THESIS REPORT ON

“THE KNOWLEDGE NEXUS-MODERN MUSEUM AND SCIENCE CENTER,AGRA,UTTARPRADESH “

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

BACHELOR OF ARCHITECTURE

BY

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THESIS GUIDE

AR. ANSHU RASTOGI

SESSION

2023-24

TO THE

SCHOOL OF ARCHITECTURE AND PLANNING

BABU BANARASI DAS UNIVERSITY

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BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).

CERTIFICATE

I hereby recommend that the thesis entitled"**THE KNOWLEDGE NEXUS-MODERN MUSEUM AND SCIENCE CENTER,AGRA,UTTARPRADESH** " under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

Prof. Mohit Kumar Agarwal
Dean of department

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Recommendation

Accepted

Not Accepted

External Examiner

External Examiner

BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).

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•The thesis has been prepared without resorting to plagiarism	**Yes / No**
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ACKNOWLEDGEMENT

I acknowledge my sincere thanks to my faculty Ar. ANSHU RASTOGI who guided me through active participation in discussions and gave their kind cooperation throughout the process.

My sincere thanks to our Thesis coordinator Ar. SHAILESH KUMAR YADAV for his cooperation and understanding at every stage of the study, which gave my study a new direction and made it more meaningful.

I am thankful to our Dean, Prof. MOHIT KUMAR AGRAWAL, and HOD, Prof. SANGEETA SHARMA for their cooperation and invaluable support.

Above all, thanks to my friend PRATEEK NISHAD for his sincere help throughout, without which this report would not have been in its present shape.

Last but not the least, I thank my Parents for their forever support and blessings.

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THE KNOWLEDGE NEXUS-MODERN MUSEUM AND SCIENCE CENTER

INTRODUCTION

A "modern museum and science center" refers to a contemporary institution that serves various purposes related to education, research, and public engagement with cultural heritage, scientific knowledge, and innovation. These institutions have evolved from traditional museums and science centers to incorporate modern technologies, interactive exhibits, and innovative programming to better engage with diverse audiences and address contemporary issues.

HISTORY AND BACKGROUND

Museums and science centers have long served as invaluable resources for preserving cultural heritage, promoting scientific literacy, and fostering intellectual curiosity. From the grand halls of renowned art museums to the interactive exhibits of cutting-edge science centers, these institutions play a vital role in enriching public understanding and appreciation of the world around us. However, as society undergoes profound transformations driven by globalization, digitalization, and demographic shifts, museums and science centers must adapt to remain relevant and impactful.

NEED OF THE TOPIC

The need for a thesis topic on "Modern Museum and Science Center" is driven by the evolving roles of these institutions in contemporary society. With changes in technology, education, and societal expectations, there is a demand for research to understand how museums and science centers can adapt and innovate to remain relevant, engaging, and impactful. This thesis topic addresses the need to explore new approaches to museum design, educational programming, community engagement, and the integration of technology to enhance visitor experiences and promote lifelong learning.

AIM

The aim is to examine the evolving roles of these institutions in contemporary society, focusing on how they can adapt, innovate, and leverage technology to remain relevant, engaging, and impactful in promoting education, cultural enrichment, and community engagement.

OBJECTIVE

The is to explore the strategies and approaches employed by these institutions to adapt to changing societal needs and technological advancements, aiming to enhance visitor experiences, promote education, foster community engagement, and innovate in cultural and scientific communication.

METHODOLOGY

1.Literature Review: Review existing literature on museum and science center management, design, programming, and visitor engagement. Identify relevant theories, concepts, and case studies to inform the research.

2.Data Collection: Gather data through various methods such as surveys, interviews, observations, and document analysis. Collect information on current practices, trends, challenges, and innovations in modern museums and science centers.

3.Case Studies: Conduct in-depth case studies of selected museums and science centers to examine best practices, successful strategies, and innovative approaches in exhibit design, educational programming, and community engagement.

4.Analysis: Analyze the collected data using qualitative and/or quantitative methods. Identify patterns, themes, and trends related to the roles, functions, and impact of modern museums and science centers.

5.Synthesis: Synthesize the findings from the literature review, data collection, and analysis to develop insights and recommendations for enhancing the effectiveness and relevance of museums and science centers in contemporary society.

6.Validation: Validate the findings and recommendations through expert review, peer feedback, and consultation with stakeholders such as museum professionals, educators, researchers, and community members.

7.Presentation: Present the research findings, analysis, and recommendations in a clear, concise, and compelling manner through written reports, presentations, and visual aids

SCOPE

The scope encompasses an examination of contemporary practices, trends, and challenges within these institutions, with a focus on innovative approaches to exhibit design, educational programming, community outreach, and technological integration to enhance visitor engagement and promote learning and cultural appreciation.

REQUIREMENTS

1.Exhibition Galleries: Flexible spaces for art displays and scientific exhibits.
2.Laboratories and Research Spaces: Facilities for conducting experiments and workshops.
3.Educational Facilities: Classrooms, lecture halls, and hands-on activity areas.
4.Interactive Zones: Areas for engaging with interactive displays and technology.
5.Visitor Services Areas: Ticketing counters, information desks, gift shops, and cafes.
6.Administrative Offices: Offices for staff members, including curators and educators.
7.Collections Storage: Facilities for storing and preserving artifacts and specimens.
8.Outdoor Spaces: Gardens, courtyards, and observation decks for outdoor exhibits.
9.Accessibility Features: Ramps, elevators, and tactile signage for accessibility.
10.Infrastructure and Support Facilities: Restrooms, storage rooms, and mechanical rooms.

SITE ANALYSIS

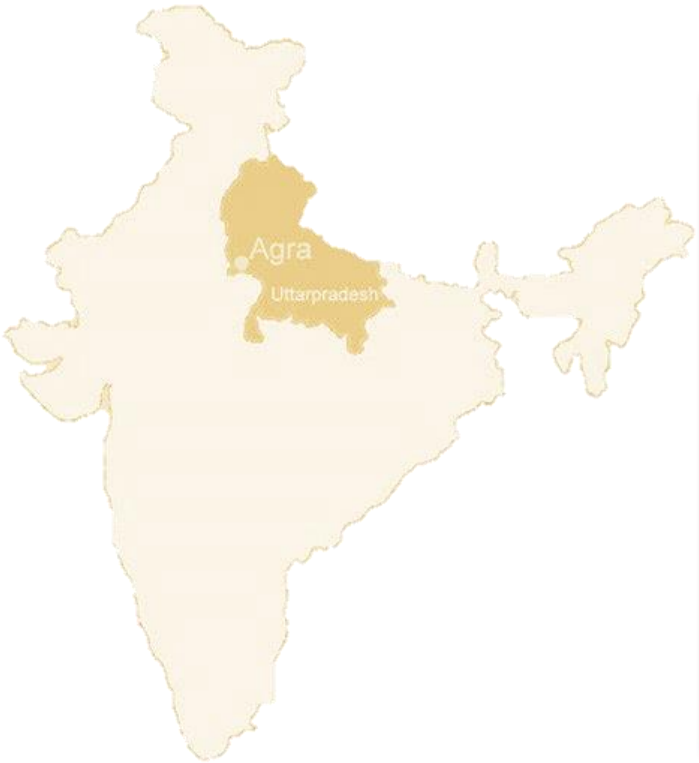
INTRODUCTION

A "modern museum and science center" refers to a contemporary institution that serves various purposes related to education, research, and public engagement with cultural heritage, scientific knowledge, and innovation. These institutions have evolved from traditional museums and science centers to incorporate modern technologies, interactive exhibits, and innovative programming to better engage with diverse audiences and address contemporary issues.

SITE LOCATION

Site is located at - **near Taj hotel and convention centre,Agra**
Area – 25,050 sq.M
Geographically, the proposed project site is located at-

latitude 27° 16’ 34.65"n
longitude 78" 05" 79.27"e



SORROUNDING FEATURES

The museum is proposed near the eastern gate of the taj mahal, just around 1.5 km from the taj mahal. The site is located along the taj east gate road opposite the radisson blu hotel. The parking and ticketing booth for taj are located at 700m from the site, therefore attract higher footfall.

1 Site.
2 Kalakriti Cultural and Convention Center.
3 Brahmakumari Spiritual Museum.
4 Hotel Radisson Blu.
5 Shilpgram.
6 The Oberoi Amar Vilas.
7 taj nature walk.
8 the taj mahal.
9 mehtab bagh.
10 shah jahan garden.
11 agra fort.
12 itmad-ud-daula mausoleum.
13 chini ka rauza.

There are numerous points of interests and attractions are available near to the prposed site. Be it leisure, adventure, sight seeing or commercial market places,cultural buildings,luxurious hotels and historical monuments.

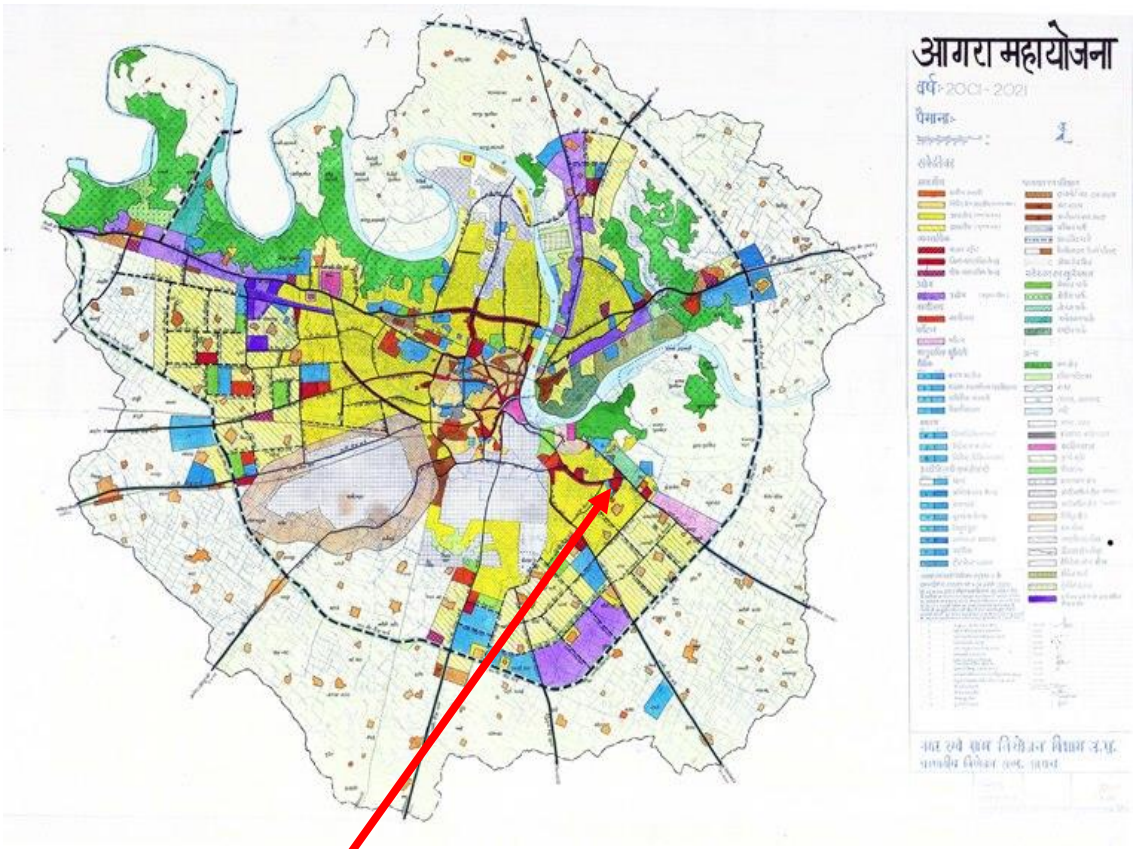
SITE CONDITION

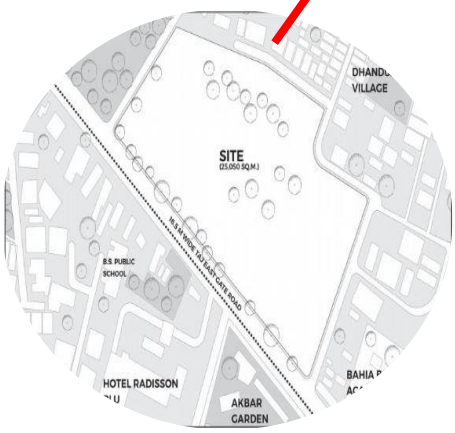
the site is located at a prime location, sharing one of the longer peripheries with the main road. the site is predominantly northeast-southwest oriented. the topography is fairly plain. there are neem and peepal trees at the site.
the site is extensively under construction at the moment.

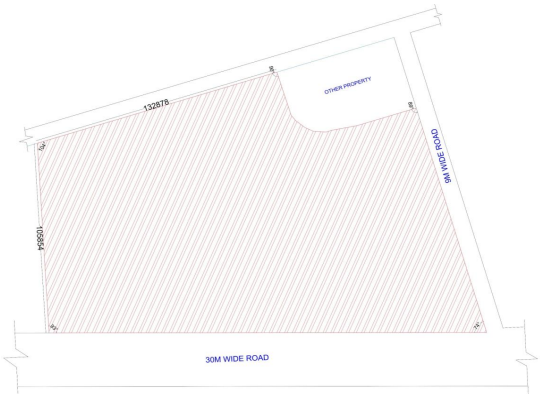
SITE IMAGES-

AUTHENTICATED DATA OF SITE (MASTER PLAN –AGRA)

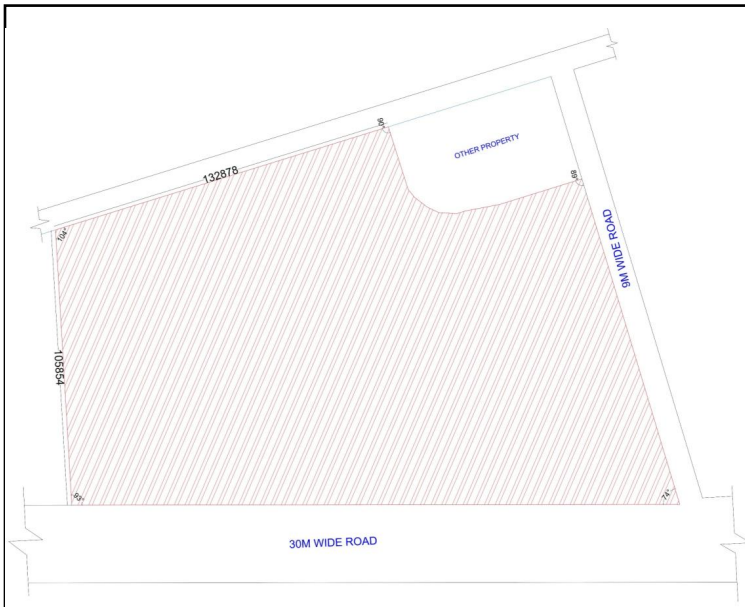
this land falls under the blue category of master plan which states that this site is to be developed for the cultural and social upliftment of the society as a whole and to be strictly planned as a public space where people from different class, gender, society and places meet and great each other as well learn to become social.







PROPOSED SITE

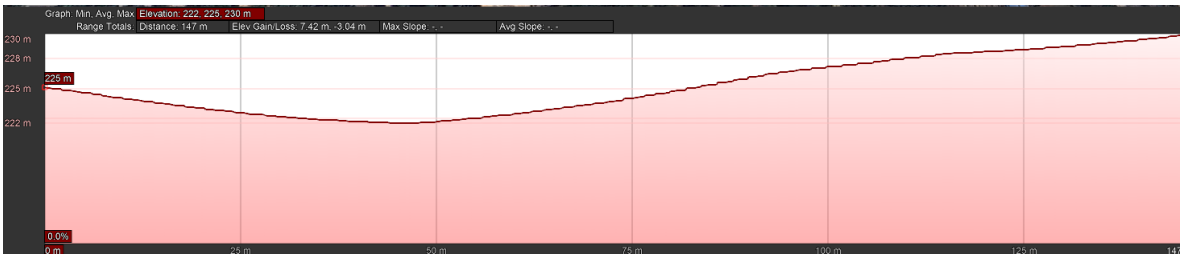


BY-LAWS

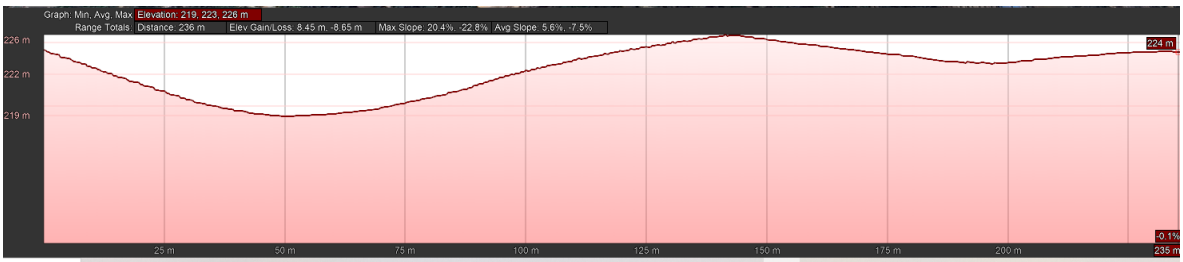
TOTAL PLOT AREA = 25,050.00 M2
WIDTH OF CONNECTING ROAD = 30M AND 9M
PERMISSIBLE GROUND COVERAGE =25%
OF PLOT AREA PERMISSIBLE F.A.R. = 1.
MINIMUM LANDSCAPE AREA = 25% OF OPEN AREA

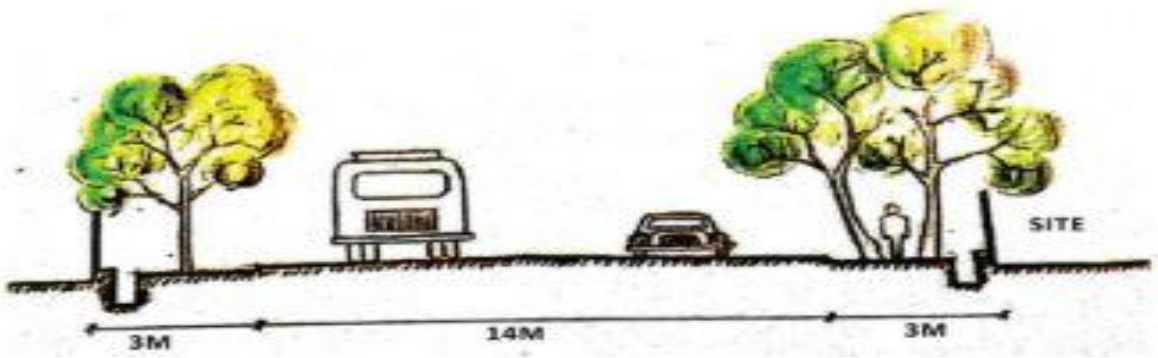
SECTIONS

SECTION AA'



SECTION BB'





GEOLOGICAL FEATURES

Soil conditions:

The soil condition of agra, india, is predominantly alluvial due to its location in the indo-gangetic plain. Alluvial soils are generally fertile and well-suited for agriculture. They are formed by the deposition of silt, clay, and sand carried by rivers like the ganges and yamuna over thousands of years. These soils are known for their high fertility, good water retention capacity, and easy cultivation.

