



DIALO(G)ENERATOR

PLAYING THE CULTURAL DIALOG OF LISBON

ARCHITECTURE
STUDENT
CONTEST

SAINT-GOBAIN

INDONESIA
TEAM 28

**UNIVERSITAS PELITA HARAPAN
INDONESIA
TEAM 28**

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Sutjipto Tjia**



William Ferdinand



DIALOG OF THE CITY, SOCIETY, AND THE PAST



Hilly alleys, The city of seven hills



Rossio Square with mermaid fountain and Column of Pedro IV



Public art drive urban renewal



Elevador de Santa Justa



Shades of blue, Azulejos wall in Lisbon



Delicious local delicacy, 'Pastéis de Nata'



Jerónimos Monastery, The Manueline style, occasionally known as Portuguese late Gothic.

DIALOG OF ART & CULTURE :

TRADITION STILL LIVES AND VIBRATE THROUGH THE PORTUGUESE CAPITAL



Mural at Escadinhas de São Cristóvão is not only a tribute to the Mouraria district, but also to Fado, the Portuguese song of life that originated in this district. Details: A man with a glass of wine, standing next to Maria Severa (the first fadista, or fado singer, ever and Portuguese legend). The musicians who play fado on a viola (fado guitar) and the old woman on the balcony who overlooks everything, with next to her Castelo de São Jorge.



"The fado is felt, it's not understandable, it's not even explained." Amália Rodrigues is the world's greatest singer of traditional Portuguese fado music and was responsible for spreading this music around the world. Amalia Rodrigues is also known as the queen of fado.

O fado sente-se, não se compreende, nem se explica.
AMÁLIA RODRIGUES



The painting "O Fado," by José Malhoa (1910).

WHAT IF WE CAN “WATCH” LISBON FROM A BUILDING THAT REPRESENT THE DEVELOPMENT OVER TIME?

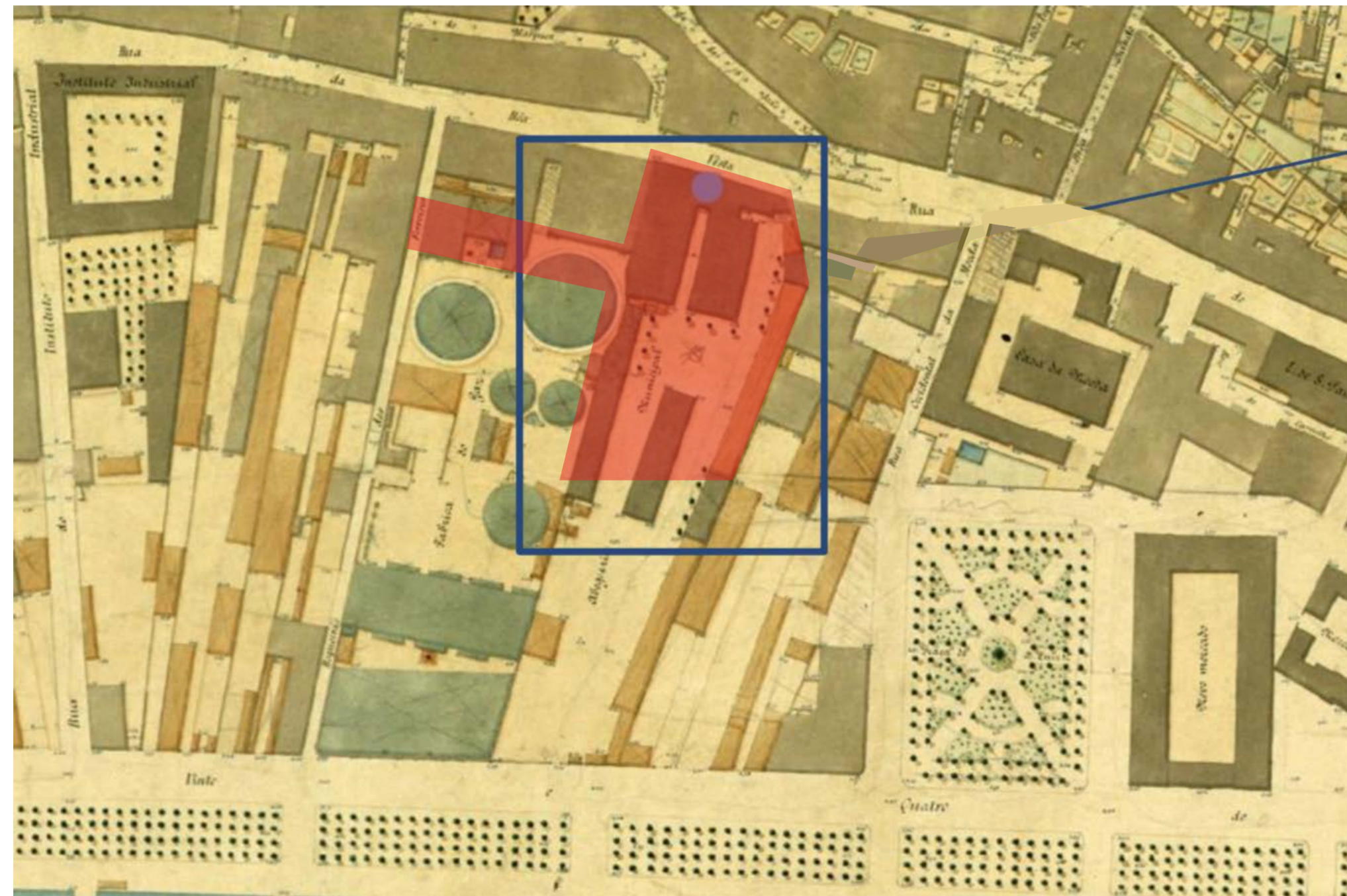
Dialog means seeing things (or feeling things) and resonate together at once. Dialog is important to generate creative environment within the city. In a dialog, we can know each other ideas, thinking together, and merge or clash in some ways. As a result, ideas evolve, and new perspectives can be taken on board. In this project, we want to stimulate the emergence of new ideas through dialogic instruments in architectural design. A design that possible to encapsulate heterogeneous ideas and creative community. We believe that architecture is not only as a space but also as the thing that happens in the space (event).

The dialogic instruments are placed and designed to allow communities interaction as Lisbon's society. Instruments like shared spaces are placed at the ground floor and elevated platforms to open ideas, voices, gesture for the community. We borrow characteristics of Lisbon architecture (Manueline style to Contemporary Architecture) to influence identity within the community and visitors. We align the Lisbon City Council about active role for public art in its drive for urban renewal, so the pixel on the wall (Mural, Azulejos and Greeneries) in this housing environment become signs of change.



SITE CONTEXT

HISTORIC LAYERS OF URBAN LANDSCAPE & URBAN FABRIC



Old map from 1878 (with Overlaid Site)



Current Existing Map (2023)

Things to be Considered as Design Guidelines & Principles:

- Change of Urban Fabric
- Change of Street Structures
- Change of the Shape of the Site

URBAN CONTEXT

NEARBY ATTRACTION NETWORK IN THE NEIGHBORHOOD



GREEN STREET



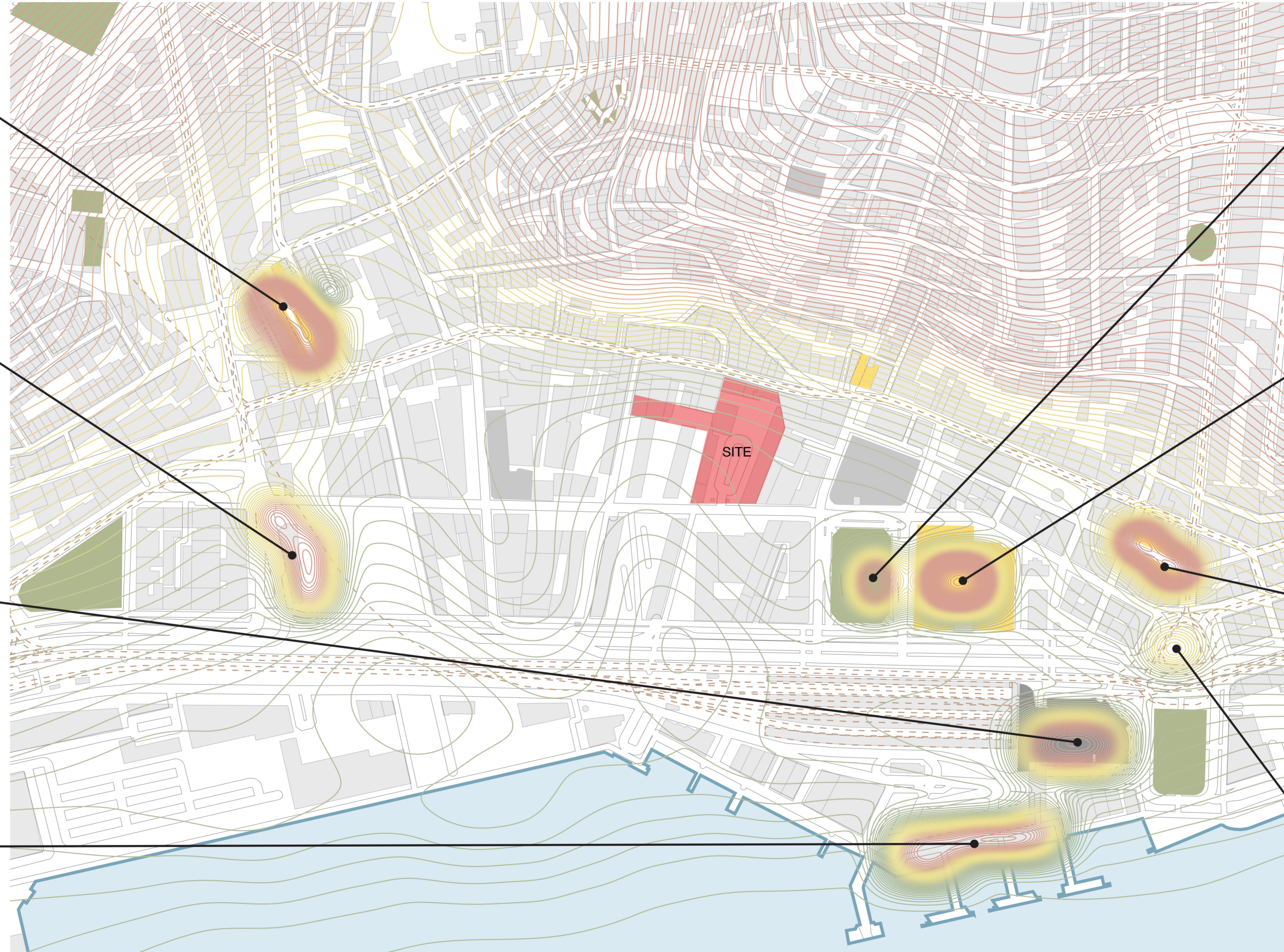
IADE CREATIVE UNIVERSITY



CAIS DO SODRÉ - TRAIN STATION



CAIS DO SODRÉ - FERRY TERMINAL



JARDIM DOM LUIS PARK



MERCADO DA RIBEIRA (TIME OUT MARKET)



PINK STREET



DUQUE DA TERCEIRA (MONUMENT)



MASTERPLAN

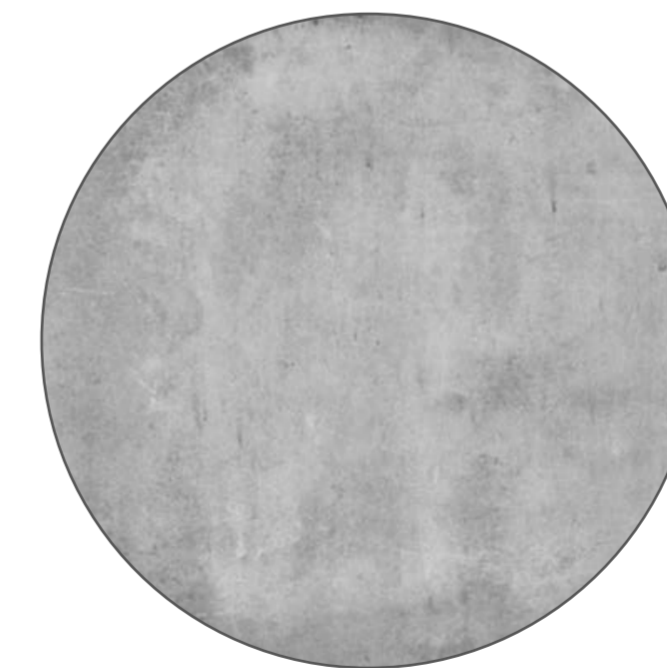
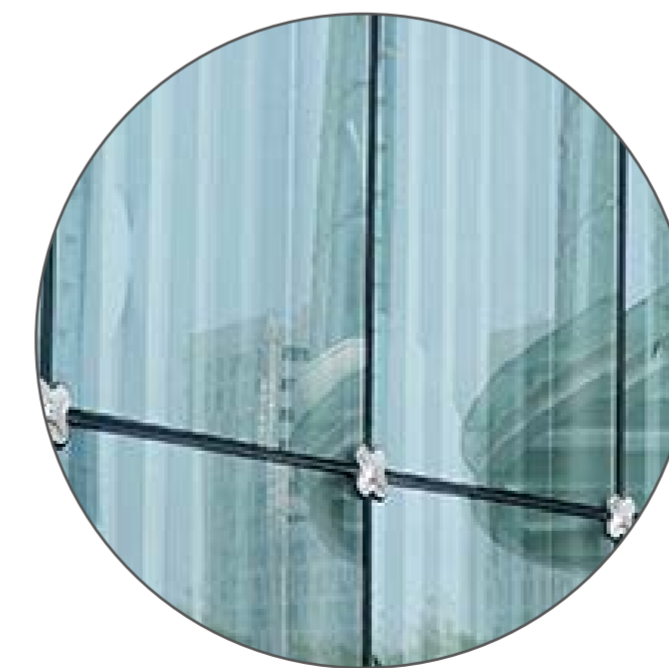
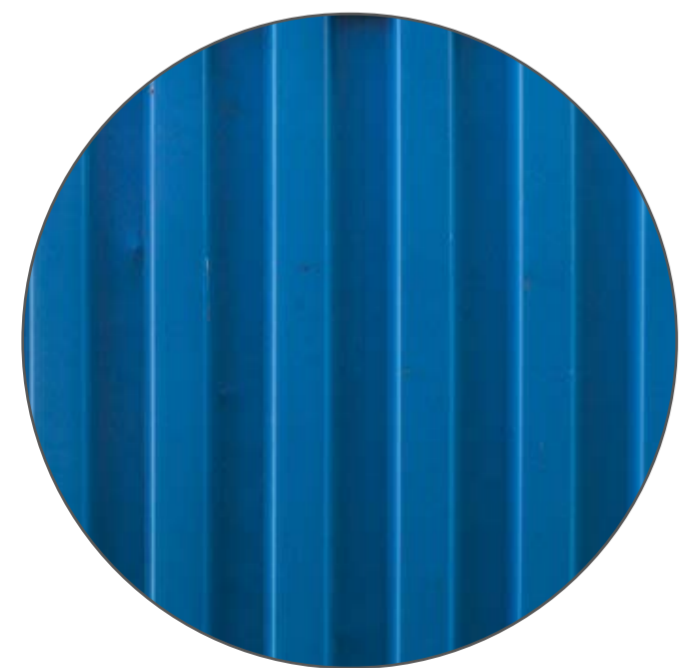
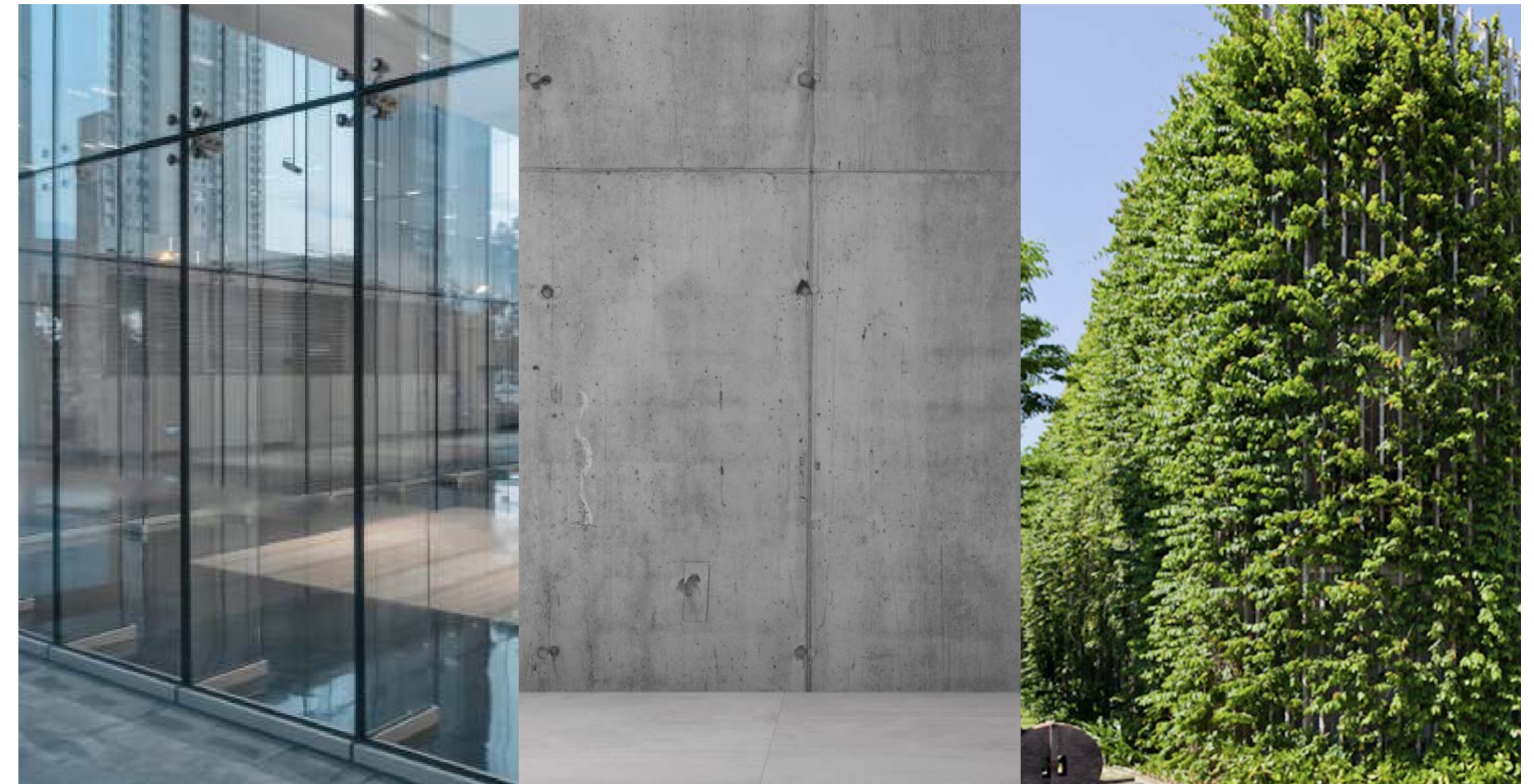
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CULTURAL & MODERNISM

ENHANCE THE CONVERSATION WITH THE PLACE THROUGH MATERIALITY



CULTURAL

MODERNISM

SITE PLAN



TO DIALOG OF THE SOCIETY :
ART, CRAFT, FARMING, MURAL

TO DIALOG OF THE CITY :
AMPHITHEATRE, URBAN PARK, RETAIL

TO DIALOG OF THE CITY :
AMPHITHEATRE, URBAN PARK, RETAIL

TO DIALOG OF THE PAST :
FILM, HERITAGE, AUDITORIUM

LEGEND

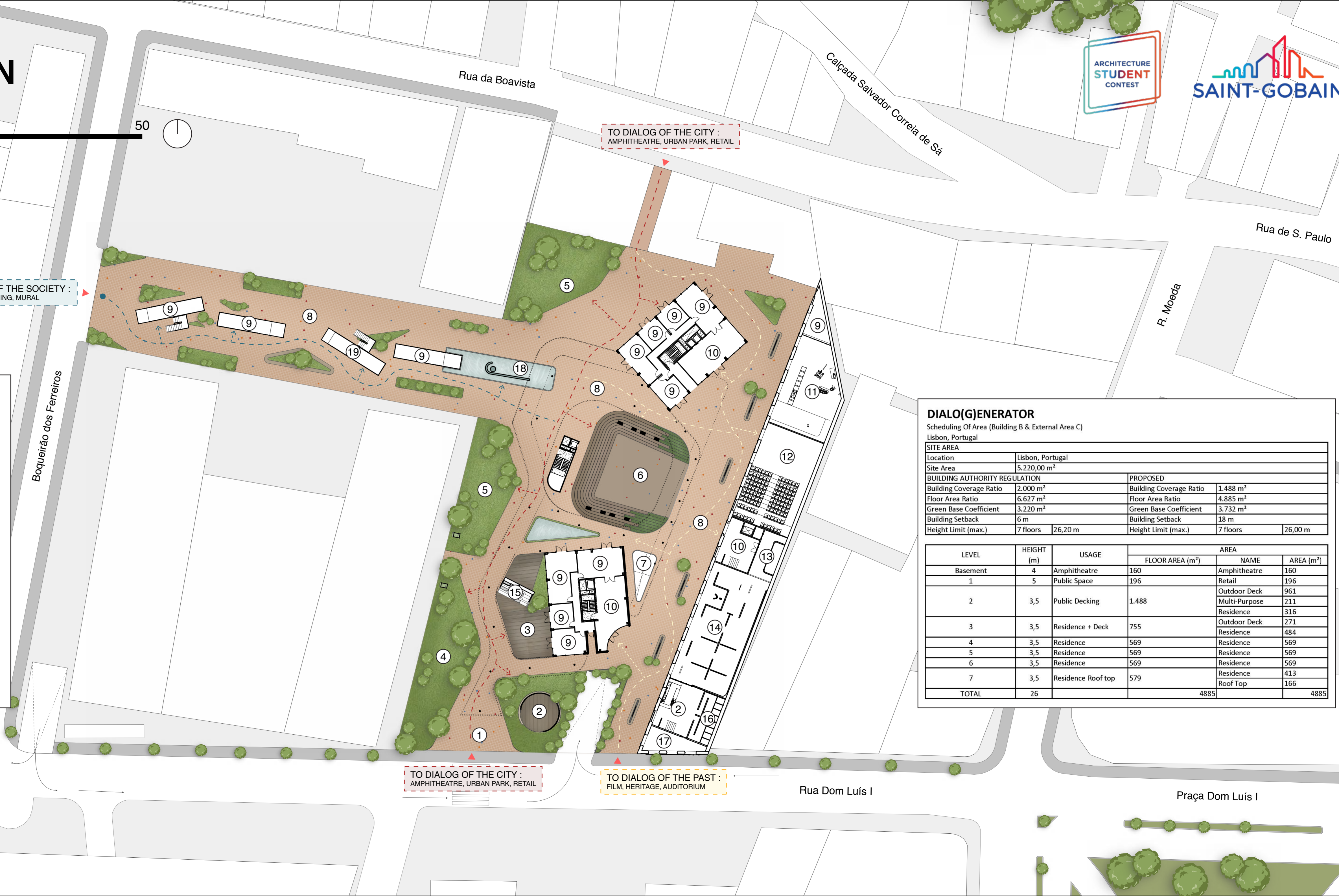
1. Entrance
2. Cafe
3. Outdoor Seating
4. Installation Park
5. Urban Park
6. Amphitheatre
7. Basement
8. Plaza
9. Retail
10. Lobby / Lounge
11. TV / Cyclorama Studio
12. Auditorium
13. Reception
14. Exhibition
15. Access to Deck
16. Public Toilet
17. Coordinator Room
18. Art Monument
19. Urban Farming

DIALO(G)ENERATOR

Scheduling Of Area (Building B & External Area C)
Lisbon, Portugal

SITE AREA			
Location	Lisbon, Portugal		
Site Area	5.220,00 m ²		
BUILDING AUTHORITY REGULATION		PROPOSED	
Building Coverage Ratio	2.000 m ²	Building Coverage Ratio	1.488 m ²
Floor Area Ratio	6.627 m ²	Floor Area Ratio	4.885 m ²
Green Base Coefficient	3.220 m ²	Green Base Coefficient	3.732 m ²
Building Setback	6 m	Building Setback	18 m
Height Limit (max.)	7 floors 26,20 m	Height Limit (max.)	7 floors 26,00 m

LEVEL	HEIGHT (m)	USAGE	AREA	
			FLOOR AREA (m ²)	NAME AREA (m ²)
Basement	4	Amphitheatre	160	Amphitheatre 160
1	5	Public Space	196	Retail 196
2	3,5	Public Decking	1.488	Outdoor Deck 961
				Multi-Purpose 211
3	3,5	Residence + Deck	755	Residence 316
				Outdoor Deck 271
4	3,5	Residence	569	Residence 484
5	3,5	Residence	569	Residence 569
6	3,5	Residence	569	Residence 569
7	3,5	Residence Roof top	579	Residence 413
				Roof Top 166
TOTAL	26		4885	4885



PUBLIC DIALOG LIVING CORRIDOR



Key Values :

1. Attract more inhabitants;
2. Attract more companies and jobs;
3. Boost urban rehabilitation;
4. Qualify the public space;
5. Return the riverfront to the people;
6. Promote sustainable mobility;
7. Encouraging environmental efficiency.

Big Moves :

Transformation

1. Infill new program

Refocusing on New Vision

1. Rezone, Reassign existing cultural
2. Harmonize diverse cultural spots with the nature elements

Integrated Masterplan

1. Efficient, Coordinated, Functional framework to operate

Legible and Visitor Friendly

1. Clear direction, Comfortable, and Safe pedestrian
2. Seamless and Integrated Transportation

Diversity and Extend Target

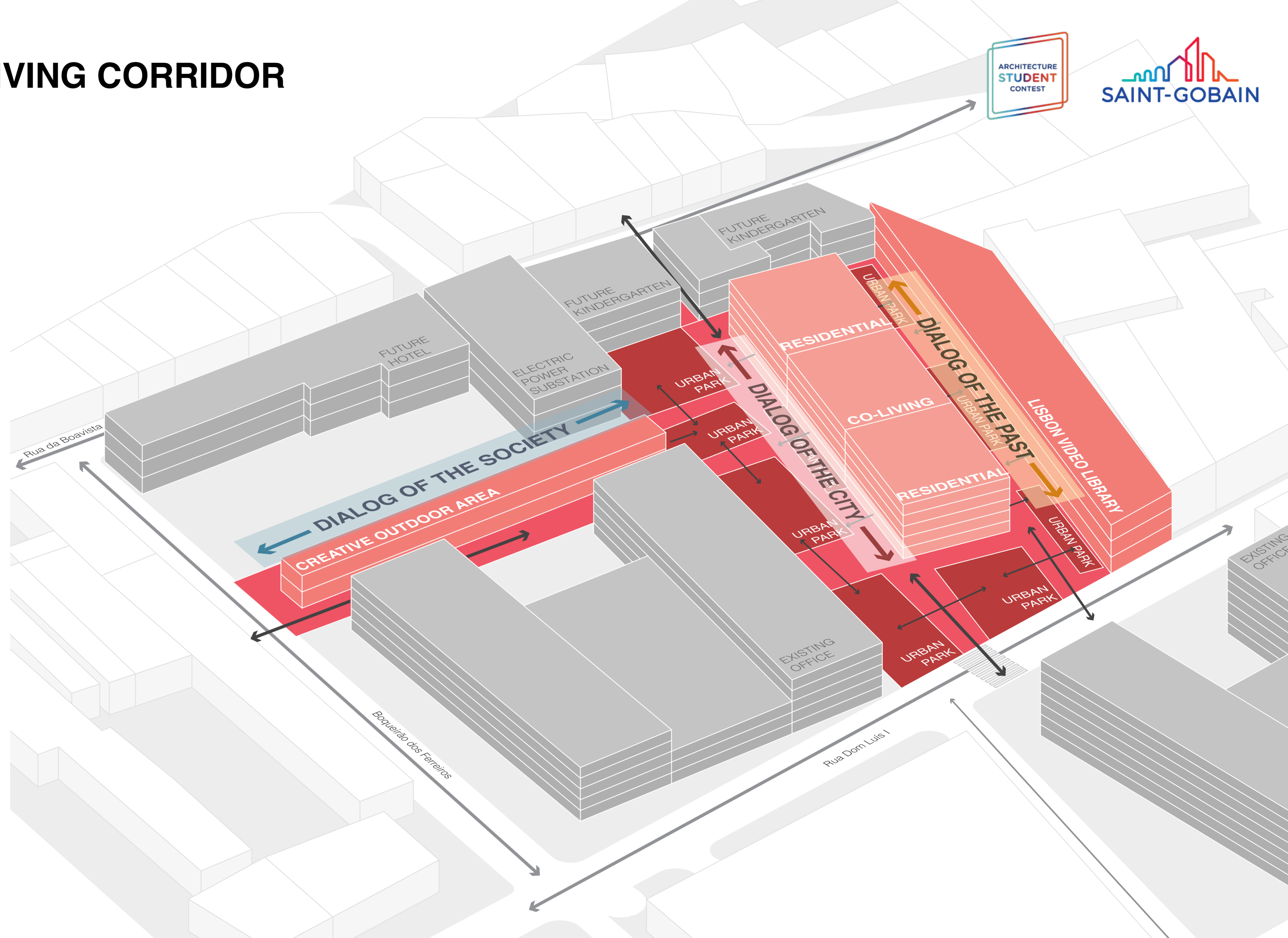
1. Multigenerational Entertainment, International Visitor
2. Unique and Existing forms that extend interest and length of stay

Sustainable and Green

1. Water and Energy Scheme
2. Landscape improve microclimate

Space for Gathering

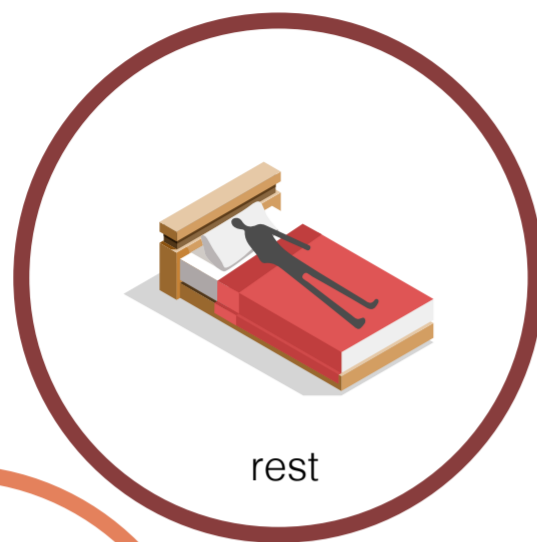
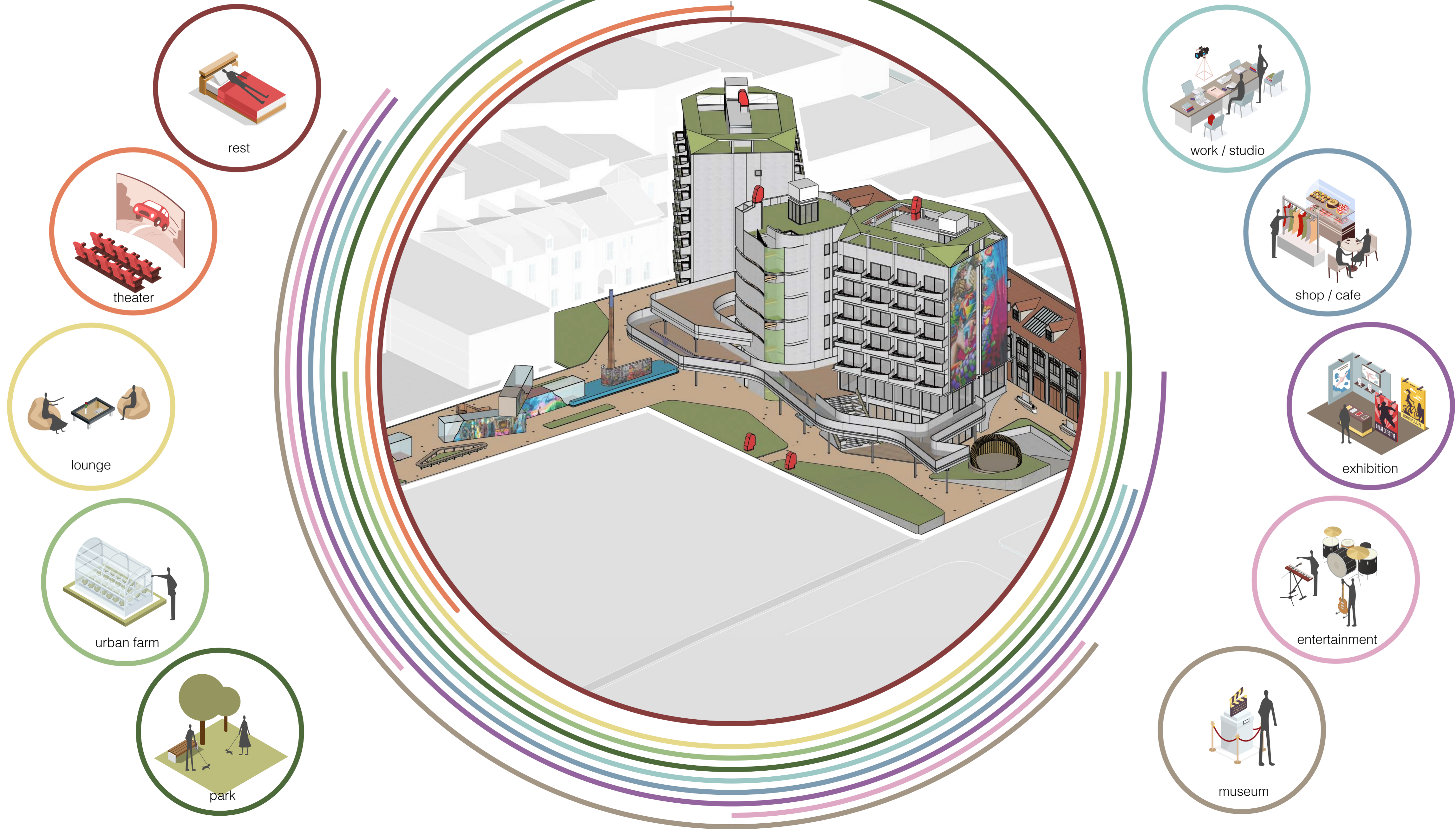
1. Human scale space that are conducive for events and human interaction
2. Embrace the Heritage



