

THE URBAN GARDEN



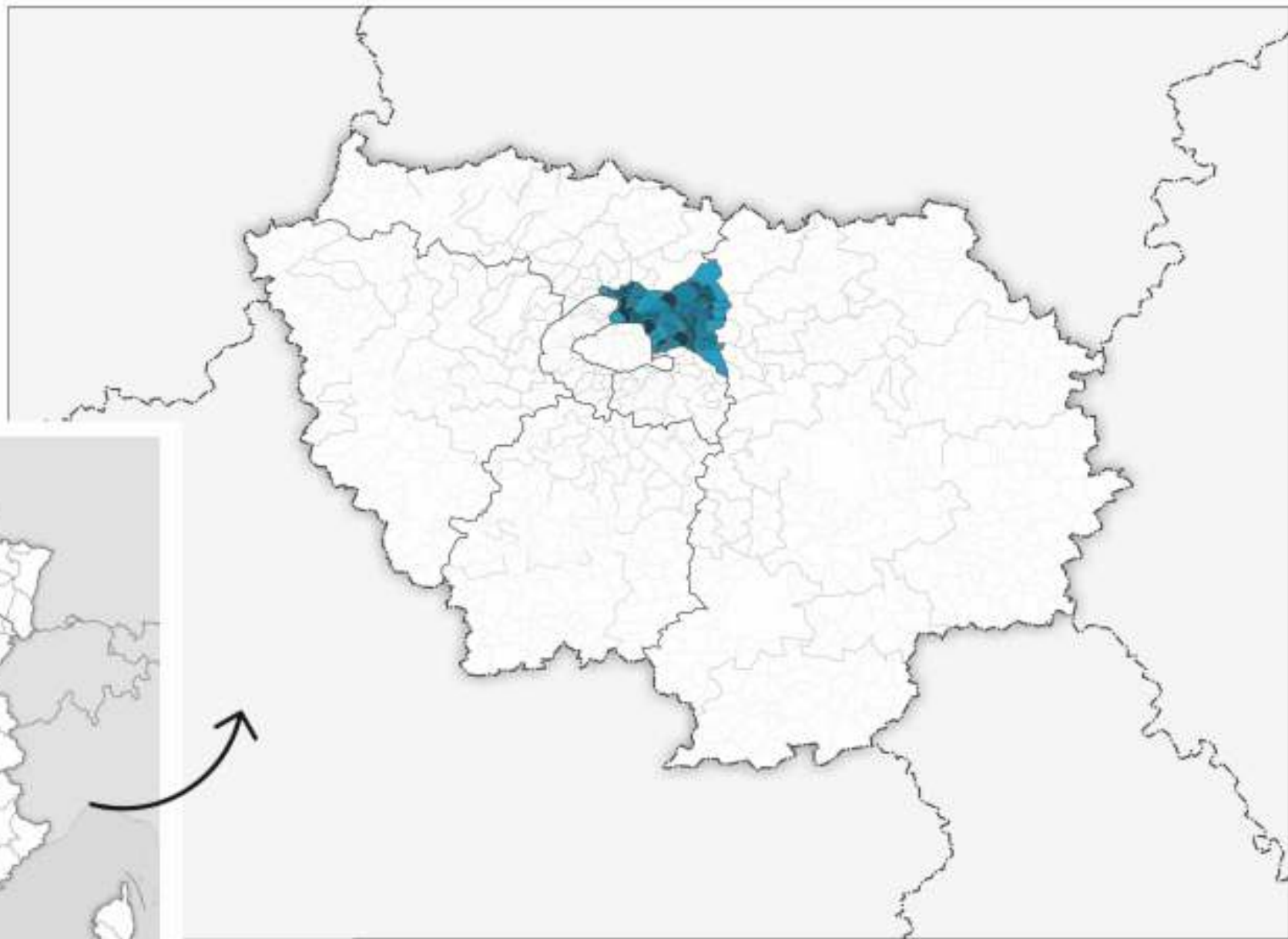

SAINT-GOBAIN



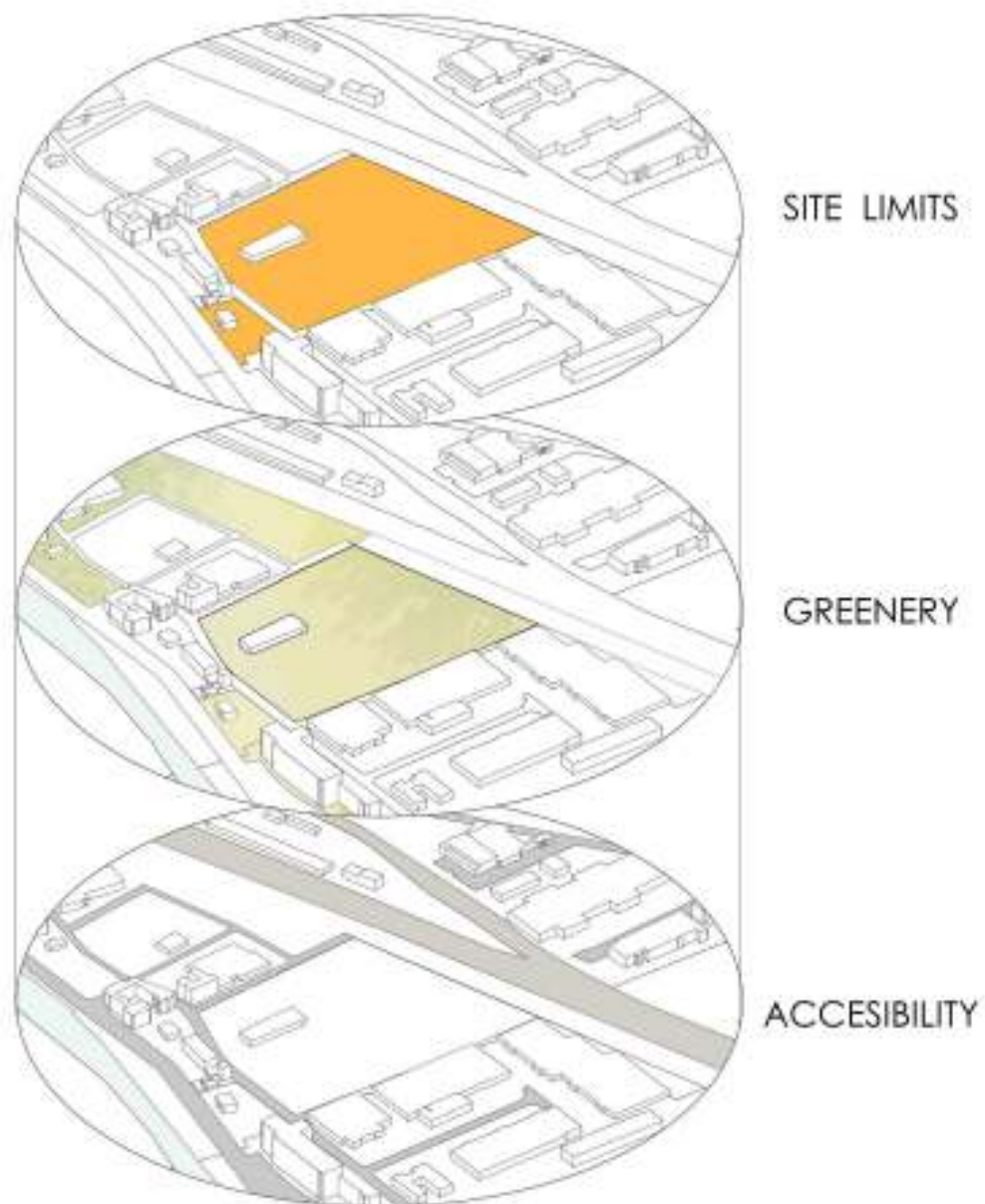

Multi Comfort
BY SAINT-GOBAIN



