

THESIS REPORT ON CONVENTION CENTER, GORAKHPUR

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

BACHELOR OF ARCHITECTURE BY

(PRATEEK NISHAD)

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THESIS GUIDE
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TO THE
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SCHOOL OF ARCHITECTURE AND PLANNING BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).

CERTIFICATE

I hereby recommend that the thesis entitled "CONVENTION CENTER, GORAKHPUR" under the supervision, is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor's degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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<u>CHAPTER - 1 INTRODUCTION</u>

- AIM AND OBJECTIVE
- NEED OF THE PROJECT
- SCOPE AND LIMITATIONS
- METHODOLOGY

1.1 INTRODUCTION

- A convention is a gathering of individuals who meet at an arranged place and time to discuss or engage in some common interest.
- Conventions are often planned and coordinated by professional meeting and convention planners, generally by staff of the convention's hosting company. Most large cities will have a convention Center dedicated to hosting such events.
- The term MICE- Meetings Incentives Conventions and Exhibitions is widely used in Asia as a description of the industry. There are various types of conventions; the most common conventions are based upon industry, profession and fandom. They can be typically described as-







convention Center, london

TRADE CONVENTION- It typically lays focus on a particular industry or industry segment, and feature keynote speakers, vendor displays, and other information and activities of interest to the event organizers and attendees.

PROFESSIONAL CONVENTIONS- They focus on issue of concern to the profession and advancements in the profession. Such conventions are generally organized by societies dedicated to promotion of the topic of interest.

FAN CONVENTIONS - they usually feature displays, shows, and sales based on pop cultures and guest celebrities. SEMINARS - they are meetings organized to celebrate major events and religious ceremonies. Common social events include- anniversaries, weddings and birthdays.

Trade shows / exhibitions - they are an opportunity for companies to exhibit some of their latest products.





1.2 NEED OF THE TOPIC

Nowadays the rapid development of megacities and metro cities are the cause of the growth of population, industries and business sectors. There is a need to expose the activities and creativities in front of people across the globe to promote new trends and cultures. As a result a space is required to gather people where this kind of events can be taken place. This is the concept of a convention Center where people can gather to share and earn various experiences. These Center emphasizes both public and private events. Encourages tourism developments, business developments, cultural activities, social gathering and amusements. Convention Center provides an opportunity for mixing, sharing and evolving values, morals, customs and ethics. It helps us in understanding the others feelings, beliefs and expectation.

1.3 AIM

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

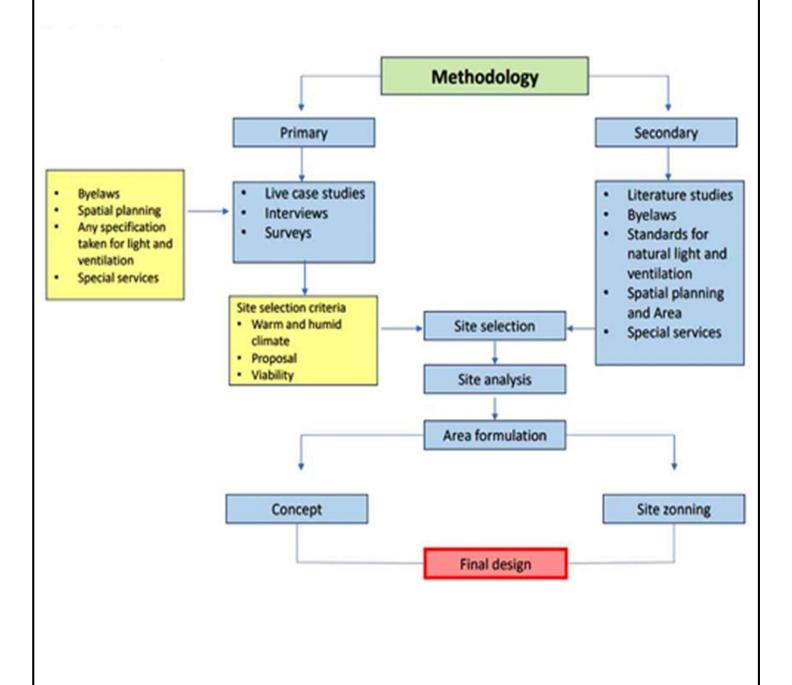
1.4 OBJECTIVE

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

1.5 SCOPE

The scope of the Convention Center includes the design and planning of a multifunctional facility that accommodates events like conferences, exhibitions, seminars, and cultural gatherings. It integrates modern spaces with traditional architectural elements and emphasizes sustainability, flexibility, and user comfort. However, the project has limitations such as budget constraints, site-related challenges, regulatory delays, and long-term maintenance issues, which may impact construction quality and operational efficiency.

1.6 METHODOLOGY



<u>C</u> ł	HAPTER – 2 STANDARDS
•	SPACE REQUIREMENTS SPACE STANDARD

2.1 SPACE REQUIREMENTS

	Components	Space analysis
	Public Use	
1.	Entrance Hall	Users: Delegates, performers and staff. Description: 1. The major connectivity between the various components of the convention center. 2. It acts as an ideal space for delegates to network. 3. Spaces like information klosk and waiting lounges form a part of the entrance hall.
2.	Registration Center	Users: People taking part in various conventions Description: 1. It acts as a space where people attending various events register themselves.
3.	Toilets	Users: All occupants. Description: 1. The size and quantity of the toilets to be provided shall be decided in accordance to NBC standards. 2. They shall be provided for peak capacity.
4.	Exhibition Halls	Users: All occupants Description: 1. Trade relative promoters take part in the trade shows to promote their products. 2. Large span structures and column free spaces are required for these promotions. 3. Crowd management of such components becomes necessary.
	Semi Public Use	
1.	Auditorium / Plenary Hall	Users: Performers, delegates and local people. Description: 1. The purpose of the auditorium is to accommodate large scale gatherings for various events like dance, drama and delegations. 2. The design of the auditorium shall be evolved in accordance to various standard guidelines subjected to auditorium design.
2.	Conference Rooms	Users: Delegates and staff Description: 1. They hold meetings and small company training sessions for 20-30 people. 11

3.	Seminar Rooms	Users: Delegates and staff. Description: 1. They are ideal for small-scale events like workshops, training sessions, press conferences, etc. 2. They are large enough to seat attendees in theatre configurations ranging from 50-200 people.
4.	Public amenities	Users: Delegates Description: 1. They include smoking lounges, ATM's, phone booths, etc. 2. Only people attending any event in the convention center shall have an access to these amenities
	Private Use	
1.	Administrative offices	Users: Staff of the convention center Description: 1. It contains offices for the convention center which handles the general functioning of the bus terminal.
2.	Control room	Users: Staff Description: 1. The control room will monitor the overall functioning of the convention center.
	Service Areas	
1.	Parking	Users: Anyone visiting ICC. Description: 1. Car and bus parking as per norms laid by NBC and DDA.
2.	Loading Docks/ Bays	Users: Staff Description: 1. They form a crucial part for loading/ unloading purpose in the exhibition pavillons.
3.	Service Block AC Plant room; Electri- cal substa; Maintaine- nece Deptt.	Users: Staff
3.	Back of House : The Kitchen	Users: Staff Description: 1. It shall serve all the events hosted by the convention center.

2.1 SPACE STANDARDS

Segregation of the public movement pattern and the details of the anthropometric standards of the various components of the project.

Public movement pattern for convention centers

The auditorium

Conference rooms

Exhibition galleries

Restaurants

Fire norms by NBC

Vertical circulation

Parking

2.1.1 PUBLIC MOVEMENT PATTERN FOR CONVENTION CENTERS

Communication and functionality can be improved by implementing efficient circulation patterns in a convention center. People visiting or working in a convention center can be divided into 5 broad user categories:

- Public flow
- · Delegate flow
- VIP flow
- Journalist flow
- Staff flow

Delegates flow:

Delegates form the most important group of users for a convention center. The parking shall lead them to the main entrance foyer which further directs them to their destination. An unobstructed delegate movement is very important.

Public flow:

Dignified personalities are invited depending on the nature of confer hence. It can also have relatives and public guests invited by the organization. The public guests also have access to the exhibition areas and hence these areas shall a separate access to manage the public flow during peak hours efficiently.

VIP flow:

They shall either directly lead to the dais of the main hall or shall enter through the VIP entrance which is connected to a VIP lounge.

Staff flow:

The staff can be divided into two categories namely the technical staff who are responsible for the efficient working of the convention center while the others are the administrative staff who are exposed to the people coming to the center. The paths of the technical and administrative staff diverse at the staff entrance.

Journalist flow:

It includes press people, cameraman and diplomats. They shall have a direct access to the documentation center and the TV studio of the convention center.

2.1.2 The Auditorium

The three-dimensional volume of an auditorium is conditioned by the need for all members of the audience to be able to see the whole of the platform or stage; and to hear the actor, singer, musician or speaker. Seating density, floor rake and seating layout are partly determined by this partly to give the audience an appropriate level of comfort and essentially to ensure a means of escape in an emergency, such as a fire, within the time required by safety considerations and by legislation.

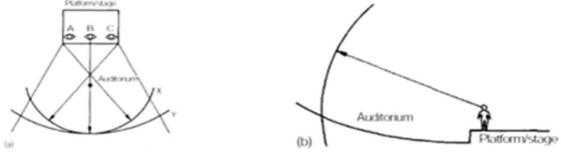
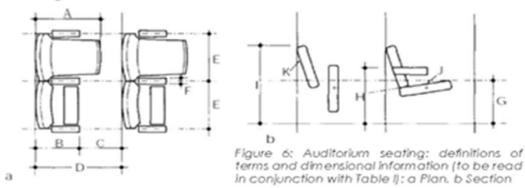


Figure 5: Visual and aural limitations: (a) Plan: for a performer at centre stage B there is an arc Y beyond which visual and aural perceptions are impaired. However, for performers nearer the sides of the stage at A and C produce more restrictive curves X. (b) Section: Similarly, visual and aural limits in section also set an arc centred on the performer.

Seating:

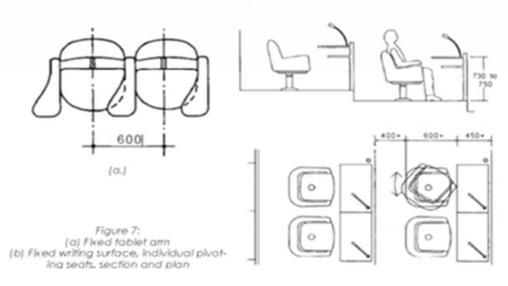


Dimension	Description	Minimum (mm)	Maximum(mm)	Drawnn as
Α	Overall seat depth	600	720	650
В	Tipped seat depth	425	500	450
С	Seatway	305		400
D	Back to back seat spacing	760	•	850
E	Seat width for seat with arms	500	750	525
F	Annrest height	50		50
G	Seat height	430	450	440
Н	Armrest height	600		600
- 1	Seatback helght	800	850	800
J	Seat Inclination	17	9	7
K	Back Inclination	15	20	15

Writing surface:

Conference use may require a writing surface for note-taking. The writing surface may be:

- A tablet fixed to each seat, 20.10
- A fixed table with fixed pivoting or sliding seat. 20.13.



2.1.3 The Auditorium Design

Audience requirements:

Every member of the audience should be able to see and hear clearly whatever is happening on every part of the stage or platform. The greater the encirclement of the audience of platform or stage, more people can be accommodated within the aural and visual limitations up to 180° encirclement. With a full encirclement, the distance from platform or stage is restricted to six rows.

Number of seats in a row:

With traditional seating the maximum number is 22 if there are gangways at both ends of the row. and 11 for gangway at one end. Rows with more than 22 seats are permitted if the audience is not thereby imperiled.

Row to row spacing:

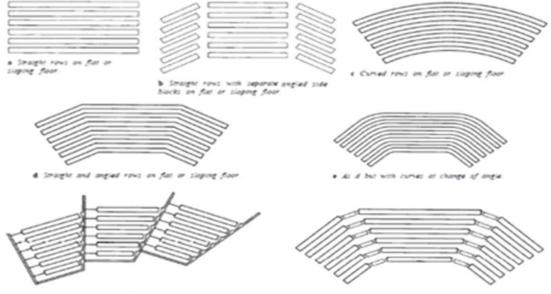
Spacing is controlled by the clearway between the leading edge of the seat and the rear of the back of the seat in front. For traditional seating the min imum clearway for people to pass along the row is 300 mm and this dimension increases with the number of seats in a row. For continental seating the clearway is not less than 400 mm and not more than 500 mm.

Gangways:

As gangways are essential escape routes, their widths are determined by the number of seats served. The minimum is 1100 mm. They can be ramped up to 10%. If the seating rake is steeper. gangways must have steps extending the full width and these must have consistent treads and risers in each run.

Seating geometry:

Seating is usually laid out in straight or curved rows focused towards the platform or stage. Further forms are the angled row. straight row with curved change of direction and straight rows within emphasized blocks of seats.



Seating density:

Seats with arms and tippable seat can occupy a space as small as 500 mm wide with a row-to-row dimension of 760 mm; but can be as large as 750 mm wide by 1400 mm. The area per seat therefore varies between 0.38 sqm and 305 sqm

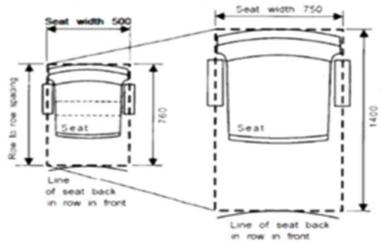


Figure 9: Seating density, from 0.38 m2 to 1.0.5 m2 per person

Sightlines for a seated audience:

For every member of the audience to have an uninterrupted view of the platform or stage over the heads in front and clear of overhangs the section and plan of the auditorium need to conform to certain limitations set by vertical and horizontal sight lines.

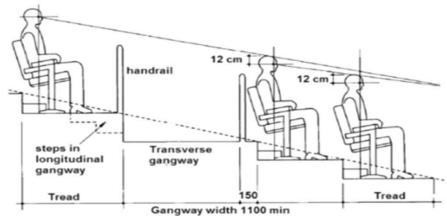
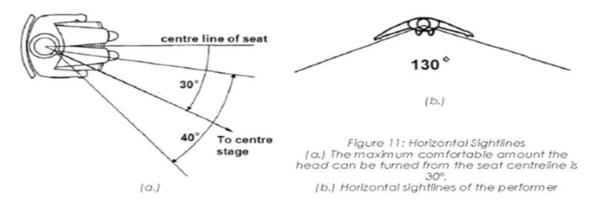


Figure 10: Graphic representation of vertical sightlines at a transversal gangway



· Width of an auditorium:

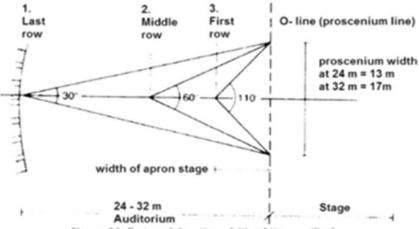


Figure 21: Determining the width of the auditorium

Means of escape:

Travel distance:

The maximum travel distance from seat to exit within the auditorium is determined by the need to evacuate from each level of the auditorium within272 minutes. For traditional seating the maximum travel distance is 18 m mea sured from the gangway, for continental seating 15 m from any seat.

Exits:

From each level of the auditorium two separate exits must be provided for the first 500 seats with an additional exit for each further 250 seats.

Stairs:

Staircase flights should have at least two risers and not more than 16. All treads should be 275 mm and risers 180 mm.

Ramps:

Wheelchair users should be provided with flat or ramped escape routes which may be separate from other routes. Ramps should not be longer than 4.5 m or steeper than 8.5%

Number of people	Minimum total exit widths (m)
upto 200	2.2
201-300	2.4
301-400	2.8
401-500	3.2
751-1000	6.4
1001-2000	14.4

2.1.4 Conference room

A conference hall or conference room is a room provided for singular events such as business conferences and meetings. Sometimes other rooms are modified for large conferences such as arenas or concert halls. Conference rooms can be windowless for security purposes.

Types of seating:

	Туре	Description	Layout
1.	U shaped	 Seating around three sides of the room. It is good for presentations from front. Presentation space in the middle of the room. Can be used for up to 50 persons. Per seat area is 3.25m². 	
2.	Boardroom style	 Centrally located table. Classic layout ideal for debate and discussion. Seating capacity 5-30 persons. Per seat area is 3.71m². 	
3.	Cabaret style	 All delegates facing front-center on round tables. Large space in the middle of the room. Ideal for small-group work. Per seat area is 1.57m². 	; ; ; ; ; ; ; ; ;
4.	Theater style	 Used for product launches, presentations, displays. Used to present to large numbers of delegates. Can be used for 100-250 persons. Per seat area is 0.83 m². 	

Space standard:

Consideration must be given to clearances and circulation around the larger conference table, as indicated in the adjoining figure.

Туре	Dimension
A	1210-1520
В	100-150
С	510-610
D	150-255
E	460-610
F	790-910

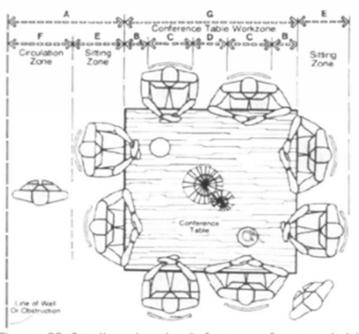


Figure 22: Seating standards for a conference table

2.1.5 Exhibition

An Exhibition is an organized presentation and display of a selection of items. In practice, exhibitions usually occur within museums, galleries and exhibition halls, and World's Fairs. Exhibitions can include many things such as art in both major museums and smaller galleries, interpretive exhibitions, natural history museums and history mu museums, and also varieties such as more commercially focused exhibitions and trade fairs.

