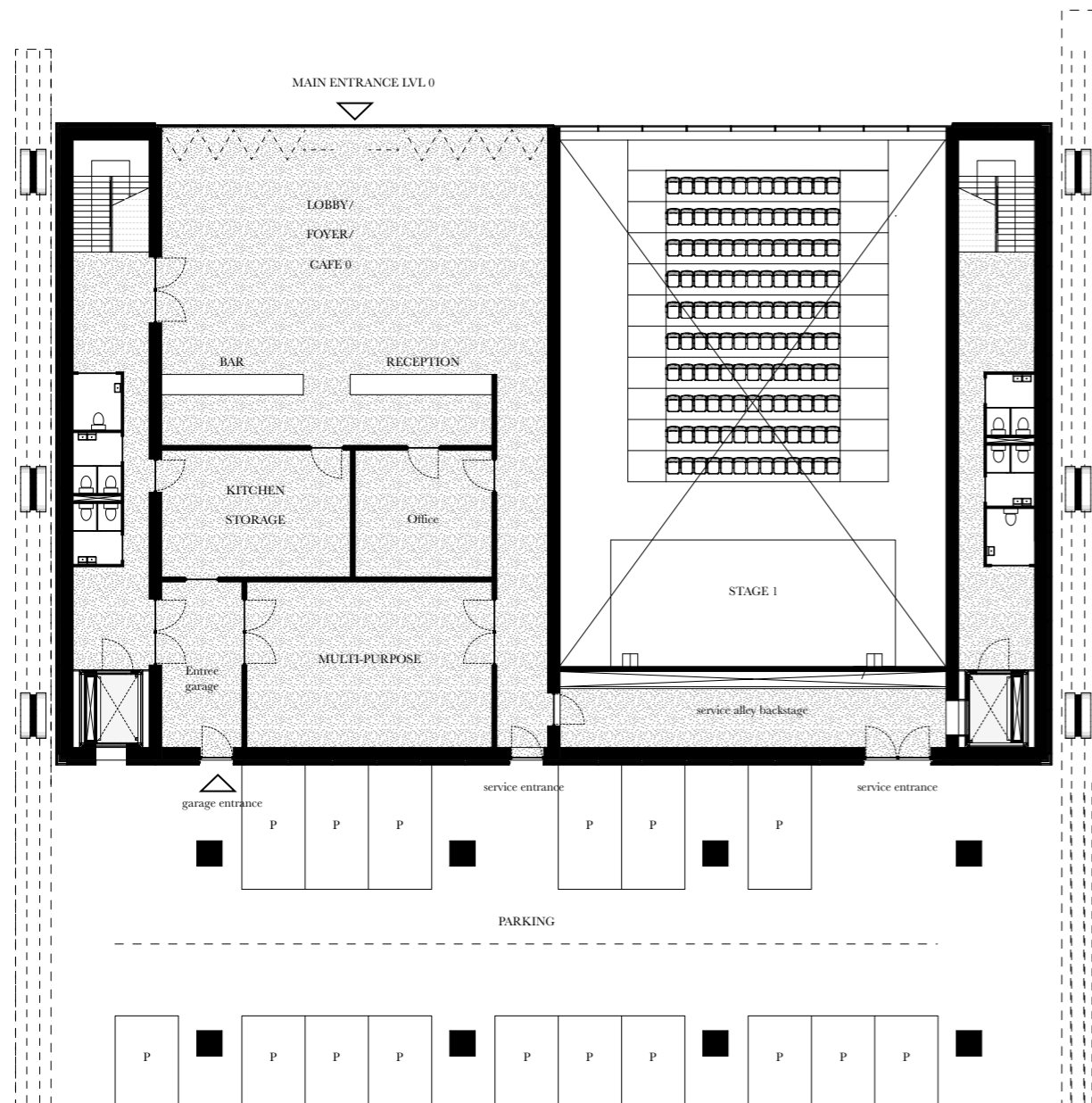
*floorplan level -1*



Stage 1 | AI/AR/VR Gaming | Lounge | Snacks & Drinks | Storage | Control Room | Backstage | Building Installations

# THE URBAN THEATRE

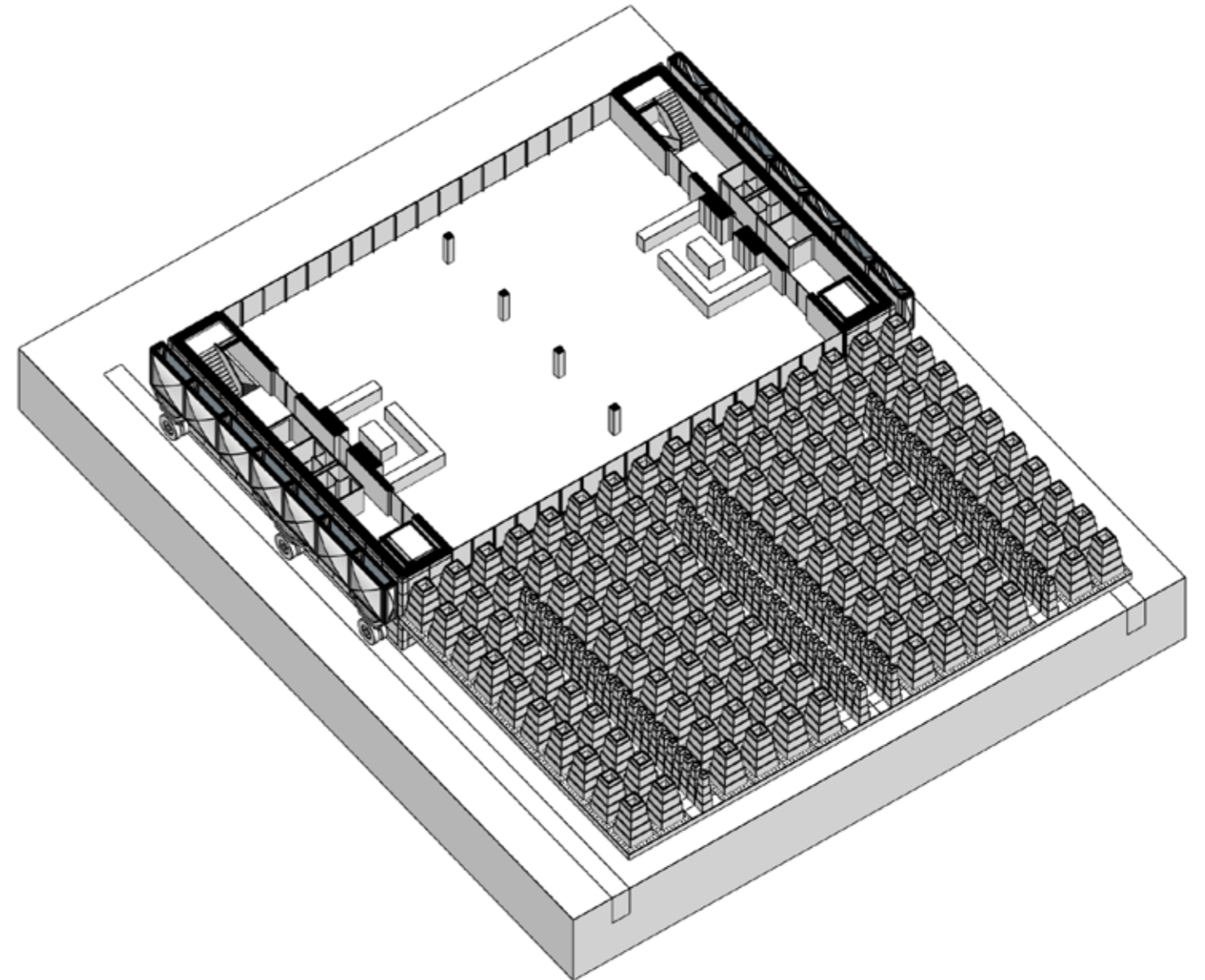
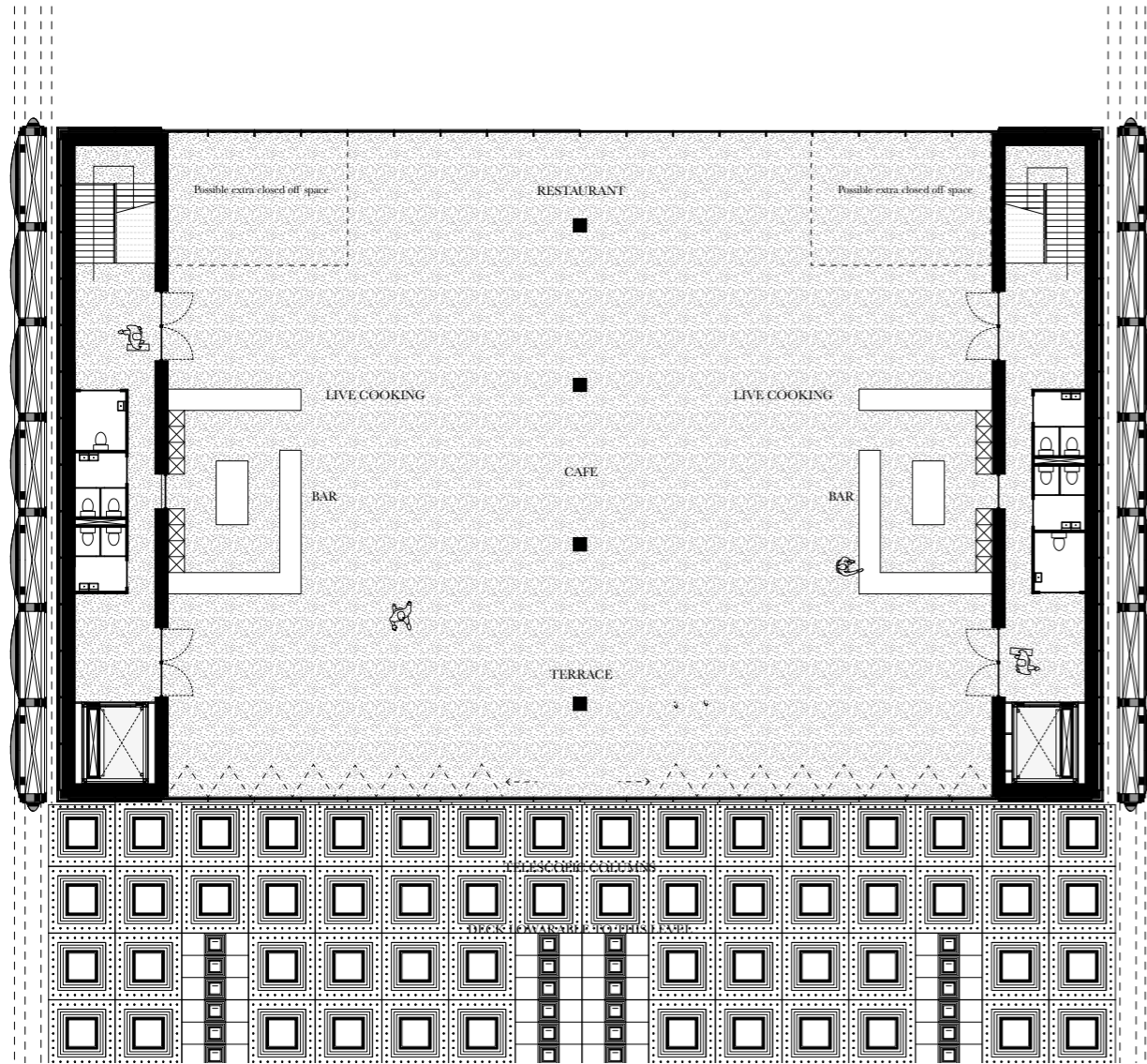
*floorplan ground level*



Stage 1 | Entree Ground Level | Cafe 0 | Foyer | Foldable Glass Wall; Terrace | Bar | Kitchen | Office | Multi-Purpose Space

# THE URBAN THEATRE

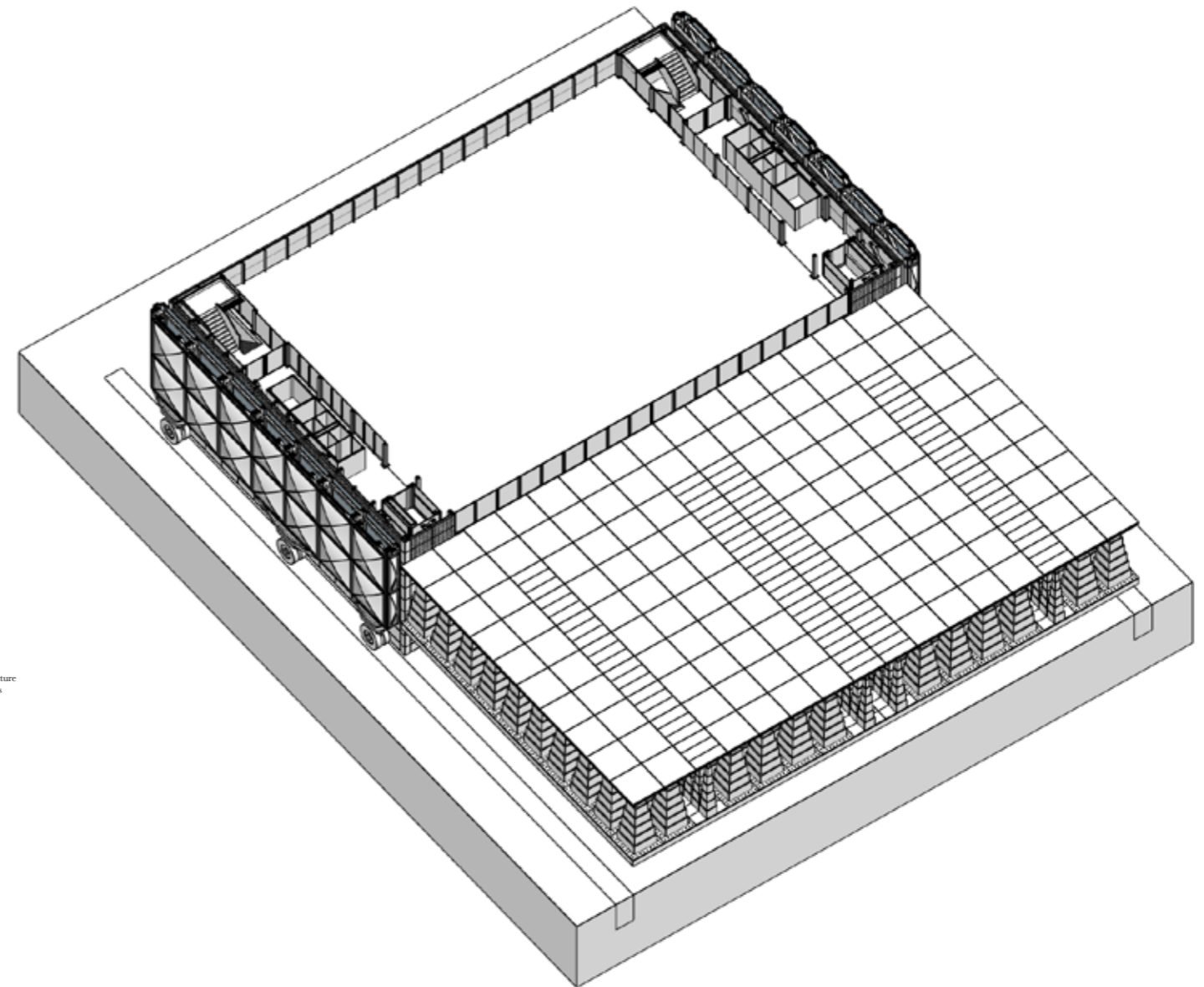
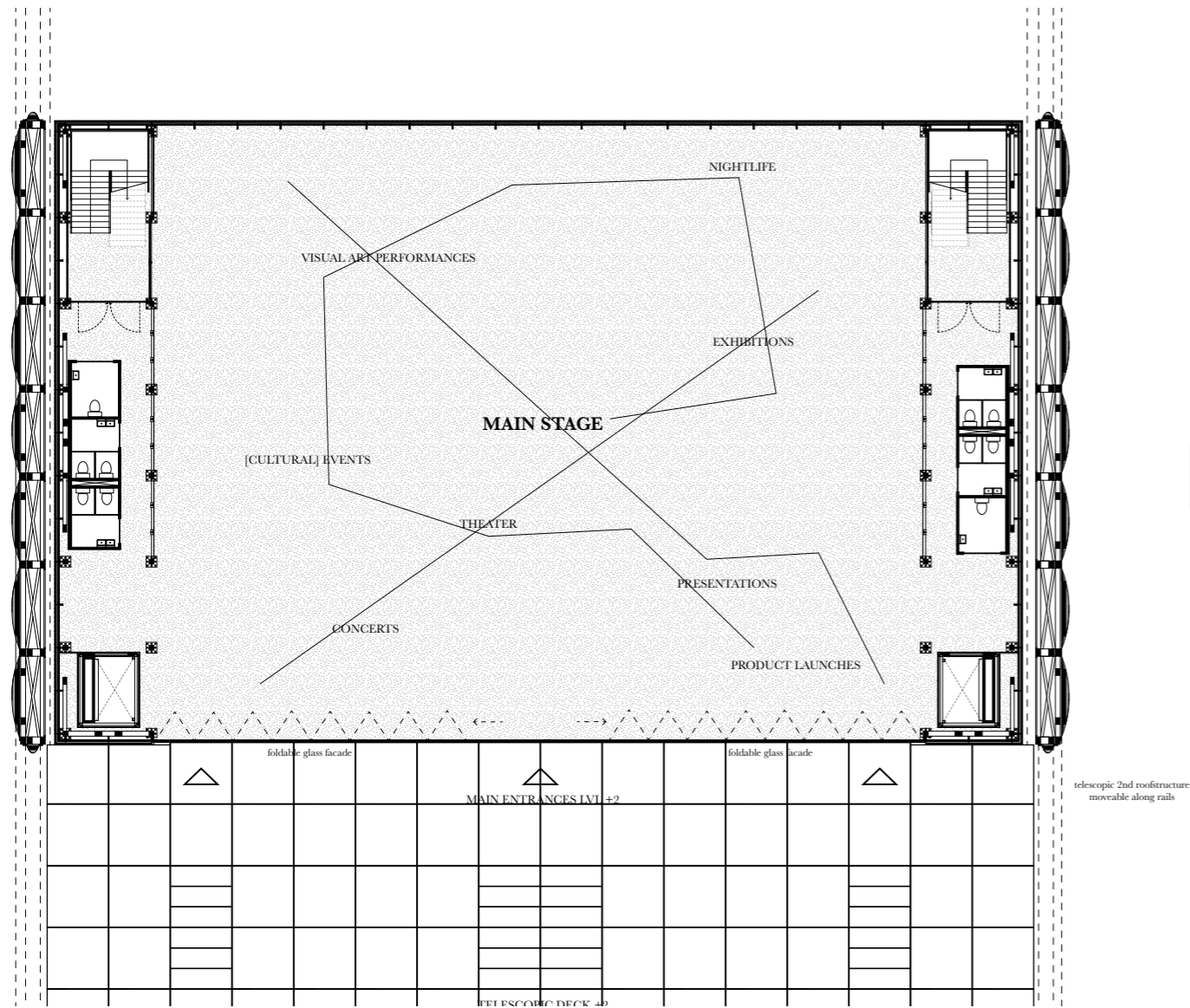
*floorplan level +1*



Restaurant | 'Holographic food' | Cafe | Bar | Live Cooking | Telescopic Deck | Foldable Glass Wall;  
Terrace to deck +1 (when lowered)

# THE URBAN THEATRE

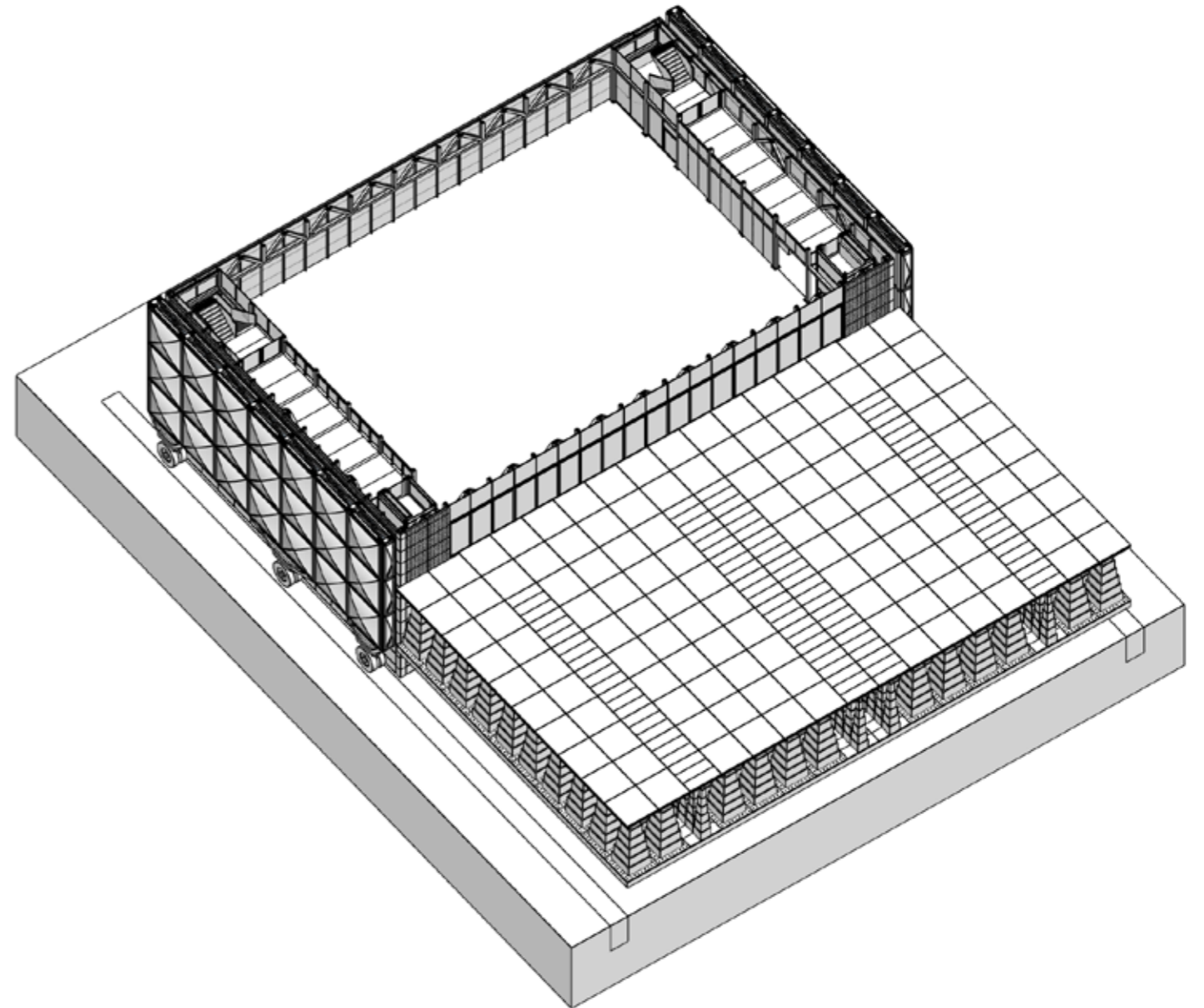
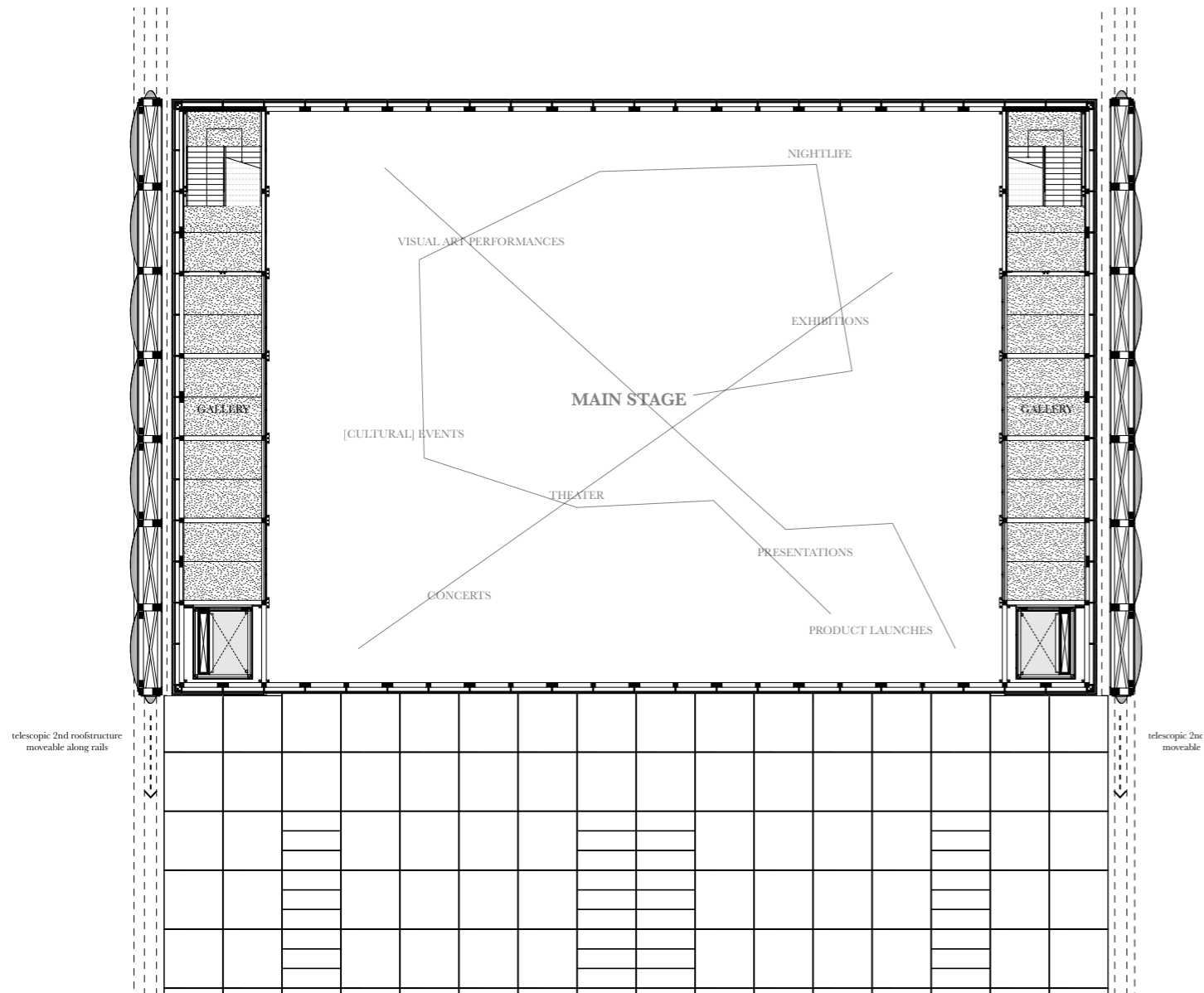
*floorplan level +2 (deck-level)*



Main flexibel space column-free 30m x 25m | [Cultural] Events | Visual Art Performances | Concerts | Theater | Exhibitions | Presentations | Product Launches (<-->Innovation Centre) | Nightlife of Rdam

# THE URBAN THEATRE

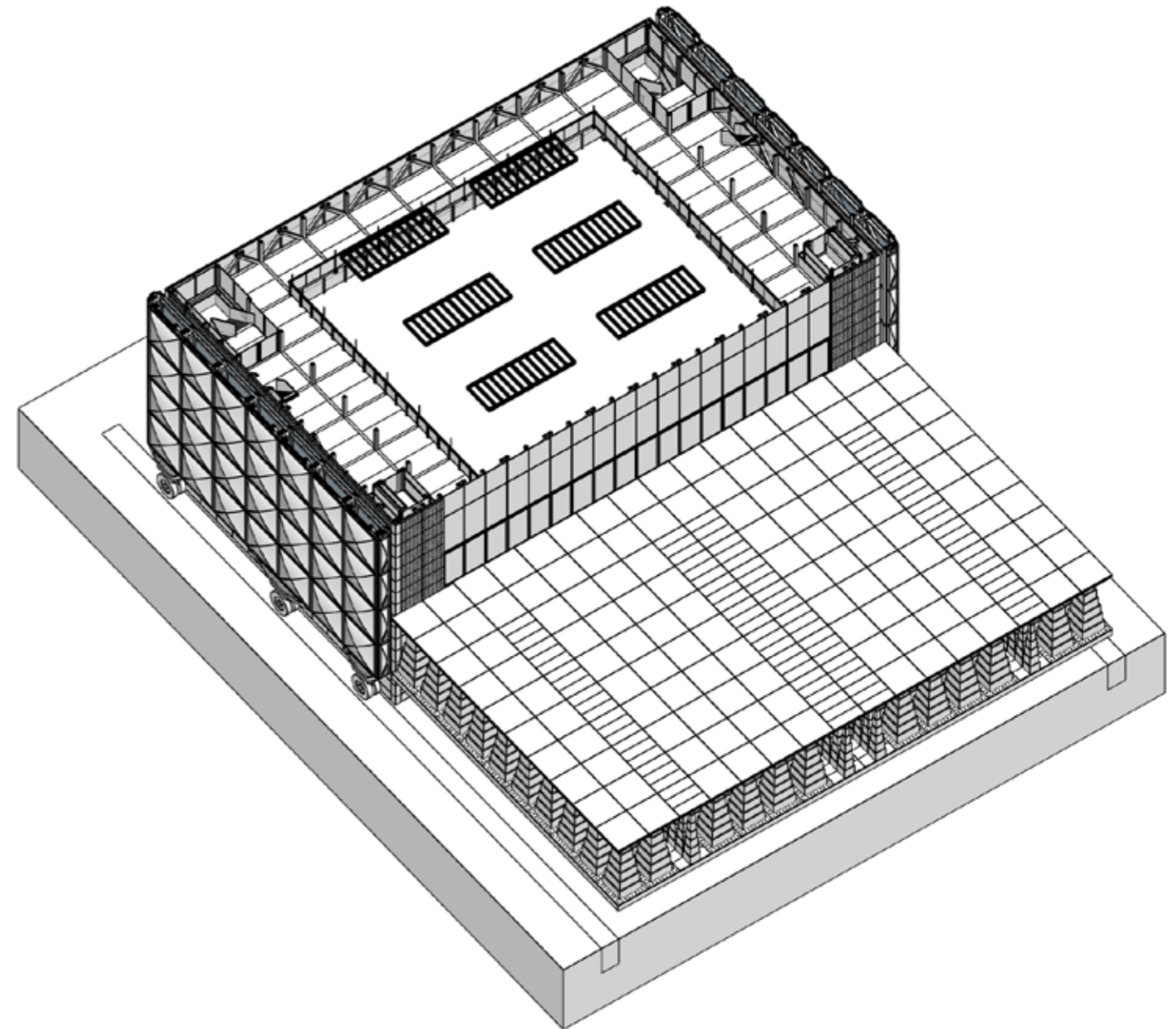
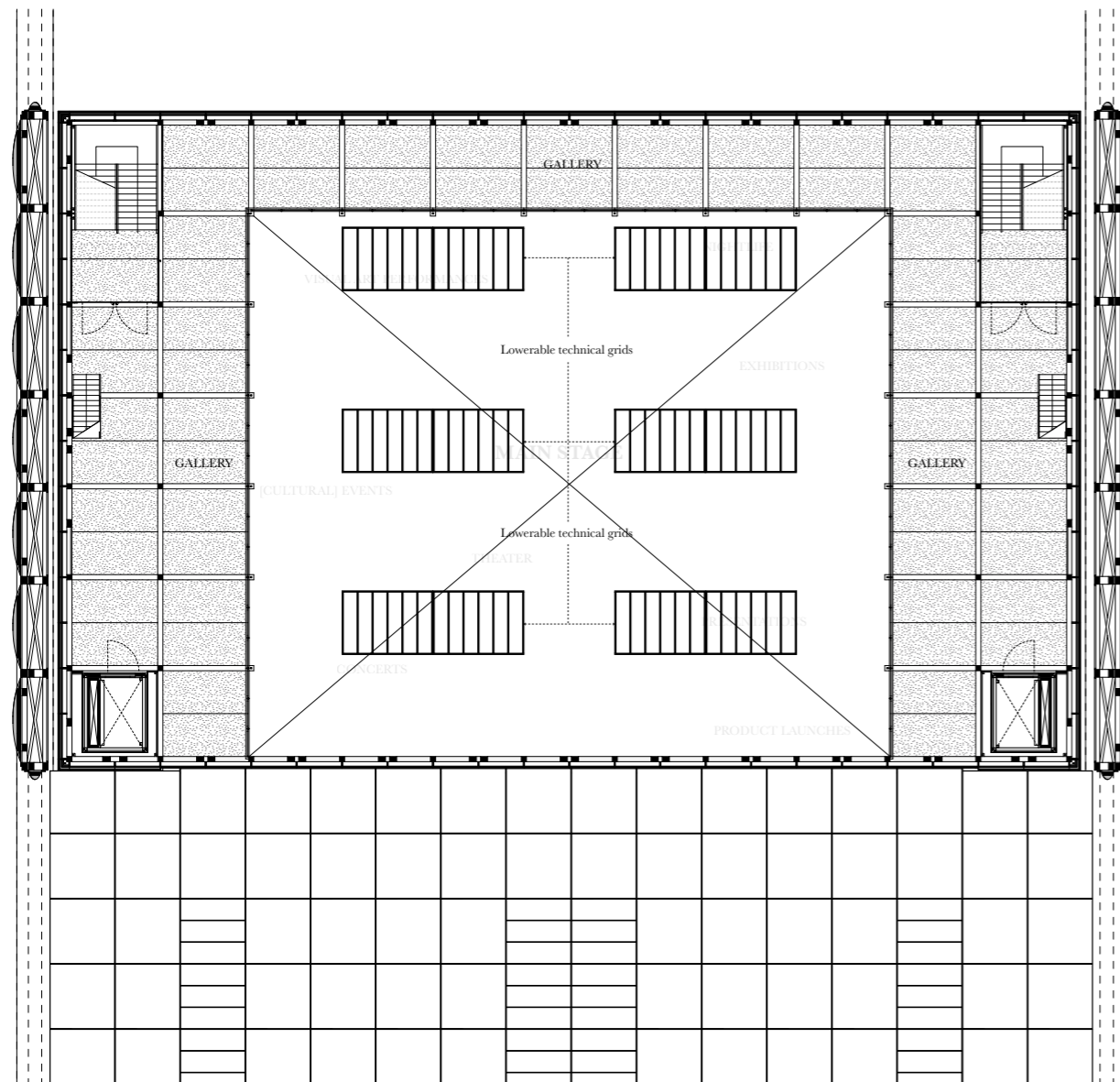
*floorplan level +3*



Galleries overlooking Main Stage

# THE URBAN THEATRE

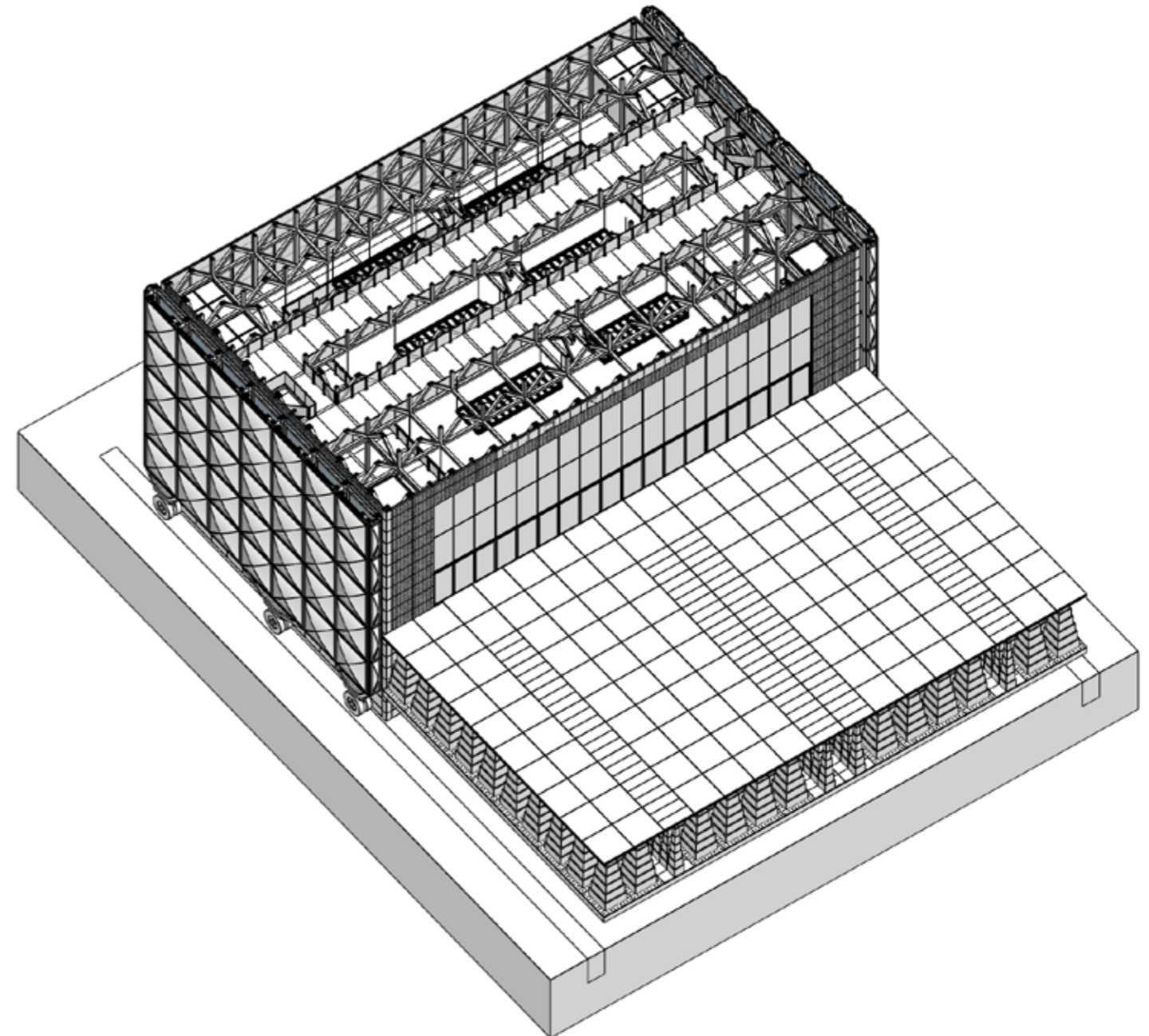
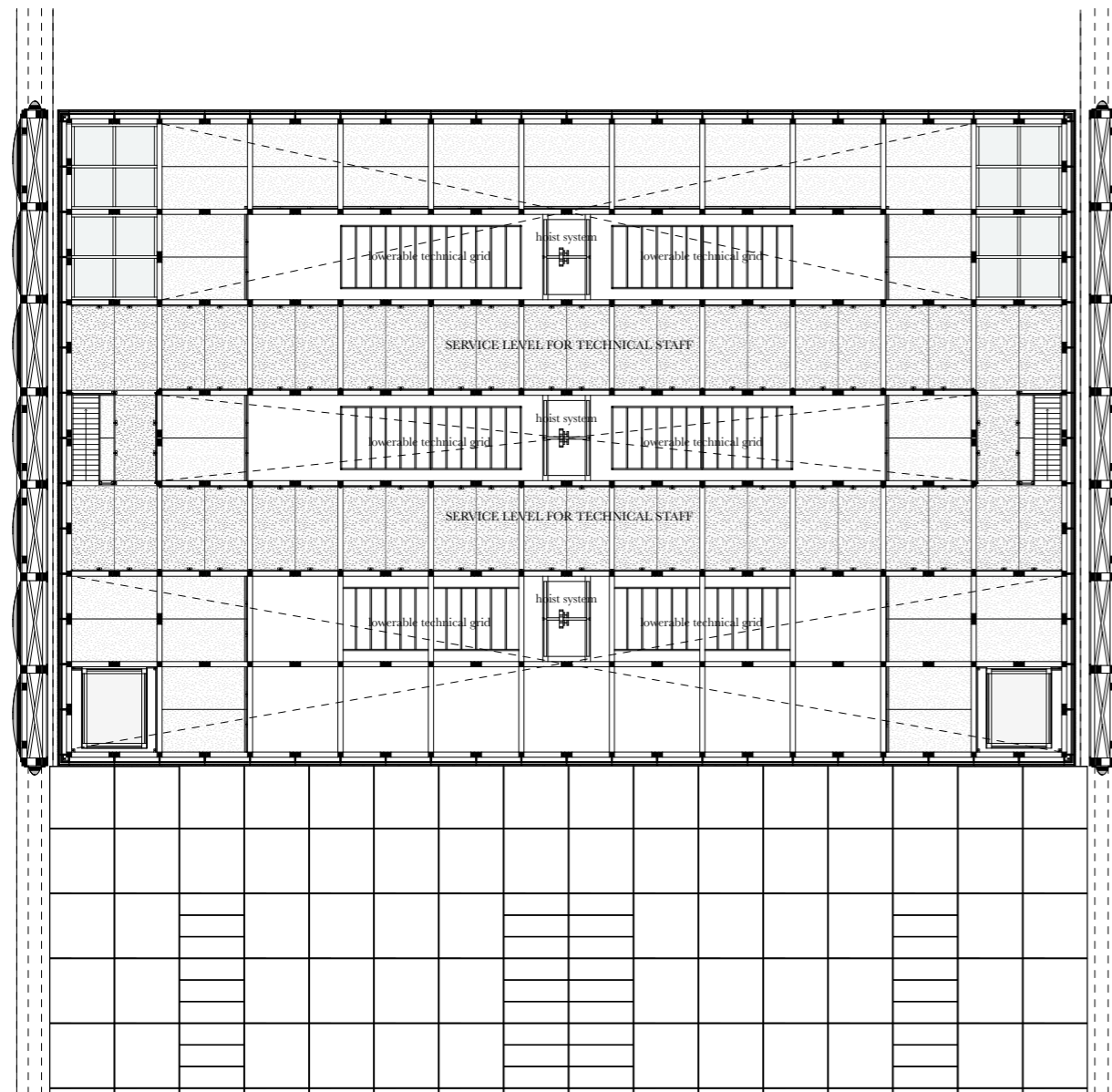
*floorplan level +4*



