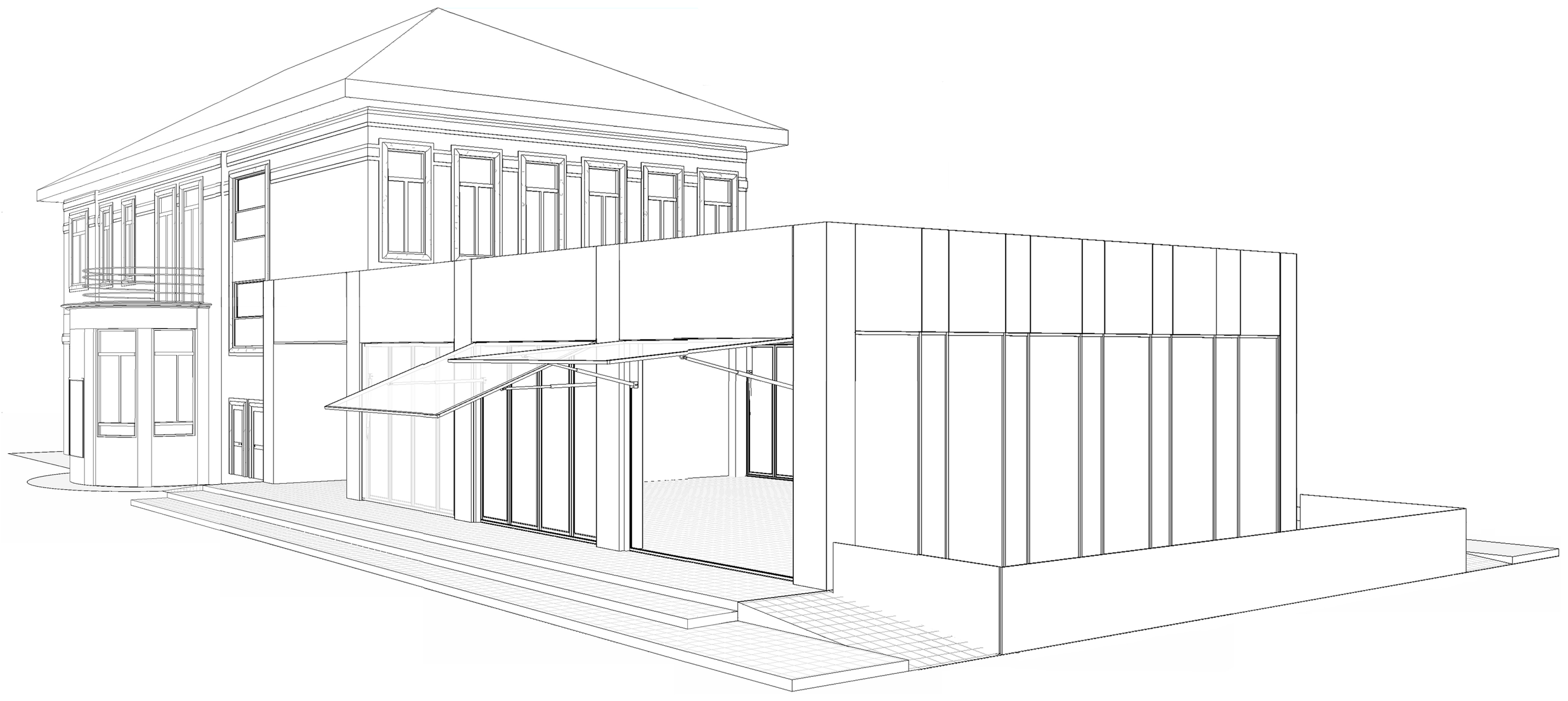
INTEGRITY

in the center of Veterinaria Campus



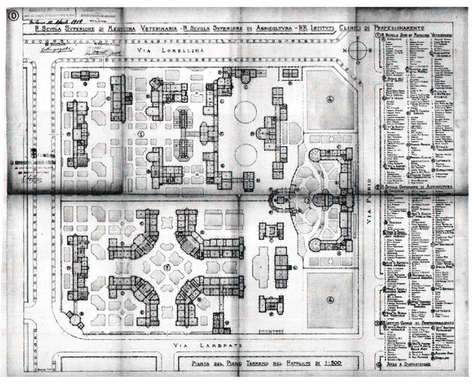
Site Analysis

Historical Timeline of the Site

"city of studies"
the idea of creating new and more suitable spaces for scientific schools

Milan Masera Pavia Town Plan of 1912 located Citta Studi complex

1913
the state acquired a vast agricultural area that was about 50.000 sqm

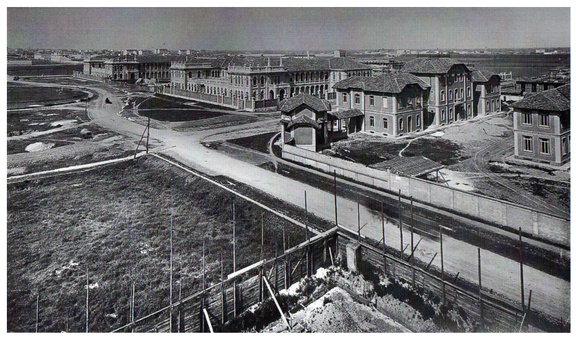


General plan of Faculty of Agriculture and Veterinary in 1919
(reference: University of Milan 198_Cel10_BenCult_22000)

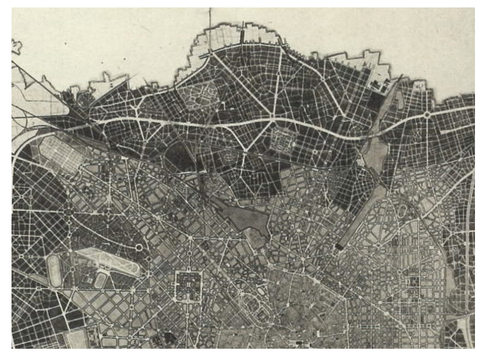
(reference: https://www.milanoalquadrato.com/2017/05/01/quale-destino-per-citta-studi/)

the construction had started in Citta Studi but it stopped shortly after due to World War I
1915

1924
view of the construction site



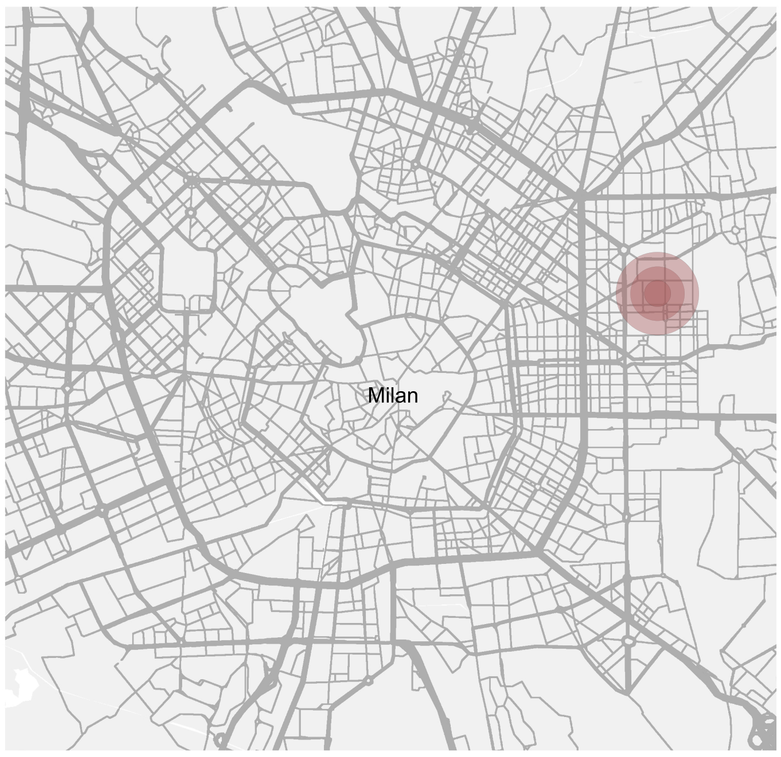
(reference: University of Milan 198_Cel10_BenCult_22000)



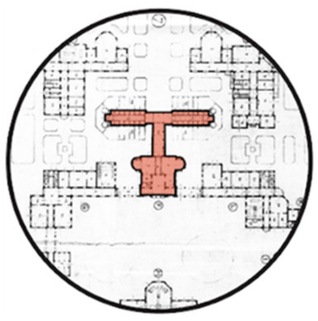
1934 Milan city map (reference: https://www.ordinearchitetti.mi.it/en/mappe/itinerario/49-from-the-idea-of-the-city-to-the-built-city-the-garibaldi-repubblica-area/saggio

the buildings were subjected to the protection of Law Cultural and Landscape Heritage of Lombardy
2011

