



THESIS REPORT ON
“INTERNATIONAL MUSEUM FOR ARTS AND ARCHITECTURE, GURUGRAM”

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

BACHELOR OF ARCHITECTURE
BY

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THESIS GUIDE

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SESSION

2023-2024

TO THE

SCHOOL OF ARCHITECTURE AND PLANNING

BABU BANARASI DAS UNIVERSITY

LUCKNOW.

**SCHOOL OF ARCHITECTURE AND PLANNING
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CERTIFICATE

I hereby recommend that the thesis entitled “INTERNATIONAL MUSEUM FOR
ARTS AND ARCHITECTURE, GURUGRAM “ 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
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1. Name : Aanya Yadav
2. Roll No. : 190101001
3. Thesis Title : International Museum For Arts and Architecture, Gurugram
4. Degree for which the thesis is submitted: Bachelor of Architecture (B.ARCH)
5. Faculty of University to which the thesis is submitted: Yes / No
6. Thesis preparation guide was referred to for preparing the thesis. Yes / No
7. Specification regarding thesis format have been closely followed. Yes / No
8. The content of the thesis have been organized based on the guidelines. Yes / No
9. The thesis has been prepared without resorting to plagiarism Yes / No
10. All the sources used have been cited appropriately Yes / No
11. The thesis has not been submitted elsewhere for a degree. Yes / No
12. Submitted 3 hard bound copied plus one CD Yes / No

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ACKNOWLEDGEMENT

I am filled with immense joy as I extend my deepest gratitude to **Prof. Mohit Kumar Agarwal** for his invaluable guidance, unwavering encouragement, and unwavering support throughout the entirety of my work over the past six months. I wholeheartedly appreciate and treasure his esteemed mentorship and continuous encouragement that spanned from the project's inception to its culmination.

I would like to express my sincere thanks to **Ar. Mohit Kumar Agarwal**, who graciously served as a Dean and **Prof. Sangeeta Sharma**, the esteemed Head of the Department for providing essential knowledge and insightful ideas through juries, which proved instrumental in the successful execution of this endeavour.

I am deeply grateful to Ar. Shailesh sir , who served as thesis coordinator and provided all the necessary resources and facilities for my work. Additionally, I would like to acknowledge their invaluable contribution to conducting meetings and juries at various times and fostering an environment that encouraged the exploration of novel ideas.

I would also like to extend my heartfelt appreciation to my friends and batch mates, whose direct and indirect assistance has greatly contributed to the progress of my project.

Last but certainly not least, I would like to express my profound gratitude to my parents and family for their unwavering encouragement, patience, and understanding throughout this journey.

I am truly privileged to have had the support and guidance of such remarkable individuals and loved ones, and I will forever cherish their contributions to my success.

Thank You!

ABSTRACT

A historical voyage via emotion. The structure will be less of a museum and more of an experience that illustrates what most people cannot grasp via just words and exhibits. It shall convey the emotions of valour, pride, sacrifice, and emptiness. Innovative approaches to museum architecture, such as the use of natural light, flexible exhibition spaces, and interactive elements, are highlighted as effective means of fostering visitor engagement and learning. The paper emphasizes the need for museum architecture to be responsive to the specific context, collection, and mission of each institution. The building's general design must take into account the necessity for museum space to be adaptable, practical, warm, and memorable. The design proposal also intends to incorporate the additional infrastructure required for transforming the museum complex into a public learning centre.

Also, not every visitor to the museum seeks for comprehensive, in-depth material. Space for educational programming, Areas for public gathering, spaces for children's activities, Open Air Theatre, meetings and hangout pods eventually making it a building purpose of revisits. A peaceful sensory experience for visitors with any purpose of visit. The paper concludes by underscoring the transformative potential of museum architecture in elevating the cultural experience, promoting social interaction, and serving as a catalyst for urban regeneration. As museums continue to play a vital role in society, innovative architectural solutions will be crucial for creating spaces that inspire, educate, and delight visitors of all backgrounds.

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CHAPTER 1

INTRODUCTION

Category- INTERNATIONAL MUSEUM FOR ARTS & ARCHITECTURE

Category of users– General public, students, teachers, research fellows, performing artists, tourists.

The proposed thesis project aims to develop a international arts and architecture which can provide matrix for motivation and inspiration to emerge from a deep understanding of the history of our own architecture and its relevance and place in contemporary conditions..

An International Museum for Arts and Architecture is an institution dedicated to the preservation, exhibition, and promotion of artistic and architectural heritage on a global scale. Such a museum typically focuses on collecting, curating, and showcasing artworks, artifacts, and architectural models that span various cultures, periods, and styles from around the world.

The primary objectives of an International Museum for Arts and Architecture include:

1. Cultural Diversity: Celebrating and showcasing the diversity of artistic expressions and architectural styles from different regions and historical periods.
2. Educational Outreach: Providing educational programs and resources to engage the public, scholars, and students in the appreciation and understanding of arts and architecture.
3. Global Collaboration: Fostering collaborations and partnerships with other international museums, cultural institutions, and academic organizations to enhance the exchange of knowledge and collections.

4. Preservation of Heritage: Actively participating in the preservation and conservation of artworks and architectural artifacts, ensuring their longevity for future generations.
5. Public Engagement: Engaging with the public through exhibitions, lectures, workshops, and interactive displays to foster a deeper understanding and appreciation of arts and architecture.
6. International Recognition: Building an international reputation and attracting visitors, artists, scholars, and architects from around the world to experience and contribute to the museum's mission.
7. Cultural Exchange: Serving as a hub for cultural exchange, providing a space for dialogue and collaboration among artists, architects, and the public from different cultural backgrounds.
8. Research and Scholarship: Supporting research initiatives and scholarly activities related to arts and architecture, contributing to the advancement of knowledge in these fields.
9. Curation and Exhibition: Curating and organizing exhibitions that showcase masterpieces, iconic works, and significant examples of artistic and architectural achievements from diverse cultures and time periods.
10. Technological Integration: Embracing technological advancements to enhance the museum experience, such as interactive displays, virtual reality, and online platforms for global outreach.

CHAPTER – 1

INTRODUCTION

INTRODUCTION TO MUSEUM

"History puts into something from the past"

-Ray Lucas

"Architectural history is the discipline that records, studies and interprets architecture. It studies its forms, purposes, and most importantly its evolution. Fortunately, ancient architecture can easily be observed and recorded. Studying architectural history enables us to understand the society and culture they represent which is very useful when working as a contemporary architect.

From the rise of ancient Greece until the fall of the Roman empire, great buildings were constructed according to precise rules. The Roman architect Marcus Vitruvius, who lived during first century BCE, believed that builders should use mathematical principles when constructing temples. "For without symmetry and proportion no temple can have a regular plan," Vitruvius wrote in his famous treatise *De Architectura, or Ten Books on Architecture*.

Vitruvius introduced the Classical orders, which defined column styles and entablature designs used in Classical architecture. The earliest Classical orders were Doric, Ionic, and Corinthian.

SIGNIFICANCE OF FORENSIC MUSEUM

- Comparing and studying ancient and contemporary architecture is essential. It allows an architect to consider a buildings or cities as more than a visual phenomenon and therefore the architect would have a more fundamental and culturally inclusive approach to architecture than an approach based purely on architect's own taste or style.
- Studying the history of architecture is extremely important because unlike studying history in other disciplinary groups, the purpose of studying the history of architecture when practicing contemporary architecture is to understand how architecture influences society and its culture.
- In other words, students can study the history of architecture in order to understand how and why each era since the beginning of time formed its own unique style. The "why" is what really must be understood in order to produce the kind of a architecture our contemporary society needs because architectural should reflects the philosophies prevalent at any given time.

NEED OF PROJECT

Understanding how architecture could contribute towards the evolution of architecture from practical structures built in ancient times to the present-day building innovations holistic learning experience.

- i. To reusing the ancient architectural legacy in present times .
- ii. To find design parameters and considerations from ancient structures.

AIMS AND OBJECTIVES

This thesis topic aims to connect the society to architecture on a level that bridges the gap between the understanding of the architecture between the architects and their victims (referred to anyone getting affected by any piece of architecture).

The museum will exhibit the architecture marvels of the past, accomplishments of the present and the vision for the future. The experience will involve weaving of all the three phases of time, a time-line to dive into. This experience of a time line will be translated into architecture. Therefore, the museum will be dedicated to both historic and contemporary works, it will be journey from certainty to uncertainty which will further get translated into the architecture of exhibition spaces, site planning and the building form.

1. LIBRARY: Library provides services to the public and contain large number of books or volumes related to all aspects of architecture including biographical information about renowned architects.
2. CONVENTION CENTER: Auditorium, Multipurpose hall and exhibition galleries are largely public function, people- intensive components. These spaces allow events like seminars, lectures, film-screenings, launches of new proposals, etc.
3. MUSEUM: Museum is an institution that cares for a collection of artefacts and other objects related to subject which are available for public viewing through exhibition that may be permanent or temporary. The museum will house various galleries showcasing the historic works of architecture to the traditional vernacular to the contemporary architecture. It will house drawings, models, photographs and films showing depicting design as well as the construction process.

SCOPE AND LIMITATIONS

Scope Is It offers a holistic view of the history of architecture, from the development of styles and techniques to the use of materials

METHODOLOGY

- Site study
- Literature study & Case study
- Analysis and inferences
- Formulation of concept & design concept
- Activities and interpretation of space requirements
- Concept and initialization of design
- Design development
- Final design

RESEARCH QUESTIONS

- i. Tracing the History and Theories of Architecture: Documenting and Analyzing the Most Important Historical Periods that Influenced the Development of Architecture
- ii. A Database of Architectural Details: the Case of Neoclassical Façades Elements Thanos Balafoutis¹ and Stelios Zerefos
- iii. Architectural Regionalism during the Neo-Classical Era: Classifying the Architectural "Hybrid" Stylistic Forms
- iv. Gothic Architecture and Style : The Era of Cathedrals

CHAPTER -2

FRAMEWORKS OF RESEARCH

HISTORY OF ARCHITECTURE

Architectural history helps architects understand the cultural, social, political, and economic contexts in which past buildings were conceived and constructed.



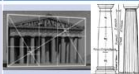
































Evolution of Styles: It provides insights into the evolution of architectural styles, . . . materials, and construction techniques over time.

Comparing and studying ancient and contemporary architecture is essential. It allows an architect to consider a buildings or cities as more than a visual phenomenon and therefore the architect would have a more fundamental and culturally inclusive approach to architecture than an approach based purely on architect's own taste or style. Studying the history of architecture is extremely important because unlike studying history in other disciplinary groups, the purpose of studying the history of architecture when practicing contemporary architecture is to understand how architecture influences society and its culture.

Architecture has proven to be many things – comfy, elegant, modern, brutal, indexical, vernacular – and yet, one of its most interesting aspects is its **capacity to reflect the spirit of time**, in a way that might be even more substantial than how we see it happen with art. Just looking at the buildings made in different places at a different moment in time would **help us understand the evolution of architecture and our past without using any words**. Human actions were embodied in architecture, and further clarified through the persistent endeavor to **protect some of the built heritage**, and to decide to let the rest of it fade and decay.



PARAMETERS

ERA	CLOUMNS	LOAD TRANSFER/ ARCH	VAULTS	WINDOWS	SPECIAL TECHNIQUES/ FEATURES	BUILDINGS
GREEK			NO	NO		
ROMAN						
BYZANTINE						
ROMANESQUE					NO	
GOTHIC						
RENAISSANCE						
BAROQUE						

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DESCRIPTION OF THE RESEARCH WORK

Architecturally relevant areas

- Exterior view of the museum
 - Museum gallery spaces
 - Library
 - Landscaping
 - Amphitheatre
 - Food court
-
- These spaces will be important and partial reading and research-oriented searches are done yet.
 - Lack of storytelling in architecture
 - Lack of defined environment

Source: AUTHOR

CATEGORIES OF MUSEUM

Museums are categorised when their motivation differs from one another, and when they cater to different kinds of people with different interests. A museum doesn't necessarily have to belong to strictly one of these categories.

- **Object Centered:** Treasure based / unique objects. These types of museums concentrate on the material they own or they borrow. Caters to people with more expertise as compared to the average person. A novice will not be able to grasp without external help such as books, maps, etc.
- **Community Focused:**
Minimal similarity to a conventional museum, rather has similarities with a multiagency community center.
Usually caters to audiences drawn towards religion, culture, etc. Social service is usually a part of such museums. Eg: Eco- Museum, Khalsa museum, etc.
- **Narrative Museum:**
These are the types of museums that focus on telling stories through their display. The display is usually relevant to the specific story that the museum focuses on.
Objects are usually used as visual evidence and there is often the use of environment as display. There is also an extensive use of all types of multi-media.
- **National Museum:**
Related to Physical display of National aspirations. These museums have a major impact on the image of the country.
These museums usually cater to all types of audiences especially foreign tourists. They are highly contested by the politicians as well.
- **Client- centered:**
These museums usually only cater to a specific demographic.
Concentrates on individuals and small social groups.
Eg: Children's museums, science museums, etc

TYPES OF SPACES

PUBLIC COLLECTION AREAS	PUBLIC NON-COLLECTION AREAS	NON-PUBLIC AREAS	NON-PUBLIC COLLECTION AREAS
<p>Zone with environmental controls and security considerations which serves the purpose of exhibiting the collection. Public access is allowed in the area.</p> <ul style="list-style-type: none"> - Classrooms - Indoor Exhibition gallery - Orientation rooms - Open Air Exhibition 	<p>Zone in which the finish, durability and environment is created for human comfort. It contains wither robust or no artefacts at all.</p> <ul style="list-style-type: none"> - Auditoriums - Libraries - Museum lobbies - Ticket Counters - Theatre - Checkrooms - Dining areas - Information rooms - Cloak room - Public toilets - Information desk 	<p>Zone which is meant for staff alone with strict security considerations in a few places.</p> <ul style="list-style-type: none"> - Catering Kitchen - General Storage - Electrical room - Mechanical Storage - Security Rooms - Security Equipment rooms - Offices - Conference rooms - Server rooms - Restoration Areas 	<p>Zone in which the environment is made for the staff alone. This area is made robust and has strong security considerations. Public access is restricted. Documents are stored and official works are carried out.</p> <ul style="list-style-type: none"> - Workshops - Crating Area - Freight Elevators - Collections Loading Dock - Conservation Laboratories - Collection storage spaces

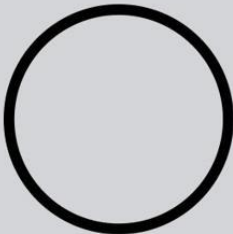
SHAPE EXPLORATION FOR GALLERY SPACES

The shape of the exhibition depends on the exhibits in the gallery and the purpose of the gallery regarding the experience it is trying to provide to the users.

The enclosing planes can be linear, curved or organic. These different shapes in exhibition galleries have different impact on the psychology of the users in the museum.

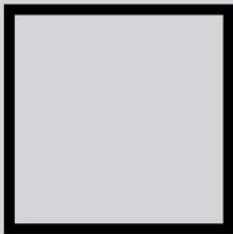
The exhibition galleries in the same museum can have different forms in coherence with the experience intended to be provided to the users.

The different geometrical forms and their impact




Circular form

- Elegance
- Calm and serene
- Mystery
- Slow paced
- Gathers people



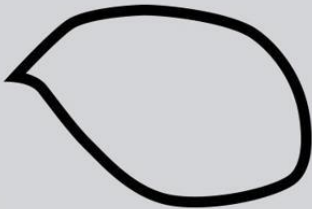
Square form

- Discipline
- Strength
- Reliability
- Security
- Fast paced



Triangular form

- Risk
- Discomfort
- Danger
- Excitement
- Associated with motion and direction



Organic form

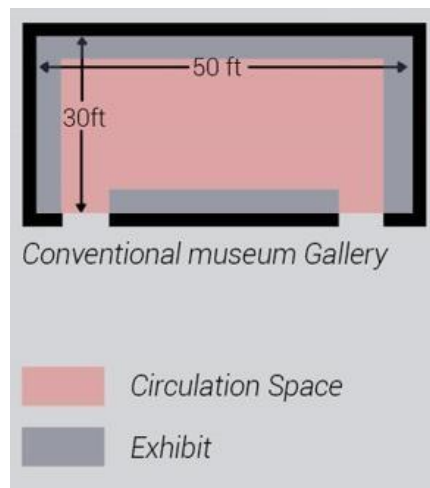
- Originality
- Organic
- Refreshing and closer to nature
- Medium Paced

9

SIZE OF THE EXHIBITION GALLERIES

The shape of the exhibition depends on the exhibits in the gallery. In the conventional art galleries or regular artefact galleries the size of the galleries can and should be significantly smaller as compared to a war museum since the size of the collections exhibited in the museum is relatively much larger as compared to that in a conventional museum gallery.

The size of the gallery in a conventional museum is 1500 sqft. on an average depending on the size of the artefacts and the intend of the space.



VIEWING ANGLE IN THE MUSEUM

Observation 1-

When the object is placed 3 ft below the eye level, the user has to bend forward in order to read to examine the object at hand.

Similarly, if the object is placed 2 ft above the eye level, the user has to bend backward in order to examine the object at hand.

These are points to be considered while designing the spaces. A solution to this can be increasing the viewing distance.

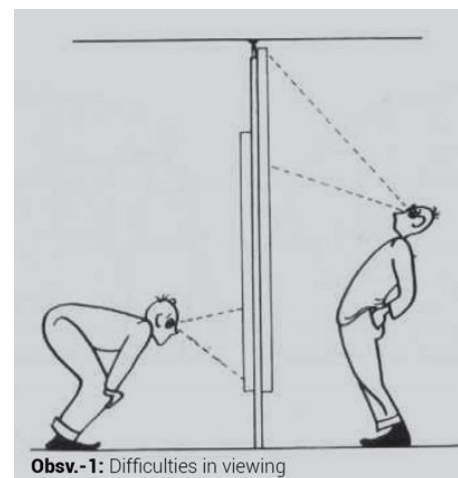
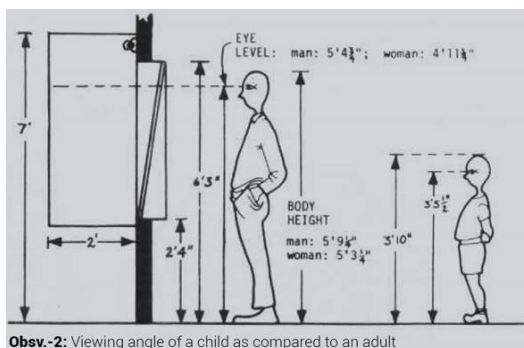
Observation 2-

The viewing angle will be different for children as compared to the viewing angle of adults. Average Eye- level height for adults will be 5'9" whereas average eye level height of a 6-year-old child will be around 3'3". An object placed at a height of 5' considering the average height of an adult will be too high for a child as it might have to bend backwards in order to examine the object at hand.

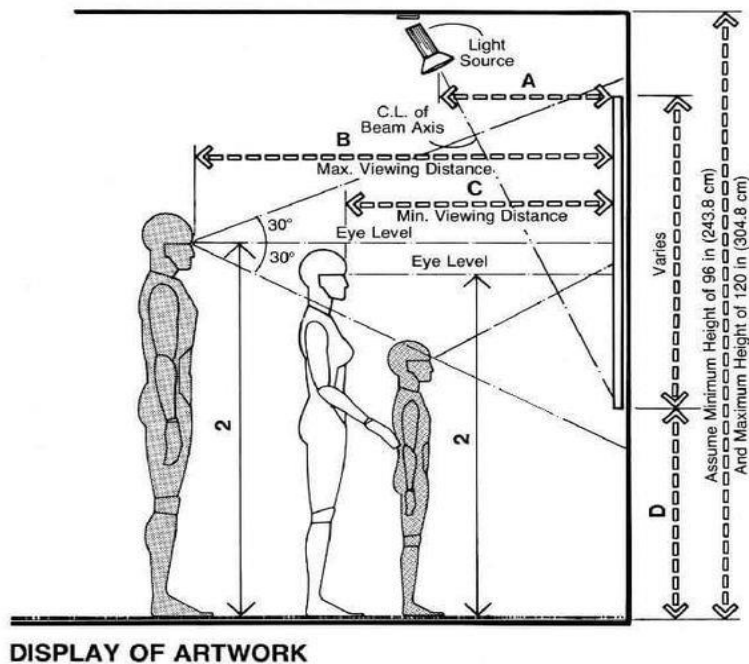
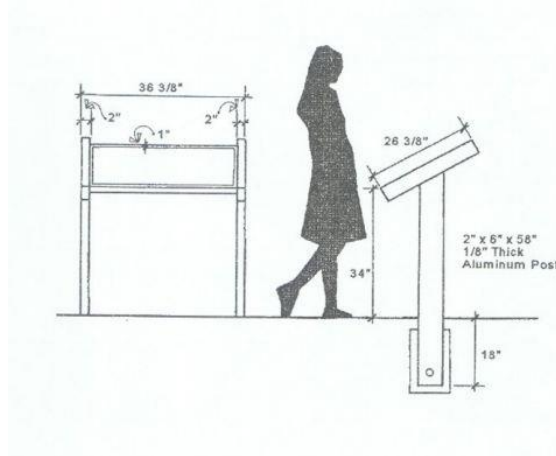
The solution to this will be to provide maximum viewing distance possible so that the viewing distance can be adjusted by the user as per will and convenience. Also, people on wheelchairs will almost have the same viewing angle as that of children.

Observation 3- In case of large objects, the viewing angle will be significantly high when a user is standing adjacent to it. In such cases, the viewing distance must be substantial as well. In such cases, for every 10' height atleast a distance of 10' from the object must be maintained in order for comfortable viewing.

The minimum height to distance ratio for comfortable viewing must be 1:1. However it can be more than that depending on the viewing angles above (30 degrees) and below (40 degrees) eye-level.



Wayside Exhibit Format



The drawing shown above illustrates the relationship between human dimension and the display of art work. Eye height is the significant anthropometric body measurement here. It should be noted, however, that the visual angle in which small detail can be sharply defined without rotating the eyes is only about 1°. Therefore, the drawing should be used as a basis for preliminary design assumptions about art work generally, and even in viewing the art work shown here, a certain amount of scanning or eye rotation is required. In addition, the horizontality of the line of sight is theoretical. Most of the time the body and head are in a relaxed position and the line of sight is slightly below the horizontal. A more detailed discussion of the visual and anthropometric considerations regarding the viewing of displays can be found in [Section 9](#) in [Part C](#). The following drawing provides some useful information concerning human dimension and the clearances required for coat removal.

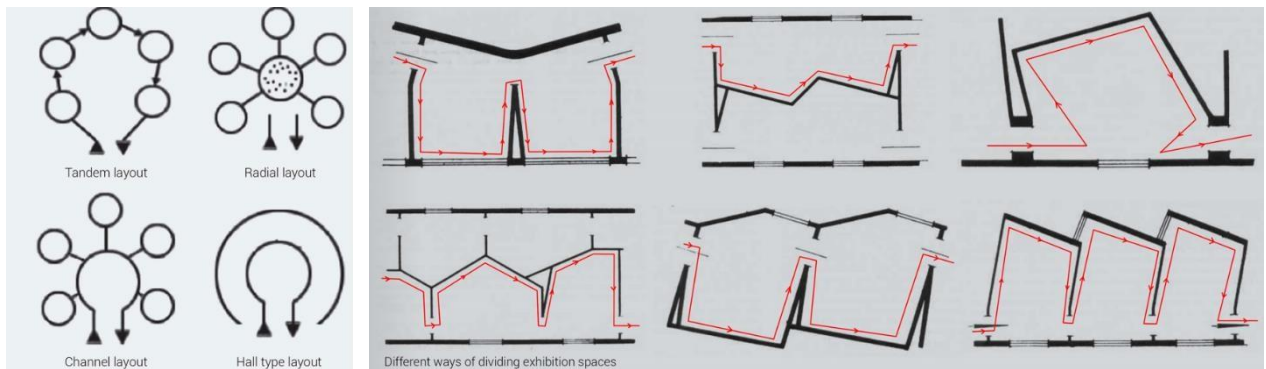
LAYOUT EXPLORATION OF EXHIBITION SPACES

Tandem Layout: The tandem layout mainly connects the exhibition galleries with the preceding gallery with two points of contact with each other. This type of layout is usually unidirectional and not very flexible. There is mainly one point of entry and a different point of exit

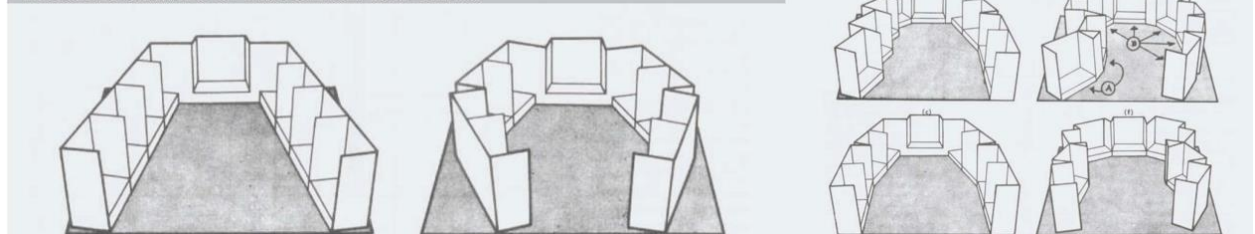
Radial Layout: In this type of arrangement, there is usually a common space such as a lobby or atrium that connects to all the different galleries around it. This type of layout is not unidirectional as the gathering occurs in the lobby area. There is the most flexible in regards to circulation within the different galleries.

Channel type Layout: This type of layout is midway between Radial layout and the tandem layout. There a common passageway that connects to all the galleries. The circulation in this type of layout can be unidirectional but not necessarily and is as flexible as the radial layout.

Hall type Layout: In this type of layout all the collections are usually located in a centralized hall which is well connected with the different parts of the museum. This type of layout is relatively more flexible than the tandem type layout but it tends to result in the overlapping of visiting routes and causes a lot of chaos and noise.



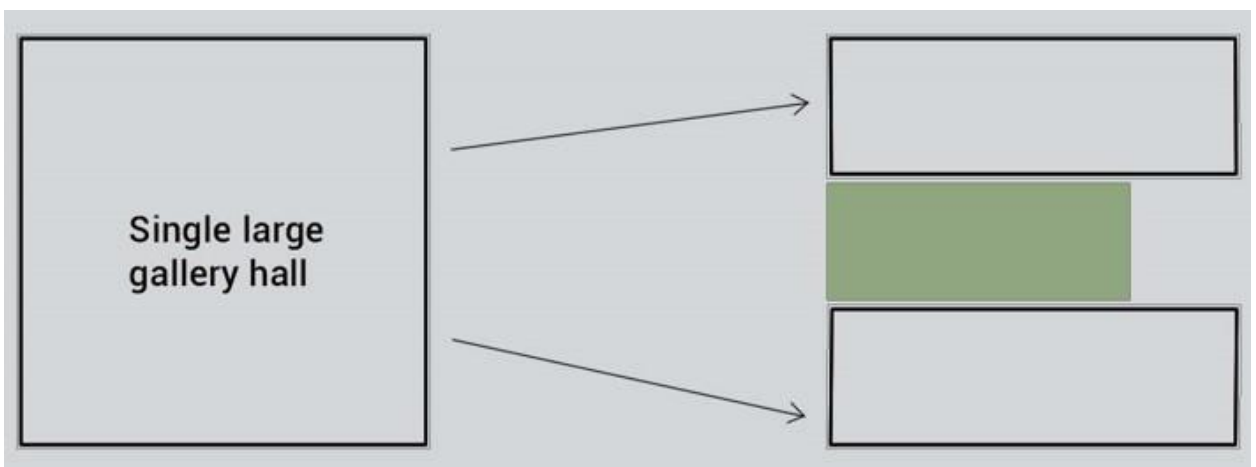
POSSIBLE SHAPES OF EXHIBITION GALLERIES



WHY A LINEAR ARRANGEMENT OF EXHIBITION SPACES MUST BE AVOIDED

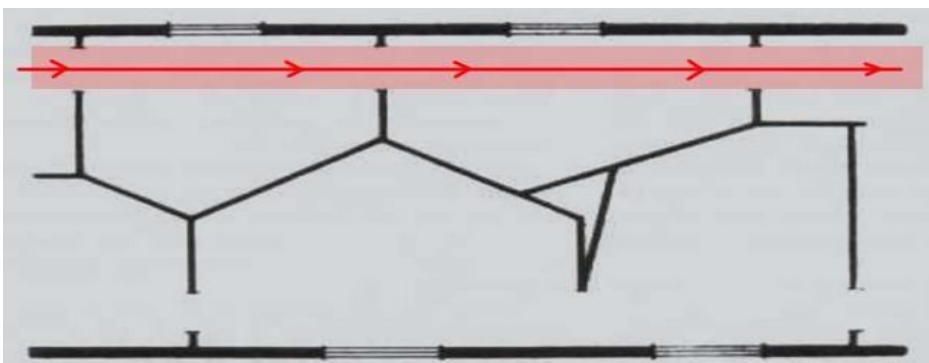
Museum Fatigue:

Having multiple galleries consecutively without break or having one large gallery can cause museum fatigue. This is a circumstance when the monotony of spaces and repetition of similar objects causes the brain to be tired and less responsive and stimulated. This can be avoided by dividing a single large space into multiple small spaces with green areas or break out areas. A version of this can also be achieved when a radial layout of exhibition galleries is followed. This would consequently allow eyes of the users to rest between exhibition spaces.



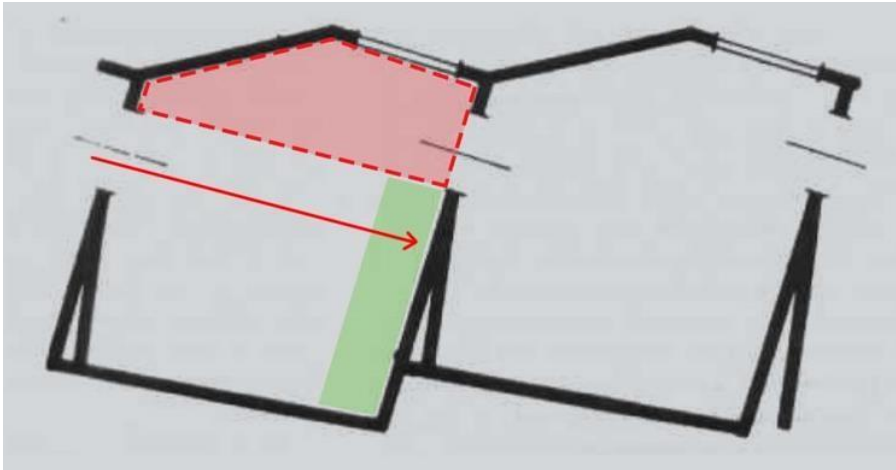
Telescopic view:

Monotony also results when a number of rooms follow one another in a straight line. Even where this cannot be entirely avoided, the rooms should be so constructed that the doors are not opposite one another, providing a "telescopic" view through the building. Telescopic view basically means an uninterrupted view through all the exhibition spaces. An uninterrupted prospect of the long route ahead is usually found to have a depressing effect on visitors.



Setting importance:

by varying the positions of the doors, we are also able to place the visitor, from the moment of his entrance, at the point chosen by the organizer of the display as the best for conveying an immediate and striking impression of its general contents, or for giving a view of the most important piece in that particular room. In principle, the door should be placed in such a way that a visitor coming through it will see the full length of the opposite wall. It is therefore not advisable for it to face a window, since the visitor will then be dazzled just as he comes in.

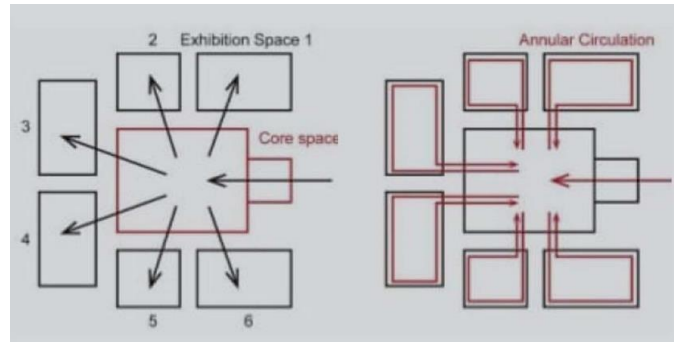
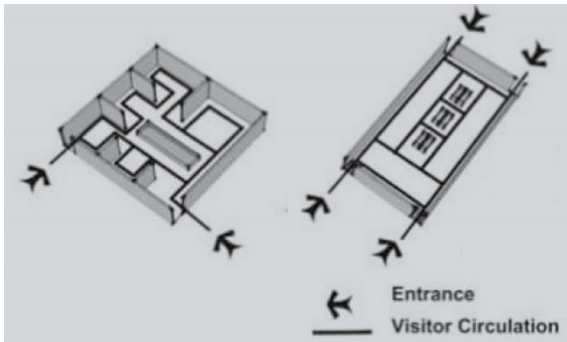


Exhibits need to tell a story in a definite sequence to ensure that everybody sees everything. This is the imperative criteria for making controlled circulation in a space successful.