Galleries overlooking Main Stage

# THE URBAN THEATRE

*floorplan level +5*

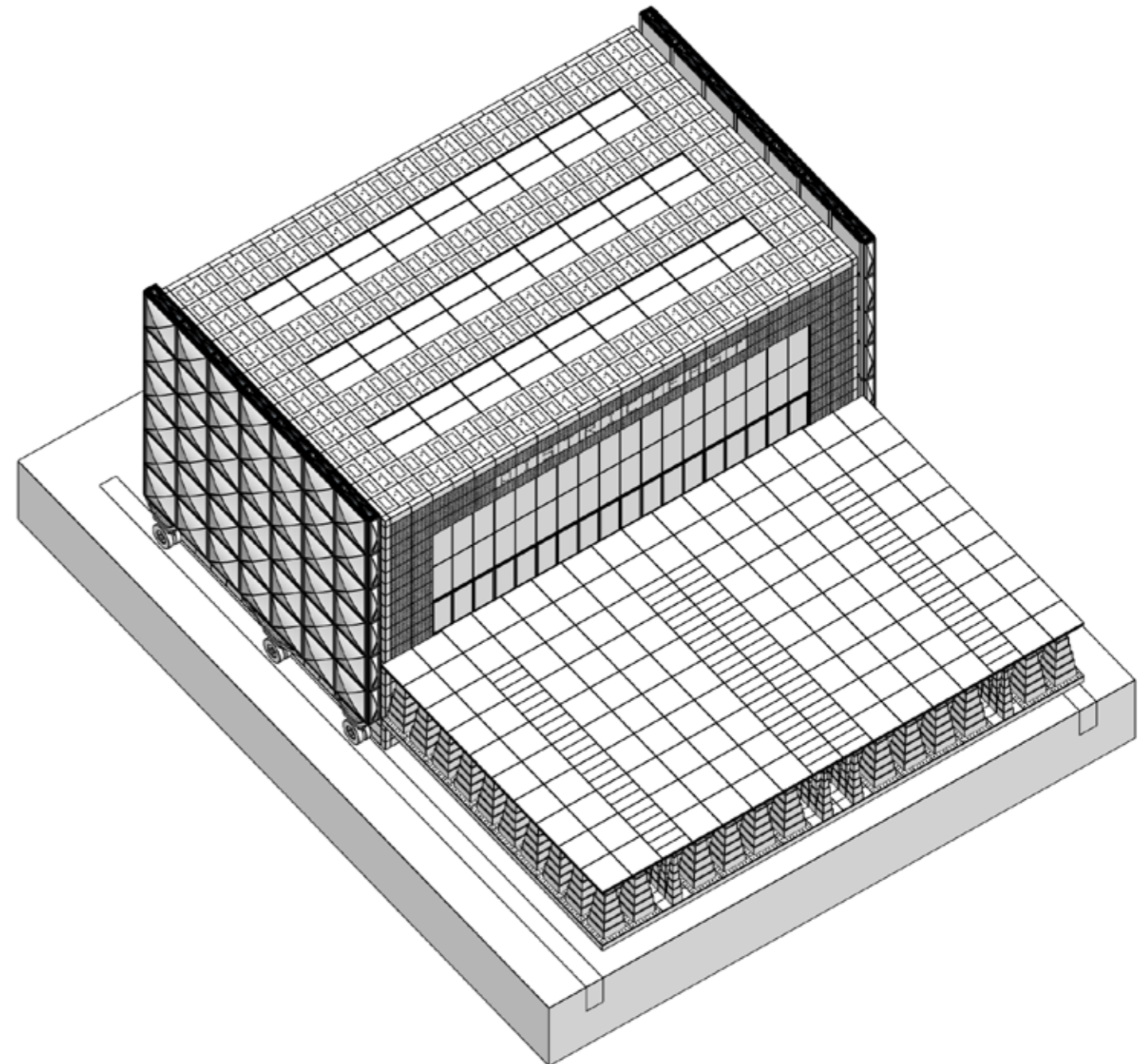
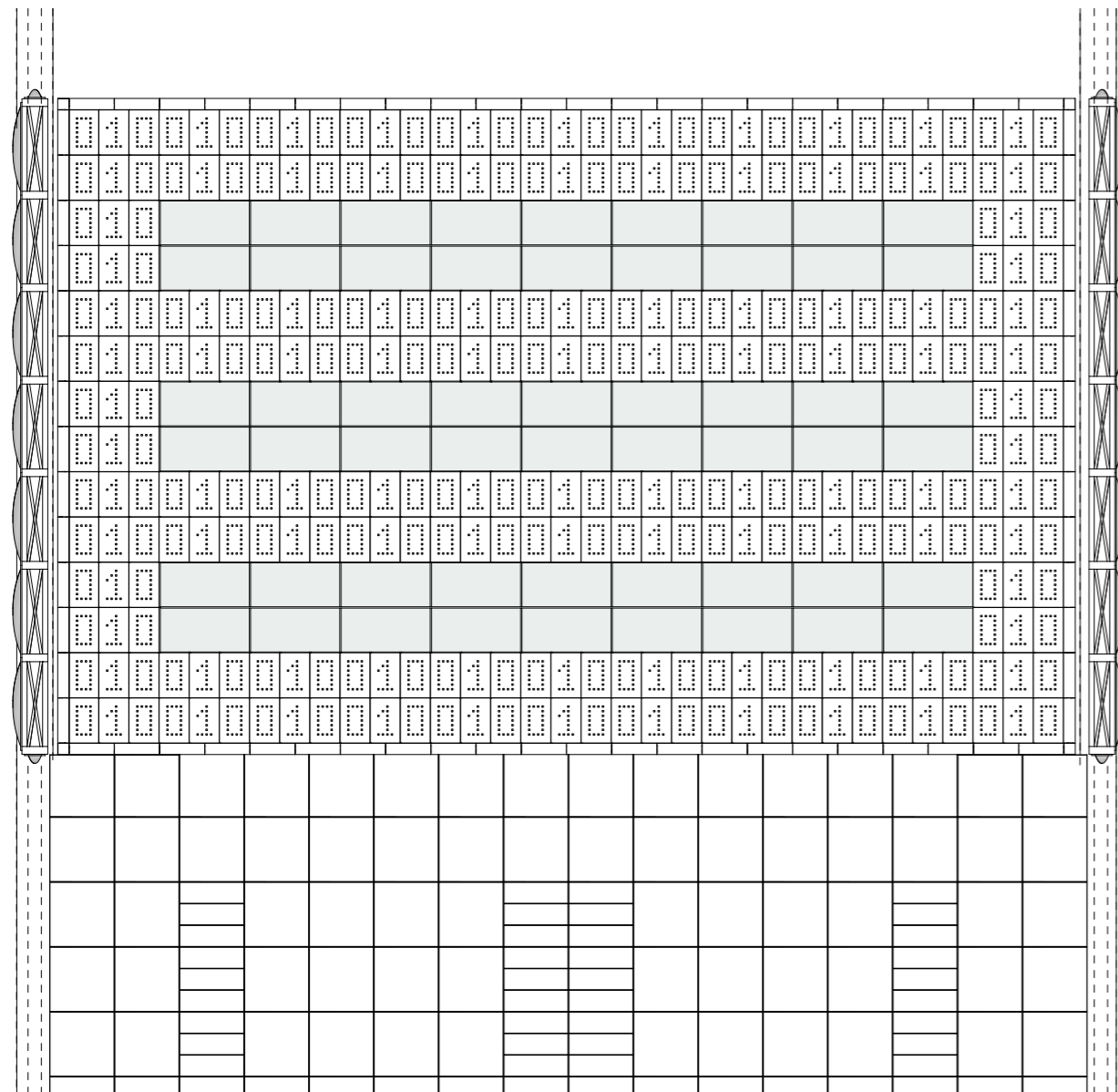


Accessible for Technical Staff. The design of the truss-structure leaves 3 'aisles open'; creating space for the technical grids that can rise or lower and for natural daylighting through the roof. The service floor for technical staff is in between 2 roof trusses.



# THE URBAN THEATRE

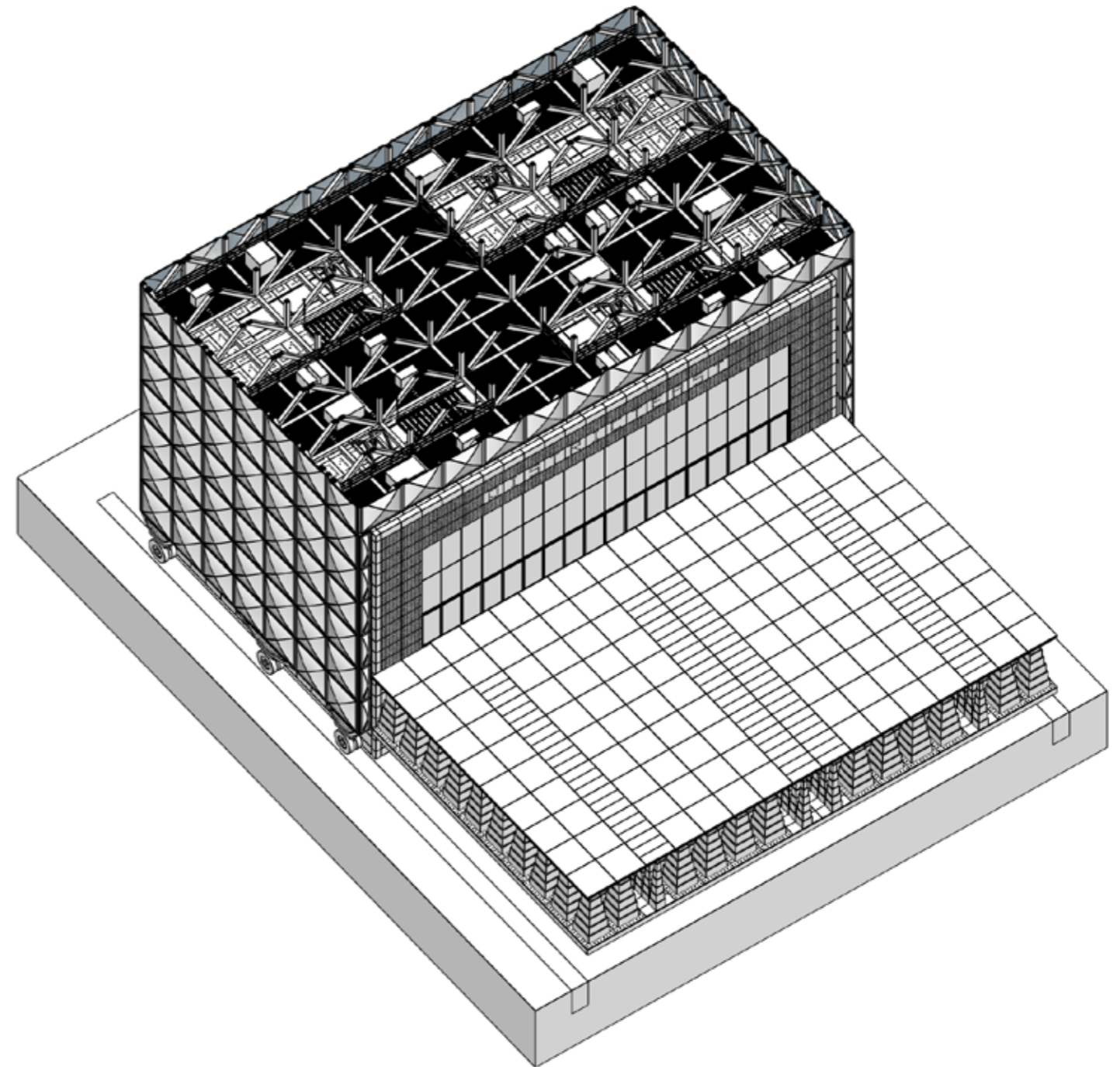
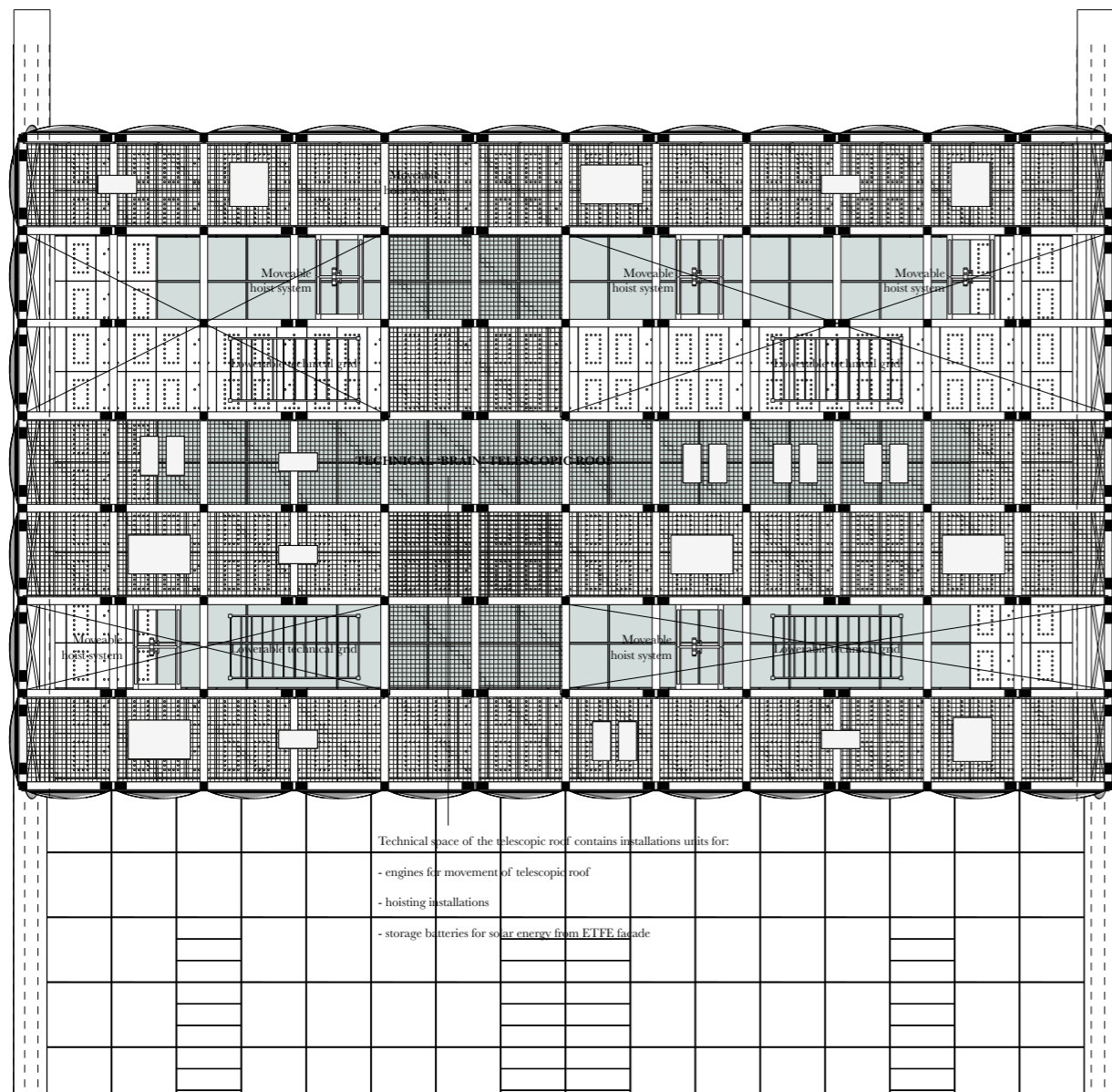
*level +6 | permanent roof*



With a little eye-wink to the city of Rotterdam...

# THE URBAN THEATRE

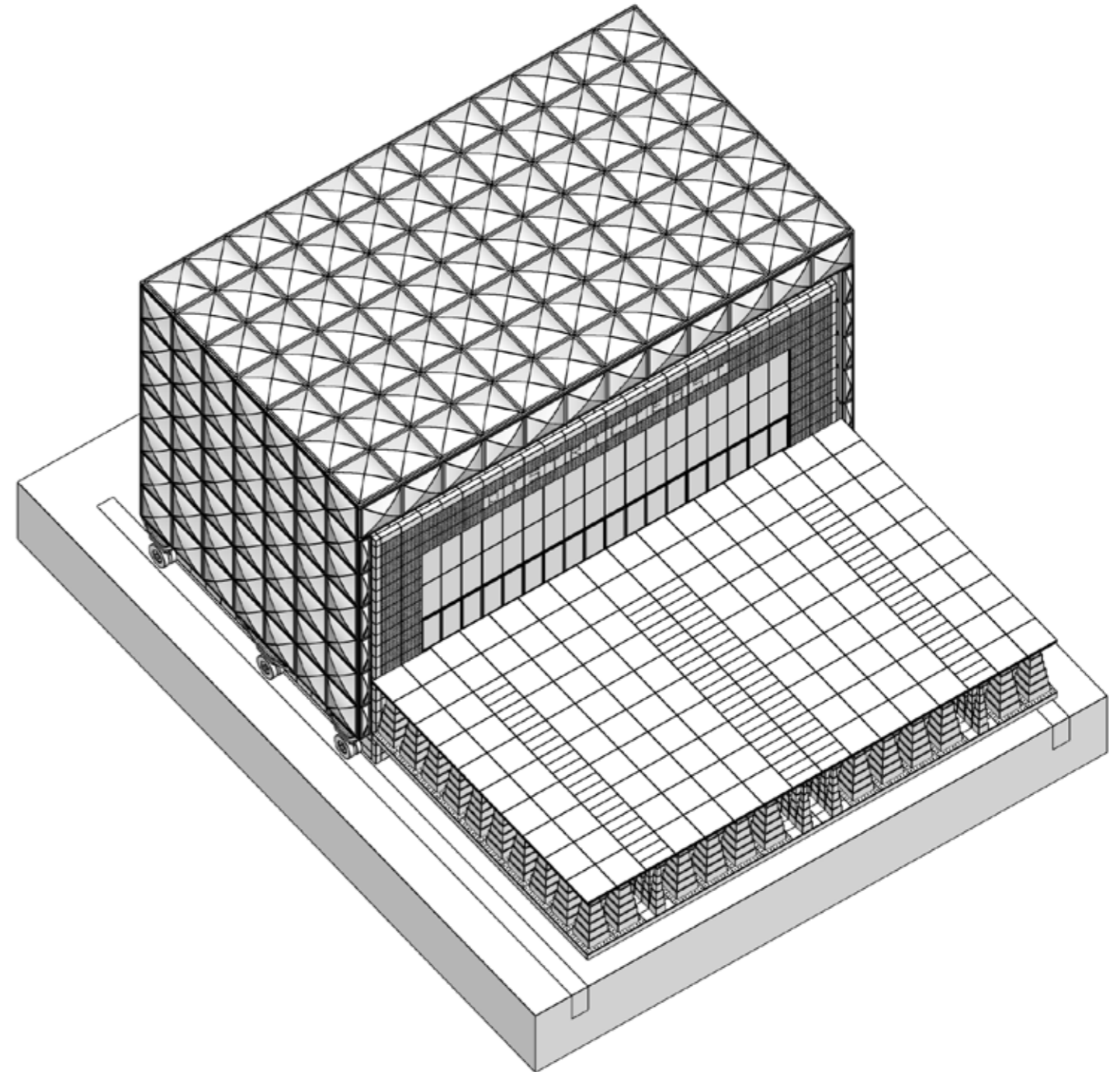
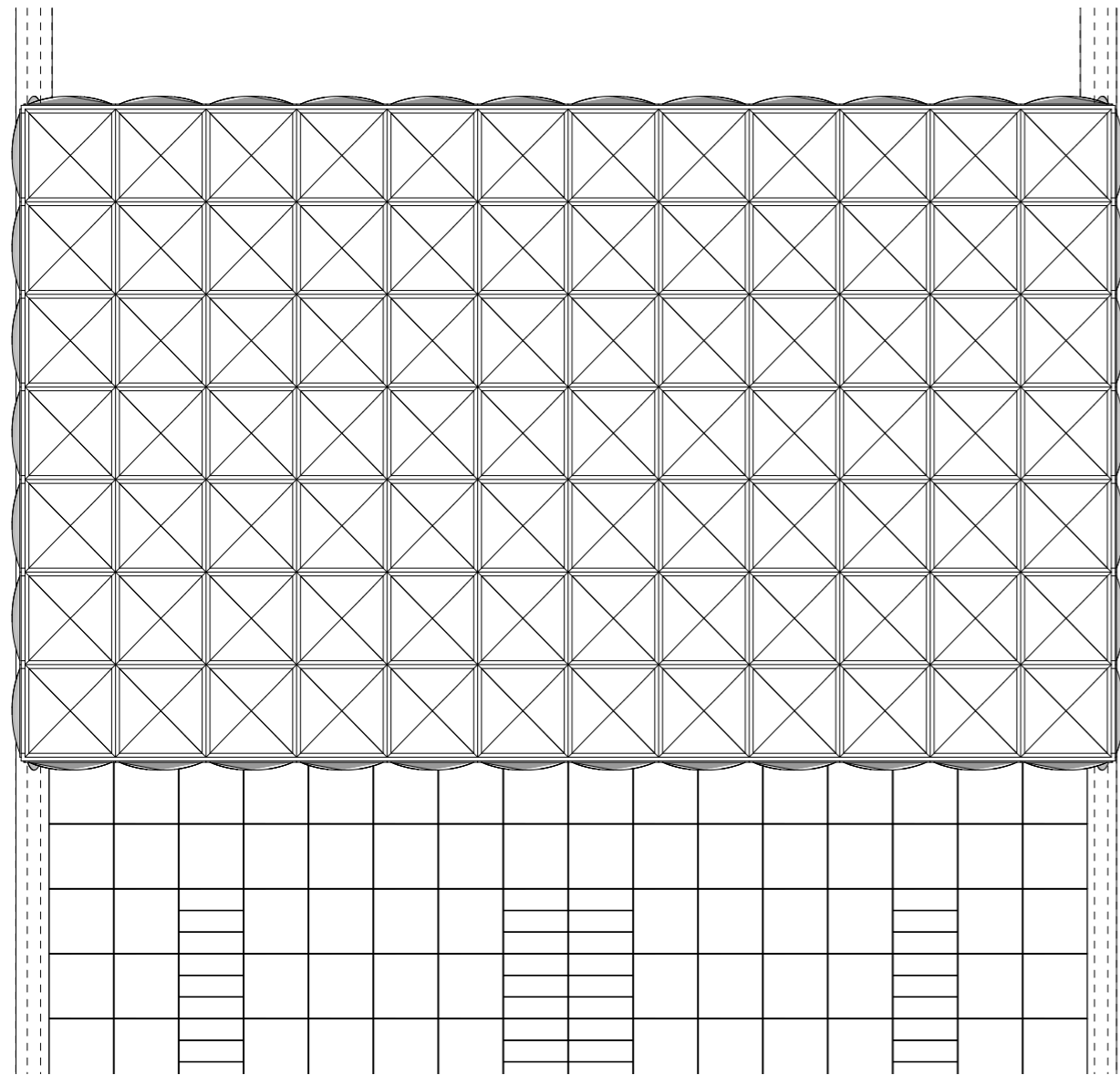
*level +7 | technical space telescopic roof*



The truss-structure of the telescopic roof creates space for the 'technical' brains of the roof, consisting out of installations for the driving mechanism of the telescopic systems, storage batteries for the solar energy that is caught by the ETFE facade and installations equipped with Artificial Intelligence that operates this roof.

# THE URBAN THEATRE

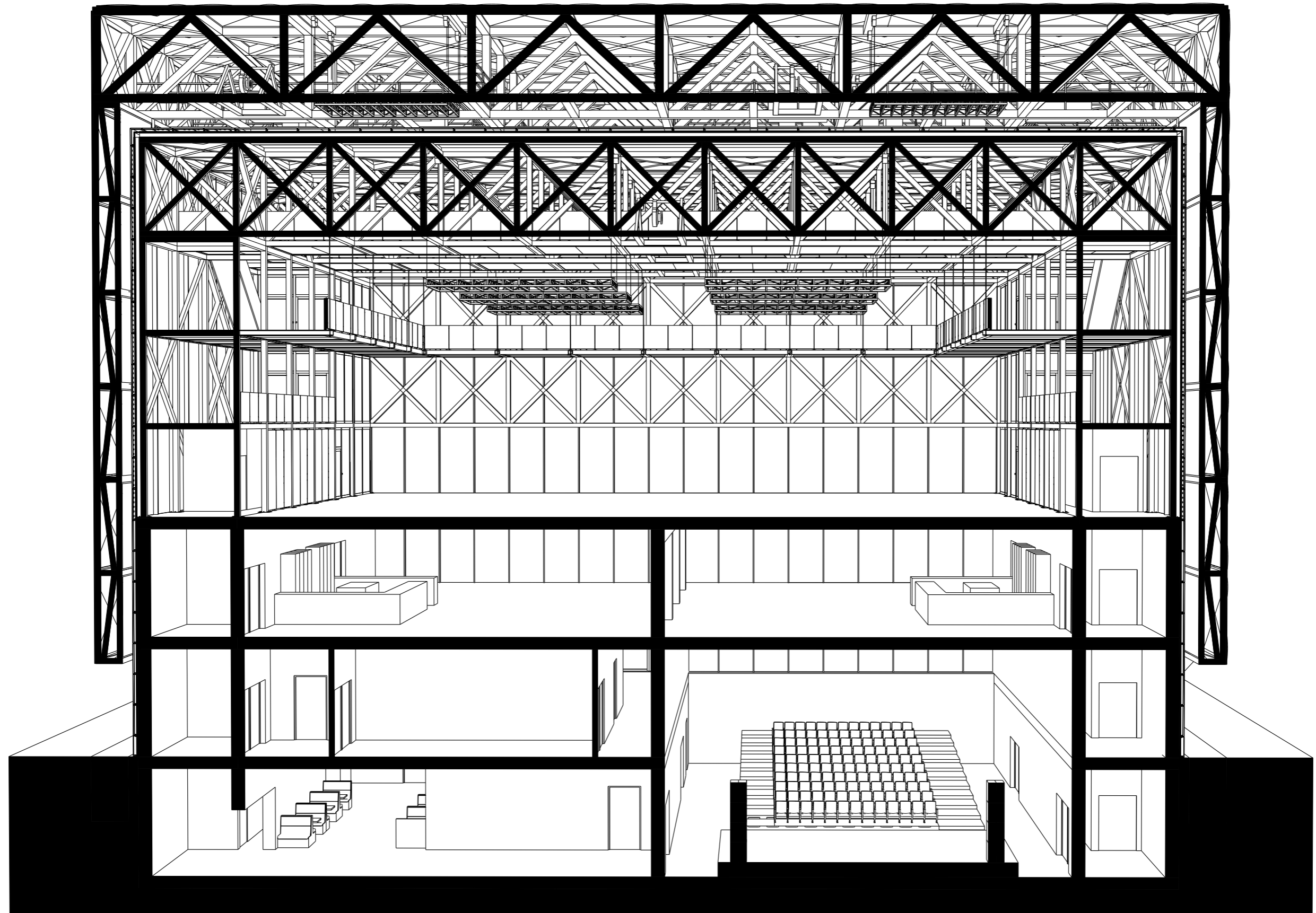
*level +8 | top view telescopic ETFE roof facade*



The Telescopic Roof is cladded with an ETFE-facade.

# THE URBAN THEATRE

*3D section showing the different spaces*



# URBAN THEATRE

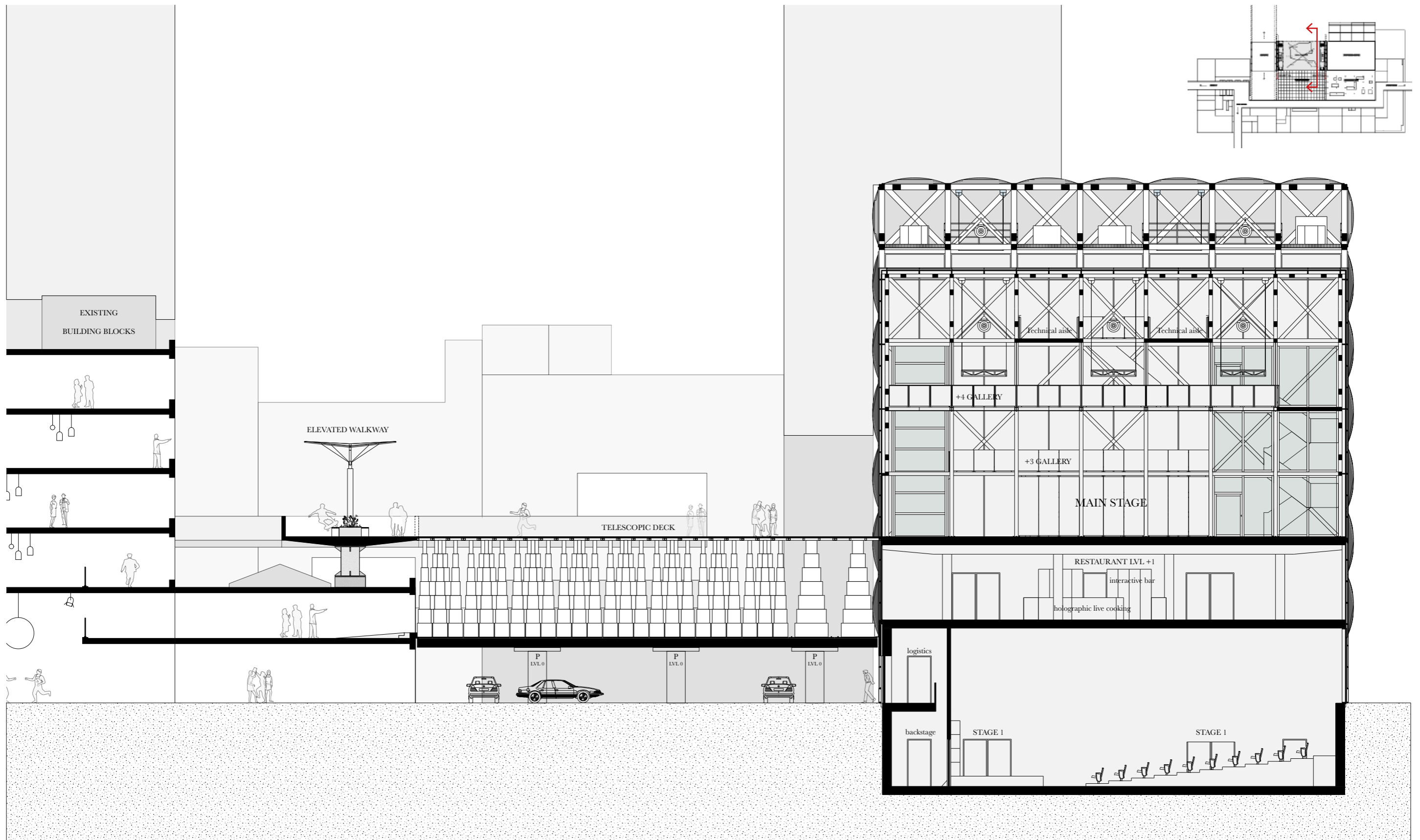
*initial impression of what*



*The Urban Theatre; adaptable to multiple configurations, able to respond to a wide variety of events, activities and occasions.*

# THE URBAN THEATRE

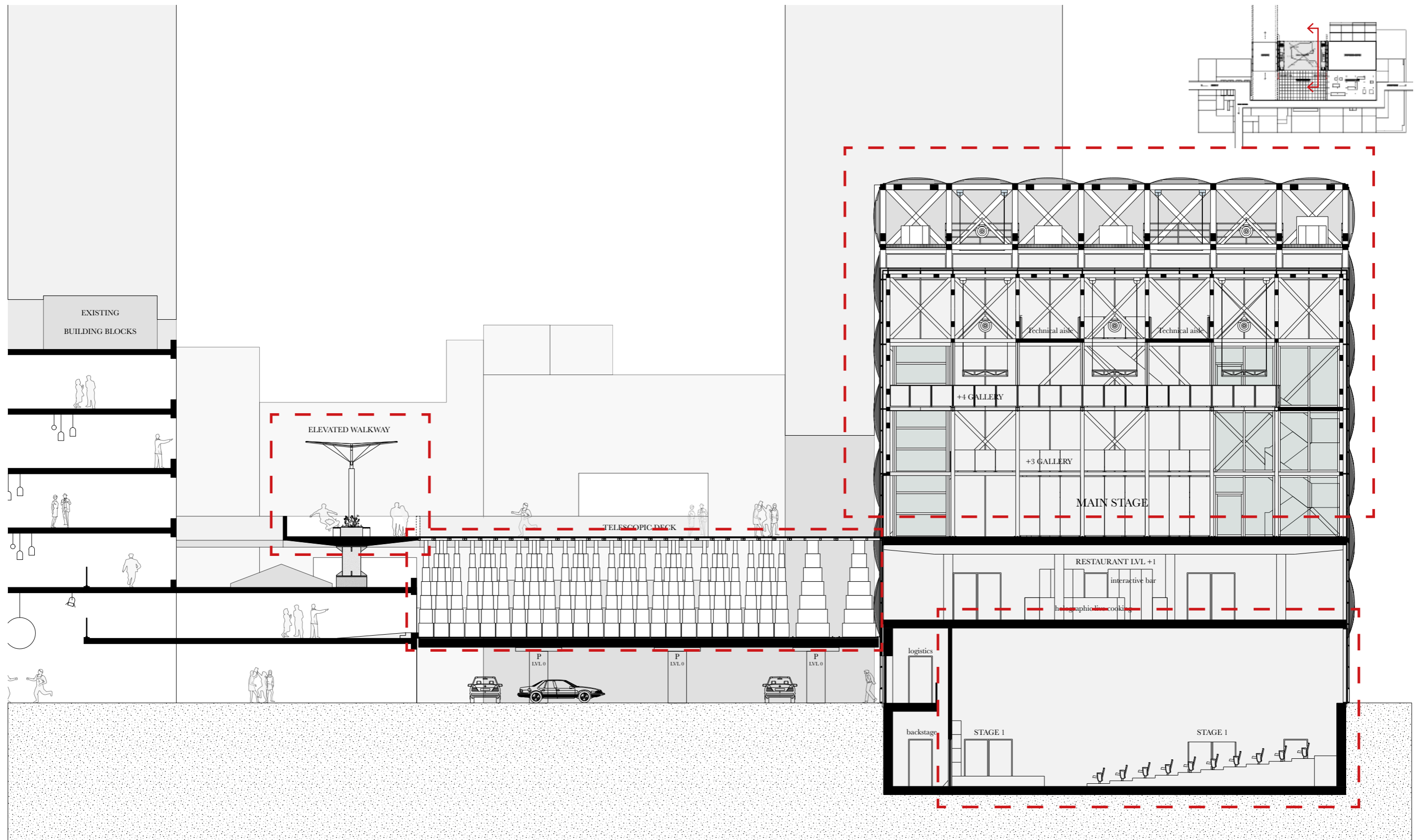
*section showing basic configuration of the UT*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