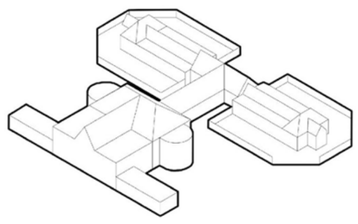
Site Location

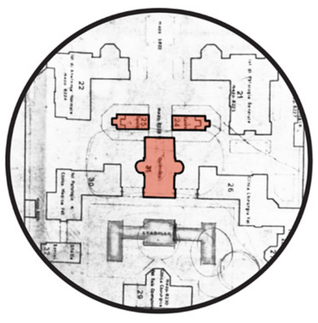


Transformation of the Building Over the Years

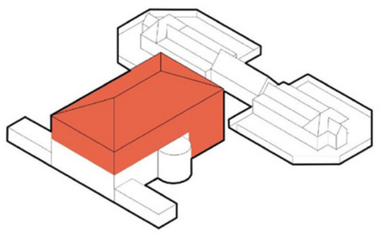


1910



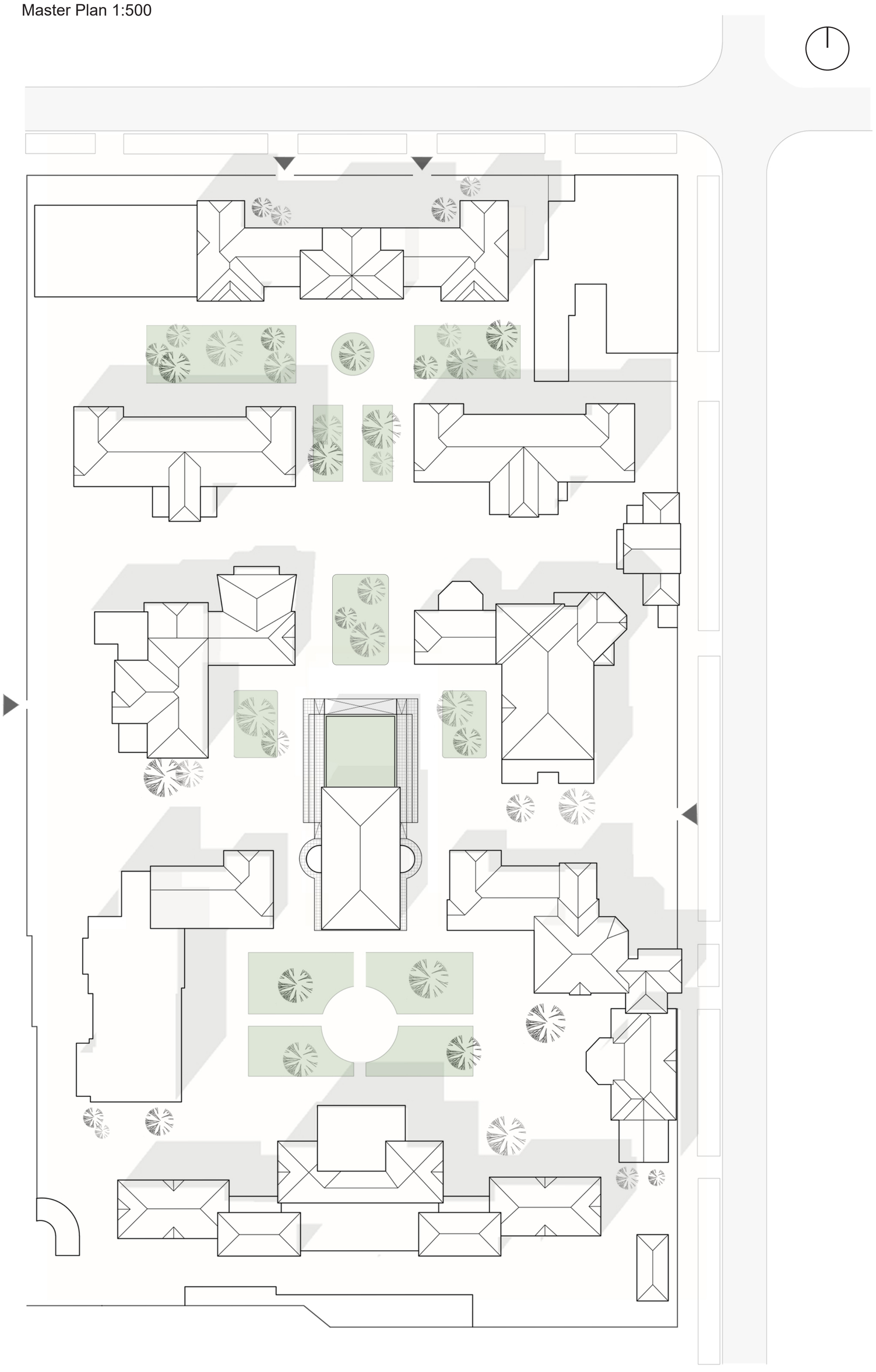


1949



1949 - 2020s

Master Plan 1:500



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Survey & Knowledge

East Orthophoto

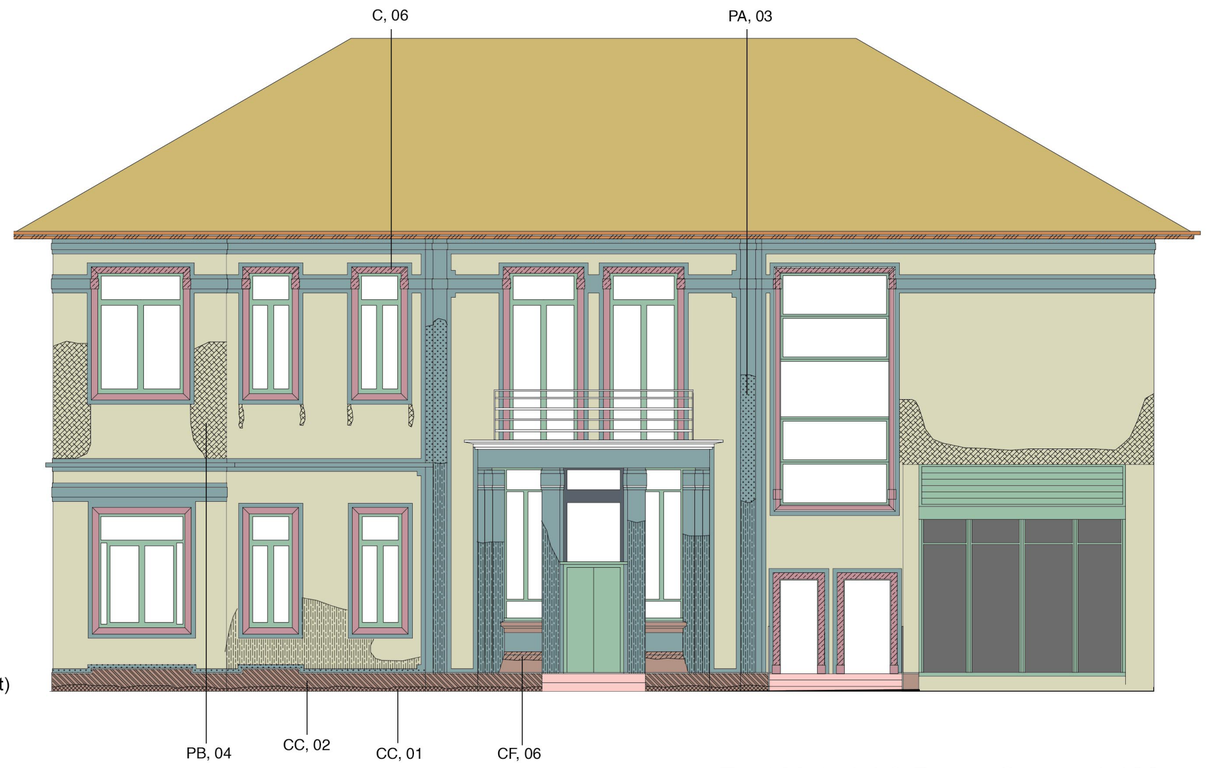
North Orthophoto

Materials

- G - glass
- S - stone steps
- B - brick tiles
- W - wood
- P - PVC
- PA - decorative plaster
- PB - plaster with red pigment
- C - decorative cement
- MA - metal (copper)
- A - metal (aluminum)
- CC - artificial stone (conglomerate)

Decays

- 00 - crack
- 01 - erosion
- 02 - disintegration
- 03 - peeling
- 04 - discoloration
- 05 - corrosion and oxidation
- 06 - deposit
- 07 - biological colonization
- 08 - incompatible intervention (white painting and cement)



East Material & Decay Survey 1:100

North Material & Decay Survey 1:100

Conservation

PHASE 1

Removal

- R.01 - demolitions

Cleaning

- Pl.00 - dry cleaning
- Pl.01 - cleaning with bioxide products
- Pl.02 - cleaning with wrap of absorbent clay
- Pl.03 - cleaning with chemical products

PHASE 2

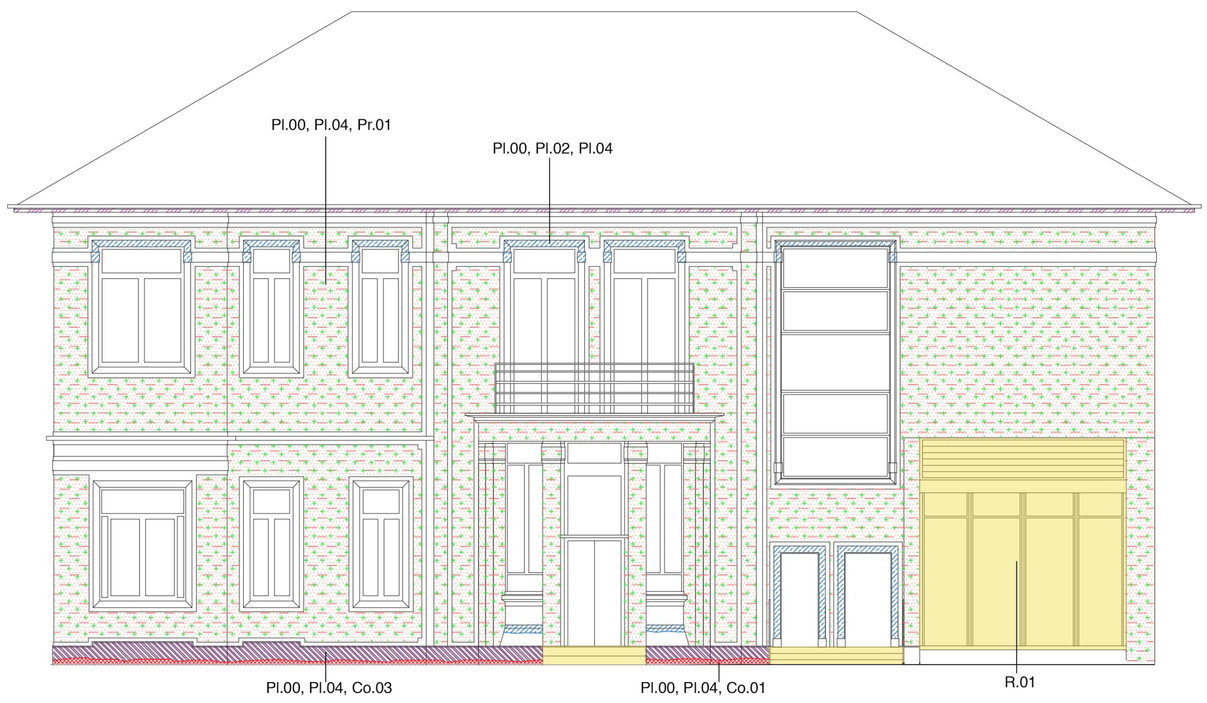
- Pl.04 - cleaning with deionized nebulized water at low pressure

Consolidation

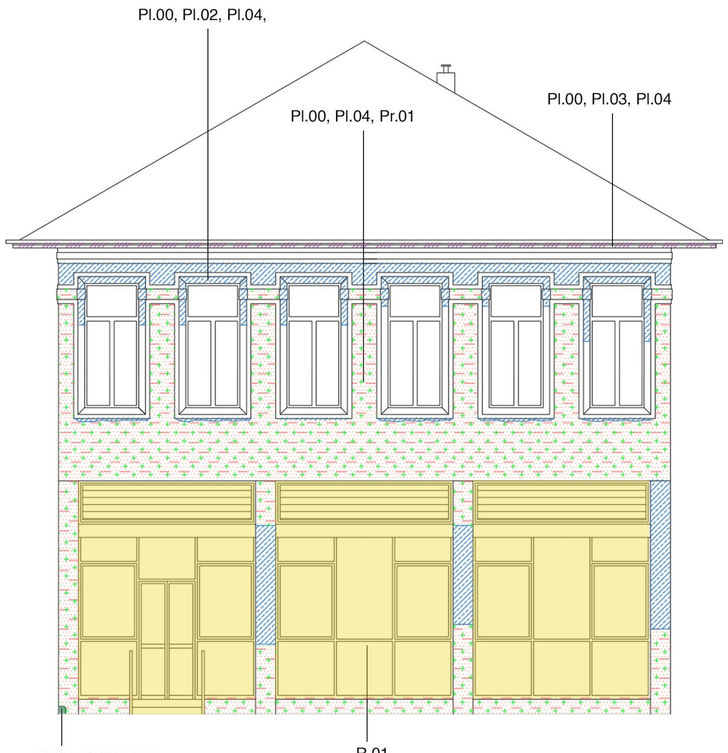
- Co.01 - consolidation with ethyl silicate
- Co.02 - micro surface consolidation
- Co.03 - addition - integration of the missing parts

Protection

- Pr.01 - final finishing to reduce chromatic differences



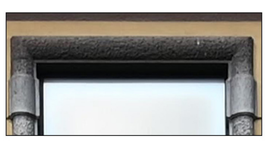
East Conservation Project 1:100



North Conservation Project 1:100

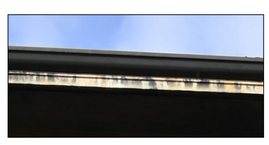
Photo Documentations

Material: plaster with red pigment
Decay type: discolouration
Decay reason: It is mainly caused by high humidity in atmosphere, especially in rainy days water would bring tiny dirt and color painting on the surface of plaster.



Material: decorative cement
Decay type: deposit
Decay reason: This decay could be caused by a series of complex mixtures, such as rainfall and dirt from air, tiny material losses from very surface of the cement.

Material: concrete
Decay type: biological colonization
Decay reason: This deterioration mainly caused by high humidity of environment and floating seeds in the air, lichen and mould are possible grow at same time and position.



Material: copper
Decay type: corrosion and oxidation
Decay reason: Metal corrodes when it reacts with another substance such as oxygen, hydrogen, an electrical current or even dirt and bacteria.

Material: artificial stone
Decay type: disintegration of artificial stone
Decay reason: Alternate wetting by rain and drying by sun causes internal stresses in the stones and consequent disintegration.

Material: mortar and plaster
Decay type: mechanical damage
Decay reason: This deterioration caused by renovation of ventilation or other equipment installment.

Material: mortar
Decay type: incompatible intervention
(white painting)
Decay reason: This is human activities on the existing surface and the reason could be difficult to analysis, we can just assumed it ever experienced some dirty on the surface.

Material: mortar
Decay type: crack
Decay reason: Crack can caused by sudden temperature change and high humidity in air, gap between different materials during long periods after construction.

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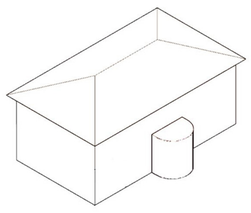
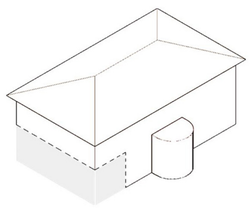
Concept