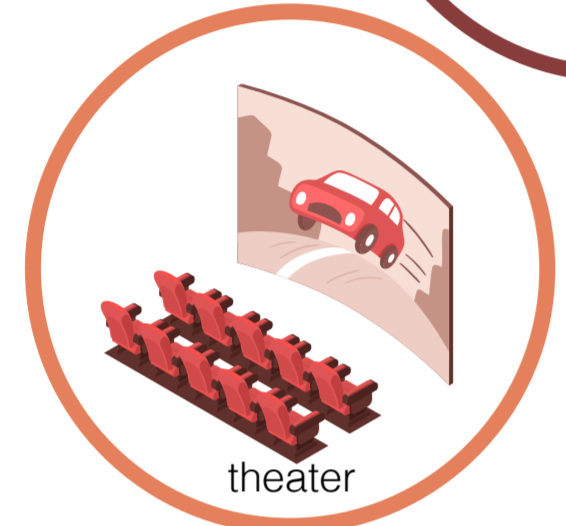
DIALOG INSTRUMENTS

24 HOURS DIALOG GENERATOR

00.00
24.00



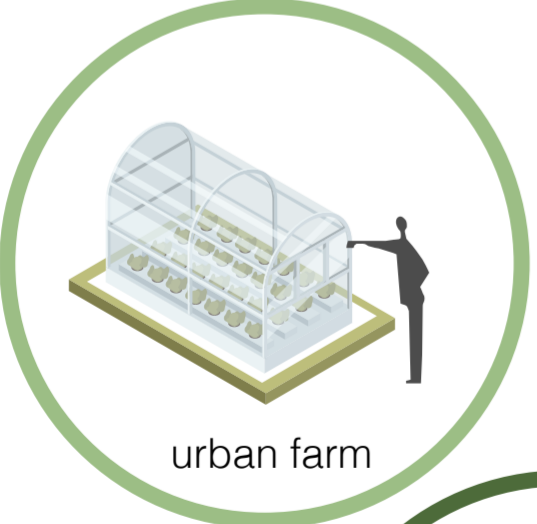
rest



theater



lounge



urban farm



park



work / studio



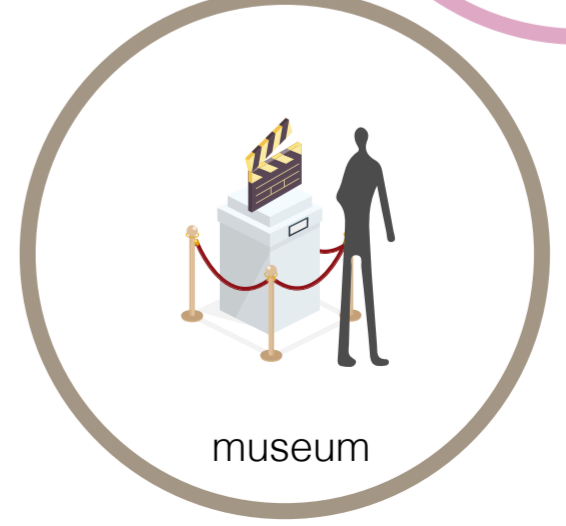
shop / cafe



exhibition

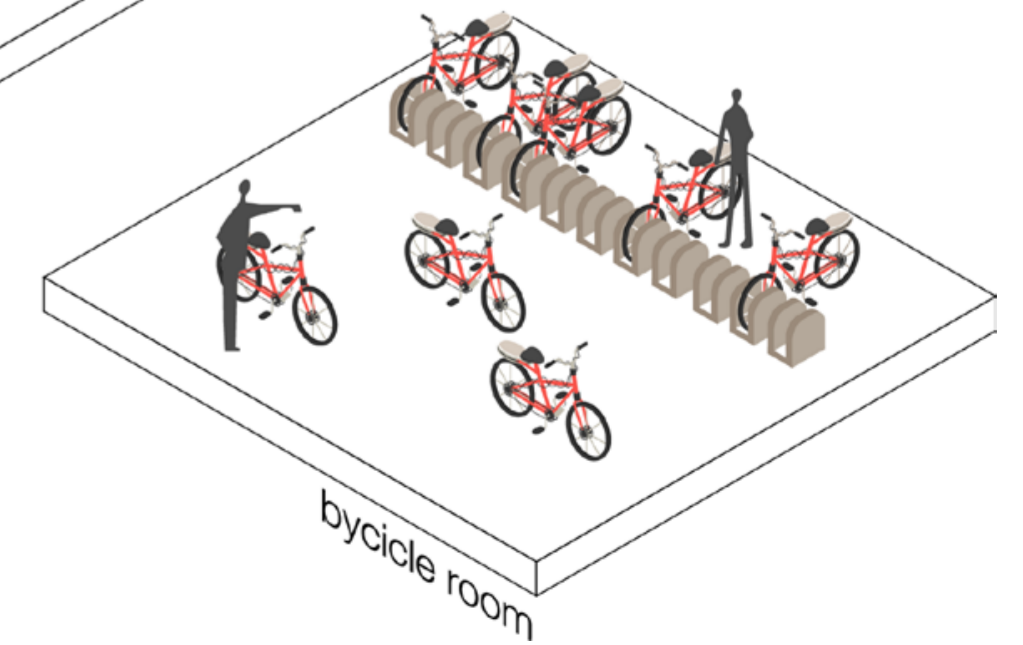
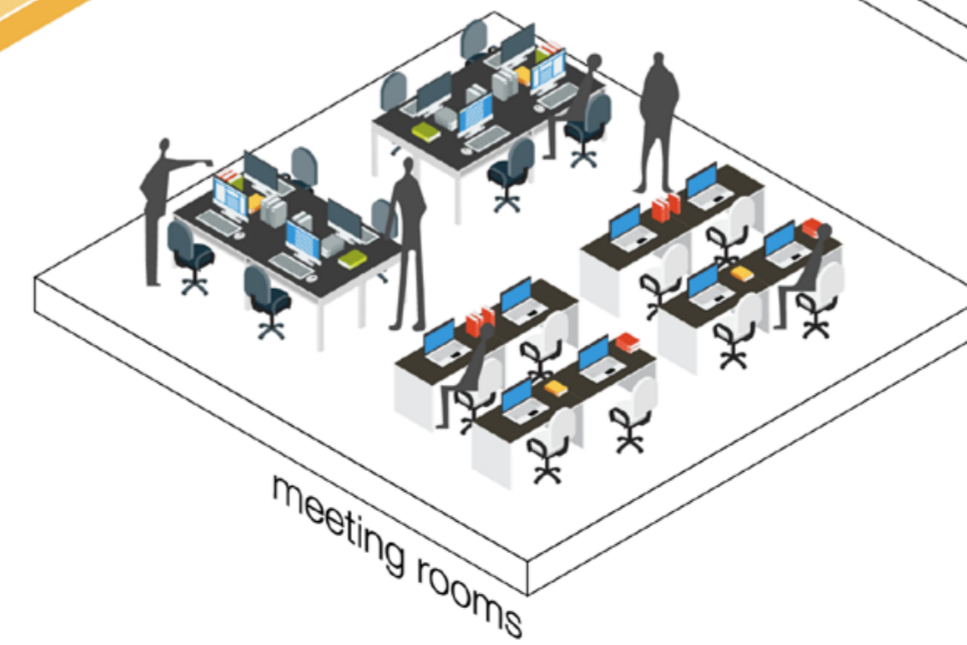
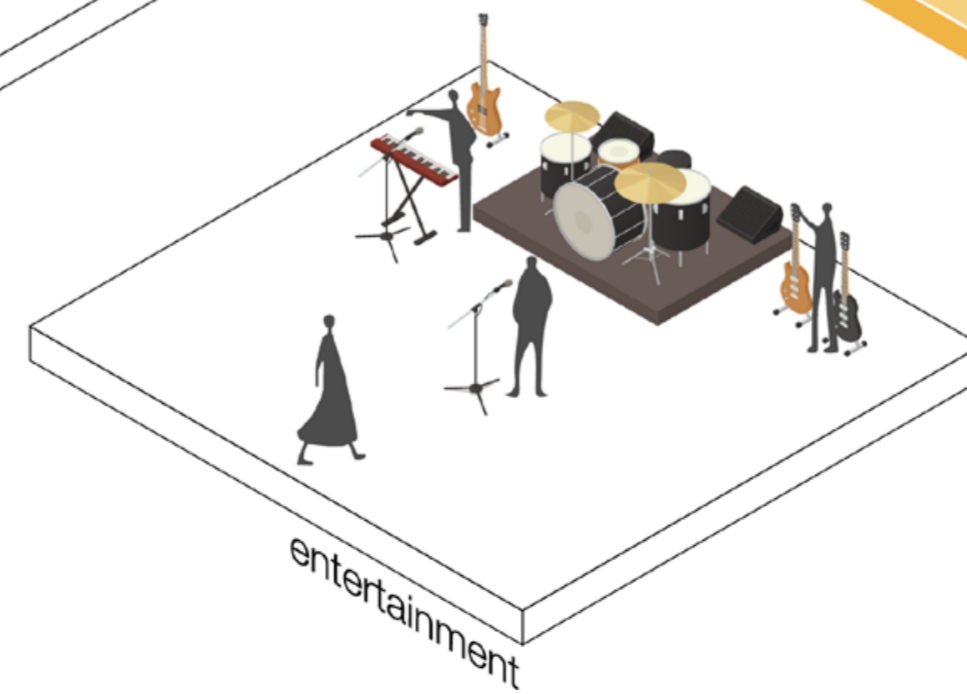
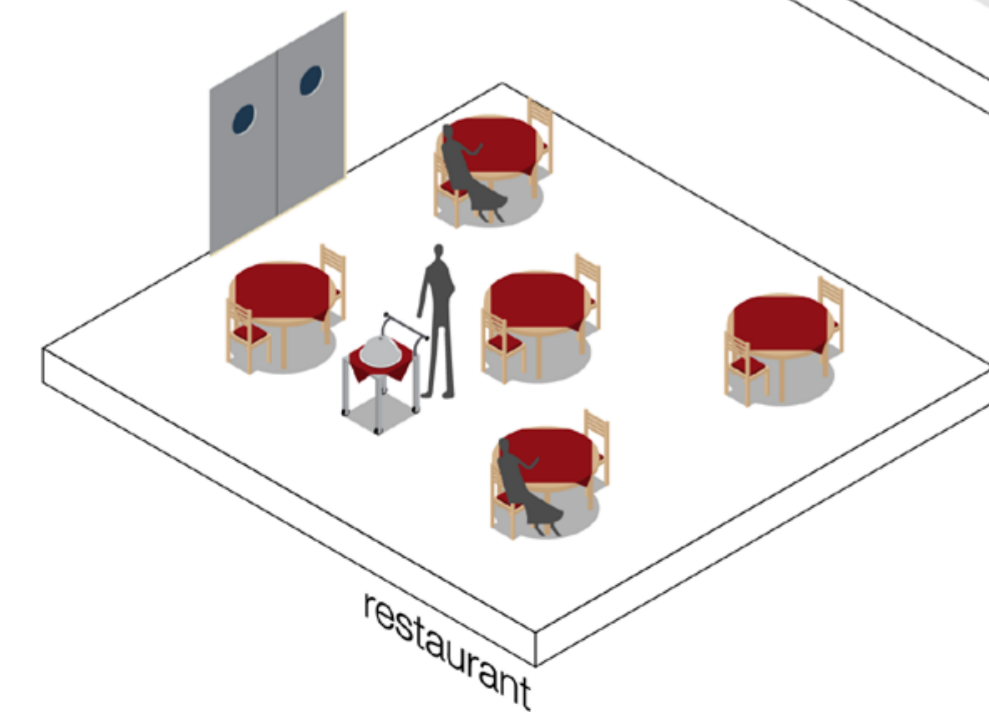
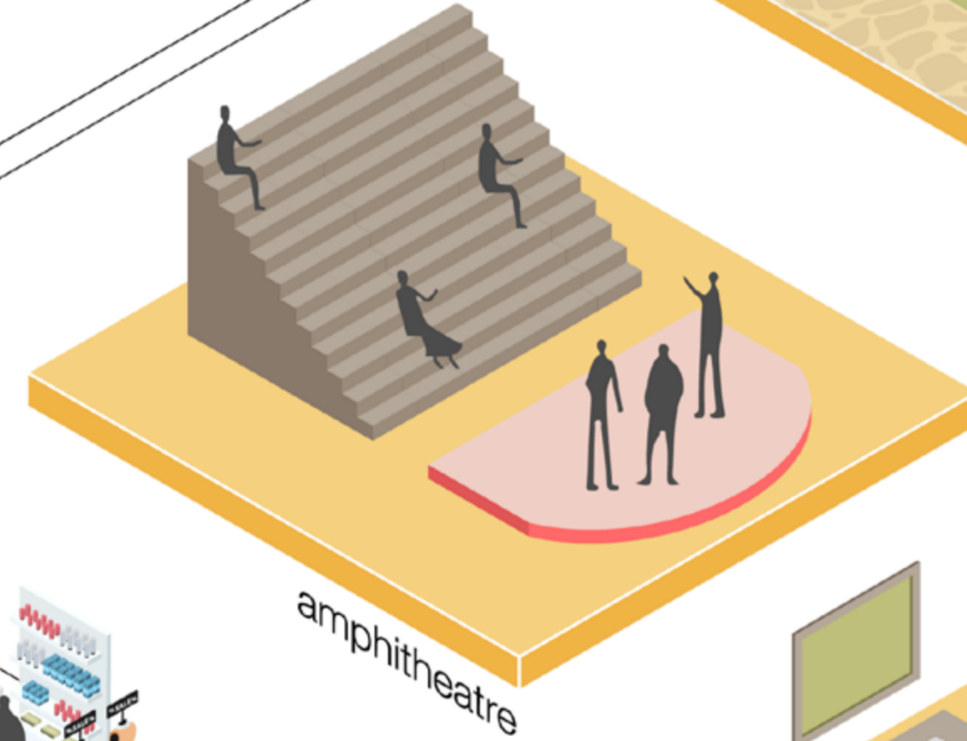
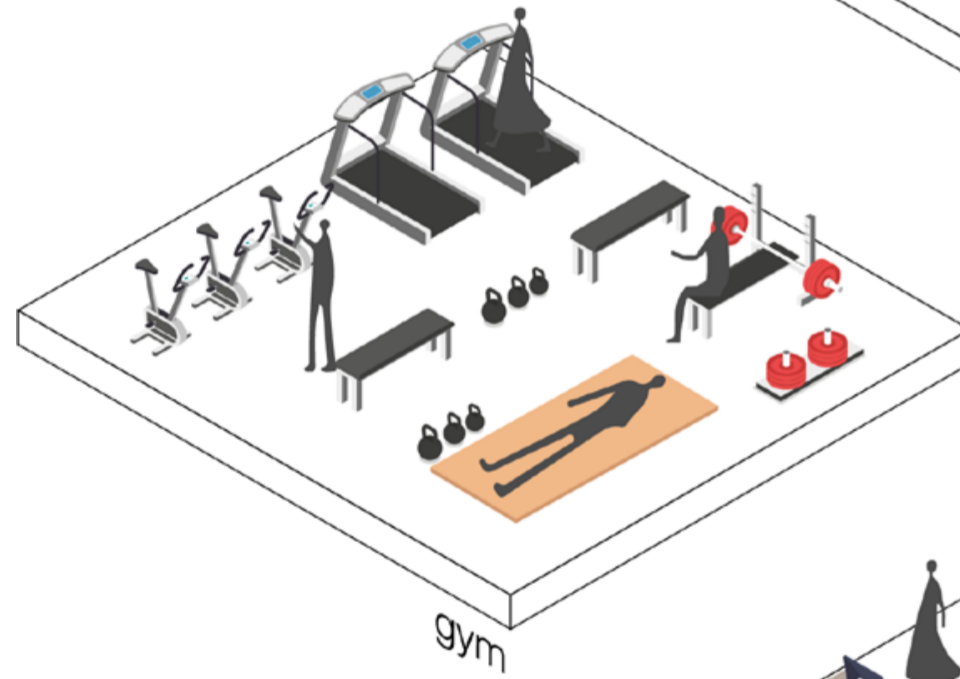
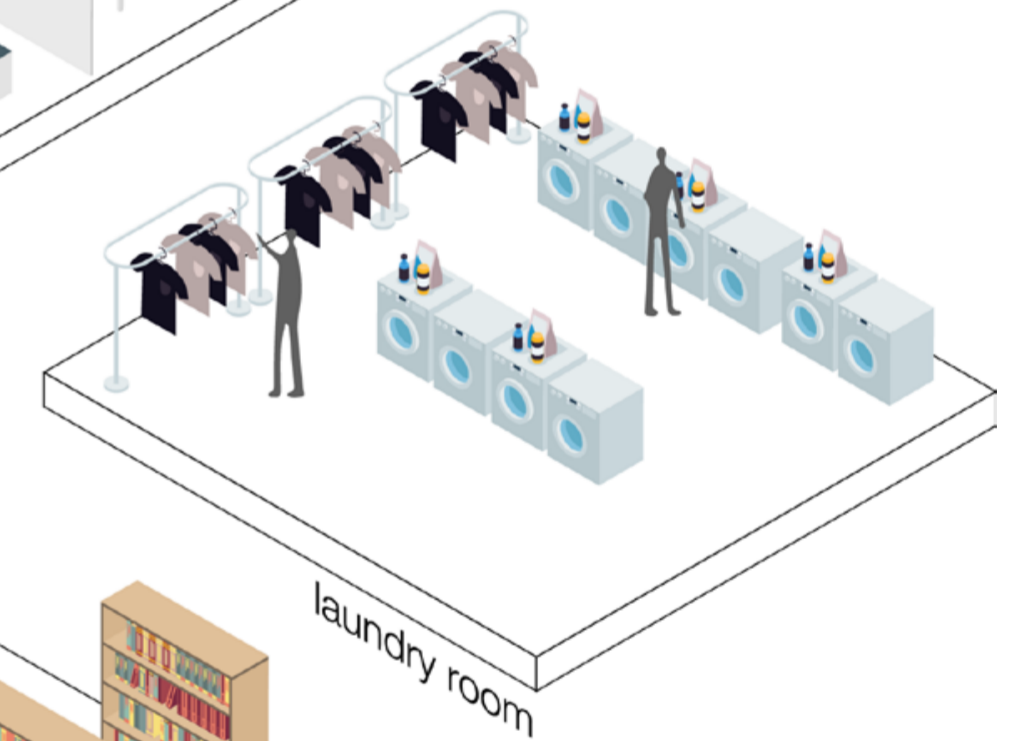
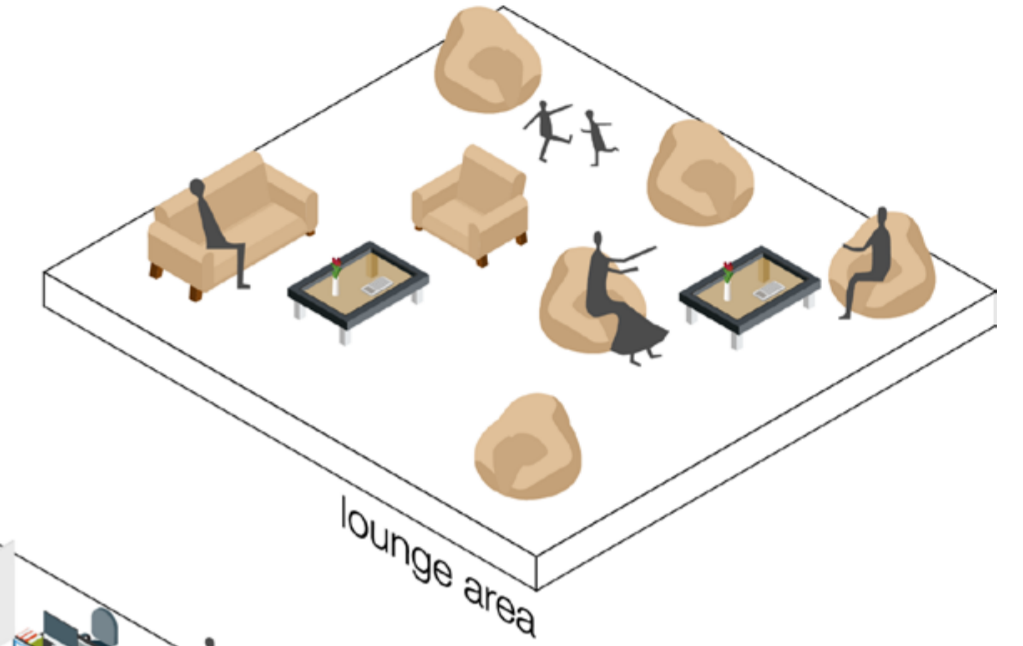
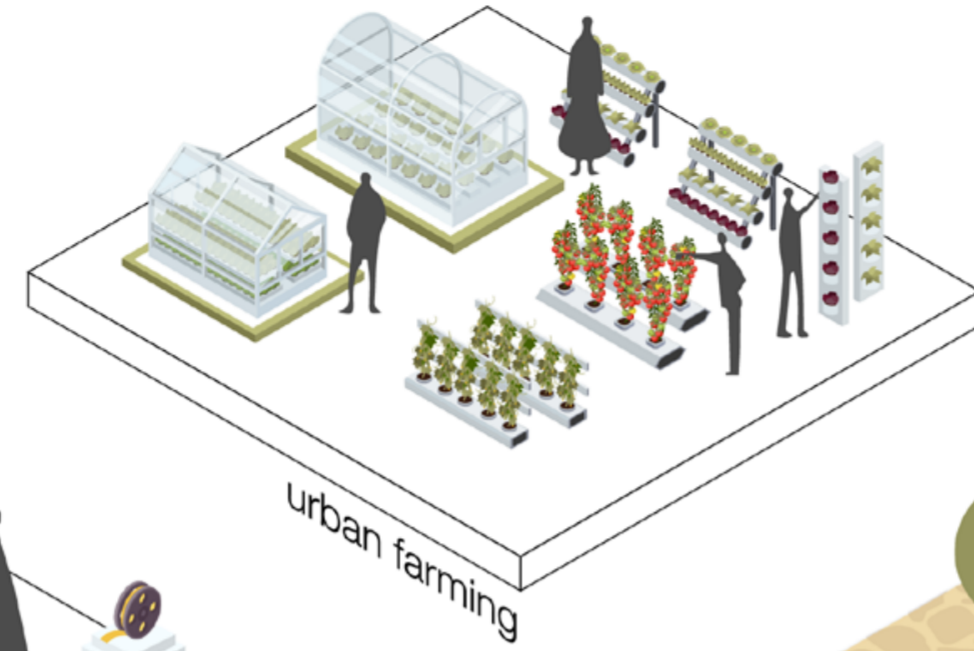
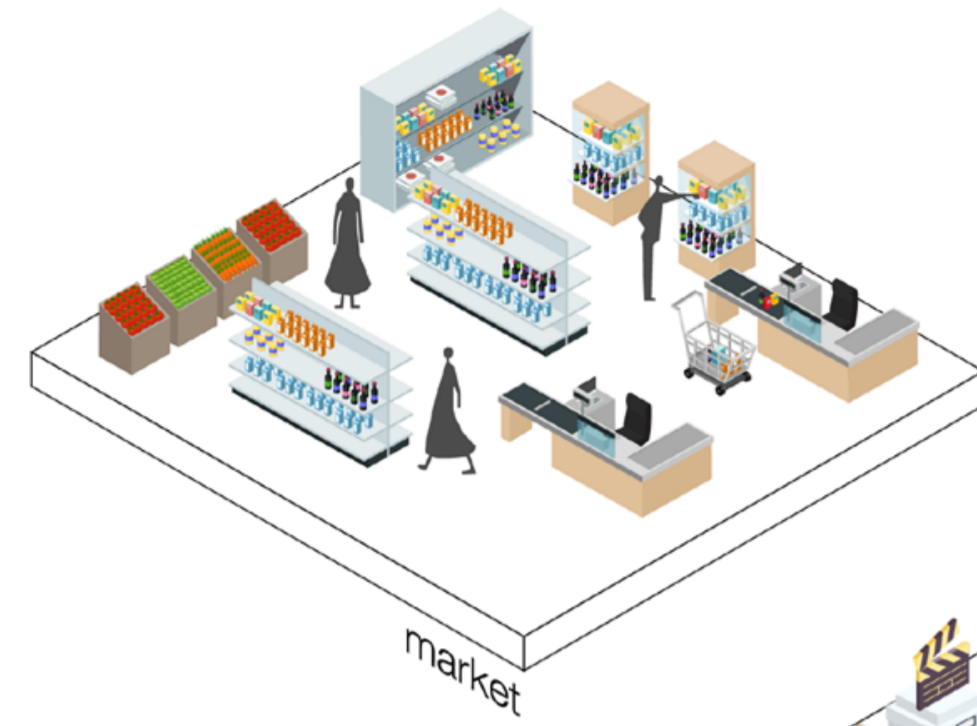


entertainment

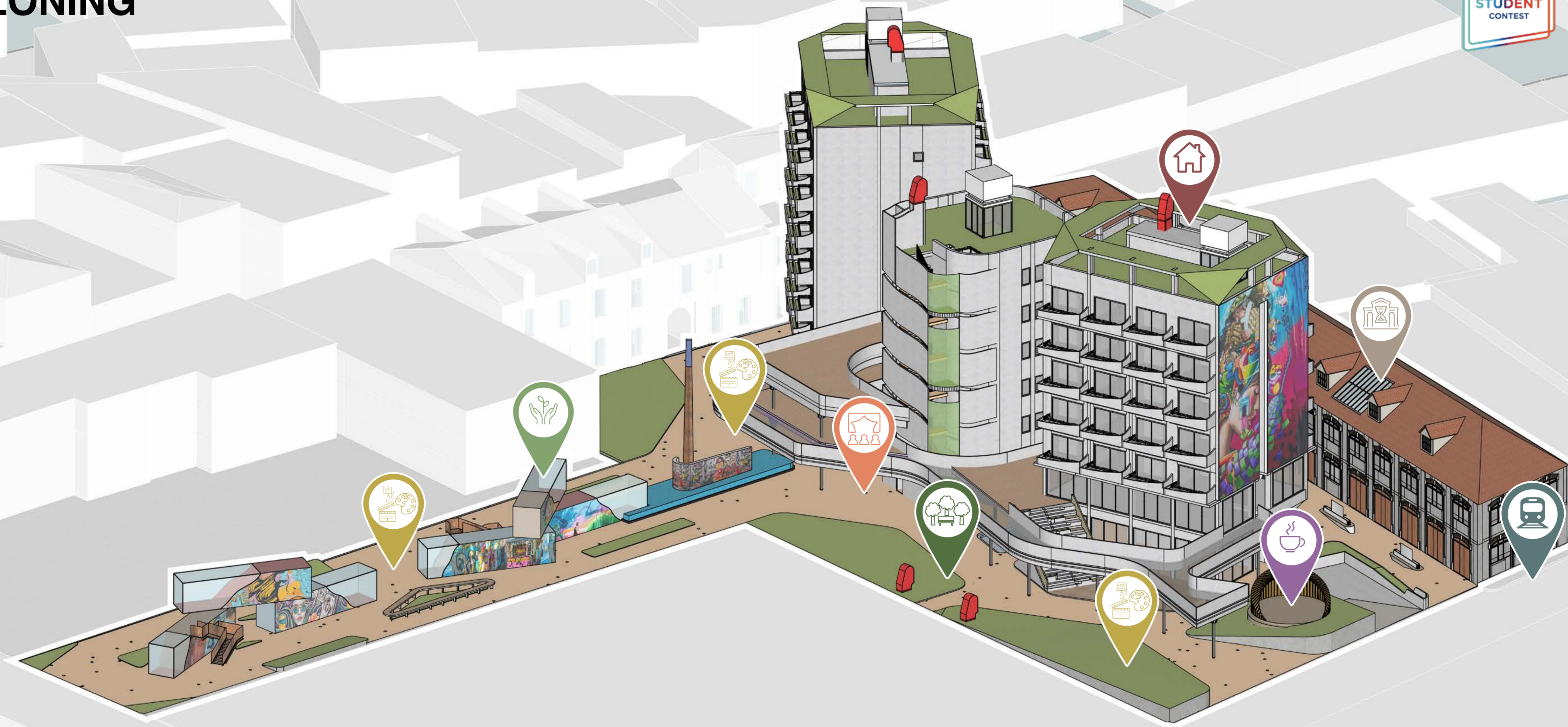


museum

RESIDENCE & PUBLIC PROGRAMS



ZONING



Residential

provide good housing integrated with public transportation, and designs that supports residents to get a good quality of life



Revitalization

gives new function to the heritage building as a mixed use building while not changing the facade and characteristic of the building itself



Park

providing outdoor communal area with green areas that plays as a connector and air purifier for people to have a better quality of life



Creative space

providing a multi use communal creative space for residents and public to see more of the city's creative side and enhance their life with a creative twist



Theater / entertainment

provide entertainment facilities that support living balance of play and work that enhance the fun in the area



Cafe & restaurant

cafes and restaurants that gives opportunities for local vendors to sell, also enhancing communal area



Urban farming

semi-indoor green area that also function as education, promoting urban farming and also gives better quality of living for the area



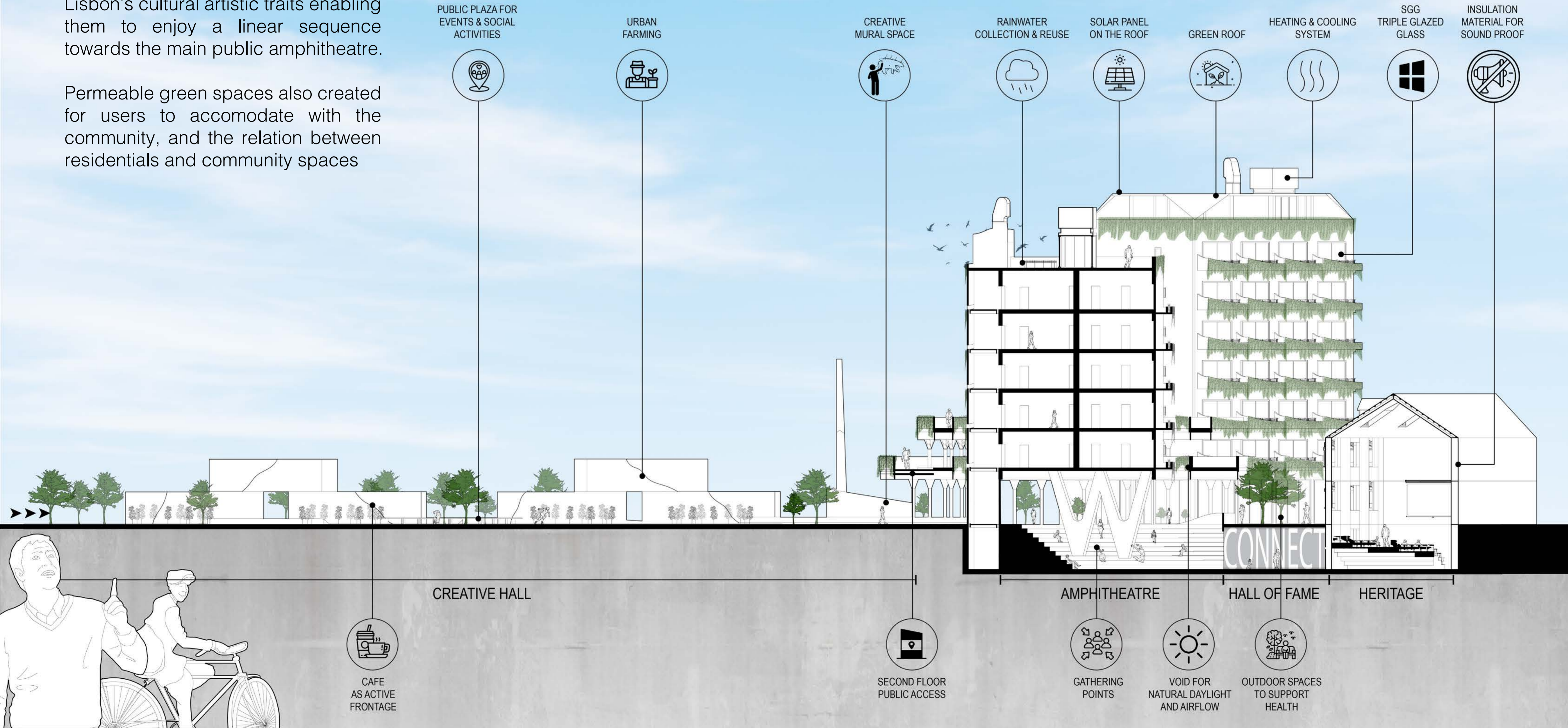
Public transportation

provides integrated accessibility to connect residents with the nearest station

RELATION BETWEEN SPACES

The creative hall opens up a path for pedestrians to experience one of Lisbon's cultural artistic traits enabling them to enjoy a linear sequence towards the main public amphitheatre.

