



**Politecnico di Torino
Msc Degree ACC
Atelier Architecture and Restoration
AY 2022-23**

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Atelier ARCHITECTURE AND RESTORATION



The Atelier Architecture and Restoration aims to develop architectural conservation and reuse projects designed through the contribution of two specific and complementary disciplines: **Restoration and Architectural and urban composition.**

The Atelier aims to guide students towards an **understanding of the values of the built heritage** fostering the design of solutions for sustainable and conscious conservation and reuse interventions in existing buildings.

ACTIVITIES AND DEADLINES

The Atelier will consist of ex-cathedra lectures, **on-site visits, exercises, lessons** on specific topics, reviews, and meetings with experts, promoting active participation of students.

Starting from the **analysis** of the assets identified as case studies and of the **context** in which they are located, identifying their **strengths** and **weaknesses**, the students (divided into groups of maximum 3 people) will develop restoration and reuse projects compatible with the architectural and constructive characteristics of the assets and consistent with the identity features of the artefacts, paying particular attention to their functional vocation, past and future.

The projects will be **discussed** and **revised in itinere** with the lecturer throughout the Atelier. The final examination will consist of the presentation and discussion of the project developed.



METHODOLOGY


_STUDYING TERRITORY AND UNDERSTANDING HISTORY



CHIVASSO

- 26,921 inhabitants
- Industrial centre, key railway station
- Forest Bosco del Vaj, natural reservoir with spring of sulphur
- Bishopric of Angelo Cordero
- 1164 - Fisherman river borough
- 1438 - Savoy House (craft centre, wood carver, printing press)
- 18th c. - Mandria (horse breeding centre)
- Key Buildings: Medieval tower, Palazzo Tesio

TRINO



- 7,216 inhabitants
- Rich fertile soil
- Well connected with the main roads
- Home to wild animals
- 6 protective lands for bird protection
- 2nd c. - 800 (Romanque King's Market)
- 18th c. - Cultivation of Rice started
- 1994-2000 Floods
- Key Buildings: Sarcetto Abbey
- Cheese di Santa Caterina d'Allessandria

