

DENIS AMIRTHARAJ
ARCHITECTURE
PORTFOLIO

2018



I am a high spirited 22 year old architect. As an architect my interest are in buildings and spaces, but I am perhaps deeper inspired in how people interact with these spaces that are existing and the ones that we create. The endless possibility to shape the world through architecture made me passionate about it. I am drawn to solving social problems and believe that architecture has a solution to any. I am also passionate about the world of graphics and photography, making it a secondary passion of mine. I am constantly looking for opportunities that can help me learn and create. I believe i am a dedicated, organized and methodical individual, keen on developing my skills. I love to study about diverse cultures, work with distinctive individuals and mainly interested in learning about different approaches in handling a design. My primary objective is to utilize myself and contribute efficiently.

D E N I S A M I R T H A R A J

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Pin - 625007, Tamilnadu,

I n d i a

Softwares

Autocad

Sketchup

Adobe photoshop

Adobe Indesign

Adobe Illustrator

3DS Max

Revit

Ecotect

Work experiences

2017 to 2018

- **Architecture Brio,**
Mumbai, India

2018 - **Evolve studio,**
Chennai, India
(freelancing)

Architectural Internships

2015 - Studio Archetype,
Goa, India

2016 - Han Awal and
Partners Architect
Jakarta, Indonesia

Education - 2012 to 2017

McGan's Ooty School of Architecture

Tamilnadu, India. (CGPA-8.49)

Academic works

2013 - Cafeteria and Holiday shack

- Motel

2014 - Rural study and School

- Multi speciality Hospital and
Museum

2015 - Convention center and Hotel

- Internship 1

- Dissertation

(Post disaster reconstruction)

2016 - Internship 2

- Urban design

2017 - Thesis

(Transitional housing for
Rohingya refugees)

Competitions

2013 - Annual Nasa Design Comp.

(Ayurvedic Resort)

2014 - South Indian Design Comp.

(FIFA stadium)

2014 - Indian Green Building Comp.

(Agro research centre)

2015 - Louis I Khan Trophy

(Documentation of Toda tribe)

2018 - **UnIATA-Internatioanl Architecture**

Thesis Award (Top 50 of graduate and
undergraduate projects 2015 - 2017)

Language

English

Tamil

Hindi

Skills & Interests

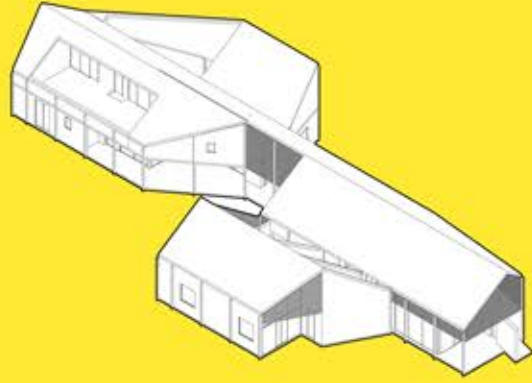
Manual sketching

Model making

Graphic designing

Photography

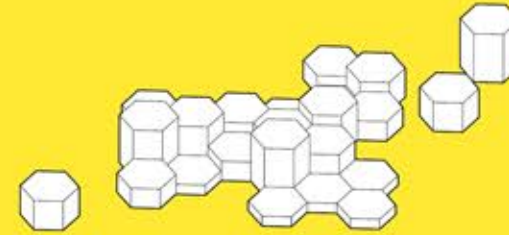
Instagram-@denisamirtharaj



INCLINED SOLIDS AND VOIDS
01-03



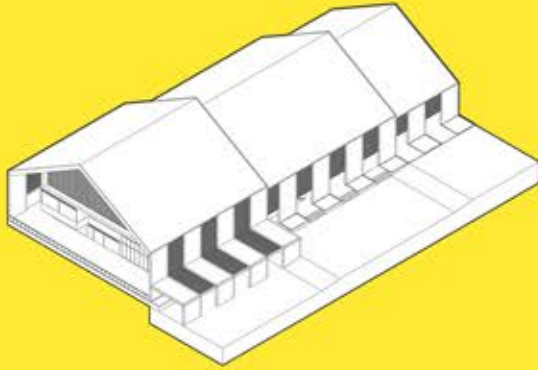
SUMBA SCHOOL
04-06



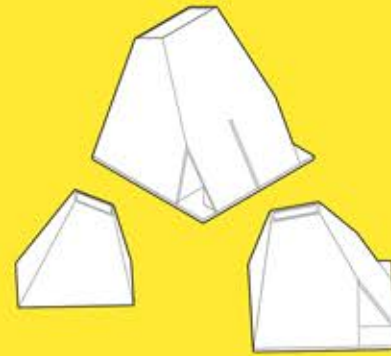
CARTER ROAD PROMENADE
07-08



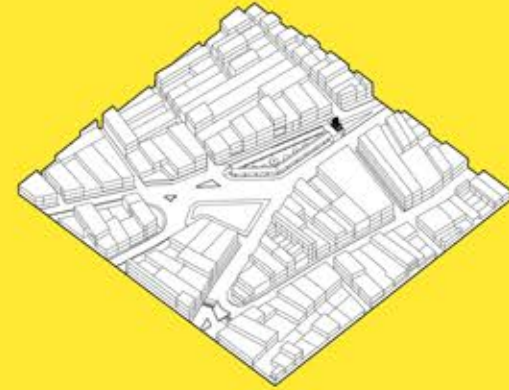
HOME FOR THE ESCAPED
09-12



ST.MATIUS
13



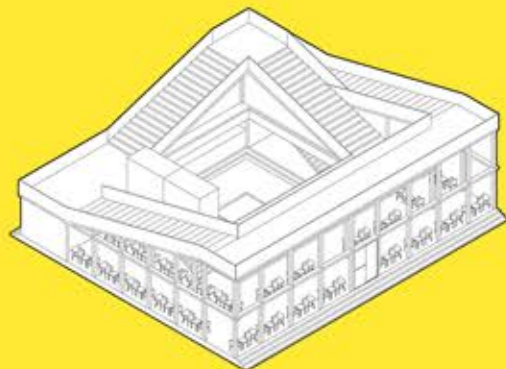
LUNGS OF JAKARTA
14



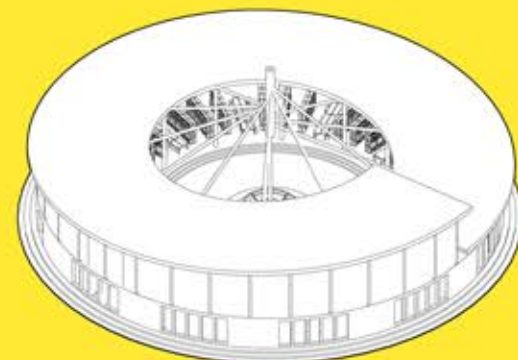
TEMPLE CITY-UD-TRAFFIC JUNCTION
15



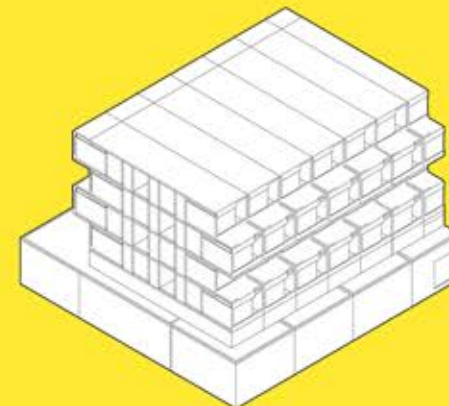
TEMPLE CITY-UD-RIVERFRONT
16



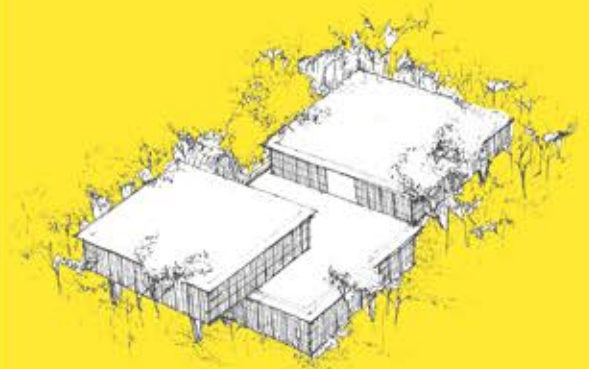
CAFE UNDER THE STAIRS
17



360°
18



THE GREEN CARPET
19

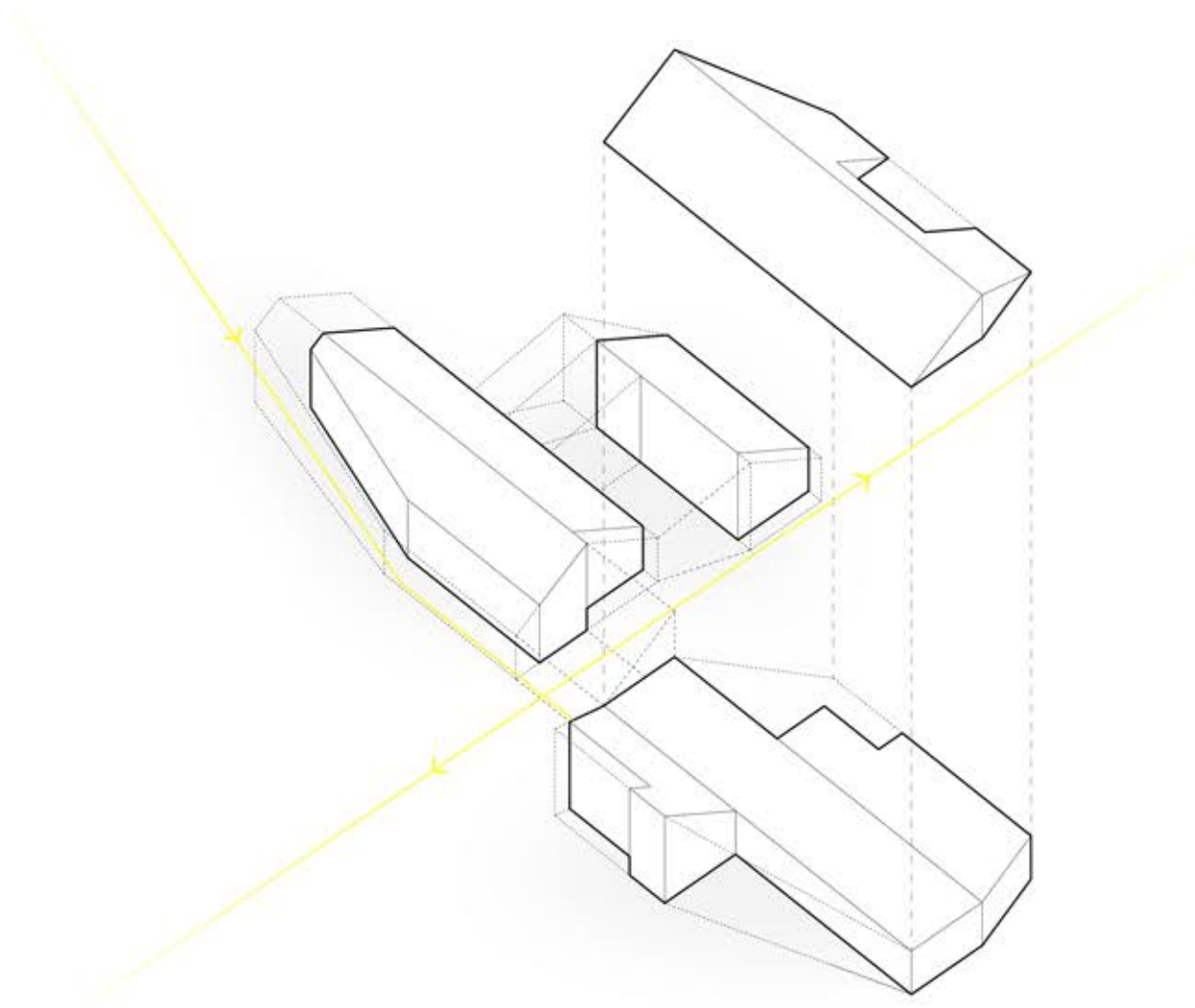


MISCELLANEOUS-ILLUSTRATIONS
20-22

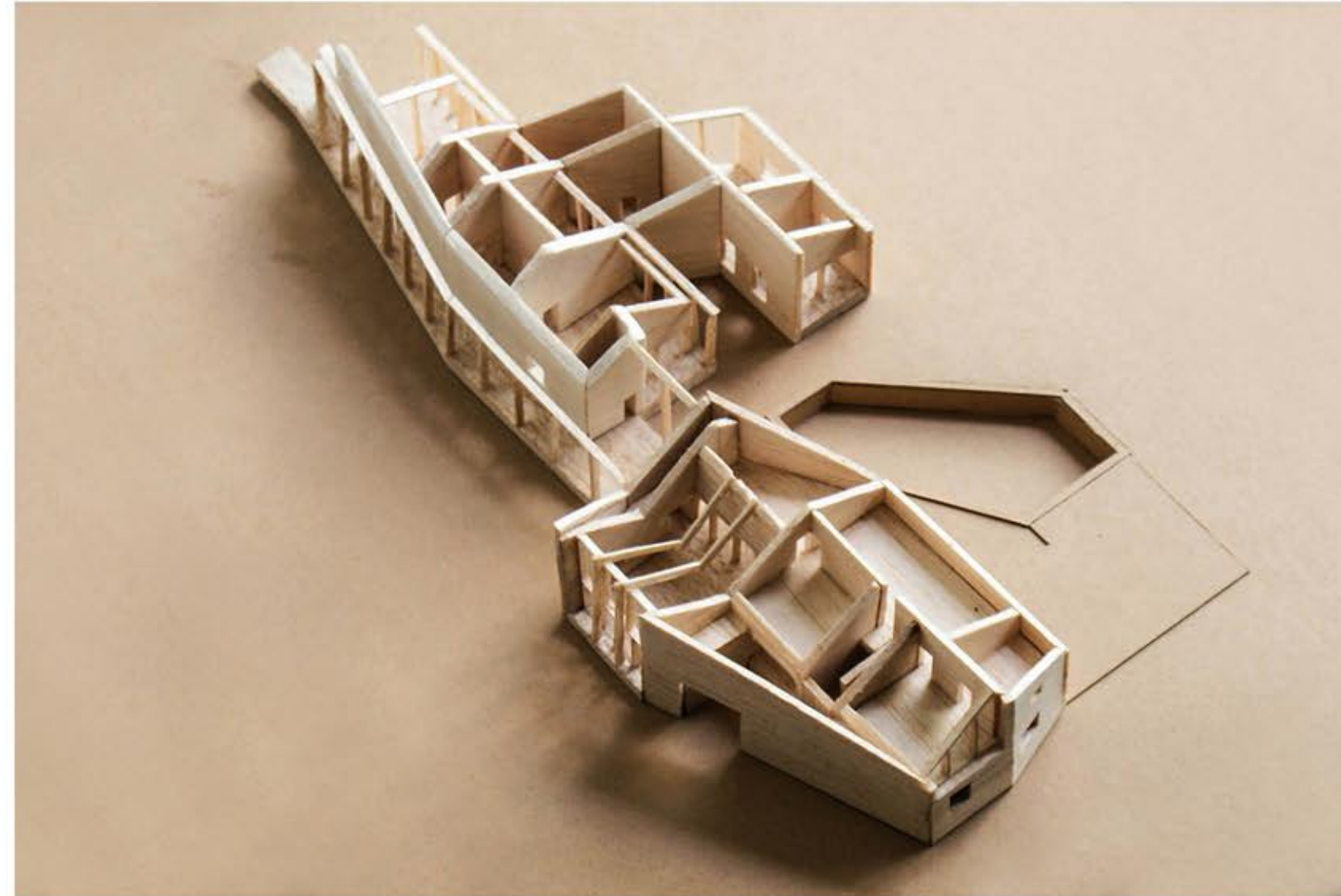
INCLINED

single family residence/holiday home

OFFICE : Architecture BRIO
PROJECT TYPE : Residence
YEAR : 2018
LOCATION : Alibag, Mumbai