Permeable green spaces also created for users to accommodate with the community, and the relation between residential and community spaces

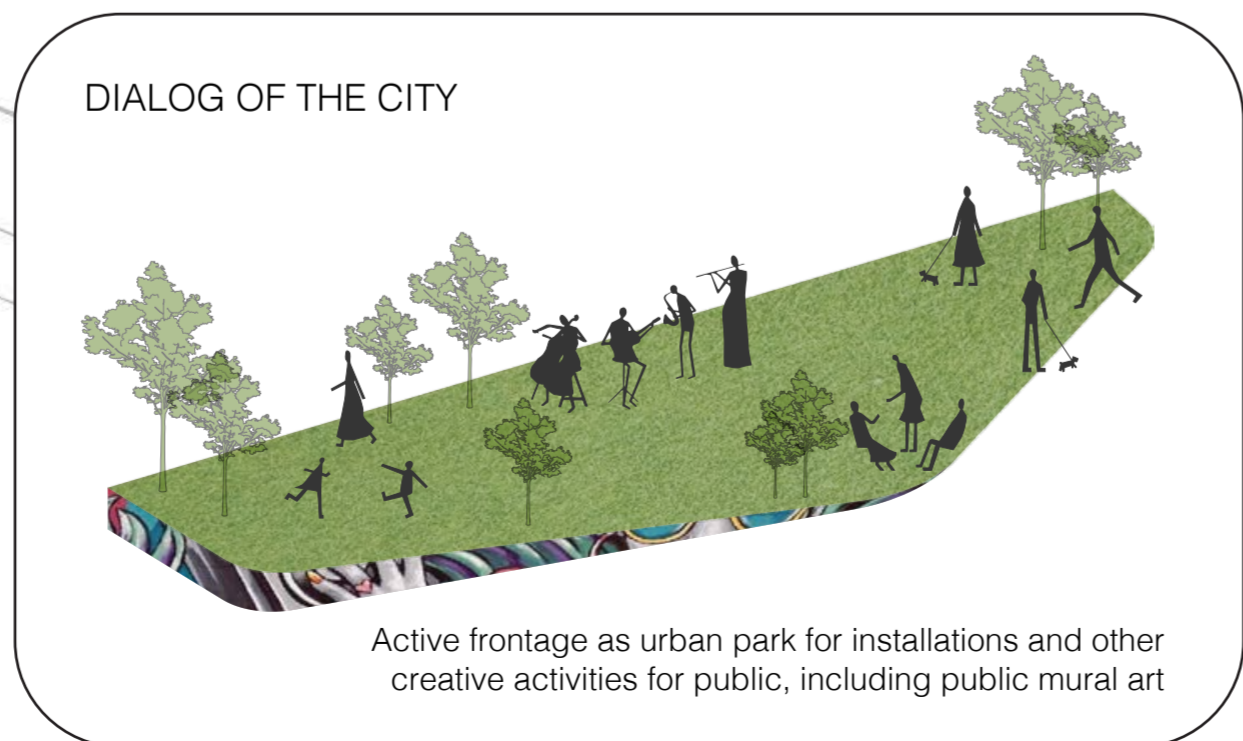
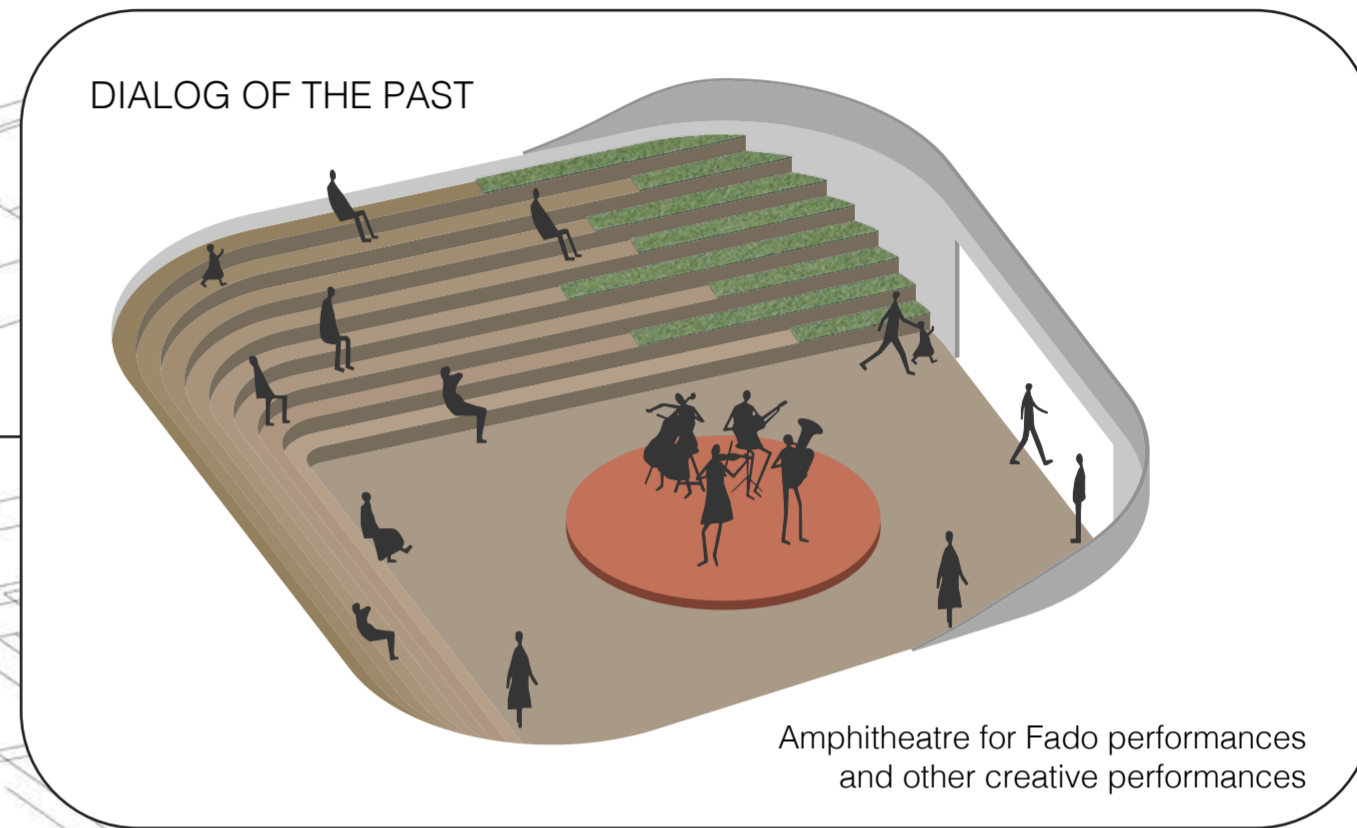
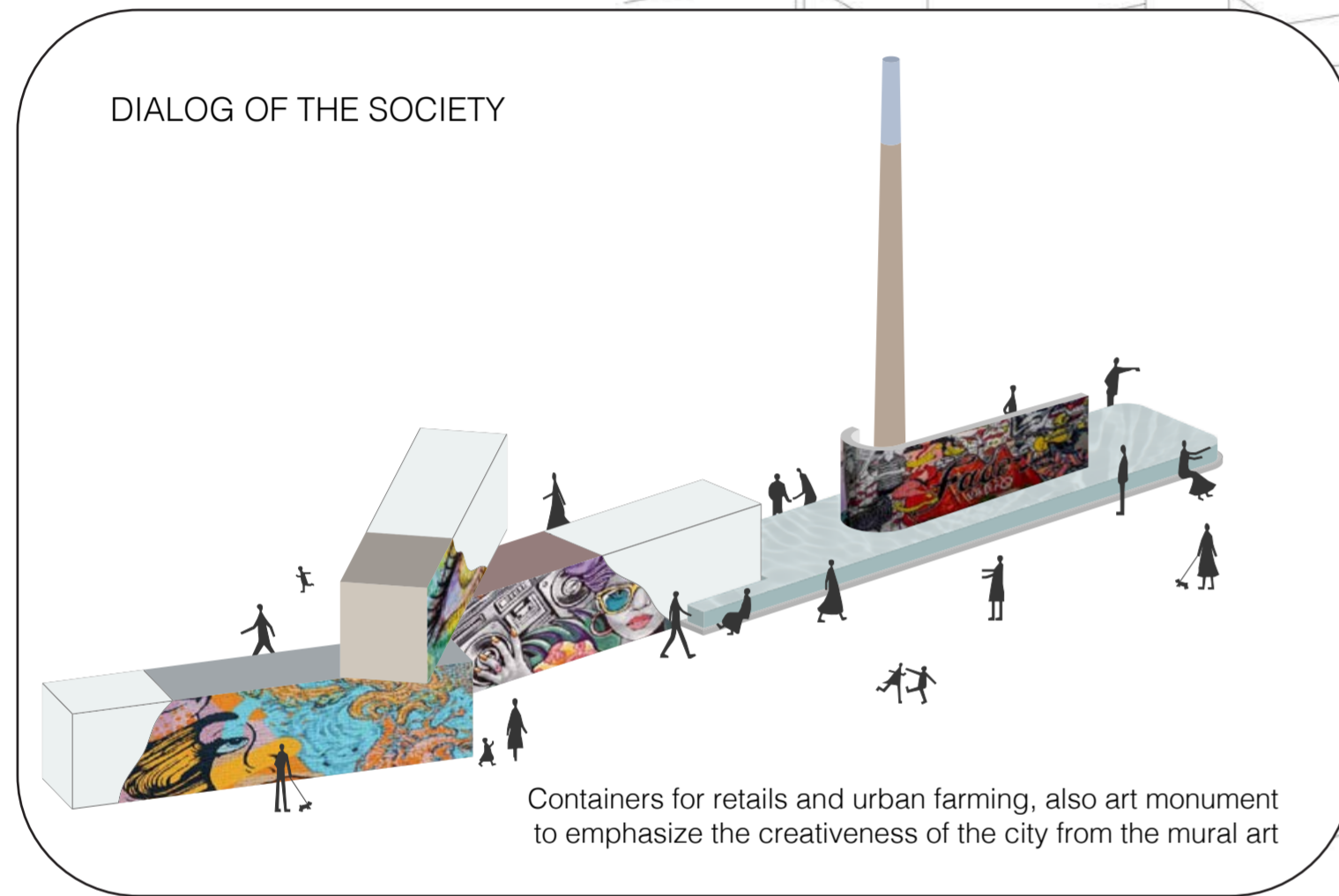




DIALOGIC SPACES



In front of the video library is an open public plaza, instrument to preserve the visitor view towards old facades of existing building. The amphitheatre is placed at the centre to unfold art and culture especially the traditional Fado music and spread this music to the world. At the back, the container box designed with a slit of glass can be a symbol of transformation, evoke new perspective and new status.



URBAN PARK & ACTIVE FRONTAGE



AMPHITHEATRE



LISBOA SYMPHONY

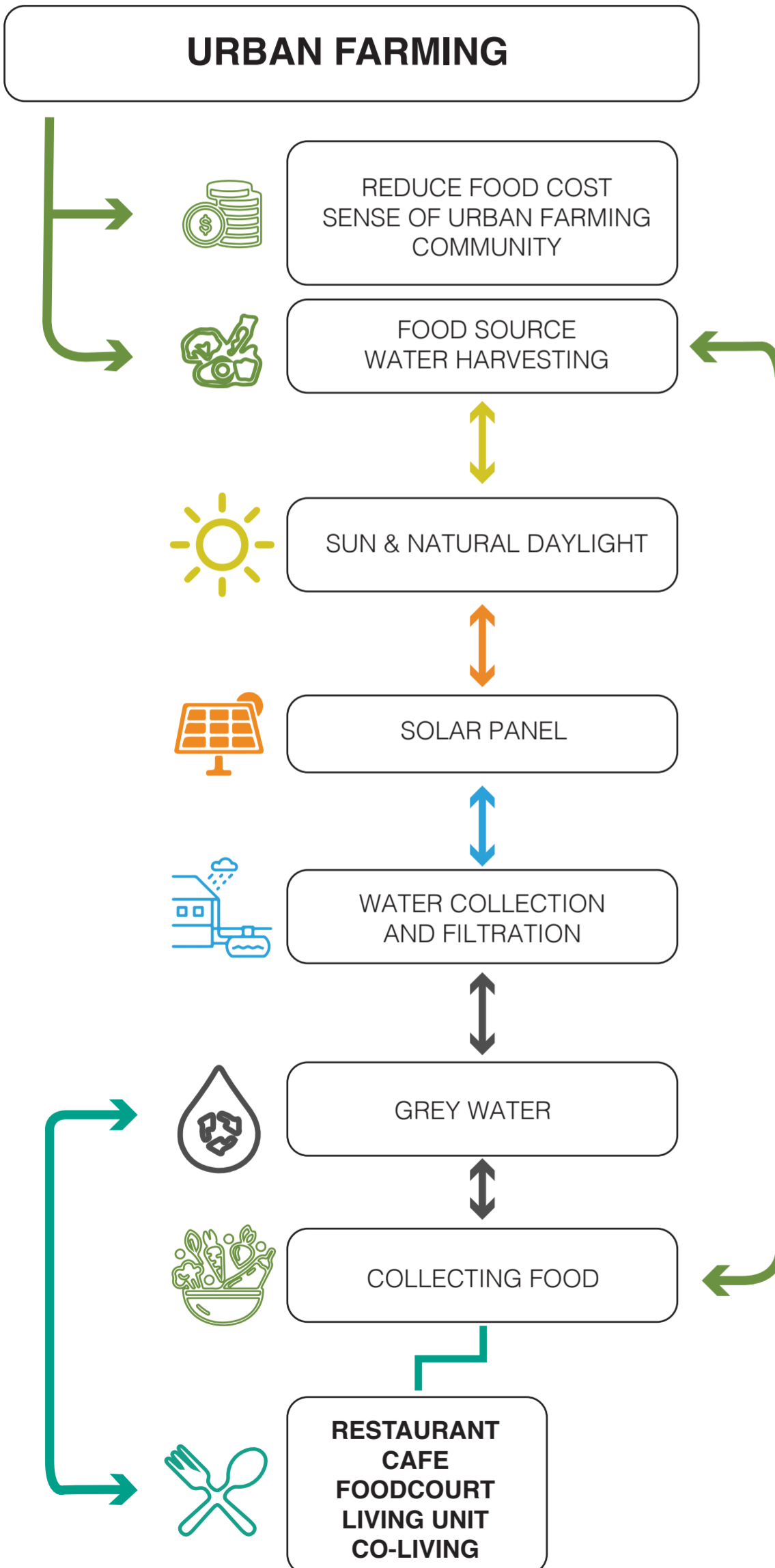
CREATIVE HALL





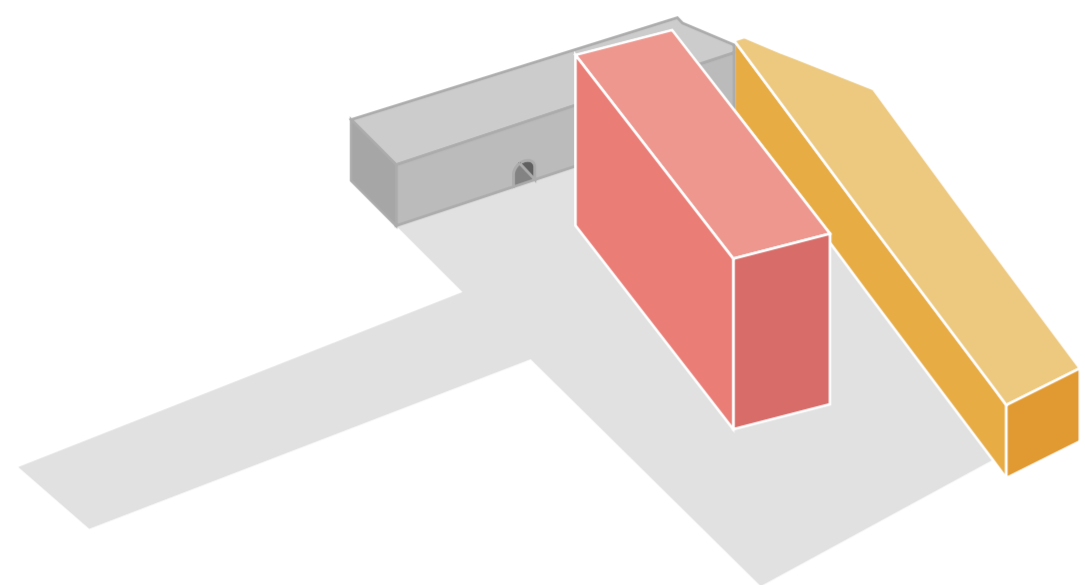
URBAN FARMING

Premise that **Portuguese Cuisine** or **Portuguese** is tough eat more vegetables a day around (**367 g**) than any other country in Europe. by eating a lot of omelettes, chips, salads and pizzas nearly basic of vegetarians strict food.

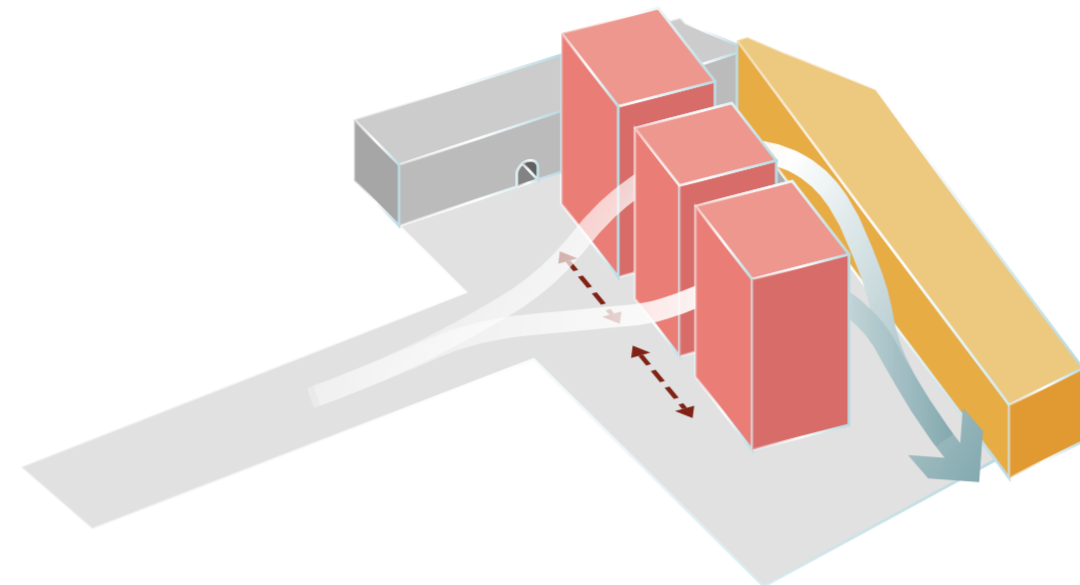




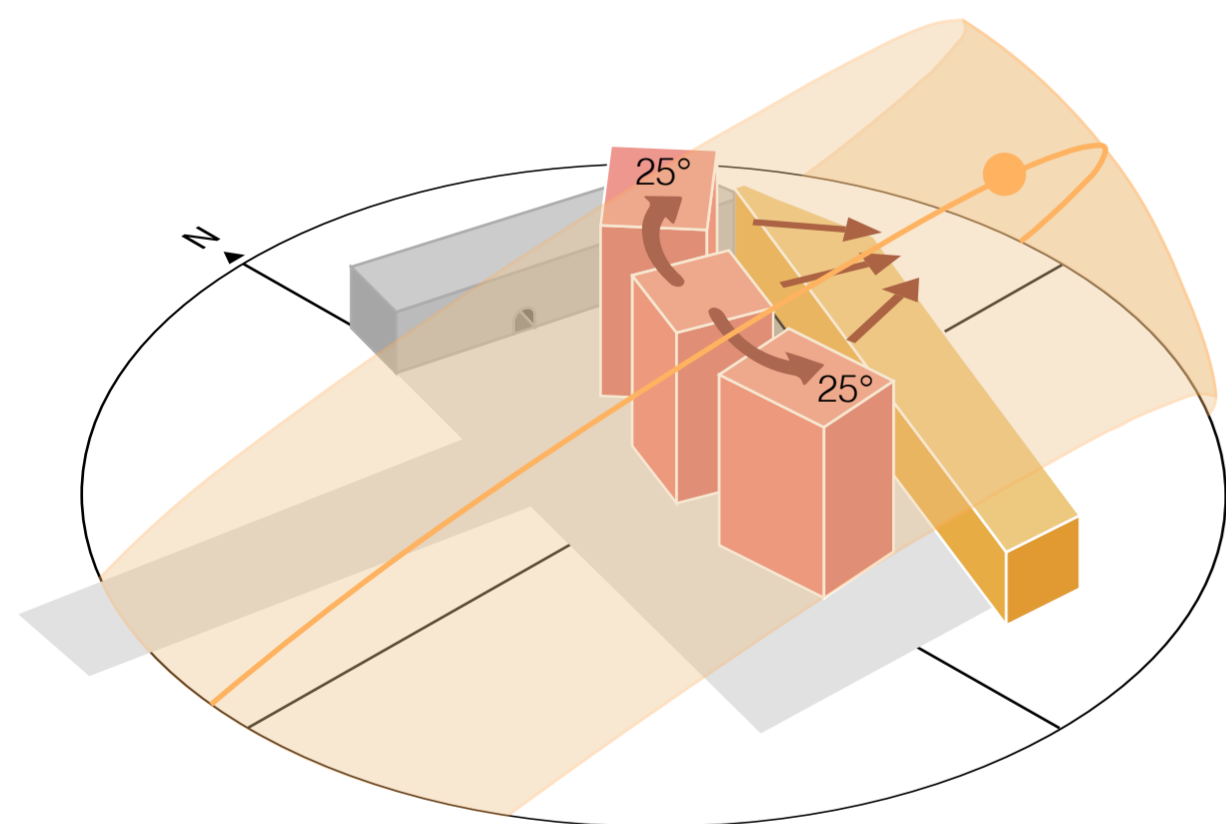
RESIDENTIAL BUILDING



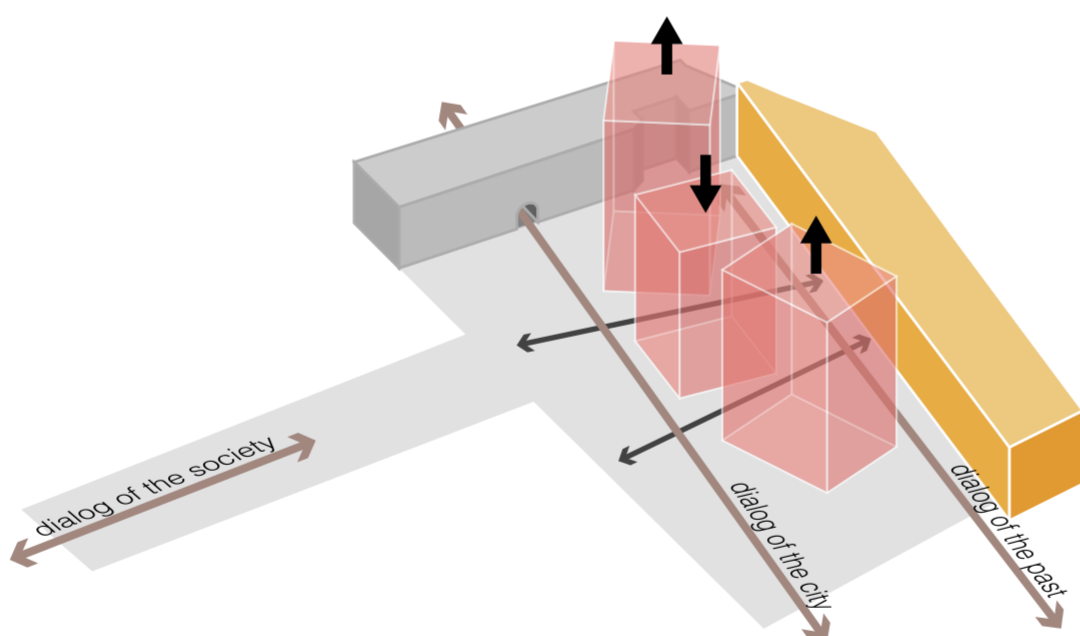
1 The housing complex are located in the middle of the area as an connector between the public and private space of the heritage and creative space.



2 The housing complex are visibly developed into three towers, to accomodate different needs in the community as one of them is designed as co-living, to grow dialogs and social relations for the artists. Also to allow air circulation in the area.



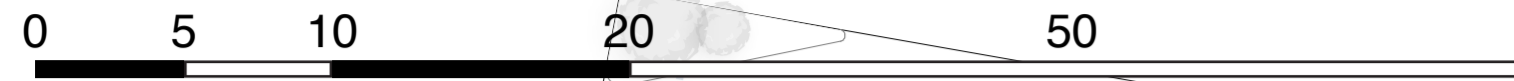
3 The orientation of the three towers are heading towards the heritage building as an act of watching over it. Also the rotation of the building mass reacts to lower the sun exposure.



4 The three towers have different heights to accomodate the density difference of each tower.



SECOND FLOOR PLAN



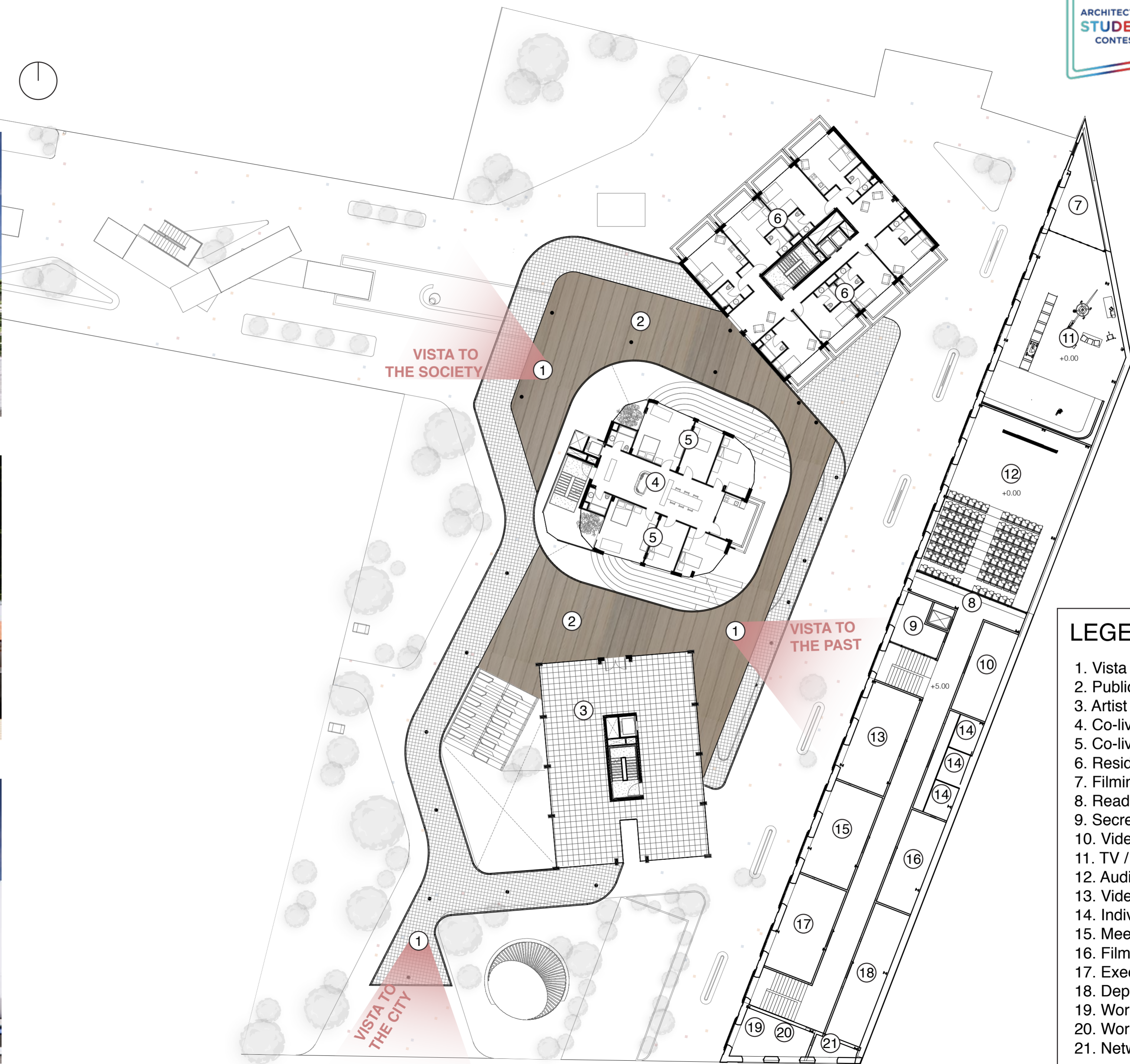
VISTA TO THE SOCIETY



VISTA TO THE PAST

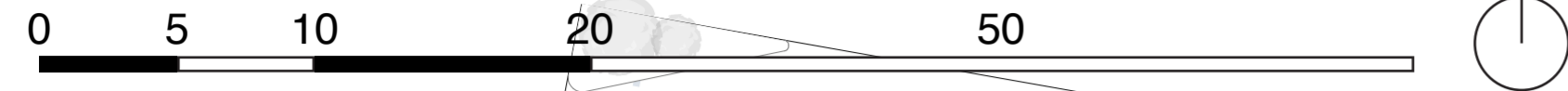


VISTA TO THE CITY

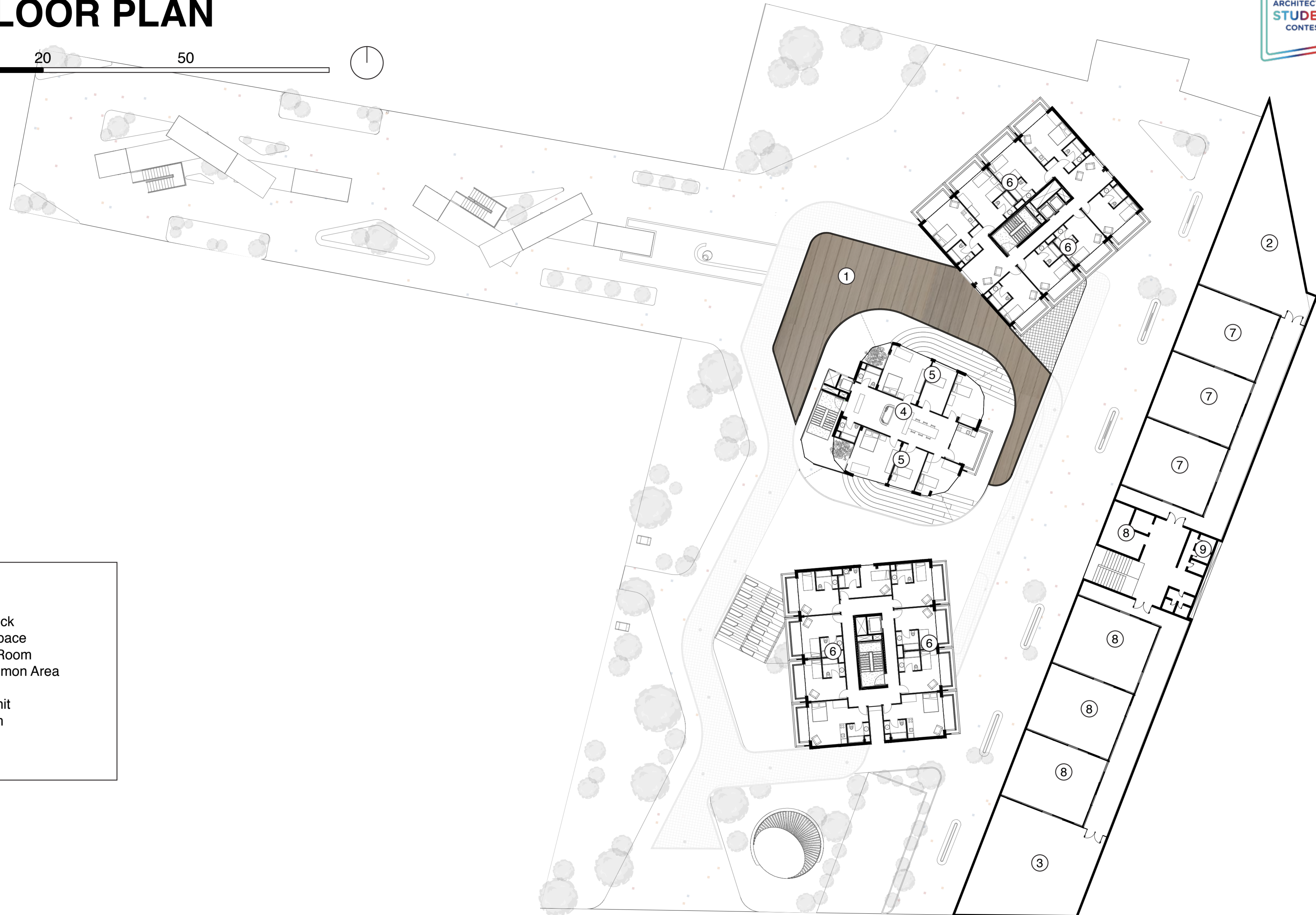


LEGEND	
1.	Vista
2.	Public Deck
3.	Artist Studio & Exhibition
4.	Co-living Common Area
5.	Co-living Unit
6.	Residential Unit
7.	Filming Equipment Storage Room
8.	Reading Space
9.	Secretary and Administration Support Room
10.	Video Digitalization Room
11.	TV / Cyclorama Studio
12.	Auditorium
13.	Video Editing Room
14.	Individual Visioning Room
15.	Meeting Room
16.	Film and Video Description Room
17.	Executive Project Production Room
18.	Deposit and Archive Room
19.	Workers Bathroom
20.	Workers Pantry Area
21.	Network Server

