

PORTFOLIO

Architecture



2018-2025

PREETHA RAJ

Architect

LANGUAGE

English, Tamil, Hindi, Malayalam

CONTACT

+91 8939708218
ar.preetharaj@gmail.com

SOFTWARE SKILLS

TOOLS

- Auto cadd
- Revit
- BIM
- Adobe photoshop
- Adobe illustrator
- Sketch up
- V ray
- Rhino - Grasshopper
- Lumion
- Twin motion
- In design
- Premiere Pro

SIMULATION TOOLS

- CFD
- Eco tect
- Dialux
- Lady bird

DESIGN

- Layouts
- Poster & logo design
- Vector Illustration

HELLO!!

"I'm an architect, explorer, and observer who designs spaces that evoke emotion and inspire. My work is built on a foundation of solid technical knowledge and thorough research into materials, ensuring both aesthetic appeal and practical excellence. I'm a hardworking individual who leverages interests in psychology and photography to craft meaningful environments, and my dedicated approach ensures I make a significant contribution within a dynamic and creative environment."

EDUCATION

2023-2025 M.arch - SAP - Anna university
2021 - 2023 B.Arch - MSAJAA

WORK AND WORKSHOPS

PARTICIPATED IN:

- Annual NASA design competition
- International design competition - special mention award
- Worked as intern at Atsuya Technology - For Interior wall design

FREE LANCE PROJECT : 2022- PRESENT

- Kaldan samudhra Banquet hall - concept and presentation
- Posters and Logo Designs
- Interior and Exterior -Residentents ,Scans and Labs and Office projects -
- Vedant coaching institue at chennai - planning and presentation
- Cafe interior at Paranur

WORK EXPERIENCE

Design intern

5005 Design Studio - Academic Internship 2024
(PG linternship as per curriculum)

PSP Design - Academic Architectural Internship 2022
(UG linternship as per curriculum)

Architectural consultant - Freelance

2023-2025

5005 design studio - Planning and Presentation
Studio AVA - Concepts, Site visit and planning
Atsuya Technology - Graphic Designer 2021

SKILLS:

- Photography
- Wall Painting
- Physical Model Making

CONTENT

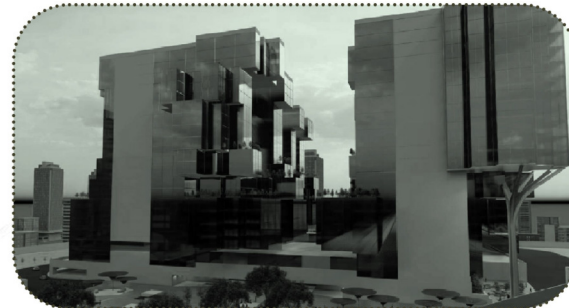
1. M.Arch - THESIS - DIGITAL ART CENTER

HYBRID ART MUSEUM & INSTITUTE
(Physical & Digital Interactive Space) with
research lab based on climatic condition
using electronic waste and Parametric
architecture -algorithms



2. M.Arch - PROCESS BASED DESIGN

A Generative design approach based on
day-to-day life



3. M.Arch - SUSTAINABLE DESIGN

An energy-efficient building - sustainable
approach



4. M.Arch - INTERNSHIP

30 days - Internship

7. M.Arch - SIMULATIONS -
Solar analysis- insight and lady bug
Wind analysis - CFD
Thermal comfort - Eco tect
Daylight analysis - Dia lux



6. B.Arch - INTERNSHIP

100 days - Internship

7. B.Arch - THESIS - MULTI-SPECIALTY HOSPITAL

An Biophilic approach for a building by
adding a green pockets and absorbent
material based on climate

8. B.Arch - SEM 3 - PERFORMING ART CENTER

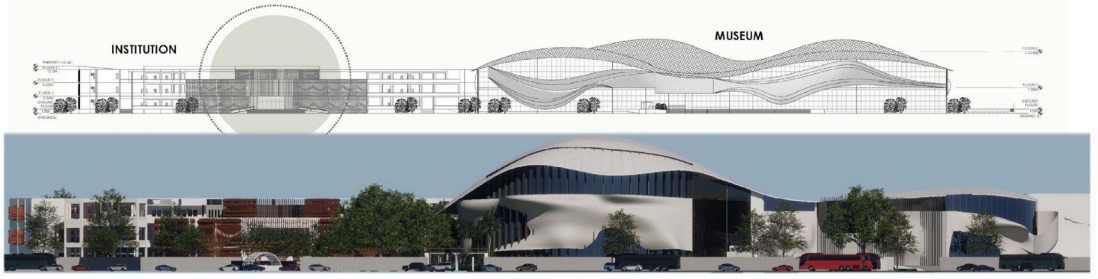
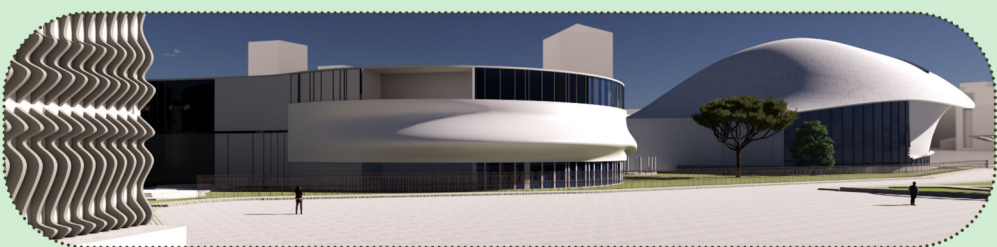
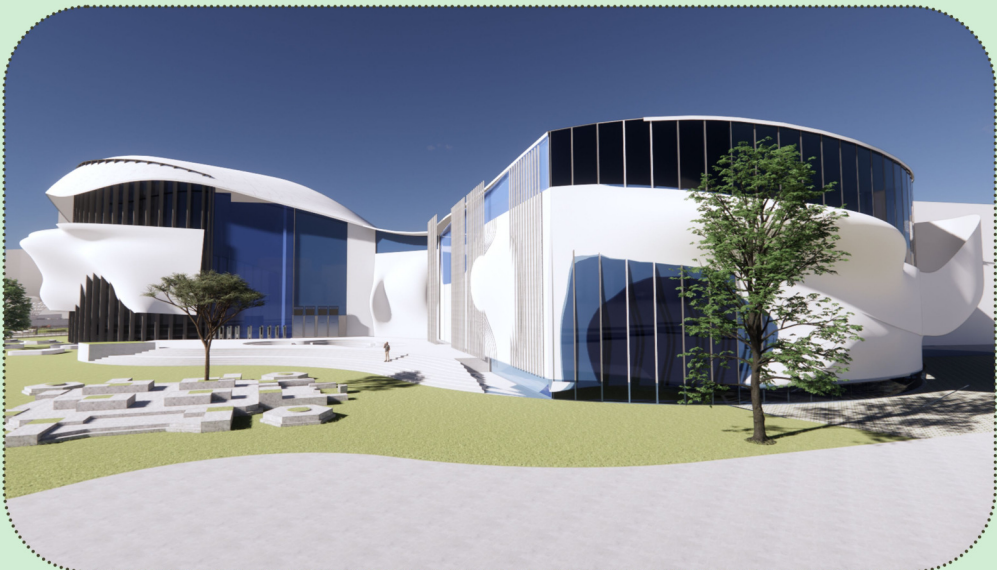
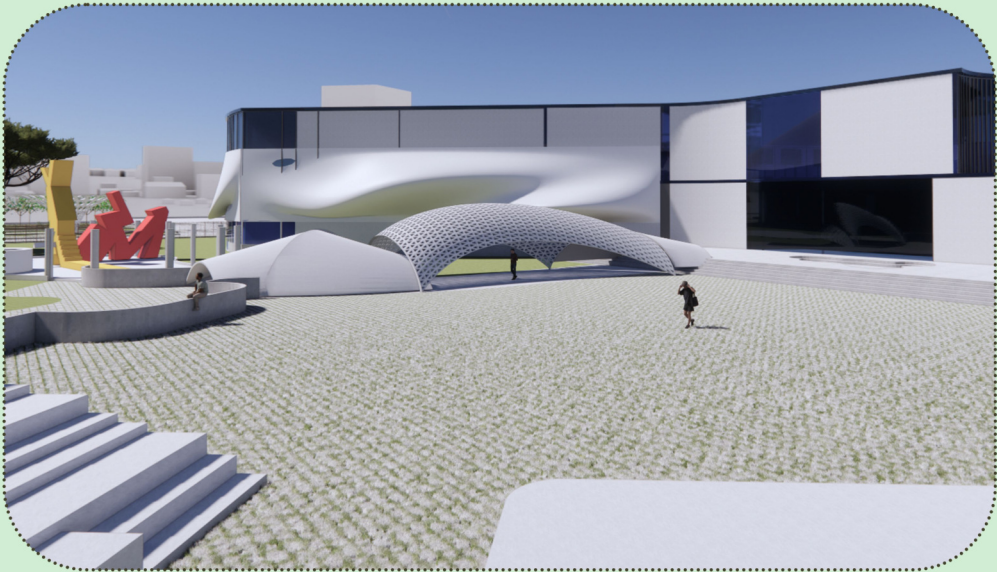
An building concept based on a curves

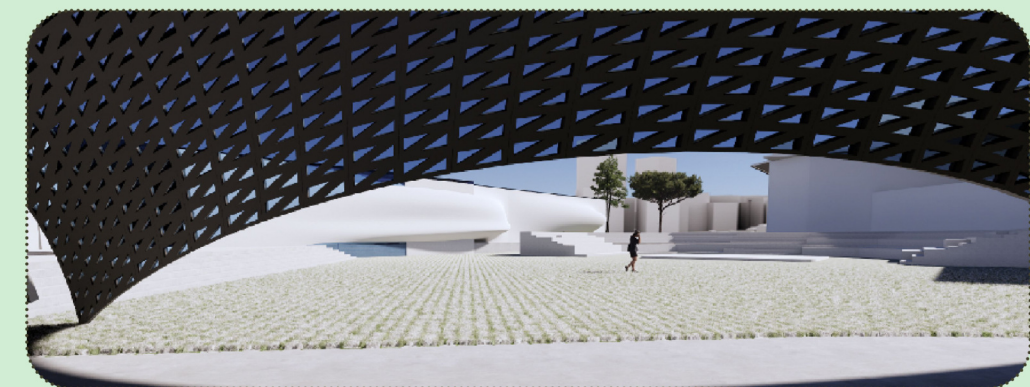
9. COMPETITION - MONTESSORI DESIGN - MANUAL DRAWING

An montessori school design - a turf based
concept were the building is designed on
erathen concept

10. Free lance work

Architectural and Interior design,
Execution, Conceptual design and
Detailed tender drawings





THEORY OF SPACES

Mental Space

The cognitive aspects of spatial experience : Social and psychological spaces that shape individual identity and interactions.

Physical Space: Tangible aspect

Finite nature
Sensory perceptions shaped by real-world interactions.
Physical space - Human experiences

Mental and Physical Spaces:

The tension between the imaginative aspects of design and the realities of physical construction. Both realms can coexist and inform each other, experience

CORE ELEMENTS

Cognitive Perception:

Human perception in real and physical spaces is shaped by sensory experiences, including visual and verbal codes.

Interactions:

Verbal and non-verbal communications that occur within spaces, influencing social dynamics and individual perceptions, feel and behave

Acoustic Effects:

The role of sound in shaping experiences and interactions within architectural environments a sensory experiences

Movement

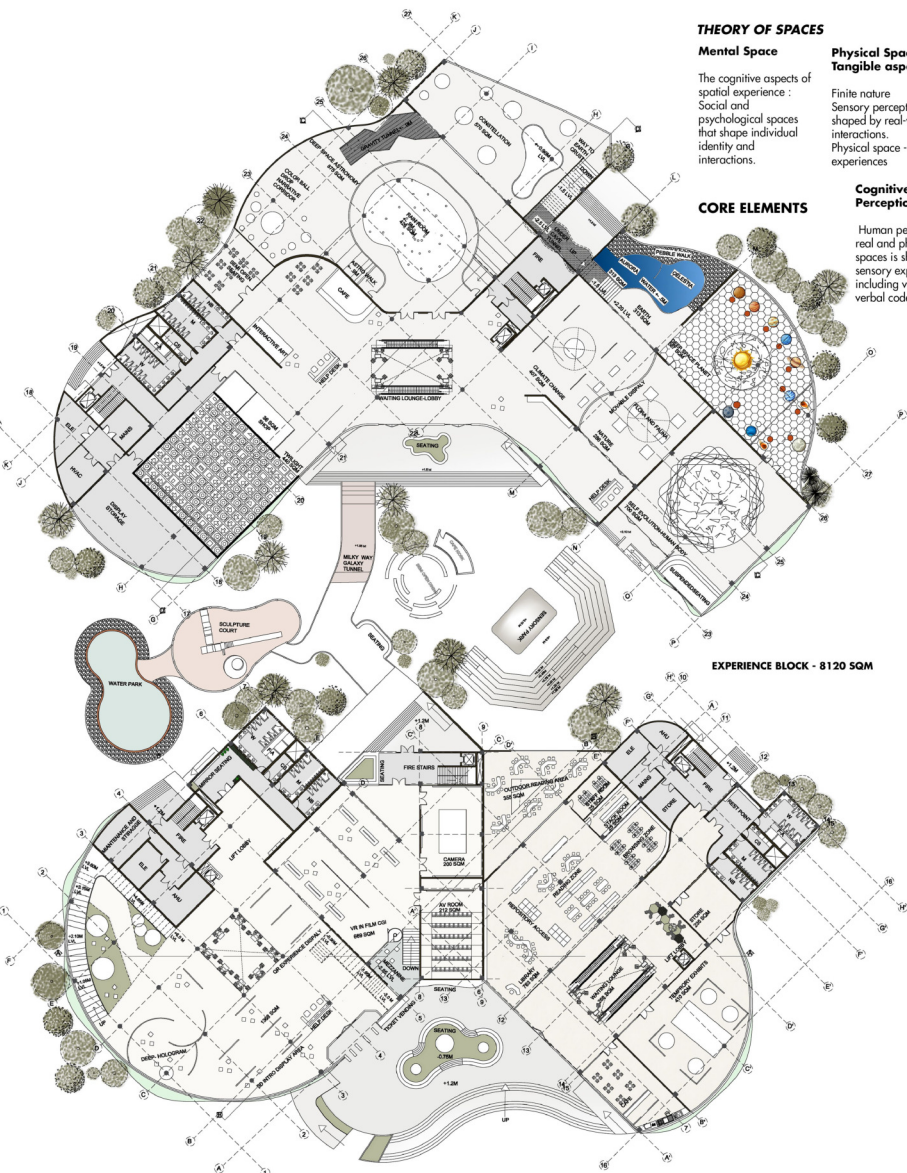
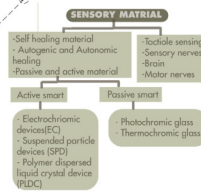
The dynamics of how individuals move within and interact with spaces, both in physical and virtual contexts. "Imaginable and unimaginable" and "inside or not inside."

THE COMPONENTS OF MULTI-SENSORY DESIGN

Hapticity: experience the environment through active exploration, typically with our hands. It extends the sense of touch to include temperature, pain, pressure, and movement, making it a three-dimensional experience.

Kinesthesia: MOVEMENT: The connection between touch, movement, and hapticity, indicating that physical movement plays a crucial role in shaping one's perceptions of space

Sensory information from one sense is transferred to another. This means that individuals may make connections between different senses when experiencing a space, influenced by past experiences and memories. Synesthesia allows for a coherent representation of an experience without the need for actual sensation, illustrating how sensory properties can evoke memories and alter perceptions



EXPERIENCE BLOCK - 8120 SQM

The floor plan comprises of 2 interlinked blocks; The History Block and the Immersive Block with a media facade.

The History Block (Pre digital) is the foremost portion of the journey through the museum which covers the topics of developments and innovations in Digital Art until what Digital Art has transformed into, today. This block focuses more on education based experiences, including both traditional and modern displaying methods.

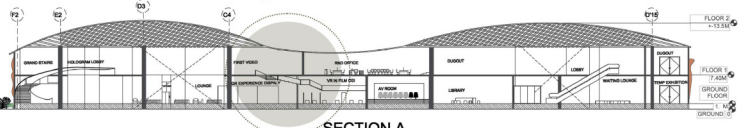
The ground floor consists of:

1. Hologram display atrium
2. A waiting area
3. Open display of VR in film, Computer generated imagery and Design Software.
4. Camera Room- A lifesize model of the first camera, with photographs on display
5. AV Room- History of digital art.
6. Mezzanine floor with slide consists of interactive shadow art

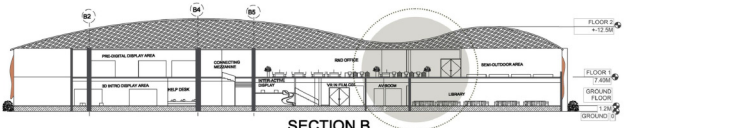
A separate entrance with library and temporary exhibition

A sculpture court links the first museum block to the second through milky way galaxy tunnel with sensory and water park

PRE-DIGITAL ERA CENTER - 8075 SQM

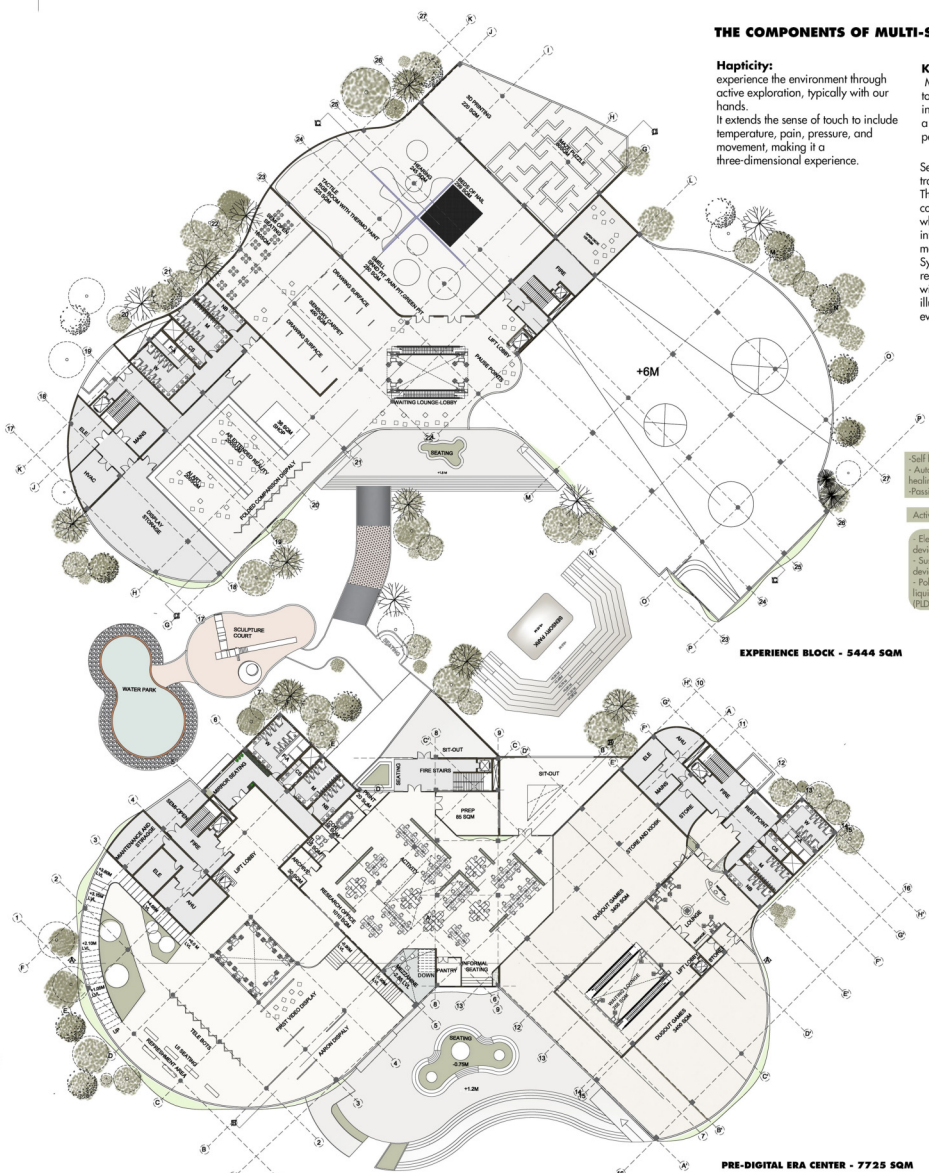


SECTION A



SECTION B

GROUND FLOOR



EXPERIENCE BLOCK - 5444 SQM

The floor plans of the blocks starts to integrate into one another, forming a free flowing circulation.

The History Block continues with the next stage of developments and innovations in Digital Art.

The first floor consists of :

1. Algorithmic art display
2. An AV room screening first explorations in animations.
3. Open display of AARON- an AI Machine, in continuous panels.
4. Telerobots open display
5. A refreshment area with UI seating and vending machines.
5. Walk around hanging display of small holographic projections.
6. Research and conservation office

A payable trampoline park

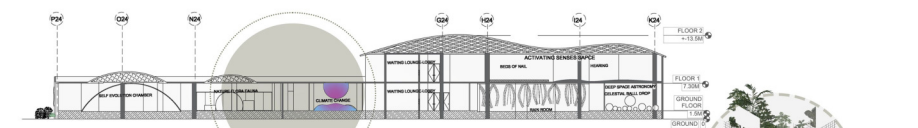
Immersive block

The first floor consists of:

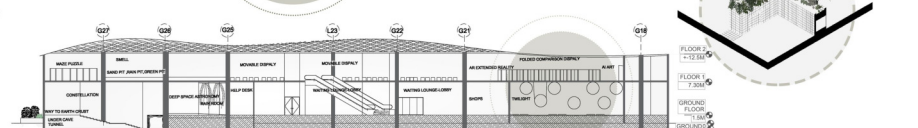
1. 3D Printing display and maze game
2. Large Scale AR experience
3. Exclusive VR experience with a sensory energy generating pathway
4. Cafe - Roof top
5. Multi-sensory generative area with Tactility, Smell, Hearing, Bed of nails

PLANTED PARTITIONS IN R & D OFFICE

- > Partition walls provide privacy to workers inside .
- > Planted partitions are provided as an alternative to claustrophobic boxed-in workrooms
- > Further separation is created between workspaces by the use of different furnishings.



SECTION C



SECTION D

FIRST FLOOR

DESIGN ANALYSIS

Design Analysis Based on Concept :

4 Realms of Experiences:

Passive Participation:

Passive participation refers to the interaction between the user and the art, when the interaction is not particularly intentional.

Spaces like these in the design, are along the circulation paths as they offer both aesthetics and entertainment to the user as they move through the space.

The spaces in the design are:

1. Plaza overlooking the Media Facade
2. Sensory Reactive plaza and walk way
3. Pathway connecting the two museum blocks

Active Participation:

Active Participation refers to the interaction between the user and the art, when the interaction is intentional and mindful. Spaces like these, offer something to the user when the user interacts with them, due to which the user seeks them out. These spaces often tend to be educational; where the users learn something new or are benefited by the information gathered and escapist.

The spaces in the design are:

1. VR in Film, CGI and Design Software display
2. AARON display
3. Displays of AI art
4. 3d installation
5. Library
6. Commercial spaces

Immersion:

Immersion deals with blurring the boundaries between real and virtual worlds. It often includes spaces that stimulate all senses, to enhance the human experience of the space.

An immersive space engages the user in the art and the information displayed, by pulling them into the art. Its aesthetic qualities are valuable in drawing the users into the art, and then turning art into an experience.

Real and virtual worlds blend into one another to form an escapism.

The spaces are designed to respond to the user.

The spaces in the design are:

1. Small holographic display area
2. Holographic Courtyard
3. User Interactive Art Displays
4. VR Experience
5. Extended Reality Experience
6. Deep space (Themed space)
7. Immersive Experience
8. 3D Printed Modules of Cafes and Furniture.

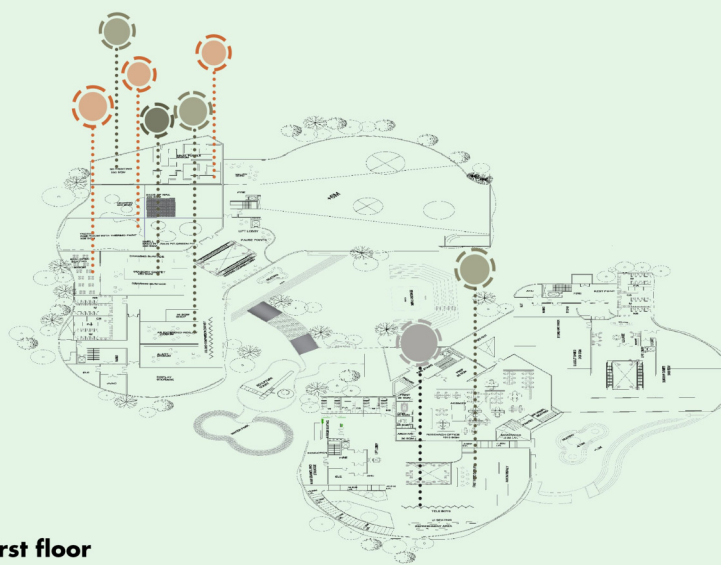
Absorption:

It happens when the art conveys meaning to the user, and the information is presented in engaging ways.

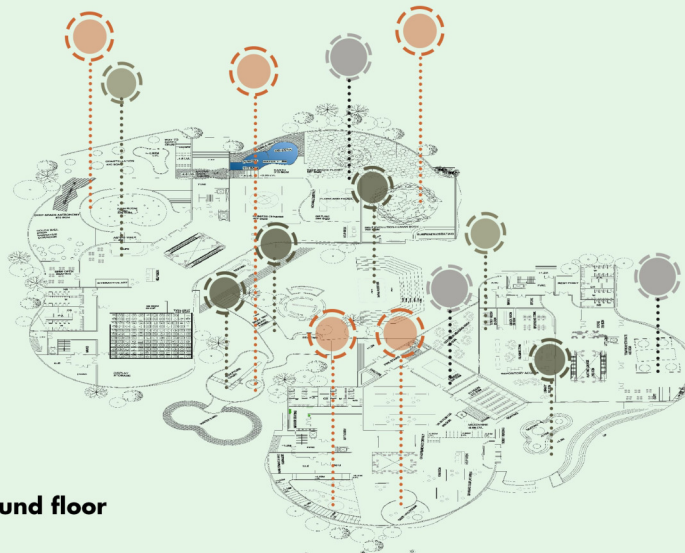
Spaces like these in the design, are educational and entertaining.

The spaces in the design are:

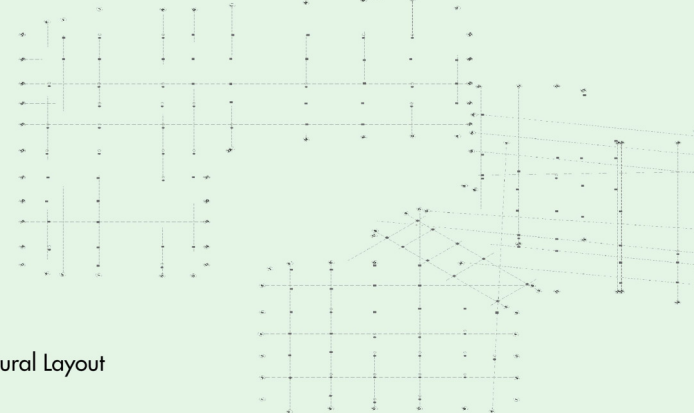
1. Camera Room
2. AV Rooms
3. Introduction to NFTs
4. First Video TV Display
5. Temporary Gallery
6. Climate change and Geographic spaces



First floor



Ground floor

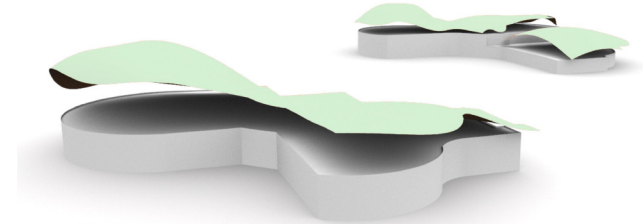


Structural Layout

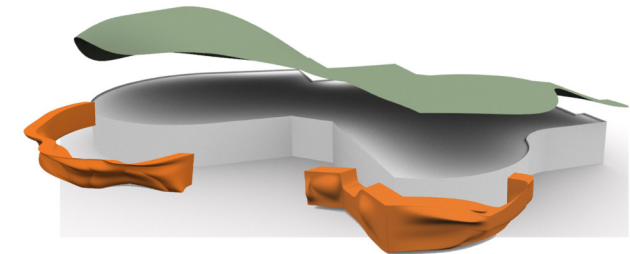
Media In Architecture

Elements in the design that integrate media and architecture:

1. Media Facade- an enveloping media facade that displays art and can be viewed from the access road and plaza.
2. Motion Reactive Pathway- It lights up when a user walks on it. It is the main access to the museum block in site circulation from the plaza.
3. Motion Reactive Welcome Pylons- The sense movement and light up and display patterns to welcome the user into the space.
4. Data Driven Chandelier- It displays information about NFTs and blockchain in the form of digital art.
5. User Interactive Walls- Walls that have displays that respond to the users and their commands.

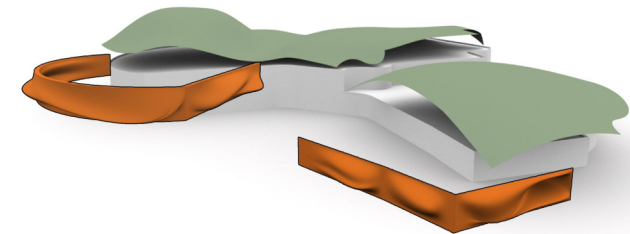


Over all view



PRE DIGITAL ERA

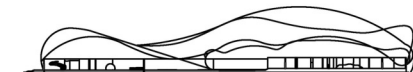
Parametric facade are increasingly animated by integrated light sources. The flexibility of image/video display is based on an array of "pixels" (arrangement, pitch, shape, color rendering).



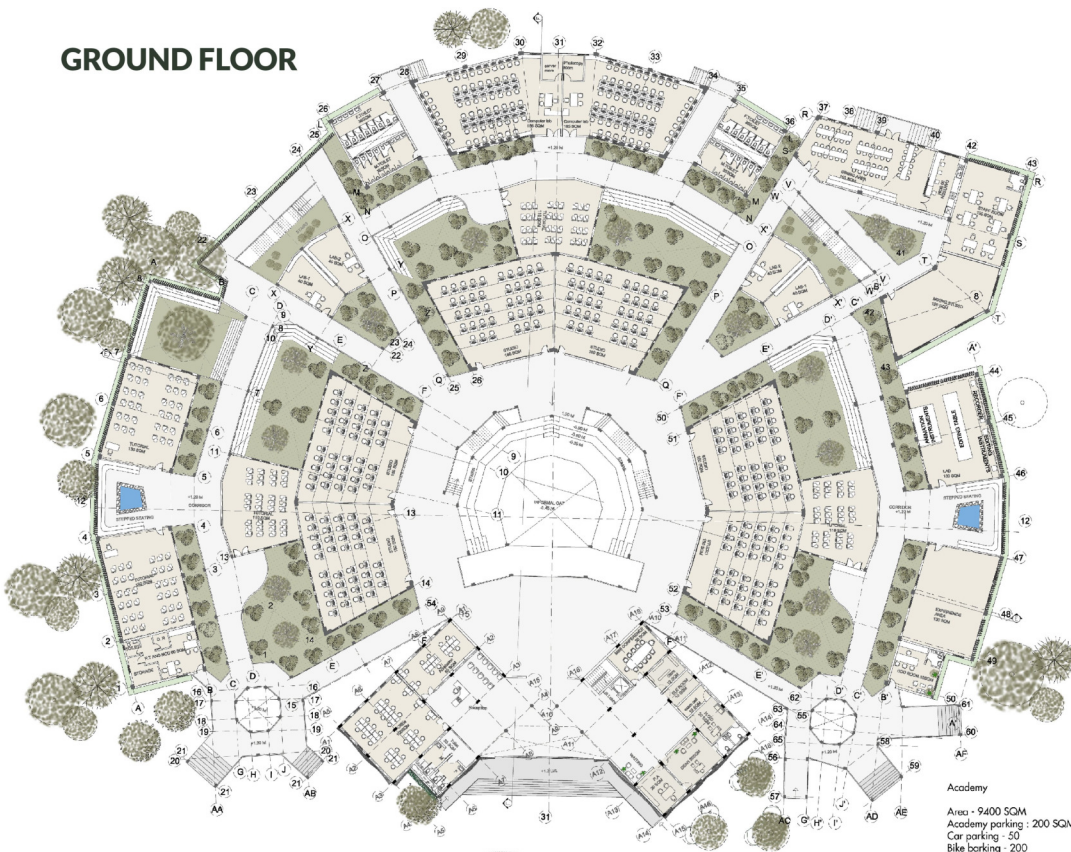
IMMERSIVE EXPERIENCE

The façade includes RGB panels, high resolution media mesh, and high resolution displays.