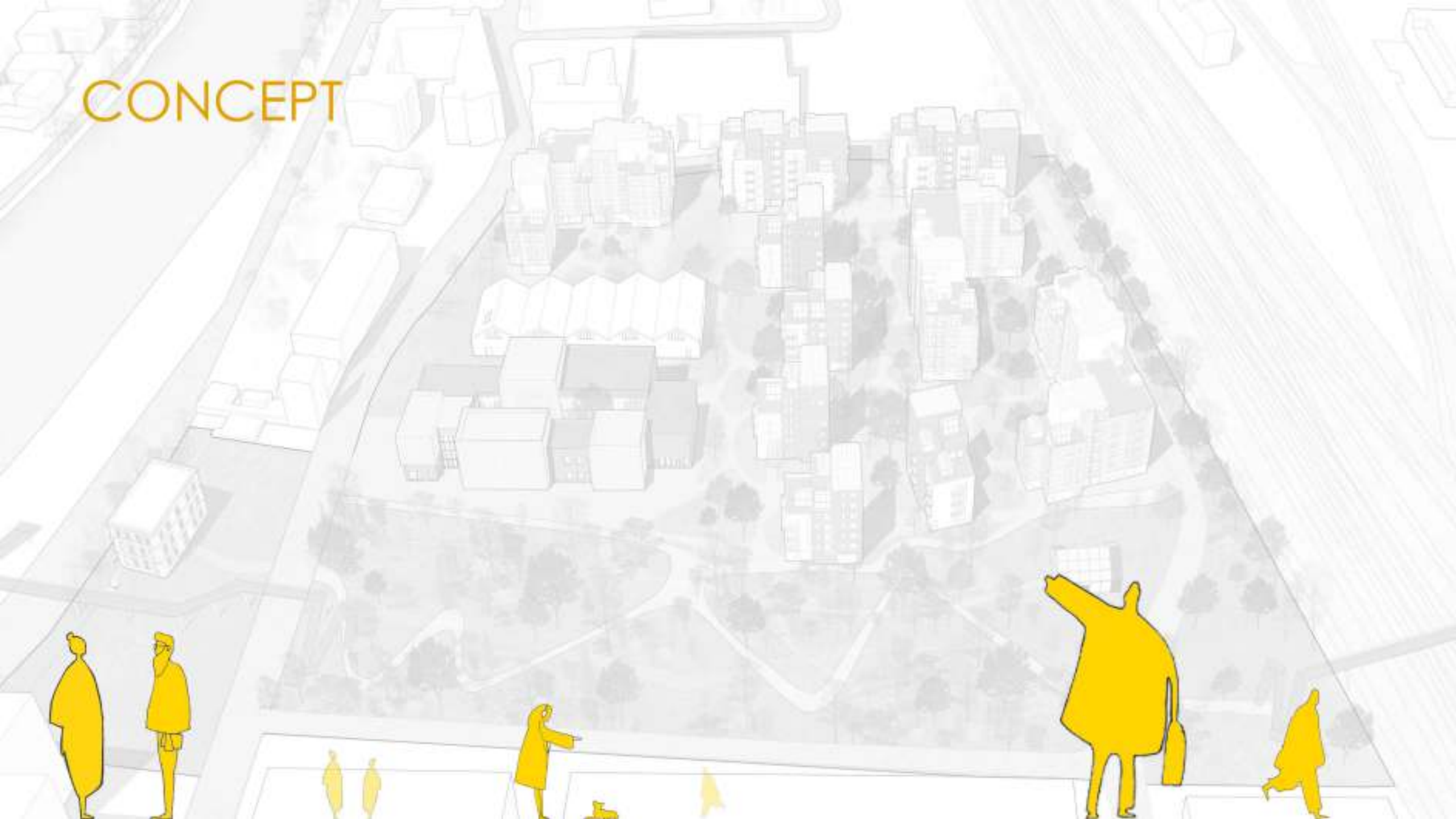
CONTEXT ANALYSIS



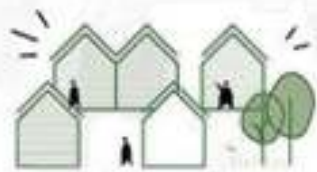
CONTEXT ANALYSIS



CONCEPT



WHY CLT ?