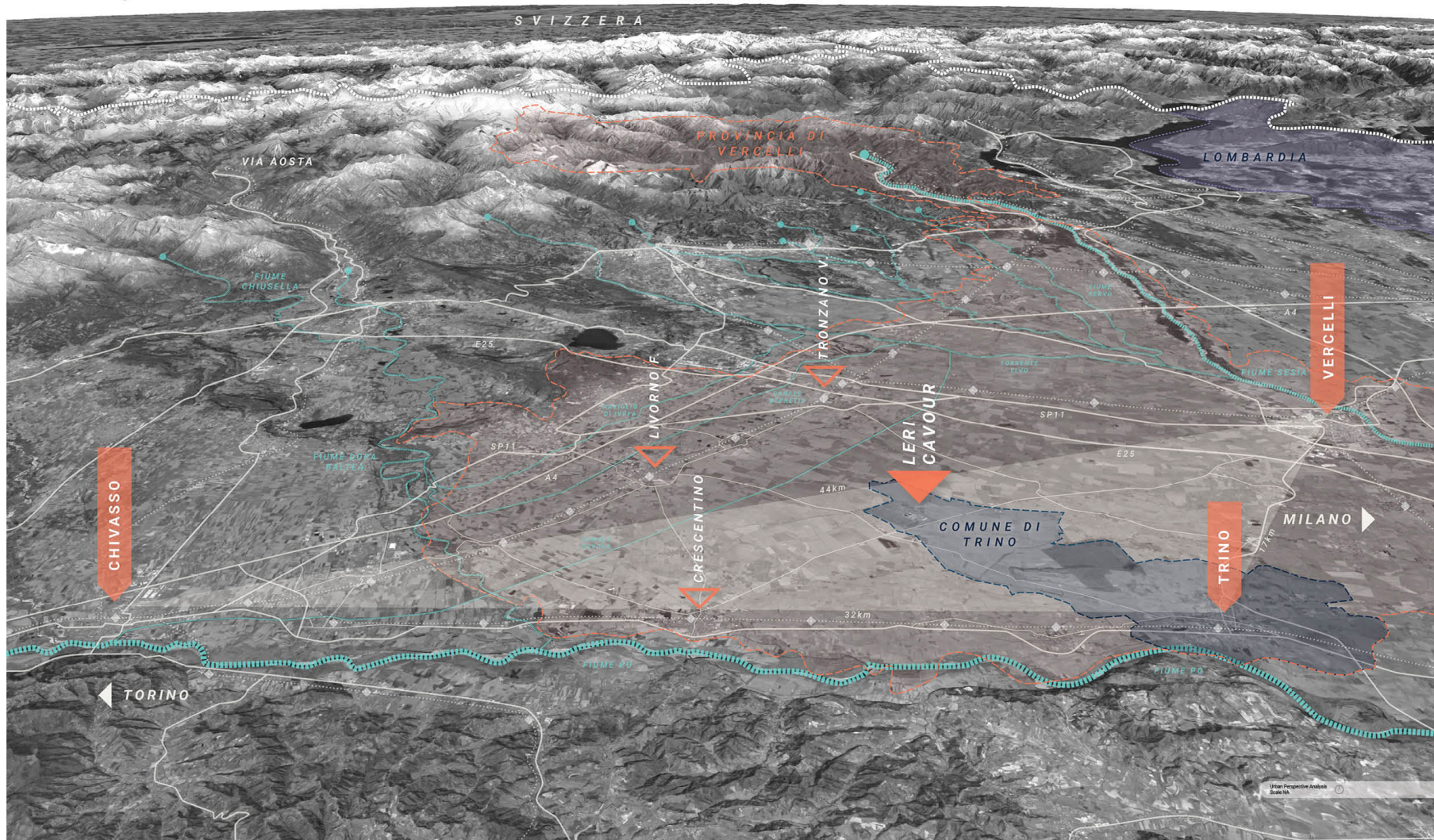
VERCELLI

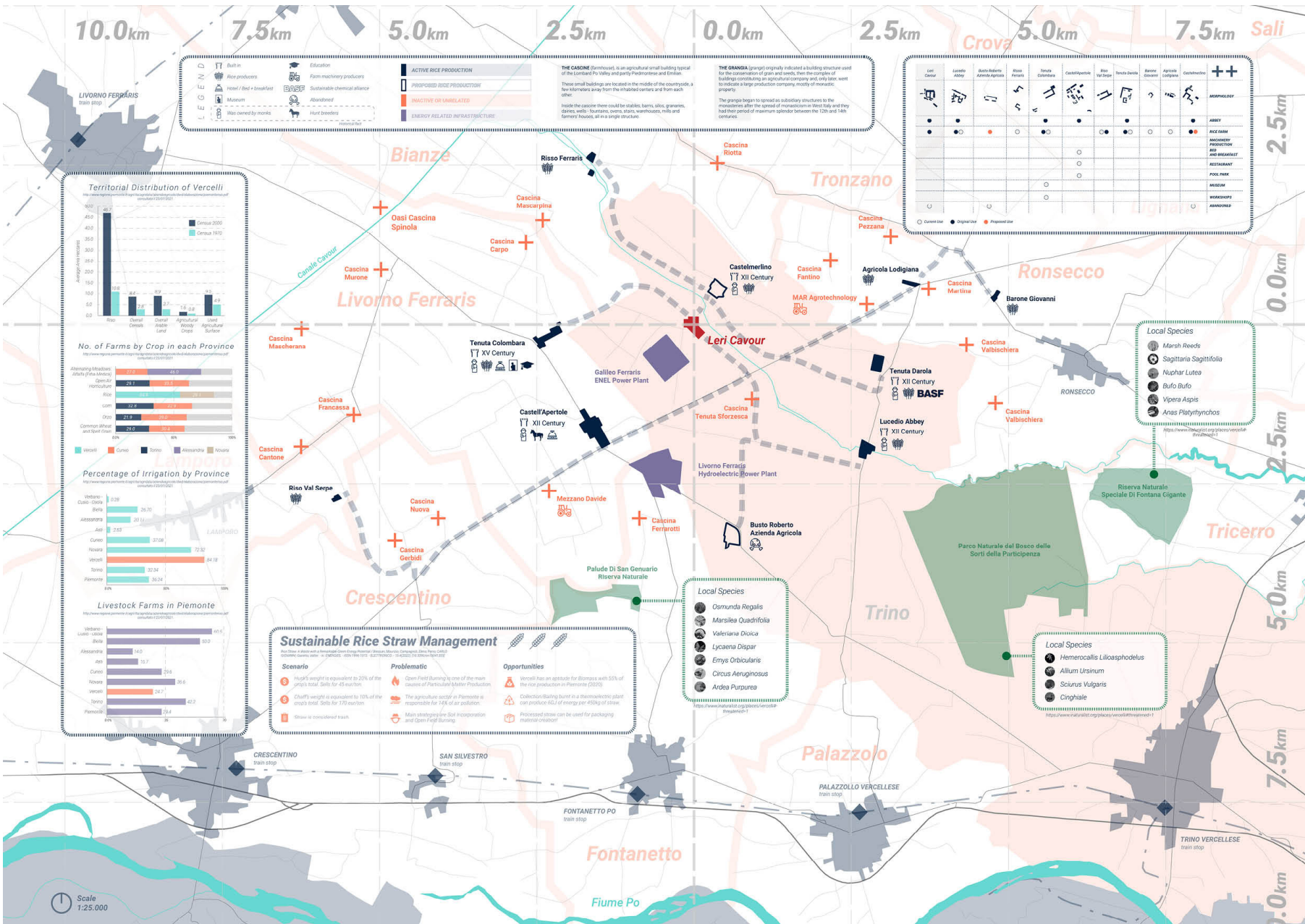


- 46,662 inhabitants
- Center for the propagation of Christianity
- City of art, major cultural center of Renaissance in Piedmont
- Cultivation of rice
- Rich in streams and rivers
- Slow tourism
- One of the famous and successful football clubs in Italy
- Developed in jewelry, silverware
- Treat for birdwatchers
- 1228 - First university in Piedmont
- 20th c. - Industry crisis, tertiary and logistics sector developed
- 1998 - University of Eastern Piedmont founded
- 21th c. - Crisis in textile sector, lack of job opportunities
- Key Buildings: Basilica of Sant'Andrea, The Duomo, San Cristoforo