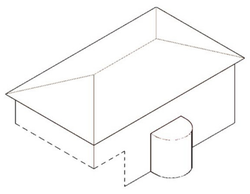
Massing Diagram

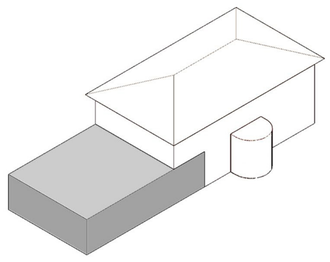


existing state

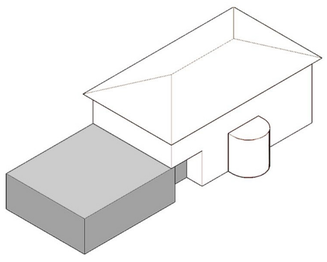


demolition of incompatible intervention

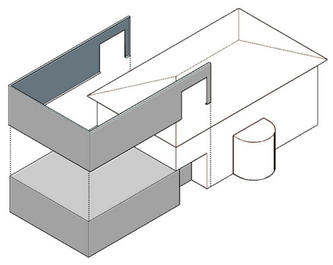




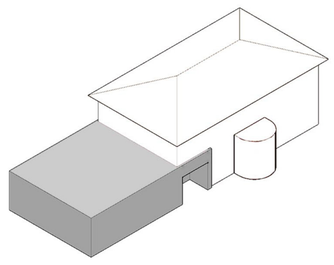
new addition



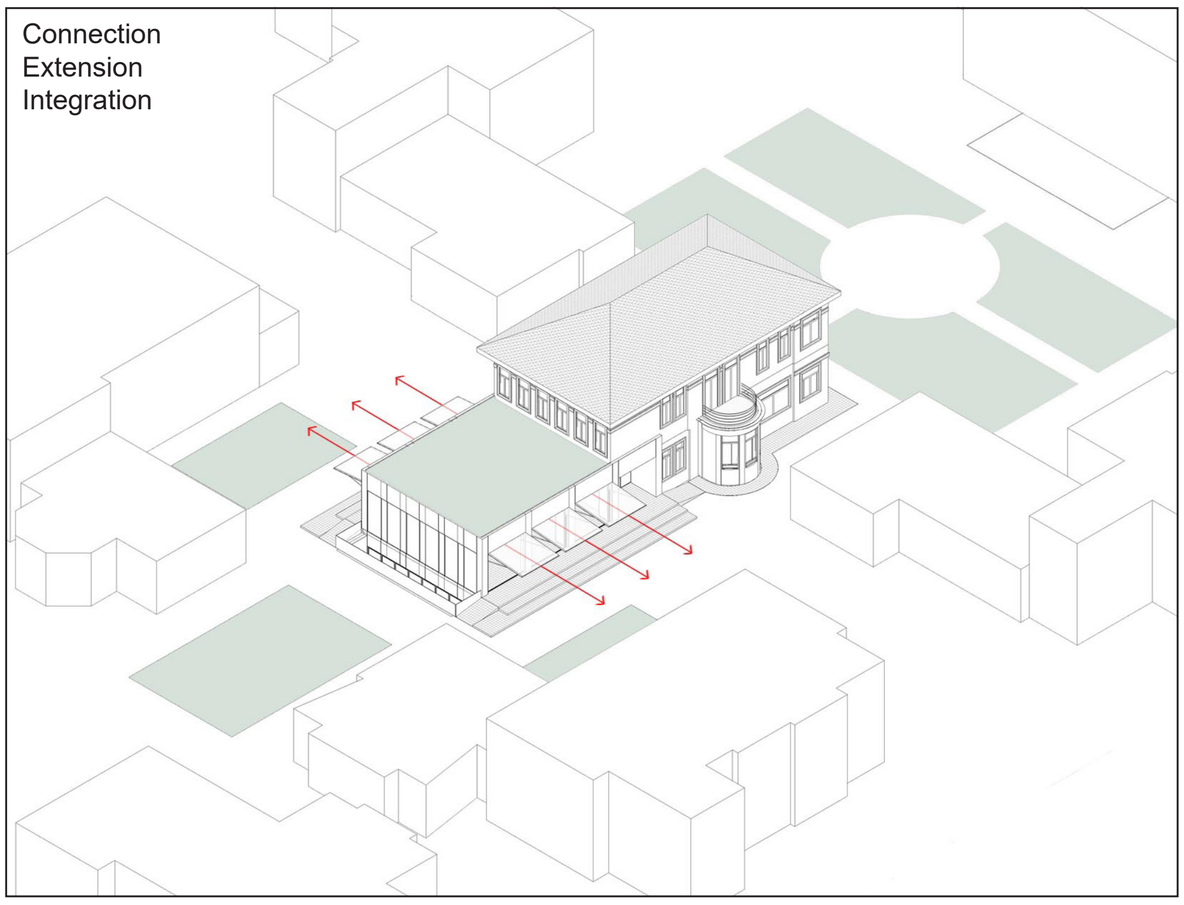
pushing back the main entrances at the intersection of old and new buildings

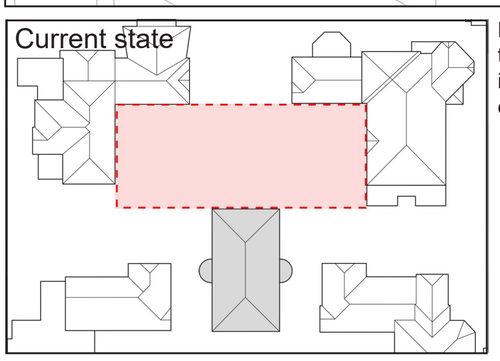


the skin of the new addition

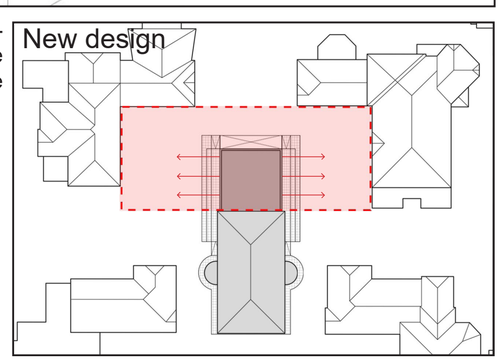


Connection
Extension
Integration



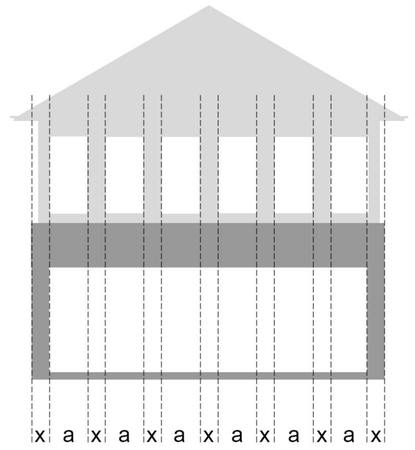


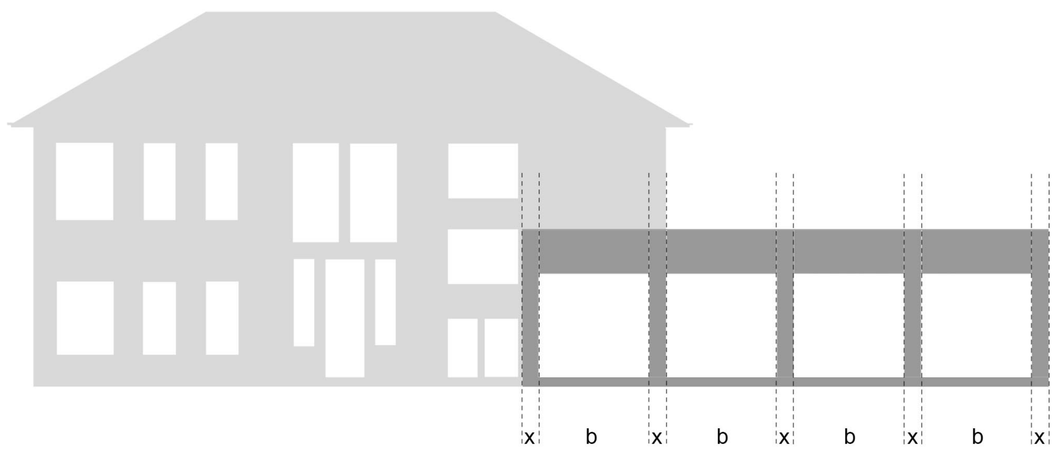
Preserving the integrity of the square in the center of the campus



Span Analysis

Following the spanning rule of the existing building

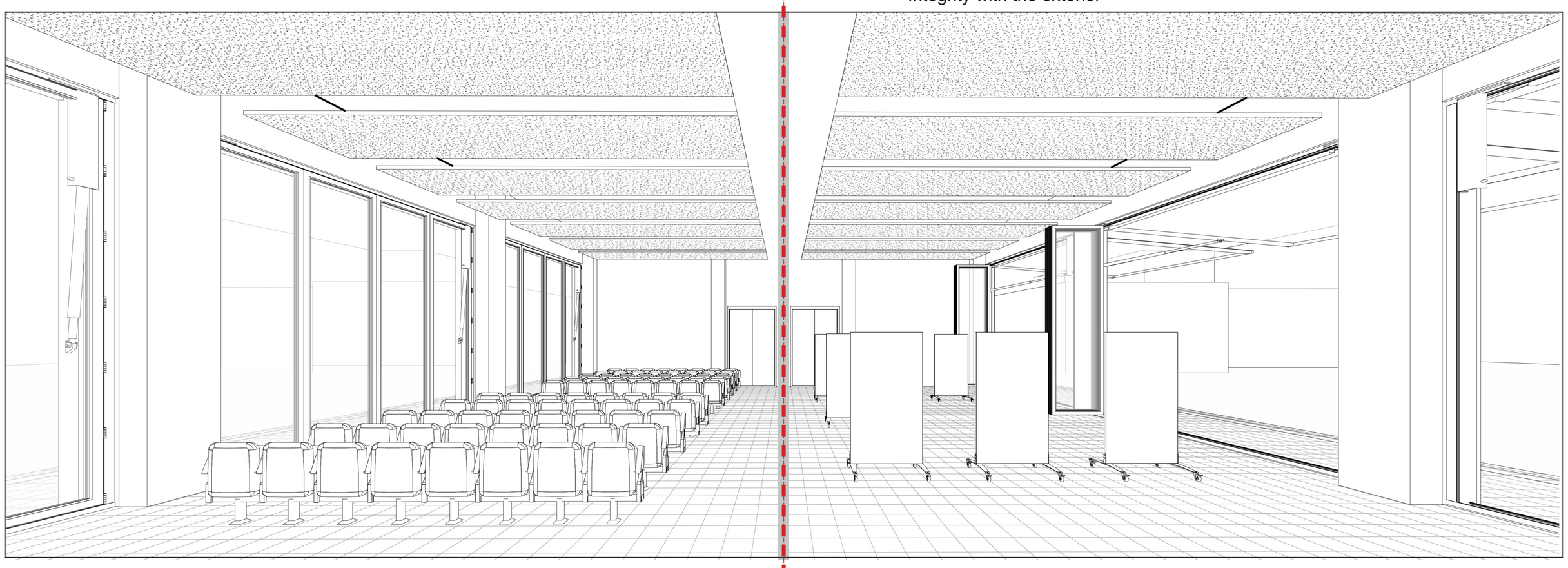




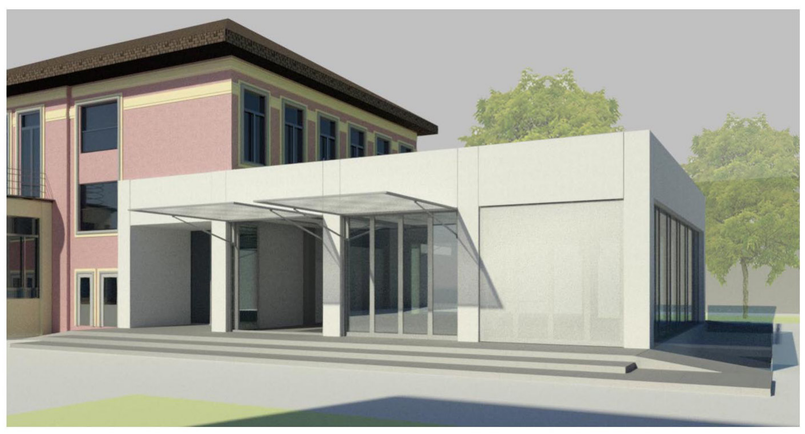
Multifunctional Space

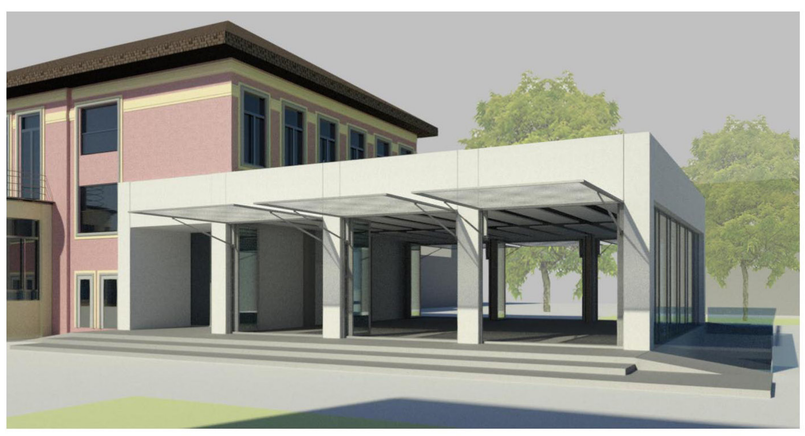
Ordinary functions:
Lecture hall
Lessons
Lectures

Other functions:
Exhibition hall
Seminars
Campus events
Research presentations
Integrity with the exterior



Different States of the New Addition





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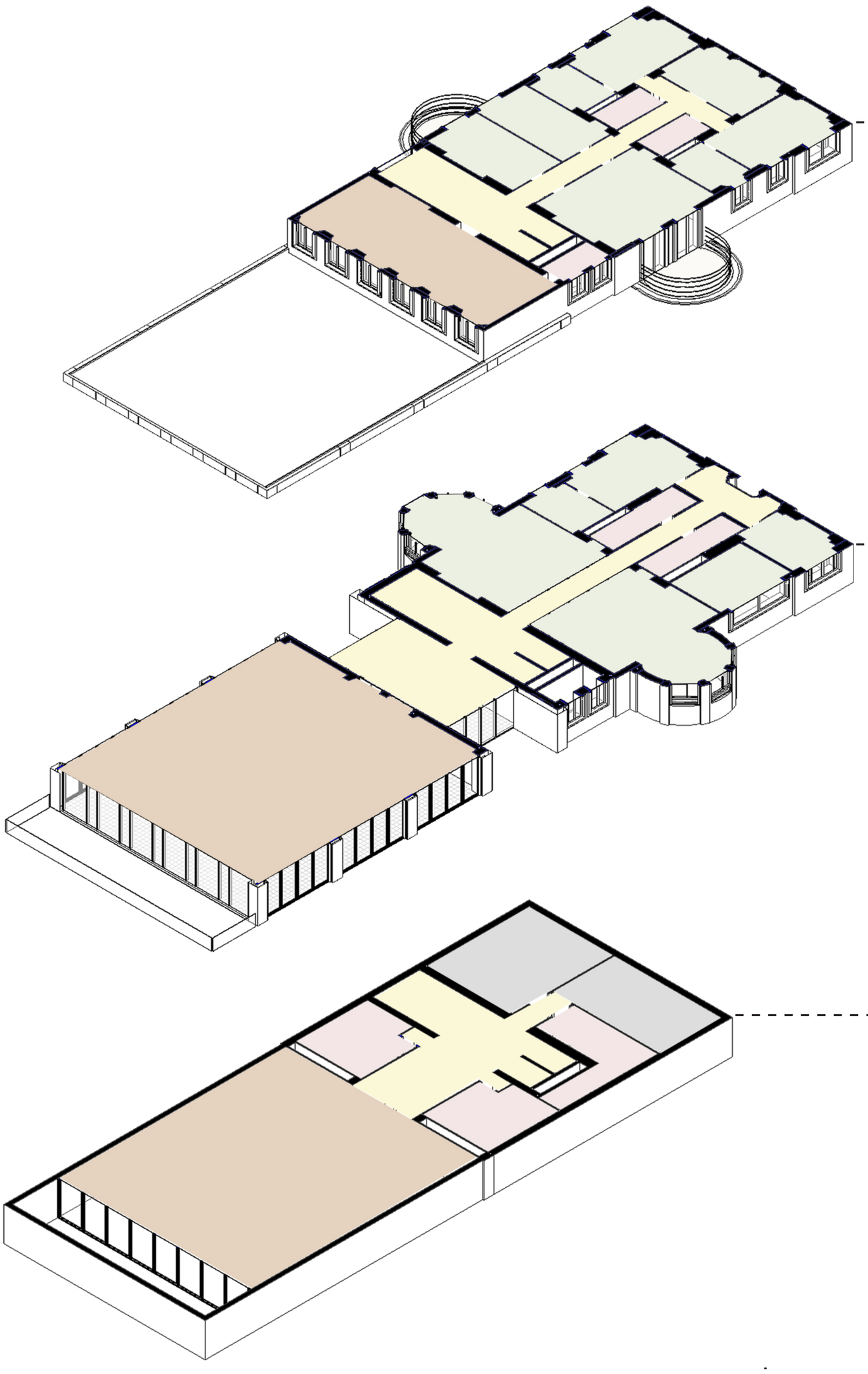
Functional Distribution



