



A graphic design featuring the word "BLOOM" repeated three times in a stacked, vertical arrangement. The top and bottom instances are rendered in a white, hollow-outlined font. The middle instance is rendered in a solid white, bold font. To the left of the text is a detailed white line-art illustration of a flowering plant with various leaves and small blossoms.

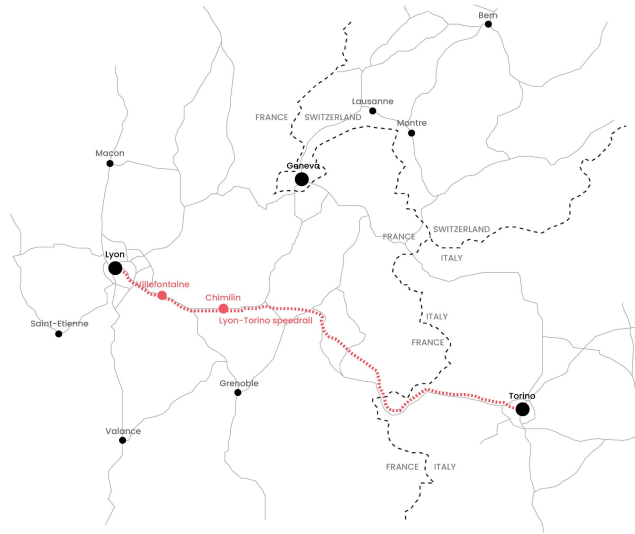
SAINT-GOBAIN ARCHITECTURE STUDENT CONTEST
INTERNATIONAL STAGE / PRESENTATION NUMBER 8

LITHUANIA / VILNIUS TECH
ANDRIUS PUCĖTA / KONRADAS JURNA

TEAM



SITES



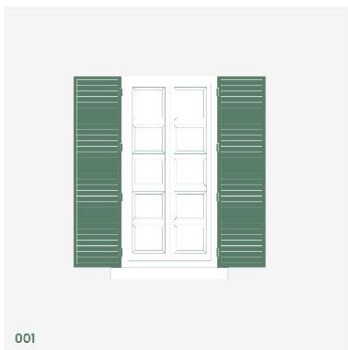
LYON-TURIN HIGH-SPEED RAIL LINK

The areas in the Nord-Isere region are within an hour's drive or a few train stops of each other. It is the high-speed rail network linking Lyon and Turin that is prompting the search for a means of linking the territories not only logistically but also stylistically.