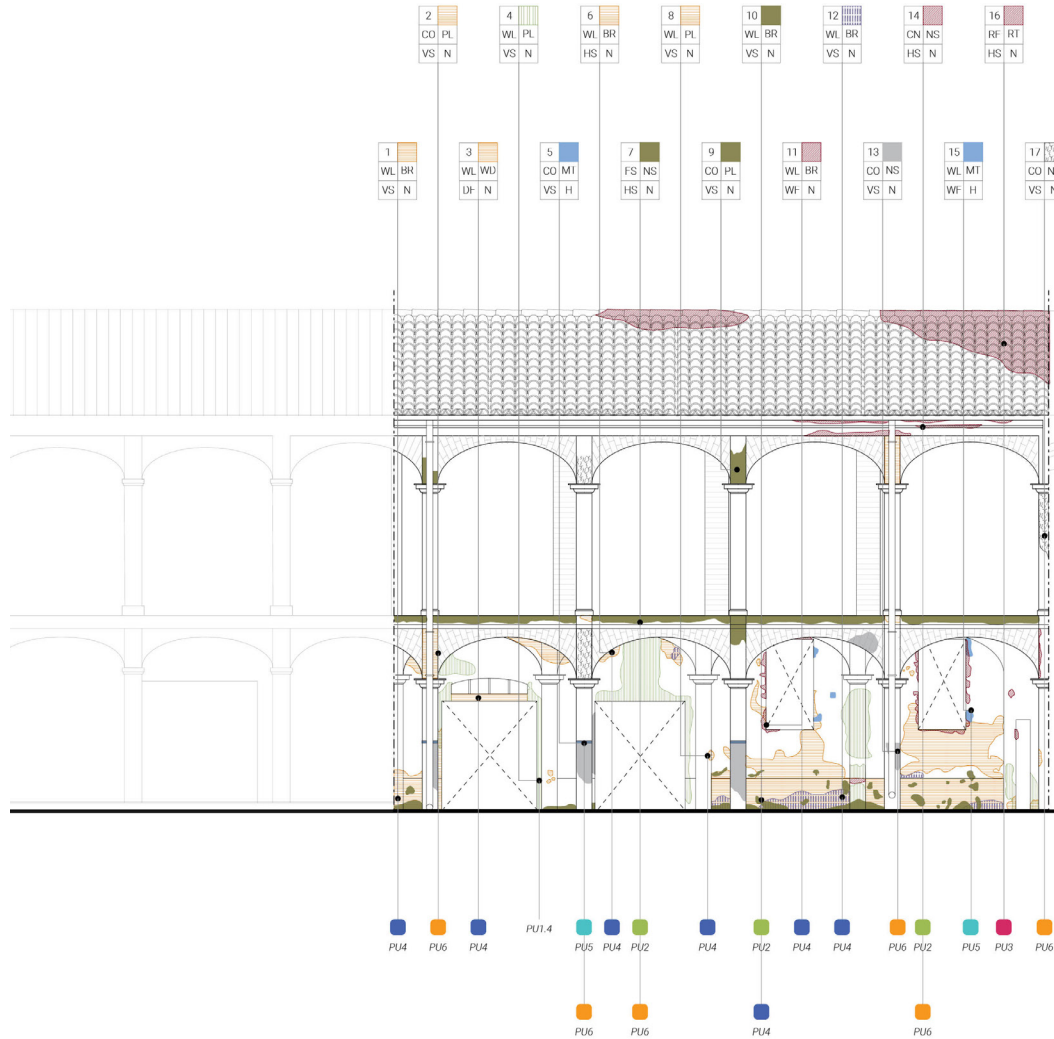
legend

- water bodies
- main roads
- secondary roads
- train paths
- political boundary: comune di trino
- political boundary: lombardia
- political boundary: country of italy
- political boundary: vercelli
- train stop





_DECAY ANALYSIS



NUMBERING
From 1 to 17

DECAY SYMBOLOGY

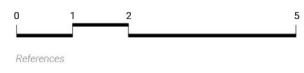
- Biological attack
- Improper intervention
- Stain
- Detachment of paint layer
- Lack of material
- ⊖ Efflorescence or Subefflorescence
- Detachment or partial detachment of plaster
