

ARCHITECTURE STUDENT CONTEST

18th INTERNATIONAL EDITION, LISBON 2023

The contemporary *Pombalina* house

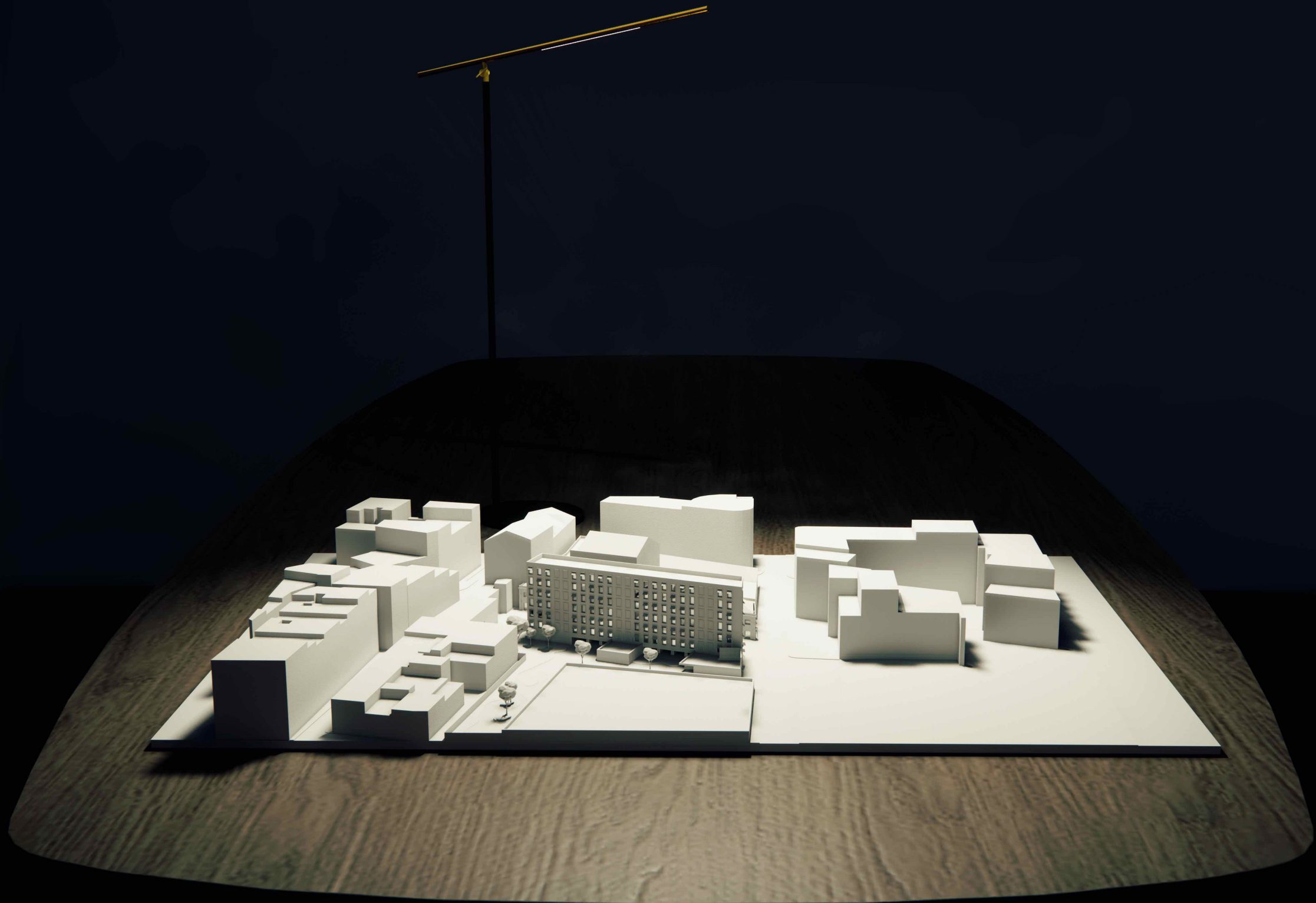
Team nr. 1

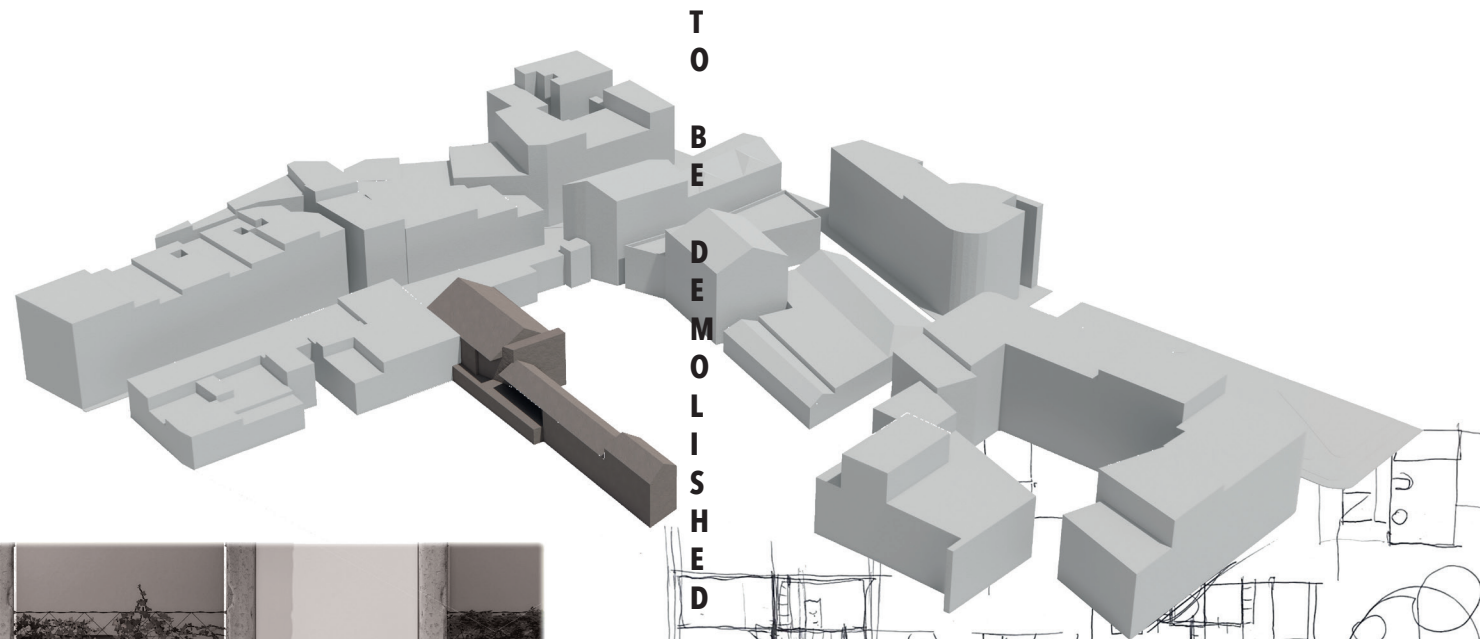


Mariana Almeida e Sousa
Portugal

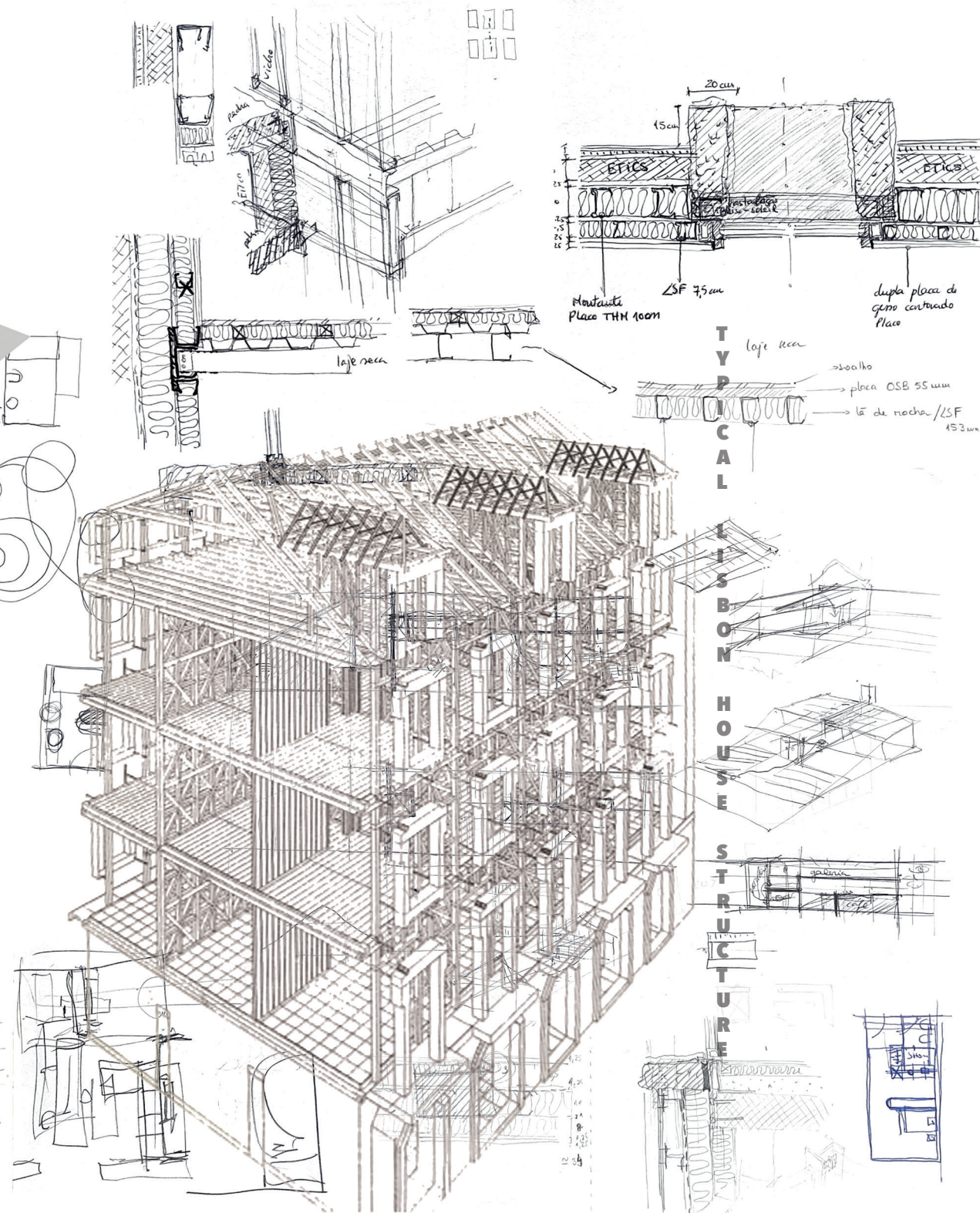


Rafael Vieira Gonçalves
Portugal





RE
USED
STONE

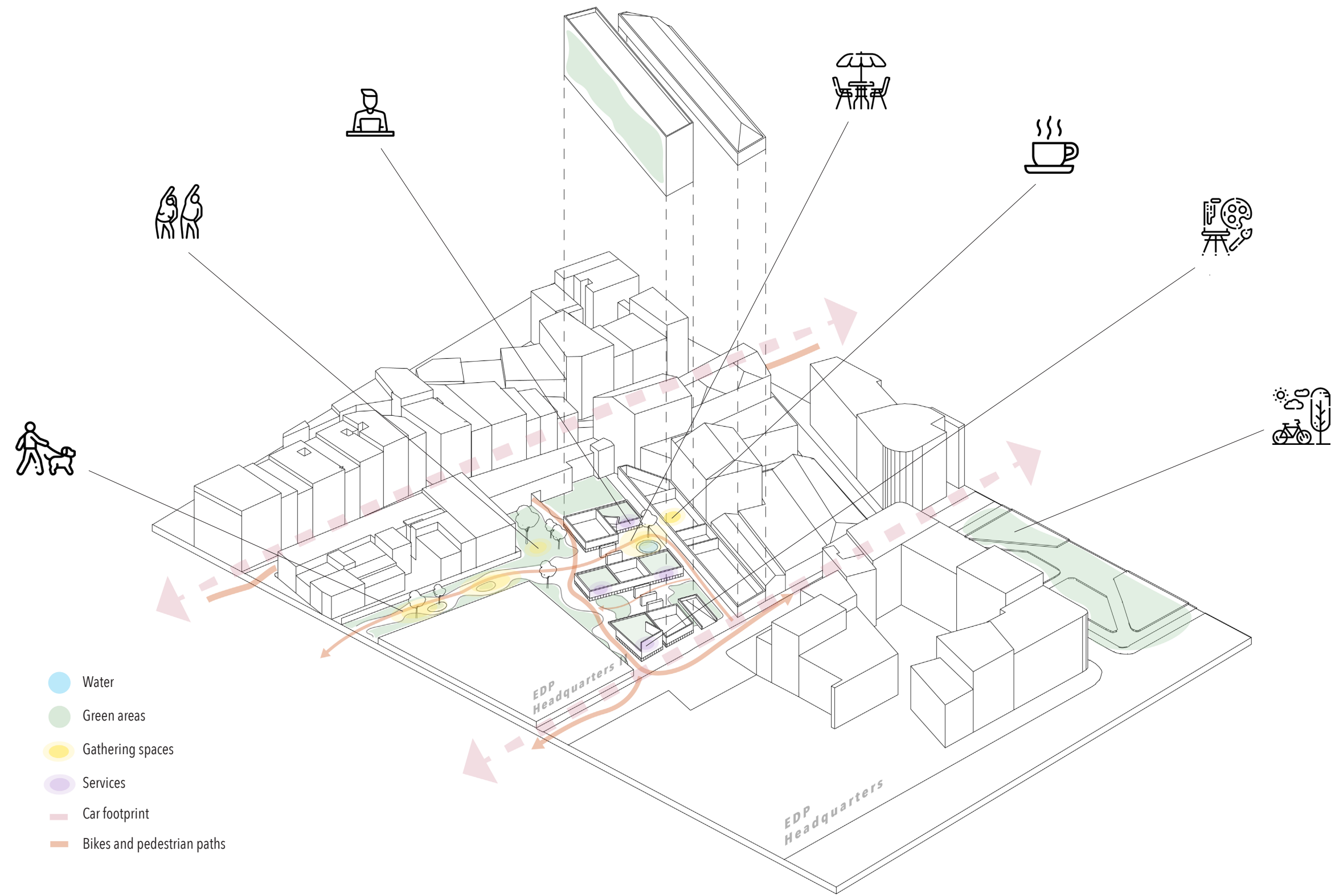




SITE PLAN



ISOMETRIC VIEW

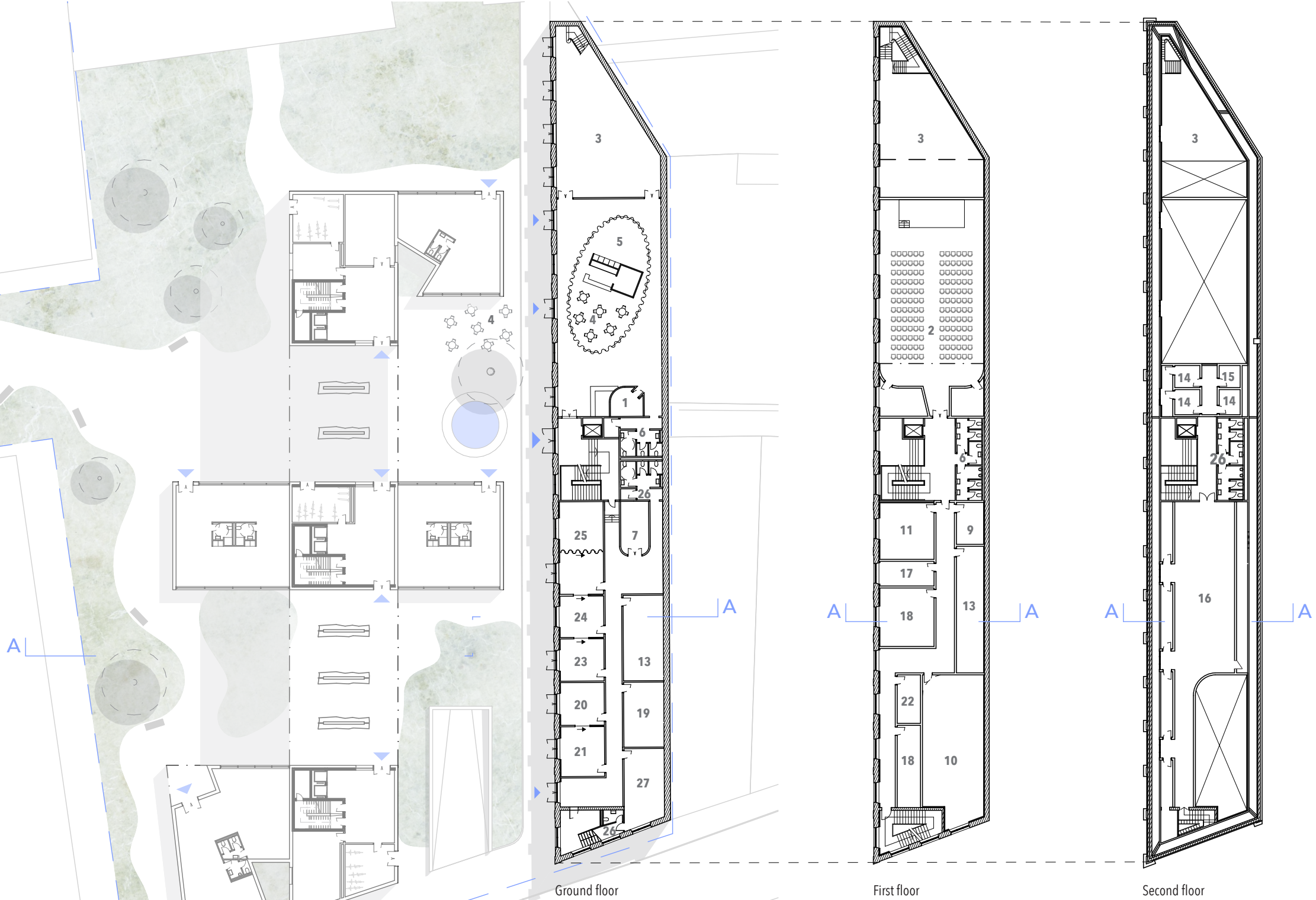


CULTURAL BUILDING

- Lisbon Video Library**
- 1. Welcome/reception and public forwarding
 - 2. Auditory
 - 3. Exhibitions room
 - 4. Cafeteria/ foyer
 - 5. Shop
 - 6. Public bathrooms
 - 7. Secretary and administration support room
 - 8. Video edition room
 - 9. Sound studio
 - 10. TV/Cyclorama studio
 - 11. Film and video description room
 - 12. Deposit and archive room
 - 13. Video digitalization room
 - 14. Individual visioning room
 - 15. Technical support to individual visioning room
 - 16. Collective visioning room
 - 17. Reading space
 - 18. Filming equipment storage room
 - 19. Executive project production room
 - 20. Coordinator room, with meeting table
 - 21. Meetings room
 - 22. Networks Servers and Backstage room

