



Architecture Student Contest
21st International Edition
Belgrade 2026

LIVING LINK.

“Where life flows between river and city”

TEAM 4- Italy / LIVING LINK



TEAM.



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BELGRADE.



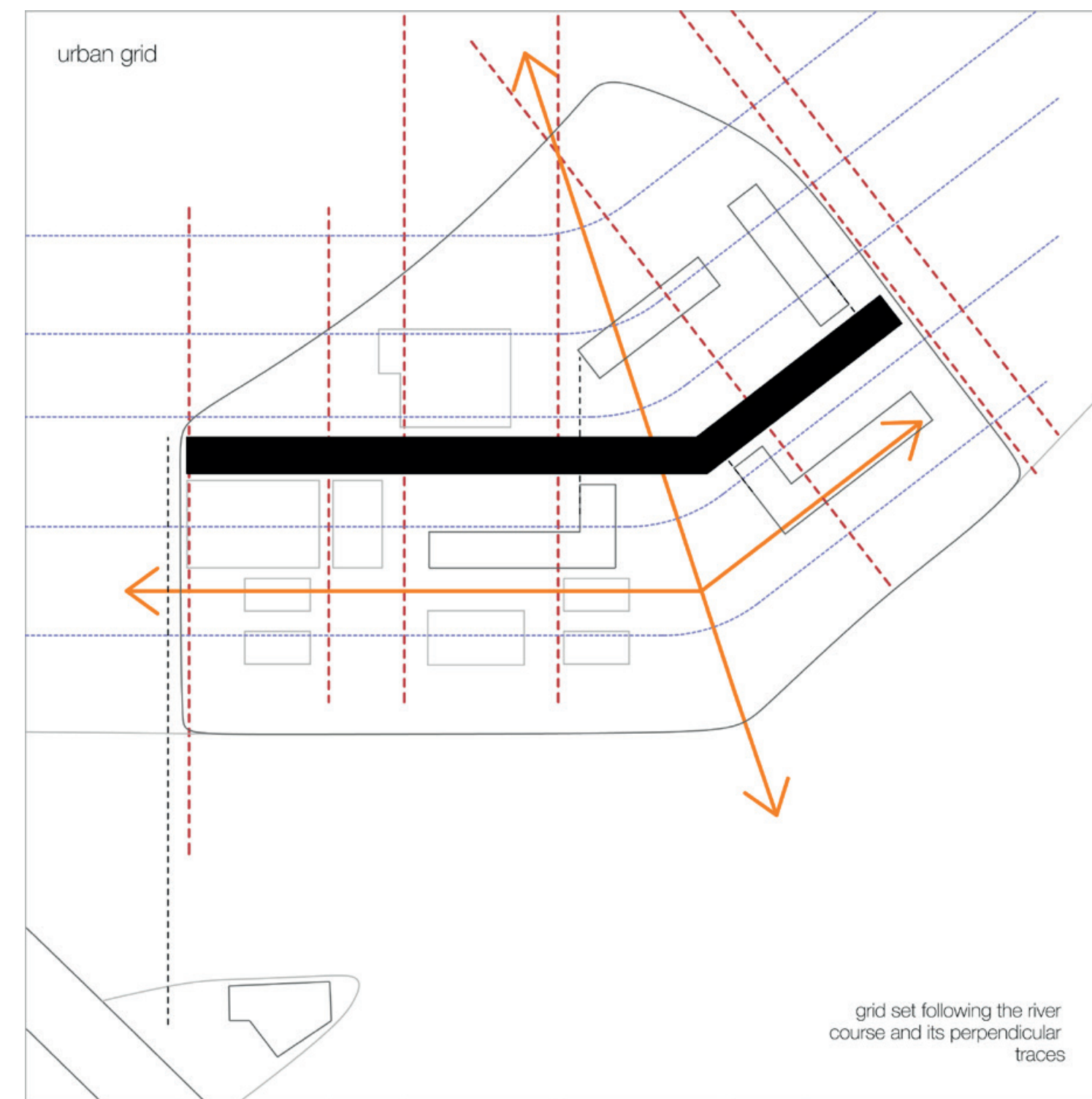
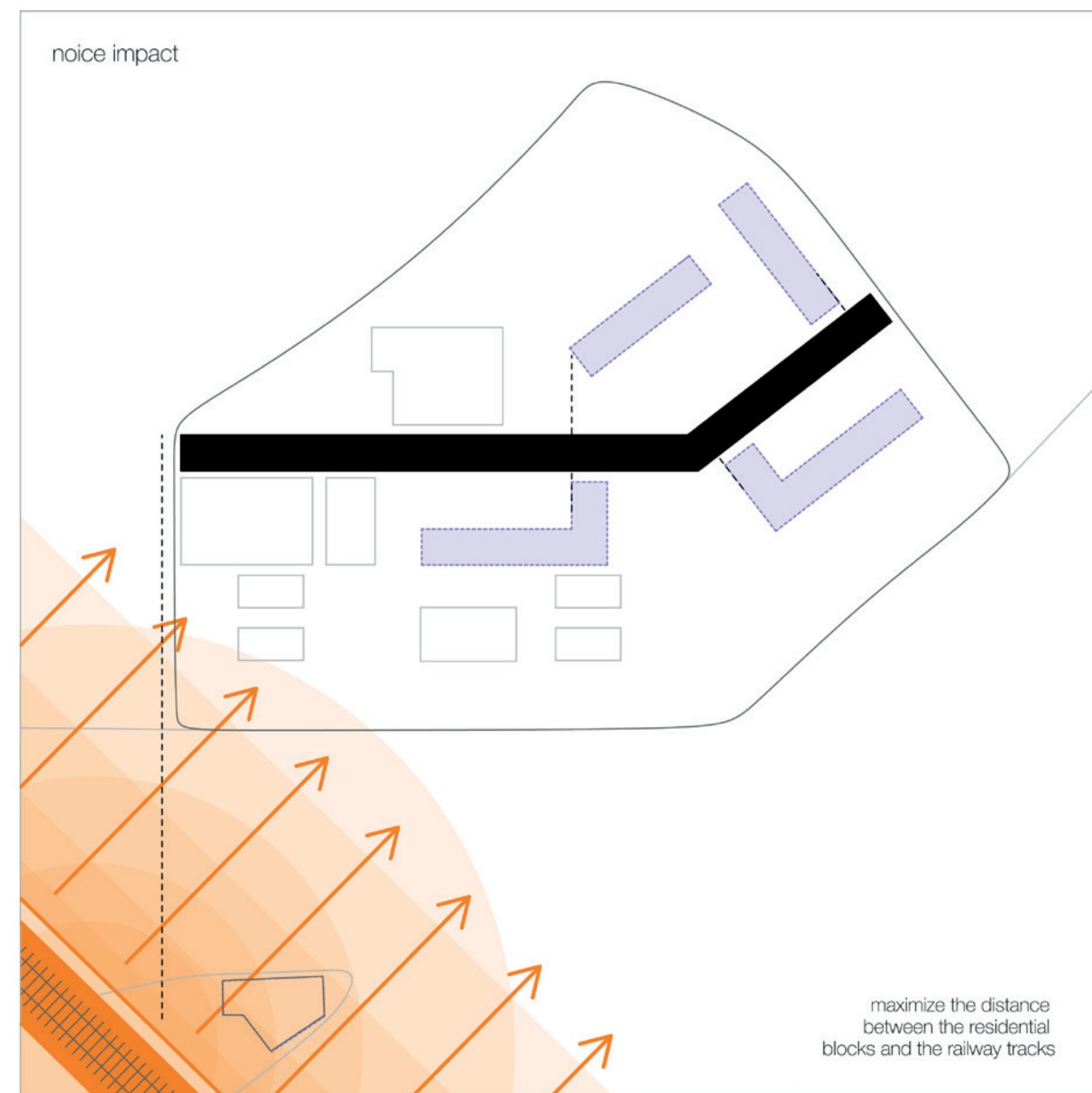
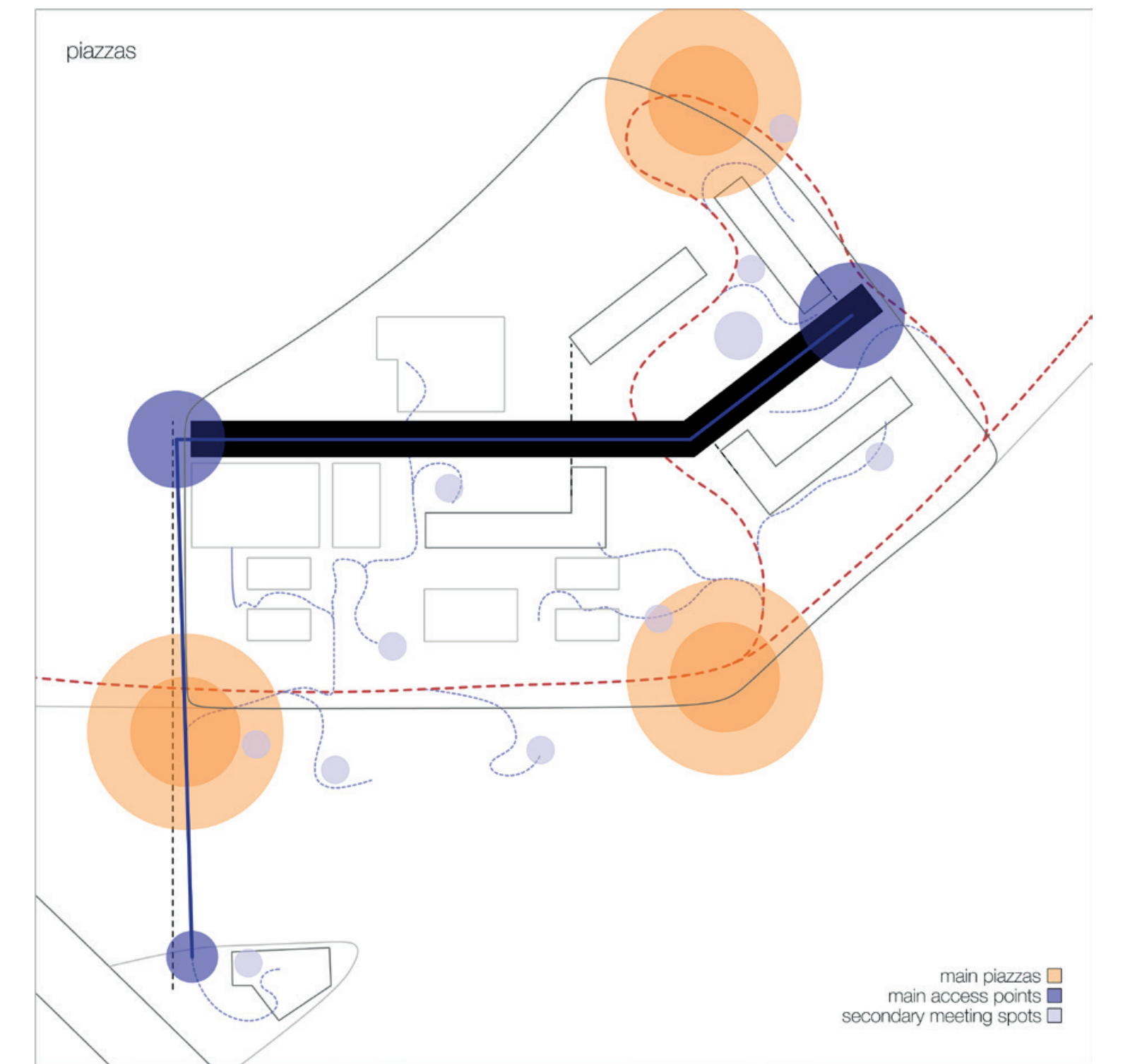
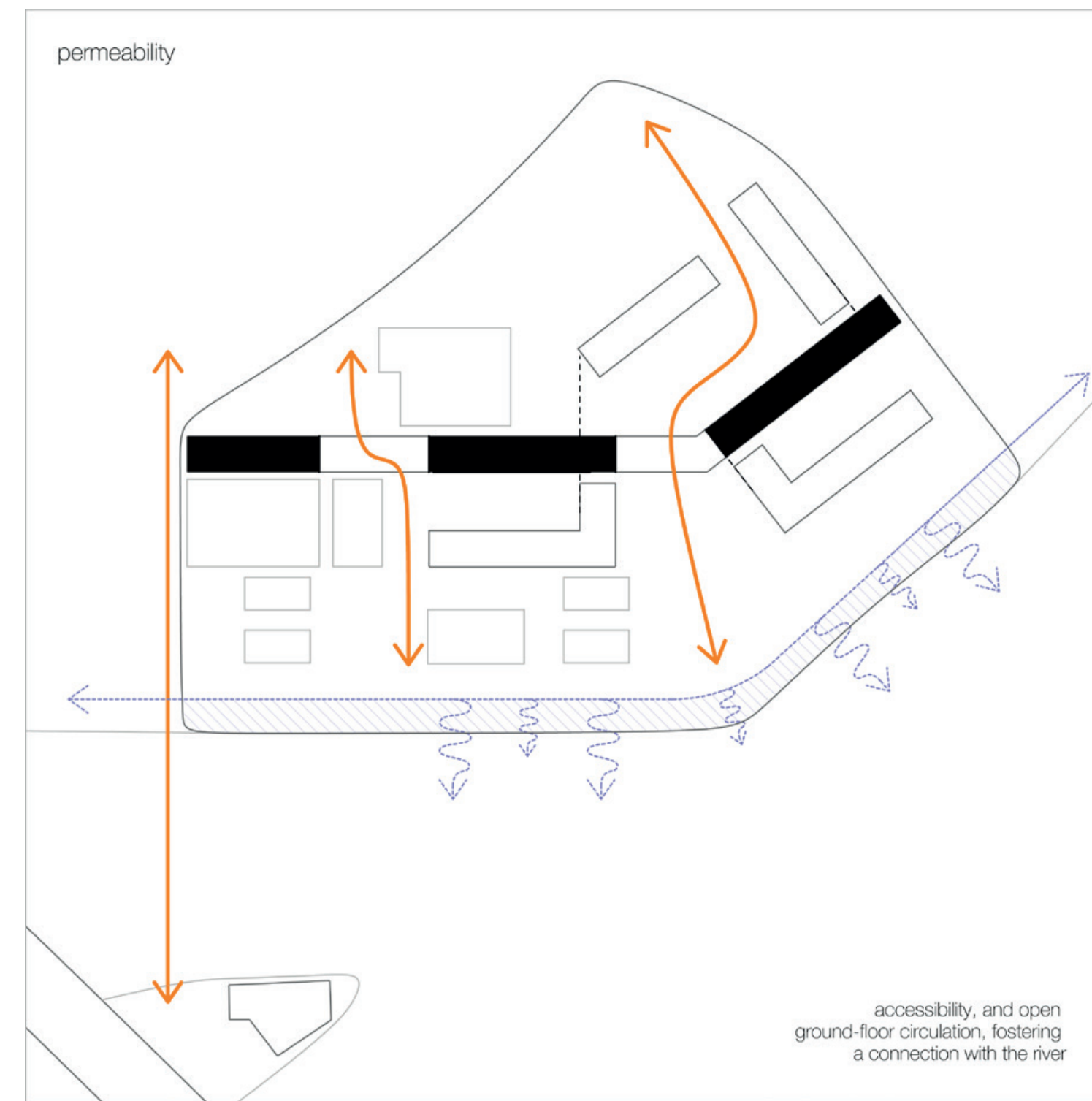
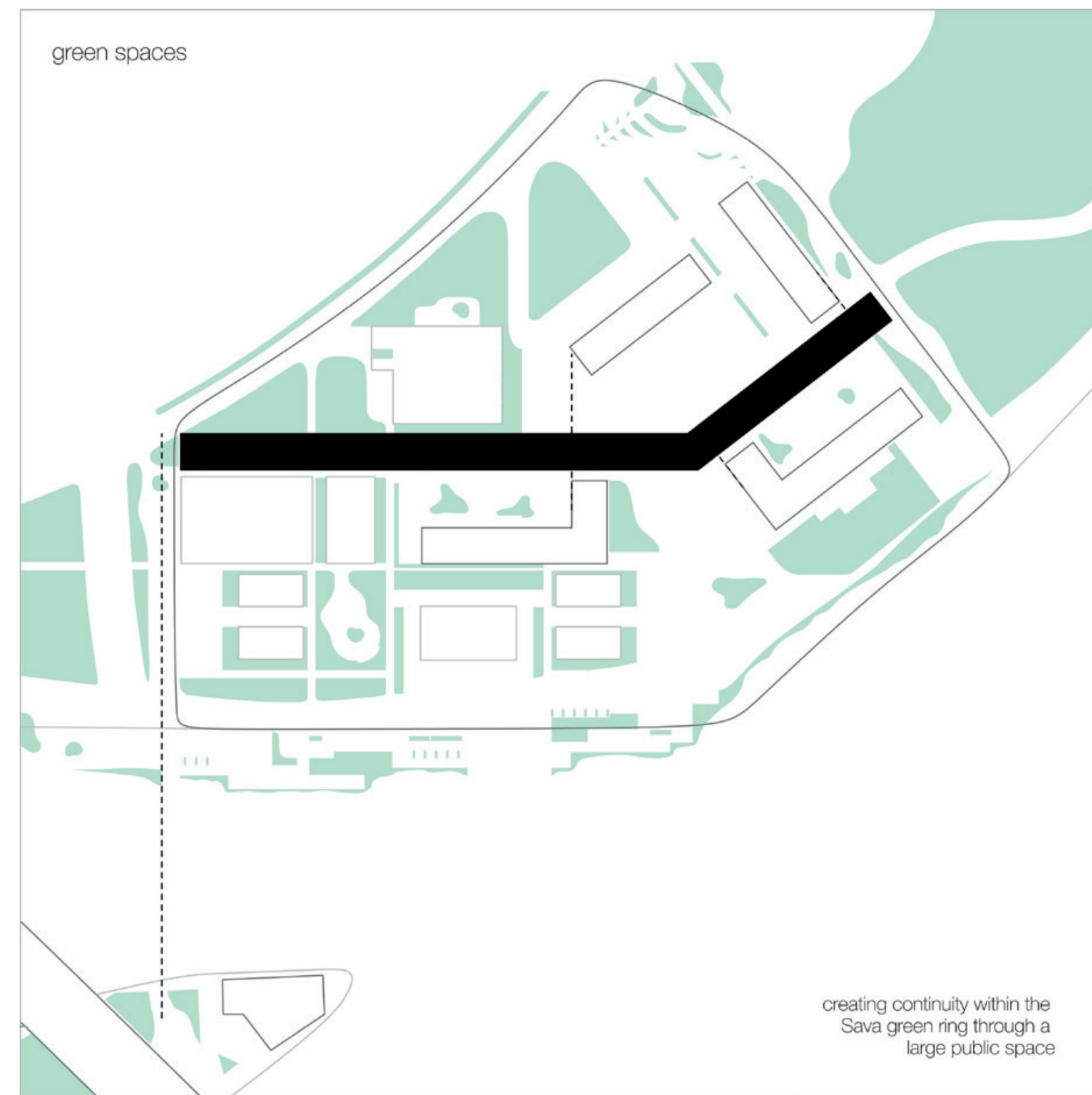
Located on Belgrade's waterfront, Living Link is conceived as a permeable urban intervention that blends athlete housing with the public landscape. Its design is structured around a linear axis connecting the residential blocks to the sports facilities, maintaining an open ground floor that allows for the uninterrupted flow of the park toward the river. More than just a building, it acts as a vital link that integrates community sports facilities and gathering spaces, ensuring that the architecture does not interrupt the green space, but rather functions as a transparent and sustainable connection between the city and the water.

STRATEGY

The project is conceived as a sports village that mediates between the city and the river, both private and public. Rather than defining a boundary, the architecture operates as an interface allowing flows of people, landscape, and activities to pass through it.

The core strategy is based on continuity. The built volumes are elevated and fragmented to preserve the natural extension of the park towards the waterfront, ensuring that the ground level remains open, accessible, and public. In this way, the project avoids the condition of an isolated object and instead becomes an active connector between urban and natural systems.

At the same time, the intervention integrates residential functions for athletes with collective infrastructures, creating a hybrid environment where living, training, and social interaction coexist within a unified spatial framework.



MASTERPLAN.

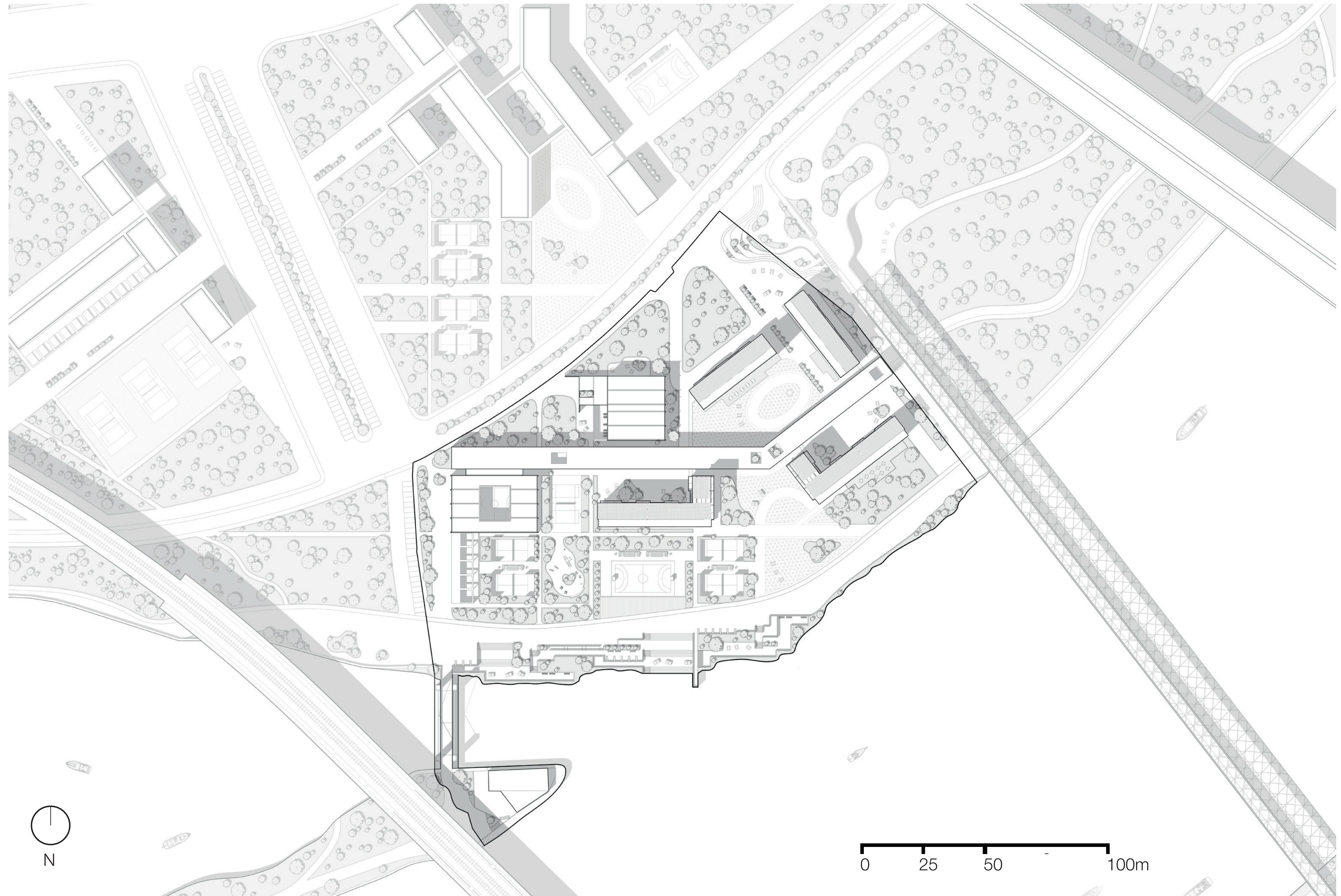
The masterplan is organized as an integrated Olympic village, combining residential and communal functions within a coherent urban system. The site is structured into two main zones, connected by a central element that acts as both a functional hinge and symbolic core. This central building ensures spatial continuity and concentrates shared programs, reinforcing the identity of the complex.

Around this core, smaller scale residential volumes are distributed according to principles of proximity and functional reasoning.

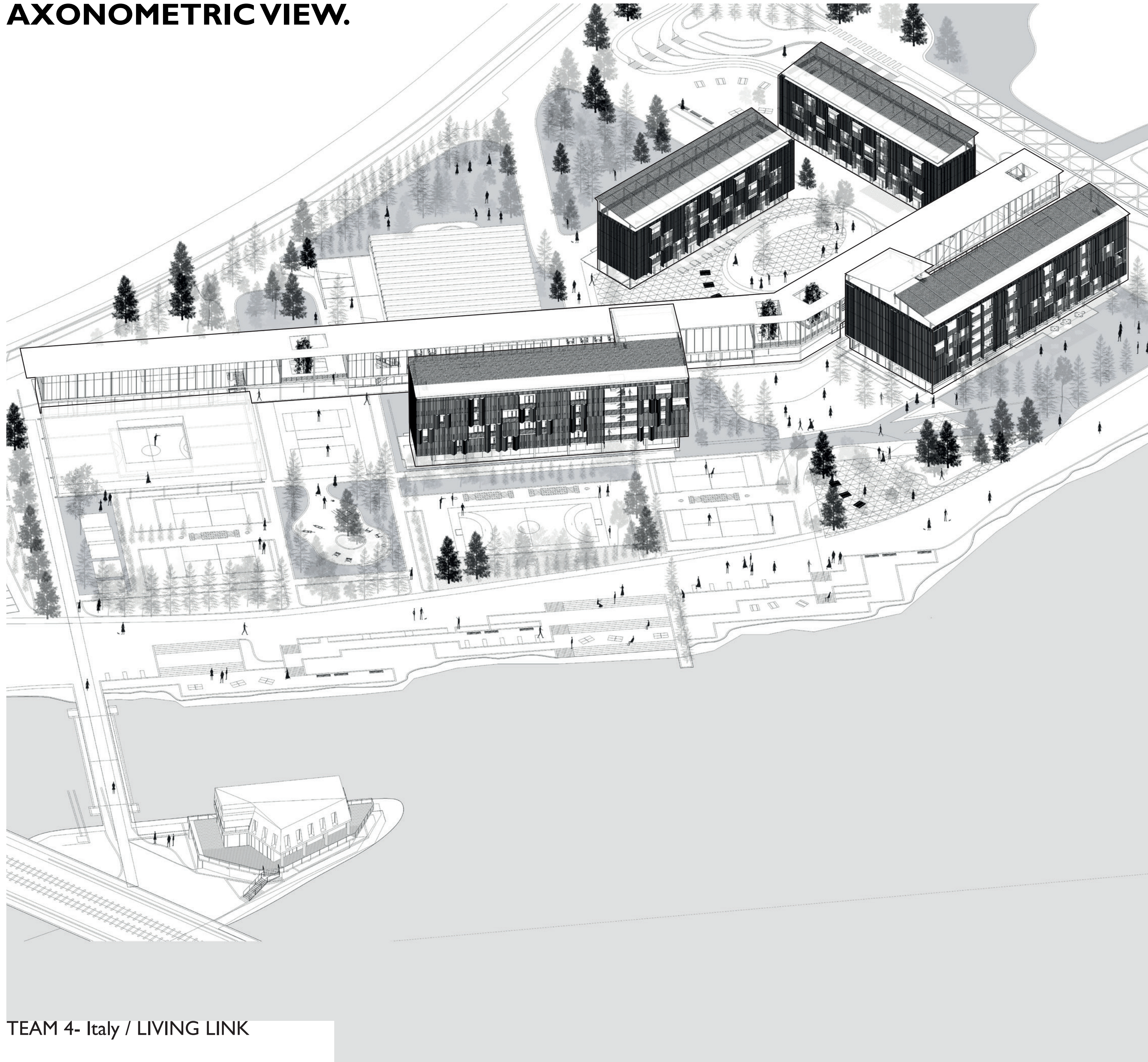
These buildings are not isolated objects but part of a network, articulated through:

a system of urban plazas
pedestrian paths
semi-public courtyards

The balance between built density and open voids is fundamental: open spaces are not residual, but act as orientation devices and social condensers, enabling permeability, interaction, and a gradual transition between public and private realms.



AXONOMETRIC VIEW.

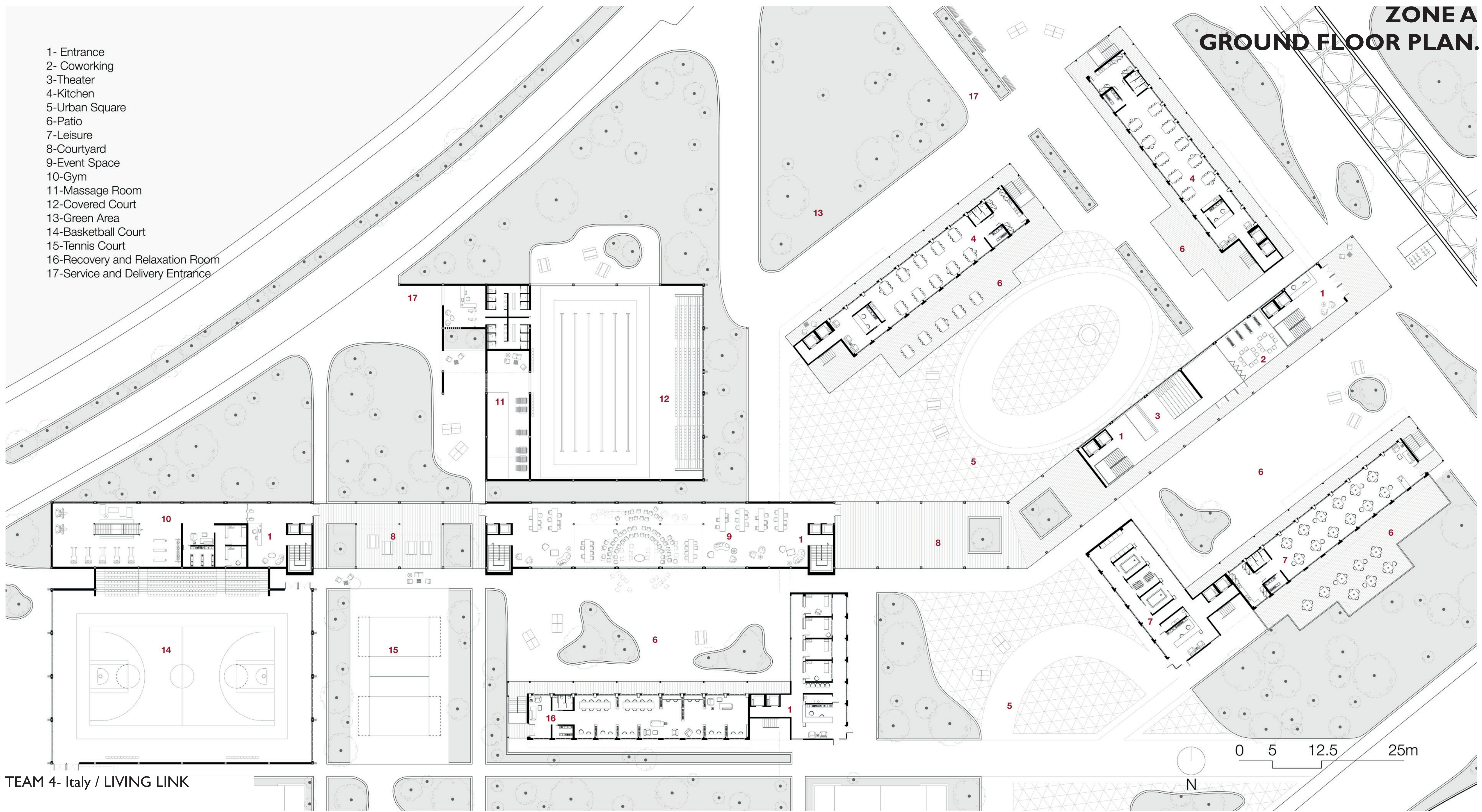


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ZONE A GROUND FLOOR PLAN.

- 1- Entrance
- 2- Coworking
- 3-Theater
- 4-Kitchen
- 5-Urban Square
- 6-Patio
- 7-Leisure
- 8-Courtyard
- 9-Event Space
- 10-Gym
- 11-Massage Room
- 12-Covered Court
- 13-Green Area
- 14-Basketball Court
- 15-Tennis Court
- 16-Recovery and Relaxation Room
- 17-Service and Delivery Entrance



ZONE A THE SPINE.

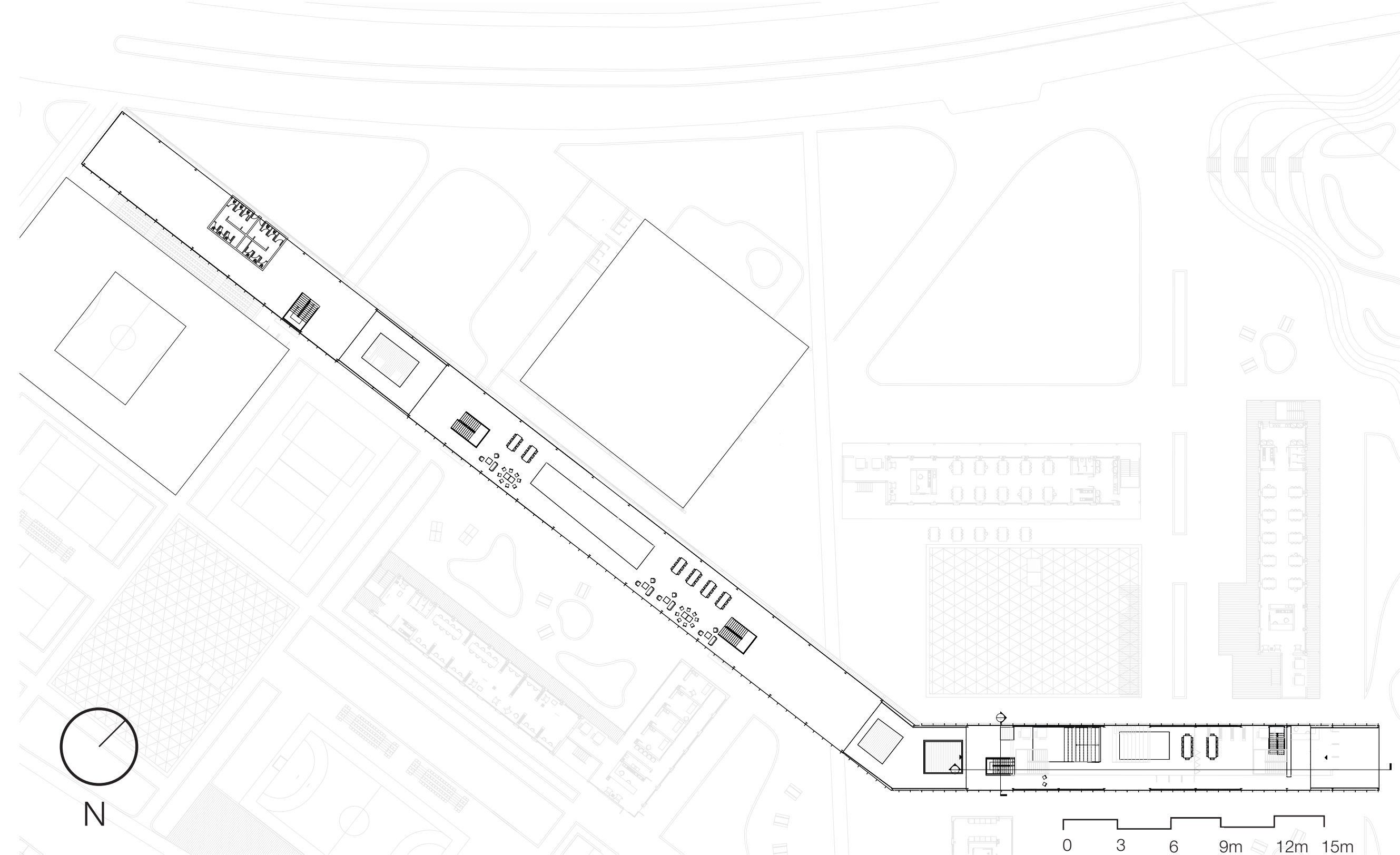
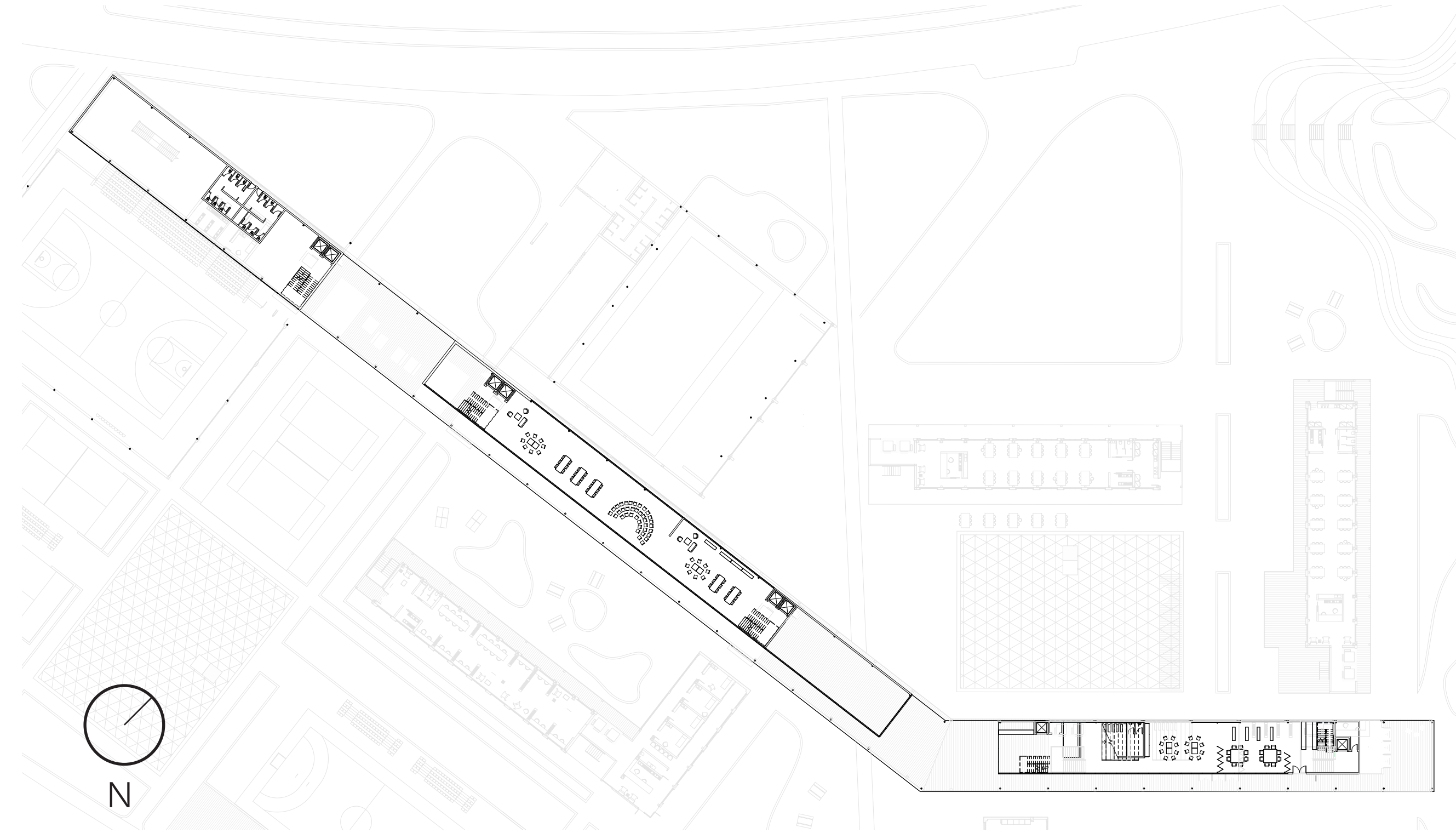
The spine represents the organizational element of the project—a bridge-like infrastructural axis that connects the parts of the project site.