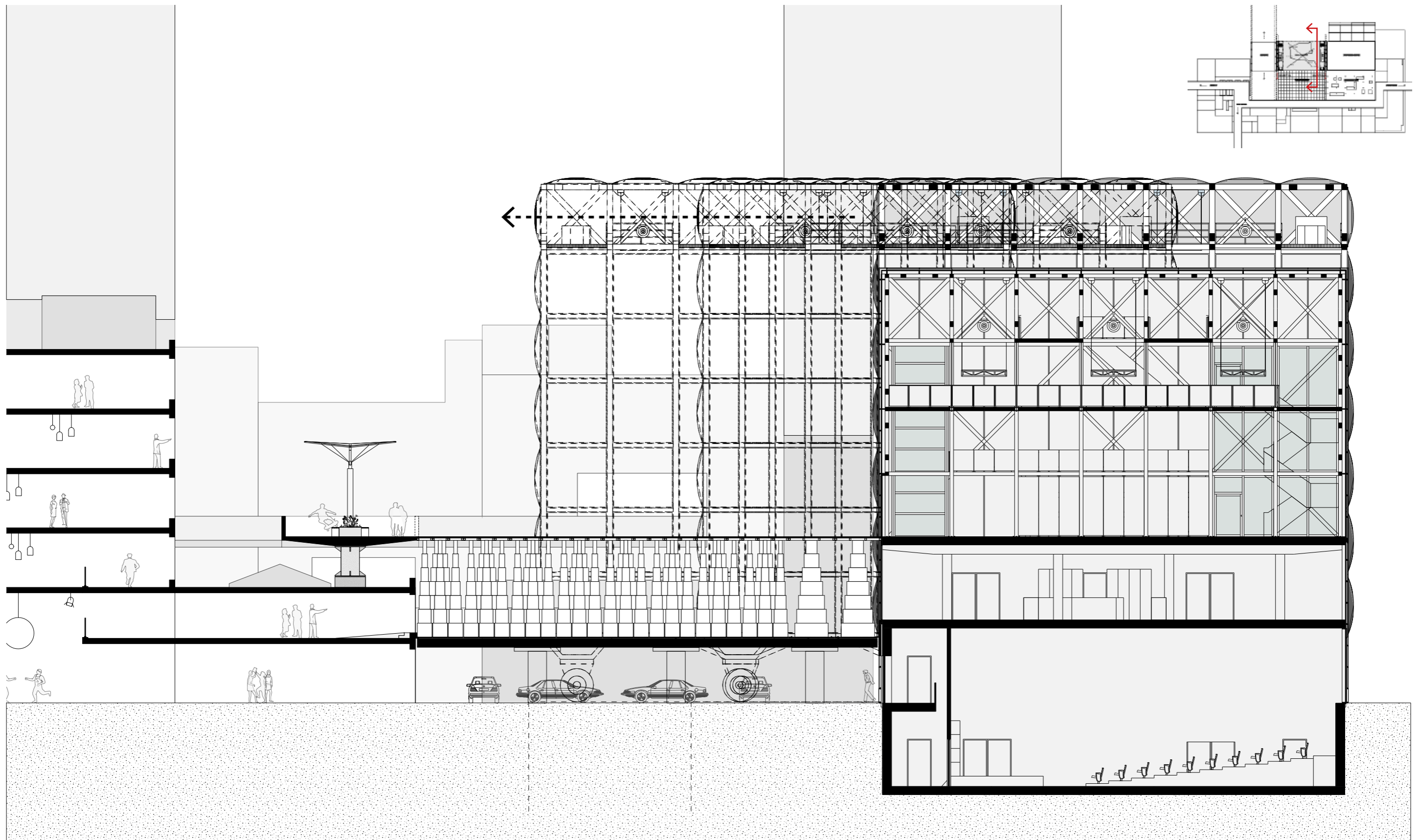
*section showing basic configuration of the UT*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

*the telescopic roof extendable over the deck on inner courtyard-side*

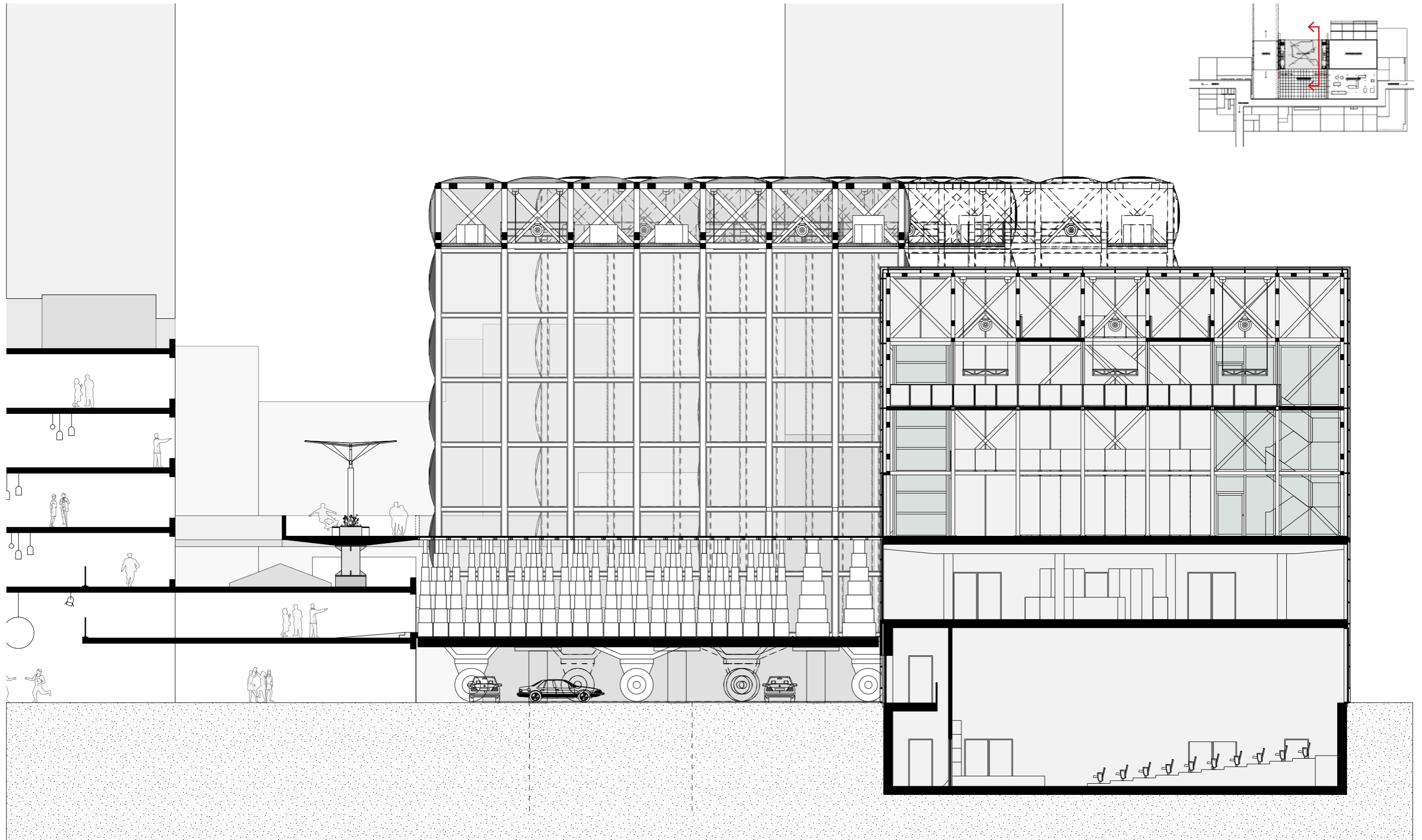


SECTION AA' | Scale 1:200 [A3]



# THE URBAN THEATRE

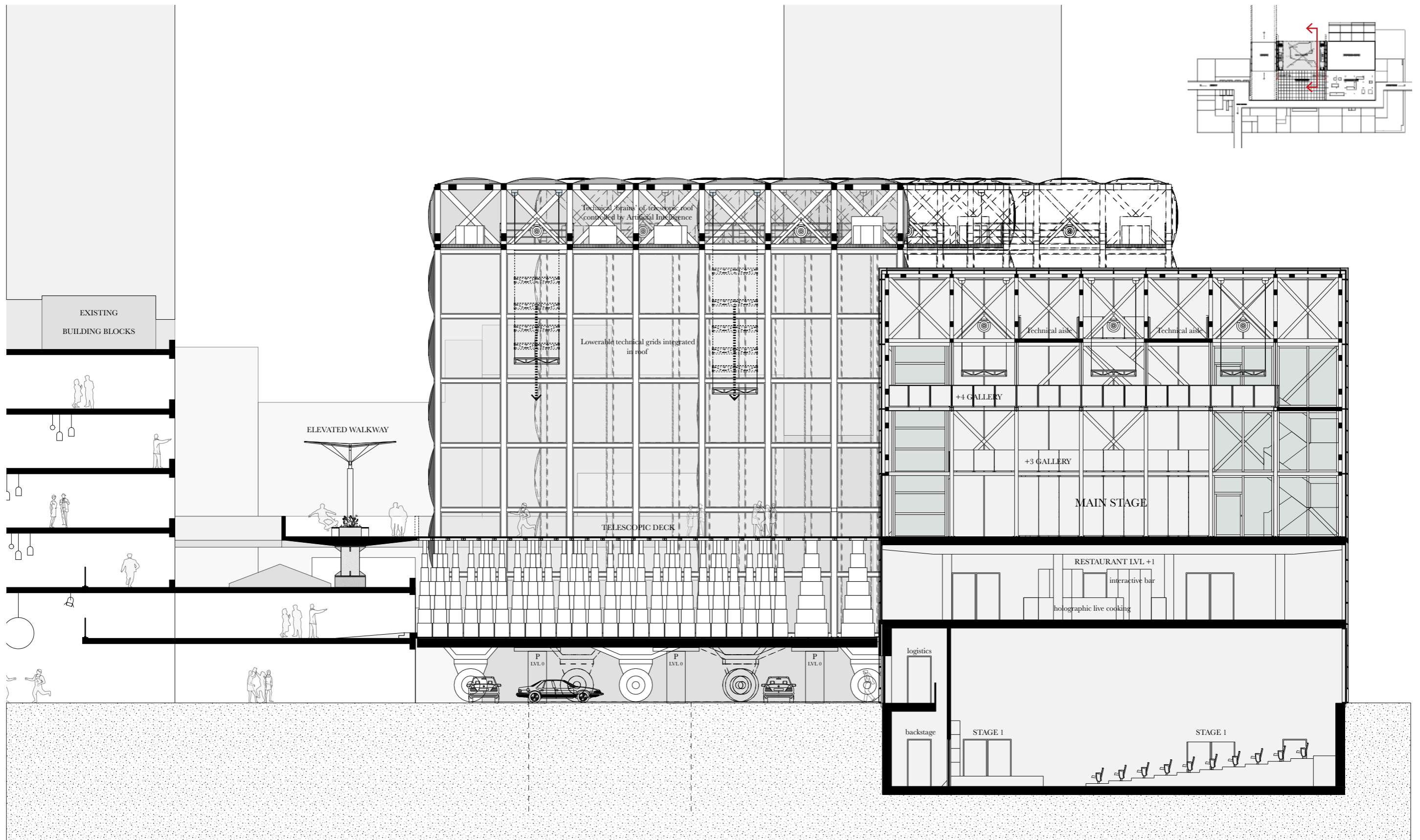
*doubling the roofed event space and creating a multiple-use possibilities*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

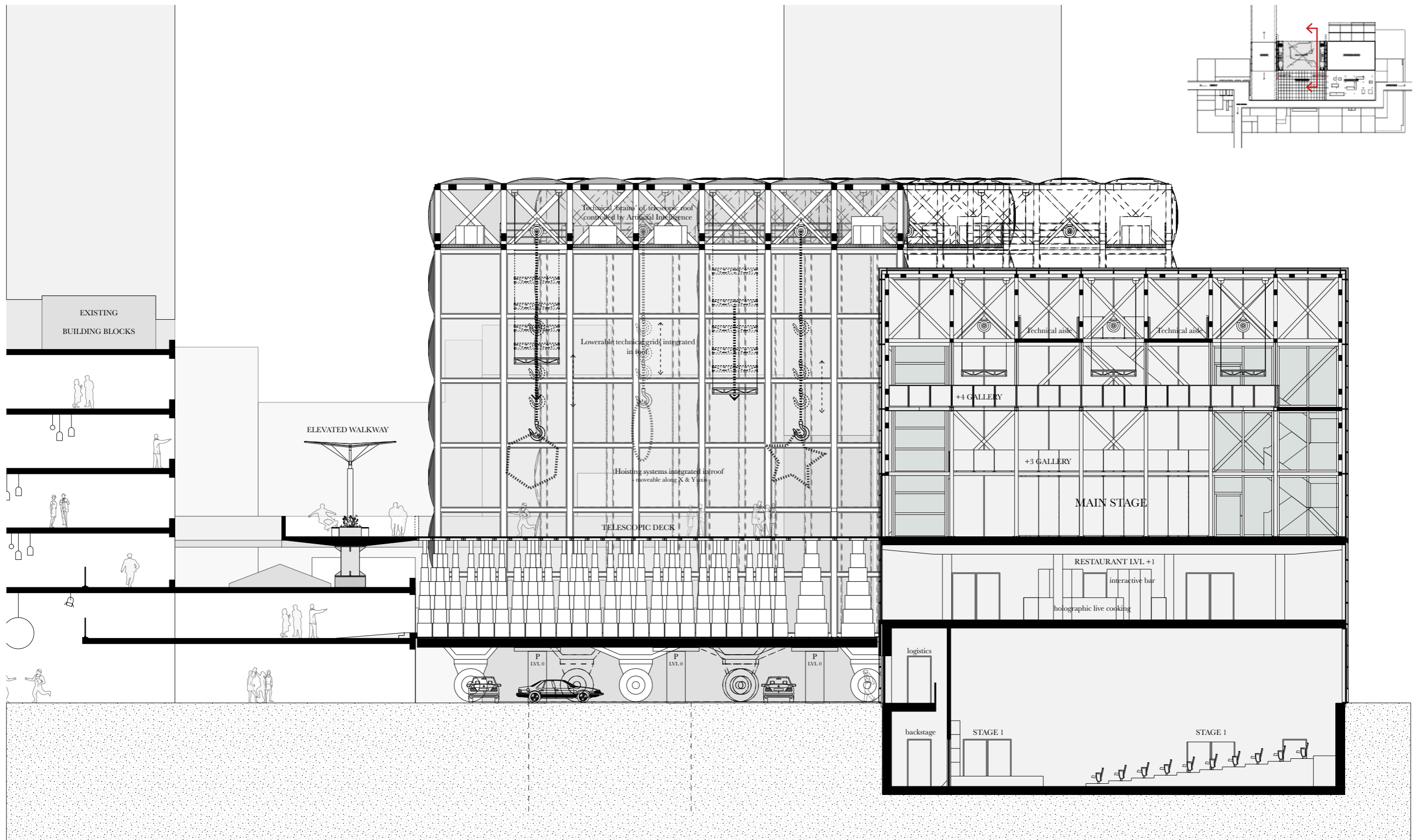
*the telescopic roof is also equipped with installations like technical grids with lighting and sound*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

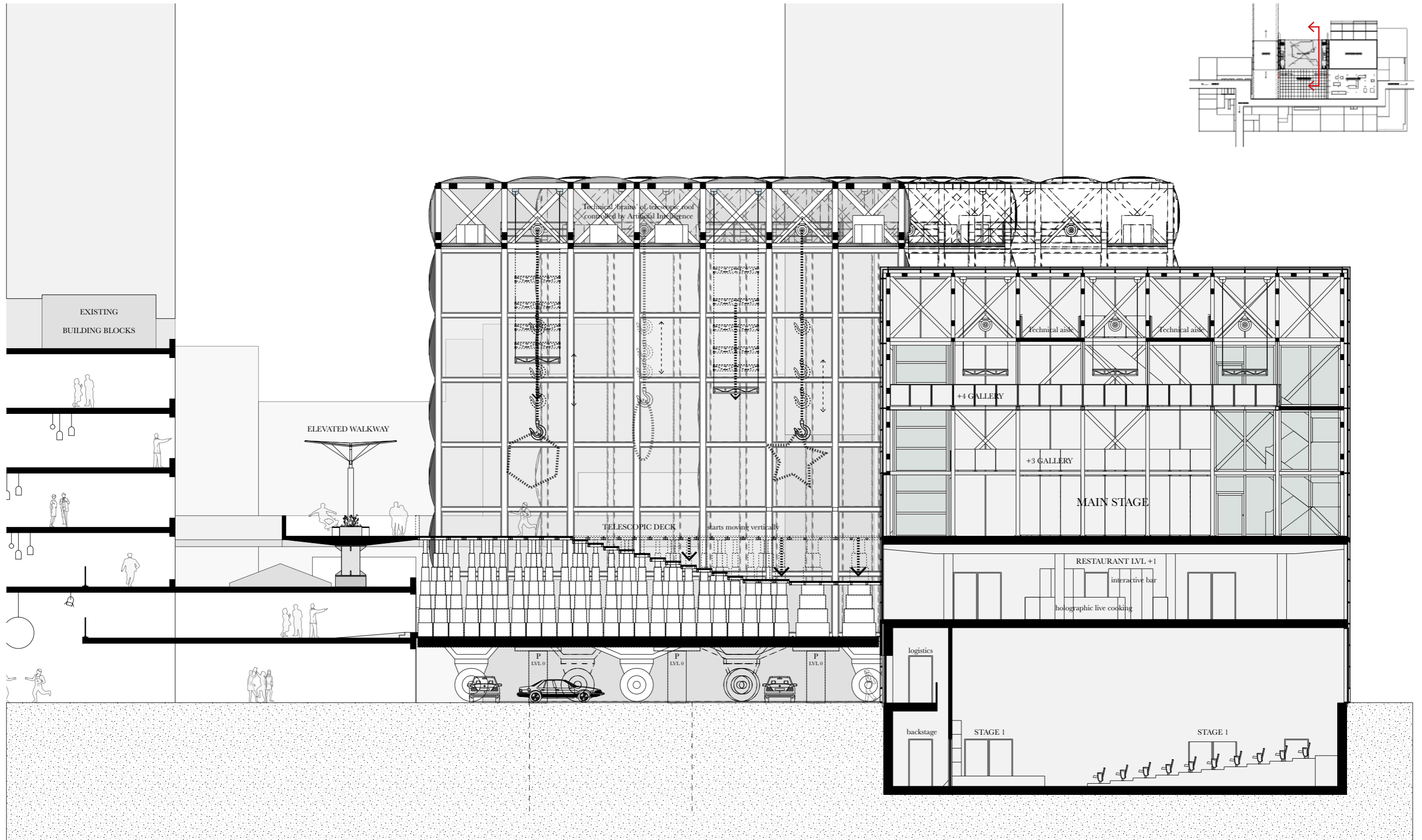
... and integrated industrial hoisting systems that are moveable along X- & Y-axes; all controlled through AI



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

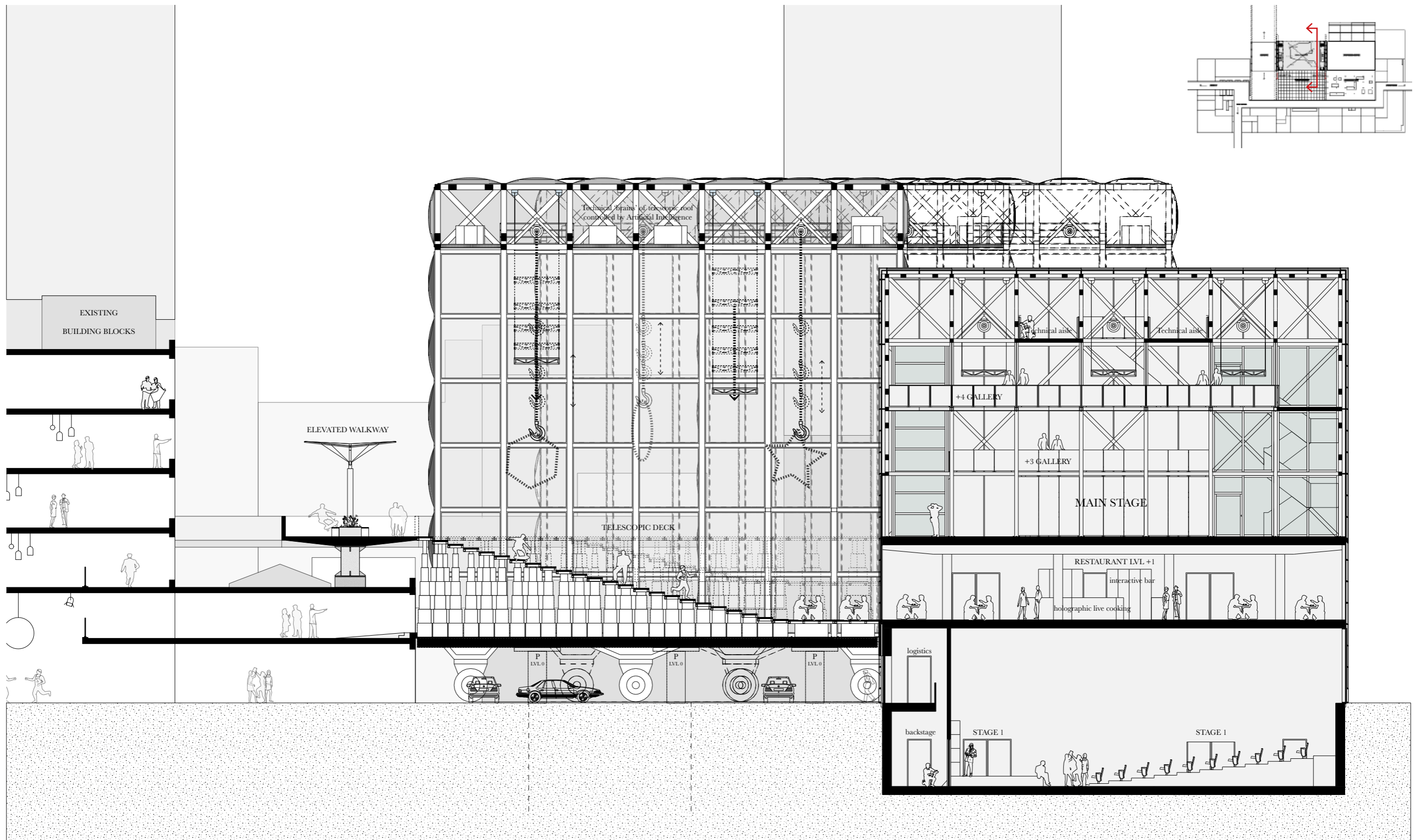
*the responsive deck is supported with a telescopic column system, which enables movement along a vertical axis*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

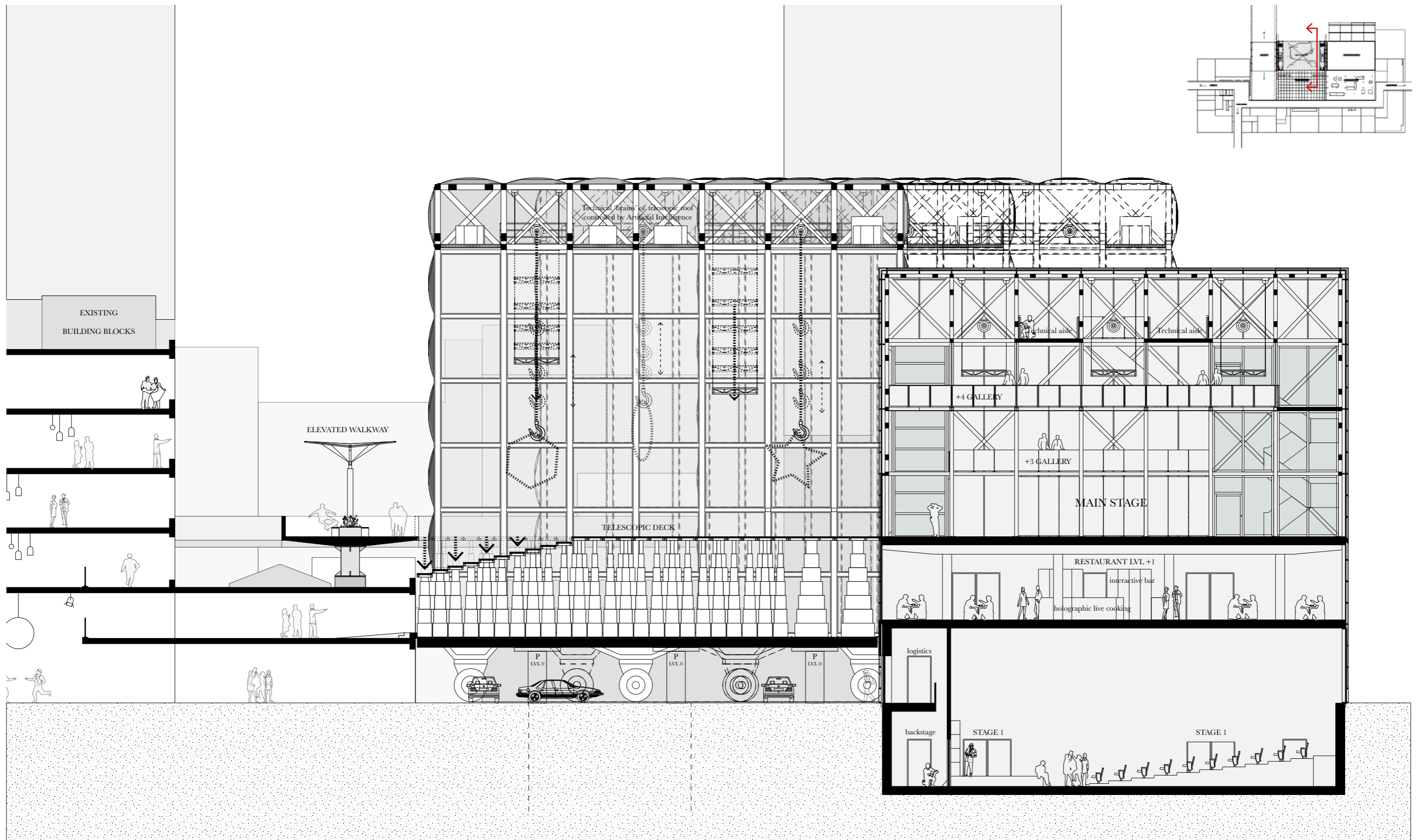
*... allowing the deck to have a wide variety of configurations, and so adapting to different events and activities*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

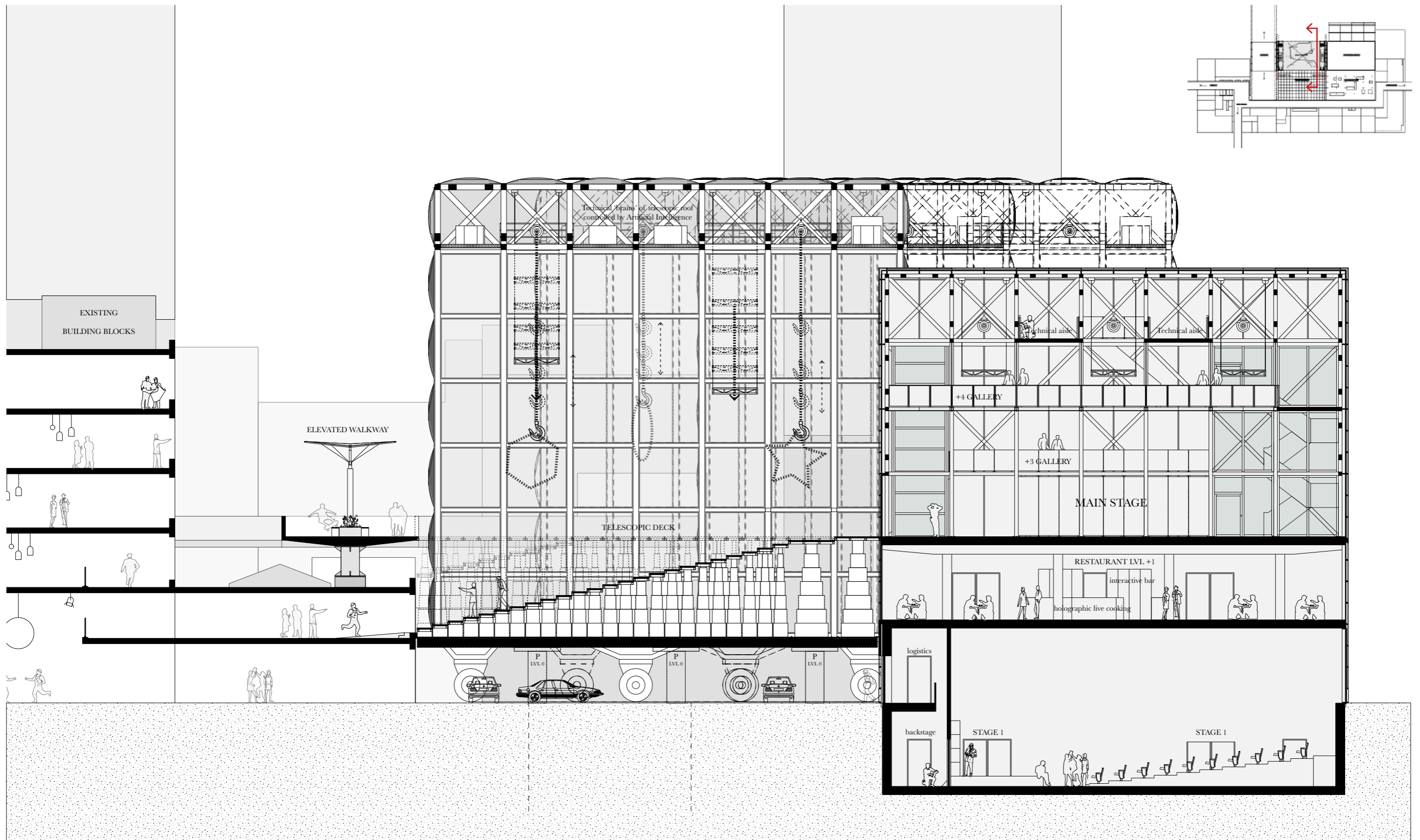
*the deck can lower to both sides; extending to the existing building block or lowering to the restaurant level when the weather allows it*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

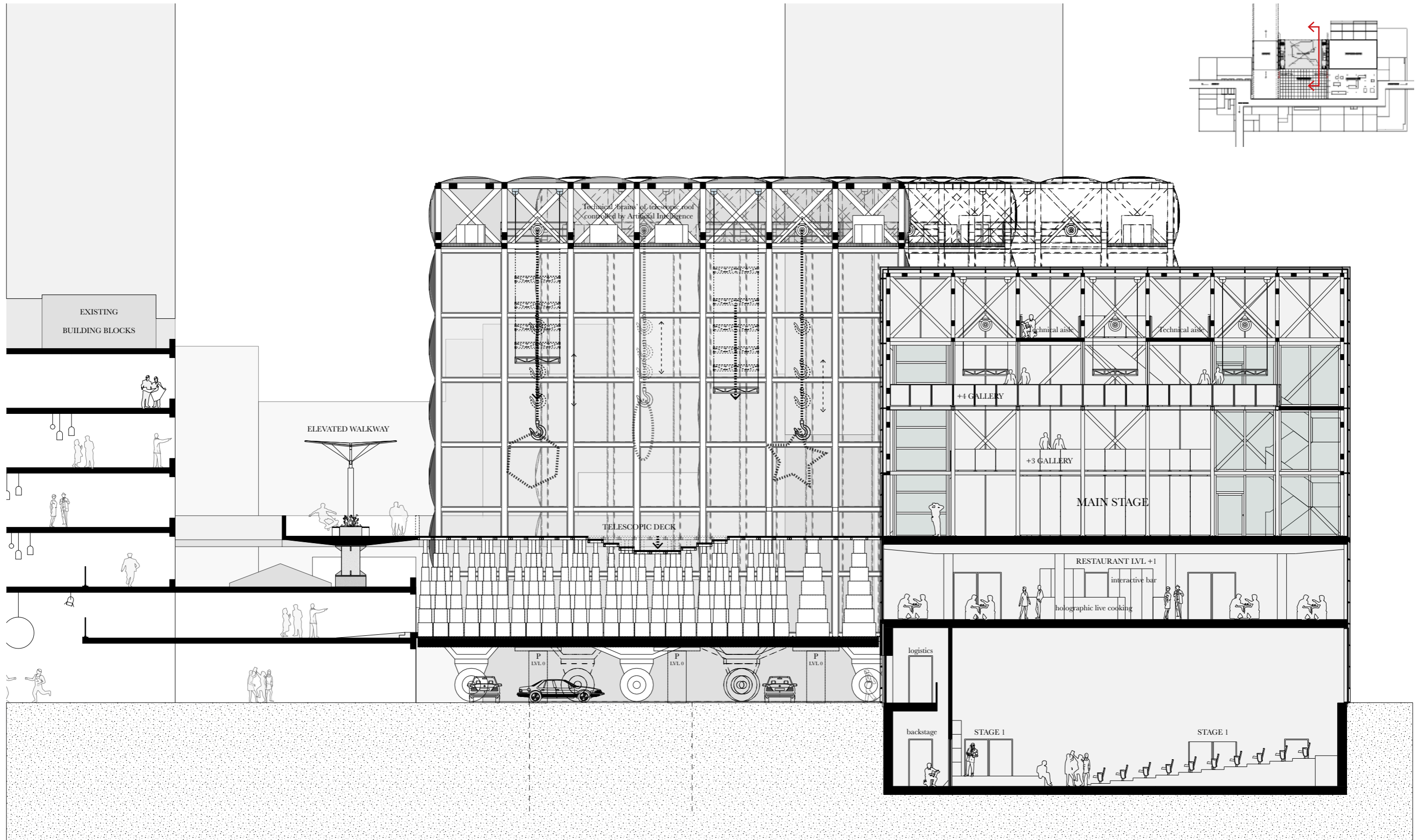
*for example; the HipHophouse situated in the existing building block can now connect and use the different stage-settings of the UT*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

*or for example when the deck lowers in the middle-part...*

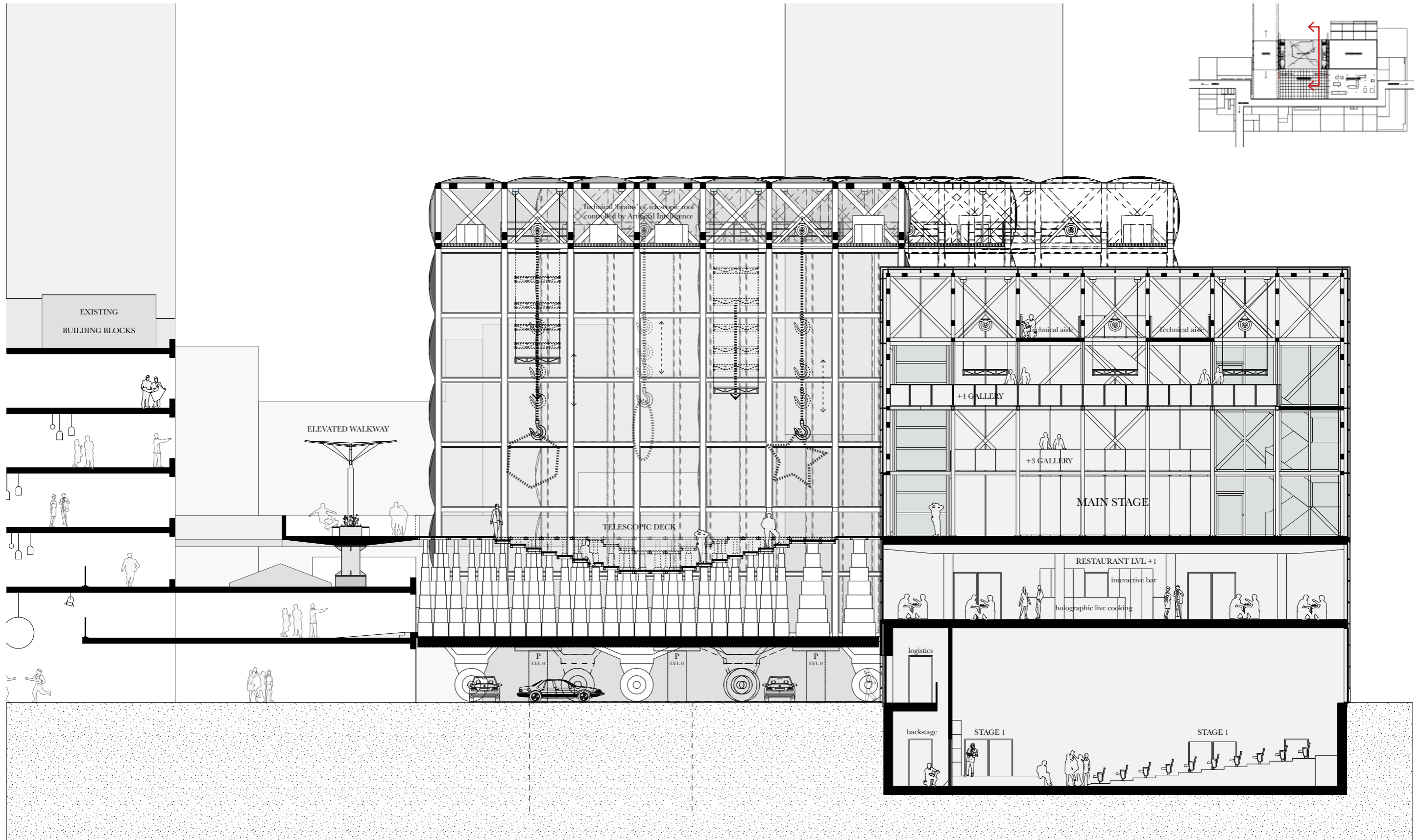


SECTION AA' | Scale 1:200 [A3]



# THE URBAN THEATRE

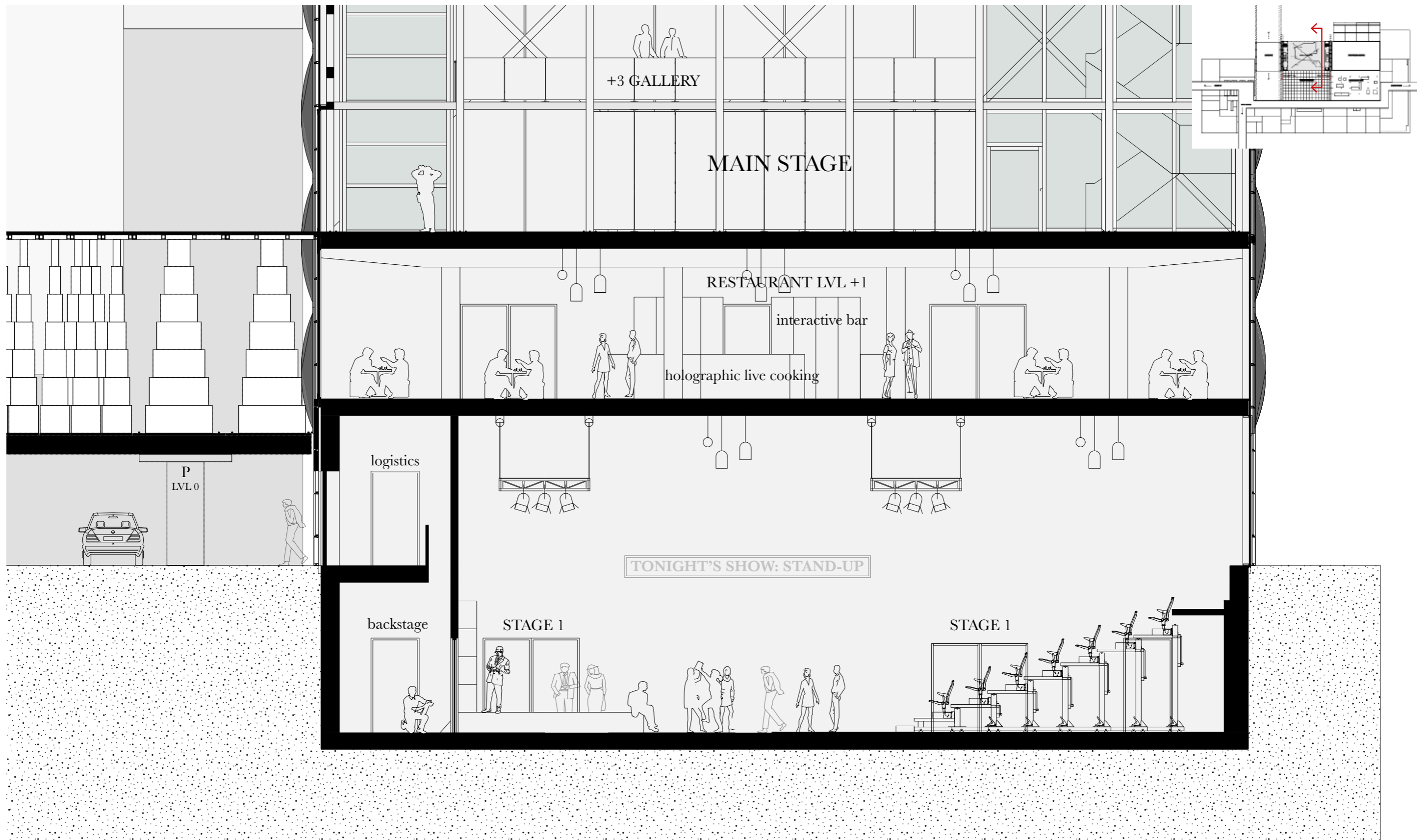
*... a theater-setting can be created, facilitating all sorts of events*