General Planning:

relationships functions between common to all museums and art galleries. Figure 23 shows collection item movements in the operation of collection services, but note that not every operation necessarily requires a separate space, and some services may be pro vided by outside agencies.

As far as possible, collection movement and public circulation should be kept separate. Figure 24 shows one approach to zoning and expansion based on this principle.

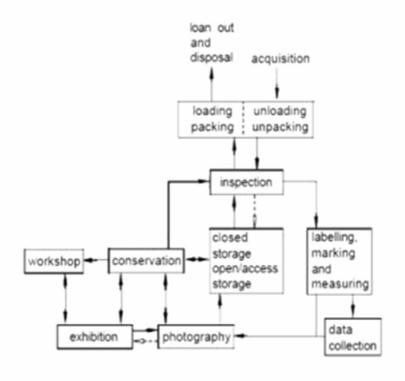


Figure 23: Flow diagram of collection item movements in the operation of collection services: exhibitions, conservation and collections management

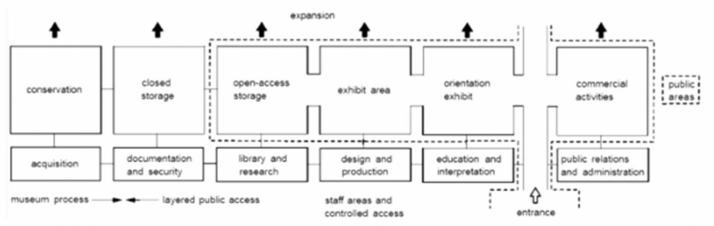


Figure 24: A layout concept showing a clear relationship between museum functions and an approach to zoning and expansion

2.1.6 Restaurant

A place where people pay to sit and eat meals that are cooked and served on the premises. Various types of restaurants are classified based upon menu style, preparation methods and pricing.

Types of restaurants:

	Type	Description
1.	Fine dining restaurants with bar	 These are full service restaurants with specific dedicated meal courses. Décor of such restaurants features higher-quality materials, with an eye towards the "atmosphere".
2.	Casual dining restaurants	A casual dining restaurant is a restaurant that serves moderately-priced food in a casual atmosphere. Except for buffet-style restaurants, casual dining restaurants typically provide table service.

Relationship of main elements:

- The layout and relationship between different areas is dependent on the type of facility.
- The kitchen and preparation areas will equal about 50% of the dining space and ancillary and storage will be about 1.5-2 times the kitchen area.

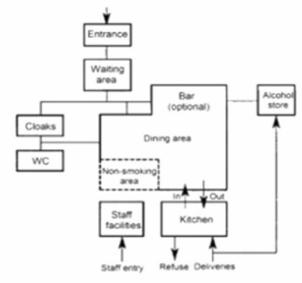


Figure 28: Relationship between major spaces

Space standards:

- Restaurants should be planned so that a variety of seating arrangements is possible (e.g. tables for two and four).
- To eat comfortably, one person requires a 600mm wide and 400mm deep table.
- Service aisles should be minimum 900mm to 1350mm wide if used both by trolleys and guests.
- Area required per person ranges from 1.3-1.9 m.
- There must be clarity in organization between self-service. fast food etc. and a separate smoking area.

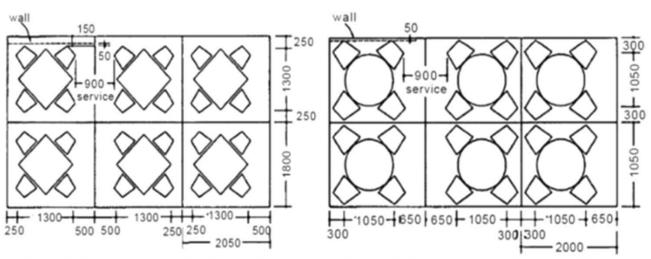
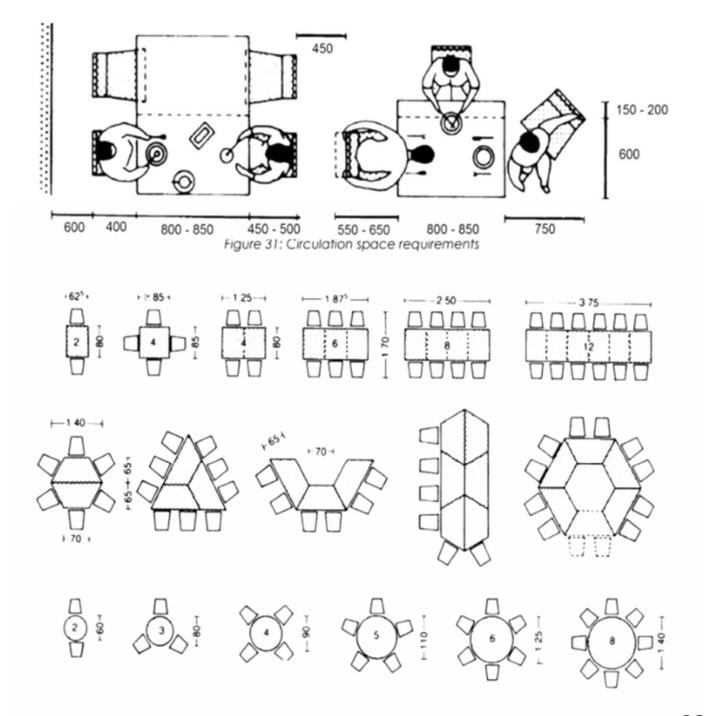


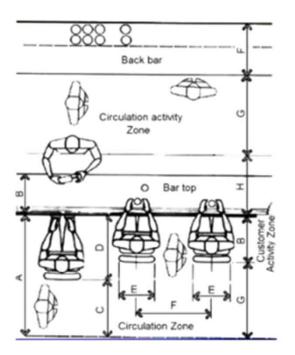
Figure 29: Square tables with diagonal layout

Figure 30: Circular tables with diagonal layout



Bar Service:

- To encourage business from non-diners the main bar may have an external entrance.
- A fairly long bar counter supported by bar store and place for seating should be provided.
- Cocktail lounge (comfortable) 18-2.0m2 per person.
- General bar (some standing and on stools) 1.3-1.7m2 per person.



Туре	Dimension
A	1370
В	450-610
С	610
D	760
E	400-450
F	610-760
G	760-910
Н	710-960

Figure 32: Bar circulation dimensions

Toilet facility

	Sanitary appliance	Male	Female
1.	WC	1 per 100 up to 400 males. For over 400 males, add at the rate of 1 per 250 males.	2 per 50 up to 200 fe- males. For over 200, add at the rate of 1 per 100 females.
2.	Urinals	1 per 50 males.	-
3.	Wash basins	1 per WC and in addition 1 per 5 urinals.	1 per WC.
4.	Tollets for disabled	1 unisex compartment should be reasonably close by.	

2.1.7 Fire safety norms by the national building code of india

Every building shall be so constructed, equipped, maintained and operated as to avoid undue danger to the life and safety of the occupants from fire, smoke, fumes or panic during the time period necessary for escape.

General Exit Requirements:

- An exit may be a doorway, to an internal staircase, or external staircase, or terrace(s), which have access to the street, or to the roof of a building or a refuge area.
- All exits shall provide continuous means of egress to the exterior of a building or to an exterior open space leading to a street.
- Exits shall be so arranged that they may be reached without passing through another occupied unit.

Capacity of exit:

- The unit of exit width, used to measure the capacity of any exit, shall be 500 mm. A clear width of 250 mm shall be counted as an additional half unit. Clear widths less than 250 mm shall not be counted for exit width.
- In an assembly building (convention center), the capacity per storey per unit width of exit of stairways, ramps and doors is 40,50 and 60 respectively.
- The travel distance to an exit from the dead end of a corridor shall not exceed 30m in case of assembly buildings.

Doorways:

No exit doorway shall be less than 1000 mm in width except assembly buildings where door width shall be not less than 2000 mm. Doorways shall be not less than 2000 mm in height.

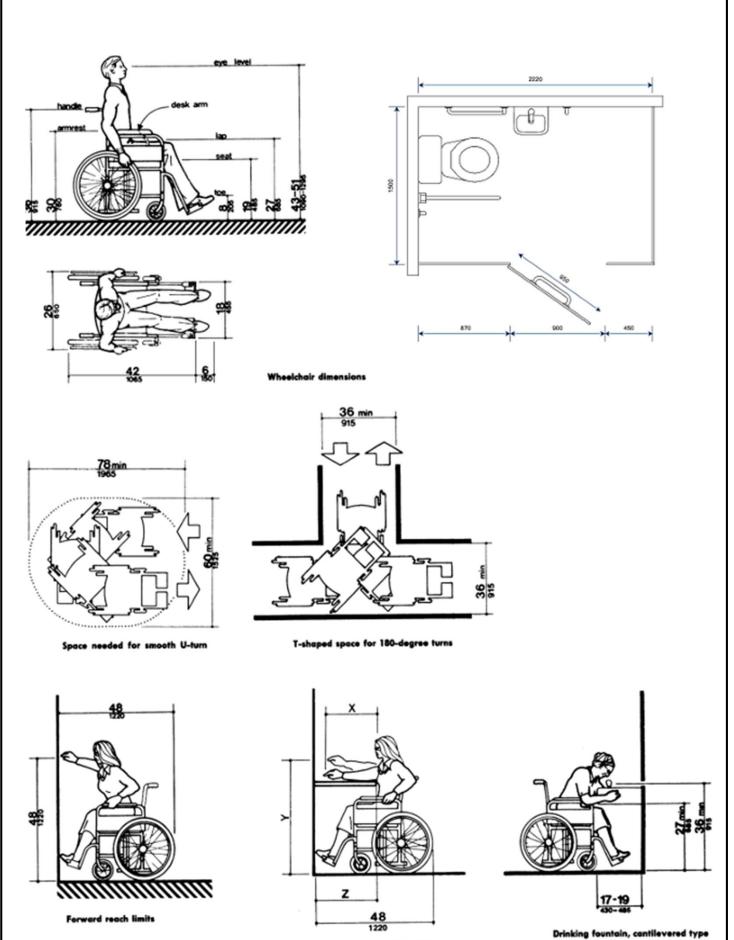
Stairways and ramps:

- The minimum width of tread shall be 300 mm and the maximum height of riser shall be 150 mm for assembly buildings.
- The minimum width for a staircase shall be 2m. The minimum headroom in a passage under the landing of a staircase and under the staircase shall be 2.2 m.
- The slope of a ramp shall not exceed in 10. In certain cases steeper slopes maybe permitted but in no case greater than 1 in 8.

Horizontal exits:

For buildings more than 24 min height, refuge area of 15 m or an area equivalent to 0.3 m² per person to accommodate the occupants of two con executive floors.

2.1.8 For Disable Person



NOTE: X shall be \leq 25 in (635 mm); Z shall be \geq X. When X < 20 in (510 mm), then Y shall be 48 in (1220 mm) maximum. When X is 20 to 25 in (510 to 635 mm), then Y shall be 44 in (1120 mm) maximum.

CHAPTER -3 CASE STUDY

- a) CASE STUDY -1 (INDIRA GANDHI PRATISTHAN- LUCKNOW)
- b) CASE STUDY -2
 (BHARAT MANDAPAM NEW DELHI)

3.1 INDIRA GANDHI PRATISHTHAN (IGP), Lucknow:

Location - Kathauta Chauraha Road, Vibhuti Khand Gomti Nagar Lucknow

Architect - Sikka Associates

Client - Lucknow Development Authority (L.D.A.)

Area - 10 Acres

Construction Status - Completed (Restaurants, Gym, Club, Library) Proposed

Introduction:

Indira Gandhi Pratishthan is one of the largest convention centre in the city of Lucknow. The venue has been host to various national and international meetings, summits and gatherings, the venue consists of three auditoriums, lawns, banquets, meeting rooms, art gallery, exhibition space etc. Named after the former prime minister smt. Indira Gandhi the project began in 2002. This 10 acre campus has parking for 2000 cars and is accessible from all parts of the city. Many facilities have been proposed for proper utilization of venue and increase the footfalls. The proposals include setting up gymnasium, swimming pool, library, club, restaurants etc.



Purpose:

The convention venue has served various purposes over the year. From local to national to international events the venue is capable of all the events. Some 0f the events hosted by Indira Gandhi Pratishthan

- Meetings
- 2) Seminars
- 3) Product Launches
- 4) Business Summits
- 5) Marriage Functions
- 6) Exhibitions
- 7) Award Ceremonies
- 8) Entertainment Events
- 9) Concerts

Features of IGP:

IGP has been designed for hosting various events there are various block in the venue

- 1) Earth (5 Moon Halls, Vip Lounge 1 Media Centre)
- 2) Mercury 400 Pax
- 3) Mars 600 Pax
- 4) Jupiter 1500 Pax
- 5) Saturn Banquet Hall
- 6) Art Gallery
- 7) Exhibition Ground



Services:

- 1) Fire hose pipes installed on site with primary and secondary pumps
- 2) Two 320 KV generator
- 3) Three transformers installed
- 4) 12 mt wide access road



Features:

- Banquet hall with 600 capacity
- Separate kitchen space provided
- 3) A hall for mini function
- AHU store and other area provided
- Landscaping provided for good aesthetic
- 6) Solar panel installed
- Service road for loading and unloading
- Centrally air conditioned banquet.









TOILETS



Jupiter (Auditorium):

- 1) 1500 people capacity
- 2) Grand entry foyer
- 3) Lift and staircase access to first floor
- 4) Green room, control room, practice hall, vip rooms
- 5) Basement parking for visitor
- 6) Separate VVIP entry provided to the building
- 7) Stone finishing provides lavish aesthetics
- 8) 10.8 mt wide corridor on each side
- 9) 7.2 mt wide backstage corridor
- 10) Solar panel installed on roof
- 11) 1.2 mt gangway in auditorium for proper circulation.