LONG MATERIAL CYCLE



OPTIMIZED BUILDING PROCESS



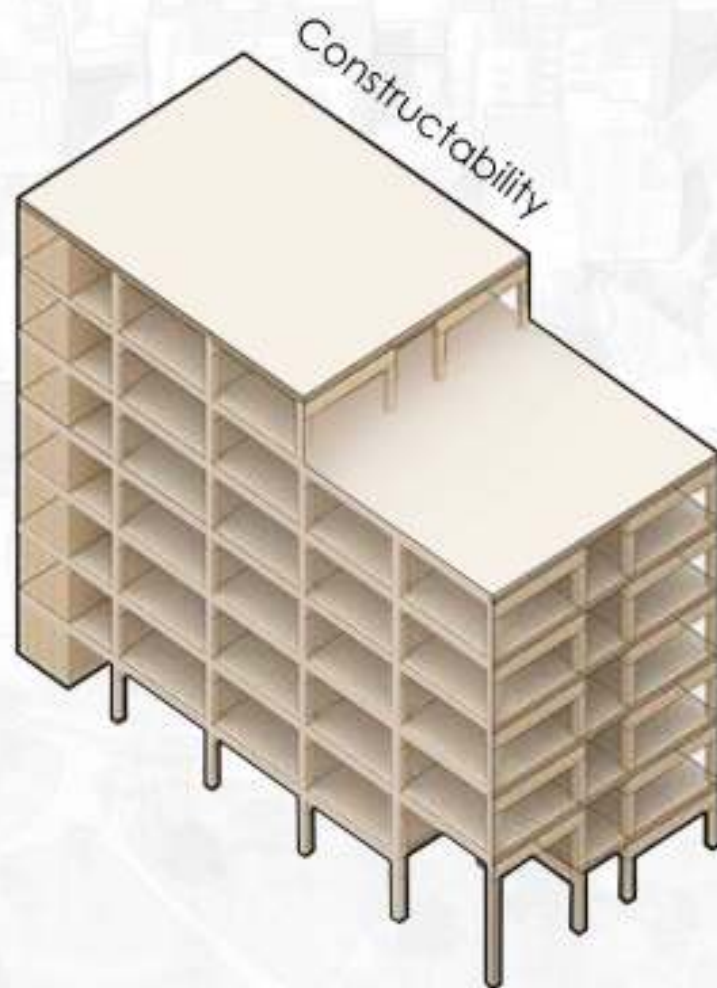
DESIGNED FOR DISASSEMBLY



FLEXIBLE BUILDING MODEL



VARIOUS FACADE



SITE

WAREHOUSES

MAISON COGNIT



BUILDINGS CONFIGURATION



WAREHOUSE

MAISON COGNIT

RESIDENTIAL

SCHOOL







EXTEND THE GARDEN



THE URBAN GARDEN





THE URBAN GARDEN

GREEN ROOF

RESIDENTIAL

COURTYARDS

GREENHOUSES

PARK

CONNECTION

SENE

LOCAL MARKET

WAREHOUSES

SCHOOL

MAISON COIGNET







ROOF WITH PA
INSULATION



AVOIDING THERMAL
BRIDGES



CL. STRUCTURE



SOLAR
PANELS



SHADE WINDOWS
TO STOP OVERHEATING



SOIL COOLING
THERMOCOOLING
AND COOL



PLANT
SHADE



SHADING WITH
HORIZONTAL BLINDS



COOLING WITH
WATER EVAPORATION



PEOPLE
SPACES



SEE PRIVATE
SPACES



USE PRIVATE
SPACE



ACQUA
SOUND



ENJOY THE SUN
AT SUNLIGHT



NATURAL
VENTILATION



UNDERGROUND
PARKING



GREEN
SPACES



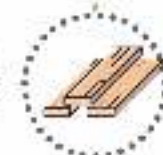
PEOPLE
SPACES



PLANT
SHADE



GREEN
SPACE



WOOD
EXPOSURE



VENTILATION
WITH NATURAL VENT



ACOUSTIC INSULATION



AIR- AND THERMAL BREAKS



CLIMATIC CELLS



CITY COURTYARDS



RAINWATER SYSTEM
COLLECTED REUSE



COOLING AND
HEATING



GREEN ROOF



SOLAR PANELS



VERTICAL GREEN
BUILDINGS



PEOPLE
STORIES



WASTE
LIFE



GREEN BUILDING
CONCEPTS



ACOUSTIC COMFORT



BUILDING ENERGY EFFICIENCY



WATER MANAGEMENT



GREEN SPACES



SOCIAL SPACES



SUSTAINABLE BUILDING



GREEN BUILDING



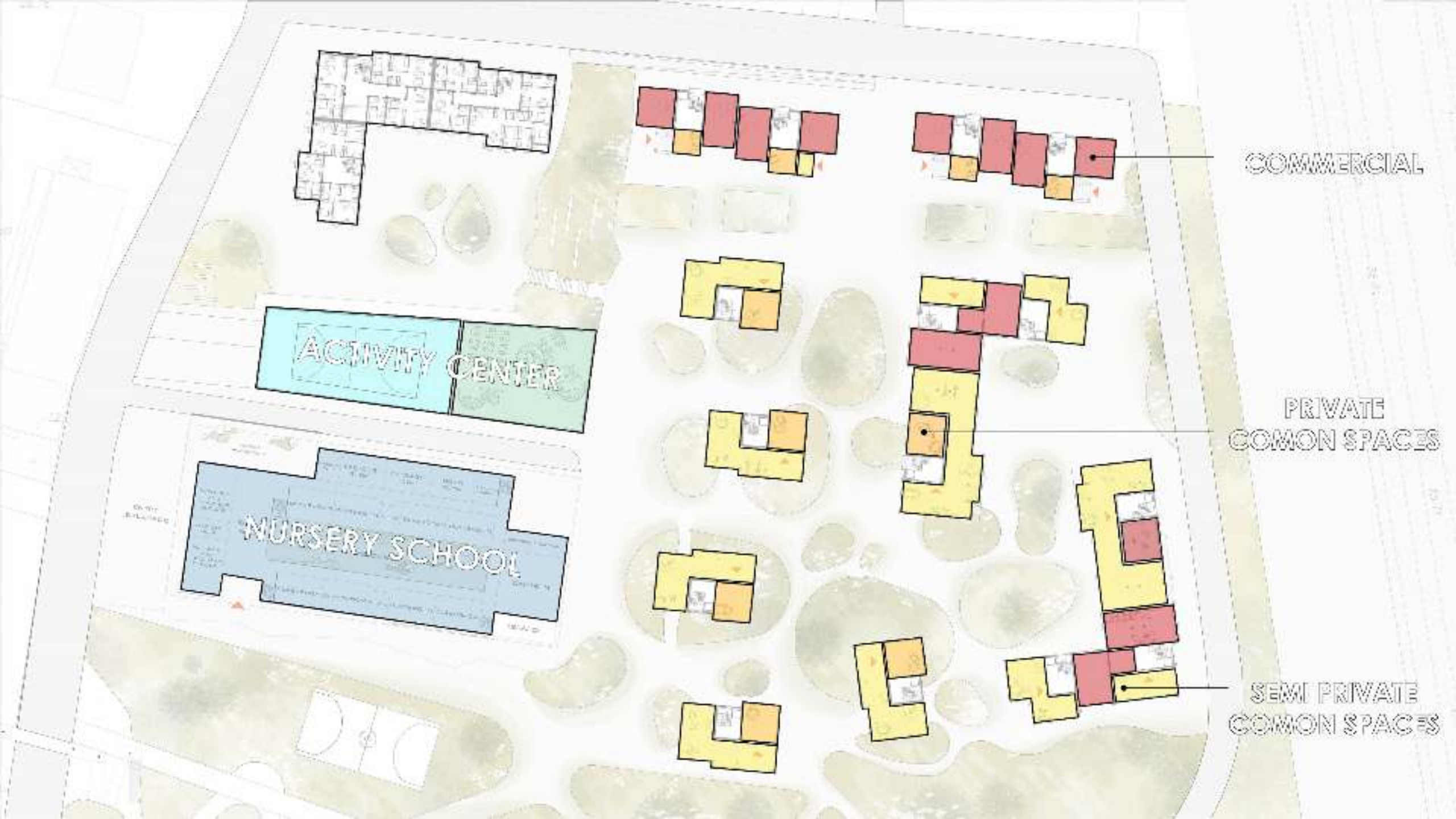
GREEN BUILDING



GREEN BUILDING







COMMERCIAL

PRIVATE
COMMON SPACES

SEMI PRIVATE
COMMON SPACES

GROUND FLOOR

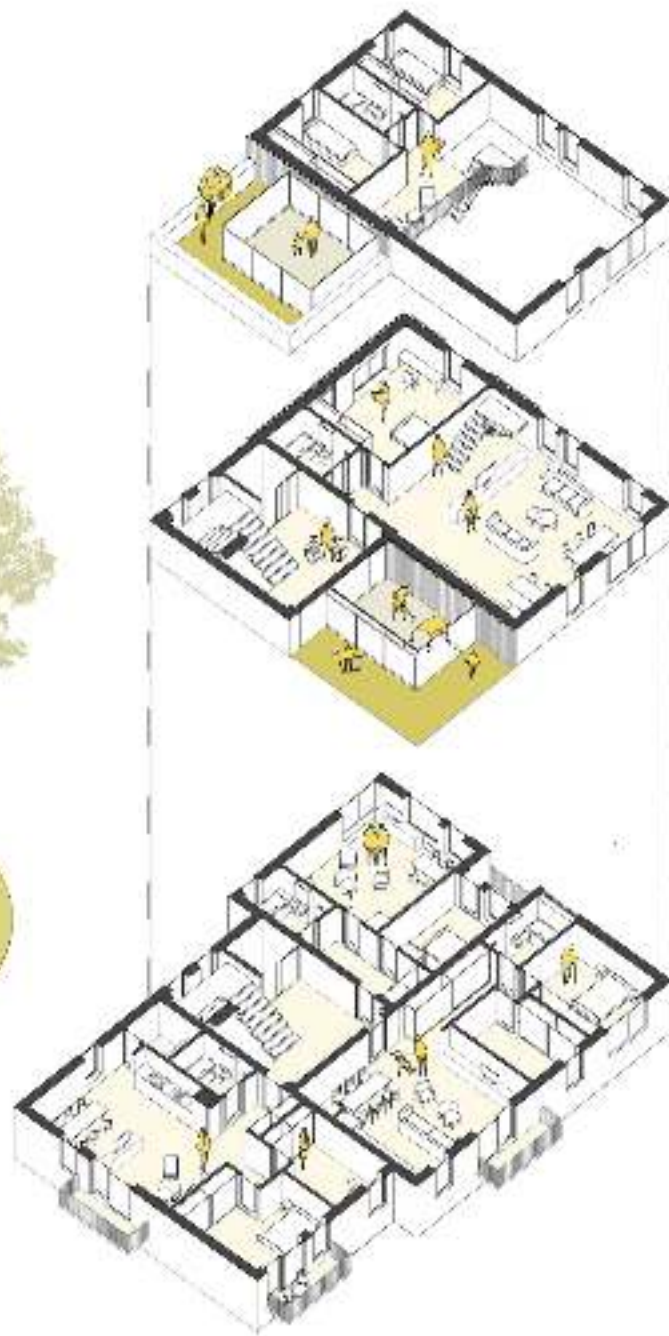
The site plan illustrates the ground floor layout of a school building. It features a central courtyard area with several small, rectangular buildings and numerous trees. On the left side, a large building contains a gymnasium, a playground, and a library. A smaller building on the right side contains a classroom. The plan is labeled "GROUND FLOOR" in the top left corner.

