

INSIDE-OUT

OPERA HOUSE



**GRADUATION BOOKLET
2024/2025**

COMPLEX PROJECTS

Bodies and Building Milan
AR3CP100

Student

Youp van Terheijden

Chair

Kees Kaan

CP coordinator

Manuela Triggianese

Lab coordinator

Hrvoje Smidihen

Group tutors

Hrvoje Smidihen

Martin Grech

Bodies and Building Milan
Health



Ancient Greek Theatre of Epidaurus



Auditorium of Teatro alla Scala

ABSTRACT

How did theatres shift from city stages to hidden spaces? Despite opera's historical role as a socially cohesive art form, it has shifted toward exclusivity over centuries, detaching from everyday public life. This study examines La Scala as a case for rethinking opera house design to contribute to the social accessibility and cultural relevance of opera in contemporary society. Drawing on historical analysis, architectural theory, and case studies of contemporary theatres, the research proposes spatial strategies to transform the opera house into an inclusive cultural venue. By reimagining the opera house layout and exploring new audience-stage relationships, this project aims to position La Scala as an open, accessible site, fostering dialogue and engagement within the society. The study culminates in a design brief for a new opera house for La Scala, integrating opera in the modern sociocultural dynamics and addressing the role of opera within the city.

Keywords: Opera, Theatre, La Scala, Audience, Experience

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01

INTRODUCTION



"OPERA AS MEETING PLACE FOR ALL"

(Zelechow, 1993, p. 262).

Milan, the industrial and economic capital of Italy, is a city known for its automotive, fashion, and design industries, as well as being perhaps the world’s leading city for opera. Teatro alla Scala, commonly known as La Scala, is Milan’s renowned opera house and one of the most iconic in the world, having opened its doors in 1778. La Scala is not just an opera theatre; it is also a prestigious institution where operas are produced, and since its founding, many famous works have been written and performed there. This makes it a central figure not only in Italian opera but also on the international opera stage.

The first commercial opera performances began in the 17th century, with the opening of Venice’s first opera house in 1637. By the late 18th century, opera was central to Europe’s cultural life, attracting a diverse urban audience across Europe and America.

“The opera house became the meeting place of all classes in society” (Zelevich, 1993)

However, in the 19th century, opera shifted toward “high culture” through elite-driven strategies that distinguished it from everyday entertainment. New opera houses were built for affluent audiences, and dress codes and etiquette were introduced, recasting opera as a refined art form that demanded an educated, cultured audience.

“For much of the twentieth century opera has held the status of an elitist museum.” (Zelevich, 1993)

Today, opera’s status as an exclusive cultural activity seems unchanged. In Italy, only one in 15 people attended a classical concert or opera in 2022 (Ministero della Cultura, 2023), compared to one in three who visited the cinema, highlighting how limited its reach remains. This trend is further evident in data which shows that out of 180,000 live performances in Italy, only 1% were opera shows (Ministero della Cultura, 2023). However, it is notable that 49% of these events were theatre performances, indicating a continued presence of theatre in live cultural offerings.

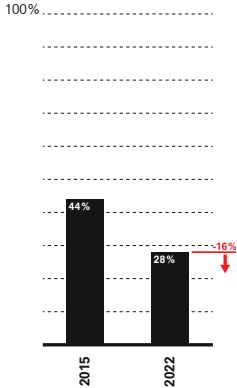
This trend extends across Europe, where attendance at live performances—such as theatre, opera, and ballet—is predominantly driven by individuals with higher incomes and education levels (Eurostat, 2022). This insight highlights a broader pattern in cultural consumption, where traditional high arts attract a specific socioeconomic demographic, suggesting an ongoing exclusivity in these art forms.

Audience at Teatro alla Scala, 1933

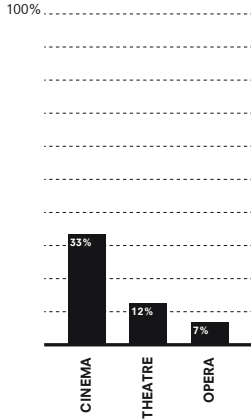


Figure 1.1 (Ministero della Cultura, 2023)

ATTENDING CULTURAL ACTIVITIES IN EUROPE
participating in any cultural activity at least once a year
(% of population aged 16 and over)



ATTENDING CULTURAL ACTIVITIES IN ITALY
participating in any cultural activity at least once a year
(% of population aged 16 and over)





"[...]FROM ENTERTAINMENT ENJOYED
BY THE MANY INTO CULTURE TO BE
APPRECIATED BY THE FEW."

(Storey, 2003, p. 12)

PROBLEM STATEMENT

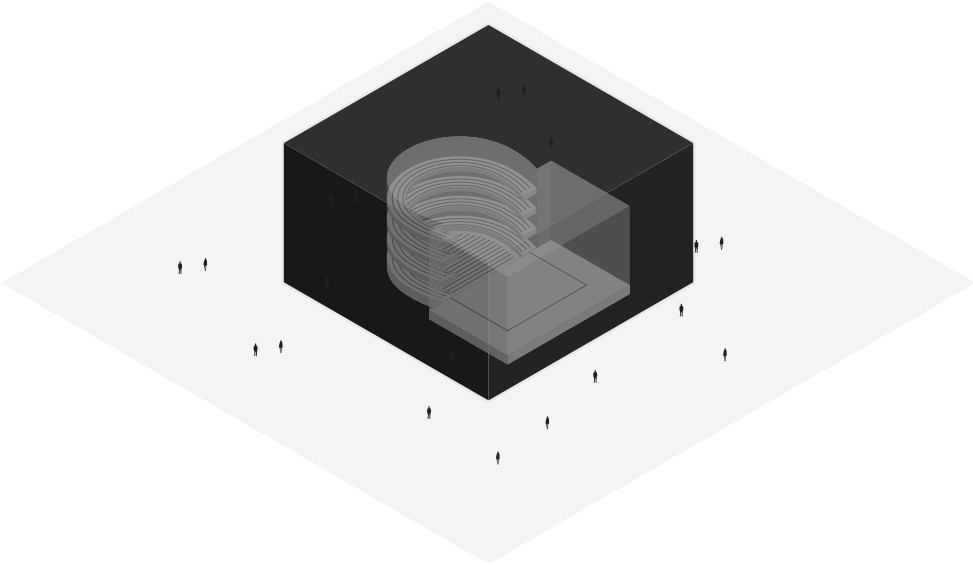
Opera has evolved into a niche theatre genre, far from the popularity it enjoyed in the 18th century. The shift of opera into highbrow culture distanced it further from everyday entertainment, a movement reinforced by the architectural evolution of the theatre and opera house. Ancient Greek theatres were open, visible structures in the urban landscape. In contrast, modern theatres and opera houses often isolate the space where the performance is experienced - the auditorium - with front- and back-house spaces, creating a spatial barrier between the theatre and the city and everyday life (Carlson, 1988). This spatial configuration accentuates exclusivity and diminishes the natural public function of the theatre.

Historically, however, the theatre—and opera in particular—played a more accessible and socially cohesive role. In the 18th and 19th centuries, opera houses served as vibrant gathering places for people from all social classes, where themes and performances often reflected the social and political discussions of the time (Zelechow, 1993). This setting encouraged shared experiences and connections that unified communities through artistic expression and cultural dialogue.

To revitalise opera as a space of broad social engagement and reintegrate it into contemporary cultural life, it is essential to rethink the opera house’s spatial configuration. This transformation requires a design approach for a new integration into everyday life, focusing on inclusivity and reconnecting opera with its public role. By reimagining the auditorium as a space for more active, interactive experiences, the opera can better resonate with the needs and expectations of modern audiences, fostering its role as a gathering place once again.

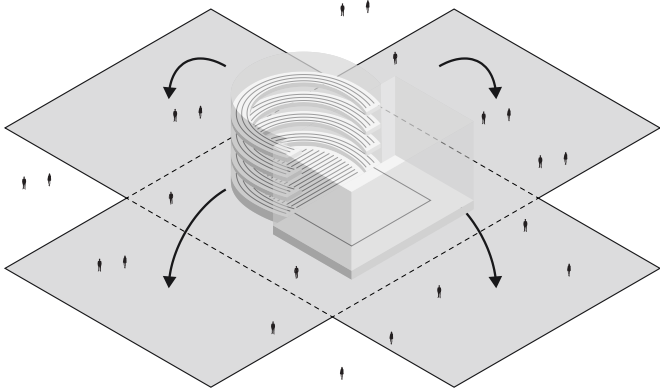
Opera is central to the identity of institutions like La Scala, deeply intertwined with both Milanese history and the history of opera itself. By reimagining the spatial configuration of the opera house, La Scala could re-establish itself as a meeting place and as a site for a unique opera experience, closely connected to both its audience and the city.

Figure 1.2



'INSIDE' OPERA

Figure 1.3



'INSIDE-OUT' OPERA



Vienna State Opera, Vienna



Palais Garnier, Paris



Teatro alla Scala, Milan

WHERE IS THE OPERA?

RESEARCH QUESTION

This research explores the issue of opera's current isolation and exclusivity within the urban and social context, aiming to address the primary research question:

'To what extent can redesigning the spatial configuration of La Scala contribute to the social accessibility and cultural relevance of opera in contemporary society?'

To answer the primary question and gain a deeper understanding of the topic, the following sub-questions are addressed. These will explore the spatial configuration of the theatre and the impact of the stage on audience experience:

'How can the auditorium be repositioned within the opera house?'

"Which auditorium configurations can enhance the opera experience?"

These questions will yield valuable insights crucial for the redesign of La Scala's new opera house in Milan.

Figure 1.4



Figure 1.5





**"PEOPLE ARE CRAVING EXPERIENCE
THEY ARE DESPERATE FOR
EXPERIENCE"**

(Lambert, 2012, p. 38)

INTRODUCTION



Figure 1.6

Figure 1.7



02

RESEARCH FRAMEWORK

To answer the questions of this research concerning the opera house this chapter will establish a theoretical framework. This framework offers a theoretical foundation for understanding the definition of an opera house, its potential role within the city, its architecture and the experience.

THEORETICAL FRAMEWORK

Theatre is an umbrella term, covering various types of venues and their associated performing arts. Within the performing arts, there are five main genres: drama (such as tragedy, physical theatre), entertainment (such as stand-up comedy, magic), dance (such as ballet, modern dance), opera (such as grand opera, musical theatre), and music (such as symphony concerts, pop concerts) (Strong, 2010).

Each genre has a specific type of theatre designed to suit its needs. Figures 2.1 to 2.3 illustrate the four principal types of theatres: the opera house, dance theatre, drama theatre, and concert hall (Strong, 2010).

Opera itself has three different definitions (Oxford English Dictionary, 2024):

- “a dramatic work in one or more acts, set to music for singers and instrumentalists.”
- “operas as a genre of classical music .”
- “a building for the performance of opera.”

Opera is both a genre within the performing arts, a musical style, and a type of theatre. The opera house is characterised by a horseshoe-shaped auditorium (Figure 2.1). This design, developed in Italian opera houses during the Baroque period of the 18th century (Long, 2014), provides optimal sightlines to the stage and excellent acoustics throughout the hall. Additionally, it fosters a social dynamic in which spectators can see and be seen by each other (Storey, 2003). This design choice highlights the social aspect of opera and reinforces the elite status associated with this art form.

The theatre is a public building within the city, playing a central role in the social and political structures of society. It serves not only as a space for entertainment but also as a venue for dialogue and debate, where diverse layers of society engage in cultural and political exchanges (Balme & Davis, 2015). Through its varied audiences, theatre acts as a platform for a range of perspectives. Composers such as Verdi and Wagner utilised opera to address social and political issues (Zelechow, 1993).

Figure 2.1

TYPICAL OPERA HOUSE

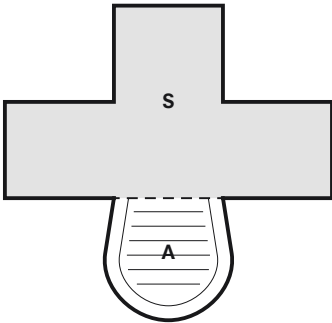


Figure 2.2

TYPICAL DANCE THEATRE

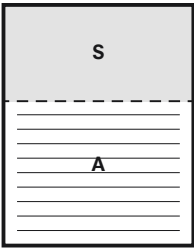
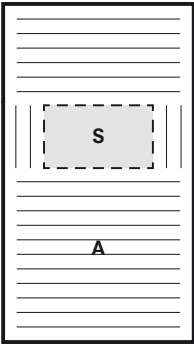


Figure 2.3

TYPICAL CONCERT HALL



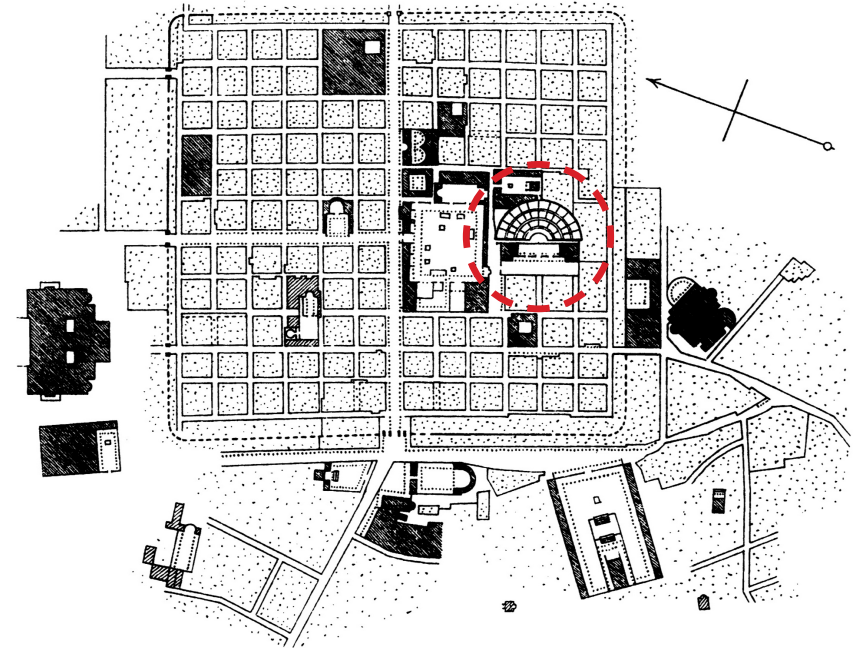
"The theatre is a place to expose and play with behaviours, characters, and stories that not only fascinate us, but upset, disturb, shock, and change us"
(Schechner, 1990, p. 99).

The architecture of theatres has its origins in the open-air theatres of ancient Greece, forming the foundation for the theatres and opera houses as we know them today. After the Greek era, theatre spaces moved indoors, becoming separated from public life, and during the Renaissance, they transformed into exclusive venues accessible only to the elite, detached from the urban landscape. In the 19th century, theatres visibly re-emerged within cities at strategic locations, symbolising cultural ambition and urban grandeur (Carlson, 1988).

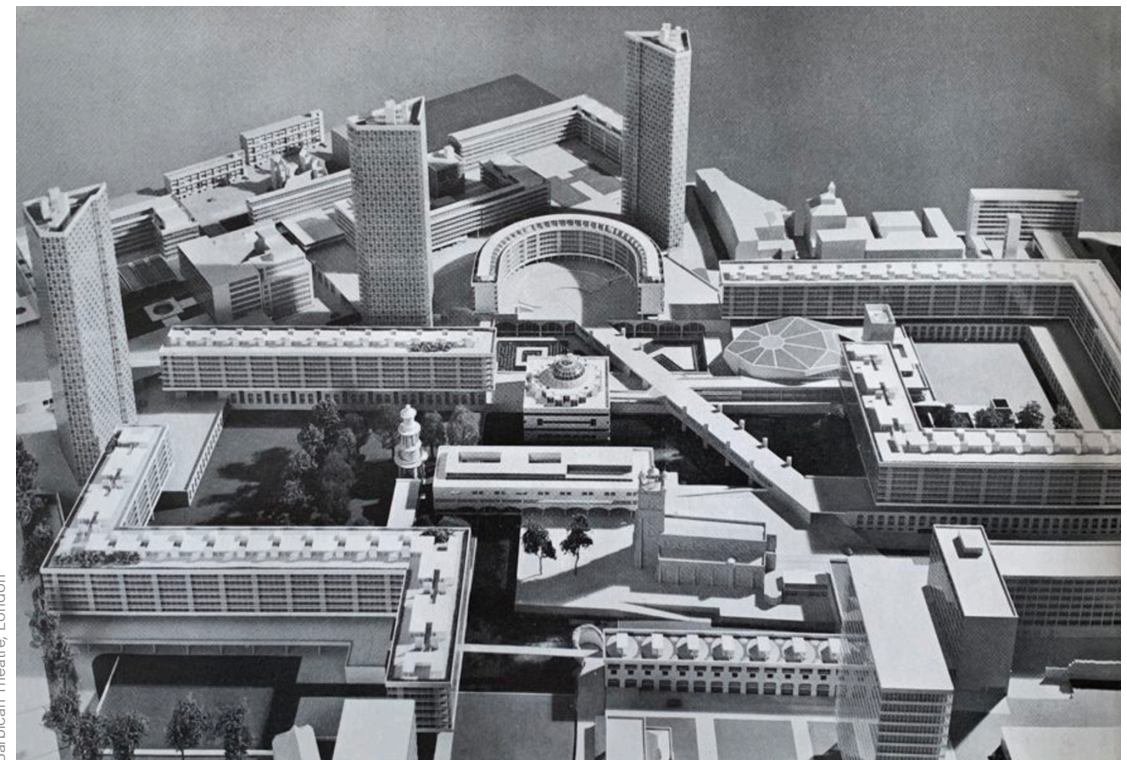
"Renaissance theatres were [...] removed not only from external nature but from the view, indeed even from the consciousness, of all but those selected few who were permitted to enter them"
(Carlson, 1988, p. 13)

Carlson (1989) argues that theatres in the modern era risk losing their architectural identity as they increasingly become part of large urban complexes, developments, or cultural clusters. However, this trend need not be seen negatively; as cultural institutions, theatres are closely connected to society and could benefit from stronger integration into the urban fabric. This reflects how modern theatre architecture is evolving to establish new urban connections, with the Barbican Theatre in London serving as a notable example.

Timagad, 100 AD (Carlson, 1988)



Barbican Theatre, London



The experience of an opera performance has remained largely unchanged over the centuries. The “picture-frame” or proscenium layout, which originated during the Renaissance, remains the most widely used theatre arrangement (Bowman, 1964). Bowman (1964) argues that this setup encourages passive observation by creating a physical and psychological separation between actors and audience. However, Osipovich (2006) contends that theatre should distinguish itself from cinema by offering a vibrant, interactive, and engaging experience. Additionally, Lambert (2012) advocates for the evolution of the traditional theatre experience to maintain relevance by involving the audience more actively and providing a social experience; as a result, interactive and participatory performances are gaining popularity.

Bowman (1964) describes five configurations between the audience and the performance space that enhance interaction, thereby increasing engagement, a sense of community, and emotional experience. He favours theatrical configurations such as the arena (Figure 2.5), where the audience is seated around the stage, and the thrust configuration (Figure 2.6), in which the stage extends into the audience. These arrangements reduce the physical distance between actors and spectators and foster a sense of proximity and involvement (Bowman, 1964). Such setups ensure that the viewer does not remain passive but actively participates in the experience due to the closeness of the action.

Figure 2.4

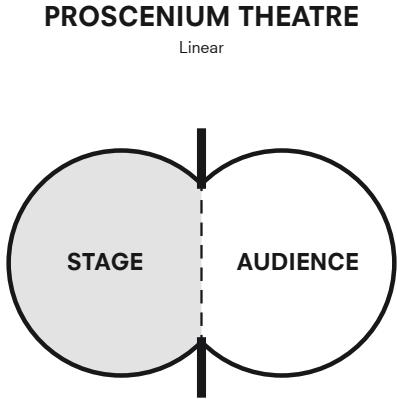


Figure 2.5

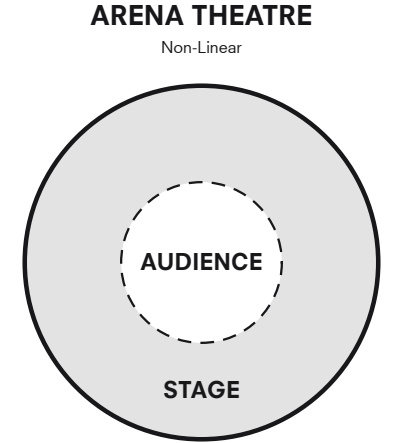
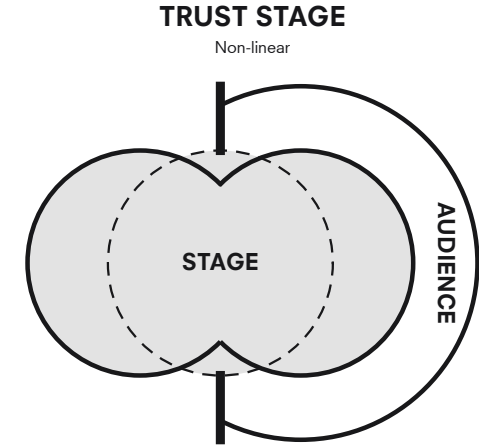


Figure 2.6



To strengthen the theoretical framework, two contemporary theatres will be studied: the Oslo Opera House (2007) in Oslo, Norway, and Casa da Música (2005) in Porto, Portugal. Both projects illustrate the architectural quest for the repositioning of contemporary theatre and demonstrate how theatres can integrate into the urban public space, as described by Carlson (1989).

The Oslo Opera House, designed by Snøhetta, transforms its roof into a public space, creating a sense of openness and invitation. As a result, the building functions as a meeting place for theatre enthusiasts and passers-by (Snøhetta, 2007). Casa da Música, designed by OMA, stands out due to its unique form, which ensures strong visibility and accessibility for a broad audience. Despite retaining the traditional “shoebox” auditorium, the end walls are made of glass, allowing the auditorium to open up to the city and transforming Porto into a dynamic backdrop.

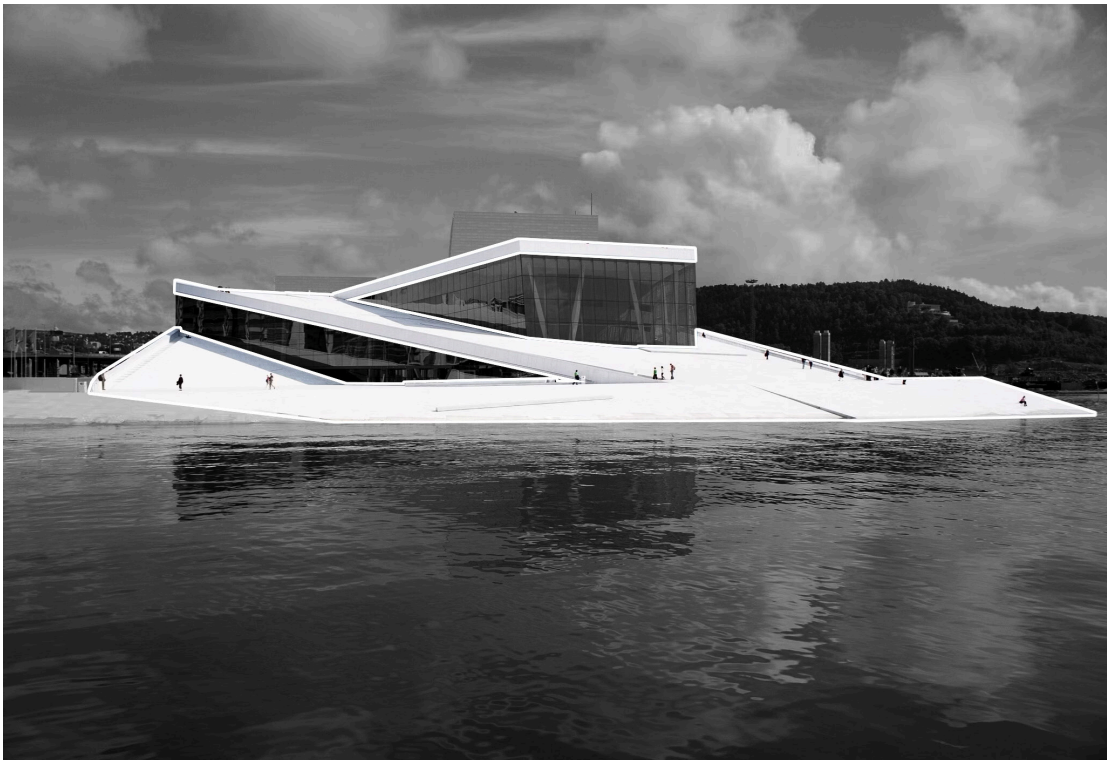
Although both buildings integrate into the public space in different ways, the auditorium remains invisible from that space. OMA attempts to strengthen the connection with the city through a transparent gable, yet the auditorium is located on the third floor, which may raise questions about its visibility to the city. Furthermore, the auditorium of the Oslo Opera House follows the horseshoe shape typical of 18th-century Italian opera houses, thereby adhering to the passive arrangement from the Renaissance, as described by Bowman (1964).

RELEVANCE

Polarization, as a major social challenge in contemporary society, underscores the social relevance of this project. The theatre serves as a space to expose and engage with behaviours, characters, and stories that not only fascinate us but also unsettle, disturb, shock, and transform us (Schechner, 1990, p. 99). This makes it essential to open the theatre to the entire community—not only to make culture accessible, but also to share diverse perspectives, as was done in the 18th and 19th centuries. In doing so, theatre can spark new dialogues within the city. This project questions theatre architecture’s role, seeking to reposition it in order to enhance its relevance in contemporary society.

Projects such as the Oslo Opera House and Casa da Música demonstrate how contemporary theatre architecture aims to strengthen its position, with a focus on the building’s exterior. While these designs improve the accessibility and visibility of the theatre, the interior—and thus the actual theatre experience—remains largely hidden. This research seeks to break the paradoxical contrast between the exterior and the interior of the theatre.

Snøhetta, Oslo Opera House (Oslo, 2007)



OMA, Casa da Musica (Porto, 2005)



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FIGURES

Figure 2.1-2.3: Strong, J. (2010). Theatre buildings: a design guide. Routledge. p8-10

Figure 2.4 - 2.5: Bowman, N. A. (1964). The Ideal Theatre: Emerging tendencies in its architecture. *Educational Theatre Journal*, 16(3), 220–229. <https://doi.org/10.2307/3204663>

Figure 3.1: own production

Figure 4.1: own production

Figure 4.2: own production

Figure 4.3: own production

Figure 4.4: own production

Figure 4.5: own production

Figure 4.6: own production

Figure 4.7: own production

Figure 4.8: own production

Figure 4.9: own production

Figure 4.10: own production

Figure 4.11: own production

Figure 4.12: own production

Figure 4.13: own production

Figure 4.14: own production

Figure 4.15: own production

Figure 4.16: own production

Figure 4.17: own production

03

DESIGN BRIEF

CLIENT

Fondazione Teatro alla Scala di Milano is the client for this project. For the design brief, the following subjects will be considered: the organization, stakeholders, ambitions, reputation, and users.

ORGANISATION | The Fondazione Teatro alla Scala di Milano was founded on November 6, 1997, as a non-profit organization. On January 5, 2015, it was recognized as an important national cultural heritage institution, granting it special rights and support by the government. Figure 4.1 illustrates the organizational structure of the Fondazione Teatro alla Scala di Milano. The foundation is managed by three governmental entities: the State of Italy, the Province of Lombardy, and the City of Milan. The foundation encompasses not only the theater but also the museum, the philharmonic orchestra, and the academy. Together with the theater, the museum, and the philharmonic, the foundation operates from the current location of Teatro alla Scala, the location of this project.

Strong (2010) identifies three types of theaters: producing and receiving theaters, long-run receiving theaters, and repertory theaters. La Scala functions as a producing and receiving theater, meaning it creates and performs its own productions as well as hosting external productions. Such theaters require extensive back-office facilities, including artistic and administrative staff, as well as spaces for rehearsals and workshops for set and costume production. This also applies to La Scala, which employs 904 staff members and operates across multiple locations in Milan to support its activities.

The Fondazione Teatro alla Scala di Milano currently operates across three sites, as shown in Figure 4.2. The academy, with 1,700 students annually, has its own dedicated facility, as does the Laboratori del Teatro alla Scala, a 20,000-square-meter workshop. In 2024, architects FRPO won the competition for a new workshop, Magnifica Fabbrica, which will span 60,000 square meters and serve as the foundation’s next major workshop and will replace the current one.

This demonstrates that La Scala operates at various scales within its industry. Internationally, it is one of the largest and most respected opera producers, with its productions performed in theaters worldwide. Nationally, La Scala serves as the capital of opera, hosting the highest number of opera productions and performances in Italy, while also being deeply embedded in the country’s history and cultural heritage of opera. Locally, La Scala, as Milan’s oldest theater, represents a significant part of the city’s history and cultural identity.

Figure 4.1: Organizational chart



Figure 4.2: map of The Fondazione Teatro alla Scala di Milano sites



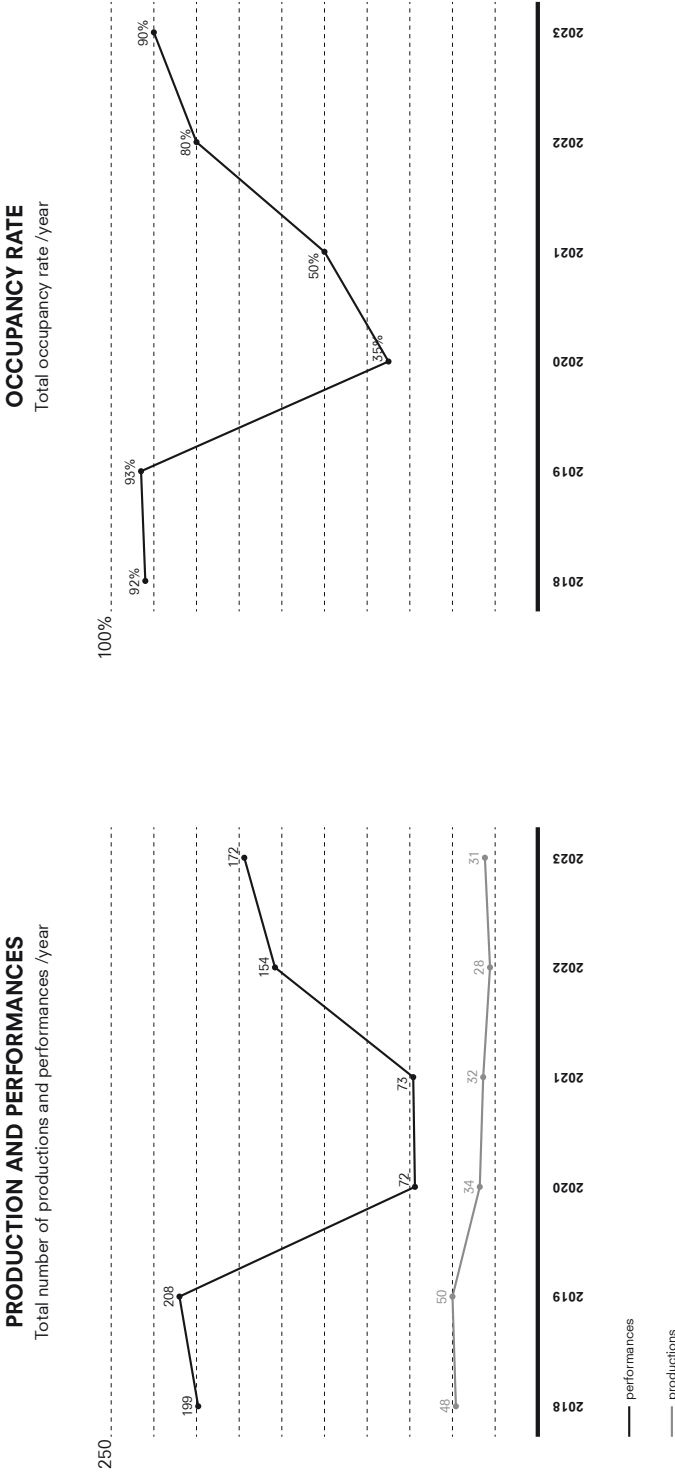
The data also reflect La Scala’s reputation, with a high occupancy rate for its productions. In 2023, the theater held a total of 172 performances with an occupancy rate of 90% (Figure 4.3). Although the COVID-19 pandemic caused a slight decline in productions, performances, and occupancy rates, La Scala has demonstrated resilience and maintained its standing as a cultural landmark.