People must not be offered multiple choices for routes. This will cause confusion and end in defying the point of a controlled circulation.

This form of circulation must be broken up after 100 meters since it might make people uncomfortable and very controlled. Break out spaces are very necessary in this type of circulation.

This type of circulation typically consists of a single point of entry and exit. This makes the circulation very less flexible. Tandem layout is an example of controlled circulation.



UNCONTROLLED CIRCULATION

There must not be a particular sequence in which the exhibits must be viewed in order to tell a story or be comprehensible to the user. This allows a random and flexible movement inside the museum.

People can be offered multiple choices for routes. In this case, the objects also have to be in sync with the design that it don't have to be in any particular order.

This form of circulation usually has a common break out space in the middle which serves as an access point to all the other galleries in the museum.

Radial layout is an example of uncontrolled circulation.

This type of circulation makes the user feel free and in control of its own movement.

LIGHTING IN MUSEUMS

Lighting from above:

A freer and steadier supply of light, less liable to be affected by the different aspects of the various rooms in the building and by any lateral obstacles (other buildings, trees, etc.) which might tend, by causing refraction or by casting shadows, to alter the quantity or quality of the light itself.

The possibility of regulating the amount of light cast on the pictures or other exhibits and of securing full and uniform lighting, giving good visibility with a minimum of reflection or distortion.

The saving of wall space, which thus remains available for exhibits.

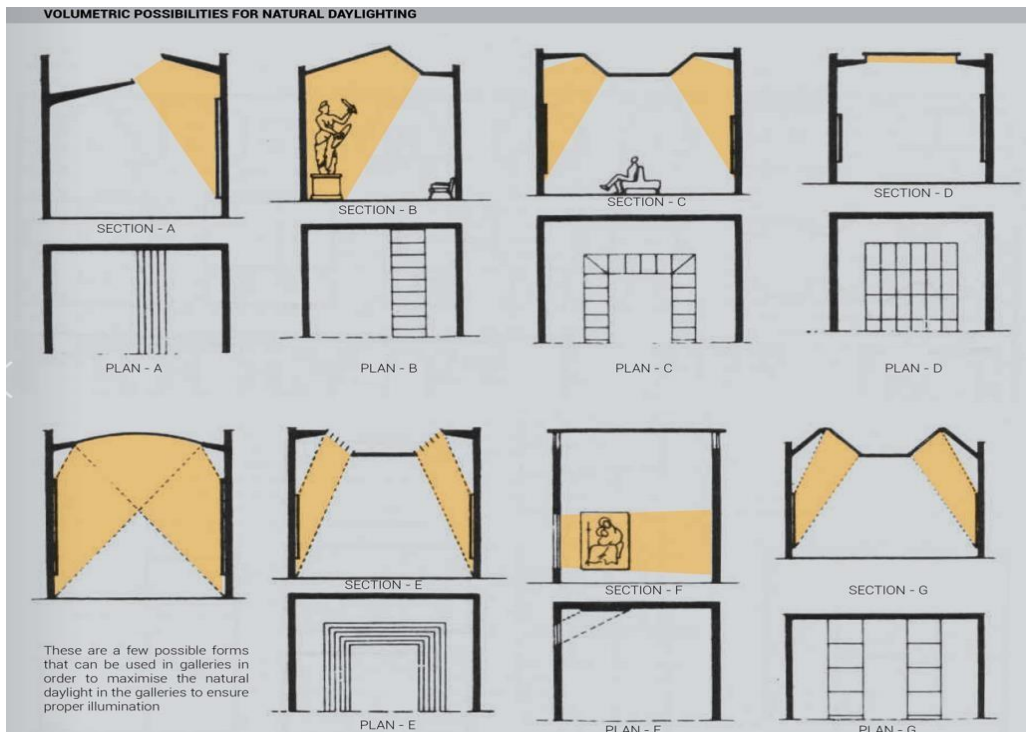
The maximum latitude in planning space inside the building, which can be divided without requiring courtyards or light shafts.
The facilitation of security measures, owing to fewer openings in the outside walls.

Lateral Lighting:

This is provided either by ordinary windows of various shapes and sizes, placed at suitable intervals in the walls, or by continuous openings; both windows and openings may be placed either at a level at which people can see out of them or in the upper part of the wall.

The solution adopted will be determined by the type of museum and the nature of its exhibits, and the advantages and disadvantages vary from one to another.

Windows at the usual level, whether separate or continuous, have one serious drawback, in that the wall in which they are placed is rendered useless and the opposite wall practically useless because showcases, paintings, and any other object with a smooth reflecting surface, if placed against the wall facing the source of light, will inevitably cause an interplay of reflections which impedes visibility. These windows will, however, shed full and agreeable light an exhibit placed against the other walls and in the center of the room at a correct angle to the source of light.



TYPES OF ARTIFICIAL LIGHTING

Fluorescent lighting: Behind case fascia panel without diffusing panel separating light from case interior; angles of vision must be calculated to avoid glare from light source

Vertical Lighting: Slim Fluorescent tubes set in case corners, forming light columns; suitable for wall cases with solid sides

Fluorescent column: set behind case uprights; a possible solution for lighting in old wall cases.

Side Lighting: Louvres essential to mask fluorescent tubes; accurate calculation of light spread is needed to ensure even illumination on case back panel

Internal case lighting: slim light box for miniature fluorescent or incandescent lamps; brightness at eye level should be carefully controlled; wiring to the light box, housed in case corner, may be distracting

Integral Lighting: Light box separated from case interior by diffusing glass or louvers [with clear glass panel excluding fluorescent for even, well distributed light, or tungsten, for highlighting, can be accommodated

Lighting from below as well as from upper light box to reduce effect of shadows and to light undersides of objects; light source must be masked, usually by louvers

Backlighting: fluorescent tubes behind diffusing material, usually opal Perspex; tubes must be evenly spaced, at some distance from diffuser; ideally filled with dimmers to control brightness

Strip lights [fluorescent or tungsten] attached to shelf ends inside the case, illuminating both above and below a shelf, can only be used for objects with no conservation risks Lighting is classified by intended use as general, accent, or task lighting, depending largely on the distribution of the light produced by the fixture. Forms of lighting include alcove lighting, which like most other up lighting is indirect. This is often done with fluorescent lighting.

ARTIFICIAL LIGHTING

- Ideal exhibition conditions are attained where every aspect of the display is controllable and the light can be focused, moved, colored and all remains independent of weather.
- Hence these aspects can be controlled to control interest, mood attention and even pleasure.
- It is desirable for an exhibition to have both light and dark areas so that object stand out.
- One should be able to achieve light levels to achieve variation in illumination with moderate levels in brightness to connect spaces dramatic and theatrical effects can be sought out by artificial light.

DIRECT LIGHTING FIXTURES

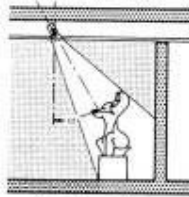
- Recessed in ceiling or wall
- Surface mounted ceiling or wall
- Suspended from ceiling
- Portable lamps

INDIRECT LIGHTING FIXTURES

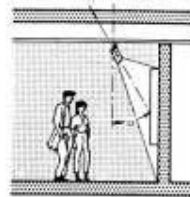
- Cove or valance lighting
- Wall track
- Uplight suspended from ceiling

DISPLAY LIGHTING

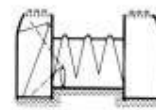
- For display lighting, incandescent lamps often known as GLS lamps & Halogen lamps are used.



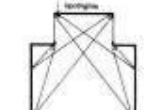
Illumination of objects



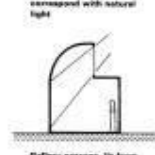
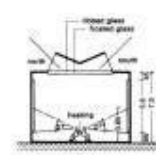
Wall illumination, spotlight



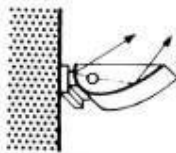
Typical cross-section for recessed natural history



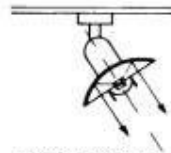
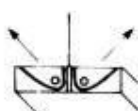
Indirect lighting so that angles of incidence correspond with natural light



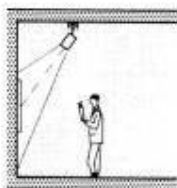
Gallery passage, lit from one side only, lower part with indirect, attenuated lighting



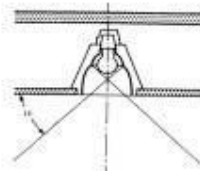
indirect light



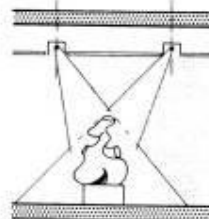
parabolic spotlight



Spotlight on power supply rail



Shading angle ($\approx 30^\circ/40^\circ/50^\circ$)



Directional spotlights



wall floodlight



downward directional spotlight

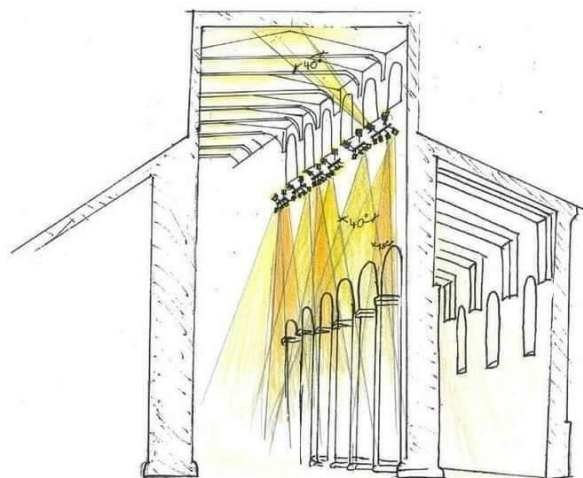
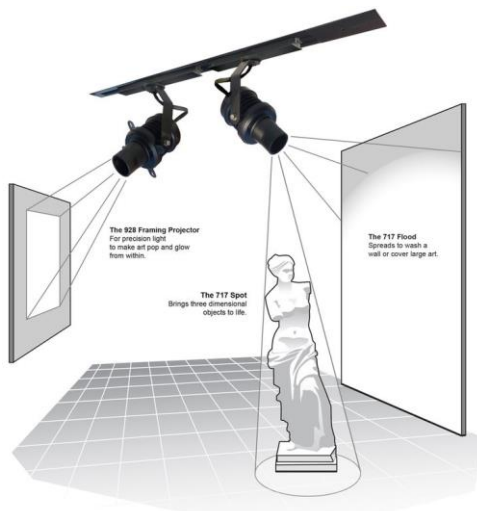
Types of artificial light sources:-

FLOUROSCENT LAMPS:

These are non directional and cannot be focused or used to project a parallel beam. Reduce glare and used as general lighting.

INCANDESCENT LAMPS:

These are directional and used to highlight on certain spot. More flexible in use and expensive. Can be used in conjunctions with reflectors.



CHAPTER -3

LITERATURE & CASE STUDY

BIHAR MUSEUM, PATNA



View from the Main road
(Bailey Road, Patna)

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 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*.

PROJECT DETAILS

Name of the project : The Bihar Museum
Location: Patna, India
Architects: Maki and Associates (tokyo) in association with Opolis (Mumbai)
Client: Department of Art, Culture, and Youth (DACY), Government of Bihar, india

Design Team:
Maki and Associates: *Fumihiko Maki (principal), Tomoyoshi Fukunaga (director), Michel Van Ackere (associate), Tatsutomo Hasegawa (associate), Hisashi Nakai, Yoshihiko Taira, Issei Horikoshi, Kiwon Kim.*
Opolis: *Rahul Gore (principal), Sonal Sancheti (principal), Tejesh Patil (project architect), Rahul Lawhare, Swapnil Kangankar, Akul Modi.*

Site Area: 53,480 sqm
Roof Area: 19,716 sqm
Built up Area: 25,410 sqm
Year of Establishment: 2018
Current Footfall: 14000-18000 per week

PROJECT SITE

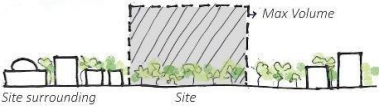
Location : Bailey Road, Patna, Bihar, India
Bailey road in Patna is one of the prime location having good connectivity.
It is on the west of Patna Museum (old museum).



Residential	4.5 Km away
Office and retail	3.6 Km away
Bihar Museum	4.7 Km away
Govt. buildings	
LNM Institute	
Patna high Court	



PLANNING AND CONCEPT A COMPLEX IN HARMONY WITH THE LAND



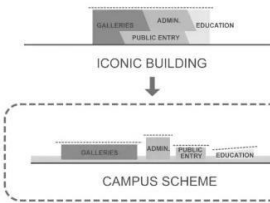
The generous 5.3 hectare plot allowed for a variety of site planning approaches, while demanding *sensitivity* to its *low-scale surroundings* and *prominent tree growth*.

DISPERSED SCHEME

Sensitive utilization of the site is more effectively accomplished via *dispersed volumes* within an integrated landscape development.

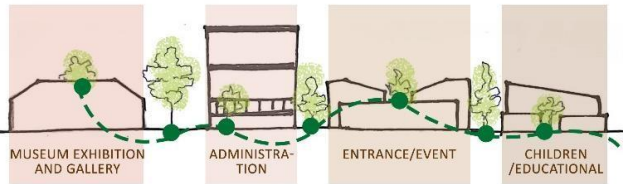
A dispersed plan allows *each program* to have *individual floor to floor height and spatial / sectional quality* - each with an appropriate sense of scale, natural lighting, etc.

A dispersed plan allows for *ease of updates* and changes through the design process.



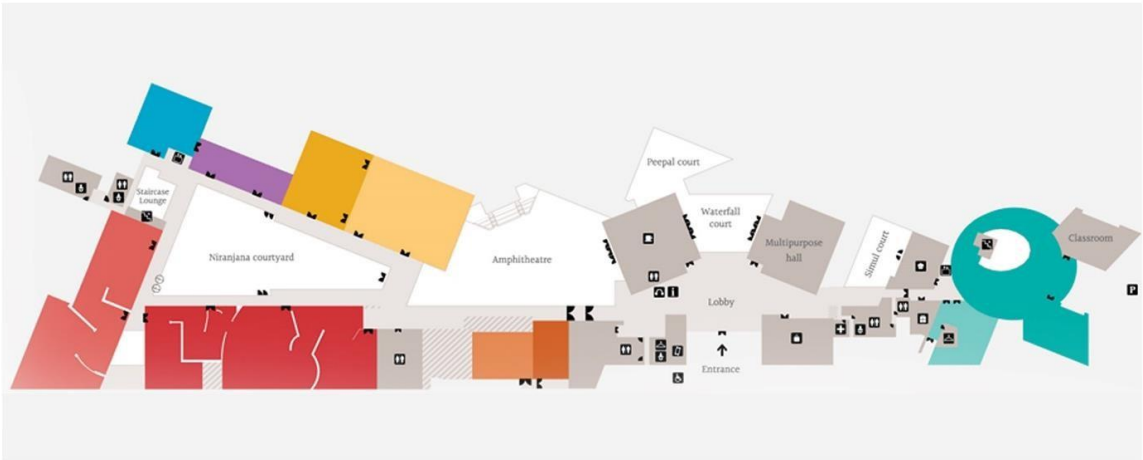
"Iconic" building—creating dramatic forms, extensive cantilevers, and complex geometries.

In response to the context, the architects 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 interior and exterior courtyards ensuring all spaces retain a connection to the surrounding landscape while remaining sheltered and comfortable throughout the year.

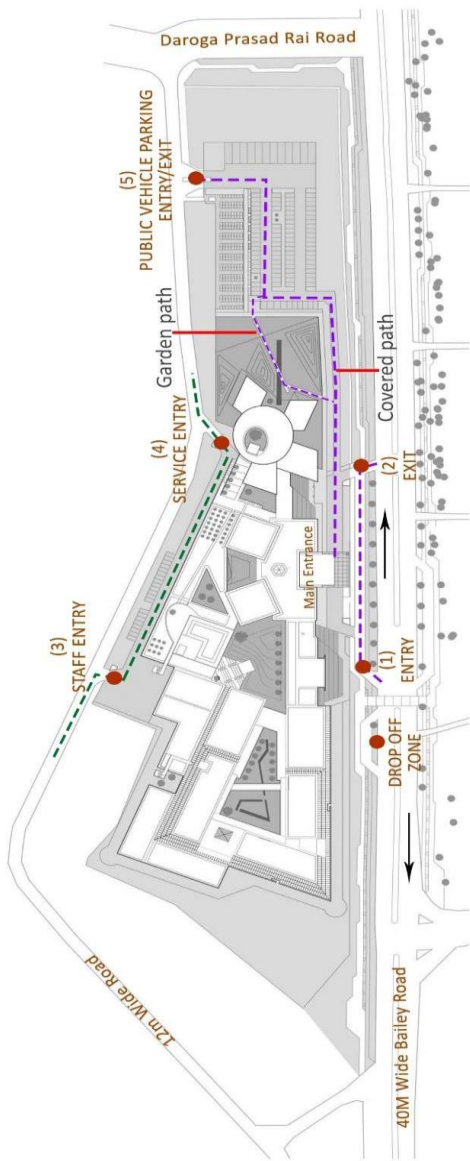
Each program zone has been given a distinct presence and recognizable form within the complex.



MUSEUM SPACES	Orientation	History gallery B	Contemporary art	Orientation	Restricted areas
	Orientation theatre	Regional art gallery	Temporary exhibition	General area	Corridors
	History gallery A	Bihari diaspora gallery	Children's Gallery	Open spaces	

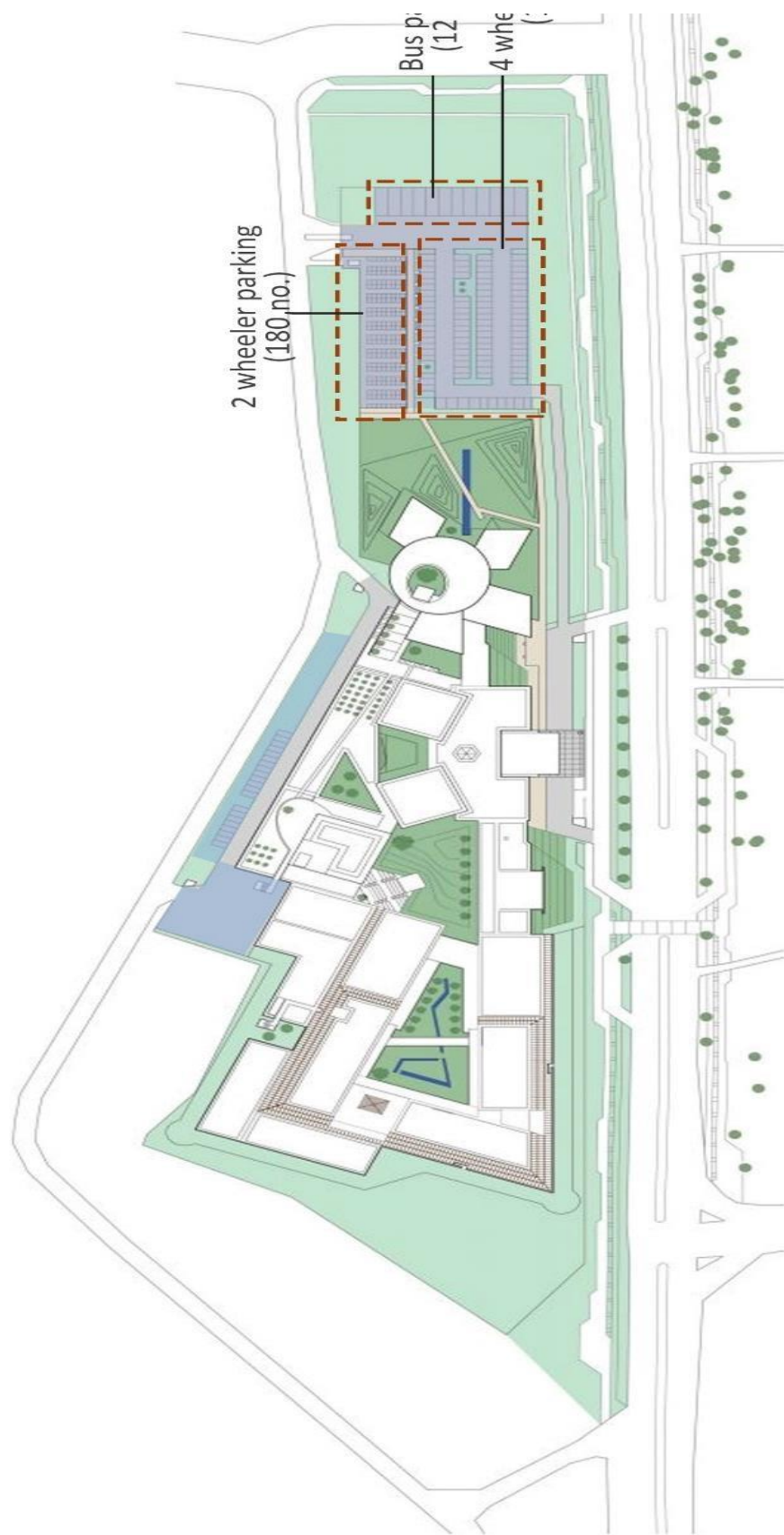
SITE PLAN DETAILS
ENTRANCES

- Visitor's entry
- Staff and service entry



PARKING AND LANDSCAPE

- Landscape area
- Courtyard
- Visitor parking
- Staff parking





Covered Path

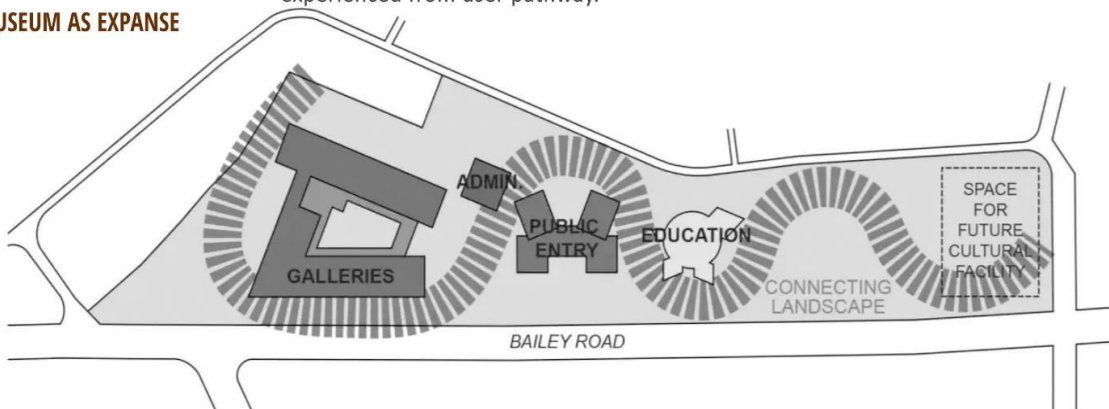


Though symmetrically balanced form, it cannot be experienced from user pathway.



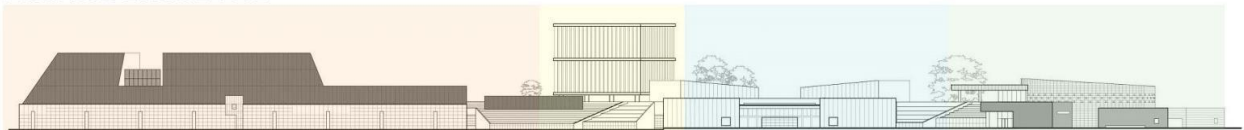
Main entrance and Gate no. 1

MUSEUM AS EXPANSE



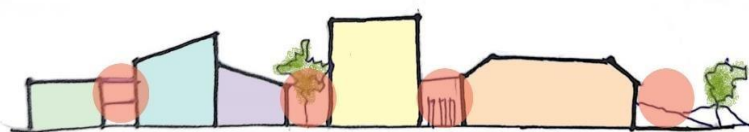
The breadth and scope - the expanse - of Bihar's history is reflected in the figural spread in landscape- the expanse - of the museum throughout the site.

SHAPING EACH ZONE



NORTH ELEVATION

To create the "campus", they gave each zone (entrance, education, exhibition and administration) a **distinct and recognizable form** within the complex.



IDEAS ON THE GROUP FORM CONCEPT, WHICH EMPHASIZES LINKAGE.

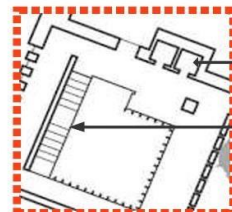
- Permanent Collection Galleries and a Temporary Exhibition Gallery.
- Staff Work Areas and Building Support Spaces.
- Public, Education and Social Spaces.
- A Special Children's Gallery.
- Collection Storage and Support Spaces.
- Linkages



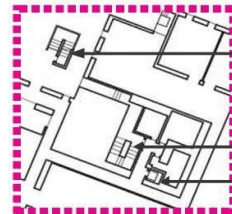
SOUTH ELEVATION

Taking advantage of the elongated site in Patna, the museum complex can be called a '**chained group form**', where heterogeneous elements were effectively linked by *outdoor courts, plazas, and cloisters* into a single complex.

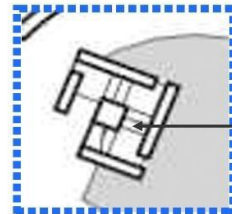
VERTICAL CIRCULATION



Visitor's access to exhibition halls in first floor

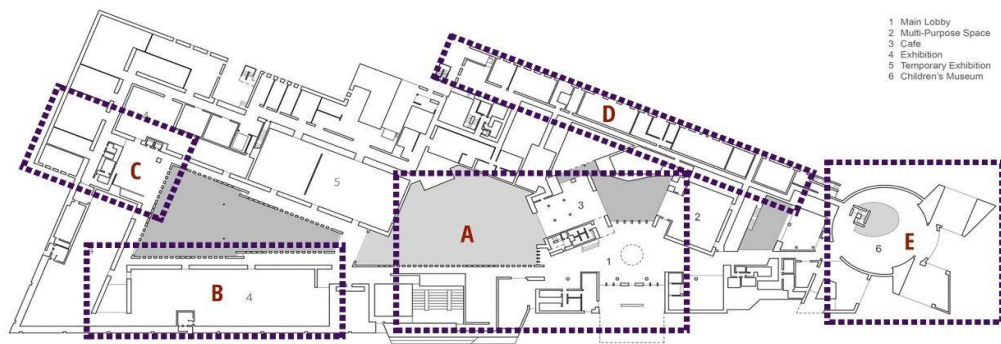


Staff access to all above floors in Admin block

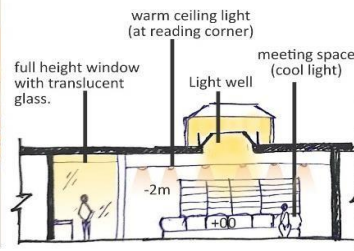


Children access to children gallery in first floor

GROUND FLOOR SPACE, QUALITY AND FEATURES



03 GROUND FLOOR PLAN

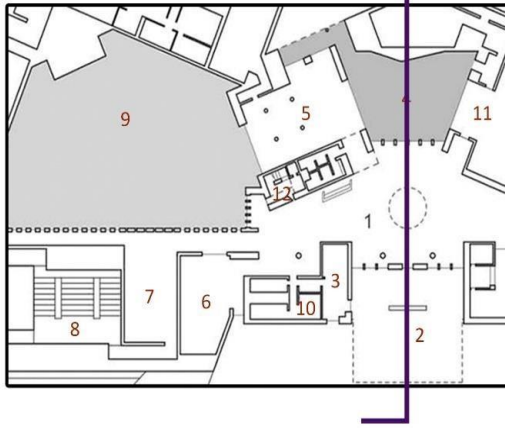


Every non-collection space has good source of day lighting.

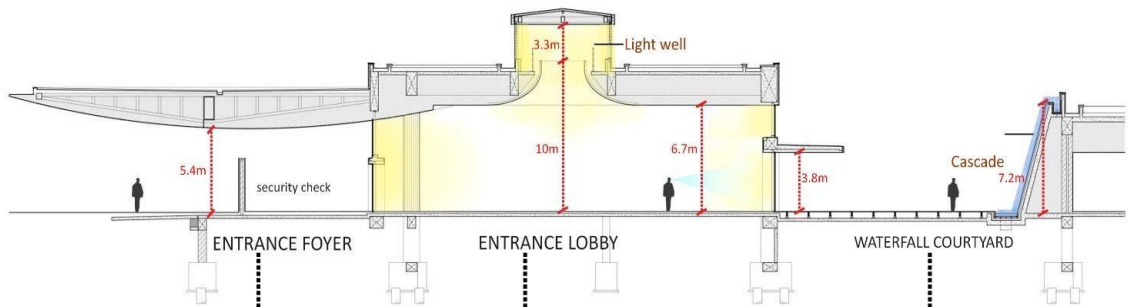
Anyway, study centre has it's back area dedicated to library collection and front space for meetings and group discussion.

Invasion of dispersed sun light in study room makes it even more engaging.

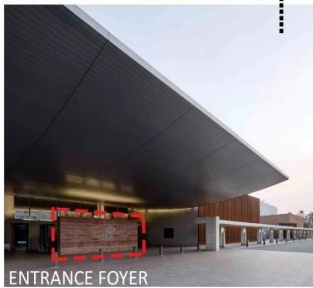
PART 'A' DETAILS



1. ENTRANCE LOBBY
2. MAIN ENTRANCE
3. TICKET AND BAGGAGE
4. WATERFALL COURTYARD
5. CAFETERIA
6. STUDY CENTRE
7. ORIENTATION ROOM
8. AV ORIENTAION
9. AMPHITHEATRE
10. TOILETS
11. MULTIPURPOSE HALL
12. VIP LOUNGE



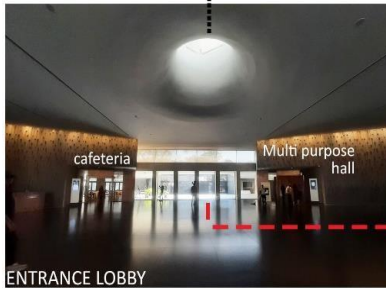
SECTION THROUGH MAIN ENTRANCE



ENTRANCE FOYER

Weathering steel in foyer projection, maintaining the material colour palette.

The wall in between acts as a visual barrier for the interior space hence creating excitement and curocity.



ENTRANCE LOBBY

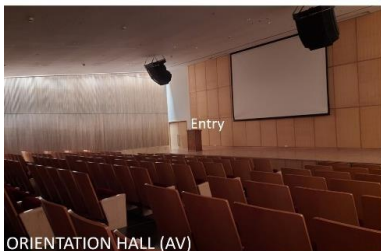
Inspite the Museum being all AC, this space is *not air conditioned* in order to balance the immediate change in body temp. in Bihar's extreme summers.

For such huge non-collection public space, *light well* works in a way to provide daylight during Museum hours.

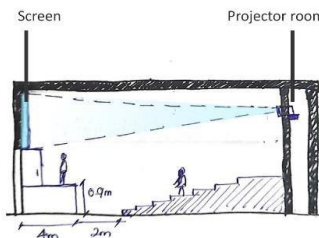


As someone enters the Museum, they first counter the cascade right in front of the lobby.

It gives visual pleasure and warm welcome to the visitors.