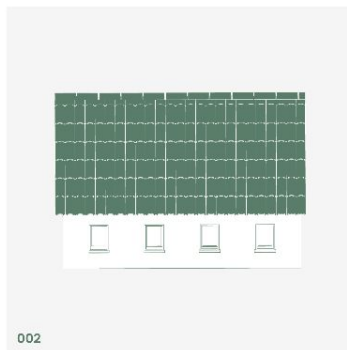


THE NORD-ISERE REGION AND THE NATURAL BARRIER - THE ALPS

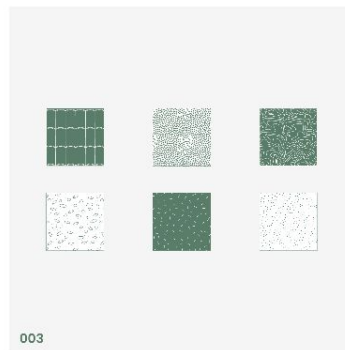
NORD-ISERE REGION CONTEXTUALITY TOOLBOX



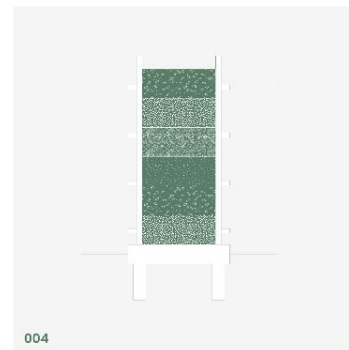
WINDOW SHUTTERS



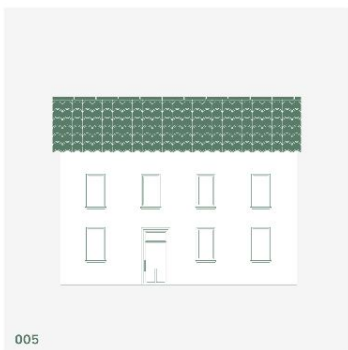
RED-TILED ROOFS



MATERIALS



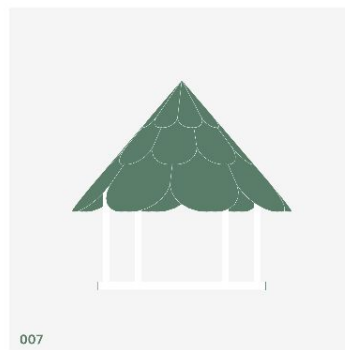
PISE METHOD



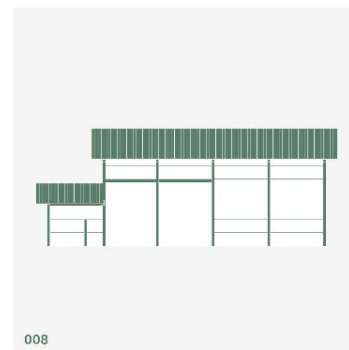
HUMAN SCALE



GREENERY

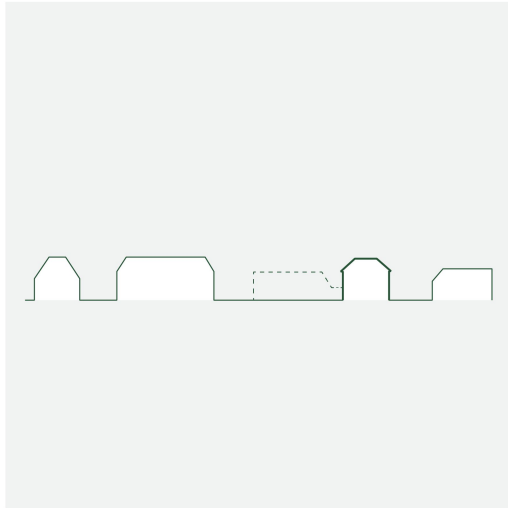


LANDSCAPE OBJECTS



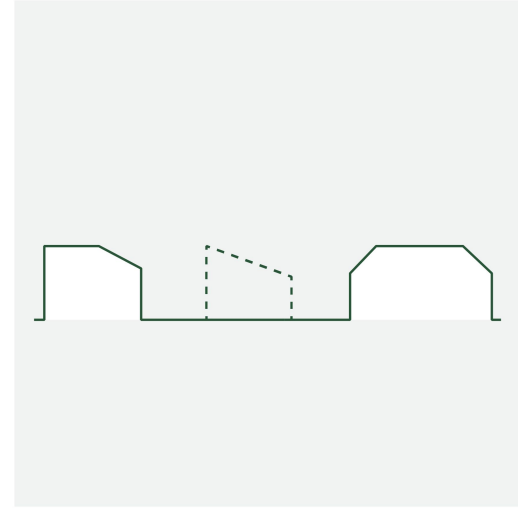
INDUSTRIAL STYLE

CONCEPT THAT BLOOMS



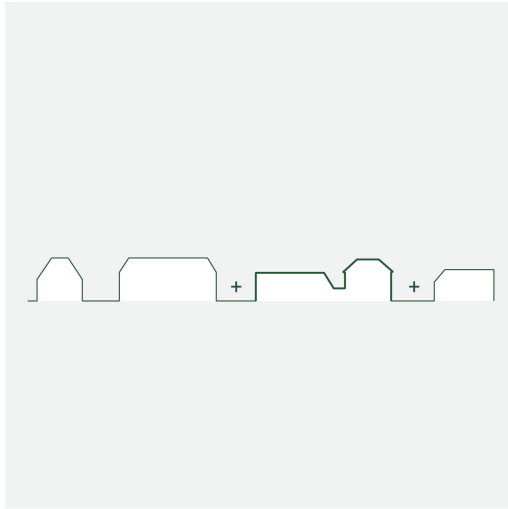
CHIMILIN

**RESPECT THE CONTEXT.
EVALUATE THE NEED FOR
INTERVENTION**



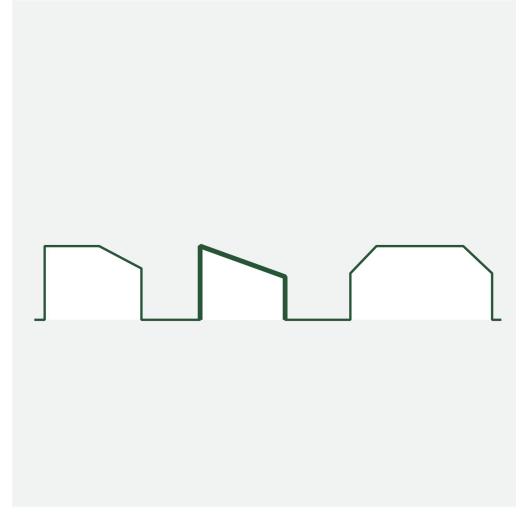
VILLEFONTAINE

CONCEPT THAT BLOOMS



CHIMILIN

**BLEND IN WITH THE
SURROUNDINGS.**
CONNECT OLD AND NEW



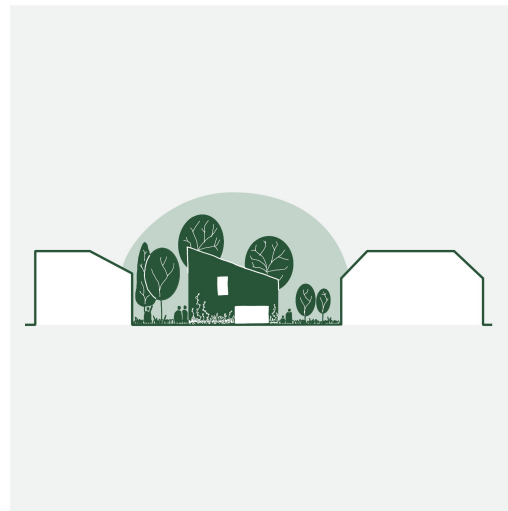
VILLEFONTAINE

CONCEPT THAT BLOOMS



CHIMILIN

LET IT BLOOM.
LET THE BUILDINGS SPEAK FOR
THEMSELVES.

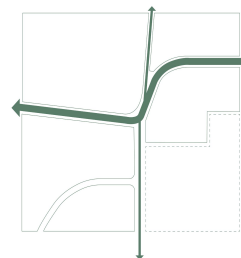


VILLEFONTAINE



CHIMILIN

VISION FOR CHIMILIN



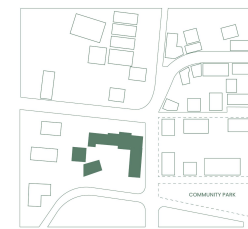
MAIN TRANSIT AXIS



CURRENT URBAN CONTEXT



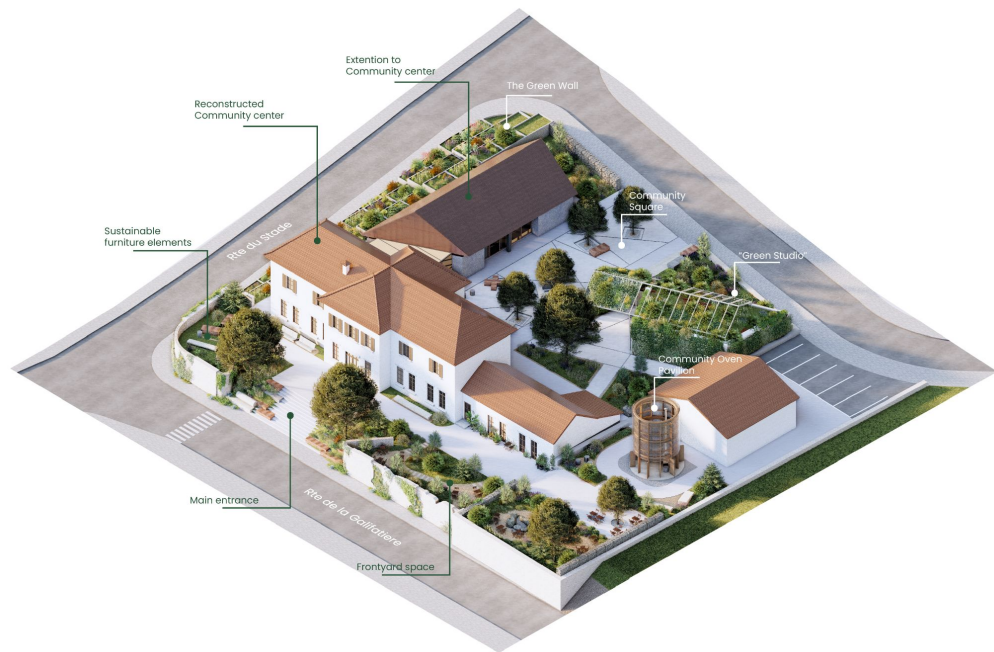
NEW LINKS WITH EASTERN SIDE OF THE TOWN



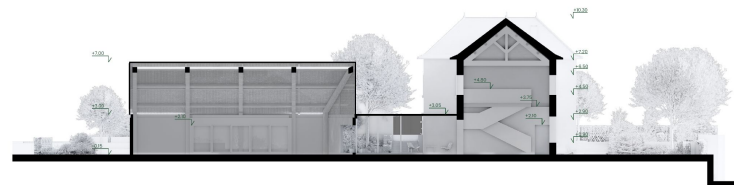
COMMUNITY CENTER ADDS AN EXTENSION TO MERGE INTO NEWLY FORMED URBAN STRUCTURE

In Chimilin, we envisaged a vision that not only emphasises the main axis, but also provides places to live and work comfortably in the city and integrates our redevelopment into the overall system

DESIGN



ISOMETRIC SITE VIEW



SECTION A-A



SOUTHERN FACADE



EASTERN FACADE

SUSTAINABLE LANDSCAPE STRATEGY

BIOFACTOR



Increasing vegetation density within the site boundaries aims to reduce CO₂ footprint, increase biodiversity, reduce the impact of heat islands and create a modern and inclusive environment for community gatherings

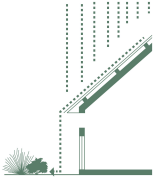
THE COEFFICIENT IS CALCULATED BY TAKING INTO ACCOUNT THE RATIO OF THE AREA OF GREEN SOFT SURFACES AND THE AREA OF SEPARATED GREEN AREAS TO THE AREA OF THE PLOT.