A combination of LEDs and lasers create the sensation of motion picture of the building which will be user interaction facade based on movements

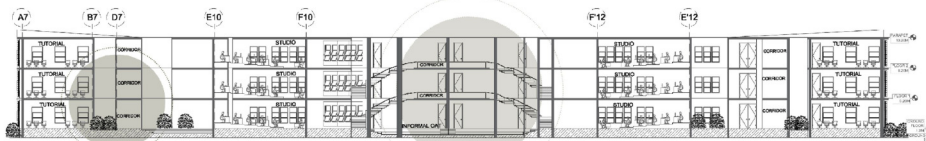
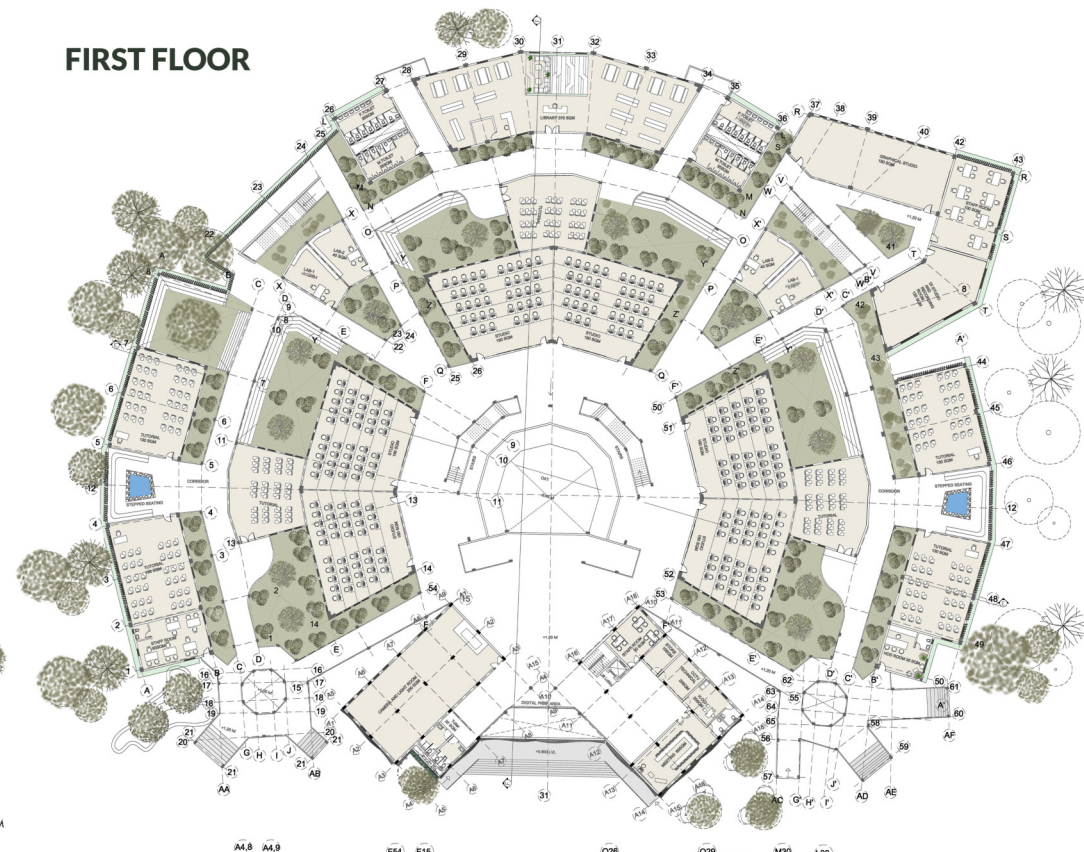


GROUND FLOOR

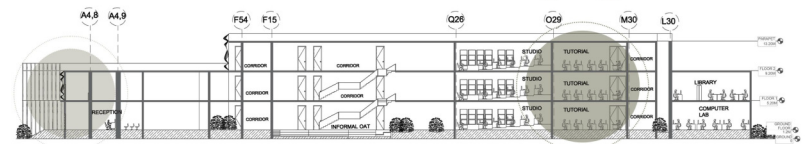


Academy
 Area - 9400 SQM
 Academy parking - 200 SQM
 Car parking - 50
 Bike parking - 200

FIRST FLOOR



SECTION - E



SECTION - F

MATERIALS USED:

Jalli walls for class rooms and seating area are strategically placed in south west of the building to get maximum natural day lighting and ventilation

-It avoids glare and give diffused light

Material - Jalli wall - aero leaf facade breathe like leaf - as cool as leaves the design of aero leaf facade system is inspired by evapotranspiration in leaves.

- The modules are placed in a sequence to create a nozzle effect that makes the air to gush through the other end as a system, the natural cooling screen forms a second skin that shades against direct sun while cooling down the air that passes through.

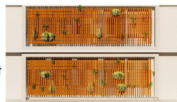
The facade system fits on walls/windows, recive hot air and sends cool air into the Modules by sensing the microclimate

-the jalli walls are placed in such angle to diffuse the light and to trap maximum wind To the building

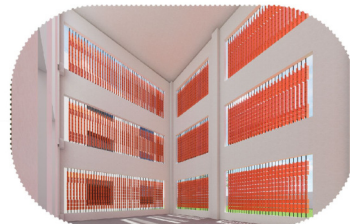
-it act as stack effect

-it also has greens that hanged on the terracota enhance the ventilation act as green

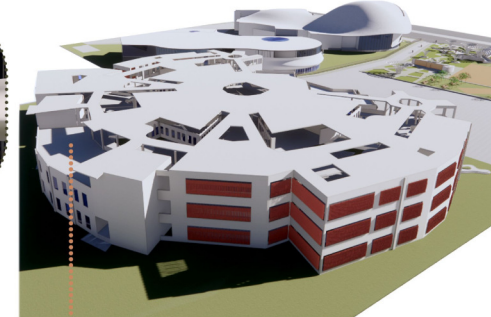
Buffer



-Terracota units are designed as an'aerofoil', to enhance air flow.

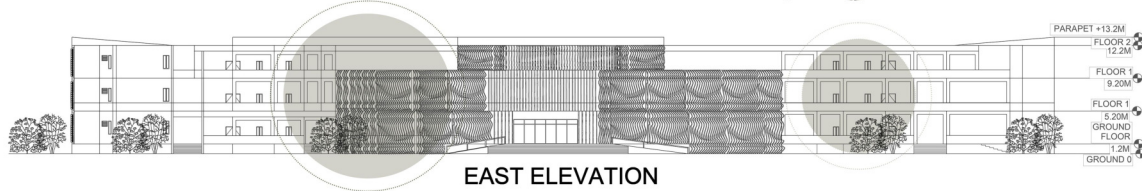
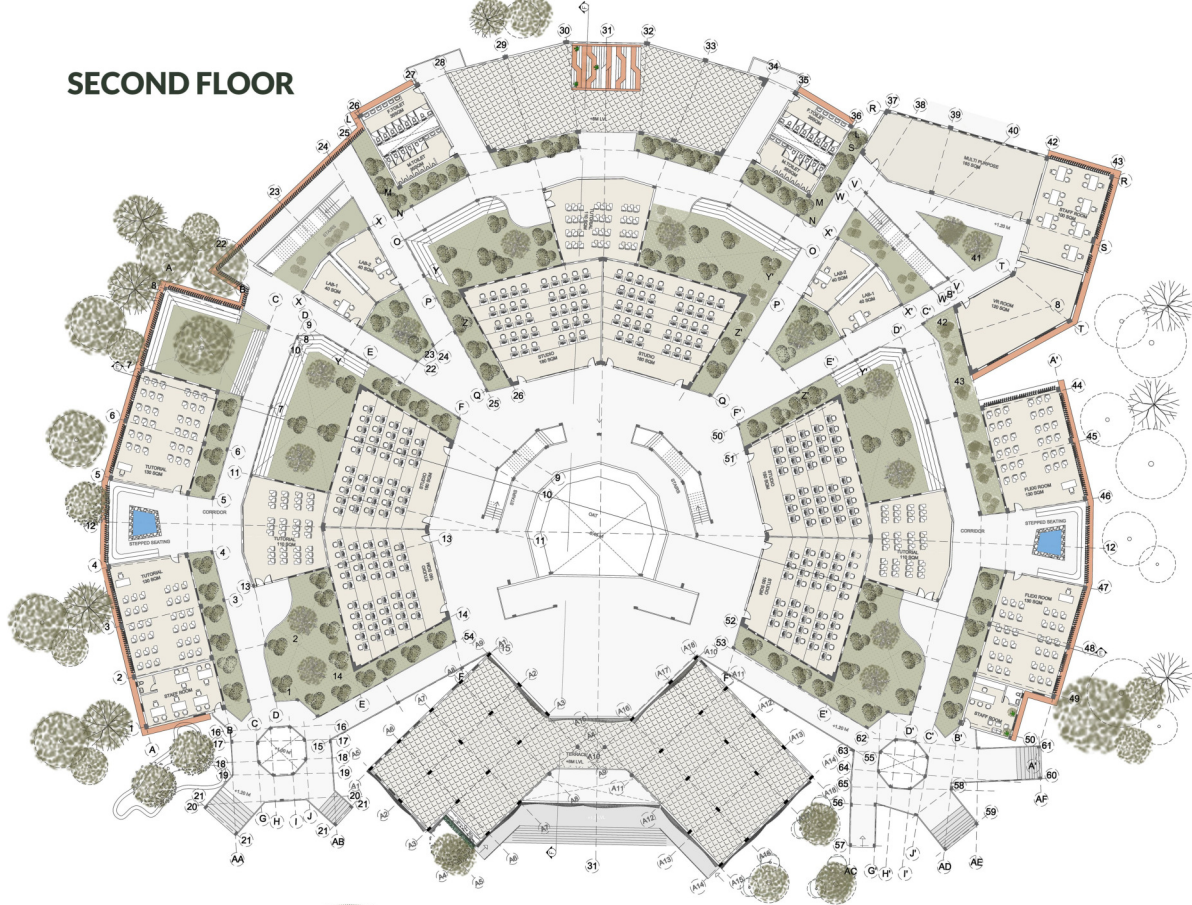


Within the informal seating areas between classrooms, a water body will be integrated. As wind passes through the Jaali walls and then over this water, it will trigger evaporative cooling, naturally reducing the air temperature and keeping the space a bit cooler.

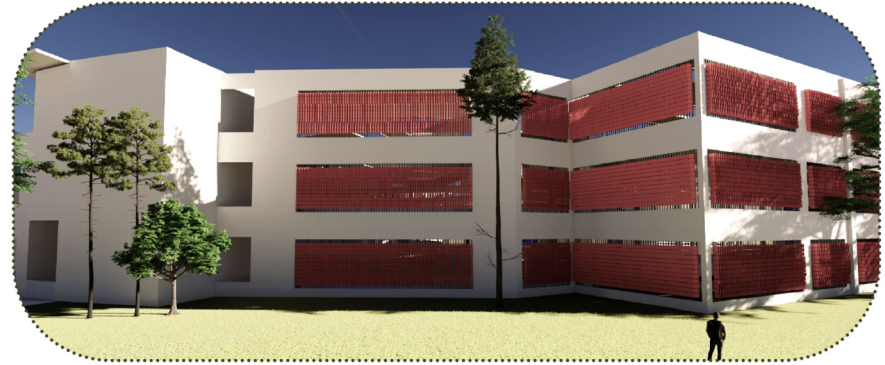


Creating a void to manipulate direct light and wind on a west facade is crucial. This void will act as a stack effect for the Open-Air Theatre (OAT), allowing maximum light into centrally located classrooms. The rest of the area will benefit from diffused sunlight and good ventilation, thanks to the use of Jaali brick walls.

SECOND FLOOR

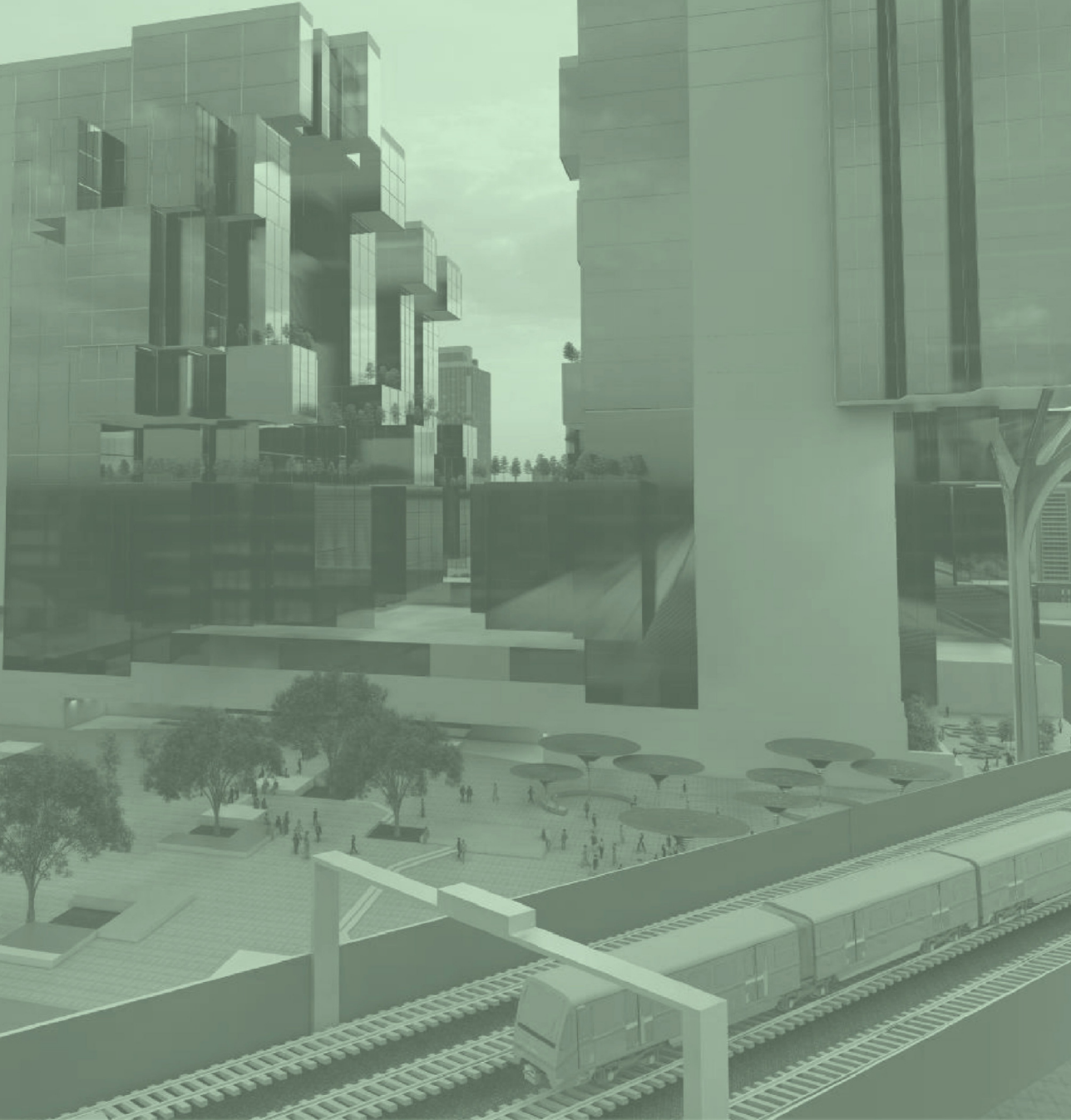


EAST ELEVATION



GENERATIVE DESIGN

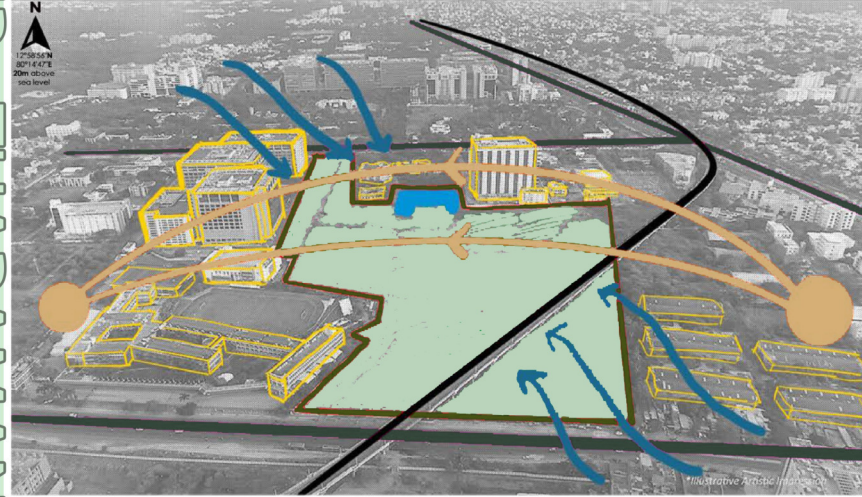
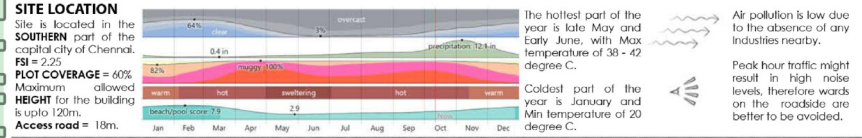
IT HUB - THARAMANI



INTRODUCTION:

SITE LOCATION

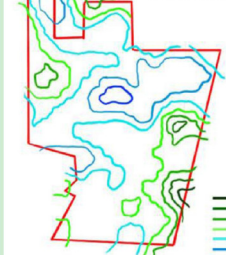
Site is located in the SOUTHERN part of the capital city of Chennai. FSI = 2.25
 Maximum allowed HEIGHT for the building is up to 120m.
 Access road = 18m.



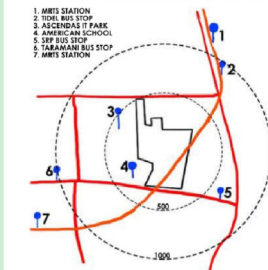
DESIGN RESPONSE

CONTOUR

The site is a gradual slope. The overall contour varies from 17m to 20m. The coverage flood line for Tharamani is 20m.



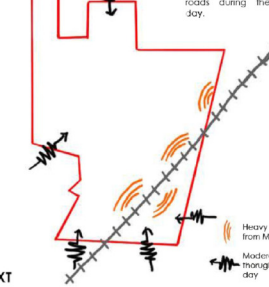
SITE SURROUNDING CONTEXT



The site is located between several transport hubs, such as MRTS station and bus stops. The locality is filled with institutions and IT spaces. Other than that there were Government buildings and other public buildings adjacent to the site.
 The site is 27 acres and has a railway track running through it. There is variety of vegetation and water body on the site.

NOISE

Main noise factor in the site is the MRTS running through it. The other factors include the school and busy roads during the day.
 Heavy noise from MRTS
 Moderate noise throughout the day



TRAFFIC MOVEMENT

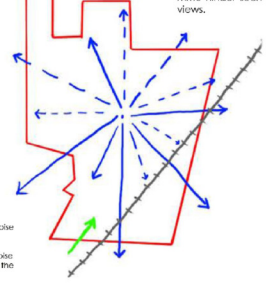
Heavy traffic because of people moving to work place.



The site is strategically located in the IT hub of Chennai and causing more congestion and traffic movement throughout the day. The people can access the site through various bus stops down the OMR road or from Tharamani Bus Stop.

VIEW & HINDERANCE

This site area offers numerous view points but the adjacent high rise building and MRTS hinder such views.





CONCEPT:

THE IDEATION OF THE PROJECT :

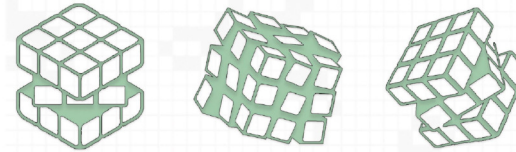
INITIAL IDEA OF THE PROJECT IS SELF SHADING:

WHAT IS SELF SHADING?

SELF-SHADING: SELF-SHADING OCCURS WHEN A BUILDING OR STRUCTURE CASTS SHADOWS ON ITSELF, POTENTIALLY REDUCING THE AMOUNT OF SUNLIGHT REACHING CERTAIN AREAS.

IDEA IMPLEMENTATION :

STAGE -1- (IDEA) : RUBIK'S CUBE



+ TAKING RUBIK'S CUBE TWIST FOR THE CORE IDEA OF "THE SELF SHADING"
 + TAKING THE CROSS RULE FOR THE TWIST EITHER IT CAN BE HORIZONTAL OR VERTICAL AT A TIME



STAGE -2-(SINCE IT HAS A RIGID FORM AND HAVE A TWIST CONSTRAIN)

TAKING - JENGA BOARD GAME - FOR MORE ADDITIVE, SUBRACTIVE, TWIST AND TURNS TO ATTAIN SELF SHADING BUILDING



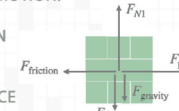
- NEWTON'S SECOND LAW. THIS LAW TELLS YOU THE NATURE OF FORCES AND MOTION.

$$F_{net} = ma$$

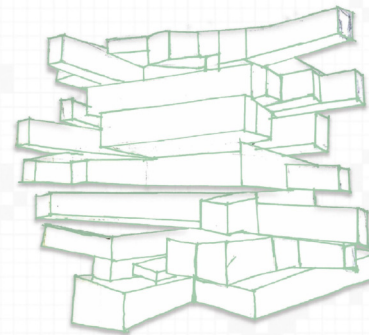
- THE NATURE OF FRICTION

$$F_{friction} = \mu_k F_N$$

-THE GRAVITATIONAL FORCE (THE WEIGHT) IS THE DOWNWARD PULLING FORCE DUE TO AN INTERACTION WITH THE EARTH. THERE ARE THE TWO INTERACTIONS WITH THE SURFACES. BOTH THE STACK ABOVE AND BELOW THE MIDDLE BLOCK PUSH ON IT IN A DIRECTION PERPENDICULAR TO THE SURFACE. THIS IS CALLED A "NORMAL" FORCE, SINCE NORMAL MEANS PERPENDICULAR. FINALLY, THERE'S THE BACKWARDS PUSHPING FRICTIONAL FORCE.



STAGE -3- MIXING OF BOTH RUBIK'S CUBE AND JENGA BOARD GAME



SKETCH OF INDULGING THE RUBIK'S CUBE + JENGA

APPLYING CORNWAY GAME OF LIFE

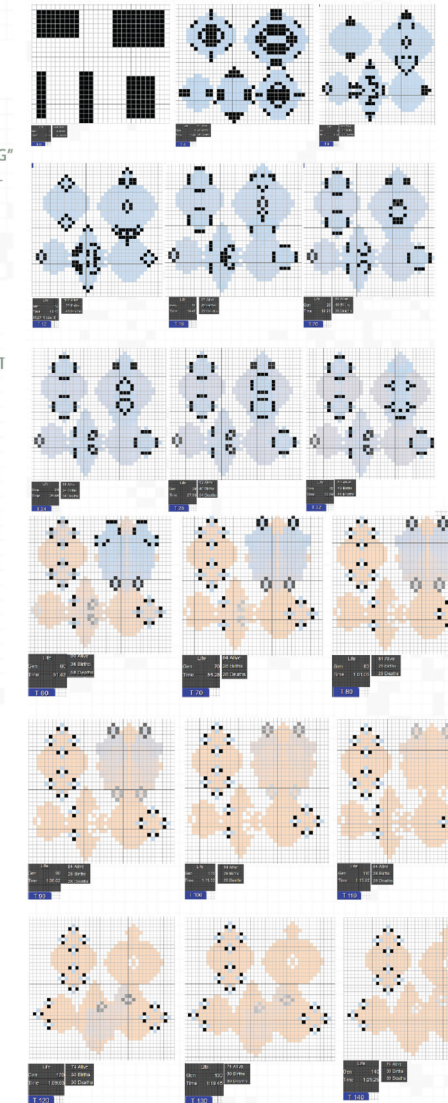
ITERATION BASED ON THE TIME SCHEDULE OF THE IT (OFFICE)

ITERATION :

| SHIFTS | TIME | DURATION |
|----------|-----------------|----------|
| SLOT-I | 9.00AM - 6.00PM | 9 HRS |
| SLOT-II | 11.00AM-8.00PM | 9 HRS |
| SLOT-III | 2.00PM-10.00PM | 8 HRS |
| SLOT-IV | 3.00PM-11.00PM | 8 HRS |
| SLOT-V | 9.00PM-6AM | 9 HRS |

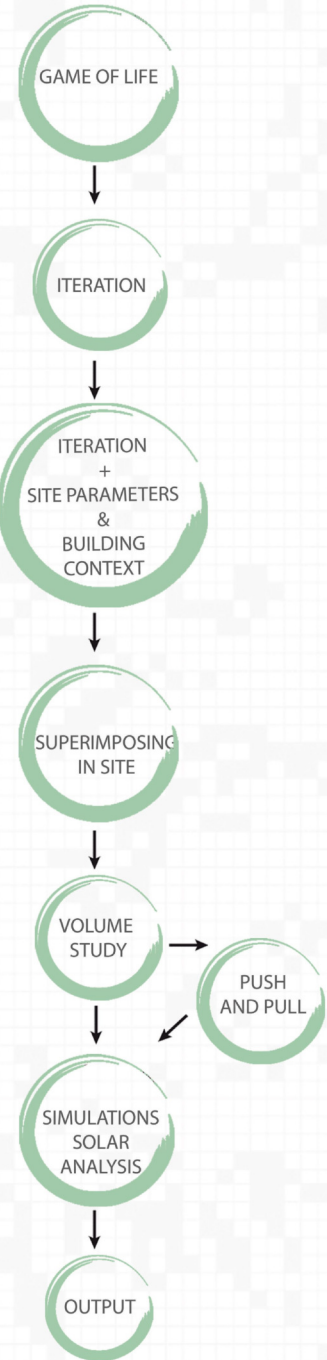
+THIS DATA WAS DERIVED FROM AVERAGE WORKING HOURS OF IT-OFFICES
 +THE DATA IS TO FORM A GRID/ PATTERN FOR ITERATION

ITERATION - 9X6 GRID(9AM-6PM),7 HOURS DURATION(GAP),2X10 GRID (2PMX10PM),11X8GRID(11AM-8PM),3X11 GRID(3PMX11PM) AND 6X9 GRID (6AMX9PM)

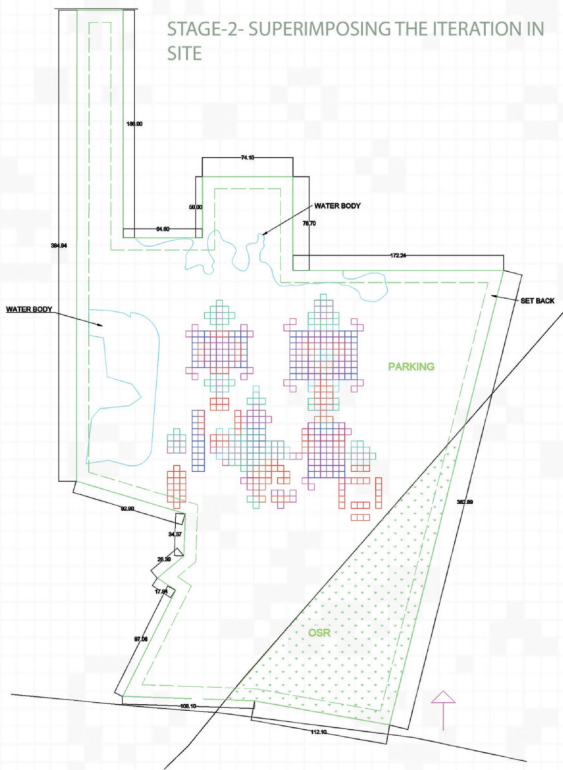


+THIS ITERATION HAVE A STABLE PATTERN AND STABLE GENERATION
 +IT HAS MORE GENERATION AND HAVE FORMED A PRE-SET PATTERNS
 +HAVING A STABLE PATTERN AND PRESET PATTERN

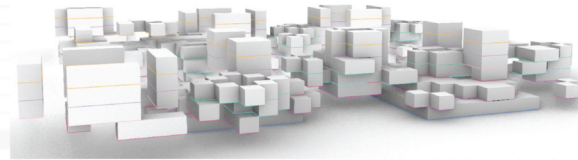
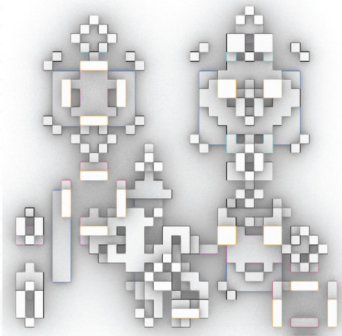
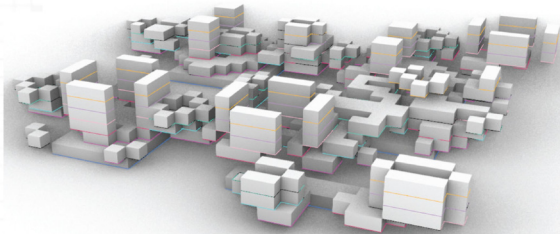
DESIGN PROCESS :



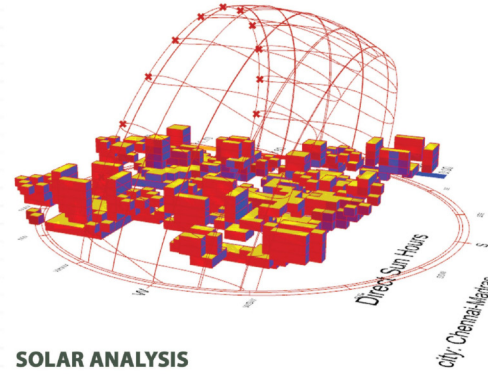
SUPERIMPOSING THE ITERATION IN SITE



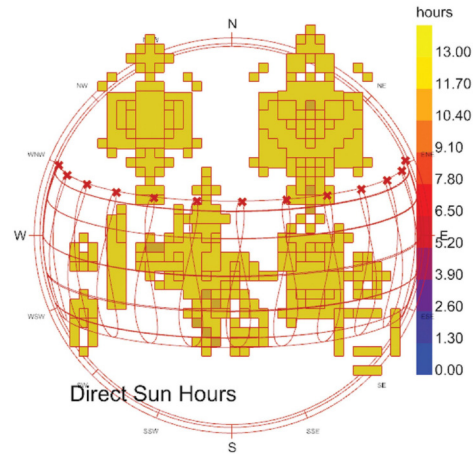
+SUPER IMPOSING THE ITERATION BY OVERLAYING THE RESULTS
+ BY RASTERIZING THE PLAN AND CONVERTED TO 3D MODEL



+GENERATED OUTPUT BASED ON ITERATION

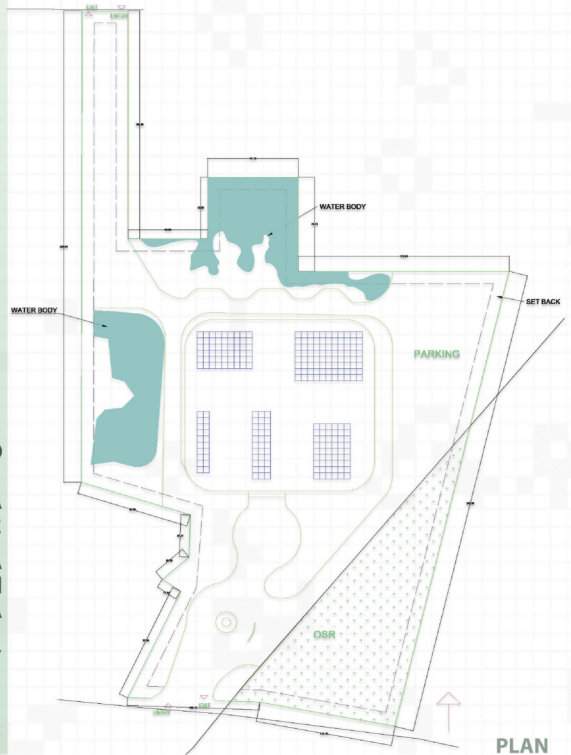
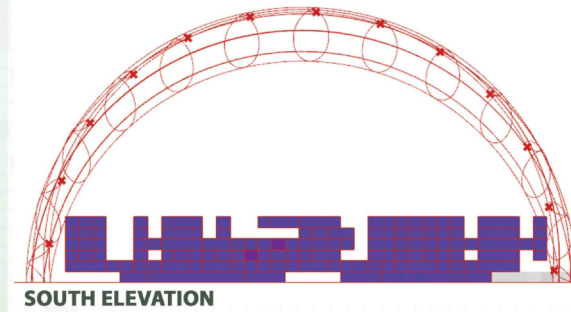
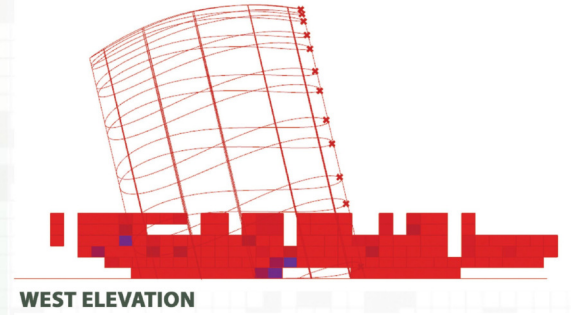


SOLAR ANALYSIS



PLAN

+SOLAR SIMULATION IS DONE IN THE DATE OF 30/06/2023
+ALSO IT CAN BE TOOGLED AND TAKE AN AVERAGE SOLAR GAIN THROUGHOUT THE YEAR
+BASED ON THE SOLAR GAIN THE BLOCKS CAN PUSH AND PULL TO ATTAIN THE SELF SHADING BUILDING.



