

**BHARAT RATNA DR. BHUPEN HAZARIKA
MUSEUM AT SRIMANTA SANKARDEVA
KALAKSHETRA, PANJABARI, GUWAHATI**



DESIGN BASIS REPORT

SUBMITTED BY



M/S. DESIGN ASSOCIATES INC.

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CHAPTER 1: INTRODUCTION

INTRODUCTION:

Bhupen Hazarika was one of the most celebrated artists of the 20th century hailing from Assam in the north-east of India. Dubbed as north-east India's uncrowned king of the musical world, he was instrumental in highlighting Assam's rich folk heritage. A museum is being proposed in honour of the famous artist to create an educational and enjoyable experience among people depicting the life and times of Bhupen Hazarika.

The museum will contain certain artefacts specific to the artists along with interactive shows and panels which will celebrate the famous musician. The museum will help visitors get acquainted with the life and the many talents of the Bharat Ratna winner. It will fulfil the cultural, educational and entertainment values by promoting the rich folk heritage of the state of Assam.

A schematic concept of museum is hereby proposed showcasing the various aspects of the great icon's personal life and musical journey. These include:

1. Awards & felicitations
2. Journey through photographic displays
3. Display of personal belongings
4. Display of coffin & ashes
5. His books & writings.

Apart from these, there shall be dedicated displays for dioramas (recreating the spaces like Dr. Hazarika's living room, music rooms etc.)

The museum would also tend to enhance the visitor's experience through a virtual recreation & reliving of Dr. Hazarika in a 360 degree hologram theatre.

The museum would also pay homage to the other unsung artists of Assam & Bollywood through a dedicated section wherein the visitors would be able to experience hands on music of these artists through audio stands etc.

STATE ASSAM

Assam is a state in northeastern India, south of the eastern Himalayas along the Brahmaputra and Barak River valleys. Assam covers an area of 78,438 km² (30,285 sq. MT). It is the second largest state in northeastern India by area and the largest in terms of population. The state has 35 districts with 5 divisions. Guwahati (containing the state capital Dispur) is the largest city in northeastern India.

Urban centres include Guwahati, one of the 100 fastest growing cities in the world. Guwahati is also referred to as the "Gateway to the North-East India". Silchar, (in the Barak valley) is the second most populous city in Assam and an important centre of business. Other large cities include Dibrugarh, an oil and natural gas industry centre.

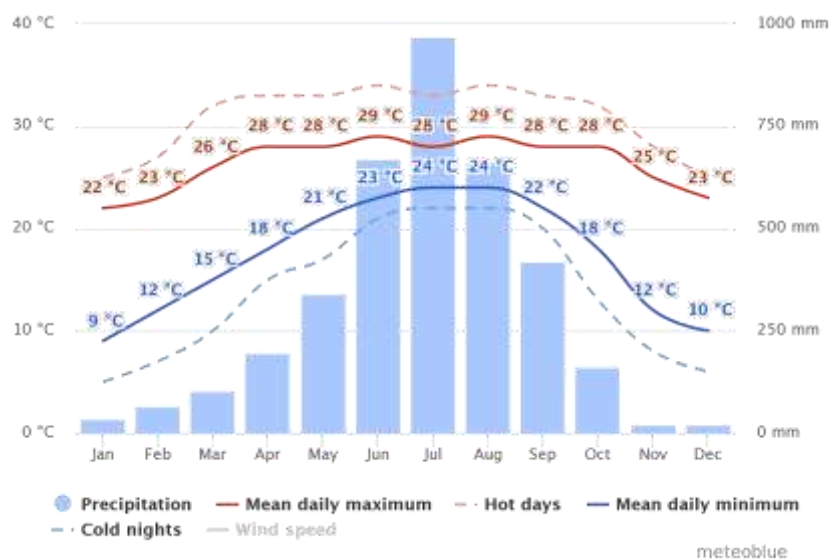
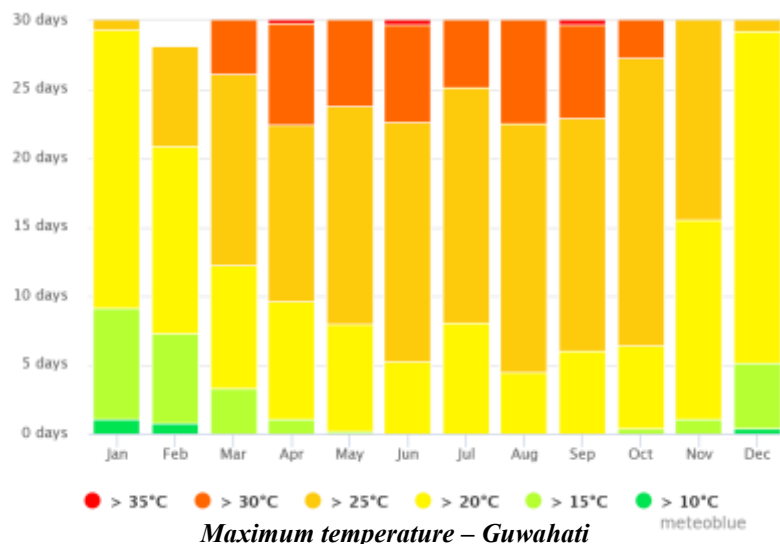
GUWAHATI

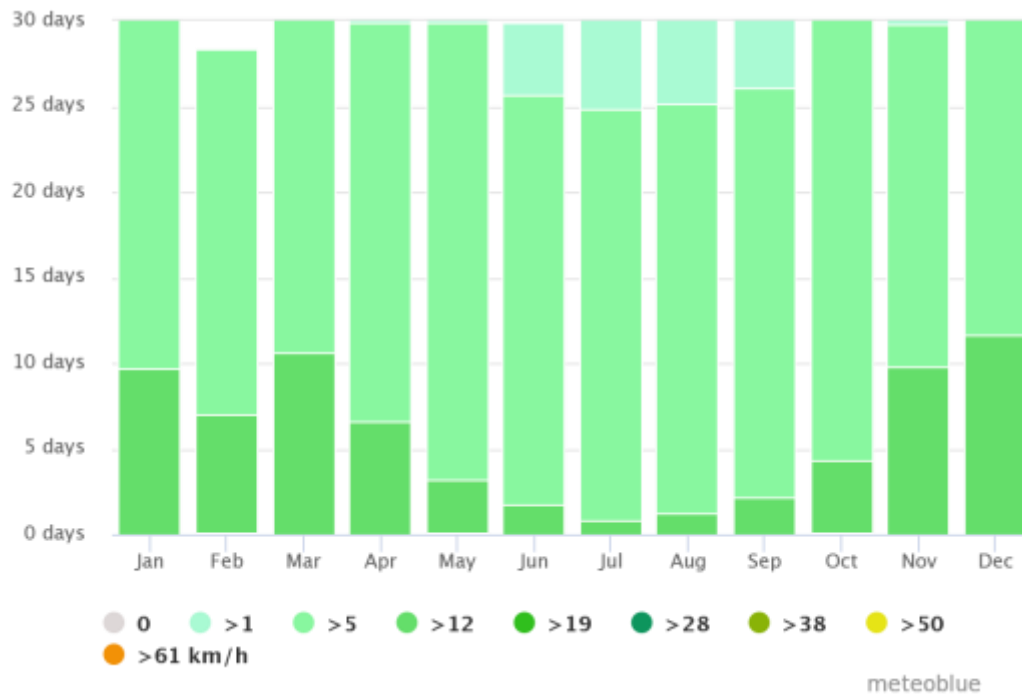
Guwahati is the largest city of the Indian state of Assam and the largest metropolis in northeastern India. Its airport is the 12th busiest in India, the Lok Priya Gopinath Bordoloi International Airport.

A major riverine port city along with hills, and one of the fastest growing cities in India, Guwahati is situated on the south bank of the Brahmaputra. The city has a comparatively high quality of life. A 2006 survey ranked Guwahati 17th among all the large and medium-sized Indian cities. The city provides competitive residential and working environments with beautiful landscapes, pleasant climate, modern shopping areas, modern apartments, and bungalows, and considerably developed social infrastructure.