Soil type:

The soil types in agra, like much of the indo-gangetic plain, are primarily alluvial soils. These soils are formed from the deposition of sediments carried by rivers, particularly the ganges and yamuna rivers, over thousands of years. Alluvial soils are generally fertile, well-drained, and suitable for agriculture.

Slope analysis:

The topography is fairly plain. There are neem and peepal trees at the site. It is extensively underconstruction at the moment.

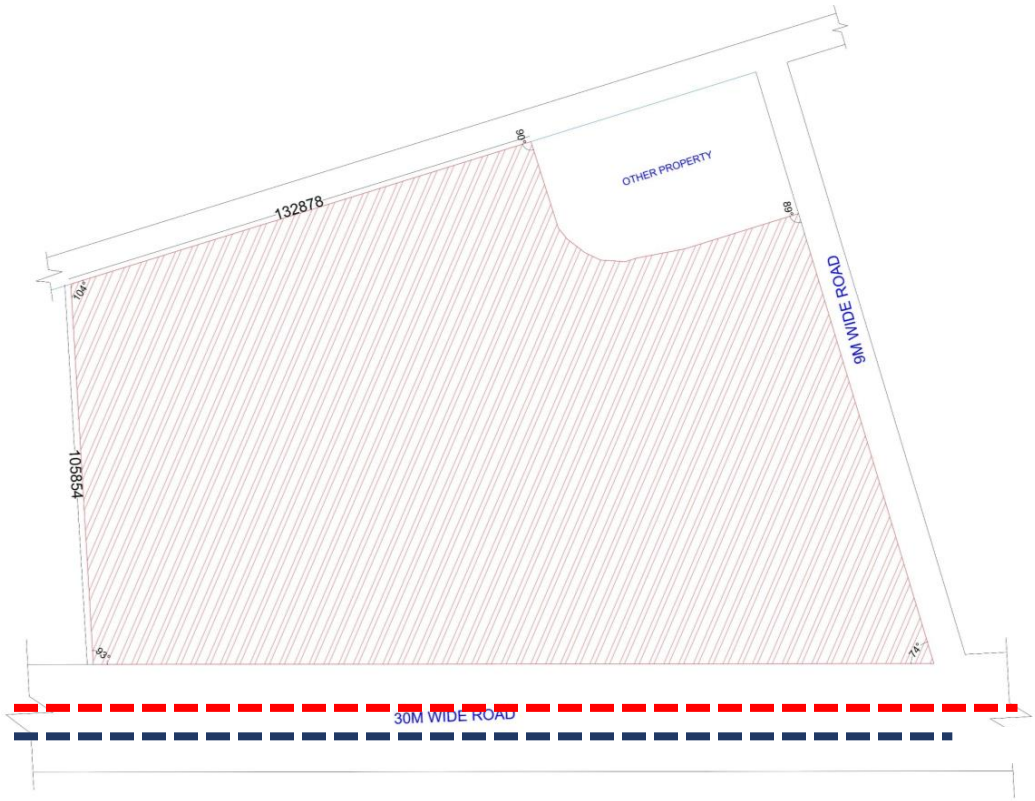
Subsidence/erosion:

Proper greening and paving of site area will not cause any soil subsidence problem.

Seismicity:

The whole country has been divided into 5 seismic zones as per maximum intensity of 'modified mercalli scale' (mms). The project site lies in seismic zone iv, called as 'high damage risk zone'.

WATER DRAINAGE

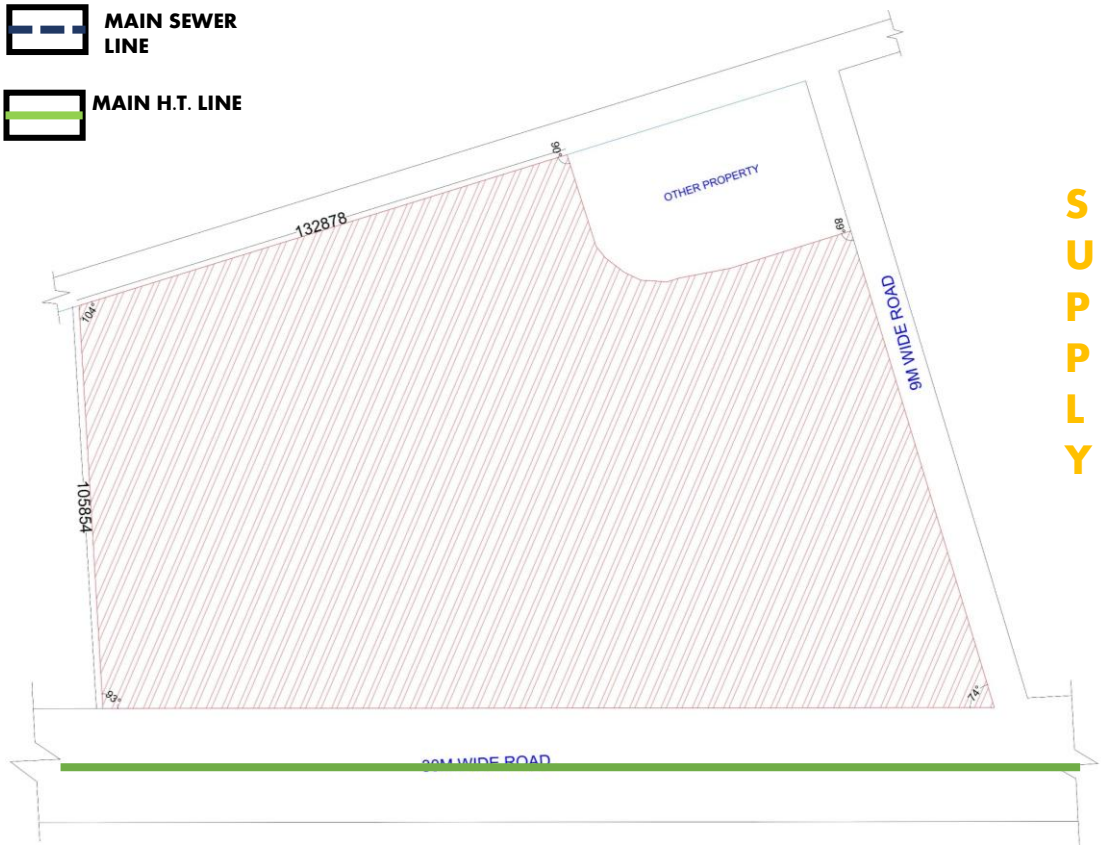


MC WATER PIPE LINE

MAIN SEWER LINE

MAIN H.T. LINE

WATER SUPPLY DRAINAGE



SWOT ANALYSIS

S

The site is located at a walkable distance from the public parking for the Taj Mahal.
Wayfinding to the museum doesn't appear to be a problem as the site is surrounded by important landmarks.

W

A series of trees lining the site along the road substantially decrease the visibilty to the site, interfering the visual experience the museum can offer.

The site cannot be easily reached by public transport as the road infront of the site leads to the Taj rather than a thoroughfare for any active centres

O

The museum can help activate the spline for tourism thus creating job opportunities for the people around.

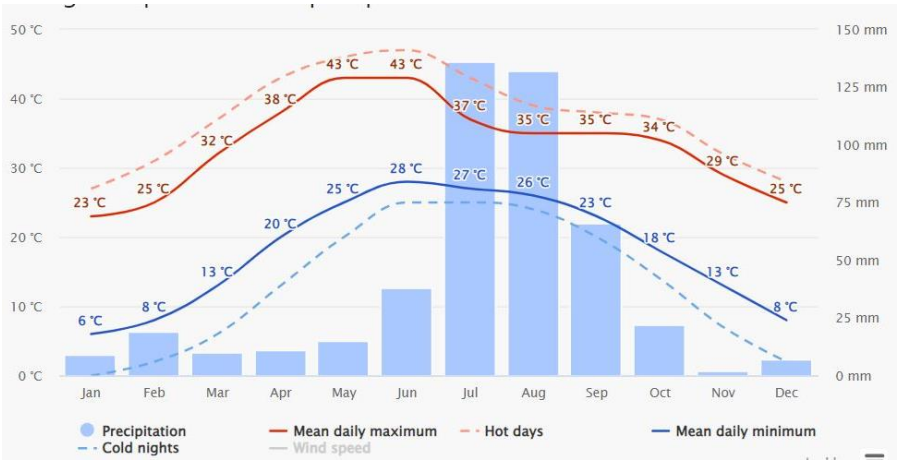
The museum can create social cohesion as it has the potential to induce a cultural dialogue.

T

The site is located close to an informal settlement and the museum might be prone to vandalism

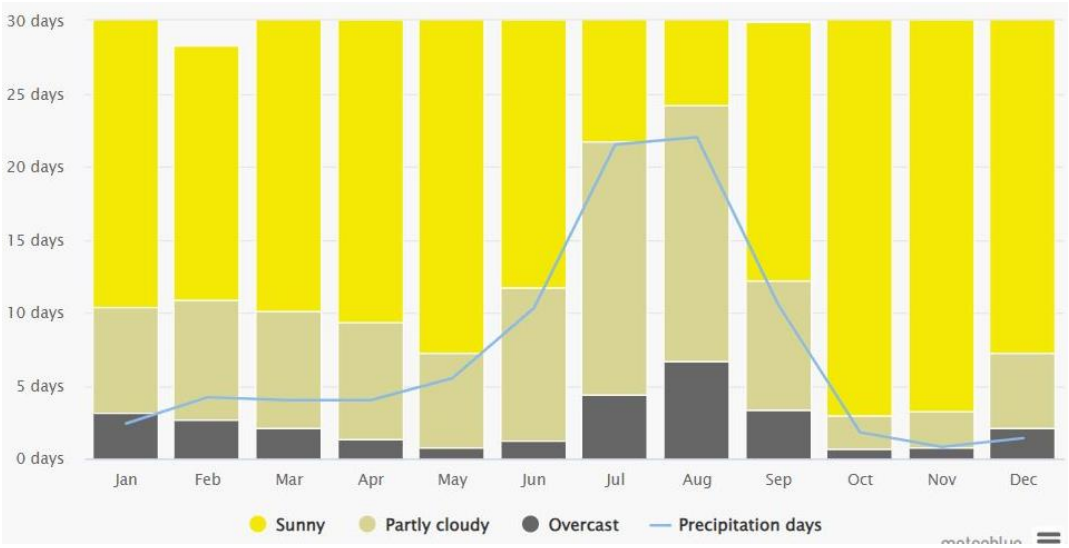
CLIMATE ANALYSIS

AVERAGE TEMPERATURES AND PRECIPITATION



The "mean daily maximum" (solid red line) shows the maximum temperature of an average day for every month for agra. Likewise, "mean daily minimum" (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years.

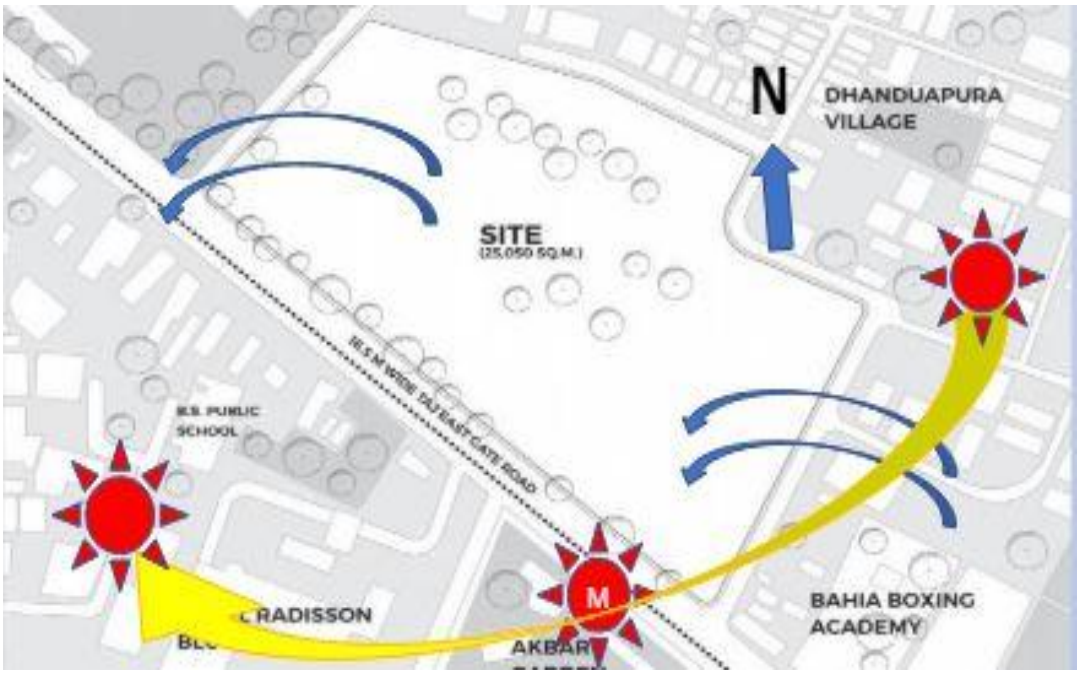
CLOUDY, SUNNY, AND PRECIPITATION DAYS



The graph shows the monthly number of sunny, partly cloudy, overcast and precipitation days. Days with less than 20% cloud cover are considered as sunny, with 20-80% cloud cover as partly cloudy and with more than 80% as overcast.

The diagram for agra shows the days per month, during which the wind reaches a certain speed.

SUN PATH DIRECTION DIAGRAM

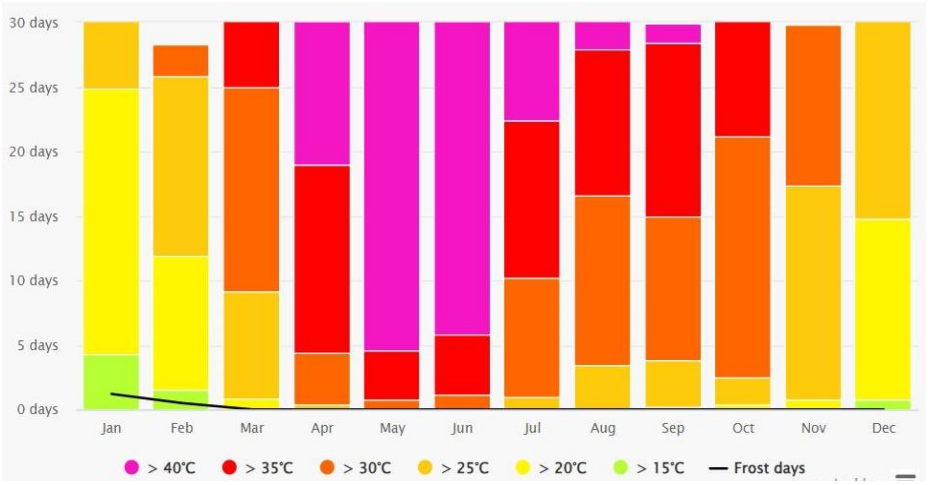


SUNPATH WIND DIRECTION

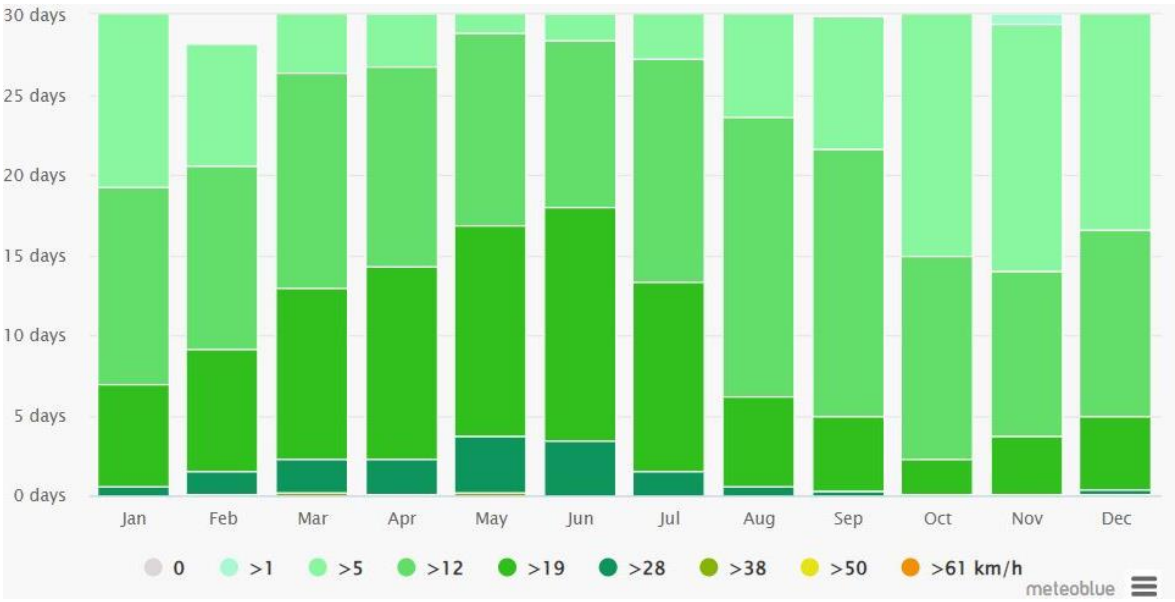
The climate of agra is an overlap between monsoon-influenced humid subtropical and semi-arid, with high variation between summer and winter temperatures and precipitation