ORIENTATION HALL (AV)

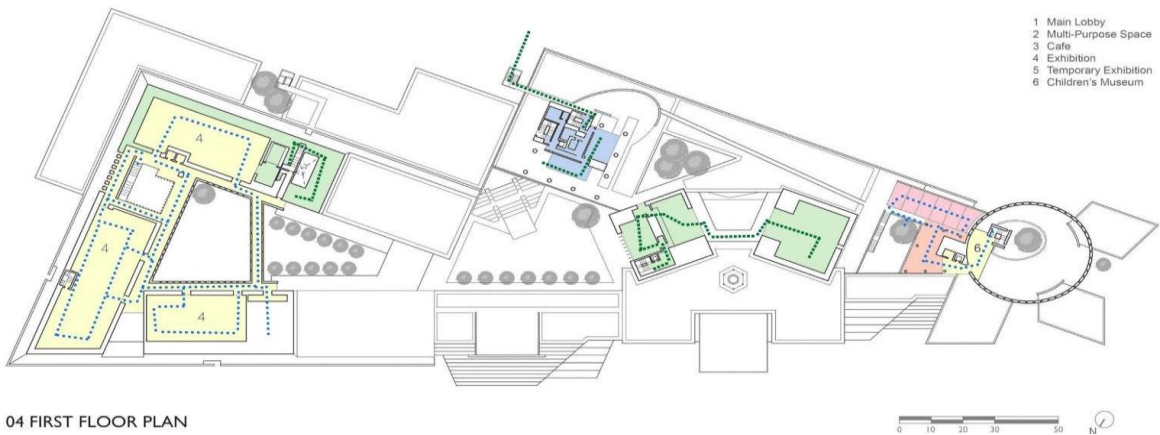
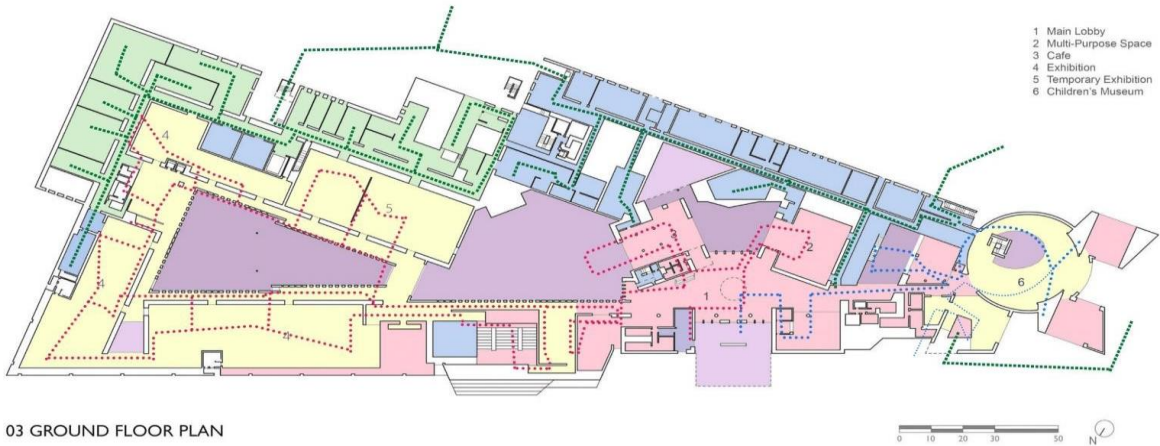


Projector screen is 1.2m above the stage, which gives an uninterrupted view.

Total seating: 154

The hall is connected to the orientation room, for a better understanding of the visitors and the exit is near Gallery A.

HORIZONTAL MOVEMENT



- VISITOR'S MOVEMENT
- CHILDREN MOVEMENT
- STAFF MOVEMENT

- PUBLIC NON-COLLECTION
- PUBLIC COLLECTION
- NON-PUBLIC COLLECTION
- NON-PUBLIC NON-COLLECTION
- OUTDOOR AREAS

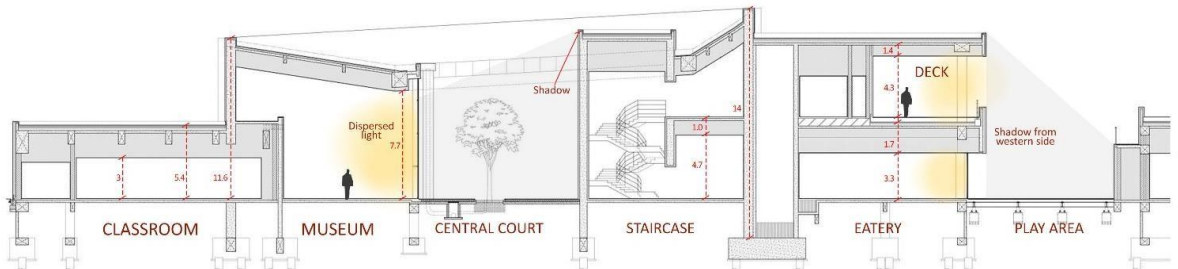
GROUND FLOOR

The ground floor plan shows a large central hall (1) with a green circular area in the middle. To the left of the hall is a large orange-shaded area (8) and a smaller area (6). To the right of the hall are areas 2, 3, and 4. Below the hall are areas 5, 9, and 10. A red dashed line runs horizontally across the plan, with 'B' marked at both ends. A red circle with the number 1 is located in the central hall.

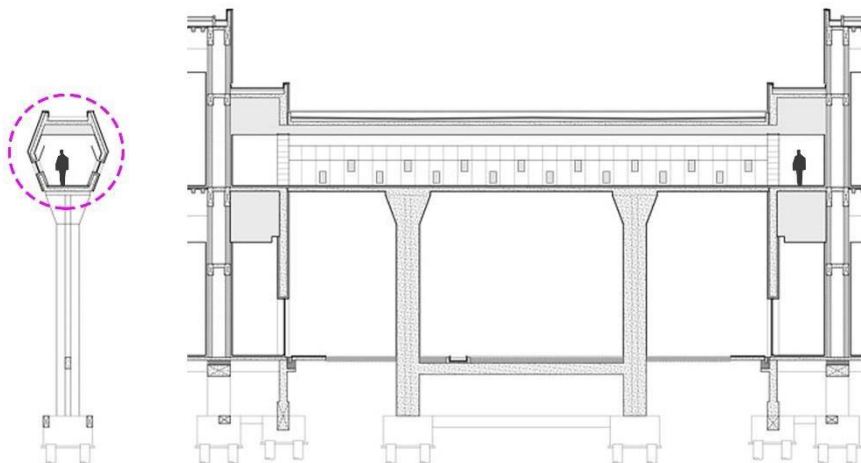
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- FIRST FL

- 

The *Elliptical shape* becomes fun for children.

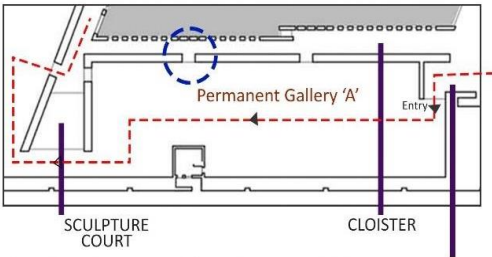


SECTION THROUGH CHILDREN'S GALLERY

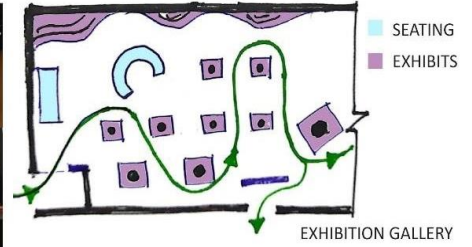


LONG SECTION

PART 'B' DETAILS

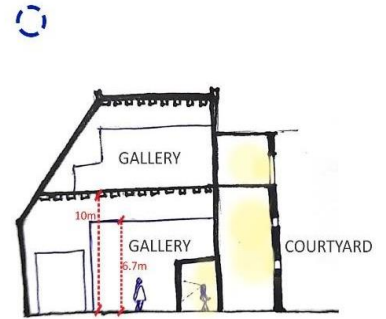
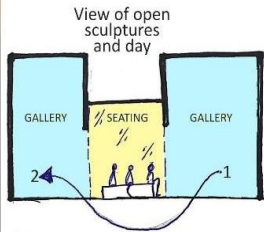
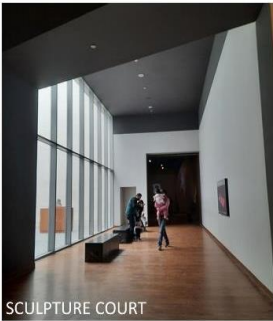


Entry is not directly visible from the cloister.
This emerges curiosity amongst visitors to go inside and have a look.



One from outside the hall cannot see the exhibits unless they enter inside. There's an element of surprise in every part of the building.

Free flowing user circulation covering all the exhibits.



A breakthrough space between 2 exhibit galleries.

Museum galleries are all dark with artificial lighting only in order to preserve the sculptures, which eventually tires our mind.

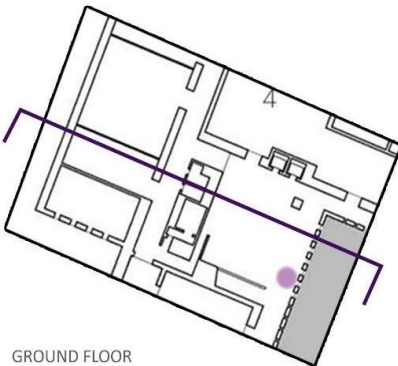
To avoid Museum fatigue, space linkage with the exterior is needed.

it is hoped that the campus configuration, and the rich experience offered by the museum and its exhibits, will encourage visitors to return.
Seating options in cloister.

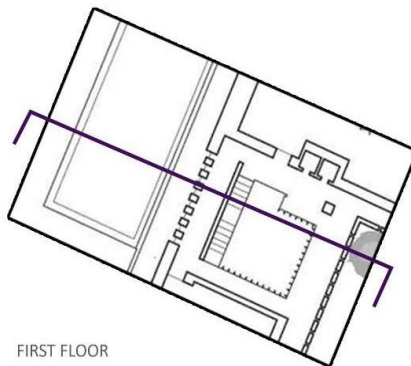
This is how every space has been linked to the nature yet, the sunlight cannot reach the exhibits room as it is required to keep the sculptures away from direct sun light.

Space for relaxation in besides every gallery.

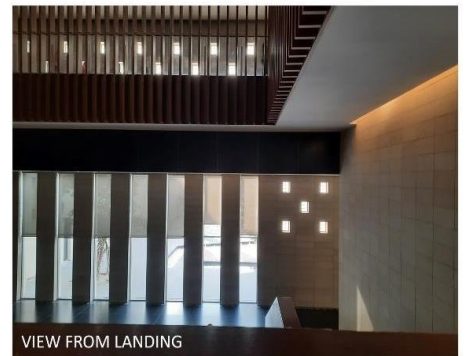
PART 'C' DETAILS



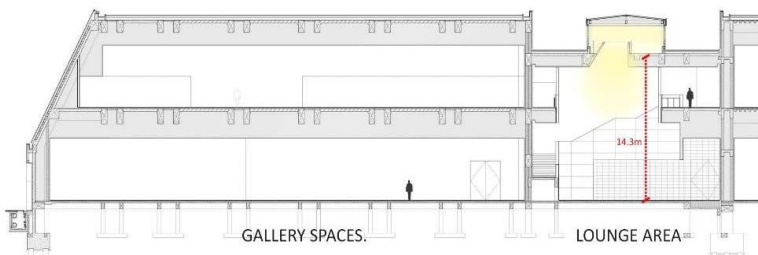
GROUND FLOOR



FIRST FLOOR

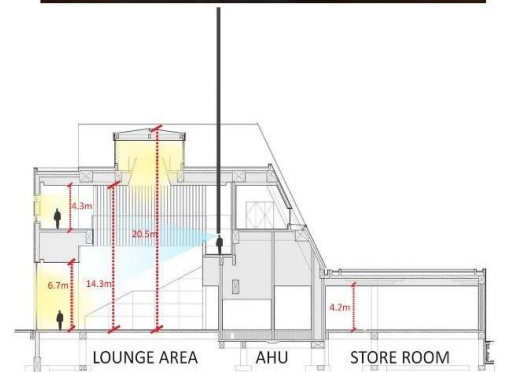


VIEW FROM LANDING



GALLERY SPACES.

LOUNGE AREA



LOUNGE AREA

AHU

STORE ROOM

AREA PROGRAM

Sno	program	Area(sq. m)	Capacity
1	Entrance Foyer	530	
2	Ticket Counter	35	
3	Entry check		
4	Baggage Counter	75	
5	Entrance Lobby	690	
6	Information Desk	10	
7	Multipurpose Hall	650	
8	Café	550	80
9	Toilets		
10	VIP Lounge	150	
11	Orientation Gallery	210	
12	Orientation Theatre	335	200
13	History Galleries	3640	
14	Staircase Lounge	380	
15	Art Gallery	335	
16	Bihar Diaspora	260	
17	Temporary Exhibition	1210	
18	Visible Storage Gallery	1430	
19	Amphitheatre	430	200
20	Administrative area	11800	
21	Museum Shop	310	
22	Children Gallery	2100	
23	Children Eatery	210	48
24	Babies Care		3 Rooms
25	Kid Retail Shop	60	
26	Children's Classroom	320	200
27	Parking	7836	
		8366	

CASE STUDY: NATIONAL MUSEUM, NEW DELHI



PROJECT DETAILS

LOCATION- Janpath, New Delhi

BUILDING TYPE- Art and Archaeology Museum

ARCHITECT- Ganesh Bhikaji Deolalikar

ESTABLISHED- 15th August 1949

SITE AREA - 7.5 Acres

SITE TOPOGRAPHY- Flat with very Gradual slope

SITE SURROUNDING- Low to mid rise surroundings and heavy tree growth.

BUILT UP AREA- Approx 18,000 sqm

NO. OF FLOORS- 4 (Basement, Ground, First, Second)

ANNUAL FOOTFALL- 5,00,000

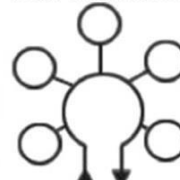
NO. OF GALLERIES- 25 Main Art Gallery

CLIENT- Ministry Of Culture, Government of India.

OBJECTIVE OF STUDY- Artificial lights used and aspects of museum planning.

CIRCULATION PATTERN

The spatial combination of National Museum adopts both the Channel type and Hall type. More specifically, every unit of exhibition hall is arranged around the corridor in an emanative way.



Channel Type



Hall Type

The layout of the exhibition room units rectangular and its spatial use rate relatively high.

There is no negative corner in the space so that it will be more conducive for the arrangement of the exhibition.

According to the arrangement of exhibition room, it shows that they validly utilize to display exhibition.



EXHIBITION AREA	NON- VISITOR AREA	TRAFFIC AREA	INSTITUTION AREA	OUTSIDE AREA	COMMERCIAL AREA	SERVICE AREA
<ul style="list-style-type: none"> • Auditorium • Exhibition Hall • Open Area 	<ul style="list-style-type: none"> • VIP Room • Education Office • Curators • Laboratory • Photography Section • Studio Room • Dark Room • Administration for Display Section • Library • Modelling Section • Carpenter Workshop • CISF Security Area • Electrical Area • Fire Control Area • Hindi section • Trailer Area • Drawing Section 	<ul style="list-style-type: none"> • Security • Check-up • Ticket Counter • Help Desk • Audio and Visual 	<ul style="list-style-type: none"> • Conference Room • Office Area • Workshop Room • Seminar Room • Library 	<ul style="list-style-type: none"> • Conference Room • Office Area • Workshop Room • Seminar Room • Library 	<ul style="list-style-type: none"> • Museum shop • Cafe 	<ul style="list-style-type: none"> • Electrical Room • Projection Room • H.V.A.C Room • Staff Area • Staff Café • Staff Toilets • Toilets • Lifts • Ramp • Store Room

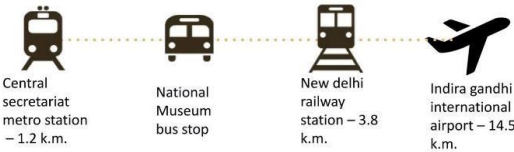


Recognizing that 2, 00, 000 sculptures, paintings, coins, decorative arts, textiles, arms and armours, manuscripts and anthropological objects can overwhelm even most enthusiastic visitor.

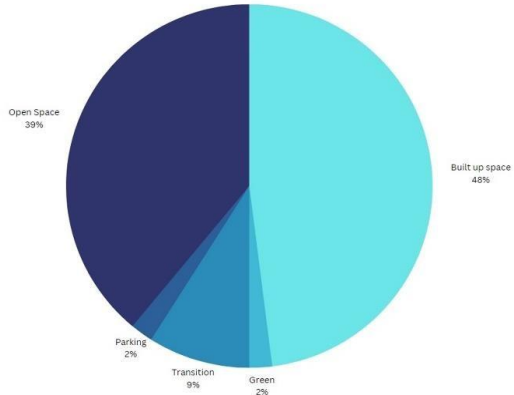
It has about 25 main art gallery sections for encapsulating the diversity of the museum.

The museum also encompasses a grand library and auditorium which make this museum one of the largest and well designed museums in India.

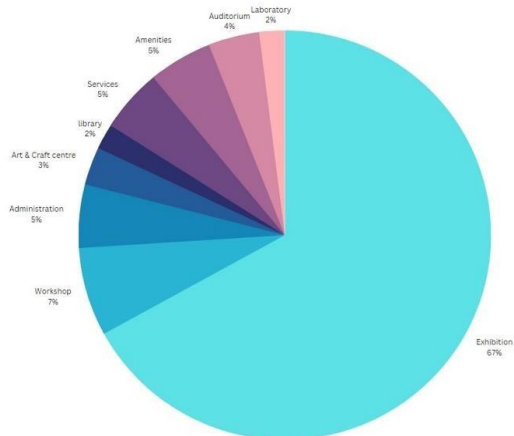
ACCESSIBILITY



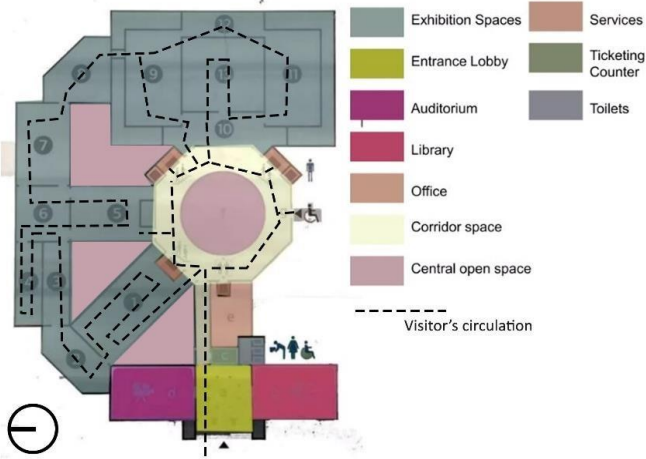
SITE DISTRIBUTION



AREA DISTRIBUTION

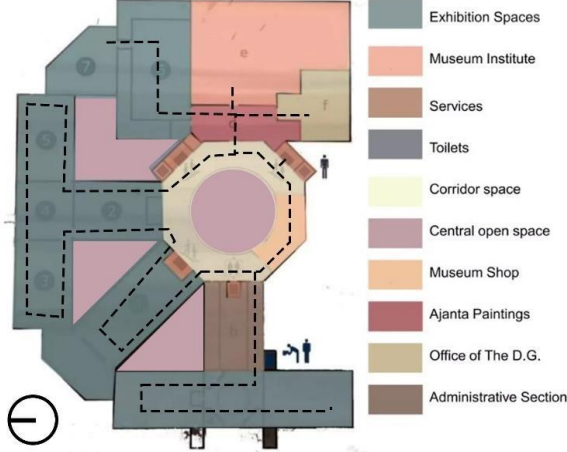


GROUND FLOOR



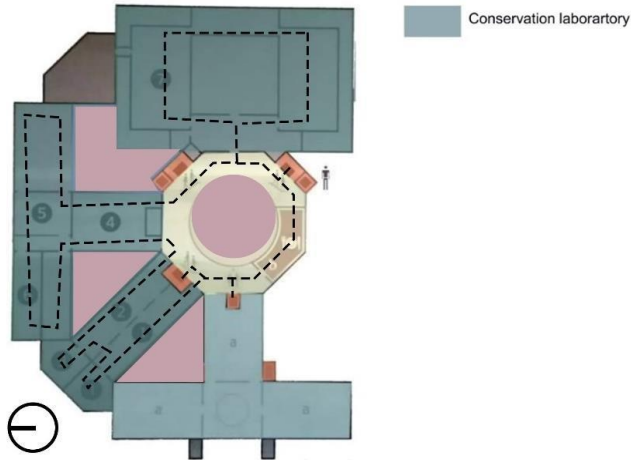
- Exhibition halls are interconnected with one another with a center circulation Corridor of 6 m wide.
- Separate entrance for VIP and physically handicapped is present.
- Firstly, Harapan civilization, Maurya, Gupta, Terracotta, Bronze, Medieval art, Buddhist art, Jewellery, ornamental art, miniature painting, these galleries are placing at ground floor.

FIRST FLOOR



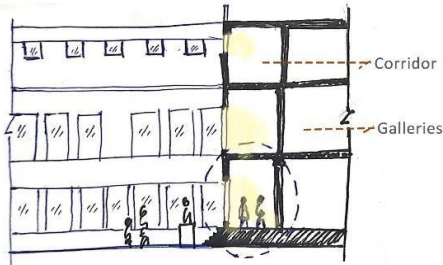
Secondly, coins, Indian painting, manuscript, Ajanta painting, Thanjavur painting, these galleries are placing on the first floor.

SECOND FLOOR



Moreover, textile, western art, wood carving, tribal art, music instrument, these galleries are placing on the second floor.

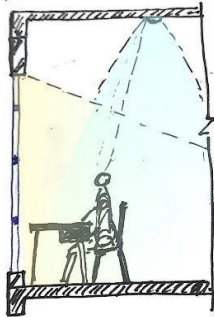
- Natural light is only used in corridors of Ground floor and First floor, with open exhibits.
- Whereas in second floor, it has smaller openings allowing low natural light.
- Sculptures are kept in open courtyard, which also needs high maintenance due to weather effects.



-Space facing windows have been specified with some hands on interactive works.

- But only a single user can use the space at a time, hence no. of interactive zones are lesser as compared to the footfall.

- Daylight improves mind activeness.



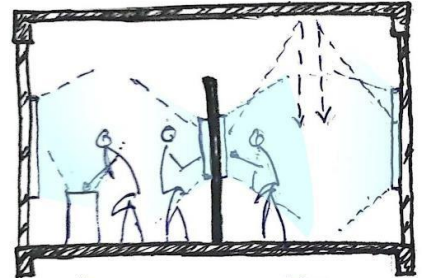
INTERACTIVE PANELS IN DARK ROOM



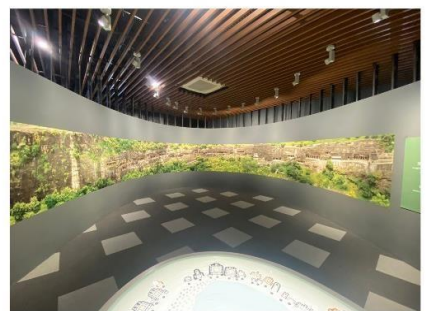
- In rooms with Interactive display boards, the self illuminated boards are the source of light.
- At places, spotlights have been used which disturbs the display by reflecting self shadows over it.

- Rug flooring have been used to avoid glare in such galleries.

- No proposal of sitting spaces are seen in Visual galleries that affects the visitors interest to stay there for a long time.



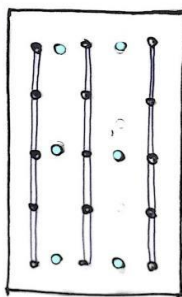
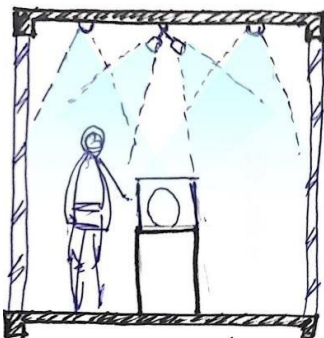
AMBIENT LIGHTING



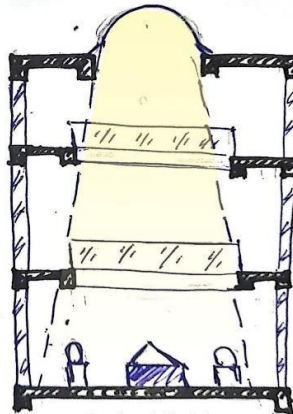
- In galleries with artefacts, paintings and detailed objects, Provision of Ambient lighting are done rather than spot lighting.
- Track light along with ceiling light provides adequate amount of luminance required.

The entrance lobby is illuminated with artificial as well as natural diffused light from the dome overhead.

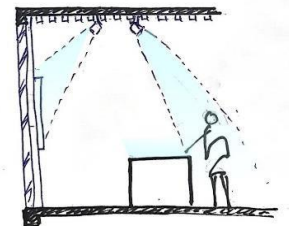
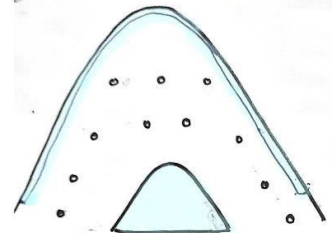
The caves panoramic view cells have both self light along with spotlights on the screen, which lacks the space feel of a cave and is harsh to the eyes as well.



CEILING LIGHTING PLAN



Overhead daylight



Use of different light fixtures to prevent shadows and give the required amount of illumination in marine gallery.

DIRECTIONAL LIGHT

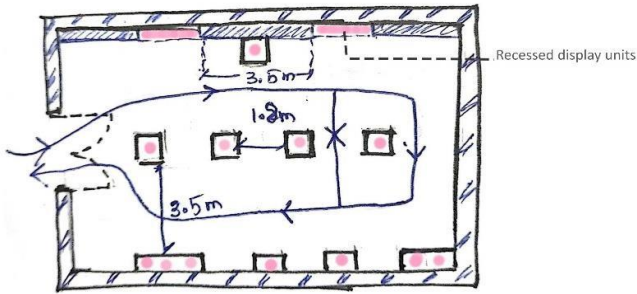
FOCUSED LIGHT

BACKGROUND LIGHT

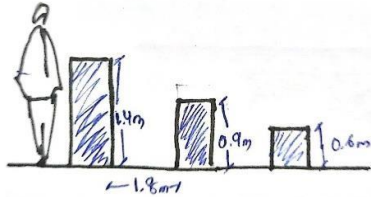
DISPLAY TECHNIQUES AND INTERNAL CIRCULATION



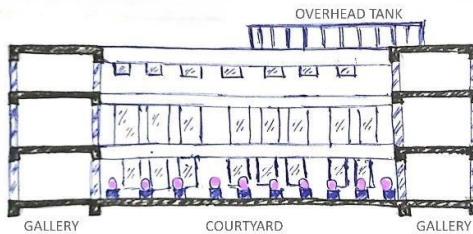
STONE SCULPTURE EXHIBITION ROOM



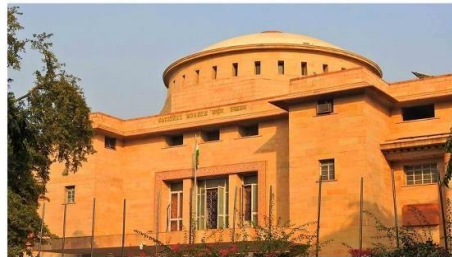
- The pillars made to put idols are of different standard sizes according to the size of the idol, in order to maintain the straight eye view.
- Objects have been placed closed to the wall and in front of the door, at the centre of the room.
- On the other side of the wall, we can find the recessed walls with display in it.
- EXHIBITS- 20%
- CIRCULATION- 80%
- There's enough space in a gallery to entertain varied user groups such as school students in a row, researchers standing for a while to analyse and etc.
- Lack of seating space in this room.



CENTRAL COURTYARD WITH OPEN EXHIBITS



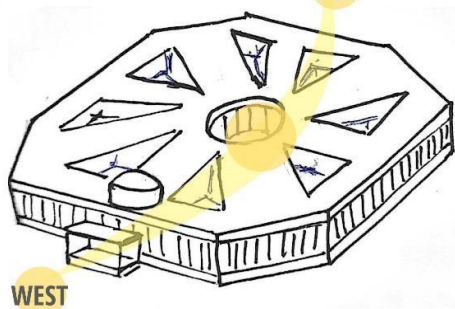
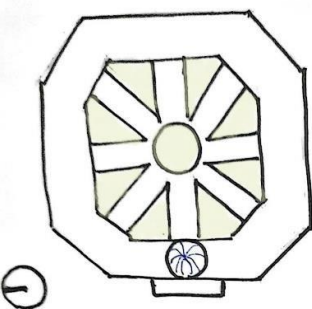
- A courtyard can also be considered as a space to relax and get out of the black box inside.
- The courtyard remains shaded almost all round the day because of it's all round enclosure.
- open air exhibits have been placed in the courtyard.
- During noon, the glass windows create glare.



ENTRANCE OF THE MUSEUM.



EAST



WEST

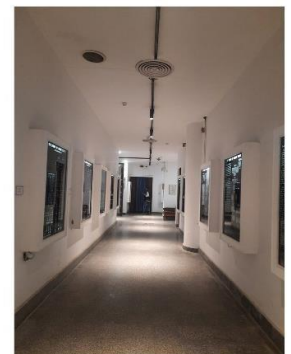
- The concept behind the form is "Rotunda" Planning.
- In total 9 courtyards have been formed including the central circular courtyard and 8 triangular courtyards.
- Entrance lobby has a domed shaped atrium which makes the entrance grand and welcoming.
- The Ground and the first floor has got large glass windows.
- The building has basement, ground, first and second floor.



BRONZE GALLERY



2ND FLOOR CORRIDOR



MANUSCRIPT GALLERY



STONE EXHIBITS

- Pillars have been used as backrest for the
- All sculptures are kept along the wall.
- Exhibit- 20%
- Circulation- 80%

CASE STUDY: P.M SANGRAHLAYA, NEW DELHI

PROJECT DETAILS

LOCATION- Teen Murti Chowk, New delhi, at Nehru Residential complex
(First Prime Minister after Independence)

BUILDING ARCHITECTURE- Sikka Associates Architects

DESIGN,TECHNOLOGY PROJECT MANAGEMENT- Tagbin Services

TOTAL BUILT-UP AREA- 11,726 Sqm

NO. OF FLOORS- 3 (Lower Ground, Ground, First)

NO. OF GALLERIES- 43

ABOUT THE STRUCTURE AND MATERIAL



ZINC CLADDING- Shade 5

ZINC CLADDING- Shade 4

ZINC CLADDING- Shade 3

ZINC CLADDING- Shade 2

ZINC CLADDING- Shade 1

- The complex form of layered Shells and Dharmachakra has been constructed by using *Zinc Titanium Panels*.
- Titanium zinc is a non-ferrous metal. This means there are no traces of iron in the alloy and the material won't rust with age. Zinc's long lifespan, and surface depth lasts for Decade.
- Different shades of Zinc cladding has been used in the layered shell structure to achieve sophistication in the composition of the elevation while establishing scale and monumentality.



The external walls of the Museum other than the central shell structure are clad in *rosewood sandstone* with alternate running strips of *quartz stone* bands towards the base of the structure.

ROSEWOOD SANDSTONE - Inalterable colours that last over time along with low maintenance. Resistant to fire and heat.

QUARTZ STONE- Durable and more resistant to scratches, chips and cracks than other surfaces which makes it a good material for exterior use.

- The lower Ground Floor structure has been constructed using *Diaphragm walls*.
- The Main Entrance of the New building isn't grand enough to make you feel welcoming.
- Opening to the Entrance is on western side that protects from glare for the max time as visitors crowd is usually during the day time.

