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CERTIFICATE

I hereby recommend that the thesis entitled "ECOVILLAGE(AN ECOTOURISM HUB), DHARAMSHALA, HIMACHAL PRADESH .under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

Prof. Mohit Kumar Agarwal
Dean of Department

Prof. Sangeeta Sharma
Head of Department

Recommendation Accepted

Not Accepted

External Examiner

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ACKNOWLEDGEMENT

The demands that I express my gratitude to those who have been a part of my stay in B.B.D.U., It's been great, all these years, but life moves on…. And so do us…..

I express my deepest gratitude to my thesis guide AR. MOHIT SACHAN for their passionate guidance, discussions, suggestion and continuous support through my B. Arch thesis

Express my gratitude to DEAN, AR. MOHIT AGARWAL, and Department of architecture, B.B.D.U., Lucknow, for being there to listen to and solve our problems.

I am grateful to our thesis coordinator Ar.Urvashi Tiwari, for providing their useful comments at the various stage submissions. "Thank you" was not the exact phrase on my mind when I wrote this, It was something each deeper, but I am unable to fine word for it. All teachers, your support, encouragement and guidance have given us the strength to mark on this rigorous journey

Could also like to express my gratitude to various persons without whose help, this thesis would not been possible.

All the experiences that All shall relate in the drawing pages would not have been possible without them.

It is tough but joyful feeling to write it down into words who helped me in this journey of my life.

It is a story to turn me from normal to professional. I would like to thank my parents who are my backbone and they never thought of whatever is going on in their lives but they put me first. Their generosity, their love was always there for me and my sibling who supported me no matter what.

They always determined that I get the best among them. Special thanks to my senior Gaurav verma your guidance and patience has helped me into the person İ am today

UTSAV BAJPAI for always being there for me when I needed someone the most.

Now MY TWO special friend VISHAL AND ASHISH who always help me whenever I needed it.Time flies over us but leaves its shadow behind with lots of memories to cherish.

We all have our ups and downs in this journey but what matters is that we all have been in this together. Thank you all for being an important part of my story

TABLE OF CONTENTS

ECOVILLAGE(AN ECOTOURISM HUB)

ABOUT

ECO-TOURISM HUB BY ITSELF, WHICH TALKS ABOUT THE TOURISM ASPECTS OF THE CONTEXT, CREATING A CULTURAL HUB POINT WHICH GIVES A PLATFORM FOR THE VILLAGERS AS WELL AS THE ESSENCE OF THE VERNACULAR FOR THE TOURIST.

THIS THESIS TALKS ABOUT VERNACULAR SETTLEMENT WHICH CAN ACHIEVE SUSTAINABILITY THROUGH PLANNING, ORIENTATION, MATERIALS AND ARCHITEVTURAL PRACTICES INVOLVED FROM LONG TIME DUE TO THE SOCUIOECONOMIC, CLIMATIC, AND ENVIRONMENTAL FACTORS OF THE REGION.

INTRODUCTION

ECO-TOURISM IS ONE SUCH ACTIVITIES WHICH PROVIDE A SOLUTION BY CREATING AWARENESS AND CONCERN FOR THE ENVIRONMENT AMONG BOTH THE TOURIST AND LOCAL PEOPLE OF THE REGION.

ALSO, THE LOCAL SKILLS COULD BE DEVELOPED AND EXPLORED . THE TRADITIONAL AND INDIGENOUS KNOWLEDGE, ALONG WITH SCIENTIFIC DEVELOPMENT CAN BE EXPLORED.

NEED OF THE PROJECT

BUILDS ENVIRONMENTAL AWARENESS.

PROVIDES FINANCIAL BENEFITS AND EMPOWERMENT FOR LOCAL PEOPLE.

CONSERVATION OF BIOLOGICAL DIVERSITY AND CULTURAL DIVERSITY THROUGH ECOSYSTEM PROTECTION.

SHARING OF AL SOCIO-ECONOMIC BENEFITS WITH LOCAL COMUNITIES AND INDIGENOUS PEOPLE BY HAVING THEIR INFORMED CONSENT AND PARTICIPATION IN THE MANAGEMENT OF ECOTOURISM ENTERPRISES.

ECOTOURISM

PROTECTION AND RESTORATION OF
BIODIVERSITY

PROMOTION OF ENVIRONMENTALLY
SUSTAINABLE DEVELOPMENT

EDUCATION AND INTERPRETATION,
AWARENESS

DIRECT ECONOMIC BENEFIT FOR LOCAL

PEOPLE, ALLEVIATION OF POVERTY
HEALTH, WELL-BEING OF STAKEHOLDERS

REQUIREMENTS

WEEKLY MARKETS FOR THE VILLAGERS, CRAFT SHOPS, EXHIBITION SHOPS: WHERE THE VILLAGERS CAN GET EXPOSED AND INCREASE THEIR GROWTH OF THE ECONOMY. THE MARKET WILL RUN ONLY ON THE BASIS OF ONCE IN A WEEK WHERE THEY CAN SELL ALL THEIR ORGANIC CROPS OR VEGETABLES

MUSEUM: TO REFLECT THEIR CULTURE, TRADITION AND RELIGION ALSO TO PROMOTE THEIR LEGACY

WORKSHOP ACTIVITIES: WHERE THE TOURIST CAN EDUCATE THE VILLAGERS AND SPREAD AWARENESS AND LEARN FROM ONE ANOTHER.
THE VILLAGERS CAN SHOWCASE THEIR SKILLS AND EVEN EXPORT THEIR TALENTS

ACCOMMODATION UNIT FOR THE TOURIST PEOPLE: A HOME STAY FEELING ACCOMMODATION UNIT FOR THE TOURIST.

LIBRARY: IT WILL PROVIDE A BETTER EXPOSURE FOR THE YOUNG GENERATION OF THE SURROUNDING VILLAGES.

FACILITIES HAVE TO BE PROVIDED IN AN ECOTOURISM HUB;

(1)VISITOR ORIENTEDACCOMMODATIONS.
(A) OVERNIGHT LODGING
B) CONVENTION AND CONFERENCE FACILITIES AND MEETING ROOMS
C) RESTAURANTS, LOUNGES AND SIMILAR EATING AND DRINKING ESTABLISHMENTS

(2)DEVELOPED RECREATIONAL FACILITIES.
(A) GOLF COURSES, GOLF INSTRUCTION, PUTTING COURSES, MINIATURE GOLF COURSES, AND ACCESSORY CLUBHOUSES
B) INDOOR AND OUTDOOR TENNIS COURTS
(C) PHYSICAL FITNESS AND SPA
D) PLAYING FIELDS AND INDOOR SPORT FACILITIES
(E) INTERPRETIVE CENTERS AND
F) WALKWAYS, BIKE PATHS, JOGGING PATHS,

(3)RESIDENTIAL ACCOMMODATIONS:
(A)SINGLE FAMILY DWELLINGS;
(B) MULTIFAMILY DWELLINGS;
(C) TWO FAMILY DWELLINGS;
(D)ZERO LOTLINE DWELLINGS;
(E) TIME SHARE PROJECTS;
(F) LIVING QUARTERS FOR EMPLOYEES.

(4)OPEN SPACE USES, WHICH MAY INCLUDE IMPROVEMENTS NECESSARY FOR THE DEVELOPMENT OF GOLF COURSE FAIRWAYS AND GREENS, RECREATIONAL TRAILS, LAKES AND PONDS, PRIMITIVE PICNIC FACILITIES INCLUDING PARK BENCHES AND PICNIC TABLES, AND IRRIGATION EQUIPMENT AND ASSOCIATED PUMPING FACILITIES WHERE FARMING ACTIVITIES WOULD BE CONSISTENT WITH IDENTIFIED PRE EXISTINGOPEN SPACE USES. (5) FACILITIES WHERE FARMING ACTIVITIES WOULD BE CONSISTENT WITH IDENTIFIED PRE EXISTING OPEN SPACE USES

BENEFITS OF ECOTOURISM ON BIODIVERSITY

SOURCE OF FINANCING

PROVIDES LOCAL PEOPLE WITH ECONOMIC ALTERNATIVES

JUSTIFICATION FOR CONSER-VATION

CREATES CONSTITUENCY BUILDING

ISSUES/CHALLENGES

PLANNING AREA IS DEVELOPING AT VERY FAST PACE AND AFTER BEING SELECTED AS A SMART CITY, DHARAMSHALA AND ITS SURROUNDING AREA NEED TO BE DEVELOPED IN AN ORGANIZED WAY.

AREA HAS SHOWN A POSITIVE DEVELOPMENT IN THE PAST AND GROWTH HAS TAKEN PLACE RAPIDLY WHICH RESULTED IN THE UP GRADATION OF MUNICIPAL COUNCIL TO MUNICIPAL CORPORATION.

QUALITY OF SOCIAL AND PHYSICAL INFRASTRUCTURE IN RURAL AREAS IS NOT AT PAR WITH URBAN AREAS.

LACK OF ACTIVITIES AND INFRASTRUCTURE TO HOLD THE TOURISTS AND INCREASE DURATION OF STAY-
THOUGH TOURISM IS THE PRIMARY ECONOMIC ACTIVITY IN THE CITY, THE CURRENT AVERAGE DURATION OF STAY IS 2 DAYS ONLY DUE TO LACK OF ADEQUATE ACTIVITIES, INFRASTRUCTURE AND FACILITIES FOR THE TOURISTS.

ABOUT DHARAMSHALA

DHARAMSHALA IS A TOWN IN THE UPPER REACHES OF KANGRA VALLEY AND IS SURROUNDED BY DENSE CONIFEROUS FORESTS CONSISTING MAINLY OF STATELY DEODAR CEDAR TREES. THE SUBURBS INCLUDE MCLEODGANJ, BHAGSUNAG, DHARAMKOT, NADDI, FORSYTHGANJ, KOTWALI BAZAR, KACHEHRI ADDA, DARI, RAMNAGAR, SIDHPUR AND SIDHBARI ETC.

MCLEODGANJ, LYING IN THE UPPER REACHES, IS KNOWN WORLDWIDE FOR THE PRESENCE OF DALAI LAMA
TEMPLE.

APPROACH

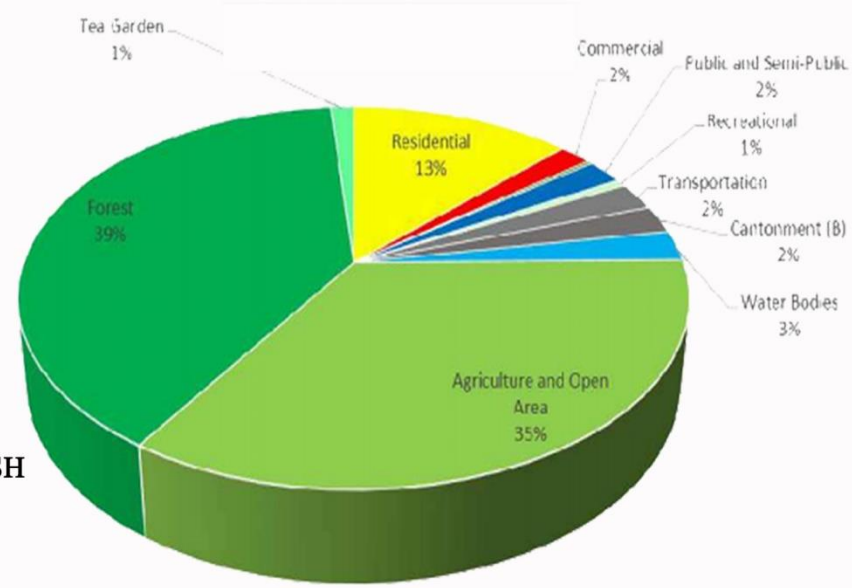
T BUT NEAREST BROAD GAUGE RAILWAY STATION IS IN PATHANKOT WHICH IS 94 KM FROM DHARAMSHALA. NEAREST NARROW GAUGE RAILWAY STATION IS AT KANGRA, 17 KM FROM DHARAMSHALA WHICH CONNECTS TO PATHANKOT.

DHARAMSHALA IS ACCESSIBLE THROUGH NH 503, SH 17 AND MAJOR DISTRICT ROAD (MDR) 45 AND OTHER LOCAL ROADS. MAJOR CITIES CONNECTED THROUGH DHARAMSHALA ARE PALAMPUR, MUBARIKPUR, PATHANKOT, MCLEODGANJ ETC. BUSES PLY DAILY BETWEEN DHARAMSHALA AND MAJOR CITIES SUCH AS

DHARAMSHALA CAN BE REACHED BY GAGGAL AIRPORT, ABOUT 15 KM FROM THE TOWN. DIRECT FLIGHTS OPERATE TO AND FROM DELHI AND CHANDIGARH ONLY.

SITE

HIMACHAL PRADESH



EXISTING LAND USE BREAKUP IN PLANNING

Table 2-1 Decadal Population of Dharamshala Urban Area (MC+Out Growth[1])

Year	1961	1971	1981	1991	2001	2011	2015
Population	10255	10560	14522	17493	19124	30764	53543*

Source: Development Plan of Dharamshala, Census of India 1991, 2001 & 2011

Population Growth

FIG 3.18

Population Density Map

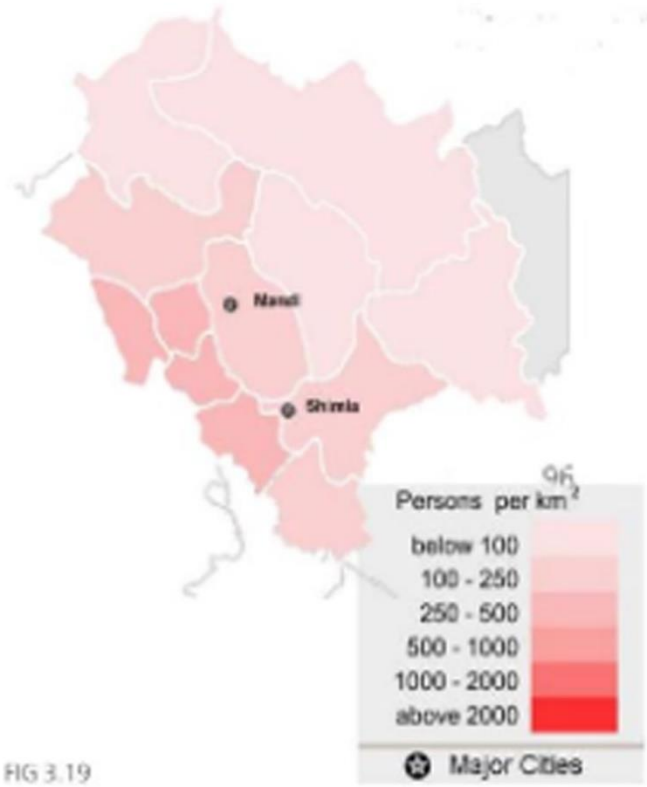


FIG 3.19

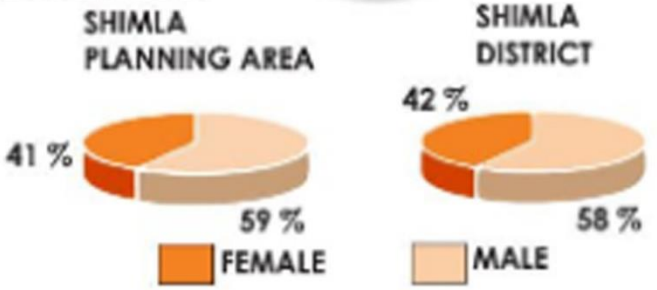
Sex-Ratio

Litracy Rate

83.6%
6TH RANK

Literacy Rate

FIG 3.20



Age Group Distribution In Shimla

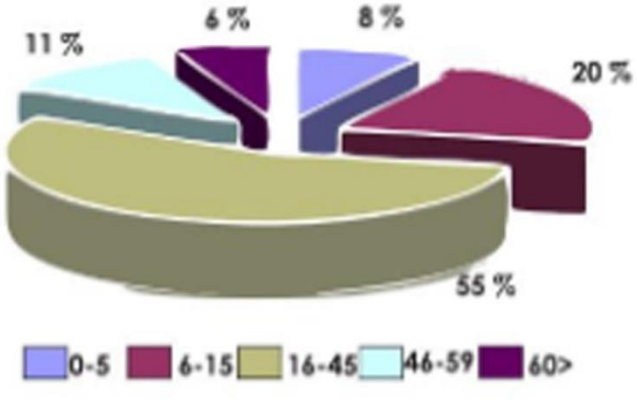


FIG 3.21

Sex Ratio(females/1000 Males)

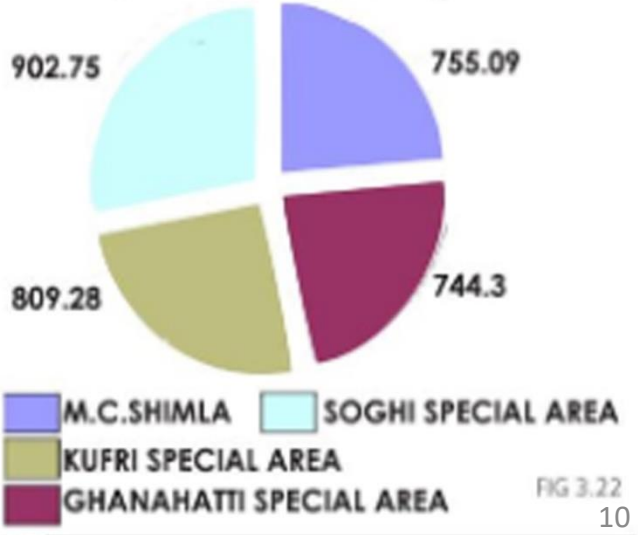
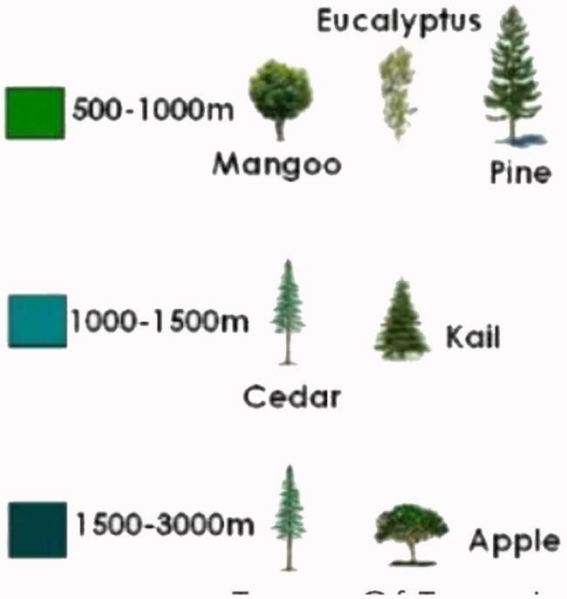


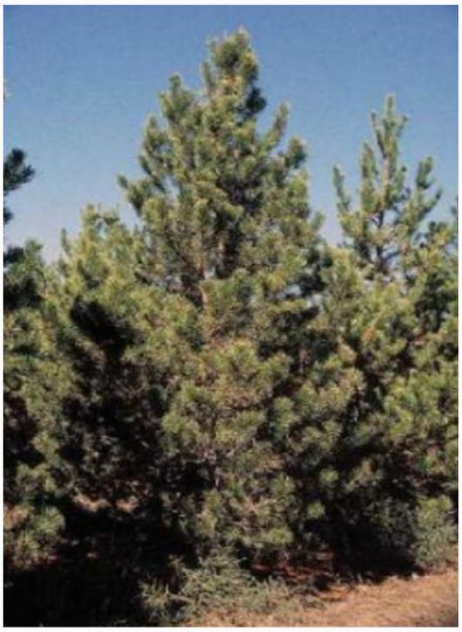
FIG 3.22



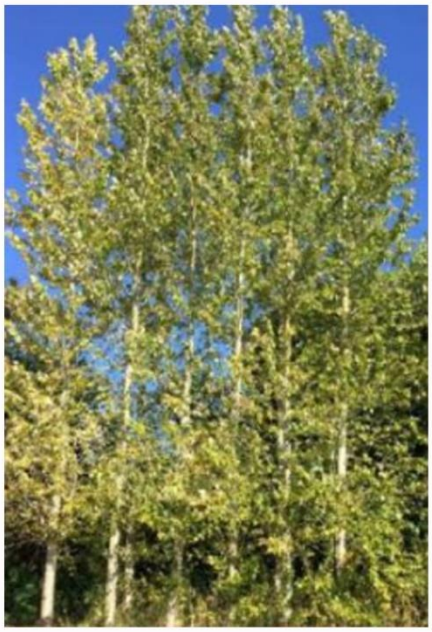
TURPENTINE OIL FROM PINE

KAIL MEADOWS NORTHERN KULLU

PINE FOREST



KAIL TREES



POPLAR TREE

BARK OF 30 YR OLD PINE

SWOT ANALYSIS

S

STRONG TOURISM BASE

IMMENSE NATURAL AND CULTURAL HERITAGE

VERY RICH CULTURAL HERITAGE

ENVIRONMENTALLY CONSCIOUS AND RESPONSIBLE COMMUNITY .

W

UNPLANNED GROWTH AND INEFFICIENT LAND MANAGEMENT

SEASONAL TOURISM

LACK OF INDUSTRIAL ACTIVITIES

O

GLOBAL TOURISM DESTINATION

INFRASTRUCTURE DEVELOPMENT

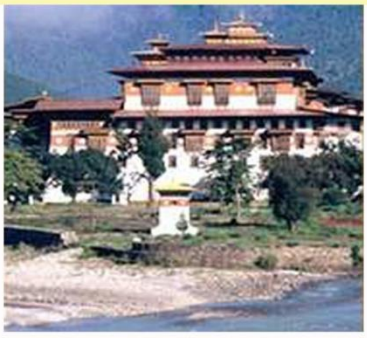
NATURAL FEATURES

WILLINGNESS OF STAKEHOLDERS FOR PLAN

T

DISASTER RISK

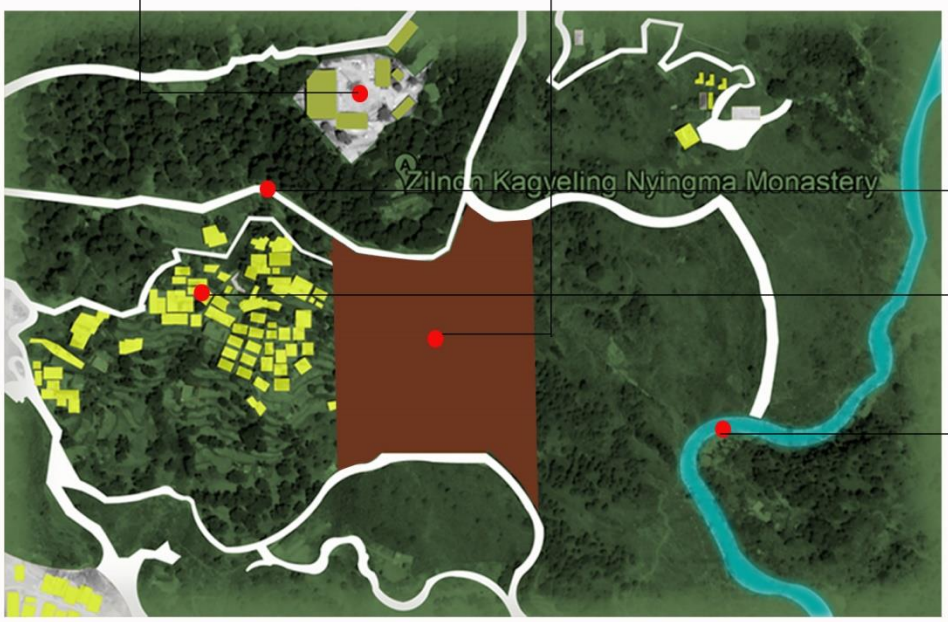
INCREASING TRAFFIC RELATED ISSUES AND UNORGANISED PARKING



ZILNON NYIGMA MONASTERY

SITE VIEW

ROAD



RESIDENTIAL HOUSE

RIVER

SITE PLAN

VEGETATION

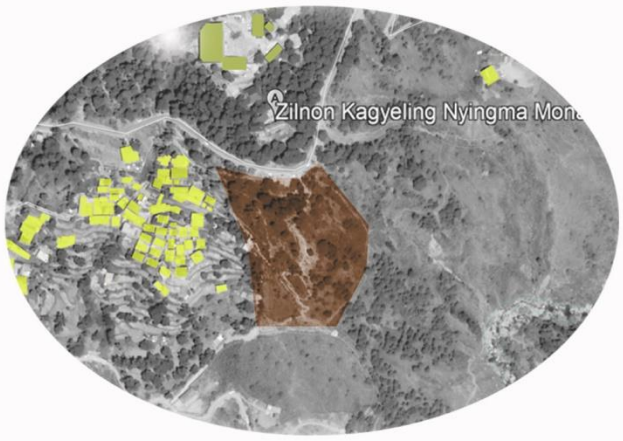
SOME PROMINENT TREE SPECIES ARE CASSIAFISTULA (AMALTAS), FICUS BENGALENSES, AEGLE MARMELOS (BIL), PHOENIX SYLVESTRIS (KHAJOOR), MANGIFERA INDICA (MANGO), AZADARICTA INDICA, DALBERGIA SISSO (SHISHAMCALOTROPIS PROCERA (AAK), AND PINUS ROXBURGHII (CHIL).

MATERIAL USED IN HOUSES

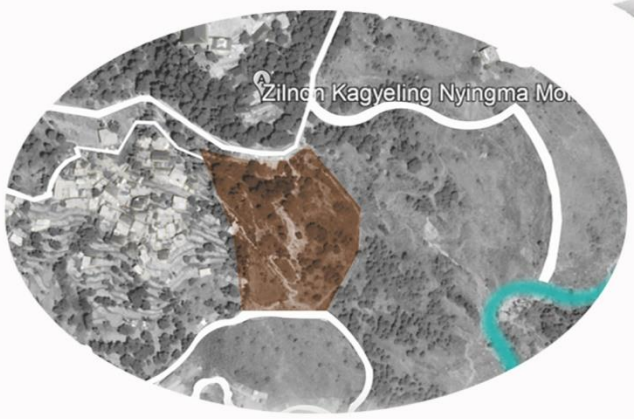
ROOF

MAJORITY OF HOUSES, BEING PUCCA IN NATURE, HAVE ROOF MADE OF SLATE OR STONE TILES (ABOUT 56%) AND G.I./ METAL/ ASBESTOS SHEET (ABOUT 23%). REMAINING HAVE ROOF MADE OF MATERIALS LIKE, TAMPOLINE, WOOD, CEMENT, SLAB AND OTHERS.