- Lisbon Film Comission**
- 23. Coordinator room, with meeting table
 - 24. Meetings room
 - 25. Working room

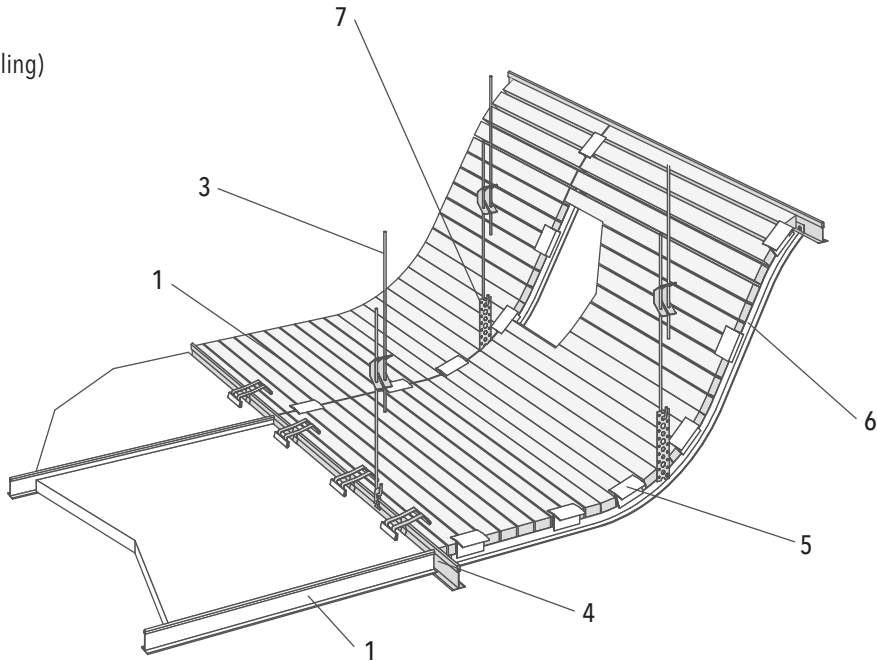
- Common spaces
- 26. Workers bathroom
 - 27. Workers eating/ pantry area





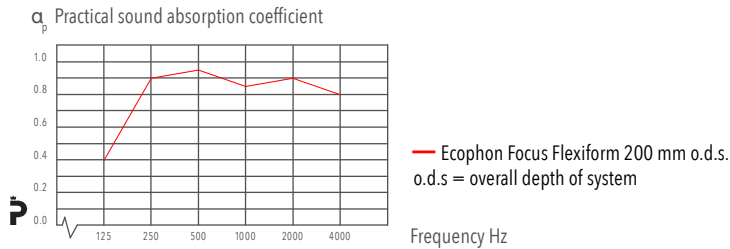
Auditorium ceiling detail

- 1. Focus Flexiform A
- 2. Connect T24 Cross tee (adjacent ceiling)
- 3. Connect Adjustable hanger
- 4. Connect T24 Main runner
- 5. Connect Flexiform clip
- 6. Flexible Flexiform profile
- 7. Perforated strip

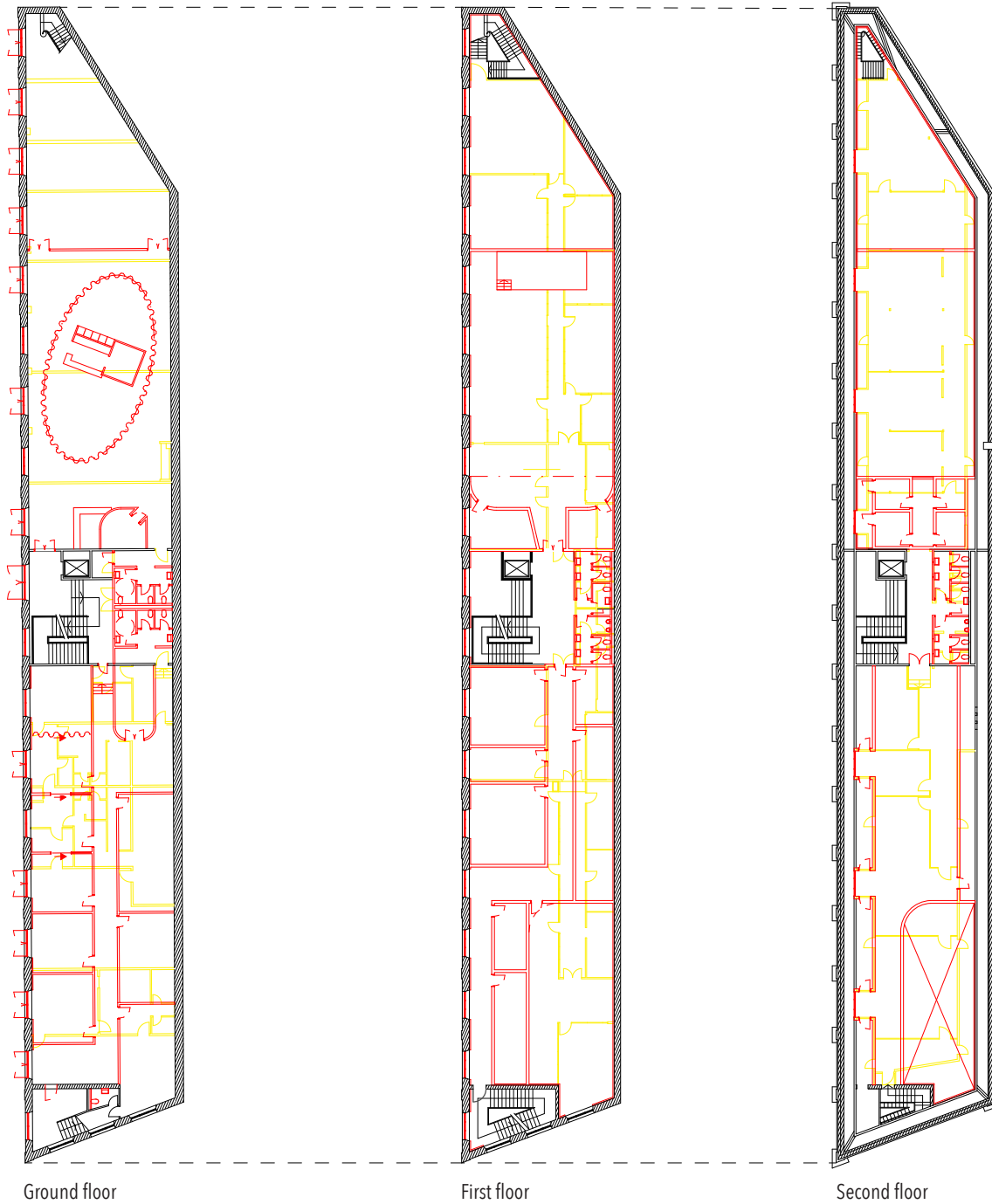


Ecophon Focus™ Flexiform A and Ecophon Connect grid systems

Sound Absorption: Test results according to EN ISO 354:

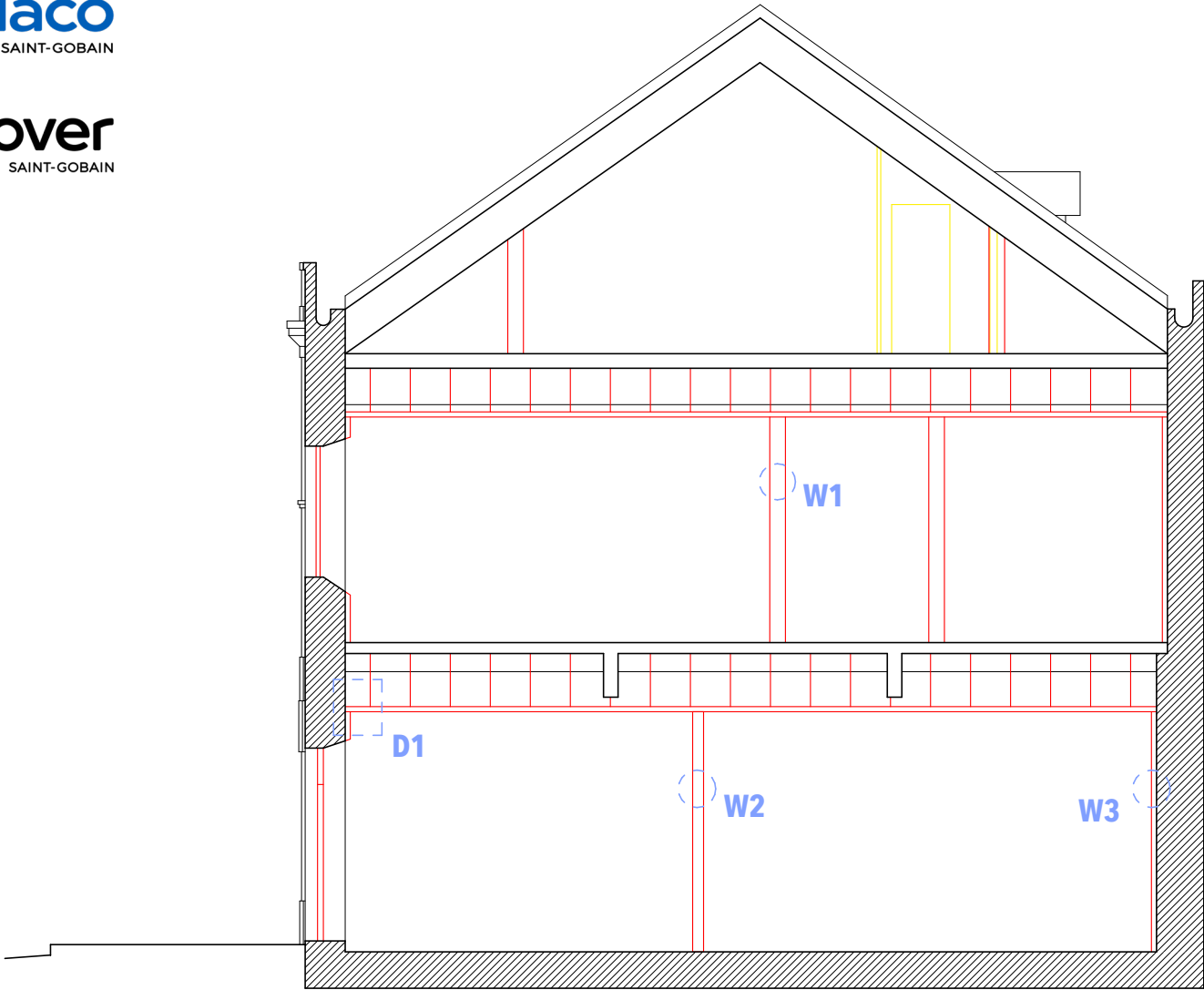


Product	Focus Flexiform
o.d.s mm	200
absorption class	A
α_w	0,9





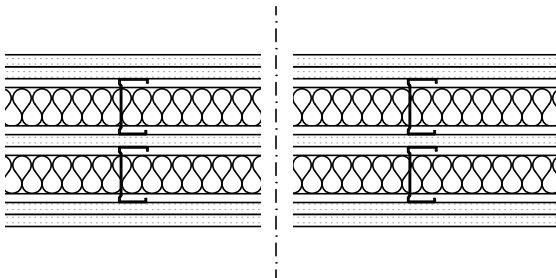




Section A-A

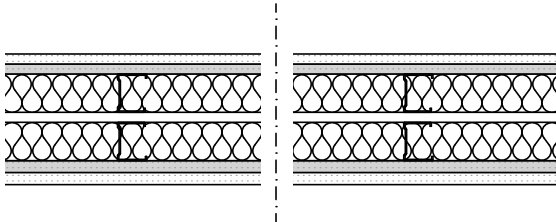
W1: Wall for video rooms and studios

PLACO® Habito® double partition with Arena mineral wool or similar
Total thickness: 215 mm
Thermal resistance: 4.17 m²K/W
Acoustic insulation: dB 71 (-3; -9)
Fire resistance (EI): EI90



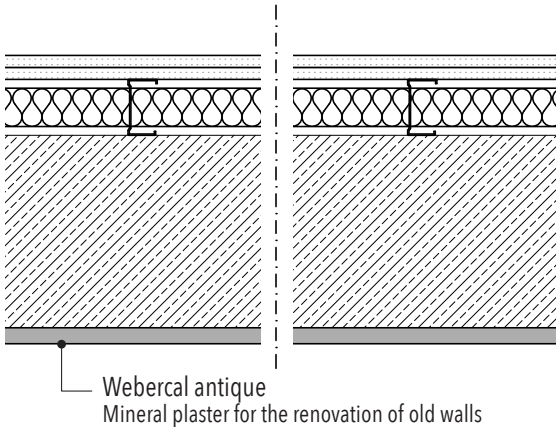
W2: Wall for collective spaces and meetings rooms

PLACO® Habito® double partition with Arena mineral wool or similar
Total thickness: 159 mm
Thermal resistance: 3.18 m²K/W
Acoustic insulation: dB 63 (-5; -12)
Fire resistance: (EI) EI60



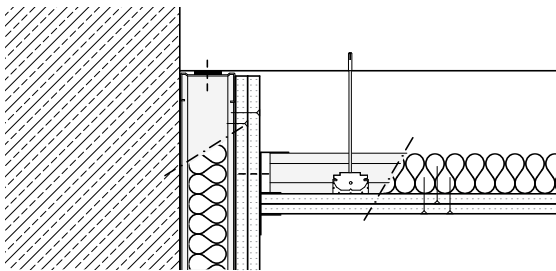
W3: Rehabilitation of existing masonry wall

Placo® coating with mineral wool Arena ISOVER or similar
Total thickness of the system: 100mm
Maximum system height (m): 3.55 m
Thermal resistance: 2.23 RAT m²K/W
Acoustic insulation: dB 65 (-2; -6)
Fire resistance (EI): EI30
Acoustic improvement of the cladding compared to the existing:
approx. 17 dB

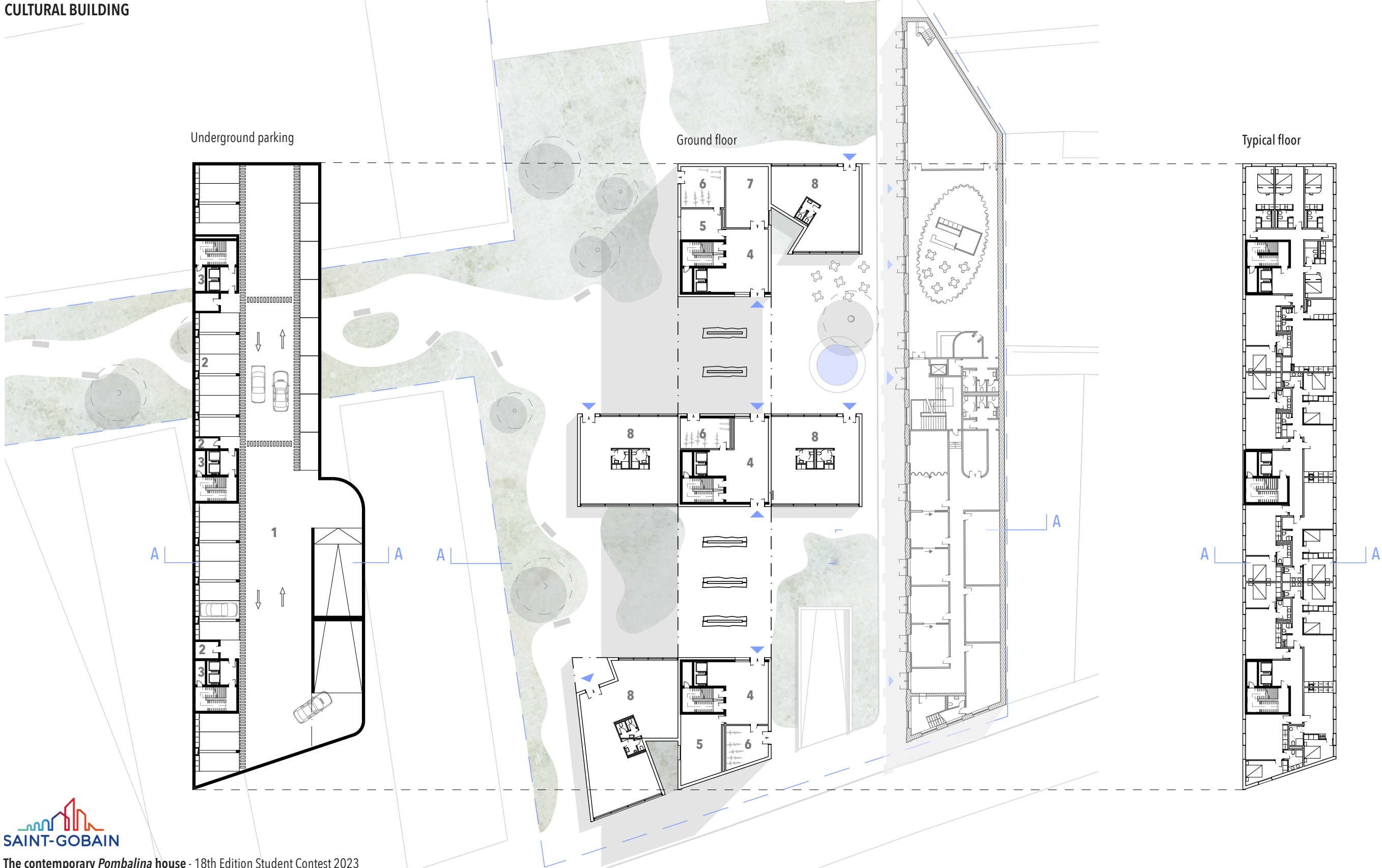


D1: Meeting of the wall and ceiling

Placo® BA13+4PRO® ceiling with single F-530 structure with mineral wool Arena ISOVER or similar
Sound insulation dB 73 (-3;-9)

