

DESIGN

ARCHITECTURE

PORTFOLIO

ART







SARMILA.R


ARCHITECT

I am a dedicated and hardworking individual who is seeking for job that will make best use my skills and allow me to develop further in the field of Architecture.

CONTACT DETAILS

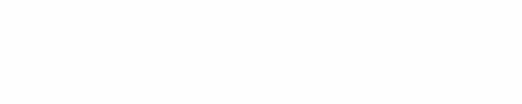
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RESUME

SOFTWARE PROFICIENCY



LANGUAGES KNOWN

TAMIL



ENGLISH



TELUGU



WORK EXPERIENCE

Jeyakumar Associates, (June,2017-Nov,2017) Coimbatore
Amer and Ani Architects,(Nov,2017-April,2018) Chennai

EDUCATION

NAME OF THE INSTITUTION	COURSE	YEAR OF PASSING
SNM Matric Higher Secondary School,Sivakasi.	X	2012
SNM Matric Higher Secondary School,Sivakasi.	XII	2014
Sasi Creative School of Architecture,Coimbatore.	B.ARCH	2019

PARTICIPATION

2014 - Indian Institute Architects Fest,Chennai.
2015 - Workshop on "Sustainability and Biodiversity" SACON,Coimbatore.
2016 - Panel Discussion "InfluHence", Coimbatore.
2017 - International Seminar on Neo-Urbanism Built Mat,Coimbatore.
2018 - International Seminar on Affordable Housing Built Mat,Coimbatore.

INTRESTS



CONTENT

ARCHITECTURAL THESIS 1

URBAN DESIGN 2

INTERNSHIP WORKS 3

OTHER WORKS 4

INTEGRATED CENTER FOR AUTISM

The Autism Spectrum Disorder(ASD) is the term used to describe person with neuro-developmental disorders and it is a severe disorder

Triad Impairment:
Social Interaction, Behaviour, Communication



6 Signs



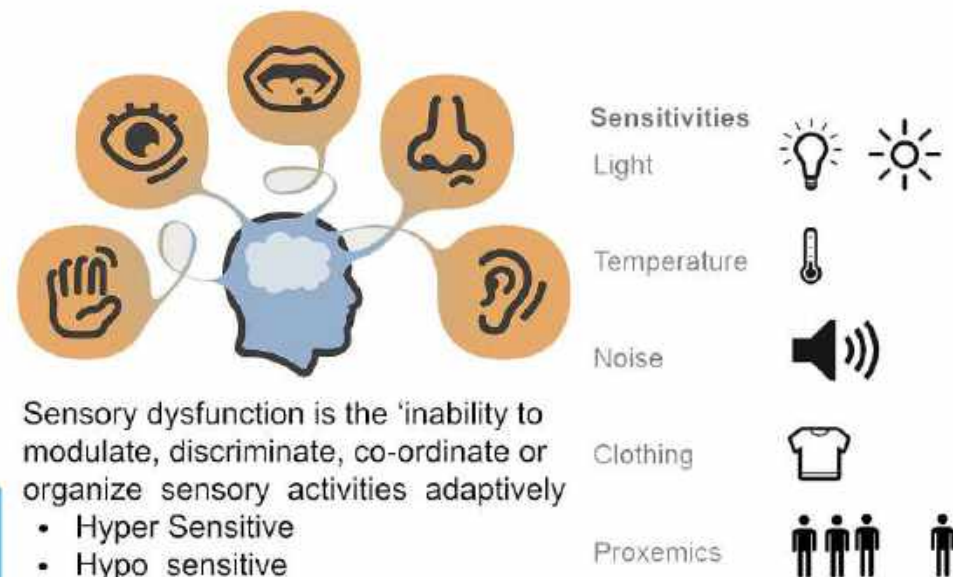
Issues:

- Isolation in regular schools and mainstream schools
- Need of Special attention-not possible in regular schools

AUTISM SPECTRUM DISORDERS



Dysfunctional Sensory



Sensory dysfunction is the 'inability to modulate, discriminate, co-ordinate or organize sensory activities adaptively'

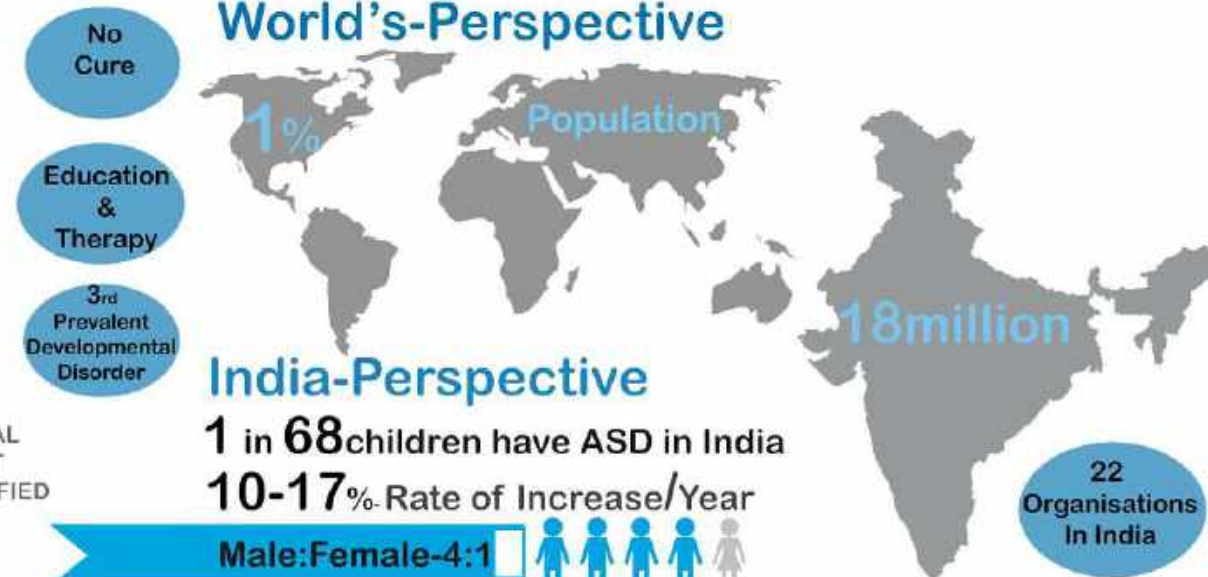
- Hyper Sensitive
- Hypo sensitive

NEURO-TYPICAL AND MULTI SENSORY APPROACH

STRESS ISOLATION LONELINESS



World's-Perspective



India-Perspective

1 in 68 children have ASD in India
10-17% Rate of Increase/Year
Male:Female-4:1

Required Services

These alarming rates of increase call for attention by all the fields and clearly architecture has been ignoring the effect of built environment in their development



Architecture Intervention:

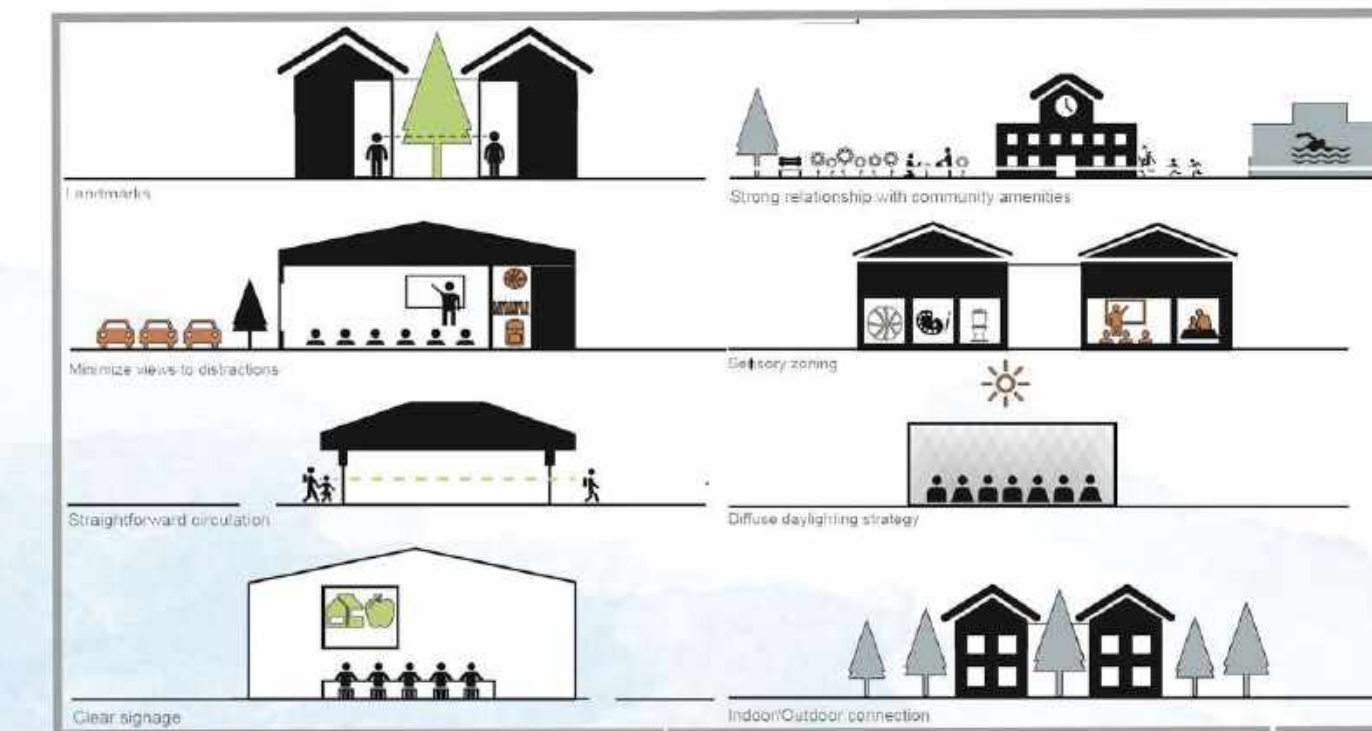
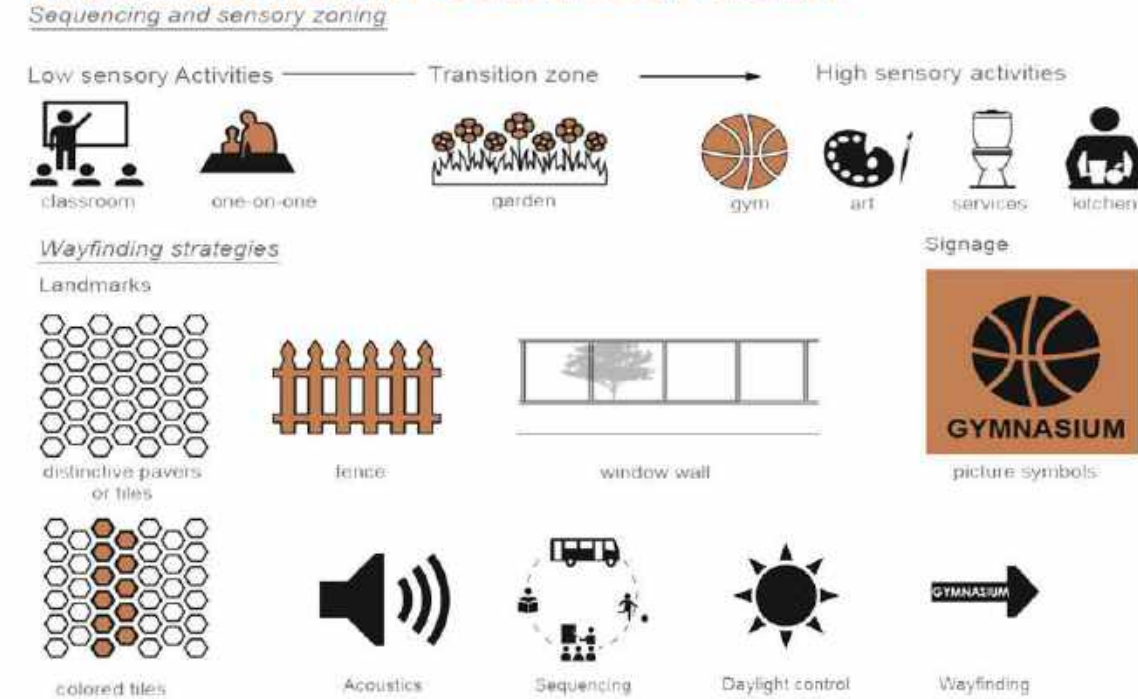
- Architecture, as a science, deals with the manipulation of the physical environment to facilitate certain functions and behavior.
- In accordance to the sensory definition of autism, these elements play an important role in autistic behavior and their cognition and integration are at the core of the disorder
- Behavioral Centered Design.
- Barrier Free Environment.
- Fresh approach in designing educational space
- Rehabilitative spaces.
- Supportive Environmental Intervention.

Aim: The aim of the design is to Create healing environment and supportive facilities for ASD people and their community by providing Integrated Services in all sectors to help them to lead their normal life.

AUTISM ARCHITECTURE:

- Considering Indian context in the environments of autistic children.
Design parameters - In order to integrate the space in their intervention
- Physical Structure
 - Maximize Visual Structure & Visual Instructions
 - Offer Opportunities for Community Participation
 - Present Opportunities for Parent Participation
 - Maximize Future Independence
 - Offer Generous Space Standards
 - Provide Withdrawal Space
 - Maximize Safety
 - Maximize Comprehension
 - Minimize Sensory Distractions
 - Provide Sensory Integration
 - Foster health and wellness
 - Provide an acoustical environment

ARCHITECTURAL CONSIDERATIONS:



DESIGN GUIDELINES:

- ACOUSTICS:** The acoustical environment be controlled to minimize background noise, echo and reverberation activities of higher focus should be allowed a higher level of acoustical control
- LIGHTING:** Natural lighting is best for ASD people, because Artificial lights may stimulate their behaviour (Fluorescent light)
- TRANSITIONS:** It helps the user recalibrate their senses as they move from one level of stimulus to the next. full sensory room that allows the sensory re-calibration
- SAFETY:** Safety is even more of a concern for children with autism who may have an altered sense of their environment
- SPATIAL SEQUENCING:** It requires that areas to be in organized manner. Spaces should flow as seamlessly as possible from one activity to the next through one-way circulation Minimal disruption and distraction, using Transition Zones
- COMPARTMENTALIZATION:** Organizing a space like compartments, each include clearly defined function and sensory quality. Furniture arrangement, Difference in floor covering, Difference in level or even through variances in lighting.
- SENSORY ZONING:** This requires grouping spaces according to their allowable stimulus level, into "high-stimulus" and "low-stimulus" with transition zones aiding the shift from one zone to the next.

FRIENDLY DESIGN:

- Interaction:** Social discourse between those with autism and the rest of society improves public perception and acceptance.
- Natural environment:** An environment must be familiar; moving away from an institutionalised feel.
- Integration:** Integrating those affected by ASD into society improves awareness, and acceptance, whilst also helping to enable a more 'normal' life.

COLOUR AND AUTISM

- Red is a very powerful color.
- But for someone with ASD, red can look fluorescent or even vibrate with intensity.
- It can be painful to your child or can even make him angry.
- It can be so overwhelming, cause eyestrain. High reflectivity.
- Green means go!
- Greens are the safest colors for ASD.
- Greens bring balance and harmony to any environment.
- Soft green is one of the best colors for ASD Attractive Colour
- Blue is an instant de-stresser. cool, calm, and peaceful.
- The soothing, non-threatening aspects of blue are generally ideal for autistic children. Such as blue-green, and green, or blue, blue-violet and violet.
- Pink comforts and subdues. Many autistic children prefer light hues of pink
- Brown can be used for Calm and Peaceful environment

PATTERN:

- Avoid visual stimuli in his environment which affects Concentration.
- The ideal patterns are minimal, organic, or subtle abstracts
- Avoid Super-strong graphic images, because it can be too overstimulating.

SPACE AND ORDER:

- The best way to support children with these needs is to design an organized room
- High ceiling heights, Large spatial volumes, and
- High levels of daylight with plenty of views to the outside.

TEXTURE:

Some children prefer warm textiles while others prefer cool, smooth surfaces.



Views: Something as simple as a view to the outdoors can relieve stress and reduce anxiety of service users.



Natural environment: An environment must be familiar; moving away from an institutionalised feel.



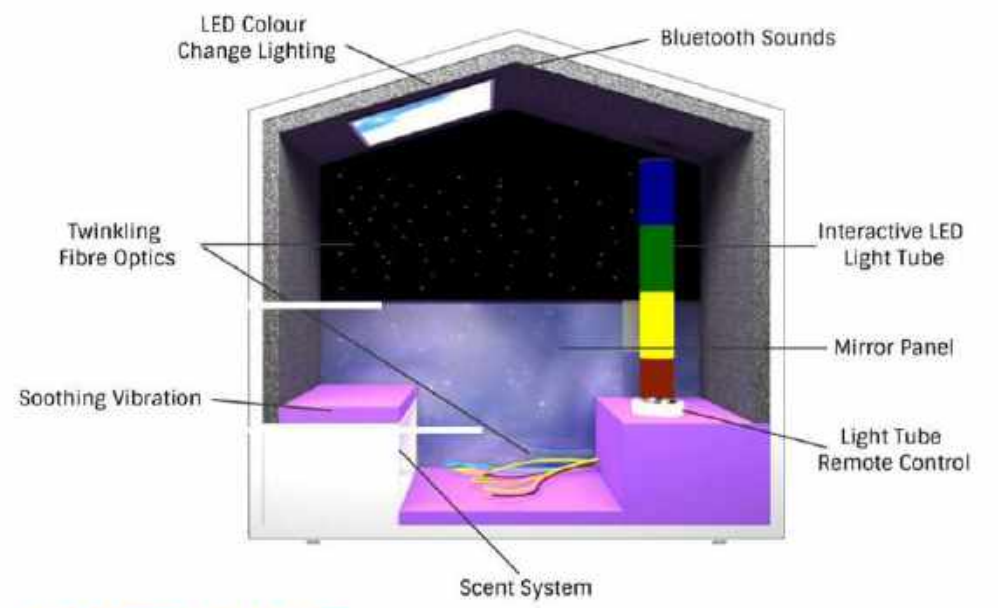
Garden spaces: Enjoyable exterior spaces encourage outdoor learning and experimentation. These spaces can also create a calming environment.



Sense of Community: A sense of community within the development as well as with the local community is key.



NOOK SPACE



QUIET SPACE

A womb-like space for ASD people which aims to stimulate those fleeting moments of calm which helps children to communicate, respond, learn and interact.



SECLUSION SPACE

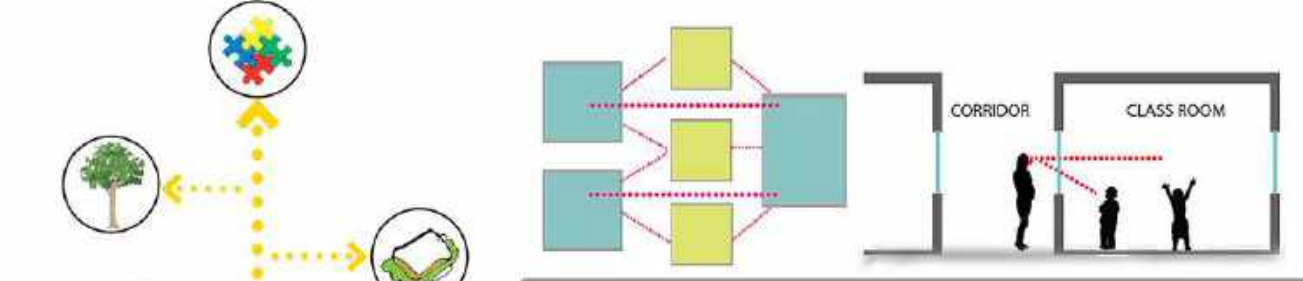
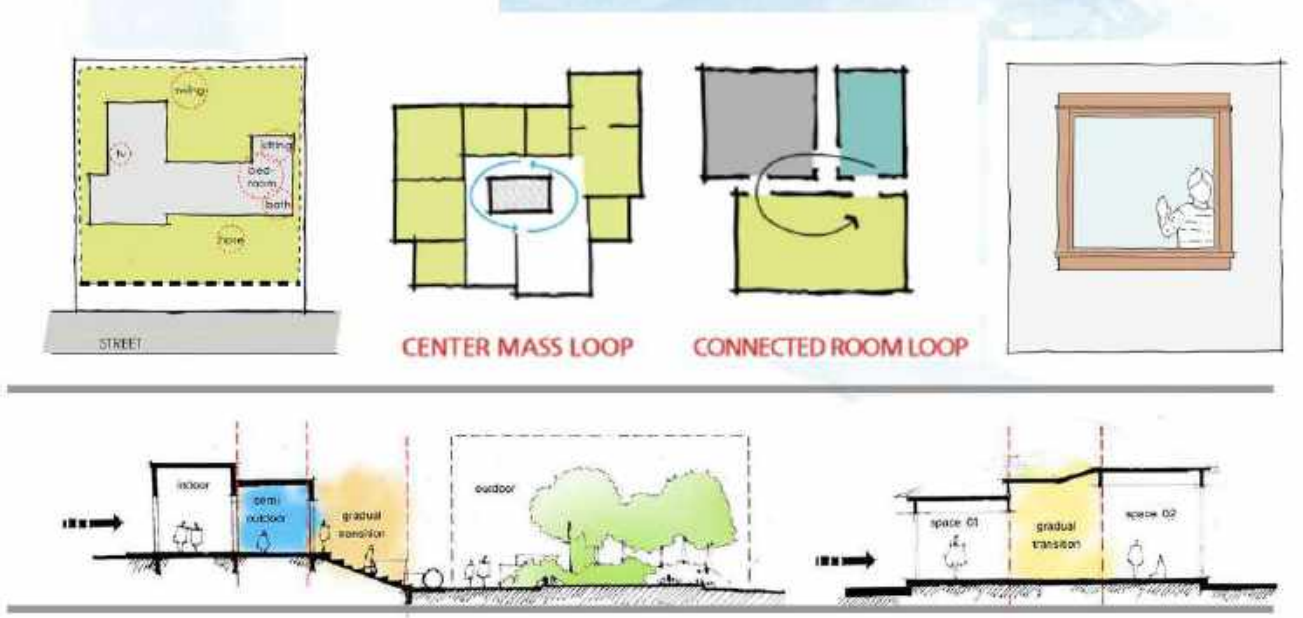


Sensory Playscape, is a tent-like pavilion made of tensile fabric stretched over rods

Responding to touch, sounds are triggered, and 2D imagery is projected onto the fabric's surface

This visually demonstrates the connection between motor skills and auditory

TACTILE ARCHITECTURE



REQUIREMENTS

- Public awareness center/Admin
- Diagnostic and treatment center
- School for Autistic Children
- Vocational Training Center for Adults
- Residential facilities
- Amenities and services

PROJECT LOCATION:

Live Proposal - Holistic Center for Autism in Kerala:

The CADDRE center in thivandrum, Kerala-Aims at comprehensive diagnosis and developmental assessment of autism spectrum disorder, intervention program, Structured learning program, Monitoring and Management and continuous assessment, Sustained family education and support fostering of life skills among the disabled to become self-reliant, Research and advocacy.

