



THESIS REPORT

ON

MIXD USE BULIDNG
ENHANCE
THE URBAN SPACE

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

BACHELOR OF ARCHITECTURE

BY

DEEPTI SRIVATAVA

ENROLLMENT NO. – 1190101010

GUIDED BY-

AR. ANSHUL

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TO THE

SCHOOL OF ARCHITECTURE AND PLANNING

BABU BANARASI DAS UNIVERSITY

LUCKNOW.

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(U.P.).**

CERTIFICATE

I hereby recommend that the thesis entitled **location mixed use buiding**
Enhance the urban space under the supervision, is the bonafide work of the
students and can be accepted as partial fulfillment of the requirement for the
degree of Bachelor's degree in architecture, school of Architecture and
Planning, BBDU, Lucknow.

Prof. Mohit Kumar
Agarwal
Dean of Department

Prof. Sangeeta Sharma
Head of Department

Recommendation Accepted
Not Accepted

External Examiner

External Examiner

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

Certificate of thesis submission for evaluation

- | | |
|---|---------------------------------|
| 1. Name | DEEPTI SRIVASTVAVA..... |
| 2. Roll NO | .1190101010..... |
| 3. Thesis Title | MIXED USE BUILDING..... |
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.....
(Signature(s) Of thesis Guide)
Name:

.....
(Signature of the Candidate)
Name:DEEPTI SRIVATAVA
Roll No.:1190101010

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MIXED USE BUILDING

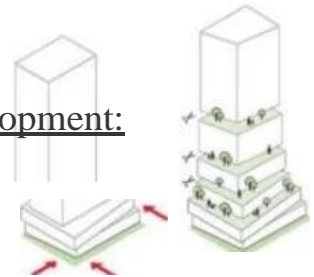
1.1 INTRODUCTION

A Multifunctional complex development is a real estate development with planned integration of a combination of retail, office, residential, hotel, recreation or other functions. It is pedestrian-oriented and contains elements of a live-work-play environment. It maximizes space usage, has amenities and architectural expression and tends to mitigate traffic and sprawl

Multifunctional can be either horizontal or vertical, or a combination of both. In a horizontal mix, each building would occupy its own envelope and would be spread across the site. Such developments require very large areas of land. With the growing population and less availability of land, vertical Multifunctional development is more practical.

Features of vertical (Skyscraper-type) Multifunctional development:

- Combines different uses within the same building
- Provides for more public uses on the lower floor such as retail shops, restaurants, of commercial businesses
- Provides for more private uses on the upper floors such as residential units, hotel rooms, or office space.



Features of horizontal (Community-type) Multifunctional development:

- Consists of single-use buildings within a multifunctional zoning district
- Integrated uses that are walkable and within a given neighbourhood.

Combine both vertical and horizontal mix of uses in an area within an approximately 10 minutes walking distance to core activities

Features of Complex type Multifunctional development:

- Single use buildings on district parcels in a range of land uses within one planned development project.



A **High-Rise Multifunctional** development solve both problems by maximizing the number of people that can live and work on a scarce, fixed amount of available land. Increasing demand of urban spaces will push the environment to grow vertical and

compact. In the recent times the urban cities have been turned into sprouting neighborhoods. The main core of city contains the core of livelihood hence resulting to job opportunities. Due to the lack of space and the rise lifestyle, leads to creation of sprouted suburbs. This has given rise to a car-dependent commuter town. Number of problems faced by urban regions are hence of the sprouted behavior of the town. The traditional front-lawn houses are cut away and rearranged into skyscrapers with a singular function so as for residential or commercial purpose either, thus losing their greenness and their neighborhood with excessive land use. So, the necessity of Multifunctional development integrating bio-climatic principles has come up.

This thesis explores the design issues and goals in high rise Multifunctional development involving consideration of all prevailing conditions guided by the local bye-laws. The various functional needs, efficiency, economy, energy conservation, aesthetics, technology. Fire and life safety solution, vertical transportation, human comforts, operation and maintenance practices, provision of future growth is some of the main factors incorporated in the design. The emphasis of integrations of plants into skyscrapers and

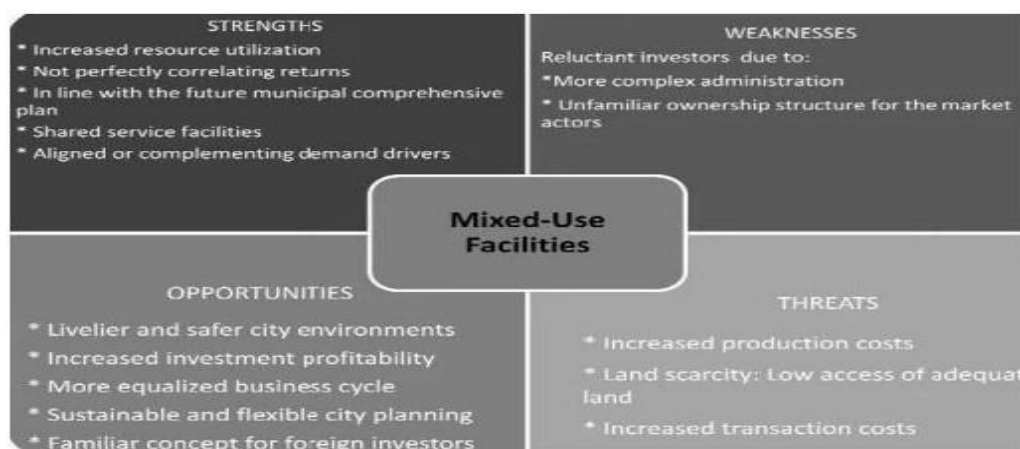
application of bioclimatic design principles play a vital role for energy conservation as well as improve the living quality into the vertical cities. This development blends residential, commercial, cultural, institutional, or industrial uses, where these functions will physically and functionally integrate, and provide a pedestrian connection. The Multifunctional development will take the form of a single building block complex.

1.2 PRINCIPLES OF MULTIFUNCTIONAL DEVELOPMENT

- Allow for a more balanced and integrated mix of uses that include retail, offices, commercial services, housing and civic uses to create economic and social vitality
- Provide options for commercial opportunities by designing flexibility into the initial building to allow for subsequent reuse options
- Promotes the development of affordable housing
Includes amenities and attractions that cannot be included in single purpose projects, such as public realm that can capitalize on the synergy of diverse uses

BENEFITS OF MULTIFUNCTIONAL DEVELOPMENT

- Greater housing variety and density



- Increased accessibility and walkability via transit, resulting in reduced transportation costs and environmental damage
- Convenience of live-work-play options in a single location

- More flexibility to adapt to changing needs, thus increasing the buildings long-term life.

NEED OF PROJECT

Multifunctional developments embrace a challenge in terms of effective land use, especially in dense, supply-constrained urban markets. These create small cities within the larger city environment. Not only does this encourage more compact stacking and conserve open space but they create walkable environments that infuse new life into communities. Consumers today demand convenience. Millennials are moving to live in Multifunctional developments in an upscale environment. They want to step outside their homes and be within walking distance to their work place, coffee shops, restaurants, fitness facilities, grocery and spa options. The goal is to provide a walkable area with all the ingredients for a convenient and healthy lifestyle.

Multifunctional creates new communities and energizes old by adding apartments, hotels, fitness centres and offices - all at one place. Emergence of Multifunctional tall building is to moderate the vacuum space phenomena of the city due to excessive development of the office-oriented functions and ever-increasing traffic problems in the city. Mixing the residential space with offices and commercial facilities creates more efficient use of available land by means of utilization of building and space 24 hours with their different time occupancy use of different functions.

The employment seekers started migrating to urban areas in general and in particular to the major cities like Bombay, Delhi, Chennai, Bangalore, Hyderabad etc

1.3 SCOPE OF PROJECT

In a very elementary sense Multifunctional development is just practical. It places the day to day things we need to do in an immediate proximity to each other.

Less transportation requirement for daily life, thus the massive consumption associated with transport is minimized. Thus, the resultant cost of amenities like road, parking lots reduces. The involvement of commercial and retail units in the complex increases the lease ability producing less pressure on residential units. This gives greater housing variety, density and more affordable houses (smaller units). The compact development leads to land-use synergy (e.g. residents provide customers for retail which provide amenities for residents).

A better access to fresh, healthy foods (as food retail and farmers' markets can be accessed on foot/bike or by transit) is obtained.

A walkable, bike able neighbourhoods, increases accessibility via transit. For the developer, risk is spread around several different markets, so if the office market tanks while you're under construction (for example), well, you can lease the retail and operate the hotel and hopefully hang on to the thing until office improves. It's just diversification at the project level.

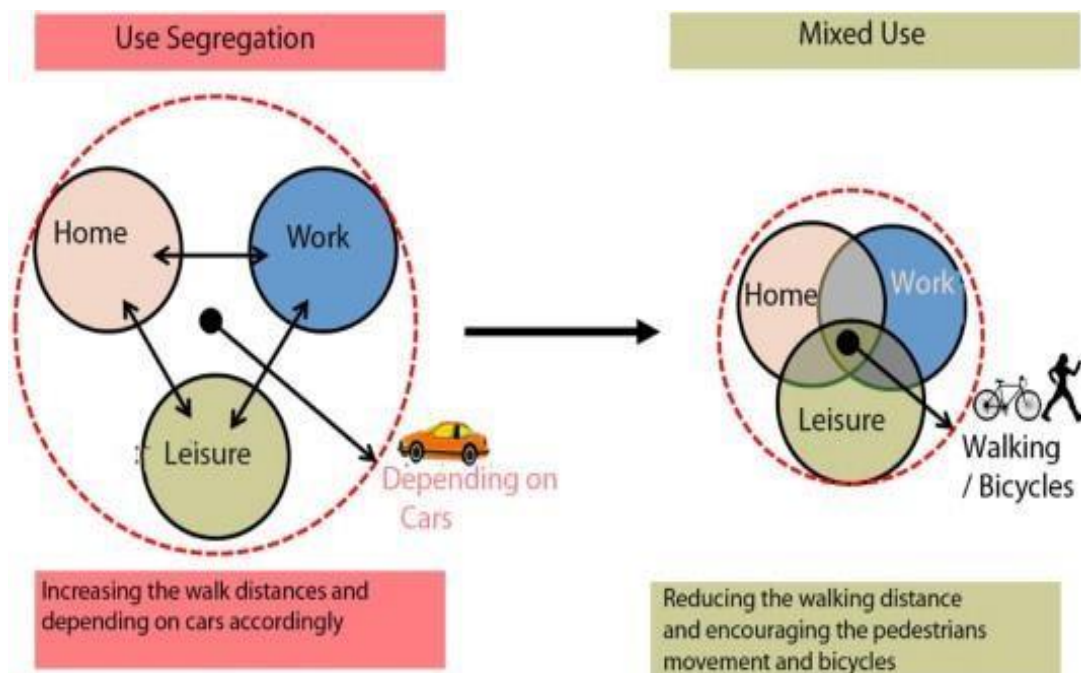
The different uses can work in synergy. Office workers want restaurants to eat lunch and entertain clients in, and hotels to host business travellers. Shoppers want to catch a movie. Condos and hotel rooms may be worth more if there are shopping and services right downstairs.

From the developer's point of view, since people are looking for these things, why not provide them and keep that revenue yourself



USER/ CLIENT DISCRPTION

In a Multifunctional project of this scale there are large number of people who are



involved in the development and everyday functions of the building.

Clients and Owners

The entire scope of the project will likely be owned by a private outsider developer.

Users

There are many users in a project of this size and they fall into categories of retail, commercial, hotel and residential. The primary retail audience will be the individuals who live/ work/ learn within the brewery complex. The secondary user group will include the



LITERATURE STUDY-1

LIVE CASE STUDIES- KOHINOOR SQUARE, MUMBAI.BUSINESS BAY,
PUNEN
NET CASE STUDY- SPIRE EDGE, MANESAR
BOOK CASE STUDY- CHENGDU SICHUAN, CHINA

KOHINOOR SQUARE, MUMBAI.