The wind enters the site from West and North. The western wind being hot and warm and the Northern wind being cooler. Eastern side of the site would experience low heat and the northern facade of the site would achieve the maximum cool breeze

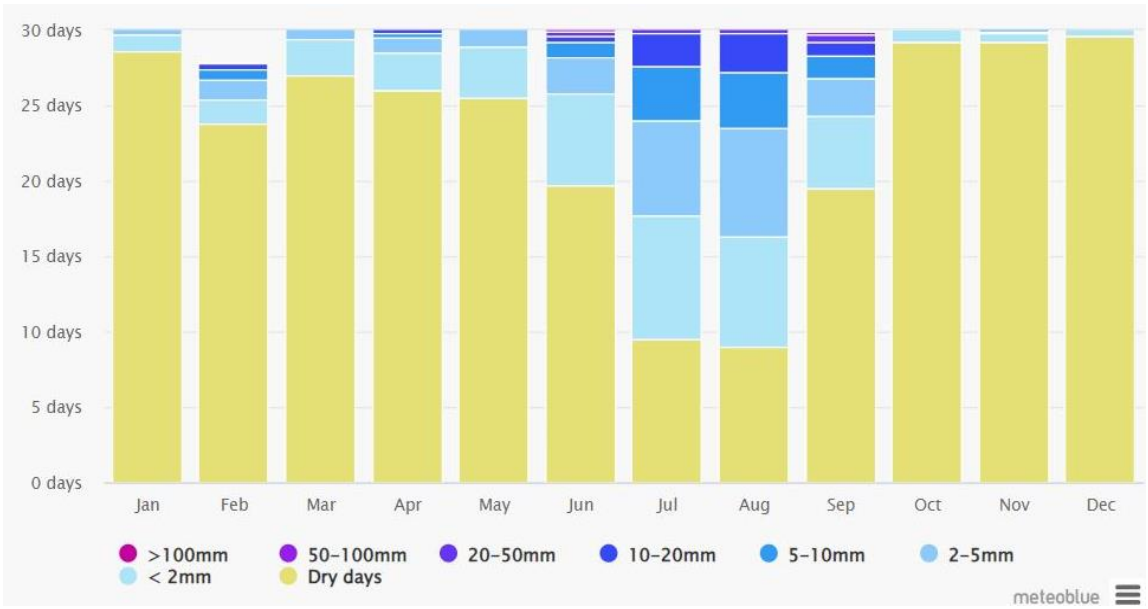
MAXIMUM TEMPERATURES



WIND SPEED



PRECIPITATION AMOUNTS



The precipitation diagram for agra shows on how many days per month, certain precipitation amounts are reached. In tropical and monsoon climates, the amounts may be underestimated.

CASE STUDY AND LITERATURE STUDY

CASE STUDY 1-
NATIONAL GALLERY OF MODERN ART,NEW DELHI

INTRODUCTION

-Designed by Sir Arthur Bloomfield.

-Jaipur House was initially house of Jaipur kings.

-The National Gallery of Modern Art, New Delhi, is a repository of more than 17000 most significant works of modern and contemporary art in the country.

-The principal aims of NGMA are to acquire and preserve modern art from 1850 onwards.

and to present it to a global audience which will create an understanding and sensitivity towards a time that helped shape contemporary art in India,

-The institution is also committed to promote contemporary Indian art in its various forms.

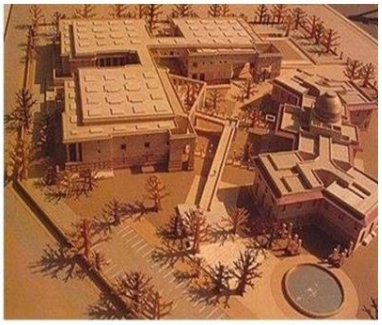
-NGMA is the only museum that preserves cultural architecture and fuses all the modern elements all-together and develop an education and documentation centre,organize seminars and lectures to encourage higher education.

-Above all, the National Gallery of Modern Art helps people to look at the works of modern art with greater joy. understanding and knowledge by extending their relationship with our daily life and experiencing them as vital expressions of the human spirit.

Location-Jaipur house ,Shershah road ,near India Gate, New Delhi

Site Area 7.84 acres (31674 Sq. M.)

Built up (26926 Sq M.)



CONNECTIVITY

Khan-Market	-1.4km
NDLS	- 6km
Jaipur House	-0.5km
IGIA	- 14.5km

HISTORY

-The idea of a National art gallery was first mooted in 1949, and further developed by Prime Minister Jawahar Lal Nehru and Maulana Azad, bureaucrats such as Humayun Kabir and the local art community.

-Designed by Sir Arthur Bloomfield, as a residence for the Maharaja of Jaipur, the butterfly-shaped building with a central dome was built in 1936.

-It was styled after a concept of the Central Hexagon visualized by Sir Edwin Lutyens.

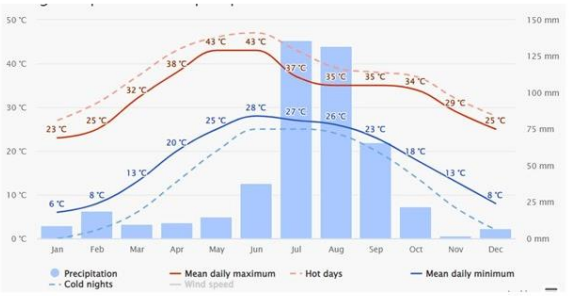
-It was Lutyens, along with Herbert Baker, who visualized and gave shape to the new capital in Delhi.

CLIMATE

The climate of Delhi is an overlap between monsoon-influenced humid subtropical and semi-arid, with high variation between summer and winter temperatures and precipitation

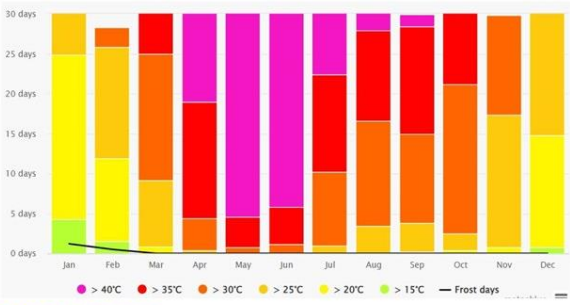
The wind enters the site from West and North. The western wind being hot and warm and the Northern wind being cooler. Eastern side of the site would experience low heat and the northern facade of the site would achieve the maximum cool breeze

AVERAGE TEMPERATURES AND PRECIPITATI

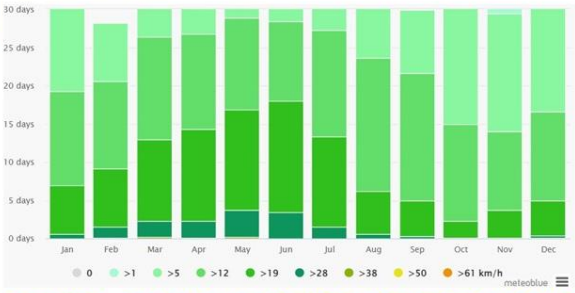


The "mean daily maximum" (solid red line) shows the maximum temperature of an average day for every month for New Delhi. Likewise, "mean daily minimum" (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years.

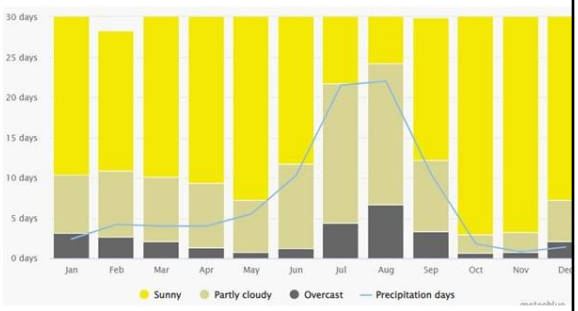
MAXIMUM TEMPERATURES



WIND SPEED



CLOUDY, SUNNY, AND PRECIPITATION DAYS



SITE SURROUNDINGS

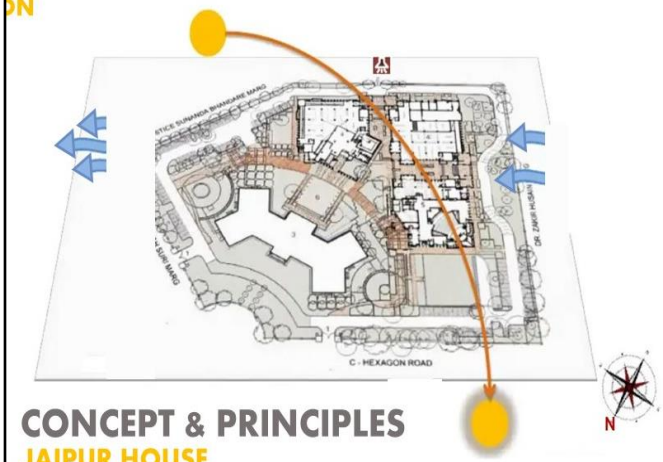

INDIA GATE


RASHTRAPATI BHAVAN


HIGH COURT


SUPREME COURT

SUN PATH DIAGRAM



CONCEPT & PRINCIPLES

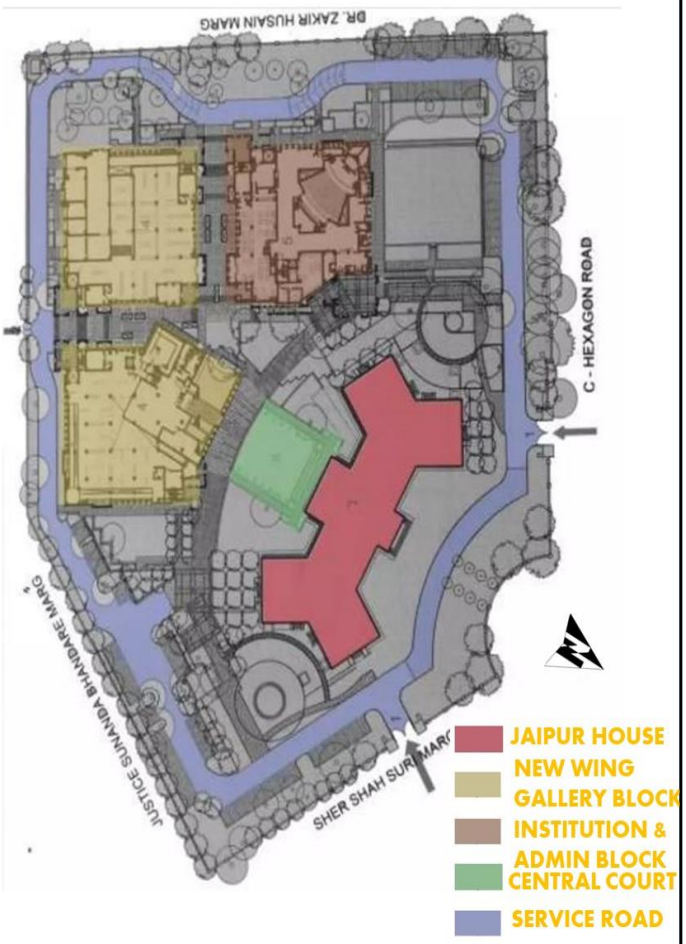
JAIPUR HOUSE

-Designed by ar. Arthur blomfield in 1939
-Butterfly layout with a central dome
-Cladded in red and yellow sandstone
-Was served as residence of king of jaipur
-Continuous sunshade (chhajja) in red stone casts a deep shadow and caps the whole façade.
-Horizontal band of interlocking pattern in red and buff stone reminiscent of mughal monuments.
-Carved ornamental rajputana columns that framed few arch openings.
-Roman arches are also used.

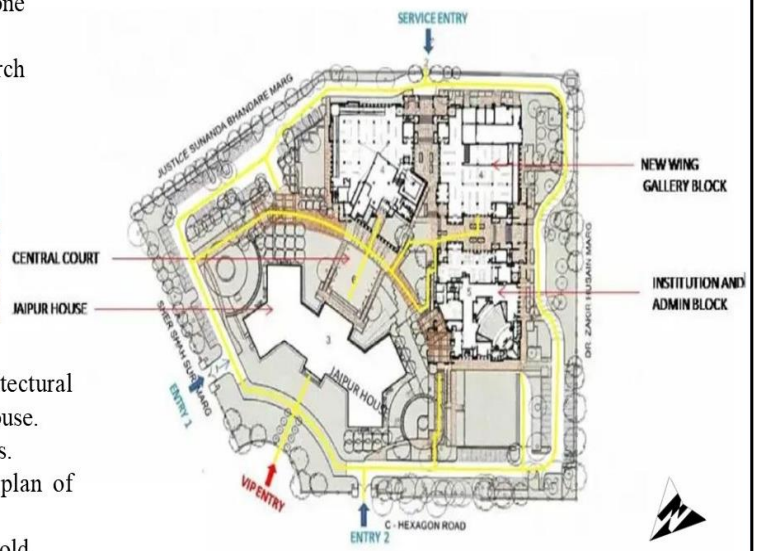
NEW WING

-The new building is the result of national architectural competition held in 1984 to build an extension to jaipur house.
-The 3 new blocks are placed orthogonally to the site edges.
-Causes negation of the axis generated by symmetrical plan of jaipur house.
-The collonade is made to align the new building with the old.
-Façade is composed to appear as layered.
-Seperation of stone cladding and masonry wall highlighted by aluminium sheet.

SITE PLAN



SITE CIRCULATION



CASE STUDY 1-
NATIONAL GALLERY OF MODERN ART,NEW DELHI

CLIMATE

JAIPUR HOUSE FLOOR PLANS

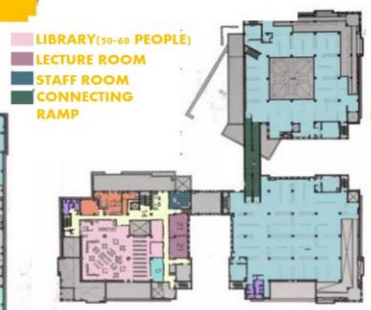
AREA PROGRAMME

Jaipur House
Site Area 1.84 acres (31674 Sq. M.)
Built up (4620 SQ M.)

New Wing
Display Area 12000 SQ M
Art Storage 2600 SQ M
Conservation Lab 600 50 M
Library (60 seating) 600 50 M
Cafeteria (100 seating) 450 SQ M
Auditorium (200 seating) 750 SQ M
Preview Theatre (90 seating) 2600 50 M
General Stores 150 50 M
Administration, Workshop & Support 4445 SQ M
Services and Circulation 3000 SQM
Underground Parking 1383 SQ M
TOTAL AREA 26926 SQ M

Parking
Under Ground Parking 15 cars
Surface Parking 264 Cars
TOTAL PARKING 279 CARS

BASEMENT PLAN



FIRST AND SECOND FLOOR PLAN

GROUND FLOOR PLAN

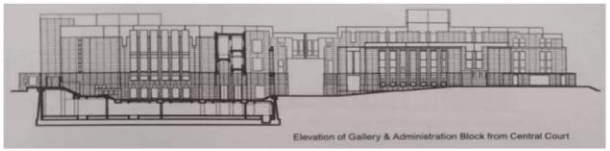
FIRST FLOOR PLAN

DISPLAY AREAS
CORIDORS
ENTRANCE
ADMIN
AUDITORIUM
TOITLES

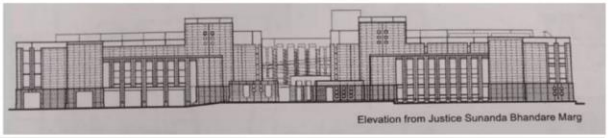
LOWER GROUND FLOOR PLAN

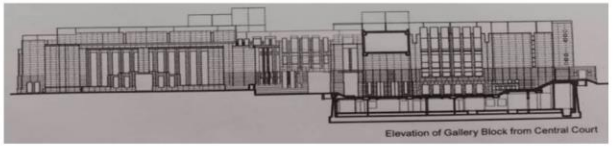

GROUND FLOOR PLAN

ELEVATIONS


Elevation of Gallery & Administration Block from Central Court


Elevation from Dr. Zakir Husain Marg


Elevation from Justice Sunanda Bhandare Marg


Elevation of Gallery Block from Central Court

SECTIONS


Section through Gallery & Administration Block


Section through Gallery Blocks

1. Permanent Gallery
2. Exhibition space
3. Cafeteria
5. Stores
6. HVAC plant
14. Lobby
16. Staff rooms
19. Computer lab
20. Connecting Ramp
21. Lecture Room
22. library

MATERIAL

-The external walls of the new wing are dad in red sandstone of a colour similar to that of existing building.
-Red and Butt sandstone bands at the base of the older Jaipur house.

MERITS

-Utilization of space of circulation areas as display areas..
- Use of skylights and celestial windows in library and galleries.
-The interconnecting Ramps function as buffer space between the two blocks. Daylight sensors automatically regulate the gallery spaces to an optimum illumination level.
-Old trees preserved and fused with building in a seamless way.
-New wing's appearance is derived from existing Jaipur House by use of Sandstone lad in pattern of red and buff

DEMERITS

-No On-Site parking available for visitors,
-No proper signage or floor maps inside the building.
-Administrative block is placed at the back of new wing.
-Service road and pedestrian movement overlap each other.
-No dustbin rear the galleries.