- Cracks

ARCH. ELEMENT MATERIAL STRUCTURE CAUSE

ARCH. ELEMENT	MATERIAL	STRUCTURE	CAUSE
WL - Wall	BR - Brick	RS - Roof Structure	N - Natural
RF - Roof	RT - Roof tile	VS - Vertical Structure	H - Human
WN - Window	WD - Wood	HS - Horizontal Structure	
PI - Plasters	MT - Metal	DF - Door Frame	
CO - Columns	NS - Natural Stone	WF - Window Frame	
FS - Floor slab	PL - Plaster		
GT - Gutter			
CN - Cornice			

PHOTOGRAPHIC SURVEY OF DEGRADATION

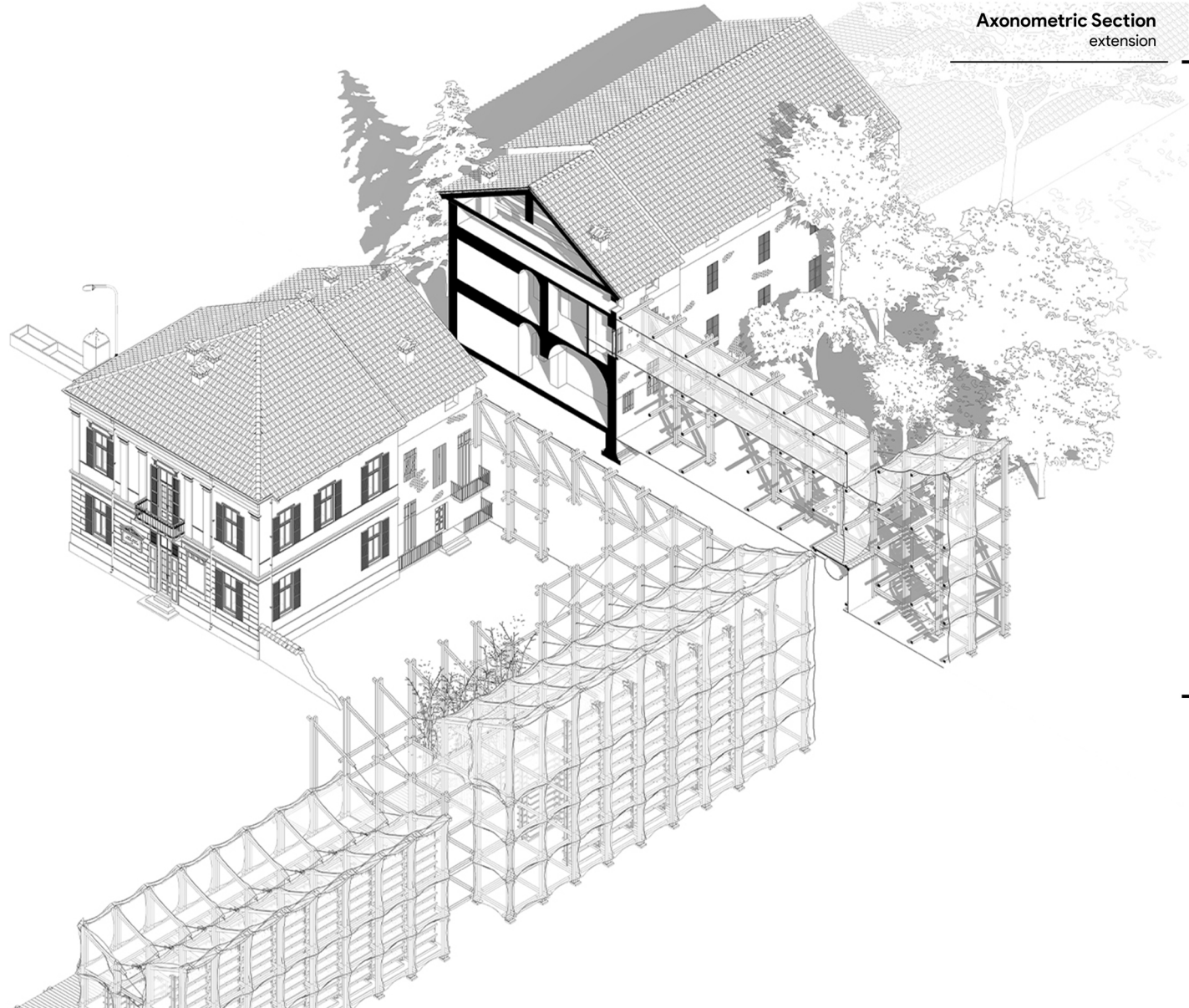
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18



