



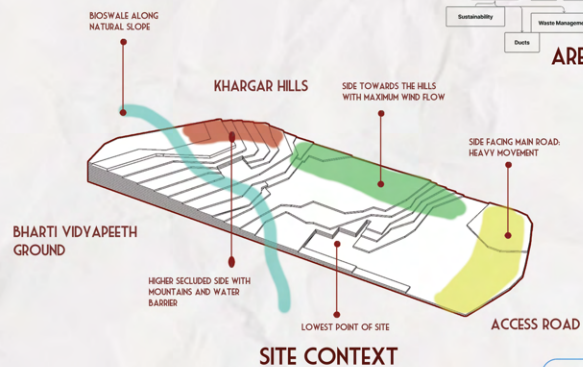
CONTENTS



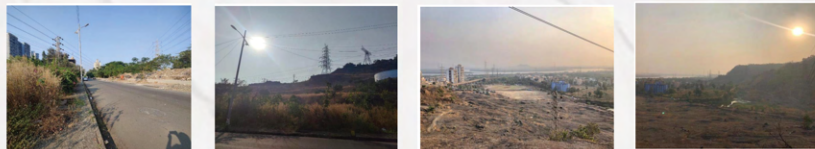
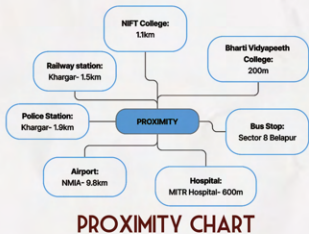
SITE LOCATION: KHARGAR
AREA : 22000 SQ.M.
FSI: 1.8
BUILT UP AREA = 11378 SQ.M



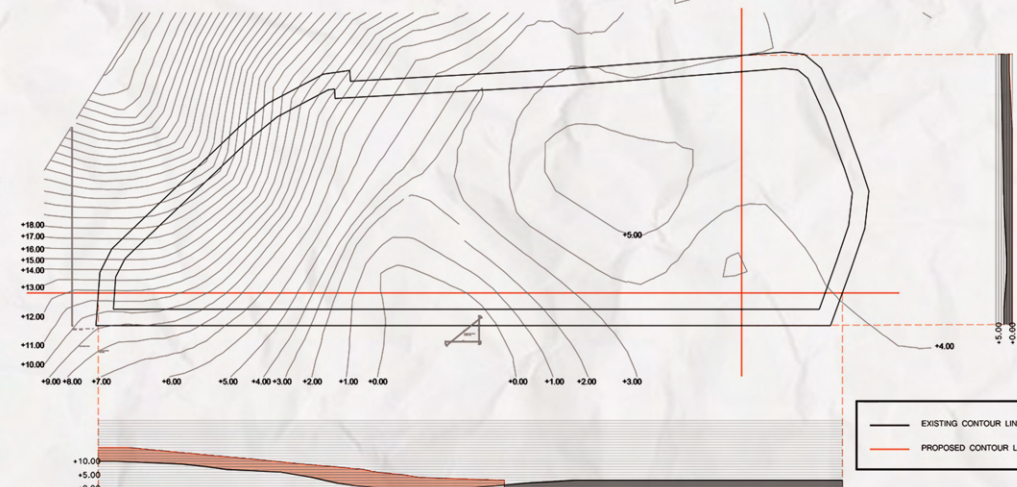
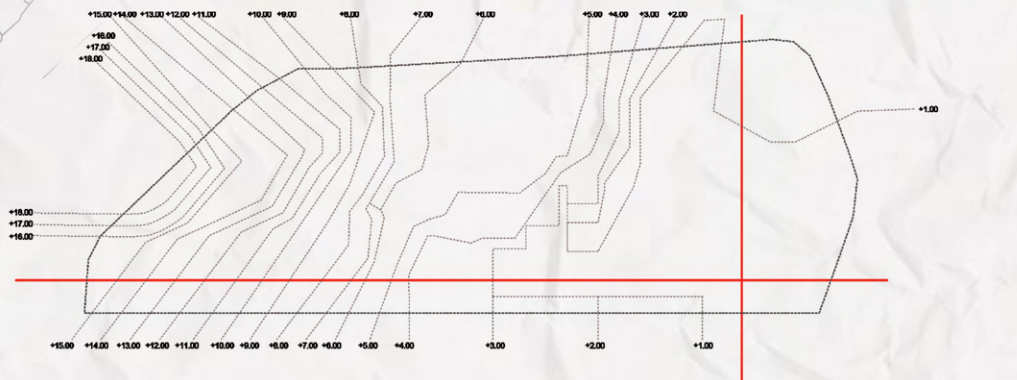
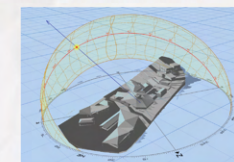
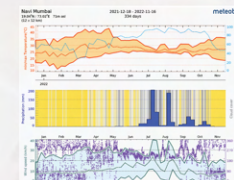
AREA DISTRIBUTION



