RAM RAMAYANA MUSEUM, AYODHYA, UTTAR PRADESH

A Thesis Submitted
in Partial Fulfilment of the Requirements for the Degree of

BACHELOR OF ARCHITECTURE
in
ARCHITECTURE

by

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Under the Supervision of
AR. SANGEETA SHARMA

to the

SCHOOL OF ARCHITECTURE
BABU BANARASI DAS UNIVERSITY
LUCKNOW

JUNE, 2020

CERTIFICATE

I hereby recommend that the thesis, entitled **"RAM RAMAYANA MUSEUM, AYODHYA, UTTAR PRADESH",** prepared by MS. UPASANA PANDEY under my supervision, is the bonafide work of the student and can be accepted as a partial fulfillment for the award of Bachelors Degree in (Architecture) School of Architecture BBDU, Lucknow.

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Recommendation: Accepted

Not Accepted

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6. Thesis Preparation Guide was referred to for preparing the thesis.	YES ☐	NO ☐
7. Specifications regarding thesis format have been closely followed.	YES ☐	NO ☐
8. The contents of the thesis have been organized based on guidelines.	YES ☐	NO ☐
9. The thesis has been prepared without resorting to plagiarism.	YES ☐	NO ☐
10. All sources used have been cited appropriately.	YES ☐	NO ☐
11. The thesis has not been submitted elsewhere for a degree.	YES ☐	NO ☐
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I blame all of you. Writing this book has been an exercise in sustained suffering. The casual reader may, perhaps, exempt himself from excessive guilt, but for those of you who have played the larger role in prolonging my agonies with your encouragement and support, well…..you know who you are, and you owe me.

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I have put in my best of efforts and worked day and night to make this project a success .hope u too will appreciate my endeavor……

I wish to dedicate this work to my love ones…..Who are always their in my heart.

UPASANA PANDEY

CONTENTS

WHAT IS A MUSEUM?

So, what is a museum? The word museum has classical origins. In its Greek form, mouseion, it meant "seat of the Muses" and designated a philosophical institution or a place of contemplation. At first you might think the answer is simple - a museum is a building full of old stuff. However, there is a bit more to them than that. A museum is more than just the building; it is the treasures the building contains as well. Most importantly a museum has to protect and care for the things it has.
Another large part of what makes a museum, a museum is making sure people can see all the fantastic stuff they hold. Well, if not all, then at least some of it. Museum, as we know today, is a result of a growth of several centuries. Museums have now entered the fourth phase that may be considered as modern development. The three earlier phases are:
1) The storehouse phase
2) Phase of service to the few
3) Phase of exhibition and education

Today the museums are opening up to the common people. In an effort to bridge the communication gap which existed for such a long time, museums have started presenting materials from collections galleries in a manner to attract and instruct the general public. Thus, newest techniques were developed by use of modern technology to present the themes most effectively. The following are the six principal roles it plays now:

- To preserve and memorialize artifacts and events.
- To educate and reaffirm values:
- The museum as substitute cathedral
- The museum as place of entertainment for the whole family
- The blockbuster exhibition and shopping precinct
- The site for the cultural society.

What are the types of Museums?

- Aquariums
- Anthropology Museums
- Art Museums
- Art Centers
- Botanic Gardens
- Children's Museums
- Historic Houses
- Historic Sites
- History Museums
- Local & State History Museums
- Military Museums
- Nature Centers
- Natural History Museums
- Science/Technology Centers
- Sculpture Gardens
- Transportation Museums
- Visitor Centers
- Zoos

BRIEF OF THE PROJECT:

The *Ramayana* is one of the largest ancient epics in world literature. It consists of nearly 24,000 verses (mostly set in the Shloka/Anustubh meter), divided into six Kands (Adi (Bala) Kand, Ayodhya Kand, Aranya Kand, Kishkindha Kand, Sundara Kand, Lanka Kand) and about 500 sargas (chapters). Uttar kand which is also read today in ramayan is a part of kakbhusundi garud samvad and is not a part of original valkimi ramayan . In Hindu tradition, it is considered to be the *Adi-kavya* (first poem). It depicts the duties of relationships, portraying ideal characters like the ideal father, the ideal servant, the ideal brother, the ideal husband and the ideal king. *Ramayana* was an important influence on later Sanskrit poetry and Hindu life and culture. Like *Mahabharata*, *Ramayana* presents the teachings of ancient Hindu sages in narrative allegory, interspersing philosophical and ethical elements.

ETYMOLOGY:

The name *Ramayana* means "Rama" + "Aayana" , where as Rama is name of Lord or God and Aayana means Path or Way.

The literal meaning of the name is "the journey of Rāma" or "the career of Rāma" or in other words path or way taken or chosen by Rama during the human life cycle form at earth, during Treta Yuga (869000 years ago) in Jambudweep(Java Plum)/Aryavart/India.

WHAT IS AN ICON FOR?

To give us some sense of two different dimensions of what it is. And why we must be careful about what stand we take is- Ram is over six thousand years old. What he did, what he did not do, lot of dissection happens in south India about him, North India doesn't dissect him. They just worship him. Southern India dissects him a little bit. But an icon of six thousand years old, who has inspired people towards righteousness, truthfulness, towards being compassionate to each other. For generations, thousands of generations. We should not disturb the icon. Doesn't matter what is right, what is wrong- because nobody really knows for sure. It's only the general story everybody knows. Where he went, what happened, what are the events of his life.

What he did? Why he did? We cannot dissect that. We are not his psychiatrist. Someone said "He was insecure". How can we say "He was insecure". We are not his psychiatrist or something. Six thousand years ago, whether the man was secure or insecure how could we know that? Its rubbish. But he is an icon who has inspired millions and millions of people, across generations. We should not disturb that because humanity needs those icons. We can take up Ram, we can take up Krishna, we can take up Jesus, we can take up Buddha, and find faults with them and today tinker with them, " See he did this, this was not okay, that was not okay, he was racist, he was this, he was that." This is rubbish. This is relevant to people who are here now. Six thousand years ago, you want to judge him now!

No

He is serving humanity has an icon, that icon should not be disturbed.

SCOPE OF THE PROJECT:

The scope of the Project is huge. The building should serve to be a landmark in the cityscape and should be structurally sound.

It should have an impact at the mind of the visitor and narrate the history itself.
Large span structure and the roofing system is also a great challenge.
Provision of lighting system natural plus artificial is also a huge scope and needs precision. Designing of Public interactive spaces like the open air theatre, visitors' center, souvenir shop and also outdoor exhibition spaces, in the constrained site is also a challenge. Hence listed below are the areas which are under my scope:-

1. Designing Galleries
2. Provision of Visitors Centre where visitors interact with each other
3. Provision of VIP Floor where the public gets to interact with the celebrities
4. Designing an Auditorium for 150 people
5. Designing Food Court for the visitors
6. Provision of a Library and Research Centre
7. Provide Outdoor exhibition area
8. Provision of Parking for 2 wheelers, cars and buses.

(All the designs and the layout will adhere to the norms as laid down by the Municipal Corporation of UTTAR PRADESH rules and regulations.)

AIMS AND OBJECTIVES:

✓**Aims**

1. To encapsulate the mythology history
2. To exhibit the remains and belongings of that age.
3. To arrange seminars, workshops .
4. To generate interest in the future generation in the field of Indian mythology

✓**Objective**

1. To collect antiquities and art objects of Historical, Cultural and Artistic significance for the purpose of their protection and interpretation.
2. To disseminate knowledge about the significance of the objects in respect of history, culture and artistic excellence and achievements.
3. To serve as cultural centre for enjoyment and interaction of the people in artistic and cultural activity.
4. To serve as epitome of national identity.

HISTORY AND BACKGROUND:

The political, historical and socio-religious debate over the history and location of the Babri Mosque, and whether a previous temple was demolished or modified to create it, is known as the Ayodhya dispute. In 1992, the demolition of the Babri Masjid by Hindu nationalists triggered widespread Hindu-Muslim violence.

In history this place were known for the temples of different religions, It was the Capital for the King of Suryavanshi Empire. According to Hindu belief this place is the birth place of Lord Rama and where the grand temple of Lord Rama were present and later which were broken by the Mughal King Babar and made Mosque on same place which were known as the babri masjid. Long controversy from decades on whether its Temple or Masjid was there is been in debate.

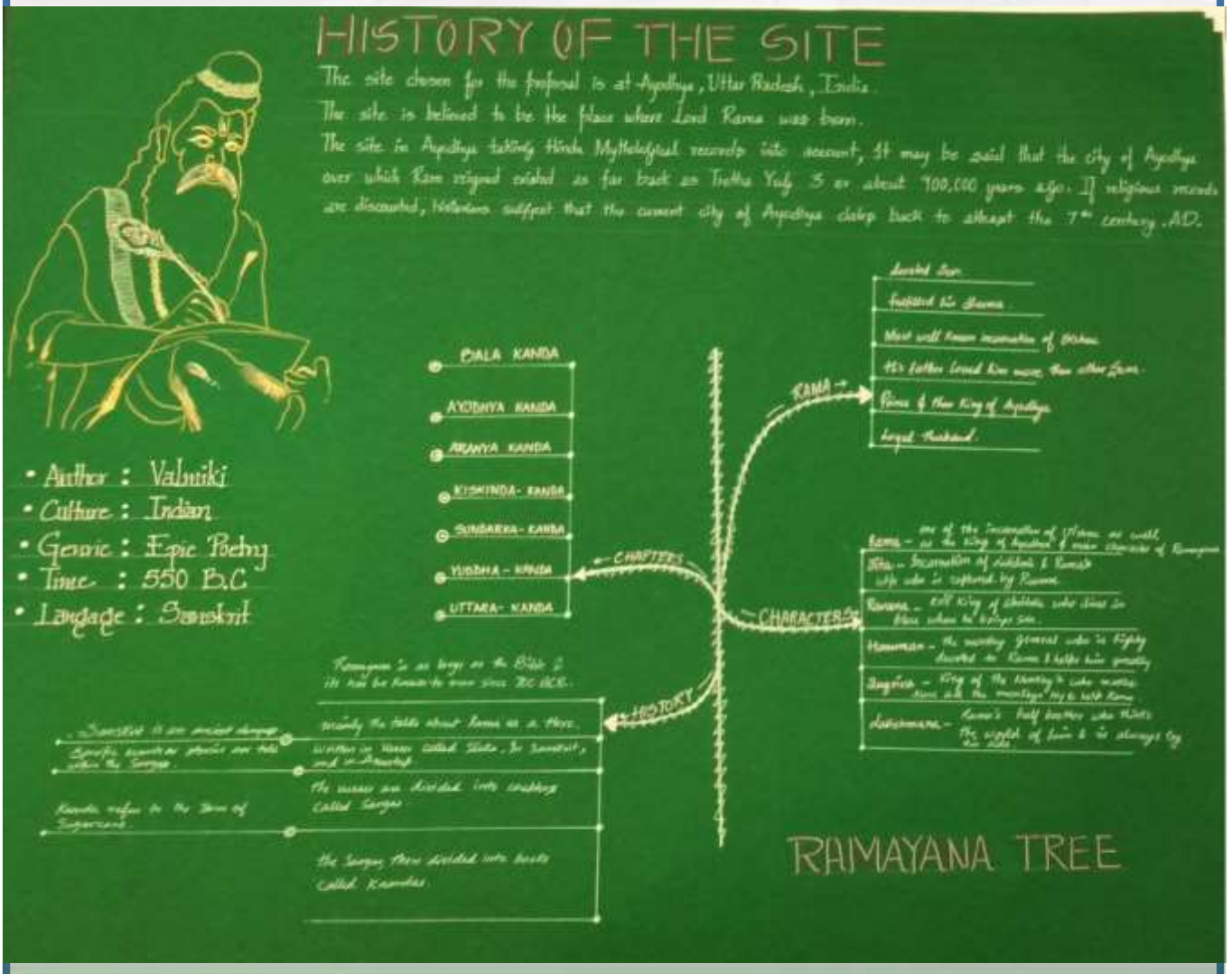
Ram Janmabhoomi-Babri Masjid in Ayodhya has been the site of religious dissent and much bitterness all through history. In 1992, however, clashes between Hindus and Muslims escalated to unprecedented levels causing disturbances all over the country and affecting the lives of many thousands. Part of the mosque was demolished and in retaliation, more violence followed in different parts of the country.

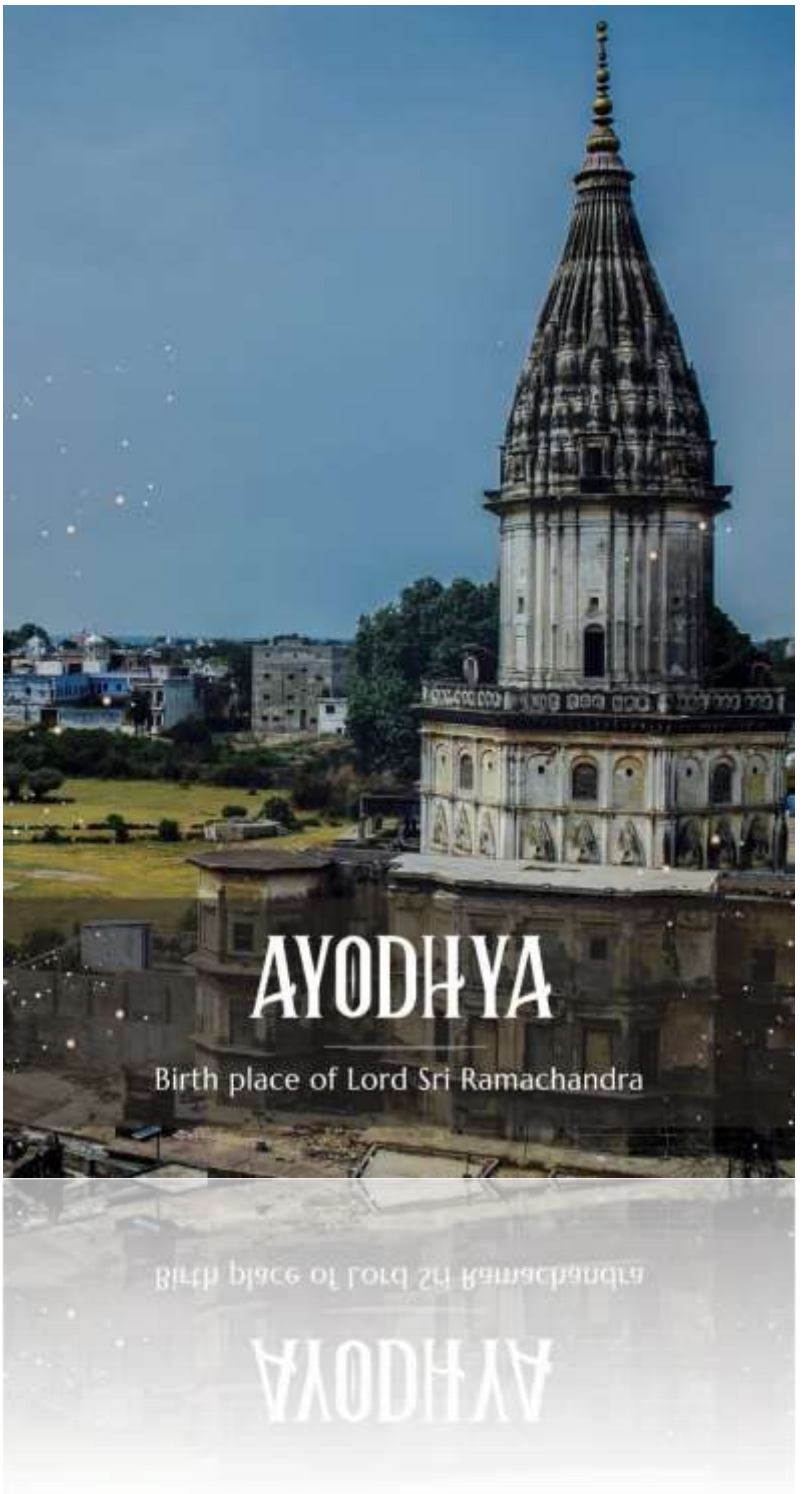
Taking Hindu mythological records into account, it may be said that the city of Ayodhya over which Ram reigned existed as far back as the Tretha Yug 3 or about 900,000 years ago. If religious records are discounted, historians suggest that the current city of Ayodhya dates back to at least the 7th century AD. It seems a temple of some sort existed at the spot in 1528 when Mir Baqi, a general of the Mughal Emperor Babur raised a mosque at the spot which could face the mecca, against which he gave much more land to the Hindus in the same locality to rebuilt a larger temple and to compensate for the same. Ever since, the Ram Janmabhoomi has been at the centre of much conflict and an ongoing tussle.

The conflict cannot be considered more concrete even from 1528, when the Babri Masjid was actually constructed, because the Hindutva groups claim that the mosque replaced an existing Ram temple for which there has never been any tangible evidence. The ASI report, however, is not available for a comment in public domain.
The mosque was however demolished by the Hindu Kar sevak's taking the law and order for a ride on the 6th of December in 1992, which led to Riots in different parts of the country in different years.

Ref: 'The Hindu', September 30'2010.

HISTORY OF THE SITE:




AYODHYA
Birth place of Lord Sri Ramachandra

NEED OF THE PROJECT

This is Mecca, the birthplace of Prophet Mohammad.

Beautiful isn't it?

This is Bethlehem, the birthplace of Jesus Christ :

All my Christian brethren must be feeling joyful upon seeing this picture.

This is Ayodhya, the birthplace of Lord Ram.

Will any Hindu feel ecstatic about it? NO

Ram is an exemplar of the Dharmic traditions of this land of Bharat. Even our Constitution contains the painting of Lord Ram.

ABOUT DISTRICT:

Ayodhya is a fast growing and developing city of Uttar Pradesh. The Proponent has come up with this proposal of developing a museum, which will enhance the beautify the place for public to visit for leisure and increase its tourist inflow and other activities. Development of the project will enhance the aesthetic value of the site.

Ayodhya is a city situated on the banks of holy river Saryu. In the Indian state of Uttar Pradesh, It is the headquarter of Ayodhya District and Ayodhya division.
It forms a municipal corporation with Faizabad. Ayodhya is also known as Saket, is an ancient city of India, is the birthplace of Bhagwan Shri Ram and setting of the great epic Ramayana.

It is adjacent to Faizabad city in the central region of Uttar Pradesh. Ayodhya used to be the capital of the ancient Kosala Kingdom. It has an average elevation of 93 meters (305 feet). Owing to the belief as the birthplace of Bhagwan Shri Ram, Ayodhya (Awadhpuri) has been regarded as first one of the seven most important pilgrimage sites (Mokshdayini Sapt Puris) for Hindus.

SITE HISTORY AND SITE SELECTION FOR PROPOSED PROJECT AND ITS APPROVAL:

The proposed site is located in the western extremities of Ghaghara river with a landscape be holding ample natural beauty to provide a perfect ambience for the setting up of this project.

LAND USE- WITH REFERENCE TO PROPOSED LOCATION:

The site is almost a flat trained open land with general slopes in easterly directions. The location plan of the proposed project has been represented on Google imaginary.