SECTION AA' | Scale 1:200 [A3]

# THE URBAN THEATRE

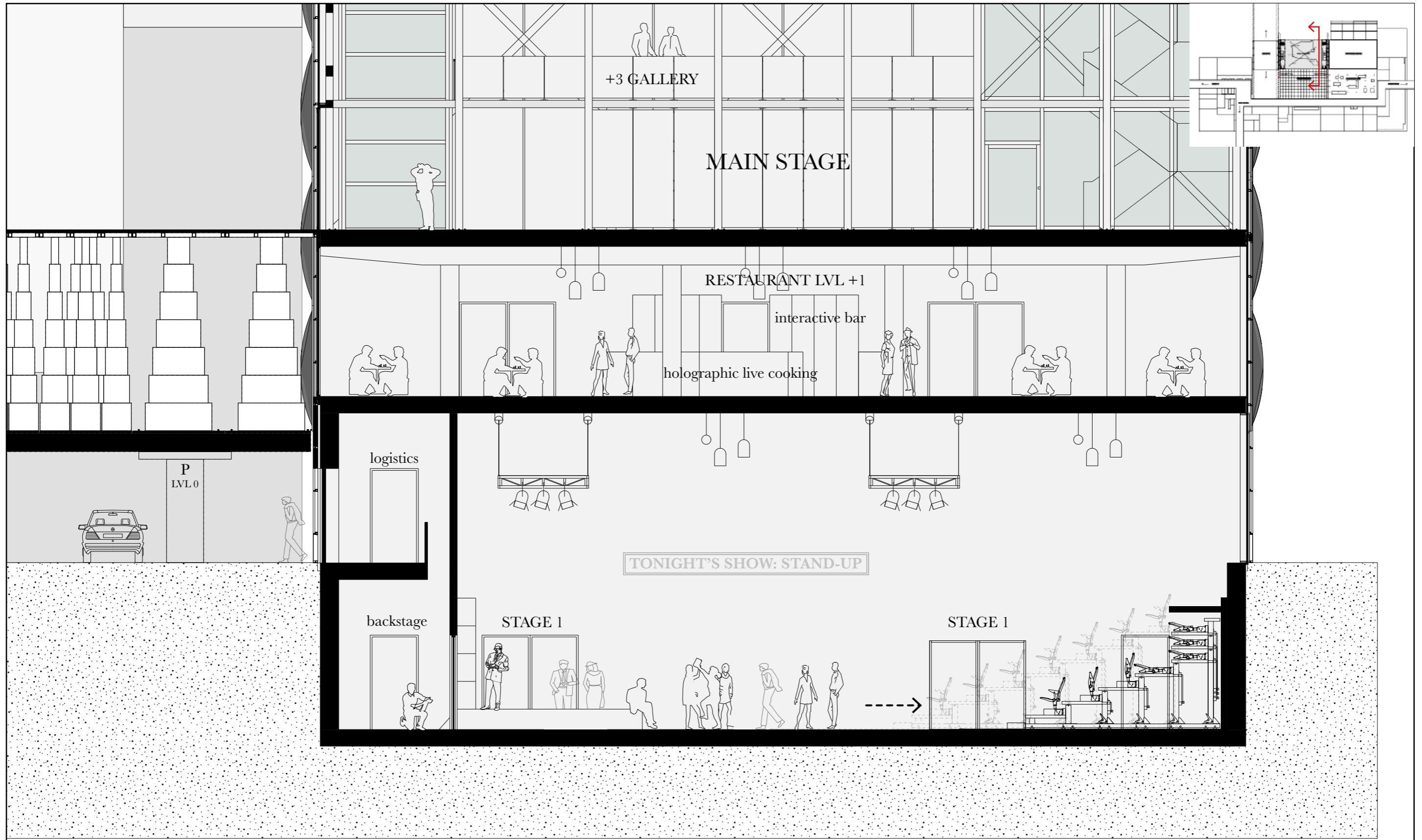
*the smaller Stage 1, situated in the basement level is also adaptive in terms of being a multi-purpose space*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

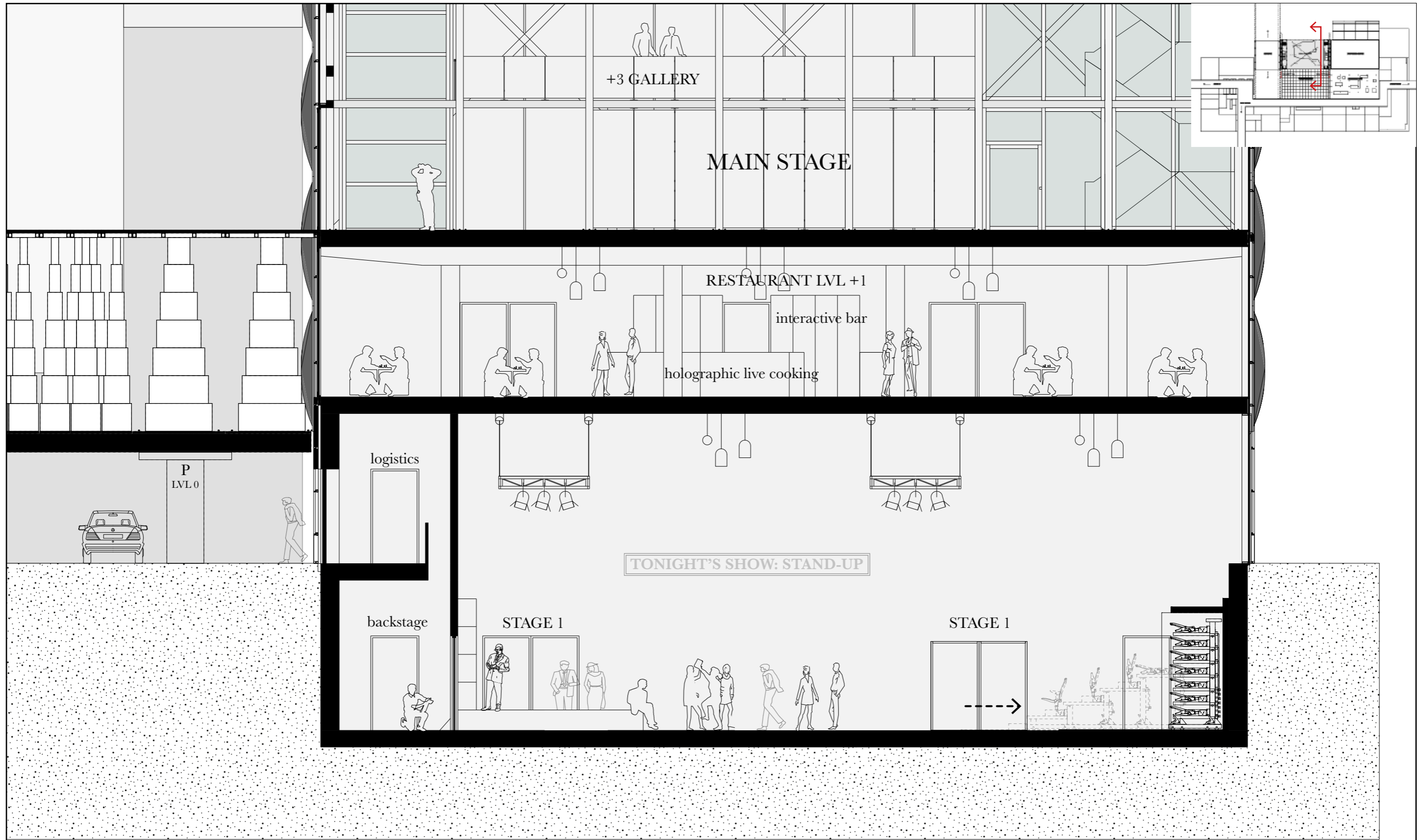
*but also because of the integrated telescopic theater seatings*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

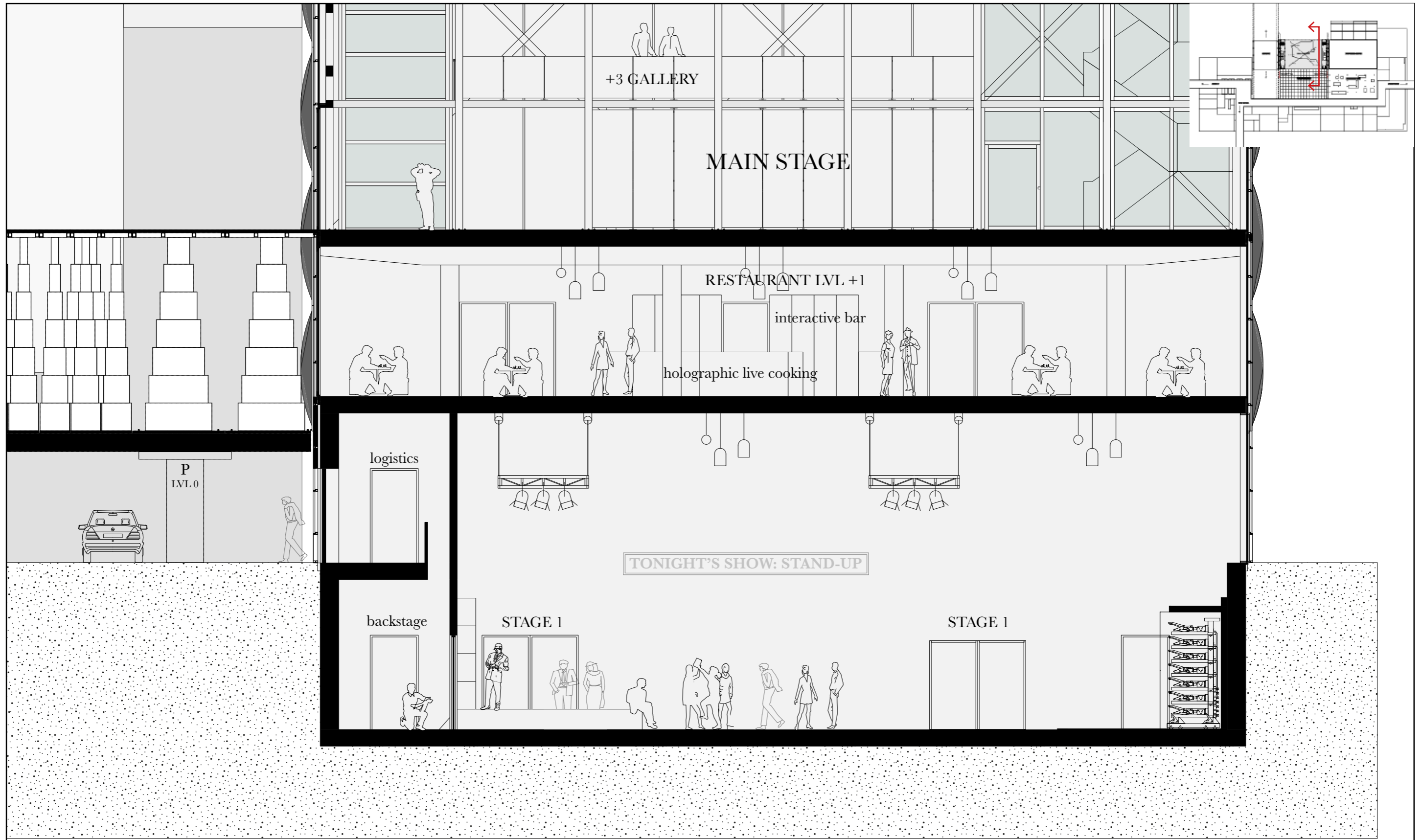
*which can either extend into the space to create a seated setting*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

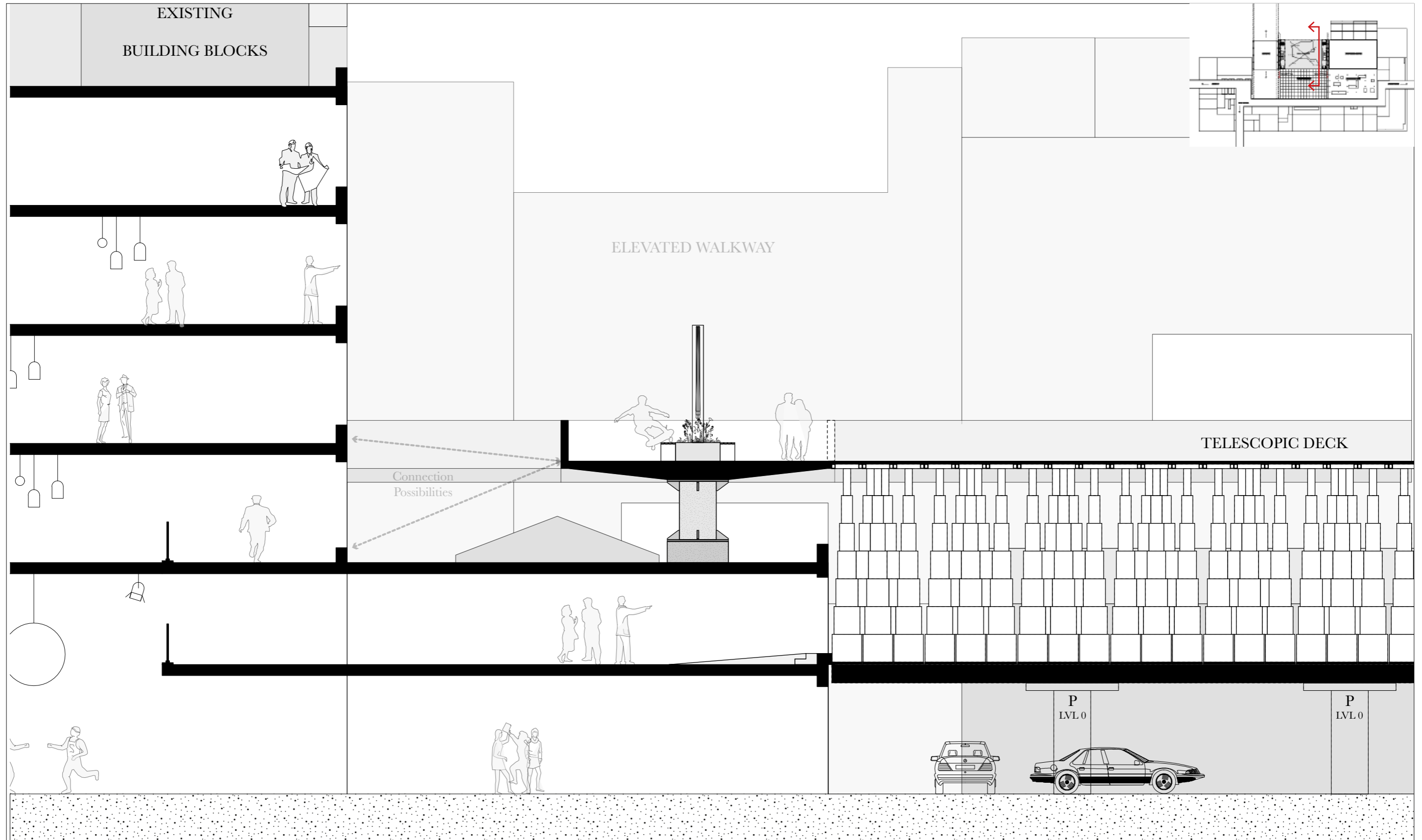
*or disappear and fold back into a 'closet' system*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

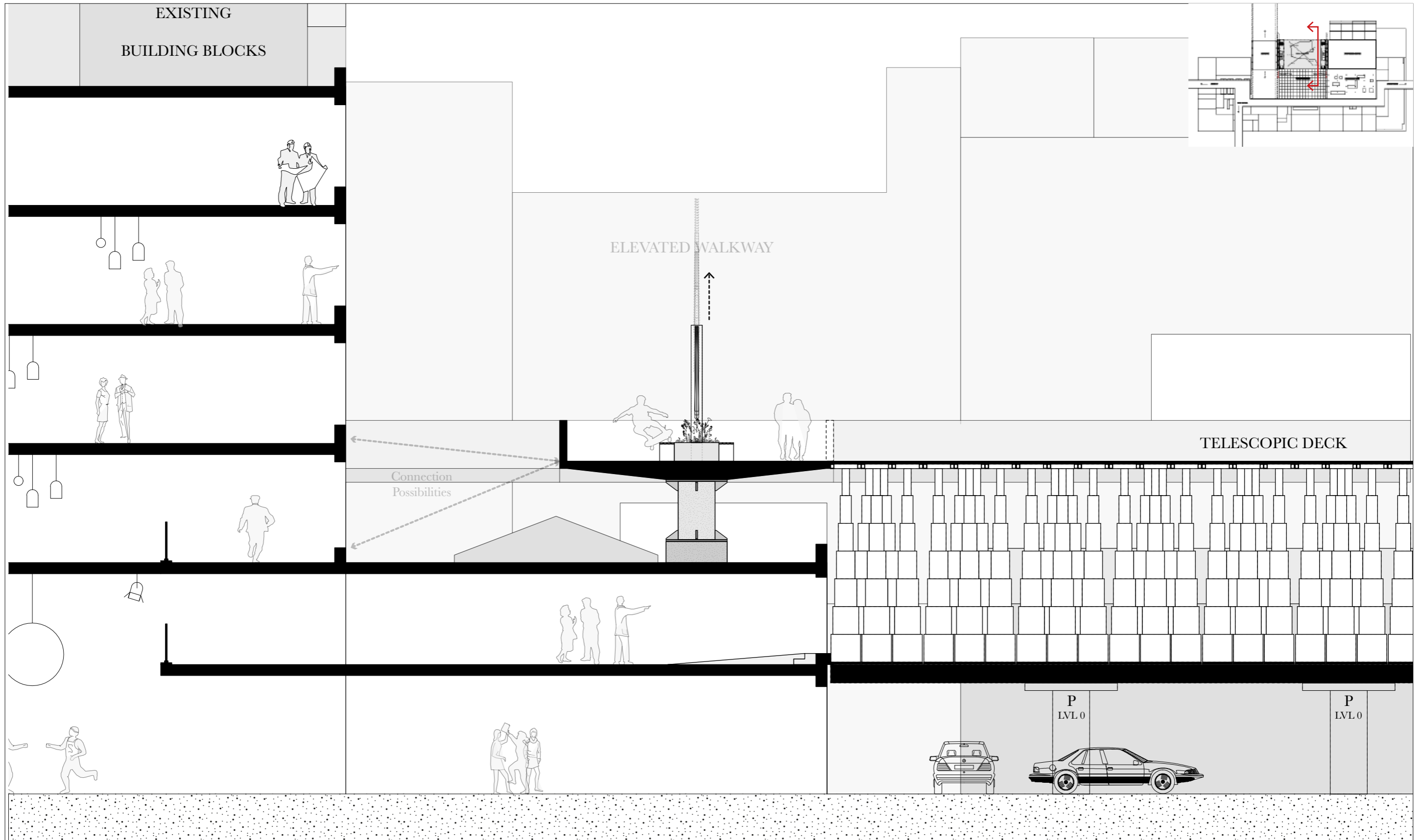
*or dissappear and fold back into a 'closet' system*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

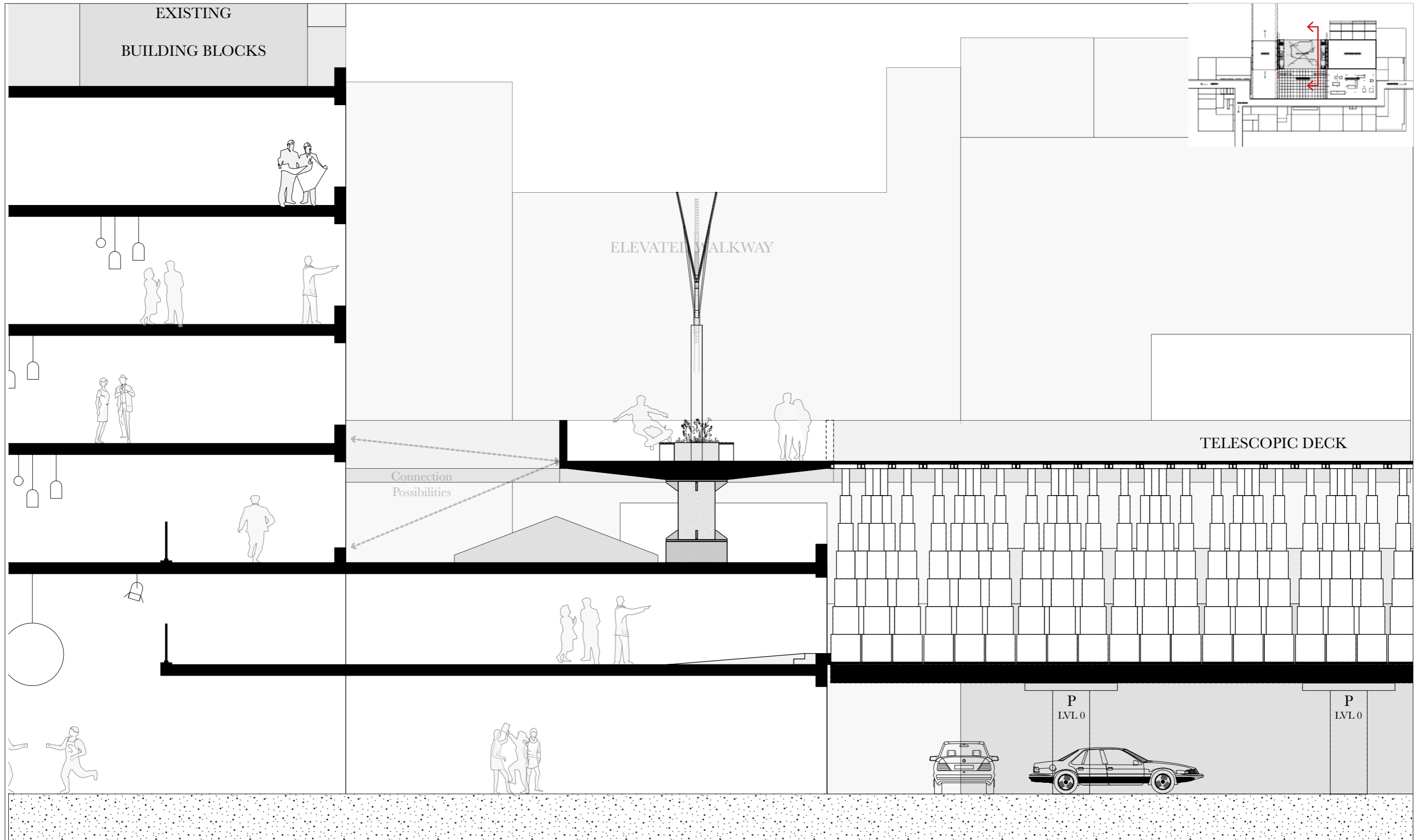
*or dissappear and fold back into a 'closet' system*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

*or dissappear and fold back into a 'closet' system*

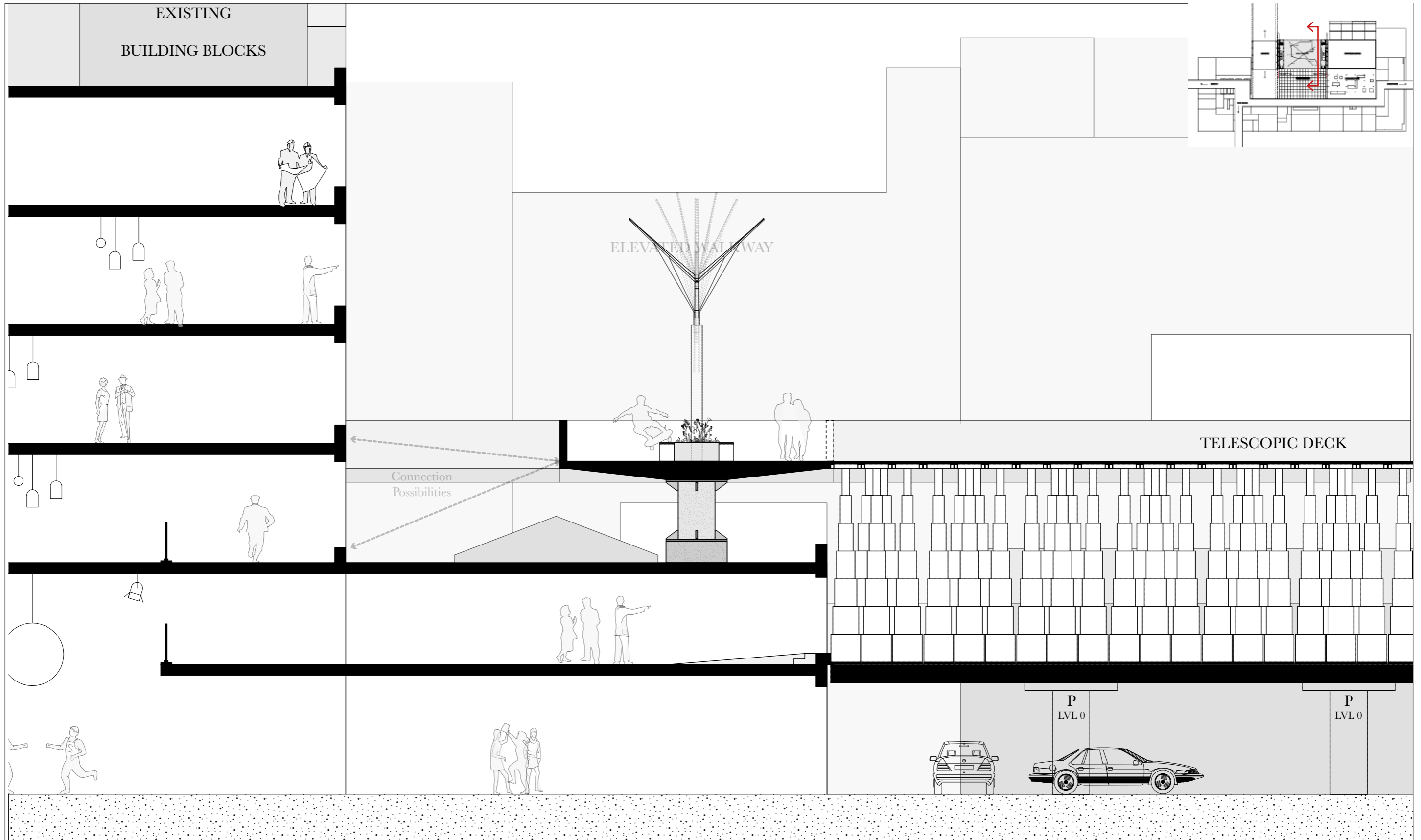


SECTION AA' | Scale 1:100 [A3]



# THE URBAN THEATRE

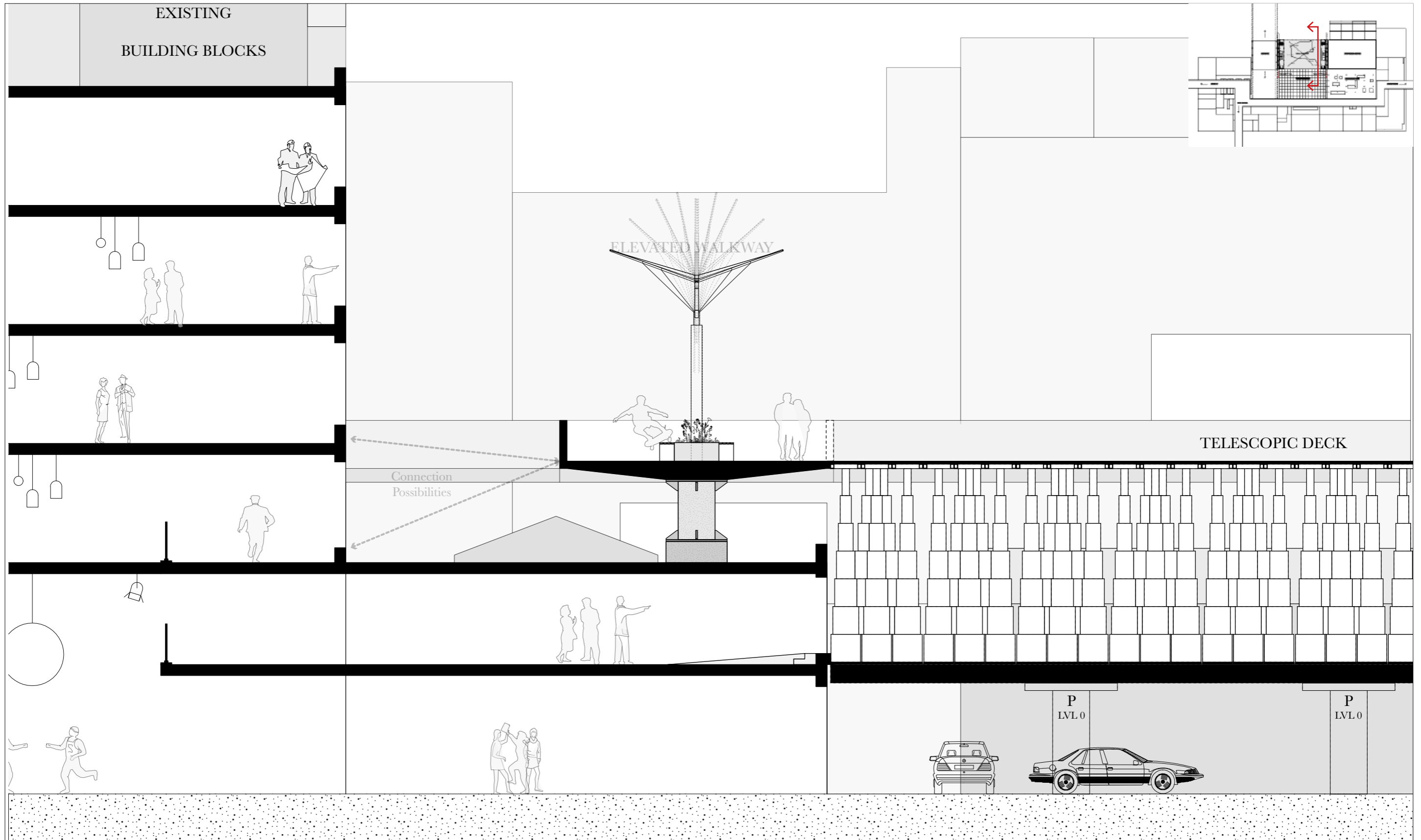
*or dissappear and fold back into a 'closet' system*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

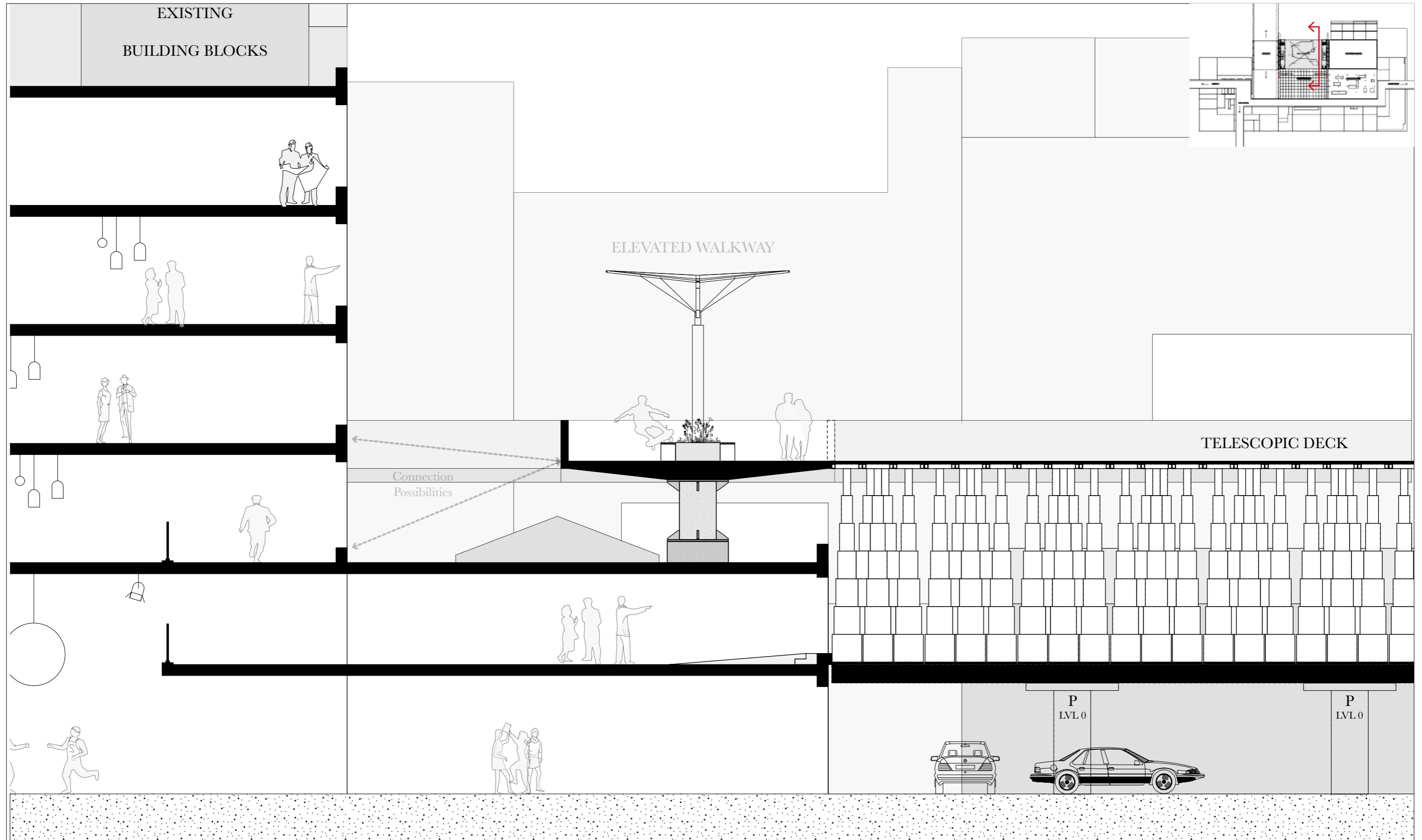
*or dissappear and fold back into a 'closet' system*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

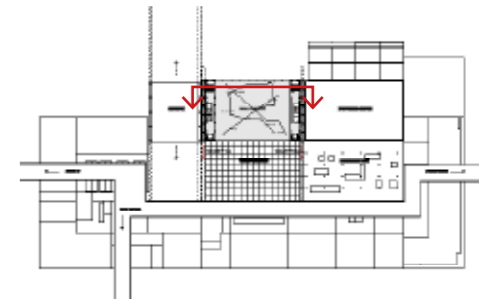
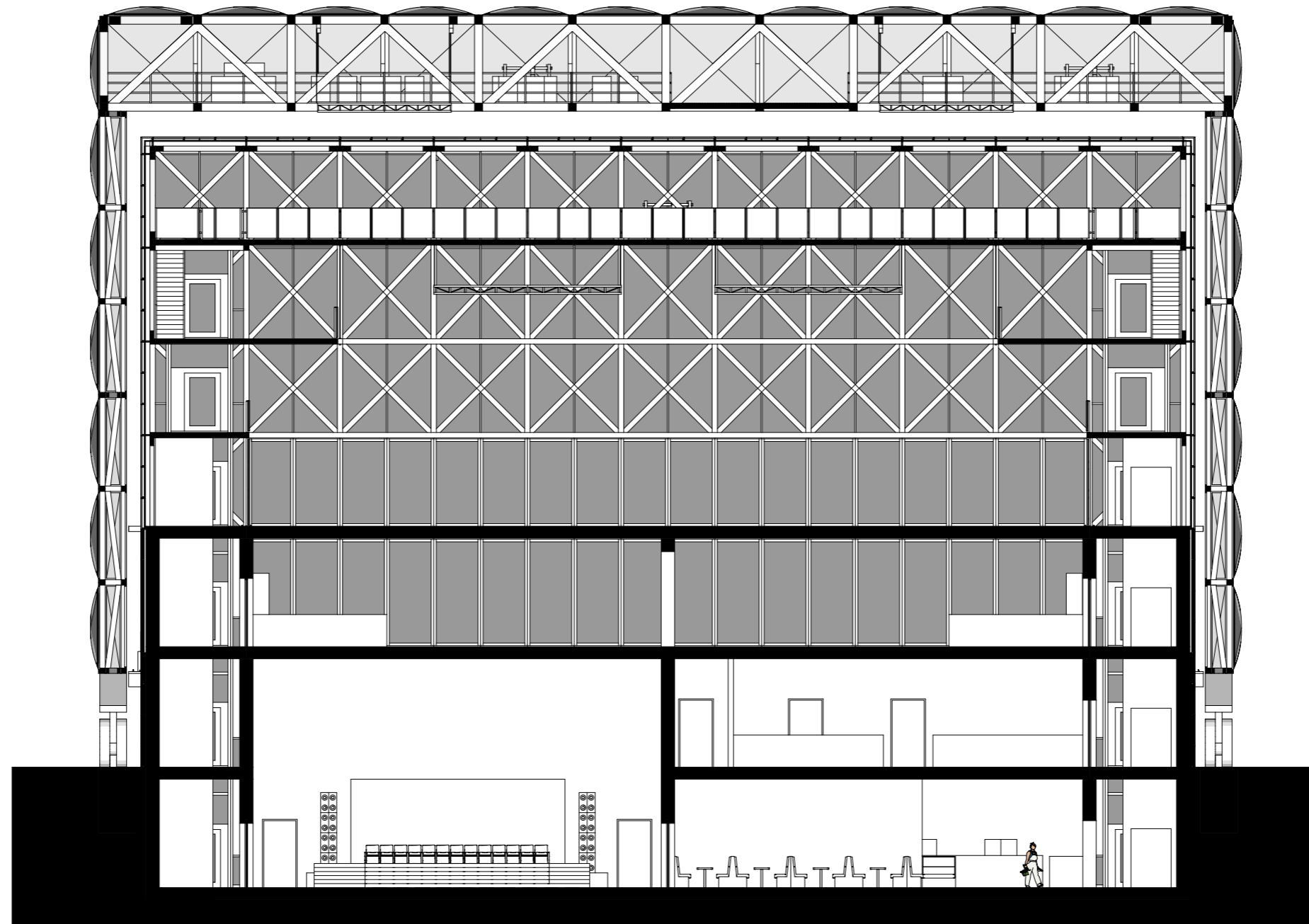
*or dissappear and fold back into a 'closet' system*



SECTION AA' | Scale 1:100 [A3]