STRUCTURE IN GENERAL

Dadar, Mumbai, 2009-15

Architect: SSA Architects, Mumbai

Client: The Kohinoor Group

Program: Mixed-Use

Plot Area: 18,615 sq.

Floor Area: 50,000 sq.M for Office

Height: 203 meters Main building,

142 meters Residence Building

Floor counts: 52 stories, 32 stories

Status: Under-Constructed

Parking -3500

FLOOR PLAN ANALYSIS

FLOOR PLAN ANALYSIS

The Central Core is surrounded by the office spaces and refuge areas (at 24 meter of height)

There are segregated office space from 2nd to 24th floor with toilets to each office and a common toilet s also

Central core consist of

3 Lobbies of 6 Lifts serving levels 25th to 39th

Spaces between the lifts where a lift lobby is not provided are use side: 2 lifts from this pack of 6 are assessable to lower floors as w

1 lobby of 4 lifts serving levels 1st to 24th

There is a lift bank at 24th floor .

2 services lifts travelling Throughout the building

2 Stair cases are also placed in the core

The Central Core is surrounded by the office spaces.

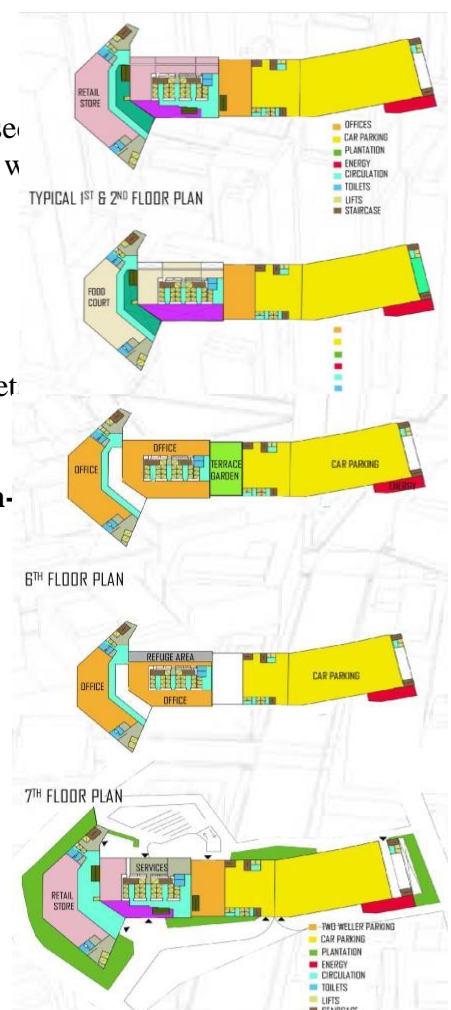
There are segregated office space from 6th to 14 floor with toilet toilets also provided on all these floor.

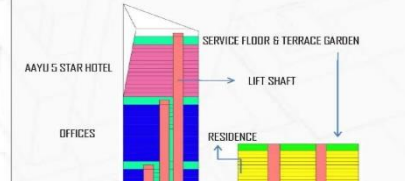
Refuge Floors is provided

The **first five floors** of the main building is used for a **high-remaining**

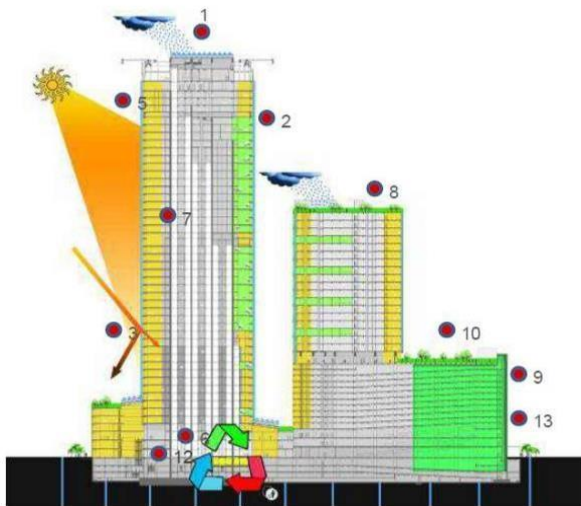
47 floors of the main building is utilized for a **commercial offices and five star hotel.**

The main building is crowned by five star hotel on top 5 floor.





SUSTAINABLE FEATURES



1. Rain Water Collection
2. Sky Gardens
3. High Performance Facade
4. High Efficiency Ventilation System
5. Daylight Harvesting & Dimming Controls
6. Black & Grey water Reuse
7. Environmentally Preferable Material
8. Green Roof
9. Energy Centre
10. Native Adapted Landscape
11. Onsite Waste Water Treatment
12. Recyclable Sorting & Collection
13. Natural Ventilation



Residential Building :



11th to 24th Floor



24th to 37th Floor

13 stories of parking in below floors.]

132 residential units . 8 units on each floor. At top few floors 4 units on each floor.

6 on 17th floor which is refuge floor

Central Core : 3 lifts and 1 service lift 2 Stairs are also placed in the core. The Kohinoor square building is one of the first skyscraper building in india to achieve a leadership in energy and environmental design platinum rating for environmental sustainability a gold (leed) certification from green building council. Construction of the Kohinoor square started in early 2009, with an completion date of march 2013.

OBJECTIVE: To study planning and design of Mixed-use High rise in context to India

SITE & SURROUNDING

In India, Kohinoor square is located Dadar, a suburb of Mumbai. The site is surrounded by a dense Low-Rise residential areas hence its Tallest structure in the vicinity.

1. The main building's first five stories are occupied by a high-end shopping centre, while the following 47 storeys are home to a five-star hotel and business offices. On the fifth story of the main structure, there is a five-star hotel.



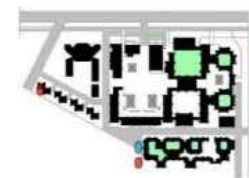
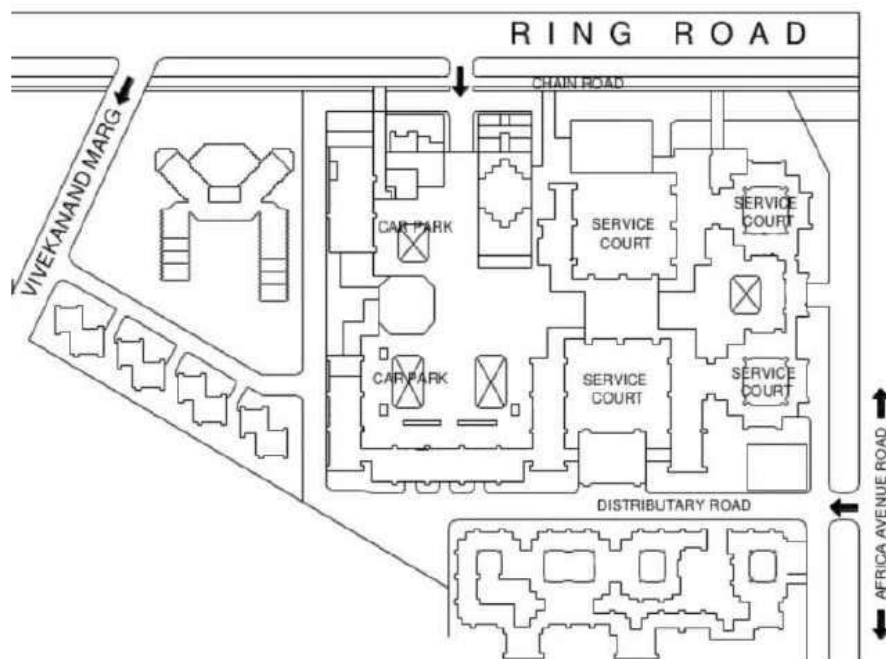
A single elevator lobby with four lifts serving the first through 24th floors and two service elevators

The 24th floor has a lift bank.



LITERATURE STUDY-2

NAME	BHIKAJI CAMA PLACE, NEW DELHI
CLIENT	DELHI MUNICIPAL CORPORATION
ARCHITECT	NBCC LIMITED
CONSULTANT	NBCC LIMITED
YEAR	BUILT IN 1980, REDESIGN
IN 2005	
FLOOR AREA	4,66,971 SQ.MT.
GROUND COVERAGE	50,051 SQ. MT
F.A.R	2.91
SITE AREA	40 ACRES
LOCATION	R.K PURAM, NEW DELHI
COORDINATES:	28° 33' 56" N 77° 11' 11" E
DELHI MAP	Govt. & Semi Govt. Building
ELEVATION	213.36 MABOVE SEA LEVEL
CLIMATE ZONE	COMPOSITE



LEGEND
 Fire Stations
 Water Supply

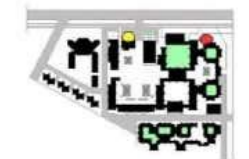


Figure 5.30: Site plan with locations of public toilets

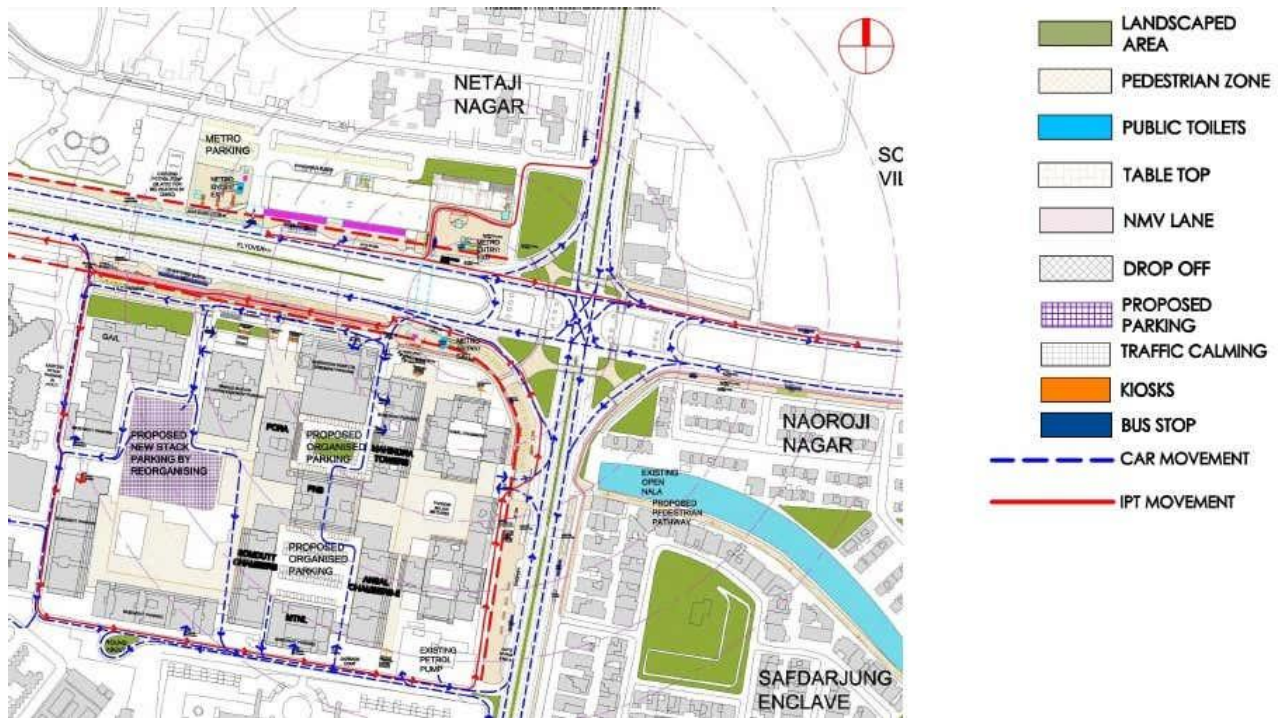
LEGEND
 Non-private body operated toilets
 D.P. Mandal Group operated toilets

Located in close proximity to Sarojini Nagar and HauzKhas, the site is right adjacent to Bhikaji Cama Place Metro Station.