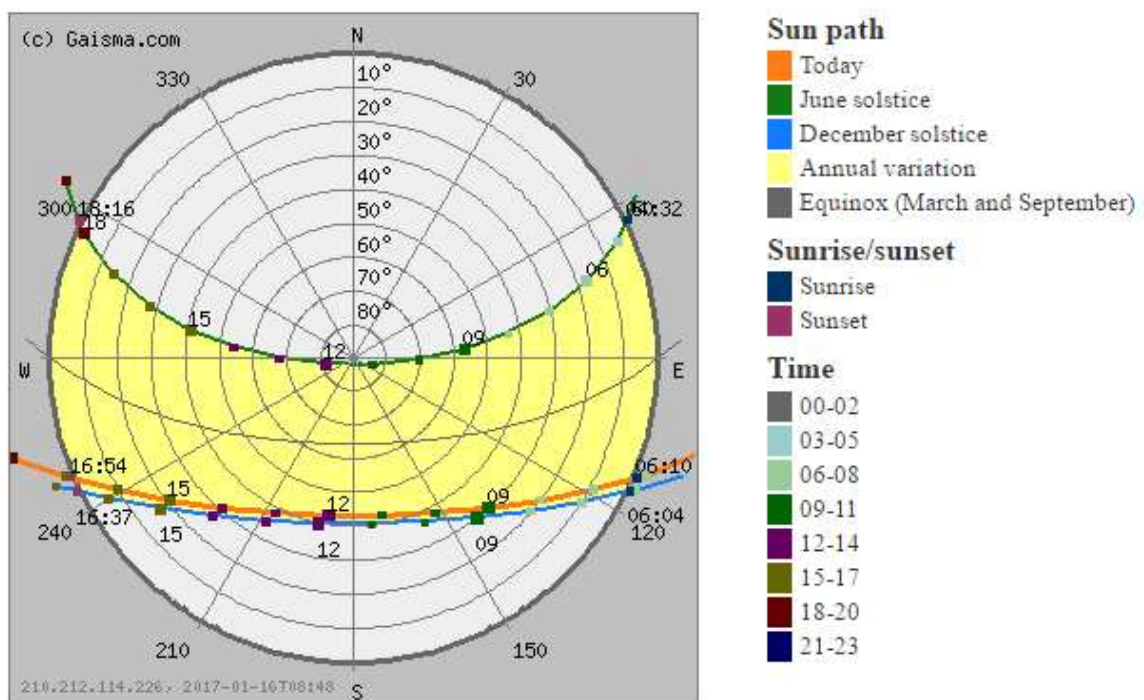
CLIMATE

Guwahati has a humid subtropical climate. With the tropical monsoon climate, Guwahati is temperate (summer max. at 35–38 °C and winter min. at 6–8 °C) and experiences heavy rainfall and high humidity.





Wind speed – Guwahati



Sun path diagram

CHAPTER 2: ARCHITECTURE AND **DESIGN BASIS REPORT**

PROJECT BACKGROUND:

A Museum of Dr. Bhupen Hazarika was established by the Srimanta Sankaradeva Kalakshetra Society in the year 1988 at Guwahati, Assam to preserve & showcase the various objects associated with the life and works of the legendary music icon Dr. Bhupen Hazarika. This proposal envisages to redevelop the Museum of Dr. Bhupen Hazarika. The proposed site is located at Guwahati and is spread over 3.26 Bigha of land

THE EXISTING CAMPUS:

The Sangeet Natak Sahitya Academy Campus is spread over 73bighas land

- This museum is located in the culturally rich complex of Sangeet Natak Akademi North-East Centre, Guwahati, which also houses other prominent blocks like Purbhajyoti Museum, Lalit Kala Bhawan, Bakori Manch,Usha Bhawan, etc.
- The Regional office of Sangeet Natak Akademi – Sangeet Natak Akademi North-East Centre was set-up in the year 2008 at Shillong, Meghalaya, which was later shifted to Guwahati, Assam in October 2011

This clean and well maintained campus greatly enhances the cultural identity of the state.

SITE LOCATION

Location: Srimanta Sankaradeva Kalakshetra, Panjabari Rd, Batahguli, Guwahati, Assam

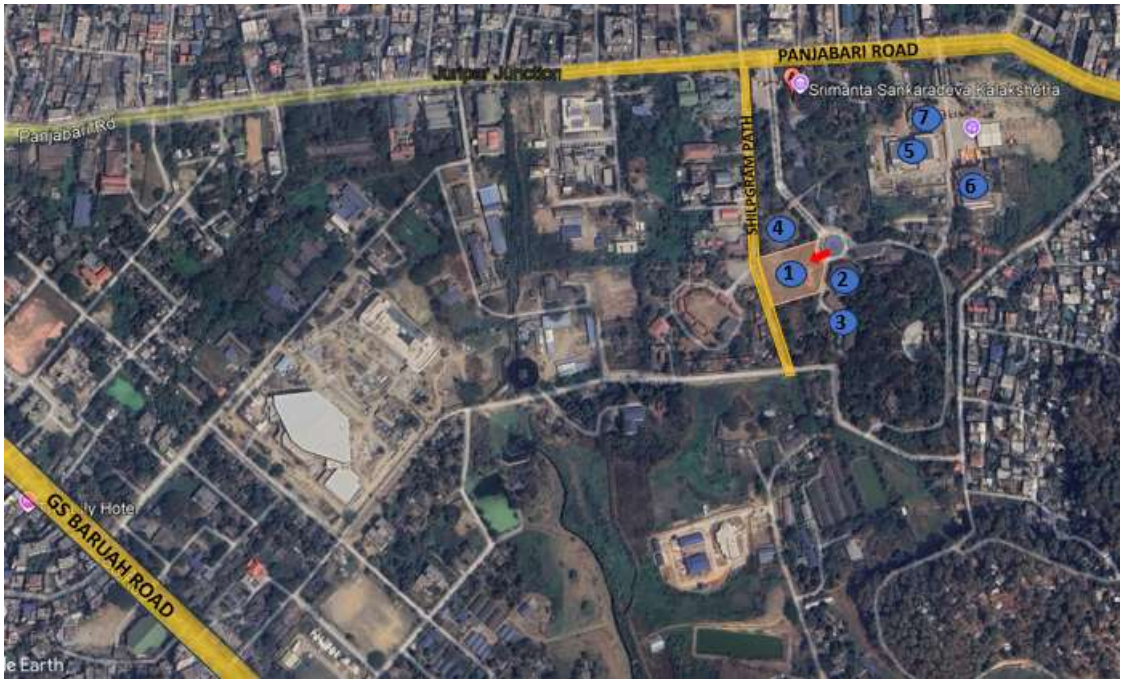
Latitude: 26°11'28.57"N: Longitude: 91°45'0.71"E

Landmarks: Indian Council For Cultural Relations Guwahati



Location map of Guwahati

SITE SURROUNDINGS



LEGEND:

- 1. PROPOSED BHUPEN HAZARIKA MUSEUM SITE
- 2. PURBAJYOTI MUSEUM
- 3. LALIT KALA BHAWAN
- 4. RANG GHOR BAKORI
- 5. 800 SEATER AUDITORIUM
- 6. 1250 SEATER AUDITORIUM
- 7. 300 SEATER AUDITORIUM

TOTAL BUILT UP AREA= 2860.25 SQM

TOTAL SITE (Development) AREA = 4562 SQM
(Approx. 1.8 BIGHA)

THE SITE



EXISTING SITE PICTURES



PROJECT OBJECTIVE:

- To create a built form that interweaves two musical facets of Assam, dr. Bhupen Hazarika and Khol (a traditional percussion instrument of assam)
- Create a museum which is Representative of the 100 years of Assamese Music and will not only showcase the musical journey and achievements of Dr. Bhupen Hazarika but also will go beyond and facilitate the contributions of other known as well as unsung artists of Assamese music.
- All the above-mentioned musical aspects will be represented through Visual and Interactive galleries providing users with the hands-on experience of Vibrance of Assamese Music.
- A Self Sustainable Place Having Multiple Options of Annual Revenue Generation in form of Restaurants, Handicrafts Shops, Souvenirs which will not only help in covering Operation & Maintenance Costs but also allow the visitors to take home memories of Assamese music.
- The look and feel of the place shall be such that the Assamese music journey vibrates right from the exteriors to the interior spaces.