CURRENT FLOOR

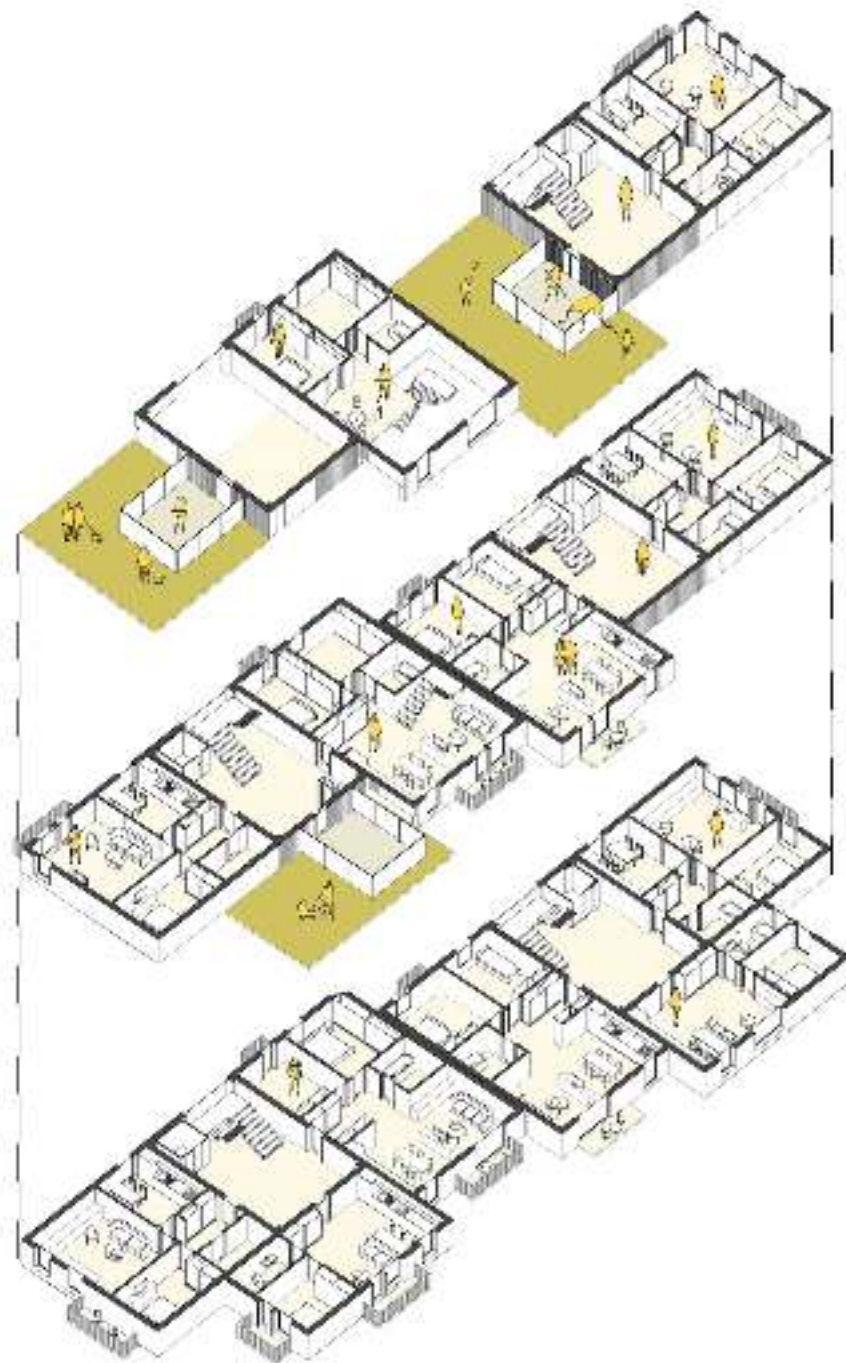




APARTMENTS TYPOLOGY

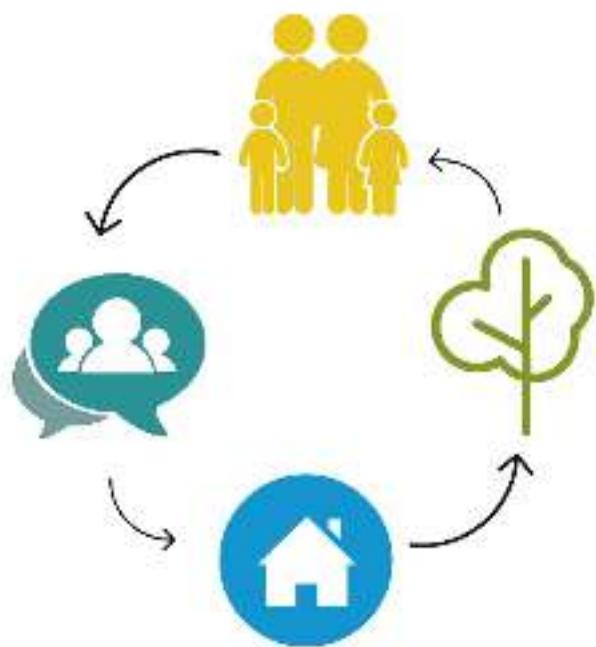


APARTMENTS TYPOLOGY

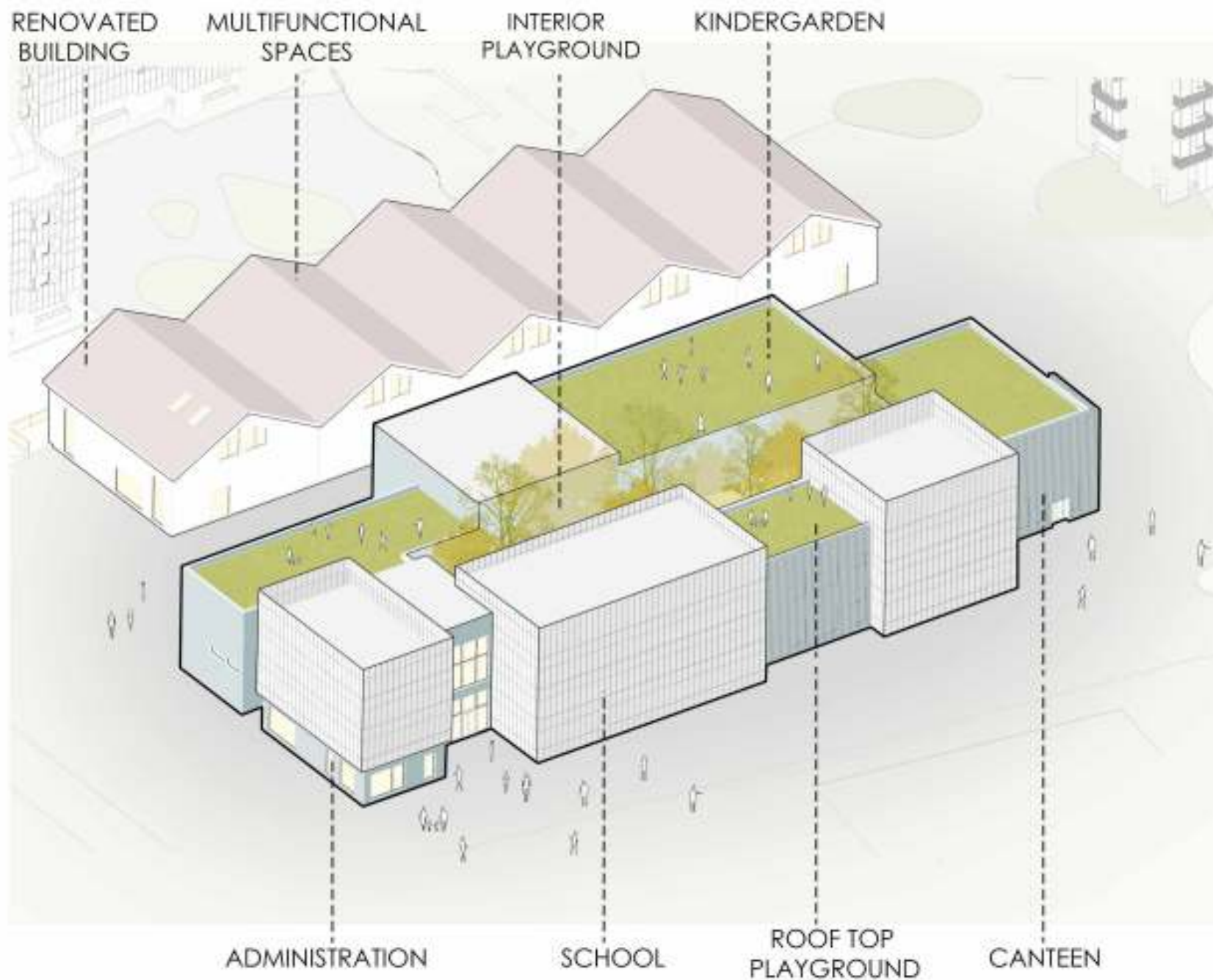


GREENHOUSES

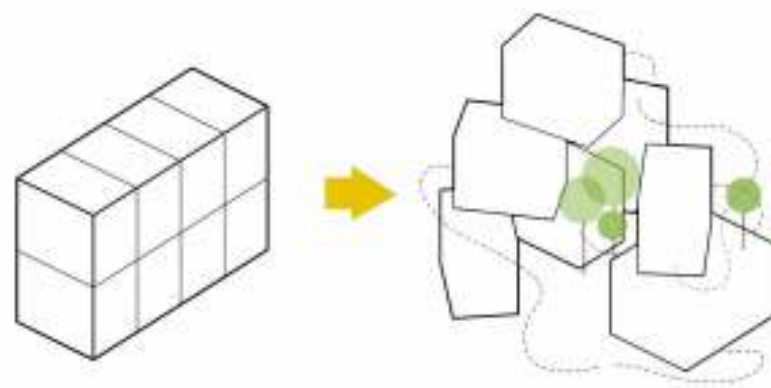
- BRING PEOPLE TOGETHER
- SHARED ACTIVITIES
- COMMUNAL SPACE
- SEMI-PRIVATE ZONE