# THE URBAN THEATRE

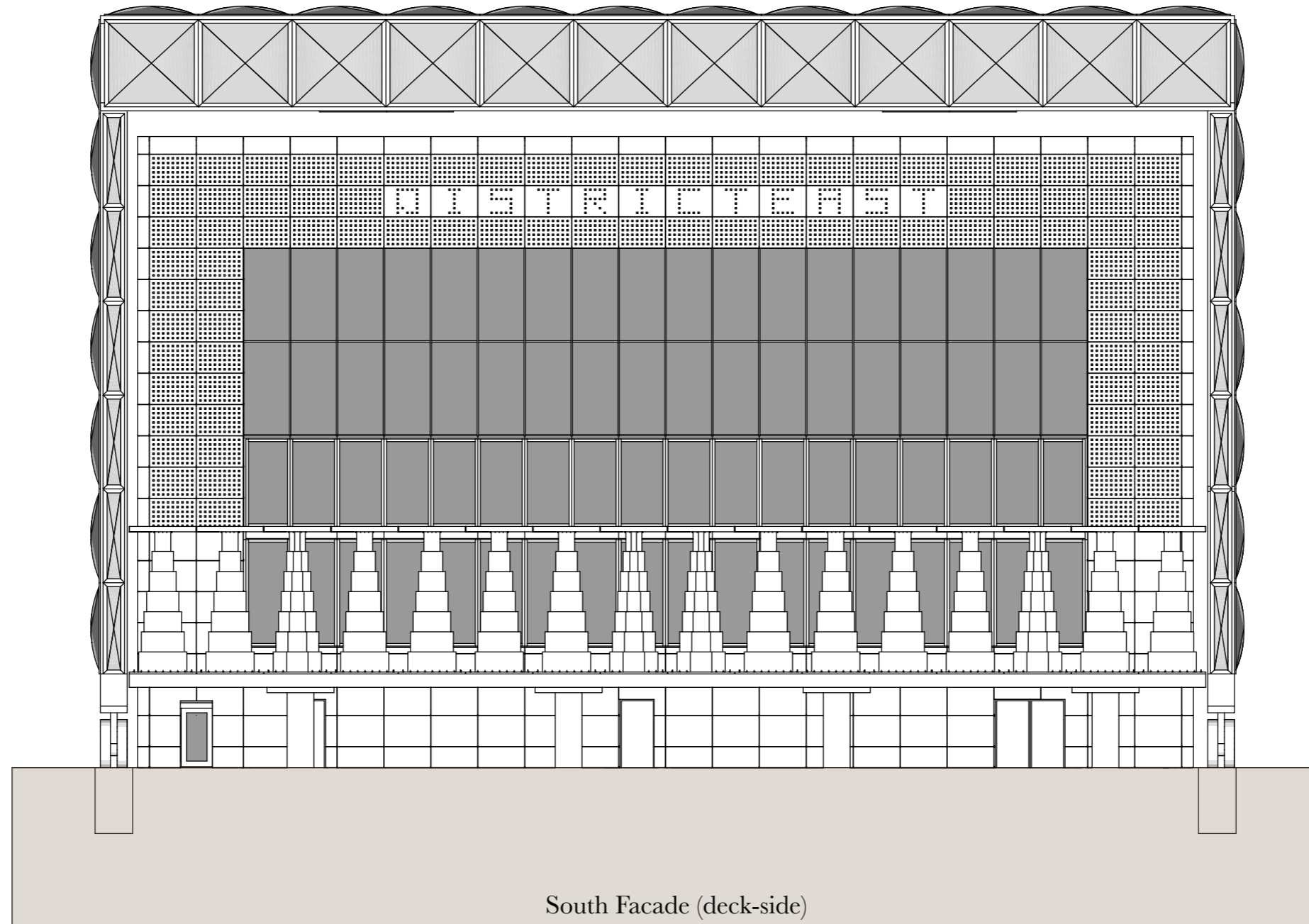
*cross scetion*



SECTION BB' | Scale 1:200 [A3]

# THE URBAN THEATRE

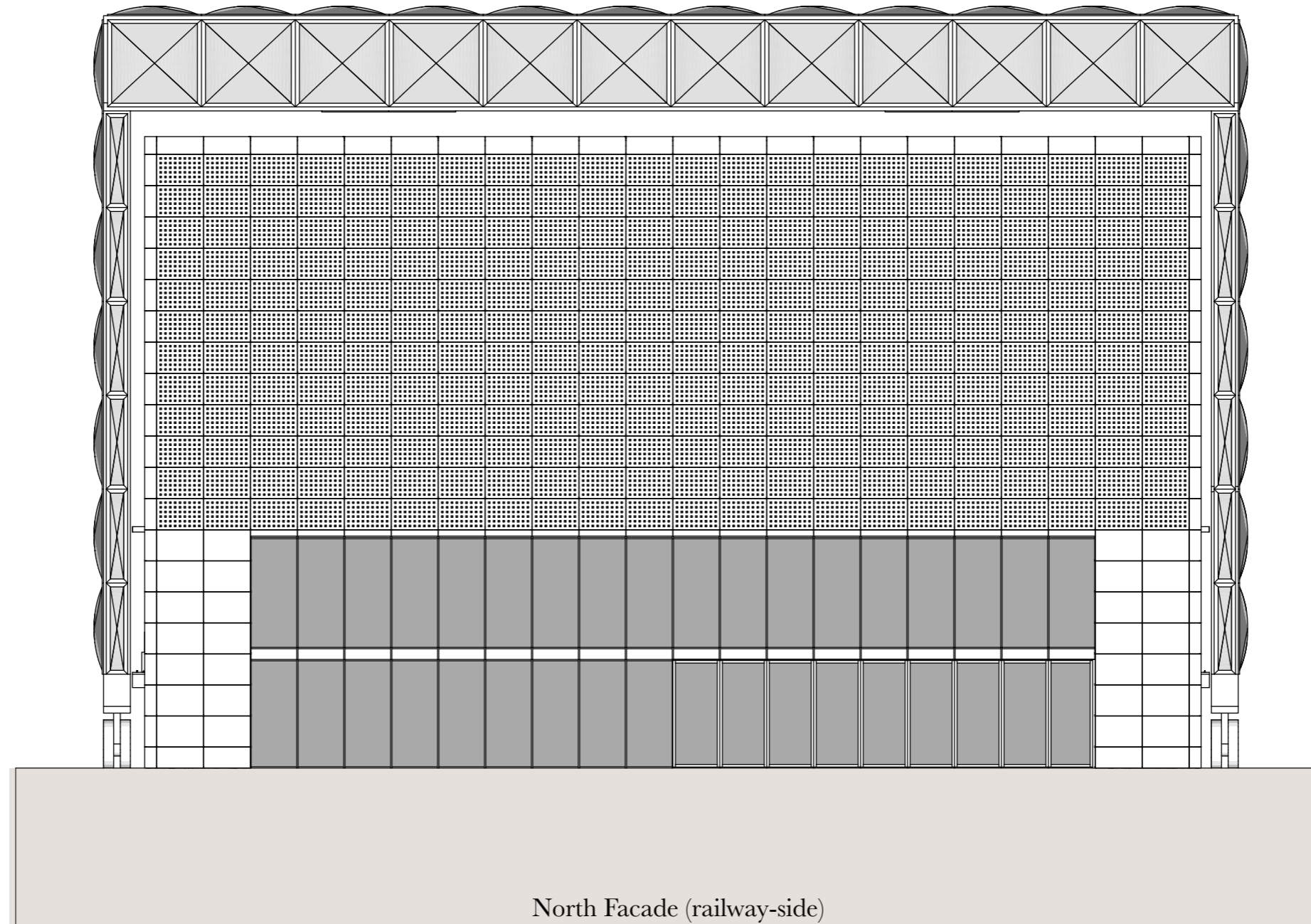
*facades*



Scale 1:200 [A3]

# THE URBAN THEATRE

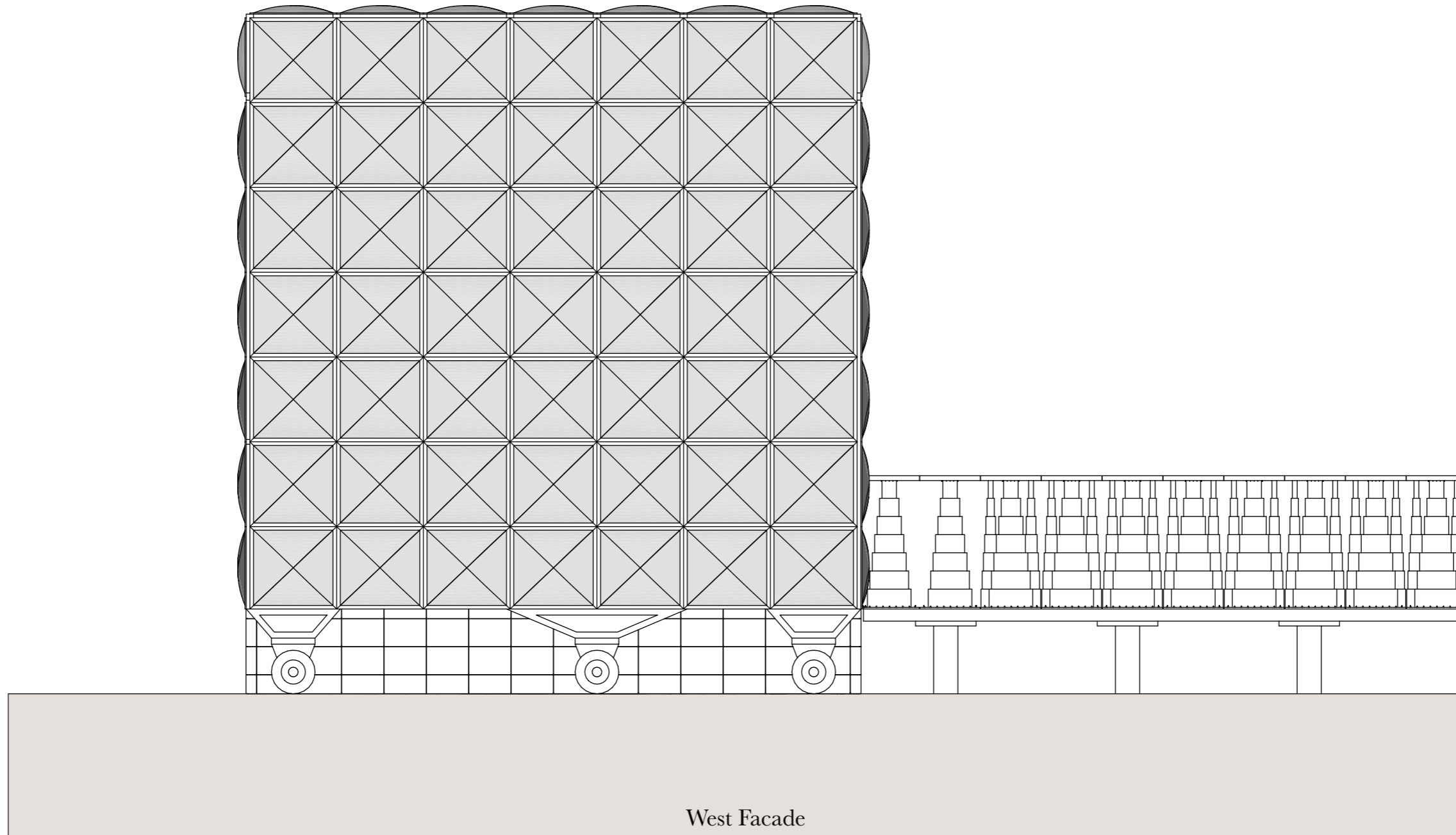
*facades*



Scale 1:200 [A3]

# THE URBAN THEATRE

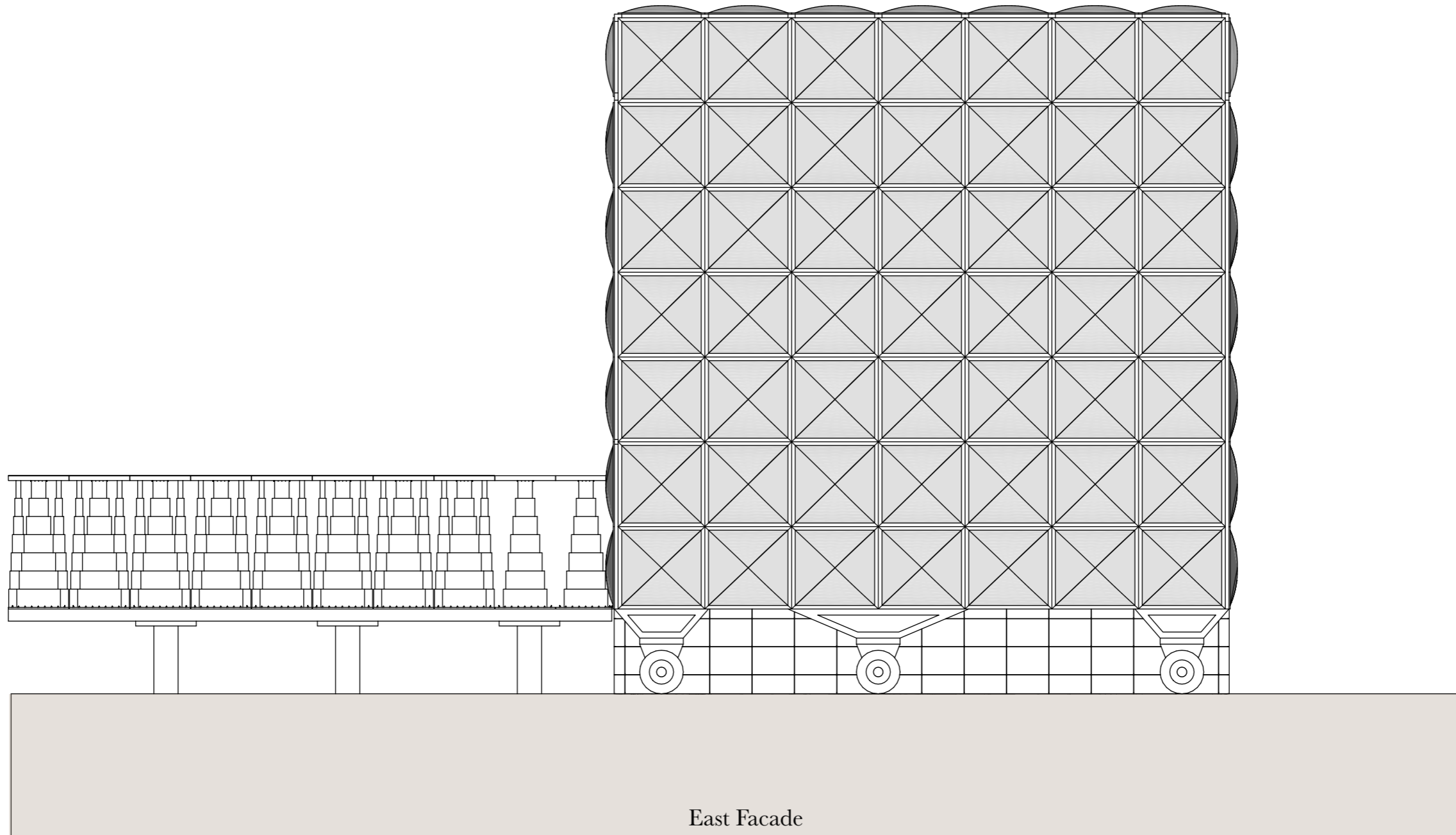
*facades*



Scale 1:200 [A3]

# THE URBAN THEATRE

*facades*

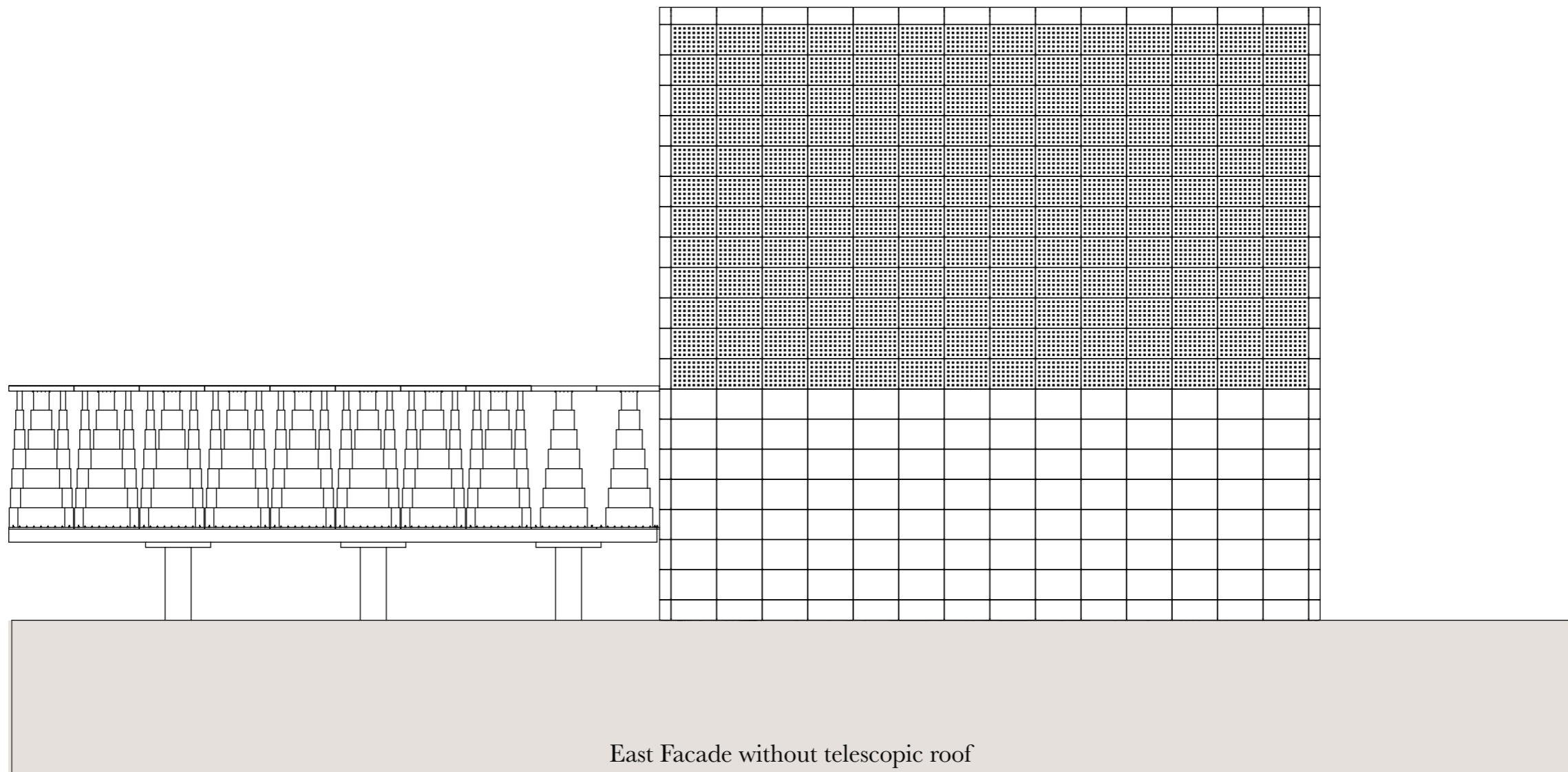


Scale 1:200 [A3]



# THE URBAN THEATRE

*facades*



Scale 1:200 [A3]

# THE URBAN THEATRE

*facades*



Visualisation showing the effect of the perforated aluminium facade plates on daylight entering inside the building. Seen from the main event space at +2.

# THE URBAN THEATRE

*facades*



Visualisation showing the effect of the perforated aluminium facade plates on daylight entering inside the building. Seen from the gallery at +4.

# THE URBAN THEATRE

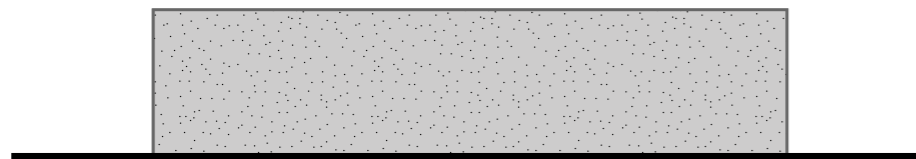
*facades*



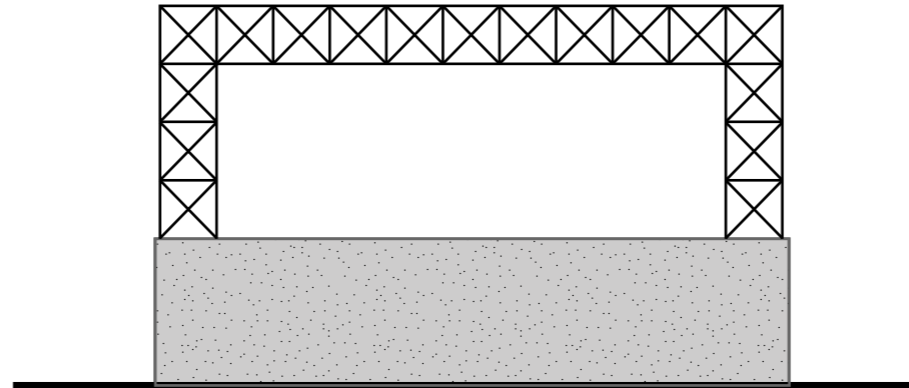
Visualisation showing the effect of the perforated aluminium facade plates.

# THE URBAN THEATRE

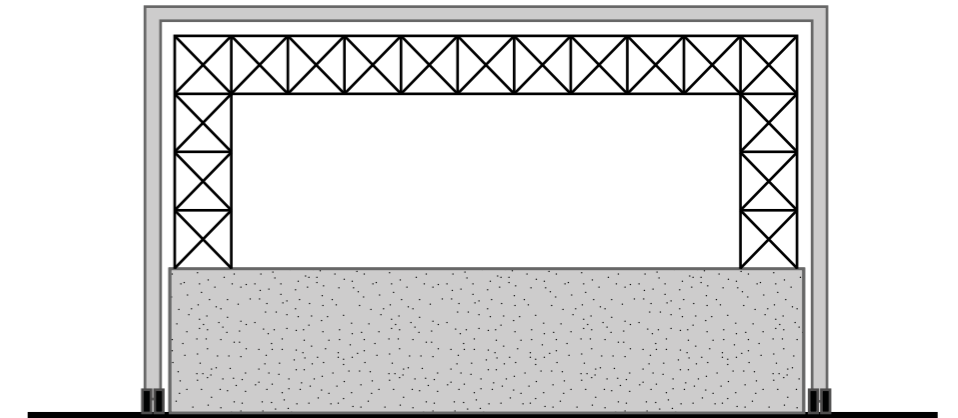
*structural design | concept*



**concrete base**



**truss-structure** on top;  
this is the permanent base-building



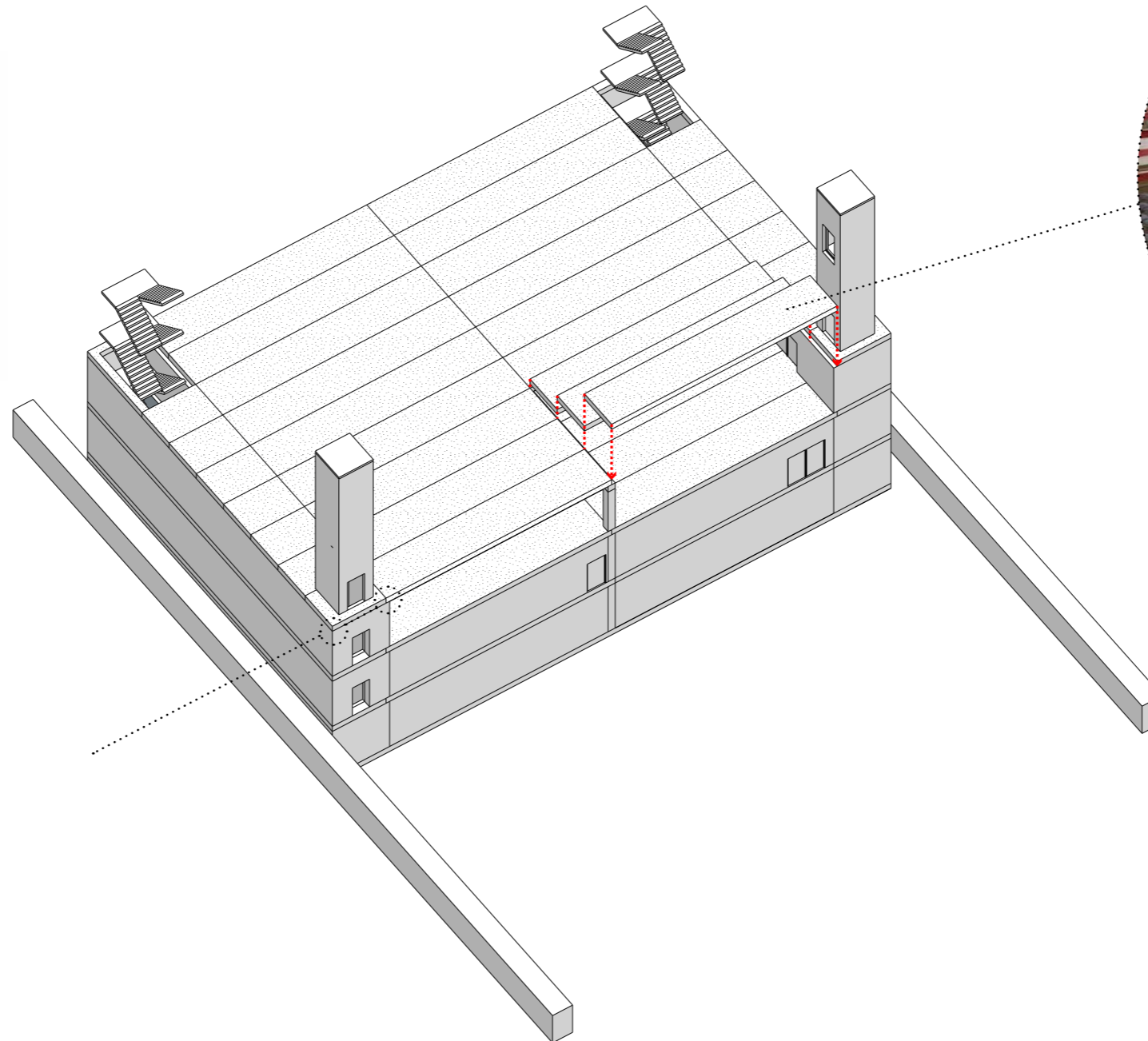
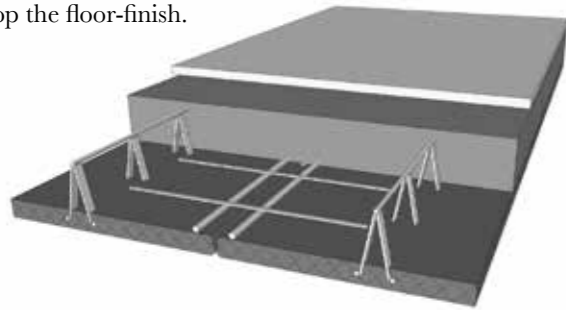
**telescopic 2nd roofstructure**  
rides along rails to extend over the permanent base building

The structural design of the Urban Theatre is almost literally a stage and exists basically out of 3 elements; a concrete base, truss-structure on top and an overarching second roof that is telescopic. This roof can extend over the base-building by riding over rails, doubling the size of the theater from 30m x 25m to 30m x 50m.

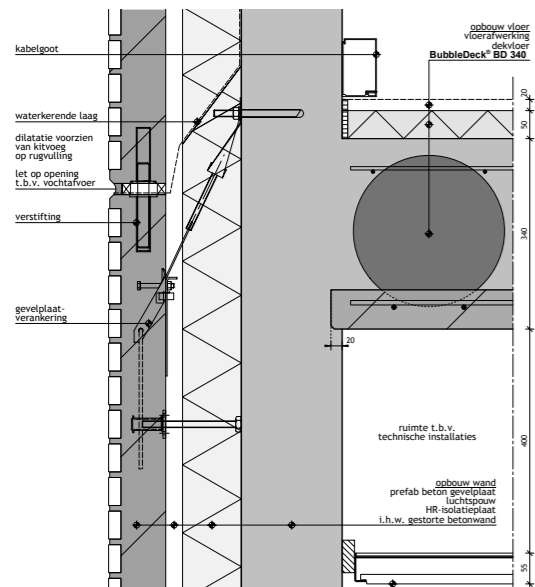
# THE URBAN THEATRE

## Bubbledeck floor system;

1. precast bottom floor with integrated reinforcement (betonschil). The individual floors get interconnected with an extra reinforcement grid
2. Recycled HDPE plastic spheres in between the reinforcement to make the construction lighter
3. Also service-pipes get integrated into this layer
4. Then the concrete gets poured onto the floors (druklaag), making the individual floors to one whole
5. On top the floor-finish.



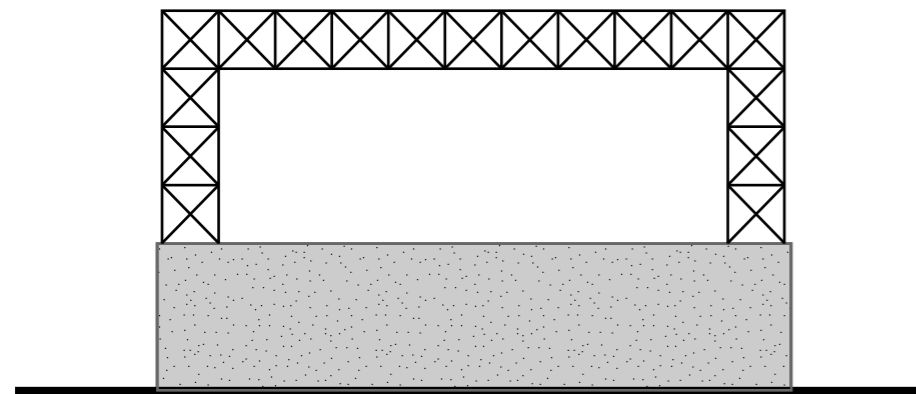
Recycled HDPE plastic spheres to make the floors lighter and use less concrete



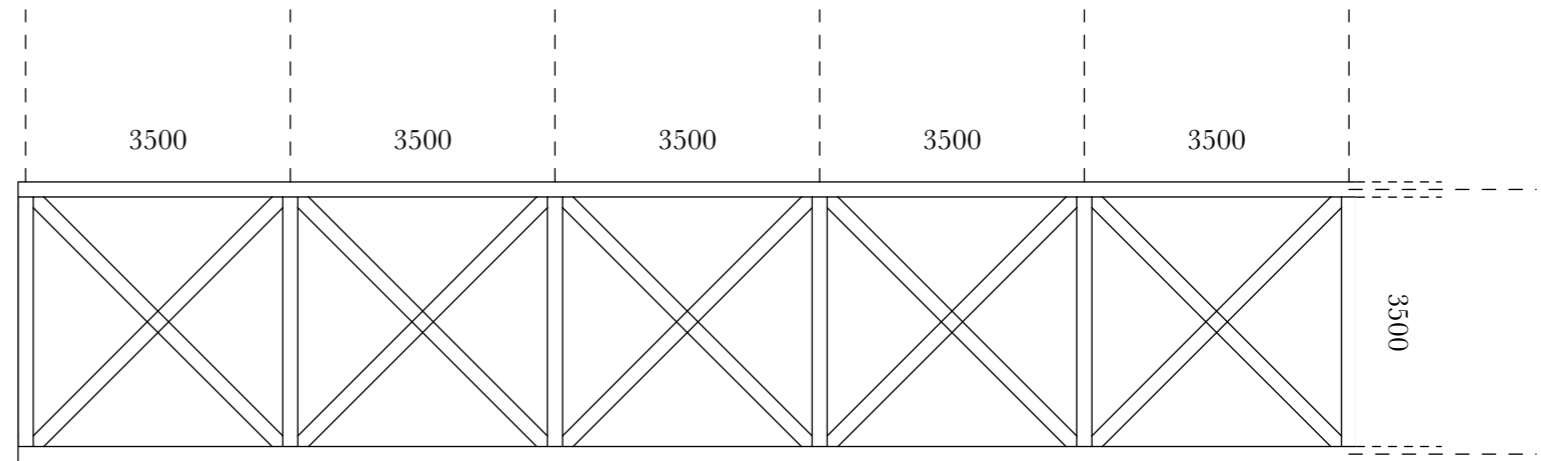
The primary load-bearing walls are located at both ends of the building in the rigid concrete cores and in the middle of the building. They measure a width of 500mm and are poured during the construction, simultaneously with the floors. The partially precast Bubble-deck floors are placed on these load-bearing walls and after the concrete gets poured it becomes a rigid and stable whole.

# THE URBAN THEATRE

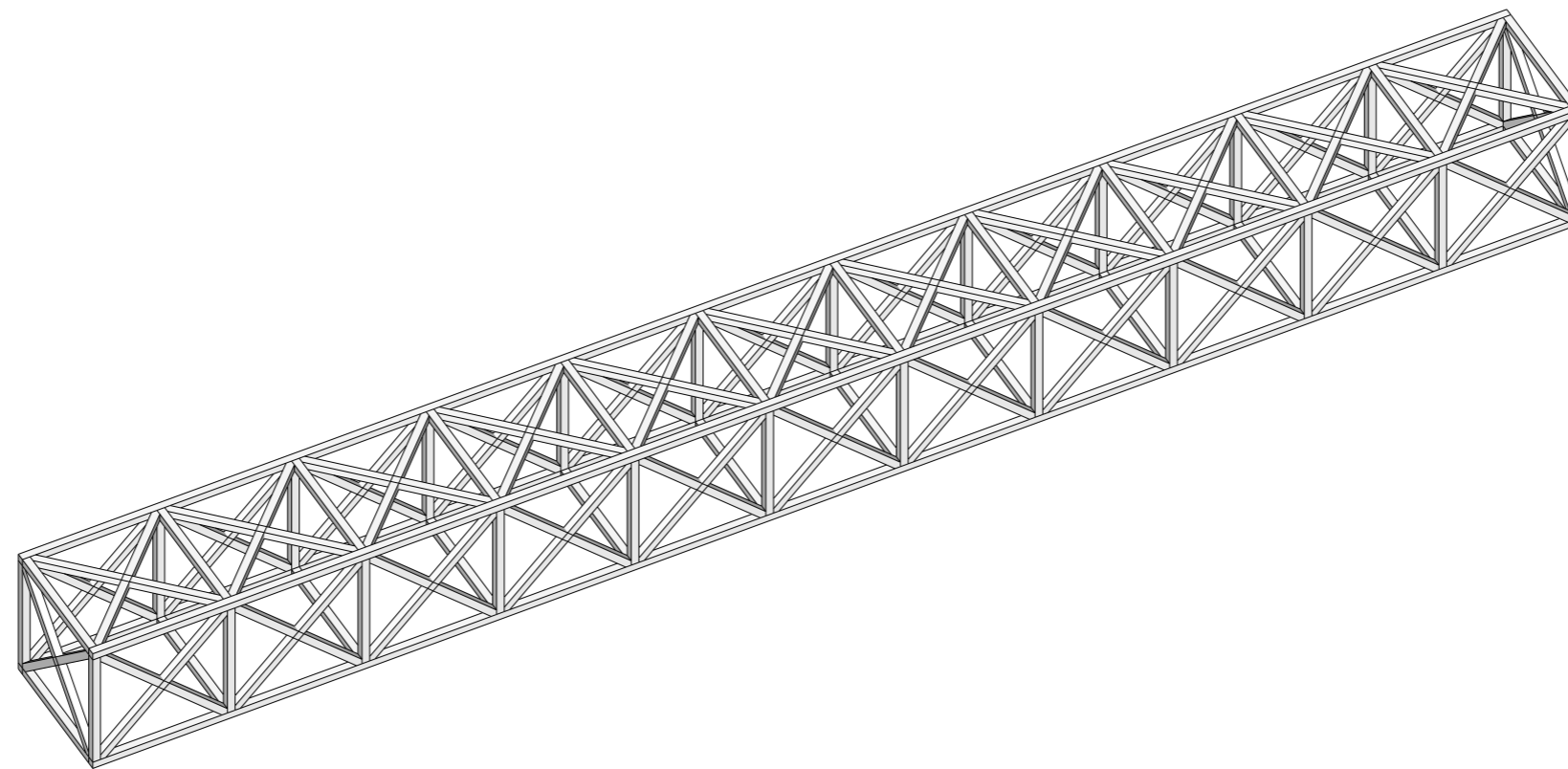
## *structural design*



**truss-structure** on top of the concrete base



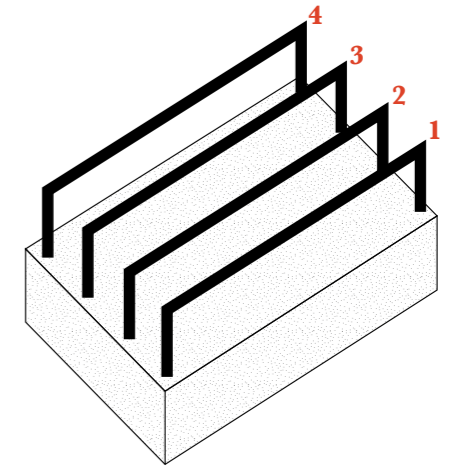
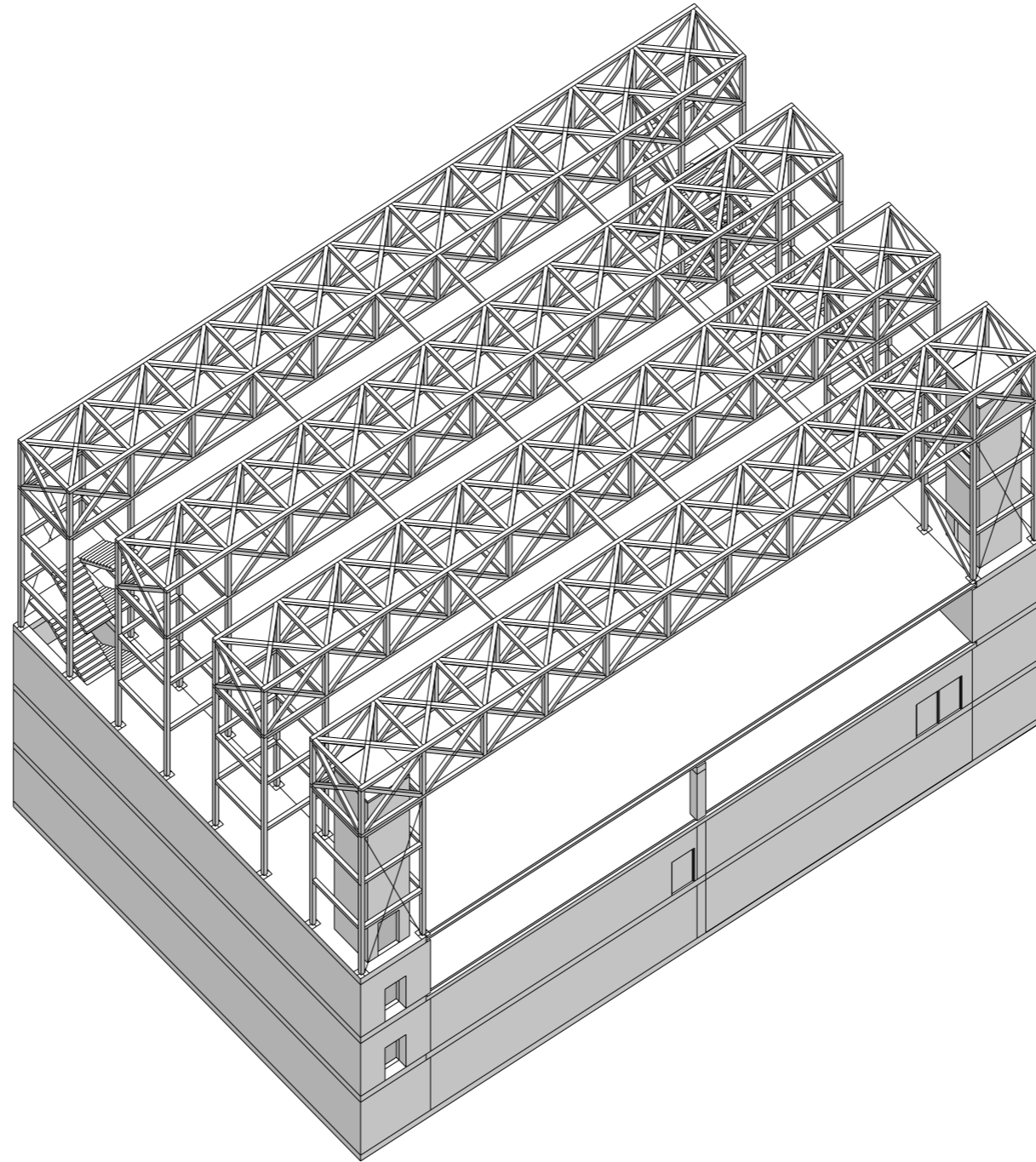
center-to-center: 3500mm. beam width: 200mm.



