



THESIS REPORT ON  
**“SOCIO - CULTURAL CENTRE, ROHINI, DELHI”**

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT  
FOR THE DEGREE OF:

**BACHELOR OF ARCHITECTURE**

BY  
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THESIS GUIDE  
**PROF. SANGEETA SHARMA**

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**TO THE**  
**SCHOOL OF ARCHITECTURE AND**  
**PLANNING BABU BANARASI DAS**  
**UNIVERSITY LUCKNOW.**

**SCHOOL OF ARCHITECTURE AND PLANNING  
BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).**

**CERTIFICATE**

I hereby recommend that the thesis entitled “SOCIO – CULTURAL CENTRE, ROHINI, DELHI” under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor’s degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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Recommendation

Accepted

Not Accepted

External Examiner

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External Examiner

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**-Shraddha Gangwar**



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# SYNOPSIS

# **THE MOSAIC HUB (SOCIO - CULTURAL CENTRE)**

## **INTRODUCTION**

**The Mosaic Hub** symbolizes a vibrant, diverse, and interconnected community. "**Mosaic**" represents different cultures, traditions, and people coming together to create a beautiful, unified whole and "**Hub**" signifies a central gathering place where people connect, share, and collaborate.

Together, The Mosaic Hub conveys a welcoming space where cultural exchange, social interactions, and creativity thrive.

A socio-cultural center or the mosaic hub is a facility or organization that blends social and cultural activities to promote the well-being and development of individuals and communities.

## **BACKGROUND**

The concept of socio-cultural centers emerged from the need for spaces that combine social services with cultural development, aiming to enhance the quality of life within communities. These centers evolved in response to growing social challenges in the modern world, such as migration, urbanization, and social inequality. They emerged as a response to the limitations of traditional social institutions, with a broader focus on addressing both cultural and social needs in an integrated way.

## **NEED OF THE PROJECT**

Socio-cultural centers are needed to promote social inclusion, foster cultural exchange, and strengthen community engagement. They provide a platform for marginalized groups to integrate, address social issues like education and employment, and offer services such as language classes and counseling. These centers celebrate diversity, empower individuals, and contribute to personal and community growth, ensuring a more cohesive and inclusive society.

## **AIM**

- The aim is to design a socio - cultural centre.
- The aim is to design a space to provide opportunities by which people from different parts of India get to know more about each others tradition and cultural heritage and thereby help in promoting mutual understanding and national integration. The space would amalgamate all cultural activities under one roof.

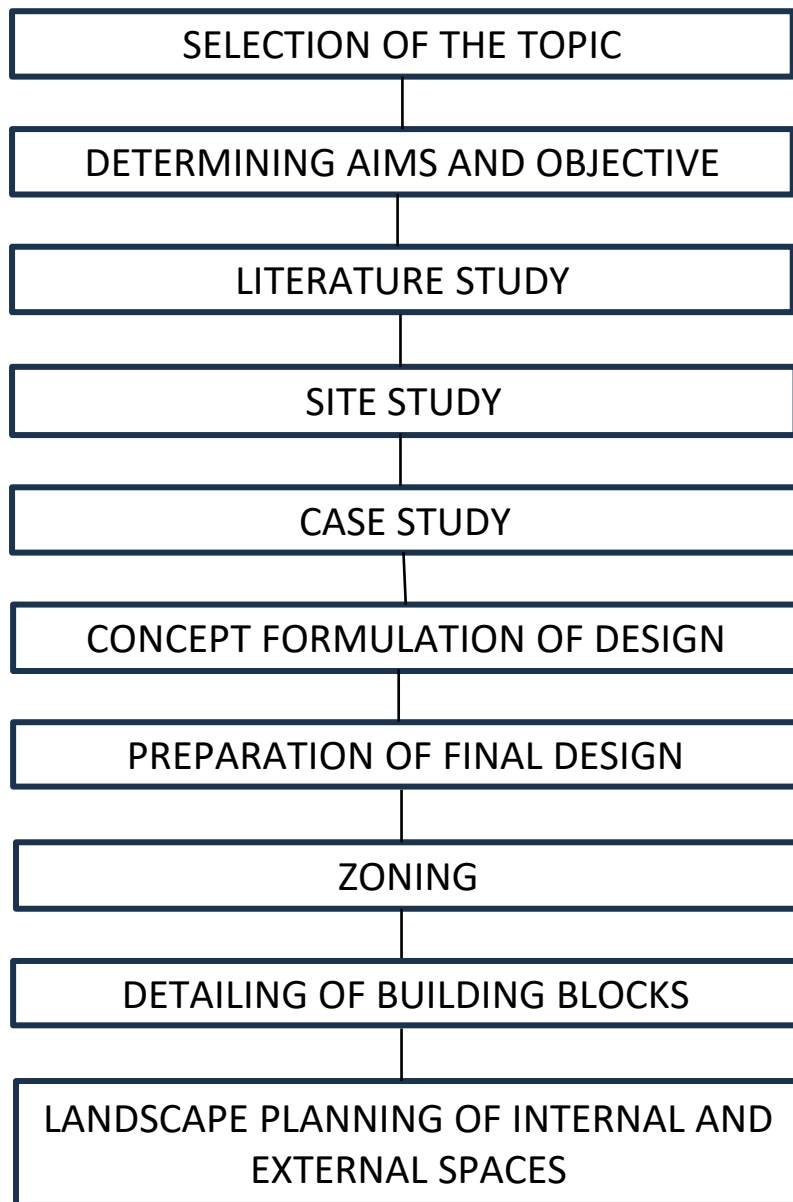
## **OBJECTIVE**

- To develop a space which can form the mode for holding and experiencing commercial, cultural and social activities.
- To preserve, innovate and promote cultural interaction among different cultures in India.
- To provide support to associations of artists and individuals involved in artistic, cultural and heritage activities.
- To foster a sense of community belonging and identity through cultural activities, community events, festivals and celebrations.
- To promote lifelong learning by using the cultural centre as a venue for educational activities, conferences, seminars, presentations, art and craft exhibitions and many more.

## **SCOPE**

- It would help me to explore the spaces required for artists and craftsmen to practice their crafts.
- It would help me understand the social and cultural setting of the region and explore the implementation of cultural context on building design.
- It would allow me greater freedom in form and spaces as many of the spaces to be designed would be of flexible nature.

## **METHODOLOGY**



## **LIMITATION**

- India is culturally diverse country with more than 200 different culture and heritage and it is difficult to incorporate every culture in building design, only those culture that prevail predominantly in the Indian subcontinent are taken into consideration while designing the building.
- It will provide with an architectural solution and not for other aspects like economical, management, etc.

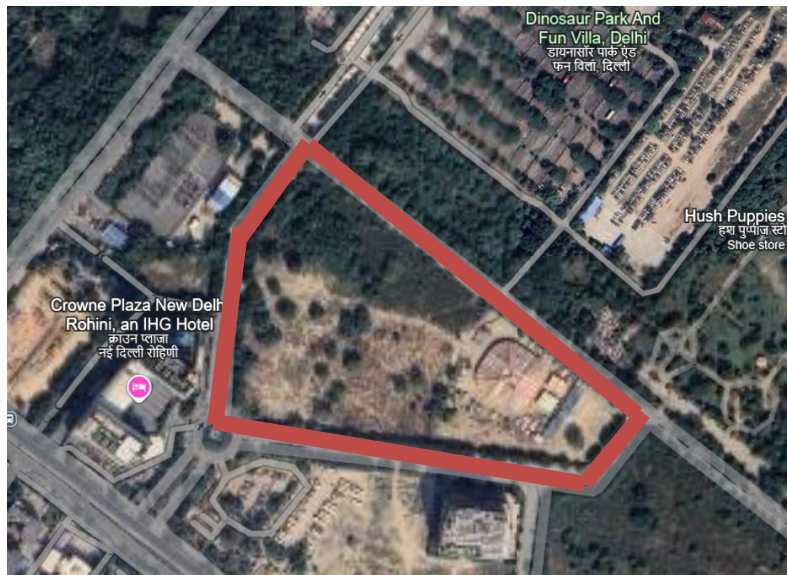
# SITE DETAILS



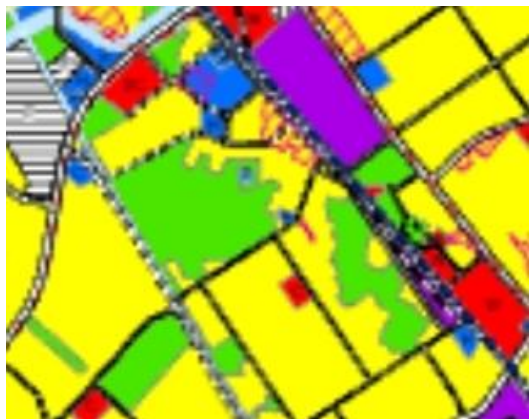
**Site location :** Cluster 4B of District Centre 2, Rohini, Delhi

**Site area :** 44,077 sqm (10.89 acres)

**Client :** DDA (Delhi Development Authority)



**PROPOSED SITE FOR SOCIO - CULTURAL CENTRE**



**MASTER PLAN (Land use)**

# **REQUIREMENTS**

## **1. Administrative block**

- Reception
- Managers room
- Meeting room

## **2. Cultural areas**

- Auditorium
- Prayer halls
- Conference room
- Multipurpose halls
- Banquet halls
- Open air theatre
- Sculpture court

## **3. Interpretation area**

- Exhibition area/convention centre
- Audio visual rooms
- Library
- Rehearsal rooms
- Recording rooms
- Business centre
- Seminar rooms
- Meeting rooms

## **4. Other areas**

- Restaurants
- Cafeterias
- Landscape area
- Parking
- Service area
- Recreational club
- Workshops
- Accommodation

## **CASE STUDY**

- INDIA INTERNATIONAL CENTRE, NEW DELHI
- INDIA HABITAT CENTRE, LODI ROAD, NEW DELHI

## **LITERATURE STUDY**

- CHUNYANGTAI ARTS AND CULTURAL CENTRE,  
GUANGZHOU, CHINA
- THIRD SPACE CULTURAL AND LEARNING CENTRE,  
UDAIPUR, INDIA

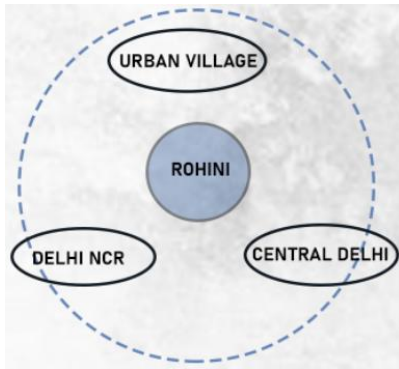


# SITE SELECTION

# WHY ROHINI ?

## Cultural Bias

Most of the cultural centers in Delhi are located in the central zone of New Delhi.

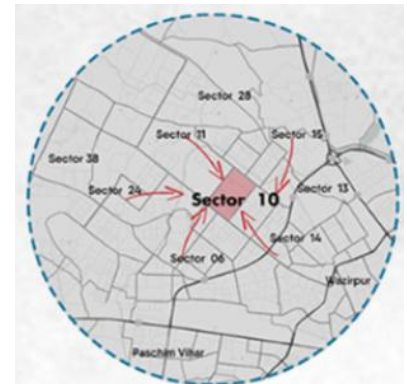


## Out-Reach

Being a part of north west delhi, Rohini connects Major Parts of the its surroundings.

## Centrality

Rohini is divided into various sectors were Each sector is attached with wide road on the edges, supported by networks of internal roads and services. Sector 10 located right in the middle of Rohini. Near to it.has dense residential population. Which makes it important and relevant for the context.



## SWOT ANALYSIS

### Strength

Easy access to Swarna Jayanti Park.

The site lies on the main road thus can create a sight line.

The context is mainly residential and institutional, thus the project can attract these people.

### Weakness

Vacant land nearby.

Noise because of the road all around the site.

## **Opportunity**

To create context.

To create a public realm, as no such facilities available nearby.

Connect the SWARNA Jayanti Park with the site.

## **Threat**

Metro is not at walking distance. (Around 2km far)

Illegal encroachment of land nearby.

## **SITE CONTEXT**

### **Multifloor Parking**

For district II, multifloor parking is given

### **Dr. KN Katju Marg**

It is a 3.7 Km stretch arterial road which connects the whole sector with the outer ring road.

### **Socio Cultural Centre**

The proposed socio cultural centre is located in the district II.

### **Swarn Jayanti Park**

The Swarn jayanti park acts as a major magnet for the project which is a glorious garden incorporated as apart of the sub-city's comprehensive layout plan. Spread over 250 acers this park is designed as a pleasure retreat for the local residents. This park provide microclimate effect to the proposed site.

### **HL Parwana Road**

It is a 1.7 km stretch road which connects both the district centres with each other along with Swarna Jayanti Park and act as a primary road connecting different residential neighbourhoods.

### **Ramamurti Passi Marg**

## CLIMATIC CONTEXT

<u>Latitude</u> :	28.7361° N
<u>Longitude</u> :	77.1149° E
<u>Annual Rainfall</u> :	700 – 800 mm
<u>Elevation</u> :	220 m above sea level
<u>Monsoon Season</u> :	July – September accounts for 75-80% of the total rainfall.
<u>Average Temperature</u> :	25°C
<u>Average Wind Speed</u> :	8–15 km/h

## CLIMATIC CONDITIONS

- Rohini, located in the northwestern part of Delhi, experiences a hot semi-arid climate, according to the Köppen climate classification.
- The region endures extreme temperature variations throughout the year, with scorching summers, monsoon rains, and chilly winters.

### Temperature –

- Summer (April – June) :  
Max : 38°C – 45°C  
Min : 25°C – 30°C  
Peak Heat : May and June, often exceeding 45°C during heatwaves.
- Monsoon (July – September) :  
Max : 30°C – 35°C  
Min : 24°C – 28°C  
High humidity with occasional heavy rainfall.
- Winter (November – February) :  
Max : 14°C – 22°C  
Min : 2°C – 8°C  
Cold, foggy mornings with occasional cold waves.

### Precipitation -

- Annual Rainfall : 700 – 800 mm
- Monsoon Season : July – September accounts for 75-80% of the total rainfall.

## Wind Patterns -

- Summer :

Hot, dry winds (loo) from the west, significantly raising temperatures.

Average wind speed : 10–20 km/h

- Monsoon :

Moist easterly winds, bringing humidity and rain.

Average Wind Speed : 8–15 km/h

## Humidity -

- Summer : Low humidity (20-30%) hot and dry.

- Monsoon : High humidity (70-85%).

- Winter : Moderate humidity (40-50%)

## SUN PATH

- Summer Sun (June 21) -

Sunrise ~ 5:23 AM (northeast)

Sunset ~ 7:22 PM (northwest)

Solar Altitude at Noon ~  $83^\circ$  (nearly overhead)

- Winter Sun (December 21) -

Sunrise ~ 7:10 AM (southeast)

Sunset ~ 5:27 PM (southwest)

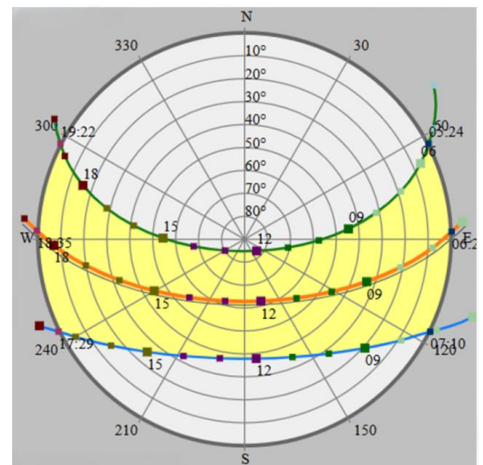
Solar Altitude at Noon ~  $39^\circ$

- Equinoxes (March 21 & September 23) -

Sunrise ~ 6:15 AM (due east)

Sunset ~ 6:20 PM (due west)

Solar Altitude at Noon ~  $60^\circ$



## NATURAL FEATURES

### 1. Lakes and Ponds -

- Japanese Park (Swarn Jayanti Park) contains artificial lakes used for boating.

- The lakes attract local bird species and enhance the area's biodiversity.
2. Groundwater -  
Groundwater table is moderately deep (~ 15-30 meters).  
Water quality is slightly saline and may require treatment for consumption.

### Green Spaces and Vegetation :

1. Japanese Park (Swarn Jayanti Park) -
  - One of the largest parks in the region 250 acres.
  - Features lakes, walking trails, and green lawns.
  - Supports local flora and fauna, including peacocks, parrots, and water birds.
2. Tree Cover -
  - Moderate tree density, with native species such as neem, peepal, and jamun.
  - Roadside plantations and green belts along major roads.
3. Urban Agriculture -
  - Some peri-urban farms and agricultural plots exist towards the western outskirts.
  - These lands are gradually being urbanized.

## **DESIGN STRATEGIES**

### Passive Cooling Strategies :

- Shading devices (overhangs, fins) to reduce direct solar gain in summer.
- Cross-ventilation to enhance air circulation.
- Green roofs or reflective surfaces to reduce heat absorption.

