ARCHITECTURE STUDENT CONTEST

20th INTERNATIONAL EDITION, NORD ISÈRE 2025

School of Architecture of The Chinese University of Hong Kong
Dr. Ho Tsz Wai Jimmy | Team n°28

Yuen Kong Kit

Ma Lechi

Chan Yui Hei Joshua

STITCHING PLACE: lights and fields

CHAN YUI HEI JOSHUA | MA LECHI | YUEN KONG KIT

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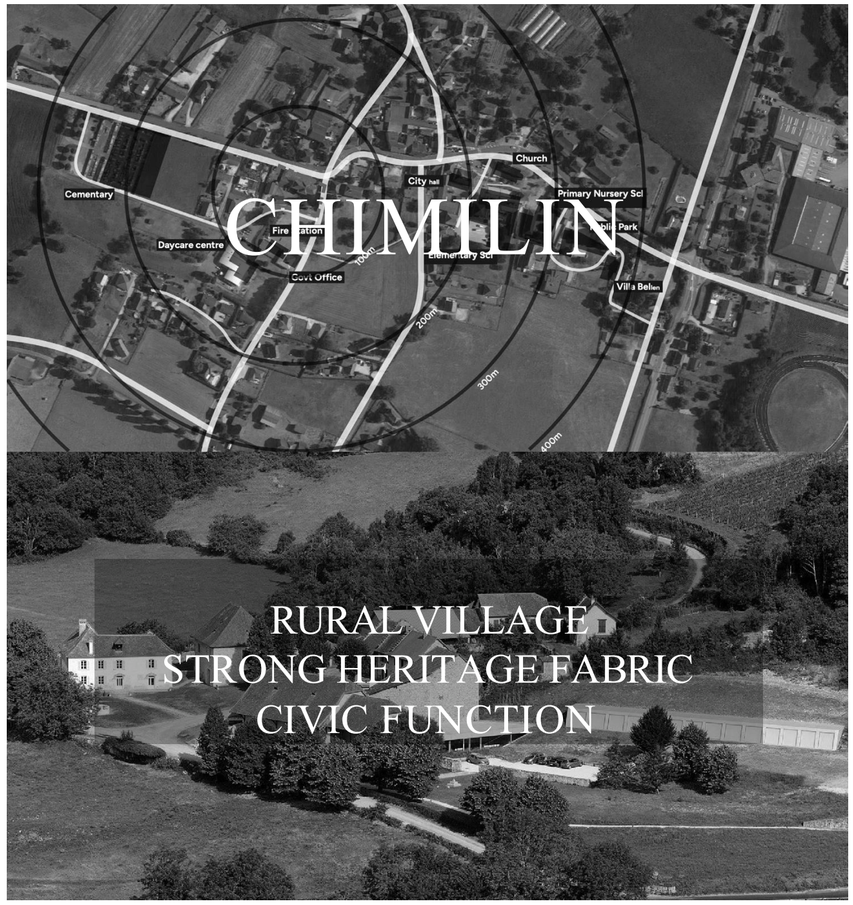

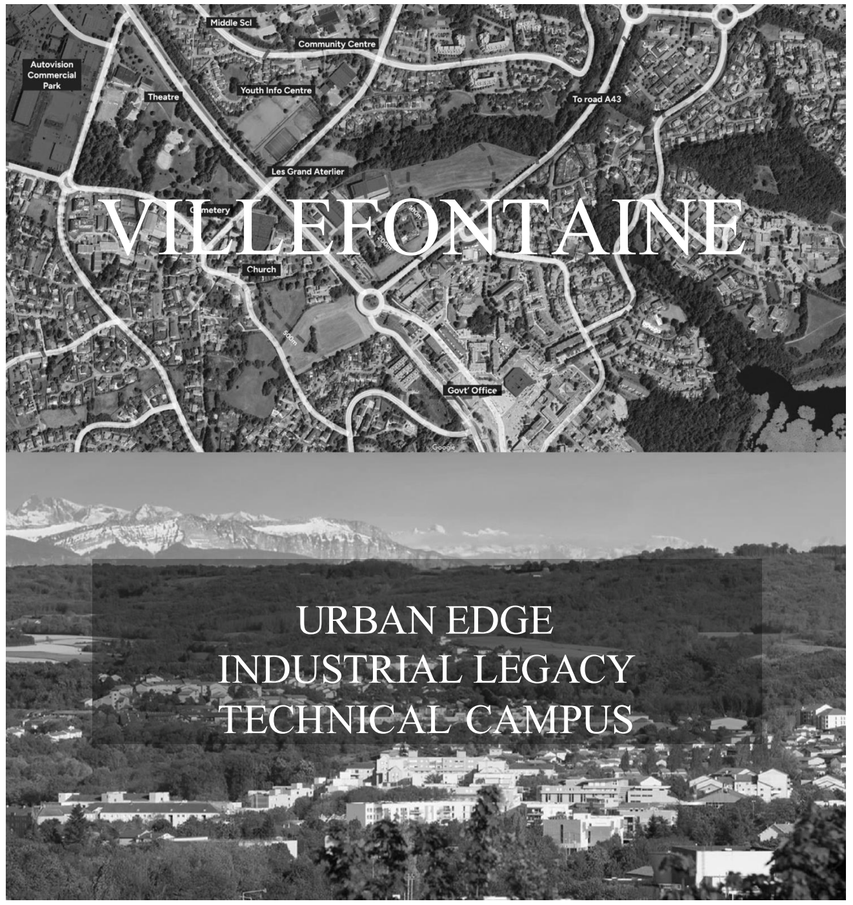

Two post-industrial sites with untapped potential for cultural and educational synergy.

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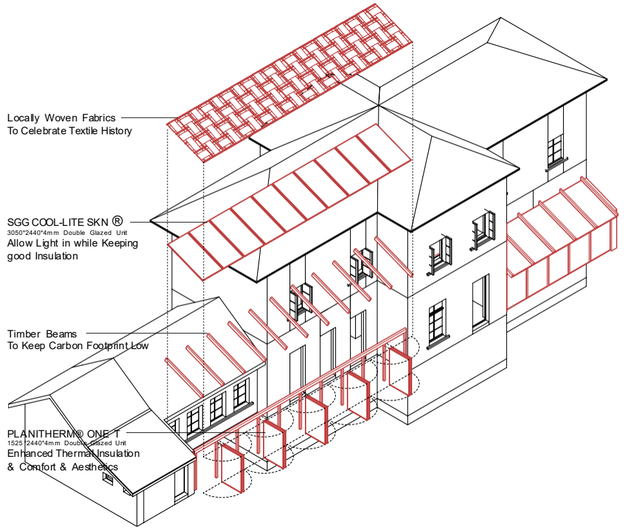
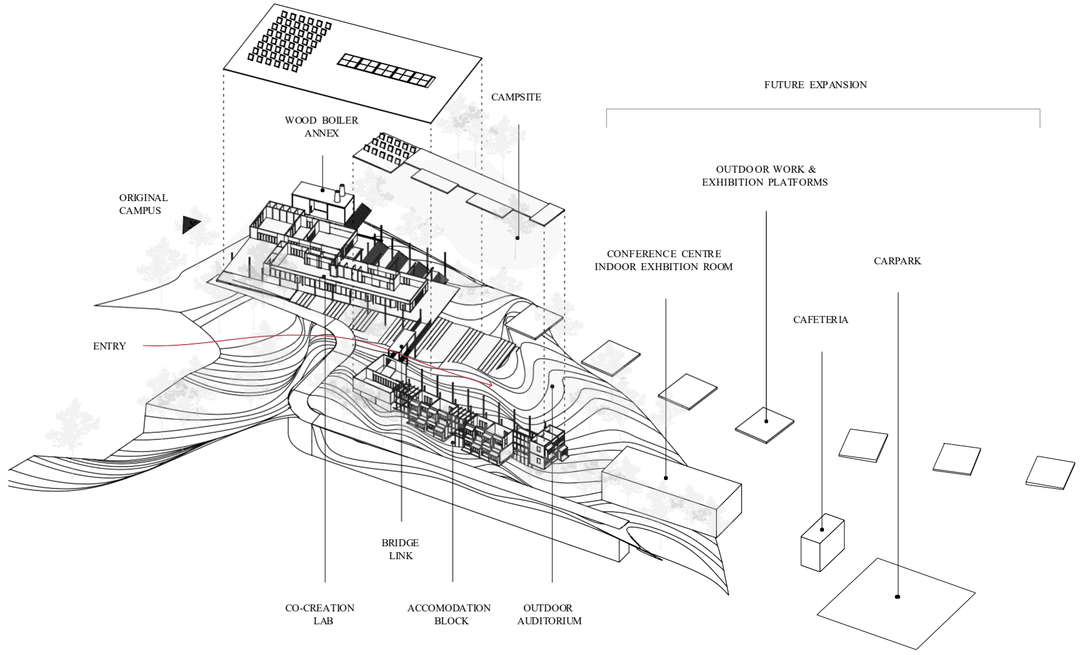
MODULAR & FLEXBILE + ECOLOGICAL SENSITIVITY + CULTURAL REACTIVATION





Two sites, one ethos. A school reimagined. A campus grown from the ground.

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CULTURAL RESONANCE

Celebrating the local identity - the soul of each site

INDUSTRIAL HISTORY

FESTIVITIES AND CULTURE

LOCAL TYPOLOGIES

From built memory to civic imagination.