The truss-structures have systematically the same dimensions of 3500mm x3500mm center-to-center. Both the facades, as well as the roof structure are constructed with these same space-trusses. The dimensions of the trusses create space within for sanitary (at deck-level), stairs, elevators and floors. In the roof trusses these spaces are used for the technical grids, other hoist-systems and for creating a walkable path for technical staff. The bracing repeats systematically, but is left out at points where it is not needed or where an exception has to be made.

# THE URBAN THEATRE

*structural design*

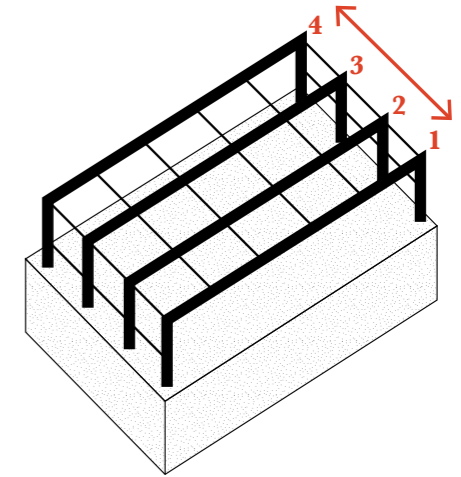
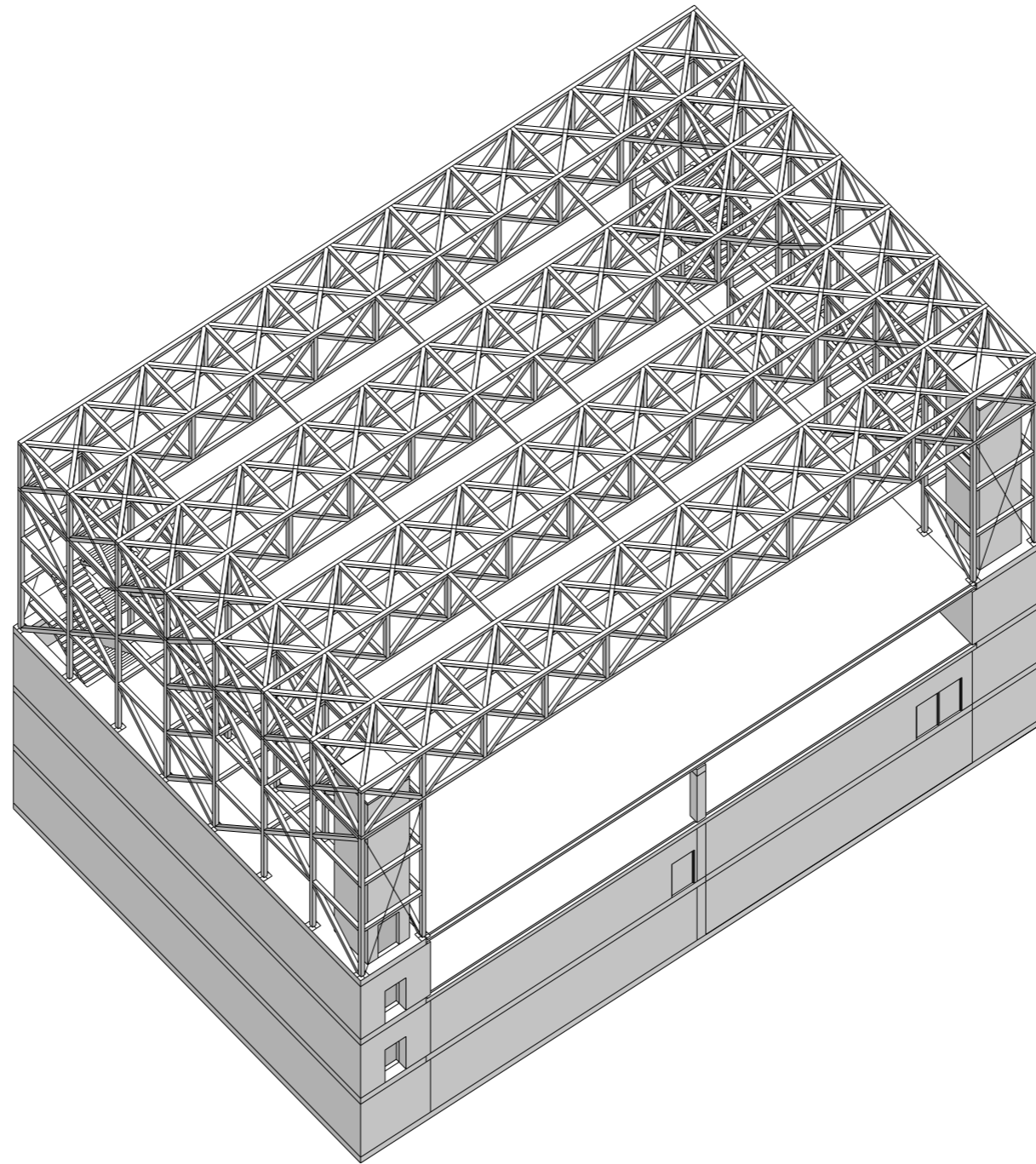


The space-trusses extend from the facade into the roof, as a sor of portal. Diagramatticaly spoken 4 portals are placed in a row.



# THE URBAN THEATRE

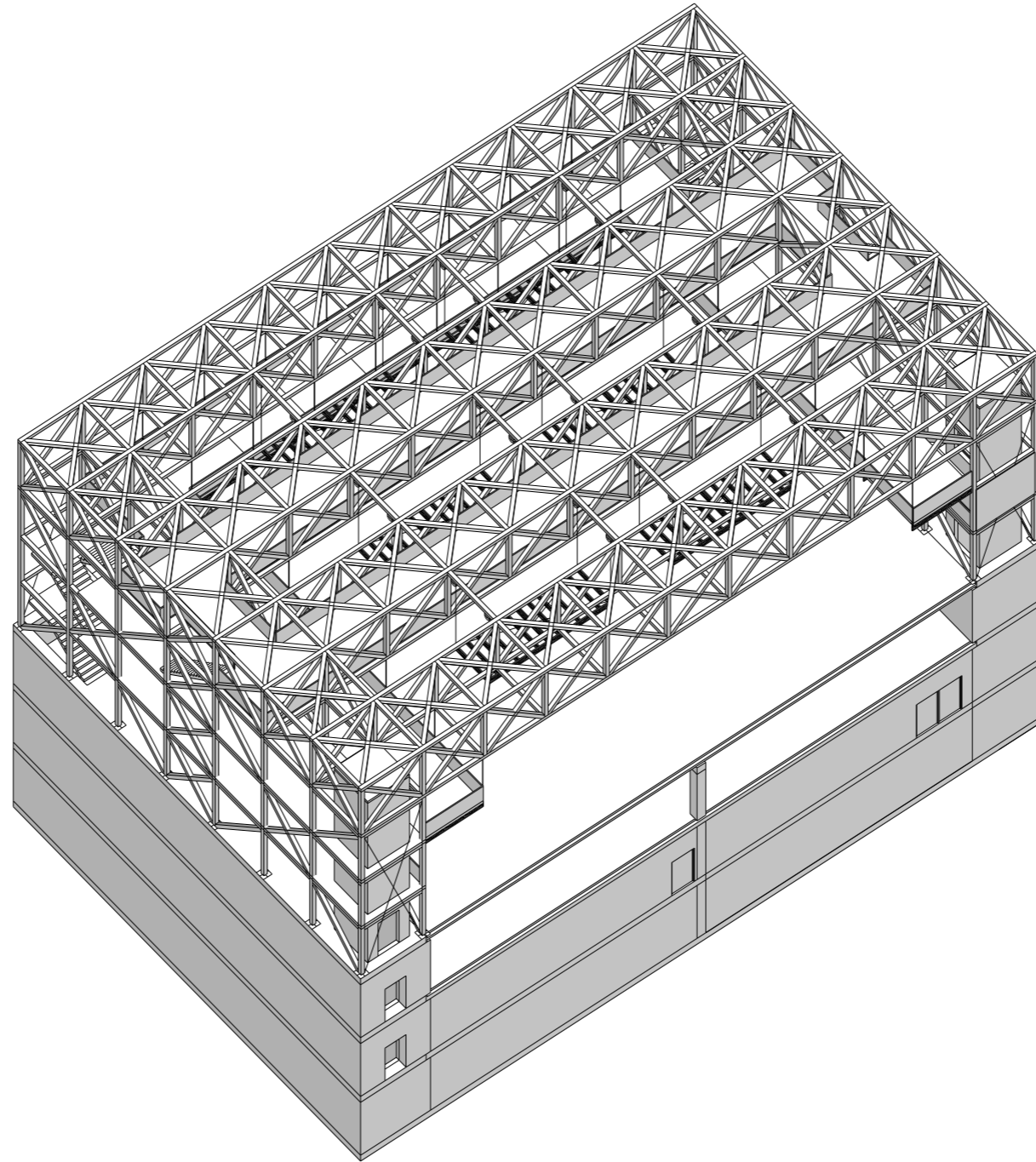
*structural design*



After which the 4 portals of trusses are then interconnected by beams and braces, becoming a stable whole.

# THE URBAN THEATRE

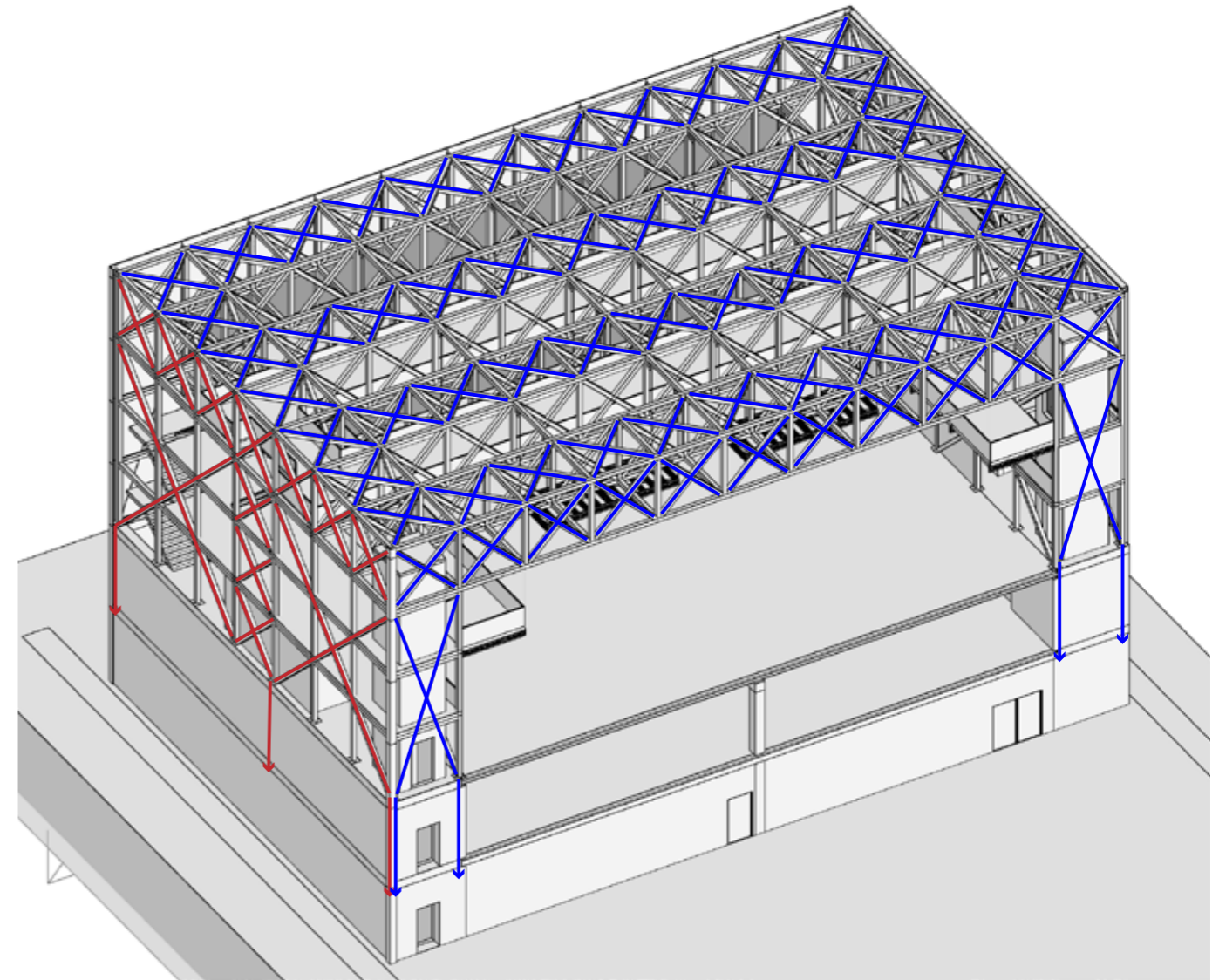
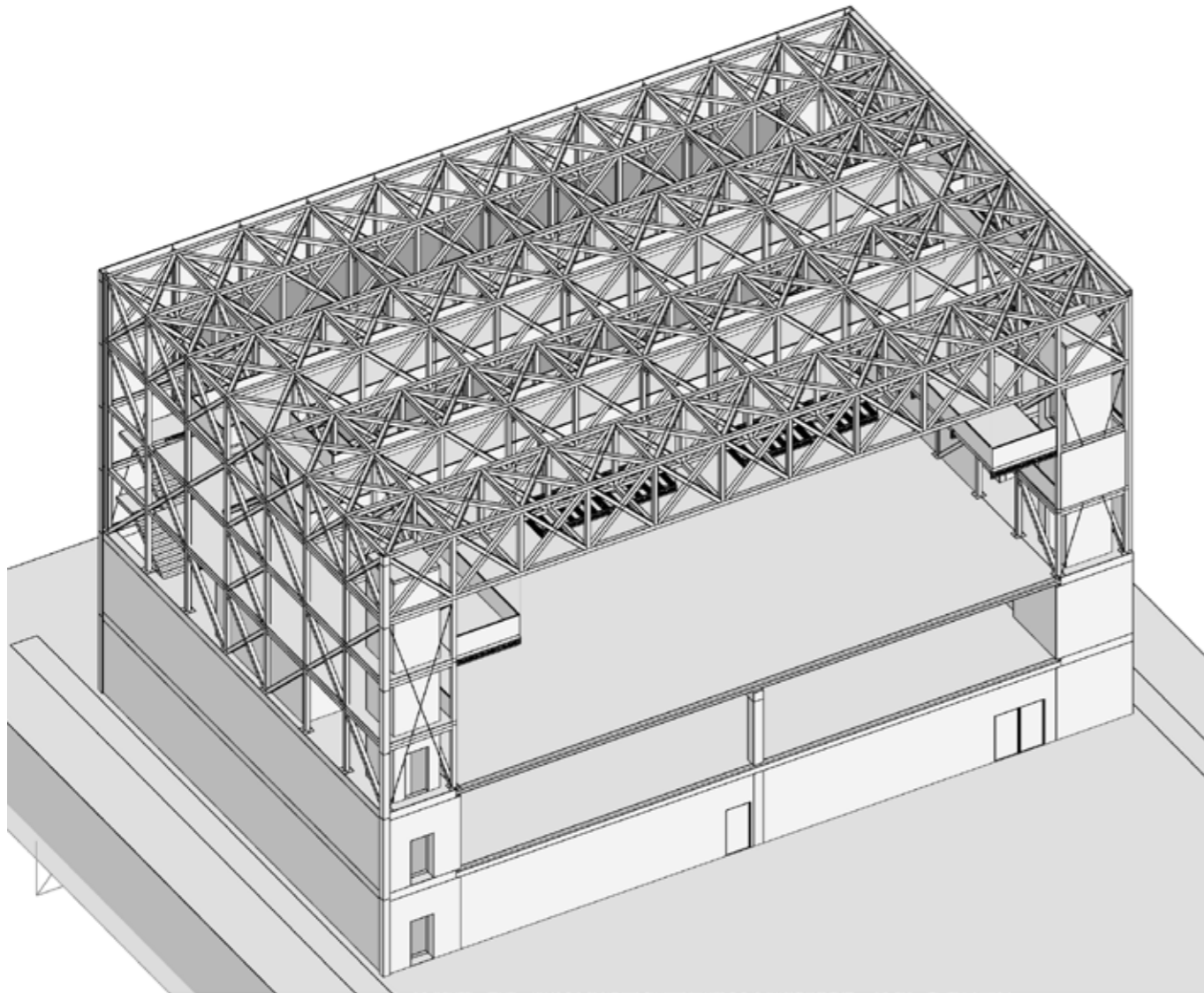
*structural design*



The spaces in between the primary portals are being used for the technical grids and other hoisting systems. Inside two of the primary roof-trusses there is a walkable floor for technical purposes.

# THE URBAN THEATRE

*structural design*

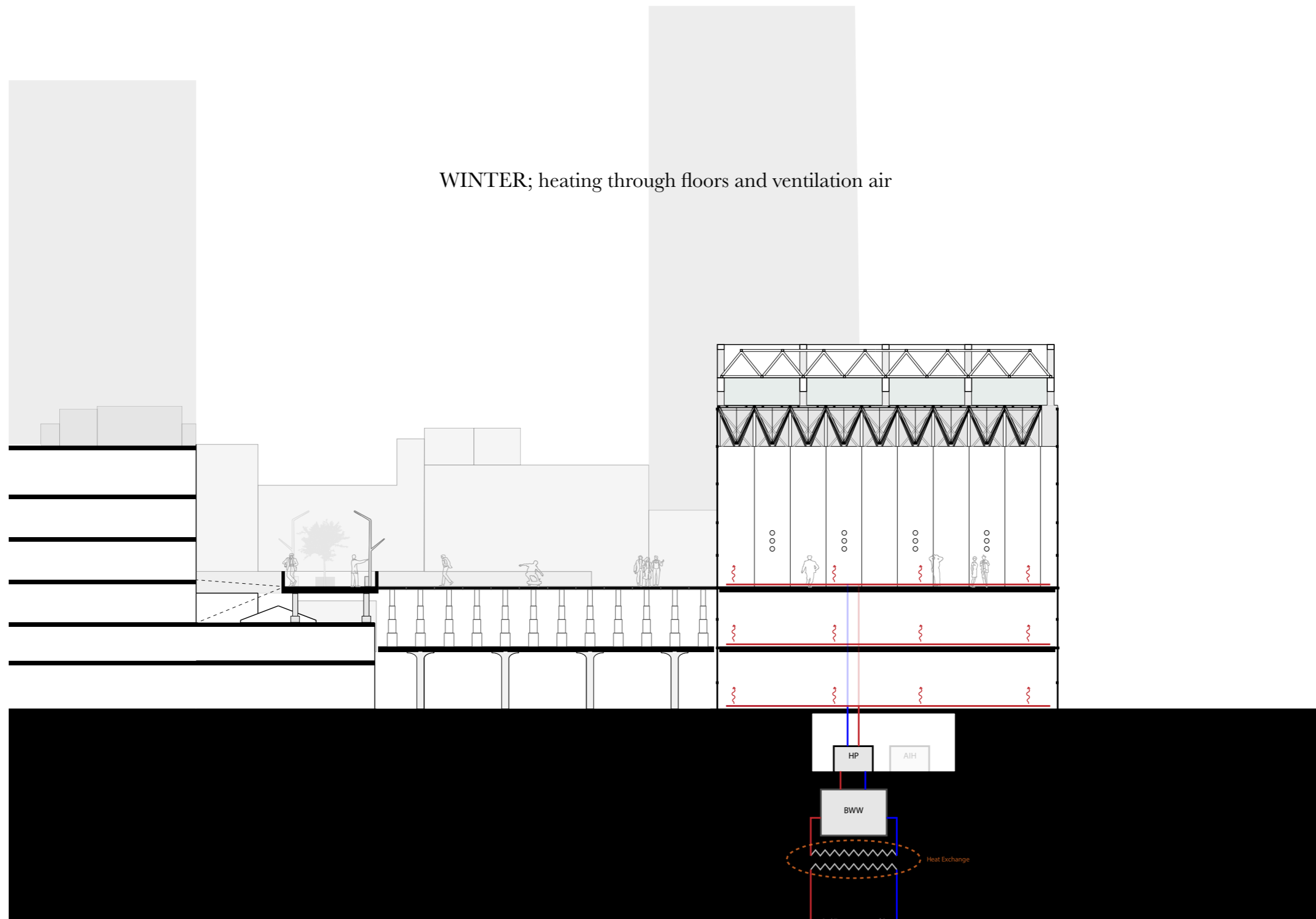


The beams running through the trusses are in terms of stability organized in such a way that they work together as a whole, leading all the (wind) forces on the roof and facades down to the concrete base.

# THE URBAN THEATRE

*climate principles*

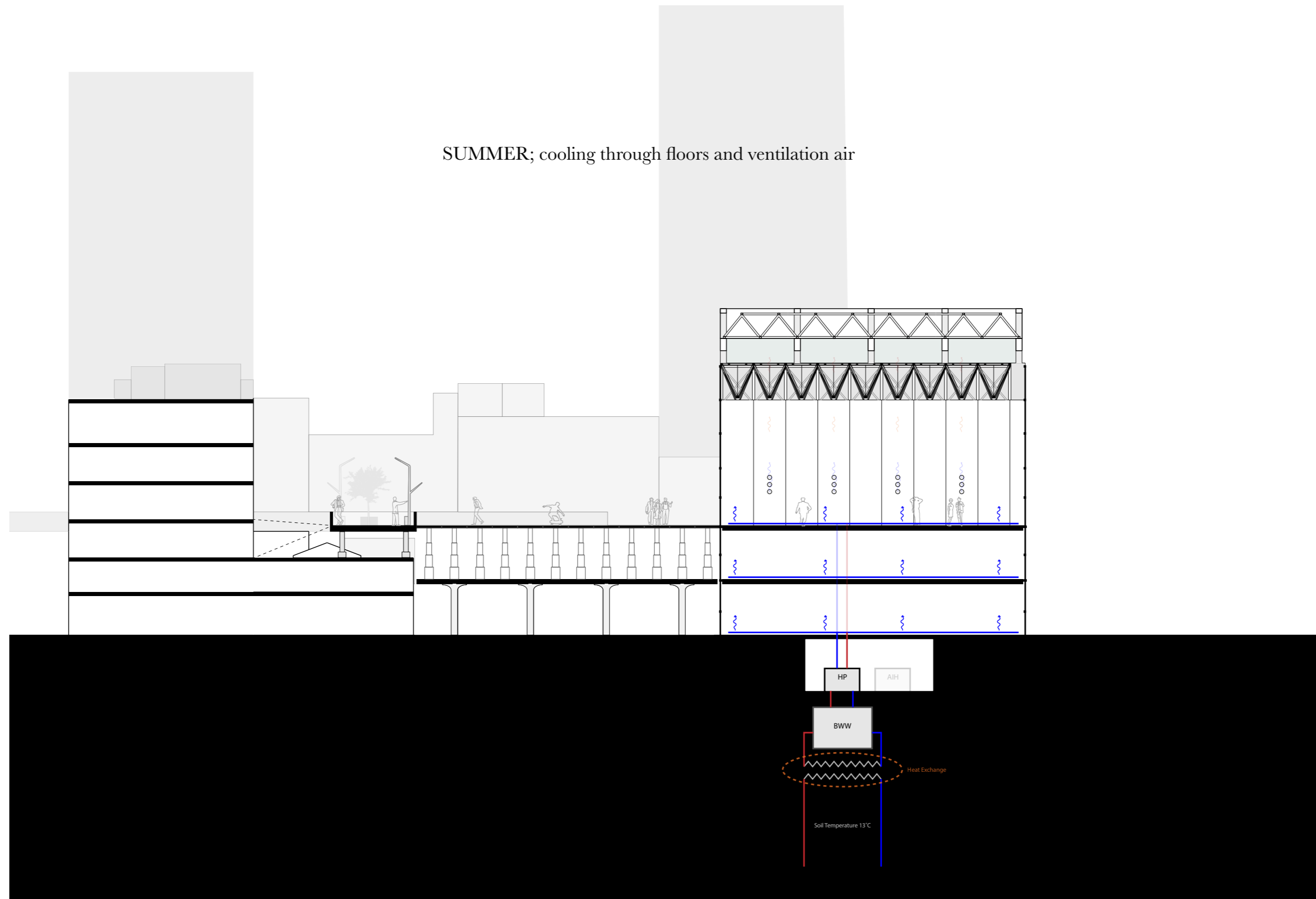
WINTER; heating through floors and ventilation air



# THE URBAN THEATRE

*climate principles*

SUMMER; cooling through floors and ventilation air

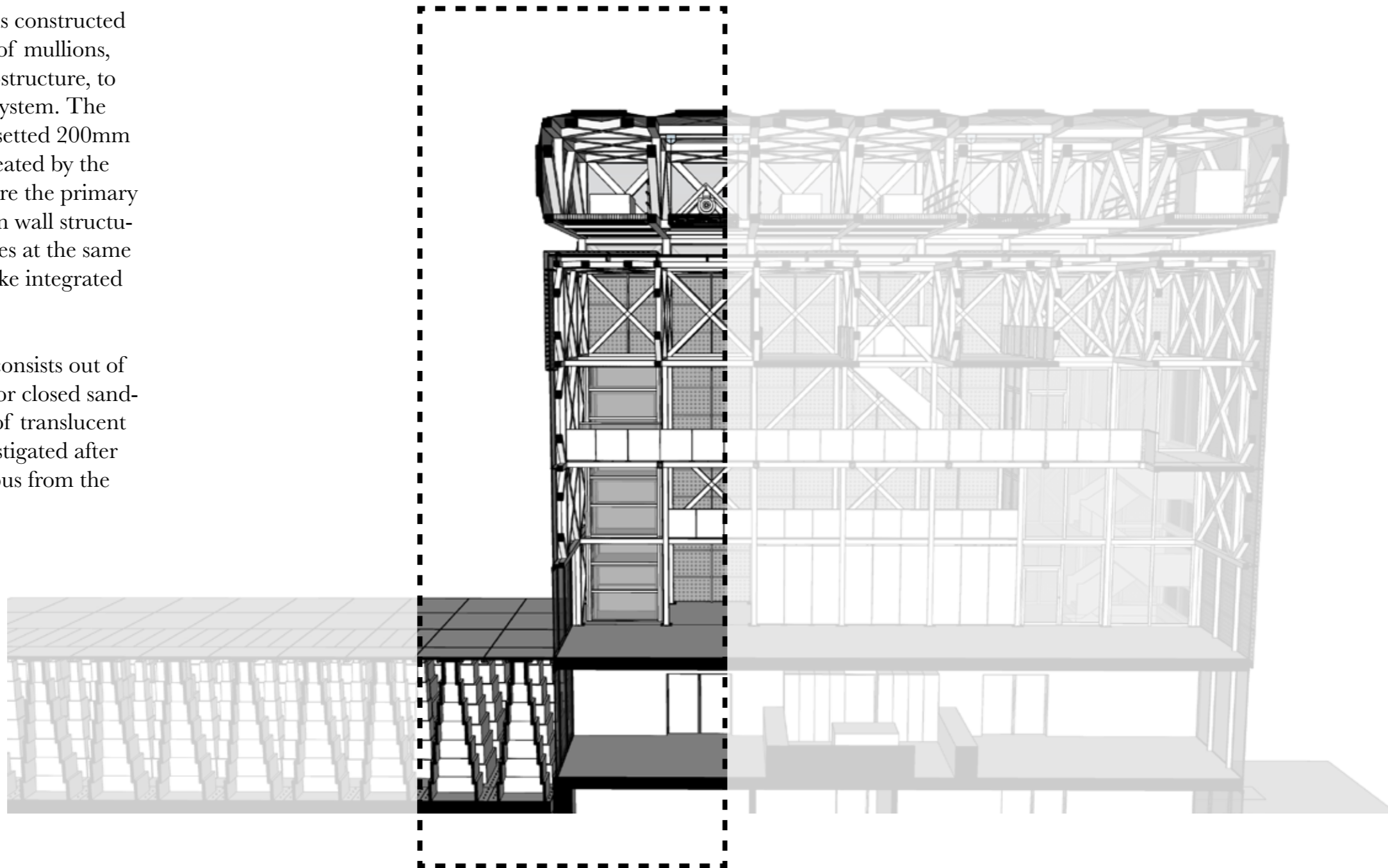


# THE URBAN THEATRE

*facade fragment in perspective*

The skin of the building is constructed by a secondary structure of mullions, against the primary truss-structure, to support the curtain wall system. The secondary structure is offsetted 200mm from the facade and is created by the vertical mullions, which are the primary load bearers in the curtain wall structure. This offset space creates at the same time space for elements like integrated sun-blinds.

The curtain wall system consists out of either open glass-panels, or closed sandwich panels (application of translucent natural stone will be investigated after P4). This system contineous from the facade into the roof.

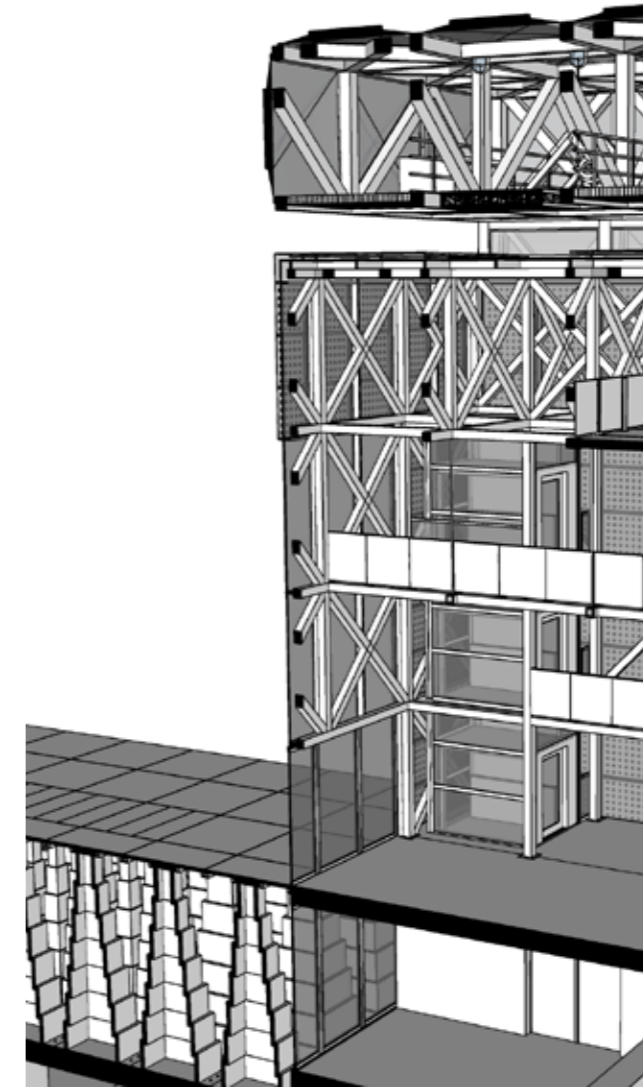
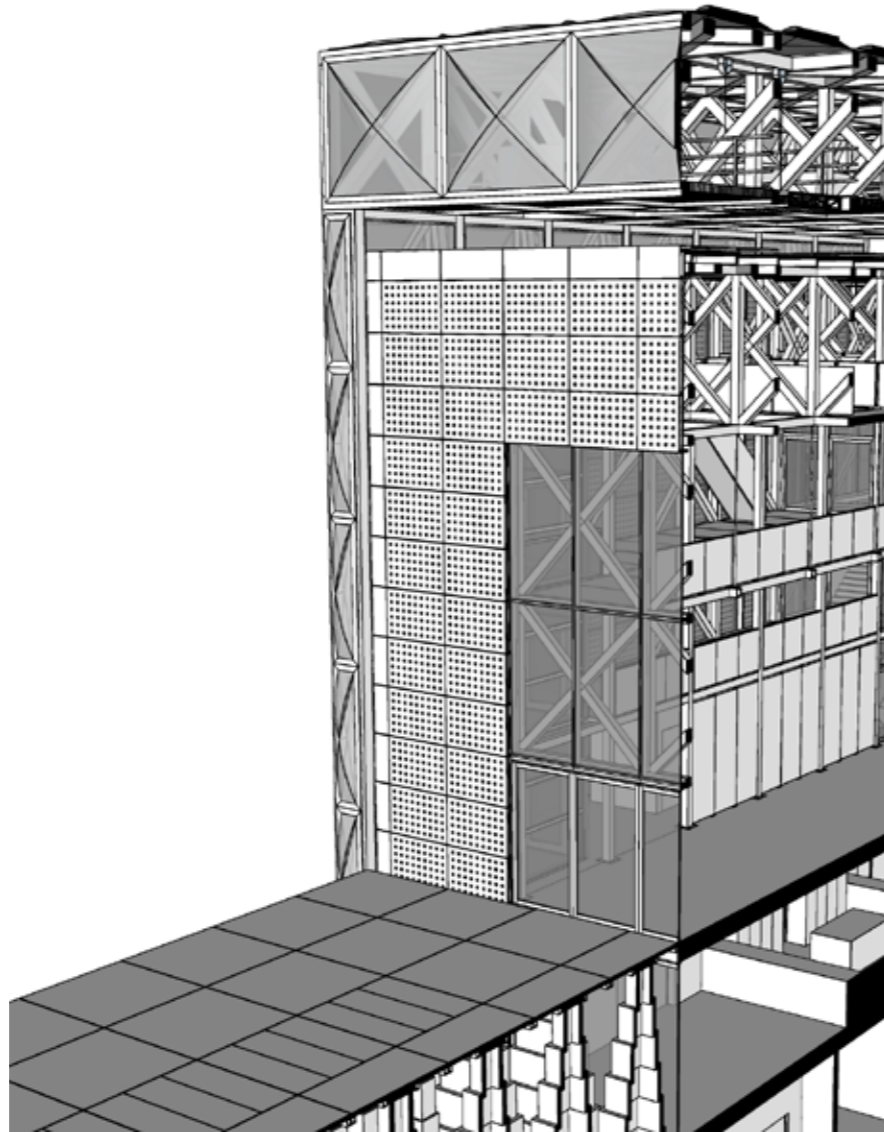


- work in progress -

x-Domain | City of the Future  
Cem Ada 4163370

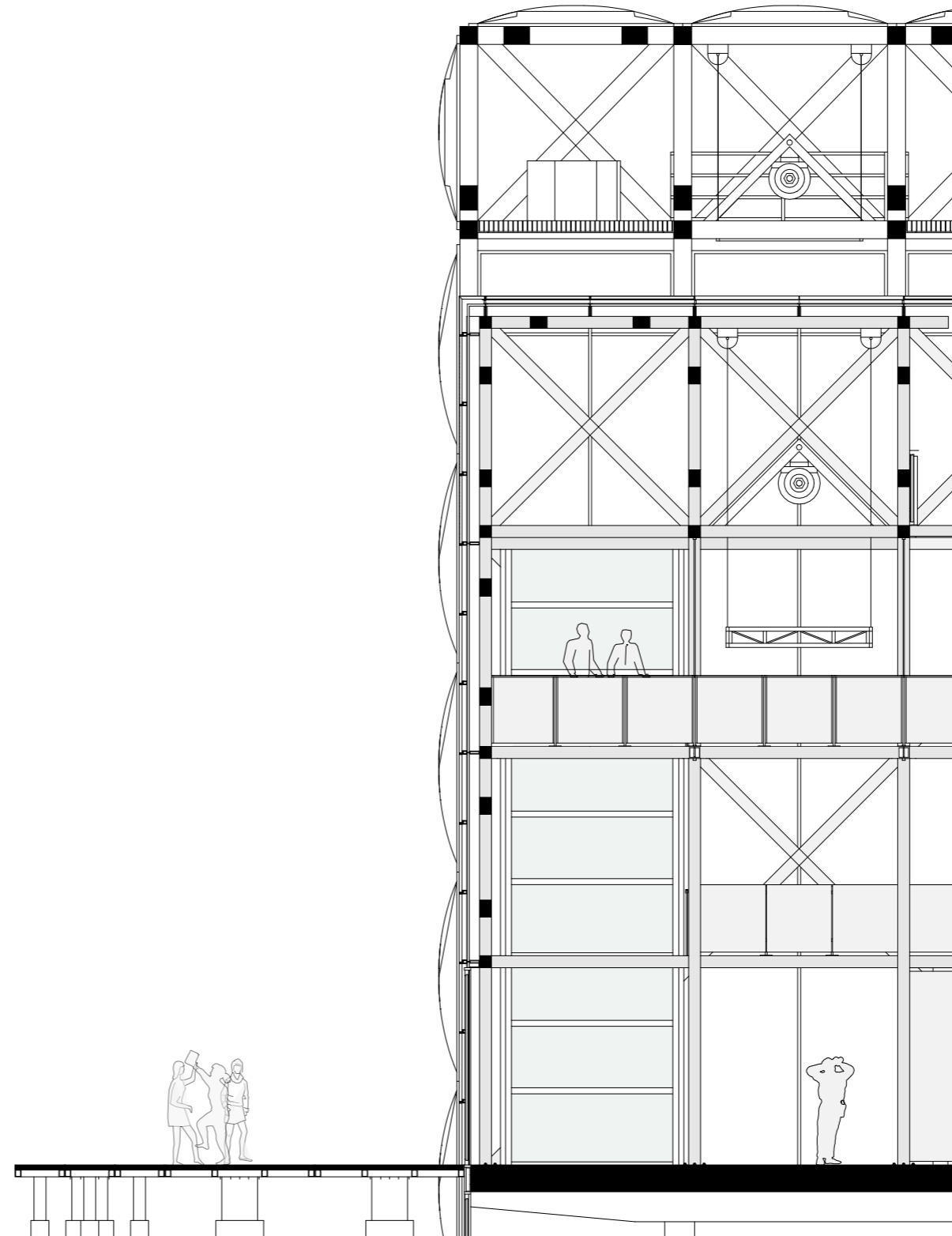
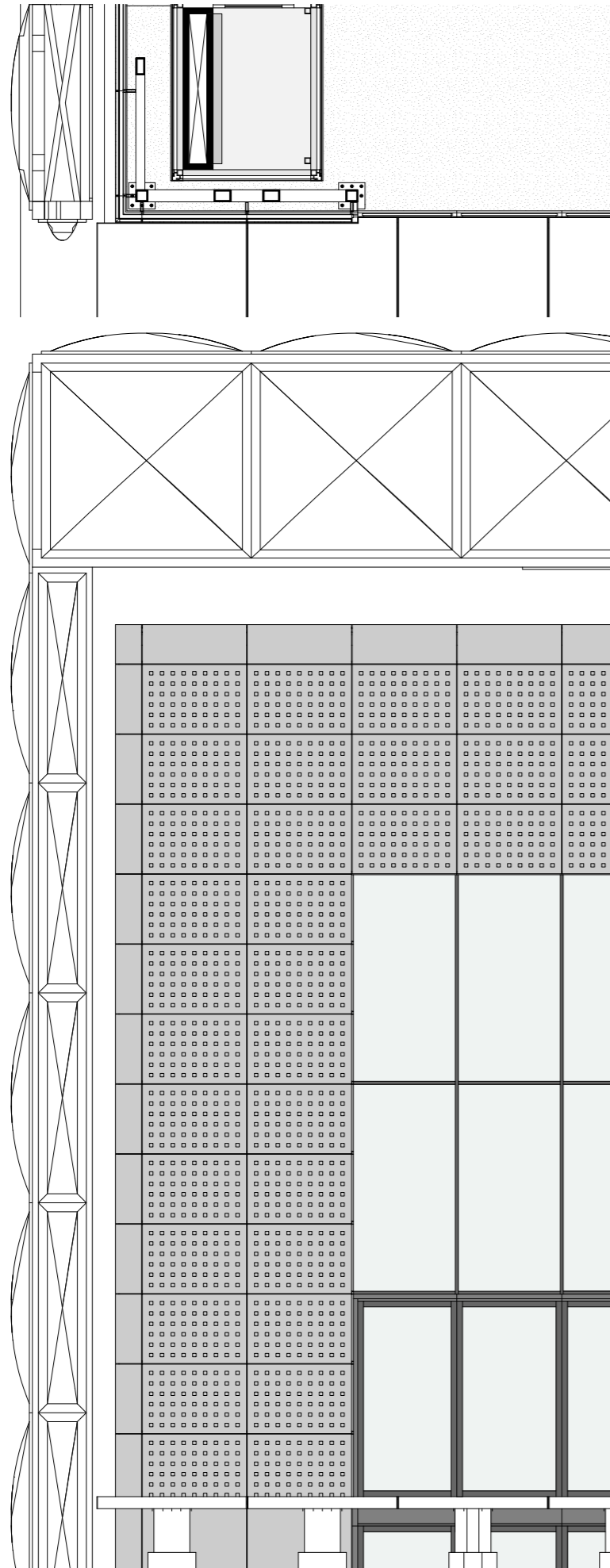
# THE URBAN THEATRE