SOLAR ANALYSIS

SOLAR ANALYSIS

PROJECT DESCRIPTION:

>THE PROJECT ACCOMMODATES VARIOUS ACTIVITIES WHICH CONSIST OF WORKSPACE,RECREATIONAL AREA AND WORKING CUBICAL

>THE OFFICE UNITS SEAMLESS WORK SPACE BY THE GENERATED ITERATTION OUT-PUT

>THE INTENT OF THE PROJECT IS TO FULFIL SOCIETAL ROLE AND INCLUDE VARIOUS PROGRAMME AND ACTIVITIES BY THE GENRATIVE ITERATION

>IT IS A OPEN-IT-OFFICE INVOLVING DIVERSE USER GROUPS WITH CULTURALLY AND SOCIALLY IMPORTANT BUILDINGS, URBAN LIFE, TECHNOLOGICAL DEVELOPMENTS, CULTURE AND GLOBALISATION.

PROJECT DETAILS:

>SITE AREA: 26.7 ACRES (1,07,051 SQM)

>REMAINING SITE AREA: 1,07,707.2 SQM
>F.S.I: 3.25

>WIDTH OF SETBACK: 7M-MIN

>O.S.R: 10% (10770.7 SQM)

>SPACE FOR FUTURE DEVELOPMENT: 8.3360 SQM

> RETAINED AREA : 4.300 SQM



MASTER PLAN

- LEGEND:**
- 1.OSR
 - 2.OFFICE
 - 3.TRANSITION MAZZEH
 - 4.ASTHETIC SUPPORTING COLOUMN
 - 5.CANOPY CUBICAL
 - 6.OSR
 - 7.FUTURE EXPANSION
 - 8.WATER BODY
 - 9.DROP-OFF
 - 10.STP
 - 11.WTP
 - 12.CHILLER PLANT
 - 13.GENERATOR
 - 14.FIRE SUMP
 - 15.TRANSFORMER

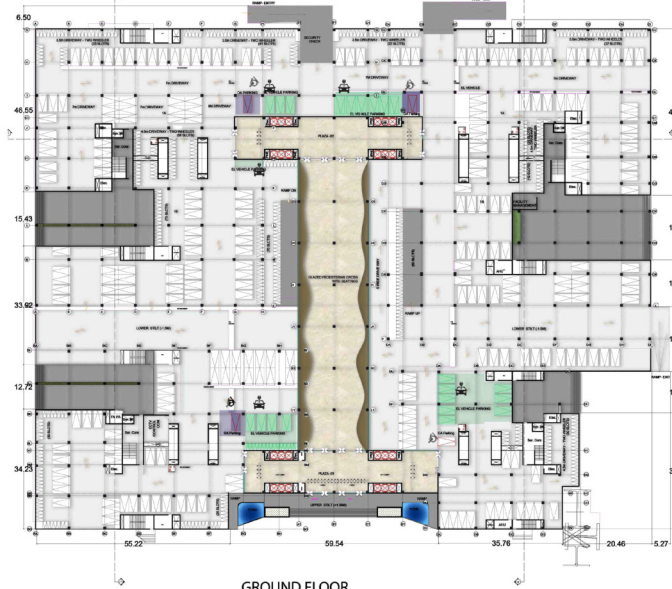
THARAMANI LINK ROAD
100 FT ROAD TOWARDS VELACHERY

TOWARDS OLD MAHABALIPURAM ROAD
20m wide

THARAMANI LINK ROAD
100 FT ROAD TOWARDS VELACHERY

TOWARDS OLD MAHABALIPURAM ROAD
20m wide

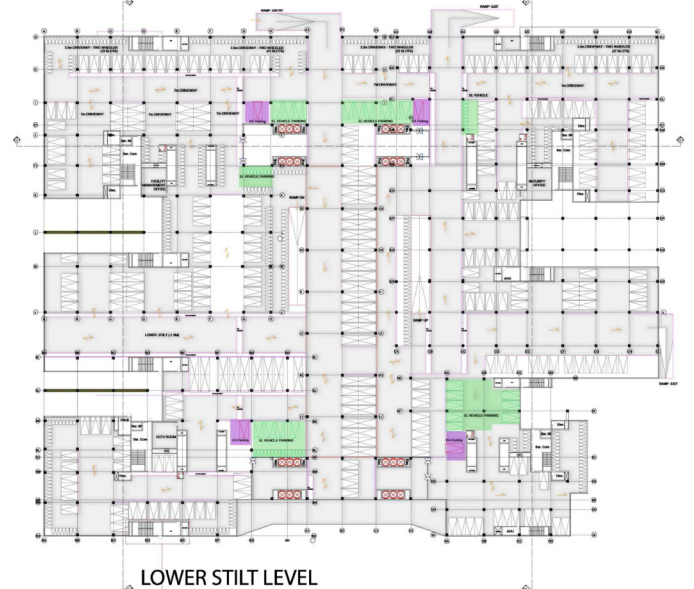
SITE PLAN



GROUND FLOOR



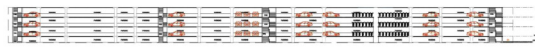
S1-3 TYPICAL FLOOR



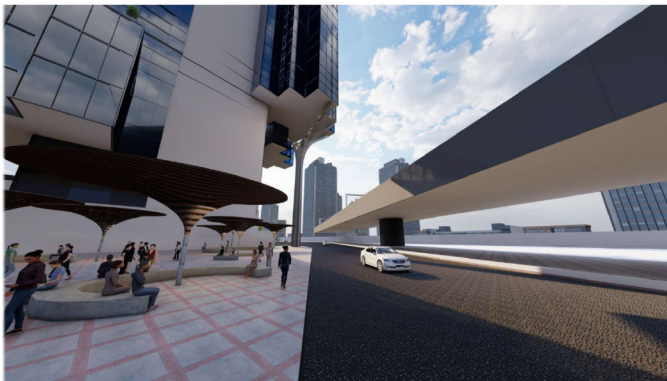
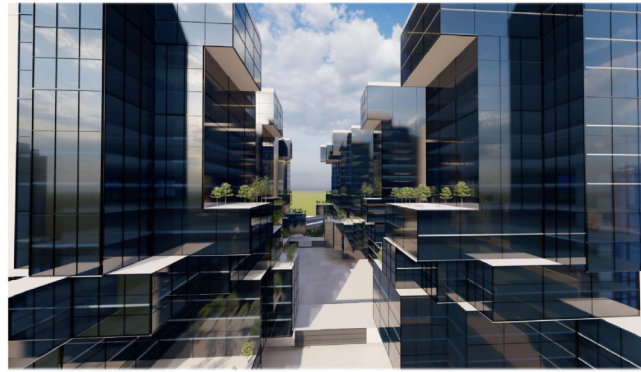
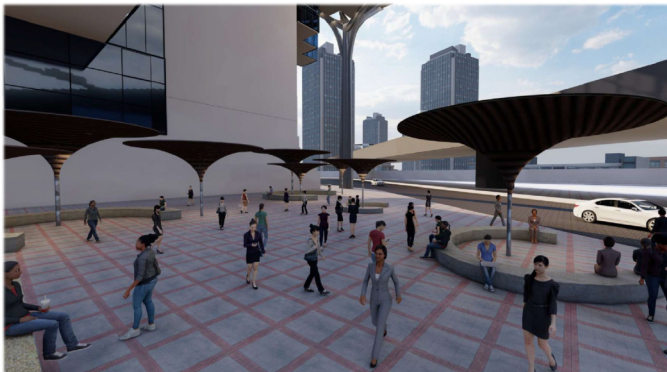
LOWER STILT LEVEL

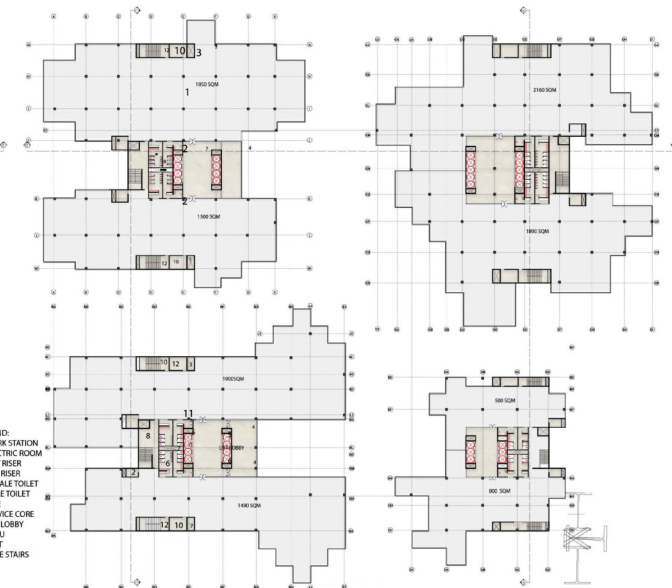
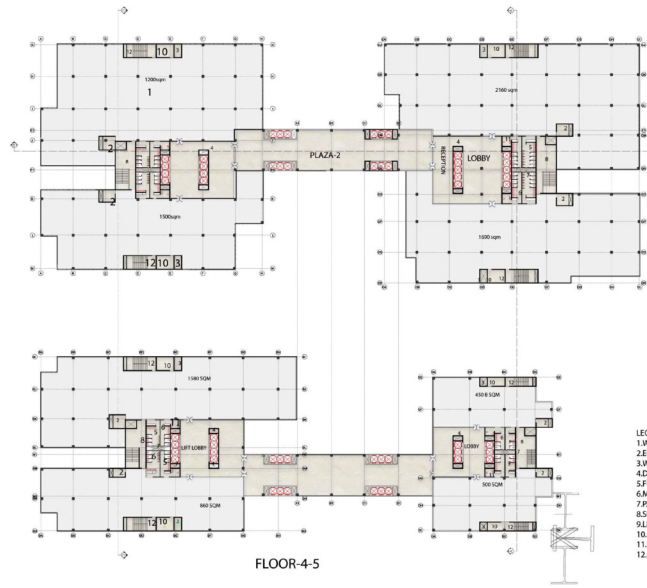


SECTION-B PARKING

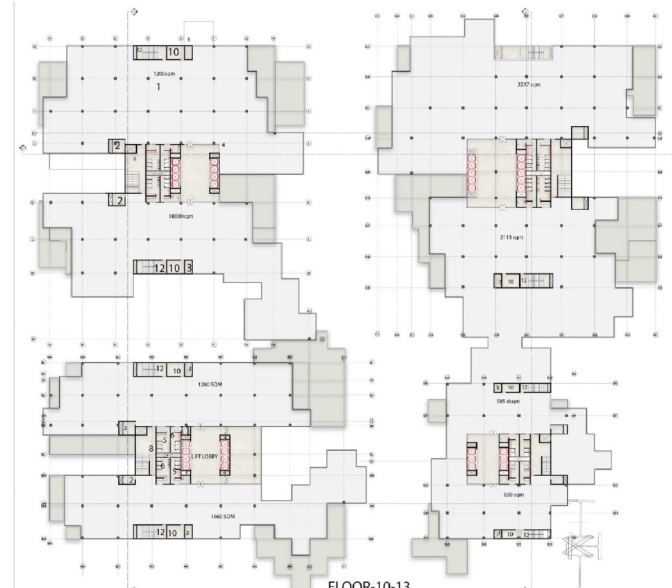


SECTION-A PARKING

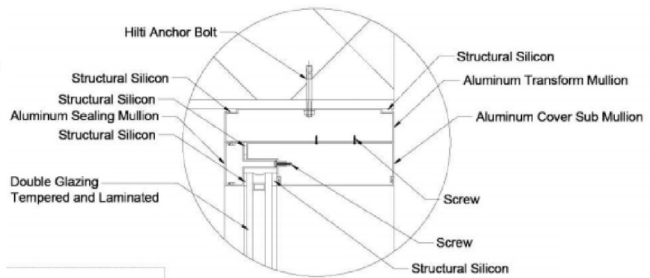
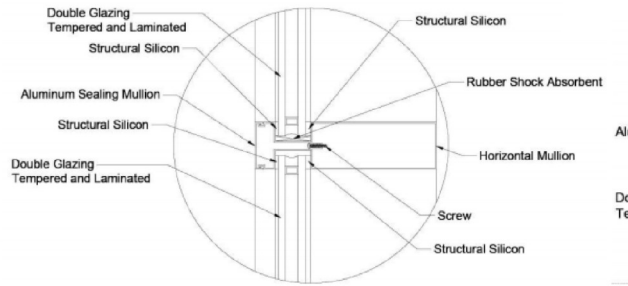




- LEGEND:
 1. WORK STATION
 2. ELECTRIC ROOM
 3. WET RISER
 4. DRY RISER
 5. FEMALE TOILET
 6. MALE TOILET
 7. P.H.E.
 8. SERVICE CORE
 9. LIFT LOBBY
 10. AHU
 11. PCT
 12. FIRE STAIRS

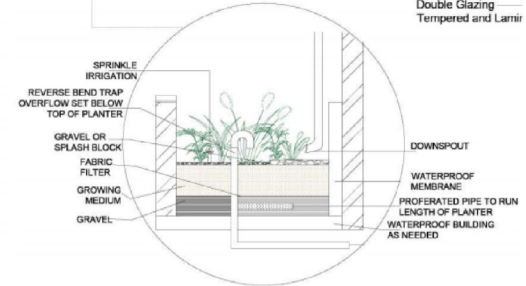


CURTAIN WALL PLAN

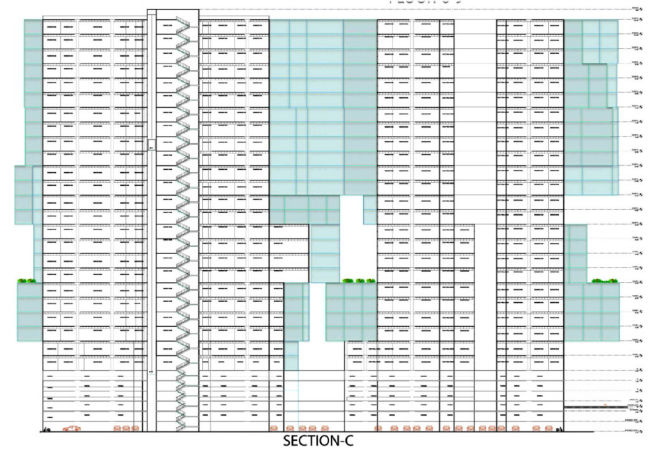
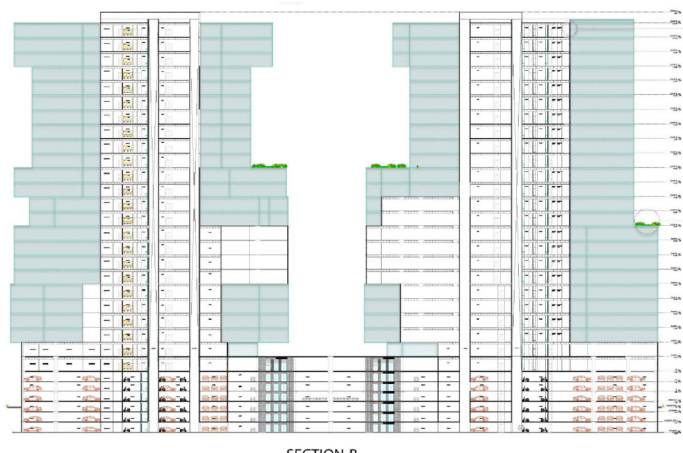
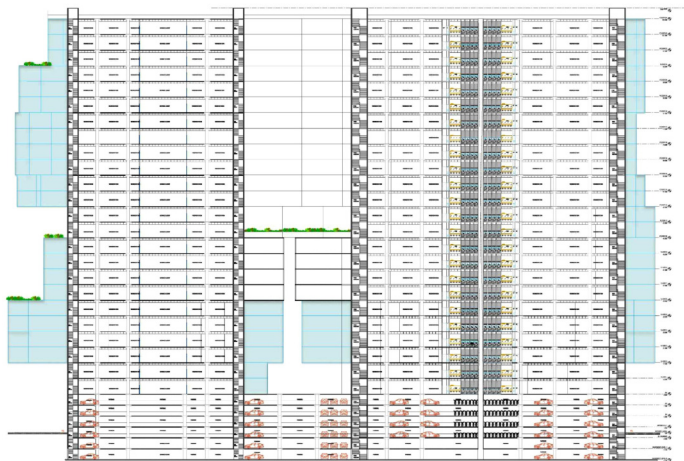


DETAIL -1

TERRACE PLANTER BOX DETAIL



- Aluminum Sealing I
 Structural Si
 Double Glazing Tempered and Lamir





FLOOR-16-17

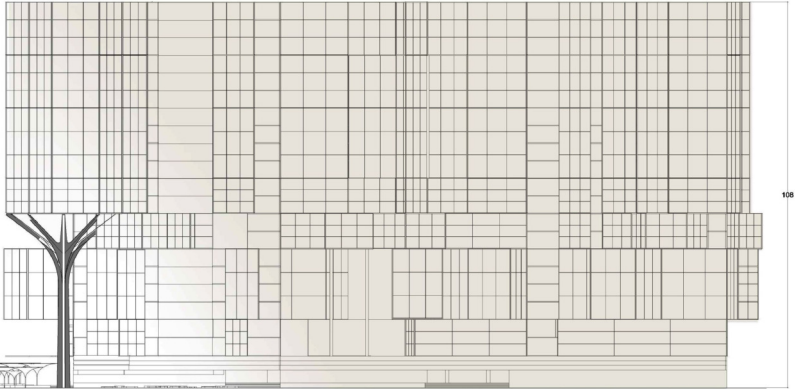
FLOOR-18-21

FLOOR-22-24

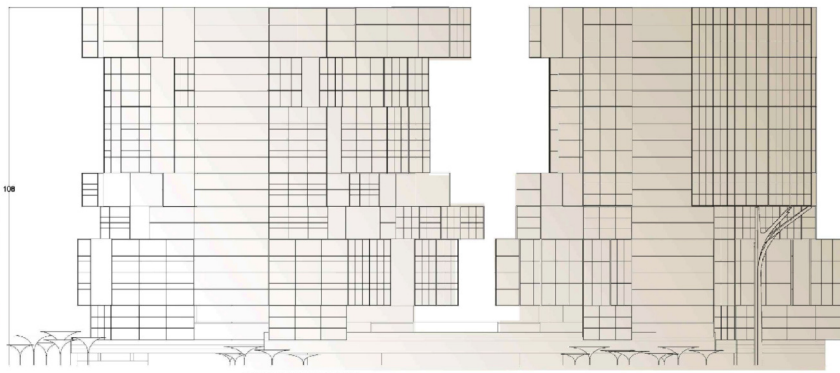
- LEGEND:
- 1. WORK STATION
 - 2. ELECTRIC ROOM
 - 3. WET RIDER
 - 4. DRY RISER
 - 5. FEMALE TOILET
 - 6. MALE TOILET
 - 7. PH.E
 - 8. SERVICE CORE
 - 9. LIFT LOBBY
 - 10. AHU
 - 11. PCT
 - 12. FIRE STAIRS



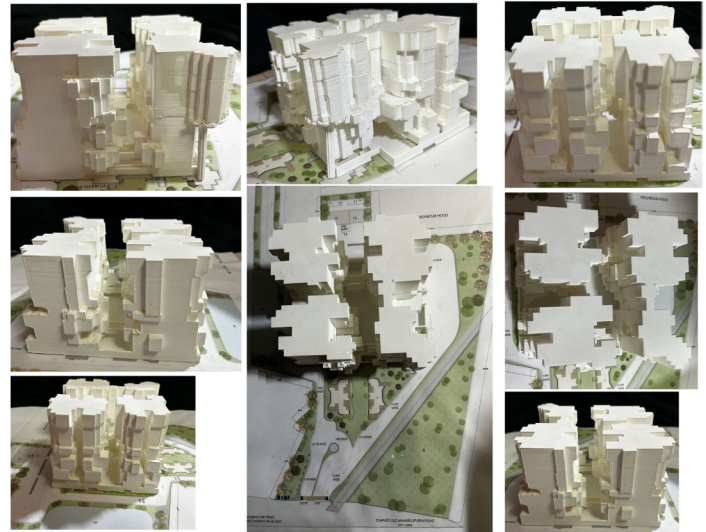
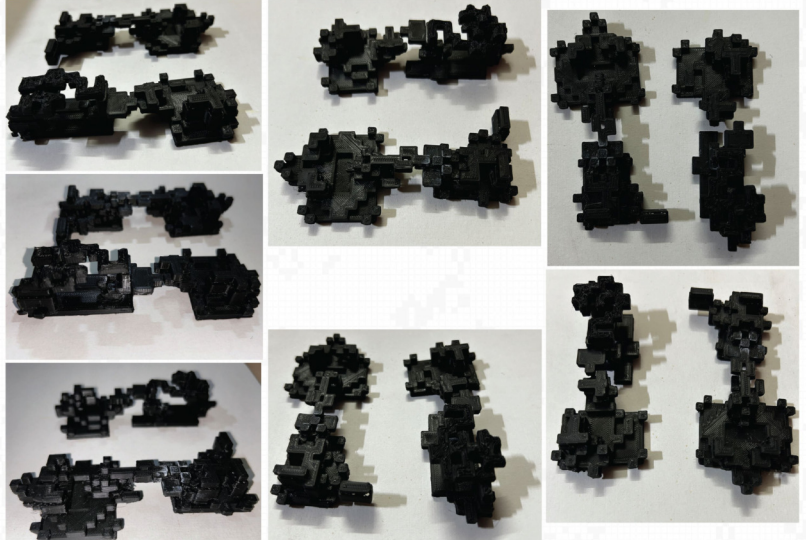
BLOW UP CORE 1:3



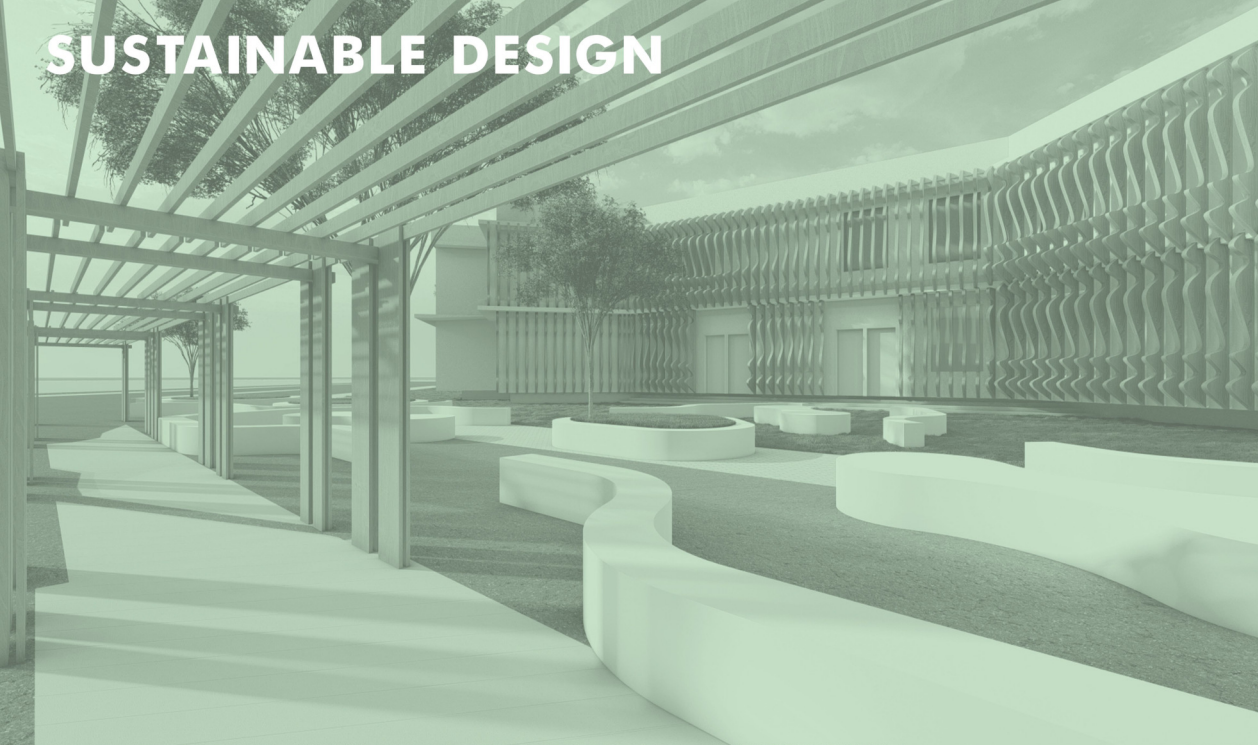
EAST ELEVATION



NORTH ELEVATION



SUSTAINABLE DESIGN

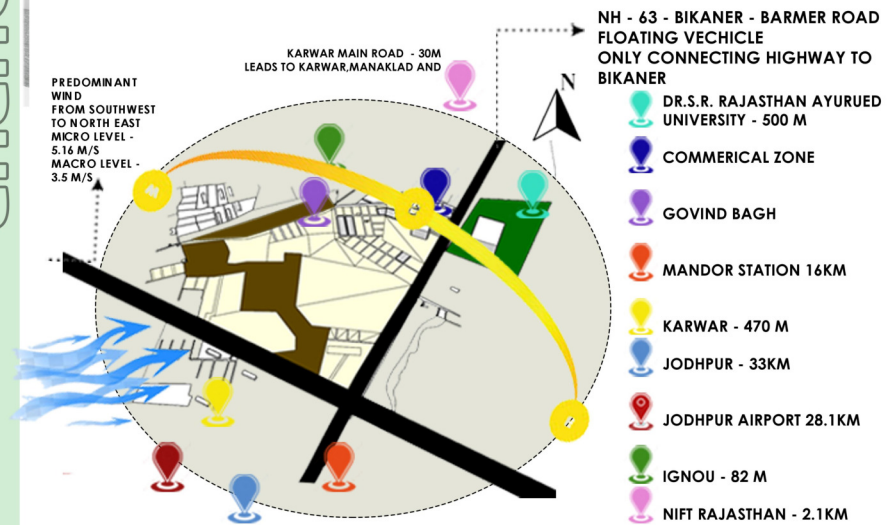


INSTITUTE - JODHPUR

INTRODUCTION:

- LOCATION : F32W+2M5,FINTECH DIGITAL UNIVERSITY, KARWAR, RAJASTHAN-342304
- CLIMATE : HOT N DRY
- AREA: 43 ACRE
- LANDMARK : NEAR IGNOU UNIV
- VEGETATION : SHRUBS AND TREES
- NEIGHBOURHOOD : NEAR IGNOU UNIVERSITY,GOVIND BAGH ,DR SRAYURVEDA UNIV RAILWAY STATION- 16.1 KM
- AIRPORT- 28.6 KM
- SUNPATH : EAST TO WEST
- PREDOMINANT WIND DIRECTION : SOUTH- WEST TO NORTH-EAST 5.6 M/S
- ZONE: MIXED
- TEMPERATURES RANGE : 40 TO 49 DEG C
- TOPOLOGY : GRADUAL SLOPE
- DRAINAGE :TOWARDS -SOUTH

SITE INVENTORY



Kejri



Ghaf



Velikathan



Cordia obliqua



Capparis decidia

MASTER PLAN

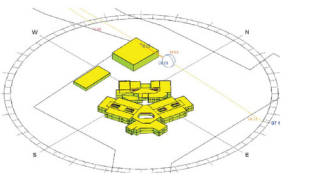
ZONE 1



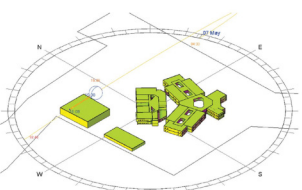
1st parcel as an performing center with exhibition-cum-workshop and play area with lush Green landscape in the entrance of the site because it should be easily accessible by The public and to cut down the public circulation in the 1st parcel itself and provided separate parking and exit to the public to not to create a huge traffic in the student exit if there is a working day and event taken place at a time.

AREA PROGRAMMING :
 -TOTAL BUILD-UP AREA - 45,000SQM
 -ACADEMIC BLOCK TOTAL AREA- 18,000SQM
 -AUDITORIUM -3000 SQM
 -WORKSHOP - 2000 SQM
 -TOTAL CAR PARKING - 180 + 180 + 20 + 30
 -BIKE PARKING - 240 + 240 + 40 + 27

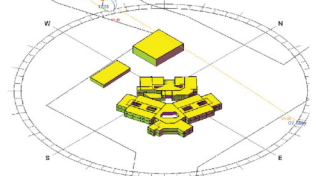
MAY MONTH - 9AM



SOLAR GAIN - 3 PM



SOLAR GAIN - 12PM



- May month is the hottest month in jodhpur the heat waves will be hight upt0 45 deg celsius the building have Maximum gain in roof and in morning there is no harsh radiation littele modertae gain in east facade since the Building is diagonally oriented- vertial louvers ,pvc panels can be placed on roof to minimize heat gain.
 - Since the walls are cavity walls the gain will be partially less 12 pm there is lot of heat gain in the roof and blocks are placed strategically to manipulate the direct heat gain.
 - Vertical louvers and jalli wall can be provided in south-west direction of the building.



WATER CALCULATION-TAKING 50 L PER HEAD
 TOTAL PEOPLE-500
 TOTAL NUMBER OF LITERS - 25,000 L
 MATERIAL: HIGH-DENSITY POLYETHYLENE (HDPE) TEMPERATURE RANGE: FROM -30°C TO +60°C UV AND CHEMICAL RESISTANCE DIMENSIONS: DIAMETER 2400 MM OR 3000 MM, HEIGHT 5560 MM OR 3550 MM

ENERGY CALCULATION

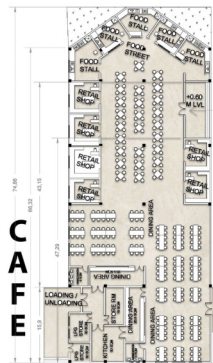
| S.No | Appliances | Quantity | Watts per item | Total Watts | Duration of use per min/per day | KWH |
|---------------------|------------------|----------|----------------|-------------|---------------------------------|------------|
| 1 | LED TUBE LIGHT | 400 | 10 | 4000 | 8 HRS | 32 |
| 2 | BLDC FAN | 450 | 30 | 15000 | 8 HRS | 108 |
| 3 | Dual Inverter AC | 10 | 1500 | 15000 | 4HRS | 120 |
| TOTAL ENERGY | | | | | | 260 |

- LEGEND:**
- 1.AUDITORIUM
 - 2.EXHIBITION
 - 3.MAIN OFFICE
 - 4.PRINT SHOP AND RETAIL
 - 5.ACADEMIC BLOCK
 - 6.OAT
 - 7.PLAY GROUNG
 - 8.BASKET BALL COURT
 - 9.CANTEN & CAFE
 - 10.AUDITORIUM-COMMON
 - 11.GREEN DEN WITH PARGOLA
 - 12.CLINIC
 - 13.BADMITTON COURT
 - 14.CRICKETGROUND
 - 15.WTP
 - 16.STP



Strategy:

- Zone 3 - have 2 different departments
- The building is oriented diagonally to manipulate the direct heat gain and the light to reduce the glare and harmful radiation which is coming from west side and will get natural daylighting throughout the day
- Low-rise: horizontal expandable with mini- mum disruption, user's proximity to the surroundings, Gardens and courtyards, easy to integrate with the landscape.
- Monoblock : easy horizontal expansions, user's proximity to the surroundings and court- yards, User-friendly scale and very flexible for healthcare.
- The wind which is coming from south-west direction that is predominant wind direction in jodhpur. The building itself will trap a wind and circulate throughout the spaces based on the wind movement the form is designed with horizontal cut-outs this will also help counter sand storm thereby avoiding major disaster.
- Given vertical cutouts and horizontal cutout as well that act as venturi effect to avoid disaster

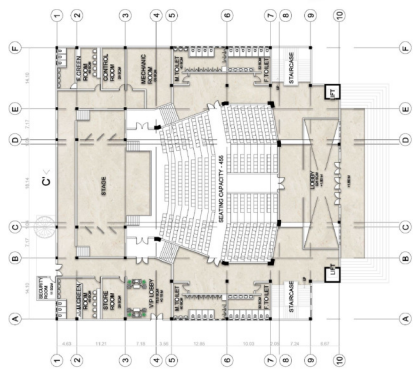


**CAFE PLAN
SCALE 1:2**

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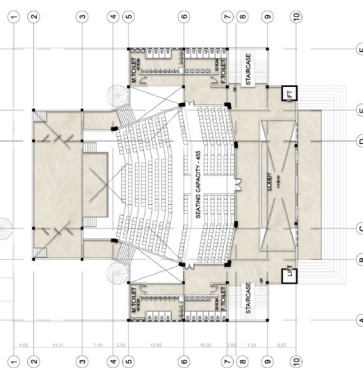


CLINIC PLAN 54.3832



GROUND FLOOR PLAN

**A
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**SCALE 1:2
AUDITORIUM FIRST FLOOR PLAN**



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- AREA PROGRAMMING**
- 1-INSTITUTE BUILD-UP AREA -PARCEL-3 - 18,000SQM
 - 2-AUDITORIUM - 5500 SQM - 1000 PEOPLE
 - 3-CANTEEN - 2005SQM
 - 4-PLAY GROUND
 - 5-PARK
 - 6-BASKET BALL COURT
 - 7-BUS EV PARKING
 - 8.WTP - 75 K L
 - 9.STP - 50 KL
 - 10.OAT
 - 11. RAW WATER - 75 KL

The 3rd parcel of land is an institution with 2 department the school of financial information systems, the school of financial technology, with services (ug - wtp) and electric bus charging station and cafe, common auditorium in central

- To 3rd, 5th parcel to have it in a common ground whereas parcel 4 act as a common for both having clinic, green lush covered with pargola and bad - mitton court for both the academic blocks in comon to bring gathering spot for the students also cricket grong provided end of the building.