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CULTURAL RESONANCE

Local typology inspirations

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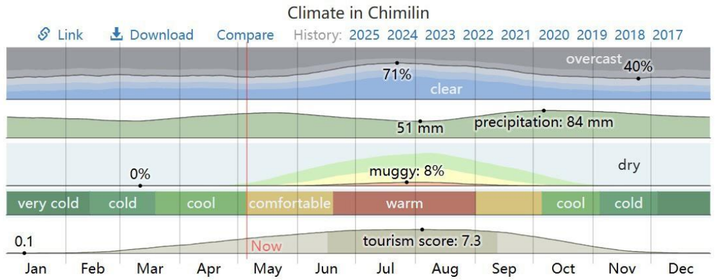
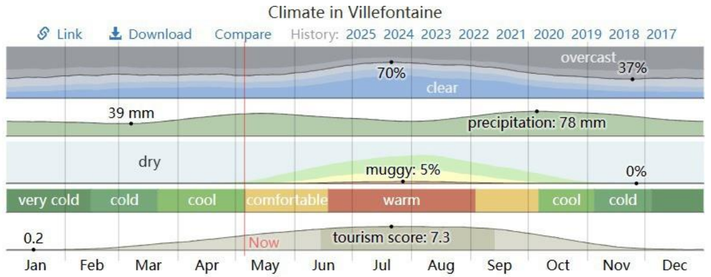
ENVIRONMENTAL STRATEGY

Problems and solutions for a temperate oceanic climate (Cfb)

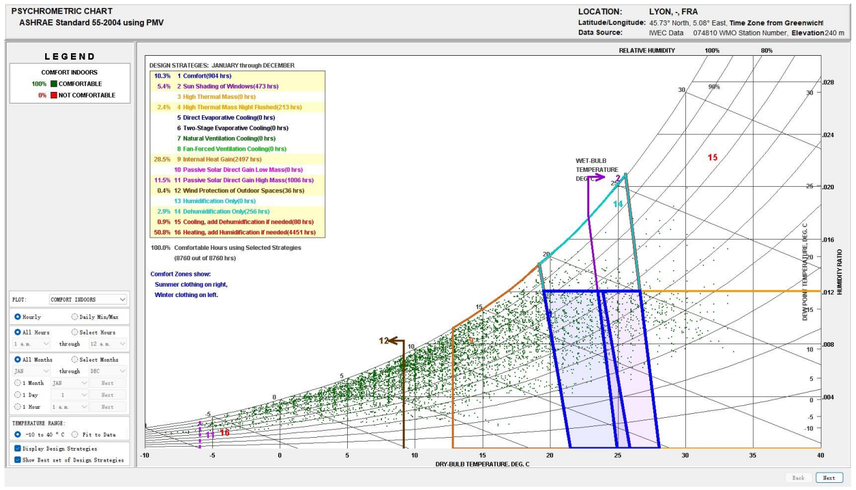
COLD WINTERS | HUMID SUMMERS

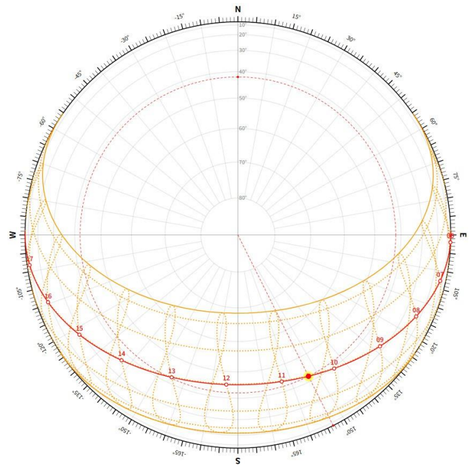


Chimilin weather by month. Click on each chart for more information.



Villefontaine weather by month. Click on each chart for more information.





Heating demands in winter | Summer ventilation needs | Wind and rain management | Natural lighting

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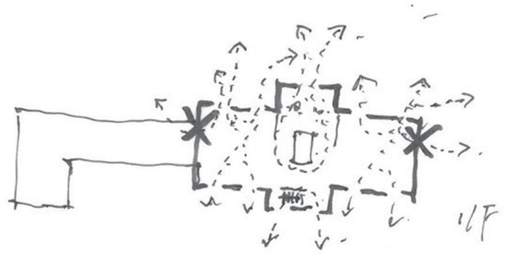
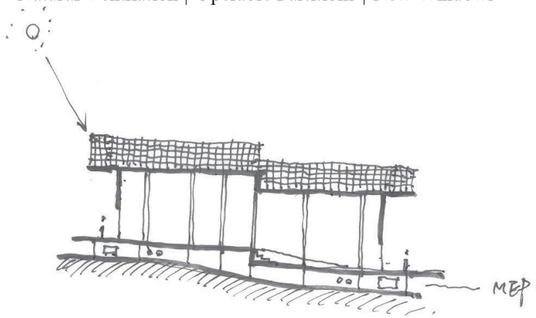
ENVIRONMENTAL STRATEGY

Problem-based solving with passive design strategies and Saint-Gobain products

HUMIDITY CONTROL



Natural Ventilation | Operable Partitions | New Windows

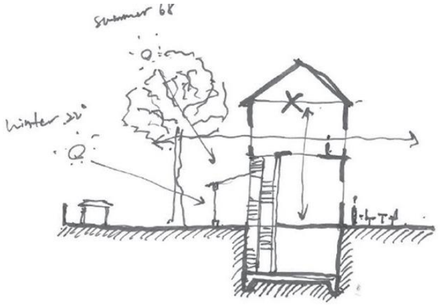


Prevent Moisture from Soil | Lifted Floors

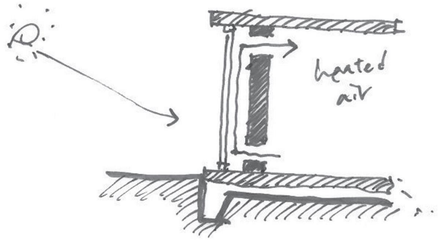
gyproc SAINT-GOBAIN
GYPROC | Moisture-Resistant Plasterboards

weber SAINT-GOBAIN
WEBER | therm A15 External Wall Insulation

PASSIVE HEATING



Sunroom | Solar Gain | Natural Lighting

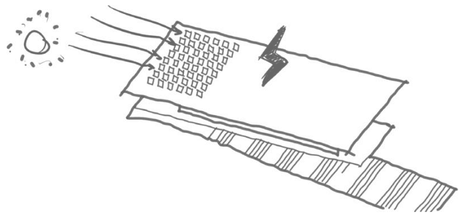


Trombe Wall | Solar Gain | Thermal Mass

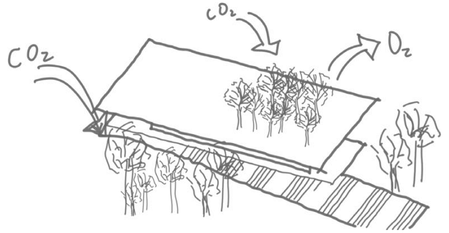
ISOVER SAINT-GOBAIN
ISOVER | Multi-Comfort Insulation

SageGlass SAINT-GOBAIN
SageGlass | Dynamic Glazing

CARBON OFFSET



Solar Panels | Renewable Energy



Green Roof | Thermal Comfort

NORTON SAINT-GOBAIN
NORTON | Roofing Systems

SAINT-GOBAIN
Coating Solutions | for Solar Power Applications

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PROGRAM STRATEGY

Chimilin Old School Renovation

SOCIAL CONDENSOR | ADAPTIVE REUSE | ACTIVATE OPEN SPACE

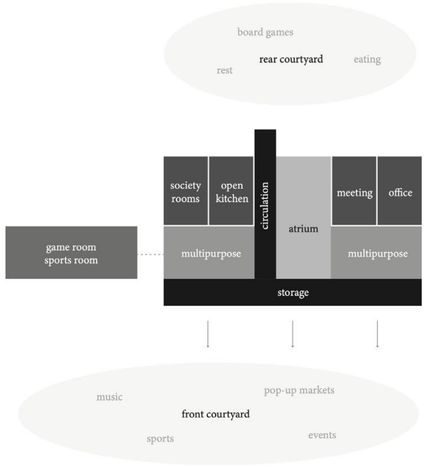
MODULAR ROOMS | MINIMIZED DEMOLITION | MAXIMIZED FLEXIBILITY

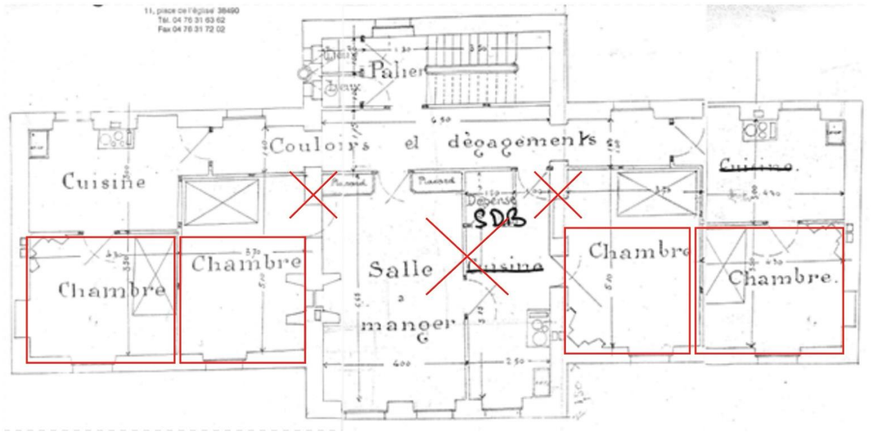
Craftsmen & Small Businesses

Industrial, carpentry, plumbing, painting
Dance, fitness classes
Food and beverage
Graphic arts

Associations

Food bank
Festival Committee
Agricultural Union
Sports - USEP





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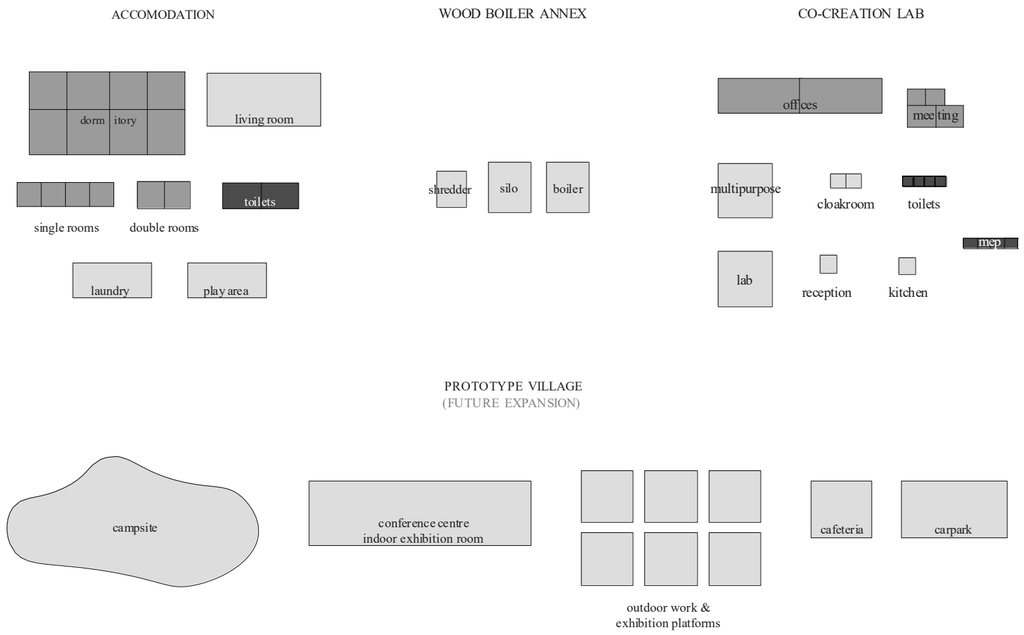
PROGRAM STRATEGY

