ARCHITECTURE STUDENT CONTEST

20th INTERNATIONAL EDITION, NORD ISÈRE 2025

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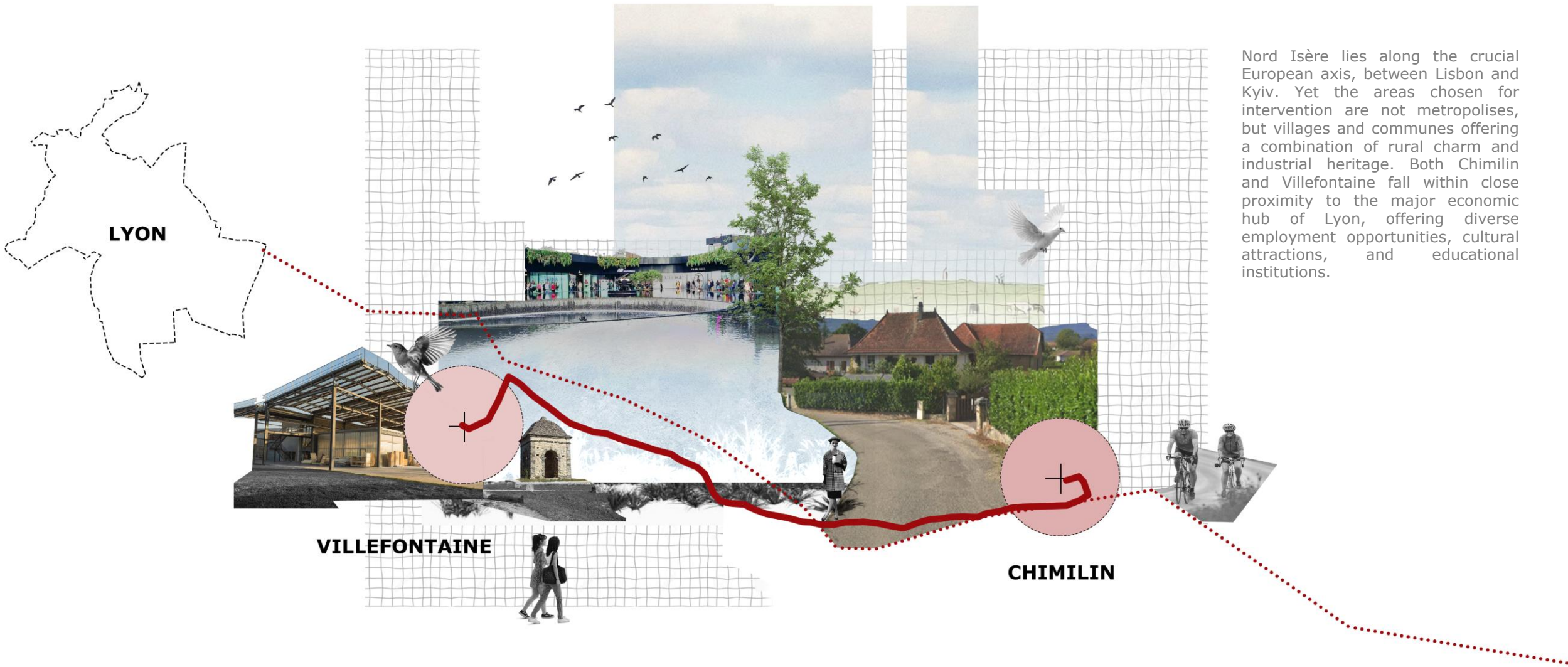
Presentation Number **22**
India

School of Planning and Architecture, Bhopal

Résonance

Two Projects That Echo and Impact One Another Across Space and Time

The Region

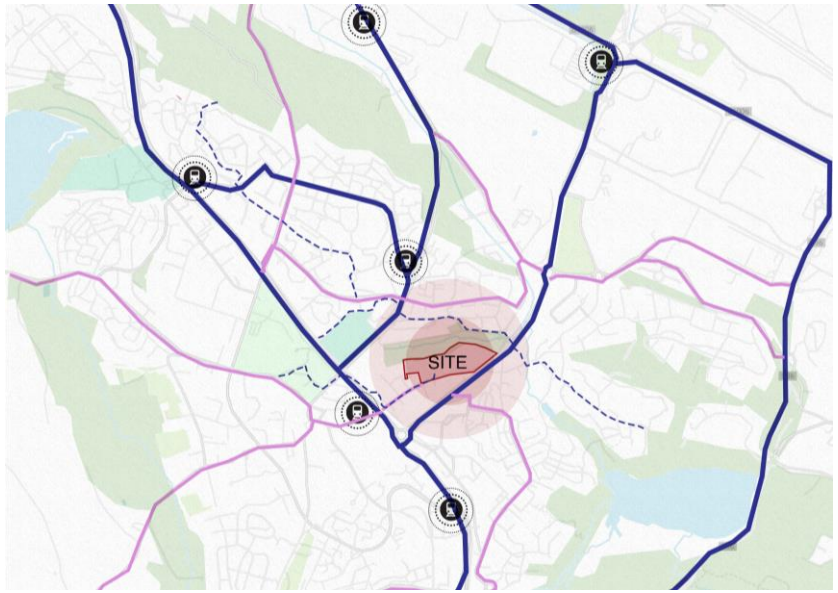


Nord Isère lies along the crucial European axis, between Lisbon and Kyiv. Yet the areas chosen for intervention are not metropolises, but villages and communes offering a combination of rural charm and industrial heritage. Both Chimilin and Villefontaine fall within close proximity to the major economic hub of Lyon, offering diverse employment opportunities, cultural attractions, and educational institutions.

ZONE A – STUDENT ACCOMMODATION

VILLEFONTAINE, FRANCE

Site Context

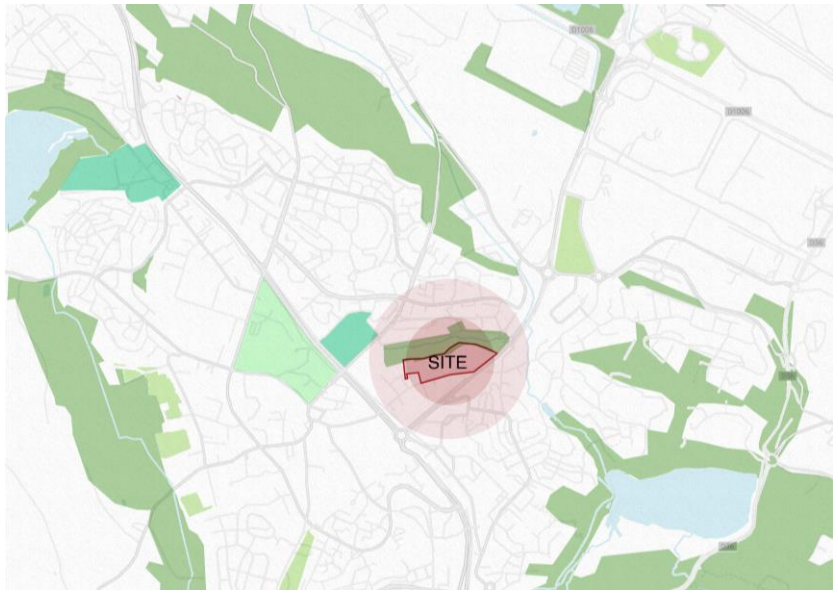


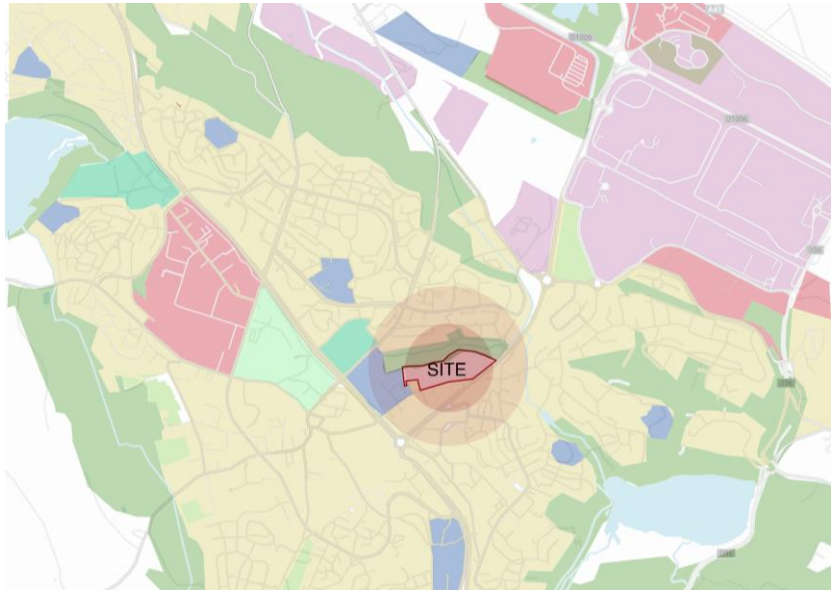
Connectivity

- Public transport access roads leading to site
- Vehicular/pedestrian roads leading to site
- Bike trails around site
- Bus stop

Open Spaces

- Forest
- Farmland
- Park
- Playground



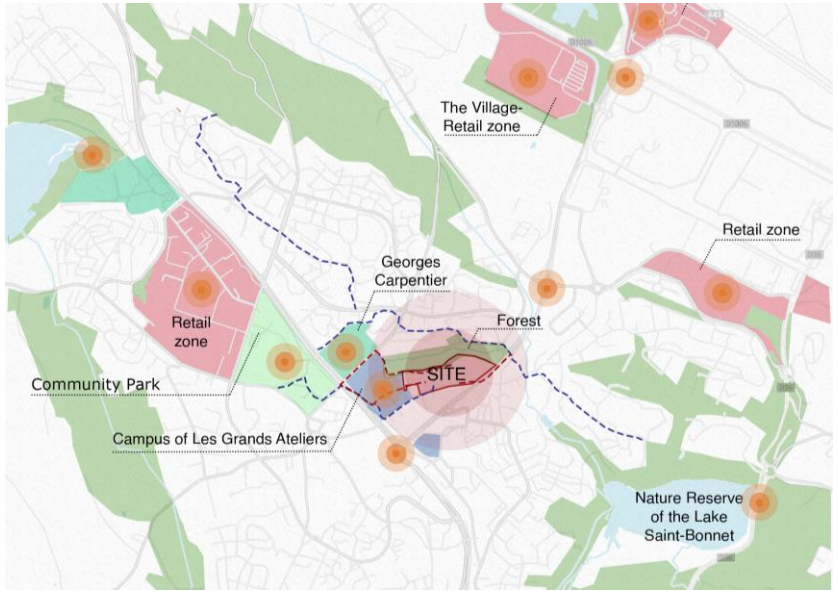


Community

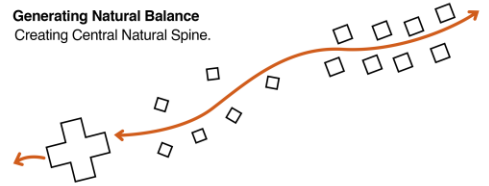
- Residential
- Retail
- Industrial
- Institutional

Significant Areas

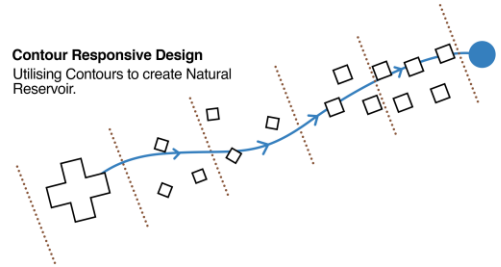
- Bike trails around site
- Proposed Bike trails from site
- Nodes



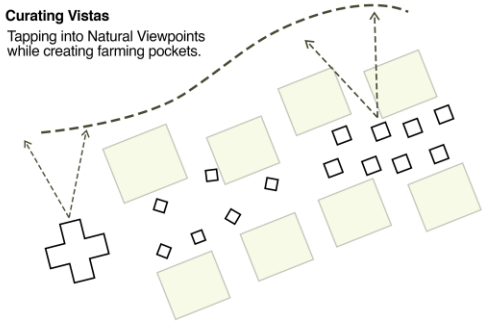
Generating Natural Balance
Creating Central Natural Spine.



Contour Responsive Design
Utilising Contours to create Natural Reservoir.



Curating Vistas
Tapping into Natural Viewpoints while creating farming pockets.



1. Entrance to Site
2. Accommodation Block entry
3. Accommodation Block
4. Observation deck
5. Camping area
6. Agricultural Garden
7. Water Body
8. Pavillion of Possibilities -Prototype Village
9. Outdoor Exhibition and Catering Space
10. Cafeteria
11. Workshop
12. Boiler Room
13. Les Grands Atelier
14. Astus building
15. Adjacent forest

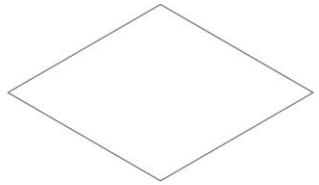
Cycling track

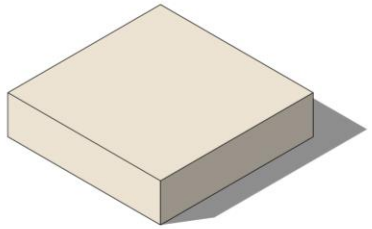
Master Plan

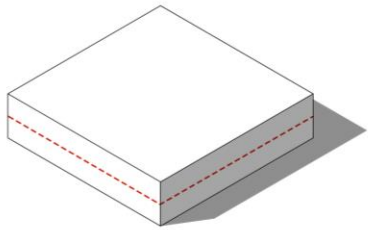
Form Development

Built Language

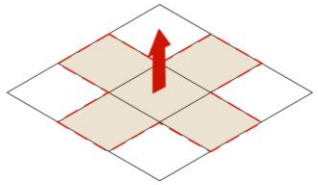
Footprint



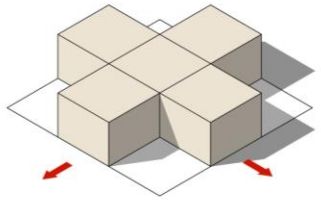




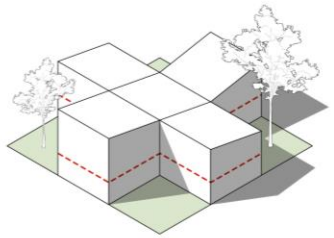
Laboratory block



Centralised Facilities

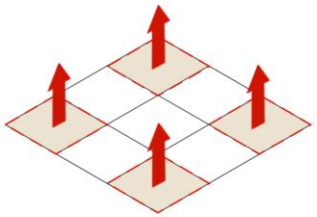


Flexible Outdoor Spaces to Flow Outside the Built

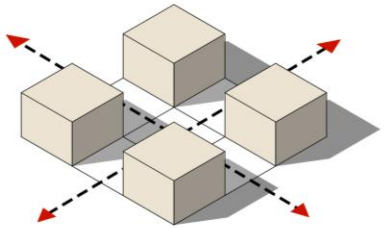


Butterfly Roof Allowing Higher Floor Space, Enhancing the Form and Housing Solar Panels

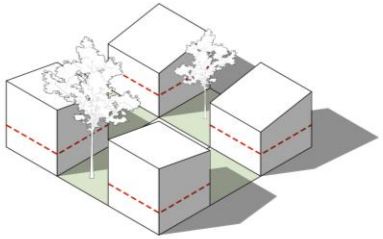
Student accommodation



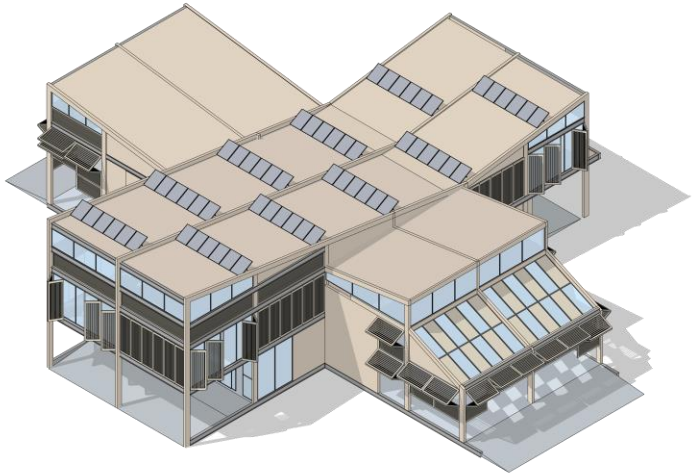
Rooms and Facilities



Spaces for Congregation



Central Space for Congregation and Inclusion of Passive Strategies and Context Relevant Butterfly Roof