first floor

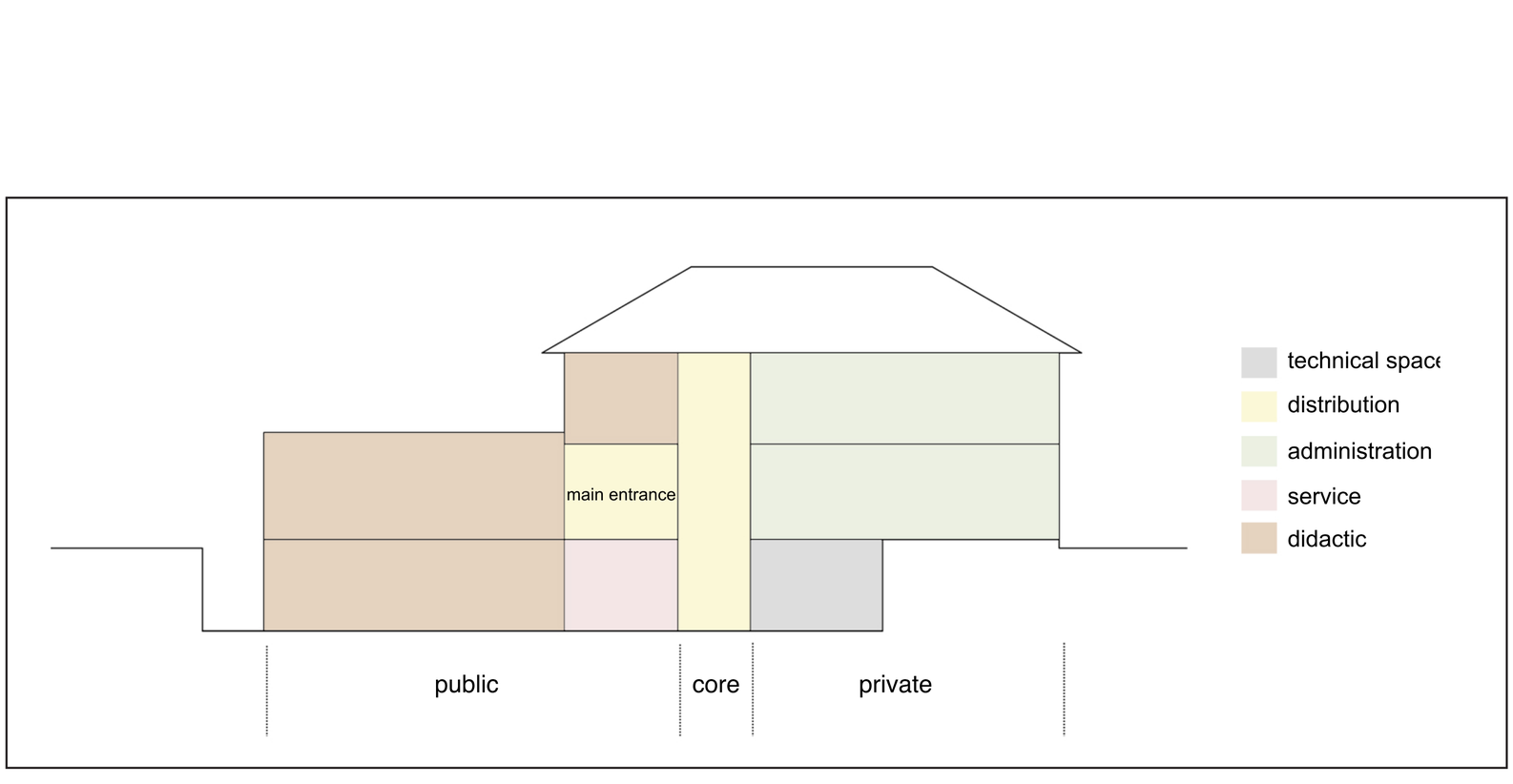
Department	Area (m2)
Didactic	68.80
Service space	17.12
Administration	164.54
Distribution	55.10
Total area	305.56

ground floor

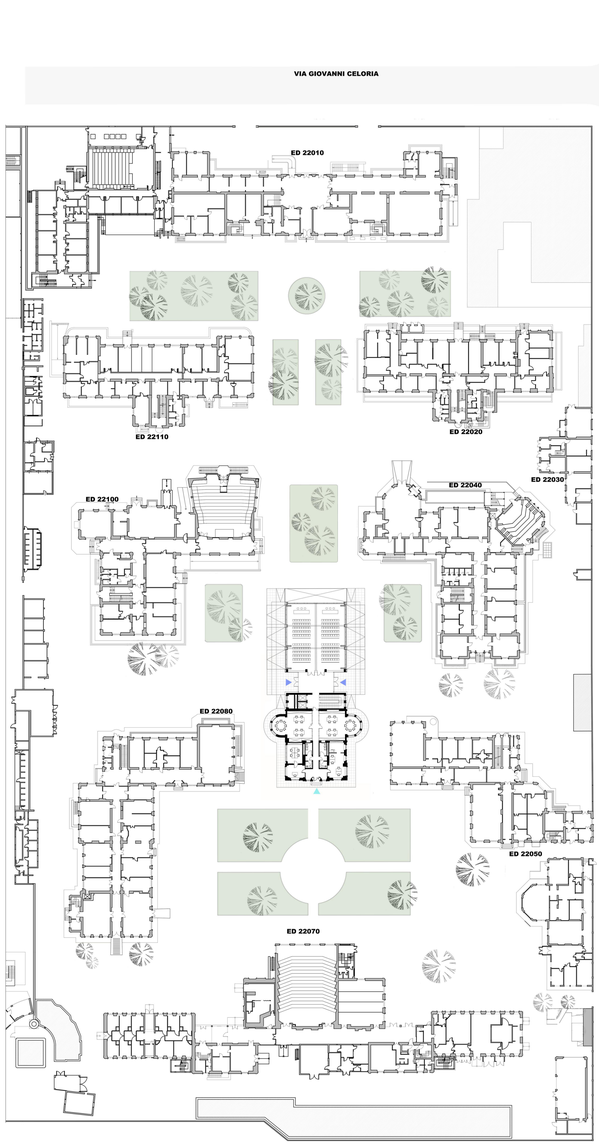
Department	Area (m2)
Didactic	210
Service space	18.60
Administration	162.78
Distribution	103.77
Total area	495.15

underground floor

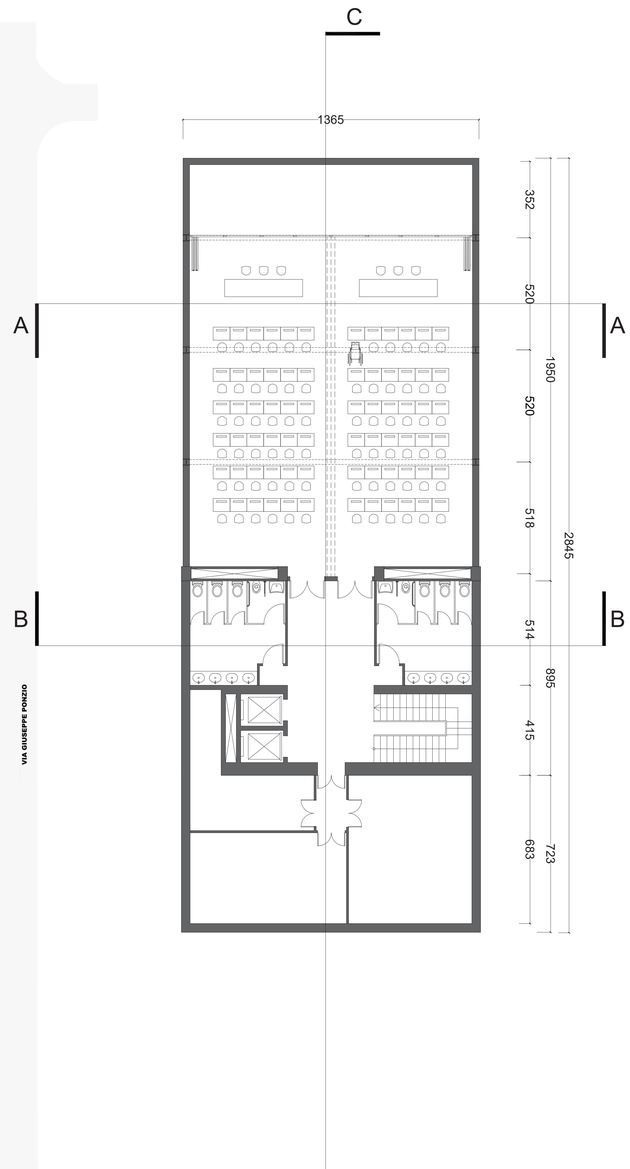
Department	Area (m2)
Didactic	198
Service space	59.85
Technical space	68.55
Distribution	61.10
Total area	387.50