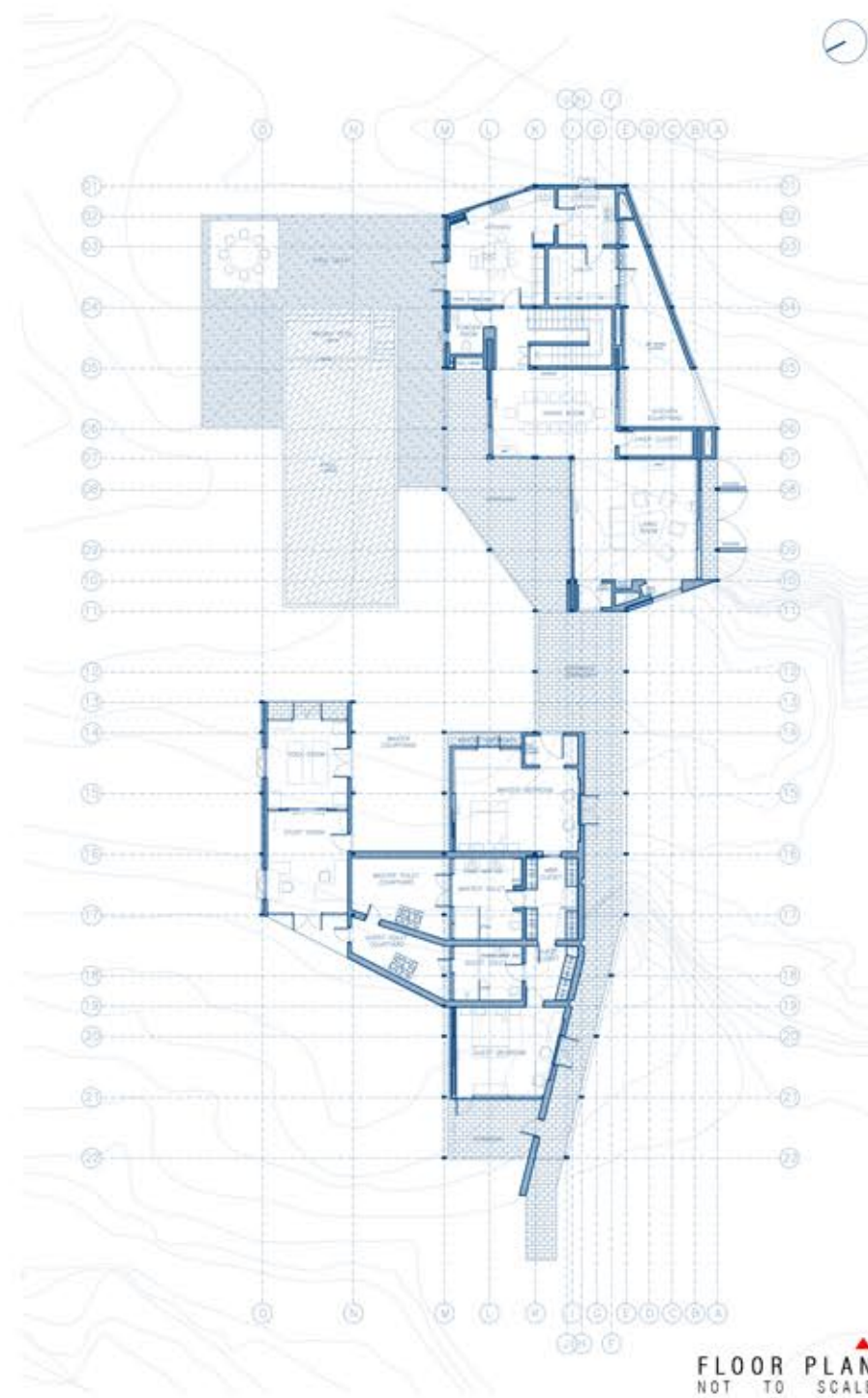


inclined solids and voids



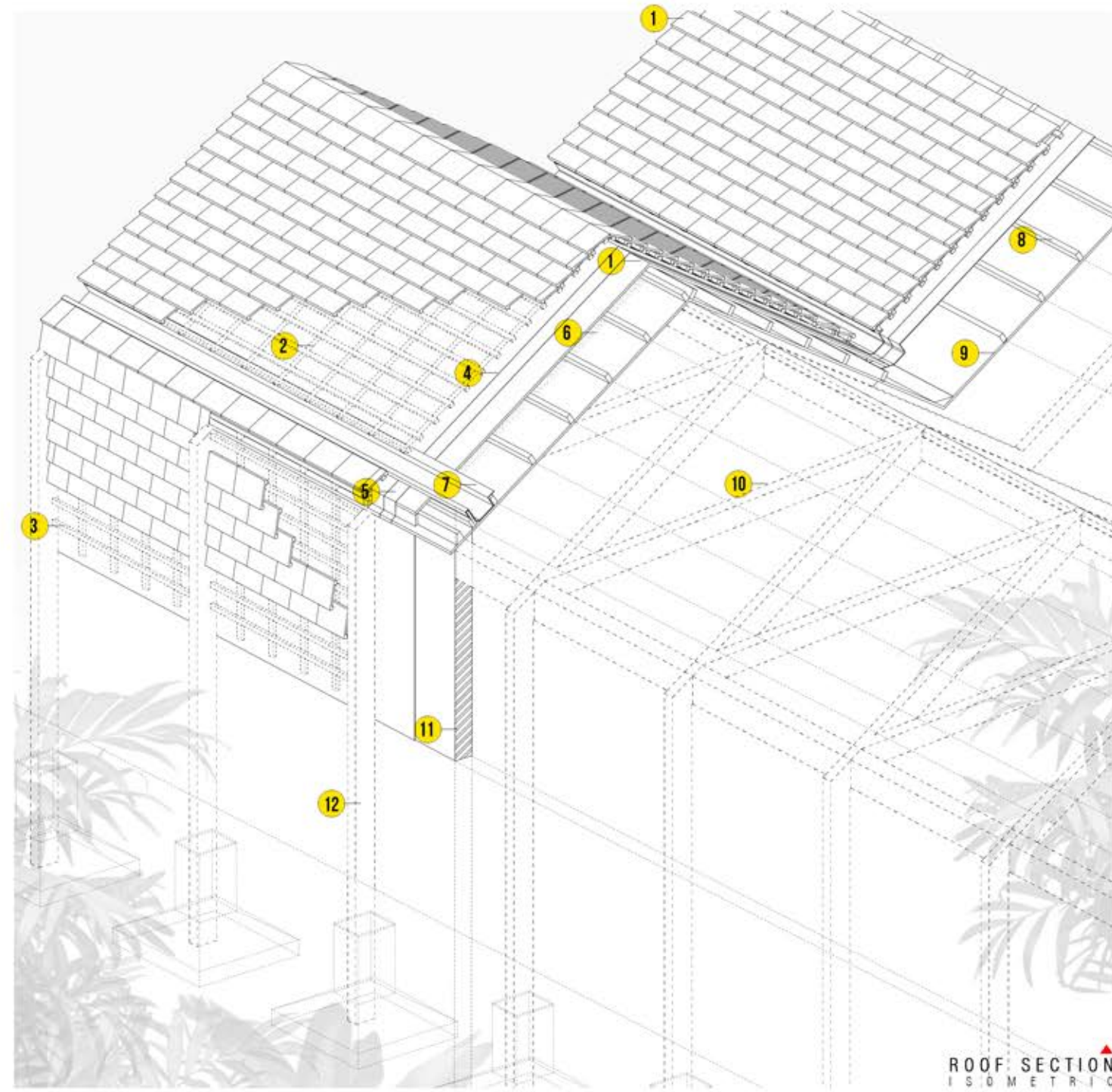
The project lies on 2693 sq mtrs of open land surrounded by fields, green hills and forests. The site located in Alibaug, a coastal town in the south of the city of the Bombay. The weather remains salubrious round the year, The monsoon pours heavy rainfall, the winter brings a pleasant climate and the summer brings moderate to hot climate. The response to the project chiefly came from the clients brief to give an in and out experince with the interior and the surroundings around the site. The project explores by creating three differnt building mass (private, public and semi private) connected through courtyards and semi open walk ways. The linear floor plan aligned with the longer sides facing North/South, set up a strong primary axis. The parallel continued sloped roof is incorporated to sustain from heavy rainfall during the monsoon and also blends with the local architecture. The bedroms and living rooms with double floor heights brings in sense of openness by allowing plenty of light and offering significant views of the landscape around.





FLOOR PLAN
NOT TO SCALE

The design explores the steel portal frame building typology in highly refined and detailed way. The multiple insulated roof is supported by MS steel frames. The roof is made up of handmade clay tiles which is sourced locally. The roof finds expression from the inside of the house as well, giving magnitude to ceiling by exposing the structural frames in the bedrooms and the living,



ROOF SECTION
ISOMETRIC

- 1 handmade clay roof tile
240 x 540 x 37mm
- 2 vertical aluminium battens
40mm
- 3 horizontal aluminium battens
30mm

- 4 WP bituminus sheet
3mm
- 5 Aerolam reflective insul.
3mm
- 6 Insulation foam XPS
60mm

- 7 Aluminium gutter
- 8 roof sandwich battens
40mm
- 9 concrete shera board
20mm

- 10 MS angled beam
200 x 100 x 8mm
- 11 fly ash brick wall
- 12 MS column
200 x 100 x 8mm



The material palette of the house was mainly focused on bringing out the earthy tone to blend in with the external landscape. The brief for the interior included provision of a space that interacts with the surroundings and not feel like being in a closed room. The bedrooms are attached with courtyards which enhances the micro climate, pervaded with a sense of calm and continual views over the gentle contours and varied planting of external landscape. The emphasis of internal courtyards is on harmonious earthy colours, warm earthy textures, deep green of landscape and uninterrupted view of the sky overhead.

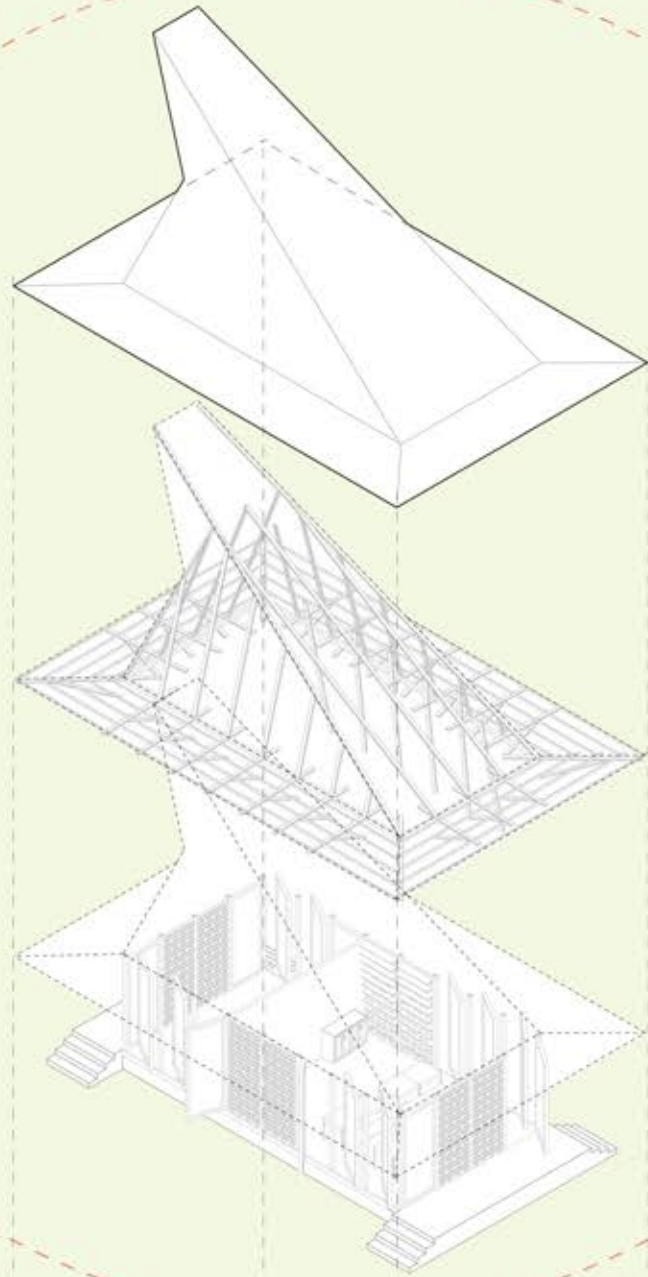


billionBricks

SUMBA SCHOOL

design proposal for sustainable prototype school

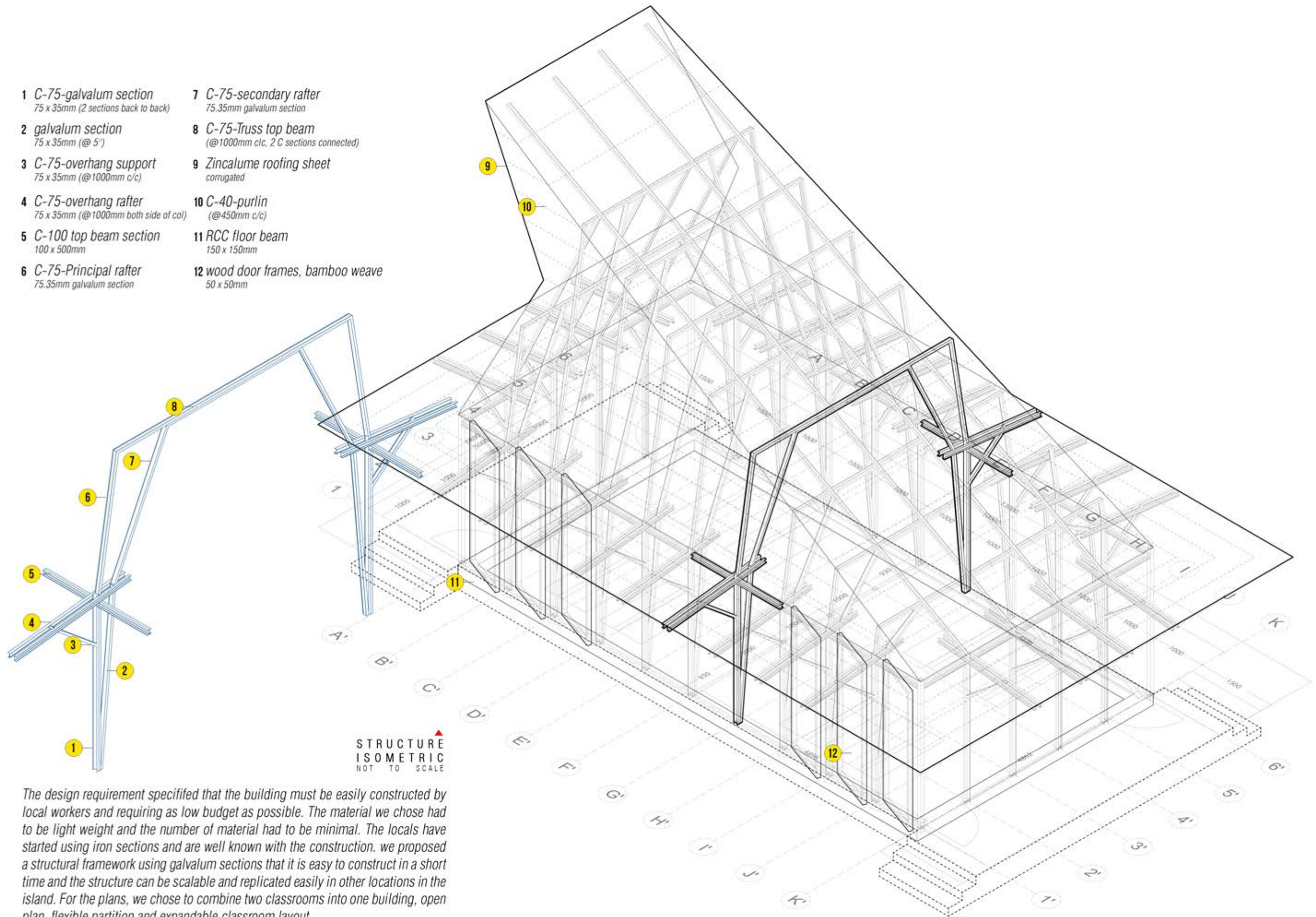
OFFICE : Architecture BRIO
NGO : Billion Bricks
PROJECT TYPE : School
YEAR : 2017
LOCATION : Sumba, Indonesia



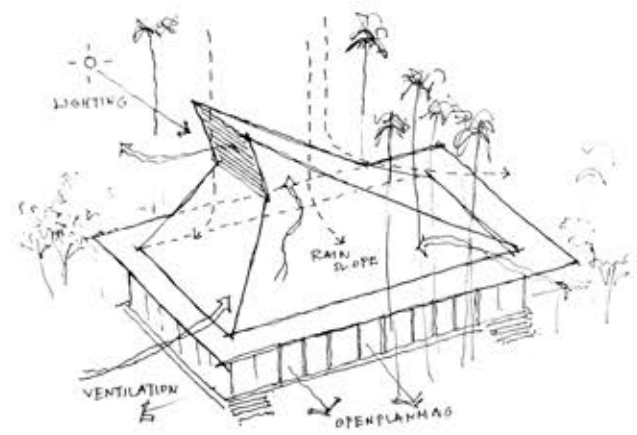
Total cost - \$20,000
Construction timeline - 6 to 8 weeks

Sumba island is considered as one of the poorer island in Indonesia, very few people have access to proper infrastructure, electricity, hospitals and educational facilities but things are changing now, thanks to the efforts of various organisations and NGO's. Billion Bricks was approached by an international development organisation to help build schools in the island, we the design team in Architecture Brio were given the task to design a prototype school that is cost effective, adaptable, scalable, sustainable and the construction possible with involvement of volunteers from around the world and local community participation. Sumba island is known for its breathtaking landscapes and traditional Indonesian houses. The school resembles the the settlement in Sumba and depicts the rich culture behind the aboriginal Indonesian tribes, characterized with its high-pitched central peak in its roof and strong connection with the spirits.

