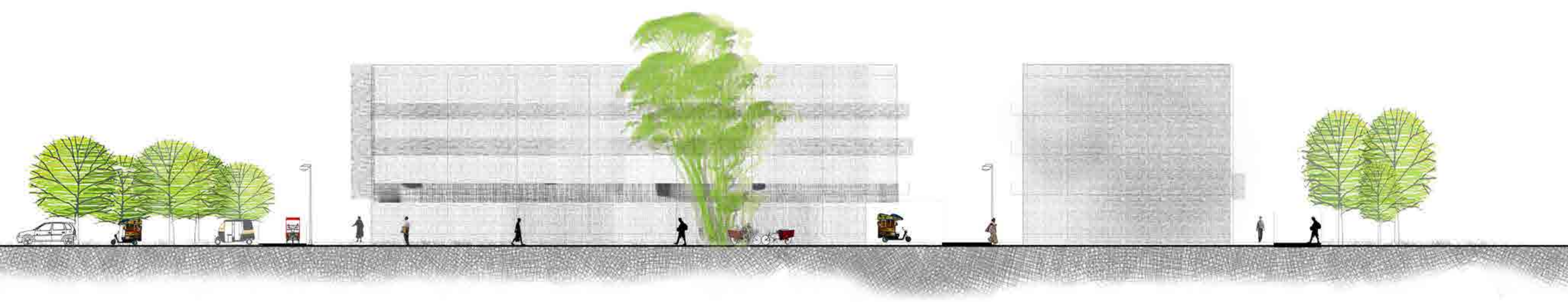
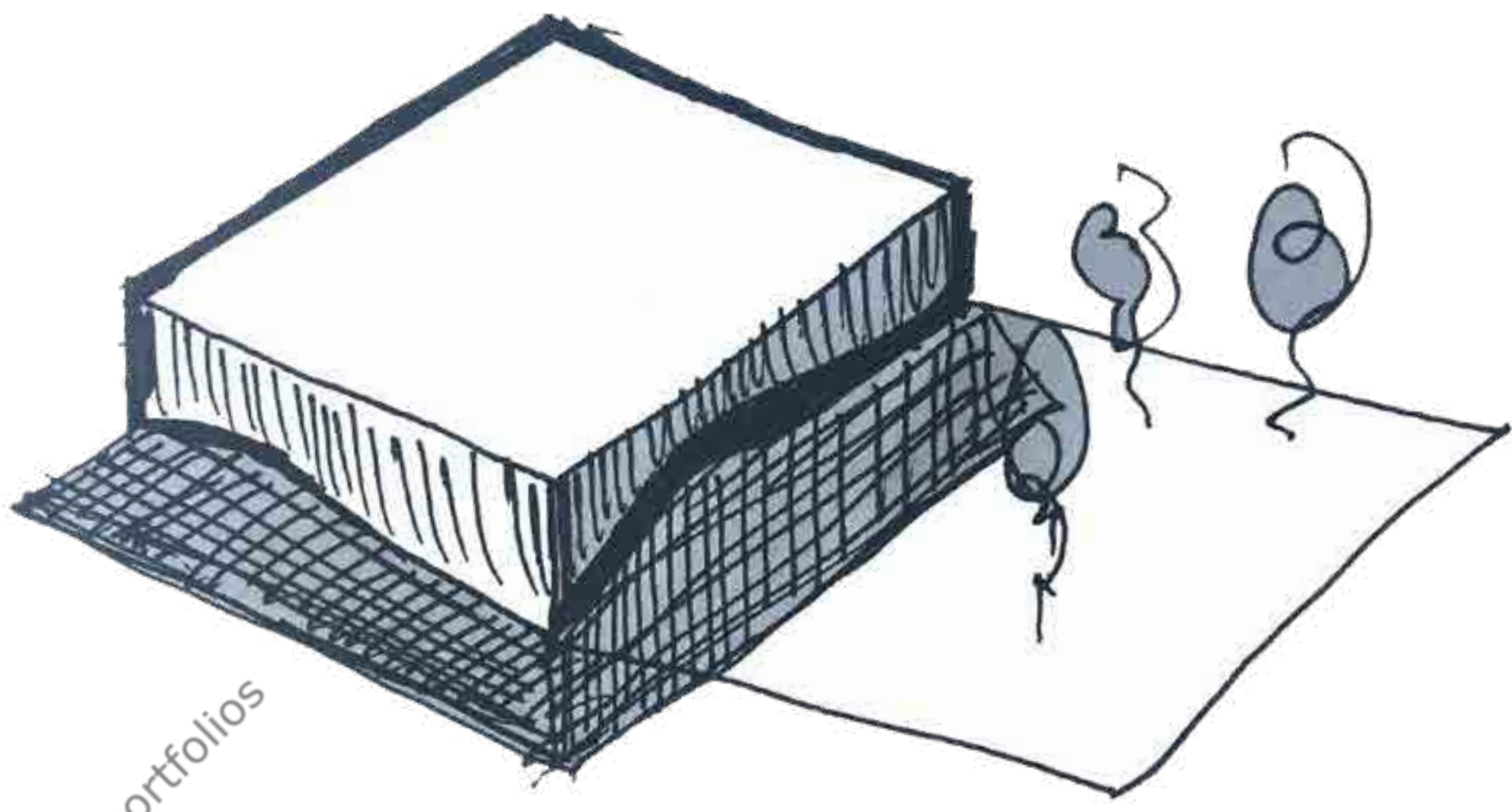


Architectural Design

# Portfolio

Datharaj K Rajendran





## in search of "archi-es-sense"

The journey "ESSENCED" with the sense of architecture. The senses struggles to abstract her/him.

Journey begins/pursuing cannot be ended unless when essence is retrieved.



# Datharaj K Rajendran

B'Arch - Completed

Beary's Enviro-Architecture Design School, Mangaluru

DOB 13 Feb 1992  
City Kochi, India  
Email rdatha@gmail.com  
Phone +91 80892 12455

## Thesis Paper

2020 Revival of Pamba Riverfront, Sabarimala  
Research on Pamba-Triveni Riverfront revitalisation flowing by monsoon floods.

## Architectural Practice Engagements

2021 Professional Training - STAPATI COK  
under Architect K A Rajesh for 6 months.

2021 Volunteering LU Kochi  
Liveable Urbanism Kochi, Welsh School of Architecture (WSA), Cardiff University  
Specific site surveys tasks, photo documentations and video recordings

2019 Winter Internship (1 Month), Archiqs Consultants, Kundapura  
Sustainable architectural practice by Ar. Iqbal P Muhammed .  
Working Drawings, and Planning & 3D modelling Interior Designing

2019 WFH - Drafter & 3d Designer, Amodha Architects, Lucknow  
Sole proprietor firm at Lucknow by Ar. Harsh Vardhan Shukla.  
Drawings & 3D modelling

## Architectural Competitions

2020 Ente Kochi Urban Design Competition - Mullassery Canal UA Kochi.  
Collaborative effort participation by Urban designers and Brainstormers of various fields.  
Ground level data collection and presentation, Design panel, Drawings generation

## Software Knack

AutoCad 2D, ArchiCAD, Rhinoceros n Grasshopper, Sketchup, Lumion and Vray .  
Adobe Photoshop, Indesign, Illustrator

## Education

2016-2021 B'Arch completed  
2012 Technical course on Electrical Trade - ITI, Kalamassery  
2010 Commerce Mathematics, Intermediate (+2)  
2008 Secondary School Education (SSLC)