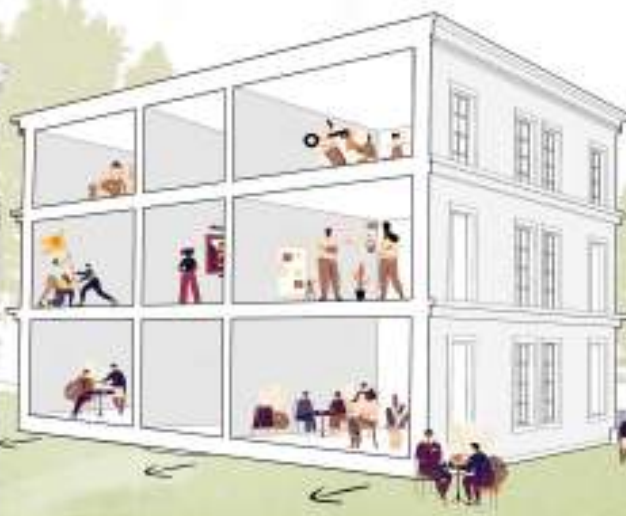
SCHOOL + KINDERGARDEN





HERITAGE

MAISON COIGNET



3.WORKSHOPS

2.EXHIBITION

1.CAFE



WAREHOUSES

REUSE of existing structure
CREATING new public spaces
ATTRACTING visitors

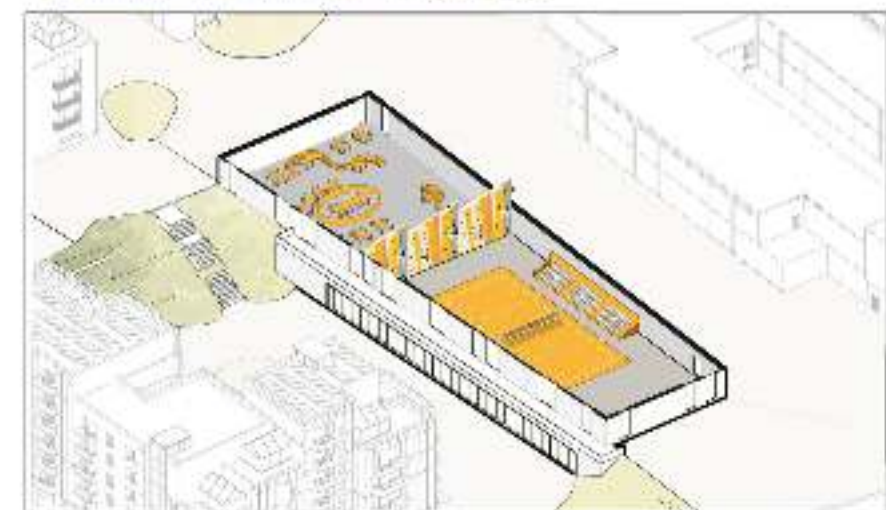
1. MULTIPURPOSE SPACE



2. LOCAL MARKET



3. MULTIPURPOSE FIELD



COMFORT



feel

see

hear

breathe

Multi Comfort
BY SAINT-GOBAIN

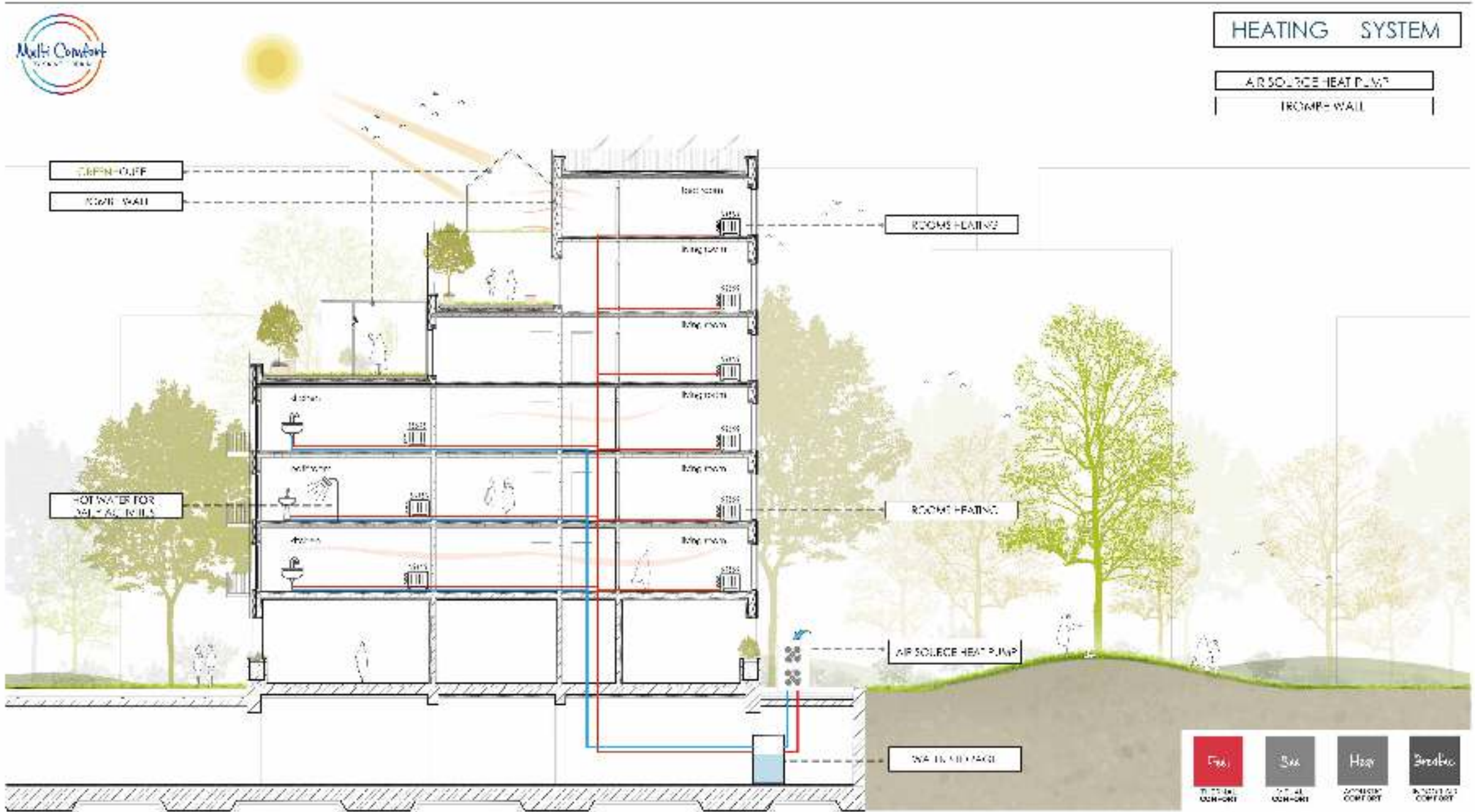
SUSTAINABLE



people

planet

prosperity



AR SOURCE HEAT PUMP

IRONAP-VIA

ROOMS + LAINES

ROCHE-FATING.

AIR SOURCE HEAT PUMP

284 H. A. D. P. O. G.

544

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Figure 1