SITE
existing site conditions

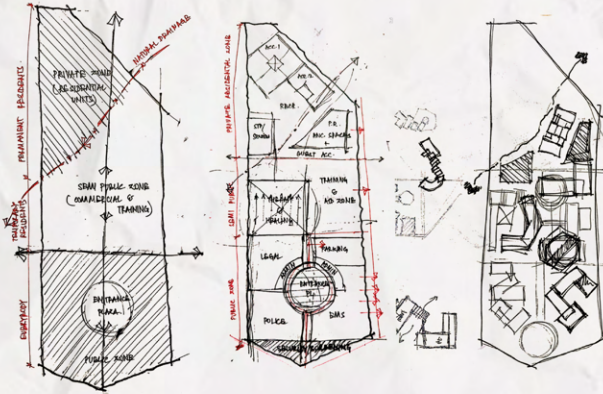


SITE PHOTOS



THE FORM EVOLVED TO INCORPORATE IDEAL WIND CIRCULATION AND SHADING TECHNIQUES WHICH WAS THE PRIME FOCAL POINT OF THE PROJECT
THE DESIGN IS SUCH TO REDUCE DEPENDENCE ON SUPPLY OF ELECTRICITY AND WATER FROM OUTSIDE THE SITE
IT MASTERS IN SUSTAINABILITY OF ALL FORMS: ENVIRONMENTAL, SOCIAL, ECONOMICAL

ARCHITECTURE AS A THERAPEUTIC SUCCOUR IS ACHIEVED BY TAPPING AND KINDLING AROUND THE 5 HUMAN SENSES, UNDERSTANDING THOSE CAN CAUSE PSYCHOLOGICAL IMPACTS ON THE USER, WHICH IS ATTEMPTED IN THE PROJECT



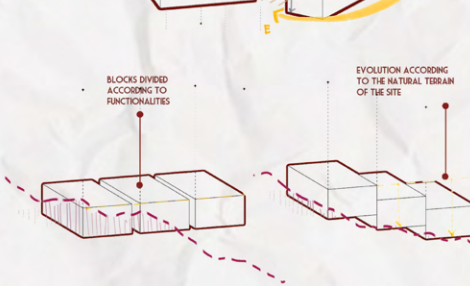
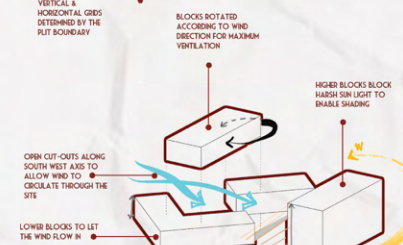
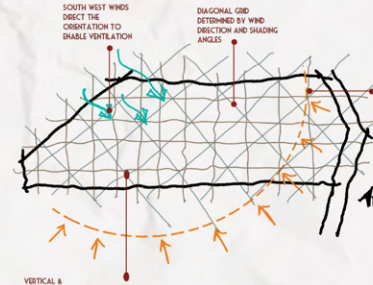
THERAPY IN ARCHITECTURE



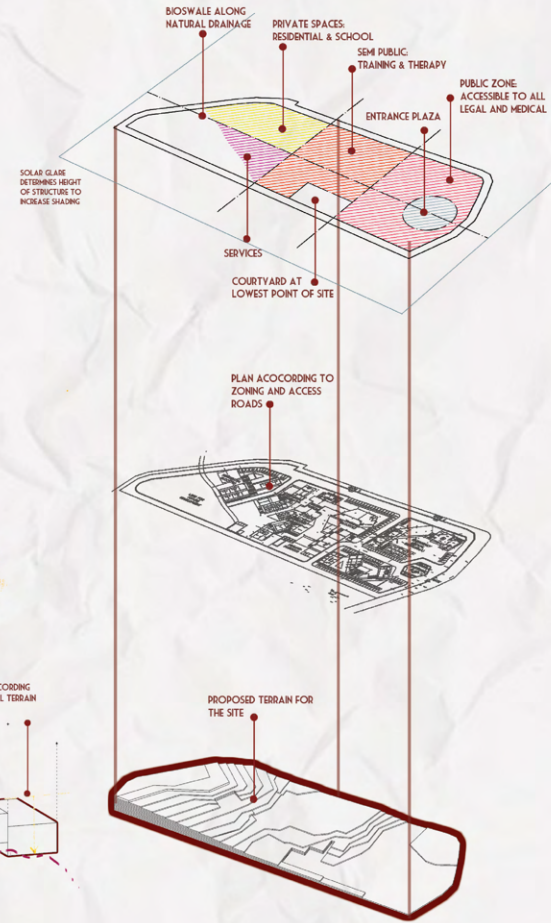
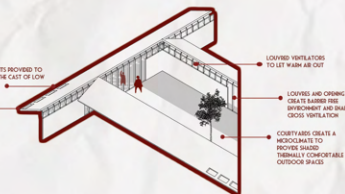
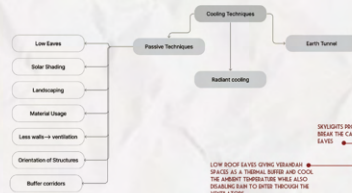
NEED FROM ARCHITECTURE