THIRD FLOOR PLAN

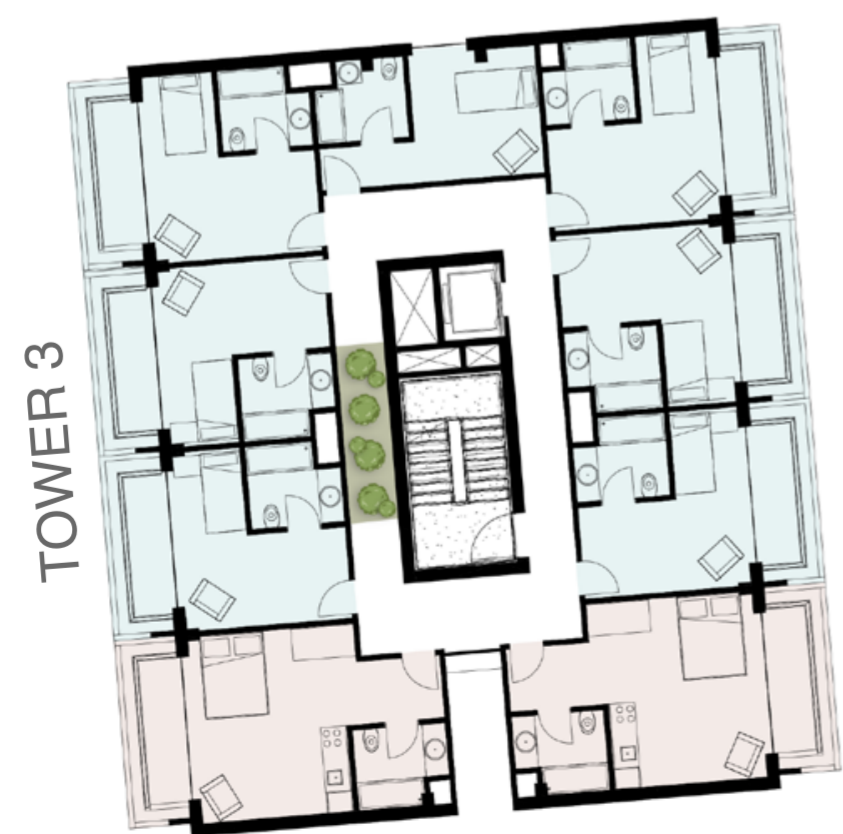
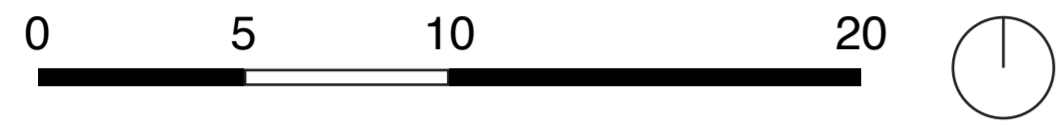


- LEGEND**
- 1. Residence Deck
 - 2. Co-working Space
 - 3. Multifunction Room
 - 4. Co-living Common Area
 - 5. Co-living Unit
 - 6. Residential Unit
 - 7. Meeting Room
 - 8. Office
 - 9. Public Toilet



UNIT DISTRIBUTION

One of the towers is designed as co-living, to grow dialogs and social relations for the artists.



UNIT A

Capacity : 2 person
Area : 24 sqm
Total unit : 22 units



UNIT B

Capacity : 2 person
Area : 24 sqm
Total unit : 12 units



UNIT C

Capacity : 1 person
Area : 16 sqm
Total unit : 59 units



CO-LIVING 1

Capacity : 2 person
Area : 21 sqm
Total unit : 10 units



CO-LIVING 2

Capacity : 2 person
Area : 15 sqm
Total unit : 20 units



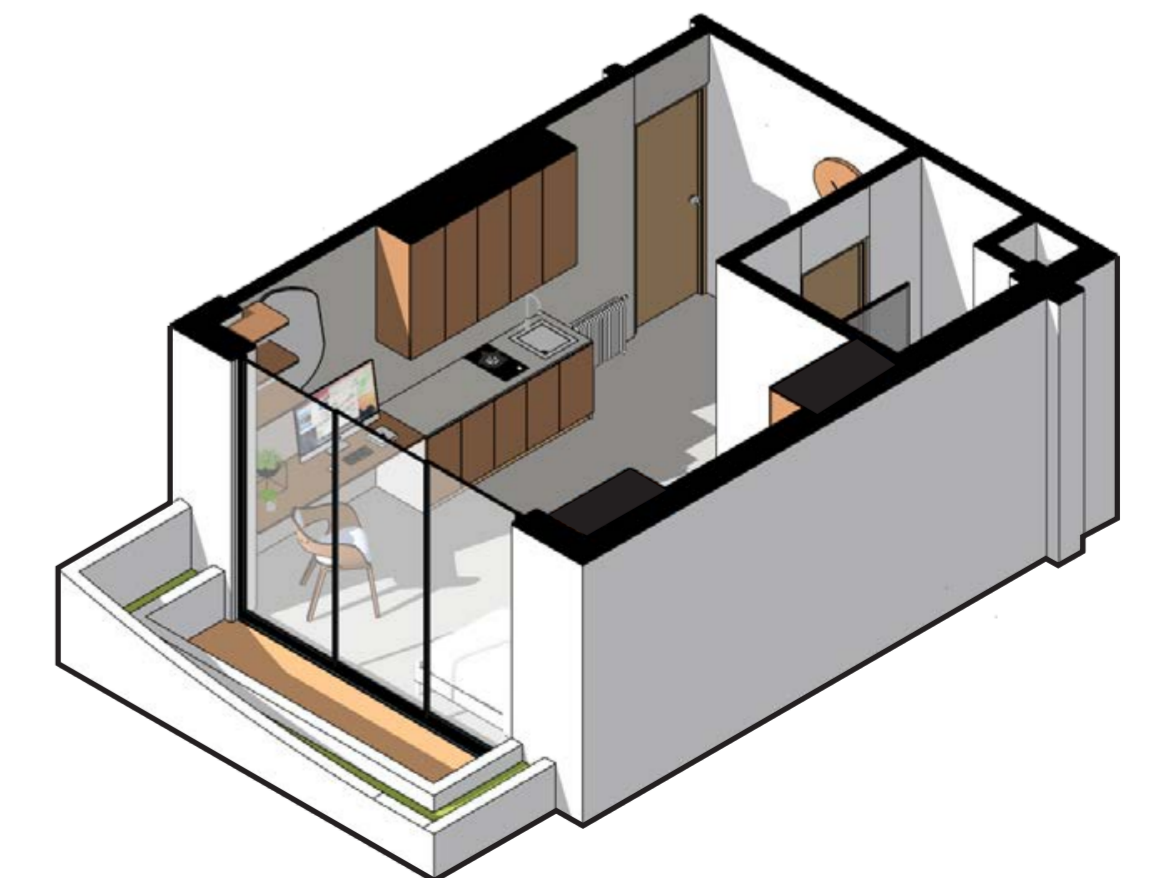
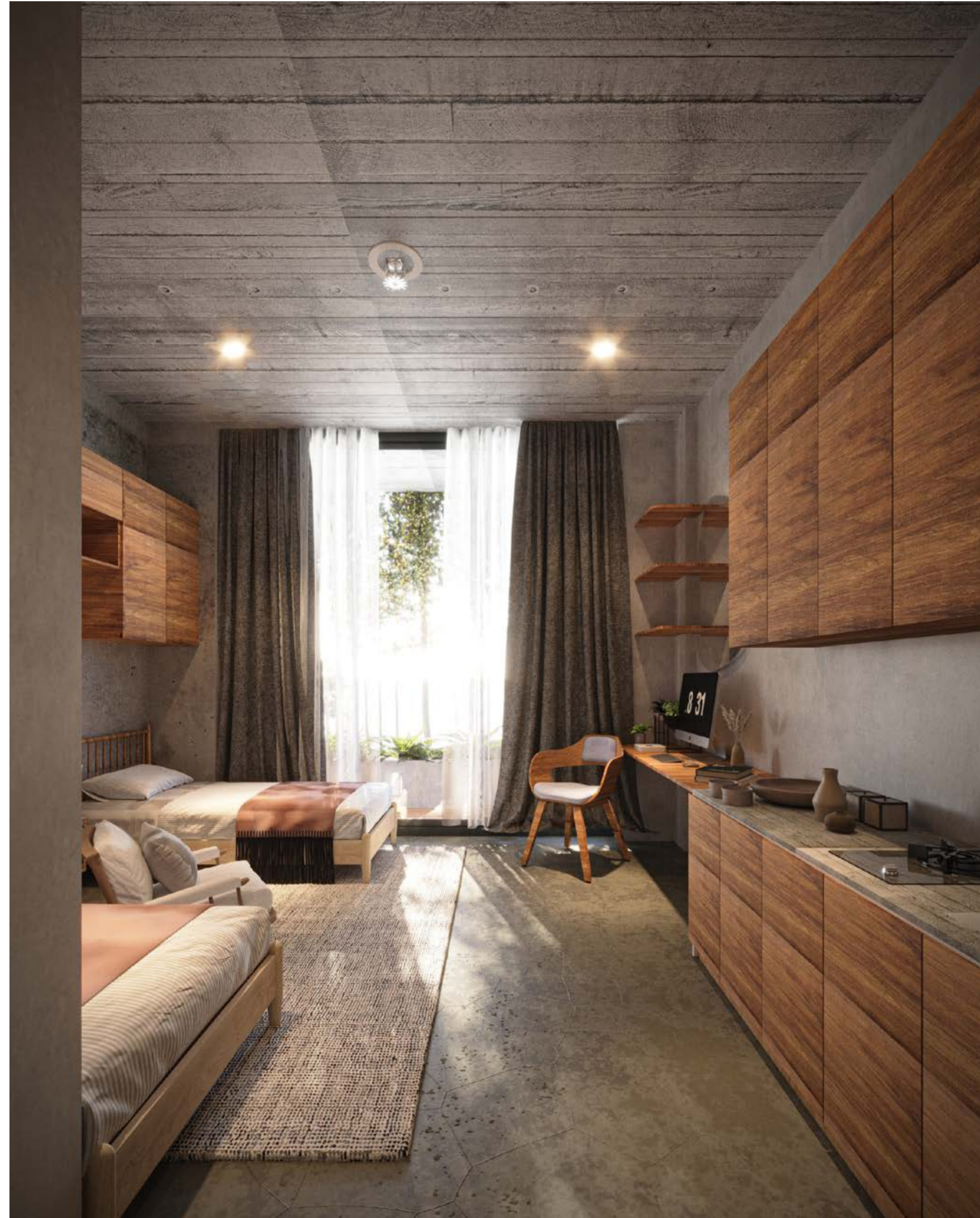
UNIT A

TOWER 1 & 3



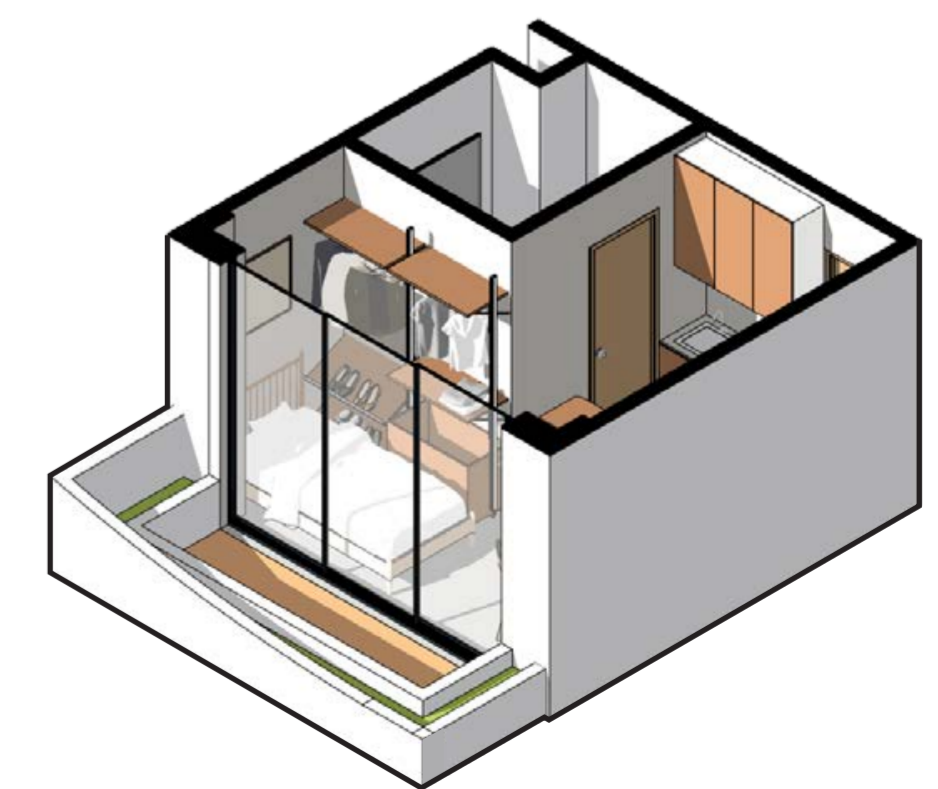
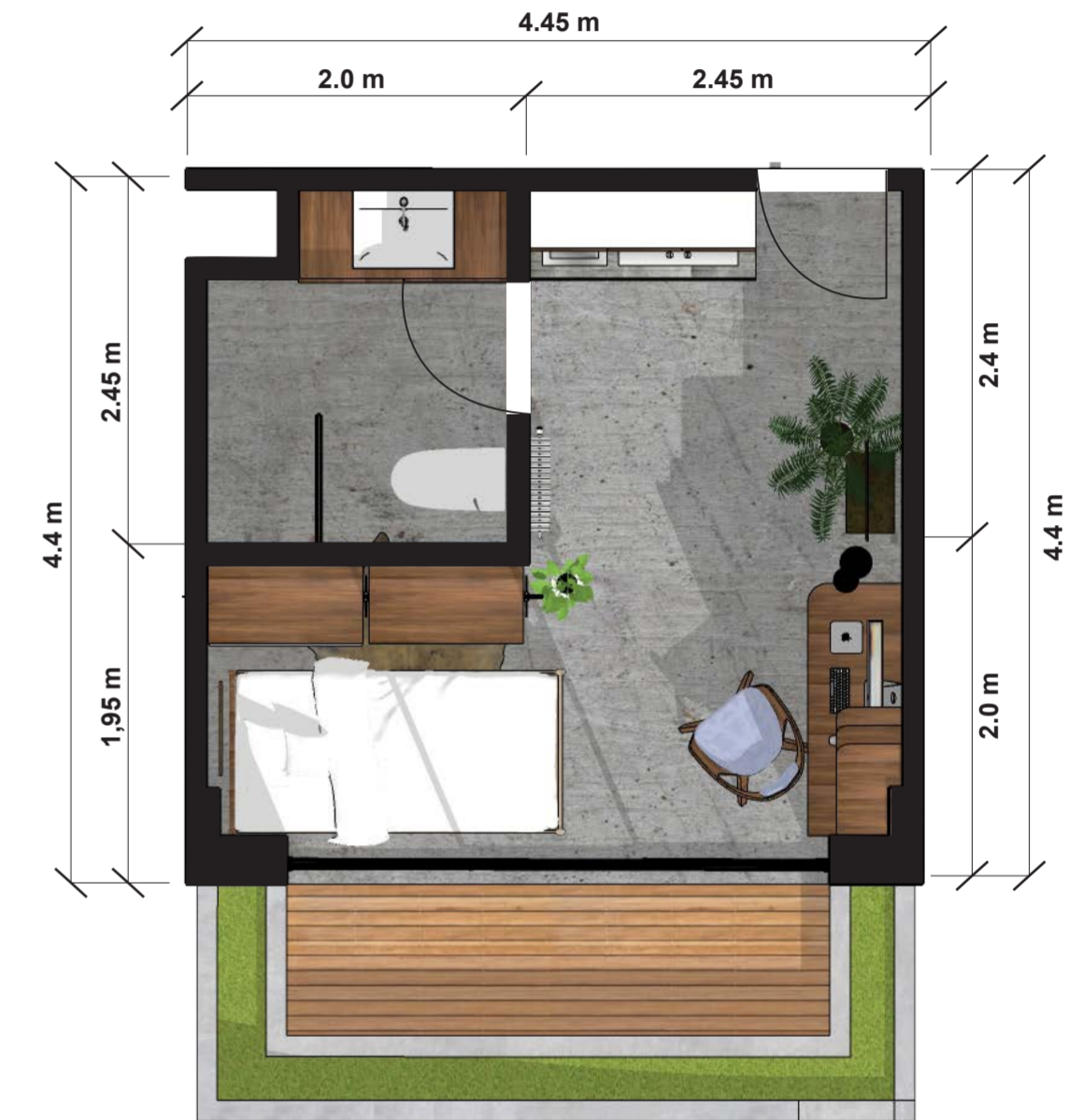
UNIT B

TOWER 1



UNIT C

TOWER 1 & 3



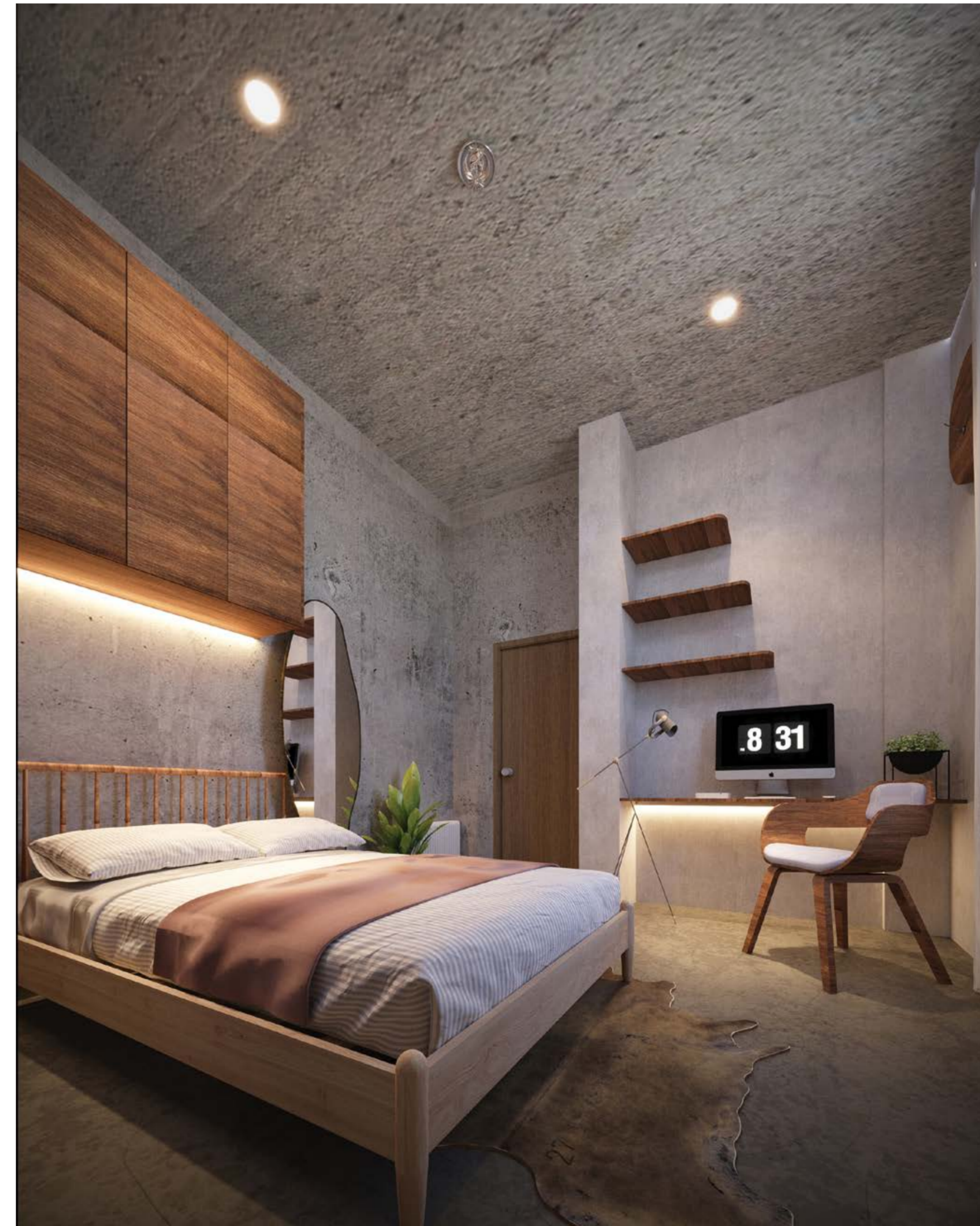
CO-LIVING 1

TOWER 2



CO-LIVING 2

TOWER 2



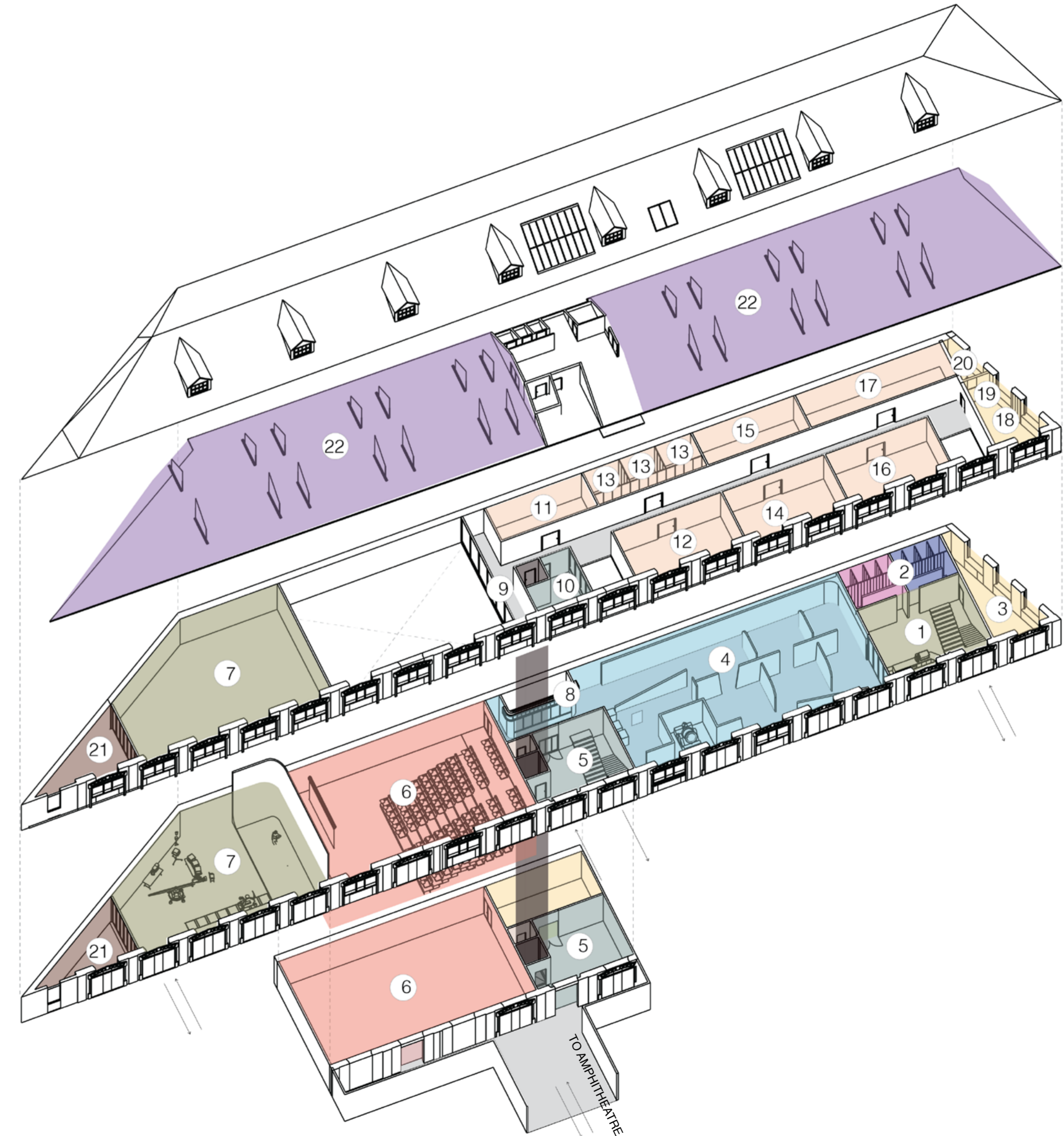
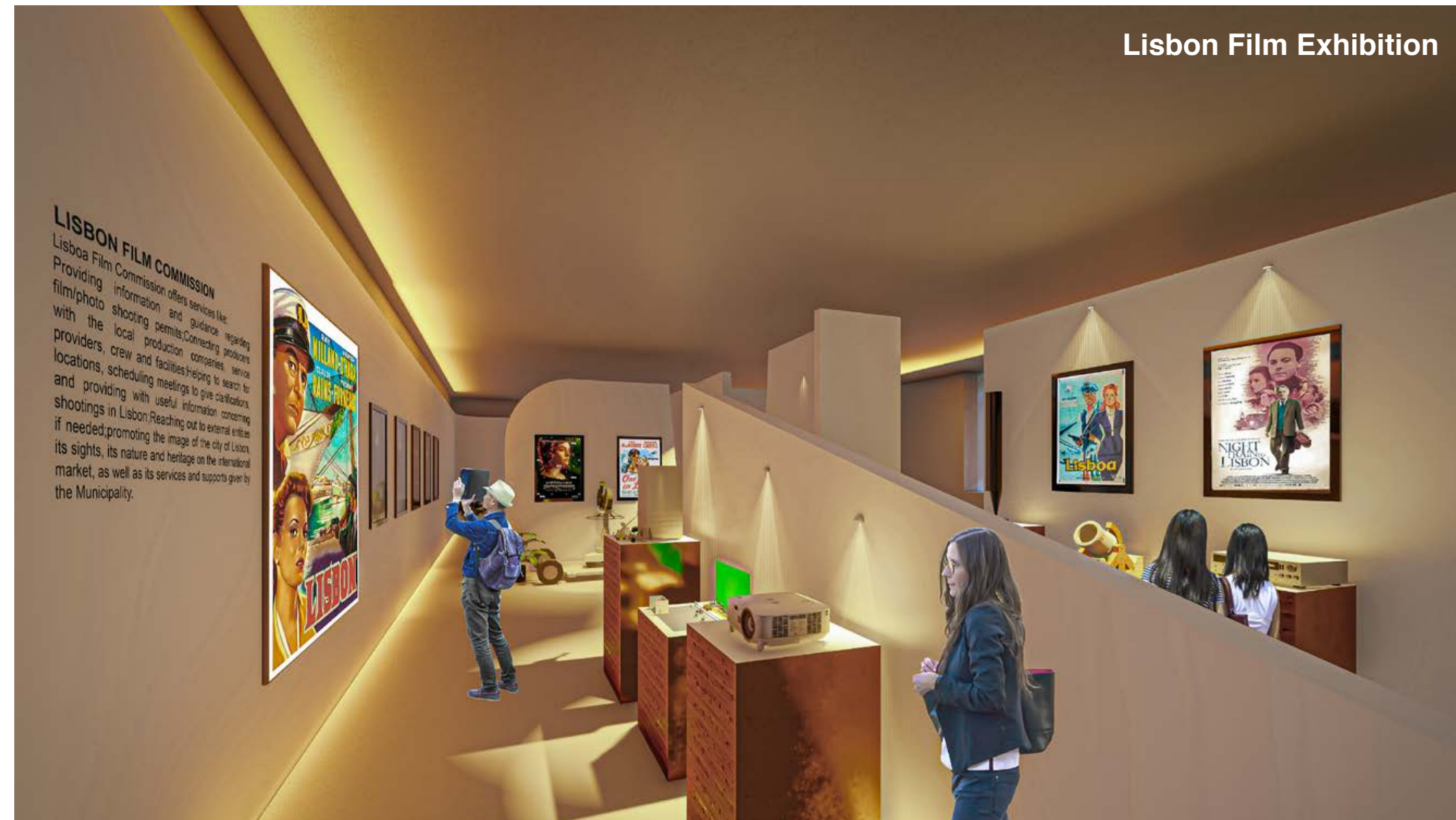


LISBON VIDEO LIBRARY



NEW PROGRAM INFILTRATION

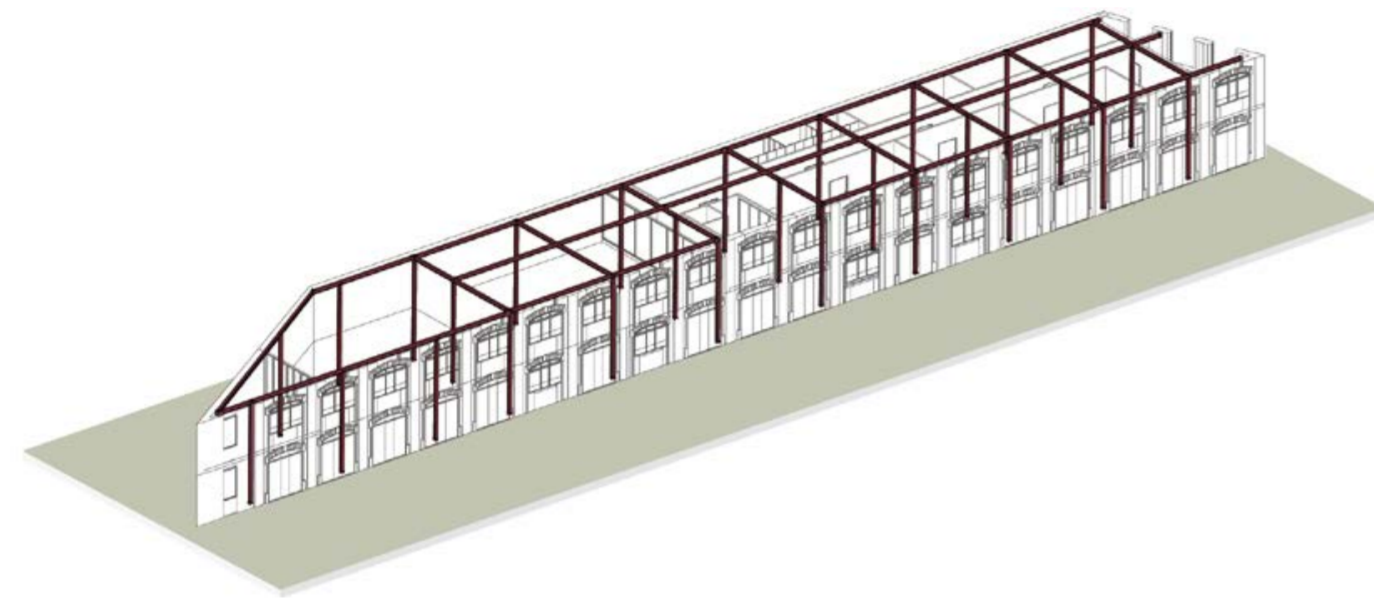
In front of the Lisbon Video Library is an open public plaza, instrument to preserve the visitor view towards old facades of existing building. The existing building is transformed with **retroactive approach** into community center to access Lisbon's film industry.