AMBITIONS | The organization has three ambitions, as outlined in their budget and annual report, Bilancio 2023 (Fondazione Teatro alla Scala di Milano, 2024), which align with the objectives of this project:

- 1. **Global platform,** La Scala aims to establish itself as a global platform, grounding its artistic production and programming on the Italian opera while fostering collaborations with directors, conductors and artists from different countries. This ambition emphasizes the international scope and its appeal as a global cultural institution and theater.
- 2. **Transparency,** In addition to making the theater more accessible to ensure everyone can engage with culture and attend performances, La Scala extends this ambition further by opening its facilities to the public, including backstage areas, and provides insight into the operations of the theatre.
- 3. **Talent Development,** La Scala commits to new and young artists by providing them with opportunities to perform and grow professionally. This ambition extends beyond the confines of its own academy, supporting the careers of emerging talent both within and outside the institution.

These ambitions align with the project’s goal of transforming opera into a cultural meeting place for everyone and redefining the opera experience. This approach could strengthen La Scala’s position as a global platform and increase its commitment to transparency, developing a new form of opera that is accessible and visible to all.

Figure 4.3: production and performances chart Teatro alla Scala



PROGRAM

To develop the new program for the ‘new’ La Scala, a database has been created. This database is based on the current Teatro alla Scala along with six other relevant projects, containing opera houses, theaters, concert halls, and performance art centers. With this database and the project ambitions, the current program of La Scala is benchmarked against these comparable projects and ambitions to identify areas for improvement or adjustment. This method will be applied to three themes: capacity, programme size and programme organisation.

OPERA HOUSE **O**
CONCERT HALL **C**
PERFORMING ARTS CENTRE **P**
THEATRE **T**



Oslo Opera House /
Snøhetta
Oslo, Norway
2007

Casa da Musica /
OMA
Porto, Portugal
2005

Casarts /
OMA
Casablanca, Morocco
2009

The Royal Danish Opera /
Henning Larsen
Copenhagen, Denmark
2005

TivoliVredenburg /
Herman Hertzberger
Utrecht, Nederland
2014

Guangzhou Opera House /
OMA
Guangzhou, China
2002

CAPACITY I By focusing on theater capacity, building ratio, and house ratio within the database, several observations emerge (Figure 4.4):

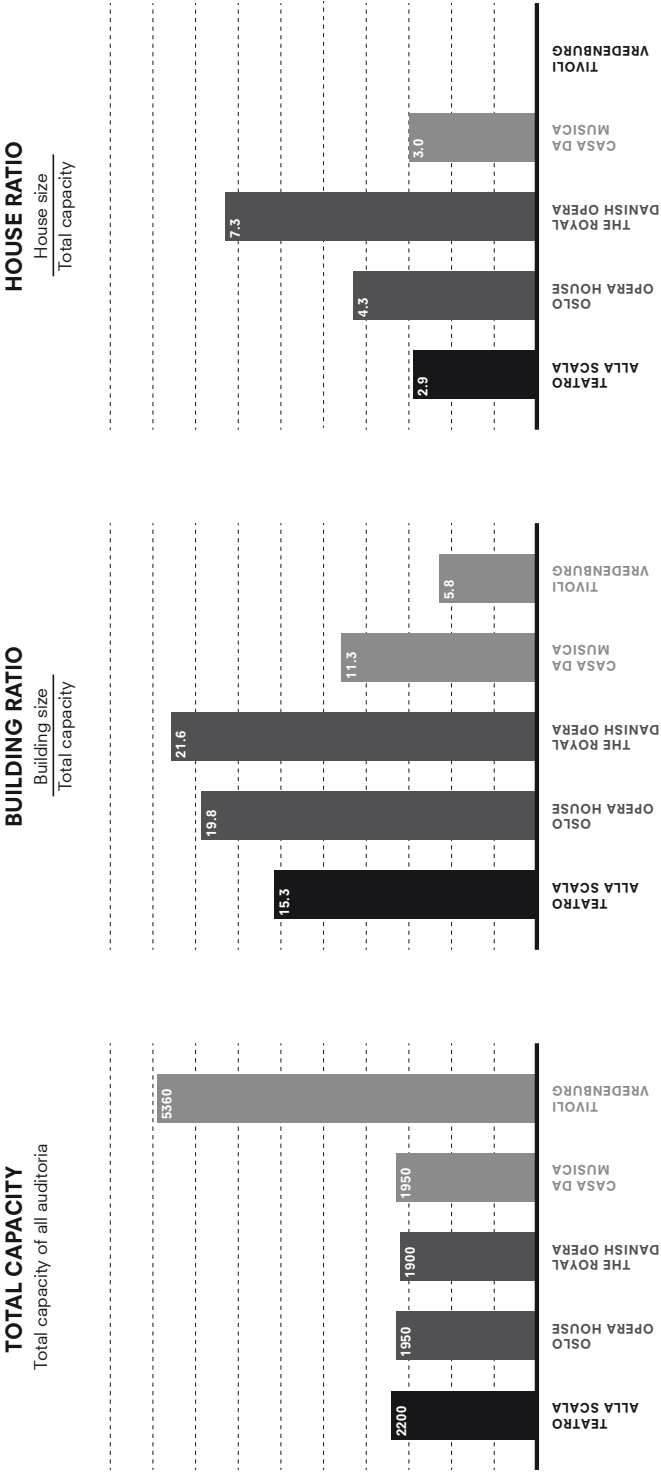
High Total Capacity, Teatro alla Scala has a significantly high total capacity despite having only one performance hall, whereas other theaters and opera houses with multiple halls generally have lower capacities.

High Capacity Relative to Building Size, Teatro alla Scala demonstrates a high capacity compared to the overall size of its building. In contrast, other opera houses feature higher building ratios, meaning they provide more square meters per seat. This suggests that La Scala accommodates a larger number of seats as an opera house compared to venues like the Oslo Opera House.

High Seat Density, Teatro alla Scala exhibits a high seat density, with a substantial capacity relative to the size of its hall.

In summary, the benchmarking of capacity indicates that the total capacity of the new La Scala can be reduced while remaining relevant.

Figure 4.4: comparison of theatre capacity, building ratio and house ratio charts



For capacity, it is also crucial to consider the organization of the stage, audience, and their relationship. Opera houses traditionally use a proscenium configuration (Strong, 2010), where the audience and stage are separated by the so-called “fourth wall.” This setup offers a passive theater experience with minimal interaction between the audience and performers. Lambert (2012) argues that the theater of the future should actively engage its audience, breaking down the “fourth wall.” This aligns with the ambition of this project to transform opera into an active and interactive experience.

To achieve this, the new La Scala could adopt a different organizational form between the stage and the audience, such as a ‘thrust stage’ or ‘open stage’, as illustrated in Figure 4.5. By implementing this new configuration and reducing the current capacity from 2,000 to 1,500 seats, the design would allow for a more engaging audience experience (Figure 4.6). The layout of the performing house would be reimagined to support the thrust or open stage concept, providing the space needed to foster this interactive and dynamic environment.

Figure 4.5: theatre principles, showing the differing relationship between audience and stage

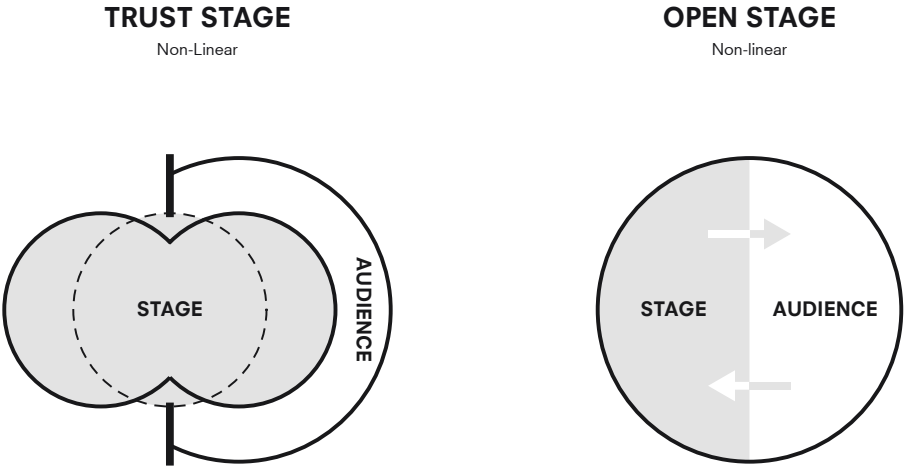
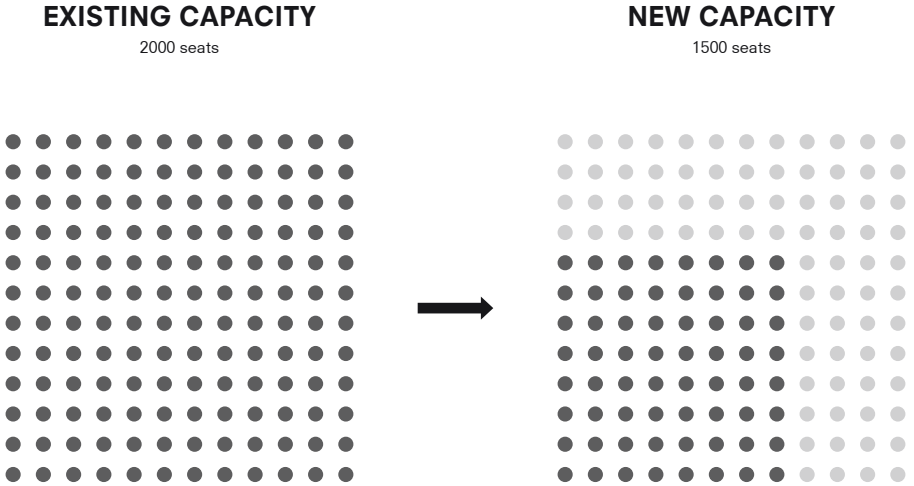
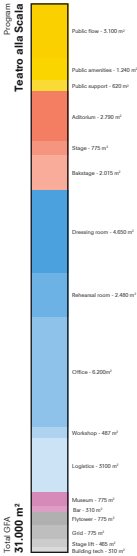
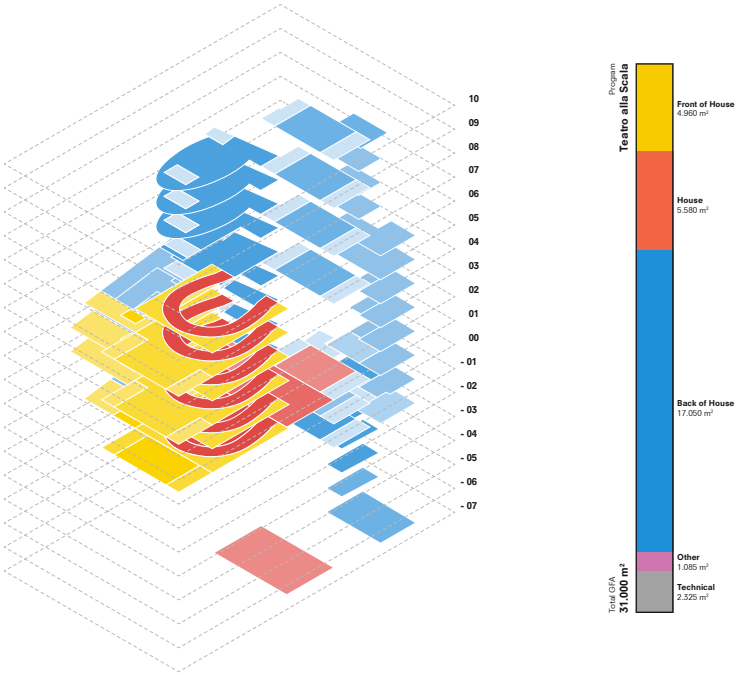
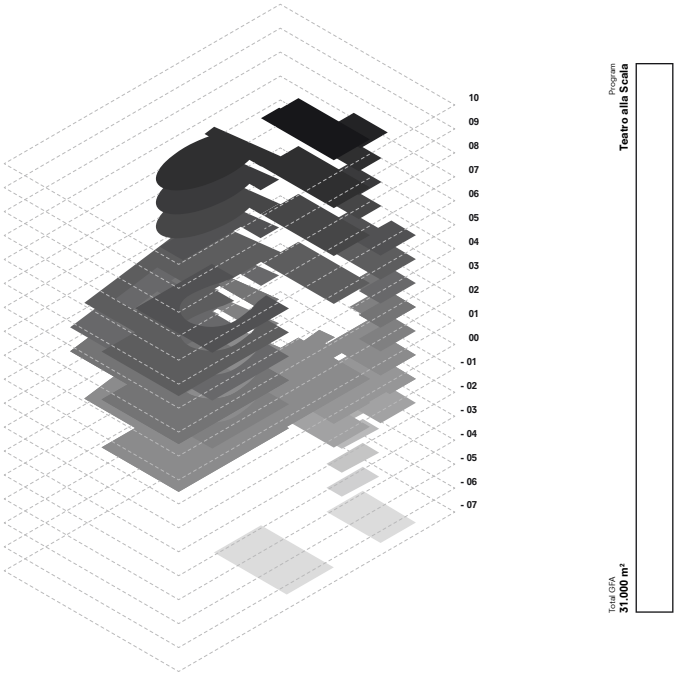


Figure 4.6: Capacity



SIZE | When analyzing the program size, the focus is on the total square meters and the relationships between the various functions.

First, the existing programme of the current La Scala was analysed in order to ultimately benchmark it against the database (figures 4.7 and 4.8).



SIZE | When analyzing the program size, the focus is on the total square meters and the relationships between the various functions.

A typical theater consists of three core program areas: front of house, house, and back of house. The front of house includes public flow, public amenities, and public support spaces. The house consists of the auditorium, stage, and backstage, while the back of house consists of dressing rooms, rehearsal rooms, offices, and logistical areas. In addition to the core program, the theater also has a technical program that includes the flytower, grid, stage lift, and general technical spaces.

The current Teatro alla Scala has a total GFA of 31,000 m², distributed as follows: 16% front of house, 19% house, and 55% back of house (Figure 4.7). Benchmarking this program against the database reveals that La Scala’s current program ratios differ from the average. In comparable operahouses, the front of house and house (public program) together represent 50% of the program, while at La Scala, they only represent 35%.

Given the project’s ambition and research question, which emphasize a more public-oriented program, the proposed new La Scala will feature adjusted ratios: 20% front of house, 20% house, and 45% back of house. While this is still below the benchmark average, it ensures the current program remains functional without losing any functions or adding extra square meters. This adjustment maintains the total GFA at 31,000 m², as the programbar illustrated in Figure 4.8. The new program also ensures that the current museum remains part of the new design. The museum represents the rich history of opera and Teatro alla Scala, and holds significant value as a cultural heritage of Milan.

The final aspect of program size is the technical scale. The technical scale of the house, comprising the auditorium, stage, stage lift, side stages, and backstage, is inefficient in the current La Scala due to only one side stage. The new design will prioritize a standardized, compact, and efficient layout (figure 4.9).

Figure 4.6: adjustment and comparison of programme bar of Teatro alla Scala

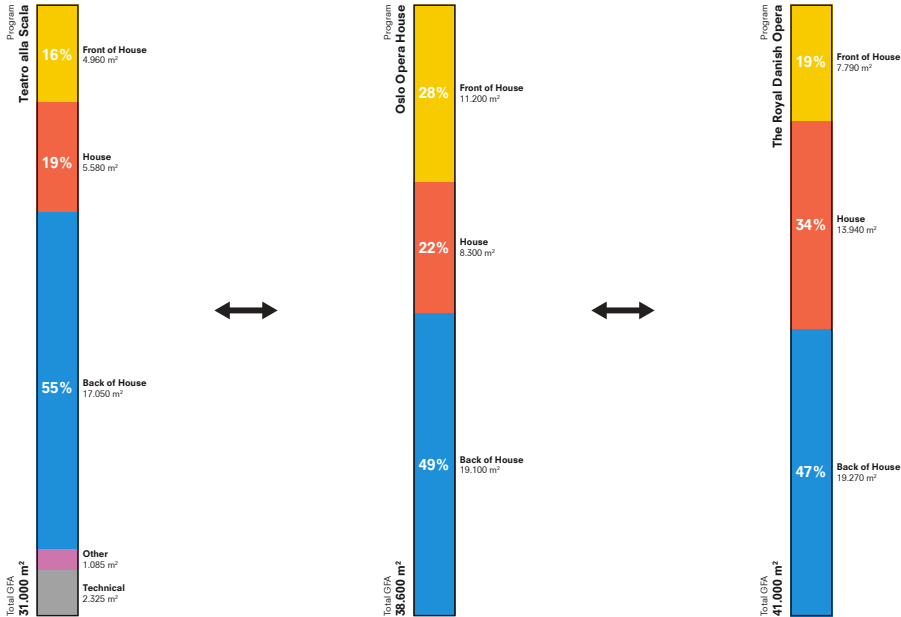
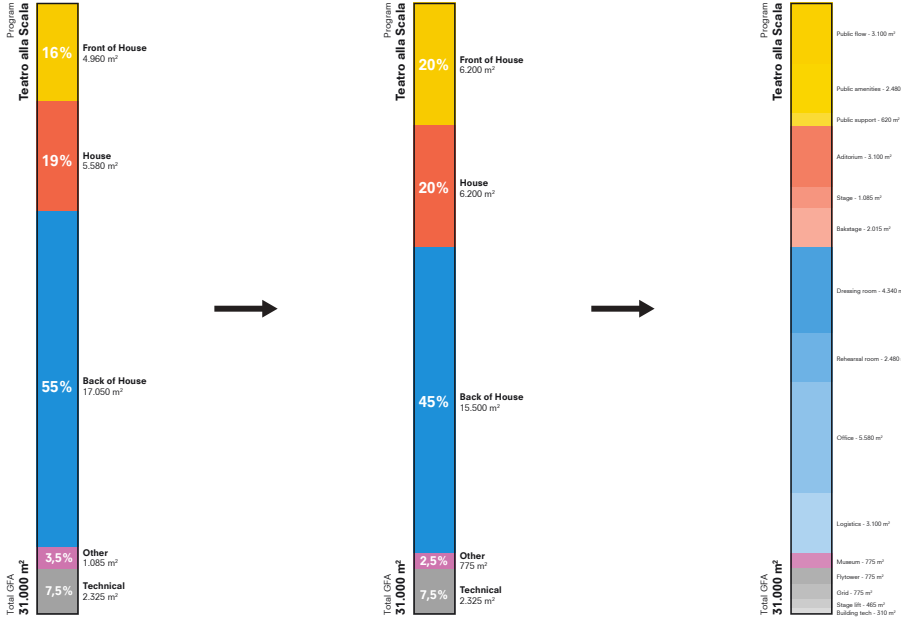


Figure 4.7: adjustment and comparison of programme bar of Teatro alla Scala



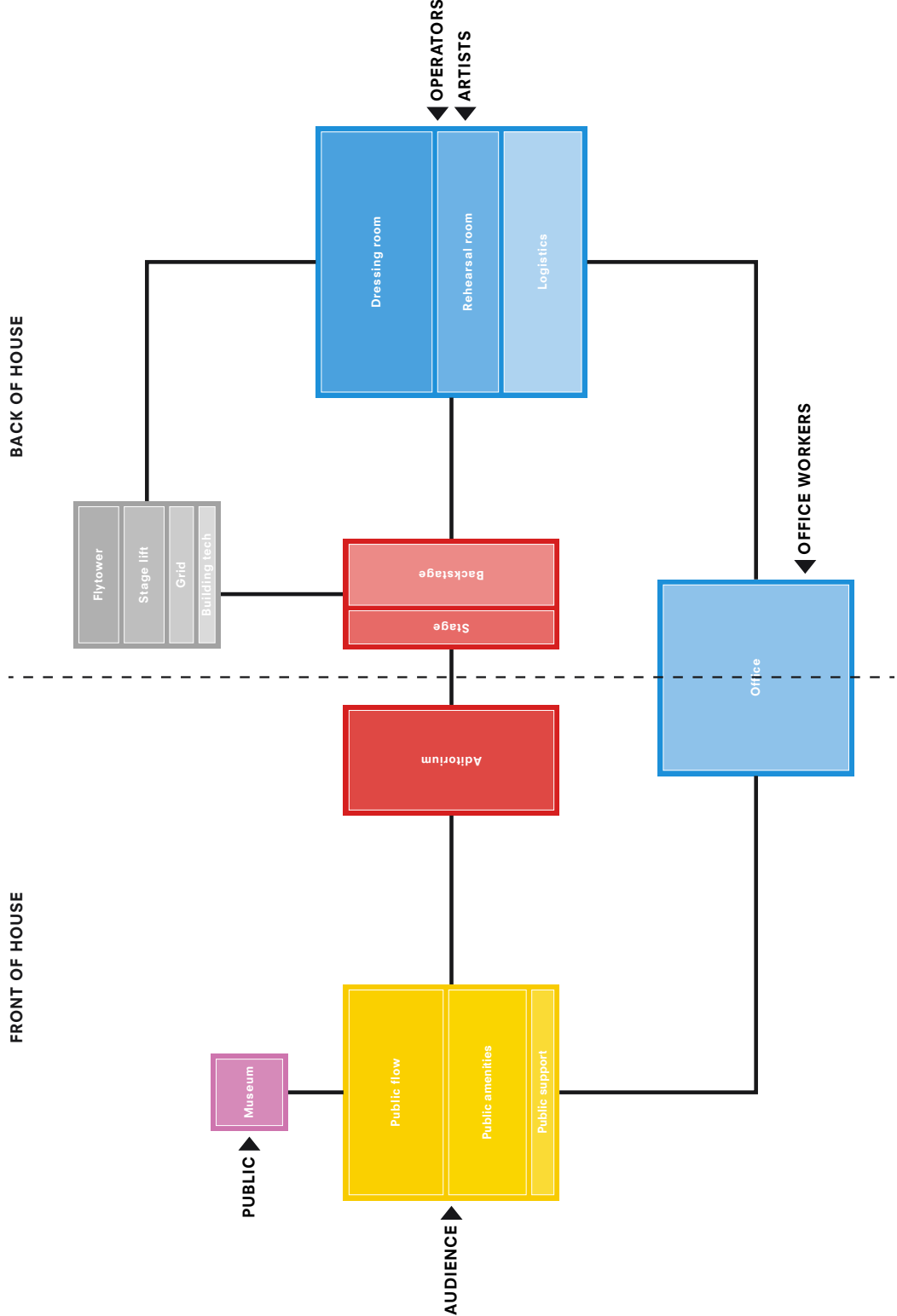


Figure 4.10: program relation scheme

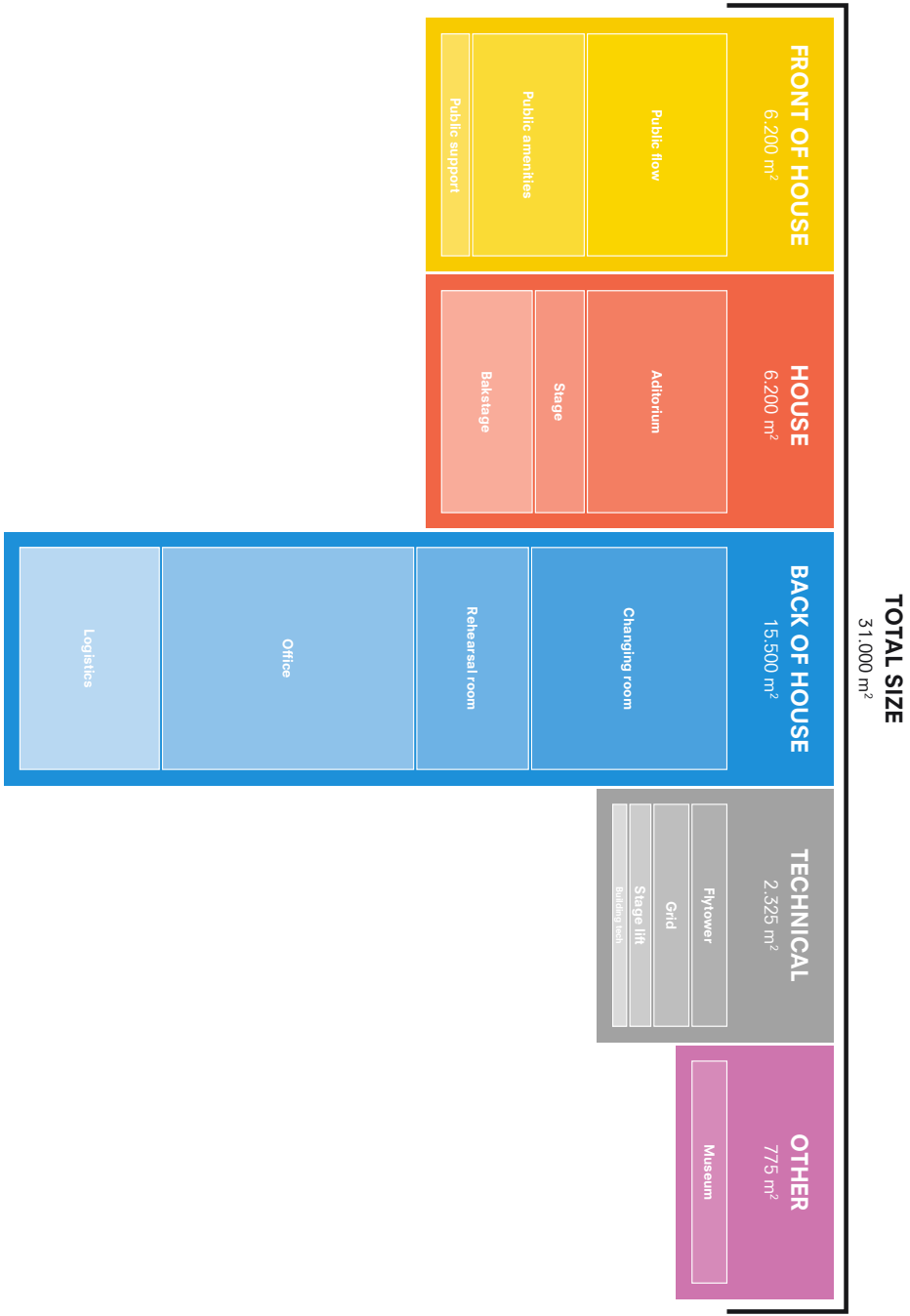
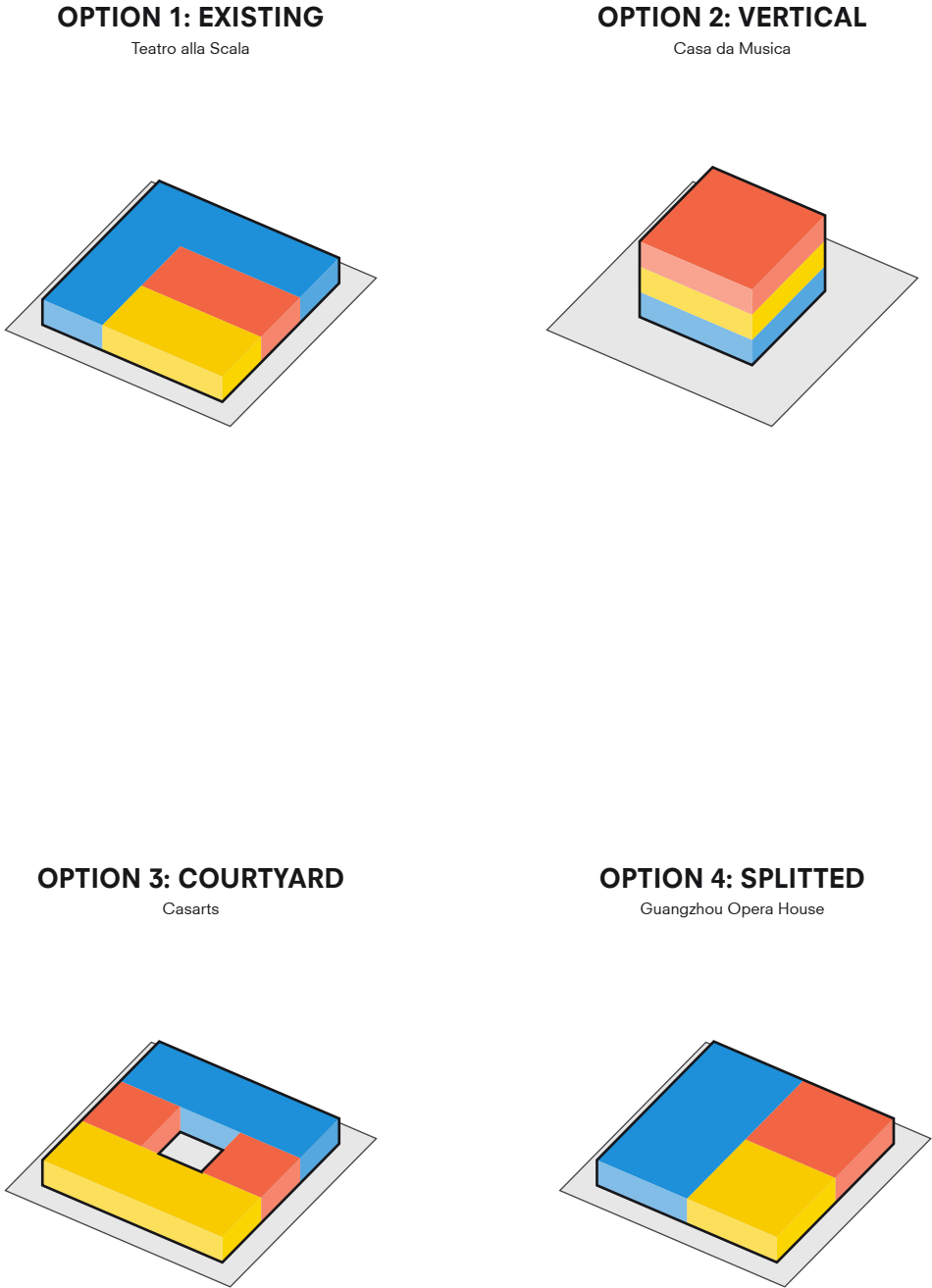


Figure 4.11 Program bar diagram

ORGANISATION | The final aspect of the program focuses on its organization. The relational diagram shown in figure 4.10 illustrates the relationships and proportions between the various spatial programs of the new La Scala. It highlights that the house is the core of the theater, with the program divided into front of house and back of house, effectively distinguishing between public and non-public areas. The diagram also identifies five distinct user groups, each interacting with a specific program area within the theater. These user pathways are crucial considerations in the design process.

As a second step, a comparative analysis was conducted using the database projects. From this analysis, three relevant projects were selected that organize their programs differently. Figure 4.11 illustrates four distinct organizational approaches. The project’s ambition and research question emphasize organizing the theater in a way that maximizes its visible integration into the public space. Options 3 and 4 in figure 4.11 present new possibilities, showcasing how a courtyard or a clear distinction between public and non-public programs can enhance this visibility.