STRATEGIES ADOPTED FOR TEMPERATURE AND AMBIENCE CONTROL



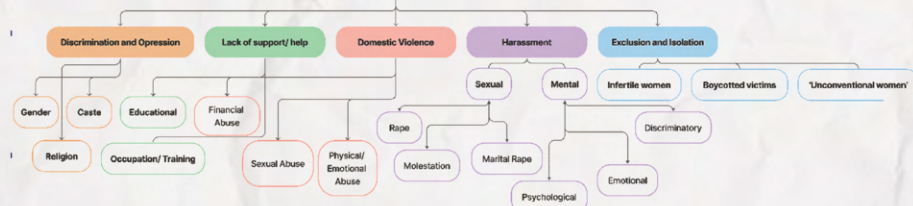
THERMAL COOLING STRATEGIES

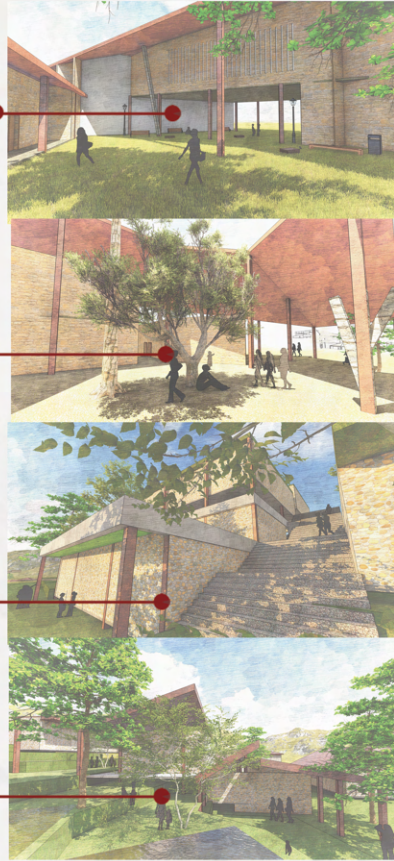


CONCEPT

Form Evolution and Zoning

VICTIM EXPERIENCES





VIEW, SHADING THROUGH THE TREES AND WATER COOLING TECHNIQUES ARE ALL CONSIDERED WHILE PLANNING AND ORIENTING THE DESIGN AND STRUCTURES
ROOF RESONATES WITH THE TERRAIN OF THE HILLS TO BRING IN HARMONY IN THE DESIGN



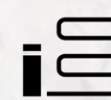
MENTAL HEALING THROUGH ARCHITECTURE
PLAY OF LEVELS, PLANNING AND BIOPHILIA TO INDUCE CERTAIN EMOTIONS TO THE USER GROUPS



SHADING AND PASSIVE COOLING TECHNIQUES SAVE ENERGY COST AND WATER REUSABILITY REDUCE COST OF FUNCTIONING OF SITE ECONOMICAL AND CHEAPER IN THE LONG RUN



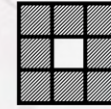
ENERGY SUSTAINABILITY AS ENERGY CONSUMED IS LESS THAN ENERGY GENERATED BY SOLAR PANELS, SAVES COST AND PROMOTED ECONOMIC SUSTAINABILITY



RADIANT COOLING IS OPTIMUM FOR HUMID CONDITIONS AS IT IS INDEPENDENT OF PARTICLES CHILLED WATER RUNNING UNDERGROUND REDUCES THE AMBIENT TEMPERATURE OF INTERNAL SPACES AND COOLS THE AIR TUNNEL AIR



RAINWATER HARVESTING AND STP ENABLE WATER REUSABILITY AND MAKE THE SITE SUSTAINABLE IN TERMS OF CONSUMPTION



DUE TO INCIDENT SOLAR RADIATION IN A COURTYARD, THE AIR GETS WARMER AND RISES. COOL AIR FROM THE GROUND LEVEL FLOWS THROUGH THE LOUVERED OPENINGS OF ROOM'S SURROUNDING THE COURT YARD, THUS PRODUCING AIR FLOW. AT NIGHT, THE WARM ROOF SURFACES GET COOL BY CONVECTION AND RADIATION.



SOLAR SHADING DONE THROUGH STRUCTURE HEIGHTS AND ORIENTATION ALONG WITH TREE SPREADS REDUCE HEAT AND REDUCE HEAT ISLAND EFFECT AS THEY ARE NATURAL TECHNIQUES



AIR TUNNELCHILLED BY RADIANT COOLING AND CHILLED COMPACT EARTH, THROWS COOL AIR INTO INDOOR SPACES AND THE LOOP CONTINUES AS WARMER AIR ESCAPES THROUGH THE VENTILATORS



GATHERING SPACES AND COURTYARDS PROMOTE SENSE OF COMMUNITY AND INCREASE SOCIAL SUSTAINABILITY, PLANNING DONE TO PROMOTE WALKING AND GETTING ESSENTIAL SUNLIGHT IS DONE TO ENABLE A HEALTHY LIFESTYLE



PITCHED ROOF AND LOW EAVES ENABLE BUFFER CORRIDORS TO REDUCE TEMPERATURE AND PROTECT FROM DUST AND WINDS
PITCHED ROOFS PROVIDE LARGER VOLUMES AND EASIER WATER COLLECTION



VERTICAL FINS REDUCE VISUAL BARRIER AND ENABLE CROSS VENTILATION; ALL STRUCTURE HAVE LOUVRES AS VENTILATORS FOR WARM AIR TO ESCAPE TO LET COOLER AIR COME IN: THIS FORMS A CONSTANT LOOP OF AIR FLOW

COMMUNITY AND SUSTAINABILITY

social and environmental sustainable impacts

WATER REUSE:
 TOTAL WATER REQUIREMENT IN CUM= 5364.87
 STP RECOVERYS ONLY 90% OF WATER ANNUALLY IN CUM. = 4828.38

FIRE FIGHTING CONSUMPTION:
 ACCORDING NBC, HOSTELS (LESS THAN 15M IN HEIGHT) = 5 CUM
 INSTITUTIONAL BUILDINGS/HOSPITAL: LESS THAN 15M HEIGHT & (UPTO G+4) = 25 CUM
 EDUCATIONAL BUILDING (UPTO 15M) = 5 CUM
 CUSTODIAL/ PENAL/ PLENAL (LESS THAN 10M) = 10 CUM
 TOTAL WATER REQUIRED FOR FIRE FIGHTING = 22.5 CUM