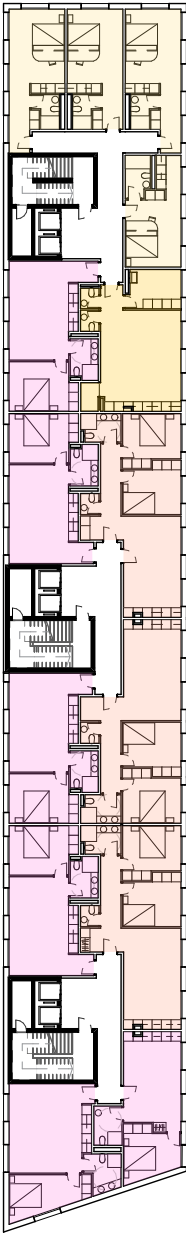




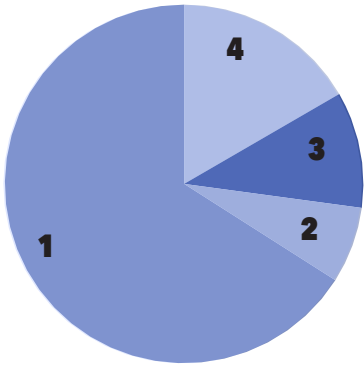


- 1. Parking
- 2. Storage space
- 3. Technical area
- 4. Entrance hall
- 5. Laundry room
- 6. Bike room
- 7. Meeting/ common room
- 8. Commerce/ co-working spaces

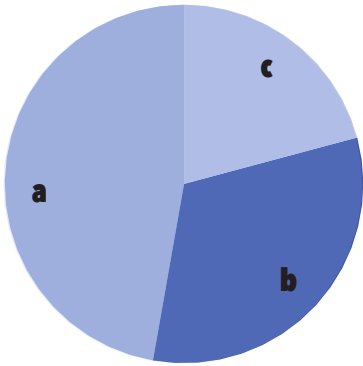
Typical floor plan



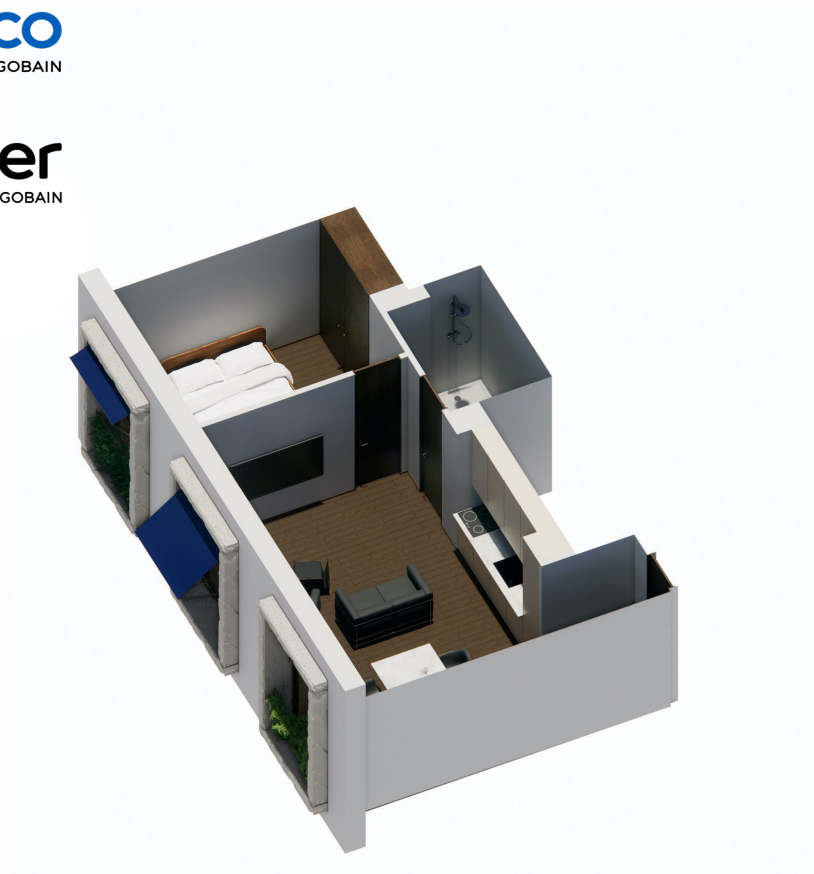
- T1 Apartment
- T2 Apartment
- Co-living units
- Co-living common areas
- Laundry room
- Kitchen
- Chilling and eating area
- Common toilets
- Storage area



- Floor area usages**
- 1. Apartments and Co-living
 - 2. Common areas
 - 3. Commerce/ Co-working spaces
 - 4. Accesses and circulation



- Types of dwellings**
- a. T1 Apartment = 47%
 - b. T2 Apartmet = 32%
 - c. Co- living = 21%



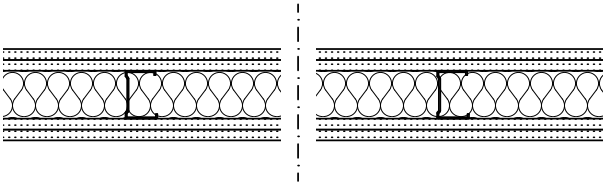
One room flat:

- Entrance
- Kitchen
- Living room and dining area
- Bathroom
- Bedroom

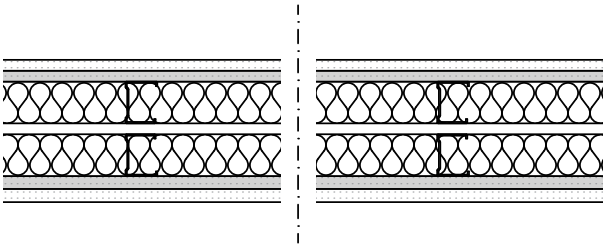


Two room flat:

- Entrance
- Kitchen
- Living room and dining area
- Bathroom
- Bedrooms
- Storage space