It performs multiple roles:

circulation corridor, ensuring efficient movement across the site
programmatic condenser, hosting shared and related functions
social catalyst, where interaction are encouraged.

Rather than a simple corridor, the spine is conceived as a thickened space, expanding at certain to accommodate collective activities, both for public and private use.

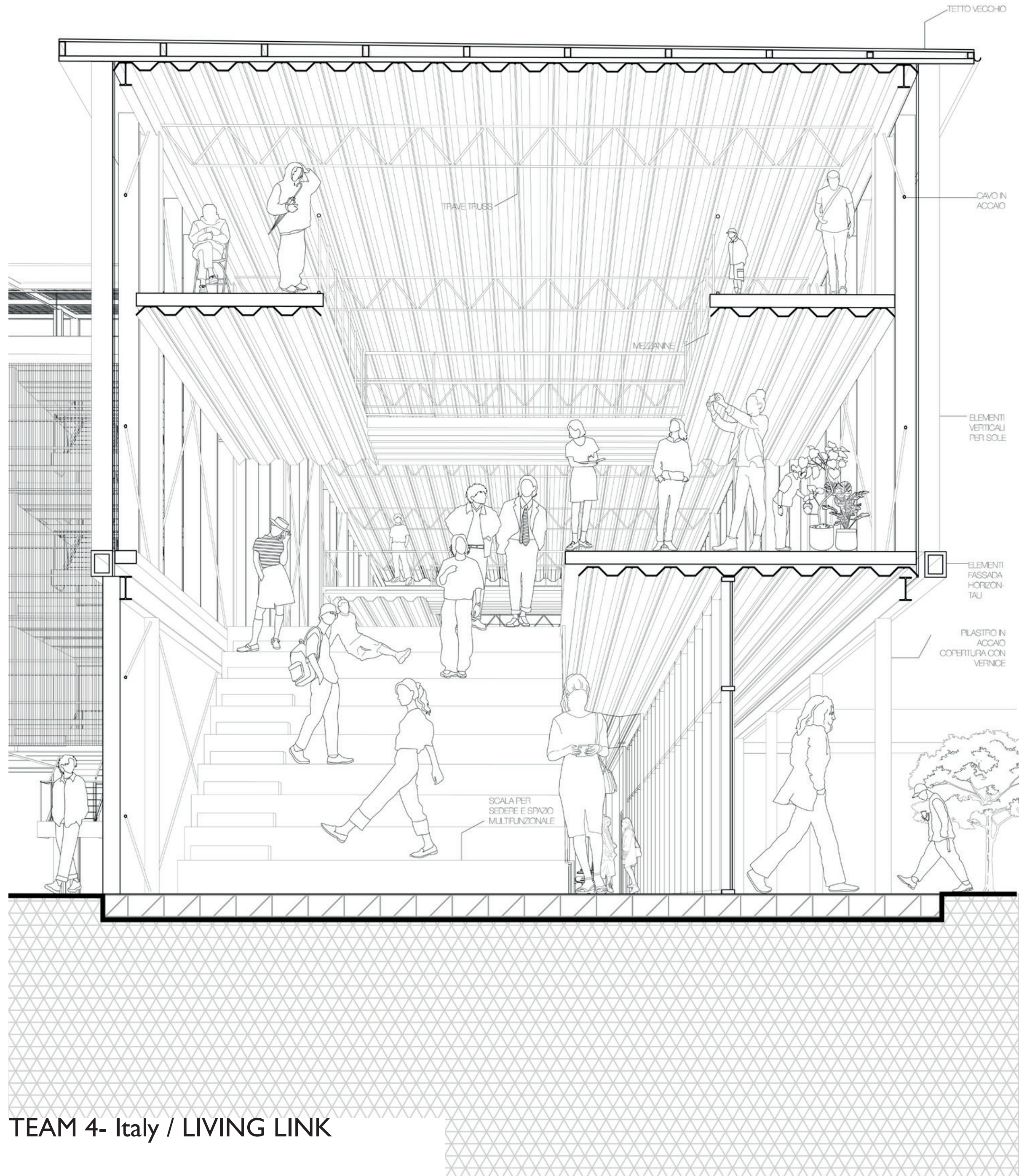
It reinforces the idea of the project as a continuous system, where movement, program, and social interactions are related.



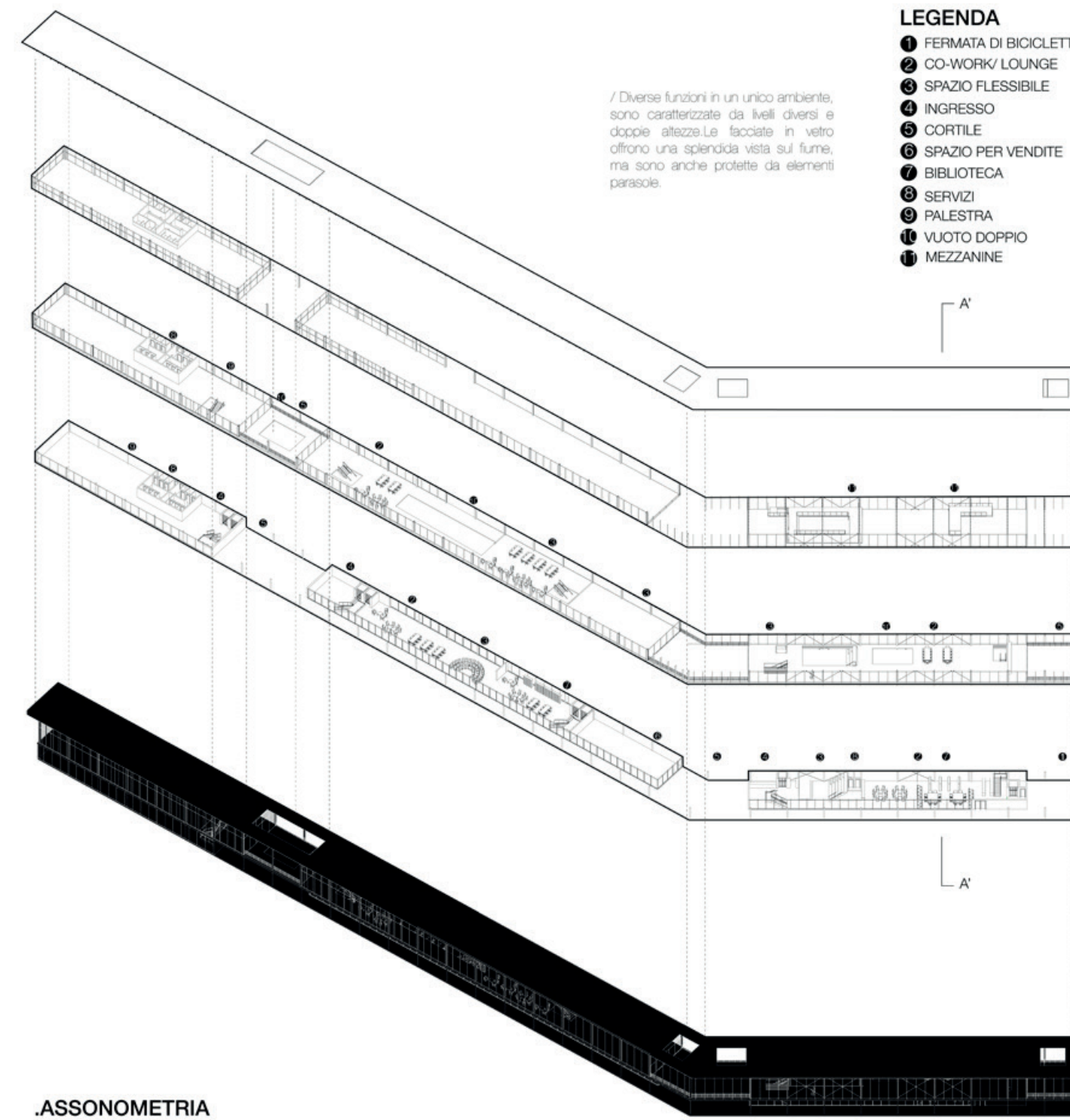
ZONE A THE SPINE.



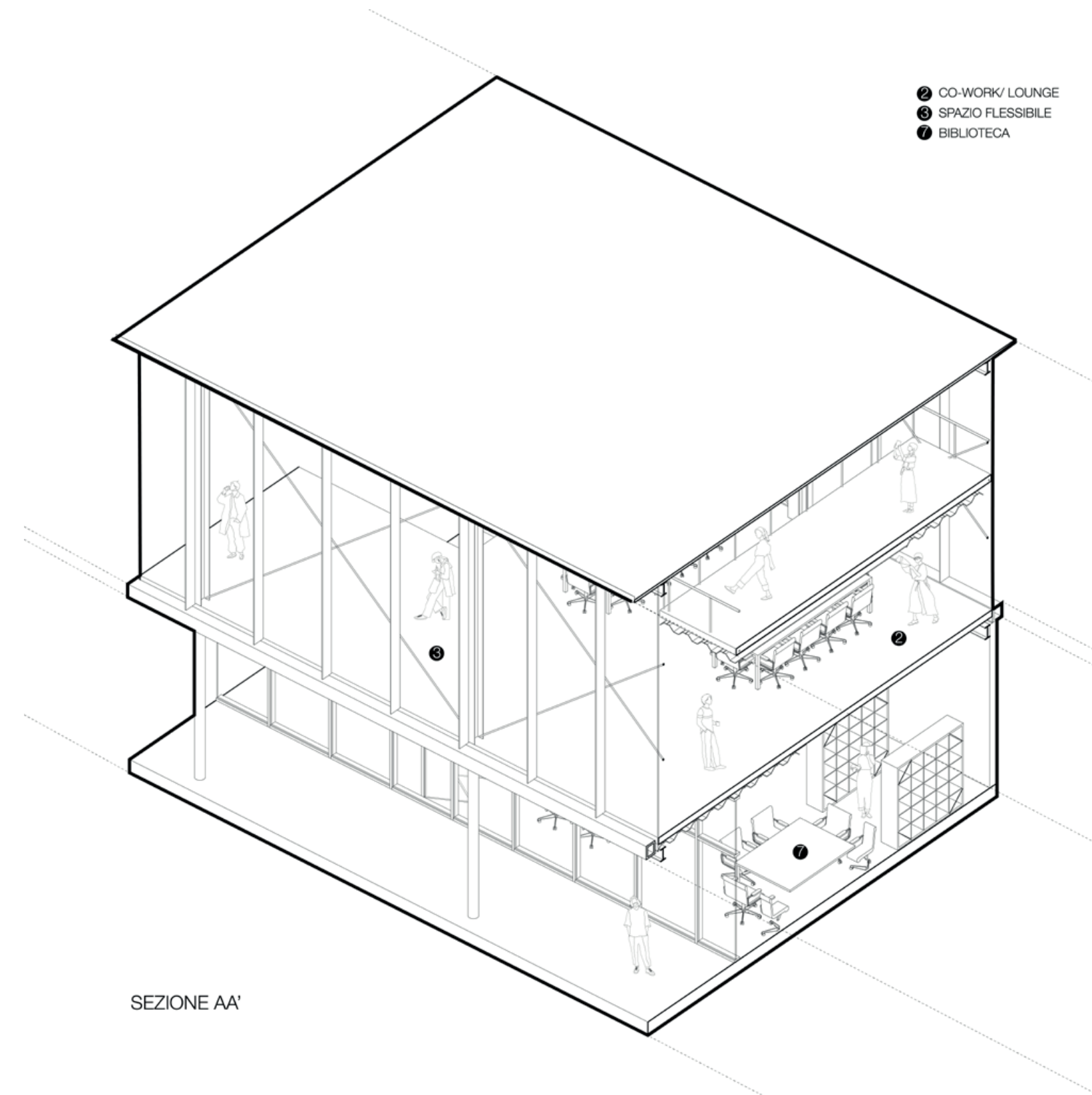
SEZIONE IN PERSPETTIVA



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.ASSONOMETRIA



SEZIONE AA'



ZONE A ATHLETE RESIDENCES.

The athlete residences are conceived as a temporary yet high-performance living environment, capable of accommodating both the intensity of short-term events and the stability required for longer periods.

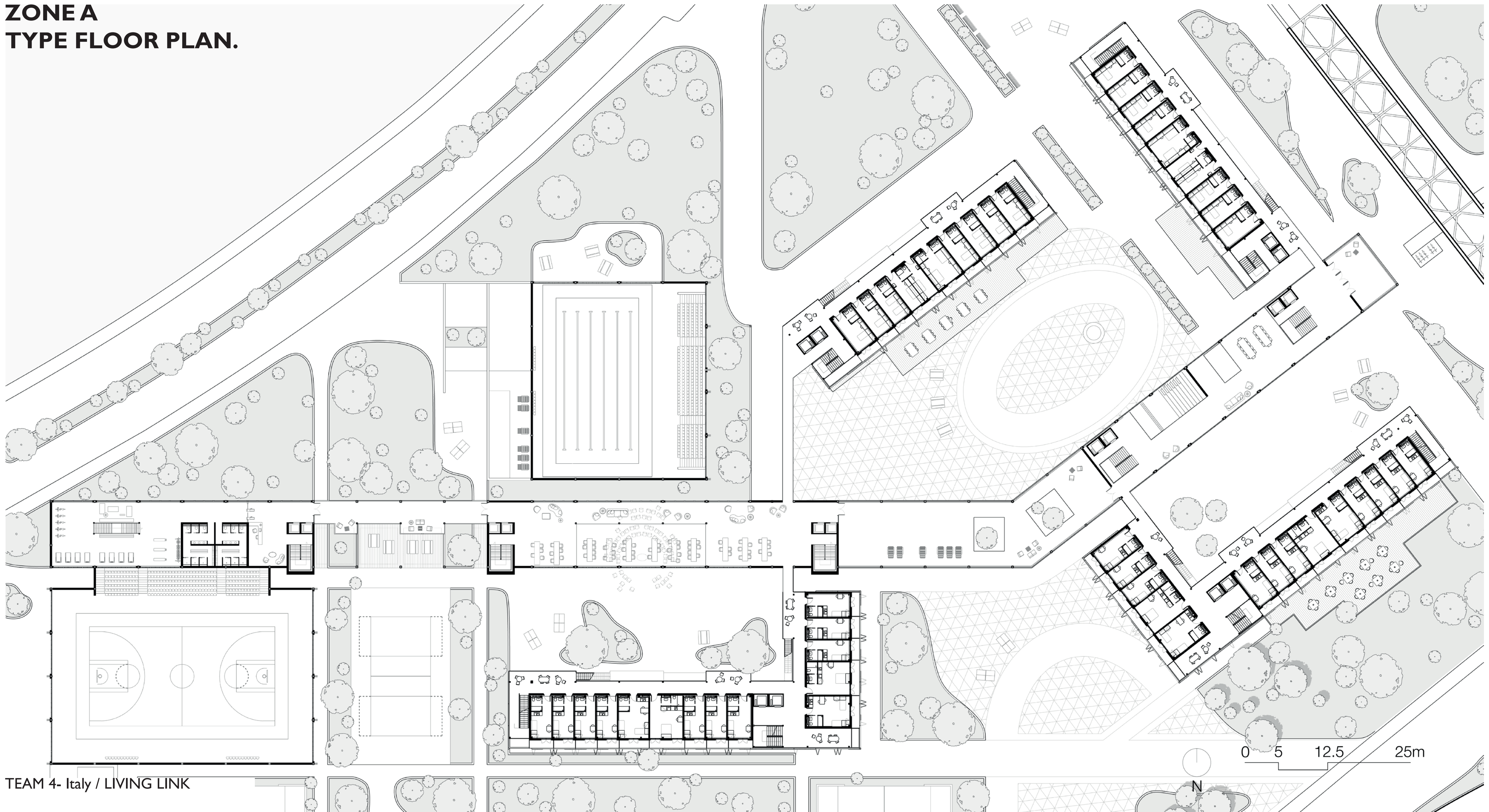
The design responds to three key conditions specific to users:

The units are organized to support the routines of athletes, where rest, recovery, and preparation are fundamental.

This separation between wet cores and dry living spaces ensures functional efficiency and ease of maintenance, crucial in high-turnover scenarios.



**ZONE A
TYPE FLOOR PLAN.**



ZONE A BUILDING TYPE I.

While athletes require controlled environments, the project deliberately introduces graduated collective spaces to foster interaction and internal dynamics.

These include:

shared balconies acting as semi-private meeting spaces

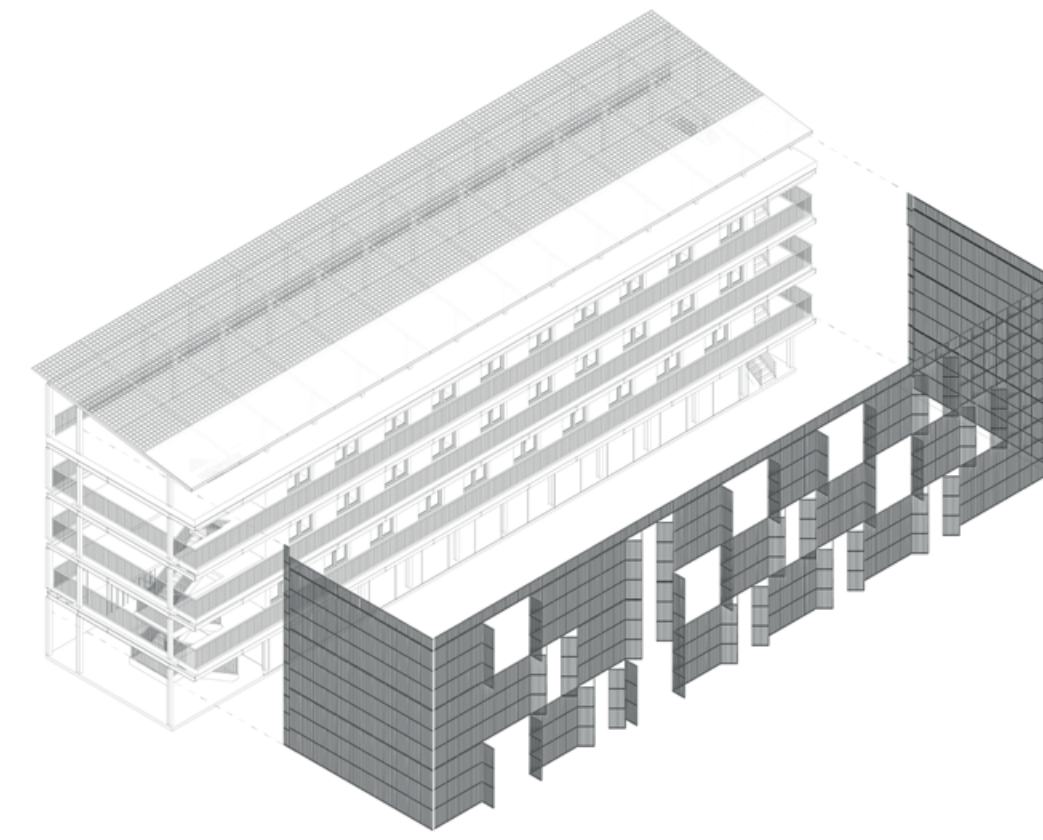
external galleries

encouraging visual connections
courtyards and open spaces for informal gathering

The intention is to balance:

individual recovery
with collective identity
and cultural exchange

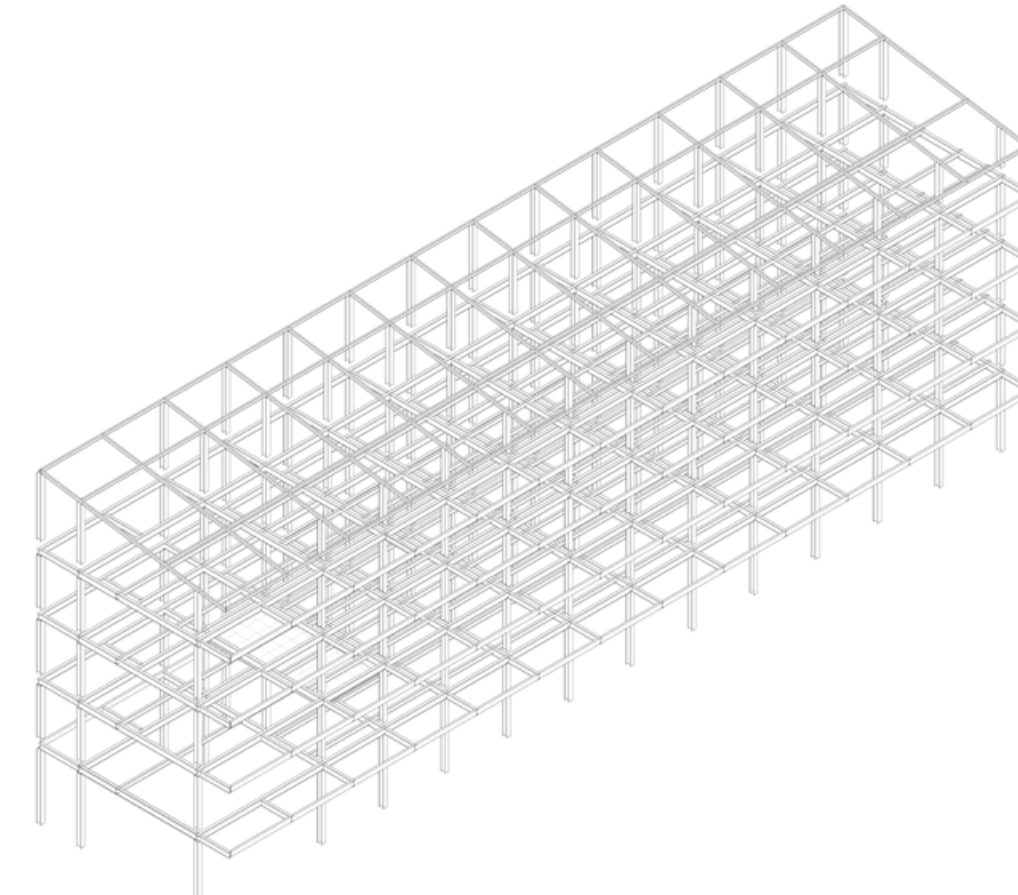
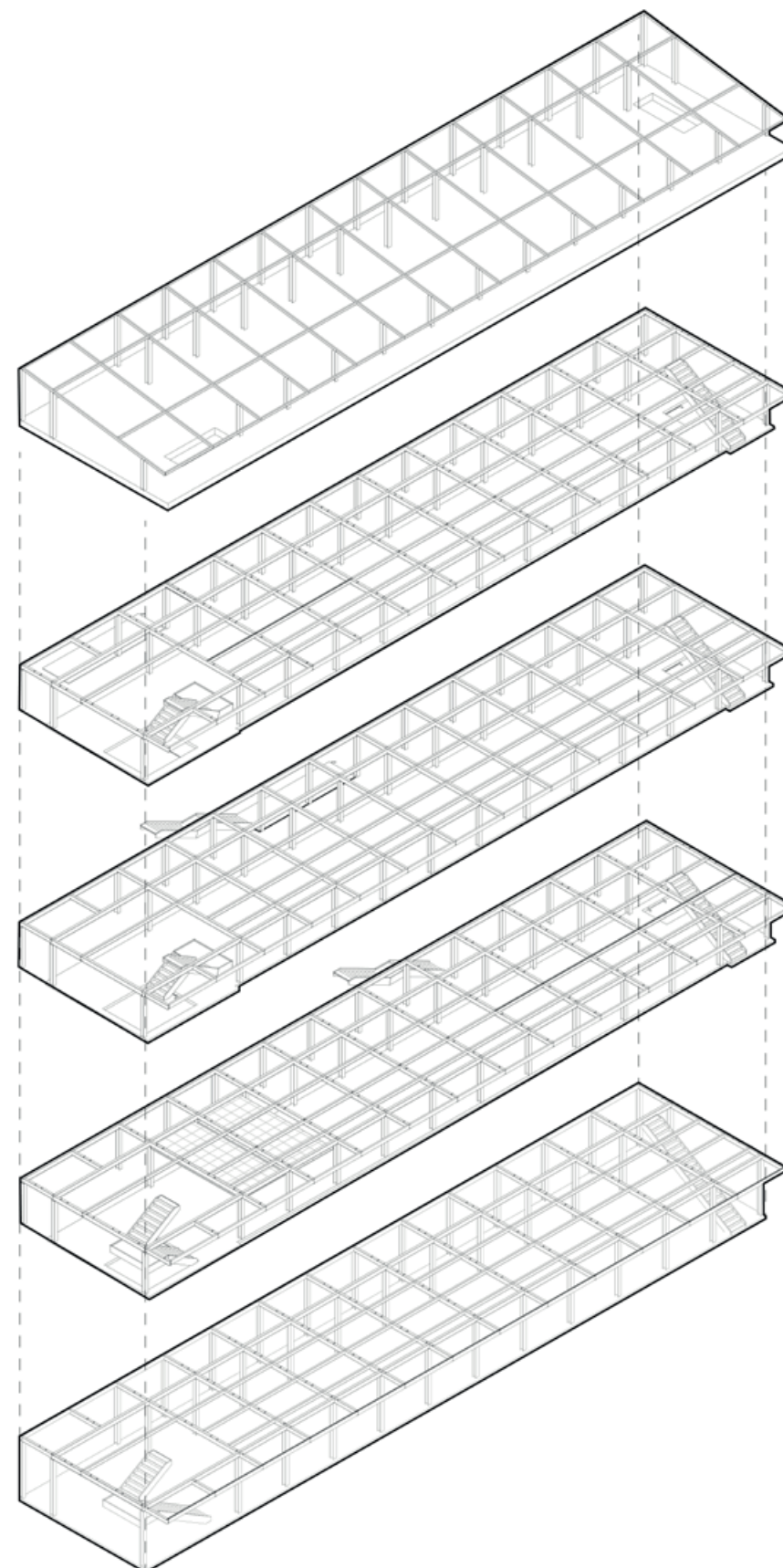
creating a living environment that supports both physical well-being and mental relaxation.



facade envelope



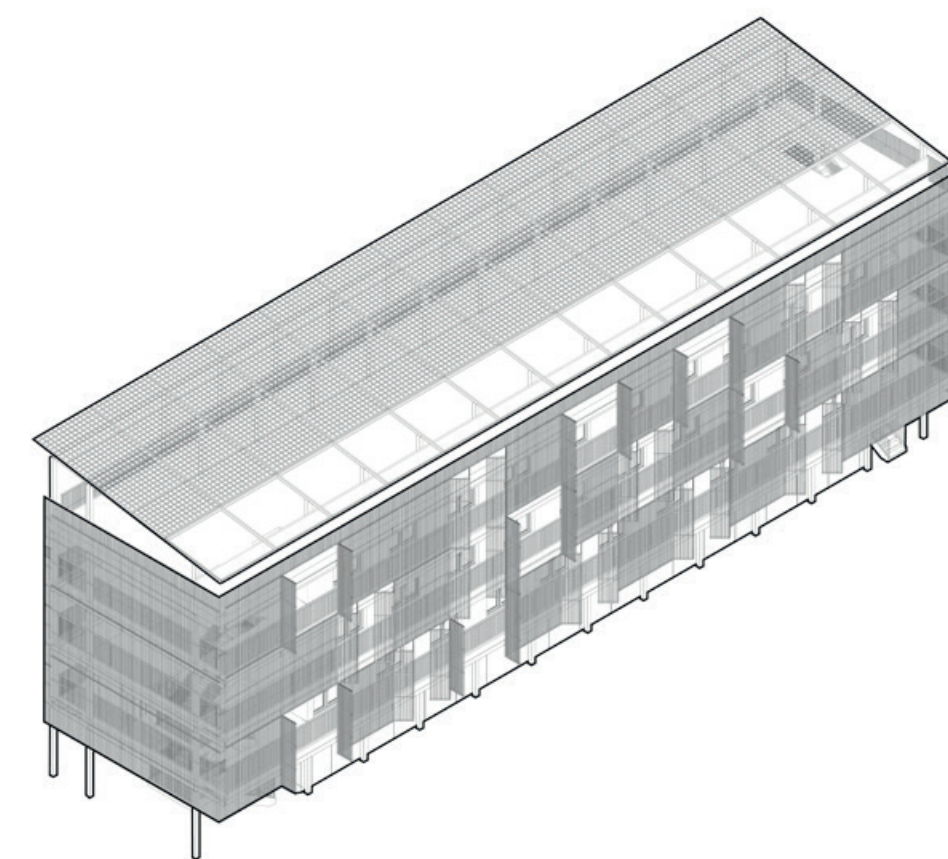
section



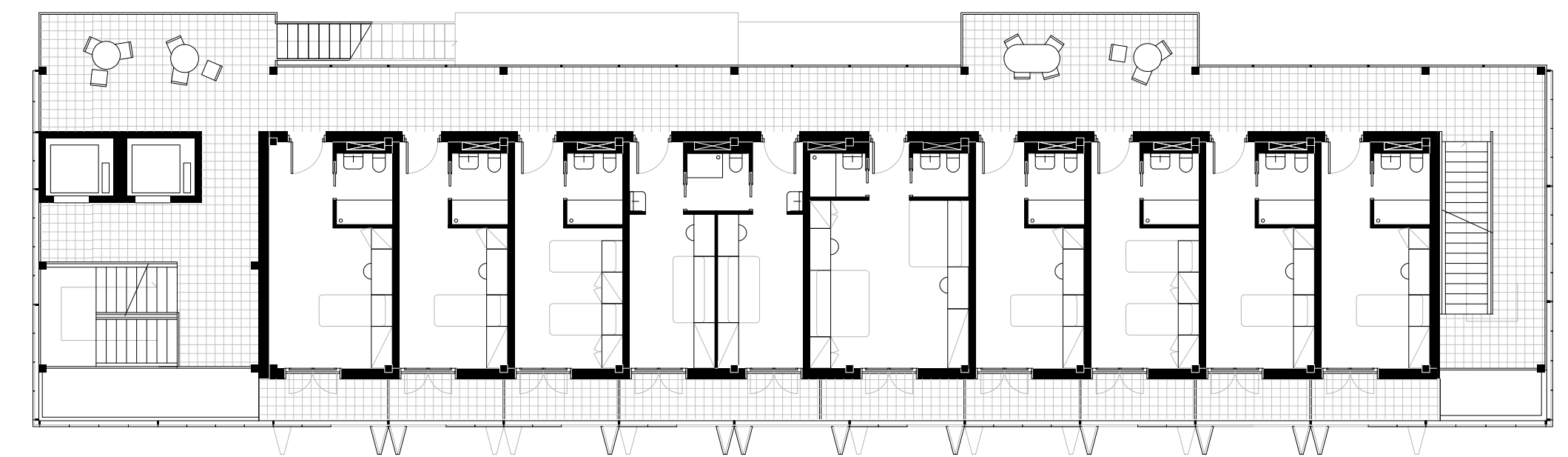
structural solution



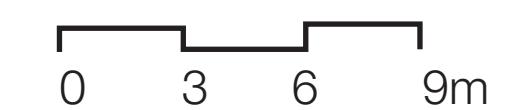
south elevation



axonometric view



plan



ZONE A BUILDING TYPE L.

Short-Term vs Long-Term
Term Stay Logic

The distribution of unit types reflects different periods:

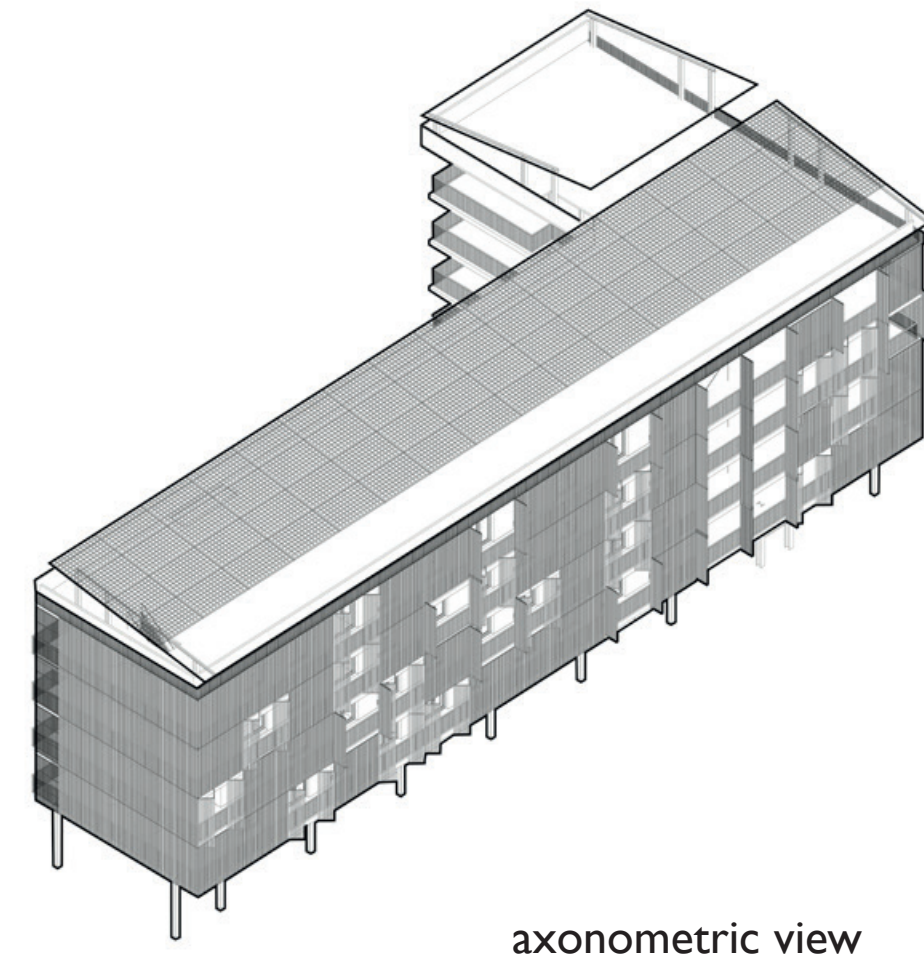
Units without kitchens short-term stays (competition phase)
Units with integrated kitchens long-term stays (training periods)

This introduces a functional gradient across the buildings, allowing the same architectural system to host diverse user profiles without spatial reconfiguration.

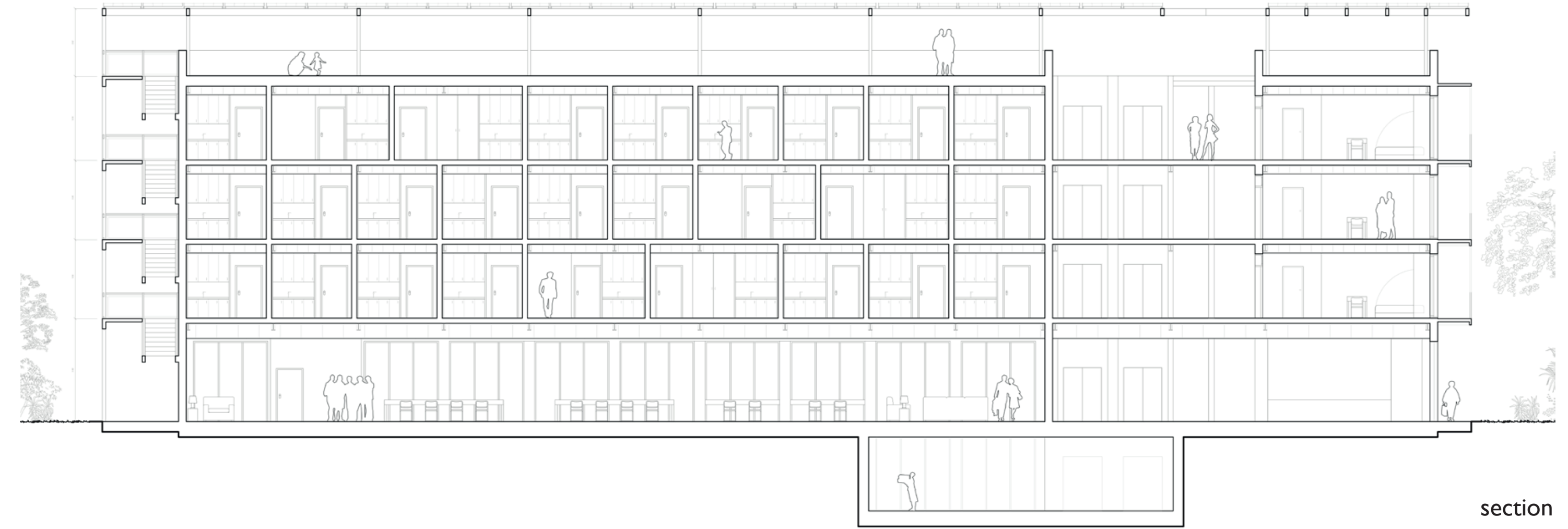
Environmental Comfort and Control

Cross-ventilation and façade permeability enhance indoor comfort
Movable shading panels regulate solar exposure
balconies act as buffer zones, mediating between interior and exterior
The façade becomes an interface, allowing users to adjust light, privacy, and flexibility contributing to both comfort and energy performance.