## Professional Engagements

2013-2016 Executive - Examination Services, Planet EDU Exams P Ltd

## Other Experiences

2020 Aquaponics Green Systems - Installations and Maintenance

## Academic architectural projects

..... #community\_housing

..... #d.school

..... #hotel\_nestleINN

..... #GRIHA\_rating

..... #product\_design

..... #out\_of\_the\_box

..... #thesis



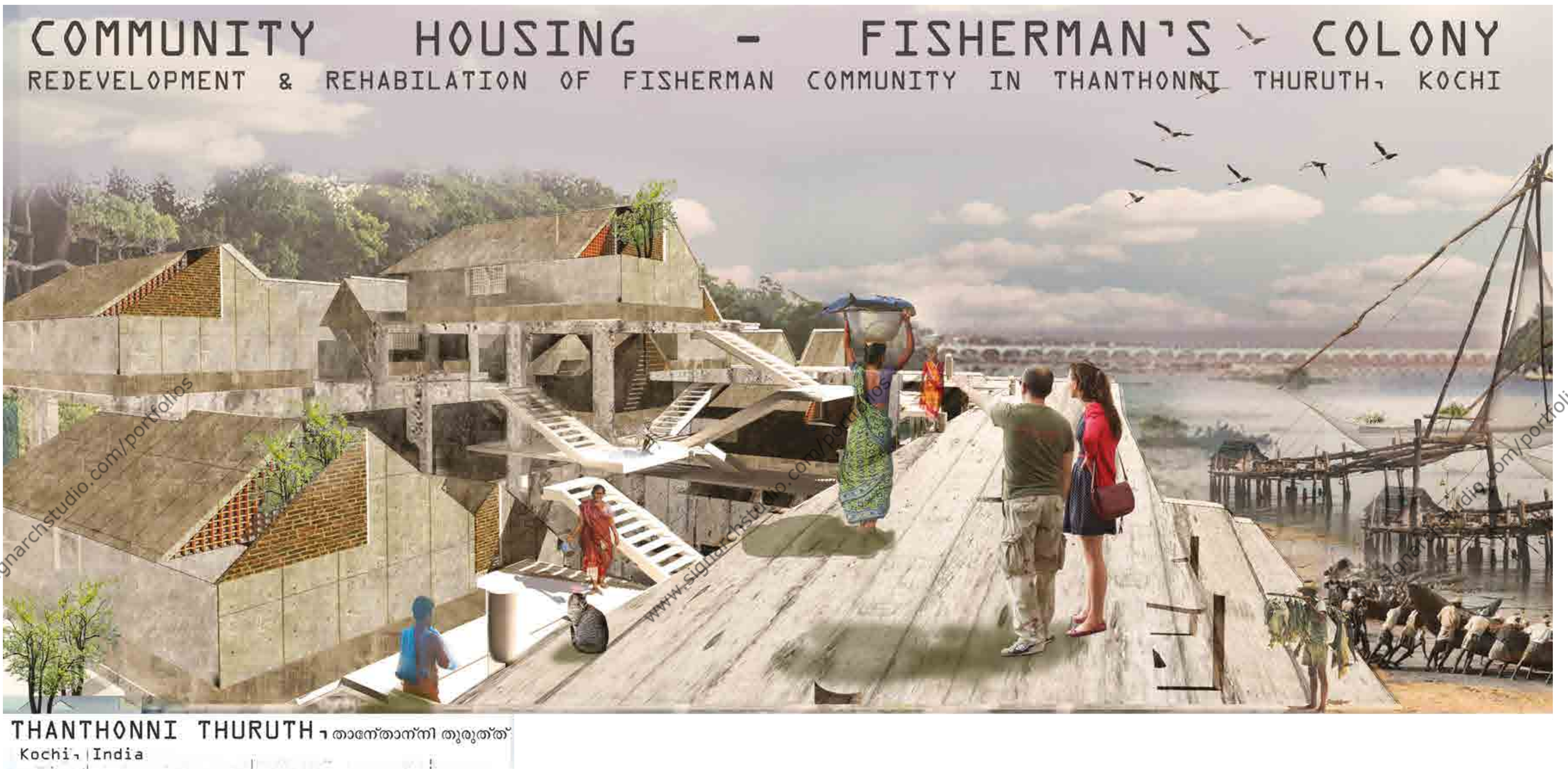
Visualisation for Suraj's Sheet

#community\_housing  
time\_problem

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#community\_housing

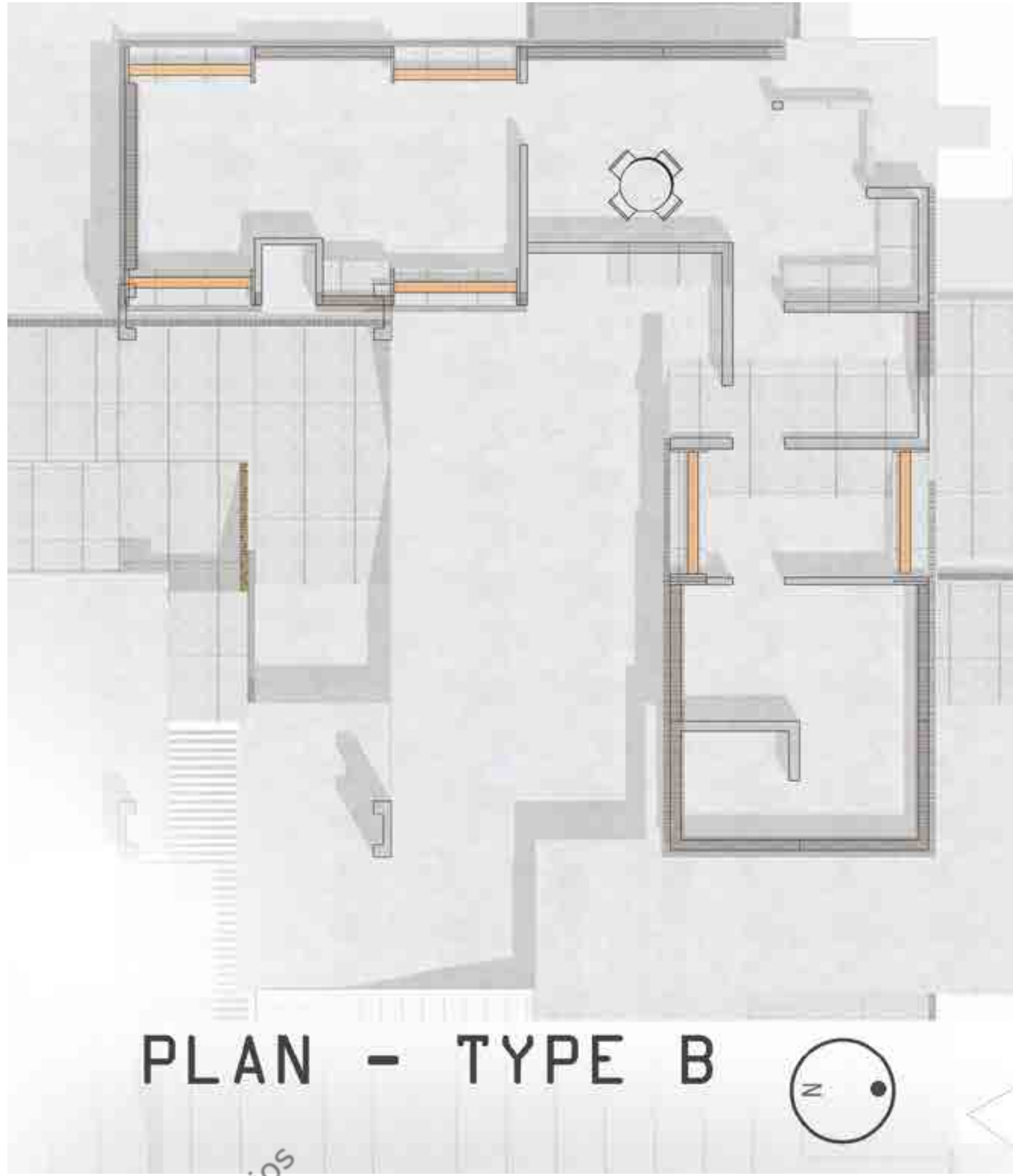
time problem

# Housing Incremental live - community - activity

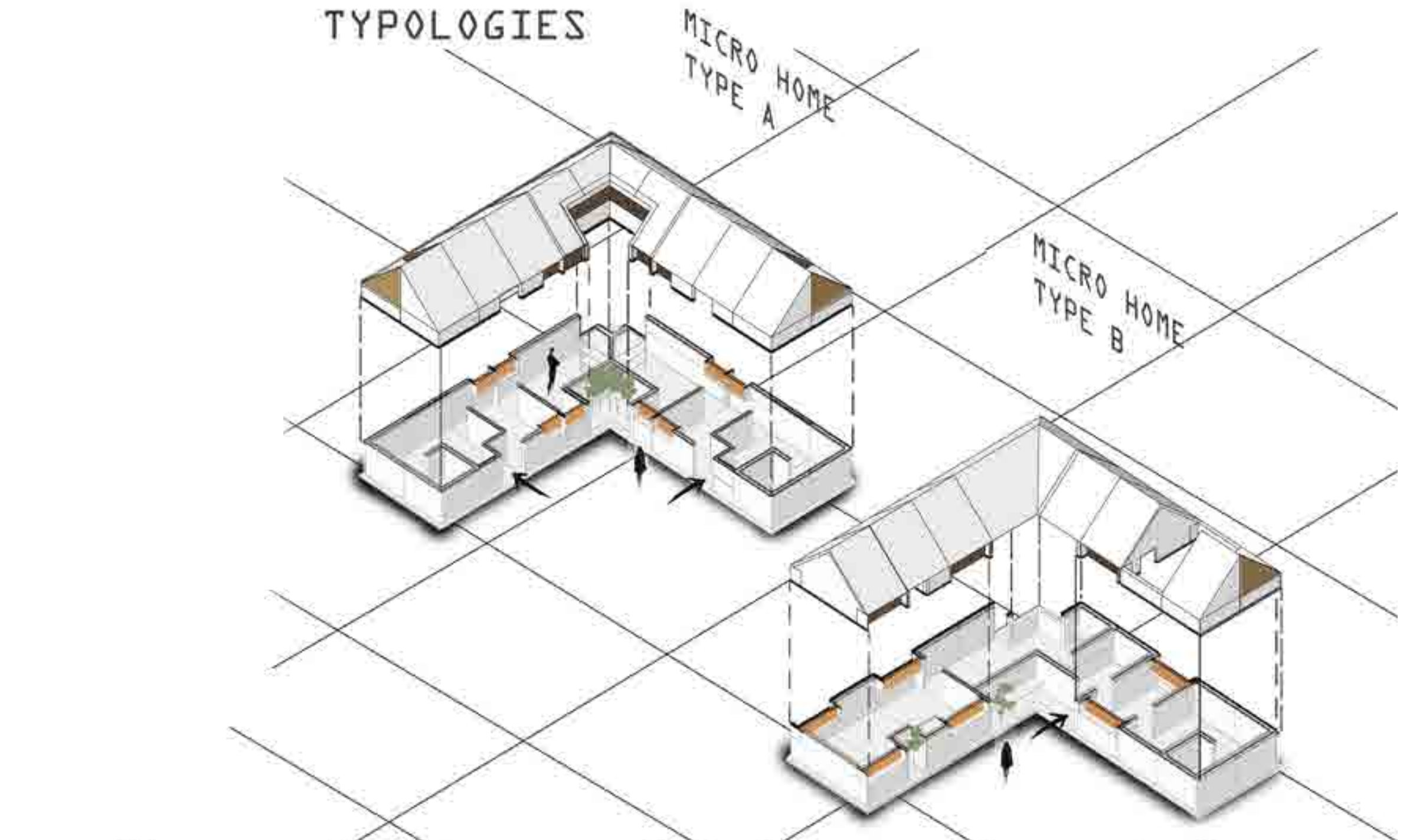
Collage space of Fishermen's in the thanthonni thuruth Island, Kochi. self-employed / self dependend families whereas the earning through fishing and fish products.

Concept was vertical city that activity and living within the bounded space. Livespaces are incremental with the owner own the slab space, He or she can make his own living space.

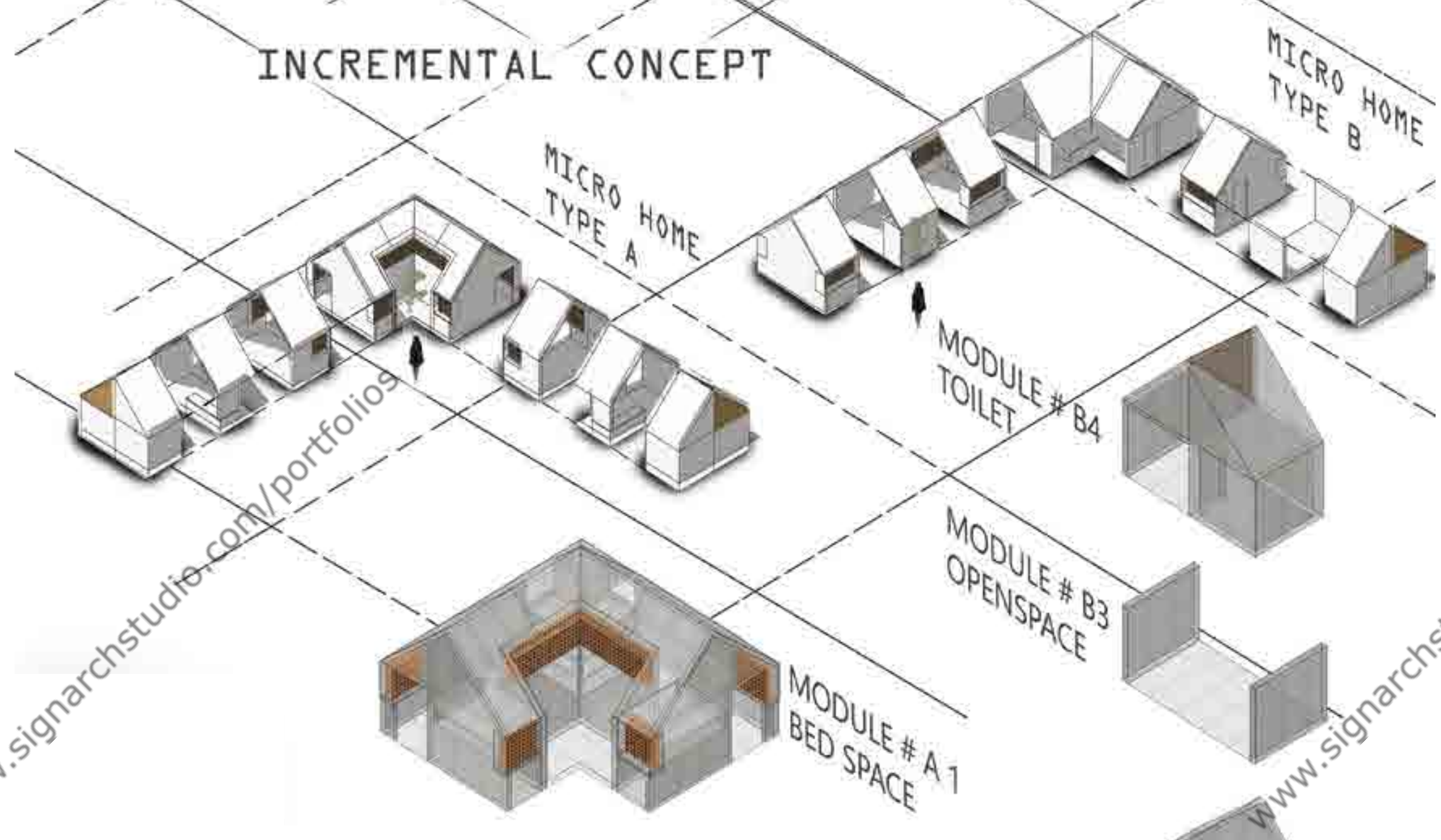




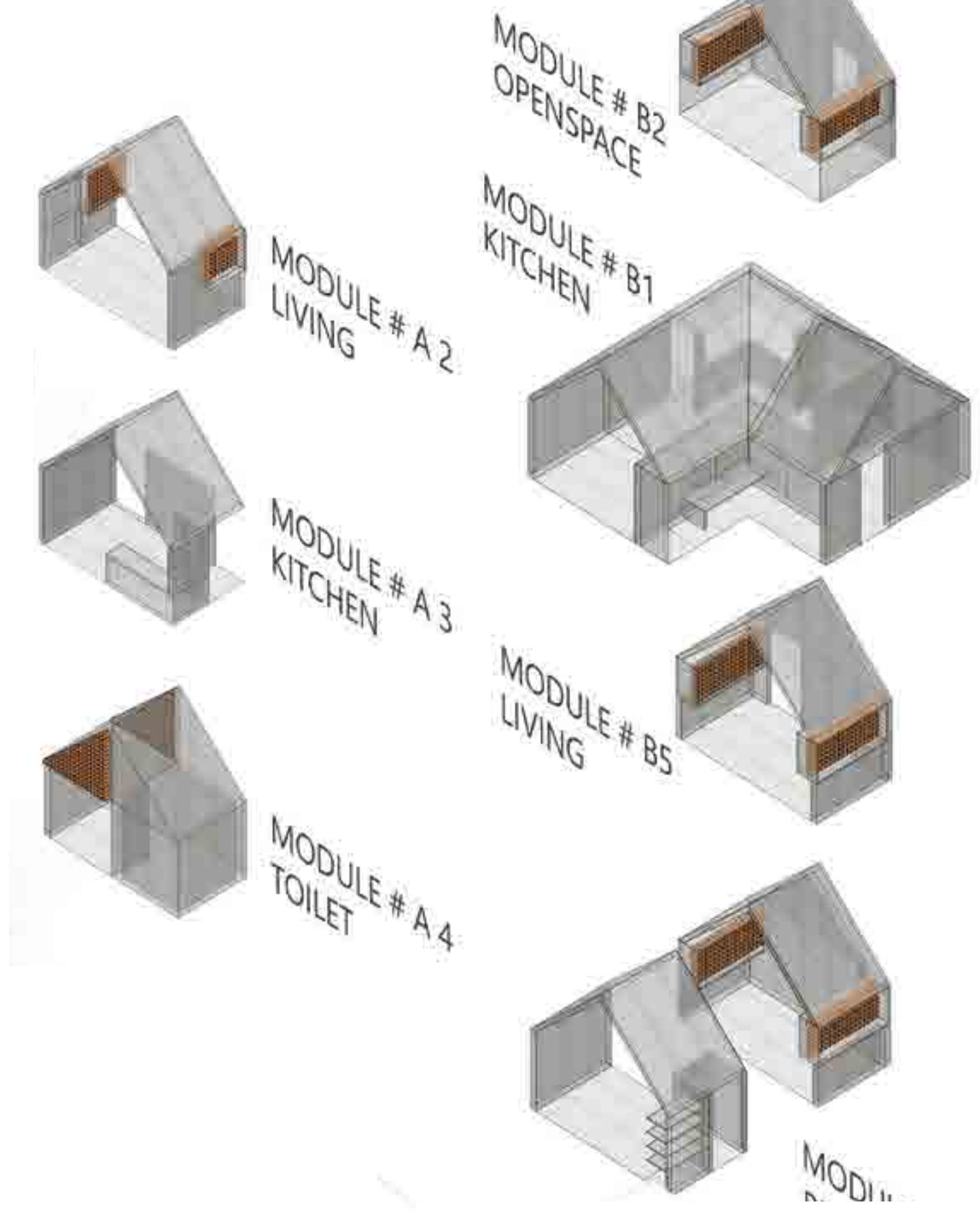
PLAN - TYPE B



INCREMENTAL CONCEPT



PLAN - TYPE A







Cafe

Art-cafe located near MG road Metro, Bengaluru.

Art  
Expression

Concept is brings court yard and levels as elements that merge the activity of gallery and cafe in the busy street.