ACADEMIC BLOCK ENTRY WITH SEATINGS AND LANDSCAPE THE BUILDING PROVIDE SHADE TO THE LANDSCAPE AND IT IS FACING EAST SIDE SHADED DURING AFTERNOON



WEST VIEW PROVIDED WITH BRICK JALLI



GATHERING SPOT WITH PARGOLA

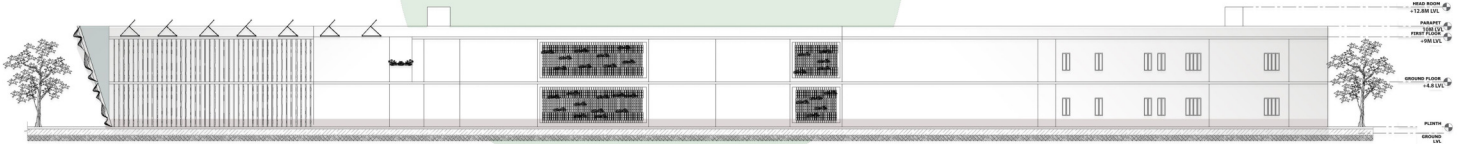
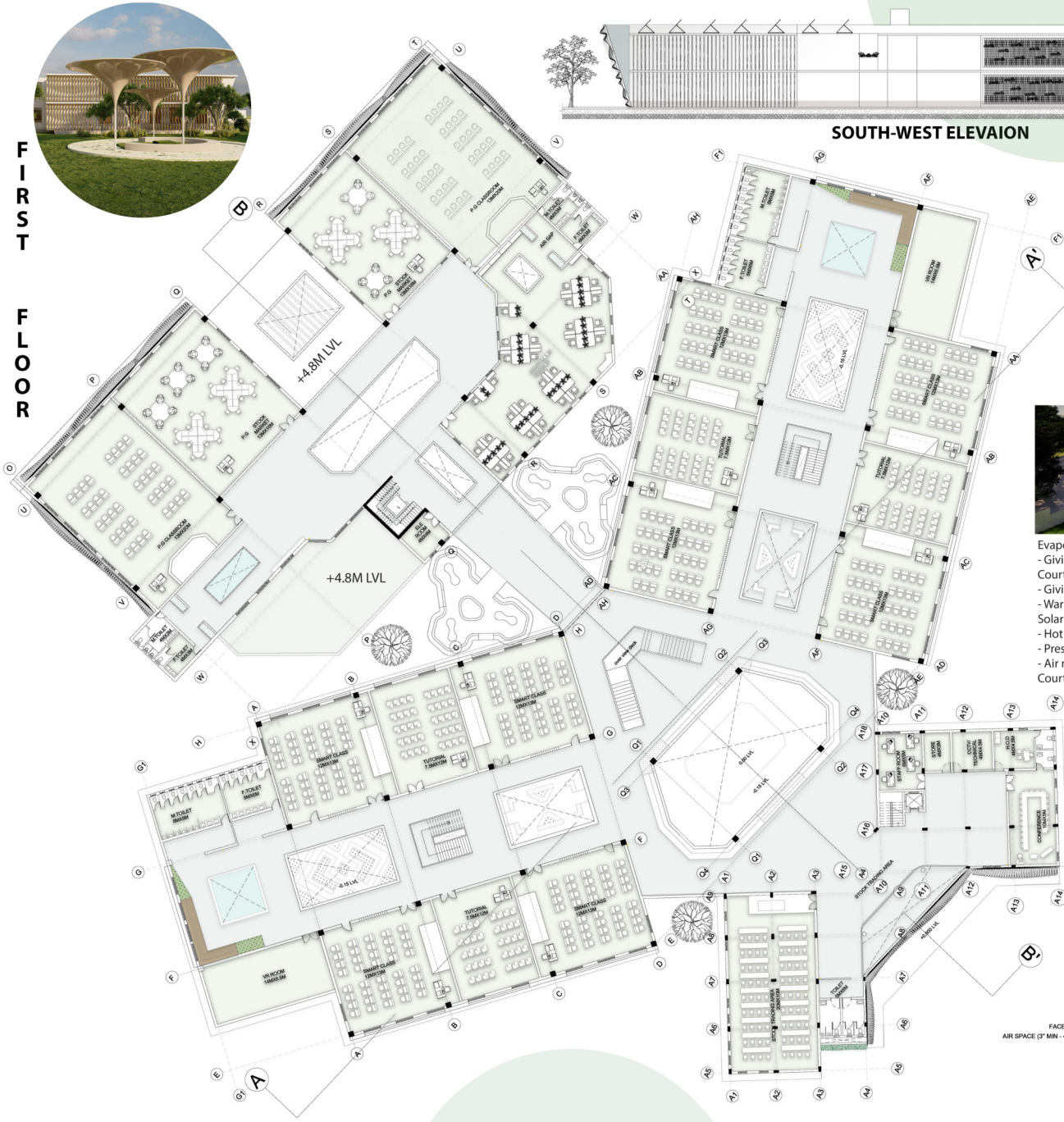


VIEW FROM OAT PLACED NORTH WEST OF THE BUILDING

LEGEND:

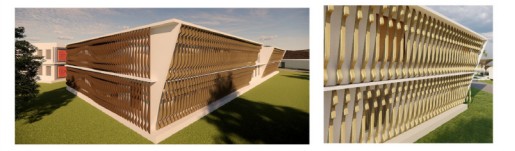
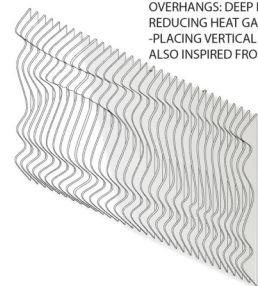
- 4.PRINT SHOP AND RETAIL
- 5.ACADEMIC BLOCK
- 6.OAT
- 7.PLAY GROUND
- 8.BASKET BALL COURT
- 9.CANTEEN & CAFE
- 10.AUDITORIUM-COMMON
- 11.GREEN DEN WITH PARGOLA
- 12.CLINIC
- 13.BADMITTON COURT
- 14.STP
- 15.WTP

FIRST FLOOR



SOUTH-WEST ELEVATION

PASSIVE STRATEGY:
 OVERHANGS: DEEP ROOF OVERHANGS CAN SHADE WINDOWS AND EXTERIOR WALLS FROM DIRECT SUNLIGHT, REDUCING HEAT GAIN.
 -PLACING VERTICAL DYNAMIC LOUVERS IN EAST FACADE TO MANIPULATE LIGHT AND ALSO FOR ASTHETICS AND IT ALSO INSPIRED FROM SAND DUNES WHICH IS SEEN IN RAJASTHAN
 -GIVING A SLANT FACDE TO CUT DOWN DIRECT HEAT AND ALSO ACT AS DEEP OVER HANG
 -THE WAVY PATTERN WILL GIVE A FLOW TI WIND AND GIVE DIFFUSE SUN LIGHT



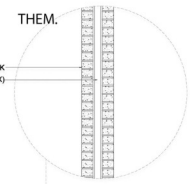
Evaporative-cooling:
 - Giving evaporative cooling in gathering spot near library the block has horizontal cut-out in first floor which act as stack effect
Courtyard-effect:
 - Giving maximum courtyard to achive maximum sun light to the building that vent out hot air
 - Warm air, being less dense, rises. This creates a natural pressure difference within the building.
Solar radiation: sunlight heats the air and surfaces inside the courtyard.
 - Hot air rises: the heated air in the courtyard rises due to the stack effect.
 - Pressure difference: as warm air rises, it creates a low-pressure zone at the bottom of the courtyard.
 - Air movement: cooler air from outside is drawn into the building through openings (windows, doors) surrounding the Courtyard to fill the low-pressure zone.



TREES STRATEGICALLY PLACED AROUND BUILDINGS
 Shade walls and windows from direct sunlight. This significantly reduces heat gain in summer
 Evapotranspiration: Trees release water vapor Through their leaves this process cools the Surrounding air similar to how sweating cools Our bodies.



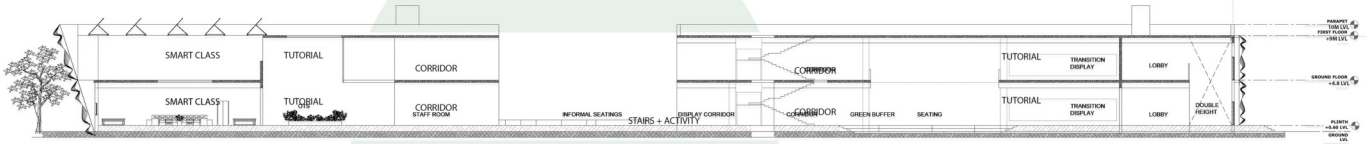
THEM.



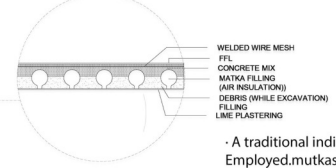
Brick cavity wall

- With low heat tranfer which will keep the gap creates a barrier that Slows down heat transfer between the inner and outer brick wythes (layers) of the wall. This helps keep the interior cooler in summer
 U- value -0.933 with air gap-25mm
 -cavity ties: brick cavity walls use metal ties that span the gap to Connect the inner and outer wall

| METRIALS | PROPERTIES |
|-------------------------------------|----------------------------------------|
| DOUBLE WALL (BRICK)WITH AIR GAP | U-Value(W/m ² .K) = 0.865 |
| | R-Value(m ² K/W) = 0.933 |
| EXTERIOR WALL (BRICK)WITH AIR | U-Value(W/m ² .K) = 0.839 |
| | R-Value(m ² K/W) = 0.933 |
| EXTERIOR SLAB LIGHT WEIGHT CONCRETE | U-Value(W/m ² .K) = 2.559 |
| | R-Value(m ² K/W) = 0.181 |
| INTERIOR SLAB LIGHT WEIGHT CONCRETE | U-Value(W/m ² .K) = 2.203 |
| | R-Value(m ² K/W) = 0.114 |
| GROUND SLAB | U-Value(W/m ² .K) = 2.766 |
| | R-Value(m ² K/W) = 0.102 |
| MATKA ROOF | U-Value(W/m ² .K) = 0.3-0.6 |
| | R-Value(m ² K/W) = 01.7-3.3 |
| WINDOW | U-Value(W/m ² .K) = 5.82 |
| GLAZING | SHGC = 0.446 |
| SCHEDULES | 8 AM TO 5 PM |
| | DEFAULT VALUES |



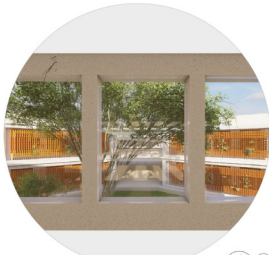
SECTION - B



THERMAL ROOF TO SLOW DOWN THE TRANSFER OF HEAT

- A traditional indian technique of thermal insulation was Employed.matkas are placed on flat roof 2.5 cm apart, & the Spaces between are filled with sand and broken kulhat cups, Debris and covered with a thin layer of concrete the fill and The air within the matkas provide thermal insulation roof

GROUND FLOOR

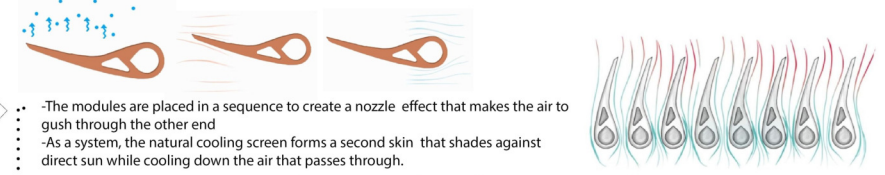


SOUTH-EAST ELEVATION

PASSIVE STRATEGY CONCEPT :

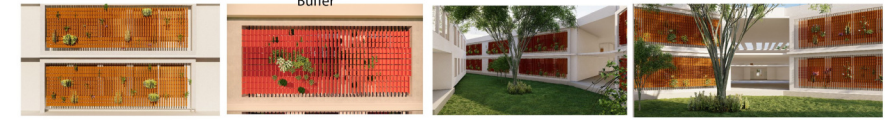
1. Jalli walls for class rooms to get maximum natural day lighting and ventilation -it avoid glare And give diffused light
 Jalli wall - aero leaf facade braethe like leaf - as cool as leaves the design of aeroleaf Facade system is inspired by evapotranspiration in leaves.

-Terracotta units are designed as an 'Aerofoil', to enhance air flow.



-The modules are placed in a sequence to create a nozzle effect that makes the air to gush through the other end
 -As a system, the natural cooling screen forms a second skin that shades against direct sun while cooling down the air that passes through.

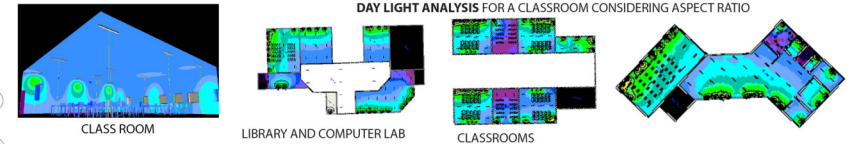
The facade system fits on walls/windows, recive hot air and sends cool air into the Modules by sensing the microclimate
 -The jalli walls are placed in such angle to diffuse the light and to trap maximum wind into the building
 -It act as stack effect
 -It also has greens that hanged on the terracotta enhance the ventilation act as green Buffer



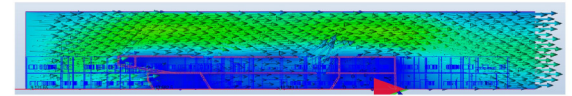
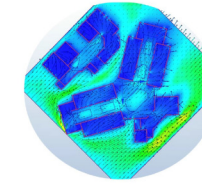
2. Aspect ratio of the class room is considered:

Short and wide class room ratio: a length-to-width ratio of around 1- achieved -0.8 This creates a wider surface area exposed to prevailing winds, facilitating natural cross-ventilation.
 -energy efficiency: promotes air circulation through the classroom, reduced reliance on mechanical cooling and artificial Lighting translates to lower energy consumption and more sustainable operation of the school.
 Provides more wall space for windows on two sides, allowing for wind-driven ventilation and daylighting.

DAY LIGHT ANALYSIS FOR A CLASSROOM CONSIDERING ASPECT RATIO



CONSIDERING NATURAL VENTILATION TO COOLS DOWN THE SPACE CLASS ROOMS WINDOWS ARE STRATEGICALLY PLACED TO ACHIVE CROSS VENTILATION

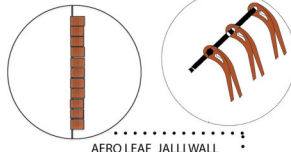


-Cross ventilation is taking place maximising natural ventilation
 -there is more natural ventilation can reduce minimizing the mechanical cooling devices

SHADING DEVICE

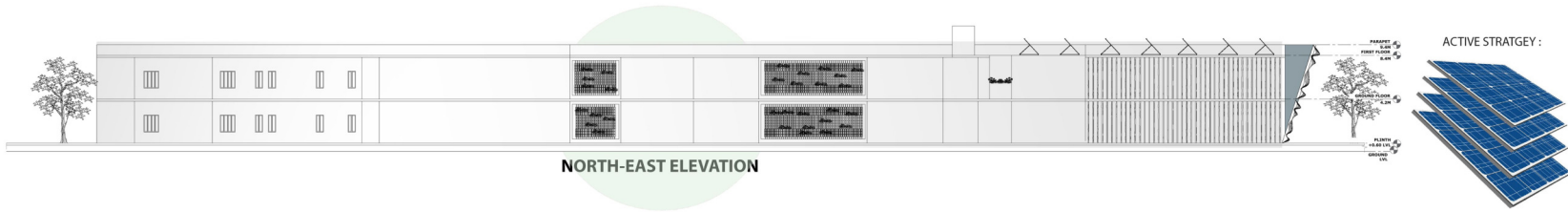
Vsa and hsa calculated for the average hottest day

| WALL DIRECTION | North | South | East | West | | | | |
|--------------------------------------|---------|---------|--------|--------|--------|--------|--------|--------|
| Wall Azimuth | 0 | 190 | 90 | 280 | | | | |
| MAY IS THE HOTTEST MONTH OF THE YEAR | | | | | | | | |
| MAY | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | 17.00 |
| Altitude | 59.97 | 72.44 | 82.07 | 74.99 | 61.66 | 47.76 | 33.75 | 19.8 |
| Solar Azimuth | 71.17 | 61.43 | 10 | 302.95 | 289.89 | 286.76 | 286.53 | 287.74 |
| HSA for Vertical Shading Device | | | | | | | | |
| West | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | 17.00 |
| HSA | -198.83 | -208.57 | -260 | -32.95 | 19.89 | 16.76 | 16.53 | 17.74 |
| Radiance | 0.96 | 0.5 | -0.51 | -1.5 | -1.36 | -0.98 | 0.99 | 1.26 |
| VSA | 55.02 | 28.68 | -29.28 | -86.23 | -77.96 | -56.12 | 56.93 | 72.36 |
| VSA for Horizontal Shading Device | | | | | | | | |
| South | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | 17.00 |
| HSA | -108.83 | -118.57 | -170 | 122.95 | 109.89 | 106.76 | 106.53 | 107.74 |
| Radiance | 1.11 | 0.26 | 0.41 | 0.55 | 1.17 | 0.64 | -0.83 | 1.17 |
| VSA | 63.87 | 15.06 | 23.58 | 31.48 | 67.19 | 36.49 | -47.44 | 66.76 |



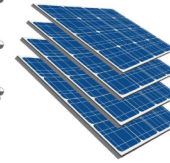
SECTION - A





NORTH-EAST ELEVATION

ACTIVE STRATEGY :



A typical 400-watt panels on a 1000 sq ft roof.
 T solar panel is 79.1 inches long and 39.1 inches wide. It takes up 21.53 sq ft of area. If you have a 1000 sq ft roof, and you can use 75% of that roof area for solar panels, you can theoretically put 34 400-watt solar
 - solar panel keeping in roof will act as double roof
 Since it is elevated the gain will happen slowly because of the air Gap between ffi - solar panel



NORTH -WEST ELEVATION

Using trees in over all around a layout act as green screen give cool wind and good Indoor air quality
 Promoting to plant a trees
 Budding on desert bushes and trees has led to significant growth of these plants by Using the same amount of water, earlier used for irrigation. This method can fight Climate change and hunger at the same time.

FOLLOWING ARAVALLI GREEN WALL PROJECT TO PLANTING NATIVE SPECIES OF TREES AND SHRUBS IT WILL ALSO FOCUS ON AGROFORESTRY AND PASTURE DEVELOPMENT TO ENHANCE THE LIVELIHOODS OF LOCAL COMMUNITIES.



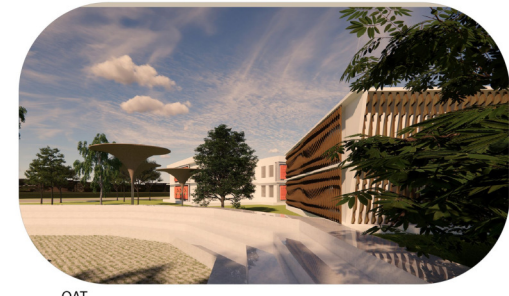
IMPROVING THE ECOLOGICAL HEALTH OF THE SITE TO PREVENT EASTWARD EXPANSION OF THAR DESERT AND TO REDUCE LAND DEGRADATION BY CREATING GREEN BARRIERS THAT WILL PREVENT SOIL EROSION, DESERTIFICATION AND DUST STORMS



JALLEI SCREENN



GATHERING AREA



OAT

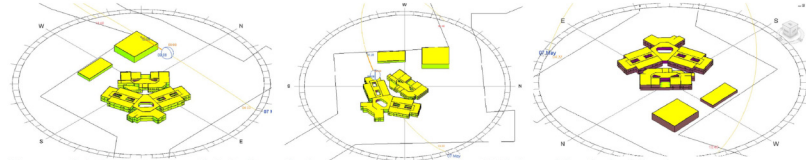


OVER ALL VIEW



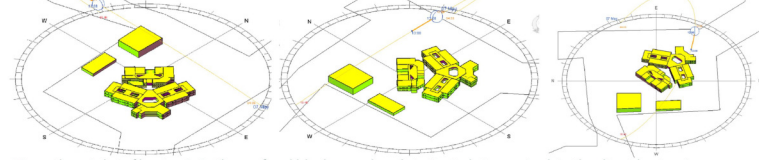
PARGOLA VIEW

MAY MONTH - 9AM



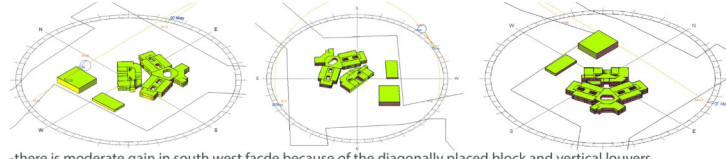
May month is the hottest month in jodhpur the heat waves will be high upto 45 deg celsius the building have Maximum gain in roof and in morning there is no harsh radiation little moderate gain in east facade since the Building is diagonally oriented- vertical louvers ,pvc panels can be placed on roof to minimize heat gain -since the walls are cavity walls the gain will be partially less

SOLAR GAIN - 12PM



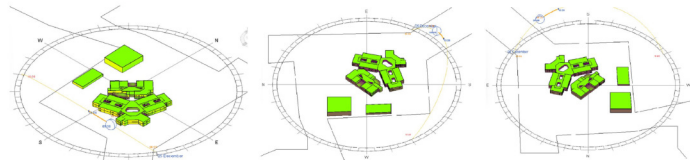
12 pm there is lot of heat gain in the roof and blocks are placed strategically to manipulate the direct heat gain -vertical louvers and jalli wall can be provided in south-west direction of the building

SOLAR GAIN - 3 PM



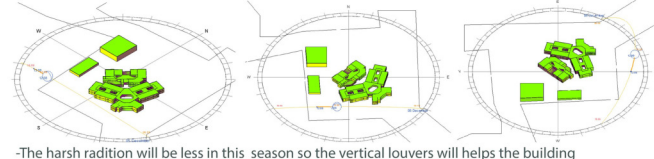
-there is moderate gain in south west facade because of the diagonally placed block and vertical louvers and jaali walls can be placed
-the tilted east block can have a recessed floor act as shading device
-since the college timing is till 3.30pm the heat is not an major issue

DECEMBER MONTH - 9AM



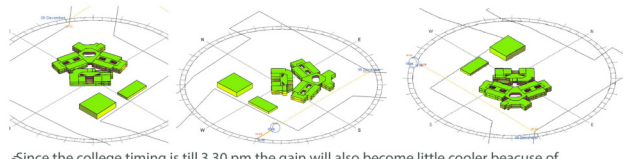
-december month is the winter season and there will be a drastic change in day time and night time
-there is moderate gain in east facade and even in roof and the building itself shade the walls

SOLAR GAIN - 12PM

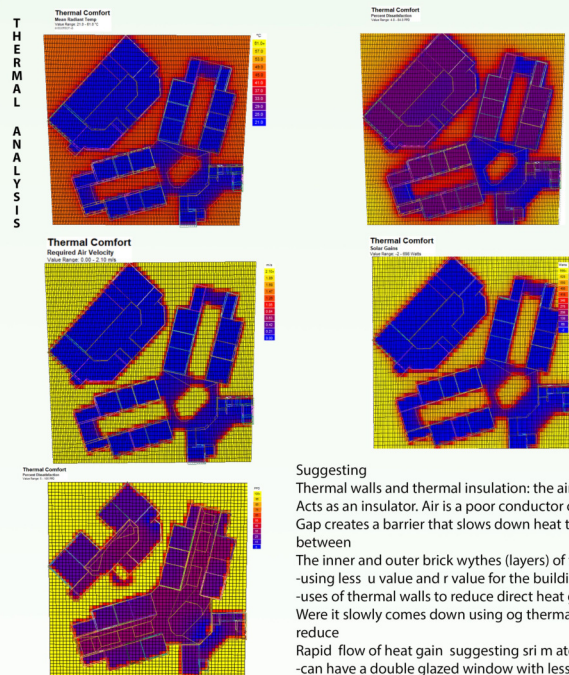
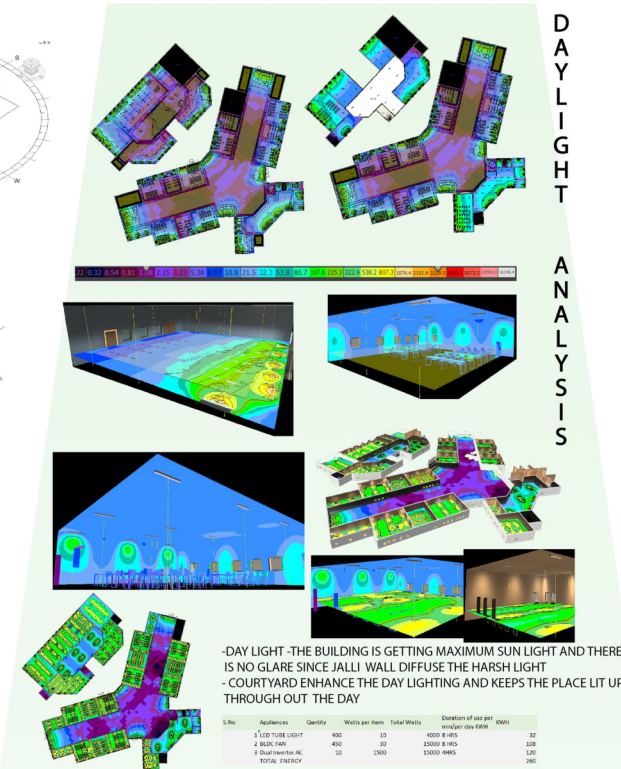


-The harsh radiation will be less in this season so the vertical louvers will helps the building To feel thermally comfortable
-The library block sct light getting light to the maximum

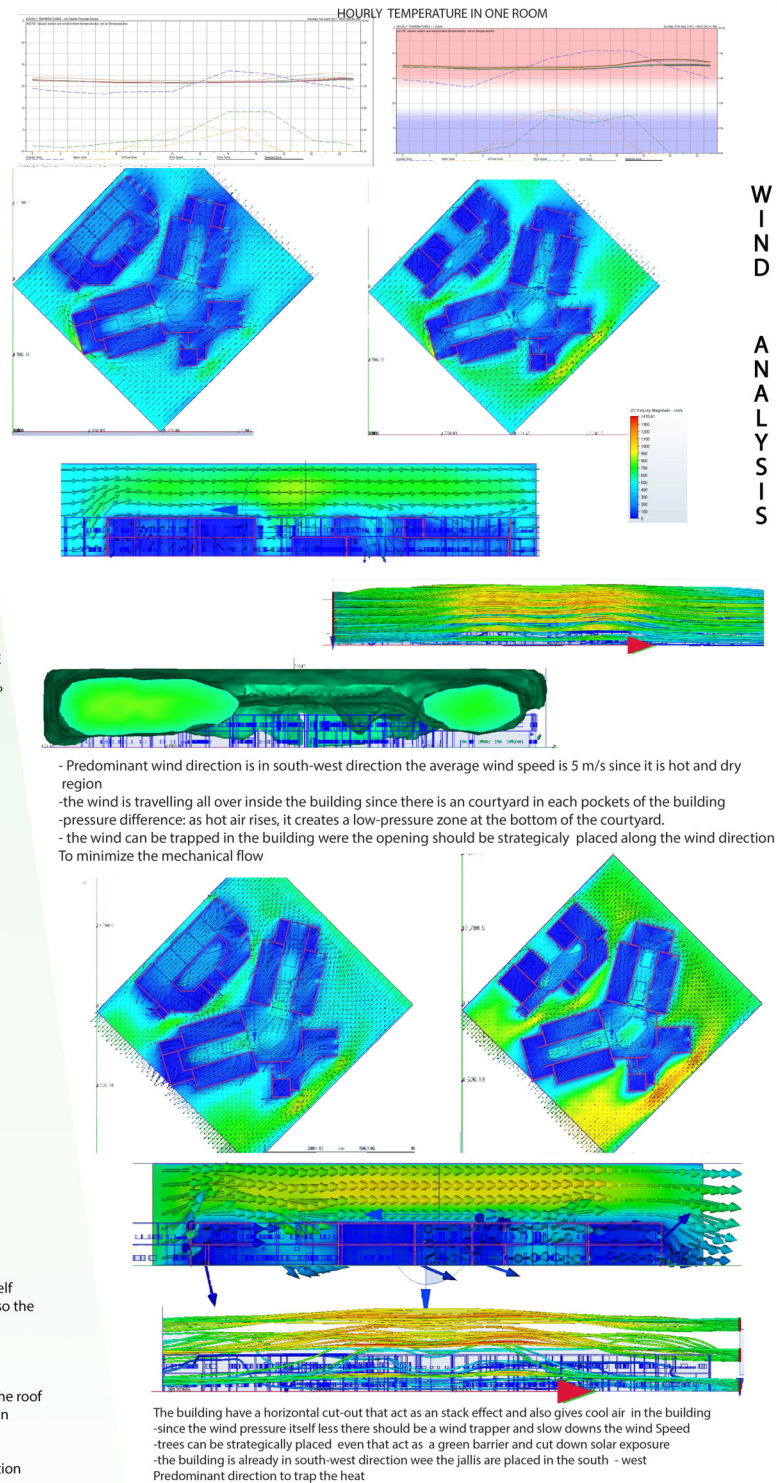
SOLAR GAIN - 3 PM

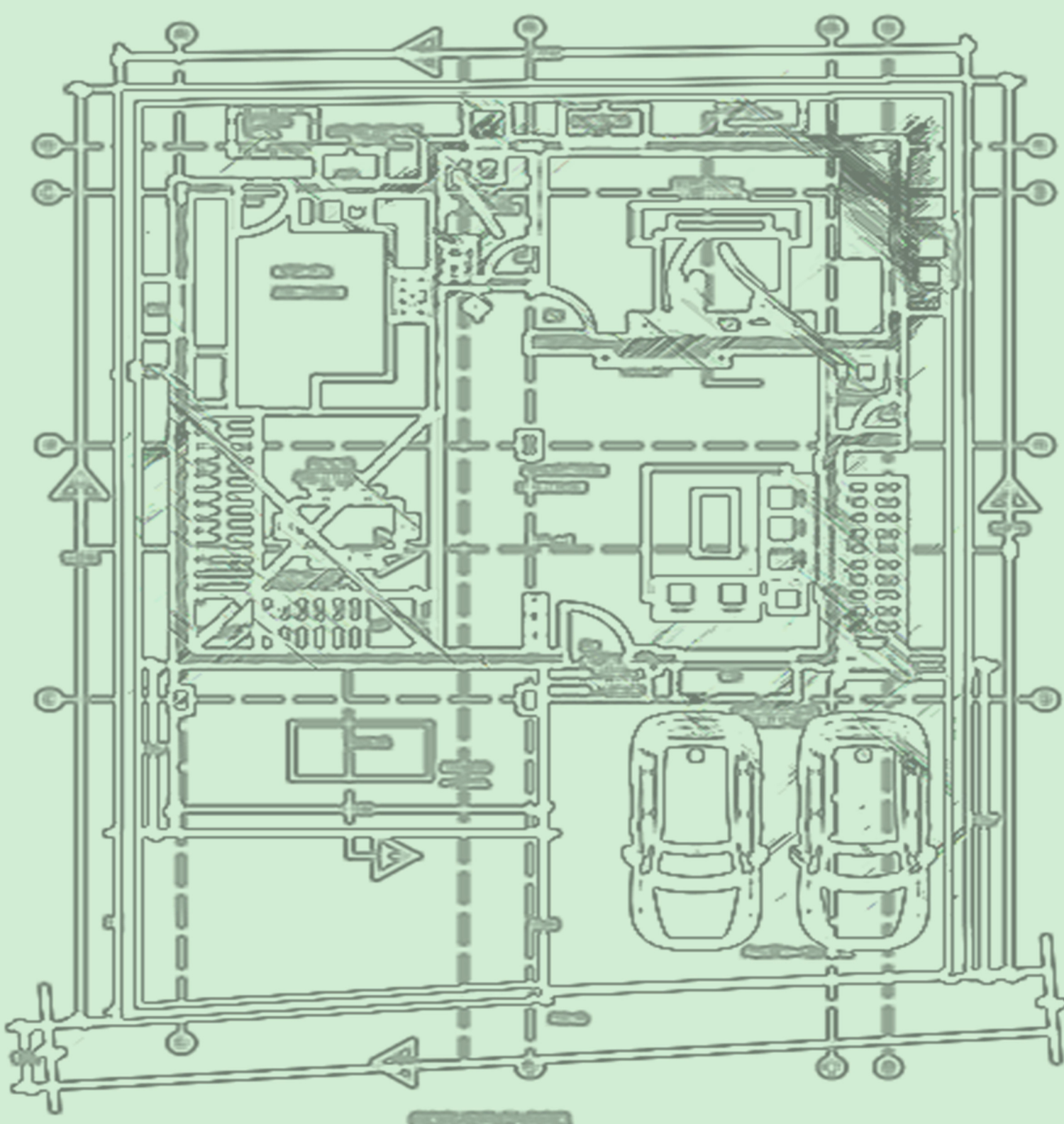


-Since the college timing is till 3.30 pm the gain will also become little cooler because of Sun setting in winter this will not be an major issue