MUSEUM FOR ITS USERS



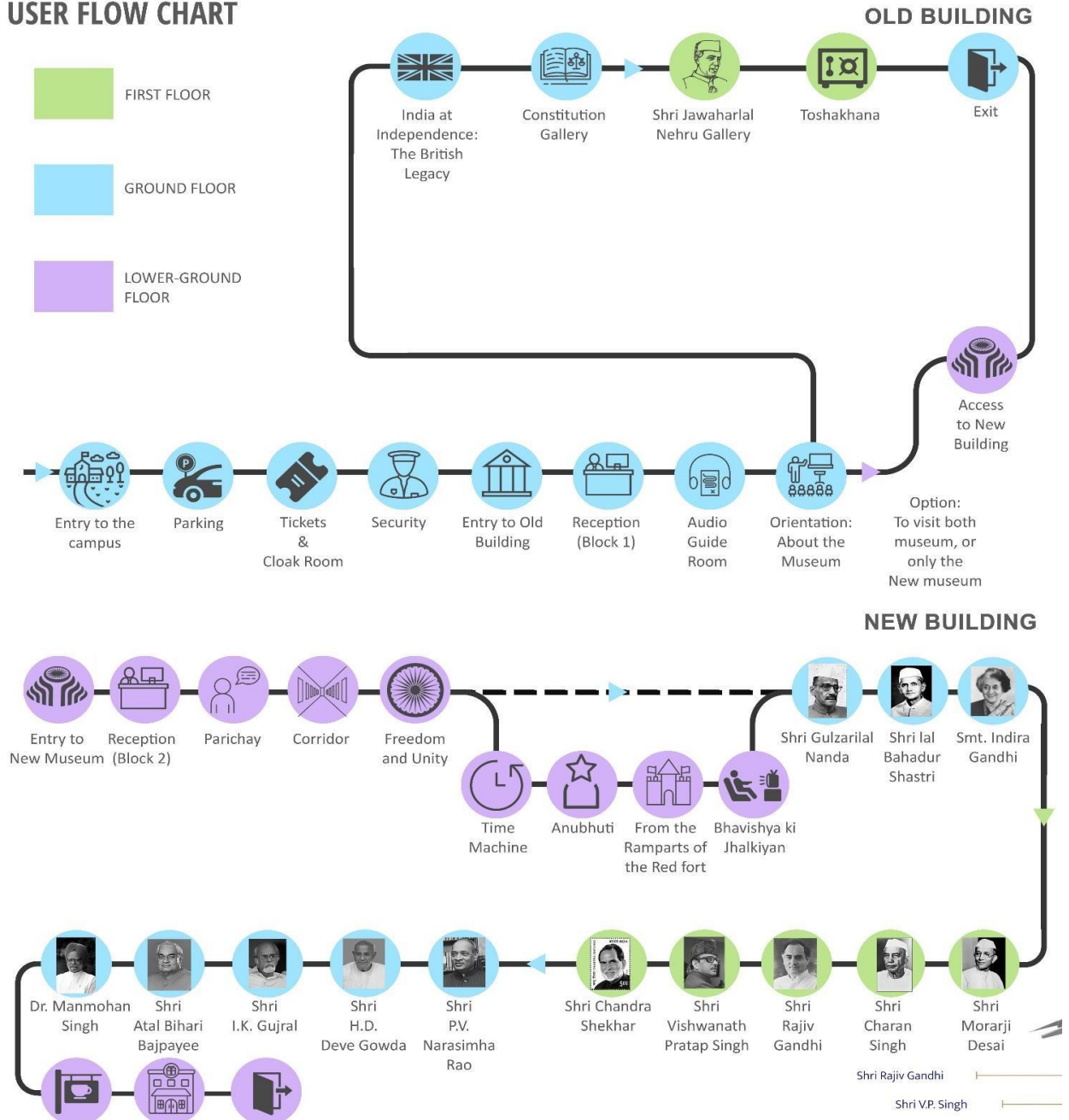
Usually in most museums, the visitors become mute spectators and only watch and listen along the journey. Here, visitors are the centre of the museum they become the engagers and interact to take part. For example, in the exhibit "India 2047", he can give a suggestion for a vision of India in 25 years.

The museums in the past have been dedicated to collections, but the museums today have *storytelling and technology* as an essential feature – which people are finding interesting and more relatable.

There can be a 70-year-old visitor historian or a younger person with curiosity, wanting to know more about the nation. The museum have content interesting for everybody.

The visitors can relive the Pokhran of 1998 with an immersive experience of a nuclear testing station.

USER FLOW CHART



EXISTING TREES RETAINED ON SITE



The existing trees on site have been retained and incorporated into the landscape design of the complex. New trees and plants have been planted in a manner to generate a variety of open courtyards to provide an appropriate setting for display of Public Art and to eliminate Museum Fatigue.



These technological installations increase human interactivity, breaks the monotony, gives an experiential way of remembering each exhibit and the content. This is called as *Infotainment*, where we blend in the right content for educational/learning purposes with the correct medium of display (Entertainment/Engagement).

SUSTAINABLE APPROACH

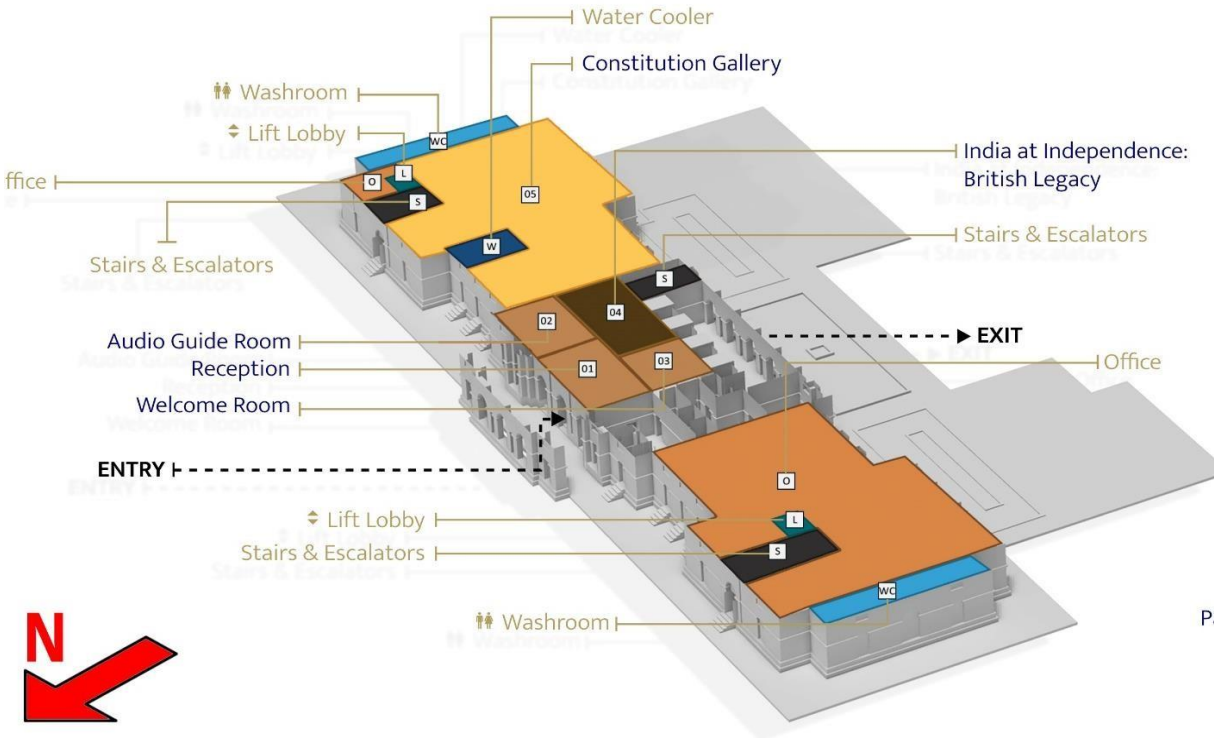
- This entire project was conceived and constructed keeping principles of sustainability and environment friendliness in mind.

- It is equipped with:

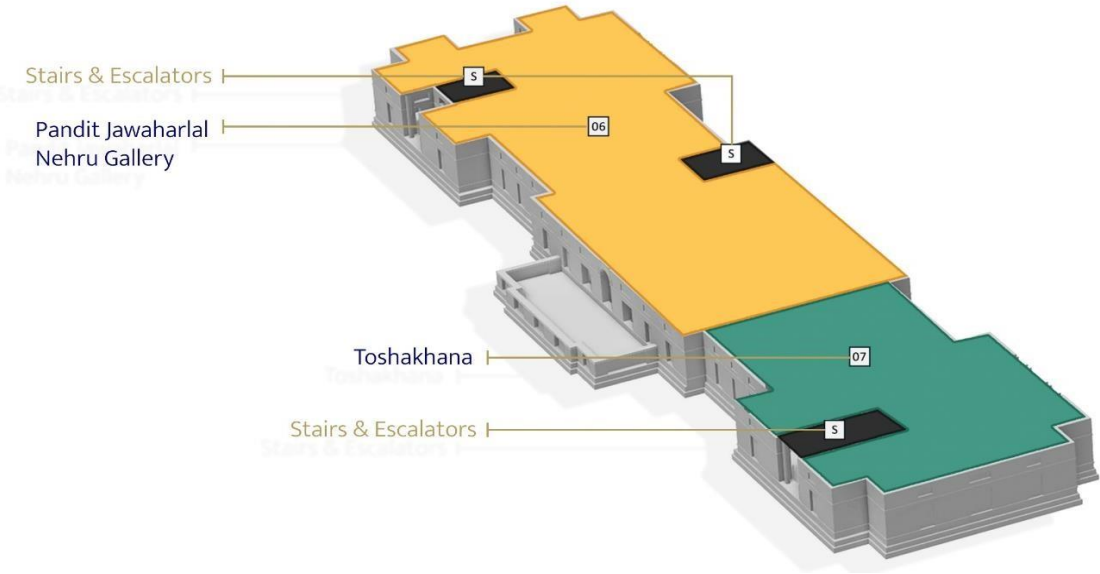
Centralized HVAC system,
Rainwater harvesting system,
Sewer treatment plant and
Firefighting system etc.

- To save water, dual piping system has been installed wherein waste water after treatment shall be used for lushing, landscaping etc.

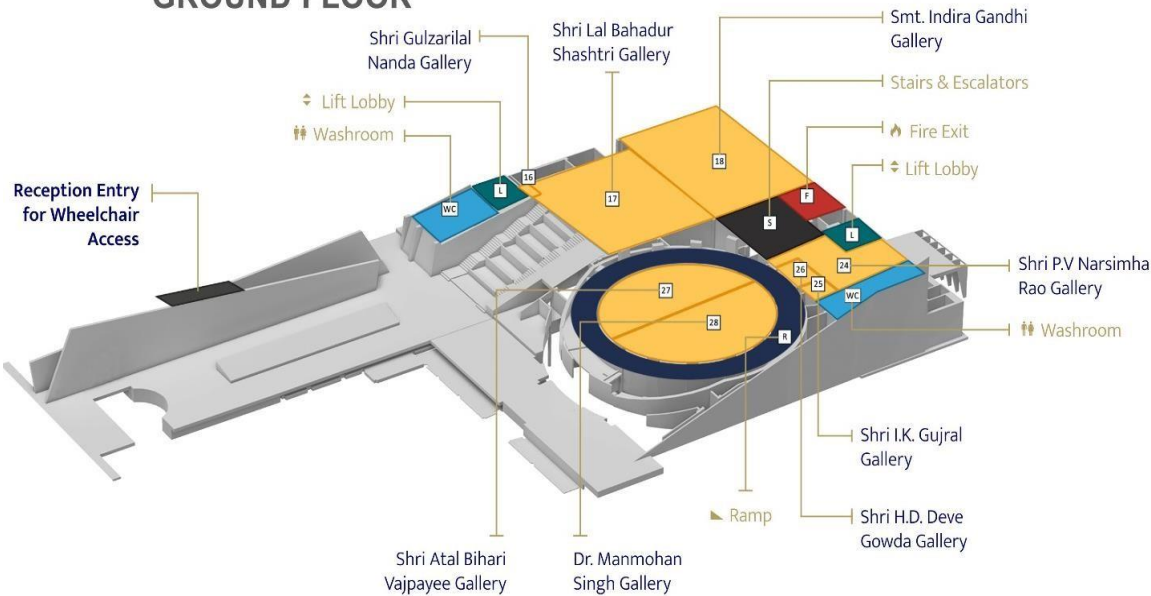
GROUND FLOOR



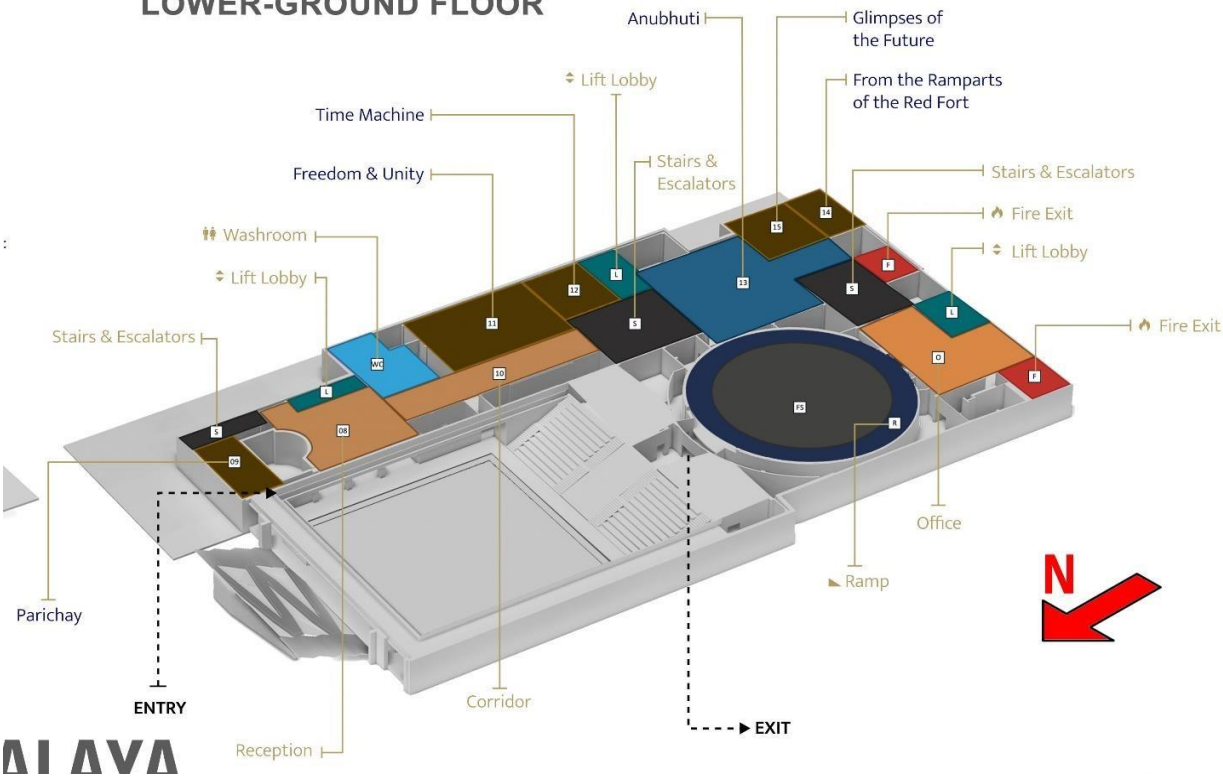
FIRST FLOOR

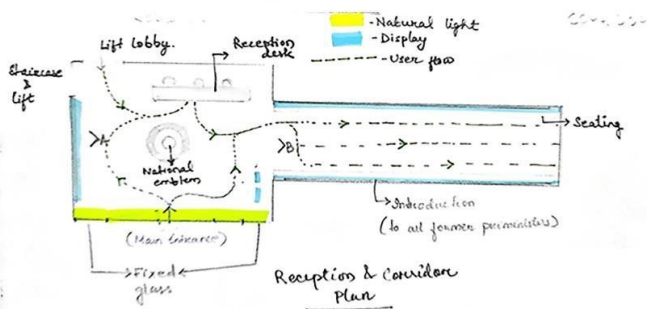


GROUND FLOOR



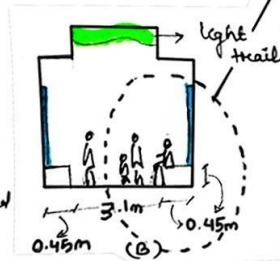
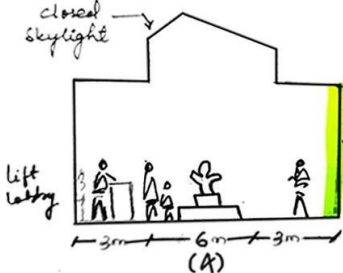
LOWER-GROUND FLOOR





RECEPTION AREA WITH A BRIEF INTRODUCTION TO ALL THE PMs, WHERE INDIVIDUAL GALLERIES ARE ALLIGNED FURTHER CREATES A START POINT FOR THE USERS. SYMMETRICAL ROOM.

AROUND 6M WIDE CORRIDOR.



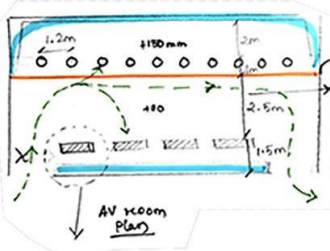
THE CORRIDOR ALLOW PEOPLE TO LINK, READ AND OTHERS TO PASS BY AT THE SAME TIME.

THE DISPLAY PANELS ARE SELF ILLUMINATED AND THE CORRIDOR RECEIVES SAMPLE AMOUNT OF LIGHT FROM OVERHEAD LIGHTING.

2. FREEDOM AND UNITY



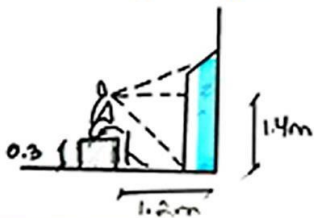
AUDIO VISUAL ROOM
 THIS ROOM HAS LINEAR SEALINGS ON A PLATFORM ALONG WITH AV, IT HAS GET INDIRECTION PANELS



ILLUMINATED STEPS
 FREE MOVEMENT IN CASE OF RUSH HOUR

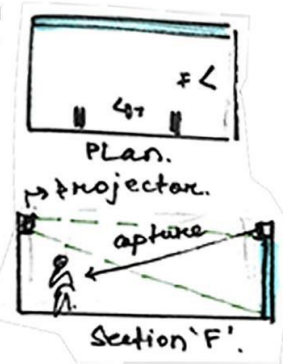


EXPERIENCE ZONE



THE AV ROOM HAS NO ADDITIONAL LIGHTS ONLY SELF ILLUMINATED PANELS

A DISTANCE OF 1.2M BETWEEN 2 SEATS ALLOW FREE MOVEMENT.



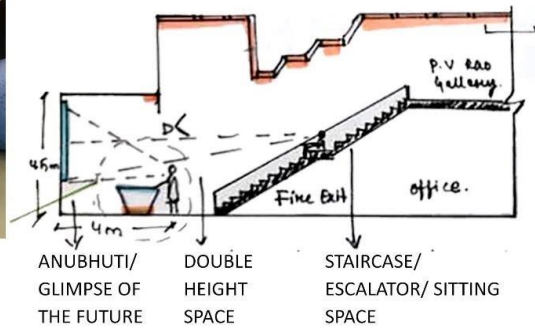
THE FACADE APPEAR AS LAYERED SHELLS REPRESENTING THE HANDS OF OUR LEADERS WITH 'DHARMACHAKRA' PLACED AT THE CENTRE

IN INTERIORS, THE 'DHARMACHAKRA IS ALL LIT UP AND AROUND THE HAND ARE THE READERS FACES.

FLOORING-GLOSSY PORCELAIN TILE, DISTURBS VISUALEXPERIENCE.

THE GALLERY IS IN THE CENTRE OF CIRCULAR RAMP.

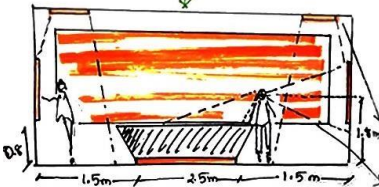
THE STRUCTURE IS LINEAR IN PLAN WITH ASYMMETRIC APPROACH



SERIES OF LOW LUX DOWN LIGHT.

NO MATERIAL PRODUCES GLARE

VIEW D
GLIMPSE OF THE FUTURE



THE DESIRED DISTANCES MAKES/PROVIDES A GOOD VIEWING ANGLE.

THE 'GLIMPSE OF THE FUTURE' HAS NO ADDITIONAL LIGHT OTHER THAN SELF ILLUMINATED LIGHT PANELS.

AN INTERACTIVE TABLE HAS BEEN PUT UP TO ALLOW USERS SOME ACTIVITY.

HEIGHT OF THE TABLE IS APPROPRIATE FOR INTERACTIVE ACTIVITY

LOW LUMINOUS INTENSITY LIGHTS JUST TO LIGHT THE PATHWAY AND NOT HAVE GLARE FROM SCREEN

APROXIMATELY 4M WIDE SCREEN VISIBLE FROM FAR SEATING AREAS.

LAL BAHADUR SHASTRI GALLERY - GROUND FLOOR



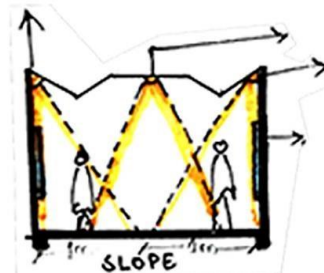
FOR AMBIENT LIGHTING (DOWN LIGHT)

SPOTLIGHT

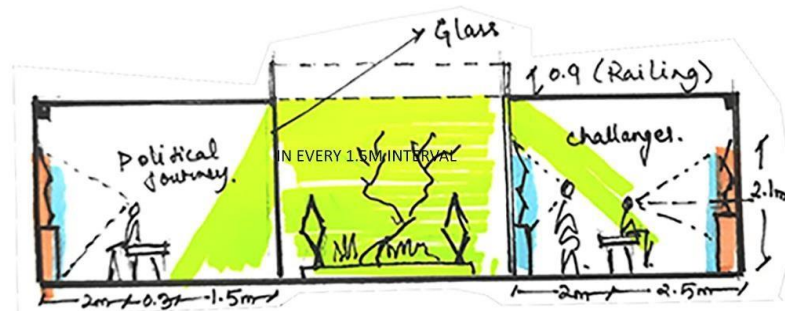
DISPLAY PANELS GRADUALLY SLOPING

DOWNWARDS AS PER THE SLOPE

THE RAMP IS USED AS AN INFORMATIVE GALLERY.



THESE 3 LIGHTS CANCELS OUT SHADOWS



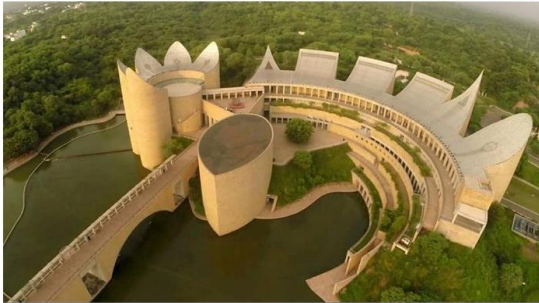
SIZE: ACCORDING TO THE SIZE OF THEIR LEADERSHIP AND NOT SIZE OF THEIR TENURE

PROTECTING THE EXISTING TREE

USEFUL IN ELIMINATING MUSEUM FATIGUE. NATURAL LIGHT IMPACTS MIND AFTER GETTING OUT FROM THE AV ROOMS.

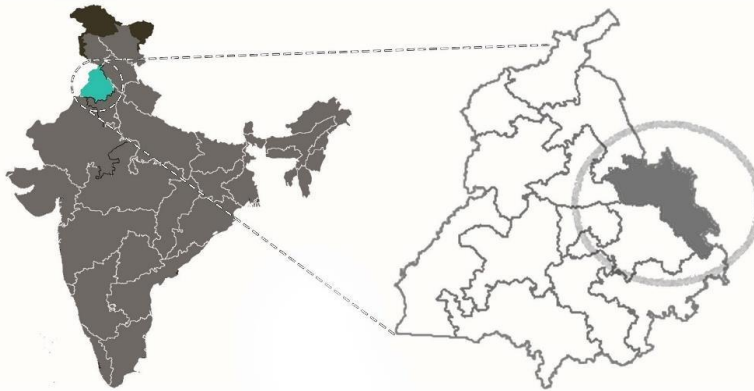
LITERATURE STUDY: VIRASAT E KHALSA,

INTRODUCTION



The Khalsa heritage complex was designed to commemorate 300 years of one of the newest religions and most vibrant cultures in Indian history. THE SIKHS. The project has been designed by the internationally acclaimed architect, MOSHE SAFDIE. The complex is intended to transform itself into a narrative of the history and culture of the Sikhs. It has been located overlooking the ancient fort of Guru Gobind Singh, the tenth and last guru of the Sikhs at Anandpur Sahib. The Khalsa heritage complex, the first of its kind, will provide a space in which the impassioned drama of this heritage shall unfold. "For the Sikhs, this complex would serve as a reaffirmation of roots. For the non Sikh, it will be an inspiring journey into a spirited culture, providing a fascinating insight into the Sikh faith and its history."

GEOGRAPHICAL LOCATION



Anandpur Sahib is situated on the lower spur of the Shivaliks and has a picturesque view of Naina Devi. This town is a subdivision of Roopnagar district of Punjab situated along the highway connecting Chandigarh and Bhakra-Nangal power and irrigation complex. By road it is 80 km from Chandigarh, 35 km from Ropar and 21 km from Nangal. Road leads to Naina Devi which is 18 km away. It is also linked by railway line running almost parallel to the highway thereby making Anandpur Sahib well connected with prominent cities.

HISTORICAL RELEVANCE



This area was originally the ruins of an ancient place known as Makhowal named after the demon Makho. It was later Shri Guru Teg Bahadur purchased this place and renamed Anandpur in 1664. It signified the banishment of all evil and ushering in an era of blissful joy. Guru Gobind Singh succeeded Guru Teg Bahadur and established Anandpur fort and stayed here for 25 years. Based here he fought many wars against the Mughal Empire. He constructed number of forts to defend people. They were Keshgarh, Anandgarh, Fatehgarh, Lohgarh.

Anandpur Sahib is sandwiched between Kiratpur Sahib another sacred township of the Sikhs and Naina Devi - a place of pilgrimage for Punjabi Hindus. Hence this area is held sacred by all Punjabis. Whereas Anandpur Sahib is a natural halting for pilgrims going to their pilgrimage to Kiratpur Sahib.



SPECIFICATIONS

Location : Anandpur Sahib

Architect : Moshe Safdie & Associates, Boston, USA

Associate Architect : Ashok Dhawan, New Delhi

Museum design : National Institute of Design, Ahmedabad

Construction : Larsen & Toubro Limited, India

Client : Anandpur Sahib Foundation Trust

Accessibility : Fommain highway approx. 1/2 km and about 1/2 km from Gurudwara Kesgarh Sahib.

Inception date : 1998-01-01

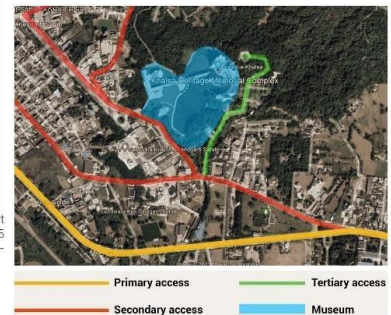
Completion date : 2010-04-13

Total area : 100 acre

Built up area : 40 acre

Project cost : Total estimate cost including exhibits 224 crores

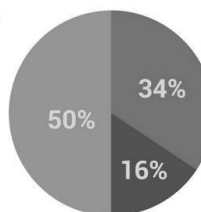
LOCATION AND ACCESS



The primary road is a National Highway running near the Virasat-e-Khalsa which is marked in yellow. The secondary road which connects the highway with the museum is marked in red. The tertiary road which connects the secondary road with the museum is marked in green.

There is also a railway line running alongside the highway. The highway connects the museum to Naya Nangal on the left and to Kiratpur on the right. The secondary road on the left further connects to a part of the primary road which further leads to Naina Devi.

SITE ZONING AND LIST OF SPACES



Complex A **Complex B** **Complex C**

The museum complex consists of 2 sets of functional buildings, i.e., Complex A and C.

The western Complex (A), forming a gateway to Anandpur Sahib houses Exhibition Galleries, a double storey library centered around a grand living room that overlooks water gardens, a facility for storing rare archival materials, and a 400 seat auditorium.

A 540 feet bridge connects the Complex A to complex C and crosses a network of reflecting pools. The Eastern complex C houses permanent Exhibitions presenting Sikh history and culture.

Complex A

- + Auditorium
- + Library
- + Temporary exhibit gallery
- + Meeting rooms
- + Mechanical rooms

Complex B

- + Cafeteria
- + Kitchen

Complex C

- + Permanent exhibit building
- + Heritage building
- + Petal building
- + Office areas

ABOUT THE COMPLEX



Eastern Complex Bridge Western Complex

- Khalsa Heritage Complex is a new museum of the Sikh people located on a 100-acre site in the holy city of Anandpur Sahib.
- The museum celebrates 500 years of Sikh history and the 300th anniversary of the Khalsa, the scriptures written by the last and tenth Guru Gobind Singh, founder of the modern Sikh faith.
- The Khalsa Heritage Museum consists of 2 major complexes: the Eastern Complex and the Western Complex which is connected with each other through a bridge over a waterbody.
- Khalsa Heritage Complex is a new museum of the Sikh people located on a 100-acre site in the holy city of Anandpur Sahib.
- The museum celebrates 500 years of Sikh history and the 300th anniversary of the Khalsa, the scriptures written by the last and tenth Guru Gobind Singh, founder of the modern Sikh faith.
- The Khalsa Heritage Museum consists of 2 major complexes: the Eastern Complex and the Western Complex which is connected with each other through a bridge over a waterbody.



The rooftops, that are clad in stainless steel, exhibit double curvature. They effectively gather and reflect the sky while a series of dams in the ravine create pools that reflect the entire complex at night.

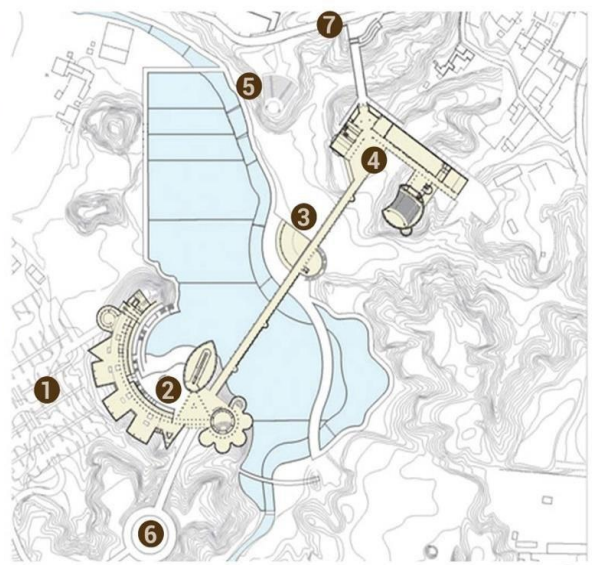
The buildings are constructed with poured in place concrete. Some beams and columns are exposed while most of the structure is clad with honey colored stone.

- The complex is located on a plateau and situated on a 75-acre site, straddles two sides of a ravine and overlooks the ancient fort of Guru Gobind Singh, the second holiest temple to Amritsar.
- The 23,225 sq.m museum complex, which rises 20 m on either side of the ravine, is organized into two main buildings that are connected via a pedestrian bridge.
- As far as possible, the natural landscape has been left untouched and the structure has been 'fitted' into the natural topography.
- Another feature affecting the siting of the building was the presence of the Gurudwara in the vicinity of the structure.
- As a result, the complex had to be sited in such a way so as not to become too overpowering in relation to the surrounding monuments.



Buff colored Sandstone Facade

MASTER PLAN

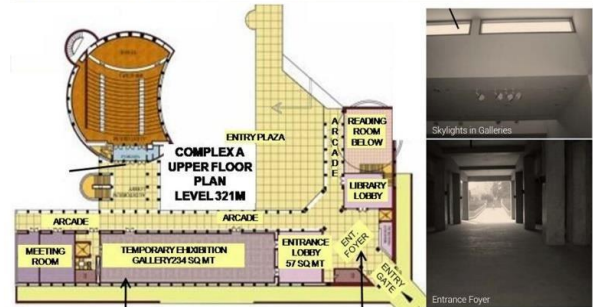


1. Vehicle Parking
2. Complex C
3. Complex B
4. Complex A
5. Open Air Theatre
6. Vehicular Drop off
7. Pedestrian Entrance

HISTORICAL RELEVANCE

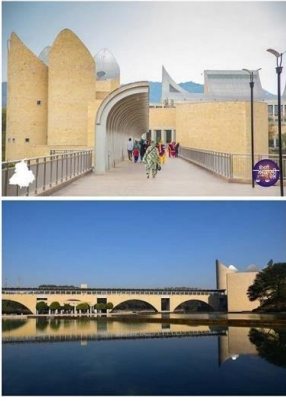


- 1 Auditorium
- 2 Temporary gallery
- 3 Library / Reading room
- 4 Entrance Foyer

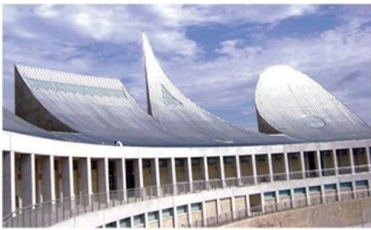


- A public restaurant is planned within the bridge structure
- The floor of the ravine forms the centerpiece of the complex
- The buildings are to be clad in buff coloured sandstone and roofed in stainless steel that reflect the southern sunlight towards the Gurudwaras.
- Strong geometric forms of walls, which include curved and rectangular shapes, contrast with the amorphous forms of the surrounding cliffs.