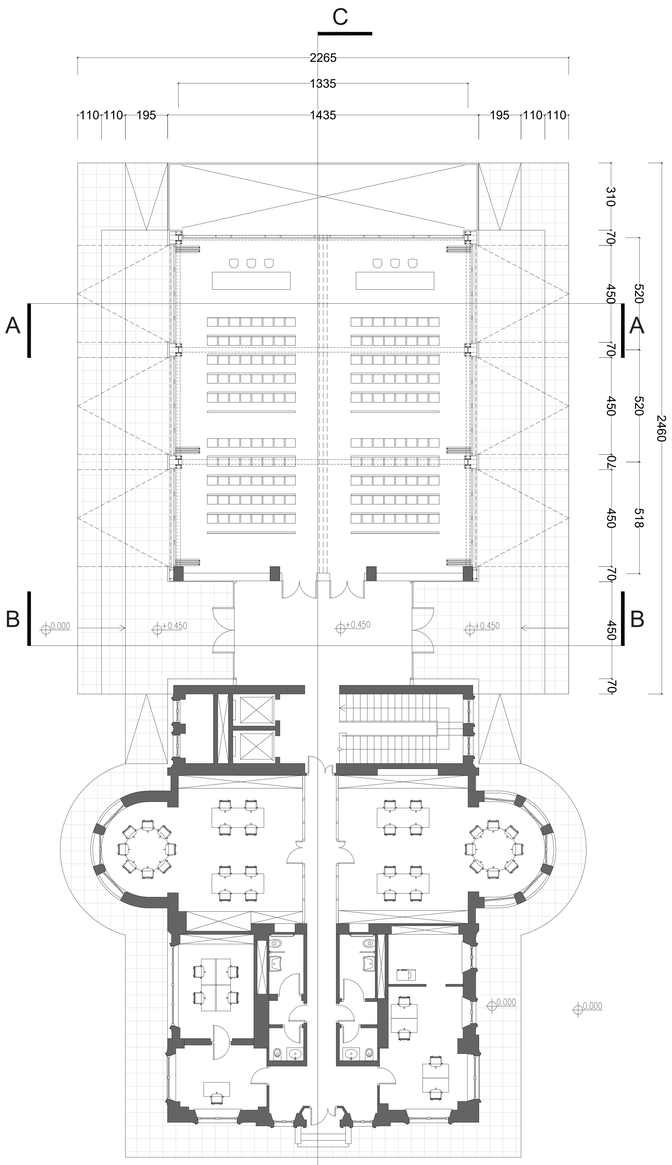
General Plans



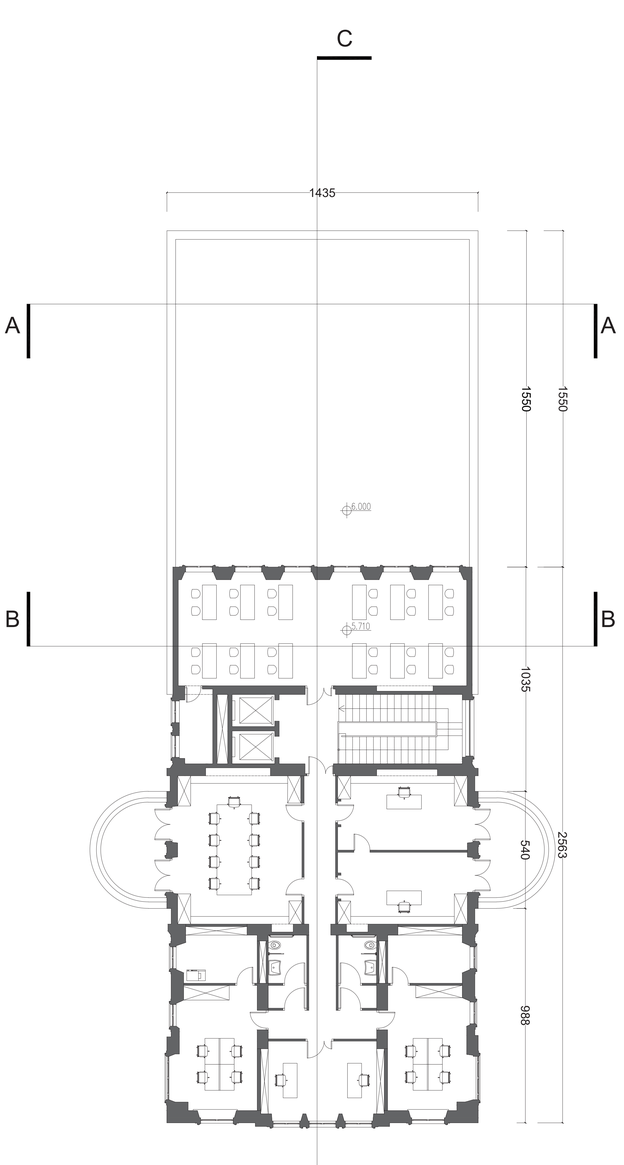
Ground floor Plan 1:500



Underground floor Plan 1:100



Groundfloor Plan 1:100



First floor Plan 1:100

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Elevations

North Elevation 1:100

South Elevation 1:100

West Elevation 1:100

East Elevation 1:100

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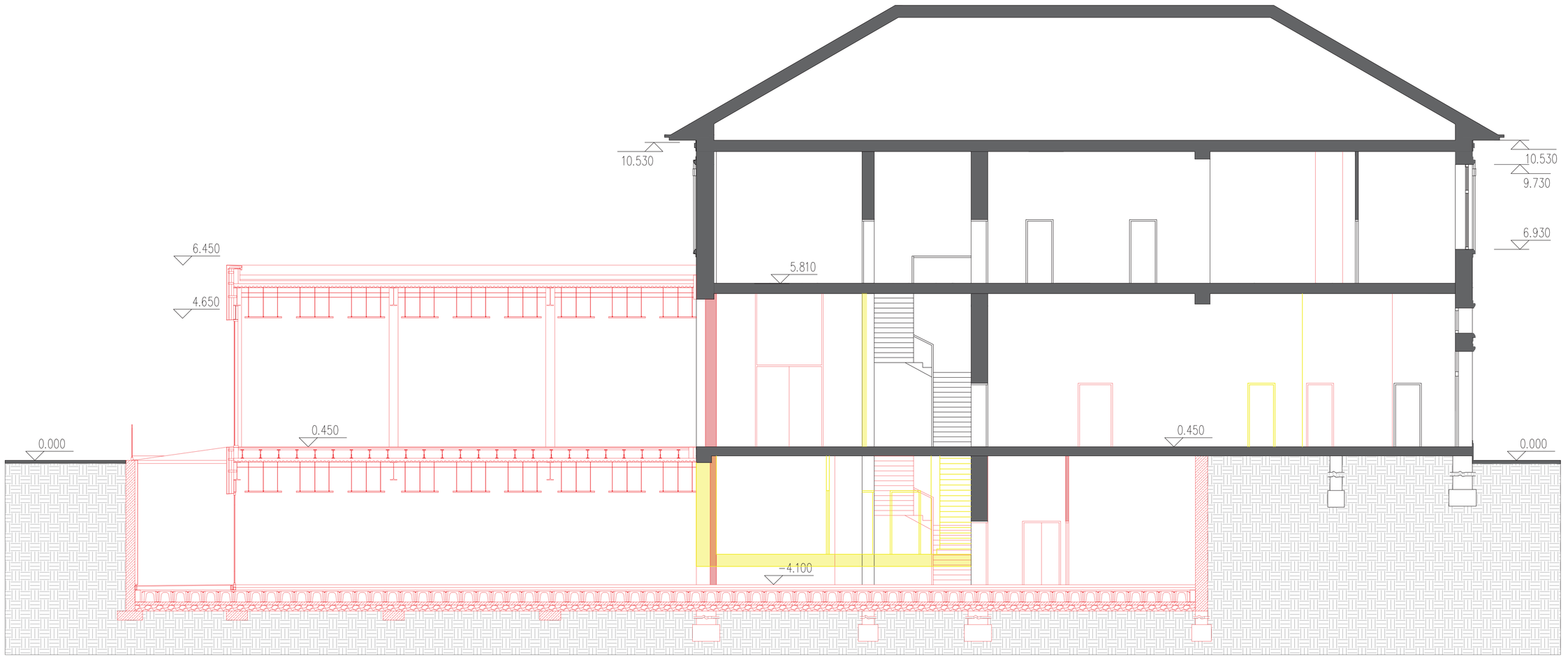
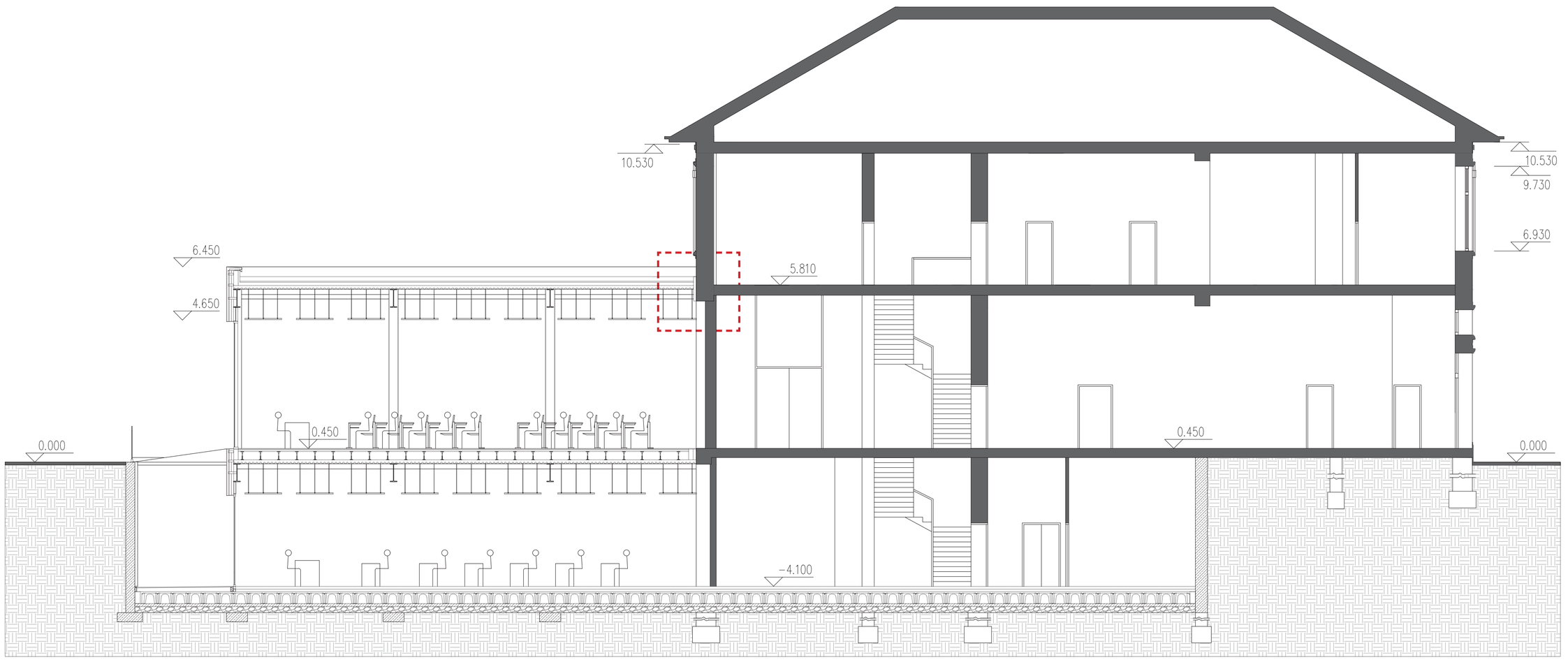
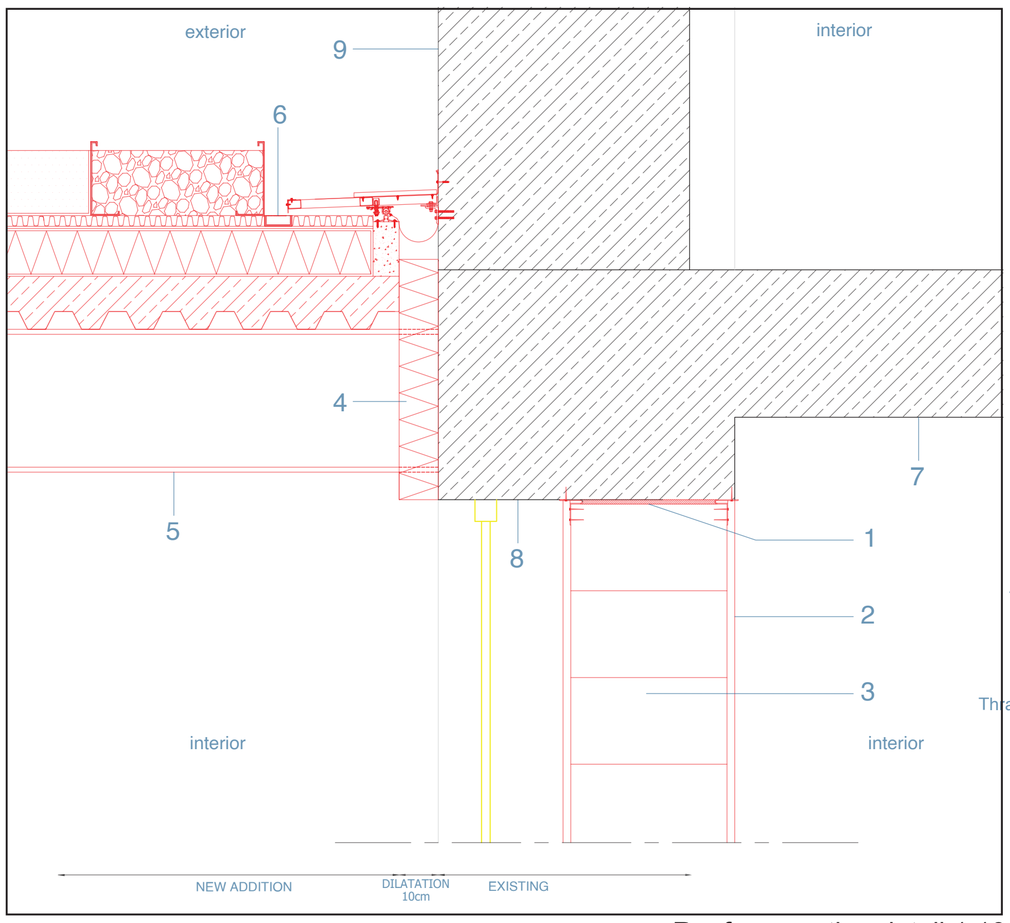
Sections



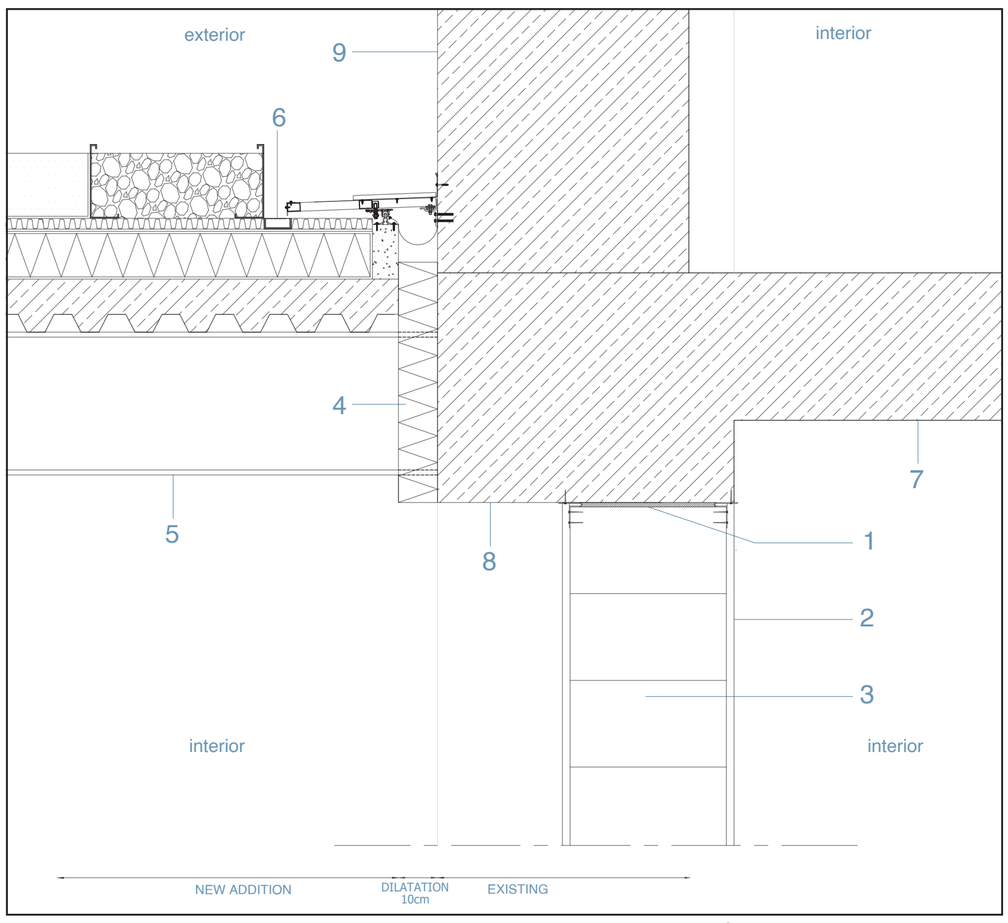
C - C Section 1:100



C - C Section 1:100



Roof connection detail 1:10



Roof connection detail 1:10

Polyurethane foam 1
Thrakon external plasterboard 2
18mm (with quartz sand)
Ytong Climagold block 3
360mm
Thermal insulation 4
Steel beam IPE330 5
Rainwater drainage 6
Existing slab 7
Existing concrete beam 8
Existing exterior wall 9