2021
12/11/2021

H₂O

2004/05
0001/0001

2014/15

ACKNOWLEDGMENTS





ACOUSTIC COMFORT

USING SAINT-GOBAIN PRODUCTS





VISUAL COMFORT

USING SAINT-GOBAIN PRODUCTS



USING ECO-TRIPLE
GLAZING WINDOWS



NATURAL SHADING
PROVIDED BY VEGETATION

EXTERNAL THERMAL

INTERIOR BLINDS

SAINT-GOBAIN
FLAT-HERN-BOLAR

Free

Thermal
COMFORT

Low

Visual
COMFORT

High

Acoustic
COMFORT

Dynamic

Acoustic
COMFORT



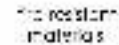


USE & RE-USE OF NATURAL SOURCES

SOLAR PANELS




SYSTEM & STRATEGY

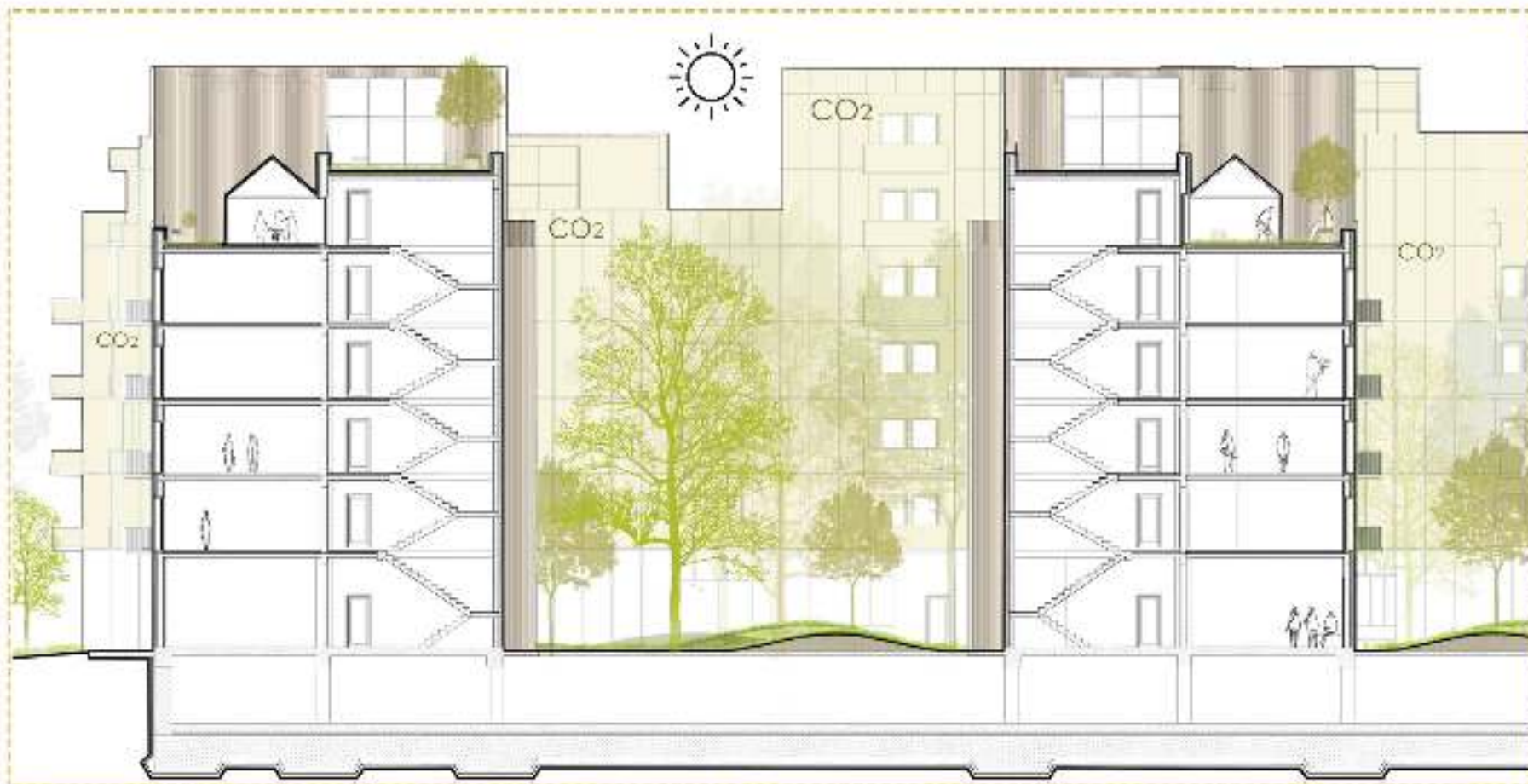
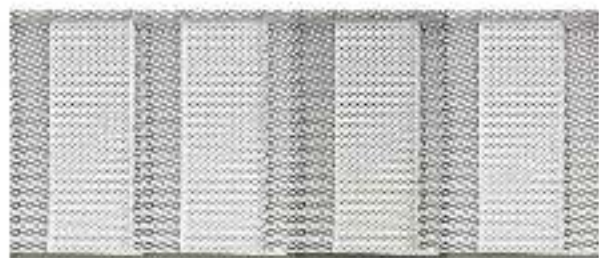
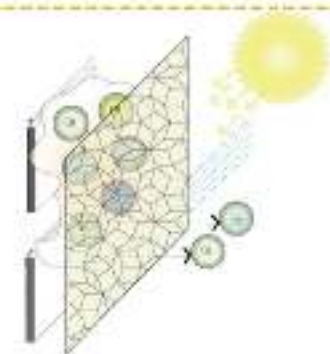