ARCHITECTURAL CHARACTER



The canopy on the bridge is merely an architectural experiment and is located on the opposite direction of the incident sun light hence, doesn't provide any shade from the sun.



The rooftops of all the petals are covered with special stainless steel sheets. At night, the entire building will be illuminated with large silhouette being reflected in the 7 acres of water around it. It will also illuminate the night skyline of the historical city of the birth of Khalsa.

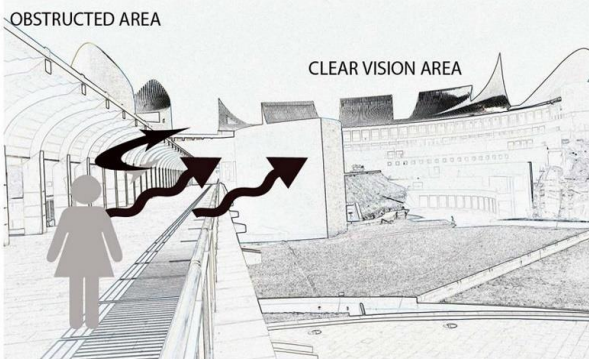


The honey color tiles depict the EARTH. South Facing convex shaped roofs to get maximum sunlight. The design was also based on utilizing maximum available natural resources, storing water and generating cool air during the summer time.

Arcaded walkways and gardens on either side gently cascade towards the serene pool.

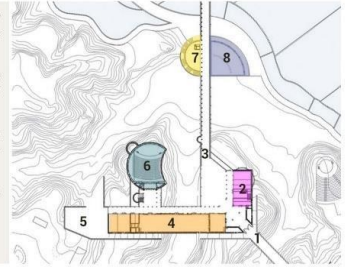


- The pedestrian bridge is carefully designed by the architect by placing the canopy on the opposing direction of the southern sunlight.
- While walking on the bridge, 70% of the complex is clearly seen and 30% of the complex is obstructed by the canopy.
- The architect designed the canopy by taking the concept of interest in mind rather than the shelter from the south sun.



COMPLEX A (WESTERN COMPLEX)

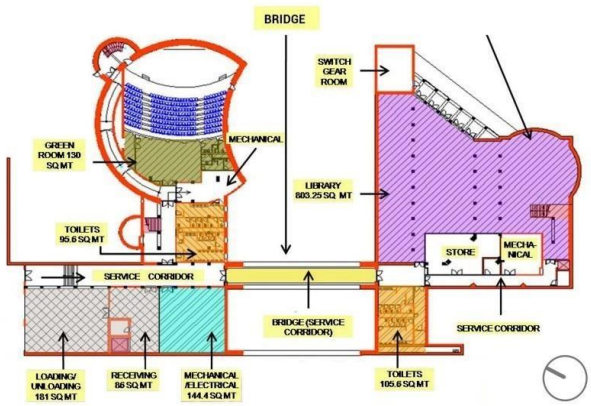
- The western complex forms the gateway from the town of Anandpur sahib to the museum.
- The north wing bridges a second ravine and accommodates changing exhibition galleries and meeting rooms.
- The arcade along the inside or eastern face of the complex leads to the auditorium building.
- On the other side of the piazza is a two level library building.



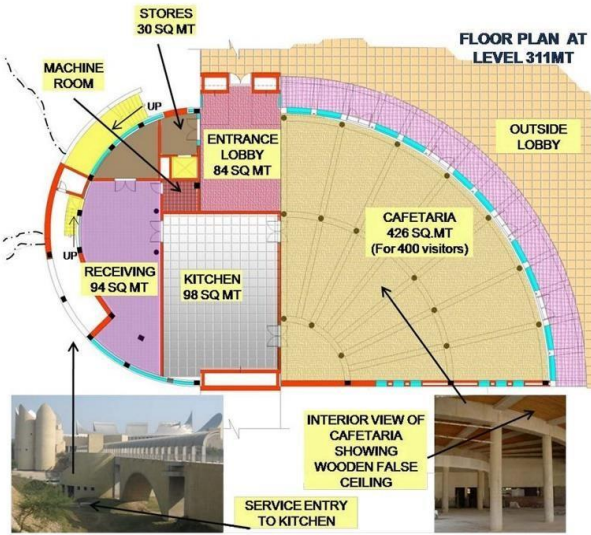
1. Entrance
2. Entrance Plaza
3. Bridge
4. Temporary Exhibition space
5. Conference room
6. Auditorium
7. Public facility
8. Cafeteria



- The structure of the complex is made up of concrete bearing walls and virescend trusses.
- The walls ascending from the ravine level also clad with weather resistant sandstone.
- The library having a covered area of 2230 sq.m
- The 400 seated auditorium having covered area 1980 sq.m split into three levels.
- The organization who want to put up their exhibitions for short durations shall be offered space in temporary exhibit gallery having a covered area of 1373 sq.m
- Lower floor Plan of complex has, library/reading (room which is also an audio room), electrical room, mechanical, switch gear room, receiving area, loading unloading area, stores, green room and toilets.



COMPLEX B

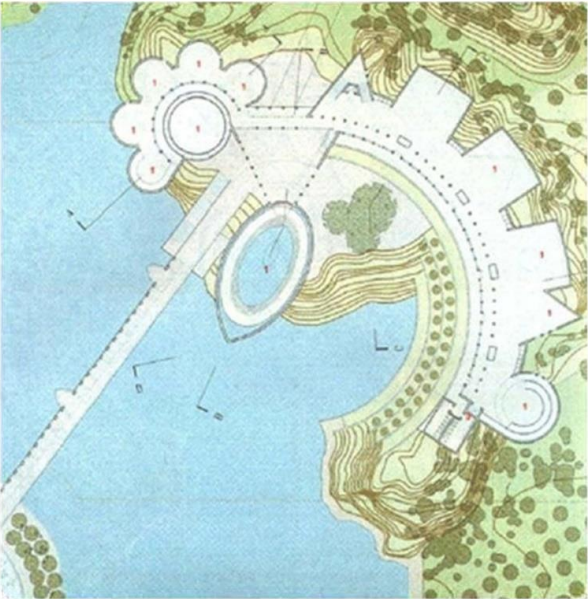


- It mainly consist of pedestrian bridge, cafeteria and kitchen block
- The 165m long end wide pedestrian bridge, which is connecting complex A & C, primarily consists of four independently tied arches (three 33m long and one 27m long).
- Cafeteria and kitchen blocks consist of cafeteria of covered area as 1424 sqm. The founding level of café dining is 316.4 m.

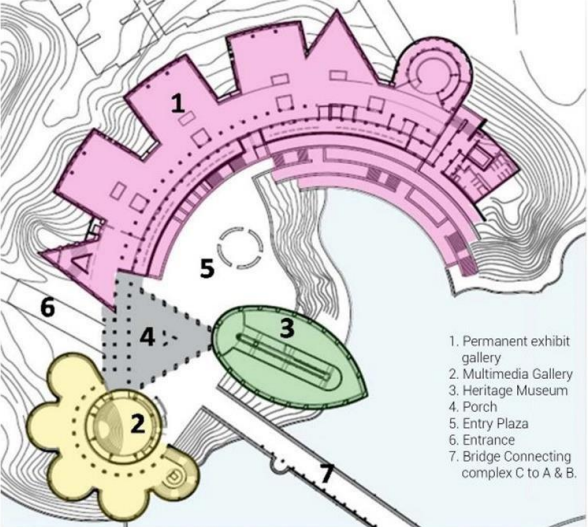
COMPLEX C



COMPLEX C CONTD.

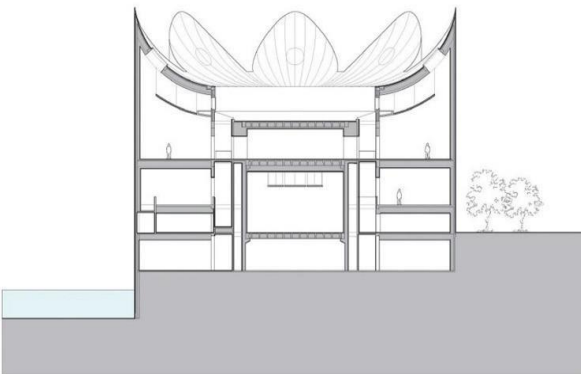


- Permanent, exhibit building which is also called crescent, building, heritage museum, media exhibit i.e., the petal shape building and entrance lobby.
- The covered area for the building is 17,151 sqm.
- Foundation level is 311.5m and top level of highest roof is 356.15m
- This complex has a total no. of 3 lifts.

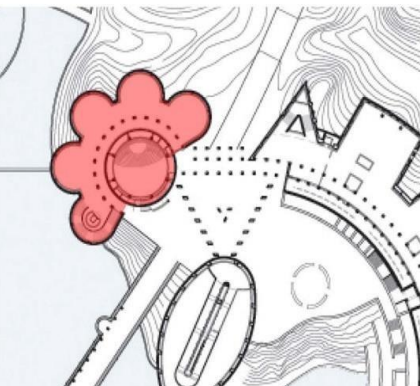


COMPLEX C

- The structure consists of arcade, receiving dock, mechanical/electrical room, reception, storage space, work-shops, labs, lecture and meeting space, book store, gift shops, offices, toilets, exhibit galleries, planters and grand stairs.
- The whole building is divided into 3 levels: lowest level-319m then at level-324m the highest floor level is at-330m



- The petals in the crescent building will cover the lifespans of Guru Hargobind, Guru Harrai, Guru Harkrishan, Guru Tegbahadar, Guru Gobind Singh and Gurta Gaddi.
- The galleries at the lower level (324 floor lv) will chronicle the trails, tribulations and triumphs of the khalsa.

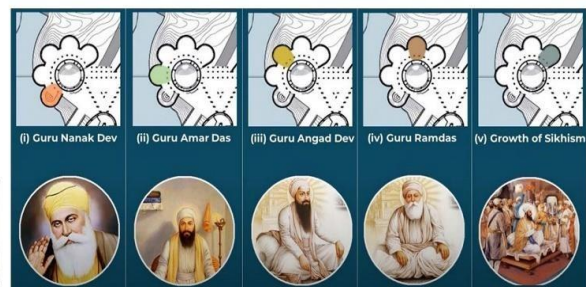
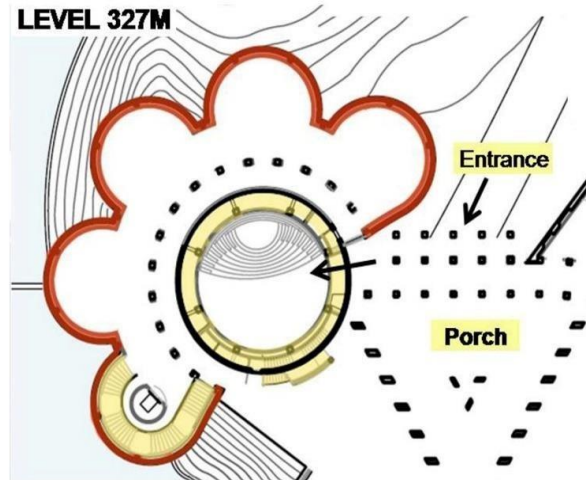


These 5 petals tell tales from Guru Nanak to Guru Arjan. It takes us into the Mesmerizing journey into the lives of the first five gurus.

The first petal will have milieu of the times Guru Nanak was born in.

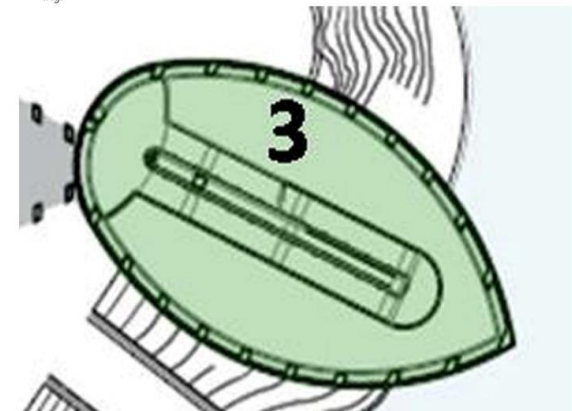
One of the Galleries is divided in 2 by recreating a baoli in the middle.

COMPLEX C CONTD.



- The gallery in the 4th petals contains exhibit on the contribution of Guru Ramdas and the construction of the city of Ramdasapur.
- gallery in the fifth petal showcases the key events in the history of sikhism: the construction of Harmandir sahib as well as the compilation and investiture of Adi Granth.

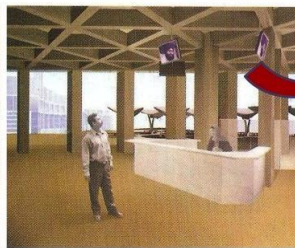
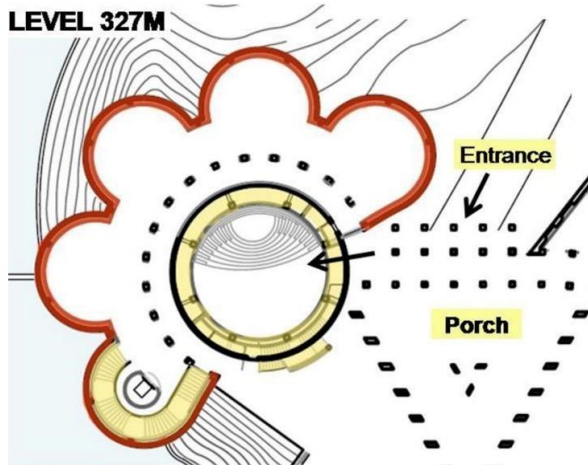
- Heritage museum, also known as boat building has plan area 1780 sqm
- It consists of a ramp which start from 321m and goes up till 327.60m
- The long span of the building shall be filled with water to get the reflecting effect
- The structure is RCC shear wall with inside ramp of prestressed concrete
- The foundation lv is 308.5 m and the top of roof is 330.6 m
- The concept behind giving water body on the ground floor level is that it will be reflected in the ceiling which is made of glass thus making a visitor clueless about the actual height of the building.



COMPLEX C

- Visitors entering the museum by crossing the bridge may spend sometime in a small open courtyard dotted with human scale manikins with embedded sound that provide a glimpse into the lives of the sikh Diaspora across the globe.
- The foyer, open on all sides, is the hub of the arriving and departing visitors
- Large plasma screens orient visitors in three languages on how to derive the maximum benefit from the museum.
- The information centre here is a pivotal point to orient visitors to the museum complex
- It also provides various facilities such as multilingual audio and printed gallery guides

LEVEL 327M



TECHNICAL FEATURES

- The structure is designed to cover all the seismic aspects which are applicable for India
- Columns and beams: fair faced beam casted in single
- Columns: no shuttering joints
- Beams – limited, only in pattern shuttering ply imported from finland for more length, thickness and smoothness.
- Electricity from 132KV substation of PSEB.



Necessary care has taken in drainage of rain water. This is provided in all the staircases

Expansions gaps are filled with rubber gasket to and are coloured to match the flooring



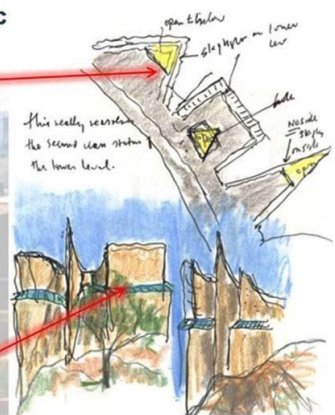
The sharp edge columns in the porch are protected by proper sheilding.



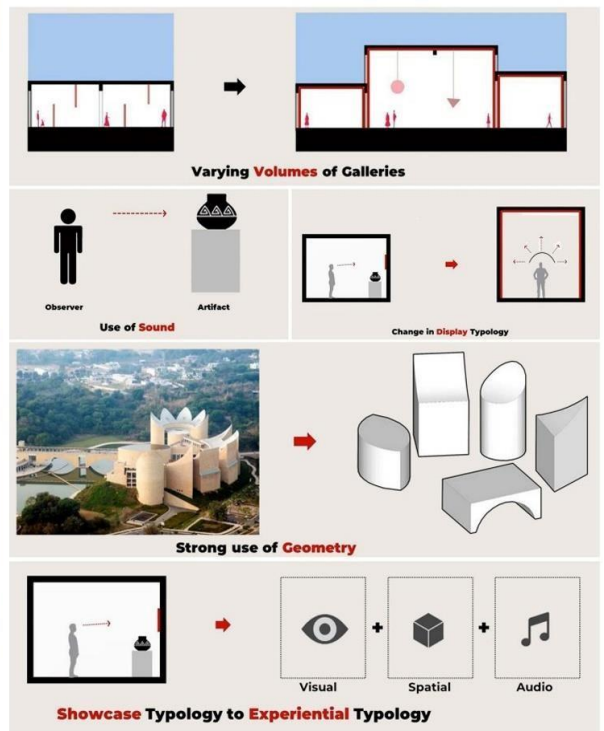
The speakers will play the shabads all the time thus making a pleasant atmosphere.

LIGHTING OF COMPLEX C

LIGHTING OF THE COMPLEX C CRESCENT BUILDING



KEY FEATURE



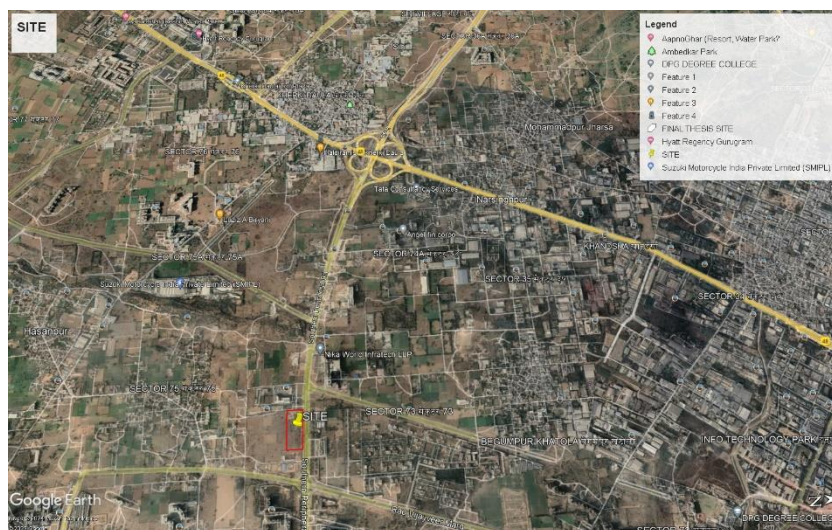
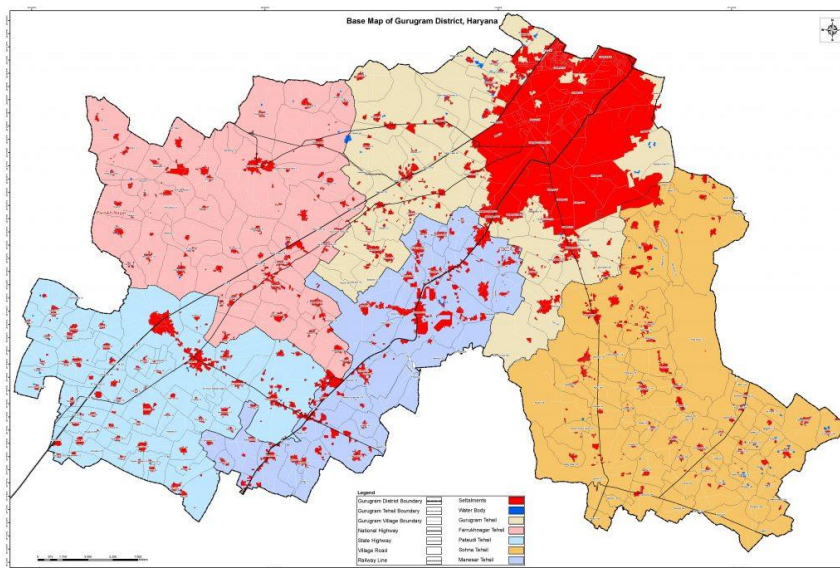
CHAPTER – 4

ABOUT THE CITY

ABOUT THE CITY

Gurugram, also known as Gurgaon, is a city located in the state of Haryana, India. It is situated between Delhi and Rewari and is connected by road and rail. Gurugram is known for its rapid urbanization and has become a leading financial and industrial hub with the third-highest per capita income in India. Gurugram has excellent connectivity with other states via the Delhi-Jaipur-Ahmedabad broad gauge rail link and NH 8. The city is also well-connected to Delhi via the Delhi Metro.

According to the Census 2011, the literacy rate in Gurugram is 84.4%.



WHY GURUGRAM ?

One of the fastest developing metropolitan cities in india.

Offers world class metro, high quality roads and highways.

Part of national capital region.

It hub, corporate hub, entertainment and banking hub.

Magnificent buildings like hotels for visitors from all over the world.

1. Heritage Transport Museum:

- **Location:** Bilaspur-Taoru Road, Off NH 8, Taoru, Gurgaon.
- **Timings:** 10 am to 7 pm (Tuesday to Sunday); Mondays closed.
- **Entry Fee:** INR 400 (Adults), INR 200 (Children under 12 & Students).
- **Description:** India's first comprehensive transport museum showcasing the evolution of Indian transportation.

2. Museo Camera – a Vintage Camera Museum:

- **Location:** DLF Phase 3, Gurgaon.
- **Timings:** 9 am to 5 pm (Sunday to Friday); Saturdays Closed.
- **Entry Fee:** INR 300.
- **Description:** Preserves the photographic legacy of India with over 1000 analogue cameras, including the smallest and oldest.

3. Museum of Folk and Tribal Arts:

- **Location:** Sector 4 Urban Estate, Gurgaon.
- **Timings:** 10 am to 5.30 pm (Open all days).
- **Entry Fee:** Free.
- **Description:** Preserves the neglected art forms of folk and tribal communities, including silver ornaments, manuscripts, paintings, and other art objects.

4. Sanskriti Museums:

- **Location:** Anandagram, Mehrauli-Gurgaon Road.
- **Timings:** 10 am to 5 pm (Tuesday to Sunday); Mondays closed.
- **Entry Fee:** Free.

- **Description:** Three museums showcasing everyday art, Indian terracotta, and textiles, offering insight into the craftsmanship and heritage of different cultures.

5. **Symbolic Public Museum:**

- **Location:** Green Belt, Gurgaon.
- **Description:** A public museum with a symbolic structure, showcasing the evolution of Indian transportation.

6. **NeverEnuf Garden Railway:**

- **Location:** Gurgaon.
- **Description:** A miniature train set and activities for kids.

7. **Devi Art Foundation:**

- **Location:** Gurgaon.
- **Description:** A collection of art and paintings.

8. **Urusvati Museum of Folklore:**

- **Location:** Gurgaon.
- **Description:** Preserves and showcases Indian folk and tribal art.

9. **Museum of Folk and Tribal Art:**

- **Location:** Gurgaon.
- **Description:** Preserves and showcases Indian folk and tribal art.

CHAPTER -5

DESIGN PROPOSITION

PROJECT : INTERNATIONAL MUSEUM FOR ARTS AND ARCHITECTURE

WHY MUSEUM ?

THE INTERNATIONAL MUSEUM OF ARCHITECTURE CAN PROVIDE MATRIX FOR MOTIVATION AND INSPIRATION TO EMERGE FROM A DEEP UNDERSTANDING OF THE HISTORY OF OUR OWN ARCHITECTURE AND ITS RELEVANCE AND PLACE IN CONTEMPORARY CONDITIONS.

INTRODUCTION TO SITE

LOCATION : GURUGRAM, HARYANA
SITE AREA : 7.5 ACRES
LATITUDE : 28 24'0.31"N
LONGITUDE : 77 0'46.24"E

CLIMATE : COMPOSITE
WIND DIRECTION :
AVG. TEMP(SUMMER) :
AVG. TEMP(WINTER) :

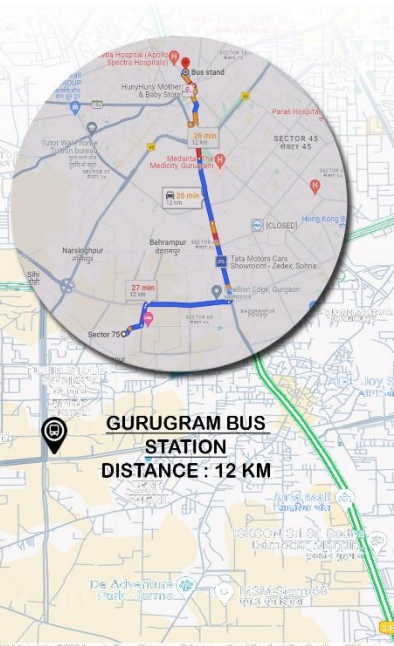
CONNECTIVITY



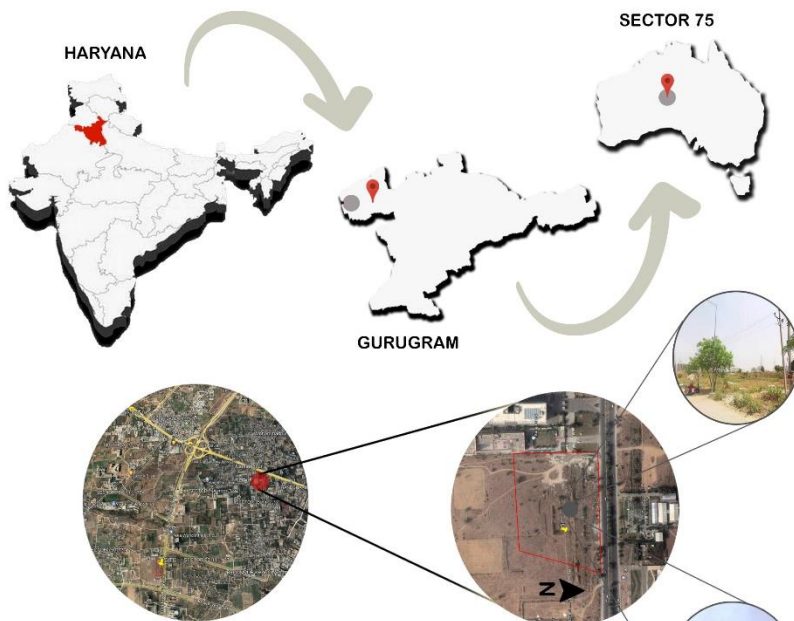
✈️ **INDIRA GANDHI INTERNATIONAL AIRPORT, DELHI**
DISTANCE : 29.5 KM



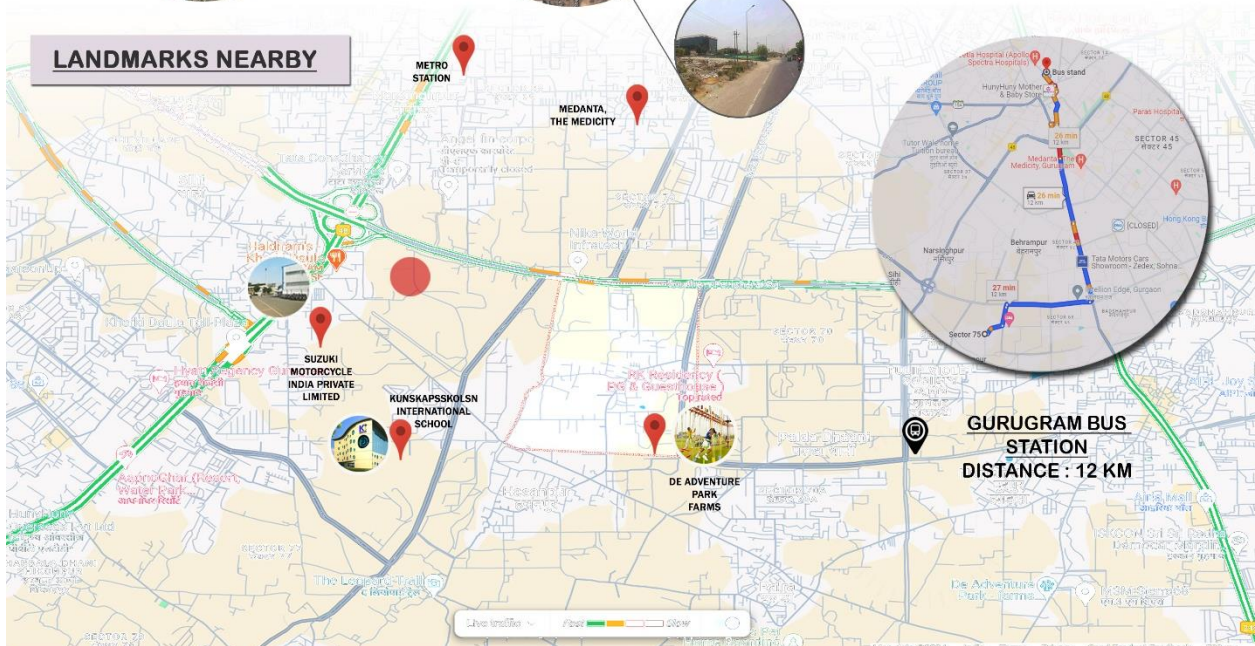
🚂 **GURUGRAM RAILWAY STATION**
DISTANCE : 15 KM

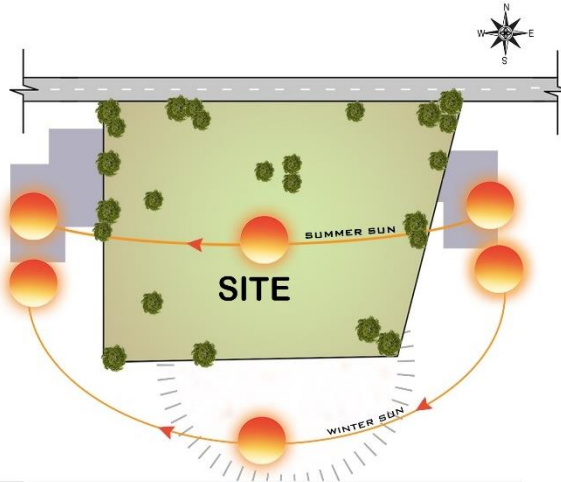
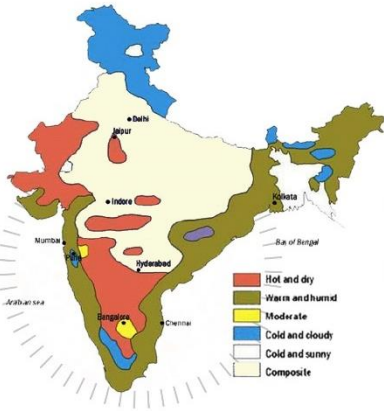


🚌 **GURUGRAM BUS STATION**
DISTANCE : 12 KM



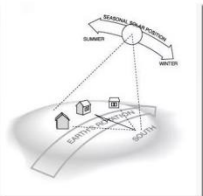
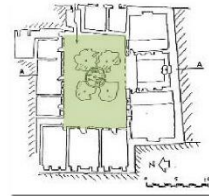
LANDMARKS NEARBY





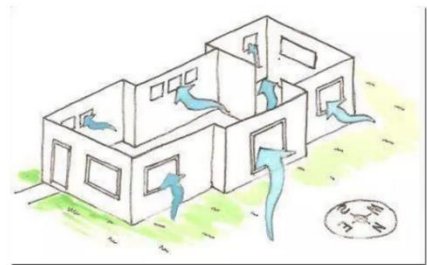
Design Considerations

- Building Orientation
- Form and Planning
- Sheltering or self-shading
- Colour and Texture
- Fenestration and Ventilation
- Optimum Window Wall Ratio (WWR)
- External Spaces
- Landscaping
- Location of Water Bodies
- Courtyard effects

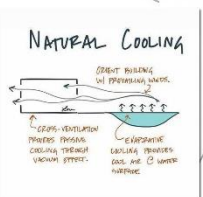
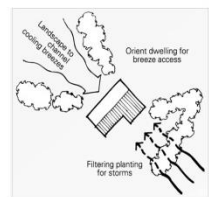


COURTYARD EFFECT

BUILDING ORIENTATION

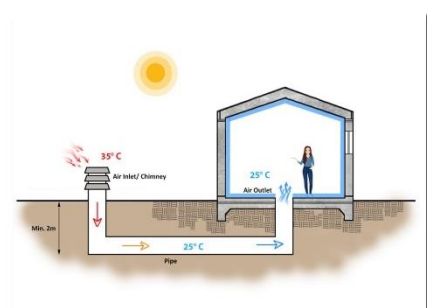


FENESTRATION AND VENTILATION



VEGETATION

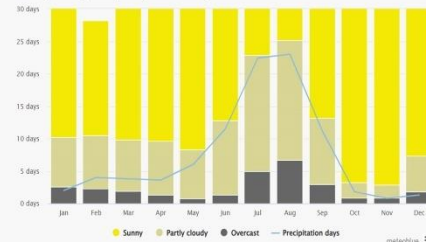
EVAPORATIVE COOLING



Nature of the Climate:

- In summer, daytime temperatures range from 32°C to 45°C, while nighttime temperatures hover between 27°C and 32°C.
- During winter, daytime temperatures vary from 10°C to 25°C, and nights can be cooler, ranging from 4°C to 10°C.
- The region receives strong monsoon winds from both the south-east and north-east directions.