KEY PROJECTCOMPONENTS:

- Entrance wall design with Padma Shree display
- Still photographs (depicting dr. Hazarika's childhood and early works)
- Medals/ awards
- Journey of Dr Bhupen Hazarika (still photographic)
- Audio stations (hands on experience of Assamese music)
- Gramophone (hands on experience of Assamese music)
- Digital bioscope (hands on experience of Assamese music)
- 1:1 scale diorama exhibits depicting Dr Bhupen Hazarika's personal belongings
- Multipurpose theatre with hologram display (depiction of Hazarika's and Assamese music's journey through 3d imagery)
- Unsung artists of Assamese music
- 100 years journey of Assamese music
- Artifacts depicting Assamese Music
- Cafeteria

CONCEPT: FORM DEVELOPMENT

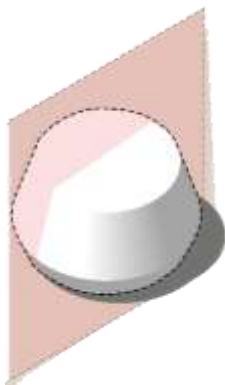
The built form interweaves two musical facets of assam Dr. Bhupen Hazarika ji and Khol (a traditional percussion instrument of assam)



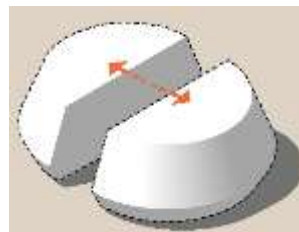
The form is influenced by the prominent instrument of assam, the khol



The voice of assam, Dr bhupen hazarika



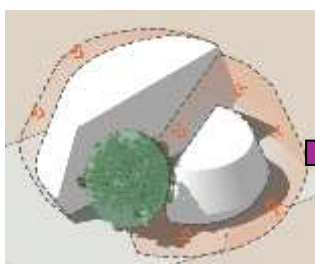
Khol forms the basis of initiation for the built mass



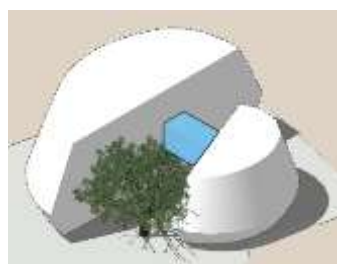
Breathing space is created by slicing the mass into two parts



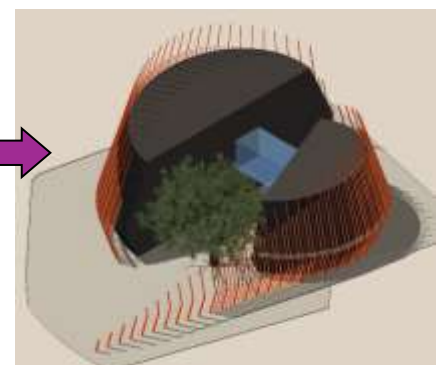
The sliced mass is rotated to integrate the contextual large-scale tree.



Integrating the mass with existing large-scale tree and surroundings, results in shrinking of blocks



Introduction of central glass bridge working as the transition space between the two blocks



Façade treatment and material application resembling to that of a Khol

PROJECT DESCRIPTION:

The materials/stones to be used are granite (leather finish), Conor stone, textured paint, hollow box sections (treated to give vernacular finish resembling Khol) etc.

(I) BUILDING WORKS

1. Bhupen Hazarika Exhibition Gallery: the existing museum shall be rebuilt, and new dimensions shall be added to the complex by commemorating various objects like awards and honors received by late Dr. Hazarika, some of the objects like musical instruments, furniture, dresses, etc. used by music icon, important photographs, books that are the testimony of the immense contributions and accomplishments of Dr. Hazarika. A series of interactive exhibits spread over 4 floors navigated by means of a State-of-the-art Audio Guide System underly the basic concept for the Museum where various key events of the Hazarika's musical journey shall be depicted.
2. Other Artist's Gallery: An additional gallery is added to signify the contributions of various other artists of Assamese music. The technology of individual gramophones and digital bioscopes is also introduced to make the user experience more interactive and to make them understand the individuality of different artists by listening to their original music.
3. Multipurpose Theatre with Hologram Display: a mini auditorium with an approximate capacity of 75 people at once is to be built with a multipurpose stage that can be used for cinematic projection, hologram projection, live performances, hyper-realistic model animation. It will be used to display the 100-year long journey of Assamese music with certain details of Hazarika's influence on it and on the world of Indian Music Industry.
4. Restaurant/Cafeteria: the restaurant/ cafeteria will serve as the ending to the whole experience of the museum. With a capacity of approximately 100 people at once including indoor and outdoor spaces shaded by the existing tree at the site.
5. Souvenir Shops/ Artifacts: these spaces will allow the visitors to take home memories of Assamese music.
6. Administration: A separate space for the officials organizing and maintaining the museum is also provided with a storage space for the artifacts and exhibits.

(II) EXTERNAL CIVIL DEVELOPMENT:

The development of the Park shall include. The landscape scheme shall compliment to the overall design. the plaza space created between the block shall act as interaction space carrying the feel of museum to the outdoor spaces. This will be enhanced through:

- Earth bump
- Central plaza
- Street lighting and furniture
- Statue
- Sculptures

In addition, this component includes the relevant site development works, external electrical, plumbing, firefighting works.

(III) SPECIALISED MISCELENIIOUS WORKS

This shall be funded by the State Government and includes the following:

1. Exhibit Design

These shall include all the components required to create an audio visual connect with the visitors like, gramophone, digital bioscope, suspended displays, etc.

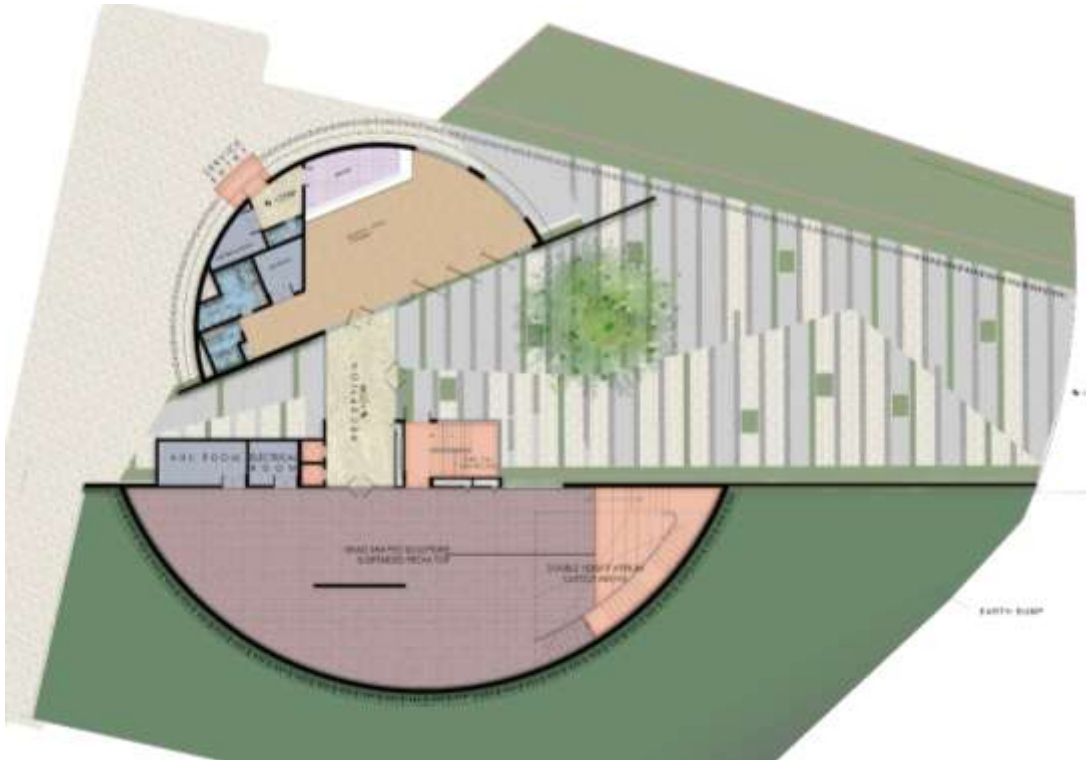
2. Façade Lighting:

This shall be important element of museum design and defines the first look and feel of the place which is further carried inside. These shall include various specialized light fixtures.