*facade fragment perspectives*



# THE URBAN THEATRE

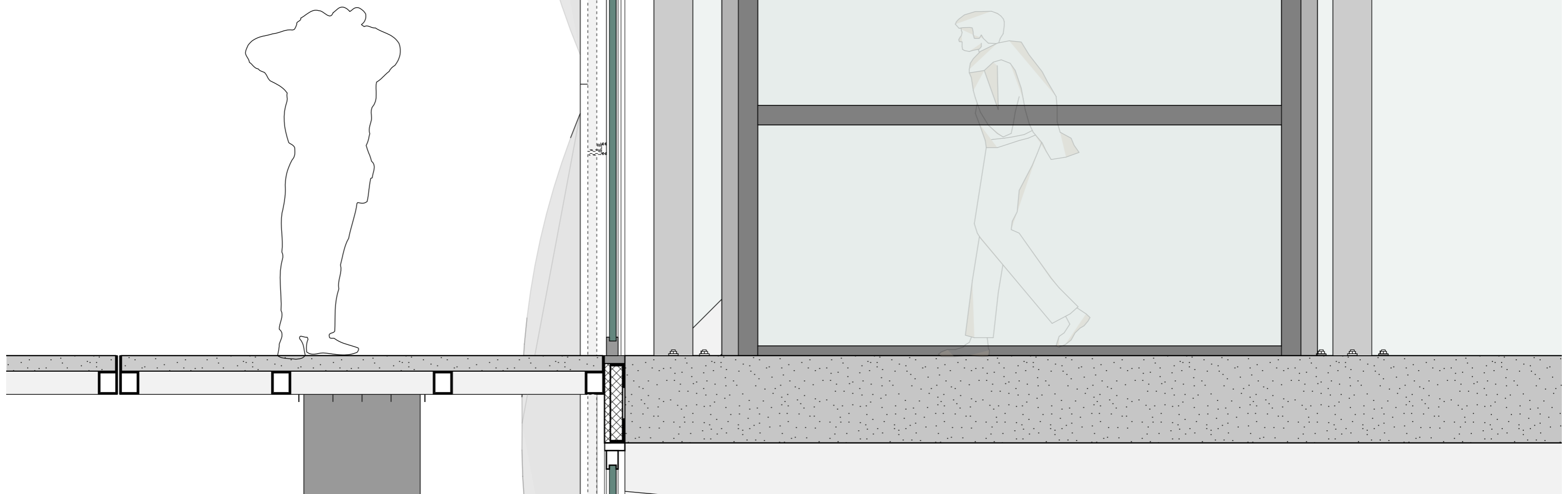
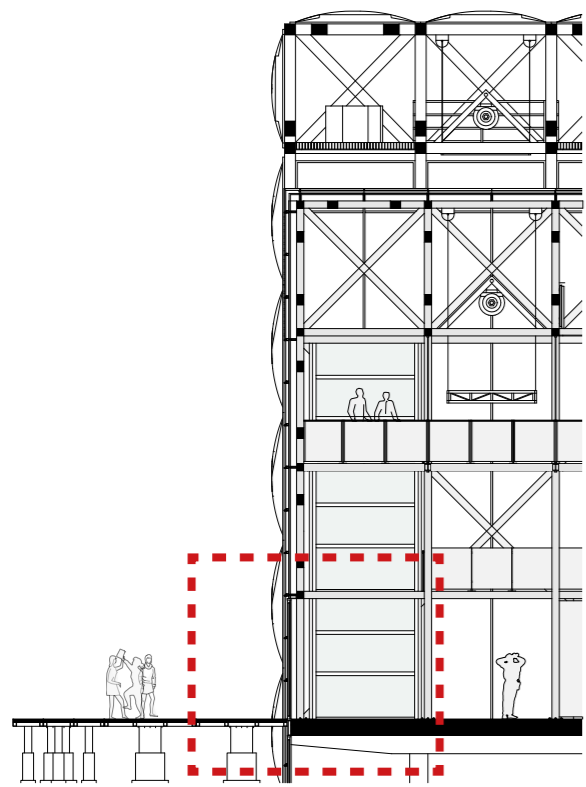
*fragment 1:100*





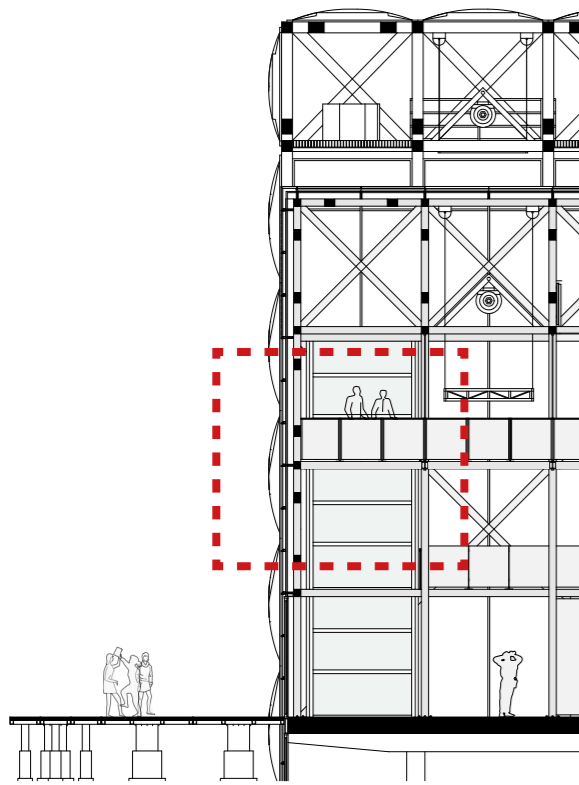
# THE URBAN THEATRE

*fragment deck-level 1:20*



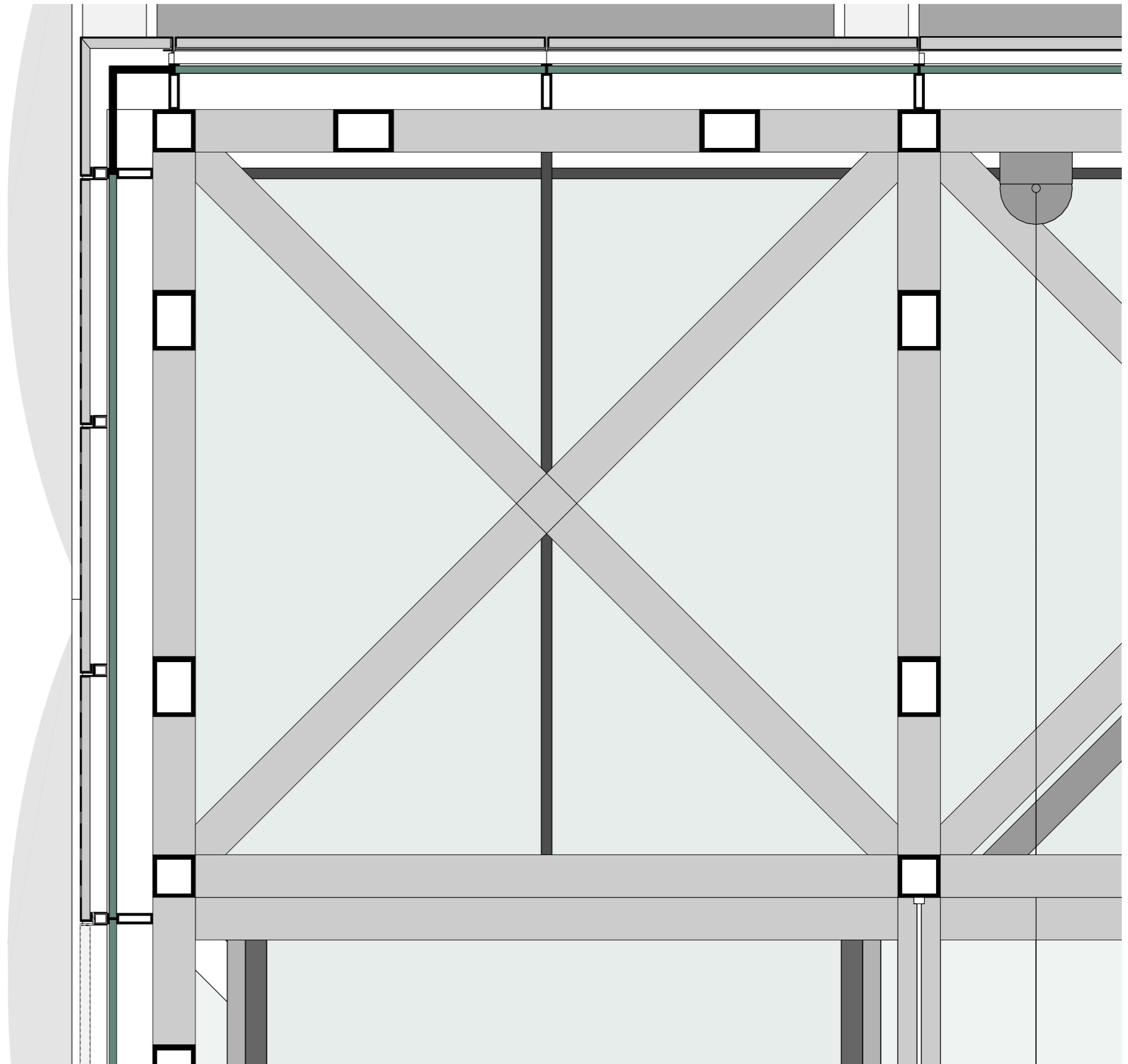
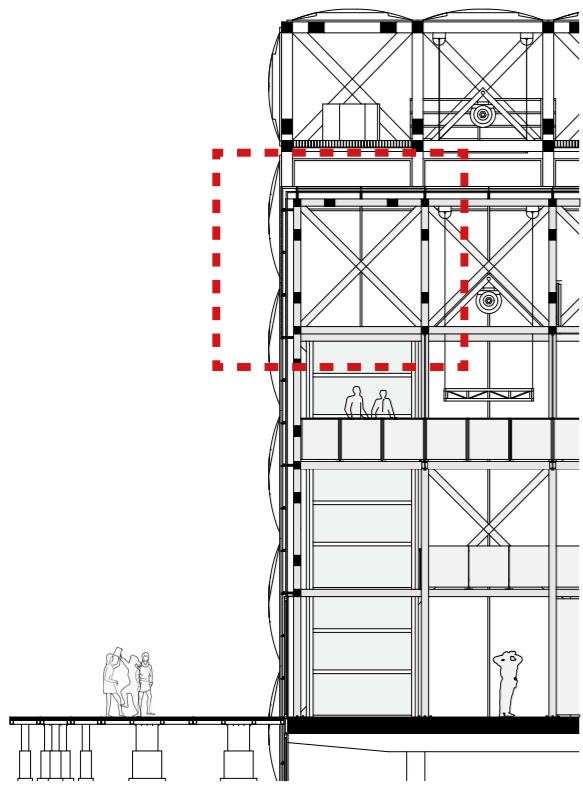
# THE URBAN THEATRE

*fragment gallery-level 1:20*



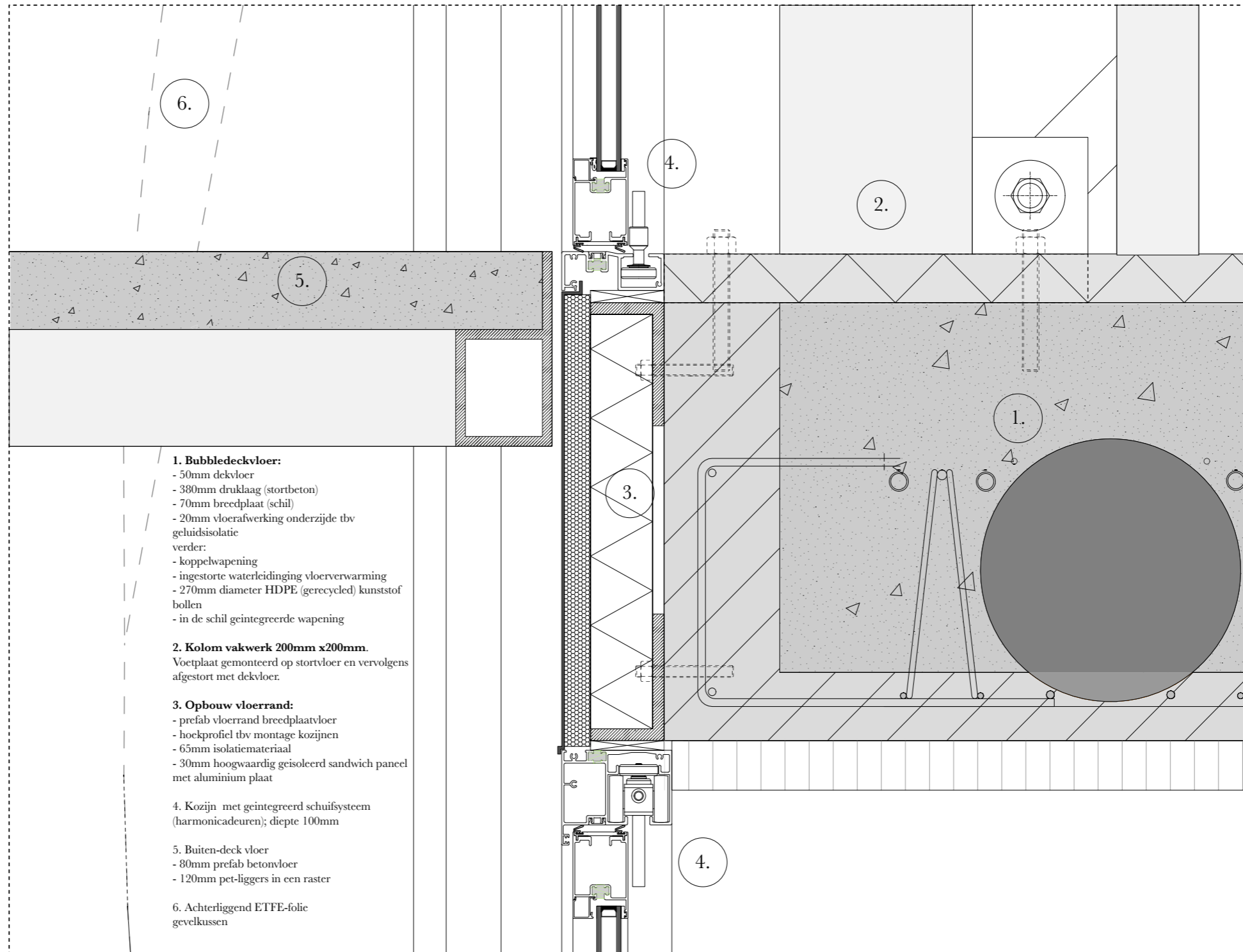
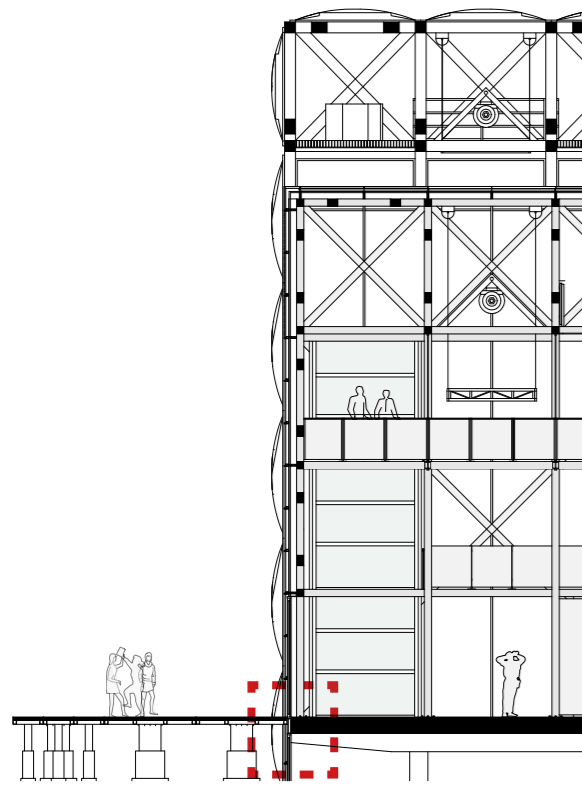
# THE URBAN THEATRE

*fragment roof 1:20*



# THE URBAN THEATRE

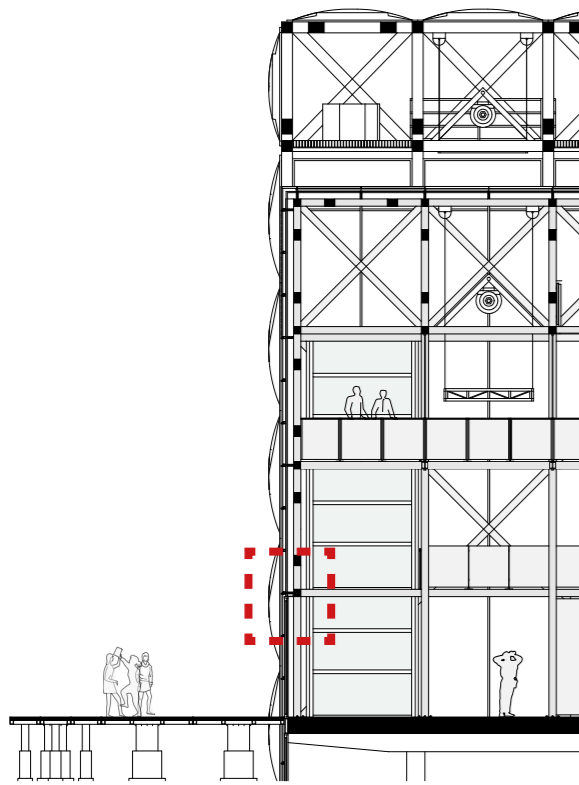
*detail deck-level 1:5*



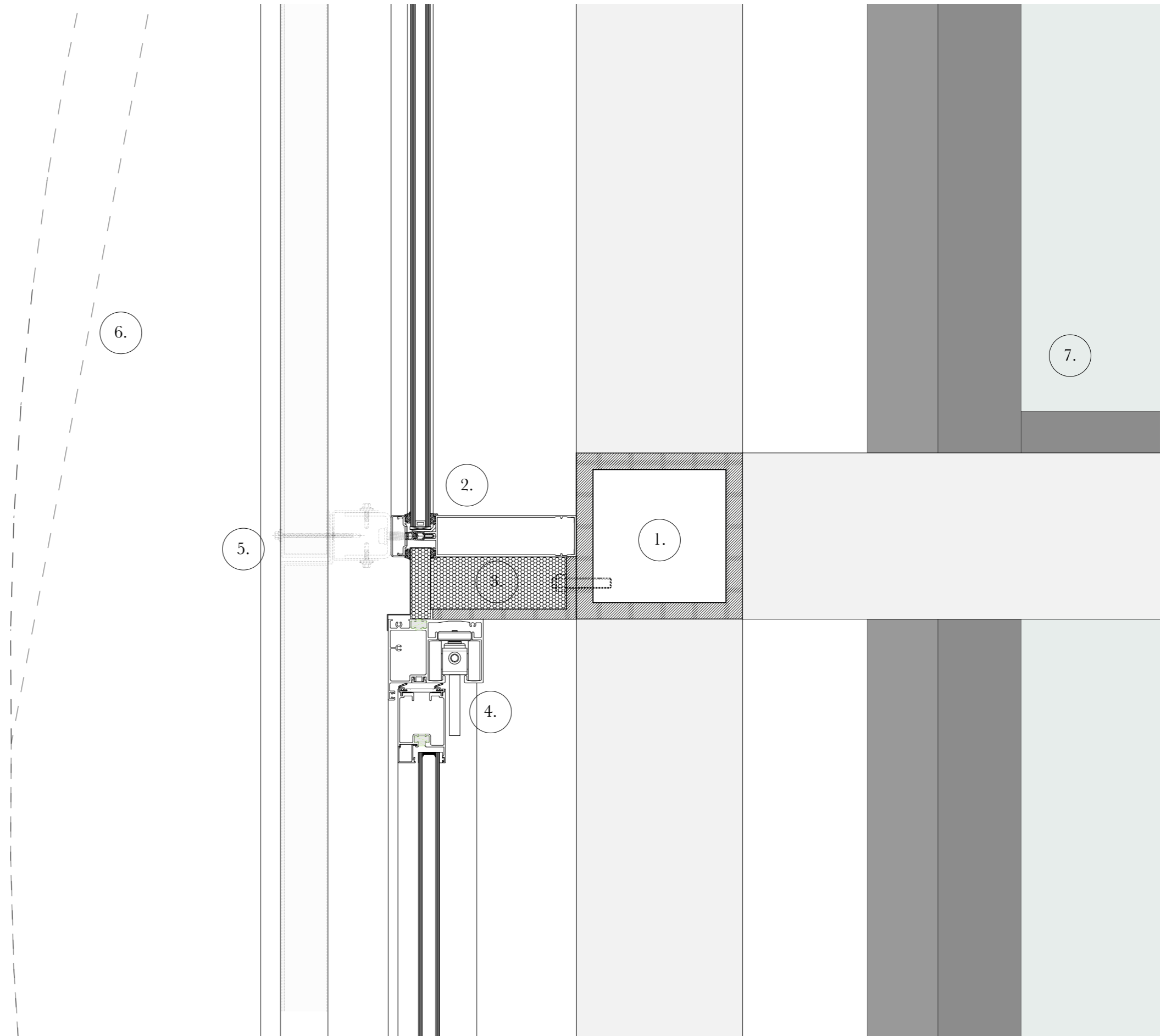
- 1. Bubbledeckvloer:**
- 50mm dekvloer
  - 380mm druklaag (stortbeton)
  - 70mm breedplaat (schil)
  - 20mm vloerafwerking onderzijde t.b.v. geluidsisolatie
  - verder:
  - koppelwapening
  - ingestorte waterleiding vloerverwarming
  - 270mm diameter HDPE (gerecycled) kunststof bollen
  - in de schil geïntegreerde wapening
- 2. Kolom vakwerk 200mm x200mm.**  
Voetplaat gemonteerd op stortvloer en vervolgens afgestort met dekvloer.
- 3. Opbouw vloerrand:**
- prefab vloerrand breedplaatvloer
  - hoekprofiel t.b.v. montage kozijnen
  - 65mm isolatiemateriaal
  - 30mm hoogwaardig geïsoleerd sandwich paneel met aluminium plaat
4. Kozijn met geïntegreerd schuifstelsel (harmonicadeuren); diepte 100mm
5. Buiten-deck vloer
- 80mm prefab betondekvloer
  - 120mm pet-liggers in een raster
6. Achterliggend ETFE-folie gevelkussen

# THE URBAN THEATRE

*detail gallery floor 1:5*

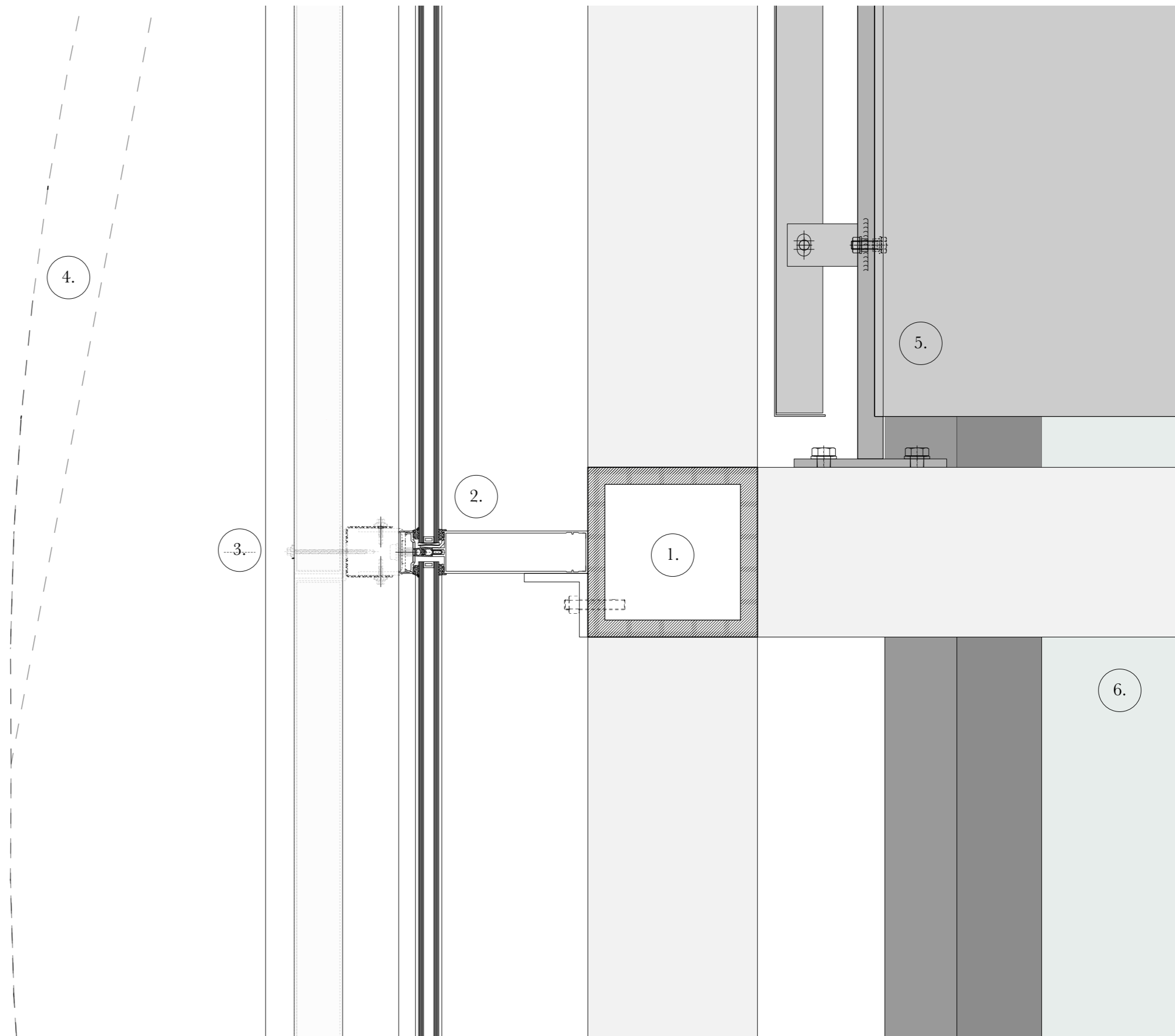
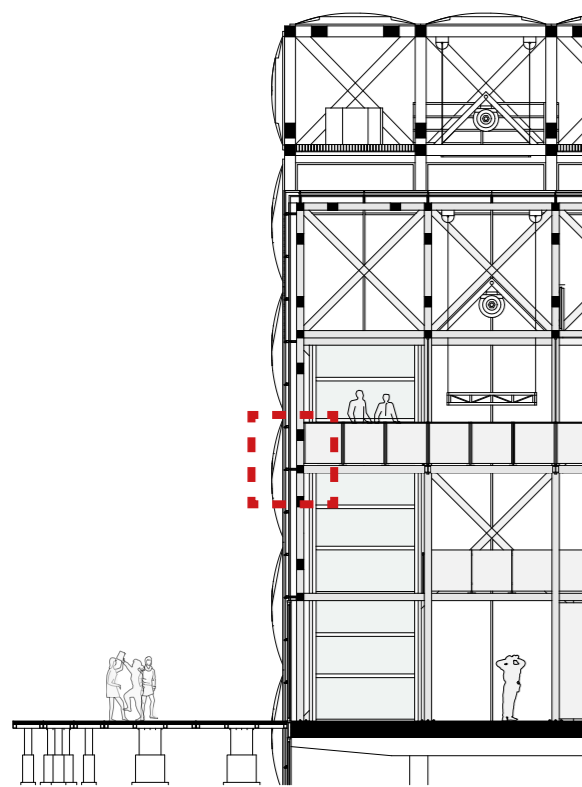


1. 200mm x200mm stalen vakwerk constructie
2. Reynaers aluminium kozijnen met totale diepte 220mm
3. Plaatselijk stalen L-profiel gemonteerd aan vakwerkconstructie t.b.v montage kozijnen. Opgevuld met hoogwaardig isolatiemateriaal.
4. Aluminium kozijn met geïntegreerd vouwsysteem (harmonicadeuren) totale diepte 110mm
5. Achterliggend aluminium-platen gevelsysteem
5. Achterliggend ETFE-folie gevelkussen
6. Achterliggend liftschacht



# THE URBAN THEATRE

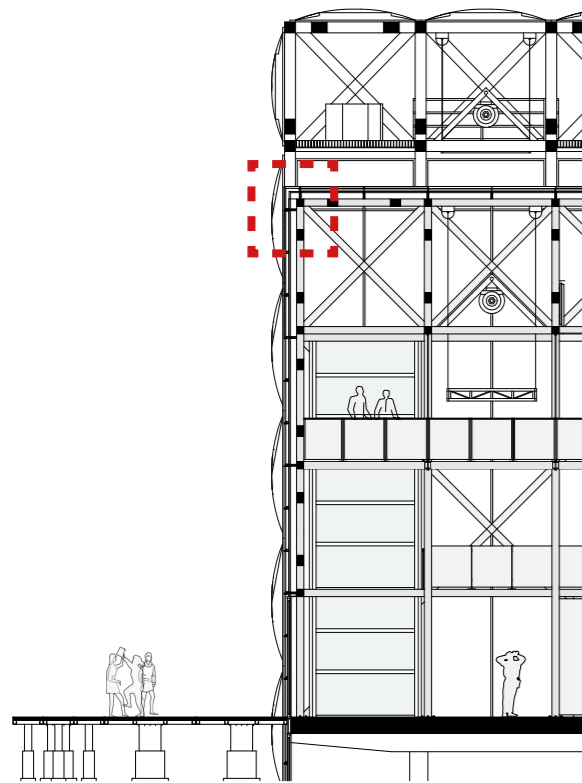
*detail gallery floor 1:5*



- 1. 200mm x200mm stalen vakwerk constructie
- 2. Reynaers aluminium kozijnen met totale diepte 220mm
- 3. Achterliggend aluminium-platen gevelsysteem
- 4. Achterliggend ETFE-folie gevelkussen
- 5. Balustrade van aluminium platen
- 6. Achterliggend liftschacht

# THE URBAN THEATRE

*detail roof 1:5*



1. 200mm x200mm stalen vakwerk constructie

2. Reynaers aluminium kozijnen met totale diepte 220mm

3. Gevelconstructie geperforeerde aluminium platen, bestaande uit:

- Metalen bevestigingsclips gemonteerd op kopse kanten aluminium kozijnen. Hierbij zijn de afdekstrips van de kozijnen weggelaten, om de clips te kunnen monteren.

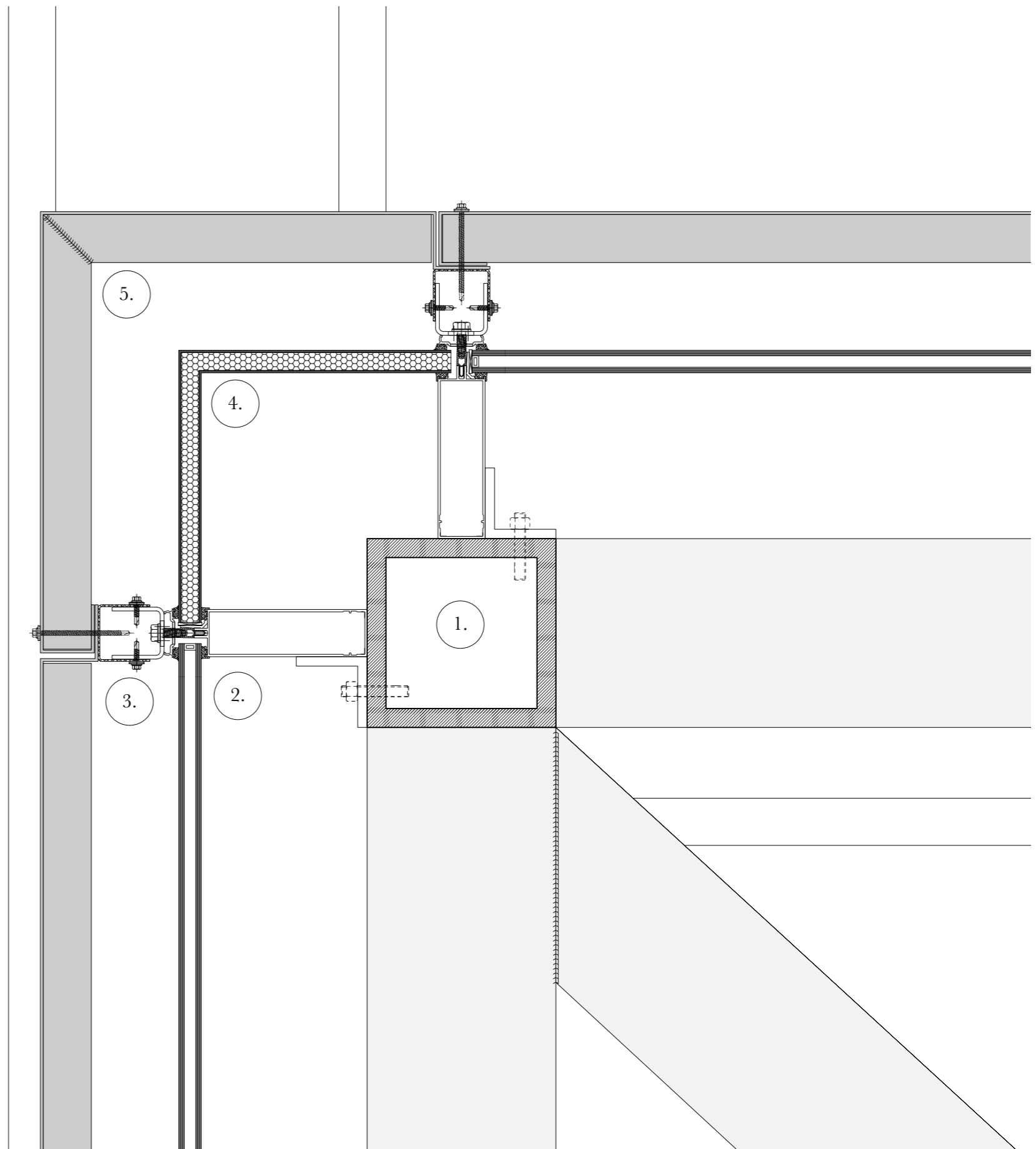
- Horizontale gevel-dragers die aan de clips worden bevestigd.

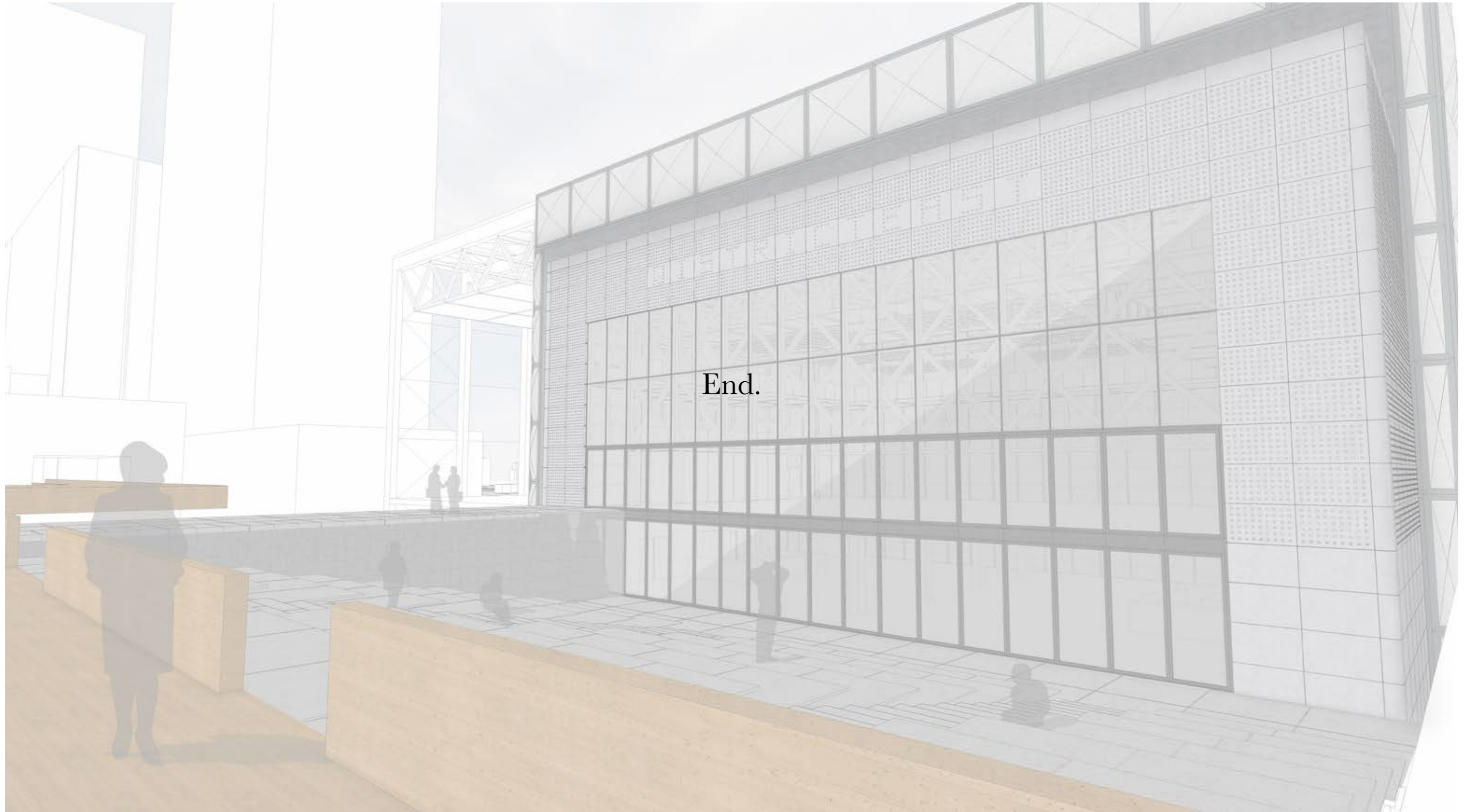
- Overlappende aluminium gevelplaten (1740mm x 1150mm x 55mm) die op de dragers worden gemonteerd.