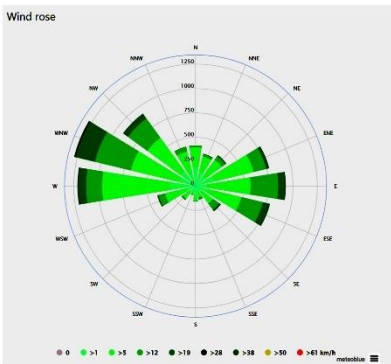
Cloudy, sunny, and precipitation days



WEATHER BY MONTH // WEATHER AVERAGES GURGAON

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	13.5 °C (56.4) °F	17 °C (62.6) °F	22.8 °C (73) °F	29.4 °C (85) °F	33.1 °C (91.6) °F	33.4 °C (92.1) °F	30.2 °C (86.4) °F	29 °C (84.2) °F	28.2 °C (82.7) °F	25.8 °C (78.4) °F	20.8 °C (69.4) °F	15.5 °C (59.9) °F
Min. Temperature °C (°F)	7.6 °C (45.6) °F	10.5 °C (50.9) °F	15.3 °C (59.6) °F	21.2 °C (70.1) °F	25.6 °C (78.1) °F	28 °C (82.4) °F	26.9 °C (80.4) °F	26 °C (78.8) °F	24.1 °C (75.4) °F	19.3 °C (66.8) °F	14.3 °C (57.7) °F	9.2 °C (48.6) °F
Max. Temperature °C (°F)	20.1 °C (68.2) °F	23.8 °C (74.8) °F	30.2 °C (86.3) °F	37 °C (98.6) °F	40 °C (104) °F	38.7 °C (101.6) °F	34.1 °C (93.4) °F	32.6 °C (90.7) °F	32.7 °C (90.9) °F	32.4 °C (90.4) °F	27.8 °C (82) °F	22.4 °C (72.3) °F
Precipitation / Rainfall mm (in)	23 (0)	31 (1)	20 (0)	13 (0)	19 (0)	71 (2)	197 (7)	180 (7)	90 (3)	14 (0)	5 (0)	7 (0)
Humidity(%)	66%	59%	45%	27%	30%	45%	69%	75%	69%	52%	52%	60%
Rainy days (d)	2	3	2	2	4	7	14	15	8	2	1	1
avg. Sun hours (hours)	8.3	9.4	10.6	11.5	12.1	11.8	9.6	9.1	9.4	10.1	9.6	8.9

Data: 1991 - 2021 Min. Temperature °C (°F), Max. Temperature °C (°F), Precipitation / Rainfall mm (in), Humidity, Rainy days. Data: 1999 - 2019: avg. Sun hours



Characteristics:

- A composite climate is neither consistently hot and dry nor warm and humid. Instead, it experiences seasonal variations.
- These variations include:
- Long, hot, and dry periods interspersed with shorter periods of rainfall and high humidity.
- Significant differences in air temperature, humidity, wind patterns, sky conditions, and ground conditions throughout the year.

BYELAWS (LDA NORMS)

- FLOOR AREA RATIO - 1.5
- GROUND COVERAGE - 35%
- ECS - 1 per 100sqm of floor space
- LANDSCAPE - 125 trees per ha of open space or 20% of plot area
- SETBACK - 15m (front) , 9m (on all sides)
- HEIGHT - 36m max. (AAI norms)

TOPOGRAPHY

Mostly flat surface with no slope.



HYDROLOGY

The groundwater is at 15-20 meter below ground level. Due to high groundwater table, soil liquefaction due to seismic activity needs to be prevented.

SOIL PROFILE

Bearing capacity of soil is **11-13 T/m²**. Soil type is **mainly alluvial** with sub-type Bhur, Dumat and Matiyar. It has good water retaining capacity.



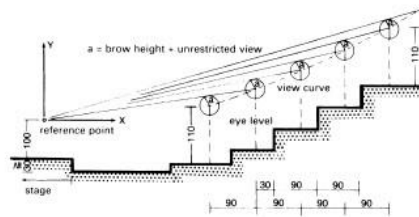
CHAPTER – 6

RESEARCH

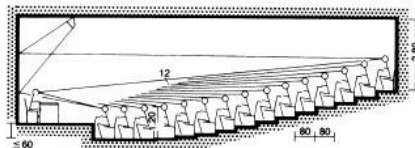
&

AREA ANALYSIS

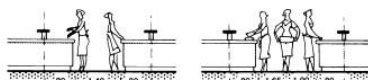
NEUFERT ANTHROPOMETRIC STANDARDS



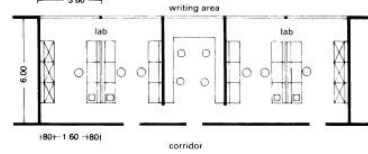
② Drawing for calculating view curve



AUDITORIUM

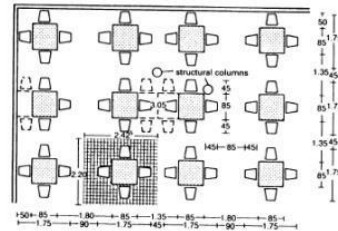


① Minimum passage width between workstations

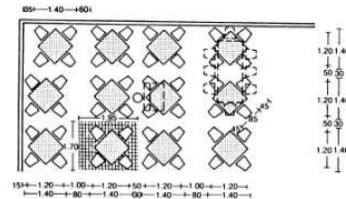


② Research lab

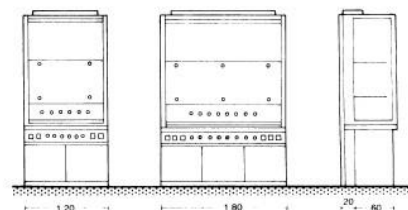
special purpose and ancillary rooms



③ Parallel table arrangement

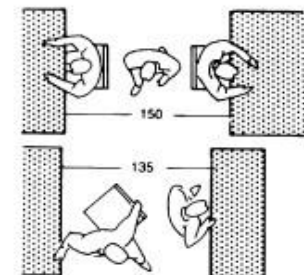
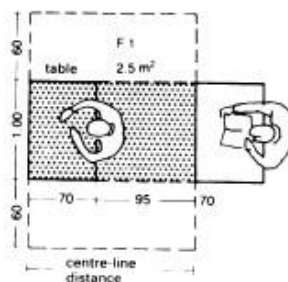
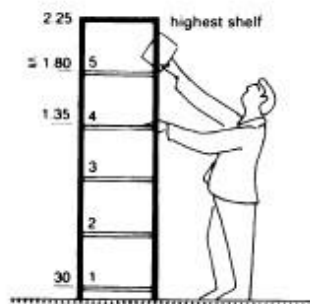


CANTEEN



⑦ Digestors (fume cupboards)

LIBRARY



COVERED AREA DETAIL

	ACTIVITY	ACTIVITY COUNT	OCCUPANCY	ATTACHED TOILET	LINKAGE	AREA REQUIRED (SQM)	MIN HT. (M)	VIEWS
ENTRANCE/ EVENT	Visitors Parking	2 W- 150 4 W- 105 BUS- 10				3700		
	Entrance foyer		80			700	5-6	External
	Ticket counter		80			30	5-6	External
	Entry check						5-6	External
	Baggage room and counter		10-15			75	5-6	Not required
	Entrance lobby		100			600	10	External
	Information desk		5-6				10	Internal
	Multipurpose hall		200			600	10	External
	Cafeteria		50			400	4	External
	Kitchen		10			80	4	Not required
	VIP Lounge		2-3			150	4	Internal
	VIP Rest room		3-3			60	4	Internal
	Study room - Library		250			250		External
	Amphitheatre		500			420		External
	Green room	2				25		Not required
	Sovenier shop		40-50			300	4	Prefered
	Baby care room	3	10			60	4	Not required
	Orientation gallery		50			210	7-8	Internal
	Orientation theatre		150-201			300	7-8	Not required
BACK OF HOUSE	Security rest room		2-3			1000	3	External
	DG Room		2-3				3	External
	Transformer		2-3				3	External
	Meter room		2-3				3	External
	chiller		2-3				3	External
	Refuse pick up		8				3	External
	Loading/unloading		8				5	External
	Storage	4	8				3	Not required
	Shop storage		12				3	Not required
	Carpenter workshop		12				3	External
	Furniture workshop		12				3	External
	Workshop 3		12				3	External
ADMINISTRATION	Staff parking					800		
	Staff locker room		40			40	3	Not required
	Director's office	2	4-5			30	3	Prefered
	Manager's office	2	4-5			30	3	Prefered
	office	4	4-5			80	3	Prefered
	Smart conference room	4	15-20			200	3	Prefered
	Dining	2	15-21			60	3	Prefered
	Pantry	2	5				3	Prefered
Add @ 20% for walls, toilets, lobbies and circulation systems, janitor cupboard and stores, emergency exits etc						2600		
TOTAL						15600		

CENTRAL LIBRARY

<u>FACILITY</u>	<u>NO.</u>	<u>AREA(SQM)</u>
RECEPTION + LOBBY	1	24
LIBRARIAN'S OFFICE	1	24
MEETING ROOM	1	50
PRIVATE READING ROOM	1	50
STACKING AREA	1	145
COMPUTER ROOM	1	280
STAFF READING AREA	1	62
COMMON READING AREA	4	280
CONFERENCE HALL	1	168
LECTURE HALL	1	240
OPEN READING AREA	1	200
TOILET	2	-

ANCIALRARY FACILITIES (EACH DEPT.)

<u>FACILITY</u>	<u>NO.</u>	<u>AREA(SQM)</u>
SERVER ROOM	1	8
ELECTRICAL ROOM	1	8
PANTRY	1	9
TOILETS	2	25
ANTE ROOM	1	9
JANITOR	1	8

CHAPTER – 7

DESIGN PROPOSITION

IDEA- "History puts into something from the past"

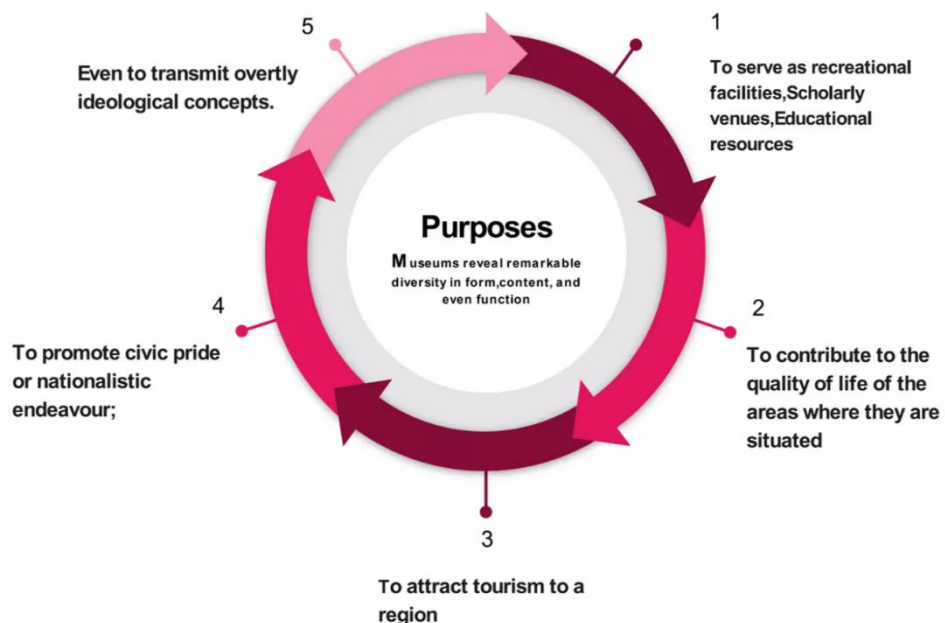
ARCHITECTURAL HISTORY

The idea of this piece is to explore and to find out what an architectural museum should aim to do the understanding of architecture varies between architect and the public every person is directly or indirectly affected by every piece of architecture , in and around them unfortunately majority of them dont realise what is about architecture is affecting them and how. they appericiate and critisize architecture consiously or sub-consiously at times without understanding why it is doing this the difference in understanding between the architects and his/her subject needs to be brought to the same level by providing a platform that brings them together.



US CAPITOL BUILDING

THURGOOD MARSHALL U.S COURTHOUSE



DESIGN PRINCIPLES



RYTHM

•**RYTHM**: RHYTHM IS THE REGULAR REPETITION OF ELEMENTS SUCH AS LINE, SHAPE AND FORMS TO CREATE INTEREST AND CONSISTENCY.



CONTRAST

•**CONTRAST**: CONTRAST IS THE DIFFERENCE BETWEEN ELEMENTS IN A COMPOSITION. THIS CAN HAPPEN THROUGH A VARIETY OF ELEMENTS SUCH AS VALUE CHANGE, SIZE DIFFERENCE, ETC.



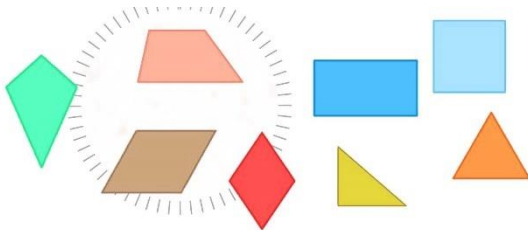
EMPHASIS

•**EMPHASIS**: EMPHASIS IS THE CREATION OF A FOCAL POINT IN AN ARTWORK EMPHASIS DRAWS THE VIEWER'S EYE TO PARTICULAR AREAS OF THE ARTWORK FIRST.



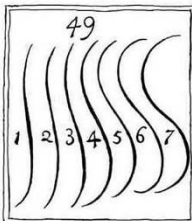
SPACE

•**SPACE**: IS USED TO CREATE THE ILLUSION OF DEPTH. SPACE CAN BE TWO-DIMENSIONAL, THREE-DIMENSIONAL, NEGATIVE AND/OR POSITIVE.



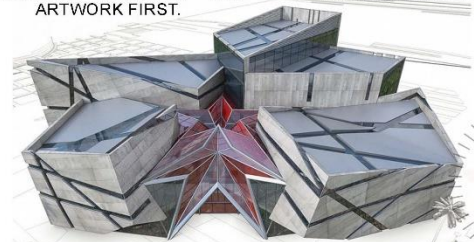
SHAPE

•**SHAPE**: A FLAT, ENCLOSED AREA THAT HAS TWO DIMENSIONS, LENGTH AND WIDTH. ARTISTS USE BOTH GEOMETRIC AND ORGANIC SHAPES.



SERPENTINE LINE "LINE OF BEAUTY"

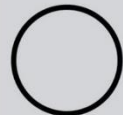
IT LEADS THE EYE IN A PLEASING MANNER ALONG THE CONTINUITY OF ITS VARIETY.



UNITY

•**UNITY**: UNITY MEANS THAT ALL ELEMENTS WITHIN THE ARTWORK ARE IN HARMONY. VARIETY WITHIN ELEMENTS ADDS INTEREST TO THE COMPOSITION.

The different geometrical forms and their impact



Circular form

- Elegance
- Calm and serene
- Mystery
- Slow paced
- Gathers people



Square form

- Discipline
- Strength
- Reliability
- Security
- Fast paced



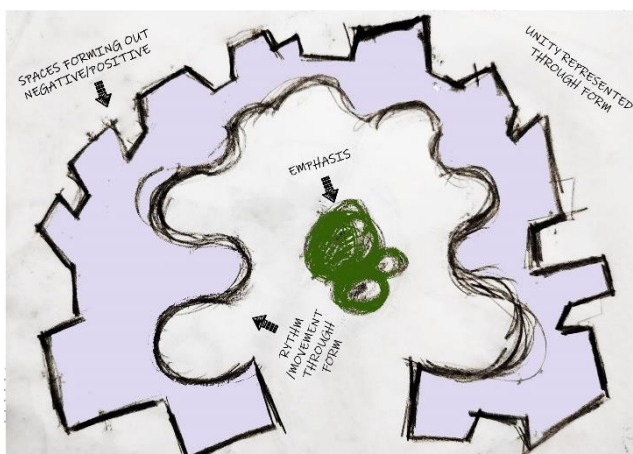
Triangular form

- Risk
- Discomfort
- Danger
- Excitement
- Associated with motion and direction



Organic form

- Originality
- Organic
- Refreshing and closer to nature
- Medium Paced



CHAPTER-8

PLANNING & DESIGN

BIBLIOGRAPHY

The following book references have been used in this thesis –

- ARCHITECT'S DATA By Ernst Neufert
- NATIONAL BUILDING CODE 2016
- GURUGRAM DEVELOPMENT AUTHORITY BYELAWS
- CITY DEVELOPMENT PLAN OF GURUGRAM
- <https://www.fosterandpartners.com/projects/imperial-war-museum/> Bihar Museum, Patna
- <https://www.archdaily.com/889978/the-bihar-museum-maki-and-associates-plus-opolis> Virasat-E-Khalsa
- <https://www.safdiearchitects.com/projects/virasat-e-khalsa-museum>
- [https://worldarchitecture.org/articles/cvzmc/virasatekhalsa designed by moshe safdie becomes mostvisited museum in india within 5 years.html](https://worldarchitecture.org/articles/cvzmc/virasatekhalsa_designed_by_moshe_safdie_becomes_mostvisited_museum_in_india_within_5_years.html)
- <https://en.wikipedia.org/wiki/Virasat-e-Khalsa>
-
- **BOOKS**
- Neufert Architect's Data 3 Edition
- Metric Handbook Planning and Design Data
- Time Saver Building Types

SITE ANALYSIS

SITE SLOPE



SITE SURROUNDING IMAGES

KEY FEATURES OF SITE :
 LOCATED ADJACENT TO BMW GROUP TRAINING CENTRE AND DLF ALAMEDA WHICH WILL GIVE MAJOR BOOST TO THE AREA.
 FLAT TERRAIN SITE WITH ROAD ACCESS FROM ONE SIDE.

WHY GURUGRAM ?

- ONE OF THE FASTEST DEVELOPING METROPOLITAN CITIES IN INDIA.
- OFFERS WORLD CLASS METRO, HIGH QUALITY ROADS AND HIGHWAYS.
- PART OF NATIONAL CAPITAL REGION.
- IT HUB, CORPORATE HUB, ENTERTAINMENT AND BANKING HUB.

SWOT ANALYSIS

STRENGTH:

- SITE CONNECTING THROUGH MAJOR AIRPORT ROAD LIES IN THE MIDDLE OF DEVELOPING IT CITY WHICH GIVES MORE OPPORTUNITIES .
- SITE SURROUNDED BY VARIOUS TYPES OF LAND EG. INSTITUTIONAL ,RESIDENTIAL, CULTURAL WHICH GIVES MORE BROAD DIVERSIFYING BASE FOR DEVELOPMENT.
- SITE IS SITUATED NEAR DELHI-JAIPUR EXPRESS WAY.

WEAKNESS

CLOVER LEAF INTERCHANGE CAN BE A POINT OF CONGESTION IN PEAK HOURS.

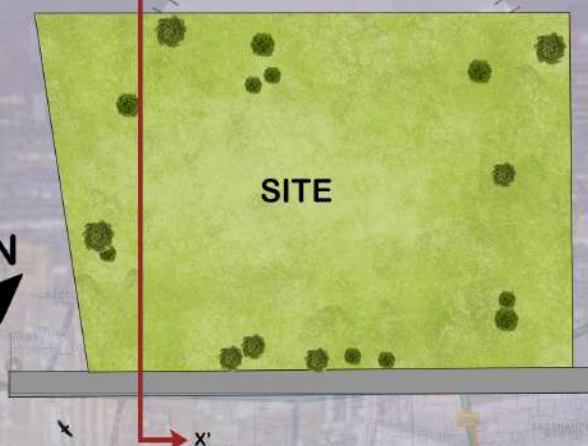
OPPORTUNITIES

LOCATED AT CENTER OF THE AREA WHICH WILL GIVE MAJOR FOOT-FALL .
 NO LOCAL ARCHITECTURAL STYLE TO BE BOUNDED TO THE DESIGN.

GEOMORPHOLOGY AND SOIL TYPE

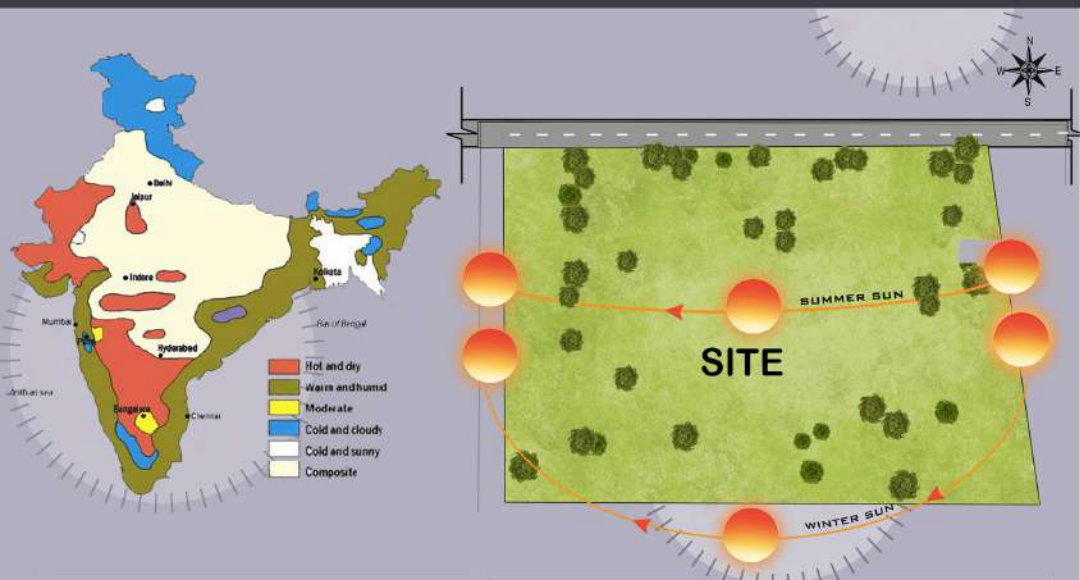
THE AREA HAS CONSPICUOUSLY FLAT TOPOGRAPHY,AND THE BUILDING IS RESTING ON THE SAME LEVEL.
 SOIL TYPE : SOILS OF THE GURGAON DISTRICT ARE CLASSIFIED AS TROPICAL AND BROWN SOILS.

SITE SECTION



SUBMITTED BY : AANYA YADAV
 B.ARCH 5TH YEAR , 10TH SEM
 ROLL NO. : 1190101001
 SAP, BBDU, LUCKNOW

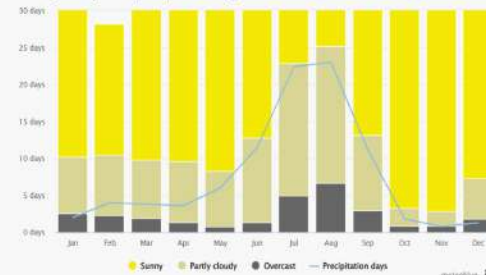
CLIMATE ANALYSIS



Nature of the Climate:

- In summer, daytime temperatures range from 32°C to 45°C, while nighttime temperatures hover between 27°C and 32°C.
- During winter, daytime temperatures vary from 10°C to 25°C, and nights can be cooler, ranging from 4°C to 10°C.
- The region receives strong monsoon winds from both the south-east and north-east directions.

Cloudy, sunny, and precipitation days

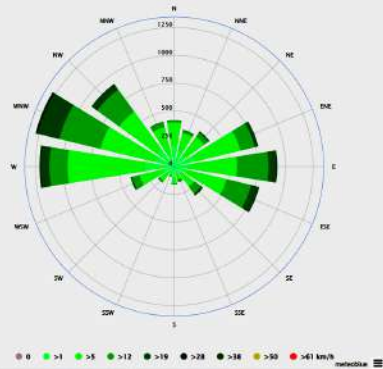


WEATHER BY MONTH // WEATHER AVERAGES GURGAON

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	13.5 °C (56.4) °F	17 °C (62.6) °F	22.8 °C (73) °F	29.4 °C (85) °F	33.1 °C (91.6) °F	33.4 °C (92.1) °F	30.2 °C (86.4) °F	29 °C (84.2) °F	28.2 °C (82.7) °F	25.8 °C (78.4) °F	20.8 °C (69.4) °F	15.5 °C (59.9) °F
Min. Temperature °C (°F)	7.6 °C (45.6) °F	10.5 °C (50.9) °F	15.3 °C (59.6) °F	21.2 °C (70.1) °F	25.6 °C (78.1) °F	28 °C (82.4) °F	26.9 °C (80.4) °F	26 °C (78.8) °F	24.1 °C (75.4) °F	19.3 °C (66.8) °F	14.3 °C (57.7) °F	9.2 °C (48.6) °F
Max. Temperature °C (°F)	20.1 °C (68.2) °F	23.8 °C (74.8) °F	30.2 °C (86.3) °F	37 °C (98.6) °F	40 °C (104) °F	38.7 °C (101.6) °F	34.1 °C (93.4) °F	32.6 °C (90.7) °F	32.7 °C (90.9) °F	32.4 °C (90.4) °F	27.8 °C (82) °F	22.4 °C (72.3) °F
Precipitation / Rainfall mm (in)	23 (0)	31 (1)	20 (0)	13 (0)	19 (0)	71 (2)	197 (7)	180 (7)	90 (3)	14 (0)	5 (0)	7 (0)
Humidity (%)	66%	59%	45%	27%	30%	45%	69%	75%	69%	52%	52%	60%
Rainy days (d)	2	3	2	2	4	7	14	15	8	2	1	1
avg. Sun hours (hours)	8.3	9.4	10.6	11.5	12.1	11.8	9.6	9.1	9.4	10.1	9.6	8.9

Data: 1991 - 2021 Min. Temperature °C (°F), Max. Temperature °C (°F), Precipitation / Rainfall mm (in), Humidity, Rainy days. Data: 1999 - 2019: avg. Sun hours

Wind rose



Characteristics:

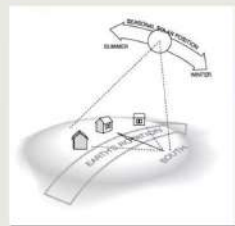
- A composite climate is neither consistently hot and dry nor warm and humid. Instead, it experiences seasonal variations. These variations include:
 - Long, hot, and dry periods interspersed with shorter periods of rainfall and high humidity.
 - Significant differences in air temperature, humidity, wind patterns, sky conditions, and ground conditions throughout the year.

Design Considerations

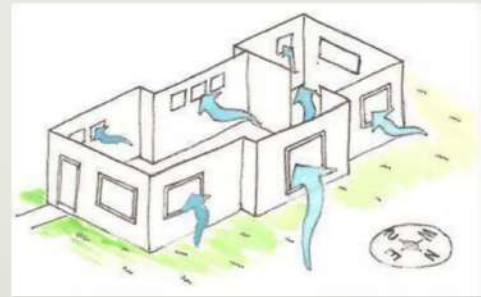
- Building Orientation
- Form and Planning
- Sheltering or self-shading
- Colour and Texture
- Fenestration and Ventilation
- Optimum Window Wall Ratio (WWR)
- External Spaces
- Landscaping
- Location of Water Bodies
- Courtyard effects



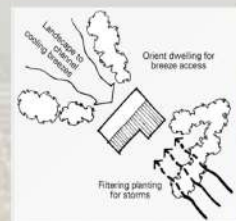
COURTYARD EFFECT



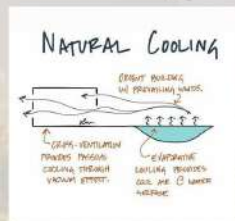
BUILDING ORIENTATION



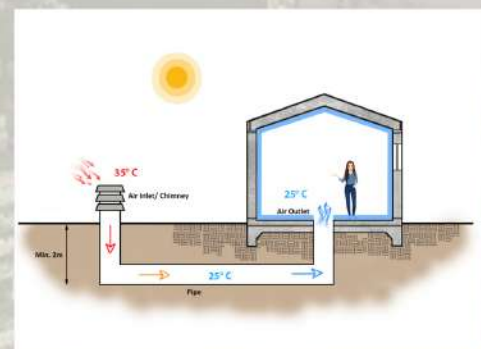
FENESTRATION AND VENTILATION



VEGETATION



EVAPORATIVE COOLING



EARTH AIR TUNNEL



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ROLL NO. : 1190101001
SAP, BBDU, LUCKNOW

SITE ANALYSIS

PROJECT : INTERNATIONAL MUSEUM FOR ARTS AND ARCHITECTURE

WHY MUSEUM ?

THE INTERNATIONAL MUSEUM OF ARCHITECTURE CAN PROVIDE MATRIX FOR MOTIVATION AND INSPIRATION TO EMERGE FROM A DEEP UNDERSTANDING OF THE HISTORY OF OUR OWN ARCHITECTURE AND ITS RELEVANCE AND PLACE IN CONTEMPORARY CONDITIONS.

INTRODUCTION TO SITE

LOCATION : GURUGRAM, HARYANA
SITE AREA : 11 ACRES
LATITUDE : 28 24'0.31"N
LONGITUDE : 77 0'46.24"E

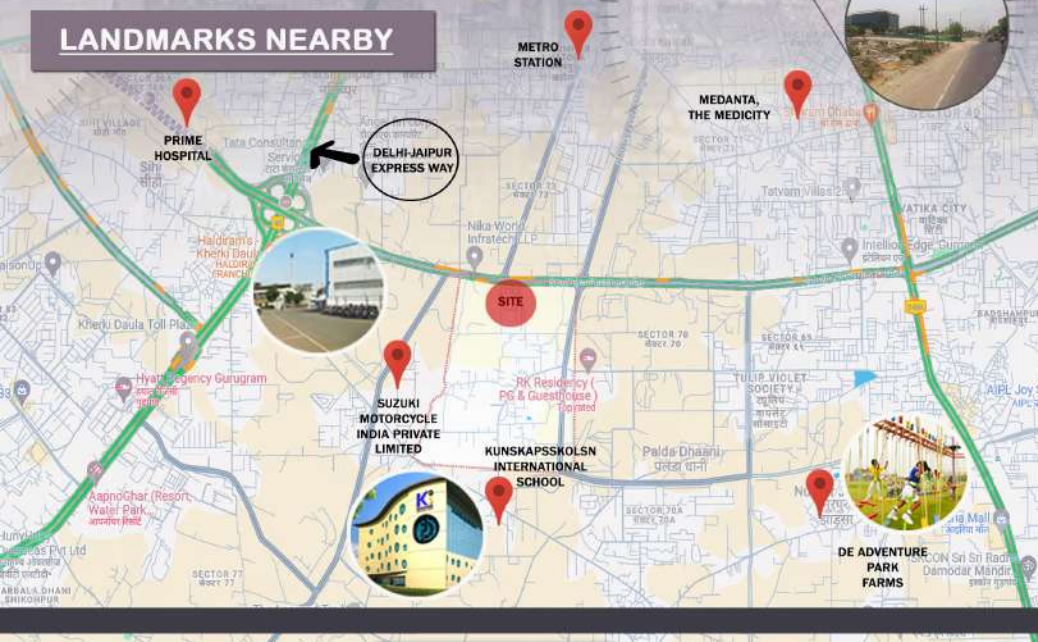
CLIMATE : COMPOSITE
WIND DIRECTION : FROM WEST FOR 6MONTHS, 2 MONTHS FROM NORTH
AVG. TEMP(SUMMER) : 35°C
AVG. TEMP(WINTER) : 14°C

HARYANA

SECTOR 75

GURUGRAM

LANDMARKS NEARBY



CONNECTIVITY



✈ **INDIRA GANDHI INTERNATIONAL AIRPORT, DELHI**
DISTANCE : 29.5 KM



🚂 **GURUGRAM RAILWAY STATION**
DISTANCE : 15 KM



🚌 **GURUGRAM BUS STATION**
DISTANCE : 12 KM



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B.ARCH 5TH YEAR, 10TH SEM
ROLL NO. : 1190101001
SAP, BBDU, LUCKNOW



Covered Path

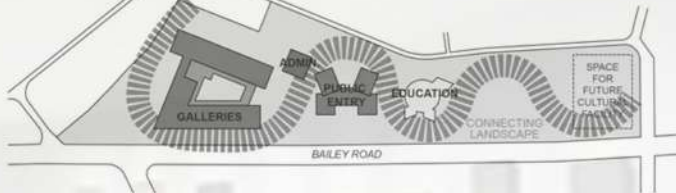


Though symmetrically balanced form, it cannot be experienced from user pathway.