#d.school  
6th sem. studio

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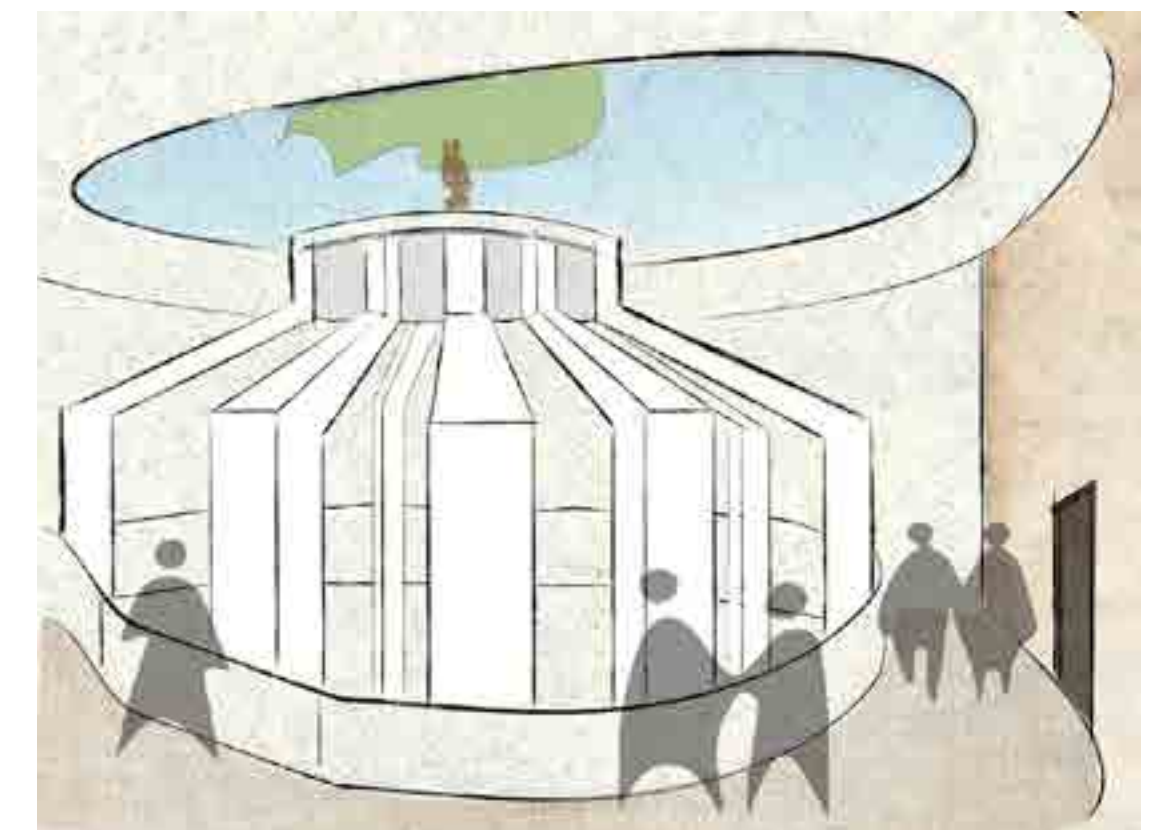
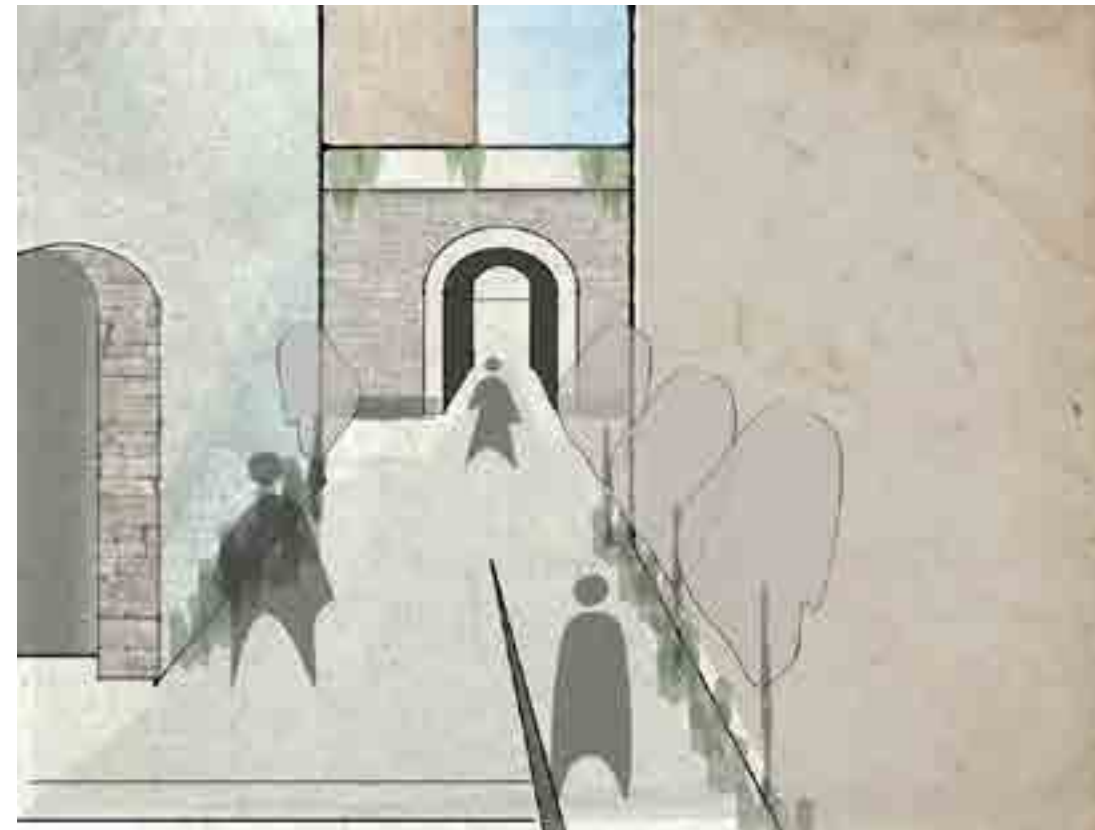
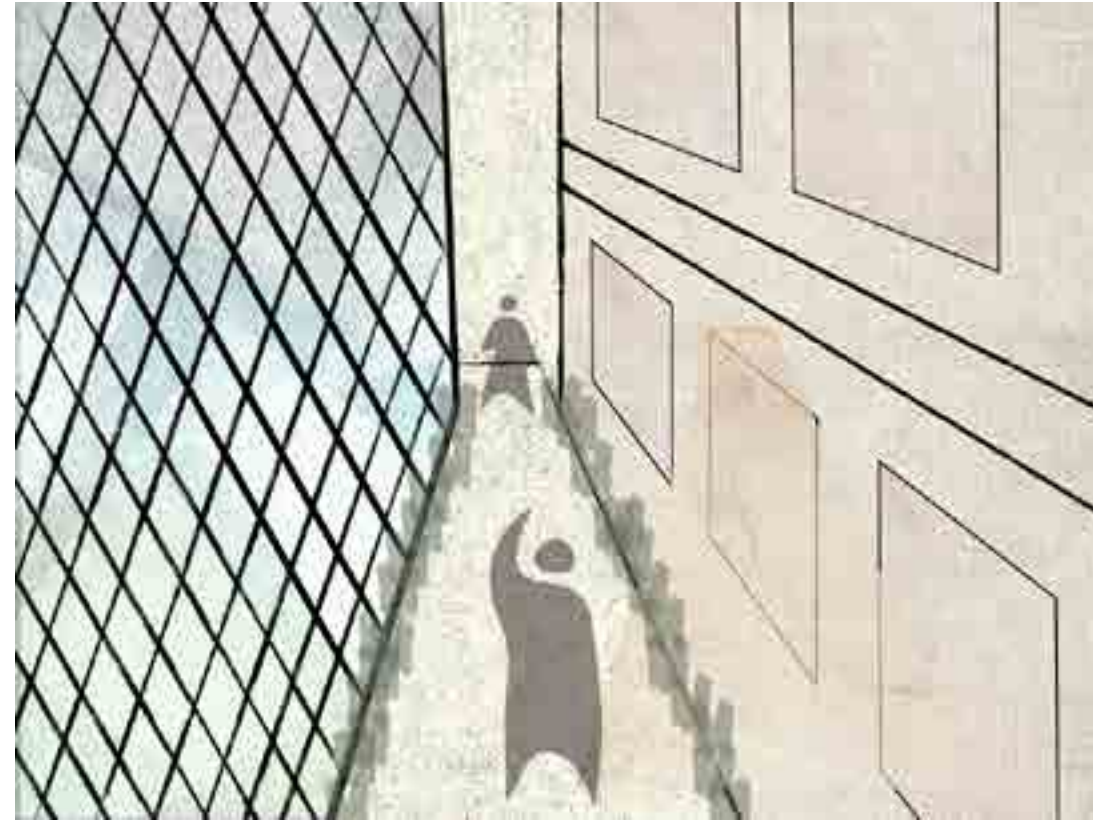
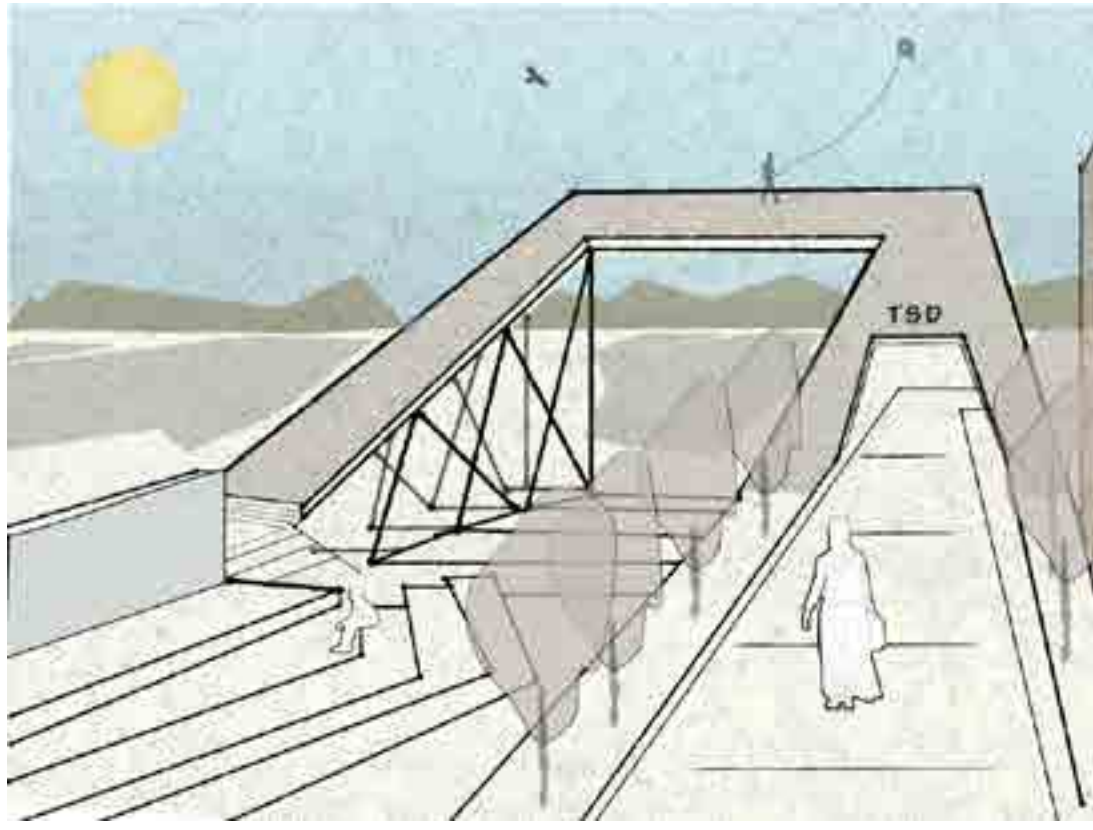
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JOURNEY



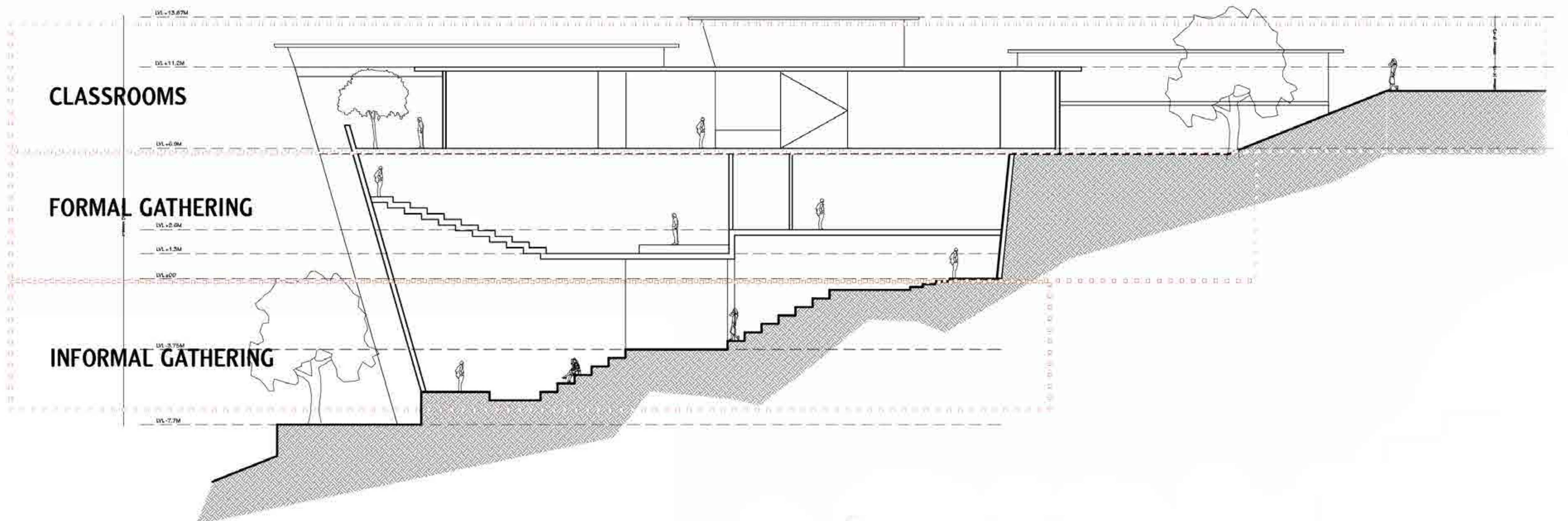
design school

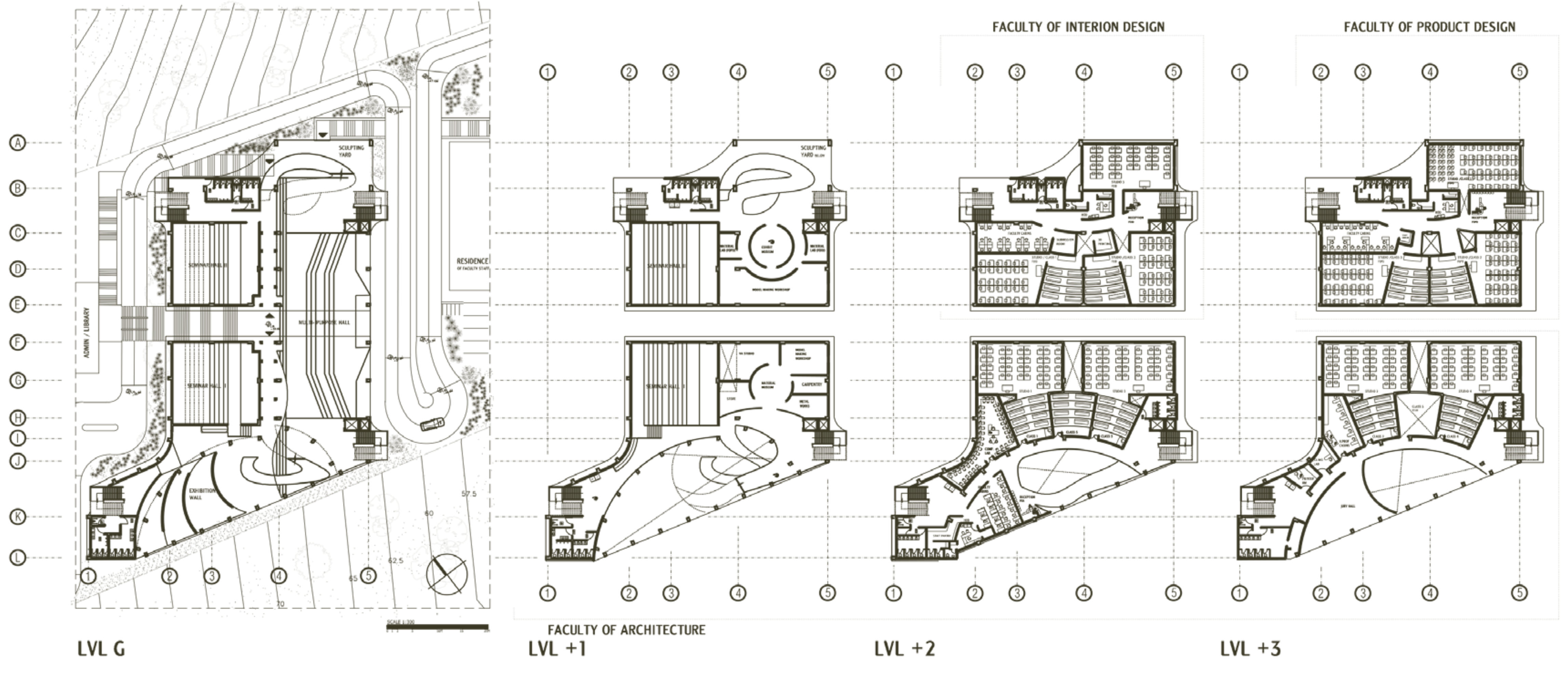
School for three different stream of design, in a high slope site.

levels - activity

Concepts was intregated indoor spaces that merge corridor spaces, were culture of vibrant design minds.