LANDSCAPE WATER REQUIREMENT:
 NUMBER OF TREES PLANTED = 70
 AVERAGE EVAPOTRANSPIRATION RATE = 20MM/DAY
 WE KNOW, PLANT FACTOR X POTENTIAL EVAPOTRANSPIRATION RATE X CANOPY AREA X 1000/ IRRIGATION SYSTEM EFFICIENCY = WATER REQUIRED ANNUALLY
 TREES:
 0.1 X 20 X 500 X 1000/ 0.90 = 1100 CUM

LAWN COVER:
 0.1 X 20 X 5000 X 1000/ 0.9 = 11000 CUM
 TOTAL WATER REQUIRED FOR IRRIGATION ANNUALLY = 12100 CUM



STORM WATER DRAINAGE

WATER CONSERVATION:
 AREA OF CATCHMENT AREA = 7900 SQM
 ANNUAL RAINFALL = 1920MM
 RUNOFF COEFFICIENT = 0.95 (METAL)
 RAINWATER HARVESTED IN GALLONS = AREA(ROOF) IN SQFT X RAINFALL IN INCHES X RUNOFF COEFFICIENT
 = 85014.8 X 76 X 0.95
 = 618065.672 GALLONS
 = 23201.9 CUM
 BUT, WATER CONSUMPTION = 5365 CUM

STP WATER (4828 CUM) USED FOR LANDSCAPING
 THEREFORE OUT OF 23202 CUM:
 5365 CUM USED FOR DAILY ACTIVITIES
 12100-4828 = 7272 CUM USED FOR LANDSCAPING
 10 CUM FOR FIRE FIGHTING
 WATER REMAINING = 10565 CUM WHICH CAN BE USED FOR RADIANT COOLING SYSTEMS AND RECHARGE WELLS ON SITE

TANK SIZES:
 FIRE FIGHTING TANK:
 WATER REQUIRED = 22.5 CUM
 VOLUME OF TANK PROVIDED > 30 CUM
 DOMESTIC TANK AND FLUSHING TANK:
 WATER REQUIRED DAILY (DOMESTIC) = 11 CUM
 (FLUSHING)= 6.2 CUM
 TANK PROVIDED = 30 SQM X 2M (1M BELOW GL AND 1M OVER GL) B OHT AND UGT BOTH

RAINWATER HARVESTING TANK:
 WATER COLLECTED DAILY = 85014.8 X 14 X 0.95
 = 113070 GALLONS
 = 418 CUM
 PROVIDED, 3M DEEP TANKS X 2
 AREA REQUIRED FOR EACH = 418/(3 X2)
 = 70 SQM

STP TANK:
 WATER TREATED = 17 CUM DAILY
 DEPTH = 3M
 AREA REQUIRED = 6 SQM

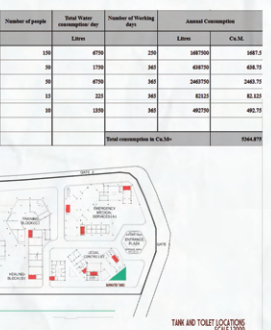
Area	Domestic use day per person	Flushing use day per person	Number of people	Total Water consumption day	Number of Working days	Annual Consumption	Cu.M
Acadmic	25	20	40	1200	4750	567000	567.0
Hostel	25	10	30	1050	365	438750	438.75
Accommodation	90	40	100	6000	365	2160000	2160.0
Chaplaincy	10	5	10	150	365	54750	54.75
Overall Ward	90	40	100	6000	365	2160000	2160.0
Total consumption in Cu.M:-						3386250	3386.25



INSPECTING CHAMBER LAYOUT

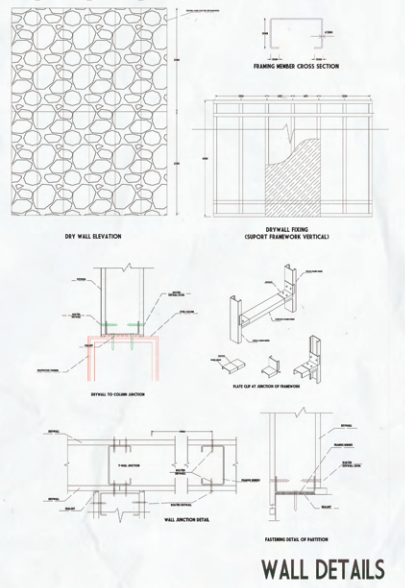
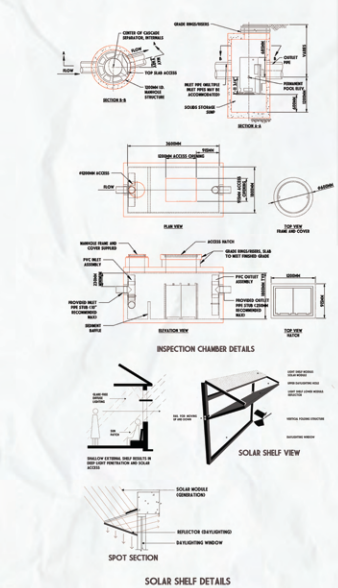
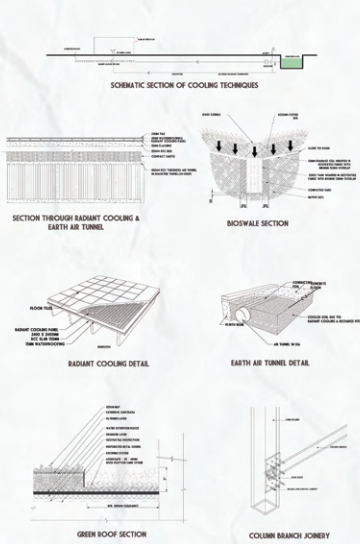
Type	Qty
Residential	3
Industrial	3
Educational	4
Admin	2
Legal	2
Total with 5% visitor	14.8
Single level parking	17
Parking provided	89 Big Cars
	28 Small Cars