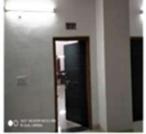
PRACTICE ROOM

FOYER

LIFT







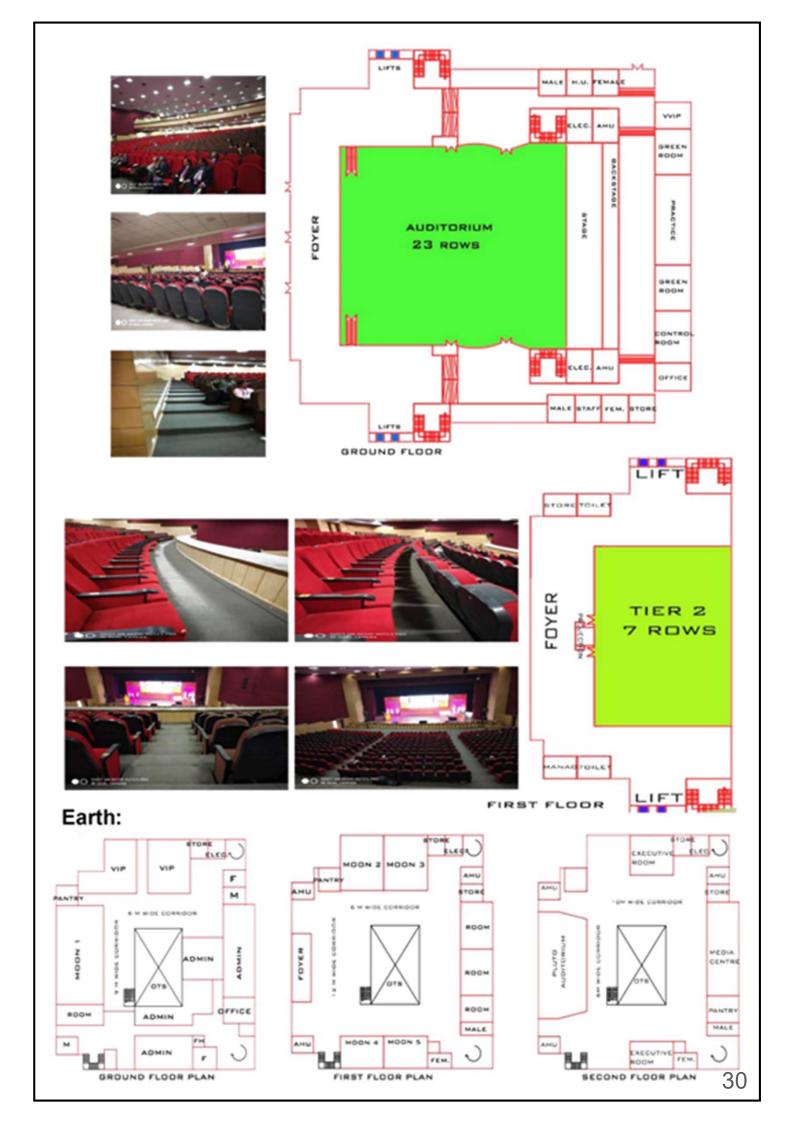


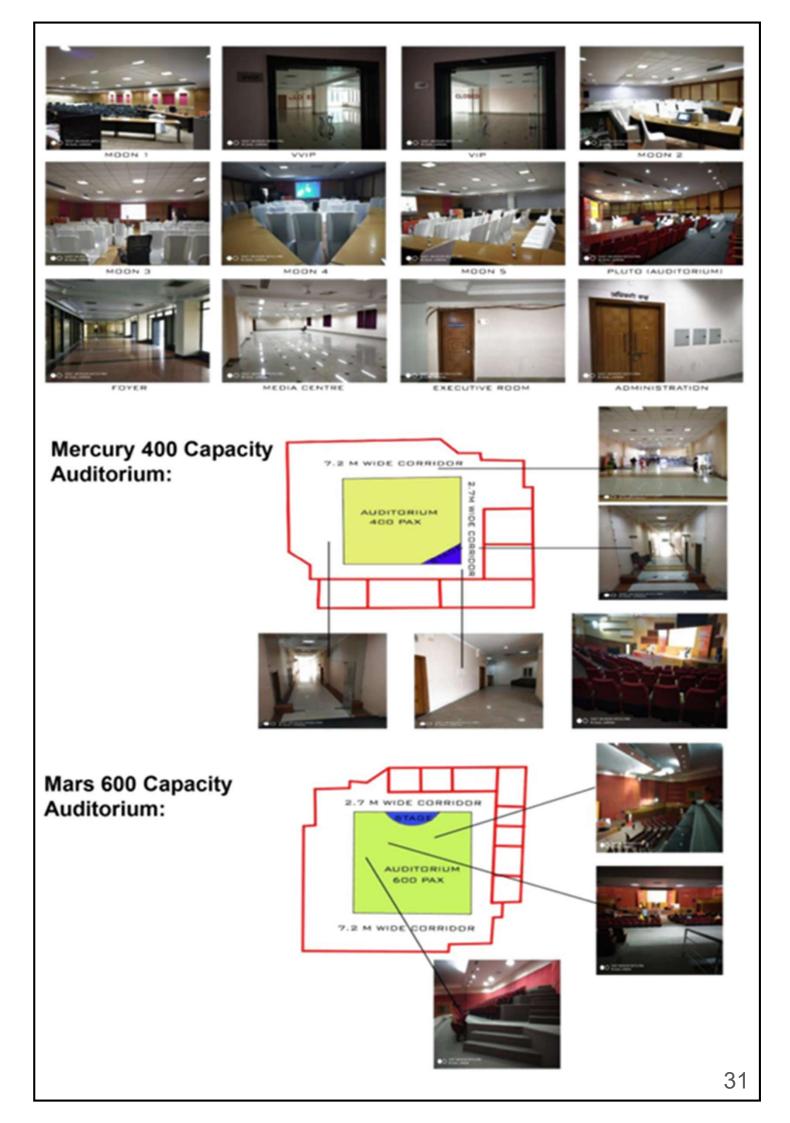
CORRIDOR

PROJECTION ROOM

GREEN ROOM

BACKSTAGE CORRIDOR





3.2 BHARAT MANDAPAM – NEW DELHI:

Location- Pragati Maidan, New Delhi, India Site Area of Pragati Maidan- 123 Acres

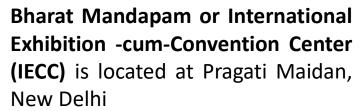
Site Area of Bharat Mandapam (IECC)- 12.5 Acres

Year of Completion-2023

Architects- AEDAS & ARCOP

Ground Coverage- 35%

Spaces- Exhibition halls, VIP lounge, plenary hall, conference multifunctional hall, seminar room, G20 summit room, auditoriums & 2 food courts.



The complex stands as a testament to India's commitment to fostering collabora-tion, innovation, cultural exchange on a grand scale. architectural marvel This emerged as the country's largest and most prestigious conven-tion and exhibition Center.

Spread across acres of prime land in New Delhi. Bharat Mandapam offers vast exhibition halls. state-of-the-art conference rooms, and a nificent auditorium capable hosting events.









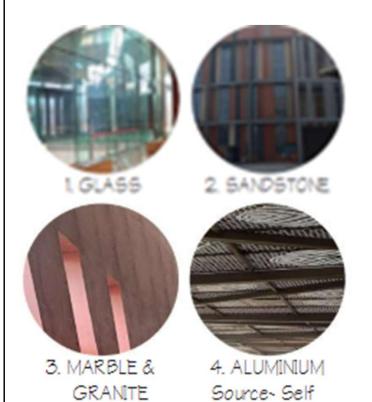






The front facade of Bharat Mandapam reflects a har-monious fusion of contemporary design and traditiona Indian architectural motifs.

The Center piece of this architectural marvel is the **front** water body, a carefully crafted feature that enhances the visual appeal and cultural significance of the building which also serves as a reflection pool, mir-roring the grandeur of the building and the sky above



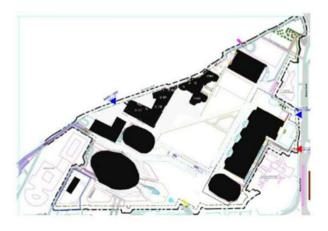


Figure- ground map

Source- Self

Bharat Mandapam - Convention Center stands as a top-tier facility featuring contemporary infrastructure and cutting-edge technology. ideal for hosting conferences, summits, meetings, cultural evente, and large gatherings.

The venue includes exclusive VIP and guest lounges, along with premium five-star catering servicee, capable of accommodating evente with up to 7000 attendees in a single format.

The design of the complex prioritizes convenience, offering seamless accessibility for visitors, including specially-abled individuals and se-nor citizens, and boasts a parking capacity exceeding 5000 vehicles.

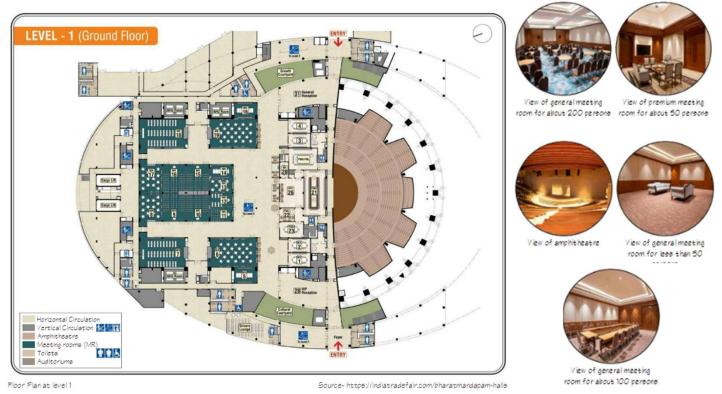
The surroundings of the complex are enhanced by a meticulously land-scaped plaza, complete with a captivating musical fountain.

3.2.1. SPATIAL ORGANIZATION

Bharat Mandapam features a flexible spatial design that accommodates a myriad of events, from grand conferences to cultural exhibitions.

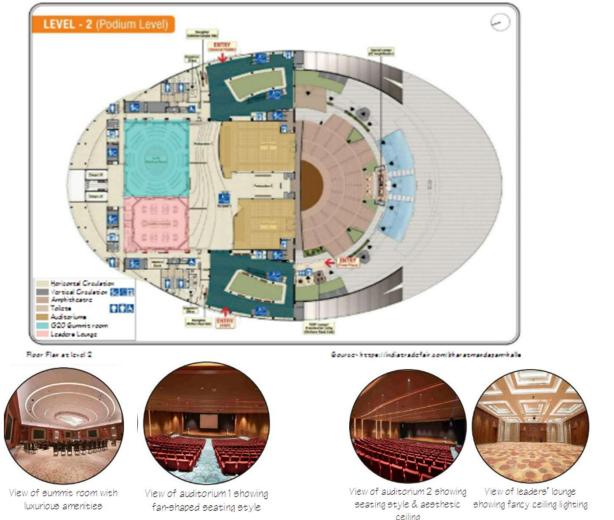
A user-friendly layout ensures easy accessibility and efficient circulation within Bharat Mandapam. Thoughtful placement of entrances, escalator, and elevators ensures a smooth flow of people through-out the facility.

The complex is strategically zoned to house different functions like conferences, exhibitions, cultural performances, and administrative functions to cater cohesively.



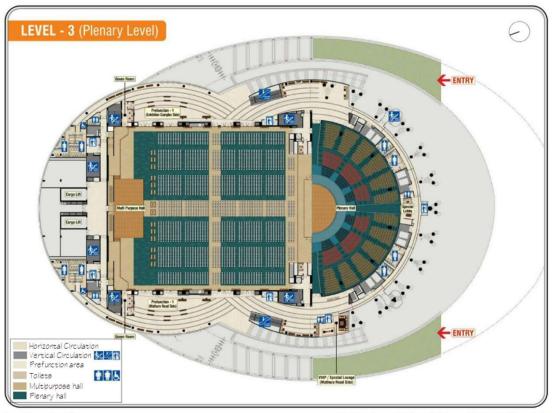
Floor plan at Level 1

- features Amphitheatre covering 2250 square meter floor area spars two levels, providing tiered seating for enhanced visibility is designed to accommodate gathering of upto 3000 persors.
- 16 general meeting rooms cater to smaller gatherings, workshops, and parallel sessions accommodating 50-200 persons.
- 4 premium meeting rooms offering a more exclusive and sophisticated setting, advanced audio-visual equipment and enhanced amenities accommodating each.
- Back-of-house areas house service facilitles, including service areas, utility spaces, and staff offices.



Floor plan at Level 2 features-

- G20 summit room, covering 1,153 square meters floor area, is an exclusive and secure space designed to host high-profile meetings and diplomatic events with advanced communication and translation facilities to accommodate 165 persons.
- Two auditoriums to accommodates 600 & 900 persons each covering 793 & 992 sqm resp. on substantial events with stateof-the-art lighting and acoustics.
- Leader's lounge (702 sqm) offering a luxurious and private retreat for distinguished guests and event organizers.
- Prefunction area designed as a spacious and welcoming area, making it an ideal space for attendees to gather, network, and socialize before or after events. It can host coffee breaks, receptions, and other informal gatherings.



Floor Plan at level 3

Source- https://indiatradefair.com/bharatmandapam-halls



View of plenary hall showing partitioned wall at backdrop



View of multipurpose hall showing wood-



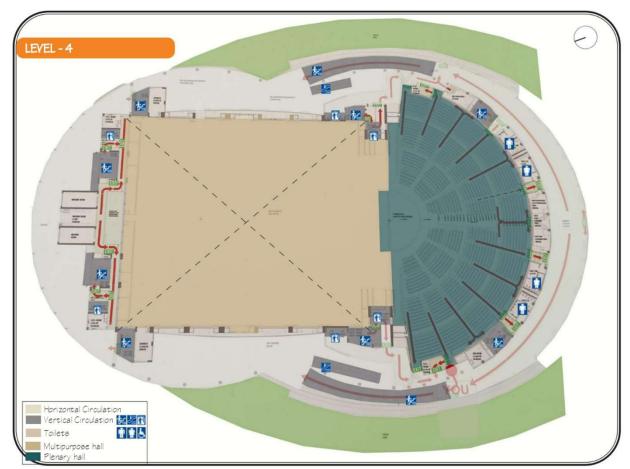
View of plenary hall showing partitioned wall at backdrop



View of multipurpose hall spacious enough to cater large exhibitions

Floor plan at Level 3 features-

- Plenary hall (1.985 sqm) designed to ac-commodate up to 3000 attendees, making it the Center piece for major conferences. conventions, and large-scale events & fea-tures a tiered seating arrangement to en-sure unobstructed views.
- Multipurpose hall (4.884 sqm) adjacent to the plenary hall, features an open floor plan with minimal obstructions, allowing for flexi-ble spatial configuration providing space for exhibitions accommodating 4000 persons.
- Service areas for catering and refresh-ments are strategically positioned to sup-port large-scale events.



Floor Plan at level 3





View of well-lit escalators



View of lobby area showing culture through interiors

Floor plan at Level 4 features-

- Two level-plenary hall in continuation from level 3. The two-level design enhances the capacity and flexibility of the Plenary Hall, accommodating a larger audience for major events and conferences.
- Green roof contributing to sustainability efforts and promoting environmental con-sciousness providing insulation, absorbing rainwater, and contributing to the overall energy efficiency of the building.
- Toilet facilities, located at the back of the floor plan for easy accessibilty.

CHAPTER -4 LITERATURE STUDY

- a) LITERATURE STUDY 1
 (HYDERABAD INTERNATIONAL CONVENTION CANTER)
- b) LITERATURE STUDY 2
 (JAIPUR EXHIBITION AND CONVENTION CENTER (JECC)

4.1 Hyderabad International Convention Center (HICC)

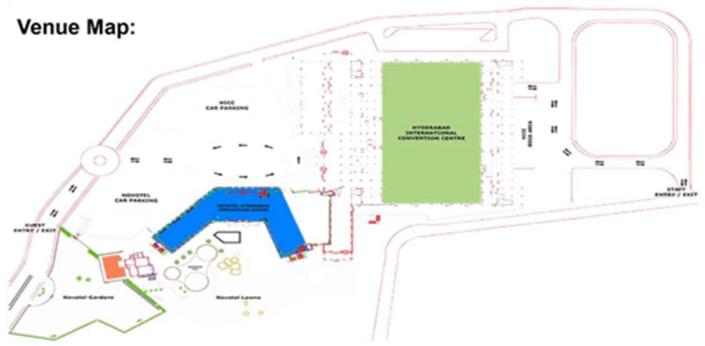
Project details:

Location - NDVOTEL and HICC Complex, Kondapur, Hyderabad

Architect- Robert Matthew Johnson Marshall

Construction status - completed Site area - 15 acres Ground coverage - 45% Client- APIIC





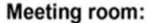
Facilities :

- Custom built to handle versatile events be it an international conference for 5000 delegates, a cocktail dinner for 4000 guests, a corporate party for 2000 people or even a board meeting for just 15.
- 32 breakout rooms including specialized eating rooms, speaker, preparatory rooms, boardrooms and vip lounge.
- 3) 16 seater registration area.
- 4) A pillar free internal hall of net 6480 msq that can hold a 5000 delegate plenary and can be partitioned into 6 halls depending upon its use and requirement.
- 5) A spacious pre function foyer area of over 6000 msq of lobby space.
- 12.5 m free ceiling height with catwalks and truss to hold heavy suspension and mobile operable walls.
- 7) Service pits every 6 m, with power, water and internet.
- 8) Automated telescopic tiered seating 2.5k.

Areas (Hall):

Hall 1- 435 msq Hall 2- 435 msq Hall 3- 1914 msq Hall 4- 1914 msq

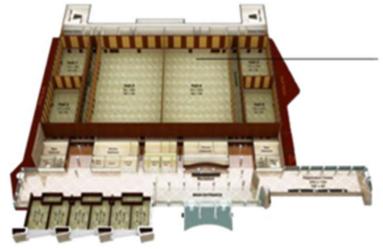
Hall 5- 435 msq Hall 6- 435 msq



Varies From 120.75 To 122.82 Msq

Other spaces:

- 1- Organizer Suites
- 2- Business Centre
- 3- Clock Room
- 4- Facility Office
- 5- Communication Room
- 6- Vip Lounge
- 7- Interpretation Room
- 8- Admin Office
- 9- Office Space



Ground Floor

Services offered:

1- Food and beverage-

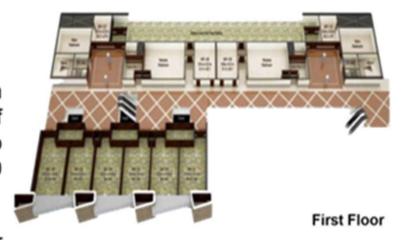
The restaurant located on western side with an area of 792 msq is Designed to accommodate nearly 180 people.

2- Open exhibition area-

A total exhibition space of 32825 msq provided.

3- Car parking area-

Nearly 1200 car parking slots for visitors/exhibitors. Separate car parking for organizers near trade fair office building. Separate Parking for heavy vehicles on north entrance of HICC.





Second Floor

4.2 Jaipur Exhibition and Convention Center (JECC)

Project Details:

Location - RIICO Industrial Area Sitapura, Jaipur

Architect - M.A. Architects

Client - Diligent Pink City Centre PVT LTD

Area - 42 Acres

Ground Coverage - 27204 Msq.

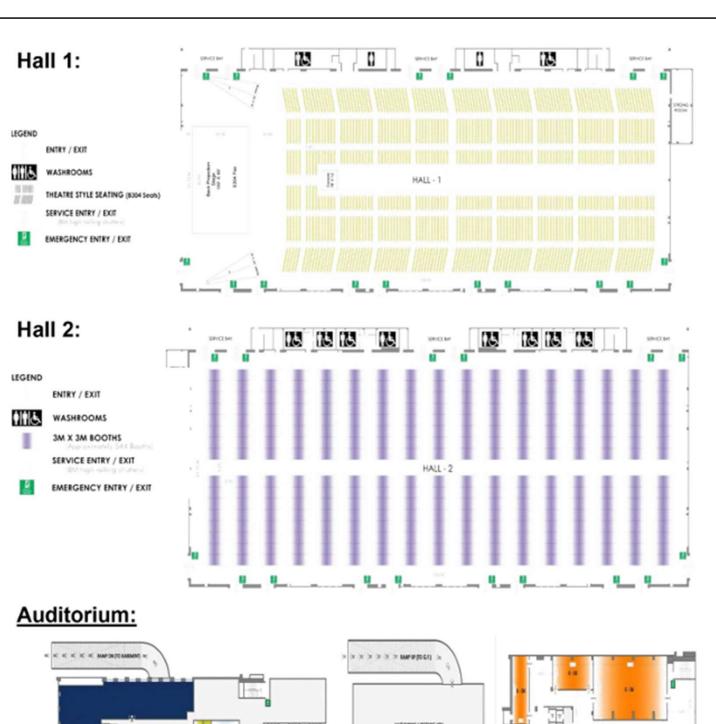
Site Plan:



Other features of hall:

- 1) The hall can also be used as a seminar hall when required.
- 2) When used for seminar purpose the hall has capacity of approx 8000 people.
- 3) Separate double height truck bay is provided for easy loading and unloading if goods.
- 4) Office and st0re room provided.
- 5) Separate ada toilets provided for handicapped.
- 6) For males 64 urinals and 18 wc are provided and for females 24 wc are provided.