SITE SELECTION:



Schools should be located in environments that contribute to

- Livability
- Sustainability
- Public health of neighborhoods and communities.
- Ensuring that safe routes to and from school are available for students

SITE STUDY



KERALA
Thiruvananthapuram District is the southernmost district of the coastal state of Kerala. It is the administrative capital of the State. The second most populous district in Kerala. Taluks-6
Population :743,691
Nearly 700 people have autism in Kerala

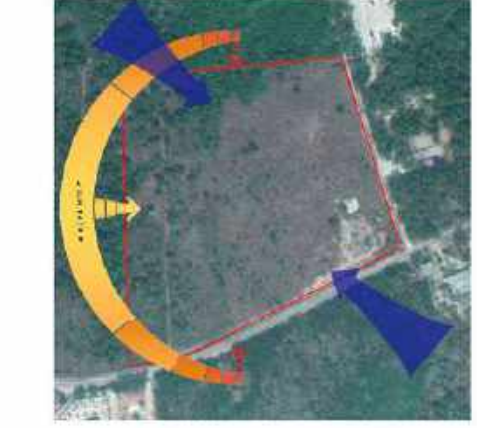
SITE LOCATION:
The Site is located in 14 kms from Thiruvananthapuram district near pallipuram
Site Area - 15 acres



REGIONAL LINKAGE:
East :Thirunaveli District, Tamilnadu-160kms
South :Kanyakumari District, Tamilnadu-89kms
West :The Arabian Sea.
North :Kollam District -65kms
Airport:3kms west of city

PROXIMITY:
Airport - 33 kms
Railway station - 5kms
Hospitals - 2kms

NEIGHBOURHOOD:



CONNECTIVITY:



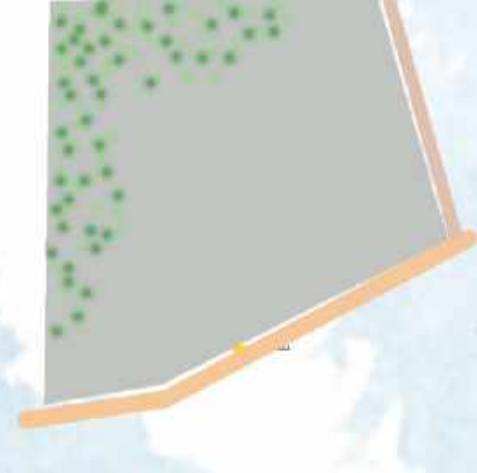
CLIMATE:

-The climate of Thiruvananthapuram district is generally hot and tropical. Large forest reserves have a favorable effect on the climate and induce rains. Cold weather is experienced in the mountain ranges. Generally hot in the coastal regions.
-The mean maximum temperature is 95 °F (35 °C) and the mean minimum temperature is 69 °F (20 °C).
Relative humidity is generally high. It rises upto 95% south west monsoon
Rainy season-June to September.
Summer season-February - May

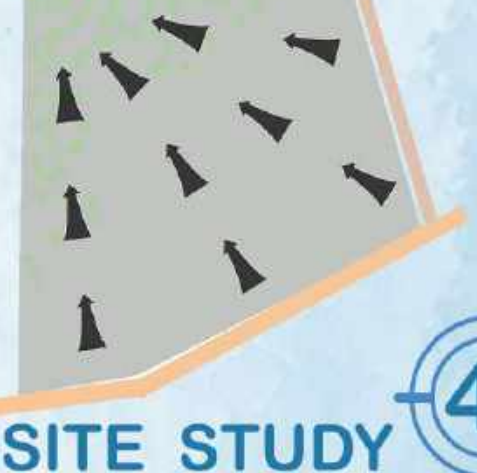
CONTOUR



VEGETATION



SLOPE



QUANTITATIVE STUDY

3

SITE STUDY

4

THE BANCROFT SCHOOL - USA

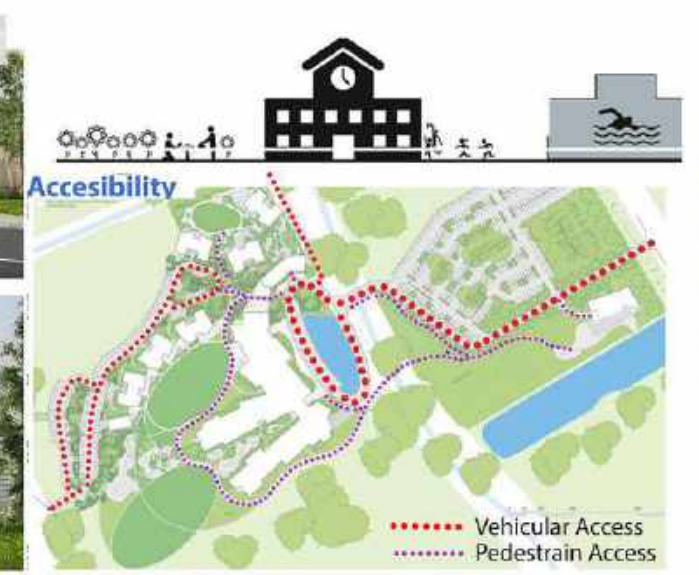
LOCATION:



PROJECT NAME - Bancroft Campus at Mt. Laurel
LOCATION - 311 Walton Avenue Mt. Laurel NJ
ARCHITECT - Merilee Meacock, KSS Architects
CLIENT/OWNER - Bancroft
PROJECT TYPES - Community, Education
SITE AREA - 30 acre

PROJECT DESCRIPTION:

- About 1 in 41 children have autism in New Jersey
- Bancroft Campus located in Mount Laurel, NJ
- Space for children with autism, intellectual and developmental disabilities
- Bancroft serves students from 90 different school districts across the state along with out-of-state residents.



INFERENCE



SITE PLAN:



ENVIRONMENT

The Lindens also include a semipublic area, designed as a family garden, to provide private opportunities for families and their children to spend time together and also multiple individual playground gardens

INTERACTIVE SPACE:

The Lindens, the most intensive unit, program elements include a smaller group of more secluded homes in a natural setting with a semi-private garden for family time, and multiple individual playground gardens for intensive one on

VEIW:

The Vocational Village and the School—providing a clear, visual connection to community.

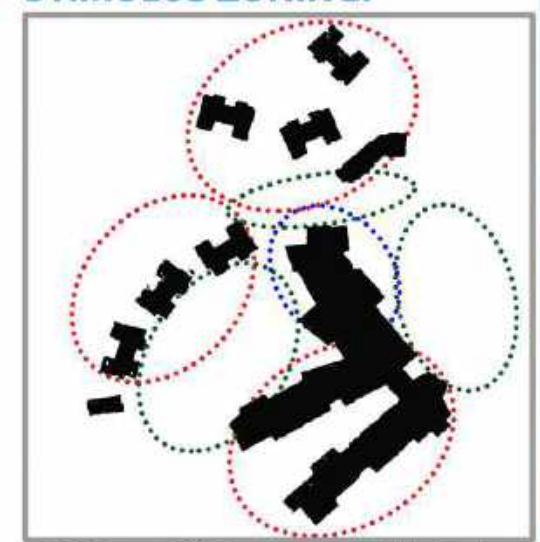
SPACES:

Wider corridors, larger classrooms, and flexible physical structures and atmospheric climates to respond to changing needs of teachers and students.

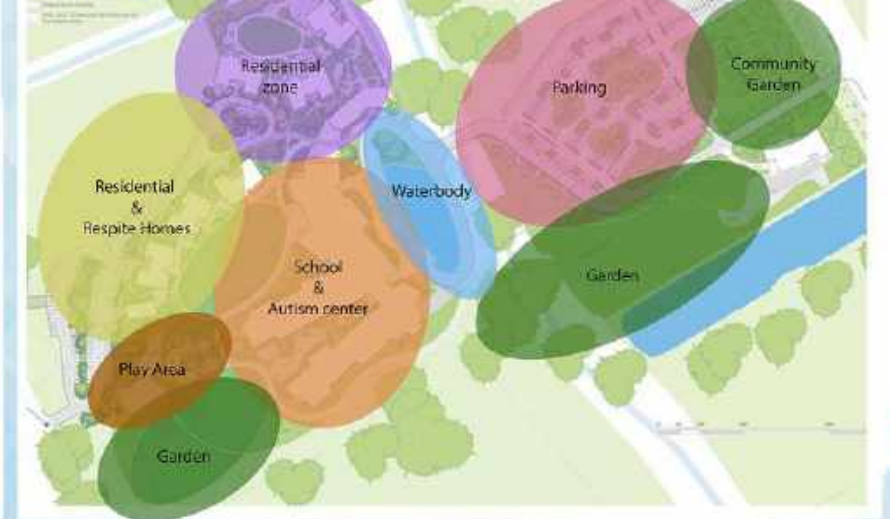
CONSIDERATION:

Light, pattern, color, sound, and haptic factors are considered throughout programming and design. Control over and limitation of sensory overload – aural, visual, haptic – is interwoven into each room.

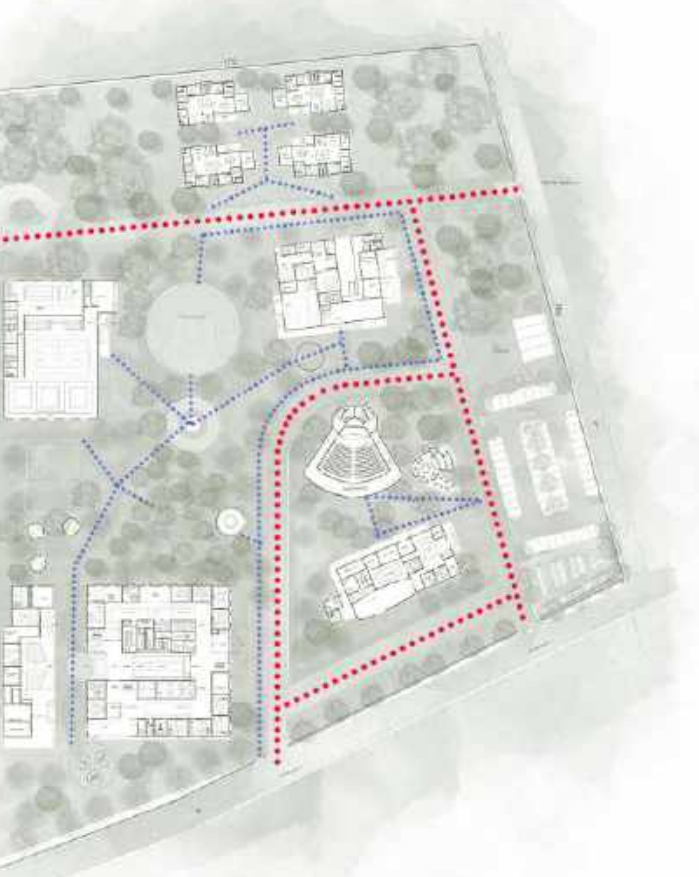
STIMULUS ZONING:



Zoning



CIRCULATION



ZONING



LOCATION : TRIVANDRUM, KERALA
 SITE AREA : 12.5 ACRES.
 REGION : SUBURBAN

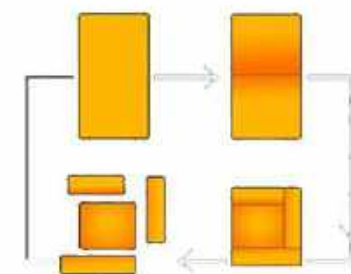


SITE PLAN

Children with autism always try to separate themselves from others. They live in a different world, a world that only they can understand. They live in a closed world and they are not willing to come out of it. It's like they live in a box.



They live in a cube and my main goal is to bring them out of it. This cube must be broken to access the real world

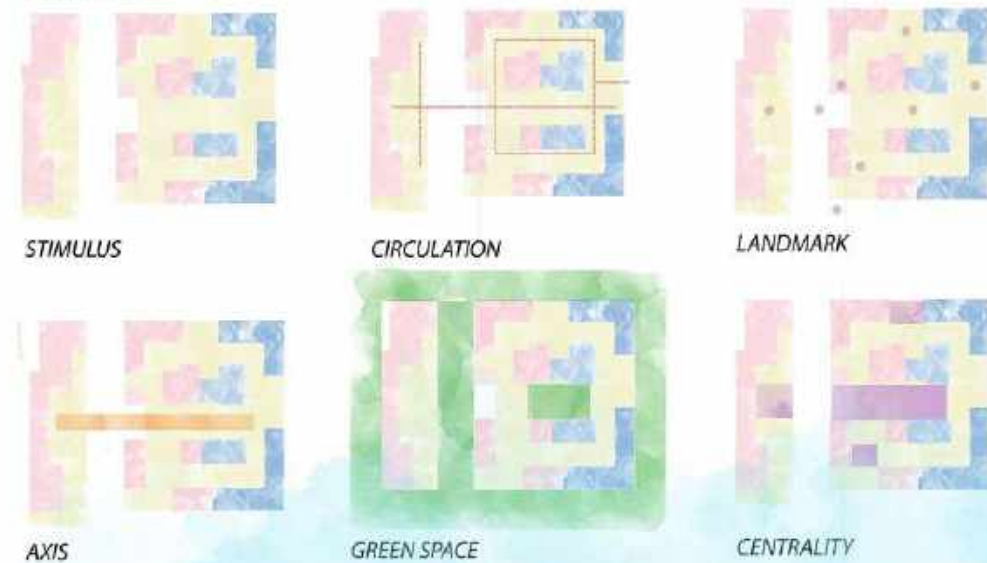


FIRST FLOOR PLAN



GROUND FLOOR PLAN

PLANNING:



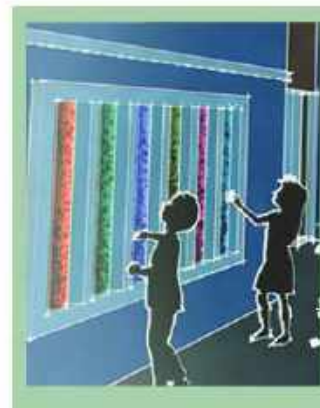
VIEW



SECTION



ELEVATION



INTERIOR VIEW

SENSORY GARDEN:

A sensory garden is a garden environment that is designed with the purpose of stimulating the senses. This stimulation occurs courtesy of plants and the use of materials that engage one's senses of sight, smell, touch, taste, and sound.

Calm over-sensitive Children **Stimulate under-sensitive Children**

Use fine-textured plants (smooth leaves, bark and flowers) and hardscape (smooth finished walls and walkways)	Use coarse-textured plants (rough leaves, bark and flowers) and hardscape (rough finished walls and walkways)
Plants with monochrome colours	Plants with varied colours.
No variation in ground cover forms	Use of different topography on ground plan with different textures
Use of plants and buildings to provide dense shady area.	Use of tree leaf out to provide sunny areas for tactile stimulation.
Create open spaces at the end of pathways.	Create heights and topography.
Create opportunities for repose in the circulatory pattern	Transfer from shady area to sunny area.
Use of pastel colours in plants and flowerbeds	Use of vivid colours in plants and flowerbeds.
Use of small sized dense shady views	Use of large bright sunny views
Use of small slope which provide challenge to help them.	Create grassy hills to roll down and gradually sloping areas
Use of Bean bag chairs or ball pens Tents for restorative time outs.	Use of Rocking chairs or hammocks.
Create trickling stream in water feature which relaxes by simple act of viewin	Create waterfall which slop down to a pool filled with small river rock
Create water fountain.	Create embedded nozzles in a running zone
Provide plant material which attract butterflies, birds and domestic animals.	Provide a fish tank to stimulate daily activity

SPECIES:

The species used in sensory gardens are native Kerala species considering its benefits and maintenance in sensory garden
 Bleeding plant, Cheera, Climbing asparagus, dog bane, KI g sago palm, kadalasupoovu chedi, Coral vine, Centuary plant, Brinjal, tomato, French bean, Lady of the night



ELEMENTS:

Labyrinths provide users with an opportunity for quiet contemplation and reflection. They can be the focus of a garden, or a quiet retreat. Labyrinths offer an additional benefits to healing gardens.



PLAY AREA

Provide chance for the child to live in nature to provide habitats for wildlife Provide places to experience natural resources as the wind, sun, rain and shade.

WATER BODY

Provide chances for planting and harvesting. One of the most significant activities for a child in a stressful situation is to be able to intermediate in the cycle of life or to start a new life within another species



OPEN CLASS ROOM

Playing and learning outside also helps children to understand and respect nature, the environment and the interdependence of humans, animals, plants, and lifecycles.