SERVICES

WATER
On site Boring
ELECTRICITY
Supplied by Delhi Vidyut Board
DRAINAGE
Sewer and Rain water is drained in the municipal line
HVAC
Centrally air conditioned
FIRE FIGHTING
Active measures on each floor, connected visually

INFERENCES

-Use of Daylights and Celestial Windows to maintain the daylight. -Creating buffer zone between galleries.
-Provision of central sitting space to let users absorb visuals

THE KNOWLEDGE NEXUS -MODERN MUSEUM AND SCIENCE CENTER

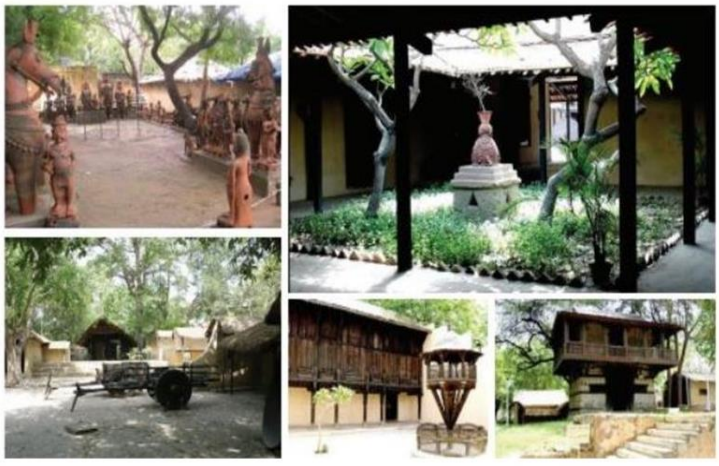
HARSH AGARWAL
B.ARCH 5TH YEAR
1190101014

CASE STUDY 2-
NATIONAL CRAFTS MUSEUM ,NEW DELHI

INTRODUCTION

-LOCATION: Located near Purana Quilla on the BhaironRoad. Just opposite Pragati Maidan, New Delhi, India
CLIENT: Trade fair authority of India.
ARCHITECT: Charles Correa
YEAR: 1975-1990
SIZE: 6,800 SQ.M.

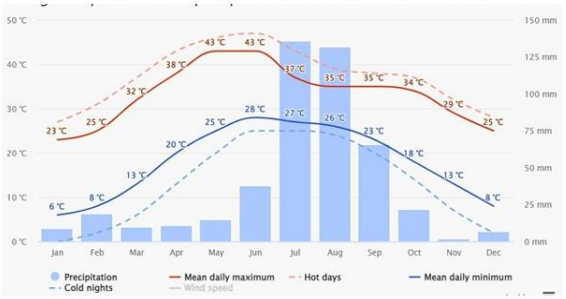
Museum is also known as National Handicrafts and Handlooms Museum. Museums in managed by Ministry of Textiles. The museum was established in the year 1950 by the efforts of freedom fighter Smt. Kamaladevi Chattopadhyay. The whole museum is set up like a village and the current building was designed by architect Charles Correa. A village complex also in the museum spreads over an area of 5 Acre.
The museum is important as it provides space to artisans from around the country to assemble and share their craft with counterparts from different regions. This transformed the project from a mere exhibit to a cultural exchange and craft promotion arena.



CLIMATE

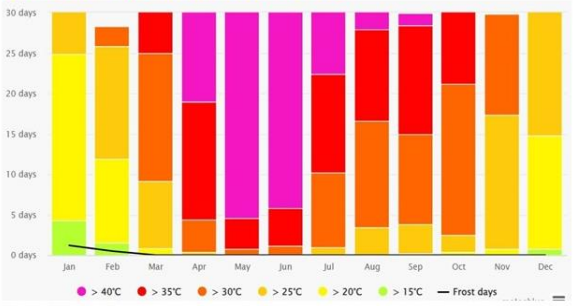
The climate of Delhi is an overlap between monsoon-influenced humid subtropical and semi-arid, with high variation between summer and winter temperatures and precipitation
The wind enters the site from West and North. The western wind being hot and warm and the Northern wind being cooler. Eastern side of the site would experience low heat and the northern facade of the site would achieve the maximum cool breeze

AVERAGE TEMPERATURES AND PRECIPITATION

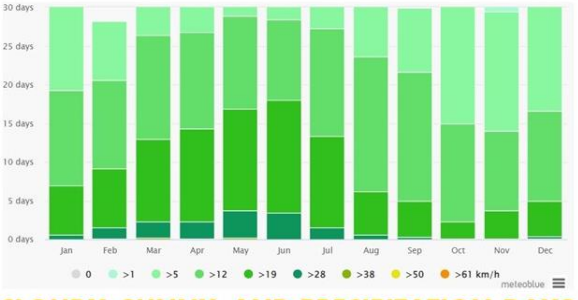


The "mean daily maximum" (solid red line) shows the maximum temperature of an average day for every month for New Delhi. Likewise, "mean daily minimum" (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years.

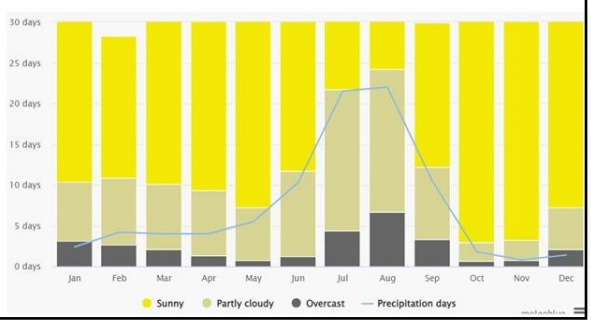
MAXIMUM TEMPERATURES



WIND SPEED



CLOUDY, SUNNY, AND PRECIPITATION DAYS



LAYOUT

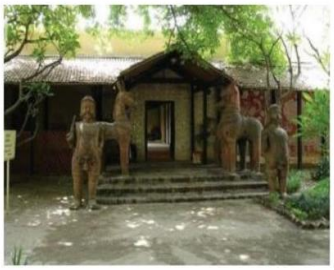
The National Crafts Museum was an exercise in architectural and cultural metaphors.

The low-lying Museum building is a reflection vernacular architecture and fine craftsmanship. Several architectural elements like jharokha, internal courtyards, open and semi-open passages, roof tiles arches, carved doors, posts, pillars, perforated iron-screens etc. are all the visual delights.

Apart from the collection, the museum houses Research and Documentation facilities, a reference library, a conservation laboratory, a photo laboratory and an auditorium.

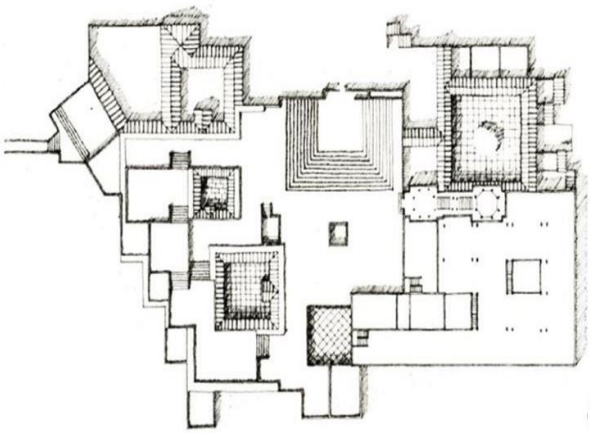
FACILITIES

Facility	Areas in Sq.m.
Village Complex	3000
Craft Demonstration	2000
Amphitheatre	140
Temporary Exhibition	130
Administration	50
Shop	40
Buta Sculptures	60
Folk and Tribal Art	100
Village Court	60
Temple Court	140
Cultic Object	125
Courtly Craft	500
Darbar Court	60
Library	110
Reserve Collection	100
Conservation Lab	50



FLOOR PLANS

GROUND FLOOR PLAN



FIRST FLOOR PLAN

CIRCULATION

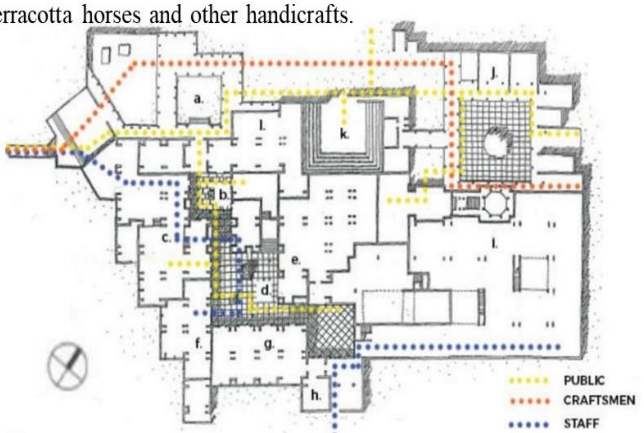
The museum is organised around a central pathway, revealing a sequence of spaces along the pedestrian spine.

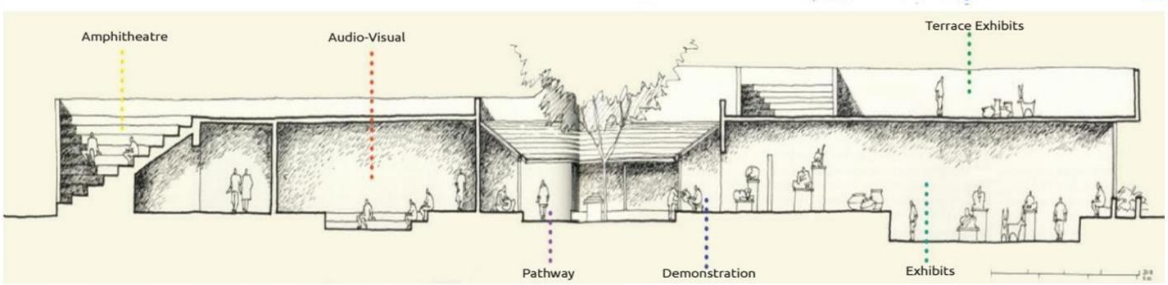
Exhibits, such as in the Village Court and the Temple Court, lie along the path in the connected courtyards.

The design demonstrateds the relevance of courtyards as an effective means of regulating comfort conditions in an urban setup.

Off these courts are particular exhibits such as village crafts etc. The exhibits may be viewed individually or seen as an unfolding of "events" along the way.

The sequence ends with the exit via the roof garden, which forms and amphitheatre for folk dances, as well as open air display of large terracotta horses and other handicrafts.



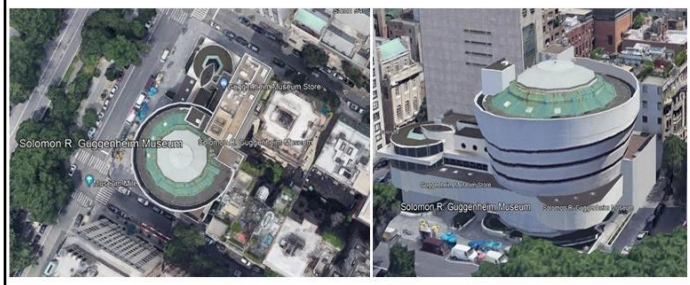


SECTION

LITERATURE STUDY 1-
SOLOMON R. GUGGENHEIM MUSEUM,NEWYORK

INTRODUCTION

Location: Side neighbourhood of Manhattan, New York City.
Latitude: 40° 46' 58.728" N
Longitude: 73° 57' 32.2956"
5.1 km away from Grand Central.
60 km away from Pensylvania Station
29 2 km away from J. F. Kennedy International Airport



-It is a landmark work of 20th-century architecture designed by Frank Lloyd Wright. The cylindrical building, wider at the top than at the bottom, was conceived as a "temple of the spirit".

-Its unique ramp gallery extends up from ground level in a long, continuous spiral along the outer edges of the building to end just under the ceiling skylight.

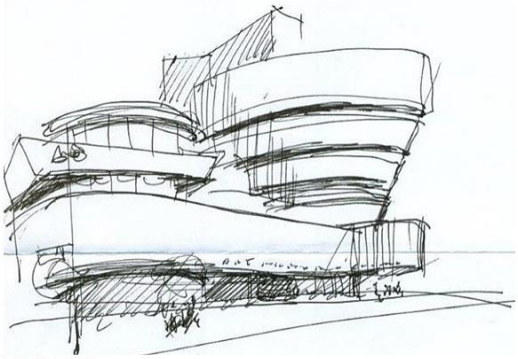
-16 year project designed by American architect Frank Lloyd Wright.

-The building underwent extensive expansion and renovations in 1992 when an adjoining tower was built, and from 2005 to 2008.

-It has a 51,000 ft2 gallery space office, theatre, and retail space

-92ft tall atrium topped with expansive glass dome

Main ramp coils upward 6 floors, more than ¼ mile.

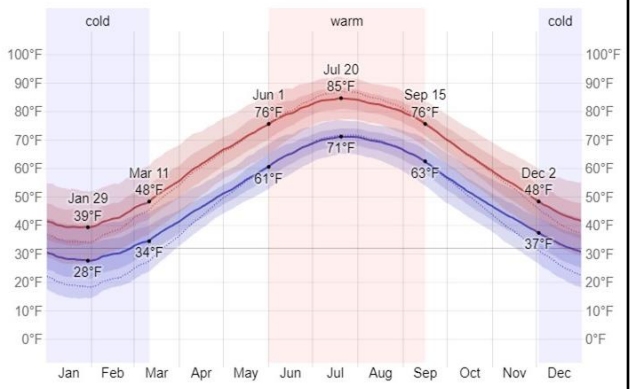


CLIMATE

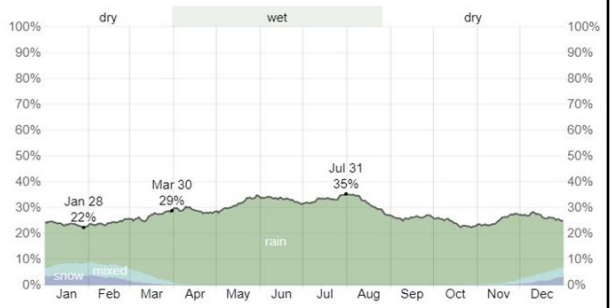
Climate: Humid Continental
Average temperature: 12° C
Minimum temperature: 27° C
Maximum temperature: - 18° C
Annual Precipitation: 1600 mm
Prevailing Wind Direction: 15 km/hr North-West

CLIMATE

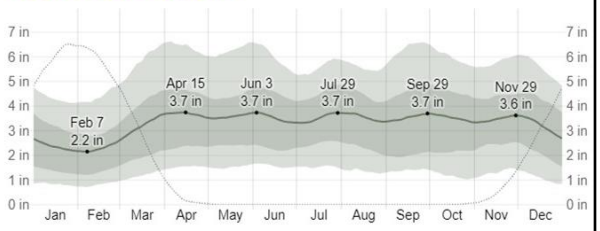
TEMPERATURE CHART



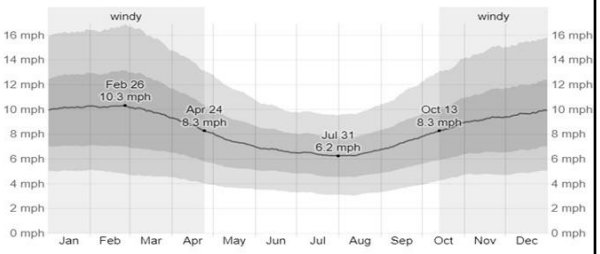
PRECIPITATION CHART



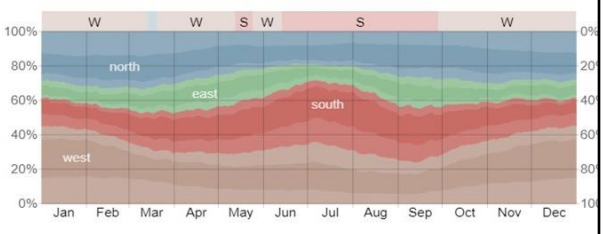
RAINFALL CHART



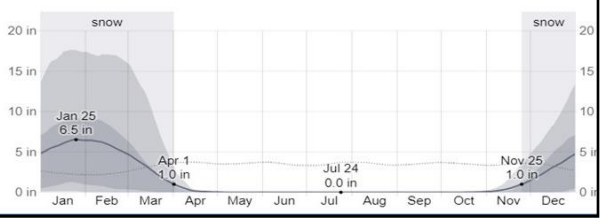
WIND SPEED CHART



WIND DIRECTION CHART

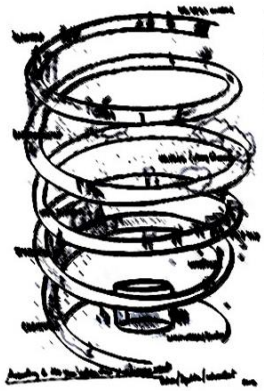


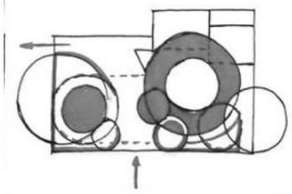
SNOWFALL CHART

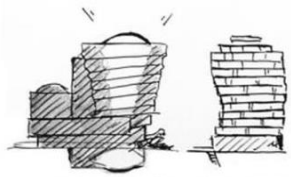


CONCEPT

Wright created the philosophy of organic architecture, which means that the building should develop out of its natural surroundings.
Although the word 'organic' usually refers to something that bears the characteristics of plants or animals, for Frank Lloyd Wright the term organic architecture had a separate meaning.
For him organic architecture was an interpretation of nature's principles manifested in buildings that were in harmony with the world around them. Building inspired by Wright's love for the automobile - Planetarium designed for visitors to drive up the ziggurat-like ramps.