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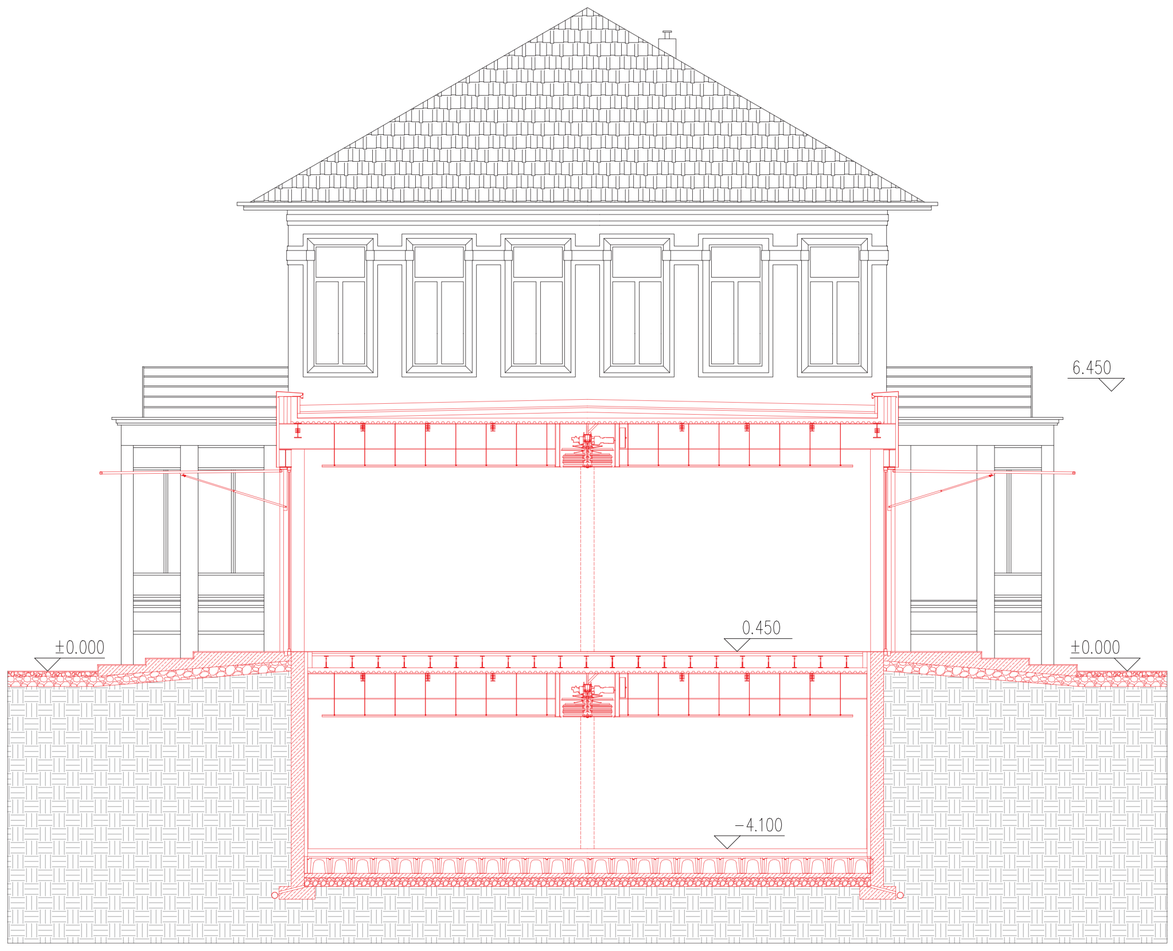
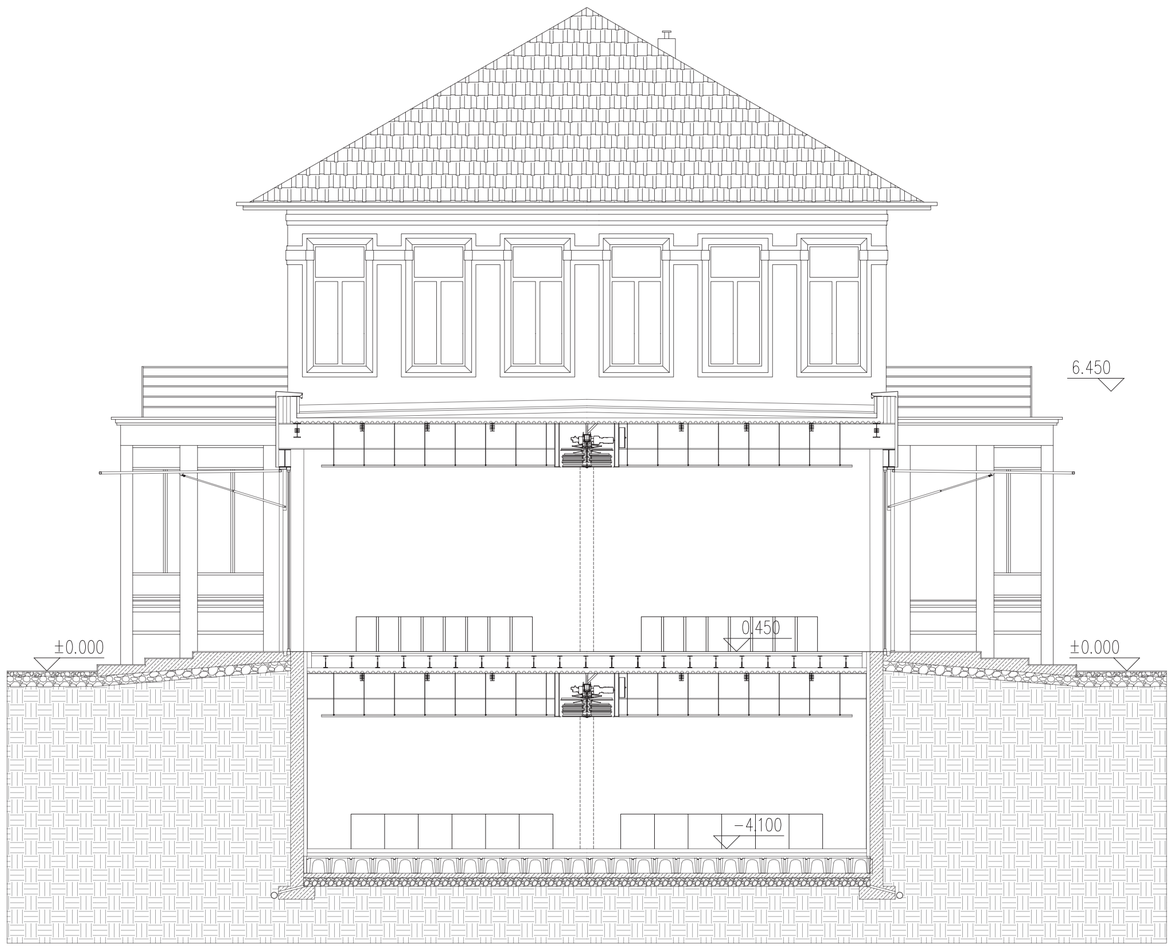
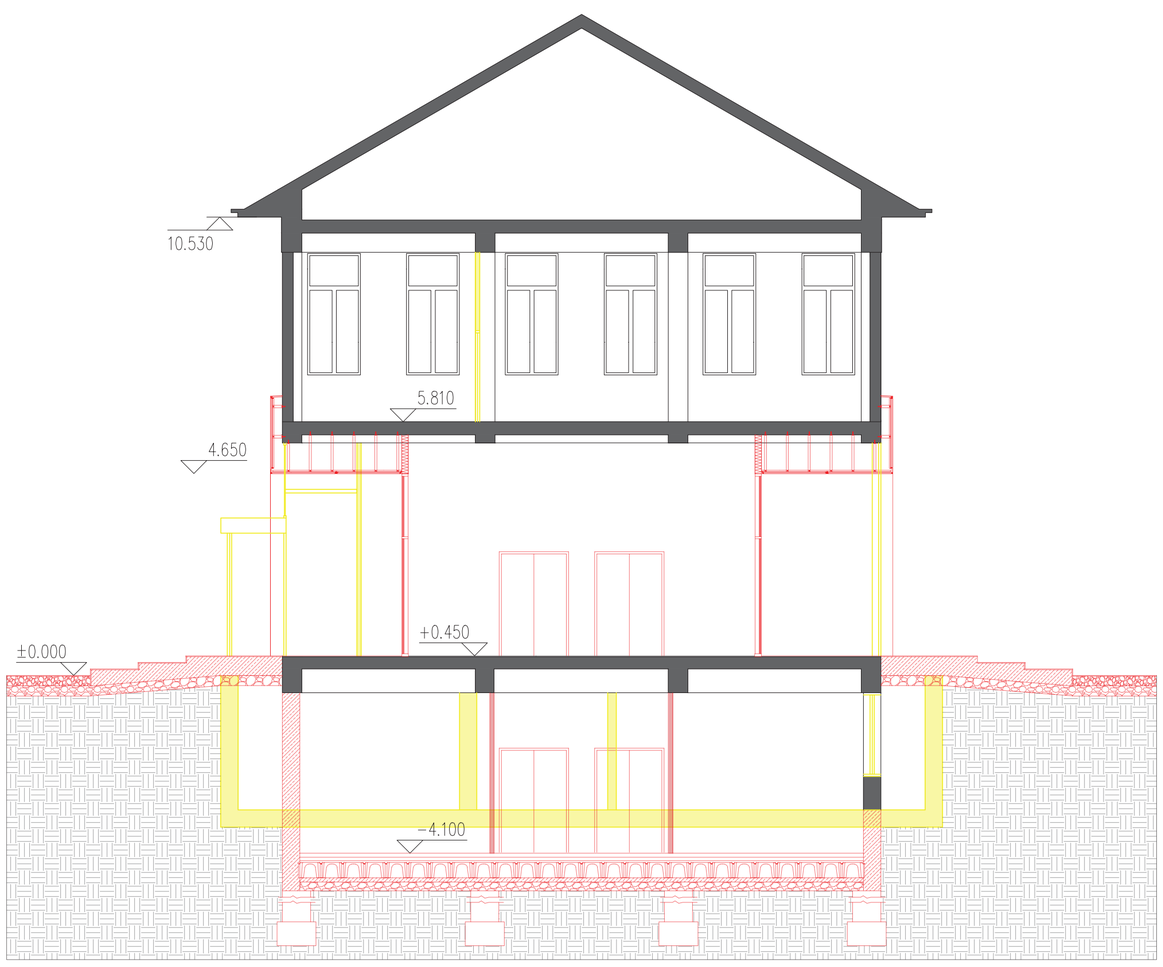