SITE APPROACH:

The site is easy accessible via State Highway-9 (KARSEWAK PURAM) and NH-27 (BASTI-LUCKNOW ROAD) there are Ayodhya Railway Station is at 3.4km and Ayodhya (Faizabad) Airport is approx 12.0Km from site.

The nearest railway station is Ramgaht halt 5 min. walking distance.

METHODOLOGY/APPROACH:

- Draw excerpts from books like Bhagavad Geeta and different Hindu mythology grounds on Internet. Then find common points that have been mentioned in both the books.

- To generate a program that could express these common points through Art and Space. Study methods that could allow multiple emotions to flow out in space.

- Methods that could give moments of Excitement, moments of Calm, moments of light and Circulation and also make the visitor Think.

- To Bring in elements like water (waterbody or waterfall) for that spot that could signify peace.

- To try not to build anything above the ground or try to build minimum above ground and more below the ground so that the visitor at entry could see nothing else but the open sky and the water.

- The building could have no defined entrance for a visitor so that they pass through the museum and then derive their circulation with open to sky and enclosed spaces. The enclosures to allow the body to move and the open spaces to allow the mind to think.

- Just when you feel you are completely dis-oriented, what gives you orientation is the open-to-sky spaces that could be spread across in broken patterns. The localities once familiar with the building could find their short route, out from this gateway.

SCOPE OF THE STUDY/WORK:

An attempt to create a secular and humanitarian building that shares a common space and uplifts the importance of humanity, breaking all myths of religion.
A proposal near the very disputed site such that it becomes an Agenda for any visitor at Ayodhya, to visit.

Also to propose a building that allows the foreign tourists to think and clear all misconceptions about religion.The site that carries the baggage of dispute, fight and a history known to almost every Indian and even tourists abroad, is therefore very renowned and fit enough to make promises.
The site in today's scenario draws a memory of hatred, anger, fight and sadness, which holds a capacity to be turned into a symbolism of peace.

EMPLOYMENT GENERATION (DIRECT & INDIRECT) DUE TO THE PROJECT :

The proposed project of will have the benefits related to the direct employment to people associated with the construction. It provides employment to skilled and unskilled laborers during construction of the project. Additional employment opportunities will lead to a rise in the income and improve employment opportunities for nearby population. The proposed facility will also generate jobs for the women labourers during construction phase. Indirect employment benefits will be in operation phase through food,snacks,tea and cold drinks (and many more item) canteen.

ELECTRIFICATION/ POWER REQUIREMENT & ITS SOURCE :

Power supply is provided by U.P. Power Corporation Limited. The electrical cables from electric substation will be laid underground. At proposed project site the initial assessment of the development area and the mode of conceptual philosophy of electrical infrastructure development have been thought to include the following main components: To cater the power requirements for construction work and to development of the building sourcing for immediate power requirement.

LIMITATIONS:

Since bitter disputes and communal violence broke out at the Ram Janmabhoomi-Babri Masjid, this area is manned by armed security officials round the clock. Visitors are requested to abstain from carrying weapons or suspicious articles. Some shrines may be inaccessible due to security reasons.

Therefore, to document the site with photographs or sketches, on site, is not possible (memorizing the site by walking through it for 4 times back-to-back was the only solution).
This proposal has been formulated based on the outlook of people in the recent times and also their interest through program's for non-violence like 'not in my name'. Hence, the impact and acceptance of the project based on social, political, physical and legal factors may not be predictable.

The museum may not have existing artifacts to display but could be a museum that could be developed with the help of artists, creating the necessary art work and other aspects to depict and experience history, sorrow and pain.
To get into the depths of religion (or practices) is beyond control and it depends on every individual's belief.

DISTRICT AT A GLANCE:

Govt. type : Mayor Council
Govt. body : Ayodhya Municipal Corporation (with Faizabad)
Languages Official : Hindi, Urdu, and English
Additional : Awadhi dialect of Hindustani (native dialect)
Project name : Ram Ramayana Museum
Location : Ayodhya, Uttar Pradesh, India
Project type : Proposed
Client : Central Government.
Area : 94,707 sq.mt. (23.6 Acres)
Site owner : Tourism Department
Population : 24,70,996
Language : Awadhi
Villages : 1,272
Male : 12,59,628
Female : 12,11,368

SITE APPROACH FROM FAMOUS PLACES:

- Ram Janma Bhumi - 2.9 km
- Hanumangarhi - 1.7 km
- Kanak Bhavan Temple - 2.9
- Gulab Bari - 6.9 km
- Raj Dwar Mandir - 1.6 km
- Nageshwarnath Temple - 850m
- Ram Katha Museum - 1 km

SITE PLAN OF RAM RAMAYANA MUSEUM:

SITE SURROUNDINGS:

- Ramghat halt
- ram katha park
- Ram nam ashram
- Janki mahal
- Bada bhaktmal ashram
- chaudhar chran ayodhya
- Dhram shala singh park

OTHER IMPORTANT PLACES NEARBY:

- **Ram Janma Bhumi** - 2.9 km
- **Kanak Bhavan Temple** - 2.9
- **Gulab Bari** - 6.9 km
- **Raj Dwar Mandir** - 1.6 km
- **Nageshwarnath Temple** – 850m
- **Ram Katha Museum** - 1 km
- **Kale Ram Mandir** - 700 m
- **Hanumangarhi** - 1.7 km
- **Ashapur Village** – 4.86 Kms, NW
- **Samaha Kala-** 2.81 Kms, SW
- **Sarairasi-** 2.61 Kms, SE

EXISTING STRUCTURE ON SITE:

Karsewak workshop, Open drain,Temporary shades on site for EWS.

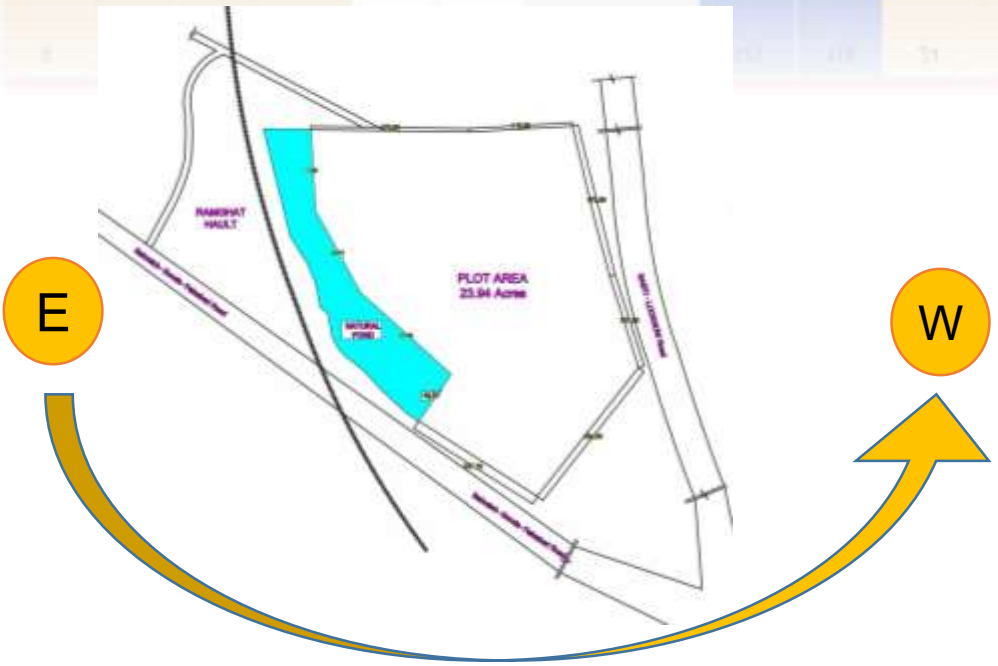
TOPOGRAPHICAL CONDITION OF THE SITE

Topography:

1. The site is flat levelled with a gentle slope due to rain.
2. Mostly area is covered by wild plantation and trees due to weathered conditions.
3. Site is bordered with green belt along the Railway line and NH-27
4. The site is approx 500mm below to SH-9 And 3.0m to NH27 .
5. The distance from the river Saryu (Ghagra) is about 700m

CLIMATE ANALYSIS:

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	24.7	26.7	29.5	31.2	31.3	28.8	27.4	27.1	27	26.9	25.3	24.1
Min. Temperature (°C)	18.3	20	22.6	24.7	25	24.1	23.6	23.1	22.7	22.2	20	18.1
Max. Temperature (°C)	31.1	33.5	36.4	37.8	37.6	33.5	31.2	31.2	31.4	31.6	30.7	30.2
Avg. Temperature (°F)	76.5	80.1	85.1	88.2	88.3	83.8	81.3	80.8	80.6	80.4	77.5	75.4
Min. Temperature (°F)	64.9	68.0	72.7	76.5	77.0	75.4	74.5	73.6	72.9	72.0	68.0	64.6
Max. Temperature (°F)	88.0	92.3	97.5	100.0	99.7	92.3	88.2	88.2	88.5	88.9	87.3	86.4
Precipitation / Rainfall (mm)	0	0	4	19	51	51	73	70	121	118	24	9



CLIMATE & RAINFALL:

The average annual rainfall is 1034.8 mm. The climate is sub-humid and cold season starts in November and last till February, the summer season begins in March 6 and continues till the onset of monsoon by middle of June. About 90% rainfall takes place from June to September During monsoon surplus surface water is available for deep percolation to ground water. January is generally the coldest month with the average minimum temperature of 70 C and mean monthly maximum temperature is 22.30 C. From March temperature rises rapidly and May and early June day temperature sometimes reaches 470 C. After onset of monsoon in June, there is appreciable drop in temperature. The mean monthly maximum temperature is 320 C and mean monthly minimum temperature is 16.5 0C. Except during the monsoon and early part of monsoon period the air is dry. The mean monthly morning related humidity is 72% and mean monthly evening relative humidity 50%. The winds are generally light except in summer and monsoon when they strengthen slightly. The mean wind velocity is 3.2 km/hr. The Potential evapotranspiration is 1660.9 mm.

SWOT ANALYSIS :

STRENGTHS:

On the National highway & state Highway, and connecting through railway station at 5min walking distance.
The site is located nearby the dream projects (SHRI RAM STATUES 200Ft High, Eye theme park, Ashok vatika) of UP Government
Ayodhya (Faizabad)Airport is at 12.5KM distance from site.
Ayodhya Railway station is at 3.4Km.
Between railway line and the site has natural pond

WEAKNESS:

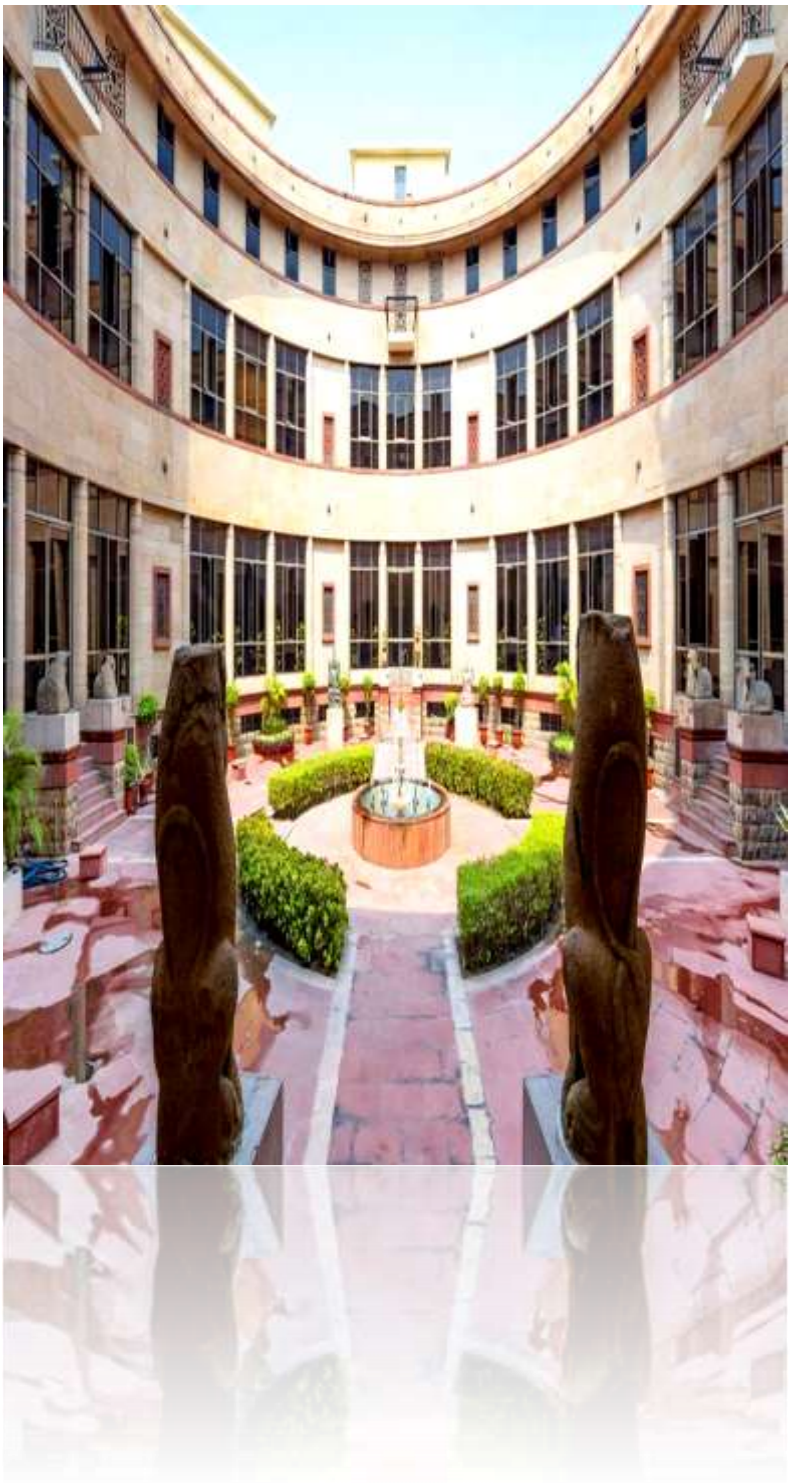
Changing in Government policy.
Lack of management.
Lack of investment.
THREATS:
Near by the river Saryu (Ghagra) Approx distance is 700mt.

OPORTUNITY:

Ayodhya is one of the famous religious place.
Birth Place of Lord Shree Ram. There are many Religious Project Proposed beside river Ghagra (Saryu).
Due to Birth place of Shree RAN the project has large opportunity to having tourist attraction & employment for the local peoples
High Security zone
Ayodhya is also going to be connect with Ramayna Circuit

CASE STUDY 1:

NATIONAL MUSEUM, NEW DELHI



NATIONAL MUSEUM, NEW DELHI

The national museum in new Delhi, also known as the national museum of India, is one of the largest museums in India. Established in 1949, it holds a variety of articles ranging from pre-historic era to modern works of art. It functions under the ministry of culture, government of India. The museum is situated on Janpath. The blue–print of the national museum had been prepared by the Gwyer committee set up by the government of India in 1946.

The museum has around 200,000 works of art, both of Indian and foreign origin, covering over 5,000 years. It also houses the national museum institute of history of art, conservation and museology on the first floor which was established in 1983 and now is a deemed to be university since 1989, and runs masters and doctoral level courses in history of art, conservation and museology.

RELEVANCE:

The success of this Exhibition led to the idea that advantage should be taken of this magnificent collection to build up the nucleus collection of the National Museum. State Governments, Museum authorities and private donors, who had participated in the exhibition, were approached for the gift or loan of artifacts, and most of them responded generously.

On August 15, 1949, the National Museum, New Delhi, was inaugurated in the Rashtrapati Bhawan by Shri R.C. Rajagopalachari, the Governor-General of India. The foundation of the present building was laid by Pandit Jawaharlal Nehru, the Prime Minister of India, on May 12, 1955.

SITE CONTEXT

SITE DISCRIPTION

The museum is situated on the corner of Janpath and Maulana Azad Road over an area of 7.5 acres, with a build up area of about 18,000 sq.m.

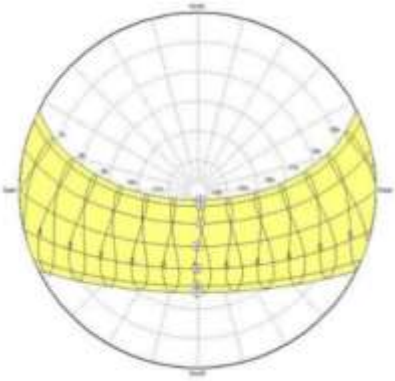
Latitude: 28° 36' 42.4764" N

Longitude: 77° 13' 10.1748" E

Connectivity:

- 1.2 km away from **Central Secretariat Metro Station**
- 3.8 km away from **New Delhi Railway Station**
- 14.5 km away from **Indira Gandhi international Airport**
- Nearest stops : **National Museum Bus Stop**

- Macro-Climate: **Humid Subtropical**
- Average Temperature: **25.0 °C**
- Maximum Temperature: **47.0 °C**
- Minimum Temperature: **-2.2 °C**
- Annual Precipitation: **886 mm**
- Prevailing Wind Direction: **18km/h North-West**



Sun Path Diagram

Prevailing Wind Direction

SCALE:

"If you spent only one minute with each piece in the National Museum's collection, it would take three years, nine months and twenty-three days to view every item.

Recognizing that 2,00,000 sculptures, paintings, coins, decorative arts, textiles, arms and armours, manuscripts and anthropological objects can overwhelm even most enthusiastic visitor. It has about 25 main art gallery sections for encapsulating the diversity of the museum.