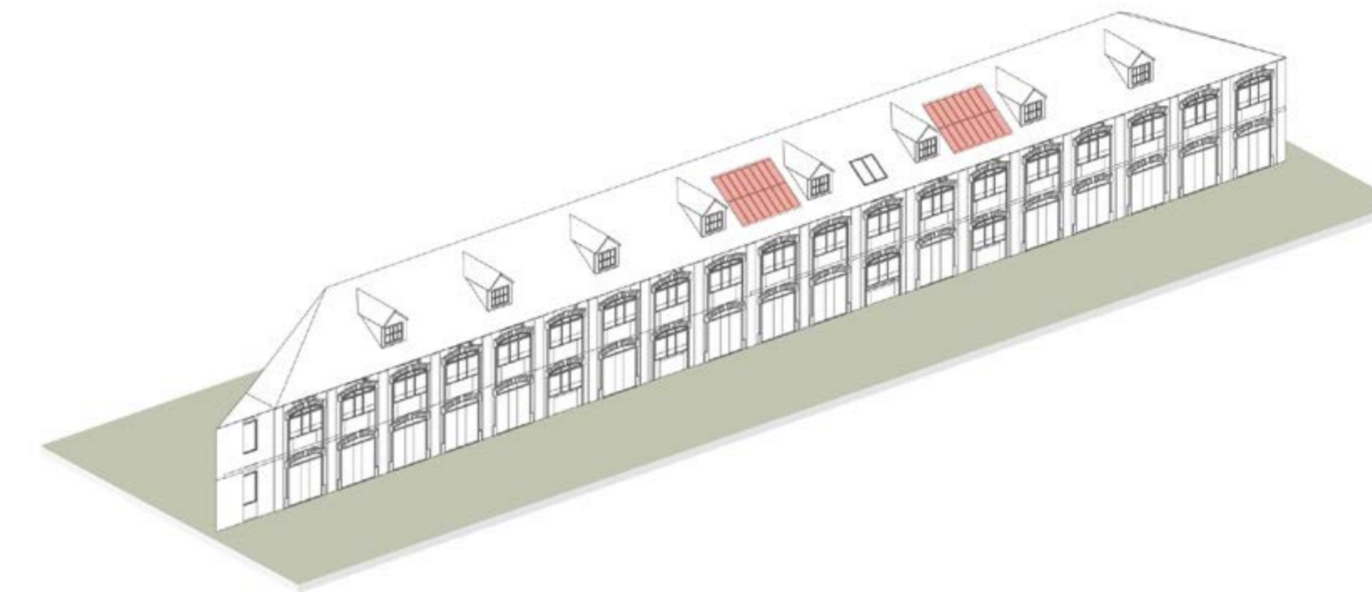
LEGEND

- | | |
|---|---------------------------------------|
| 1. Cafe | 12. Video Editing Room |
| 2. Public Toilet | 13. Individual Visioning Room |
| 3. Coordinator Room | 14. Meeting Room |
| 4. Exhibition | 15. Film and Video Description Room |
| 5. Lobby / Lounge | 16. Executive Project Production Room |
| 6. Auditory | 17. Deposit and Archive Room |
| 7. TV / Cyclorama Studio | 18. Workers Bathroomsv |
| 8. Reception | 19. Workers Pantry Area |
| 9. Reading Space | 20. Network server |
| 10. Secreatary and Aministration Support Room | 21. Filming Equipment Storage Room |
| 11. Video Digitalization Room | 22. Multi-Purpose Room |

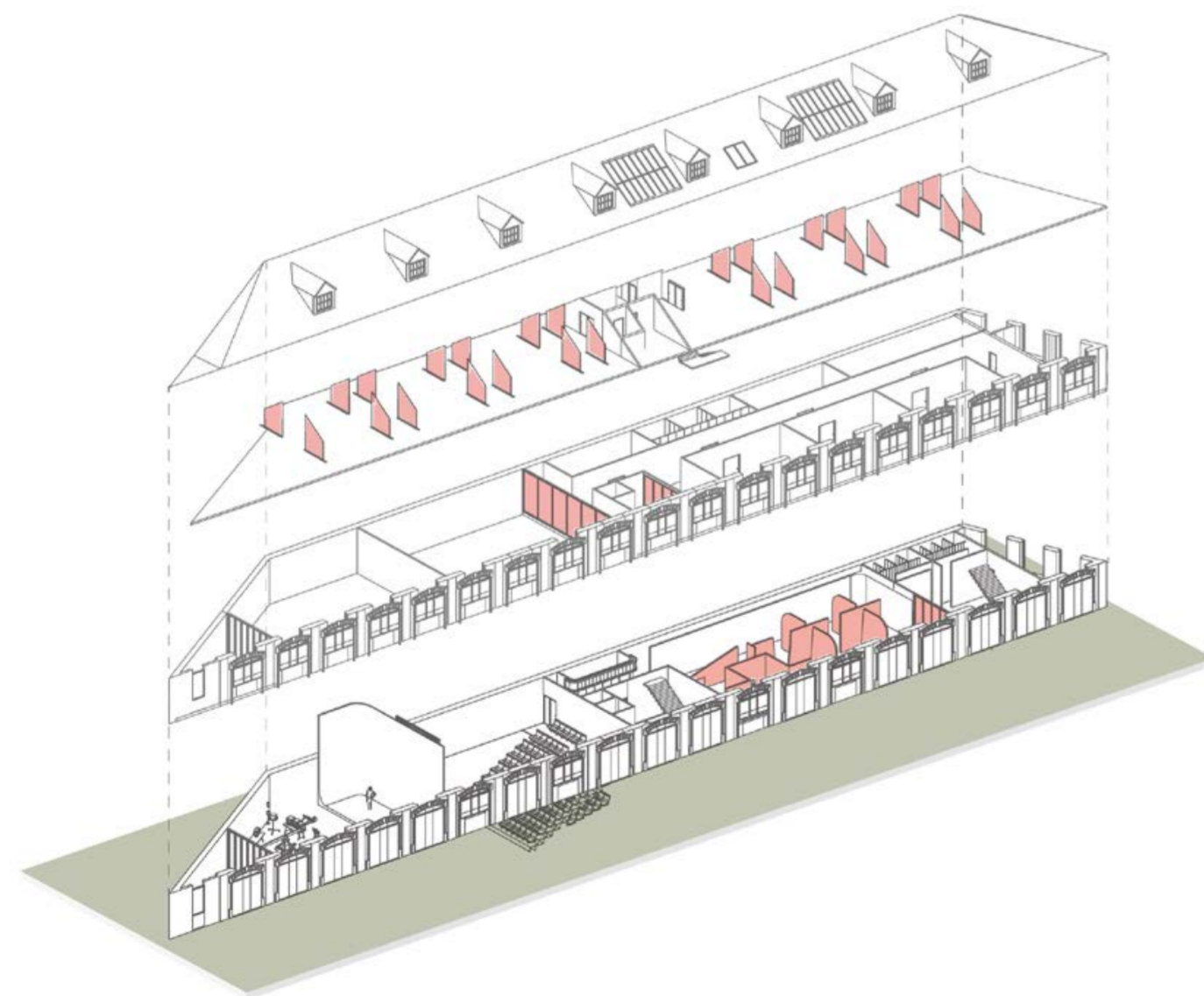
EXISTING BUILDING RESTORATION



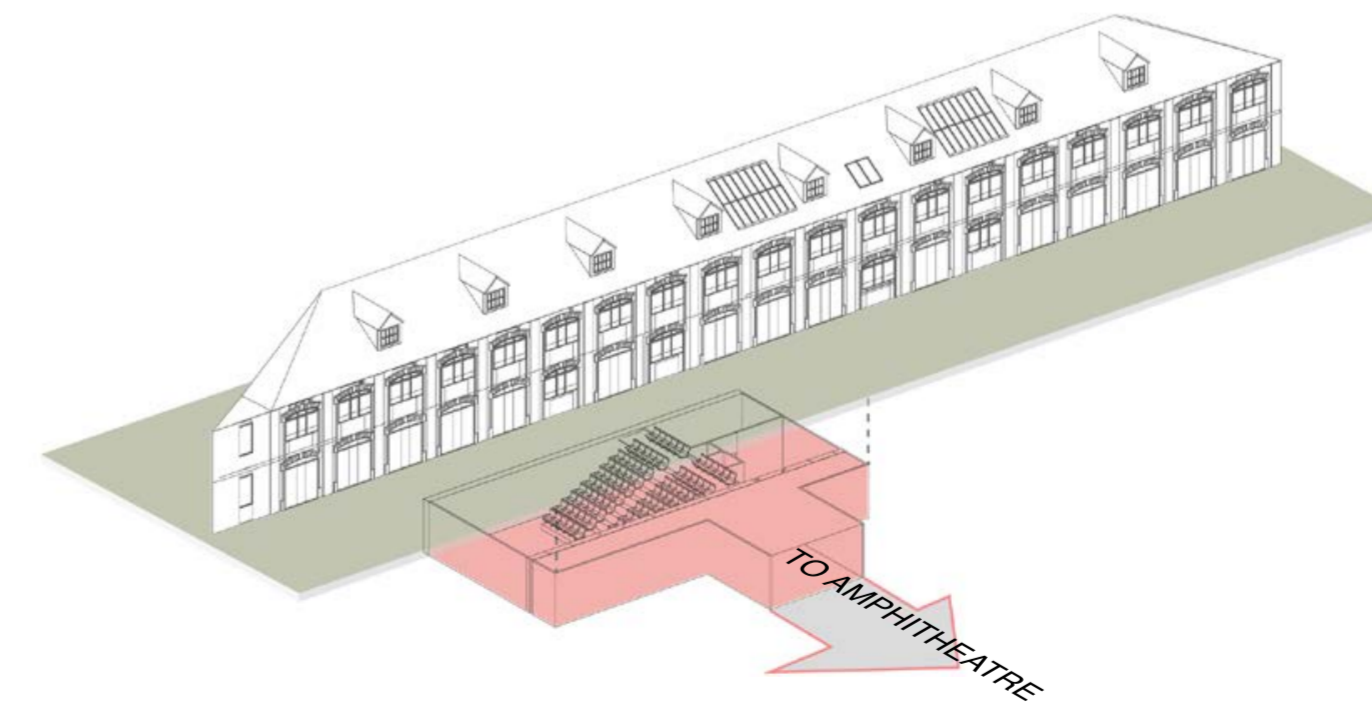
1
Structural preservation



2
Roof natural lightings & preserving heritage roof



3
Building rehabilitation & reestablishments by translucent material & partitions



4
Heritage building added program with attached space below

AUDITORIUM





The cobbled street with azulejos floortiles and brick facades emphasize the dialog of the past.



A lively neighborhood where people watch and enjoy dialog of the city.

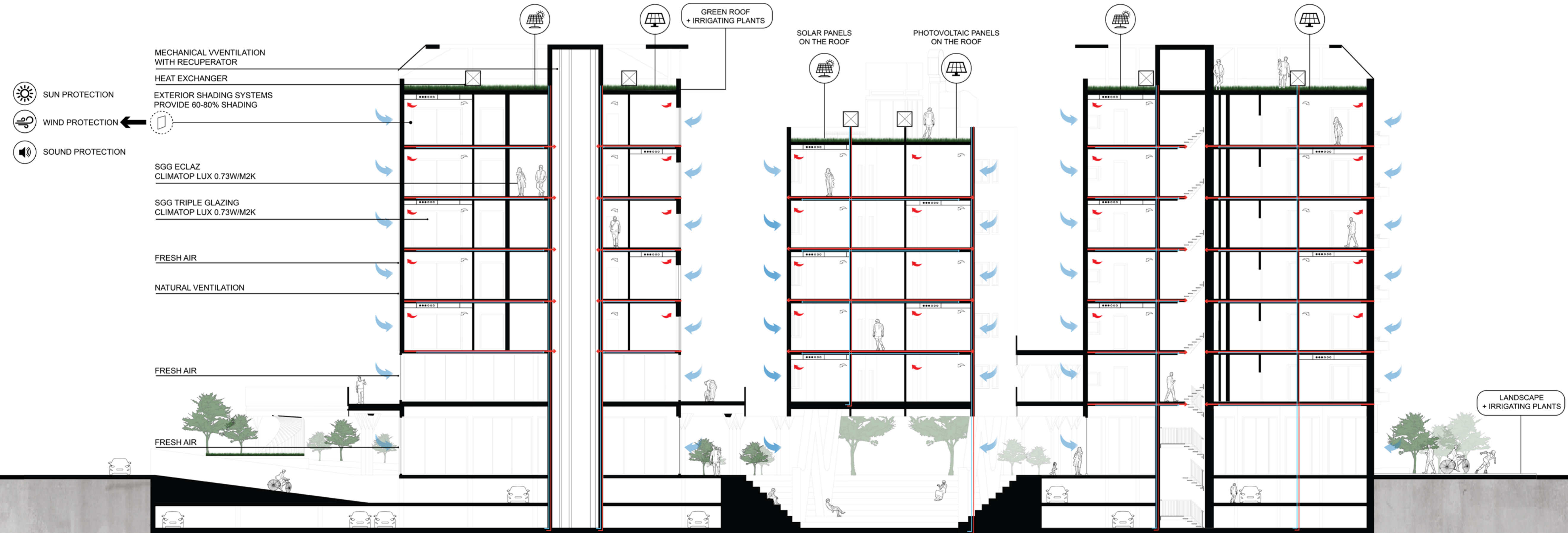
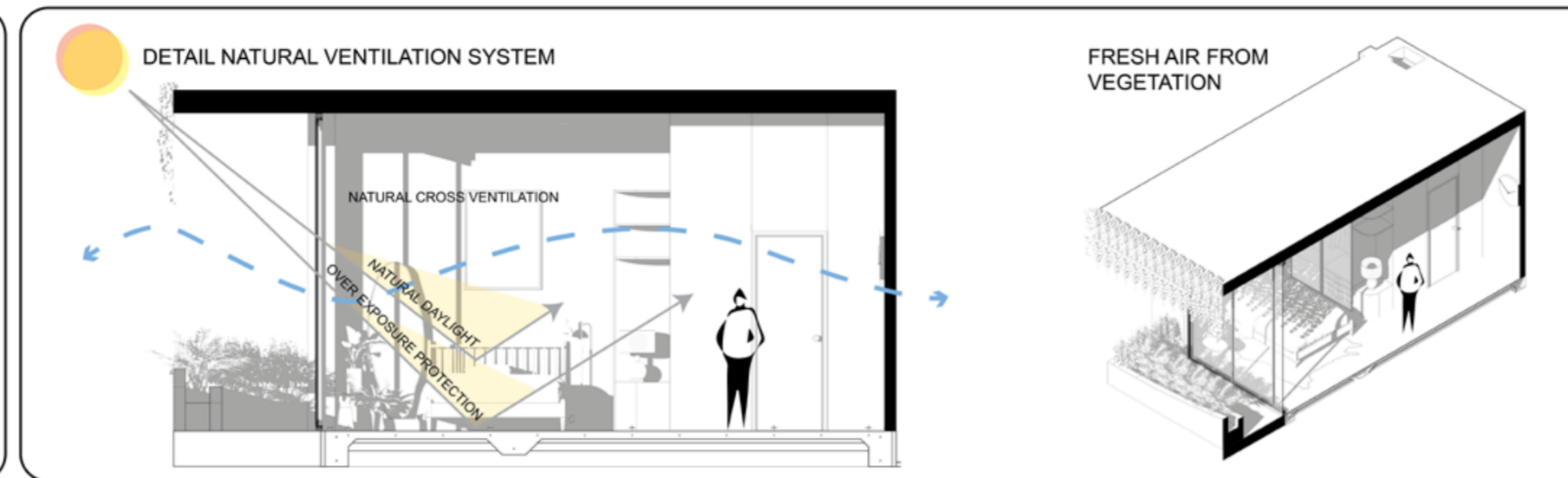


The main living corridor is designed to accommodate the dialog of the city.
(amphitheater, urban park, retails)

RESIDENCE VENTILATION SYSTEM



- Control glazing limit energy gain while ensuring good natural lighting indoors.
- Minimizing heat loss and maximizing natural light is a priority that goes hand-in-hand with controlling solar gain to limit excessive heat build-up inside premises.
- Can Reflect up to 80% of the sun's energy, thereby reducing the need for air conditioning.



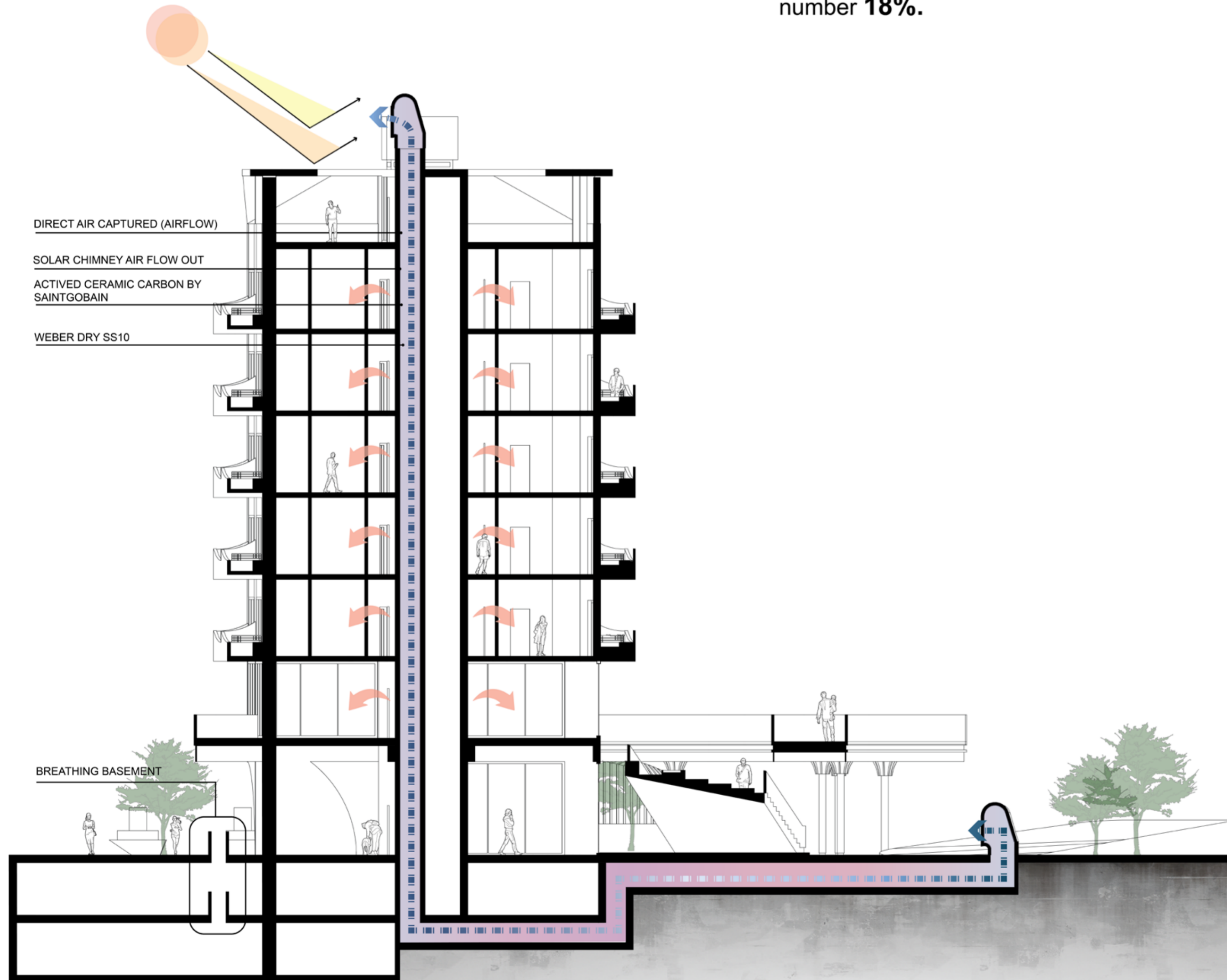
PASSIVE COOLING SYSTEM

RESILIENCE & NET ZERO



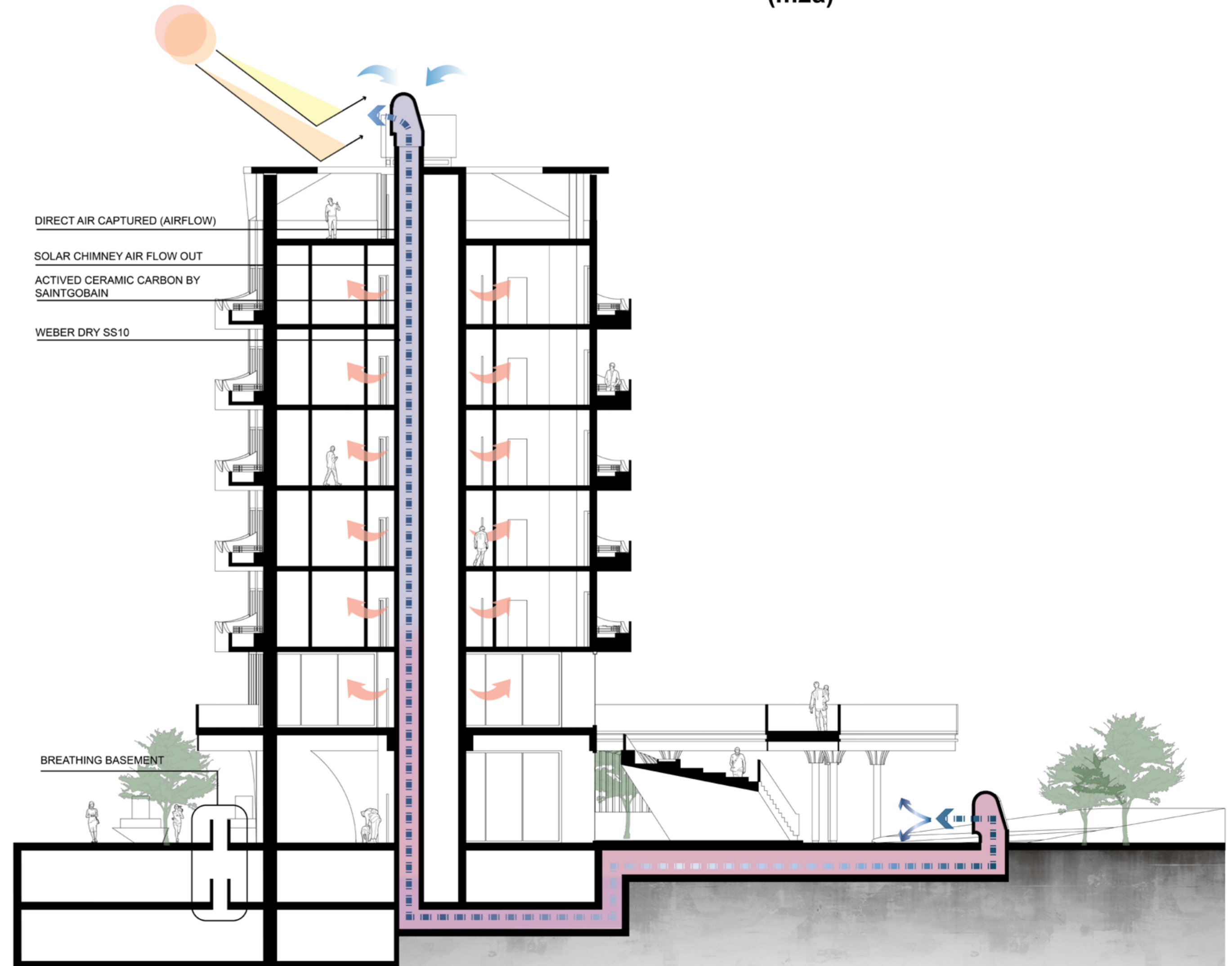
SUMMER SCHEME

According to the thermal study that solar chimney can help the building to decrease the specific heat demand down to the number **18%**.



WINTER SCHEME

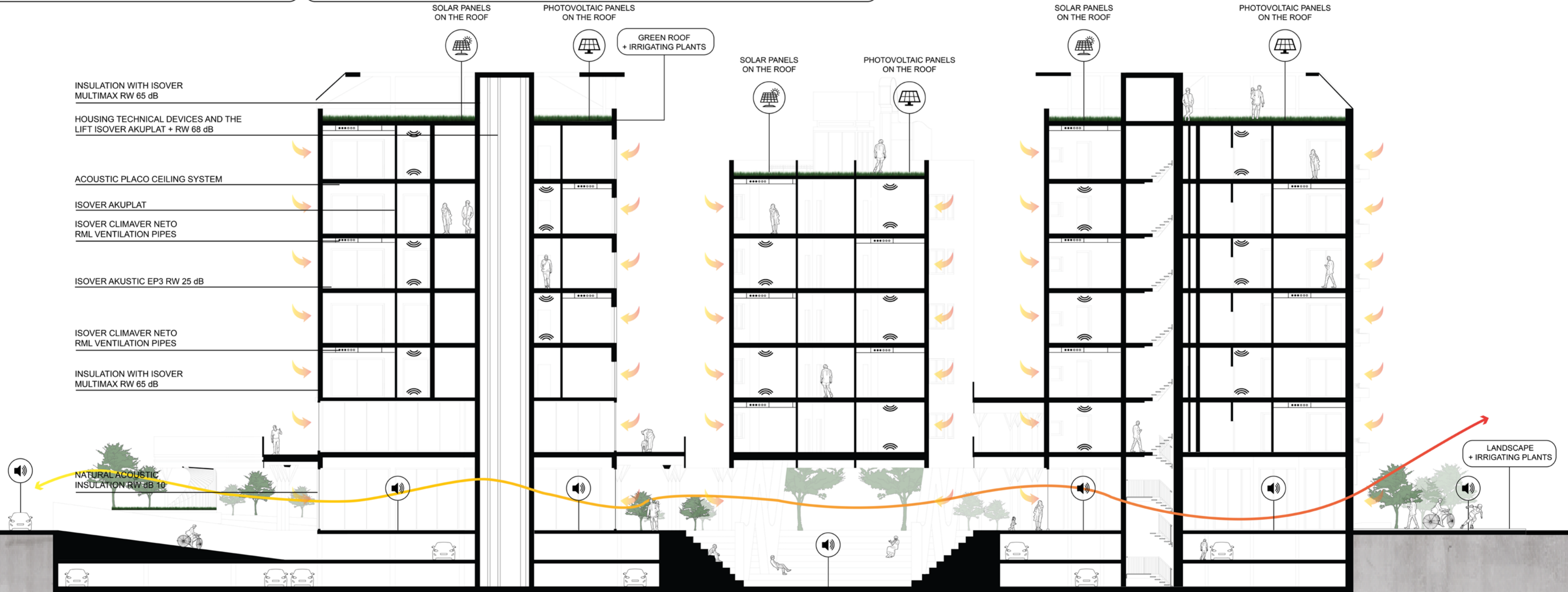
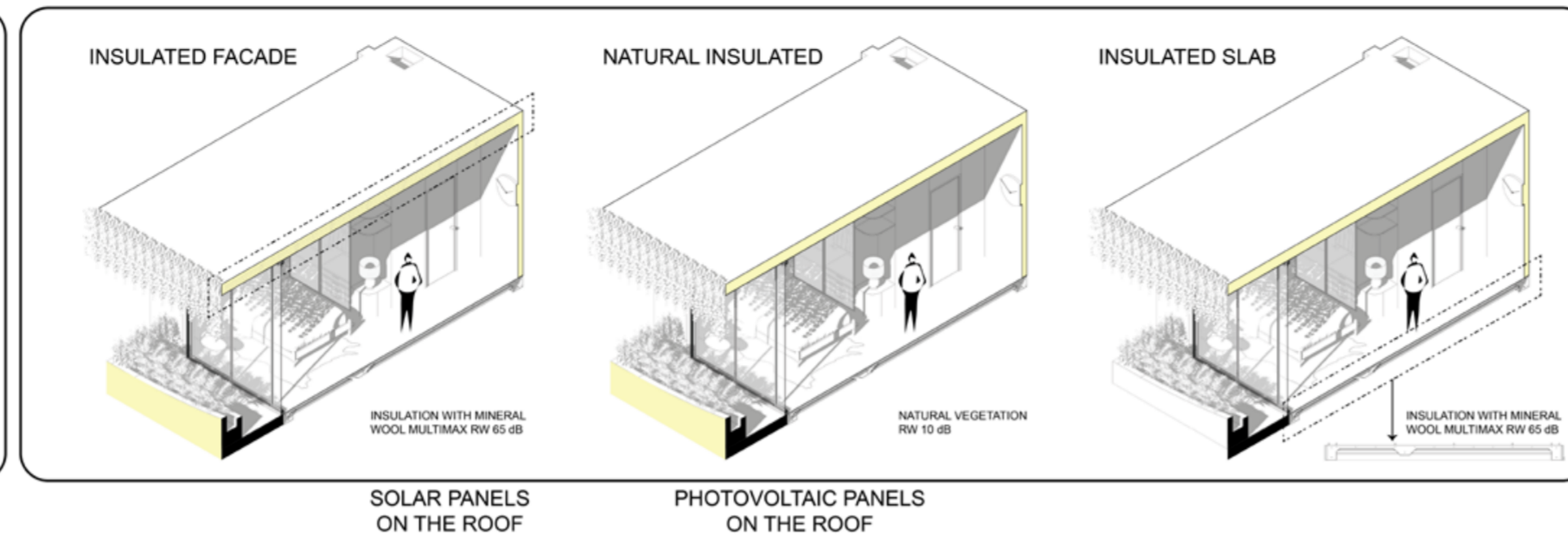
Solar specific Heat Demand Decrease by Solar Chimney : In the Score of **12.23 (m2a)**



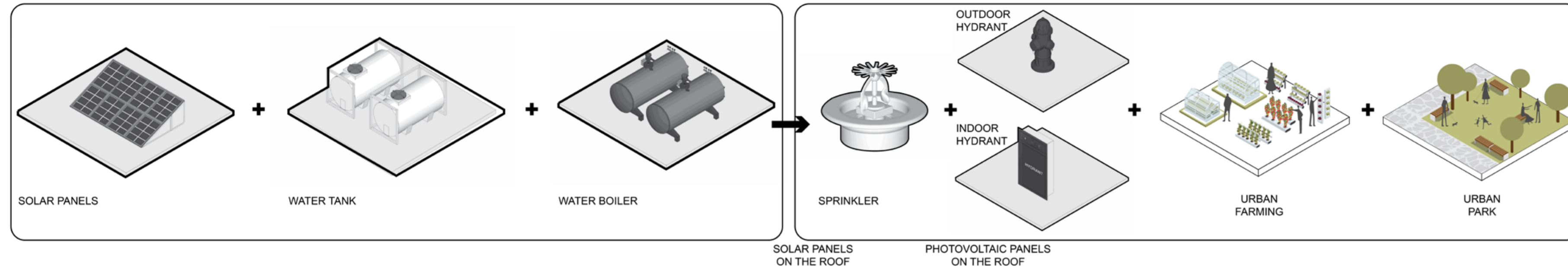
RESIDENCE ACOUSTIC SYSTEM



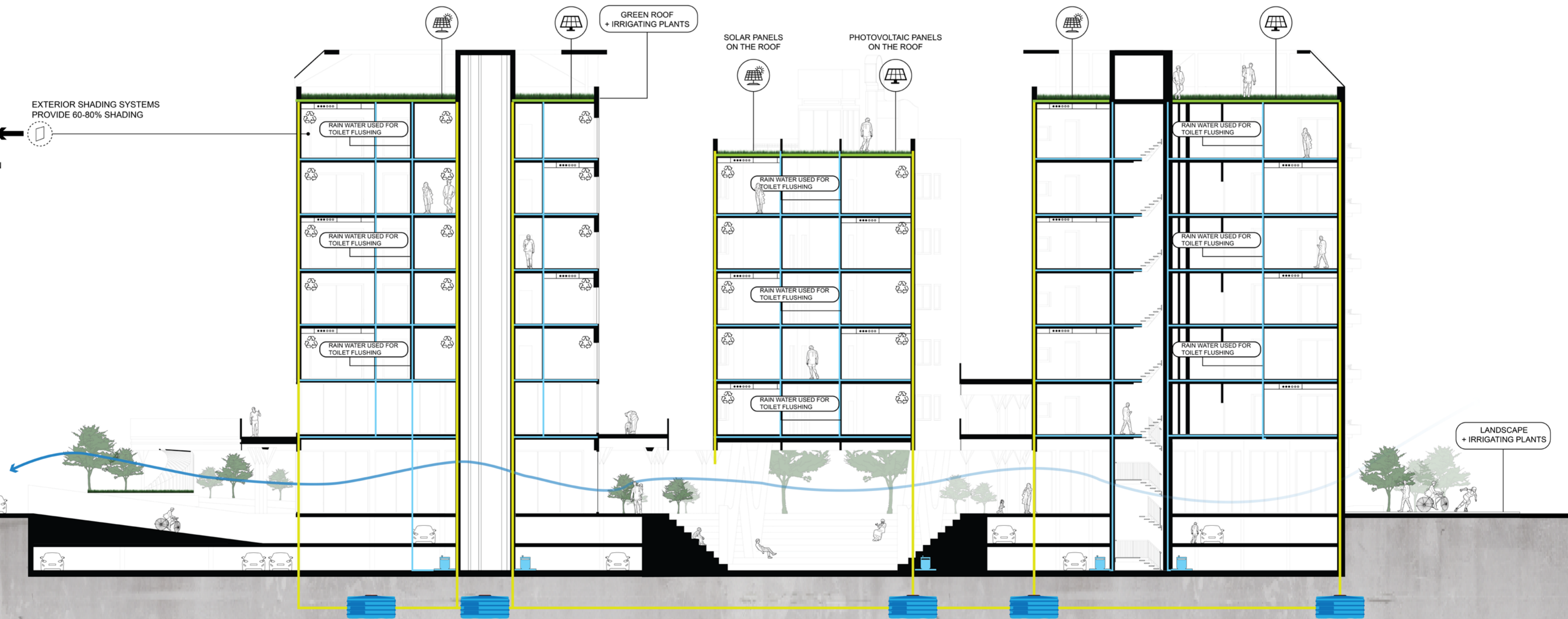
- Fire Resistant
- Very Good thermal insulation.
- Excellent acoustic properties in terms of noise absorption.
- low vapour resistance, good water vapour penetrability.
- Environmentally friendly and hygienic.