Figure 4.11: showing 4 options for program organisation



SITE

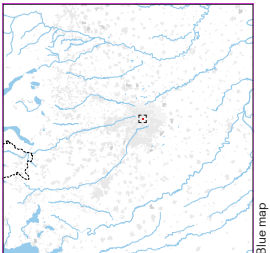
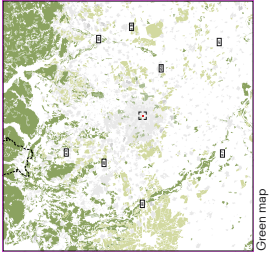
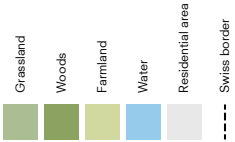
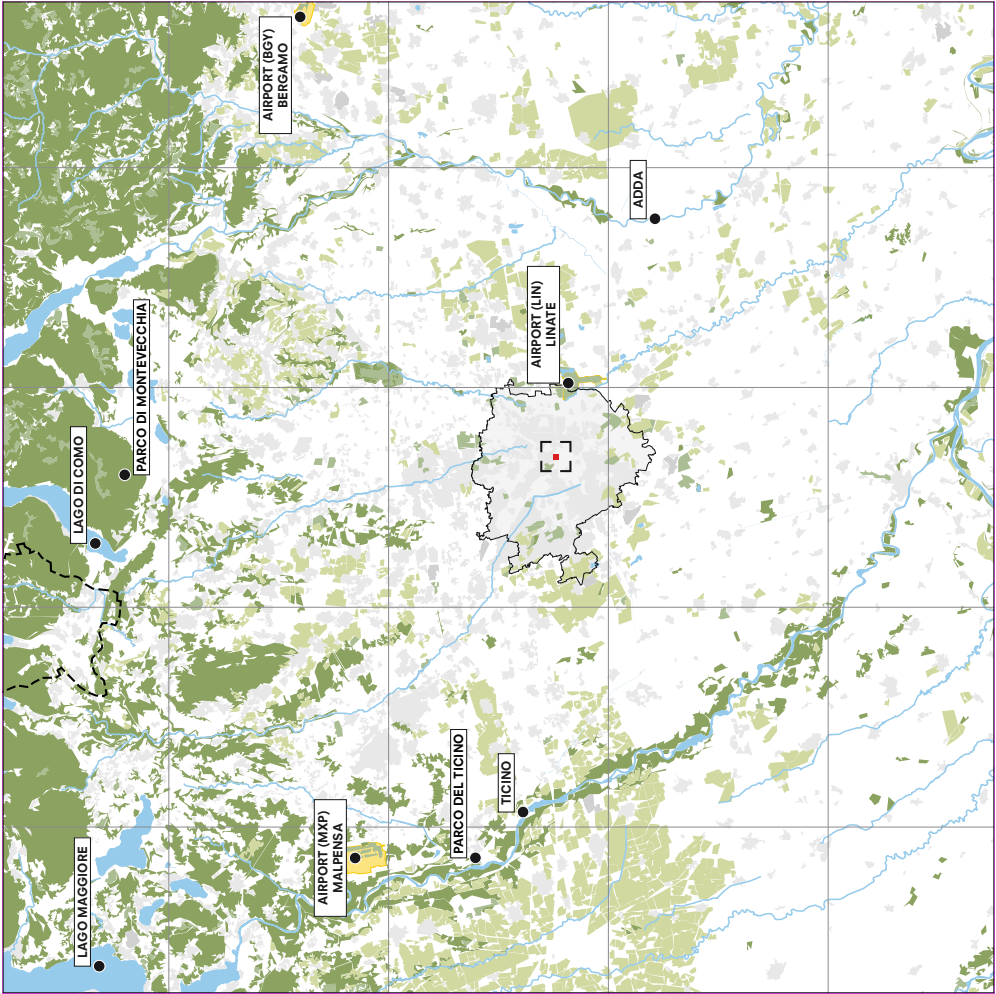
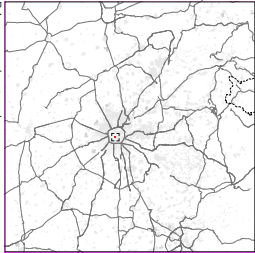
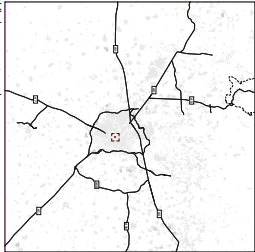
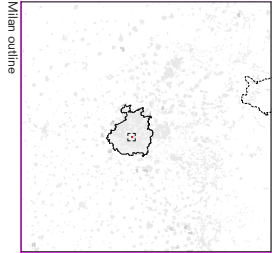
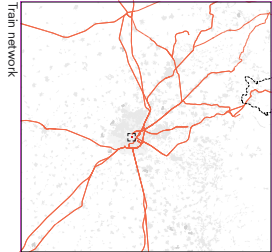
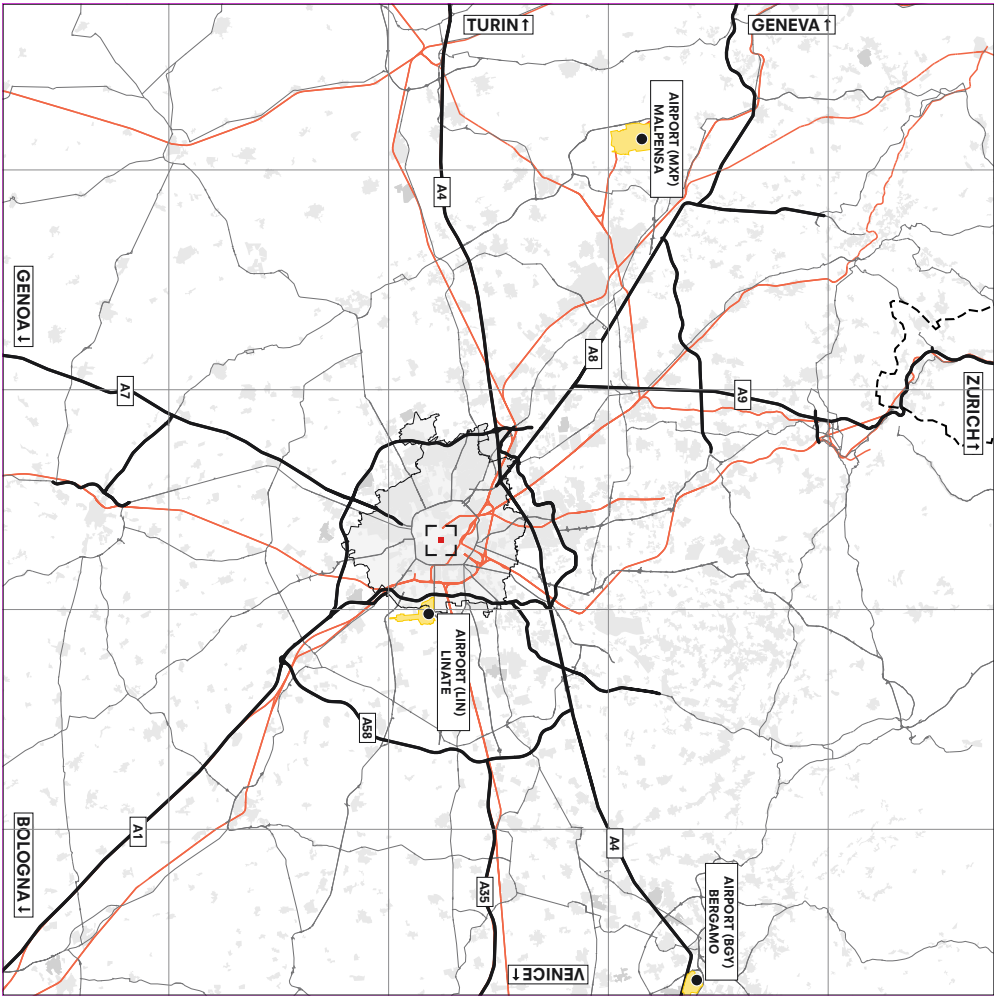
The site is analyzed across multiple scales, from XL to S, with the XL scale representing “Greater Milan,” the metropolitan area, and the S scale focusing on the site of Teatro alla Scala.

XL | Figure 4.12 illustrates the Greater Milan metropolitan area and its corresponding infrastructure network. It highlights Milan’s position within a road network that provides both national and international connections, including links to Switzerland. Additionally, the Milan region is served by three international airports, ensuring strong intercontinental accessibility. This connectivity is crucial for a theater aiming to establish and maintain international visibility.

L | This scale focuses on the city of Milan. The map in Figure 4.13 highlights the different city districts and urban belts. It shows that La Scala’s actual site lies within the oldest urban belt, the Roman wall and in the central city district of Milan, making it prominently visible within the city.

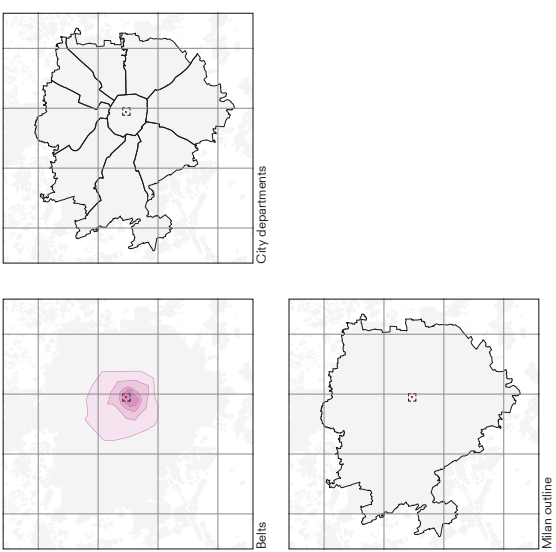
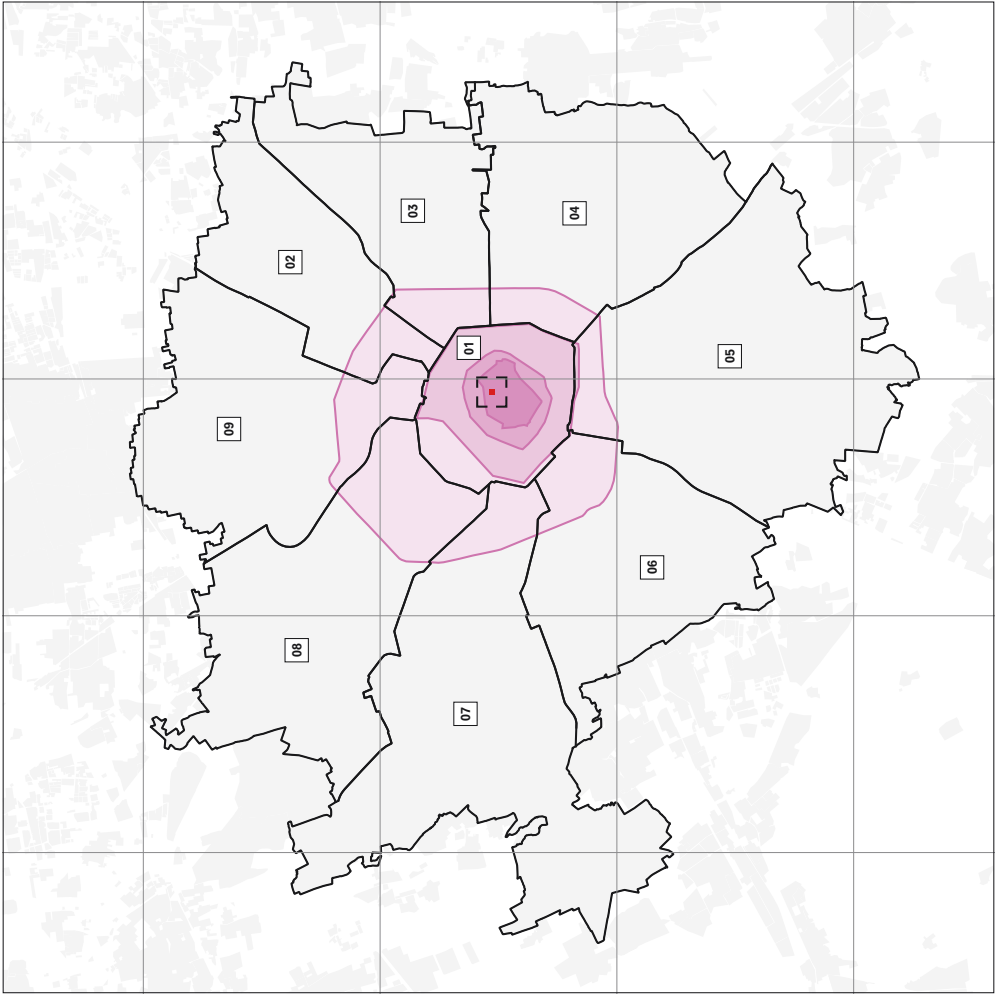
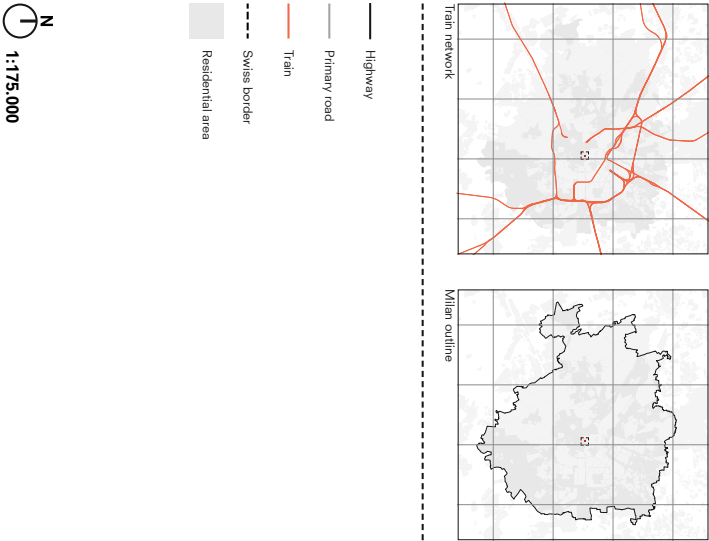
M | Figure 4.14 illustrates the neighborhood surrounding the La Scala site, emphasizing accessibility and its environment. The area features numerous pedestrian zones, ensuring excellent accessibility for walkers. Public transport connections include two metro lines (M1 and M3) with stations within 500 meters and direct access via tram line 1, highlighting the site’s strong integration into Milan’s urban infrastructure.

S | The specific site and immediate surroundings of La Scala exude a monumental character. Figure 4.15 shows that the site borders Piazza della Scala, directly connecting it to the iconic Galleria Vittorio Emanuele II. The plot itself is only adjacent to existing buildings at the back, leaving it highly visible and connected. The existing plot area is 7,150 m². To enhance the visual connection and public space in front of the theater, the front edge of the plot is set back by 20 meters, creating a larger buffer- and additional public zone in front of the theater (Figure 4.16). This adjustment reduces the plot area to 5,900 m².

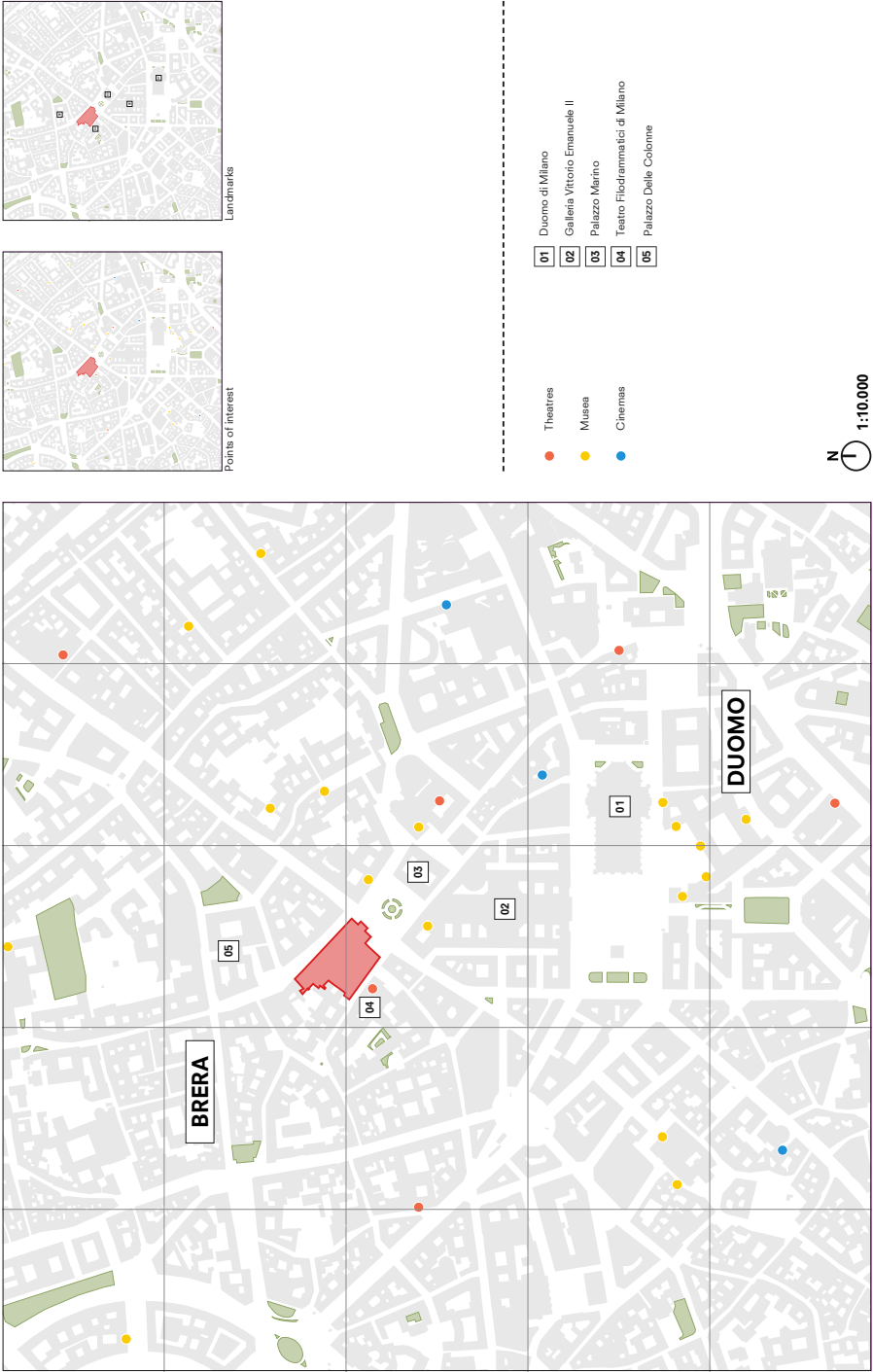
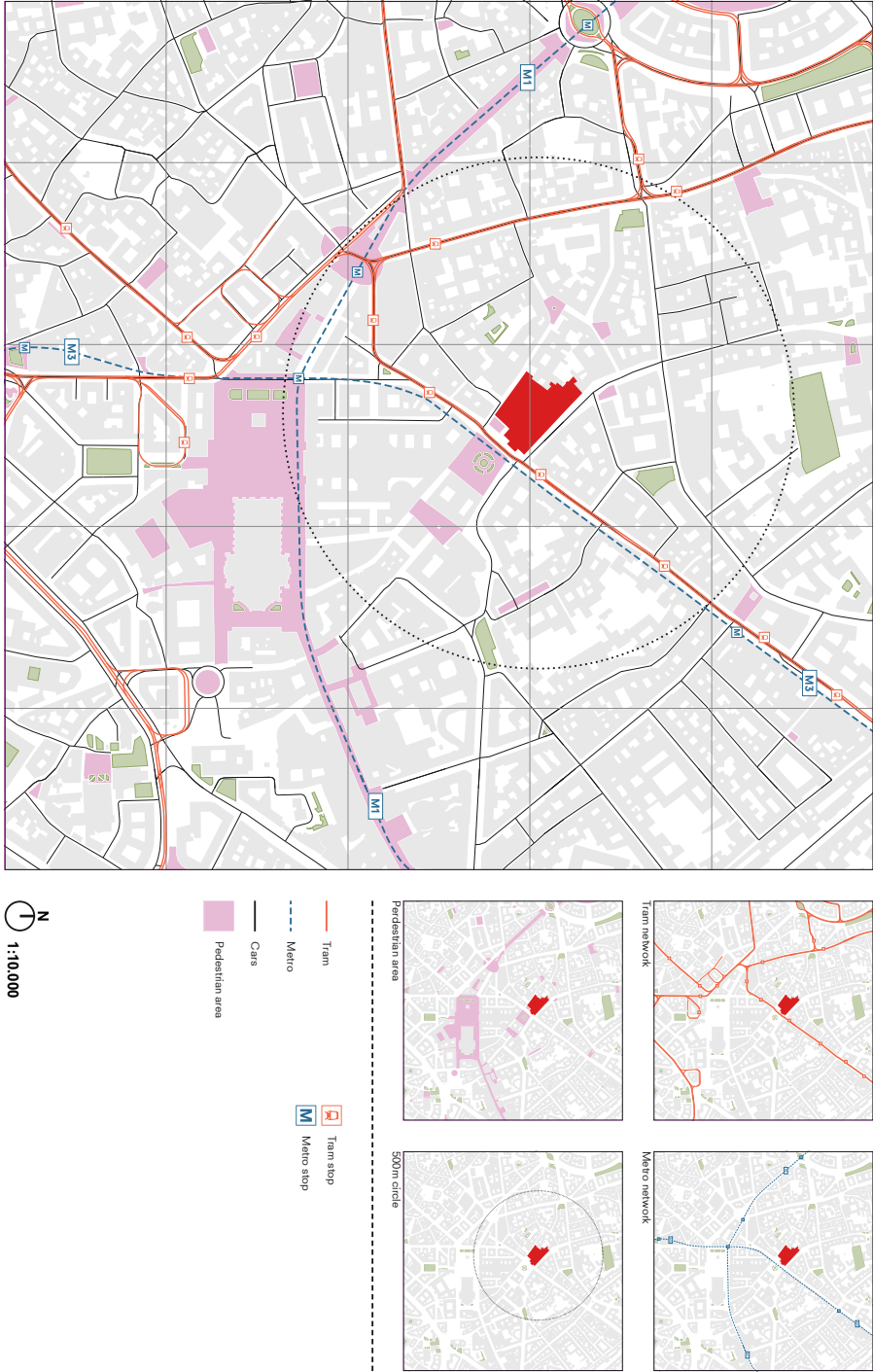


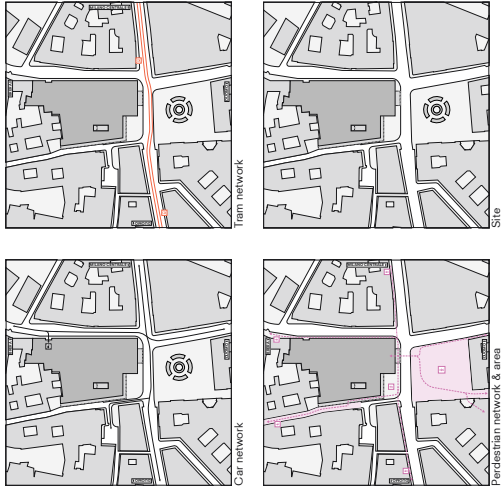
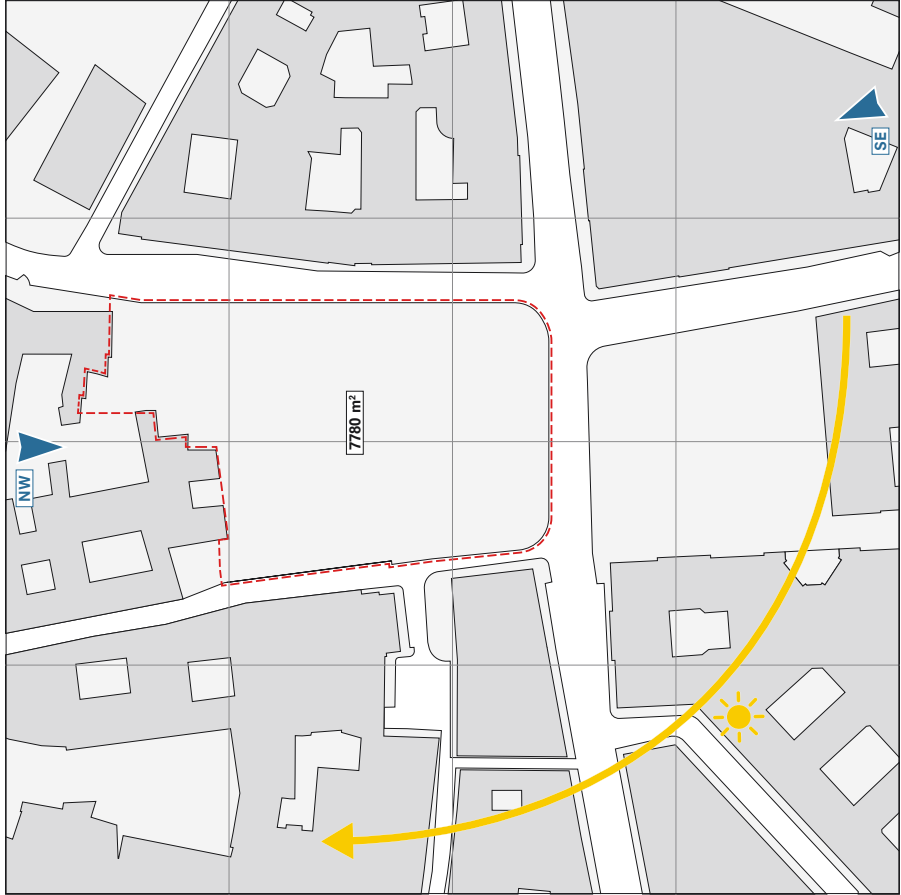
N
1:175,000

- Highway
- Primary road
- Train
- Swiss border
- Residential area

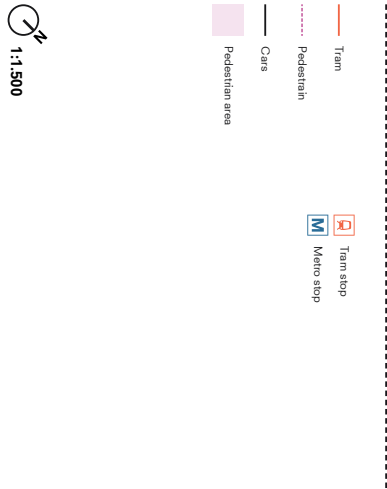
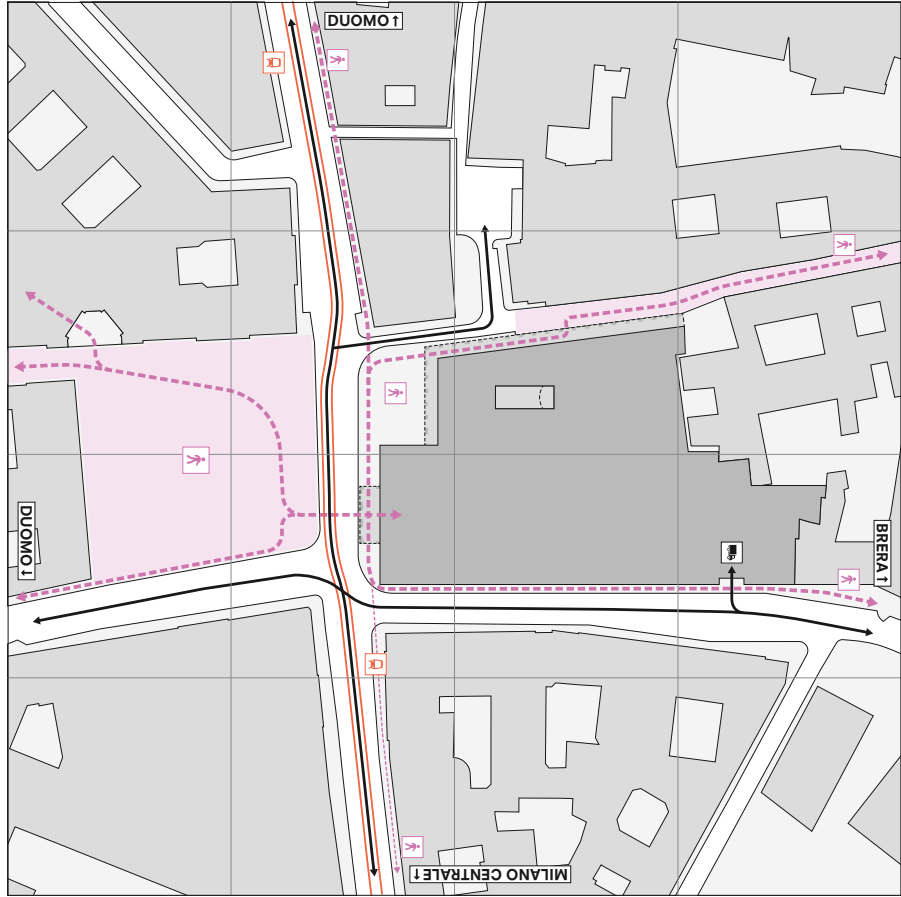


- Roman walls
 - Medieval walls
 - Spanish walls
 - Tangenziale di Milano
 - Residential area
 - Milan city border
- Municipio 01
 - Municipio 02
 - Municipio 03
 - Municipio 04
 - Municipio 05
 - Municipio 06
 - Municipio 07
 - Municipio 08
 - Municipio 09





1:1.500



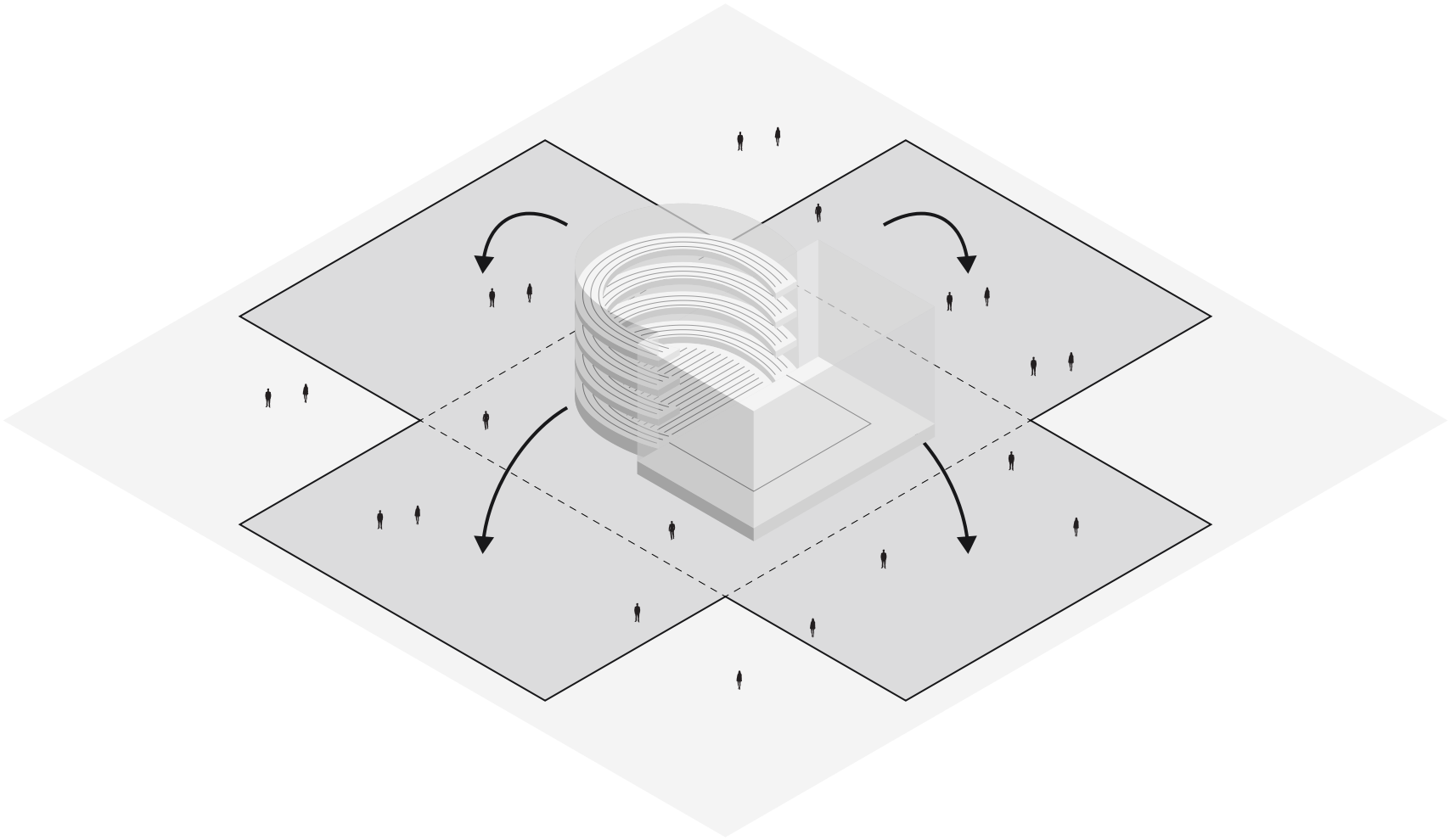
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04

CONCEPT

CONCEPT

In order to connect the opera house to the city and its society, the building must truly open itself up. This requires more than simply removing the so-called “Fourth wall”, it means breaking down all four walls. The opera house should no longer position itself as an isolated cultural temple, but instead become a space that invites interaction, blurs the boundaries between inside and outside, and engages directly with the urban fabric and the daily lives of its inhabitants.