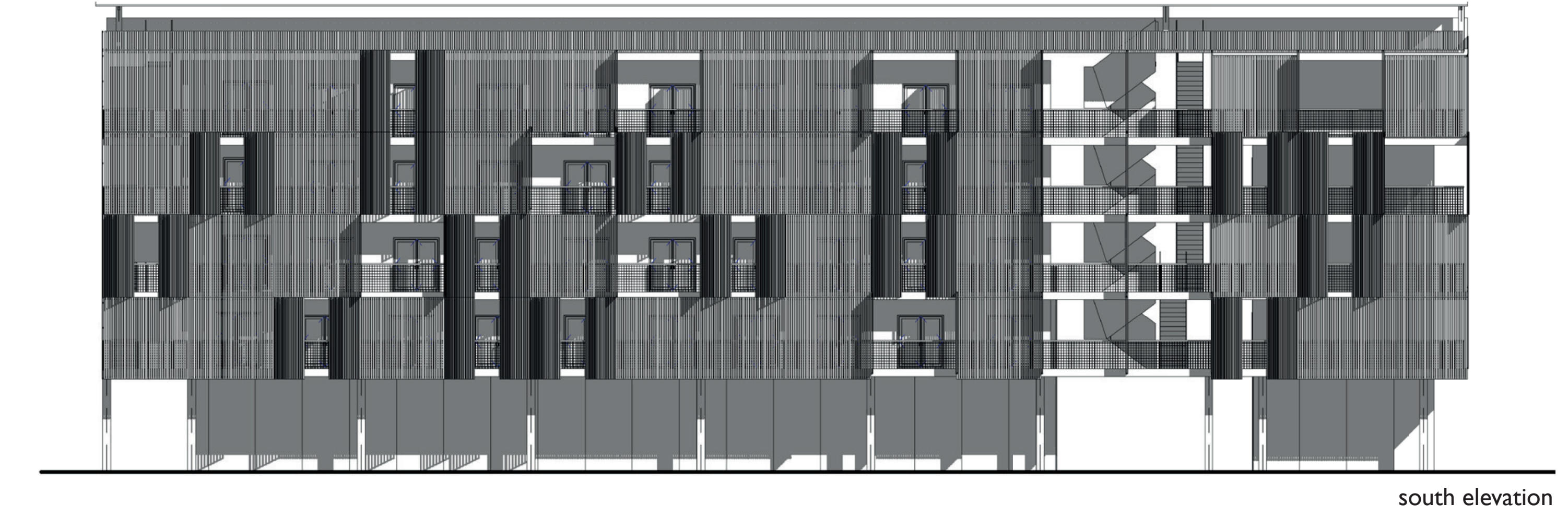
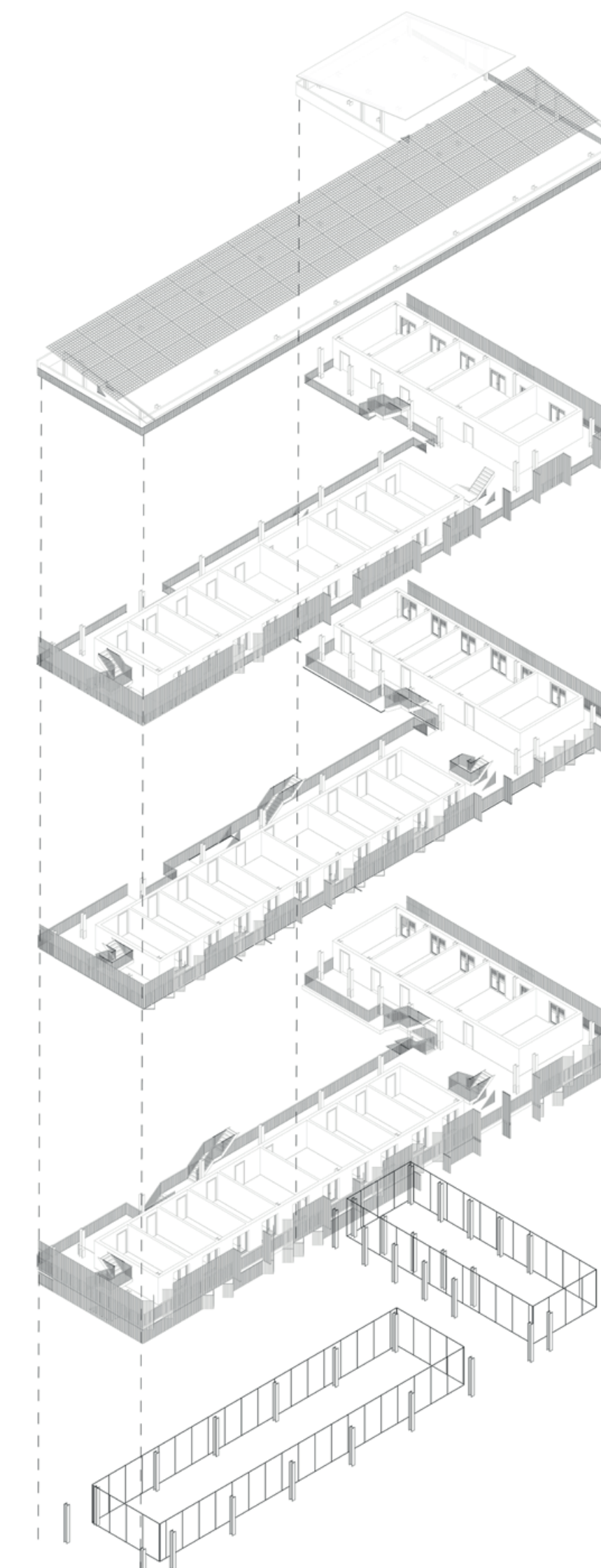
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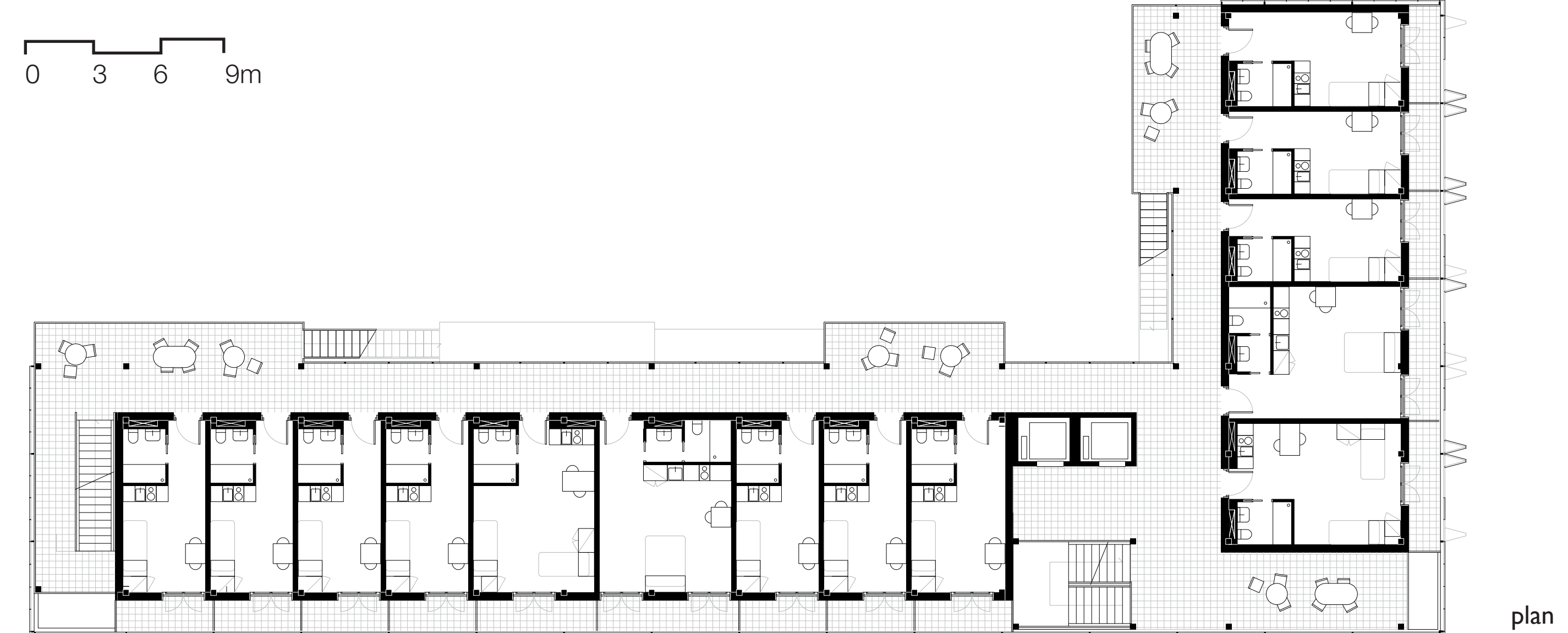
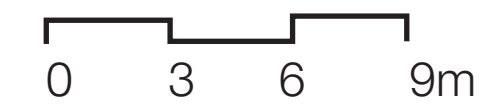
axonometric view



section



south elevation



plan

ZONE A ROOM STRUCTURES.

The buildings are based on a modular and repeatable system, ensuring flexibility and adaptability over time.

The design relies on a base façade module, which allows the configuration of different unit types through aggregation:

Single units (2A)
Double units (3A)

A key aspect of the strategy is the geometric equivalence between modules, allowing:

3 single rooms, 3 occupants
to be transformed into
2 double rooms, 4 occupants.

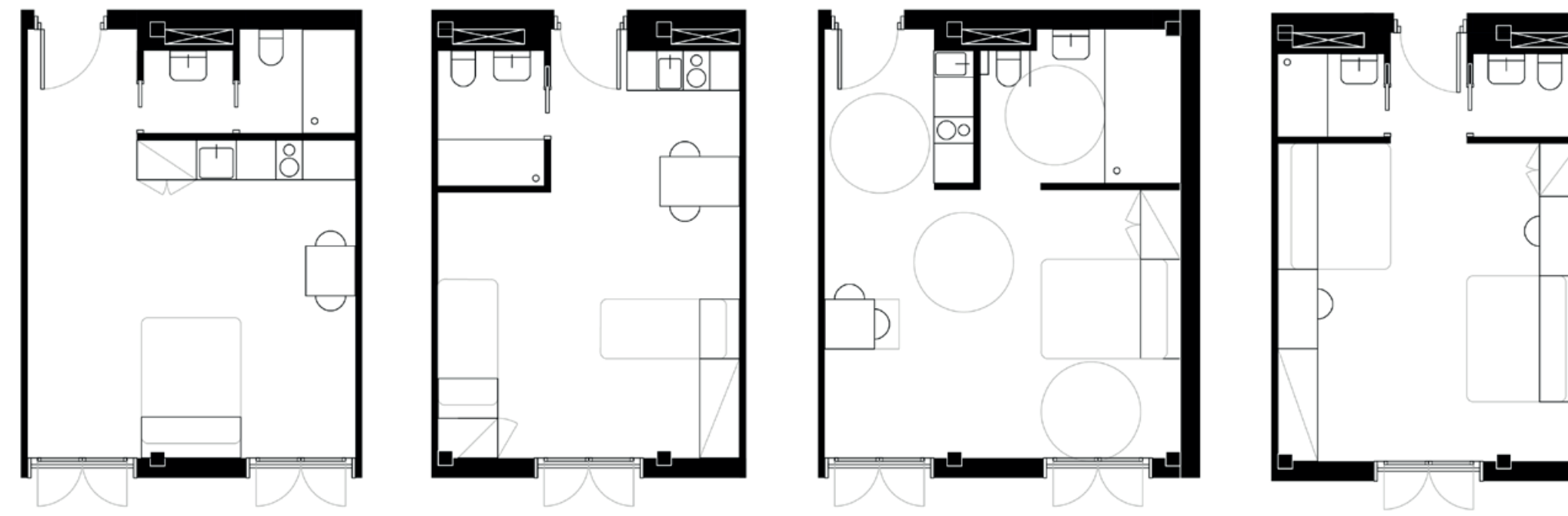
This system enables a dynamic adjustment between unit number and occupancy density, without altering the overall building volume.

Additionally, internal variations include:

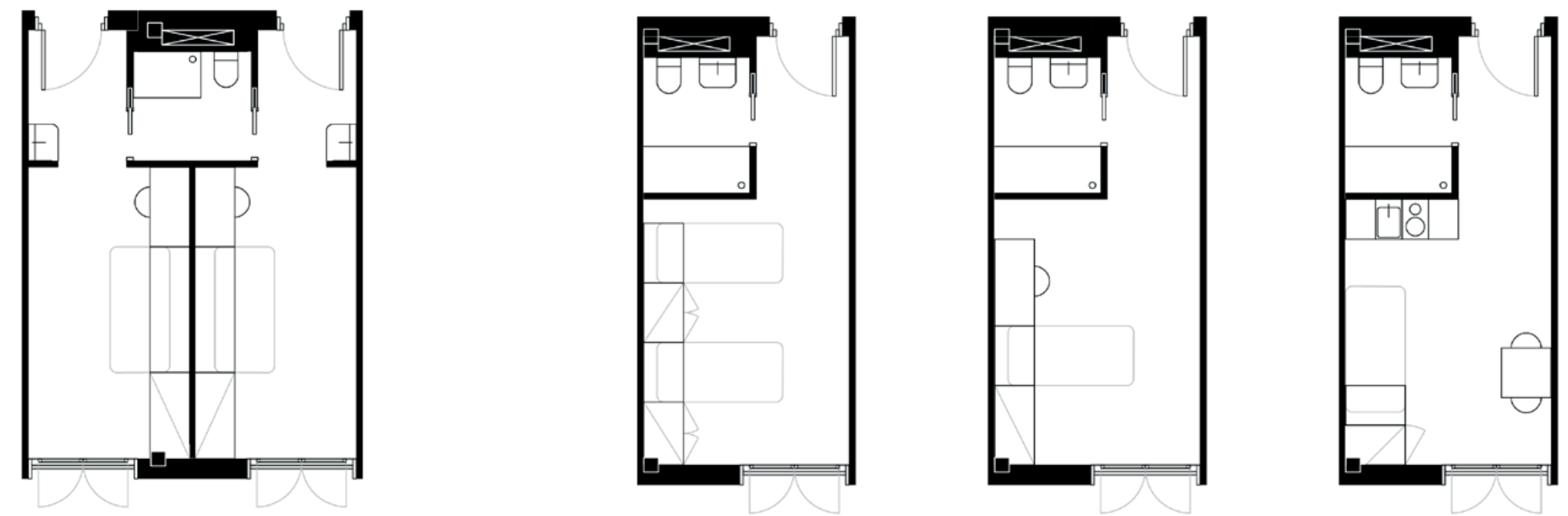
Units with integrated kitchens (for long stays)
units without kitchens (for short stays)

% Superficie: Singole - Doppie	Moduli utilizzati: Singole - Doppie	Camere Singole	Camere Doppie	Totale Persone	Esempio grafico su uno dei blocchi
100% - 0%	156 - 0	156	0	156	
70% - 30%	108 - 48	108	32	172	
40% - 60%	63 - 93	63	62	187	
10% - 90%	15 - 141	15	94	203	

double rooms

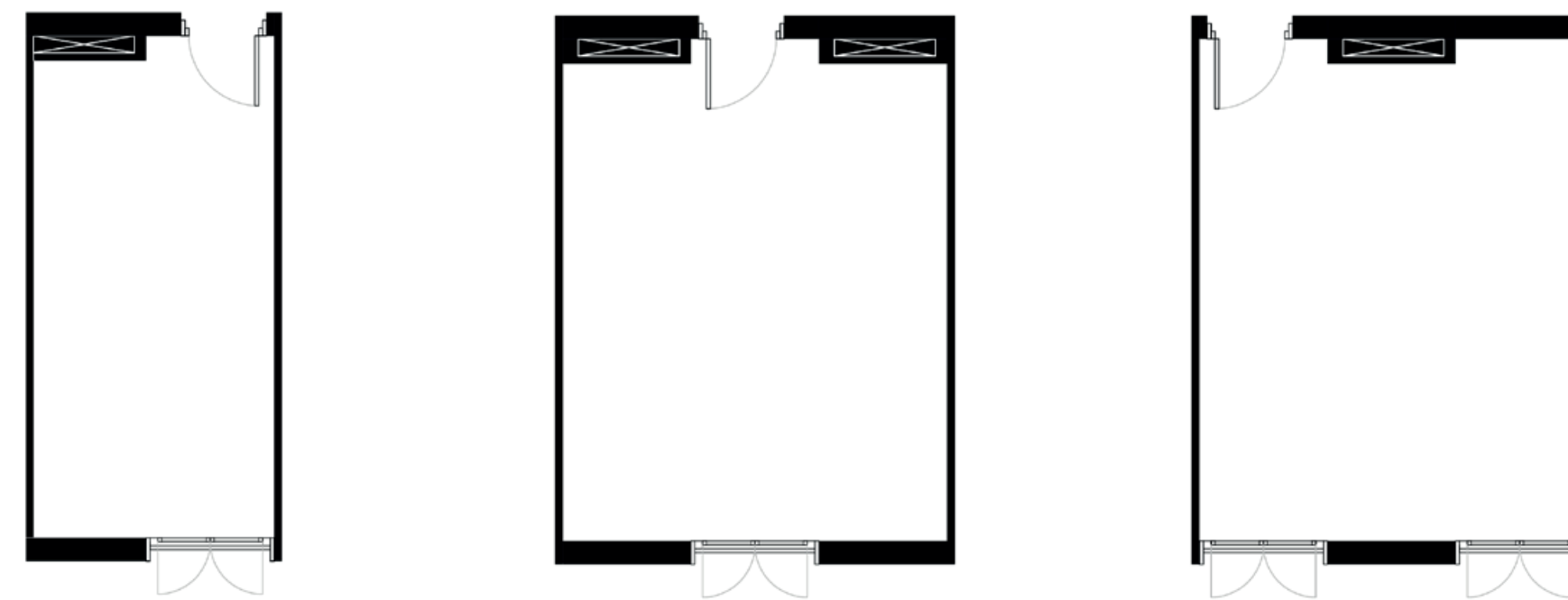


single rooms



0 1 2.5 5m

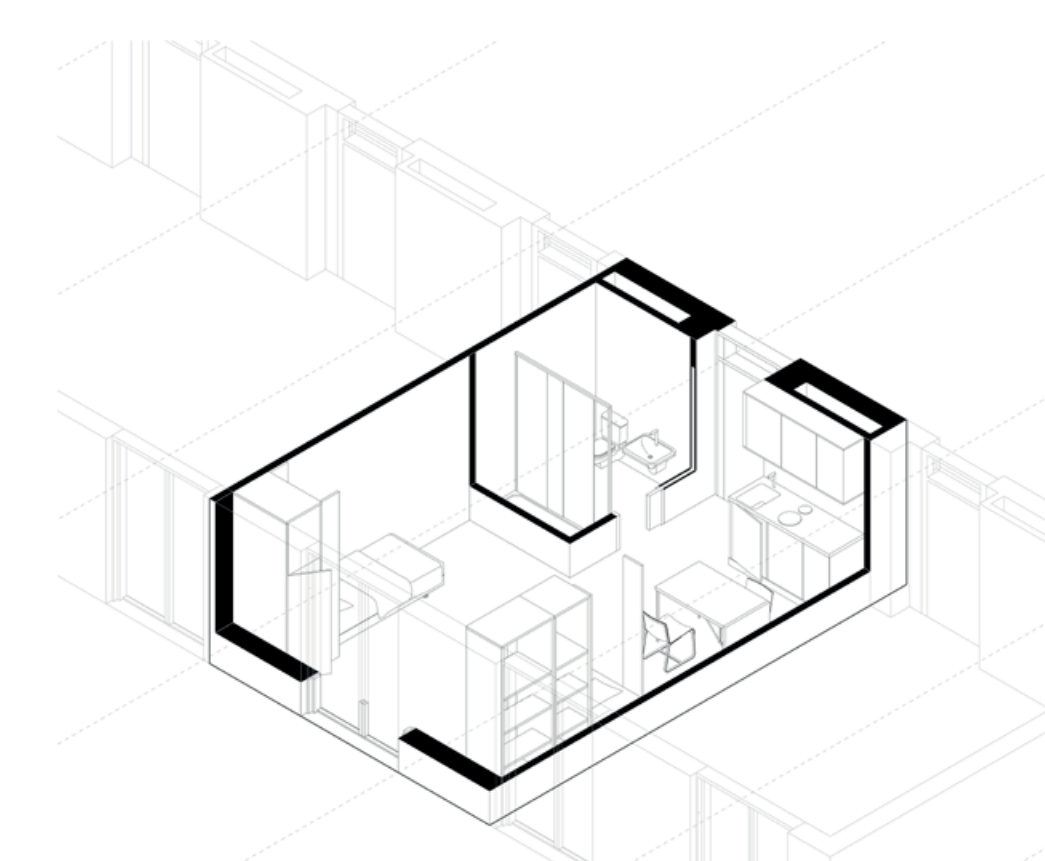
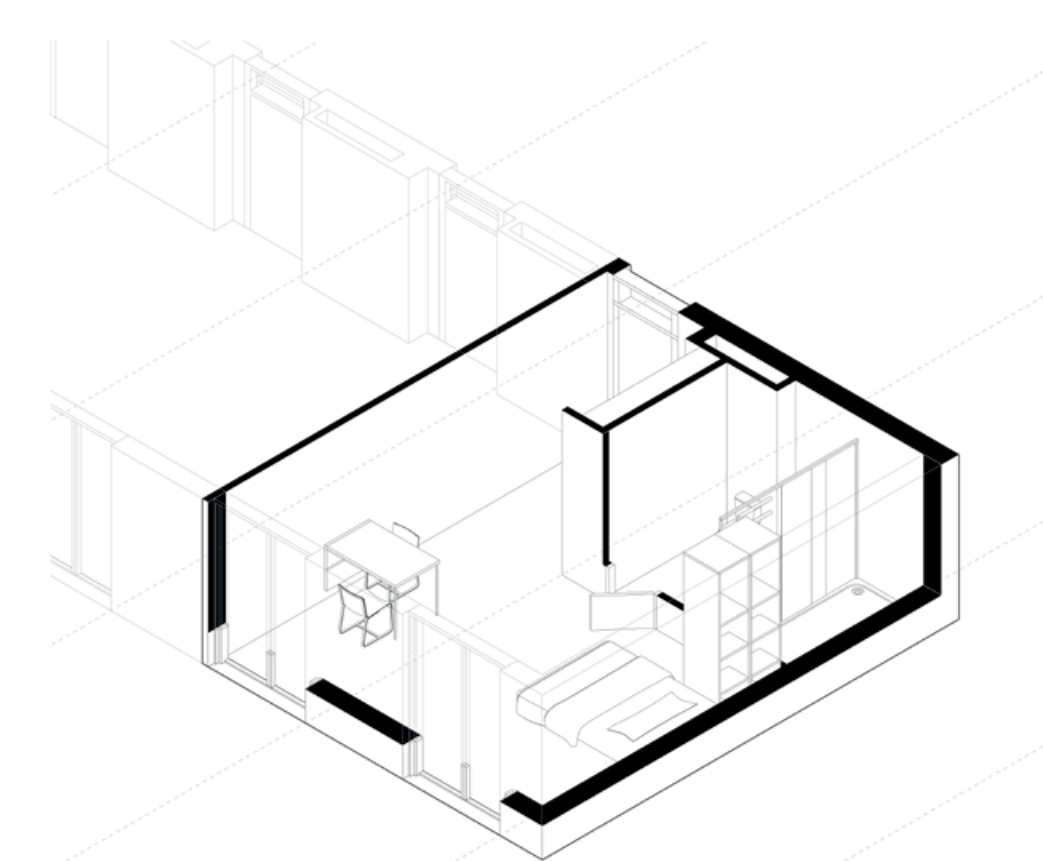
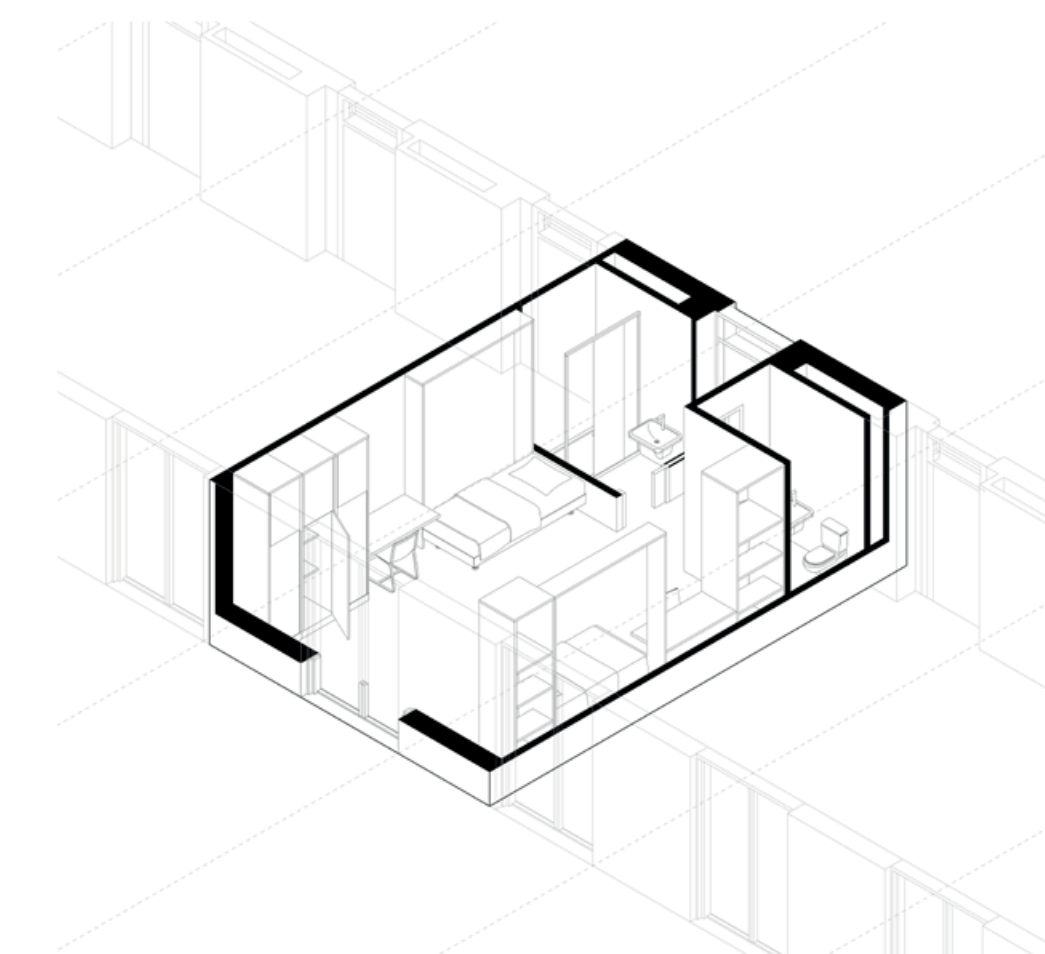
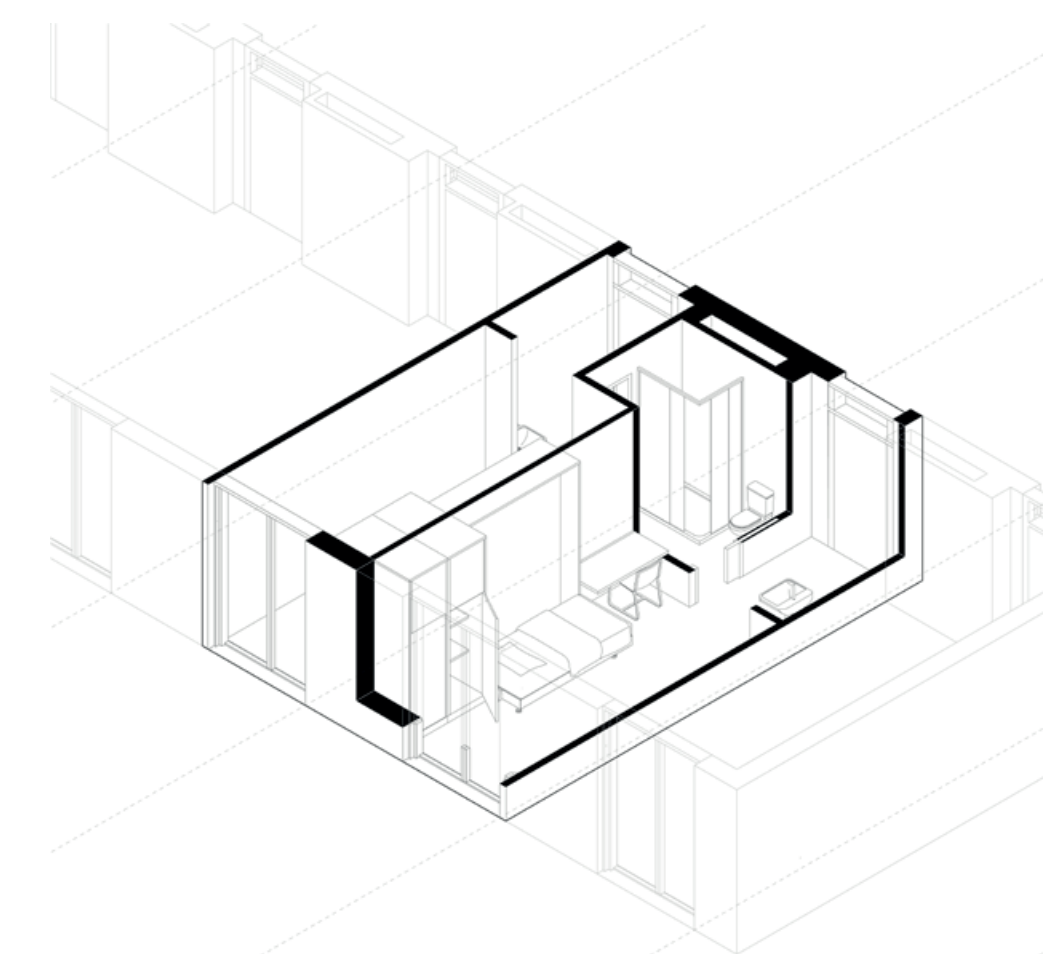
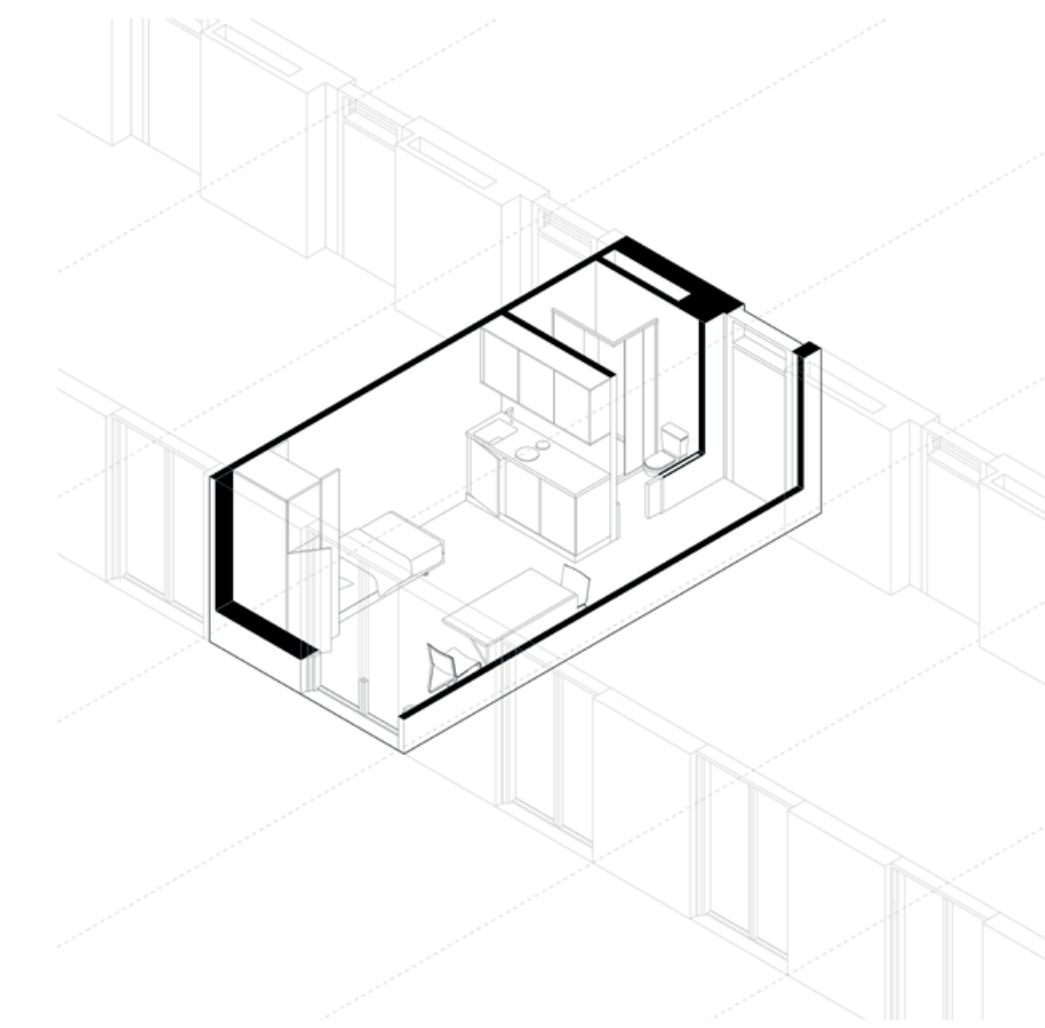
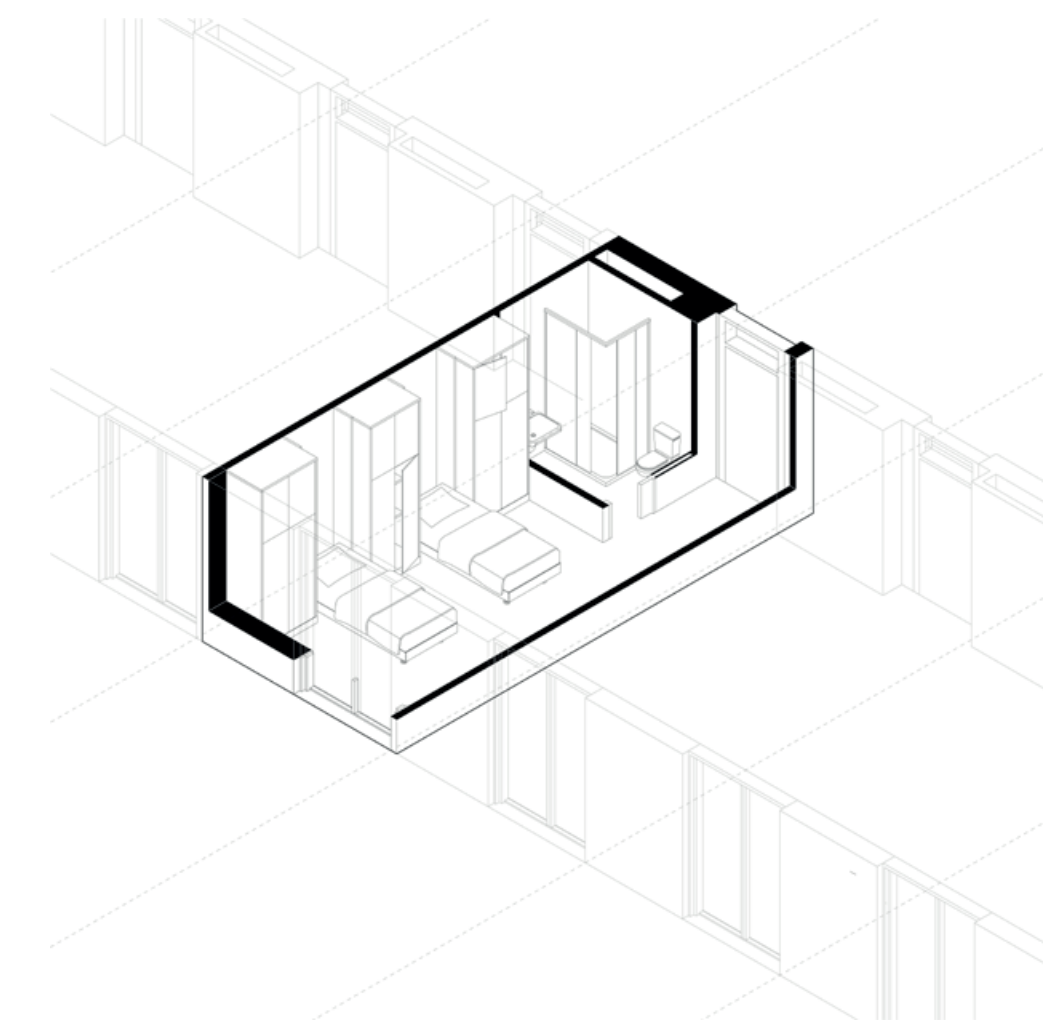
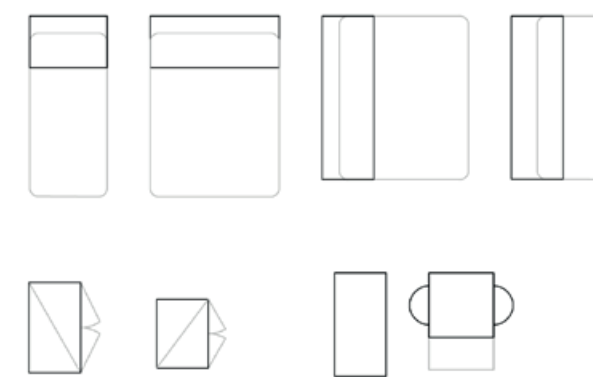
room options