### Winter Design Considerations :

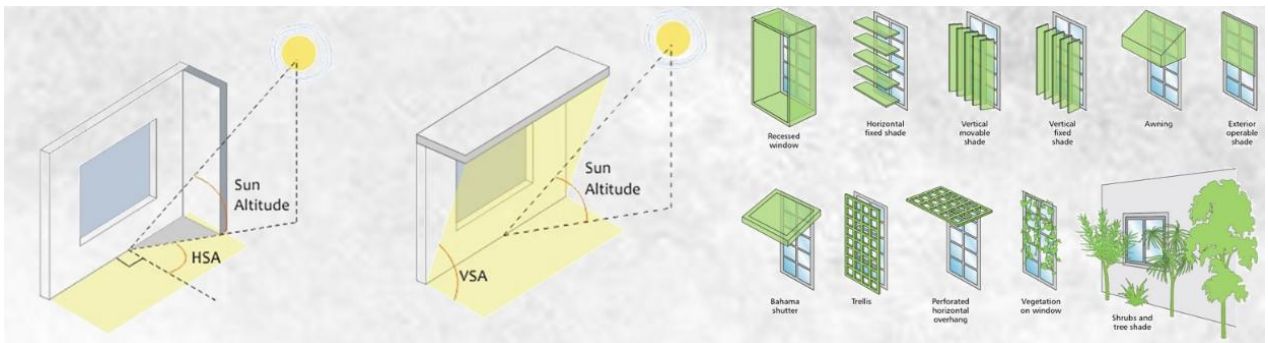
- South-facing windows for passive solar heating.
- Windbreaks (trees, screens) to reduce cold wind exposure.

### Air Quality Mitigation :

- Vegetation buffers and air-purifying plants around buildings.
- Use of air filtration systems to combat seasonal pollution.

## Ventilation :

- Having a constant flow of air moving through your house is critical for creating a comfortable indoor temperature.
- You can achieve this movement by allowing cool air to pass from one side of a room to the other.
- This action is called cross ventilation and occurs when air has an unobstructed path through a room or building.



## **TOPOGRAPHICAL CHARACTERISTICS**

### Soil Type :

- Alluvial soil (common in Delhi) with silt and clay content.
- Fertile but prone to compaction.

### Drainage Pattern :

- Mostly artificial drainage systems due to urban development.
- Poor natural drainage prone to waterlogging in low-lying areas during monsoon.

### Slope :

- Minimal slope ( $\sim 0.5-1\%$ ), which makes natural runoff slow.
- Flat terrain requires engineered drainage solutions.

# LITERATURE OVERVIEW



# Designing for Flexibility

## **The Concept of Flexibility in Architecture :**

- Flexibility in architecture means being able to change and adapt without changing the main structure.
- It's about responding to different needs and rearranging spaces as needed.
- This flexibility is important throughout a building's life, allowing updates during design and after use.
- By using natural elements, buildings can adapt to their environment like living things.
- As society and environmental issues change, new materials and construction methods help make buildings more adaptable.
- Focusing on flexibility allows architects to meet today's needs while also preparing for future changes, making buildings stronger and more versatile.

### **The Importance of Flexibility in Design**



## **Phases of Flexibility :**

### **1. Adaptability**

- Adaptability means a building can be used for different purposes without changing its structure.
- It is defined as the capacity of a building to support multiple functions without altering architecture itself.
- For example, you can move furniture or create spaces that serve multiple functions, and these changes aren't permanent.

## 2. Transformability

- This allows interior and exterior space to be changed without any need for new construction.
- This can be done using movable structures or responsive designs that adapt to the environment.
- Examples include portable restrooms, temporary huts, retractable roofs for stadiums, and floating buildings that adjust with water levels.



## 3. Convertibility

- It involves changing a building's function through some permanent construction changes.
- To achieve this, architects need to plan for flexibility from the start, considering future needs, feasibility, and budget to create sustainable designs.
- In fast-track projects, construction may start before the design is complete, so incorporating early flexibility is important.
- For example, if the foundations are built larger than necessary, they can support heavier loads in the future.





## **Advantages of Flexible Architecture :**

- Flexible architecture allows for creativity and new ideas while being cost-effective and eco-friendly.
- It focuses on building spaces that last and attract people for years.
- These designs can adapt to different needs over time, making them more useful than fixed structures.
- In short, flexible architecture is practical and sustainable, making it a great choice for modern buildings.

## **Conclusion :**

As the world changes quickly and people's needs evolve, our buildings must be flexible. Architects face the challenge of keeping up with these growing demands. Flexible architecture offers solutions to the issues we encounter in today's sharing and collaborative economy. By using an adaptable approach, designers can create unique spaces that are practical and impressive at the same time.

S.No.	Aspect	The Shed, New York	The Naked House, Kawagoe, Japan
1	Main programme	Performing arts and visual arts 	Residential living 
2	Enclosure	Closed and semi-open space	Semi-open and semi-closed space
3	Lightning	Artificial lightning	Natural lightning
4	Flexible strategies	Movable shell and walls allow multiple layouts and functions within the same space.	Movable rooms and sliding partitions allow reconfiguration
5	Flexible space	Building merged with plaza to achieve an enlarged space for various arts and accommodate large no. of visitors.	Created with movable walls and box rooms, allowing the interior layout to be easily reconfigured to suit changing needs.
6	Indoor-outdoor connection using flexible elements	The onlookers can see the activities occurring inside the building through the translucent panels covering the sliding steel frame.	Connects spaces through flexible elements like sliding walls and movable rooms, allowing dynamic, adaptable living.
7	Design Philosophy	Transformative, adaptable structure for public use	Minimalism and maximum flexibility for family life
8	Strength	Seamlessly transforms to host various public events	Customizable interior for diverse family activities
9	Weakness	Complex mechanics; high maintenance and operational cost	Limited to residential functions

# LITERATURE STUDY

## LITERATURE STUDY – 01

### CHUNYANGTAI ARTS AND CULTURAL CENTRE, GUANGZHOU, CHINA

#### LOCATION:

Langtou ancient village, Tanbu Town, Huadu District,  
Guangzhou, China

#### ARCHITECT:

Yung Ho Chang, Lijia Lu

#### CLIENT :

Guangdong Vipshop Philanthropic Foundation

BUILDING AREA : 8602 sq.m

SITE AREA : 7217 sq.m

BUILDING HEIGHT : 12 m

DESIGN PERIOD : 2021

COMPLETION TIME : 2023



Guangzhou City



### SITE CONDITION

**Location :** Situated in Tanbu Town, Huadu District, Guangzhou.

**Topography :** Relatively flat terrain with gentle slopes.

**Vegetation :** Rich greenery with litchi, longan, and banyan trees.  
A notable 600-year-old kapok tree, symbolizing the village's heritage.

**Hydrology :** Presence of ponds and river, contributing to a water-rich environment.  
Roof ponds at the Chungyangtai Arts and Cultural Centre filled with aquatic plants.

**Climate :** Subtropical monsoon climate. Hot, humid summers and mild winters.

## CONNECTIVITY

**By Metro + Bus :** Metro Line 9 to Fei'eling Station.

Then Transfer to Bus No. 15 to Langtou Village Station.

**By Direct Bus :** From Guangzhou Railway Station, take a shuttle bus to Tanbu Town Station.

Short motorcycle ride or walk to Langtou Village.

**By Car :** Drive via Guangqing Expressway, exit at Xinhua.

Continue on Fengshen Dadao to Tanbu Bridge to Langtou Village.

## ACCESSIBILITY

**Road Access :** Well-connected via Guangqing Expressway and Fengshen Dadao.

**Pedestrian Access :** Walkable pathways and elevated walkways in the center.

**Disability Access :** Ramps and accessible pathways in the center.

**Cycling :** Bike-friendly paths in the village. Accessible via local roads from Guangzhou city.

## DESIGN CONCEPT

- The Chun Yang Tai Arts and Cultural Centre in Guangzhou embodies a design concept that seamlessly blends tradition with modernity.
- Inspired by the village layout of Langtou , the centre consists of ten individual building units connected by curved brick walls and alleys, mimicking the village's historic pathways.
- The design integrates nature through roof ponds filled with aquatic plants, creating a multi-level lotus pond system, linked by elevated walkways.
- Locally sourced red tiles and grey bricks, combined with exposed concrete, reflect the region's architectural heritage while adding a contemporary touch.
- Crescent shaped windows, inspired by Lingnan motifs, introduce soft, filtered light and frame picturesque views of the surroundings.
- Overall, the centre symbolizes a harmonious fusion of architecture and nature, celebrating the cultural heritage of Langtou Village.

## SITE PLAN

1. Exhibition Spaces
2. Library
3. Theater
4. Research studios,
5. Café
6. Courtyard
7. Lotus Pavilion
8. Children Playroom



Site Plan

## BUILT ENVIRONMENT

- The built environment of the Chun Yang Tai Arts and Cultural Centre combines traditional and modern architecture.
- It features ten building units arranged in a village-style layout, connected by curved brick walls and alleys.
- The use of local red tiles, grey bricks, and exposed concrete reflects both heritage and contemporary design.
- Roof ponds with aquatic plants, linked by elevated walkways, create a multi-level water feature, while open courtyards offer communal spaces.
- The design promotes sustainability through water-efficient ponds and natural ventilation via crescent-shaped windows, creating a serene and eco-friendly environment.

## ARCHITECTURAL FEATURES

### Village-Inspired Layout :

- Ten individual building units arranged in a village-style cluster.
- Curved brick walls and narrow alleys mimic traditional village pathways.

### Contemporary and Minimalist Design :

- The structure embodies a sleek and minimalist design, characterized by clean lines, geometric shapes, and open spaces.



- The use of concrete, glass, and steel gives the building a modern and industrial appearance, creating a visually striking contrast with its surroundings.

### Roof Ponds and Walkways :

- Multi-level roof ponds with aquatic plants (mainly water lilies).
- Elevated walkways connect the ponds, creating a layered experience.

### Local Materials :

- Red tiles and grey bricks reflect Langtou's historical architecture.
- Exposed concrete walls and floors add a modern, minimalist touch.

### Crescent-Shaped Windows :

- Inspired by Lingnan architecture, these windows allow soft, filtered light inside.
- Frame scenic views of the surroundings.

### Open Courtyards :

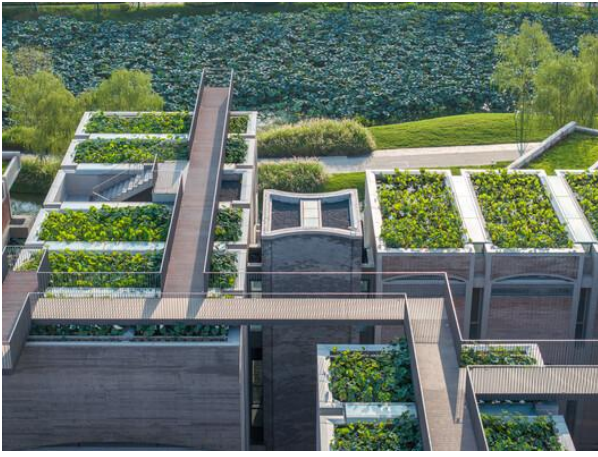
- Courtyards between building units provide communal gathering spaces.
- Enhance natural ventilation and lighting.

### Sustainability Elements :

- Water-efficient roof ponds regulate temperature and promote biodiversity.
- Use of local materials reduces the environmental impact.

### Blending with Nature :

- The design integrates water, vegetation, and built structures, creating a harmonious indoor-outdoor flow.



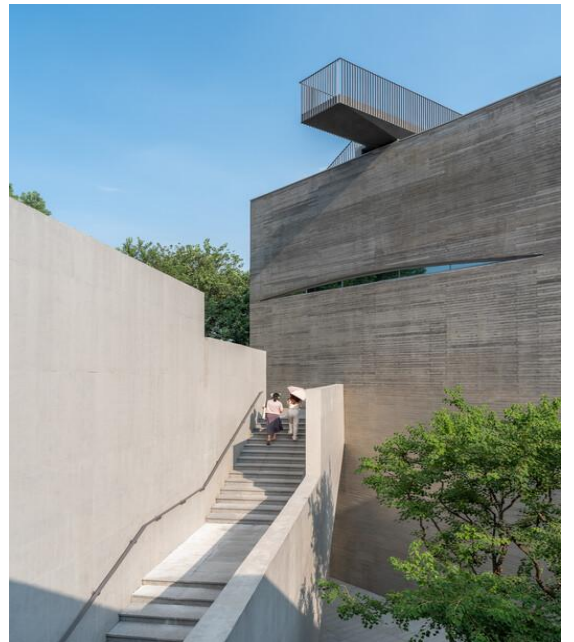
Elevated walkways on the Roof



“Towers” with curvilinear brick walls between building units



Red tile exterior



Concrete stairs and walls

## ARCHITECTURAL VISION AND IMPLEMENTATION

- The architectural vision of the Chun Yang Tai Arts and Cultural Centre is to create a harmonious fusion of tradition, nature, and modernity.
- The design aims to preserve the historical essence of Langtou Ancient Village while incorporating contemporary architectural elements.
- Inspired by the village’s scale and layout, the centre consists of ten building units arranged in a village-style cluster, interconnected by curved brick walls and narrow alleys, evoking the charm of traditional village pathways

- The implementation of this vision is evident in the use of local materials such as red tiles and grey bricks, which reflect the village's heritage, while exposed concrete walls and floors introduce a minimalist, modern aesthetic.
- The innovative multi-level roof ponds, filled with aquatic plants, are linked by elevated walkways, creating a unique layered experience that blends architecture with nature.
- Crescent-shaped windows, inspired by Lingnan architecture, allow soft, diffused lighting and frame scenic views.
- Overall, the Chun Yang Tai Arts and Cultural Centre successfully realizes its vision by combining cultural heritage with contemporary design, creating a serene and immersive space for art and culture.



Crescent windows



Planted ponds on different levels

## LANDSCAPING

- The landscaping of the Chun Yang Tai Arts and Cultural Centre integrates nature with architecture, creating a serene and immersive environment.
- The most striking feature is the multi-level roof ponds, filled with aquatic plants, mainly water lilies, adding a tranquil and reflective quality to the space.
- They had placed nearly 30 groups of planted water ponds on the roofs of buildings; it do not only form a natural landscape but also reduce the energy consumption of the buildings.



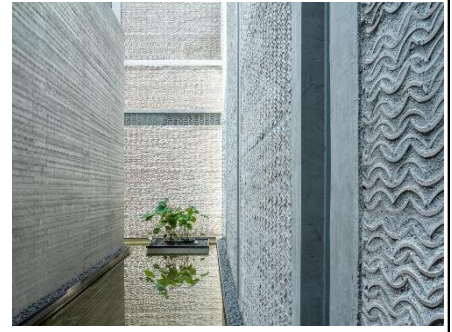
- The roof ponds, connected by elevated walkways, along with the ponds, both designed and natural ones, in the sunken courtyards and in the surrounding areas, create a "multi-level lotus pond system" that blends into the environment.
- The open courtyards between the building units are adorned with local vegetation, creating green communal spaces.
- The use of native plants and trees around the site enhances the connection to the natural surroundings.
- The landscaping design emphasizes sustainability by integrating water-efficient ponds and incorporating greenery on rooftops.
- This creates a seamless indoor-outdoor flow, blending the built environment with nature while providing visitors with a calm, scenic experience.



Ends of the walkway leads visitors into nature



The planted water ponds on the roof



Water feature between buildings

## BUILDING MATERIAL

**Local Red Tiles** – Used for roofing, reflecting the traditional architecture of Langtou Village.

**Grey Bricks** – Sourced locally, used for walls and pathways, preserving the village's historical character.

**Exposed Concrete** – Provides a modern, minimalist aesthetic, contrasting with traditional materials.

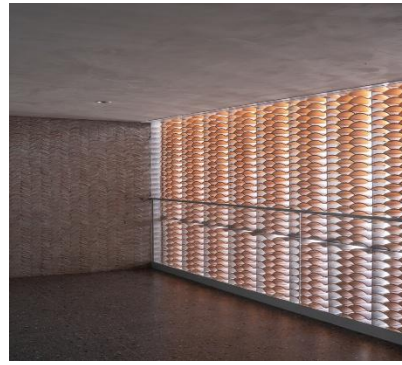
**Timber** – Used in interior details and structural elements, adding warmth and texture.

**Glass** – Incorporated in crescent-shaped windows, allowing soft, diffused lighting.

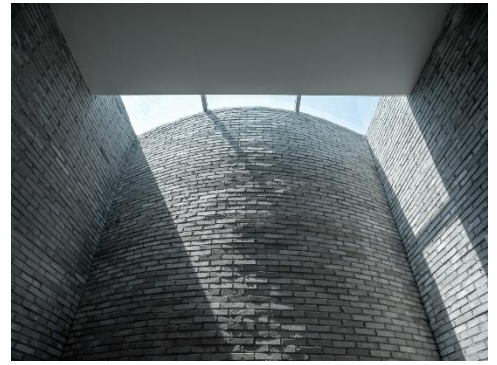
**Steel** – Used in structural reinforcements and elevated walkways, ensuring durability.