SUSTAINABILITY STRATEGY

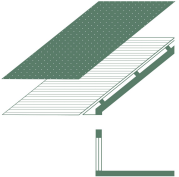


ISOMETRIC SITE VIEW

SUSTAINABILITY STRATEGY FOR NEW CONSTRUCTION



RAINWATER COLLECTION



PERFORATED METAL AND GLASS ROOF STRUCTURE FOR NATURAL SUNLIGHT

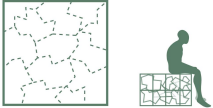


MECHANICAL VENTILATION SYSTEM

SUSTAINABILITY STRATEGY FOR RENOVATION AND LANDSCAPE



BUILDINGS BECOME PART OF THE GREENERY

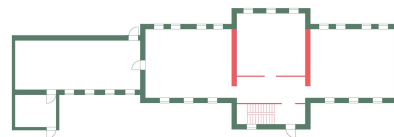
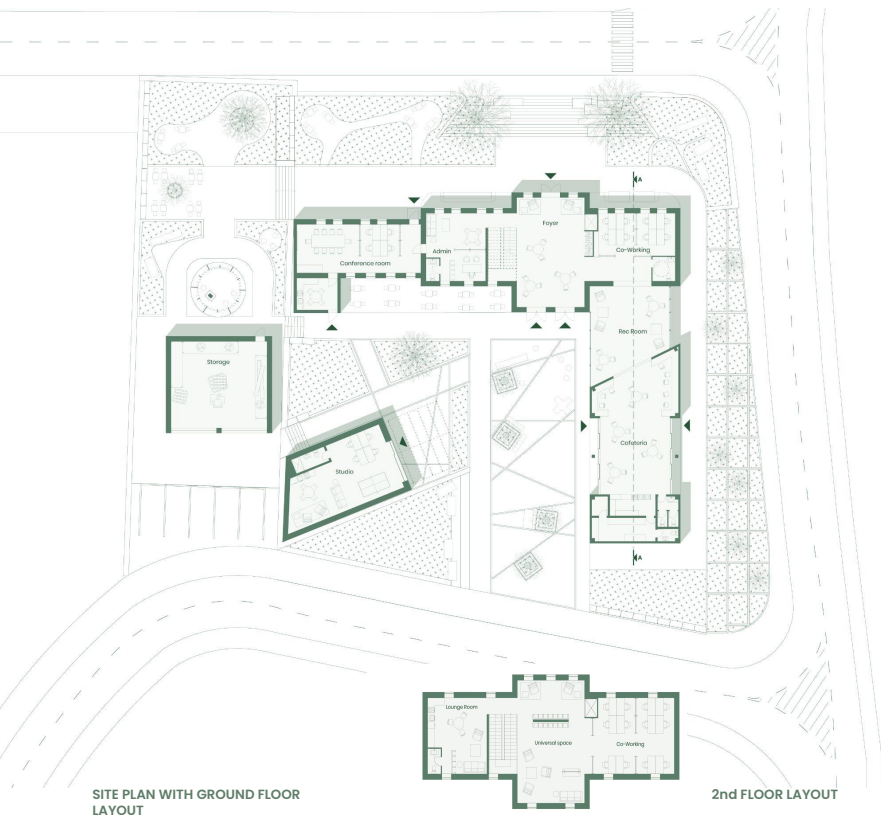


WASTE FROM CONSTRUCTION USED FOR LANDSCAPE ELEMENTS

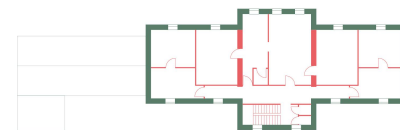


REINFORCEMENT OF WALL DEFECTS WITH VEGETATIVE MUSHROOM - MYCELIUM

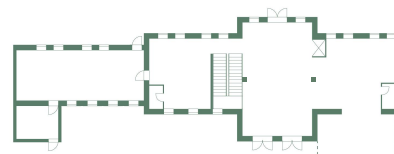
PLANS



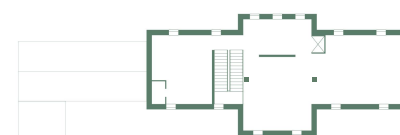
1st FLOOR DEMOLISHED ELEMENTS



2nd FLOOR DEMOLISHED ELEMENTS



1st FLOOR NEW STRUCTURE



2nd FLOOR NEW STRUCTURE

For the interior layout, we prioritized the creation of flexible, universally adaptable spaces. Where retaining walls were previously required, we have instead implemented exposed column and beam bracing. This approach enhances spatial adaptability and ensures the building remains versatile and future-proof.



UNIVERSAL SPACES



INTERIOR VIEW

We are allowing the exterior of the original structure to age naturally, while enhancing the building's internal efficiency by upgrading windows and doors with modern Saint-Gobain products. Interior interventions are kept to a minimum, undressing the principles of the PISE construction method and showing true beauty of historical building.