PROPOSED PARKING AND REQUIREMENT AS PER THE UDPCR DIAGRAMS



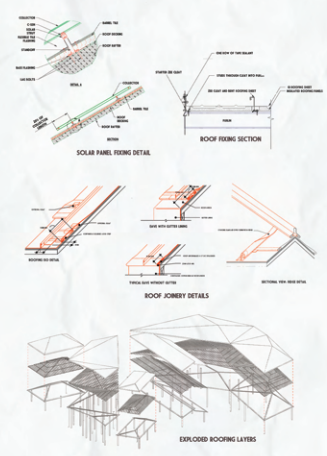
SPECIFIC DETAILS

RADIANT COOLING GRID

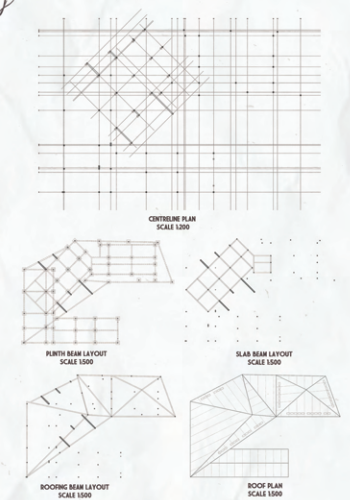


CONSTRUCTION TECHNIQUES

Services, Construction Techniques & Details



ROOF DETAILS



TYPICAL STRUCTURAL PLANS: EMS



SOFTSCAPE LEGEND:

VISUAL	SCIENTIFIC NAME	PLANT NAME	QTY	SPREAD	HEIGHT
	AZADIRACHTA INDICA	NEEM	20	5-10M	2-5M
	CASTIA FISTULA	AMALTAS	35	5-7M	2-4M
	MANGIFERA INDICA	MANGO	20	5-10M	15-5M
	STENOTAPHRUM SECUNDATUM	CARPET GRASS	-	-	20-40MM
	ZOYSIA MATRELLA	MANILA GRASS	-	-	15-30MM
	PAPER FLOWER	BOUCANVILLEA GLABRA	-	8-10FT	-

HARDSCAPE LEGEND:

VISUAL	HARDSCAPE	MATERIAL	DESCRIPTION
	ROADS	COBBLESTONES	COBBLES BEL TO ONE INCHES TO HANDS IN MOVEMENT
	FOOTPATHS	FLAGSTONES	FLAT FLAGSTONES FOR HANDS IN MOVEMENT - ONE INCHES TO HANDS IN MOVEMENT

LANDSCAPING PLAN

LANDSCAPING LAYERS

green/hardscape and movement



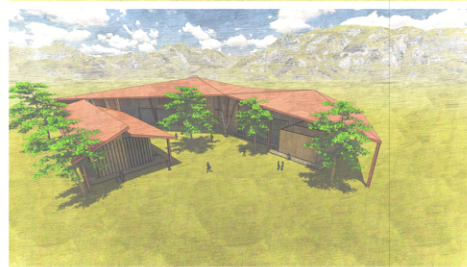
BARRIER FREE PLAN FOR INCLUSIVITY

LEGEND:

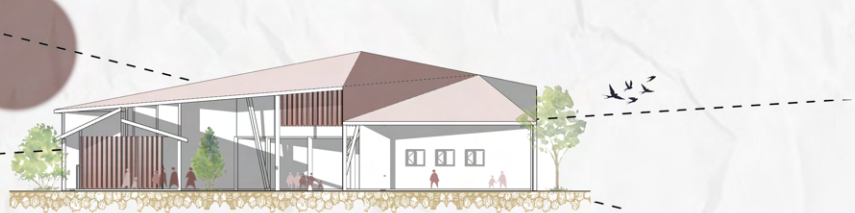
-  ELEVATORS/ WHEELCHAIR LIFTS/ RAMPS
-  VEHICULAR ACCESS

LANDSCAPING LAYERS

green/hardscape and movement

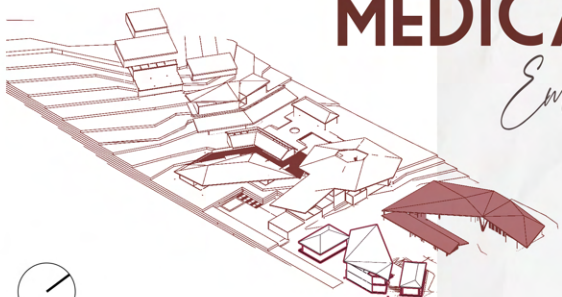


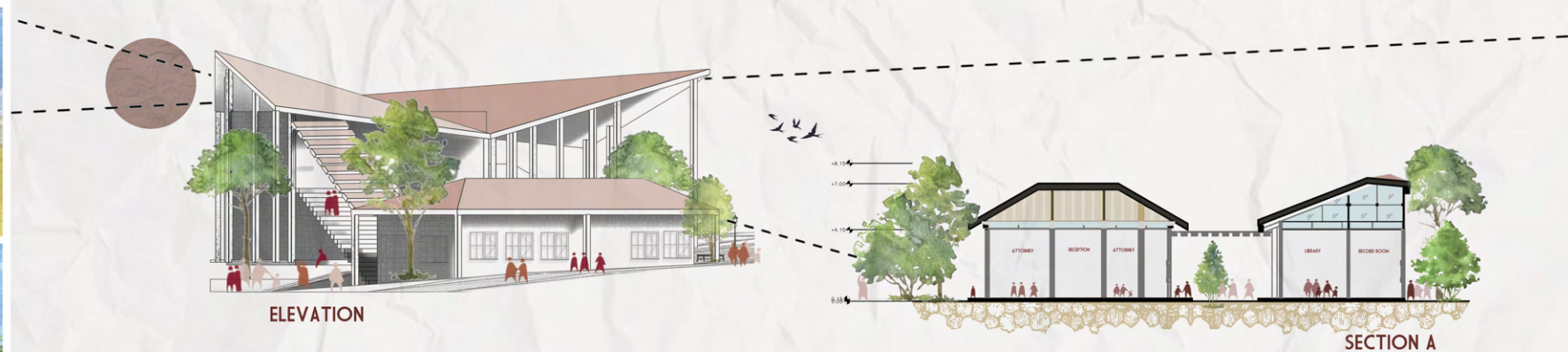
ELEVATION



MEDICAL BLOCK

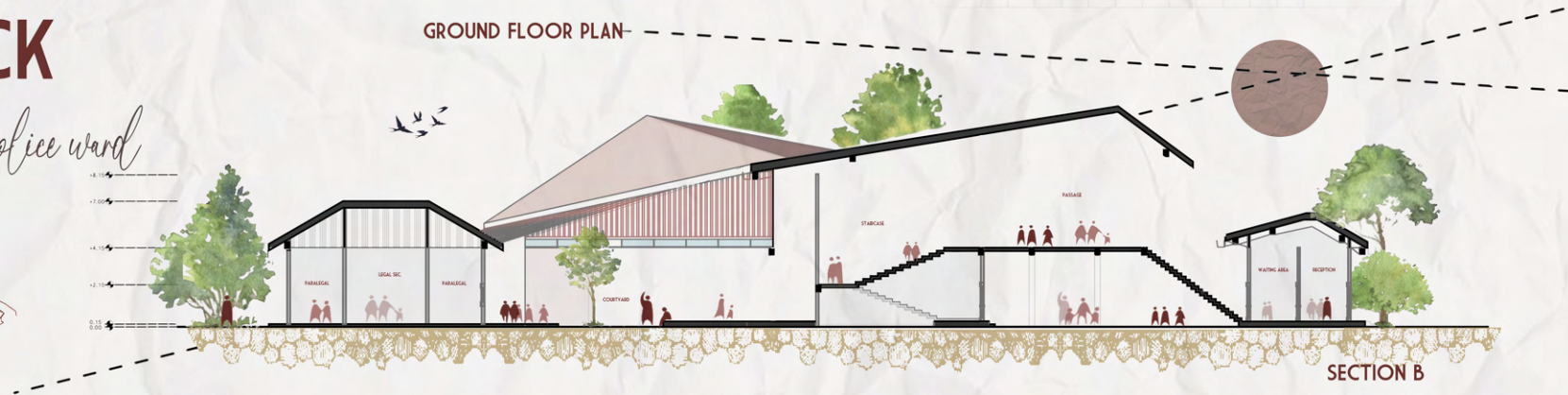
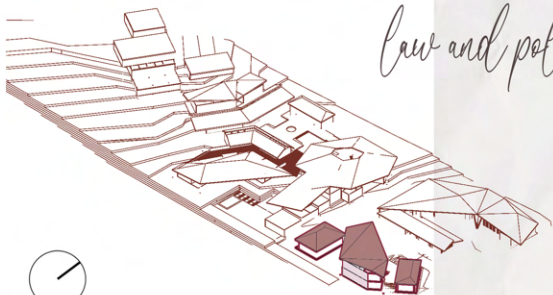
Emergency Medical Services