AREA PROGRAMME:

AREA CHART:

Sr. No.	Space	No. of Units	Area (in sq. m)	Design Capacity
1.	**ENTRANCE**			**100**
	Entrance Hall	-	250	
	Reception	1	30	
	Back Office	1	20	
2.	**ADMINISTRATION**			
	Staff Office	10	120	**50**
	Director General's Chamber	1	30	
	Curator Office	2	20	
	Meeting Room	2	100	
	Staff Rest Room	1	40	
	Security Monitoring Room	1	20	
	Server Room	1	20	
	Staff Toilet (M/F)	5/5	50	
	Store	5	200	
	Staff Canteen	1	100	
3.	**WORKSHOP**			**200**
	Wood Workshop	1	200	
	Metal Workshop	1	200	
	Terracotta Workshop	1	200	
	Store	3	120	
4.	**EXHIBITION GALLERY**			**4000**
	Harapan Civilisation Gallery	1	300	
	Mauryan Gallery	1	60	
	Gupta Gallery	1	300	
	Terracotta Gallery	1	300	
	Bronze Gallery	1	400	
	Medieval Art Gallery	1	400	
	Buddhist Art Gallery	1	300	
	Jewellery Gallery	1	400	
	Decorative Art Gallery	3	600	
	Miniature Painting Gallery	1	300	
	Textile Gallery	1	200	
	Western Art Gallery	1	200	
	Copper Gallery	1	200	
	Wood Carving Gallery	1	200	
	Tribal Art Gallery	1	400	
	Music Instrument Gallery	1	300	
	Arms & Armour Gallery	1	300	
	Asian Antique Gallery	1	1000	

	Ethnic Art Gallery	1	200	
	Coins	1	400	
	Indian Wall Painting Gallery	1	300	
	Manuscript Gallery	1	60	
	Maritime Heritage Gallery	1	300	
	Ajanta Painting	1	200	
	Thanjavur Painting Gallery	1	300	
	Special Exhibition	1	1000	
5.	**LIBRARY**	-	200	**50**
	Librarian's Office	1	20	
	Cyber Room	1	30	
6.	**AUDITORIUM**	-	500	**250**
	Projection Room	1	20	
	Green Room	1	30	
7.	**AMENITIES**			
	Restaurant	1	250	**60**
	Museum Shop	1	100	**25**
	Seminar Hall	1	200	**50**
	Toilet (M/F)	10/10	50	
8.	**SERVICES**			
	Maintenance	1	50	
	Janitor Room	1	20	
	Store	5	100	
	Housekeeping Centre	1	20	
	High Tension Control Room	1	200	
	HVAC Room	1	200	
9.	**LABORATORY**	4	200	**50**
10.	**LOADING AREA**	-	400	
11.	**ART & CRAFT CENTRE**	-	300	**50**
12.	**OPEN SPACES**	-		**100**
	Courtyard	4	100	
	Central Amphitheatre	-	100	
	Open Air Theatre	-	50	
13.	**PARKING**	-	500	**100**
	VIP Parking	-	100	
	Staff Parking	-	100	
14.	**TRANSITION AREA** (30% of Total Build up Area)		4000	

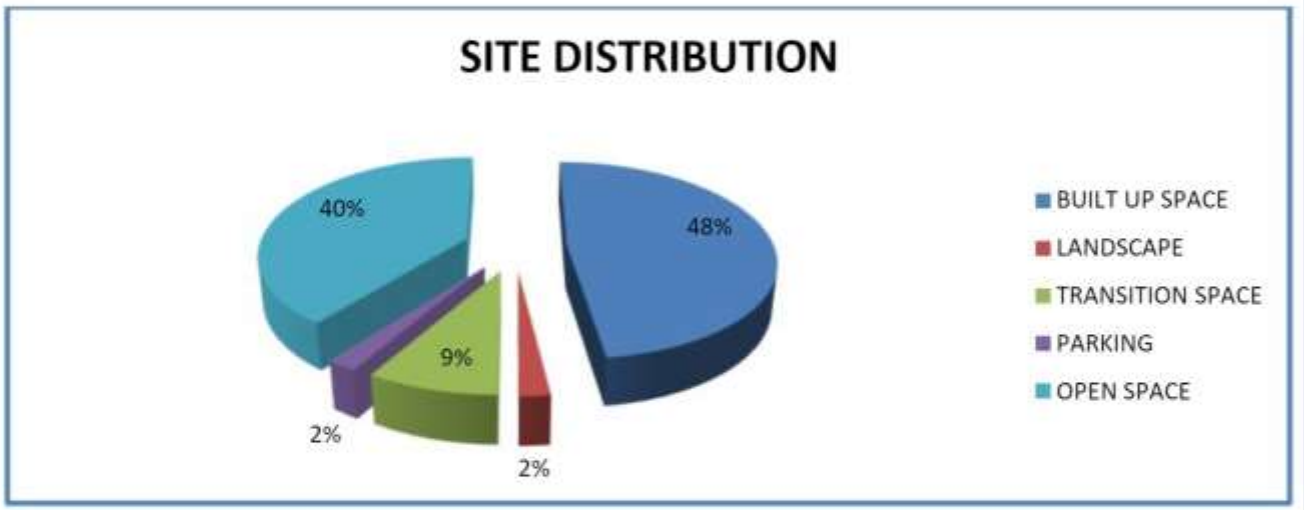
TOTAL AREA	**18,500 Sq. M**

USER ACTIVITY:

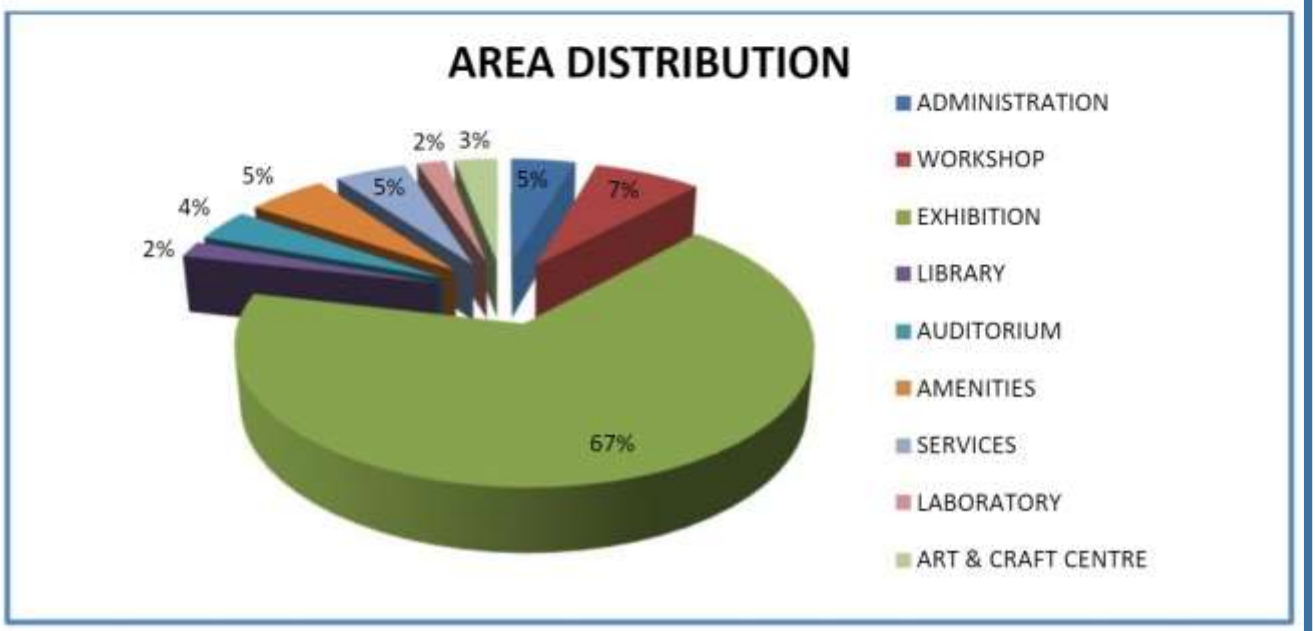
USER	ACTIVITY	SPACE
VISITOR	Visual Experience	Harapan Civilisation Gallery Mauryan Gallery Gupta Gallery Terracotta Gallery Bronze Gallery Medieval Art Gallery Buddhist Art Gallery Jewellery Gallery Decorative Art Gallery Miniature Painting Gallery Textile Gallery Western Art Gallery Copper Gallery Wood Carving Gallery Tribal Art Gallery Music Instrument Gallery Arms & Armour Gallery Asian Antique Gallery Ethnic Art Gallery Coins Indian Wall Painting Gallery Manuscript Gallery Maritime Heritage Gallery Ajanta Painting Thanjavur Painting Gallery Special Exhibition Auditorium
	Shopping	Museum Shop
	Reading	Library Cyber Room
	Parking	Parking Area
	Sanitation	Toilet
	Beverage & Food	Restaurant Staff Canteen
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 Laboratory Store Reserve Collection

AREA DISTRIBUTION:



(i) Site Distribution

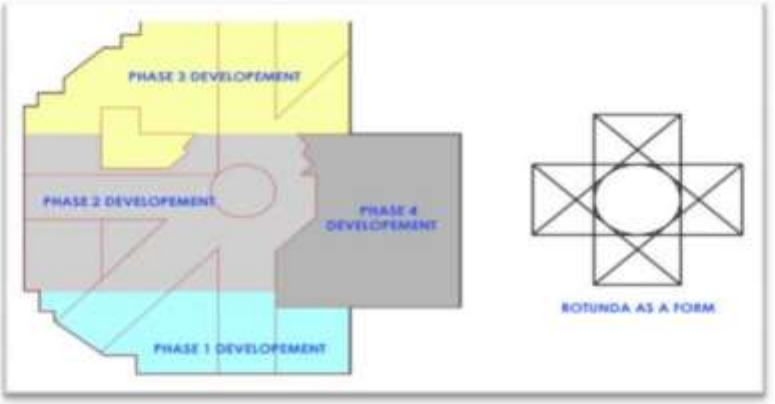


Site Distribution

ARCHITECTURAL DRAWINGS:

CONCEPTUAL PLAN:

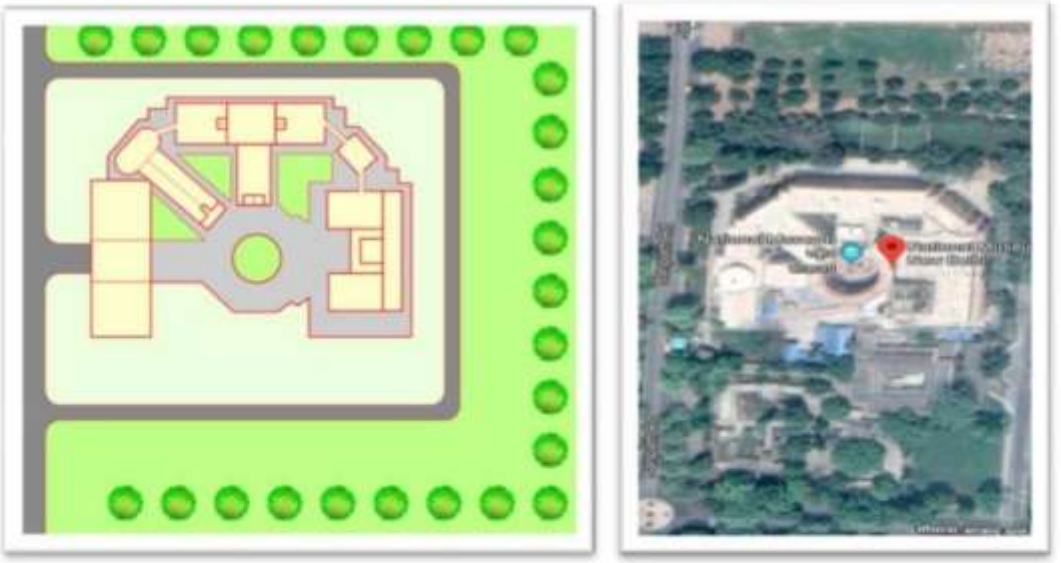
Building was designed such that it merges with the site surrounding. It was the first planned museum at the National level. Building comprises of four storied with a basement. Basic plan of the building is fan shaped with a circular courtyard in between surrounded by a covered Veranda. Wings are linked with the courtyard according to different requirements and need. Hence, one's find that after watching the exhibits one finds himself again in the same place from where he/she started.



Concept development of the museum

SITE PLAN:

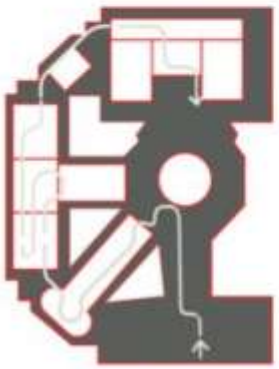
The site is not well designed as there is no segregation of spaces. There is no proper parking facility and the landscape area is not designed well. Parking facilities are provided at the adjacent building.



Site Plan of National Museum

CIRCULATION PLAN:

The Ideology behind the circulation pattern was that every section of exhibition can be experienced by the visitors and no section is left untouched.



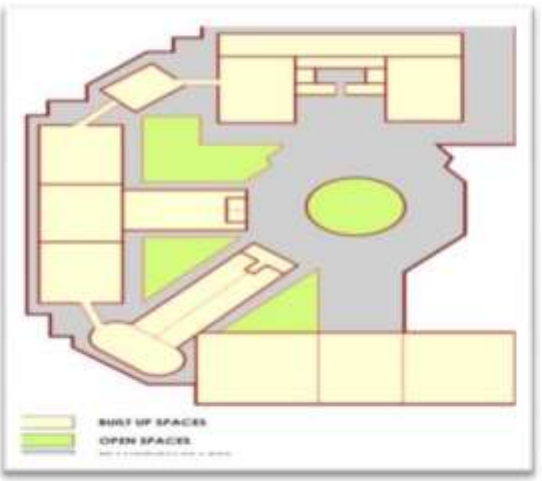
GROUND FLOOR

FIRST FLOOR

SECOND FLOOR

ZONING:

The zoning of the museum is done horizontally as well as vertically. Administration and other staff related spaces are placed at the basement of the museum. Services like HVAC, electrical and other are also placed at the basement. Exhibitions are placed at the upper level. Horizontally, the museum is zoned into open, transition and exhibition spaces. Such zoning makes this museum a nice visitor's experience.



Horizontal zoning of National Museum

FLOOR PLANS:

Exhibition halls are interconnected with one another with a centre circulation court 6m wide. Separate entrance for VIP and physically handicapped is present. Basement consists of AC plan room, staff cafeteria, and workshop.

(i) Basement Plan

(ii) Ground Floor Plan

Harapan Civilisation Gallery, Mauryan Gallery, Gupta Gallery, Terracotta Gallery, Bronze Gallery, Medieval Art Gallery, Buddhist Art Gallery, Jewellery Gallery, Decorative Art Gallery, Miniature Painting Gallery, Auditorium and Library are placed at **Ground Floor**.

Coins, Indian Wall Painting Gallery, Manuscript Gallery, Maritime Heritage Gallery, Ajanta Painting, Thanjavur Painting Gallery, Special Exhibition are placed at **First Floor**.

Textile Gallery, Western Art Gallery, Copper Gallery, Wood Carving Gallery, Tribal Art Gallery, Music Instrument Gallery, Arms & Armour Gallery, Asian Antique Gallery, Ethnic Art Gallery are placed at **Second Floor**.

(iii) First Floor Plan

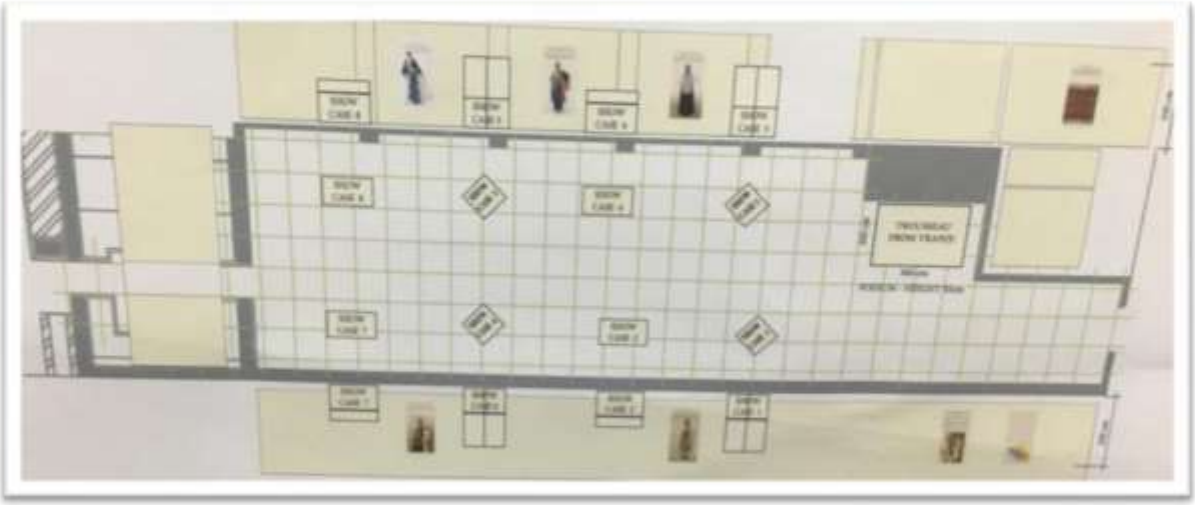
(iv) Second Floor Plan

ELEVATIONS:

(i) Courtyard

(ii) Model of National Museum

DETAILS:



Special Exhibition Plan

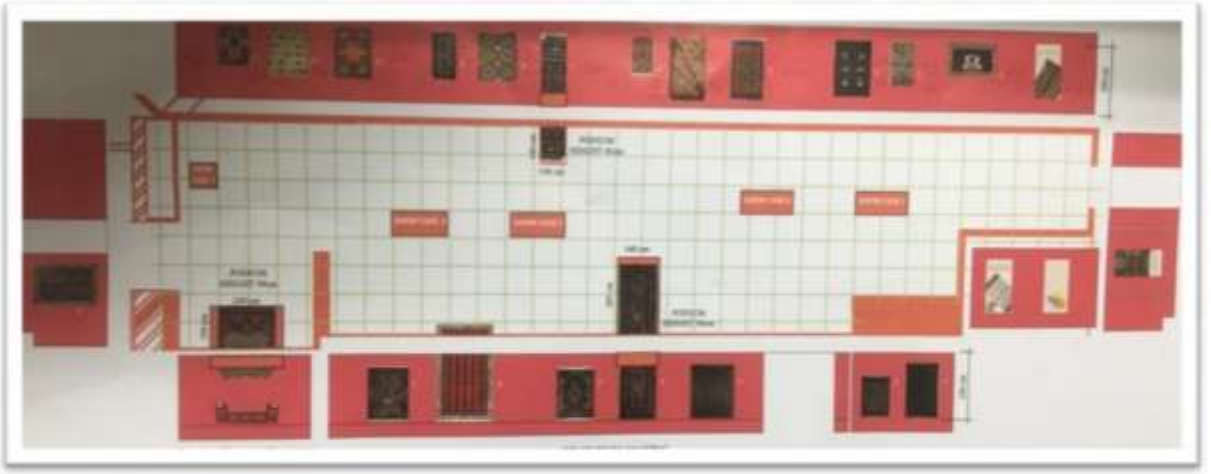


Fig. 3.7 (ii) Special Exhibition Plan

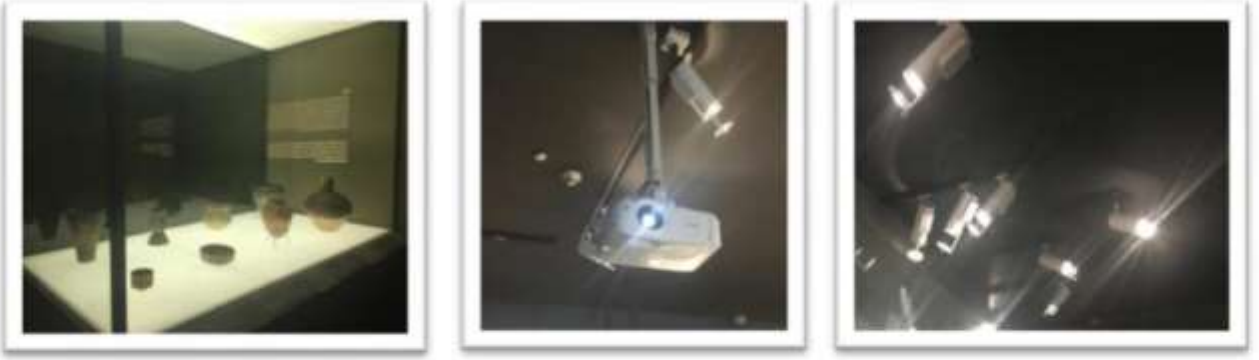
4. MATERIALS:

Use of Aluminium & Wood in National Museum

Interiors are done with the help of Wood, Glass and Stone. Flooring used is marble and Wood. Different wall colour and rendering is done to avoid monotony. Aluminium is also used in many sections such as Bronze and Coin Gallery. Building is made using high strength R.C.C. and red sandstone. Temporary structures are provided around the building.