BCP sits at the intersection of Mahatma Gandhi Marg and Africa Avenue Road right opposite to Netaji Nagar.

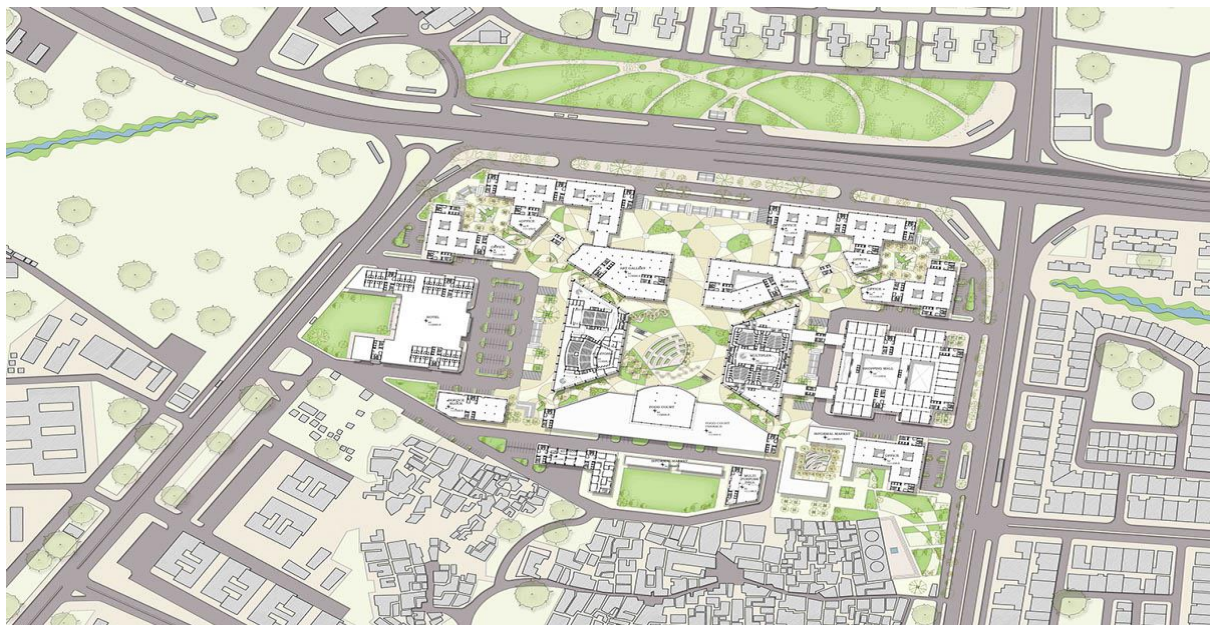
Ring Road provides access to the Five-Star Hotel: Hyatt Regency and Africa Avenue Road provides access to August Kranti Bhawan.

Ring Road is relieved from traffic with the coming up flyover right opposite to Metro Station Gate No 3.



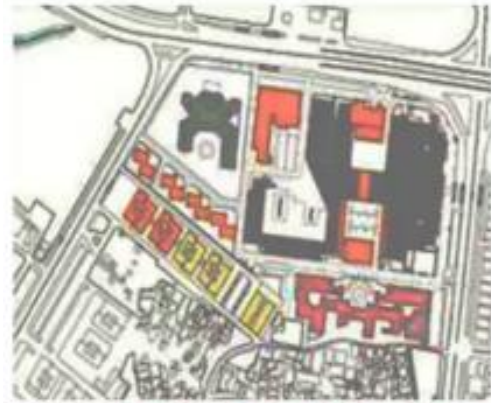
There are two public toilets on the site. One is maintained and run by O.P Jindal group and the other is by some non-private body. The former one is in good condition and seems to be a newer addition to the site while the latter is locked and is not functional and seems to be constructed during construction of site. Toilets run by O.P Jindal group have both female and male toilets; with separate area for urinals. These toilets also function during evening. There is also provision for disabled persons, which is not the case for non-private body operated toilets on the other side. The non-private body operated toilets have been locked and the approach pathways are being used for two-wheeler parking. The services such as water tank are present there but are non-functional. The main reason for the locked public toilets is the inadequacy of maintenance. As these are located in proximity to the main road, these should have been functional as they cater to many shops nearby. Offices have their own washrooms. However, there are washrooms in Petrol Pump which can be accessed by public.

The complex has high to mid-rise building blocks developed around large plazas and courts. Basic zoning in the complex is commercial, business and administrative. The office areas clearly dominate shopping areas; hotel and the informal sector have been assigned separate zones which give them a different Identity. Parking for the centre was provided along the periphery of Hyatt Regency and





PLAN OF UPPER GROUND FLOOR



PLAN OF LOWER GROUND FLOOR



PLAN OF TYPICAL FLOOR

August Kranti Bhavan. Some temporary parking was observed near ongoing construction work and some permanent parking spaces were blocked.

INFRENCES:

Retail along the pedestrian movement spine, encouraging use of plaza.(planning)

Staggered built form in plan and elevation, play of light and shadow.(aesthetically and climatically responsive)

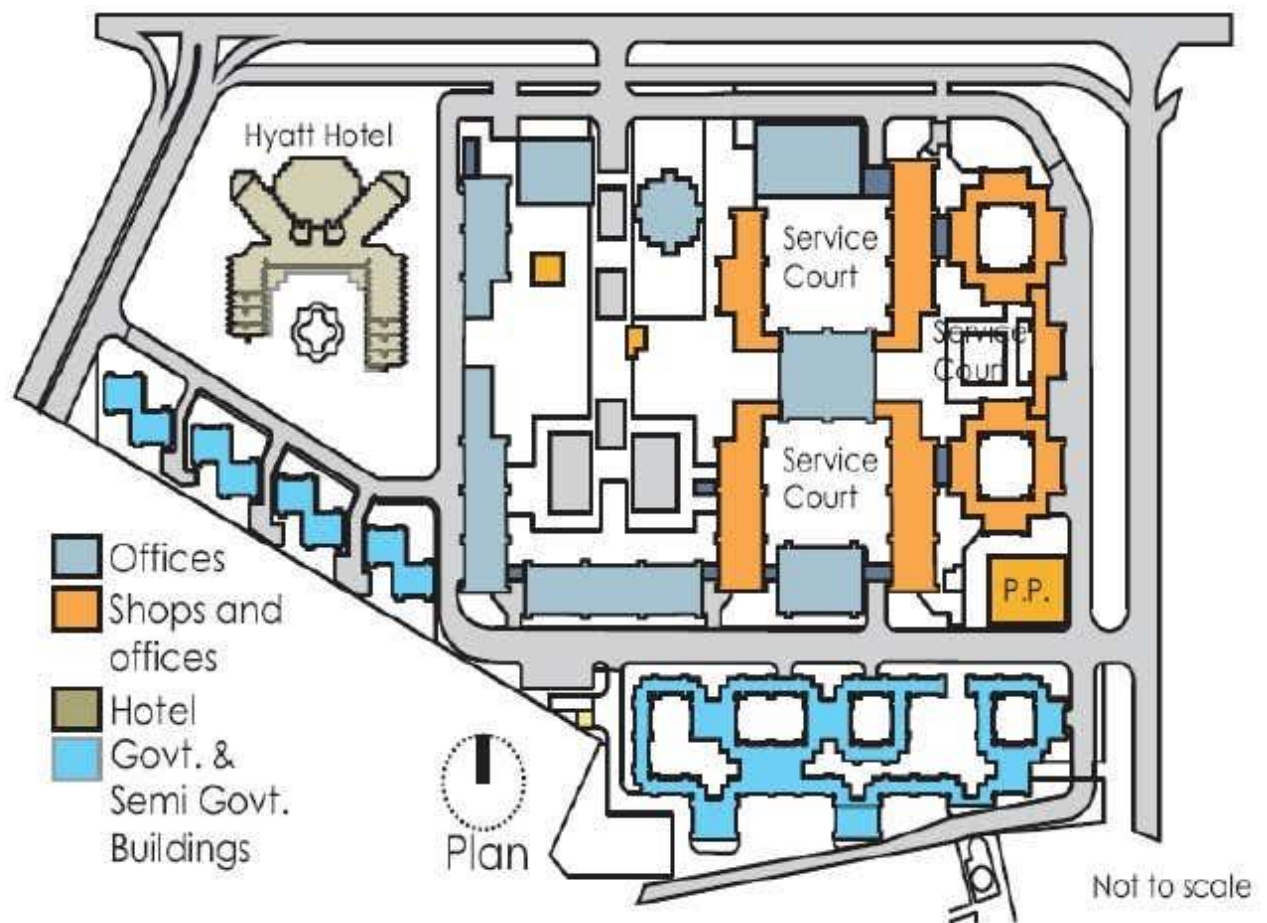
Segregated pedestrians and parking in levels.(pedestrian vs vehicular)

Sequence of open spaces intended to allow ppl to congregate. Shops subservient to offices, fails to attract local shoppers. (mixed use building activity composition)

Plazas and courts fail due to lack of

activity.(diverse activities).





●The site is a 466,971 sqm built-up area situated at a prime location in New Delhi. The Ground Coverage of built-up mass is 31.28%, achieving FAR of 2.91. Total on-site parking is for 14,010 cars, reaching ECS of 3. Clear segregation of pedestrian and vehicular circulation is visible; but the service cores are



predominantly occupied by parking.

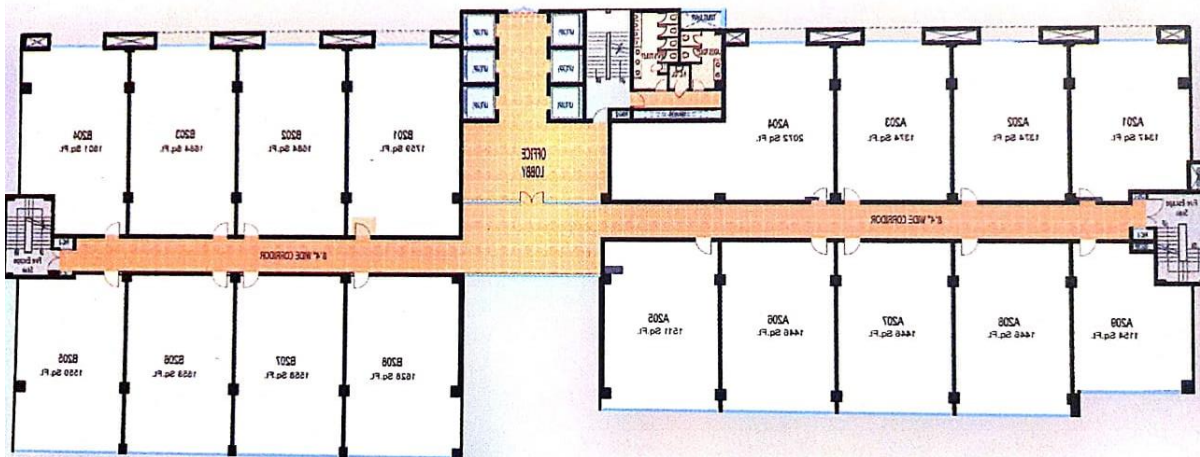
- Bhikaji Cama comprises of commercial business towers like Ansal Tower, Somdutt Chambers, Mohta building, Mahindra Tower etc.
- Many prominent government and PSU offices such as GAIL, EIL, Passport Office, PNB, a 5 star Hyatt hotel among many other medium and small sized retailers
- Height of buildings is regulated by fixing the FAR in relation to the plot size.
- August Kranti Bhawan mediates the scale and activity between the rest of the complex and Mohammadpur Village.