- | | |
|--|--|
| 1 C-75-galvalum section
75 x 35mm (2 sections back to back) | 7 C-75-secondary rafter
75.35mm galvalum section |
| 2 galvalum section
75 x 35mm (@ 5°) | 8 C-75-Truss top beam
(@1000mm c/c, 2 C sections connected) |
| 3 C-75-overhang support
75 x 35mm (@1000mm c/c) | 9 Zinalume roofing sheet
corrugated |
| 4 C-75-overhang rafter
75 x 35mm (@1000mm both side of col) | 10 C-40-purlin
(@450mm c/c) |
| 5 C-100 top beam section
100 x 500mm | 11 RCC floor beam
150 x 150mm |
| 6 C-75-Principal rafter
75.35mm galvalum section | 12 wood door frames, bamboo weave
50 x 50mm |

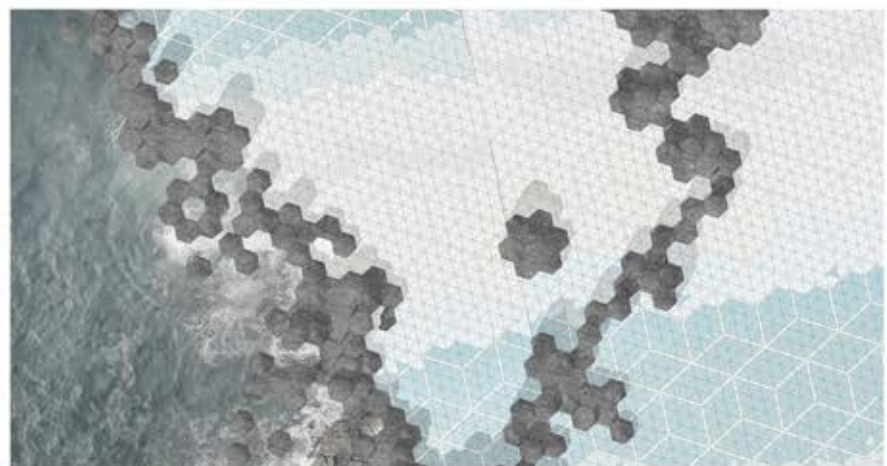
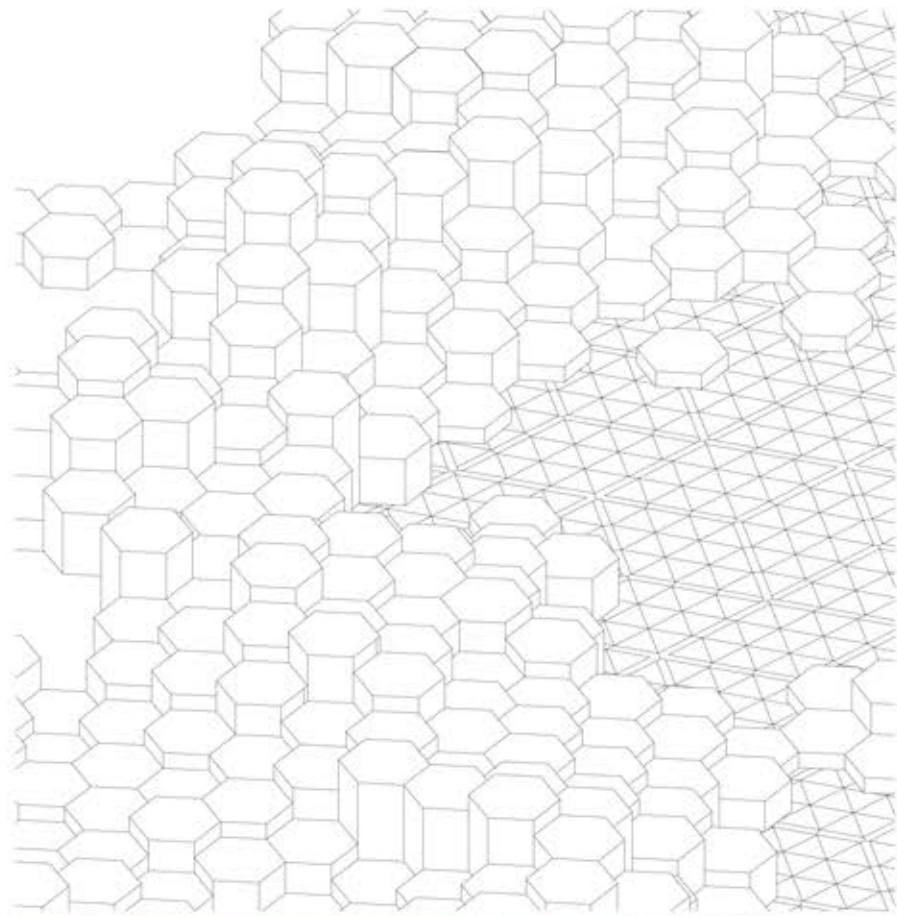


The design requirement specified that the building must be easily constructed by local workers and requiring as low budget as possible. The material we chose had to be light weight and the number of material had to be minimal. The locals have started using iron sections and are well known with the construction. we proposed a structural framework using galvalum sections that it is easy to construct in a short time and the structure can be scalable and replicated easily in other locations in the island. For the plans, we chose to combine two classrooms into one building, open plan, flexible partition and expandable classroom layout.



The target was to build 100 schools in 5 years and the construction of each school in 45 days, to achieve that we designed the school to have lighter foot print and minimise materials, using prefabricated materials allows faster construction and is easy for scaling. The walls and doors are proposed to have bamboo weaves with traditional Indonesian fabric patterns over them. The school must have maximum involvement of local community and volunteers in construction. Connecting cultures through craftsmanship.



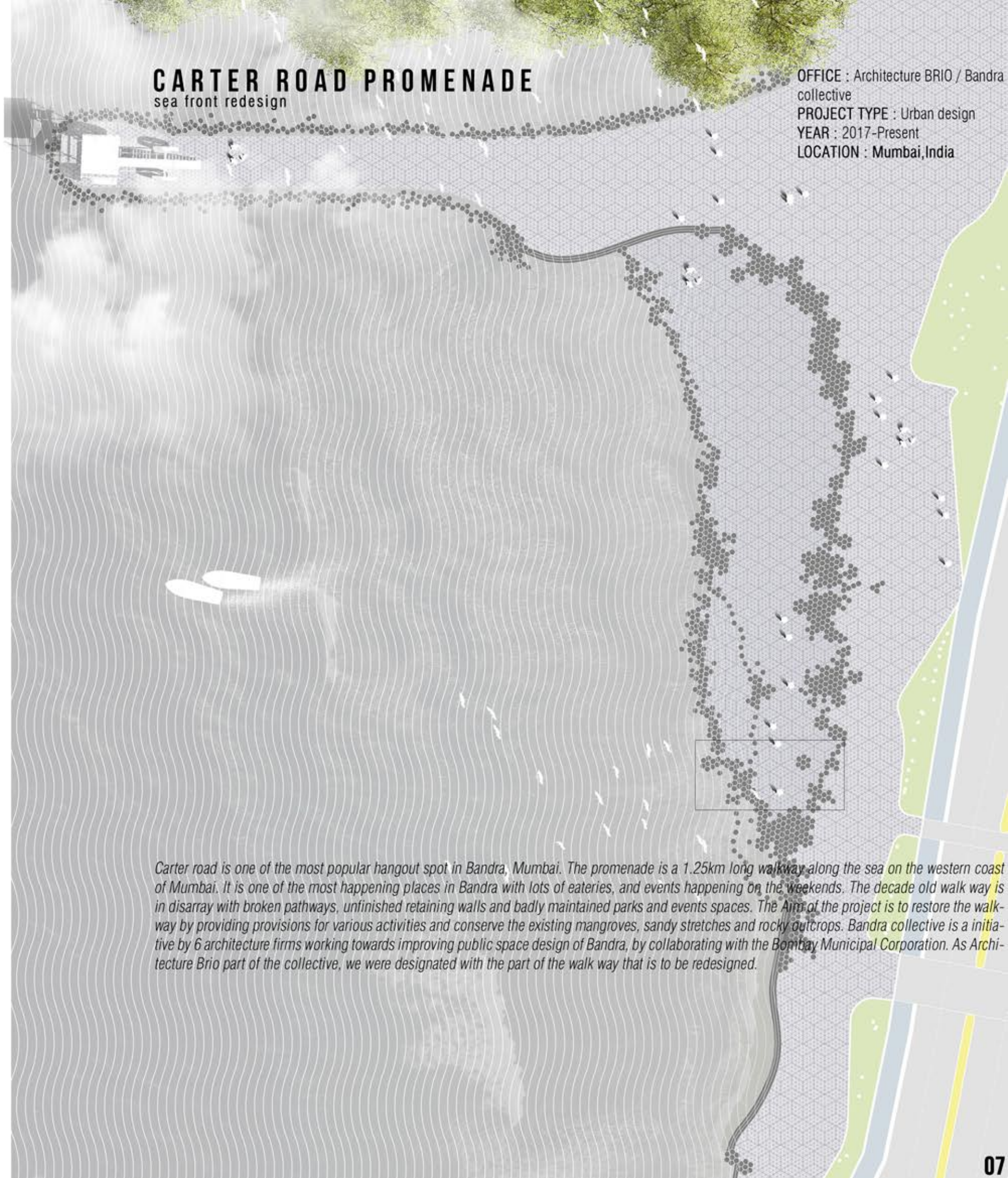


basalt blocks and paving configuration
 Their strategic arrangement encourages a variety activities as a result of people's interaction with the blocks.

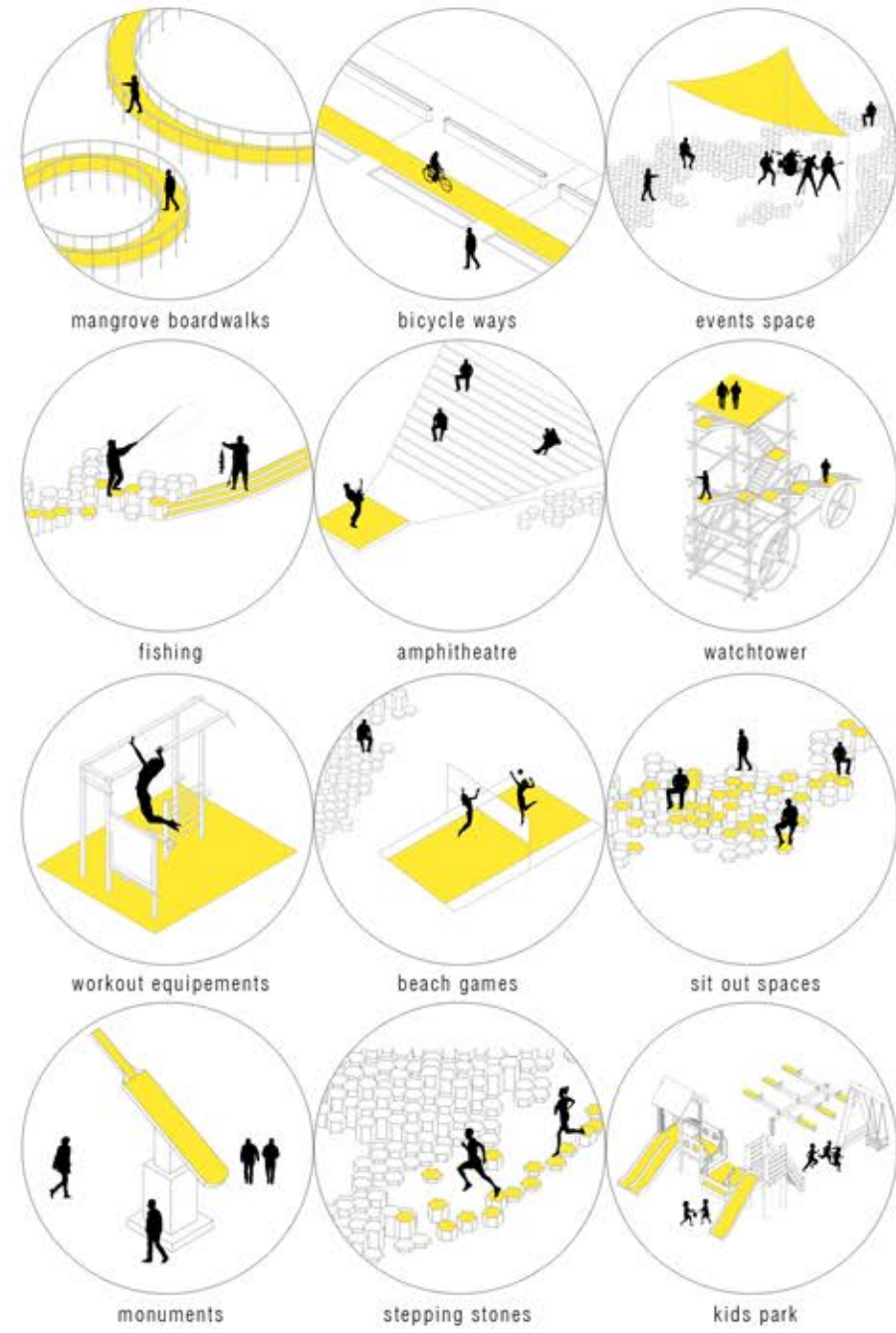
CARTER ROAD PROMENADE

sea front redesign

OFFICE : Architecture BRIO / Bandra collective
 PROJECT TYPE : Urban design
 YEAR : 2017-Present
 LOCATION : Mumbai, India



Carter road is one of the most popular hangout spot in Bandra, Mumbai. The promenade is a 1.25km long walkway along the sea on the western coast of Mumbai. It is one of the most happening places in Bandra with lots of eateries, and events happening on the weekends. The decade old walk way is in disarray with broken pathways, unfinished retaining walls and badly maintained parks and events spaces. The Aim of the project is to restore the walkway by providing provisions for various activities and conserve the existing mangroves, sandy stretches and rocky outcrops. Bandra collective is a initiative by 6 architecture firms working towards improving public space design of Bandra, by collaborating with the Bombay Municipal Corporation. As Architecture Brio part of the collective, we were designated with the part of the walk way that is to be redesigned.



ACTIVITIES ALONG
THE PROMENADE

The basalt blocks acts as retaining wall and they define and demarkate several spaces for activities throughtout the walkway. The blocks also act as stepping stones on the periphery. Reminiscent of the natural rock formations along the coast. Their strategic arrangement encourages a variety activities as a result of people's interaction with the blocks. Some arrangements create niches and facilitate group seating in an organic way. The varying heights make the blocks a more interesting space.

HOME FOR THE ESCAPED

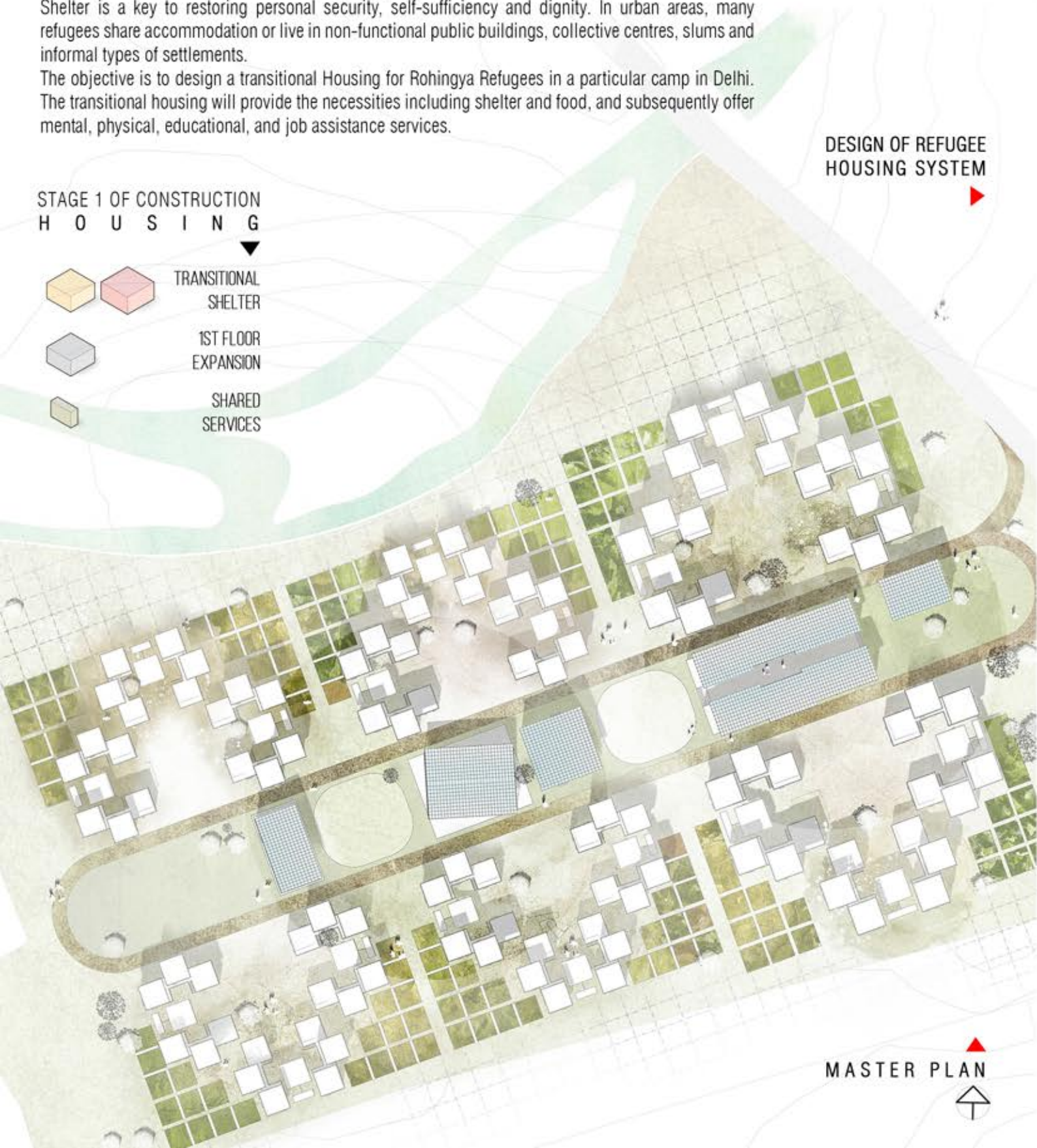
Transitional housing for the Rohingya refugees

PROJECT TYPE : Housing
 SEMESTER : X - Thesis
 YEAR : 2016-2017
 LOCATION : New Delhi, India

Refugees do not have a legal status in India as it is not a signatory to 1951 United Nation Convention for refugees. Yet, India hosts one of the largest population of refugees in South Asia. Shelter is a key to restoring personal security, self-sufficiency and dignity. In urban areas, many refugees share accommodation or live in non-functional public buildings, collective centres, slums and informal types of settlements. The objective is to design a transitional Housing for Rohingya Refugees in a particular camp in Delhi. The transitional housing will provide the necessities including shelter and food, and subsequently offer mental, physical, educational, and job assistance services.