CHAPTER 3: PLANS - SECTION

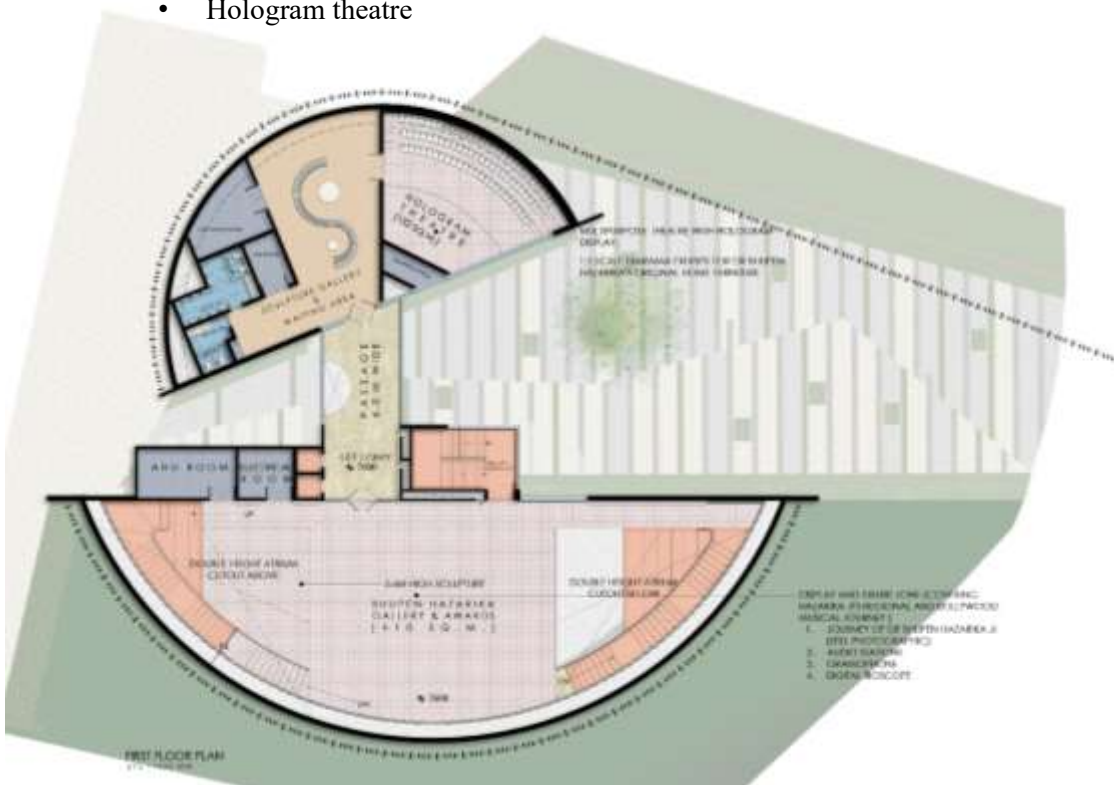
GROUND FLOOR PLAN: FACILITIES PROPOSED

- Gallery space (dedicated to dr. Hazarika)
- Cafeteria



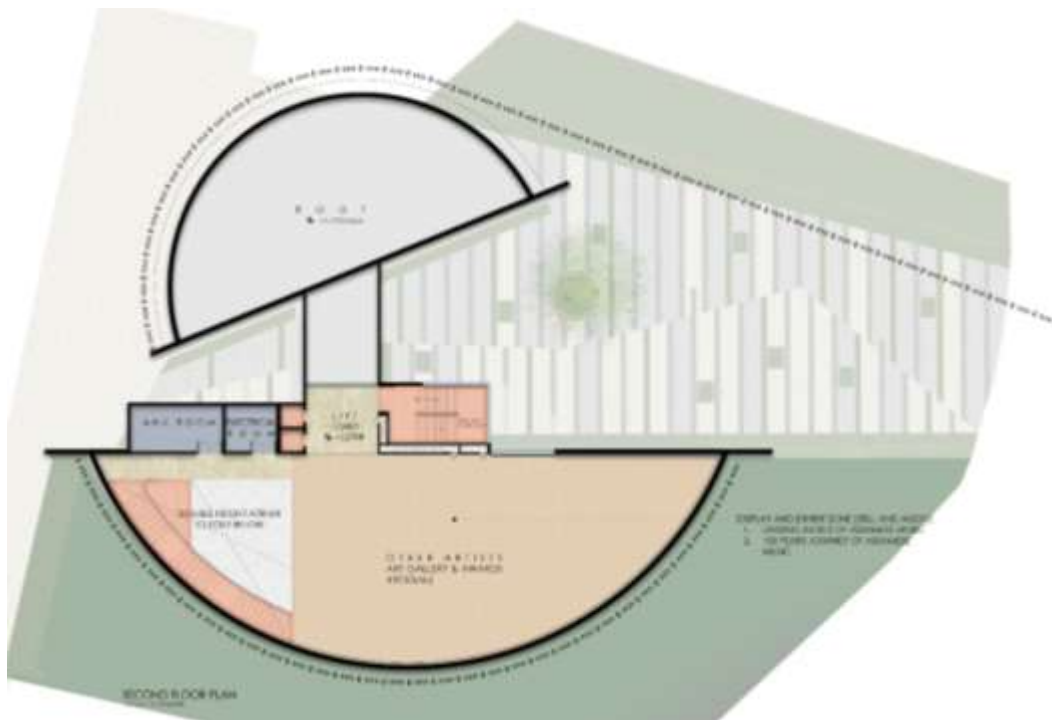
FIRST FLOOR PLAN: FACILITIES PROPOSED

- Gallery space (dedicated to dr.hazarika)
- Sculpture gallery and waiting area
- Hologram theatre



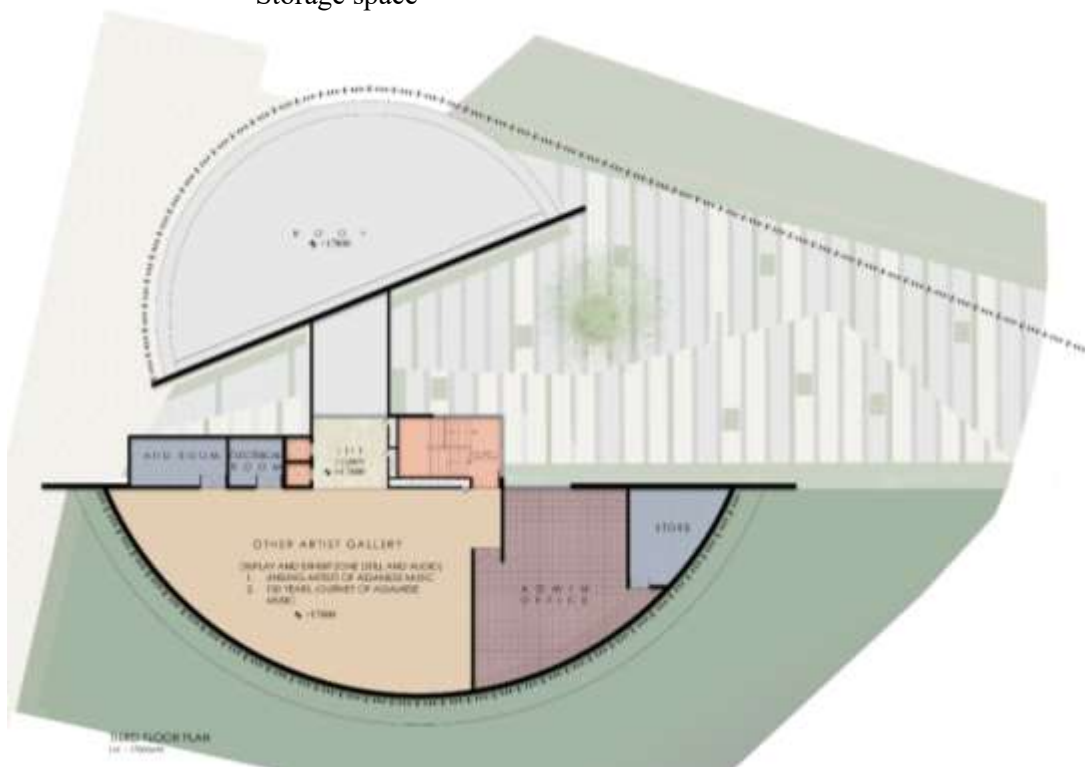
SECOND FLOOR: FACILITIES PROPOSED

- Gallery space (dedicated to unsung artists of assam)