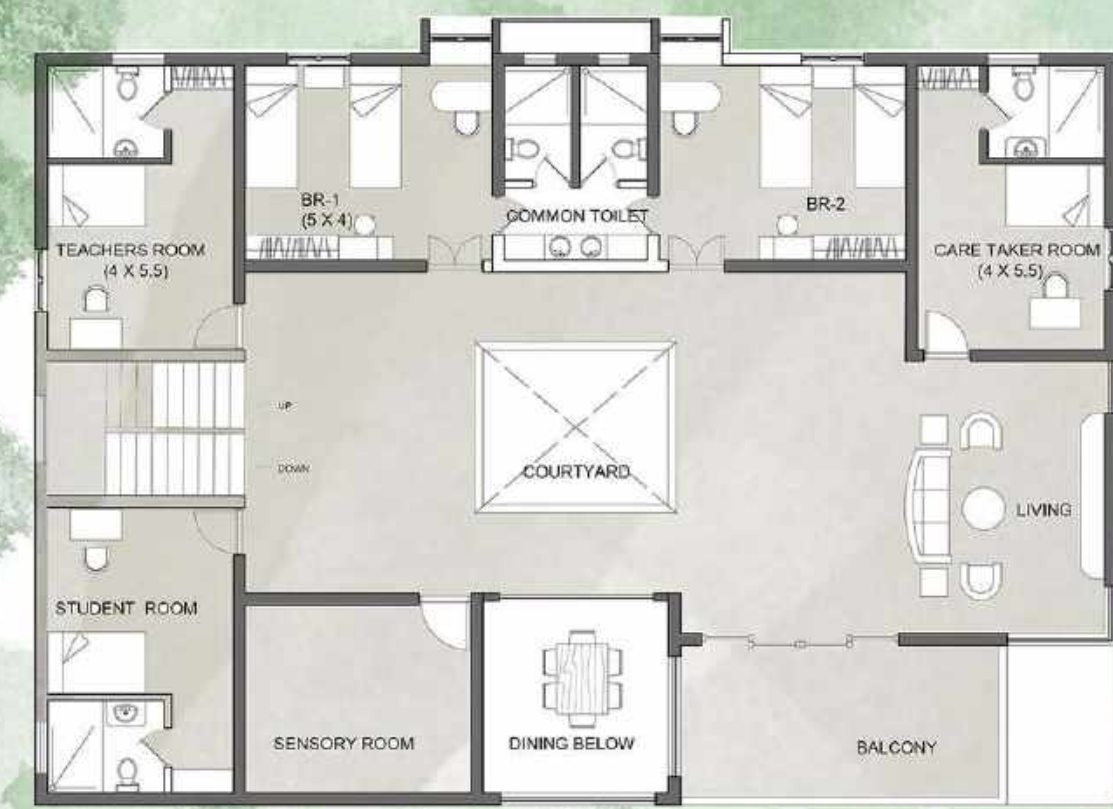
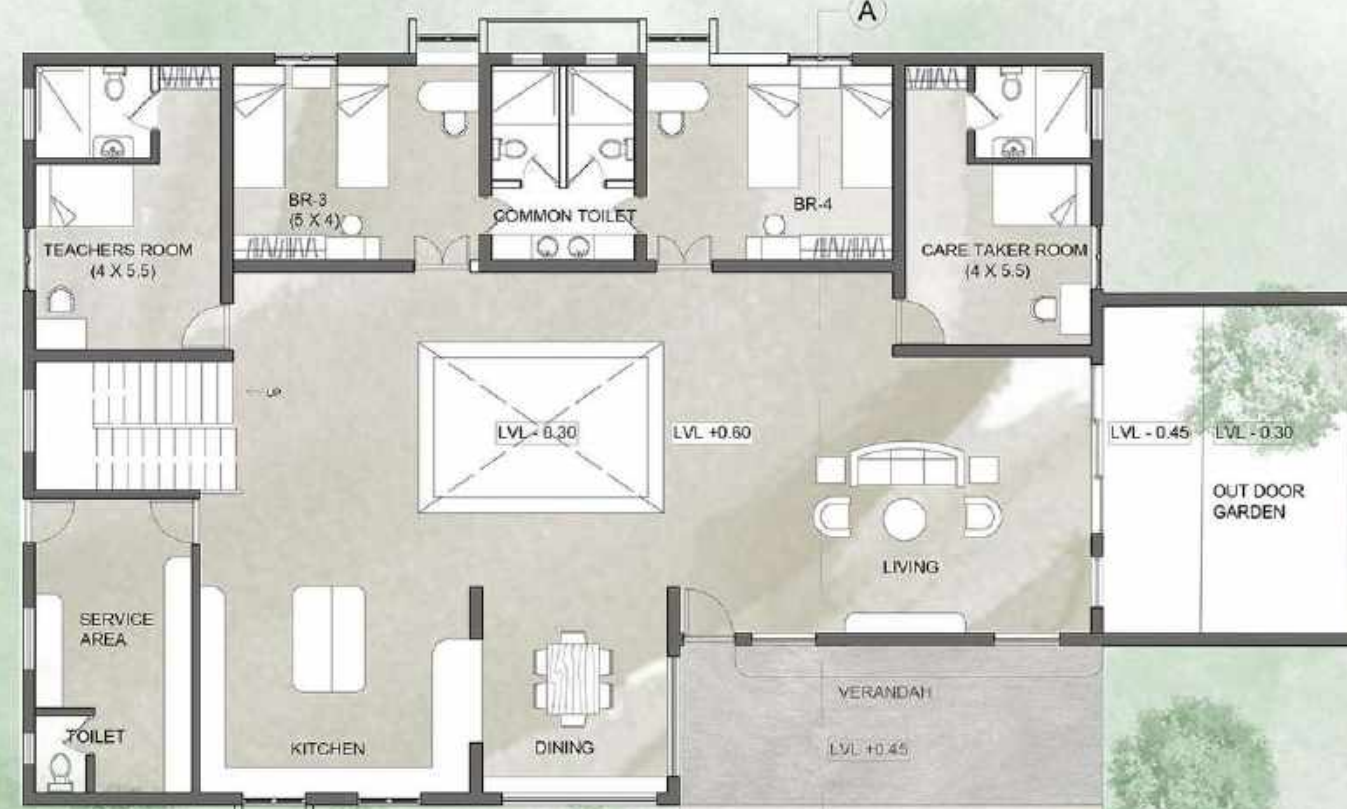
MATERIALS:

- Pebbles
- Cobble stone
- Wood
- Hollow blocks
- Concrete pavement
- Grass lawn
- Bricks

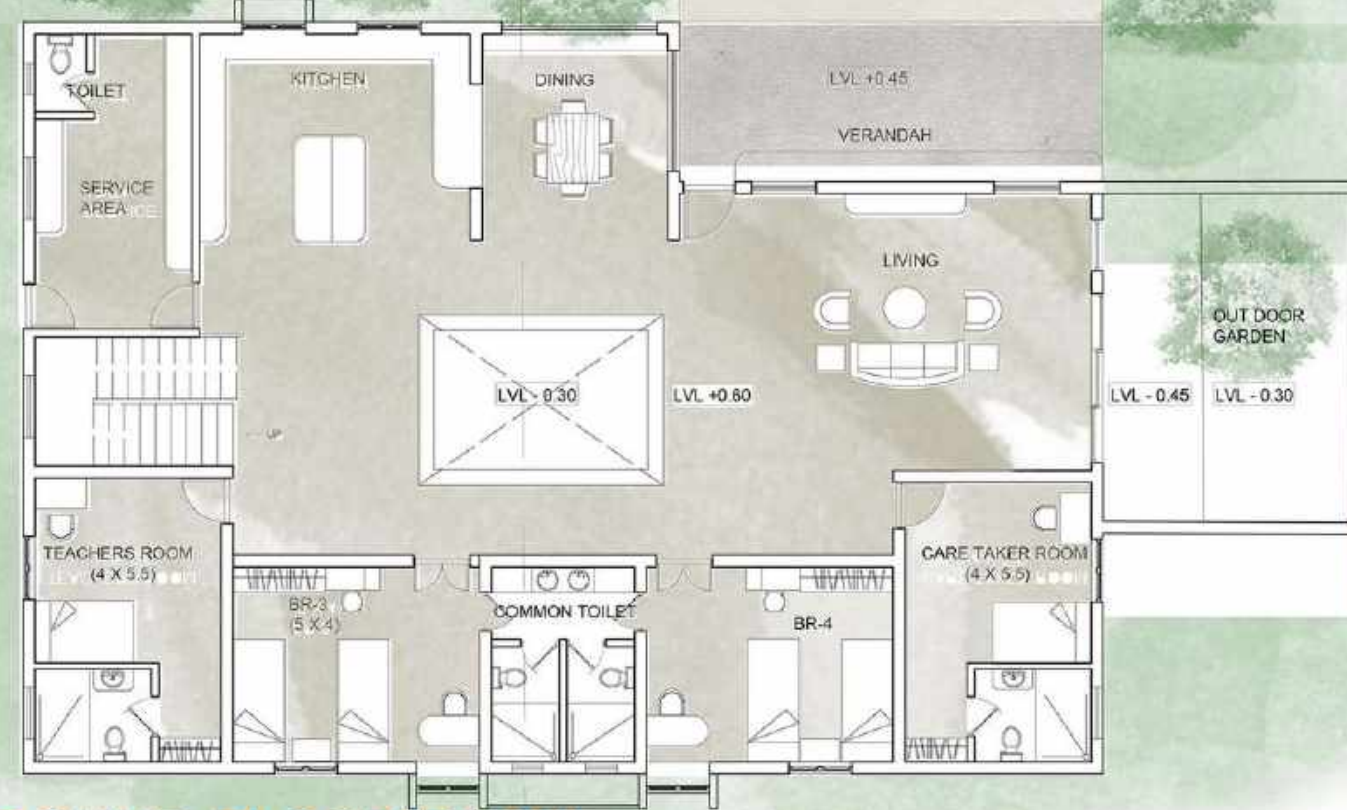


It is very important to children with ASD to contact with nature as cognitive, mental health, physical health, social and emotional benefits of connecting with nature.

NATURE AS A HEALER

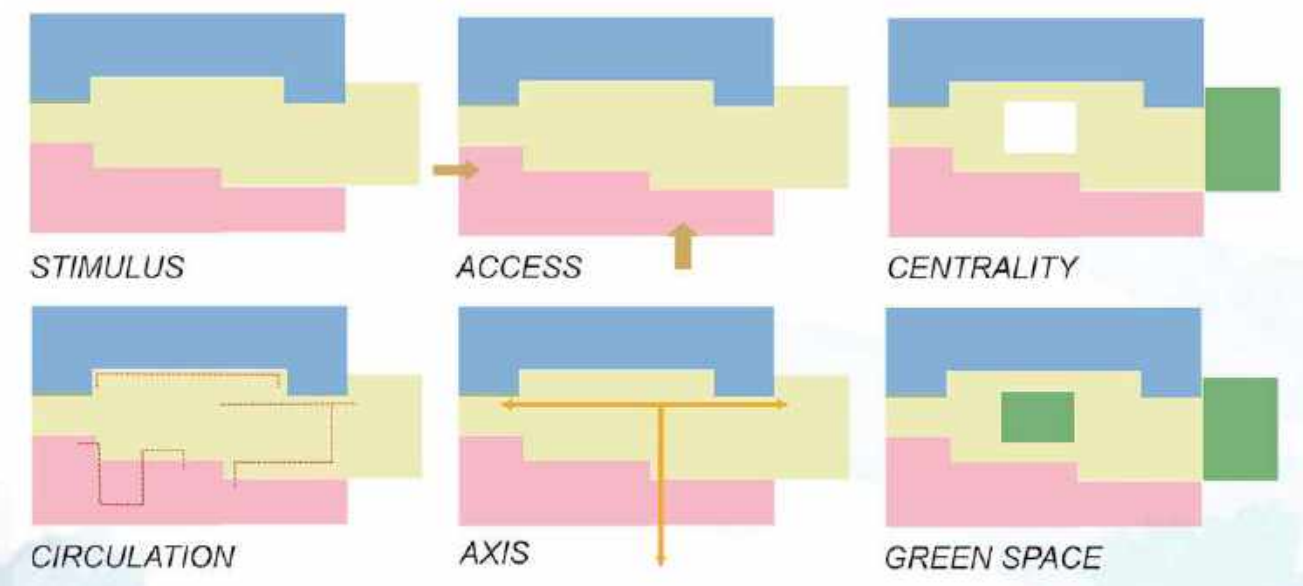


FIRST FLOOR PLAN

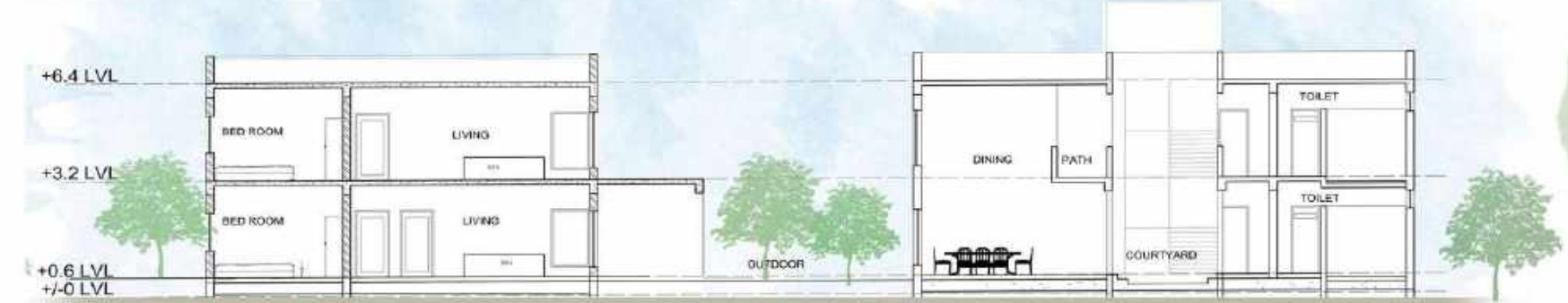


GROUND FLOOR PLAN

PLANNING



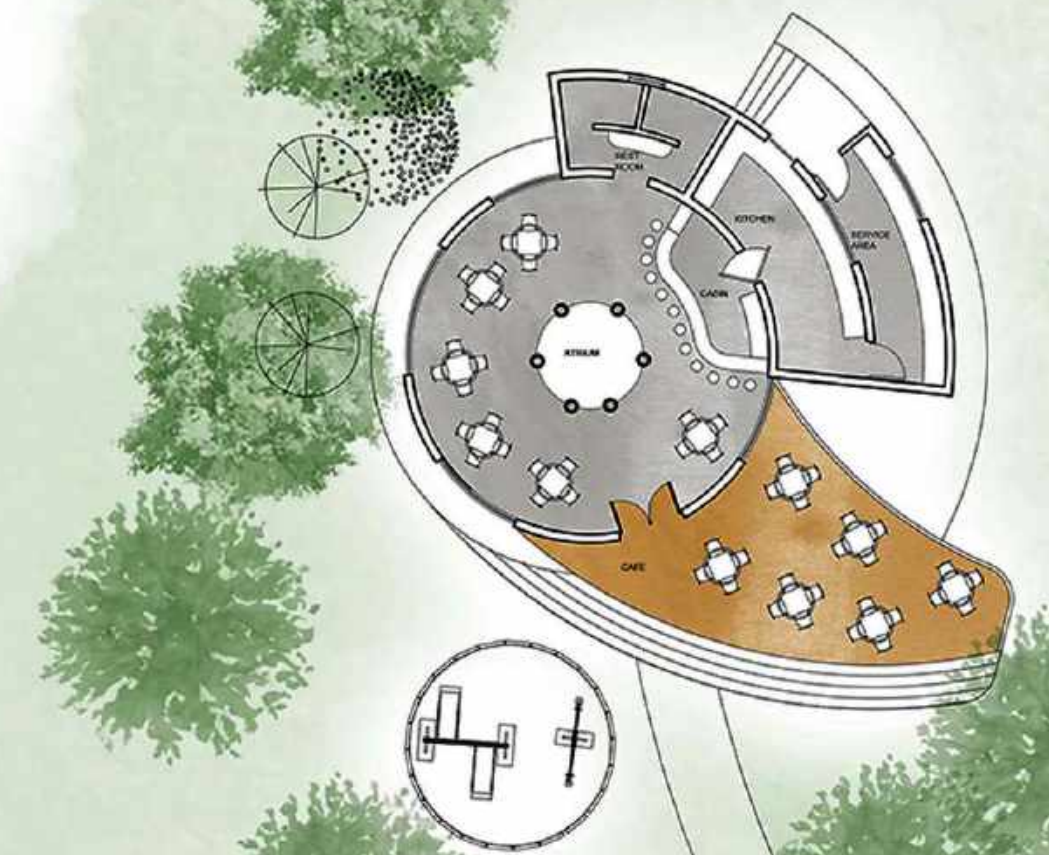
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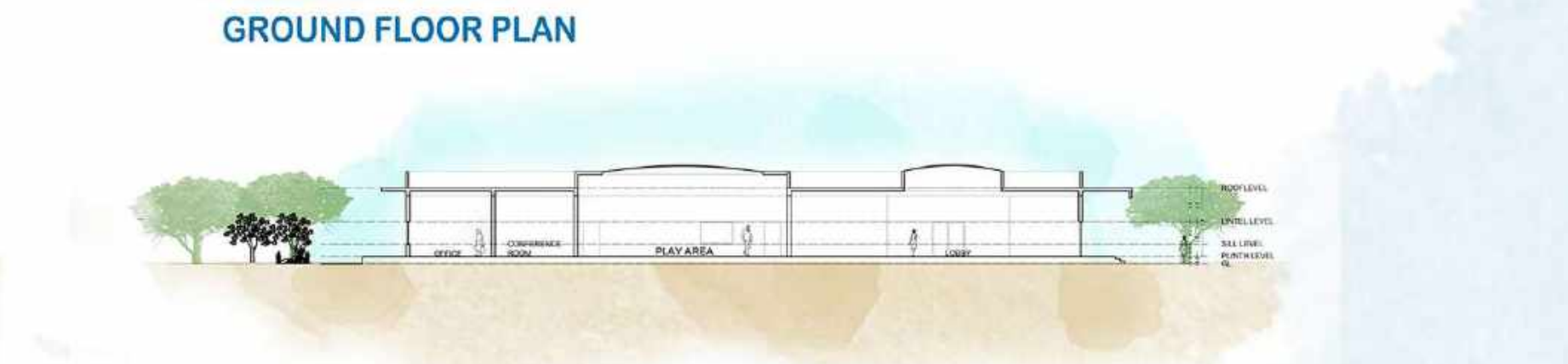
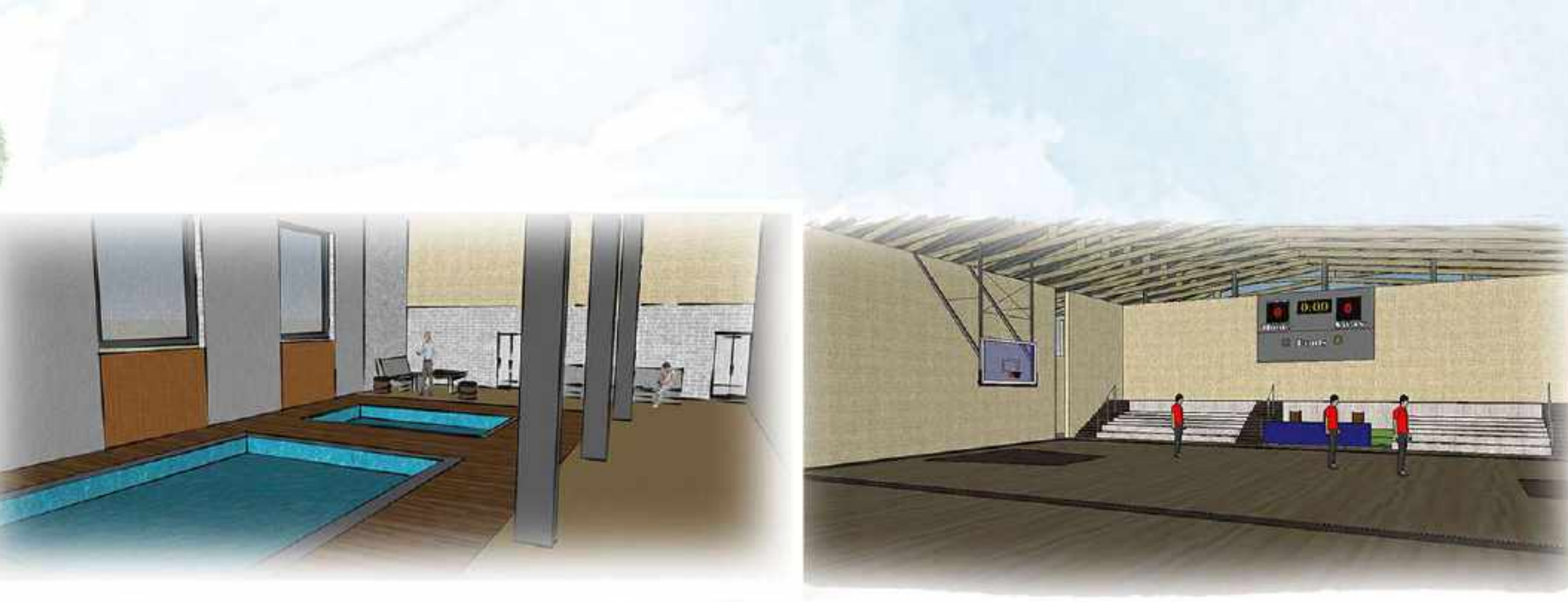
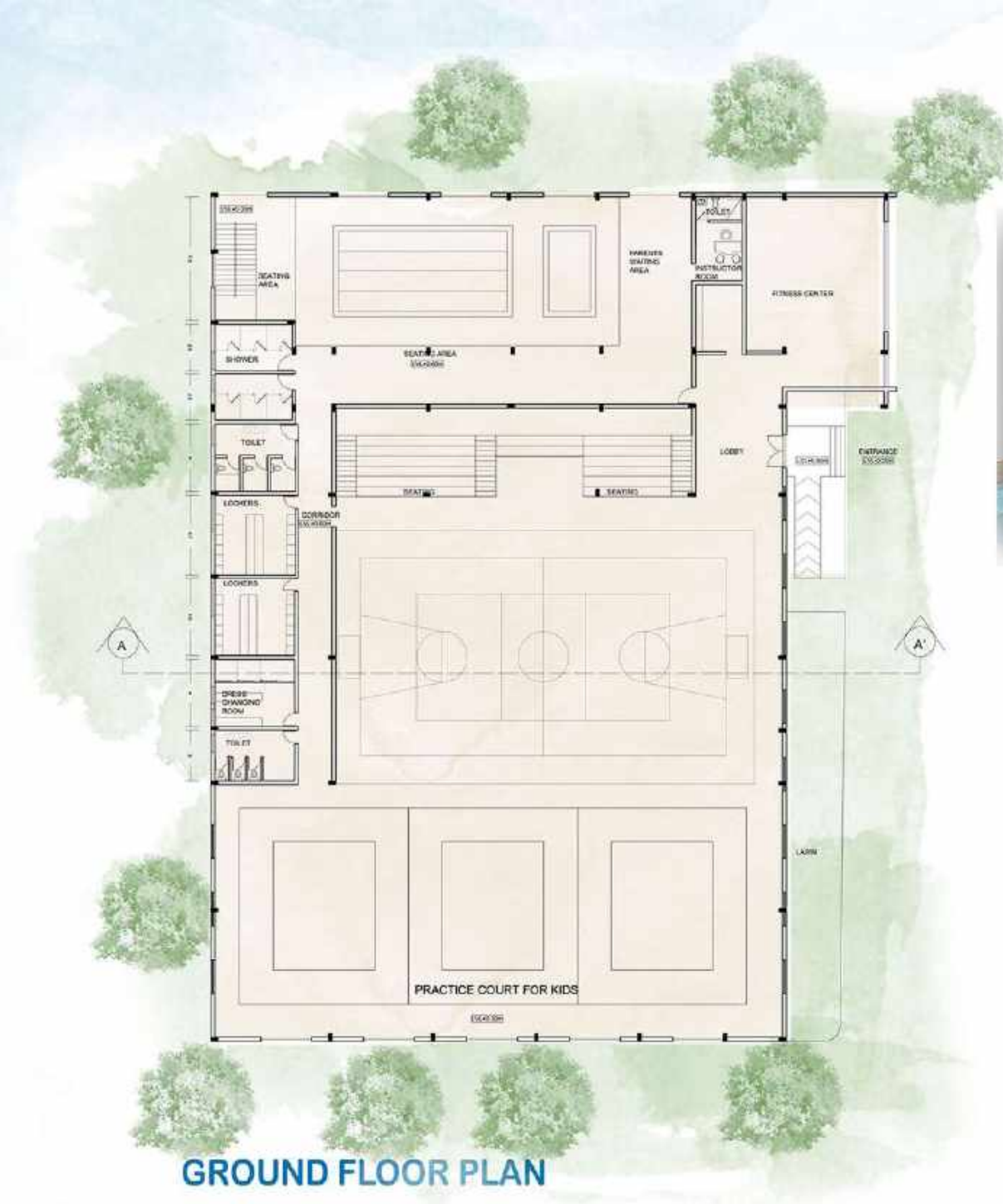
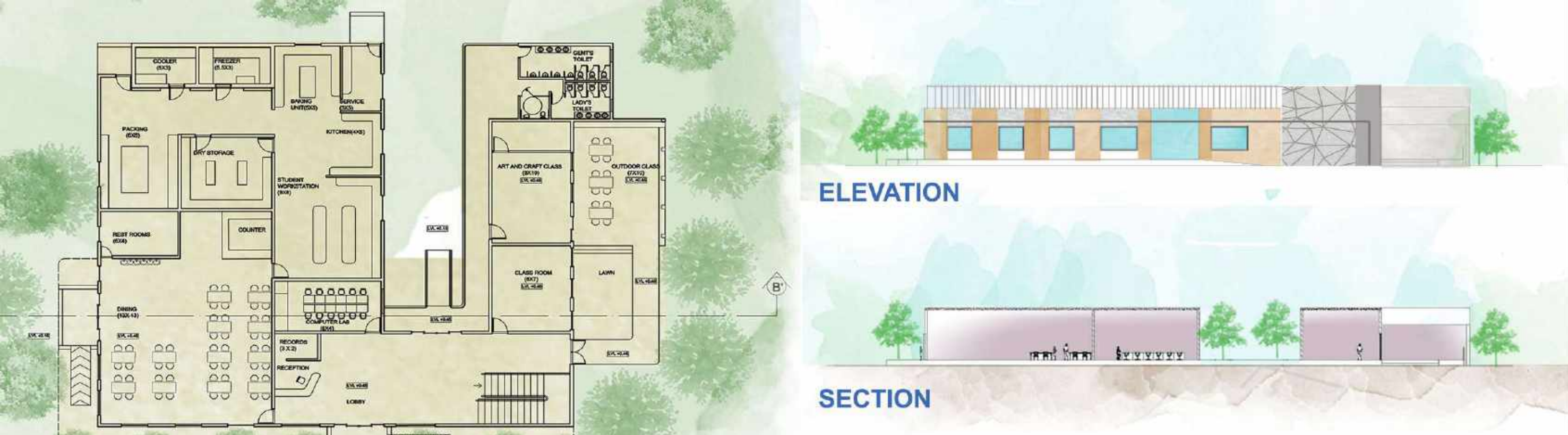
SECTION: A-A'