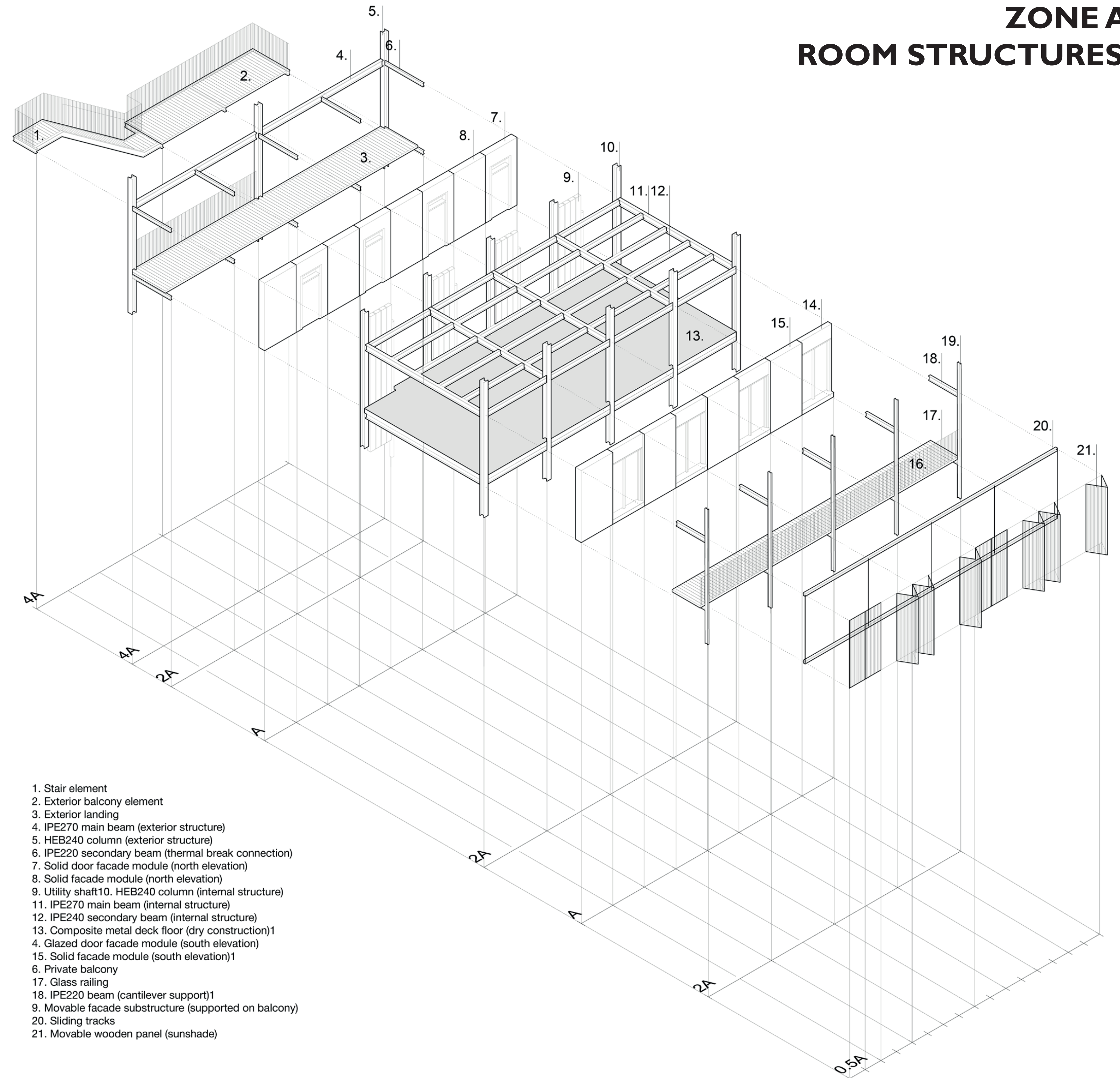
bathroom variations



furniture variations

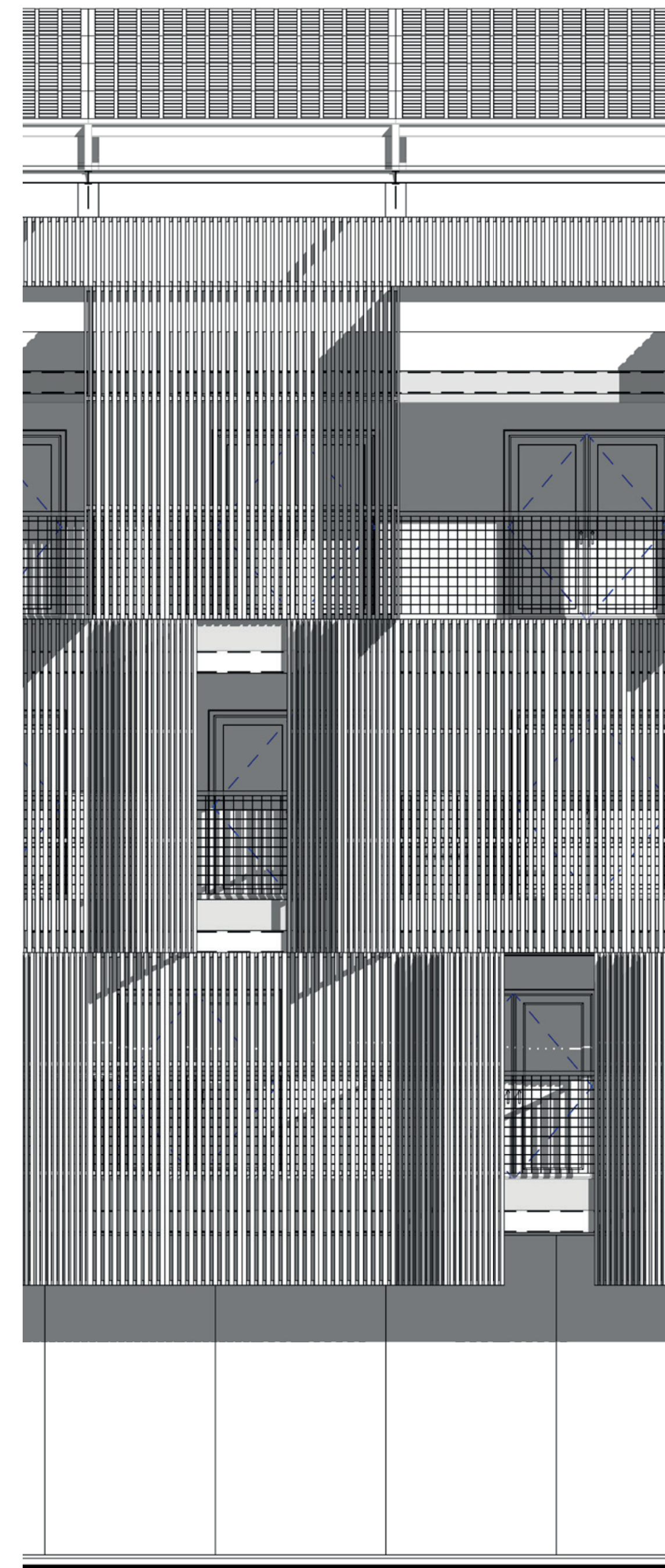
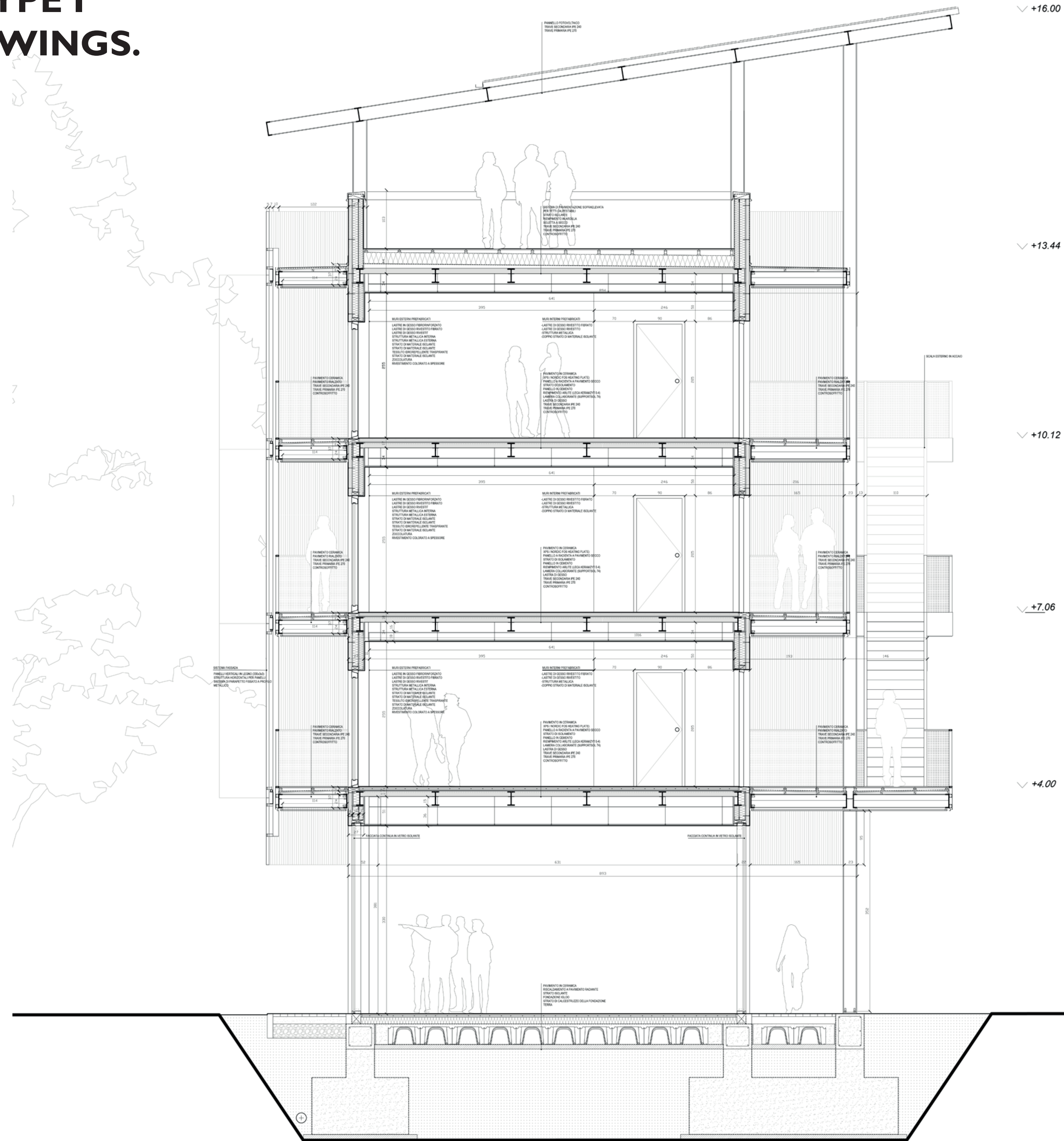


ZONE A ROOM STRUCTURES.



1. Stair element
2. Exterior balcony element
3. Exterior landing
4. IPE270 main beam (exterior structure)
5. HEB240 column (exterior structure)
6. IPE220 secondary beam (thermal break connection)
7. Solid door facade module (north elevation)
8. Solid facade module (north elevation)
9. Utility shaft10. HEB240 column (internal structure)
11. IPE270 main beam (internal structure)
12. IPE240 secondary beam (internal structure)
13. Composite metal deck floor (dry construction)1
4. Glazed door facade module (south elevation)
15. Solid facade module (south elevation)1
6. Private balcony
17. Glass railing
18. IPE220 beam (cantilever support)1
9. Movable facade substructure (supported on balcony)
20. Sliding tracks
21. Movable wooden panel (sunshade)

ZONE A BUILDING TYPE I DETAIL DRAWINGS.



facade geometry

ZONE A CONSTRUCTION DETAILS 1/20

modular shading system

The façade is conceived as a layered and dynamic system, combining environmental performance with spatial expression.

It consists of:

prefabricated modular panels
movable wooden screens running on tracks

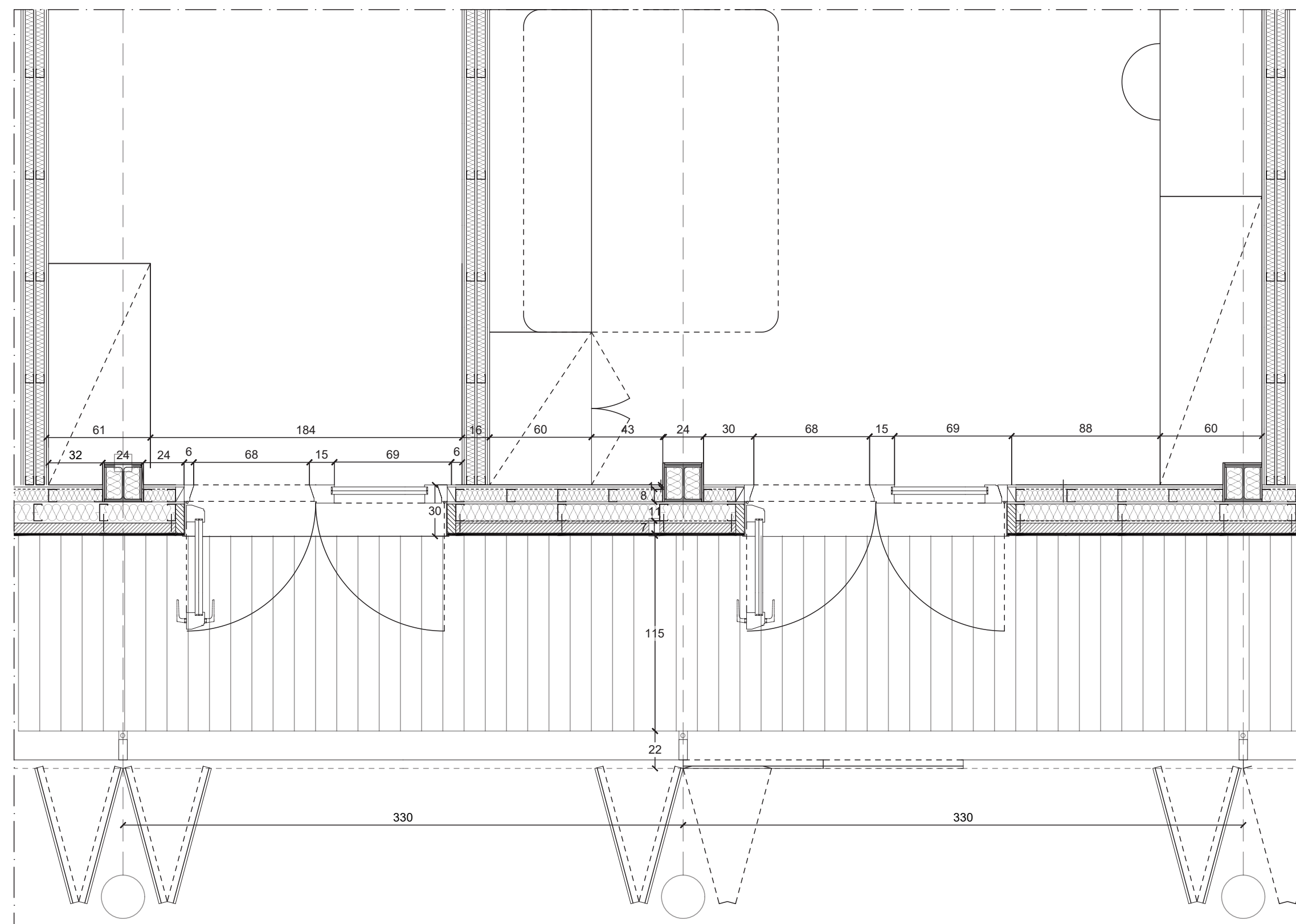
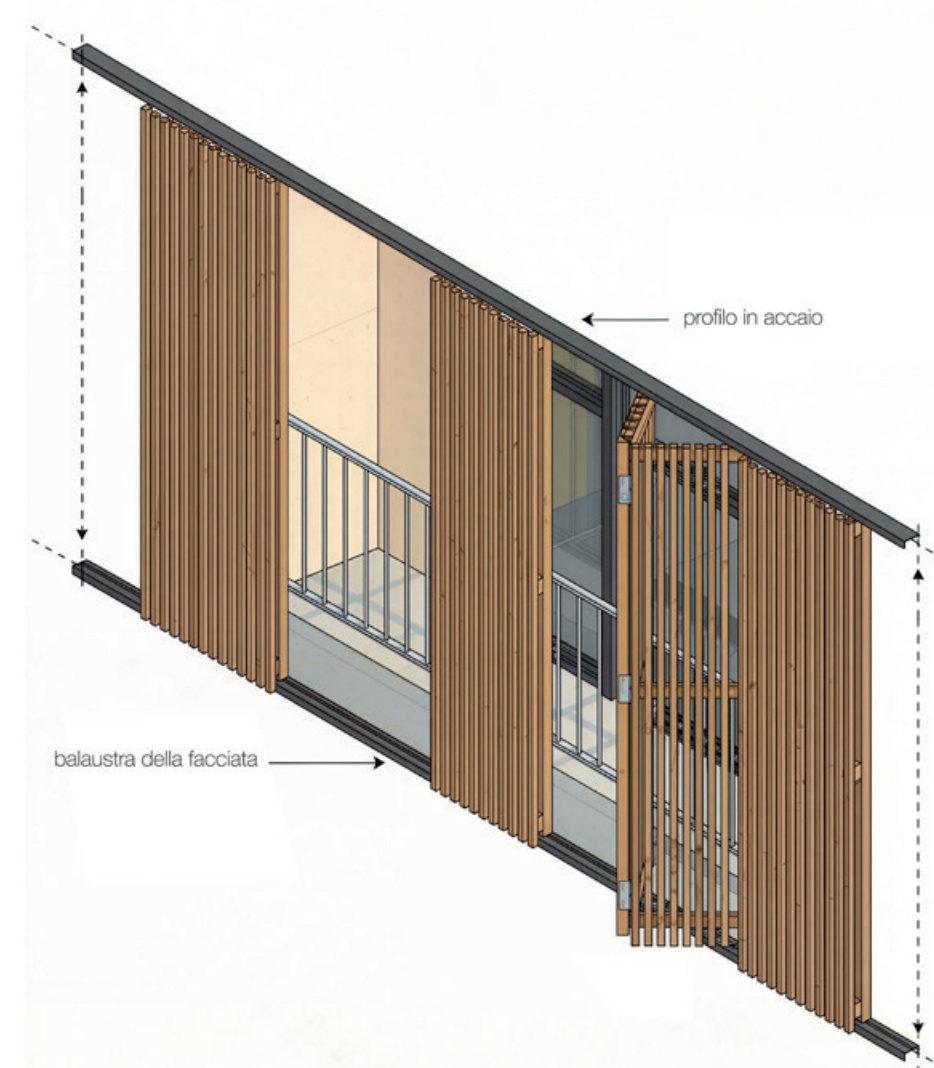
These sliding panels act as:

solar shading devices
privacy filters
elements of façade variability

The result is a façade that is not static, but adaptable and responsive, capable of changing according to climate conditions and user interaction.

The presence of balconies further thickens the façade, transforming it into a habitable threshold rather than a simple enclosure. The façade is conceived as a layered and dynamic system, combining environmental performance with spatial expression.

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- 1-ELEMENTO DI COLLEGAMENTO
- 2-ELEMENTO DI CHIUSURA
- 3-davanzale
- 4-VITE
- 5-ISOLAMENTO

- 6-COPERTURA
- SISTEMA DI PAVIMENTAZIONE SOPRAELEVATA PER TETTI CALPESTABILI
- STRATO ISOLANTE
- RIEMPIMENTO IN ARGILLA
- SOLETTA A SECCO
- TRAVE SECONDARIA IPE 240
- TRAVE PRIMARIA IPE 270
- CONTROSOFFITTO

- 7-PARAPETTO
- 8-PANNELLO DI FACCIATA
- 9-ELEMENTO DI COLLEGAMENTO BALCONE
- 10- GUIDA PANNELLO DI FACCIATA
- 11-PROFILO STRUTTURALE C
- 12-BULLONE

- 13- MURI ESTERNI PREFABRICATO
- LASTRE IN GESSO FIBRORINFORZATO
- LASTRE DI GESSO RIVESTITO FIBRATO
- LASTRE DI GESSO RIVESTIT
- STRUTTURA METALLICA INTERNA
- STRUTTURA METALLICA ESTERNA
- STRATO DI MATERIALE ISOLANTE
- TESSUTO IDROREPELLENTE TRASPIRANTE
- STRATO DI MATERIALE ISOLANTE
- ZOCOLATURA
- RIVESTIMENTO COLORATO A SPESSORE

- 14-PORTA IN ALLUMINIO

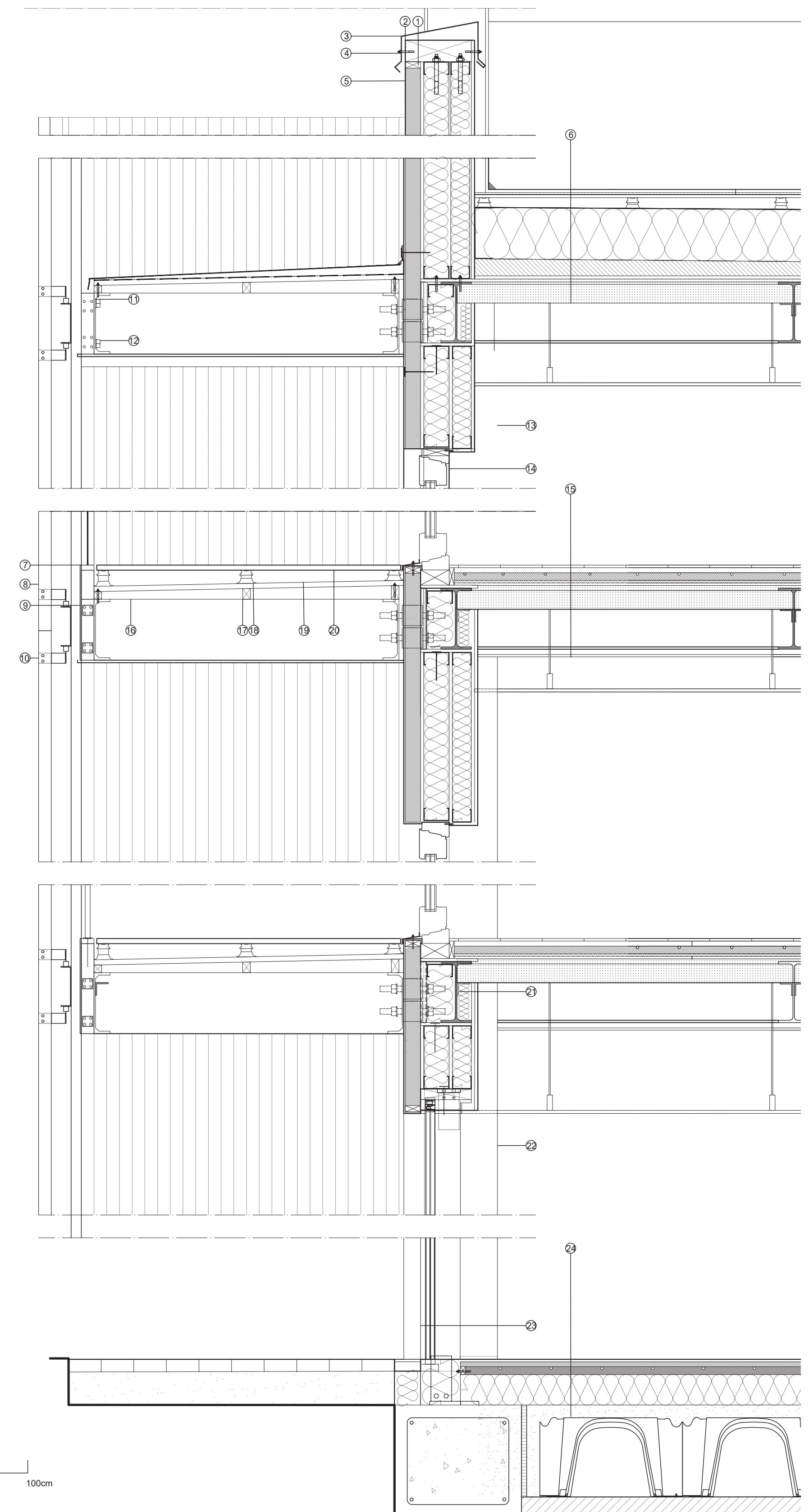
- 15- SOLETTA SECCO
- PAVIMENTO IN CERAMICA
- XPS / NORDIC FOS HEATING PLATE
- PANNELLO A RADIENZA A PAVIMENTO SECCO
- STRATO DI ISOLAMENTO
- PANNELLO IN CEMENTO
- RIEMPIMENTO ARLITE (LECA KERAMZYT 0-4)
- LAMIERA COLLABORANTE (SUPPORTSOL 74)
- LASTRA DI GESSO
- TRAVE SECONDARIA IPE 240
- TRAVE PRIMARIA IPE 270
- CONTROSOFFITTO

- 16-PANNELLO DEL SOFFITTO DEL BALCONE
- 17-ELEMENTO DI SUPPORTO
- 18-PEDESTALE
- 19-MEMBRANA
- 20-FINITURA CERAMICA DEL BALCONE

- 21-SCHOCK ISOKORB
- 22-COLONNA IN ACCIAIO
- 23-FACCIATA IN VETRO

- 24-LASTRA DI FONDAZIONE
- PAVIMENTO IN CERAMICA
- RISCALDAMENTO A PAVIMENTO RADIANTE
- STRATO ISOLANTE
- FONDAZIONE IGLOO
- STRATO DI CALCESTRUZZO DELLA FONDAZIONE

SEZIONE 1/20



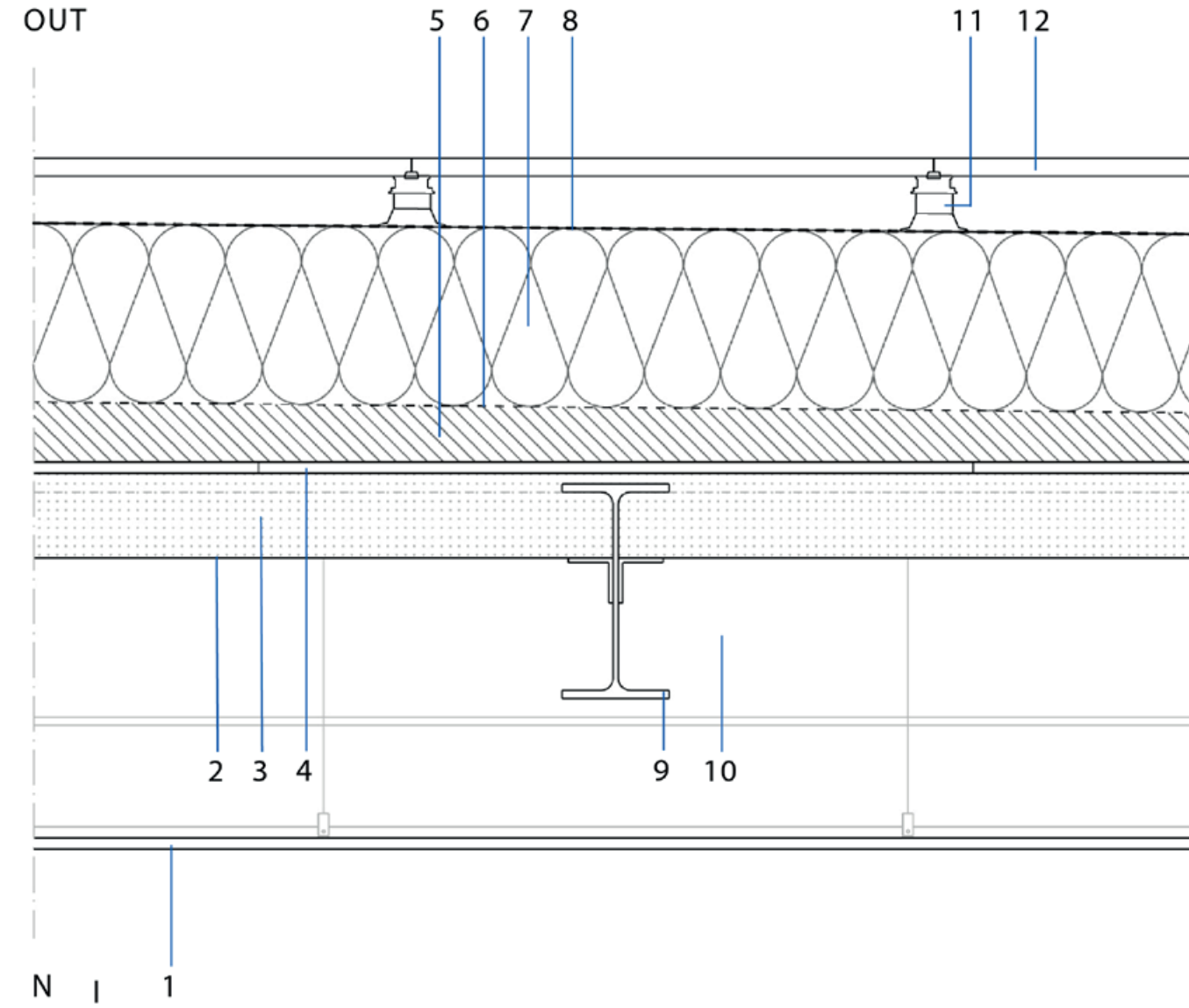
ZONE A IMAGES



SAINT GOBAIN SOLUTIONS. CONSTRUCTION DETAILS I/10

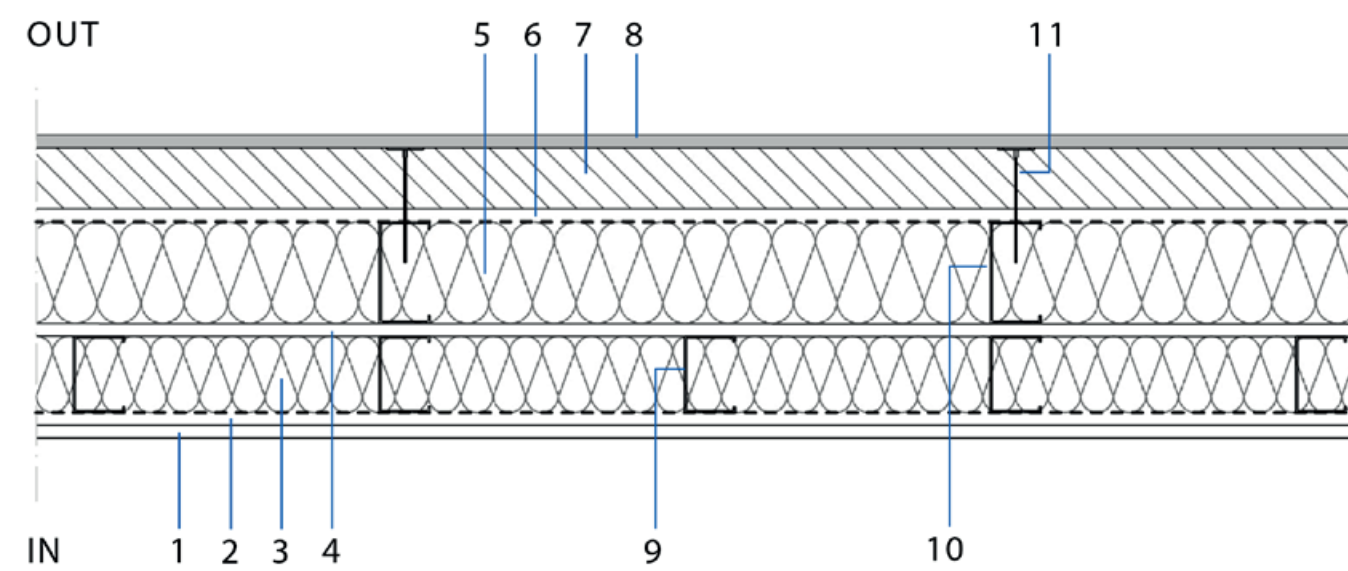


Horizontal closure: A walkable dry flooring system



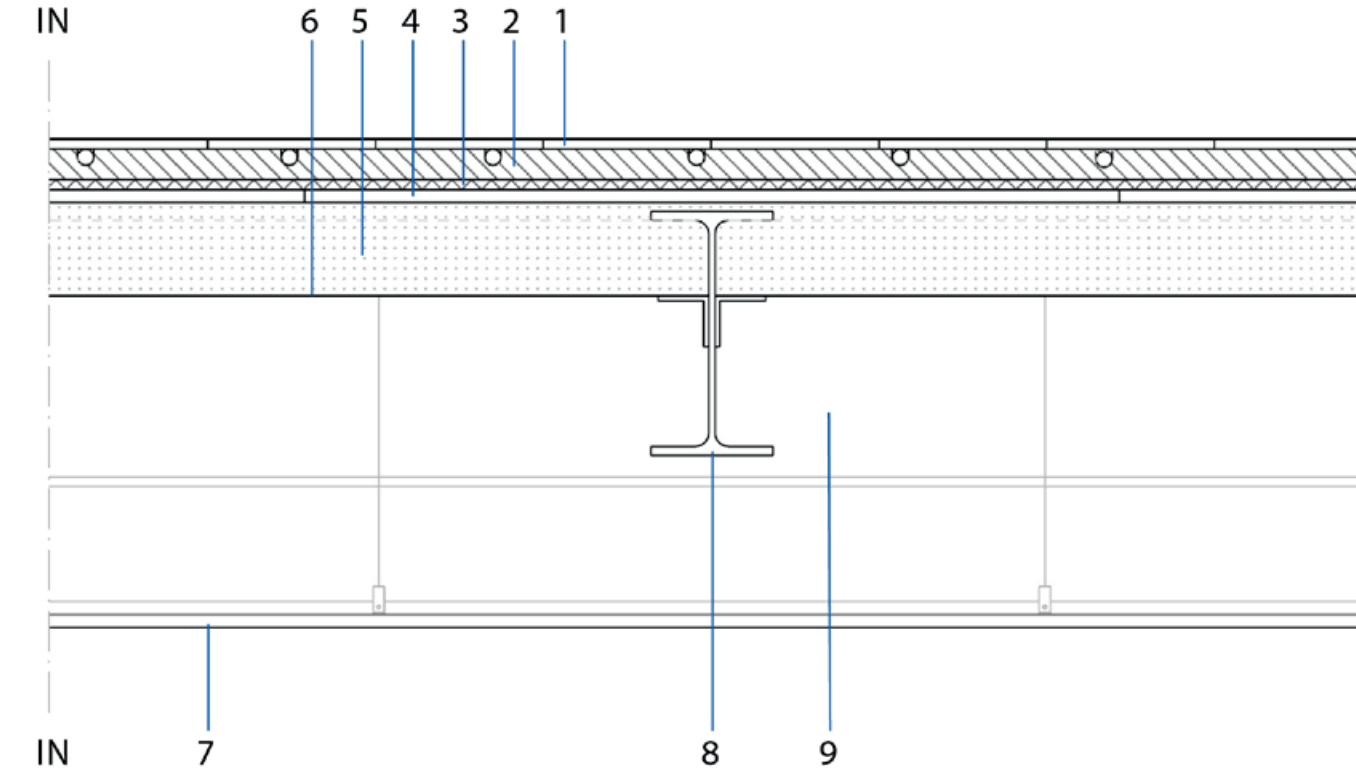
1. Gypsum board
2. Reinforced metal sheet (Supportsol® 74)
3. Arlite fill (LECA® KERAMZYT 0-4 R)
4. Concrete panel
5. EPS slope formwork (Austrotherm EPS® Gefälle)
6. EPDM membrane
7. XPS panel (Austrotherm XPS® TOP 50)
8. Geotextile
9. Secondary Beam (IPE 240)
10. Primary Beam (IPE 270)
11. Adjustable supports
12. Flooring

Vertical closure: Gyproc GX1 CLIMA System



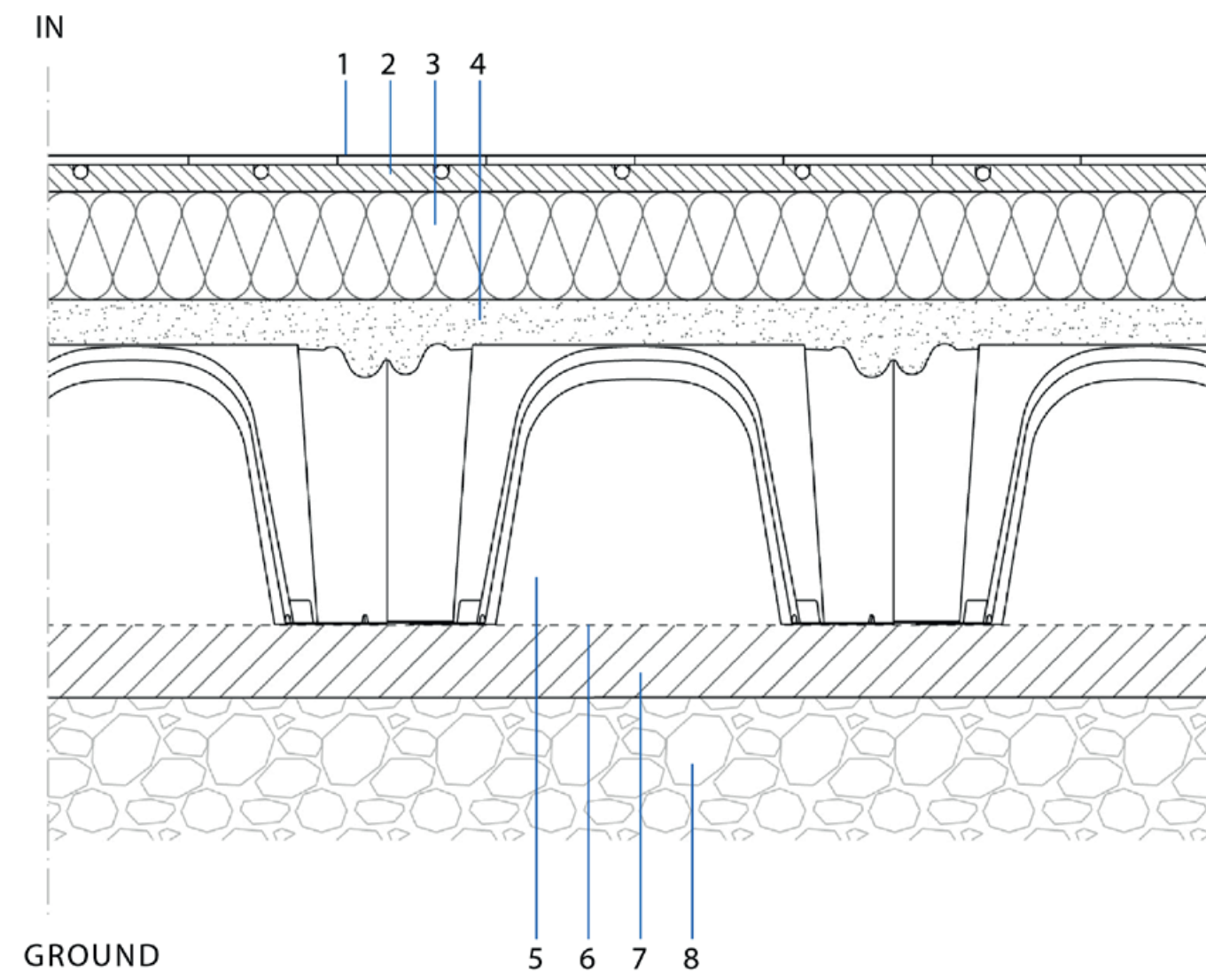
1. High-density coated gypsum board (Gyproc Habito Forte 13)
2. Gypsum board with vapor barrier (Gyproc Vapor 13)
3. Glass wool in cavity (Isover PAR 4+)
4. High-density coated gypsum board (Gyproc Habito Forte 13)
5. Mineral wool in cavity (Isover Arena 34)
6. Fiber-reinforced gypsum board (Gyproc Glasroc X)
7. Glass wool for external insulation systems (Isover Clima34 G3)
8. Lightweight cement board (Gyproc Aquaroc)
9. Internal metal stud framing (Gyproc Gyprofile)
10. External metal stud framing (Gyproc External Profile Zn-Mg)
11. Universal anchors (TA9 PLUS)

Intermediate floor: high-efficiency dry-laid layered system



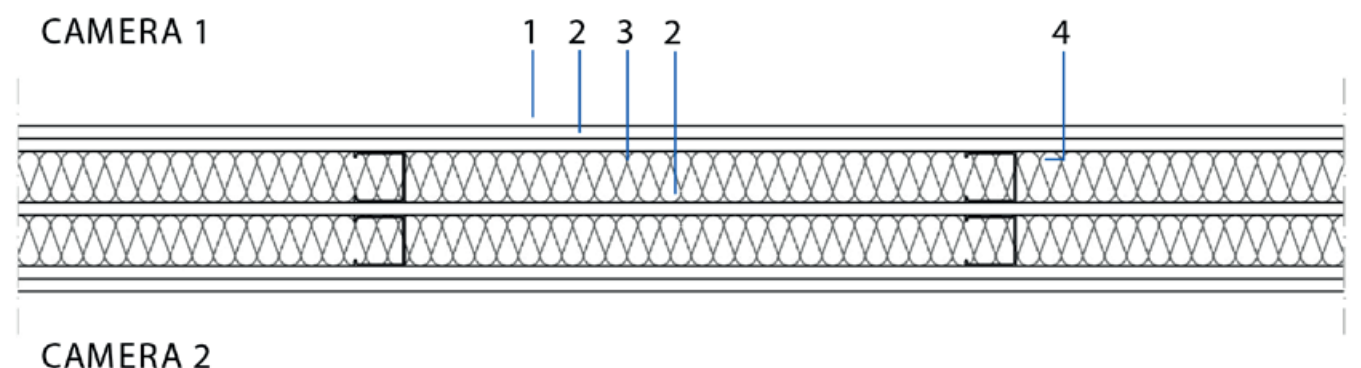
1. Ceramic flooring
2. XPS dry floor radiant panel (NORDIC FOS Floor heating plate)
3. Impact sound insulation layer
4. Concrete panel
5. Arlite fill (LECA® KERAMZYT 0-4 R)
6. Reinforcing sheet (Supportsol® 74)
7. Gypsum board
8. Secondary Beam (IPE 240)
9. Primary Beam (IPE 270)

Lower horizontal closure: high-performance ventilated base



1. Ceramic flooring
2. XPS dry floor radiant panel (NORDIC FOS Floor heating plate)
3. XPS panel (Austrotherm XPS® TOP 30)
4. Concrete slab
5. Air gap (Igloo)
6. Waterproofing membrane
7. Lean concrete
8. Soil

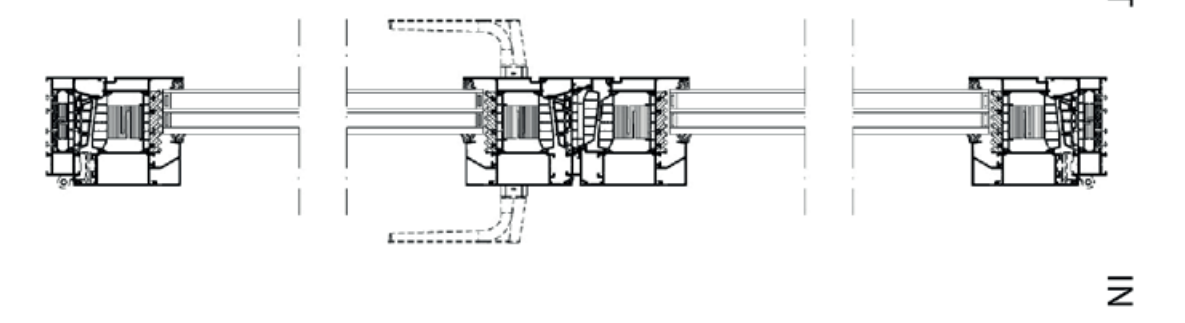
High-insulation vertical partition: ISOVERGYPROC system Double-layer structure



Technical specifications (SAD5 163/50 L HF STD system):
 Total thickness: 162.5 mm (double frame + 5 panels).
 Sound insulation rating R_w : 67 dB.
 Thermal transmittance U : 0.320 W/m^2K (Excellent thermal insulation between rooms).
 Fire resistance: EI 120 (Superior fire protection: 120 minutes).
 Special feature: Habito™ Forte panels (Impact resistance, suspended loads up to 30 kg per screw).