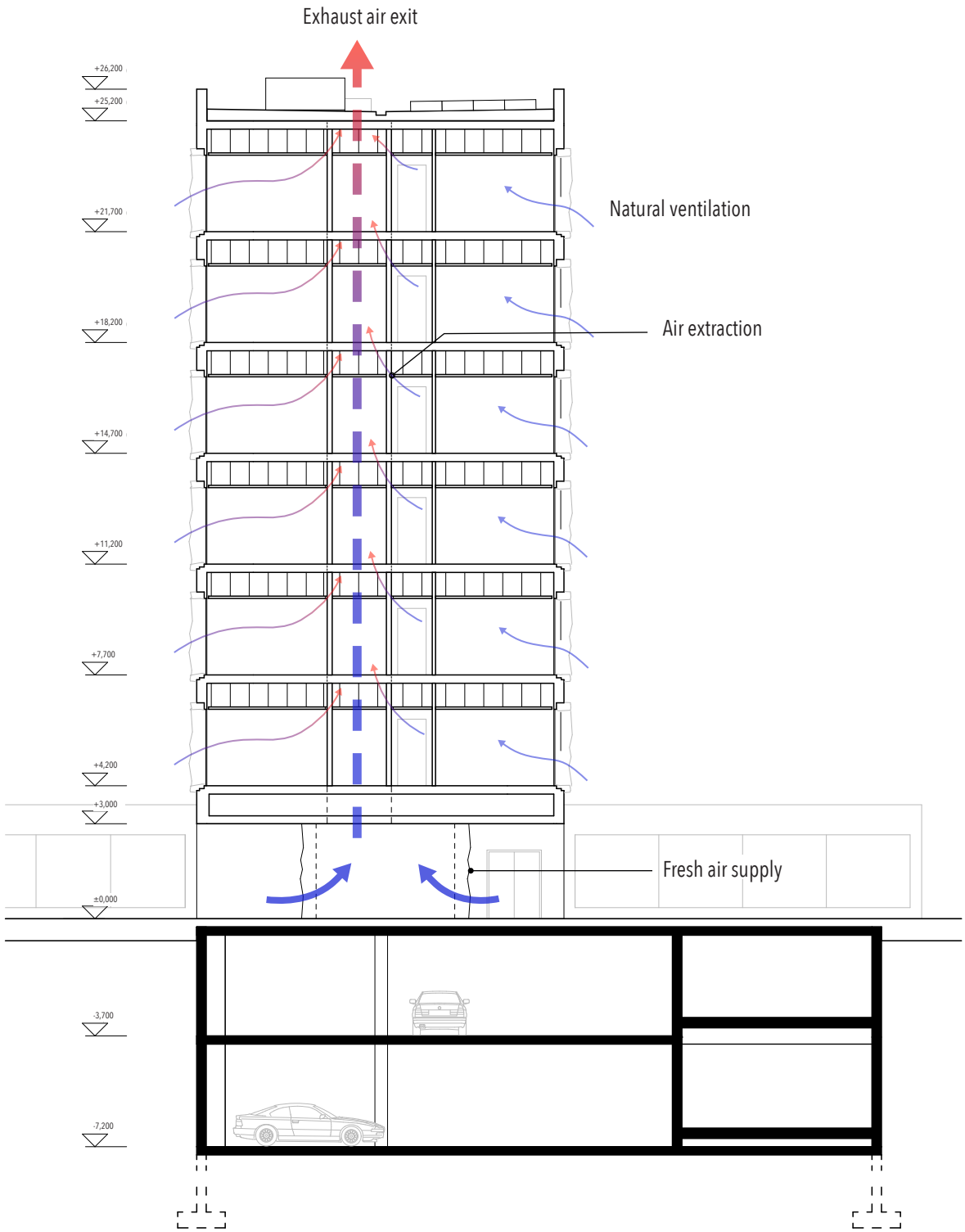
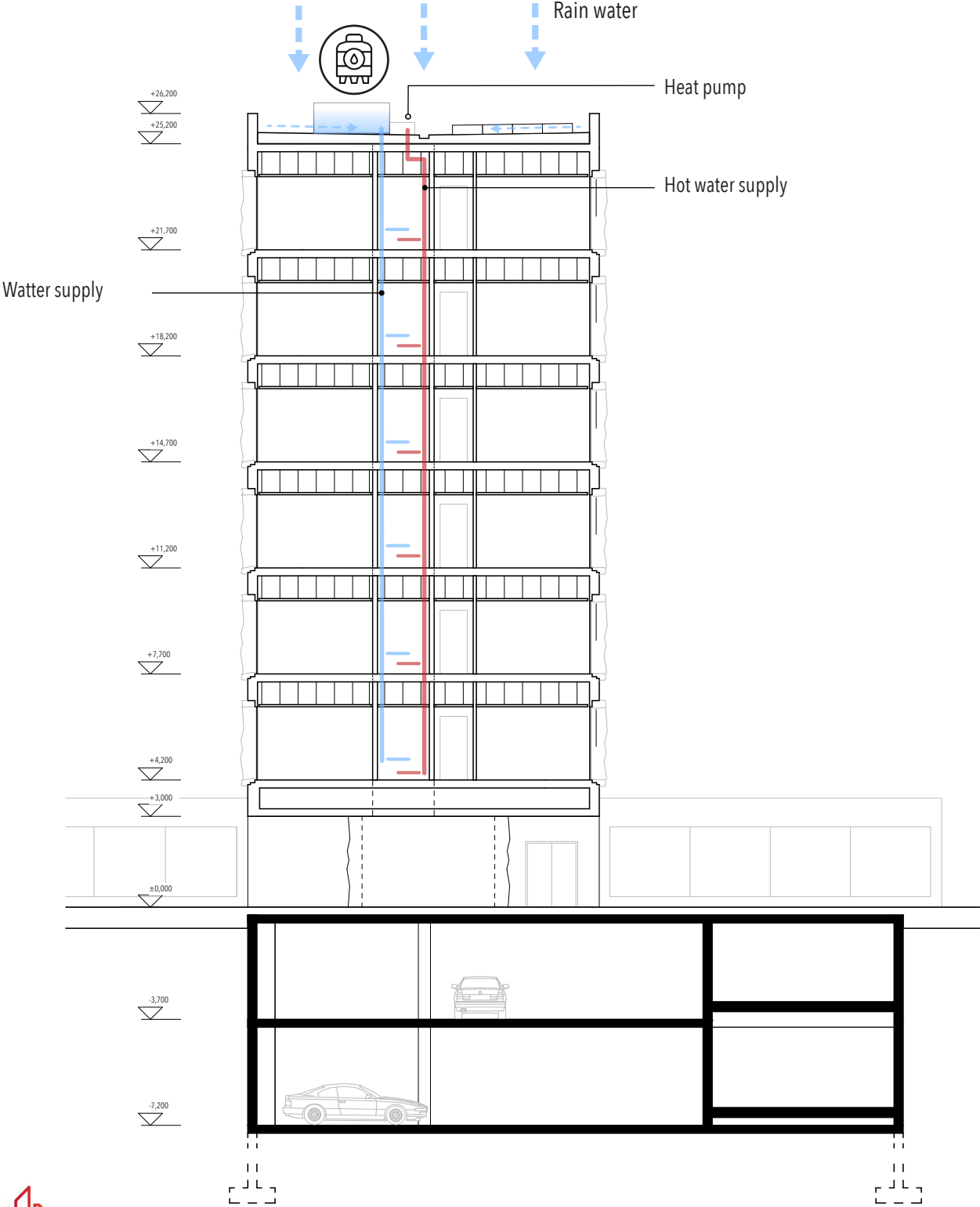
W1: Wall between rooms
Placo® Habito® sigle-structure partition with Arena mineral wool or similar
Total thickness: 105 mm
Maximum system height (m) 3.70 m
Thermal resistance 1.99 m²K/W
Sound insulation dB 54
Fire resistance (EI) EI60



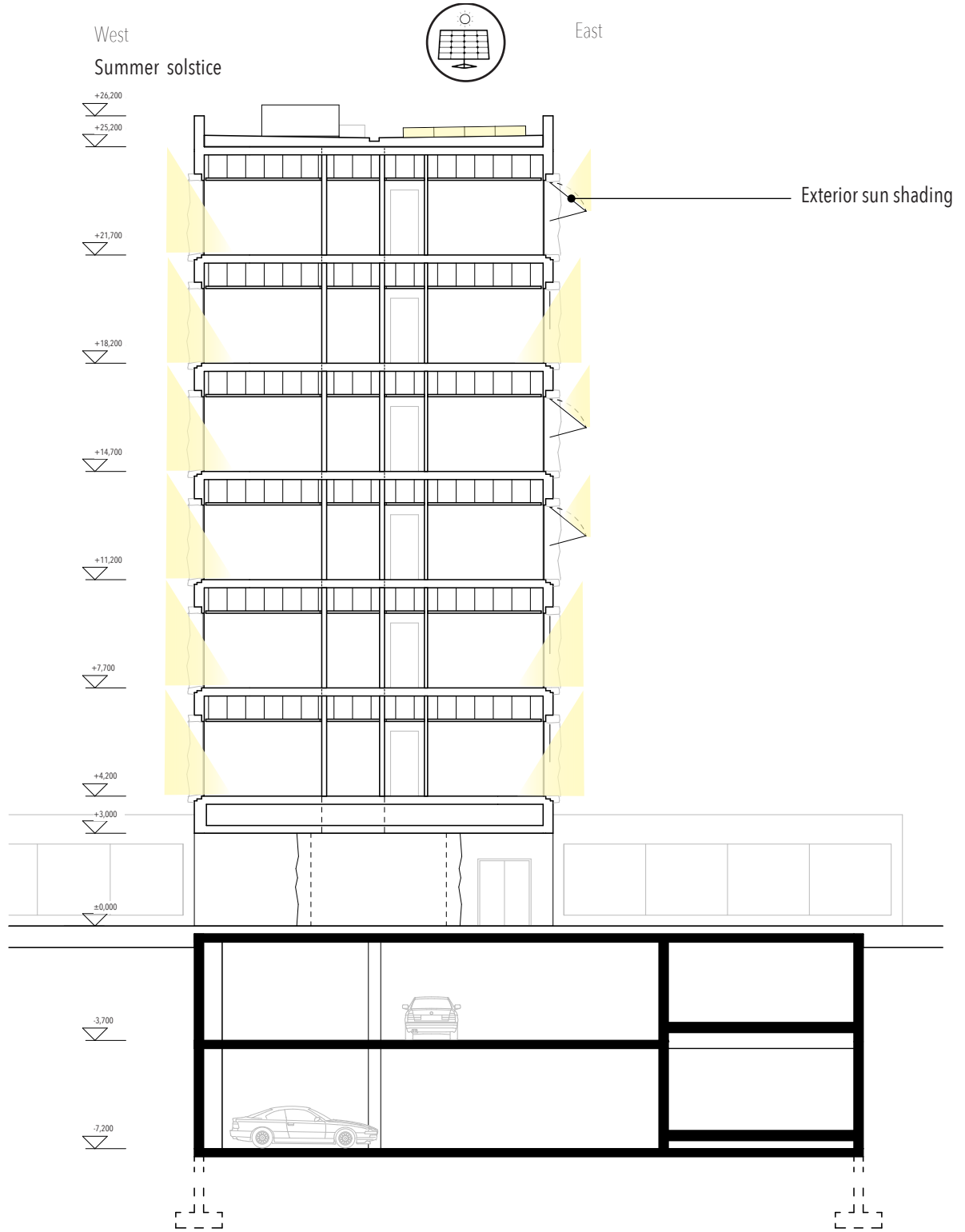
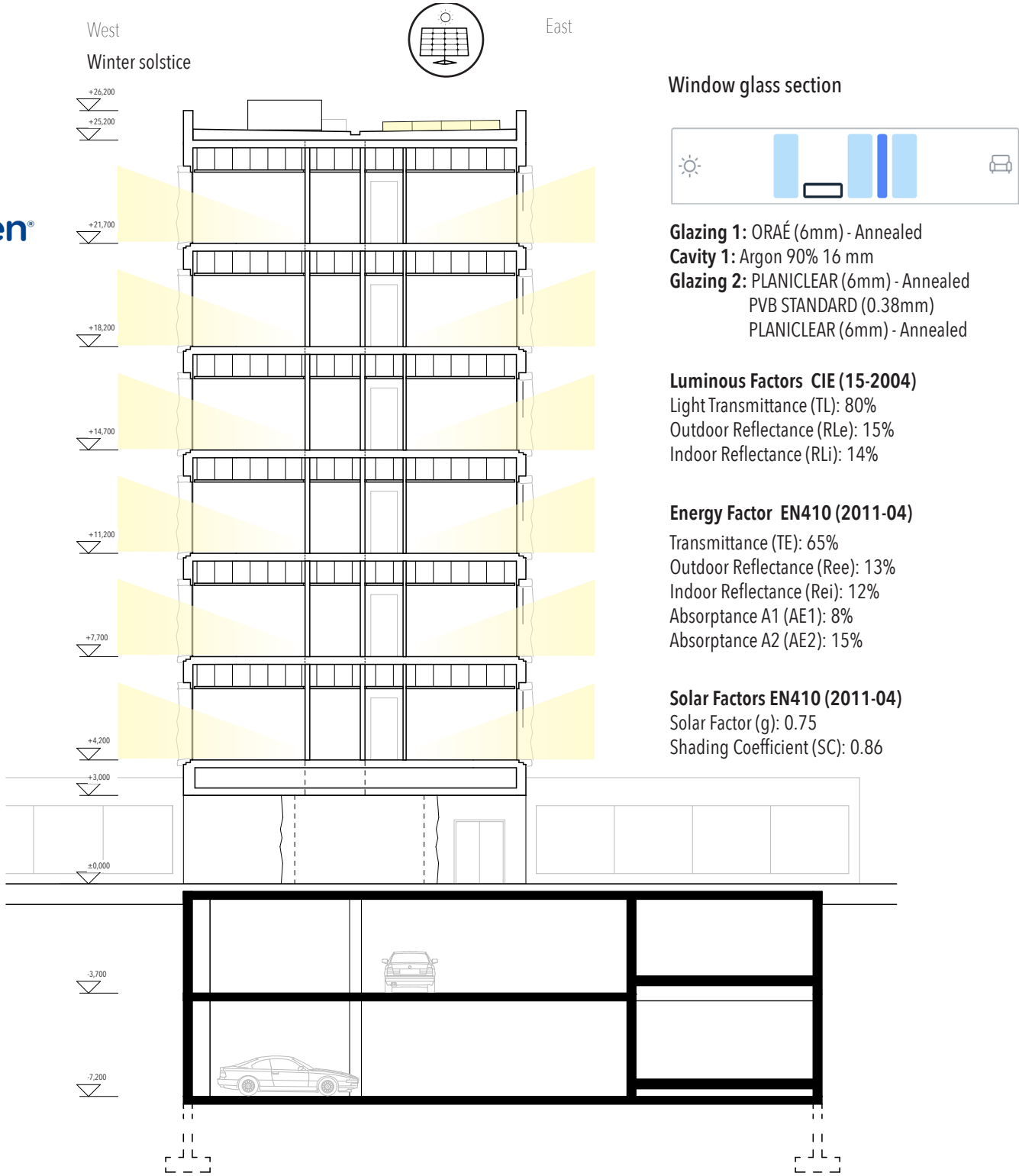
W2: Wall between dwellings and access corridors
PLACO® Habito® double partition with Arena mineral wool or similar
Total thickness: 159 mm
Thermal resistance: 3.18 m²K/W
Acoustic insulation: dB 63 (-5; -12)
Fire resistance: (EI) EI60