5. LIGHTING:

Each display has its own focussed light, diffused light. Lights are used in false ceilings or hanged by steel section. No natural light are used inside the museum. Artificial lighting is done with day light exhibits kept to minimum. Natural lighting is only used in centre circulation court. Well played with focused lights with the use of concave and convex lenses different places. In jewellery section the gallery was dark and recessed pockets were made with minimal lighting. The whole structure is based around the central rotunda which lights up the entire corridor.



Effective use of Spot Lighting

6. OBSERVATION:

The collection consists broadly of nine thousand six hundred objects, aesthetic and votive representing different themes – likeness of royal ladies, singers, dancers, kings, scenes of court-life and even animal figures representing aesthetic aspect of art, and myths, legends, narratives or deity images representing its religious aspect.

The ideology of circulation pattern in the museum is one a greater aspect in the museum, the ideology to make visitor experience each and every gallery and in a chronological sequence.

Proper parking facility was not there for visitor, Archaeological survey of India building was used for parking. Only front façade was articulated, rear façade was only plastered. Placement of toilet was not proper; entry was from the landing of staircase. Fire exits were hidden and in case of emergency it is difficult to come out of the place.

7. DESIGN ANALYSIS:

The Department has showcased its objects in different galleries, all on the ground floor. Though scholastic Approach might always present a different perception, the objects displayed in each gallery have been properly classified, the basis being dynastic, stylistic, chronological and religious. Although ramp runs throughout the museum but still the design is not universal.

The use of artificial lighting inside the gallery balancing with shadows is one major design aspect of the museum, to prevent sculptures and exhibits from harsh sunlight. The internal courtyard is placed to light up the corridors.

8. CONCLUSION:

Having a wide range of masterpieces of sculptural art in such medium: stone, terracotta, stucco, bronze gold, silver, ivory, bone, spanning a period of over two millenniums, from the 3rdcentury BC to the 19th century AD, one of the longest in the history of world's art-heritage, the Department of Archaeology make this museum a relevance choice for understanding the design context of the museum planning. The museum has its merits and demerits.

CASE STUDY 2:

VIRASAT E KHALSA, ANANDPUR SAHIB

VIRASAT-E-KHALSA, ANANDPUR SAHIB, PUNJAB

1. INTRODUCTION

Virasat-E-Khalsa, Anandpur Sahib, Punjab (Ar. Moshe Safdie) Khalsa Heritage Complex has been conceived as a heritage museum with multimedia and facilities for state's art and communication, acting as a setting for unfolding the drama of Sikh Heritage. The complex serves as reaffirmation of the roots for Sikhs and an inspiring journey into spirited culture for Non-Sikh community. Located in the holy town of Anandpur Sahib in the state of Punjab sited overlooking the town in close proximity to Anandpur Sahib (1.2km). The whole area has number of Gurdwaras and other potential sites. It has been planned as an experiential space where history is narrated with an interesting juxtaposing of a series of paintings and installations. The whole site becomes a comprehensive complex for tourists. The museum is envisioned as an environment derived from oral narratives, traditional crafts integrated with state art technology.

2. DESIGN APPROACH AND CONCEPT

Design fortress the Architecture of village and forms a dramatic silhouette against the surrounding cliff terrain. 2. Design has woven threads of Vernacular aesthetics integrated into museum's language to highlight the living culture. Narratives that endeavors museum to tell a deep spiritual story. 3. To create an experience of this huge scale, where design approach relies on creation of scenography environment.

3. ARCHITECTURE OF THE PLACE

A long journey through the history of Punjab inspired from the historic Golden Temple and the rich Heritage of the surrounding Gurdwara-Anandpur Sahib, its natural valley, hills, fort and gory. Evolution of form is rooted from analogy of 17th Century Fort Architecture. Symbolic theme of earth and sky, mass and lightness, depth and ascension are represented by the five sandstone towers. Arranged in five, where the galleries shows five virtues of SIKHISM.

The spatial organization displays bold, direct and sentimental approach to the context. The legacy of Sikh Gurus, their history, culture and vision depicts here.

WHY THIS BUILDING ?

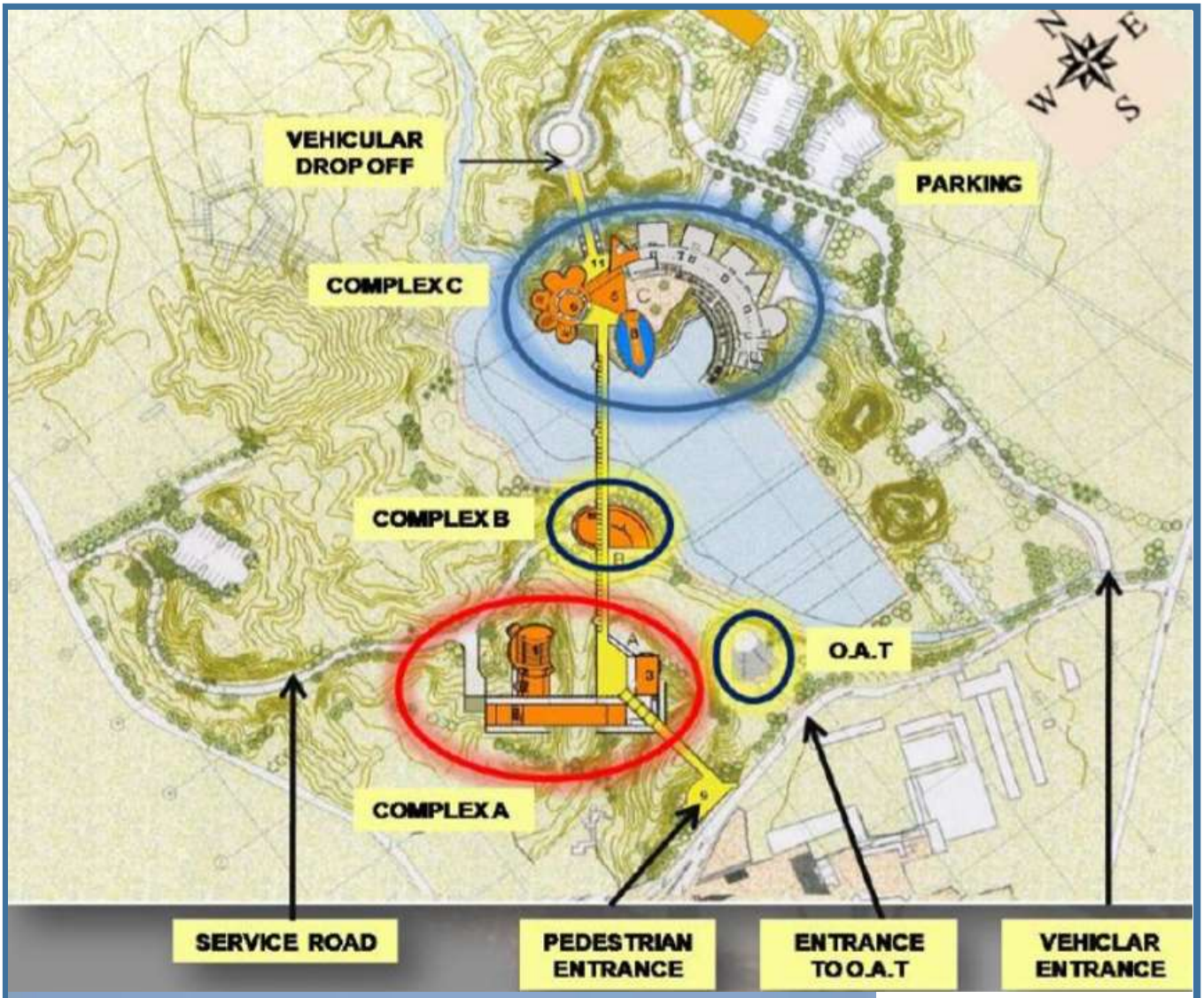
This is a museum completely dedicated to the particular religion its preaching and its root which is similar to my topic of mughal museum.

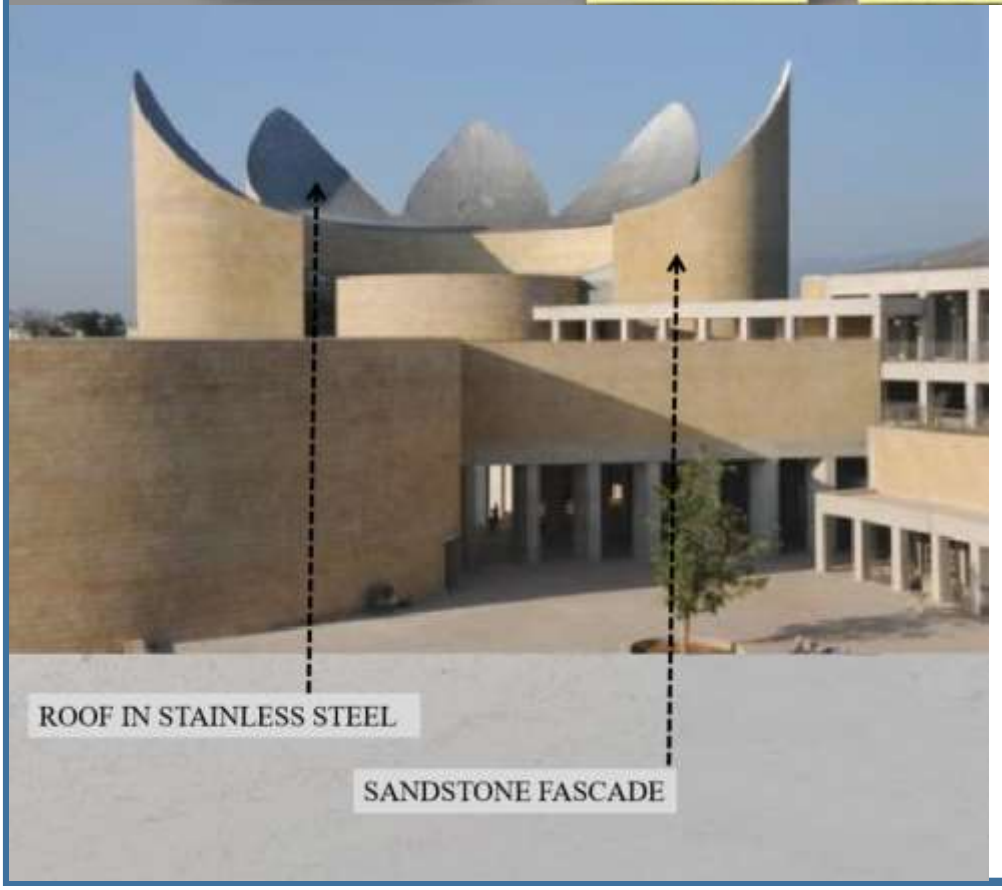
DESIGN CONCEPT :

The narrative museum that endeavours to tell the story, arrange in the group of five galleries it depict the virtue of tenet of sikh faith. Themes of earth sky mass light and depth are represented by sandstone towers and silver roofs.

PLAN OF TRIANGLE LVL :

The entrance foyer houses the reception for handing out brochures and other communication material. The visitor sees a three minute film that introduces him / her to the entire museum experience.





FEATURES OF BUILDING :

- bold geometric forms complementing the cliffs.
- Roof in stainless steel reflects the southern light towards gurudwara.
- Buff coloured sandstone fascade.

•**LOCATION:** ANANDPUR SAHIB

•**ARCHITECT:** MOSHE SAFDIE AND ASSOCIATES, BOSTON, USA

•**ASSOCIATE ARCHITECT:** ASHOK DHAWAN, NEW DELHI

•**MUSEUM DESIGN:** NATIONAL INSTITUTE OF DESIGN, AHMEDABAD

•**CONSTRUCTION:** LARSEN AND TOURBO LIMITED, INDIA

•**CLIENT:** ANANDPUR SAHIB FOUNDATION TRUST

•**ACCESIBILITY:** FROM MAIN HOGHWAY A[PPROX ½ KM FROM GURUDWARA KESGARH SAHIB

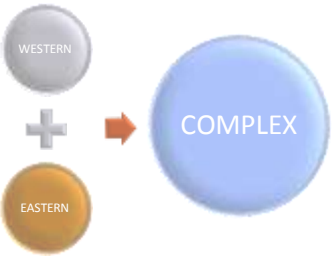
•**INCEPTION DATE:** 1998/01/01

•**COMPLETION DATE**: 2010/04/13

•**TOTAL AREA:** 100 ACRE

•**BUILTUP AREA:** 40 ACRE

•**PROJECT COST:** TOTAL ESTIMATE COST INCLUDING EXHIBITS 224 CRORES.



COMPLEX A

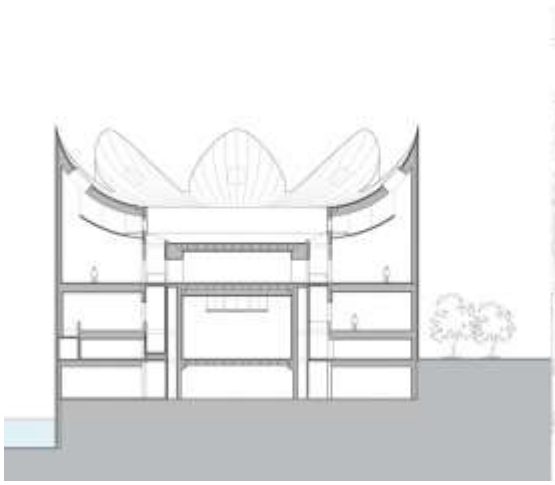
- AUDITORIUM -400 SEATS(600 m2)
- GREEN ROOM 130m2
- MECHANICAL ROOM * 3- 200 m2
- LIBRARY- 800m2
- TEMPORARY EXHIBIT ROOMS 145m2
- MEETING ROOMS 180m2
- MECH./ ELECTRICAL ROOMS 145m2
- RECEIVING AREA 85m2
- TOILETS * 2- 100 m2

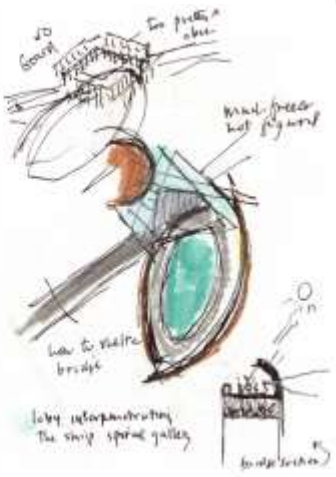
COMPLEX B

- CAFETERIA 426m2 (400 PEOPLE)
- KITCHEN 98m2
- MACHINE ROOM 15m2
- LOBBY 84m2
- RECEIVING AREA 94m2

COMPLEX C

- ENTERANCE LOOBY
- RECEPTION
- GIFT/BOOK SHOP
- CONFERENCE ROOMS
- WORKSHOP/ STORE
- RESTROOM
- PERMANENT EXHIBIT BUILDING 5400m2
- HERITAGE BUILDING 1780m2
- PETAL BUILDING 1800m2
- OFFICE AREAS





4. STRUCTURE

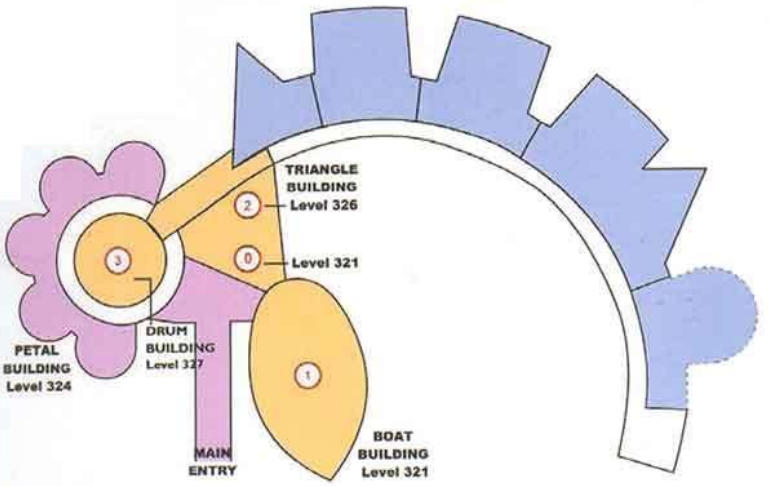
There are two complexes at each side of a ravine, connected by a ceremonial bridge:

The smaller western complex includes an entrance plaza, an auditorium with 400 seating-capacity, two-story research and reference library, and changing exhibition galleries

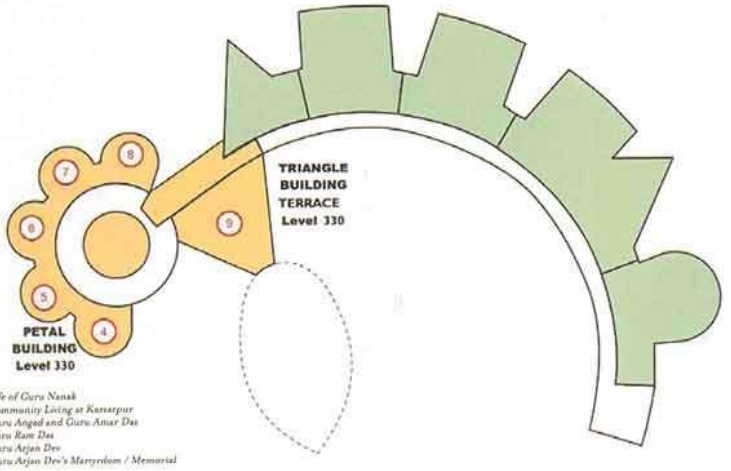
.

The eastern complex contains a round memorial building as well as extensive, permanent exhibition space, consisting of two clusters of galleries that try to evoke the fortress architecture of the region (most evident in a nearby Gurudwara) and form a dramatic silhouette against the surrounding cliff terrain. The gathering of the galleries in groups of five reflects the Five Virtues, a central tenet of Sikhism.