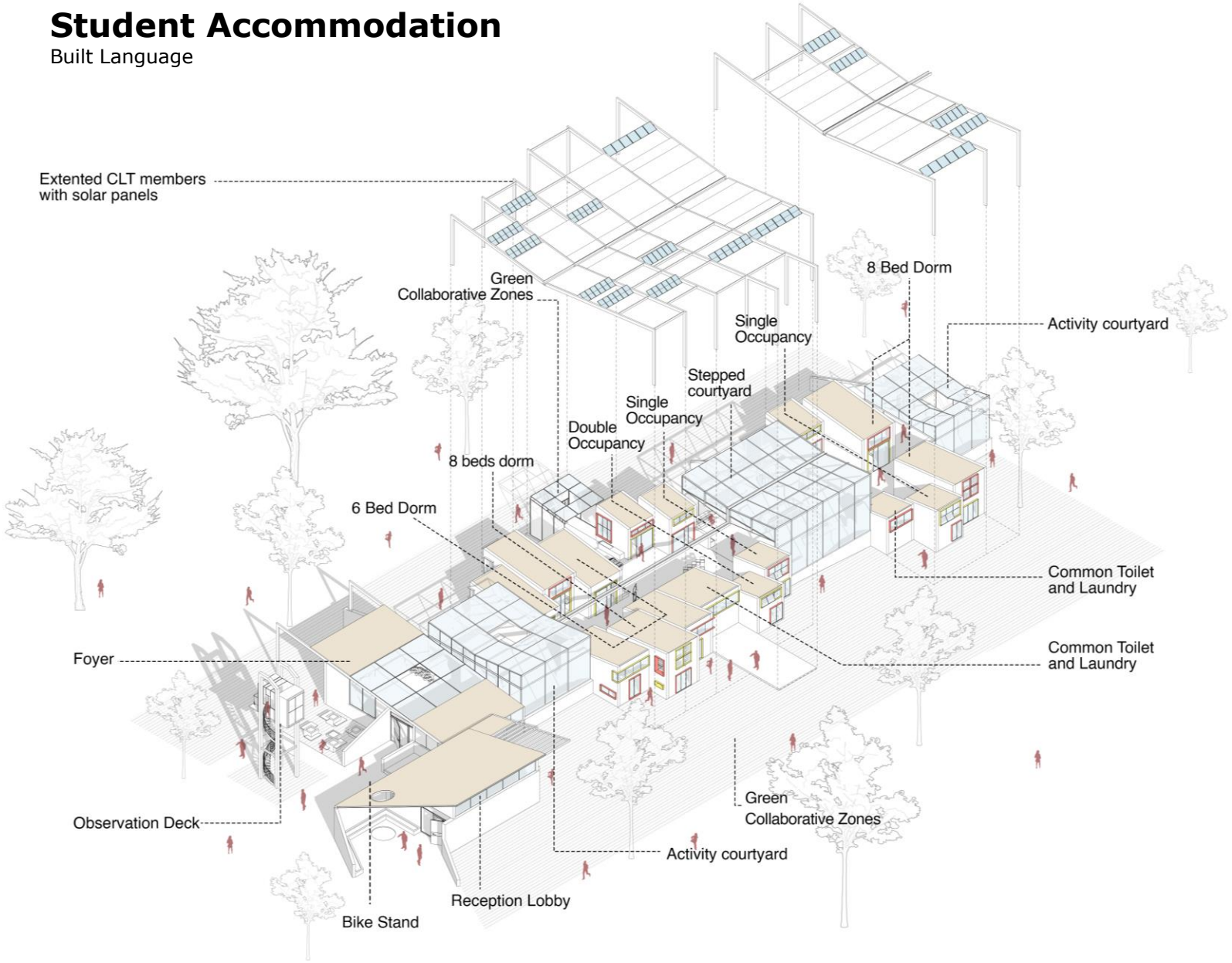


The forms of both the accommodation and workshop blocks are shaped by patterns of use—circulation, congregation, and spillover.

While the usable spaces of the workshop and lab are centrally located to allow interior activities to extend outward and engage with open spaces, the accommodation block does the opposite. By occupying the footprint's edge, it frees up the center for fluid movement and communal gathering.

Student Accommodation

Built Language



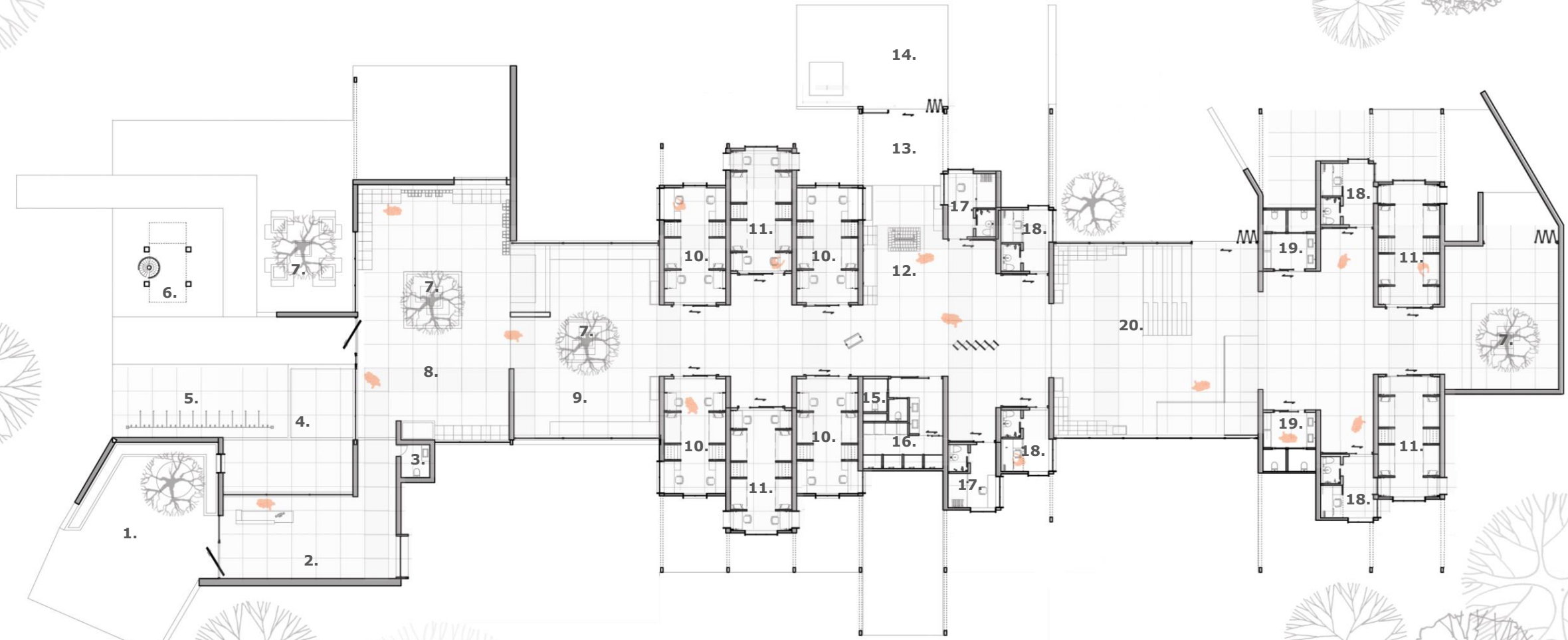
The accommodation follows the site's topography—creating an experiential corridor with moments for **discovery, congregation, and pause** culminating in a waterbody at its lowest point—a natural catchment where rainwater from across the site collects. This not only anchors the experience in nature but also turns sustainable water management into a spatial and sensory moment for residents.

A valley roof, formed with high-performance glass and CLT, brings in light while shaping iconic gathering spaces. A Memory Wall, a tactile mosaic where residents leave thoughts behind, creates invisible yet powerful connections between the past and current visitors. Sunken levels form an amphitheatre, courtyards offer community space, and all is held at a humble, human scale.

A viewing deck enhances the connection with the landscape and doubles as a striking visual marker from the road

Student Accommodation

Floor plan



1:200 0 4 8 12 16 20 M

1. Arrival Zone
2. Reception
3. Public Toilet
4. Foyer
5. Bicycle Parking
6. Observation Deck
7. Courtyard
8. Foyer
9. Student Activity Zone
10. 6 Bed Dorm
11. 8 Bed Dorm
12. Open Library With Memory Wall
13. Covered Deck
14. Open Deck
15. Common Toilet
16. Laundry And Shower Area
17. Double Occupancy Dorm
18. Single Occupancy Dorm
19. Common Toilet With Laundry
20. Stepped Courtyard

Student Accommodation

Main Entrance to the Accommodation Block is an outdoor courtyard visible from the entry to the site, leading to the reception and waiting area

Internal Entrance and Bicycle Parking is used by people who have already checked into the accommodation, connecting directly to the prototype village and workshop building beyond.

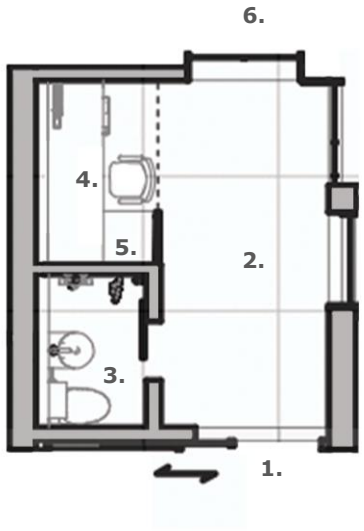
Student Accommodation

Central spine of student accommodation with multiple courtyards offers versatile activity spaces such as reading nooks, gathering spaces, movie screening, stargazing etc.

Student Library space with a memory wall is a tactile mosaic where residents, national and international, leave thoughts and books behind, creating invisible yet powerful connections between past and future visitors.

Student Accommodation

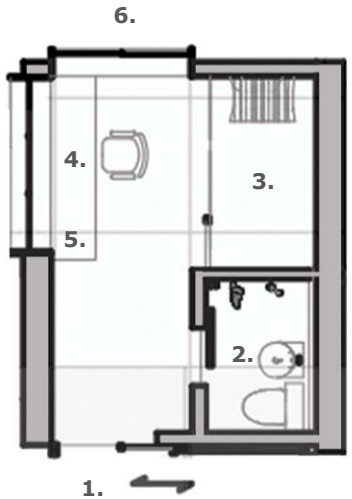
Unit Plans



Single occupancy

No. of units: 4
Area per unit: 10 sq.m.

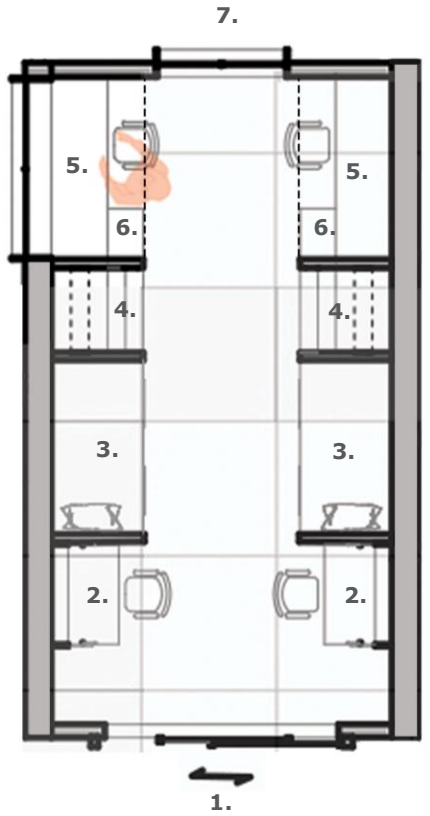
1. Entry
2. Lounge space
3. Bathroom
4. Study (below) bed with padlock storage (above)
5. Storage
6. Towards garden



Double occupancy

No. of units: 2
Area per unit: 12 sq.m.

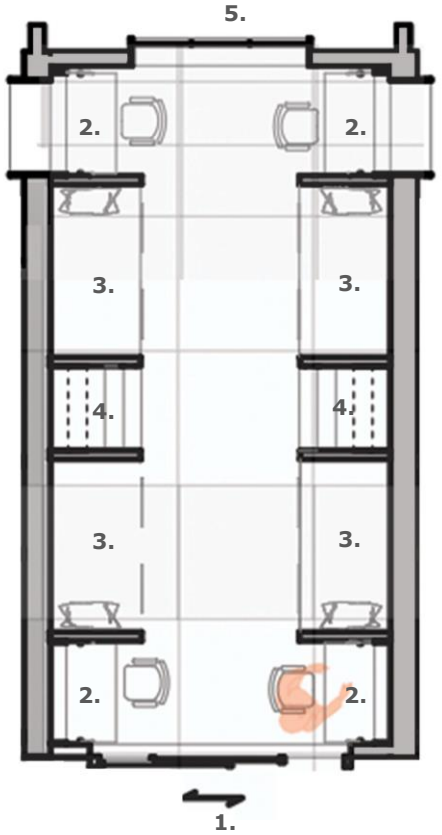
1. Entry
2. Bathroom
3. Bunk bed with padlock storage (2)
4. Study
5. Storage below
6. Towards garden



6 beds

No. of units: 4
Area per unit: 25 sq.m.

1. Entry
2. Foldable Study with storage
3. Bunk bed with padlock storage (2)
4. Steps cum seating
5. Study
6. Storage below
7. Towards garden



8 beds

No. of units: 4
Area per unit: 30 sq.m.

1. Entry
2. Foldable Study with storage
3. Bunk bed with padlock storage (2)
4. Steps cum seating
5. Towards garden

Student Accommodation

Stepped courtyard with green spaces and seating forming spaces for leisure and interaction.

The single-occupancy dorm room opens out to the landscape, with a bunk bed positioned above the study area to maximize space and functionality.

Observation Deck

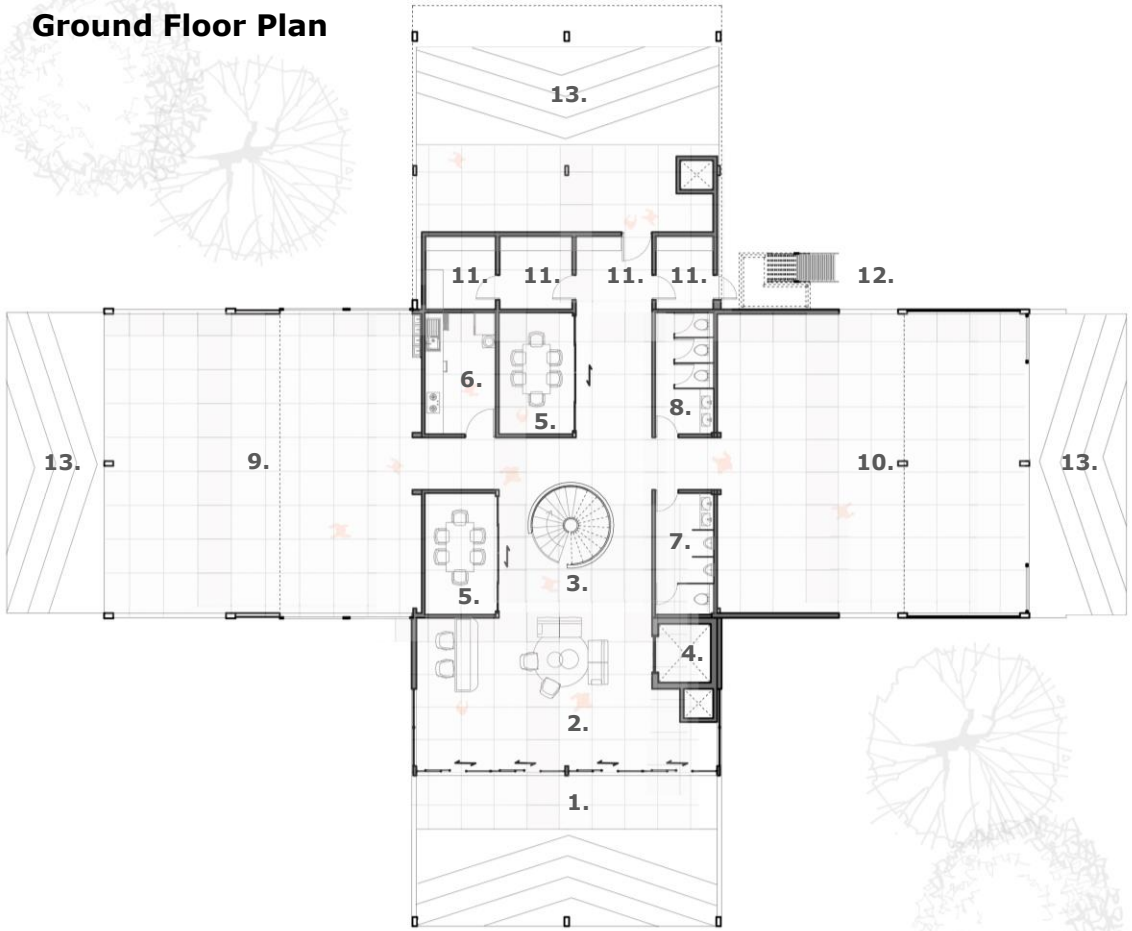
Observation Deck for panoramic views of the lush forest and Le Grand Atelier campus. The elevated deck is also intended to catch the eyes of passersby.