Red tile wall detail

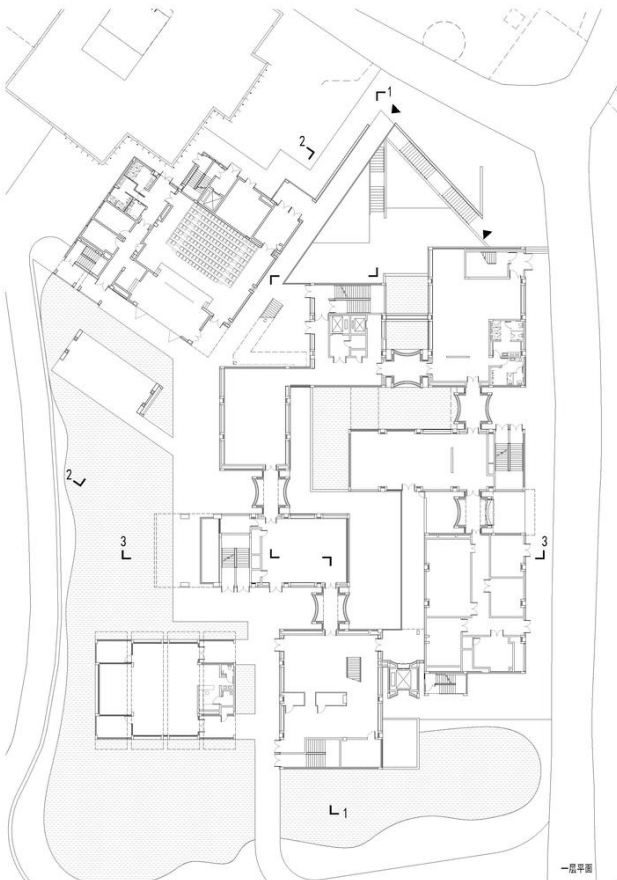


A porous red tile screen-wall

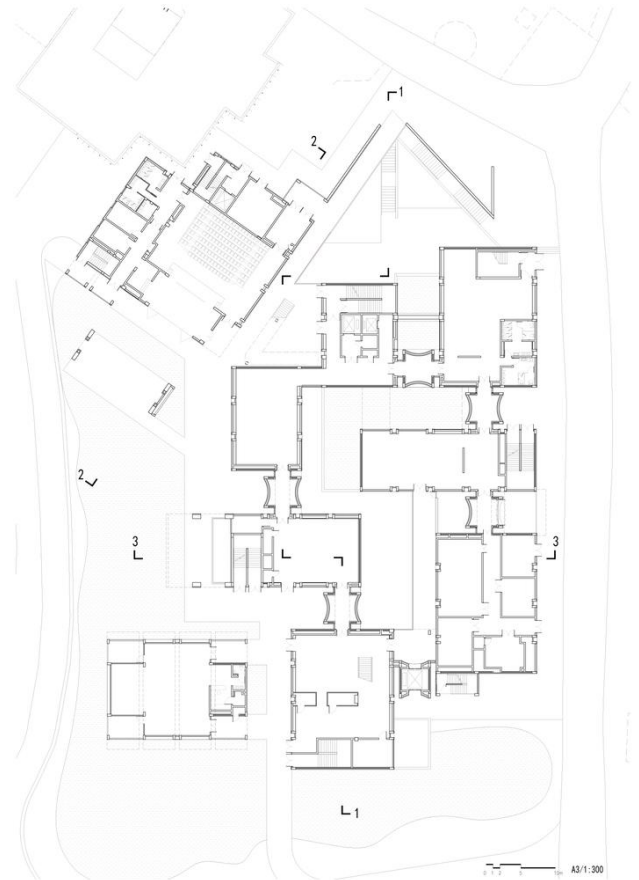


Interior grey brick walls and skylight

## PLANS



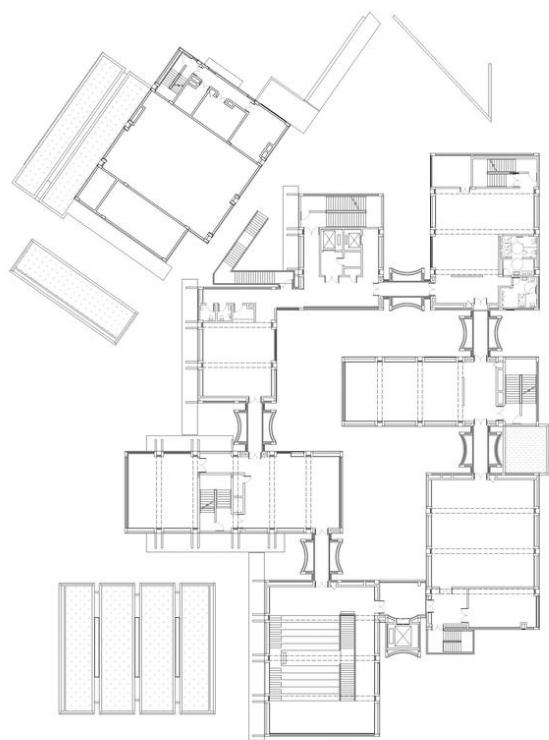
Basement Plan



1st Floor Plan

- 1 Sunken Courtyard
- 2 Lobby and Reception
- 3 Exhibition Hall
- 4 Washroom
- 5 Storage and Office
- 6 Mechanical Platform
- 7 Mechanical Room

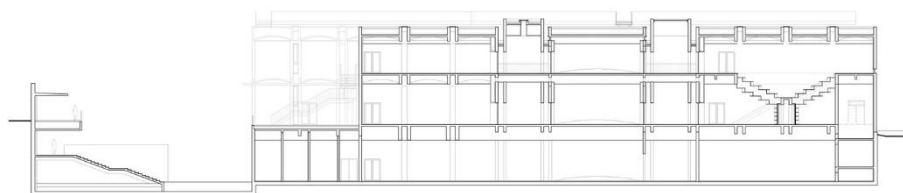
- |                      |                    |
|----------------------|--------------------|
| 1 Exhibition Hall    | 10. Lotus Pavilion |
| 2 Connection Tower   | 11 Restaurant      |
| 3 Library            | 12 Lotus Pond      |
| 4 Secondary Entrance |                    |
| 5 Courtyard          |                    |
| 6 Washroom           |                    |
| 7 Mechanical Room    |                    |
| 8 Theatre            |                    |
| 9 Backstage          |                    |



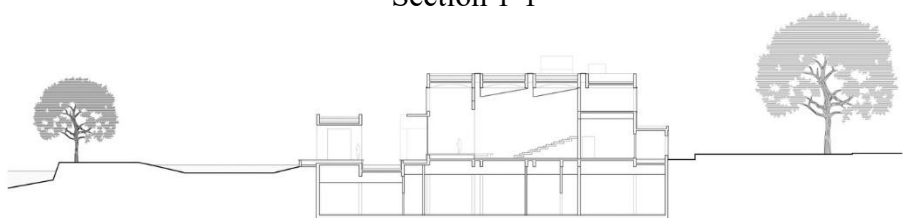
- 1 Exhibition Hall
- 2 Connection Tower
- 3 Library and Reading Room
- 4 Washroom
- 5 Theatre Control Room
- 6 Mechanical Room

2<sup>nd</sup> Floor Plan

## SECTIONS

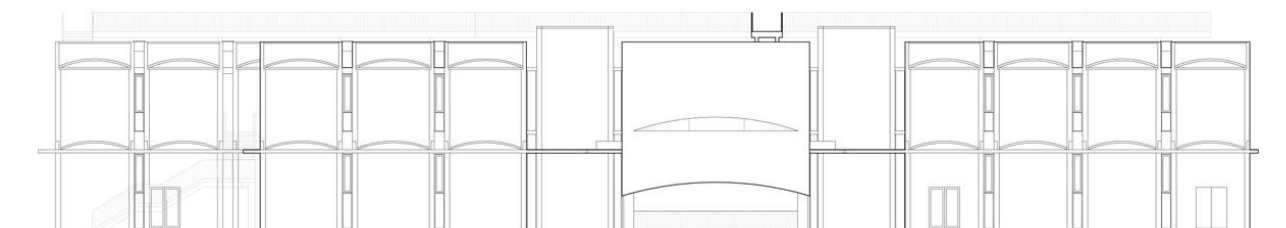


Section 1-1



Section 2-2

## ELEVATION



East Elevation

## LITERATURE STUDY – 02

### THIRD SPACE CULTURAL AND LEARNING CENTRE

LOCATION : Udaipur, Rajasthan, India

ARCHITECT : Ananya Singhal

CLIENT : Dharohar

BUILDING AREA : 20100 sq.m

SITE AREA : 2.67 acre

COMPLETION TIME : 2023



#### SITE CONDITION

**Location :** Situated in Udaipur, Rajasthan, India.

Located in a semi-urban area, blending with the surrounding landscape.

**Topography :** The site features gently sloping terrain, integrated with the natural contours.

**Climate :** Hot and dry climate, typical of Rajasthan.

**Surrounding Context :** Surrounded by rural settlements and agricultural land.

**Accessibility :** Connected by local roads, easily reachable from Udaipur city.

#### LANDSCAPE

Natural Integration :

- The design integrates the building with the landscape, preserving the natural contours.
- Features local vegetation and drought-resistant plants.



### Baori - Inspired Atrium :

- A central Baori (stepwell)-inspired atrium serves as a landscape feature.
- Enhances natural ventilation and light.

### Courtyards and Green Spaces :

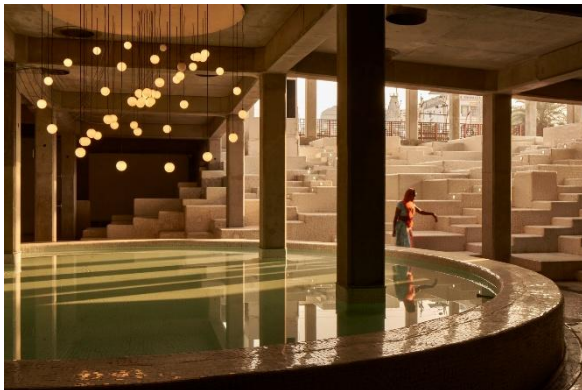
- Open courtyards with plants create shaded gathering areas.
- Promote indoor-outdoor connectivity.

### Water Elements :

- Incorporates water-efficient features inspired by traditional step wells.
- Adds visual appeal and helps with temperature regulation.

### Sustainable Design :

- Locally sourced stone and materials are used in the landscape.
- Reduces the environmental impact while reflecting regional aesthetics.



Baori (pond) is located in the basement



The spaces are arranged around a central courtyard.

## **DESIGN CONCEPT**

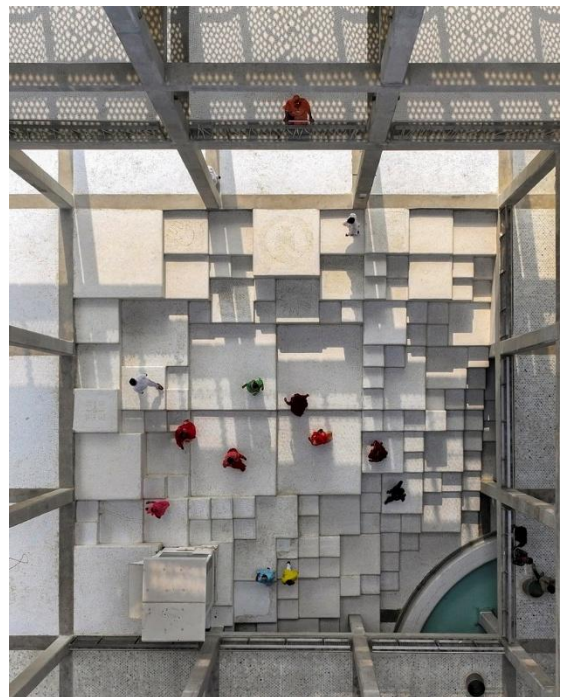
- The concept of Third Space revolves around the idea of creating a multifunctional environment that caters to diverse uses.
- Studio Saar drew inspiration from traditional Indian townhouses, or havelis, to design the building as a "pinwheel of cloisters" that surround a central courtyard.



- This design allows for a fluid transition between open spaces, clusters, and courtyards, embodying the essence of traditional Indian architecture.
- The building is wrapped in perforated marble screens, known as jali, which are a traditional element in Indian architecture for controlling privacy and airflow.
- These screens incorporate cantilevering niches, or gokhra, which act as wind-catchers and provide private spaces within the structure.
- The use of jali not only enhances the aesthetic appeal of the building but also ensures natural ventilation and light penetration, creating a comfortable indoor environment.

## SPATIAL DESIGN FEATURES

1. **Central Courtyard :** Inspired by traditional havelis (mansions), the central courtyard serves as the heart of the center, connecting all learning spaces. Its open design promotes natural ventilation and provides a tranquil space for relaxation and reflection. The courtyard features a beautiful baori, adding a soothing element to the overall design.
2. **Flexible Spaces :** Third Space prioritizes versatility and adaptability. Entrance areas, corridors, and other in-between spaces are designed to serve multiple purposes, accommodating impromptu performances, informal gatherings, and community events. These flexible spaces foster a dynamic and engaging environment, encouraging interaction and spontaneous activities.



Central Courtyard with Baori

3. **Visual Connections** : The design emphasizes visual connections between different spaces. Strategic placement of windows and openings allows natural light to flood the interior, creating a bright and welcoming atmosphere. These openings also provide glimpses into other areas of the it, fostering a sense of interconnectedness and inviting visitors to explore different spaces.

## CULTURAL INSPIRATION

1. Rajasthan's Architectural Heritage :

The design draws inspiration from Rajasthan's rich architectural heritage, incorporating traditional elements with modern interpretations. This approach blends a sense of familiarity with contemporary aesthetics, creating a unique and harmonious design.

2. Traditional Step Wells :

The entrance features a "Baori," a traditional step well found in Rajasthan. This architectural feature not only enhances the regional character of the center but also provides a visually striking entrance, welcoming visitors into the heart of the center.

- 3: Community Engagement :

The open-air public space surrounding the center features varied shapes and features, encouraging interaction and playful activities. Visitors can relax, run, jump, and enga engage in a variety of activities, promoting a sense of community and creating a vibrant atmosphere.



Jalis inspired by Rajasthan architecture



Community Engagement Space

## ARCHITECTURAL CHALLENGES

### 1. Diverse Program :

A key challenge was accommodating a wide range of activities within a single structure. The design had to seamlessly integrate a museum, a museum, makerspace, cinema, performance venue and various other spaces, creating a unified experience for visitors.

### 2. Central Courtyard :

To enhance the coherence of the centre, the designers strategically placed the major community activities around a central courtyard. This architectural feature served as a focal point for circulation, creating a natural flow between different spaces and fostering a sense of unity.

### 3. Integration Of Spaces :

The design aimed to create a sense of interconnection between different spaces, blurring the boundaries between formal and informal settings. Entrance areas and corridors were transformed into flexible spaces, suitable for performances, gatherings, and informal interactions. This approach encouraged spontaneous encounters and fostered a sense of community.

## BUILDING MATERIAL

### 1. Local Materials :

The center prioritizes the use of locally sourced materials, minimizing transportation emissions and supporting local industries. This approach not only reduces the environmental impact but also showcases the unique qualities of regional materials, enhancing the building's character.

### 2. Recycled Materials :

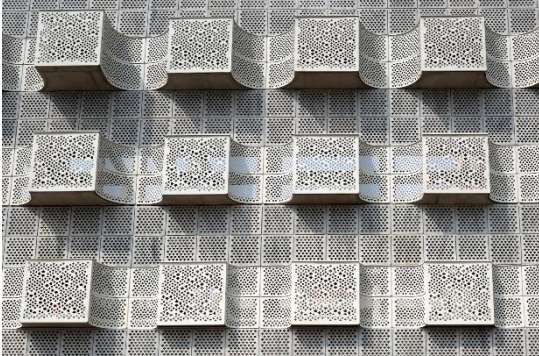
Waste marble rubble and lime mortar from nearby mines were ingeniously incorporated into the masonry walls. This sustainable approach minimized waste and repurposed materials that would otherwise be discarded.

### 3. Creative Reuse :

Reused marble cut-offs and metal offcuts were creatively repurposed for various building elements, demonstrating the importance of resourcefulness and ingenuity in design.

#### 4. Solar Shading :

A bamboo canopy provides solar shading, reducing energy consumption and minimizing the center's carbon footprint. Bamboo, a fast-growing and sustainable contributes to the center's environmentally conscious design.



Outer Facade



The spaces are arranged around a central courtyard

### DESIGN PROCESS

- The design process for Third Space was intricate and involved several stages of planning and collaboration.
- Initially, Studio Saar conducted extensive research into the cultural and architectural heritage of Udaipur and Rajasthan.
- This research included studying traditional havelis and other historical buildings to understand their spatial organization, materials, and climatic adaptations.
- With this background knowledge, the design team developed several conceptual models, exploring different configurations of spaces and circulation patterns.
- The idea of a pinwheel of cloisters emerged from these studies, inspired by the way traditional havelis create a series of interconnected courtyards and rooms that allow for natural ventilation and lighting.