corridor - breathe





SKYLIGHT TO CORRIDORS



WORKSHOP AND MATERIAL MUSEUM



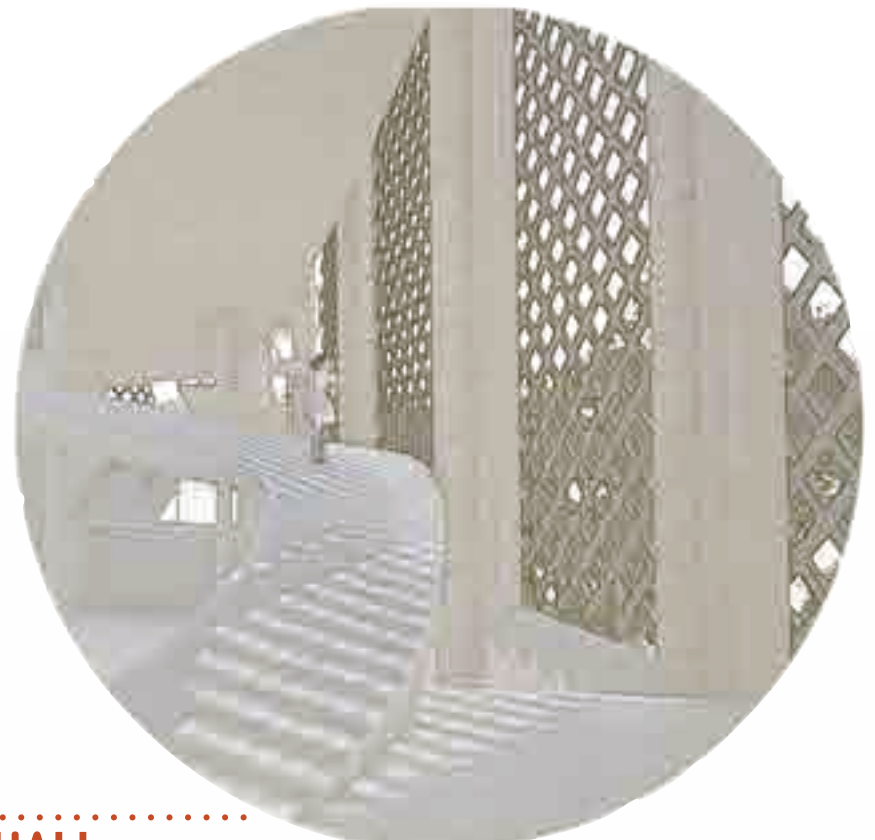
OPEN HALL



SEMINAR HALL



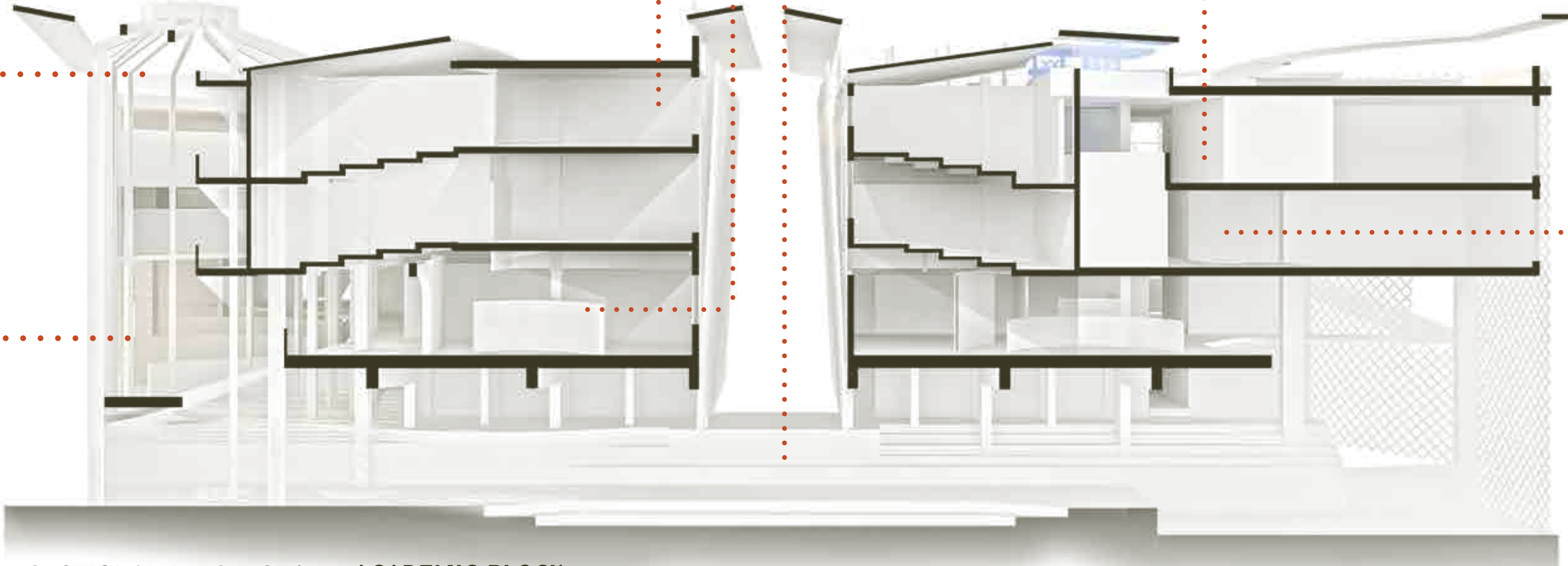
EXHIBITION HALL



STUDIOS



CORRIDORS

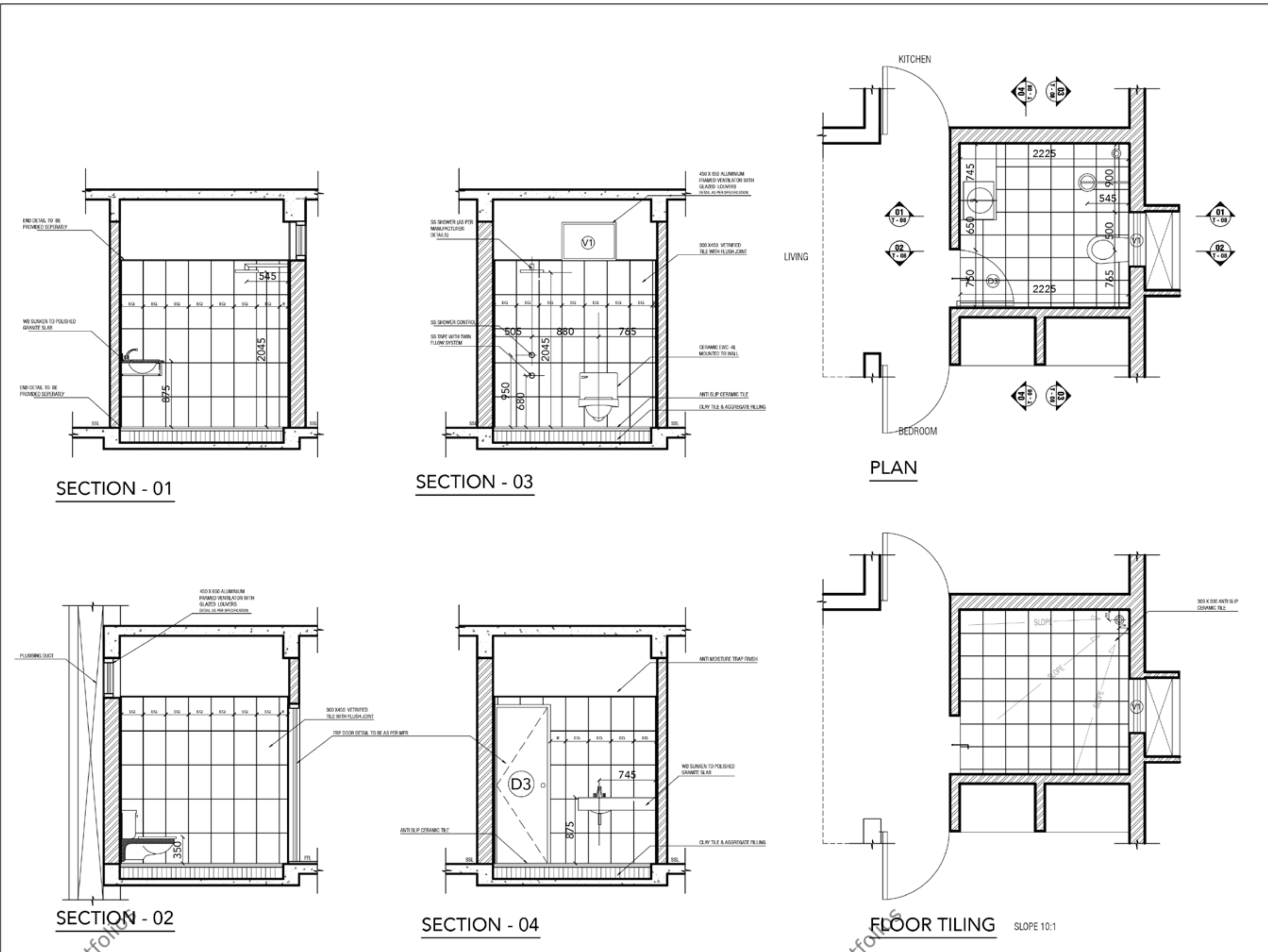


SECTIONAL PERSPECTIVE ACADEMIC BLOCK

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**NOTES :**

FFL: FINISHED FLOOR LVL  
 SSL: STRUCTURAL SLAB LVL  
 TOL: TOP OF WALL LEVEL  
 TOS: TOP OF SLAB LEVEL  
 ---: TILE DROP

LINTEL: 2100 FROM FFL/  
 SILL: 925 FROM FFL/  
 MAIN WALL: 230mm THK LATERITE WALL  
 PARTITION WALL: 150mm THK BLOCK WALL  
 UNLESS OTHERWISE NOTED

**DRAWN BY :**  
 DATHARAJ K R 4ED16AT006  
 6.7 WORKING DRAWING II  
 SEMESTER VI. 2018 -2019  
 BEADS, MANGALURU

**SUBMITTED TO :**  
 PROF. MOHAMMED SALMAN  
 SUBJECT TEACHER  
 BEADS MANGALURU

**PROJECT DETAILS :**  
 O1T4B1RQ, BLOCK 1  
 RAILWAY QUARTERS  
 T Y P E 4  
 RESIDENTIAL

**REVISIONS :**  
 06 APR 2019...0.0

**REVISIONS :**  
 26 APR 2019...0.0



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 26 APR 2019...0.0

NOTE: ALL DIMENSIONS ARE IN MILLIMETER UNLESS IF IT IS NOT MENTIONED.

EAST ELEVATION

**SHEET :**  
 A  
 12

**DRAWING TITLE :**  
 ELEVATIONS

**SCALE :**  
 1:100  
 PRINT ON A3 420x297

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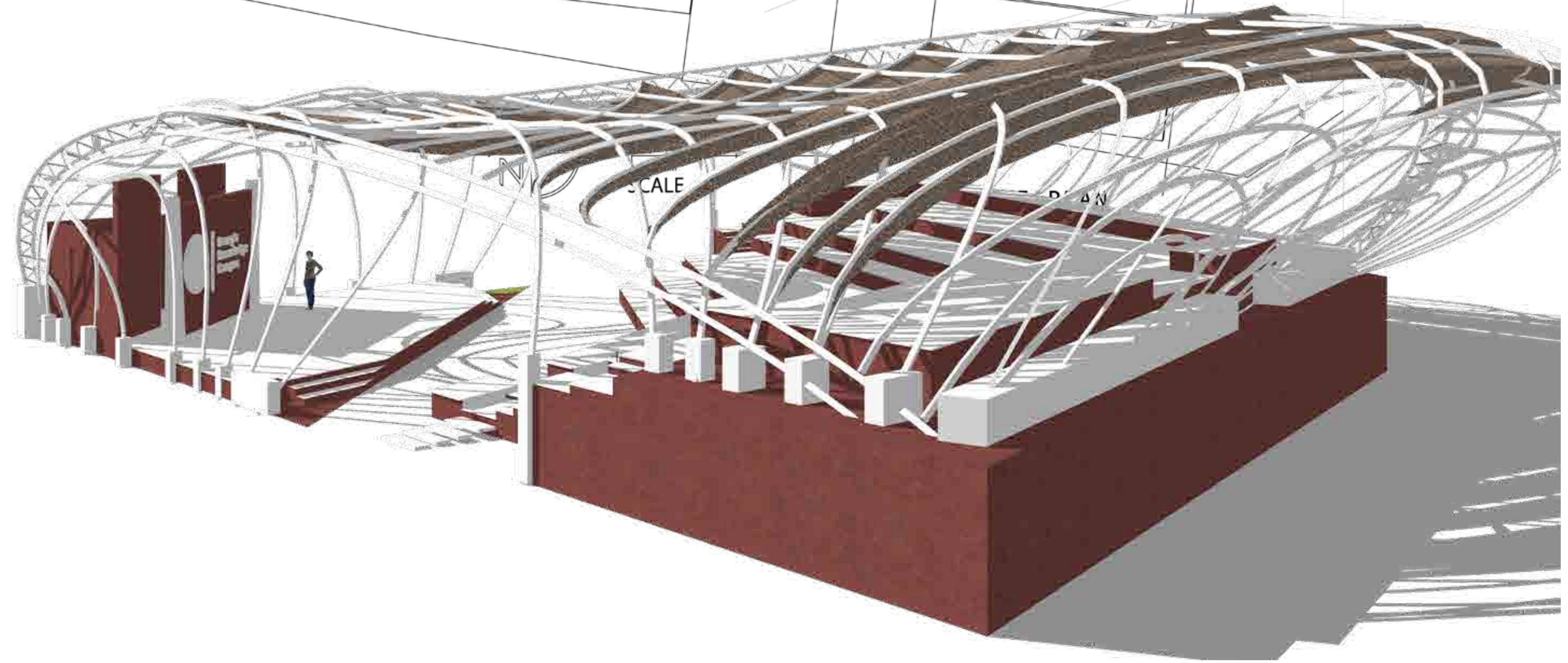
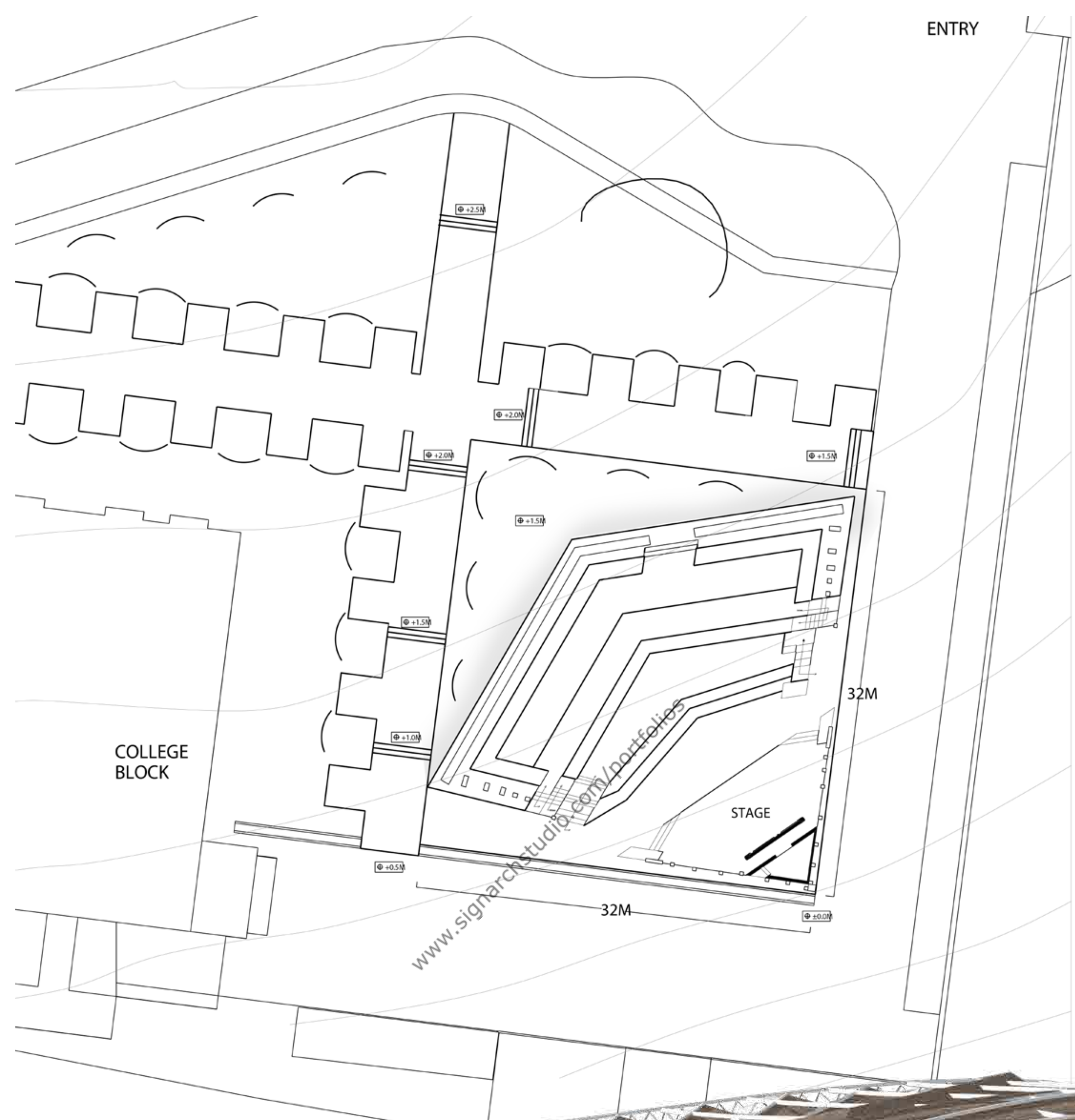
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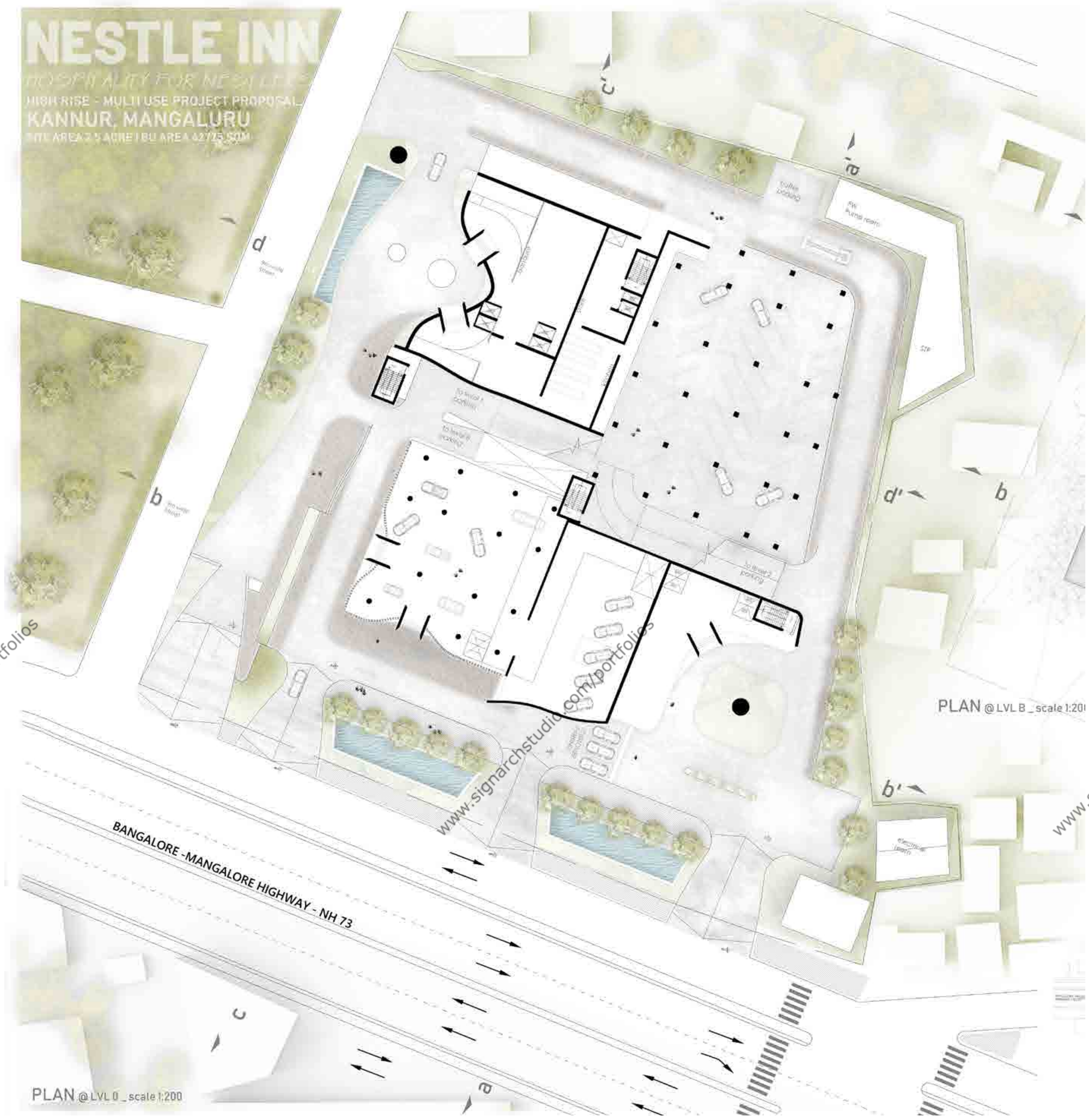
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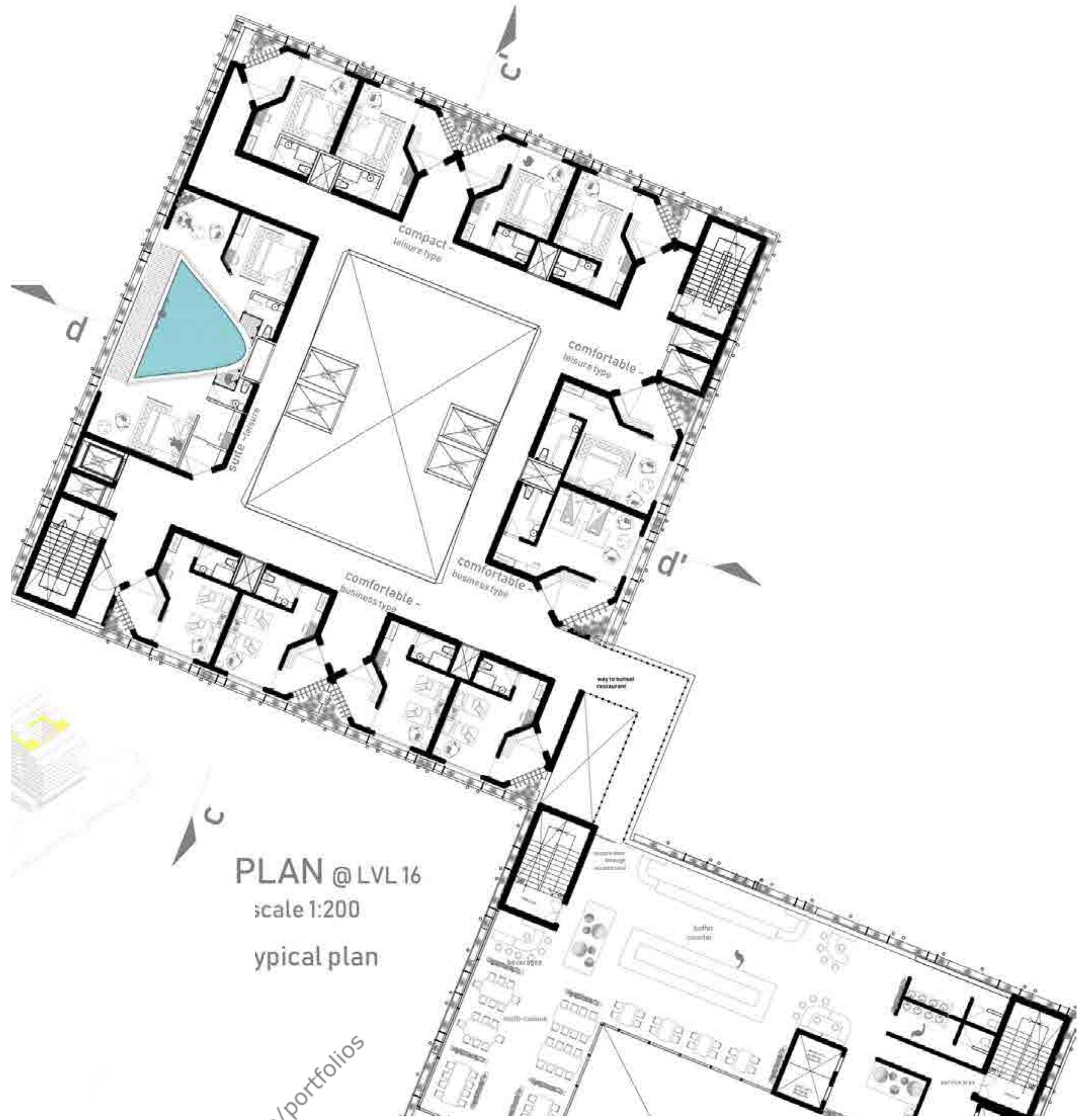
Hotel - Car Showroom - Co workspaces