41





Auditorium:

- 1) Consists of hall of area 1100 msq
- 2) Seating capacity of hall is 1200
- 3) Retractable fitted seating for 740
- 4) Stage size 32'x24'
- 5) Main entry brings the permanent registration counters that is turn give way to the pre function foyer
- 6) Two green rooms and a vip lounge
- 7) AV rooms and interpretation centre for 6 languages
- 8) Space of these rooms varies from 127 msq to 64 msq
- This expansive centre also consists of 13 breakout rooms on upper floor.

Interior:



































CHAPTER -5 SITE STUDY

- INTRODUCTION
- SITE ANALYSIS
- CLIMATE ANALYSIS
- SITE SURROUNDING

5.1 SITE ANALYSIS

5.2 PROJECT DESCRIPTION

Introducing the proposed project and the client.

Brief objectives of the prompters and the user groups of the project.

- 5.2.1 Project Proposal
- 5.2.2 Project location

5.2.1 Project Proposal

The proposed convention Center project is to be located in the Gorakhpur, one of the fast growing city located in UP.

This integrated state-of-the art convention Center has been proposed by the GDA (Gorakhpur Development Authority).

5.2.2 Project Location

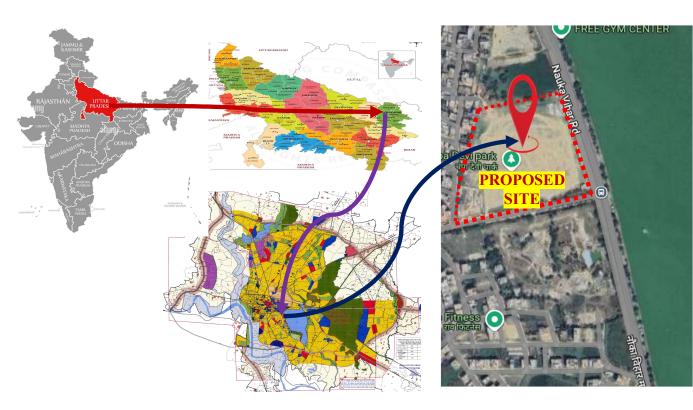
GDA has been proposed convention Center in the buddha vihar road, taramandal, gorakhpur.

The area for the proposed site is 12.5 acers and is an irregular quadrilateral surrounded by road on 2 sides.

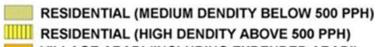
- LOCATION- The buddha Vihar road, Taramandal, Gorakhpur, UP.
- **CLIENT-** GDA (gorakhpur development authority).
- COORDINATES: 26.739111, 83.388342
- **AREA**: 12.55 acre ~ 50800 SQ.M.
- SITE SHAPE: irregular shape
- ELEVATION: 75 m above sea level
- EARTHQUAKE ZONE: ZONE IV

5.2.3. SITE





5.2.4. LAND USE



VILLAGE ABADI (INCLUDING EXDENDED ABADI)

COMMERCIAL

WHOLE SALE / WAREHOUSING

INSTITUTIONAL

FACILITY / UTILITY

PARK & PLAY GROUND

RECREATIONAL GREEN

GREEN BELT

RIVER, CANAL, DRAIN

5.2.5. SITE ACCESSIBILITY



RAILWAY STAION- 4.5 KM

AIRPORT – 7.5 KM

BUS STATION- 4 KM

AIIMS - 4 KM





5.2.6. NEARBY LANDMARK



• NAUKA VIHAR 1K M AWAY FROM SITE



• COURTYARD HOTEL 250 M AWAY FROM SITE



• GORAKHNATH TEMPLE 7.5 K.M. AWAY FROM SITE



• RACHIT HOSPITAL
2.5 KM AWAY FROM SITE



 CIRCUIT HOUSE200 M AWAY FROM SITE

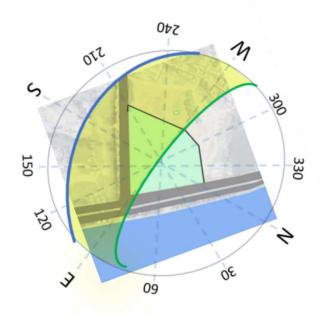


• <u>AUDITORIUM</u> 500 M. AWAY FROM SITE



SHAHEED ASHFAQ ULLAH KHAN ZOOLOGICAL PARK 200
 M AWAY FROM SITE

5.2.7. SITE ORIENTATION

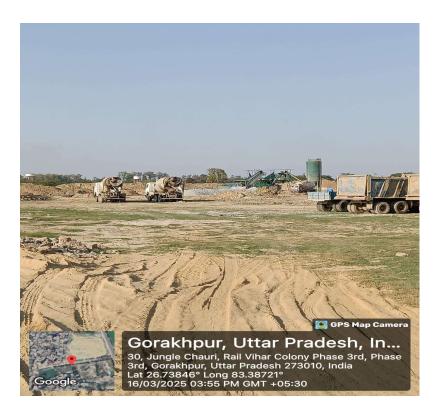


5.3. BYELAWS (GDA NORMS)

- FLOOR AREA RATIO 1.5
- GROUND COVERAGE 40%
- LANDSCAPE 125 trees per of open space or 20% of plot area
- SETBACK 9m (front), 6m (on all sides)
- HEIGHT 24m max. (GDA norms)

5.4. TOPOGRAPHY

Mostly flat surface with gentle slope towards east and south



5.5. SOIL PROFILE

Alluvial soil, bearing capacity off soil is 150 kg/sq.



5.5.1. WATER SUPPLY & DRAINAGE

The main source of water is groundwater extracted through tube wells. Major drainage of this area is through river north east direction, sever lines are present on north east and south west direction of site.



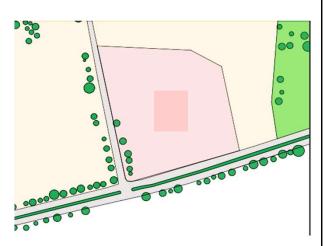
5.5.2. ELECTRICITY

Electric supply lines are passing through the site on south and northeast direction of site.



5.5.3. VEGETATION

Very scarce vegetation on site, mostly tall grasses and some Babool, ashoka trees present mostly on the south corner of the plot.



5.6. EDGE ANALYSIS









5.7. GENERAL CLIMATIC DATA

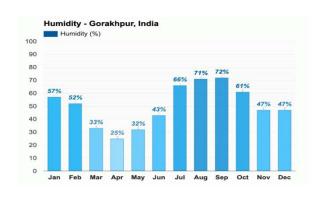
 The average Temperature of Gorakhpur is around 25°C although it vary from around 13°C during Winter (January) to 32°C during the Monsoon (June). The hottest month of the year is June with temperature varies from 25.0°C to 39.0°C.



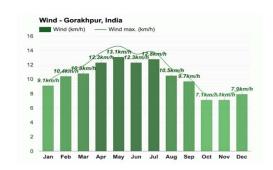
Averaging 1215 mm of rainfall annually. Gorakhpur can be quite wet during July, receiving approximately 348 mm of precipitation. The rainy season starts from mid of June and continues up to the end of September.

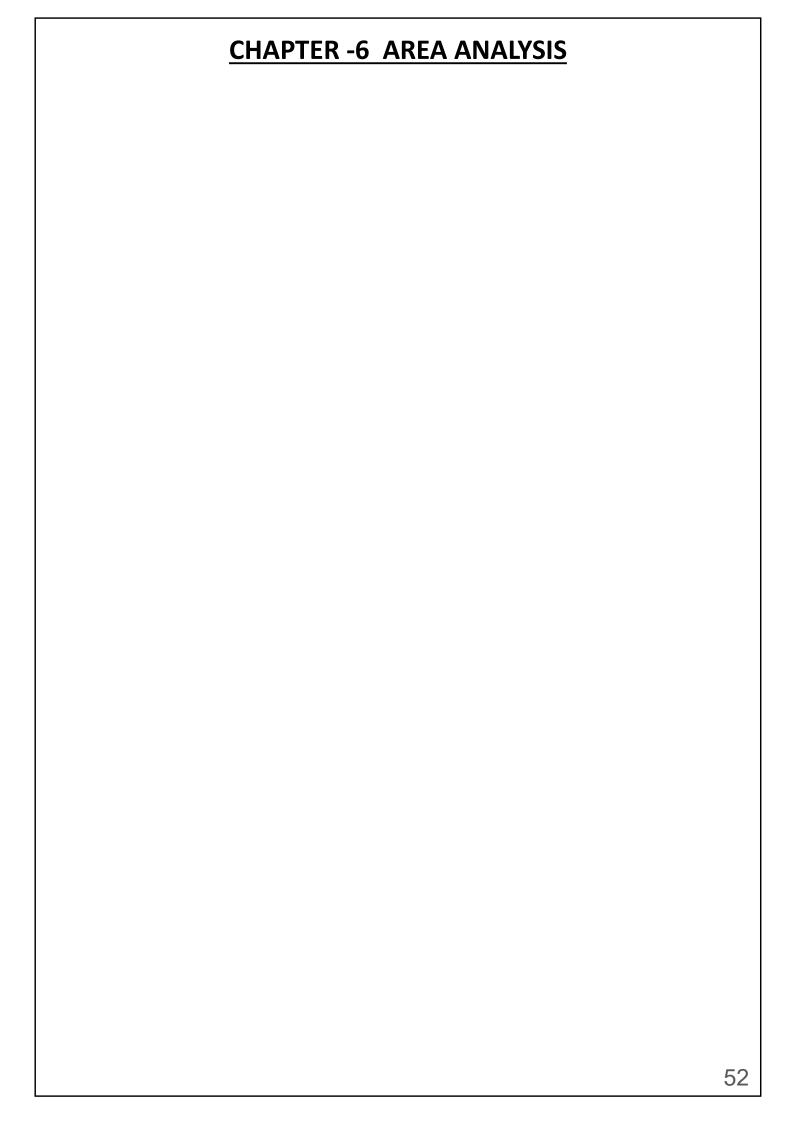


The month with the highest relative humidity is September (72%). The month with the lowest relative humidity is April (25%).

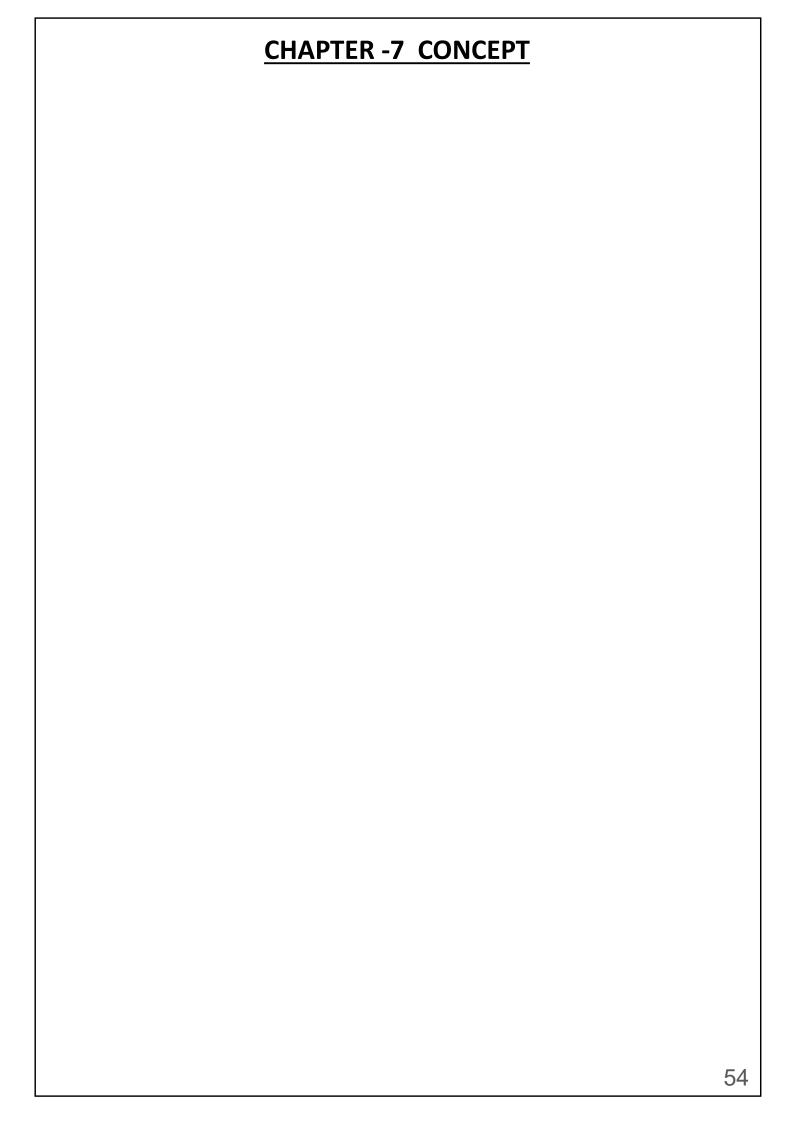


The windiest month (with the highest average wind speed) is May (13.1km/h). The calmest months (with the lowest average wind speed) are October and November (7.1km/h)