CASE STUDY-1

SUMMIT BUILDING

THE STRATEGIC APPROACH

Rohtas Summit is perfectly located just off Shaheed Path in close proximity to multiple high riseresidential buildings which offer you the convenience of a central business location in Lucknow's most exclusive address. Easily approachable from anywhere in the city, Rohtas Summit is one of the most prime locations i.e. a corner plot with a 60mt wide road in front. The super connectivity advantage is further enhanced with the key commercial centers, malls and IT hubs being in close proximity. Situated at the focal point of trade and commerce, Rohtas Summit is destined to be the primary business center of Gomti Nagar. Owning an office space at Rohtas Summit is a business



DESIGN & STRUCTURE

Distinguished architectural design as per the international standards

State-of-the-art facade using a combination of Premium glass, Aluminium/Metal Panels & Granite/Stone cladding

- Sufficient Covered and Open parking space

Central air-conditioning for common areas and provision for air conditioning of individual areas from a central chilled water plant

High speed lifts

Approx.4 lac sq. ft. state-of-the-art Commercial Complex



USER-FRIENDLY FEATURES

Business centre with modern communication facilities Business Hotel Mini Auditorium/Presentation Area Retail/Anchor StoresCafeteria with spacious open terrace, overlooking the pleasantly landscaped areas & birds-eye view of the sprawling cityscapeGym for workouts/Salon/ParlourBank & ATMsExecutive & office needs storeTravel related & advisory services.

STRUCTURE:

Earthquake resistant R.C.C. framed structure.

Large and efficient floor plates & wide column span.

External Finishes:

State-of-the-art facade using a combination of Premium Glass, Aluminium/Metal Panels & Granite/Stone cladding.

Air-conditioning:

Central air-conditioning for common areas and provision for air conditioning of individual areas from a central chilled water plant.

Common Areas (Interior):

Lobbies finished with granite/stone. Double height Atrium. State-of-the-art high speed lifts.

Terrace Gardens on higher floors

External:

Sufficient covered and open parking spaces. Pleasant landscaping around the building.

Fire-Fighting: Fire-fighting system as per NBC.

Security Systems:

Electronic surveillance and Intercomm system for the complex.oillets:

Common Toilets on each floor including specially designed Toilet for physically challenged

INFERENCE OF THE SITE

The latest creation, Rohtas Summit, is among the amazing and awe-inspiring hi-tech offices.

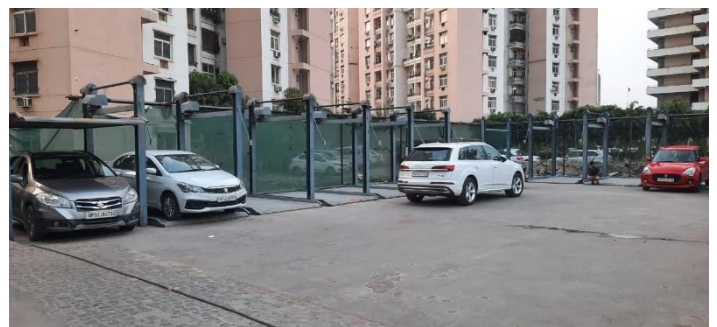
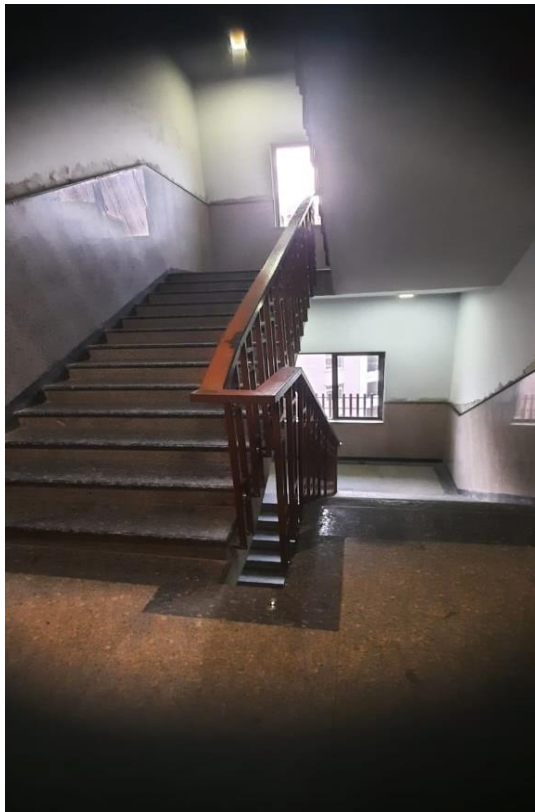
Rohtas' contemporary workplaces are equipped with modern facilities that synchronize functional efficiencies with aesthetic appeal and have been identified as preferred destinations by leading Corporates.

The overall development would also have a campus field, with building and landscape visually integrated into one complete environment. Aesthetically planned, the

utility and activity zone would offer a wide range of choices, available in a world-class work complex.

OFFICES SPACE

The modern and well-planned workspaces of Rohtas Summit lend a distinctive appeal to this aesthetically designed architectural wonder. Spread over 4 lac sq. ft. approx., the building offers an intelligent workplace to the new age professionals. Bench marked to global standards, the smartly designed workspaces will be instrumental in transforming the work life of professionals to a considerable extent. The overall development would also have a campus field, with building and landscape visually integrated into one complete environment. Aesthetically planned, the utility and activity zone would offer a wide range of choices, available in a world-class work complex tempor incididunt ut labore et dolore magna aliqua. Quis ipsum suspendisse ultrices gravida. Risus commodo viverra maecenas accumsan lacus vel facilisis.



SUPERTECH SUPERNOVA, NOIDA

PROJECT DETAILS -

1. Noida, India, is the location.
2. Sort: Mixed usage Status
3. Construction site
4. The project spans 114.75 acres.
5. There are five or more retail skyscrapers.
6. Open space accounts for 70%
7. There are 80 storeys.
8. Number of units: 5708
9. 2021 is the anticipated completion year.

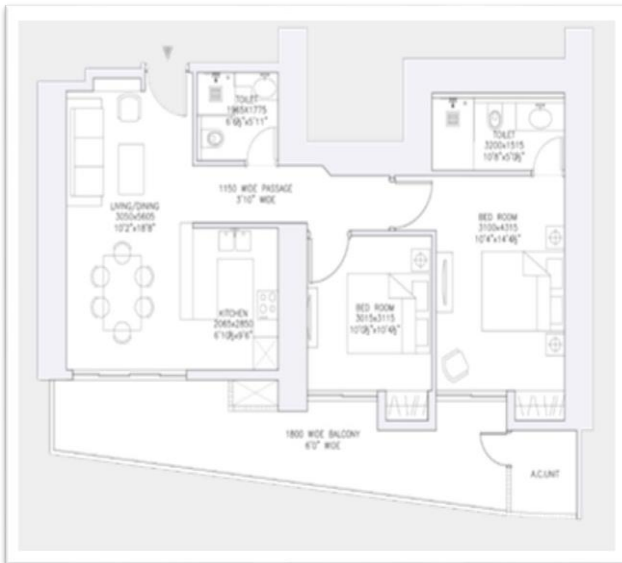


INTRODUCTION

1. In Noida, India, a supertall mixed-use skyscraper called Supernova Spira is being built.
2. It is situated in Sector 94, Amrapali Marg, Noida, close to Amity University.
3. Supertech Supernova is consisted of all current facilities, including tastefully decorated apartments with contemporary conveniences such as a club, jogging path, pool, and more. It was constructed with renowned clientele who demand a lavish lifestyle in mind.
4. Including branded homes, serviced apartments, a five-star hotel, and commercial, residential, and luxury retail areas.

Two significant towers in Supertech Supernova, Nova East and Nova West, are intended to house flats for residents, provide furnished apartments with 2 and 3 bedrooms in sizes of 1330 and 2040 square feet, respectively.



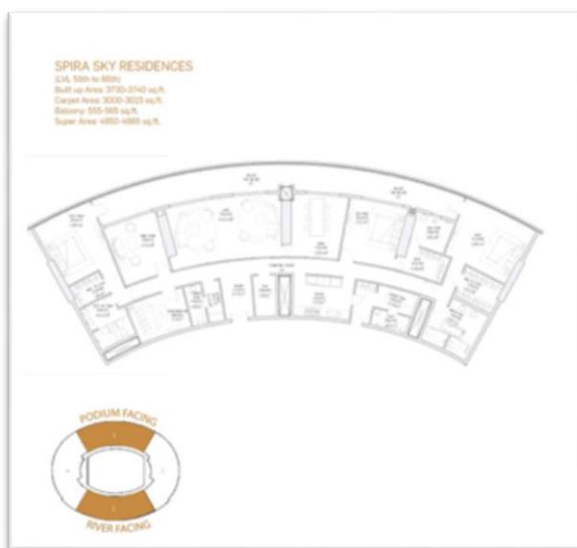
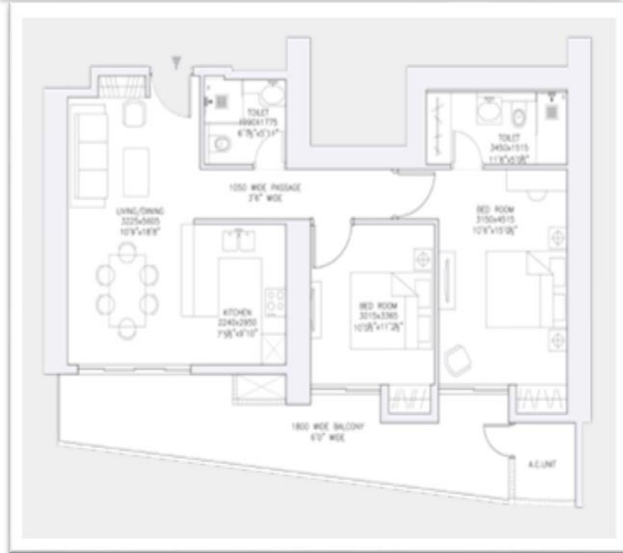