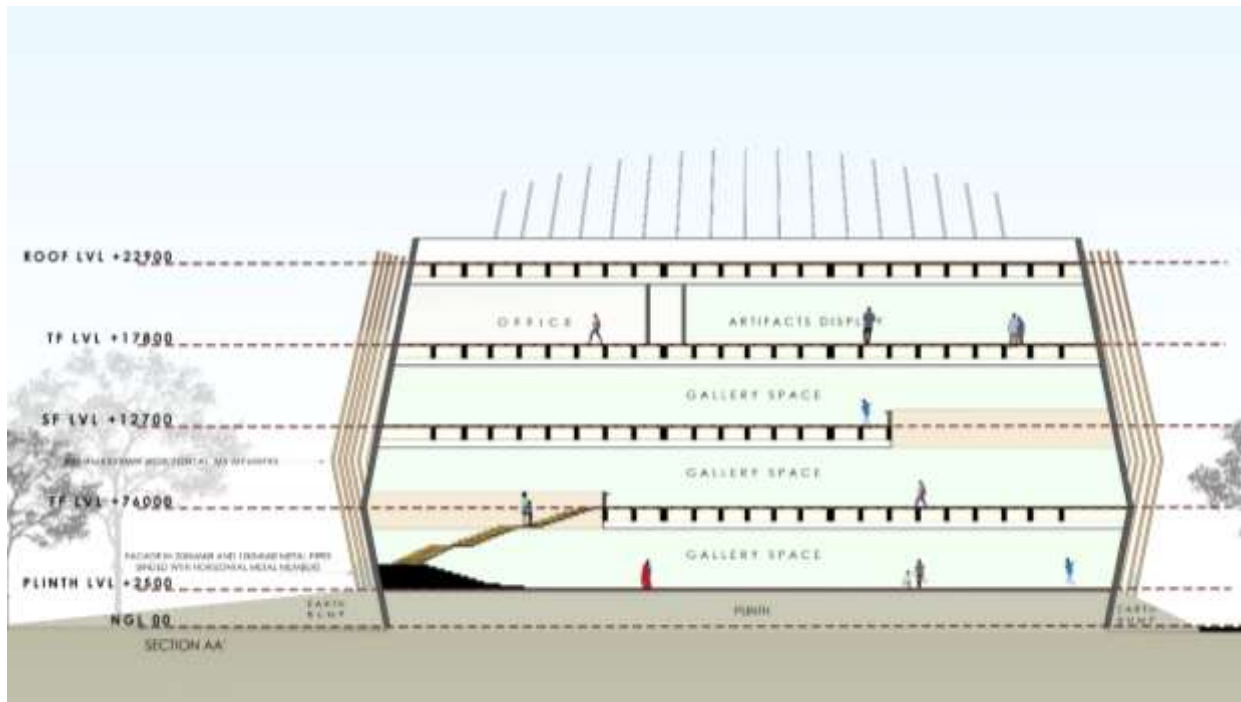


THIRD FLOOR PLAN: FACILITIES PROPOSED

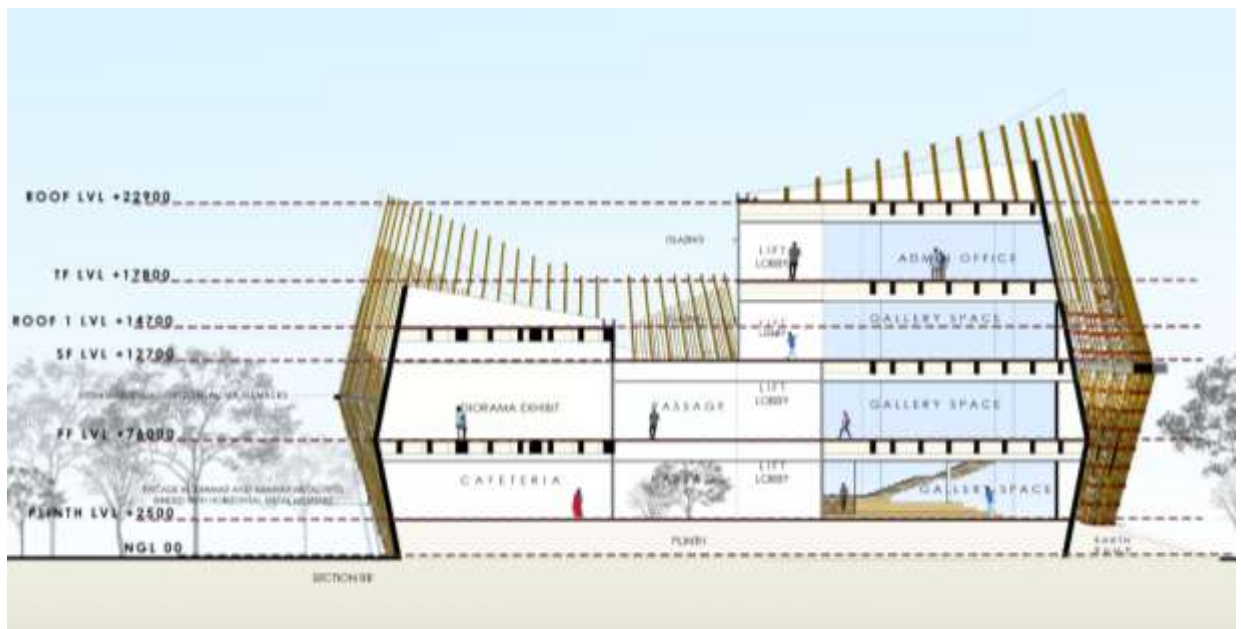
- Gallery space
- Admin office
- Storage space