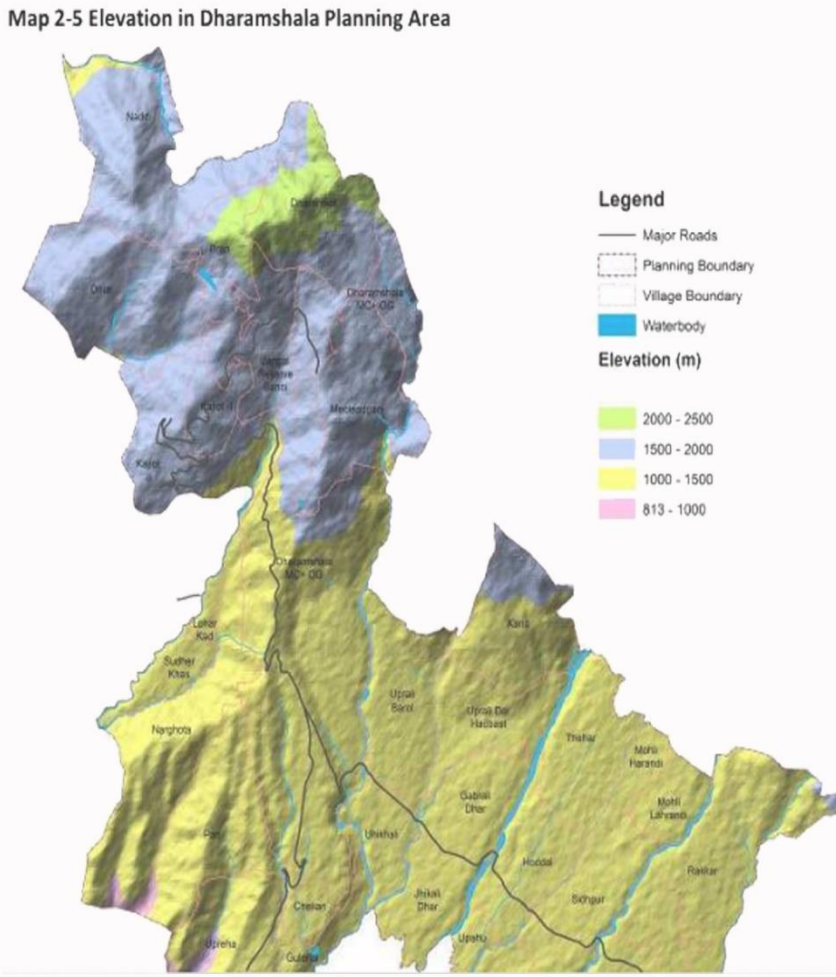
SITE PLAN

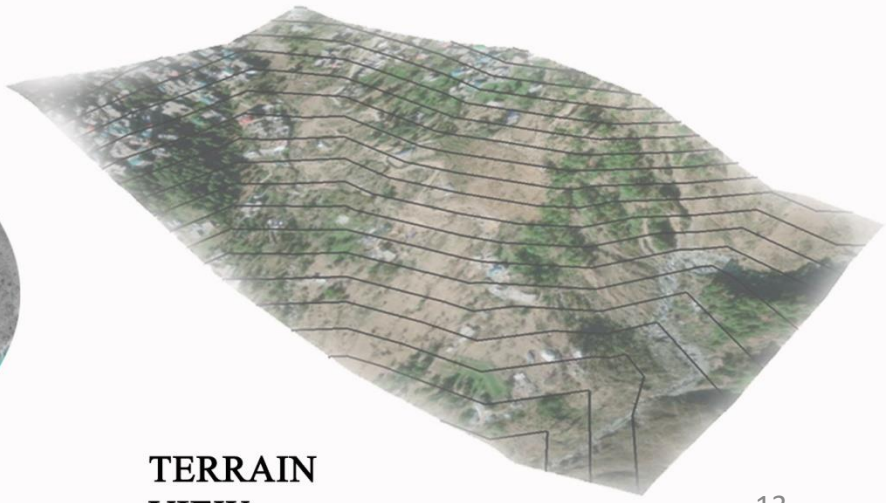


RESIDENTIAL AREA



ROAD NETWORK

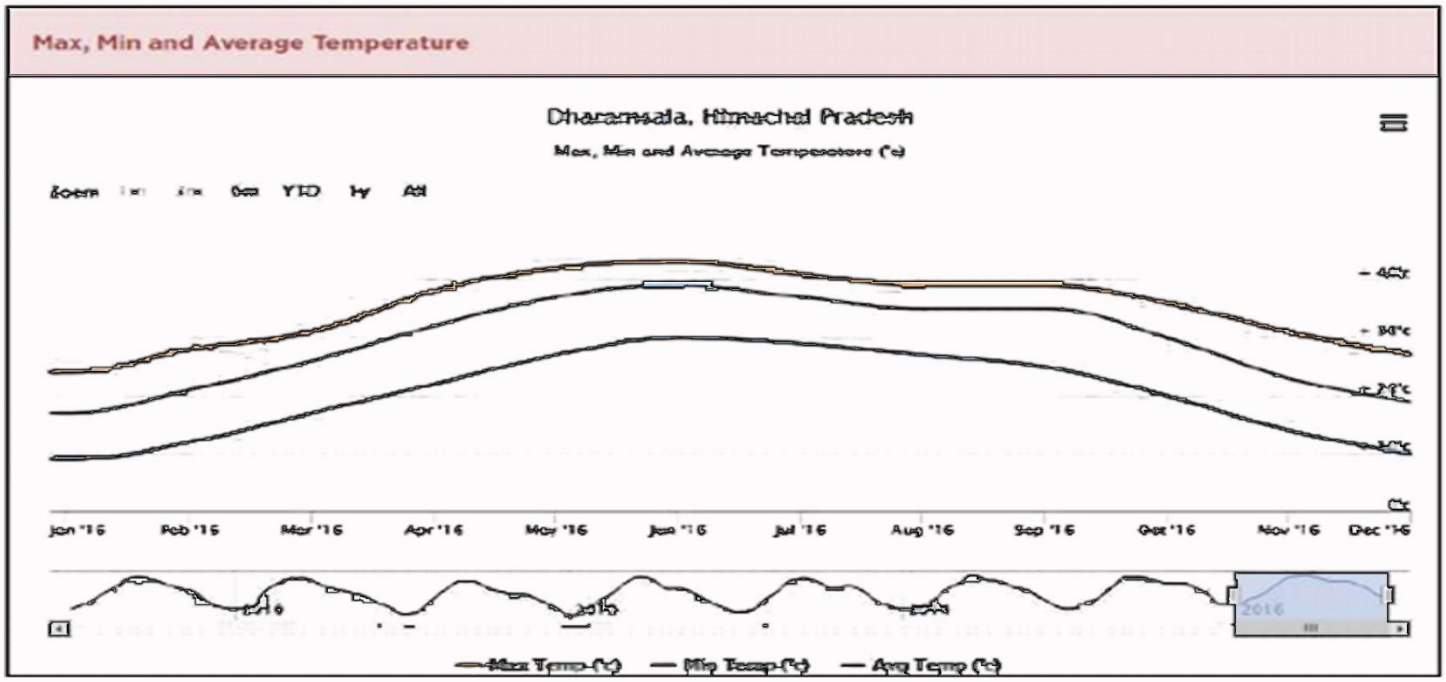




TERRAIN VIEW

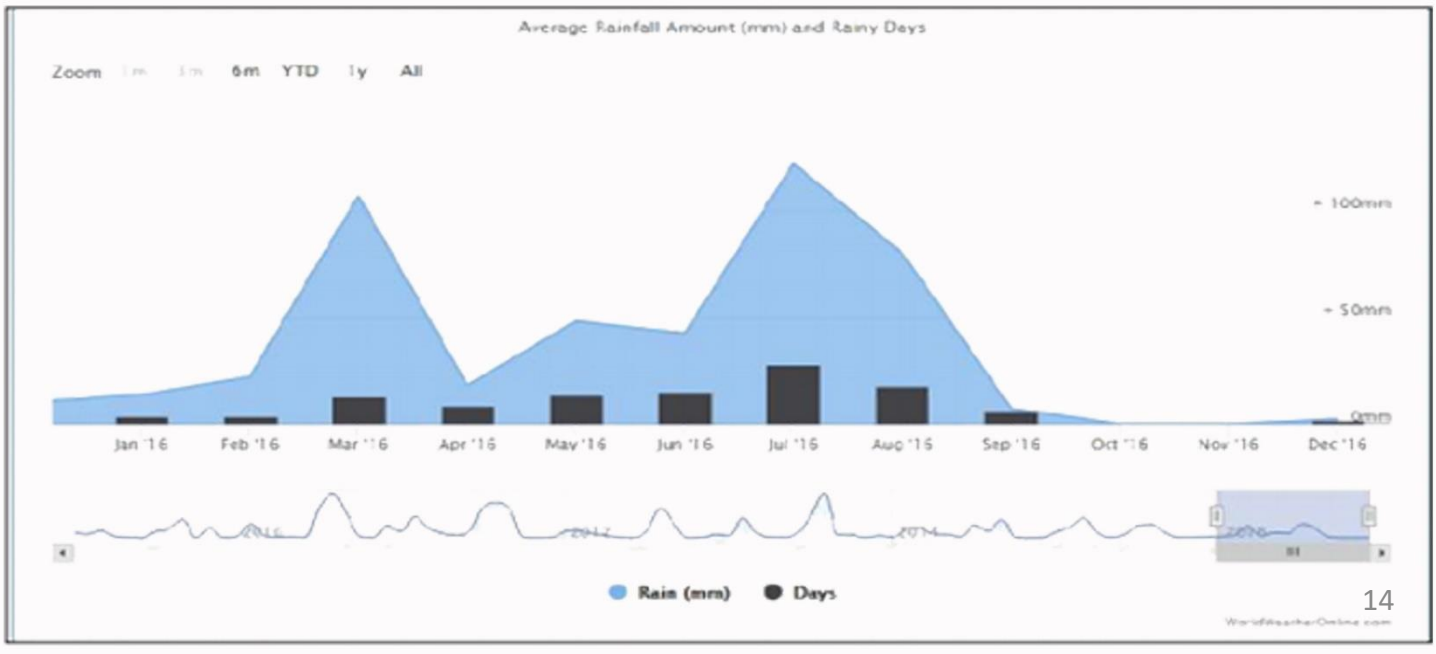
CLIMATE STUDY

Dharamshala has a monsoon-influenced humid subtropical climate. Summer starts in early April, peaks in early June (when average temperatures can reach upto 32°C) and lasts till mid-June. The minimum average temperature can be reach up to 10°C in the month of
January.



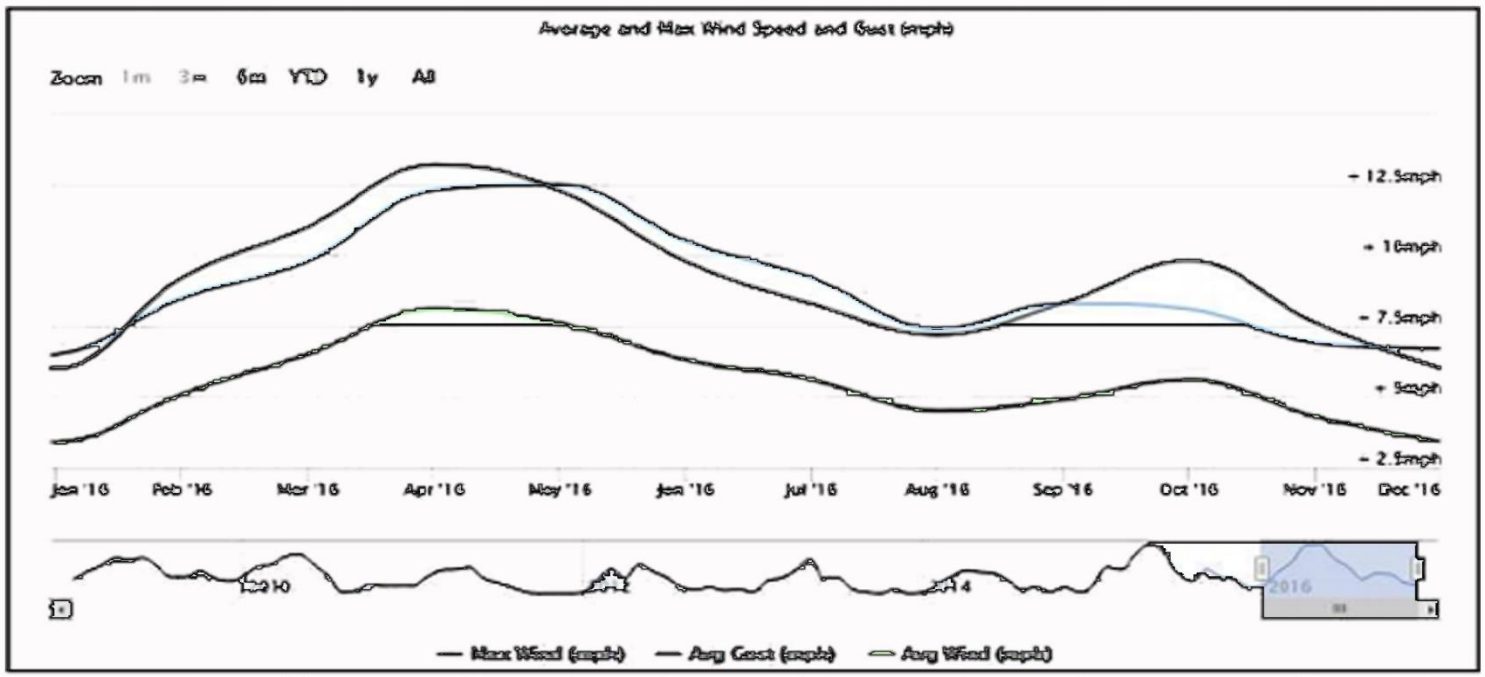
RAINFALL

The maximum rainy days
experienced in the month of July and August, maximum average rainfall up to 895 mm can be experienced in the month of July and August, making Dharamshala as one of the wettest places in the state.



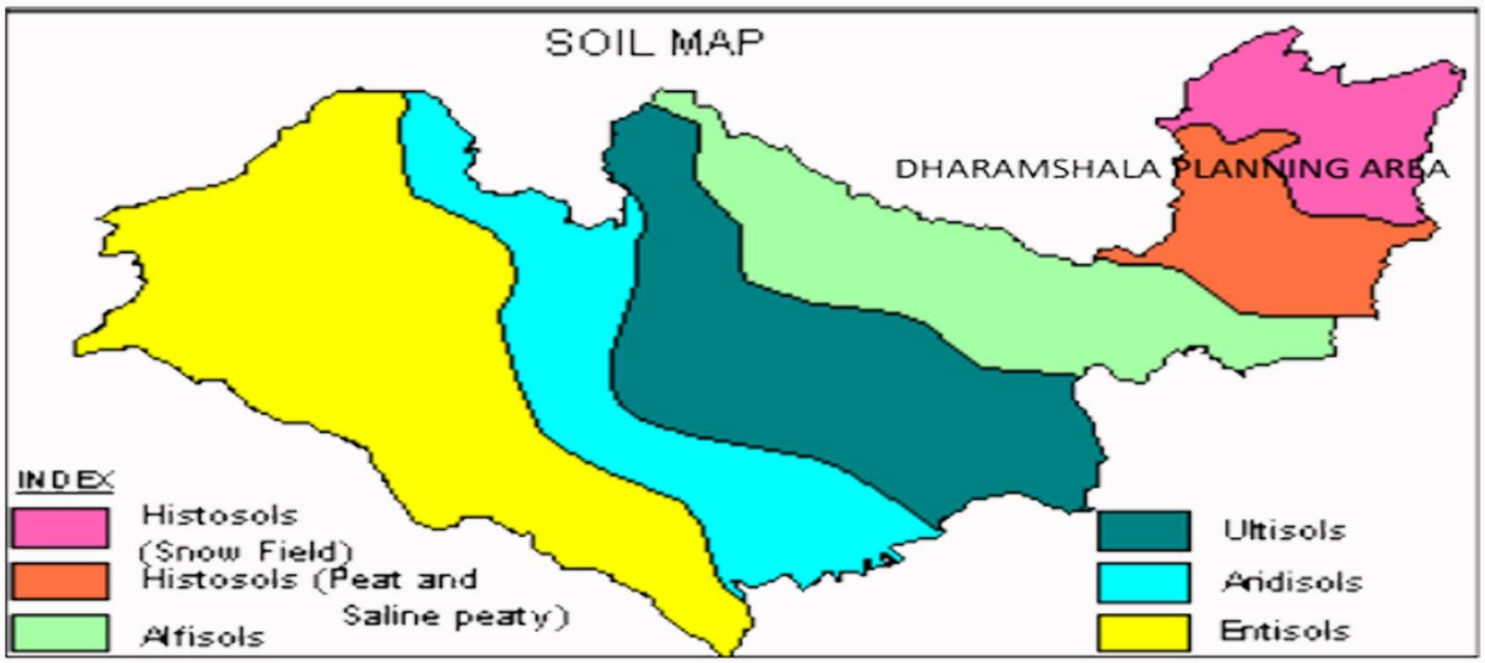
WIND SPEED

Maximum wind speed in Dharamshala is experienced from the month of March to that of
May. Maximum Wind Gust is also experienced during the months of March to May.



WIND SPEED AND WIND GUST IN DHARAMSHALA- 2016

TYPES OF SOIL



1- CASE STUDY-SHIVA OASIS RESORT, NEW DELHI

DESIGN CONCEPT

•THE DESIGN CONCEPT INVOLVED CREATING A PLACE FOR TRAVELLERS AND TOURISTS WHO WANTS TO RELAX AFTER TIRING JOURNEY AWAY FROM CITY.

•THE IDEA INVOLVED PROLONGING THE WALK FOR THE TOURIST FOR TWO REASONS

•TO ATTUNE THE PEOPLE TO THE MOODS OF PLACE

•TO MAKE THEM SPEND MORE TIME LIESURELY EXPERIENCING LANDSCAPE

LANDSCAPE

LANDSCAPE ELEMENTS AS WATER IN COMBINATION WITH B RIDGE, EARTH BERMS, PALM PLANTATION & COLORFUL FLOWERS.

•THE GEOMETRY OF THE LANDSCAPE IS THE RESULT OF JUST A POSITION OF LINEAR ELEMENTS AND FREE FLOWING CURVES.

•FREE FLOWING EARTH BERMS COVERED WITH LUSH GREEN GRASS FROM AN IMPORTANT PART OF THE LANDSCAPE.

•BRIDGES & FURNITURE IS MADE OF R.C.C AND PLASTERED WITH CEMENT TO GIVE A NATURAL EFFECT OF THE WOOD

LOCATION- NH-8 DELHI JAIPUR HIGHWAY, NEEMRANA

DESIGNER- AR. DEBASHISHBSAHA, AR,BHUPINDER KUMAR

SITE AREA- 10 ACRES

STRUCTURE TYPE- RELAXATION PLACE

THE RESTAURENT

RESTAURANTS THERE ARE THREE RESTAURANTS:
•JHILMIL
•JHAROKHA
•JHANKAR

EACH RESTAURANT HAS 40 COVERS CAPACITY, DESIGN TERRACE GARDEN ACCOMMODATES THE OPEN AIR RESTAURANT OF CAPACITY OF 80 COVERS.

THE COURTYARD IS COVERED WITH FIBERGLASS.

THE COURTYARD FOR GUEST ACCOMMMODATION BLOCK IS SAME BUT BIGGER AND OPEN TO SKY .
AS WELL AS SWIMMING POOL IS ALSO DESIGNED. THE RAJASTHANI ARCHITECTURE ELEMENTS USED TO BUILT MORPHOLOGY FORM.

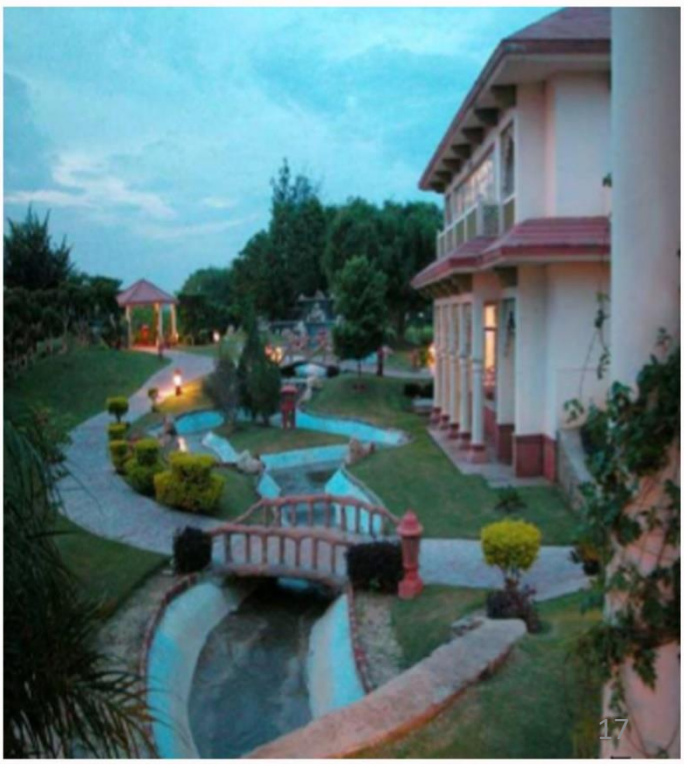
THE FAÇADE TREATMENT MAKES SEVERAL ALLUSIONS TO RAJASTHANI ARCHITECTURE THROUGH THE EMULATION OF POPULARLY IDENTIFIABLE ELEMENTS
•JALIS
•ARCHES
•BRACKETS
•COLONNADES

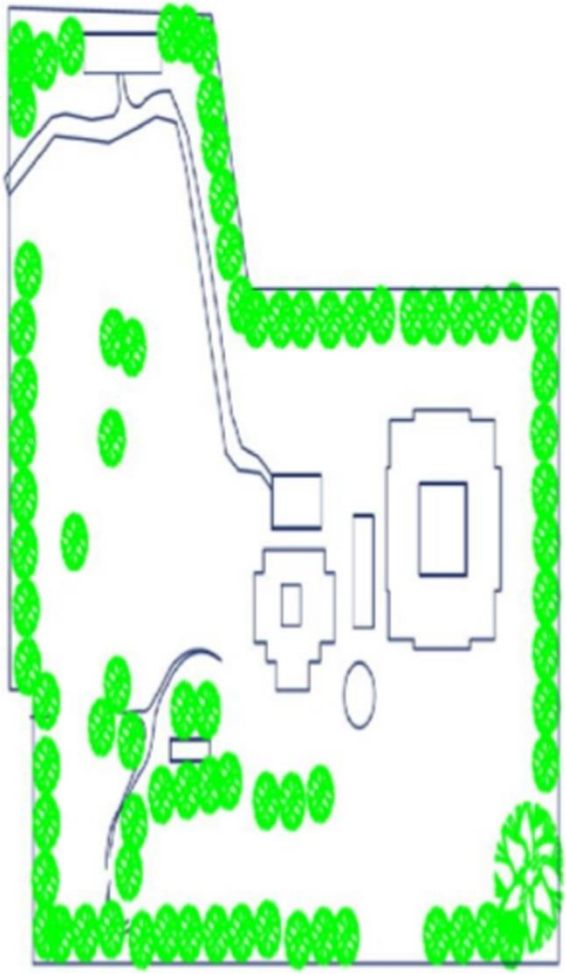
DESIGN FEATURES

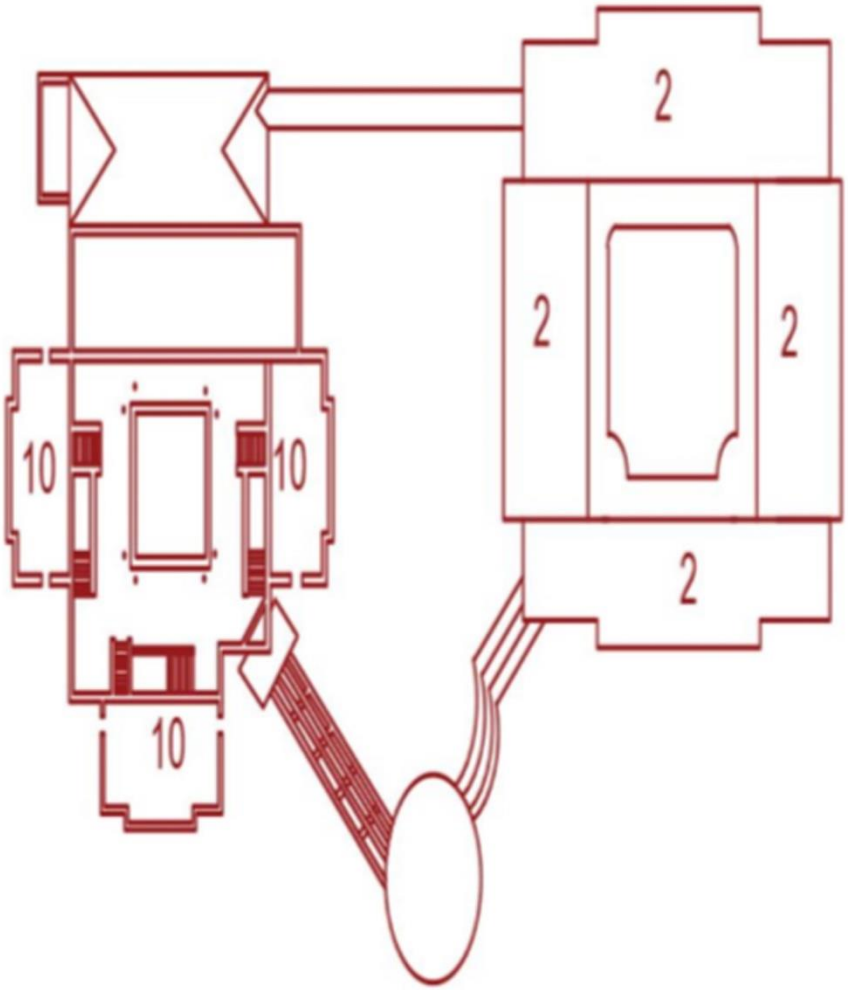
THE BUILT FORM IS CLEARLY BIFURCATED INTO TWO DISTINCT BLOCKS WITH SIMILAR ARCHITECTURAL VOCABULARY,
ONE IS THE RESTAURANT BLOCK AND OTHER BLOCK CONTAINS GUEST ROOMS AND RELATED SERVICES.

THE ENTRANCE TO THE RESORT GETS NICELY CARVED OUT PERGOLAS AS WELL AS ENTRANCE LEADS TO A PARKING LOT.

EXTERNAL FAÇADE IS COMPLETELY PAINTED IN RED AND WHITE. THE RED COLOR ON THE ROOF GIVES A FEELING OF TILE ROOFING.