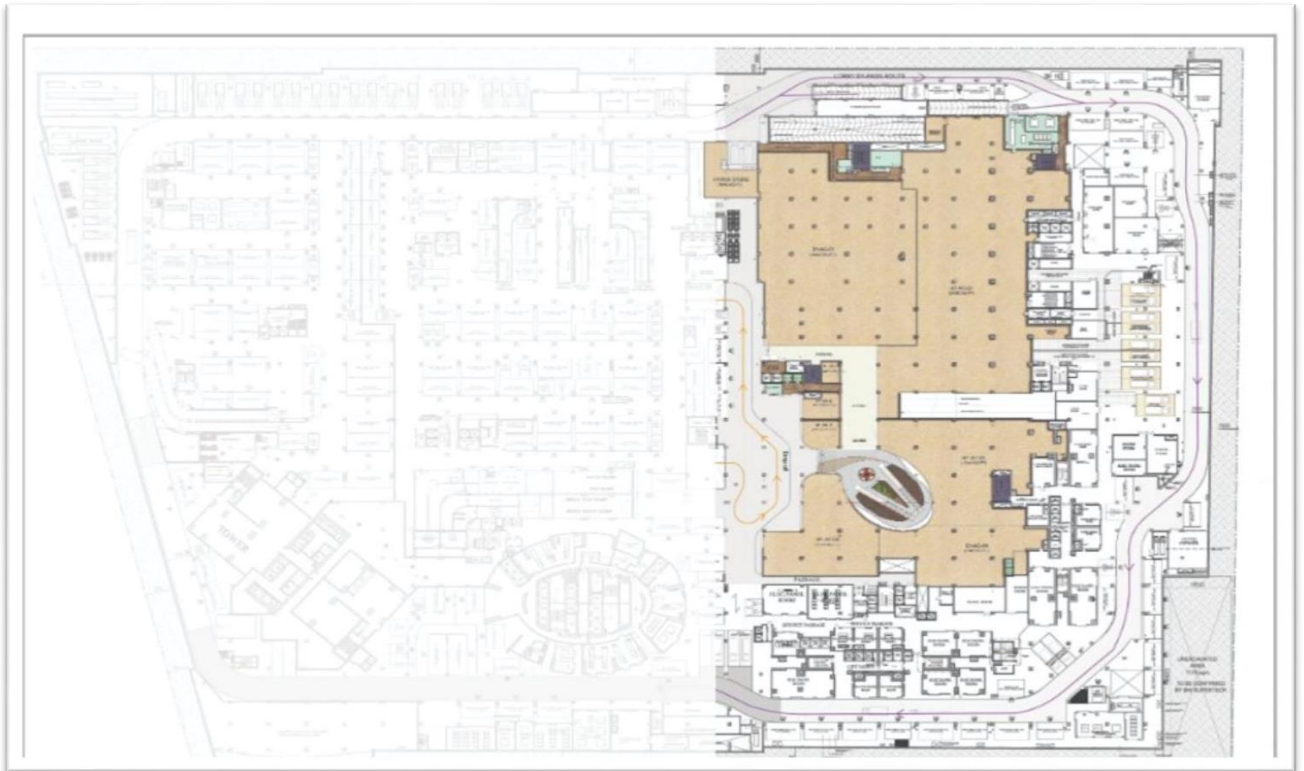
2BHK AND 3BHK

2A AND 2B

3A AND 3B

OF SUPER AREA
1350 SQ.FT





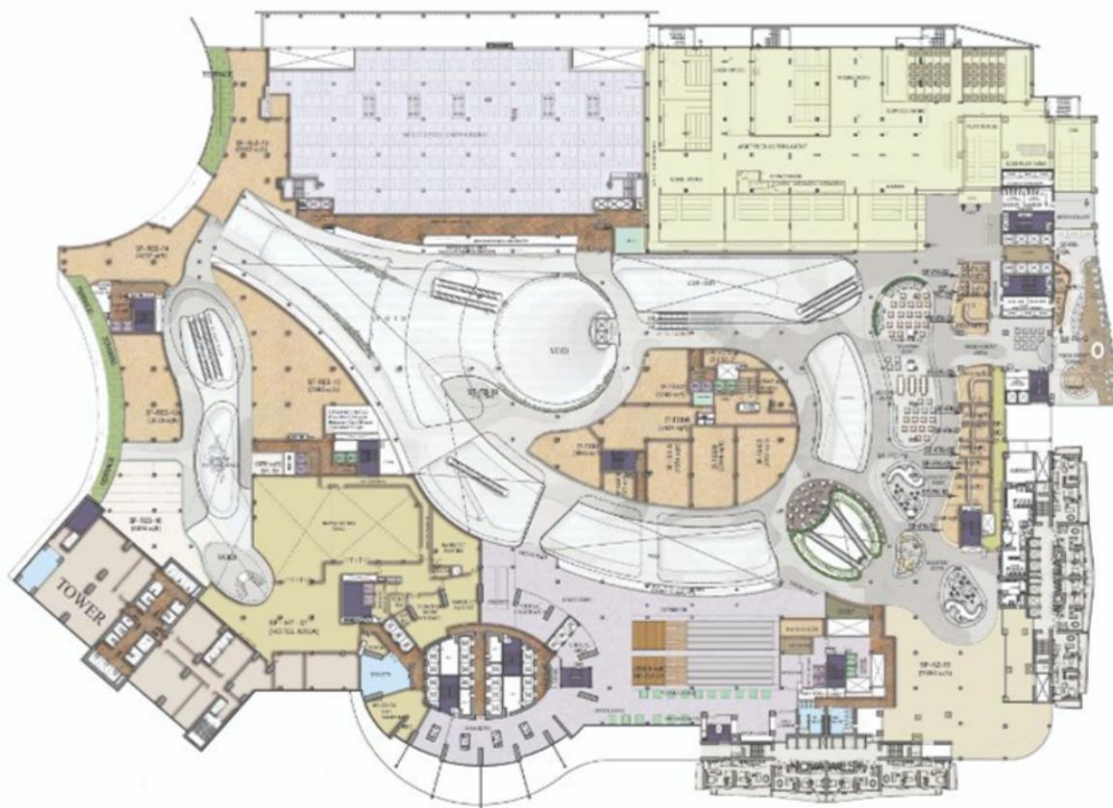
BASEMENT PLAN



GROUND FLOOR PLAN



RETAILS FIRST FLOOR PLAN



RETAILS SECOND FLOOR PLAN

LANDSCAPE ELEMENTS

1. Rooftop gardens and a patio with landscaping.
2. Gymnasium.
3. Clubhouse.
4. A swimming pool within.
5. A library and cigar lounge.
6. Individual terraces
7. Fast, automatic elevators.
8. Cafes and restaurants.

STRUCTURAL DETAILS

Suites Spira

1. Concrete raft foundation with a 4.1 m depth.
2. 229 piles, each 52 metres deep.
3. The concrete utilised is M80 grade.
4. The column is 1200 mm by 4000 mm.
5. Fe500 steel bars with a 40mm diameter are used.
6. There are no pre-cast buildings in use.

INFORMATION ON THE STRUCTURE OF NOVA RESIDENCES

1. Concrete raft foundation at a depth of 2.5 metres.
2. The column measures 600 mm by 600 mm in size.
3. Capitals are given for the core region, and beams are just on the borders.
4. Retarders of BSF are employed as additives.

SUPERTECH NOVA, FEATURES

1. Spectacular podium level with great event platforms and lush gardens.
2. The podium has skylights.
3. The structure has enough natural light because the rooms are situated outside.
4. Access is made simple by central cores.
5. Separate entrances and exits for each vertical.
6. Facilities for observatory de

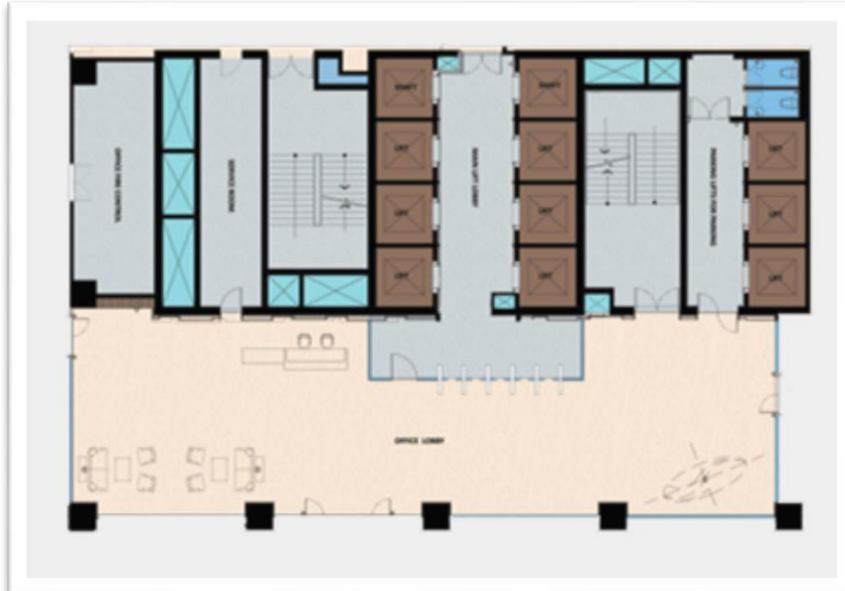
Floors	Use	Floors	Use
78	Helipad	19-48	Studio floors
77	Observatory roof	18	Service floor
76	Observatory Function area	5-17	Apartment floors
75	Observatory F&b	4	Service floor
74	Observatory public gallery/skywalk/VIP lounge	3	Podium
73	Service floor	2	Meeting/function/AHU
65-72	Service apartments	1	Mall shop units
54-64	Hotel floors	0	Double ht. lobby for Apts/studio/hotel
53	Service floor	B1	Plant room
49-52	Hotel floors	B2-B3	Double ht. chillarplant,cooling tower



BUILDING FLOOR PLANS i.e.

5th , 10th,15th and 20th

Abbreviation	Area(sq.m)	Abbreviation	Area(sq.m)
Office 1	190	Office 12	43.5
Office 2	78.5	Office 12A	43.5
Office 2A	78.5	Office 14	143
Office 3	190	Office 15	68.5
Office 4	50	Office 15A	68.5
Office 5	54	Office 16	143
Office 6	45.5	Office 17	43.5
Office 7	43.5	Office 18	43.5
Office 8	43.5	Office 19	43.5
Office 9	43.5	Office 20	43.5
Office 10	43.5	Office 21	43.5
Office 11	43.5	Office 22	43.5
Office 23	43.5	Office 25	54
Office 24	45.5	Office 26	50



`Building Floor Plans i.e.6th
, 16th and 26th

SITE ANALYSIS PRAPOSED FOR MIXD BUILDING

INTRODUCTION

The world of Retail Paradise and Office Oasis, where convenience meets luxury at every turn.

Legacy of Luxe Life

Set foot into a world brimming with luxury, From the moment you enter the Double Height Entrance lobby, you will be enchanted by the grandiose that surrounds you. The generously designed gloss window panes that invite natural light in abundance will leave you enamored. The support of a world class concierge service that understands and attends to your every professional and personal need makes life a breeze



TOTAL SITE AREA- 6.5 ARCE

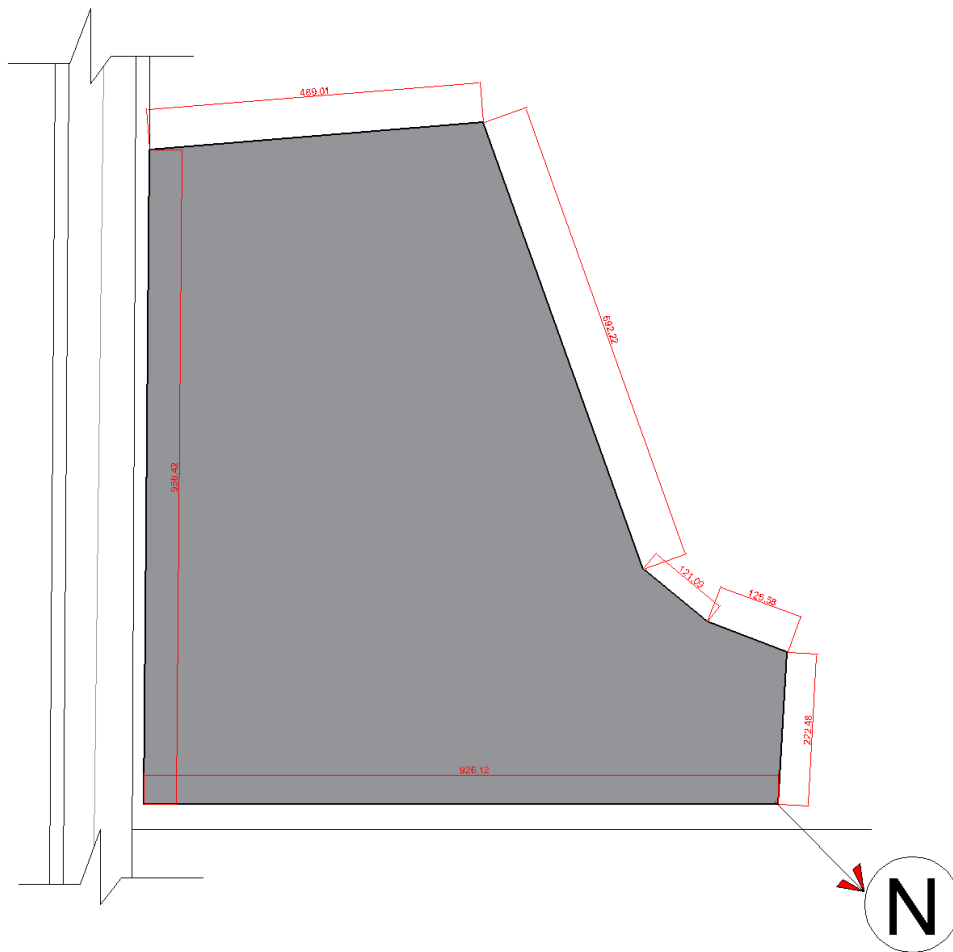
Block 8 International Trade Park, ITP-2, Sushant Golf City