Main entrance and Gate no. 1

MUSEUM AS EXPANSE

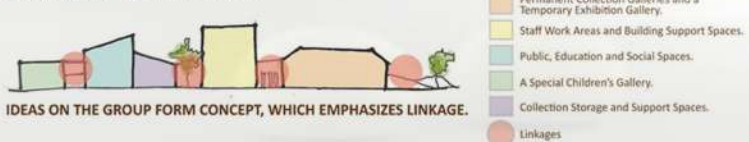


The breadth and scope - the expanse - of Bihar's history is reflected in the figural spread in landscape- the expanse - of the museum throughout the site.

SHAPING EACH ZONE

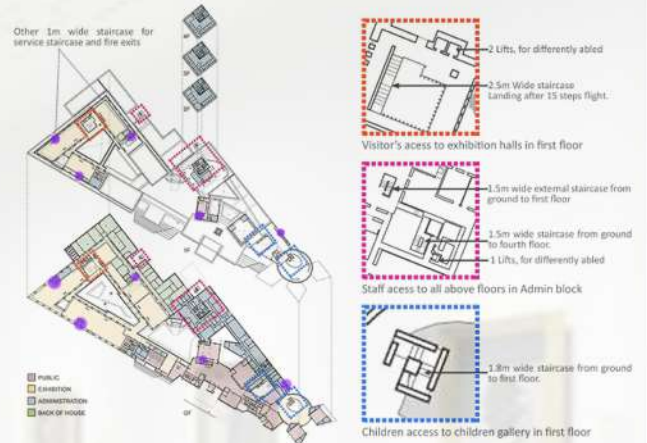


To create the "campus", they gave each zone (entrance, education, exhibition and administration) a *distinct and recognizable form* within the complex.

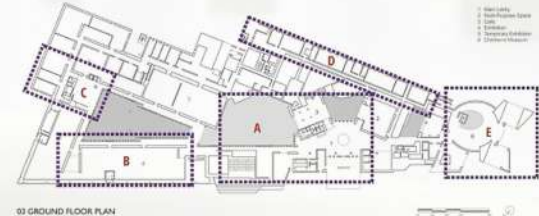


Taking advantage of the elongated site in Patna, the museum complex can be called a '*chained group form*', where heterogeneous elements were effectively linked by *outdoor courts, plazas, and cloisters* into a single complex.

VERTICAL CIRCULATION



GROUND FLOOR SPACE, QUALITY AND FEATURES



03 GROUND FLOOR PLAN



STUDY CENTRE

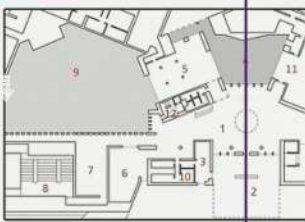


BIHAR MUSEUM



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SEMESTER - 10TH
ARCH. DESIGN
BBDU LUCKNOW

PART 'A' DETAILS



1. ENTRANCE LOBBY
2. MAIN ENTRANCE
3. TICKET AND BAGGAGE
4. WATERFALL COURTYARD
5. CAFETERIA
6. STUDY CENTRE
7. ORIENTATION ROOM
8. AV ORIENTATION
9. AMPHITHEATRE
10. TOILETS
11. MULTIPURPOSE HALL
12. VIP LOUNGE



SECTION THROUGH MAIN ENTRANCE



ENTRANCE FOYER
Weathering steel in foyer projection, maintaining the material colour palette.
The wall in between acts as a visual barrier for the interior space hence creating excitement and curiosity.



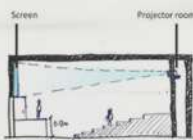
ENTRANCE LOBBY
Inspite the Museum being all AC, this space is *not* air conditioned in order to balance the immediate change in body temp. in Bihar's extreme summers.
For such huge non-collection public space, light well works in a way to provide daylight during Museum hours.



As someone enters the Museum, they first counter the cascade right in front of the lobby.
It gives visual pleasure and warm welcome to the visitors.



ORIENTATION HALL (AV)



Projector screen is 1.2m above the stage, which gives an uninterrupted view.
Total seating: 154
The hall is connected to the orientation room, for a better understanding of the visitors and the exit is near Gallery A.

HORIZONTAL MOVEMENT



03 GROUND FLOOR PLAN



04 FIRST FLOOR PLAN

- VISITOR'S MOVEMENT
- CHILDREN MOVEMENT
- STAFF MOVEMENT

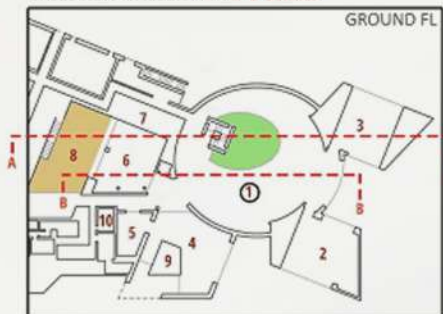
- PUBLIC NON-COLLECTION
- PUBLIC COLLECTION
- NON-PUBLIC COLLECTION
- NON-PUBLIC NON-COLLECTION
- OUTDOOR AREAS

BIHAR MUSEUM

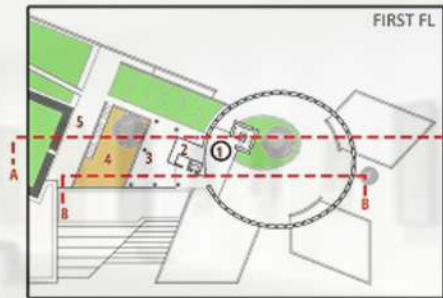


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B.A.RCH 5TH YEAR
SEMESTER - 10TH
ARCH. DESIGN
BBDU LUCKNOW

CHILDREN GALLERY: PART 'E' DETAILS



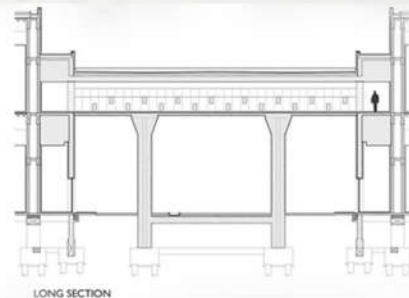
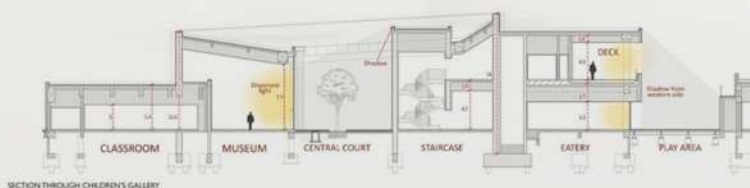
1. CHILDREN MUSEUM
2. DISCOVERY GALLERY
3. CLASSROOM
4. CHILDREN GALLERY
5. MUSEUM SHOP
6. CHILDREN EATERY
7. KITCHEN
8. PLAY AREA



1. CHILDREN'S MUSEUM
2. WASHROOM
3. DECK AREA FOR PLAYING
4. CHILDREN PLAY COURT BELOW
5. PLAY AREA II

The Children's Gallery brings the history of Bihar and natural history alive for children through experiential learning zones. Fun-filled activities combine education with entertainment, encouraging learning by doing. Enter a fascinating world with interactive audio-visuals and entertaining exhibits.

The *Elliptical* shape becomes fun for children.



AREA PROGRAM

Sno	program	Area(sq. m)	Capacity
1	Entrance Foyer	530	
2	Ticket Counter	35	
3	Entry check		
4	Baggage Counter	75	
5	Entrance Lobby	690	
6	Information Desk	10	
7	Multipurpose Hall	650	
8	Café	550	80
9	Toilets		
10	VIP Lounge	150	
11	Orientation Gallery	210	
12	Orientation Theatre	335	200
13	History Galleries	3640	
14	Staircase Lounge	380	
15	Art Gallery	335	
16	Bihar Diaspora	260	
17	Temporary Exhibition	1210	
18	Visible Storage Gallery	1430	
19	Amphitheatre	430	200
20	Administrative area	11800	
21	Museum Shop	310	
22	Children Gallery	2100	
23	Children Eatery	210	48
24	Babies Care		3 Rooms
25	Kid Retail Shop	60	
26	Children's Classroom	320	200
27	Parking	7836	
		8366	

BIHAR MUSEUM



SUBMITTED BY : AANYA YADAV
B.ARCH 5TH YEAR
SEMESTER - 10TH
ARCH. DESIGN
BBDU LUCKNOW



View from the Main road
(Bailey Road, Patna)

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 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.

PROJECT SITE

Location : Bailey Road, Patna, Bihar, India
Bailey road in Patna is one of the prime location having good connectivity.
It is on the west of Patna Museum (old museum).



Residential Bihar Museum LNM Institute
Office and retail Govt. buildings Patna high Court

4.5 Km away

3.6 Km away

4.7 Km away

PROJECT DETAILS

Name of the project : The Bihar Museum

Location: Patna, India

Architects: Maki and Associates (tokyo) in association with Opolis (Mumbai)

Client: Department of Art, Culture, and Youth (DACY), Government of Bihar, India

Design Team:

Maki and Associates: Fumihiko Maki (principal), Tomoyoshi Fukunaga (director), Michel Van Ackere (associate), Tatsutomo Hasegawa (associate), Hisashi Nakai, Yoshihiko Taira, Issei Horikoshi, Kiwon Kim, Opolis: Rahul Gore (principal), Sonal Sancheti (principal), Tejesh Patil (project architect), Rahul Lawhare, Swapnil Kangankar, Akul Modi.

Site Area: 53,480 sqm

Roof Area: 19,716 sqm

Built up Area: 25,410 sqm

Year of Establishment: 2018

Current Footfall: 14000-18000 per week



PLANNING AND CONCEPT

A COMPLEX IN HARMONY WITH THE LAND



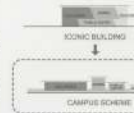
The generous 5.3-hectare plot allowed for a variety of site planning approaches, while demanding sensitivity to its low-scale surroundings and prominent tree growth.

DISPERSED SCHEME

Sensitive utilization of the site is more effectively accomplished via dispersed volumes within an integrated landscape development.

A dispersed plan allows each program to have individual floor to floor height and spatial / sectional quality - each with an appropriate sense of scale, natural lighting, etc.

A dispersed plan allows for ease of updates and changes through the design process.



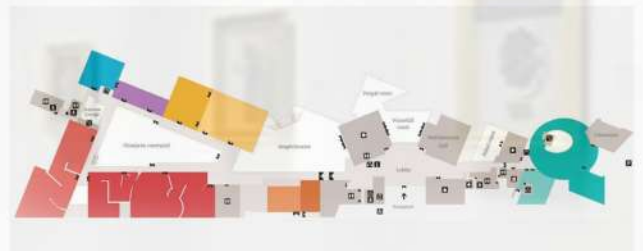
"Iconic" building—creating dramatic forms, extensive cantilevers, and complex geometries.

In response to the context, the architects conceived the Bihar Museum as a: "CAMPUS" - an interconnected landscape of buildings and interior spaces that maintains a modest but dynamic profile, in harmony with existing site conditions.



Each program zone has been given a distinct presence and recognizable form within the complex.

7 interior and exterior courtyards ensuring all spaces retain a connection to the surrounding landscape while remaining sheltered and comfortable throughout the year.



Orientation	History gallery II	Contemporary art	Orientation	Restricted areas
Orientation theatre	Regional art gallery	Temporary exhibition	General area	Courtyard
History gallery A	What happens gallery	Children's Gallery	Open spaces	

BIHAR MUSEUM



SUBMITTED BY : AANYA YADAV
B.ARCH 5TH YEAR
SEMESTER - 10TH
ARCH. DESIGN
BBDU LUCKNOW



PROJECT DETAILS

LOCATION- Janpath, New Delhi

BUILDING TYPE- Art and Archaeology Museum

ARCHITECT- Ganesh Bhikaji Deolalikar

ESTABLISHED- 15th August 1949

SITE AREA - 7.5 Acres

SITE TOPOGRAPHY- Flat with very Gradual slope

SITE SURROUNDING- Low to mid rise surroundings and heavy tree growth.

BUILT UP AREA- Approx 18,000 sqm

NO. OF FLOORS- 4 (Basement, Ground, First, Second)

ANNUAL FOOTFALL- 5,00,000

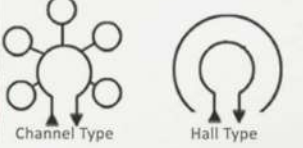
NO. OF GALLERIES- 25 Main Art Gallery

CLIENT- Ministry Of Culture, Government of India.

OBJECTIVE OF STUDY- Artificial lights used and aspects of museum planning.

CIRCULATION PATTERN

The spatial combination of National Museum adopts both the Channel type and Hall type. More specifically, every unit of exhibition hall is arranged around the corridor in an emanative way.



The layout of the exhibition room units rectangular and its spatial use rate relatively high. There is no negative corner in the space that it will be more conducive for the arrangement of the exhibition. According to the arrangement of exhibition room, it shows that they validly utilize to display exhibition.

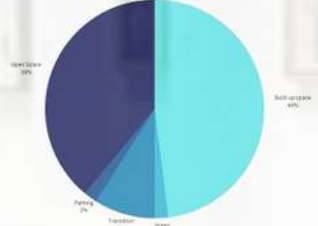


Recognizing that 2, 00, 000 sculptures, paintings, coins, decorative arts, textiles, arms and armours, manuscripts and anthropological objects can overwhelm even most enthusiastic visitor. It has about 25 main art gallery sections for encapsulating the diversity of the museum. The museum also encompasses a grand library and auditorium which make this museum one of the largest and well designed museums in India.

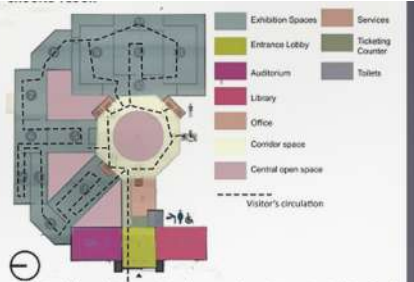
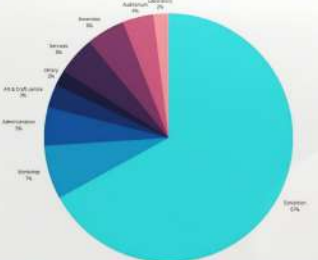
ACCESSIBILITY



SITE DISTRIBUTION

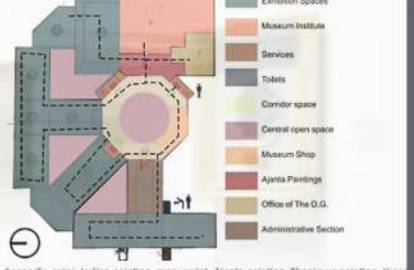


AREA DISTRIBUTION



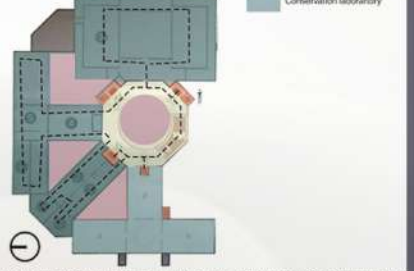
• Exhibition halls are interconnected with one another with a center circulation Corridor of 6 m wide.
• Separate entrance for VIP and physically handicapped is present.
• Firstly, Harapan civilization, Maurya, Gupta, Terracotta, Bronze, Medieval art, Buddhist art, Jewellery, ornamental art, miniature painting, these galleries are placing at ground floor.

FIRST FLOOR



Secondly, coins, Indian painting, manuscript, Ajanta painting, Thanjavur painting, these galleries are placing on the first floor.

SECOND FLOOR



Moreover, textile, western art, wood carving, tribal art, music instrument, these galleries are placing on the second floor.

NATIONAL MUSEUM



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INTERACTIVE PANELS IN DARK ROOM

- Natural light is only used in corridors of Ground floor and first floor, with open exhibits.
- Whereas in second floor, it has smaller openings allowing low natural light.
- Sculptures are kept in open courtyard, which also needs high maintenance due to weather effects.

Corridor
Galleries

Space facing windows have been specified with some hands on interactive works.

But only a single user can use the space at a time, hence no. of interactive zones are lesser as compared to the footfall.

Daylight improves mind activeness.

AMBIENT LIGHTING

- In galleries with artefacts, paintings and detailed objects, Provision of Ambient lighting is done rather than spot lighting.
- Track light along with ceiling light provides adequate amount of illumination in marine gallery.

DIRECTIONAL LIGHT

FOCUSED LIGHT

BACKGROUND LIGHT

Use of different light fixtures to prevent shadows and give the required amount of illumination in marine gallery.

CEILING LIGHTING PLAN

Overhead daylight

INTERACTIVE PANELS IN DARK ROOM

- In rooms with interactive display boards, the self illuminated boards are the source of light.
- At places, spotlights have been used which disturbs the display by reflecting self shadows over it.
- Rug flooring have been used to avoid glare in such galleries.
- No proposal of sitting spaces are seen in Visual galleries that affects the visitors interest to stay there for a long time.

The entrance lobby is illuminated with artificial as well as natural diffused light from the dome overhead.

The caves panoramic view cells have both self light along with spotlights on the screens, which lacks the space feel of a cave and is harsh to the eyes as well.

DISPLAY TECHNIQUES AND INTERNAL CIRCULATION

STONE SCULPTURE EXHIBITION ROOM

The pillars made to put idols are of different standard sizes according to the size of the idols, in order to maintain the straight eye view.

Objects have been placed closer to the wall and in front of the door, at the centre of the room.

On the other side of the wall, we can find the recessed walls with display in it.

EXHIBITS - 20%
CIRCULATION - 80%

There's enough space in a gallery to entertain varied user groups such as school students in a row, museum is standing for a while to analyse and etc.

Lack of seating space in this room.

CENTRAL COURTYARD WITH OPEN EXHIBITS

OVERHEAD TRACK
GALLERY
COURTYARD
GALLERY

A courtyard can also be considered as a space to relax and get out of the black box inside.

The courtyard remains shaded almost all round the day because of it's all round enclosure.

Open air exhibits have been placed in the courtyard.

During noon, the glass windows create glare.

ENTRANCE OF THE MUSEUM

EAST
WEST

The concept behind the form is 'Rotunda' Plan.

In total 9 courtyards have been formed including the central circular courtyard and 8 triangular courtyards.

Entrance lobby has a pointed shagreened dome which makes the entrance grand and welcoming.

The ground and the first floor has got large glass windows.

The building has basement, ground, first and second floor.



- Pillars have been used as balustrade for the
- All sculptures are kept along the wall.
- Exhibits - 20%
- Circulation - 80%

NATIONAL MUSEUM

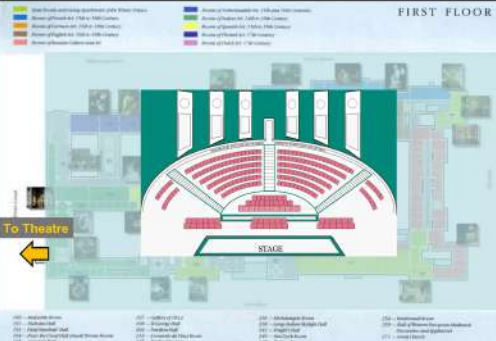


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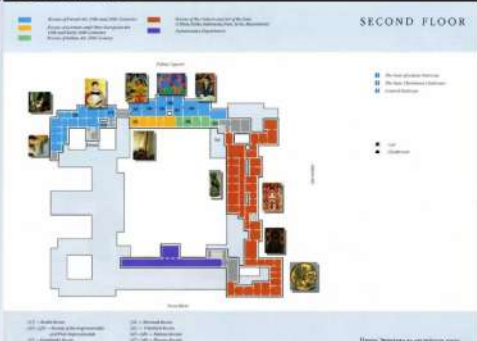
First Floor - New Heritage



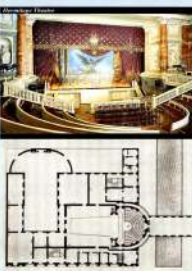
First Floor - Theatre



Second Floor



First Floor - New Hermitage



• THE CAPACITY OF THE THEATER HALL IS 280 SEATS.

• IT WAS BUILT AS A COURT THEATER, FOR THE IMPERIAL FAMILY AND THE ELECTED PALACE NOBILITY.

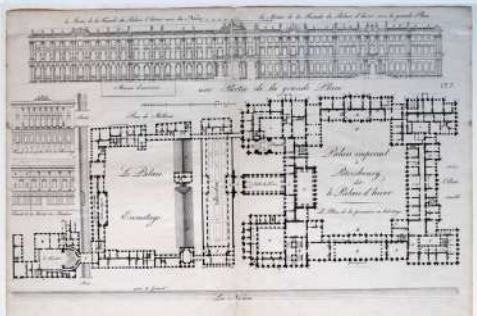
• BEFORE THE STAGE THERE IS A SMALL PARTERRE ON THREE ROWS OF SEVEN SEATS FOR HIGH GUESTS.

• BEHIND THE BALUSTRADE SEPARATING THE STAGE FROM THE AUDITORIUM ARE STILL SEVERAL ROWS OF BENCHES AND TWO SIDE LODGES.

• THE HALL HAS UNIQUE FORMS AND VOLUMES WITH NATURAL FINE ACOUSTICS, THE SOUNDS OF MUSIC ARE CLEARLY AND CLEARLY TRANSMITTED WITHOUT DISTORTION, WHICH IS UNDOUBTED AND BRIGHT DIGNITY.

• THE COMBINATION OF ARCHITECTURAL FORMS AND THE ACHIEVEMENT OF SPECIFIC ACOUSTIC PROPERTIES PREMISES - A UNIQUE FEATURE AND NATURAL FLAIR OF THE ARCHITECT.

First Floor - Small Hermitage



STATE HERMITAGE MUSEUM



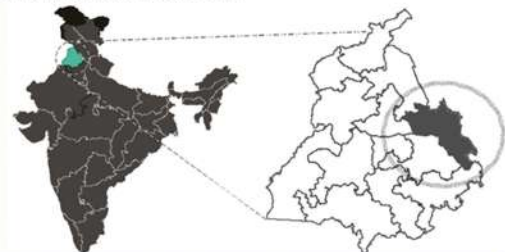
SUBMITTED BY : AANYA YADAV
B.A.RCH 5TH YEAR
SEMESTER - 10TH
ARCH. DESIGN
BBDU LUCKNOW

INTRODUCTION



THE KHALSA HERITAGE COMPLEX WAS DEVELOPED TO COMMEMORATE 500 YEARS OF THE KHALSA HERITAGE AND VIBRANT CULTURE IN INDIA. THE PROJECT WAS INITIATED BY THE INTERIA, USUALLY ACCLAIMED ARCHITECT, MOSHE SAFDIAH. THE COMPLEX IS INTENDED TO TRANSFORM THE KHALSA HERITAGE INTO A NARRATIVE OF THE HERITAGE AND CULTURE OF THE KHALSA. THE COMPLEX IS LOCATED IN THE NORTH EAST OF THE KHALSA HERITAGE COMPLEX. THE ARCHITECT HAS DESIGNED THE COMPLEX TO BE A NARRATIVE OF THE KHALSA HERITAGE. THE COMPLEX IS LOCATED IN THE NORTH EAST OF THE KHALSA HERITAGE COMPLEX. THE ARCHITECT HAS DESIGNED THE COMPLEX TO BE A NARRATIVE OF THE KHALSA HERITAGE.

GEOGRAPHICAL LOCATION



A NARRATIVE OF THE KHALSA HERITAGE COMPLEX WAS DEVELOPED TO COMMEMORATE 500 YEARS OF THE KHALSA HERITAGE AND VIBRANT CULTURE IN INDIA. THE PROJECT WAS INITIATED BY THE INTERIA, USUALLY ACCLAIMED ARCHITECT, MOSHE SAFDIAH. THE COMPLEX IS INTENDED TO TRANSFORM THE KHALSA HERITAGE INTO A NARRATIVE OF THE HERITAGE AND CULTURE OF THE KHALSA. THE COMPLEX IS LOCATED IN THE NORTH EAST OF THE KHALSA HERITAGE COMPLEX. THE ARCHITECT HAS DESIGNED THE COMPLEX TO BE A NARRATIVE OF THE KHALSA HERITAGE.

HISTORICAL RELEVANCE

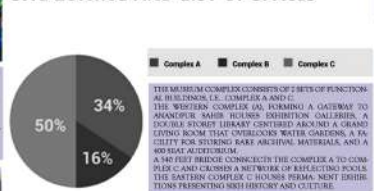


THE AREA WAS ORIGINALLY THE SITE OF AN ANCIENT PLACE KNOWN AS NARHAR. AFTER THE DESTRUCTION OF THE KHALSA HERITAGE COMPLEX, THE AREA WAS REDEVELOPED. THE AREA WAS REDEVELOPED BY THE KHALSA HERITAGE COMPLEX. THE AREA WAS REDEVELOPED BY THE KHALSA HERITAGE COMPLEX. THE AREA WAS REDEVELOPED BY THE KHALSA HERITAGE COMPLEX. THE AREA WAS REDEVELOPED BY THE KHALSA HERITAGE COMPLEX.



THE PRIMARY ROAD IS A NATIONAL HIGHWAY BENEATH THE VIRASAT E KHALSA HERITAGE COMPLEX. THE PRIMARY ROAD IS A NATIONAL HIGHWAY BENEATH THE VIRASAT E KHALSA HERITAGE COMPLEX. THE PRIMARY ROAD IS A NATIONAL HIGHWAY BENEATH THE VIRASAT E KHALSA HERITAGE COMPLEX. THE PRIMARY ROAD IS A NATIONAL HIGHWAY BENEATH THE VIRASAT E KHALSA HERITAGE COMPLEX.

SITE ZONING AND LIST OF SPACES



Complex A	Complex B	Complex C
<ul style="list-style-type: none"> Auditorium Library Temporary exhibit gallery Meeting rooms Mechanical rooms 	<ul style="list-style-type: none"> Cafeteria Kitchen 	<ul style="list-style-type: none"> Permanent exhibit building Heritage building Petal building Office areas

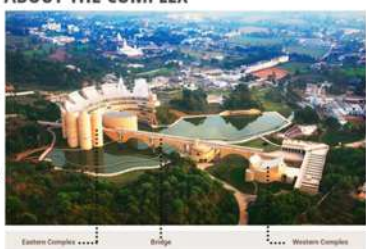
SPECIFICATIONS

Location: Anandpur Sahib
Architect: Moshe Safdie & Associates, Boston, USA
Associate Architect: Ashok Dhawan, New Delhi
Museum design: National Institute of Design, Ahmedabad
Construction: Larsen & Toubrolimited, India
Client: Anandpur Sahib Foundation Trust
Accessibility: Fommmain highway approx 1/2 km and about 1/2km from Gurudwara Kesgarh Sahib.
Inception date: 1998-01-01
Completion date: 2010-04-13
Total area: 100 acre
Built up area: 40 acre
Project cost: Total estimate cost including exhibits 224 crores

LOCATION AND ACCESS



ABOUT THE COMPLEX



THE KHALSA HERITAGE COMPLEX IS A NEW MUSEUM OF THE KHALSA HERITAGE COMPLEX. THE KHALSA HERITAGE COMPLEX IS A NEW MUSEUM OF THE KHALSA HERITAGE COMPLEX. THE KHALSA HERITAGE COMPLEX IS A NEW MUSEUM OF THE KHALSA HERITAGE COMPLEX. THE KHALSA HERITAGE COMPLEX IS A NEW MUSEUM OF THE KHALSA HERITAGE COMPLEX.

MASTER PLAN



HISTORICAL RELEVANCE



THE BUILDINGS ARE CONSTRUCTED WITH Poured IN PLACE CONCRETE. SOME BEAMS AND COLUMNS ARE COLOURED WHITE. MOST OF THE STRUCTURE IS CLAD WITH HONEY COLOURED STONE.

VIRASAT E KHALSA MUSEUM



SUBMITTED BY: AANYA YADAV
 B.A.RCH 5TH YEAR
 SEMESTER - 10TH
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CASE STUDY

ARCHITECTURAL CHARACTER



The canopy on the bridge is merely an architectural ornament and is located on the opposite direction of the incident sun light hence, doesn't provide any shade from the sun.



The rooftop of all the patios are covered with special stainless steel sheets. At night, the entire building will be illuminated with large silhouette being reflected on the 7 acres of water around it. It will also illuminate the night skyline of the historical city of the town of Shah.

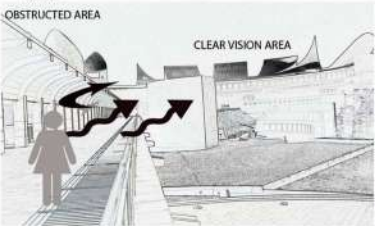


The honey comb like shape of the Earth. South facing convex shaped roofs to get maximum sunlight. The design was also based on utilizing maximum available natural resources, storing water and spreading cool air during the summer time.



Accented walkways and gardens on either side gently cascade towards the same pool.

- The pedestrian bridge is carefully designed by the architect by placing the canopy on the opposing direction of the southern sunlight.
- While walking on the bridge, 70% of the complex is clearly seen and 30% of the complex is obstructed by the canopy.
- The architect designed the canopy by taking the concept of interest in mind rather than the shelter from the south sun.

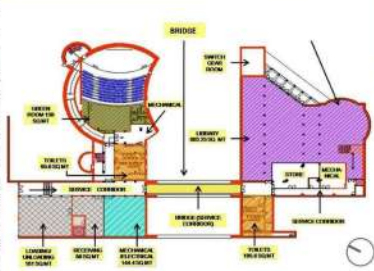
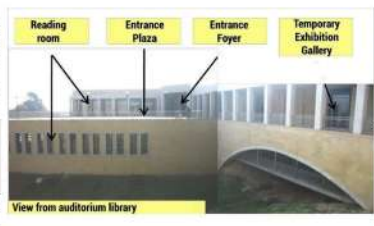


COMPLEX A (WESTERN COMPLEX)

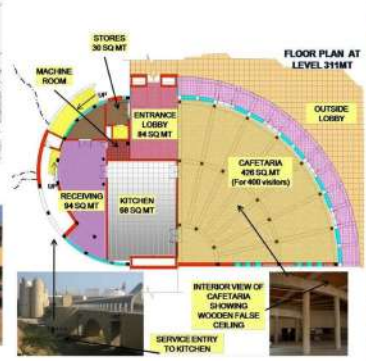
- The western complex forms the gateway from the town of Amritsar into the museum.
- The north wing bridges a second ravine and accommodates changing exhibition galleries and meeting rooms.
- The arcade along the inside or eastern face of the complex leads to the auditorium building.
- On the other side of the piazza is a two level library building.



- The structure of the complex is made up of concrete bearing walls and overhead beams.
- The walls ascending from the ravine level also clad with weather resistant sandstone.
- The library having a covered area of 2230 sq.m
- The 400 seated auditorium having covered area 1380 sq.m split into three levels.
- The organization who want to put up their exhibitions for short durations shall be offered space in temporary exhibit gallery having a covered area of 1372 sq.m.
- Lower floor plan of complex A has, library (reading room which is also an auditor room), electrical room, mechanical, switch gear room, receiving area, loading-unloading area, stores, green room and toilets.