ELEVATION - A



CAFETERIA

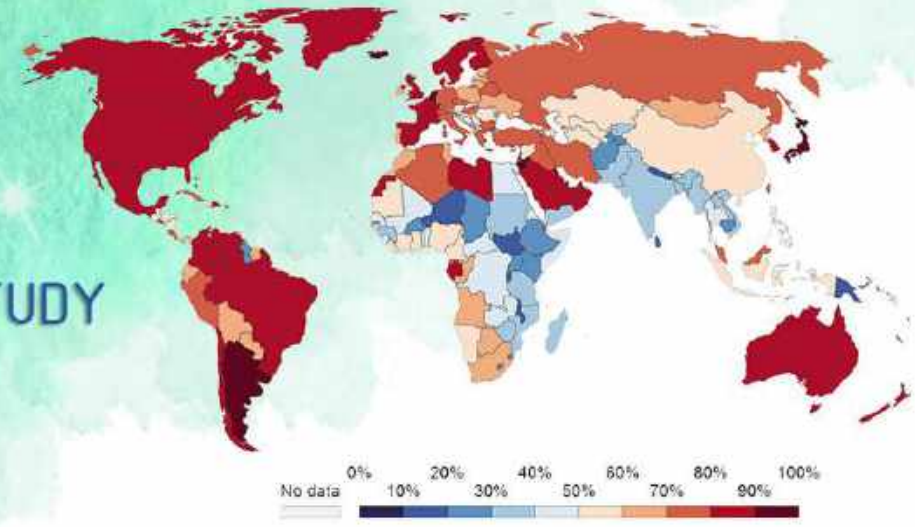


URBAN DESIGN

STAGE

1

QUANTITATIVE STUDY



the population living in urban areas (projected to 2050), 2018 total population living in urban areas, with UN Urbanization projections to 2050. Urban areas are defined tional definitions which can vary by country. Source: OVID based on UN World Urbanization Prospects 2018

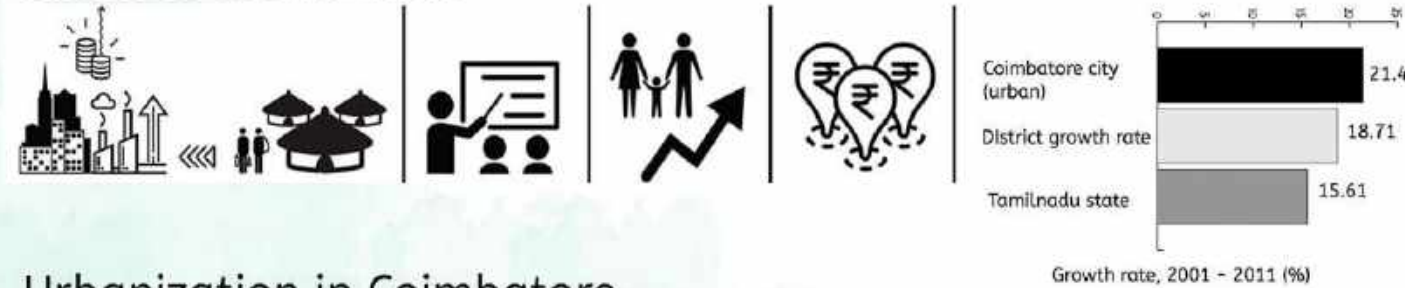
Urbanization:

Urbanization is the increase in number of people living in urban settings and economies. It usually happens when people start moving from rural areas to urban areas due to various factors. Due to a growing influx of people, the urban population increases and the urban area expands to cater to this growth. (UNDESA, 2014)

Effects of Urbanization:



Causes of Urbanization



Urbanization in Coimbatore

Coimbatore is amongst the fastest growing Tier-II cities in India and a major hub for textiles, industries, commerce, education, information technology, healthcare and manufacturing in Tamil Nadu. Coimbatore is the second largest city next to Chennai in Tamil Nadu state. It shares about 6.62% of total state urban population.

It is the 16th largest urban agglomeration in India as per 2011 census. Coimbatore agglomeration area includes the population of 2,151,466 as per 2011 census shown Table 1.while the Coimbatore Corporation has a population of about 1584719. The growth population of the Coimbatore urban agglomeration has increased rapidly from the year 2001-2011.About 73.66% of the total population present in the Coimbatore urban agglomeration is constituted by the Coimbatore Municipal Corporation.

DEMOGRAPHY

POPULATION
POPULATION DENSITY
DECADAL GROWTH
HOUSEHOLD
AGRI LABOURS

POPULATION DENSITY

- Total number of people living per unit area.
- Helps to infer the areas that are densely populated and sparsely populated.

DECADAL GROWTH

- Percentage of total population growth in a decade.
- Helps to highlight the areas that have grown rapidly owing to different factors.

HOUSEHOLD

- Percentage increase in number of household in a decade.
- Helps to identify the areas that are grown.

AGRI LANDUSE

- Percentage of change in agri land in a decade.
- Helps to identify the villages with drastic change in land use pattern.

INDUSTRIES

- Major industries and their uence zones were identified.
- Helps to identify the areas that grows based on their impact.

INSTITUTIONS

- Major institutions and their influence zones were identified.
- Helps to identify the areas that grows based on their impact.

POPULATION

- Statistical data of number of people living in a town or village
- Helps to identify the areas which are most populated and least populated.

AGRI LABOUR

- Number of male agricultural workers and cultivators.
- Drastic change in this would help to identify the areas that are urbanised and moving away from agriculture.

SPATIAL

- Transportation
- Tourism
- Influence Zone
- Agri Landuse

TRANSPORTATION

- Major transportation corridors like highways, district roads, railways.
- Helps to identify the villages that grows due to there impact.

TOURISM

- Important tourist destinations that sparks growth around them.
- Helps to identify the areas that grows due to their impact.

INFLUENCE ZONE

- Self assumed limit which are on the verge of urbanization.
- Helps to identify prospective growth nodes based on the proximity to the urban centre.

ECONOMIC CLUSTER

- Industries
- Institutions
- Commercial
- Health Care

HEALTH CARE

- Major health centres and multi speciality hospitals were identified.
- Helps to identify the areas which grows based on their indirect impact.

COMMERCIAL

- Major commercial units and entites were identified.
- Helps to identify which of these entites spark growth around them.

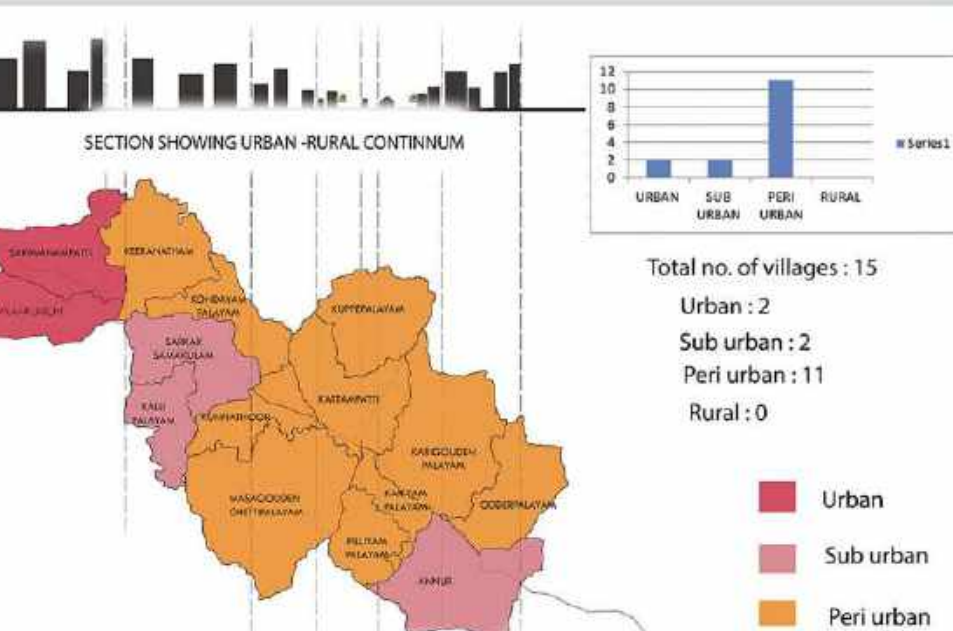
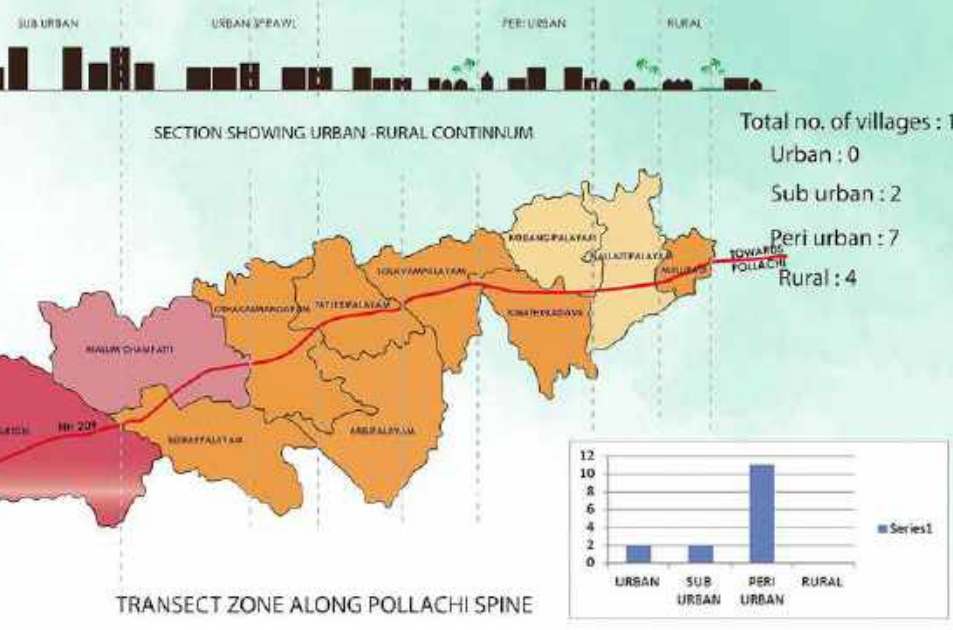
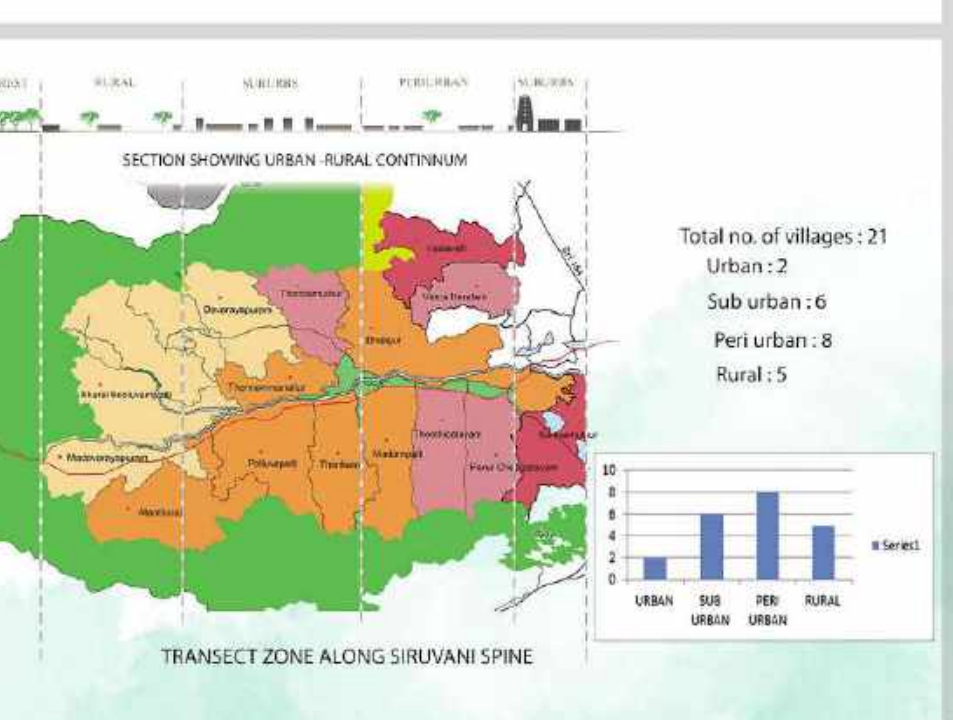
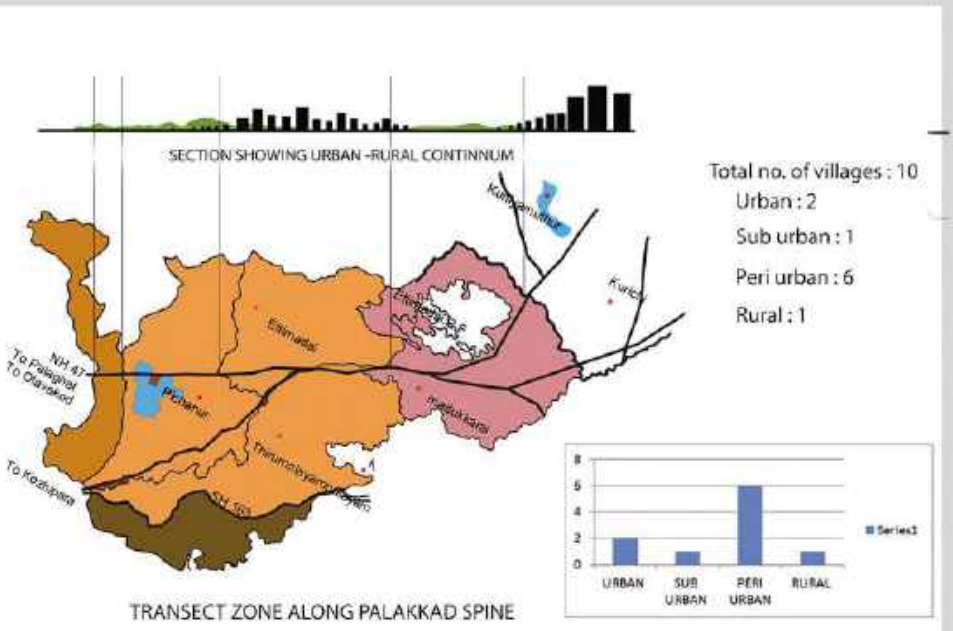
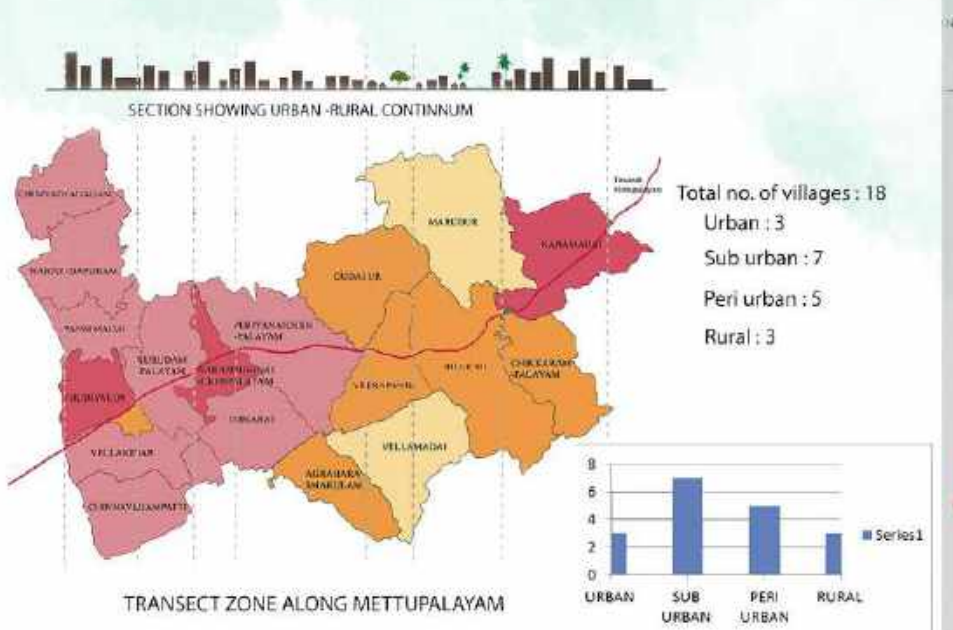
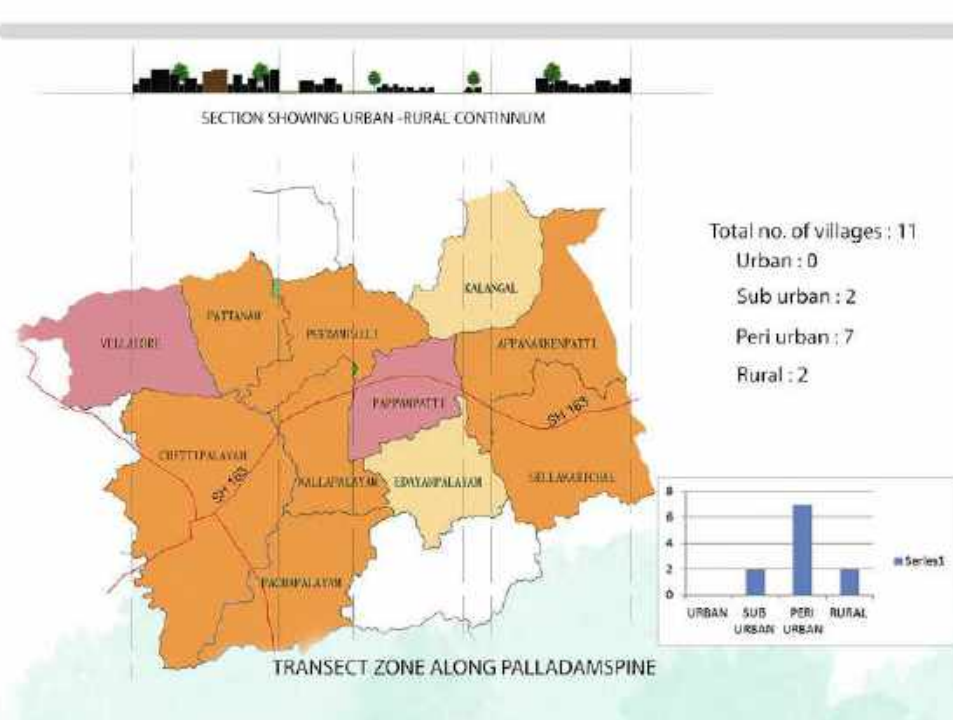
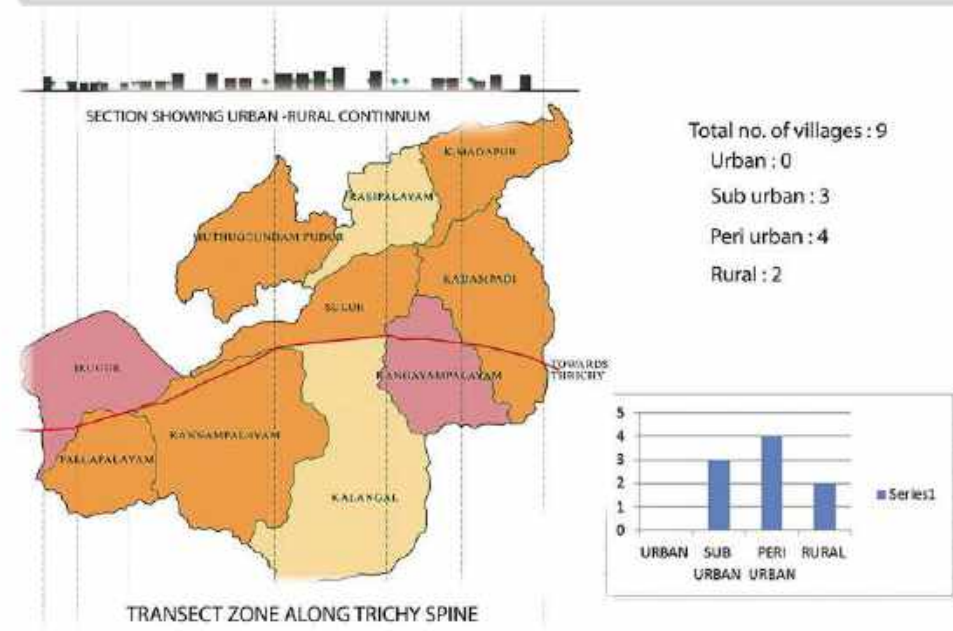
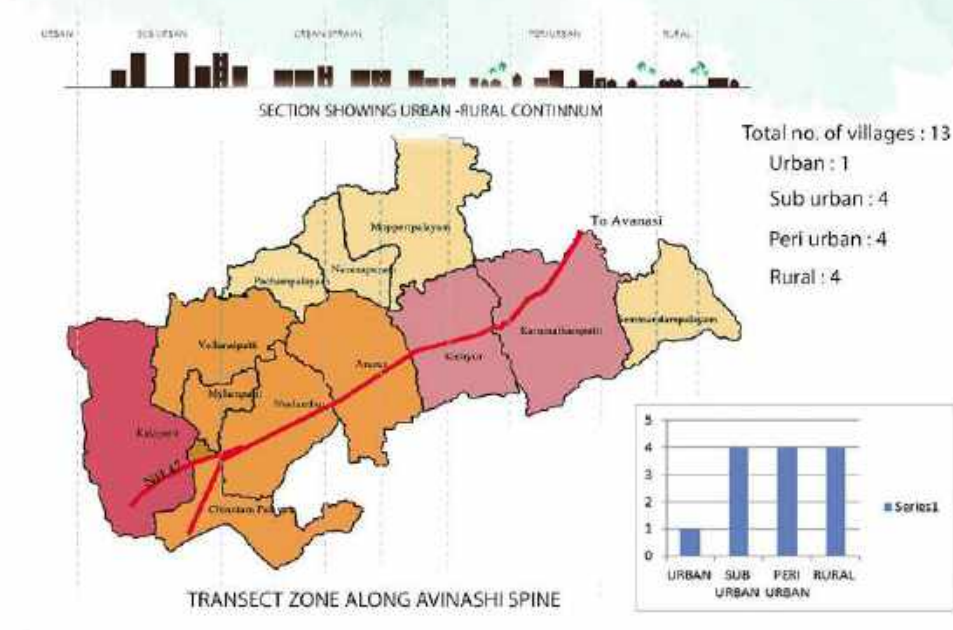
Source: Asian Development Bank Urban Indicators Census of India - 2011