CONNECTVITY & SITE SURROUNDINGS

S. NO.	DISCRIPTIONS		DISTANCE AND DISCRIPTION
1.	Nearest railway Station	Block Hut A Railway Station	2.55 KM distance
2.	Nearest bus Station	Awadh bus station Near kamta	8.5 KM distance
3.	Nearest airport	Chaudhary Charan Singh International Airport, Amausi, Lucknow,	14.9 KM Distance
4.	Nearest shopping mall	Lulu Mall Lucknow	1.7 KM distance
5.	Nearest hospital	Amrut Hospital	0.80 KM distance
6.	Nearest school	Rainbow Public School	0.57 KM distance
7.	Nearest hotel	Kanha Inn Sultanpur Road	0.73 KM distance
8.	Nearest office hub	Summit Building Gomti Nagar	7.71 KM distance

Summit Twin Tower is an exclusive Project located in Sushant Golf City, Lucknow South and well connected by major road(s) like Shaheed Path, Sultanpur Road. The total area in which Summit Twin Tower has been built is 1.66 acre. This project has been developed by Highness Construction who are one of the reputed developers in the Lucknow. The Project current status is Mid Stage. It has 201 Units.

Summit Building Lucknow is more than just a corporate structure; it is a hub for cafes & restaurants & a perfect party destination!!! Summit Building is a testament to modern architecture, innovation, and a commitment to excellence. Situated at the heart of Lucknow's bustling business district, Summit Building stands tall as an epitome of sophistication and professionalism.

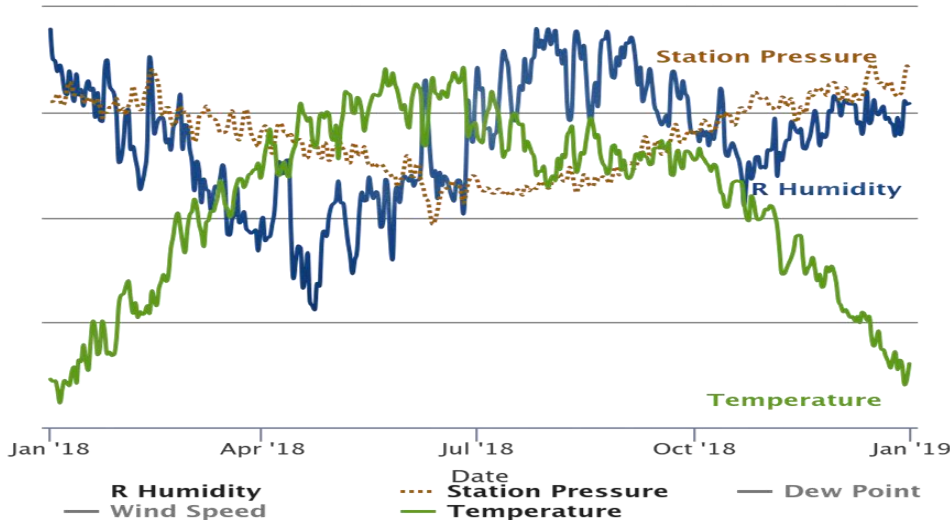


CLIMATE:

The summers in Lucknow are very hot and winters very cold. The temperature may rise up to about 46 degree Celsius in summers, though the average temperature is around 38-39 degree Celsius. There are about 4-6 days of heat wave when the maximum temperature of a day rises to 4-6 Celsius above normal values. Though the winters are not bitterly cold on most of the days, the temperature may fall to 3-4 degree Celsius for a few

days in winters when the cold winds from the Himalayan region makes the winters chilly. The winters are also marked by mist and fog in the mornings. However, the Sun is often seen in the afternoons.

Daily Average Meteorological Data of Lucknow

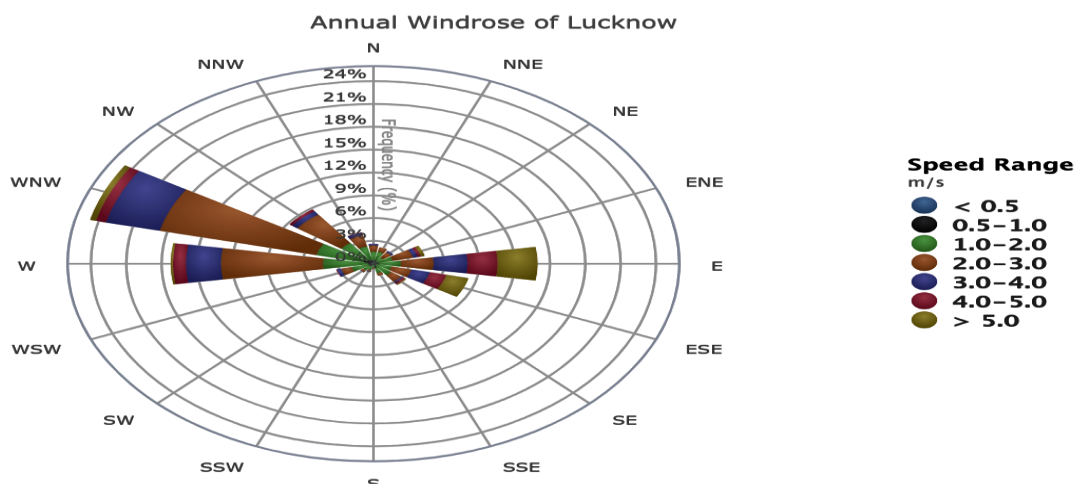


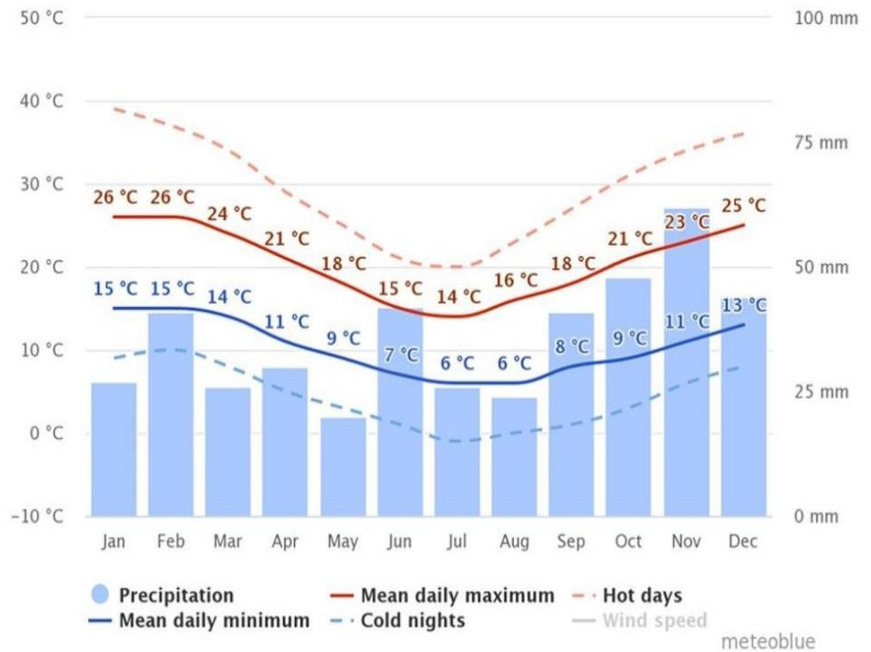
Parameter	Min	Max	Avg
Wind Speed m/s	N/A	10.1	2.6
Temperature °C	6.2	41.9	25.3
Dew Point °C	5.3	29.2	18.4
Humidity %	17.5	99.7	68.6
Pressure hPa	976	1010.8	995.3

The [annual wind rose](#) below showing how wind speed and direction are typically distributed in Lucknow.

The average relative humidity remains around 68.6%, varies from 17.5% to 99.7%. The station pressure varies from 995 hPa to 976 hPa, averaged around 1011 hPa. Windrose of Lucknow shows that predominantly wind blow from the WNW - about 24.75% of all wind directions.

This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages

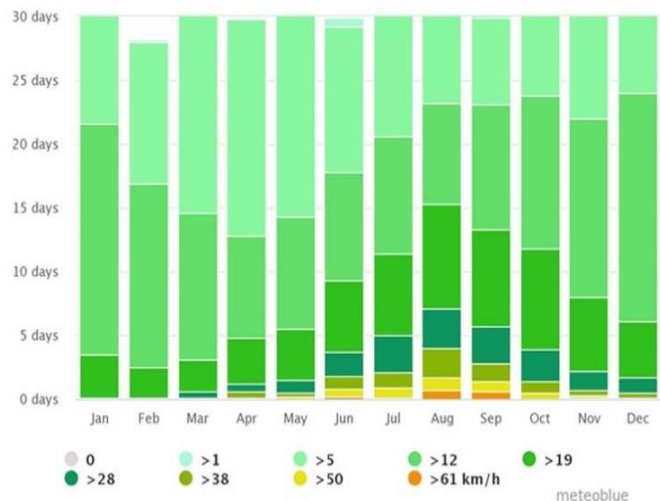
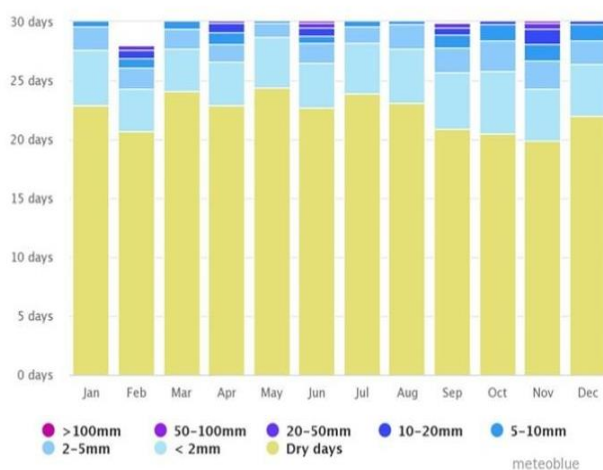
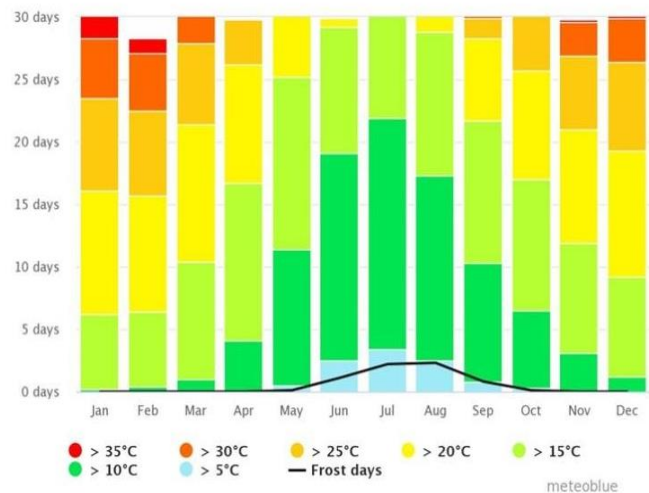
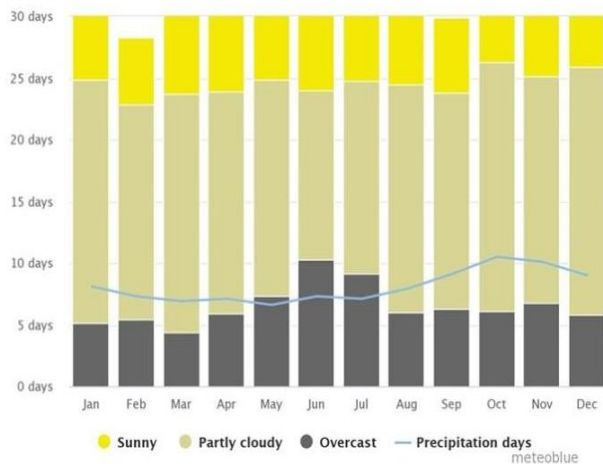