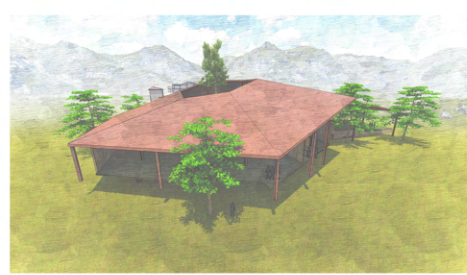




LEGAL BLOCK

Law and police ward

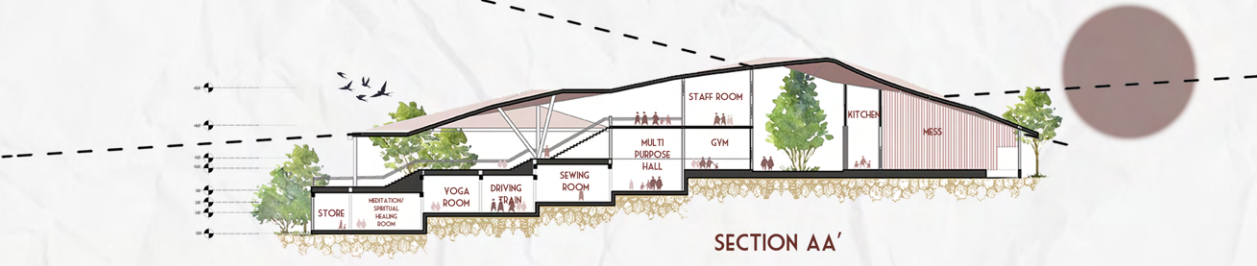




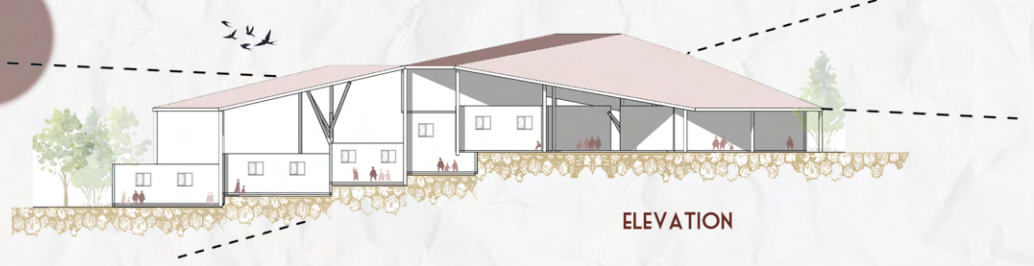
GROUND FLOOR PLAN



FIRST FLOOR PLAN



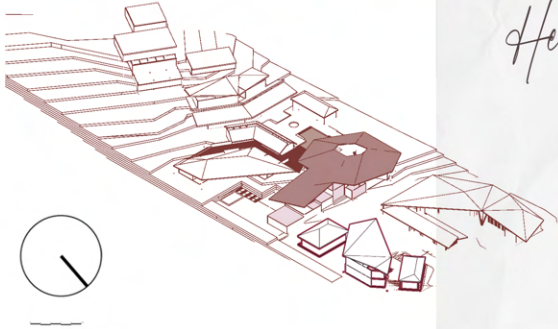
SECTION AA'

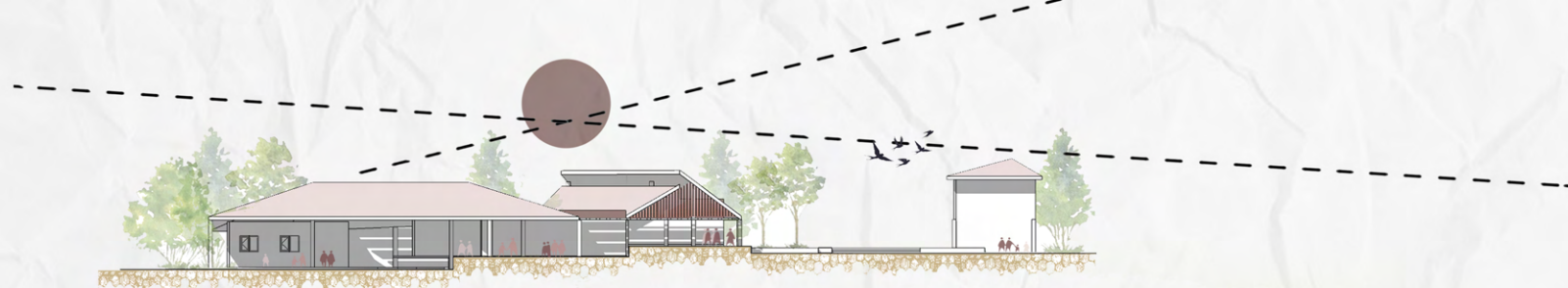
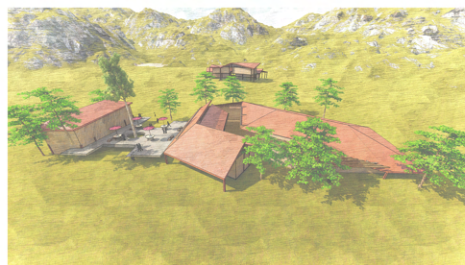