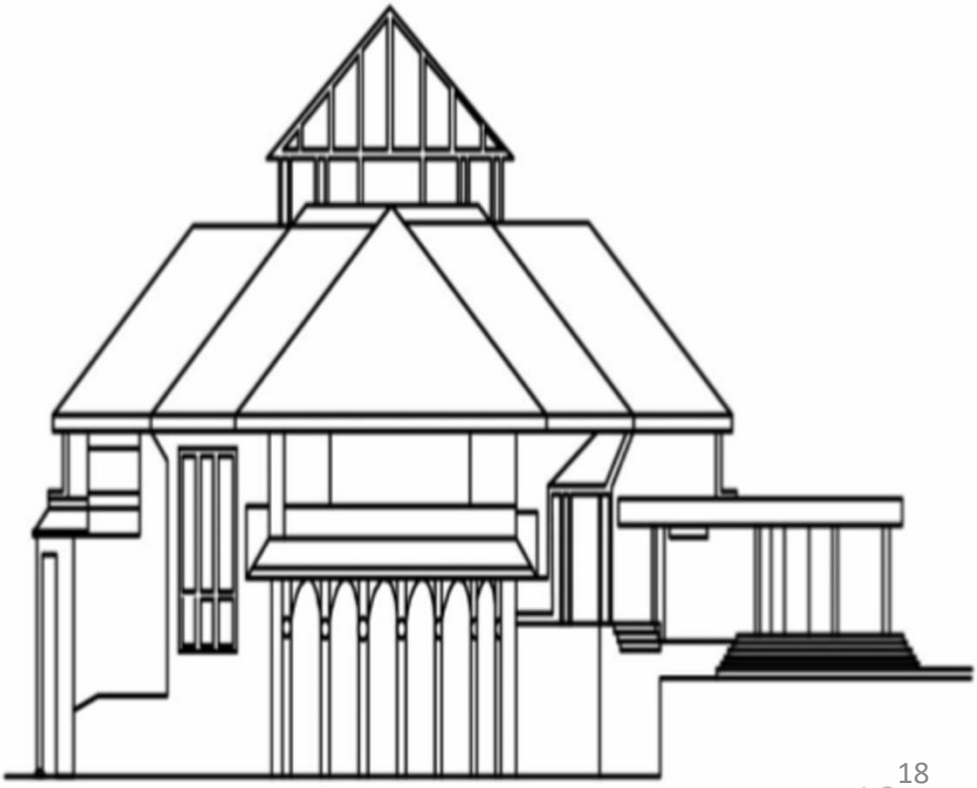


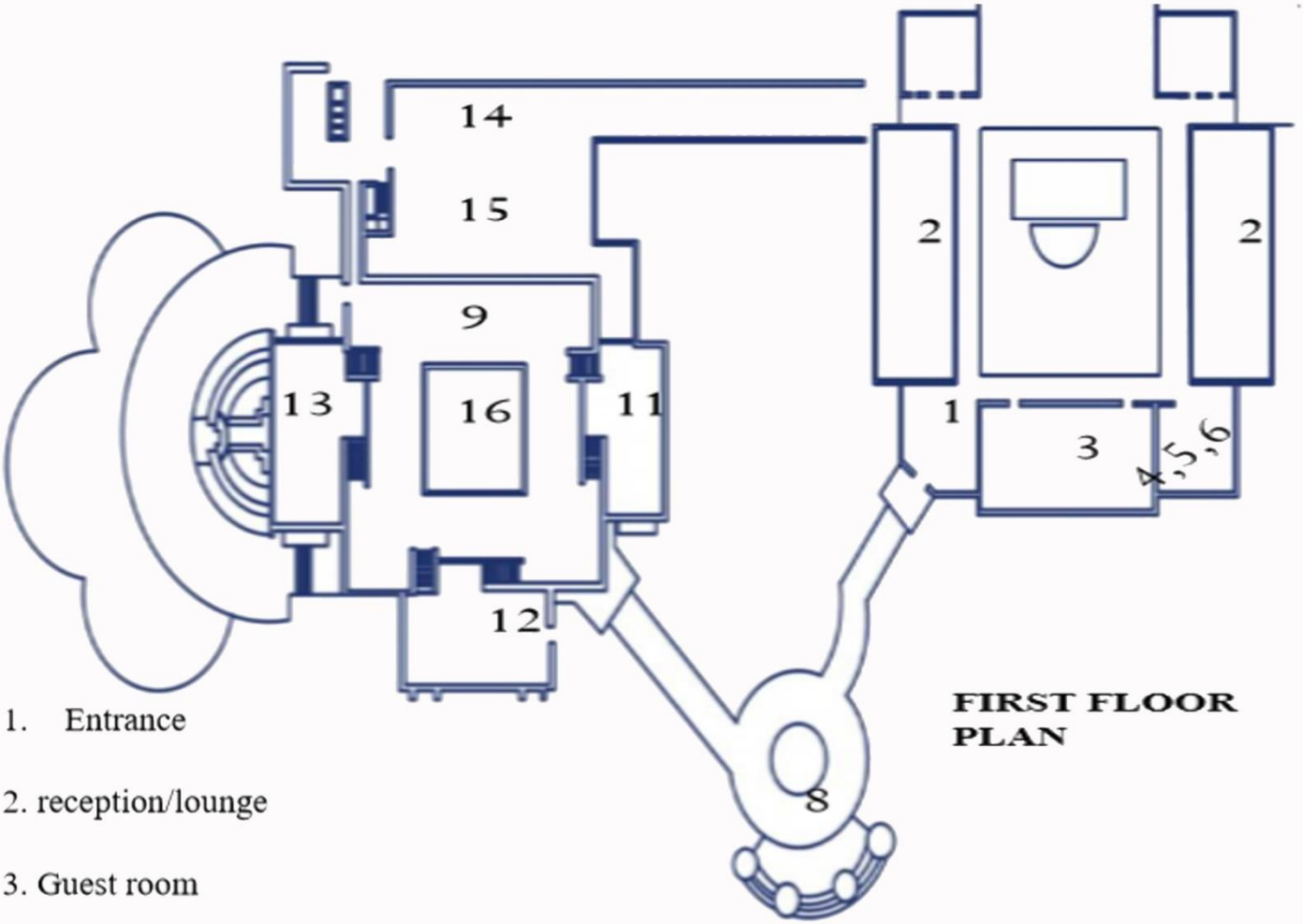


SITE PLAN

GROUND FLOOR PLAN

1.ENTRANCE PORCH
2. RESTAURANT
3. KITCHEN
4. OUTDOOR SITTING
5. HOTEL BLOCK
6. PUBLIC TOILET
7. PARTY LAWN
8. WATERFALL
9. GAZEBO
10. CAR PARKING
11. BUS PARKING
12. STAFF ACCOMMODATION
13.NURSERY
14. SERVICE ENTRY





FIRST FLOOR PLAN

1. Entrance
2. reception/lounge
3. Guest room
4. Conference hall
5. House keeping/office
6. Gents toilet
7. Ladies toilet
8. Swimming pooL
9. Fast food
10. Sitting
11. Bar
12. Shop
13. V.I.P Lounge
14. Kitchen
15. Pantry

CASE STUDY 1 - SANSKRITI KALA KENDRA

ARCHITECT – UPPAL GHOSH

LANDSCAPE ARCHITECT- MOHAMMED SHAHEER

INTRODUCTION

SANSKRITI KENDRA IS A CULTURAL CENTRE WITH A DIFFERENCE – IT IS A PLACE WHERE ARTISTS , SCULPTORS , WRITERS , MUSICIANS AND VILLAGE CRAFTSMEN CAN PRACTISE THERE ART IN CONGENIAL AND TRANQUIL SURROUNDINGS THAT INDUCE CREATIVITY




PURPOSE

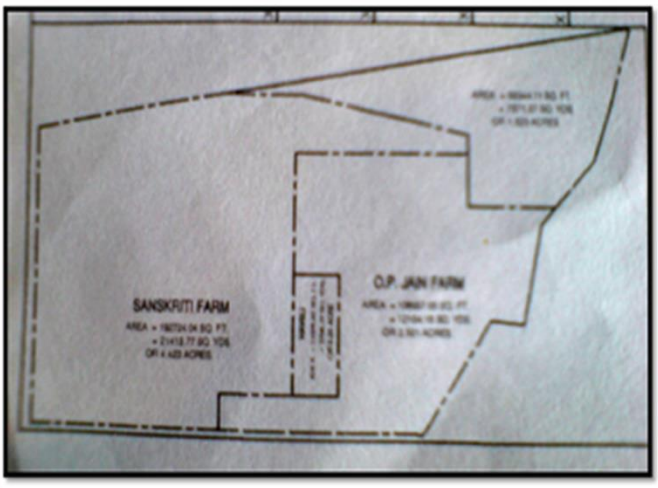
TO ACCOMMODATE A VARIED RANGE OF ACTIVITIES CONNECTED WITH ART AND CULTURE BOTH IN TRADITIONAL AND CONTEMPORARY SENSE.
IT IS INTENDED TO PROVIDE TEMPORARY RESIDENTIAL AND WORKING SPACE TO ARTISTS

CIRCULATION

SANSKRITI KENDRA IS ONE OF THE EIGHT FARMHOUSES OF ANANDGRAM

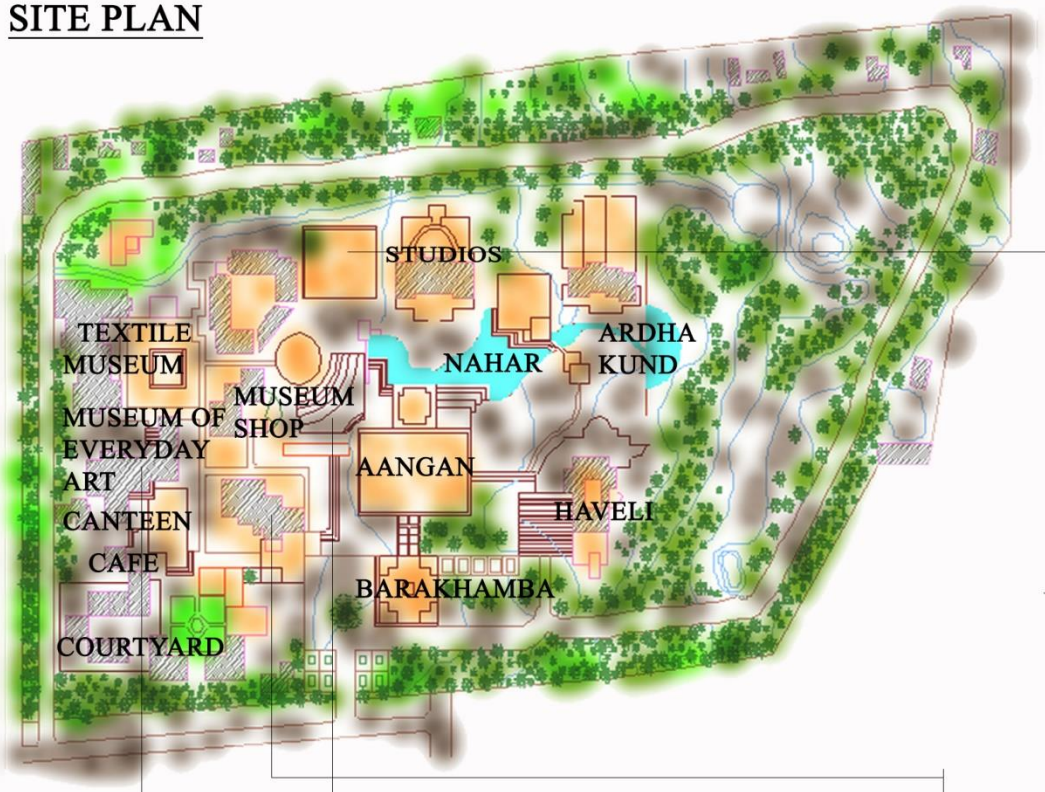
LOCATED TOWARDS ITS CORNER END . THE APPROACH TO KENDRA IS THROUGH A METALED ROAD

THE SPACE OUTSIDE THE BOUNDRY WALL OF KENDRA IS USED FOR PARKING , AS SPACE INSIDE FOR PARKING IS INSUFFICENT



LOCATION

SITE PLAN



ADMIN BLOCK

MUSEUM OF TERRACOTTA

AMPITHEATRE

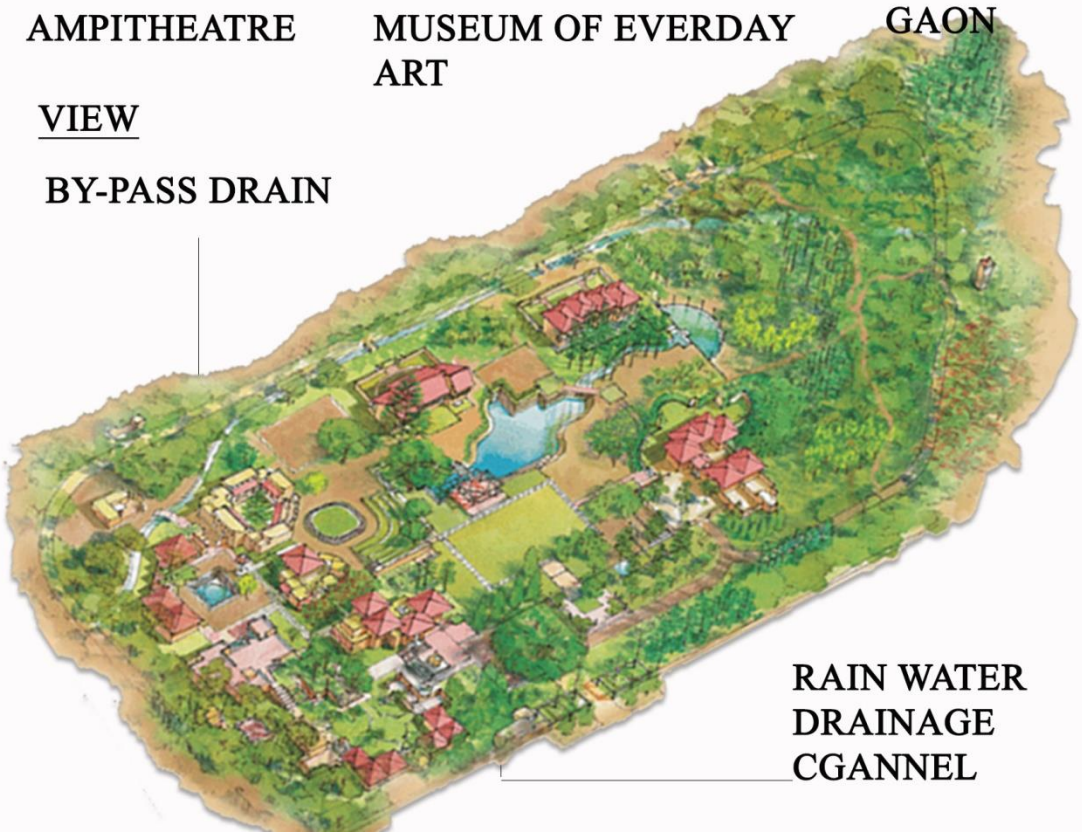
MUSEUM OF EVERDAY ART

GAON

MUSEUM

VIEW

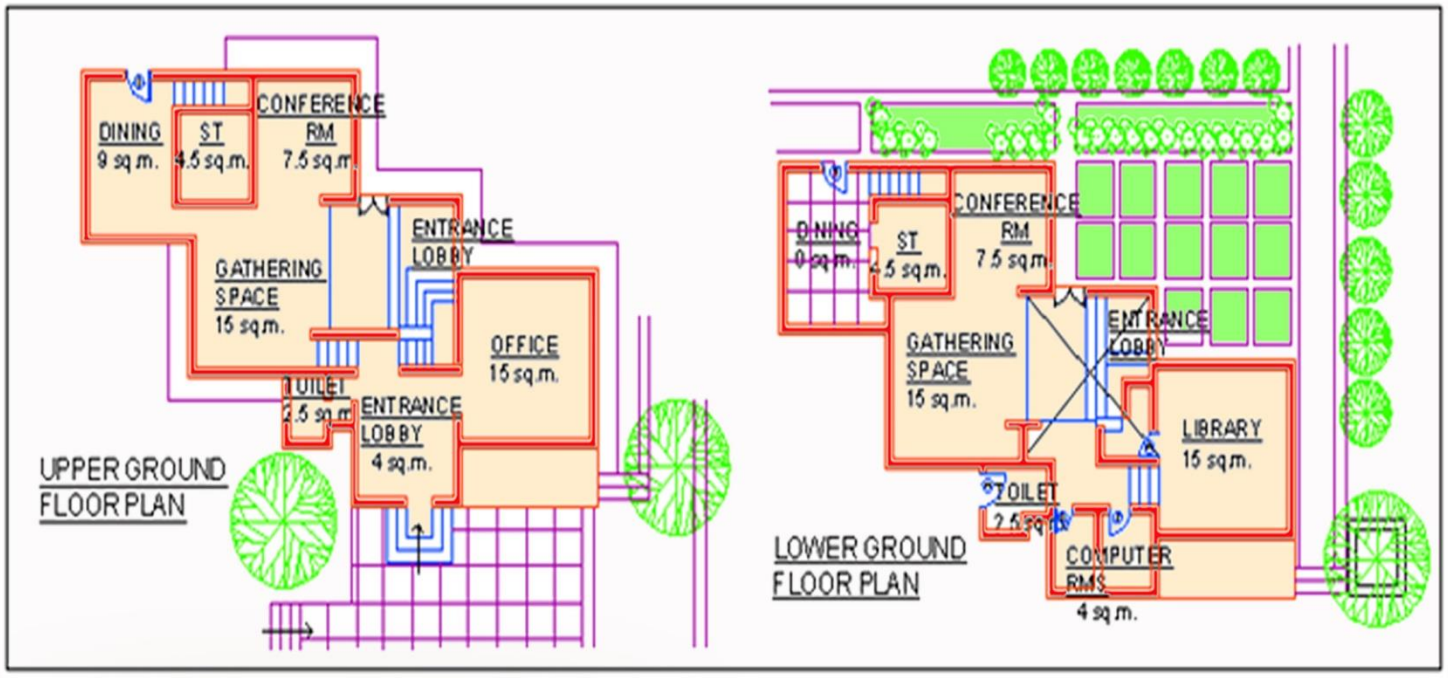
BY-PASS DRAIN



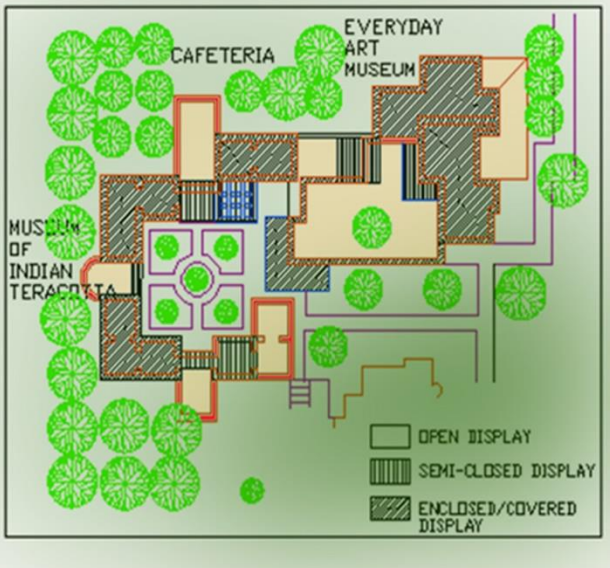
RAIN WATER DRAINAGE CGANNEL

LANDSCAPING

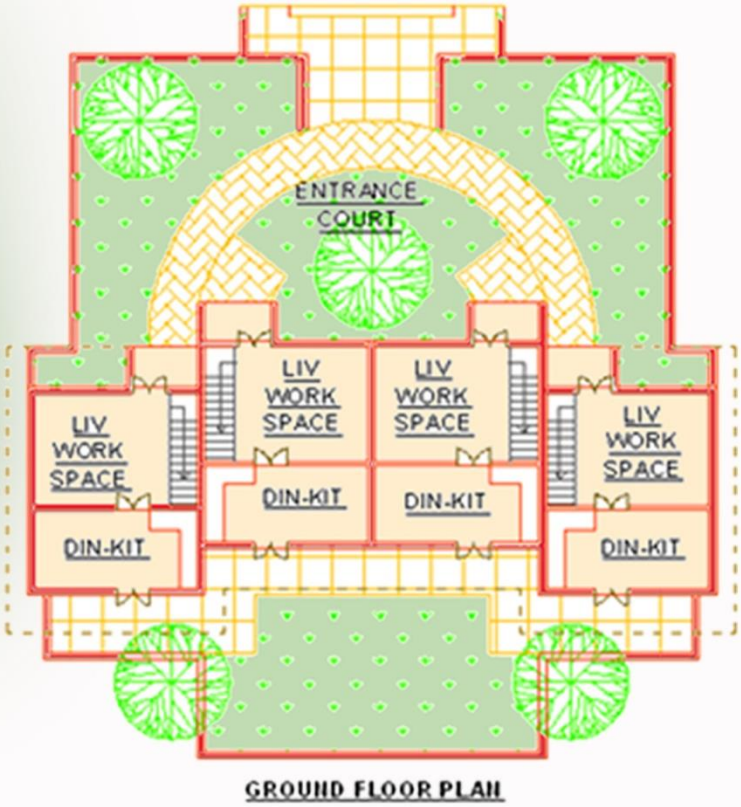
ASHOK
AUSTRALIAN KIKER
ALSTONIA
AMALTAS
ARJUN
AVLA
BOTTLE BRUSH
BAMBOO
CHAMPA
CASIA
CADAMBE
FICUS
GUAVA
GULMOHAR



ADMIN BLOCK

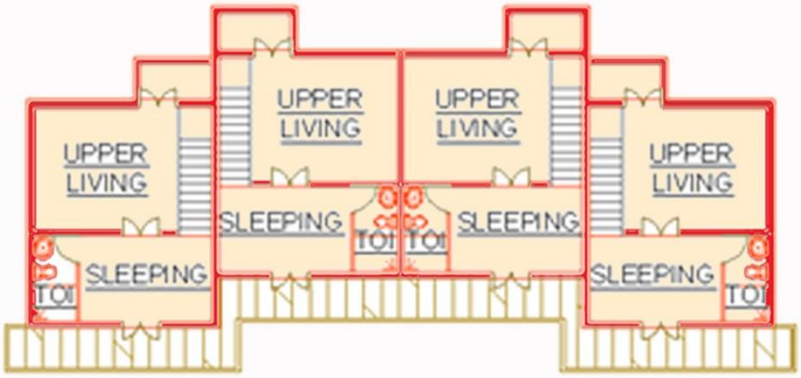


MUSEUM OF INDIAN TERRA COTTA



GROUND FLOOR PLAN

STUDIOS



FIRST FLOOR PLAN

LITERATURE STUDY - 1 GOVARDHAN ECOVILLAGE (MUMBAI)

INTRODUCTION

TOTAL BUILT UP AREA: 2400.65 SQMT.

ENERGY CONSUMPTION REDUCTION: 57% REDUCTION IN ENERGY CONSUMPTION COMPARED TO GRIHA BENCHMARK.

RENEWABLE ENERGY: RATED CAPACITY OF SOLAR PV INSTALLED ON SITE IS 39 KW.

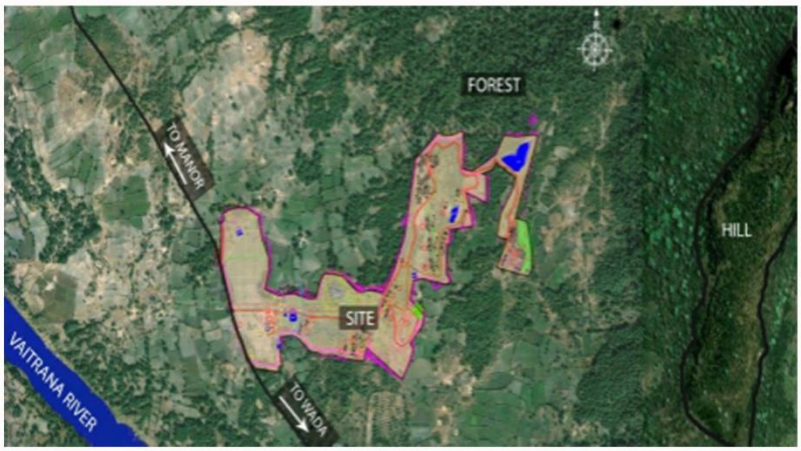
GRIHA PROVISIONAL RATING: 5 STAR YEAR OF COMPLETION: 2012 ARCHITECT TEAM: BIOME ENVIRONMENTAL SOLUTION, BANGALORE.

PURPOSE

THE PURPOSE BEHIND THIS GOVARDHAN ECOVILLAGE IS TO PRESENT A SUSTAINABLE COMMUNITY MODEL AND TO EDUCATE PEOPLE IN THE FIELD OF TRADITIONAL SCIENCES INCLUDING YOGA, SPIRITUALITY, COW PROTECTION & AYURVEDA.

THE ACTIVITIES DOES NOT ADVERSELY AFFECT THE ENVIRONMENT, DOES NOT CONSUME ANY NONRENEWABLE RESOURCES, AND CREATES NO WASTE OR EMISSIONS, AND DOES NOT HARM ANY LIVING BEINGS.

LOCATION



LOCATION : GALTARE, HAMRAPUR, TALUKA WADA, DISTRICT PALGHAR.

NEAREST RAILWAY STATION: 36KMS FROM PALGHAR RAILWAY STATION.

NEAREST AIRPORT: 90 KMS FROM MUMBAI AIRPORT.

LAND: 70 ACRES

OBJECTIVE

THERE WERE STRUCTURES BUILT FOR THE COMMUNITY WITH LOCALLY AVAILABLE MATERIALS WHICH GAVE COMFORT EVEN IN HARSH CLIMATES.