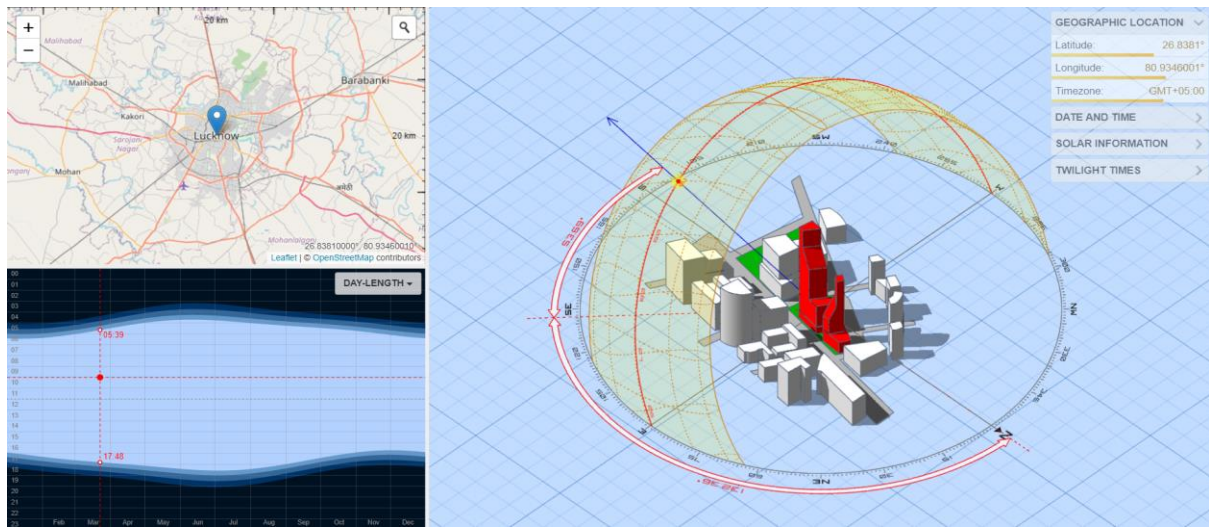


LOCATION	LUCKNOW
LATITUDE	26° 51' 0.0000" N
LONGITUDE	80° 56' 59.9892" E
ALTITUDE	123 m

AVERAGE TEMPERATURE AND PRECIPITATION

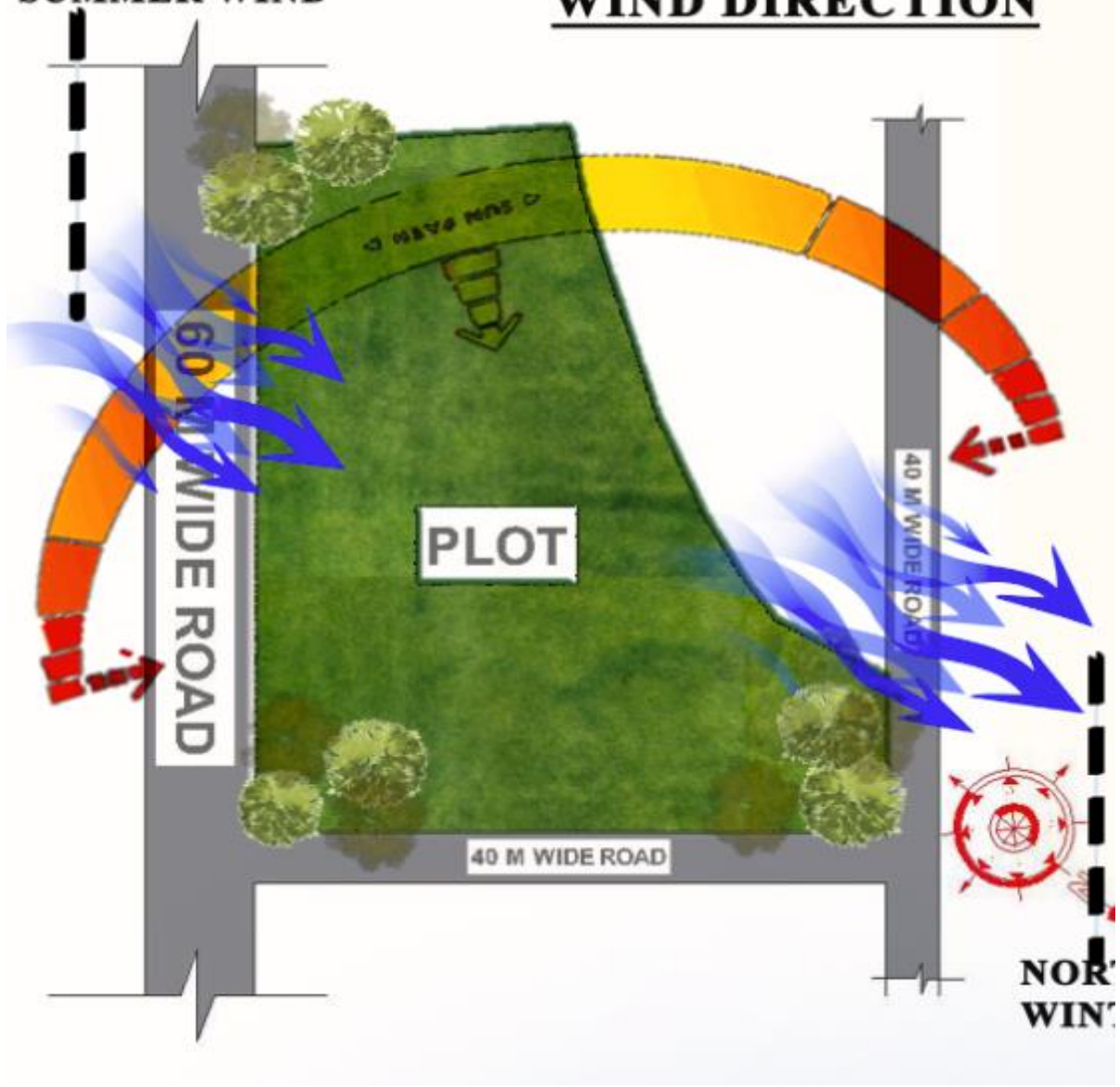
LUCKNOW HAS A COMPOSITE CLIMATE WITH COOL, DRY WINTERS WITH MEAN MONTHLY MINIMUM TEMPERATURE OF OF 5 DEGREE CELSIUS IN WINTERS FROM MID-NOVEMBER TO FEBRUARY AND DRY, HOT SUMMERS WITH THUNDERSTORMS FROM LATE MARCH TO JUNE, MARKED BY MEAN MONTHLY MAXIMUM TEMPERATURE OF 45 DEGREE CELSIUS IN SUMMERS. MOREOVER THERE ARE ABOUT 4-6 DAYS OF HEAT WAVE WHEN THE MAXIMUM TEMPERATURE OF A DAY RISES TO 4-6 CELSIUS ABOVE NORMAL VALUES IN SUMMER AND THE TEMPERATURE MAY FALL TO 3-4 DEGREE CELSIUS.





SOUTH WESTERLY SUMMER WIND

SUN PATH AND WIND DIRECTION

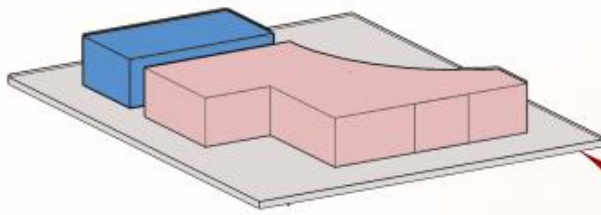




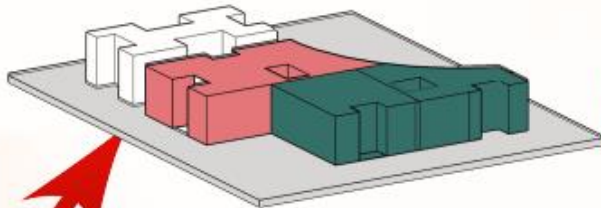
This is the wind, wave and weather forecast for Lucknow in Uttar Pradesh, India. Windfinder specializes in wind, waves, tides and weather reports & forecasts for wind related sports like kitesurfing, windsurfing, surfing, sailing, fishing or paragliding.

During winter (Dakshinayan), the sun rises slightly south of east and sets slightly south of west. During summer (Uttarayan), the sun rises slightly north of east and sets slightly north of west. The shift is gradual. Still it is relat

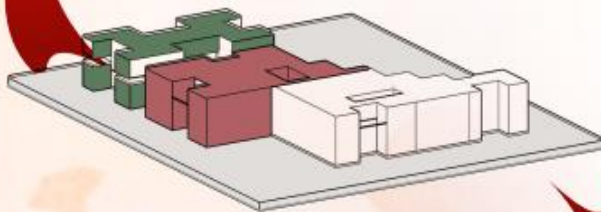
CONCEPT



VOLUMETRIC LAYOUT

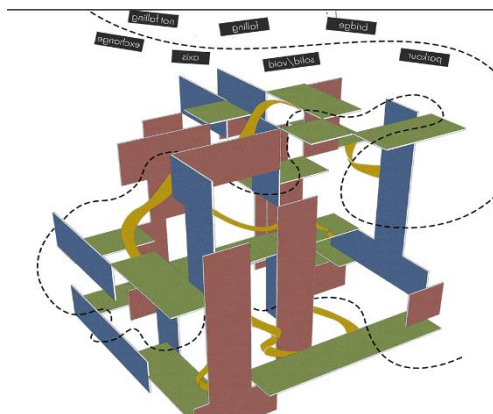
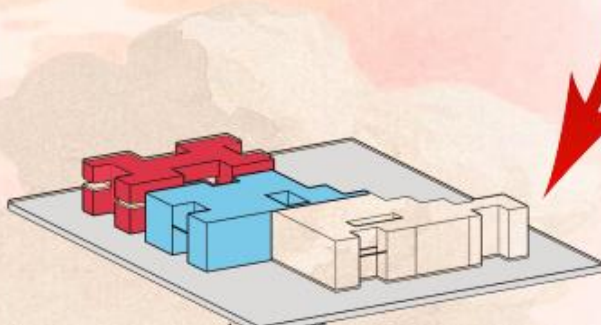


PROGRAM DISTRIBUTION
FOCUS ON THE DISTRIBUTION OF SERVICES ACROSS SUBSYSTEMS AND THE MEANS BY WHICH THESE SUBSYSTEMS COOPERATE, COORDINATE, AND SHARE INFORMATION, ENERGY, AND MATERIEL.