Hotel to live and hold with international amenities includes A car showroom and Co-work spaces.

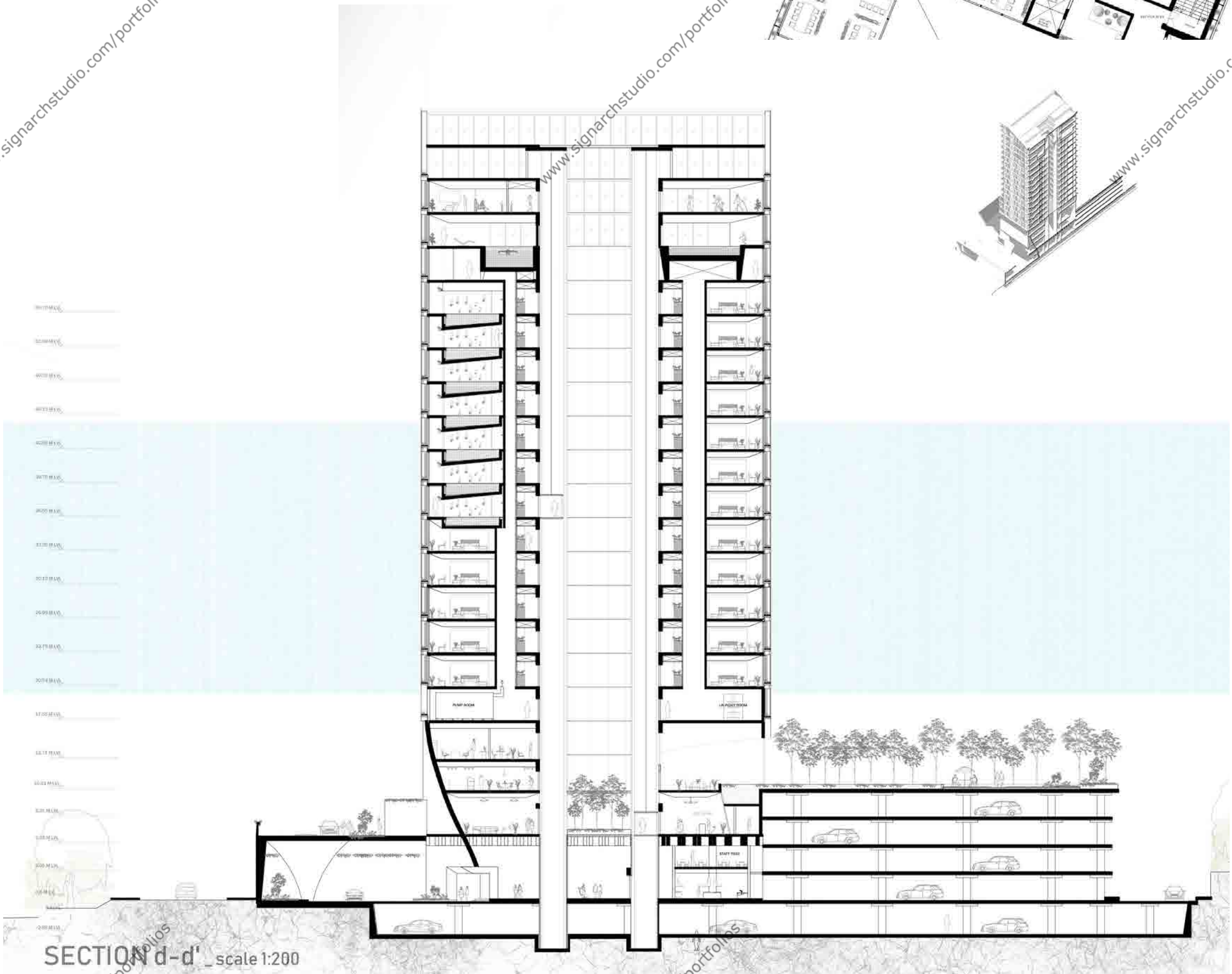
Highrise - Nest  
Live - Work - Hold

Altogether forming a Nest that hold patrons in the site.



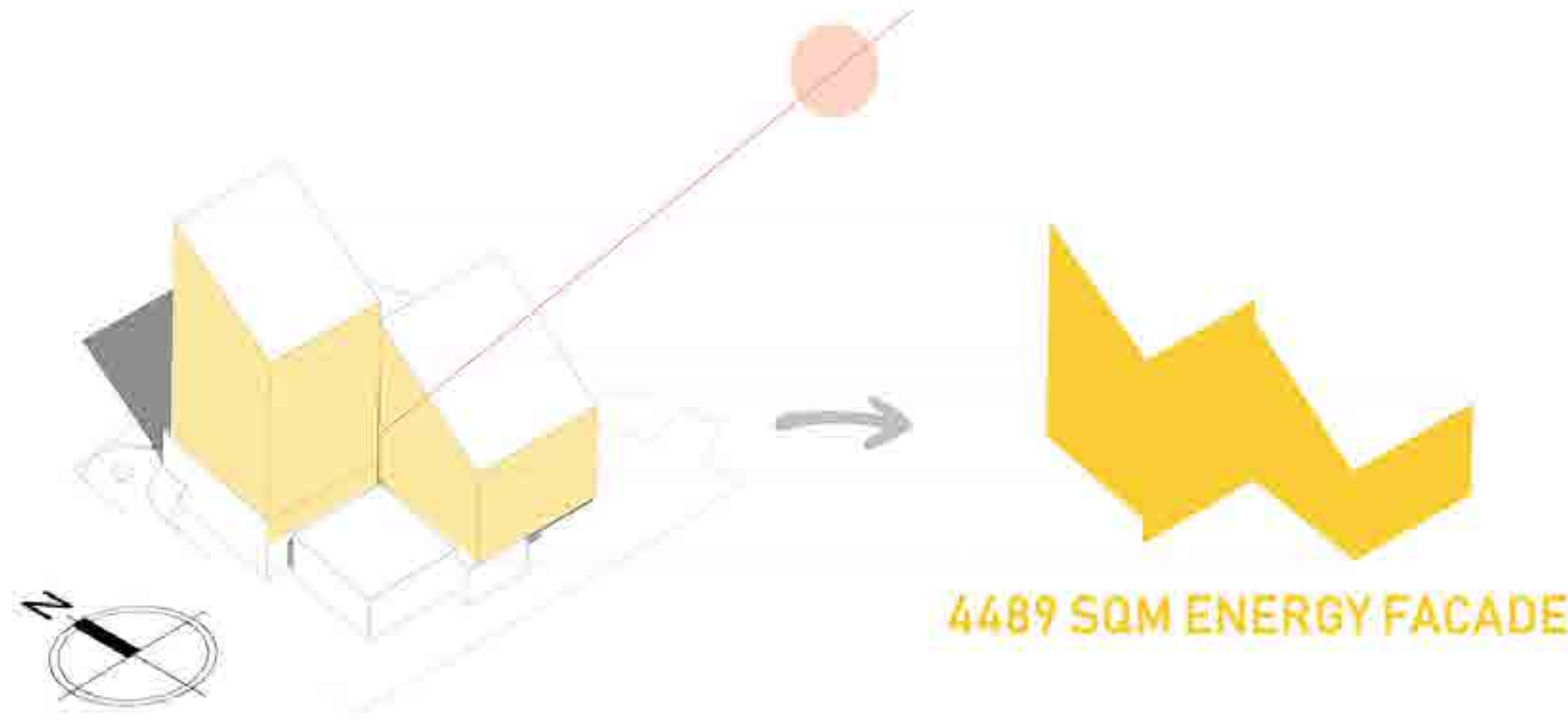


PLAN @ LVL 16  
scale 1:200  
typical plan



SECTION d-d' scale 1:200

PERFORMATIVE FACADE



PHOTOVOLTAIC ESTIMATION

USING ONYX SOLAR PRODUCTS

LOCATION : MANGALURU, INDIA  
 AREA IN SQM : 4489  
 GLASS : AMORPHOUS SILICON PHOTOVOLTAIC GLASS  
 PEAK POWER: 26.934 KWP  
 TILT : 90°  
 ORIENTATION : 180°

311,918 kWh \*

TOTAL LIGHTING POINTS OPERATING 4 HOURS PER DAY

612 Lights \*\*

AVOIDED CO<sub>2</sub> EMISSIONS IN 35 YEARS

209 t CO<sub>2</sub>

BARRELS OF OIL SAVED IN 35 YEARS

184 Barrels

LITERS OF OIL SAVED IN 35 YEARS

29,184 liters

ELECTRIC CAR MILEAGE IN 35 YEARS THANKS TO THE ENERGY GENERATED

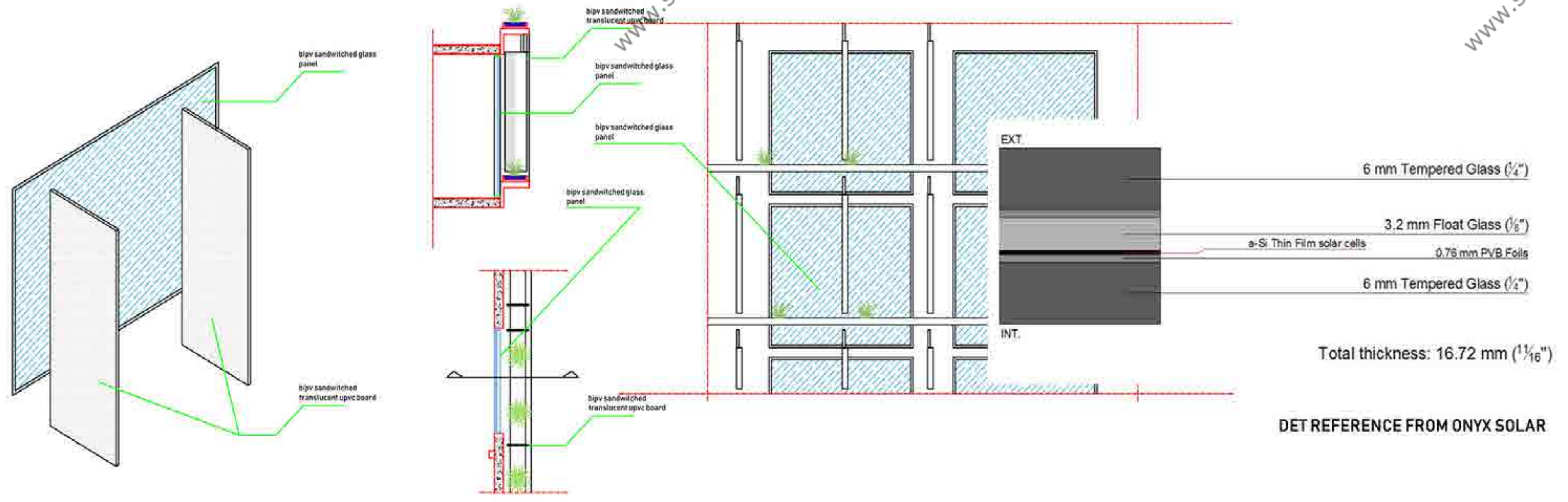
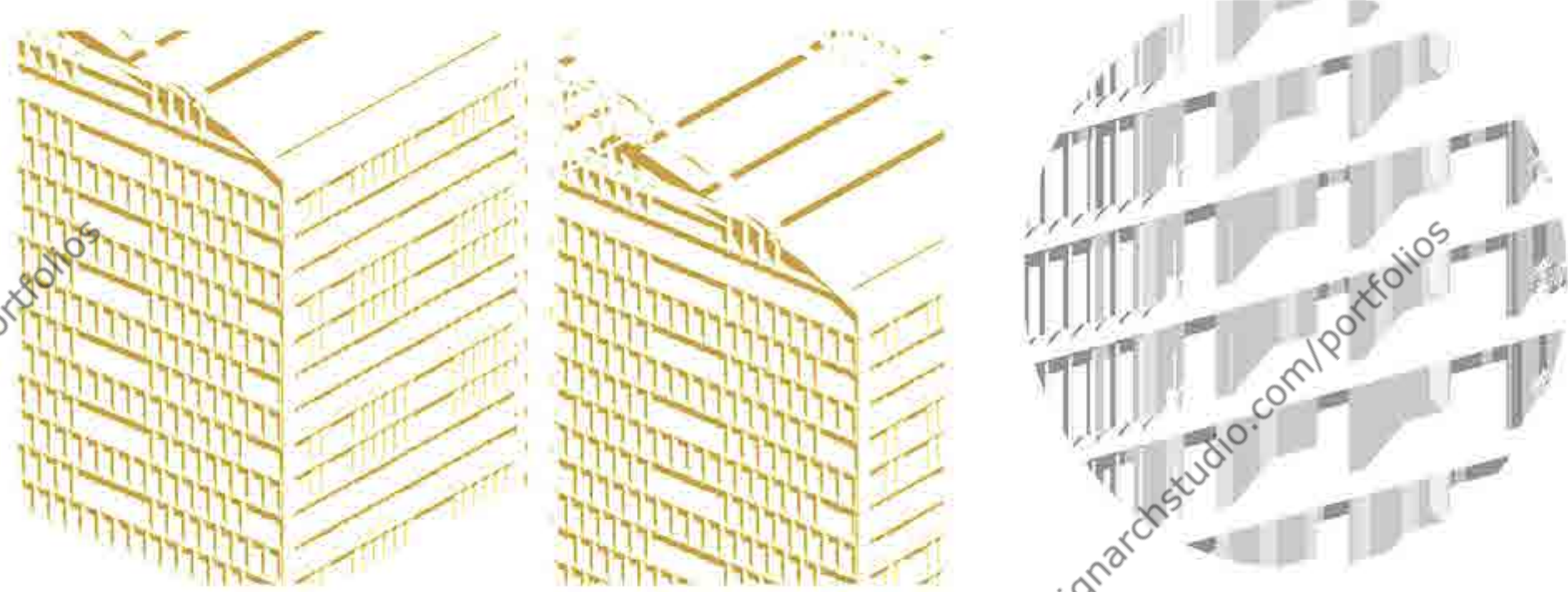
1,793,529 km