STAGE 1 OF CONSTRUCTION H O U S I N G

- TRANSITIONAL SHELTER
- 1ST FLOOR EXPANSION
- SHARED SERVICES



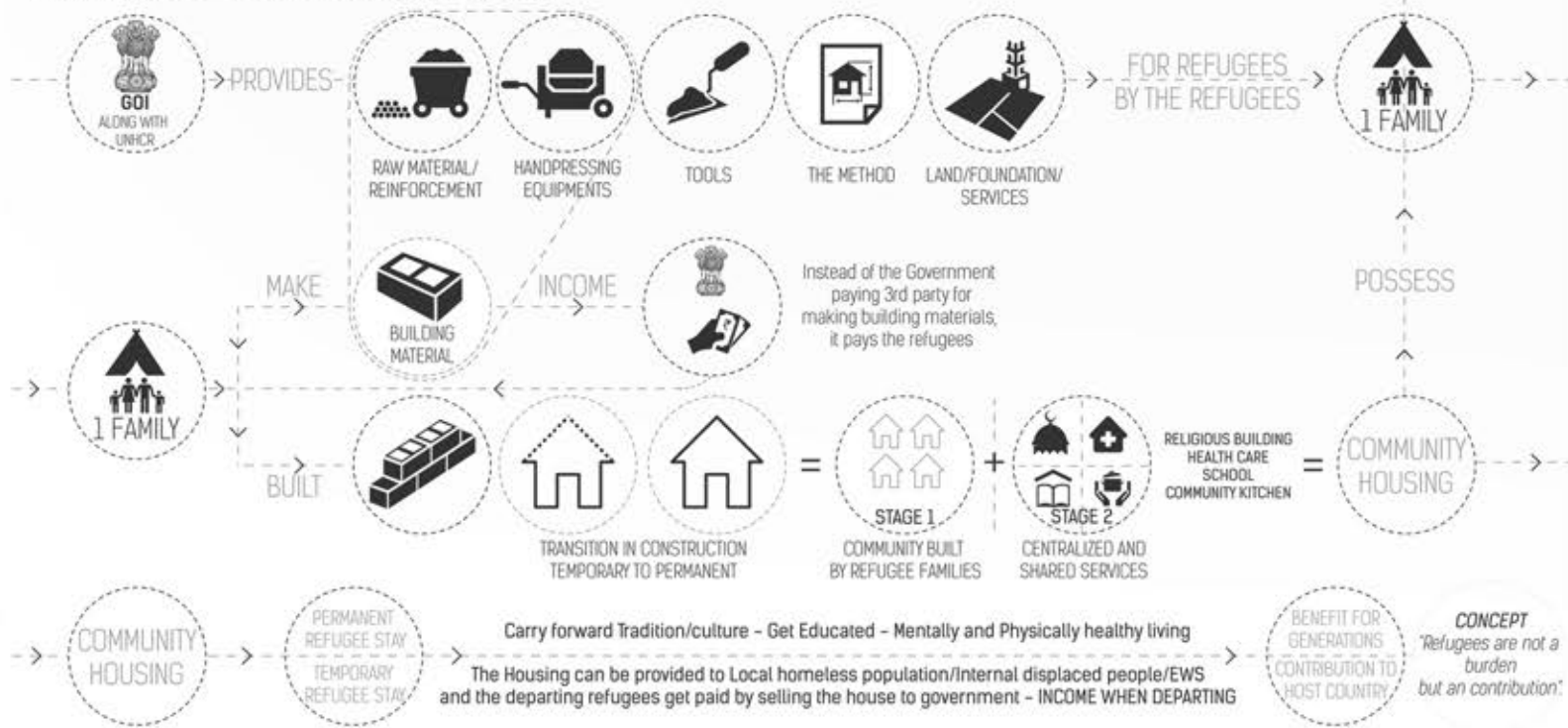
DESIGN OF REFUGEE HOUSING SYSTEM

MASTER PLAN

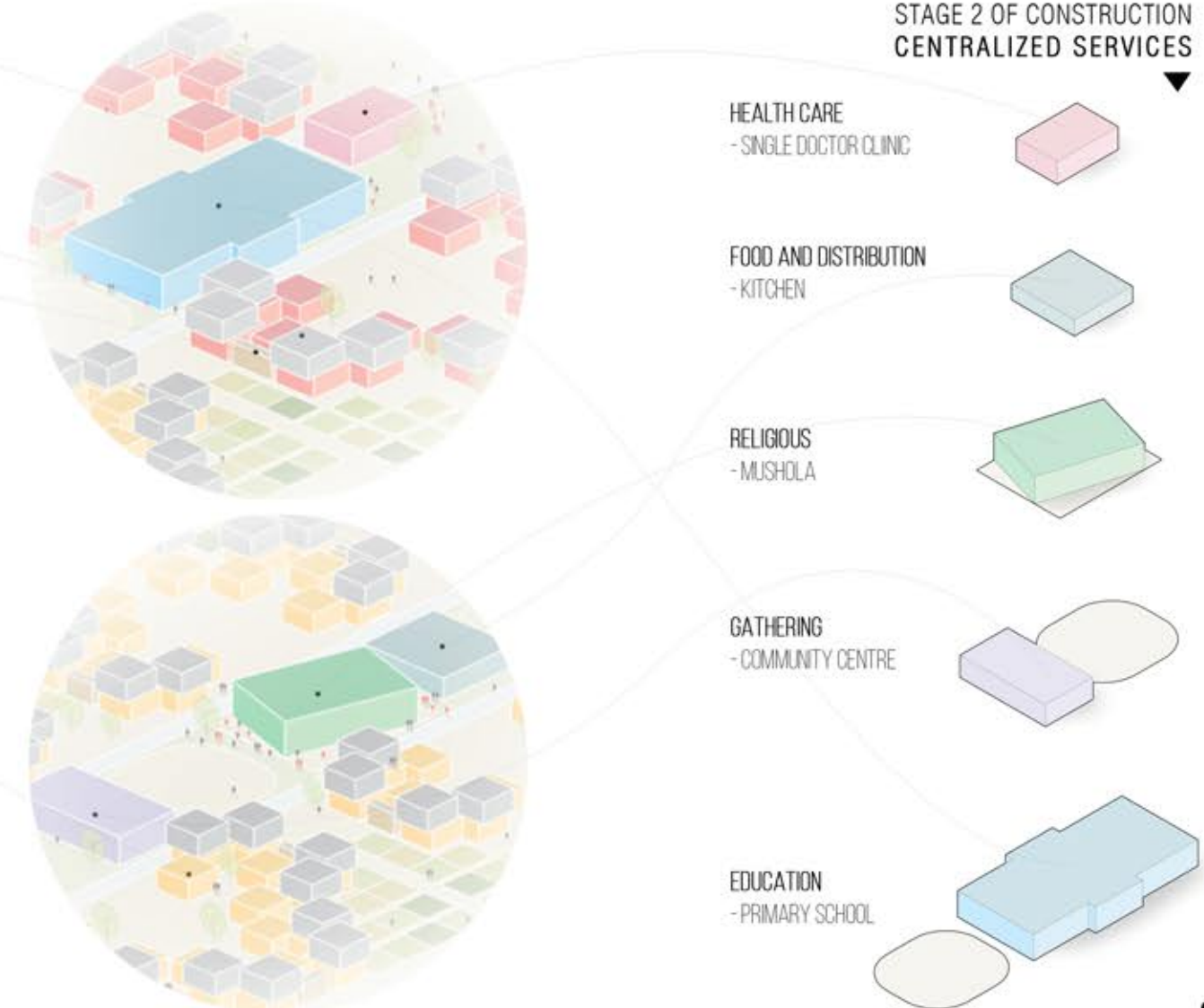
CURRENT SCENARIO



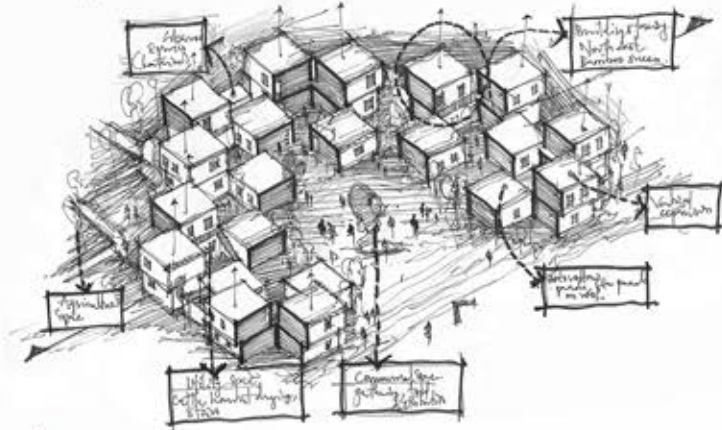
THE PROPOSAL - TRANSITIONAL COMMUNITY



STAGE 2 OF CONSTRUCTION CENTRALIZED SERVICES

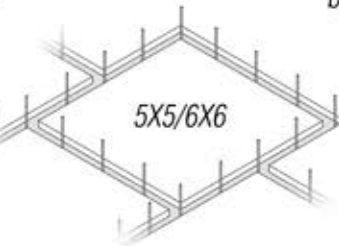


The proposal - The government with the help of UNHCR and NGO provides raw materials to produce building materials for construction and the method of construction is coached to these refugees. Each shelter is taken care by the family who occupies it, from the beginning to the end. The transition of the shelter are of 5 stages and it allows refugees to occupy the shelter in the 1st stage of transition. The transition allows these refugees to custom built their house based on their needs, providing flexibility. The construction is proposed to be incomplex which allows any individual with no construction experience to built it with ease. after the 1st stage of construction (Shelter) the assembly of centralized services begins, those are the supporting services to the housing and it ensure a complete livelihood.



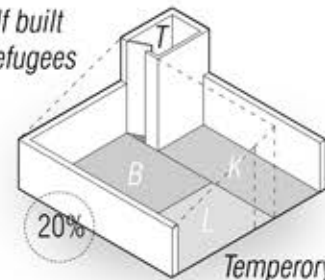
CONCEPTUAL SKETCH

Foundation - cyclopean concrete
REBAR



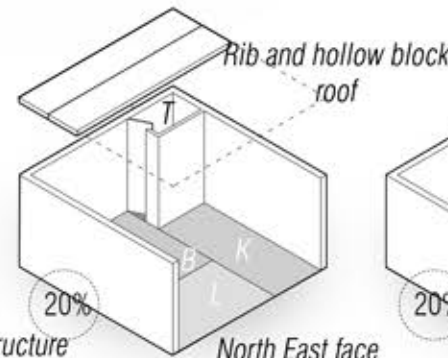
0

Self built by refugees



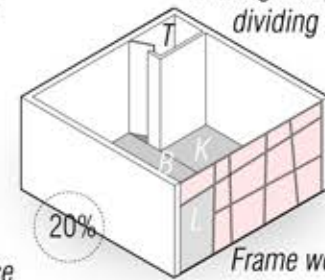
1

Temporary structure covered with existing camp materials



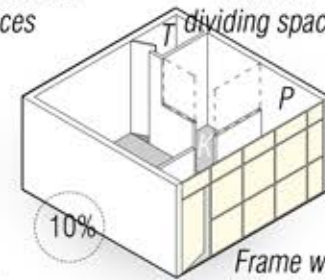
2

Existing camp materials dividing spaces



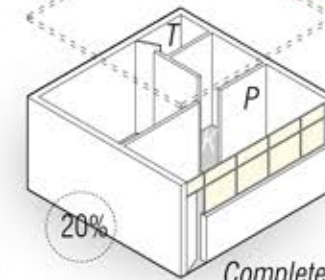
3

Half wall dividing spaces



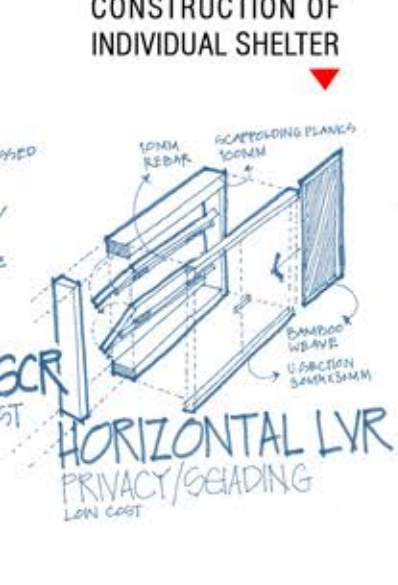
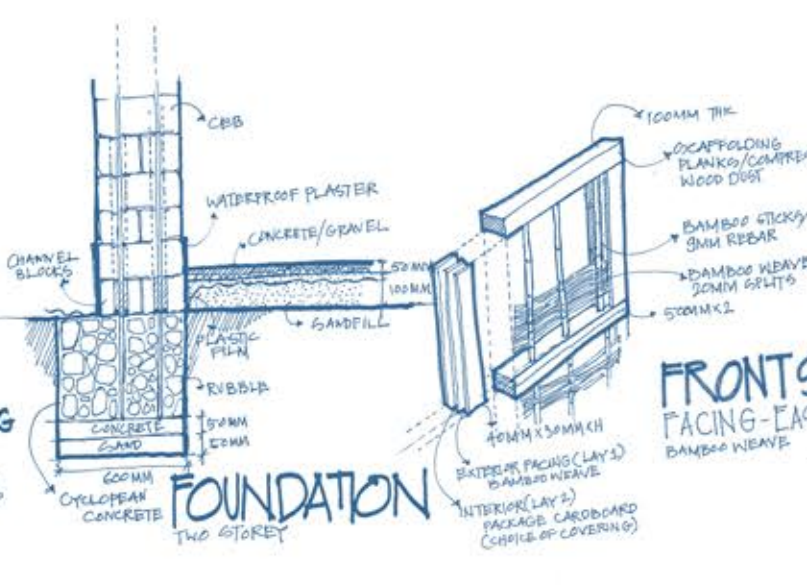
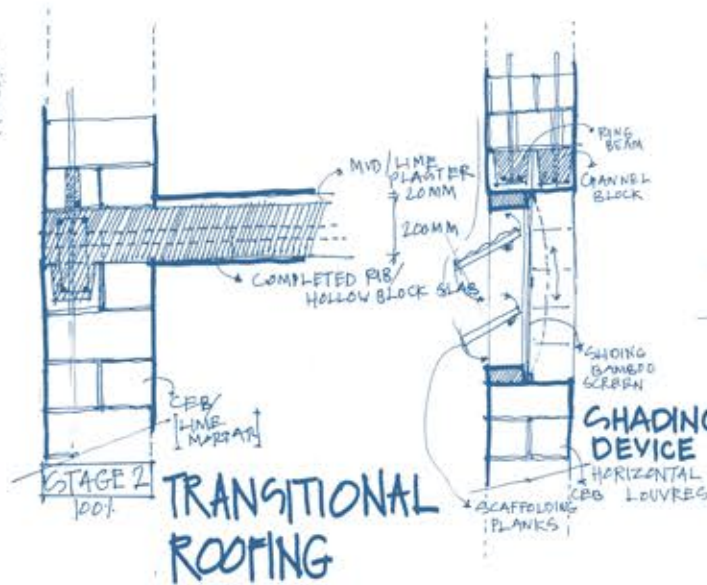
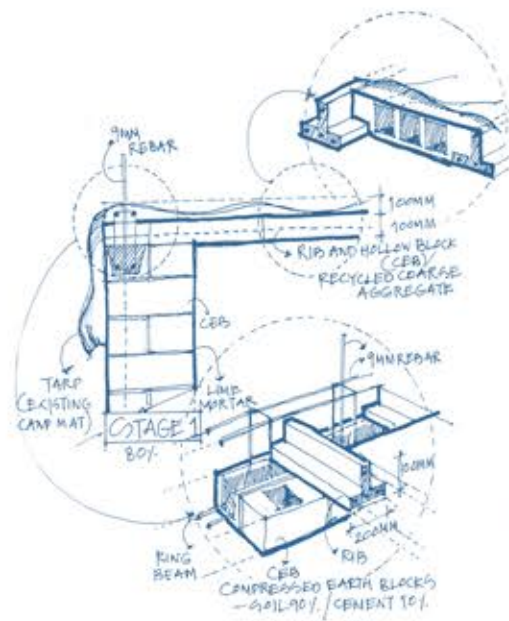
4