The observation deck doubles as a quiet space for introspection, sketching, and connecting deeply with nature.

Laboratory Block

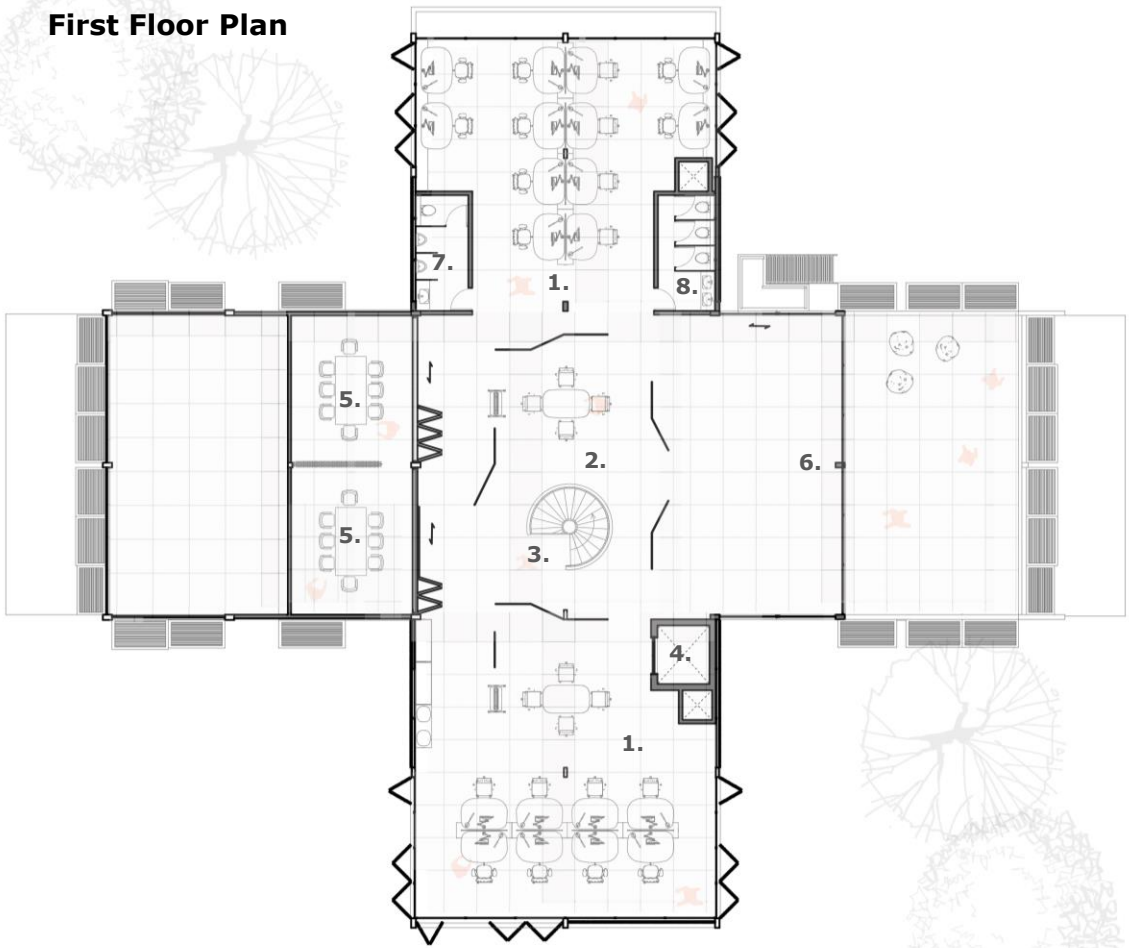
Floor plans

Ground Floor Plan



1. Entrance Porch
2. Reception Lounge
3. Staircase
4. Lift
5. Meeting Room
6. Kitchen Pantry
7. H. Toilet
8. F. Toilet
9. Double Height Laboratory
10. Double Height Multipurpose Hall
11 Machine Rooms
12. Open Café Seating
13. Ramp Up

First Floor Plan



1. Open Plan Office Spaces
2. Central Co-working Space
3. Staircase
4. Lift
5. Meeting Room
6. Mezzanine Viewing Zone
7. H. Toilet
8. F. Toilet
9. Double Height Laboratory Below
10. Double Height Multipurpose Hall Below

1:200

0 4 8 12 16 20 M

Laboratory Block

The Multipurpose hall opens up to the landscape and prototype village for a seamless connection between indoors and outdoors.

Laboratory space spills over into the landscape and in close connection to the Astus building.

Mezzanine Floor overlooking the multipurpose hall below.

Co-working zone that open ups to the landscape, protoptype village, café and the Astus building.

Accommodation Zone

View of the Accommodation Block from the prototype Village

View of the Accommodation Block from the forest

Solar Energy
PV Array at
Sloped Roofs

Rain Water Usage
Building Non-Potable
Water

Rainwater Storage
Underground Water
Harvesting Tank

Rainwater Collection
Rain Barrels spread
across the site

Rainwater Infiltration
Pervious Pavers +
Infiltration Basins

Waste Water Disposal
Drip Irrigation System

Rainwater Usage
Landscape Irrigation

Water Slope Direction
Rainwater Slope

The site plan follows the natural contours, with minimal interventions like pisé retaining walls that gently level areas for the prototype village and help guide rainwater flow. Natural stone steps and pathways create an organic trail, avoiding the need for manicured roads. The landscape is enriched with indigenous plantations, kitchen farms, courtyards, and open green spaces.

0 10 20 30 40 50 M

Site Strategy

Sustainability Features

Building Strategy

Sustainability Features

Natural Daylight and Ventilation Strategy

The plus-shaped building plan maximizes natural daylight, while high-performance glass and strategically placed louvres minimize heat gain and loss, ensuring thermal comfort and energy efficiency.

Water Management Strategy

Rainwater from the sloped roof is collected and directed to an underground harvesting tank, where a pump and purification system enable efficient reuse for landscape irrigation.

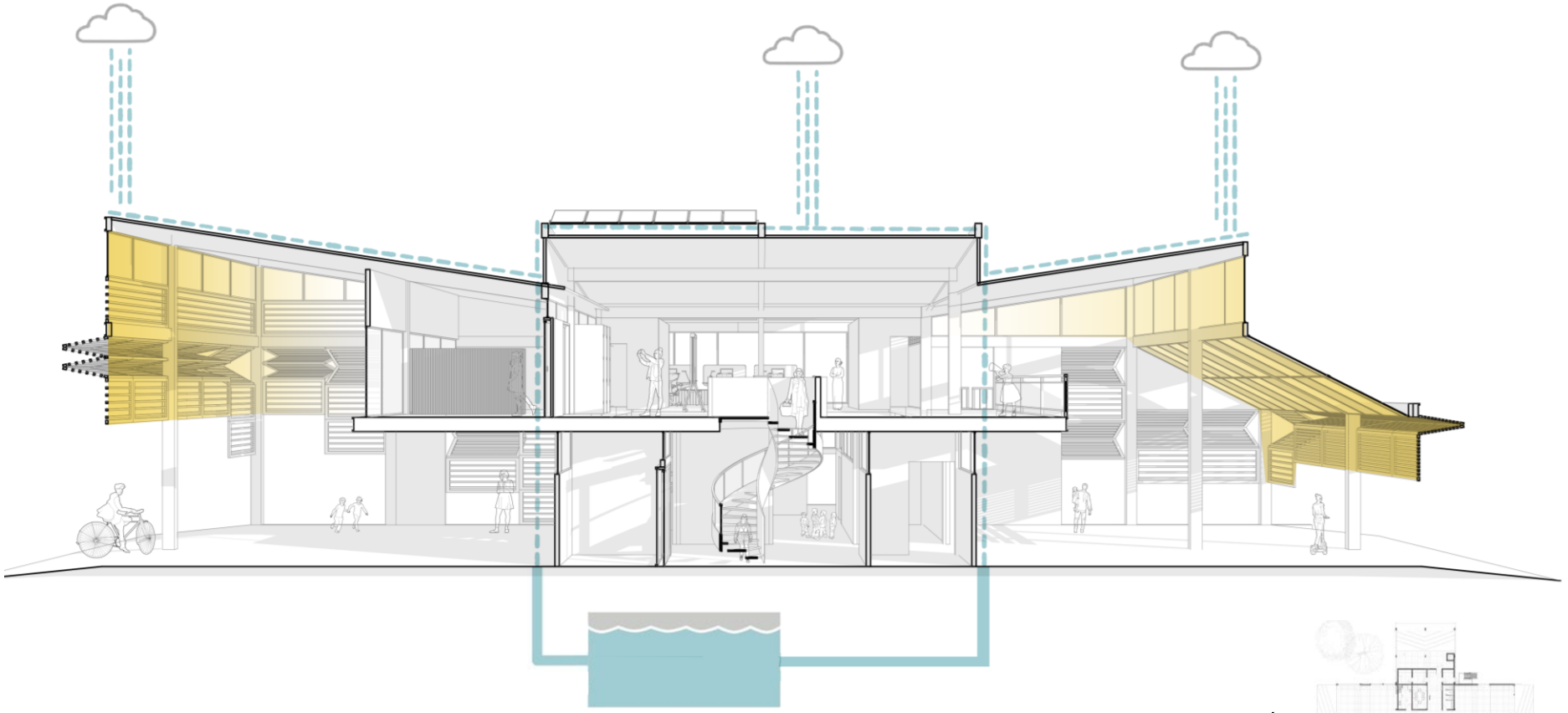
Solar Energy
PV Array at Sloped Roofs

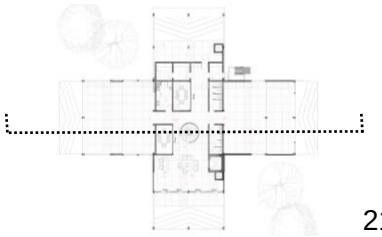
Rain Water Usage
Building Non-Potable Water

Rainwater Storage
Underground Water Harvesting Tank

Rainwater Collection
Rain Barrels spread across the site

Rainwater Infiltration
Pervious Pavers + Infiltration Basins





Building Strategy

Sustainability Features

Solar energy strategy

The building’s sloped roof is equipped with solar panels that harness sunlight to power operations and machinery, reducing energy costs and dependence on fossil fuels while supporting the project’s sustainability goals.

Geothermal Heating/Cooling

Geothermal energy taps into the Earth’s subsurface heat for efficient power generation and climate control. Underground storage tanks enable heat exchange, while underfloor systems naturally heat or cool the building, enhancing energy efficiency and occupant comfort.

Solar Energy
PV Array at
Sloped Roofs

Rain Water Usage
Building Non-Potable
Water

Rainwater Storage
Underground Water
Harvesting Tank

Rainwater Collection
Rain Barrels spread
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Rainwater Infiltration
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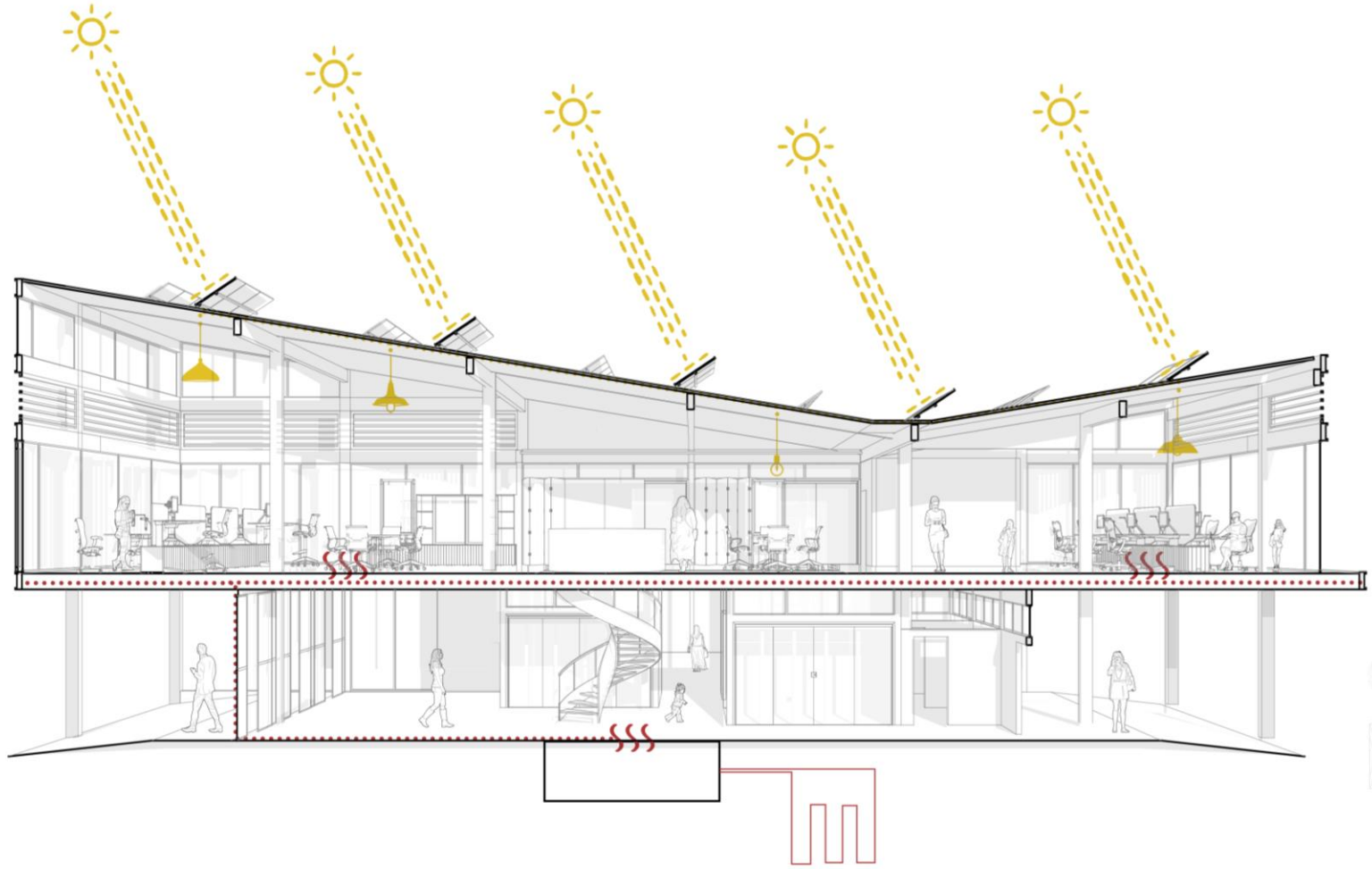
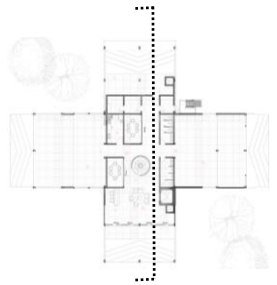




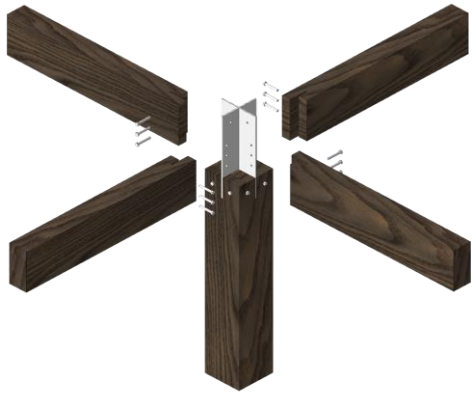
Designing for Adaptability

Kits of Parts

CLT Glulam Load-Bearing Structure

bolted together for

1. Easy assembly and disassembly,
2. Extending the life span of the structure
3. Allowing flexibility and adaptability for future change
4. Reducing carbon footprint

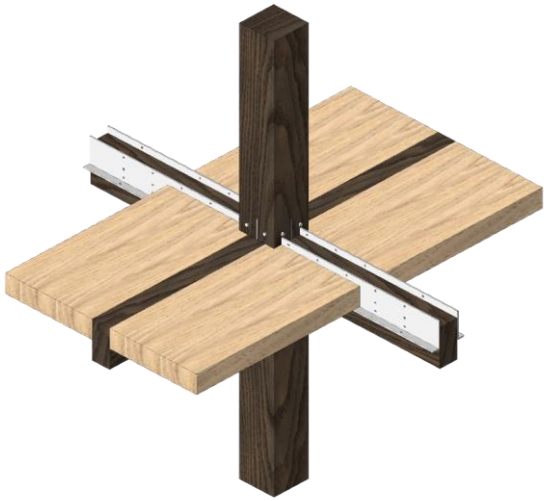


1. CLT structure is bolted together through a standardized cruciform steel joint.

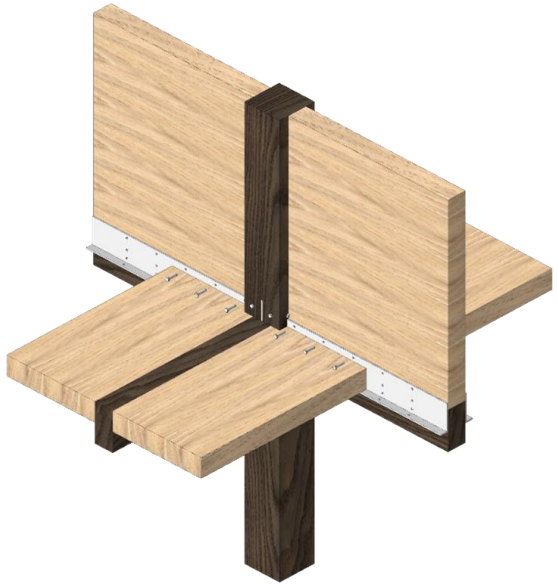
2. It is first bolted to the bottom column and then to the beams.