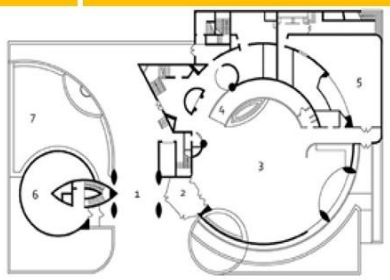


GUGGENHEIM - WRIGHT HOTEL AGIP - RIDOLFI

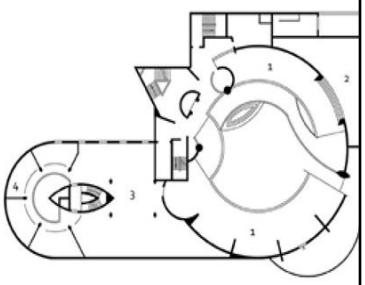
> FORM AND FUNCTION SHOULD BE ONE JOINED IN A SPIRITUAL UNION
>
> -by Frank Lloyd

In this building form and function are following together

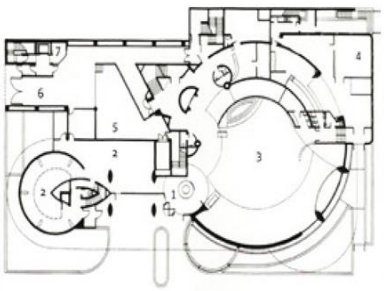
FLOOR PLANS



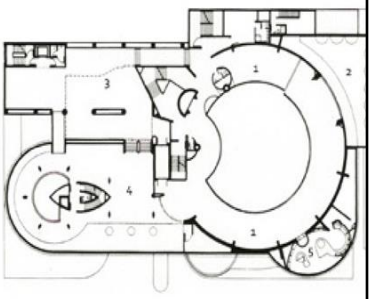
GROUND FLOOR (1959)
1 ACCESS
2 ENTRY VESTIBULE
3 MAIN GALLERY / ATRIUM
4 RAMP
5 GALLERY
6 OFFICES
7 SCULPTURE GARDEN



MAIN FLOOR (1959)
1 RAMP/ EXHIBITION
2 HIGH GALLERY
3 LIBRARY
4 OFFICES



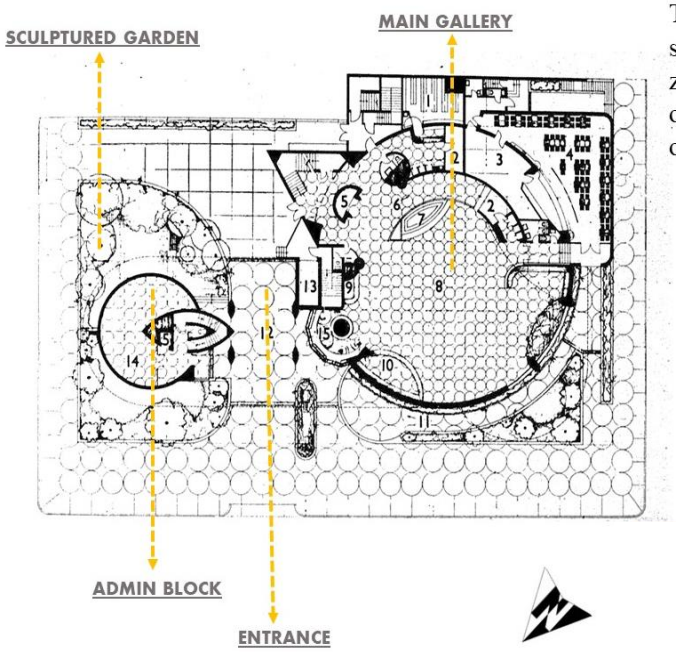
MAIN FLOOR (1984-1992)
1 ENTRY VESTIBULE
2 STORE
3 ATRIUM / EXHIBITIONS
4 CONSERVATION
5 LOADING DOCK
6 RECEIVING
7 CONTROL



MAIN FLOOR (1984-1992)
1 RAMP/ EXHIBITION
2 HIGH GALLERY
3 EXHIBITION
4 PERMANENT COLLECTION
5 READING ROOM

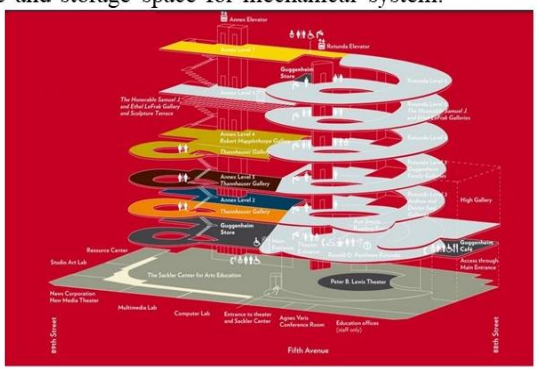
Four floors of exhibition space, three of which are double height, also have office and storage space for mechanical systems.Twelve radial web walls divide the gallery into 70 bays for viewing art work,A large glass dome covers the entire rotunda, providing natural lighting inside the gallery.Skylights line each level of the rotunda, providing natural light along the periphery.The gallery walls are 9'6" tall and slope slightly outwards at 97 degrees from the floor. Designed to hold paintings, the tilt of the gallery walls was intended to replicate the slope of an ease!

SITE PLAN



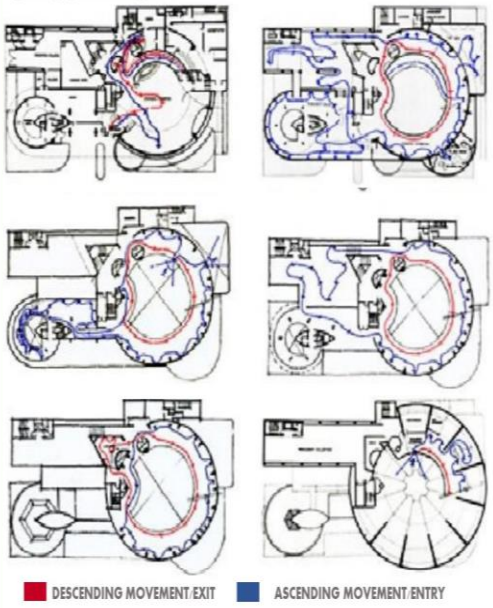
ZONING

The museum was designed by zoning of spaces into exhibition spaces, administrative space and other amenities. Spaces were zoned vertically rather than horizontally approach. Four floors of exhibition space, there of which are double height, also have office and storage space for mechanical system.



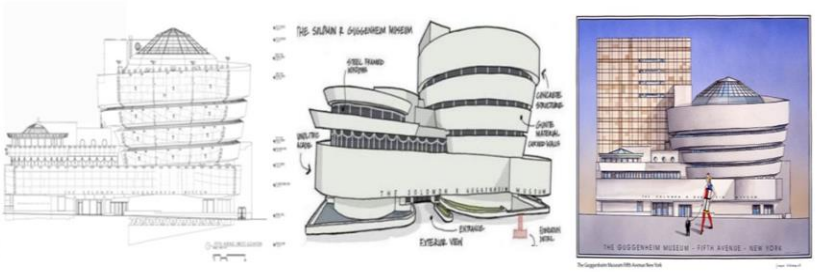
LITERATURE STUDY 1- SOLOMON R. GUGGENHEIM MUSEUM,NEWYORK

CIRCULATION

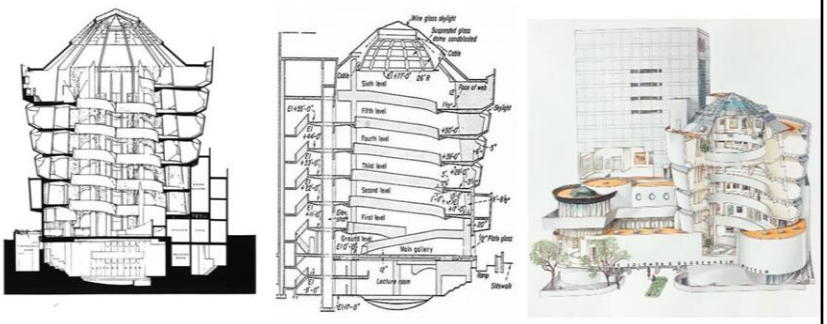


DESCENDING MOVEMENT/EXIT ASCENDING MOVEMENT/ENTRY

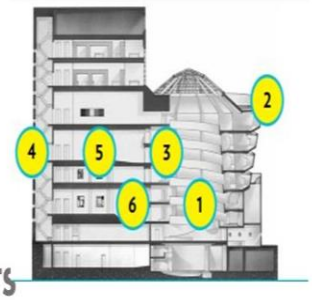
ELEVATION



SECTION



In the Guggenheim, Wright intended to allow visitors to experience the collection paintings by taking an elevator to the top level then view artworks by descending the central spiral ramp Museum currently designs exhibits to be viewed walking up the ramp rather than walking down.From street, building looks like a white ribbon rolled into a cylindrical shape, slightly wider at the top than at the bottom.



1-THE ROTUNDA (BOTTOM)
2-THE ROTUNDA (TOP)
3-STAIRCASE
4-SMALL ROTUNDA/ THANNHAUSER BUILDING
5-VASILY KANDINSKY PAINTING EXHIBITION
6-THE THANNHAUSER COLLECTION

BUILDING LAYOUT WITH DESIGN CONCEPTS

ANNEX

-Ten story limestone clad, Constructed in 1992.
-It was an extension of the four story annex built in 1968, the present structure occupies the same footprint.
-Four floors of exhibition space, three of which are double height, also has office and storage space for mechanical systems.

MONITOR

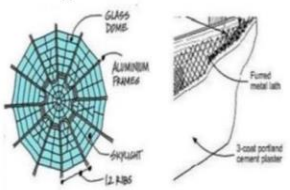
-Originally serviced work spaces, a library, offices, and apartments
-In 1963, the second floor of the monitor was converted into a separate gallery that opens to the main exhibition space.
-In 1980, the monitor's ground floor was opened to the main lobby. All other floors are utilized for gallery space.

ROTUNDA

Twelve radial web walls divide the gallery into 70 bays for viewing artwork.
A large glass dome covers the entire rotunda, providing natural lighting inside the gallery.
The gallery walls are 9'6" tall and slope slightly outwards at 97 degrees from the floor
Designed to hold paintings, the tilt of the gallery walls was intended to replicate the slope of an easel.

MATERIALS

-The Guggenheim is primarily composed of reinforced concrete.
-Normal weight cast in place concrete is the mater al of the lower levels.
-Light weight concrete is the material of the interior radial walls and the ramps.
-Gunite, or shot Crete, is the material used for the exterior of the spiral curved walls.
-Wright used qunite to achieve a seamless monolithic facade.
-Wright left out expansion joints, which would have created visual vertical breaks,
-He hoped the application of elastomeric paint, known as the cocoon would fill in the cracks formed during construction.
-The pairing of multiple types of concrete caused visible cracks in the facade.
-Steel framed windows,
-Aluminium skylights were designed.
-Cement plasters soffits on metal lath.



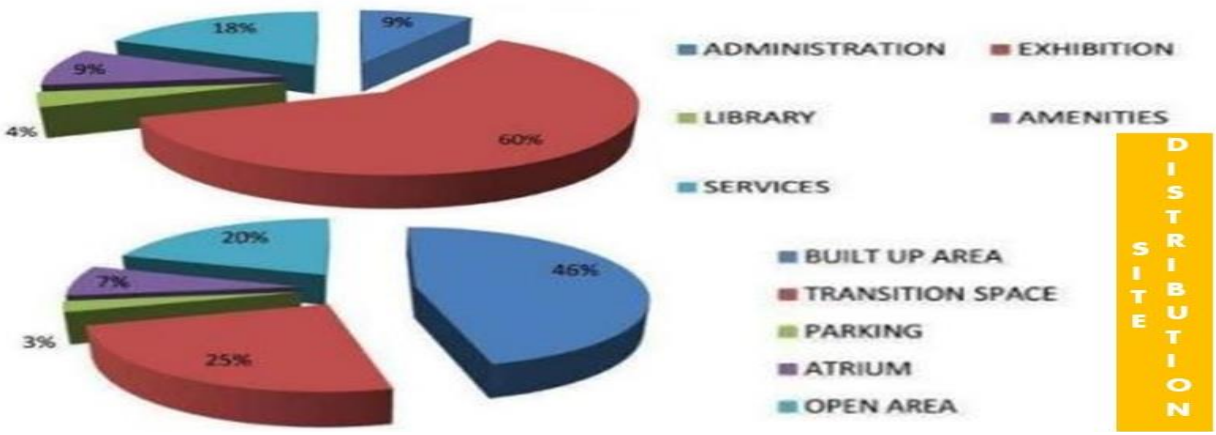
USER ACTIVITY

USER	ACTIVITY	SPACE
VISITOR	Visual Experience	Level 1 Gallery Level 2 Gallery Level 3 Gallery Level 4 Gallery Level 5 Gallery Level 6 Gallery Level 7 Gallery
	Shopping	Museum Shop
	Reading	Library Cyber Room
	Parking	Parking Area
	Sanitation	Toilet
	Beverage & Food	Restaurant Water Fountain
ADMINISTRATION & SERVICE STAFF	Official Work & Monitoring	Office Server Room
	Services	Maintenance Janitor Room Store Housekeeping Centre High Tension Control Room HVAC Room
	Meeting	Meeting Hall Seminar Hall
	Retiring	Staff Rest Room
	Beverage & Food	Pantry
	Sanitation	Staff Toilet
WORKER STAFF	Restoration	Restoration Lab Store Reserve Collection

AREA STATEMENT

S.NO	SPACE	NO. OF UNITS	AREA (SQ METRE)	DESIGN CAPACITY
1.	**ENTRANCE**			100
	Entrance Lobby		300	
	Reception I 30	1	30	
	Back Office I 20	1	20	
2.	**ADMINISTRATION**			50
	Staff Office	5	60	
	Director General's Chamber	1	20	
	Curator Office	1	12	
	Meeting Room	1	40	
	Staff Rest Room	1	40	
	Security Monitoring Room	1	20	
	Server Room	1	20	
	Staff Toilet (M/F)	5/5	30	
	Restoration Laboratory !	1	200	
	Pantry	1	40	
3.	**EXHIBITION GALLERY**			700
	Level 1 Gallery 1	1	200	
	Level 2 Gallery 1	1	400	
	Level 3 Gallery 1	1	800	
	Level 4 Gallery 1	1	800	
	Level 5 Gallery I	1	800	
	Level 6 Gallery I	1	400	
	Level 7 Gallery I	1	200	
4.	**LIBRARY**		150	60
	Librarian's Office	1	20	
	Cyber Room	1	30	
5.	**AMENITIES**			
	Restaurant	1	200	50
	Museum Shop	1	100	40
	Seminar Hall	1	200	50
	Toilet (M/F)	10/10		
6.	**SERVICES**			
	Maintenance	1	200	
	Janitor Room	1	50	
	Store	5	200	
	Housekeeping Centre	1	200	
	High Tension Control Room	1	200	
	HVAC Room	1	200	
7.	**PARKING**		200	40
	Staff Parking		100	
8.	**OPEN SPACES**			250
	Atrium		900	
9.	**TRANSITION AREA**(40% of Built Up)		3200	
	TOTAL AREA		**11200 SQ METRE**	

AREA DISTRIBUTION



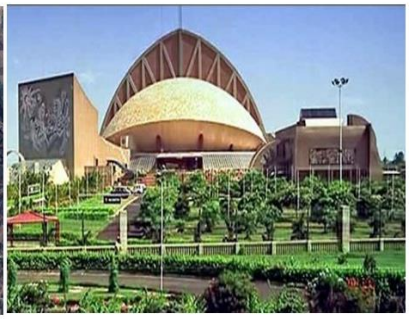
SITE DISTRIBUTION

LITERATURE STUDY 1-
SCIENCE CITY,KOLKATA

INTRODUCTION

The Science City was inaugurated on 1st July 1997 and has been developed as a major attraction for the residents as well as for national and international visitors of Kolkata. It is developed by the National Council of Science Museums, Ministry of Culture, Government of India. Spanning over an area of about 50 acres, the Science City presents science and technology in an inspiring and engaging environment which is both educational and entertaining for the visitors.

Architect : Ar. Aftab Amin
Director : A. D. Chowdhury
Site Area : 49.7 acres (201136 sq.m.)
Location : At the crossing of Eastern Metropolitan bypass and Park Circus road,Kolkata
Year of Completion : 1997
Cost of Project : 50 Crores approx.
FAR: 0.34 (2.475 permissible)
Total Built Up Area : 68284 sq. m. (497811.6 sq. m. permissible)
Ground Coverage : 16.62% i.e. 33426.38 sq. m. (35% i.e. 70397.6 sq. m. permissible)
Parking: 1000 cars & 25 buses
Visitors: 1573560 per annum
Staff: 72



SCIENCE CENTRE COMPLEX

- SPACE ODYSSEY
- DYNAMOTION
- SCIENCE PARK
- MARITIME CENTRE
- EARTH EXPLORATION HALL
- EVOLUTION THEME PARK

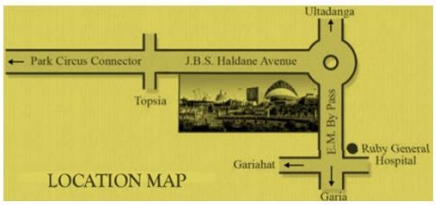
CONVENTION CENTRE COMPLEX

- MAIN AUDITORIUM
- MINI AUDITORIUM
- SEMINAR HALL BUILDING

SURROUNDINGS

North: Milan Mela Ground
South: Residential High-Rise Apartments – 'Atmosphere', by Forum Projects Pvt. Ltd.
East: Energy Education Park
West: Mirania Lake

Nearest Railway Station: Sealdah Junction, 5km
Nearest Bus Stand: Central bus terminal, 7.5km
Nearest Metro Station: Dum Dum, 13km
Nearest Airport: Netaji Subhash Chandra Bose International Airport, 18km



The site is almost rectangular in shape and is formed on a barren garbage dump land with degraded soil on top covering up to 6 meters.