RESIDENCE SOLAR PANEL & RE-USE RAIN WATER



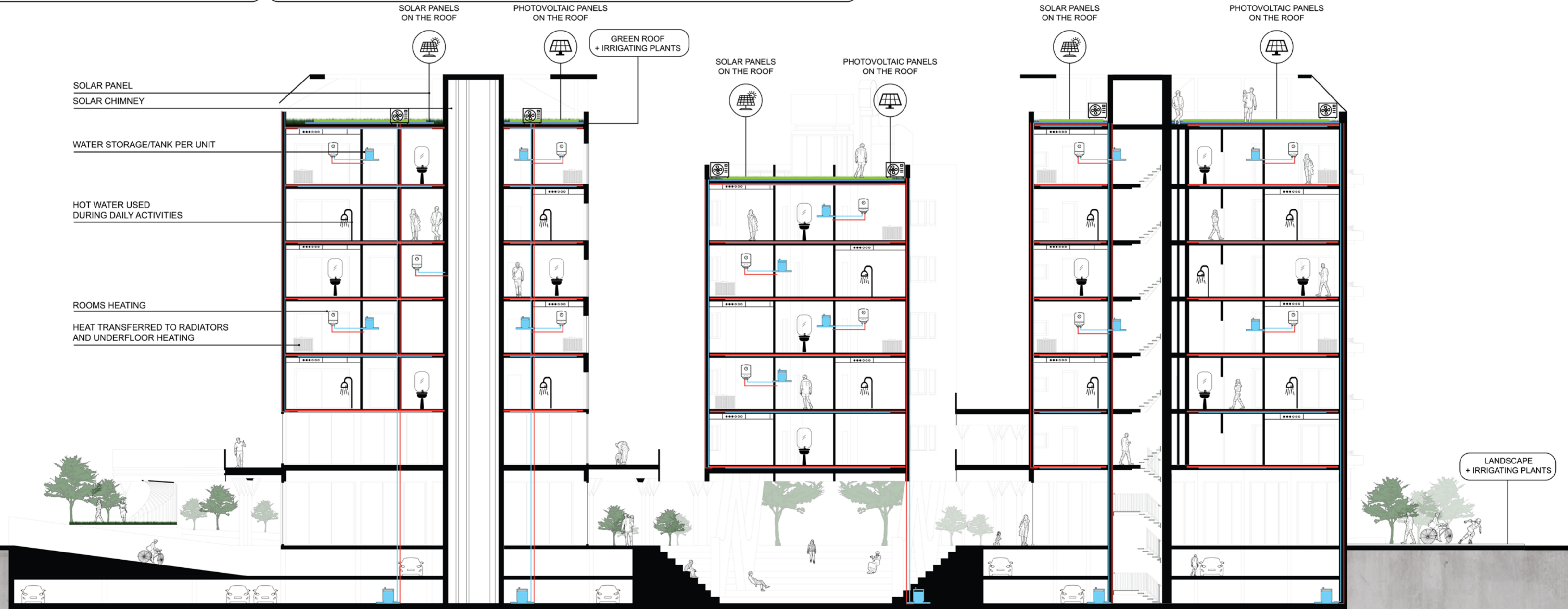
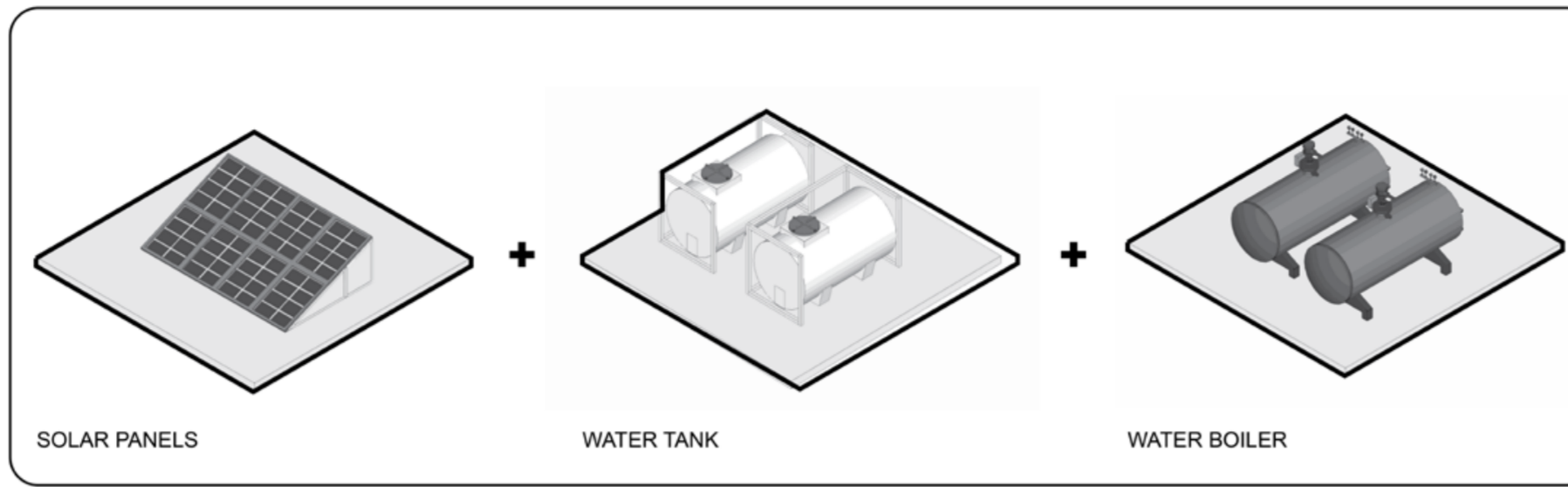
- SUN PROTECTION
 - WIND PROTECTION
 - SOUND PROTECTION
- EXTERIOR SHADING SYSTEMS PROVIDE 60-80% SHADING



RESIDENCE HEATING SYSTEM



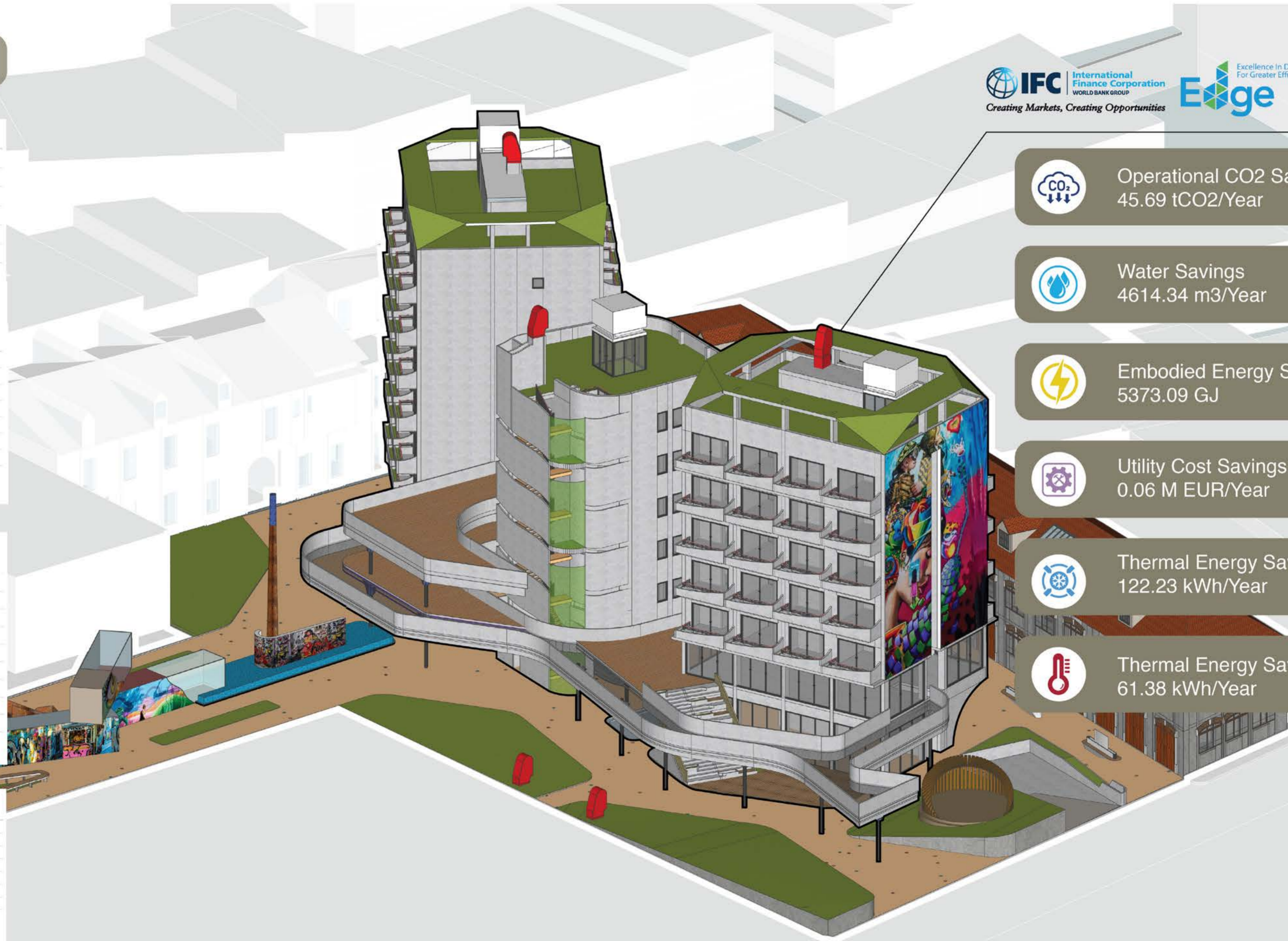
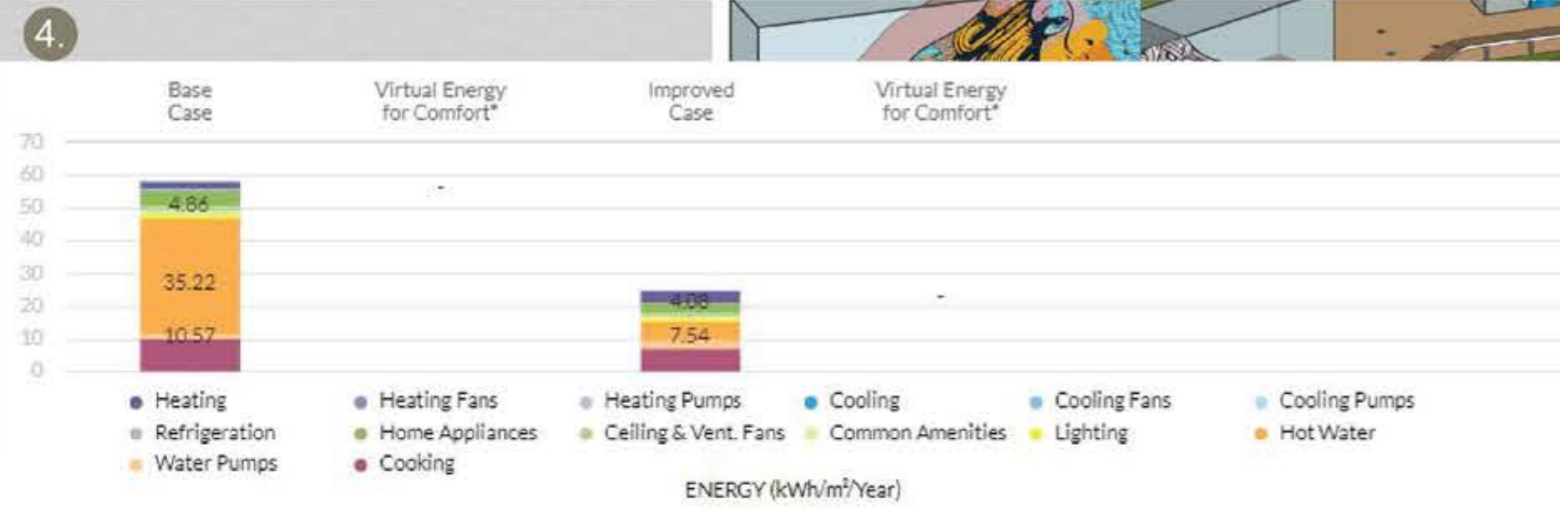
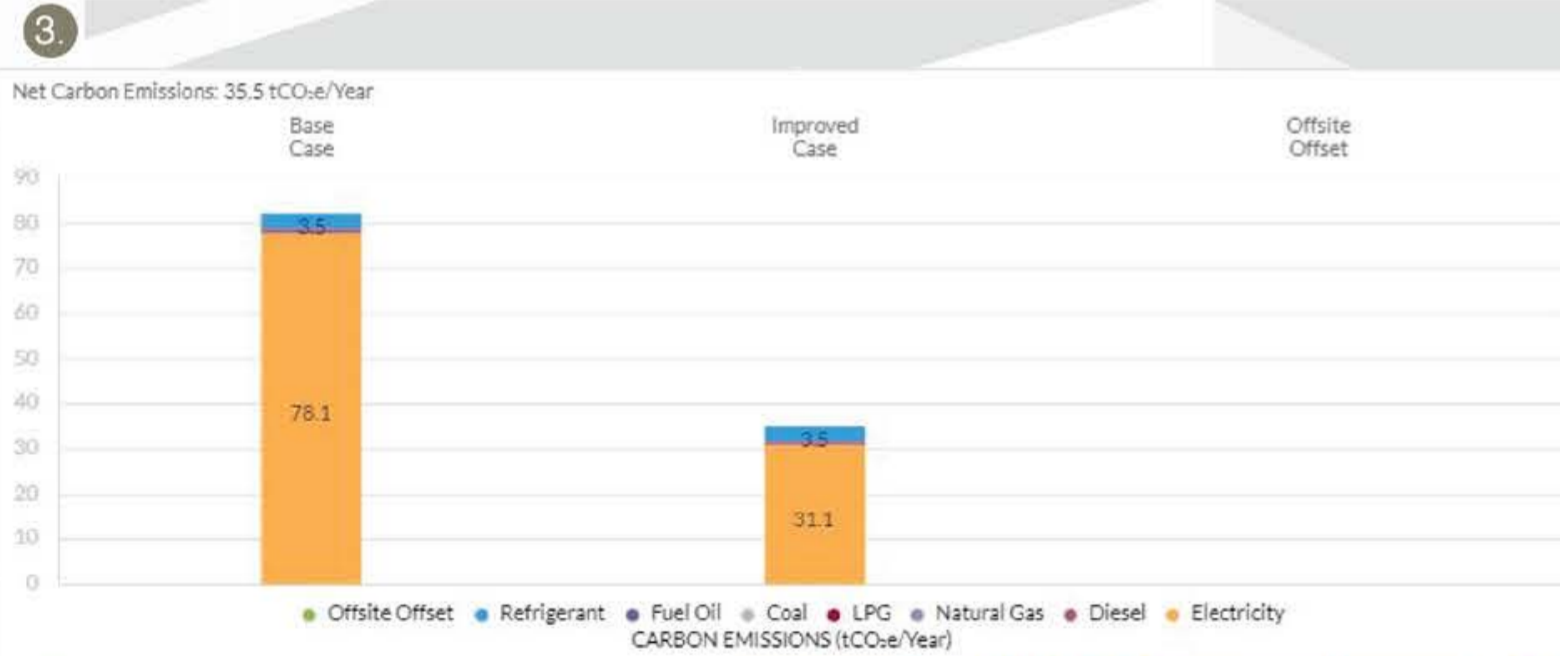
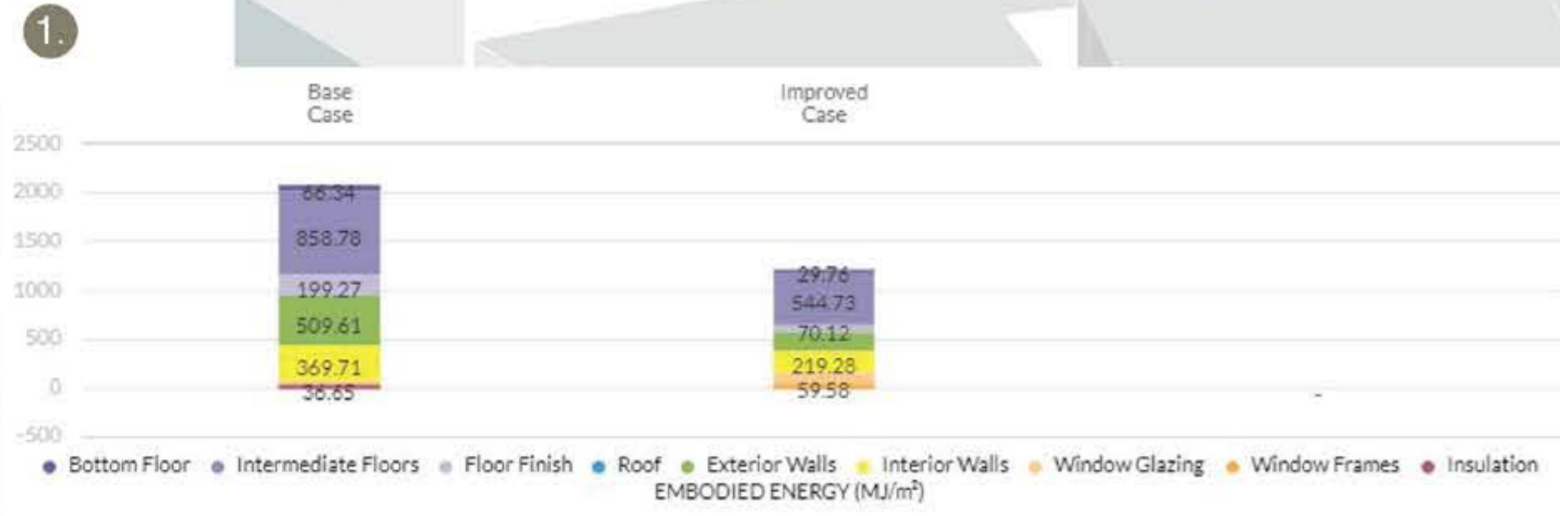
- Let the sun in or block it out depending on the climate change.
- Insulation to reduce heat loss or summer heat gains.
- Smart systems to improve and moisture the building changes.
- The insulate and provide weather defense to control the distribution of daylight and to the aesthetics of the space.



LIFE CYCLE ASSESSMENT



- ✓ Design
- ✓ Energy 56.62%
- ✓ Water 42.14%
- ✓ Materials 41.53%

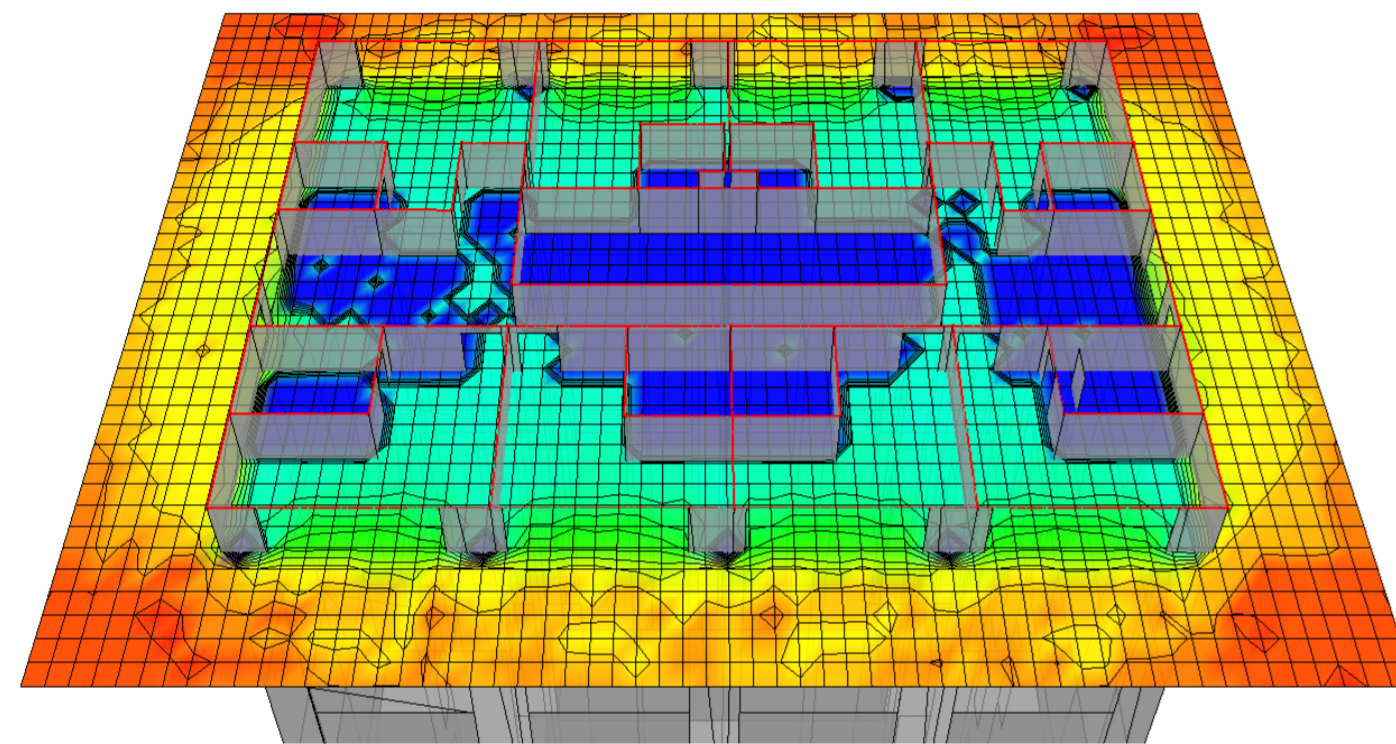


- Operational CO₂ Savings 45.69 tCO₂/Year
- Water Savings 4614.34 m³/Year
- Embodied Energy Savings 5373.09 GJ
- Utility Cost Savings 0.06 M EUR/Year
- Thermal Energy Savings For District Cooling 122.23 kWh/Year
- Thermal Energy Saving For District Heating 61.38 kWh/Year

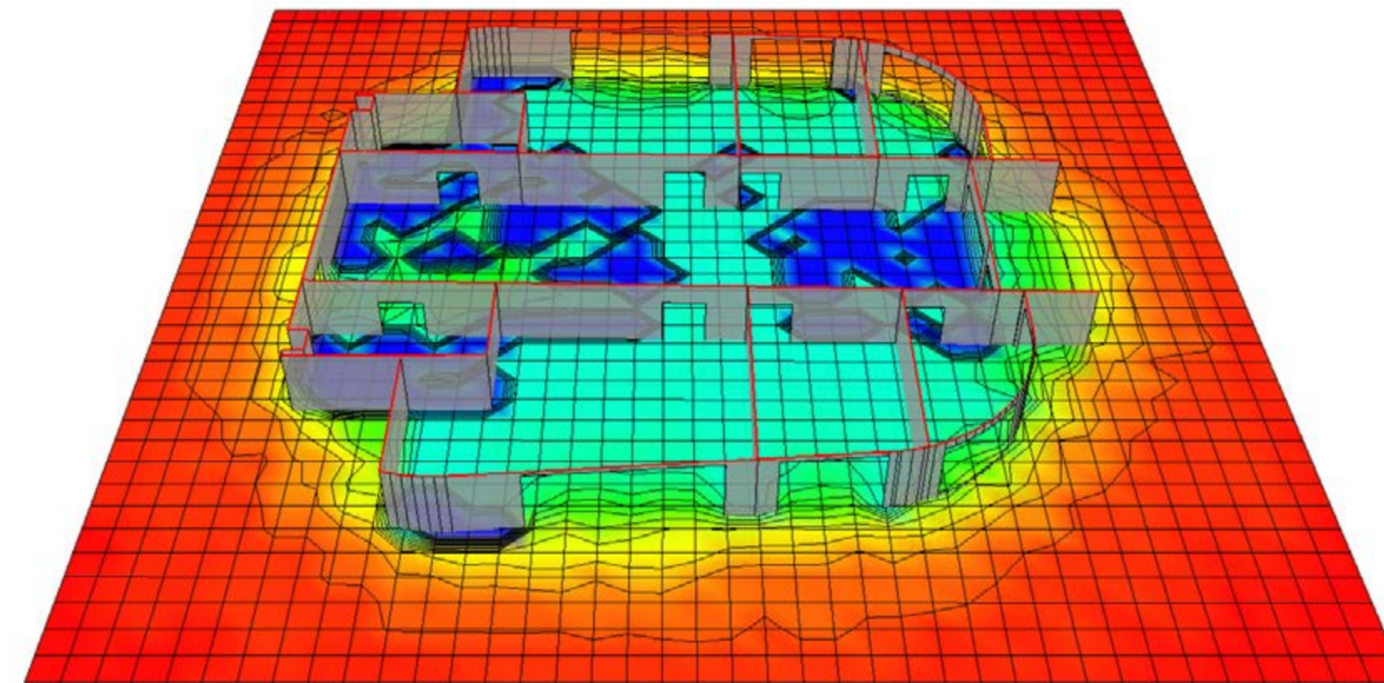
DAYLIGHT ANALYSIS



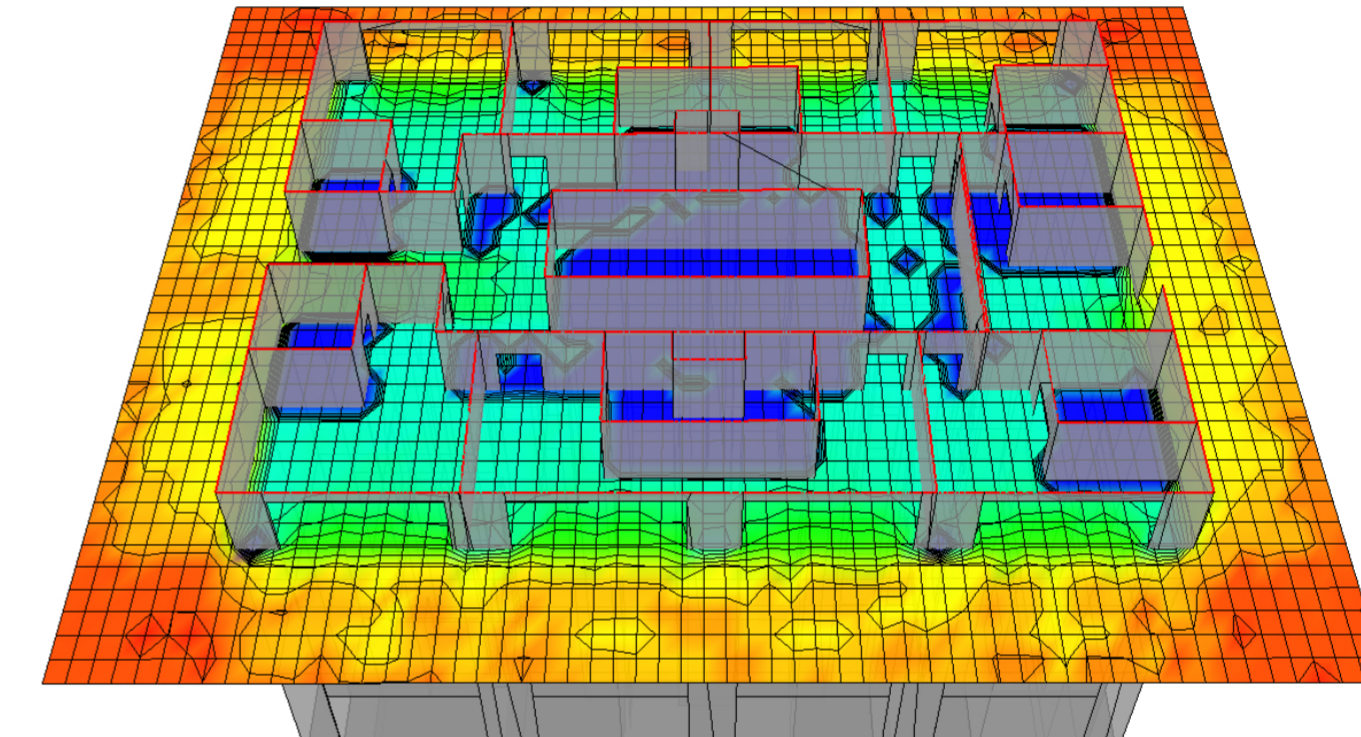
The active space of the apartments units already has value above 50% of the time. This value is achieved by the design of window as the room facade, and balcony helps to reduce the solar radiation exposure to the inside.



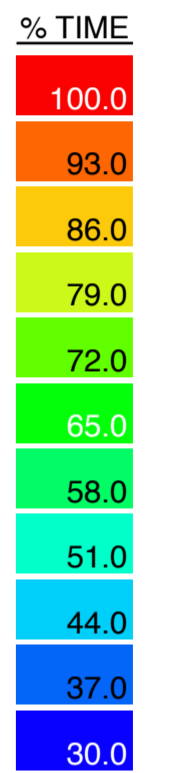
On the other hand, the shared space in the corridor get daylight from the side windows and glass door of the apartment units. But this area does not achieve adequate daylight autonomy because of the orientation to south and north. The shared space area at the south has more daylight than the shared space on the north side.