S.No. PARAMETER	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW	1 33														
	AREA IN CASE STUDY -1 (INDIRA GANDHI PRATISTHAN-	AREA IN CASE STUDY -2 DHI (BHARAT MANDAPAM - N- NEW DELHI)		STUDY -1 (HYDERABAD STUDY -1 (HYDERABAD STUDY -1 (HYDERABAD STUDY -1 (HYDERABAD STUDY CANTER)	AREA IN LITERATURE STUDY - 2 (AMPUR EXHIBITION AND CONVENTION CENTER (RCC)	AREA IN NORMS (Neufert/NBC)	REQUIRED AREA	REMARK	Projector Room		20sqm	٠		8-15 sqm; visual and acoustic isolation; rear projection/sightlines (NBC)	stic isolation; rear	15sqm
Site Analy	LUCKNOW)	_							vip room		20sqm		,	15-30 sqm; lounge setup w	15-30 sqm; lounge setup with privacy and rest amenities	20sqm
Location	Lucknow, India	ndia New Delhi, India	L	Hyderabad, Telangana	Jaipur, Rajasthan	Gorakhpur			Store room	,	15sqm	a		5-10% of total hall area for furniture/tech (NBC)	r furniture/tech (NBC)	25sqm
Site Area	-36,421sqm	lm 50585 sqm		60702 sqm	169968 sqm	12,5 acres	10.5 acre		Toilets		60sqm	3.53		1 tollet per 50 audience members; 2.2-4.5 sqm per	embers; 2.2-4.5 sqm per WC	SOsqm
Built-Up Area	Area 46811 sqm	mps 000,000 sqm		53,000 sq m	57,00 sq m	25-40% (for low-rise, spread-out use)	169968.12 sqm		6 Souvenir Shop							
1 Adminis	Administration								Shop	80sqm	30sqm	200sqm	100sqm	Small: 40-60 sqm; Medium: 80-120 sqm; sqm (based on footfall & product variety)	m: 80-120 sqm; Large: 150-250 roduct variety)	50sqm
Reception	on 50sqm	160sqm	E	120sqm	SSsqm	10-20 sqm (small), 30-50 sqm (large)	100sqm		Storage	20sqm	50sqm	50sqm	20sqm	15–25% of shop area; separate dry, inventory packaging space (NBC)	rrate dry, inventory &	20sqm
Waiting Area	Area 30sqm	70sqm	F	Sosqm	25sqm	1.4-1.8 sqm/person (Neufert)	Sesqm		7 Service	-	-					
Staff office	fice			180sqm	200sqm		150sqm		Service Area(HVAC Room,AHU plant)	+	+	1200sqm	\top	700-1,200 sqm (7-10%) by thumb rule	y thumb rule	750sqm
Manager	Manager's cabin	S5sqm	F	30sqm	32sqms	10-15 sqm (Neufert), 12-18 sqm (NBC)	26sqm	1 (manager) + 2-3 visitors	Restoration area	800sqm	300sqm	1000sqm	200sqm	250-500 sqm		300sqm
Chairma	Chairman's cabin 20sqm	87sqm	r	Sosqm	46sqm	20-30 sqm (executive level)	30sqm	1 (Chairman) + 2-3	Firestaircase	2	8	ю	173	NBC/Neufert: 30 m (non-sp	sprinklered), 45 m (sprinklered)	as per building
			+			15-2 sam/person (for 10-20		Visitors	רוע	1		7	,	Depends on occupancy/load & travel distance	ad & travel distance	as per building
Confren	Confrence Room -	*		100sqm	Bosqm	people: 30-40 sqm)	60sqm	for 30 people	Goods lift			,		Depends on occupancy/load & travel distance	ad & travel distance	1
Pantry	,		+	E.			20sqm	working platform	Ramp/staircase	Provided	Provided	Provided	Provided	Depends on building height	ıt	as per design
Toilet	84sqm	25sqm	E	20sqm	28sqm	စ္က	Bosqm	each floor	Circulation	-	*			25% of floor area		
Storage		e0sqm	E	,		5-10% administration area(NBC)	40sqm	for records & files								
o N	PAKAMETER	AREA IN CASE STUDY -1 (INDIRA GANDHI PRATISTHAN-	AREA IN CA	AREA IN CASE STUDY -2 (BHARAT MANDAPAM - NEW DELHI)	AREA IN LITERATURE STUDY -1 (HYDERABAD INTERNATIONAL	AREA IN LITERATURE STUDY -2 (Aubur Exhibition and Convention Center (ECC)	AREA IN NORMS (Neufert/NBC)	REQUIRED AREA	DISCRIPTION ENTRY ART GALLERY	CAPACITY	ARE	137 318	STAGE MULTIPURPOSE HALL	SE HALL		32
	The second secon	LUCKNOWJ							ARTIUM			172	PANTRY		r v	7
3 Exhibition area	on area	ı.			í	Smalt: 150–300 sqm; Medium: 300- 600 sqm; Large: 600–1000+ sqm	150sqm		MTOILET			18	LIBRARY	37	7000	24
Exhibition area	on area	2800sqm	7500sqm	5000sqm	3000+sqm	2-4 sqm/person for exhibit halls (Neufert); museum exhibit -25-50% of total area	sof 8800sqm	n display area	KITCHEN	,		225	CONFERENCE HALL MANAGER ROOM	SOOM		12
Pre Func	Pre Functional room	e	150sqm	*	ĸ	1.5-2.5 sqm/person; design for group waiting or interactive orientation (NBC)	uBC) 120sqm		SERVILANCE ROOM CONFERENCE ROOM			53 86	POWDER ROOM	МОО		2
Storage		7,000	(4)	040	11 6 7	5-10% of total built-up area (NBC); conditioned if housing artifacts	140sqm	exhibition storage	ACC,OFFICE MEDIA ROOM			29	M.TOILET	a		8 6
Toilet		84sqm	25sqm	20sqm	28sqm	2.2-4.5 sqm per WC (NBC); 1 WC per 75 visitors recommended	r 50-	each floor	STAGE ENGINEER'S ROOM	٠.		15	WAITING AREA	AREA		4 4
Library				*		Small: 150-300 sqm; Medium: 300- 600 sqm; Large: 600-1000+ sqm	150sqm		STAFF ROOM ASST.MANAGER OFFICE	,		42	F.GREEN ROOM	OOM		17
Book Stock Area	ock Area	27sqm			,	15-20 sqm for reception; add 5-10 sqm per librarian (NBC)	sqm 100sqm	for 1000 books	MANAGER OFFICE			42	F.TOILET		r.	9
Reading Area	Area	15sqm			ŧ.	2.5-3 sqm per reader (quiet reading); 4-5 sqm for informal settings	ngs 50sqm		SEMINAR HALL			105	M.TOILET CLENER'S	er 'S		ന ന
E-Corner		14				4-6 sqm per station; 2m clear movement space (Neufert)	25sqm					Z Z	ME CAPI	CITY AREA(ALSQ)	NAME	ACITY
Storage						10-15% of total library area; include compact shelving (NBC)	a 35sqm						טויון טענט	ACIA	ALMIS INTIVITALITIES	
Toilet						1 toilet per 25-50 users; minimum 2.2-4.5 sqm/WC + accessible units	2.2- 40sqm		DISCRIPTION REHERSAL ROOM	CAPACITY	AREA (SO	(W	HALL 01 .	435	MR 101	
Restraura	ant								M. GREEN ROOM F.GREEN ROOM		en 16		HALL 03	1914	We to	
Dining Area	rea	BOsqm		200sqm	e0sqm	1.6-2.2 sqm/person (formal); 2.5-3 sqm/person (buffet/self-serve) (NBC)		200sqm 400 users	PROP.ROOM F.TOILET		er er	10 10 HA	HALLOH	1914	MR 104	
Kitchen		40sqm	10sqm	100sqm	30sqm	25-40% of dining area; minimum 50-100 sqm for commercial kitchen (NBC)		Bosqm	MTOILET VIP LOUNGE		e 6		HALL 05	435	MR.1.05	
Storage		20sqm	Bsqm	40sqm	10sqm	10–15% of kitchen area; segregated dry/cold/utensil (NBC)		Sosqm	A.H.U ROOM	2.0			HALL 06	- 485	MR.1.06	
Toilets		84(each floor)	50(each floor)	75(each floor)	98(each floor)	1 toilet per 50 guests; 2.2-4.5 sqm/WC+1 universal accessible unit (NBC/UD guidelines)	NC+1 (uidelines)	40sqm	ELECTRIC ROOM TOILET FOR PHYSICALLY HANDICAP			10 MB	MR G.01	120.75	MR 2.01	
5 Auditorium	um								MEDIA ROOM STAGE		m ਜਾਂ		MR G.02	122.82	MR 2.02	
Users			150sqm			0.6 to 0.9 square meters per person	1	150sqm	BACK STAGE SOLDIST GREEN ROOM FEMALE		2		. and and	. 1228		
Entrance			45sqm			0.3-0.5 sqm/person; wide entry with visual connection to hall	th visual	45sqm	SOLOIST GREEN ROOM MALE	·			NB GOL	13 61	MR 2.03 & MR 2.04	
Seating area	игеа		130sqm			1.0–1.2 sqm per person (auditorium); add 20% for aiste/circulation		130sqm	ORCESTRA ROOM AUDITORIUM	800	28				MR.205	
Stage			20sqm			Depth 3–6 m minimum; width based on sightlines; -40–60 sqm typical (Neufert)	_	Sosqm				N.	MR G.05	122.82	Ann ann	
Green Room	mox		Bosqm			12-25 sqm per room; 1 per event/performance	+	Sosqm				W	MR G 06	- 12.82	MK 2.00	



7.1 Concept: Contemporary reflection of tradition.

7.1.1.Design Philosophy

The convention Center seeks to create a built environment that pays homage to india's rich cultural heritage through a modern architectural language. The design does not imitate tradition but **reinterprets it** using contemporary forms, materials, and technology.

7.1.2. It Is Reflected in the Building

7.2.1. Form & Massing

- •Traditional Reference: Mandala geometry, courtyards, temple shikharas, ghats
- •Modern Interpretation: Clean, geometric forms inspired by sacred geometry and axial planning. Central courtyards are used for light, ventilation, and gathering.

7.2.2. Façade design

- •Traditional: jaali (lattice screens), chhajja (overhangs), terracotta
- •Modern: cnc-cut jaali panels for shading and aesthetic appeal, glass and concrete surfaces with traditional motifs engraved or printed.

7.2.3. Roof Forms

- •Traditional: Domes, pitched roofs, temple shikhara
- •Modern: Sloped or folded roofs (e.g. petal-shaped auditorium roof) using steel and glass, symbolising abstracted forms of temple architecture.

7.2.4. Materials

- •Traditional: Sandstone, terracotta, lime plaster
- •Modern: Exposed concrete, terracotta cladding, and local stone with polished finishes—merging traditional textures with modern resilience.

7.2.5. Landscape & Site Planning

- •Traditional: Stepwells, kunds, ghats, sacred trees
- •Modern: Stepped plazas, water features, shaded courtyards, and chabutra seating beneath Neem or Peepal trees. Pathways inspired by temple processional routes.

7.2.6. Spatial Experience

- •Traditional: Hierarchical spatial layout (from public to private), spiritual axis
- •Modern: Zoning that allows seamless flow between public, semi-public, and private areas (e.g. administrative block \rightarrow exhibition space \rightarrow guest house), maintaining visual and physical connectivity.

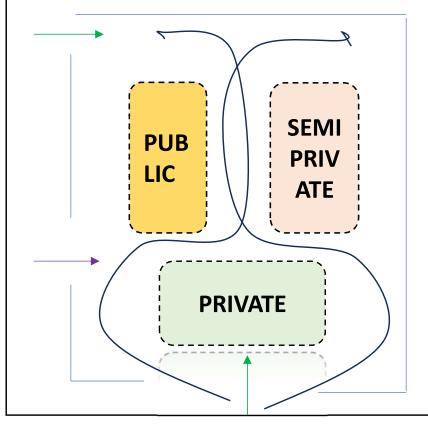
7.2.7. Cultural Elements

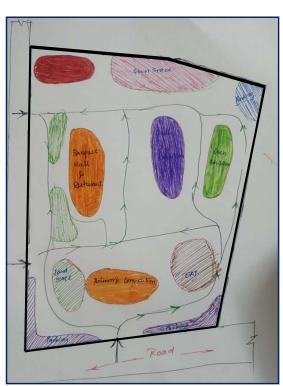
- •Art & Craft Integration: Murals, sculpture courts, and craft installations by local artisans.
- •Lighting: Natural lighting inspired by temple skylights and warm ambient artificial lighting to evoke a peaceful, spiritual ambience.

7.3.1. ZONNING

Zoning of campus-guided with through creation of corridors /spines to control space utilization and to give some open space to each functions with the segregation of public, Semi private and private spaces. Various functions were placed according to their requirements of separate entries, point of accessibility, type of users involved, their service requirement, their interaction with adjacent cent programme and importantly, site conditions were taken into consideration.