Suggesting
Thermal walls and thermal insulation: the air gap itself Acts as an insulator. Air is a poor conductor of heat, so the Gap creates a barrier that slows down heat transfer between
The inner and outer brick wythes (layers) of the wall.
-using less u value and r value for the building
-uses of thermal walls to reduce direct heat gain in the roof
Were it slowly comes down using og thermal roof can reduce
Rapid flow of heat gain suggesting sri m aterial
-can have a double glazed window with less absorption



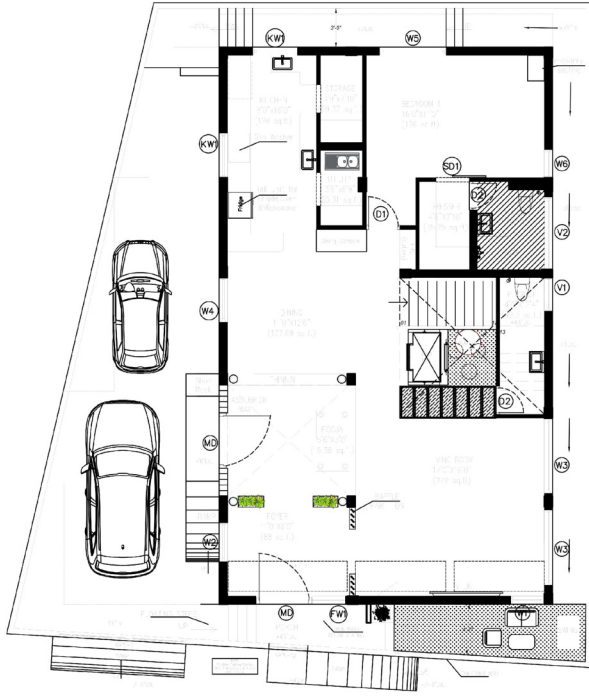


INTERNSHIP M.ARCH

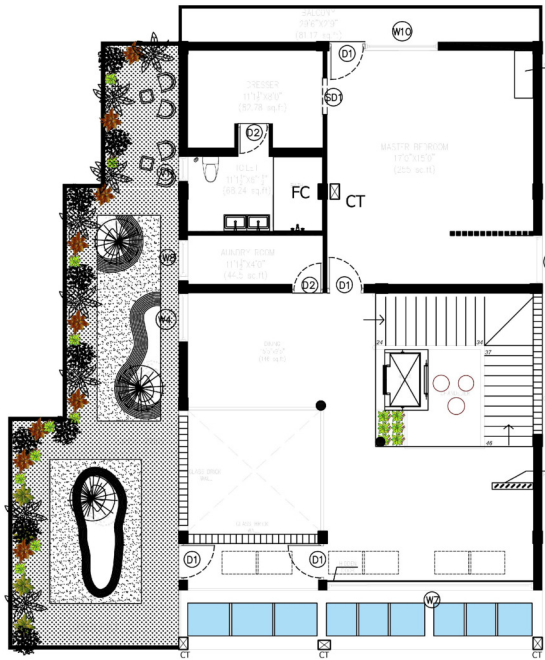
AT 5005 DESIGN STUDIO
CONTENT:

- DETAILED FLOOR PLANS
- SECTION
- ELEVATION
- WALL SECTION
- TV UNIT DETAILING
- KITCHEN DETAILING
- TOILET DETAILING
- STAIRS DETAILS
- DOOR DETAILS
- DETAIL BLOW UPS

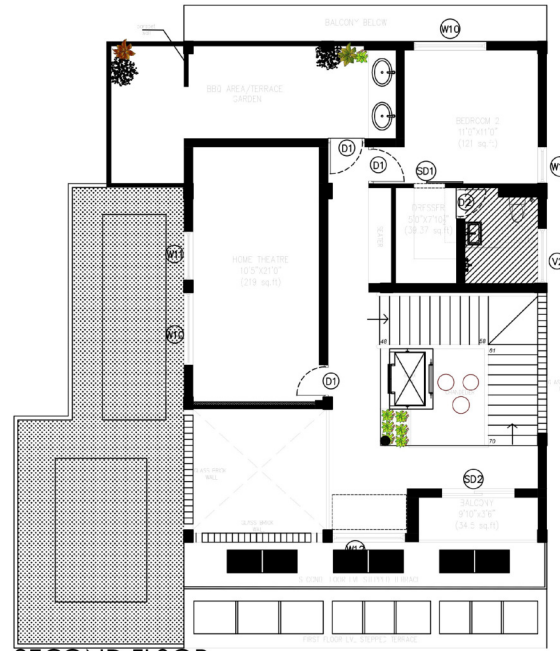
GROUND FLOOR



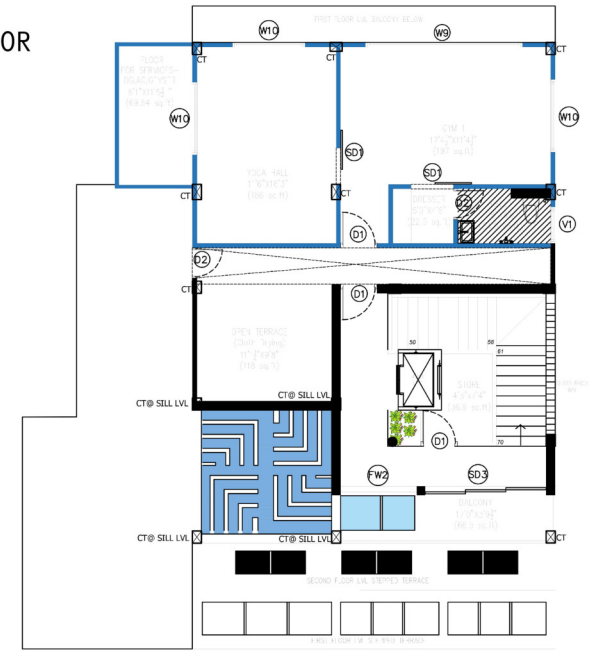
FIRST FLOOR



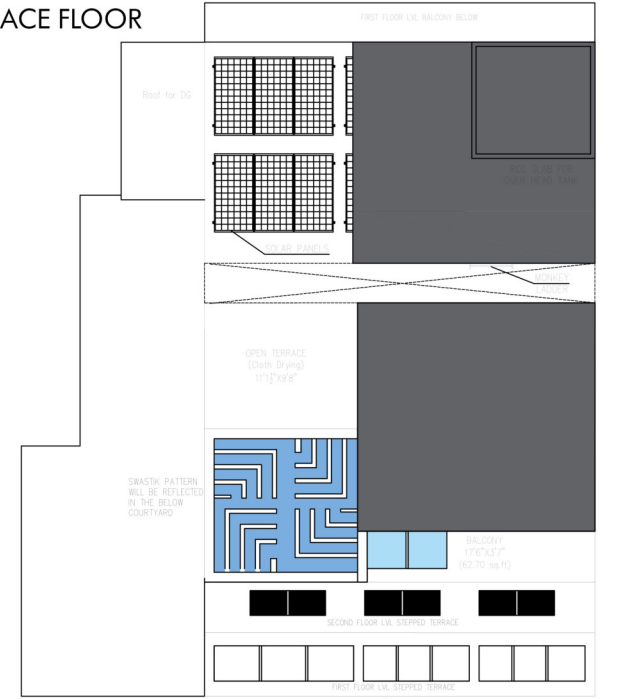
SECOND FLOOR



THIRD FLOOR



TERRACE FLOOR



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CONCEPTUAL DRAWING WORKING DRAWING
 SCHEMATIC DRAWING AS BUILT DRAWING
 Date :03.06.2024 DRAWN: PR
 DRAWING NO : CHKD : KS
 PROJECT ID :

CLIENT : Mr. ARAVINDH REVISION
 PROJECT : COIMBATORE RESIDENCE
 DRAWING TITLE : MASONRY LAYOUT
 SHEET SIZE & NO. :
 NORTH:

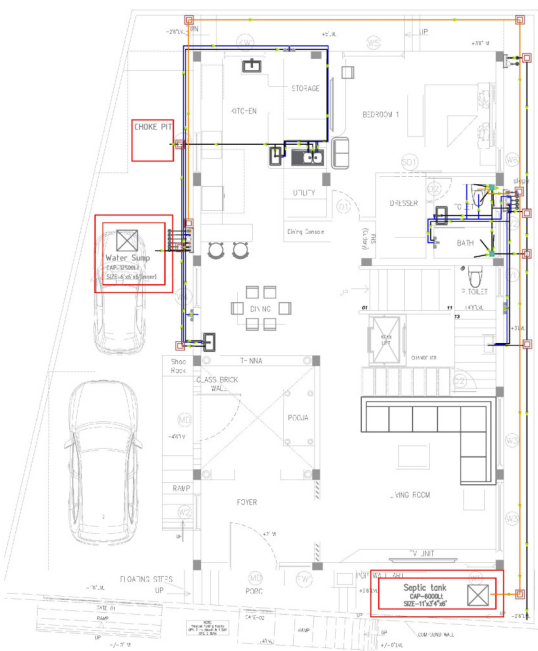
AREA STATEMENT

| FLOOR | MASONRY | MS |
|--------------|------------------|-----------------|
| Ground Floor | 1502 Sqft | - |
| First Floor | 1835 Sqft | - |
| Second Floor | 1121 Sqft | - |
| Third Floor | 586 Sqft | 588 Sqft |
| TOTAL | 5044 Sqft | 588 Sqft |

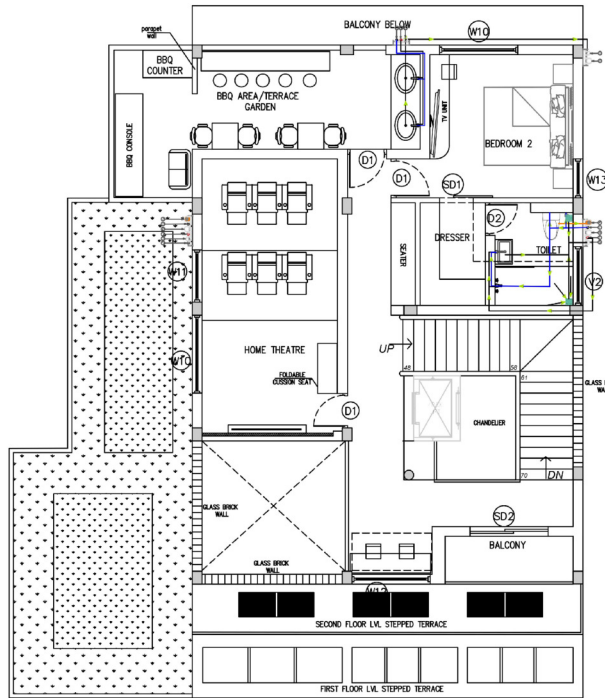
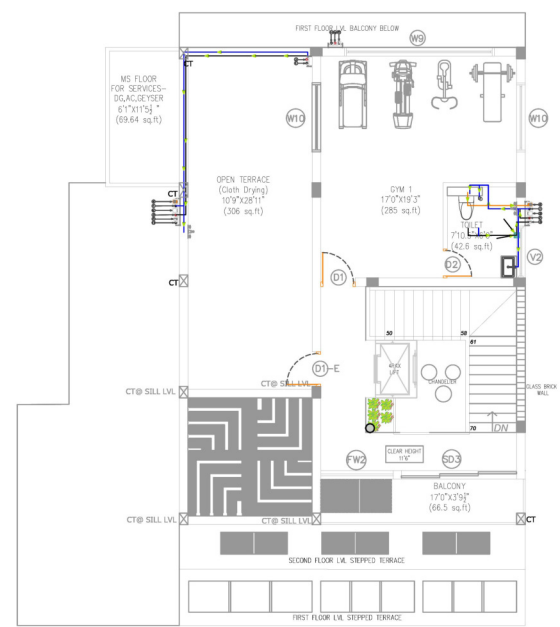
Architect:

5005 DESIGN STUDIO
 ARCHITECTS - INTERIOR DESIGN
 DOOR NO:E-309,Emami Tajamaya,1/A, Rajiv Gandhi Sala,
 CMR,Egattur,Chennai-603-103.

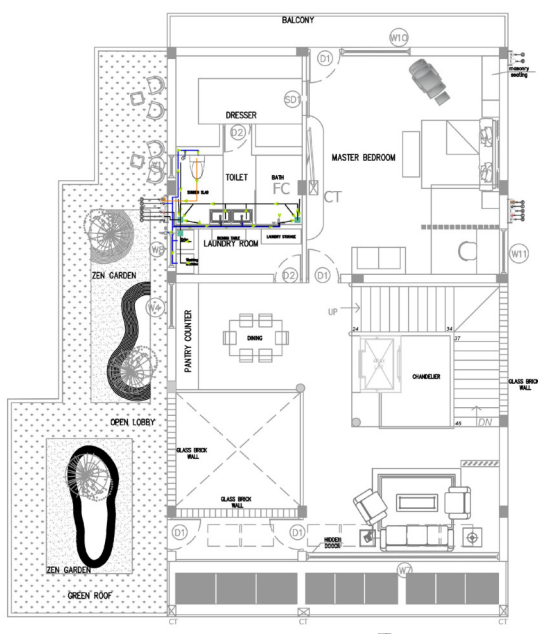
GROUND FLOOR



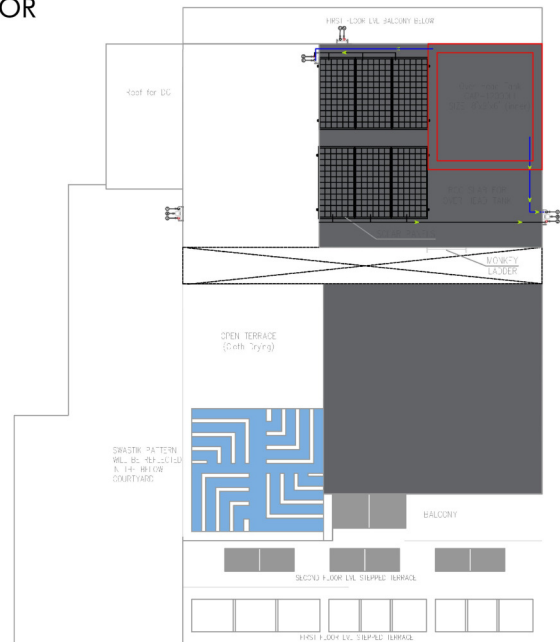
THIRD FLOOR



SECOND FLOOR



TERRACE FLOOR



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FIRST FLOOR

CONCEPTUAL DRAWING WORKING DRAWING

SCHEMATIC DRAWING AS BUILT DRAWING

Date :12.06.2024 DRAWN: PR

DRAWING NO : CHKD : KS

PROJECT ID :

CLIENT : Mr. ARAVINDH REVISION

PROJECT : COIMBATORE RESIDENCE

DRAWING TITLE : PLUMBING LAYOUT

SHEET SIZE & NO.:

NORTH:

| AREA STATEMENT | | |
|----------------|------------------|-----------------|
| FLOOR | MASONRY | MS |
| Ground Floor | 1502 Sqft | - |
| First Floor | 1835 Sqft | - |
| Second Floor | 1121 Sqft | - |
| Third Floor | 586 Sqft | 588 Sqft |
| TOTAL | 5044 Sqft | 588 Sqft |

Architect:

5005 DESIGN STUDIO
ARCHITECTS . INTERIOR DESIGN

DOOR NO:E-309,Emami Tejarama, 1/4A, Rajiv Gandhi Satal, OMR, Egattur, Chennai-603-103.



EXPLORING SIMULATION SOFTWARE

1. SOLAR ANALYSIS
2. WIND ANALYSIS
3. THERMAL COMFORT
4. DAYLIGHT ANALYSIS

SIMULATIVE ANALYSIS OF OFFICE BUILDING

LOCATION: SHOLINGANALLUR
CLIMATE- WARM AND HUMID
BUILDING TYPOLOGY-OFFICE

WHAT IS BUILDING SIMULATION IN ARCHITECTURE?
THROUGH BUILDING SIMULATIONS, WE TEST HOW DIFFERENT SPACES AND BUILDING ELEMENTS WILL PERFORM UNDER REAL-WORLD CONDITIONS. BUILDING SIMULATION IN ARCHITECTURE IS MUCH NEEDED, ESPECIALLY WHEN WE AIM TOWARDS LONG-TERM SUSTAINABILITY. DURING CONCEPTUAL AND DESIGN DEVELOPMENT STAGES, ARCHITECTS RUN SEVERAL ANALYSES AND SIMULATIONS. THESE ACTIVITIES ASSURE THE DESIGN IS BASED ON ANALYTICAL DATA AND NOT JUST FROM THE ARCHITECT'S INTUITION.

WHY DO WE NEED BUILDING SIMULATIONS?

BUILDING SIMULATIONS AND THOROUGH ANALYSIS CAN INFORM US HOW THE CLIMATE WILL AFFECT THE DESIGN AND THE OVERALL ENERGY CONSUMPTION. UNDERSTANDING THE CLIMATE IS THE FIRST STEP, SHOULD YOU WISH TO INTEGRATE PASSIVE STRATEGIES INTO YOUR DESIGN.

TYPES OF BUILDING SIMULATIONS DONE IN OFFICE BUILDING:

- 1.SOLAR ANALYSIS- IN REVIT INSIGHT
- 2.DAYLIGHT AND ARTIFICIAL LIGHTING ANALYSIS- DIALUX
- 3.THERMAL ANALYSIS- ECO-TECT
- 4.WIND ANALYSIS- AUTODESK CFD

DEVELOPING A BASE MODEL:

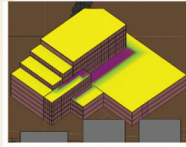


1. SOLAR ANALYSIS OF BASE MODELS

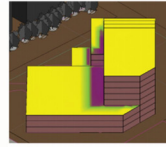
SOLAR ANALYSIS:

-SOLAR RADIATION DIRECTLY IMPACTS THE THERMAL HEAT GAIN OF THE BUILDING THROUGH THE FACADE AND FENESTRATION.
-THE ANALYSIS INDICATES WHICH PART OF THE BUILDING IS BEING EXPOSED TO HEAT AND WHICH PART IS LACKING.
-IT IS ALSO TRUE TO SAY THAT SOLAR ANALYSIS CAN ALSO INDIRECTLY INDICATE THE THERMAL COMFORT LEVELS.
-HIGH RADIATION IS NOT ALWAYS UNDESIRABLE; WE ALSO NEED TO STUDY THE CLIMATE TO DETERMINE IF HIGH OR LOW RADIATION IS DESIRED FOR THE DESIGN.
UNDERSTANDING THIS ANALYSIS ALLOWS ARCHITECTS TO DECIDE ON HIGH PERFORMANCE FACADE GLAZING PRODUCTS OR LOCATE THE BEST PLACE TO INSTALL SOLAR PANELS.

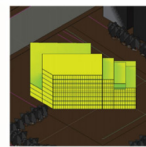
MODEL-1 10AM



1PM



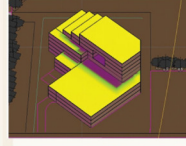
4PM



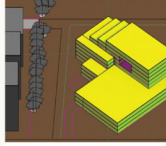
OBSERVATION:

-SINCE THE BUILDING ORIENTATION IS ANGULAR THE DIRECT GAIN IS MANIPULATED AND IN NORTH SIDE OF THE BUILDING THE NEIGHBOURHOOD BUILDING CASTING SHADOW SINCE IT IS HIGH-RISED
- AT 1PM THERE IS A GRADUAL MINIMUM IN SOUTH FACADE AND THE ROOFS ARE GETTING SHADOW BECAUSE OF STAGGERED MASS
INFERENCE:
-THERE IS NO WIND AND LIGHT PLAY IN THE BUILDING ITS RIGID MASS
-THE BUILDING ANGULAR FORM MANIPULATING THE HEAT GAIN WHICH IS NOT AN ISSUE- THERE SHOULD BE A LIGHT SINCE IT IS ANGULAR MANIPULATION OF DIRECT LIGHT SO THE VOID CAN BE PROVIDED THROUGH N-S

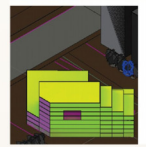
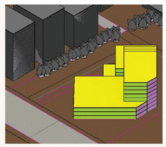
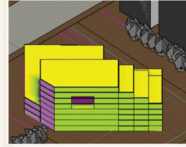
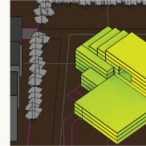
ITERATION-1 10AM



1PM



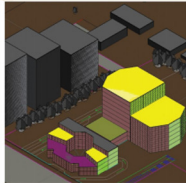
4PM



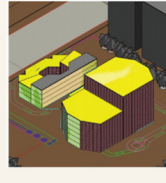
INFERENCE:

THE BUILDING ORIENTATION IS ANGULAR AND STAGGERED SO THE LIGHTS AND DIRECT GAINS ARE MANIPULATED
-THE SOLAR GAIN IS HIGH IN THE HIGHEST POINT SINCE IT IS STAGGERED MASS THE OTHER ROOFS ARE GETTING MINIMUM GAIN-MAXIMUM SOLAR GAIN IS ON WEST FACADE (3PM-5PM) SINCE IT IS ANGULAR FORM THE LIGHT IS DIVERGED AND THE DIRECT GAIN IS CUTTED DOWN.
-THE VOID IN THE BUILDING WILL DIVERGE (VENTURI EFFECT) THE DIRECT HEAT GAIN AND MANIPULATE THE WIND AND LIGHT

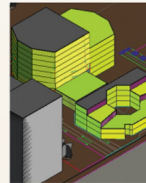
MODEL-2 10AM



1PM



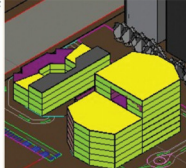
4PM



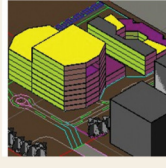
OBSERVATION:

-AT 1PM THERE IS A GRADUAL MINIMUM IN SOUTH FACADE BECAUSE OF CHAMFERED FACADE - AT 4PM THE BUILDING IS GETTING MAXIMUM GAIN AND SHADOW AS WELL BY THE TALL STRUCTURES
INFERENCE:
-THERE IS NO WIND AND LIGHT PLAY IN THE BUILDING
-THERE SHOULD BE A LIGHT SINCE IT IS ANGULAR MANIPULATION OF DIRECT LIGHT SO THE VOID CAN BE PROVIDED THROUGH N-S

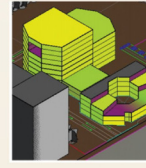
ITERATION-1 10AM



1PM



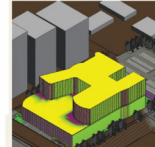
4PM



INFERENCE:

-THE VOID IN THE BUILDING WILL DIVERGE (VENTURI EFFECT) THE DIRECT HEAT GAIN AND MANIPULATE THE WIND AND LIGHT

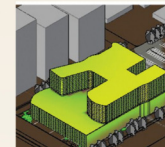
MODEL-3 10AM



1PM



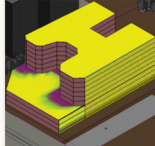
4PM



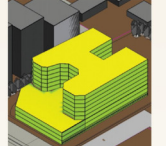
OBSERVATION:

-THE BUILDING IS GETTING MAXIMUM SOLAR GAIN AT 10AM ON EAST FACADE SINCE IT IS RIGID IN FORM THERE IS NO MANIPULATION OF LIGHT OR WIND
-SINCE THE WEST FACADE IS CURVED THE LIGHT IS CONVERGED AND PASSING ENTIRELY
INFERENCE:
-THERE IS NO WIND AND LIGHT PLAY IN THE BUILDING SINCE ITS RIGID MASS
-THE FACADE SHOULD BE TREATED SINCE IT IS CURVED AT EVENING TIME THE SOLAR GAIN WILL BE HARSH
-THERE SHOULD BE A LIGHT AT SOME PLACES

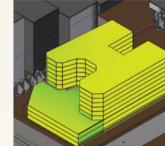
ITERATION-1 10AM



1PM



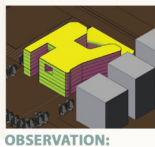
4PM



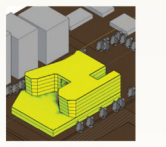
OBSERVATION:

-THE BUILDING IS GETTING MAXIMUM SOLAR GAIN AT 10AM ON EAST FACADE SINCE IT IS RIGID IN FORM THERE IS NO MANIPULATION OF LIGHT OR WIND
-THE WEST FACADE IS SLIGHTLY CHAMFERED BECAUSE CUTTING DOWN OF LIGHT WHICH ONE PORTION WILL GET DIRECT GAIN BUT CHAMFERED PART WILL HAVE MINIMUM GAIN
INFERENCE:
-THERE IS NO WIND AND LIGHT PLAY IN THE BUILDING SINCE ITS RIGID MASS
-THE FACADE SHOULD BE SLIGHTLY ANGULATED

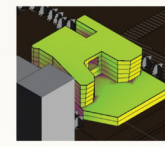
ITERATION-2 10AM



1PM



4PM



OBSERVATION:

-THE VOID IN THE BUILDING PLAYING AS A VENTURI KINDA EFFECT HERE
-THE VOID ALLOWING LIGHT TO PASS AND KEEPING IT LIVELY
-THE WEST FACADE IS ANGULATED SO THE LIGHT IS MANIPULATED
INFERENCE:
-THERE IS NOT MAJOR ISSUE IN THE ABOVE ITERATION

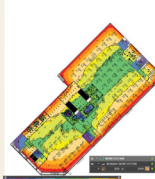
OUTPUT:

SELECTING A MODEL 1 FOR THE FURTHER ANALYSIS SINCE IT HAS GREAT ENERGY PERFORMANCE TO ANALYZE

2. DAYLIGHT AND ARTIFICIAL LIGHT ANALYSIS IN DIALUX

A SUFFICIENT SUPPLY OF DAYLIGHT AND AN ADEQUATE LINE OF SIGHT TO THE OUTSIDE ARE ESSENTIAL REQUIREMENTS FOR BOTH THE WELL-BEING AND THE MOTIVATION OF PEOPLE WHO SPEND TIME IN BUILDINGS. THE REQUIRED ILLUMINANCE LEVELS CAN BE MET BY ARTIFICIAL LIGHT, DAYLIGHT OR A COMBINATION OF BOTH.
DAYLIGHT IS CALCULATED IN DIALUX EVO USING THREE DIFFERENT SKY MODELS :
-OVERCAST SKY
-AVERAGE SKY
-NIGHT SKY

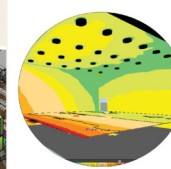
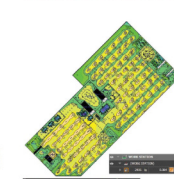
MODEL-1-FLOOR-1-4 TYPICAL DAYLIGHT-12PM



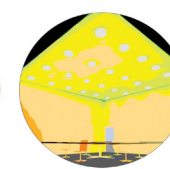
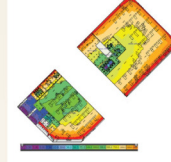
DAY&ARTIFICIAL LIGHT



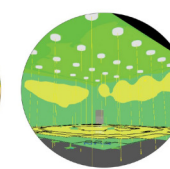
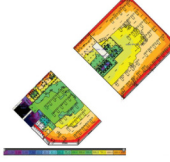
ARTIFICIAL LIGHT-7PM



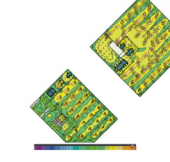
MODEL-1-FLOOR-5-6 DAYLIGHT-12PM



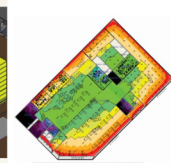
DAY&ARTIFICIAL LIGHT



ARTIFICIAL LIGHT-7PM



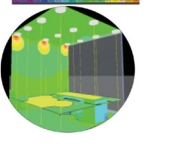
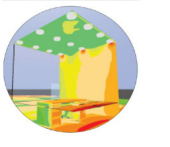
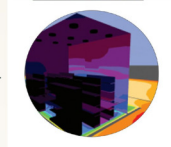
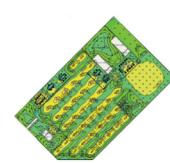
MODEL-1-FLOOR-7-8 DAYLIGHT-12PM



DAY&ARTIFICIAL LIGHT



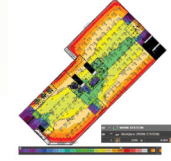
ARTIFICIAL LIGHT-7PM



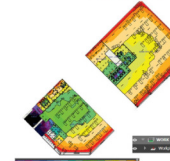
INFERENCE :

-THE WORK STATION REQUIRE 500-1000 LUX VALUE BUT THE PROJECT WORK STATION GETTING MORE THAN 1000.
-THE DAYLIGHT & IN THE PERIPHERAL AREA OF THE FACADE CAN BE CUT DOWN BY MINIMIZING THE GLASS (CURTAIN SYSTEM). TO AVOID MORE GLARE SINCE THE VALUE IS HIGH
-THE RECORD, PRINT ELECTRIC ROOM, STORAGE ARE NOT GETTING DAYLIGHT SO THE ARTIFICIAL LIGHT CAN BE PROVIDED BECAUSE THE USAGE WILL BE LESS
-THE TOILET CAN BE PROVIDED WITH ARTIFICIAL LIGHTS
-THE ACTIVITY AREA CAN GET MORE DAYLIGHT BECAUSE THE USAGE OF THE AREA WILL BE LESS
-CAFE/PANTRY CAN BE PROVIDED WITH ARTIFICIAL LIGHT
-THE OVER LIT AREA CAN BE REDUCE THE WWR AND PROVIDE BLINDS

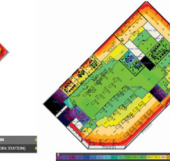
MODEL-1-ITERATION-1-DAYLIGHT-12PM FLOOR-1-4



FLOOR-5-6



FLOOR-7-8



INFERENCE :

-THE OVER LIT AREA IS REDUCED BY THE WWR AND PROVIDED WITH BLINDS AND CURTAINS

COMPERATIVE ANALYSIS :

| AREAS | ILLUMINANCE(LUX) | UGR VALUE | MINIMUM COLOUR RENDERING | 1-4 FLOORS LUX | 5-6 FLOORS LUX | 7-8 FLOORS LUX |
|-------------------------------------------------------|------------------|-----------|--------------------------|----------------|----------------|----------------|
| Manage,TI | 500 | 19 | 80 | 16,7-361 | 45-58.3 | 122-1315 |
| Filing/copying/printing | 300 | 19 | 80 | 6.5-50 | 1.69-4 | 1.8-3 |
| Conference room | 500 | 19 | 80 | 181 | 2652 | 2044 |
| Design office work | 1000 | 19 | 80 | 1889 | 2778 | 2268 |
| CAD workstation | 500 | 19 | 80 | 587 | 568 | 543 |
| Reception desk | 300 | 22 | 80 | 465 | 344 | 321 |
| Toilets | 250 | 19 | 80 | 7.51 | 4.15 | 58-3.4 |
| corridors | | | | | | |
| stairways | | | | | | |
| escalators - lifts - storage spaces | 100 | 19 | 70 | 1081-2369 | 1654-7145 | 7145-1653 |
| Coffee break room, technical facilities,waiting rooms | 200 | 19 | 80 | | 20.6 | 34 |
| Normal office work, PC work ,show rooms, kitchens | 500 | 19 | 80 | 316-789 | 58-2380 | 67-2386 |

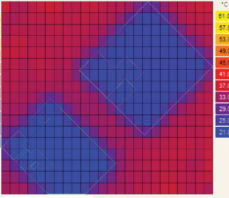
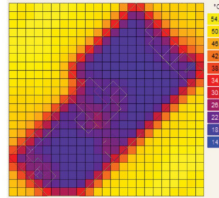
THERMAL ANALYSIS - IN ECOTECT

ECOTECT SOFTWARE HAS BEEN USED TO CALCULATE BUILDING'S ENERGY CONSUMPTION BY SIMULATING ITS CONTEXT WITHIN THE ENVIRONMENT. COMPATIBLE WITH AUTODESK REVIT. TO EVALUATE ITS BUILDING'S PERFORMANCE, IT IS RELATED TO ITS ENVIRONMENT, ESPECIALLY ON DEALING WITH SOLAR HEAT, ITS NATURE FOR DAY-LIGHTING, NATURAL AIRFLOW FOR VENTILATION, AND ITS ENERGY CONSUMPTION FOR MAN-MADE SYSTEMS SUCH AS AIR CONDITIONING AND LIGHTING. SENSITIVE TO THE ANNUAL SOLAR PATH AND AIR/WIND DIRECTION.