4. Hoek-sandwich paneel met hoogwaardige en drukvaste isolatie en aluminium afdekplaten.

5. Gevouwen aluminium hoekplaat

6. Achterliggend ETFE-folie gevelkussen



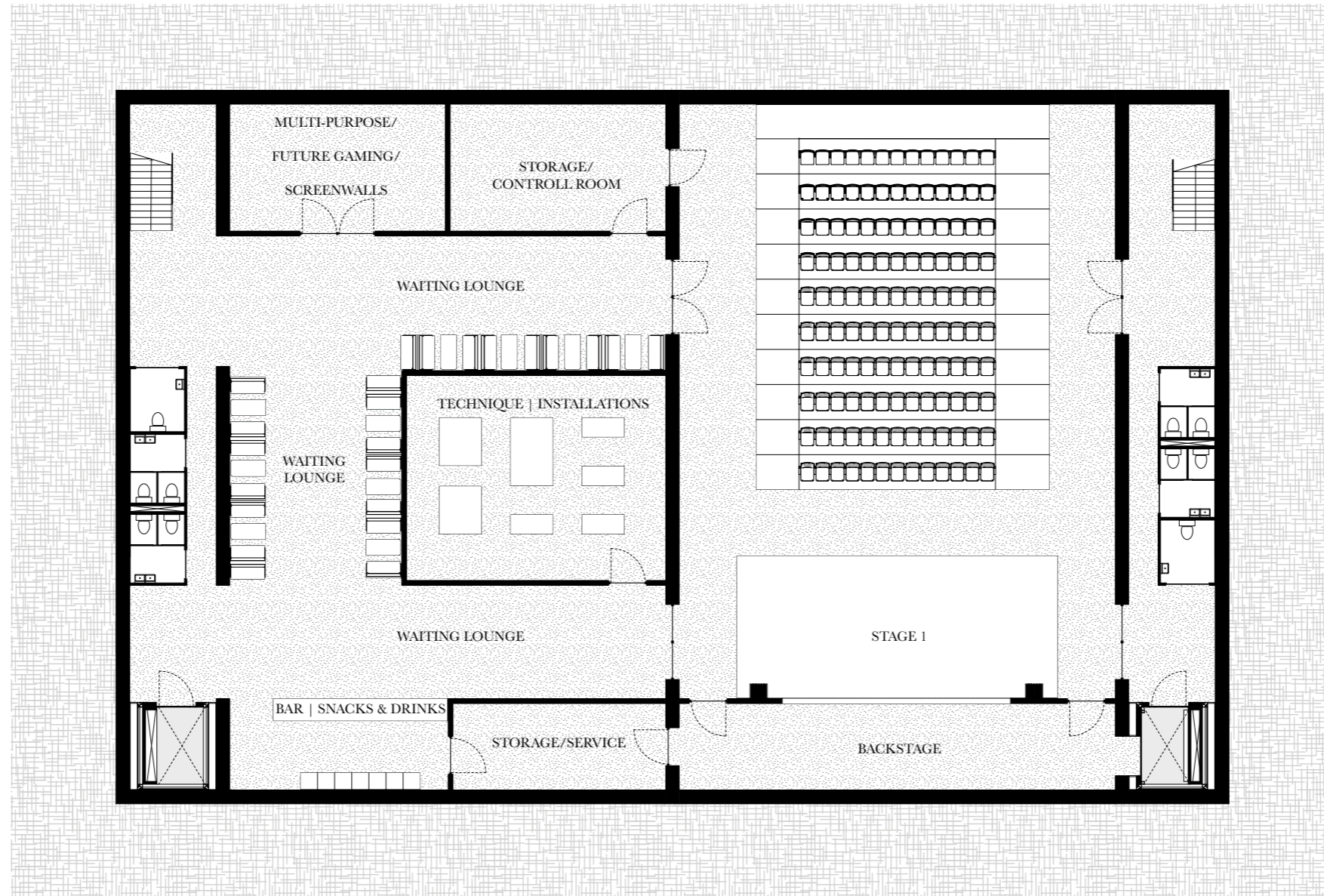


End.



# THE URBAN THEATRE

*floorplan level -1*

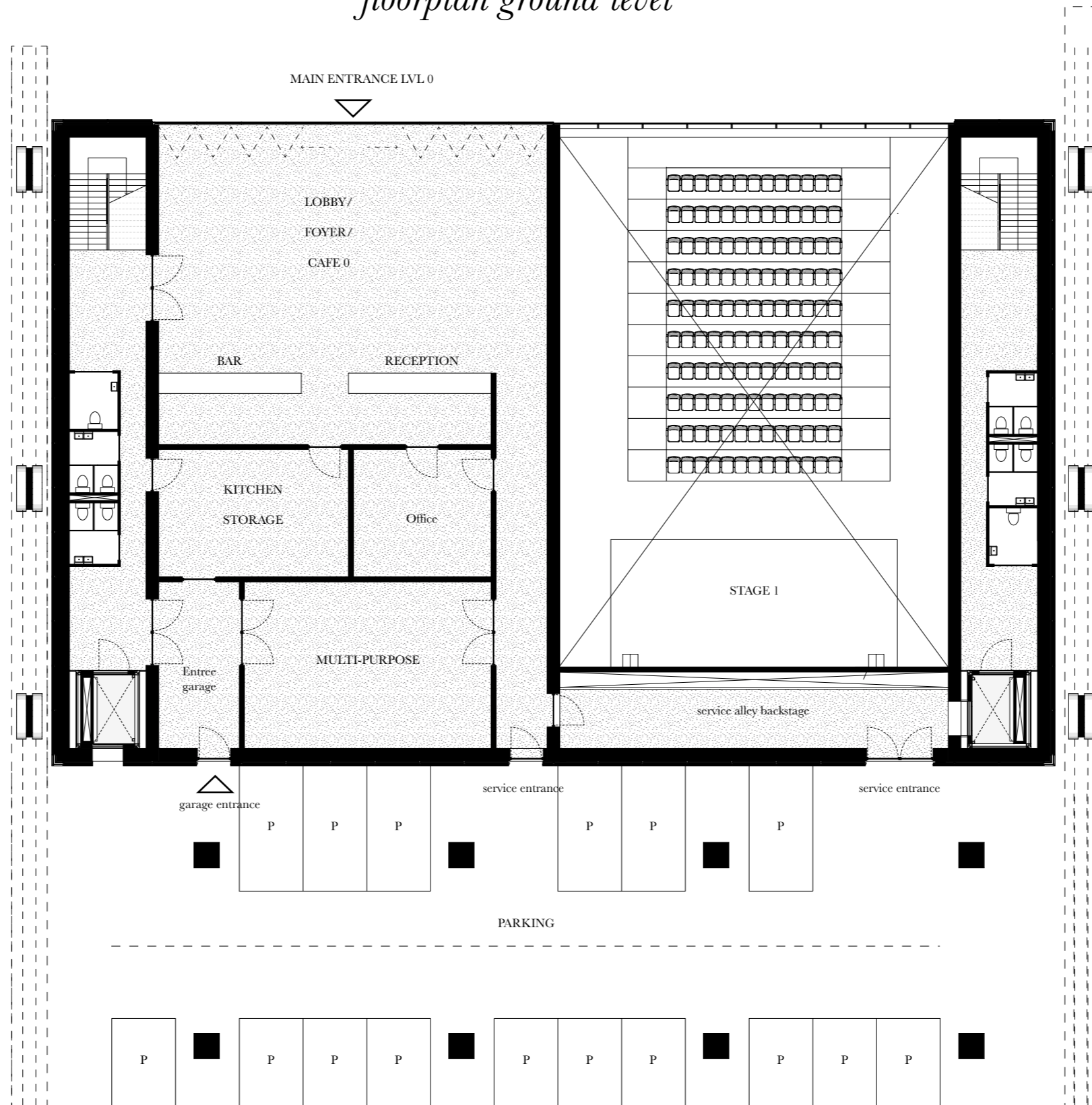


Scale 1:200 [A3]



# THE URBAN THEATRE

*floorplan ground level*

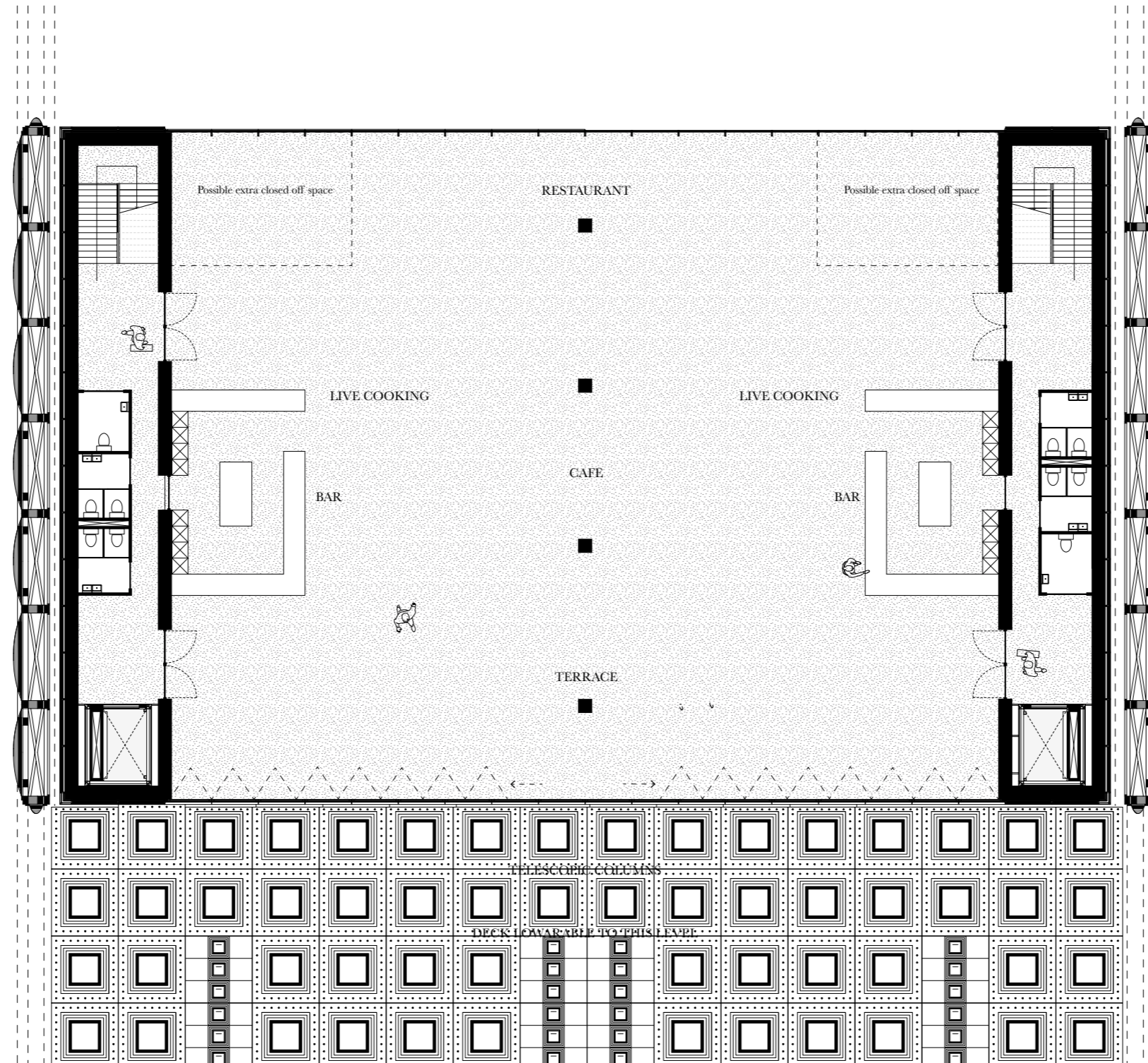


Scale 1:200 [A3]



# THE URBAN THEATRE

*floorplan level +1*

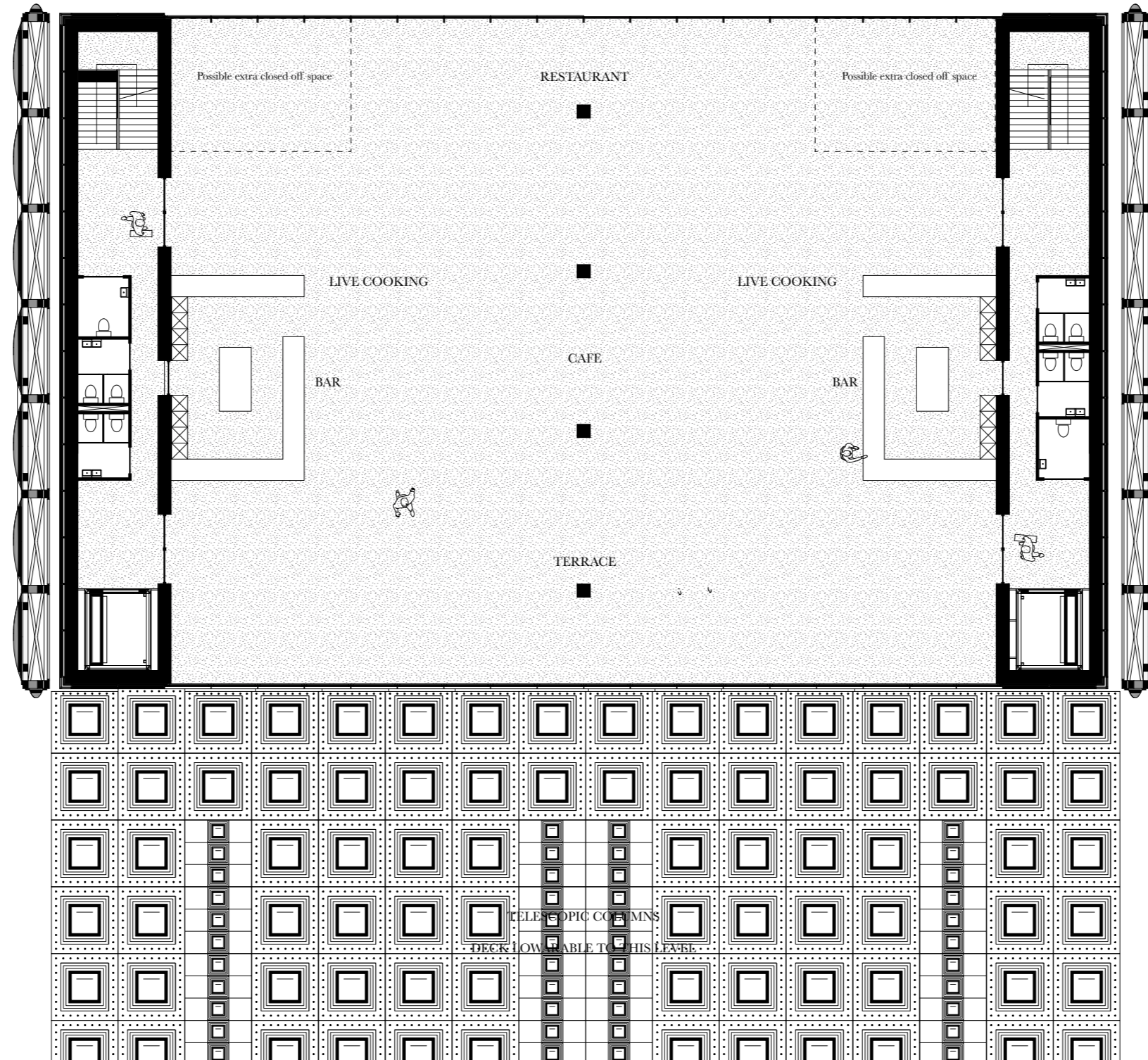


Scale 1:200 [A3]



# THE URBAN THEATRE

*floorplan level +2 (deck-level)*

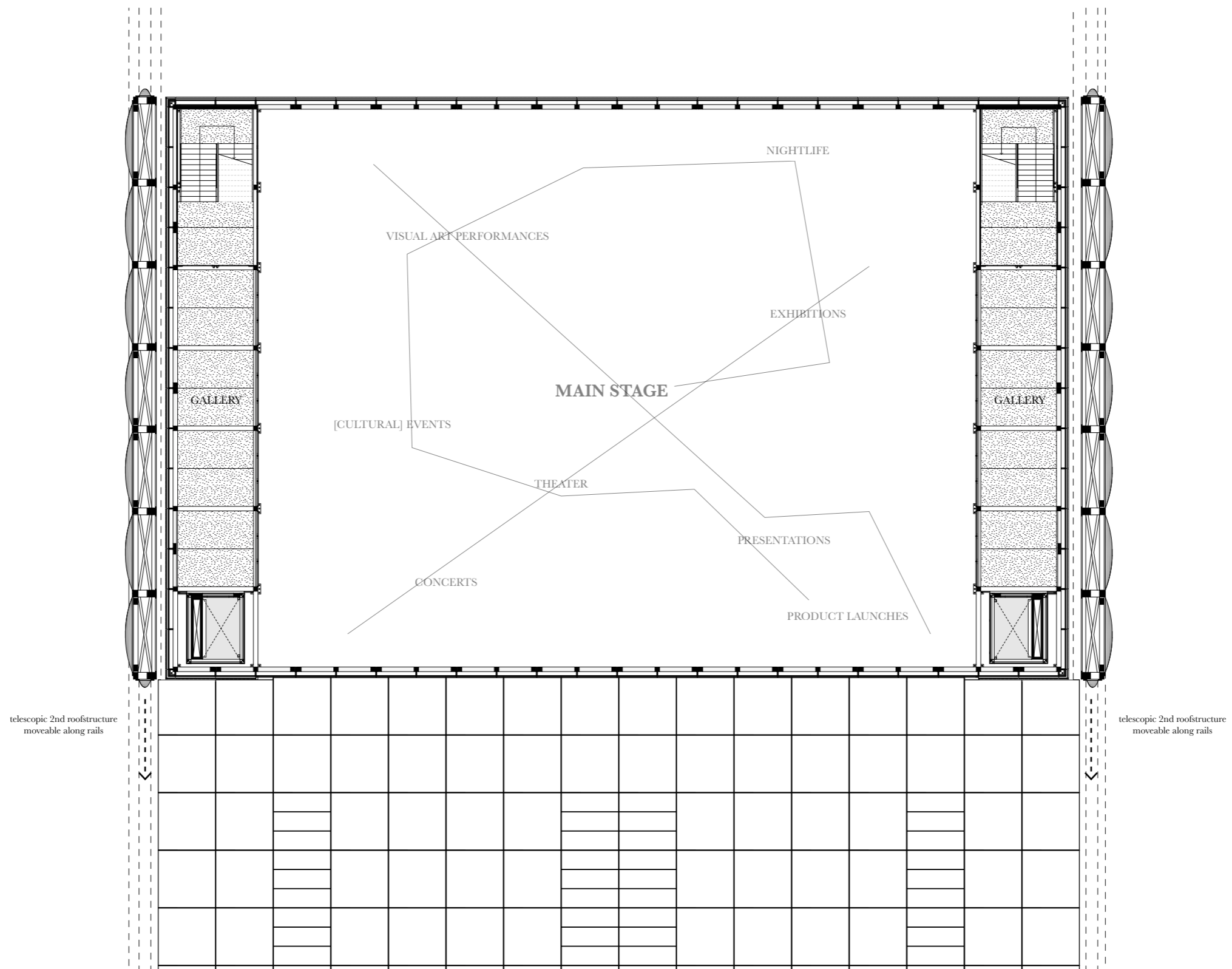


Scale 1:200 [A3]



# THE URBAN THEATRE

*floorplan level +3*

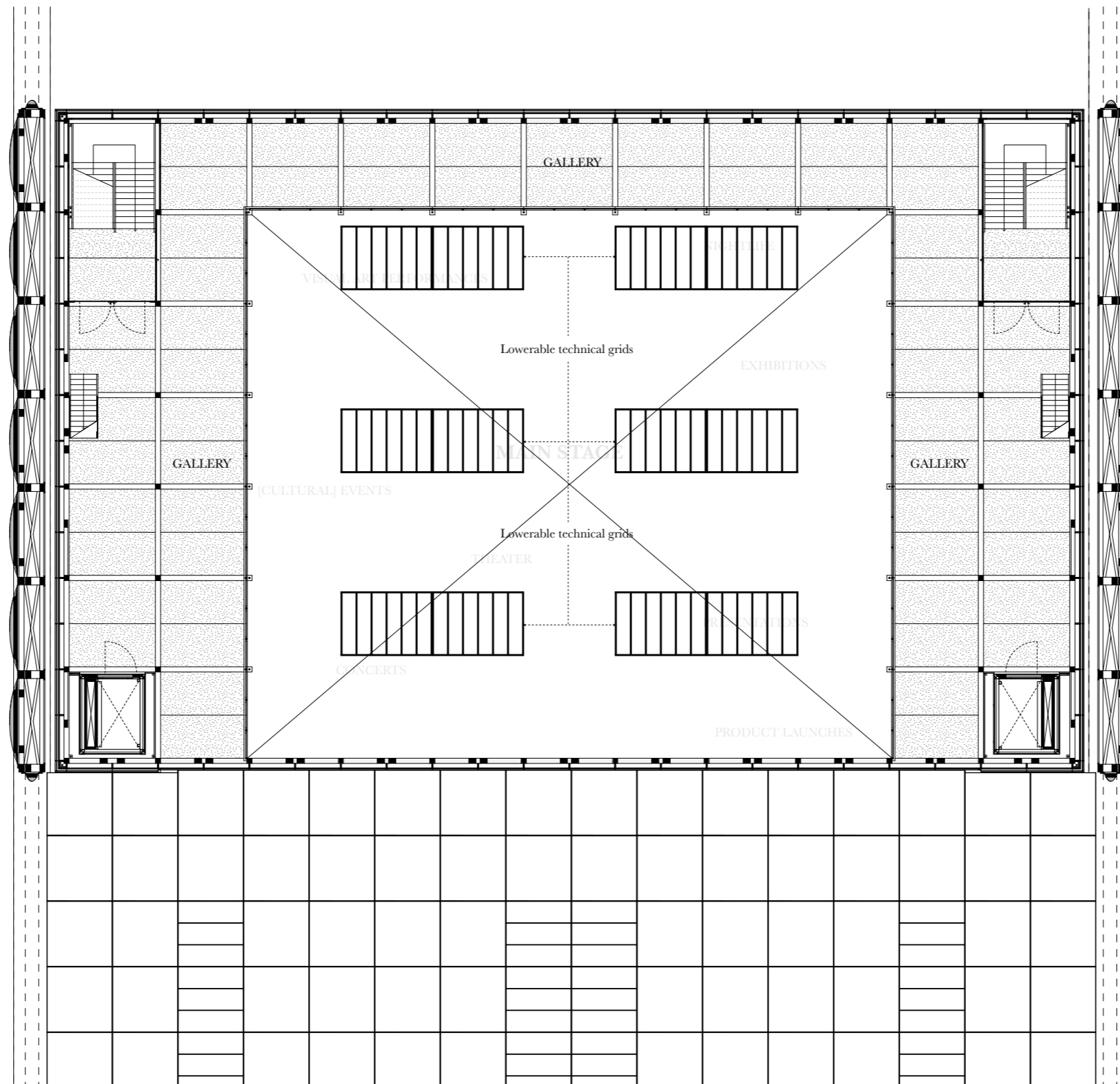


Scale 1:200 [A3]



# THE URBAN THEATRE

*floorplan level +4*

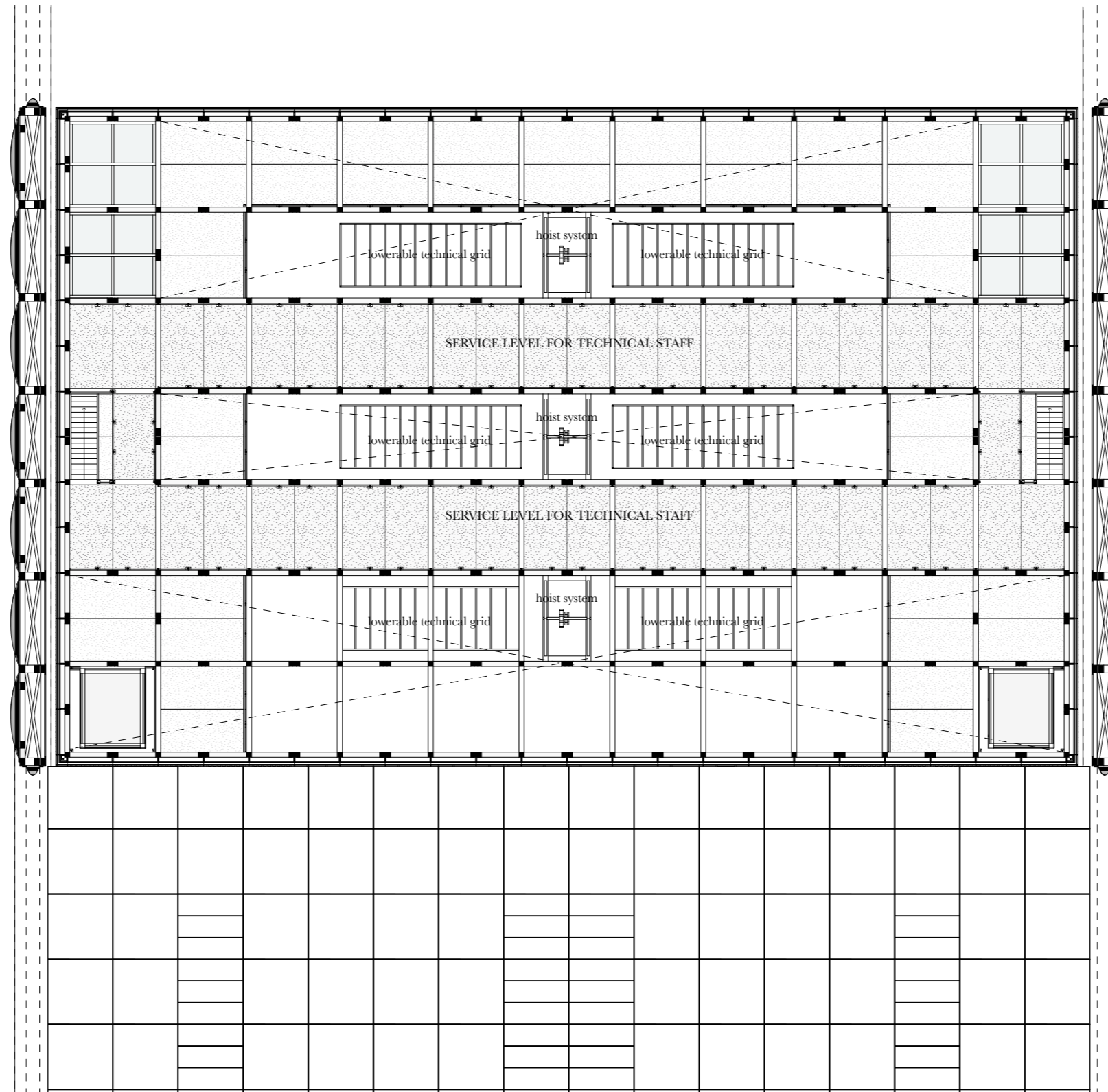


Scale 1:200 [A3]



# THE URBAN THEATRE

*floorplan level +5*

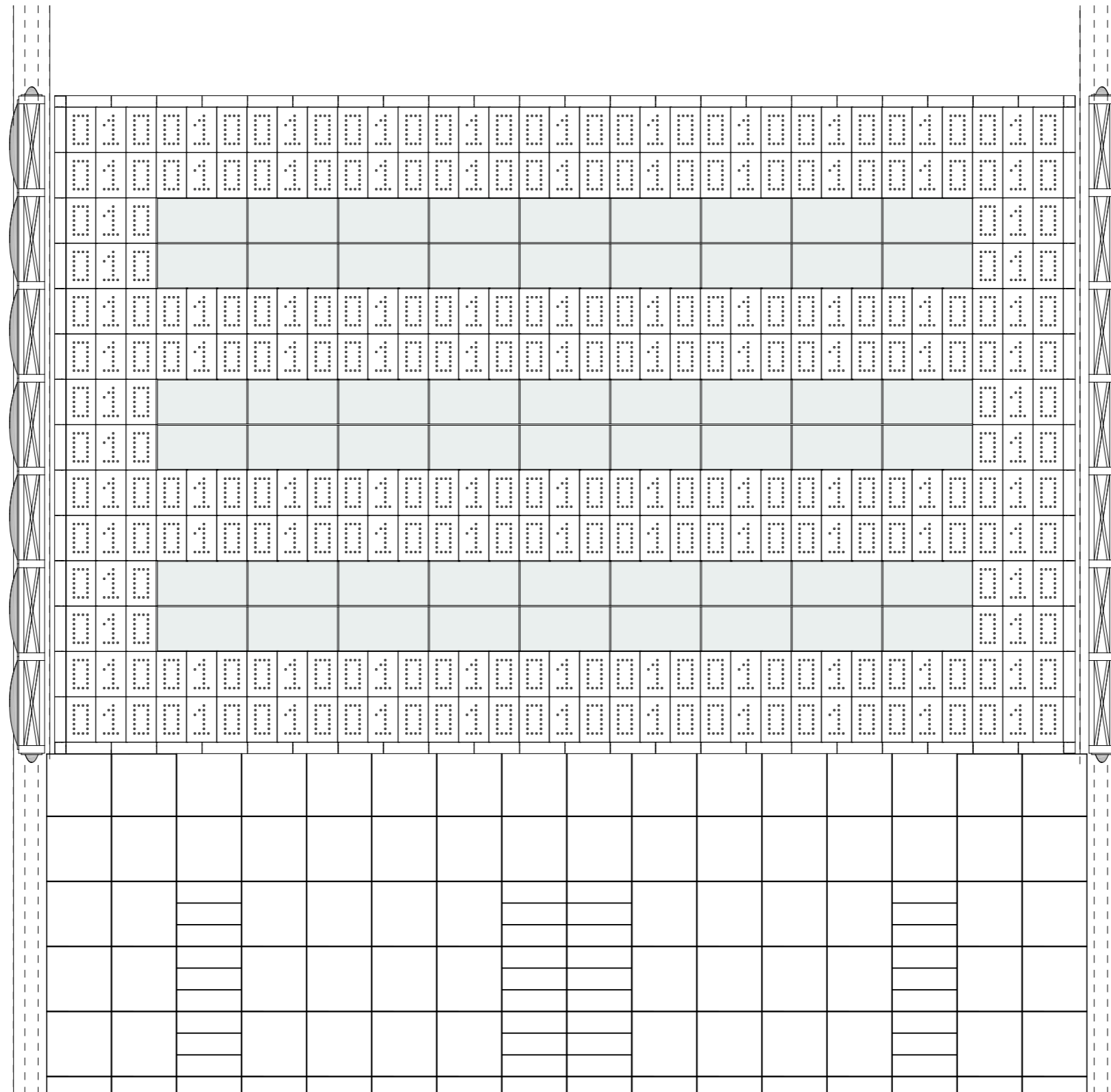


Scale 1:200 [A3]



# THE URBAN THEATRE

level +6 | truss-structure permanent roof



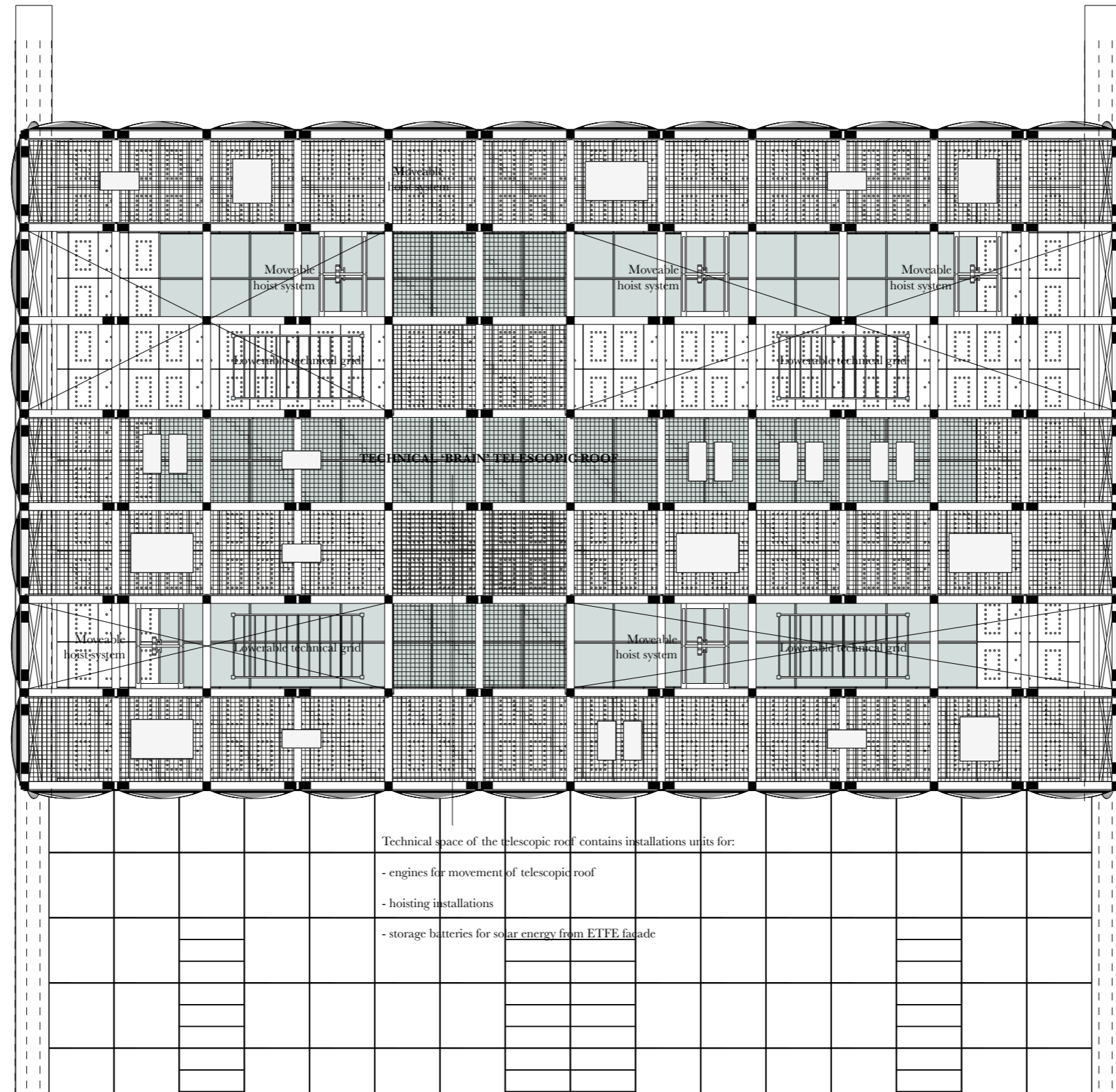
Scale 1:200 [A3]





# THE URBAN THEATRE

level +7 | technical space telescopic roof

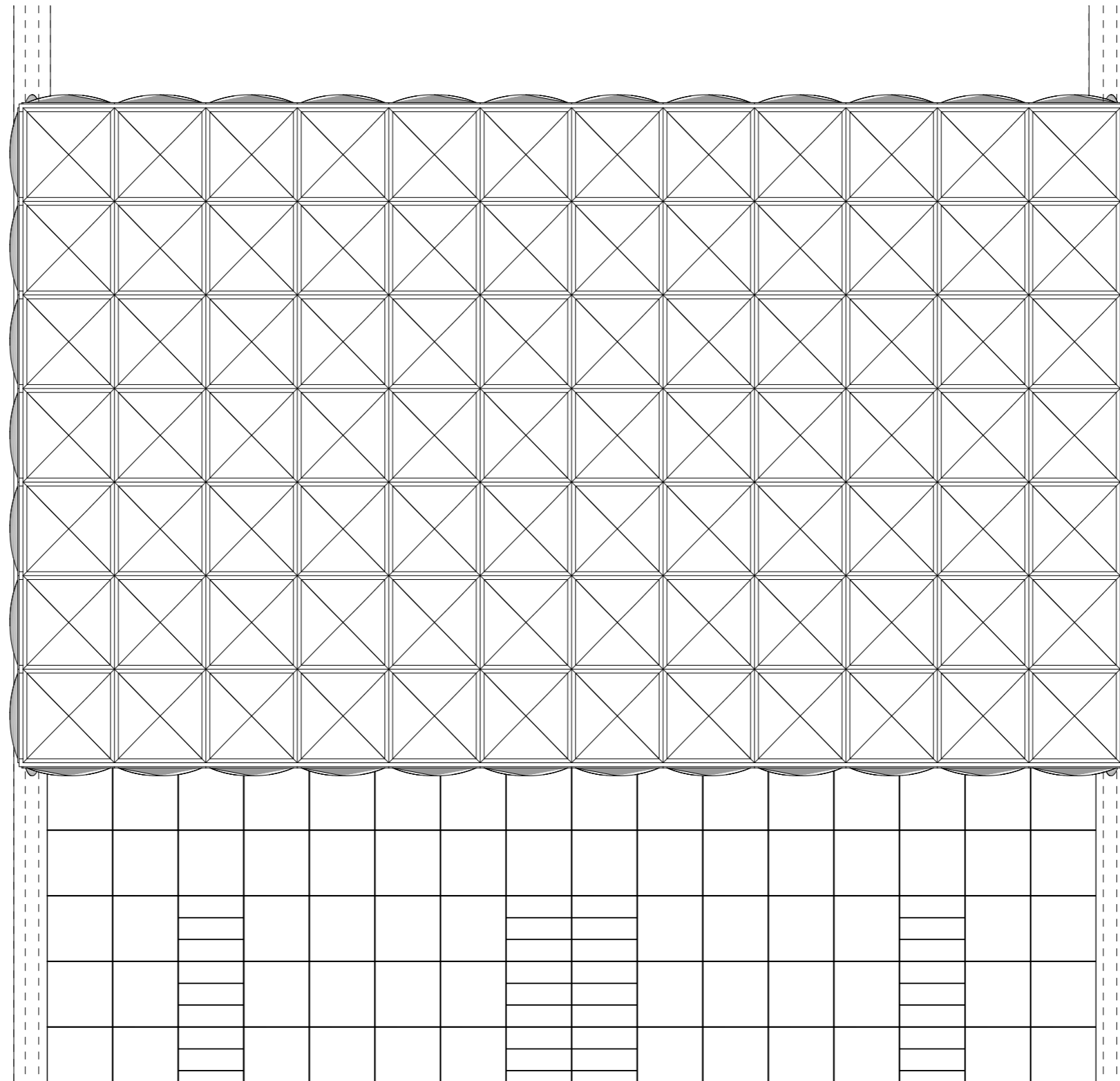


Scale 1:200 [A3]



# THE URBAN THEATRE

*level +8 | top view telescopic ETFE roof*



Scale 1:200 [A3]