COMMUNITY EVENT HALL



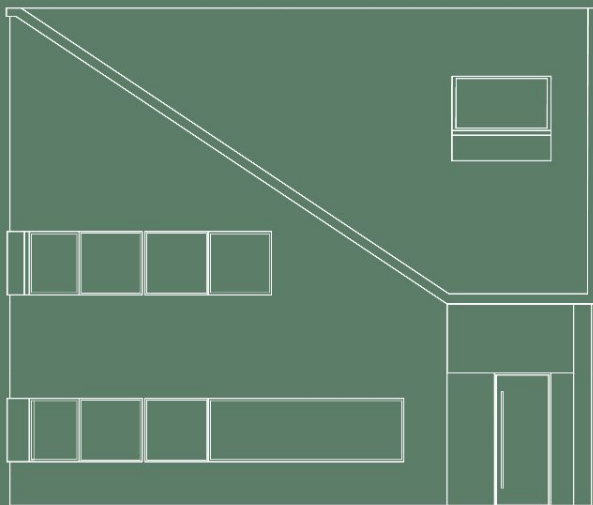
WORKSHOP AREA



COMMUNITY GATHERING SPACE



POLLING STATION HALL

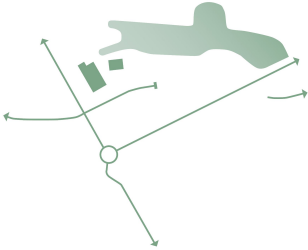


VILLEFONTAINE

VISION FOR VILLEFONTAINE



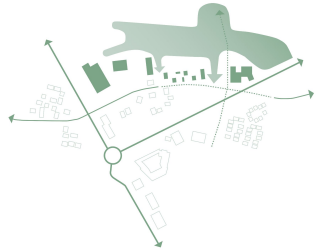
SITE PLAN



LARGE SCALE BUILDINGS ARE ALIGNED TO MAIN TRANSIT STREETS



SMALL SCALE BUILDINGS ARE ALIGNED TO THE BROKEN HISTORICAL CONNECTION

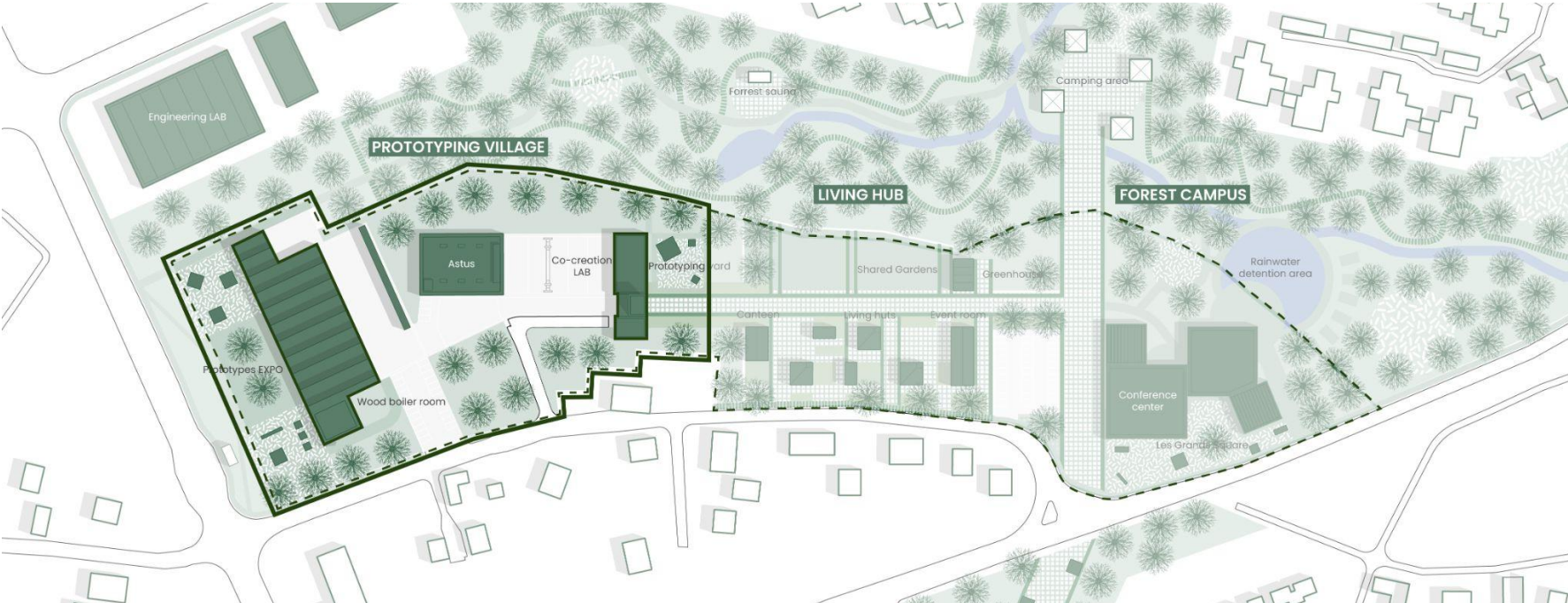


LARGE SCALE BUILDINGS DESIGNED NEARBY TRANSIT STREETS, SMALL SCALE ALONG HISTORICAL CONNECTION

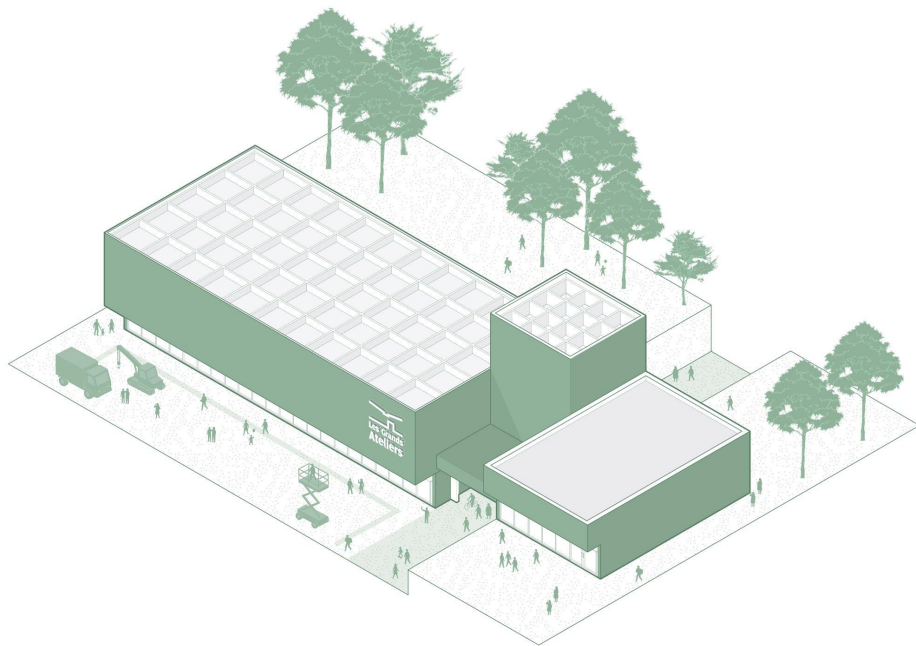
In Villefontaine, we developed the concept by highlighting the decaying connectivity of the old town and the large-scale buildings along the main transit streets. Based on this, we created a vision that is in line with the principles of urban development.
Three different characters in three different zones, each and everyone has its own style of living.



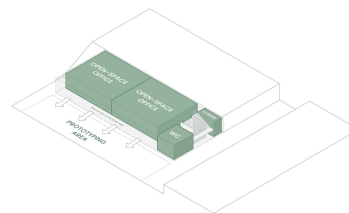
PROTOTYPING VILLAGE



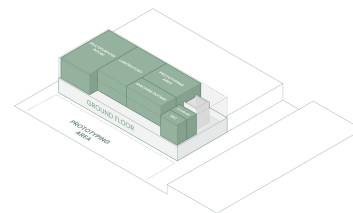
CO-CREATION LAB



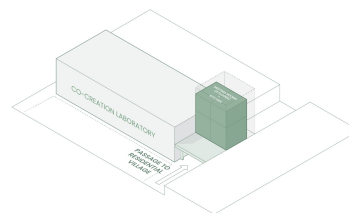
CO-CREATION LAB AXONOMETRIC VIEW



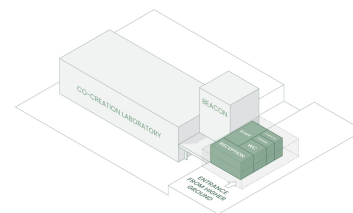
GROUND FLOOR - OPEN-PLAN OFFICES AND DIRECT ACCESS TO THE PROTOTYPING AREA



1ST FLOOR - LABORATORY AND MULTI-PURPOSE WORKSPACES

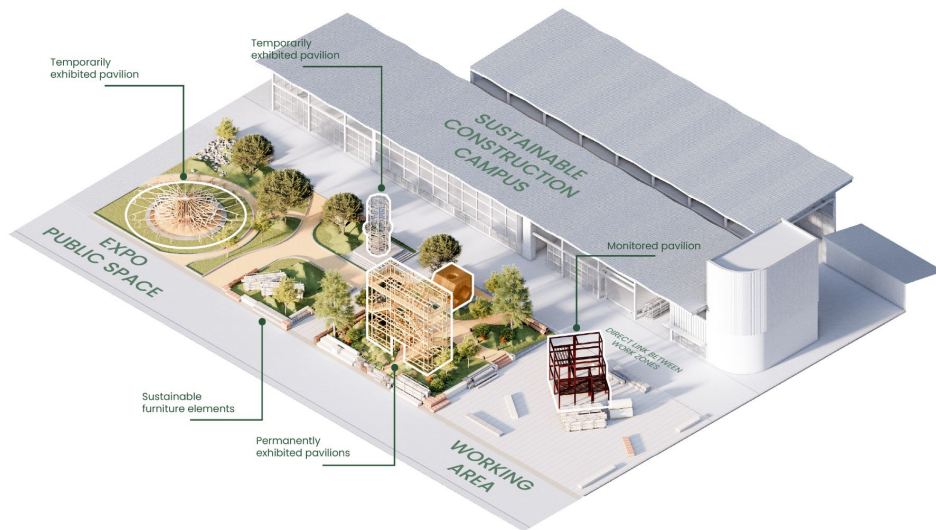


BEACON - WORK ROOMS WITH MEZZANINES AND KITCHENETTES AND CONNECTIONS BETWEEN THE TWO BLOCKS



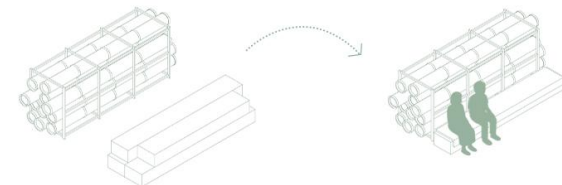
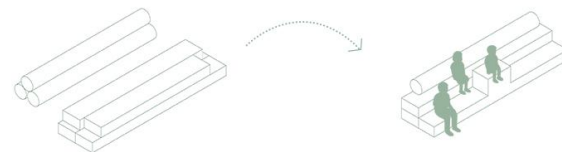
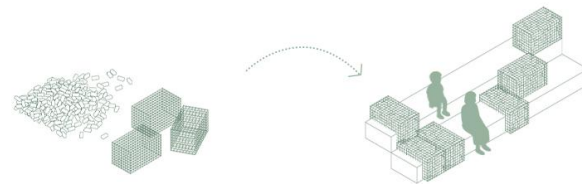
RECEPTION - RECEPTION AND ADMINISTRATION FACILITIES, ACCESS FROM THE CAR PARK ON THE HILLSIDE