3. Then the upper column is bolted, which hides the joint within the structure when fully assembled.

4. Steel L-shaped bracket is bolted to the beams.



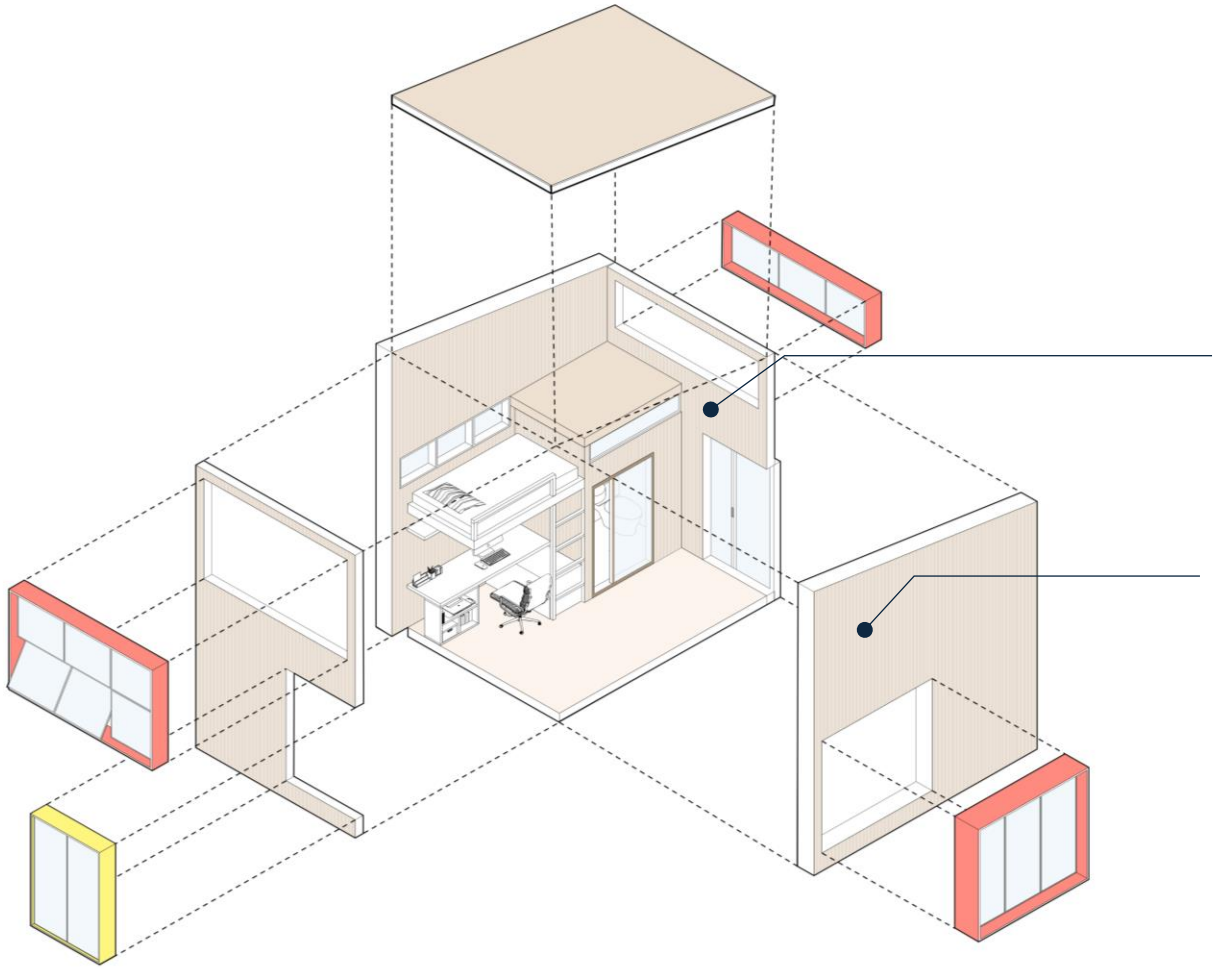
5. The bracket is used to hold the CLT floor panels along with the different flooring layers.



6. This bracket is then used to hold CLT wall panels along with the different wall layers.

Building Strategy

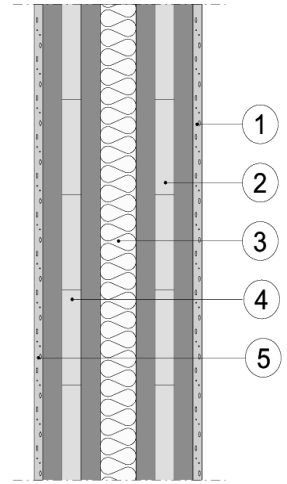
Structure and Details



IV1- Insulated Partition walls

1. 12.5 mm Gyproc GNE 13 Normal
2. 80 mm CLT element
3. 50 mm ISOVER Cavity Wall Board 32
4. 80 mm CLT element
5. 12.5 mm Gyproc GNE 13 Normal

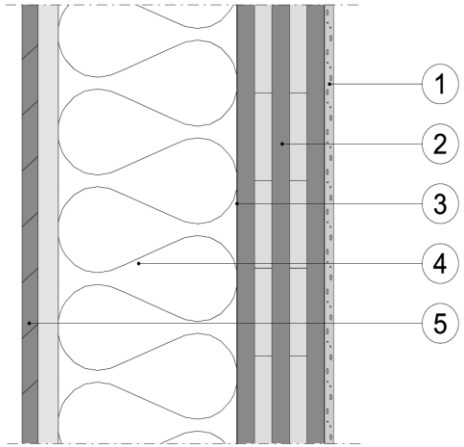
Fire resistance & load utilisation	REI / µfi (%) (3 layers)	REI 60 / µfi 10% [2]



YV1- Exterior wall

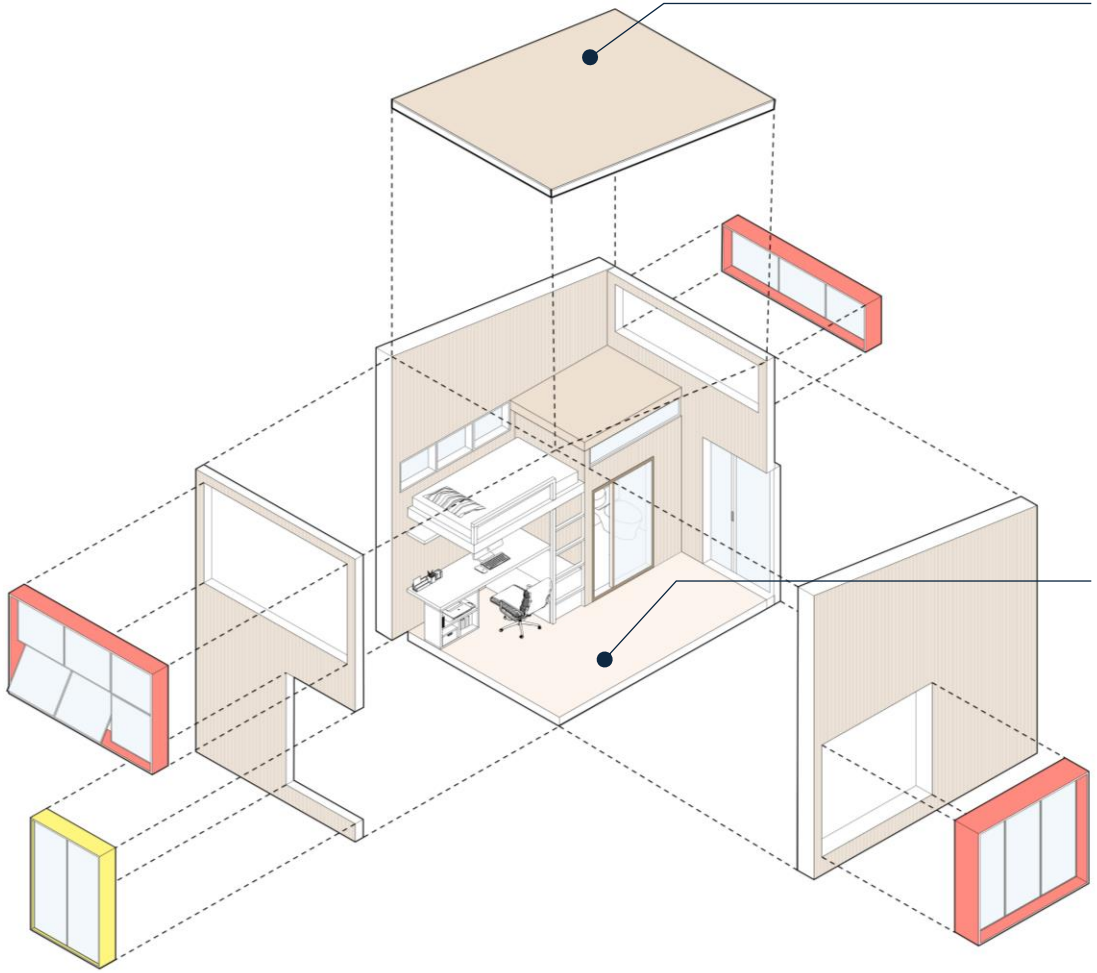
1. 12.5 mm Gyproc GNE 13 Normal
2. 120 mm CLT element
3. 0.2 mm ISOVER Vario® Xtra
4. 220 mm ISOVER PLUS+ Board 32 between 245 mm ISOVER PLUS+ Stud 1
5. 22 mm Wooden façade Moelven Thermowood

Fire resistance [2] (inside and out)	REI	REI 60 (µfi=60%) REI 90 (µfi=40%)
Façade fire	SP Fire 105	Approved [1]



Building Strategy

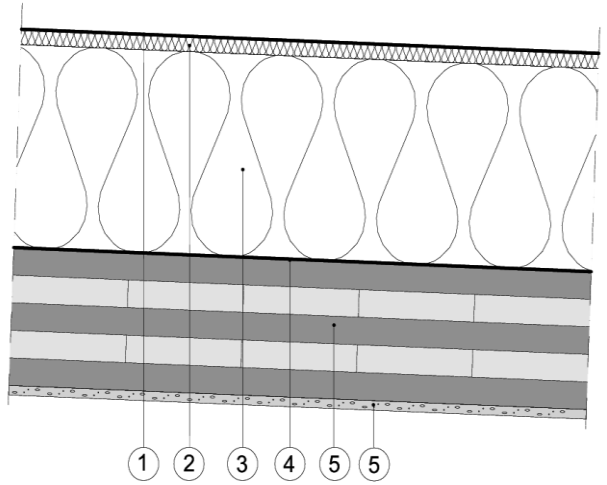
Structure and Details



YT3- Low Pitched Roof

1. 6 mm Waterproofing
2. 20 mm ISOVER ROBUST Ceiling Board
3. 380 mm ISOVER ROBUST Ceiling Panel
4. 2 mm Underlay felt
5. 180 mm CLT element
6. 12.5 mm Gyproc GNE 13 Normal

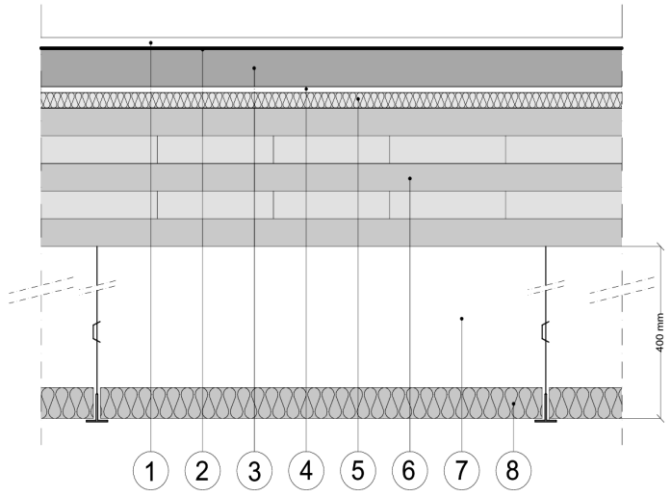
Fire resistance (inside and out)	REI CLT180 (5 layers)	REI 90 Load 6 kN/m² at a span width of 5 metres



MBL5A- Flooring

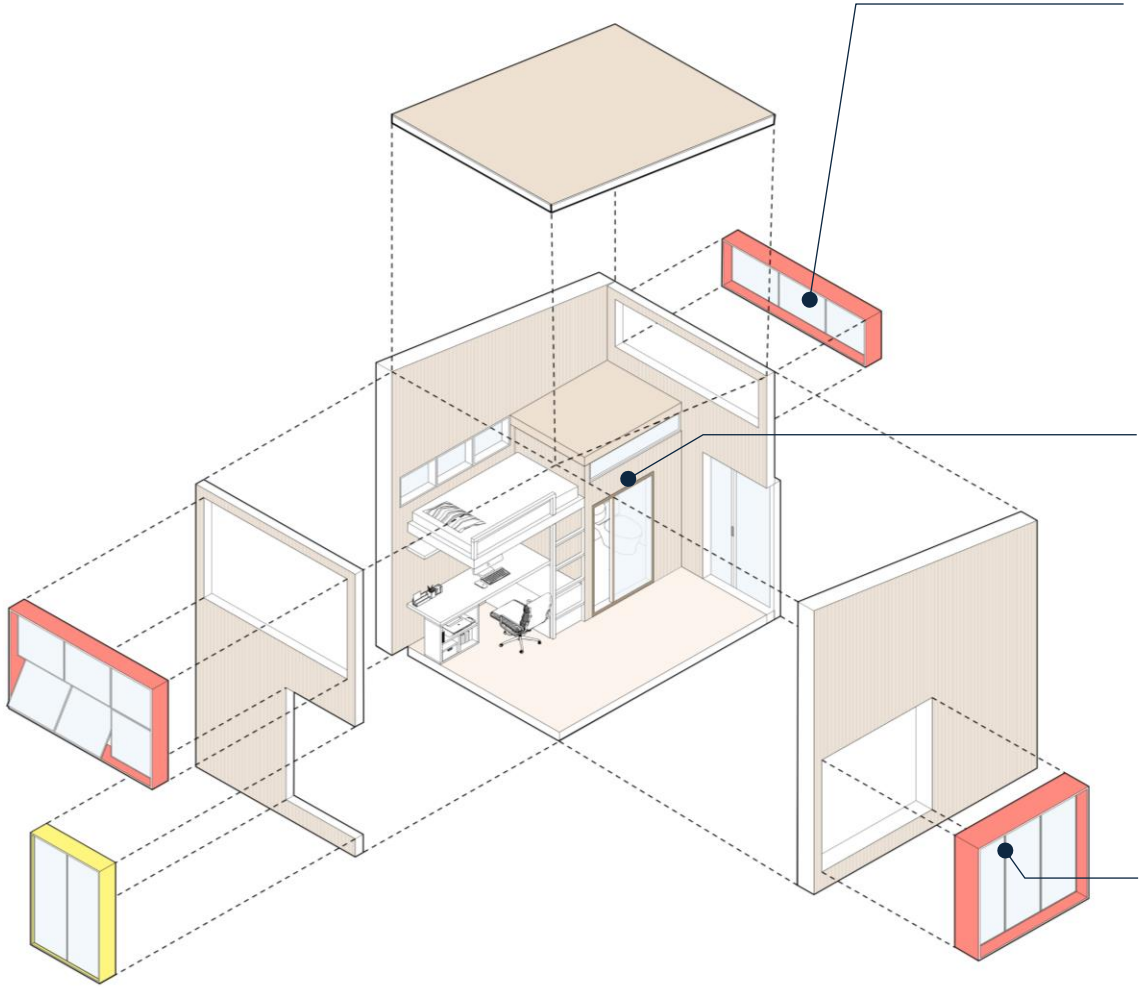
1. 14 mm Parquet
2. 2 mm Foam
3. 30–60 mm weberfloor 150 dura
4. 12 mm Aprobo Decibel 4
5. 20 mm Glava footstep impact sound board
6. 180 mm CLT element
7. 360 mm Air gap
8. 40 mm Ecophon Master™ A

Fire resistance (bottom to top)	REI CLT180 (5 layers)	REI 90 Load 6 kN/m² at a span width of 5 metres



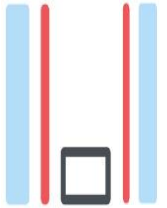
Building Strategy

Structure and Details



Double Glazing Window: SGG PLANITHERM TOTAL+

Advanced thermal insulation glass (Low-E) that reflects long wave heat radiation and provides high thermal insulation is used alongwith toughened glass in a double glazing arrangement for enhanced thermal insulation with Argon 90% 16 mm as cavity in between.