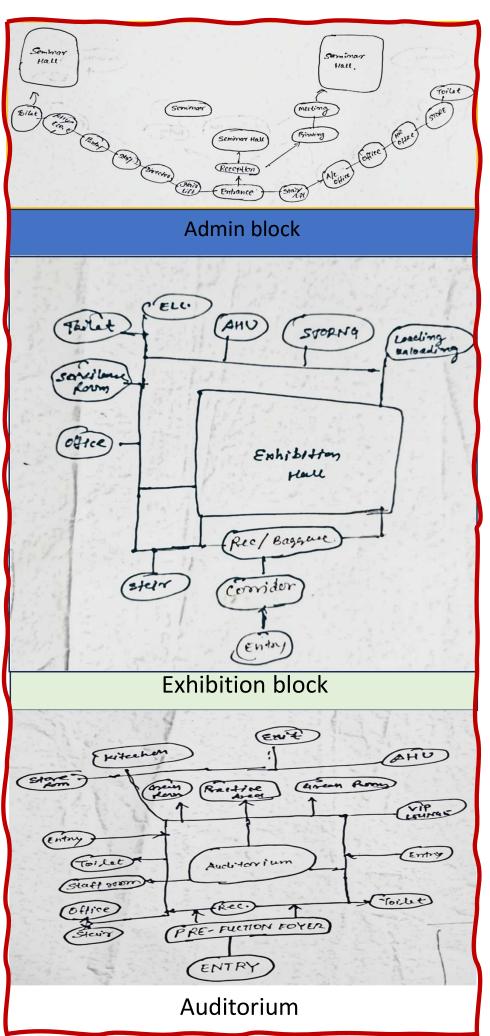
7.3.2. SITE ZONNING

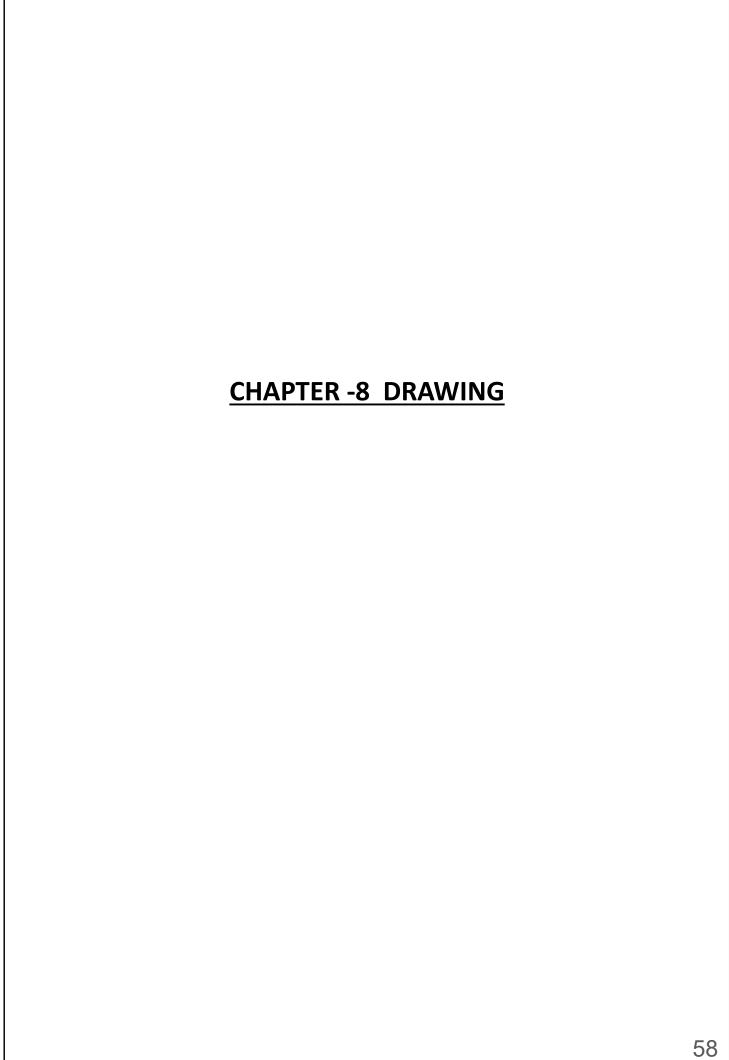




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7.4. BUBBLE DIAGRAM





CHAPTER -9 BIBILIOGRAPHY

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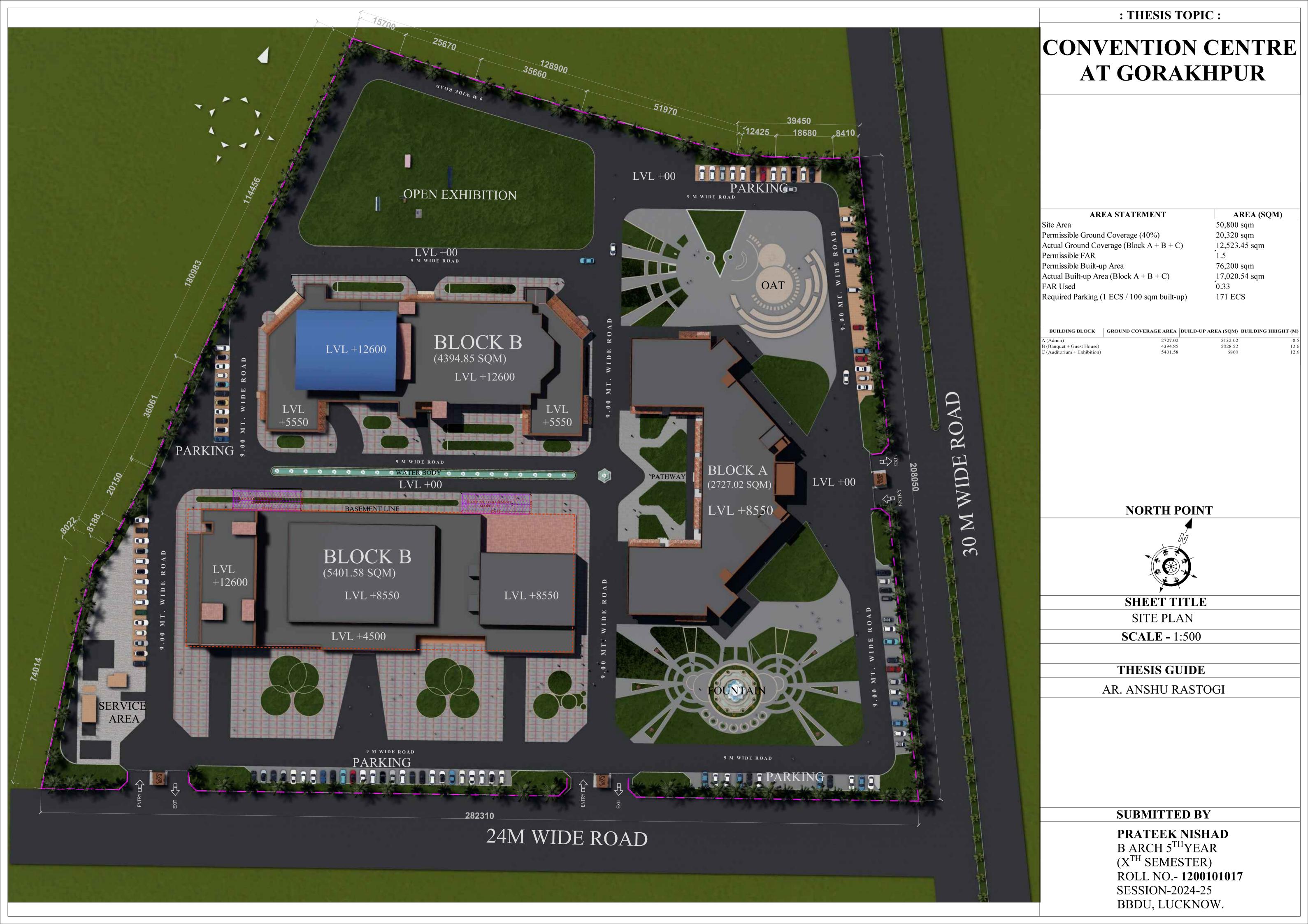
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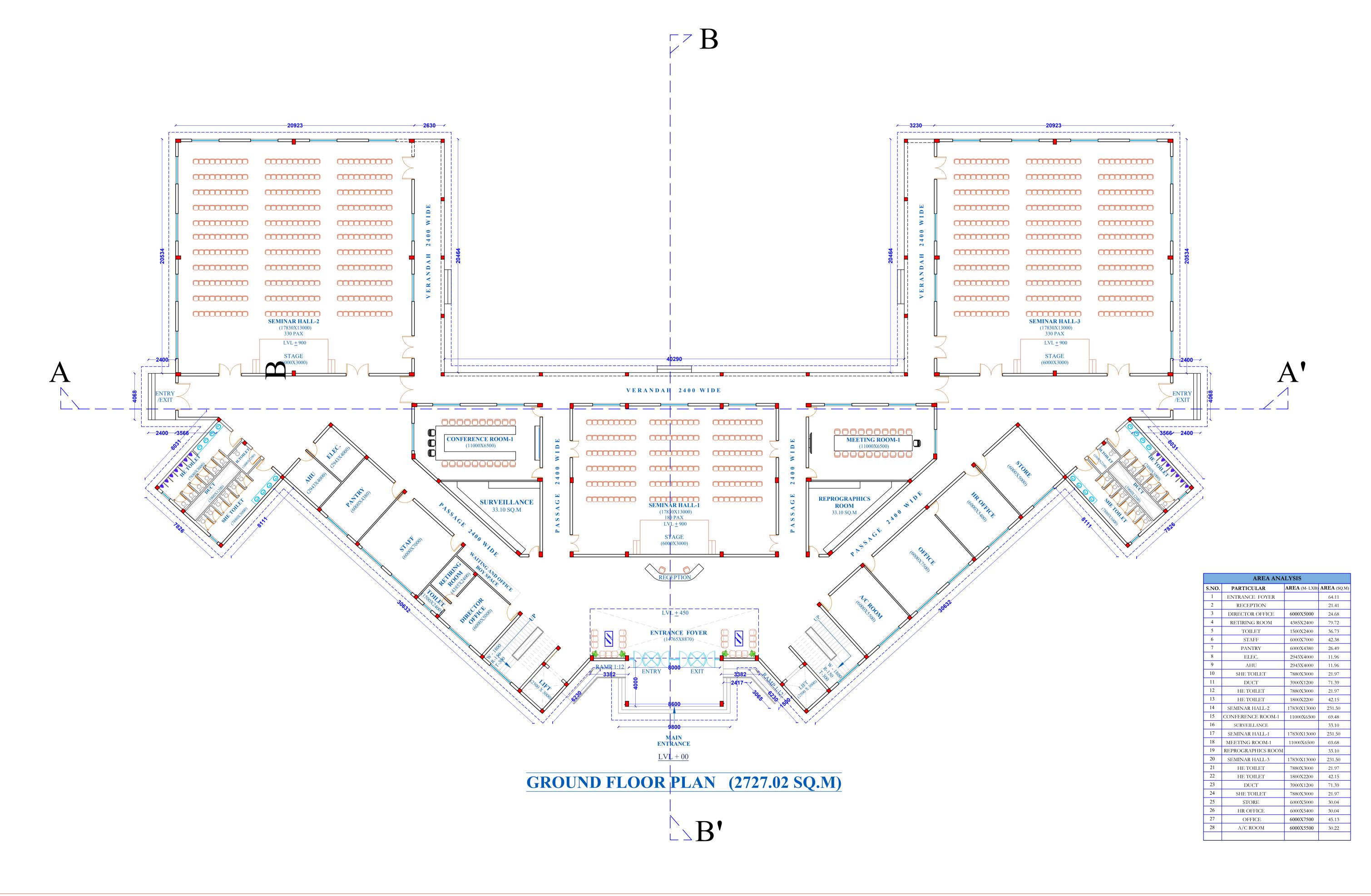
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CONVENTION CENTRE AT

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ADMINISTRATIVE /
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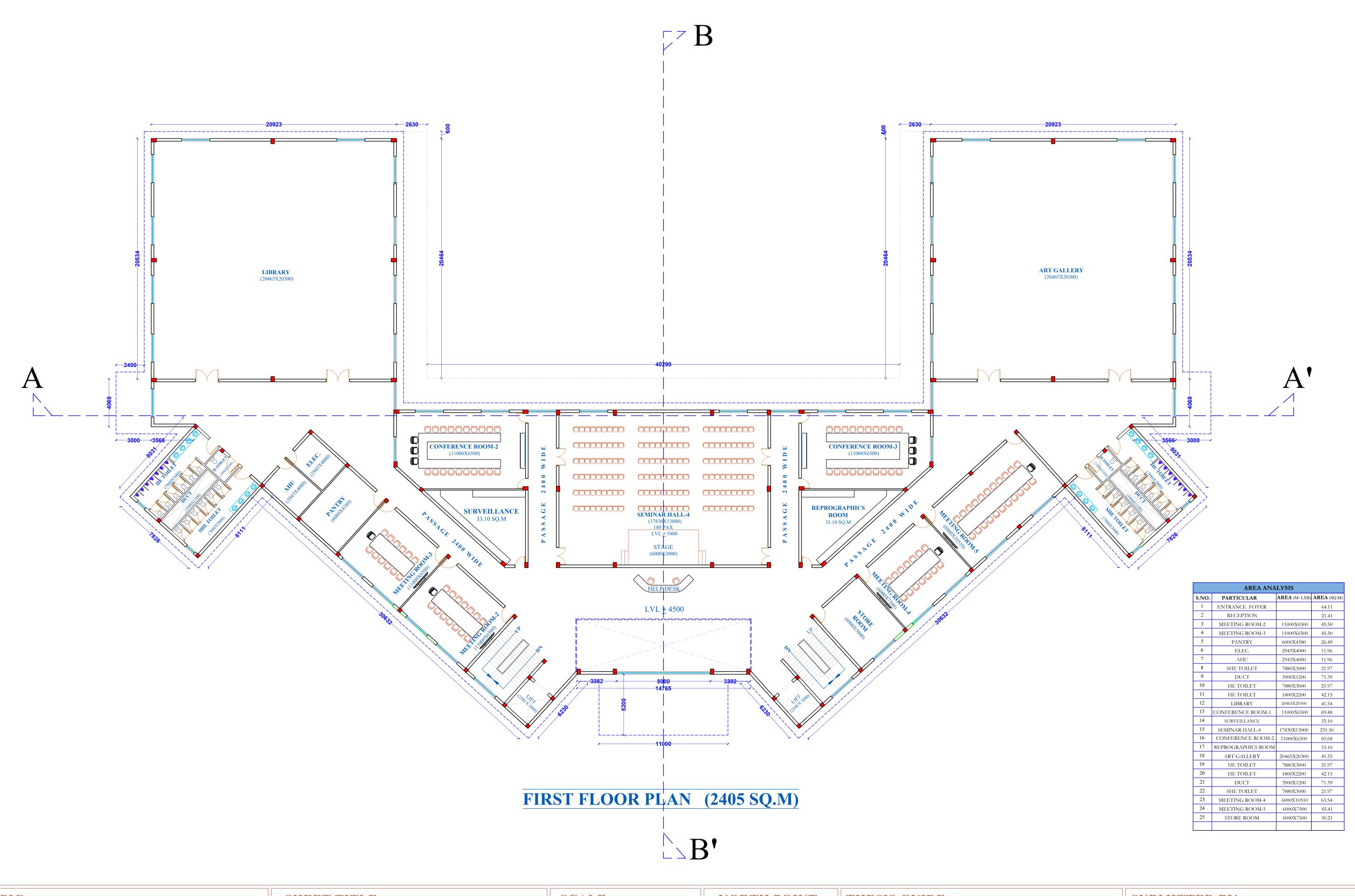
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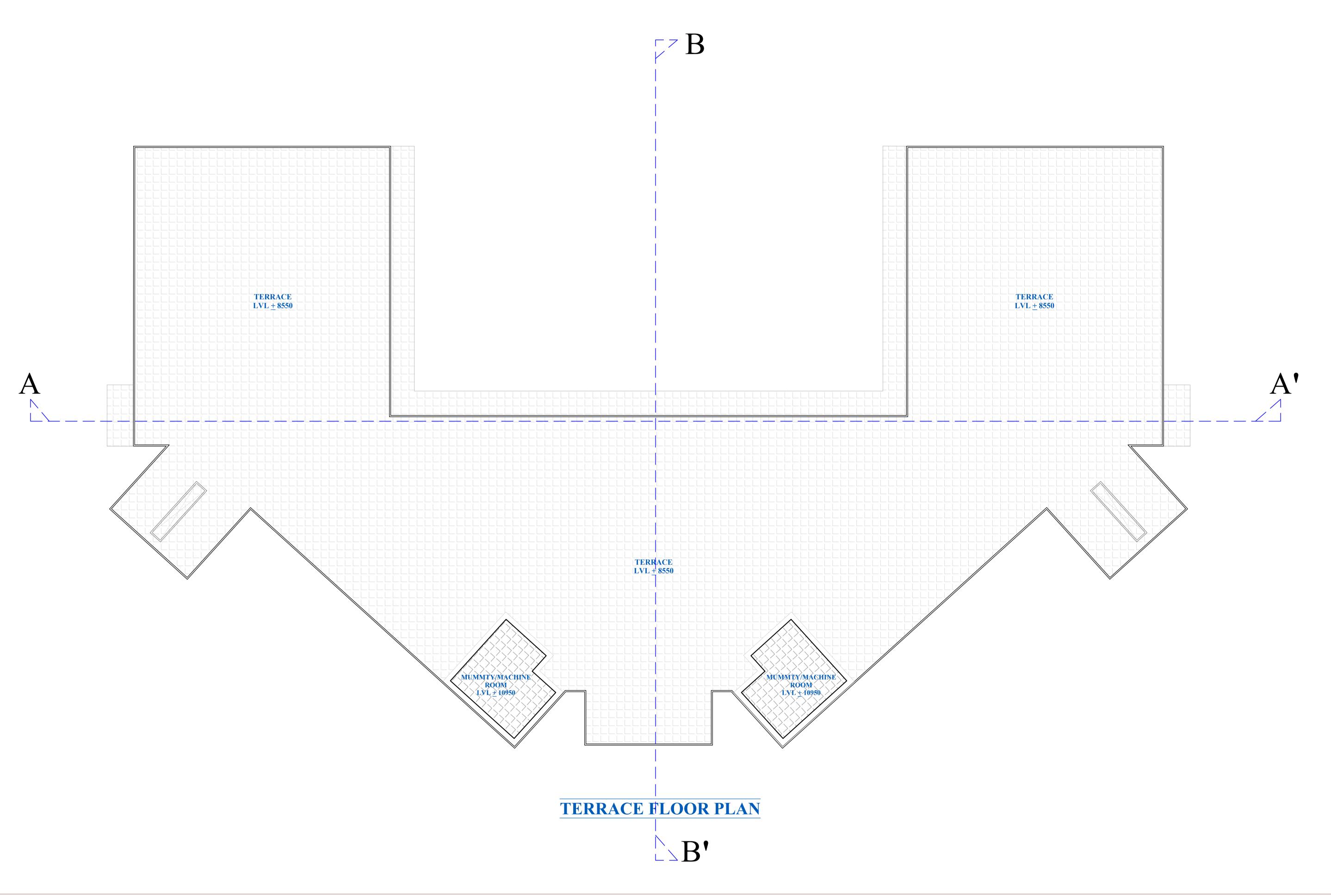
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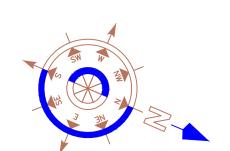
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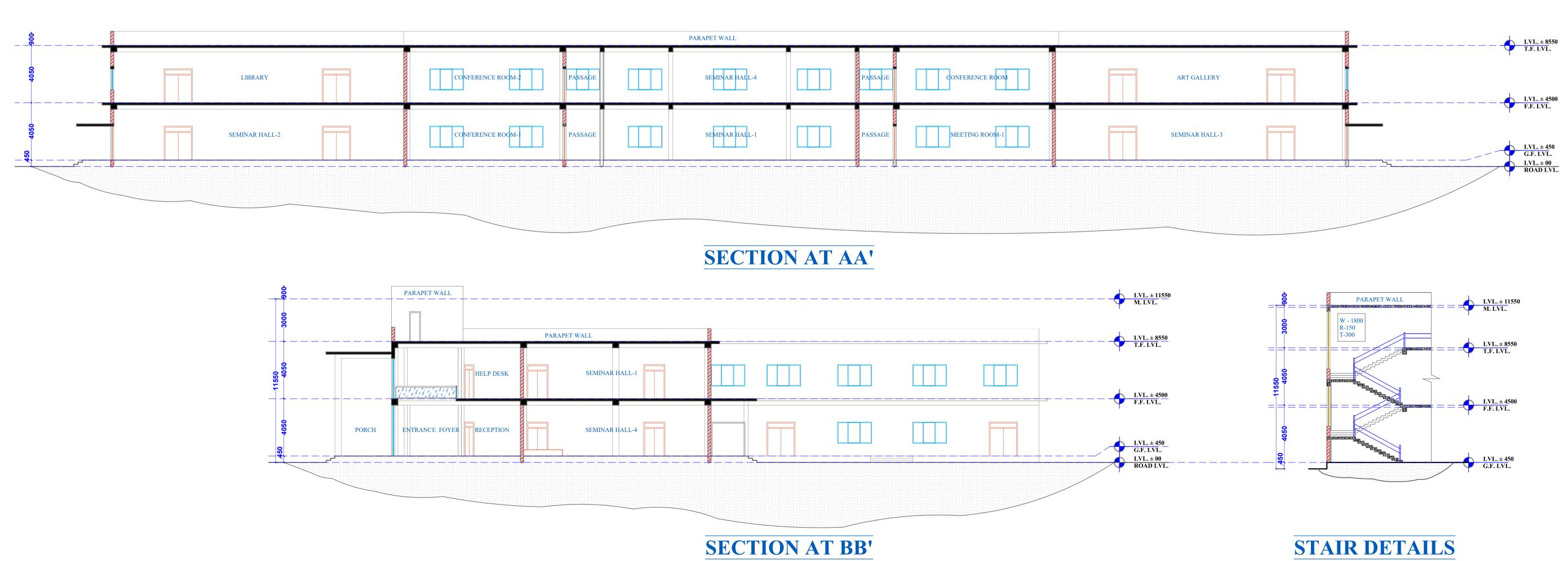