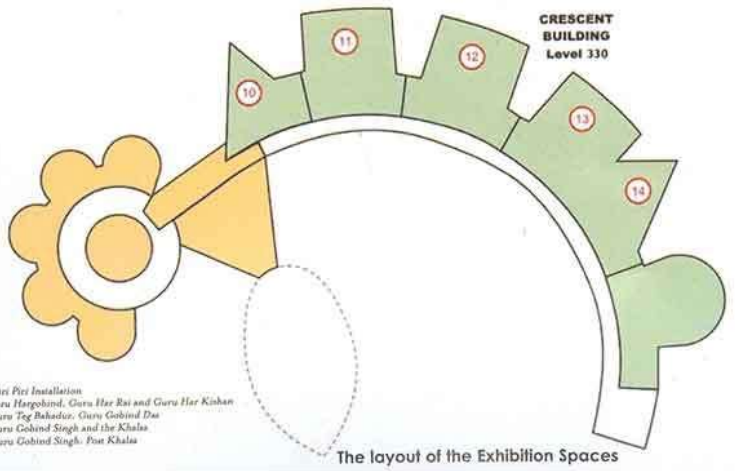
The buildings are constructed of poured-in-place concrete; some beams and columns remain exposed, though a great deal of the structures will be clad in a local honey-colored stone. The rooftops are stainless steel-clad and exhibit a double curvature: they gather and reflect the sky while a series of dams in the ravine create pools that reflect the entire complex at night



00 *Entrance Foyer*
01 *Panj Paani*
02 *The Milieu of 15th Century Punjab*
03 *The Concept of One*



04 *Life of Guru Nanak*
05 *Community Living at Kartarpur*
06 *Guru Angad and Guru Amar Das*
07 *Guru Ram Das*
08 *Guru Arjan Dev*
09 *Guru Arjan Dev's Martyrdom / Memorial*



10 *Miri Piri Installation*
11 *Guru Hargobind, Guru Har Rai and Guru Har Kishan*
12 *Guru Teg Bahadur, Guru Gobind Das*
13 *Guru Gobind Singh and the Khalsa*
14 *Guru Gobind Singh: Post Khalsa*

The layout of the Exhibition Spaces

The complex is deeply rooted in its surrounding landscape, resonating with regional architecture seemingly rises from the nearby sand cliffs. The roof design is inspired from the traditional golden dome that crowns the Gurdwaras.

5. PERCEPTION OF BUILDING VOLUME:

The building introduces itself with all the rich heritage glory, cladded in sandstone as the feature of Fort Architecture. The big volumes get the influence from the surrounding Gurdwara which is situated on a small hill. The majestic structure impresses the visitors.

6. INFERENCES:

1. The museum is a splendid example of Regional Architecture.
2. It very well depicts the natural richness and architectural heritage of Sri Anandpur Sahib and the site.
3. The gigantic volume shows the amount of power in Sikhism.
4. The response of structure to its context (site) is magnificent.
5. The structure stands as a Landmark.
6. Though the forms derived are contemporary but the vernacular essence in kept intact.
7. The overall site becomes a comprehensive tourist destination.
8. The complex has served Sikhs deeply with their roots.

7. GEOGRAPHY:

1. Located 84.2 km from Chandigarh.
2. It is known as the “Holy city of bliss”.
3. It is located on the lower spurs of the Himalayas surrounded by picturesque natural scenery, with the river Sutlej forming a border on the south west barely four miles away.

8. WEATHER:

1. It is classified as warm and temperate.
2. When compared with winter, the summers have much more rainfall.
3. The average annual temperature in Anandpur Sahib is 24.0 °C. Precipitation here averages 1107 mm.
4. Wind SW at 6 km/h, 39% Humidity.
5. The heritage site is hot during the day but gradually drops the temperature due to the Gobind River.

LITRATURE 1:

BIHAR MUSEUM, PATNA

BIHAR MUSEUM, PATNA

1. INTRODUCTION:

Patna is a city with a storied past and this land saw the advent of many glorious civilizations. The history of this city unravels like a ball of thread that surprises you with twists and turns as we travel over two millennia. The Patna Museum established in 1917 will soon turn a century old along with the date of discovery of its most cherished and visited artefact – the world famous Didarganj Yakshi, a statue of monumental Mauryan vision. In the state of Bihar, the need for a new museum was seriously felt, the Patna Museum having limitations, both in physical space as well as in its design and methods of presentation.[12]

Bihar Museum is a modern state of the art museum located in Patna. It was partially opened in August, 2015. 'The children's museum', the main entrance area, and an orientation theatre were the only parts opened to the public in August 2015. Later, in October 2017 remaining galleries were also opened. More than 100 artefacts were transferred here from Patna Museum.

It was planned as a history museum for the state of Bihar, and began construction in Bailey Road, Patna in October 2013 with an estimated budget of ₹498 crore (US$74 million). The Museum was planned to bring the region's thousands year history into focus, inspiring local residents and visitors from across the globe to explore Bihar's rich heritage, historic sites and cultural attractions.

1.1 RELEVANCE:

For the design of the Museum building, world renowned architectural firms were invited to submit their proposals and selection was on a competitive basis. Japanese firm, Maki and Associates submitted the winning concept, which they proposed to execute with OPOLIS Architects, based in Mumbai. For the Bihar Museum, Maki outlined a concept that was appealing to the sensory experience, fitting with practical considerations and making provisions for the future growth of the establishment. The architects visualized the Museum as if viewing it through different lenses to expand on four different facets. [13]

Bihar Museum

SITE:

Department of Art, Culture and Youth, State of Bihar (DACY) proposed a new Museum on Bailey Road on the site west of the Patna Museum.

Latitude: 25° 36' 27.7704'' N

Longitude: 85° 7' 12.9036'' E

Connectivity:

- 3.6 km away from **Patna Junction**
- 4.5 km away from **Mithapur Bus Stand**
- 4.7 km away from **Jay Prakash Narayan International Airport**

Climate:

- Macro-Climate: **Hot & Humid**
- Average Temperature: **27.1 °C**
- Maximum Temperature: **46.0 °C**
- Minimum Temperature: **1.1 °C**
- Annual Precipitation: **1100 mm**
- Prevailing Wind Direction: **6km/h North-East**

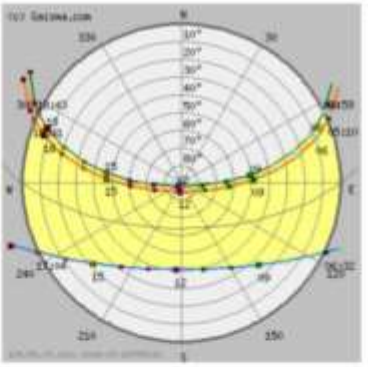


Fig. 1.2 (ii) Sun Path Diagram

Fig. 1.2 (ii) Maximum & Minimum Temperature

SCALE:

A 25,000 square meters museum and marketplace concept was to be developed, with "G+1" structure and with a very small portion being "G+4". It is six-storey building spread over 5.6 hectares, having 24,000 square meters of built area.

The generous 5.3 hectare plot along Patna's Bailey Road allowed for a variety of site planning approaches, while demanding sensitivity to its low-scale surroundings and prominent tree growth. In response to this context, Maki and Associates conceived the Bihar Museum as a "campus" - an interconnected landscape of buildings and exterior spaces that maintains a modest but dynamic profile, in harmony with existing site conditions.[14]

5.	**LIBRARY**	-	300	**100**
	Librarian's Office	1	20	
	Cyber Room	1	30	
6.	**AUDITORIUM**	-	300	**100**
	Projection Room	1	20	
	Green Room	1	30	
7.	**AMENITIES**			
	Restaurant	1	250	**50**
	Museum Shop	2	200	**50**
	Seminar Hall	1	200	
	Toilet (M/F)	10/10	50	
8.	**SERVICES**			
	Maintenance	1	100	
	Janitor Room	1	50	
	Store	1	200	
	Housekeeping Centre	1	100	
	High Tension Control Room	1	200	
	HVAC Room	1	200	
9.	**LABORATORY**	4	200	**50**
10.	**LOADING AREA**	-	400	
11.	**OPEN SPACES**	-	1000	**250**
12.	**PARKING**	-	500	**100**
	VIP Parking	-	100	
	Staff Parking	-	100	
				50
13.	**TRANSITION AREA** (40% of Total Build up Area)		4800	

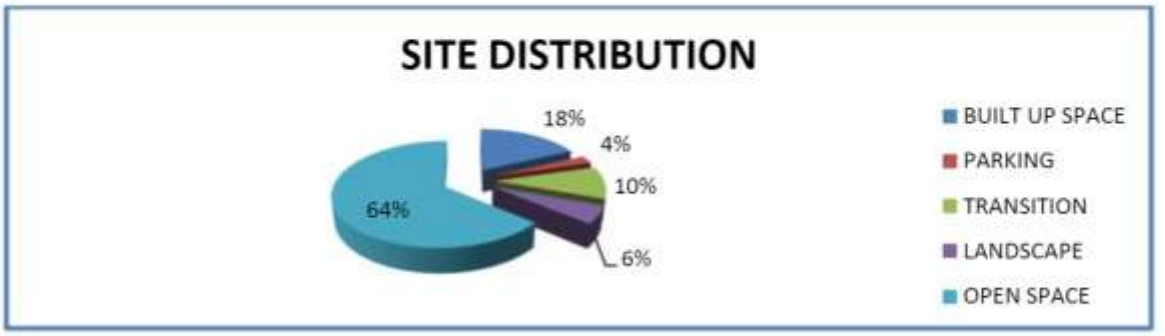
TOTAL AREA	**17,000 Sq. M**

USER ACTIVITY:

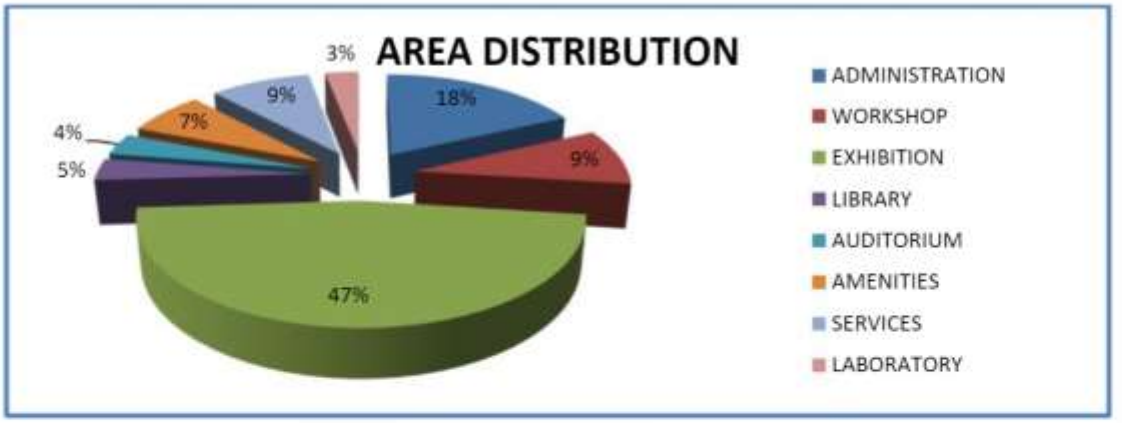
USER	ACTIVITY	SPACE
VISITOR	Visual Experience	Bronze Sculpture Store Coins Vault Textile Gallery Miniature Gallery Manuscript Gallery Hindu Art Gallery Buddhist Art Gallery Jain Art Gallery Tribal Art Gallery Terracotta Gallery

		Children's Museum Pre Show Display Post Show Display Auditorium Temporary Exhibition
	Shopping	Museum Shop
	Reading	Library Cyber Room
	Parking	Parking Area
	Sanitation	Toilet
	Beverage & Food	Restaurant Staff Canteen
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
	Beverage & Food	Pantry
	Sanitation	Staff Toilet
WORKER STAFF	Restoration	Restoration Laboratory Store Reserve Collection

2.3 AREA DISTRIBUTION:



Site Distribution



Site Distribution

3. ARCHITECTURAL DRAWINGS:

CONCEPTUAL PLAN:

The constant presence of the natural environment within the Museum "campus" creates a rich, unique experience with each visit, one that changes with the time and seasons. It is hoped that this will encourage repeat visitors, and - together with world-class permanent and temporary exhibits - ensure that the Bihar Museum has a lasting educational impact for the children of Bihar and other visitors from across the world.

SITE PLAN:

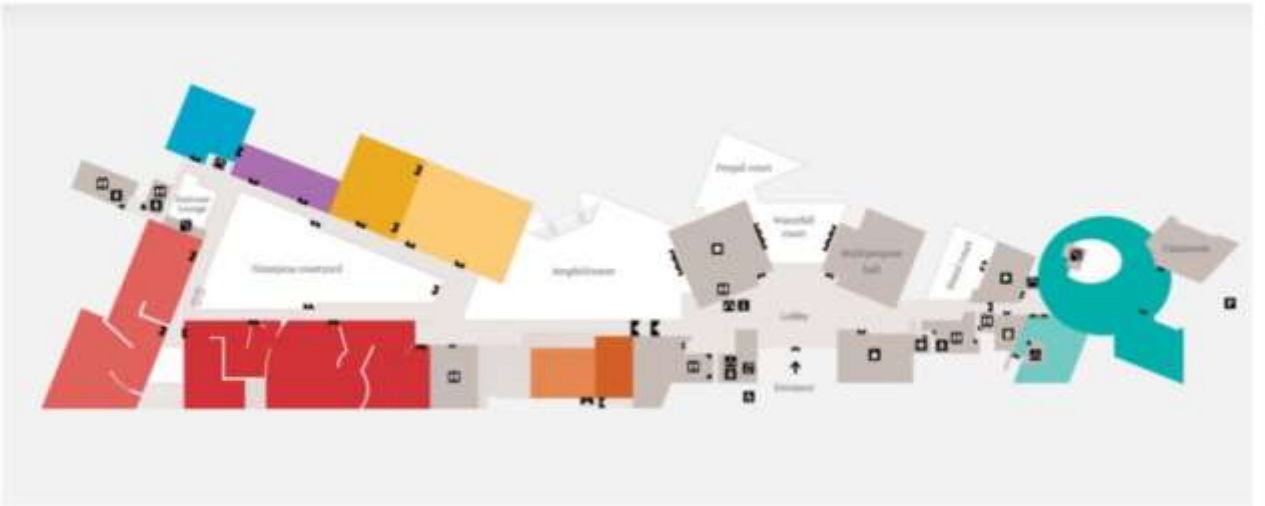
Inspired by the generous site, Fumihiko Maki conceived the Bihar Museum as a campus with interconnected landscape of built-up and open spaces with modest but dynamic profile, in harmony with the land. The campus incorporates primarily four zones i.e., entrance, education, exhibition and administration. Each wing has been given a distinct and recognizable form within the complex.

Site Plan of Bihar Museum

Site Section of Bihar Museum

CIRCULATION PLAN:

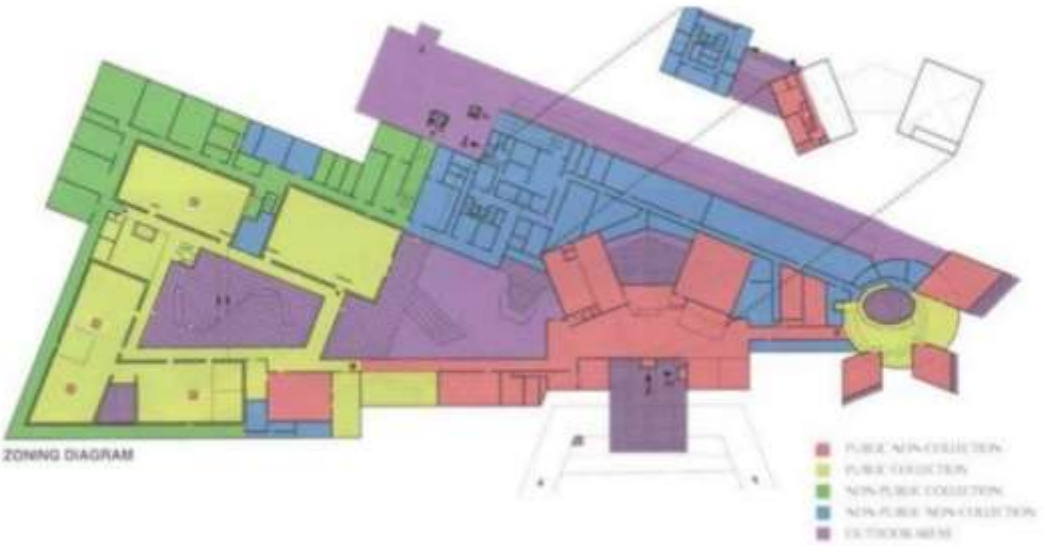
The circulation pattern was based on the history of Bihar, starting with Buddhism and Jainism followed by Mauryan and Gupta Empire to Sher Shah Suri and to the Colonial Past to exhibit the great history of Bihar to the Visitors.



Circulation plan of Bihar Museum

ZONING:

The spaces divide galleries into different specializations, also distinguishing the children's gallery with its own orientation section. The architecture constantly works to enhance the feeling of wonder and belonging to allow the visitor to explore and discover. The environment is thus envisioned as a learning landscape, a place that creates a sense of calm that is conducive to education.



Zoning of Bihar Museum

FLOOR PLANS:

All independent and smaller-scaled wings are linked together via seven open-to sky courtyards, ensuring that all spaces are connected to the surrounding landscape, while remaining sheltered and comfortable throughout the year. Each courtyard has a unique theme, configuration and spatial quality. Some of these courtyards have been strategically located to preserve the existing trees on the site.

Ground Floor Plan of Bihar Museum

ELEVATIONS:

Most of the external surfaces of the buildings are clad in zero-maintenance Corten steel, whose earthy brown-red colouration subtly contrasted with the surrounding greenery. The Corten steel is offset with Indian granite and sandstone, terracotta, and glass finishes - a modern material palette with clear connections to Bihar's past and future.

Bihar Museum

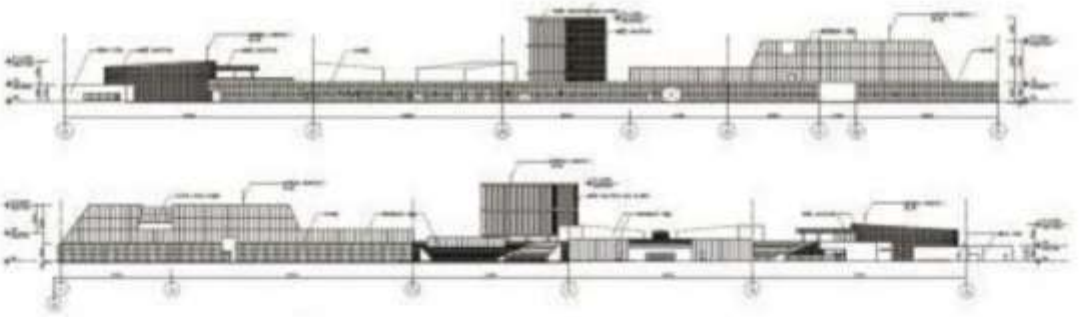
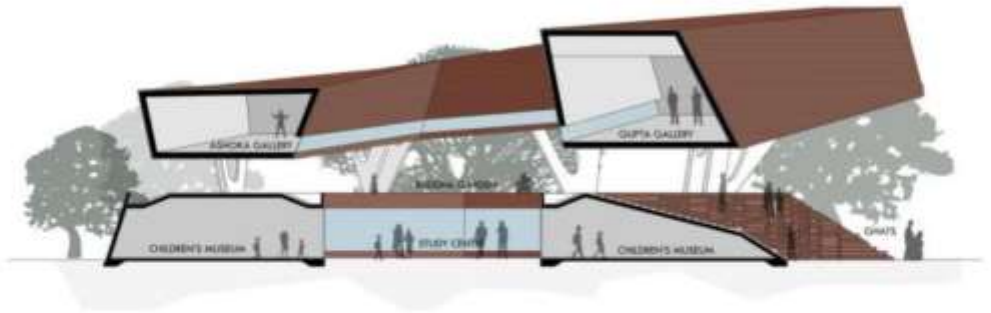


Fig. 3.6 (iii) Elevation of Bihar Museum

Fig. 3.6 (ii) Model of Bihar Museum

SECTIONS:



Section of Bihar Museum

4. MATERIALS:

The Museum's exterior is characterized by extensive use of weathering steel, a durable material that complements its context and creates a dignified contrast to the surrounding greenery. The weathering steel symbolizes India's historical achievements in metallurgy as well as its current prominence within the international steel industry (of which Bihar's rich natural resources have played a critical role).