TREES PLANTED IN THE AMAZON THANKS TO THE INSTALLATION

4,489 Trees

BY INSTALLING OUR SOLAR PV GLASS YOU CAN REACH UP TO 8 LEED POINTS

- RENEWABLE ENERGY PRODUCTION ON-SITE.....UP TO 3 POINTS
- HEAT ISLAND REDUCTION.....UP TO 2 POINTS
- OPTIMIZE ENERGY PERFORMANCE.....UP TO 2 POINTS
- INNOVATIVE PRODUCT.....UP TO 1 POINTS

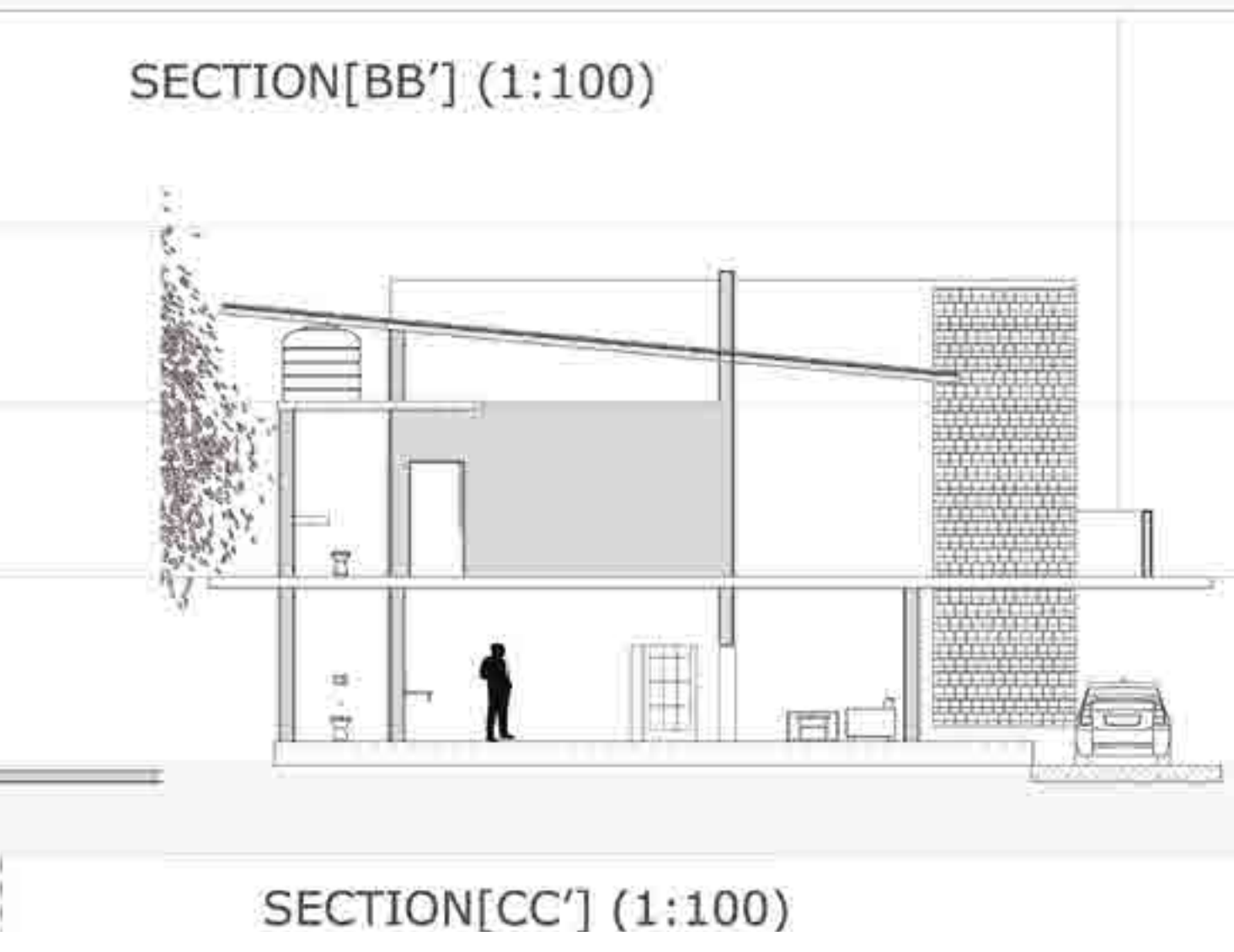
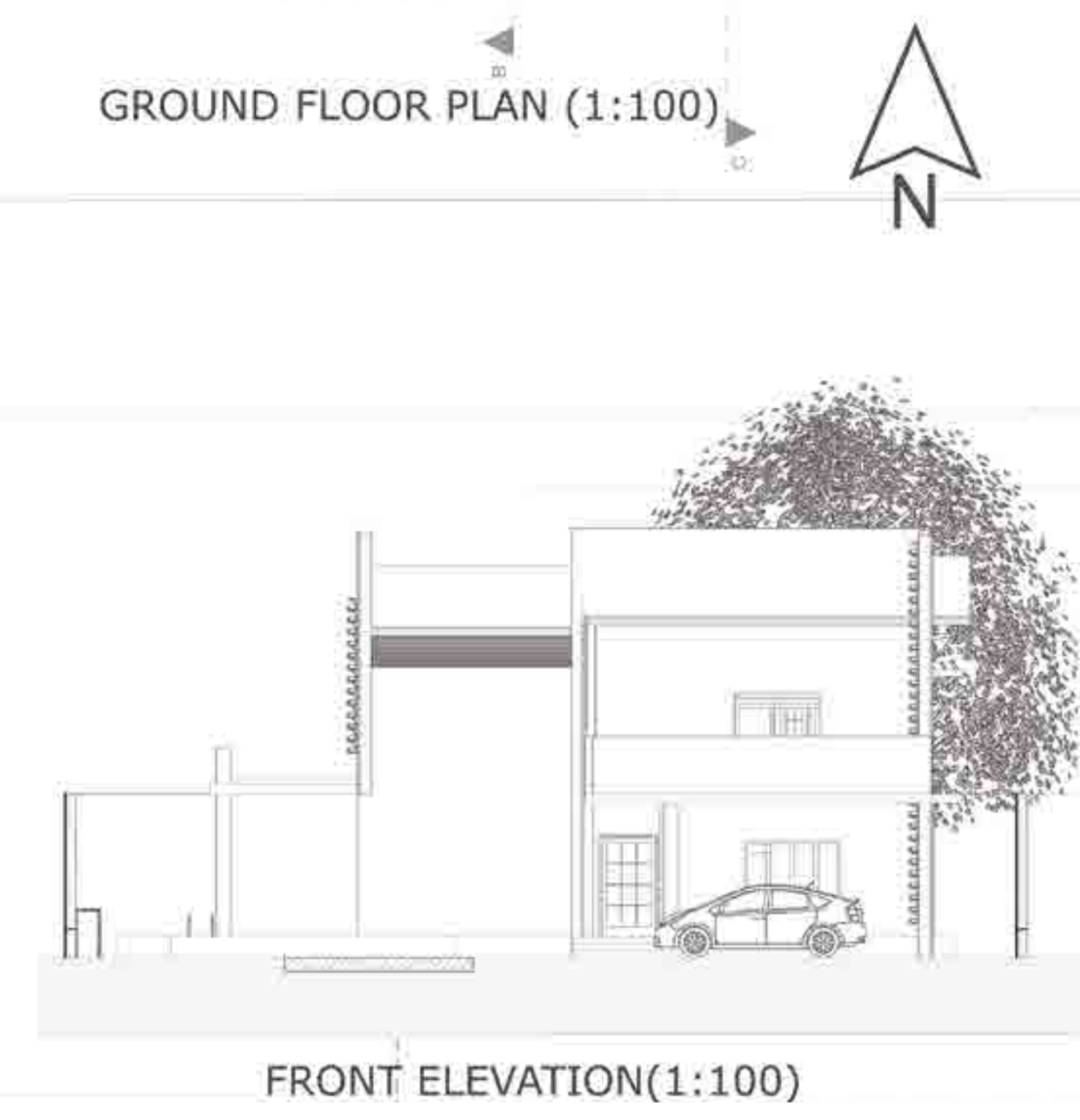
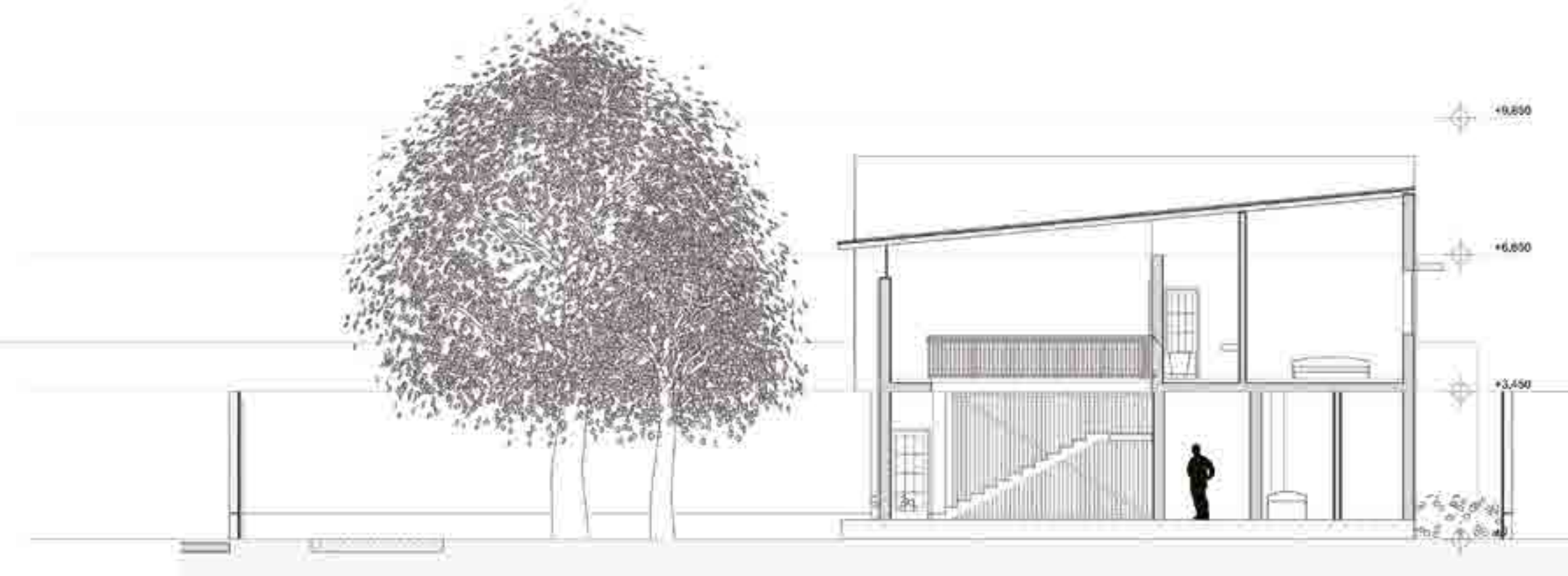
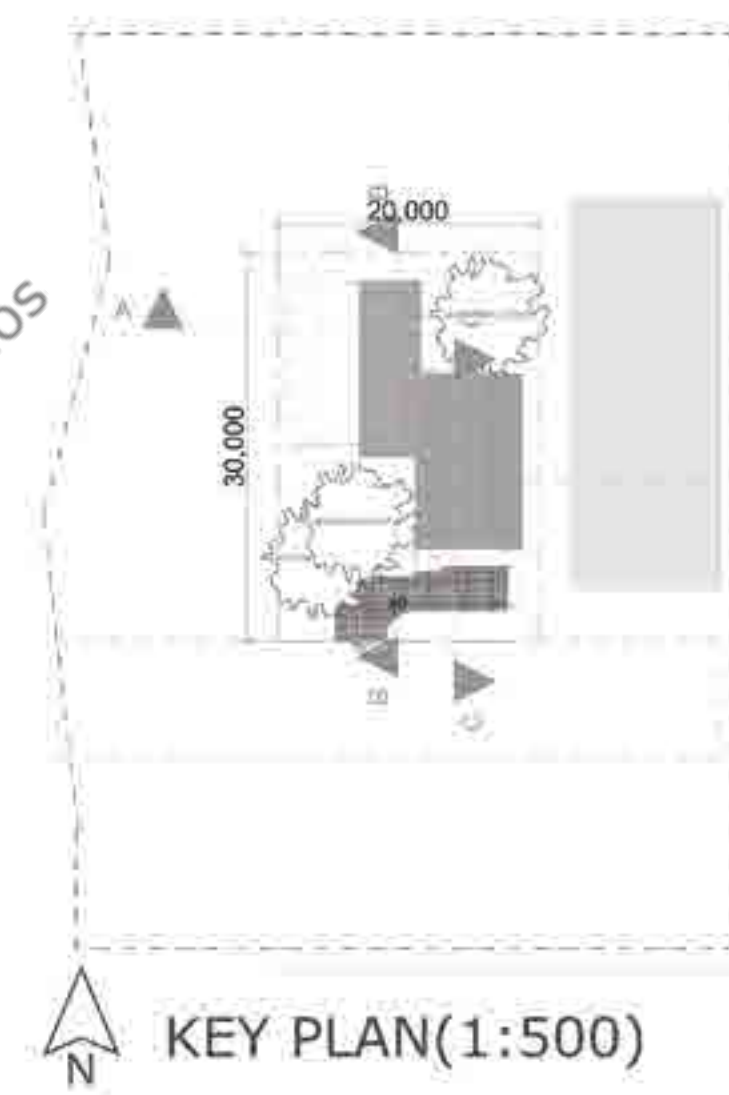
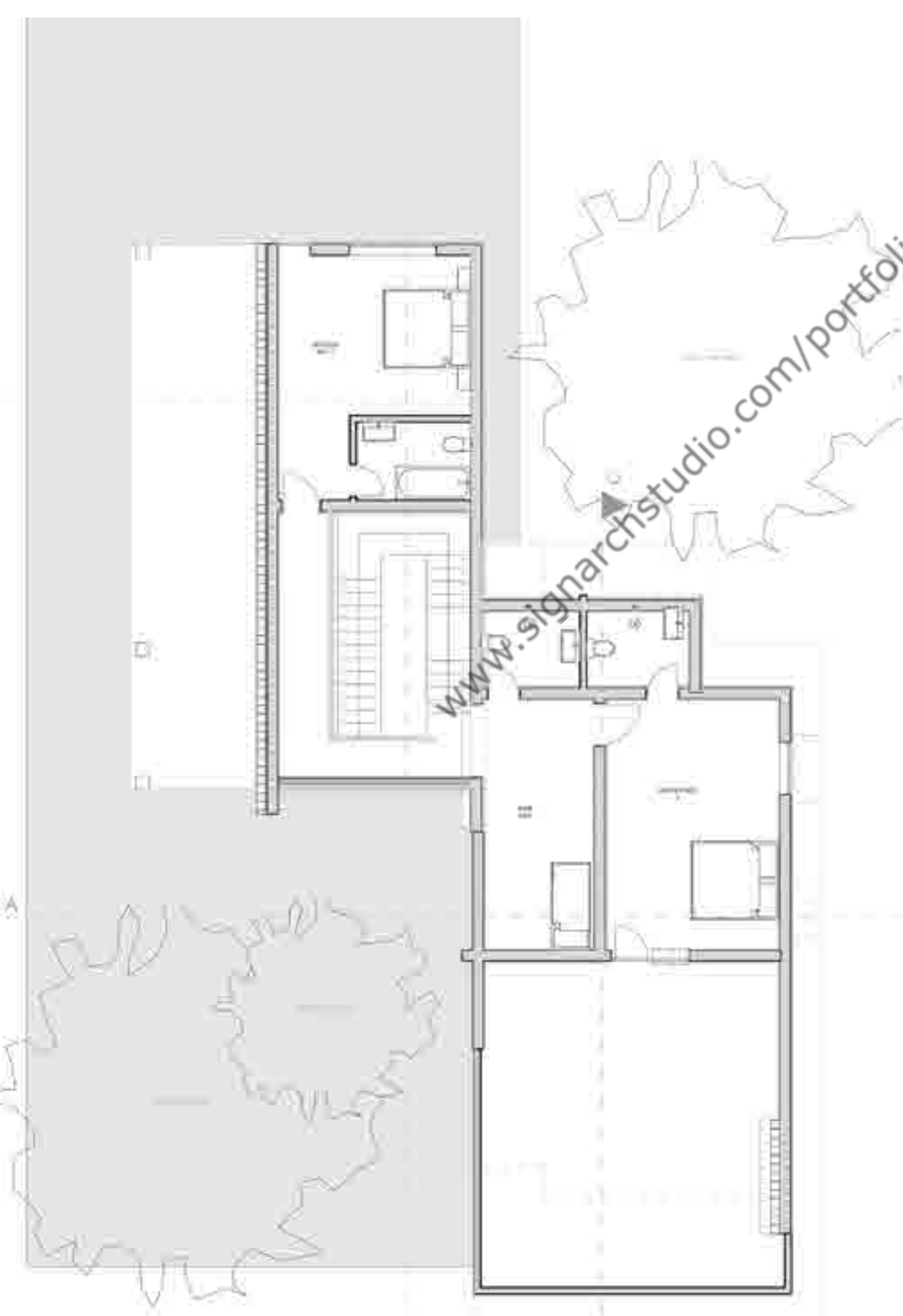
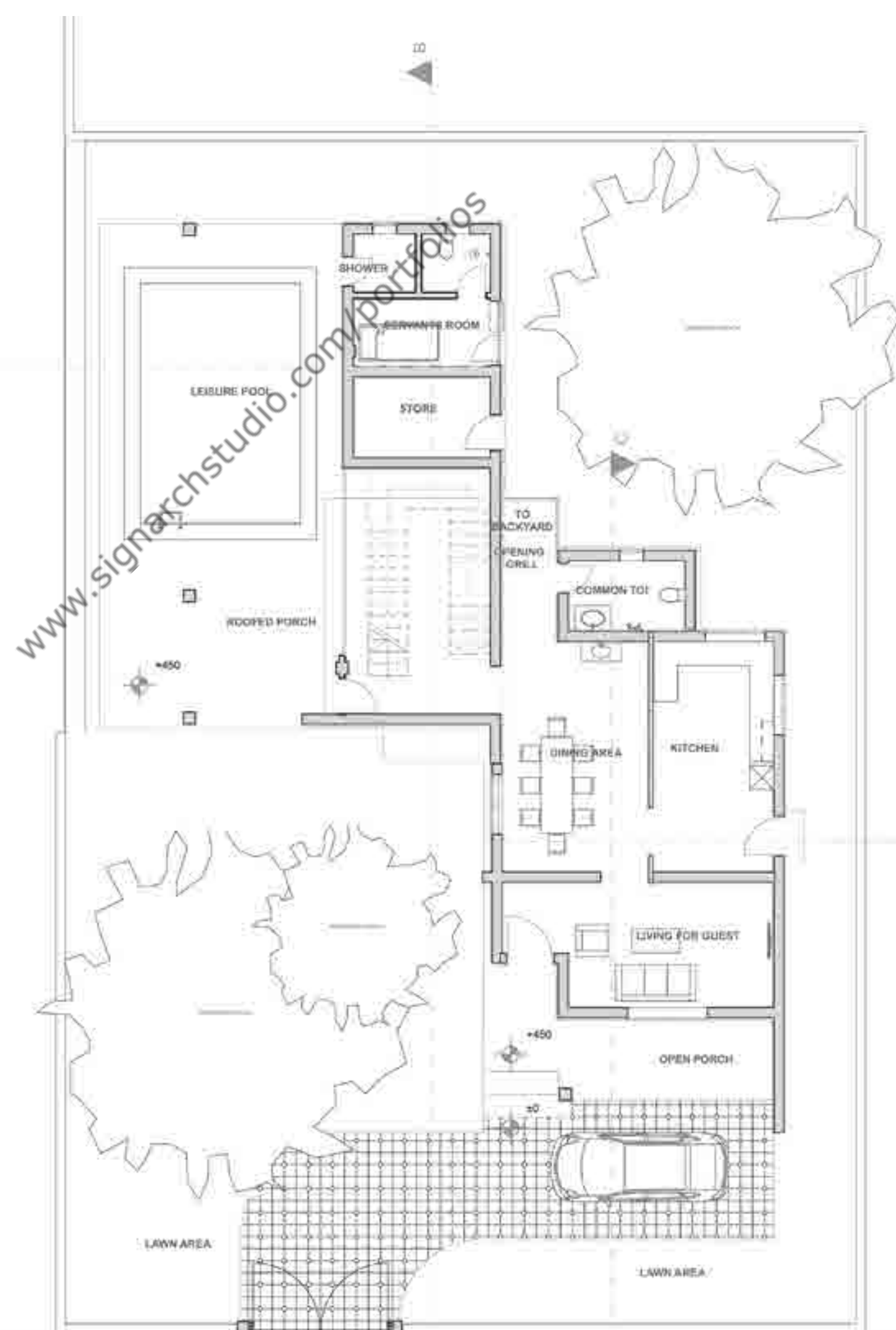