SMOG EATING FACADE

- the treatment is a thin layer of titanium dioxide (TiO_2) applied to wood & metal panels

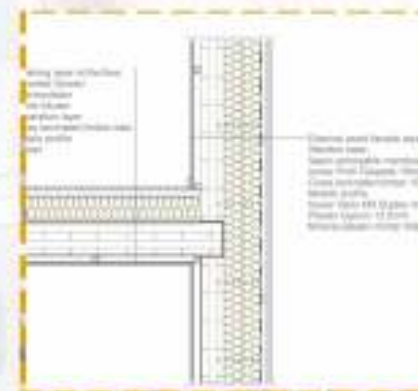
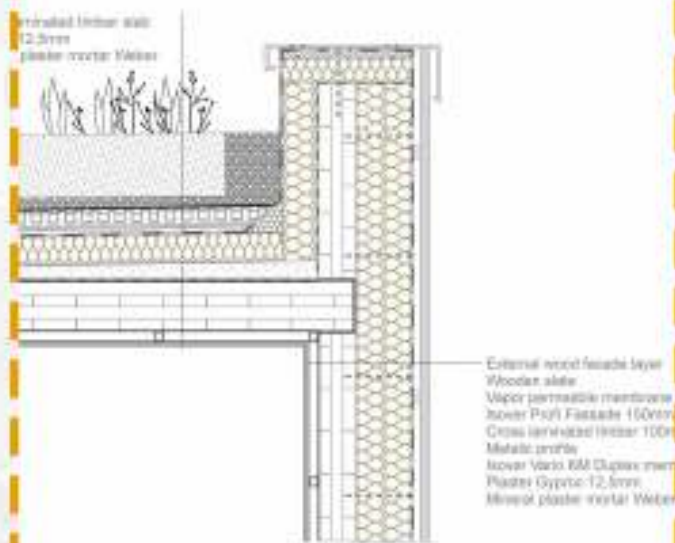
- when sunlight hits the chemically treated surface, a process begins that oxidizes organic matter, turning pollutants into water vapor and CO_2 .

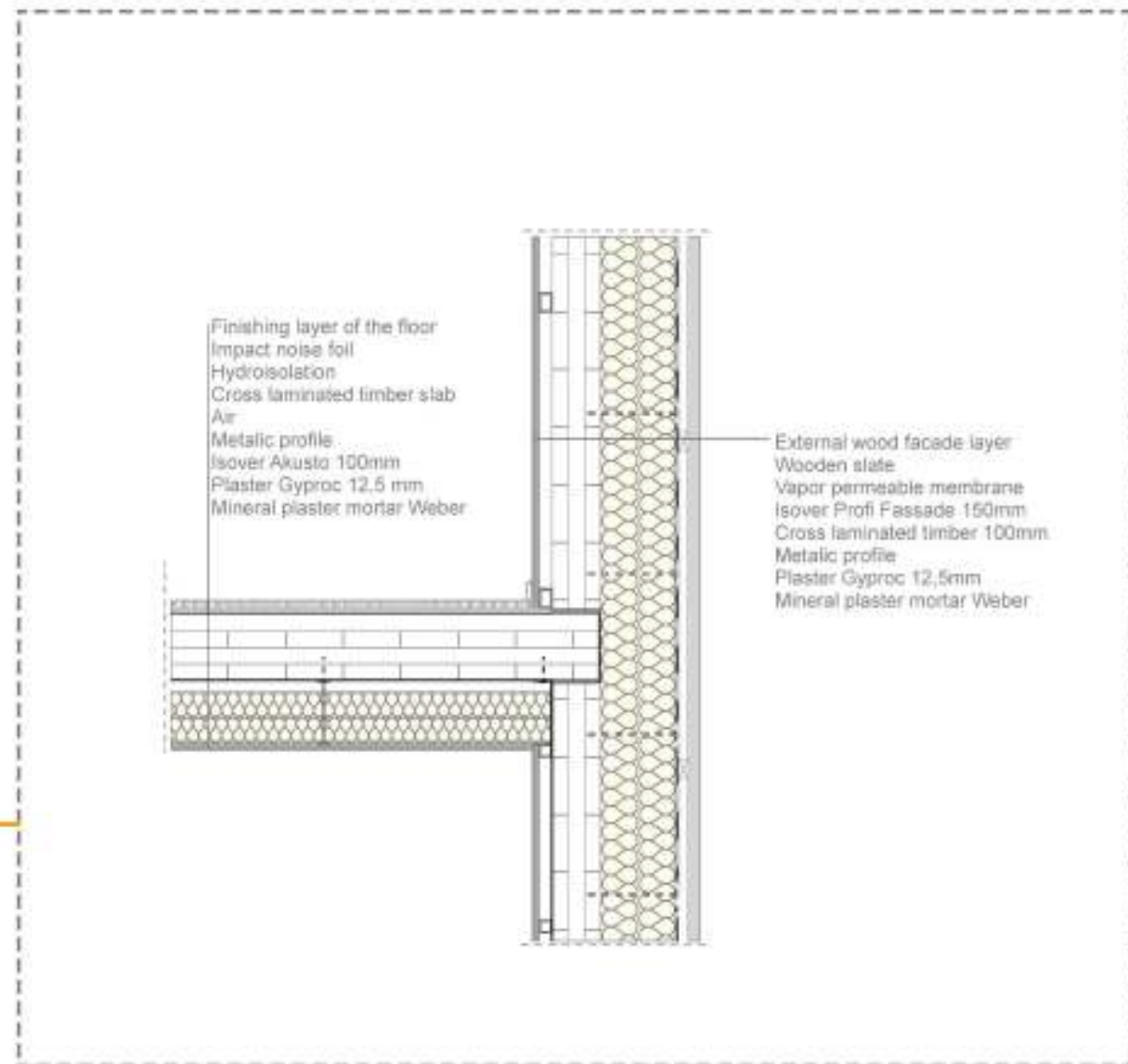
$(\text{TiO}_2) +$  $+$





DETAILS



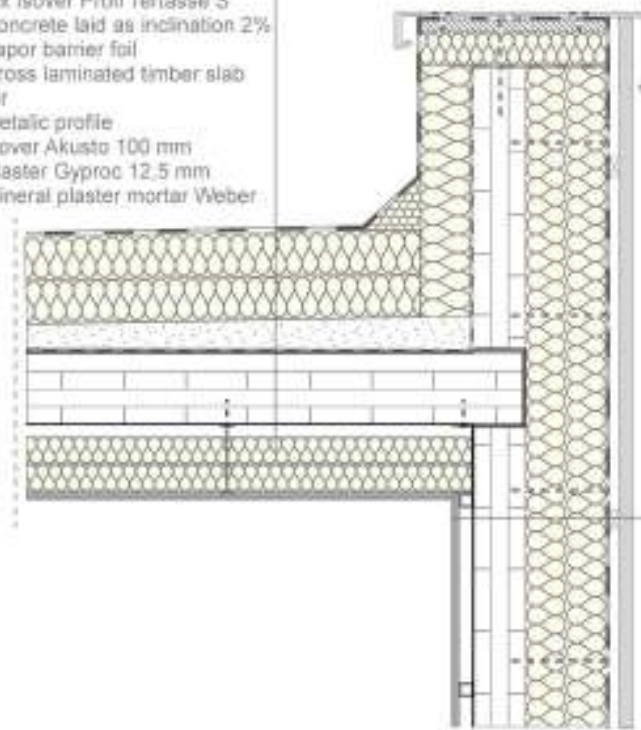


EXTERNAL WALL DETAIL





Waterproofing
 2 x Isover Profi Terrasse S
 Concrete laid as inclination 2%
 Vapor barrier foil
 Cross laminated timber slab
 Air
 Metallic profile
 Isover Akusto 100 mm
 Plaster Gyproc 12.5 mm
 Mineral plaster mortar Weber