Les Grands Ateliers Campus Extension

INTERWOVEN SOCIAL SPACES | CENTRAL LAWN | FUTURE-READY VILLAGE



CHAPTER I: THE THRESHOLD

CHIMILIN OLD SCHOOL RENOVATION

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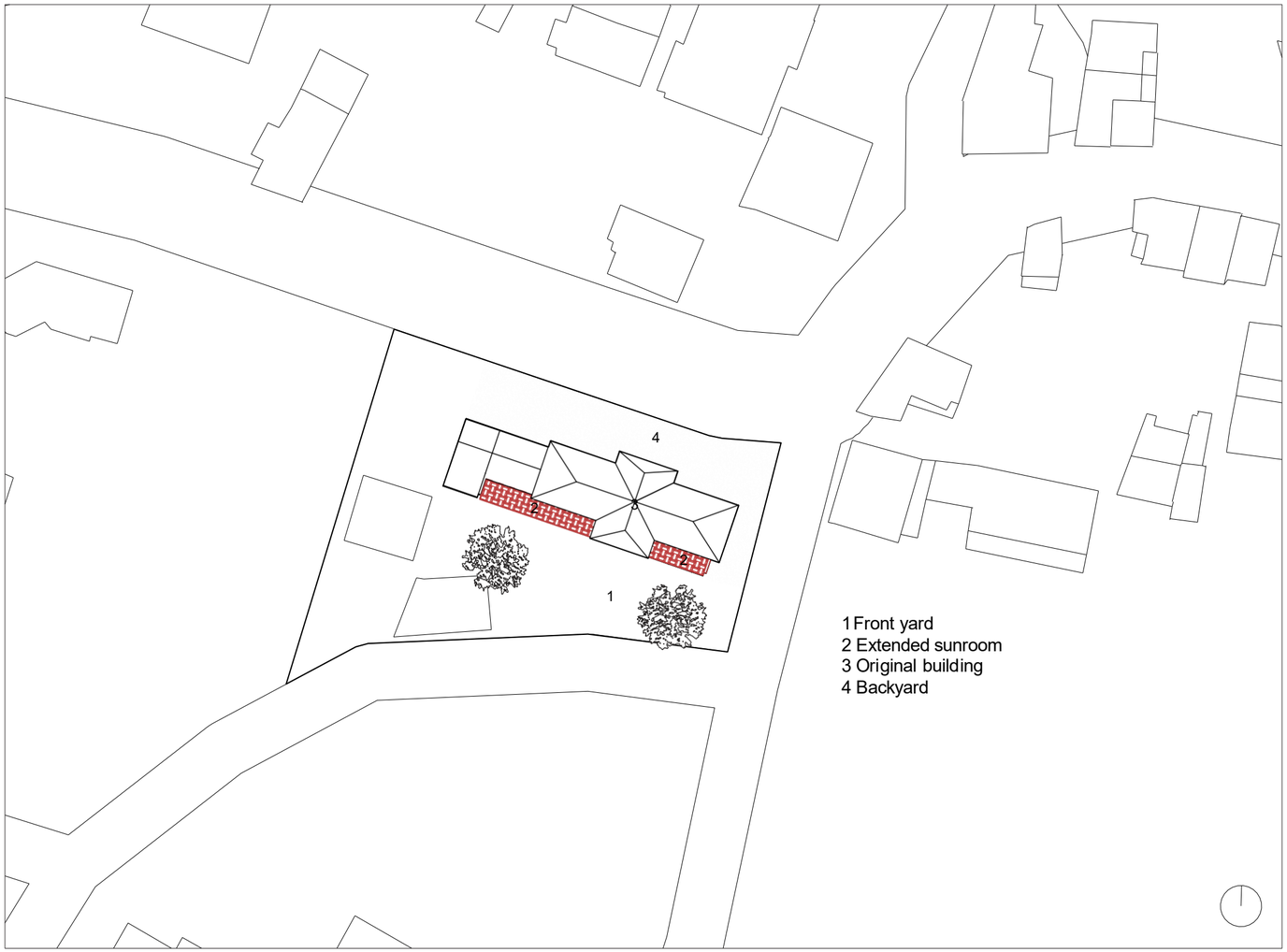
MASTER PLAN - CHIMILIN

1:500 site plan

The Chimilin Community Hub reinterprets a former school through adaptive reuse strategies that prioritizepermeability,flexibility,and environmental performance. Existing windowopeningsaretransformedinto doorways to activate the site's front and rear yards, while a new sunroom extension enhances thermal comfort. Cross-ventilation is optimized via operable window additions, and spatial hierarchy is reinforced through atrium articulation. A back-of-house program improves operational efficiency, and reprogramming introduces modular rooms to accommodate varied community functions. These interventions preserve the building's typology and heritage while imbuing it with new layers of spatial and social connectivity.



VISUALIZATION - CHIMILIN

"Living experience" in Chimilin Community Hub

Interior during the winter

Sunroom for thermal comfort and informal gathering. Opens up in summer.

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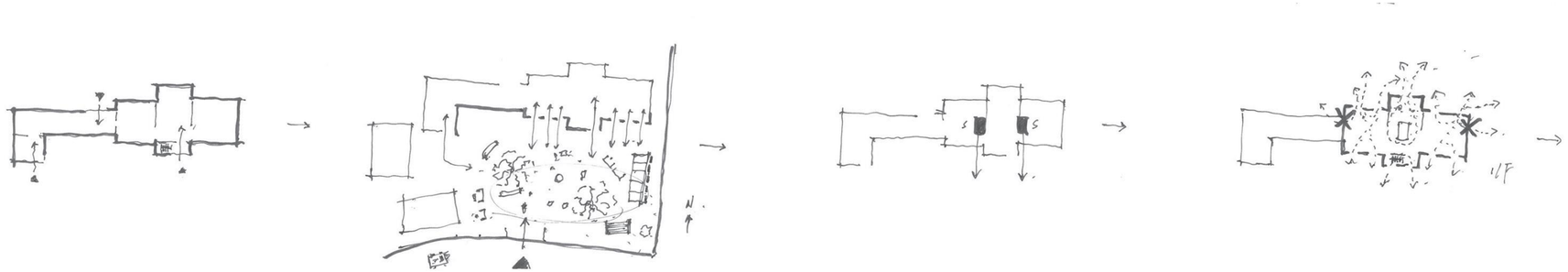
CHIMILIN OLD SCHOOL RENOVATION

Design concept with program

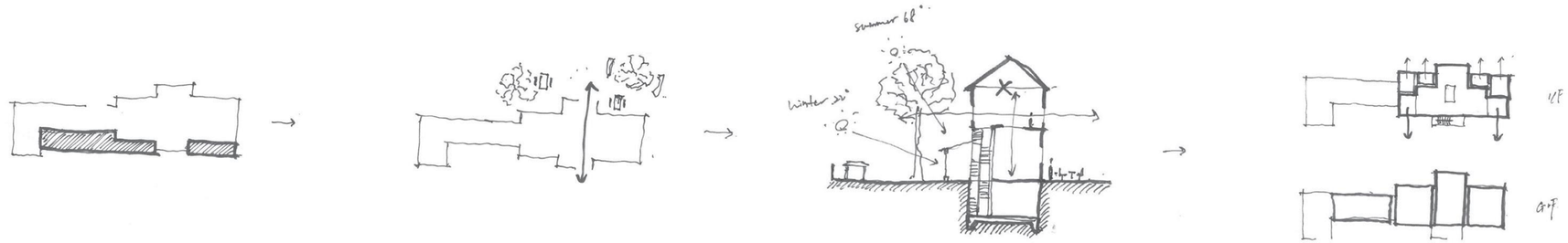


1 original building has limited entry

2 activate outdoor space by turning windows into doors

3 place back of house storages close to front yard

4 adding windows for improved ventilation



5 sunroom addition for solar gain

6 add access to backyard

7 enhance spatial quality of atrium

8 re-programming large and small rooms for flexible activities

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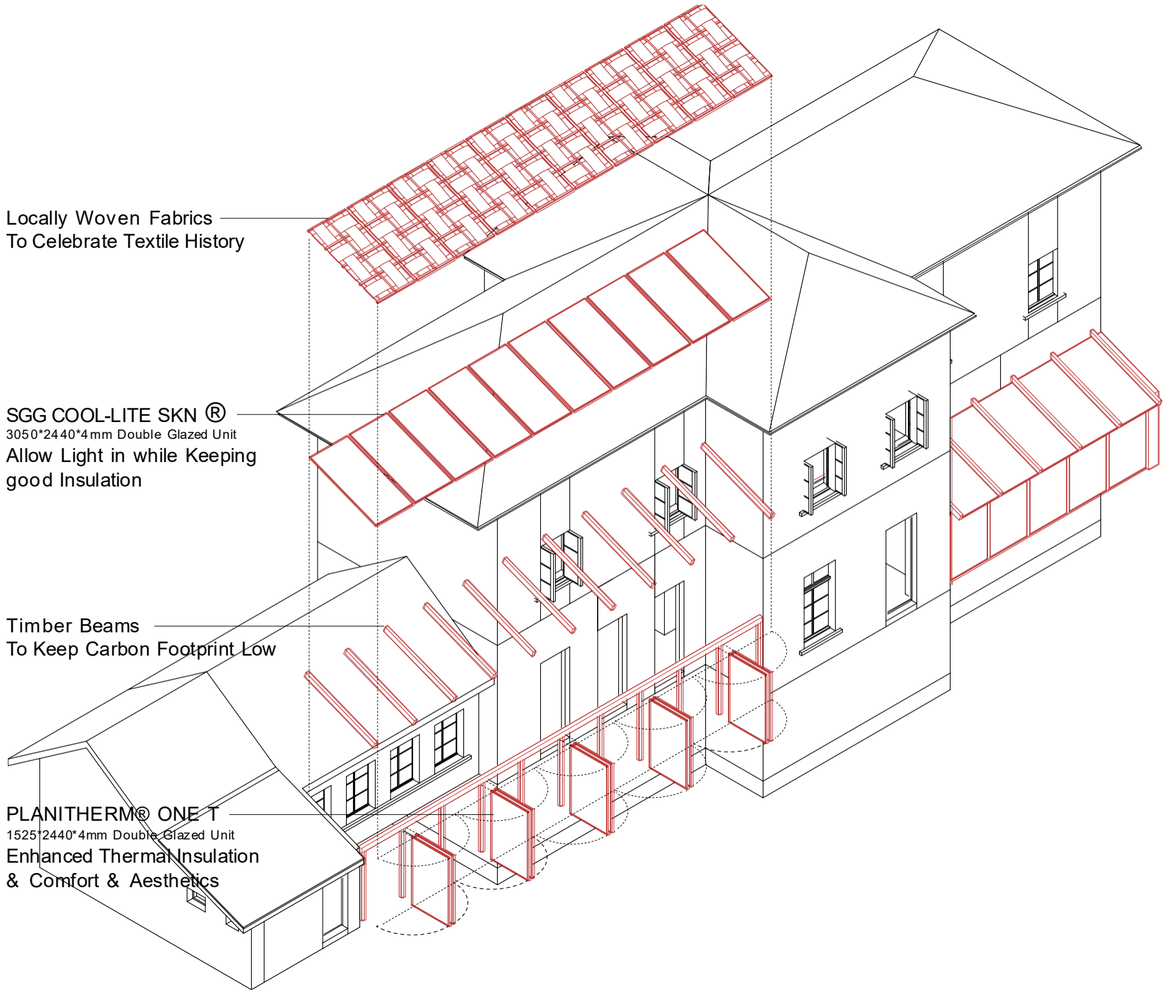
CHIMILIN OLD SCHOOL RENOVATION