_ANALYZING ARCHITECTURE



Axonometric Section
extension





Structural Proposal

Safeguarding and reinforcing the original structural logic of Leni Cavour.



Wooden planks roofing.

Removal of tiles, addition of planks, revision of beams + joists.



Steel deck: structural release of vaults.

1F load bearing carried over to walls and columns. Vaults carry their own weight only.



Plastic IGLU @ ventilated slabs.

Replacement of ground floor slab. Added insulation and rigidity.

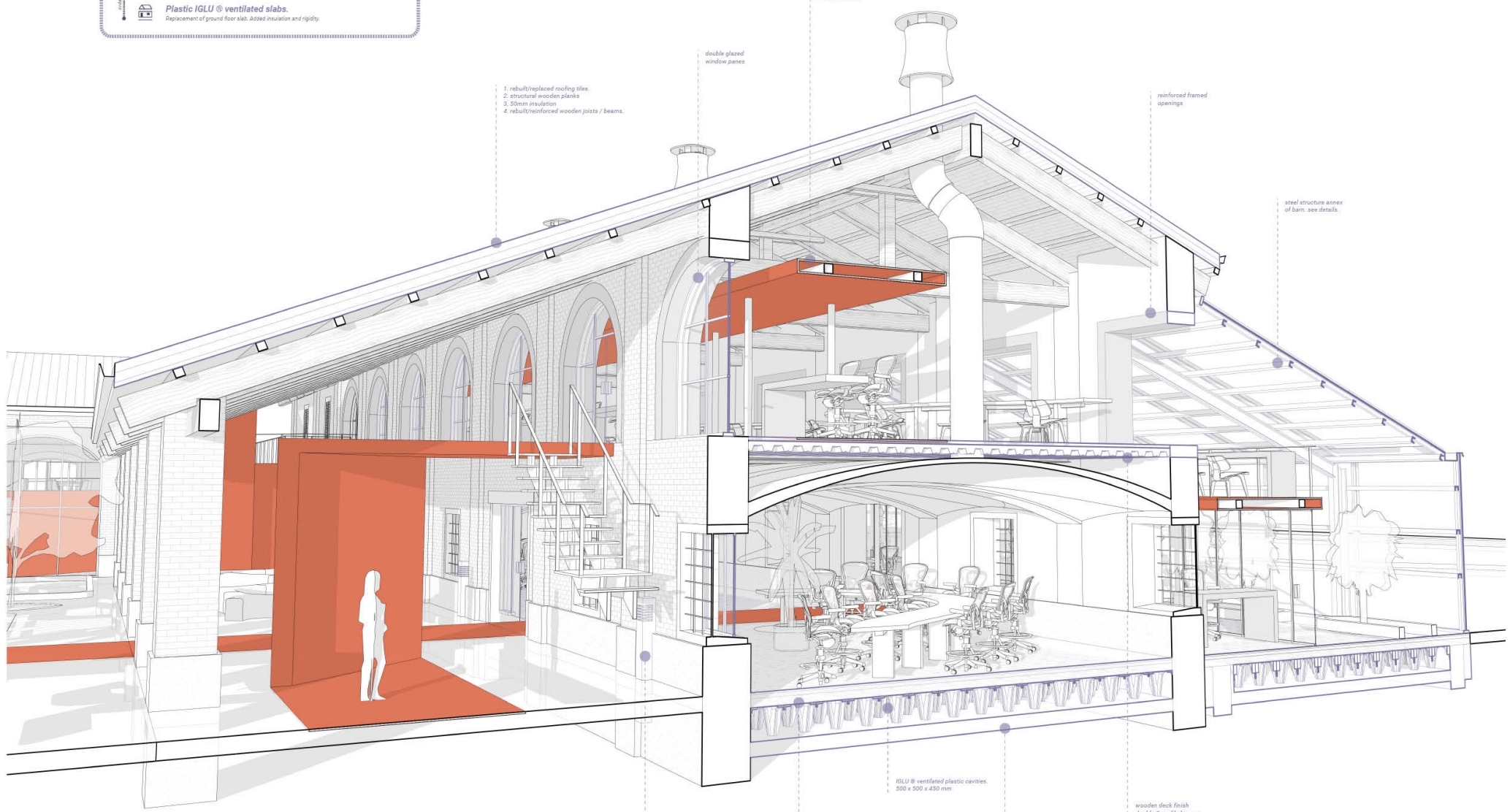
1. rebuilt/replaced roofing tiles.
2. structural wooden planks
3. 50mm insulation
4. rebuilt/reinforced wooden joists / beams.