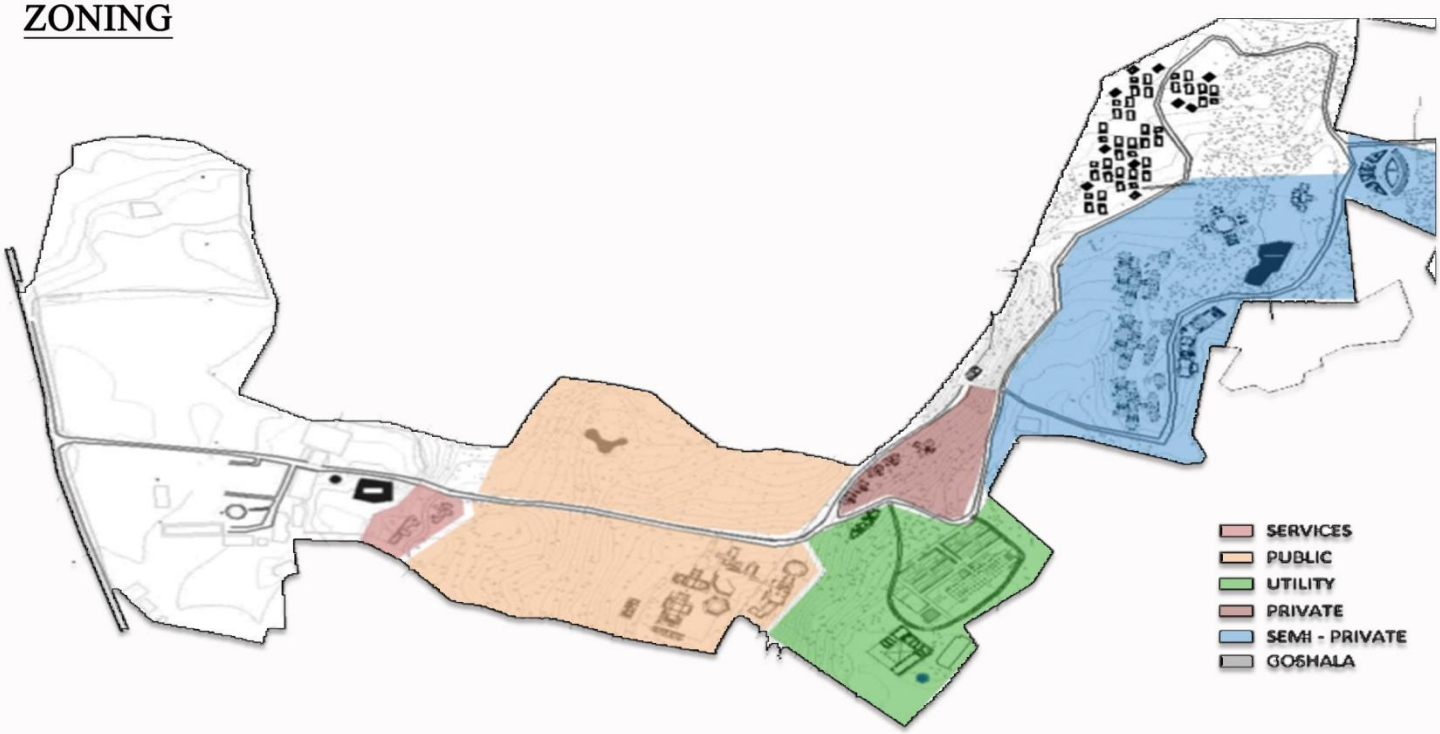
PRESERVE AND PROTECT THE LANDSCAPE DURING CONSTRUCTION

PROPER TOPSOIL LAYING, STABILIZATION OF THE SOIL, AND MAINTENANCE OF ADEQUATE FERTILITY OF THE SOIL

REDUCE AIR POLLUTION DURING CONSTRUCTION

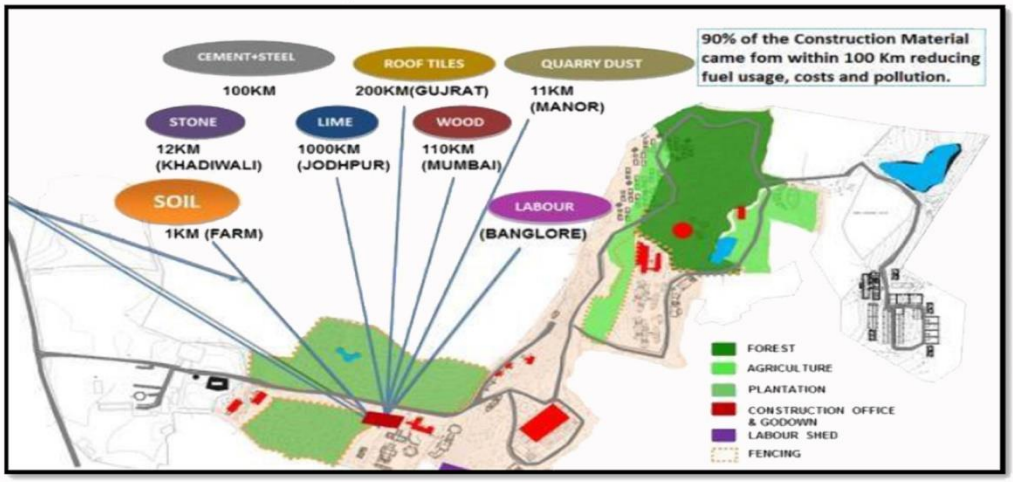
REDUCE LANDSCAPE WATER REQUIREMENT

ZONING



Stage 3- Smart Sourcing

To reduce the overall carbon foot print, 90% of the materials were sourced from within 100 Kms radius of our facility.



CONSTRUCTION TECHNIQUES

SIZE: 220MMX140MMX115MM.

- THE ROOF WAS MADE UP OF STRAWS AND RESIN PANELS ALONG WITH IRON FRAMING IN THE CAFÉ AREA AND OTHER STRUCTURES AND VILLAS HAD MANGALORE TILES SLOPING ROOF.

- LESSER AMOUNT OF ENERGY IS CONSUMED IN PREPARING THE COMPRESSED EARTH BLOCKS AS AGAINST THE MODERN DAY BRICKS USED IN CONSTRUCTION.

- 90% OF THE MATERIALS WERE SOURCED FROM WITHIN 100 KMS RADIUS OF THE FACILITY.

BIOGAS PLANT

MATS USED AS BUFFER

Legend

No.	Building
A	Gurukul
B	Temple
C	Kund(water body)
D	Deity kitchen
E	Pujari's quarters
F	Admin and kitchen
G	Dining halls
H	CEO quarters
I	Private cottages 4&5
J	Private cottages 1&2
K	Private cottages 3
L	Private cottage
M	Dormitory
N	Community cottage 1
O	Community cottage 2
P	Amenity block
Q	Ayurvedic block
R	Brahmachari ashram
S	Gaushala & Caretakers
T	Cow product manuf.
U	Yoga hall
V	Pool bath house
W	Bio Pool
X	Staff dormitories and housekeeping
Y	Managers quarters
Z	Parking, drivers dorms Security, HT transform
A1	Nursery and compost
A2	Transformer yard, bio-mass gasifier and engineering block
A3	STP

MINIATURE OF VRINDAVAN

SAINTS STAY FACILITY

KUTIR

SBT PLANT

REPLICA OF VRINDAVAN

ECO HOUSES

PLANS

STONE CARVING DEPICITNG THE LIFE OF KRISHNA

WOODEN ROOF

ECO COTTAGES

MEDITATION HALL

WATER RECYCLE AND REUSE (INCLUDING RAINWATER)

HOLDING PONDS- HOLDING PONDS OF VARIOUS SIZES ARE THERE CATERING TO NEED OF WATER TILL FEB AND MARCH. POST HYDROGEOLOGICAL SURVEY RECHARGE AND DISCHARGE POINTS WERE FOUND AND ACCORDINGLY PONDS

SOIL BIOTECHNOLOGY (SBT) SBT IS A PROCESS THROUGH WHICH WASTE WATER IS BEING FILTERED AND MADE SUITABLE FOR USING IN LANDCSAPE AREAS.

REDUCE HARD PAVING ON SITE

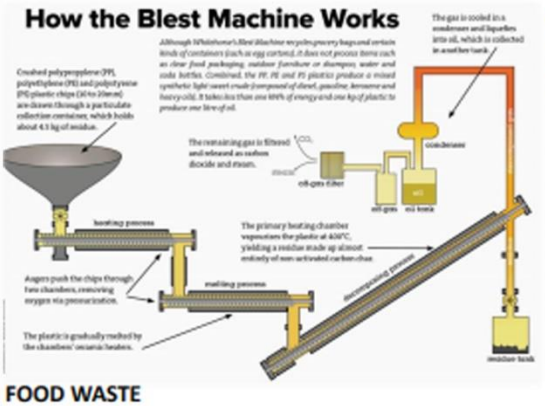
USING ONLY ONE RING ROAD- AROUND THE SITE . RESTRICTS VEHICULAR MOVEMENT HARD PAVED AREA TO OPEN SPACE IS BALANCED .RUN OFF OF THE SITE IS INTO THE

DESIGN TO INCLUDE EXISTING SITE FEATURES

EXISTING SITE TREES- MEASURES LIKE BARICATING USING JUTE BAGS WERE USED TO PROTECT THE EXISTING ON SITE TREES DURING CON

EFFICIENT WASTE SEGREGATION

PYROLYSIS OF PLASTIC



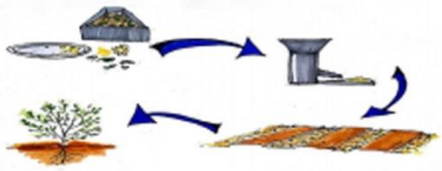
HUMAN WASTE

- ENTIRE HUMAN WASTE PRODUCED IN THE VILLAAGE IS CONVERTED INTO BIOMASS
- KITCHEN WASTES, HORTICULTURE WASTES ETC ARE COLLECTED TO MAKE COMPOST
- THE COMPOST IS PACKED IN CEMENT BAGS WHEN READY.

TOPOGRAPHY- THE NATURAL SLOPE OF THE LAND WAS RETAINED AND THE TOP SOIL PRESERVATION WAS CONSIDERED AND USED AS MANURE FOR FARMING.

FOOD WASTE

- ALL THE FOOD WASTE GOES UNDER THE PROCESS OF GRINDING AND FED INTO BIOGAS PLANT WHICH PRODUCES METHANE
- THE ABOVE PREPARED METHANE IS USED AS FUEL FOR COOKING



CONCLUSION:-

- IN AREAS WHERE GOVT SUPPLY OF WATER AND ELECTRICITY IS LIMITED SUSTAINABLE DESIGN AND RECYCLING OF MATERIALS GOES A LONG WAY IN REDUCING THE IMPACT
- OPTIMUM USE OF RESOURCES HELPS EGRONOMICALLY AS WELL AS ECONOMICALLY
- IN A WORLD WITH FULL OF USE OF MODERN MATERIALS, VERNACULAR ARCHITECTURE STILL ATTRACTS PEOPLE

LITERATURE STUDY - 2 UTTARAYAN VILLAGE, JHASPUR

INTRODUCTION

ITS AN “ART VILLAGE” WHICH PROVIDES WORKING SPACE AND ACCOMODATION FOR VISITING INTERNATIONAL AND INDIAN ARTISTS.

TO PROMOTE THE ART AND CRAFT, THE INDUSTRIALIST OF BADODA MR. RAKESH AGARWAL MASTERMINDED THIS CENTRE

IT IS DESIGNED BY ;
AR. KARAN GROVER

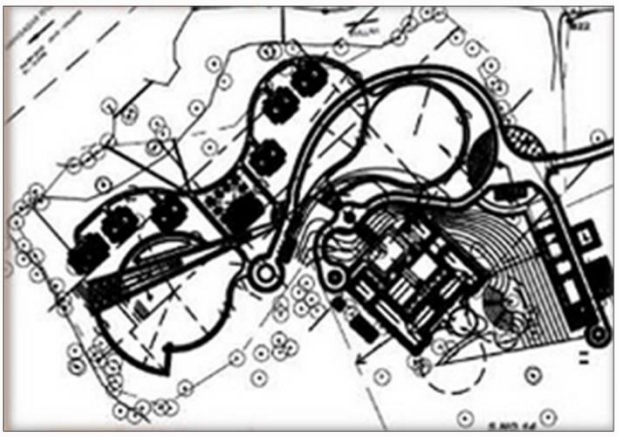
PURPOSE

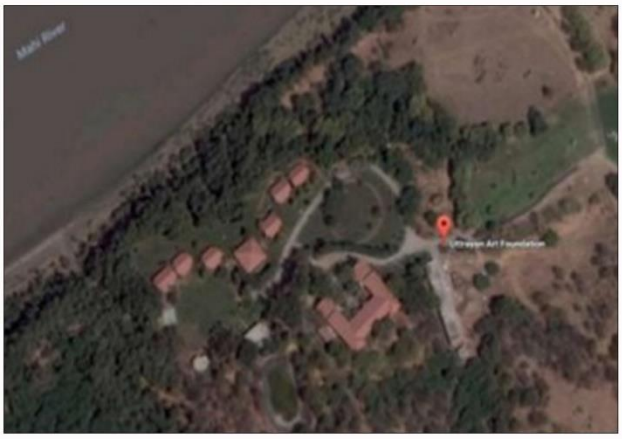
TO UNDERSTAND ACTIVITIES PERFORMED AND FACILITIES PROVIDED IN THE CENTRE TO TRAIN STUDENTS/ARTISANS.

TO STUDY THE CONNECTIVITY OF DIFFERENT SPACES AND THEIR RELATIONSHIP WITH THE SURROUNDING.

TO UNDERSTAND THE METHOD OF CREATING ART

LOCATION





OBJECTIVE

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PRESERVE AND PROTECT THE LANDSCAPE DURING CONSTRUCTION

PROPER TOPSOIL LAYING, STABILIZATION OF THE SOIL, AND MAINTENANCE OF ADEQUATE FERTILITY OF THE SOIL

REDUCE AIR POLLUTION DURING CONSTRUCTION

REDUCE LANDSCAPE WATER REQUIREMENT

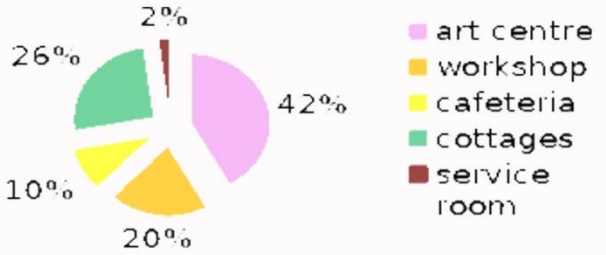
ARCHITECTURAL FEATURES

INDO SARACENIC ARCHITECTURE;
A FUSION OF WESTERN SPATIAL ORGANISATION INDIAN MATERIALS INSPIRED BY GOTHIC, HINDU, ISLAMIC AND BUDDHIST ARCHITECTURE.

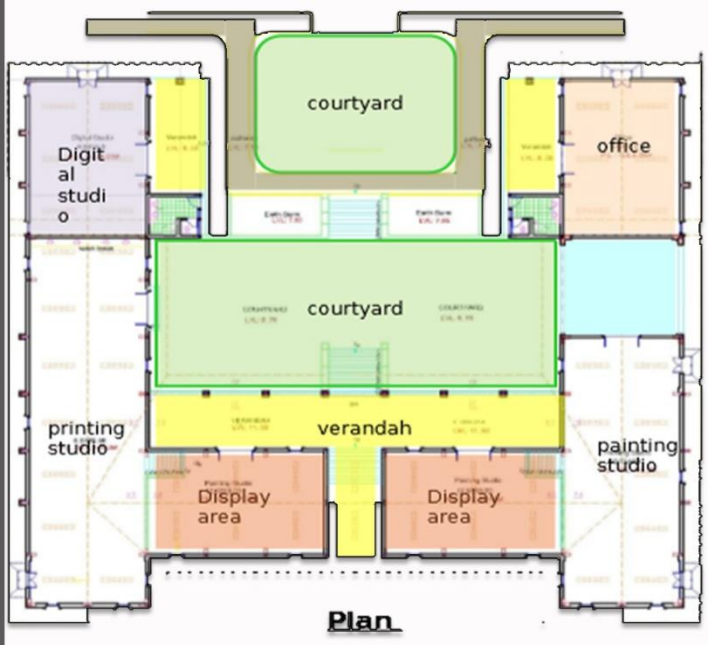
A SLIGHT HISTORICAL REFERENE, USE OF SOME ELEMENTS OF STYLE OF BADODA , INDO SARACENIC ARCHITECTURE AND BRICK ARCHITECTURE.

EXAMPLES OF INDO SARACEMIC ARCHITECTURE IN BADODA

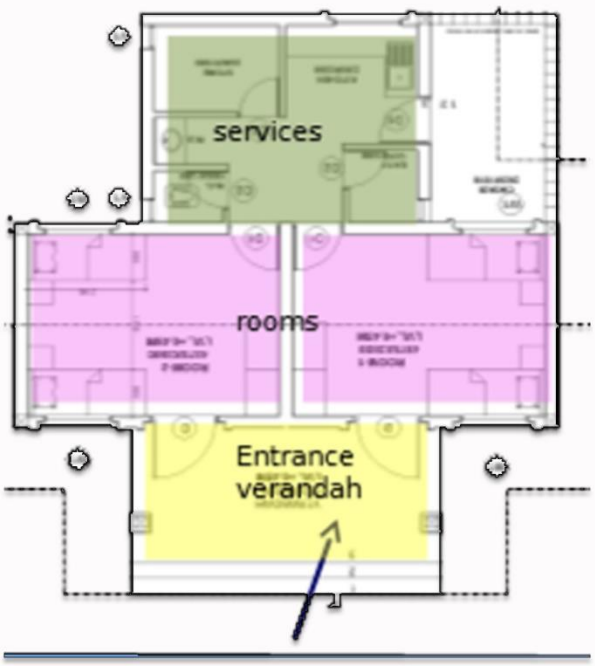
AREA DISTRIBUTION



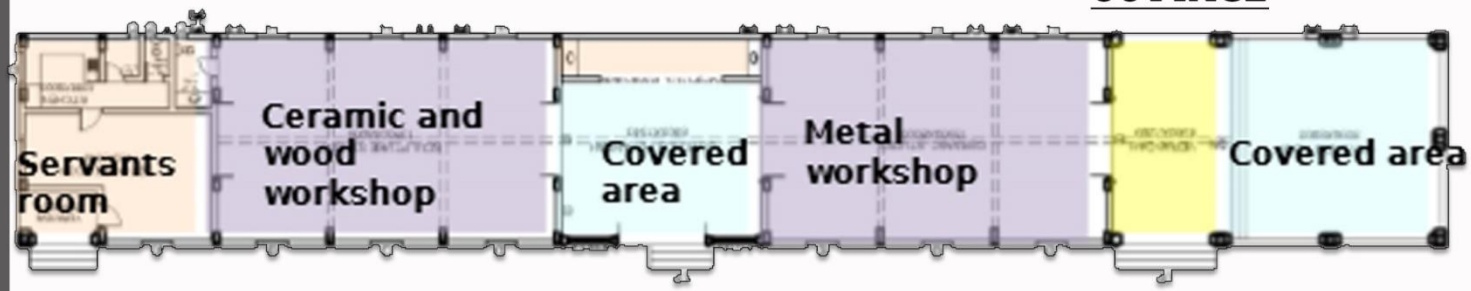
PLANS



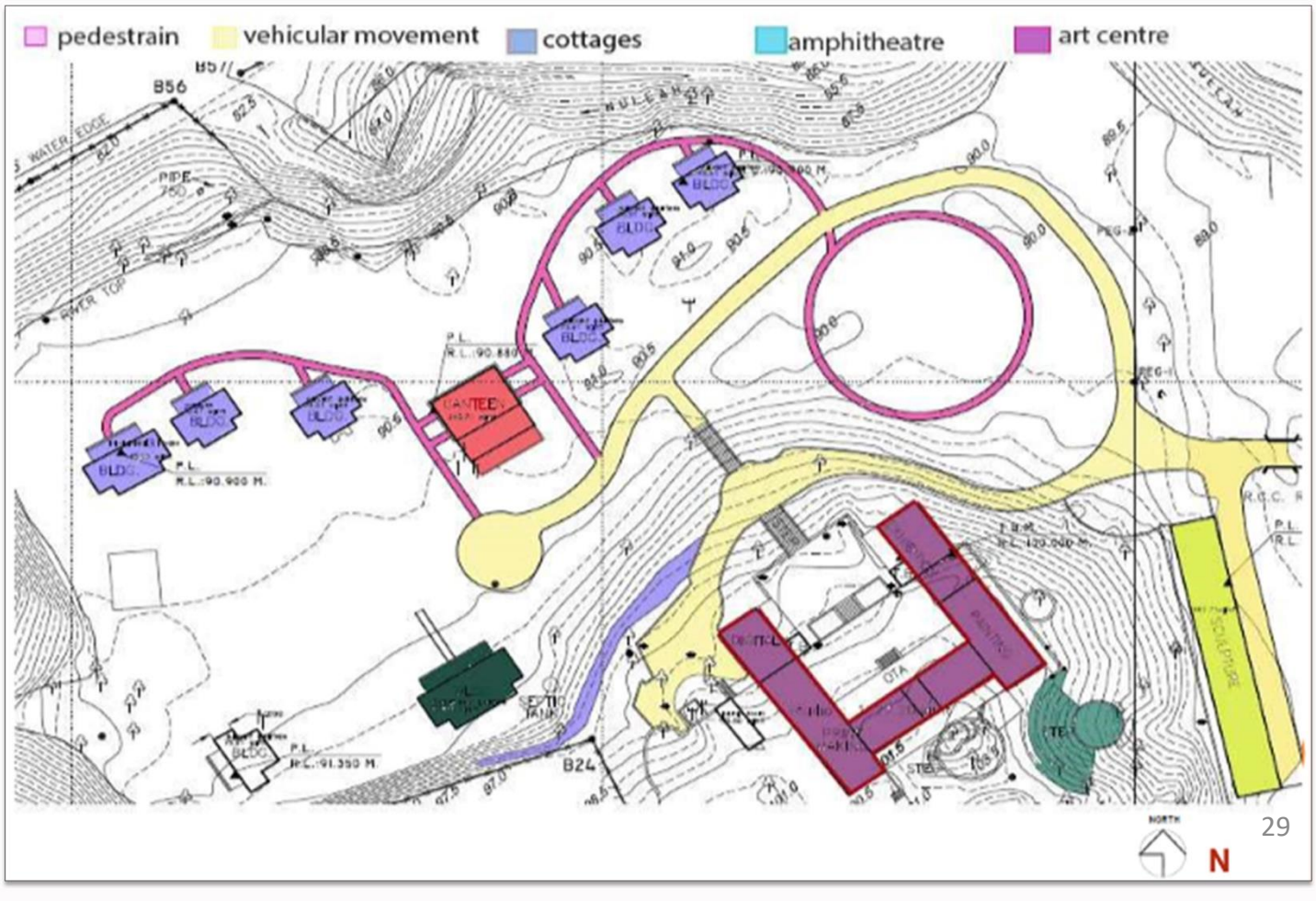
ART CENTRE



COTTAGE



WORKSHOP



COMPARATIVE ANALYSIS OF CASE STUDIES

	CASE STUDY 1	CASE STUDY 2
• LOCATION	• NH-8, DELHI- JAIPUR HIGHWAY, BEHROR CITY	ANANDGRAM,N. DELHI
• CLIMATE	• HOT SEMI ARID	COMPOSITE
• SITE AREA	• 10 ACRES	3.9 ACRE
• TOPOGRAPHY	• PLAIN SITE	PLAIN SITE
• ARCHITECT	• AR. DEBASHISH SAHA , AR.BHUPENDRA KUMAR, AR. ASHOK KUMAR	AR.UPPAL GHOSH
• CONCEPT	• CREATING PLACE FOR TRAVELLERS AND TOURISTS FOR	TO ACCOMODATE VARIOUS ACTIVITIES
• ZONING	RELAXATION AFTER TIRING JOURNEY FROM DELHI TO JAIPUR	
• ACCOMMODATION	• BIFURCATED INTO TWO DISTINCT BLOCK WITH SIMILAR ARCHITECTURAL VOCABULARY	1.MUSEUM 2.GAON 3.AMPITHEATRE 4.VARIOUS GALLERIES

COMPARATIVE ANALYSIS OF LITERATURE STUDIES

	LITERATURE STUDY-1	LITERATURE STUDY 2
• LOCATION	HAMRAPUR,PALGHAR	JASPUR
• CLIMATE	COMPOSITE	COMPOSITE
• SITE AREA	70 ACRES	80 ACRE
• TOPOGRAPHY	PLAIN SITE	CONTOUR SITE
• ARCHITECT		AR. KARAN GROVER
• CONCEPT	SUSTAINABILITY COMUUNITY MODEL	TO ACCOMODATE VARIOUS ACTIVITIES
• ZONING	TO REDUCE THE OVERALL CARBON FOOTPRINY	
• ACCOMMODATION	1.GAUSHALA 2.SEWAGE WATER TREATMENT PLANT 3.ADMIN BLOCK 4.MEDITATION CENTRE	1.MUSEUM 2.GAON 3.AMPITHEATRE 4.VARIOUS GALLERIES 5.WORKSHOP 6.ADMIN BLOCK

INFERENCES

Building exhibits a perfect example of an environment suitable for a cultural setting.

A building designed in the landscape, with the built form complementing the natural landform.

Spaces are well articulated and the movement pattern provides a good experience to the visitors as he walks from open to sky to semi-covered courts and finally into a covered space.

The building holds a deserted look as the craftsmen are not generally seen at work. One would say that all the environment lacks are the people.

People hold a lot of importance; their presence not only enhances the festive environment but also encourages the craftsmen displaying the work.

6.1.2. Market Area

There is dense market area. The already built up area in Nadaun market can be considered for in situ re-development. There won't be any consideration for set backs in market, but height would be restricted to 12.00 Metres only.

6.1.3. Tourism Units, Lodges, Hostels, Guest Houses

(i)	Minimum Plot Area	500 M^2
(ii)	Maximum Ground Coverage	50%
(iii)	Floor Area Ratio (FAR)	2.00
(iv)	Maximum Height	21.00 Metres

Note:- 10% of the FAR can be used as commercial space/ convenient shopping.

Risk Based Classification of Buildings

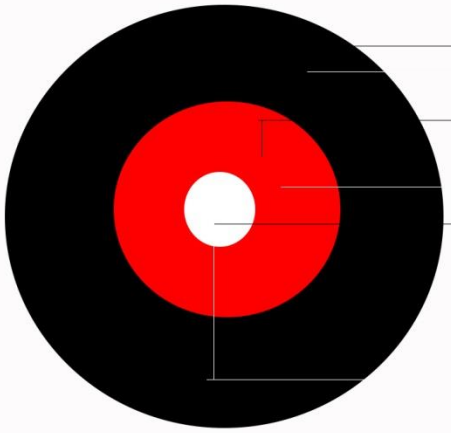
Sr. No.	Risk	Buildings	Planning Permission Time
1	2	3	4
1.		**Residential Buildings**	
(a)	High	Group Housing Schemes, above 3 Storey buildings, buildings on slopes more than 30°, any building raised on landfill, reclaimed land, buildings 2.00 M above the Highest Flood Level (HFL) upto a distance of 10.00 Metre, buildings with communication towers and buildings falling under the corridor of HT/LT lines.	Within 60 days.
(b)	Moderate	All 2-3 storey buildings, buildings on slopes above 15° and upto 30°.	Within 30 days.
(c)	Low	Single Storey Buildings Constructed On Slope Less than 15°.	Within 20 days.
2.		**Commercial Buildings**	
(a)	High	Commercial Shopping Complexes, Multiplexes, Tourism Units, Marriage palaces, Automobile Showrooms, any building raised on landfill, reclaimed land, buildings within the minimum setback from HFL as prescribed in respective DPs, buildings with communication towers and buildings falling under the corridor of HT/LT lines.	Within 60 days.
(b)	Moderate	Double storey shops	Within 30 days.
(c)	Low	Single storey shops	Within 20 days.
3.		**Industrial Buildings**	
(a)	High	Buildings above two storeys, any building above 10	Within 60 days.