SECTION A-A



SECTION B-B

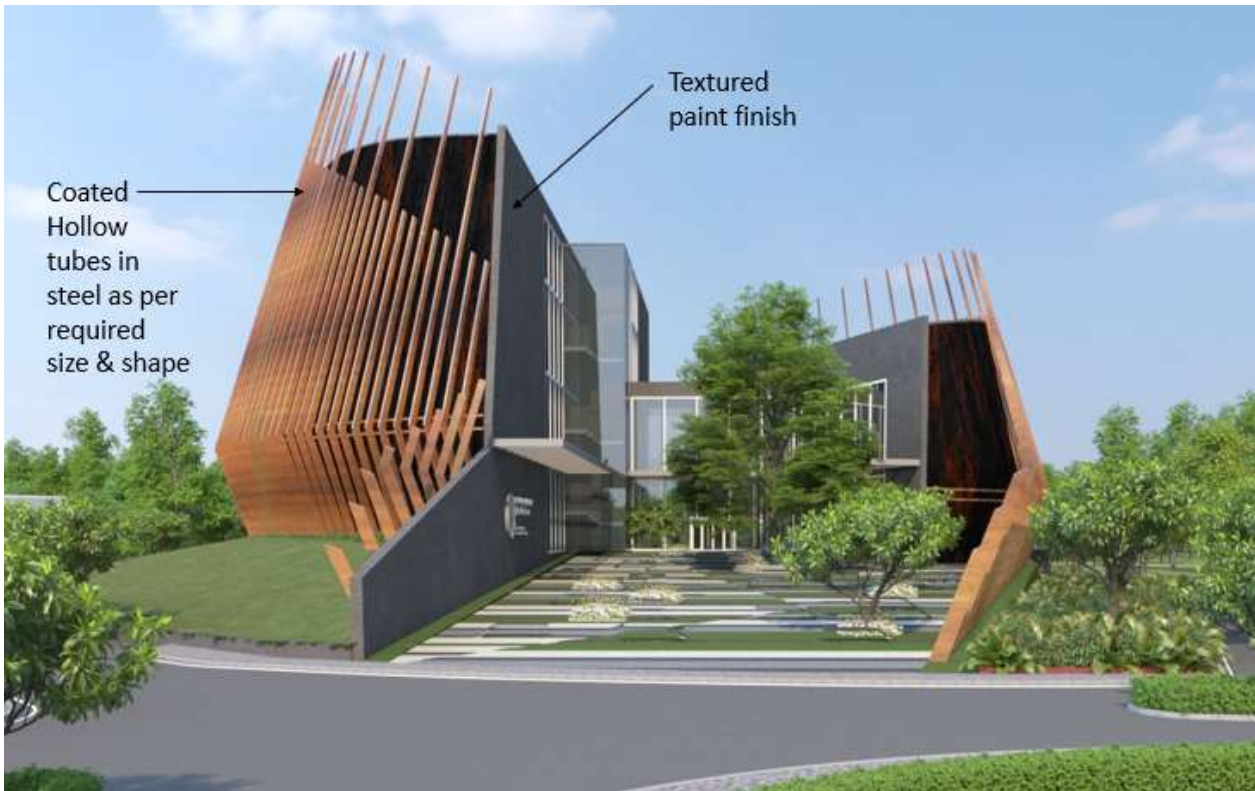


AREA DETAILS

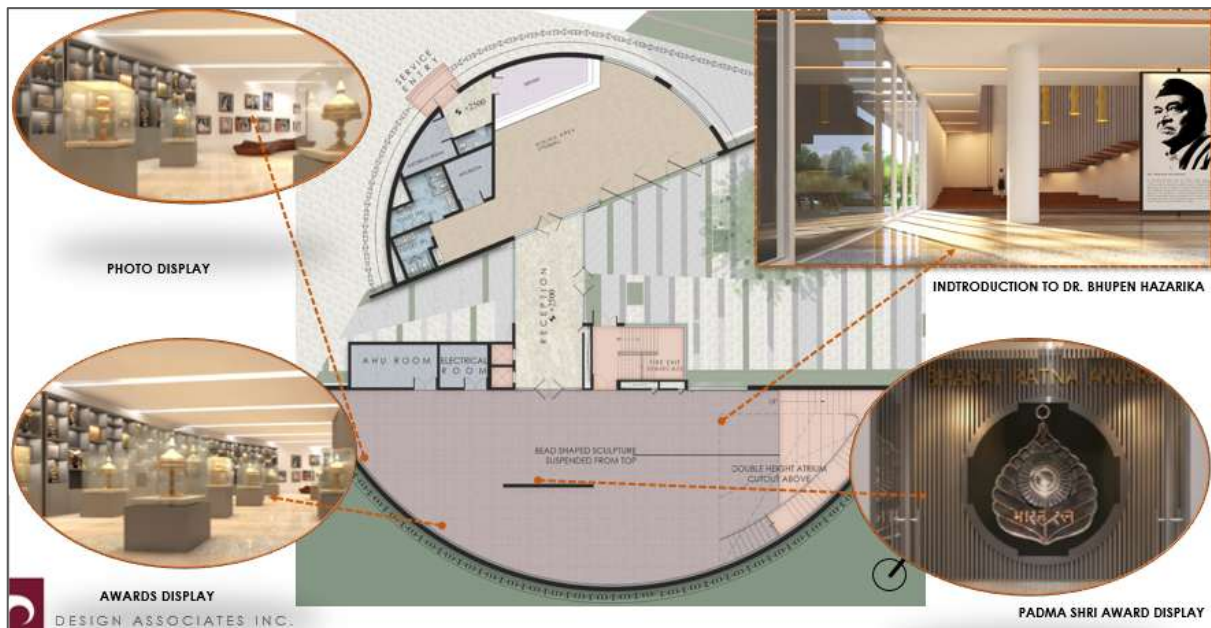
BHARAT RATAN DR. BHUPEN HAZARIKA MUSEUM AT GUWAHATI, ASSAM		
AREA SHEETS (IN SQUARE METER)		
Description	MUSEUM BLOCK	
No. Of Floors	G+3	
GROUND FLOOR	916.43	Sqm
FIRST FLOOR	973.18	Sqm
SECOND FLOOR	516.39	Sqm
THIRD FLOOR	419.38	Sqm
GRAND TOTAL	2858.38	Sqm
SITE DEVELOPMENT AREA (PATHWAY & HORTICULTURE)	3400.00	Sqm
EARTH BUMP AREA	1162.00	Sqm
ACTUAL DEVELOPMENT AREA	4562.00	Sqm
Ground Floor Height	5.00	Metre
First Floor Height	5.00	Metre
Second Floor Height	5.00	Metre
Third Floor Height	4.50	Metre
Plinth Height	2.50	Metre

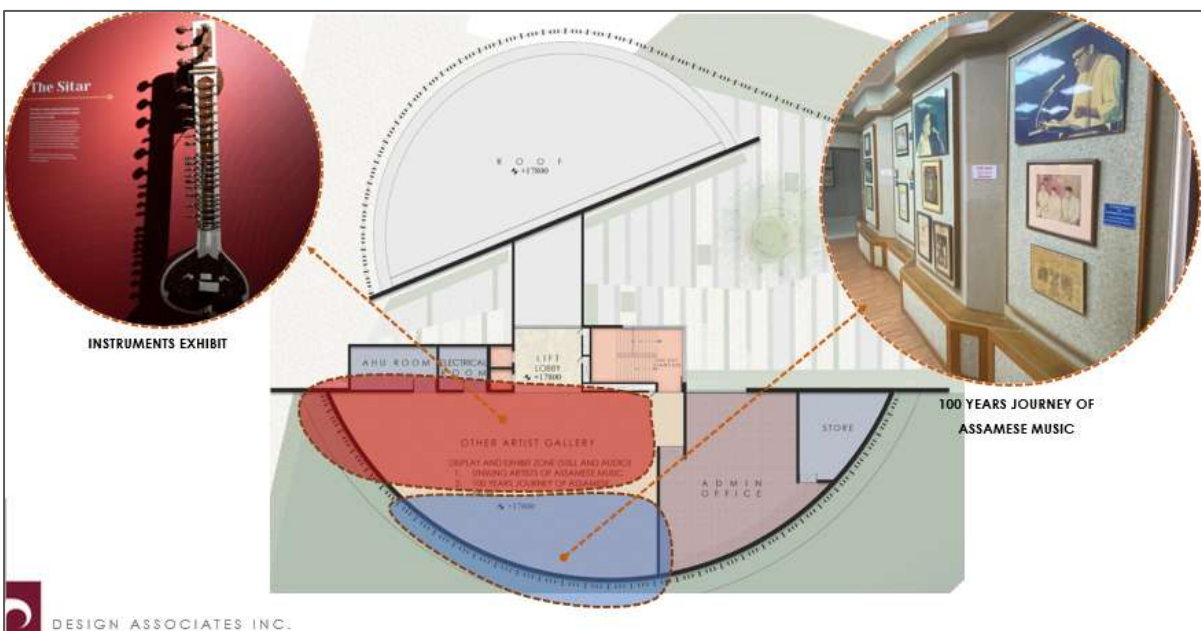
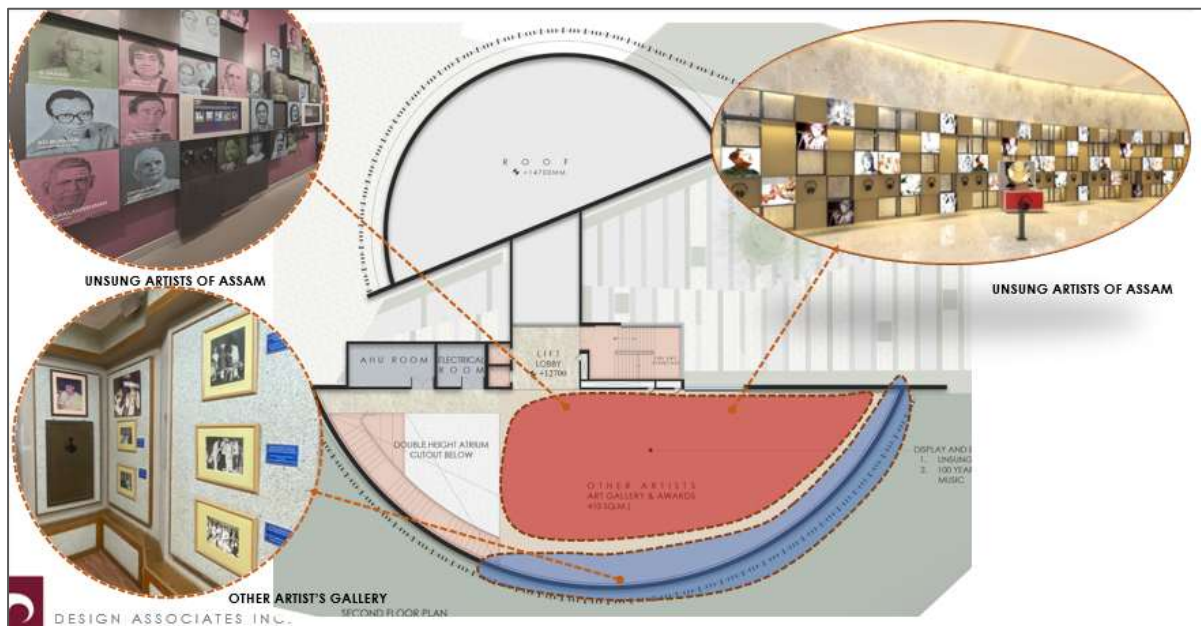
CHAPTER 4: VIEWS AND FINISHES

EXTERIOR VIEWS



INTERIOR VIEWS







CONSTRUCTION OF BHARAT RATNA DR. BHUPEN HAZARIKA MUSEUM AT SRIMANTA SANKARDEVA KALAKSHETRA, PANJABARI, GUWAHATI

BRIEF SPECIFICATIONS OF ITEMS

1. EARTH WORK:

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge for all kinds of soil.

Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.

Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.

2. CONCRETE WORKS:

Providing and laying in position ready mixed or site batched design mix cement concrete for plain cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana/Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering and finishing as per direction of the engineer-in-charge; for the following grades of concrete.

Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the minimum specified cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.

All works upto plinth level : Concrete of M10 grade with minimum cement content of 220 kg /cum.

Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion)

Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand) to match the existing floor: With Chlorpyrifos/Lindane E.C. 20% with 1% concentration.

Supplying chemical emulsion in sealed containers including delivery as specified. Chlorpyrifos/ Lindane emulsifiable concentrate of 20%.

3. REINFORCED CEMENT CONCRETE WORKS:

Providing and laying in position ready mixed or site batched design mix concrete for reinforced cement concrete work, using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland / Portland slag cement , admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, to improve durability and workability without impairing strength;' including pumping of concrete to site of laying, curing, carriage for all leads, but excluding the cost of centering, shuttering , finishing and reinforcement as per direction of the engineer-in-charge for the following grade of concrete.

Note : Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately.

In case the cement content in design mix is more than 110% of the specified minimum cement content , the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.

Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete from foundation to roof level with thermo-Mechanically Treated bars of grade Fe-500D or more.