URBAN GROWTH INDICATORS

Tools for identifying the areas that are getting urbanised. Helps to identify the factors that triggers growth.

DEMOGRAPHY
SPATIAL
ECONOMIC CLUSTER

To collect useful information on urban conditions and trends; To analyze this information to improve access to and coverage of basic services and other urban infrastructure; To improve targeting and operational performance of services; and To apply that knowledge in formulating and implementing urban policies and programs.

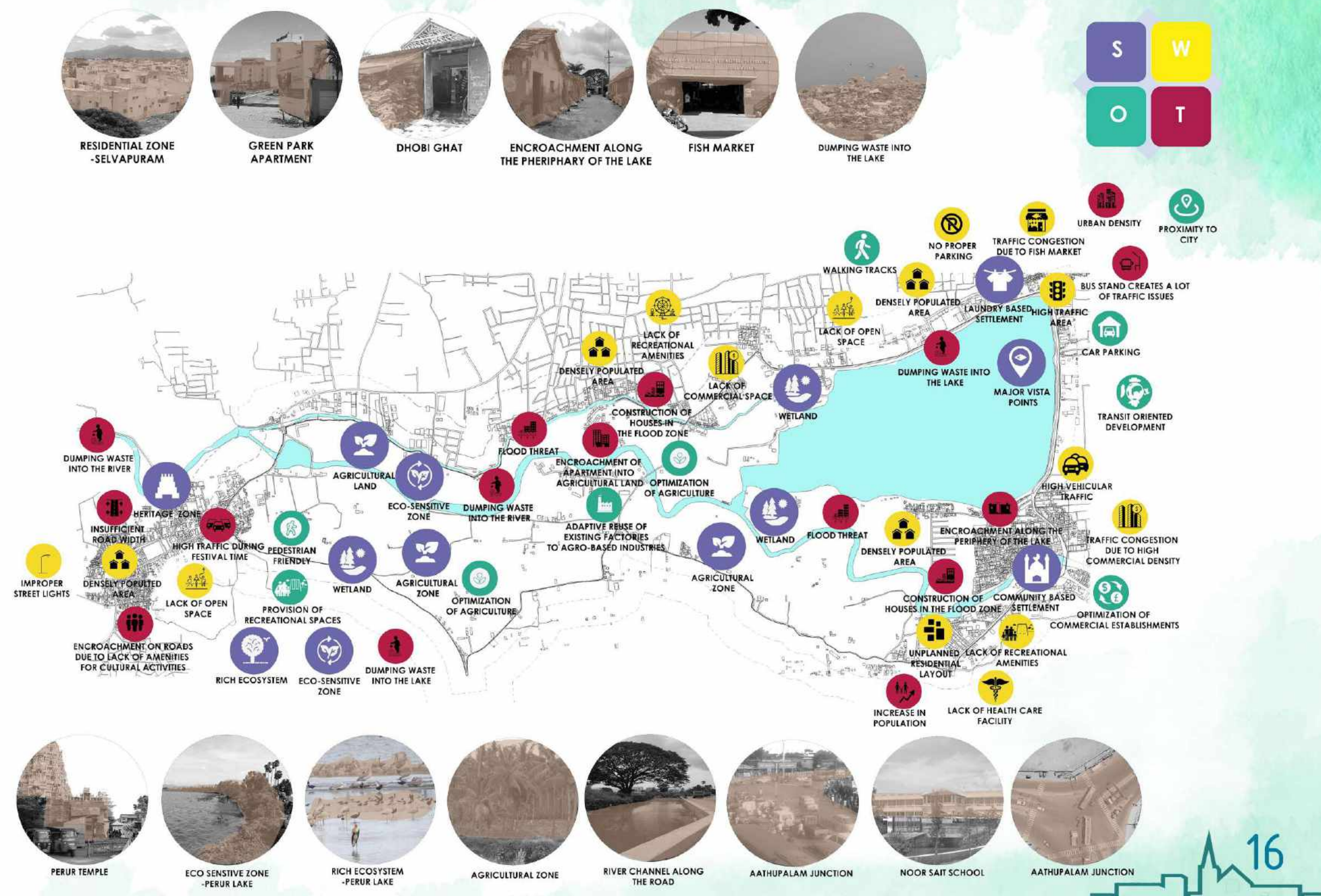
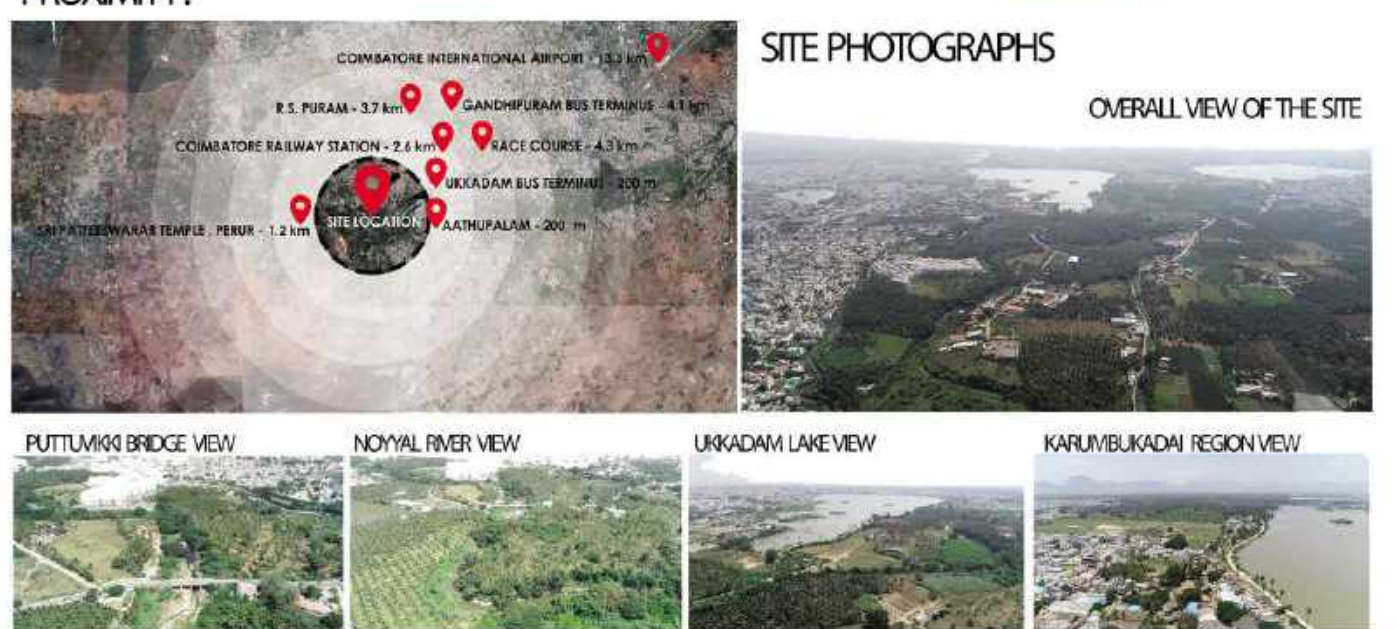
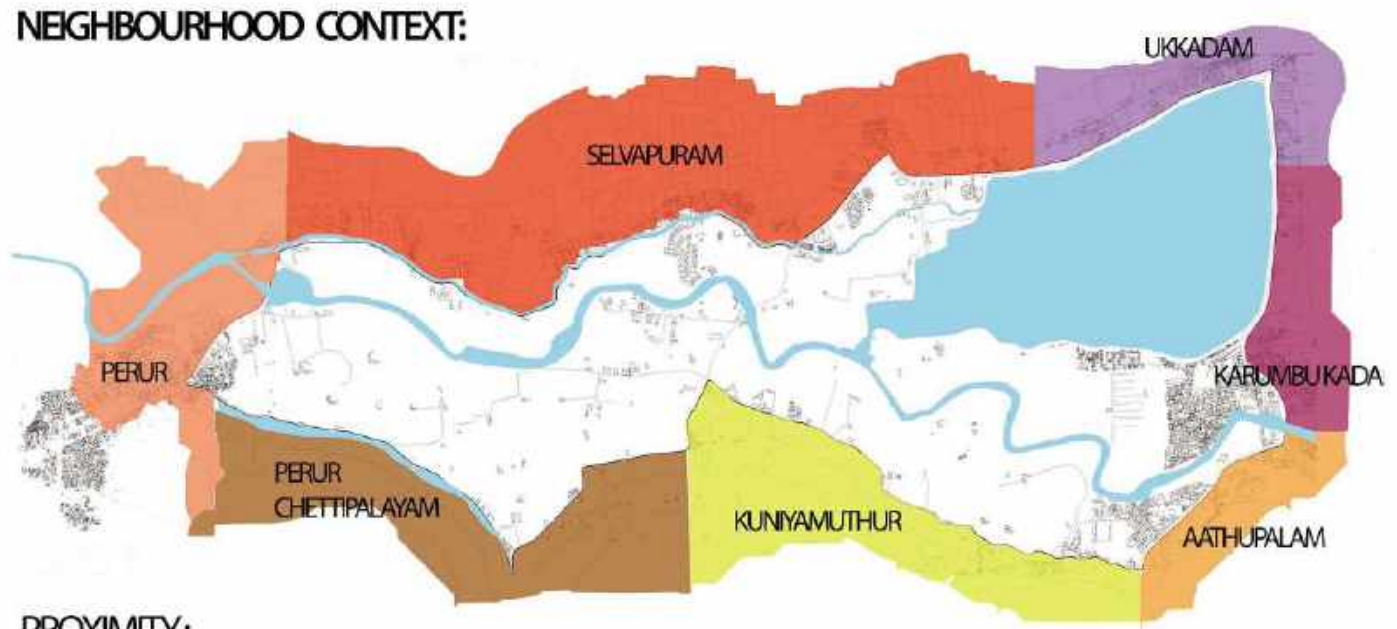
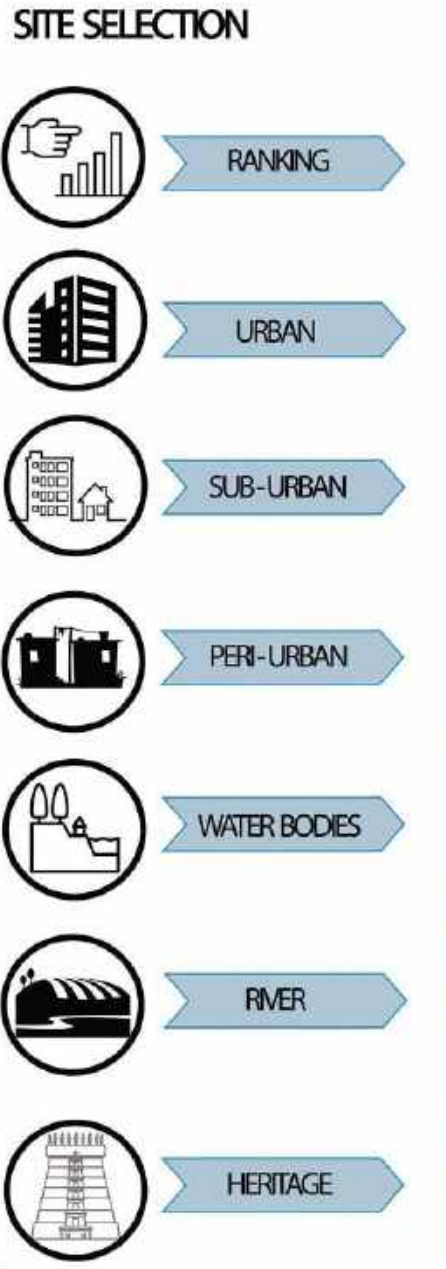
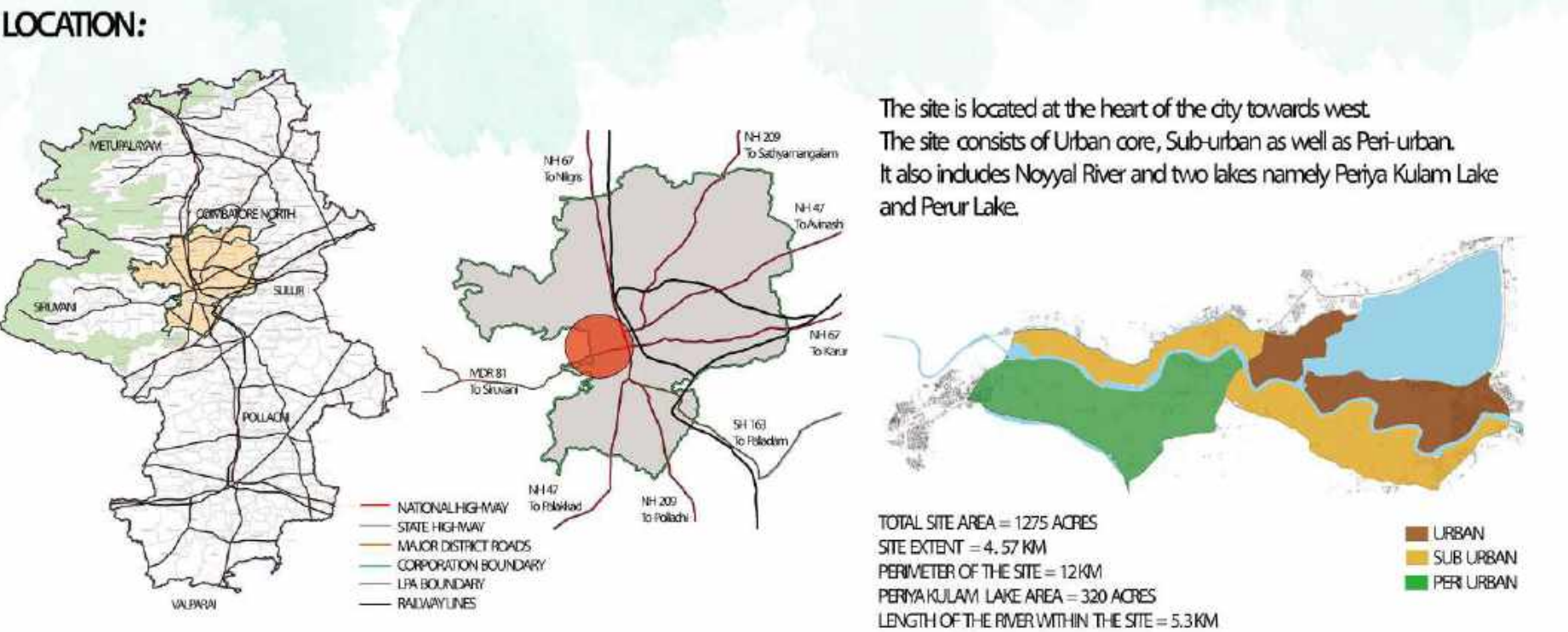
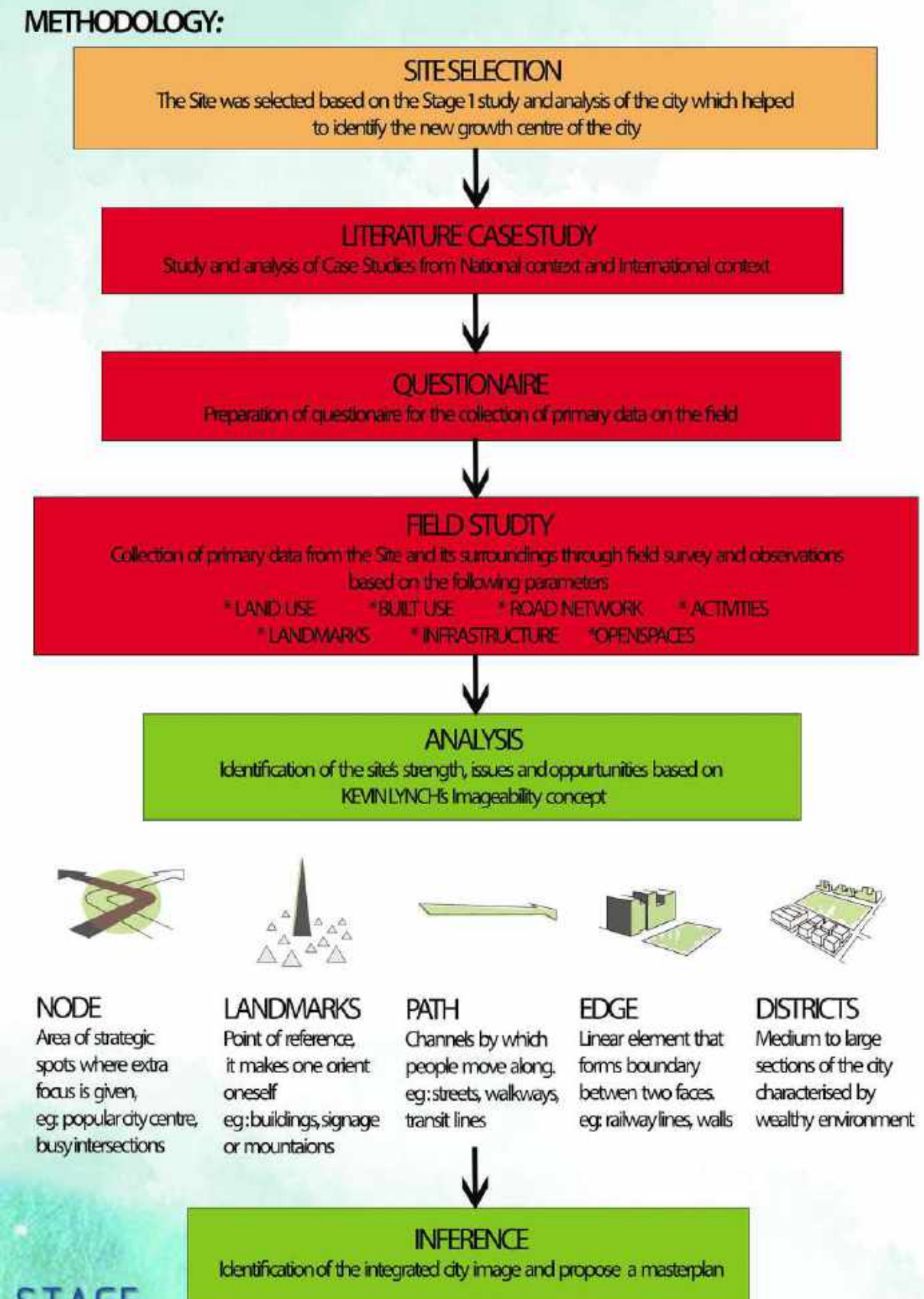