SUSTAINABLE CONSTRUCTION CAMPUS



ISOMETRIC VIEW

WASTE FROM CONSTRUCTION IS REUSED FOR LANDSCAPE ELEMENTS



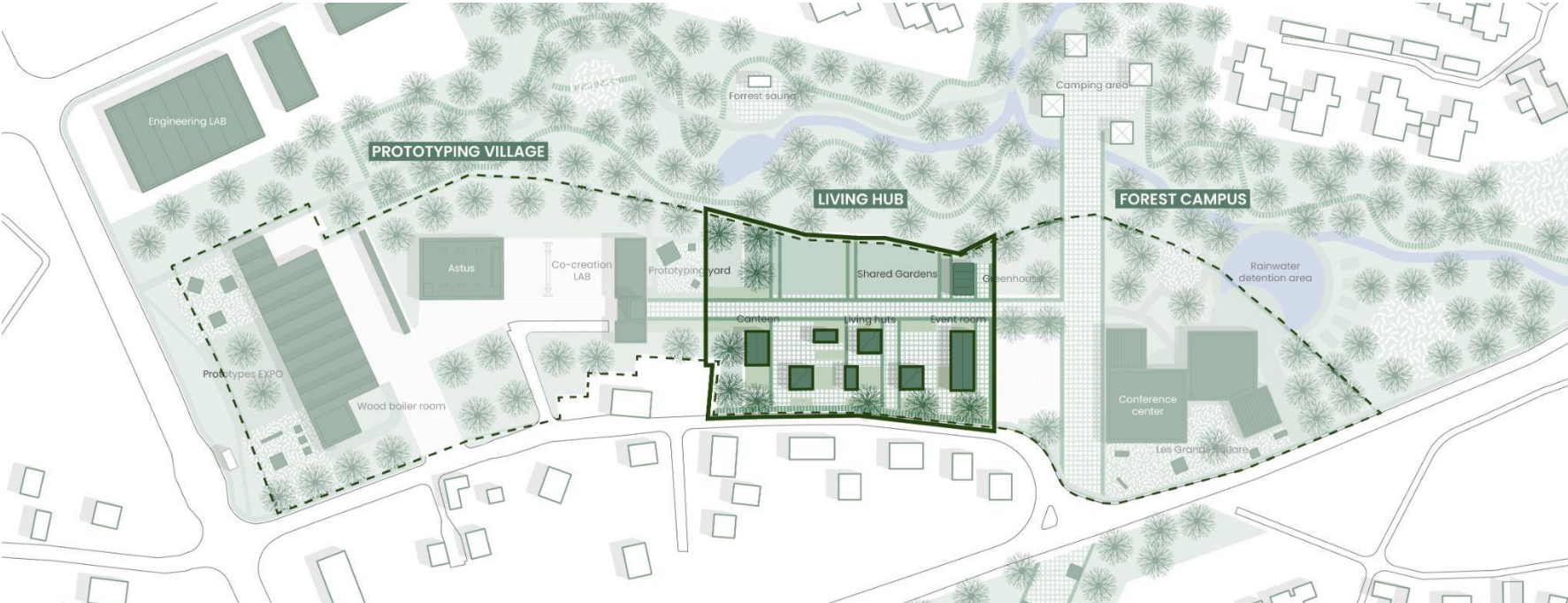


TEMPORARY EXHIBITION PUBLIC SPACE VIEW

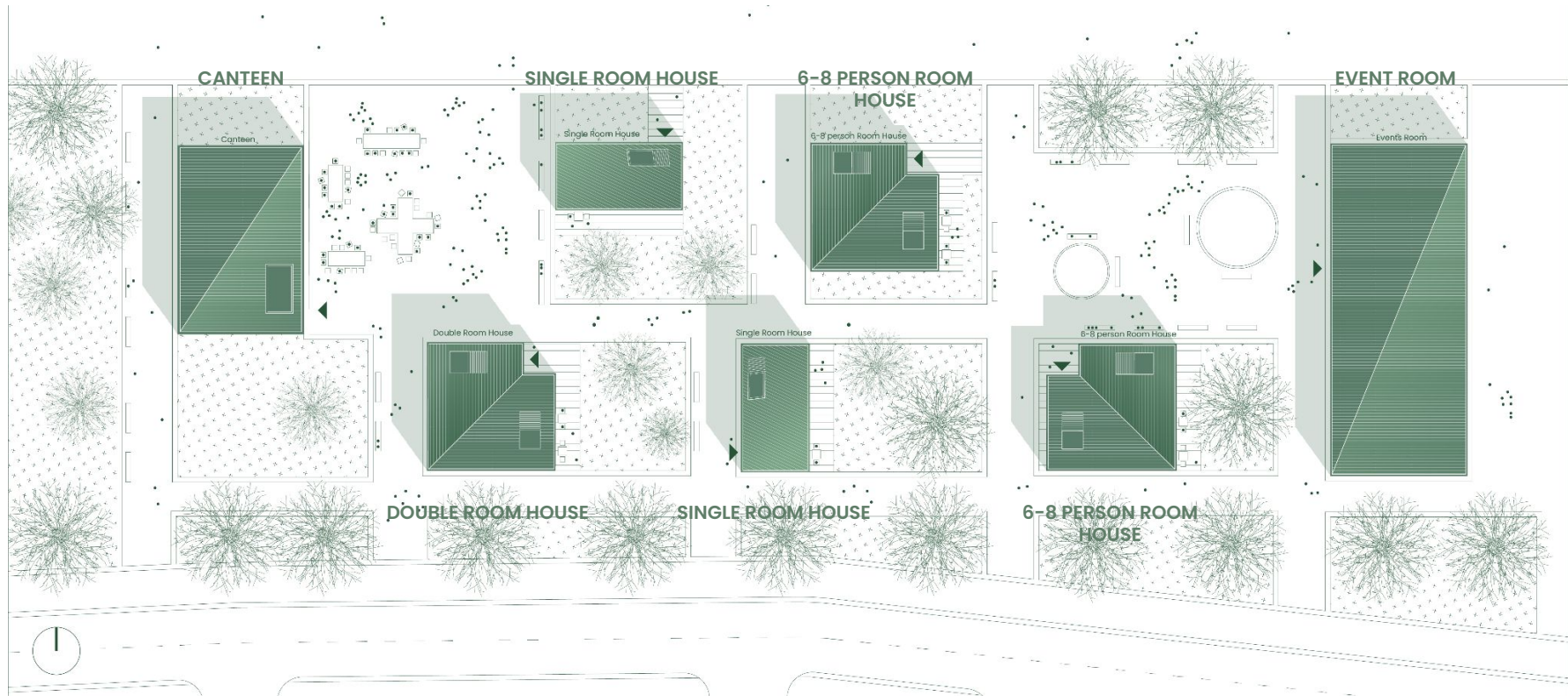


WOOD BOILER ROOM VIEW

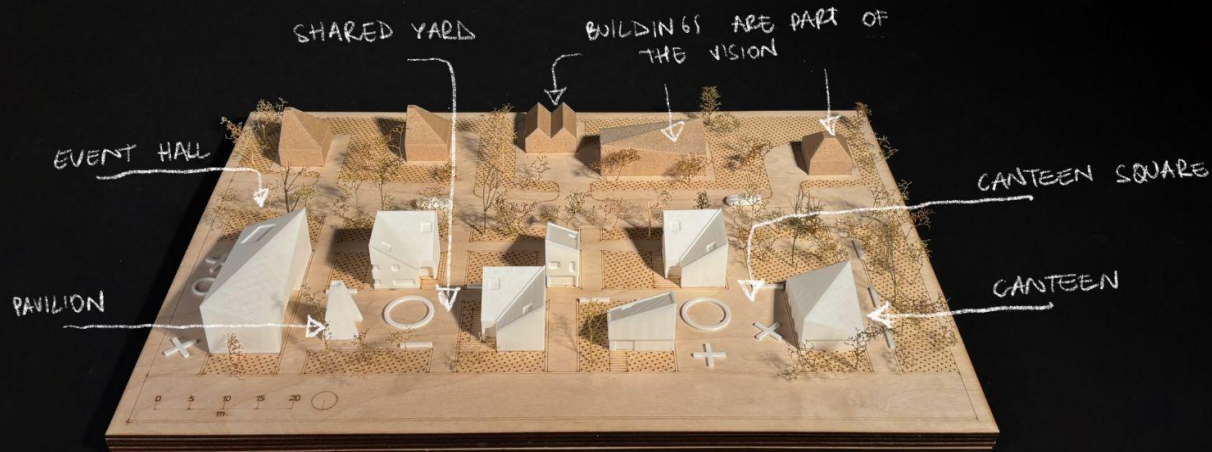
LIVING HUB



LIVING HUB



LIVING HUB SITE PLAN



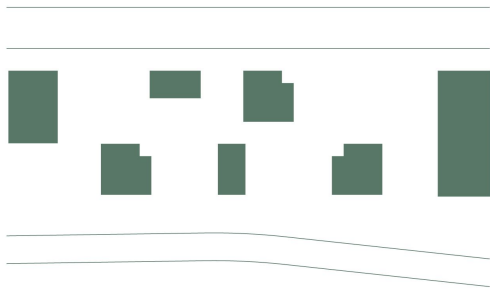
Living hub concept reflects the urban logic of the historic axis. Instead of one massive residential building, we chose to divide it into smaller volumes while merging it into similar context. Proposed building strategy reduce environmental impact of construction while improving quality of living.