Exploded isometric



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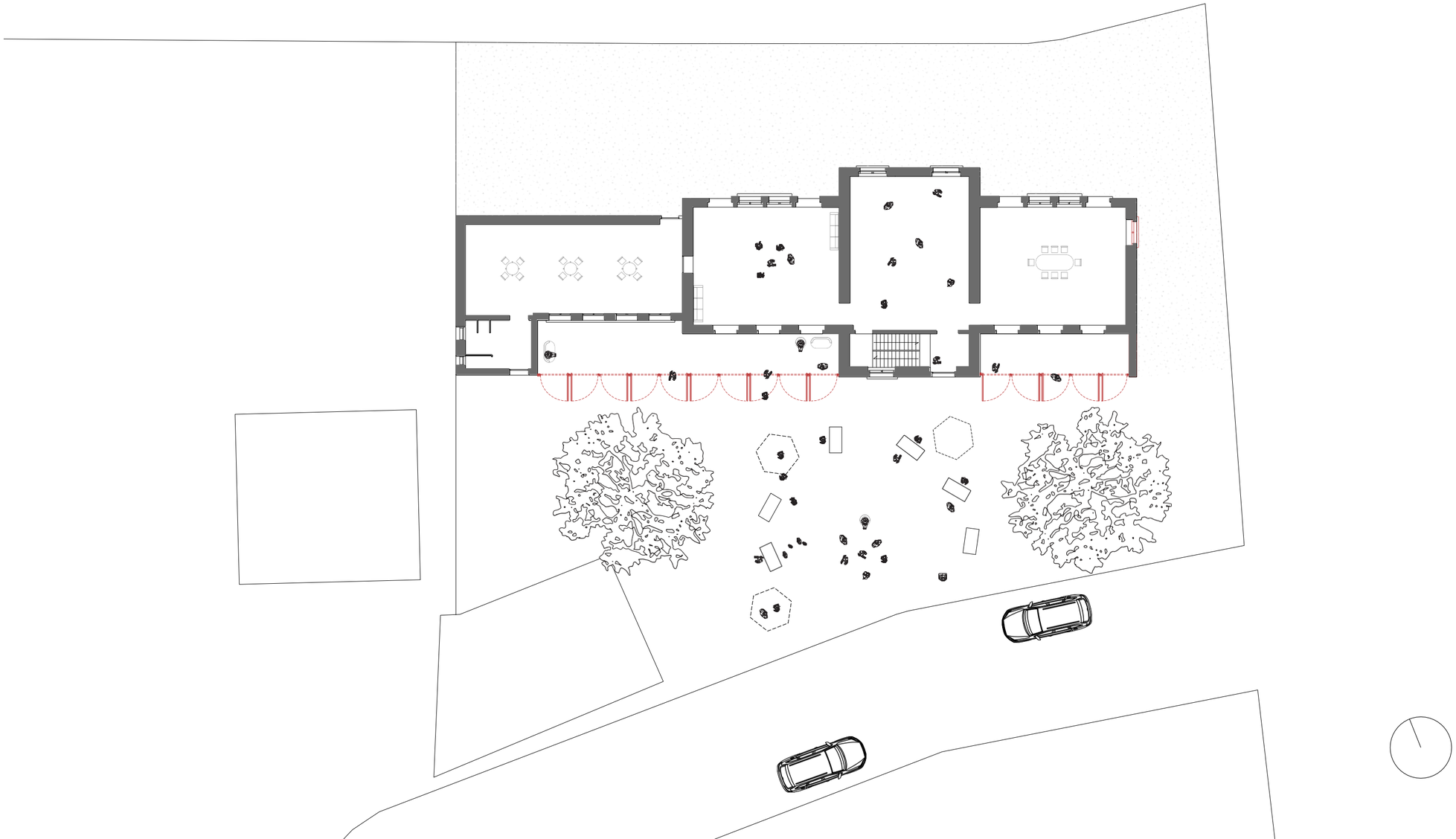
CHIMILIN OLD SCHOOL RENOVATION

G/F Plan



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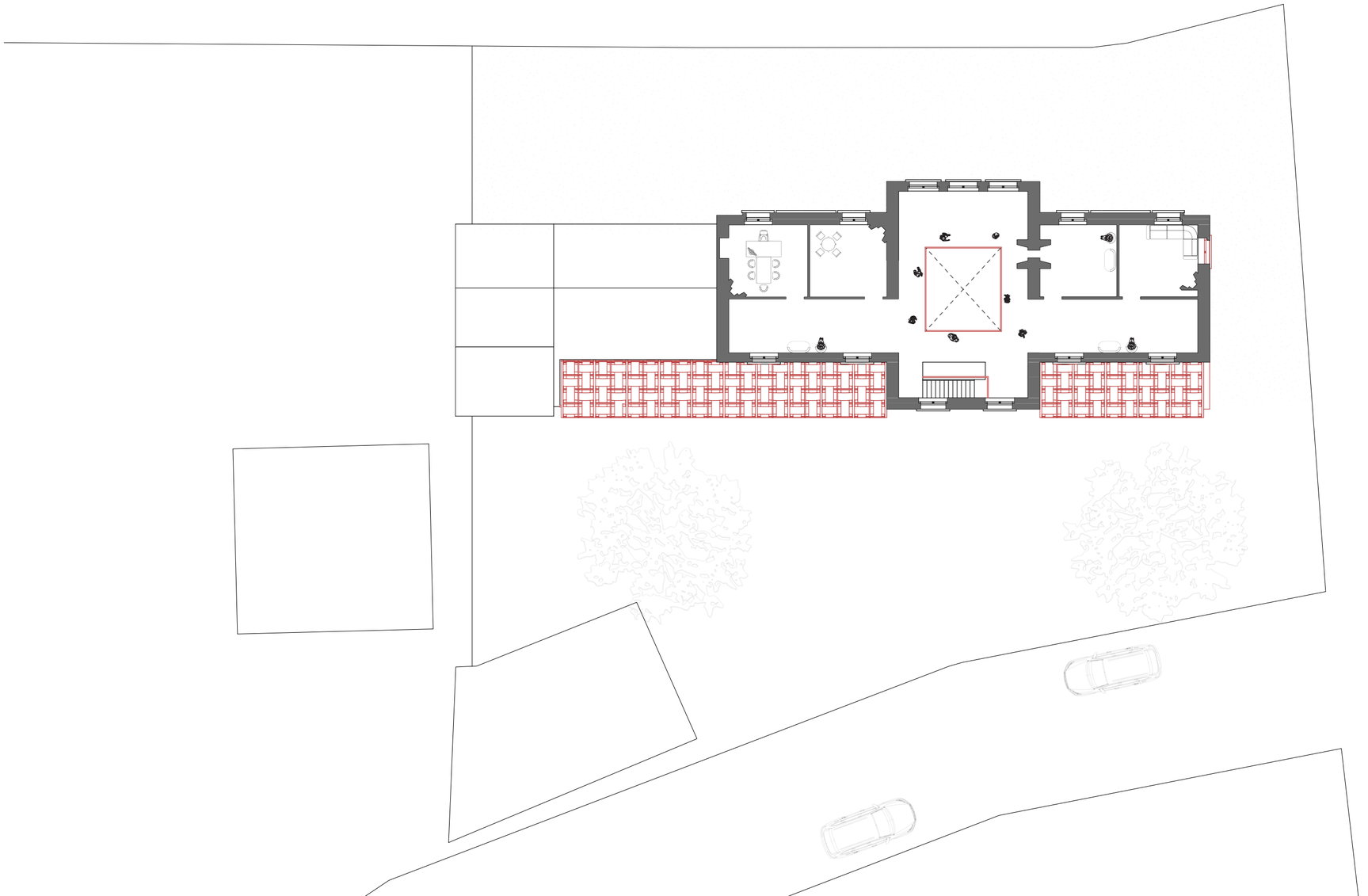
CHIMILIN OLD SCHOOL RENOVATION

1/F plan



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CHIMILIN OLD SCHOOL RENOVATION

Longitudinal section

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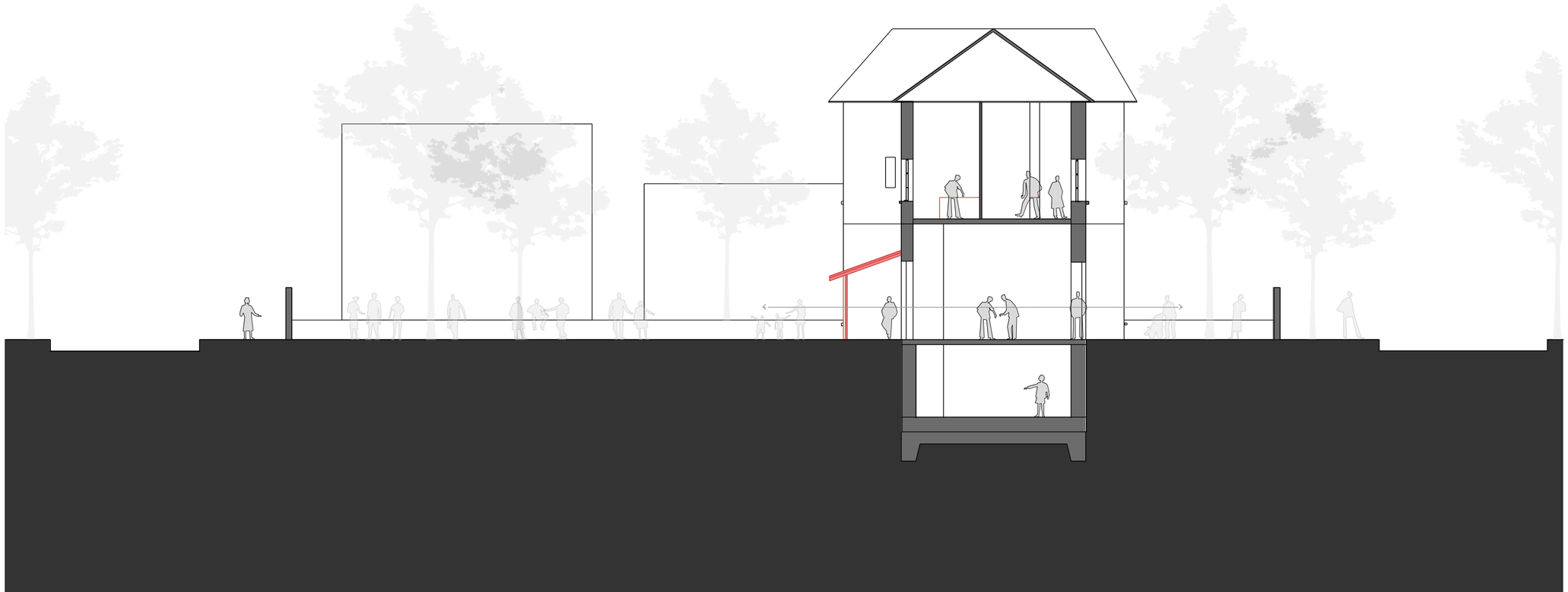
CHIMILIN OLD SCHOOL RENOVATION