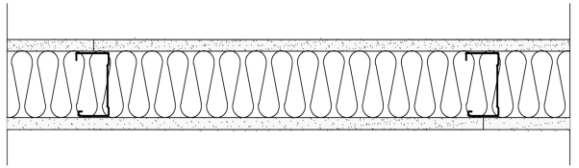


U - value 1.2 W/m2K
Light Transmittance 79%
Light Reflectance 13%
Solar Factor 71%
(4(16)4 unit with 90% argon gas filling)

IV16- Dividing walls

1. 12.5 mm Gyproc GNE 13 Normal
2. 70 mm Gyproc ER 450
3. 70 mm ISOVER Piano® Sound Board, centre distance 450
4. 12.5 mm Gyproc GNE 13 Normal

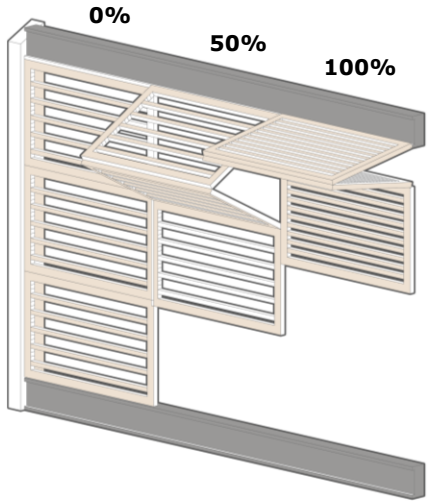
Fire resistance	EI	EI 30



PRIVA-LITE Translucent glass for privacy in dorm rooms

Laminated glass, equivalent to layered glass (EN 12600, level 1B1).

- High 76% light transmittance in the ON state.
- High 99% privacy in the OFF state.



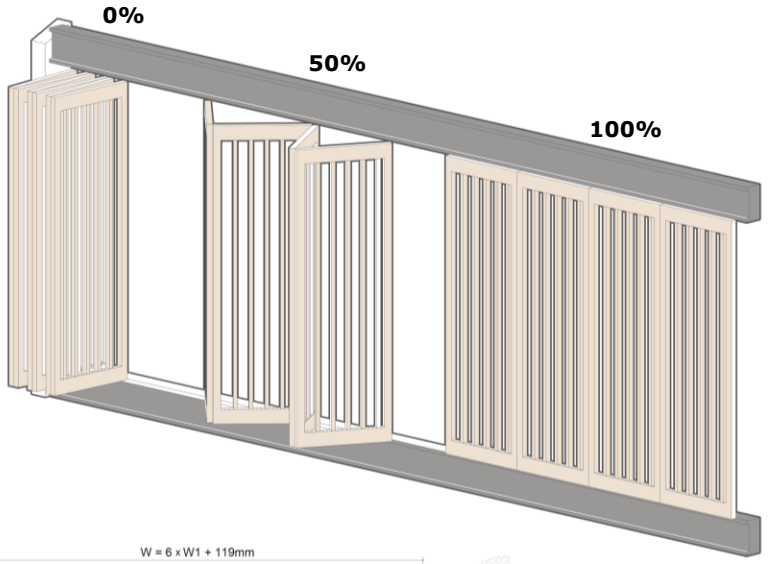
Building Envelope

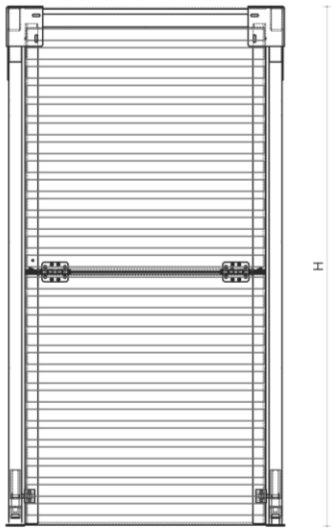
Facade Details

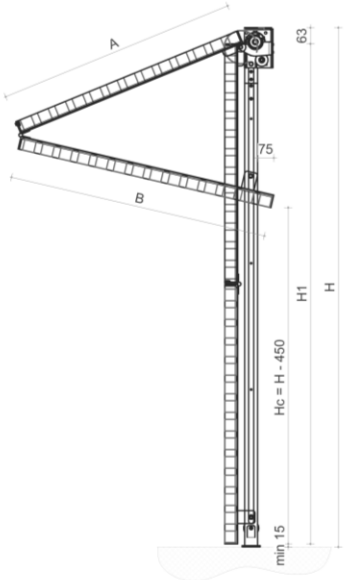
High-performace Glass and Louvres as shading devices

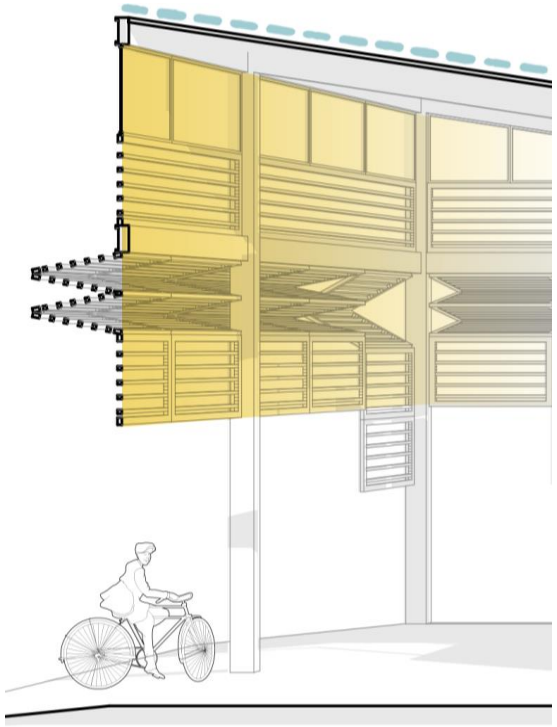
Through the use of the louvred shading system, people can regulate the intensity and duration of sunlight exposure and create different rhythms in the building's façade.

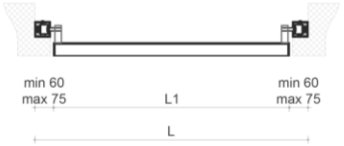
The folding doors can be opened to any angle between 0° and 180° and to control the sunlight, privacy and to create more open public space.