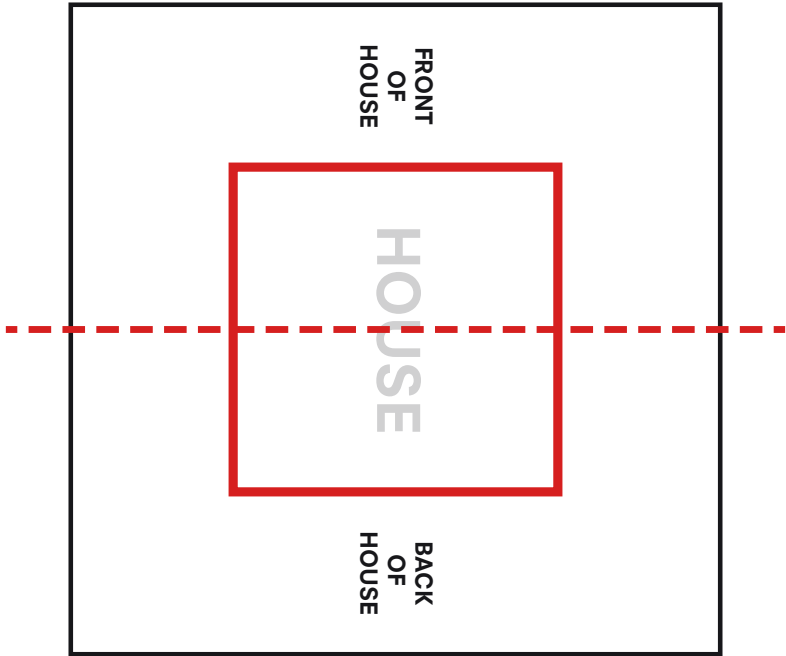


INSIDE-OUT

CONCEPT

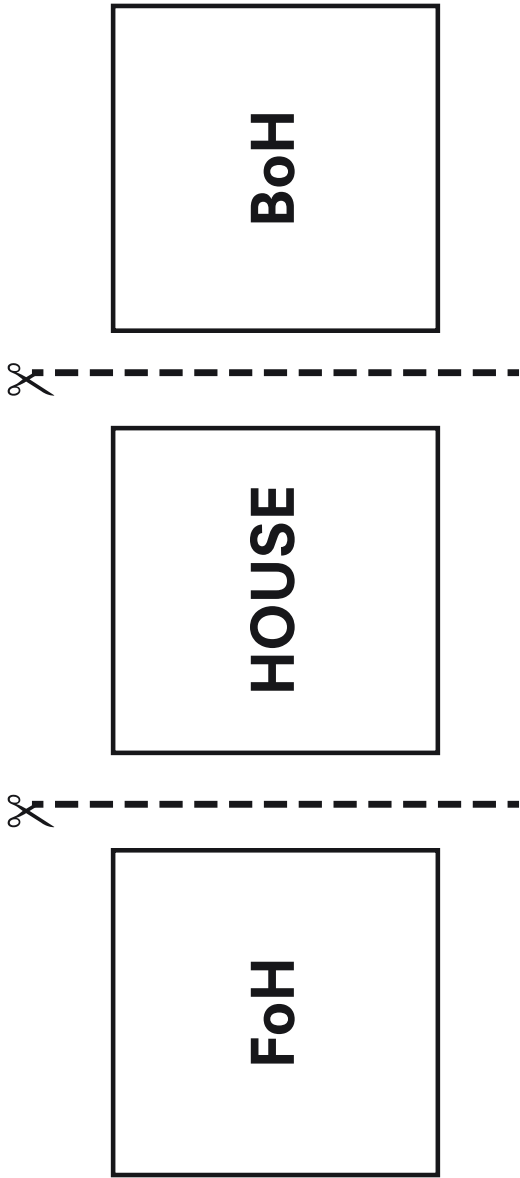
TYPICAL THEATRE

The typical theatre has a programme division between the front-of-house and back-of-house, with the actual core the 'theatre' itself remaining hidden.

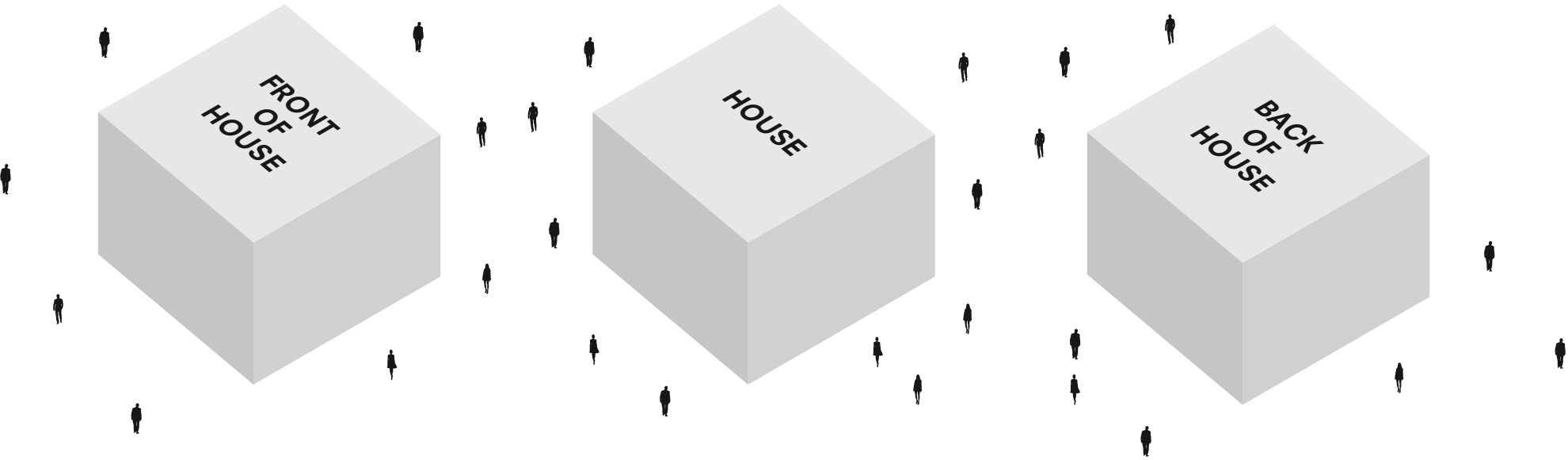


CUTTING THE THEATRE

Dividing the three programme elements of the theatre into three segments can create space to draw the public realm inside.



INSIDE-OUT

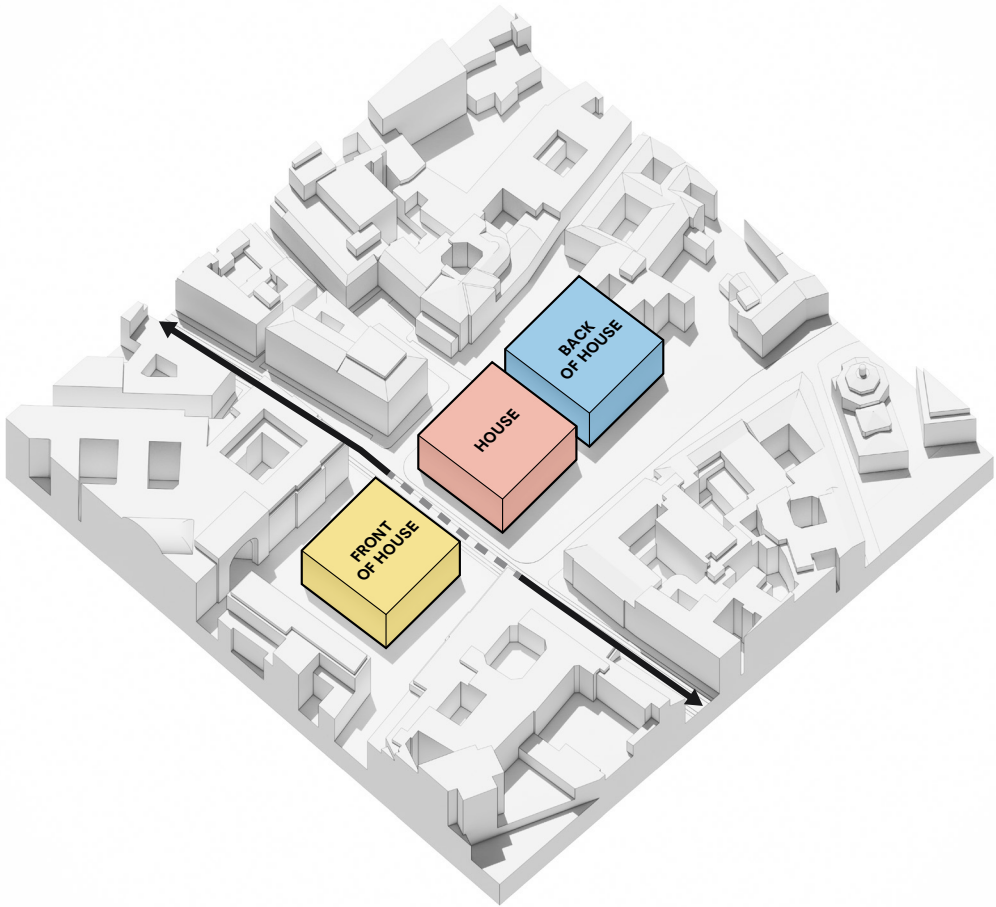
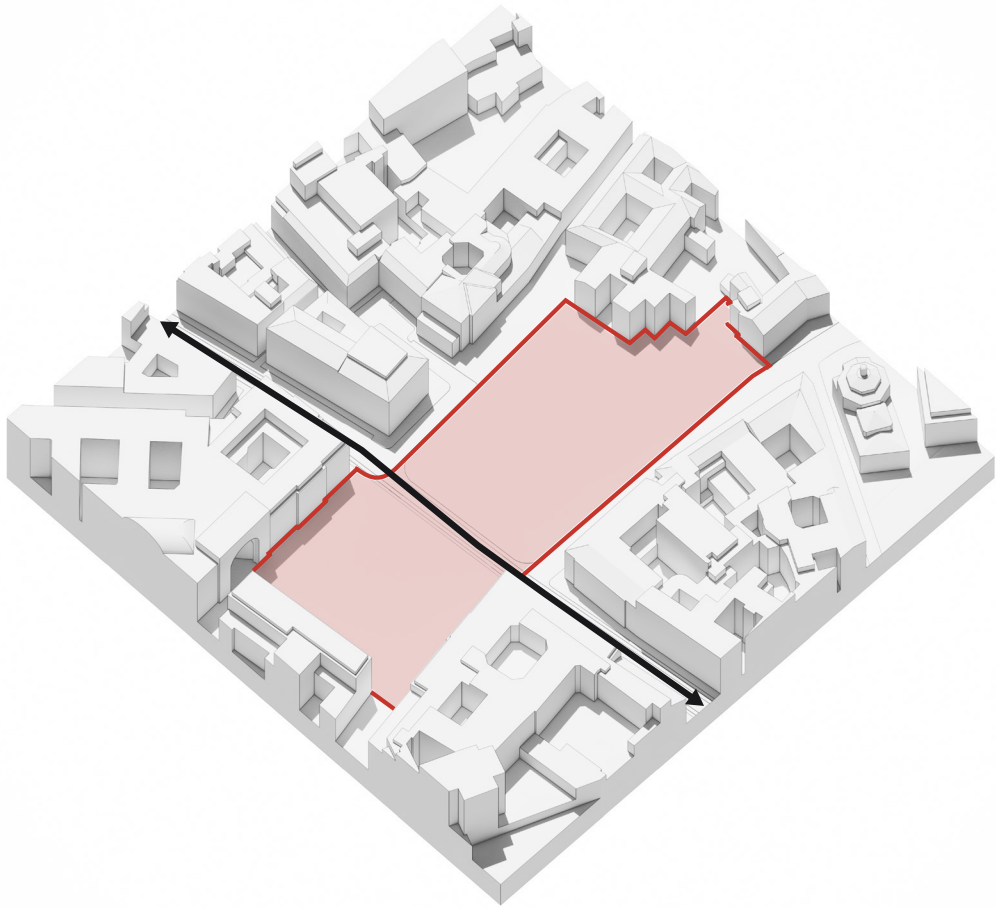


CONCEPT

NEW APPROACH

The project site incorporates the existing square, the ‘Piazza della Scala’, in order to more closely connect the theatre with the public space and urban life. As part of this approach, the road that currently separates the two is also included within the plot, becoming an integral element of the design and contributing to a seamless relationship between the opera house and its surroundings.

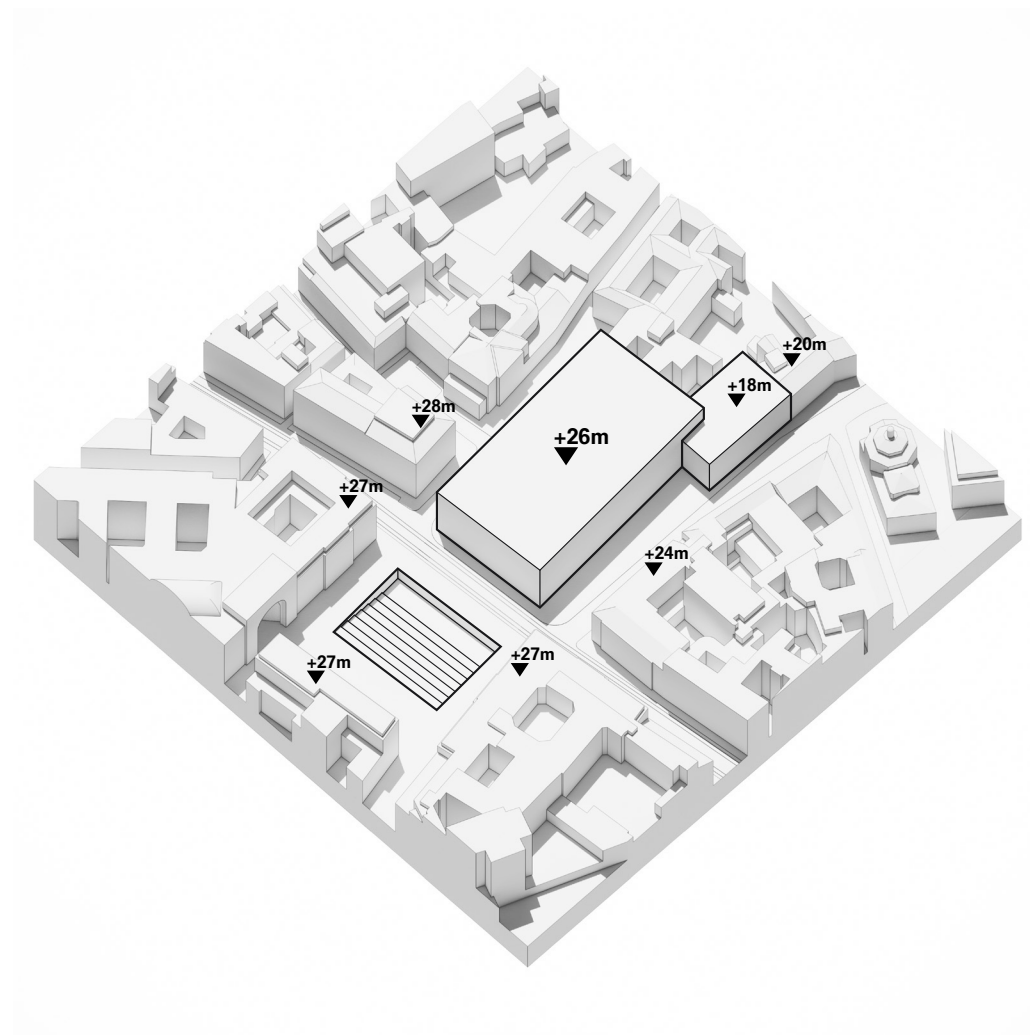
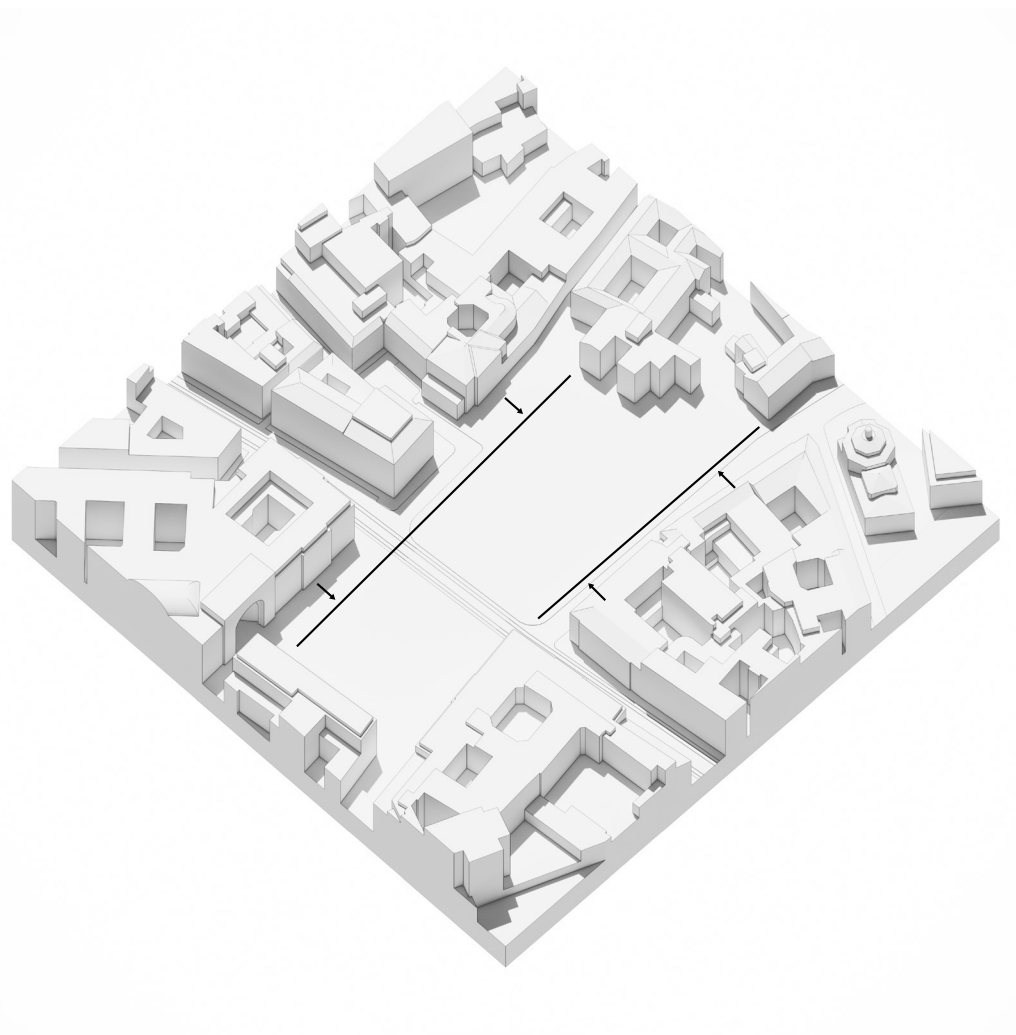
INSIDE-OUT



CONCEPT

In order to connect the opera house with the public space, the building itself must also relate to the existing urban fabric. Certain grids of the surrounding buildings therefore form the basis for the new structure. The height of the building plays a crucial role as well; part of the theatre is positioned underground so that its overall height aligns with that of the surrounding built environment.

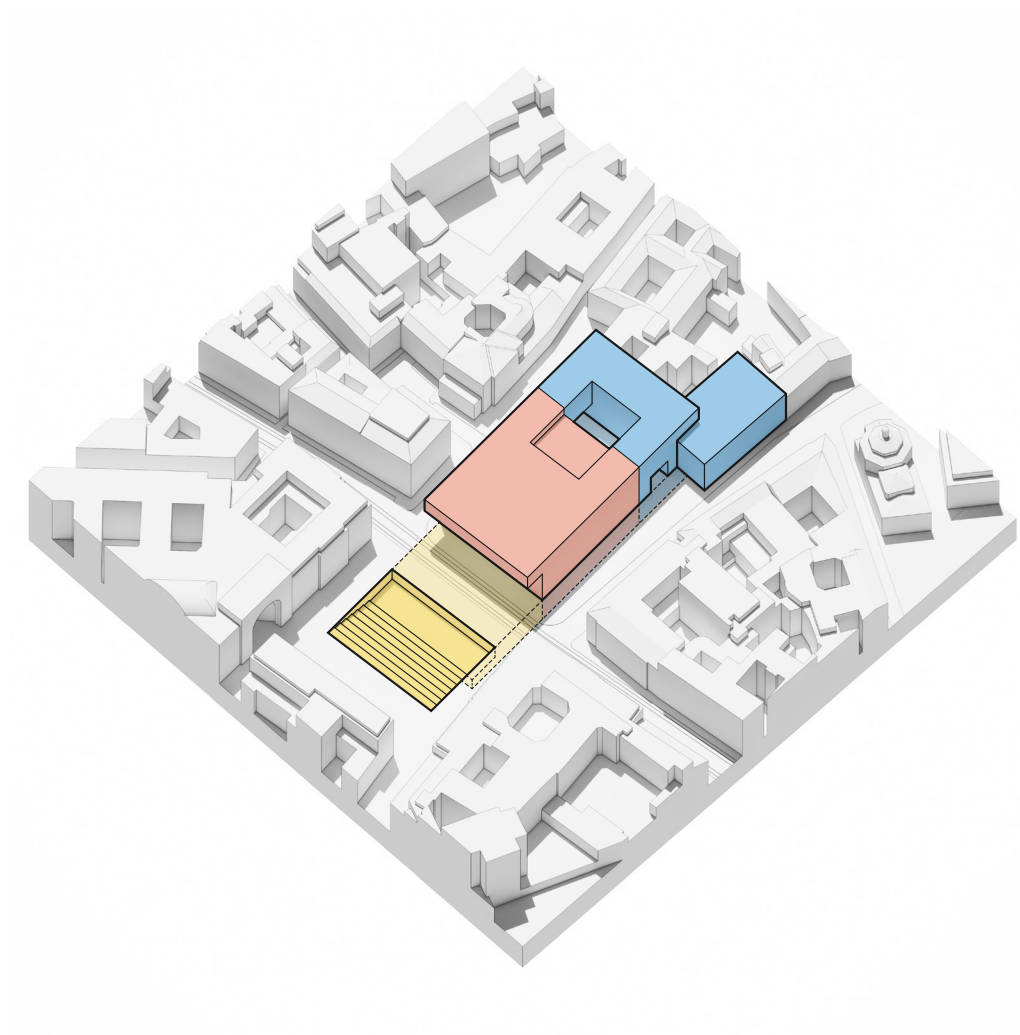
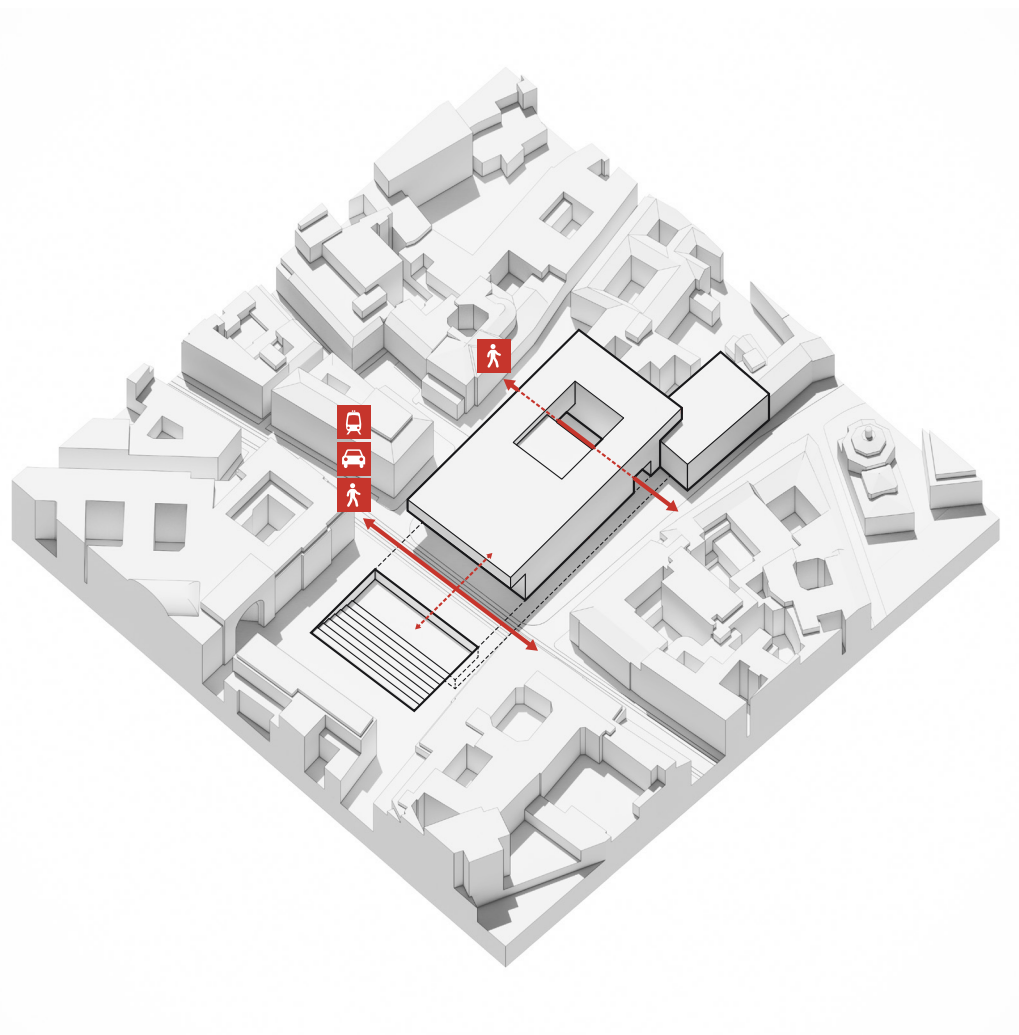
INSIDE-OUT



CONCEPT

The building features three passages that connect it to the existing infrastructure and its associated users. These passages also serve to separate the different programme elements.

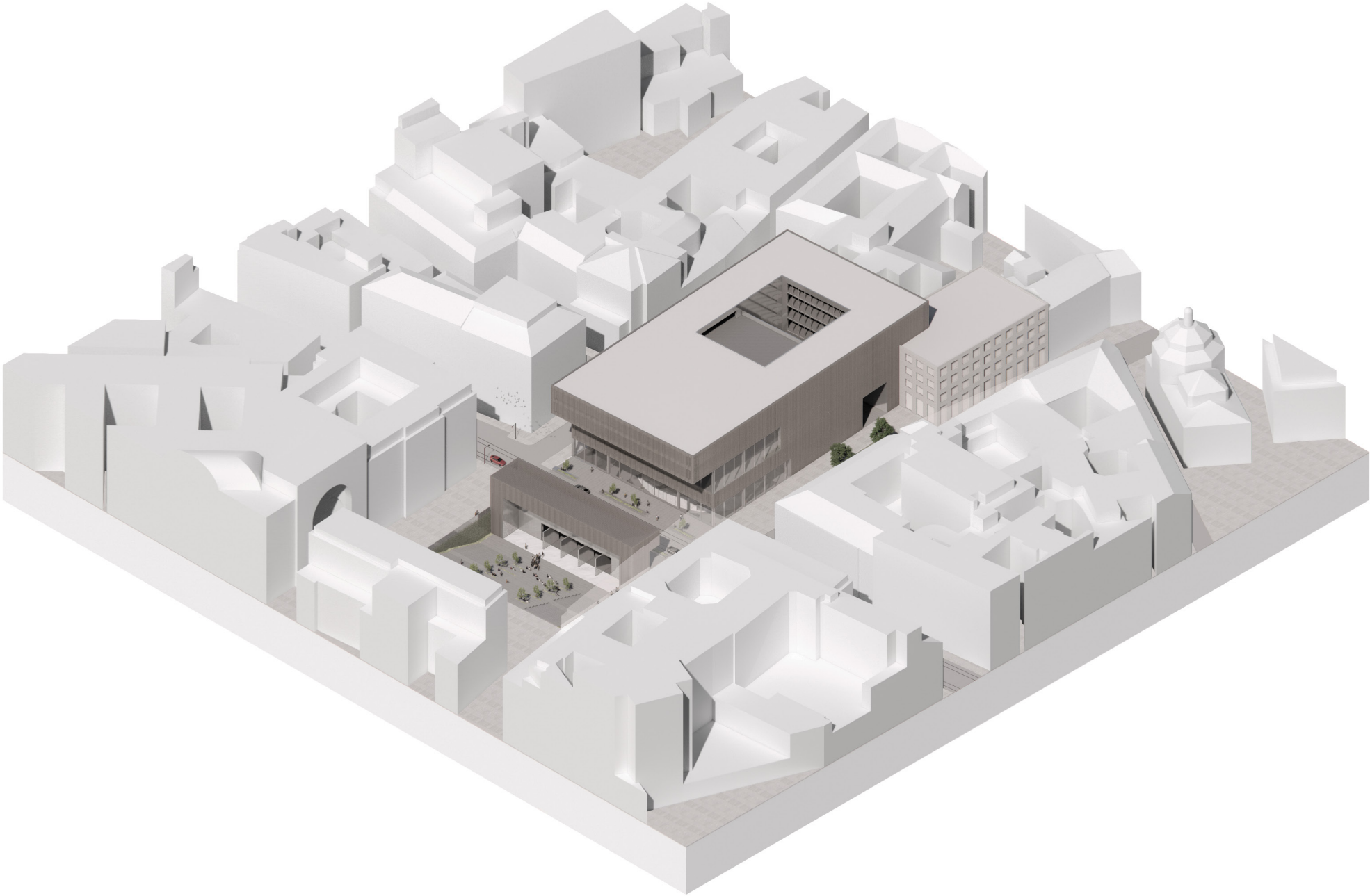
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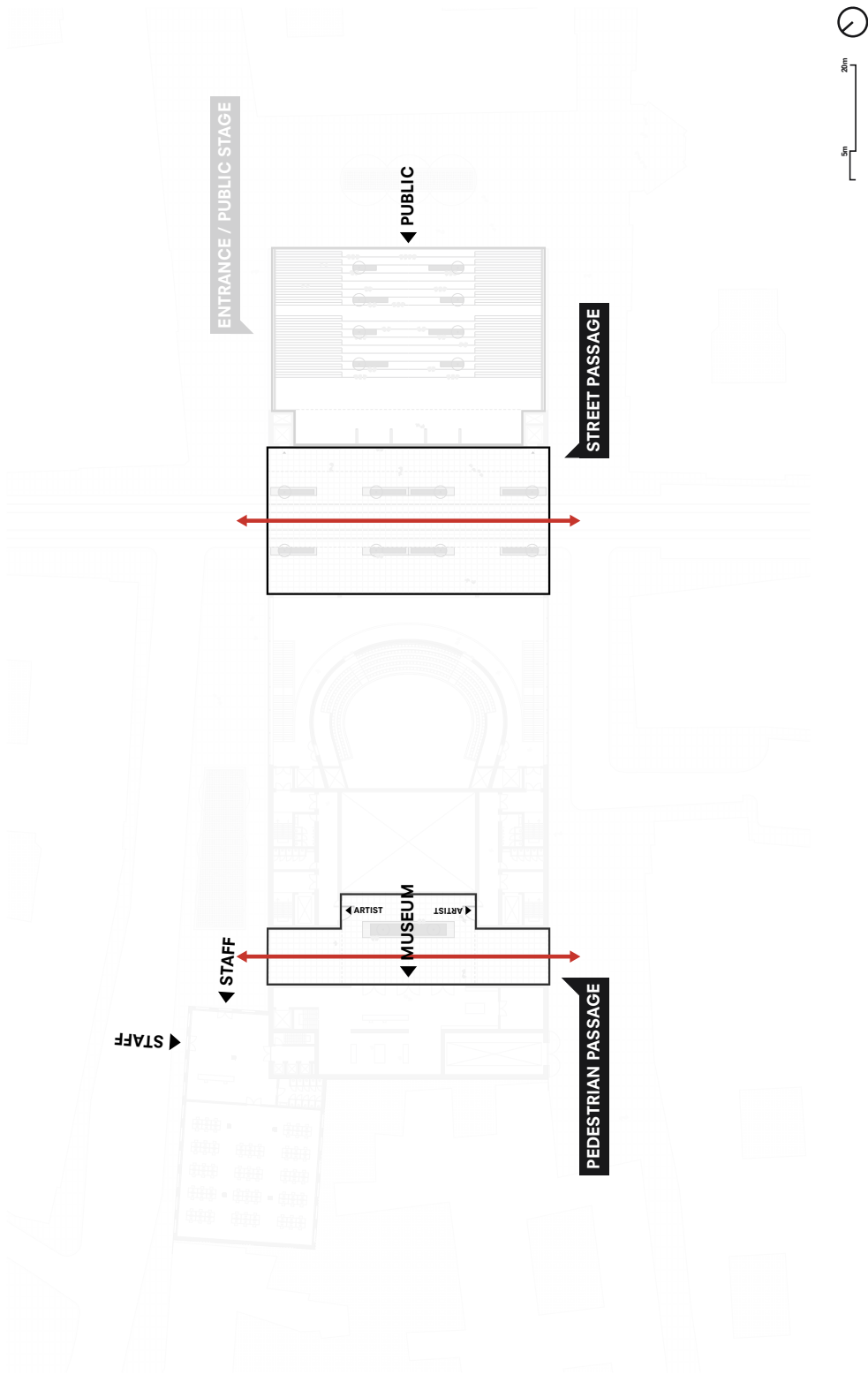
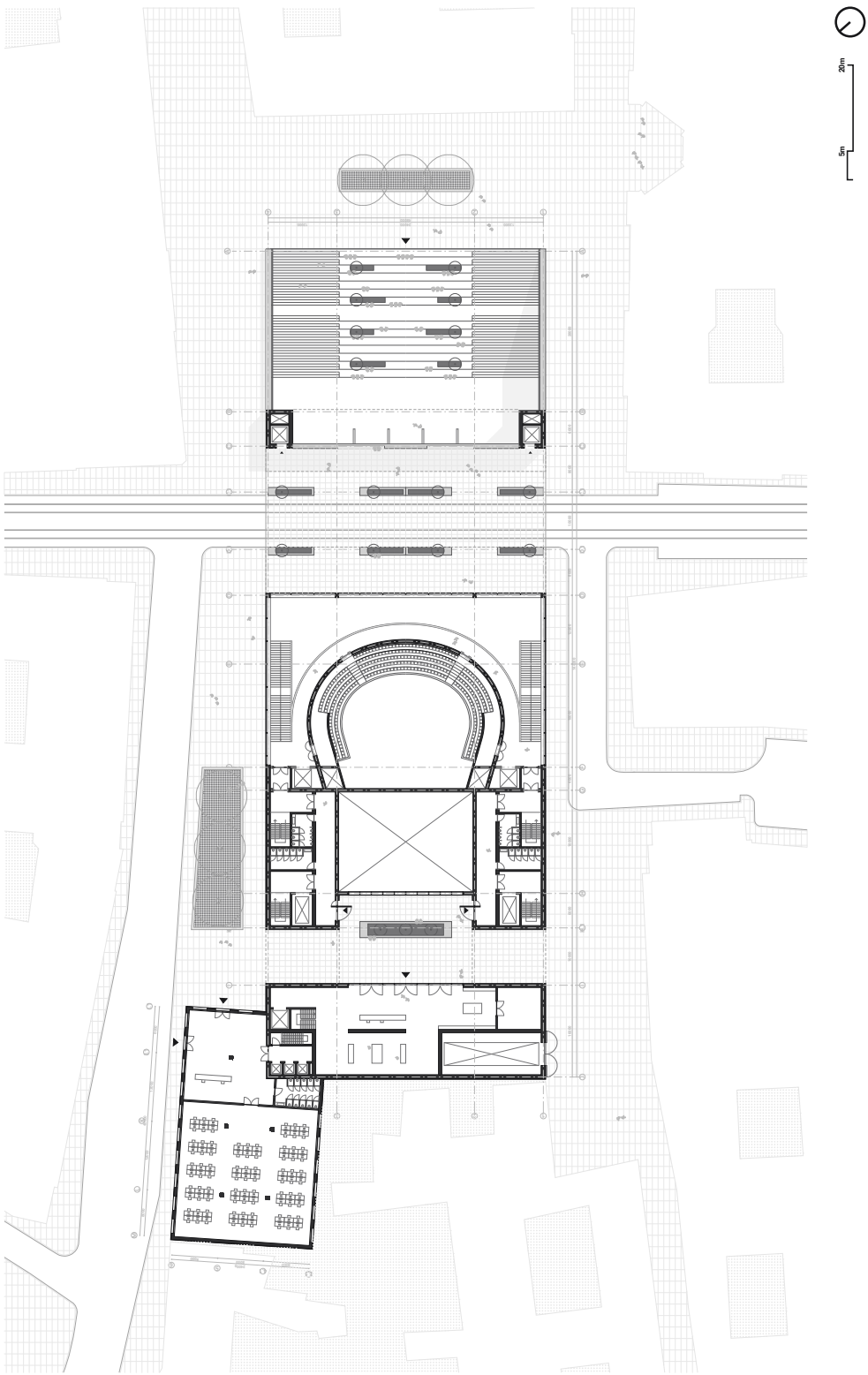