4. BRICK WORK/BLOCK WORK:

Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge.

5. MARBLE & GRANITE WORK:

Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.

Granite of any colour and shade.

6. DOORS:

Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters. 35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws. Lipping to be provided with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters.

Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge.

7. WOOD WORK:

Polishing in high gloss/matt finish melamine clear polish on wood work in required color/wooden shade texture with following process in the sequence as detailed below:

1. The surface to be polished is rubbed with sand paper 80/120 no. and then with sand paper of 160/180 nos.
2. Applying two coats of sealer with spray gun and allowing sufficient drying time for 1st coat and 2nd coat is allowed to dry for 8 to 12 hrs.
3. On drying of sealer coat, wet rubbing with emery cloth of finer grading with ample water to remove excess sealer layer and make the surface further smooth after this wet rubbing, then surface is applied with special grade melamine fillers to fill all the small and big holes/grooves etc. Filler coat to be allowed to dry for 4 to 6 hrs on which again a light wet rubbing is done this surface is further allowed to dry for 12 hrs.
4. On this, 1st coat of melamine polish is applied with spray gun using melamine clear polish and melamine thinner in required proportion. This 1st coat is allowed to dry for 24 hrs then this dry surface is again fine wet rubbed smooth, which is further allowed to dry for 12 hrs. The final melamine polish is applied with compressor pressure spray gun using melamine clear polish and melamine thinner mixed in required proportion complete as per direction of Engineer-in-Charge. (Final coat to be done in 1 or 2 layers without gap of time.)

8. WINDOWS:

Providing and fixing factory made uPVC white colour fixed glazed windows/ ventilators comprising of uPVC multi-chambered frame and mullion (where ever required) extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), , uPVC extruded glazing beads of appropriate dimension, EPDM gasket, G.I fasteners 100 x 8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealant shall be paid separately). Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made.

Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable.

Fixed window / ventilator made of (small series) frame 47 x 50 mm & mullion 47 x 68 mm both having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension. (Area upto 0.75 sqm.).

9. FIRE DOORS:

Providing and fixing fire resistant door frame of section 50 x 60 mm on horizontal side & 35 x 60 mm on vertical sides having built in rebate made out of 1.6 mm thick GI sheet (Zinc coating not less than 120gm/ m²) suitable for mounting 120 min Fire Rated Glazed Door Shutters. The frame shall be filled with Mineral wool Insulation having density min 96Kg/m³ . The frame will have a provision of G.I. Anchor fastners 14 nos (5 each on vertical style & 4 on horizontal style of size M10 x 80) suitable for fixing in the opening along with Factory made Template for SS Ball Bearing Hinges of Size 100x89x3mm for fixing of fire rated glazed shutter . The frame shall be finished with a approved fire resistant primer or Powder coating of not less than 30 micron in desired shade as per the directions of Engineer - in- charge .

Providing and fixing 60 mm thick glazed fire resistant door shutters of 120 min Fire Rating confirming to IS:3614 (Part II) or EN1634-1:1999, tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, top rail & side rail 60 mm x 60 mm wide and bottom rail of 110 mm x 60 mm made out of 1.6mm thick G.I. sheet (zinc coating not less than 120gm/m²) duly filled mineral wool insulation having density min 96 kg/ m³ and fixing with necessary stainless steel ball bearing hinges of size 100x89x3mm of approved make, including applying a coat of approved fire resistant primer or powder coating not less than 30 micron etc all complete as per direction of Engineer-in-charge.

Providing and fixing glazing in fire resistant door shutters, fixed panels & partitions etc., with G.I. beading made out of 1.6 mm thick G.I. sheet (zinc coating not less than 120 gm/m²) of size 20 x 33 mm screwed with M4 x 38 mm SS screws at distance 75 mm from the edges and 150 mm c/c , including applying a coat of approved fire resistant primer/ powder coating of not less than 30 micron on G.I. beading, & special ceramic tape of 5 x 20 mm size etc complete in all respect as per NBC 2016, IS 16231 (Part 3):2016 and as per direction of Engineer-incharge with glass of required thickness having 120 minutes of fire resistance both integrity & radiation control (EW120) and minimum 20 minutes of insulation (EI20). The manufacturer have to give test report/certification of fire glass and the glass should have the stamp showing the value of E, EW & EI. The glass shall be tested in approved NABL accredited lab or by any other accreditation body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IEC 17025 for testing and calibration scopes shall be eligible. The maximum glazing size shall not be more than 1100x2200 mm (w x h) or 2.42 sqm.

10. TOILET CUBICLES:

Providing and fixing Toilet Cubicle (of following standard dimension which includes 600 mm door size width) made of heat, bacteria, water, chemical, scratch, impact and anti bacterial resistant 12 mm thick solid compact laminate panels Finish of the compact laminate should be raw silk which include doors, pilasters and intermediate panels finished with approved texture/shade as per the detail drawing and as per IS 2046 (Indian Standard) and as per fire retardant BS-476/97 standard.

This also includes providing and fixing in position necessary hardware made out of Stainless Steel (Grade 316) as per manufacturer's specifications and EIC instructions like (1) Door Knob, (2) Gravity Hinges, (3) Thumb turn lockset indicators, (4) Coat hooks, (5) U-

Channels, (6) SS-Shoe Box Plate, (7) MS-Base Plate, (8) Rubber noise deafening tape, (9) Screws and wall Plugs.

11. RAILING:

Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge.

12. FLOORING:

- A. Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete. 40mm thick with 20mm nominal size stone aggregate.
- B. 25mm thick kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand).
- C. Providing and laying Vitrified tiles in floor with different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS : 15477, in average 6 mm thickness, including grouting of joints. Size of Tile 1000x1000 mm.
- D. Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only. Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily. Glazed Vitrified tiles Matt/Antiskid finish of size. Size of Tile 600 x 600 mm.
- E. Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Polished Granite stone slab of all colour and texture except Black, Cherry/Ruby Red.
- F. Providing and laying 18 mm thick leather finish black granite stone flooring in required design and patterns, in linear as well as curvilinear portions in building, footpath all

- complete as per the architectural drawings with over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.
- G. Grouting the joints of flooring tiles having joints of 3 mm width, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10 kg of hardener and 0.20 kg of resin per kg), including filling / grouting and finishing complete as per direction of Engineer-in-charge.
Size of Tile 600x600 mm.
 - H. 38 mm thick wood block flooring of first class teak wood laid over 25 mm thick leveling layer of cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 10 mm nominal size) to be paid separately, coated with a thin layer of hot bitumen penetration 80/25 (blown type) @ 2.45 kg per sqm, including fixing blocks in position after dipping in hot bitumen (blown type) up to half depth, planed, levelled smooth and finished complete.
 - I. Precast terrazzo tiles 22 mm thick with graded marble chips of size upto 12 mm, laid in floors, and landings, jointed with neat cement slurry mixed with pigment to match the shade of the tiles, including rubbing and polishing complete, on 20 mm thick bed of cement mortar 1:4 (1 cement:4 coarse sand) : Light shade pigment using white cement.
 - J. Providing and laying flocked textile floor covering of Nylon 6.6 face fiber or equivalent with 100% Nylon and completely waterproof resilient backing. The flooring should be Anti-static with thickness of 4.3 mm, and approximate weight of 1.8 k.g./sqm of roll form. The carpet should be completely stain resistant and of a density approx. 80 million fibers/sq.mtr (70 million fiber/sq.yd) in the width of 2 mtr .The floor covering should have Fire Test EN-13501, Appearance Retention Hexapod ISO 140-8, Friction Slip Resistance Test EN 14041 Class DS, SANITISED anti-microbial treatment, with resilient waterproof backing, anti allergic which is certified by British allergy foundation, with ten year replacement guarantee. The carpet should have permanent static control & should be fixed with powder coated aluminium angles as per detail. all complete and specified, Carpet colour, design and make as approved by architect and as directed by the Engineer-in-Charge.

13. WALL PANELLING/CLADDING:

- A. Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 1000x1000 mm.
- B. Precast terrazzo tiles 22 mm thick with graded marble chips of sizes upto 12 mm, in skirting and risers of steps not exceeding 30 cm in height, on 12 mm thick cement plaster 1:3 (1 cement : 3 coarse sand), jointed with neat cement slurry mixed with

pigment to match the shade of the tiles, including rubbing and polishing complete with tiles of : Light shade pigment using white cement.