# PLANS



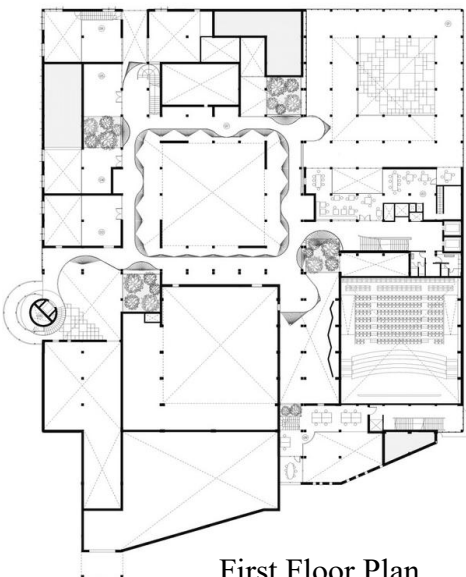
Basement Plan

- |                       |                       |
|-----------------------|-----------------------|
| 1 Exhibition Lobby    | 7 Car Parking         |
| 2 Pond                | 8 Delivery Bayl Store |
| 3 Baori               | 9 Plant               |
| 4 Tree Planter        | 10 Store              |
| 5 Cooling Tower       | 11 Vehicular Access   |
| 6 Motar Cycle Parking | 12 Security Area      |



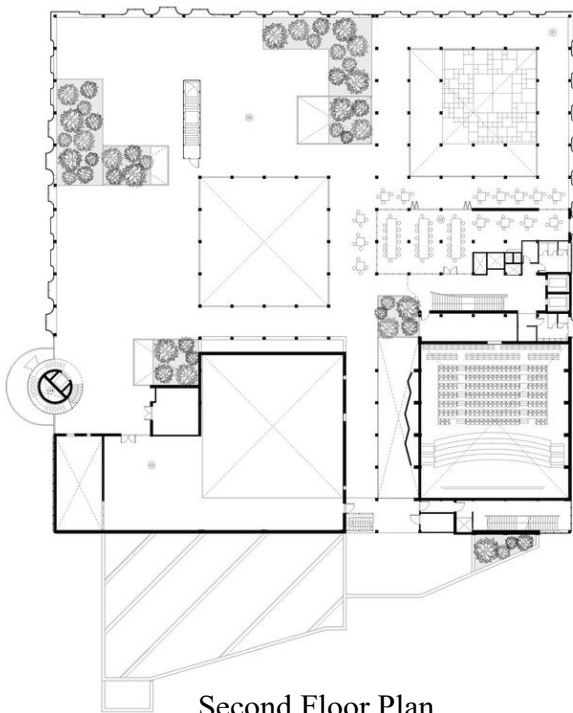
Ground Floor Plan

- |                         |                     |
|-------------------------|---------------------|
| 1 Baori                 | 12 Laboratory       |
| 2 Cafe                  | 13 Workshop         |
| 3 Info Point            | 14 Tool Room        |
| 4 IMAX lounge           | 15 Tinkering Space  |
| 5 IMAX theatre          | 16 Breakout Area    |
| 6 Climbing Wall         | 17 Cooling Tower    |
| 7 Large Exhibition Hall | 18 Builders Shed    |
| 8 Central Courtyard     | 19 Exhibition Store |
| 9 Small Exhibition Hall | 20 Office           |
| 10 Shop                 | 21 Security Area    |
| 11 Toodler Space        |                     |



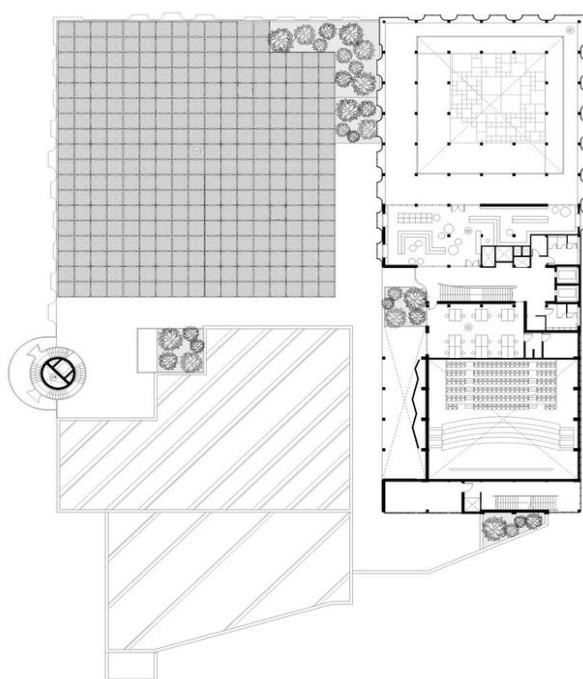
First Floor Plan

- |                  |
|------------------|
| 1 Baori          |
| 2 Cafe           |
| 3 Maker space    |
| 4 Workshop       |
| 5 Training Soace |
| 6 Laboratory     |
| 7 Mezzanine Deck |
| 8 Cooling Tower  |
| 9 Office         |



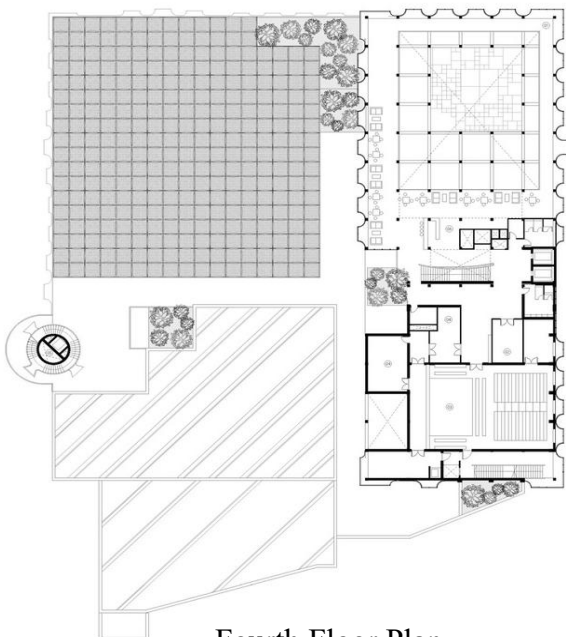
Second Floor Plan

- 1 Baori
- 2 Dinning Area
- 3 Conference Space
- 4 Cooling Tower
- 5 Play Landscape



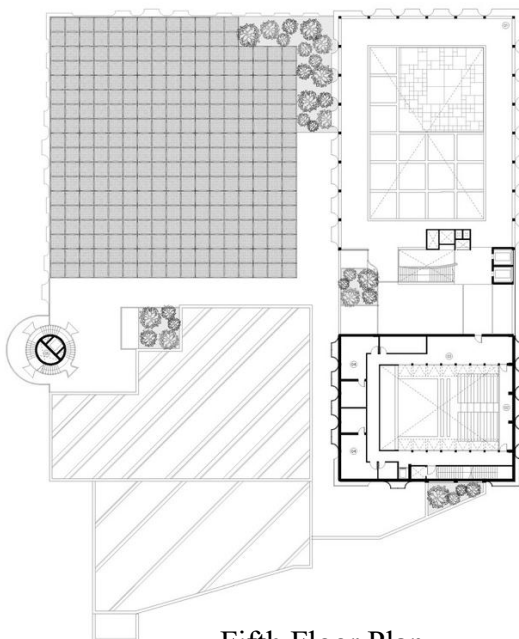
Third Floor Plan

- 1 Baori
- 2 Library
- 3 Office
- 4 Cooling Tower
- 5 Solar Shading



Fourth Floor Plan

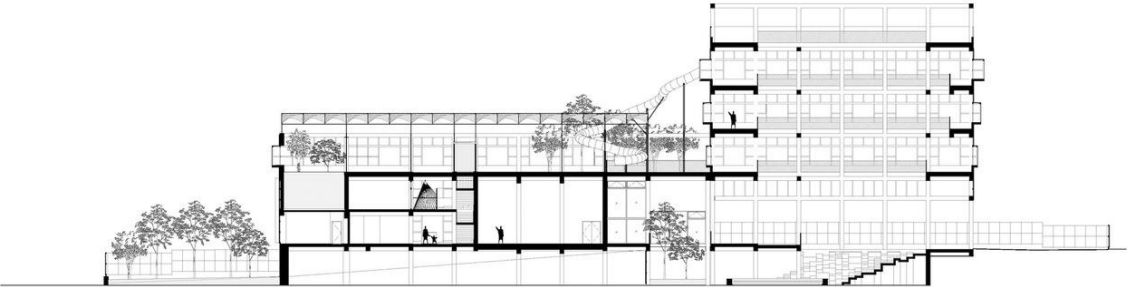
- 1 Baori
- 2 Green Room
- 3 Theatre
- 4 Store
- 5 Cooling Tower
- 6 Bar



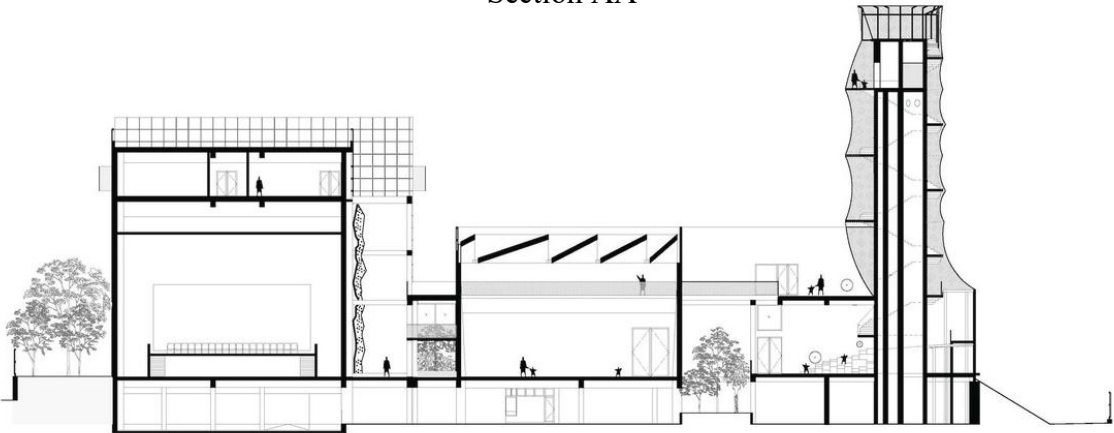
Fifth Floor Plan

- 1 Baori
- 2 Control Room
- 3 Theatre Gallery
- 4 Changing Room
- 5 Cooling Tower

SECTIONS

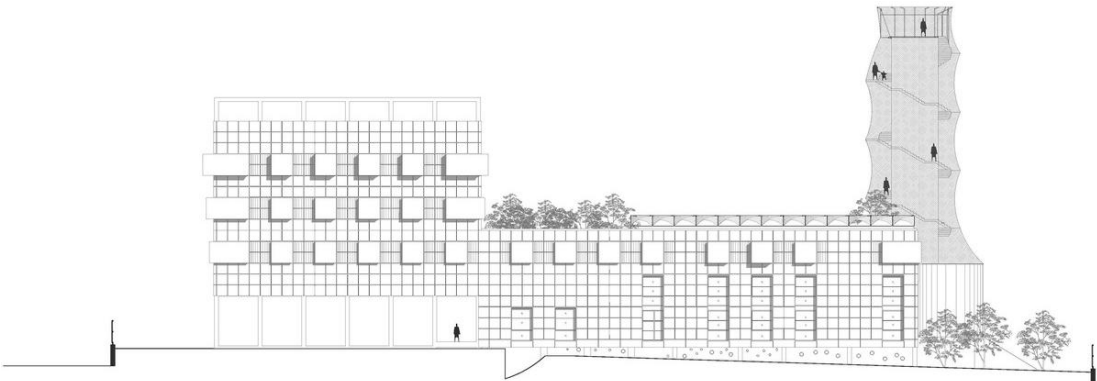


Section AA

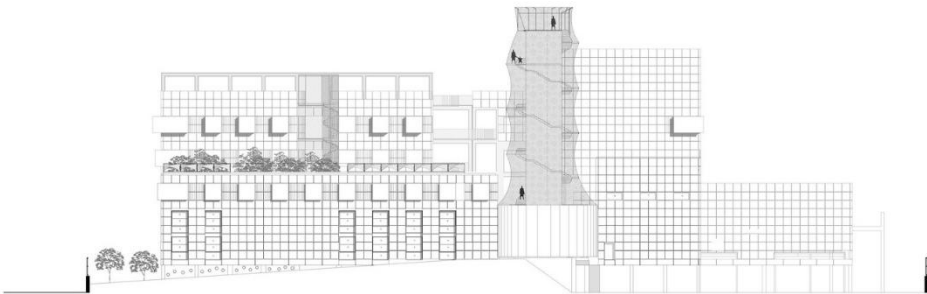


Section BB

ELEVATIONS



North Elevation



West Elevation

# CASE STUDY



## CASE STUDY – 01

### **INDIAN HABITAT CENTRE, DELHI**

LOCATION : Lodhi Road, New Delhi, India

ARCHITECT : Joseph Allen Stein, Doshi and Bhalla Architects



Delhi

CLIENT : India Habitat Centre Society

SITE AREA : 9.6 Acres

GROUND COVERAGE : 25%

FAR : 1.4

BUILT UP AREA : 53000sq.m

SUPER BUILT UP : 97000sq.m

MATERIAL : Exposed Brick, Exposed Concrete, Glass Louvers, Steel, Handmade Tiles.

SPACES : Offices, Convention Center, Theatre, Auditorium, Art Galleries, Library, Resource Center, Restaurants, Exhibition Hall, Conference.

YEAR OF COMPLETION : 1993



### **SITE CONDITIONS**

Indian Habitat Centre is located at Lodhi road. The site is L shaped has a frontage on three sides and fourth side is flanked by Bal Bharti School with a slopy terrain, having a difference

of about 4m between the extreme opposite ends. The area is predominant institutional on Lodhi road with residential colonies as you go deeper.

## **CLIMATE**

1. The climate is humid sub-tropical
2. Average temperature range from 19-32 depending on the weather.
3. Summers are hot, winters are quite cold, with most amount of rain during monsoons.

## **CONNECTIVITY**

GI Airport : 15 KM

Nizamuddin Railway Station : 4 KM

ISBT Sarai Kale Khan : 7 KM

Khan Market Metro Station : 1.7 KM

Lodhi Corner Bus Stop : 200 M

Jawaharlal Nehru Metro Station : 1.6 KM

## **ACCESSIBILITY**

The Lodhi road in the north acts as a pedestrian entrance. The roads in the west and south, Max Mueller Marg and Vardhaman Road respectively, provide vehicular entrance into the building for specific areas.

## **RESPONSE TO SITE**

- The neighbourhood is marked by free flowing traffic and not much public activity.
- The surrounding buildings do not interact with each other or the street and this results in very little pedestrian movement and is essentially vehicular in nature.

## **DESIGN CONCEPT**

- The creation of a green and healthy environment forms the backbone of the complex.

- This contributes to the urban level functions and also creates a healthy and pleasant environment for the working employees.
- The concept was to design a cultural centre with proper airflow through all areas by use of traditional building materials and techniques.

## **BUILDING PROGRAM**

Indian Habitat Centre is programmed as a moderately dense complex with institutional and office work spaces, conference and library facilities, including a diverse range of facilities for the members.

1. 40,000 sqm of office accommodation
2. Conference rooms with a total capacity of 1000 in various configurations holding 300 to 450 people.
3. 60 guest rooms, 5 suites, 5 service apartments.
4. Conference rooms, cafeteria, restaurants and private dining rooms can handle around 1500 persons at a time.
5. 700 sq.m. of exhibition space.
6. 420 capacity auditorium, 250 capacity amphitheatre.
7. Parking for 933 cars and 2000 two wheelers.
8. 25% of the total area goes into landscape courts.

## **ARCHITECTURAL VISION AND IMPLEMENTATION**

The genesis of the design, according to Stein, is rooted in the fact that he is a “horizontal architect with a profound dislike for automobiles and the need climate modification, the application of these with the co-operation of the client led to a conscious decision to under build”. Thus, the complex is realized as an oasis of quite greenery in the midst of the chaos of the city.

- The creation of a green and healthy environment forms the backbone of the complex environment of the complex. This contributes to the urban level functions and also creates the healthy and pleasant environment for the working employees.

- The height of the building is 30m.
- The entire facade is clapped with red bricks which give a majestic look to the structure.
- There are 5 main building blocks which are interconnected by means of aerial walkways.
- The external facade is in a language of the exposed red brick, exposed concrete and glass, concrete frame with an infill concrete block and brick cladding.
- The atrium of the structure is beautifully designed with various landscape features such as sculpture, green areas in the centers resulting in the formation of the roundabout in the atrium. The atrium is rectangular in shape and is divided into three parts.
- Massive steel girders have been used for the construction purposes.
- The entire office block rests on the steel girders without any support of the columns in between the longitudinal plan.



Shaded Courtyard



Lotus Pond

## RESPONSE TO THE SITE

The neighbourhood is marked by free flowing traffic and not much public activity. The buildings here do not interact with each other or the streets and this results in very little pedestrian movement and is essentially vehicular in nature. Indian Habitat Centre, therefore is an inward looking complex, whose public activity is removed from the surroundings.

The complex is planned and is divided into two main blocks :

1. North Block : The block adjoining the lodhi road and on the northern side of this block. It is made of seven storeyed office spaces. Lower floor remains public. North block is further divided into 4 zones- 4,5,6 & 7.
2. South Block : The block along the lodhi housing colony holds functions like auditorium, theatre, library, member facilities and guest rooms. The height decreases progressively from north to the south in response to the housing. The built is also set further back from the plot line on the edge. The block is further divided into 2 zones : 1 & 2.



View of IHC showing North and South block both

View of North Block

View of South Block

## SPATIAL ORGANISATION

- The habitat centre is organised as a series of four to seven storey blocks around linked shaded courtyards.
- The built forms are grouped around climate tempered courts, shaded by overhead sunscreens and enlivened by vertical gardens.
- Spaces are segregated on the basis of their level of publicness.
- All areas which are expected to experience large and regular inflow of public have been placed close to the entrances.
- Offices are accessed from the courtyards. Courts and landscaped areas connect the public with the semi public areas.
- However, there is limited engagement between the office workers and the activity in the courtyard due to horizontal windows where vertical would have suited better.