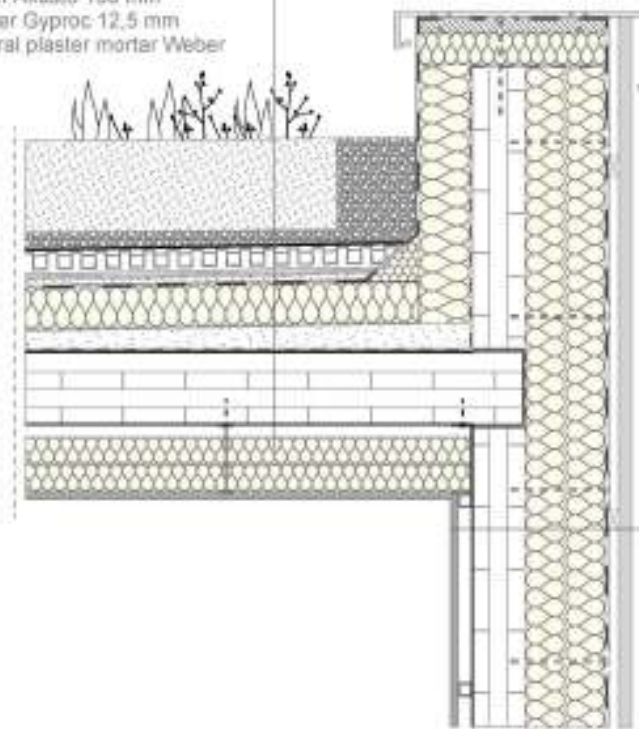
External wood facade layer
 Wooden slate
 Vapor permeable membrane
 Isover Profi Fassade 150mm
 Cross laminated timber 100mm
 Metallic profile
 Isover Vario KM Duplex membrane
 Plaster Gyproc 12.5mm
 Mineral plaster mortar Weber

FLAT ROOF DETAIL





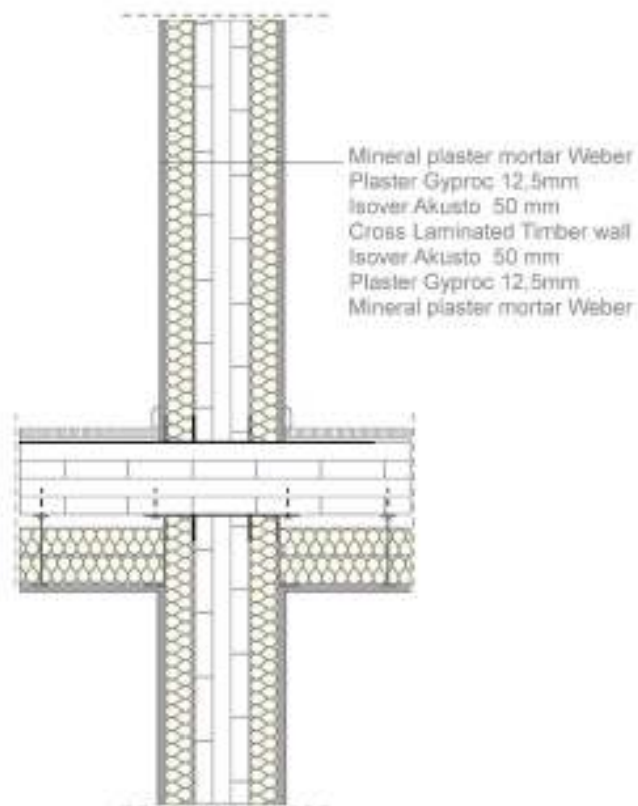
Planting
 Extensive green roofing substrate
 Filtering layer
 Drainage layer
 Waterproofing
 Isover Profi Terrasse S
 Concrete laid as inclination 2%
 Vapor barrier foil
 Cross laminated timber slab
 Air
 Metallic profile
 Isover Akusto 100 mm
 Plaster Gyproc 12,5 mm
 Mineral plaster mortar Weber



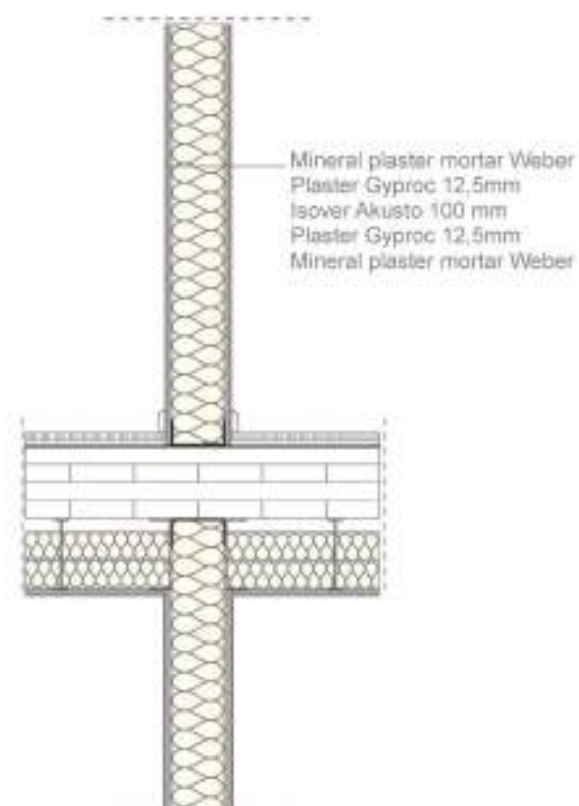
External wood facade layer
 Wooden slate
 Vapor permeable membrane Isover
 Isover Profi Fassade 150mm
 Cross laminated timber 100mm
 Metallic profile
 Isover Varic KM Duplex membrane
 Plaster Gyproc 12,5mm
 Mineral plaster mortar Weber

GREEN ROOF DETAIL





CLT wall between different apartments



CLT wall between rooms of the same apartment

VERTICAL SECTION
THROUGH CLT PARTITION WALLS



1. PROJECT DATA:

Object: Housing
Climate Zone: Paris
Building Type: Residential
Usage: For living
Design Temperature: 20 °

2. AREA INPUT

Heated Space Area: 83.12 m²
Heated Space Volume: 224.42 m³

3. OPAQUE ELEMENTS U VALUE

Roof Flat: 0,11 W/(m²k)
Wall against air: 0,11 W/(m²k)
Slab against ground : 0,10 W/(m²k)

4. WINDOWS & DOORS (U-VALUES)

Windows : 0.73 W/(m²k)
Doors: 0.80 W/(m²k)

5. QUALITY

Thermal Bridge : Free
Airtightness Rate : 0.30

6. SHADING

45 ° : 0.04
Horizontal : 1.00

7. HVAC

Heat Recovery Systems: 90%
Subsoil Heat Exchanger: 25%

8. OVERHEATING

Exterior Thermal Transmittance: 35.71 W/K
Ground Thermal Transmittance: 9.60 W/K
Ventilation Transmission Ambient : 14.41 W/k
Solar aperture: 10.05 m²

9. CALCULATIONS

Specific Heat Losses: 258.12 kWh/a
Ventilation Heat Losses: 490.57 kWh/a
Total Heat Losses: 4753.68 kWh/a
Internal Heat Gains: 1768.06 kWh/a
Solar Heat Gains: 737.53 kWh/a
Total Heat Gains: 2464.15 kWh/a
Annual Heat Demand: 2289.54 kWh/a

SPECIFIC HEAT DEMAND
14.26 kWh/(m²a)





THANK YOU !
MERCI BEAUCOUP !