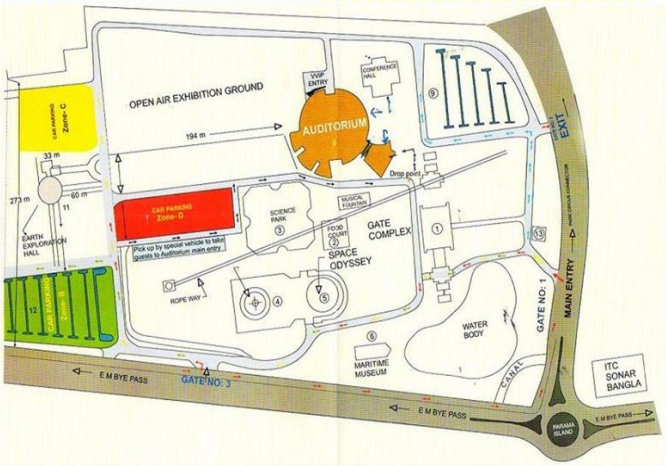
VIEW

ZONING

Public Zone:
Ticket Plaza – 1175 sq. m.
Space Odyssey – 4900 sq.m.
Dynamotion – 5500 sq. m.
Maritime Centre – 920 sq. m.
Earth Exploration Hall – 980 sq.m.
Science Park – 4550 sq. m.

Semi - Public Zone:
Main Auditorium – 9125 sq. m.
Mini Auditorium – 1337 sq. m.
Seminar Hall Building – 2261 sq.m.
Exhibition Area – 1700 sq. m.

Private Zone:
Administrative Area
Service Areas



ENTRANCE & EXIT

-Access to the site is by a road network of 15m & 23m roads.
-The roads inside the Science City are 7.5 m wide.
-There are 2 entries, one main entry from the Park Circus connector road and the other one from the Eastern Metropolitan bypass; and one exit.

LANDSCAPING

Landscaping is an impressive feature at the Science City

Main Plaza: The huge plaza is carefully planted with low heighted plants & non foliage trees. Major part is covered with maze hedges enclosing open exhibits. Low height creeper shrubs are used near kiosks for shading seating benches. Musical fountain is the main attraction feature of the plaza. Royal palms are planted near parking & service lane.

Entrance Plaza: The entrance plaza is lush green enclosing fountains; it forms patterns with sandstone pathways.

Convention Centre: The plaza is landscaped with potted plants, flower beds, water channels and fountains. A combination of changing levels with steps, ramps and fountains exaggerates the function and beauty of the plaza.


Main Plaza


Entrance Plaza


Convention Centre

ON SITE CIRCULATION

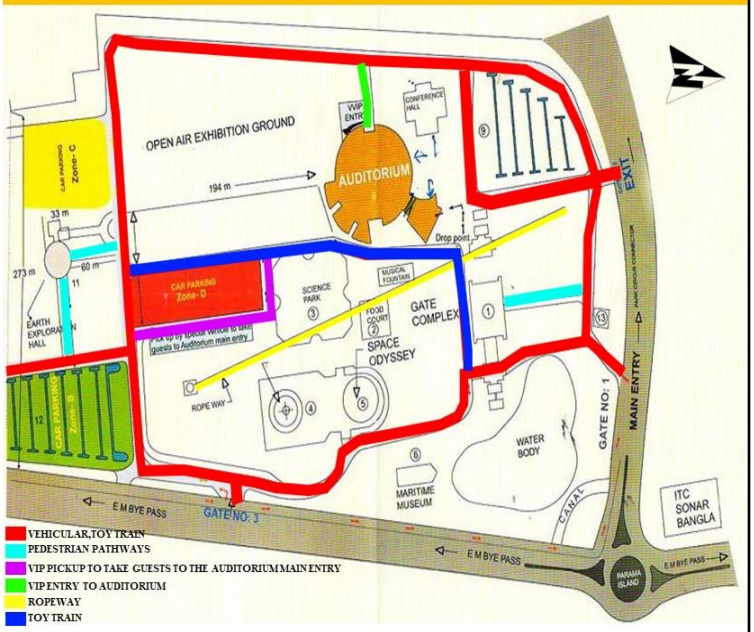
Pedestrian movement: A network of sandstone paved pathways of 3.5m, 2.5m & 1.8m wide are used by the visitors to access various buildings

By Ropeway: It was introduced to provide a panoramic view of the site from the gate complex to the end of the site.

By Monorail: Runs on elevated tracks throughout the site.

By Toy train: Runs throughout the site. Useful to persons who avoid walking especially elderly people.

SITE CIRCULATION



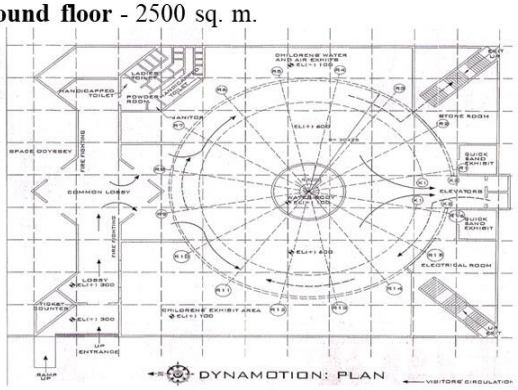
DYNAMOTION & SPACE ODYSSEY

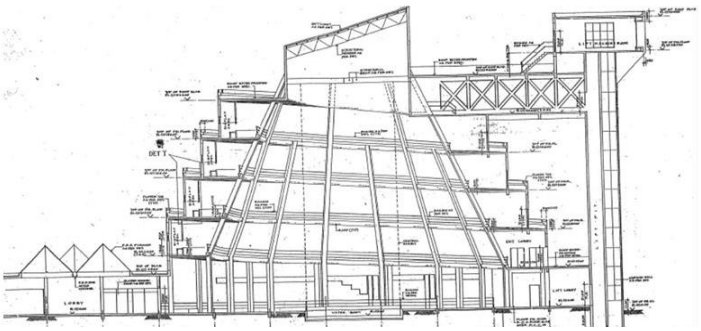
These are two different requirements clubbed up as a single structure with a huge common double heighted sky lit lobby which includes an information computer, drinking water facility and public toilets.

DYNAMOTION

A circular shell structure with a fascinating exterior geometry. It is 38m high structure with a spiral shaped ramp around a 15m dia. central atrium which is raised to the top.

Plinth area is 3000 sq.m. Space distributed for each floor: **Third floor** - 1000 sq. m; **Second floor** - 1500 sq. m; **First floor** - 2000 aq. m; **Ground floor** - 2500 sq. m.





LITERATURE STUDY 1-
SCIENCE CITY,KOLKATA

It consists of 3 galleries one on each floor:• Illusions(Third Floor)• Power of ten (Second Floor) • Aquarium (First Floor)


STRUCTURE

-The complete structure is supported on 2 concentric rows of 16 columns each.
-The top of the atrium is tied together with steel truss and glass on top for wide expanse of light.
-Structure is finished with stone grit all around which unifies both the buildings with the help of colour, texture and finish.

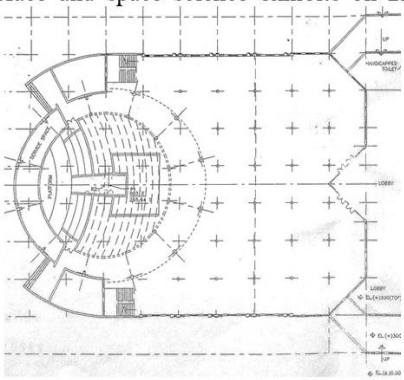
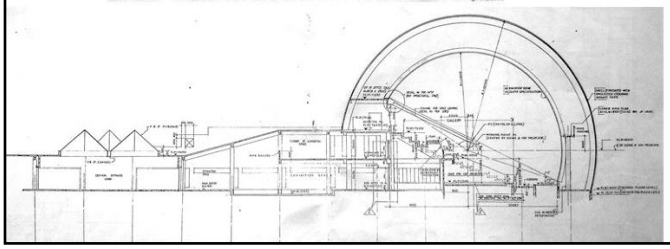
CIRCULATION

-A forced circulation pattern by a unidirectional and spiral ascending circulation ramp 4.5m wide is followed throughout the exhibition area.
-The exit is through the staircase which leads the visitor to the ground from the 1st floor.
-The ramp is 38 m high spiral shaped and 4.5 m wide.
-Service entry is common with the visitors entry.
-Once the visitor has viewed the ground floor exhibits; he/she takes the elevator to the top floor at a level of 24.6 m.



SPACE ODYSSEY

-The hall is approached from a common sky lit lobby.
-The hall is partially double heighted with spherical dome theatre at its end. The center of the hall contains an artificial moon surface and space science exhibits on 2m high display panels.

SPACE ODYSSEY

Space Odyssey consists of:

Mirror Magic Gallery: This section of 35 exhibits explains the physical principles behind mirror images.

Space Science Gallery: This section consists of space related exhibits.

3D Theatre: A hall of 5.5m x 11m with a seating capacity of 50 people with 2 side aisles, wooden steps and projector room at the back. This theatre shows 3D format films.

Space Theatre: This is a 23m dia. dome theatre which shows films through the Astrovision 70 large format film projection system.It is a tilted dome & planetarium having a unidirectional seating arrangement for 360 people.

STRUCTURE

-The dome of space theatre is supported on 2 concentric rows of 12 columns each, while the exhibition space consists of 30 columns in total.
-The dome is a shell structure finished with unglazed ceramic mosaic tiles

EARTH EXPLORATION CENTRE

-A permanent exhibition based on earth is housed in a two storied hemispherical building that displays the details of the southern hemisphere in the ground floor and northern hemisphere in the first floor.
-Consists of 2 concentric rows of 12 columns each.
-The building is fully air-conditioned and artificially lit.
-The dome is 25m in diameter.
-A huge Earth globe is located at the centre of the hall surrounded by multi-media presentations on all major global issues.
-Hands on exhibits supplement the exhibition to explain various physical phenomena of the Earth.


MARITIME CENTRE

-Maritime Centre, a permanent pavilion within Science City, depicts segments of maritime history, maritime activity and related subjects, and has been developed by in collaboration with Kolkata Port Trust.
-It has been housed in a specially designed two storied building having a built up area of around 700 metres and it is shaped like a ship.
-The interiors are lit by 0.5m dia. circular windows, tube lights and light bulbs.
-This building is not air-conditioned, instead ceiling fans are provided

MARITIME CENTRE


EVOLUTION THEME PARK

-A theme park of 1300 sq. m. covering 7 large walk through ways with 71 robotic pre-historic animals and 26 dinosaurs. It portrays the story of evolution of animal life, specially the extinct species.



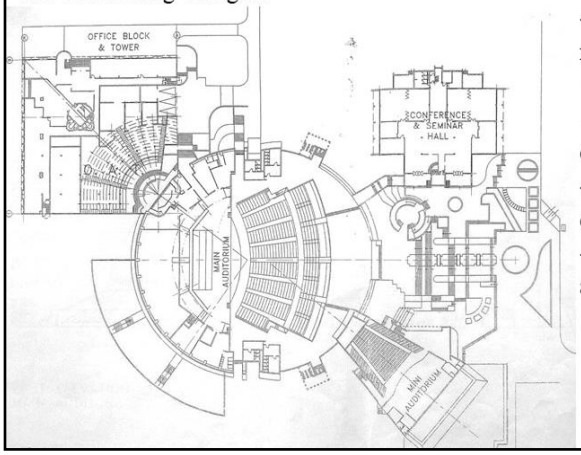
SCIENCE PARK

-In Science Park, people come closer to plants, animals and other objects in their natural surroundings and also learn about the basic principles of science in an open air learning environment. The park's interactive exhibits are engineered so as to tolerate all types of weather conditions. Spanning upto an area of 4550 sq.m., it comprises of Caterpillar Ride, Gravity Coaster, Musical Fountain, Road Train, Cable Cars, Monorail Cycle, Butterfly Nursery and several exhibits on physical and life science and a maze set up in a lush green hedges.

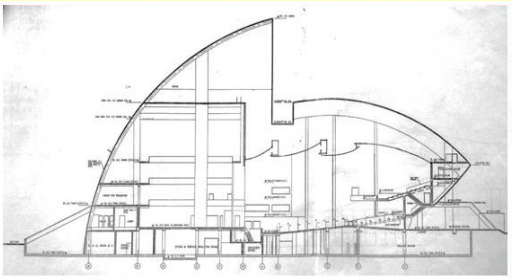
CONVENTION CENTRE

-It is self-contained complex with a capacity to host National & International conventions for about 3000 people. It comprises of: Main Auditorium, Mini Auditorium and Conference & Seminar Hall Building

-Shell structure of convention center is another structural marvel in the complex. It has massive steel structure acting as support skeleton upon which whole shell has been made. The individual structures are placed around the central plaza formed by series of steps with small water channels and connecting bridges.



CONVENTION CENTRE



MAIN AUDITORIUM

-Designed as a multipurpose hall for film festivals, performances, ballets, live orchestras etc., it is a huge auditorium of sitting capacity 2232 people & a huge stage of 27m x 16m for 100 performers with hydraulic moving platform.

Total height of this structure is 42m. The lowest ground hosts services like kitchen, canteen, ac plant etc.

-The building has 2 curved shells. Higher one houses the stage and the services whereas the lower one houses the seating and projection room. 50 green rooms each for both men and women

MINI AUDITORIUM

-The entrance foyer is made up of fibre glass sheets supported on a space frame.

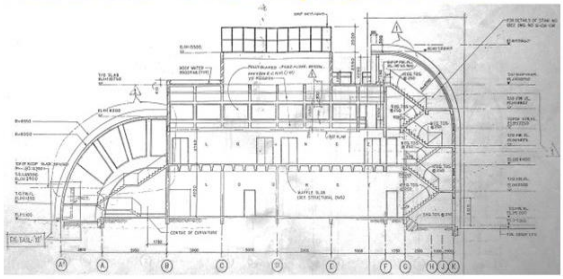
-It accommodates 392 people, meant for small audience performances including seminars and screen projections.

-Stage size 15m x 10m for about 30 performers.16 green rooms for men and 14 for women

CONFERENCE AND SEMINAR HALL

-The Seminar Hall Complex houses eight fully air-conditioned halls in two floors with a large lobby, registration counters, pantry and projection facilities.

It consists of the following number of halls:. Lecture Halls – 4 with a capacity of 96 each Lecture Halls – 2 with a capacity of 40 each Round Table – 2 with a capacity of 30 each



INFERENCES

-Overall zoning and segregation of entries is required for large public movement.

-The complex should be unified with the help of controlled circulation.

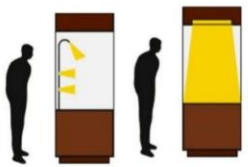
- Circulation pattern of the main museum should be one of the major concerns.

- Landscaping plays an important role in complexes where major part of the site is left vacant/green.

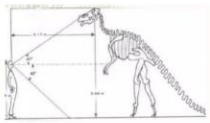
- The facilities and open air exhibits should be placed such that there is a play area for children and a relief area for adults side by side.

STANDARDS

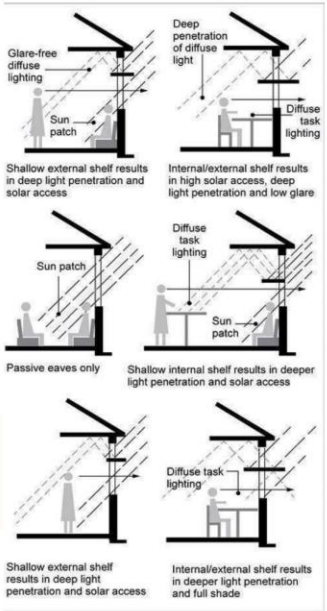
COMPONENTS OF MUSEUM AND SCIENCE CENTER



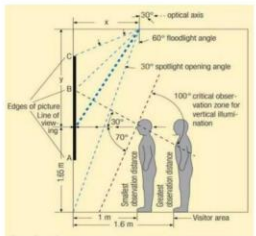
DIFFUSE AND FOCUS LIGHT



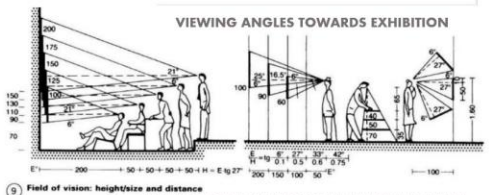
DISTANCE B/W SCULPTURE AND VISITOR



VIEWING ANGLES TOWARDS EXHIBITION

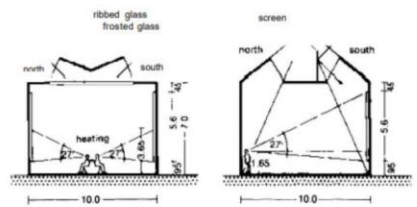


VIEWING ANGLES TOWARDS EXHIBITION



⑨ Field of vision: height/size and distance

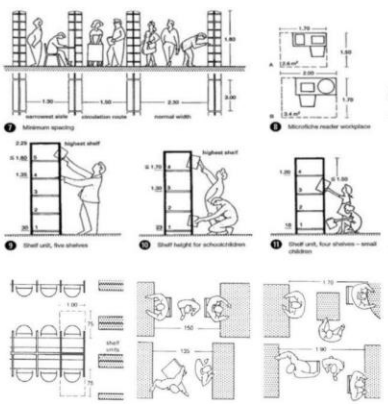
MINIMUM DSTANCE REQUIREMENTS OF MUSEUM



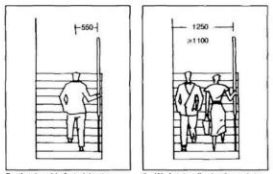
⑤ Well-lit exhibition hall based on Boston experiments

⑥ Ideal uniform lighting from both sides (following S. Hurst Seager)