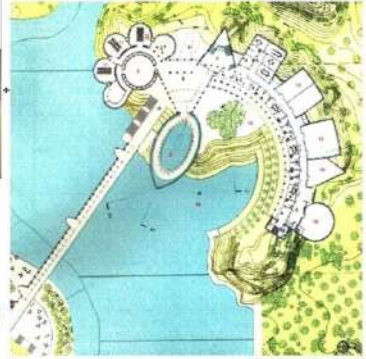


COMPLEX B



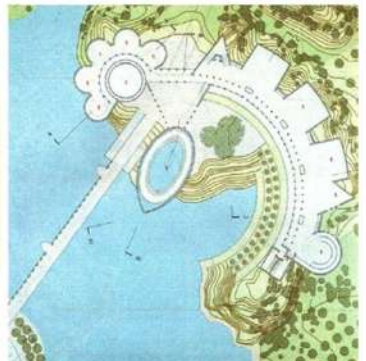
- It mainly consist of pedestrian bridge, cafeteria and kitchen block.
- The 160m long and wide pedestrian bridge, which is connecting complex A & C, primarily consists of four independently laid arches (three 30m long and one 27m long).
- Cafeteria and kitchen blocks consist of covered area as 1424 sq.m. The building level of cafe dining is 315.4m.

COMPLEX C

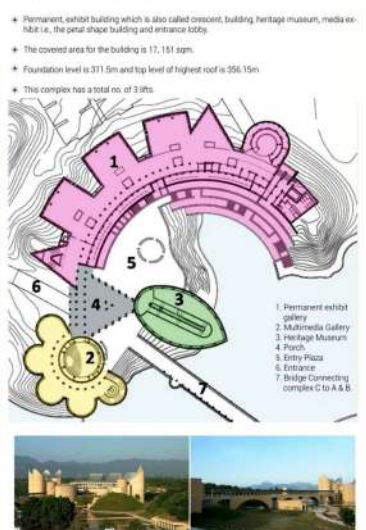


- Conference rooms
- Lounge
- Workshop/storage
- Lab
- Rest rooms
- Arcade
- Open terrace
- Reflecting pool

COMPLEX C CONTD.



- Permanent exhibit building which is also called crescent building, heritage museum, media exhibit i.e., the petal shape building and entrance lobby.
- The covered area for the building is 17,181 sq.m.
- Foundation level is 311.5m and top level of highest roof is 356.15m.
- This complex has a total no. of 3 lifts.



VIRASAT E KHALSA MUSEUM



SUBMITTED BY : AANYA YADAV
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SEMESTER - 10TH
ARCH. DESIGN
BBDU LUCKNOW



AREA STATEMENT

SUBMITTED BY: AANYA YADAV
B.ARCH 5 TH YEAR
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ARCH. DESIGN
BBDU LUCKNOW

INTRODUCTION

•THE IDEA OF THIS PIECE IS TO EXPLORE AND TO FIND OUT WHAT AN ARCHITECTURAL MUSEUM SHOULD AIM TO DO.
THE UNDERSTANDING OF ARCHITECTURE VARIES BETWEEN ARCHITECT AND THE PUBLIC.
EVERY PERSON IS DIRECTLY OR INDIRECTLY AFFECTED BY EVERY PIECE OF ARCHITECTURE, IN AND AROUND THEM.
UNFORTUNATELY MAJORITY OF THEM DONT REALISE WHAT IS ABOUT ARCHITECTURE IS AFFECTING THEM AND HOW.
THEY APPERCIATE AND CRITISIZE ARCHITECTURE CONSOUSLY OR SUB-CONSOUSLY AT TIMES WITHOUT UNDERSTANDING WHY IT IS DOING THIS.
THE DIFFERENCE IN UNDERSTANDING BETWEEN THE ARCHITECTS AND HIS/HER SUBJECT NEEDS TO BE BROUGHT TO THE SAME LEVEL BY PROVIDING A PLATFORM THAT BRINGS THEM TOGETHER.

CONCEPT

HISTORICAL FEATURES

ERA	COLUMNS	LOAD TRANSFER/ARCH	VULTS	WINDOWS	SPECIAL TECHNIQUES/FEATURES	BUILDINGS
GREEK			NO	NO		
ROMAN						
BYZANTINE						
ROMANESQUE					NO	
GOTHIC						
RENAISSANCE						
BAROQUE						

PARAMETERS

BLENDING CURVES CORNERS



RYTHM

•RYTHM: RHYTHM IS THE REGULAR REPETITION OF ELEMENTS SUCH AS LINE, SHAPE AND FORMS TO CREATE INTEREST AND CONSISTENCY.



CONTRAST

•CONTRAST: CONTRAST IS THE DIFFERENCE BETWEEN ELEMENTS IN A COMPOSITION. THIS CAN HAPPEN THROUGH A VARIETY OF ELEMENTS SUCH AS VALUE CHANGE, SIZE DIFFERENCE, ETC.



EMPHASIS

•EMPHASIS: EMPHASIS IS THE CREATION OF A FOCAL POINT IN AN ARTWORK. EMPHASIS DRAWS THE VIEWER'S EYE TO PARTICULAR AREAS OF THE ARTWORK FIRST.



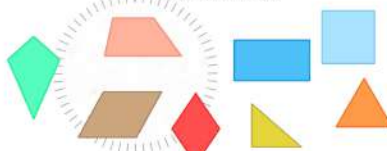
SPACE

•SPACE: IS USED TO CREATE THE ILLUSION OF DEPTH. SPACE CAN BE TWO-DIMENSIONAL, THREE-DIMENSIONAL, NEGATIVE AND/OR POSITIVE.



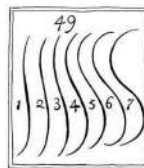
UNITY

•UNITY: UNITY MEANS THAT ALL ELEMENTS WITHIN THE ARTWORK ARE IN HARMONY. VARIETY WITHIN ELEMENTS ADDS INTEREST TO THE COMPOSITION.



SHAPE

•SHAPE: A FLAT, ENCLOSED AREA THAT HAS TWO DIMENSIONS, LENGTH AND WIDTH. ARTISTS USE BOTH GEOMETRIC AND ORGANIC SHAPES.



SERPENTINE LINE "LINE OF BEAUTY"

IT LEADS THE EYE IN A PLEASING MANNER ALONG THE CONTINUITY OF ITS VARIETY.

FORM EVOLUTION

The different geometrical forms and their impact

Circular form	Square form	Triangular form	Organic form
<ul style="list-style-type: none"> Elegance Calm and serene Mystery Slow paced Gathers people 	<ul style="list-style-type: none"> Discipline Strength Reliability Security Fast paced 	<ul style="list-style-type: none"> Risk Discomfort Danger Excitement Associated with motion and direction 	<ul style="list-style-type: none"> Originality Organic Refreshing and closer to nature Medium Paced

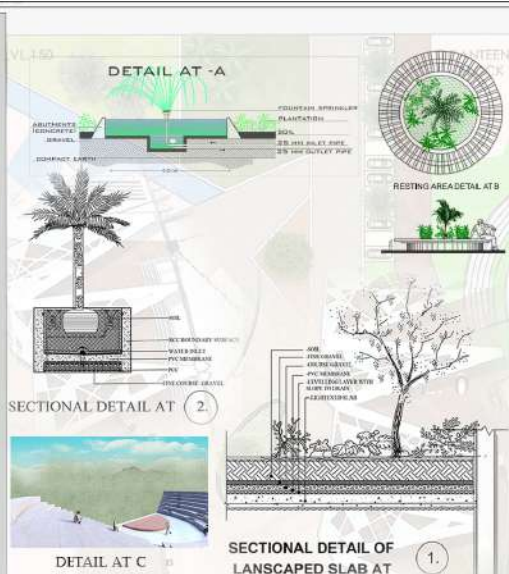
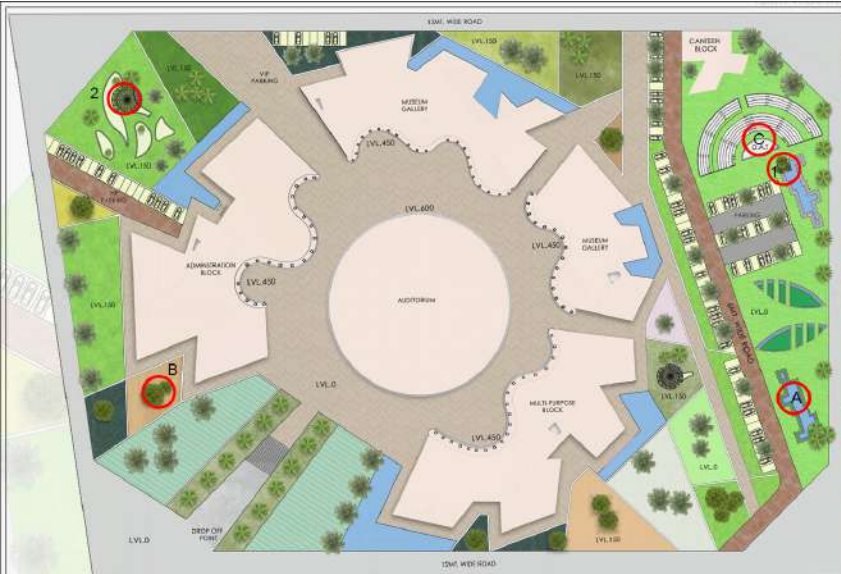
CREATING CONTRAST THROUGH FORMS AND SHAPES



CONCEPT



SUBMITTED BY: AANYA YADAV
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SEMESTER - 10TH
ARCHITECTURAL THESIS
BBDU LUCKNOW



Orientation

KEY PLAN

MUSEUM FOR ARTS AND ARCHITECTURE, GURUGRAM, HARYANA

LANDSCAPE PLAN

GUIDED BY-

PROF. MOHIT KUMAR AGARWAL

THESS BY- ANITA YADAV	TEACHER SIGNS
BARCH 5TH YEAR 5TH SEM	
SESSION 2023-24	
ARCHITECTURAL THESS	
U. ROLL NO.-1100101001	TEACHER REMARKS
SUBMISSION	
SCALE NTS	

<p>RAMDHAN CHAMPA</p> <p>BOTANICAL NAME <i>Ocotea chinensis</i></p> <p>TYPE DECIDUOUS-SMALL SIZED</p> <p>HEIGHT 1M - 2M</p> <p>COLOUR OF FLOWER YELLOW FLOWERS</p> <p>REMARK BRILLIANT FOLIAGE</p> <p>USAGE ORNAMENTAL TREE</p>	<p>MAULSHREE</p> <p>BOTANICAL NAME <i>Albizia schomburgkii</i></p> <p>TYPE EVERGREEN</p> <p>HEIGHT 15M - 20M</p> <p>SPREAD 15M - 20M</p> <p>FLOWERING SEASON FLOWERS APPEAR IN APRIL</p> <p>COLOUR OF FLOWER WHITE</p> <p>REMARK GROWS IN WIDE RANGE OF CLIMATIC CONDITIONS. POLLUTION RETARDANT</p> <p>USAGE IT IS USED AS A AVENUE TREES</p>	<p>CHADNI</p> <p>BOTANICAL NAME <i>Tabernaemontana divaricata</i></p> <p>TYPE EVERGREEN-SMALL SIZED</p> <p>HEIGHT 1.5M - 2M</p> <p>COLOUR OF FLOWER WHITE FLOWERS</p> <p>REMARK BRILLIANT FOLIAGE</p> <p>USAGE ORNAMENTAL TREE</p>	<p>FOOTSTOOL PALM</p> <p>BOTANICAL NAME <i>Livistona rotundifolia</i></p> <p>TYPE EVERGREEN-SMALL FAN PALM</p> <p>HEIGHT 1M - 2M</p> <p>COLOUR OF FLOWER SMALL YELLOW FLOWERS</p> <p>REMARK BRILLIANT FOLIAGE</p> <p>USAGE ORNAMENTAL TREE</p>	<p>GOLDEN DURENTA(HEDGES)</p> <p>BOTANICAL NAME <i>Duranta repens</i></p> <p>TYPE EVERGREEN-SMALL TO MED SIZED</p> <p>HEIGHT 1M - 2M</p> <p>COLOUR OF FLOWER BLUE FLOWERS</p> <p>REMARK BRILLIANT GOLDEN FOLIAGE</p> <p>USAGE ORNAMENTAL HEDGE TREE</p>
<p>SATPARI</p> <p>BOTANICAL NAME <i>Albizia schomburgkii</i></p> <p>TYPE EVERGREEN</p> <p>HEIGHT 15M - 20M</p> <p>SPREAD 15M - 20M</p> <p>FLOWERING SEASON FLOWERS APPEAR IN OCTOBER, AUGUST-DECEMBER</p> <p>COLOUR OF FLOWER WHITE</p> <p>REMARK GROWS IN WIDE RANGE OF CLIMATIC CONDITIONS. POLLUTION RETARDANT</p> <p>USAGE IT IS USED AS A AVENUE TREES</p>	<p>NEEM</p> <p>BOTANICAL NAME <i>Azadirachta indica</i></p> <p>TYPE DECIDUOUS</p> <p>HEIGHT 15M - 20M</p> <p>SPREAD 15M - 20M</p> <p>FLOWERING SEASON WHITE & PINKISH FLOWERS</p> <p>COLOUR OF FLOWER WHITE</p> <p>REMARK BROADSHED OR OVAL FOLIAGE. IT IS MAINLY A MEDICINAL TREE</p> <p>USAGE</p>	<p>GULMOHARI</p> <p>BOTANICAL NAME <i>Delonix regia</i></p> <p>TYPE FAST GROWING DECIDUOUS</p> <p>HEIGHT 15M - 20M</p> <p>SPREAD 15M - 20M</p> <p>FLOWERING SEASON FEB, MARCH - APRIL, MAY/SEP.</p> <p>COLOUR OF FLOWER RED, PURPLE, ORANGE</p> <p>REMARK FEATHERY LEAVES SLINDER TRUNK. IT IS MAINLY A FLOWERING ORNAMENTAL TREE</p> <p>USAGE</p>	<p>FLOSS SILK TREE</p> <p>BOTANICAL NAME <i>Coiba speciosa</i></p> <p>TYPE DECIDUOUS-SMALL TO MED SIZED</p> <p>HEIGHT 10M - 15M</p> <p>SPREAD 10M - 15M</p> <p>FLOWERING SEASON FLOWERS APPEAR THROUGHOUT YEAR</p> <p>COLOUR OF FLOWER PINK</p> <p>REMARK GROWS IN WIDE RANGE OF CLIMATIC CONDITIONS. IT CAN ALSO WITH STAND EXCESSIVE DROUGHT</p> <p>USAGE IT IS ONE OF THE MOST BEAUTIFUL TREES IN INDIA SO PLANTED IN PARKS IN CLUMPS & ALSO ALONG SMALL CITY ROADS</p>	<p>PERGOLA RB HUT COVERED WITH FIBER</p>
<p>KANJAR</p> <p>BOTANICAL NAME <i>Bauhinia purpurea</i></p> <p>TYPE EVERGREEN-SMALL SIZED</p> <p>HEIGHT 1M - 2M</p> <p>COLOUR OF FLOWER ROSE PINK FLOWERS</p> <p>REMARK BRILLIANT FOLIAGE</p> <p>USAGE ORNAMENTAL TREE</p>	<p>PEEPAL</p> <p>BOTANICAL NAME <i>Ficus religiosa</i></p> <p>TYPE DECIDUOUS</p> <p>HEIGHT 15M - 20M</p> <p>SPREAD 15M - 20M</p> <p>FLOWERING SEASON BROADSHED OR OVAL FOLIAGE. IT IS MAINLY A MEDICINAL TREE</p> <p>USAGE</p>	<p>ALLAMANDA DRAKENSFLOPA</p> <p>BOTANICAL NAME <i>Allamanda drakensflopia</i></p> <p>TYPE DECIDUOUS</p> <p>HEIGHT 15M - 20M</p> <p>SPREAD 15M - 20M</p> <p>FLOWERING SEASON BROADSHED OR OVAL FOLIAGE. IT IS MAINLY A MEDICINAL TREE</p> <p>USAGE</p>	<p>AMALTAS</p> <p>BOTANICAL NAME <i>Cassia fistula</i></p> <p>TYPE DECIDUOUS-SMALL TO MED SIZED</p> <p>HEIGHT 10M - 15M</p> <p>SPREAD 10M - 15M</p> <p>FLOWERING SEASON FLOWERS APPEAR THROUGHOUT YEAR</p> <p>COLOUR OF FLOWER YELLOW</p> <p>REMARK GROWS IN WIDE RANGE OF CLIMATIC CONDITIONS. IT CAN ALSO WITH STAND EXCESSIVE DROUGHT</p> <p>USAGE IT IS ONE OF THE MOST BEAUTIFUL TREES IN INDIA SO PLANTED IN PARKS IN CLUMPS & ALSO ALONG SMALL CITY ROADS</p>	



VIEW 1



VIEW 2



VIEW 3



VIEW 4



VIEW 5



VIEW 6



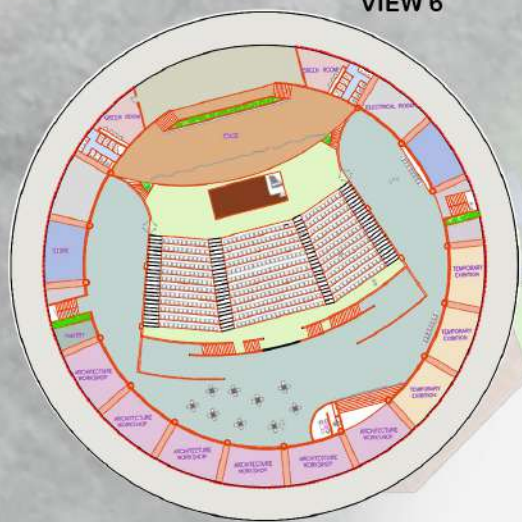
VIEW 7



AUDITORIUM BLOCK

AUDITORIUM BLOCK AREA - 2142 SQ.MT

SITTING AREA
GREEN ROOM 25 SQ.MT.
ELECTRICAL ROOM 25 SQ.MT.
SECURITY SERVICE 20 SQ.MT.
TECHNICAL ROOM 25 SQ.MT.
STORE - 25 SQ.MT.
ARCHITECTURAL WORKSHOP
AREA - 31 SQ.MT.
TEMPORARY WORKSHOP
AREA - 35 SQ.MT.



Orientation



KEY PLAN-



MUSEUM
FOR
ARTS
AND
ARCHITECTURE,
GURUGRAM,
HARYANA

GUIDED BY-

PROF. MOHIT KUMAR
AGARWAL

THESES BY-

ANANYA YADAV

BRANCH 5TH YEAR

10TH SEM

SESSION 2023-24

ARCHITECTURAL

THESES

U. ROLL NO. - 1180101001

SUBMISSION

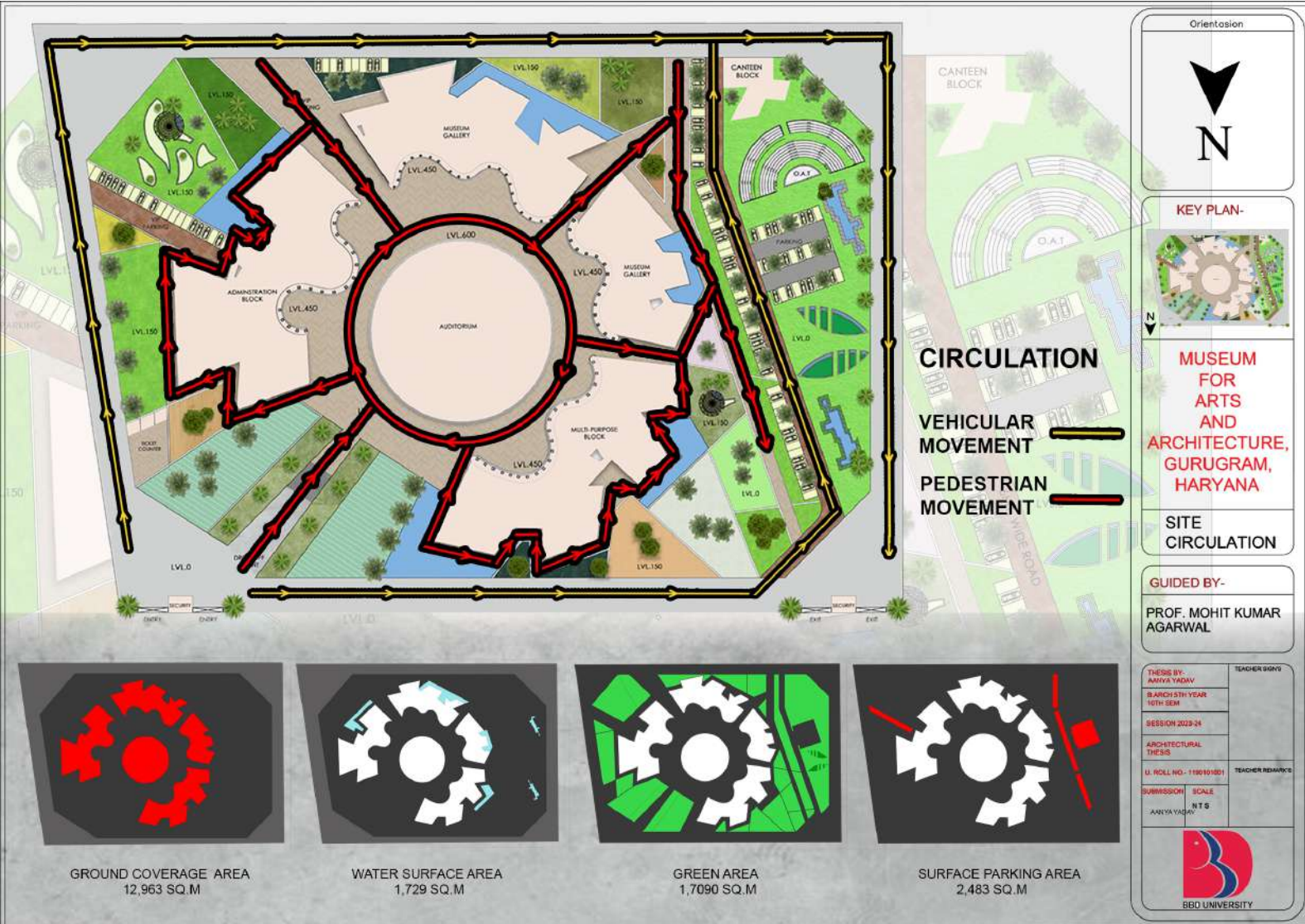
ANANYA YADAV

TEACHER SIGN

TEACHER REMARKS

SCALE

NTS



ADMIN BLOCK FLOOR PLANS

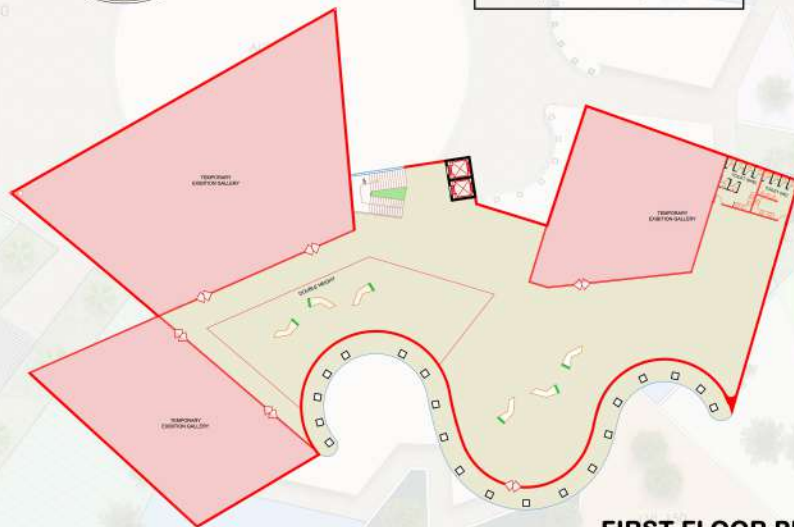


GROUND FLOOR AREA-2706SQ.MT.

ENTRANCE LOBBY
WAITING AREA
RECEPTION
MANAGER ROOM 60 SQ.MT
EXECUTIVE DIRECTOR ROOM 55 SQ.MT
ASSOCIATE DIRECTOR ROOM 55 SQ.MT
VIP LOUNGE 1655 Q.MT
MULTI PURPOSE HALLS 400 SQ.MT.
MEETING ROOM 120 SQ.MT.
CONFERENCE HALL 150 SQ.MT
STAFF AREA 30 SQ.MT
A.V ROOM 40 SQ.MT
MEDIA ROOM 40 SQ.MT
TECHNICAL ROOM 17 SQ.MT
SECURITY SUPPORT 10 SQ.MT.
PANTRY 11 SQ.MT.
STORE 10 SQ.MT.
STAFF TOILET (MALE/FEMALE)
TOILET (MALE/FEMALE) 50 SQ.MT

FIRST FLOOR AREA-2706SQ.MT.

TEMPORARY EXHIBITION HALLS
RESTING AREA
TOILET (MALE/FEMALE)



FIRST FLOOR PLAN



KEY PLAN-



MUSEUM
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GURUGRAM,
HARYANA

FLOOR PLAN

GUIDED BY-

PROF. MOHIT KUMAR
AGARWAL

THESIS BY-

ANANYA YADAV
BARCH 5TH YEAR
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1:200



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ARCHITECTURAL GALLERY BLOCK

GROUND FLOOR PLAN

GROUND FLOOR AREA-1310 SQ.MT.

ENTRANCE LOBBY
RESTING AREA
EXHIBIT GALLERIES
STAFF AREA 45 SQ.MT.
SECURITY SUPPORT 30 SQ.MT.
MONITOR ROOM 35 SQ.MT.
STORE ROOM 25 SQ.MT.
JANITOR 20 SQ.MT.
TOILET (MALE/FEMALE) 50 SQ.MT.

EXHIBIT GALLERIES
RESTING AREA



AUDITORIUM

1ST & 2ND TYPICAL FLOOR PLAN

FIRST FLOOR AREA-1310 SQ.MT.

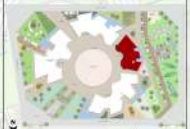
RESTING AREA
EXHIBITION GALLERIES
STORE 30 SQ.MT.
TOILET (MALE/FEMALE) 50 SQ.MT.

GALLERIES SHOWING ARCHITECTURAL SERVICES IN RAW FORM.

Orientation



KEY PLAN-



MUSEUM FOR ARTS AND ARCHITECTURE, GURUGRAM, HARYANA

FLOOR PLAN

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THESES BY-

AANYA YADAV

B ARCH 5TH YEAR 10TH SEM

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ARCHITECTURAL THESES

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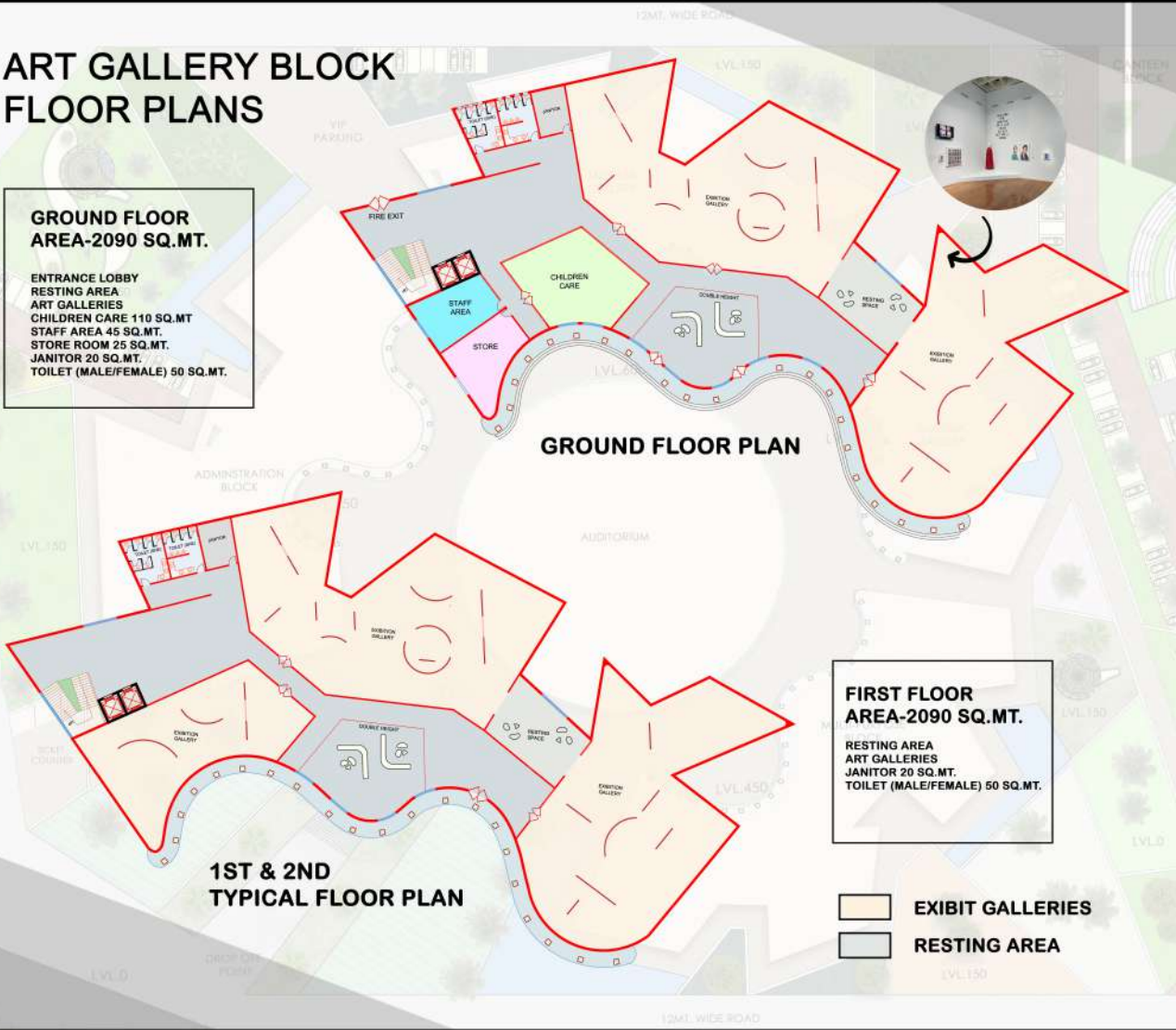


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ART GALLERY BLOCK FLOOR PLANS

**GROUND FLOOR
AREA-2090 SQ.MT.**

ENTRANCE LOBBY
RESTING AREA
ART GALLERIES
CHILDREN CARE 110 SQ.MT
STAFF AREA 45 SQ.MT.
STORE ROOM 25 SQ.MT.
JANITOR 20 SQ.MT.
TOILET (MALE/FEMALE) 50 SQ.MT.



Orientation

KEY PLAN

MUSEUM FOR ARTS AND ARCHITECTURE, GURUGRAM, HARYANA

FLOOR PLAN

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THESIS BY-	TEACHER SIGNS
ANANYA YADAV	
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ARCHITECTURAL THESIS	
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SUBMISSION	
SCALE	
1:200	

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MULTI PURPOSE BLOCK FLOOR PLANS

GROUND FLOOR PLAN

GROUND FLOOR AREA-2330SQ.MT.

ENTRANCE LOBBY
WAITING AREA
RECEPTION
ORGANIZERS OFFICE 40 SQ.MT
LECTURE HALL 368 SQ.MT.
WORKSHOP AREA (1) 235 SQ.MT.
WORKSHOP AREA(2) 335 SQ.MT.
CONFERENCE HALL 115 SQ.MT
SECURITY SUPPORT 20 SQ.MT
A.V ROOM 210 SQ.MT
TECHNICAL ROOM 17 SQ.MT
PANTRY 15 SQ.MT.
STORE 35 SQ.MT.
STAFF TOILET (MALE/FEMALE)
TOILET (MALE/FEMALE) 50 SQ.MT

FIRST FLOOR AREA-2270 SQ.MT.

LIBRARY 945 SQ.MT.
A.V ROOM 210 SQ.MT
ORGANIZERS OFFICE 40 SQ.MT.
STORE 35 SQ.MT.
PANTRY 15 SQ.MT
TOILET (HE/SHE) 50 SQ.MT

FIRST FLOOR PLAN

Orientation



KEY PLAN-



**MUSEUM
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AND
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FLOOR PLAN

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AGARWAL

THESES BY-

ANITA YADAV
BARCH 5TH YEAR
10TH SEM

SESSION 2023-24

ARCHITECTURAL
THESES

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SCALE
1:20

TEACHER SIGNS

TEACHER REMARKS



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