TO UNIFY THE DIVERSITY OF CREATIVITY

AS A ARCHITECT, YOU DESIGN FO THE PRESENT, WITH AN AWARENESS OF THE PAST, FOR A FUTURE WHICH IS ESENTIALLY UNKNOWN-NORMAN FOSTER

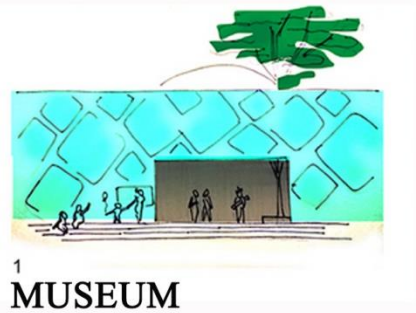
1.PAST
2.PRESENT
3.FUTURE

DIVISION OF BLOCKS



2

AMPITHEATRE



1

MUSEUM

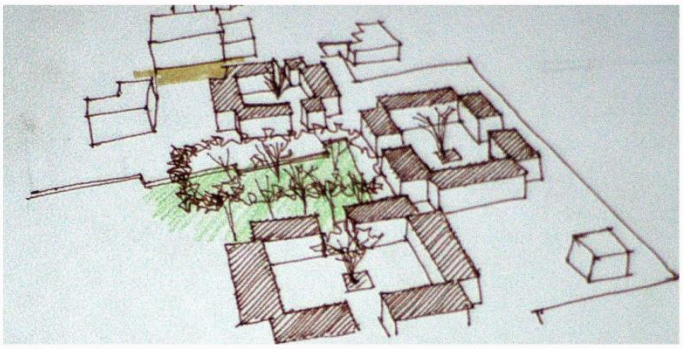
3

ADMIN BLOCK

5

O.A.T

CONCEPTUAL VIEW



CONCEPTUAL SKETCHES

OUTER ZONE

NEW INFRASTRUCTURE ZONE-
CONTAIN
MARKET AREA
FOOD COURT
TOURIST'S OTHER NEEDS

MIDDLE ZONE

NATIVE'S ZONE

COTTAGES
HUTS FOR PICNIC
EXIBITION GALLERY

INNER ZONE

IGH VALUE ZONE(HERITAGE
CONSERVATION)

MUSEUM
WORKSHOP ACTIVITIES
DORMITORIES

AREA STATEMENT

1.ADMINISTRATIVE OFFICE+GAMING CENTRE	
A) ACCOUNT OFFICE	12 SQ.M
B) MANAGER ROOM	16 SQ.M
C) HR ROOM	12 SQ.M
D) RECORD ROOM	12 SQ.M
E) TOURIST INFORMATION CENTRE	9 SQ.M
F) PANTRY+ STAFF DINING	20 SQ.M
G)STAIRCASE	36 SQ.M
H)TOILET(M/F)	54 SQ.M
I)CABINS (11)	72 SQ.M
GAMING CENTRE	72 SQ.M
TOTAL AREA WITH CIRCULATION	500SQ.M
2) COTTAGE 1 (30)	1500 SQ.M
3) DUPLEX COTTAGES (6)	1200 SQ.M
4) FAMILY COTTAGES (6)	720 SQ.M
5) ARTIST COTTAGES (4)	320 SQ.M
6) SPA	272 SQ.M
7) LIBRARAY	400 SQ.M
8) CANTEEN	600 SQ.M
9) EXHIBITION GALLERY	900 SQ.M

FRAMED REQUIREMENT		UNIT/PERSON	TOTAL AREA (SQ)
1) ADMINISTRATION BLOCK	40 PEOPLE		
	RECEPTION + FOYER		50 SQ.MT
	MANAGER ROOM	1	16 SQ.MT
	ASS. MANAGER ROOM	1	16 SQ.MT
	RECORD ROOM	1	12 SQ.MT
	ACCOUNT ROOM	1	12 SQ.MT
	CONFERENCE ROOM	20	60 SQ.MT
	PANTRY	1	12 SQ.MT
	STORE ROOM		
	TOILETS	2 (7)	14 SQ.MT
	VIP LOUNGE		20 SQ.MT
	WAITING		30 SQ.MT
	CIRCULATION SPACE 30%		242 + 72.6
			314 SQ.MT
2) O.A.T.	200 PEOPLE		
	SEATING	200 X 1.2	240 SQ.MT
	GREEN ROOMS	2 (12)	24 SQ.MT
	TOILETS	8 (3.5)	28 SQ.MT
			292 SQ.MT
3) CRAFT SHOPS	60 SHOPS		
	PERMANENT SHOPS	40 (25)	1000
	TEMPORARY SHOPS	20 (12)	240
			1000 SQ.MT
4) RECREATIONAL AREA			
	CIRCULATION SPACE	250 X 30 / 100	325 SQ.MT
5) LIBRARY	50 PEOPLE		
	READING AREA	50 (2.5)	125 SQ.MT
	RECEPTION	1	50 SQ.MT
	STAFF SEATING	1	20 SQ.MT
	PHOTO-STAT SHOP	1	9 SQ.MT
	CIRCULATION SPACE		265.2 SQ.MT

FRAMED REQUIREMENT		UNIT/PERSON	TOTAL AREA (SQ)
6) MUSEUM	500 PEOPLE		
	PRESERVATION ROOM	1	30 SQ.MT
	GALLERIES		1000 SQ.MT
	CLOAK ROOM	1	9 SQ.MT
	CIRCULATION		7
			1350 SQ.MT
7) TOURIST INFORMATION CENTRE			
	WAITING LOUNGE/DISPLAY	1	50 SQ.MT
	ADMIN	1	50 SQ.MT
	BOOKSHOP	1	30 SQ.MT
	MARKETING OFFICER	1	15 SQ.MT
	CAFE SHOP	1	15 SQ.MT
	CIRCULATION		160 SQ.MT
8) SERVANT'S HEADQUARTER		20 (9)	180 SQ.MT
9) INFIRMARY		1	15 SQ.MT
10) RESTAURENT			
	200 PEOPLE	200 (1.5)	300 SQ.MT
	50 (OPEN SITTING)	50 (1.5)	75 SQ.MT
			375 SQ.MT
11) FOOD COURT		100 (1.5)	150 SQ.MT
			150 SQ.MT
12) ART GALLERY			1000 SQ.MT

THESIS GUIDE
AR. MOHIT SACHAN

THESIS BY:-
SONYA

13) TICKET COUNTER			9 SQ.MT
	GUARD ROOM	1	4 SQ.MT
	SECURITY CHECK	1	4 SQ.MT
	CLOAK ROOM	1	9 SQ.MT
			26 SQ.MT
14) MULTIPURPOSE HALL:-		1	250 SQ.MT
15) CRAFT DEMONSTRATION AREA			1000 SQ.MT

16) DORMITORIES, GUEST ROOMS:-	50 ARTISTS		
		50 (13.93)	696.75
17) WORKSHOP	50 PEOPLE	50 (7)	350 SQ.MT
18) COTTAGES	500 PEOPLE	12.5 (500)	6250 SQ.MT
19) HUTS FOR PICNIC	10 HUTS	10 (8)	80 SQ.MT

PLOT AREA = 8.3 ACRE
= 8.3 X 4046 M^2
= 33581.8 M^2

GROUND COVERAGE = 50%

FLOOR AREA RATIO = 2

MAX. GROUND COVERAGE = 16790.9

MAX. HEIGHT = 21 METERS

ACHIEVED GROUND COVERAGE = 42%

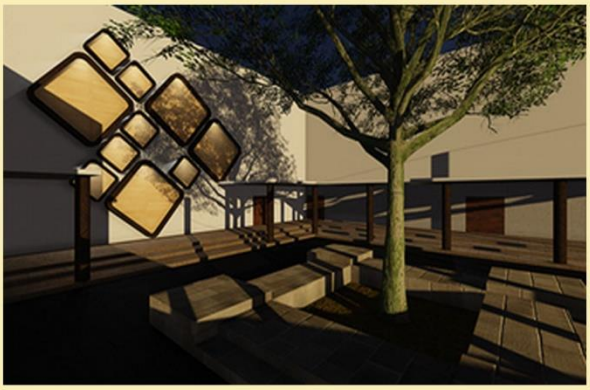
HENCE ACHIEVED F.A.R = TOTAL BUILT UP / GROUND COVERAGE
= 14152 / 10074
= 1.404

PARKING AREA:-

2 ECS / 100 SQ.MT

PARKING @ 50 M^2/ECS = 14152.9 / 50 ⇒ 283.05
= 283 CARS (ECS)

LANDSCAPING

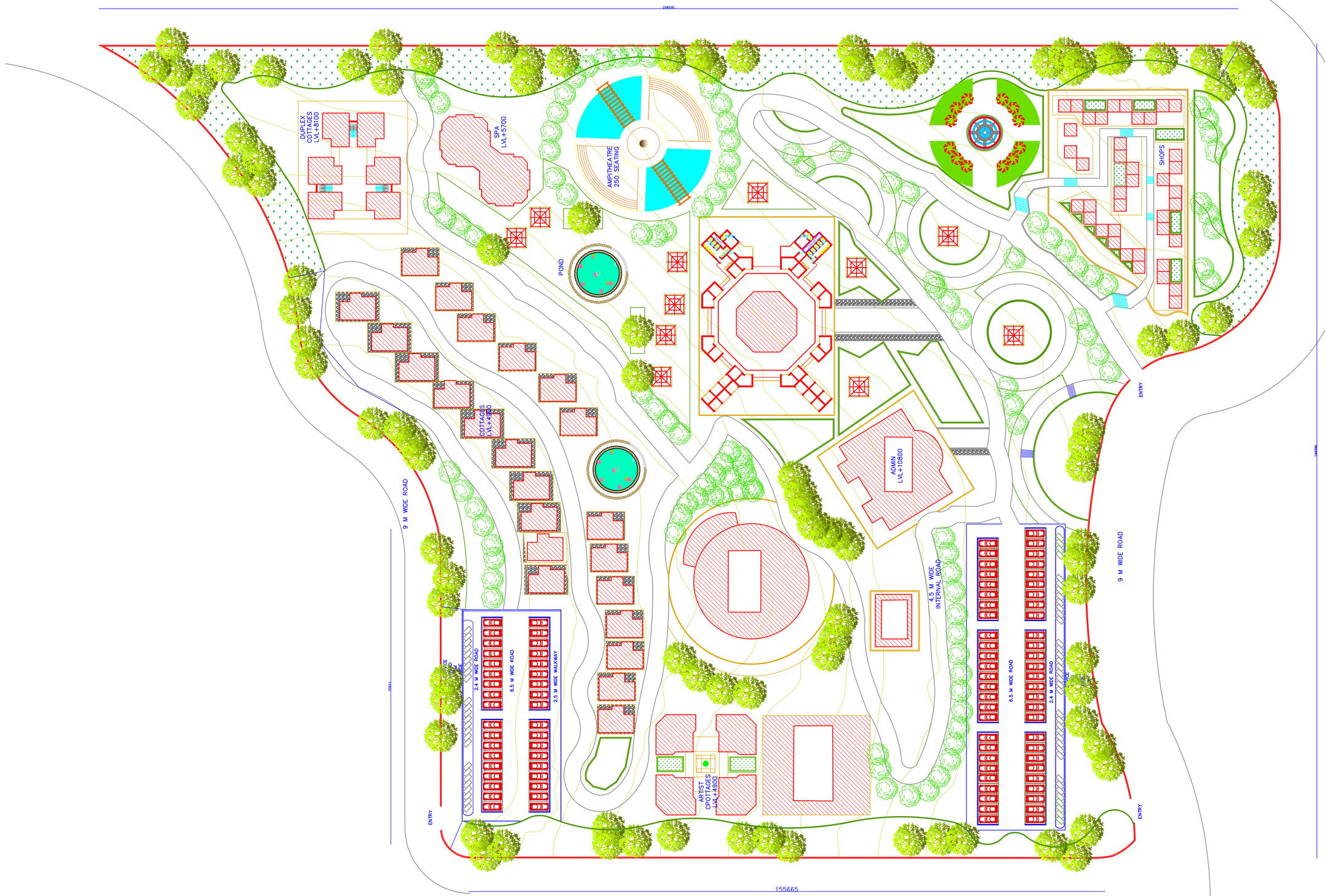


COURTYARD

AMPITEATRE

MUSEUM

SITE PLAN

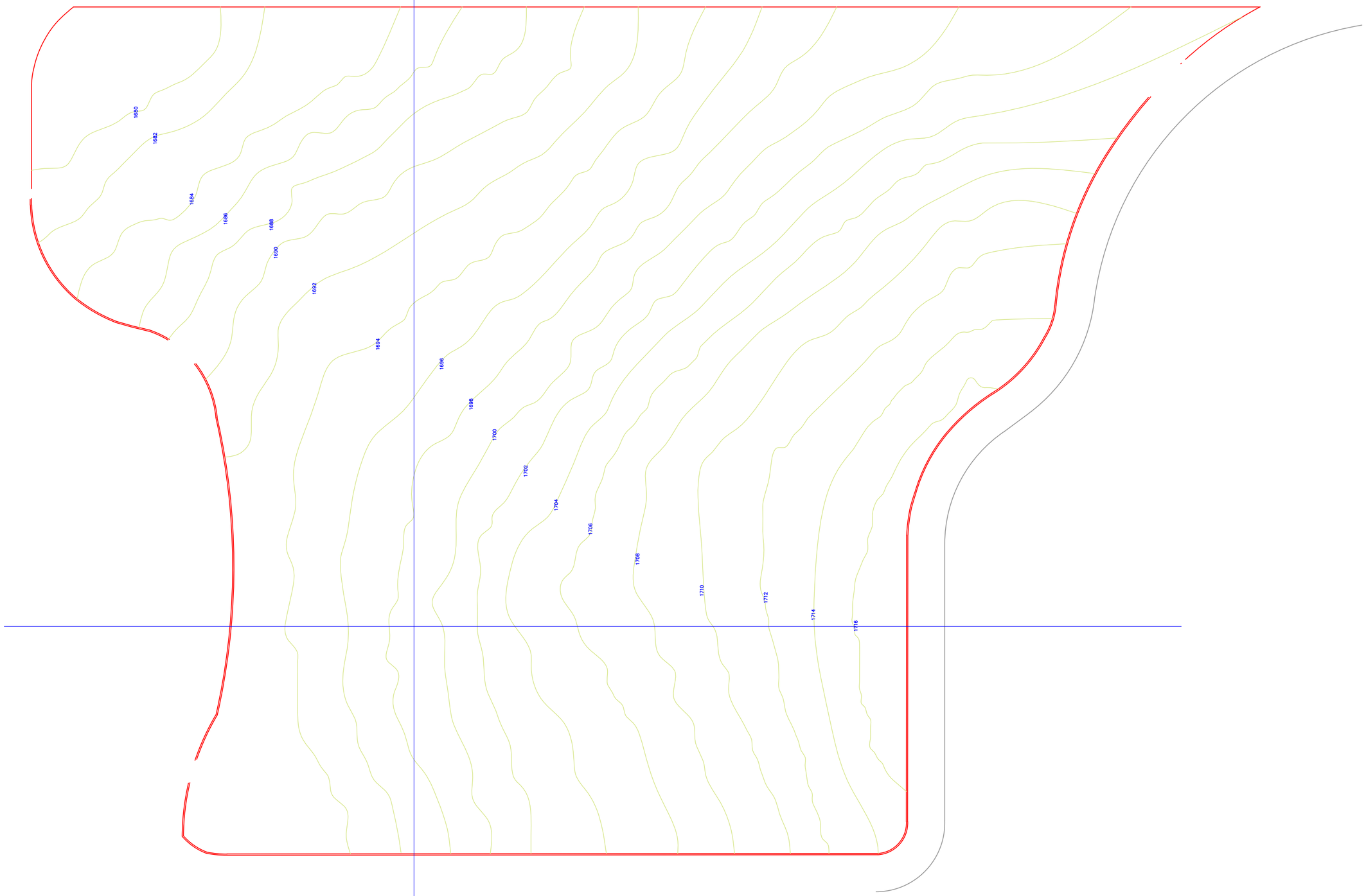


PROJECT:-

ECOVILLAGE(AN ECOTOURISM HUB)
DHARAMSHALA, HIMACHAL PRADESH

SUB. BY:-	NORTH:-
SOMYA	
B. ARCH 5TH YEAR (10th SEM)	DATE:-
THESIS 2019-20	UNIT:- MM
SCHOOL OF ARCH AND PLANNING	SCALE:- 1:100
BBDU	

CONTOUR PLAN



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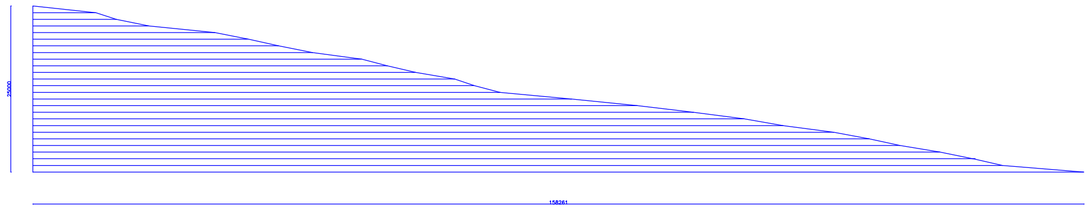
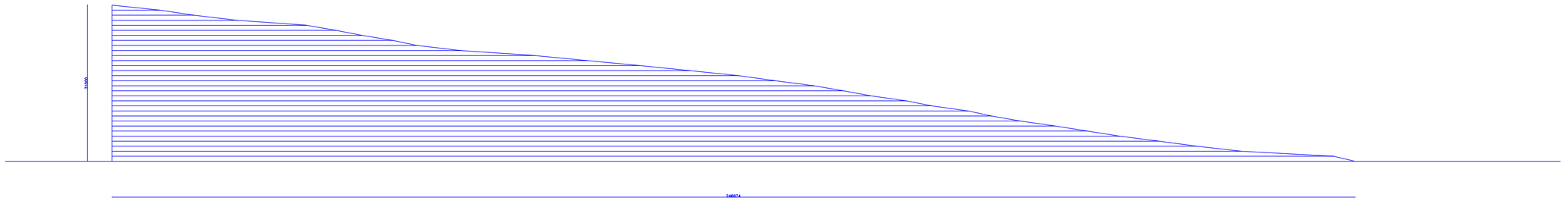
BBDU	

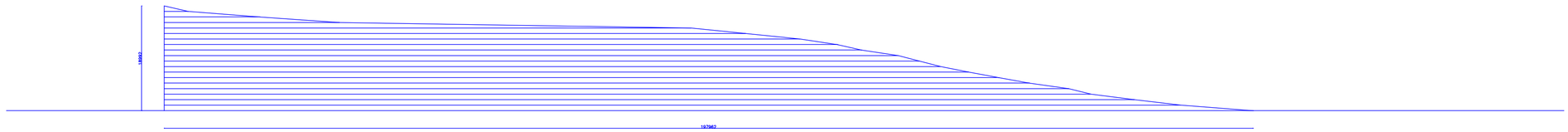
DATE:-

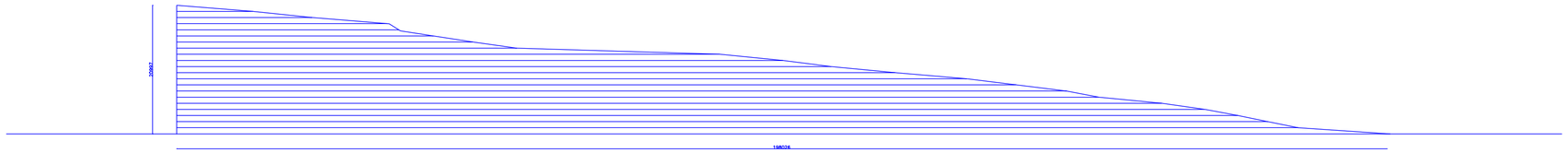
UNIT:- MM

SCALE:- 1:100









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ECOVILLAGE(AN ECOTOURISM HUB) DHARAMSHALA, HIMACHAL PRADESH

SUB. BY:-

SOMYA

B. ARCH 5TH YEAR (10th SEM)

THESIS 2019-20

SCHOOL OF ARCH AND PLANNING

BBDU

NORTH:-

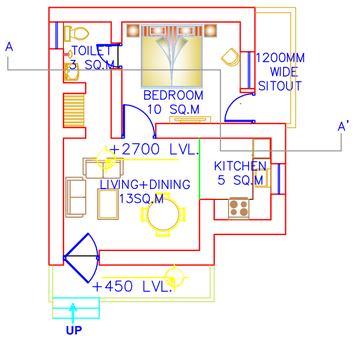
DATE:-

UNIT:- MM

SCALE:-

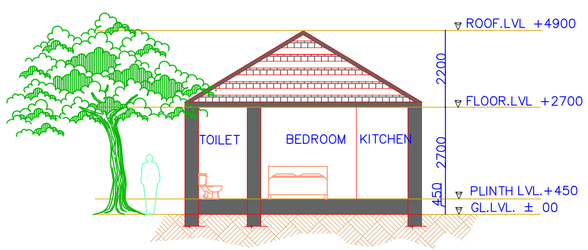
1:100

COTTAGE 1



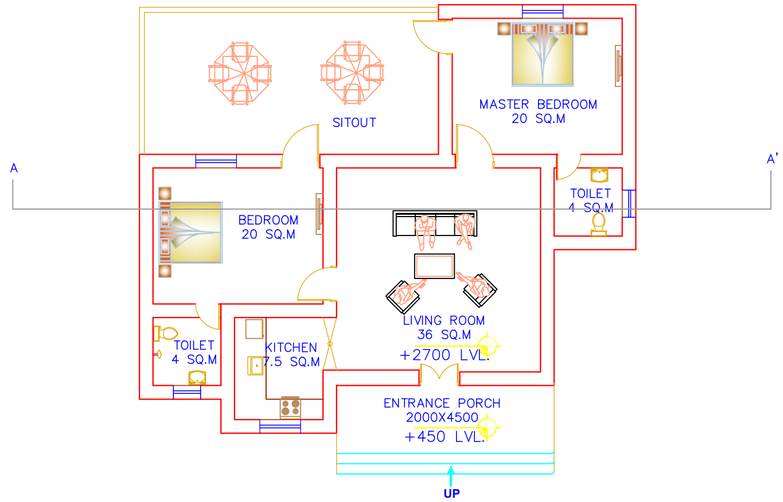
FLOOR PLAN

ELEVATION



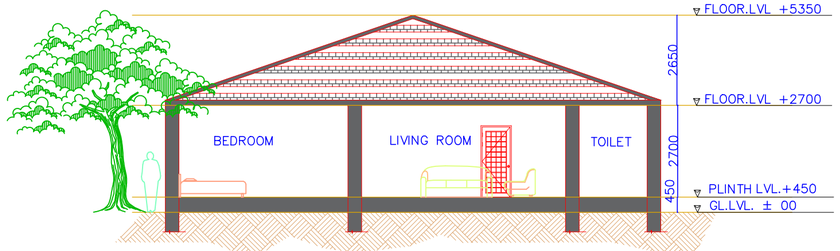
SECTION AT AA'

FAMILY COTTAGE



FLOOR PLAN

ELEVATION



SECTION AT AA'

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ECOVILLAGE(AN ECOTOURISM HUB)
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SCHOOL OF ARCH AND PLANNING
BBDU

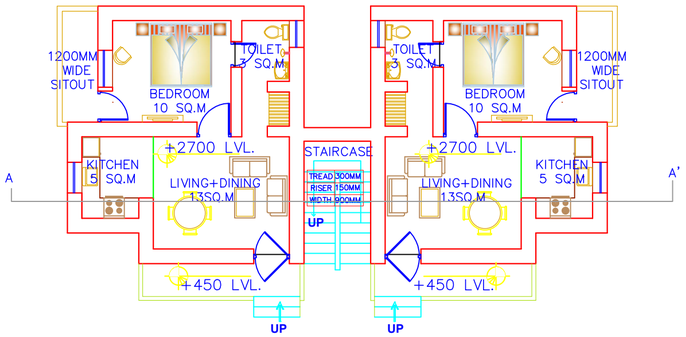
NORTH:-

DATE:-

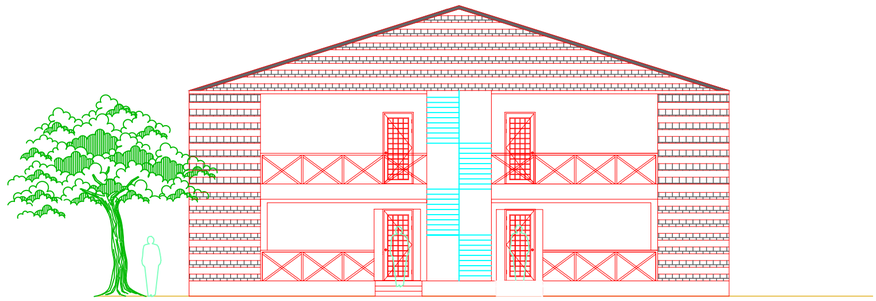
UNIT:- MM

SCALE:-
1:100

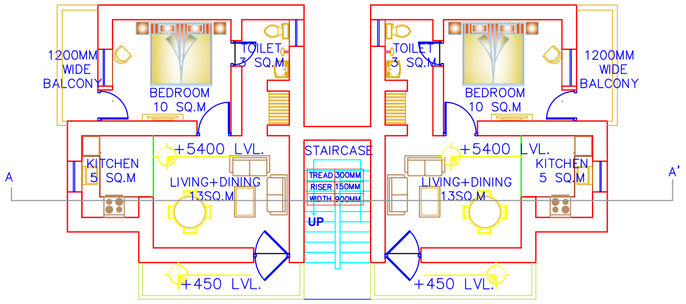
DUPLEX COTTAGE



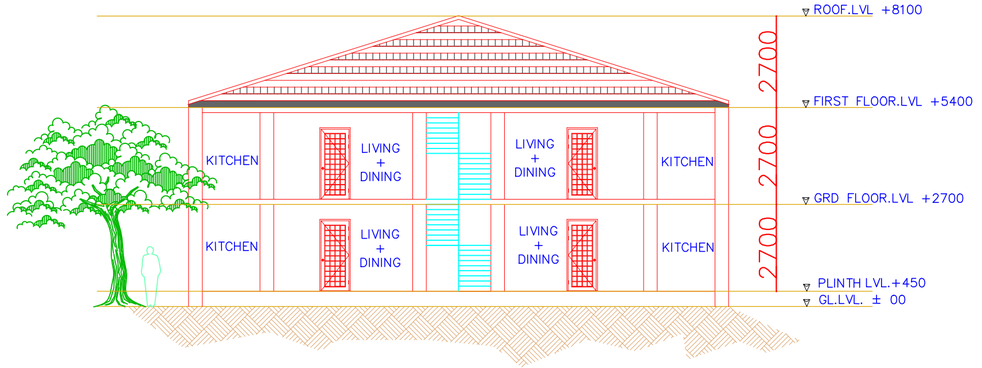
FLOOR PLAN (GROUND FLOOR)