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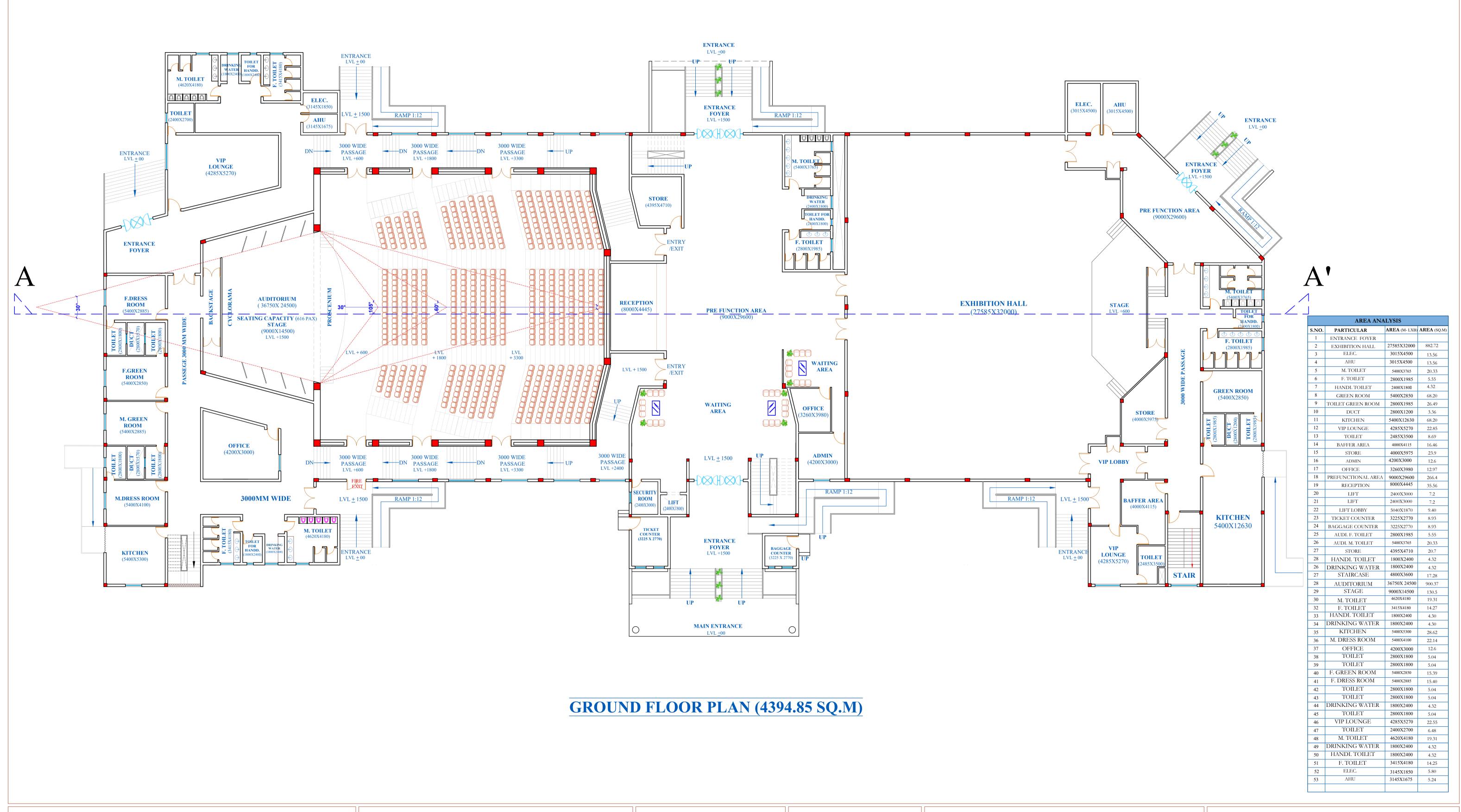
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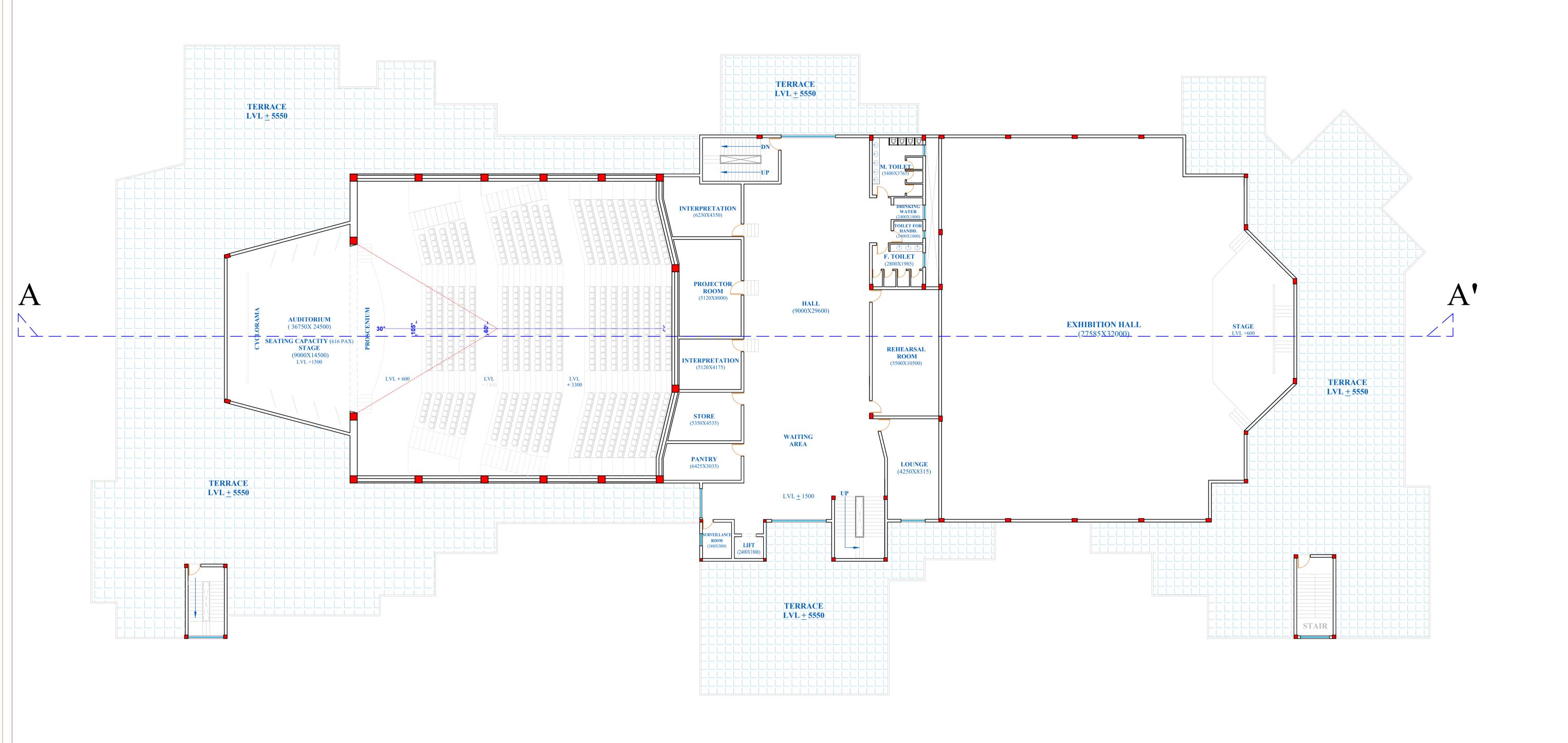
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FIRST FLOOR PLAN (633.67 SQ.M)

	AREA ANA	LYSIS	
S.NO.	PARTICULAR	AREA (M- LXB)	AREA (SQ.M
1	SURVEILLANCE ROOM	2400X3000	7.20
2	STORE	5350X4535	24.26
3	INTERPRETATION	5120X4175	21.35
4	INTERPRETATION	6230X4350	27.10
5	PROJECTOR ROOM	5120X8000	40.96
6	REHEARSAL ROOM	5500X10500	57.75
7	LOUNGE	4250X8315	34.65

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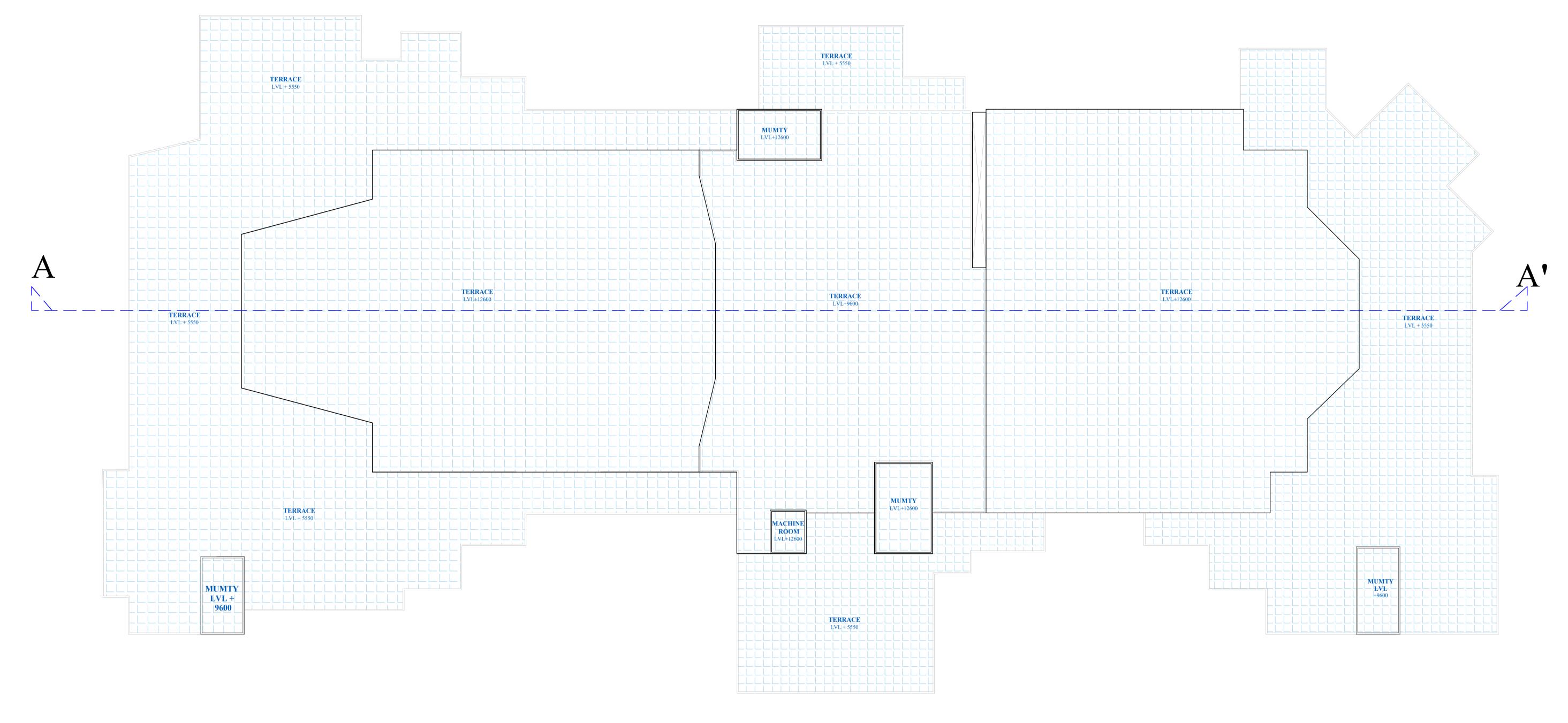
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TERRACE FLOOR PLAN

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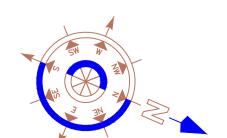
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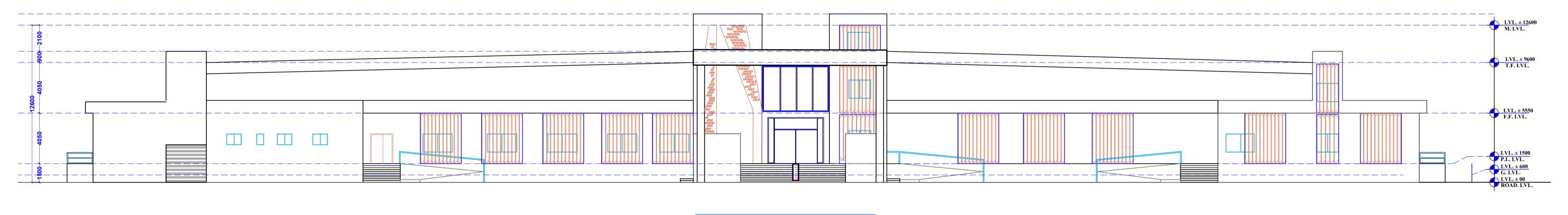




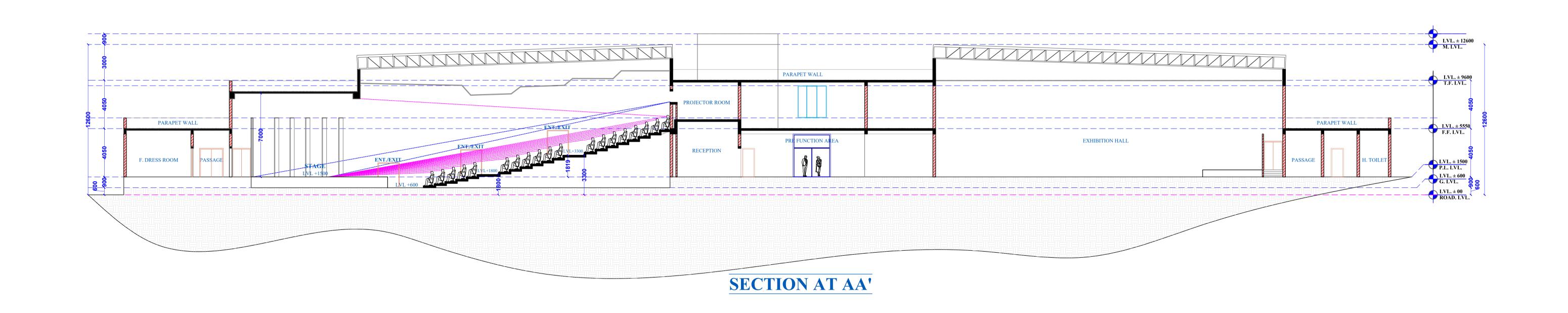
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FRONT ELEVATION



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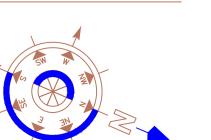
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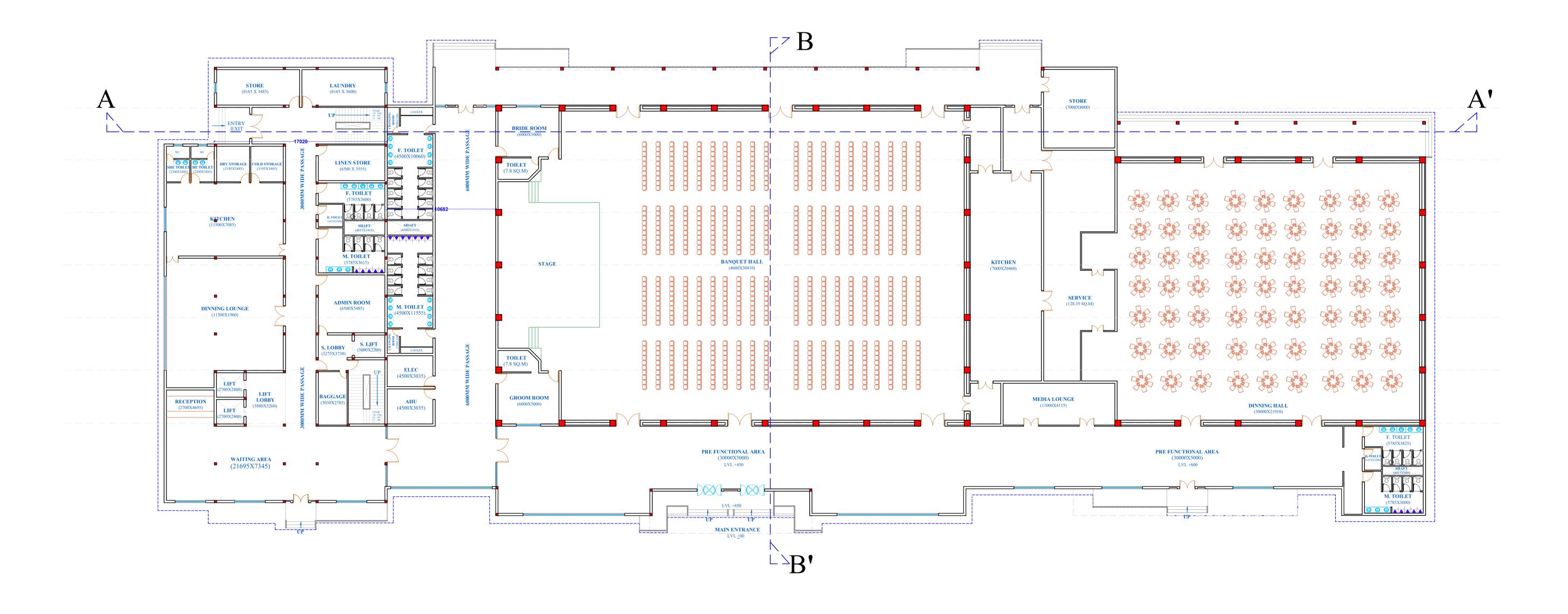