ANALYSIS - GROUND FLOOR-FOURTH FLOOR

MEAN RADIANT TEMPERATURE:
1-4 FLOOR VALUE
RANGE 14.0-54.0 °C

MEAN RADIANT TEMPERATURE:
5-6 FLOORS (2 SEPARATE ROOFS)
VALUE RANGE: 21.0-61.0 °C

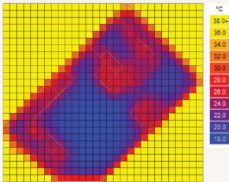
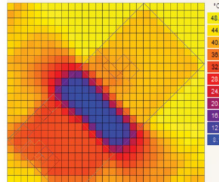


Thermal Comfort
Mean Radiant Temp
Value Range: 14.0-54.0 °C

Thermal Comfort
Mean Radiant Temp
Value Range: 21.0-61.0 °C

MEAN RADIANT TEMPERATURE:
5-6 FLOORS(SINGLE ROOF)VALUE
RANGE: 8.1-48.1 °C

MEAN RADIANT TEMPERATURE:
7-8 FLOORS VALUE
RANGE -18.0 -38.0 °C



Thermal Comfort
Mean Radiant Temp
Value Range: 8.1-48.1 °C

Thermal Comfort
Mean Radiant Temp
Value Range: 18.0-38.0 °C

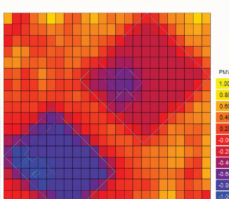
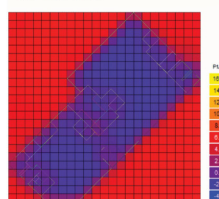
OBSERVATION:

- THE THERMAL COMFORT MAP IS COLOR-CODED, WITH WARMER AREAS SHOWN IN RED AND COOLER AREAS SHOWN IN BLUE.
- THE MEAN RADIANT TEMP : THE WARMEST AREAS OF THE BUILDING ARE IN THE PERIMETER AND LITTLE IN CENTER, WHERE THE MRT IS AROUND 54.0 °C. THE COOLEST AREAS OF THE BUILDING ARE GRADUALLY NEAR THE PERIMETER, WHERE THE MRT IS AROUND 14.0 °C. SINCE THE OUTER SKIN OF THE BUILDING IS AN CURTAIN SYSTEM THE HEAT IS TRANSFERED INSIDE TILL CERTAIN RADIUS
- THE MEAN RADIANT TEMP : FOR 2 SEPARATE ROOFS : THE WARMEST AREAS OF THE BUILDING ARE IN THE HORIZONTAL OPENING COMPARE TO INSIDE AROUND 61.0 °C. AND THE COOLEST AREAS OF THE BUILDING ARE GRADUALLY NEAR THE PERIMETER, WHERE THE MRT IS AROUND 21.0 °C MAX.
- THE MEAN RADIANT TEMP : FOR SINGLE ROOFS : THE COOLEST AREAS OF THE BUILDING ARE IN THE HORIZONTAL OPENING COMPARE TO INSIDE AROUND 8.0 °C MAX . AND THE WARMEST AREAS OF THE BUILDING ARE GRADUALLY NEAR THE PERIMETER, WHERE THE MRT IS AROUND 44.0 °C MAX.

ANALYSIS -GROUND FLOOR-FOURTH FLOOR

PREDICTED MEAN VOTE
1-4 FLOOR VALUE RANGE
-4.0-18.0 PMV

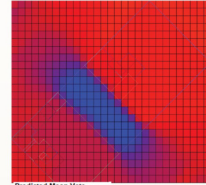
PREDICTED MEAN VOTE:
5-6 FLOORS (2 SEPARATE ROOFS)
VALUE RANGE: -1.0-1.0 PMV



Thermal Comfort
Predicted Mean Vote
Value Range: -4.0-18.0 PMV

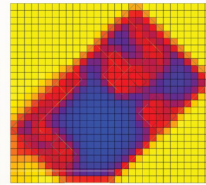
Thermal Comfort
Predicted Mean Vote
Value Range: -1.0-1.0 PMV

PREDICTED MEAN VOTE :
5-6 FLOORS (SINGLE ROOF)
VALUE RANGE: -5.3 -14.7 PMV



Thermal Comfort
Predicted Mean Vote
Value Range: -5.3 -14.7 PMV

PREDICTED MEAN VOTE :
7-8 FLOORS VALUE RANGE:
-2.00 -3.00 PMV



Thermal Comfort
Predicted Mean Vote
Value Range: -2.00 -3.00 PMV

PREDICTED MEAN VOTE:

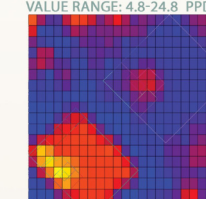
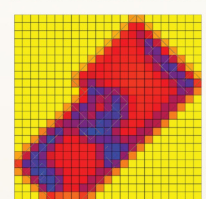
-THE PMV RANGES FROM -4 TO -18 WHERE THE BLUE ZONES ARE COMFORT ENOUGH IN 1-4 AND 7-8 FLOORS

-THE PMV RANGES FROM -1.0 -1.0 PMV WHERE THE BLUE ZONES ARE COMFORT ENOUGH IN 5-6 (2 SEPARATE ROOFS) FLOORS

-THE PMV RANGES FROM -5.3 -14.7 PMV WHERE THE BLUE ZONES ARE COMFORT ENOUGH IN 5-6 (SINGLE ROOF) FLOORS

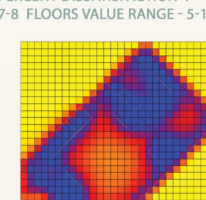
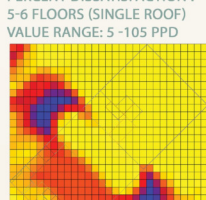
PERCENT DISSATISFACTION
:1-4 FLOOR VALUE RANGE 5-105 PPD

PERCENT DISSATISFACTION :
5-6 FLOORS (2 SEPARATE ROOFS)
VALUE RANGE: 4.8-24.8 PPD



Percent Dissatisfaction
Value Range: 5-105 PPD

Percent Dissatisfaction
Value Range: 4.8-24.8 PPD

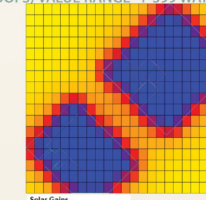
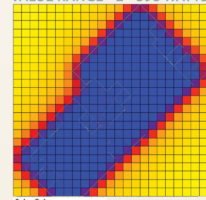


Percent Dissatisfaction
Value Range: 5-105 PPD

Percent Dissatisfaction
Value Range: 5-105 PPD

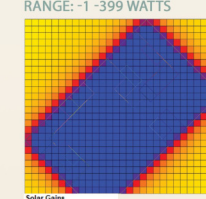
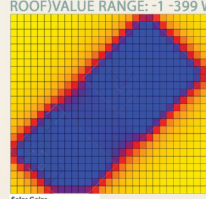
Solar Gains
Value Range: -2 -398 Watts

Solar Gains : 5-6 FLOORS (2 SEPARATE ROOFS) VALUE RANGE -1-399 WATTS



Solar Gains : 5-6 FLOORS(SINGLE ROOF)VALUE RANGE:-1 -399 WATTS

Solar Gains : 7-8 FLOORS VALUE RANGE:-1 -399 WATTS



Solar Gains
Value Range: -1 -399 Watts

Solar Gains
Value Range: -1 -399 Watts

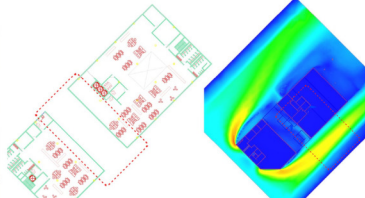
WINF ANALYSIS - IN AUTODESK CFD

LATERAL LOADS I.E. WIND LOAD, SEISMIC LOAD, GOVERN THE DESIGN OF THE BUILDINGS. THE PRESSURE COEFFICIENTS (C P) ONLY AT 0° AND 90° WIND INCIDENCE ANGLES AND ONLY FOR FEW STANDARD CASES. THEREFORE, EXPERIMENTAL STUDIES BECOME IMPORTANT AND WIND TUNNEL EXPERIMENT IS CARRIED OUT MEAN AREA WEIGHTED AVERAGE WIND PRESSURES ON THE FACES OF THE BUILDING MODELS ARE MEASURED IN ORDER TO STUDY THE EFFECT OF VARYING WIND INCIDENT ANGLES NAMELY 0°, 15° AND 30° ON WIND PRESSURE DISTRIBUTION.

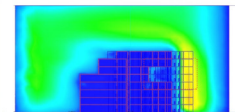
ABOUT THE ANALYSIS:

- THE PREDOMINANT WIND DIRECTION IN CHENNAI IS - SOUTH-WEST TO NORTH -EAST
- THE MONSOON WIND DIRECTION WIND DIRECTION FOR CHENNAI IS - NORTH EAST - SOUTH WEST AND THE VELOCITY OF WIND IS 13KM/HR

PREDOMINANT WIND DIRECTION - PLANES (ANALYSIS)



-THE VELOCITY IN THE HORIZONTAL OPENING IS 4-10KM/HR WERE THE PRESSURE IS ALSO HIGH SINCE THE WIND IS FROM BOTH SIDES

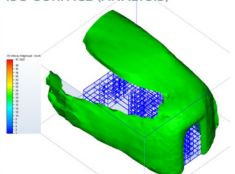


OBSERVATION:

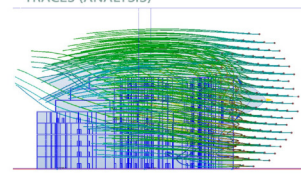
- THE VELOCITY OF THE WIND IS MANIPULATED BECAUSE OF BUILDING AND TRAVELLING IN 2 DIRECTIONS
- WERE INTAL POINT OF THW WIND VELOCITY IS 38-28KM/HR GRADUALLY HIGH AND DIVERGED IN 2 DIRECTIONS WITH VELOCITY OF 20-16KM/HR

- THE BUILDING INSIDE THERE IS NO IMPACT BUT IN THE HORIZONTAL OPENING THERE IS TRAVEL OF WIND AND THE VELOCITY IS 14-6 KM/HR
- THE HORIZONTAL OPENING CAN HAVE A SMALL FULL HEIGHT WALL TO DISTRACT / MANIPULATE THE WIND SPEED WERE THE VELOCITY WHILE ENTERING TO HORIZONTAL OPENING WILL BECOME LESS AND MAINTAIN THE SATURABLE PRESSURE INSIDE THE HORIZONTAL OPENING.

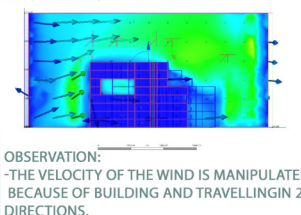
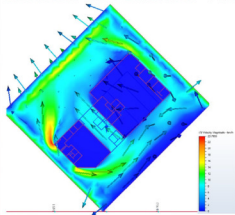
ISO-SURFACE (ANALYSIS)



TRACES (ANALYSIS)



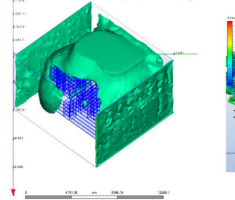
MONSOON WIND DIRECTION - PLANES (ANALYSIS)



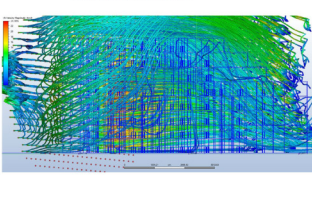
OBSERVATION:

- THE VELOCITY OF THE WIND IS MANIPULATED BECAUSE OF BUILDING AND TRAVELLING IN 2 DIRECTIONS.
- WERE INTAL POINT OF THW WIND VELOCITY IS 38-28KM/HR GRADUALLY HIGH AND DIVERGED IN 1 DIRECTIONS WITH VELOCITY OF 20-12KM/HR

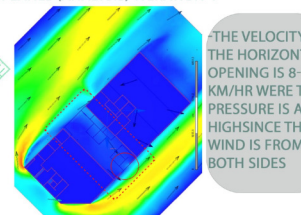
ISO SURFACE (ANALYSIS)



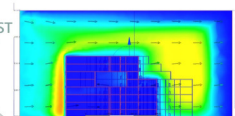
TRACES ANALYSIS



PREDOMINANT WIND DIRECTION - PLANES (ANALYSIS)-ITERATION-1



-THE VELOCITY IN THE HORIZONTAL OPENING IS 8-12 KM/HR WERE THE PRESSURE IS ALSO HIGH SINCE THE WIND IS FROM BOTH SIDES

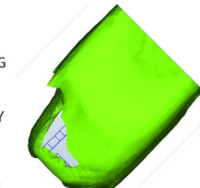


OBSERVATION:

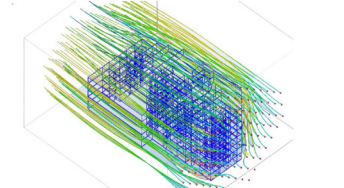
- THE VELOCITY OF THE WIND IS MANIPULATED BECAUSE OF BUILDING AND TRAVELLING IN 2 DIRECTIONS
- WERE INTAL POINT OF THW WIND VELOCITY IS 38-28KM/HR GRADUALLY HIGH AND DIVERGED IN 2 DIRECTIONS WITH VELOCITY -20-12KM/HR

- THE BUILDING INSIDE THERE IS NO IMPACT BUT THE HORIZONTAL OPENING HAVING A SMALL WALL TO MANIPULATE THE WIND TO DISTRIBUTE GRADUALLY INSIDE THE BUILDING TO AVOID HIGH PRESSURE BUT STILL IT IS HIGH AND THE TRAVEL OF WIND AND THE VELOCITY IS 4-10 KM/HR
- THE HORIZONTAL OPENING CAN HAVE A SMALL ANGLED FULL HEIGHT WALL TO DISTRACT /MANIPULATE THE WIND SPEED WERE THE VELOCITY WHILE ENTERING TO HORIZONTAL OPENING WILL BECOME LESS AND MAINTAIN THE SATURABLE PRESSURE INSIDE THE HORIZONTAL OPENING.

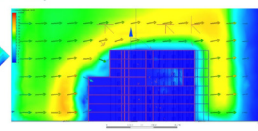
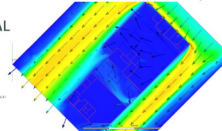
ISO-SURFACE (ANALYSIS)



TRACES (ANALYSIS)

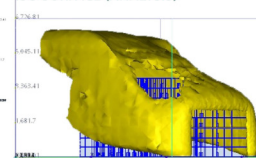


MONSOON WIND - PLANES (ANALYSIS)

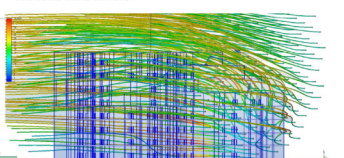


-THE VELOCITY IN THE HORIZONTAL OPENING IS 8-14KM/HR

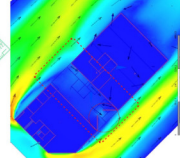
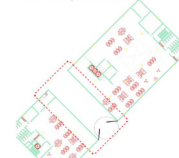
ISO SURFACE (ANALYSIS)



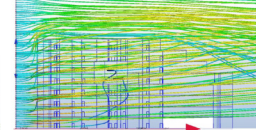
TRACES ANALYSIS



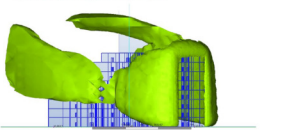
PREDOMINANT WIND DIRECTION - ITERATION-2 PLANES (ANALYSIS)



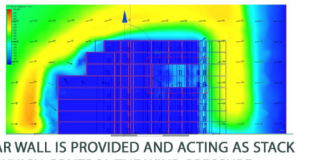
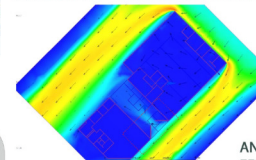
TRACES ANALYSIS



ISO SURFACE ANALYSIS

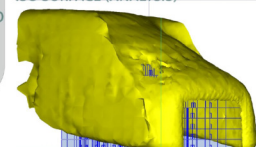


MONSOON WIND DIRECTION-ITERATION-2

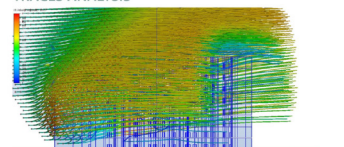


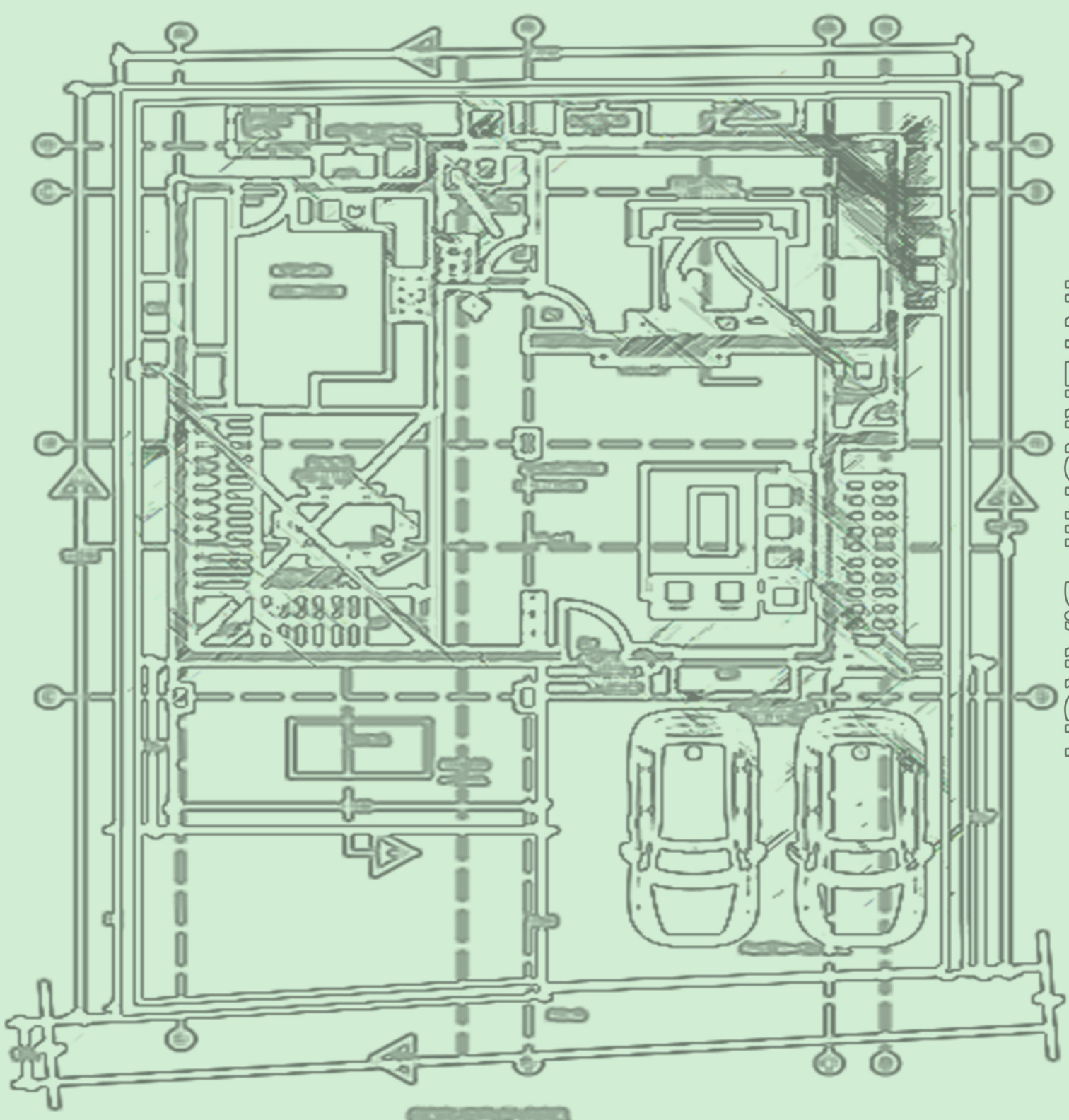
ANGULAR WALL IS PROVIDED AND ACTING AS STACK EFFECT WHICH CONTROL THE WIND PRESSURE

ISO SURFACE (ANALYSIS)



TRACES ANALYSIS





INTERNSHIP B.ARCH

PSP DESIGN STUDIO
CONTENT:

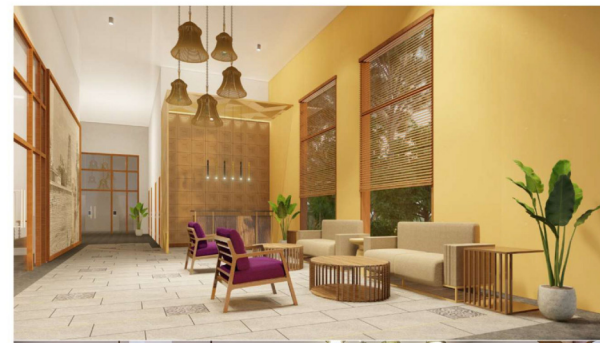
- DETAILED FLOOR PLANS
- SECTION
- ELEVATION
- WALL SECTION
- TV UNIT DETAILING
- KITCHEN DETAILING
- TOILET DETAILING
- STAIRS DETAILS
- DOOR DETAILS
- DETAIL BLOW UPS



RECEPTION VIEW



BANQUET HALL VIEW



RECEPTION VIEW



RESTAURANT VIEW



RESTROOM VIEW



RESTAURANT VIEW



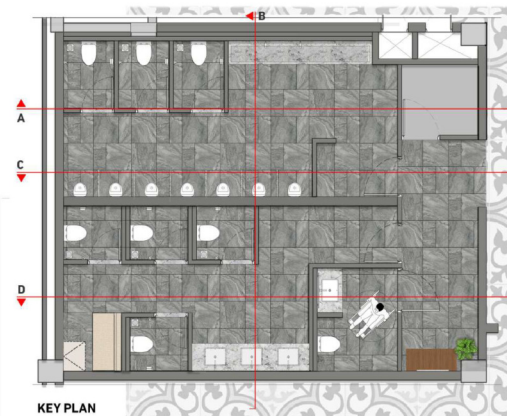
ELEVATION - A



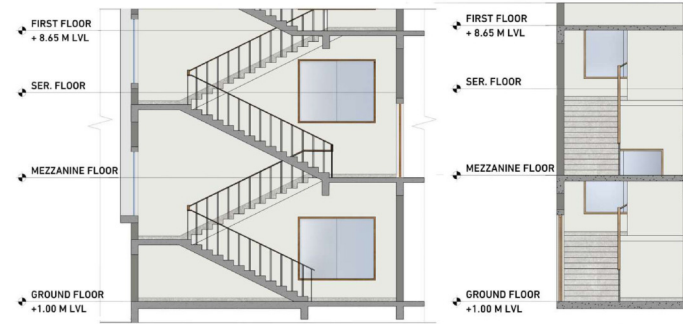
ELEVATION - C



ELEVATION - D

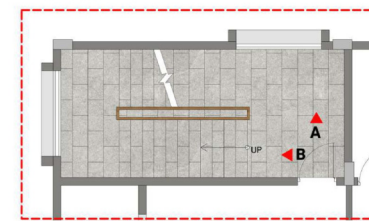


KEY PLAN

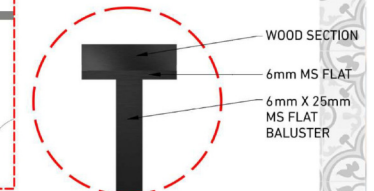


ELEVATION - A

ELEVATION - B



KEYPLAN



RAILING HANDLE DETAIL



Grey Vitrified Tiles

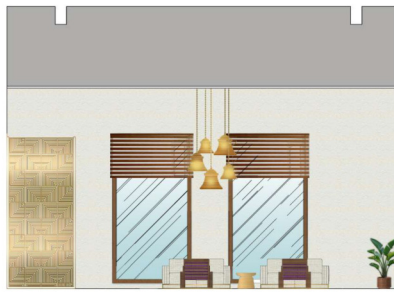
MS Flats

Veneer





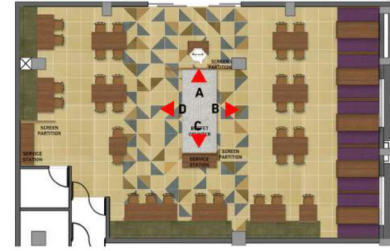
RESTAURANT



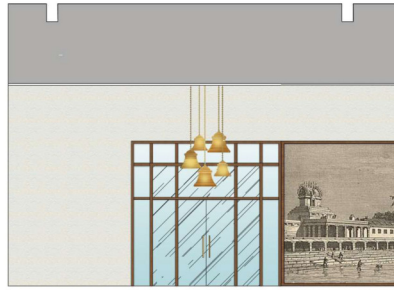
ELEVATION - A
LOBBY



ELEVATION - B



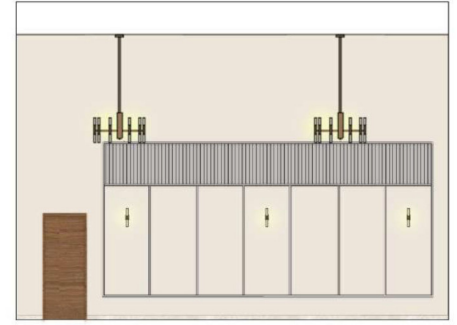
KEY PLAN



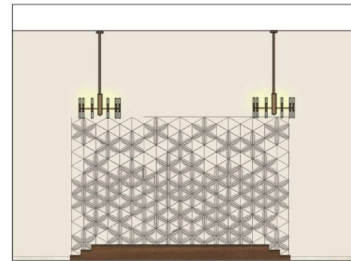
ELEVATION - C



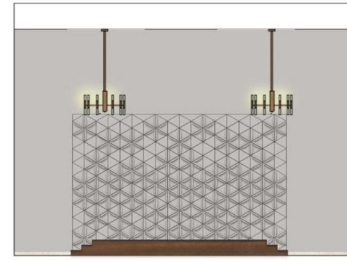
ELEVATION - D



ELEVATION - C

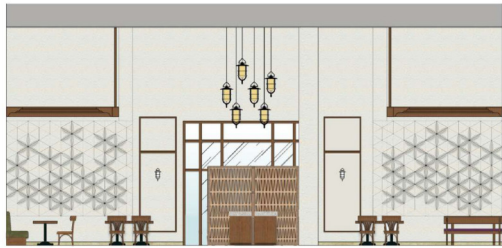


ELEVATION - A - OPTION 1

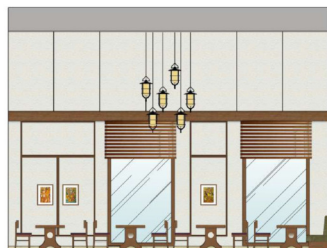


ELEVATION - A - OPTION 2

BANQUET HALL



ELEVATION - A



ELEVATION - B



ELEVATION - C



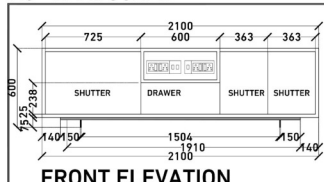
ELEVATION - D



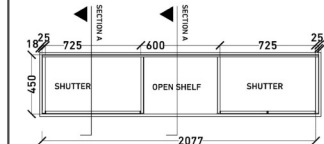
ELEVATION - B



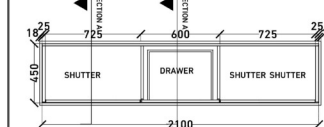
ELEVATION - D



FRONT ELEVATION



PLAN @ 300MM



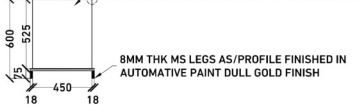
PLAN @ 200MM

8MM THK. LACQUERED GLASS TOP TO MATCH SHADE N457 OVER A CARCASS MADE OF 18MM PLY FINISHED WITH 4MM HDF (SIRCA PU PAINT N457) ON THE OUTSIDE AND 1MM LAMINATE ON THE INSIDE WITH METAL LEG BASE

18+12MM THK MS LEGS FINISHED IN AUTOMATIVE PAINT DULL GOLD FINISH

PLAN

CARCASS IN 18MM PLY FINISHED WITH 4MM HDF (SIRCA PU PAINT N457) ON THE OUTSIDE AND 1MM LAMINATE ON THE INSIDE WITH 8MM THK. LACQUERED GLASS TOP TO MATCH SHADE N457



SIDE ELEVATION

8MM THK MS LEGS AS/PROFILE FINISHED IN AUTOMATIVE PAINT DULL GOLD FINISH

OPEN SHELF IN 18MM PLY FINISHED WITH 4MM HDF (SIRCA PU PAINT N457) ON THE OUTSIDE AND 1MM LAMINATE ON THE INSIDE WITH 8MM THK. LACQUERED GLASS TOP TO MATCH SHADE N457

SECTION-A

PUSH-TO-OPEN DRAWERS IN 18MM PLY FINISHED WITH 4MM HDF (SIRCA PU PAINT N457) ON THE OUTSIDE AND 1MM LAMINATE ON THE INSIDE

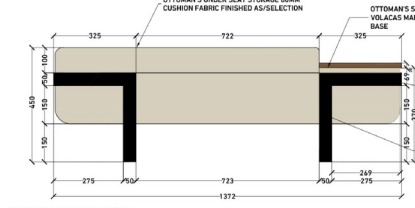
SECTION-B

CARCASS IN 18MM PLY FINISHED WITH 4MM HDF (SIRCA PU PAINT N457) ON THE OUTSIDE AND 1MM LAMINATE ON THE INSIDE WITH 8MM THK. LACQUERED GLASS TOP TO MATCH SHADE N457

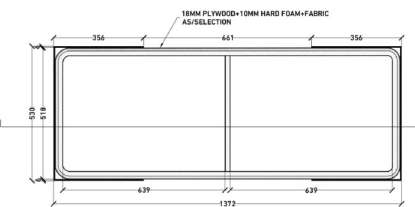
DETAIL-A



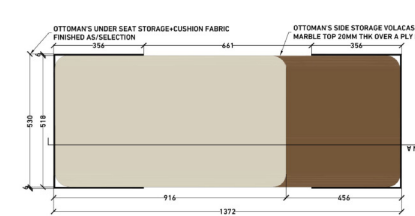
REFERENCE IMAGE



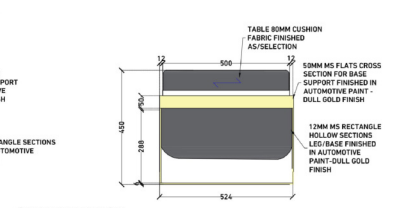
FRONT ELEVATION



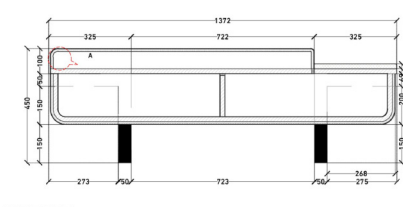
PLAN@350MM



PLAN



SIDE ELEVATION



SECTION A



DETAIL-A



REFERENCE IMAGE



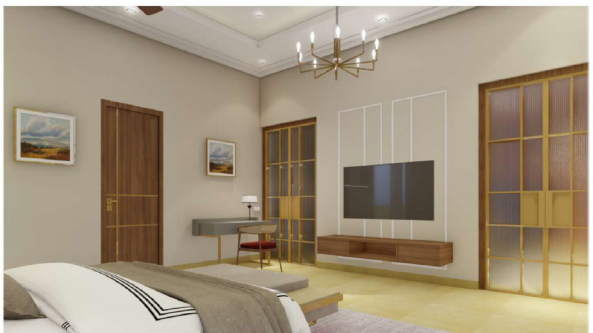
BEDROOM VIEW



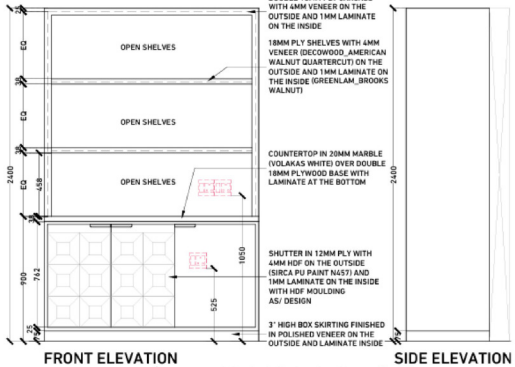
BANQUET HALL VIEW



RESTAURANT VIEW

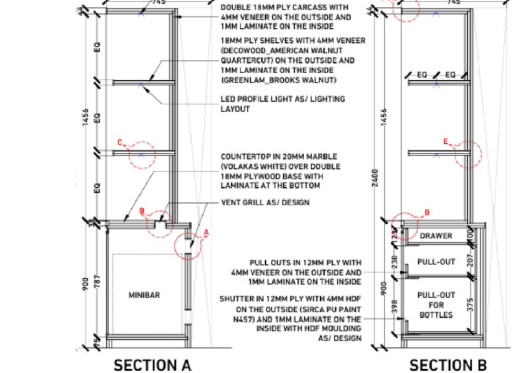


BEDROOM VIEW



FRONT ELEVATION

SIDE ELEVATION



SECTION A

SECTION B

SHEET NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS STATED OTHERWISE.
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- THIS DRAWING IS A COPYRIGHT AND PROPERTY OF THE ARCHITECT.
- ALL ARCHITECTURAL DRAWINGS MUST BE REFERRED IN COORDINATION WITH STRUCTURAL AND SERVICES DRAWINGS.
- ALL DRAWINGS MUST BE VERIFIED ON SITE PRIOR START OF WORK. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT.
- ALL SPECIALIST WORKS DETAILS AND ANY DEVIATIONS FROM THIS CONSTRUCTION DRAWINGS, THE CONTRACTOR / SUB-CONTRACTOR ARE TO PROVIDE SHOP DRAWINGS FOR ARCHITECTS / ENGINEERS APPROVAL PRIOR TO CONSTRUCTION.