ELEVATION

COMMERCIAL BLOCK

Healing & Training





ELEVATION



SECOND FLOOR PLAN



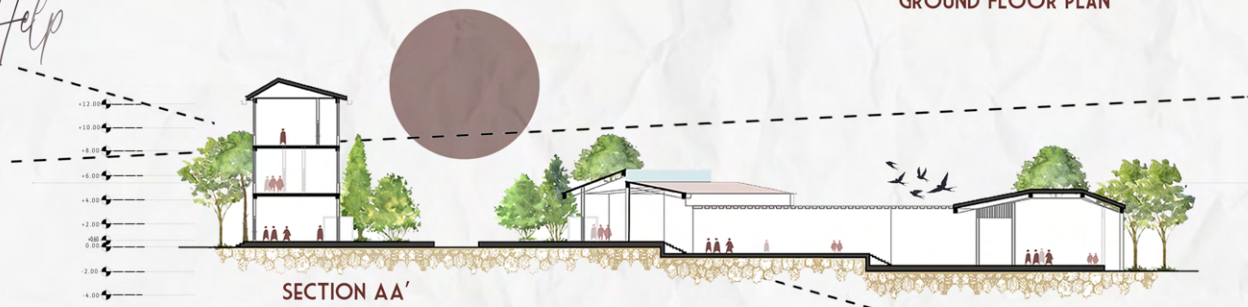
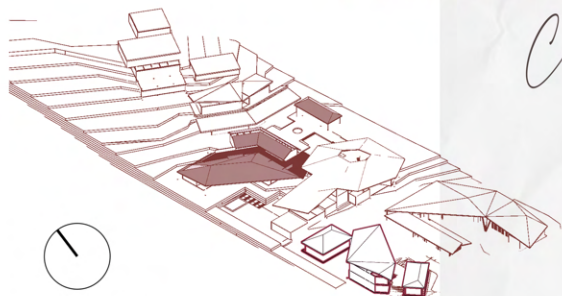
FIRST FLOOR PLAN



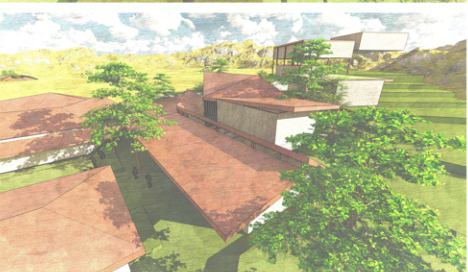
GROUND FLOOR PLAN

THERAPY BLOCK

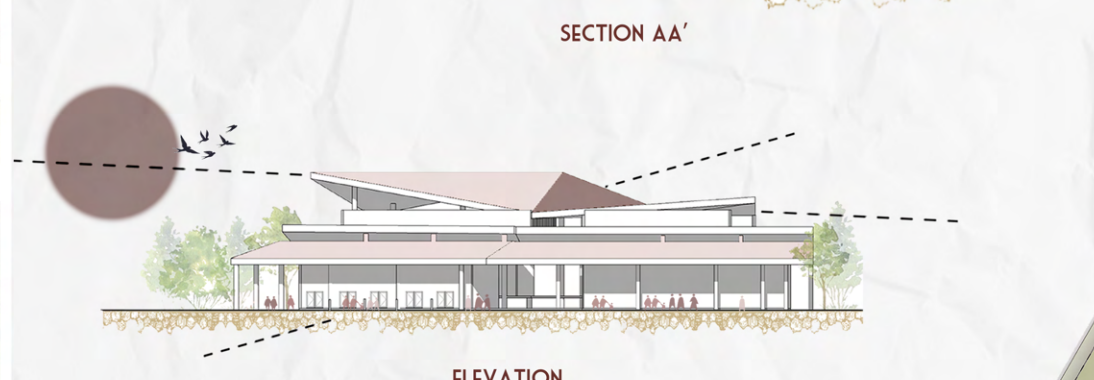
Counselling & Self Help



SECTION AA'



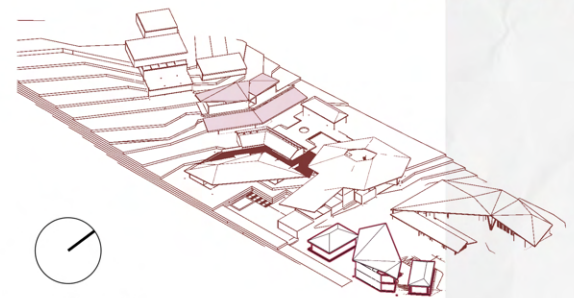
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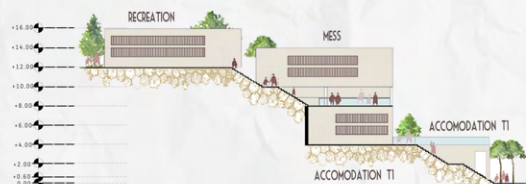
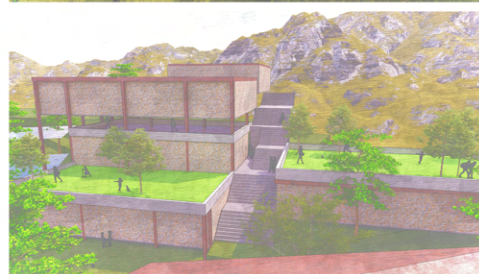
ELEVATION

GUEST BLOCK

Crech, Offices & Accomodation



GROUND FLOOR PLAN



SECTION AA'



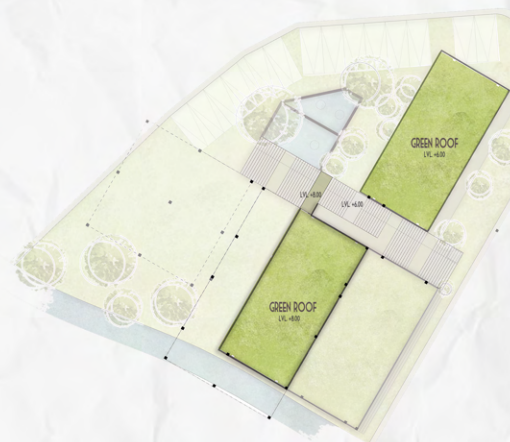
ELEVATION



GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN

RESIDENTIAL BLOCK

Mess, Recreation & Accommodation