Plan of IHC showing circulation pattern

## MERITS

- Location of the site and its surroundings.
- Multipurpose usage of the site location at tracts large no. of footfalls.
- Connectivity to the outer road. It is approachable via 2 gates for members and non-members.

## CHALLENGES

- Site location acts as a challenge as well as an opportunity.
- Narrow shape of the site.
- Designing something which gain on more footfall as comparison to earlier function.

## SOUTH BLOCK PLANS (CONVENTION CENTRE)

**Documentation center** at habitat has 6 cabins as well as 6 workstations that can be hired for variable period of time.

**Amalta, Kadamba & Rudraksha** are trinity of rooms in an extreme flexible set with individual as well as combined usage possibilities.

**Casuarina** a fixed seating hall equipped with state-of-the-art multimedia facilities and each table equipped with a set of mikes.

**Magnolia** a free seating hall, allowing flexible seating option suited or both conference and party usage.

**Maple** it has been elegantly done up for that exclusively party or small conference.

**Auditorium** has 6200 sq ft. area and a capacity of 535 persons. It has Double wall system avoids sound disturbance and is acoustically good. It has balcony seating too. Green rooms are accessible from separate entry.

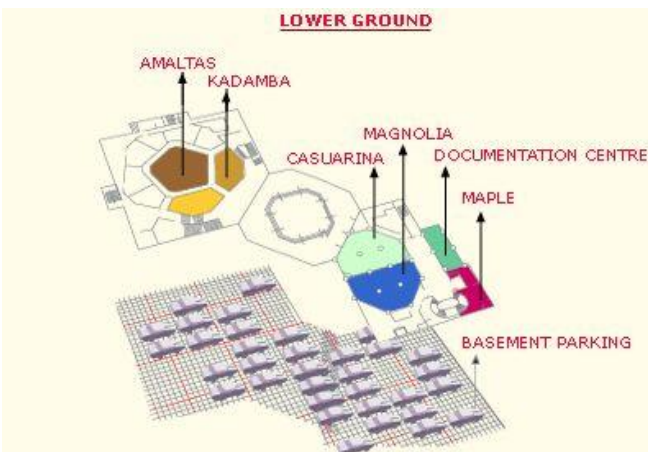
**Silver Oak 1+2** is one of the finest halls at Habitat, it also has outdoor attachments in form of a patio as well as garden space. Ideally located on the ground floor level, the hall allows versatile use of space for everything ranging from exhibitions, conferences, seminars etc. to the finest banquet parties in the evening.

**Mahogany** is a hall best suited for small gatherings. Ideal for VIP requirements when used in conjunction with the Auditorium.

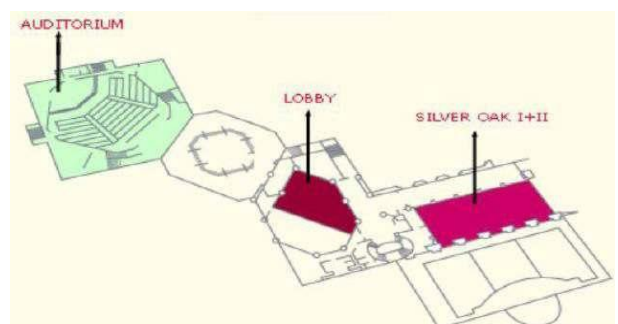
**Gulmohar** is a large fixed seating hall with excellent acoustics and state of the-art multimedia facilities. Each table is equipped with a set of mikes.

**Jacaranda 1&2** is elegantly carpeted, Jacaranda could be used as one large space or further divided into two independent units.

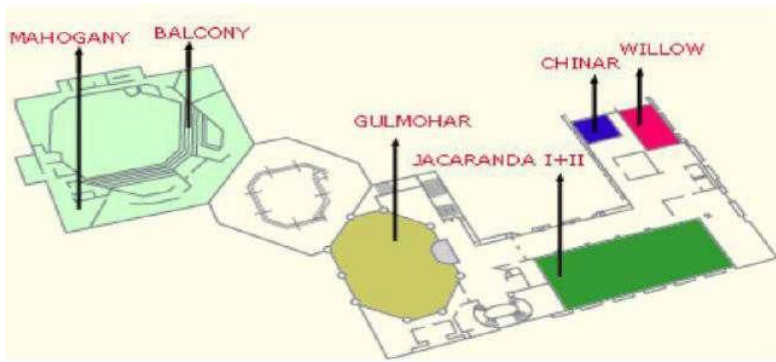
**Chinar & Willow** is ideal for small functions, like conferences, board meetings, presentations, workshops, seminars and parties. These rooms can be used separately or together combining the foyer too.



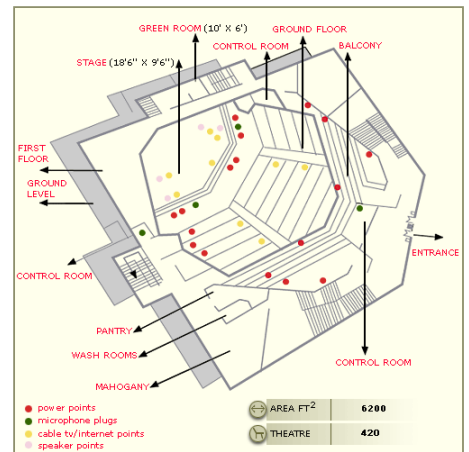
Lower Ground Floor Plan



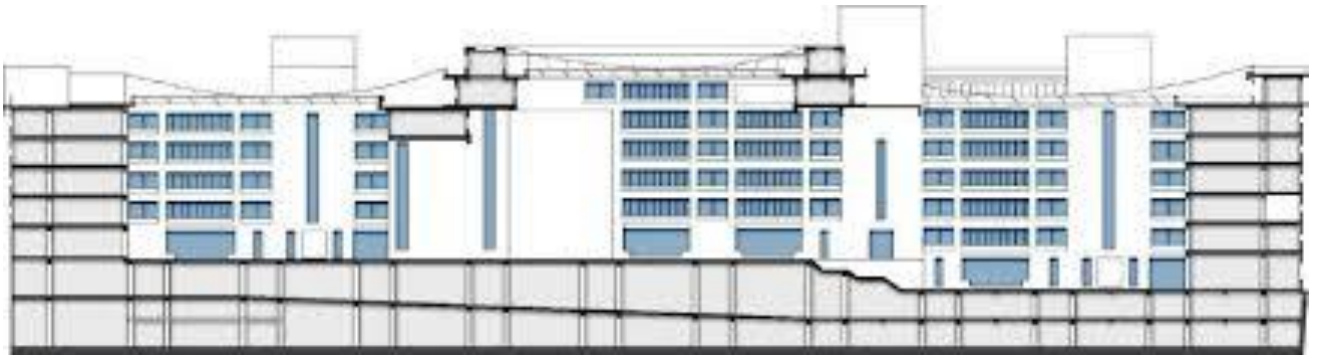
Ground Floor Plan



### First Floor Plan

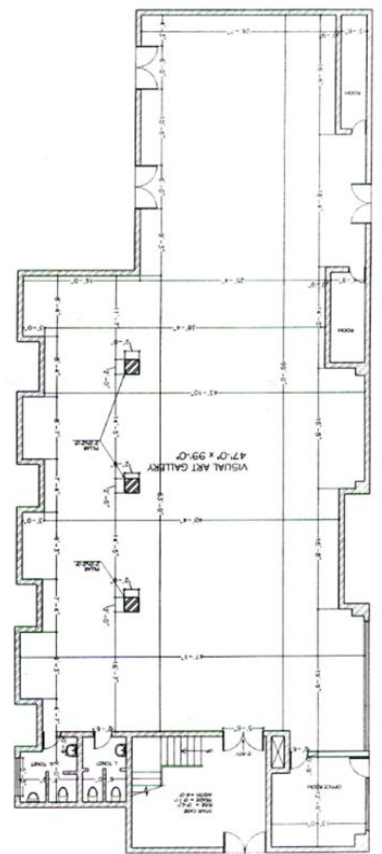


## Auditorium Plan



Section of IHC

## VISUAL ART GALLERY



## Visual Art Gallery Plan



- Prominent space dedicated to showcasing a diverse range of visual arts.
- The gallery hosts regular exhibitions featuring paintings, sculptures, photographs, and other visual art form forms, contribution to the vibrant cultural scene of the city.
- It features well-lit, spacious areas with adjustable lighting to enhance the display of various art forms.
- The layout is designed to allow for easy navigation and appreciation of artworks.

## SUSTAINABILITY FEATURES

- The interesting blue sunshade provided between two buildings in court helps maintain a comfortable environment and has a cooling effect.
- The trees help maintain a green environment.
- Fountains make the environment cooler & give an effect of lightness.
- The building is planned in such a way that maximum part of the floor enjoys sunlight, Sunlight is also allowed in the basement through interesting glass and metal structures in the courtyards



Glass Bridge for connectivity



Shaded Courtyard, using Shading Device

## SERVICES

- The entire building is air-conditioned, the basements are mechanically ventilated, sprinkler systems are installed in all usable areas and the complex has its own water purification plant.
- Fire escape staircases and lobbies are pressurized to prevent the spread of fire along vertical shafts.
- All office spaces have the flexibility of providing their own wet areas, apart from those provided in the central cores, and a floor grid provides adjustable connections for power and telephones that can be integrated with the partitioning.
- Computerized building management systems, including watering of windows boxes and the detection of faults. The level of detail that has been applied to the services is indeed remarkable.



Fire Pump Room



Plant Room



Substation

## CASE STUDY – 02

### INDIA INTERNATIONAL CENTRE, DELHI

LOCATION : 40, Max Mueller Marg,  
Lodhi, New Delhi, India

ARCHITECT : Joseph Allen Stein, Doshi and  
Bhalla Architects

SITE AREA : 4.69 Acres

BUILT UP AREA : 1620 sq.m

MATERIAL : Quartzite Stone, Blue Kota flooring, Burnt  
clay, screens, Screened Jalis (latticed screens)  
in Ceramic Blue Tiles

SPACES : Auditoriums, Conference Rooms, Banquet Halls,  
Gardens, and Lounges, Exhibitions

YEAR OF COMPLETION : 1962

#### **SITE CONDITIONS**

- The site of prestigious complex is situated at Lodhi estate, adjoining the serene surroundings of the Lodhi gardens, famous for their natural splendor.
- The site measures 4.6 acres adjoins road on eastern and southern side and Provide excellent view of gardens and Lodhi tomb .
- The height of the building has been kept below the base of the domes of the nearby tombs in Lodhi garden.

#### **CLIMATE**

1. The climate is humid sub-tropical



Delhi

2. Average temperature range from 19-32 depending on the weather.
3. Summers are hot, winters are quite cold, with most amount of rain during monsoons.

## **CONNECTIVITY**

IGI Airport : 15 KM

Nizamuddin Railway Station : 4 KM

ISBT Sarai Kale Khan : 7 KM

Khan Market Metro Station : 1.7 KM

Lodhi Corner Bus Stop: 200 M

Jawaharlal Nehru Metro Station : 1.6 KM

## **ACCESSIBILITY**

The complex is approached by road on east and south side i.e. Max Mueller marg / Lodhi Estate road which leads to the portico for entrance to the program wing

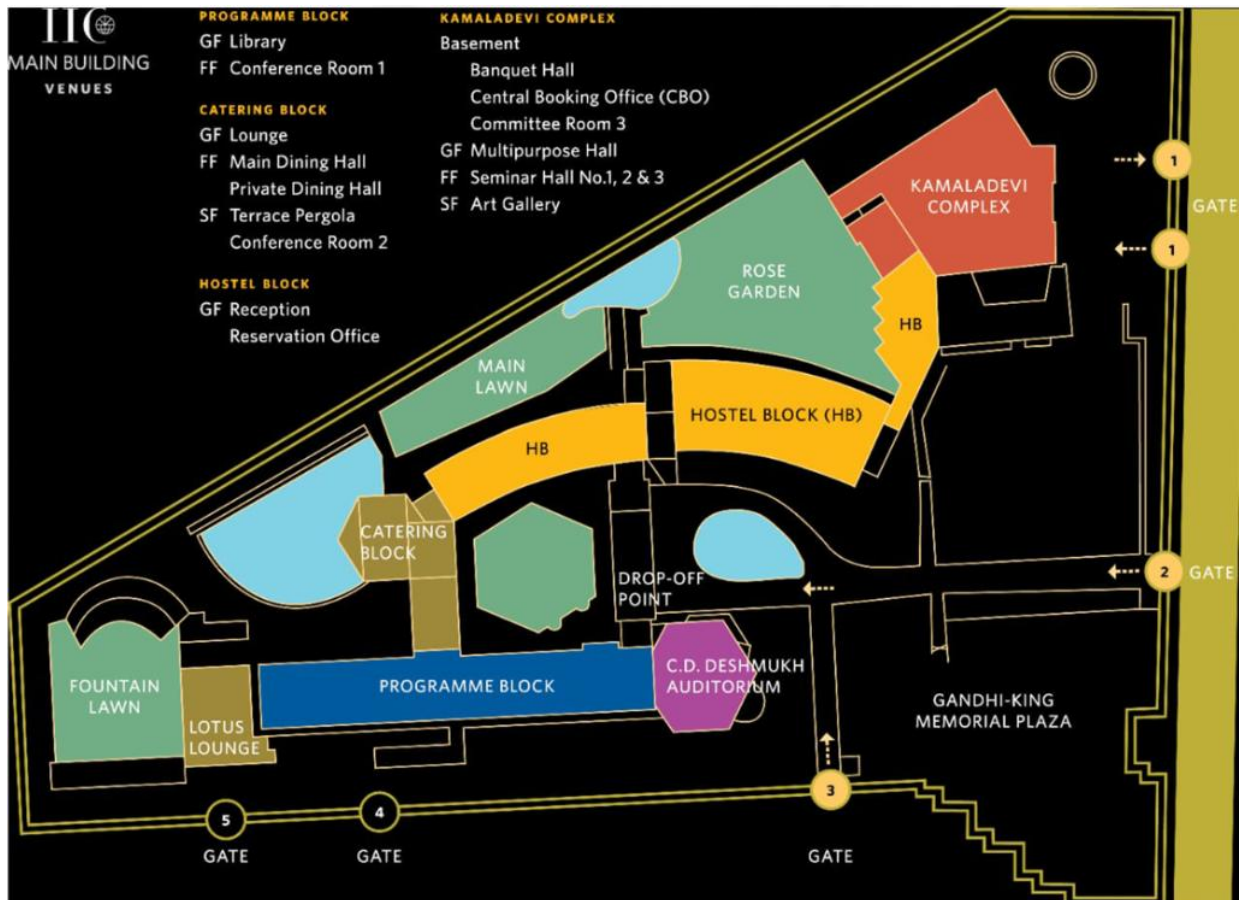
## **DESIGN CONCEPT**

- What Stein created here is best expressed in his own words : 'There was an attempt to create something which depended upon simplicity and relationships rather than things. So this is not a five star appearance in marble and granite.
- But it is a place where a certain kind of relationship exist between the garden, the building, the water, the earth, the sky, the learning and activities that takes place and the things that happens.'



- The architect main concept was not to segregate the different areas from each other but to connect each of them and forms a relationship. And also to combine the elements of nature and construct building and grow with them.

## SITE PLAN



- |                                |                       |
|--------------------------------|-----------------------|
| 1. CD.DESHMUKH AUDITORIUM      | 12. MULTIPURPOSE HALL |
| 2. CONFERENCE ROOM 1           | 13. ART GALLERY       |
| 3. LIBRARY                     | 14. RECEPTION         |
| 4. SELF SERVICE LOUNGE         | 15. GUEST ROOMS       |
| 5. CONFERENCE ROOM 2           | 16. BANQUET HALL      |
| 6. TERRACE PERGOLA             |                       |
| 7. DINING HALL                 |                       |
| 8. PRIVATE DINING HALL         |                       |
| 9. LOUNGE                      |                       |
| 10. MEMBERSHIP OFFICE          |                       |
| 11. CENTRALISED BOOKING OFFICE |                       |

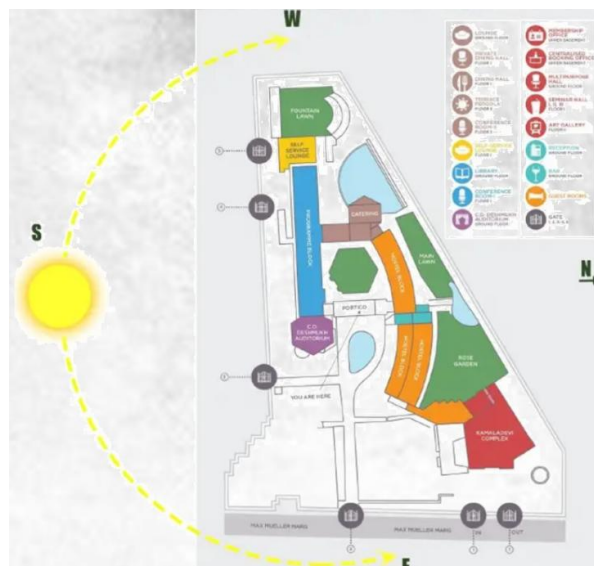
## WIND DIRECTION

- Sun shading devices as overhangs in the form of verandas, porticoes, roof top pavilions and overhead sunscreens in the form of flowering plants grown over a network of wires are all the result of consideration of climate as context.
- Deep balconies are provided with aluminium louvers to shade them.