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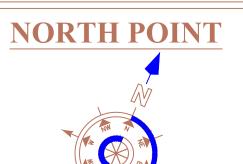
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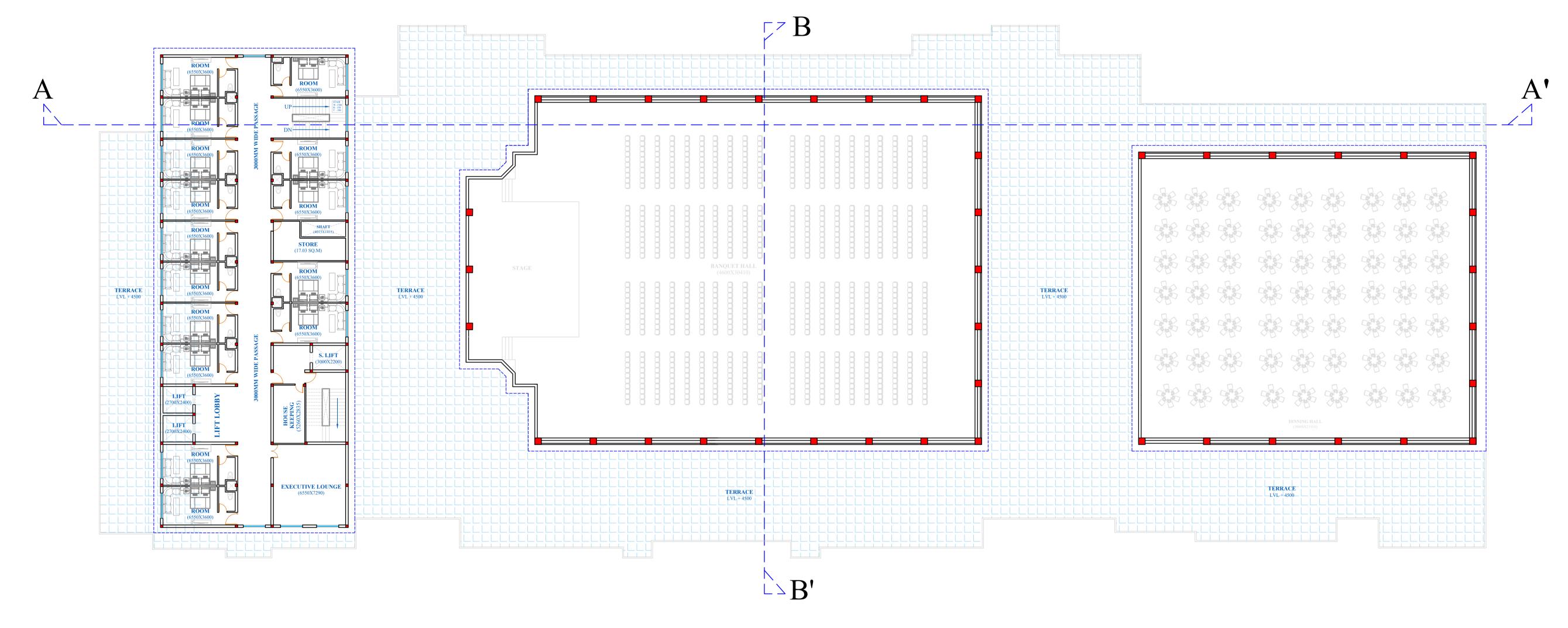
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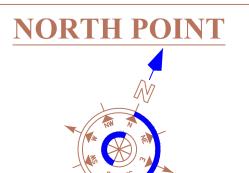
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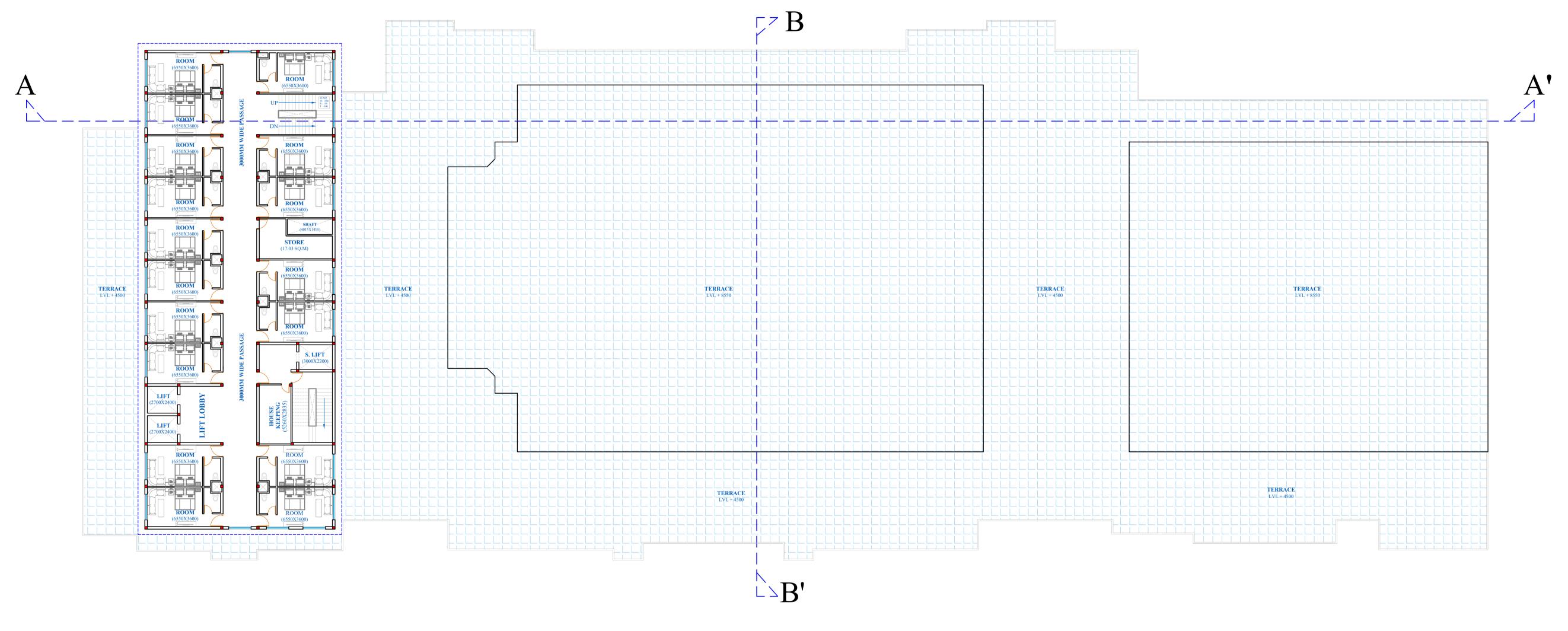
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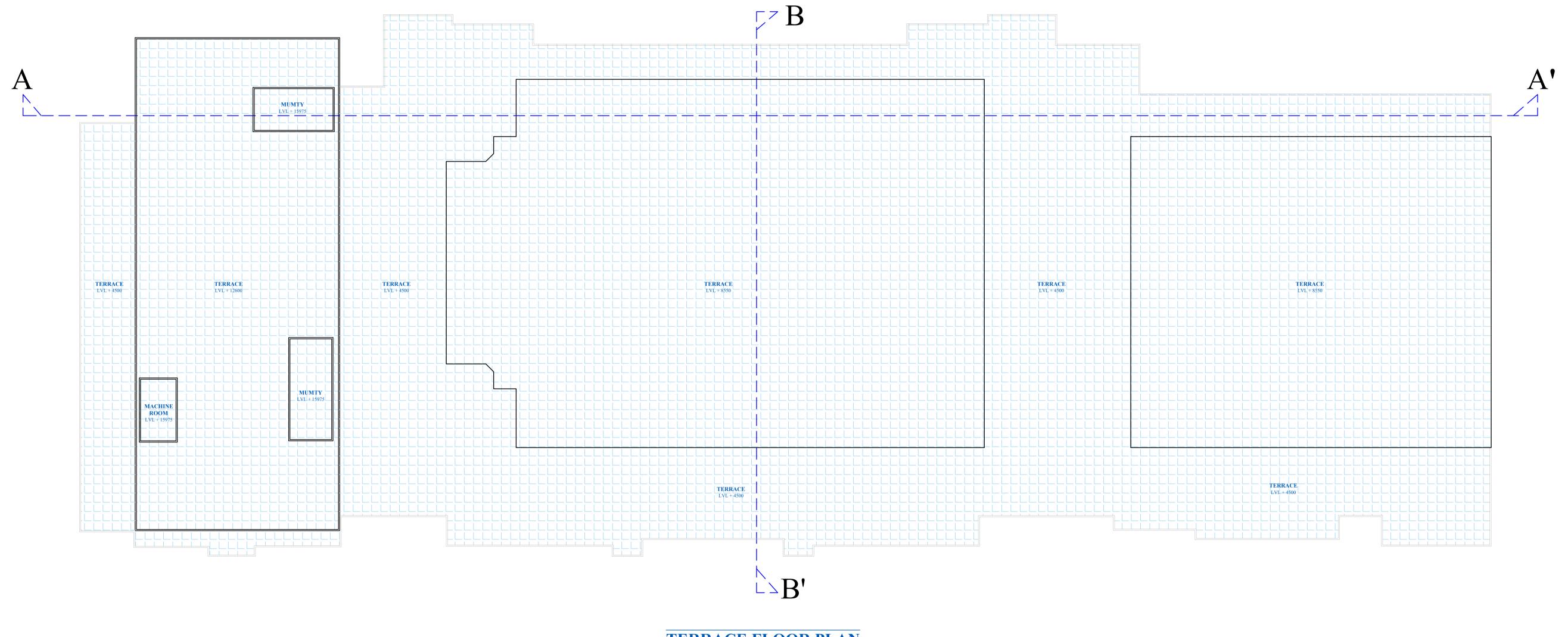
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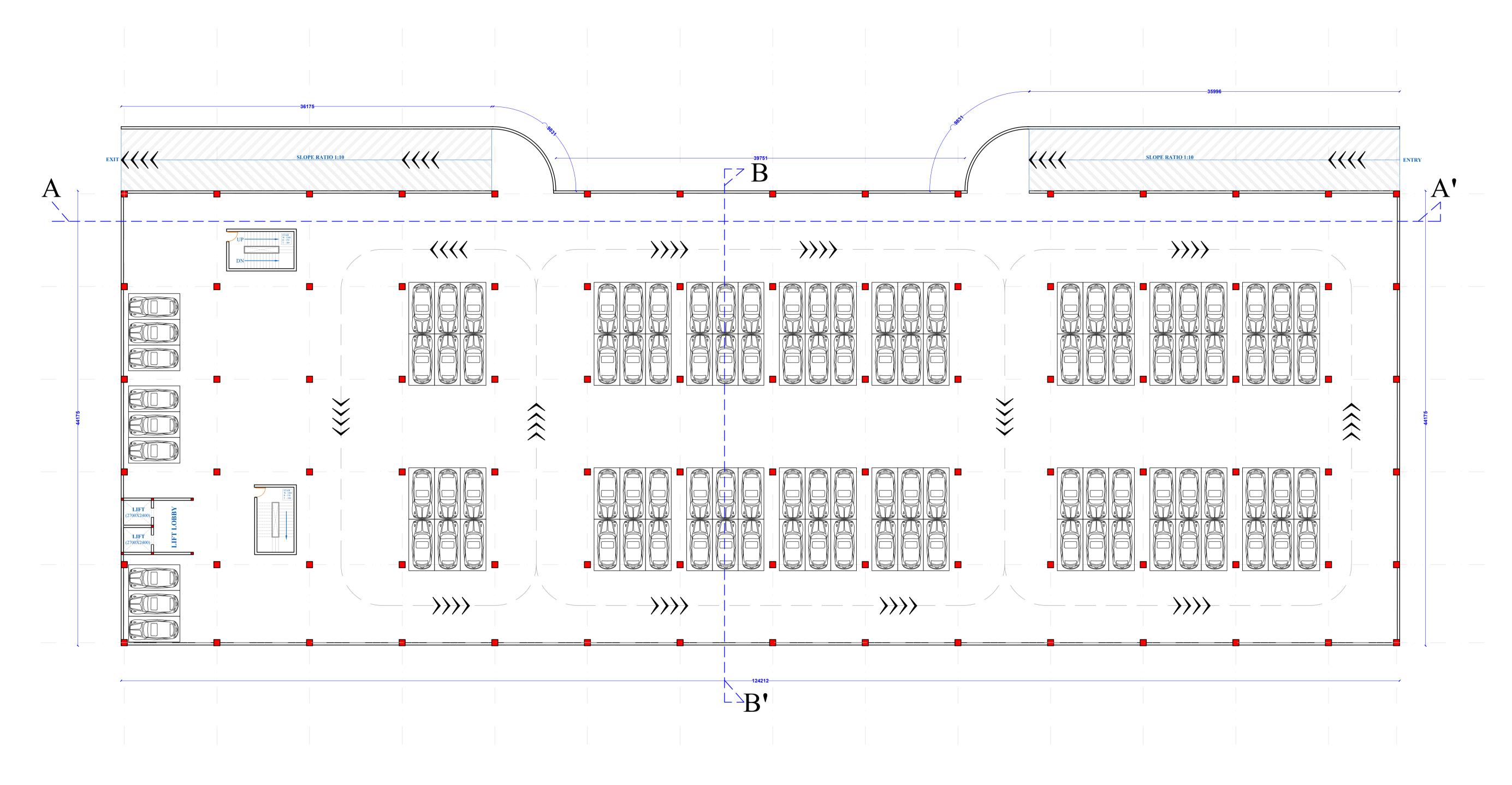
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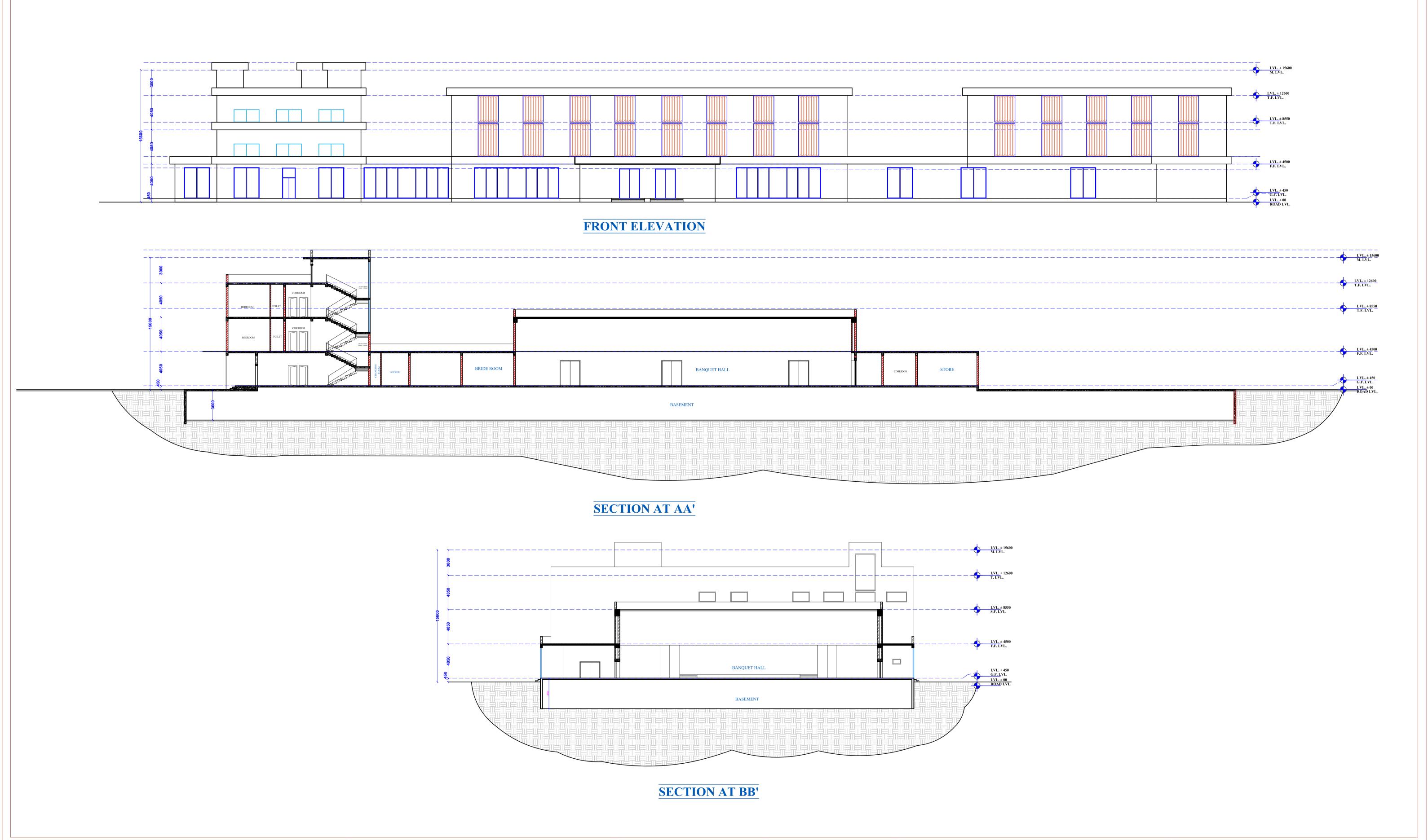
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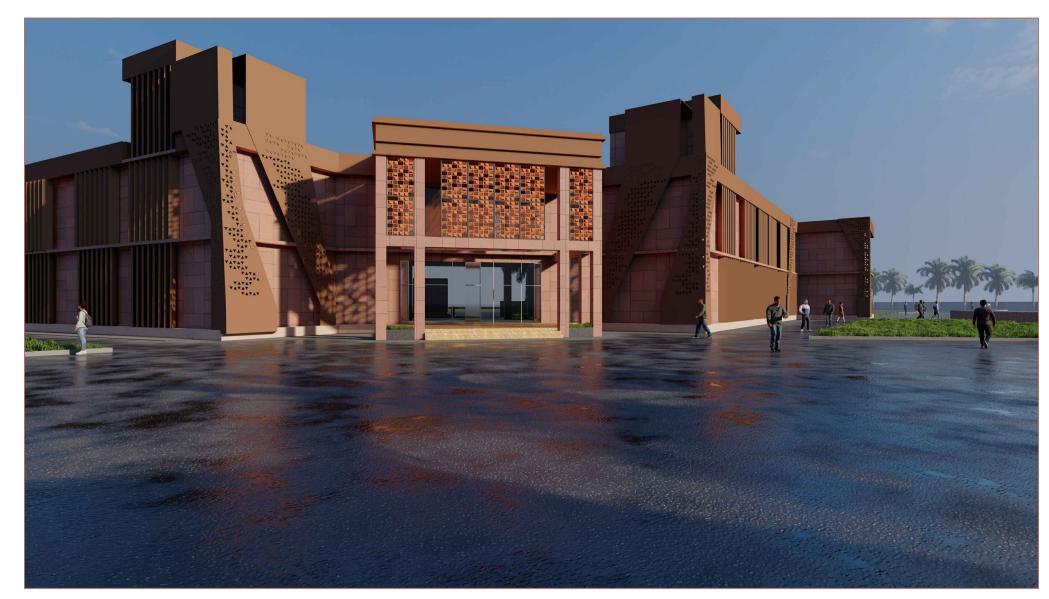
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