ELEVATION



FIRST FLOOR



SECTION AT AA'

PROJECT:-

ECOVILLAGE(AN ECOTOURISM HUB) DHARAMSHALA, HIMACHAL PRADESH

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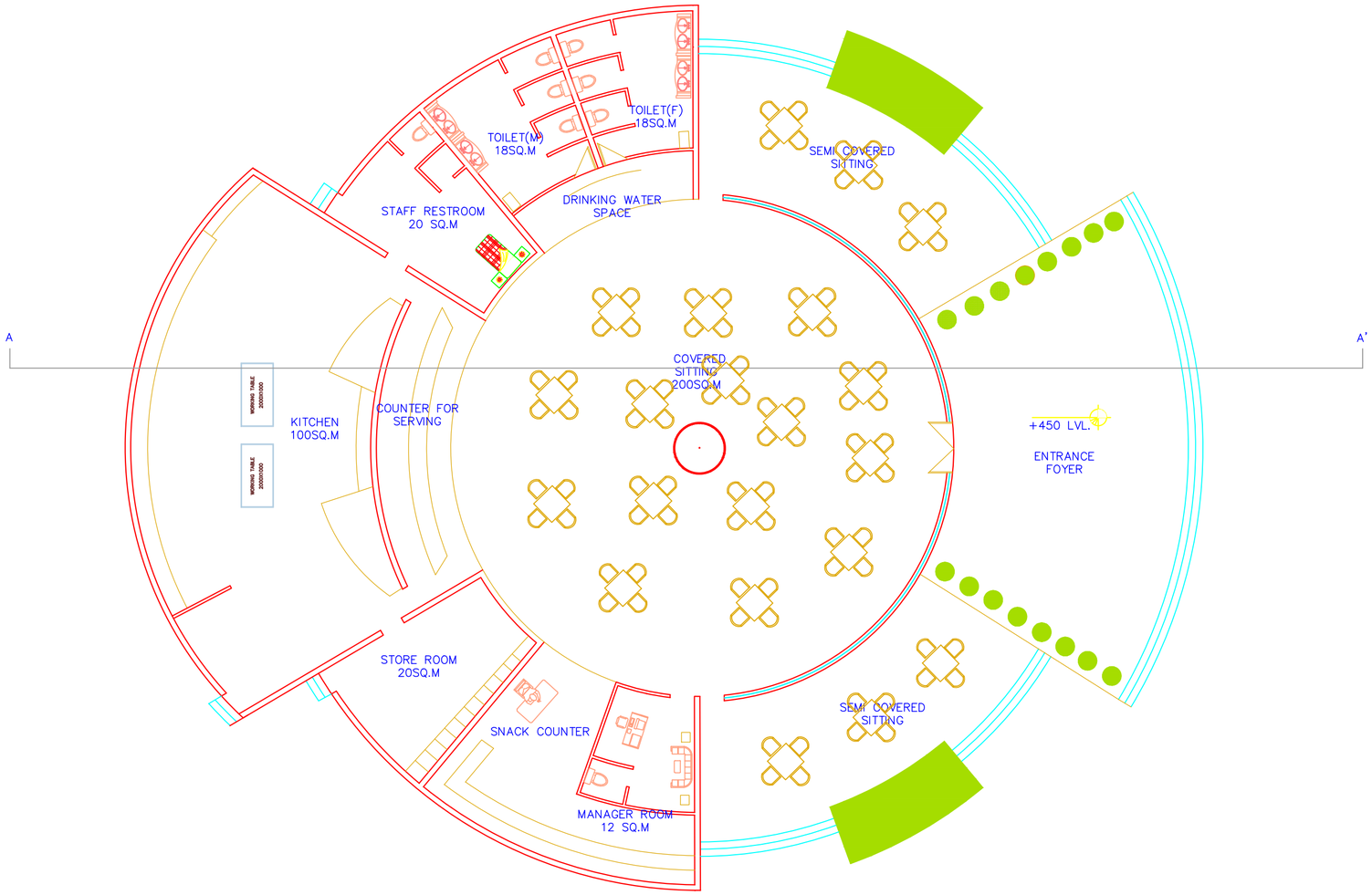
THESIS 2019-20		
SCHOOL OF ARCH AND PLANNING		SCALE:- 1:100
BBDU		

CANTEEN
SEATING 250 PEOPLE



FLOOR PLAN

PROJECT:-

ECOVILLAGE(AN ECOTOURISM HUB)
DHARAMSHALA, HIMACHAL PRADESH

SUB. BY:-

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B. ARCH 5TH YEAR (10th SEM)

THESIS 2019-20

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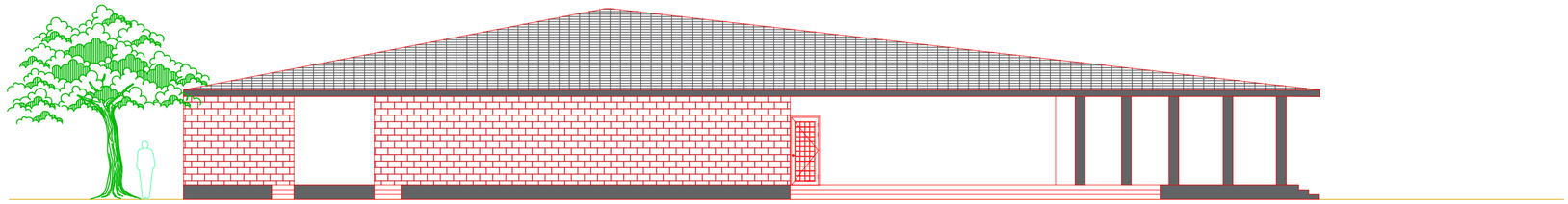
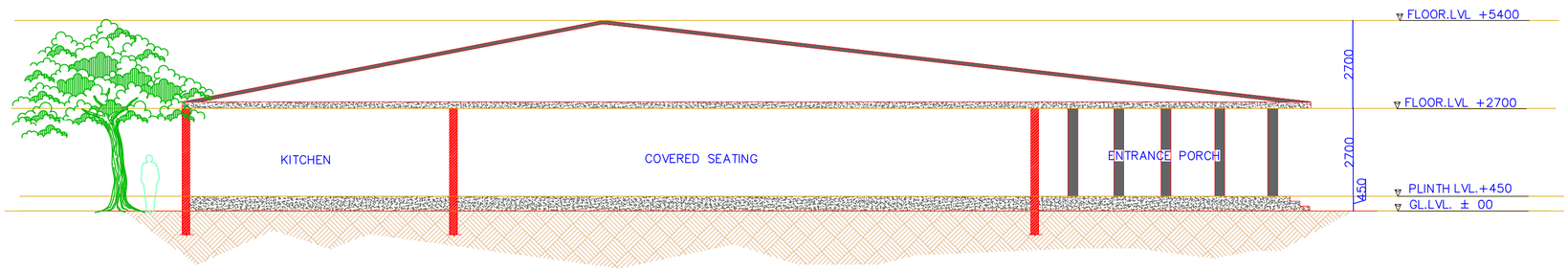


ELEVATION



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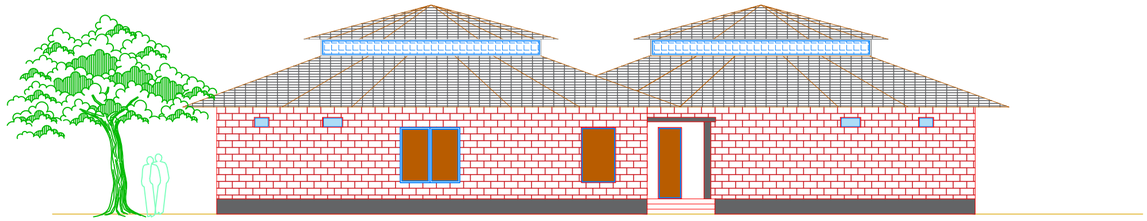
BBDU	

DATE:-

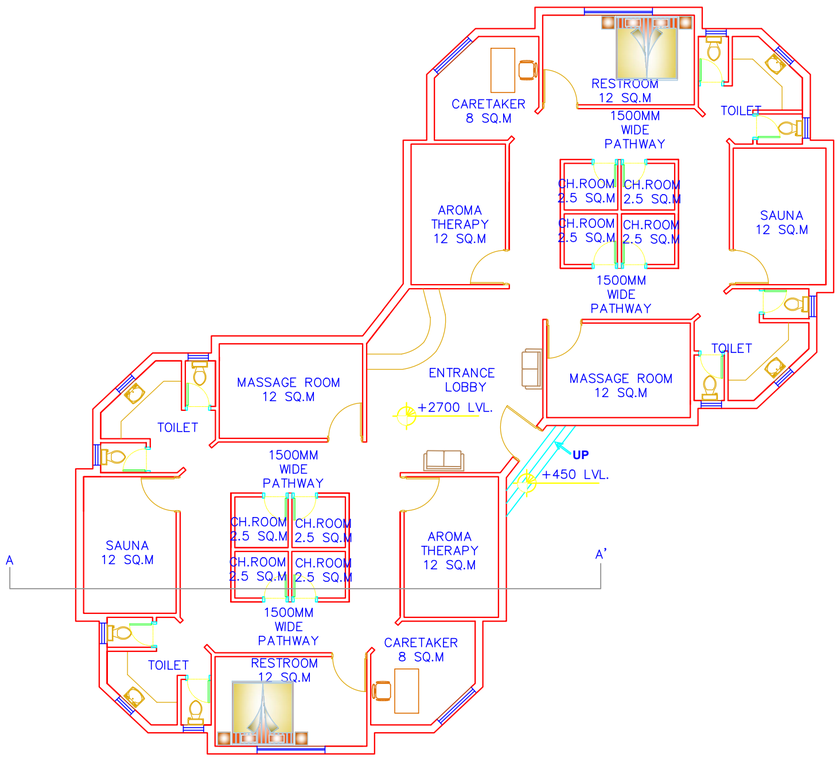
UNIT:- MM

SCALE:- 1:100

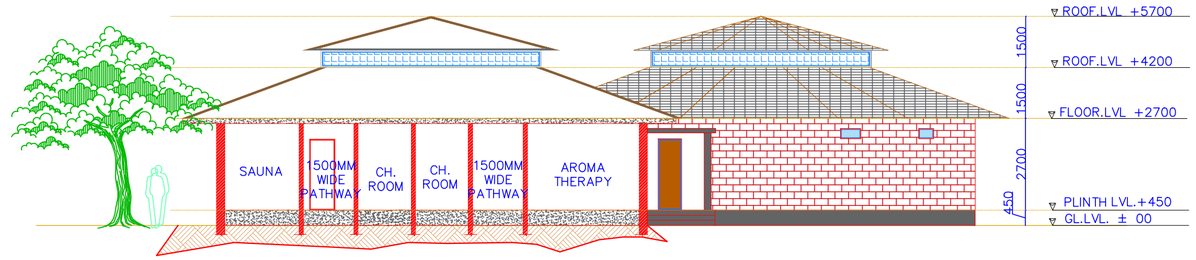
SPA



ELEVATION



FLOOR PLAN



SECTION AT AA'

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BBDU

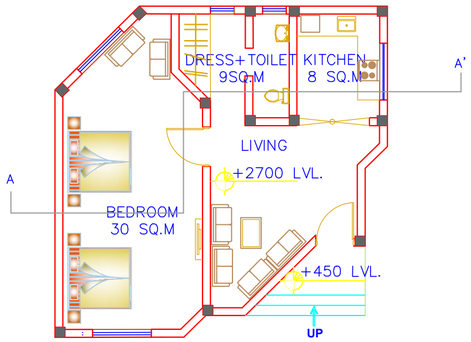
NORTH:-

DATE:-

UNIT:- MM

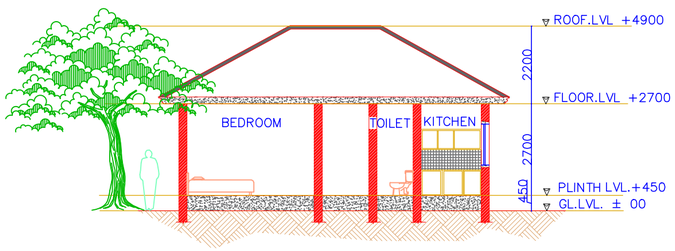
SCALE:-
1:100

ARTIST COTTAGE

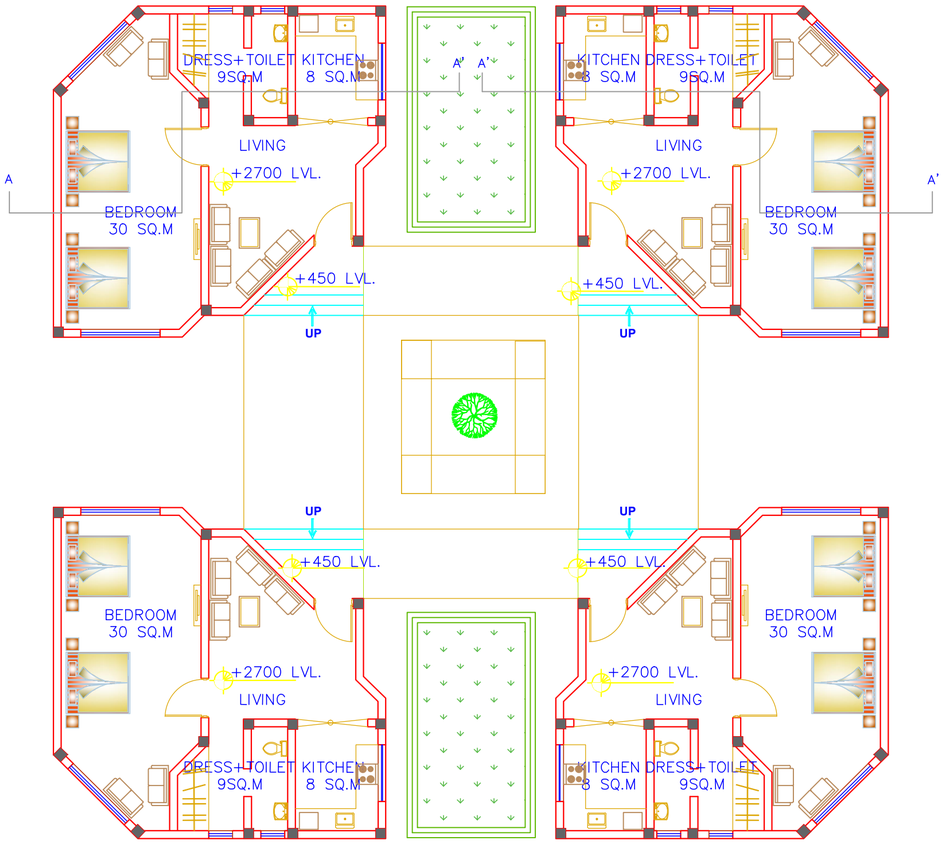


FLOOR PLAN

ELEVATION



SECTION AT AA'



FLOOR PLAN

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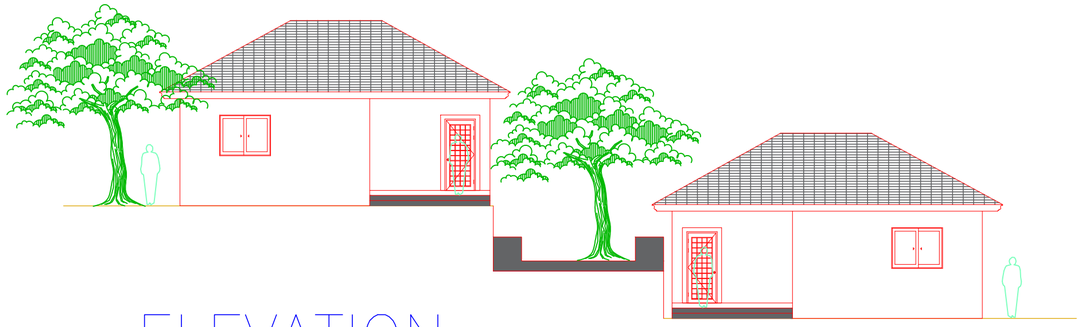
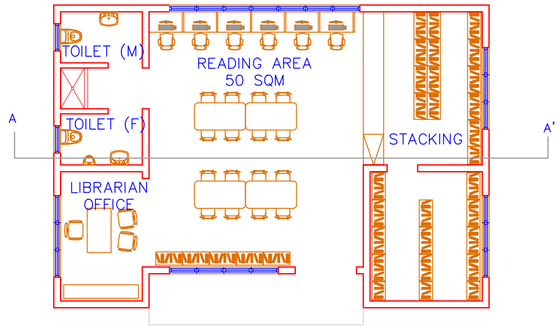
SCALE:-
1:100

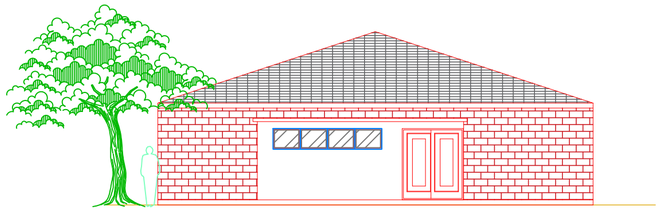
LIBRARY BLOCK

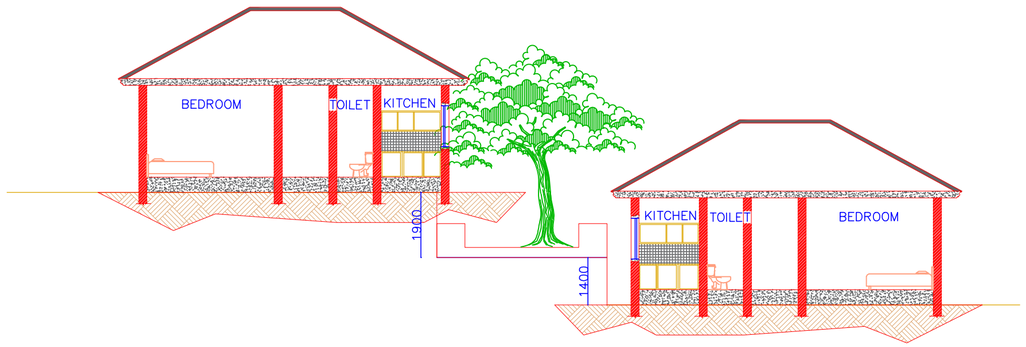


ELEVATION



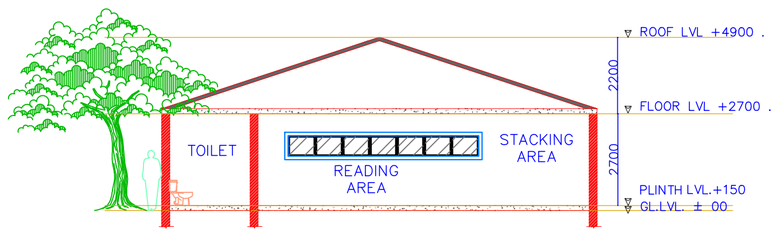
FLOOR PLAN





SECTION AT AA'

ELEVATION



SECTION

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THESIS 2019-20

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NORTH:-

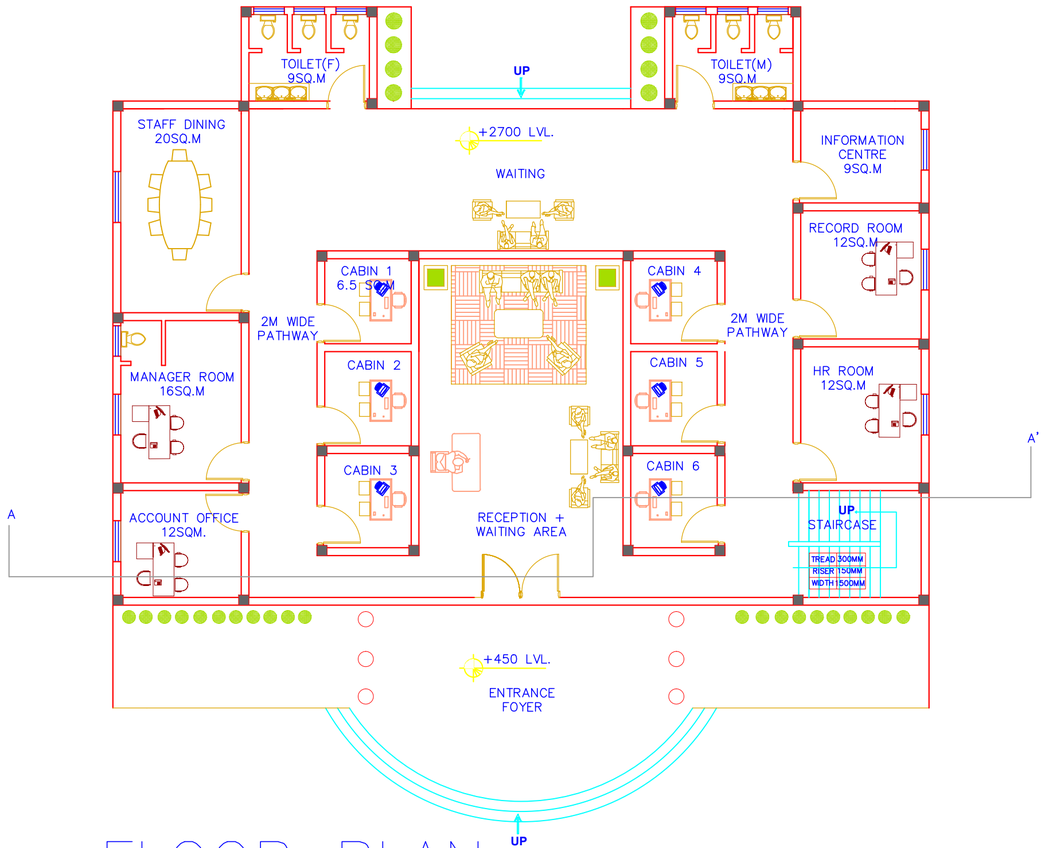
DATE:-

UNIT:- MM

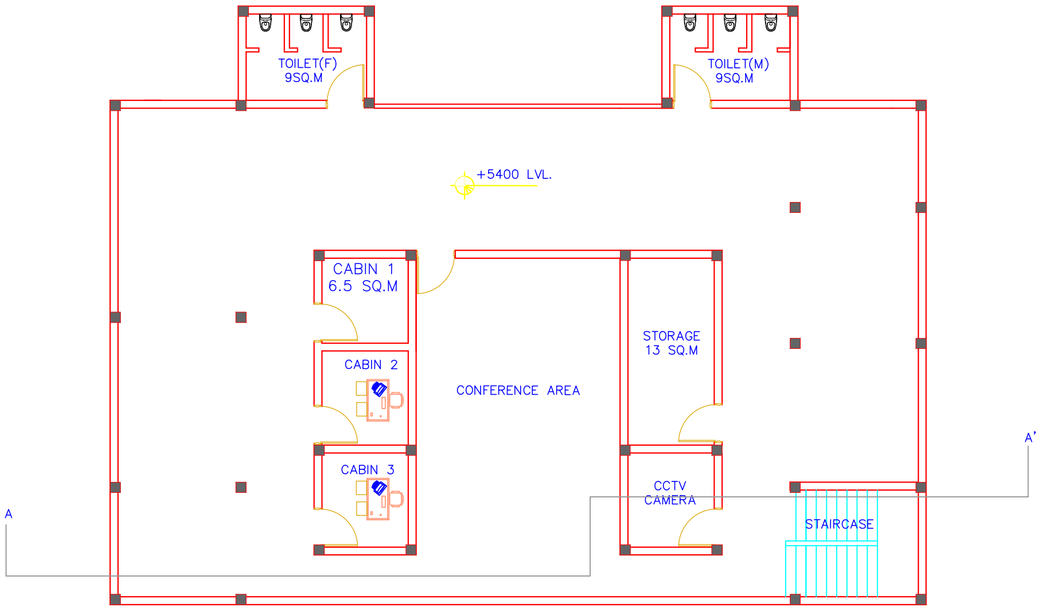
SCALE:-

1:100

ADMIN



FLOOR PLAN (GROUND FLOOR)