TRANSITION OF INDIVIDUAL SHELTER

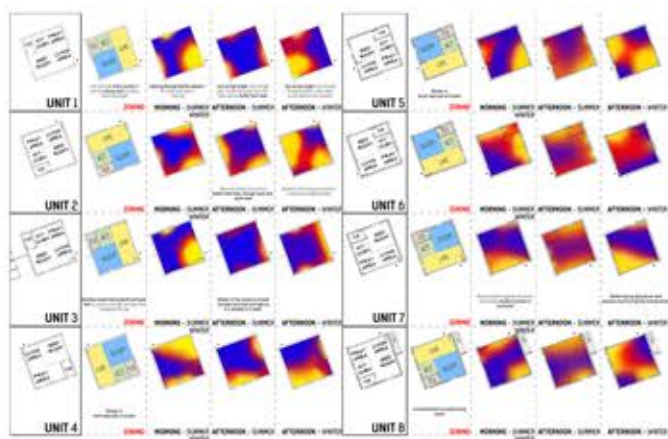


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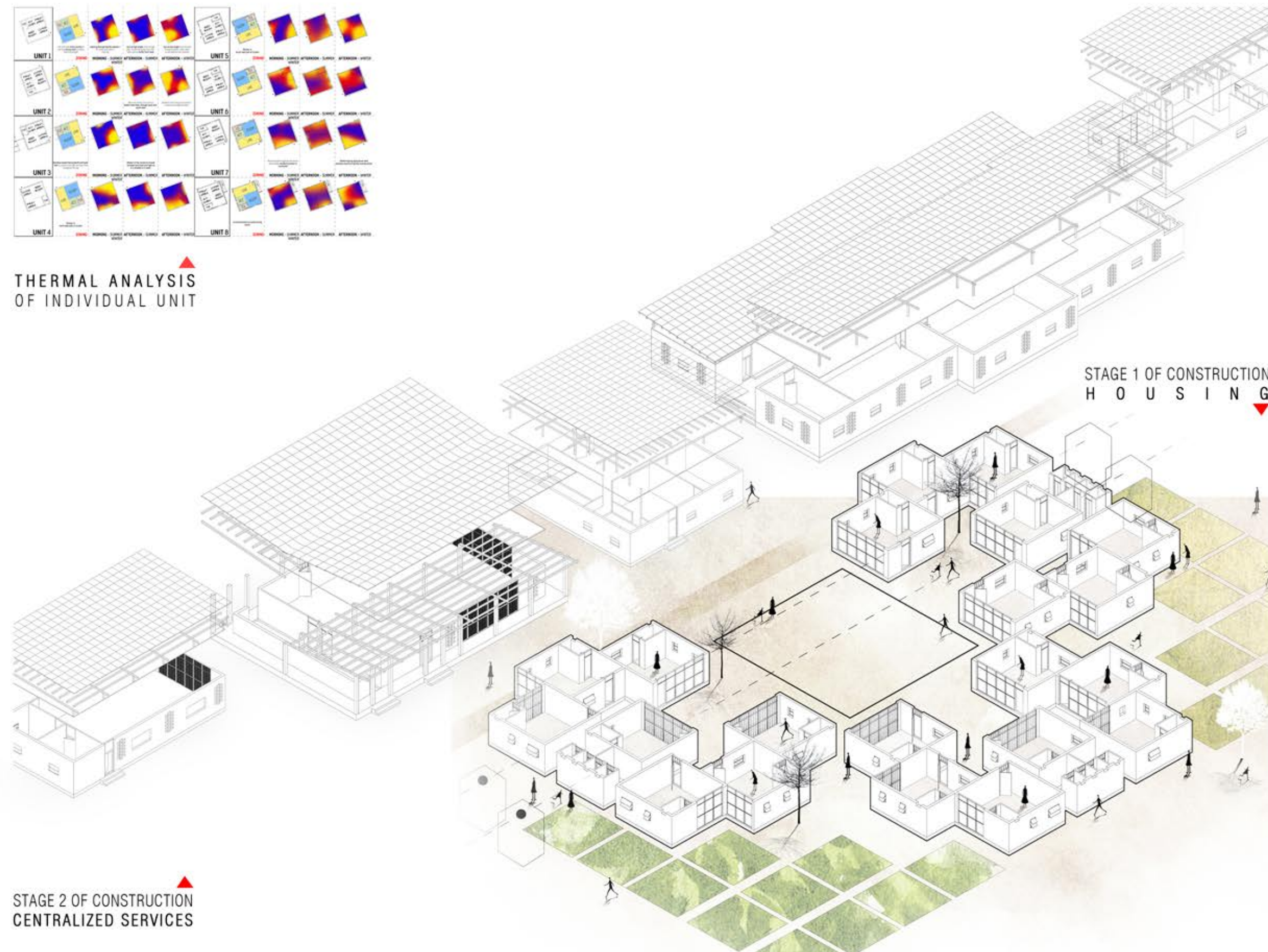
Completed shelter



CONSTRUCTION OF INDIVIDUAL SHELTER

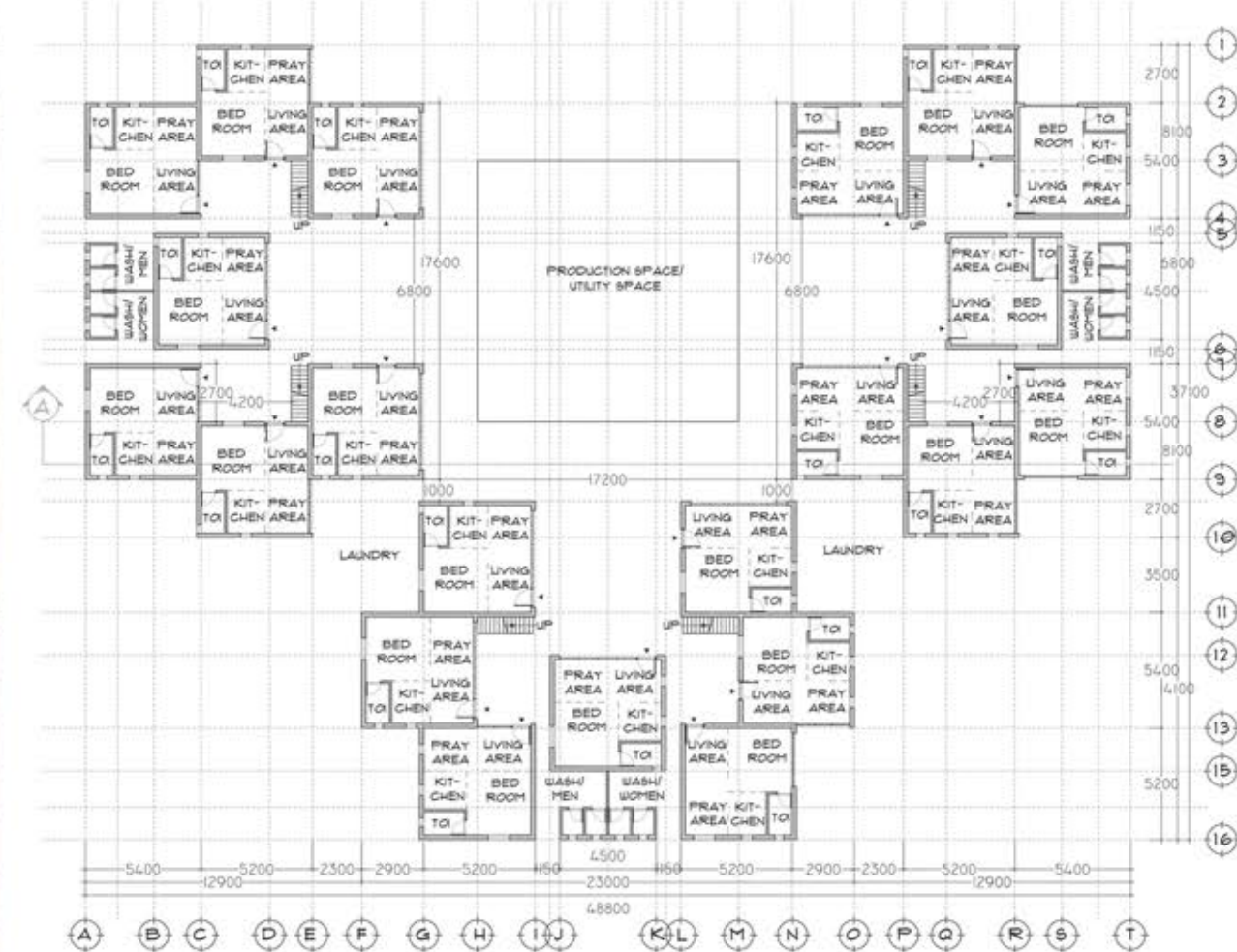


THERMAL ANALYSIS
OF INDIVIDUAL UNIT



STAGE 2 OF CONSTRUCTION
CENTRALIZED SERVICES

The primary objective was to ensure that the process and construction is uncomplicated for the refugees to construct with ease. The cluster is laid out around series of courtyard which form spaces for utility and production. These spaces are for men and women to engage in production (home industries) of bamboo weave products, agriculture produce etc. and also playground for children that is connected with 'adult' functions. Before leaving Myanmar Rohingya were involved in farming, Agriculture can provide benefits in both rural and urban settings. Each household is provided with 25sm of land where they can grow less water consuming crops and it will help in sustaining economy, income and also benefit them and the host community.



SECTION
NOT TO SCALE

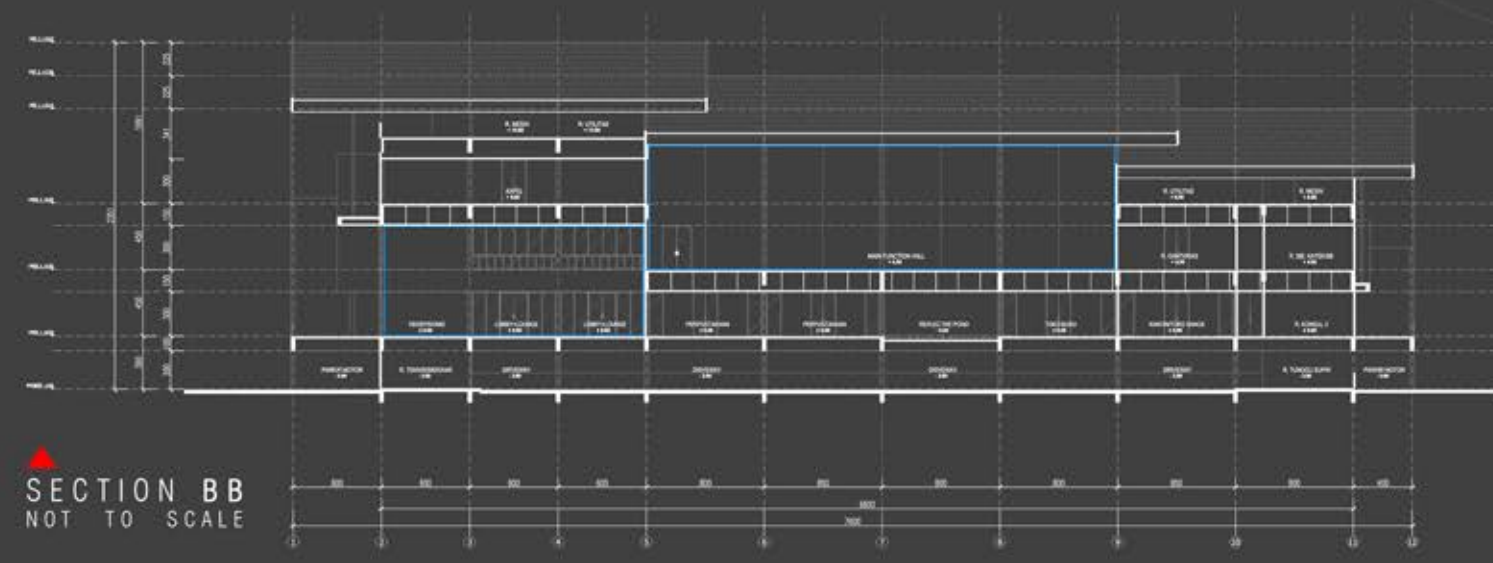
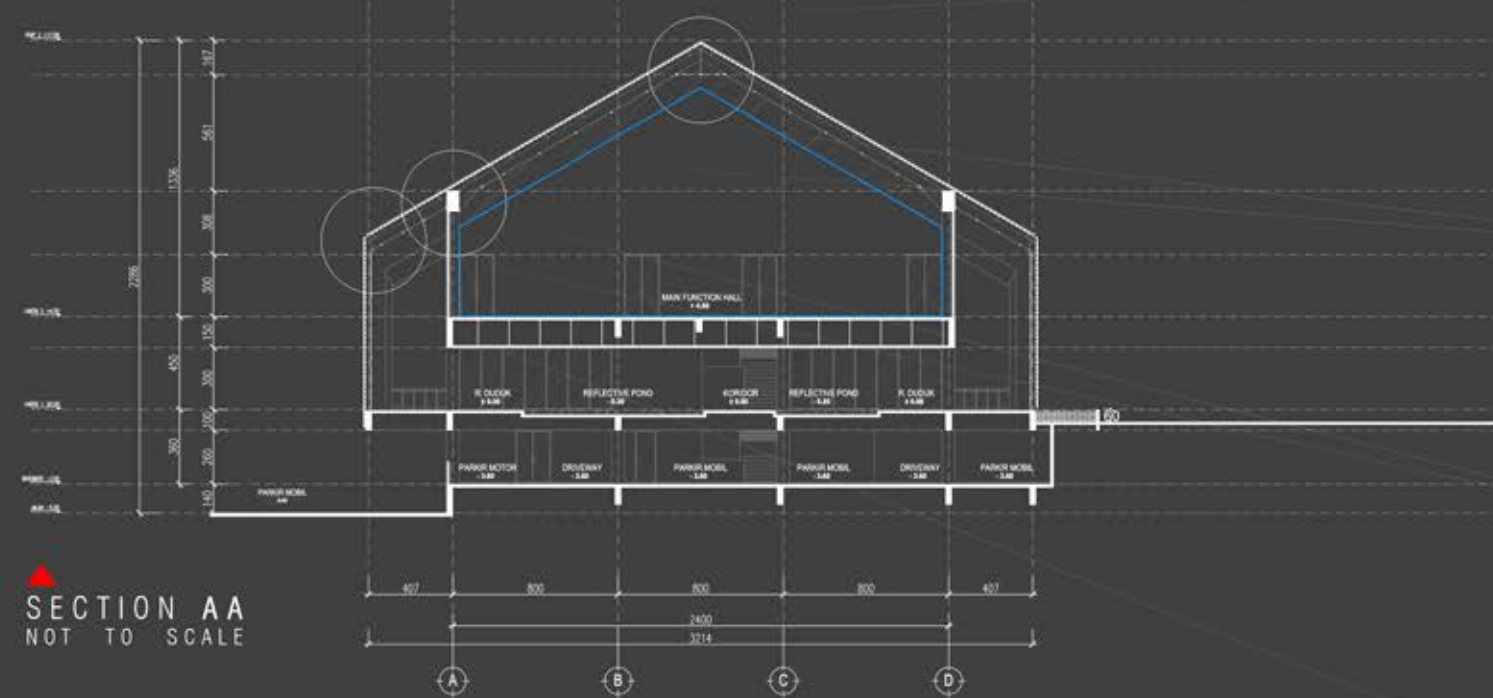
Shelter is a vital survival mechanism in times of crisis or displacement. It is also key to restoring personal security, self-sufficiency and dignity. In urban areas, many refugees share accommodation or live in non-functional public buildings, collective centres, slums and informal types of settlements. Conditions are often substandard and providing shelter poses major challenges.

Refugee camps are not considered as long-term settlements when they are planned and built, but the reality is that these camps exist for years and years. This lack of planning contributes to the increased alienation of refugees and to camps that are not necessarily designed in the best interest of the people they are supposed to serve.