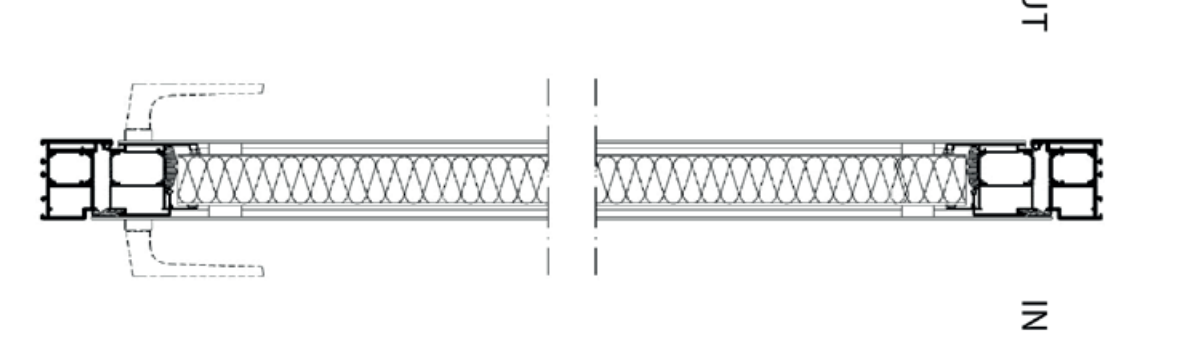
1. Fiber-reinforced gypsum board (Gyproc Habito® Forte 13)
2. Gypsum board (Gyproc Wallboard 13)
3. Glass wool (Isover AcustiPAR 4+)
4. Metal framing (Gyproc Gyprofile)

French doors (Terraces): Reynaers MasterLine 10 HI+ system



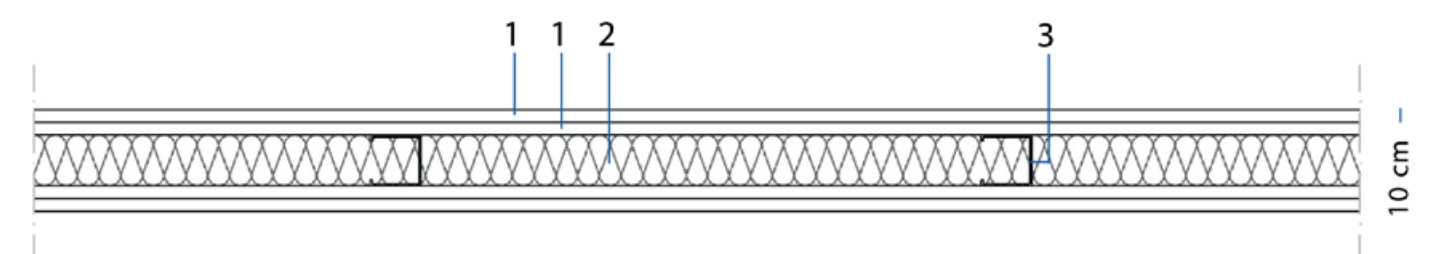
Technical specifications (MasterLine 10 HI+):
 Type: Double-sash French door.
 Frame U-value: up to 0.76 W/m^2K .
 Total window U-value: 0.80 W/m^2K (Passive House).
 Glazing: Triple-pane glass up to 88 mm.
 Sealing: Air Class 4 / Water E900.

Entrance door for residential units (External balcony): Reynaers MasterLine 8 Panel Door system



Technical Specifications (MasterLine 8 Panel Door):
 Type: Coplanar panel door (inward-opening)
 Installation depth: 77 mm.
 Thermal insulation U_d : up to 0.75 W/m^2K (HI+ variant with insulating panel).
 Air tightness: Class 4 (600 Pa) - Maximum tightness to prevent drafts from the hallway.
 Water tightness: Class 4A - 9A (Protection against driving rain).
 Security: RC2 / RC3 burglary resistance certification.

Internal vertical partition: ISOVER-GYPROC drywall system



Technical specifications (SA 100/50 LA34 STD system):
 Total thickness: 100 mm (optimized for space-saving).
 Sound insulation rating R_w : 55 dB (Excellent for privacy between bathroom and bedroom).
 Thermal transmittance U : 0.518 W/m^2K .
 Fire resistance: EI 90 (up to 5 m in height).
 Weight: approx. 50 kg/m^2 (very lightweight compared to brick partitions).

1. Gypsum board (Gyproc Wallboard 13)
2. Mineral wool (Isover Arena34)
3. Metal framing (Gyproc Gyprofile)

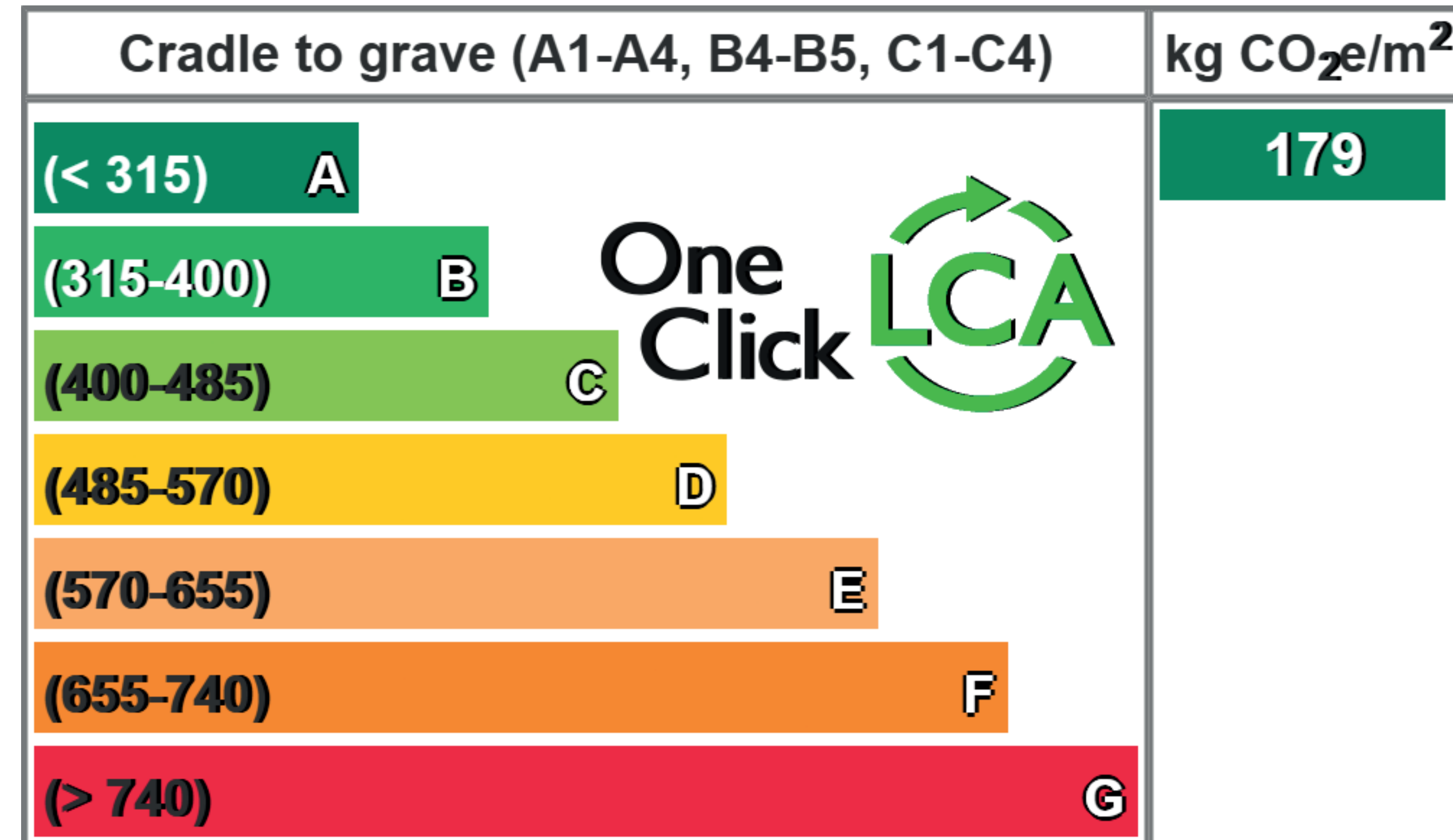
ZONE A LIFE CYCLE ASSESMENT

LCA ONECLICK RESULTS

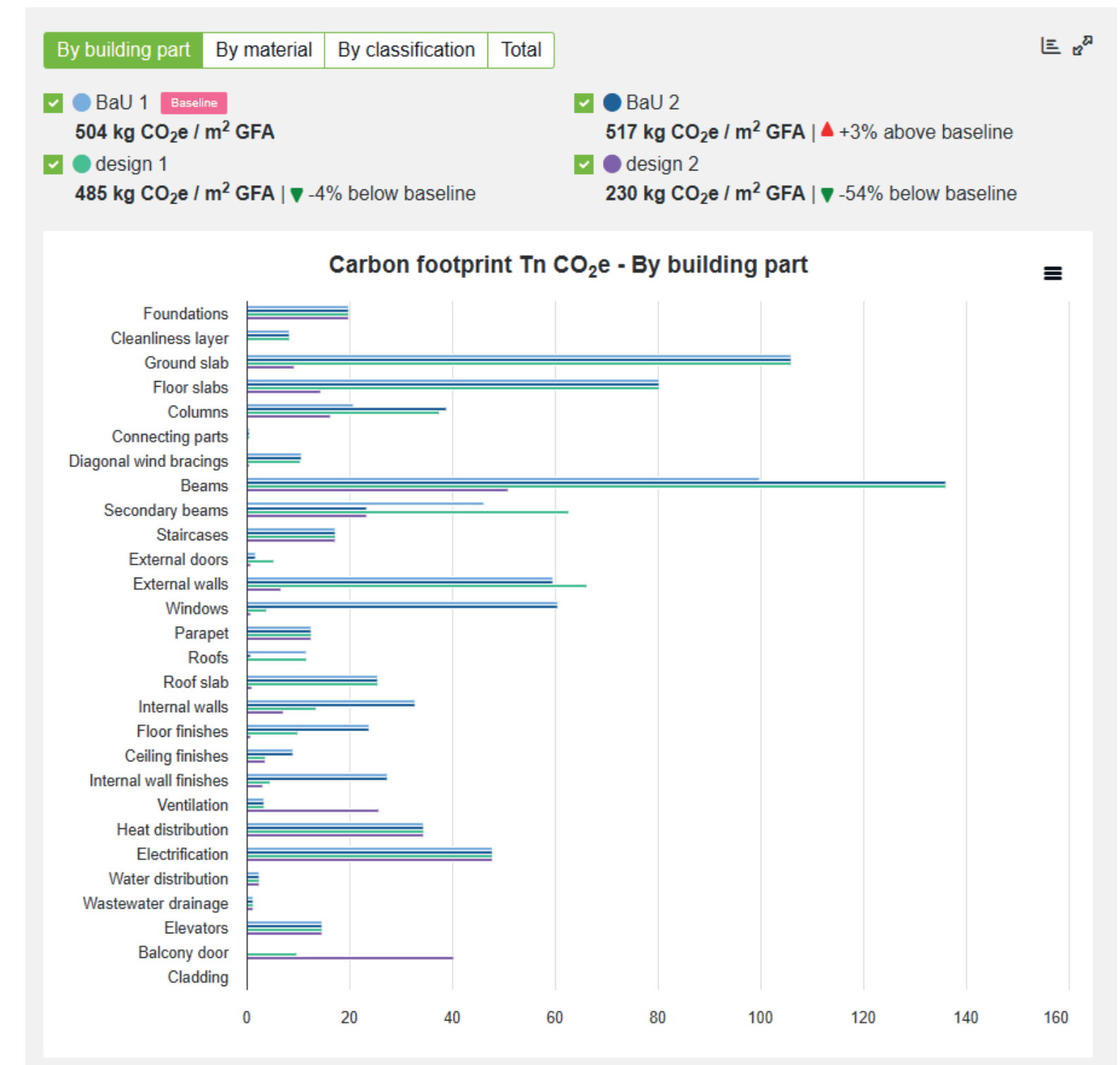
1. Structural Dominance: Embedded carbon is driven by structural elements, not surface finishes.
 2. Design Effectiveness 2: Demonstrates that reducing concrete and using lightweight dry-construction systems can lower GWP by 54%.
 3. Design Leverage: Decisions made in the early stages regarding the structural system and ground-level floor slab are the key factors in reducing the carbon footprint.
- Materials with the Greatest Impact (Top Contributors)

The data identifies the materials that contribute most significantly to total emissions (Phases A1–A3):

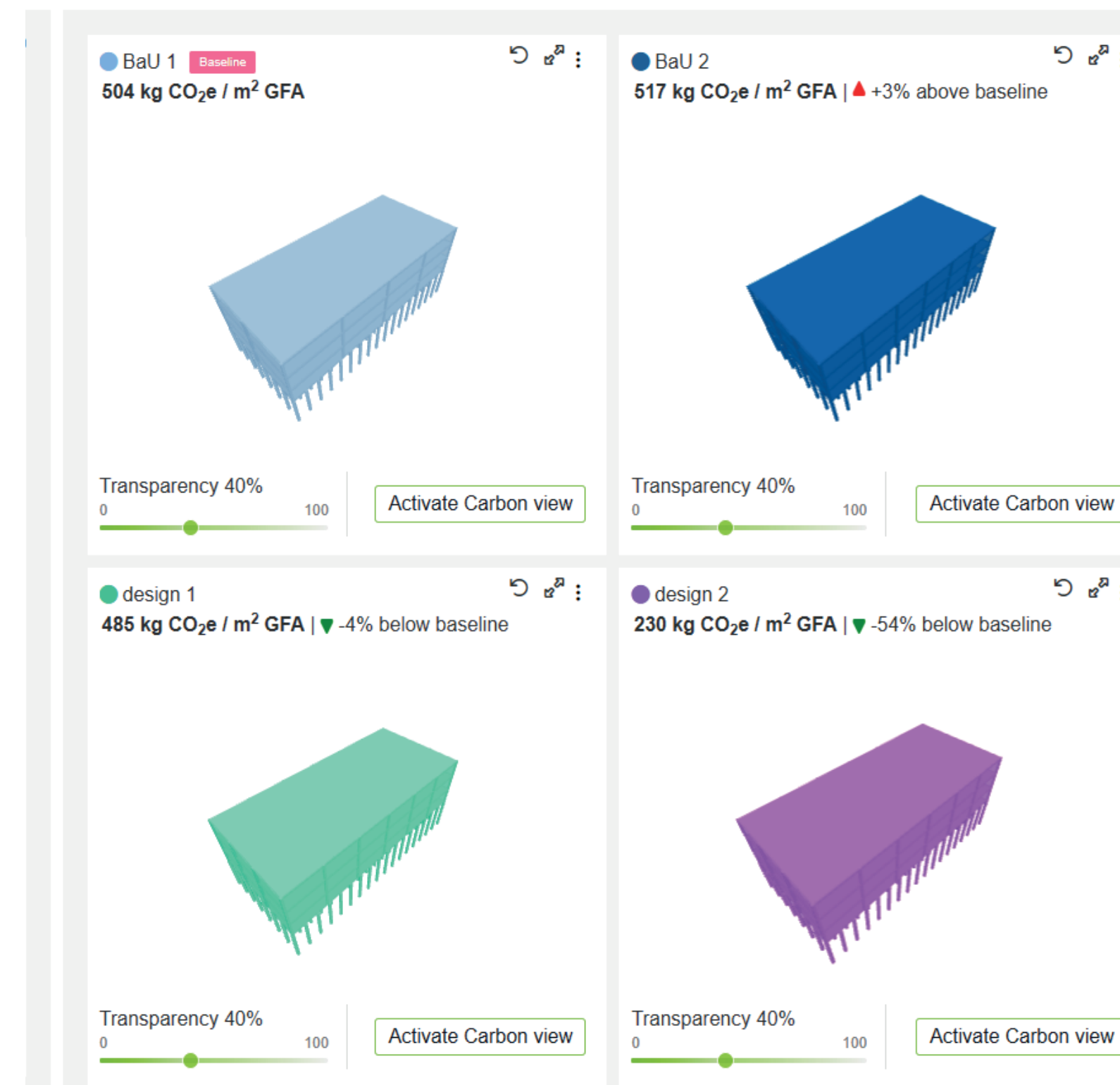
1. Structural steel sections: 67 tons (28.9% of the total).
2. C30/37 concrete (ready-mix): 26 tons (11.1%).
3. Electrical distribution systems: 23 tons (10.0%).
4. Dock shelters: 20 tons (8.4%).



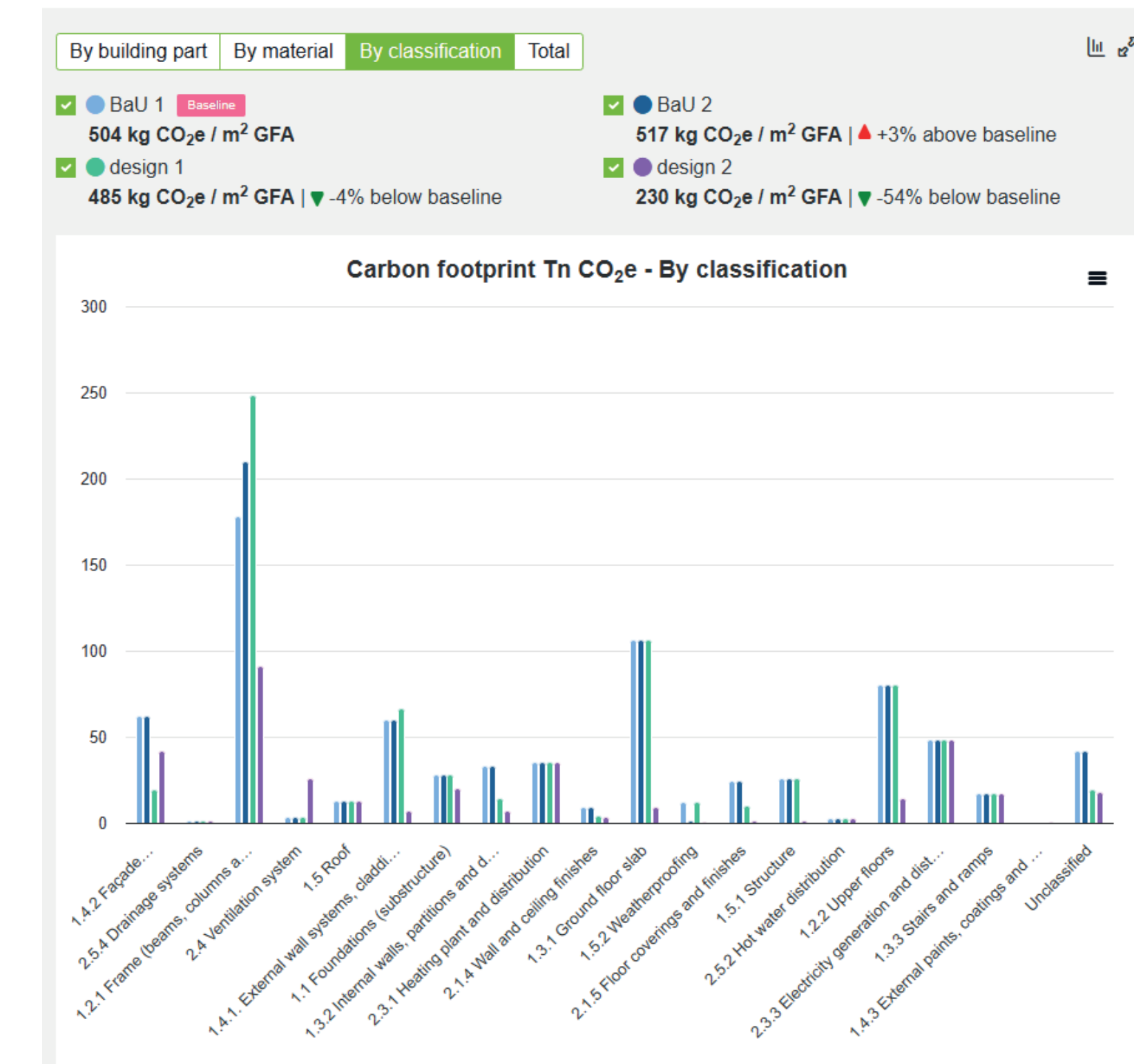
Carbon footprint, Tn CO₂e [Included LCA stages](#)



3D View [3D m](#)



Carbon footprint, Tn CO₂e [Included LCA stages](#)



Carbon footprint, Tn CO₂e [Included LCA stages](#)



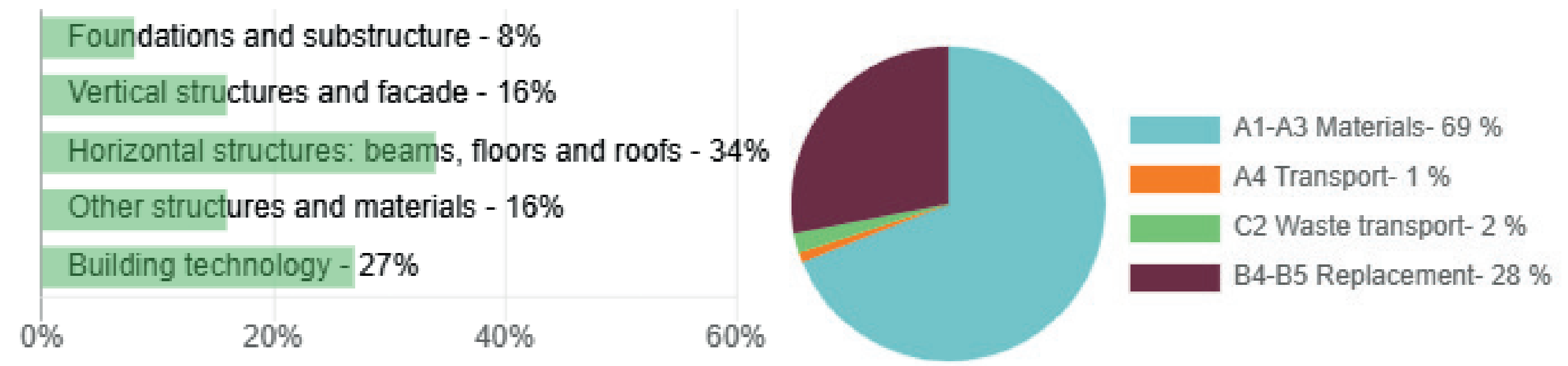
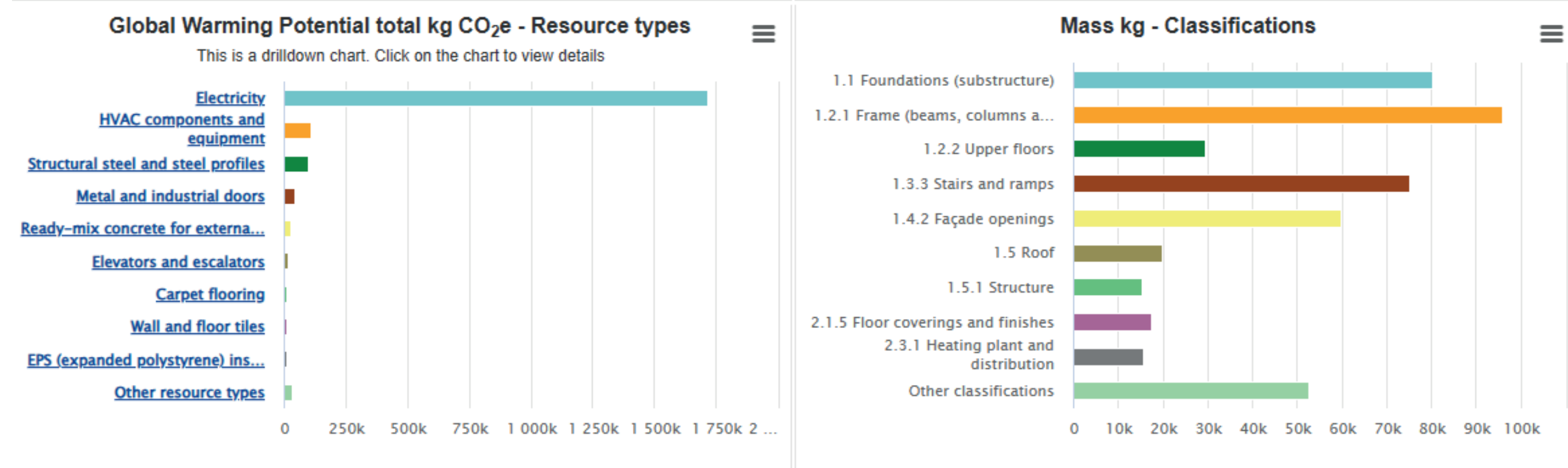
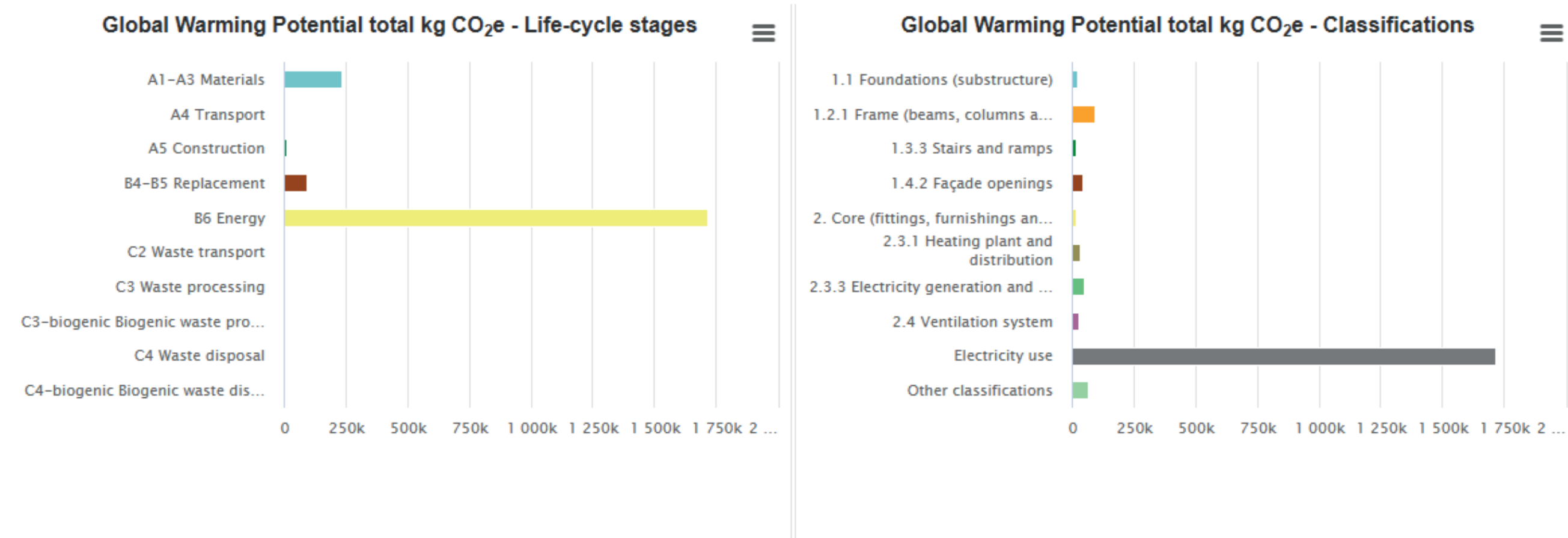
ZONE A

LIFE CYCLE ASSESMENT

- Overview
- Bubble
- Sankey
- Treemap
- Life-cycle stages
- Annual
- Spidergram
- Stages - stacked
- Materials - stacked
- Classifications
- All graphs

Life-cycle overview of Global Warming Potential total

- Pie
- Bar
- Column
- Treemap



👍 LCA Checker overall grade: A. Grade is based on data you have provided. ✕

LCA Checker overall grade: A

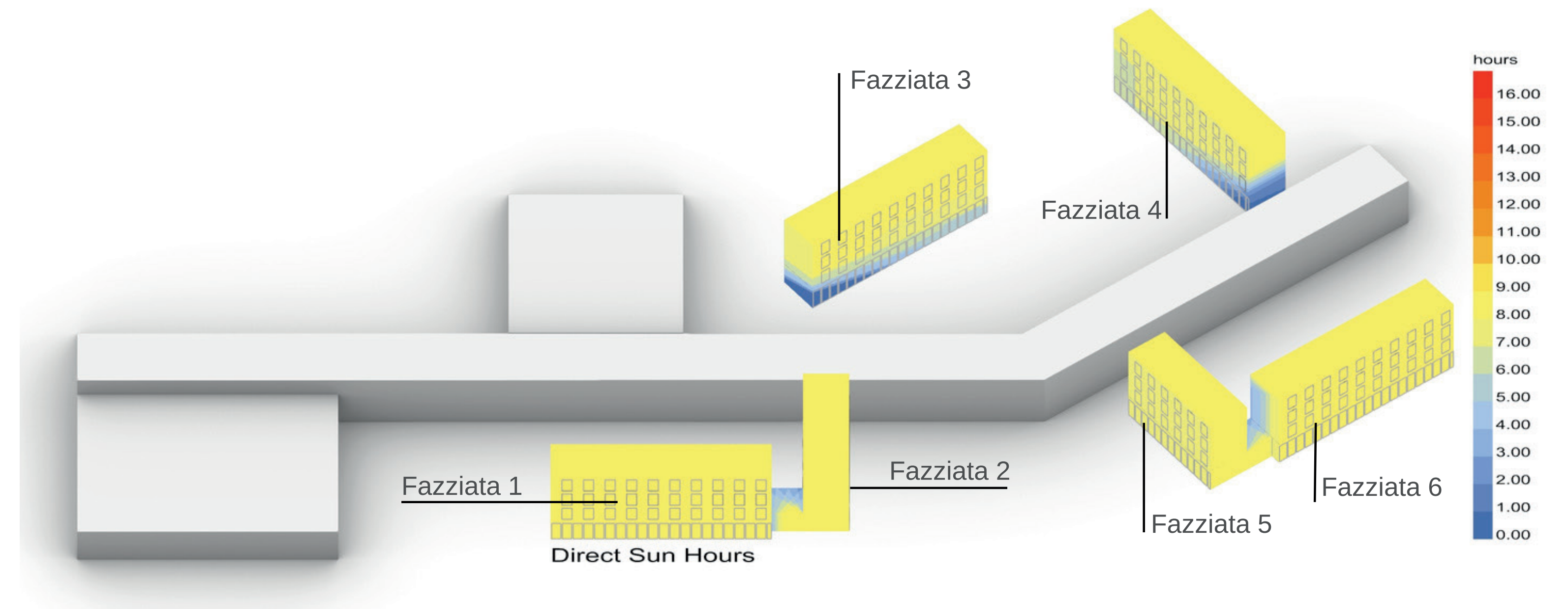
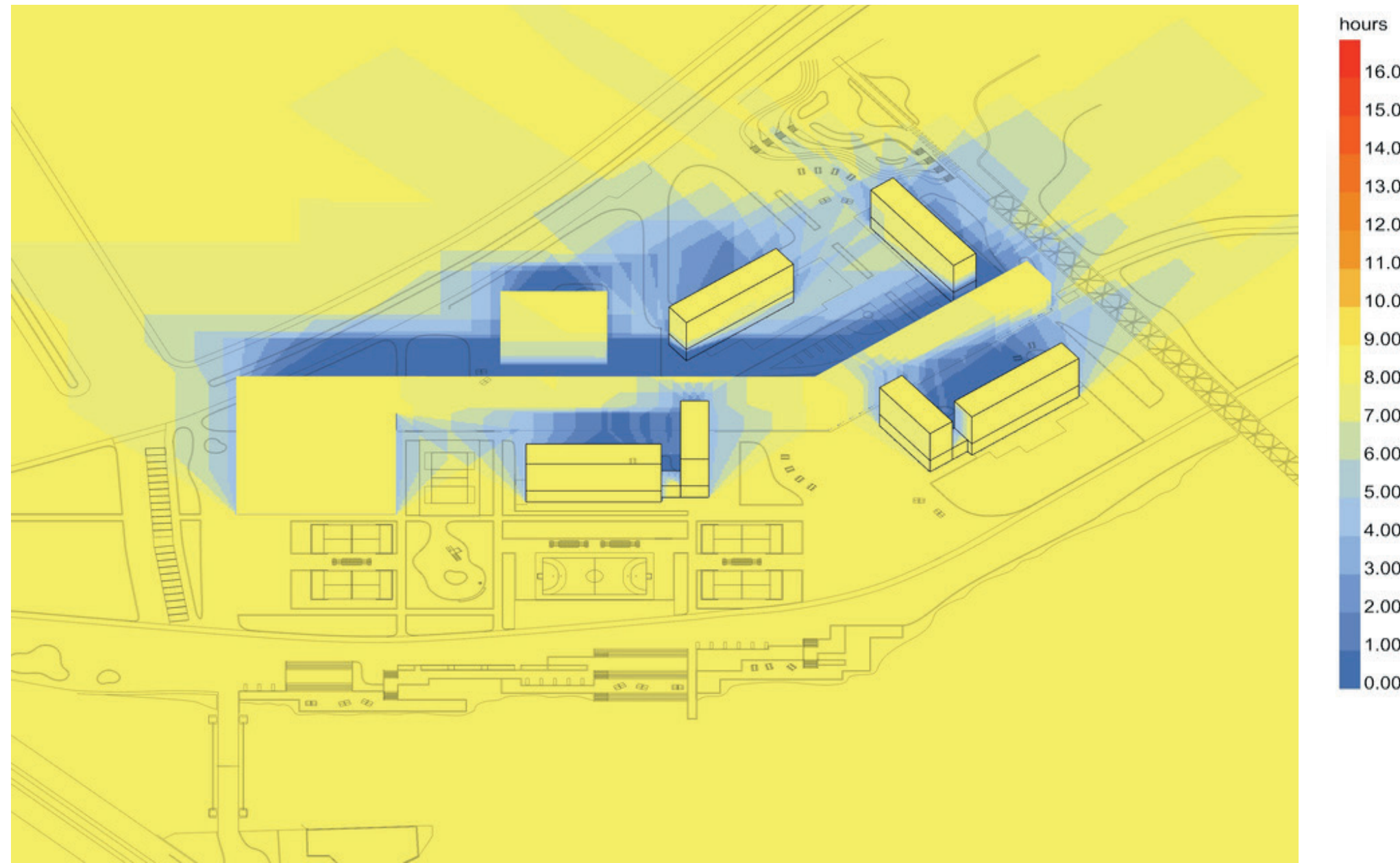
Notice: The Completeness and Plausibility checker has been split into two features. The Plausibility checker is no longer supported and has been replaced by a new version found above. Access to the old feature will be removed in January 2026. The Completeness feature will still be available.

LCA Checker checks the embodied impacts plausibility. These results reflect plausibility for 1857.6 m² project of type new construction, whole building with frame type not determined/not sure with scope consisting of undefined. These parameters can be edited from under the Modify Design section found on the main page of the project. The result is intended as indicative of the plausibility; and exceptions may occur.

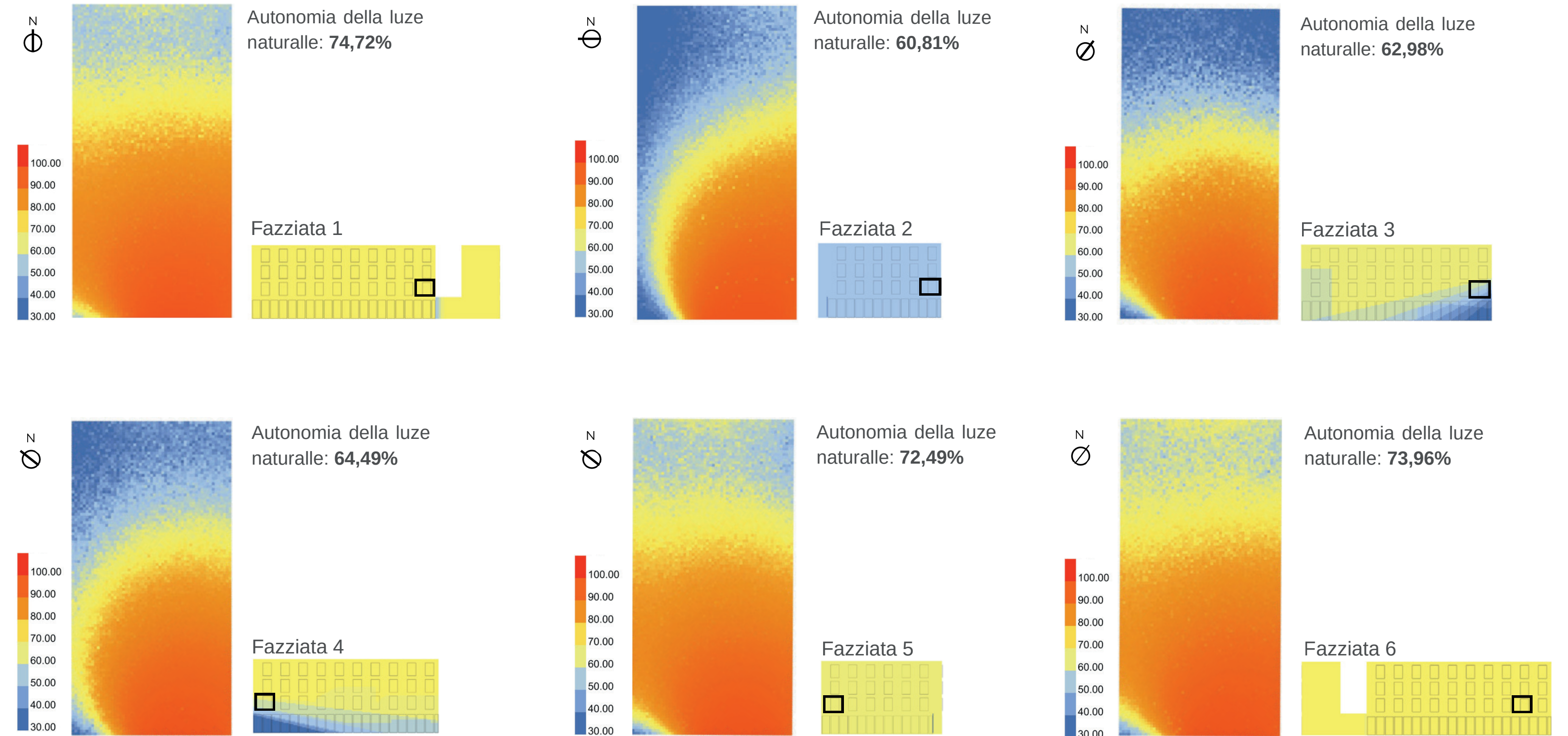
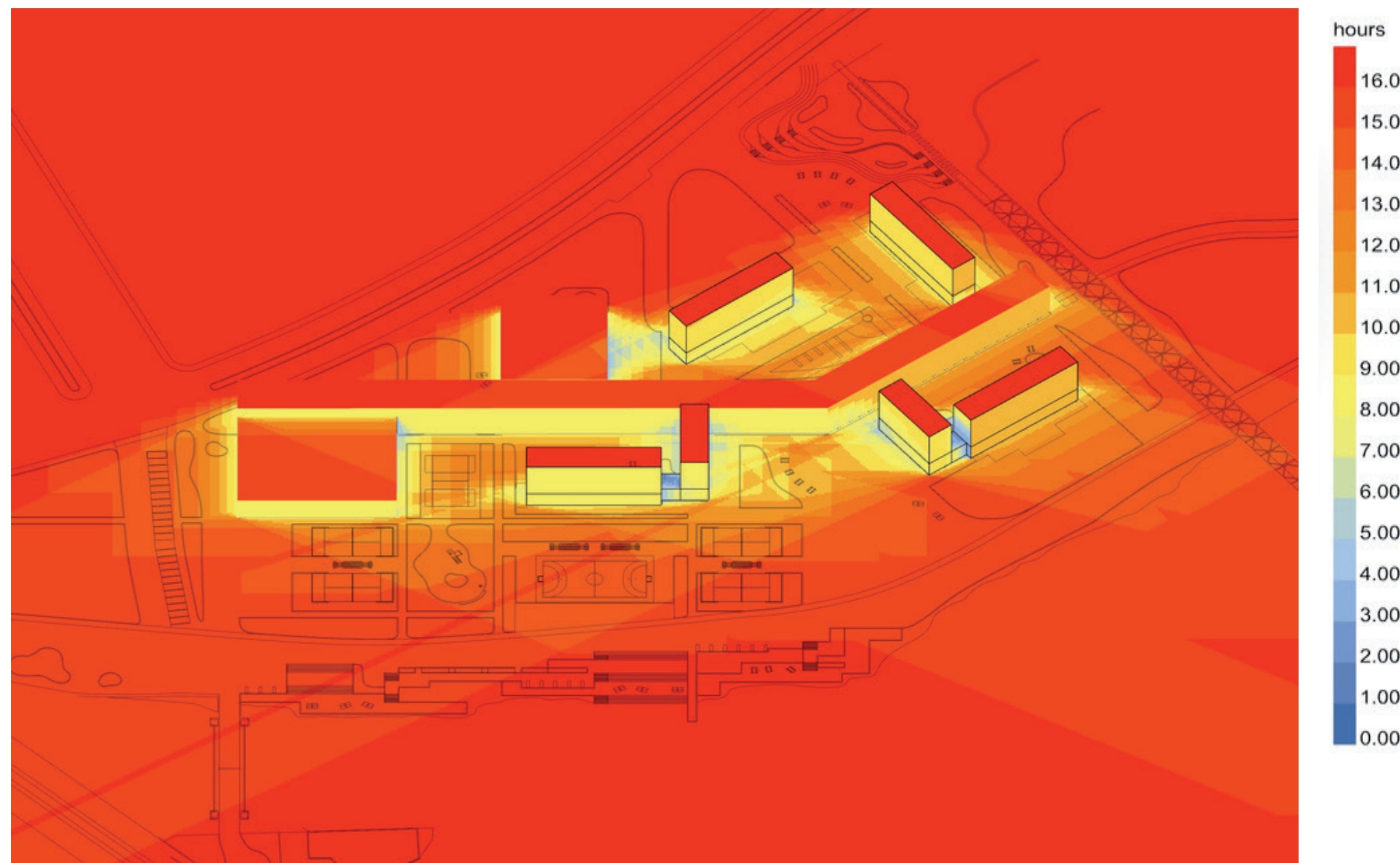
No.	Check description	Project value	Threshold value	Typical value	Unit	Type	Validated ?
1	Glass mass credible: Has no materials	0.0	1 - 13		kg/m ²	⚠️	🟢
2	Project mass credible: Value seems unusual but is within allowable deviation range	255.834	300 - 3500		kg/m ²	⚠️	🟢
Validated checks							
3	Embodied carbon credible	179.086	150 - 1000		kg CO ₂ e/m ²	✅	🟢
4	Ready mix and reinforcement ratio	5.372	1 - 7		%	✅	🟢
5	Replacements share credible	40.498	10 - 100		%	✅	🟢
6	Too few materials to be credible	61	greater than 20		nr.	✅	🟢
7	Too dominant single material	29.393	less than 50		%	✅	🟢
8	Insulation mass credible	5.169	1 - 21		kg/m ²	✅	🟢
9	Glass and openings mass credible	16.707	2 - 25		kg/m ²	✅	🟢
10	Mortar mass credible	3.202	0.4 - 50		kg/m ²	✅	🟢
11	Brick mass credible	0.0	0.0 - 100		kg/m ²	✅	🟢
12	Roofing bitumen mass credible	2.389	0.5 - 4		kg/m ²	✅	🟢

ZONE A CALCULATIONS.