LIVING HUB



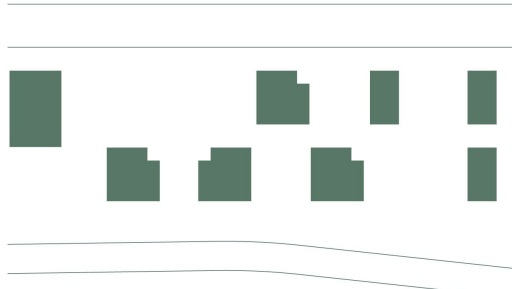
LIVING HUB ELEVATION

LIVING HUB



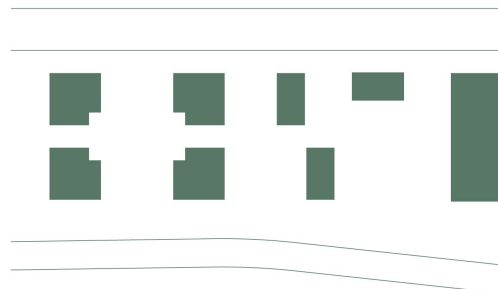
PROPOSED STRUCTURE

THE NUMBER OF DWELLINGS IS IN LINE WITH
TODAY'S ACCOMMODATION NEEDS



STRUCTURE "PLUS"

150% MORE HOUSING UNITS THAN IN THE
CURRENT PROGRAMME

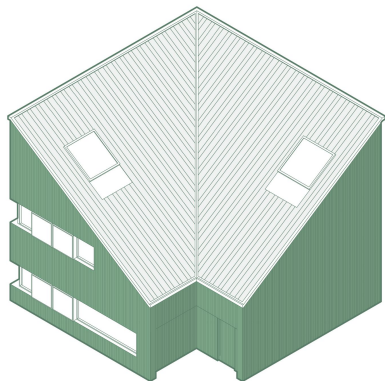


STRUCTURE "PLUS ONE"

150% MORE DWELLINGS THAN IN THE CURRENT
PROGRAMME. ADDITIONAL SOCIAL FUNCTIONS
ARE ALSO FORESEEN

Quickly assembled housing models provide the possibility to add or reduce the number of accommodation units according to changing demand during development, thus also changing the urban framework of living hub.

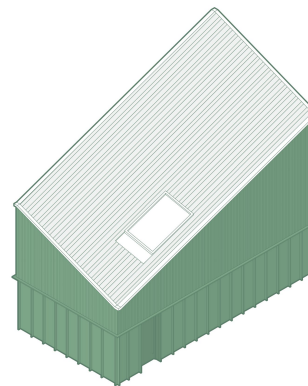
TYPICAL LIVING HOUSES



TYPE 1

HOUSE FOR DOUBLE ROOMS AND 6-8 ROOMS

TOTAL AREA: 130 m²



TYPE 2

HOUSE FOR SINGLE ROOMS

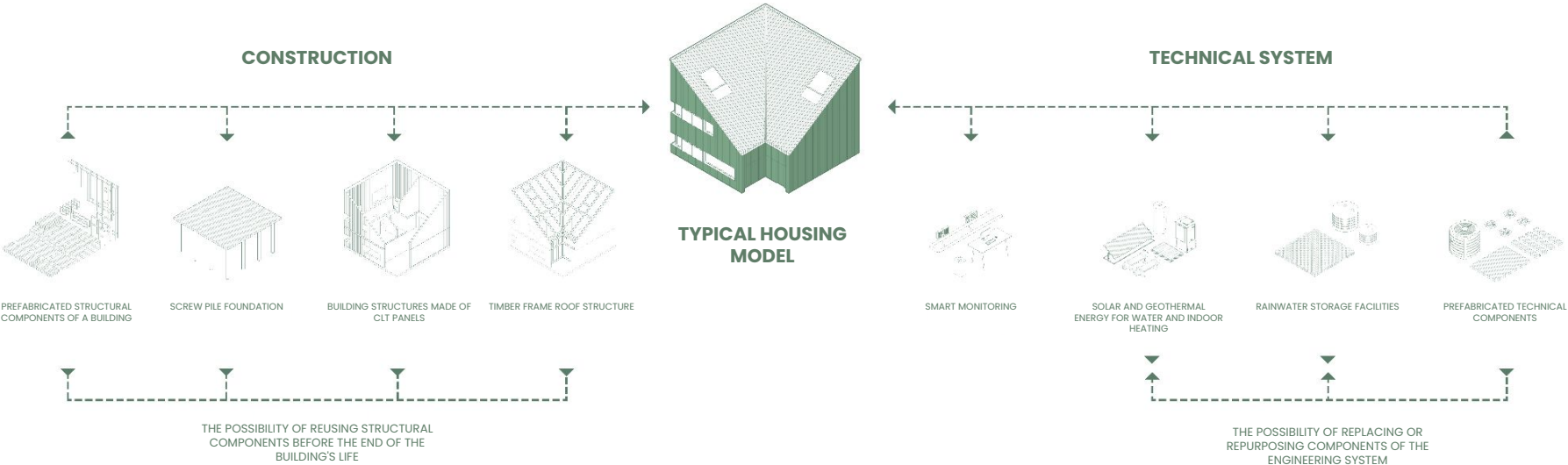
TOTAL AREA: 60 m²

ARCHITECTURAL IDEA

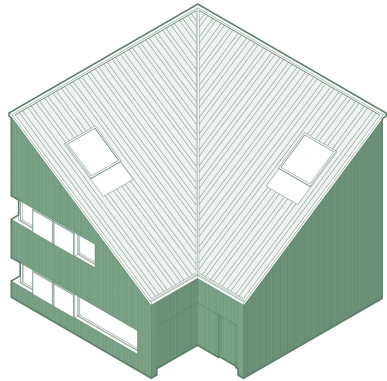


The architectural concept draws inspiration from the wooden-style district of Saint-Bonnet, characterized by newly constructed homes that blend contemporary detailing with traditional elements. The design of the living hub reflects this aesthetic, while incorporating distinctive features that further enhance its uniqueness with intriguing architectural forms.

SUSTAINABLE CONSTRUCTION



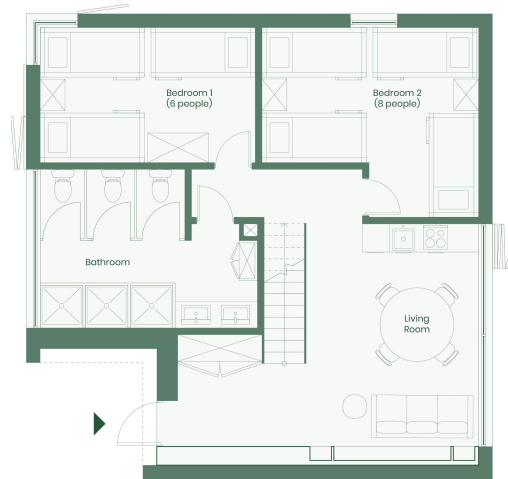
TYPE 1 HOUSING (6-8 PERSON ROOMS)