RAINWATER COLLECTION AND VENTILATION SYSTEM



NATURAL DAYLIGHT STRATEGY AND THERMAL CONFORT

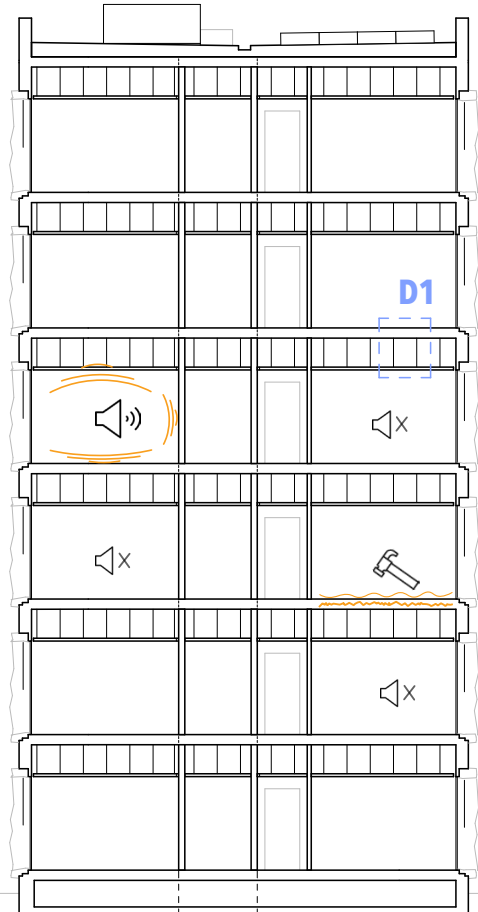


ACOUSTIC COMFORT STRATEGY

Sound protection

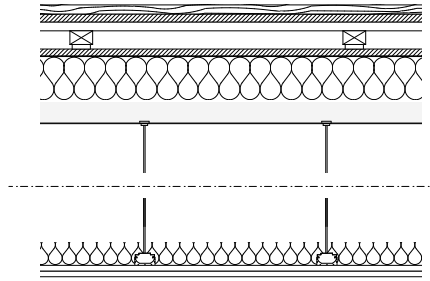
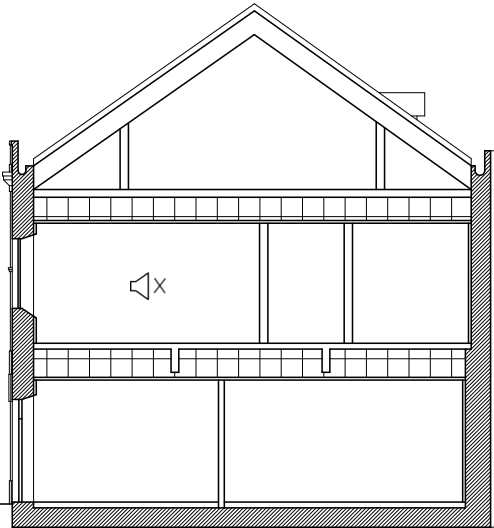
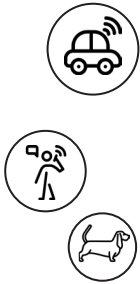


Air sounds
Listening to music
Speaking
Watching television



Percussion sounds
Walking
Dragging furniture

Traffic noise



D1: Floor and ceiling detail

- Wooden floor 20mm
- Os b board 15mm
- Plasterboard 15mm
- Wooden structure resting on acoustic foam 40mm
- Os b board 15mm
- Light Steel Frame Structure 150mm + Mineral wool ISOVER 100mm
- Placo® continuous suspended ceiling system, simple load-bearing structure F-530 with mineral wool ISOVER 48mm
- Placo® BA15 laminated plasterboard

Wooden floor:

Acoustic insulation to percussion sounds : 54 - 57 dB

Acoustic insulation to air sounds: 50 - 52 dB

Fire resistance(EI): EI60

Placo® BA13+4PRO® Ceiling:

Acoustic insulation (dB): 71 dB

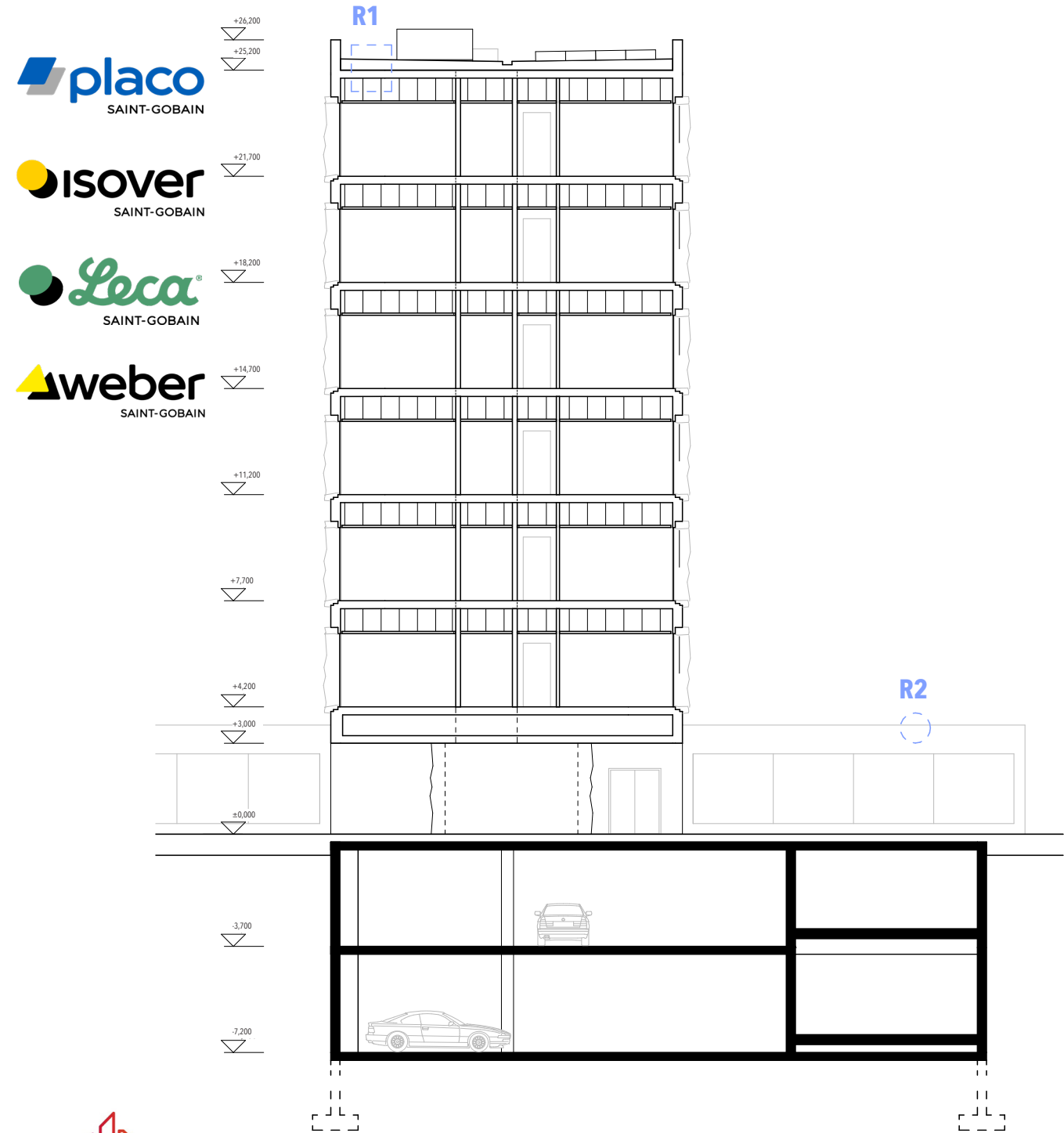


FIRE SAFETY STRATEGY

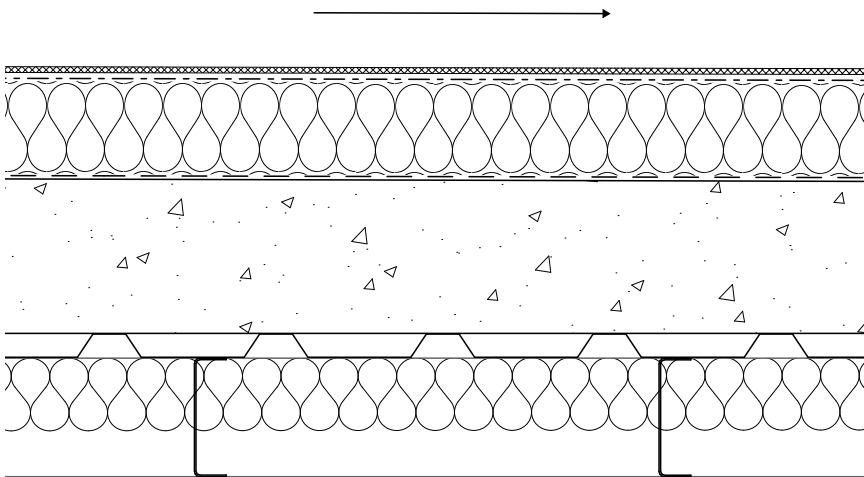
Evacuation paths
First floor



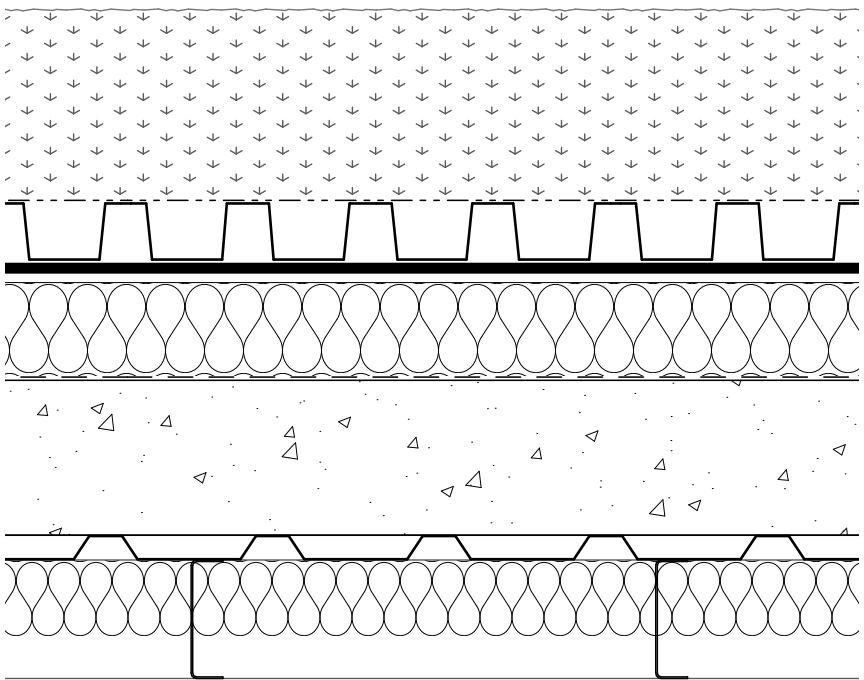
ROOF DETAILS



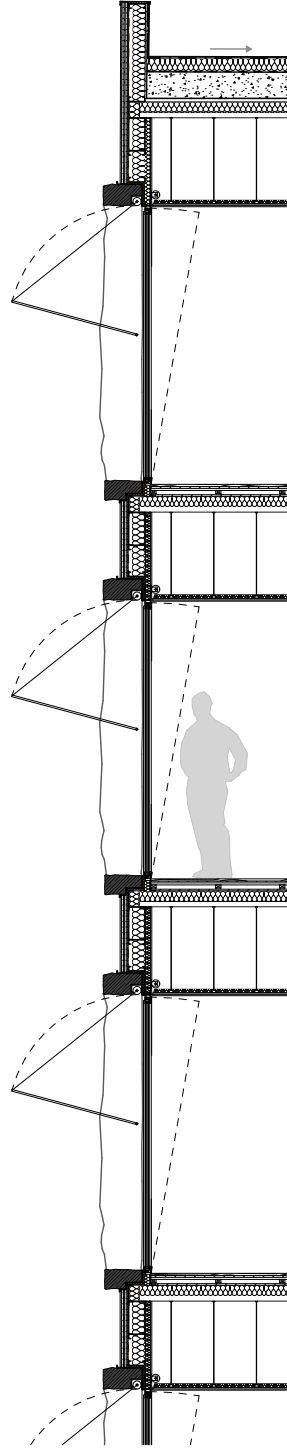
R1: Metal roof detail
WEBERDRY ROOF
Weberdry roof FP40G
Weberdry roof banda
Weberdry roof FP40
IXXO 120mm
Weberprim roof CT
Leca® Uno
Metal sheet
Light Steel Frame Structure 150mm
+ ISOVER mineral wool 100mm



R2: Green roof detail
WEBERDRY ROOF
Vegetal substrate
Weberdry roof GEOT
Drain board 80mm
Weberdry roof natura
Weberdry roof banda
Weberdry roof FV30
IXXO 120mm
Weberprim roof CT
Leca® Uno
Metal sheet
Light Steel Frame Structure 150mm
+ ISOVER mineral wool 100mm



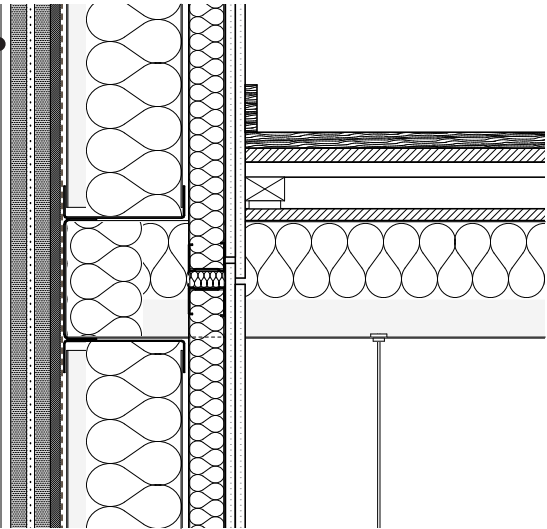
FACADE DETAIL



Exterior wall: Placotherm® Integra

- Weberplast decor M/ F
- Webertherm Pro
- Webertherm net (*Weberterm rede normal*)
- Webertherm Pro
- Glasroc X®/ Aquaroc®
- Light steel frame structure + Mineral wool Arena Apta ISOVER 900mm
- Placo® system + Mineral wool Arena ISOVER 48mm
- Placophonic® PPH 13

Thermal resistance: 4.09 m²K/W
Acoustic insulation to traffic noise (Atr): 57,7 dBA
Acoustic insulation to aerial noise (A): 61,8 dBA
Global acoustic insulation: dB 63 (-5; -12)
Fire resistance(EI): EI90



LOW EMBODIED CARBON CONSTRUCTION STRATEGY
RESOURCE EFFICIENCY OPTIMIZATION

Light Steel Frame construction benefits:

- Cost-effective
- Modular structure
- Faster construction
- Recycled product
- Lightweight construction
- Resource efficiency optimisation
- Construction waste minimisation