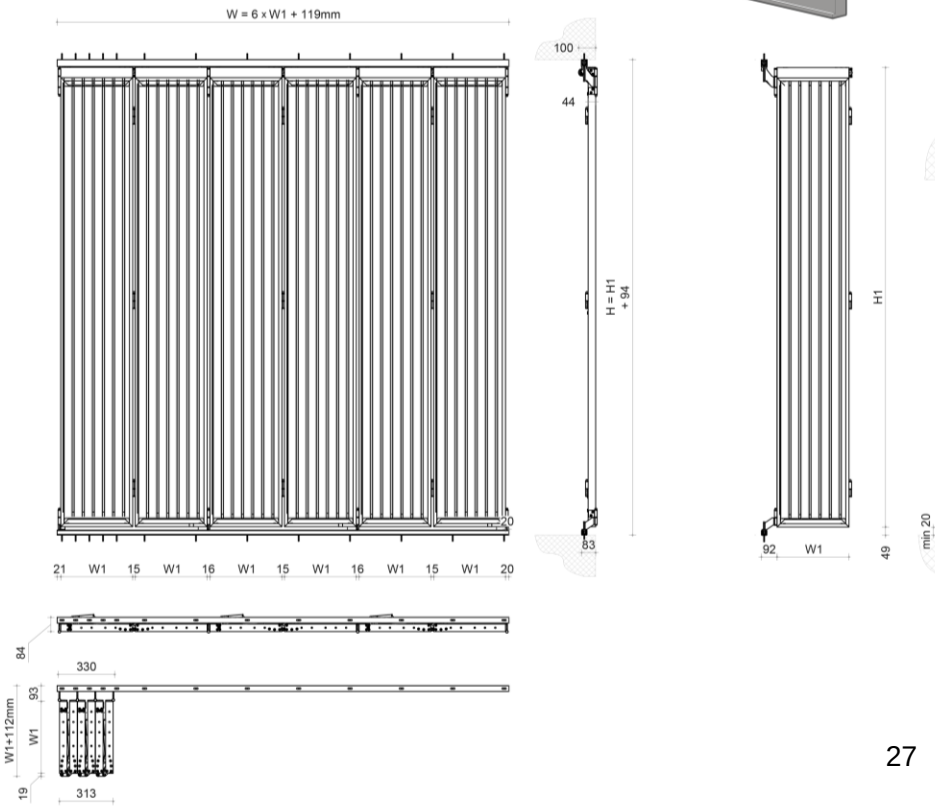




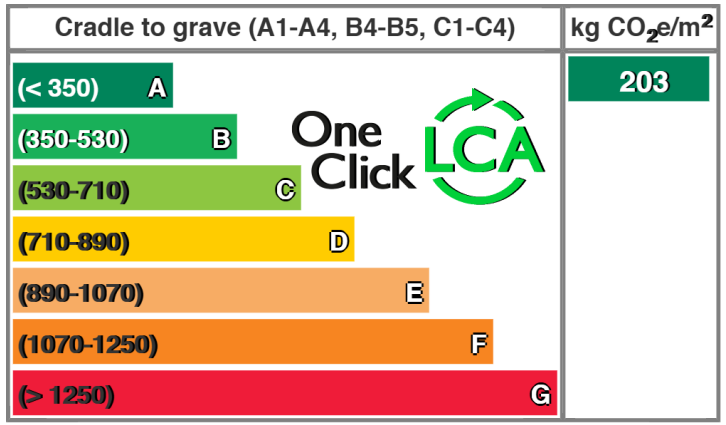


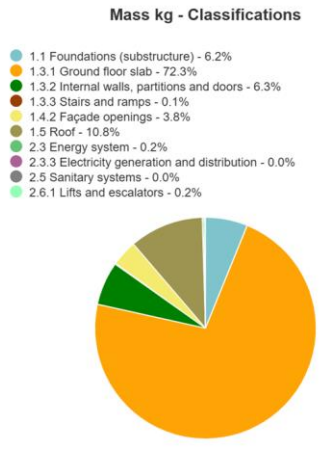


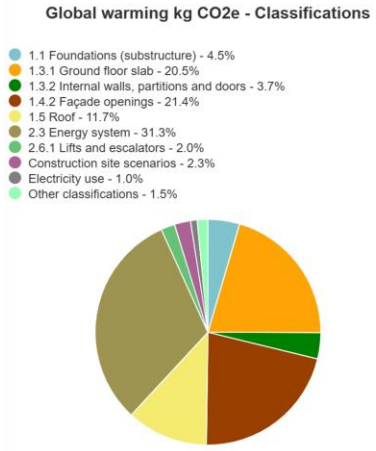


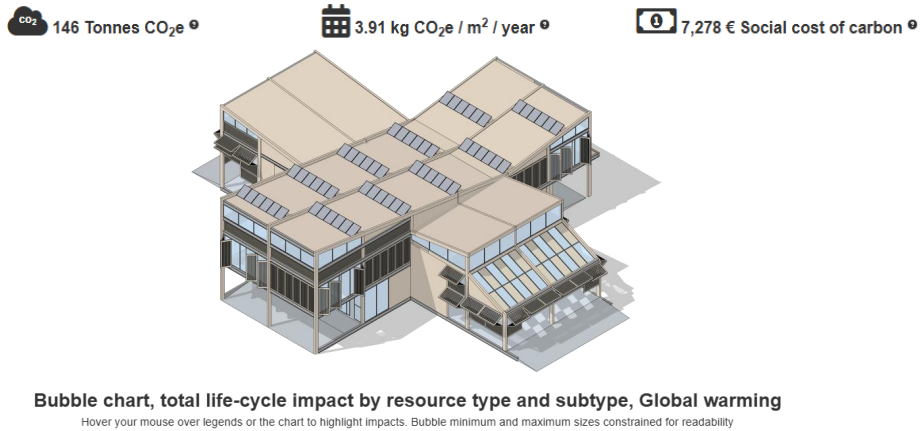


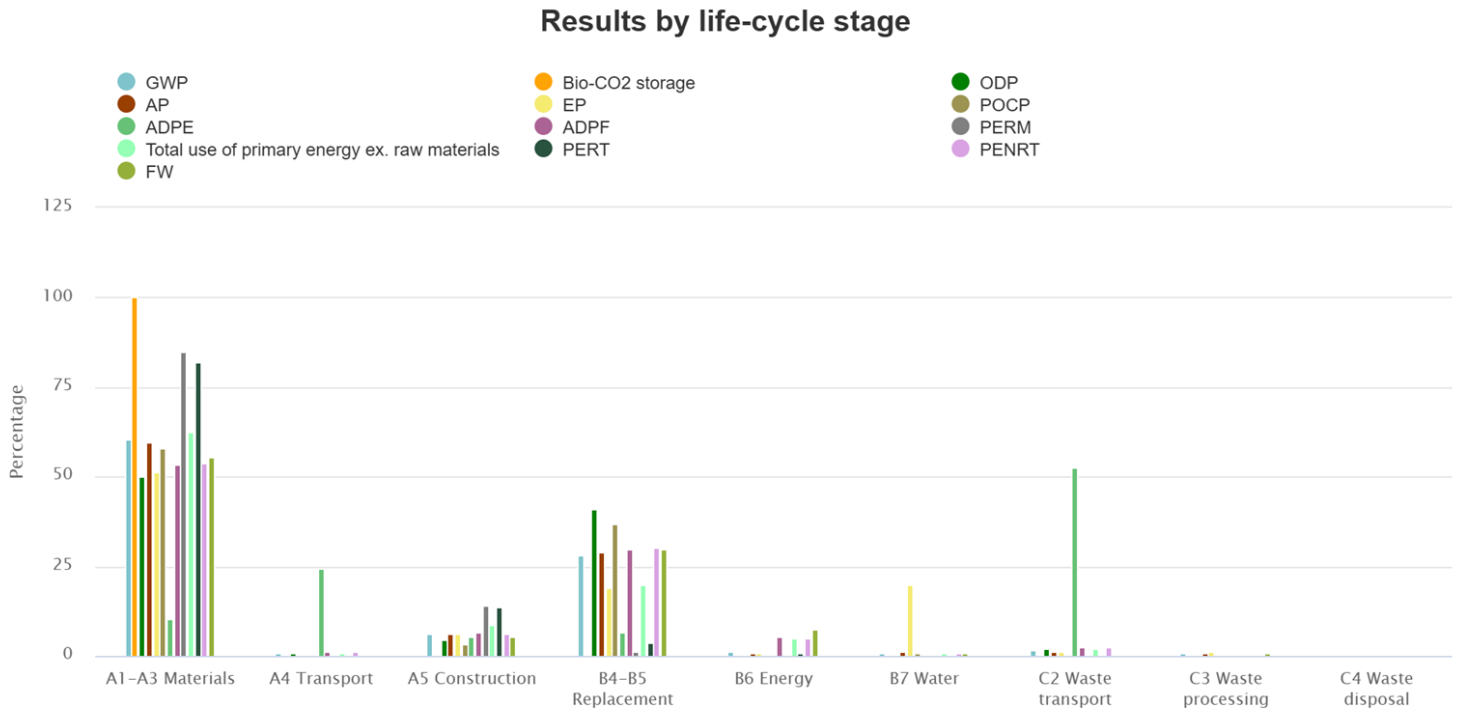
Life Cycle Analysis









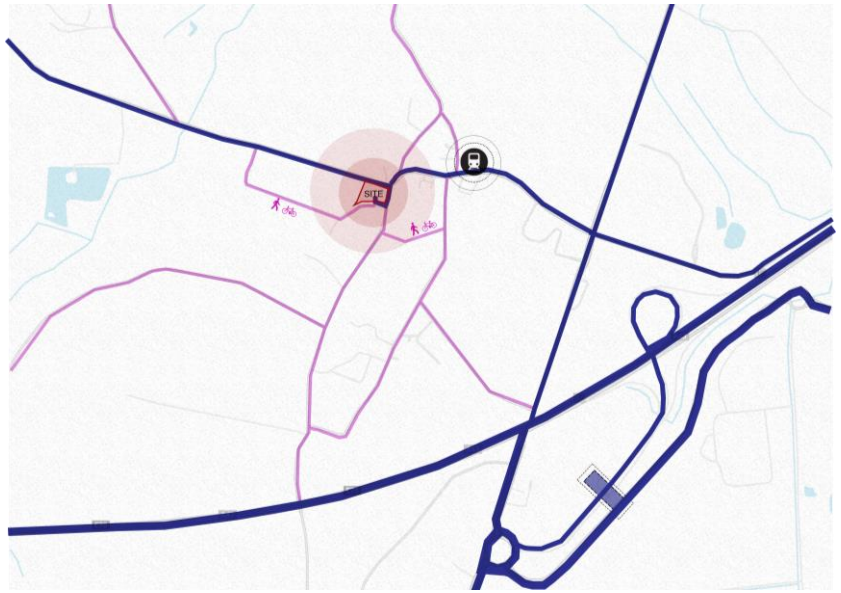


View of the Laboratory Block from the Prototype Village

ZONE B – COMMUNITY CENTRE

CHIMILIN, FRANCE

Site Context



Connectivity

- Public transport access roads leading to site
- Vehicular/pedestrian roads leading to site
- Nearest Bus stop

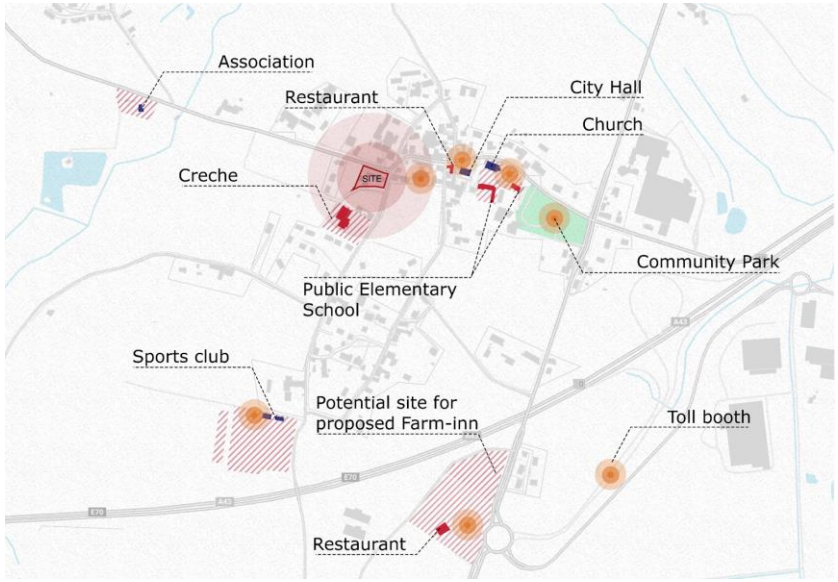
Open Spaces

- Forest
- Farmland
- Park
- Playground

Land-Use

- Residential & Mixed-use
- Industrial heritage zones

Significant Buildings



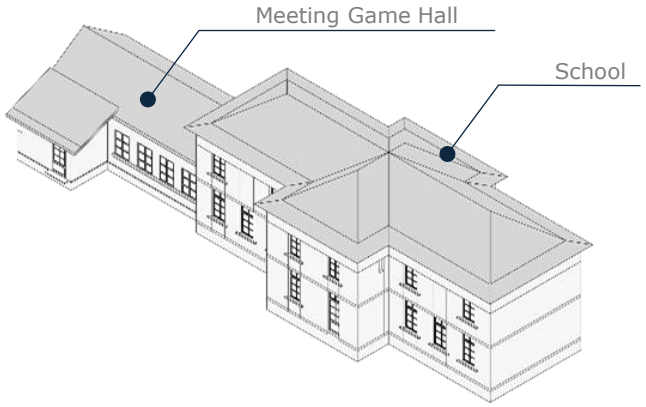
- Public Facilities
- Associations
- Nodes

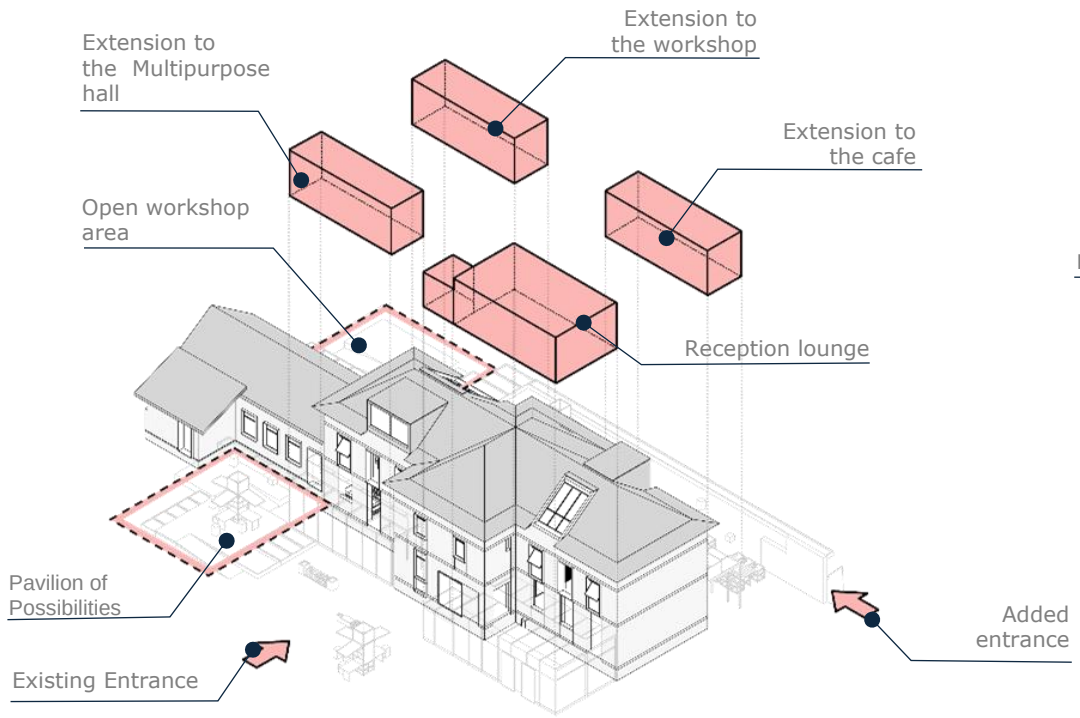
Site Program

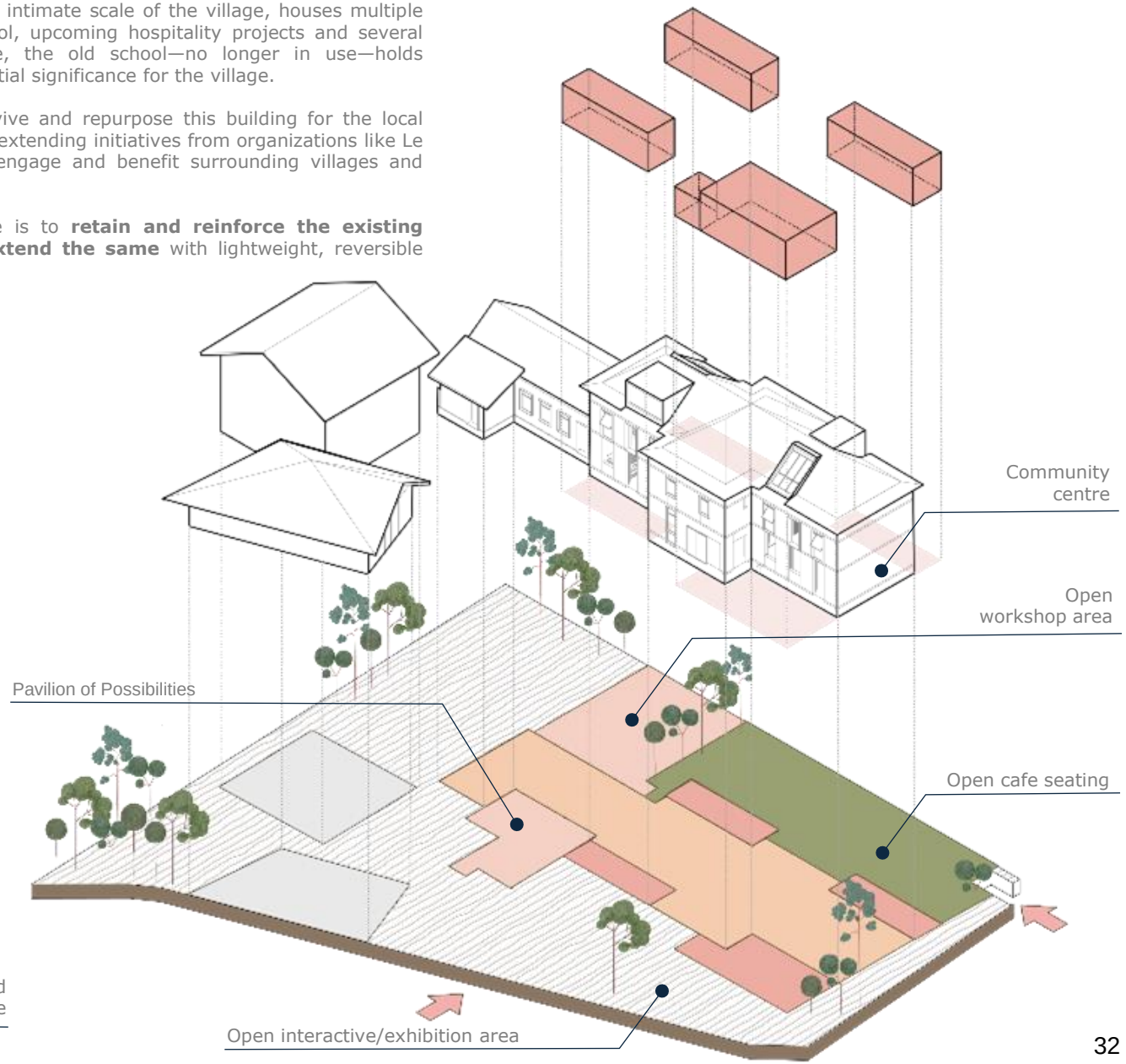
Chimilin being the intimate scale of the village, houses multiple industries, a school, upcoming hospitality projects and several associations. Here, the old school—no longer in use—holds emotional and spatial significance for the village.

The goal is to revive and repurpose this building for the local community, while extending initiatives from organizations like Le Grand Atelier to engage and benefit surrounding villages and communes.

Our strategy here is to **retain and reinforce the existing structure and extend the same** with lightweight, reversible additions

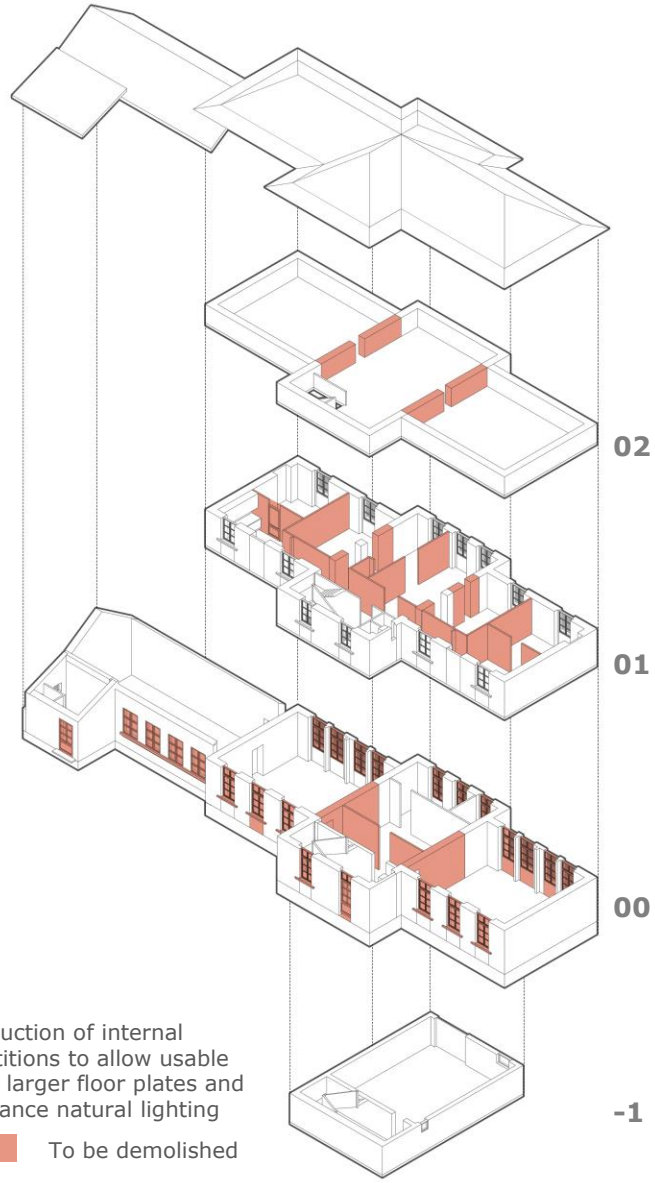






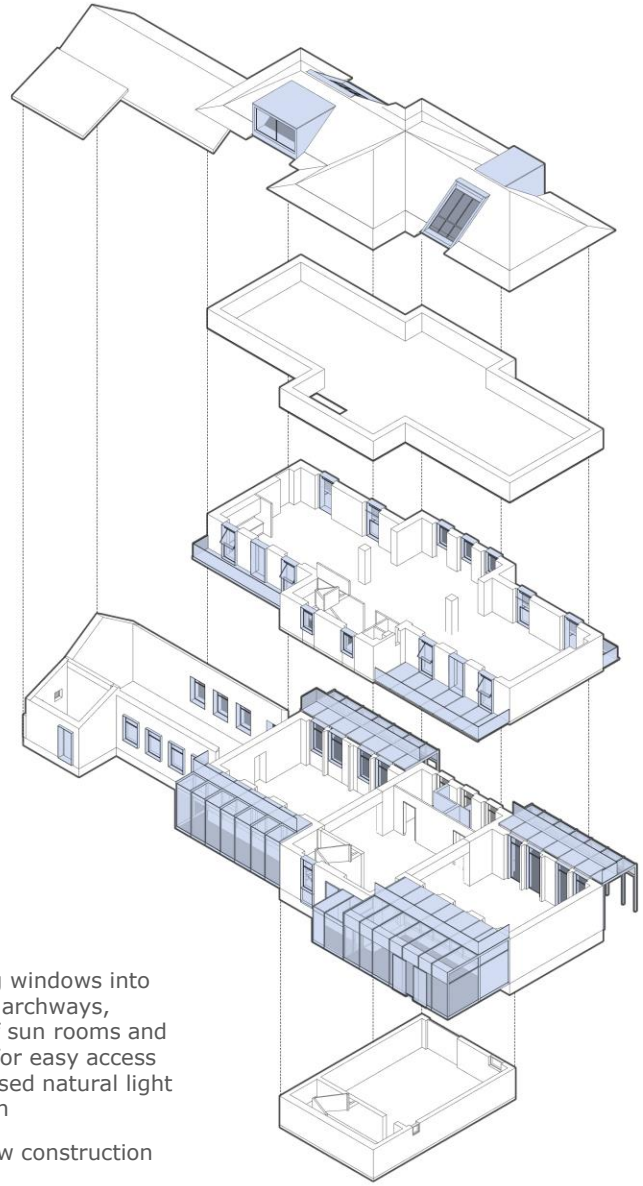
Renovation Strategy

from School to a Community Space



Reduction of internal partitions to allow usable and larger floor plates and enhance natural lighting