INFERENCE: Based on the above analysis based on spines the palakkad and siruvani spine has prospect for a new growth.

ANALYSIS OF URBANISATION

AIM:
To study the chosen site and its neighbourhood physically and visually with an indepth analysis and identify the character of the region which helps to propose the masterplan.

OBJECTIVE:
* To physically study the periphery of the site through various parameters that influence in and around the site.
* To analyse the site with Kevin Lynch Imageability concept.
* To identify the issues and come up with overall MasterPlan for that region and also architectural interventions.



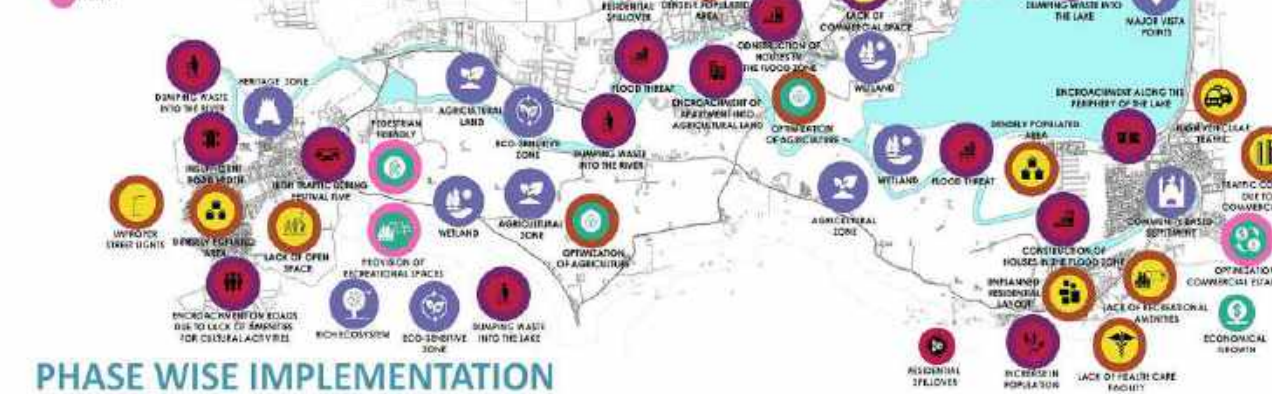
PROPOSED MASTER PLAN FOR ECO-NEIGHBOURHOOD, COIMBATORE



IMPLEMENTATION PLAN

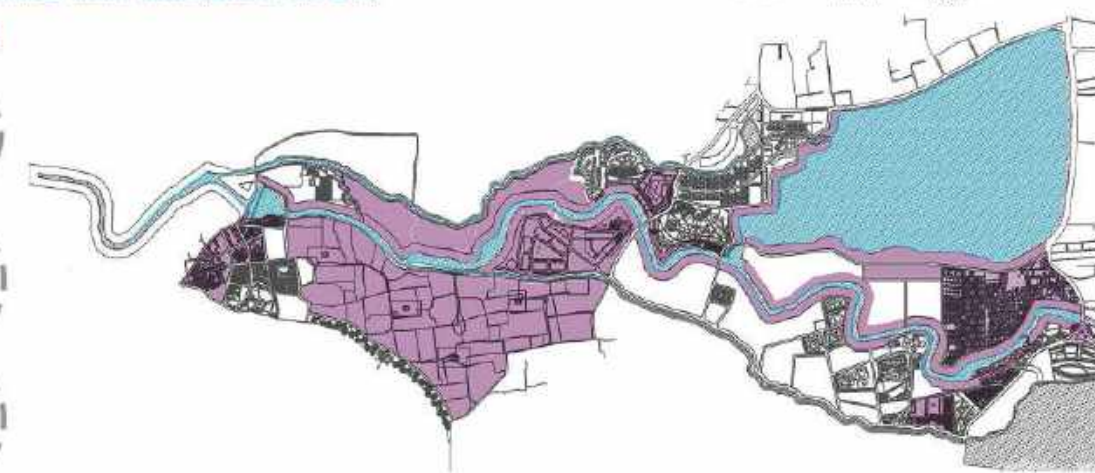
BASED ON ISSUES

- Phase 1
- Phase 2
- Phase 3



PHASE WISE IMPLEMENTATION

PHASE-1



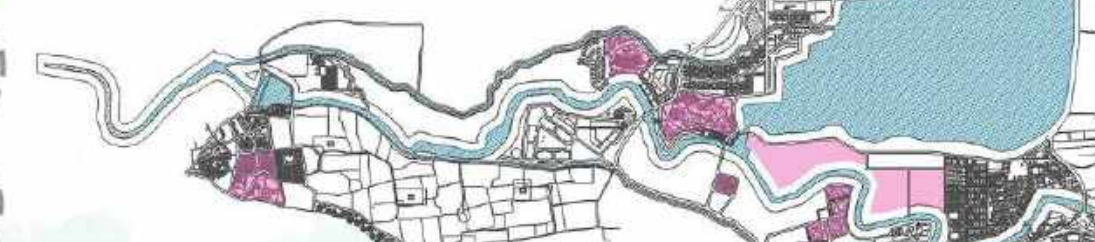
Phase-1 corresponds to issues that require immediate interventions to help and respond to the issues present. These include the protection of ecological systems through buffers, improving physical and social infrastructure like roads, accessibility and transport. It also includes the protection of the agriculture land that is under danger of being encroached upon.

PHASE-2



It complements the issues addressed in Phase 1 and are to be executed in an attempt to strengthen the interventions over the long run. It includes a bird museum in the preserved ecological systems, heritage space, sports facility, new residential units and their respective amenities.

PHASE-3

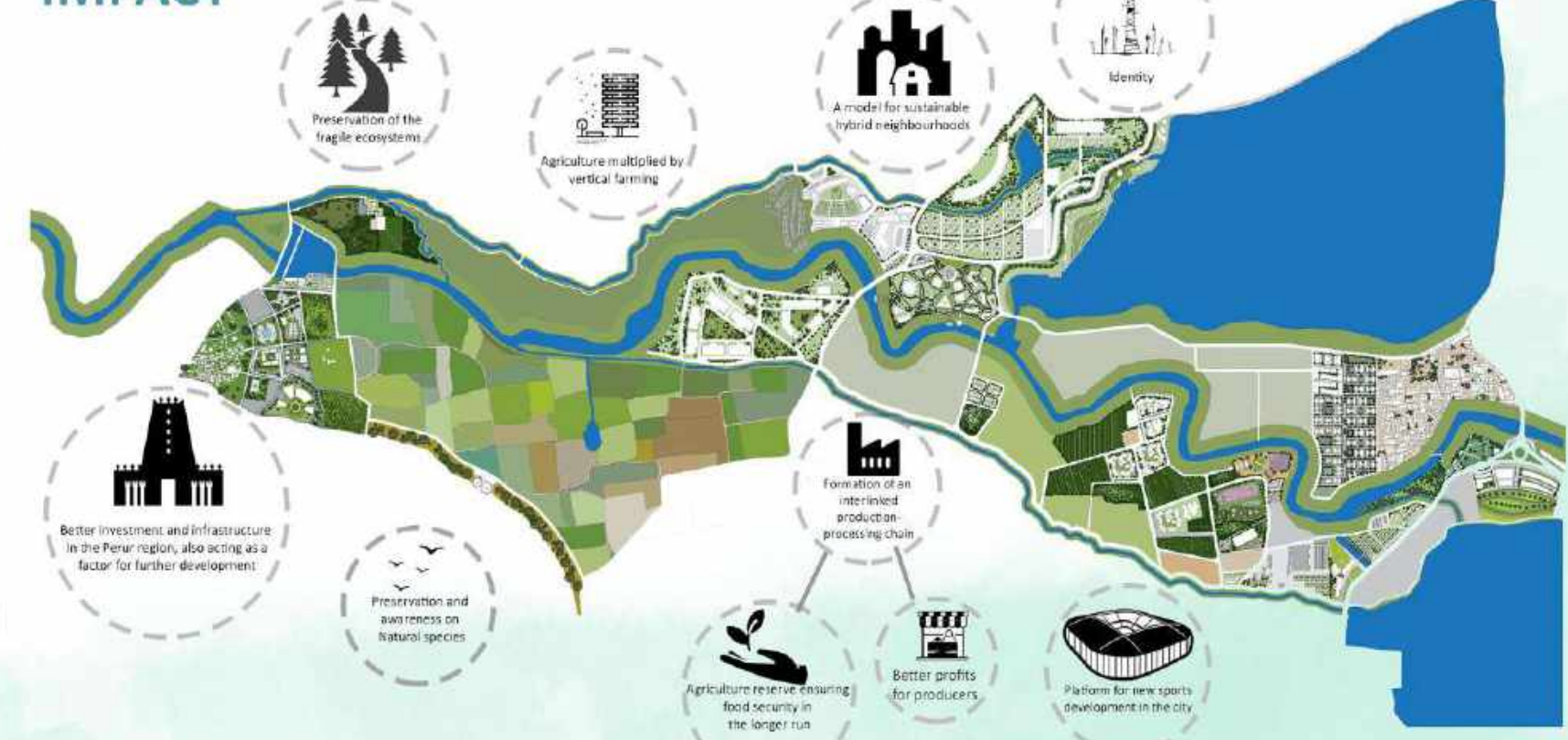


It is developed mainly to cater the future residential development and other infrastructure facilities and amenities. This phase would be provided with the remaining lower hierarchy roads amenities and would also address the issues identified for the future.

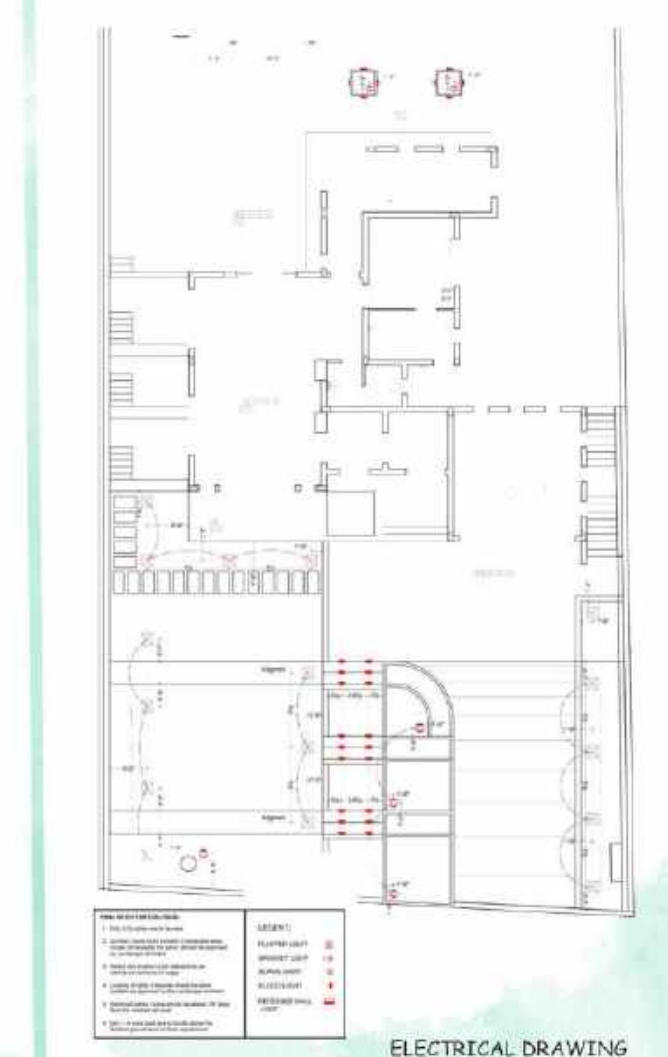
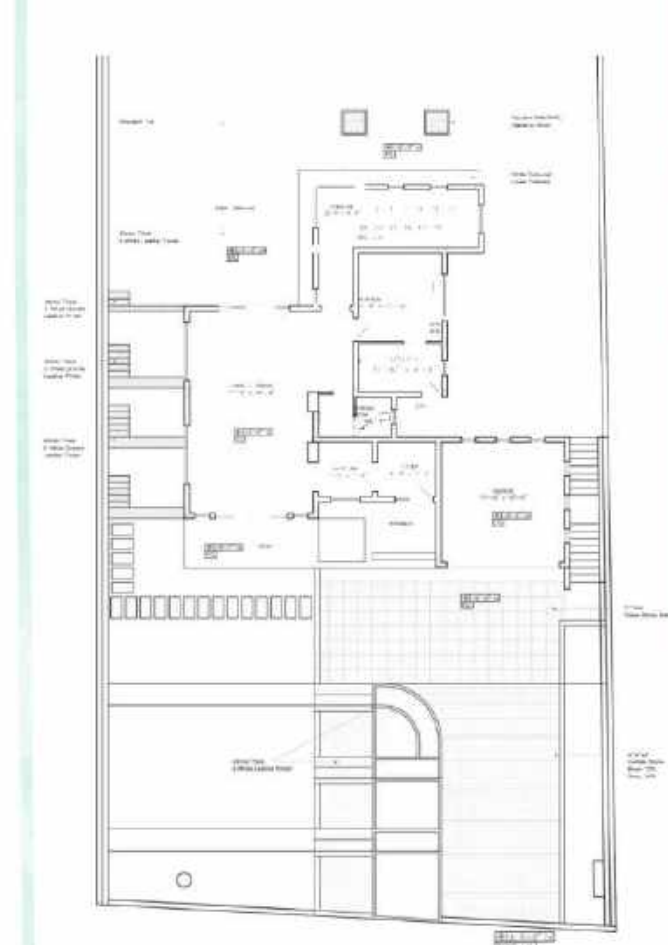
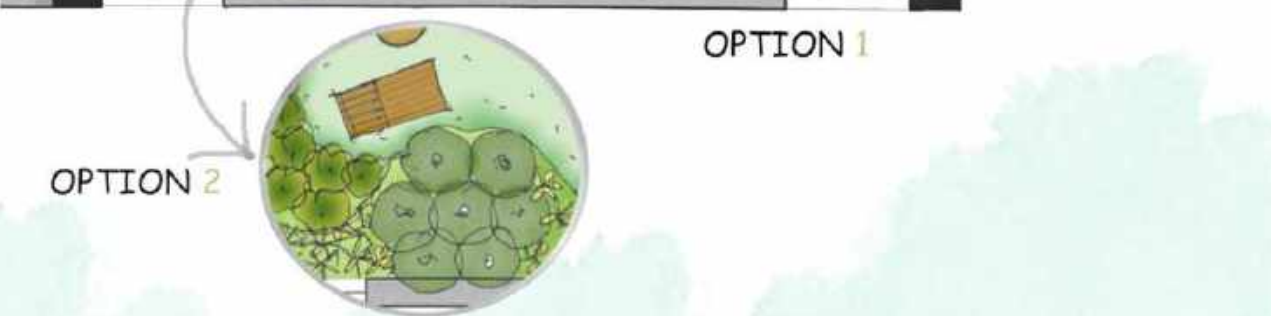
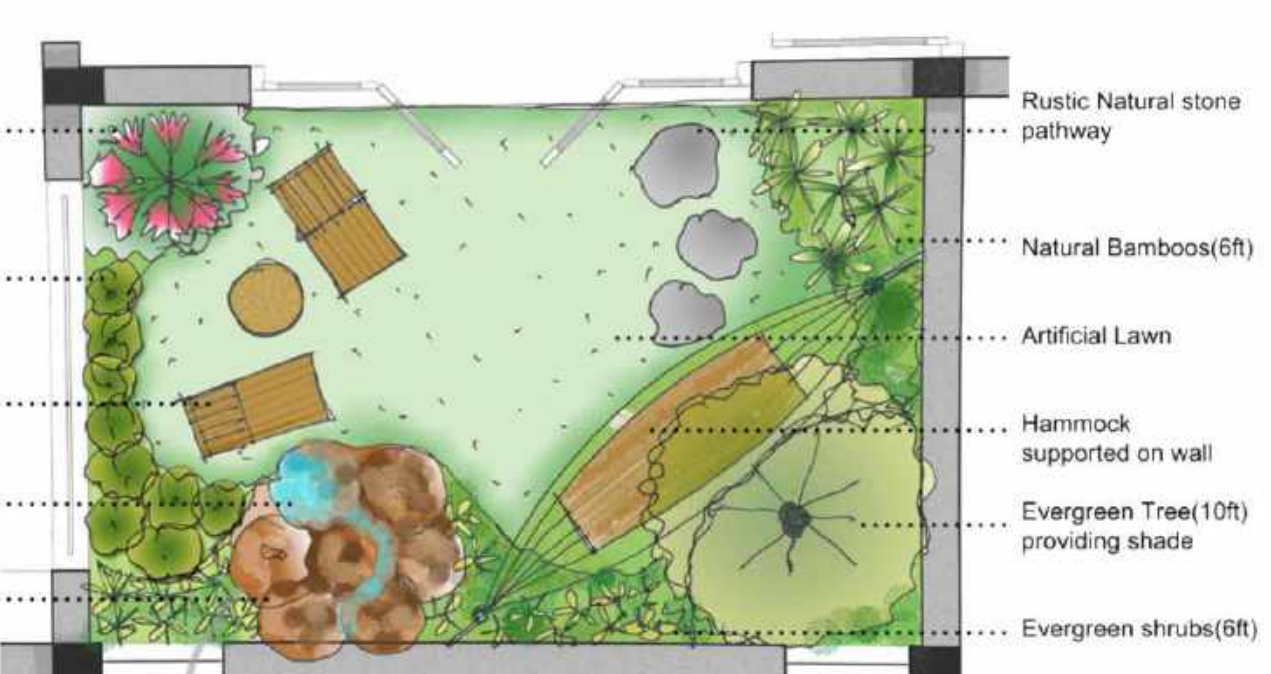
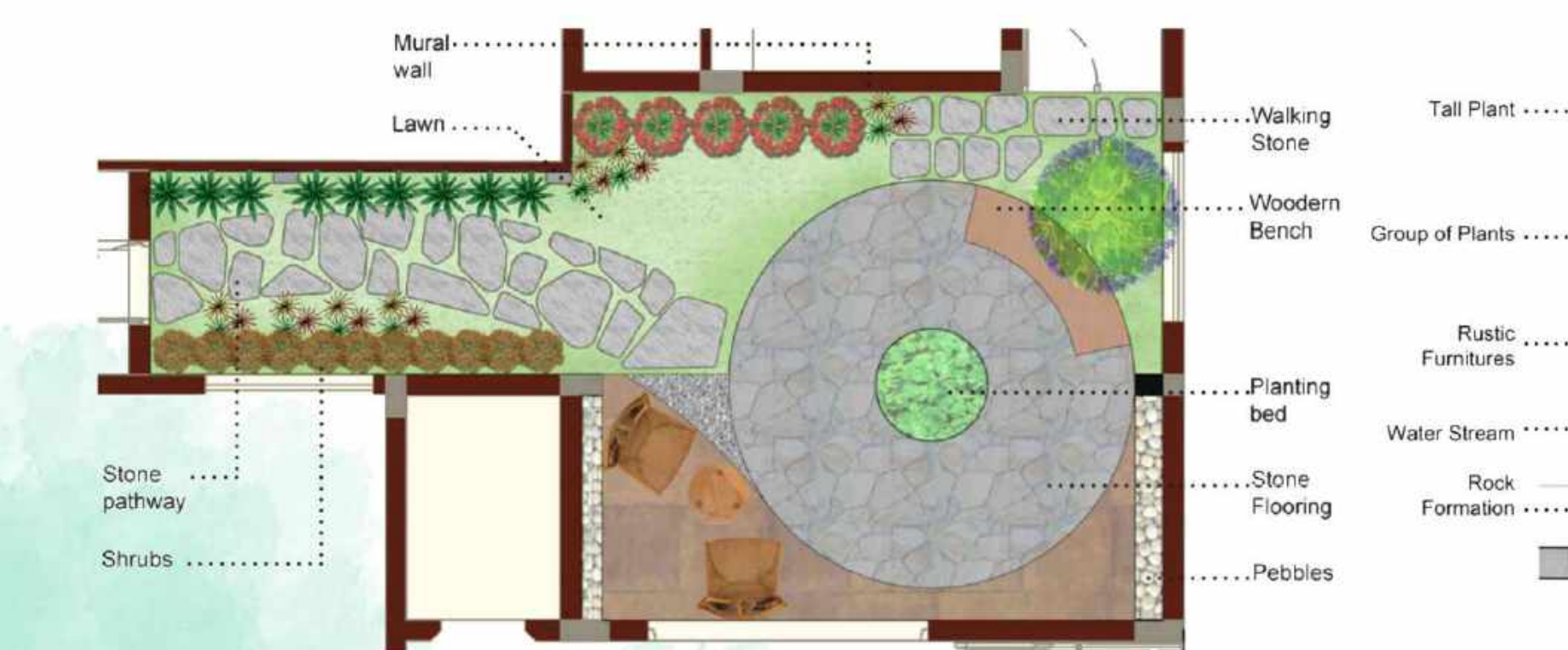
POLICIES