Use of different materials in Bihar Museum

It is supplemented with stone, terracotta, and glass finishes - a modern material palette with clear connections to Bihar's past and future.

5. LIGHTING:

Lighting is one of the main aspects of any museum, especially natural lighting and the architects has tackled this issue through bay winds, Façade lighting, luminous walls and a central courtyard. The Atrium at the entrance shows the importance of lighting in museum.

Natural Lighting in Bihar Museum

6. OBSERVATION:

The Museum as a symbol of Bihar penetrates the visitor's consciousness by its uniquely juxtaposed forms and building materials. Iron has links to India's ancient civilizations that thrived in this land and Maki has used weathering steel, also known as Cor-ten Steel, to enhance this symbolic connect with iron, industry and progress.

The architecture of the Museum thus works as a constructive shell for ordering the exhibits and to guide the visitor through a holistic process of learning and journeying through an expansive ground to discover the history of India and for each individual to connect with the greater symbolism.

Landscape of the Bihar Museum is designed beautifully, integrating the spaces through dynamic landscape. Landscape is one of the major aspects of any museum planning. Maki and Associates conceived the Bihar Museum as a "campus" - an interconnected landscape of buildings and exterior spaces that maintains a modest but dynamic profile, in harmony with existing site conditions.

7. DESIGN ANALYSIS:

All the built-up blocks have been strategically located in consonance with the configuration of the site. These blocks are linked together by cloisters which are characterised by deeply recessed openings and modern versions of traditional jaali screens.

These screens allowed natural light to enter, while shielding the spaces from heat, and providing relief from the vast black-box exhibition spaces. Spatial depth and layering - channelling the Japanese concept of 'oku' are used throughout, creating a sense of anticipation that culminates in the meditative Buddha courtyard.

8. CONCLUSION:

In the words of Fumihiko Maki, "As the building took shape, I came to see it as an extension of my ideas on the group form concept, which emphasizes linkages. Taking advantage of the elongated site in Patna, the museum complex could be called a 'chained group form', where heterogeneous elements are effectively linked by outdoor courts, plazas, and cloisters into a single complex.

LITERATURE STUDY 2:

THE SOLOMON R. GUGGENHEIM MUSEUM, LOCATED ON MANHATTAN IN NEW YORK CITY.

SOLOMON R. GUGGENHEIM MUSEUM, NEW YORK

1. INTRODUCTION:

"Swelling out towards the city of Manhattan, the Solomon R. Guggenheim Museum was the last major project designed and built by Frank Lloyd Wright between 1943 until it opened to the public in 1959, six months after his death, making it one of his longest works in creation along with one of his most popular projects. Completely contrasting the strict Manhattan city grid, the organic curves of the museum are a familiar landmark for both art lovers, visitors, and pedestrians alike."[10]

The Solomon R. Guggenheim Museum, often referred to as The Guggenheim, is an art museum located at 1071 Fifth Avenue on the corner of East 89th Street in the Upper East Side neighbourhood of Manhattan, New York City. It is the permanent home of a continuously expanding collection of Impressionist, Post-Impressionist, early Modern and contemporary art and also features special exhibitions throughout the year. The museum was established by the Solomon R. Guggenheim Foundation in 1939 as the Museum of Non-Objective Painting, under the guidance of its first director, the artist Hilla von Rebay. It adopted its current name after the death of its founder, Solomon R. Guggenheim, in 1952.

RELEVANCE:

Rebay conceived of the space as a "temple of the spirit" that would facilitate a new way of looking at the modern pieces in the collection. She wrote to Wright that "Each of these great masterpieces should be organized into space, and only you ... would test the possibilities to do so. ... I want a temple of spirit, a monument!"

Wright held that a building should be a product of its place and its time, intimately connected to a particular moment and site—never the result of an imposed style. It is one of the best examples of art gallery around the world and design on basis of modern contemporary style.

Solomon R. Guggenheim Museum, New York

SITE:

The Solomon R. Guggenheim Museum, often referred to as The Guggenheim, is an art museum located at 1071 Fifth Avenue on the corner of East 89th Street in the Upper East Side neighbourhood of Manhattan, New York City.

Latitude: 40° 46' 58.728" N

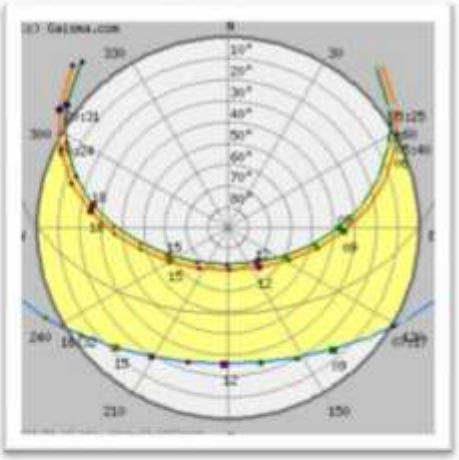
Longitude: 73° 57' 32.2956" W

Connectivity:

- 5.1 km away from **Grand Central**
- 6.0 km away from **Pennsylvania Station**
- 29.2 km away from **J. F. Kennedy International Airport**

Climate:

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



Sun Path Diagram

Prevailing Wind Direction

SCALE:

"The project is one thee master piece is one of the greatest architect of the known world. The museum is one of the best designed museums in the world. F. L. Wright's design philosophy makes this project one of its kind. The project covers about 4700 sq. m of gallery space, 1400 sq. m of office space, theatre, and retail space. 28m tall atrium topped with expansive glass dome and main ramp coils upward 6 floors, more than half a kilometre." [11]

2. AREA PROGRAMME:

AREA CHART:

Sr. No.	Space	No. of Units	Area (in sq. m)	Design Capacity
1.	**ENTRANCE**			**100**
	Entrance Lobby	-	300	
	Reception	1	30	
	Back Office	1	20	
2.	**ADMINISTRATION**			**50**
	Staff Office	5	60	
	Director General's Chamber	1	20	
	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	**50**
	Pantry	1	40	
3.	**EXHIBITION GALLERY**			**700**
	Level 1 Gallery	1	200	
	Level 2 Gallery	1	400	
	Level 3 Gallery	1	800	
	Level 4 Gallery	1	800	
	Level 5 Gallery	1	800	
5.	**LIBRARY**	-	150	**60**
	Librarian's Office	1	20	
	Cyber Room	1	30	
7.	**AMENITIES**			
	Restaurant	1	200	**50**
	Museum Shop	1	100	**40**
	Seminar Hall	1	200	**50**
	Toilet (M/F)	10/10	50	
8.	**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	

9.	**PARKING**	-	200	**40**
	Staff Parking	-	100	
10.	**OPEN SPACES**	-		**250**
	Atrium	-	900	
11.	**TRANSITION AREA** (40% of Total Build up Area)		3200	

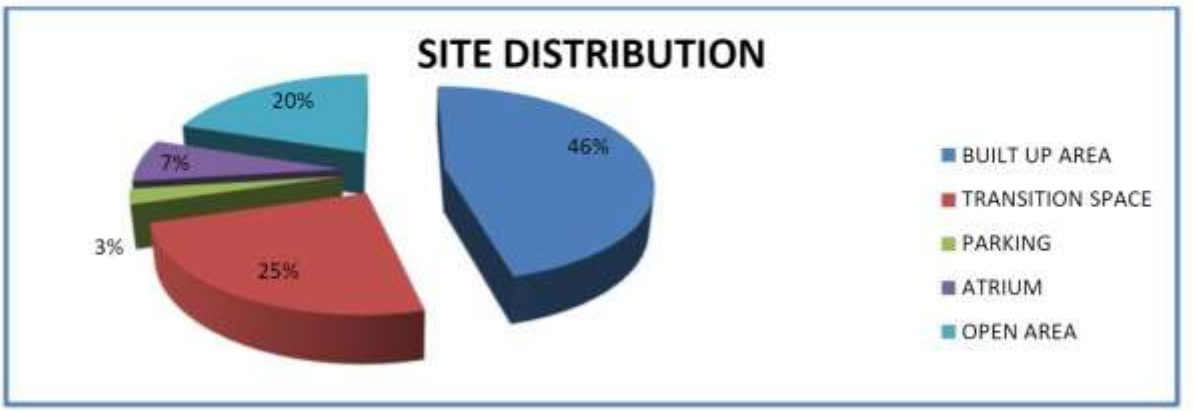
TOTAL AREA	**11,200 Sq. M**

2.2 USER ACTIVITY:

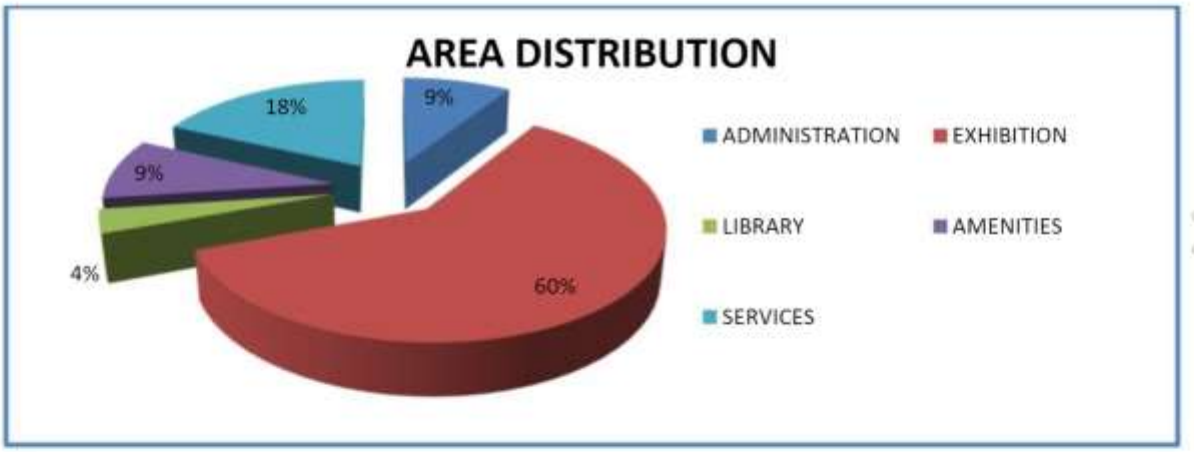
USER	ACTIVITY	SPACE
VISITOR	Visual Experience	Level 1 Gallery Level 2 Gallery Level 3 Gallery Level 4 Gallery Level 5 Gallery Level 6 Gallery Level 7 Gallery
	Shopping	Museum Shop
	Reading	Library Cyber Room
	Parking	Parking Area
	Sanitation	Toilet
	Beverage & Food	Restaurant Water Fountain
ADMINISTRATION & 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
	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 DISTRIBUTION:



Site Distribution

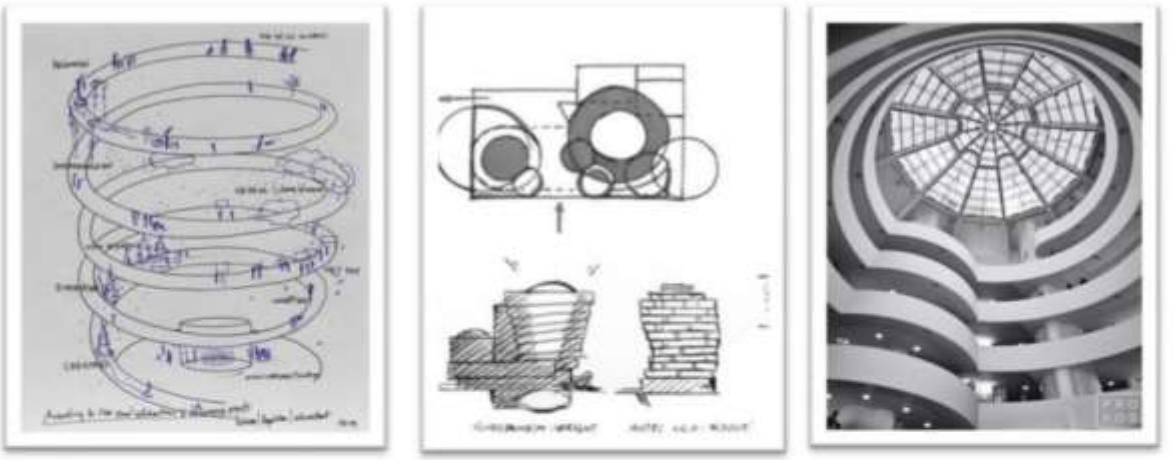


Site Distribution

3. ARCHITECTURAL DRAWINGS:

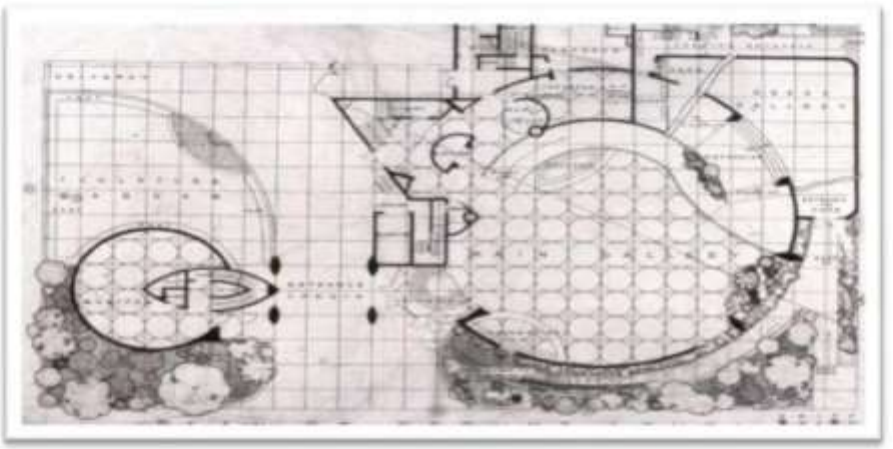
CONCEPTUAL PLAN:

Wright created the philosophy of "organic architecture," which maintains 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.



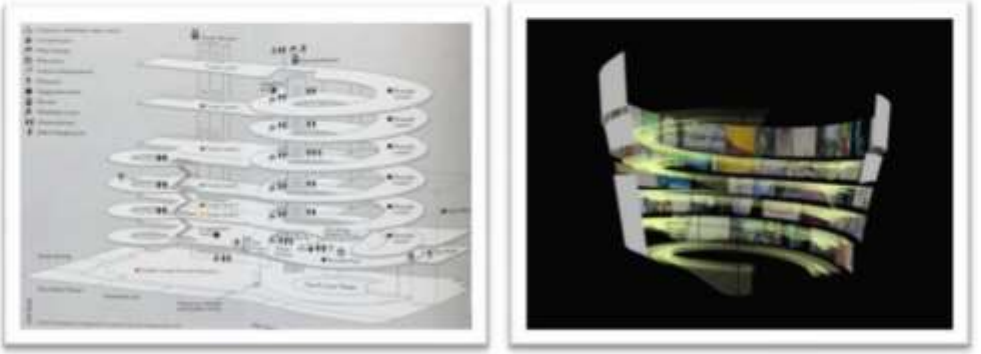
Concept development of the museum

SITE PLAN:



CIRCULATION PLAN:

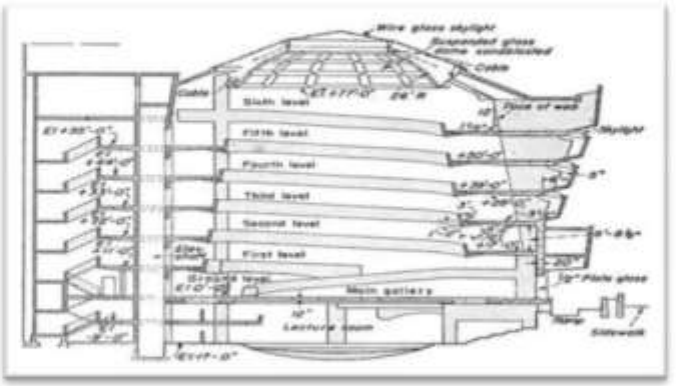
In the Guggenheim, Wright intended to allow visitors to experience the collection paintings by taking an elevator to the top level then view artworks by descending the central spiral ramp. Museum currently designs exhibits to be viewed walking up the ramp rather than walking down. From street, building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



Circulation Plan of Guggenheim Museum

ZONING:

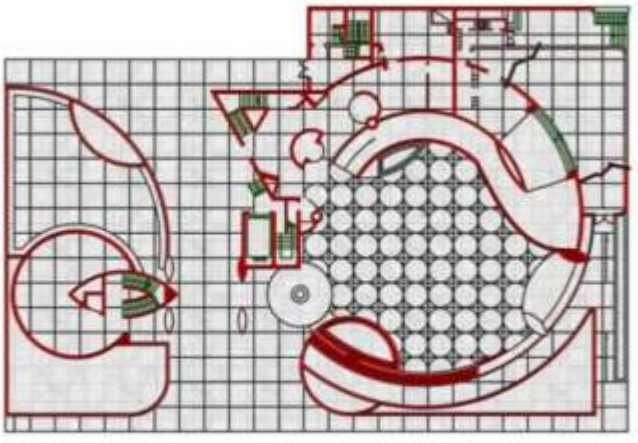
The museum was designed by zoning of spaces into exhibition spaces, administrative space and other amenities. Spaces were zoned vertically rather than horizontal approach. Four floors of exhibition space, three of which are double height, also have office and storage space for mechanical systems.



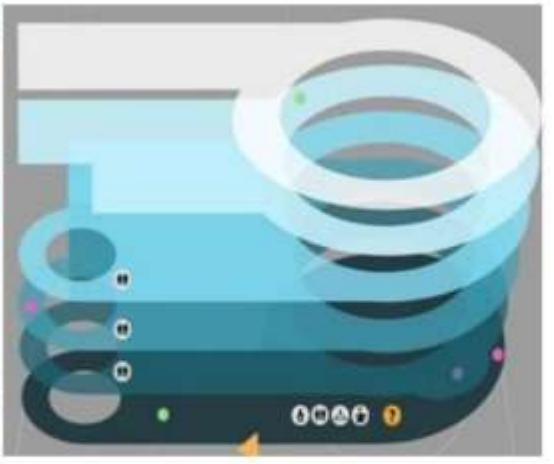
Vertical zoning of Guggenheim Museum

FLOOR PLANS:

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 artwork. 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 easel.