## SUN PATH

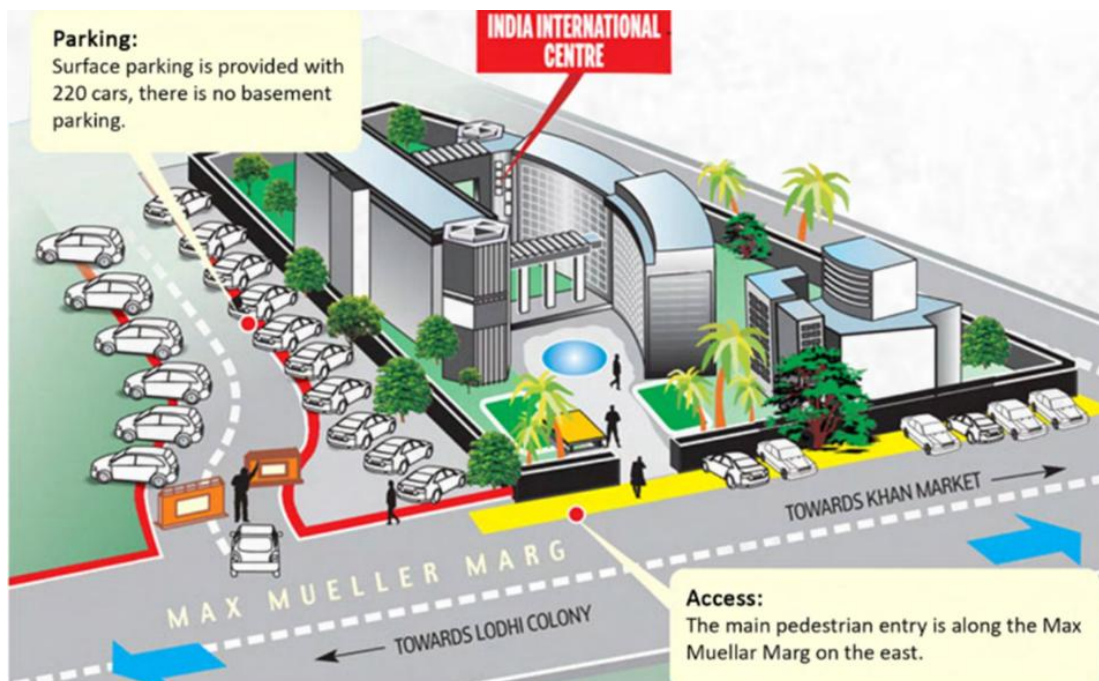
- Addressing to the composite climatic conditions, both blocks are oriented north south.
- Traditional hindu and muslim forms of architecture are adopted to fight against harsh sun.
- Stein looked at jali for filtered light and sense of enclosure and view of the outdoors. They are generally carved out in stone and wood and are modified here to ceramic and concrete.
- Jali of traditional delhi blue tiles are used to echo the colour of tiles of lodi tombs. This element became one of the characteristic elements of Stein's architecture in india.



## FORM AND MASSING

"Informal or Romantic approach where each function seeks out its own expression" statement expressed the building as a beautiful and low-profile building. The entrance driveway is followed by the central porch extending to the N-S axis. The north and south wing is connected by walkways.

1. The structure is situated back from the main road, which helps to reduce noise and pollution; is near the site's entrance, and as one moves inwards, the level of privacy rises.
2. The restaurant has a view of the fountain, which adds to the ambience of the aesthetics.
3. Semi-public functions are held on the lower floors, while offices are located on the upper level.



## SALIENT FEATURES

Program Wing : It is the nucleus of the complex and comprises of auditorium, exhibition space, library, reception lobby and ancillary service area for laundry, A.C.plant room etc. on ground floor & conference room, main kitchens and administrative offices on first floor.

Exhibition Area : It lies next to reception lobby, for ease of circulation and close to auditorium to display the subject matter. Vertical displays on walls and pedestals are provided with sufficient artificial lights focusing on the exhibits.

Library : It is a rectangular hall-oriented north-south to take north light in the reading area. Reader gets an excellent view of landscaped court, helping to create the right mood and environment for readers. It has shelving space for 11,000 books, a separate section for display and stacking of about 200 periodicals. There are 2 attached museums for Indian collections. It has research tables for 16, 8 carrels and separate reading area for 25 and leisure reading. It is placed so as to provide access while remaining separate from other activities.

Conference Area : It is a rectangular hall of capacity 40 with rectangular central conference table. This hall is oriented north-south to suit the climatic conditions and is equipped with audio and visual facilities. Facilities are also provided for lectures and reading papers. Acoustical treatment has been given to surfaces.

Auditorium : An auditorium of capacity 240 is provided next to reception lobby. It is hexagonal in shape and is made of grey colored quartzite stone. Stage is small, mainly for lectures and conferences. Projection facilities are also provided, but are meant for stage or drama facilities. Walls are acoustically treated with wood paneling of lower height white stone is left exposed at top for reflection and uniform sound distribution. The roof is composed of Y-shaped concrete elements, combined to form a six-sided domical structure based on hexagons and quadrilaterals. Light fixtures are incorporated within hollow elements.

Hostel Wing : The hostel wing housing a lounge, reception and accommodation facilities of guest rooms, is placed on the northern side of the site giving spectacular views of Lodhi gardens, and is connected to it by pergola shaped corridor. The main entrance to this wing is from southern side by vaulted corridor connecting program wing and parking on eastern side.



Guest Rooms : Two types of rooms both single (39) and double (44) are provided .The centrally located entrance lobby divides the hostel into east wing and west wing. A lift and staircase links it to the upper floor. The east wing has single seated rooms served by doubly loaded corridor on ground and first floor. The western wing is raised on stilts. The corridors are covered by vertical Jaali to which is attached film and wood construction allowing diffused light into the corridors.

Shading Devices : Depending on the task at hand, the shading devices at the IIC range from relatively monolithic sunshields, like the pre-cast vaulting for the entry portico and rooftop pergolas, to an operable lightweight device the vertical sliding window louvers in the dining room. The most precisely detailed and coordinate of the devices are the designs for the Jaali and the vertical sliding louvers.



Exhibition Area



Library



Conference Area



Auditorium



Hostel Wing



Shading Device

## **SITE PLANNING**

### WINGS –

The central courtyard, extending from the entrance driveway, welcomes visitors to the heart of the premises. The layout divides the blocks according to their functions into three wings, all connected by walkways with overhanging eaves.

1. The South Wing, the main block, houses the library, auditorium, and administrative offices.
2. The North Wing contains residential rooms, featuring balconies with views of the fountain water body and upper floors that open to the mesmerizing view of the Lodhi Gardens.
3. The West Wing is designated for dining areas.

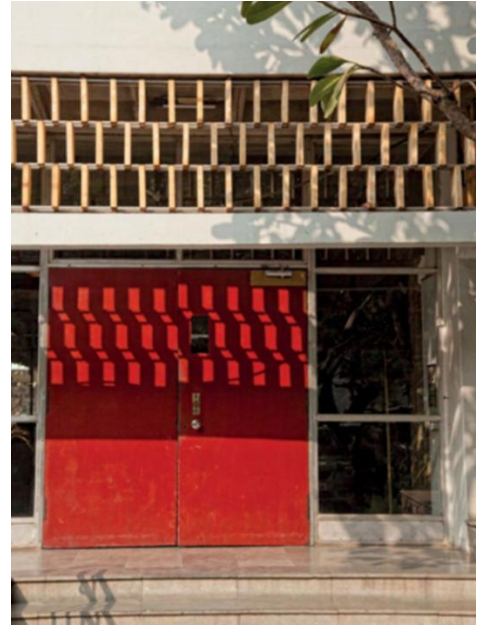
### STYLE -

- Architect Joseph Allen Stein is renowned for his Modernist style, which is prominently reflected in the design of the India International Centre.
- The design thoughtfully integrates the context and rich heritage of Lodhi Gardens, combining Modernist architecture with elements of traditional Indian architecture.
- The IIC showcases a geometric variety of shapes, including lines, curves, and patterns, creating volumetric spaces characterized by a lack of ornamentation—an evident trait of Modernist architecture.
- At the same time, it pays homage to traditional Indian architecture through the use of local materials such as stone and brick, and features like jalis, which provide natural ventilation and filtered light.

## **MATERIAL AND ARCHITECTURAL ELEMENTS**

Pergola, jalis and vertical sliding louvres on the facade were among the shading elements installed. Throughout the

complex, various types of cladding (local stone, pre-cast concrete panels), windows, and shading devices of various sizes, materials, and degrees of operability have been used. The auditorium features carpeted flooring and stone cladding on the walls. Material with least maintenance was selected and climate-exposed materials have been used on the outside, requiring no extra finishes. Pergolas in the garden define and enclose outdoor spaces while allowing filtered light and breeze to penetrate inside. The building is constructed in traditional labor-intensive process but the façade was made modular precast jaalis, railings, windows and vaulted roof over the auditorium. Auditorium roof is made of "Y" shaped precast elements assembled to form six-sided domical structure. The inspiration is from the octagonal domes of the Lodhi tombs.



## **STRENGTH**

- It is centrally located which is easily accessible from all part of the city. IIC serves not only as a venue for events but as a meeting space for bureaucrats.
- Over the years, India International Centre has earned a name and prestige for itself.

## **WEAKNESS**

- There is restriction on the entry to the facilities of this space.
- Due to it's location, India Internation Centre cannot be expanded to accommodate the growing needs of the city.
- There is a lack of diversity in performance spaces in this centre.

## CONSTRUCTION METHODS

- In this it utilised reflected the skills and techniques available in India during that period. Precast elements were employed to ensure construction of high quality, emphasising both structural integrity and finishing details.
- Stein incorporated the modern use of exposed concrete, massive piers, and visible roof patterns into the design. He used local materials, such as rugged quartzite stone and blue Kota flooring, with ceramic blue-tile jalisi that echo the intricate patterns of Islamic architecture. Perforated screens were also installed to suit the city's climate.

## SERVICES

Private Dining Hall (main Building, 1st Floor):

Flexible sitting arrangement for 25-30 persons for meetings and 40-45 persons for Lunches and Dinners

Terrace Pergola: (Main Building, 1st Floor):

Flexible sitting arrangement for 25-30 persons for meetings and 50-60 persons for Lunches and Dinners.

Fountain Lawn:

Outdoor facilities for the arrangement of Lunches and Dinners for about 350 Persons.

Rose Garden:

Outdoor facilities for the arrangement of Lunches and Dinners for about 300 persons

Lounge Terrace (Annex):

An open space on third floor with the lift facility, for the arrangement of dinners for about 75 persons

# COMPARITIVE ANALYSIS

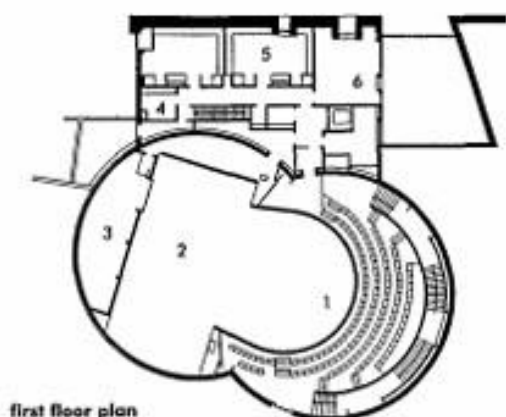
PARAMETER	INDIAN HABITAT CENTRE	INDIA INTERNATIONAL CENTRE	CHUNYANGTAI ARTS AND CULTURAL CENTRE	THIRD SPACE CULTURAL AND LEARNING CENTRE
SITE AREA	9.6 acre	4.69 acre	1.7 acre	2.67 acre
BUILT UP AREA	53000 sqm	11620 sqm	8602 sqm	20100 sqm
GROUND COVERAGE	25%	25%	-	-
FLOOR AREA RATIO	1.4	-	-	-
MAXIMUM HEIGHT	30 m	-	12 m	-
PRIMARY FUNCTION	Cultural, arts, business, and conference hub	Intellectual and diplomatic discussions, arts & culture	Arts, performance, and community engagement	Cultural and learning space for artists and communities
BUILDING PROGRAM	Offices, Convention Centre, Auditorium, Theatres, Art Galleries, Library & Resource Centre, Restaurants, Member Facilities	Auditorium, Guest House, Business Centre, Conference Room, Restaurant, Library, Lounge, Art Gallery, Banquet Hall, Multipurpose Hall	Exhibition Spaces, Library Performance Areas, Artistic Studios, Theatre, Research Studios, Café, Children Playroom, Lotus Pavilion	Library, artist residencies, learning spaces, event spaces, Exhibition Lobby, Café, IMAX Lounge & Theatre, Toddler Spaces
ARCHITECTURAL STYLE	Modern with exposed brick and Jali screens	Modern with classical elements	Contemporary with organic design	Contemporary and vernacular blend
SITE CIRCULATION	Interconnected courtyards, pedestrian-friendly, vehicular access on periphery	Segmented pathways, vehicular access at main entry, internal pedestrian walkways	Free-flowing movement, organic pathways merging indoors & outdoors	Multiple access points, central spine with open learning & cultural zones
ZONING ON SITE	Mixed-use zoning with office spaces, cultural venues, and open-air areas	Separate blocks for accommodation, conference, dining, and cultural events	Clustered zoning around artistic hubs, integrating natural landscapes	Blended academic, cultural, and social spaces with open courtyards
LANDSCAPING	Central courtyards, green terraces, water bodies, shaded walkways	Well-manicured gardens, trees lining pathways, semi-private green spaces	Nature-integrated design with open lawns, tree clusters, and green roofs	Terraced landscaping, Native plants, shaded courtyard a Baori inspired atrium for ventilation
FACADE	Exposed brick with Jali screens, modern yet vernacular	Classical-modern mix, white & sandstone exteriors, large windows	Fluid, contemporary design with organic curves, glass, and metal finishes	Earthy tones, local stone cladding, wooden elements, open verandas
PARKING	Parking for 933 cars & 2000 two-wheelers + surface parking.	Surface parking is provided with 220 cars, there is no basement parking	Integrated underground parking, seamless with the landscape	On-site parking for visitors & staff, peripheral vehicle zones



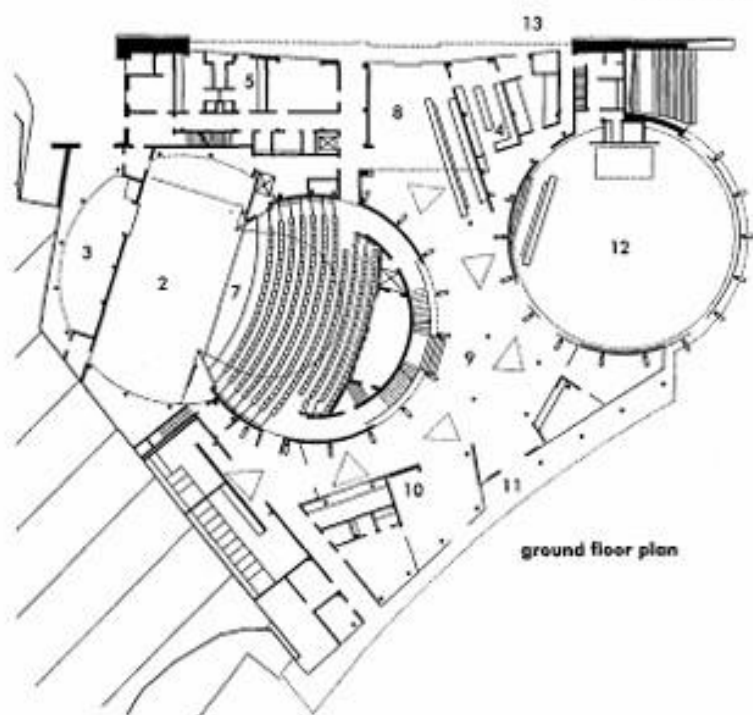
S. No.	Block	Space	Capacity (no. of persons)	Standard (sq. m/ persons)	No. of units provided	Total area (in sq. m)
1	Admin	Lobby	8	0.5	1	40
		Reception	5	2	1	10
		Manager's room	1		1	12
		Staff room	10	3	1	30
		Dining	10	2	1	20
		Storage room			1	20
		Server			1	20
		Pantry			1	12
		Restrooms			M (5WC), F (3WC + 5U)	22
2	Auditorium	Entrance/ Foyer	120 (20% of seating capacity)	2	1	240
		Ticket Counter	10	2	2	40
		Lobby	60 (10% of seating capacity)	0.5	1	30
		VIP Lounge	15		1	40
		Rehearsal Hall (Music)	40	1.4	1	56
		Rehearsal Hall (Dance)	20	4	1	80
		Stage			1	150
		Seating	600	1.66	1	996
		Projection/ Control room				6
		Storage room			2	50
		Green room		2.75	2	55
		Pre-function	90 (12% of seating capacity)	3	1	270
		Stage manager			1	10
		Snack bar				60
		Restrooms			M (7WC), F (4WC + 5U)	38
3	Centre for Performing Arts	Multipurpose room	300	0.7	1	210
		Audio-visual room	30	1.6	1	50
		Recording studio	3		1	20
		Black box	200	1.5	1	300
		Workshop (Painting)	30		1	
		Workshop (Sculpture)	20		1	
		Workshop (Others)	30		1	
		Restrooms			M (7WC), F (4WC + 5U)	38
4	Exhibitions	Reception	20	2	1	40
		Foyer	200	0.5	1	100
		Gallery	1000	1.4	1	1400
		Food corner				300
		Restrooms			M (7WC), F (4WC + 5U)	38
5	Training Centre	Music Classrooms	20	1.4	5	140
		Dance Classrooms	20	7	3	420
		Meeting room	18-20	9 x 4.5	1	40.5
		Martial arts pit/ others	16-20	12 x 12	3	432
		Open air theatre	300	1.6	1	480
		Restrooms			M (7WC), F (4WC + 5U)	38
6	Recreational club	Restaurant	100 seats	1.4	2	280
		Kitchen		0.5 per seat	2	100
		Gym	80	1.1	2	88
		Indoor badminton court		13.4 x 6.4	1	31.7
		Indoor squash court		9.75 x 6.4	1	62.4
		Outdoor tennis court		36.5 x 18.2	1	665
		Outdoor basketball court		28 x 15	1	420
		Party room	150	1.1	1	165
		Swimming pool		4 x 9	1	36
		Changing rooms			M (5), F (5)	6.25
		Restrooms			M (7WC), F (4WC + 5U)	38
7	Library	Stack room	10,000 volumes	100 volumes per sq.m		100
		Reading room	50 readers	3.3	1	165
		Library counter			1	30
		Computer room	50	2.8	1	140
		Seminar room	20	1.6	1	32
		Administrative officer	1	9	1	9
		Space for passage	30%			190