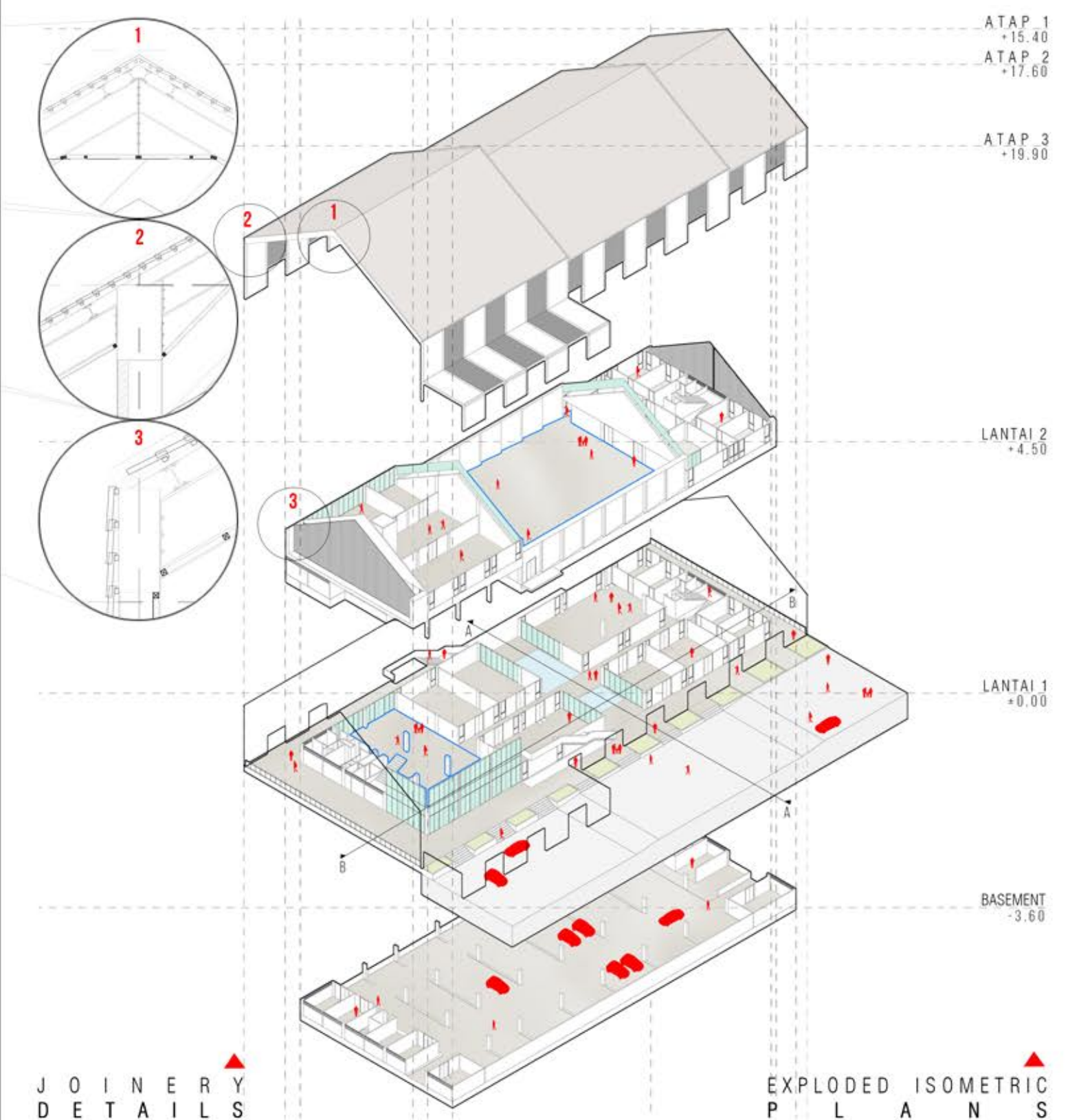
The experience of becoming homeless is coupled with the experience of losing a sense of place and belonging in this world. The transitional shelter's goal is to design a more humane environment that restores dignity and identity to the abandoned Refugees. The social contrast of the Refugee shelter will be investigated in order for the individuals to obtain a sense of home and place. Another goal is to lessen the stigmatizing services and offer a positive environment for the individuals experiencing homelessness.

ST. MATIUS MPH - INTERSHIP WORK
 multipurpose facility in church premises

OFFICE : Han Awal & Partners Architect
 PROJECT TYPE : Multipurpose
 SEMESTER : XIII
 YEAR : 2016
 LOCATION : Jakarta, Indonesia



The multipurpose building is located in St.Matius church campus in South Tangerang, Jakarta. The facility is a commercial part of the church which includes function hall, meeting rooms, library and stores and also this building will act as a smaller community centre. The function hall is assigned mainly for marriage receptions which is in close proximity to the church. The reflective pond on the ground floor act as a passive cooler by providing cross ventilation and also enhances the aesthetic quality of the space, it also allows lighting to pass through the inner mass of the building. The roof of the structure tapers down to act as a wall which encloses the entire building, it is divided into three parts, in three levels to allow lighting into the spaces. The large span structure is supported by steel sections and concrete.



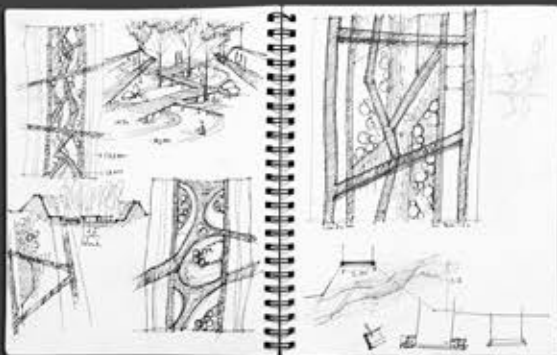
JOINERY
 DETAILS

EXPLODED ISOMETRIC
 PLAN

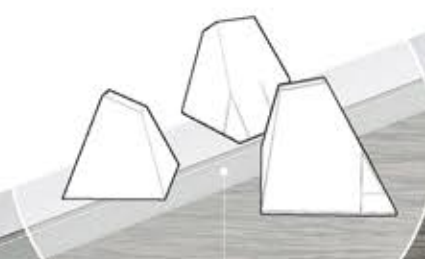
LUNGS OF JAKARTA - INTERNSHIP WORK

Landscape park in Kalijodo

Kalijodo was the Jakarta's most notorious red light district. It was demolished on February 29, 2016 by the Governor of Jakarta. The site area is 3 hectare containing ruins of the demolished structures. The Brief was to transform the area into social gathering space by proposing city park and multiple spaces for different activities. The linear park is divided into two zones, the foremost zone includes activity spaces such as play grounds, mushola, amphitheatre and monuments. The park is designed for all age groups. The construction is complete now and is open for public, the name Kalijodo used to have such a negative connotation but not anymore. The place is filled with positive energy.



MONUMENT



MUSHOLA

CONCEPTUAL SKETCHES

OFFICE : Han Awal & Partners Architect
 PROJECT TYPE : Landscape
 SEMESTER : XIII
 YEAR : 2016
 LOCATION : Jakarta, Indonesia



JOGGING TRACK

SKATE PARK

KIOSK

MUSHOLA

MONUMENT

AMPHITHEATRE

CHILDRENS PARK

RPTRA

FOOTBALL GROUND

NUTRITIONAL POOL

HERB GARDEN

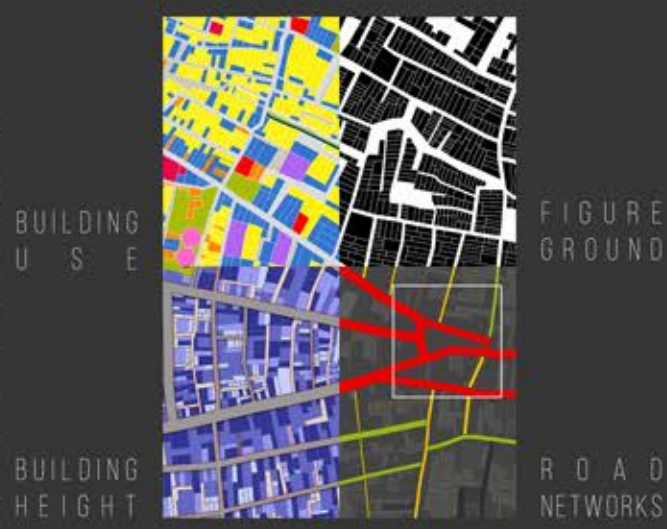
BAREFOOT PARK



KALIJODO PUBLIC
 PARK
 AERIAL VIEW

PROJECT TYPE : Urban study
SEMESTER : IX
YEAR : 2016
LOCATION : Madurai,
Tamilnadu, India

DOCUMENTATION



Madurai is the second largest city in Tamil Nadu, known for its world famous Meenakshi amman temple. One of the oldest continuously inhabited cities in the world, Madurai developed on the fertile plain of the River Vaigai has been a major religious centre and settlement for 2 millennia and its the cultural capital of Tamilnadu. The city is growing rapidly, and is expected to rise from 1.4 million in 2011 to over 2 million people by 2031. Madurai's population is increasing rapidly causing considerable stress and transformation. As a rapidly growing city with aging services infrastructure, the periphery of Madurai has become Home to informal settlements. Madurai is also facing a wide range of risks that will hinder future economic growth and quality of life unless action is taken soon to future proof Madurai's development. There are risks such as water scarcity, climate change, growing traffic congestion, damage to important natural habitats. The task given to us was to document the city infrastructure, identify issues surrounding major pockets in Madurai and propose necessary solution.

JUNCTION TYPE:
MULTIARMED
NODE TYPE:
IRREGULAR

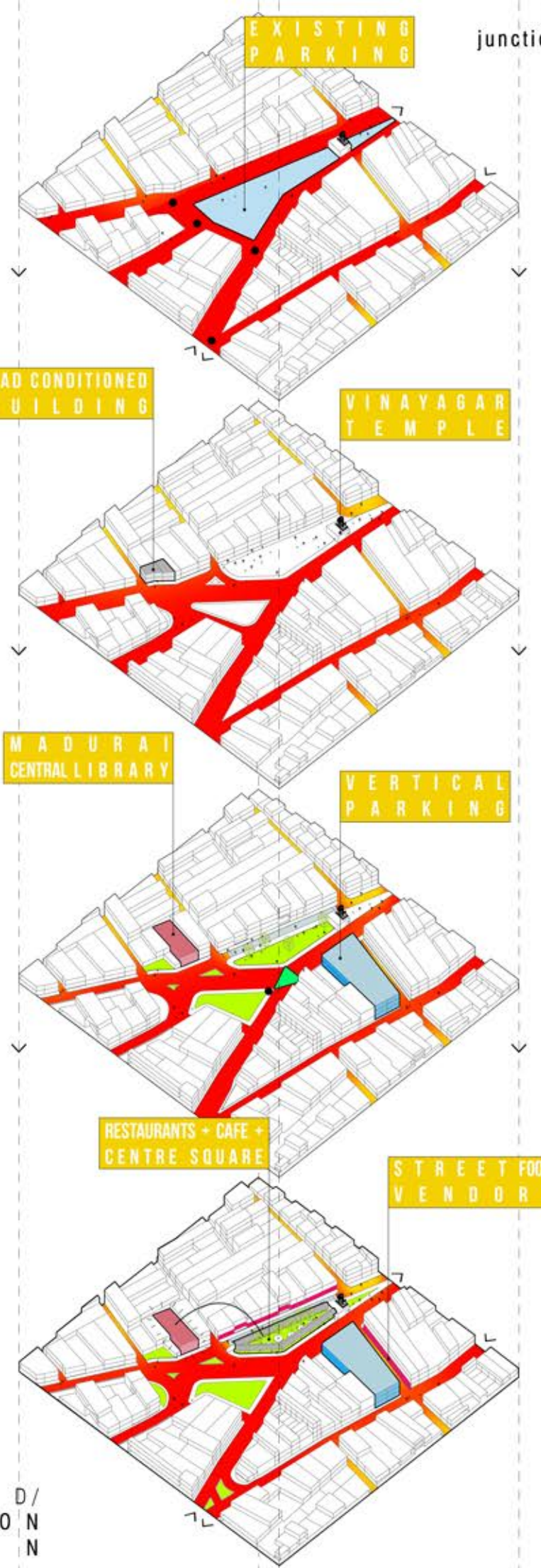
EXISTING
CONDITION

OPTION #1

OPTION #2

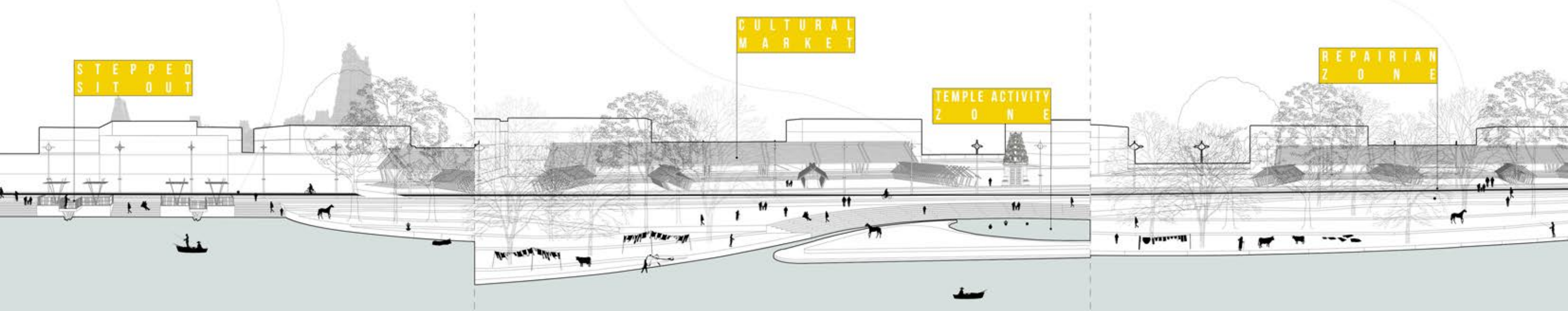
CENTRAL PLAZA
-SOCIAL SPACE

TRAFFIC ISLAND/
INTERSECTION
REDESIGN



• INTERSECT CONFLICTS

• TRAFFIC SIGNAL 01
▲ PEDESTRIAN CROSSING



▲
VAIGAI RIVER FRONT
DOCUMENTATION /
REJUVENATION
CONNECTING CITY AND RIVER

Madurai has seen many ups and downs for centuries, with change of rulers. So also Vaigai River, which was once upon a time flowing full, when the people of Madurai establish the river very useful for various purposes irrigation; bathing; drinking and so on. But as of today, what you see is only a frame of a river with sands and patch of stagnated water, used by washer-men to wash clothes. Tamilnadu built the Vaigai Dam, across the Vaigai River to feed irrigation waters to many areas like Theni, Kambam etc., which are on the upper portion of the River than Madurai City. This is also one more reason why Vaigai River, which flows in the centre of present Madurai City, has gone dry. The aim is to develop the Vaigai river front which can be a visually dominant landmark, cultural platform, Natural platform, Public space-recreation and cites identity.