CONCEPT

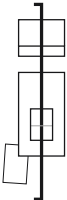
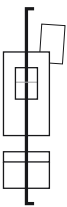
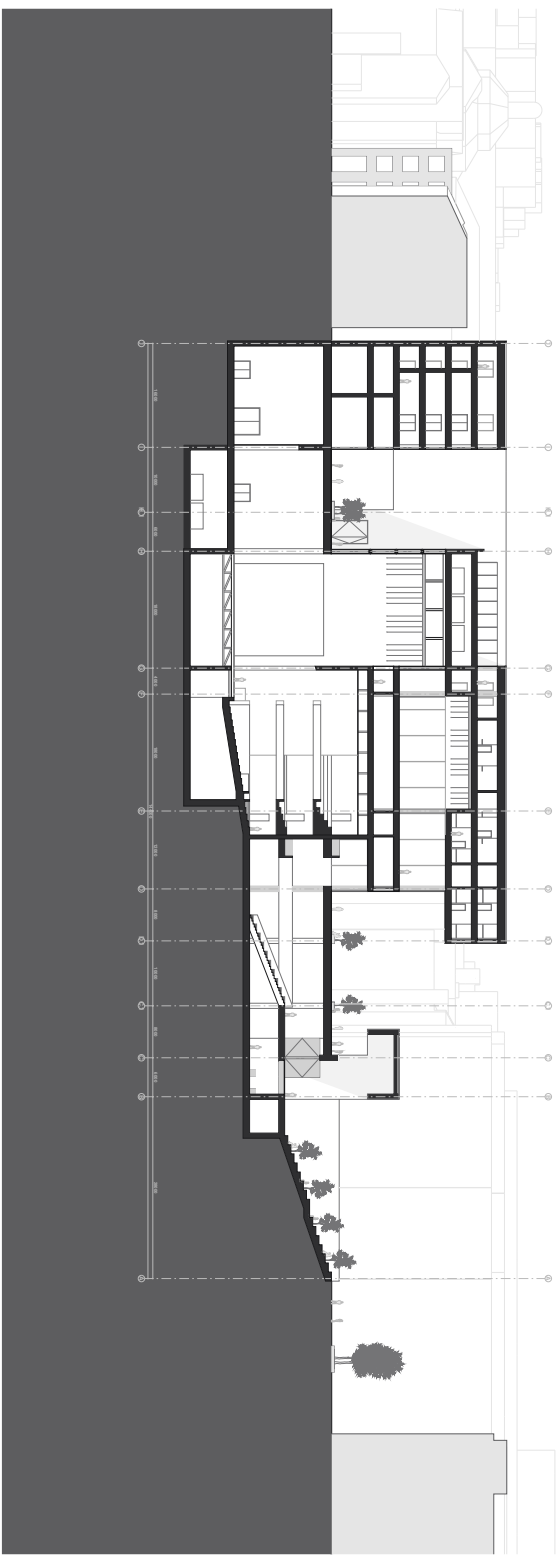
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IMPLEMENTATION

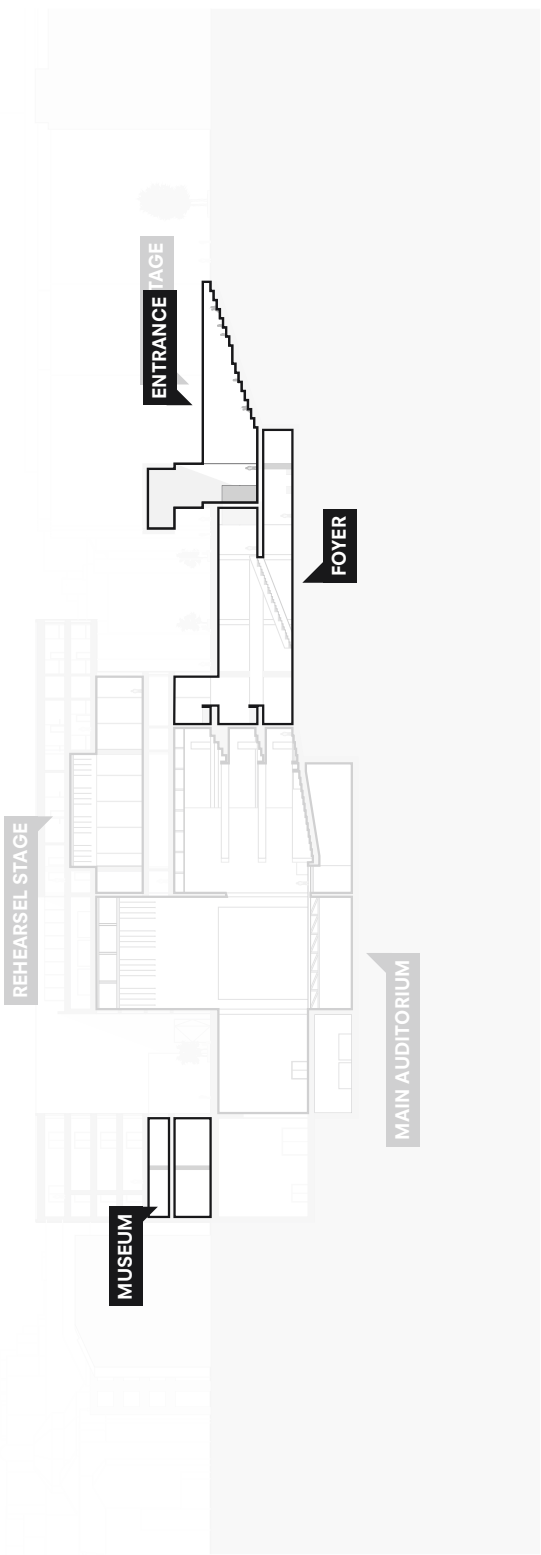




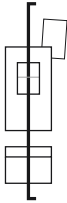
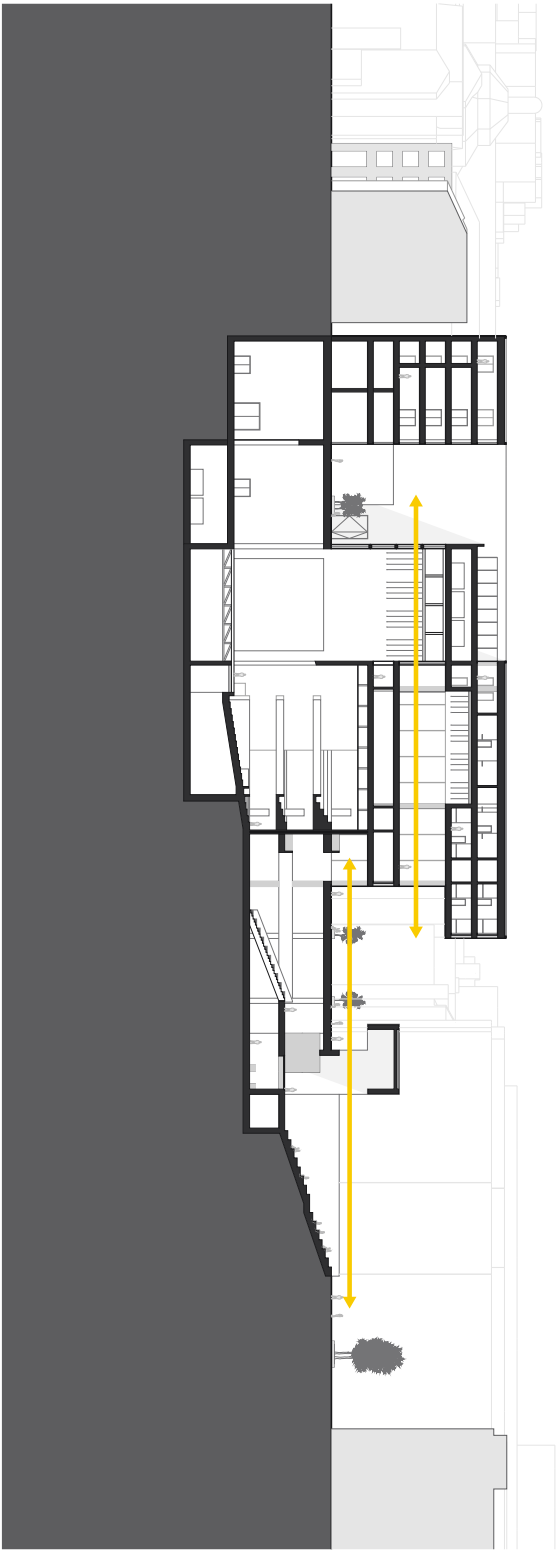
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20m



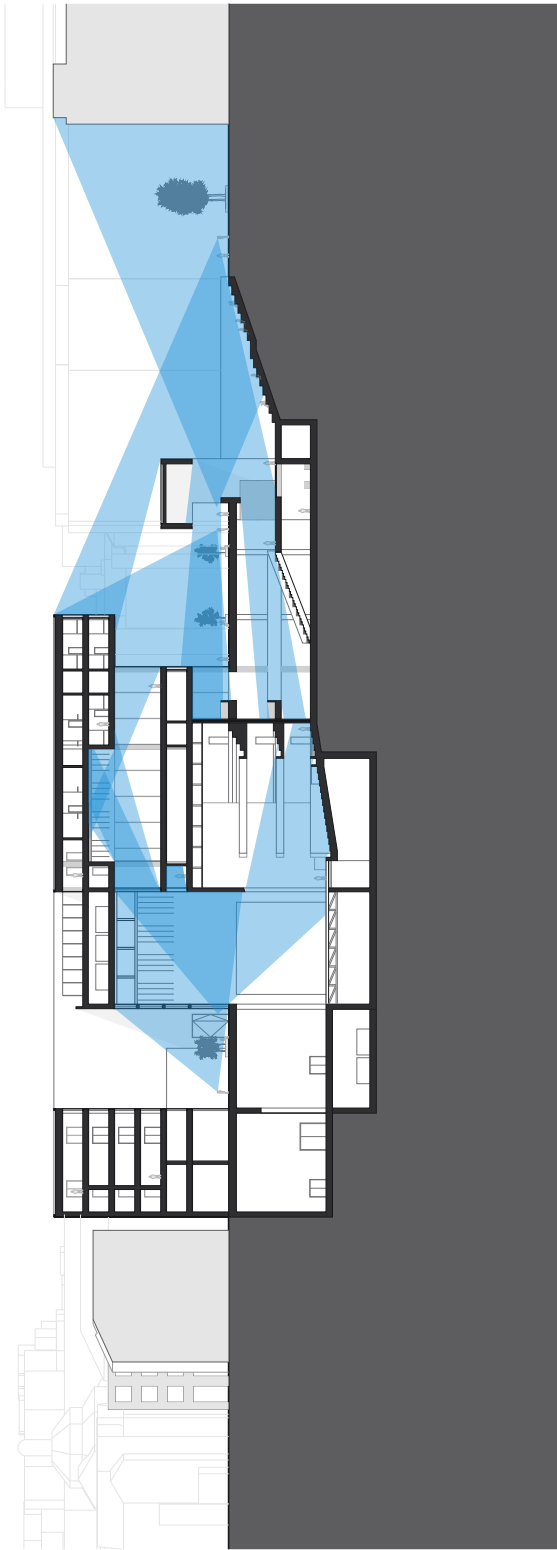
5m
20m



5m 20m



5m 20m





INSIDE-OUT

IMPLEMENTATION



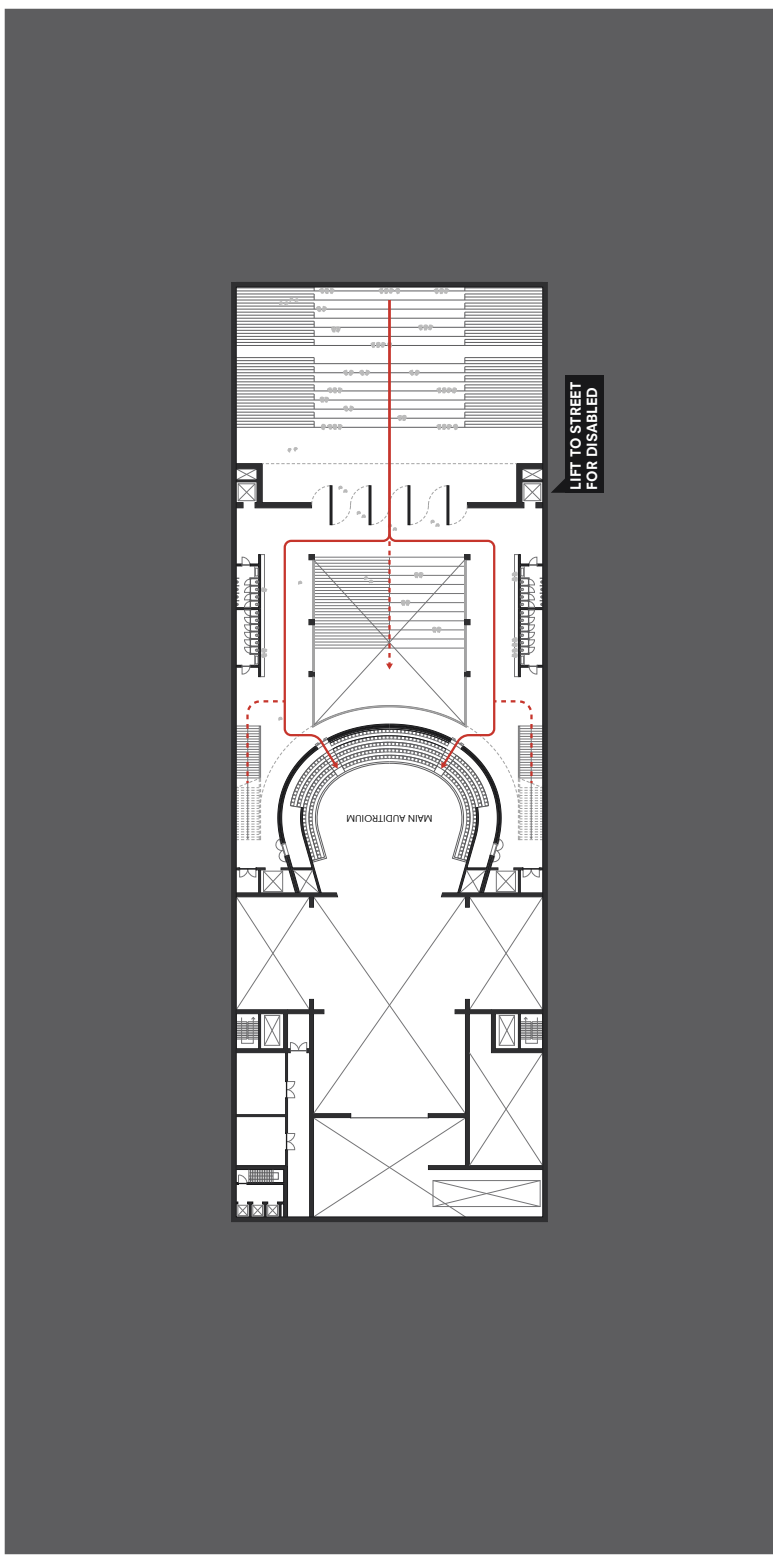
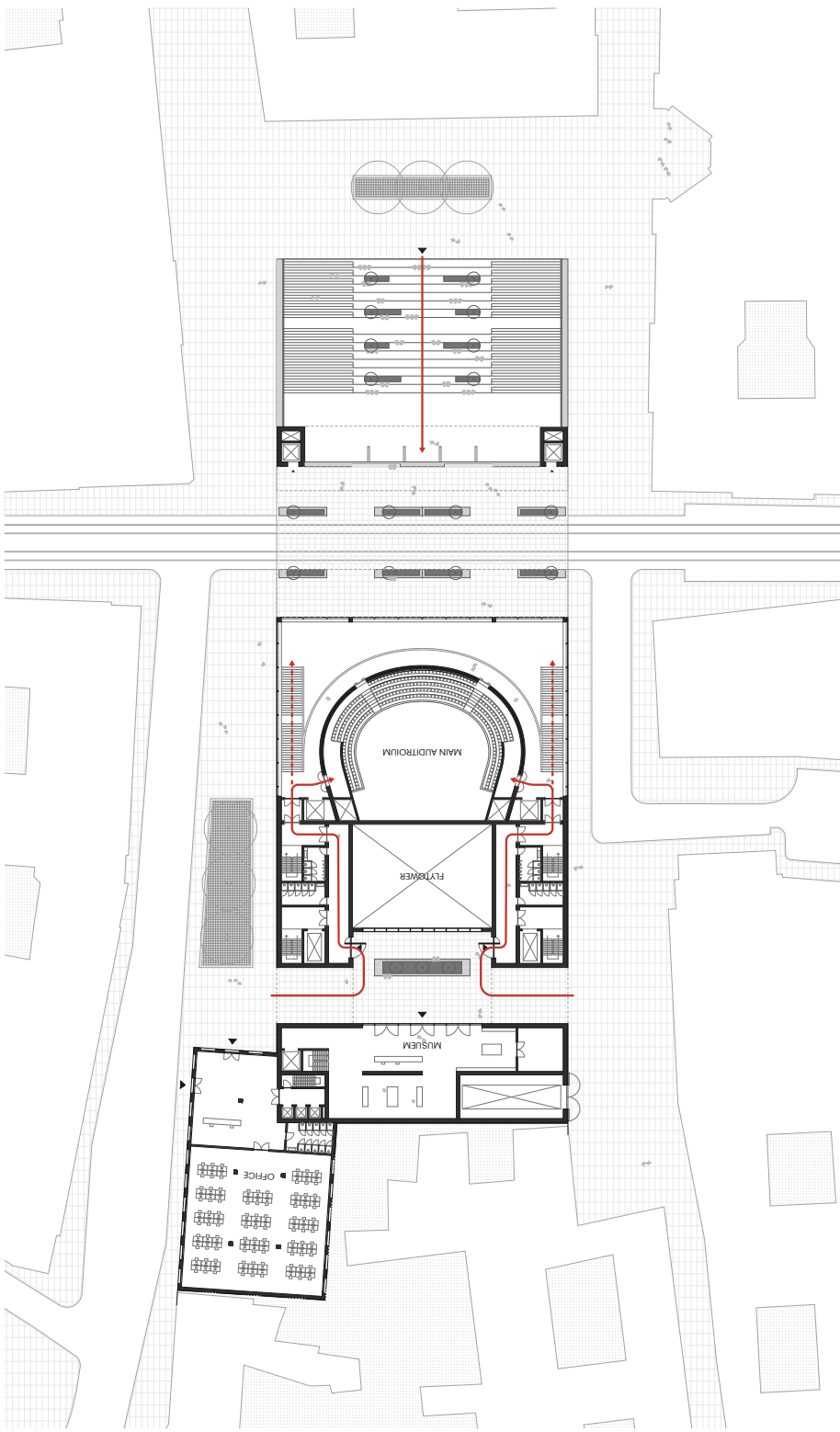


INSIDE-OUT

IMPLEMENTATION









INSIDE-OUT

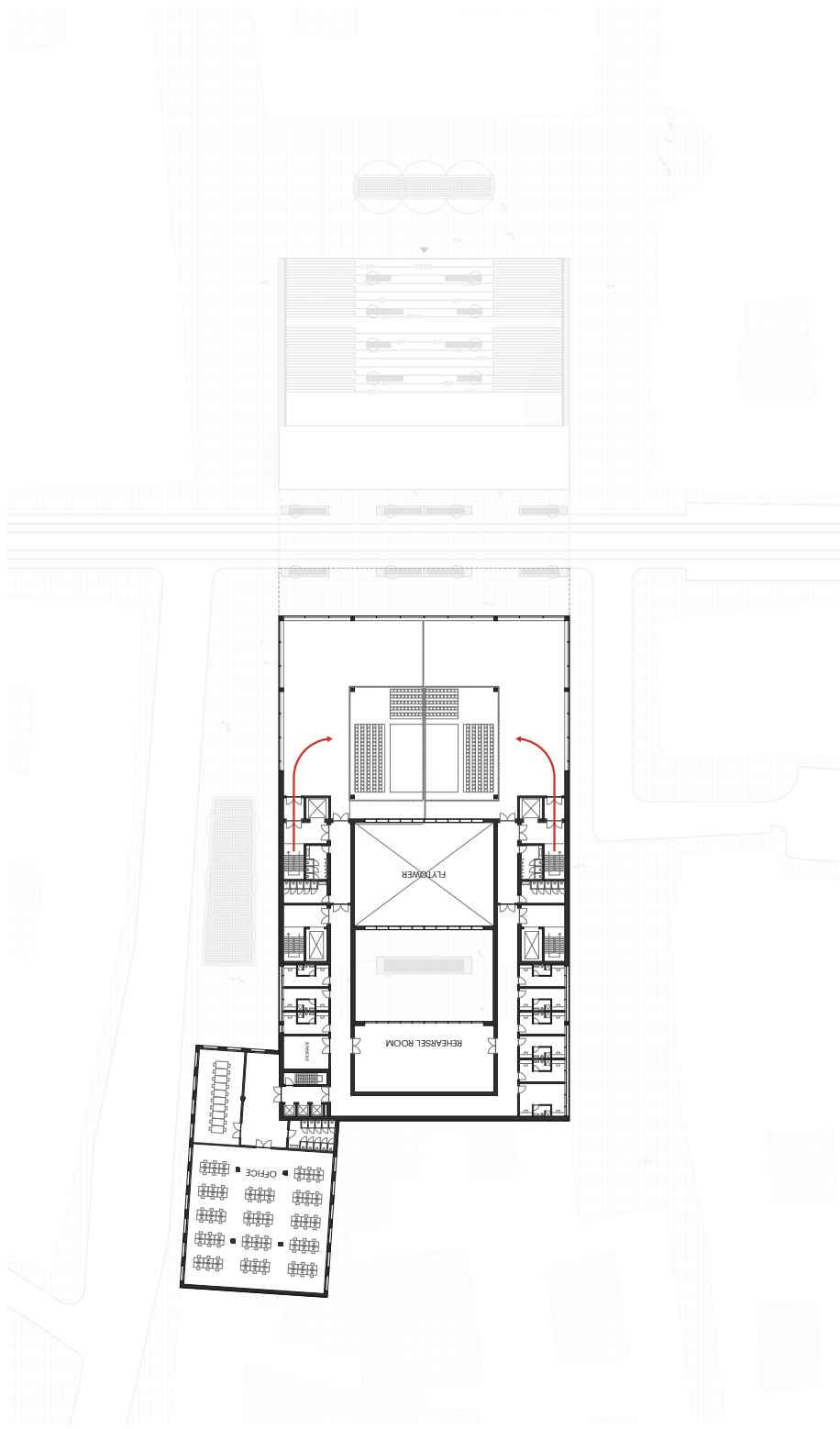
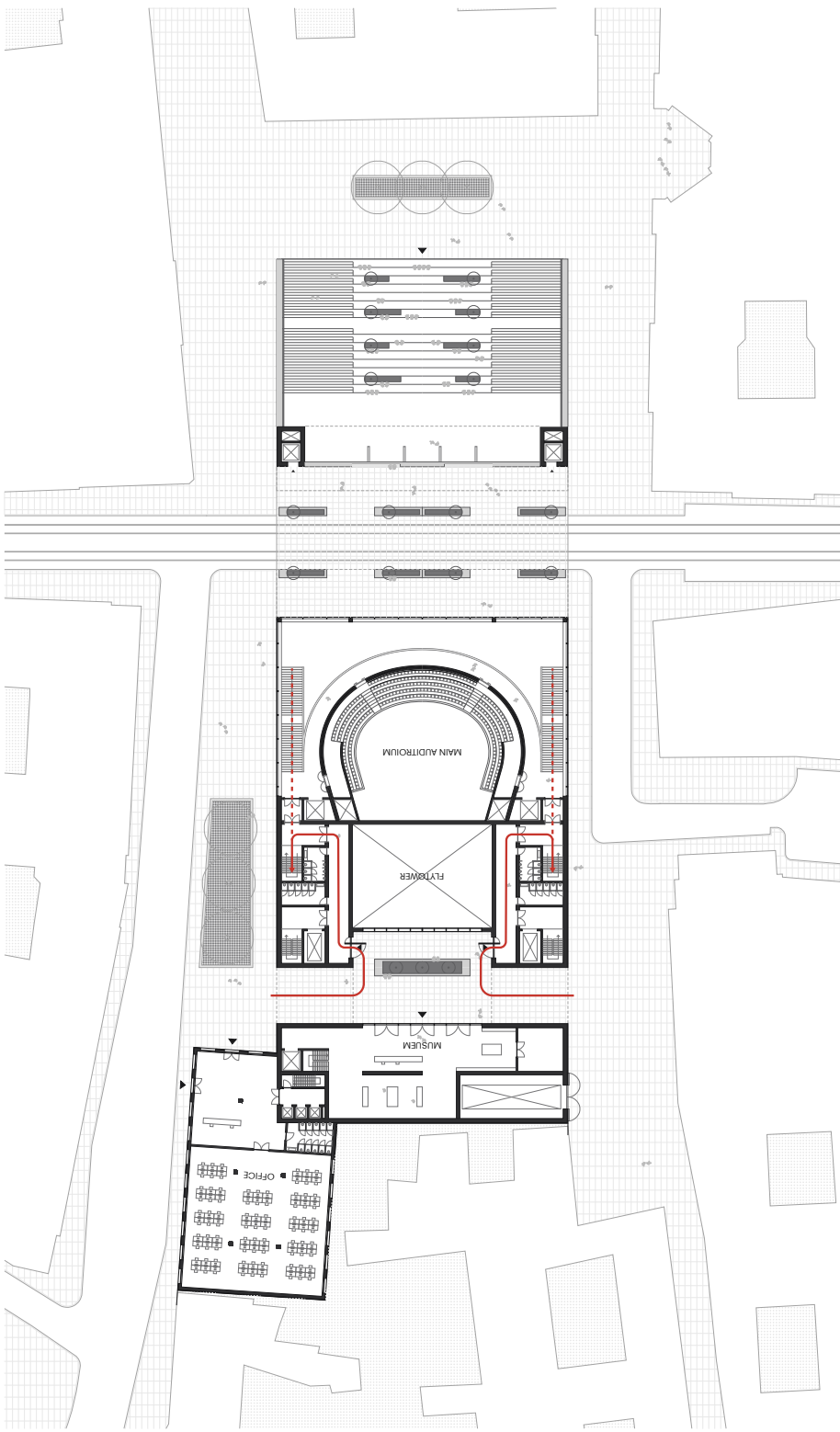
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INSIDE-OUT