double glazed window panes

steel purlin porticoed structural system + steel sheet wrapping.

reinforced framed openings.

steel structure annex of barn: see details.



steel wrapped exhaust for IGLU @ ventilated cavities.

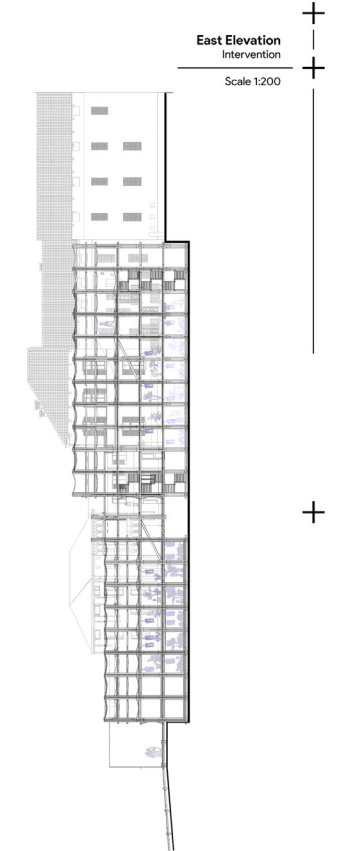
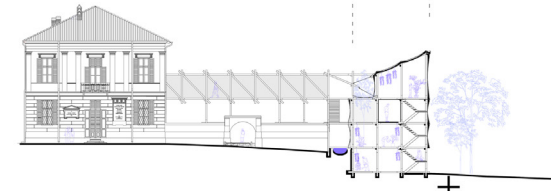
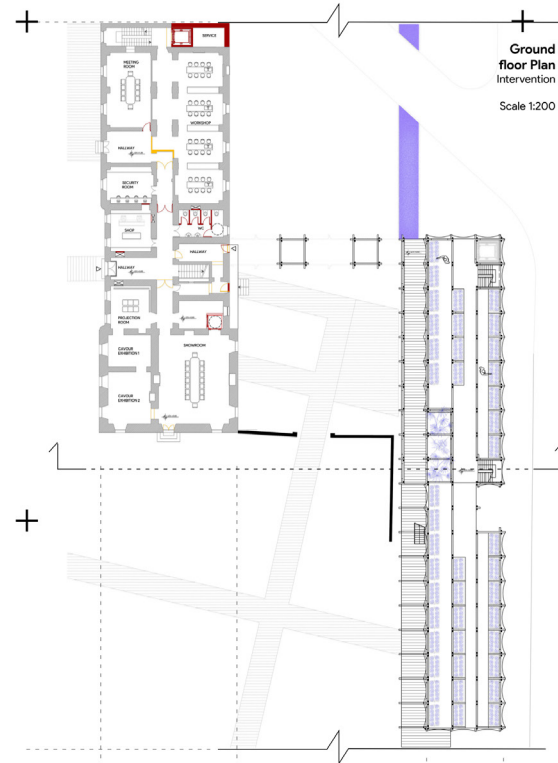
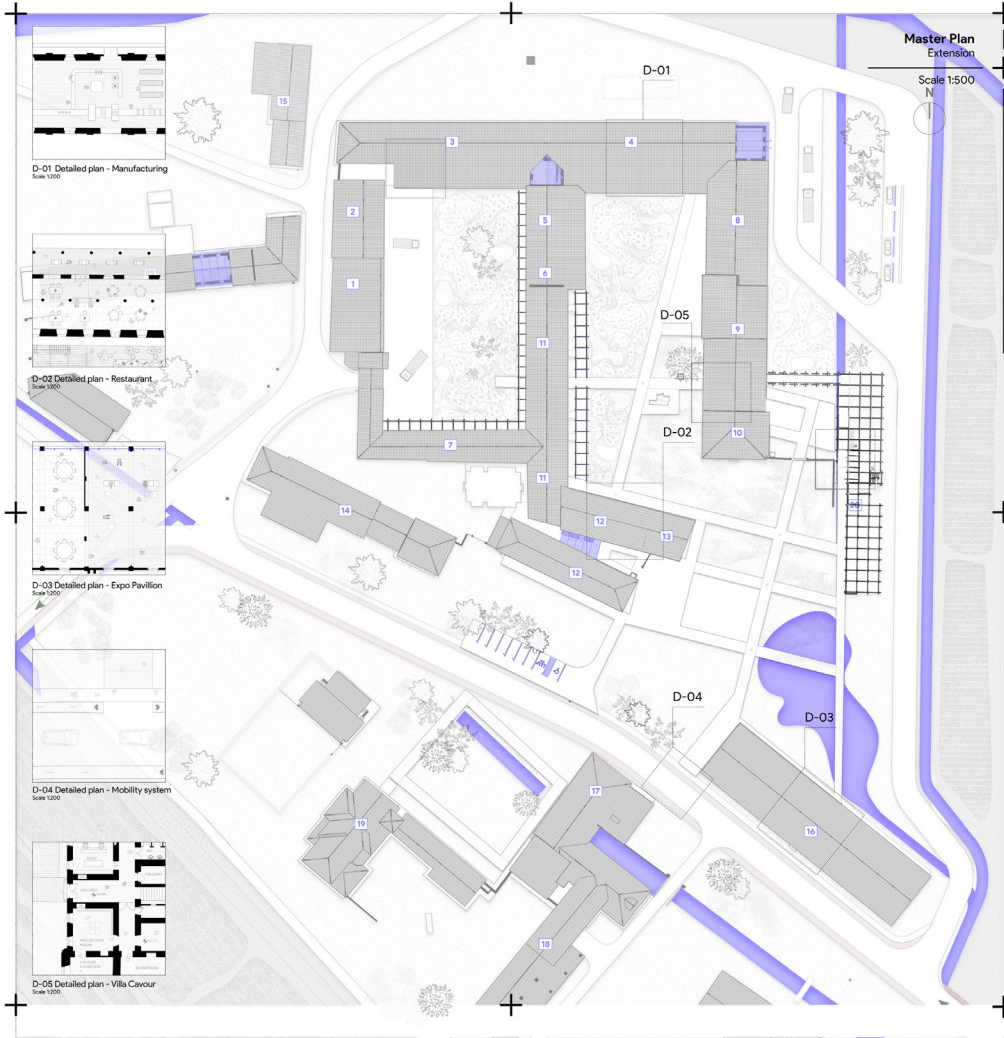
- 5mm high traffic floor finish
- 25mm self-leveling concrete
- 5mm thermic water repellent insulation
- 1mm waterproof sheath
- 120mm armed concrete slab

self-leveling concrete slab
200 mm

IGLU @ ventilated plastic cavities.
500 x 500 x 450 mm

wooden deck finish
double G profile beams
3" steel deck
100mm reinforced concrete slab