UNDER THE STAIRS

conservatory cafe in the woods

PROJECT TYPE : Commercial - Public
 SEMESTER : II
 YEAR : 2013
 LOCATION : The Nilgiris,
 Tamilnadu, India



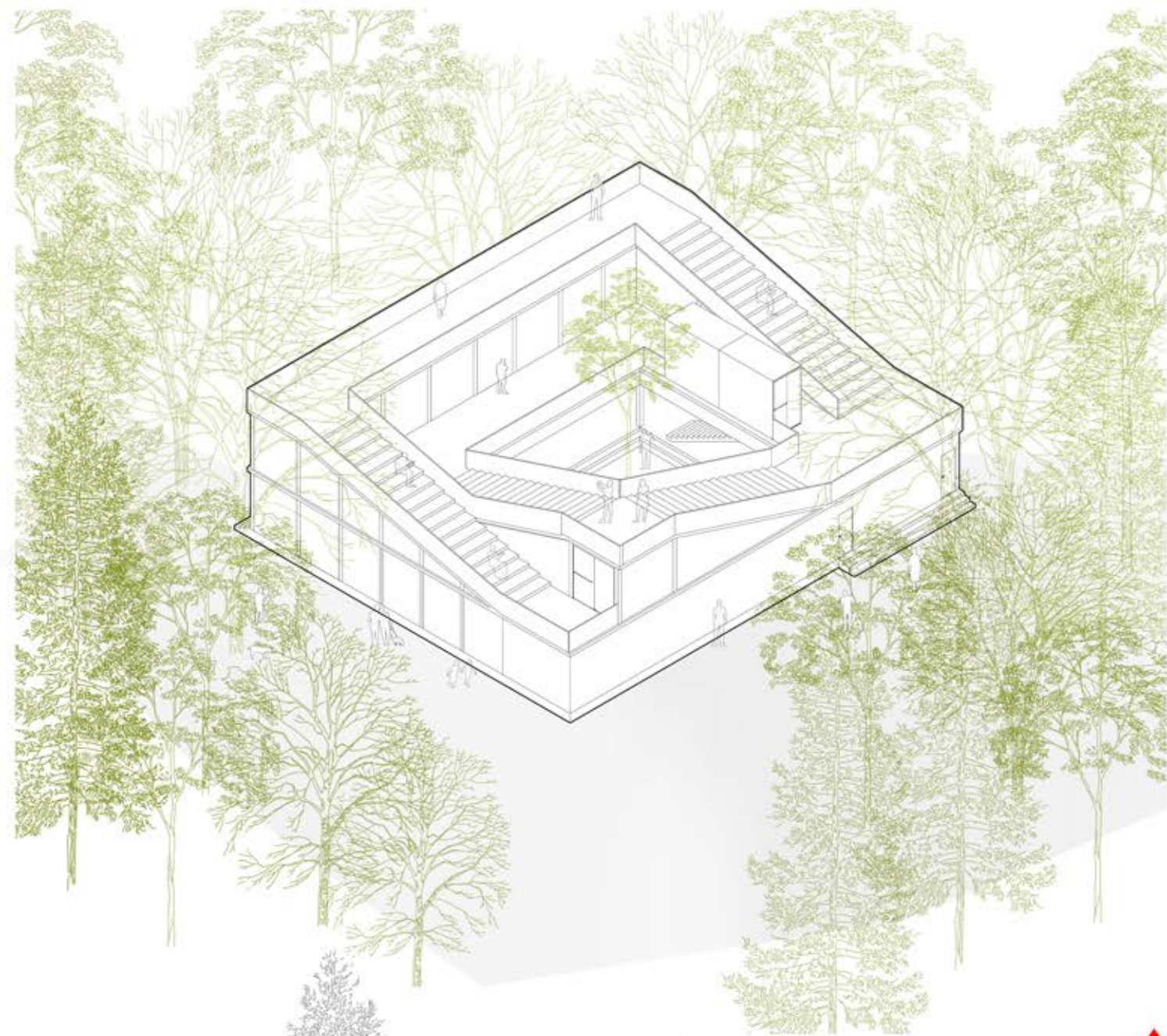
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ROOF LEVEL 1
 +4.00

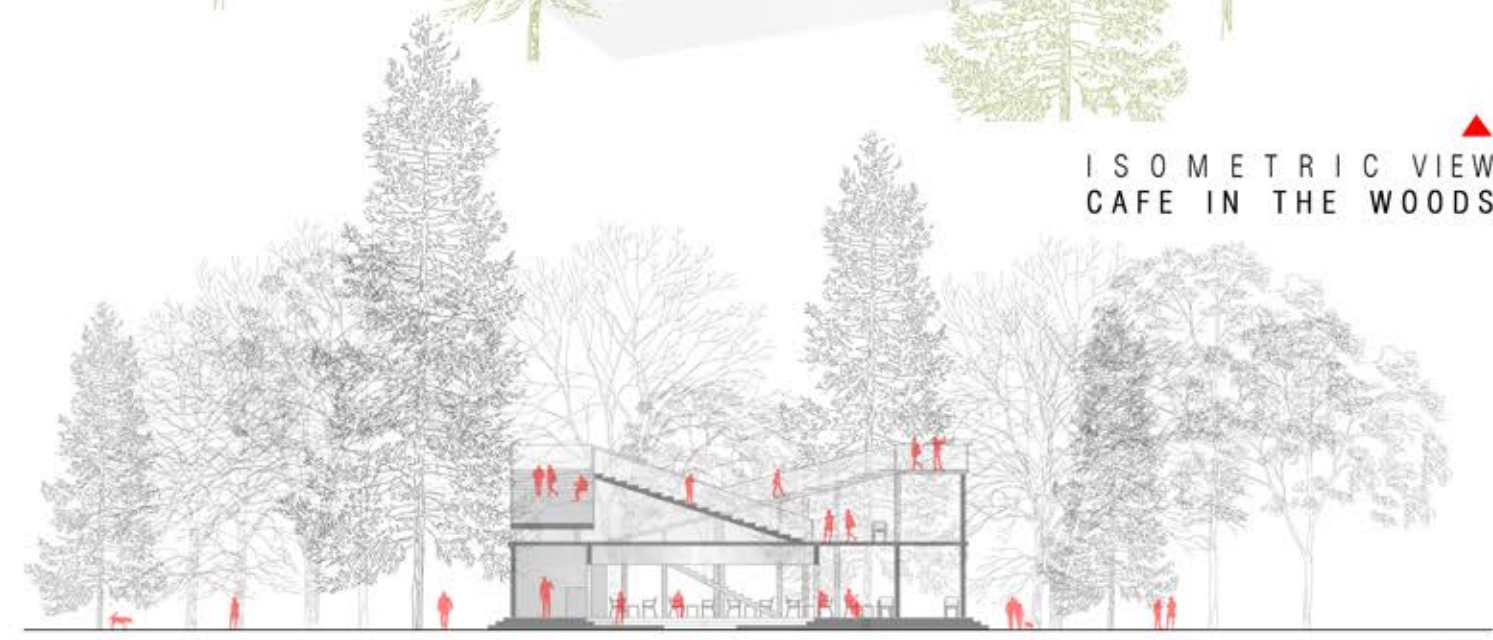
FLOOR LEVEL
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GROUND LEVEL
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EXPLODED ISOMETRIC
 CONSERVATORY CAFE



ISOMETRIC VIEW
 CAFE IN THE WOODS

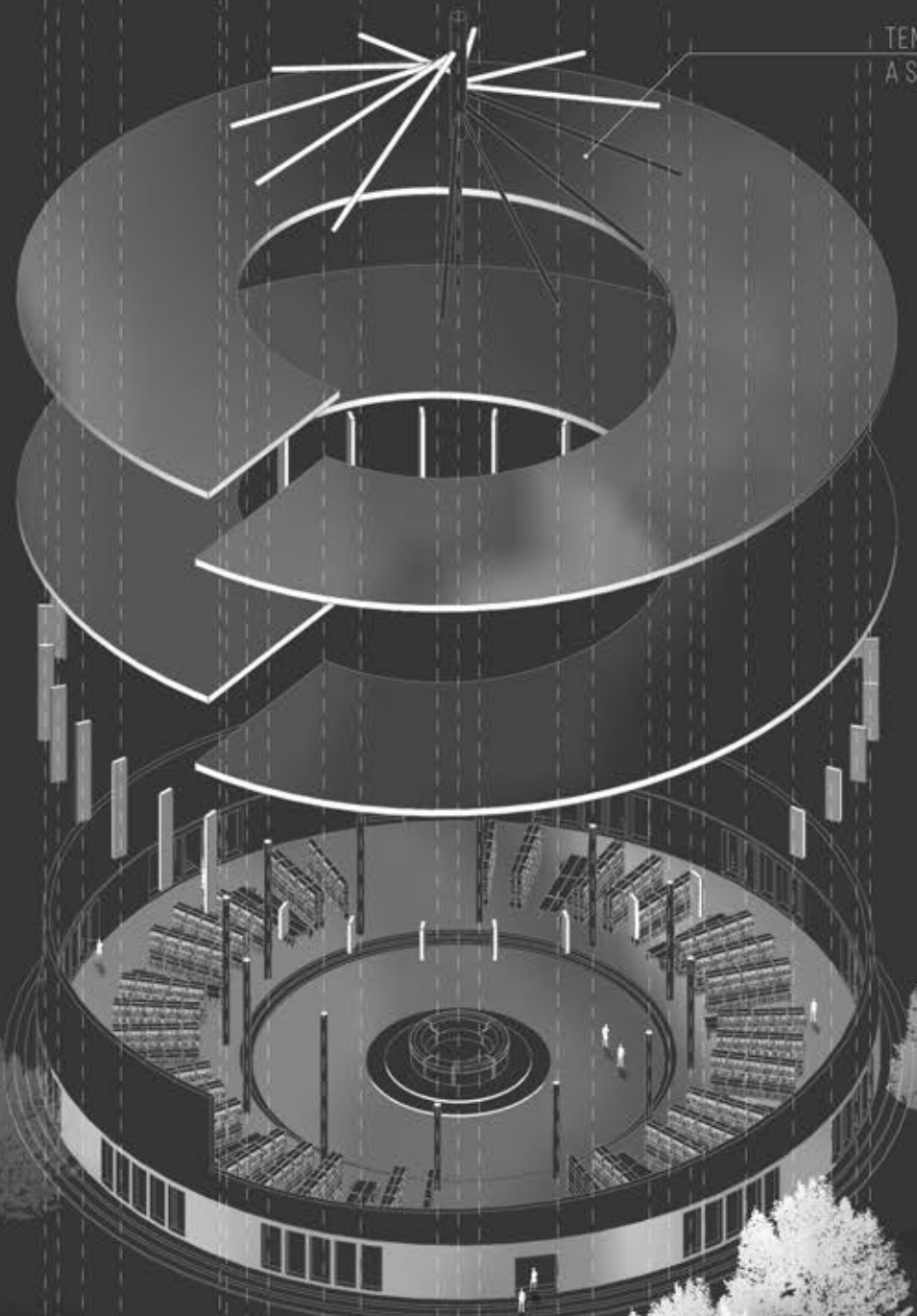


SECTION
 NOT TO SCALE

The concept was to create a transparent cafe that offers the guest a unique experience in the woods, to make them appreciate the calmness and the depth of the forest. The site is located deep in the woods in hills of ooty, Forest environment can provide positive effect to the human psychology in so many ways. The cafe is basically a stair well that allows the user to experience the depth of the forest in different levels and also it is an social interaction space., the stairs acts as outdoor seating and the indoor seating is below around the courtyard. The material used are fully transparent glass and unfinished concrete, which offers a rustic indoor-outdoor atmosphere.

PROJECT TYPE : Education
SEMESTER : IV
YEAR : 2014
LOCATION : The Nilgiris,
Tamilnadu, India

TENSILE FABRIC STRUCTURE/
ASPHALT SHEATHING



EXPLODED ISOMETRIC
LIBRARY



◀ There's a general delusion that library use is on the downturn worldwide — mostly as a consequence of increased Internet use, e-books and mobile devices. However, this notion is largely unfounded. The library's role has evolved with time. It is increasingly more of a social center than a reference resource.

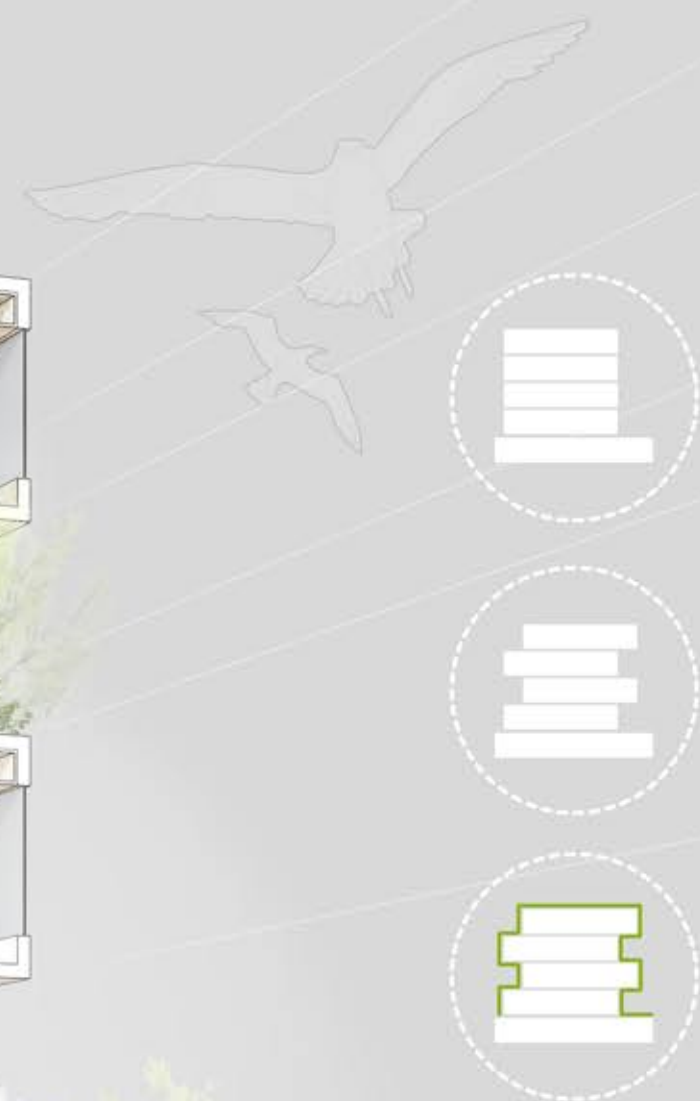
In effect, the library is a multipurpose facility that for some students serves as an extension of the dorm room or coffee shop. As such, This library is designed to provide a welcoming environment that offers Internet access, optional food or drink, warm lighting, plush seating and clean environments. The 360° spiral roofing provides natural light throughout the day and the roofing structure is made of tensile glass fabric which allows flexibility. The advantage of the circular design is energy efficiency. With less exterior wall area, heating and cooling bills are lower. Cold winter winds flow smoothly around the house instead of leaking in and causing drafts. This circular design also withstands hurricane and tornado winds better.



THE GREEN CARPET

accommodation for business travellers

PROJECT TYPE : Hospitality
 SEMESTER : VI
 YEAR : 2015
 LOCATION : Coimbatore,
 Tamilnadu, India

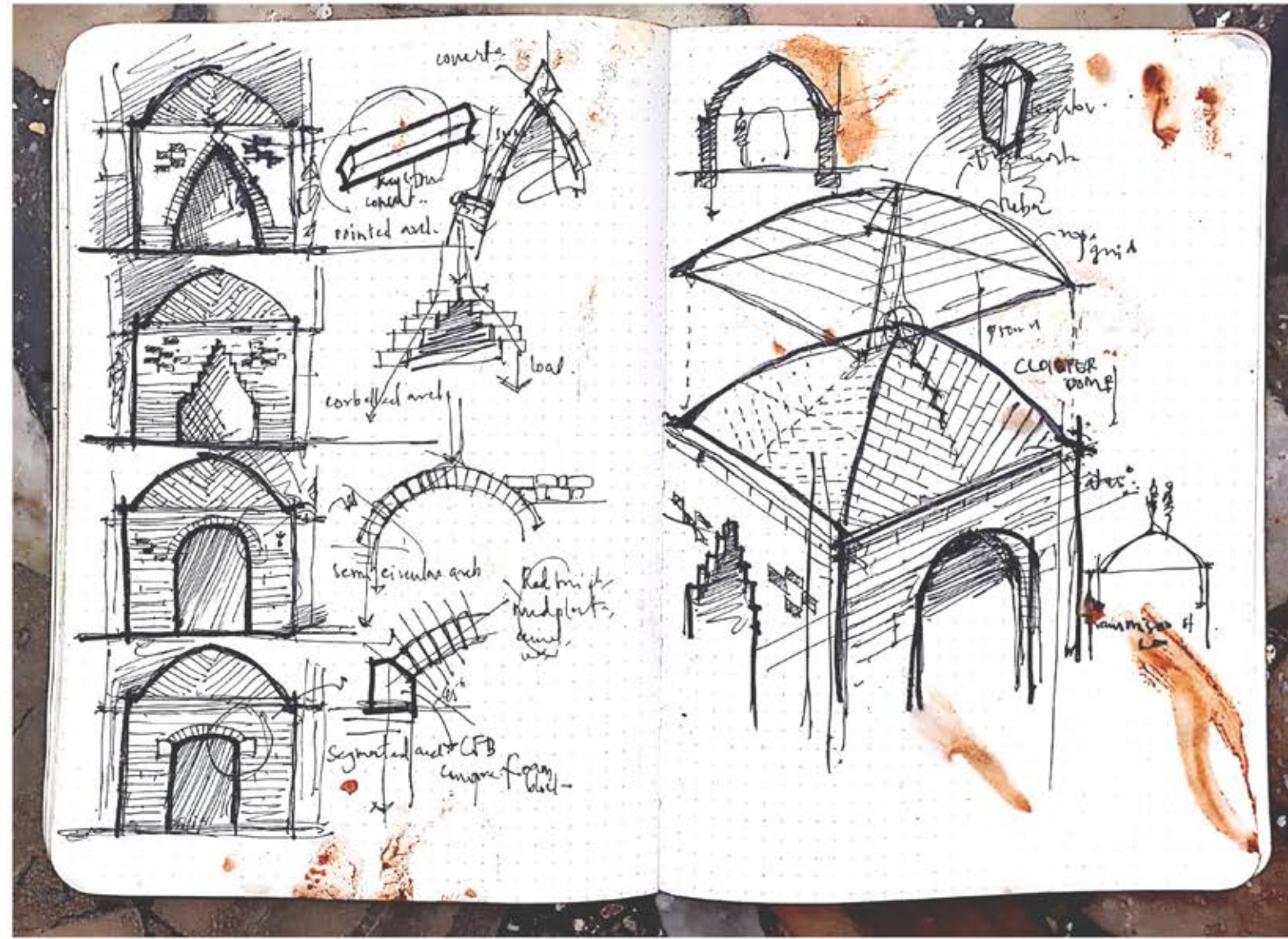


Green carpet can improve stormwater management by reducing runoff and improving water quality, conserve energy, mitigate the urban heat island, increase longevity of roofing membranes, reduce noise and air pollution, sequester carbon, increase urban biodiversity by providing habitat for wildlife, provide space for urban agriculture, provide a more aesthetically pleasing and healthy environment to work and live, and improve return on investment compared to traditional roofs.