IMPLEMENTATION



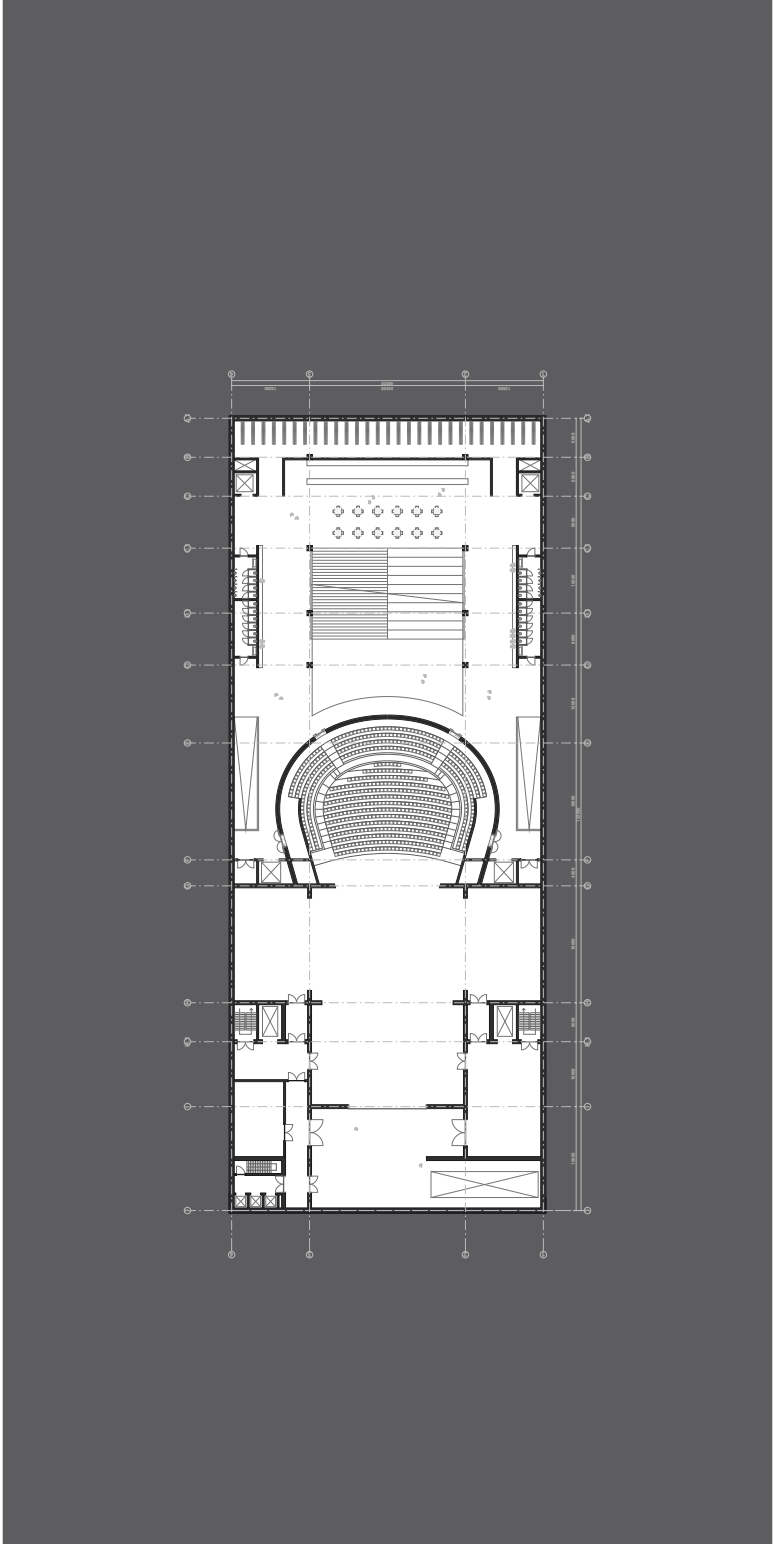




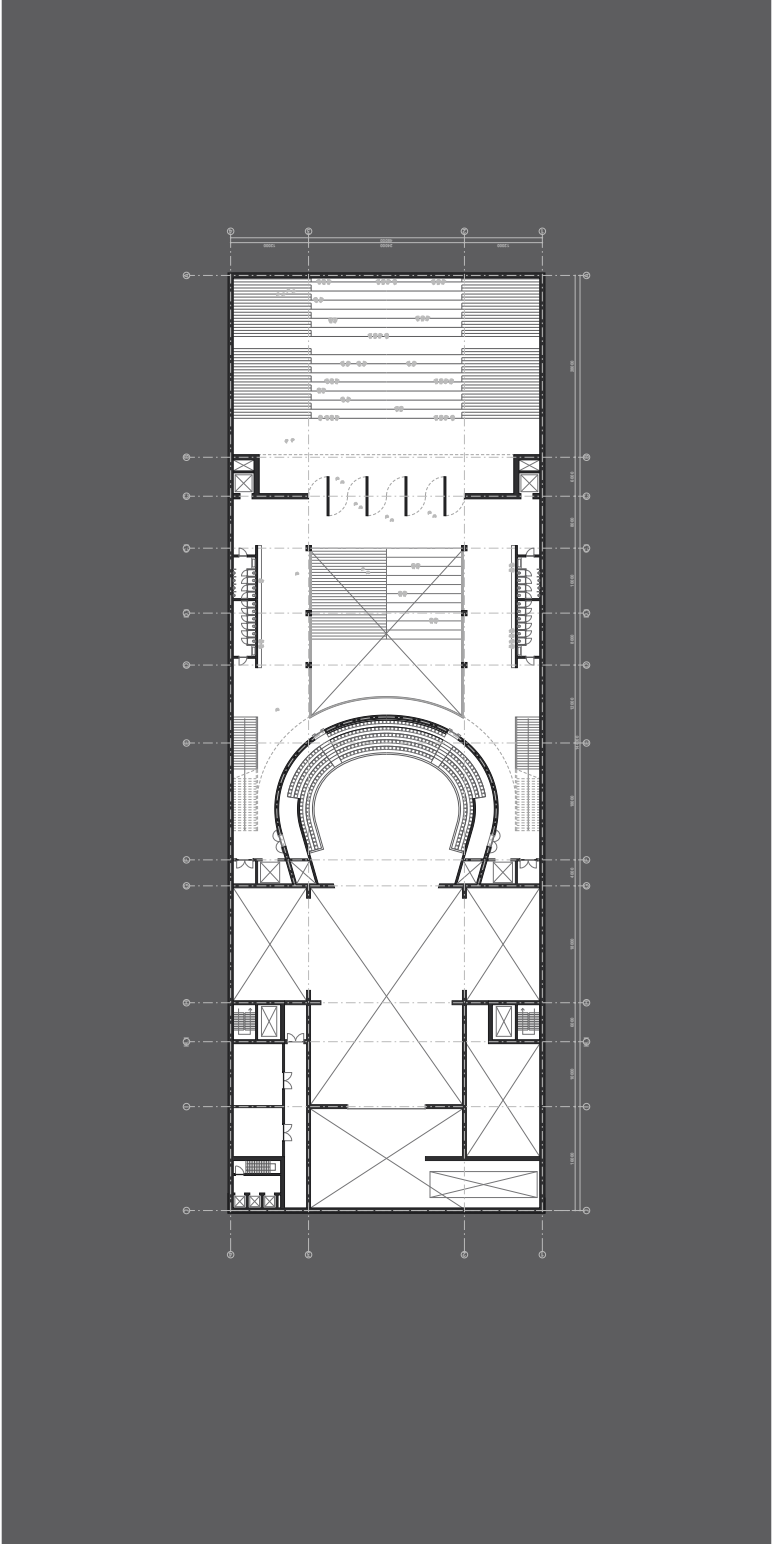
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DEVELOPMENT

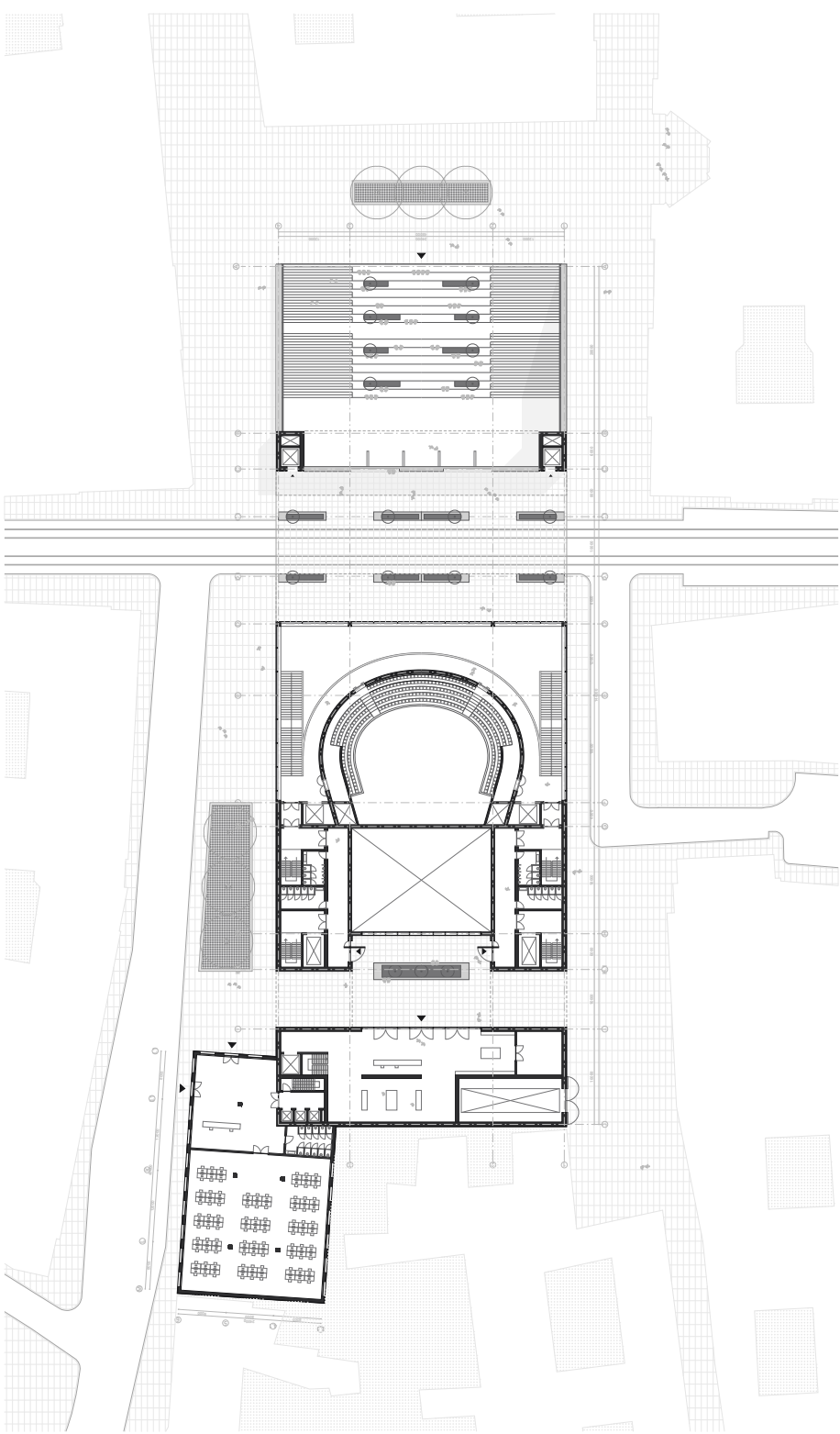
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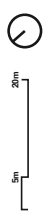
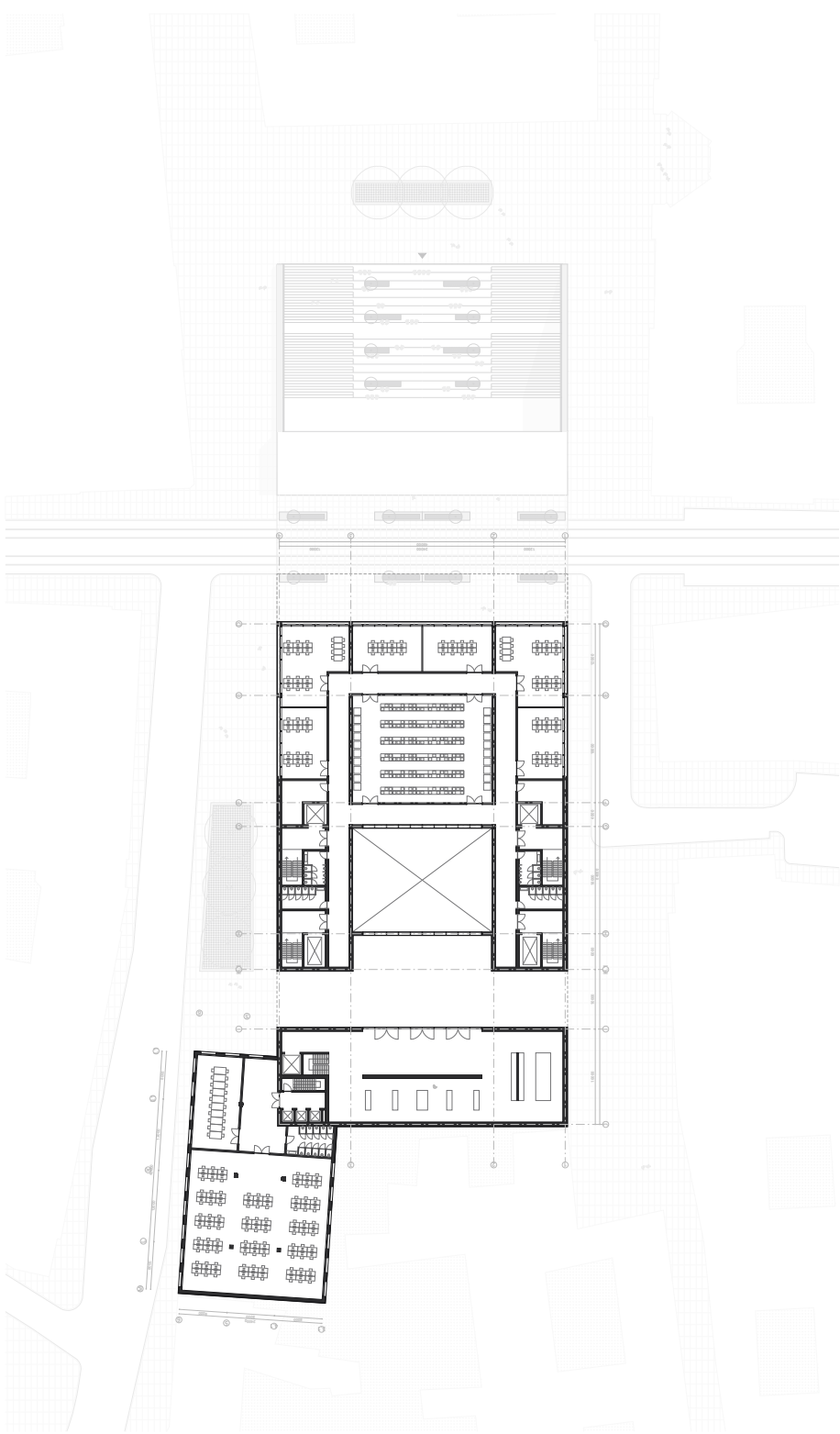
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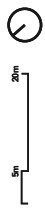
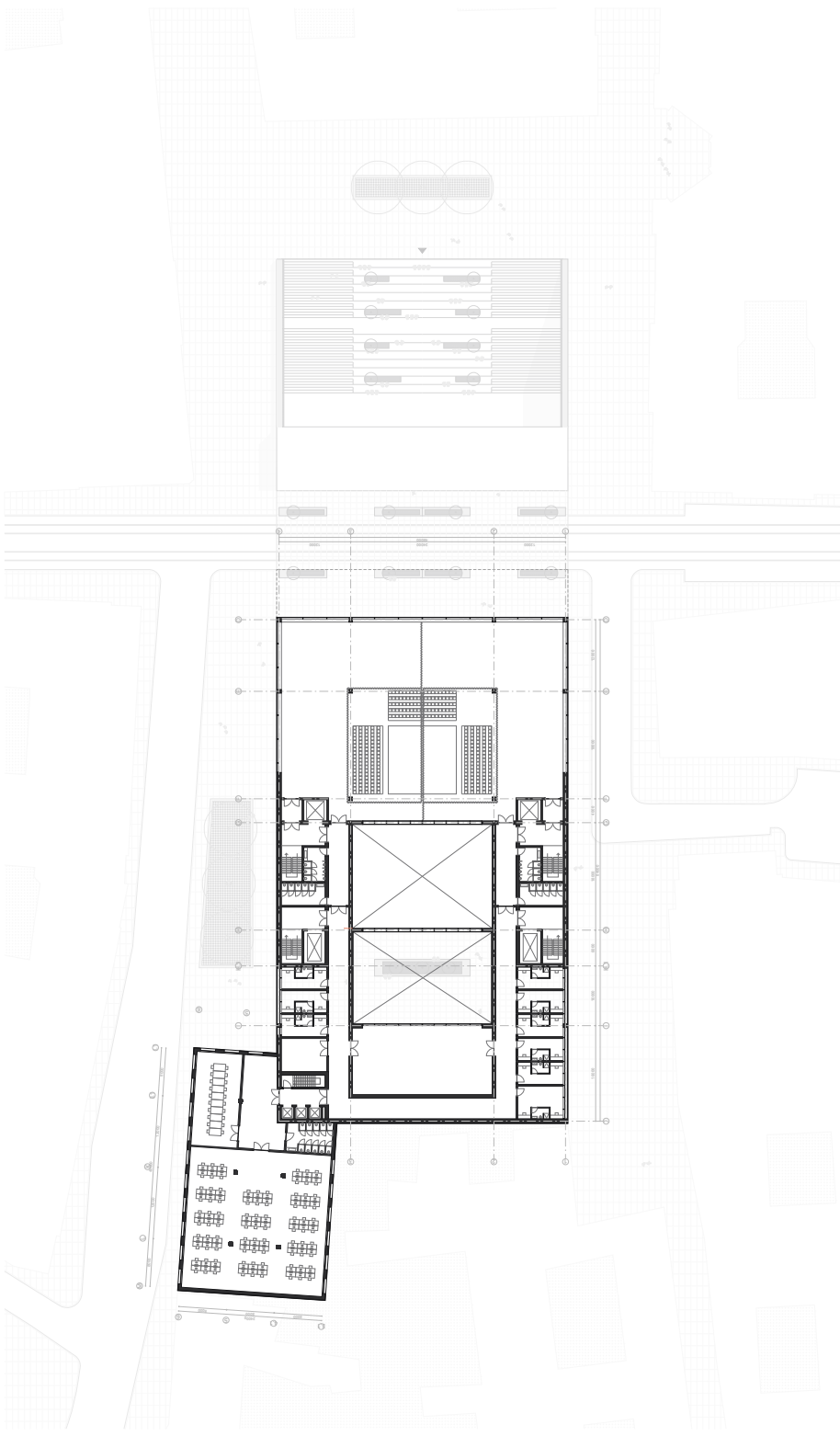
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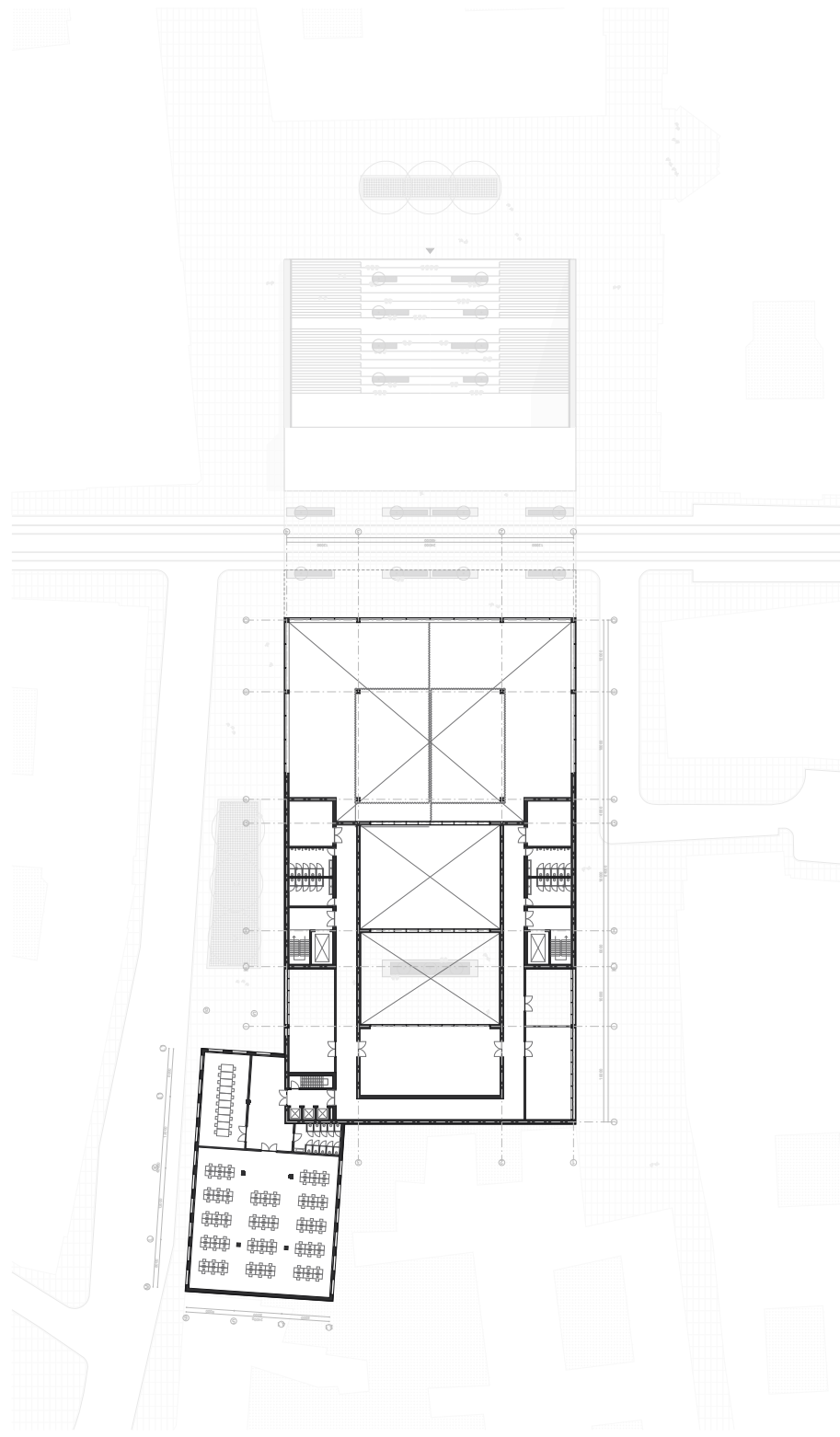
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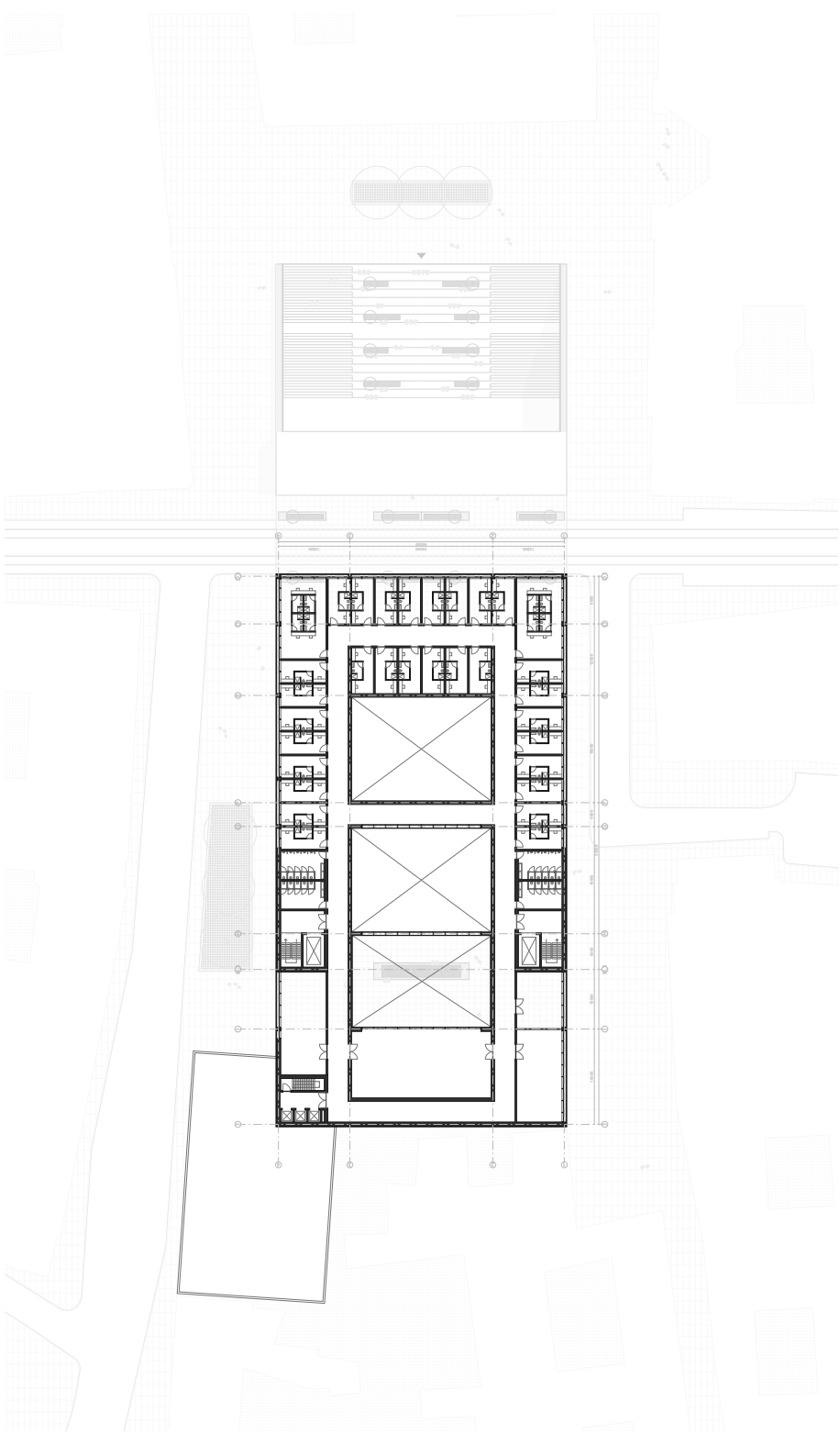
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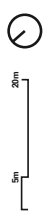
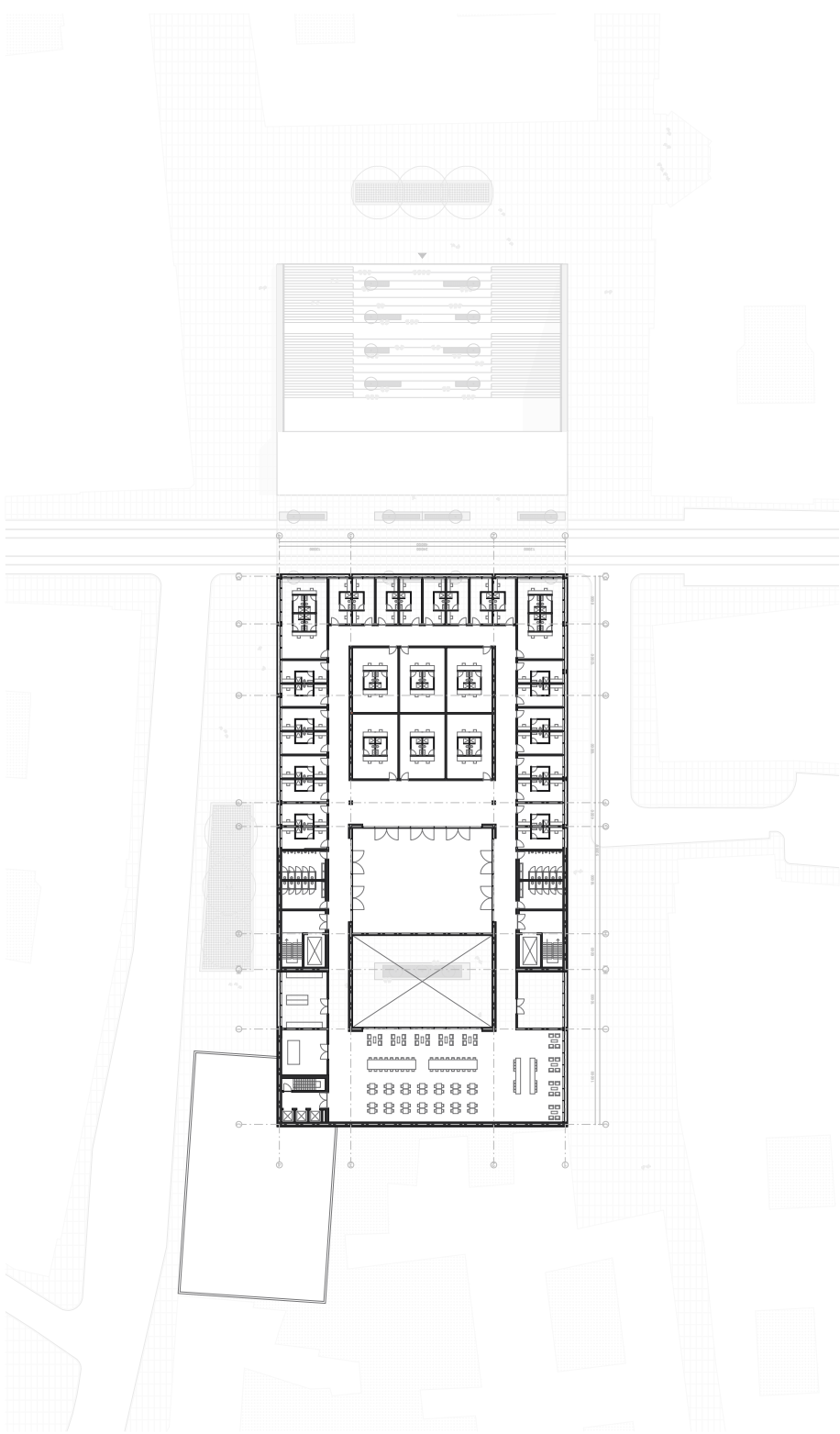
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LEVEL +4



LEVEL +5



FACADE FRAGMENT

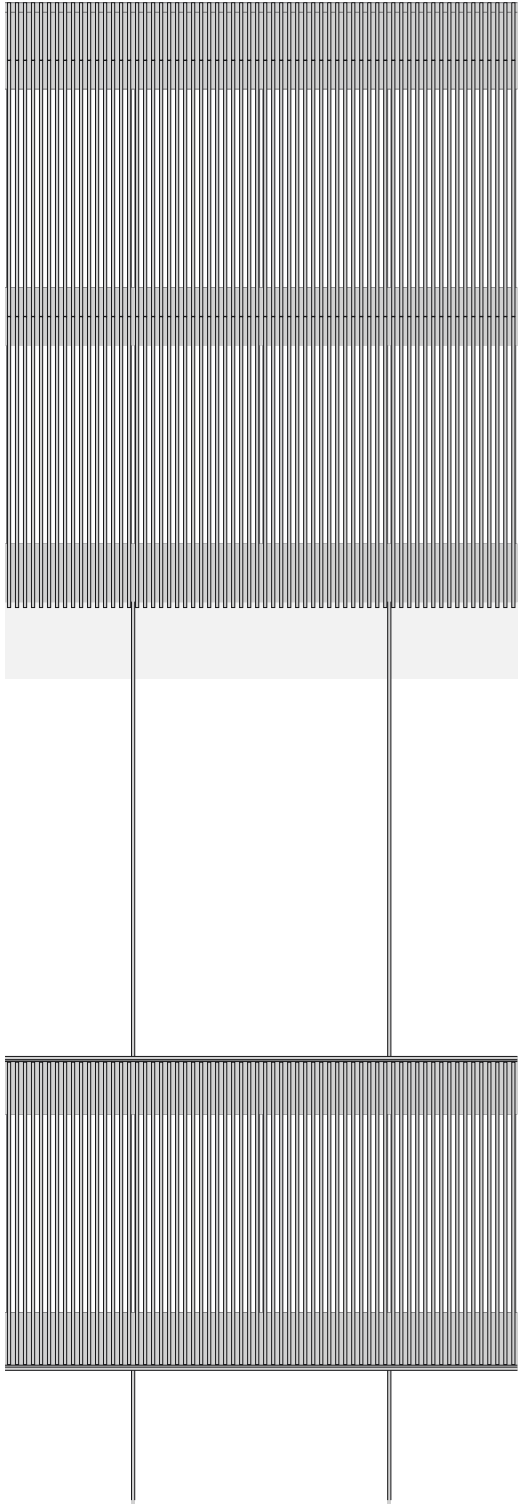
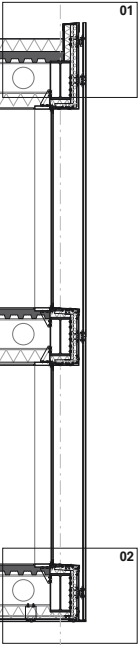
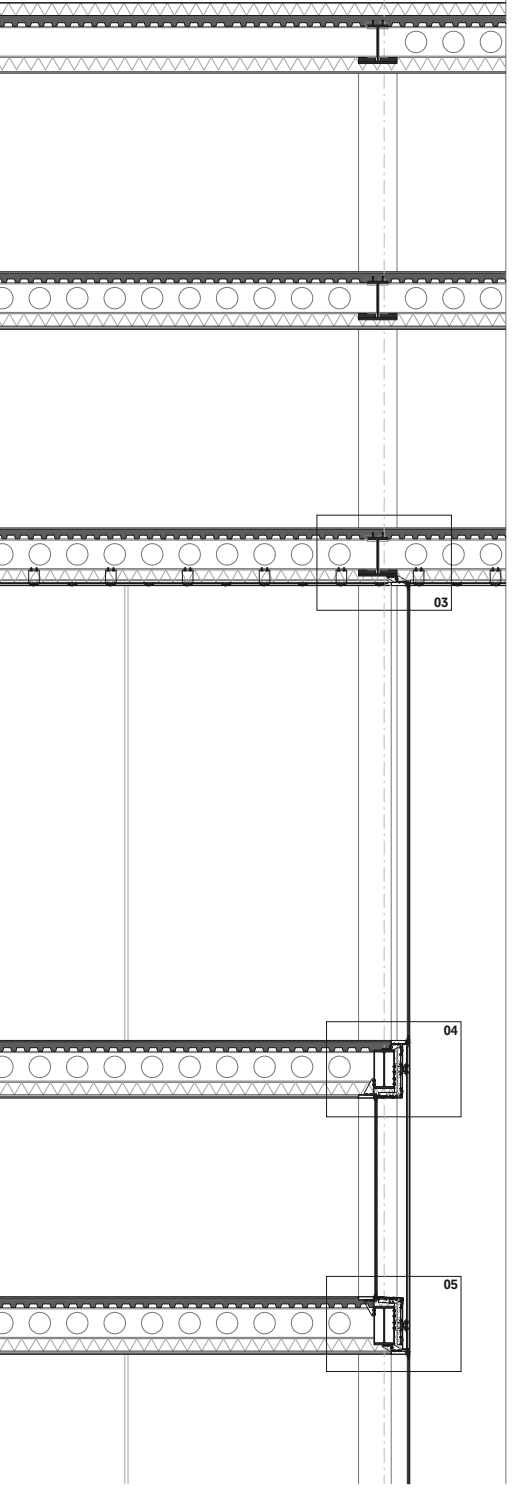
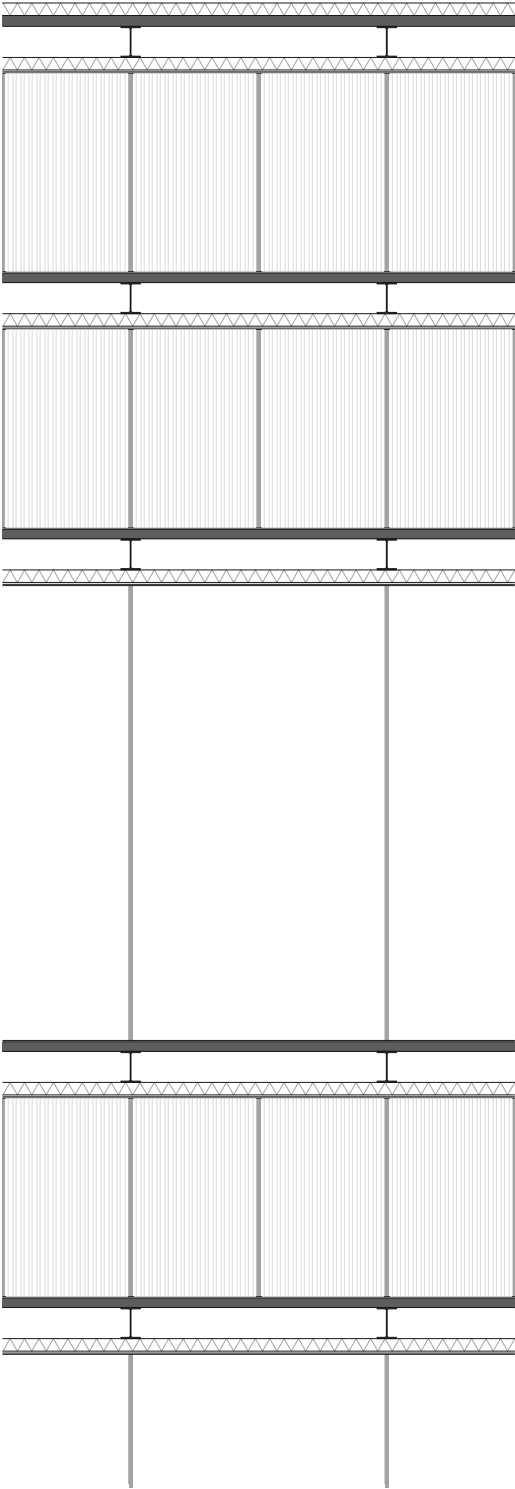
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L +5
+22450