Short section



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CHIMILIN OLD SCHOOL RENOVATION

Southern elevation

CHAPTER II: THE FIELD

LES GRANDS ATELIERS CAMPUS EXTENSION

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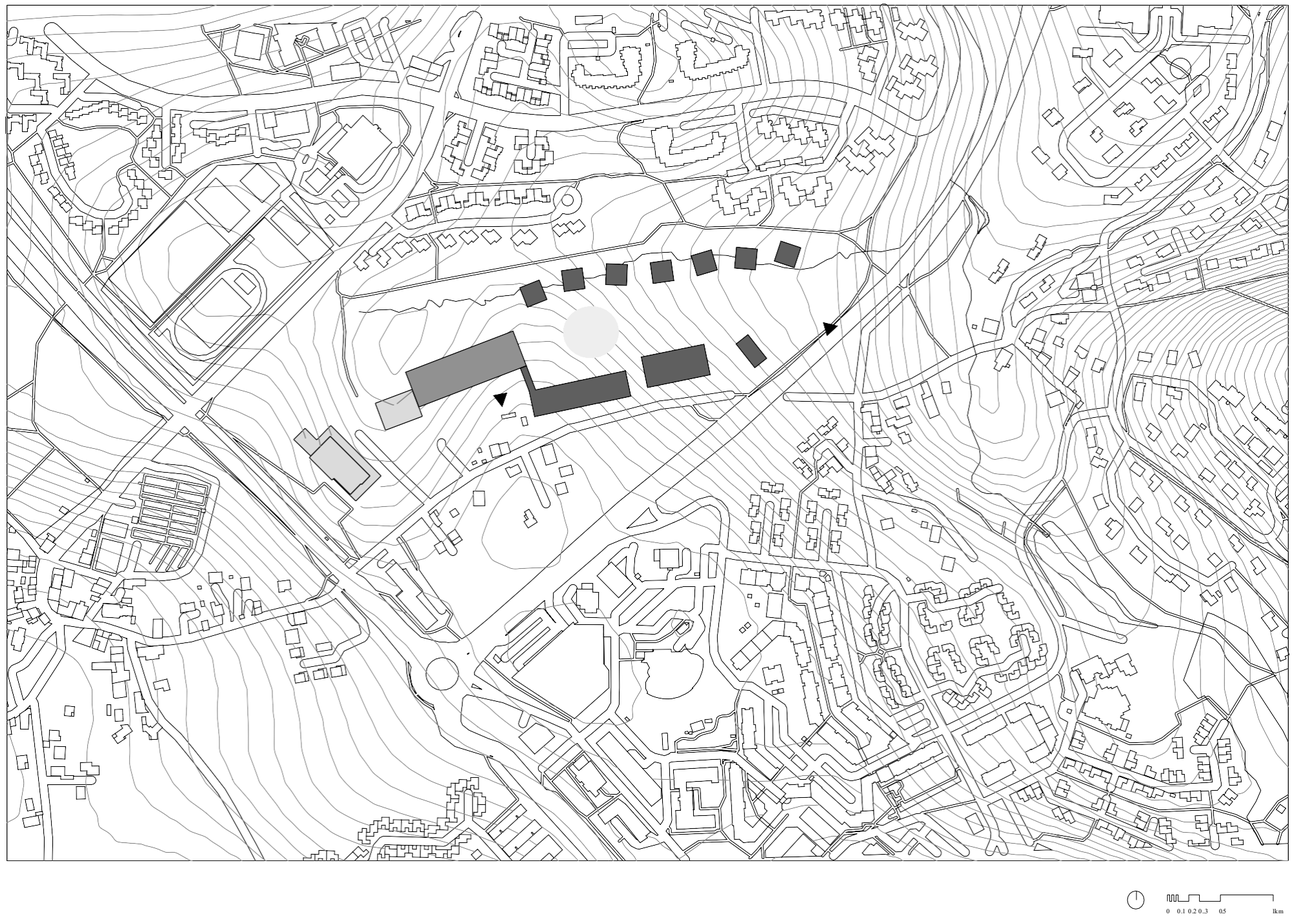
MASTER PLAN - VILLEFONTAINE

1:500 site plan

The Les Grands Ateliers Campus Extension in Villefontaine, France, proposes a new residential area and co-creation lab to support up to 300 visiting students, tripling current capacity. As an extension of the existing technical buildings, the design reinforces the campus's multidisciplinary focus—ranging from construction and industry technologies to cooking, shoemaking, and upholstery—while also strengthening local identity, job opportunities, and tourism.

The co-creation lab is anchored to the Astus slab and links directly to the rooftop of the residential zone, which is tucked within a secluded, tree-lined area. A variety of dormitory types are interwoven with communal social spaces to encourage interaction. A central sunken lawn forms a flexible outdoor events space, encircled by buildings for constant visual and social engagement.

The design embraces long-term flexibility through modular planning, anticipating future additions such as a conference center, outdoor auditorium, and cafeteria. Climate responsiveness is key: the south-facing façade featuresaTrombewallandsunroomforpassive winter heating, while operable walls allow natural cross-ventilation in summer. Rooftop solar panels help offset the project's carbon footprint. Elevated volumes avoid costly excavation and provide space for integrated MEP systems below, echoing the modular, adaptive principles seen in the Chimilin school renovation.



VISUALIZATION - VILLEFONTAINE

"Living experience" in new campus extension

VISUALIZATION - VILLEFONTAINE

"Living experience" in new campus extension

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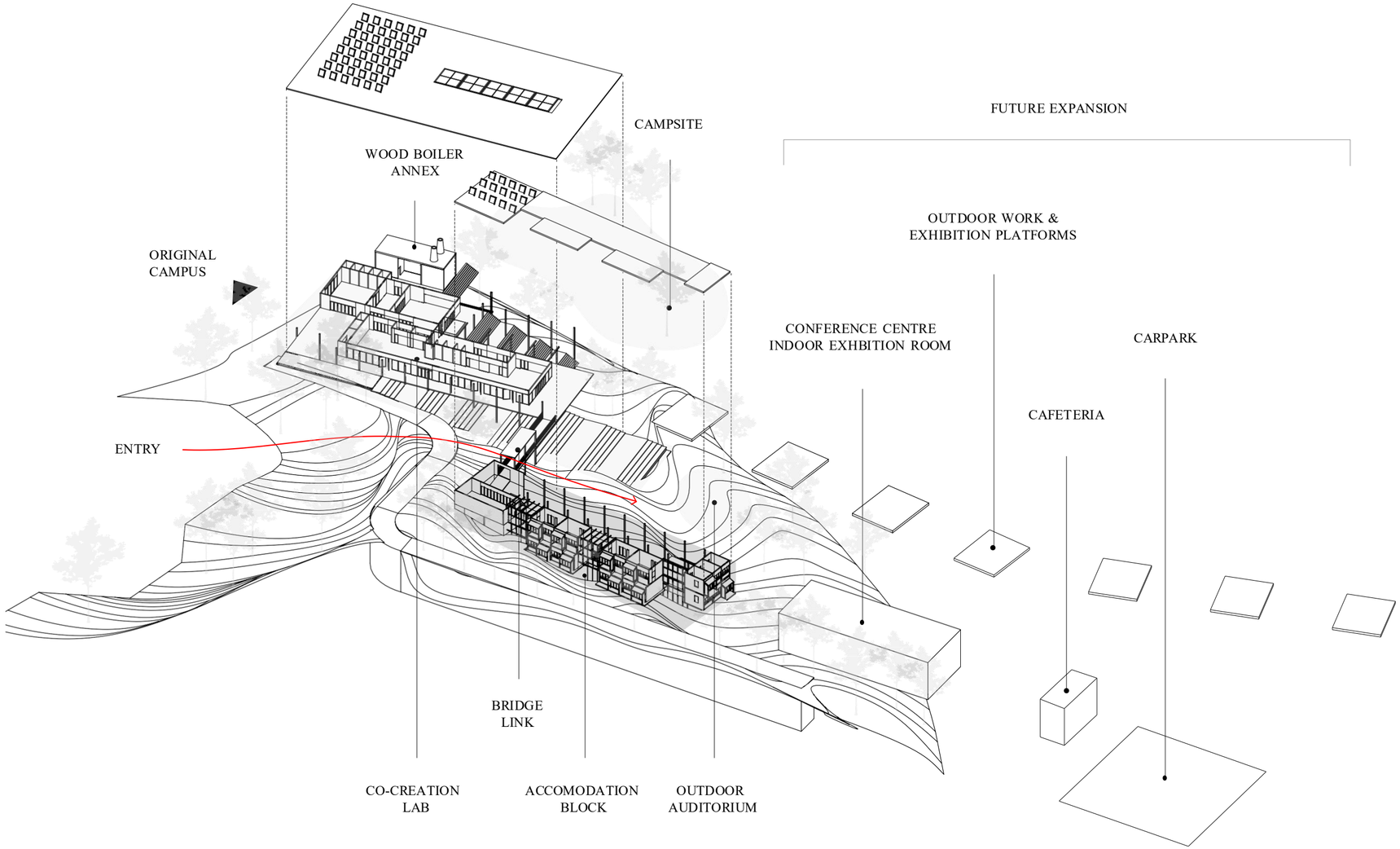
LES GRANDS ATELIERS CAMPUS EXTENSION