# PRE DESIGN STUDY

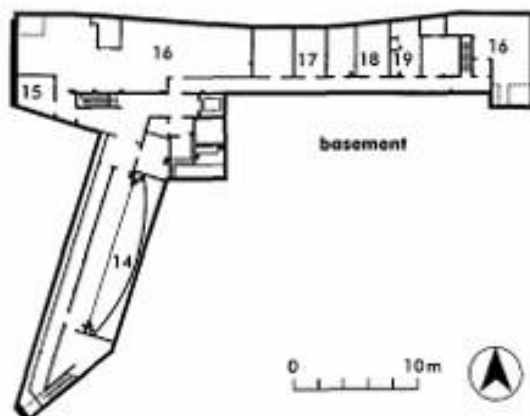




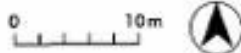
first floor plan



ground floor plan



basement



1 circle; 2 stage; 3 scene dock; 4 kitchen; 5 dressing rooms; 6 office; 7 auditorium (483 fixed seats); 8 bar; 9 foyer; 10 tourist information; 11 entrance; 12 café/performance space (150 chairs); 13 terrace; 14 orchestra pit; 15 band room; 16 plant; 17 staff room; 18 wardrobe; 19 store

### Seating

Flexible seating allows greater capacity and variation, and slide-away rows can be used to expose larger floor surface. In some cases, forestage seating can be moved into storage below the stage, and the front stalls seating can be moved back beneath the rear stalls, allocating standing room for large concerts. Circling screens can be used to reduce the size of the auditorium capacity while openings in the screen allow for seating slips, standing spaces and lighting slots. The minimum clearway between seats increases with the number of seats in a row. Rows can be designed in a variety of forms for various audience requirements; with a smaller audience, straight rows are possible. Adequate room must be allowed for wheelchair access and turning space.

The various seating row layouts are:

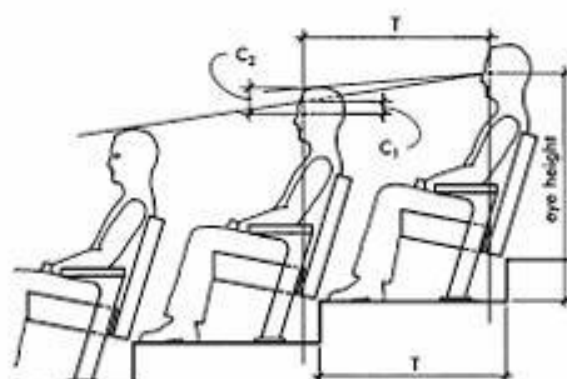
- straight
- straight with curved ends
- curved
- angled
- straight rows in blocks at different angles

For open stages and auditoriums with no balconies, seating can be steeply raked. When balconies are used, then the raking intensity can be reduced, allowing more height for balconies. Small box or studio auditoriums can use very steep raking to compact seating and allow a clear view of the open stage area. Every seat should allow viewing of the main central areas of the stage. Obviously it is ideal to try to achieve a clear line of sight of the whole stage area from every seat, but in compact theatres with a proscenium stage, some seats will have sight-lines into the back stage area from one angle, and seats in the upper level balconies will be looking down onto the stage and may not see the full back-drop sets on stage. The seating design must be considered in conjunction with the stage proportions and acoustics.

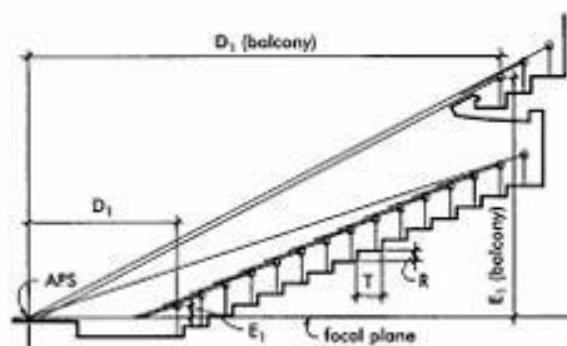
section



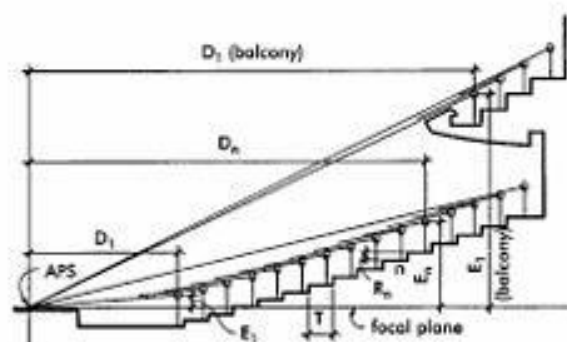
21 Landmark Theatre and Arts Complex, Ilfracombe, Devon: the main auditorium has a proscenium; the performance space (12 on plan) is a café in the daytime, but this can be adapted in the evenings for cabaret, dances etc. (Arch: Tim Ronalds Architects)



14 Typical seated spectator

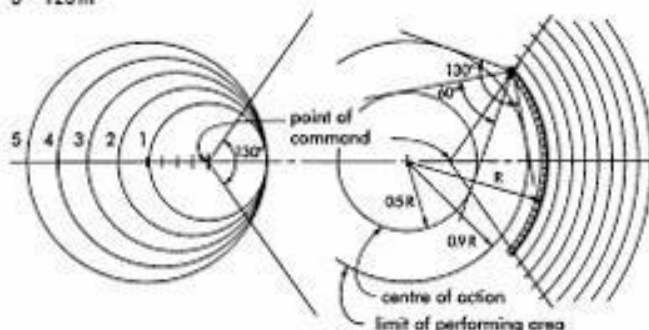


15 Constant rise floor slopes



16 Iscudomal floor slopes

1	53 m <sup>2</sup>	4	167 m <sup>2</sup>
2	84 m <sup>2</sup>	5	221 m <sup>2</sup>
3	123 m <sup>2</sup>		



17 Range of performing area

18 Relationship between performing area and seating

## SIGHT-LINES

14 shows a typical seated spectator:

eye height: 1120 ± 100 mm

tread of seating tier (row spacing) T: 800–1150 mm

head clearance C:

C<sub>1</sub> = 60 mm minimum (view between heads in front)

C<sub>2</sub> = 120 mm (reasonable viewing standards)

Rise R (see 15): difference in height between adjacent seating platforms.

## Floor slope (see 15, 16)

The arrival point of sight (APS) is the intersection of the highest sight-line of a focal plane positioned 50 mm above the stage platform. Distance D is the horizontal distance from the eye of a seated spectator to the APS.

D<sub>1</sub> = distance from eye of front row to APS

D<sub>n</sub> = distance from eye of given row n to APS

Elevation E is the vertical height of the eye of a seated spectator above the focal plane.

E<sub>1</sub> = vertical height of eye of first row above focal plane

E<sub>n</sub> = vertical height of eye of given row n above focal plane

E<sub>1</sub> = 0 establishes maximum stage height allowable (i.e. 1060 mm)

With a constant rise floor slope (see 15) the sight-lines from rows are parallel and the APS is determined by the intersection of the sight-line from the last or highest row at the focal plane.

$$R = \frac{T}{D_1} [E_1 + (N-1)C] \quad D_1 = \frac{T}{R-C} [E_1 + (N-1)C]$$

$$E_1 = \frac{D_1}{T} (R-C) - C(N-1)$$

N = number of rows in seat bank

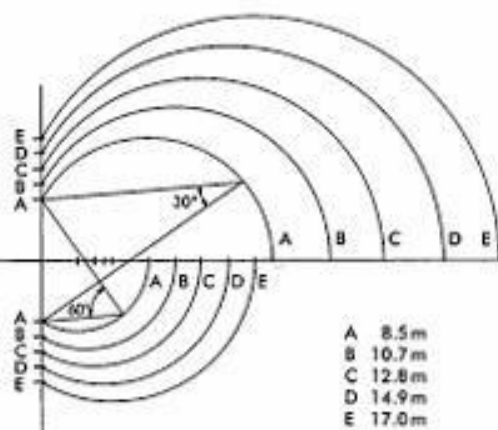
With an iscudomal floor slope (see 16) more efficient use is made of the given total rise. The exponential shape of the floor results from the generation of sight lines a single focal point or APS.

$$E_n = D_n \left[ \frac{E_1}{D_1} + C \left( \frac{1}{D_2} + \frac{1}{D_3} + \dots + \frac{1}{D_{n-1}} \right) \right] \quad R_n = E_n - E_{n-1}$$

The type and scale of performance will dictate the range of performing area sizes (see 17). It may be desirable for performing space to accommodate a variety of performing area sizes. Containment of the audience within a 130° peripheral spread of vision from a performer at the point of command will help promote maximum visual and aural communication between the performer and the spectators.

The largest performing area should fall within a boundary defined by the 130° angle of peripheral of vision from seats or ends of the front rows (see 18). The limit of the centre of action is defined by a 60° angle of normal, accurate, polychromatic vision from seats or ends of the front rows. The point of command should logically fall within the centre of action.

The boundary limit of the seating area in an auditorium might be defined by a given constant angle of peripheral spread of vision to the sides of given stage openings. Limits of both 30° and 60° angles of peripheral spread of vision related to various openings are illustrated in 19.



19 Viewing angle fields from stage opening

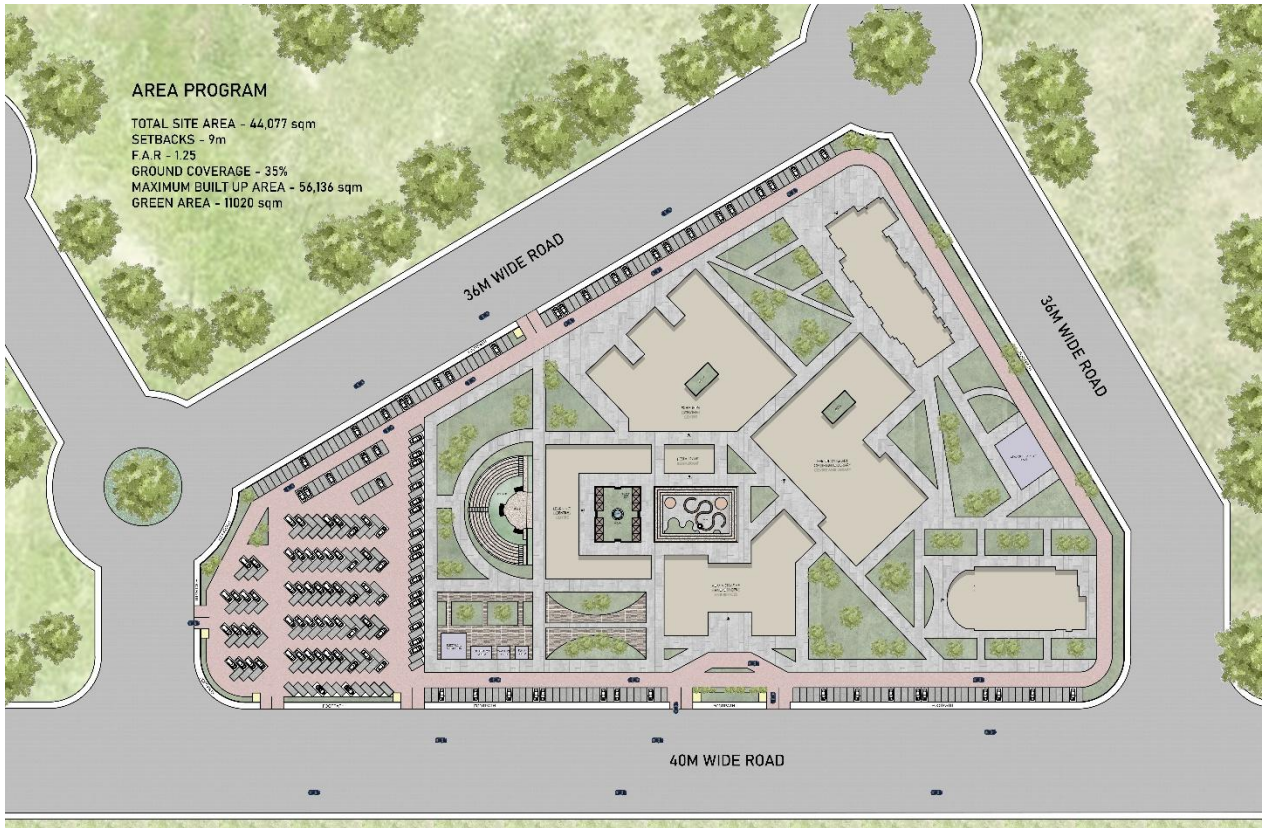
# DESIGN CONCEPT

# PLANS



### AREA PROGRAM

TOTAL SITE AREA - 44,077 sqm  
 SETBACKS - 9m  
 F.A.R - 1.25  
 GROUND COVERAGE - 35%  
 MAXIMUM BUILT UP AREA - 56,136 sqm  
 GREEN AREA - 11020 sqm



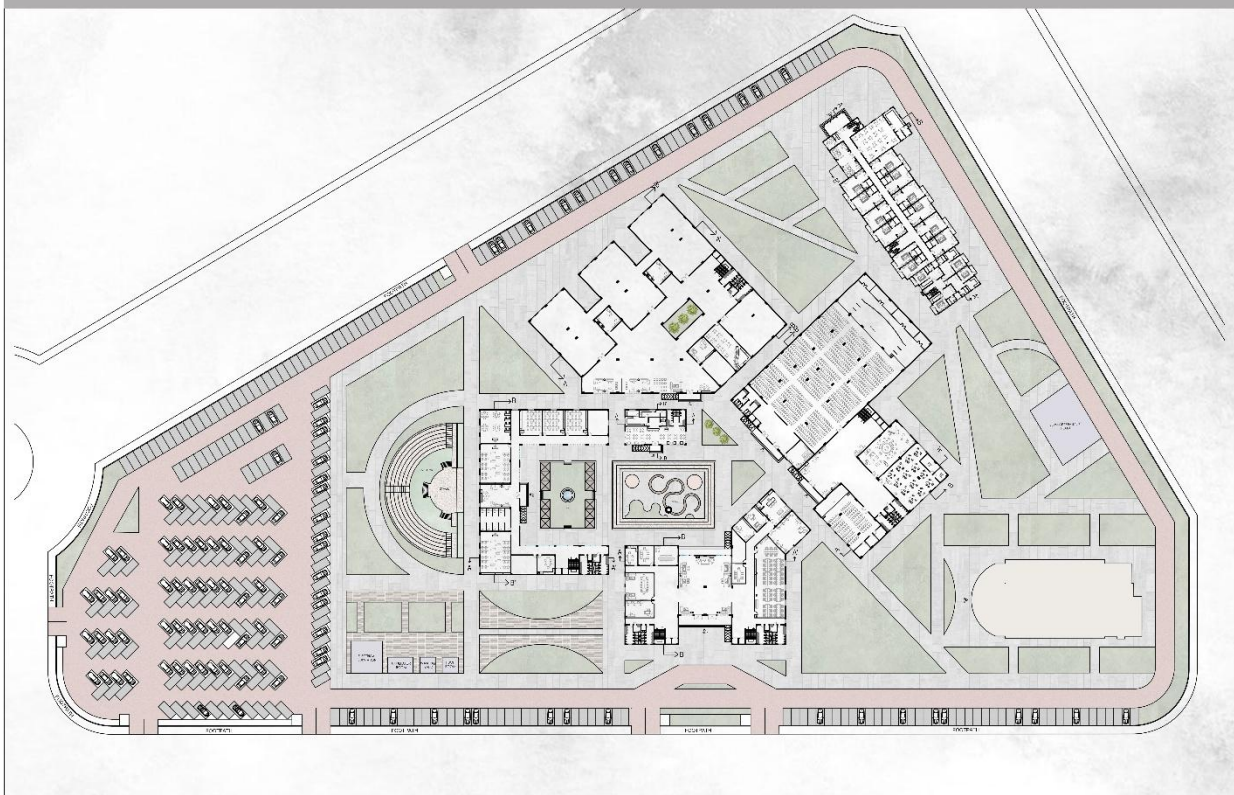
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SITE PLAN  
 (SCALE - 1:100)