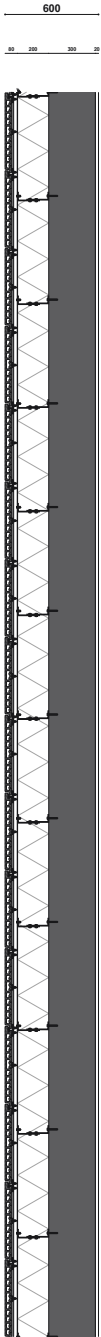
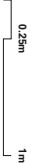
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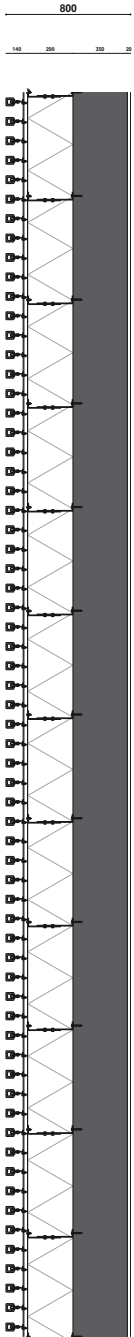
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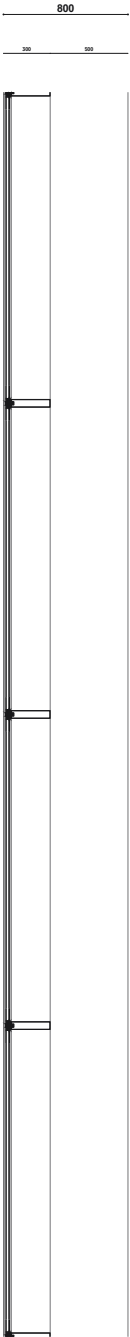
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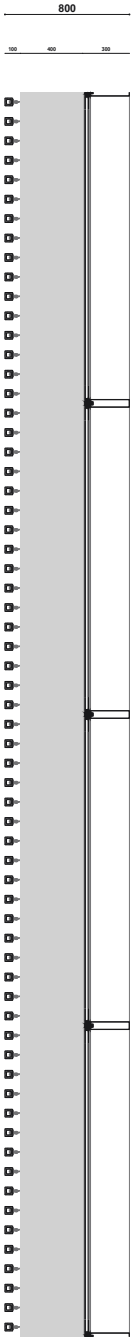
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CLOSED FACADE

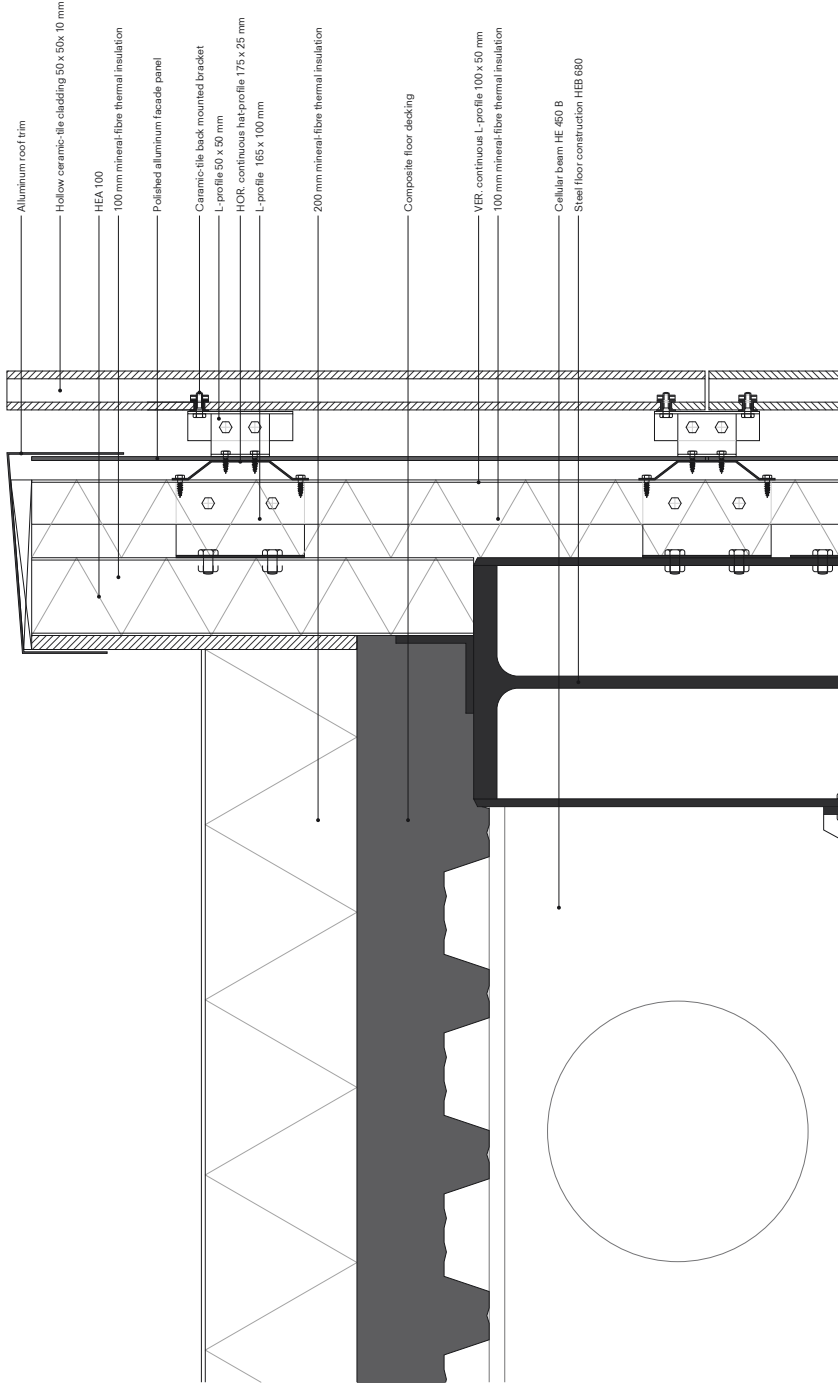


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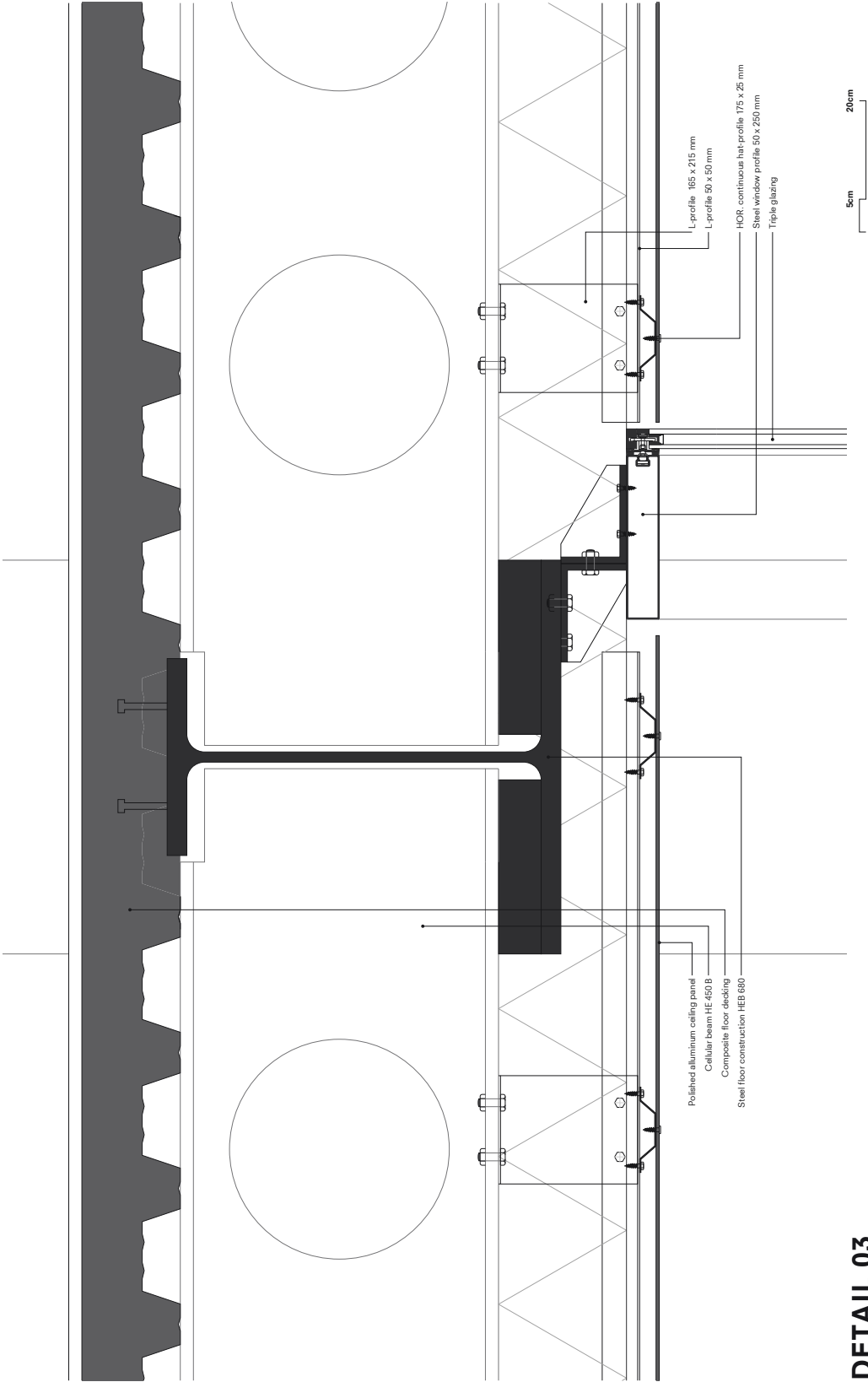


SEMI OPEN FACADE

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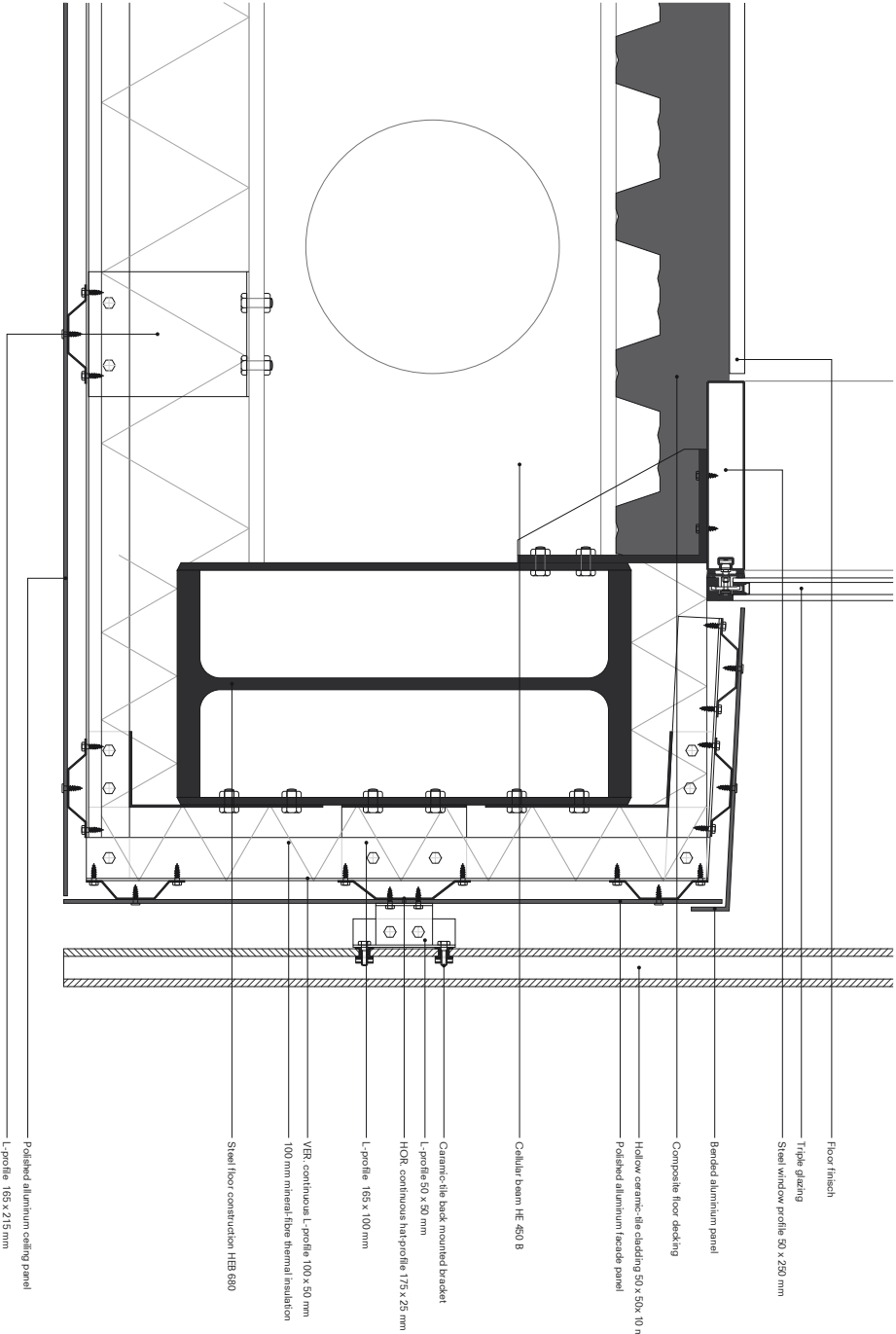


DETAIL 03



5cm 20cm

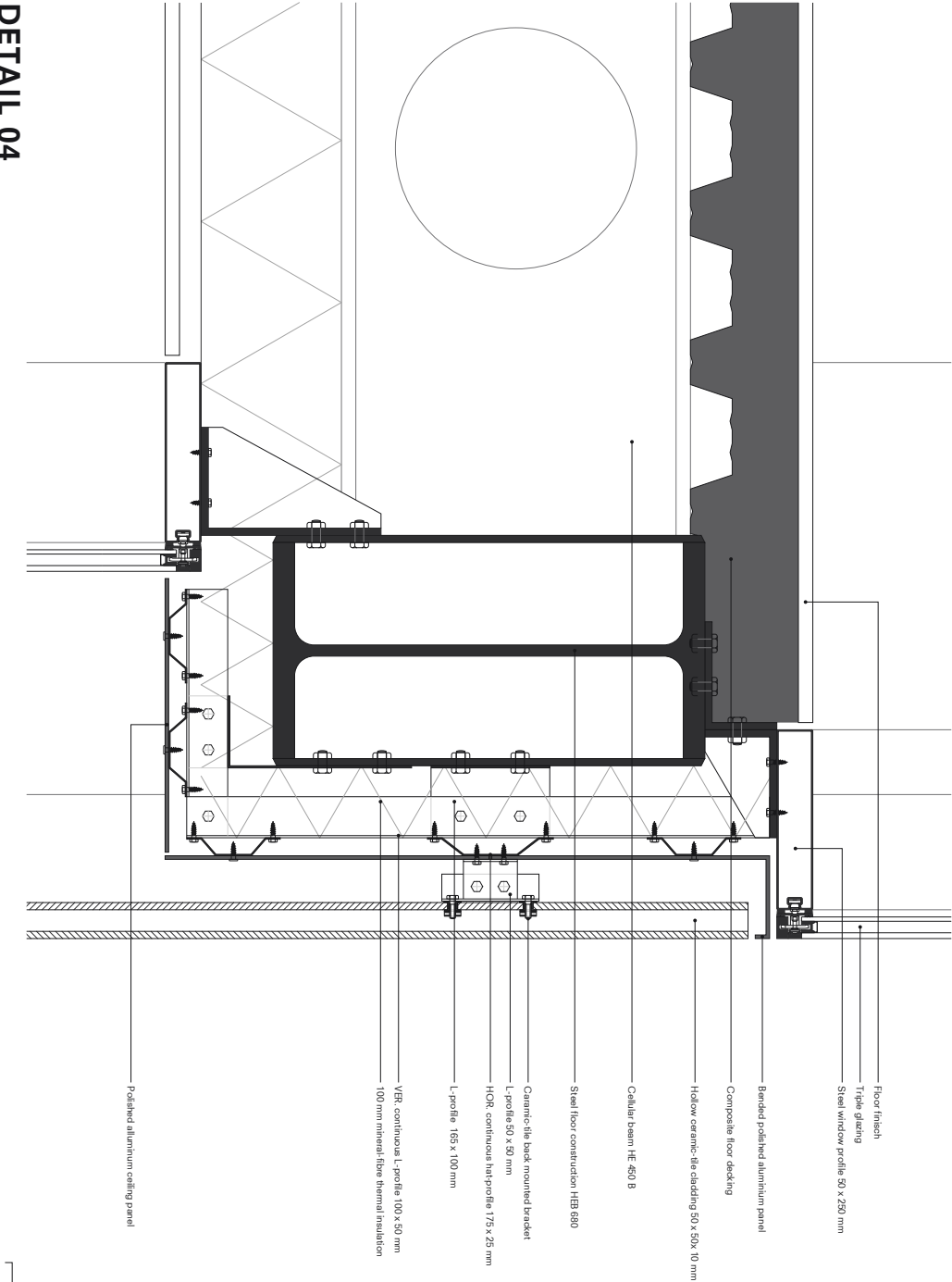
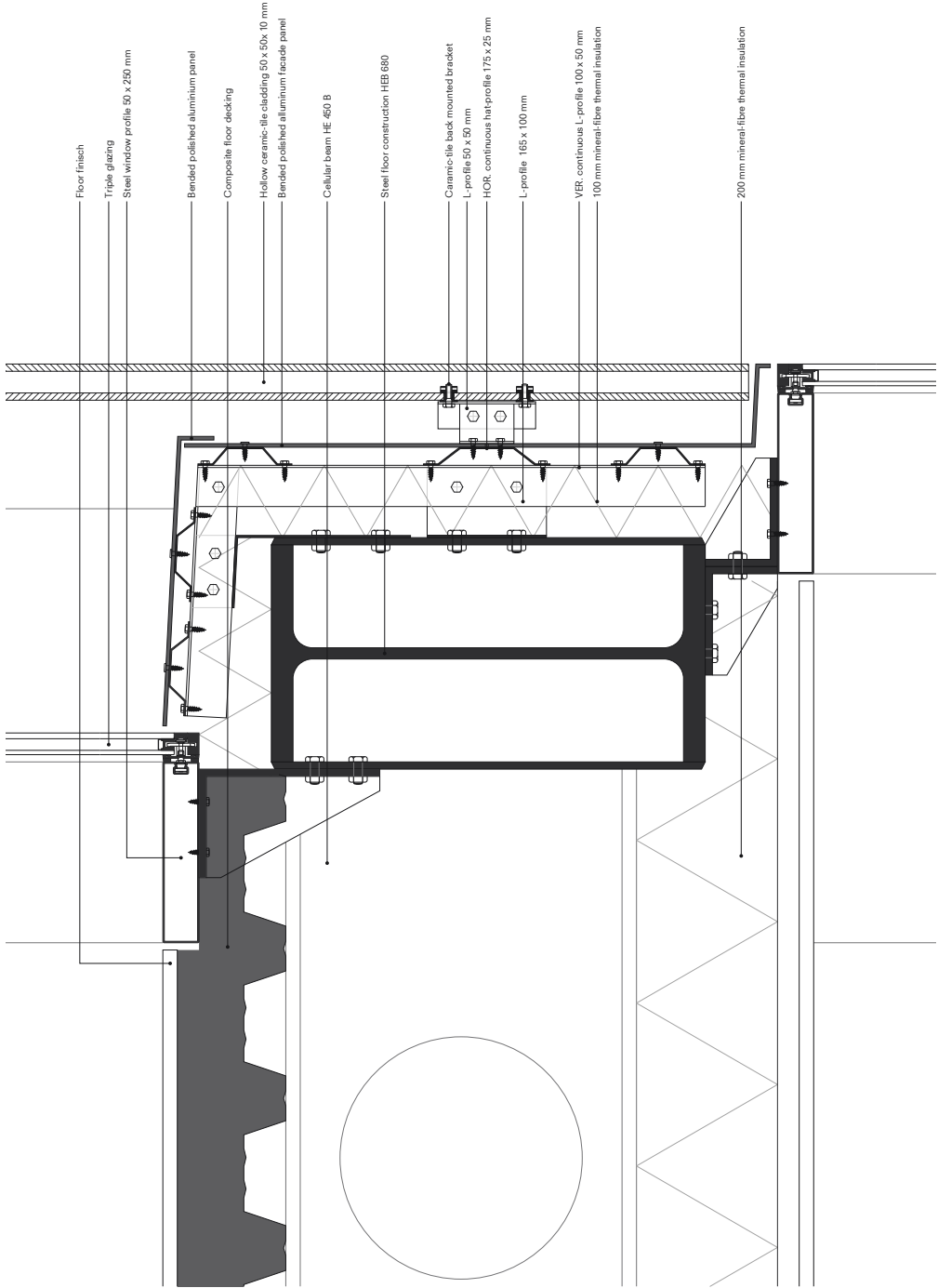
DETAIL 02



5cm 20cm

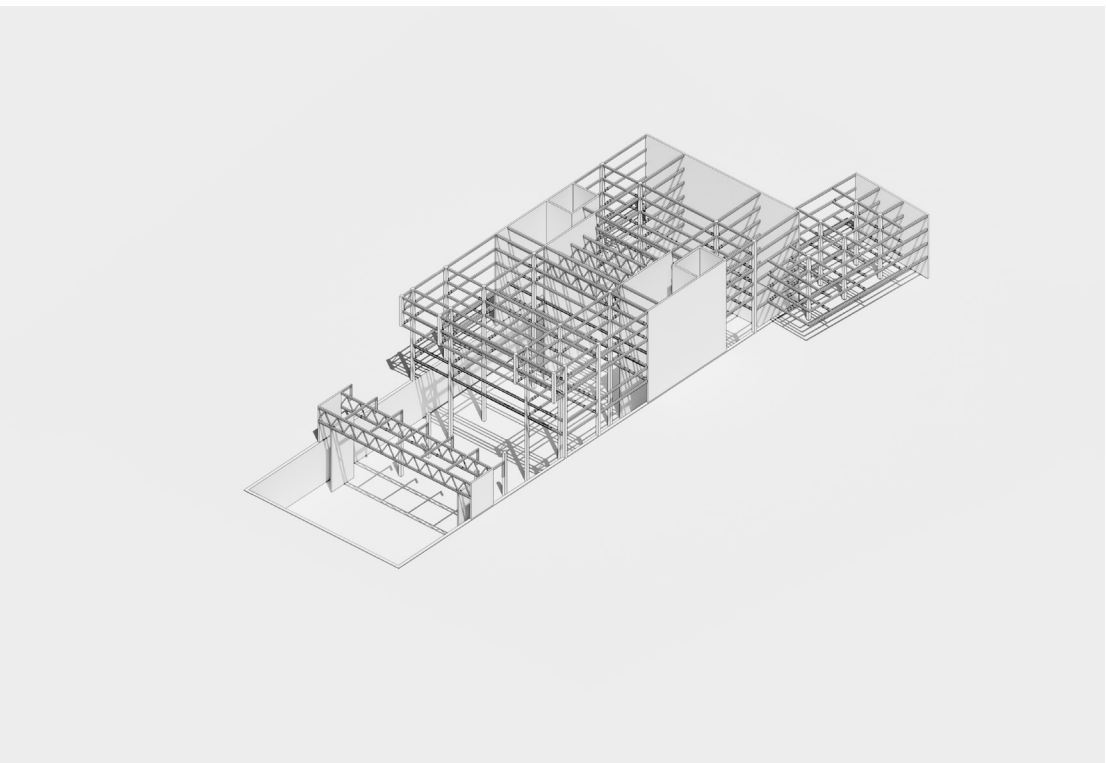
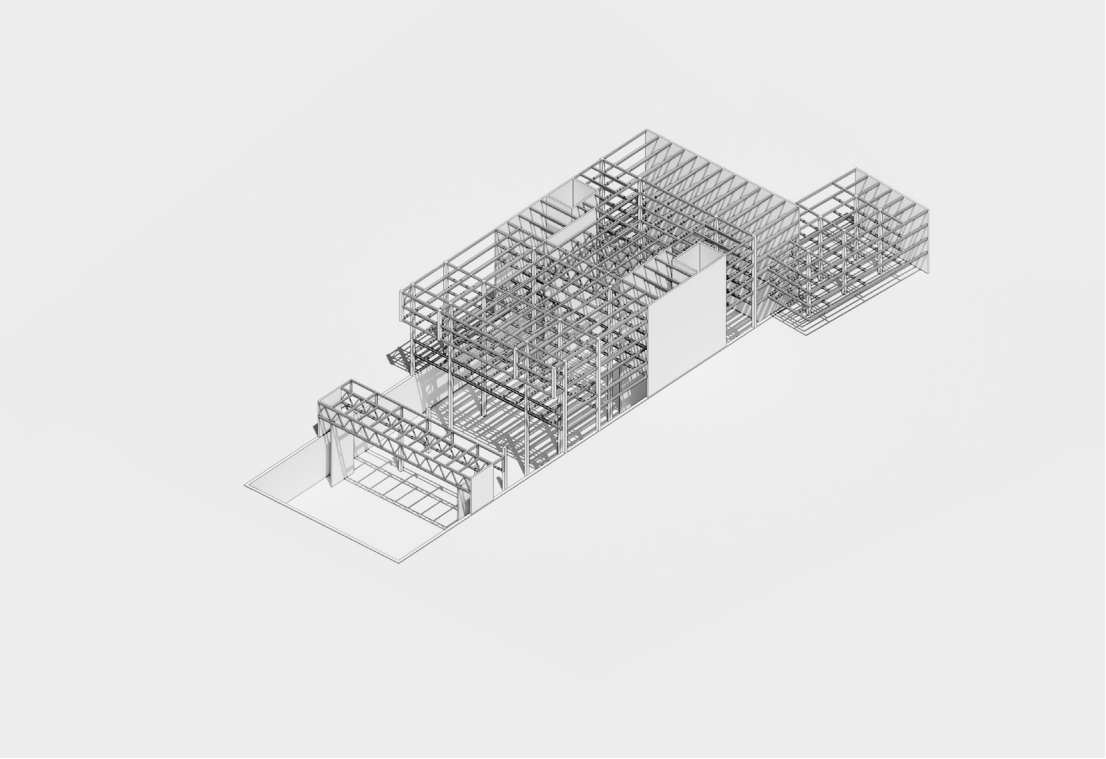
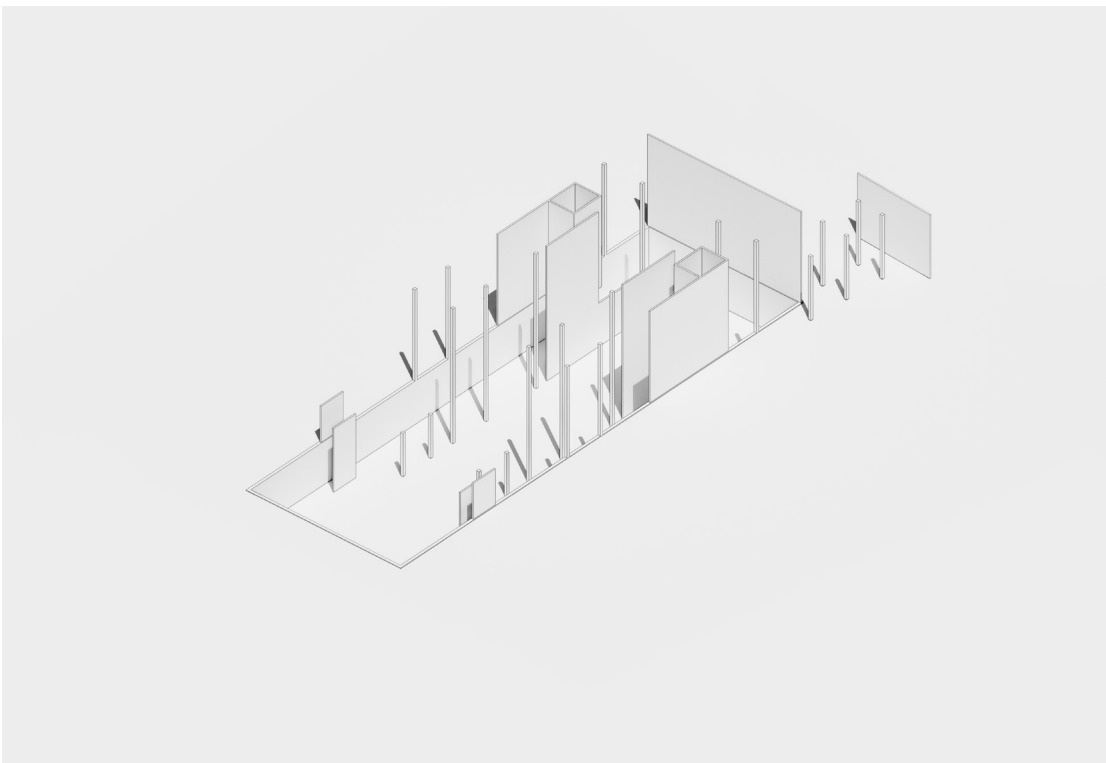
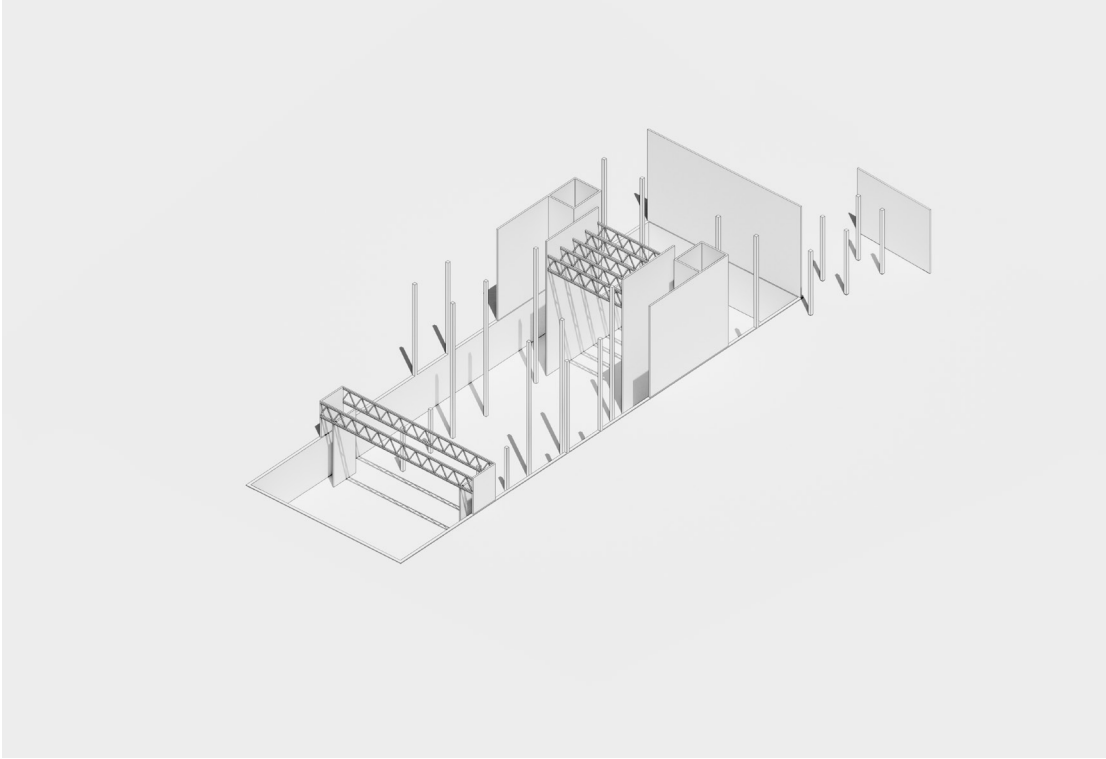
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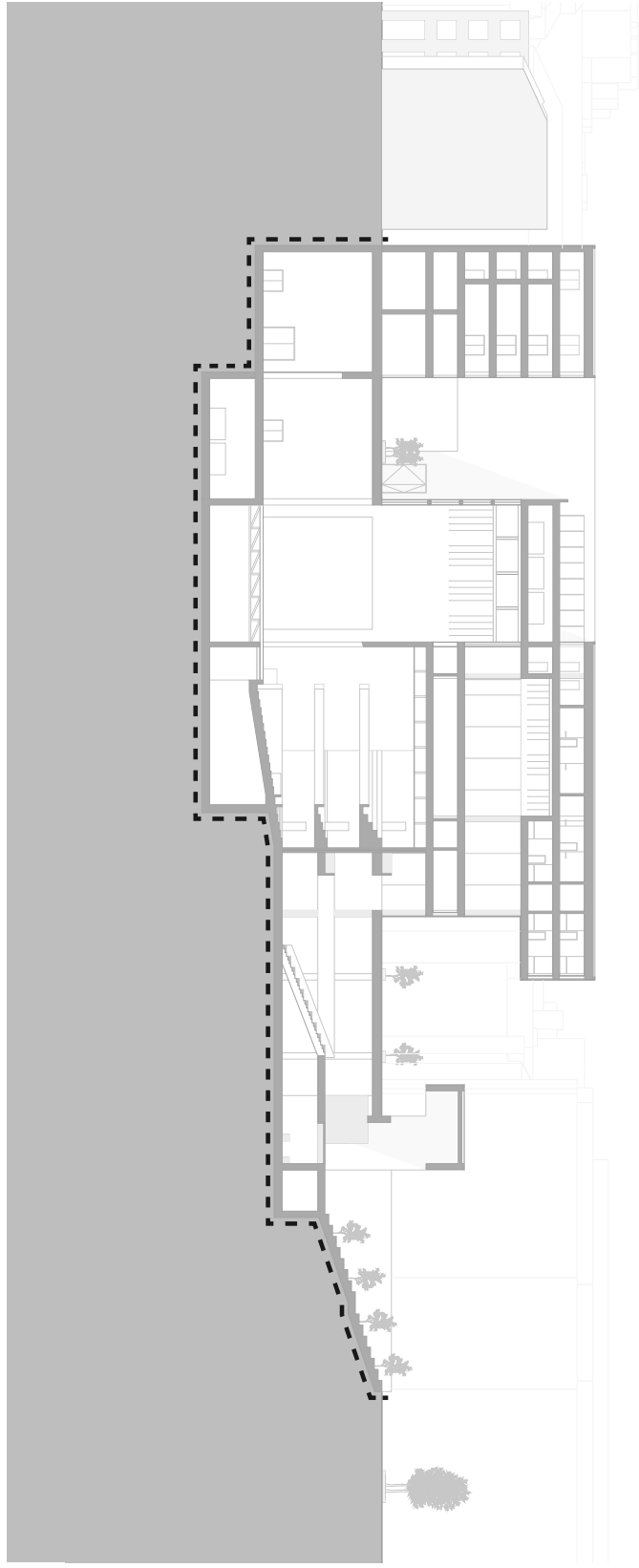
DETAIL 05