# GRIHA RATED RESIDENCE

Thokkotu, Mangaluru

Academic task that learn about  
GRIHA Rating

to achieve atleast 5 criterion



SLABS

> LOW-ENERGY PRODUCTS AND TECHNOLOGIES USED IN STRUCTURAL APPLICATIONS. PRECAST SLAB FOR THE 1ST STOREY



> SHADED THE BUILDING SURFACES GETTING MAXIMUM SOLAR EXPOSURE USING GREEN ROOF



- Criterion 16 Reduce volume and weight, and time of construction by adopting efficient technologies.
- Criterion 13 Optimize building design to reduce conventional energy demand.

WEST FACADES

FACADE IN THE WEST HAS BEEN MINIMISED WITH THE OPENINGS TO REDUCE THE HEAT TO ENTER IN TO THE INTERIORS

FACADE INTRODUCED WITH VERTICAL GARDEN TO REDUCE THE HEAT GAIN

MAXIMUM OPENINGS ON NORTH AND SOUTH



- Criterion 13 Optimize building design to reduce conventional energy demand.

ROOFS

ROOF WITH CLAY TILES AND SLAB.



RAIN WATER HARVESTING CALCULATIONS

TOTAL AMOUNT OF WATER COLLECTED IN YEAR  
 $173 \text{ M}^2 (\text{Area of Roof}) \times 0.550 \text{ M} (\text{Avg annual rainfall}) \times 0.8 (\text{Tile}) = 76.12 \text{ Cubic Meter}$   
**76,120 LITERS / YEAR**

- Criterion 21 Water recycle and reuse

SOLAR PANELS

> REDUCING CONVENTIONAL ENERGY USAGE BY 100%, THROUGH SOLAR PHOTOVOLTAIC.

ROOF TILES WITH TESLA TILES (TUSCAN GLASS PHOTOVOLTAIC TILES) FACING SOUTH, ROOF PITCHED BY 20° FOR RAIN DRAIN



ENERGY CALCULATIONS

TOTAL ENERGY REQUIRED SKW / DAY

AREA OF ROOF FOR SOLAR PANEL (UNSHADED FACING SOUTH) : 32 M.SQ.

RESERVED AREA AS PER DESIGN : 112 M.SQ.

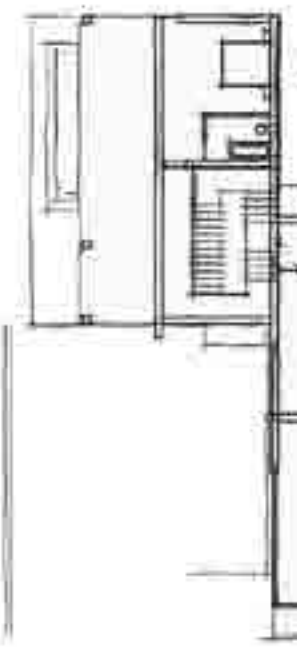
- Criterion 18 Renewable energy utilization

WALLING

WEST FACING WALLS AND LOAD BEARING GROUND FLOOR WALLS - LOCAL LATERITE STONE HAS BEEN USED (THE MORE R-VALUE THAN OTHERS) PLASTERED WITH WHITE CEMENT TO GAIN THE REFLECTIVE SURFACE.

REST OF THE WALLS FACING NORTH, EAST AND SOUTH, NON LOAD BEARING WALLS, USED FLY ASH BRICKS

FLY ASH IN MASONRY MORTAR.



- Criterion 15 Reduction of fly ash in building structure

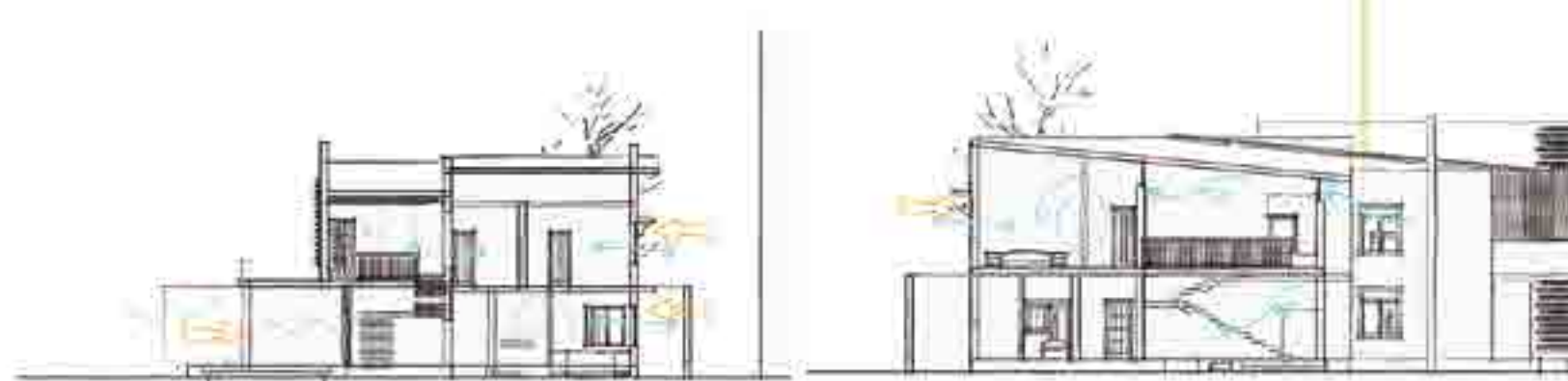
OPEN VERANDAH

FOLLOWING THE TRADITIONAL ARCHITECTURE THE USE OF OPEN VERANDAH TO THE WEST FACADE HELPS HOT AIR COOLS WHEN TRAVELS TO THE INTERIORS AND TO HAVE A SEMI PUBLIC SPACE



- Criterion 13 Optimize building design to reduce conventional energy demand.

NATURAL VENTILATIONS



- Criterion 13 Optimize building design to reduce conventional energy demand.

HARD-SCAPES

> HARD PAVEMENT LIMITED TO THE ENTRY AND PORCH BY 9% OF TOTAL LAND. REST OF THE UNBUILT SPACES ARE NOT PAVED.



- Criterion 5 Reduce hard paving on-site.

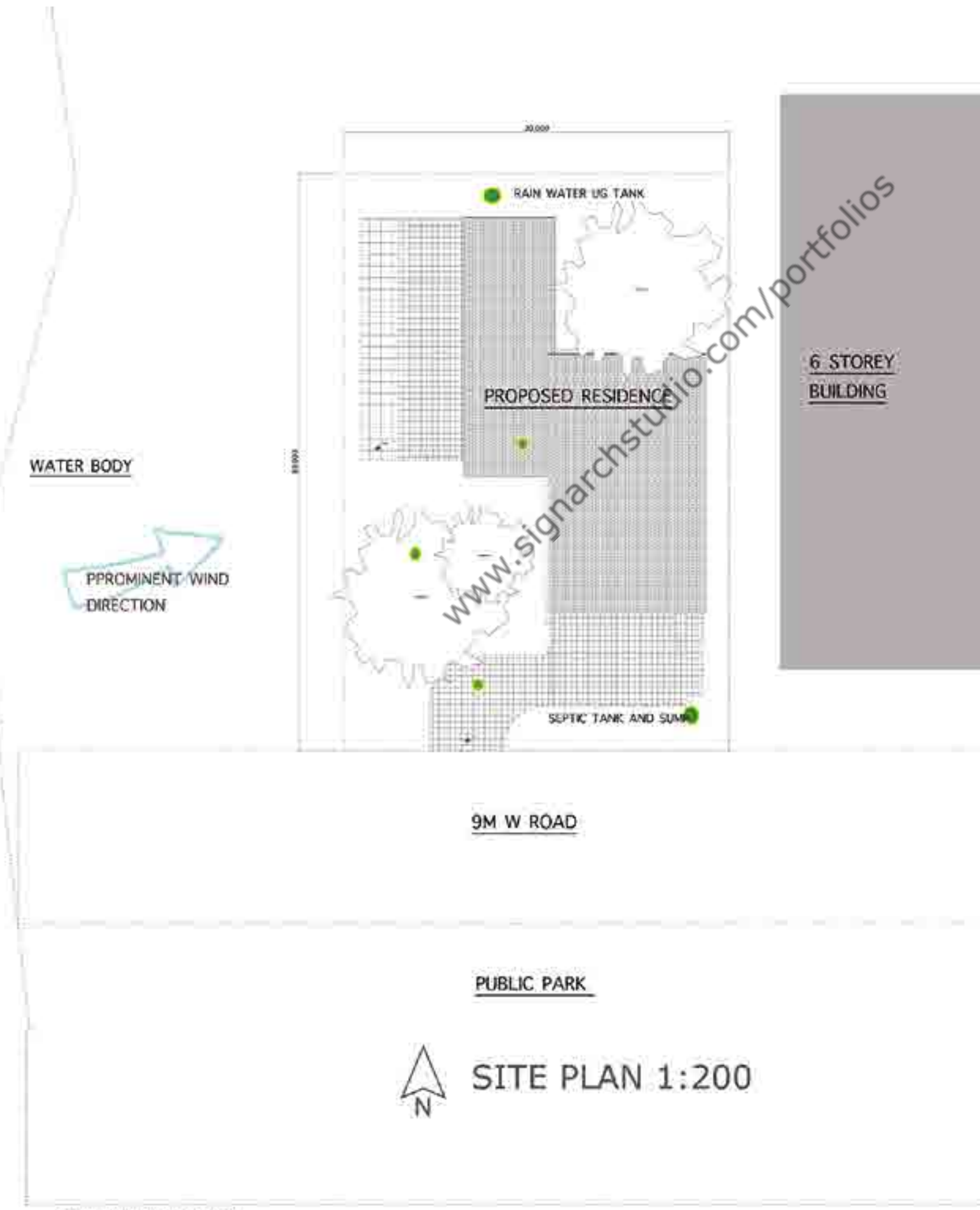
UNBUILT LAND

10% LAND LEFT OF WITHOUT CONSTRUCTIONS WHICH HAS VEGETATION WHICH IS NOT REMOVED.