_DESIGN PROJECT PROPOSAL



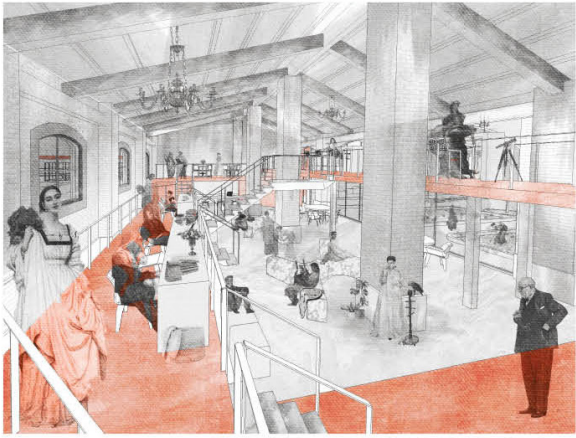


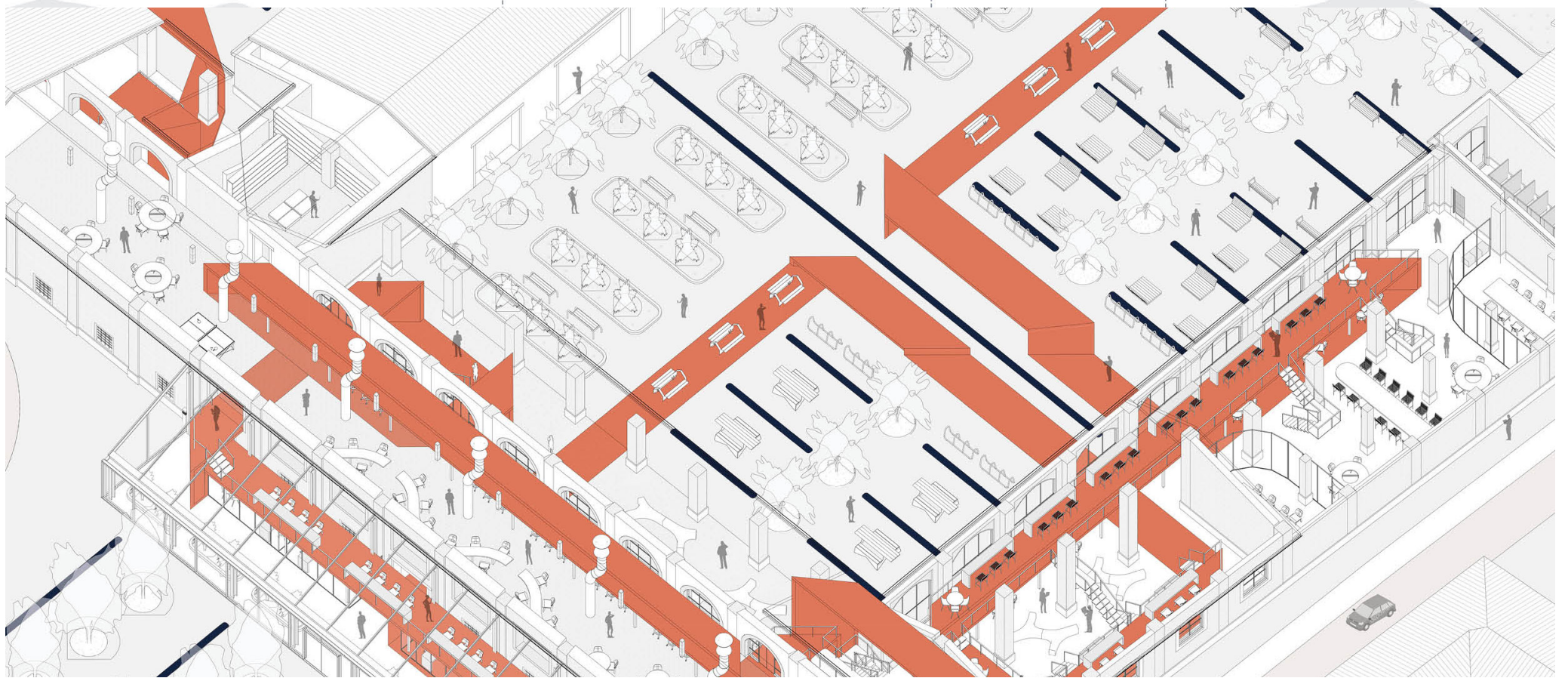
IMAGE 01: INTERIOR BARN B GF



IMAGE 02: INTERIOR BARN A 1F



IMAGE 03: STEEL STRUCTURE ANNEX
(BEHIND BARN A)



Visualization
extension



Physical Model
extension