Analysis — Winter Solstice.

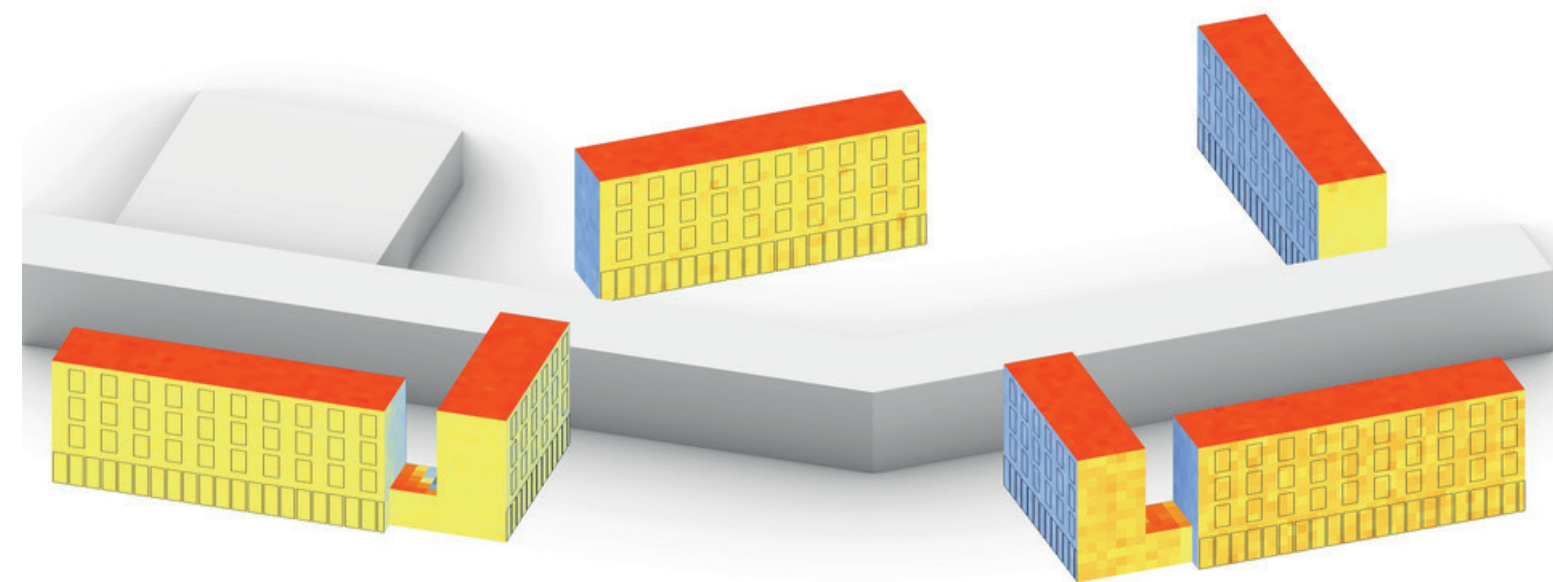


Analysis — Summer Solstice.

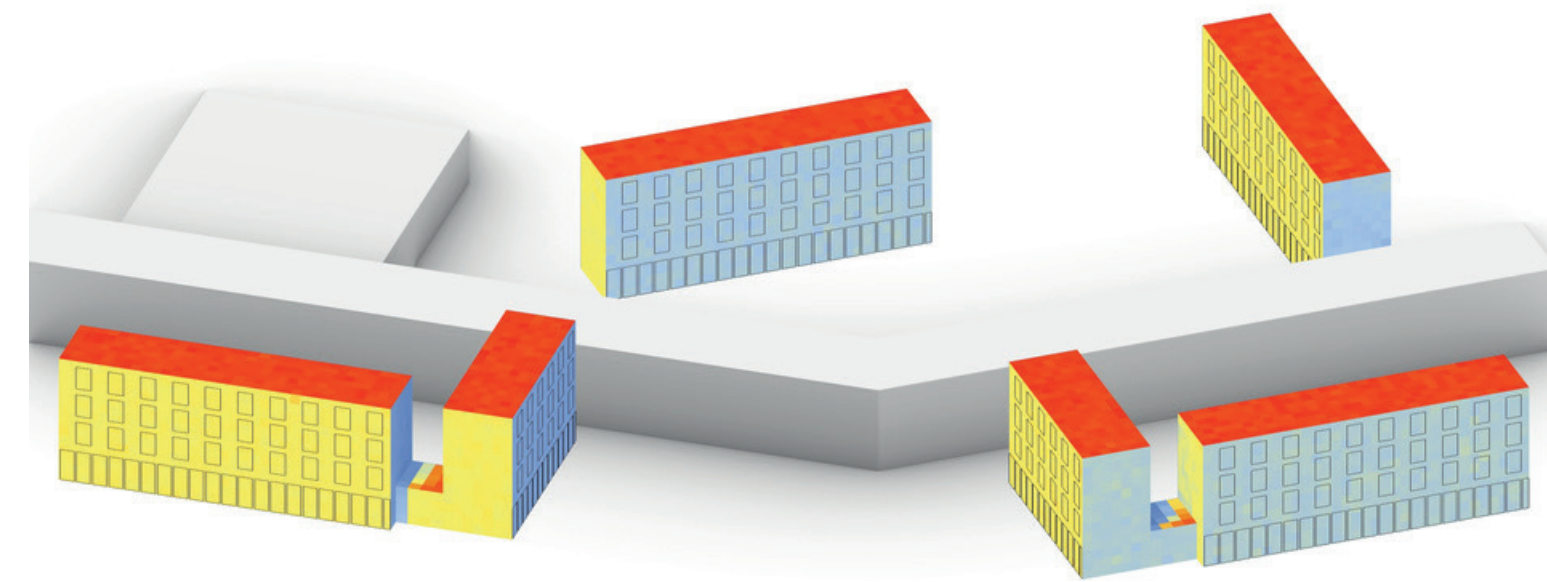


ZONE A CALCULATIONS.

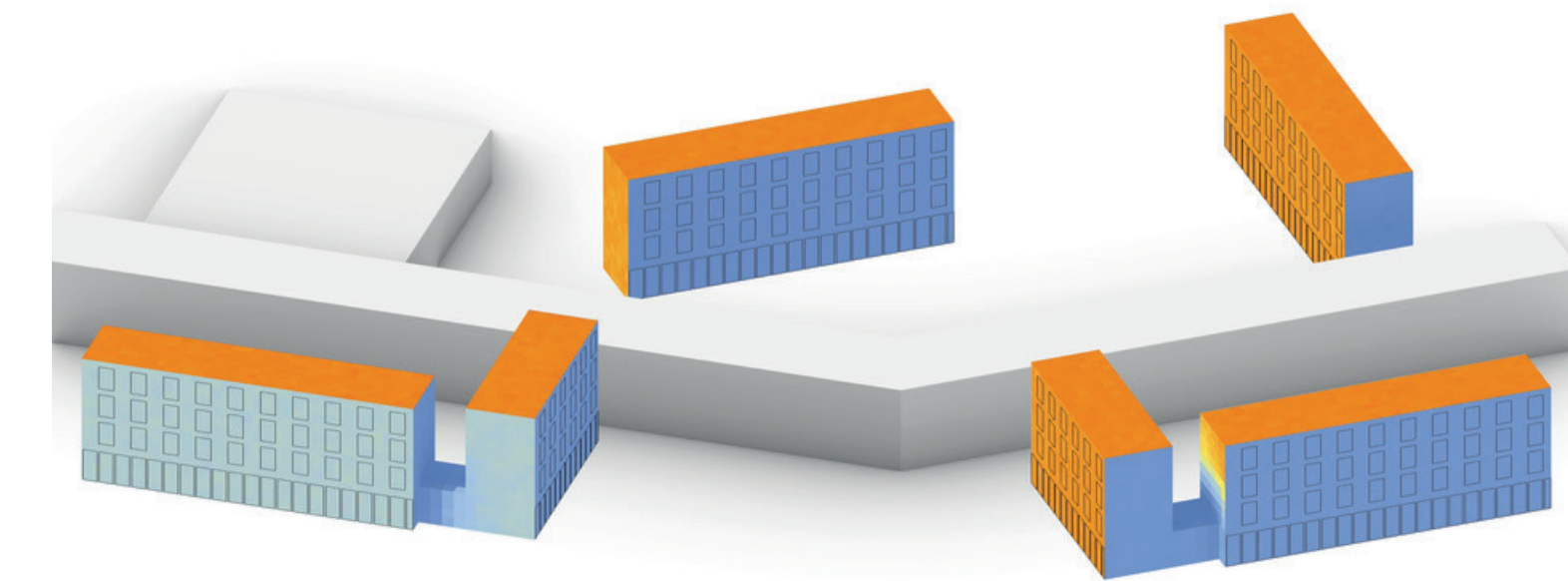
without terraces



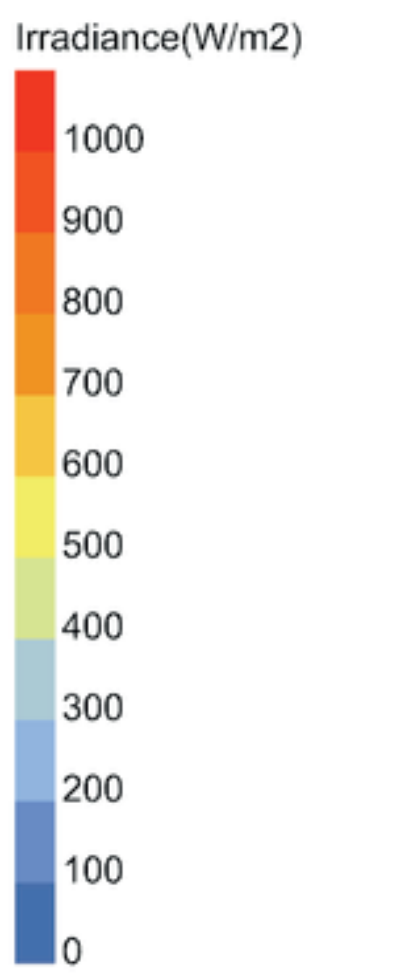
10.00



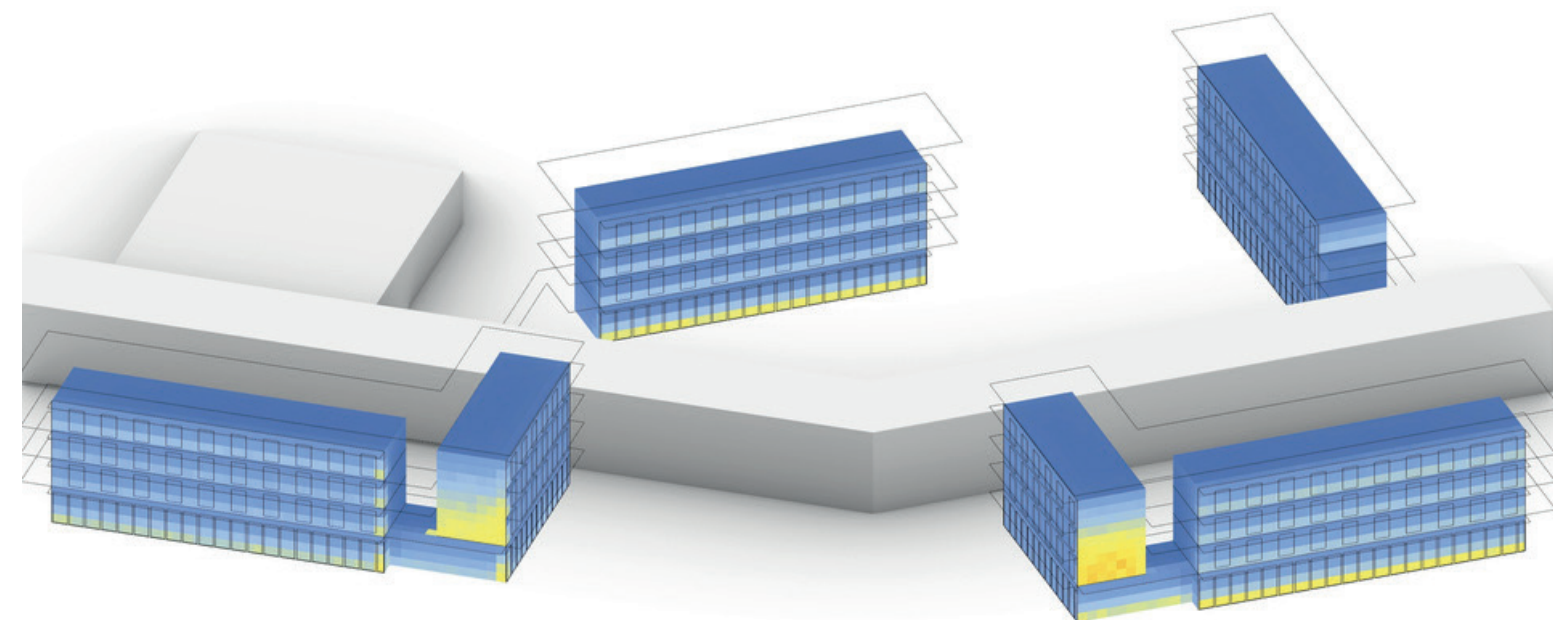
12.00



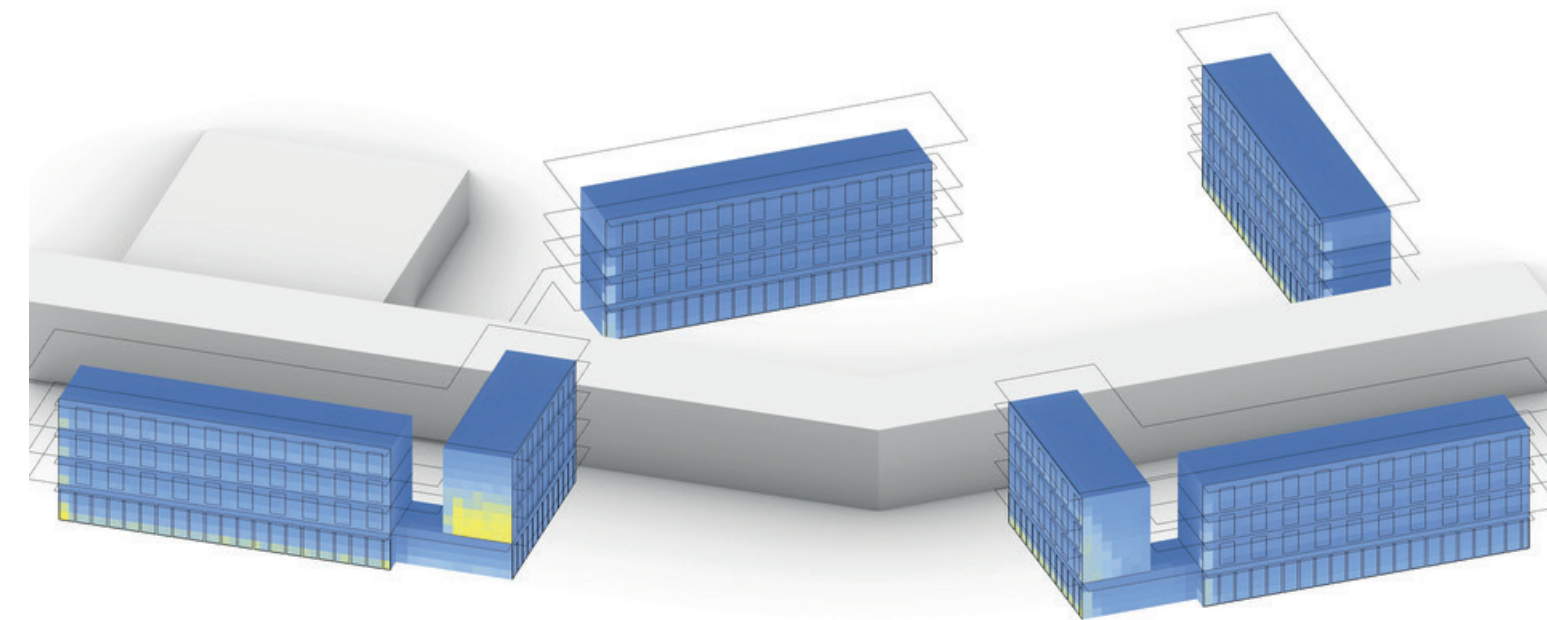
14.00



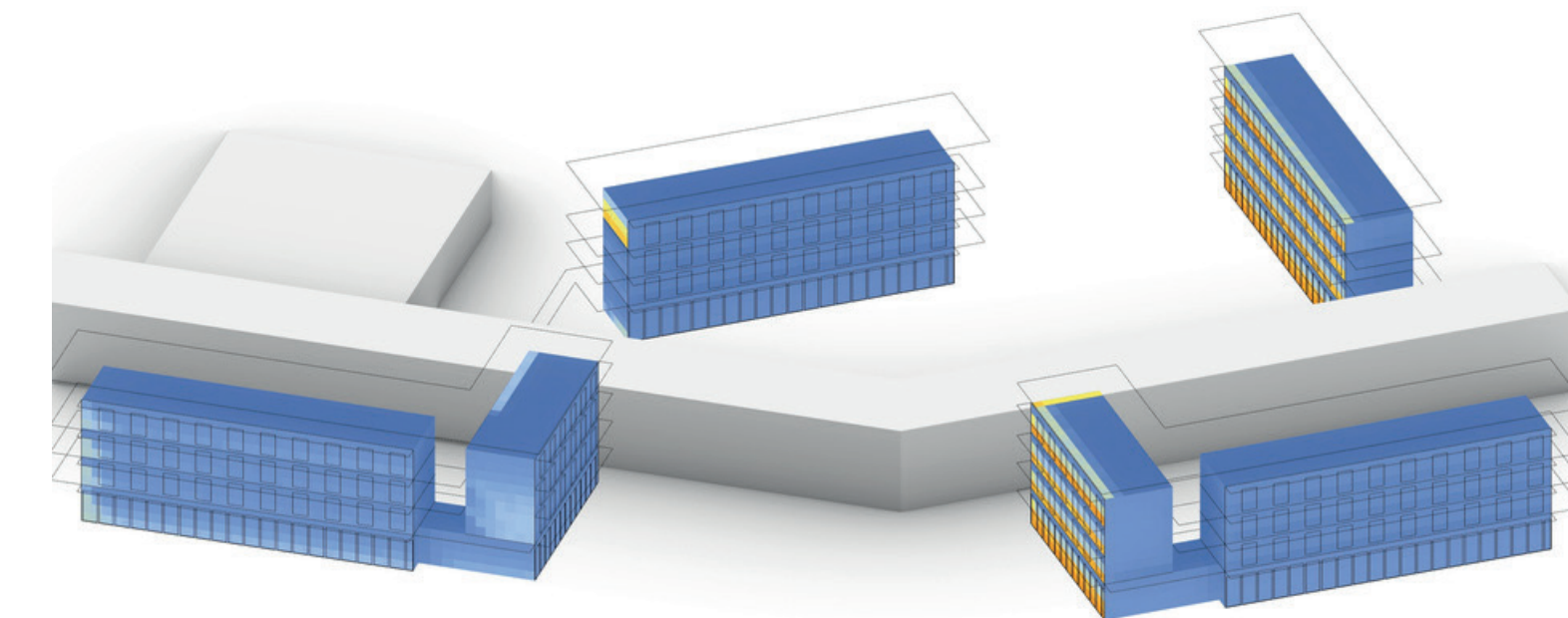
with terraces



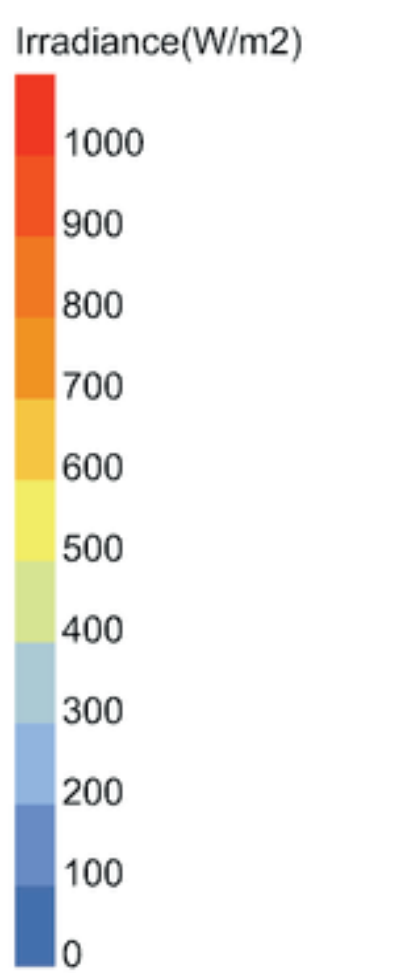
10.00



12.00

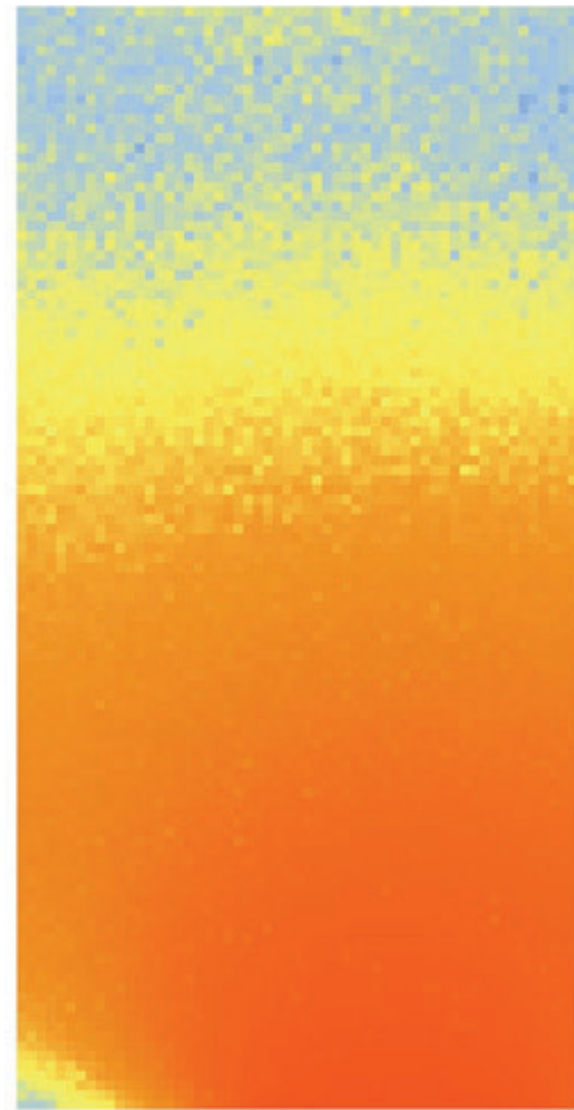


14.00



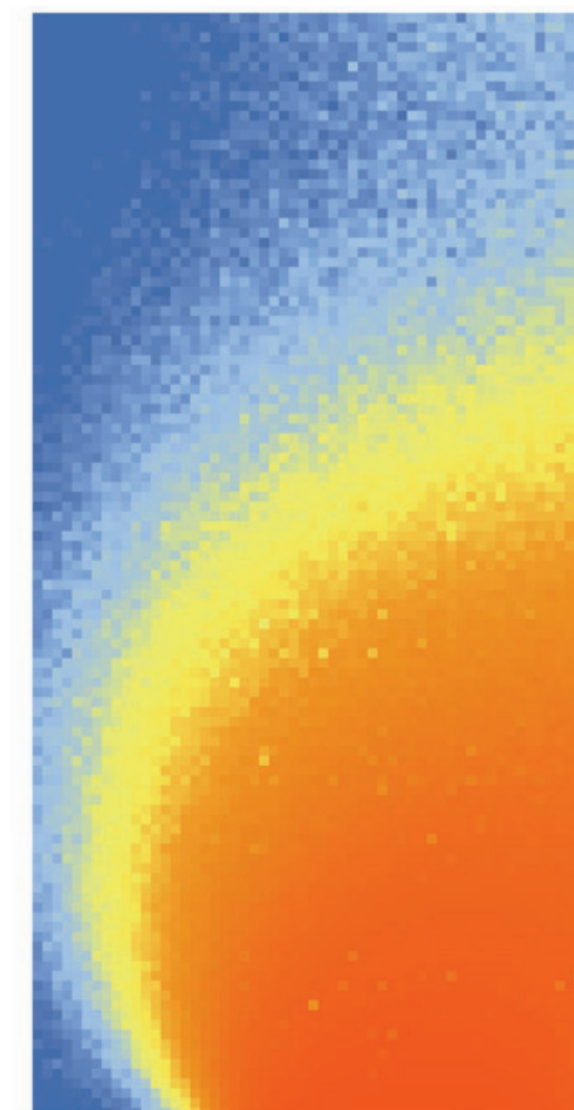
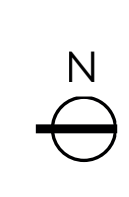
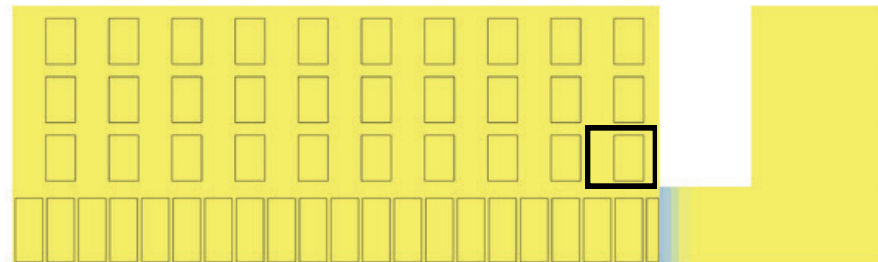
ZONE A CALCULATIONS.

Based on the previous analysis of Direct Sunlight Hours, the residential units with potentially the most unfavorable natural lighting conditions were identified. This analysis is particularly important to verify that the introduction of eaves on the facade—as a strategy to mitigate overheating—does not simultaneously create a problem of insufficient natural lighting in interior spaces. For the verification, not only the height and orientation of each module were considered, but also the presence and depth of the overhangs, as well as the dimensions of the windows. The results show that all rooms maintain good lighting quality, as even the most challenging modules exceed 60% natural light autonomy during the winter solstice, thus confirming the effectiveness of the design choices made.



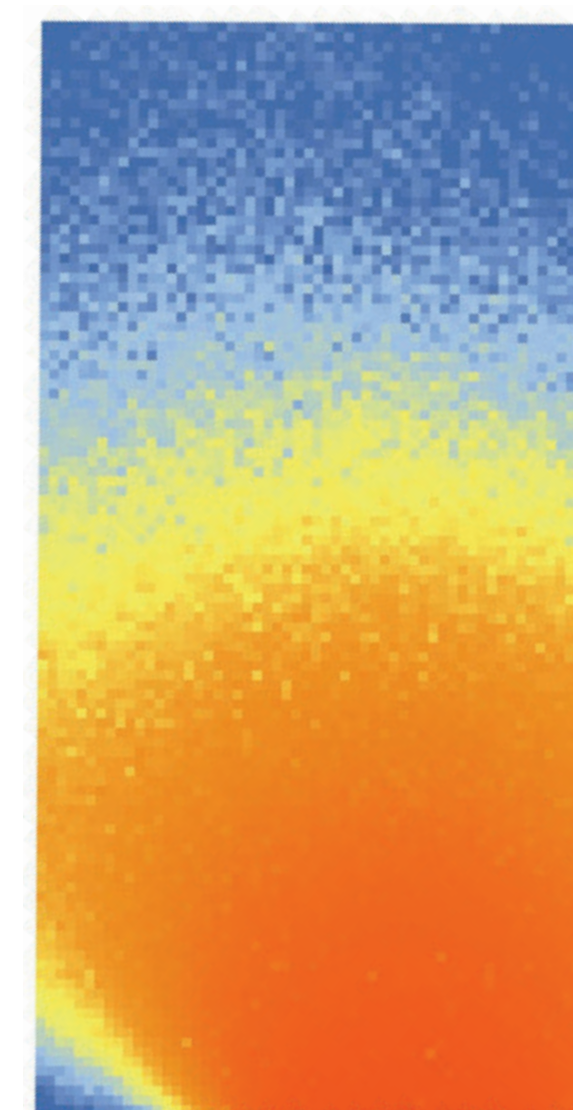
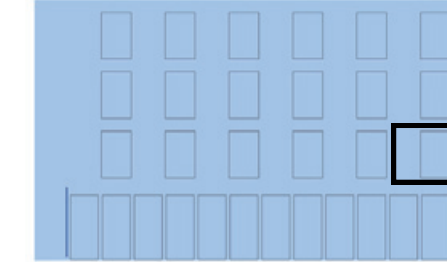
Autonomia della luze naturale: **74,72%**

Fazziata 1



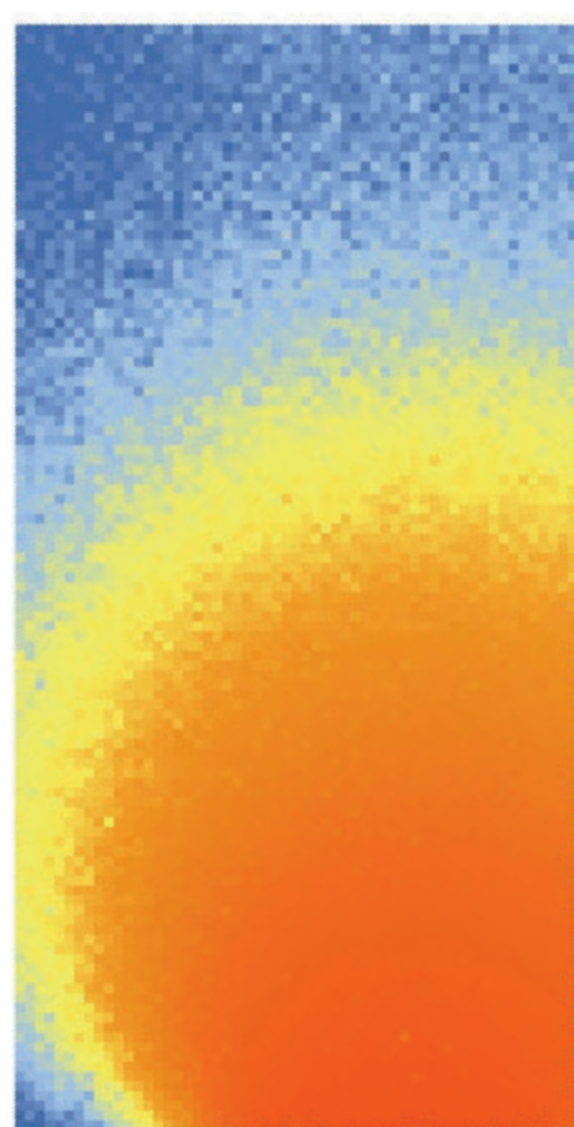
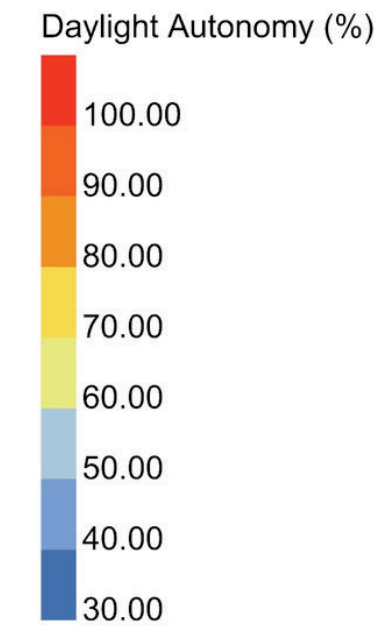
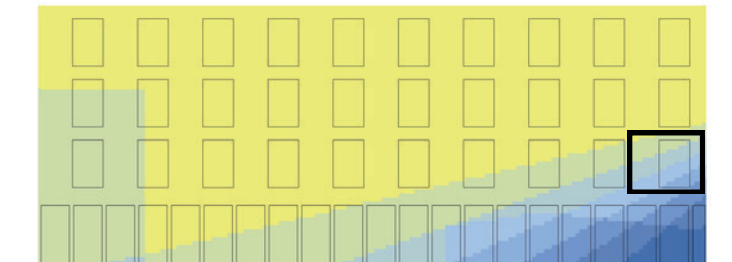
Autonomia della luze naturale: **60,81%**

Fazziata 2



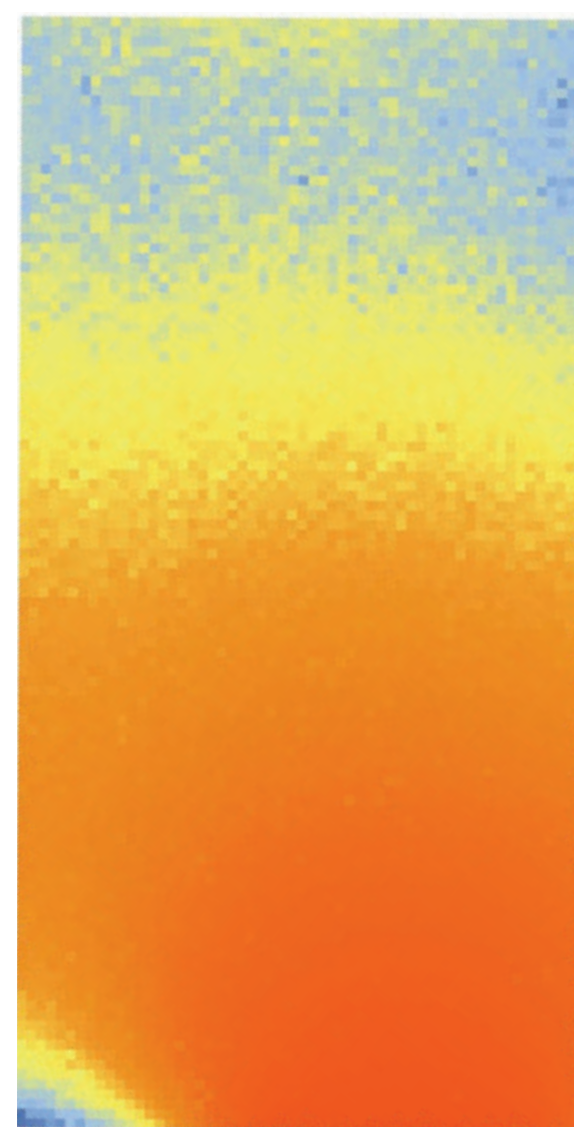
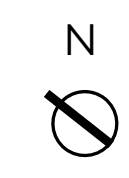
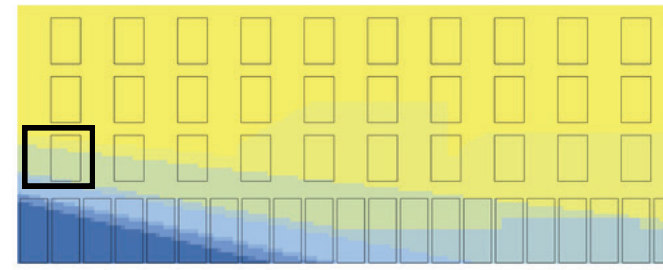
Autonomia della luze naturale: **62,98%**