KEYPLAN



REVISION

| R. NO | DATE | DESCRIPTION | INITIAL |
|-------|------|-------------|---------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

TENDER DRAWING

DRAWING
FURNITURE-LIVING-TV CONSOLE



PROJECT
BUTTER FLY HOUSE

CLIENT
BUTTERFLY

ARCHITECTS
PSP DESIGN
progressive sustainable practices

| SCALE | SHEET SIZE | DATE | DRAWN | CHECKED |
|-------|------------|------------|-------|---------|
| 1:20 | A3 | 05-11-2022 | PR | PP |

| DRAWING NUMBER: | PROJECT | TRADE | DWG TYPE | SHEET NO | REVISION |
|-------------------------|---------|-------|----------|----------|----------|
| BR - INT - DD - 20 - R0 | | | | | |

SHEET NOTES :

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KEYPLAN

REVISION

| R. NO | DATE | DESCRIPTION | INITIAL |
|-------|------|-------------|---------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

DRAWING

BATHROOM TILE LAYOUT

PROJECT

BUTTERFLY RESIDENCE

CLIENT

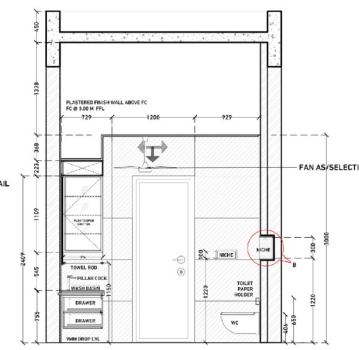
BUTTERFLY

ARCHITECTS

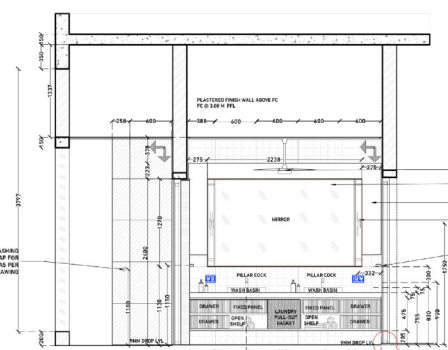


progressive sustainable practices

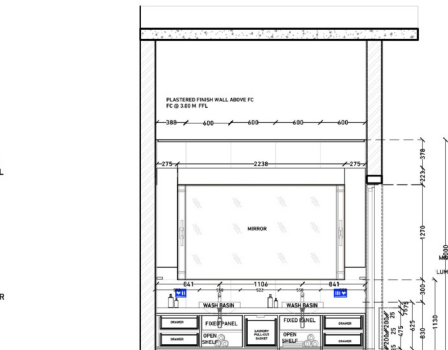
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| | BR - | AR - | CD - | 02 - | RO - |



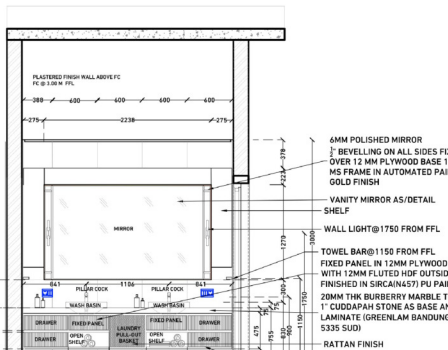
SECTIONAL ELEVATION B



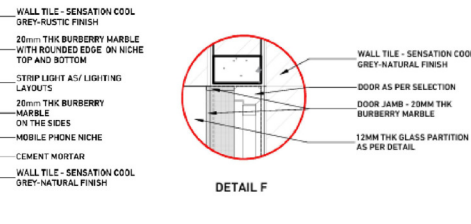
SECTIONAL ELEVATION A



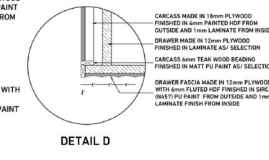
VANITY UNIT-SECTION



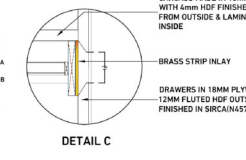
FRONT ELEVATION



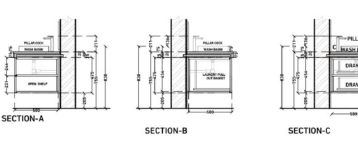
DETAIL B



DETAIL D



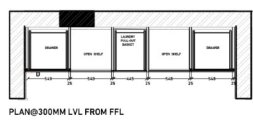
DETAIL C



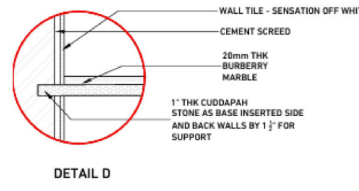
SECTION-A

SECTION-B

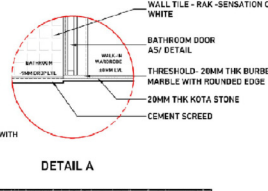
SECTION-C



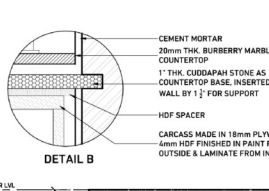
PLAN@300MM LVL FROM FFL



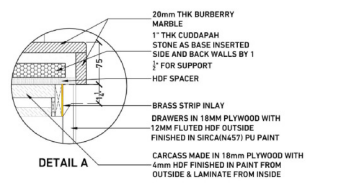
DETAIL D



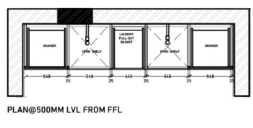
DETAIL A



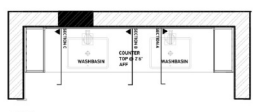
DETAIL B



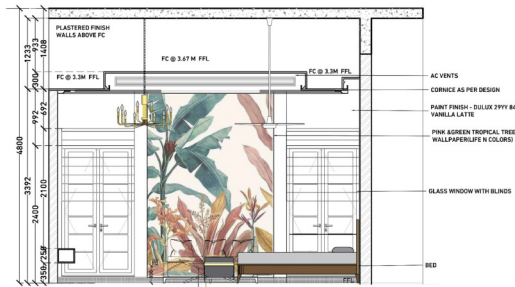
DETAIL A



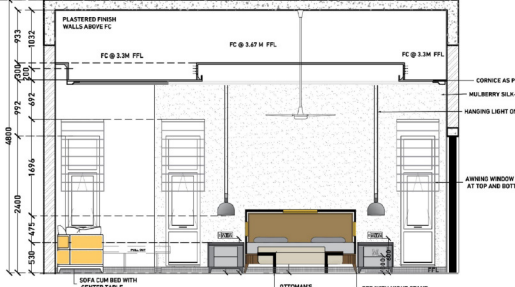
PLAN@500MM LVL FROM FFL



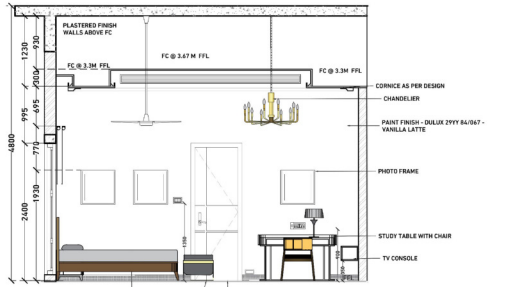
PLAN



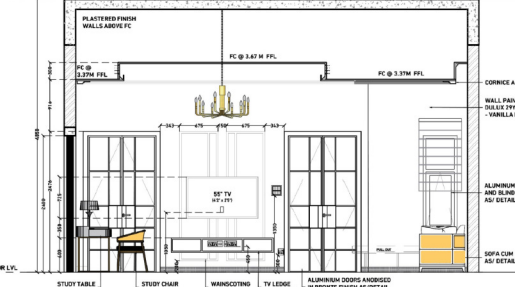
ELEVATION -C



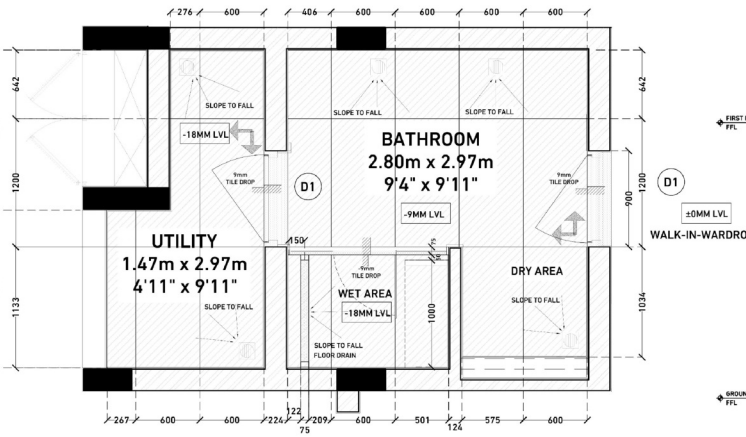
ELEVATION -A



ELEVATION -D



ELEVATION -B



BATHROOM
2.80m x 2.97m
9'4" x 9'11"

UTILITY
1.47m x 2.97m
4'11" x 9'11"

WET AREA
1000

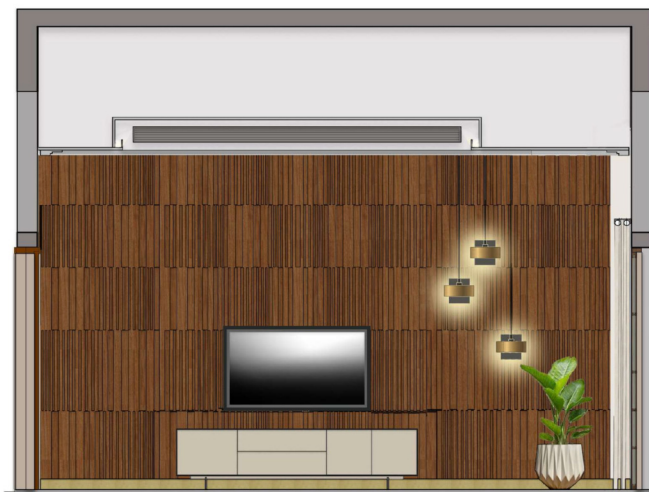
WALK-IN-WARDROBE

GOOD FOR CONSTRUCTION





ELEVATION A



ELEVATION B



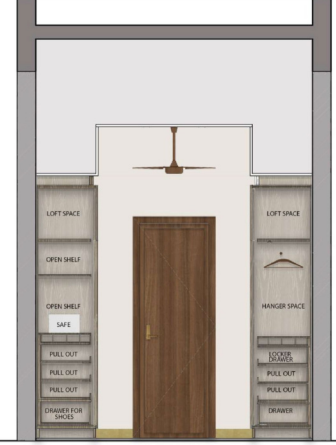
ELEVATION C



ELEVATION D



BEDROOM ELEVATION 1



WARD ROBE ELEVATION A



ELEVATION B



ELEVATION C



ELEVATION D

- SHEET NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS STATED OTHERWISE.
 - THIS DRAWING SHOULD BE READ AND NOT MEASURED.
 - THIS DRAWING IS A COPYRIGHT AND PROPERTY OF THE ARCHITECT.
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 - ALL DRAWINGS MUST BE VERIFIED ON SITE PRIOR START OF WORK, ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT.
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KEYPLAN

REVISION

| R.NO | DATE | DESCRIPTION | INITIAL |
|------|------|-------------|---------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

REFERENCE COPY

DRAWING
JOINERY-PLAN AND ELEVATION



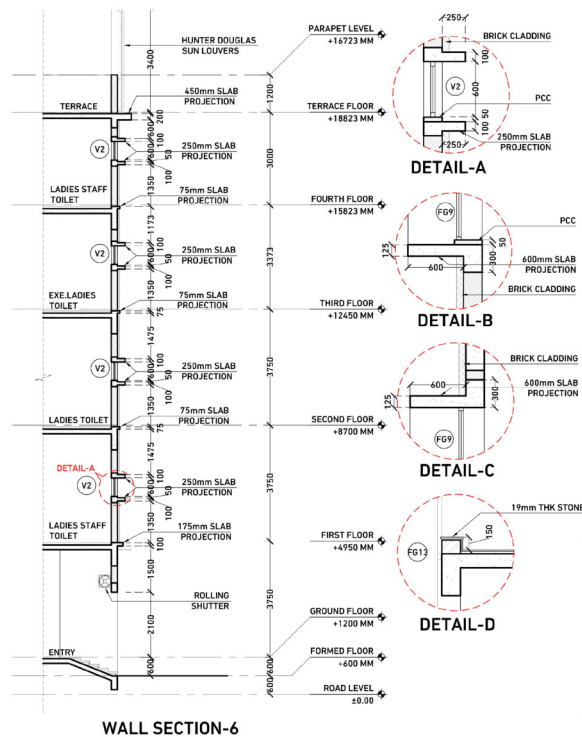
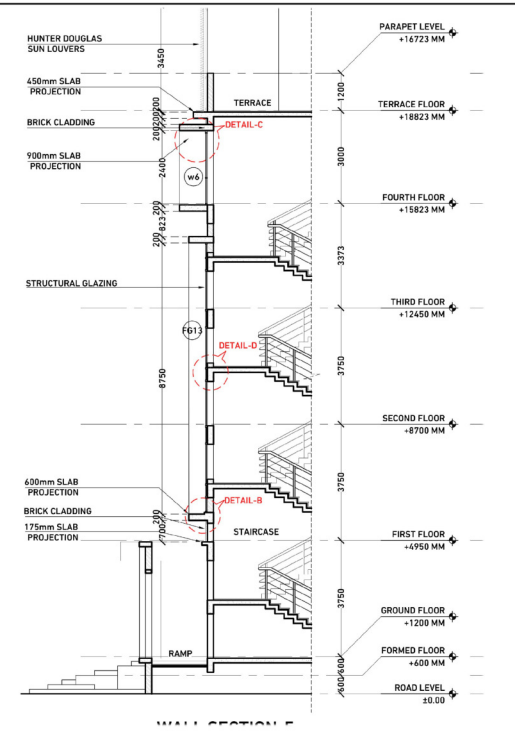
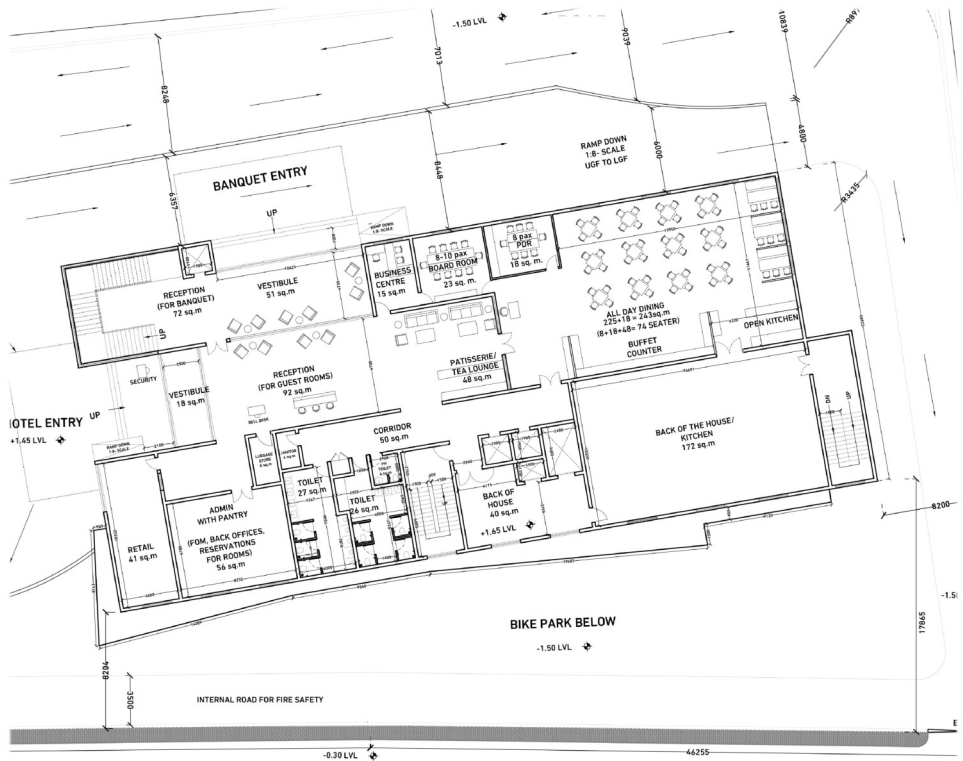
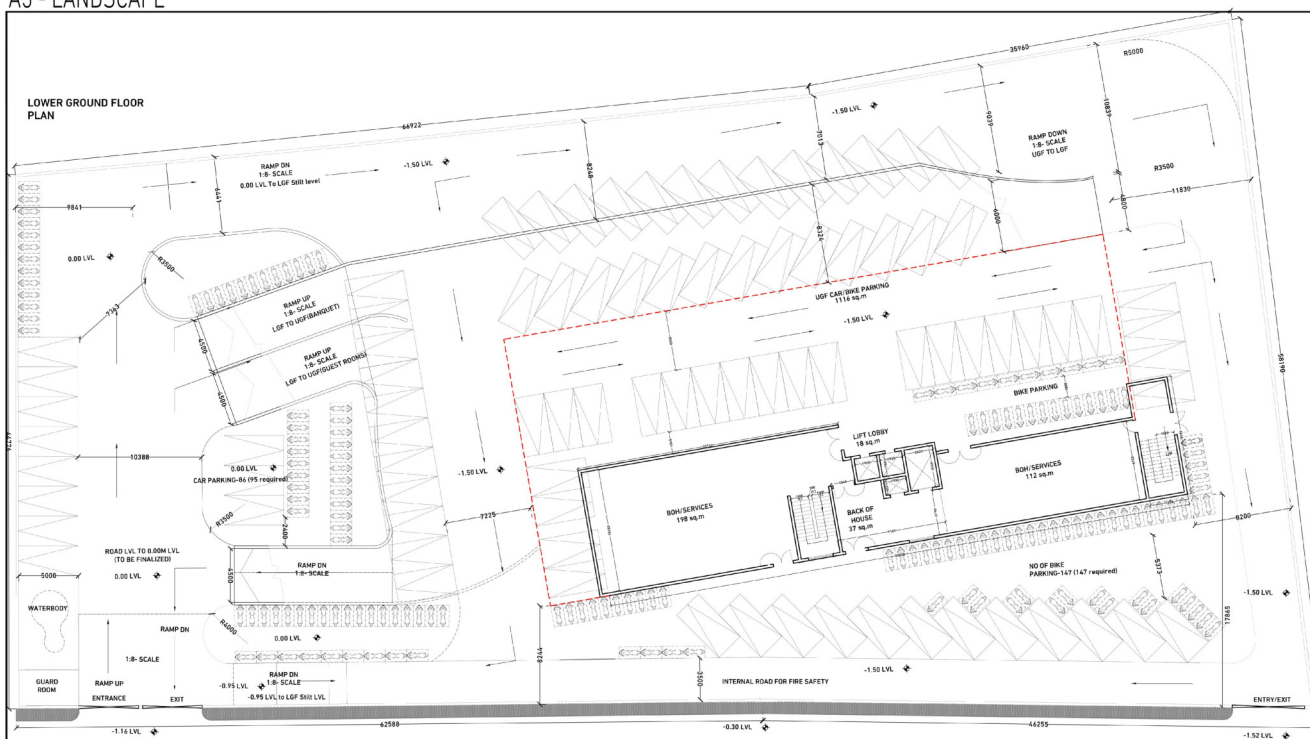
PROJECT
BUTTERFLY RESIDENCE

CLIENT
BUTTERFLY

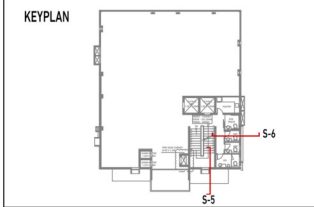
ARCHITECTS
PSP DESIGN | 
progressive sustainable practices

| SCALE | SHEET SIZE | DATE | DRAWN | CHECKED | |
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| 1:25 | A3 | 21-07-2022 | PR | SP | |
| DRAWING NUMBER: | PROJECT | TRADE | DWG TYPE | SHEET NO | REVISION |
| | BR21 | AR | DD | 02 | R0 |

LOWER GROUND FLOOR PLAN



- SHEET NOTES:**
1. ALL SPECIALIST WORKS DETAILS AND ANY DEVIATIONS FROM THIS CONSTRUCTION DRAWINGS, THE CONTRACTOR / SUB-CONTRACTOR ARE TO PROVIDE SHOP DRAWINGS FOR ARCHITECTS / ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
 2. THIS DRAWING SHOULD BE READ AND NOT MEASURED.
 3. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS UNLESS STATED OTHERWISE.
 4. ALL DRAWINGS MUST BE CROSS REFERENCE IN CASE OF ANY DOUBT / DISCREPANCY.
 5. ALL ARCHITECTURAL DRAWINGS MUST BE REFERRED IN COORDINATION WITH STRUCTURAL DRAWINGS.



REVISION

| R. NO | DATE | DESCRIPTION | INITIAL |
|-------|----------|---------------------------|---------|
| 1 | 09.08.22 | Elevation slab projection | PR |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

CONSULTANTS

REFERENCE DRAWING

DRAWING
WALL SECTIONS

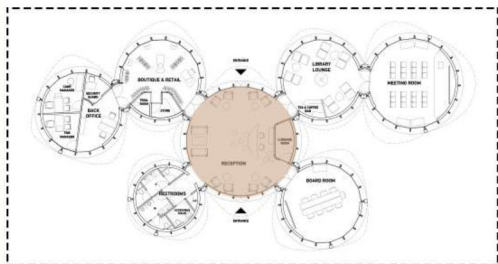
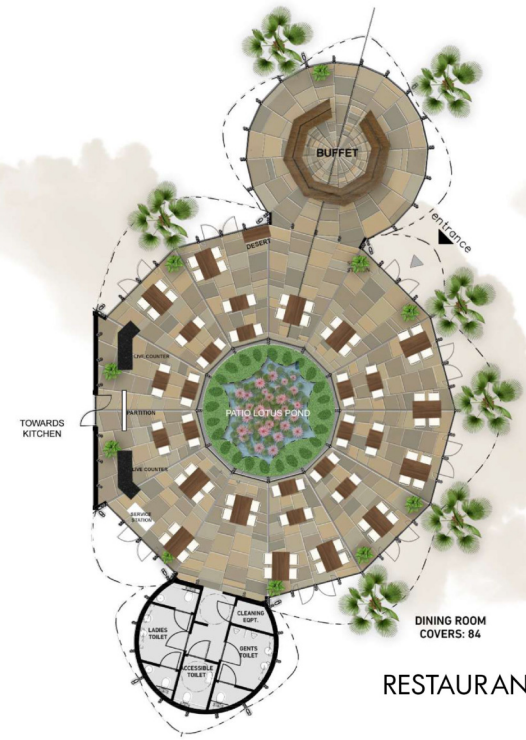
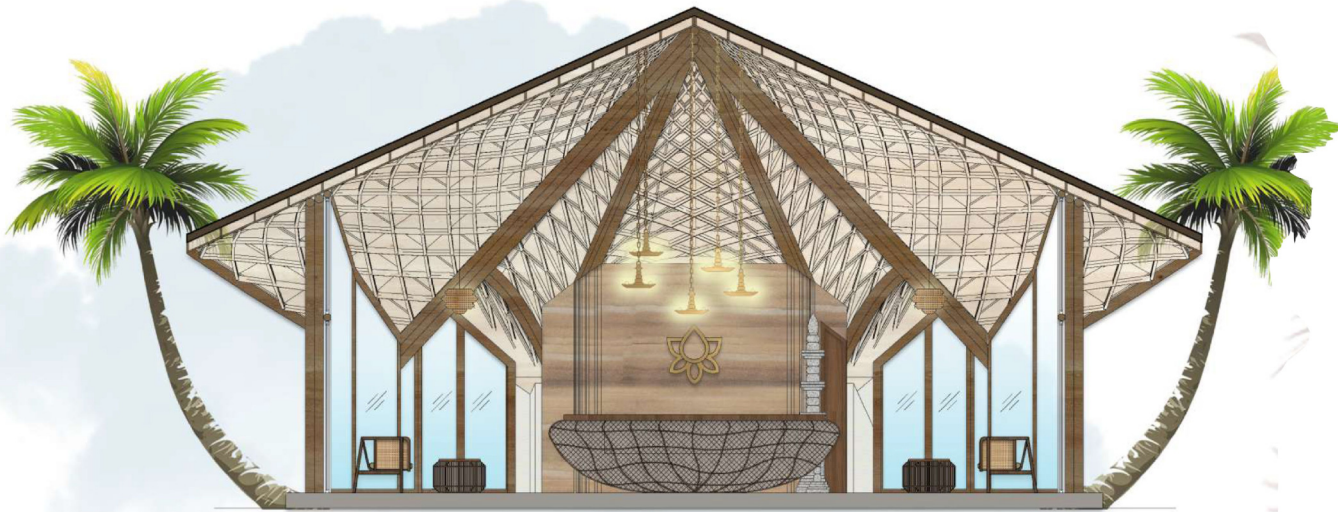


PROJECT
TULSI SILKS, ELDAM'S ROAD

CLIENT
MR. SANTHOSH

ARCHITECTS
PSP DESIGN
progressive sustainable practices

| SCALE | SHEET SIZE | DATE | DRAWN | CHECKED |
|------------------------|----------------|--------------|-----------------|-----------------|
| 1:100 | A3 | 09.08.22 | PR | SP |
| DRAWING NUMBER: | PROJECT | TRADE | DWG TYPE | SHEET NO |
| | TS | AR | CD | 24C - R1 |



SHEET NOTES :

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REVISION

| R. NO | DATE | DESCRIPTION | INITIAL |
|-------|------|-------------|---------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

| SYMBOL | DESCRIPTION | LOCATION |
|--------|--------------------------|-------------------------------------------|
| ⊙ | SPOT LIGHT | ALL AREAS |
| ⊗ | FOCUS LIGHT | CORRIDOR |
| ⊙ | DECORATIVE HANGING LIGHT | RECEPTION & LOBBY |
| ⊗ | DECORATIVE HANGING LIGHT | RECEPTION & LOBBY LIFT LOBBY |
| ⊙ | DECORATIVE HANGING LIGHT | RESTAURANT |
| ⊗ | CHANDELIER/HANGING LIGHT | BANQUET |
| — | LED LINEAR WALL LIGHT | BACK OFFICE, G.M'S CABIN, TOILET, JANITOR |
| ⌒ | WALL LIGHT | BANQUET |

DRAWING
GROUND FLOOR ELECTRICAL POINT



PROJECT
LILAC HOTEL KUMBAKONAM

CLIENT
TAMARA LEISURE EXPERIENCES

ARCHITECTS
PSP DESIGN | 
progressive sustainable practices

| SCALE | SHEET SIZE | DATE | DRAWN | CHECKED |
|-------|------------|----------|-------|---------|
| NTS | A3 | 26.10.22 | SH/PR | SP |

| DRAWING NUMBER: | PROJECT | TRADE | DWG TYPE | SHEET NO | REVISION |
|-------------------------|---------|-------|----------|----------|----------|
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BIOPHILIA DESIGN - UG THESIS



MULTI-SPECIALTY HOSPITAL

INTRODUCTION:

Multi Speciality Hospital

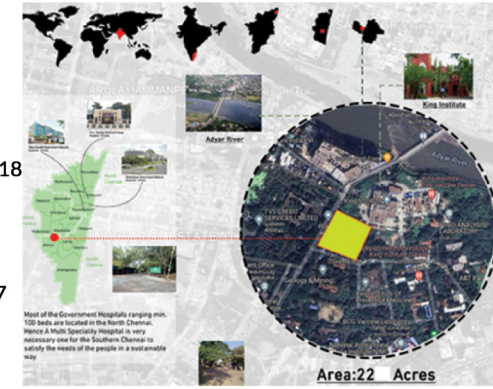
INTRODUCTION:

A hospital is a healthcare institution that provides medical, surgical and nursing treatments to the sick or injured through specialized staff and equipment. Hospital is not just a cure centre, it is a place for cure as well as pleasant, cleanliness, healthy and mind supporting. It provides happiness, calm and makes it self control.

SITE PARAMETERS:

- + Site Location: King Institute Campus, Guindy, Chennai. 600 032
- + Area : 91,000 Sqm [~22 Acres]
- + Topography : Flat
- + Soil Type : Alluvial soil
- + Vegetation on Site : Lush Old trees [~30-85 years old]
- + Main access to site : Alandur Road-18 metres
- + Additional access : Gana Road-10 metres
- + Bus stop : Guindy Bustop- 1.3 Kms
- + Railway Station: Guindy station -1.7 Kms
- + Guindy Metro - 1.7 Kms
- + Land use : Industrial

SITE INVENTORY



BIOPHILIA CONCEPT

01 30% COVERAGE BASED MASSING
 INITIAL MASSING OF THE BUILDING SITE WAS BASED ON SITE ANALYSIS. THE BUILDING IS TREATED WITH FACADE ON THE FRONT AND THE REAR END BASED ON RADIATION ANALYSIS

03 COURTYARD SPACE WITH CAFE AND KIOSK
 The courtyard. A well-established architectural typology, the courtyard design creates a safe communal outdoor space that is both protected by and connected to indoor IPD units, and as well as ground floors. In particular the cloister and/or verandan also provides transitional space, ideal for healing with nature kind of concept

AAC BLOCK
 GOOD FIRE RESISTANCE, RELATIVELY HOMOGENEOUS STRUCTURE LESS RATE OF CRACKING AND DIS INTERGRATION

CEB JALI IN CRATES
 SELF SUPPORTING CEB MASS FOLLOWING RANDOM PLACEMENTS TO BE USED IN SETS OF TWO IN EACH CRATE.

CRATE JALI
 USED AS DOUBLE SKIN IN FRONT OF TOILET VENTS, RAMP AND STAIRCASES

02 CENTRAL HORIZONTAL CORRIDOR
 The building is further divided into three- Primary activity areas are on ground floors and secondary allied sections on top floor. Above floors have a central corridor for services and hence easily accessible for staff from vertical cores

04
 The top floor is further cut into step roots such that all the floors have an access to this terrace space for some leisure time. Since nature acts as a healer and it is the main design feature introduced to the IPD floors.

PERVIOUS PAVEMENT
 A CEMENT-BASED CONCRETE PRODUCT THAT HAS A POROUS STRUCTURE WHICH ALLOWS RAINWATER TO PASS DIRECTLY THROUGH THE PAVEMENT AND INTO THE SOIL

CEB JALI
 CEB JALIS TO BE USED FOR OPENINGS IN BASEMENT AND SERVICE AREAS ETC..