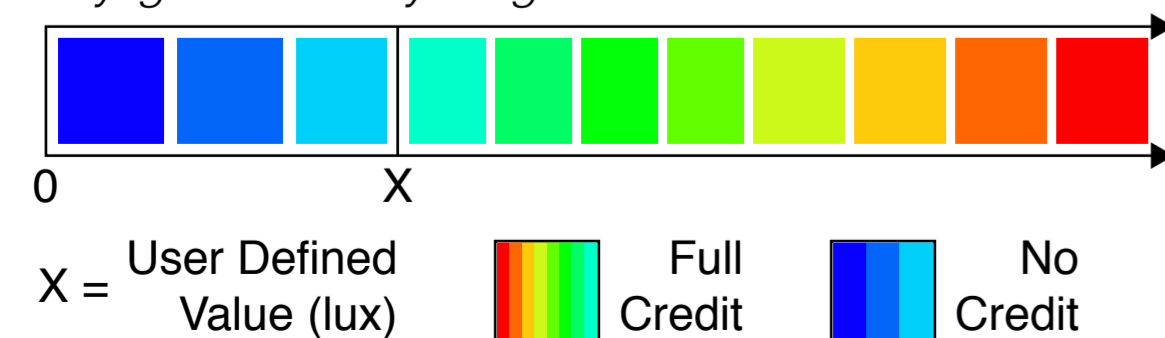
On the communal area in the middle get daylight from the side windows, glass door of each rooms and also a glassblock skylight in front of the elevator. The analysis results show that this area has some gradient value with bright contour value and also dark spot. However the communal area should be in the middle, we later will consider to use solar panel to accomodate the energy usage for artificial lighting for this building.



The active space of the apartments units already has value above 50% of the time. This value achieve by the design of window as the room facade, and balcony helps to reduce the solar radiation exposure to the inside. On the other hand, the corridor get adequate daylight from the side void opening and glass door of the apartment units.



Theory Daylight Autonomy Diagram



Daylight Autonomy (DA) was the first of a string of annual daylight metrics, now commonly referred to as 'dynamic daylight metrics'. It is represented as a percentage of annual daytime hours that a given point in a space is above a specified illumination level. For the graphs above, we selected a Daylight Autonomy threshold of 300 lux (DA300). The graphical percent values represent the percentage of the floor area that exceeds 300 lux for at least 50% of the time.

References :

Reinhart, C. F., MArdaljevic, J., & Rogers, Z. (2006). *Dynamic Daylight Performance Metrics for Sustainable Building Design*. *Leukos*, 3(1), 7-31.

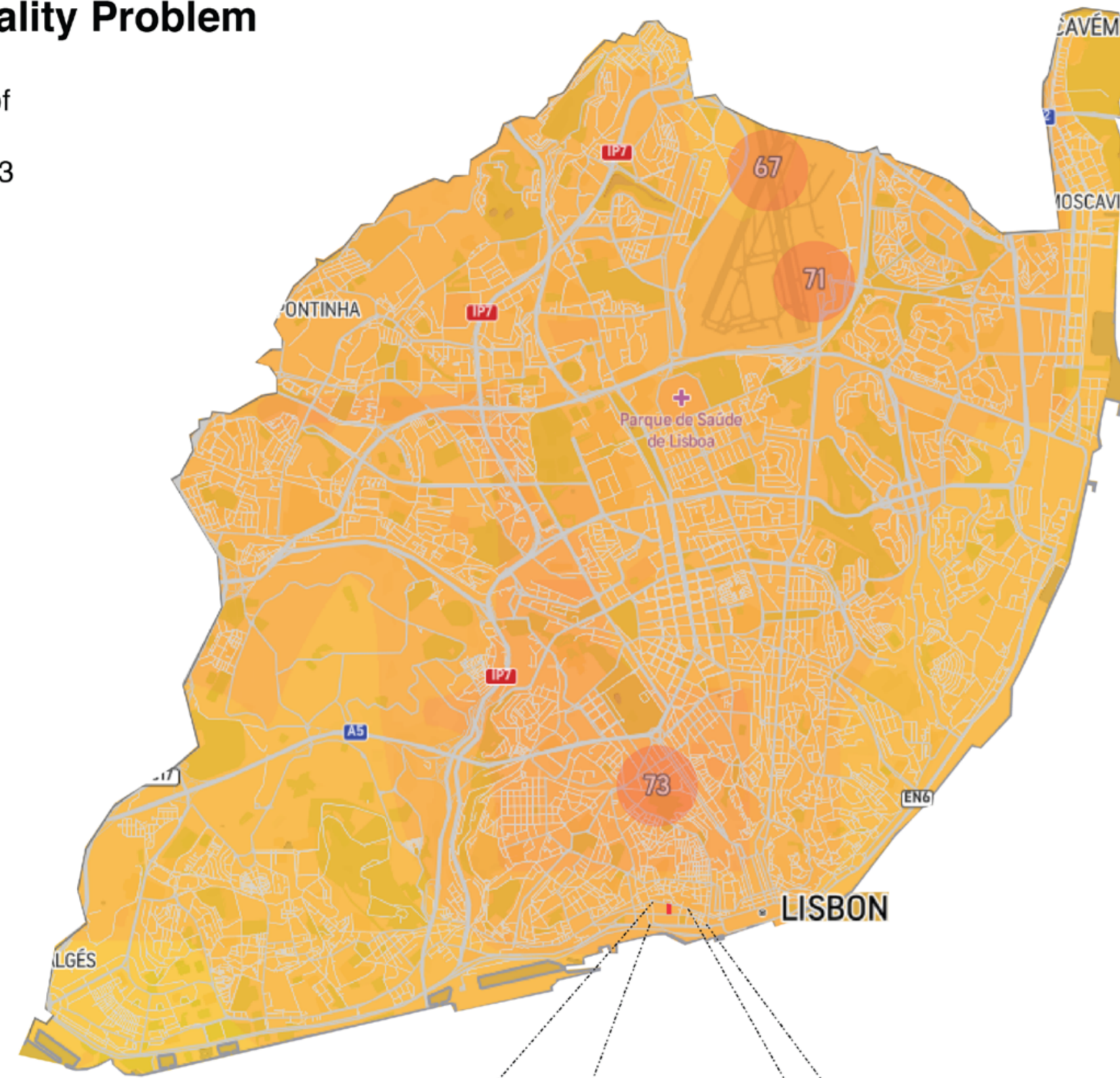
Reinhart, C. D., & Walkenhorst, O. (2001). *Validation of dynamic RADIANCE-based daylight simulations for a test office with external blinds*. *Energy and Buildings*, 33(7), 683-697.

SMOG FREE TOWER

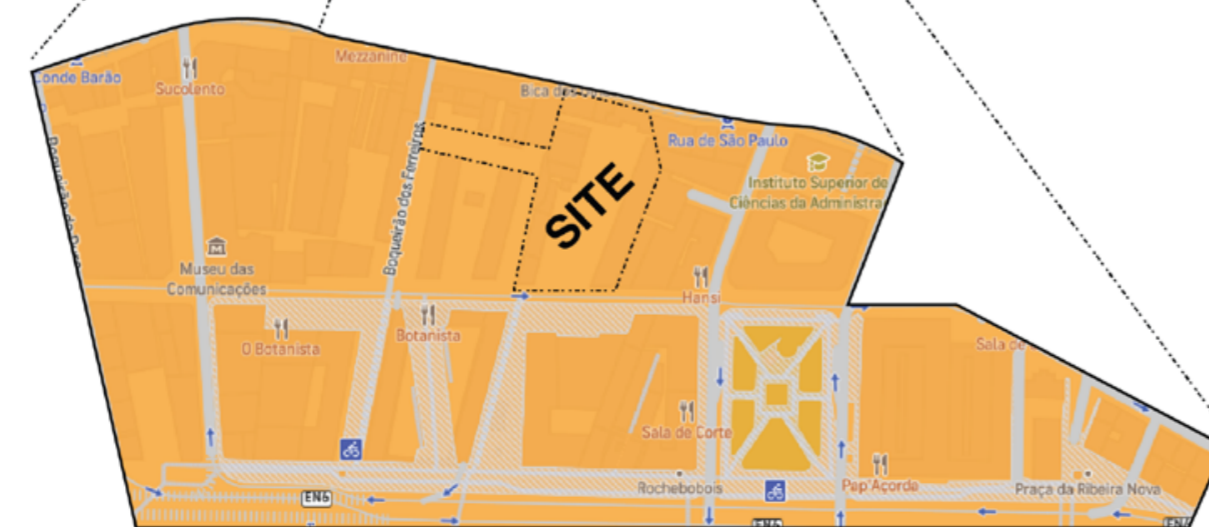


Air Pollution Quality Problem

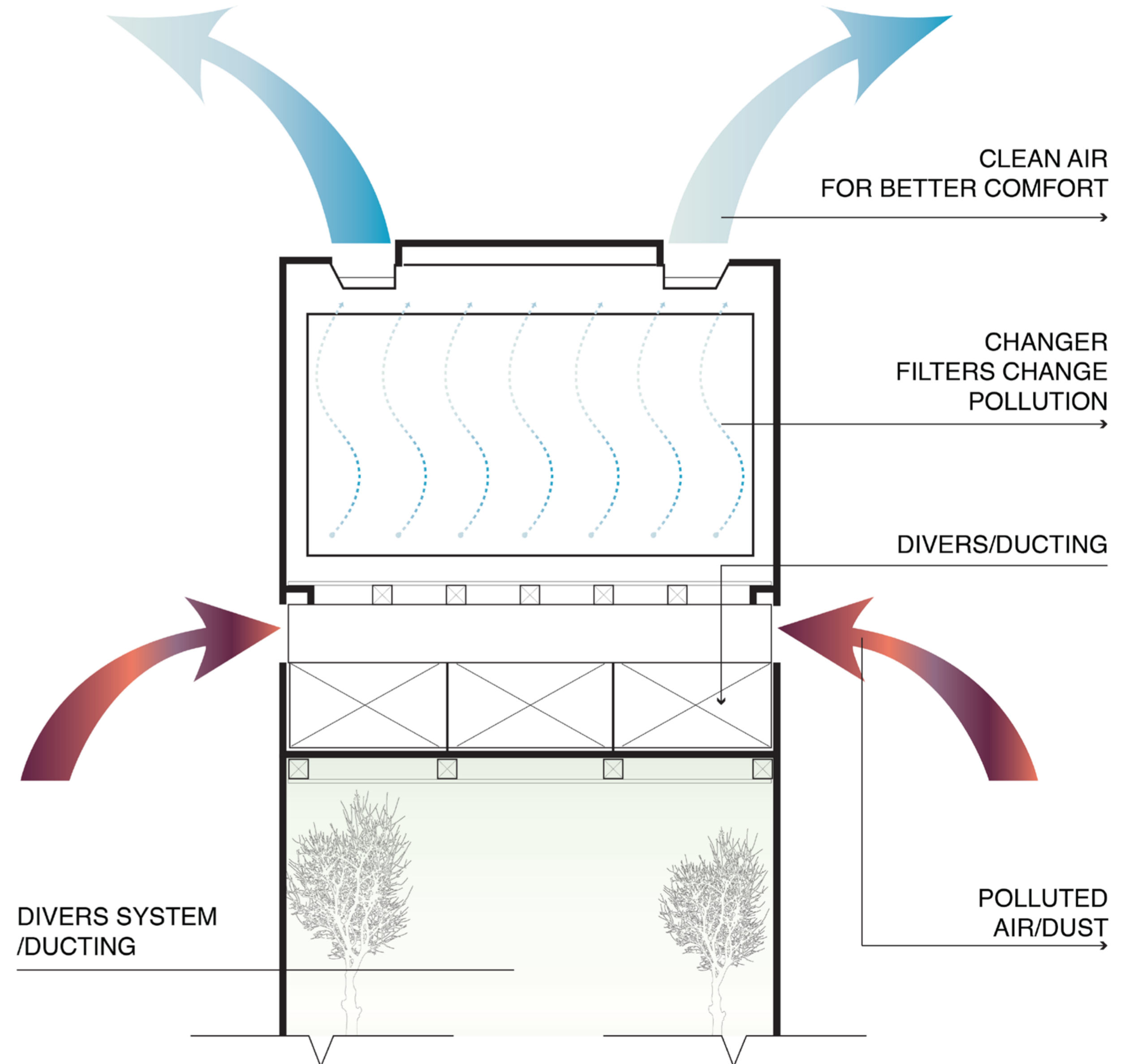
Average Concentration of PM 2.5 in the Period March 2022 - March 2023



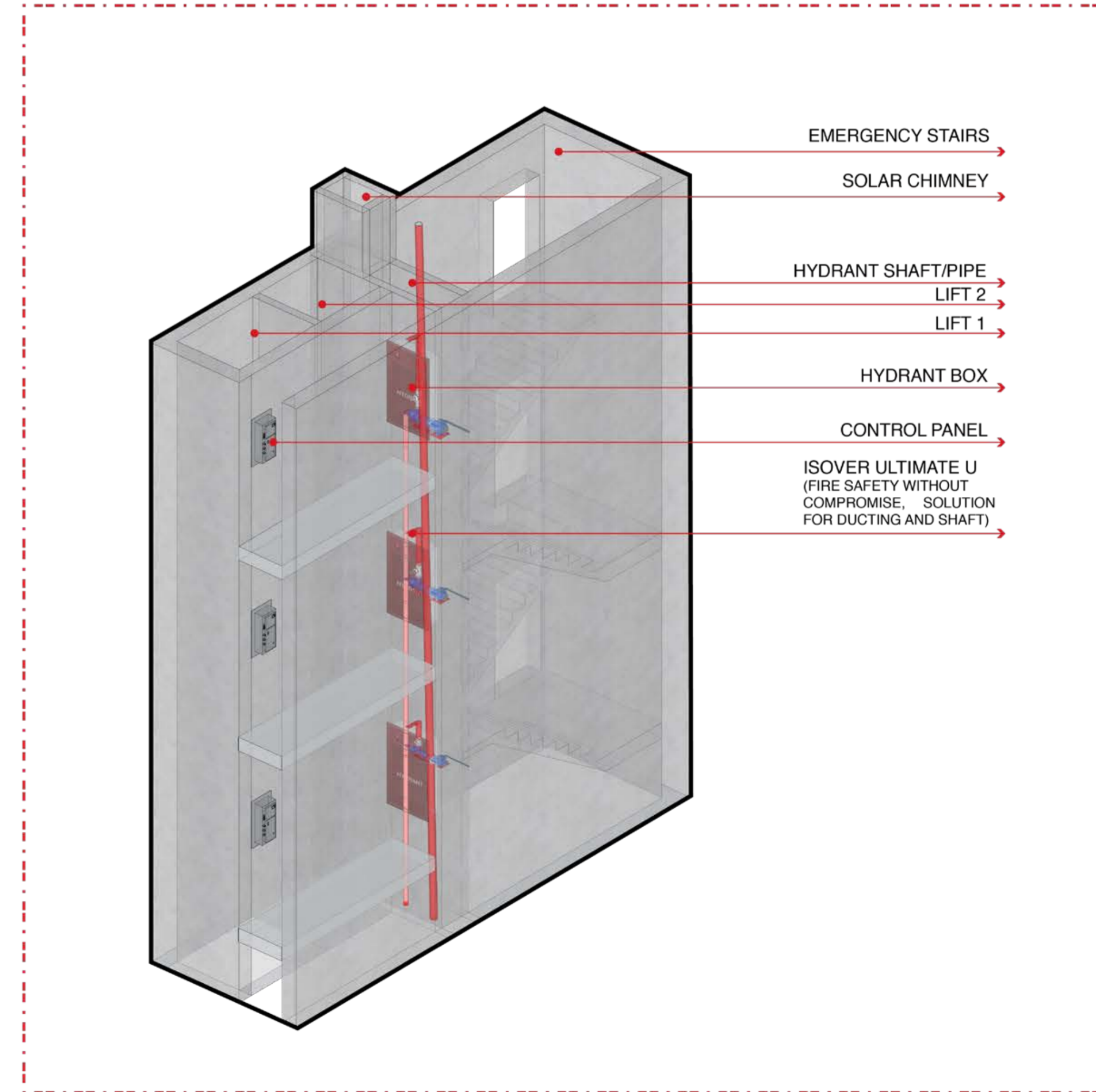
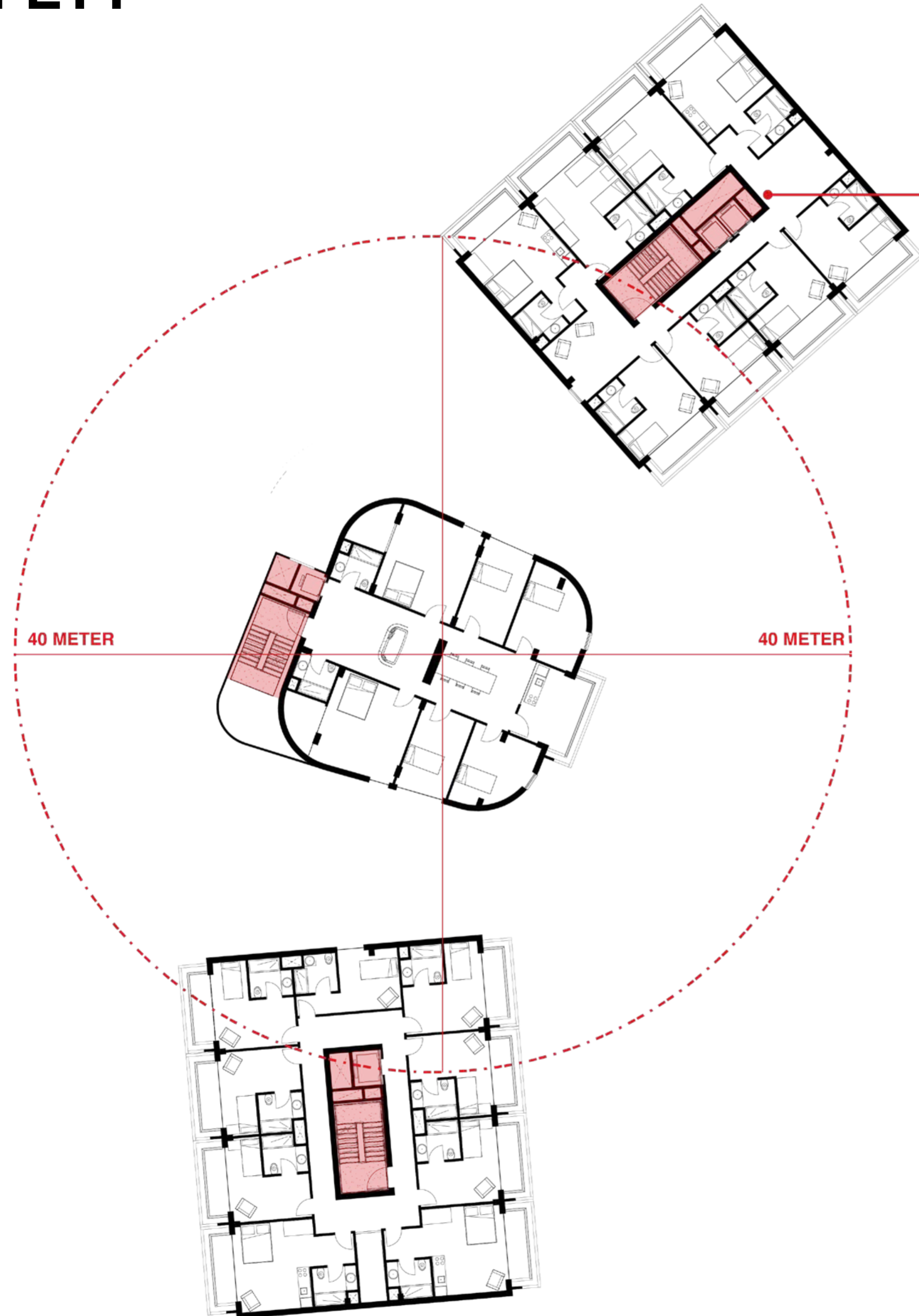
Smog map measurements $42 \mu\text{g}/\text{m}^3$



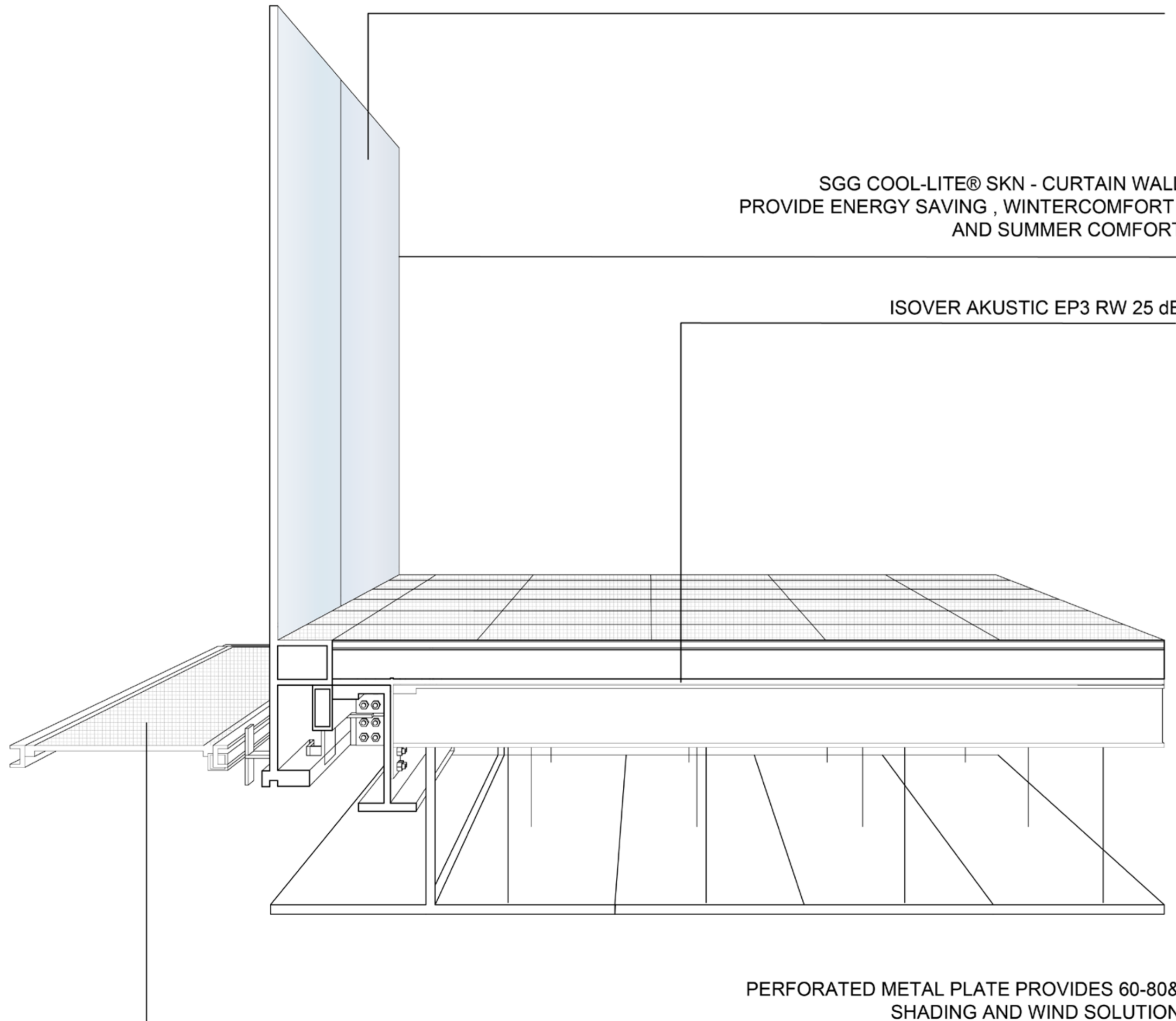
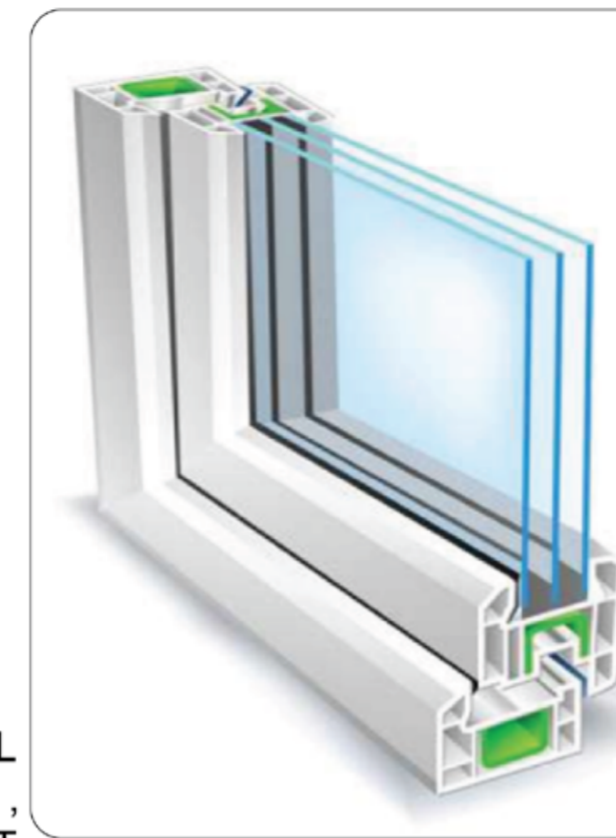
Air Pollution Solution Dust Air Purifiers Tower or Anti-Smog System



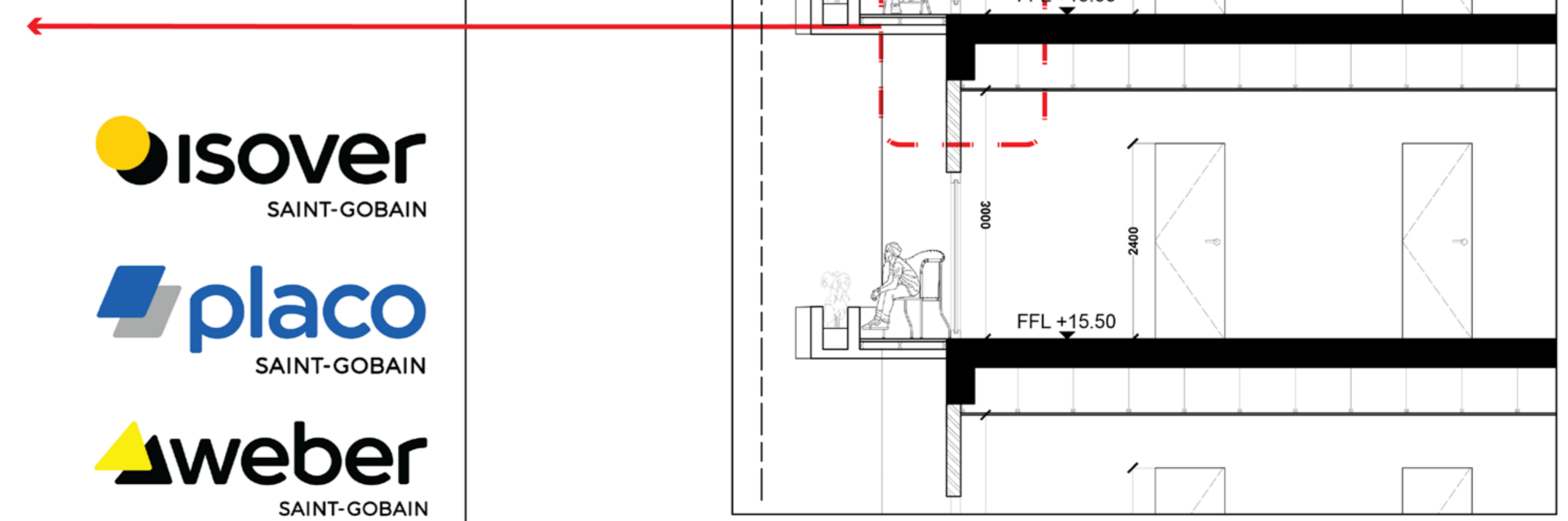
FIRE SAFETY



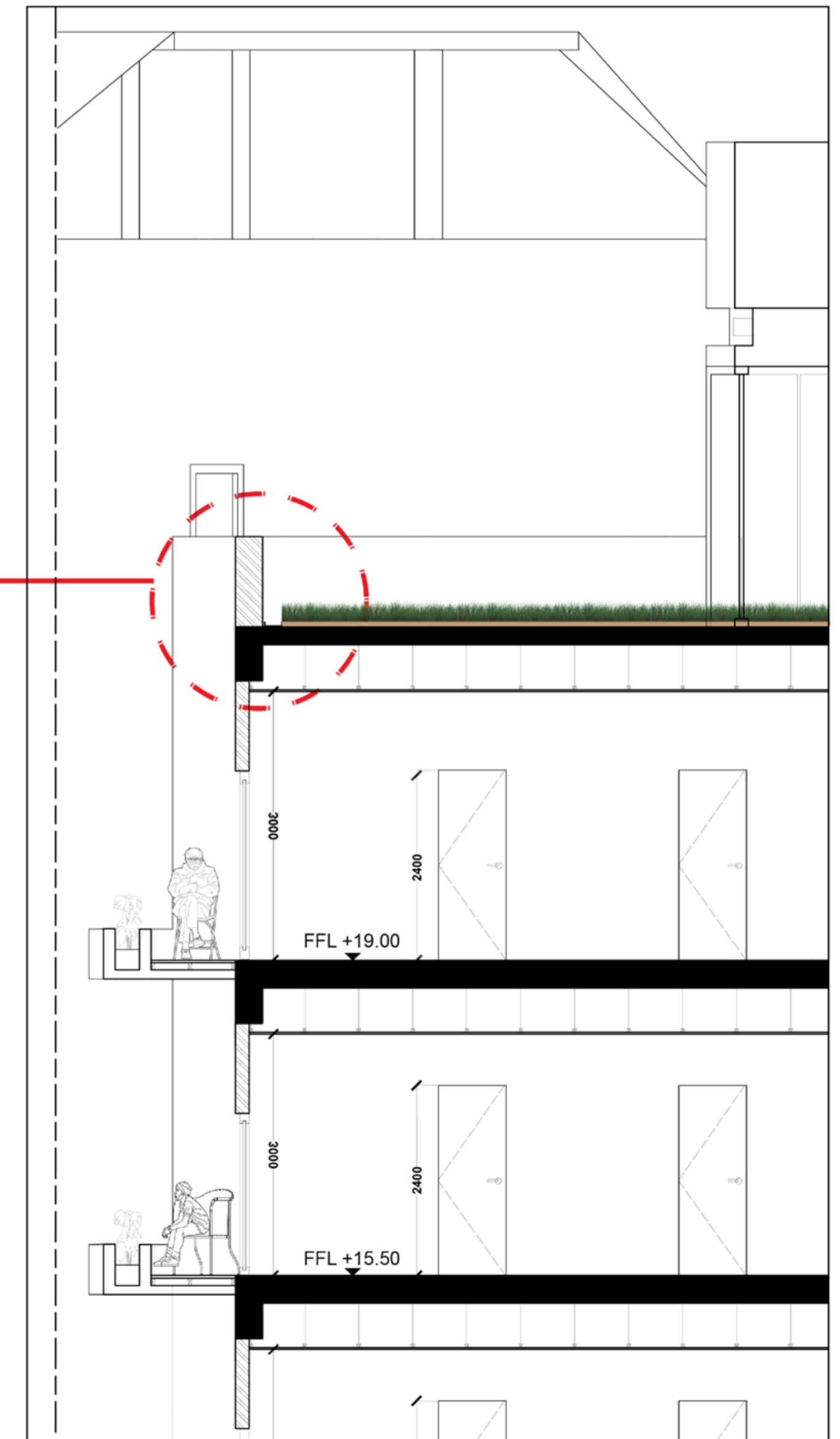
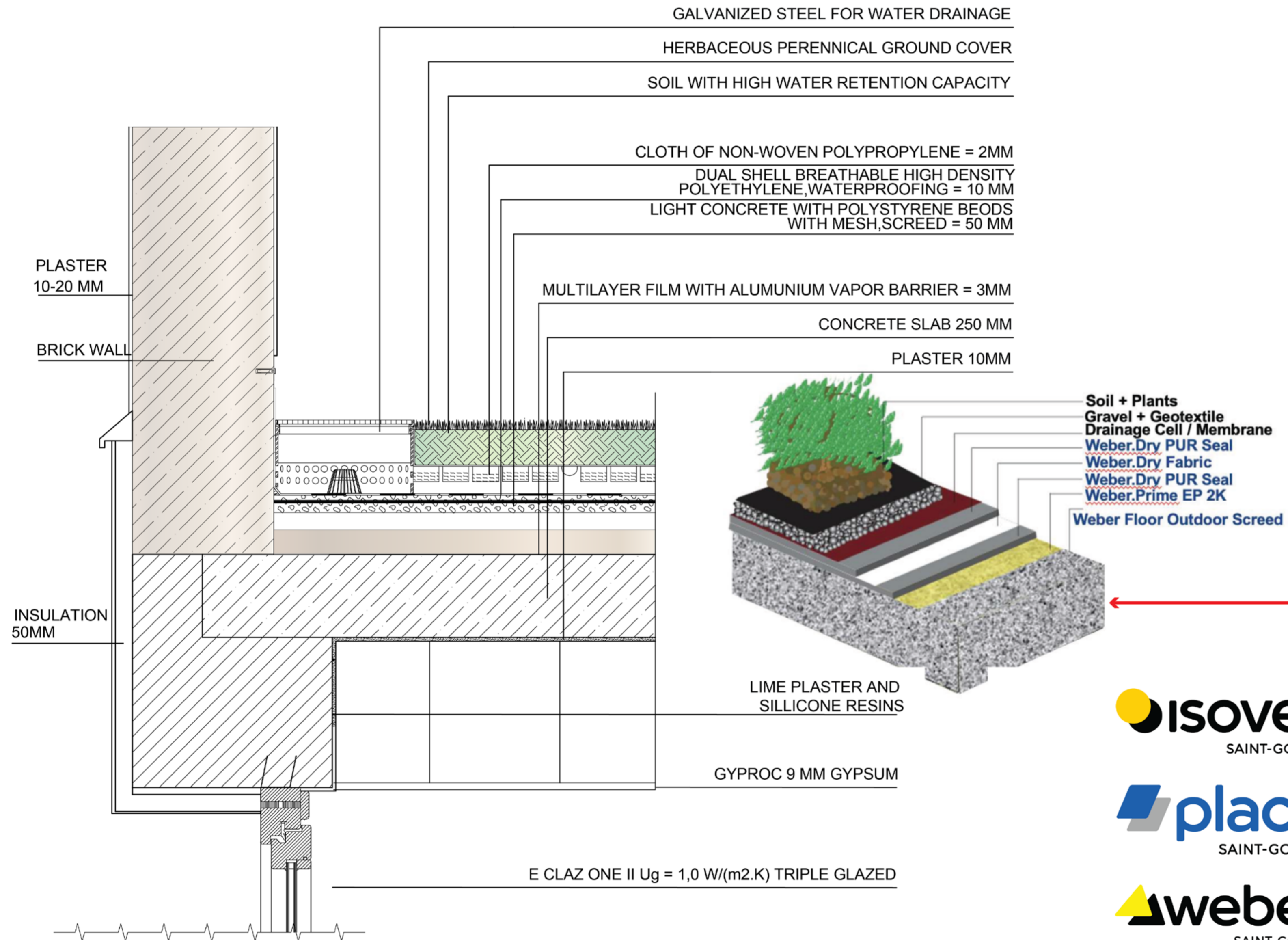
FACADE DETAIL