Fazziata 3



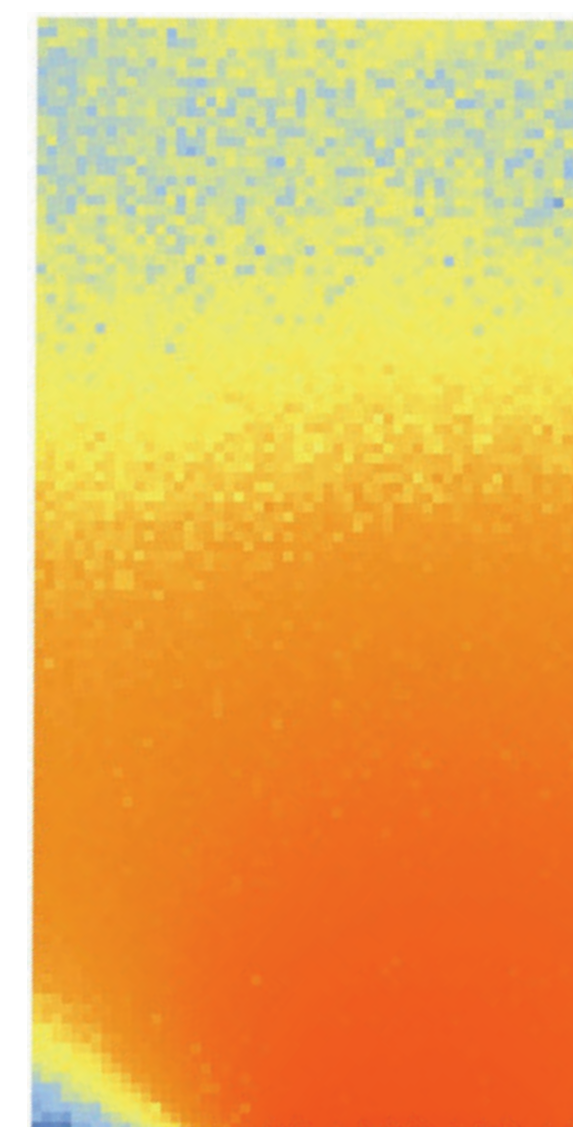
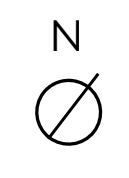
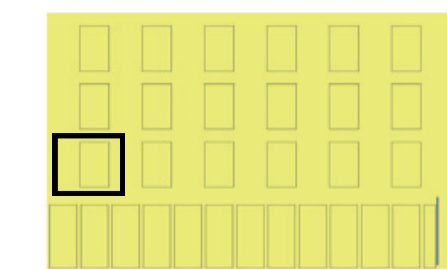
Autonomia della luze naturale: **64,49%**

Fazziata 4



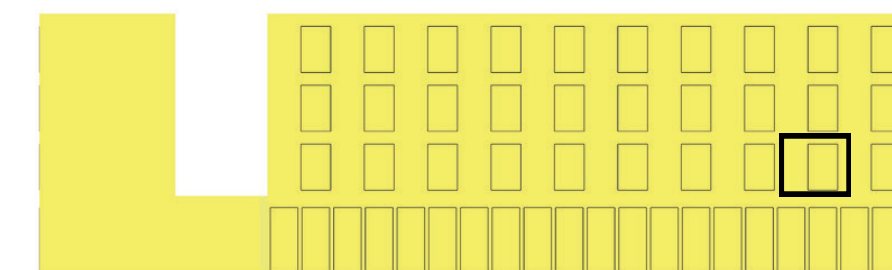
Autonomia della luze naturale: **72,49%**

Fazziata 5

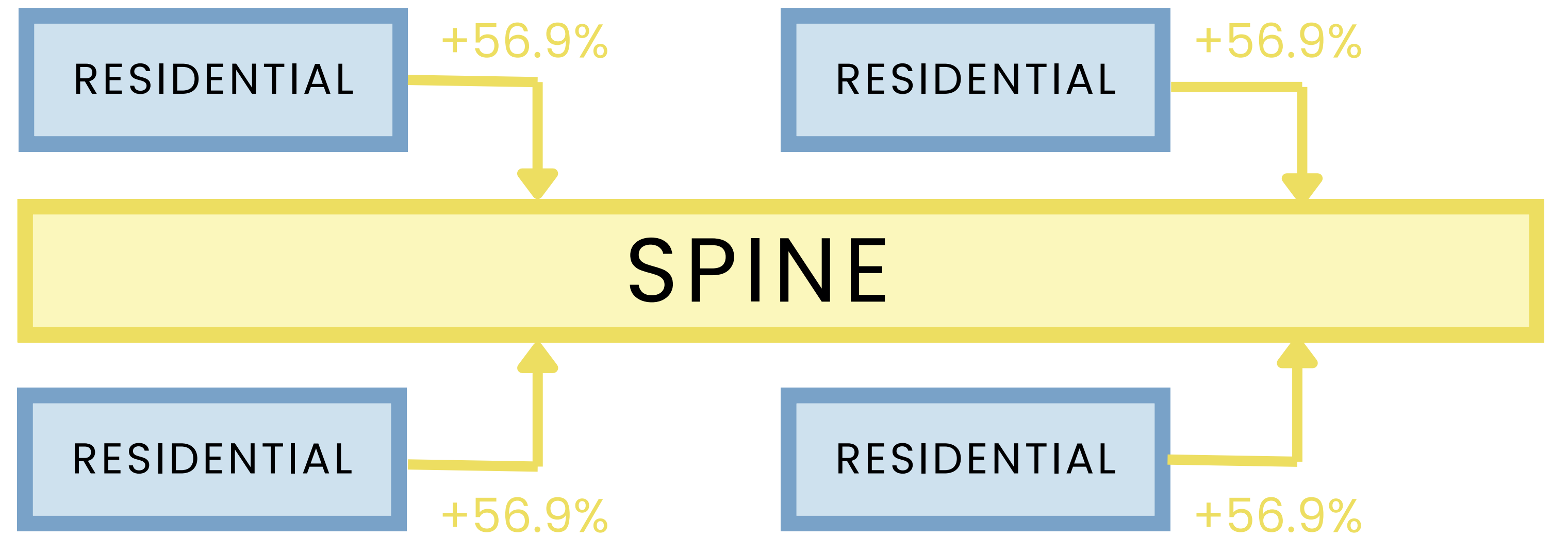
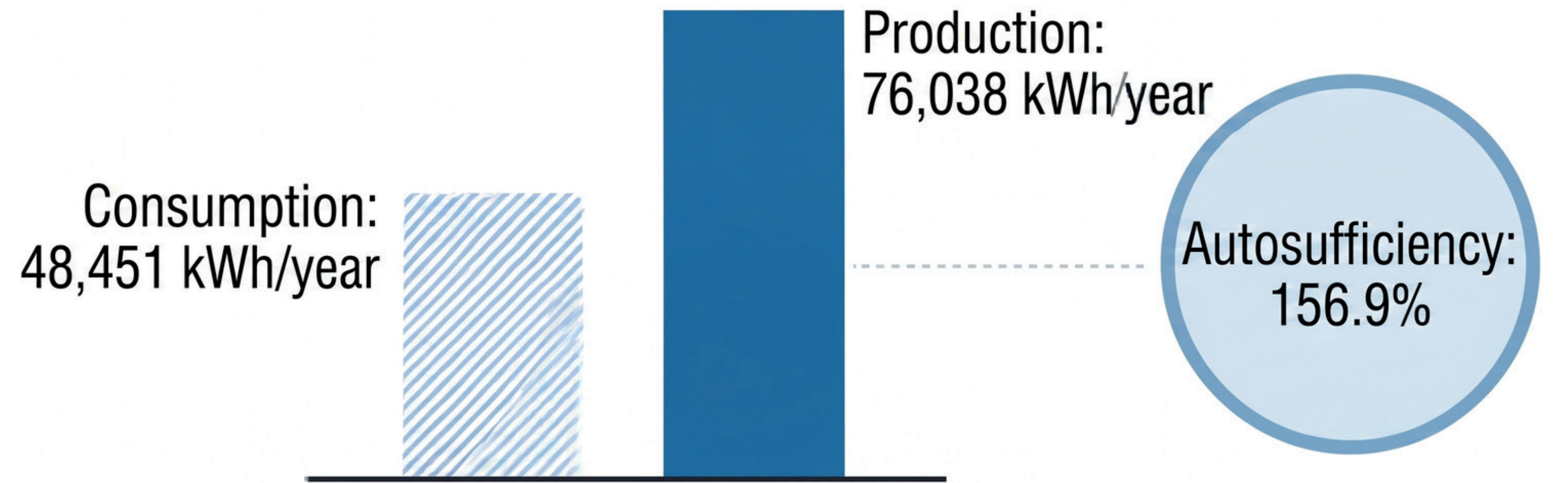
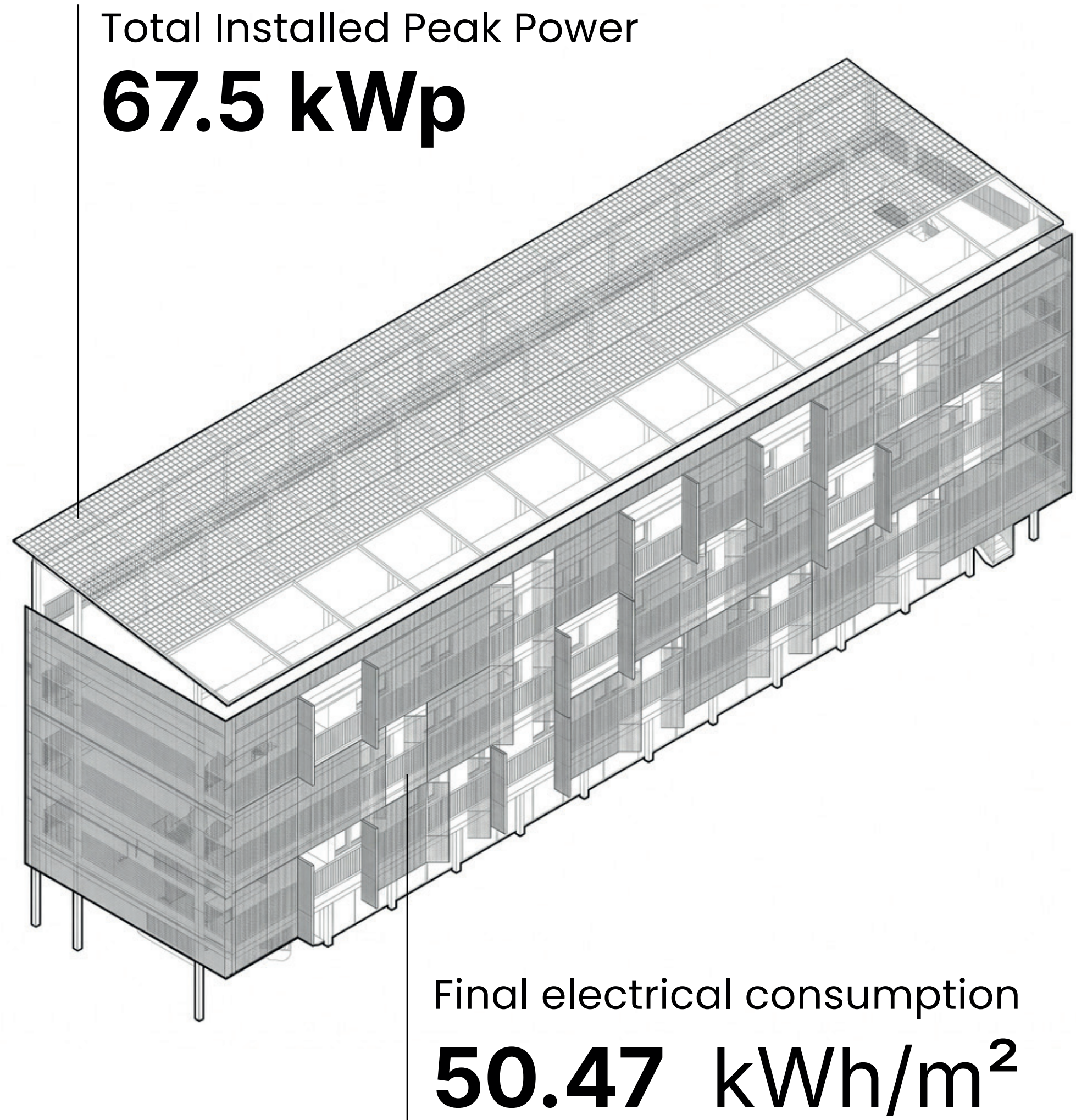


Autonomia della luze naturale: **73,96%**

Fazziata 6



ZONE A CALCULATIONS.



ZONE A CALCULATIONS.

Renewable Energy Production and Self-Sufficiency Balance

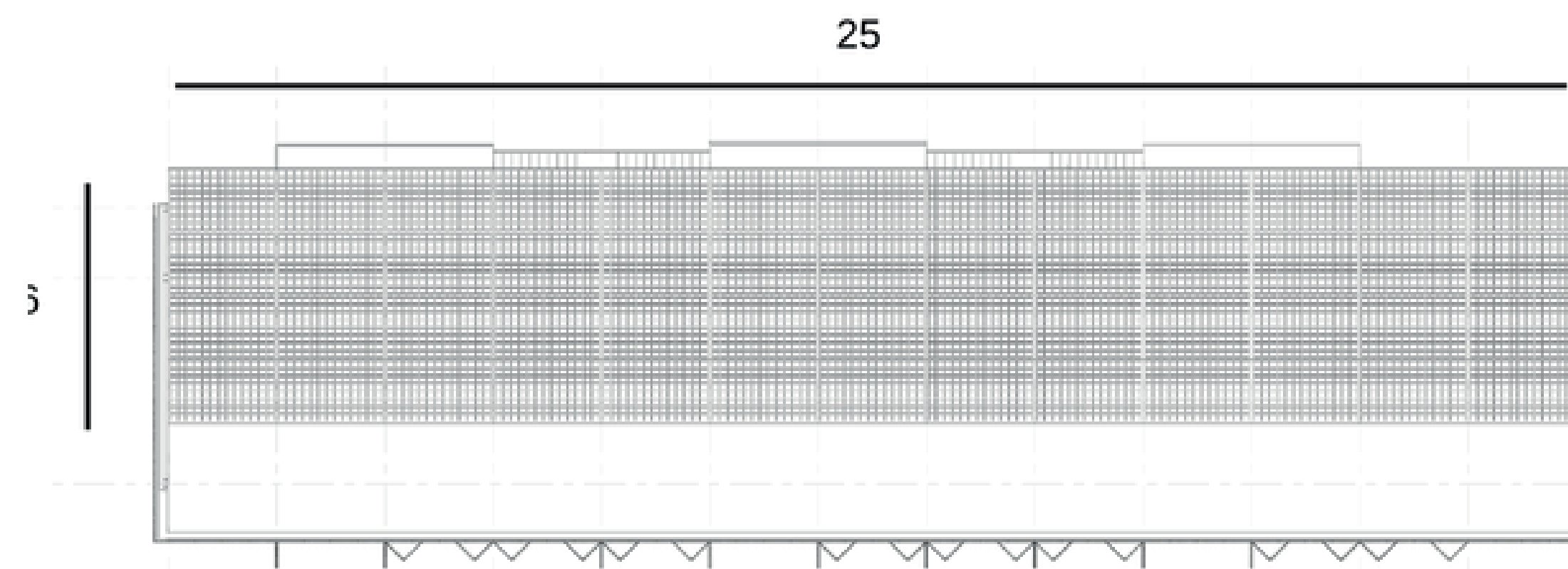
As a key strategy for minimizing the operational carbon footprint, the architectural design incorporates a rooftop photovoltaic system. This building utilizes its roof surface to create an active solar pergola.

Geometry and System (Capture-to-Consumption Ratio):

The determining factor for the building's positive energy balance is its form. By designing vertical connections and exterior access balconies, the climate-controlled volume was drastically reduced.

In fact, the footprint of the thermally insulated volume is just 240 m², while the total photovoltaic collection area on the pergola is around 300 m². This physical disparity—having a generation area larger than the floor area that consumes energy—structurally explains the excess energy generated.

The support structure provides a 16° tilt relative to the horizontal, optimizing energy capture and ensuring self-cleaning of the glass panels.



Numero di pannelli solari: 6 x 25 = 150

Generator Sizing: The system is configured with 150 high-efficiency 450 Wp monocrystalline modules.

Total Installed Peak Power (Ppv): 67.5 kWp.

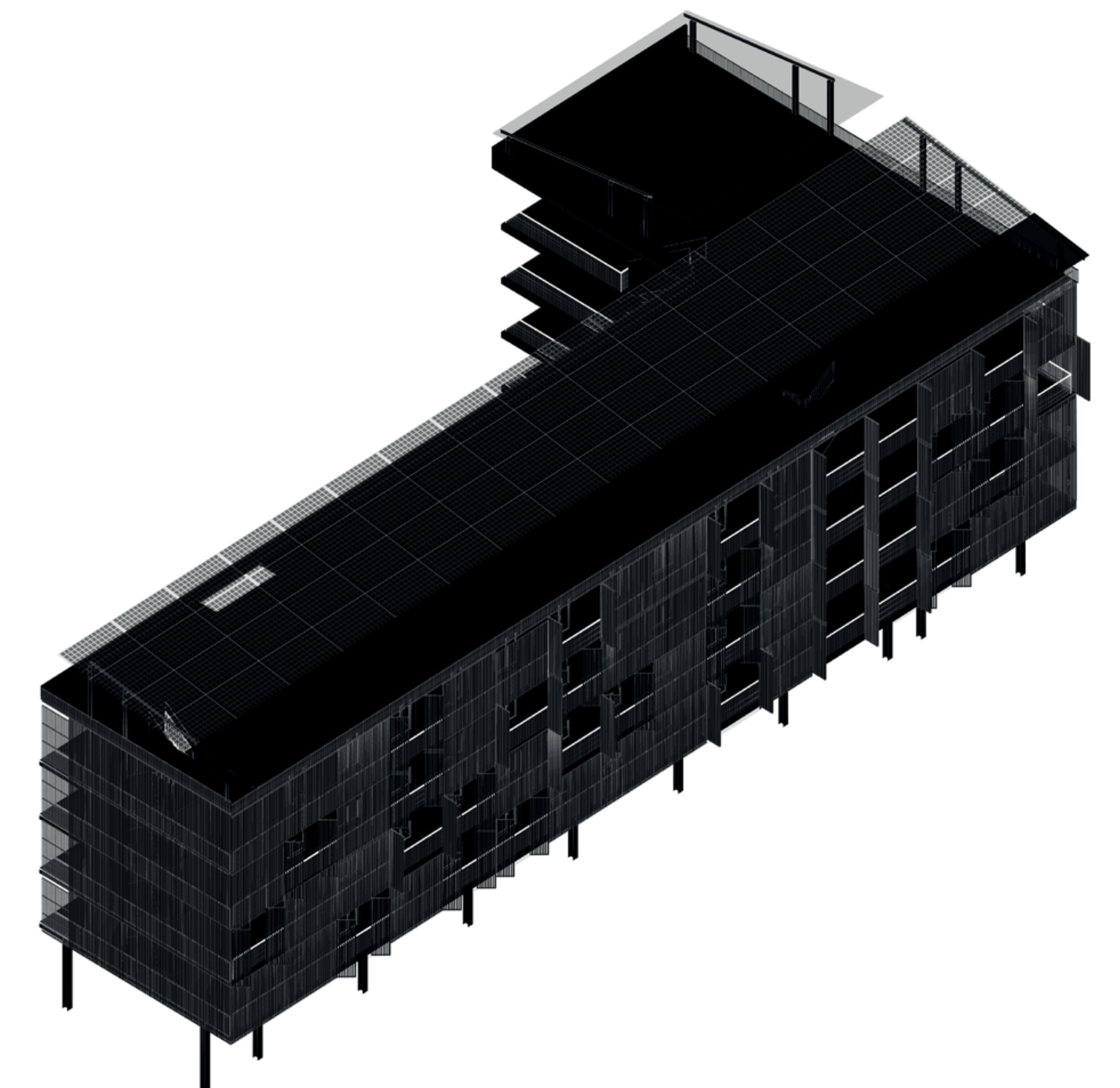
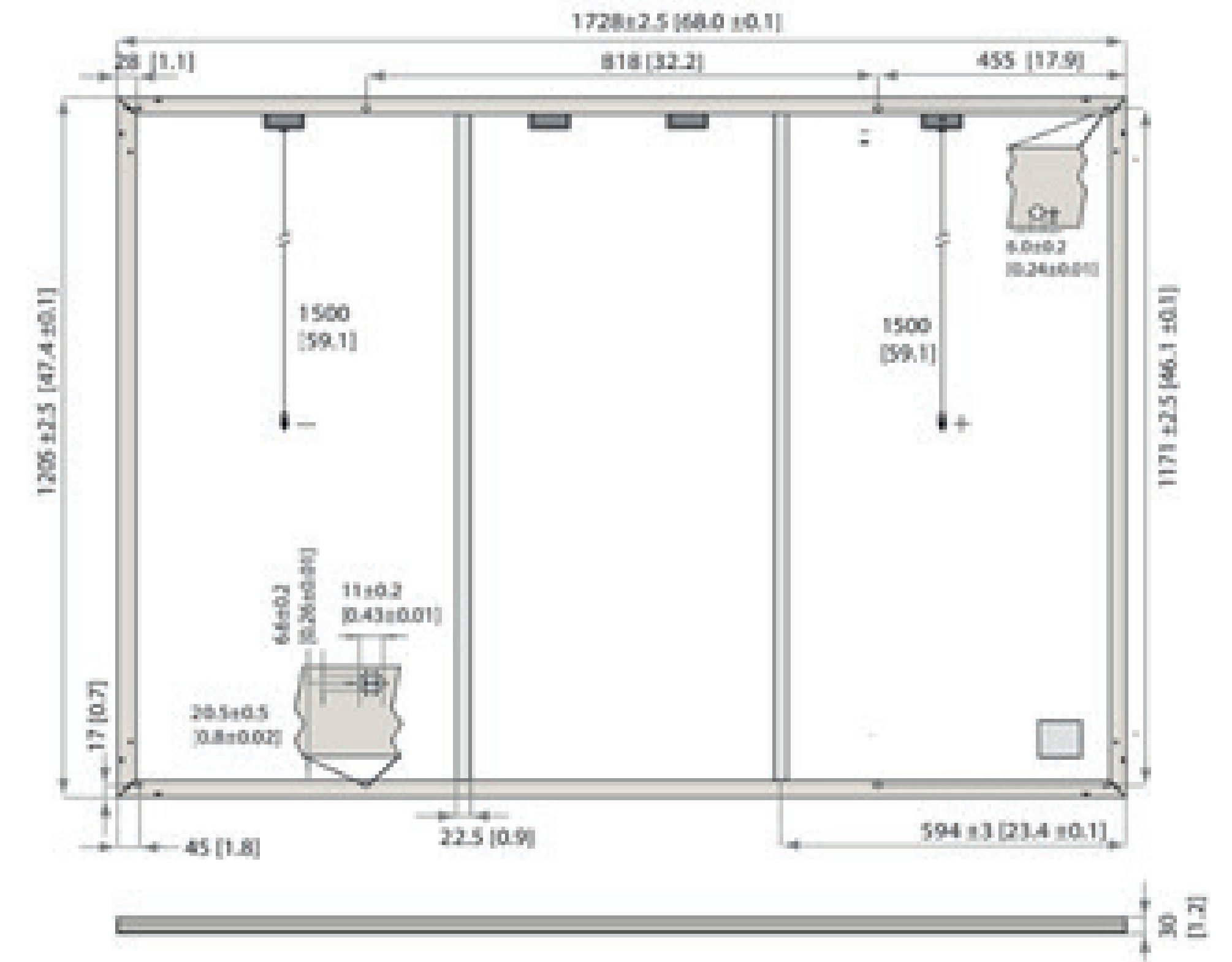
Calculation of Annual Epv Production: The annual global irradiance data for the inclined plane was obtained from the official database of the JRC Photovoltaic Geographical Information System (PVGIS) – European Commission: H = 1502 kWh/m². Applying a Performance Ratio (PR) of 0.75:

$$E_{pv} = 67.5 \text{ kWp} \times 0.75 \times 1502 \text{ h} = 76,038 \text{ kWh/year}$$

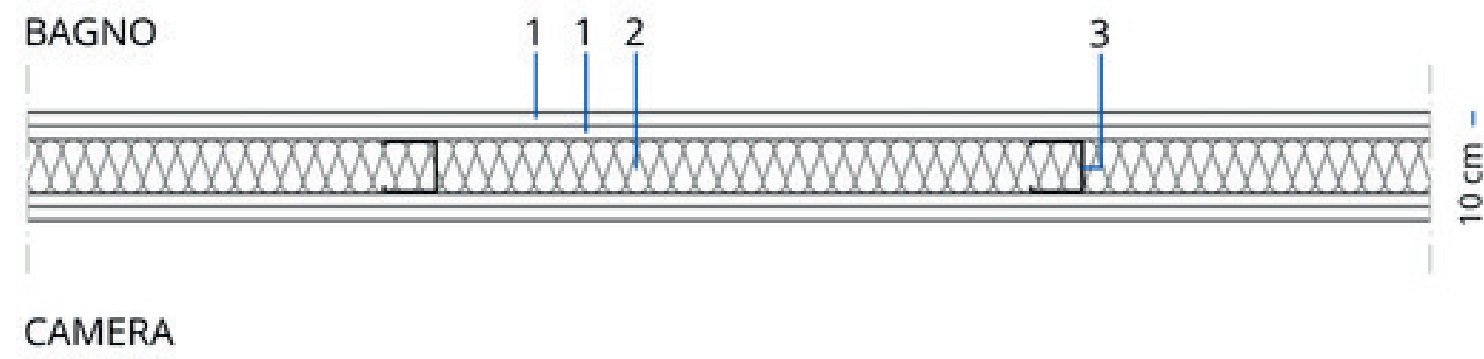
Net Balance and Surplus Management: Comparing renewable generation (76,038 kWh) with the building's operational consumption (48,451 kWh) yields the coverage ratio:

$$\text{Self-sufficiency} = 156.9\%$$

Conclusion: The Campus Strategy
The building produces 56.9% more energy than it consumes thanks to the compactness of its thermal volume relative to its large roof area. Since the campus comprises four identical residential blocks, this excess energy will be fed into the internal grid to power the “central hub” building, which houses shared services and serves as the backbone of the project. In this way, the residences function as distributed power plants for the rest of the complex.



ZONE A CALCULATIONS.

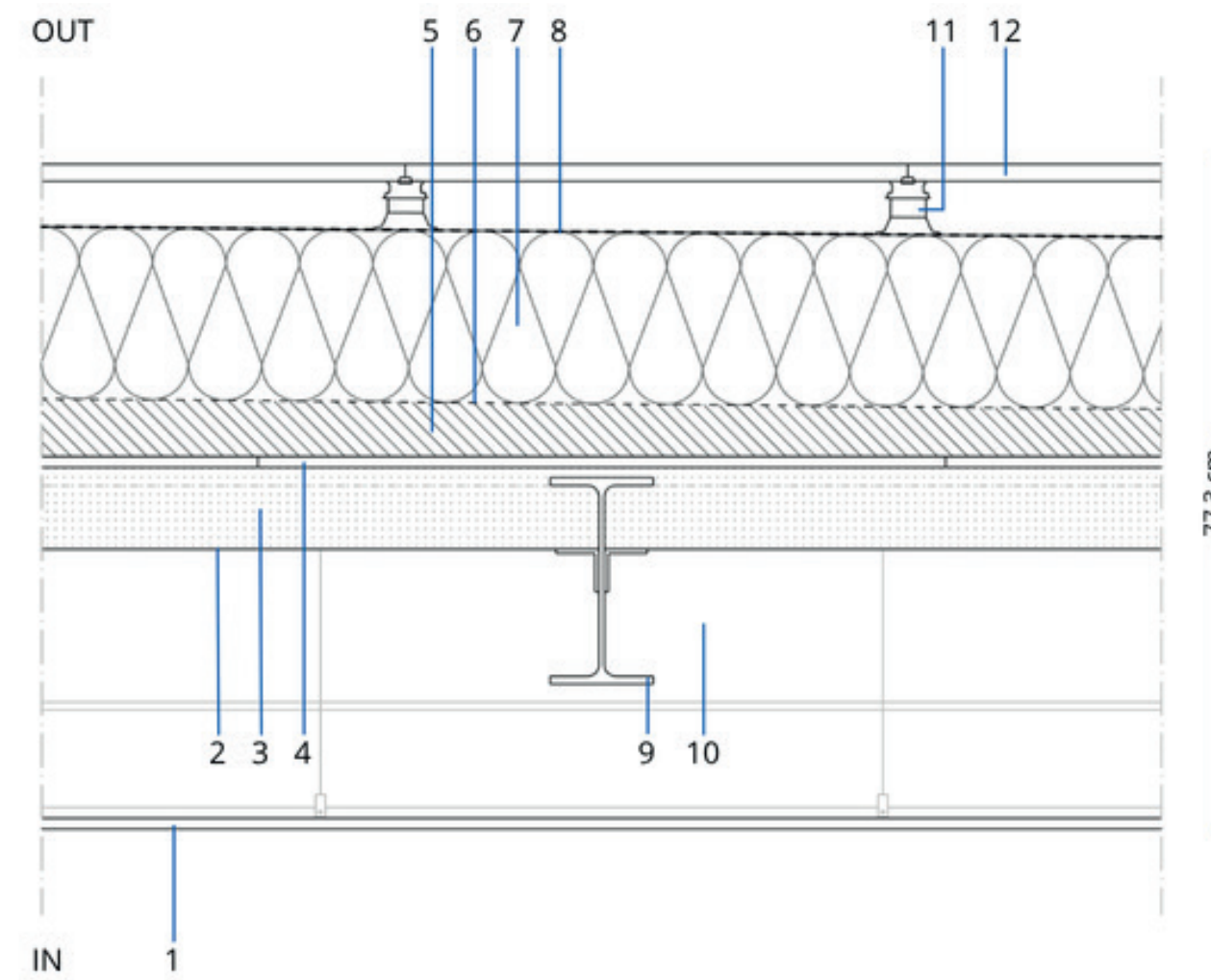


Coated gypsum boards (Gyproc Wallboard 13)
Mineral wool (Isover Arena34)
Metal framing (Gyproc Gyprofile)

To ensure maximum acoustic privacy between rooms, a system featuring two independent metal stud frames was chosen, with a layered configuration of five panels. The design includes two separate 50-mm stud frames, with a central panel inserted to act as a decoupling mass that breaks up sound waves. The exterior cladding incorporates special Gyproc Habito™ Forte panels, which offer load-bearing and impact resistance comparable to traditional masonry, allowing heavy loads to be hung without the need for specific anchors. The cavity is filled with Isover mineral wool to maximize frequency absorption.

Technical data (SAD5 I63/50 L HF STD System):
Total thickness: 162.5 mm (Double frame + 5 panels).
Sound insulation rating R_w : 67 dB.
Thermal transmittance U : 0.320 W/m²K (Excellent thermal insulation between rooms).
Fire resistance: EI 120 (Superior fire protection: 120 minutes).
Special feature: Habito™ Forte panels (Impact resistance, suspended loads up to 30 kg per screw).

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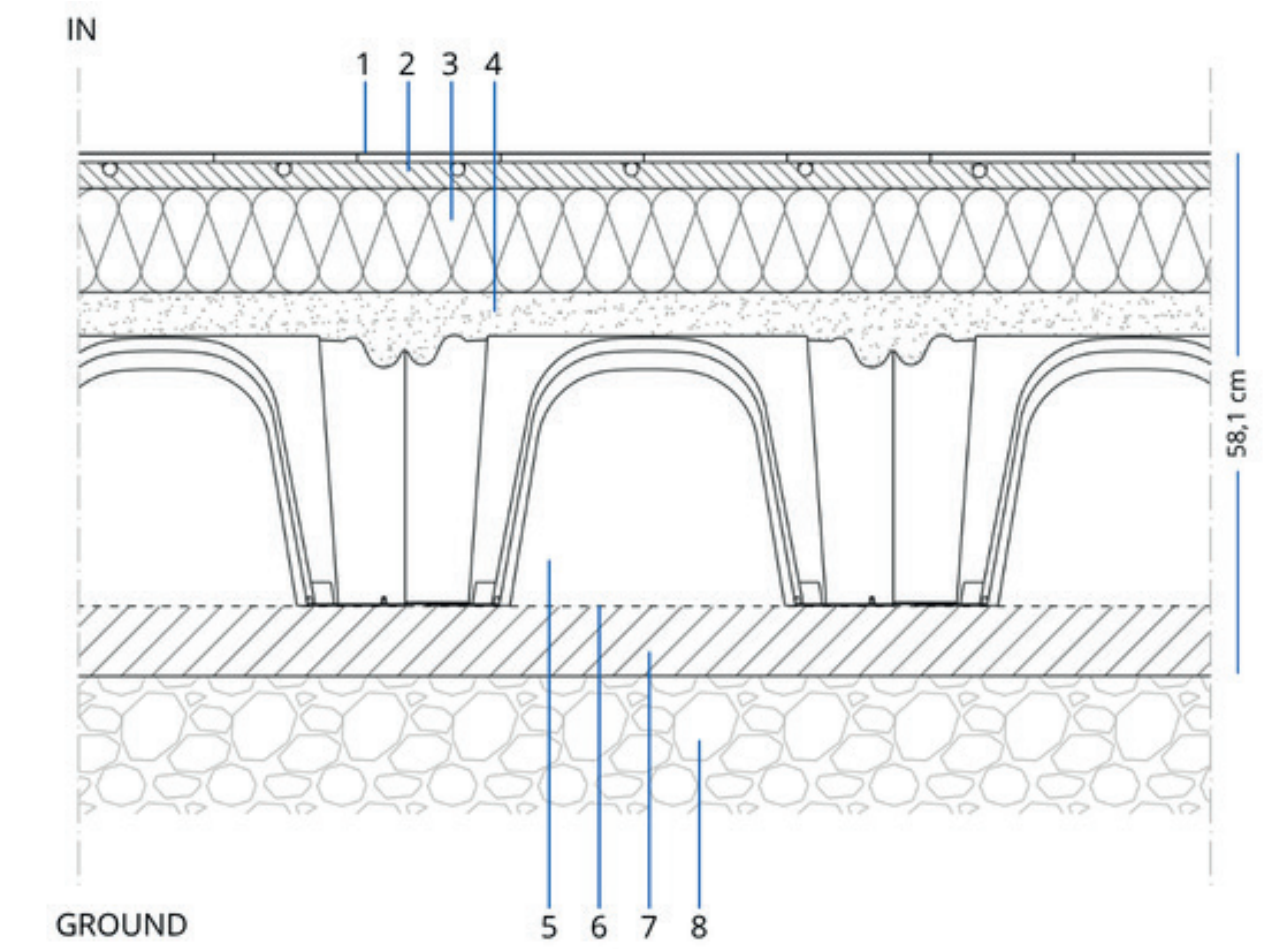


N	Stratigrafia (int-est)	s [cm]	ρ [kg/m ³]	μ [-]	c [J/kg°C]	λ [W/m°C]	R [m ² C/W]
-	Strato liminare interno						0,10
1	Lastra di gesso	1,25	800	10	1000	0,25	
2	Lamiera Collaborante (Supportsol® 74)	0,85	7850	100000	450	50	
3	Riempimento Arlite (LECA® KERAMZYT 0-4 R)	3	350	3	1000	0,1	
4	Pannello in cemento	1,25	1080	113	1000	0,192	
5	Formatrice per l'orecchio in EPS (Austrotherm EPS® Gefälle)	7,3	20	40	1450	0,036	
6	Membrana EPDM	0,2	1200	60000	1000	0,17	
7	Pannello dell'XPS (Austrotherm XPS® TOP 50)	20	33	100	1450	0,035	
8	Geotessile	0,2	150	1	1300	0,05	
-	Strato liminare esterno						0,04

s = spessore
 ρ = massa volumica
 μ = fattore di resistenza al vapore
c = calore specifico
 λ = conducibilità termica
R = resistenza termica

Parametro	Modulo	Sfasamento
Ammetenza termica interna (Y_{i1})	3,504 W/(m ² K)	3,38 h
Ammetenza termica esterna (Y_{e1})	0,355 W/(m ² K)	3,17 h
Trasmittanza termica periodica (Y_{ie})	0,062 W/(m ² K)	-8,42 h
Capacità termica areica interna (κ_i)	49,0 kJ/(m ² K)	
Capacità termica areica esterna (κ_e)	5,7 kJ/(m ² K)	
Resistenza termica (R)	8,346 (m ² K)/W	
Trasmittanza termica (U)	0,120 W/(m ² K)	
Fattore di attenuazione (f)	0,518	

Massa superficiale (m)	111 kg/m ²
Sfasamento (φ)	-8,42h



N	Stratigrafia (int-est)	s [cm]	ρ [kg/m ³]	μ [-]	c [J/kg°C]	λ [W/m°C]	R [m ² C/W]
-	Strato liminare interno						0,17
1	Pavimenti in ceramica	1	2300	10000	840	1,3	
2	Pannello radiante a pavimento secco XPS (NORDIC FOS Floor heating plate)	2,5	30	60	1450	0,034	
3	Pannello dell'XPS (Austrotherm XPS® TOP 30)	10	33	100	1450	0,035	
4	Cappa in Calcestruzzo	5	2500	130	1000	2	
5	Camera d'aria (Iglü)	20	1,2	1	1005	0,625	
6	Membrana Impermeabilizzante	0,15	1200	60000	1000	0,17	
7	Magrone (Calcestruzzo magro)	8	2000	40	1000	1,35	
-	Strato liminare esterno						0,04

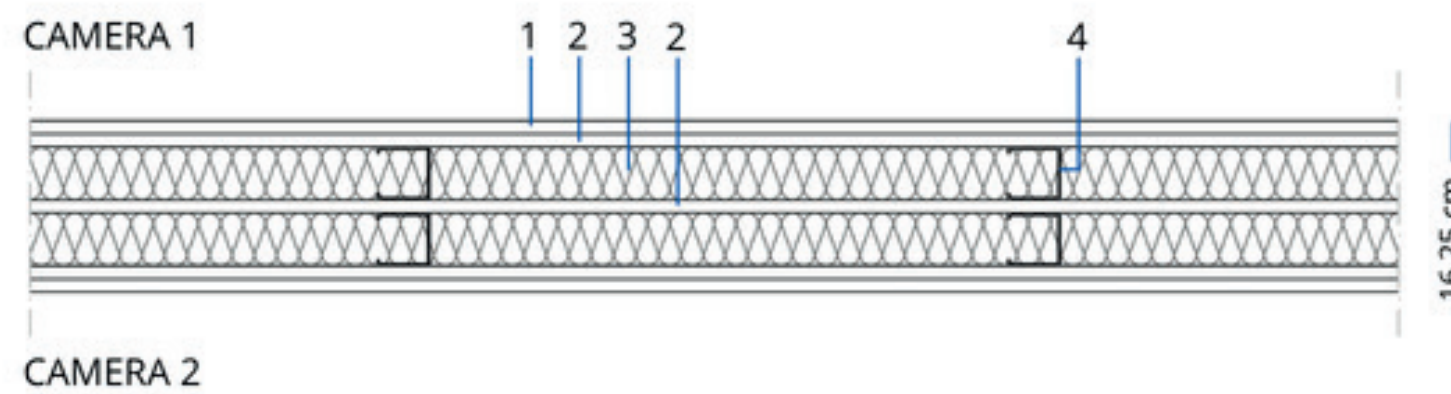
s = spessore
 ρ = massa volumica
 μ = fattore di resistenza al vapore
c = calore specifico
 λ = conducibilità termica
R = resistenza termica

Parametro	Modulo	Sfasamento
Ammetenza termica interna (Y_{i1})	1,453 W/(m ² K)	4,35 h
Ammetenza termica esterna (Y_{e1})	8,932 W/(m ² K)	3,11 h
Trasmittanza termica periodica (Y_{ie})	0,049 W/(m ² K)	-9,45 h
Capacità termica areica interna (κ_i)	20,6 kJ/(m ² K)	
Capacità termica areica esterna (κ_e)	123,5 kJ/(m ² K)	
Resistenza termica (R)	4,307 (m ² K)/W	
Trasmittanza termica (U)	0,232 W/(m ² K)	
Fattore di attenuazione (f)	0,213	

Massa superficiale (m)	314 kg/m ²
Sfasamento (φ)	-9,45 h

ZONE A CALCULATIONS.

The project's technological approach prioritizes entirely dry construction methods, chosen for their structural synergy with the steel load-bearing framework. From ventilated foundations to high-efficiency roofing, each layer has been optimized to ensure lightness, speed of construction, and maximum thermal and acoustic performance. The elimination of wet processes and the use of mechanical connections ensure that components can be fully disassembled at the end of their life cycle, aligning the project with the most advanced criteria of the circular economy and environmental sustainability.