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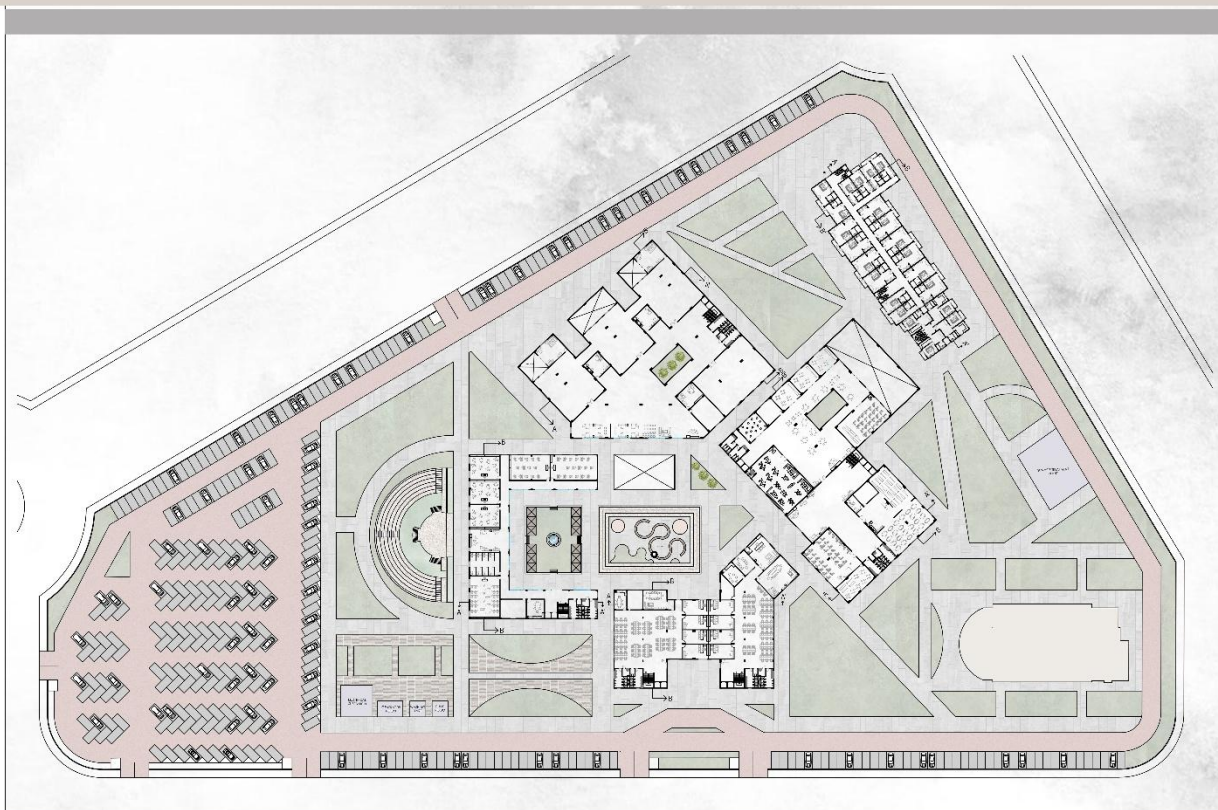
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GROUND FLOOR PLAN

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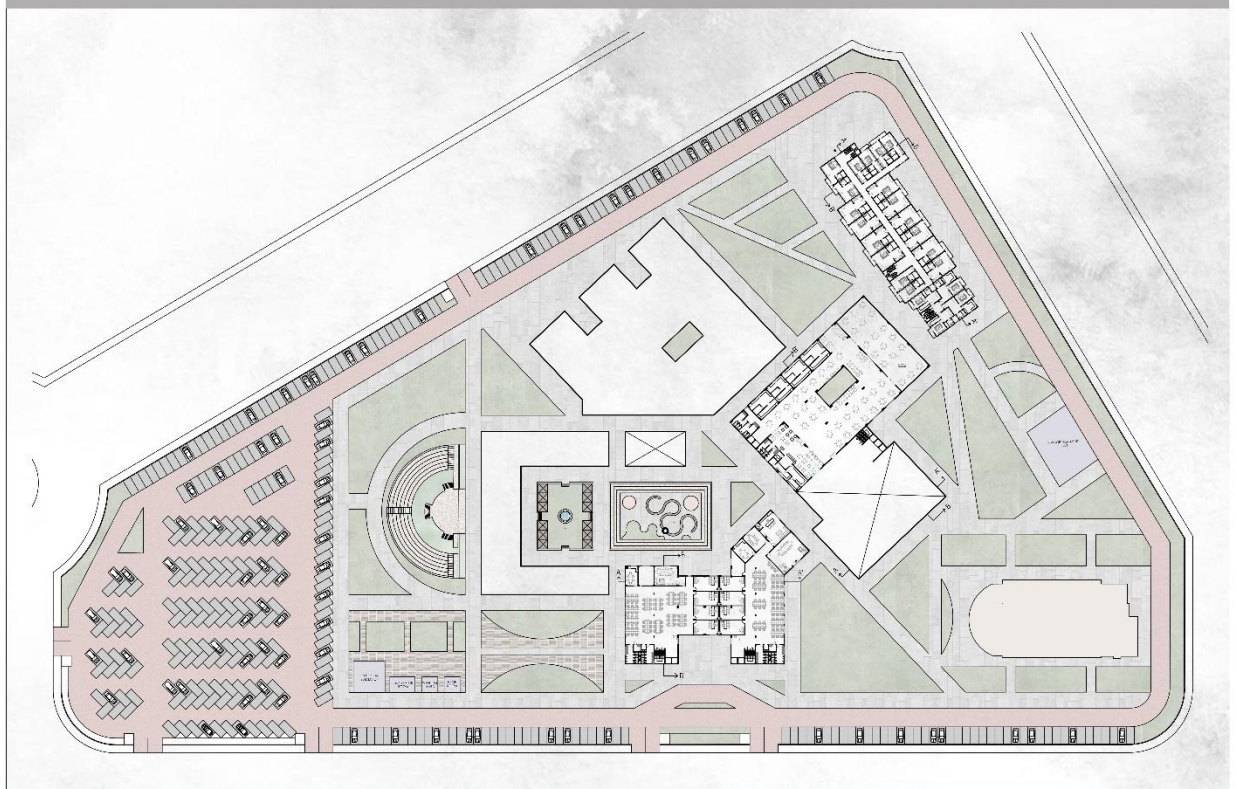
FIRST FLOOR PLAN

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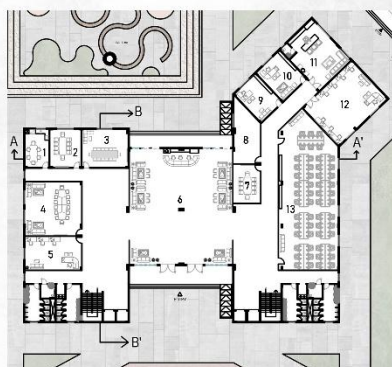
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SECOND FLOOR PLAN

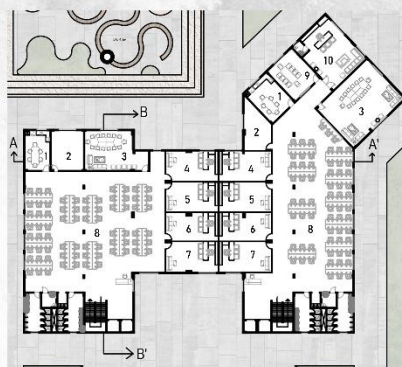
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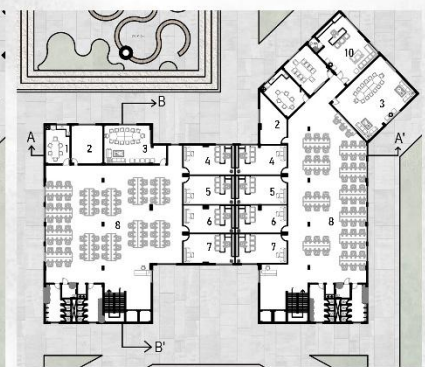




GROUND FLOOR PLAN



TYPICAL FLOOR PLAN



TYPICAL FLOOR PLAN



SECTION AT AA'



FRONT ELEVATION



SECTION AT BB'



REAR ELEVATION

#### LEGENDS

##### Ground Floor Plan

1. Pantry + dining - 25 sqm
2. Meeting room 3 - 30 sqm
3. Meeting room 2 - 40 sqm
4. Conference room - 80 sqm
5. Booking Office - 45 sqm
6. Reception + waiting area - 300 sqm
7. Meeting room 1 - 25 sqm
8. Storage - 36 sqm
9. Manager's office - 30 sqm
10. Ass. Director's office - 32 sqm
11. Director's Office - 65 sqm
12. Account's Office - 70 sqm
13. Staff Workstation - 135 sqm

##### Typical Floor Plan

1. Pantry + dining - 25 sqm
2. Data room - 30 sqm
3. Conference room - 55 sqm/ 90 sqm
4. Cabin 1 - 36 sqm
5. Cabin 2 - 36 sqm
6. Cabin 3 - 36 sqm
7. Cabin 4 - 36 sqm
8. Staff working area - 330 sqm/ 295 sqm
9. Meeting room 1 - 34 sqm
10. Director office - 65 sqm



KEY PLAN



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ADMINISTRATIVE AND OFFICES

**SOCIO - CULTURAL CENTRE, ROHINI**

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B.ARCH 5TH YEAR

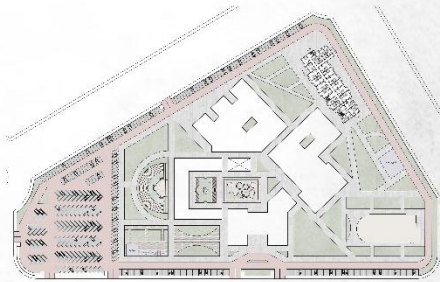




GROUND FLOOR PLAN



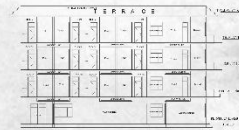
3 TYPICAL FLOOR PLAN



KEY PLAN



SECTION AA'



SECTION BB'



FRONT ELEVATION



SIDE ELEVATION



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ACCOMODATION

SOCIO - CULTURAL CENTRE, ROHINI

SHRADDHA GANGWAR  
1200101021  
B ARCH 5TH YEAR







GROUND FLOOR PLAN



FIRST FLOOR PLAN

#### LEGENDS

Ground Floor Plan  
 1. Reception + waiting area - 250 sqm  
 2. Large exhibition space 1 - 360 sqm  
 3. Large exhibition space 2 - 360 sqm  
 4. Large exhibition space 3 - 360 sqm  
 5. Maintenance Office 1 - 36 sqm  
 6. Maintenance Office 2 - 36 sqm  
 7. Office - 30 sqm  
 8. Store - 65 sqm  
 9. Cafeteria - 100 sqm  
 10. Digital exhibition space - 230 sqm

First Floor Plan  
 1. Reception + waiting area - 250 sqm  
 2. Small exhibition space 1 - 260 sqm  
 3. Small exhibition space 2 - 260 sqm  
 4. Small exhibition space 3 - 260 sqm  
 5. Maintenance Office 1 - 36 sqm  
 6. Maintenance Office 2 - 36 sqm  
 7. Office - 30 sqm  
 8. Store - 65 sqm  
 9. Visual art gallery - 330 sqm  
 10. VIP lounge 1 - 54 sqm  
 11. VIP lounge 2 - 54 sqm



SECTION AA'



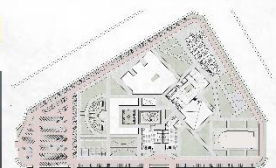
FRONT ELEVATION



SECTION BB'



REAR ELEVATION



KEY PLAN



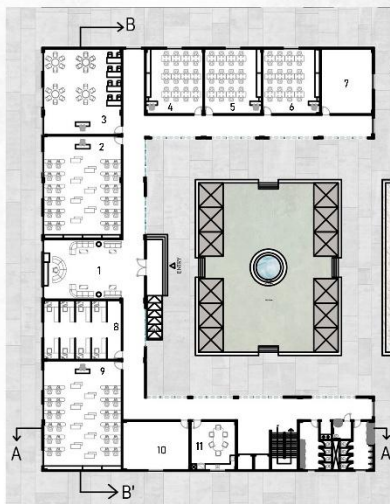
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EXHIBITION CENTRE

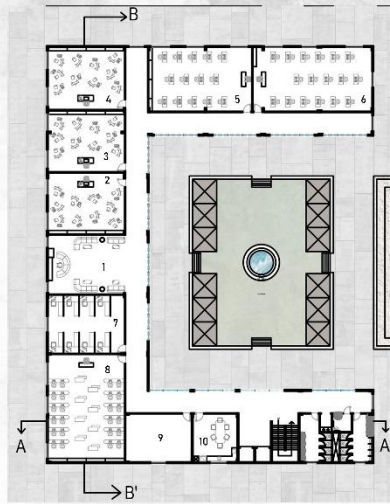
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 B.ARCH 5TH YEAR





GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECTION AA'



SECTION BB'



FRONT ELEVATION



REAR ELEVATION

LEGENDS

Ground Floor Plan

1. Reception + waiting are - 70 sqm
2. Pottery workshop 1 - 120 sqm
3. Story telling workshop - 100 sqm
4. Reusable bag workshop 1 - 55 sqm
5. Reusable bag workshop 2 - 55 sqm
6. Pottery workshop 2 - 120 sqm
7. Store - 50 sqm
8. Staff room - 48 sqm
9. Pottery workshop 3 - 120 sqm
10. Storage - 50 sqm
11. Pantry + dinning - 30 sqm

First Floor Plan

1. Reception + waiting are - 70 sqm
2. Painting workshop 1 - 75 sqm
3. Painting workshop 2 - 75 sqm
4. Painting workshop 3 - 75 sqm
5. Sewing workshop 2 - 100 sqm
7. Staff room - 48 sqm
8. Pottery workshop 3 - 120 sqm
9. Storage - 50 sqm
10. Pantry + dinning - 30 sqm



KEY PLAN



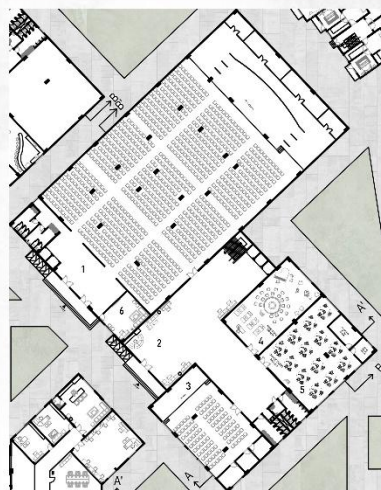
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LEARNING CENTRE

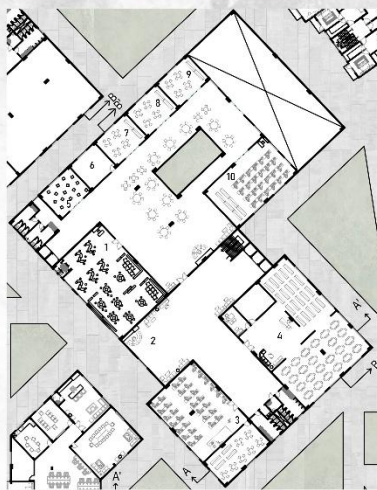
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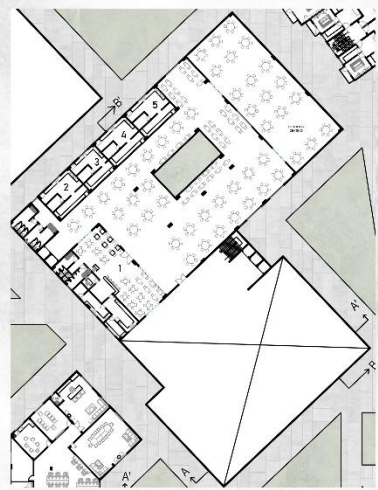




GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



SECTION BB'



SECTION AA'



FRONT ELEVATION



REAR ELEVATION

#### LEGENDS

Ground Floor Plan  
 1. Multi purpose hall - 1800 sqm  
 2. Reception + waiting area - 200 sqm  
 3. Drama Studio - 250 sqm  
 4. Music Studio - 160 sqm  
 5. Dance Studio - 240 sqm  
 6. VIP Room - 45 sqm

First Floor Plan  
 1. Children's library - 225 sqm  
 2. Reception + waiting area - 200 sqm  
 3. Computer lab - 770 sqm  
 4. Library - 400 sqm  
 5. Video Room - 48 sqm  
 6. Archive room - 40 sqm  
 7. Group Study Room 1 - 48 sqm  
 8. Group Study room 2 - 48 sqm  
 9. Group Study room 3 - 48 sqm  
 10. E-library - 140 sqm

Second Floor Plan  
 1. Restaurant - 225 sqm  
 2. Shop 1 - 48 sqm  
 3. Shop 2 - 40 sqm  
 4. Shop 3 - 48 sqm  
 5. Shop 4 - 48 sqm



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