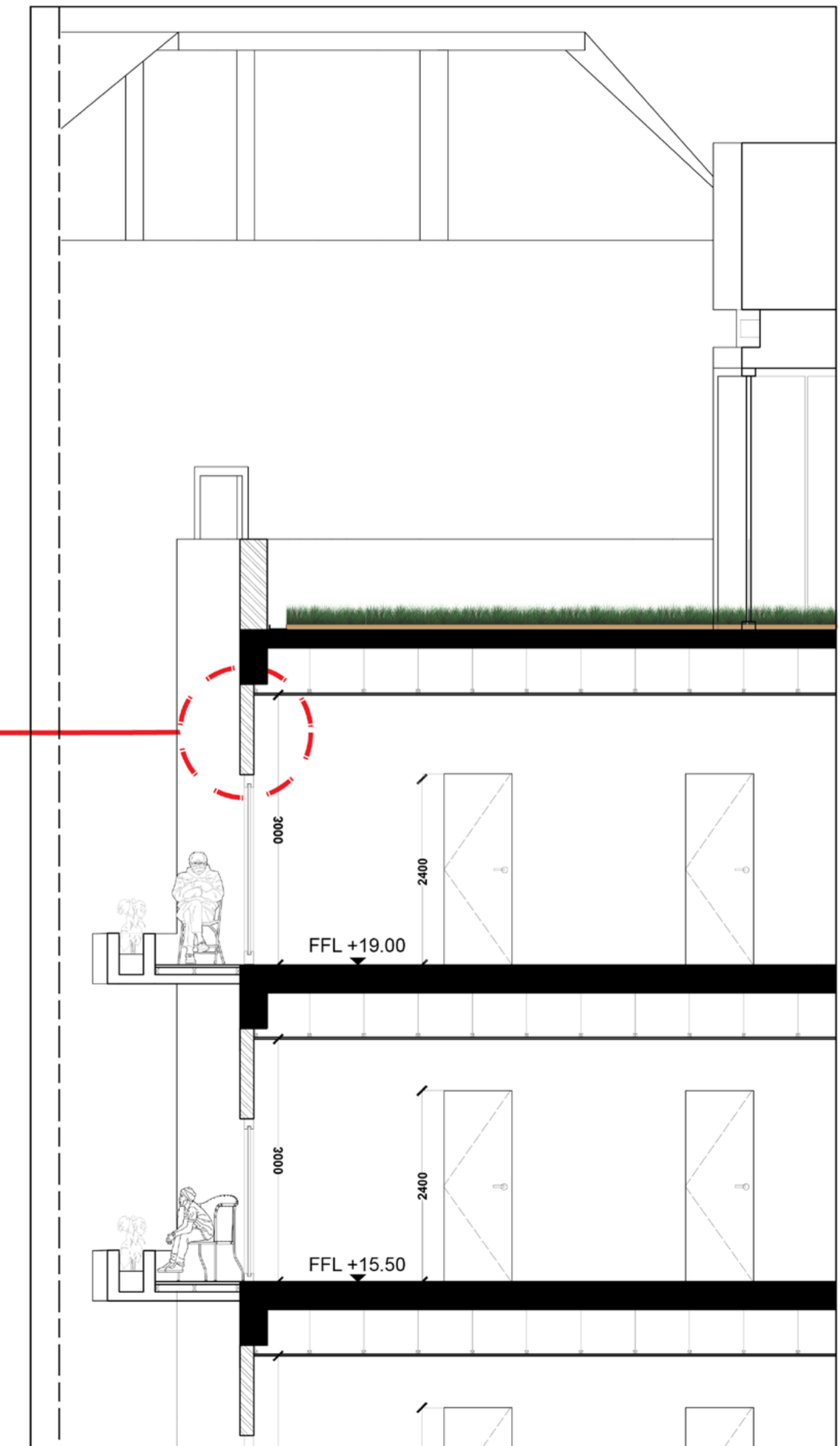
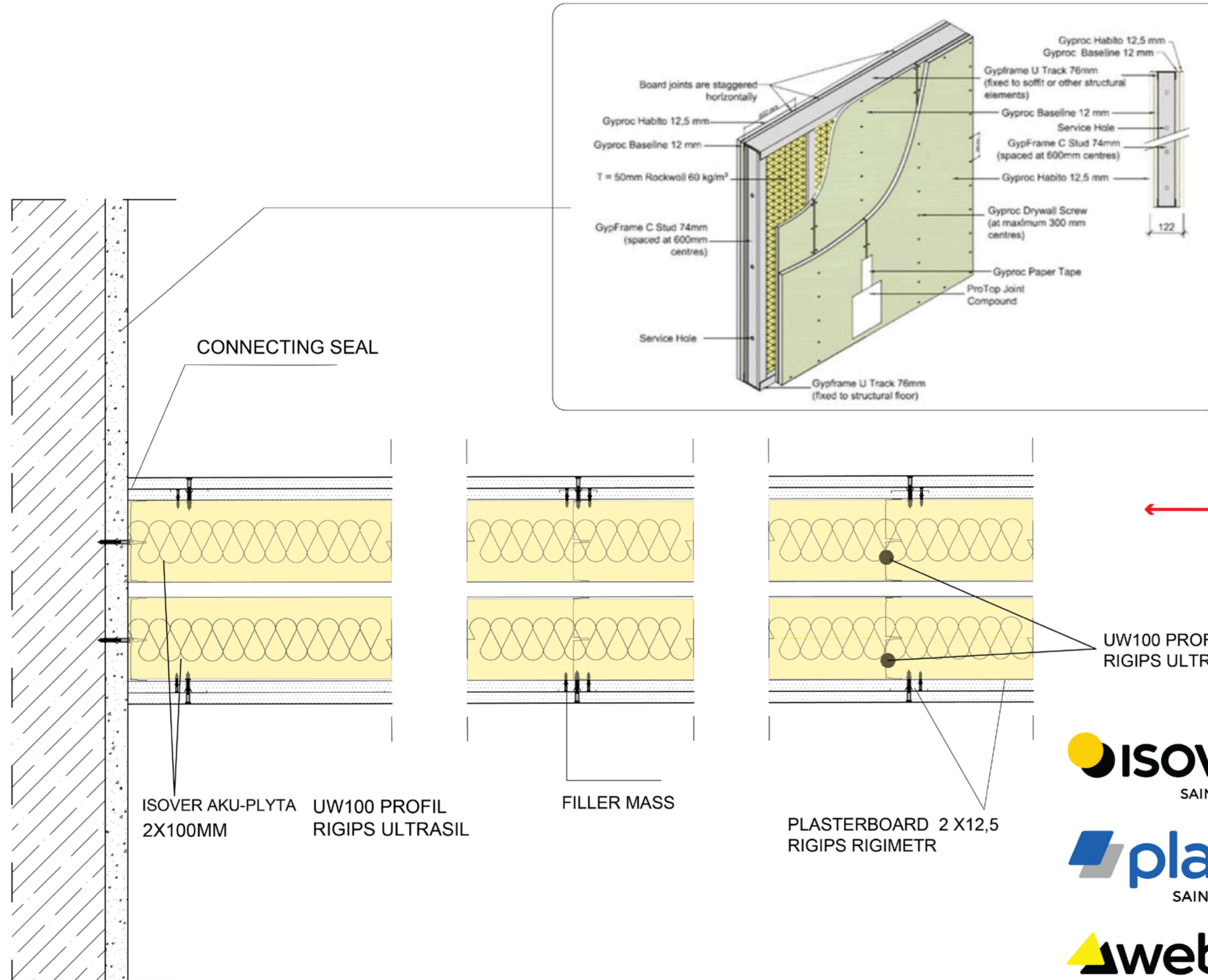
METAL GRIL FOR BETTER
CIRCULATION SYSTEM COMFORT



GREEN ROOF DETAIL

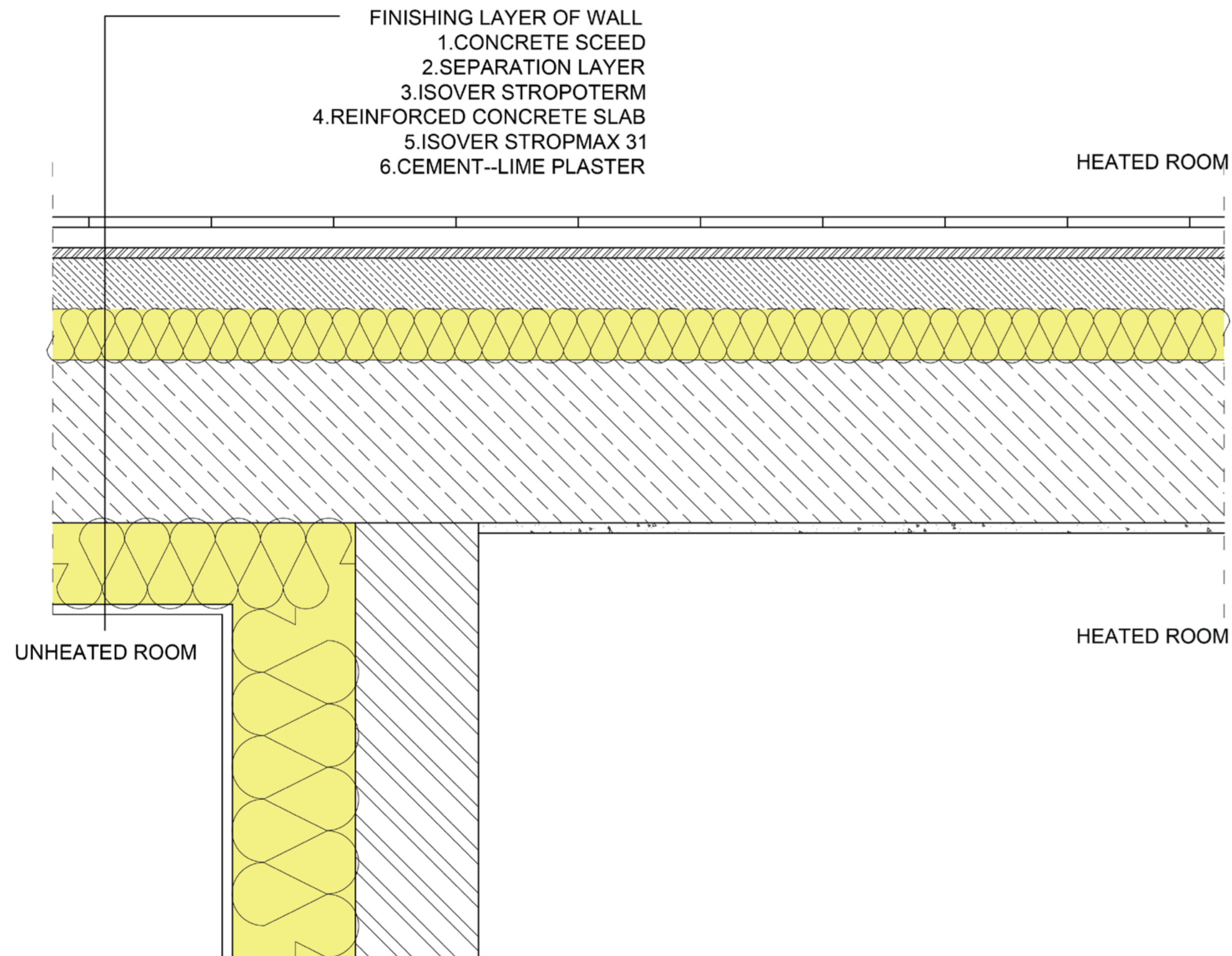


PARTITION WALL DETAIL

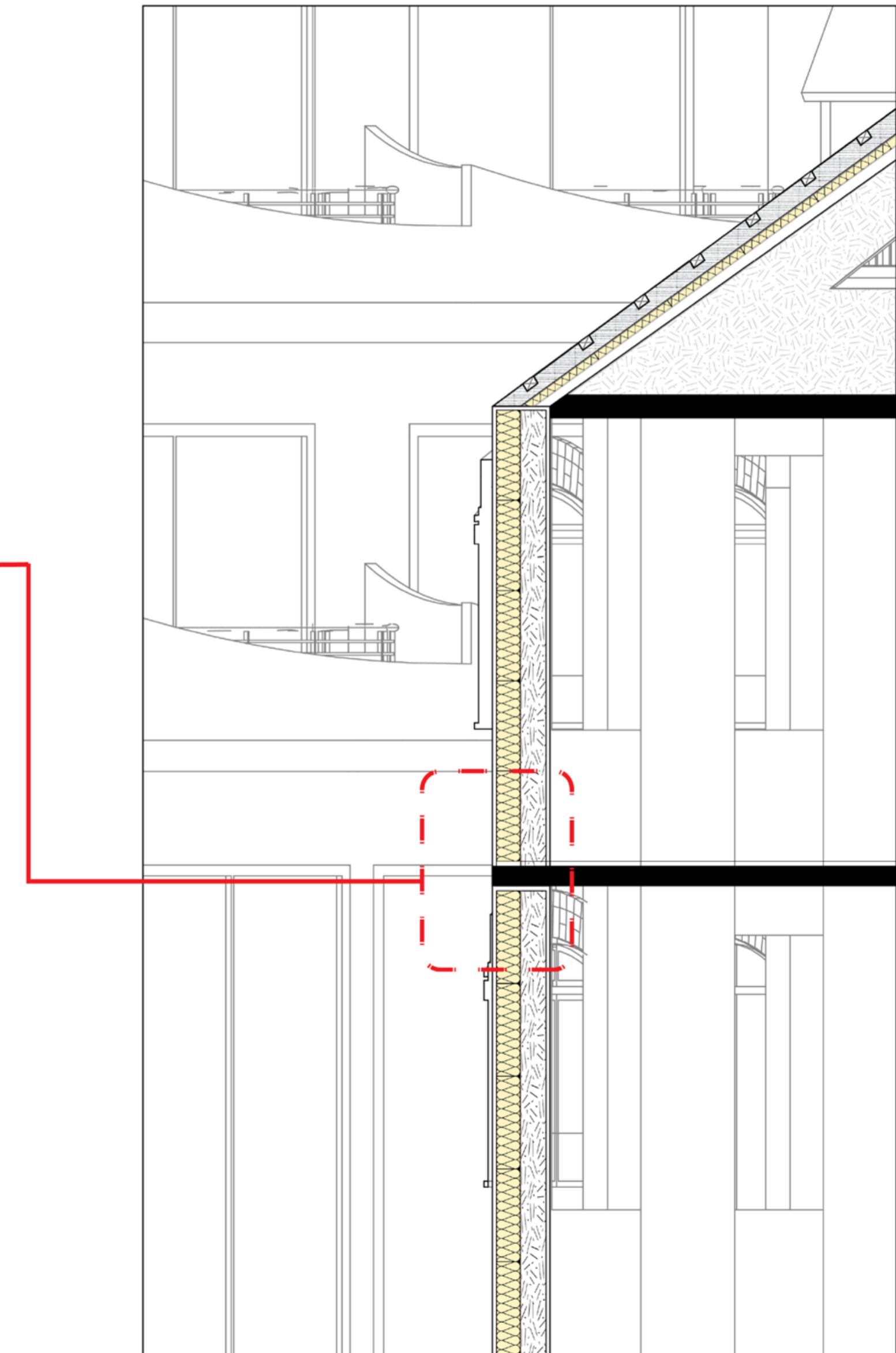


CEILING ABOVE HEAT & UN-HEATED

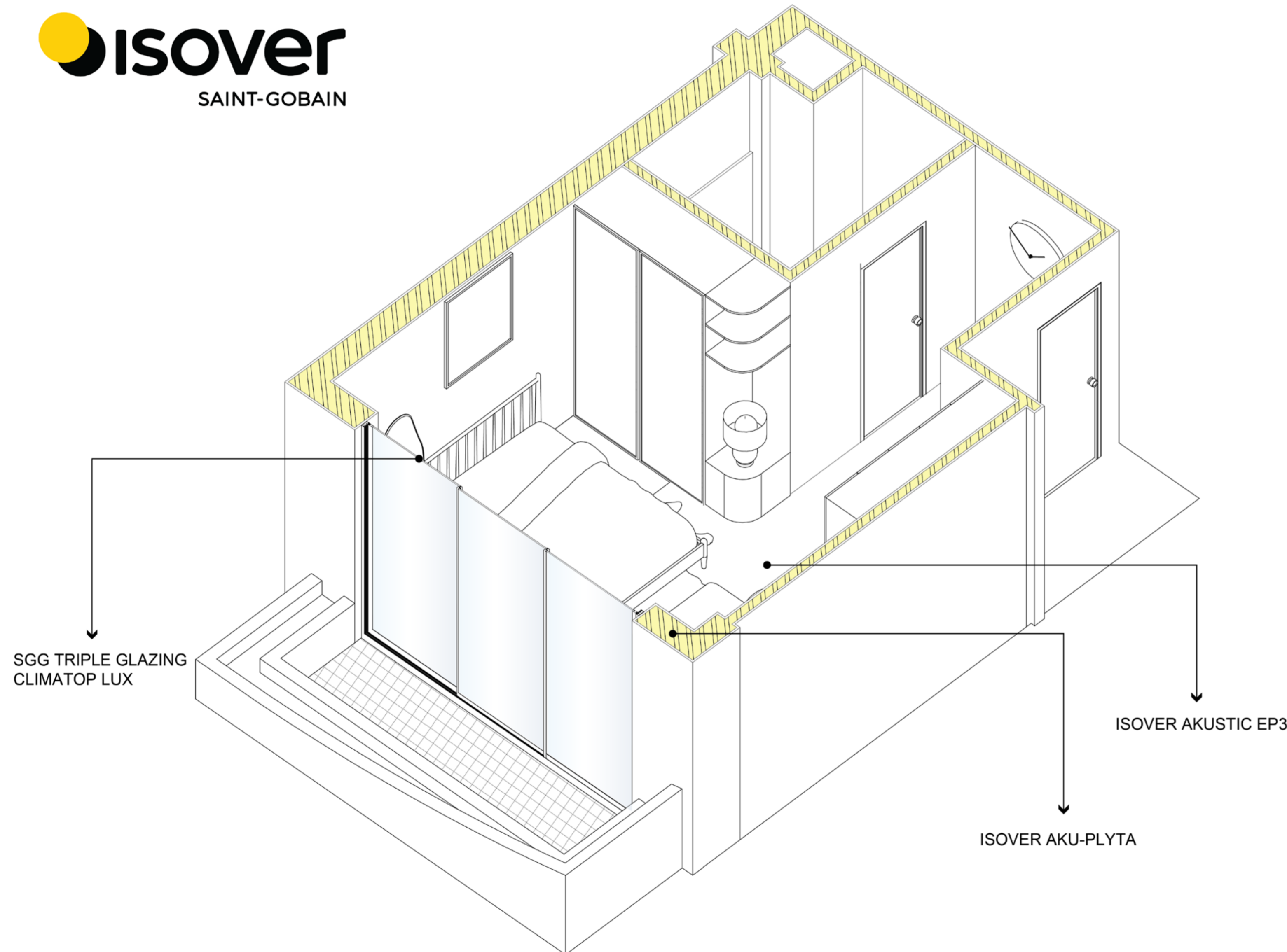
THERMAL BRIDGE STRATEGY



STRATEGY THERMAL BRIDGE FOR OLD BUILDING



UNIT SYSTEM ANALYSIS



CALCULATIONS

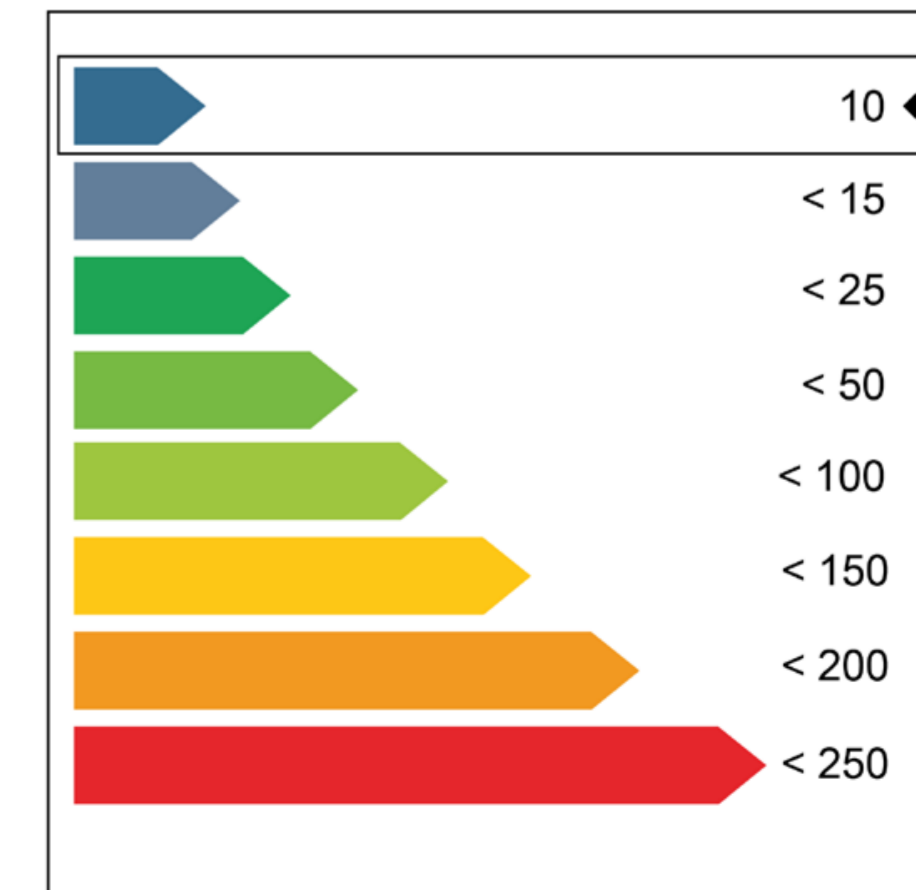
Overheating

Exterior Thermal Transmittance:	12.98 W/K
Ground Thermal Transmittance:	2.16 W/K
Ventilation Transmission Ambient:	59.00 W/K
Ventilation Transmission Ground:	19.41 W/K
Solar Aperture:	2.24 m ²
Frequency of Overheating:	0.00 %

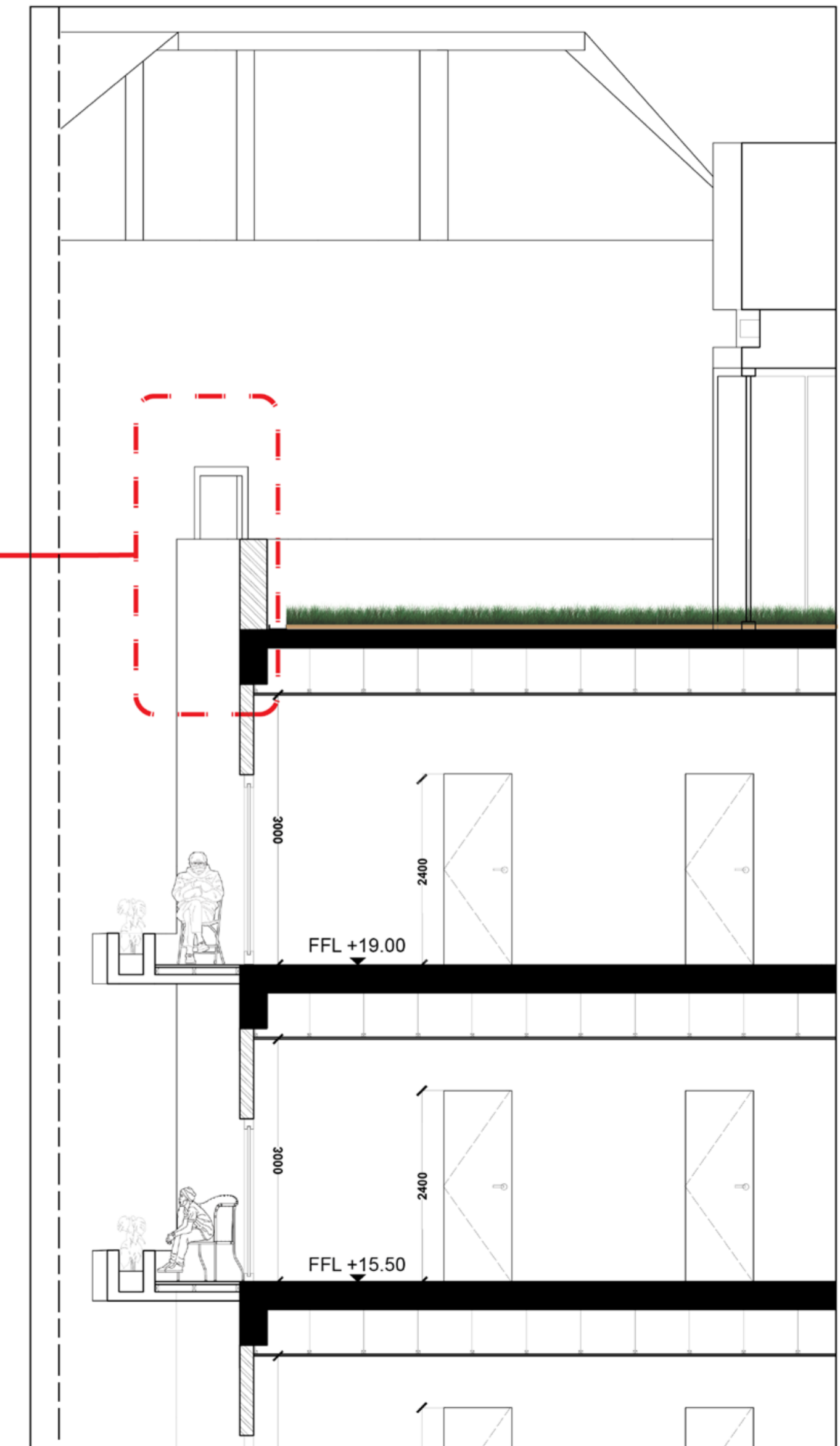
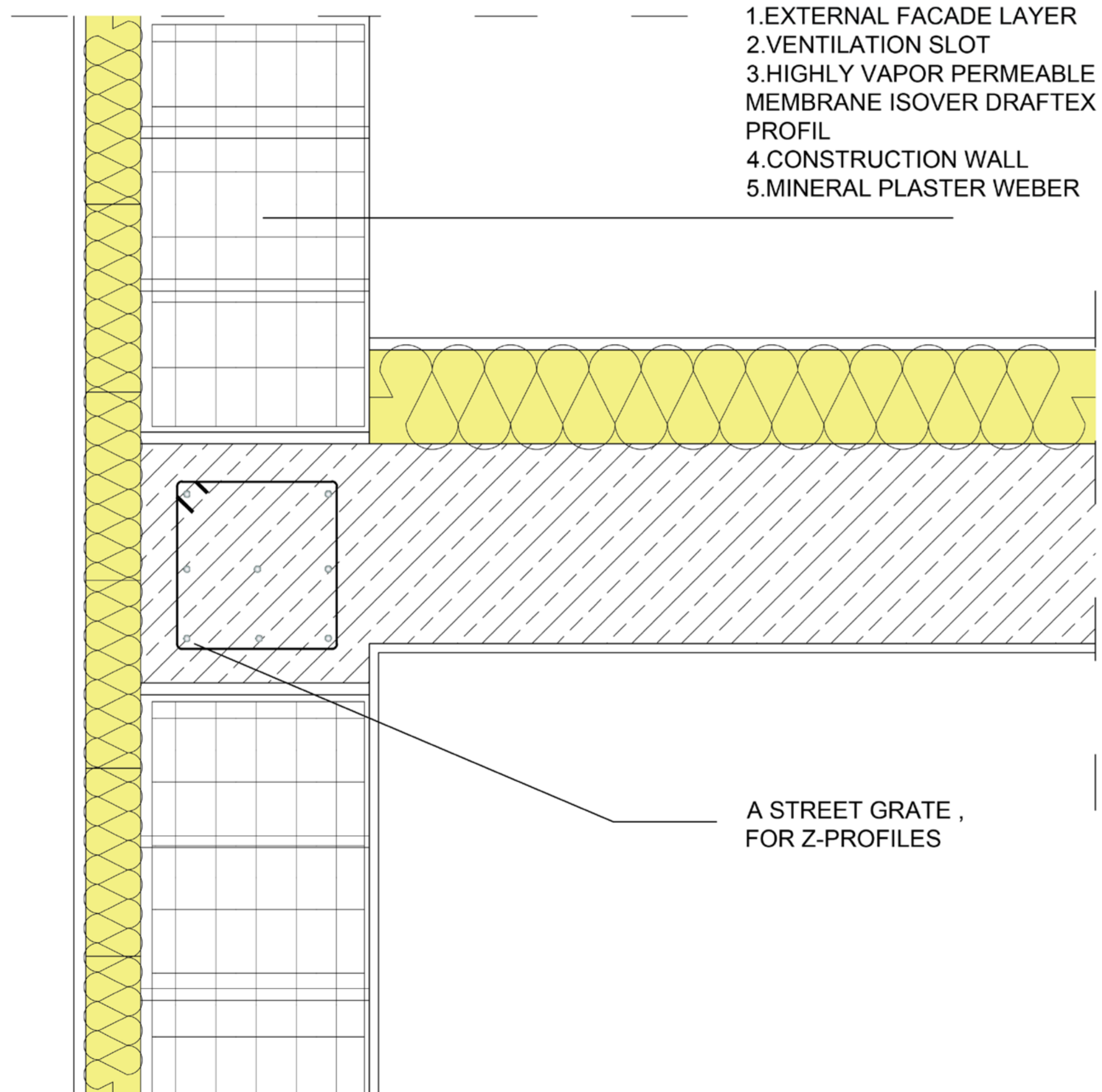
CALCULATIONS

Specific Heat Demand

Transmission Heat Losses:	987.58 kWh/a
Ventilation Heat Losses:	363.79 kWh/a
Total Heat Losses:	1351.37 kWh/a
Internal Heat Gains:	992.93 kWh/a
Solar Heat Gains:	301.35 kWh/a
Total Heat Gains:	1101.16 kWh/a
Annual Heat Demand:	250.21 kWh/a
Specific Heat Demand:	2.53 kWh/(m ² a)



EXTERIOR WALL DETAIL





DIALO(G)ENERATOR

TAKE A GLANCE AROUND THIS DESIGNED
NEIGHBORHOOD FOR NEW LISBON!

ARCHITECTURE
STUDENT
CONTEST

SAINT-GOBAIN

TEAM 28