Floor Plan of Guggenheim Museum



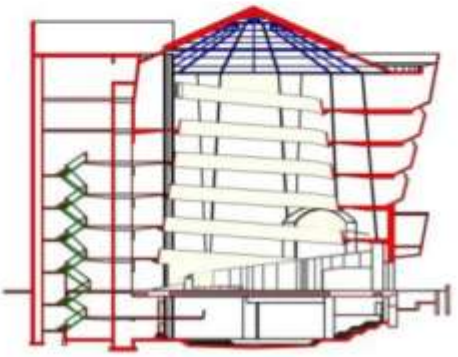
Guggenheim Museum

ELEVATIONS:

Front Elevation of Guggenheim Museum

3D view of Guggenheim Museum

SECTIONS:



Section of Guggenheim Museum

3D Section of Guggenheim Museum

DETAILS:

A giant spiral ramp circulates up to a giant dome with twelve narrow reinforced concrete partitions that pierce the spiral and serve as stiffeners. The web walls act as shear walls, transferring forces laterally and vertically, while helping resist bending moments. 12 radial web walls around the rotunda, 8" thick and 25' wide at the top were designed. Structural core includes staircase and elevator shaft. Acts as structural anchor and provides an alternate circulation to the ramp

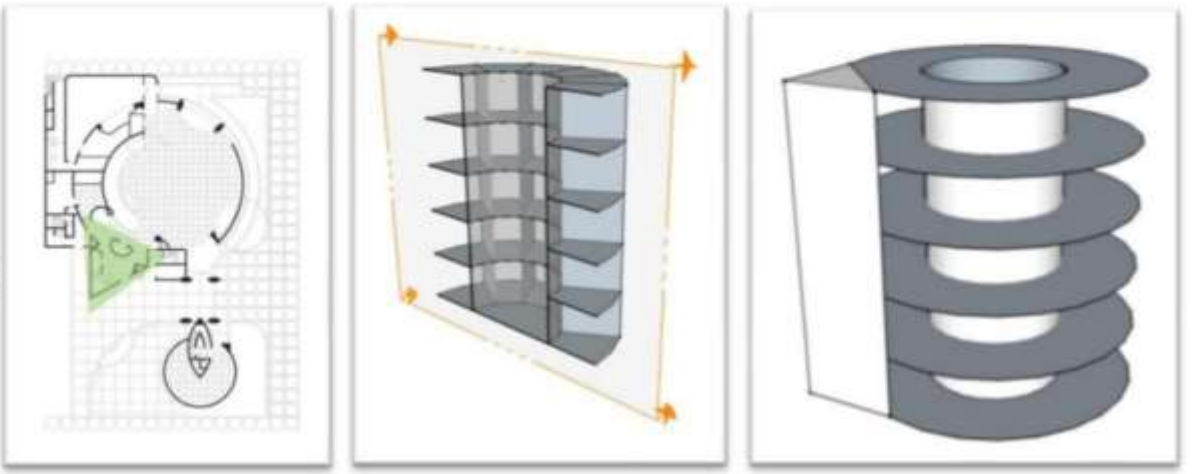


Fig. 3.8 (i) Structural Details of Guggenheim Museum

4. MATERIALS:

The Guggenheim is primarily composed of reinforced concrete. Normal weight cast in place concrete is the material of the lower levels. Light weight concrete is the material of the interior radial walls and the ramps. Gunite, or shotcrete, is the material used for the exterior of the spiral curved walls. Wright used gunite to achieve a seamless monolithic façade. 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 façade. Steel framed windows, Aluminum skylights were designed. Cement plasters soffits on metal lath.

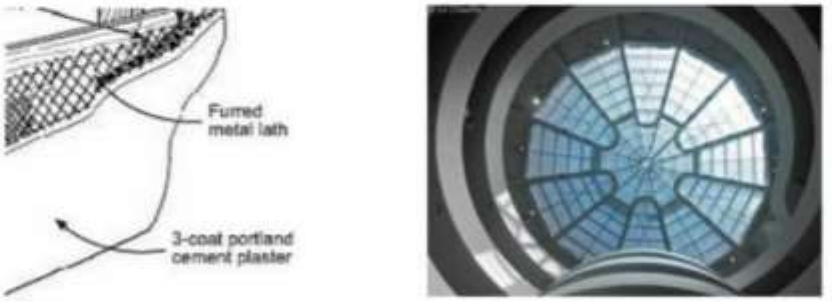


Fig. 4 (i) Materials used in Construction

5. LIGHTING:

Skylights was originally intended to illuminate the painting in natural light, but were changed to artificial to have more controlled lighting. The huge 29m atrium was designed for proper lighting conditions. Luminance ceiling was designed further for more lighting.

Fig. 5 (i) Luminance Ceiling & Atrium for natural lighting

6. OBSERVATION:

The exterior of the Guggenheim Museum is a stacked white cylinder of reinforced concrete swirling towards the sky. The museum's dramatic curves of the exterior, however, had an even more

stunning effect on the interior. Inside Wright proposed "one great space on a continuous floor," and his concept was a success.

Walking inside, a visitor's first intake is a huge atrium, rising 92' in height to an expansive glass dome. Along the sides of this atrium is a continuous ramp uncoiling upwards six stories for more than one-quarter of a mile, allowing for one floor to flow into another. The ramp also creates a procession in which a visitor experiences the art displayed along the walls as they climb upwards towards the sky.

7. DESIGN ANALYSIS:

The design of the museum as one continuous floor with the levels of ramps overlooking the open atrium also allowed for the interaction of people on different levels, enhancing the design in section.

Although the space within the building is undeniably majestic and the building itself monumental, it was not perfectly successful in terms of function. The curved walls of the interior were intended so that paintings had to be tilted backward, "as on the artist's easel." This was unsuccessful because the paintings were still very difficult to display because of the concavity of the walls, and because of this before its opening 21 artists signed a letter protesting about their display of work in such a space.

Many critics also argue that the building competes with the art work that is intended to be displayed, a problem which Museum Director James Johnson Sweeney took seriously, stating, *and "This is the most spectacular museum interior architecturally in this country. But my job is to show off a magnificent collection to its fullest."* Wright also had a problem with Manhattan's building-code administrators who argued with him over structural issues, such as the glass dome that had to be reduced in size and redesigned to include concrete ribs that are extensions of the discreet structural pillars on the exterior walls.

8. CONCLUSION:

Despite the opinion of critics, there is no doubt that Wright's design for the Guggenheim Museum provides a spatial freedom that is unique to his style. It took Wright 700 sketches and six sets of working drawings to turn his vision into an extraordinary sculpture of a building overlooking Central Park, that in the very least should be acknowledged as one of the most spatially beautiful International-style works of architecture.

Wright also embraced new materials, machinery, and technologies. Far from seeing them in opposition to nature, he saw them as allies. Depending upon each other for their integrity, nature would inform and machinery execute a totally new architecture—one where the machine's capacities transformed natural principles into architectural forms.

CONCLUSION

The main aim of the case study and literature study was to understand the different design aspects and design requirements of the museum. Every space has its own importance and every space plays an important role in making a place alive. Case study and literature study is required to frame out these spaces and their design aspects.

The **Tribal museum in Bhopal** is very thoughtfully planned and the entire campus is theme based right from its entrance. Every art work has some meaning to it which is beautifully depicted. This museum provides a new museum's vision, the visitor experience and an organizational plan which make it one of its kinds. The exhibition and display units are creatively developed through unique design ideology which separates this museum from an orthodox museum. Best thing about the tribal museum, Bhopal was its way of displaying tribes and different cultures. People can actually touch the sculptures. They can feel the material. All the sculptures and other show casing things were created by the tribal people themselves using the basic and old techniques.

The **National Museum** is one of the largest and well designed museums in India, also the museum is situated near to the site of the proposed thesis project, which make it selection important to understand the design feature of the area and issue faced. Also, as it is the National Museum of India, it selection becomes more important in reference to understand the design of the context and aspects of museum planning. The ideology of circulation pattern in the museum is one a greater aspect in the museum, the ideology to make visitor experience each and every gallery and in a chronological sequence.

The **Solomon R. Guggenheim Museum**, often referred to as The Guggenheim, is an art museum, Wright held that a building should be a product of its place and its time, intimately connected to a particular moment and site—never the result of an imposed style. It is one of the best examples of art gallery around the world and design on basis of modern contemporary style. The design of the museum as one continuous floor with the levels of ramps overlooking the open atrium also allowed for the interaction of people on different levels, enhancing the design in section.

Bihar Museum is a modern state of the art museum located in Patna. A 25,000 square meters museum and marketplace concept was to be developed, with "G+1" structure and with a very small portion being "G+4". It is six-storey building spread over 5.6 hectares, having 24,000 square meters of built area.

The generous 5.3 hectare plot along Patna's Bailey Road allowed for a variety of site planning approaches, while demanding sensitivity to its low-scale surroundings and prominent tree growth. In response to this context, Maki and Associates conceived the Bihar Museum as a "campus" - an interconnected landscape of buildings and exterior spaces that maintains a modest but dynamic profile, in harmony with existing site conditions. All the built-up blocks have been strategically located in consonance with the configuration of the site. These blocks are linked together by cloisters which are characterised by deeply recessed openings and modern versions of traditional jaali screens.

These screens allowed natural light to enter, while shielding the spaces from heat, and providing relief from the vast black-box exhibition spaces. Spatial depth and layering - channelling the Japanese concept of 'oku' are used throughout, creating a sense of anticipation that culminates in the meditative Buddha courtyard.

COMPARATIVE STUDY

	VIRASAT E KHALSA, PUNJAB	NATIONAL MUSEUM, NEW DELHI	GUGGENHEIM MUSEUM, NEW YORK	BIAHR MUSEUM, PATNA
Selection Criteria	To understand the new way of exhibition and new visitor's experience	To understand the architectural respond to the issue faced in Delhi	To understand the conceptual and structural aspects of museum	To understand the design of a museum dedicated to a particular identity
Location	India	India	United States of America	India
Year of Completion	2010	1949	1952	2017
Architect	MOSHE SAFDIE	Gywer Committee	F.L. Wright	Maki Associates Opolis
Ownership	Anandpur Sahib Foundation Trust	Indian Central Government	Solomon R. Guggenheim Foundation	Bihar State Government
Site Area	404686 sq. m.	30,000 sq. m.	20,000 sq. m.	56,250 sq. m.
Ground Coverage	25%	25%	40%	33%
Built Up Area	161840 sq. m.	18,000 sq. m.	11,200 sq. m.	25,000 sq. m.
F.A.R	2.5	0.6	0.7	0.44
Maximum Height	-	-	-	18 m
Concept	Religious grounds	Chronological Circulation	Organic Architecture	Integrated Campus
Form	Integration of basic forms	Rotunda	Golden Section	Linear
Function	Museum & Exhibition	Museum & Educational College	Museum & Art Gallery	Museum
Circulation	To depict different stages of sikhs life.	To make visitor experience each and every gallery	Circular ramp covering the entire museum	Linear integration of spaces
Lighting	Use of both natural and artificial lighting strategically	Artificial Lighting is used mostly except the inner courtyard to provide the light in corridors	Atrium in the centre provides natural light to optimize the building efficiency	Highly efficient design with optimum use of natural lighting
Facade	religious Paintings and Carving	Sandstones to resemble the heritage of India	White marble at exterior to make it simple and a divine holy palace of knowledge	Corten sheets which shows the rich history of Iron in the state
Landscape	properly developed	Not properly developed	No space for Landscaping	Well integrated Landscape planning
Visitor's Opinion	A new visitor's experience rather than boring museum	A typical Museum	Building form is more attractive than Exhibits	A modern & contemporary vision of museum
Merits	Create a new visitor's experience A new way of exhibitions Use of local materials	Circulation and zoning is designed in such a way that visitor can experience each and every gallery	Conceptual evolution of design Use of structural integration	Integration of Spaces Use of natural lighting
Demerits	The workshop and administrative are not properly segregated and any visitor can reach these area.	Although ramps has been provided everywhere but not a universal design	It was not perfectly successful in terms of function, in hanging Paintings	Linear integration of space

CONCEPT:

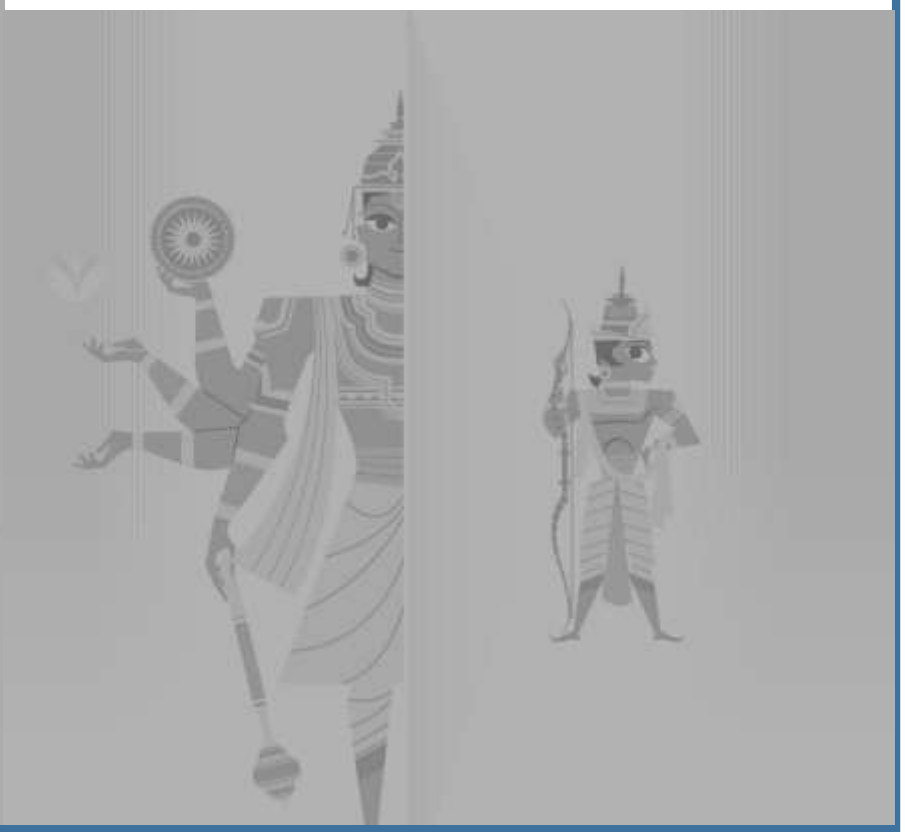
RAM RAMAYANA MUSEUM

CONCEPT

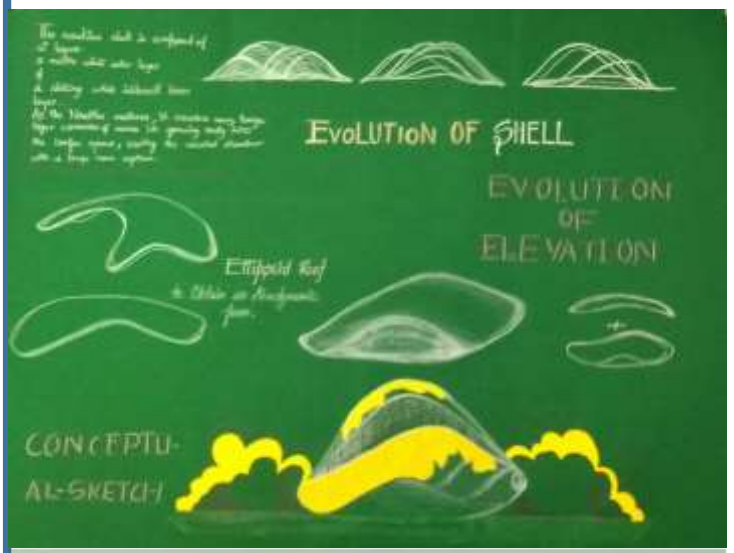
SIX RAMAYANA CHARACTERS

NATURE OF CHARACTERS

FALL AND RISE



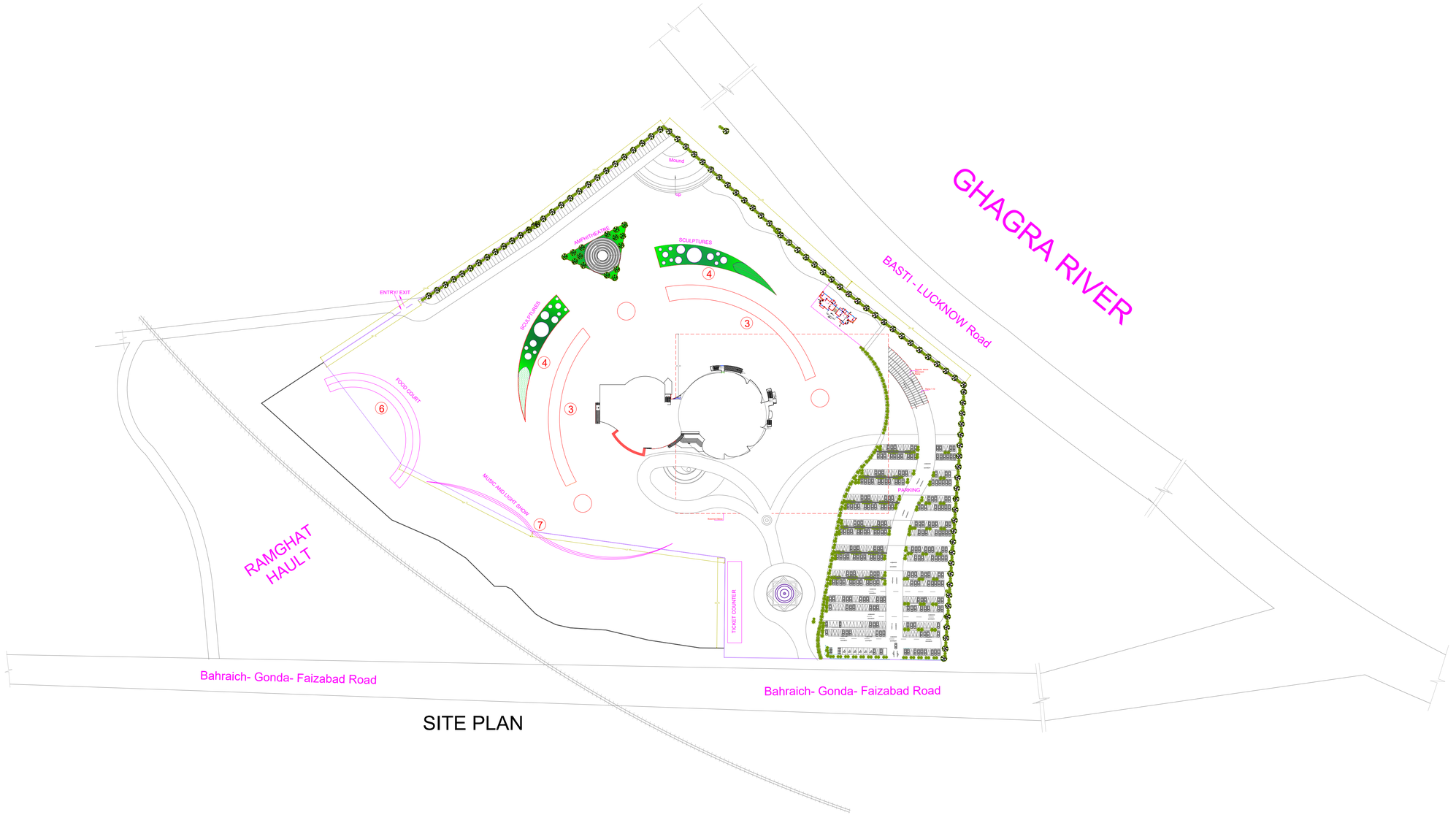

INITIAL sketch


EVOLUTION OF SHELL
EVOLUTION OF ELEVATION
Elliptoid Roof
CONCEPTU-AL-SKETCH


ZONING

DRAWINGS:

RAM RAMAYANA MUSEUM



SITE PLAN

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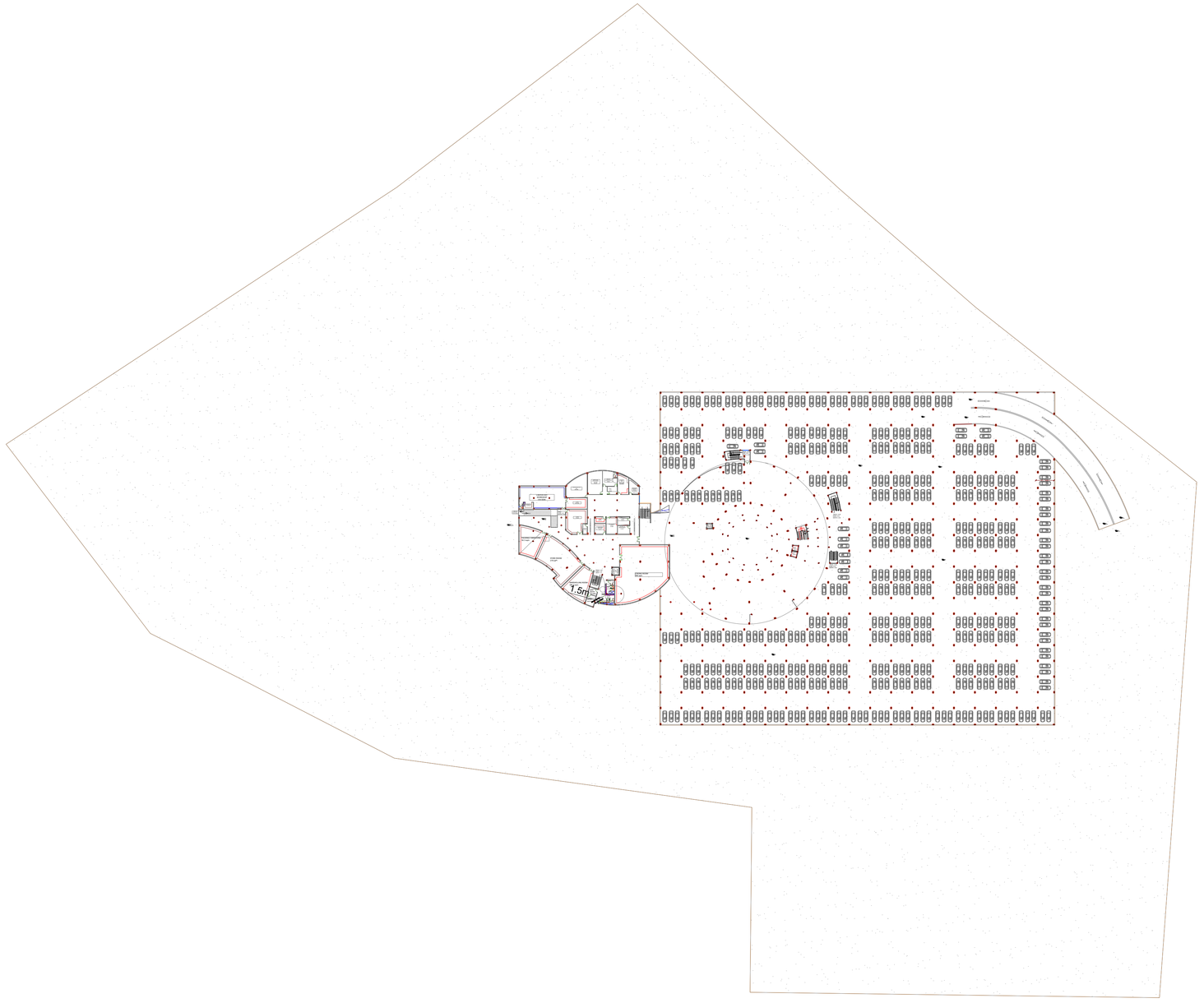

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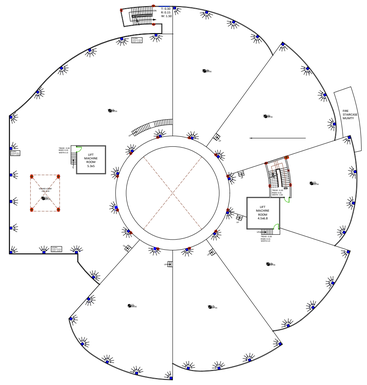
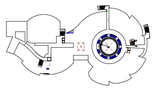
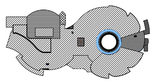
BASEMENT FLOOR PLAN

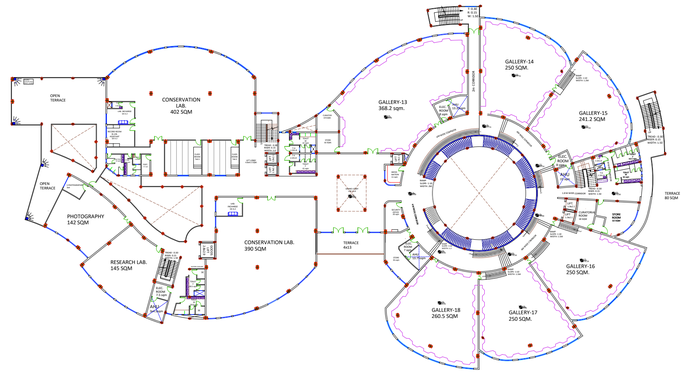


TERRACE PLAN

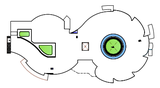


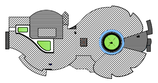


SERVICE AREA
ADMIN AREA
PUBLIC AREA
GREENERY

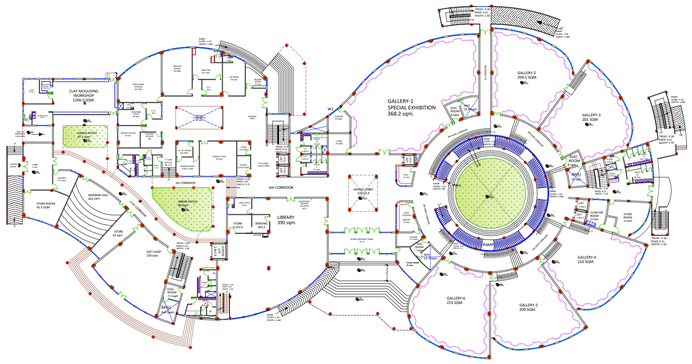


SECOND FLOOR PLAN

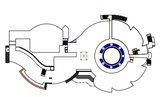


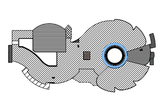


SERVICE AREA
ADMIN AREA
PUBLIC AREA
GREENERY

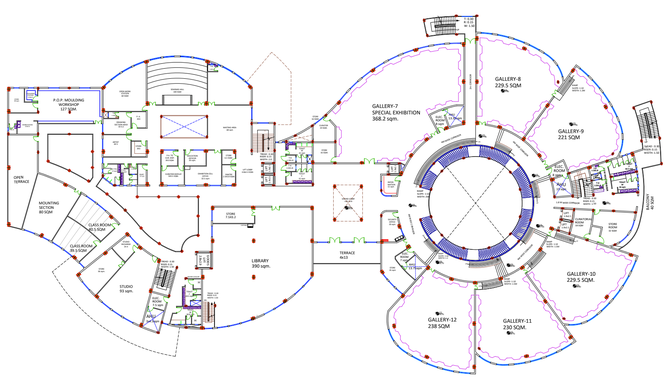


GROUND FLOOR PLAN



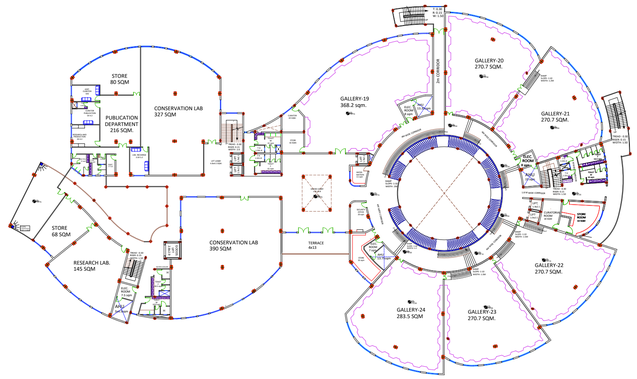


SERVICE AREA
ADMIN AREA
PUBLIC AREA
GREENERY

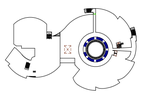


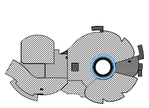
FIRST FLOOR PLAN

SERVICE AREA
ADMIN AREA
PUBLIC AREA
GREENERY

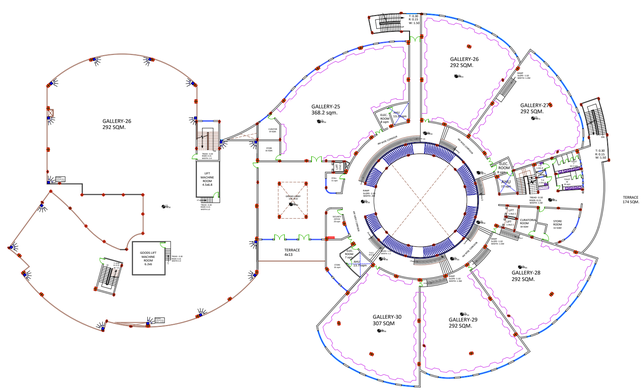


THIRD FLOOR PLAN





SERVICE AREA
ADMIN AREA
PUBLIC AREA
GREENERY



FORTH FLOOR PLAN

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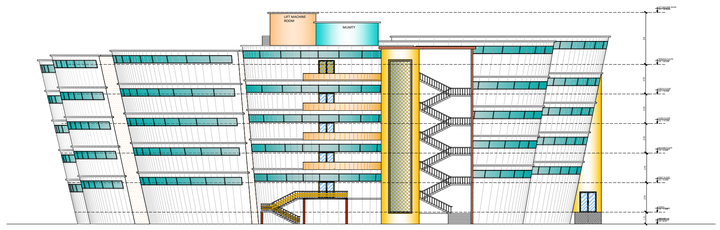
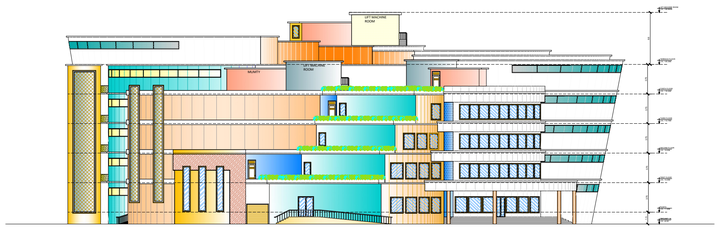
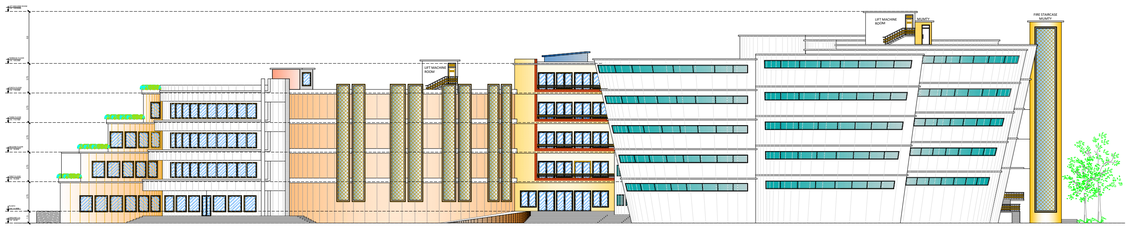
ELEVATION SKETCHES



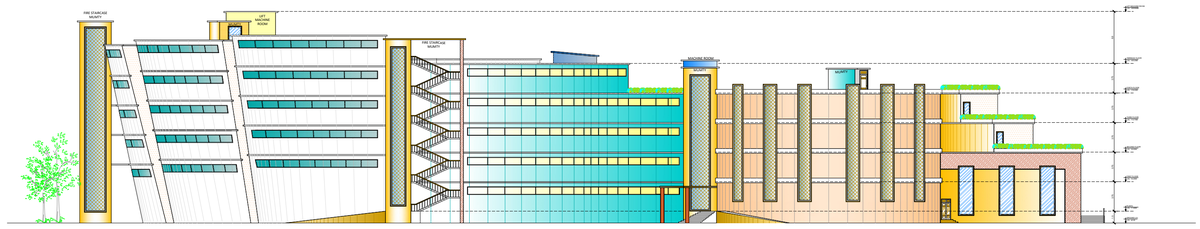
SOUTH ELEVATION



NORTH ELEVATION



EAST ELEVATION



WEST ELEVATION

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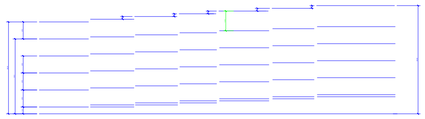
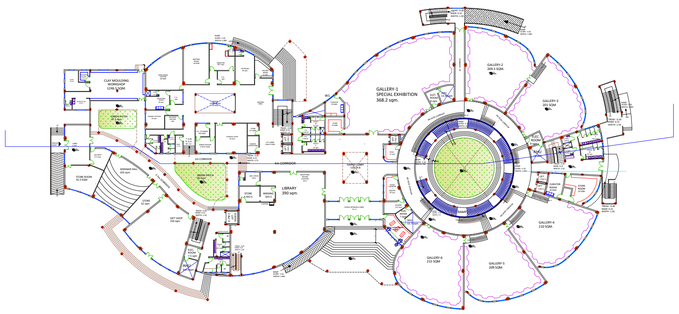
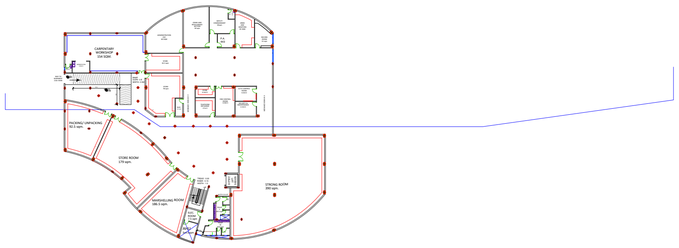
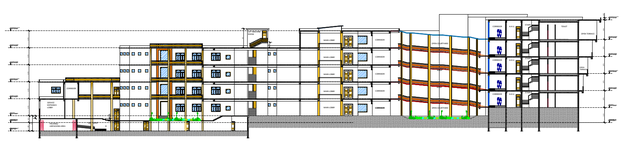




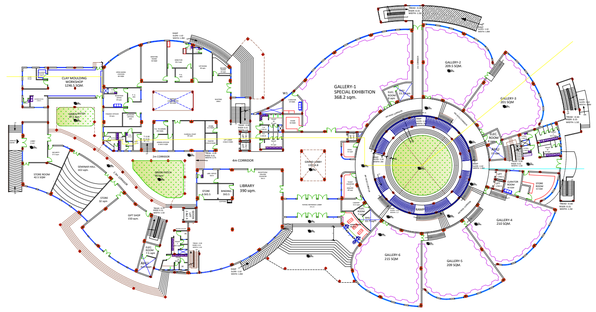
GROUND FLOOR PLAN



BASEMENT FLOOR PLAN

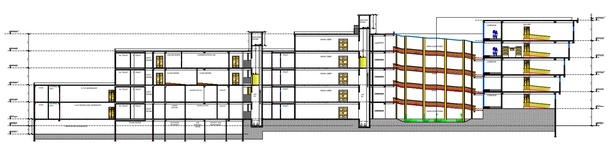


SECTION AA'



GROUND FLOOR PLAN

BASEMENT FLOOR PLAN



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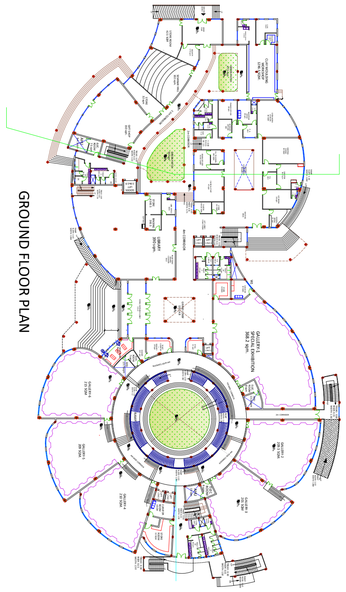
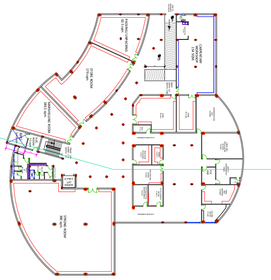
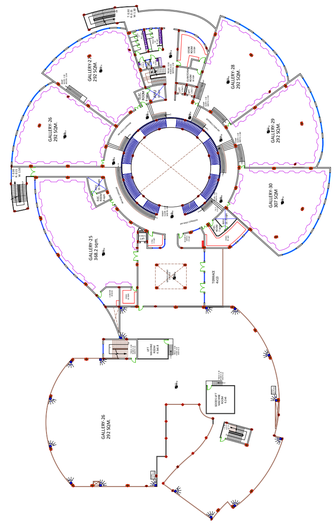


GROUND FLOOR PLAN

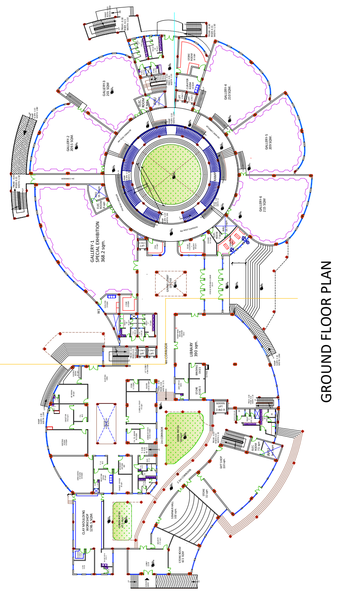


BASEMENT FLOOR PLAN

SECTION CC'



FORTH FLOOR PLAN



GROUND FLOOR PLAN

SECTION DD'

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