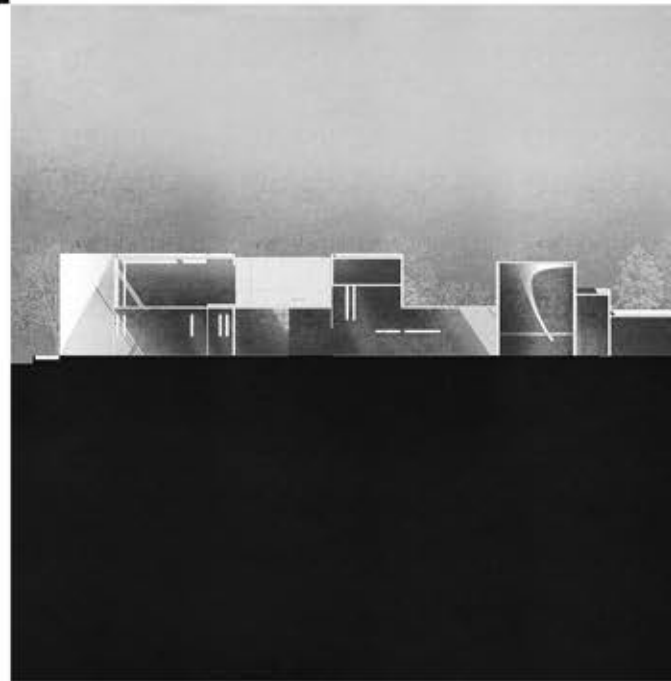
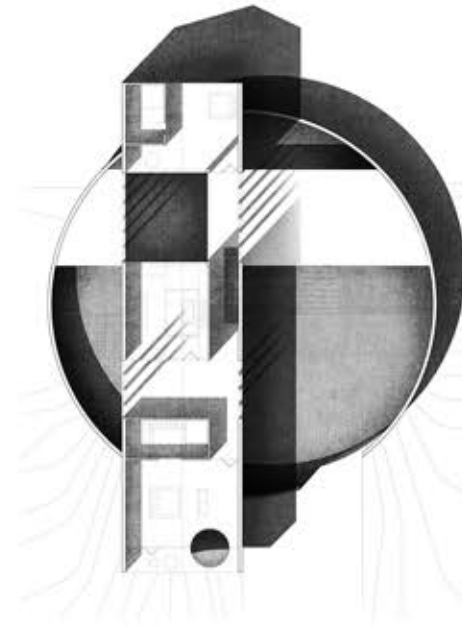
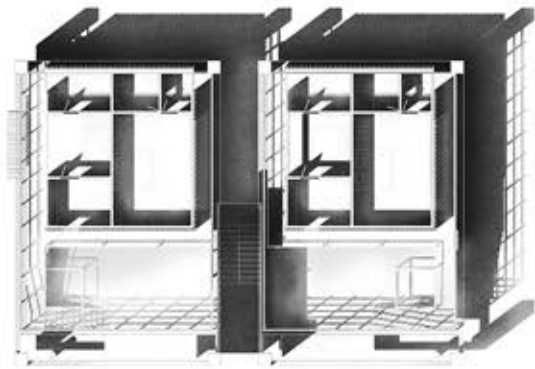
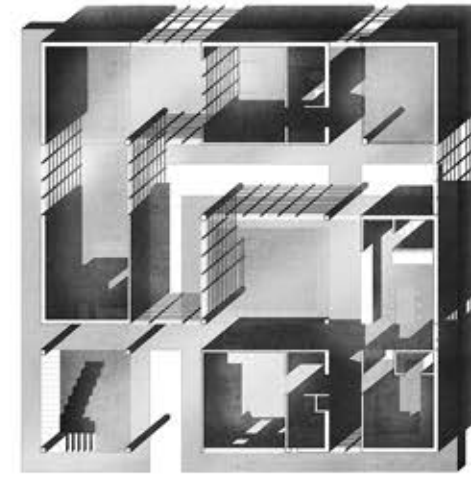
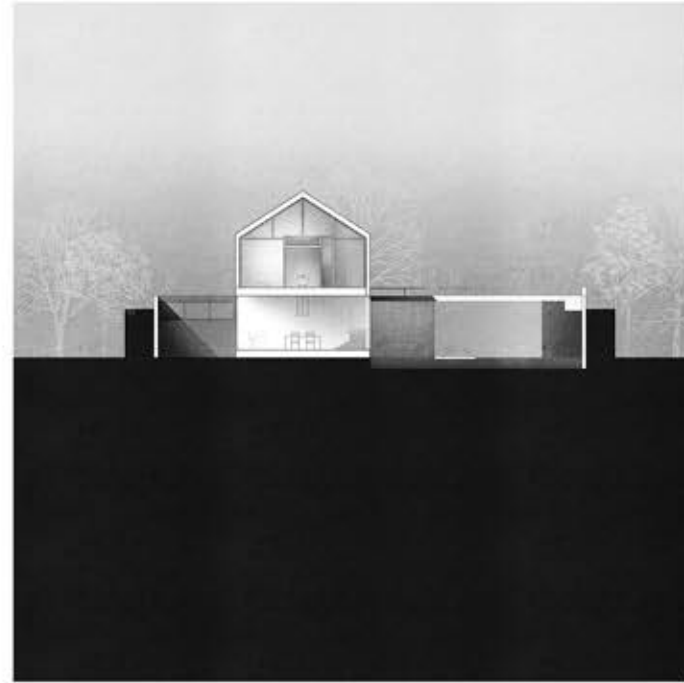
PERSPECTIVE SECTION
 ROOMS /
 FUNCTION HALL/AUDITORIUM

The hotel industry constitutes one of the major energy use, substantial quantity of energy is consumed in providing comfort. Energy is a very important issue when seeking to achieve the dual goals of sustainability and luxury because it affects not only the initial and operating costs of the hotel but also has a major impact on the indoor environment and greenhouse gas emissions, with a consequent strong impact on guests' comfort and satisfaction. My aim was to incorporate passive cooling techniques to reduce the use of electricity by decreasing the air conditioning and water heating load. The staggered stacking of floors provides alternative shading and space to incorporate green surface which will benefit by cooling the incoming air, thus acting as a buffer zone from heat and reducing the urban heat island effect.

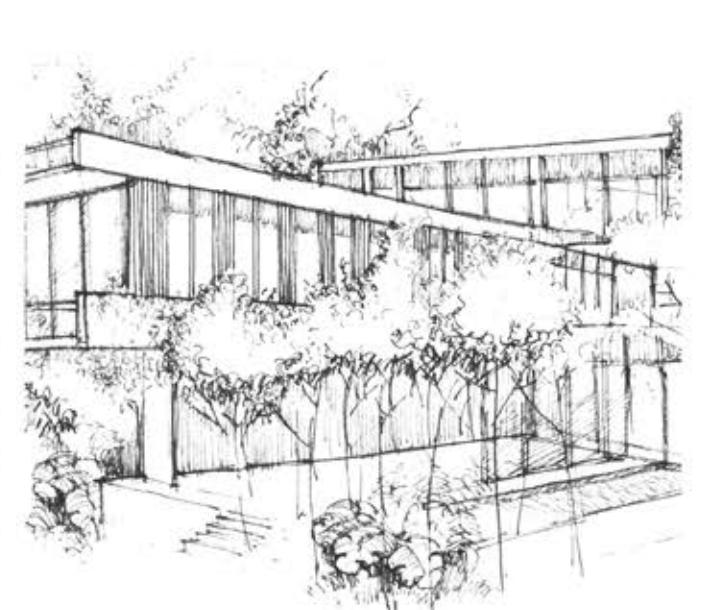
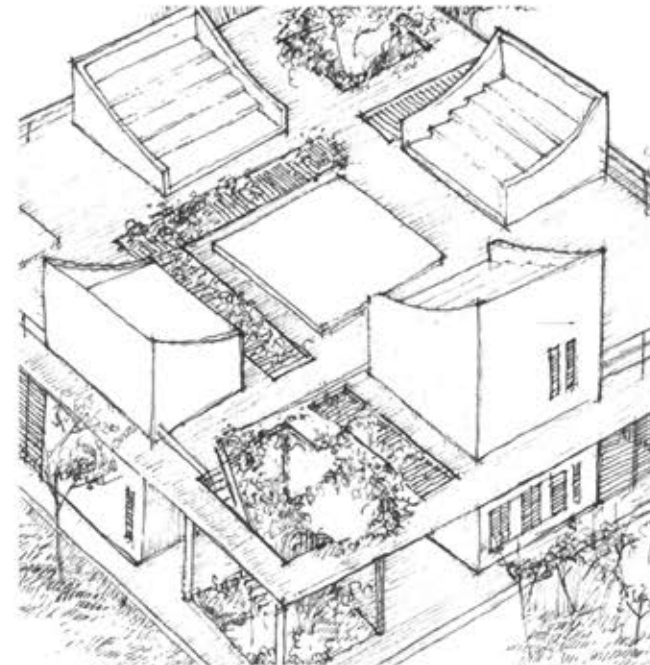
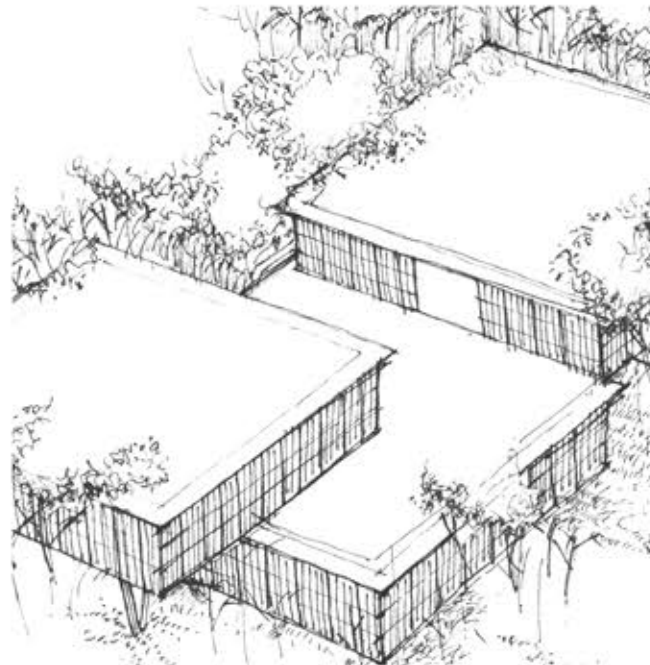
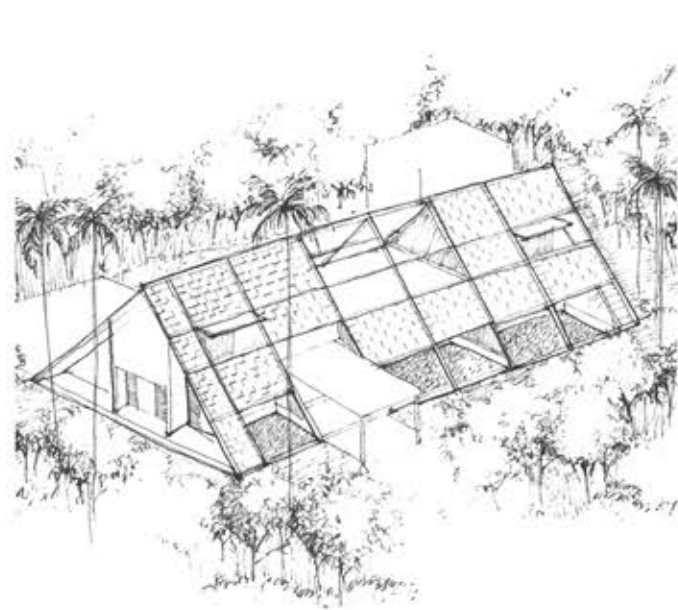
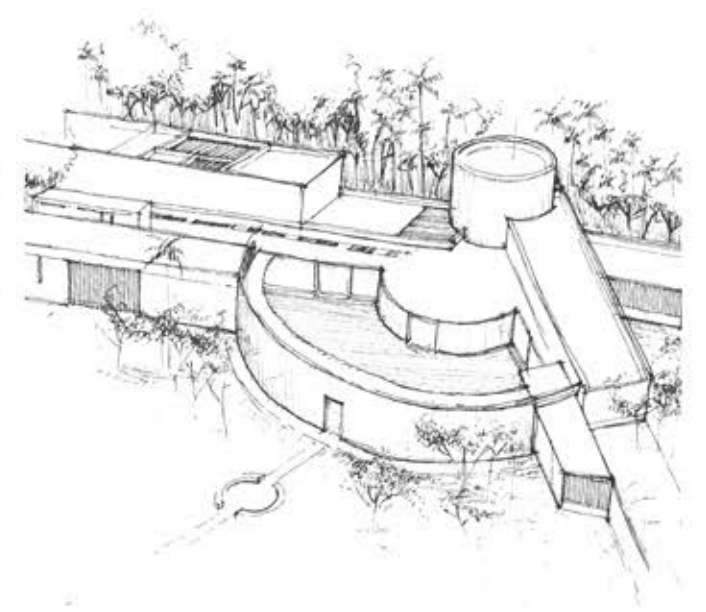
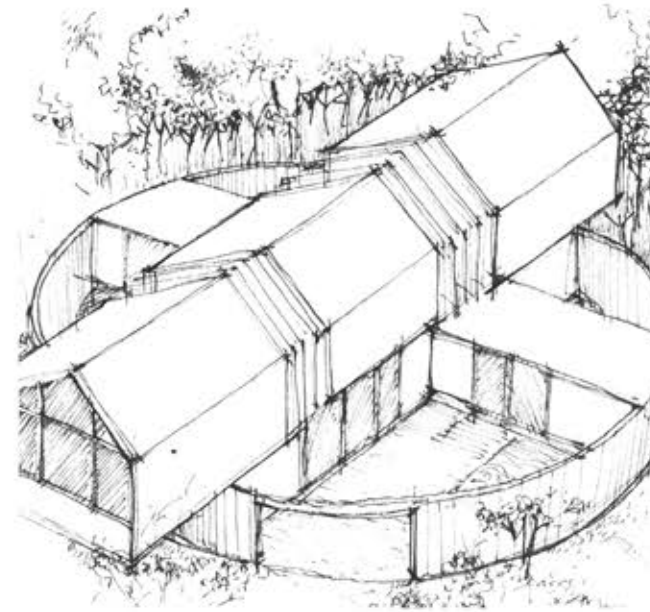
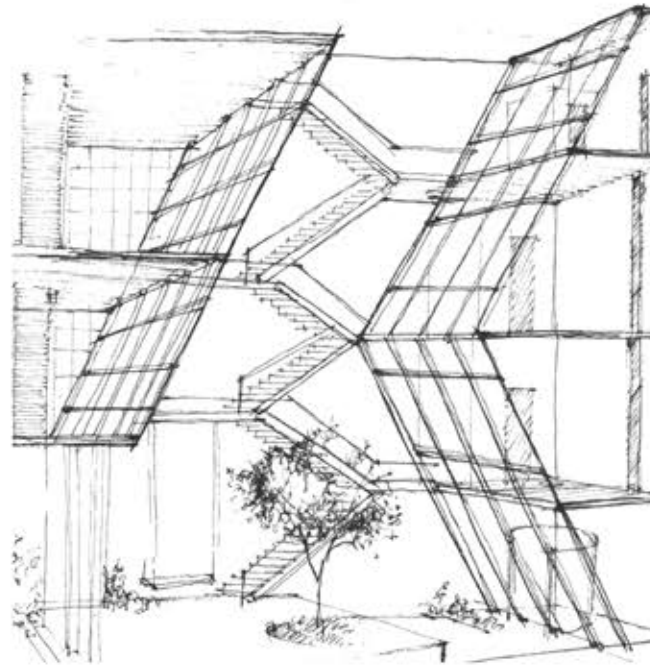


ON SITE SKETCHES
C O N C E P T

I was involved in the workshop on brick masonry, Arches, Vaulta and Dome conducted by Ar.Panogiotis kostoulas. The design was planned and executed to impart knowledge on the various types of arches, vault and dome. Each of the four walls held a different arch viz. segmental, corbelled, semi-circular and pointed. The front wall consisted of the pointed arch which would subsequently carry the vault in its shape. Students from different years were involved, we were made into groups. Each group was asked to work on one of the four walls with arches and the foundation. The geometry of each arch had to be strictly adhered to, to ensure the proper transmission of load within the structure. The principles of brick bonding had to be maintained and the required angles had to be exactly symmetric on both sides of the arch. Periodically the level on two sides was checked using the water level in a pipe which works due to the equilibrium property of water. We learned to use the various tools for measurement, levelling and chamfering of bricks. The mortar ratios of brick masonry for walls, dome, vault and seating were analysed and worked out based on the needs for the structural components. Sieving sand, combining cement, sand, soil and water in their right proportions to make mortar, cutting and pasting bricks according to the needs was made each day at the site.Placing of keystone for the vault and the last brick for the top-most portion of the dome were times people can never forget. The last moments before placing the keystone were challenging which was planned and executed accurately.



*The magic of light and shadow in architecture,
Does shadow have the power to give form to architecture?*



'to explore a design from your mind through your hand...'

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