FIRST FLOOR PLAN

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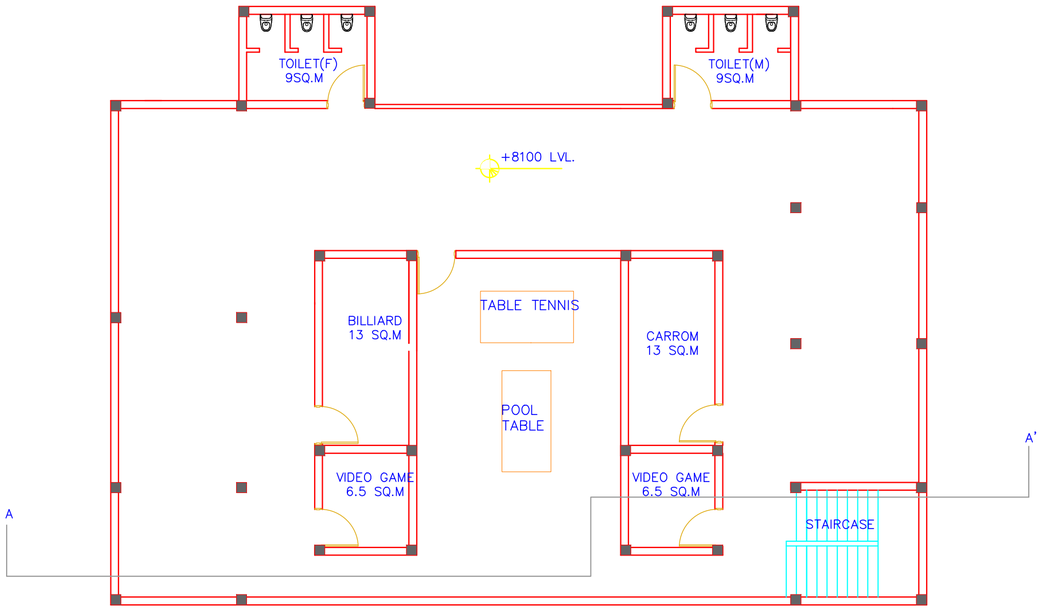
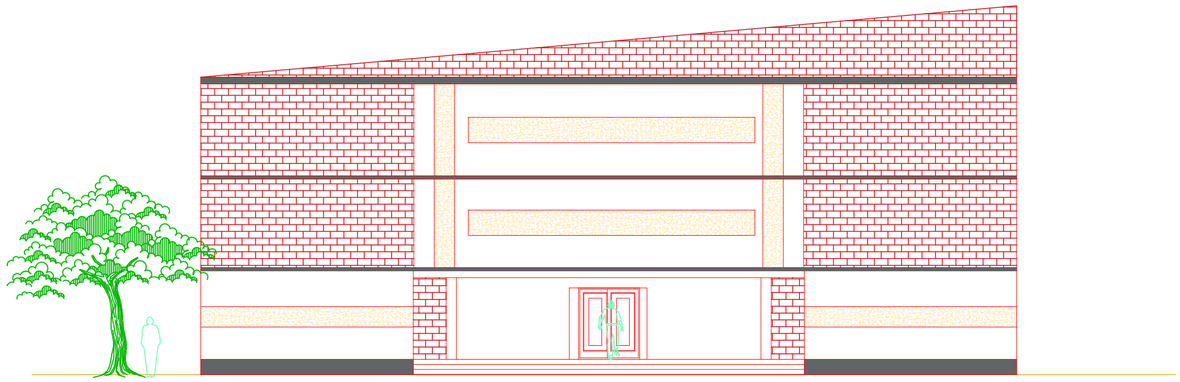
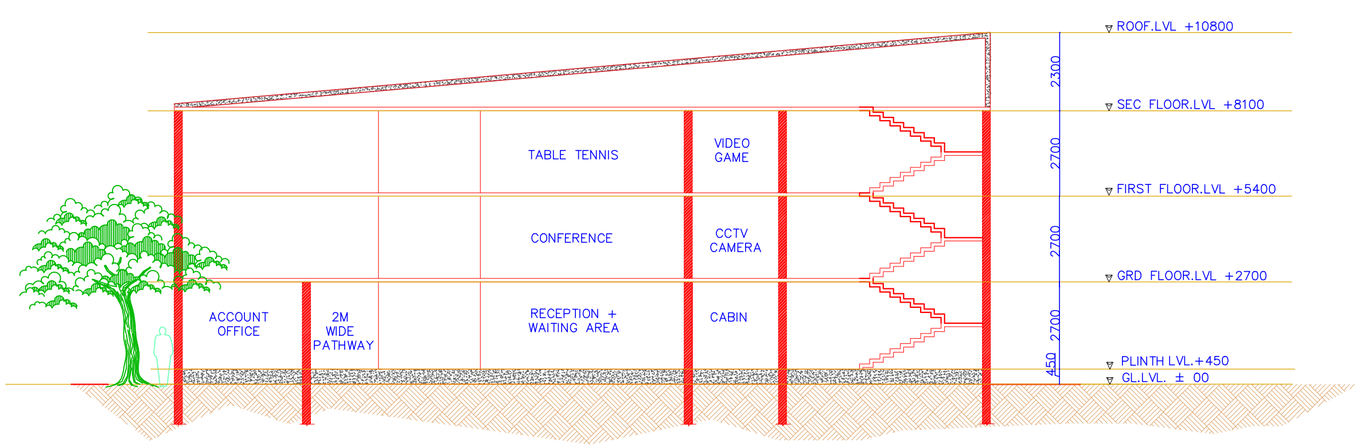
BBDU		



SECOND FLOOR PLAN



ELEVATION



SECTION AT AA'

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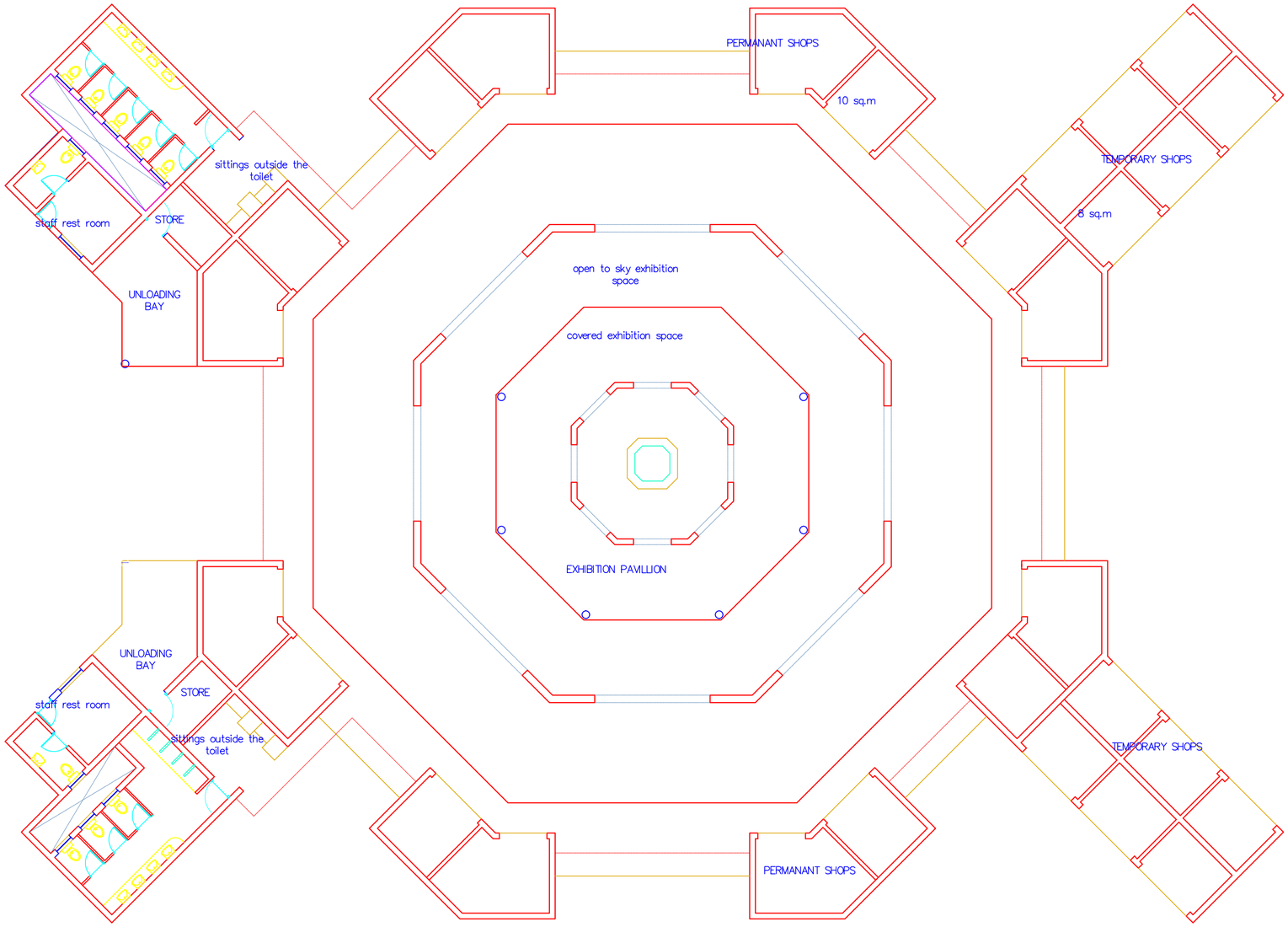
EXHIBITION



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UNIT:- MM

SCALE:-
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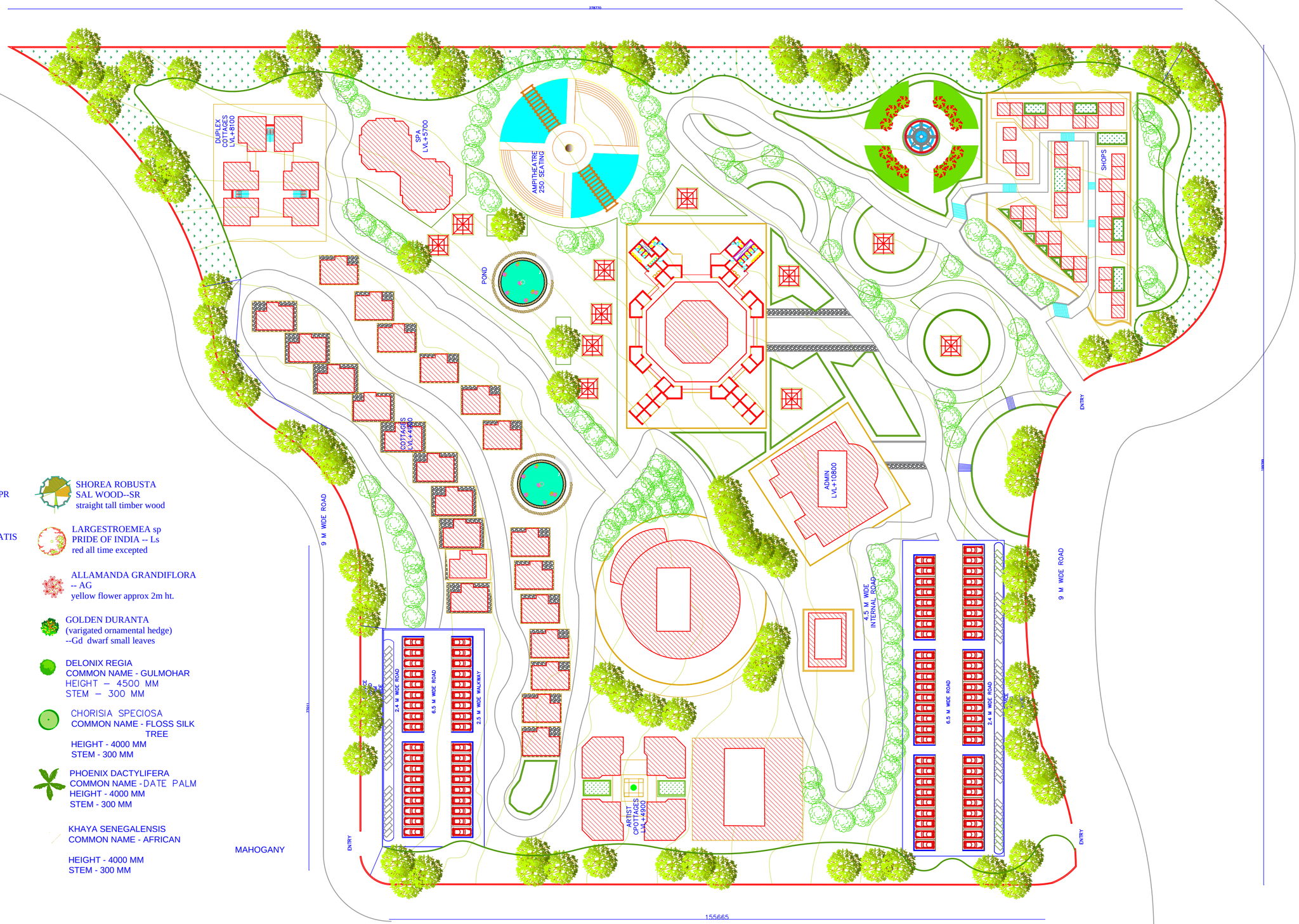
LANDSCAPE



PELTOPHORUM INERMI
YELLOW GULMOHAR --PR
EG dense foliage,tall heavy
yellow flowering.

CALLISTEMON LANCEO LATIS
BOTTLE BRUSH - CL
droppping habit,red/golden
flower.

PLUMERIA ALBARUBRA
PAGODA TREE --PA
sculptural form white/red
flower

NARIUM ODORUM
KANER -- Ne
fast growing sticky from hardy
shrub

CALLIANDRA sp
(POWDER PUFF)
--Cs feathery folliage pink
red puff flower

SHOREA ROBUSTA
SAL WOOD--SR
straight tall timber wood

LARGESTROEMEA sp
PRIDE OF INDIA -- Ls
red all time excepted

ALLAMANDA GRANDIFLORA
-- AG
yellow flower approx 2m ht.

GOLDEN DURANTA
(varigated ornamental hedge)
--Gd dwarf small leaves

DELONIX REGIA
COMMON NAME - GULMOHAR
HEIGHT – 4500 MM
STEM – 300 MM

CHORISIA SPECIOSA
COMMON NAME - FLOSS SILK
TREE
HEIGHT - 4000 MM
STEM - 300 MM

PHOENIX DACTYLIFERA
COMMON NAME - DATE PALM
HEIGHT - 4000 MM
STEM - 300 MM

KHAYA SENEGALENSIS
COMMON NAME - AFRICAN
MAHOGANY
HEIGHT - 4000 MM
STEM - 300 MM

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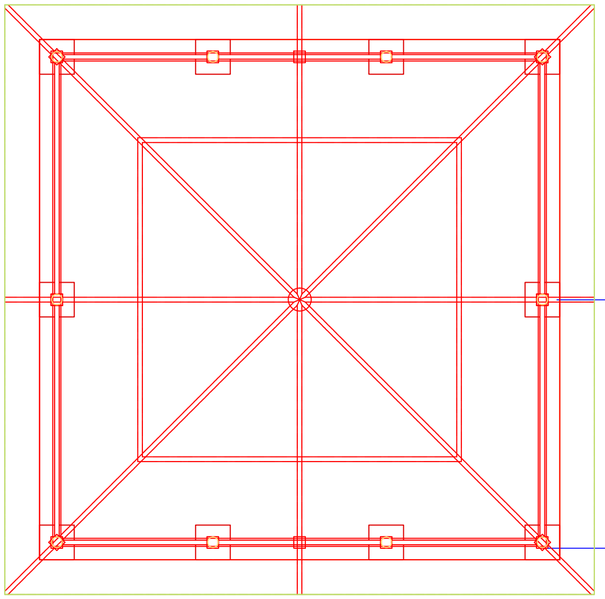

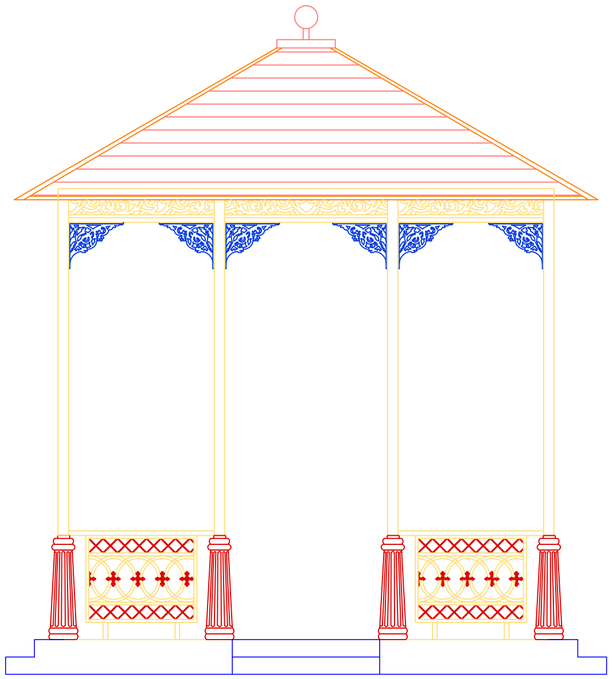

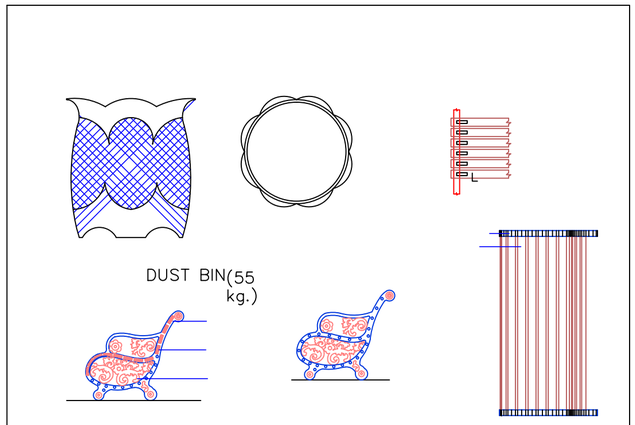

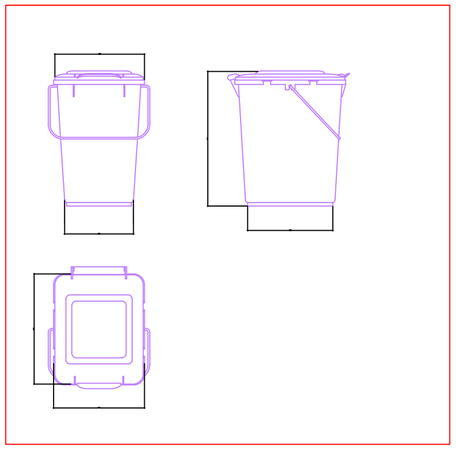

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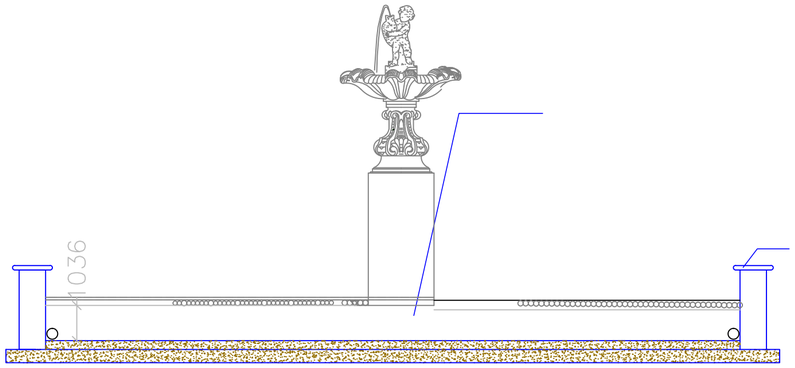
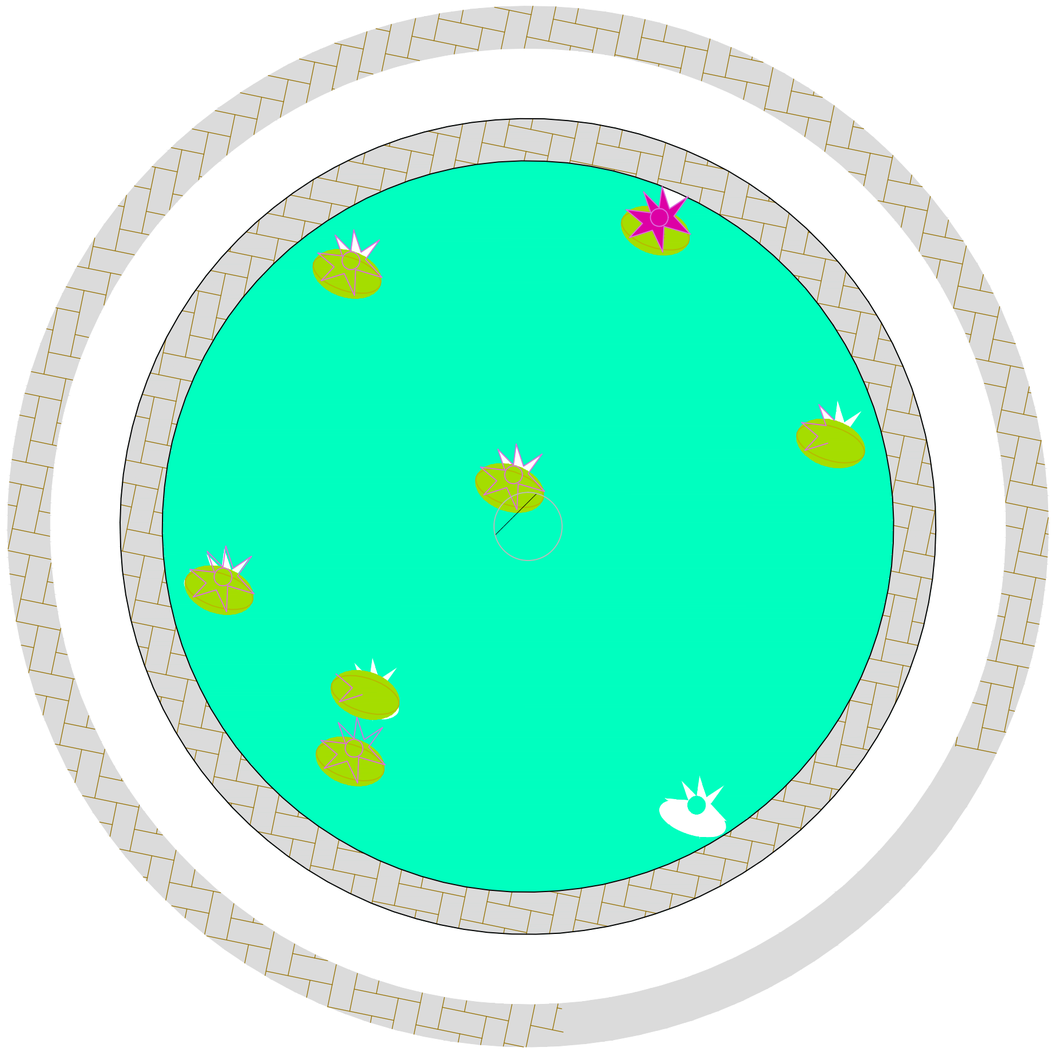
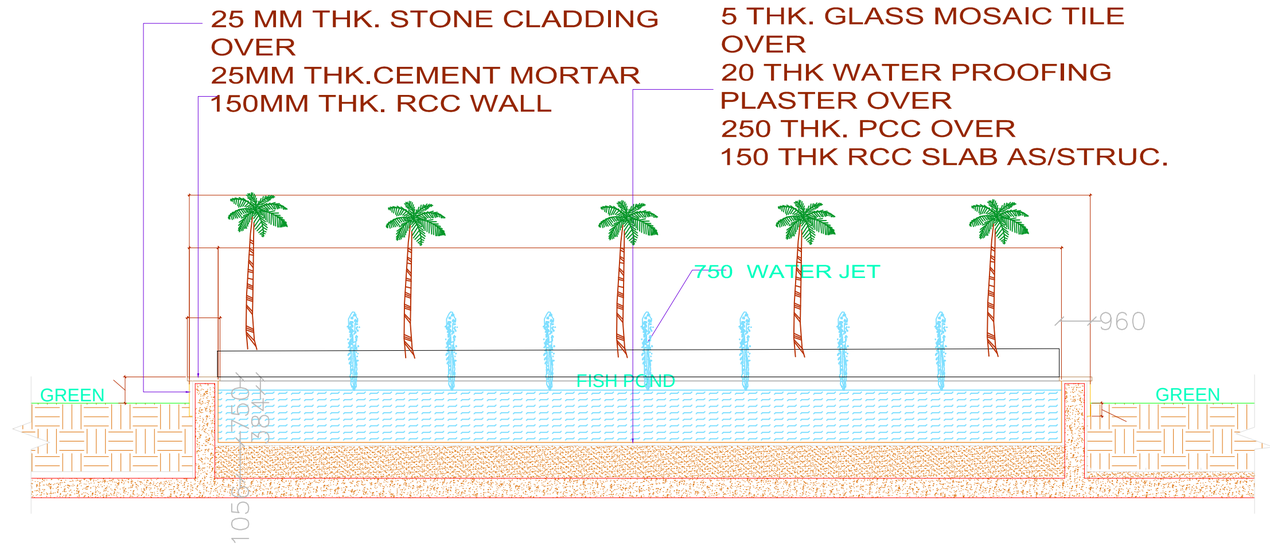
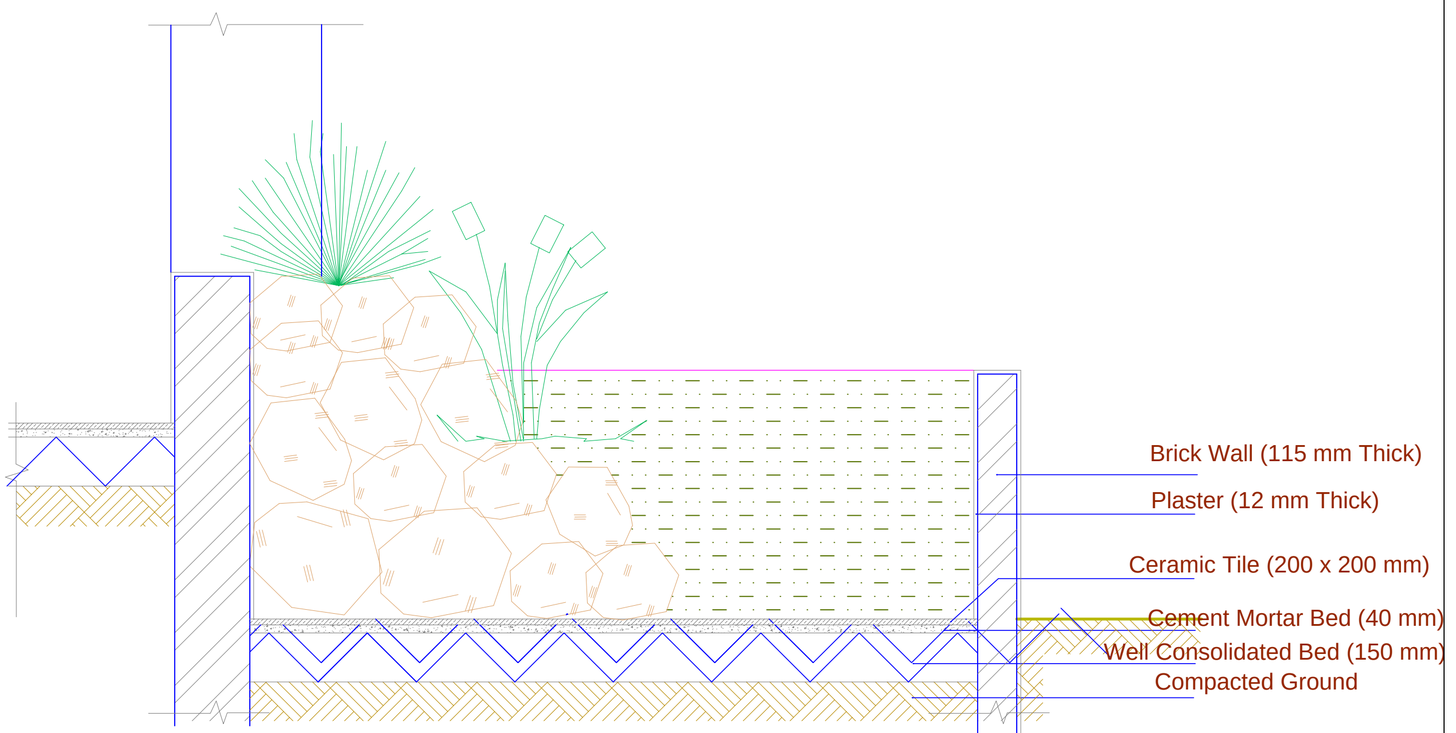
BBDU		1:100