1:200 exploded isometric



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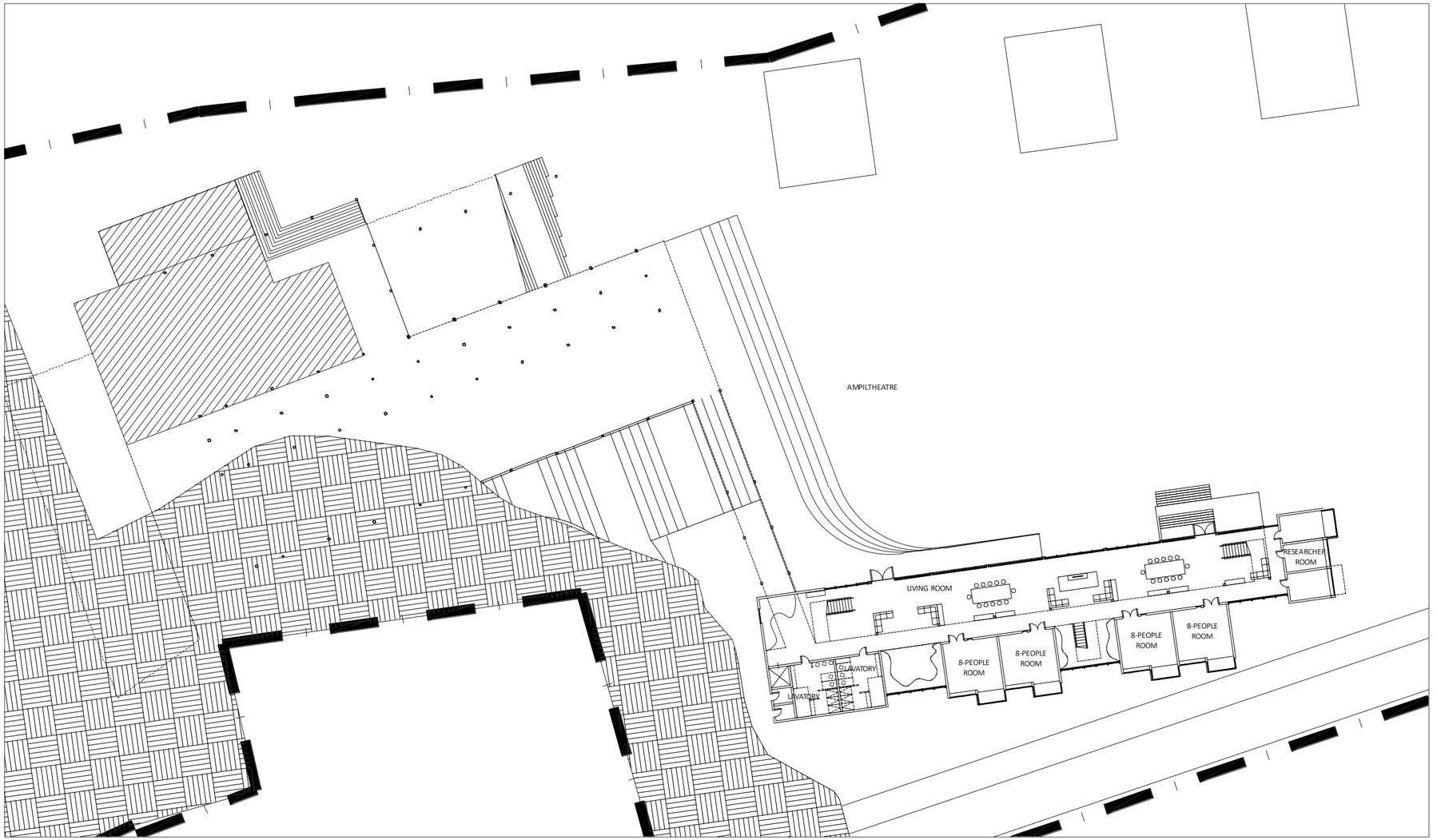
LES GRANDS ATELIERS CAMPUS EXTENSION

G/F Plan



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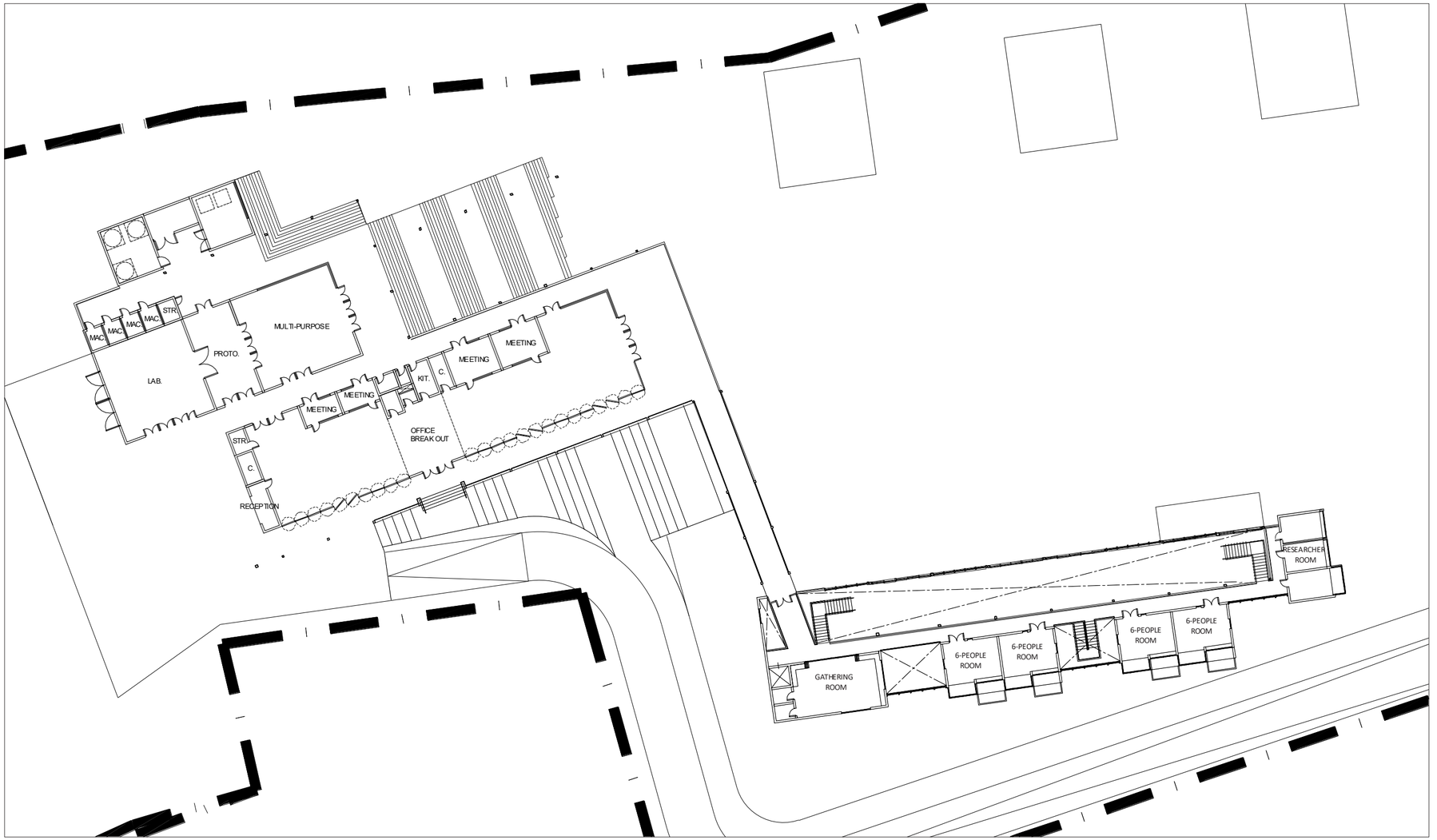
LES GRANDS ATELIERS CAMPUS EXTENSION

G/F Plan



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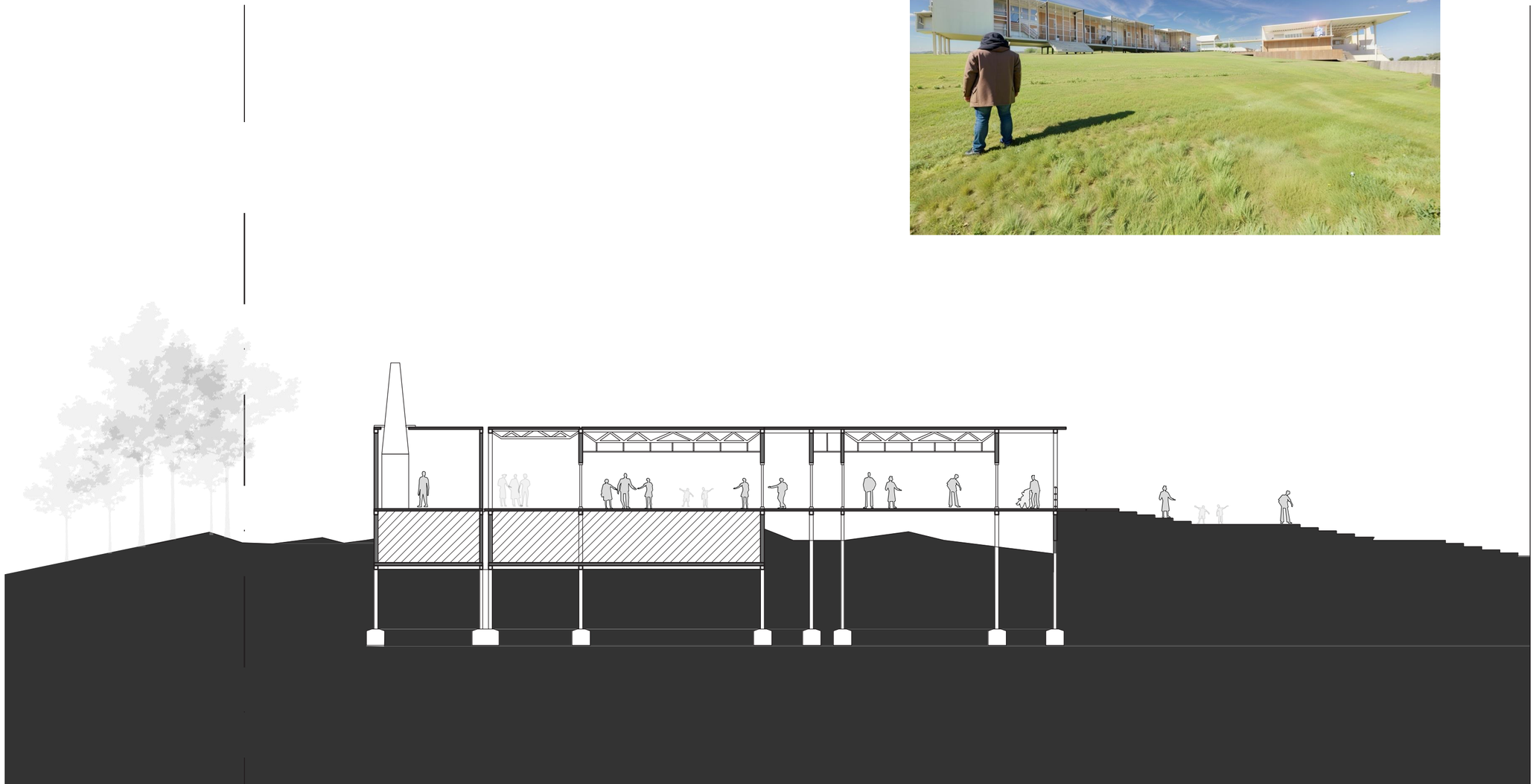
LES GRANDS ATELIERS CAMPUS EXTENSION