MINIMUM DSTANCE TO VIEW EXHIBITION



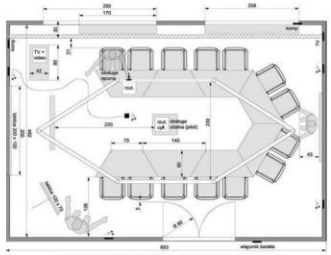
LIBRARY STANDARDS



5 If stairs wide & straight distance of walk line from handrail 550

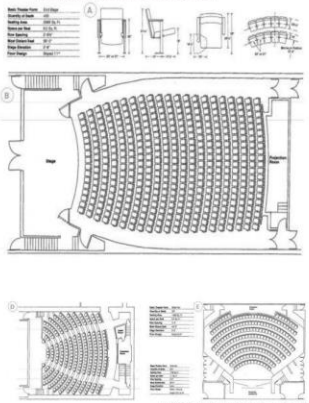
6 W of stairs allowing 2 people to pass

STAIRCASE WIDTH

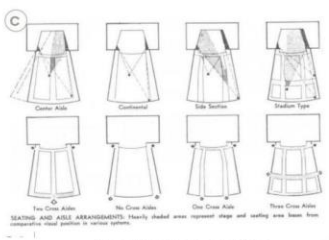


CONFERENCE ROOM STANDARDS

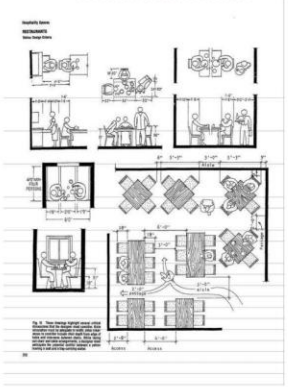
ADMIN CABIN STANDARDS



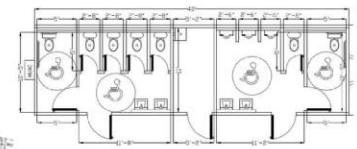
AUDITORIUM STANDARDS

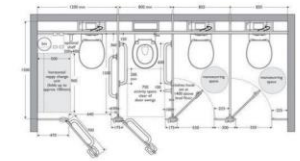


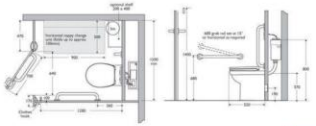
AUDITORIUM STANDARDS



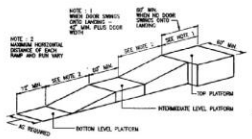
RESTAURANT STANDARDS



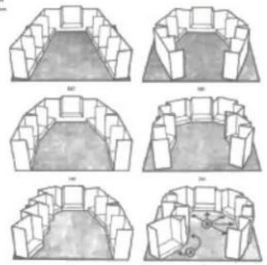




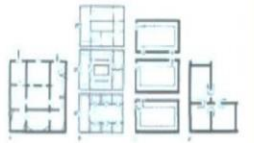
TOILET DIMENSIONS



RAMP DIMENSIONS



POSSIBLE EXHIBITION GALLERY ARRANGEMENT



POSSIBLE CIRCULATION ARRANGEMENT

	Visible light	Ultraviolet (UV) light
Sensitive collections Including textiles, watercolors, photographs and other papers	Maximum: 50 lux (5 footcandles)	Ideal: 0-10 microwatts per lumen Maximum: 75 microwatts per lumen
Less sensitive collections Including oil paintings, wood and leather	Maximum: 150 lux (15 footcandles)	Ideal: 0-10 microwatts per lumen Maximum: 75 microwatts per lumen
Least sensitive collections Including most metal, ceramics, stones and glass	Maximum: 300 lux (30 footcandles)	Ideal: 0-10 microwatts per lumen Maximum: 75 microwatts per lumen

LIGHT LUMINANCE LEVEL IN MUSEUM

ACTIVITY CHART

FREESTANDING DISPLAY TECHNIQUE

MODULAR & DRAWER DISPLAY TECHNIQUE

TABLE TOP DISPLAY TECHNIQUE

WALL DISPLAY TECHNIQUE

DISPLAY TECHNIQUES IN MUSEUM AND SCIENCE CENTER

THE KNOWLEDGE NEXUS -MODERN MUSEUM AND SCIENCE CENTER

HARSH AGARWAL
B.ARCH 5TH YEAR
1190101014

CONCEPT

COURTYARD

A courtyard is an open-air area surrounded by tall walls or buildings, typically located in a building's center. Modern courtyards are an architectural feature most commonly seen in office spaces and universities, where students and workers can relax, eat, or talk to peers.

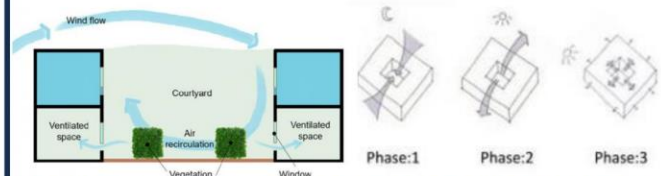
ADVANTAGES OF COURTYARD

•**Natural Light and Views**: Courtyards allow natural light to penetrate deep into the museum interior, reducing the need for artificial lighting during the day. This natural light can enhance the visibility of exhibits and artworks, showcasing them in a more natural setting. Additionally, courtyards can provide pleasant views of outdoor greenery or architectural features, creating a refreshing contrast to the indoor exhibition spaces.

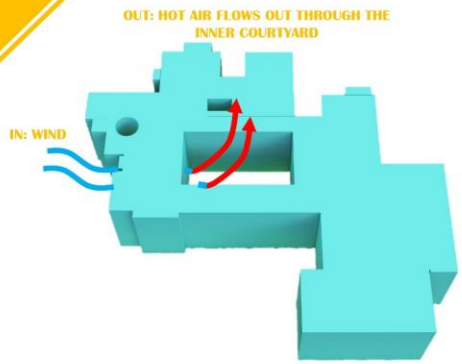
•**Visitor Engagement**: Courtyards provide visitors with opportunities for relaxation, contemplation, and social interaction in a tranquil outdoor setting. This can enhance the overall visitor experience by offering moments of respite and reflection amidst the museum visit.

•**Architectural Integration**: Courtyards contribute to the architectural design and identity of the museum, often serving as focal points that connect different parts of the building or highlight specific architectural features. They can enhance the aesthetic appeal of the museum both internally and externally.

•**Climate Control**: Depending on the design and location, courtyards can contribute to passive climate control strategies by allowing for natural ventilation and thermal regulation. This can help reduce energy consumption for heating and cooling within the museum building.



-Sri Chakra is the Yantra of the Cosmos.
-Courtyard represents the four corners of the Universe.
-Brahmasthan is the main centre of any plot.
-Plot should be fixed for openspace.
-Construction in the centre of plot means blocking the main energy



MUGHAL GARDEN

I have integrated a Mughal garden into my museum and science center in Agra to :

•Showcase historical and cultural heritage.
•Offer educational opportunities on Mughal architecture, horticulture, and science.
•Provide a serene recreational space amidst urban activities.
•Promote community engagement and environmental sustainability.

KINETIC FACADE

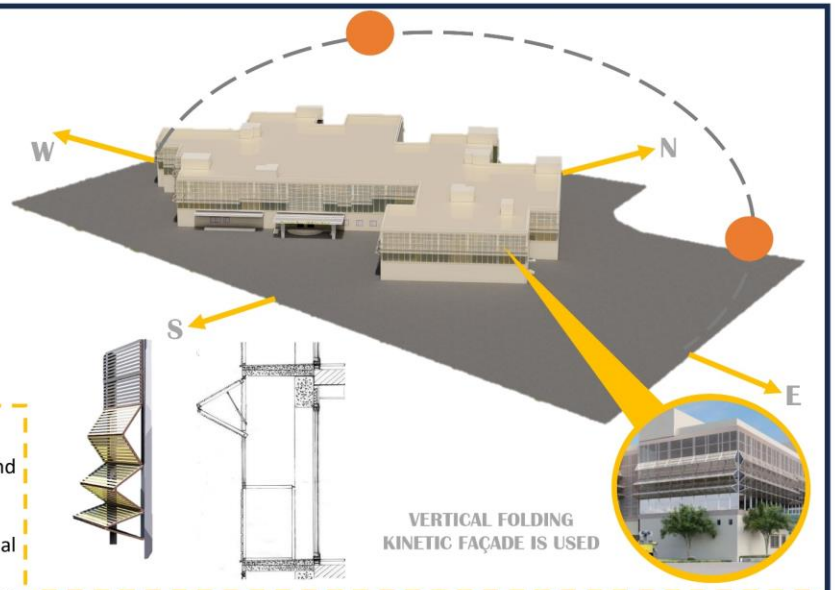
A kinetic facade refers to an exterior building envelope or surface that is designed to move dynamically, often in response to environmental conditions such as sunlight, temperature, wind, or user interaction. These facades typically consist of movable components or mechanisms that allow for changing patterns, shapes, or positions.

The working of a kinetic facade involves:

1.Sensors: Sensors detect environmental factors like sunlight, temperature, wind speed, or user presence.

2.Control Systems: Data from sensors is processed by control systems, which determine how the facade should adjust.

3.Actuators: Actuators are mechanisms (such as motors or pneumatic systems) that physically move or adjust parts of the facade.



•**South Direction**:

•**Solar Heat Gain Control**: During midday and afternoon, the south-facing facade receives direct sunlight, which can lead to overheating inside the building. The facade can fold to provide shading and reduce solar heat gain, thereby improving thermal comfort and reducing cooling energy demand.

•**East Direction**:

•**Daylight Optimization**: It can also be positioned to allow controlled daylight penetration into the building, reducing the need for artificial lighting and enhancing visual comfort for occupants.

•**West Direction**:

•**Afternoon Sun Control**: In the afternoon, the west-facing facade is exposed to intense sunlight. Similar to the south-facing facade, it can fold to create shading and minimize solar heat gain, particularly during the hottest part of the day.

ZONING

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DRAWINGS

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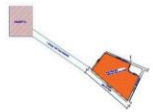
KEY PLAN



AREA STATEMENT

SITE AREA - 25050 SQ M

GROUND COVERAGE -25 % (PERMISSIBLE)

F.A.R. (PERMISSIBLE) -1

SET BACKS -
FRONT - 15 M
SIDE AND REAR - 9 M

TOTAL COVERED AREA- 6243 SQMT

EXHIBITION GALLERY- 2200 SQMT

AUDITORIUM - 500 SQMT
RESTAURANT - 626 SQMT

O.A.T - 614 SQMT

SITE PLAN

SCALE - 1:250

NOTE : -
ALL DIMENSIONS ARE IN MM.

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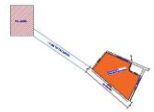
AREA CHART

- RECEPTION AND ORIENTATION =55 SQMT
- INFORMATION COUNTER =15 SQMT
- ENTRANCE HALL =120 SQMT
- PROJECTER ROOM =55 SQMT
  - TOILET HE =16 SQMT
  - TOILET SHE =16 SQMT
- COUNTER =32 SQMT
- SHOP 1 =15 SQMT
- SHOP 2 =12 SQMT
- LOCKER ROOM =40 SQMT
- TEMPORARY EXIBITION =270SQMT
  - FIRE FITTING ROOM= 6 SQMT
  - HVAC ROOM= 20 SQMT
- ENTRANCE HALL =120 SQMT
- SERVICES ROOM =80 SQMT

- SECURITY ROOM= 35 SQMT
- SECURITY OFFICE=15 SQMT
- MANAGER ROOM WITH P.A.= 40SQMT
- CURATOR"S OFFICE =32SQMT
  - TOILET HE =16 SQMT
  - TOILET SHE =16 SQMT
- EMERGENCY MEDICAL AID =20 SQMT
- MEDICAL STORE =20 SQMT
- RESTAURANT= 626 SQMT
  - KITCHEN =100 SQMT
- AUDITORIUM =430 SQMT
  - CHANGING ROOM MALE =20 SQMT
  - CHANGING ROOM FEMALE =20 SQMT
  - TOILET =12 SQMT
- ENTRANCE HALL OF AUDITORIUM =133 SQMT

- HISTORY PERIOD OF CITY(1475-1526) EXHIBITION 640 SQMT
  - TOILET HE =16 SQMT
  - TOILET SHE =16 SQMT
- HISTORY PERIOD OF CITY(1526-1545) EXHIBITION 460 SQMT
- HISTORY PERIOD OF CITY(1545-1628) EXHIBITION 630SQMT
  - FIRE FITTING ROOM= 10 SQMT
  - HVAC ROOM= 25 SQMT
- MATERIAL ROOM =75 SQMT
- SERVICES ROOM =75 SQMT
- LOBBY =310 SQMT

KEY PLAN



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AUDITORIUM - 500 SQMT
RESTAURANT - 626 SQMT

O.A.T - 614 SQMT

GROUND FLOOR PLAN

SCALE - 1:100

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AREA CHART

- PHOTO GRAPHIC ROOM =55 SQMT
- ART ROOM =55 SQMT
- CONFRENCE ROOM =110SQMT
  - TOILET HE =16 SQMT
  - TOILET SHE =16 SQMT
- INFORMATION COUNTER =15 SQMT
- OPEN EXHIBITION =270SQMT
  - FIRE FITTING ROOM= 6 SQMT
  - HVAC ROOM= 20 SQMT
- SERVICES ROOM =80 SQMT

- LECTURE ROOM 1= 41 SQMT
- LECTURE ROOM 2= 40 SQMT
- STAFF ROOM=54 SQMT

  - TOILET HE =16 SQMT
  - TOILET SHE =16 SQMT

- LIBRARY= 626 SQMT
  - MANAGER OFFICE =45 SQMT
- AUDITORIUM =430 SQMT
  - STORE ROOM =20 SQMT
  - LIGHT ROOM =20 SQMT
  - TOILET =12 SQMT
- ENTRANCE HALL OF AUDITORIUM =133 SQMT

- TECH EXHIBITION=640 SQMT

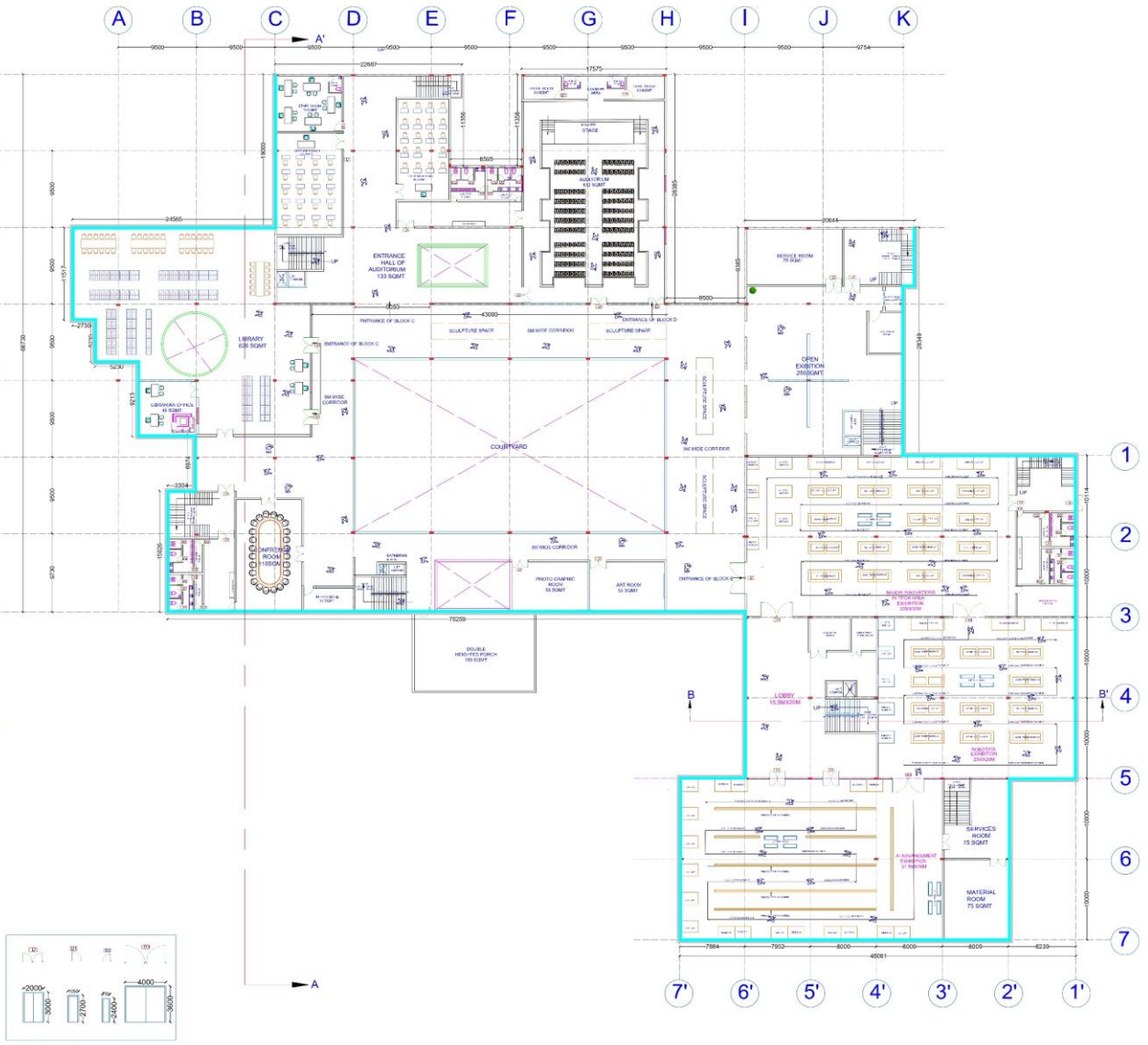
  - TOILET HE =16 SQMT
  - TOILET SHE =16 SQMT

- ROBOTICS EXHIBITION= 460 SQMT

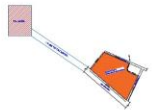
- AI ADVANCEMENT EXHITION= 630 SQMT

  - FIRE FITTING ROOM= 10 SQMT
  - HVAC ROOM= 25 SQMT
- MATERIAL ROOM =75 SQMT
- SERVICES ROOM =75 SQMT
- LOBBY =310 SQMT

DOUBLE SKIN KINETIC FACADE=



KEY PLAN



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SITE AREA - 25050 SQ M

GROUND COVERAGE -25 % (PERMISSIBLE)