<p>Agriculture Land Reserve: Restrict the Conversion of agricultural land into other land uses.</p> <p>Residential Buildings shall be allowed for only those people who currently practise agriculture inside the reserve.</p> <p>The vertical farming shall encourage and implement research and training to introduce urban farming to the public.</p> <p>The proposed buffer for the Perur Lake shall not have access other than the specified paths allotted for circulation.</p> <p>There shall be restricted entry for heavy vehicles inside the residential areas and buffer zones.</p> <p>There shall be no built forms within the 50m buffers. At any point, the buffer for lakes and the river shall not go less than 40m.</p> <p>The existing coconuts shall be preserved and should not be encroached upon.</p>	<p>In line with the landuse plan and URDPFI guidelines, the industrial zone shall contain only agro-based industries and no hazardous industries will be allowed.</p> <p>The treated water from the Sewage Treatment Plant should used for irrigation purposes.</p> <p>Heritage structure and areas of historic value shall be preserved and protected from urban development. There shall also be height restrictions near Perur as no building shall go higher than the temple.</p> <p>Maintaining the public and private green spaces that enrich the living environment.</p> <p>Mixed use zone in Kuniyamathur shall be designated as low rise-low density with height restrictions, as it is located in the midst of agricultural land.</p>
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IMPACT



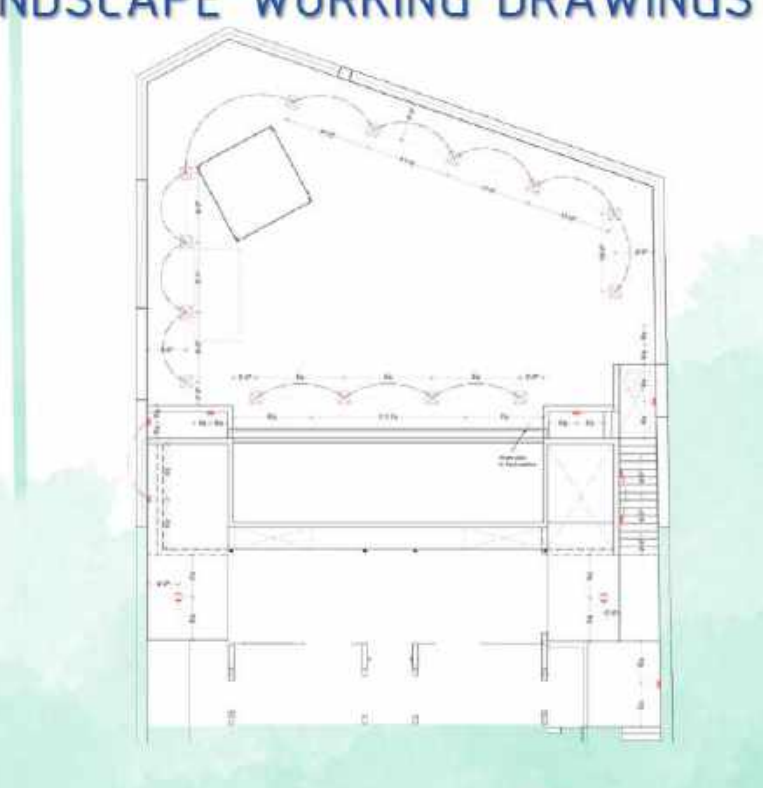
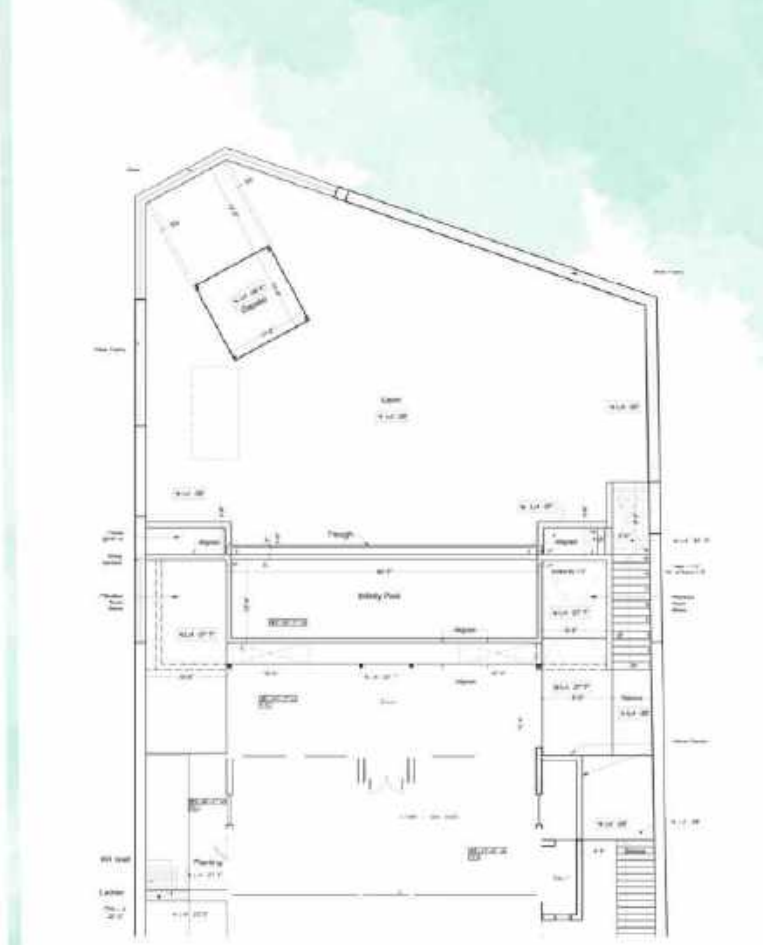
COURTYARD DESIGN



ELECTRICAL DRAWING



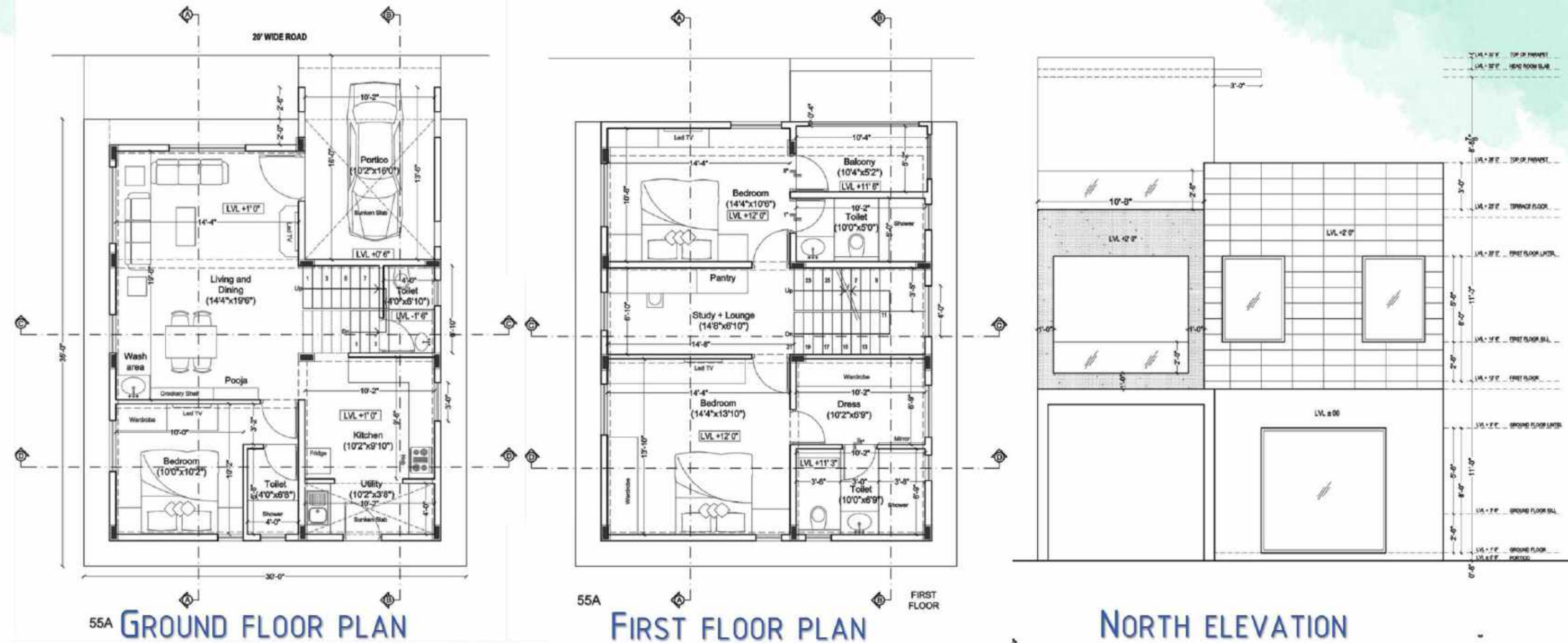
Mr. Jai Elangovan Residence, Ooty



RIDGE WOOD CLUBHOUSE



IEWS



FIRST FLOOR PLAN

- LEGEND**
- 1. SITOUT
 - 2. WAITING AREA
 - 3. ASSOCIATION OFFICE
 - 4. GENTS' TOILET
 - 5. LADIES' TOILET
 - 6. WAITING ROOM
 - 7. CONSULTATION ROOM
 - 8. PARTY HALL
 - 9. DECK
 - 10. PARTY LAWN
 - 11. SWIMMING POOL
 - 12. OPEN SHOWER
 - 13. LADIES' TOILET
 - 14. GENTS' TOILET
 - 15. PATHWAY