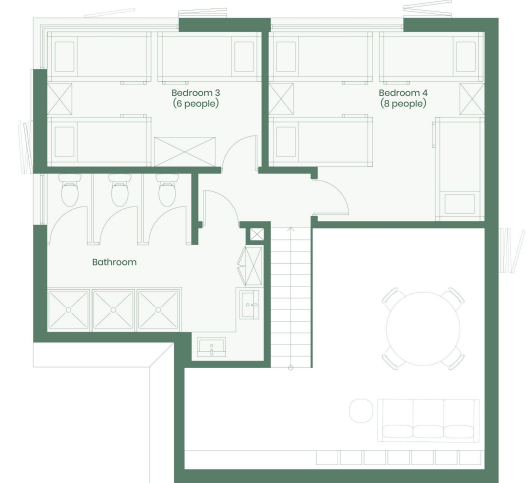
TYPE 1

HOUSE FOR DOUBLE ROOMS AND 6-8 ROOMS

TOTAL AREA: 130 m²

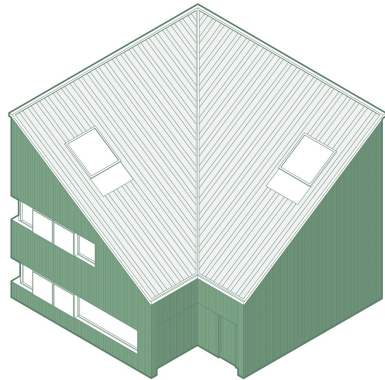


GROUND FLOOR PLAN



1ST FLOOR PLAN

TYPE 1 HOUSING (DOUBLE ROOMS)



TYPE 1

HOUSE FOR DOUBLE ROOMS AND 6-8 ROOMS

TOTAL AREA: 130 m²

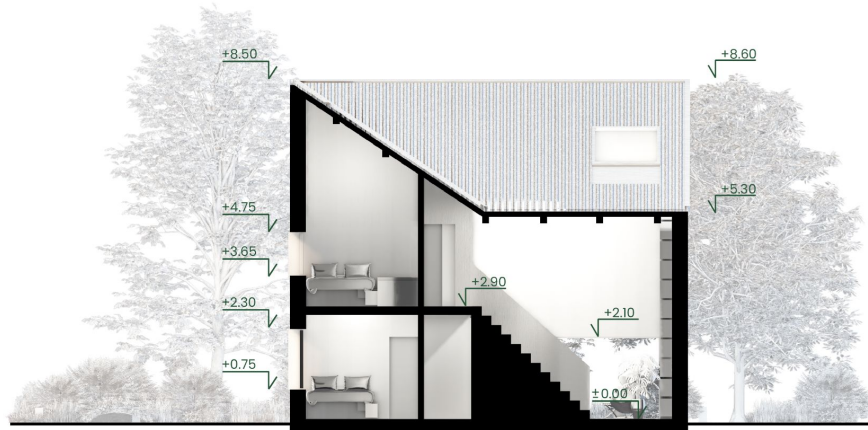


GROUND FLOOR PLAN



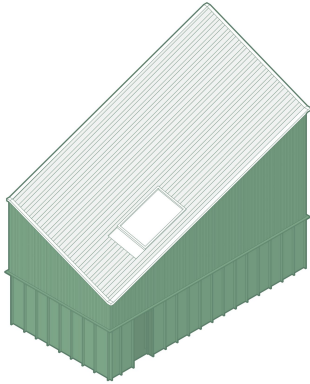
1ST FLOOR PLAN

TYPE 1 HOUSING (DOUBLE ROOMS)





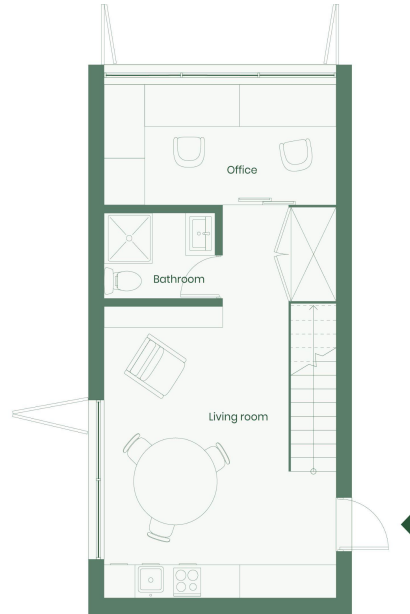
TYPE 2 HOUSING (SINGLE ROOMS)