F.A.R. (PERMISSIBLE) -1

SET BACKS -
FRONT - 15 M
SIDE AND REAR - 9 M

TOTAL COVERED AREA- 6243 SQMT

EXHIBITION GALLERY- 2200 SQMT

AUDITORIUM - 500 SQMT
RESTAURANT - 626 SQMT

O.A.T - 614 SQMT

FIRST FLOOR PLAN

SCALE - 1:100

NOTE : -
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AREA CHART

- MIRROR MAGIC GALLERY =170 SQMT
- LEARN WITH FUN GAME ZONE=275 SQMT

- TOILET HE =16 SQMT
- TOILET SHE =16 SQMT
- ARMY EXHIBITION= 630 SQMT
- MARITIME EXHIBITION= 460 SQMT

  - FIRE FITTING ROOM= 10 SQMT
  - HVAC ROOM= 25 SQMT
- MATERIAL ROOM =75 SQMT
- SERVICES ROOM =75 SQMT

- TOILET HE =16 SQMT
- TOILET SHE =16 SQMT
- ANIMAL EVOLUTION THEME ZONE= 626 SQMT

- WORKSHOP =480 SQMT
- ENTRANCE HALL =133 SQMT

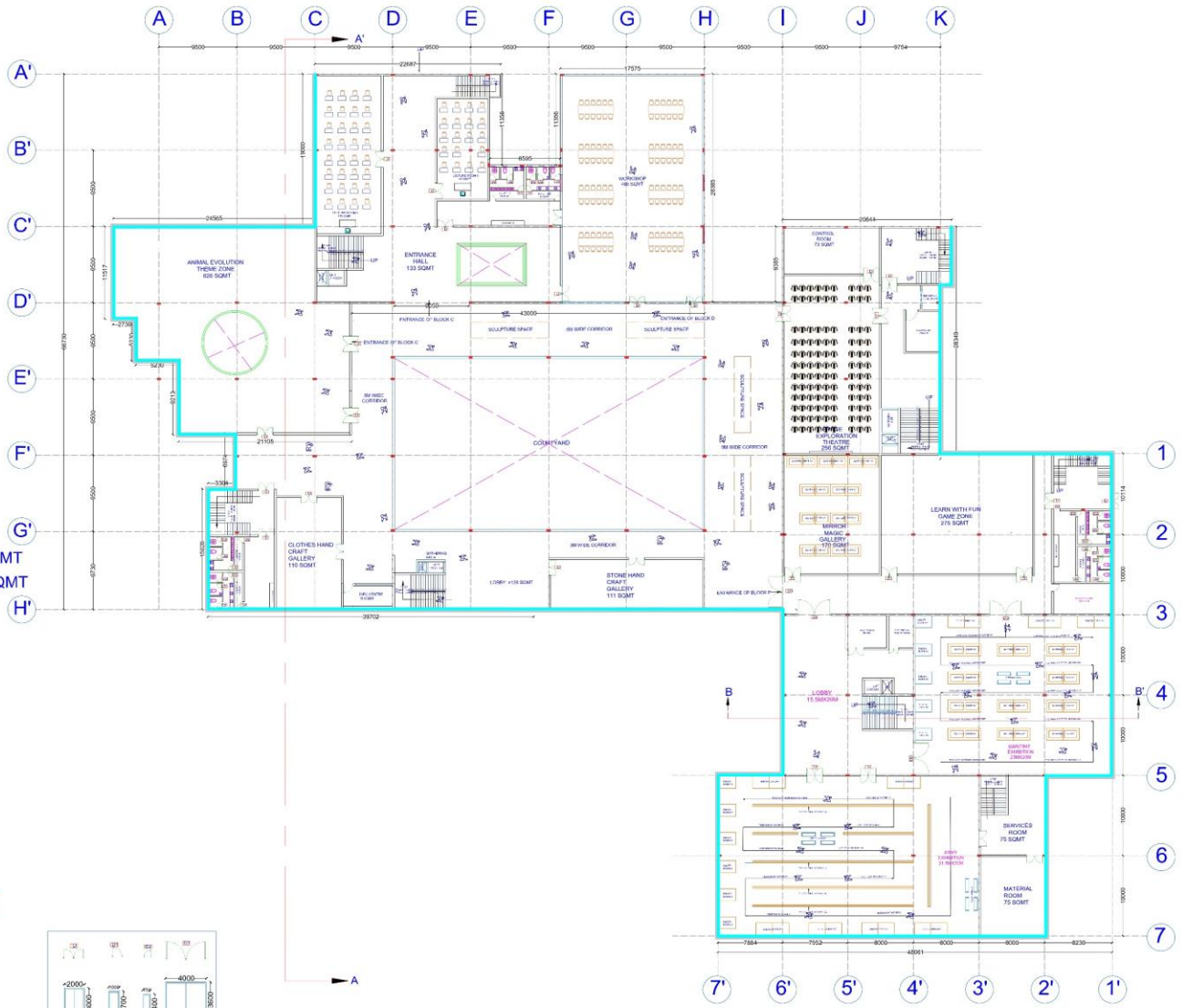
- CLOTHES HAND CRAFT GALLERY = 110 SQMT

INFORMATION COUNTER =15 SQMT

- STONE HAND CRAFT GALLERY =111 SQMT
- EARTH EXPLORATION THEATRE =256SQMT
- TOILET HE =16 SQMT
- TOILET SHE =16 SQMT
- SERVICES ROOM =80 SQMT

  - FIRE FITTING ROOM= 6 SQMT
  - HVAC ROOM= 20 SQMT
- LOBBY =120 SQMT

DOUBLE SKIN KINETIC FACADE=



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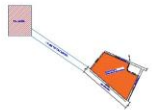

AREA STATEMENT

SITE AREA - 25050 SQ M

GROUND COVERAGE -25 % (PERMISSIBLE)

F.A.R. (PERMISSIBLE) -1

SET BACKS -
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SIDE AND REAR - 9 M

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EXHIBITION GALLERY- 2200 SQMT

AUDITORIUM - 500 SQMT
RESTAURANT - 626 SQMT

O.A.T - 614 SQMT

SECOND FLOOR PLAN

SCALE - 1:100

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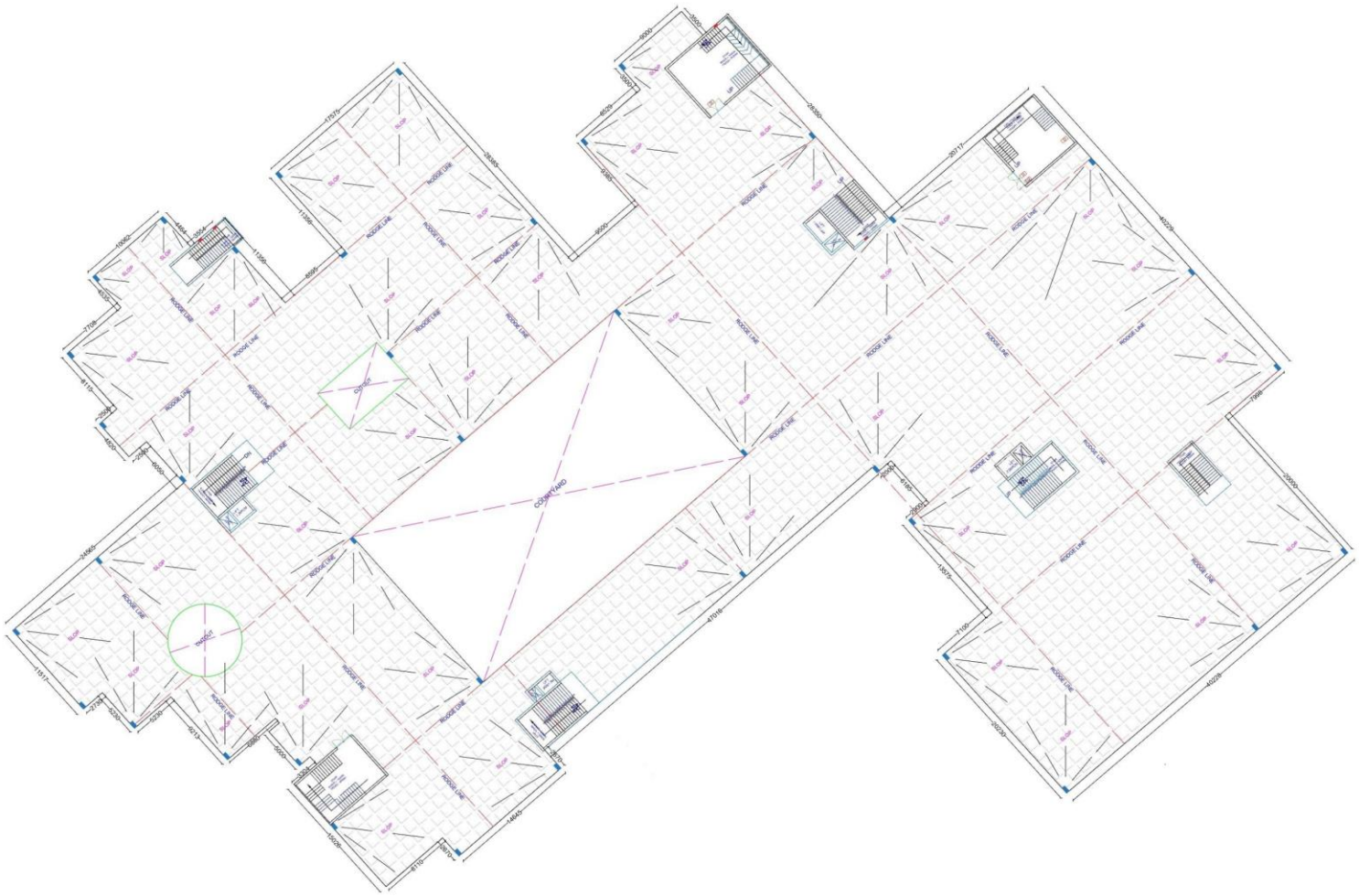

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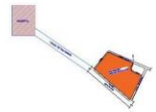

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AUDITORIUM - 500 SQMT
RESTAURANT - 626 SQMT

O.A.T - 614 SQMT

TERRACE PLAN

SCALE -1:100

NOTE : -
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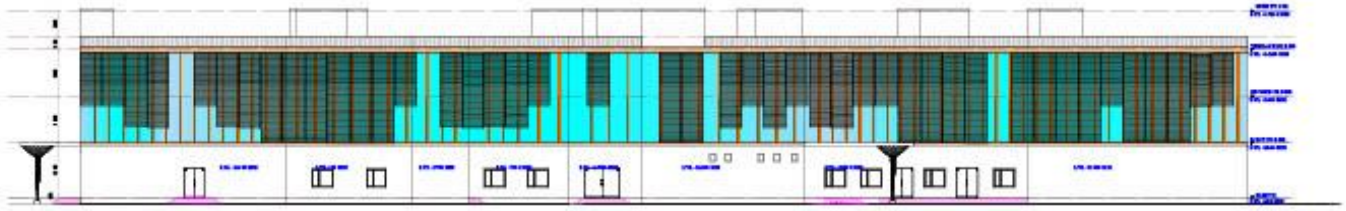
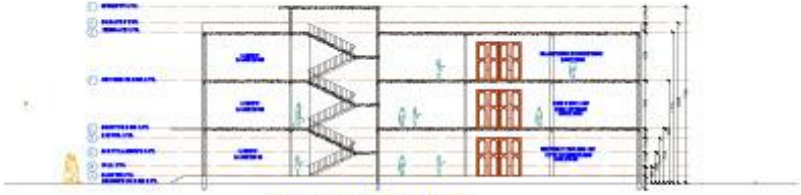
FRONT ELEVATION



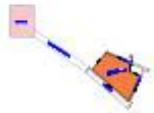
LEFT SIDE ELEVATION

SECTION AA'



SECTION BB'

KEY PLAN



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HISTORY GALLERY- 2200 SQMT

AUDITORIUM - 500 SQMT
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O.A.T - 614 SQMT

ELEVATIONS AND SECTIONS

SCALE - 1:100

NOTE : -
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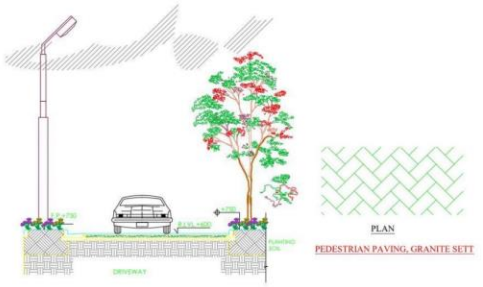
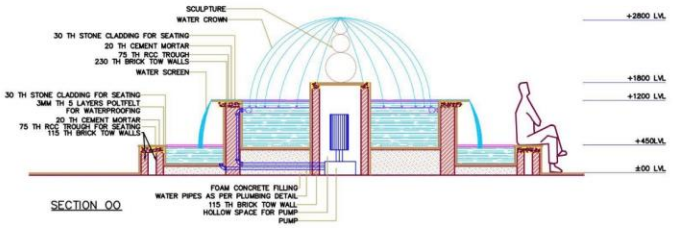
VEGETATION, SHRUBS AND PLANTS

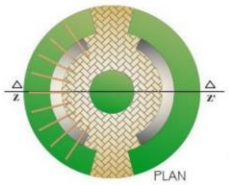
S.N.	SYMBOL	BOTANICAL NAME	LOCAL NAME	HT. IN M	FOLIAGE SPREAD	FLOWERING SEASON	SPECIAL FEATURE
1		SARACA ASOCA	ASHOKA	10 TO 15 M	OBLONG SHAPED LEAF	EVERGREEN	SWEET SMELLING FLOWERS
2		RUSSELIA JUCEA	CORAL PLANT	UPTO1.2M	CONICAL-ROUND SHAPED	EVERGREEN	EASY TO MAINTAIN
3		HELIANTHUS	SUN FLOWER	.85M-1M		FLOWERS THROUGHOUT THE YEAR	FLOWERS CLOSE AND OPEN UP WITH RESPECT TO SUN
4		CASSIAFIST ULA	AMALTAS	6 – 10	LARGE LEAVES	GOLDEN YELLOW IN APRIL – MAY	HARD XEROPHYTIC
5		CALLISTEMON NYRTACEAE	BOTTLE BRUSH	7-10M	LINEAR LEAVES 3-4CMS	CRIMSON SCARLET SPIKES	EVERGREEN
6		ANTHOCEPHALUS CHINENSIS PHAUS	KADAMBA	15-20	DENSE FOLIAGE	HIGHLY FRAGRANT	DECIDUOUS
7		DELONIX REGIA	GULMOHAR	10-12	OPEN BRANCHED SPREADING	ORANGE AND CRIMSSON IN APRIL AND MAY	QUICK & GROWING FLOWERS IN BUNCH
8		HIBISCUS ROSA SINENSIS	ROSE TREE	1.50- 1.80			FOR BEAUTIFUL FLOWERS
9		ALTERNENTHA		.5M		GROUND COVER	
10		PLUMERIA ALBA	SAFED CHAMPA	6 – 8	DECIDUOUS LEAVES OBLONG AND NO LEAVES IN HOT SEASON	SILKY AND CREAMY WHITE FLOWERS PERINIALS	FLOWERS REMAIN FRESH AND SWELL SWEET
11		CASUARINA EQUISETIFOLIA	AUSTRALIAN IRON WOOD	UPTO 30.5 M	REDDISH BROWN TO GRAY BARK VERY THIN, 4-8 IN.	MALE AND FEMALE FLOWER	EVERGREEN TREE SUITABLE FOR SEMI SHADED
12							
13		CYCAS REVOLUTA	SAGO PALM	15M.	DEEP GREEN PLANT , LEAVES DARK OLIVE GREEN VERY SLOW GROWTH RATE.	THE FLOWERS ARE RICH GOLDEN TONES	GOOD FOR CONTAINERS, SUITABLE OUT DOOR AREAS

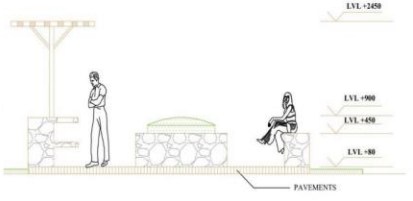


DETAIL OF WATER BODY IN PARK

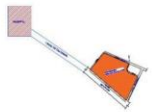


SECTION OO





KEY PLAN



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LANDSCAPE PLAN

SCALE - 1:250

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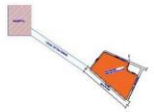
ELECTRIC PLAN

SITE SERVICE CHART		
S. NO.	SERVICES	SYMBOL
1.	ELECTRICAL SERVICES	
a.	ELECTRIC LINE	
b.	ELECTRIC POLE FOR ROAD	
c.	ELECTRIC POLE FOR PARKING	
d.	SUBSTATION	
e.	GENERATOR ROOM	
2.	WATER SUPPLY SERVICES	
a.	WATER SUPPLY LINE	
b.	CHECK VALVES	
c.	DEAD END OF WATER SUPPLY	
d.	RAIN WATER HARVESTING LINE	
e.	I.C. (RAIN WATER HARVESTING)	
f.	COLLECTION CHAMBER FOR RAIN WATER HARVESTING	
g.	RAIN WATER HARVESTING TANK	
i.	PUMP ROOM	
j.	O.H.T	
3.	DRAINAGE SERVICE	
a.	DRAIN(TYPE 1- 300 x 300)	
b.	DRAIN(TYPE 2- 450 x 600)	
c.	MAIN DRAINAGE LINE	
4.	SEWER SERVICE	
a.	SEWER LINE	
b.	MAN HOLE	
c.	MAIN SEWER LINE	
5.	TREES	

WATER SERVICE PLAN

KEY PLAN



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O.A.T - 614 SQMT

SERVICE PLAN

SCALE - 1:250

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VIEWS

VIEW 1

VIEW 2


VIEW 3

VIEW 4

VIEW 5


VIEW 6


VIEW 7


VIEW 8

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