Short section through Co-creation Lab & Wood Boiler Annex



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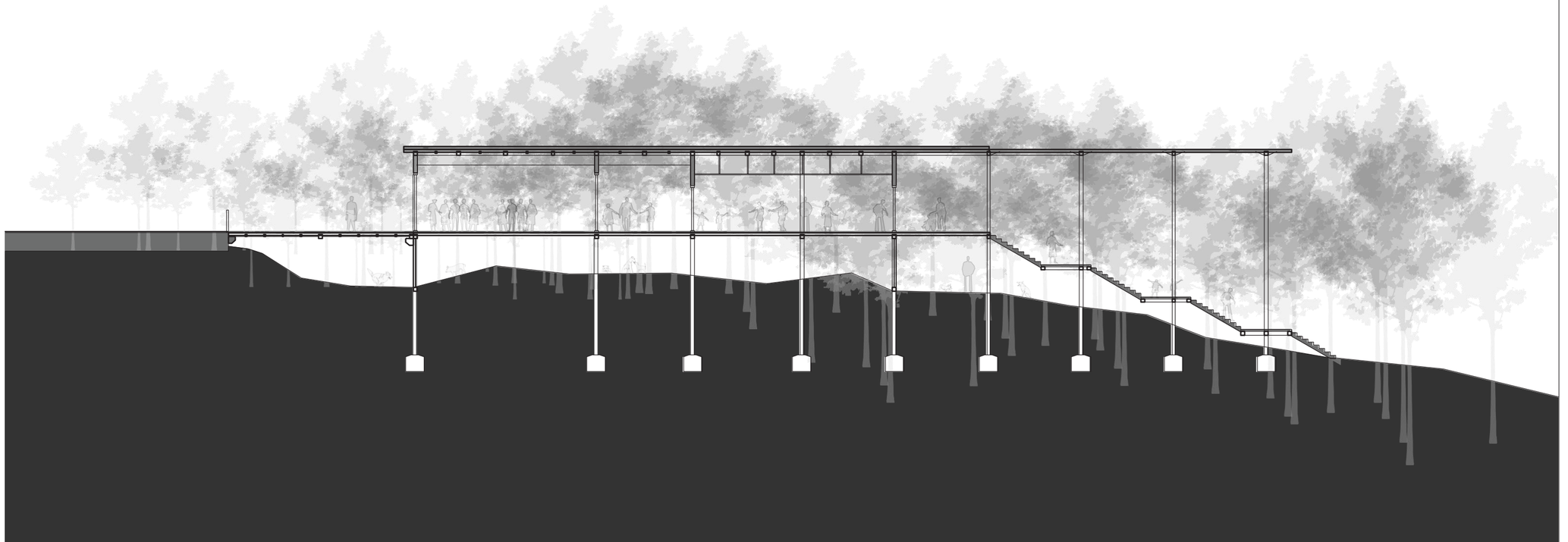
LES GRANDS ATELIERS CAMPUS EXTENSION

Longitudinal section through Co-creation Lab



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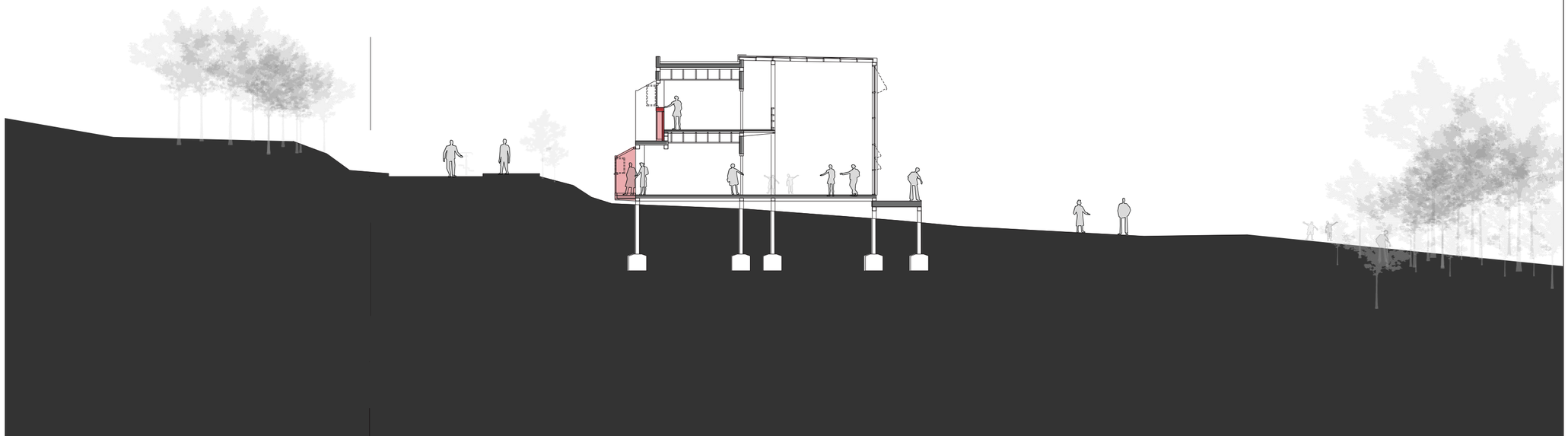
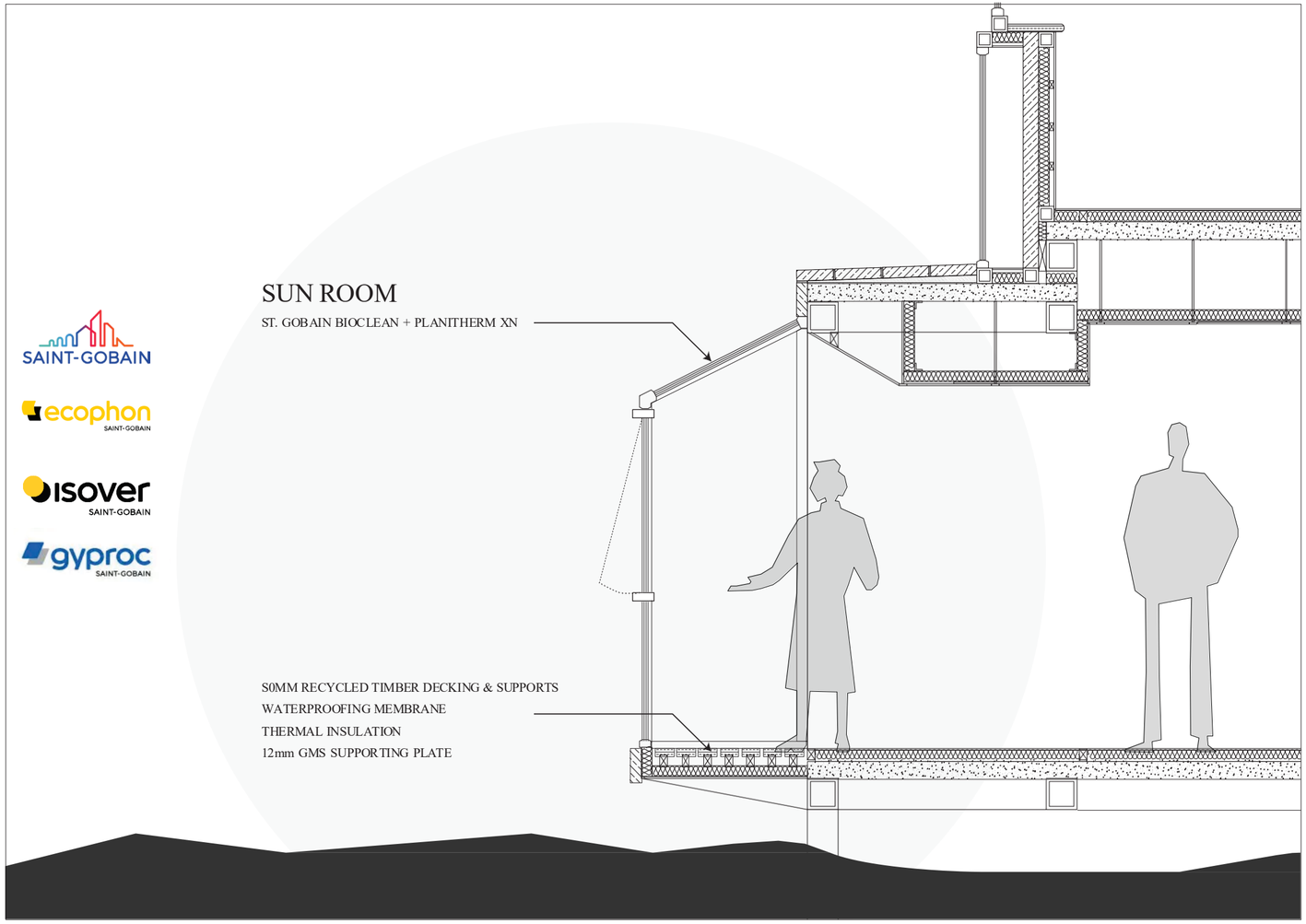
LES GRANDS ATELIERS CAMPUS EXTENSION