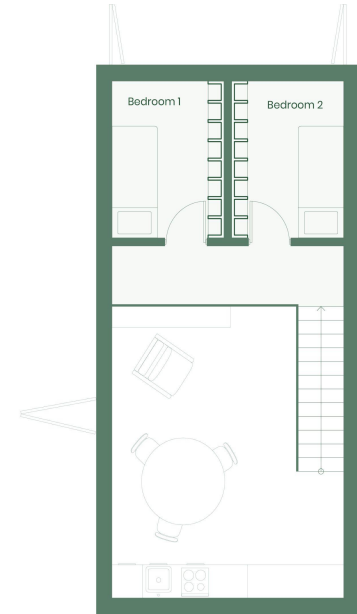
TYPE 2

HOUSE FOR SINGLE ROOMS

TOTAL AREA: 60 m²



GROUND FLOOR PLAN



1ST FLOOR PLAN



ACOUSTIC COMFORT



ROOF INSULATION

ISOVER STANDARD 35 ROLL

ACOUSTIC CEILING

Ecophon Connect™

Ecophon Solo™ Rectangle Akutex HS

INTERSTOREY SOUND AND IMPACT INSULATION

Ecophon Opta A

ISOVER Comfort FLO

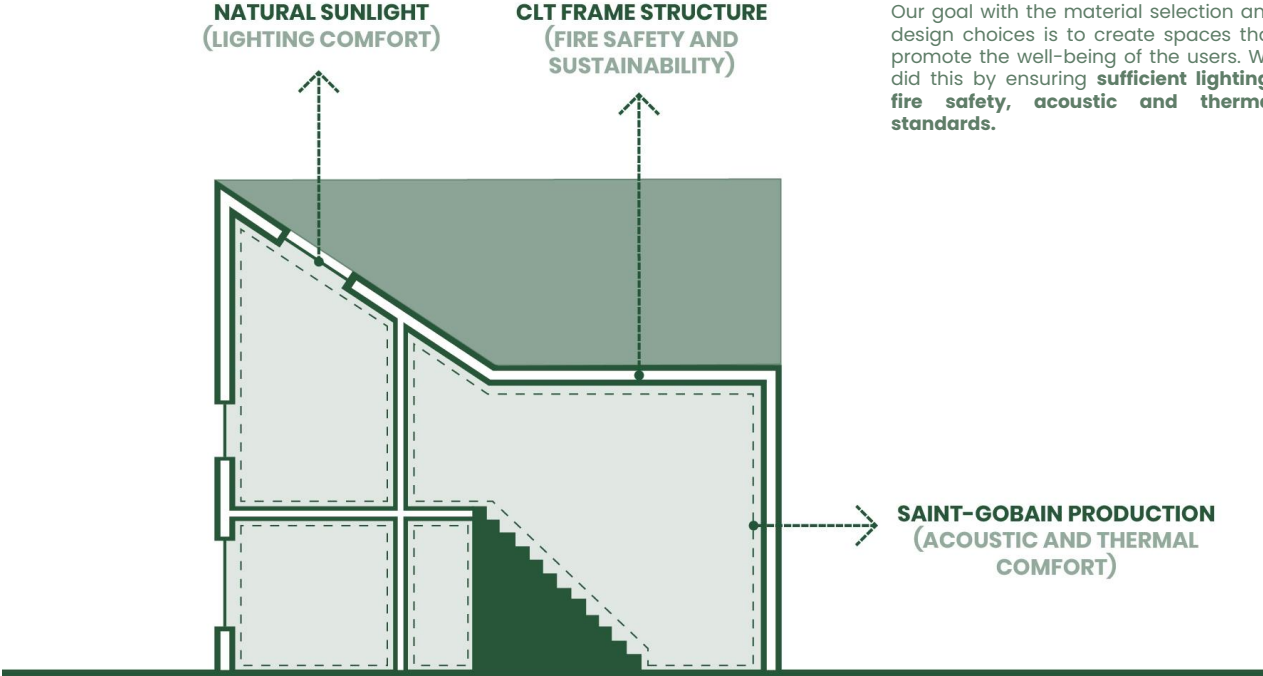
PARTITION INSULATION

ISOVER Acoustic

ISOVER FS5+

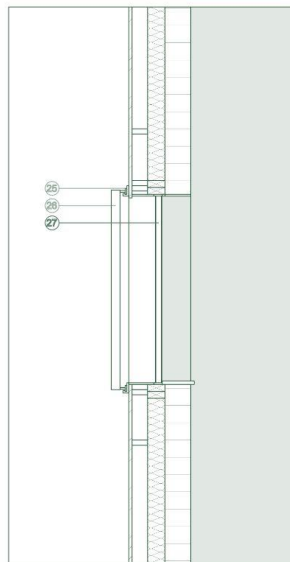
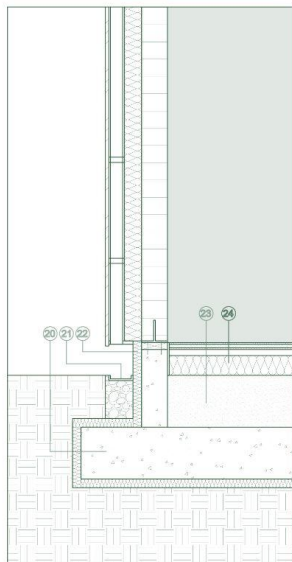
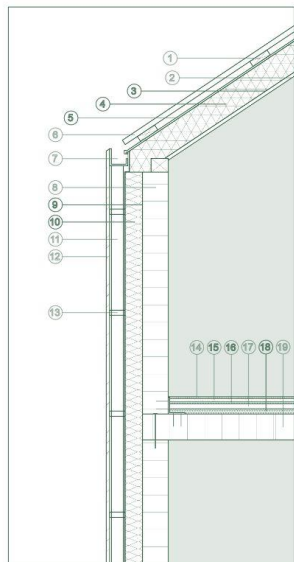


STEPS TOWARDS COMFORT



Our goal with the material selection and design choices is to create spaces that promote the well-being of the users. We did this by ensuring **sufficient lighting, fire safety, acoustic and thermal standards.**

INSULATION



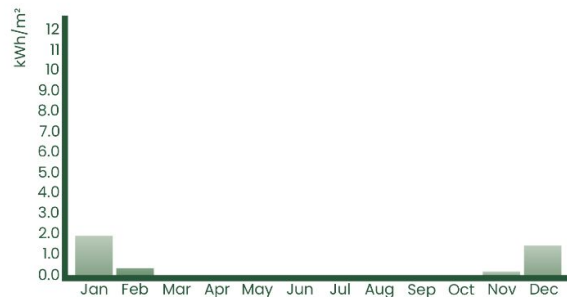
1. Roof battens 20mm
2. Exposed rafters 20mm
- 3. ISOVER Vario Stopvap airtight membrane 1mm**
- 4. ISOVER Timber Frame Roll 40 insulation 200mm**
- 5. ISOVER Varop Xtra Breathable Membrane 1mm**
6. Corrugated Metal 20mm
7. Hidden gutter
8. CLT Timber 150mm
- 9. ISOVER Varop Xtra Breathable Membrane 2mm**
- 10. ISOVER Multimax 30 rigid Insulation 100mm**
11. Downspout 70mm
12. Exterior wood cladding 20mm
13. Wall battens
14. Floor finish 15mm
- 15. WEBER Weberfloor Flex Leveling layer 20mm**
- 16. ECOPHON Opta A acoustic mat 15mm**
17. Service cavity 50mm
- 18. ISOVER Comfort FLO floor insulation 50mm**
19. CLT Timber 150mm
20. In-situ concrete slab 300mm
21. Rainwater duct
22. XPS thermal insulation 50mm
23. Service cavity filled with sand 300mm
- 24. ISOVER Spacesaver insulation 150mm**
25. Wood shutter railing
26. Wood shutter
- 27. SAINT-GOBAIN Cool-Lite SKN 176 glass package**



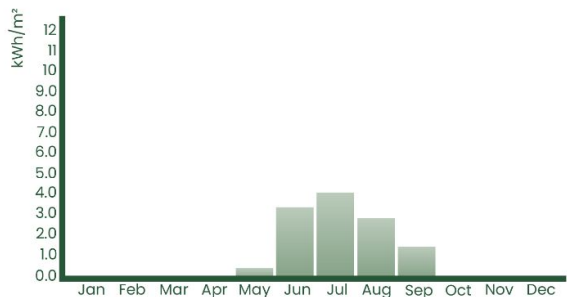
ENERGY EFFICIENCY CALCULATIONS

Graphs

Heating needs



Cooling needs



Compliance

Heating needs

Building value

3.5 kWh/m²

Max. limit value

15 kWh/m²

Cooling needs

14.1 kWh/m²

15 kWh/m²

Lighting autonomy 300 Lux

Space 1

Autonomy, %

65.5

Space 2

65.7

Space 3

62.9

Space 4

90.7

Space 5

86.1

Space 6

83.0

Space 7

65.0

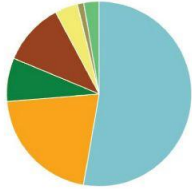
Min. requirement: 60.0%

Building average: 74.1%

LIFE CYCLE ANALYSIS

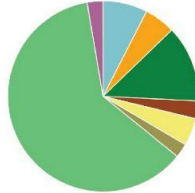
Mass kg - Classifications

- 1.1 Foundations (substructure) - 52.7%
- 1.2 Load bearing structural frame - 21.0%
- 1.2.3 External walls - 7.6%
- 1.3.1 Ground floor slab - 10.9%
- 1.3.2 Internal walls, partitions and doors - 4.0%
- 1.4.2 Façade openings - 1.1%
- 1.5 Roof - 2.7%



Global Warming Potential total kg CO2e - Classifications

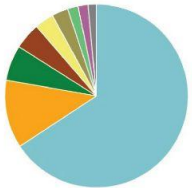
- 1.1 Foundations (substructure) - 7.5%
- 1.2.3 External walls - 5.2%
- 1.3.1 Ground floor slab - 13.0%
- 1.3.2 Internal walls, partitions and doors - 3.0%
- 1.4.2 Façade openings - 4.7%
- 1.5 Roof - 2.4%
- Electricity use - 61.5%
- Construction site scenarios - 2.7%



Global Warming Potential total kg CO2e - Resource types

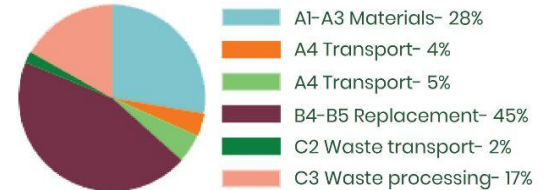
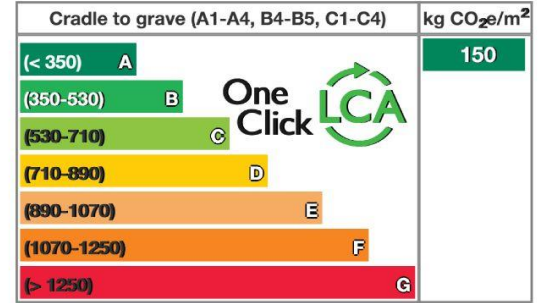
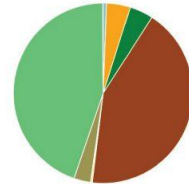
This is a drilldown chart. Click on the chart to view details

- Electricity - 65.8%
- Resilient flooring - 12.0%
- Ready-mix concrete for foundations and internal walls - 6.2%
- Treated or coated timber - 4.7%
- Aluminium frame windows - 3.4%
- Other site operation - 2.9%
- Structural steel and steel profiles - 1.9%
- Wood and wood board doors - 1.8%
- Glass facades and glazing - 1.5%



Global Warming Potential total kg CO2e - Life-cycle stages

- A4 Transport - 0.6%
- A5 Construction - 4.3%
- B4-B5 Replacement - 4.2%
- B6 Energy - 42.8%
- C2 Waste transport - 0.3%
- C3 Waste processing - 3.0%
- C3-biogenic Biogenic waste processing - 44.7%
- C4 Waste disposal - 0.0%
- C4-biogenic Biogenic waste disposal - 0.1%





DEPENDING ON THE ACCOMMODATION,
BUILDINGS CAN HAVE A LIFE OF THEIR OWN -
ACTIVE OR PASSIVE.