- C. Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.
- D. Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.
- E. Providing & fixing in position Phenol bonded Bamboowood wall cladding at all height with planks of sizes 10mm thick, minimum 1800mm length and minimum 100 mm wide, in approved colour, texture and finish, having Performance Appraisal Certificate (PAC) issued by Building Materials & Technology Promotion Council (BMTPC), with necessary profiled edges fixed with 40mm SS screws 5 nos in each tile to frame work made of second class teak wood of size 20x15 mm in centre of each tile and bottom and top of work height, 40x15mm placed at ends of each tile. The cladding shall be laid over backlayment of 1.00 mm thick expanded polyethylene foam of density 40kg/cum in two layers, first layer on wall surface before fixing wooden frame and second layer on frame under cladding. The bamboowood planks shall have minimum density of 1000 Kg/cum & minimum Hardness 1000 Kgf. with Eco friendly UV coating, all complete as per direction of the Engineer in-charge.
- F. SITC of Acoustical wall Paneling using MDF customize grooves & laminated Boards 12 mm thick of size - 128 x 2440 mm as per acoustic design / Architects approval with final coat of wood varnish. Back frame made out of GI channel - Grid of 600x600 mm Stud 50mm ,Floor,parameter section and screws as required,wall lining to be filled with rockwool of thick 50 mm (48 kg/m³) density with black cloth supporting to be done from ground level up to 8 ft height.
- G. SITC of fabric wrapped acoustic wall panel Acoustical Fabric stretch paneling with 12mm x 28mm thk Acoustical Fabric UPVC grippers with 50mm x 35mm x .5mm stud & floor channel & section G.I. frame work of 600 x 600mm Center to Center(one side) & will be fixed to the wall with necessary fasteners & screws with Chicken wire mesh. The frame work center to be filled with woodwool board . (design as per clients choice) with back frame of pine wood frame. Various sizes to be fabricated as per final design. The fabric should be flame retardant in nature with polyester wadding inside of at least 25 mm thick.
- H. Providing and fixing of 6mm thick lacquer glass SGG Planilaque glass of approved color by architect/ Client with SGG Planifix silicon on perfectly leveled water proof non-conventional plywood (preferably marine plywood) of minimum 12mm thickness mounted on the RCC wall/any other structure. The SGG Planilaque lacquered glass to be of 6mm thick highly durable, humid resistance, poly urethane lacquer glass. The Planilaque glass should be manufactured by industrial curtain coating process. It should meet quality standards as per BS EN 1036 1999 & confirms to PERSOZ

hardness test of at least 220 oscillations. The substrate of the glass should conform to Standard BS EN 572 1995 parts 1 and 2: Glass in Building – Basic soda lime silicate glass products. Planilaque lacquered glass to be manufactured to right specifications, relating to consistency of color, opacity and homogeneity throughout production campaigns and also to the ageing properties, mechanical resistance, and resistance to humidity and to chemical agents of the lacquer. The color of the lacquer should remain stable when exposed to normal levels of ultra-violet light in interior applications.

14. EXTERNAL FINISHING.

- A. Providing and applying MARMARINO PASTE FINE : SMOOTH(70:30) :Approved Shade or equivalent approved make

Application Process/ Methodology

1. Sanding the existing Surface with Sand paper.
2. Marmorino Bond Primer applied with Roller and Brush. The purpose of water redispersal polymer and vinyl acrylic primer is to reduce the absorption of the surface & create bonding between both the materials & act as water proof agent.
3. Minor Repair check (As required) With Exterior grade Putty or black cement mixed with Masonry primer .
4. Sanding with sand paper
5. Priming on the repaired Surface.
6. Two coat of Marmorino (Paste Fine) in approved shade.& buffing with SS Steel Trowel.
7. One Coat Of Water Base Protection Coat (Ext) which act as anti-efflorescence & to avoid fading.

The product has anti fungal , breathes out trapped moisture, flexibility & elasticity, long shade life for the shades made of ignorance pigment, water repellent, VOC in permissible limit etc., all complete as per directions and approval of Engineer-in-charge.

- B. Painting of steel surface with PU paint metallic finish (Including Base Coat , Surfacer & PU Finish)of approved brand and manufacture of required colour to give an even shade Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.
- C. Providing & fixing galvanized low carbon wire, anealed wire Chicken mesh formed by twisting two adjacent wires at least four times, forming a hexagonal shaped strong honeycomb mesh structure on joints of RCC & Brick work before plastering, of required gauge (not less than 21 gauge)and size with nails etc. complete as specified in drawing and as per the Direction of Engineer-in-charge.

15. ALUMINIUM WORKS:

Providing and fixing aluminum work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS : 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of

gaps at junctions, at top, bottom and sides with required PVC/neoprene felt etc. Aluminum sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminum snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge.

16. STRUCTURAL GLAZING:

Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings, the aluminium quality as per grade 6063 T5 or T6 as per BS 1474, including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account).

The weight of aluminium extruded section shall be taken for purpose of payment.

Designing, fabricating, testing, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including:

(a) Structural analysis & design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must pass the proof test at 1.5 times design wind pressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)- cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation & drainage and protection against fire hazard including:

(b) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimensional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon separator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers.

(c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment, including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass.

(d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight.

(e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating principles of pressure equalization, providing

suitable gutter profiles at bottom (if required), making necessary holes of required sizes and of required numbers etc. complete.

This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid, installation of glazed units, T&P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc. as described above and as

specified. The item includes the cost of getting all the structural and functional design including shop drawings checked by a structural designer, dully approved by Engineer-in-charge. The item also includes the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working structural glazing as specified, cleaning and protection till the handing over of the building for occupation. In the end, the Contractor shall provide a water tight structural glazing having all the performance characteristics etc. all complete as required, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer- in-Charge.

Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-sealed 6-12- 6 mm insulated glass (double glazed) vision panel units of size and shape as required and specified, comprising of an outer heat strengthened float glass 6mm thick, of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade, an inner Heat strengthned clear float glass 6mm thick, spacer tube 12mm wide, dessicants, including primary seal and secondary seal (structural silicone sealant) etc. all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge. The IGUs shall be assembled in the factory/ workshop of the glass processor.

(Payment for fixing of IGU Panels in the curtain glazing is included in cost of item No.25.2)

For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.

(i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, + 12mm Airgap + 6mm Heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 3.0 to 3.3 W/ m2 degree K etc. The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.

Extra for openable side / top hung vision glass panels (IGUs) including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners, nuts, bolts, washers etc. all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer- in- Charge.

17. FALSE CEILING:

- A. Providing 10 mm thick plaster of Paris (gypsum anhydrous) ceiling up to a height of 5 m above floor level, over first class kail wood strips 25x6 mm with 10 mm gap in between and reinforced with rabbit wire mesh fixed to wooden frame.
- B. Providing and fixing of Harsons Green Aluminum perforated Post coated Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing wall angle of size 20x20 mm made of 0.4 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to center, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1200 mm c/c. Clip in profile main runner having height of 40 mm and width of 19 mm made of GI steel 0.5 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 1200 mm centers with help of suspension brackets & with L profile size of 24x24x0.40mm. Wherever the main C carrier and Clip in Profile have to join, C carrier and Clip in Profile connectors have to be used, fixing with clip in tiles into Clip in Profile with : Aluminum Metal Ceiling Clip in perforated Beveled edge global white color tiles of size 600x600 made out of 0.7 mm thick, The tile shall be fabricated from aluminium alloy AA 31005, The tiles shall be bevelled edge, and 20% perforation area with 1.8 mm dia holes The tiles shall have black tissue on back of side having 0.5 to 0.7 NRC value.and with Antimicrobial 60-micron powder coating activity using Test Based on MOD ISO 22196:2011. Powder coating test result should pass, Pencil hardness ASTM D3363-05, Scratch resistance ISO 1518-1/ SIS 83 91 17, Impact resistance ASTM D2794, Resistance to neutral salt spray ASTM B117, Resistance to humid atmospheres ISO 6270-2, Adhesion ISO 2409. Mode of Measurements: Measurements shall be wall to wall without deductions for Lights, diffusers, columns etc.
- C. Providing and fixing tiled false ceiling of approved materials of size 595x595 mm in true horizontal level suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 gsm/sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38mm made from 0.30mm thick (minimum) sheet, spaced at 1200mm center to center and cross "T" of size 24x25mm made of 0.30mm thick (minimum) sheet, 1200mm long spaced between main "T" at 600mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600mm and size 24x25mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600mm panel to form grids of 600x600mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, wherever, required, cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 x mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete at all heights as per specifications drawings and as directed by Engineer-in-charge.

18. ANTI TERMITE TREATMENT:

Anti-termite treatment shall be got done through approved specialized agencies only with prior approval of the Engineer-in-charge or his representative. During the execution of work, if any damage shall occur to the treatment already done, either due to rain or any other circumstances, the same shall be rectified and made good to the entire satisfaction of the HITES or his representative by the contractor at his costs and risks.

The contractor shall submit a guarantee bond for the anti-termite work executed under the contract in the specified format.