GROUND FLOOR PLAN



ENTRANCE GATEWAY DESIGN

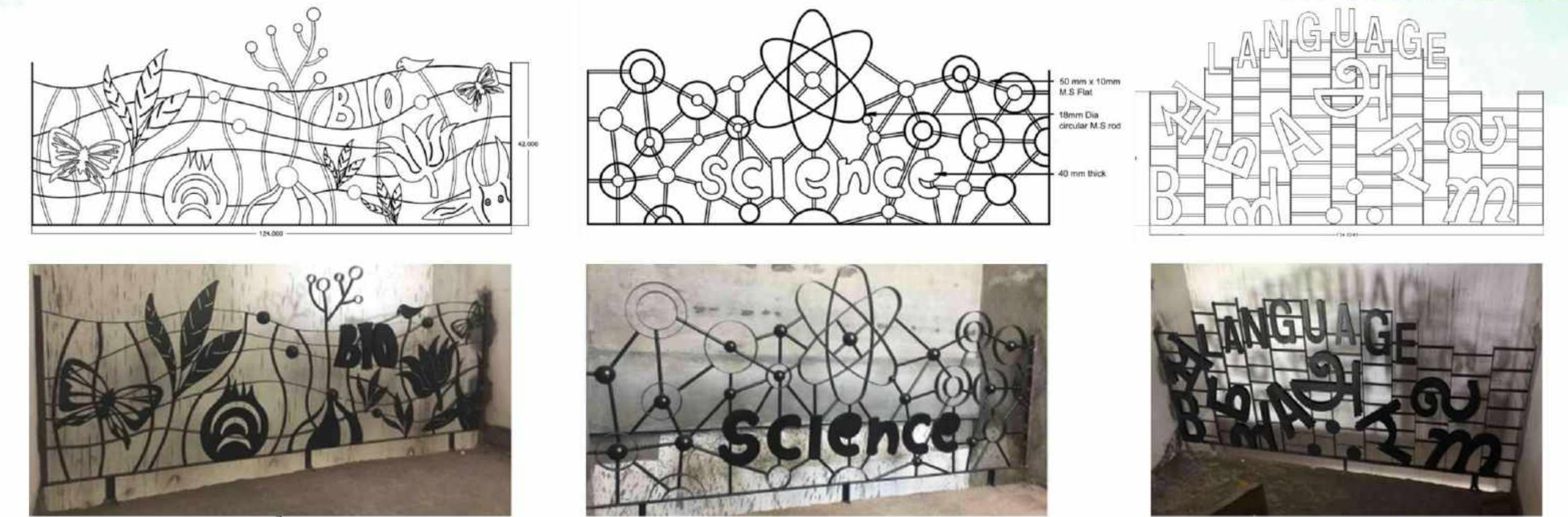


VIEW - 1

NIGHT VIEW

VIEW - 2

HANDRAIL DESIGN

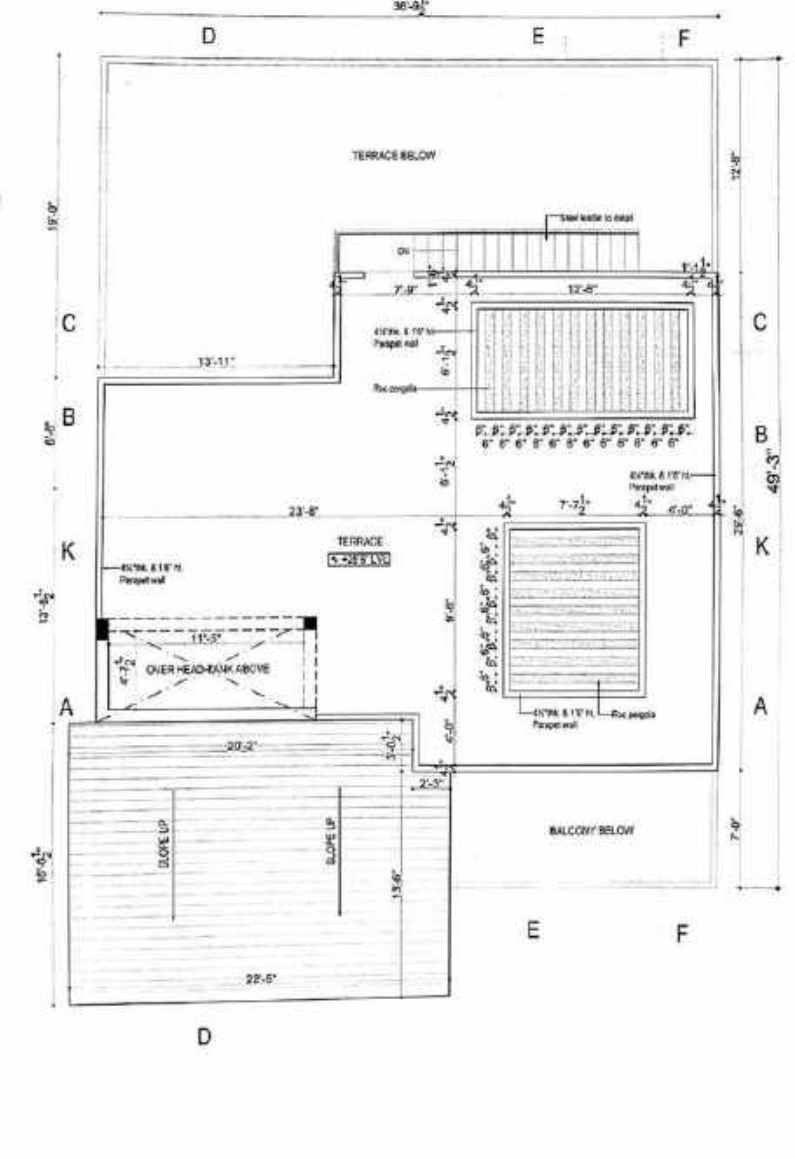
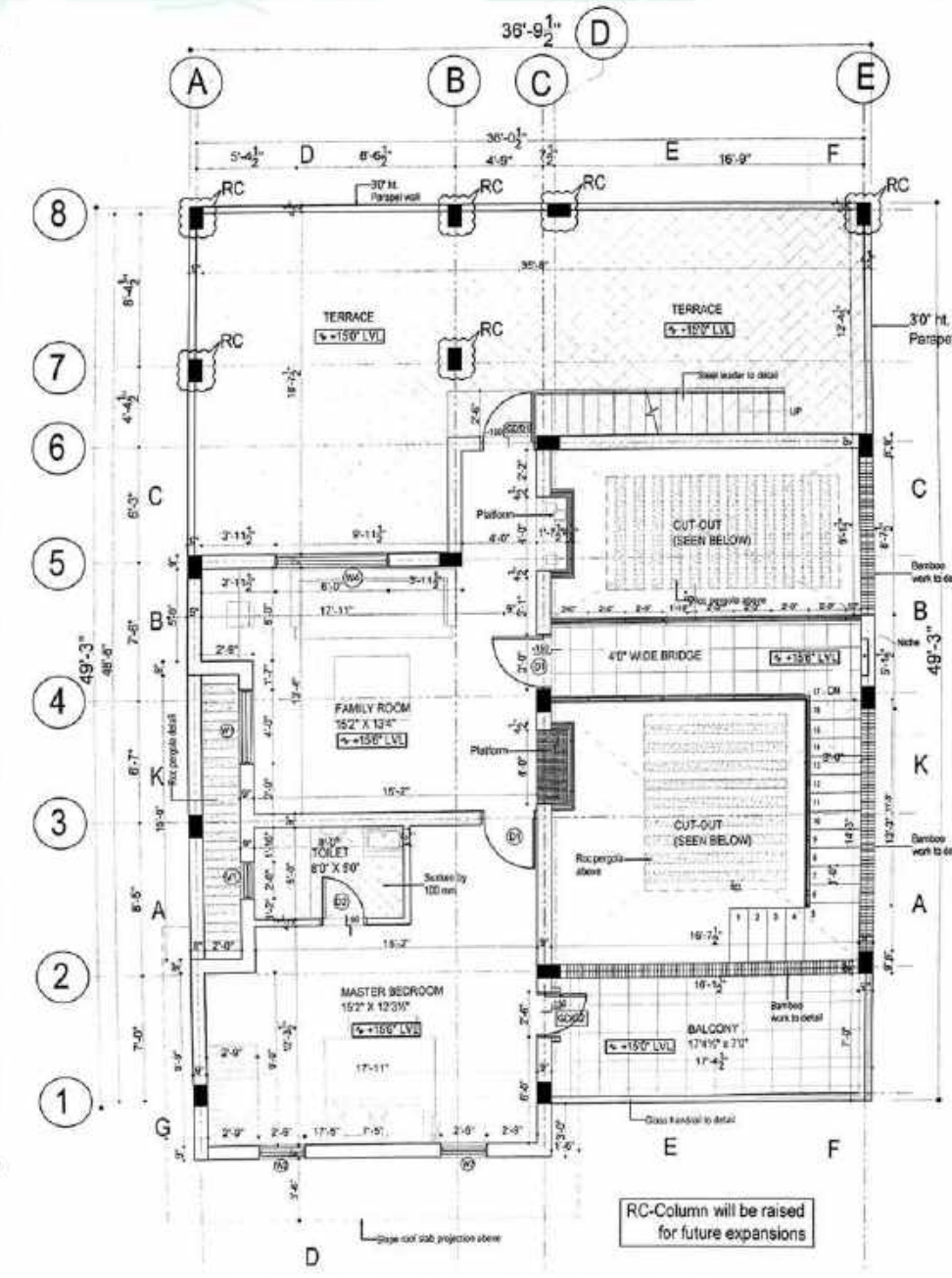
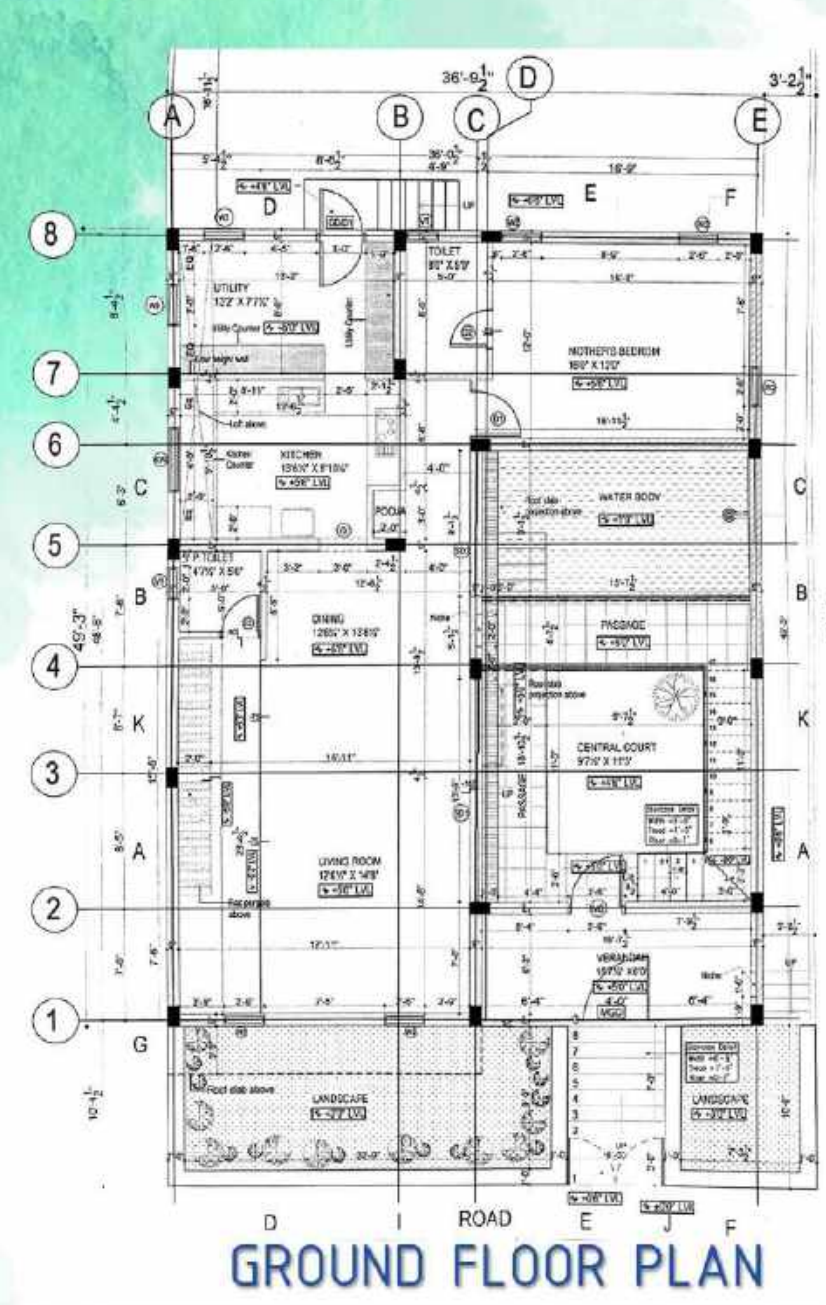


COFFE BAY

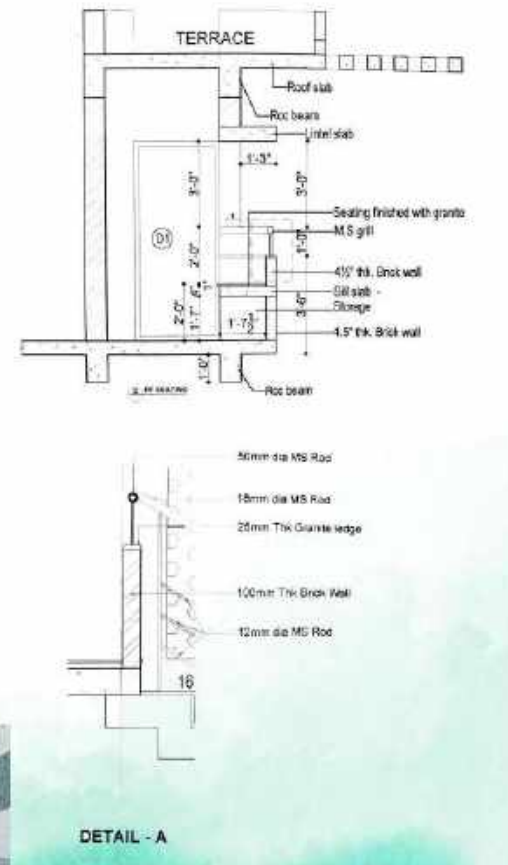
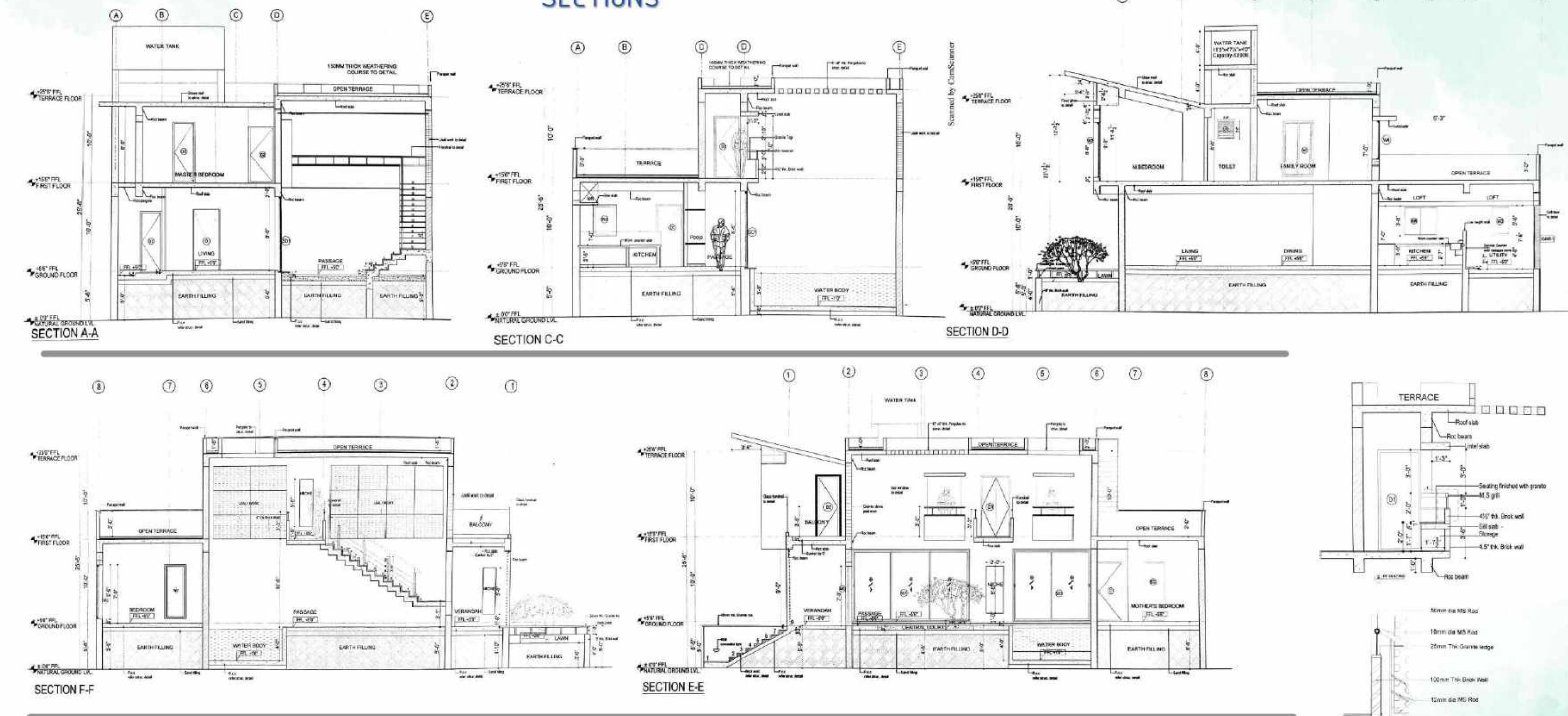


SLIDING GATE

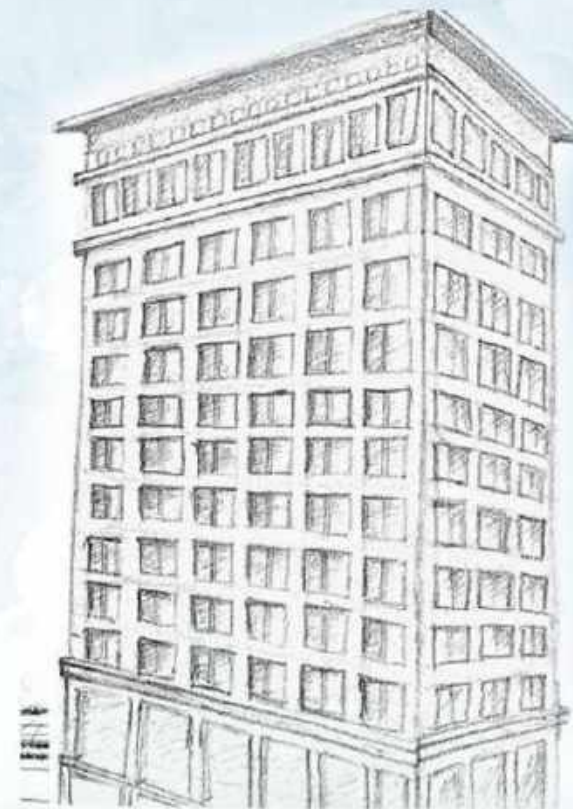
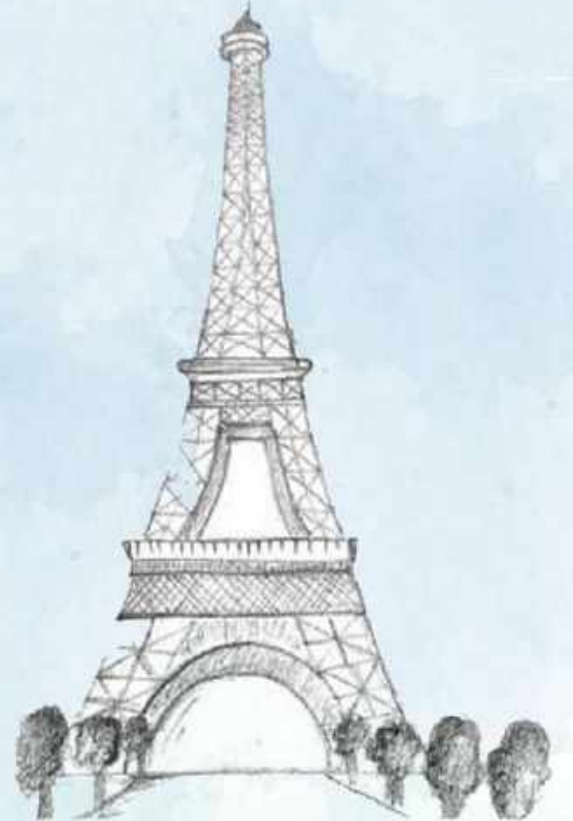
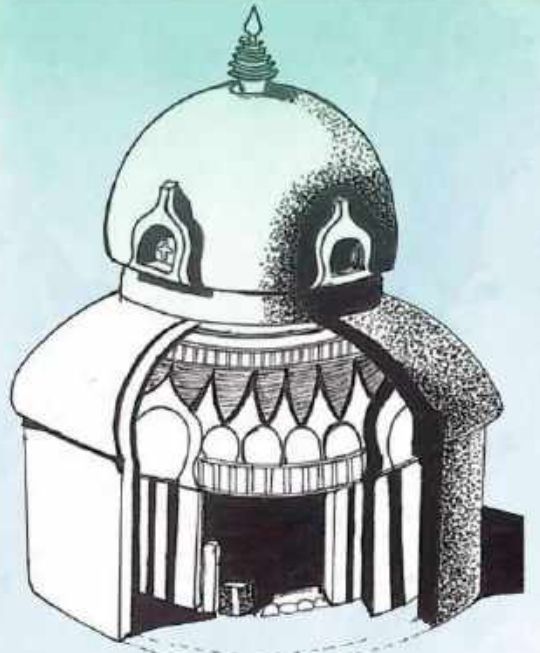
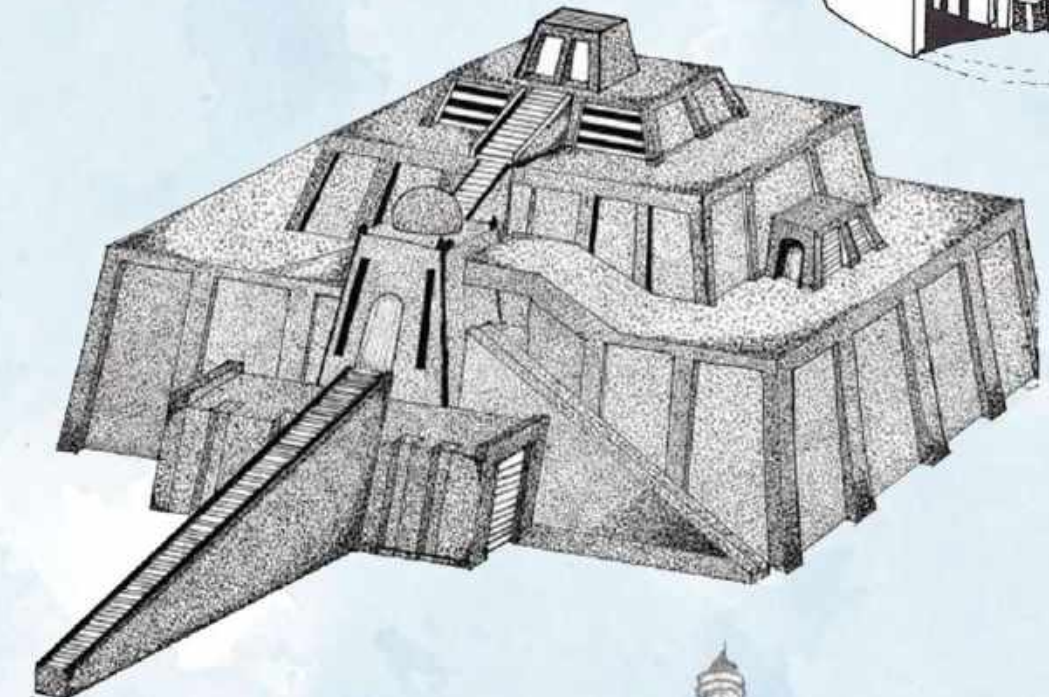
AMER AND ANI ARCHITECTS - CHENNAI RESIDENCE



SECTIONS

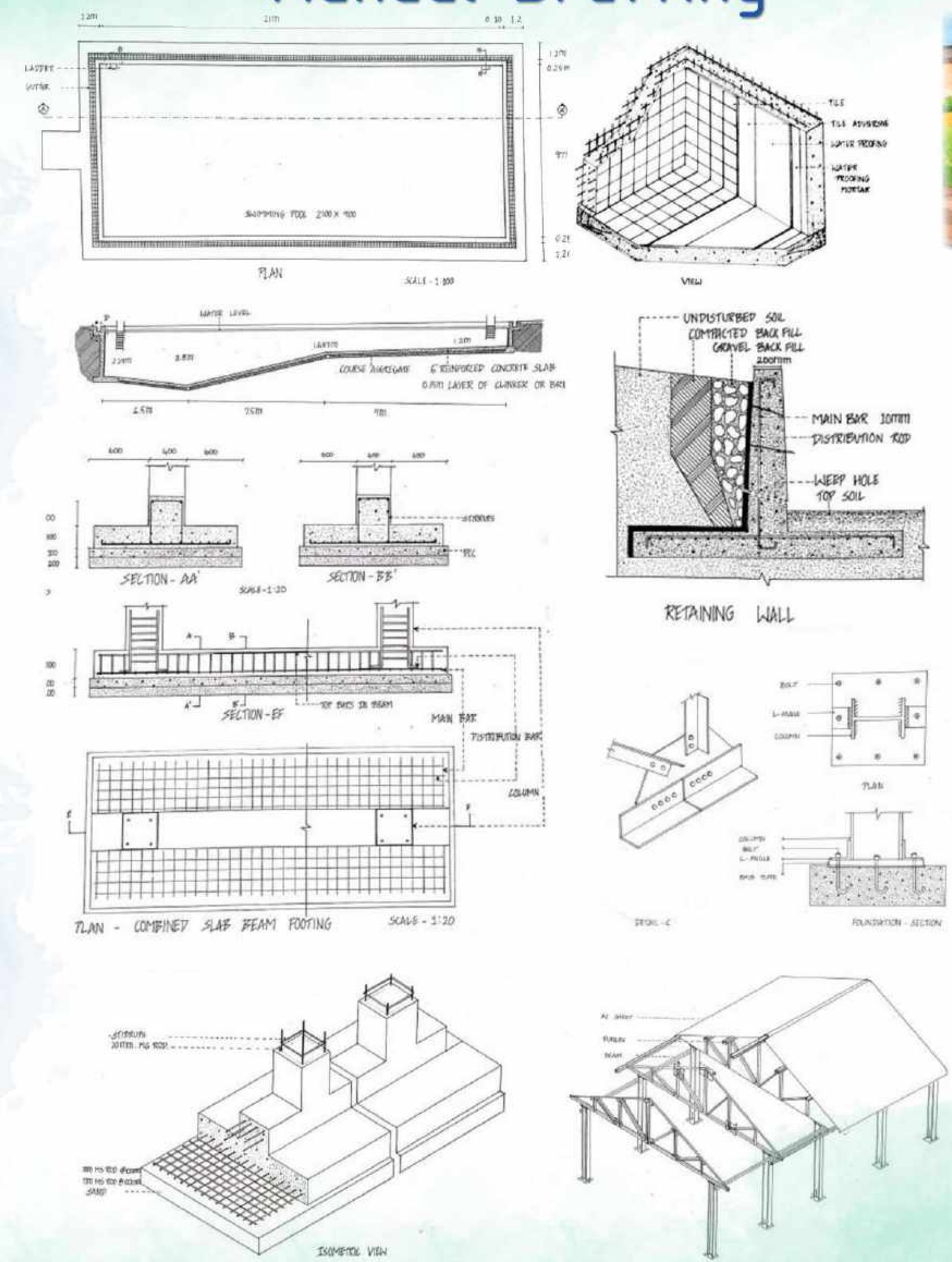


ART is something that makes you breathe with different kind of Happiness



Sketches

Manual Drafting



OTHER WORKS... 30

THANK YOU