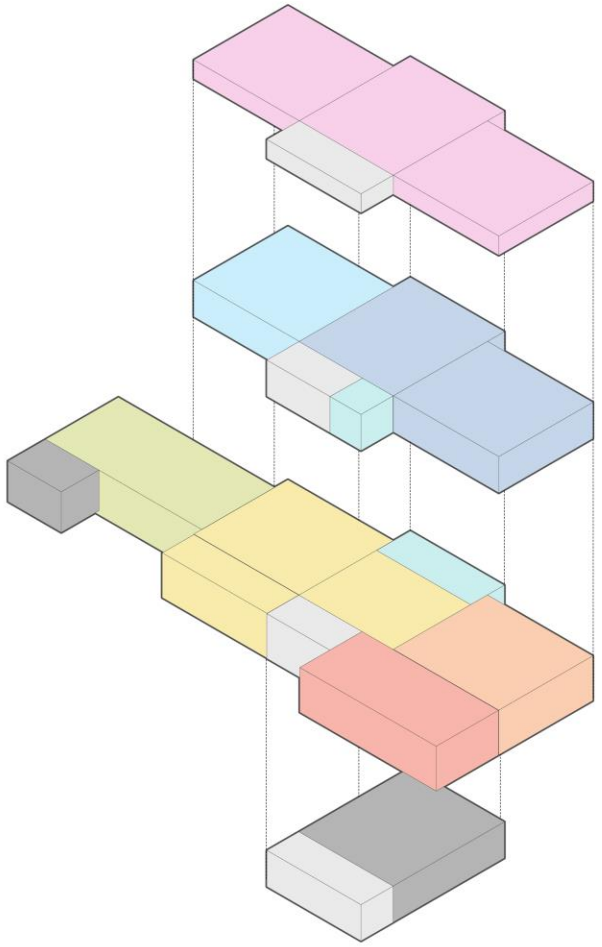
To be demolished

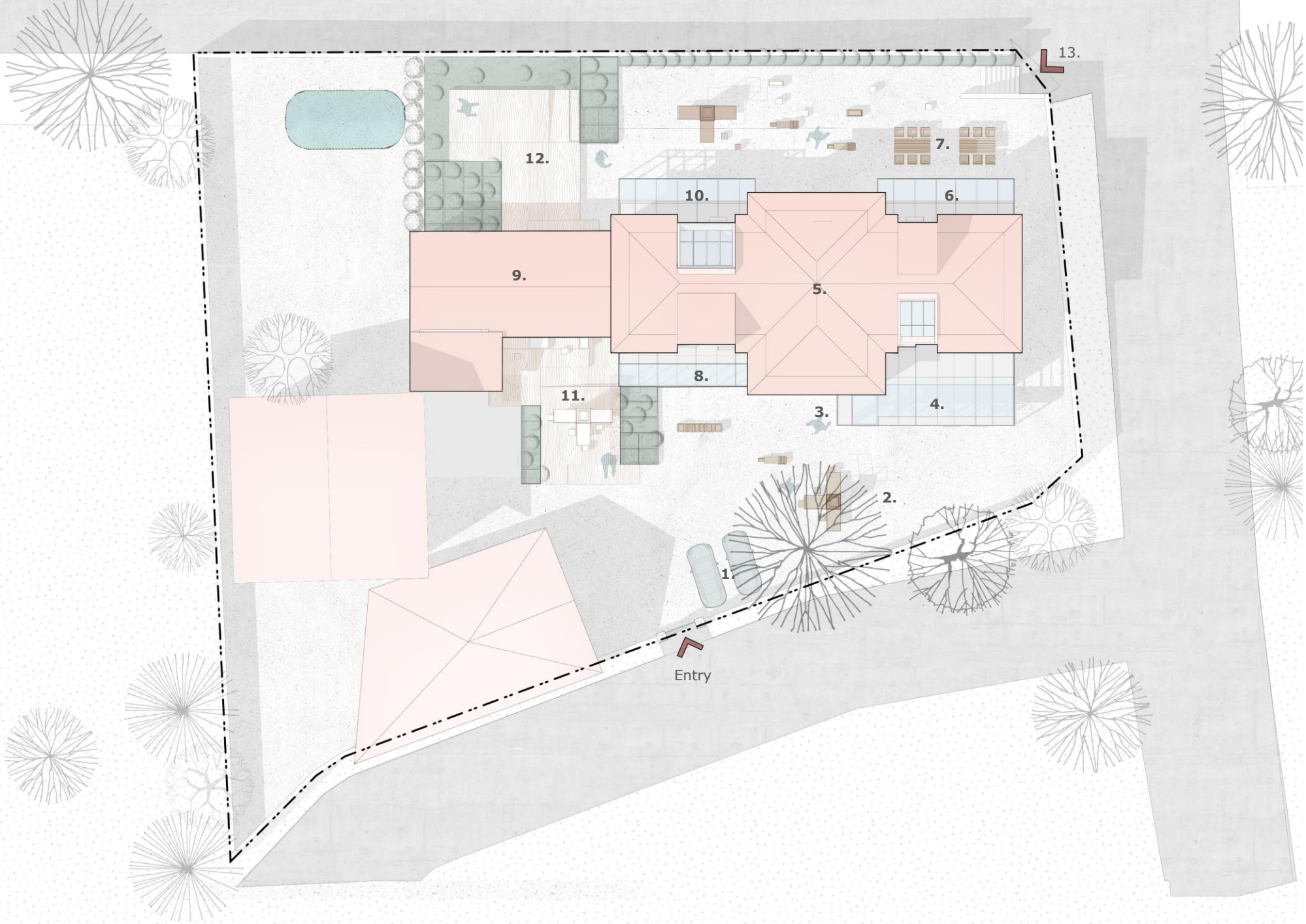


Converting windows into full height archways, addition of sun rooms and balconies for easy access and increased natural light penetration

New construction

Staircase	65 sq.m.
Storage	75 sq.m.
Reception lobby	55 sq.m.
Multipurpose hall	130 sq.m.
Café	65 sq.m.
Workshop	72 sq.m.
Toilets	25 sq.m.
Administration	120 sq.m.
Community library	65 sq.m.
Co-working + leisure space	190 sq.m.





1. Parking
2. Open Interactive/Exhibition Area
3. Main Entrance To The Building
4. Reception Lounge
5. Community Centre Main Block
6. Semi-open Extension To Café
7. Outdoor Café Seating
8. Glass Enclosed Extension To Multipurpose Hall
9. Workshop
10. Semi-open Extension To Workshop
11. Pavilion Of Possibilities
12. Open Workshop Area
13. Secondary Entrance to Cafe

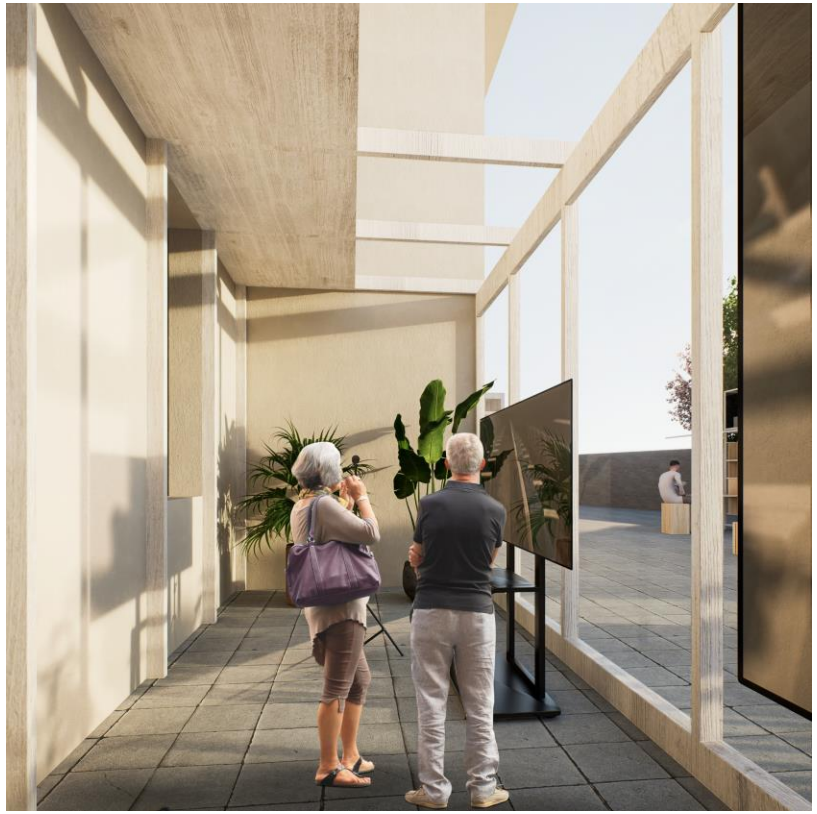
0 4 8 12 16 20 M

Master Plan

Community Centre

Outdoor Café dining and interaction zone for community gathering and events.

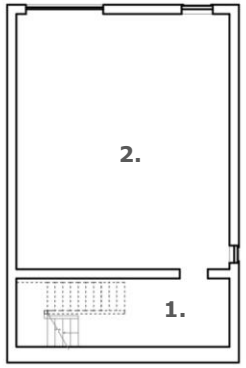
Pavillion of Possibilities within the front landscape which becomes an offshoot of the prototype village, constantly changing, evolving, becoming a living, learning display.



Extension to Multipurpose hall with glass enclosure that open up to the outdoor exhibition space

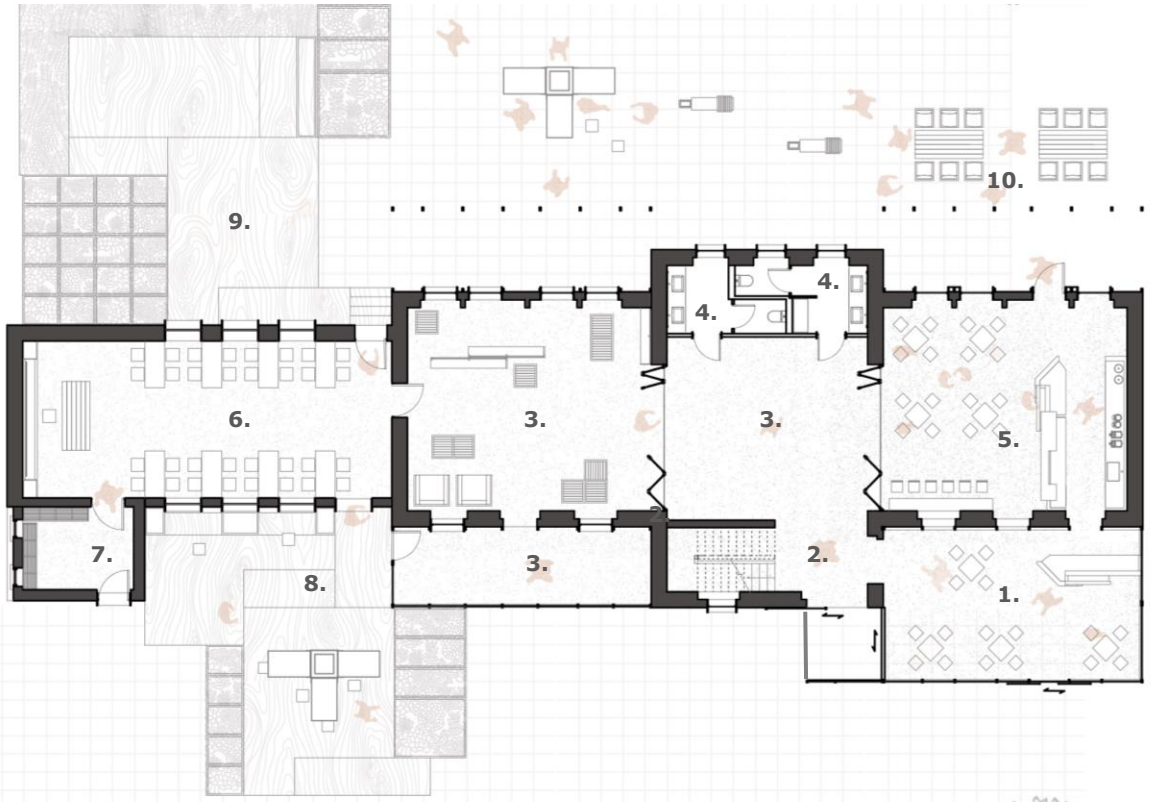
Floor plans

Basement Plan

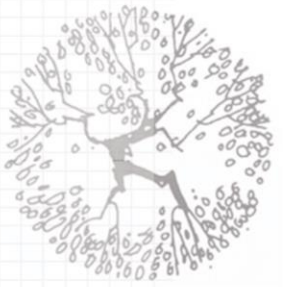


1. Staircase Lobby
2. Storage for association

Ground Floor Plan

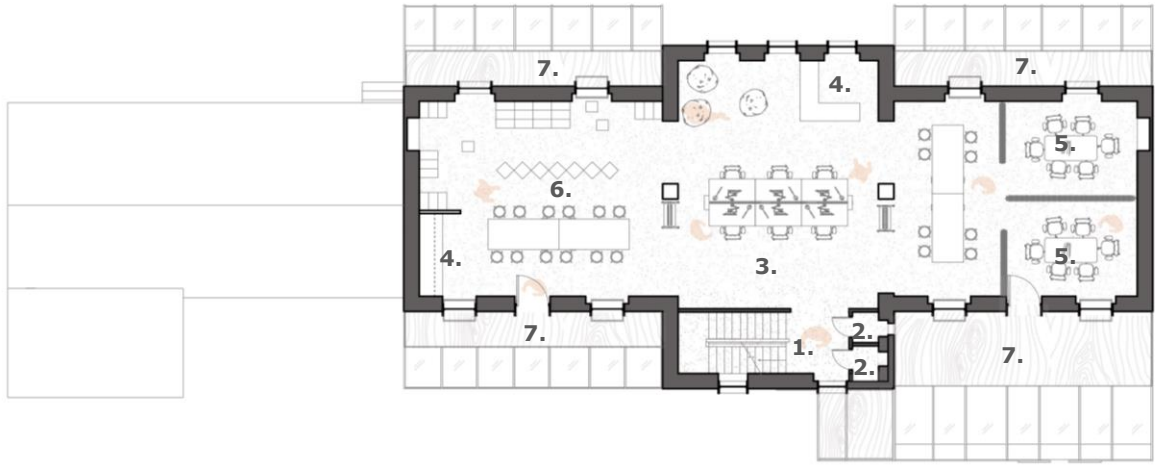


1. Reception lobby
2. Staircase Lobby
3. Multipurpose hall
4. Toilets
5. Café
6. Workshop
7. Store room for workshop equipment
8. Pavillion of Possibilities
9. Open workshop space
10. Open café seating



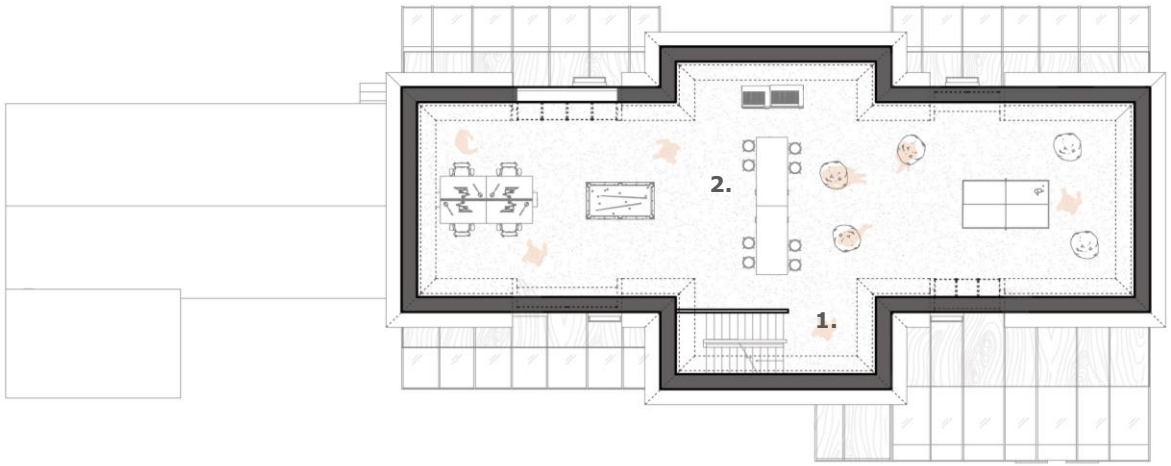
Floor plans

First Floor Plan



1. Staircase Lobby
2. Toilets
3. Association working space
4. Pantry
5. Meeting rooms
6. Community Library

Attic Plan



1. Staircase Lobby
2. Co-working + leisure space

Pavillion of Possibilities

Designing for Experimentation, Flexibility and Adaptability

The open pavilion acts as a platform for outdoor activities, workshops, and learning initiatives, seamlessly extending the interior spaces and their functions into the landscape.