Short section through Dormitory Block



LES GRANDS ATELIERS CAMPUS EXTENSION

Sunroom technical section



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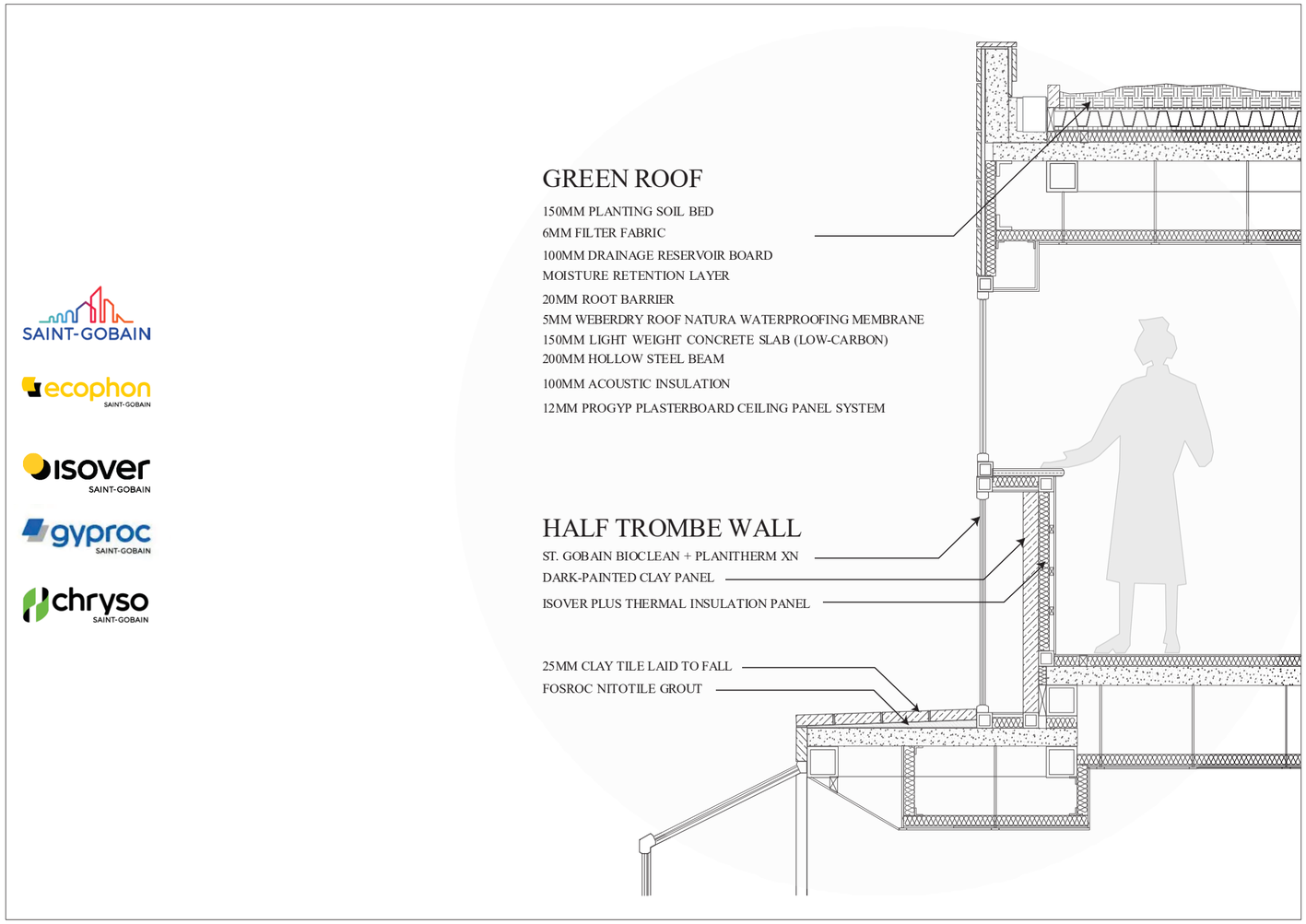
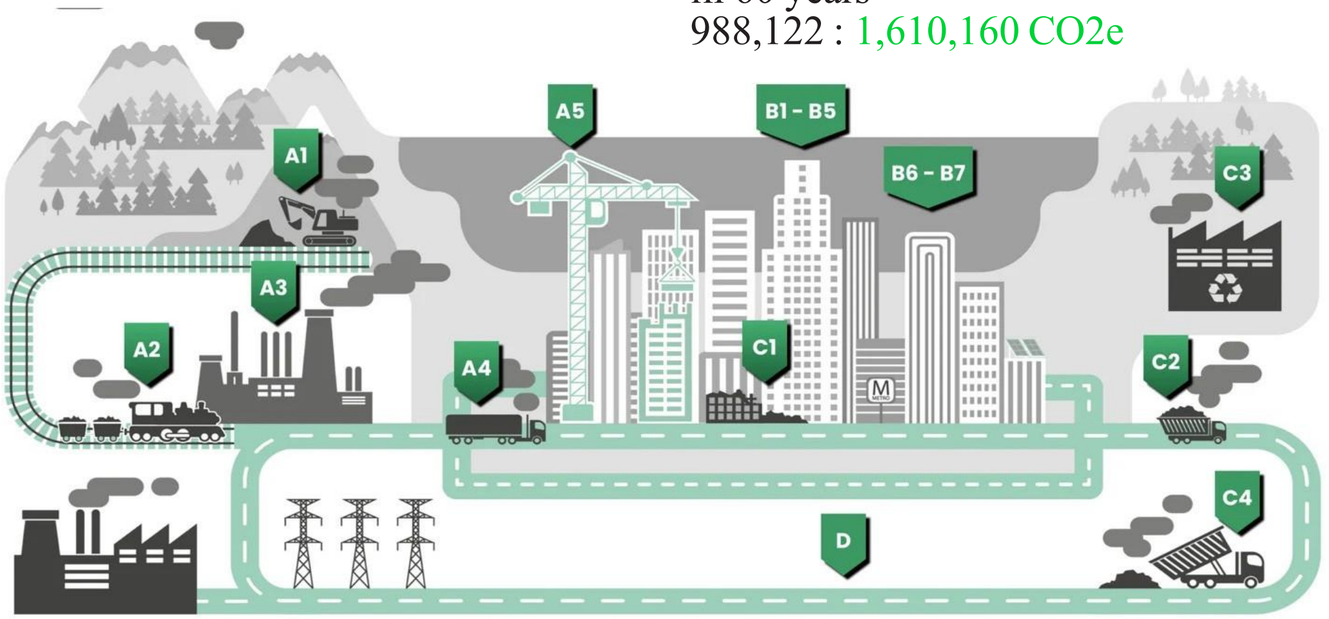
LES GRANDS ATELIERS CAMPUS EXTENSION

Trombe wall technical section



LIFE CYCLE ASSESSMENT (LCA)

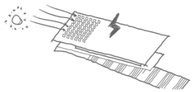
Carbon Emission : Carbon Offset
in 60 years
988,122 : 1,610,160 CO2e



Carbon Offset

Carbon Sink (Trees and Grass)
Unit Carbon Sequestration per Year
= 6500 kg CO2 / Hectare
Area of Proposed Grassland / Wood
= 1.37 Hectare
Total Carbon Sequestration
= 8,905 kg CO2 / Year

Solar Panels
Unit Carbon Sequestration per Year
= 20.4 kg CO2e / sqm
Area of solar panels
= 879 sqm
Total Carbon Sequestration
= 17,931 kg CO2e / year



Total
Total Carbon Sequenstration
per Year
= 26,836 kg CO2e / year

Carbon Emission

A1 ~ A3 Product Stage

Timber (CLT / Glulam)
Unit Embodied Carbon
= 219 kg CO2e/m³
Required Quantity
= 568 m³
Total Embodied Carbon
= 219 * 568 = 124,392 kg CO2e

Concrete
Unit Embodied Carbon
= 635 kg CO2e/m³
Required Quantity
= 254 m³
Total Embodied Carbon
= 635 * 254 = 161,290 kg CO2e

Steel
Unit Embodied Carbon
= 2200 kgCO2e/m³
Required Quantity
= 8 tonne
Total Embodied Carbon
= 2800 * 8 = 22,400 kg CO2e

Glass
Unit Embodied Carbon
= 3600 kg CO2e/m3
Required Quantity
= 45 m3
Total Embodied Carbon
= 3600 * 45 = 162,000 kg CO2e

Clay
Unit Embodied Carbon
= 150 kg CO2e/m3
Required Quantity
= 619 m3
Total Embodied Carbon
= 150 * 619 = 92,850 kg CO2e

Total
Total Embodied Carbon
= 562,932 kg CO2e

A4 ~ A5 Construction Stage

Transportation
Estimated Carbon Equivalent
= 36 kg CO2e

Construction
Estimated Carbon Equivalent
= 10,650 kg CO2e

B1 ~ B7 Use Stage

Living Room
Estimated Carbon Equivalent
= 1,050 kg CO2e / year

Dormitory
Estimated Carbon Equivalent
= 1,400 kg CO2e / year

Offices
Estimated Carbon Equivalent
= 840 kg CO2e / year

Others
Estimated Carbon Equivalent
= 1,500 kg CO2e / year

Maintenance and repair
Estimated Carbon Equivalent
= 2,119 kg CO2e / year

Total
Total Use Carbon Equivalent
= 6,909 kg CO2e / year

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ENERGY SIMULATION

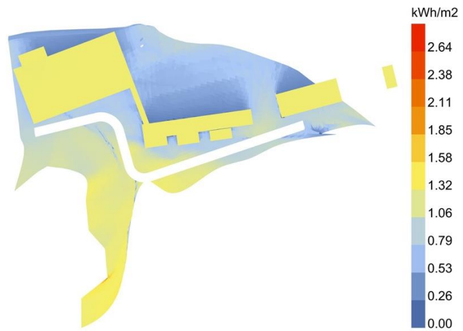
WINTER

Heat Gain Needed

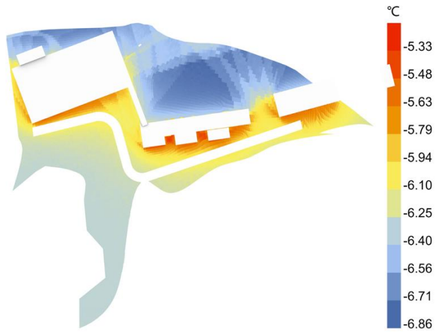
South Facade More Sunshine

North Facade less Sunshine

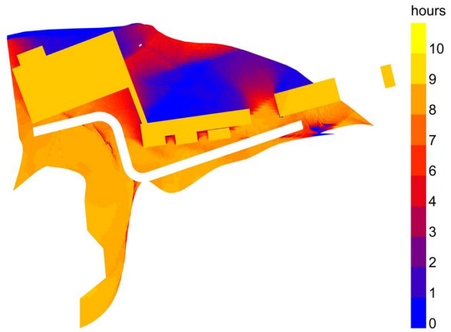
Energy Efficient to Place Sun-room and Trombe Walls Facing South



Solar Radiation – Winter Solstice



Thermal Comfort - Coldest Week



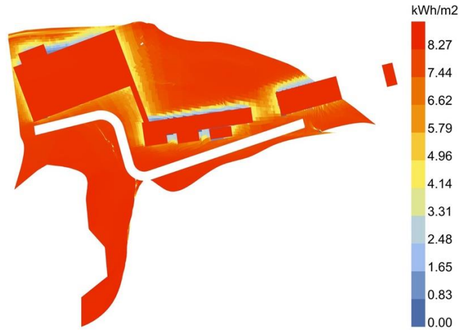
Daylight duration - Winter solstice

SUMMER

Mild Overheat Risk

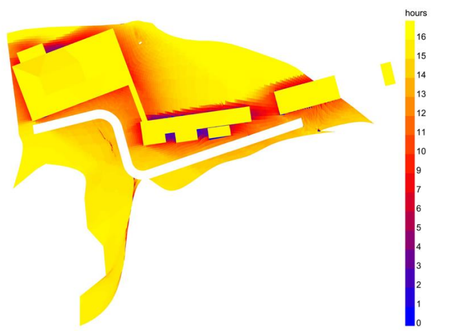
Ventilation Needed

Energy Efficient to Enhance Natural Ventilation



Solar Radiation – Summer Solstice

Thermal Comfort - Hottest Week



Daylight duration - Summer solstice

STITCHING PLACE: lights and fields

CHAN YUI HEI JOSHUA | MA LECHI | YUEN KONG KIT