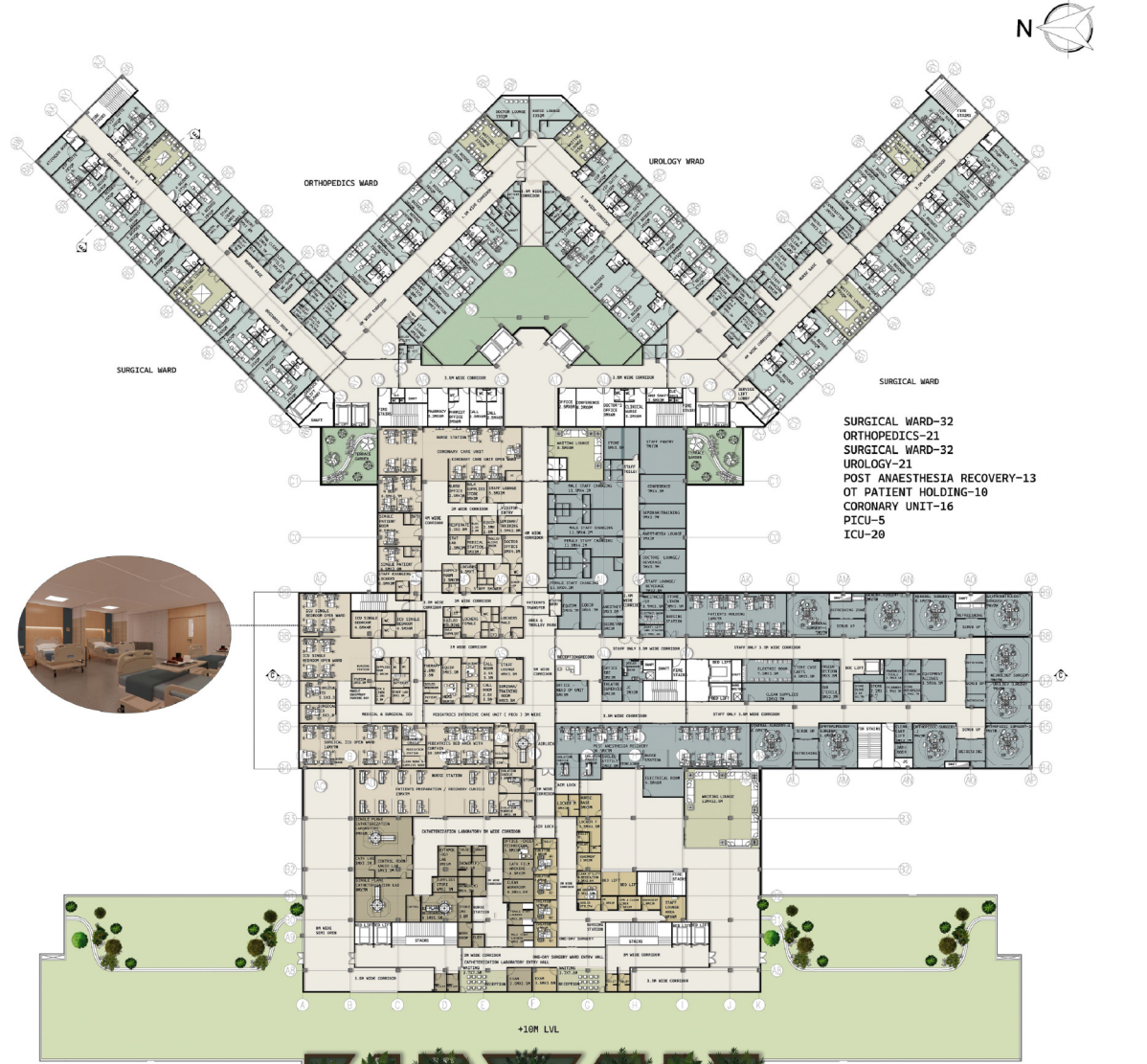
SCREEN WALL
 USED AS SCREEN FOR SPACES WITH ONLY OPENINGS IN PARKING AND SERVICE SPACES. GREEN WALL USED AS SCREEN FOR SPACES WITH ONLY OPENINGS IN PARKING AND SERVICE SPACES.



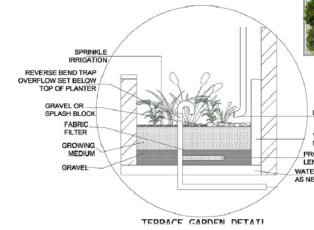
ALANDUR ROAD - 18M WIDE

MASTER PLAN

Design approach:
 -The site is placed in guindy inside the kings institute campus which is well known for eradicating small pox by the production of vaccine.
 -The planing is done based on the zoning of clustering the opd, ipd and emergency zone
 -This involves a careful analysis of the hospital's layout and resources to ensure that each zone is strategically located for optimal patient care.
 -By clustering these three zones, the hospital can optimize the use of its resources and provide efficient and effective patient care.
 -The zoning strategy is an essential aspect of the hospital's planning process, and it ensures that patients receive the appropriate care they need.



- SURGICAL WARD-32
- ORTHOPEDECS-21
- SURGICAL WARD-32
- UROLOGY-21
- POST ANAESTHESIA RECOVERY-13
- OT PATIENT HOLDING-10
- CORONARY UNIT-16
- PICU-5
- ICU-20



SECOND FLOOR PLAN

- ONE DAY SURGICAL WARD
 - WAITING LOUNGE
 - CORRIDOR
 - GREEN SPACE
 - CATH LAB
 - IN-PATIENT WARD
 - SURGICAL SUITE
 - IMCU/ISCU/PICU/ICU
- AREA: 10, 875SQM



SECTION A

PERFORMING ART CENTER



LOCATION: SHOLINGANALLUR
NEIGHBOURHOOD: SAVERAHOTEL
SUNPATH: EAST-WEST
WIND DIRECTION: SOUTHEAST-NORTHWEST
TOPOGRAPHY: THE LAND IS FLAT
DRAINAGE: UNDER GROUND SYSTEM
CLIMATE: HOT & HUMID CLIMATE
ZONE: MIXED ZONE

CONCEPT: PARAMETRIC FORM

DESIGN CONCEPT:

THE DESIGN OF THE PERFORMING ART CENTER ESTABLISHES A CONTINUOUS, FLUID RELATIONSHIP BETWEEN SURROUNDING AND THE BUILDING'S EXTERIOR.

THE LANDSCAPE FORMS A MULTITUDE OF FUNCTIONS WELCOMING, EMBRACING, AND DIRECTING VISITORS THROUGH DIFFERENT LEVELS OF THE EXTERIOR. THE BUILDING BLURS THE CONVENTIONAL DIFFERENTIATION BETWEEN OBJECT AND LANDSCAPE, BUILDING GROUND, INTERIOR AND EXTERIOR. TO EMPHASIZE THE CONTINUAL TRANSFORMATION AND LIGHTING

LIGHTING:

MOTION OF ITS FLUID GEOMETRY, DURING THE DAY, THE BUILDING'S VOLUME REFLECTS LIGHT TO EMPHASIZE THE CONTINUOUS RELATIONSHIP BETWEEN THE BUILDING'S EXTERIOR AND INTERIOR. THE USE OF SEMI-REFLECTIVE GLASS GIVES TANTALIZING GLIMPSES WITHIN THE FLUID TRAJECTORY OF SPACES INSIDE.

STRUCTURAL SYSTEM:

1. A CONCRETE STRUCTURE
2. COMBINED WITH A SPACE FRAME

SPECIAL NODES:

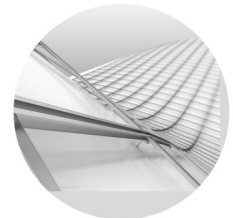
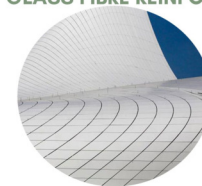
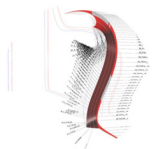
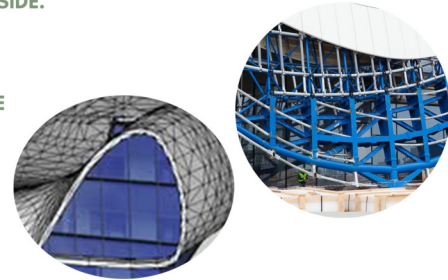
TO MAINTAIN STABILITY
THE STEEL CORE BEAM IS NEEDED
VERTICAL CONCRETE WALLS

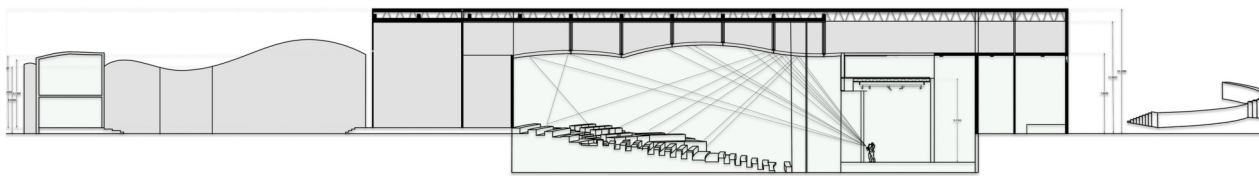
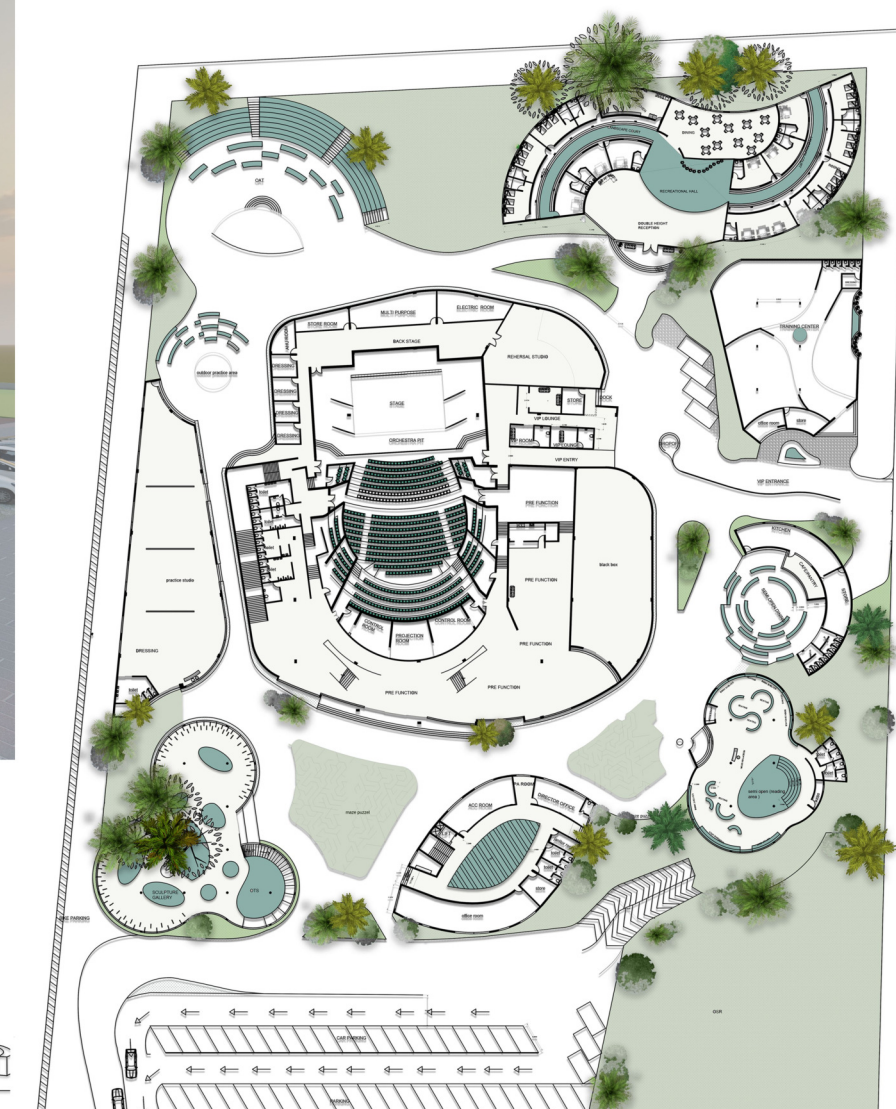
MATERIALS:

GRID PANELS SOFT POLYESTER REINFORCED
FIBER GLASS
REINFORCED CONCRETE FORMWORK
MILD STEEL TO SHAPE THE OUTER SKIN
STRUCTURAL
REINFORCED CONCRETE MILD STEEL (GFRP)/(GFRP)

CLADDING MATERIALS

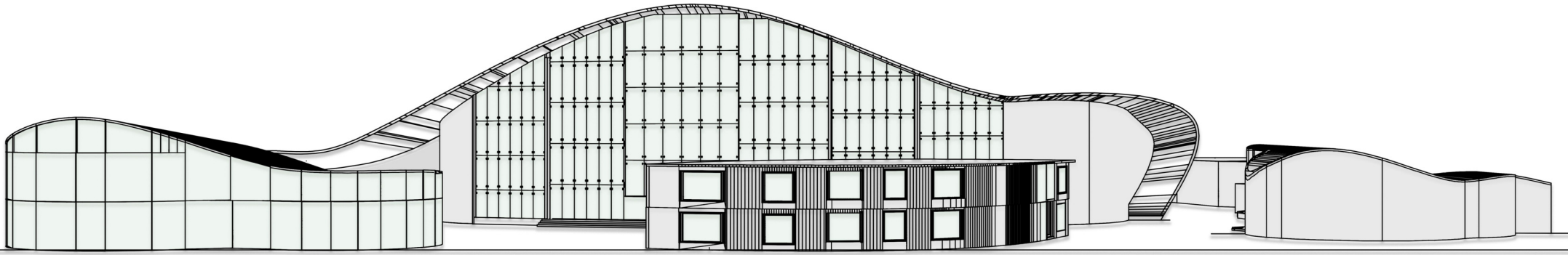
GLASS FIBRE REINFORCED CONCRETE (GFRC)
GLASS FIBRE REINFORCED POLYESTER (GFRP)





SITE SECTION AA'

MASTER PLAN



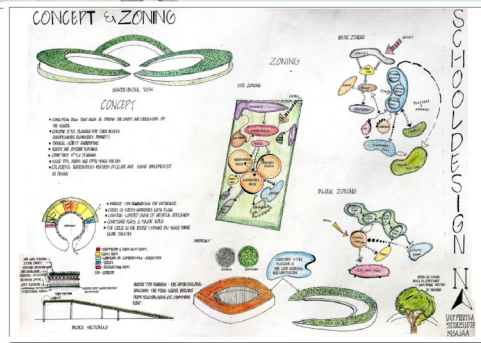
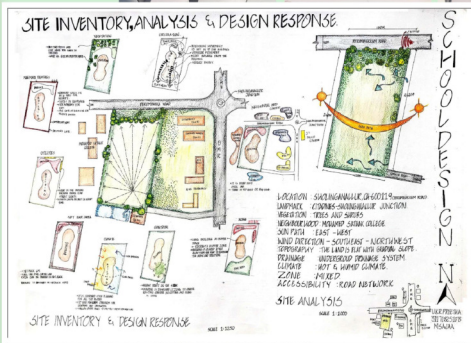
MANUAL SCHOLASTIC WORK - UG



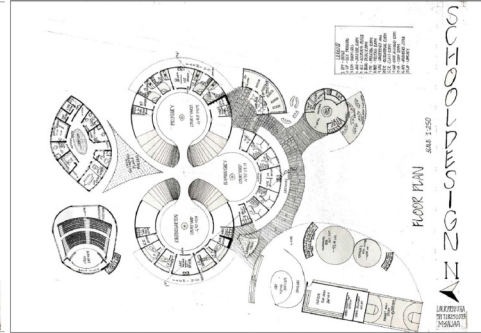
ARCHIDIUM STUDIO US + INTERNATION
STUDENT COMPETITION FOR STUDIO
PROJECTS. THIS INTERNATIONAL ONE
STAGE ARCHITECTURAL IDEAS
COMPETITION INVITES ALL
ARCHITECTURE STUDENTS TO
SUBMIT THEIR PREVIOUS AND
CURRENTS SEMESTER DESGINS .

SPECIAL MENTION AWARD IN
SEARCH OF BEST 100

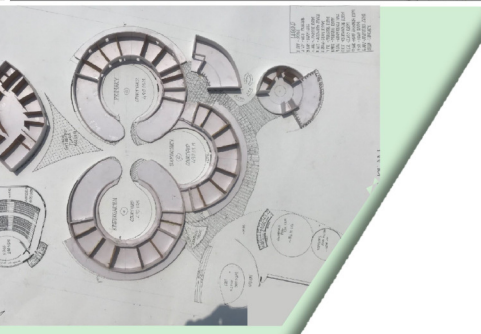
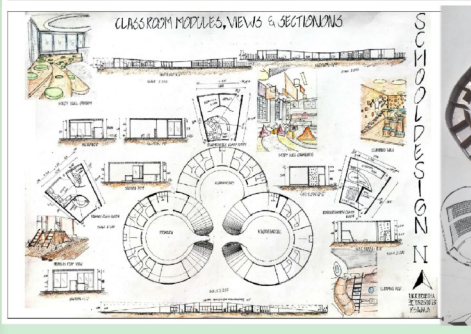
DESIGN

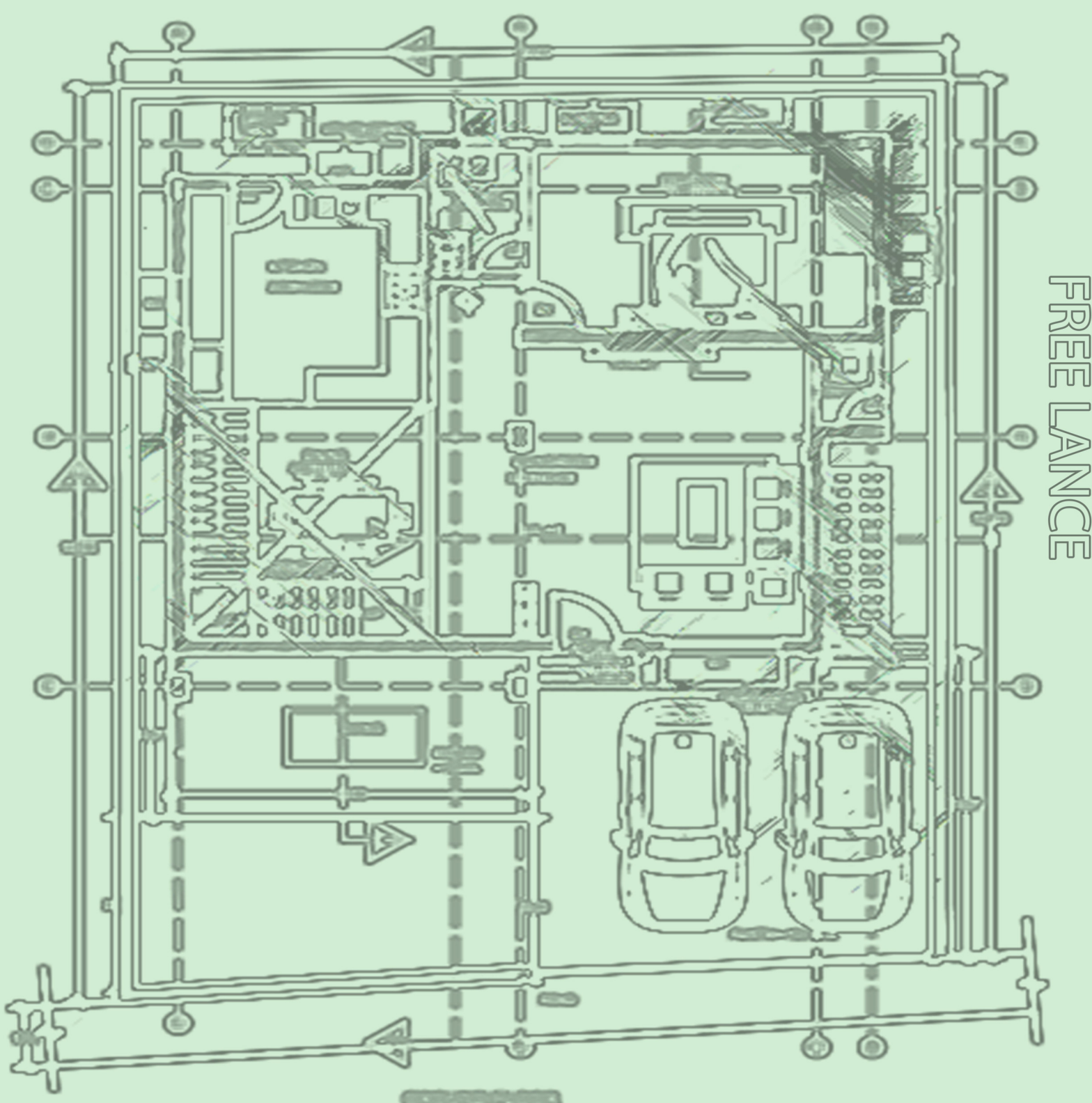


SHEETS



HONARIUM





FREE LANCE

CONTENT:

- DETAILED FLOOR PLANS
- SECTION
- ELEVATION
- WALL SECTION
- DETAILING

TOWNSCAPE Urban form and its visual appearance; the appearance of streets, including the way the components of a street combine in a way that is distinctive to a particular locality

As an artificial world, the city should be so in the best sense: made by art, shaped for human purposes

Kevin Lynch

Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody.

Jane Jacobs

One cannot make architecture without studying the condition of life in the city

Aldo Rossi



MENTAL MAPPING

The way a person perceives the layout of an area. Distances are likely to be distorted by the person's values, interests and experience

ACCESSIBILITY

The elements of urban form and design which make transit more accessible and efficient, these range from land-use elements to design.

URBAN DESIGN

MONTHS IN
Perambur

An URBAN TRAIL at PERAMBUR, CHENNAI



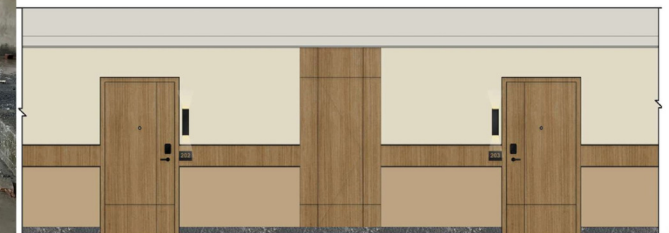
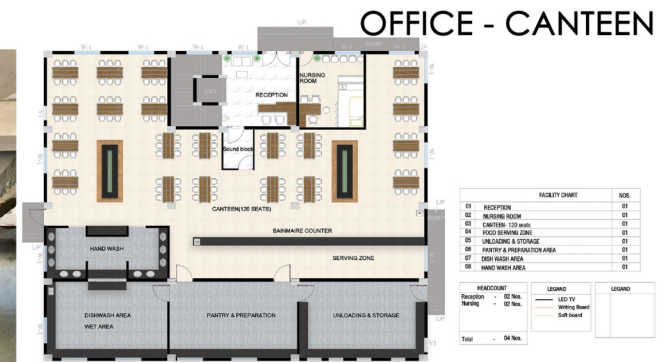
WALL ART



BANQUET HALL

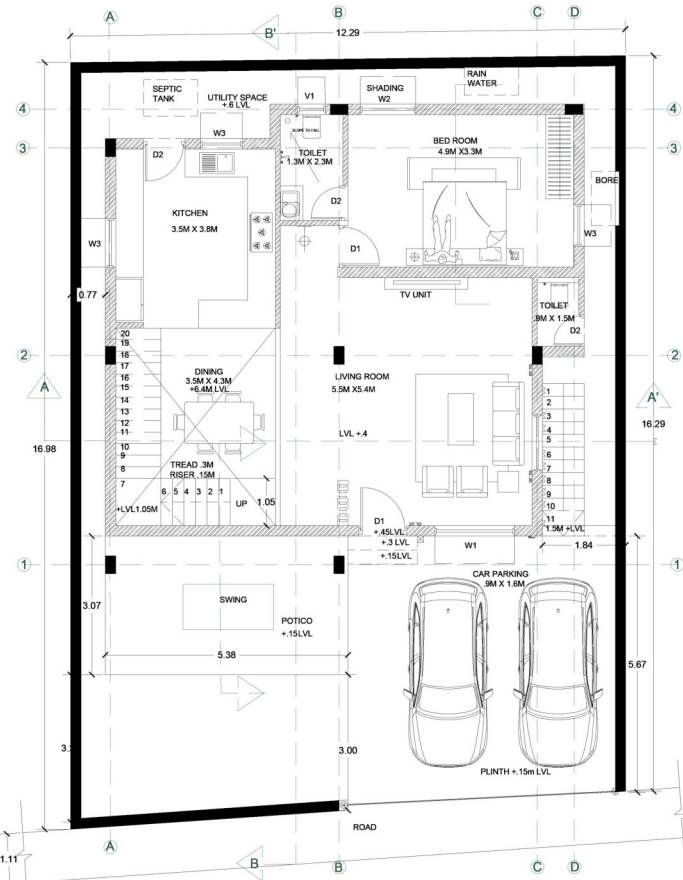


EXECUTION

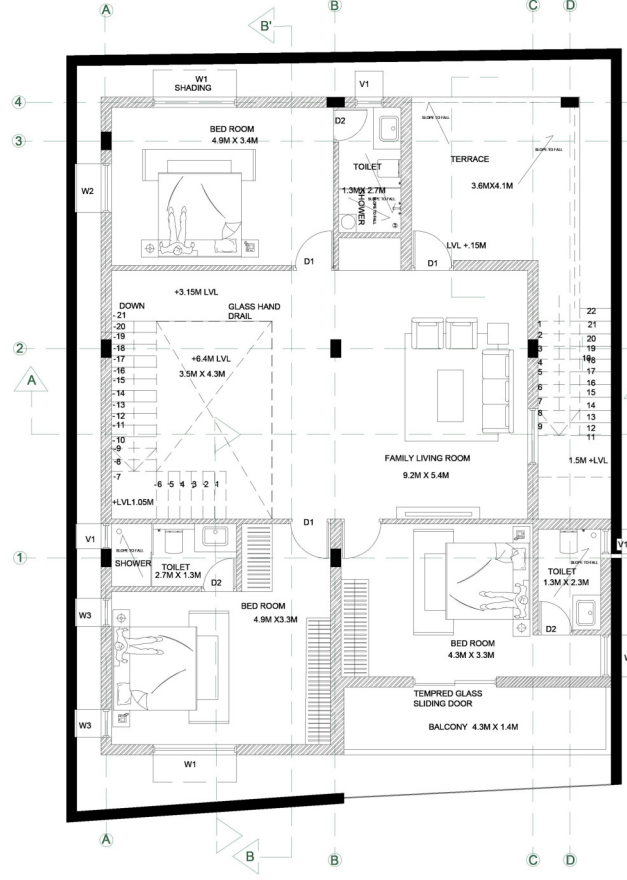


ELEVATION

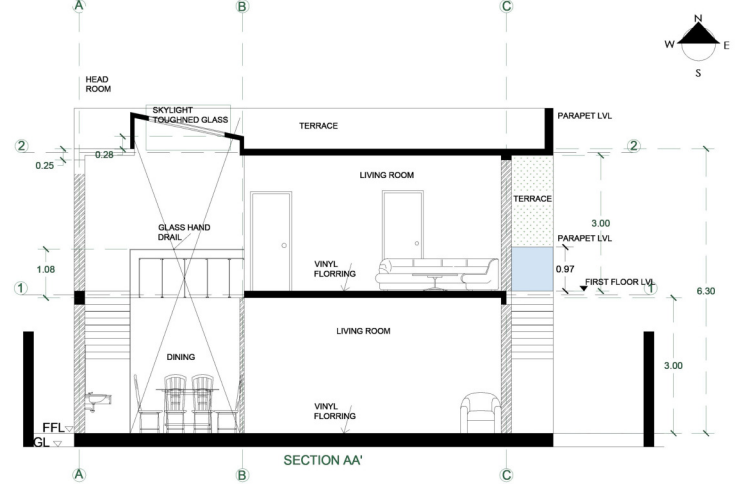
FREE LANCE WORK - CONSULTANT



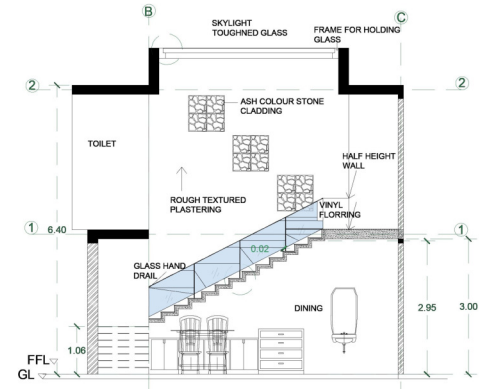
GROUND FLOOR



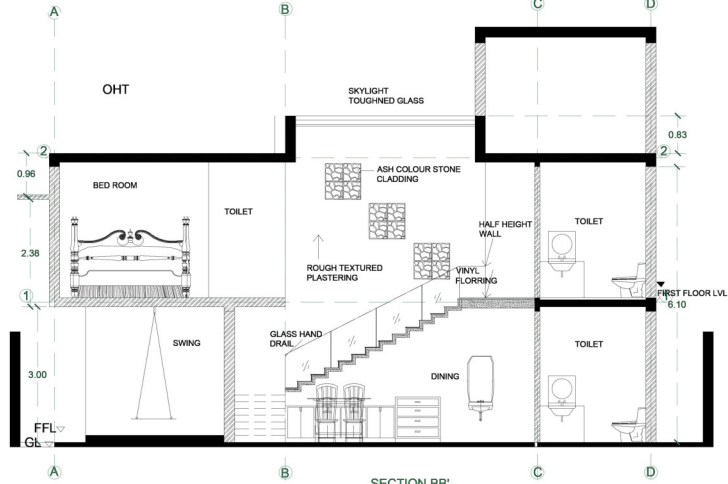
FIRST FLOOR



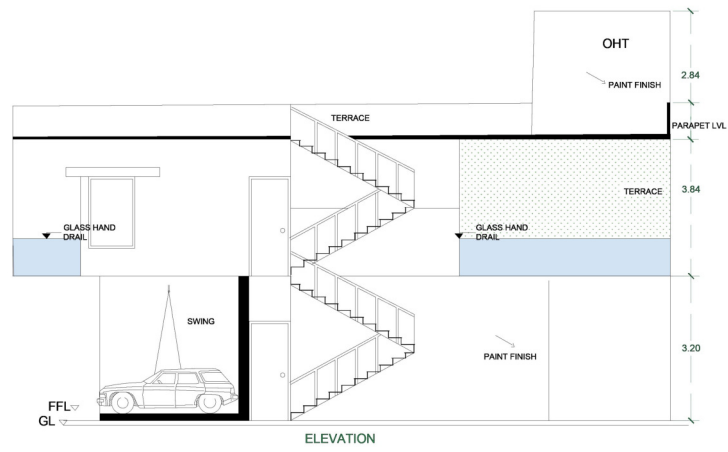
SECTION AA'



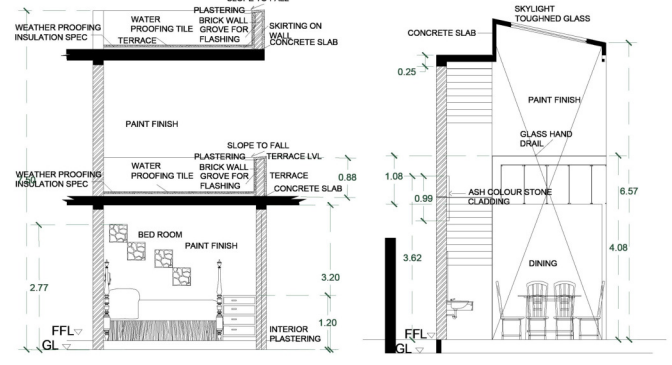
SECTION BB' DETAIL



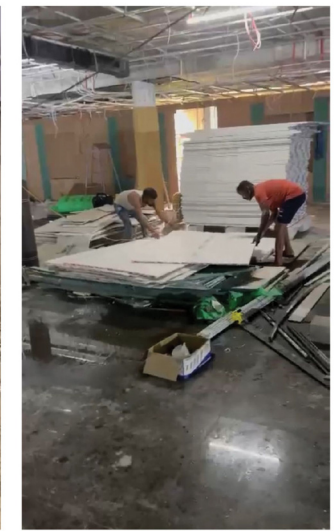
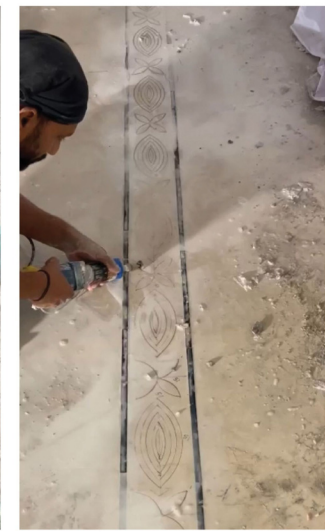
SECTION BB'



ELEVATION



The Banquet hall is inspired by beautiful and luxurious tents of Rajasthan which are the state's popular tourist spots . It houses an outdoor seating where visitors can enjoy the view of the property and is designed to imitate expansive palace walkways . The closed space provides a sense of grandeur and royalty with decor reminiscent of this state's rich culture. **Deep jewel toned furnishings, antique furniture and traditional interiors** look very regal in this **palace -style tent**, also dedicated a stage for Rajasthani folk musicians and dancers to exhibit their vibrant culture .





THANK YOU

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ar.preeetharaj@gmail.com