DETAIL OF WATER BODY

SECTION

PROJECT:-

ECOVILLAGE(AN ECOTOURISM HUB)
DHARAMSHALA, HIMACHAL PRADESH

SUB. BY:-

SOMYA

B. ARCH 5TH YEAR (10th SEM)

THESIS 2019–20

SCHOOL OF ARCH AND PLANNING

BBDU

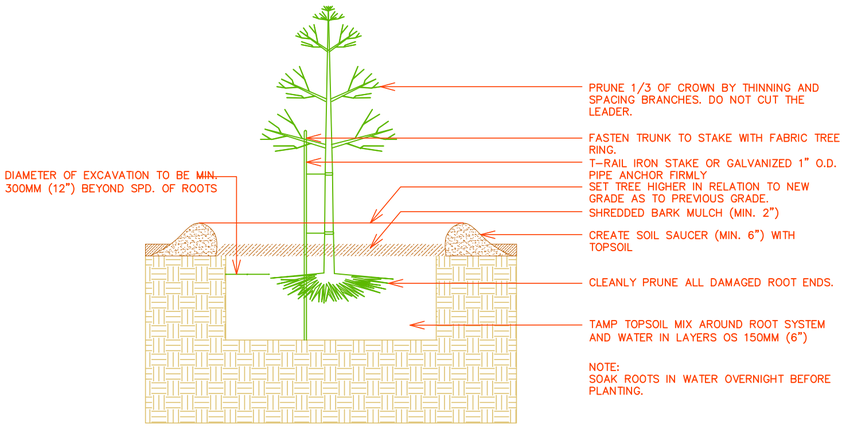
NORTH:-

DATE:-

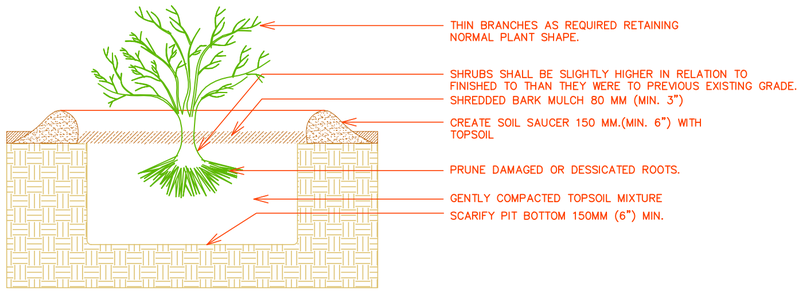
UNIT:- MM

SCALE:-

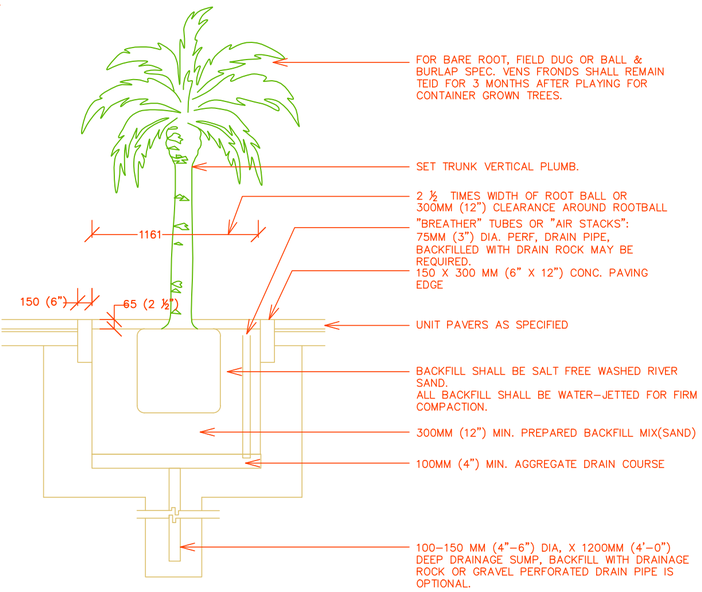
1:100



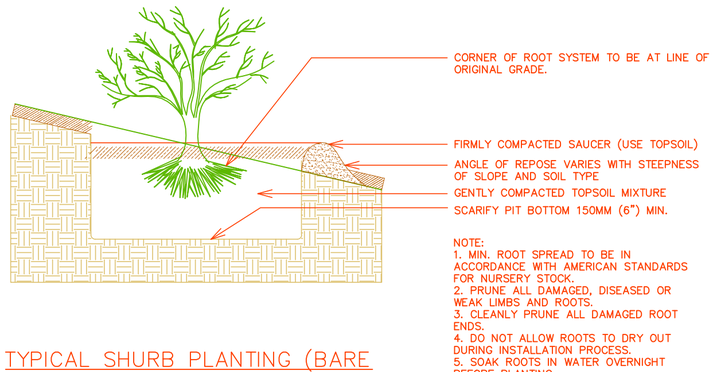
TYPICAL DECIDUOUS TRE PLANTING (BARE ROOT (10 FT. HEIGHT AND SMALLER)



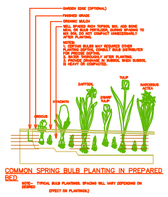
TYPICAL SHURB PLANTING (BARE ROOT)



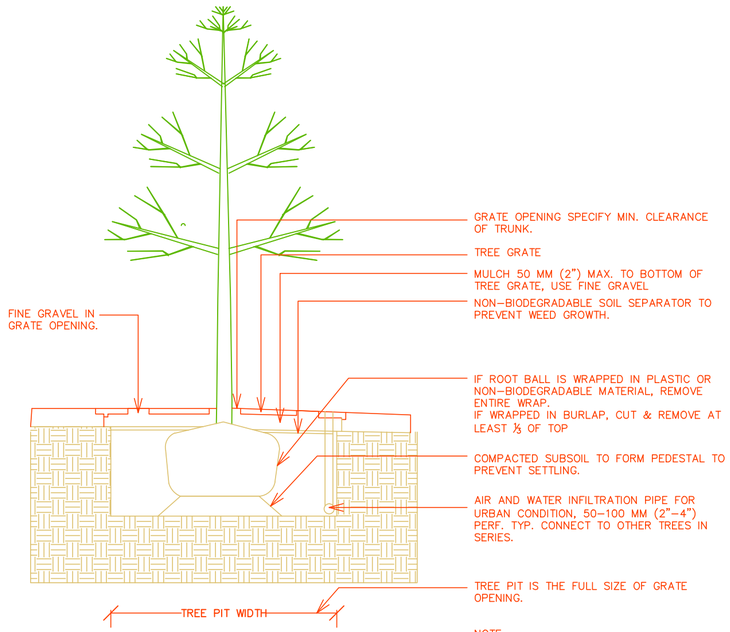
PALM TREE PLANTING IN PAVING.



TYPICAL SHURB PLANTING (BARE ROOT)



COMMON SPRING BULB PLANTING IN PREPARED BED



URBAN TREE PLANTING

MOUND DETAIL

PROJECT:-

ECOVILLAGE(AN ECOTOURISM HUB) DHARAMSHALA, HIMACHAL PRADESH

SUB. BY:-	NORTH:-
SOMYA	DATE:-
B. ARCH 5TH YEAR (10th SEM)	UNIT:- MM
THESIS 2019-20	SCALE:- 1:100
SCHOOL OF ARCH AND PLANNING	
BBDU	

1.3.6 Kath-Khuni Construction - Empirical Building Technique Of Himachal Pradesh

What Is Kath-Khuni Construction ???

Kath-khuni Construction Is An Infill Masonry Building System Within Layered Horizontal Wooden Beams. It Is A Repetitive System In Which The Walls Are Made With Alternate Courses Of Dry Stone Masonry And Without Any Mortar. This Building Practice System Embraces Nonrigid Joints Within A Component Based System Using The Locally Available Materials; Wood And Stone.
(Ref. Indigenous Building Practices of Himachal Pradesh by Rahul Bhushan,2016 Thesis Cepl)

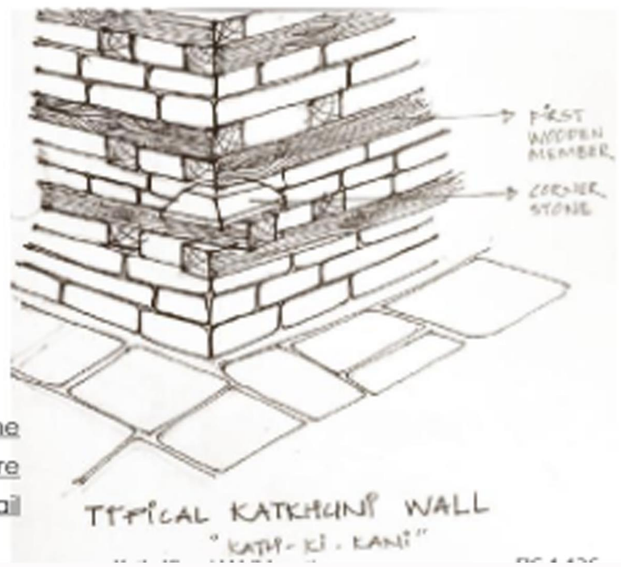
FIG 1.131

FIG 1.132 Craft practices related to wooden carving

FIG 1.133 Ornamented Wooden Members

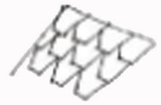
Craft of building FIG 1.134

FIG 1.135 Rouble In-Fill



Loose In-fill Material Is Packed As Filler And The External And The Internal Skins Of The Walls Are Held Together By Cross Braces Or Dovetail Called Maanvi.

MATERIAL;

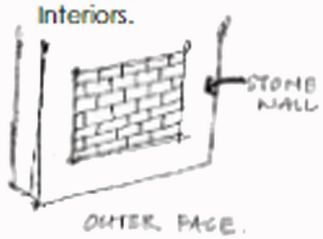


SLATE

1.Covering Material In The Roof
2. Mud Mortar Used To Fixed It.

BRICK
-MAHARAJA BRICKS (SUNDRIED KHAAM SEER BRICKS)
- SIRKI BRICKS (HALF BRICK) IN KASHMIR IN TAR CONSTRUCTION SYSTEM.

Brick
Brick Is A Composite Material Used In Stone Masonry To Give The Space For Cupboards And Interiors.



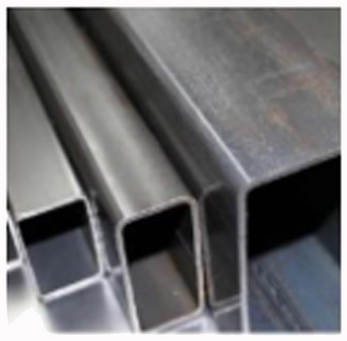
The Rat Trap Bond Is Used In Mezzanine Floor To Make The Structure Lighter With The Use Of Brick.

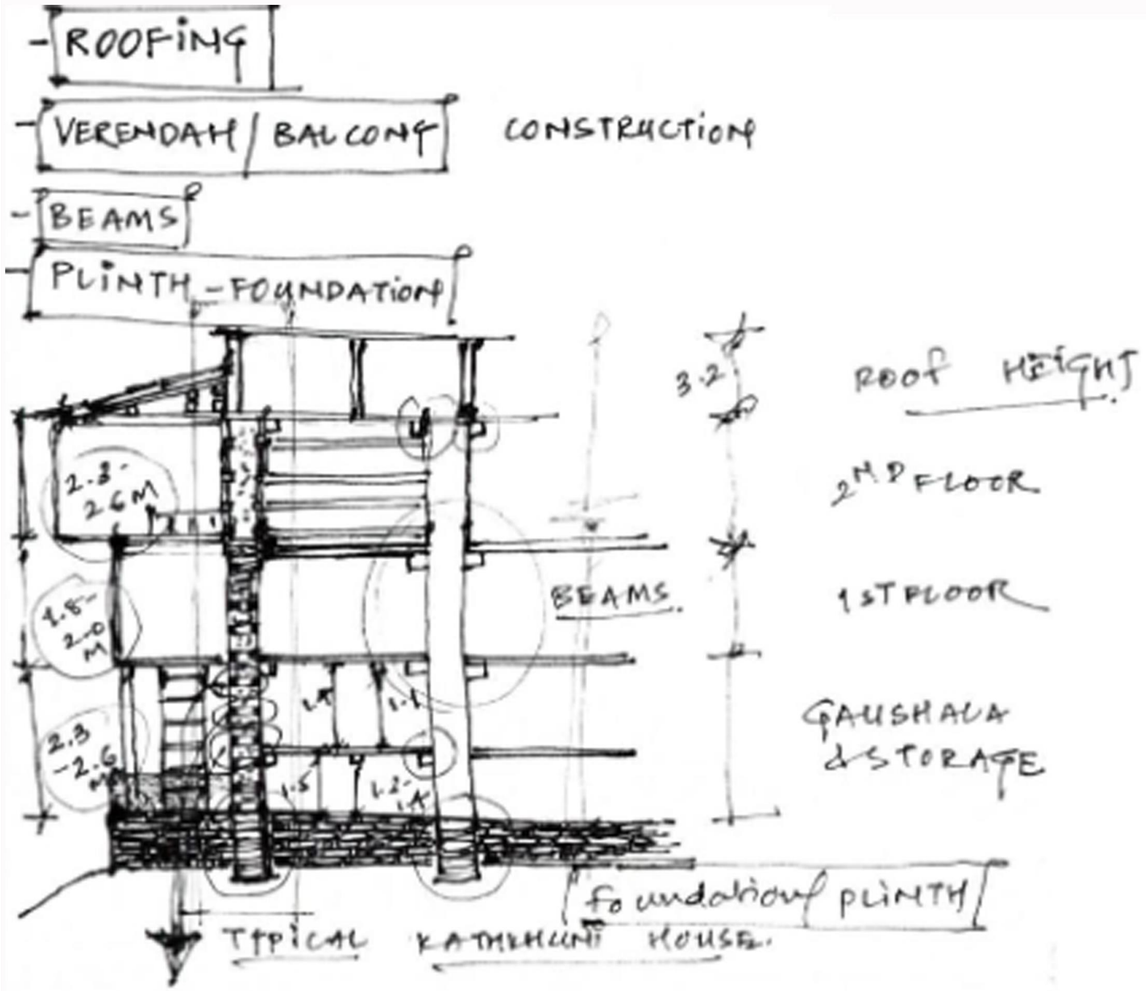
STONE MASONARY
WALLS
PLINTH

Stone
1.Rouble Stone(Field Stone) In Mud/Lime Mortar Or Without Mortar
2.Dressed Stone Masonary
3.River Stones Used
4.Granite And Lime Stone Are Major Typology In Stone

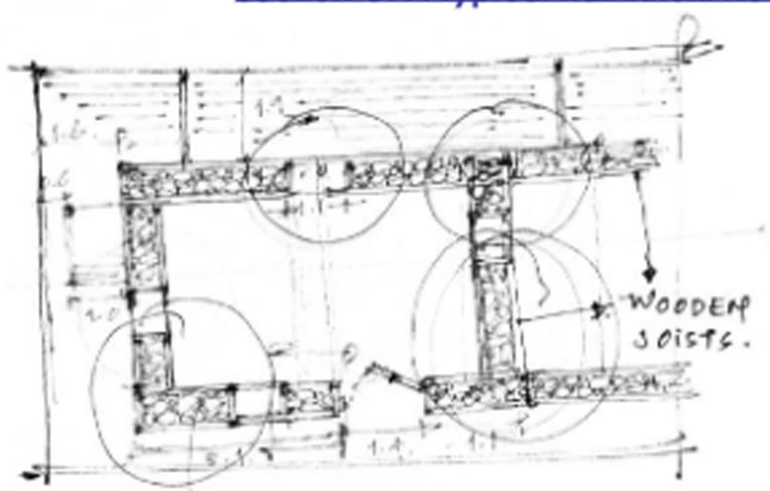
METAL

Metal
- Can Be Used In Roof To Make Frame
-Hollow Sections Used In Masonary
- More used In Upper Structure
- Light Weght, Durable
-Fast Construction
-Easily Available Construction Technology
-Used To Span Bigger
-Advanced Deployable

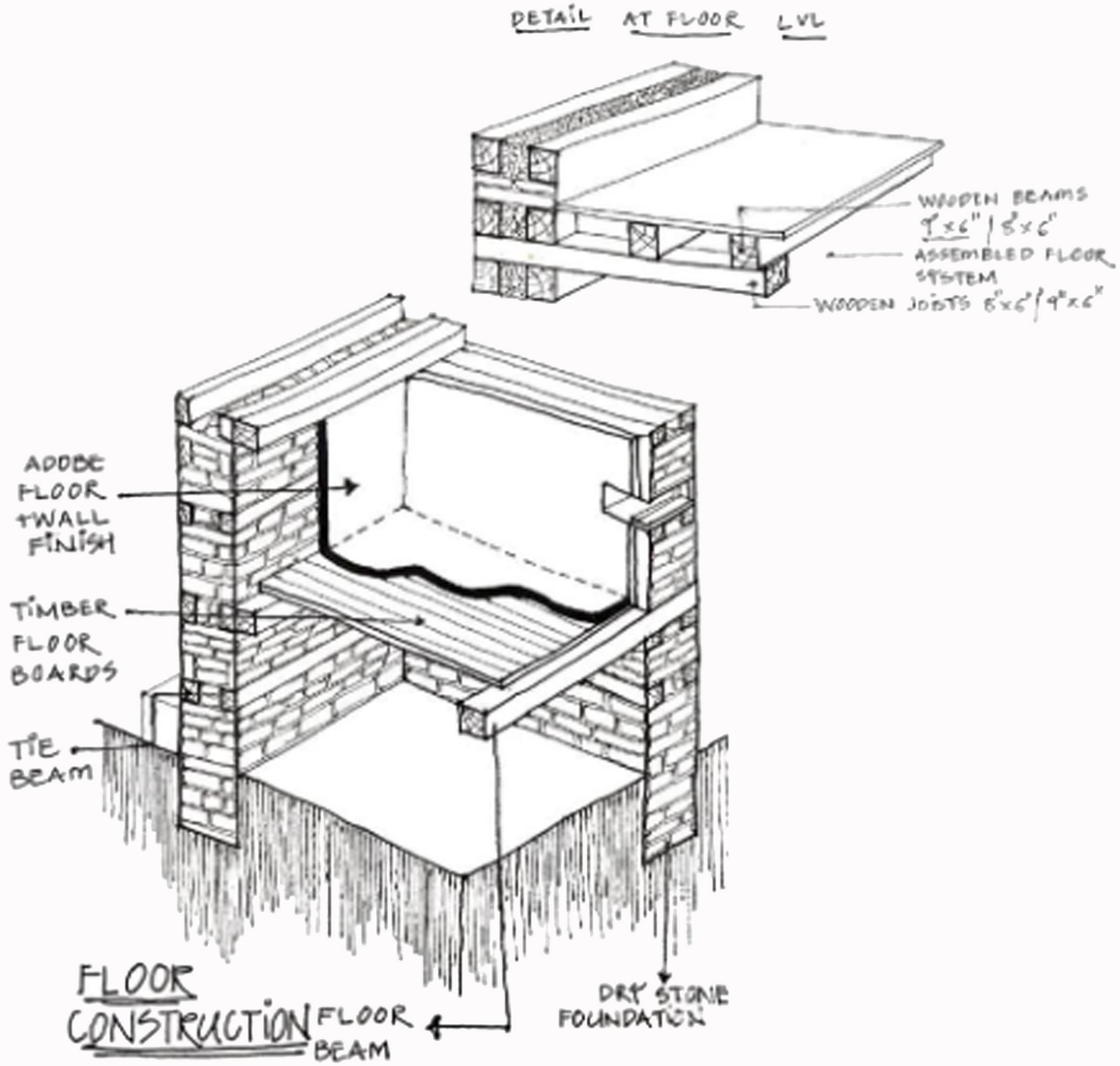


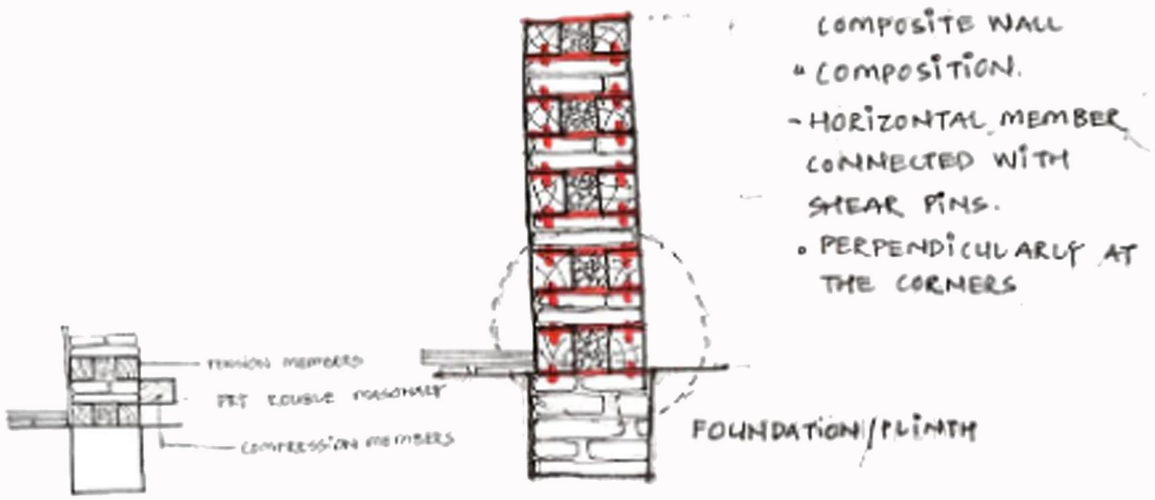


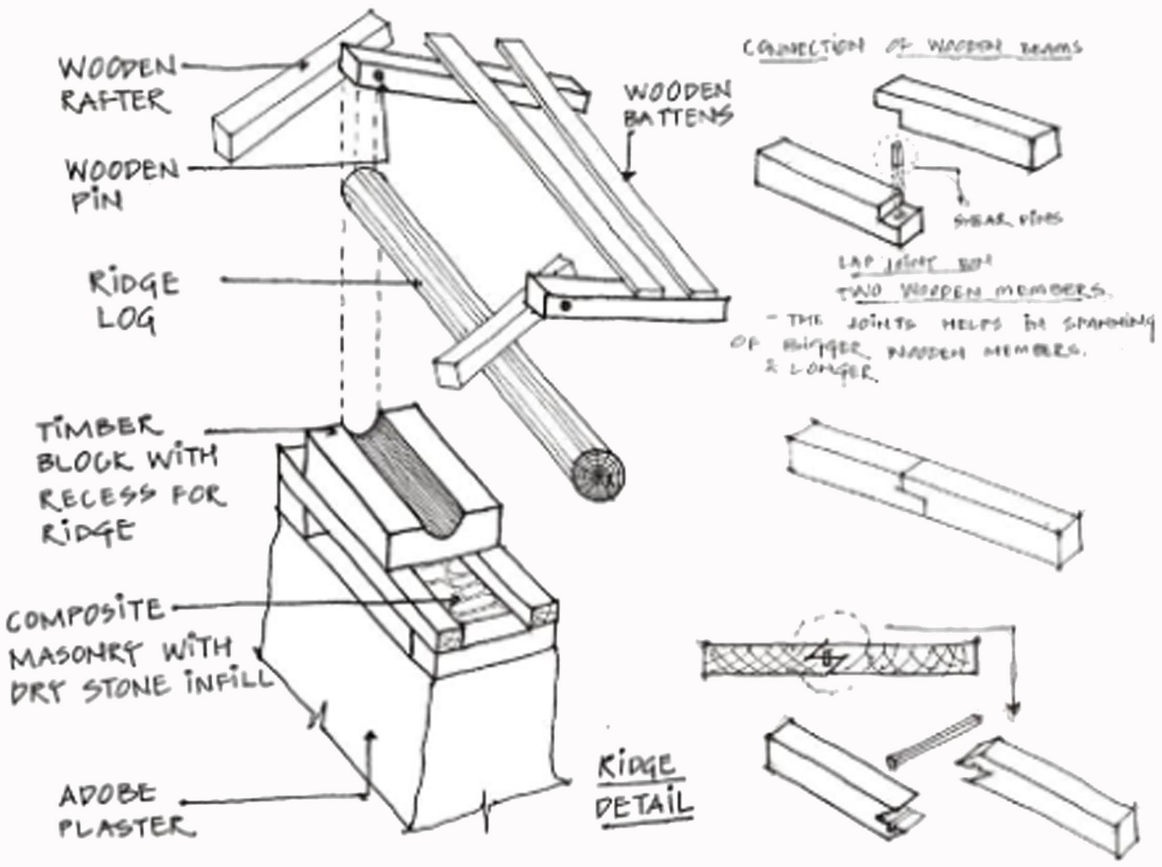
Section Of A Typical Kathkhuni House



Plan Of A Typical Kathkhuni House

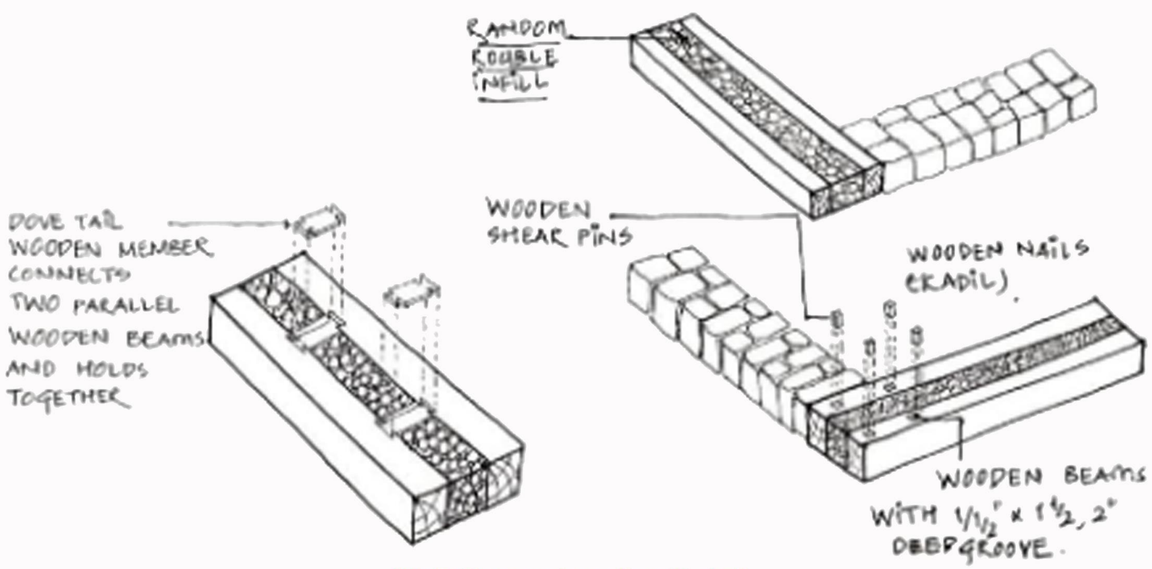






Detail A

Wooden Beam Joineries



Wall Corner Junction Detail

VIEW