5cm 20cm

DETAIL 04



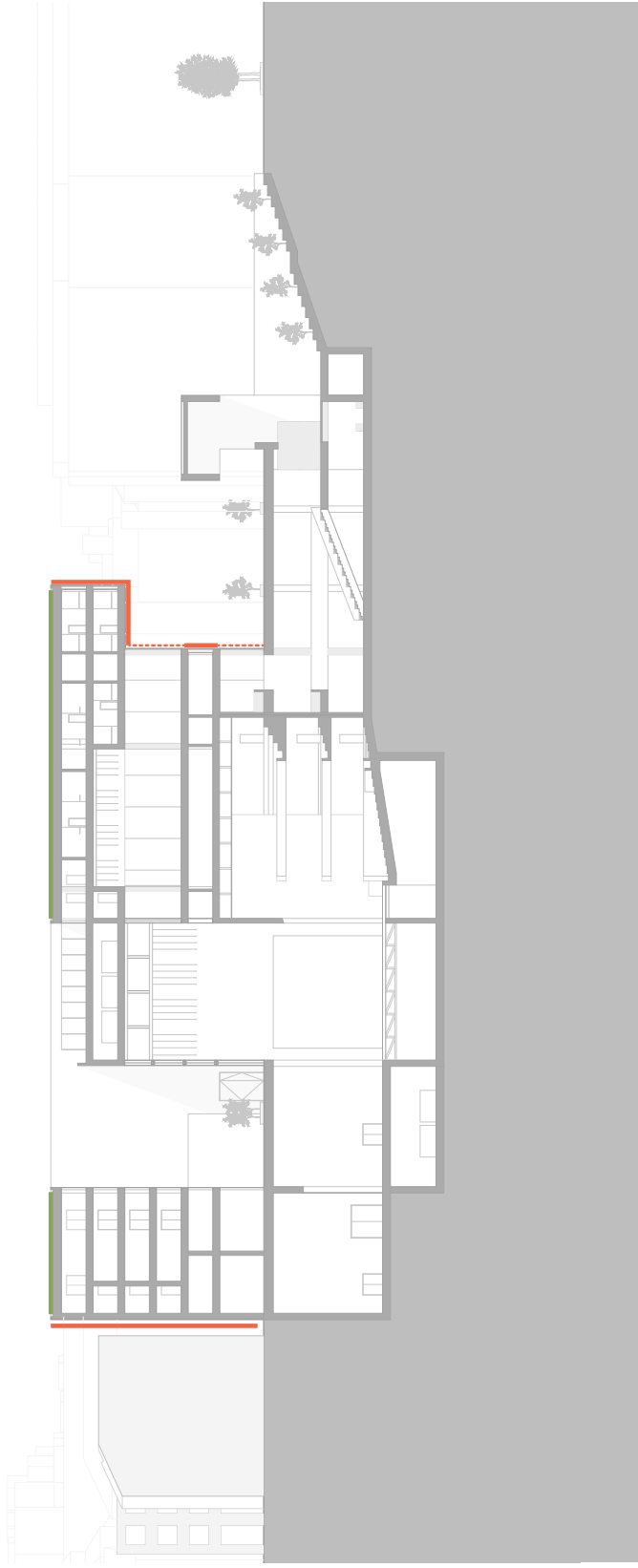


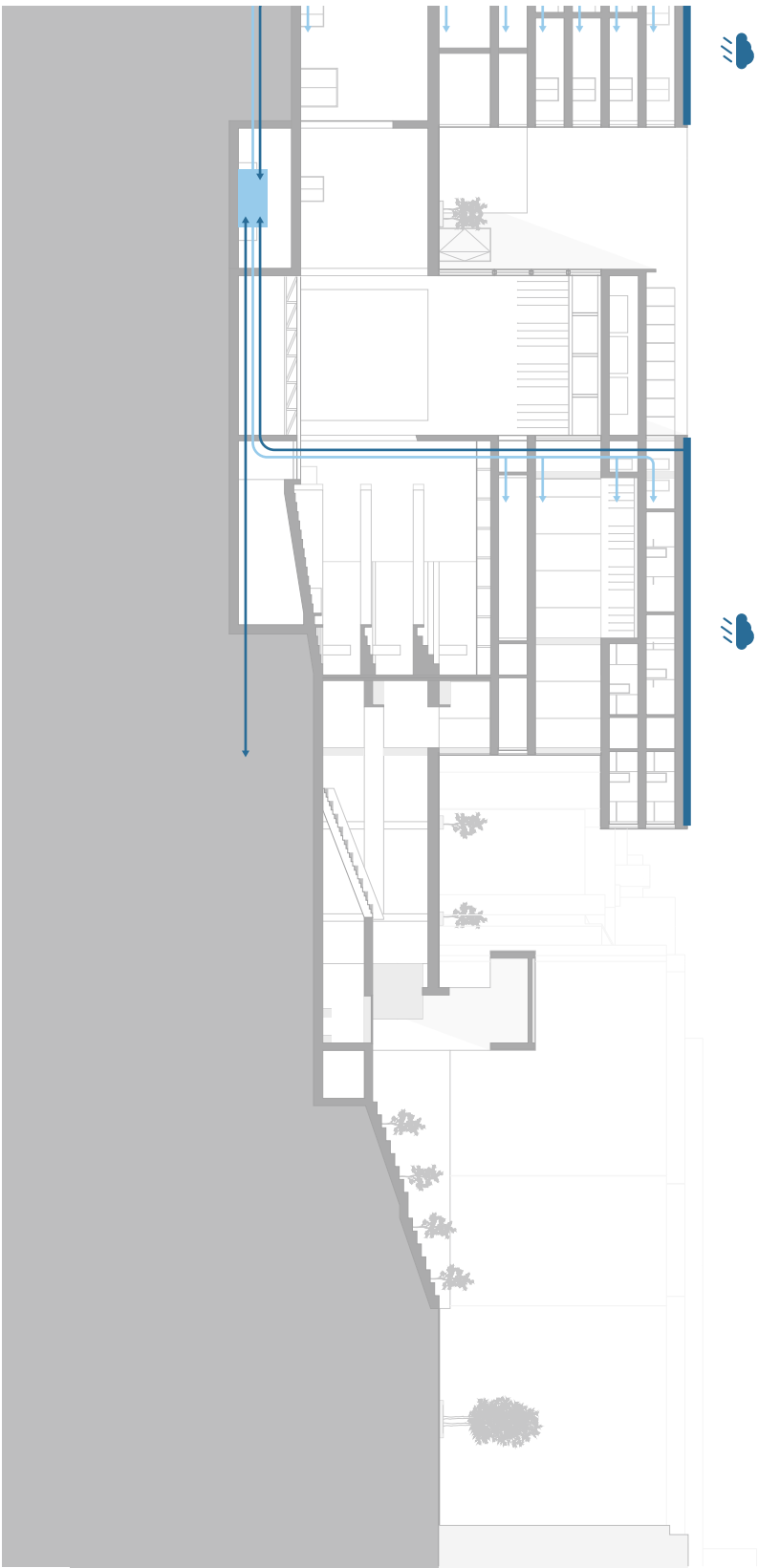
UNDERGROUND

The ground serves as thermal mass, helping to provide a stable indoor climate throughout the year. By making use of the earth's natural capacity to store and regulate heat, the building reduces temperature fluctuations and lowers the need for mechanical heating and cooling. This approach not only enhances comfort for visitors and performers, but also contributes to the building's overall energy efficiency and sustainability.

HEAT-ABSORBING FACADE

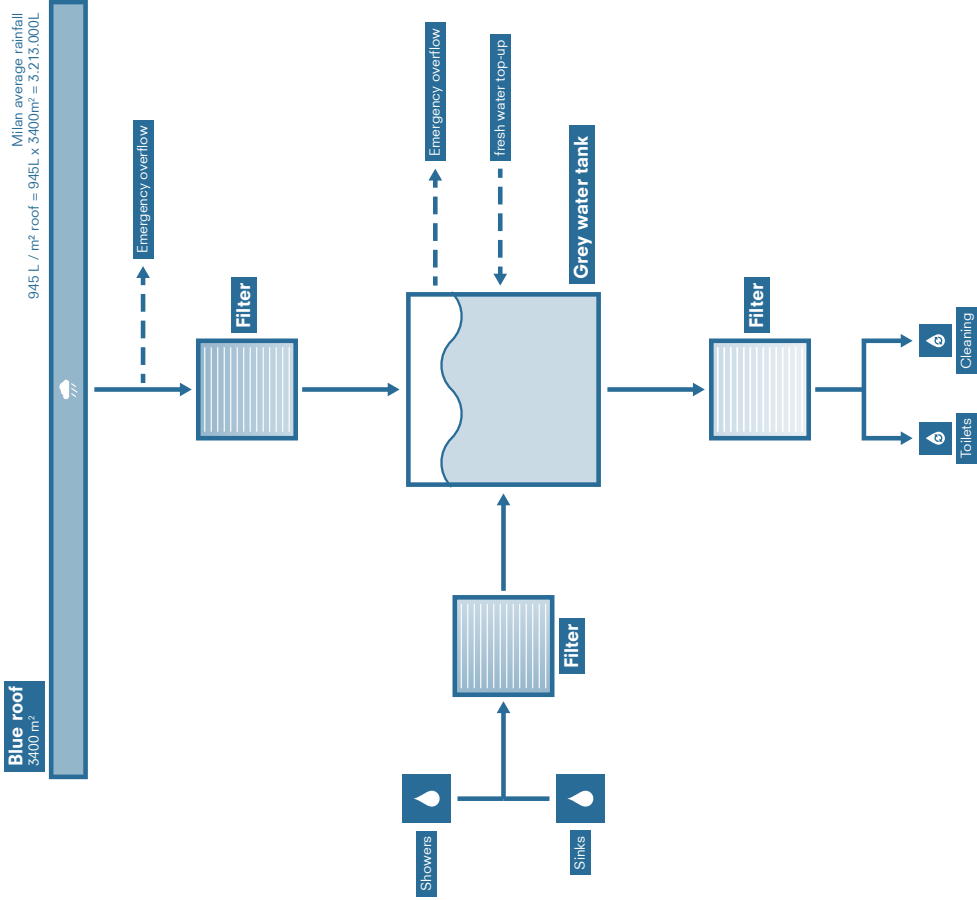
The ceramic façade absorbs heat, acting as a thermal shield for the entire building. By capturing and storing warmth during the day, it helps regulate temperature fluctuations and reduces the demand for active heating and cooling systems. This passive strategy contributes to the building's energy efficiency while enhancing comfort for its users.

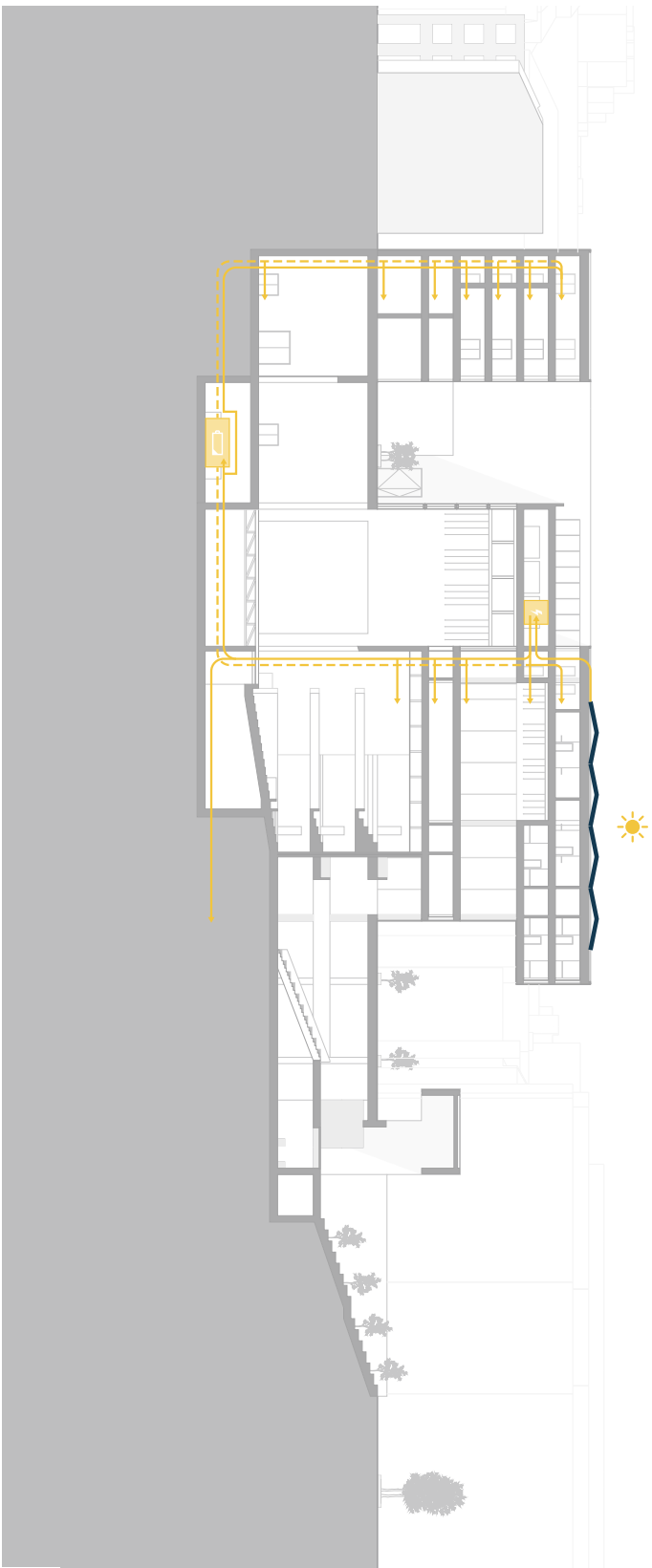




WATER REUSE

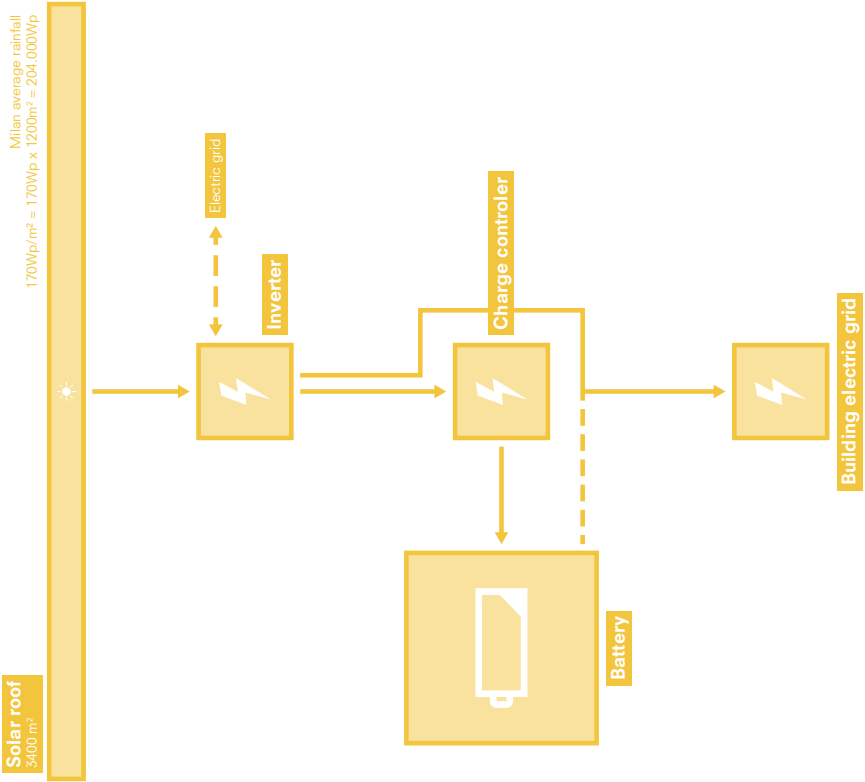
Rainwater is collected and reused within the building, forming part of a sustainable water management strategy. By capturing rainwater, the building reduces its reliance on the mains supply and minimises water waste. The collected water is reused for purposes such as irrigation, toilet flushing, and cleaning, contributing to the overall environmental performance of the design.

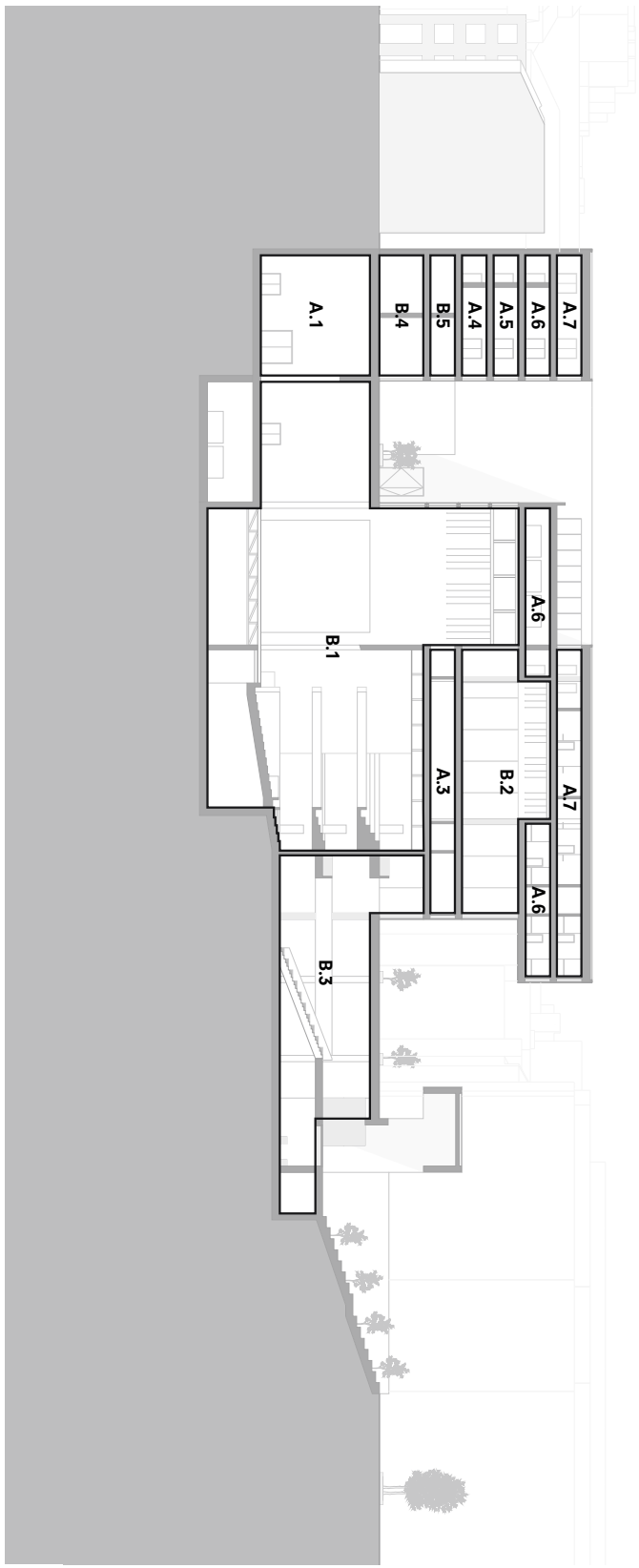




ENERGY PRODUCTION

The building generates and stores solar energy to increase its self-sufficiency. Photovoltaic panels integrated into the design capture solar power, while storage systems ensure that energy can be used when needed. This approach reduces reliance on external energy sources, lowers the building's carbon footprint, and supports a more resilient and sustainable operation.



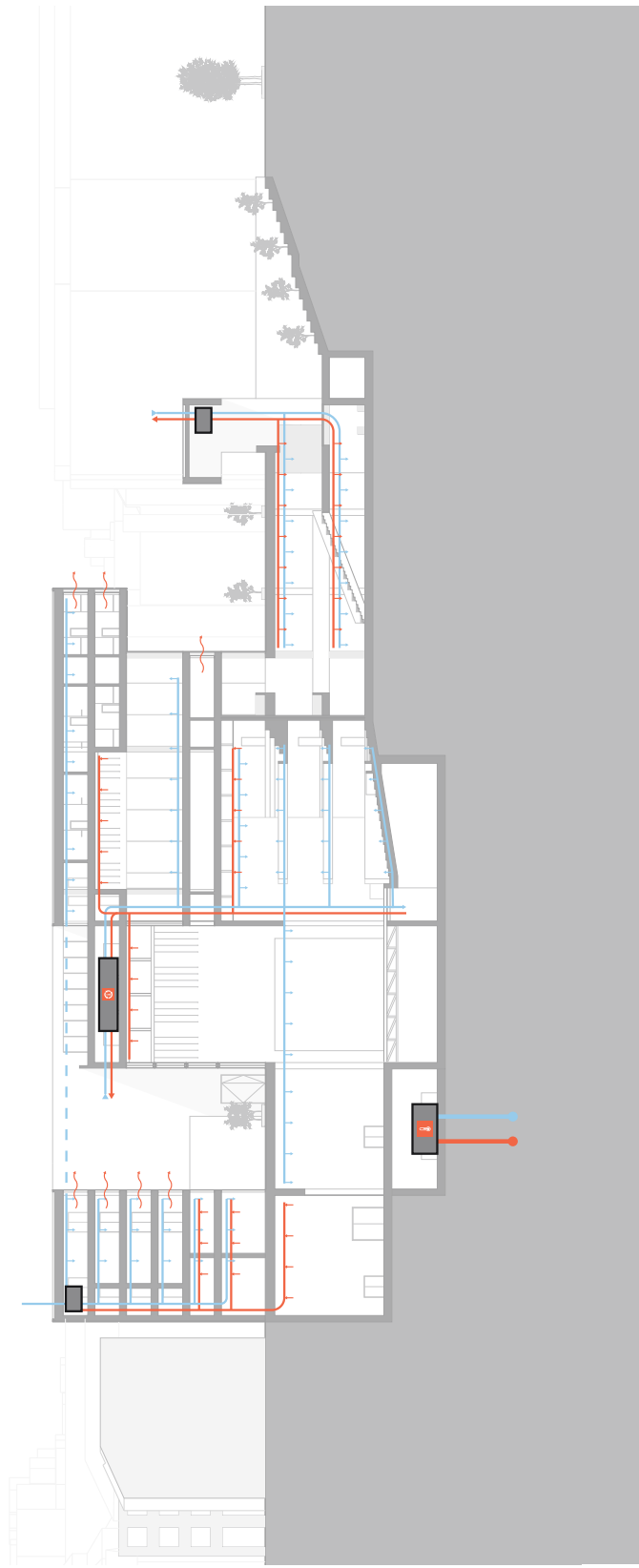


CLIMATE ZONES

Different climate zones within the building provide the right conditions for each function. By tailoring temperature, humidity, and ventilation to the specific needs of spaces such as the auditorium, rehearsal rooms, and public areas, the design ensures both comfort and energy efficiency. This targeted approach minimises unnecessary energy use while enhancing the experience for performers, staff, and visitors.

VENTILATION AND HEATING

Heat from the halls is reused, while each climate zone operates independently, supported by seasonal heat and cold storage. This system allows energy to be efficiently distributed where and when it is needed, reducing waste and lowering the building's overall energy consumption. By combining heat recovery with seasonal storage, the design ensures a stable indoor climate while enhancing sustainability.



07

CONCLUSION

REFLECTION

The New Scala is Milan’s opera house that preserves the rich tradition of Italian and Milanese opera while reconnecting with the city. Located on the Piazza della Scala and directly linked to the Galleria Vittorio Emanuele II, it sits at the very heart of Milan. This central location underscores the openness and accessibility of the opera house, which is not only aimed at the traditional opera-goer but also welcomes a broader public. With three distinct stages — a traditional stage, an experimental stage, and a public stage — the building accommodates a wide range of operatic and theatrical forms. In doing so, it becomes a dynamic cultural space that engages diverse audiences and strengthens the connection between theatre and city.

THE RELATIONSHIP BETWEEN RESEARCH AND DESIGN. | This project investigates the role of opera within the contemporary urban context and explores how its cultural relevance can be strengthened. From this inquiry arises the idea of turning the opera house typology inside out, blurring the boundary between opera and city, and making opera culture more visible and accessible. By analysing the history and current practice of opera and theatre—specifically examining Teatro alla Scala and comparing it to various case studies—the research explores how the classical layout of the theatre, with its division between front-of-house, house, and back-of-house, can be stretched or reimaged. This opens up possibilities for designing new forms of interaction between the opera house and the city.

The research proposes a building in which the traditional theatre layout is broken open into three separate programme components. Two passageways through the building give the public visual access to these functions, revealing the inner workings of the opera house. In addition to the traditional auditorium, the building includes two new stages: an experimental stage and a public stage.

This concept redefines the visual accessibility of the opera house, while preserving its original function. The building presents itself as a unified volume that connects both above and below ground to the urban context. Two above-ground passageways reinforce this connection by visually opening the opera house and linking it to the existing infrastructure. Below ground, the foyer acts as a passage between the square and the building, accessed via a staircase that during the day serves as a meeting point and as an unprogrammed or programmed stage, and in the evening as the opera’s red carpet entrance. On the second floor, adjacent to the southern façade, lies the experimental stage: a flexible space for showcasing innovative forms of opera and theatre. The project ultimately gives rise to new forms of interaction between the opera house and the city.

THE RELATIONSHIP BETWEEN GRADUATION TOPIC AND STUDIO TOPIC. | The research focuses on the relationship between building typology, urban context, and the human body, in line with the studio theme Bodies & Buildings, which explores how buildings relate to both the body and the city.

In the design of the opera house, the traditional emphasis lies on the relationship between artist, stage, and audience. This project extends that dynamic by introducing the city as an active stakeholder. While the theatre holds a public function within the city, its essence often remains hidden behind closed façades, causing a disconnect between the building and its urban surroundings.

By increasing the visual accessibility of the opera house, this project breaks through that boundary and proposes a renewed relationship between opera, people, and the city. It aims to create an architectural expression in which the cultural programme becomes visible and inviting, making the opera part of the everyday urban experience.

RESEARCH METHOD AND APPROACH IN RELATION TO THE GRADUATION STUDIO. | The Complex Projects graduation studio applies a methodological and structured approach to both research and design. In response to the increasing scale and complexity of contemporary buildings, the design process is broken down into smaller, manageable components. This allows for targeted investigation, parallel development, and integration into a cohesive architectural proposal.

Research within the studio combines literature reviews, analytical studies, and benchmarking of case studies. These methods are applied at different scales and serve to inform both the design brief and the conceptual direction of the project. Data generated through research is used not only to understand context but also to guide and validate design decisions. Organising and interpreting this data is essential for making informed, goal-driven choices throughout the process.

Design development follows a ‘learning by doing’ methodology. Plans, sections, and models are not fixed outcomes but active instruments of exploration. Developed in parallel, they support iterative testing of spatial ideas at various levels. This hands-on approach fosters discovery, allowing the designer to assess what works and what doesn’t, always in relation to the project’s conceptual framework and underlying research.

This dynamic interplay between research, data, and iterative design forms the foundation of the studio’s method, enabling a structured yet exploratory approach to complex architectural challenges.

RELATIONSHIP BETWEEN THE GRADUATION PROJECT AND THE WIDER SOCIAL, PROFESSIONAL AND SCIENTIFIC RELEVANCE.

I Polarization, as a major social challenge in contemporary society, underscores the social relevance of this project. The theatre serves as a space to expose and engage with behaviours, characters, and stories that not only fascinate us but also unsettle, disturb, shock, and transform us. This makes it essential to open the theatre to the entire community—not only to make culture accessible, but also to share diverse perspectives, as was done in the 18th and 19th centuries. In doing so, theatre can spark new dialogues within the city. This project reviews theatre architecture’s role, and repositions it to enhance its relevance in contemporary society.

Projects such as the Oslo Opera House and Casa da Música demonstrate how contemporary theatre architecture aims to strengthen its position, with a focus on the building’s exterior. While these designs improve the accessibility and visibility of the theatre, the interior—and thus the actual theatre experience—remains largely hidden. This project breaks the paradoxical contrast between the exterior and the interior of the theatre.

ETHICAL ISSUES AND DILEMMAS | The history of theatre stretches far back in time, yet it has always played a vital role within the city and society. Various studies reflect an ongoing search for renewed forms of theatre—architecturally and programmatically—questioning how theatre can maintain its place in the contemporary urban context. Despite this search, both in theory and in design practice, the breaking of traditions often remains limited.

This also applies to the current project. While it introduces a new approach to visual accessibility and strengthens the connection between building and city, it retains the conventional programmatic elements of the opera house: front-of-house, auditorium, and back-of-house. The project’s ambition lies in reinterpreting these elements to improve the building’s relationship with its surroundings, making the opera house more legible and present within the public domain.

The location played a crucial role in this development. With limited space available for the scale of the programme, integration into the site presented a challenge. By placing part of the theatre underground, the project achieves a minimal footprint while still accommodating the full programme. Passages with visual connections further support this integration within the urban fabric.