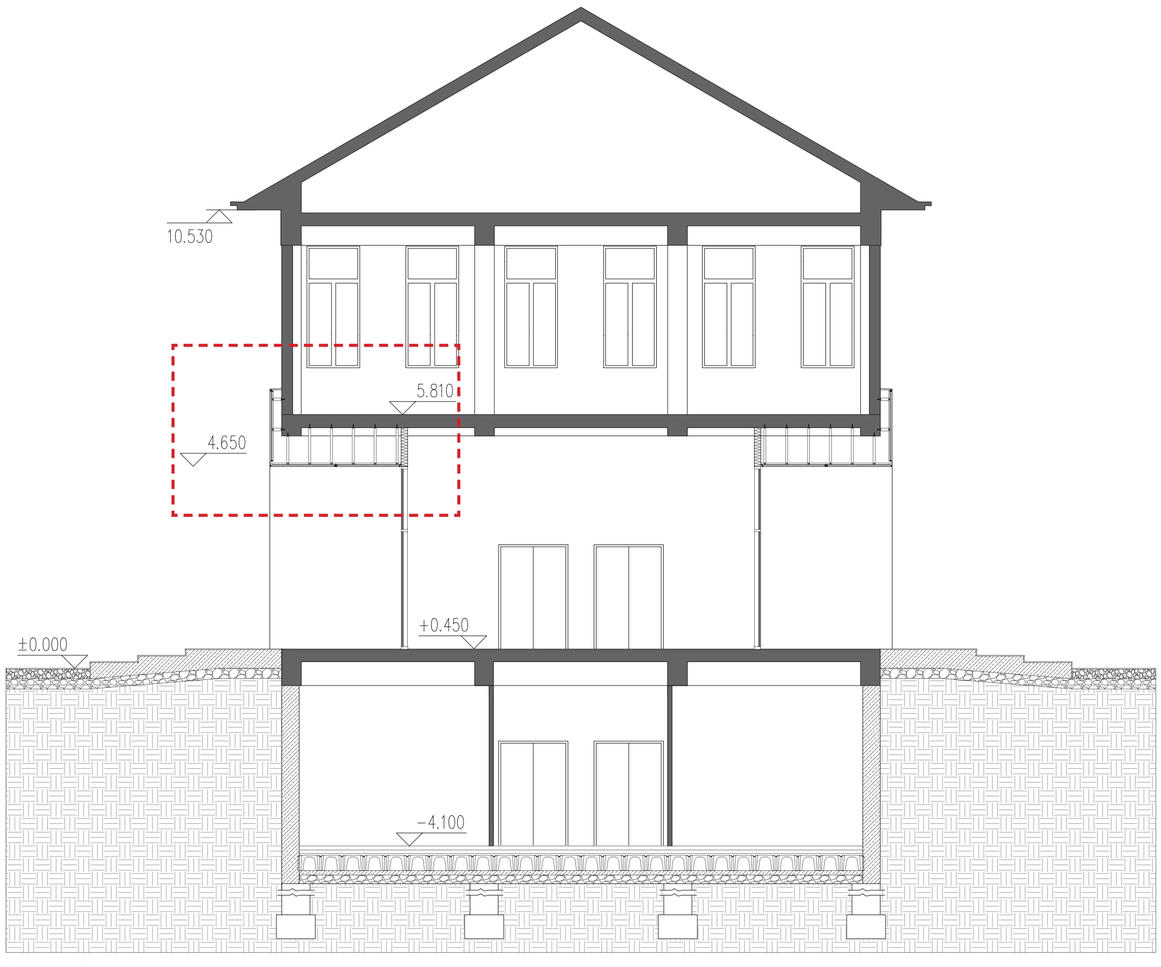
A - A Section 1:100



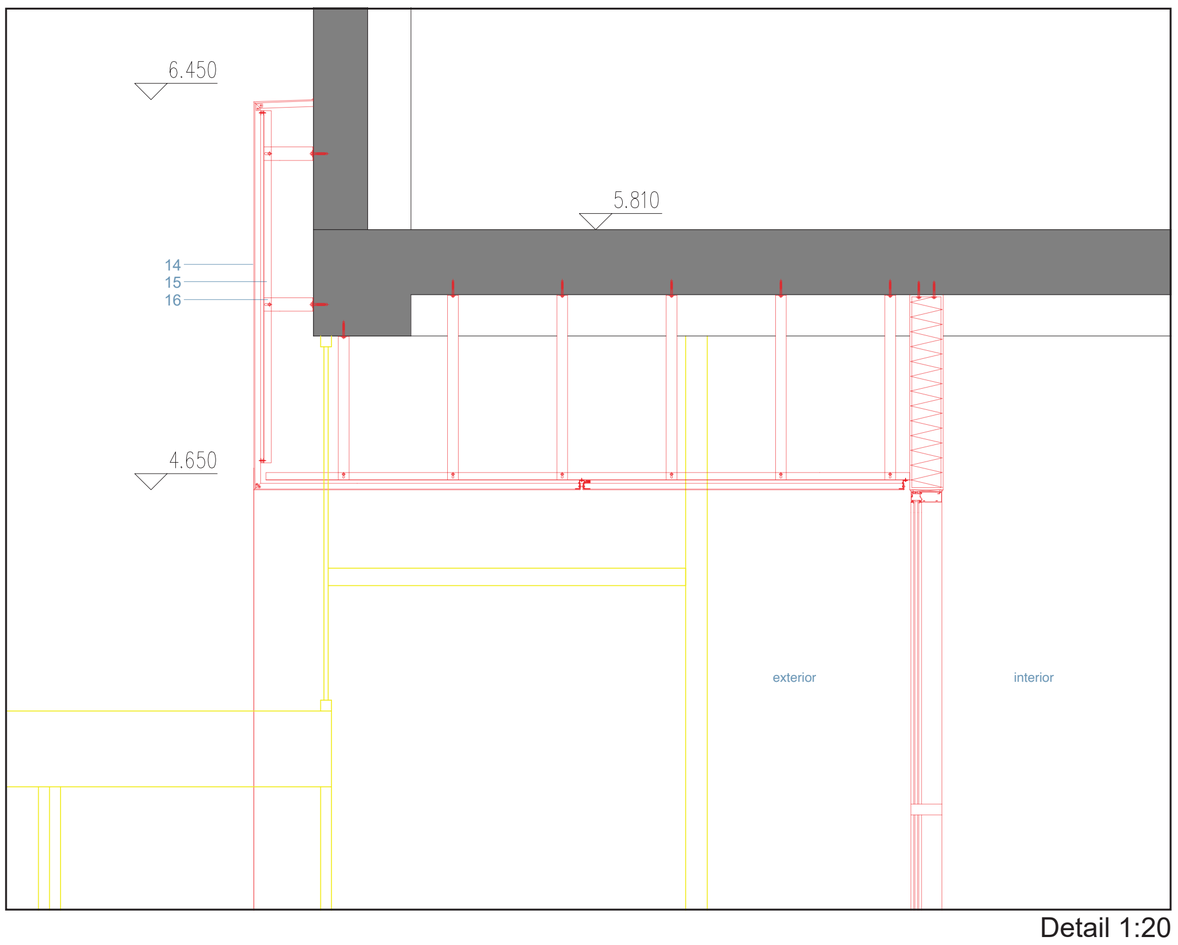
A - A Section 1:100



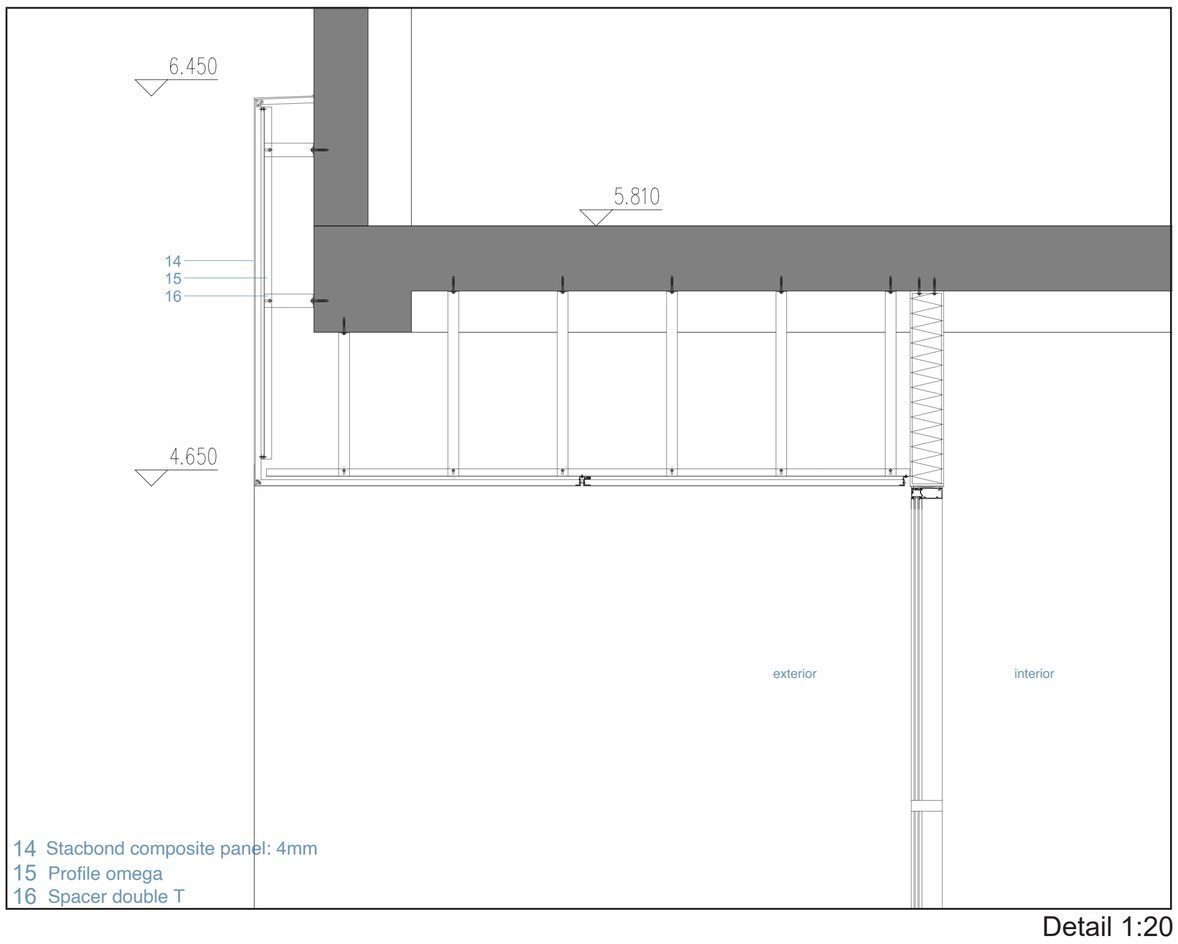
B - B Section 1:100



B - B Section 1:100



Detail 1:20



Detail 1:20

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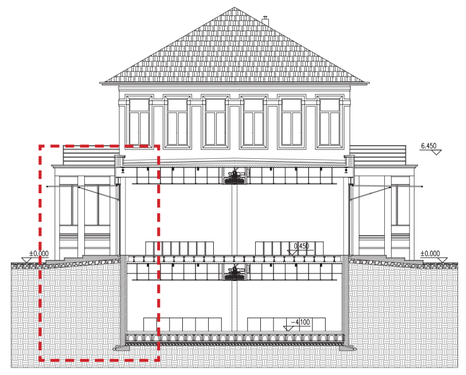

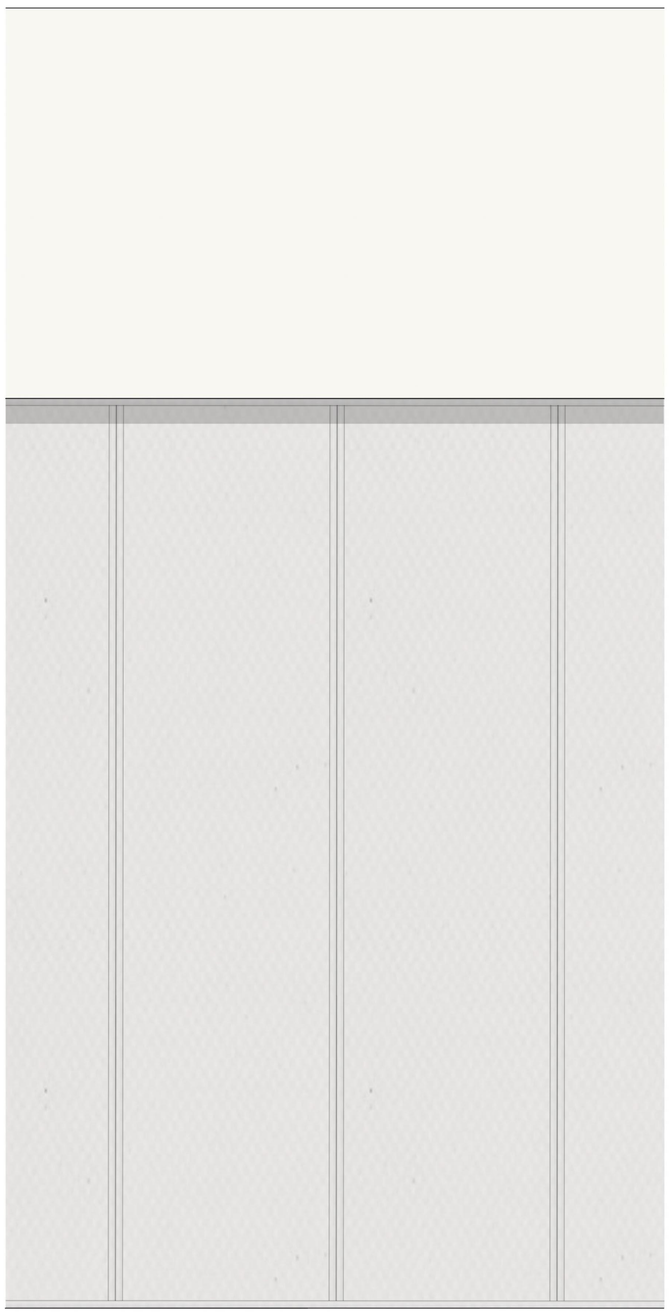

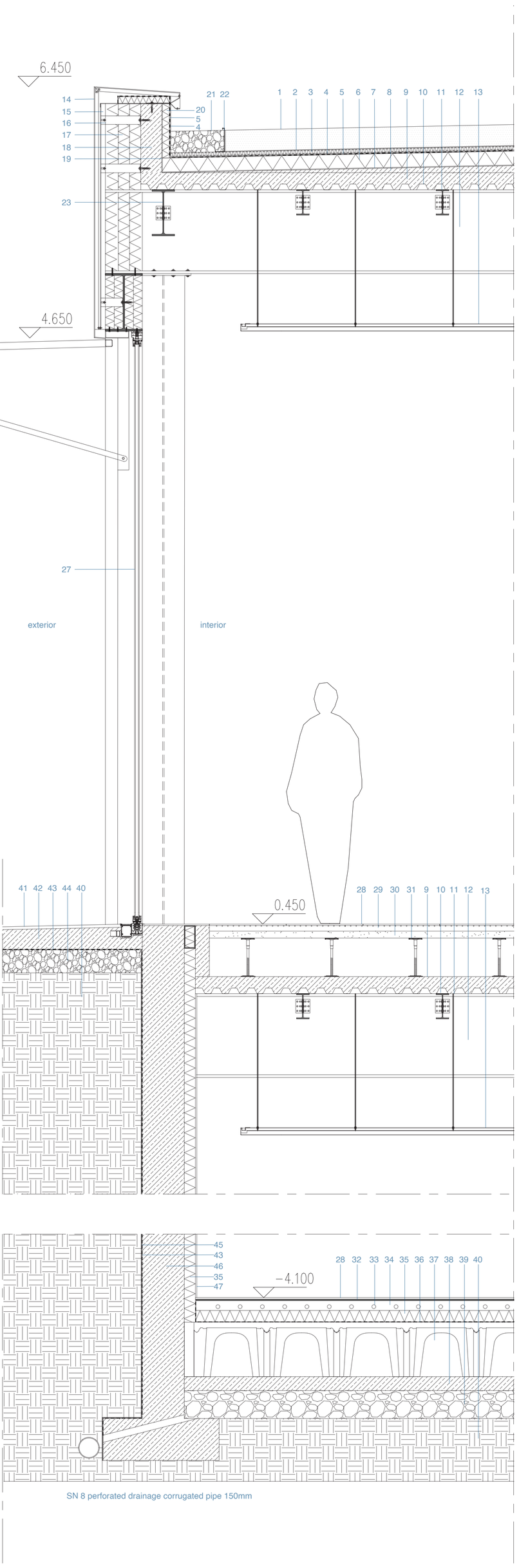

1 Planting soil: 150mm
2 Filtering layer (geotextile): 2mm
3 Draining layer: 25mm
4 Root barrier
5 Waterproof membrane
6 Thermal insulation: 100mm
7 Vapour barrier: 4mm
8 Concrete (2% slope)
9 Concrete slab: 120mm
10 Metal deck
11 Secondary steel beam IPE180
12 Primary steel beam IPE600
13 Acoustic suspended ceiling raft
14 Stacbond composite panel: 4mm
15 Profile omega
16 Spacer double T
17 Rockwool thermal insulation: 150mm
18 Concrete parapet: 150mm
19 Vapour barrier: 4mm
20 Thermal insulation: 50mm
21 Gravel: 150mm
22 Metal support
23 Primary steel beam IPE330
24 Shading fabric
25 Hydraulic single swing system
26 Hydraulic ram
27 Aluminum folding glass door