The pavilion transforms into **a living outdoor exhibition**—an ever-evolving space where visitors from Le Grand Atelier can showcase ongoing experiments, making it an extension of the prototype village.

Community Centre

Café space, a warm and welcoming dining space that extends to the outside with an open dining and interaction zone for community gathering and events.

Workshop space with foldable furniture, which can be managed by Le grand atelier, where local residents can be exposed to techniques of construction and building repair that could interest and engage the local residents.

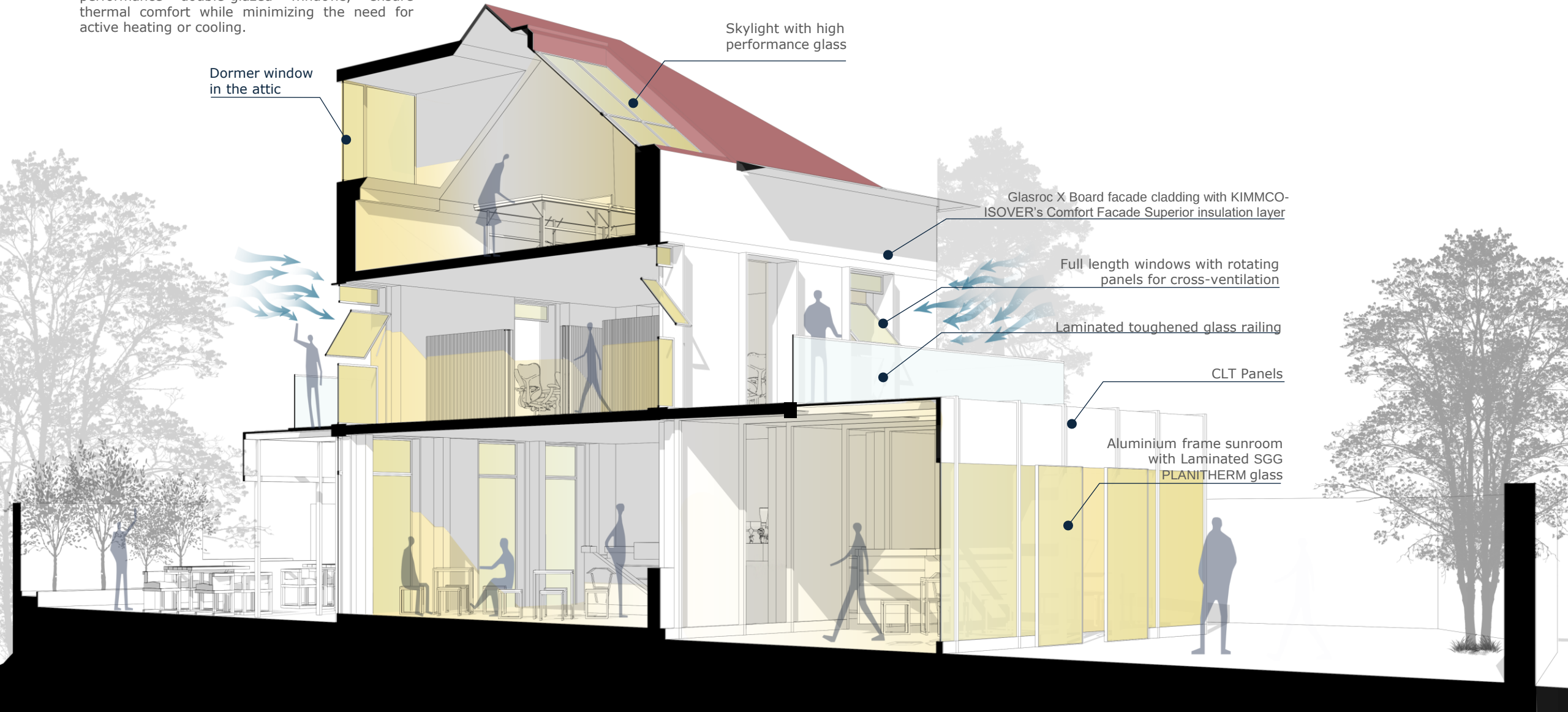
Community Centre

Attic co-working and leisure space with added skylight for better natural sunlight.

Community Library with modular seating creating an interesting and interactive space

Sustainability Strategy

The building's sustainability strategy includes passive ventilation through natural airflow. Enhanced wall insulation, along with high-performance double-glazed windows, ensure thermal comfort while minimizing the need for active heating or cooling.



Renovation Strategy :

Structure and Details

Cracks and withering

The cracks on the building structure needs to be identified based on the intensity.

Injection Grouting: For deeper cracks, inject a lime-based or earthen grout to stabilize weakened areas.

Façade Finishing

Glasroc X Board

- Gypsum board with moisture and mold resistant properties
- UV and fire resistant properties
- Energy efficient, low environment impack
- Thermal Conductivity: 0.19 (W/m°K)
- Watertightness: 1400 Pa
  Airtightness: Class A4

Façade Insulation

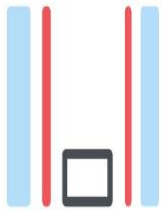
KIMMCO-ISOVER's Comfort Facade Superior

- Protection barrier against heat, cold, noise and fire.
- Non-combustible and hydrophobic in nature, do not keep moisture
- Cost effective
- Easy and Fast installation

CLT Members and panel boards

CLT with Saint-Gobain silicone sealant

Combined with **Saint-Gobain silicone sealant** for durability, effective bonding and weather resistance.



Double Glazing Windows

SGG PLANITHERM TOTAL+

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Light Transmittance 79%
Light Reflectance 13%
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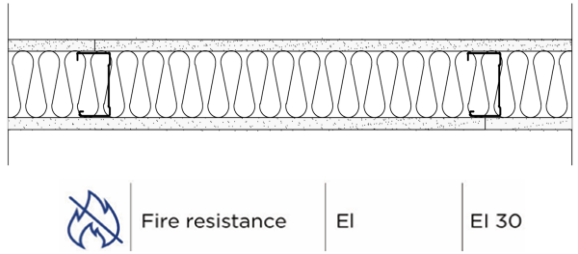


Internal Partition walls

IV16- Dividing walls

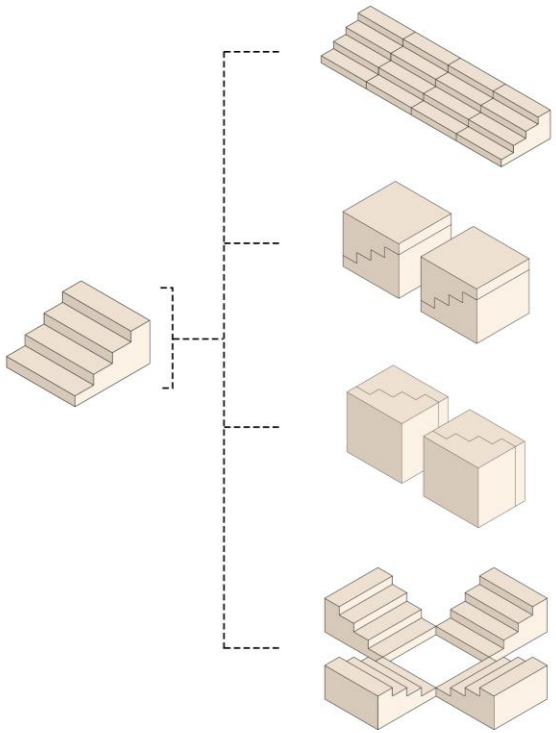
1. 12.5 mm Gyproc GNE 13 Normal
2. 70 mm Gyproc ER 450
3. 70 mm ISOVER Piano® Sound Board, centre distance 450
4. 12.5 mm Gyproc GNE 13 Normal

Designing for Flexibility and Adaptability :

Kits of Parts

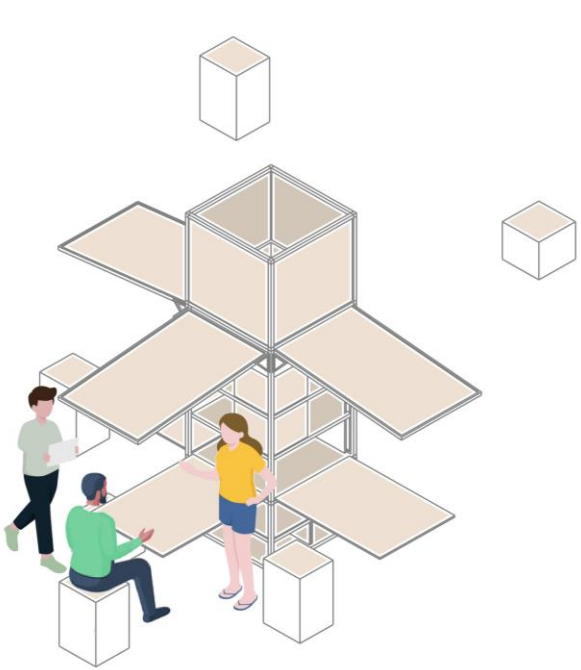
Flexible furniture

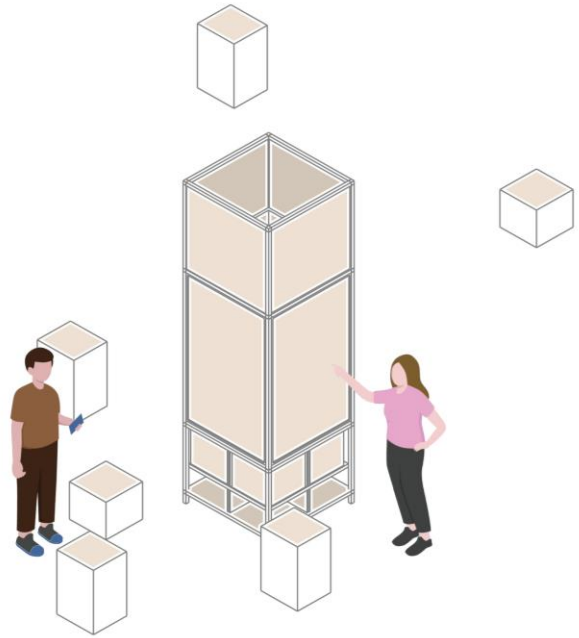
The adaptive reuse project at Chimilin repurposes materials from the Villefontaine workshop, integrating sustainability into its design. Extra CLT and wood materials from Villefontaine like glulam panels are used for foldable furniture in the community center. This approach minimizes waste, preserves material character, and enhances spatial efficiency.



Adaptive modules

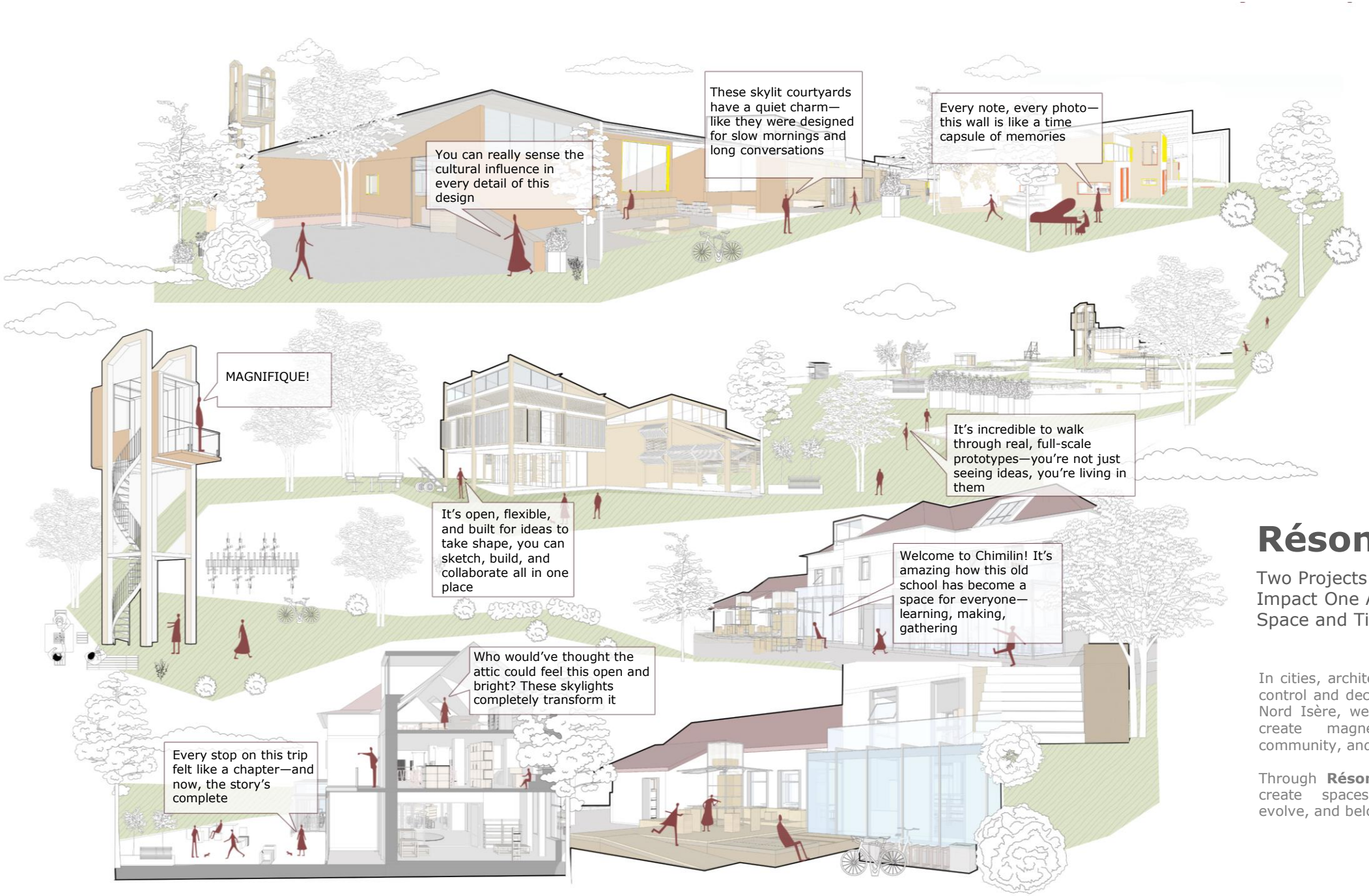
Modular stalls made from CLT members are easy to assemble and disassemble, allowing for flexible use and adaptation to various activities. These stalls can be connected to form larger spaces and are designed to be arranged by the community based on current needs.





COMMUNITY CENTRE

CHIMILIN, FRANCE



Résonance

Two Projects That Echo and Impact One Another Across Space and Time

In cities, architecture often aims to control and decongest. But here, in Nord Isère, we seek to attract—to create magnets of curiosity, community, and collaboration.

Through **Résonance**, we hope to create spaces that remember, evolve, and belong.