THE EXCAVATED TOP SOIL, STORED IN THIS PLOT OF LAND, AND LEVELLED FOR THE LANDSCAPE AFTER CONSTRUCTION.



- Criterion 3 Soil conservation
- Criterion 2 Preserve and protect landscape during construction





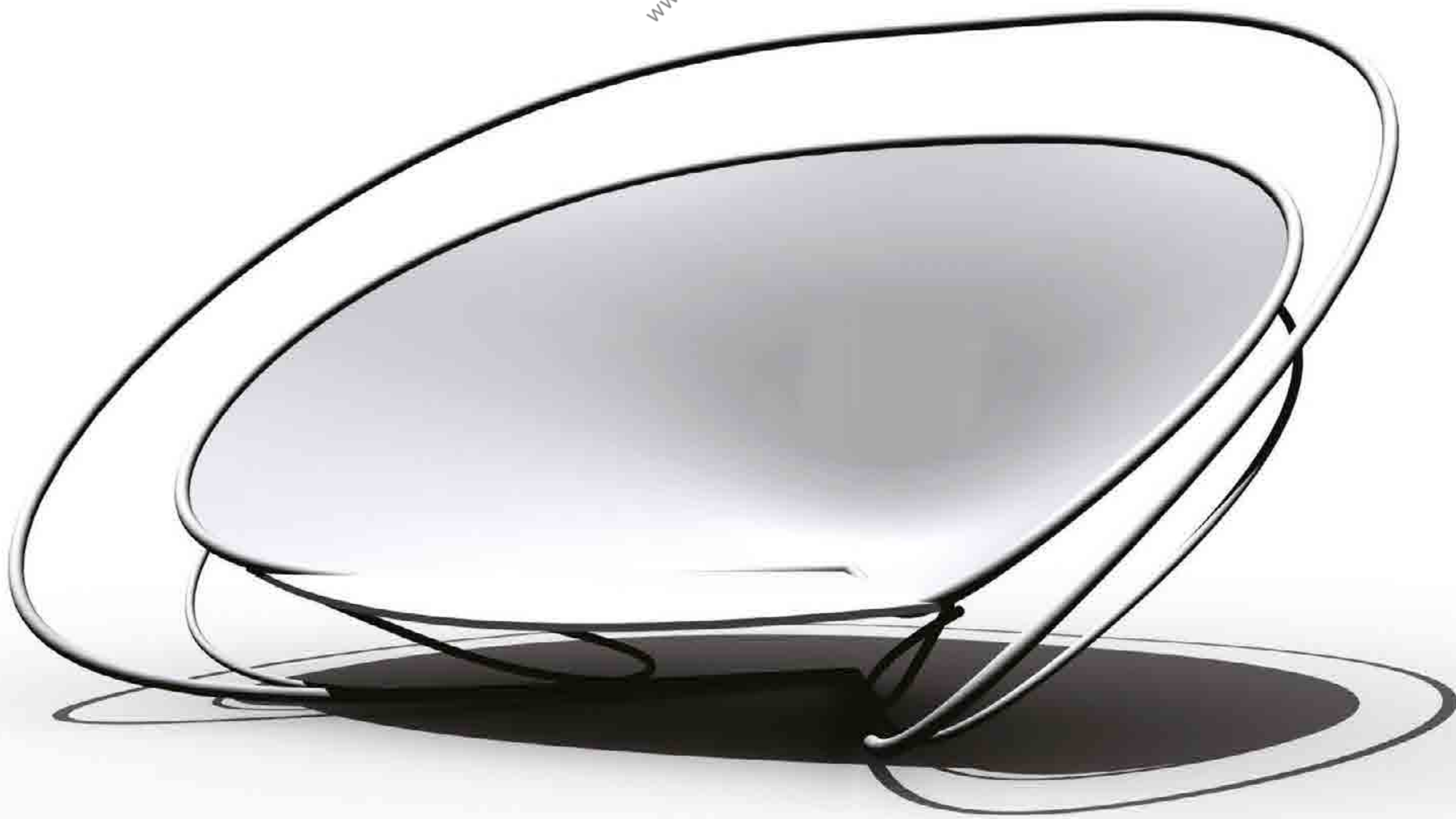
Lounge chair

Chair design for the travel mode.

Fold - bold

Concept crafted for Car-voyager who can relax, sleep like in a Cat Bed.

relax - cult





# D-MASK

Wall mounted + e-sensors operated Mask Disinfecter Device  
Using UVGI Technology. Used mask can disinfected by UV rays. This module can wall-mounted and using doors having electroic sensors will make easier to fuction without touching.





## Box Hostel

Open thought design for youth hostel in valleys of Western Ghats.

## Dream

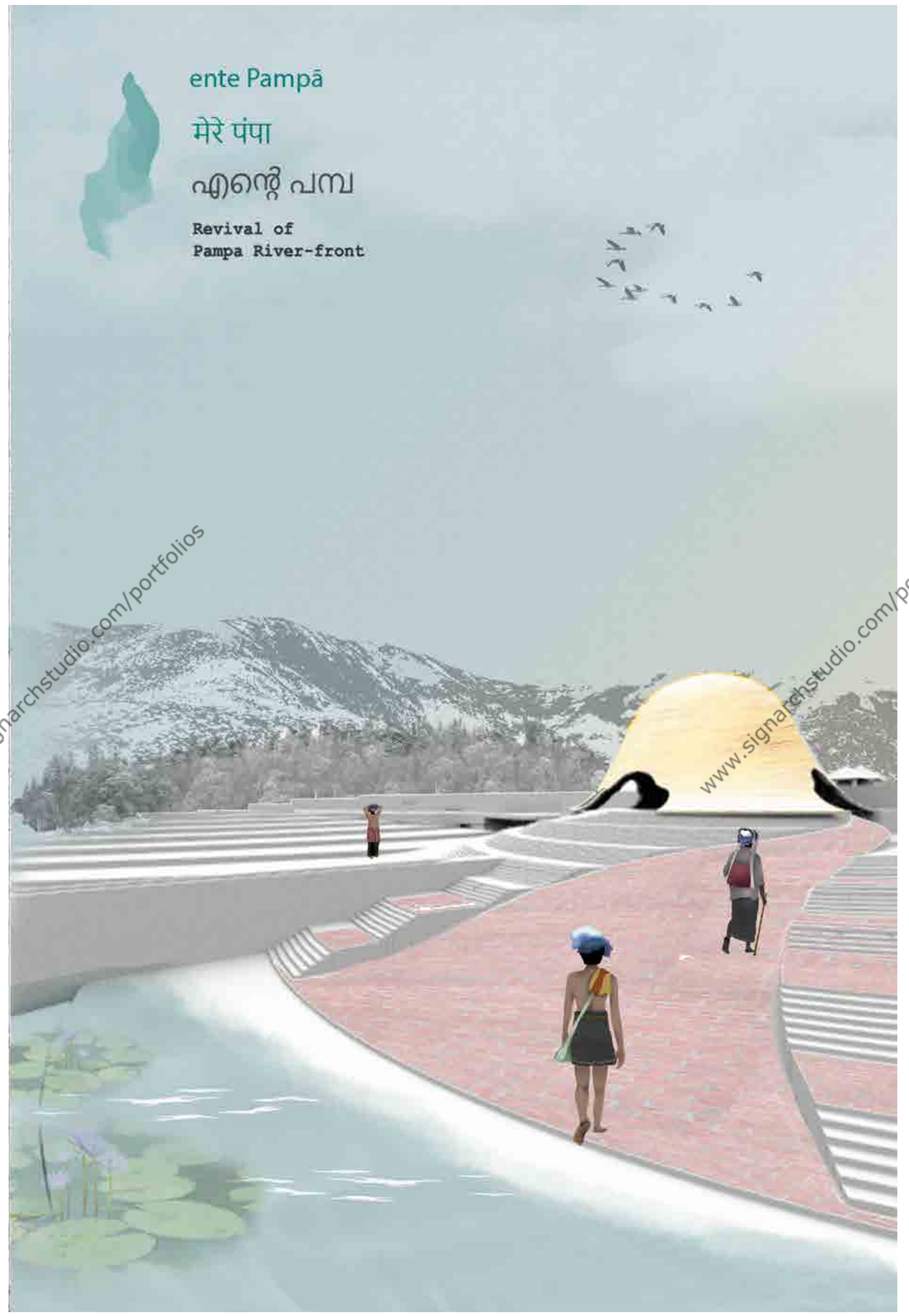
Concept idealized from a night dream.

## Commune

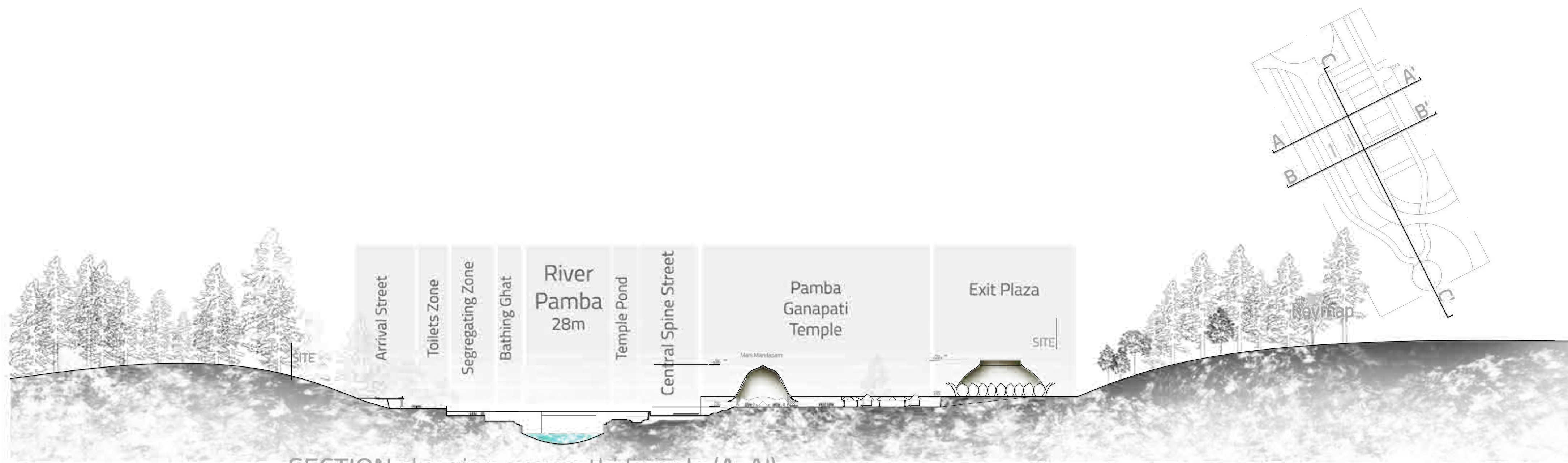
# Revival for the Pampa River-Front

Post-Deluge Pampa revival is the task should execute with no-time.

Concerned about ecology as well as the sensitive activity zone. Solving the problems stage by stage.



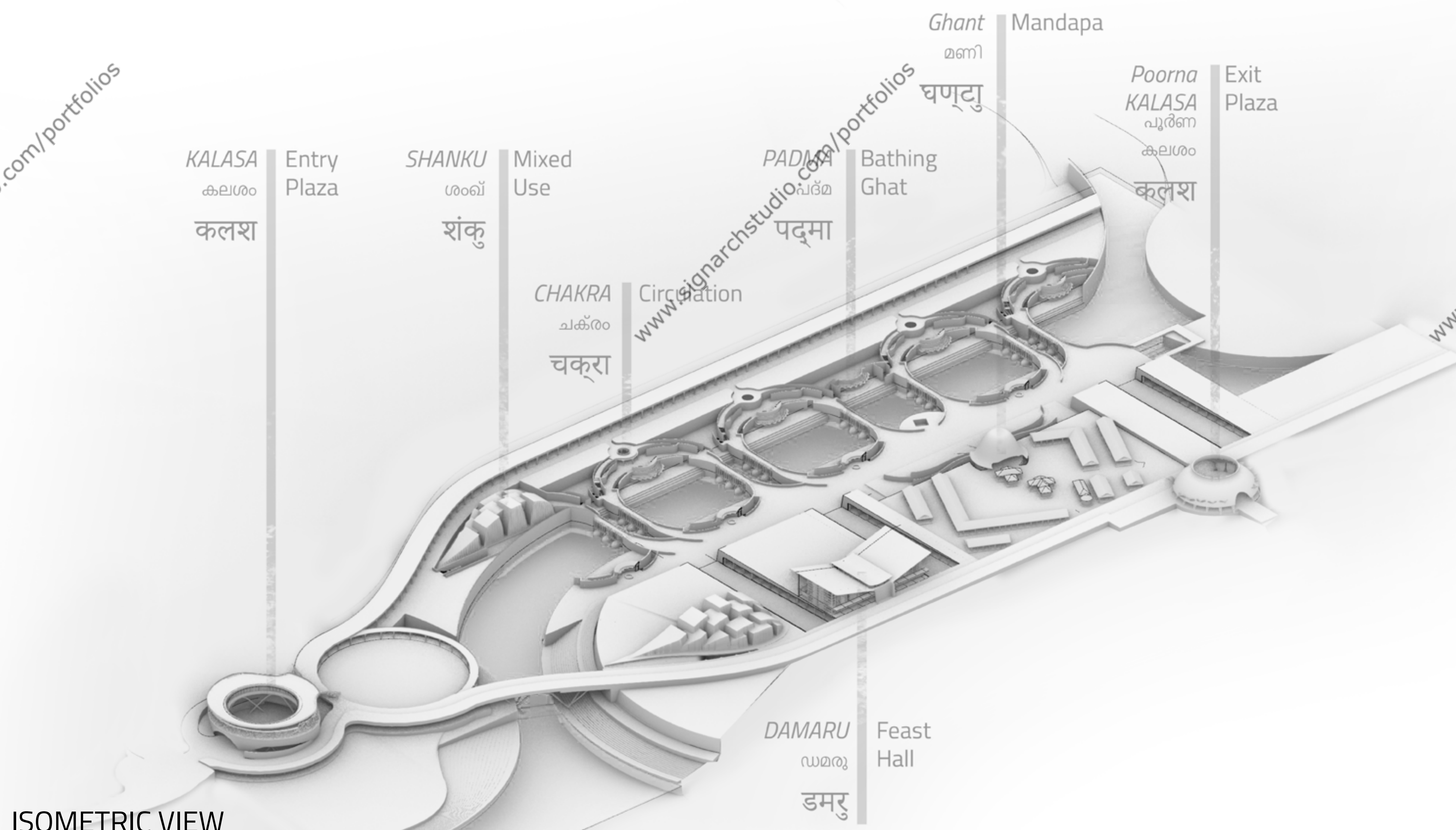




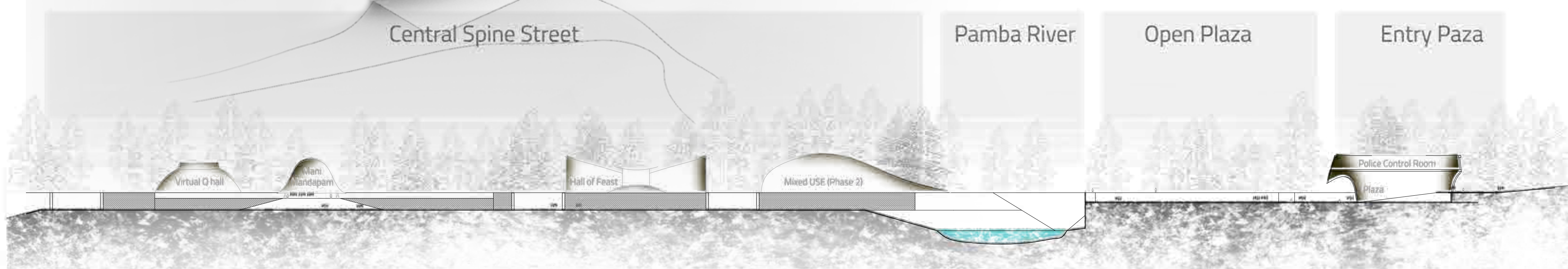
SECTION showing ganapathi temple (A-A')  
SCALE 1:750



SECTION showing Ghat (B-B')  
SCALE 1:750



ISOMETRIC VIEW



SECTION through central spine(C-C')  
SCALE 1:750



*Baha'i Lotus Temple, New Delhi*