28 Indoor pavement: 10mm
29 Radiant panel with insulating polystyrene: 40mm
30 Screed: 50mm
31 Raised floor system (with acoustic attaching): 270mm
32 Mortar: 10mm
33 Screed: 70mm
34 UFH tube: 10mm
35 Rockwool RW3 Acoustic, Thermal, and Fire Performance Insulation: 75mm
36 Flexter Testudo membrane: 4mm
37 Iglu ventilated cavities: 350mm
38 Concrete Slab: 100mm
39 Gravel: 200mm
40 Earth
41 External flooring: 20mm
42 Concrete: 170mm (2% slope)
43 Flexter Testudo membrane: 4mm
44 Gravel: 160mm
45 Protefon Tex drainage sheet: 4mm
46 Concrete wall: 300mm
47 Knauf Sheetrock wall plasterboard: 10mm
49 Double glazed aluminum storefront
50 External flooring: 20mm
51 Screed: 150mm
52 Fine gravel: 100mm
53 Glass railing

Detail Section 1:20

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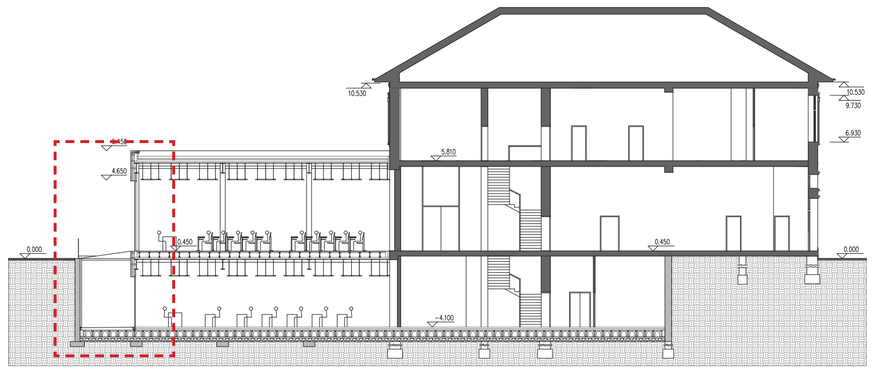

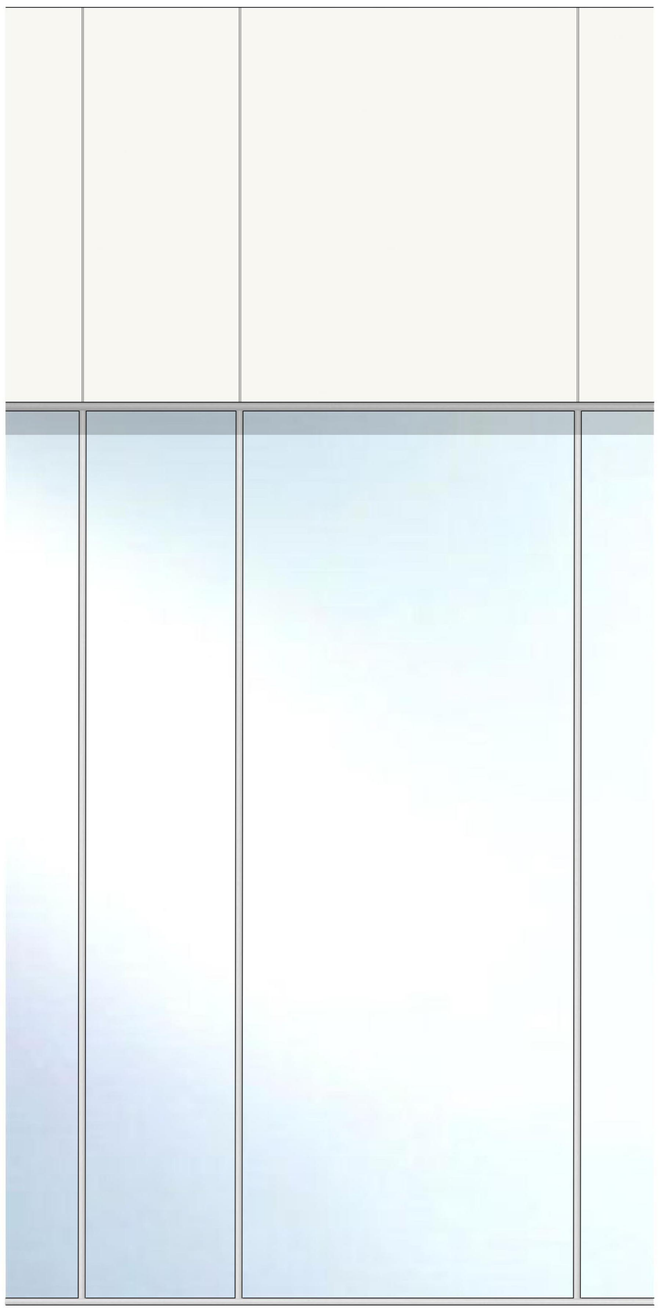

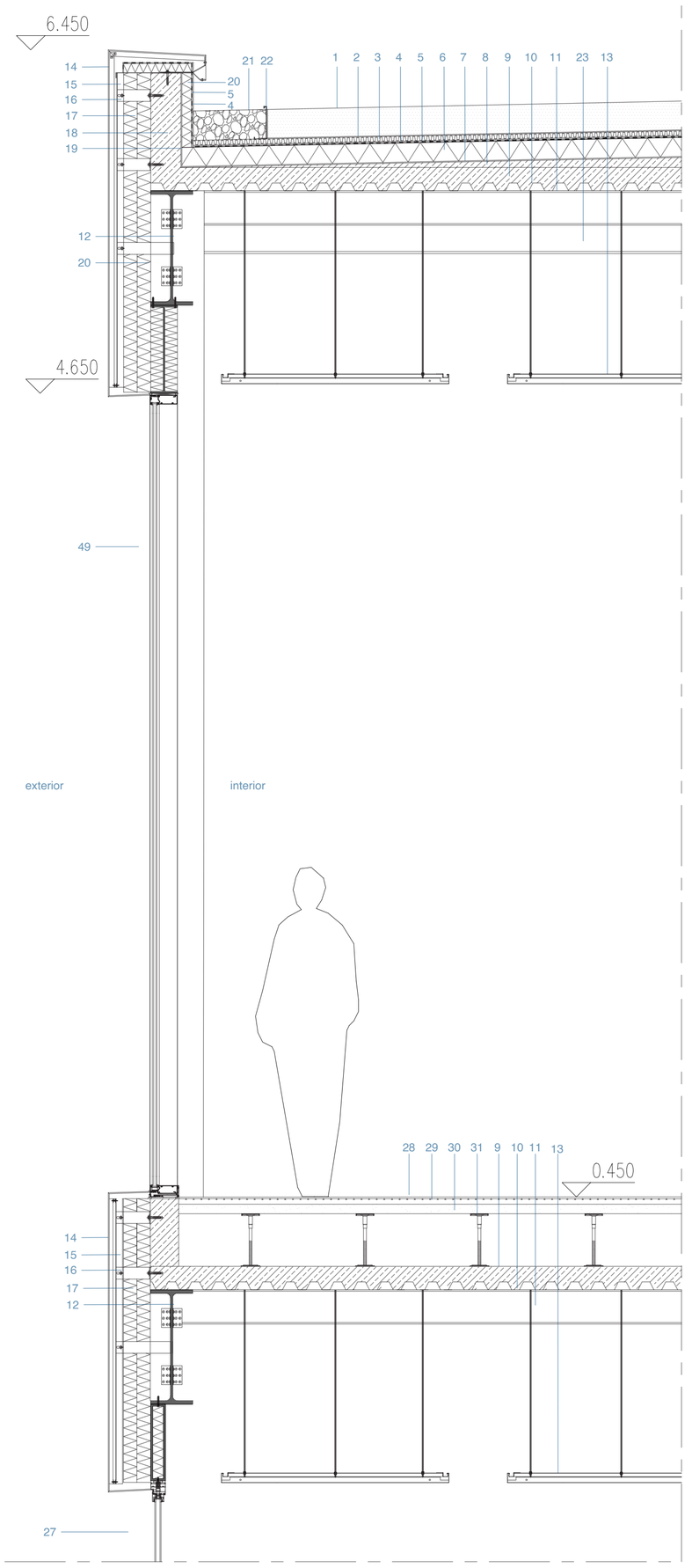

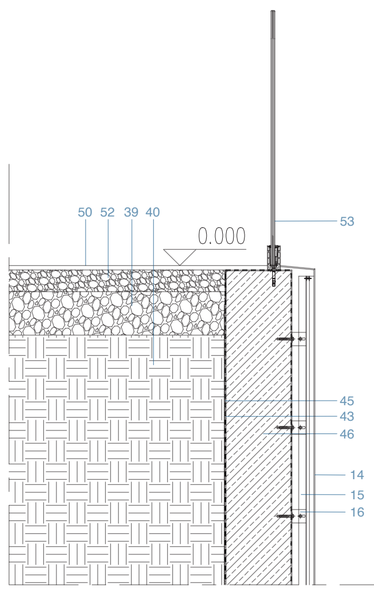

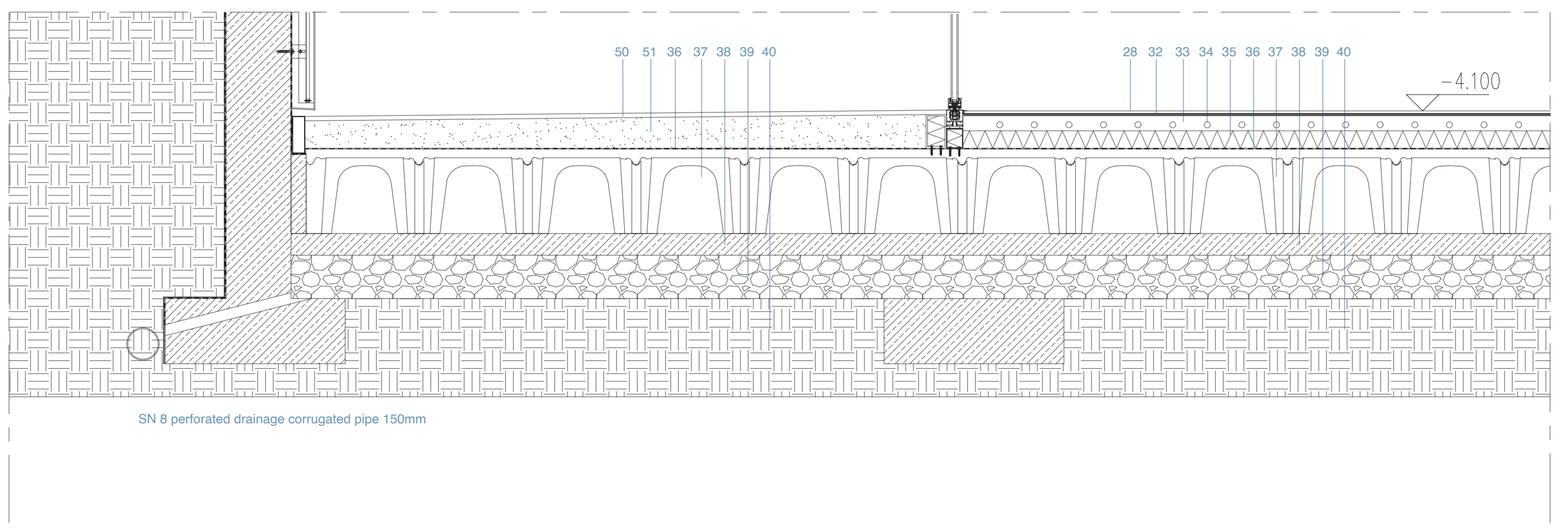

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Structure