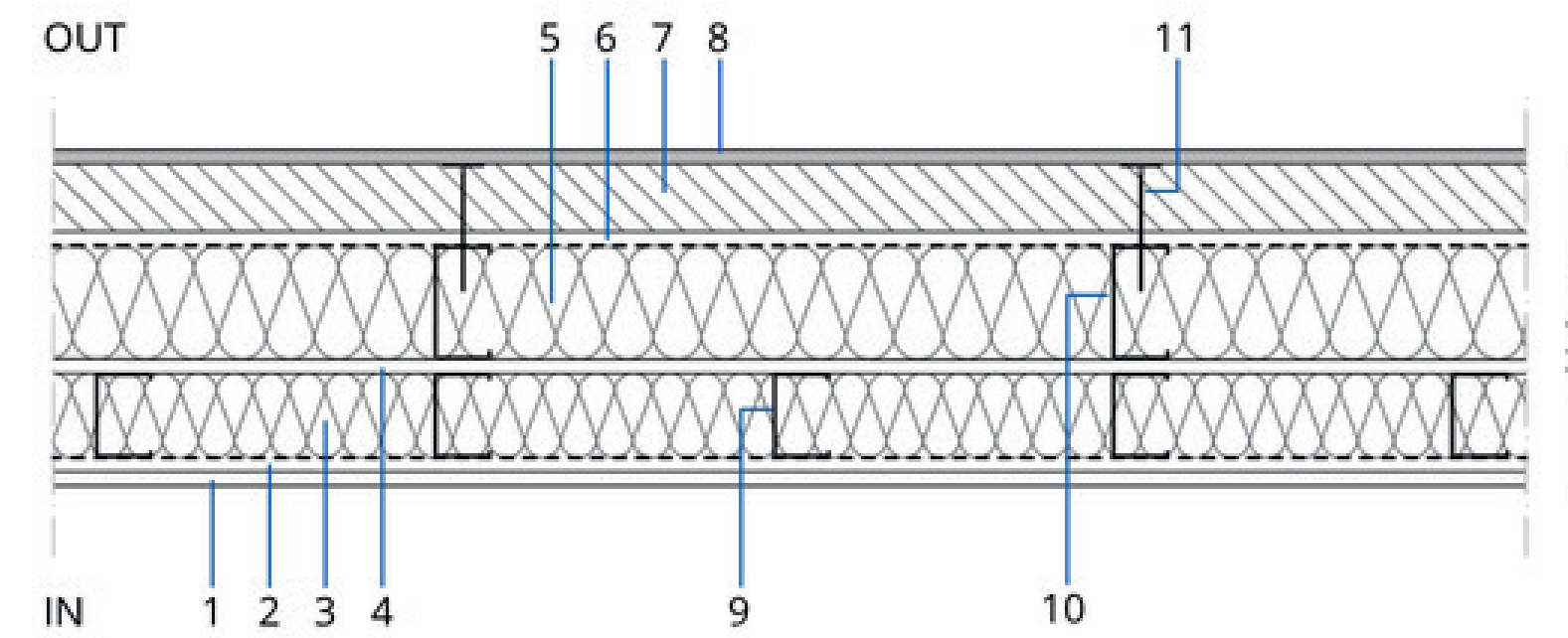


Lastre di gesso rivestito fibrato (Gyproc Habito® Forte 13)
Lastre di gesso rivestito (Gyproc Wallboard 13)
lana di vetro (Isover AcustiPAR 4+)
Struttura metallica (Gyproc Gyprofile)

To divide the interior spaces (sleeping area/bathroom), a double-layer drywall partition system was installed, designed to ensure high standards of acoustic privacy and fire resistance. The structure consists of a single 50 mm metal stud frame, clad on both sides with a double layer of Gyproc Wallboard panels. An Isover Arena 34 mineral wool panel is inserted into the cavity, providing thermal and acoustic insulation without adding weight to the steel load-bearing structure.

Technical data (SA 100/50 LA34 STD System):
Total thickness: 100 mm (optimized for space savings).
Sound insulation rating R_w : 55 dB (Excellent for privacy between bathroom and bedroom).
Thermal transmittance U : 0.518 W/m²K.
Fire resistance: EI 90 (up to 5 m in height).
Weight: approx. 50 kg/m² (very lightweight compared to brick partitions).

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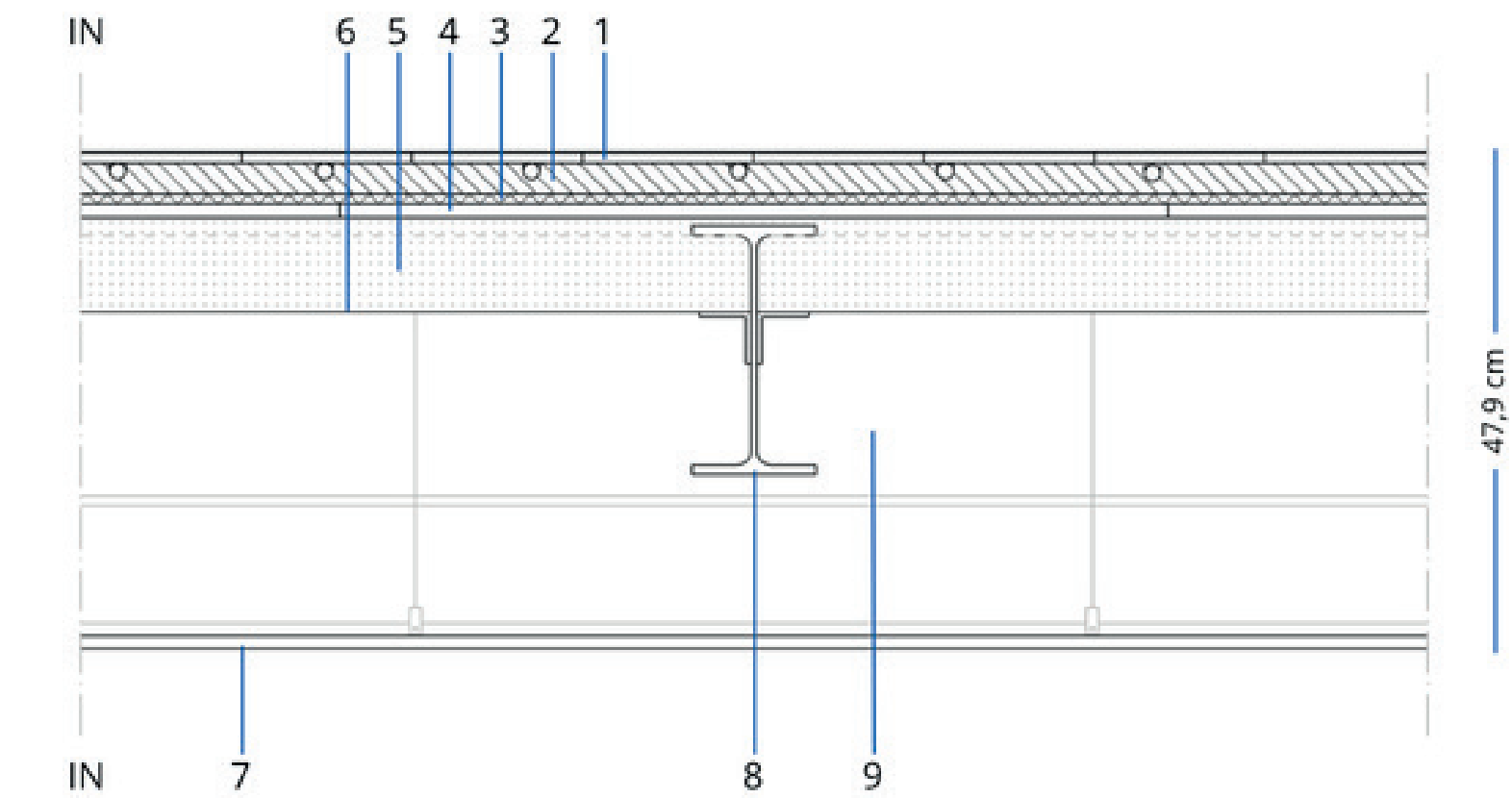


N	Stratigrafia (int-est)	s [cm]	ρ [kg/m ³]	μ [-]	c [J/kg°C]	λ [W/m°C]	R [m ² C/W]
-	Strato liminare interno						0,13
1	Lastra di gesso rivestito ad alta densità (Gyproc Habito Forte 13)	1,25	984	10	1000	0,25	
2	Lastra di gesso con barriera al vapore (Gyproc Vapor 13)	1,25	800	100000	1000	0,21	
3	Lana di vetro in intercapedine (Isover PAR 4+)	7,5	13	1	1030	0,038	
4	Lastra di gesso rivestito ad alta densità (Gyproc Habito Forte 13)	1,25	984	10	1000	0,25	
5	Lana minerale in intercapedine (Isover Arena 34)	10	18	1	1030	0,034	
6	Lastra di gesso fibrorinforzato (Gyproc Glasroc X)	1,25	1080	13	1000	0,3	
7	Lana di vetro per sistema a cappotto (Isover Klima34 G3)	6	55	1	1030	0,034	
8	Lastra in cemento alleggerito (Gyproc Aquaroc)	1,25	1080	50	1000	0,27	
-	Strato liminare esterno						0,04

s = spessore
 ρ = massa volumica
 μ = fattore di resistenza al vapore
c = calore specifico
 λ = conducibilità termica
R = resistenza termica

Parametro	Modulo	Sfasamento
Ammettanza termica interna (Y_{i1})	1,647 W/(m ² K)	4,17 h
Ammettanza termica esterna (Y_{e1})	1,290 W/(m ² K)	4,38 h
Trasmittanza termica periodica (Y_{p1})	0,043 W/(m ² K)	9,03 h
Capacità termica areica interna (κ_i)	23,2 kJ/(m ² K)	
Capacità termica areica esterna (κ_e)	18,3 kJ/(m ² K)	
Resistenza termica (R)	7,097 (m ² K)/W	
Trasmittanza termica (U)	0,141 W/(m ² K)	
Fattore di attenuazione (f)	0,304	

Massa superficiale (m)	68 kg/m ²
Sfasamento (φ)	-9,03 h



N	Stratigrafia (int-est)	s [cm]	ρ [kg/m ³]	μ [-]	c [J/kg°C]	λ [W/m°C]	R [m ² C/W]
-	Strato liminare interno						0,13
1	Pavimenti in ceramica	1	2300	100000	840	1,3	
2	Pannello radiante a pavimento secco XPS (NORDIC FOS Floor heating plate)	2,5	30	60	1450	0,034	
3	Strato di isolamento acustico da impatto	0,5	30	2000	1500	0,04	
4	Pannello in cemento	1,25	1080	113	1000	0,192	
5	Riempimento Arlite (LECA® KERAMZYT 0-4 R)	3	350	3	1000	0,1	
6	Lamiera Collaborante (Supportsol® 74)	0,856	7850	100000	450	50	
7	Lastra di gesso	1,25	800	10	1000	0,25	
-	Strato liminare esterno						0,13

s = spessore
 ρ = massa volumica
 μ = fattore di resistenza al vapore
c = calore specifico
 λ = conducibilità termica
R = resistenza termica

Parametro	Modulo	Sfasamento
Ammettanza termica interna (Y_{i1})	1,589 W/(m ² K)	3,54 h
Ammettanza termica esterna (Y_{e1})	1,458 W/(m ² K)	2,85 h
Trasmittanza termica periodica (Y_{p1})	0,574 W/(m ² K)	-2,83 h
Capacità termica areica interna (κ_i)	23,9 kJ/(m ² K)	
Capacità termica areica esterna (κ_e)	20,9 kJ/(m ² K)	
Resistenza termica (R)	1,535 (m ² K)/W	
Trasmittanza termica (U)	0,651 W/(m ² K)	
Fattore di attenuazione (f)	0,882	

Massa superficiale (m)	66 kg/m ²
Sfasamento (φ)	2,83 h

ZONE B YACHTING CLUB

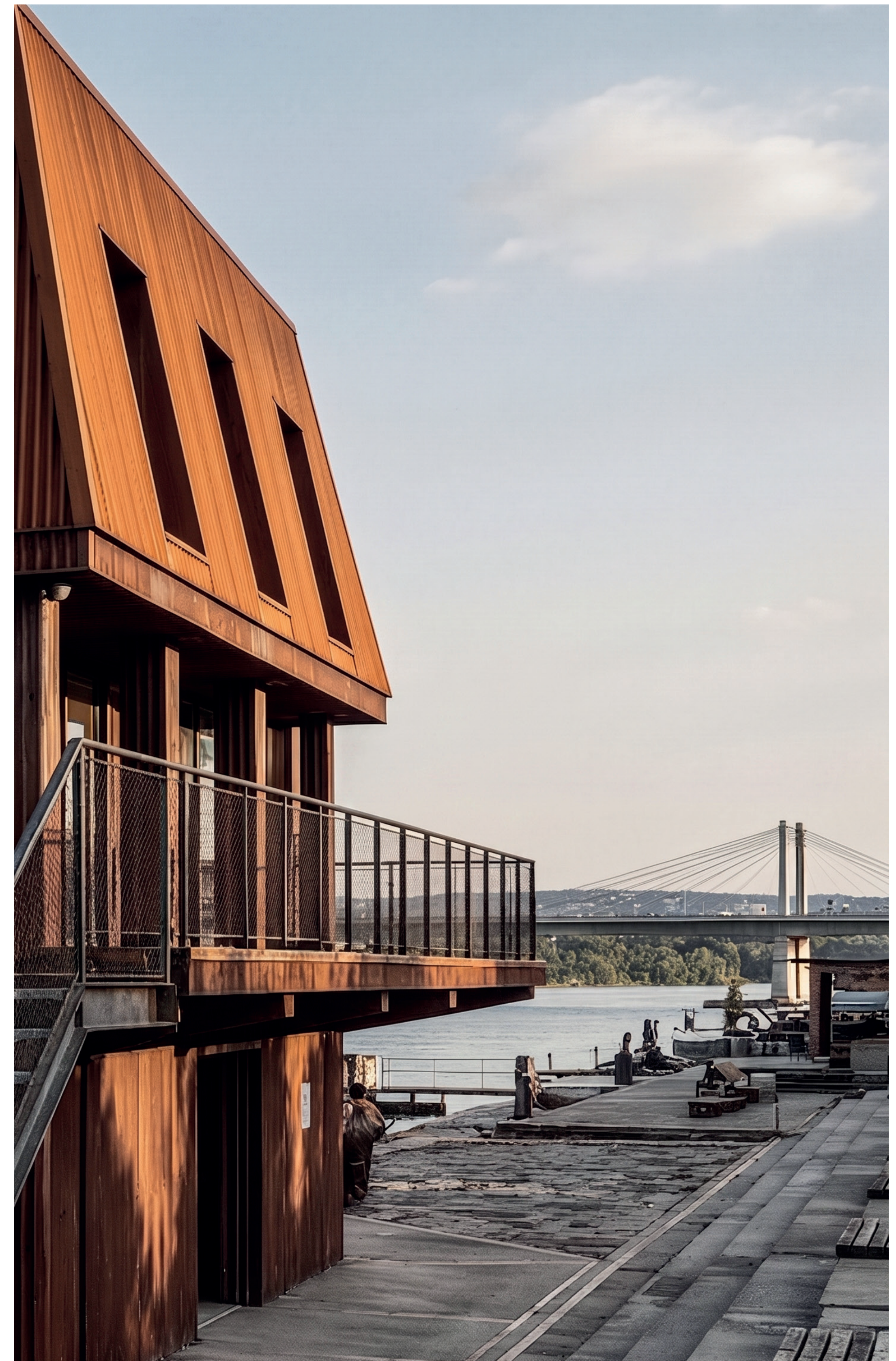
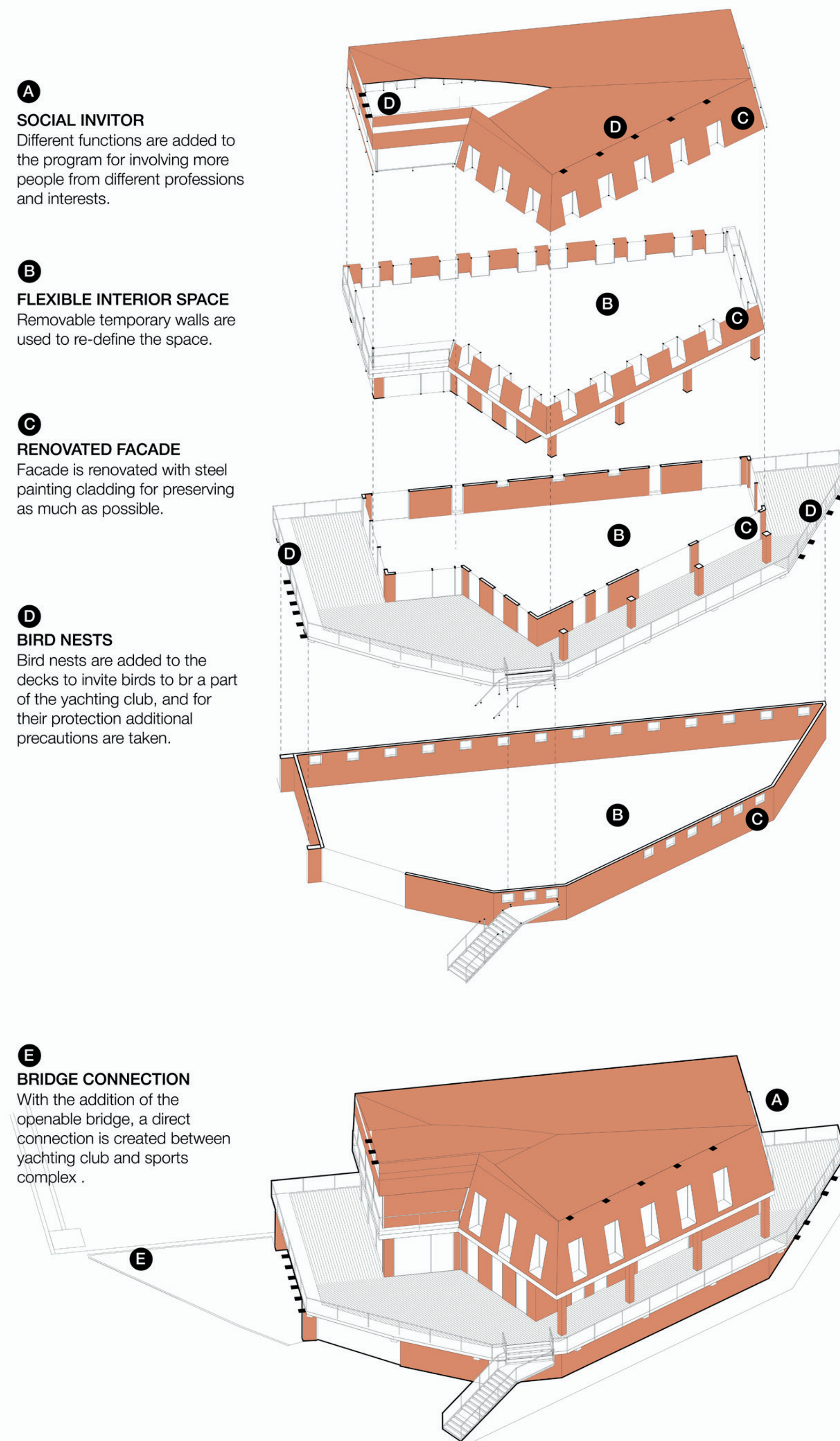
Zone B is primarily characterized by yacht club, hosting public events within a more controlled and semi-private environment. The spatial organization in this zone prioritizes: domestic scale
repetition

proximity to shared areas
These principles generate a cohesive and legible layout, arranged in a systematic manner to ensure both efficiency and comfort. The repetition not only simplifies renovation but also reinforces a sense of order and identity. At the same time, the domestic scale softens the overall perception of the built environment, fostering a more intimate and livable atmosphere for its users.

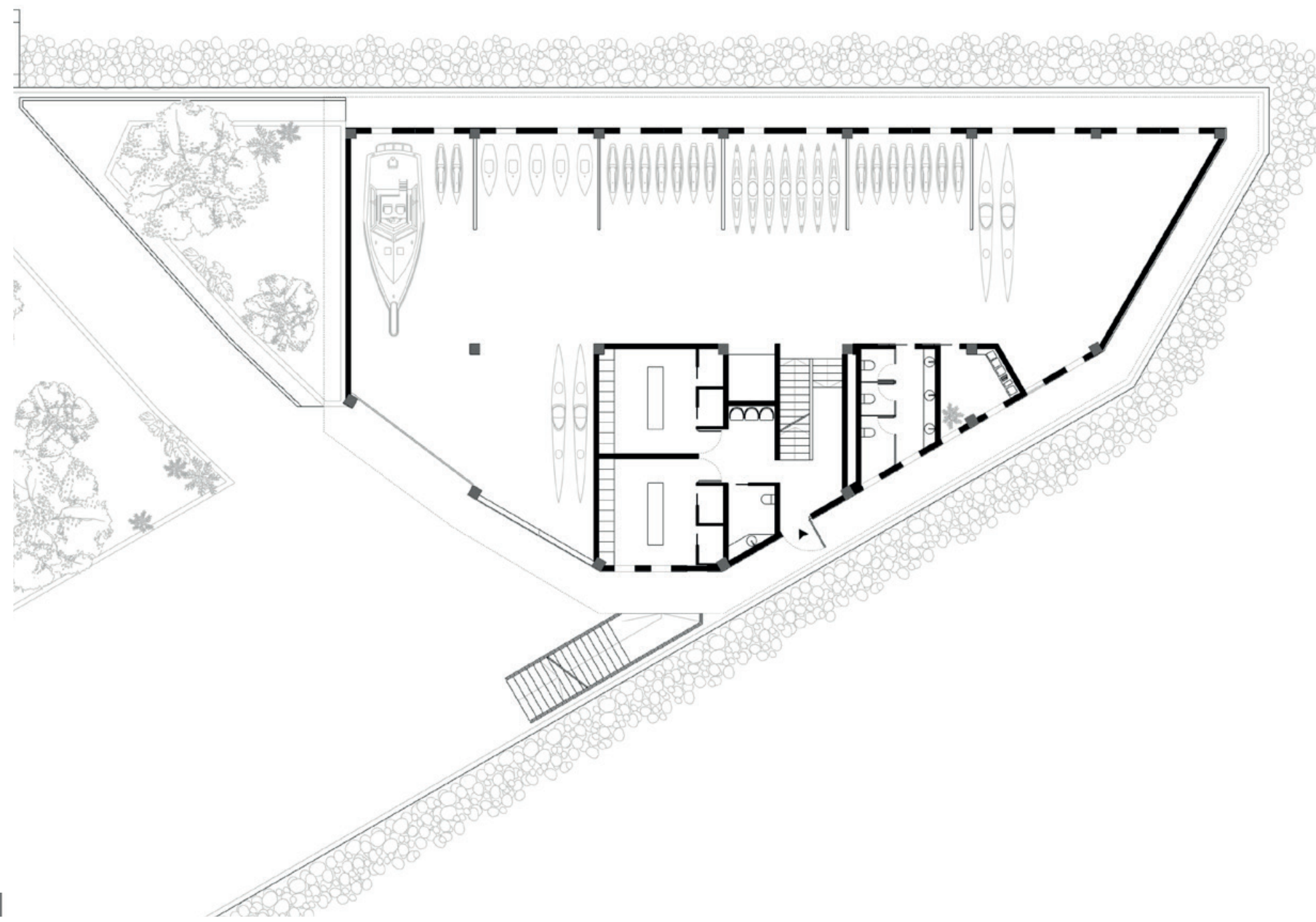
The flexible interior spaces provide different functions such as cafeteria, event space, and observation areas. Over time, these spaces can be reconfigured or adapted according to the needs of seasonal programs, allowing the zone to respond dynamically to changing occupancy patterns and event requirements. This adaptability ensures long-term usability and resilience, positioning Zone B not only as a yacht club but also as a versatile social and functional core within the overall masterplan.

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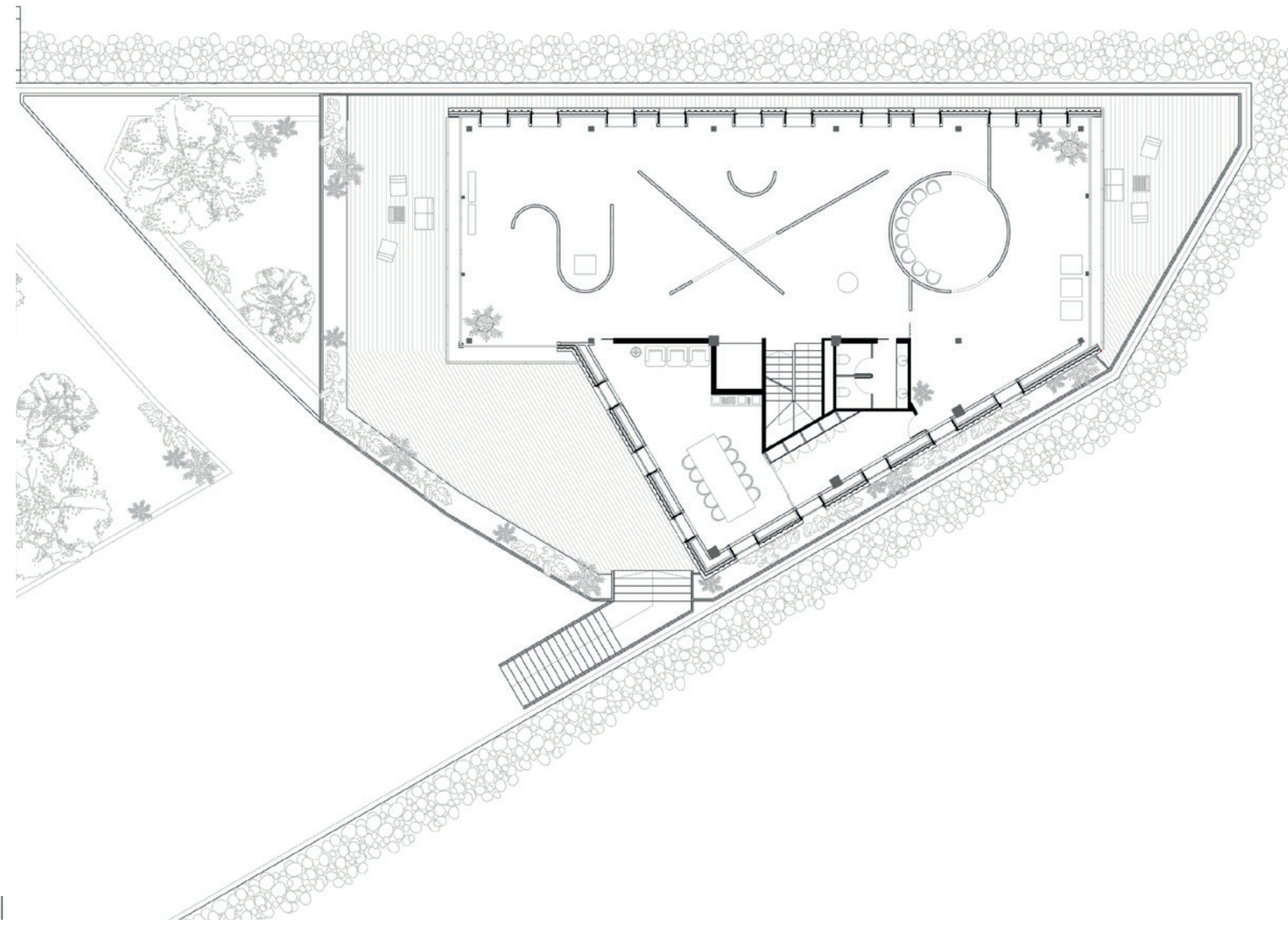
section



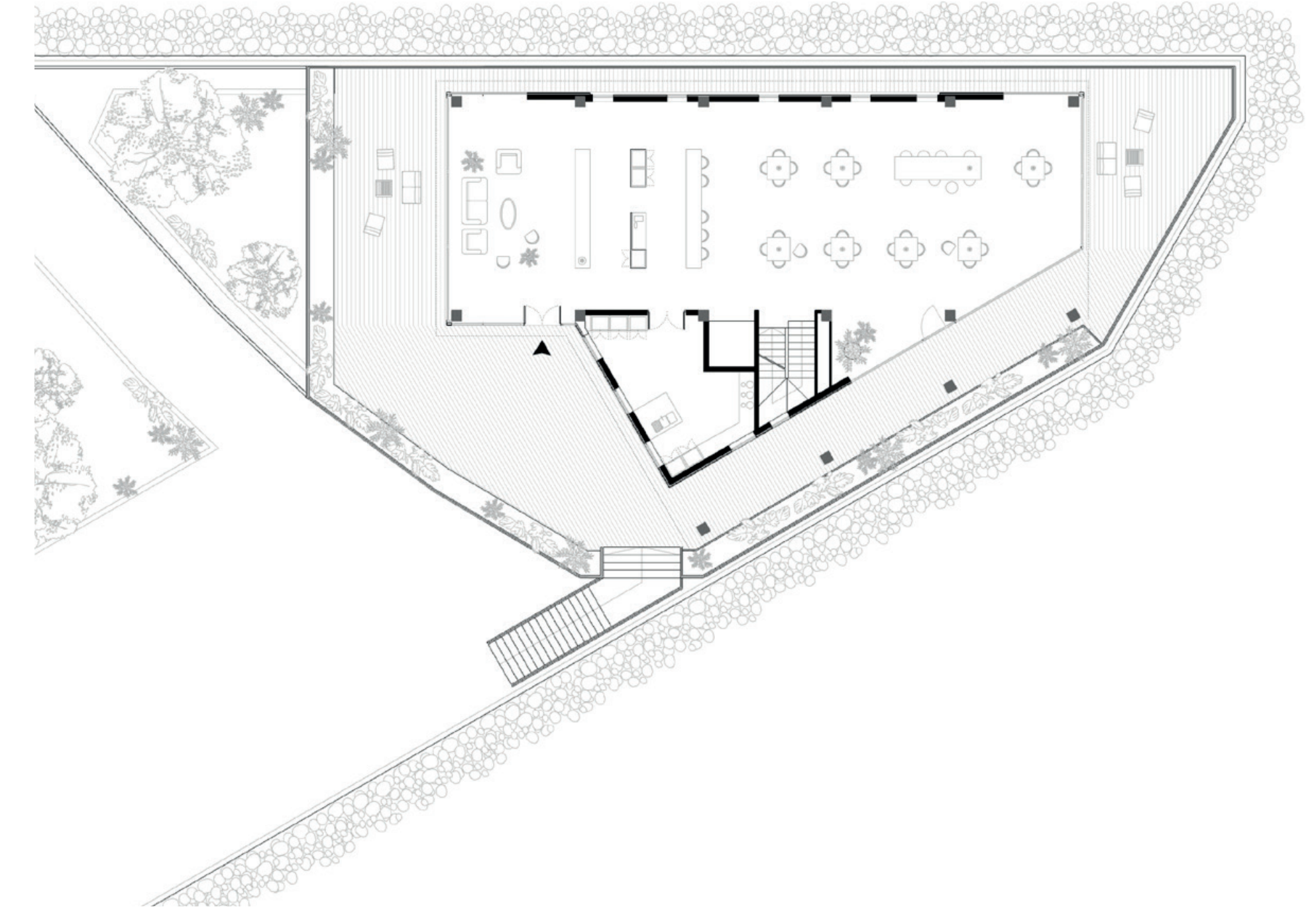
ZONE B YACHTING CLUB



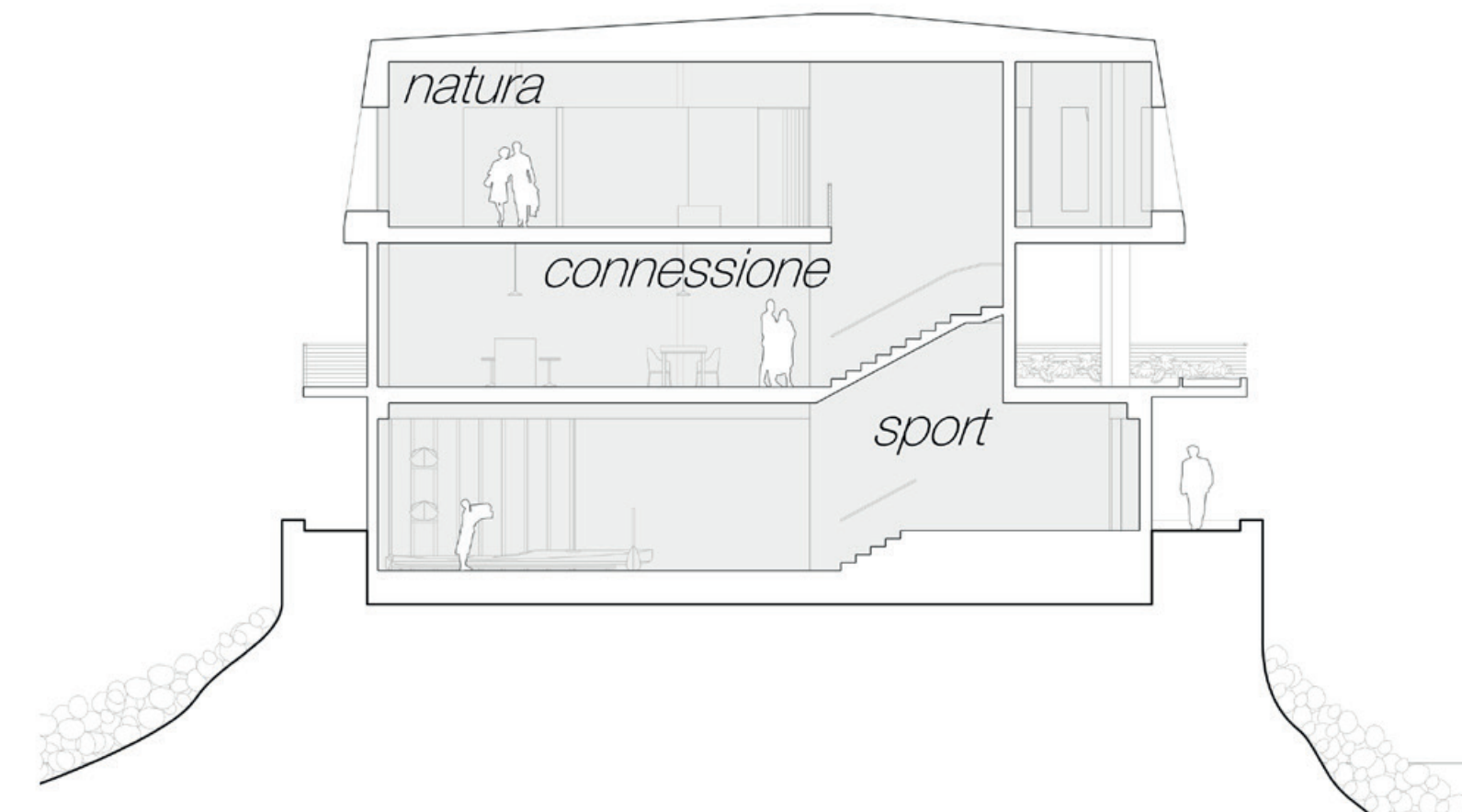
ground floor plan



first floor plan



second floor plan



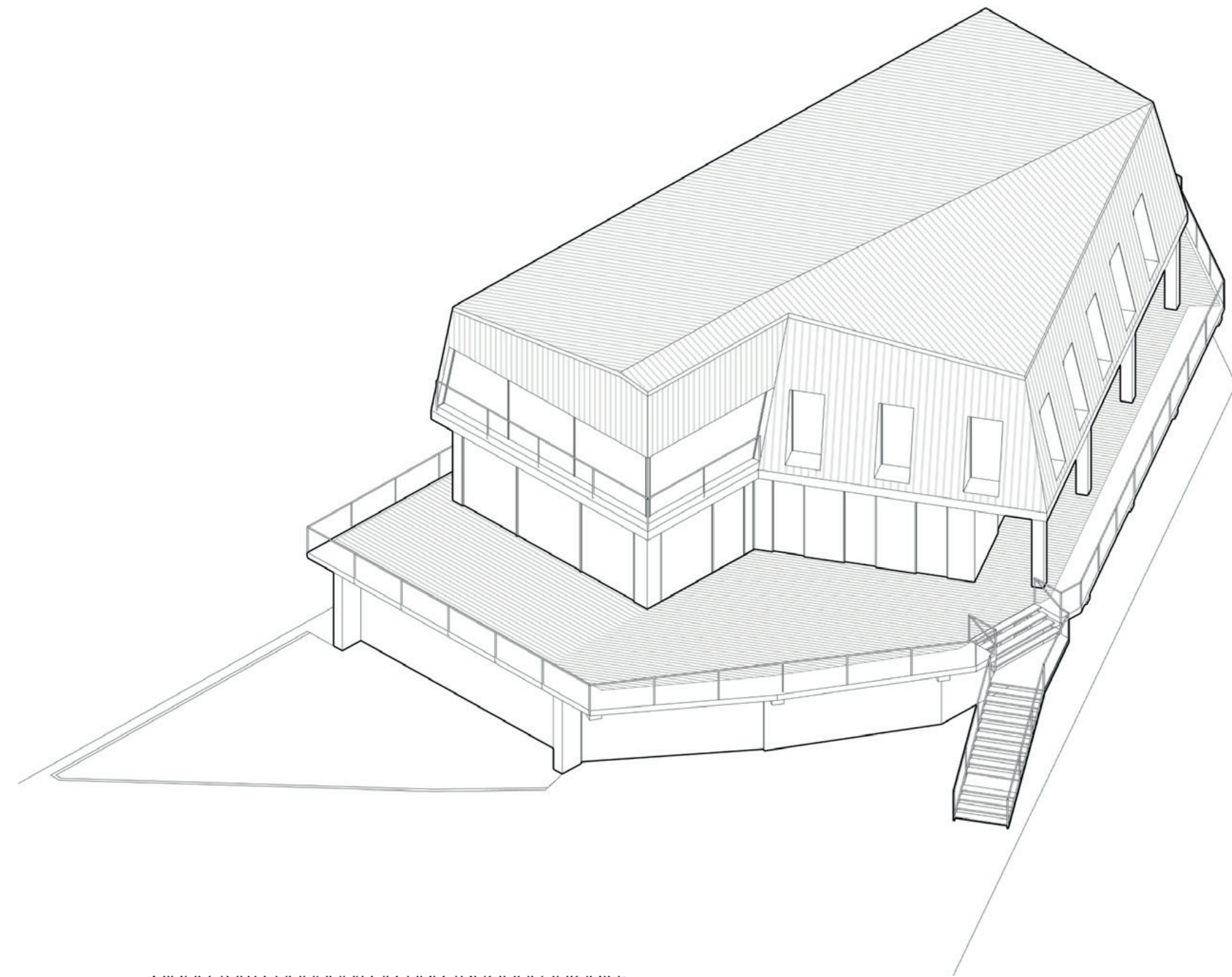
ZONE B YACHTING CLUB

BIRD PROTECTION

Integrating bird nests directly into the building's facade is a pro-active strategy for local biodiversity, transforming a static structure into a living ecosystem. By incorporating recessed nesting platforms into the facade's new orange cladding, birds are invited to become a part of the yachting club. These integrated "bird space" offer protection from predators and harsh weather. This approach not only considers of local bird population but also fosters a deeper connection between users and nature, proving that modern architecture can serve as both human focused structures and ecological infrastructure.

FACADE RENOVATION

To protect existing facade's character yet differentiate the old and the new, an orange protective painting cladding is applied to the existing structure. On to the new cladding, bird nests are placed for bringing an interaction between users and birds.



plan of the building facade showing the location of the bird nests.