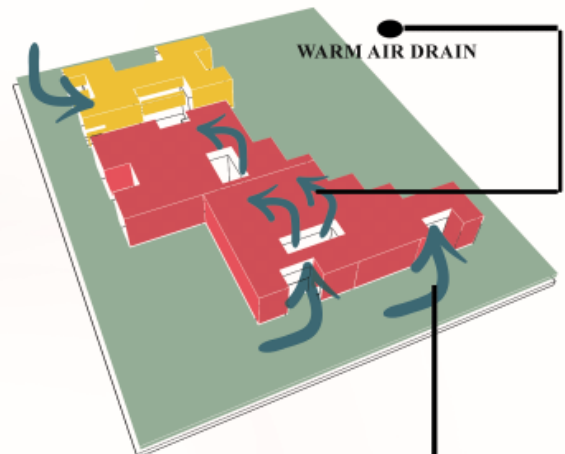


INTERIOR VOIDS

THE VOID IS AN EMPTY SPACE IN THE HOUSE, HELPING TO GET AIR AND LIGHT FROM NATURE, SIMILAR TO A SKYLIGHT.

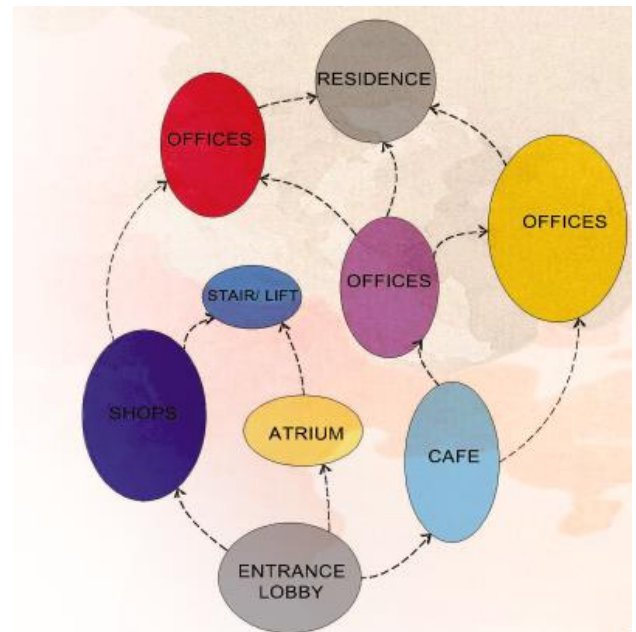


SOLID AND VOID IS AN ESSENTIAL CONCEPT WHICH IS CONSIDERED SIGNIFICANT IN THE ARCHITECTURAL AND SCULPTURAL AREA. WHILE SOLID HAS THE CHARACTERISTICS OF FORM AND SHAPE, VOID, WHICH IS REGARDED AS A NEGATIVE SPACE, REFERS TO THE SPACE BETWEEN BUILDINGS, BETWEEN COLUMNS, AND BETWEEN CEILINGS AND COLUMN



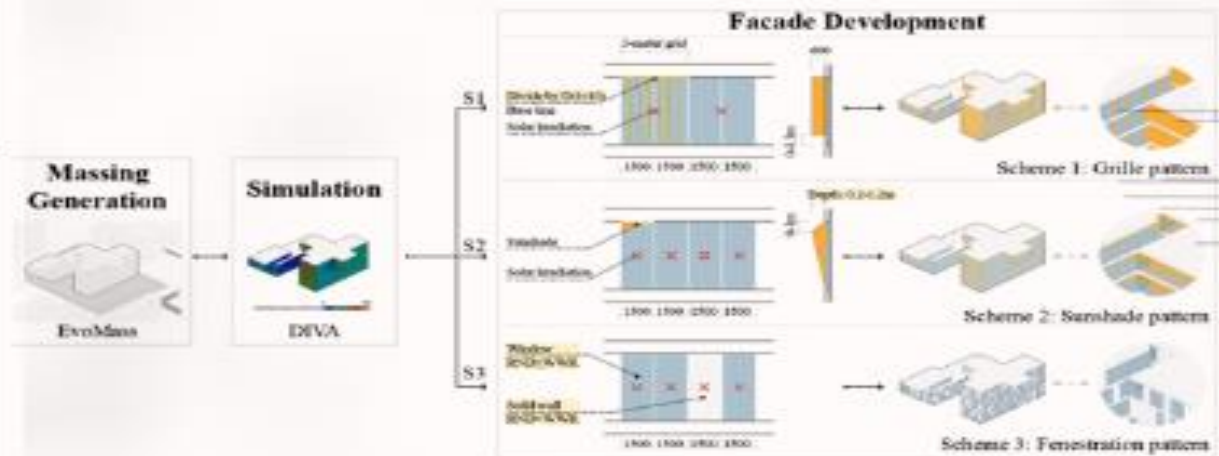
WIND DIRECTION DIAGRAM

COOL AIR INTER THIS WAY



VOID AND SOLID RATIO

In architectural design, the void-to-solid ratio is one of the key elements to be considered when designing a semi-outdoor space, as it can influence both solar gain and the effect of ventilation in such a space. ... For residential building the preferred void-to-solid ratio range is around 0.41-0.50.



S. NO.	KOHINOR SQUARE	BHIKA JI PALACE	SUMMIT BUILDING	SUPER TECT SUPERNOVA
ARCHITECT	SUNDEEP SRIKE ASSOCIATES	NBCC LIMITED	SUPERTECH LIMITED.	BENOY ARCHITECTS
CLIENT/DEVELOPER	Kohinoor CTNL Infrastructure Corporation.	Delhi municipal corporation	SANDEEP AGARWAL	Supertech
SITE DETAILS	Plot Area: 22,000sqm. sqm Roads abutting three sides of site.	36-acre	400000 Sq. ft.	114 .75 ACRE
CONTENT	Offices, residential, 5-star hotel multiple level parking, retail. 	12 identical multi-story blocks arranged in rows, containing a mix of uses including a supermarket, offices, shops, art gallery, vegetable market, and hotel 	Summit Building Lucknow is more than just a corporate structure; it is a hub for cafes & restaurants & a perfect party destination 	Supertech Supernova is a mixed-use development in Noida, India consisting of 5 towers ranging from 28-80 floors that contain residential, commercial, retail and office spaces. It has various amenities including clubs, swimming pools, food courts and a multiplex.
DESCRIPTION	203m high (52 floors) - office building. office towers - 57m rating. 142m high (32 floors) residential buildinG tower .LEED gold rating highly sustainable with many systems installed. View of Arabian sea. High performance fayade, breakout	Madam Bhikaiji Cama became the first person to hoist the Indian flag in foreign land on 22 August 1907. While unfurling the flag at the International Socialist Conference in Stuttgart, Germany, she appealed for equality and autonomy from the British which had taken over the Indian sub-continent	Summit Building is a testament to modern architecture, innovation, and a commitment to excellence. Situated at the heart of Lucknow's bustling business district, Summit Building stands tall as an epitome of sophistication and professionalism.	Supertech Supernova Sector 94 has 4 towers, with 76 floors each and 5708 units on offer. *Spread over an area of 17.3 acres, Supertech Supernova is one of the spacious housing societies in the Noida region.
BUILT UP AREA	2,50,000 sqm.	466 971 SQ.MT	350000 sq.ft	50,000 Square feet
PARKING	15 floors of parking3 level parking below accommodating 3500 cars.	14 ,110 CAR PARKING	1000 PARKING	Devided arccording to block



TOP VIEW



FRONT VIEW



BACK SIDE VIEW



LEFT SIDE VIEW



RESIDENCE VIEW



RIGHT SIDEVIEW



OPEN CAFETERIA VIEW



TERRACE VIEW

INTERIOR



SITE SECTION - XX'

MIXED USE BUILDING

ARE A- 6.5 ARCE
SCALE - 1: 100

S I T E P L A N

- MAIN ROAD
- BUILDING BLOCK
- GREEN AREA
- INNER ROAD
- PATH WAY
- WATER BODY
- PARKING



24 M WIDE ROAD

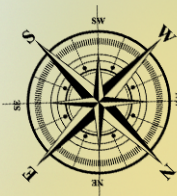
24 M WIDE ROAD

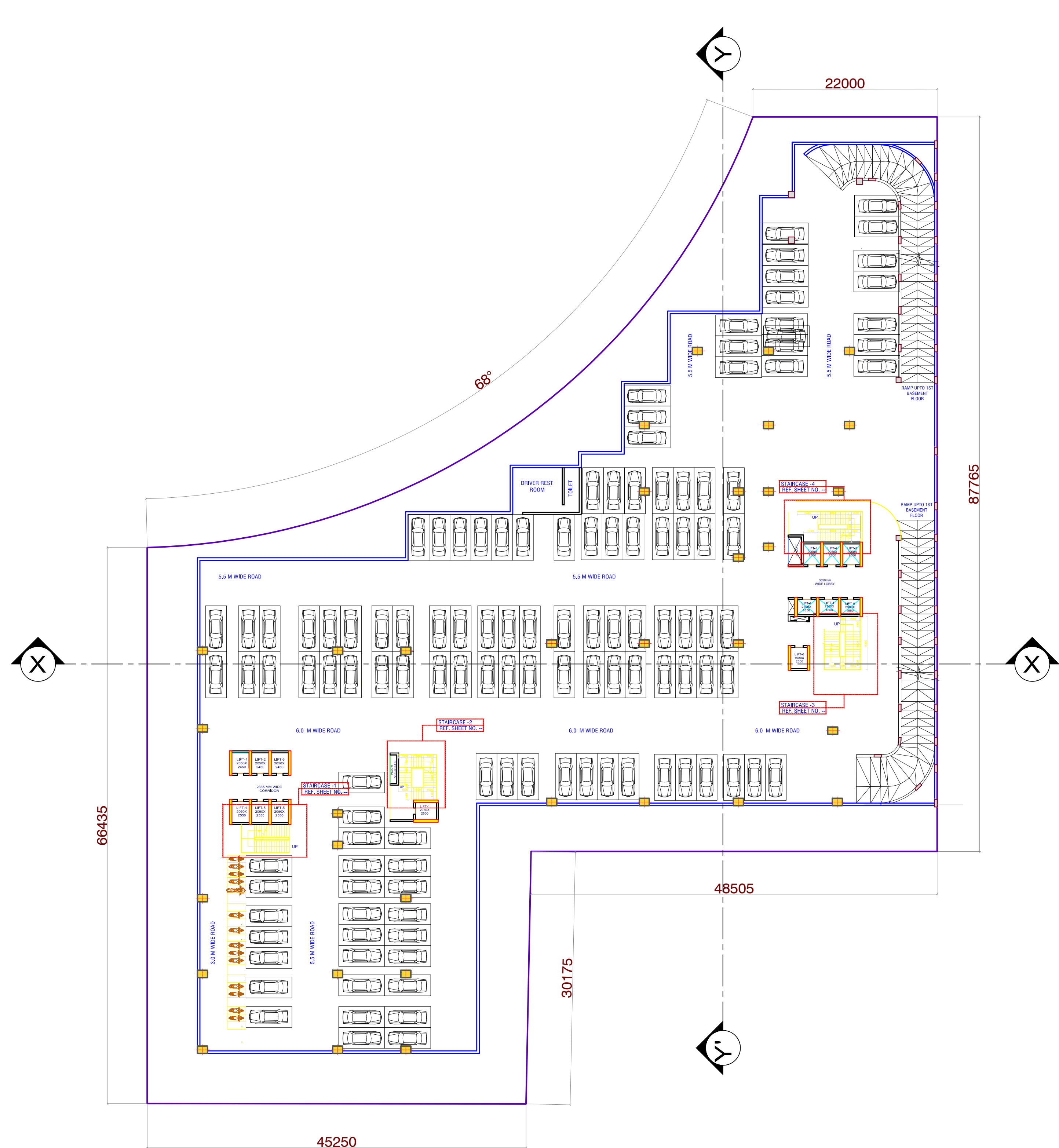
PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOCATION- LUCKNOW

DWG. TITLE
SITE PLAN
SCALE
1: 100

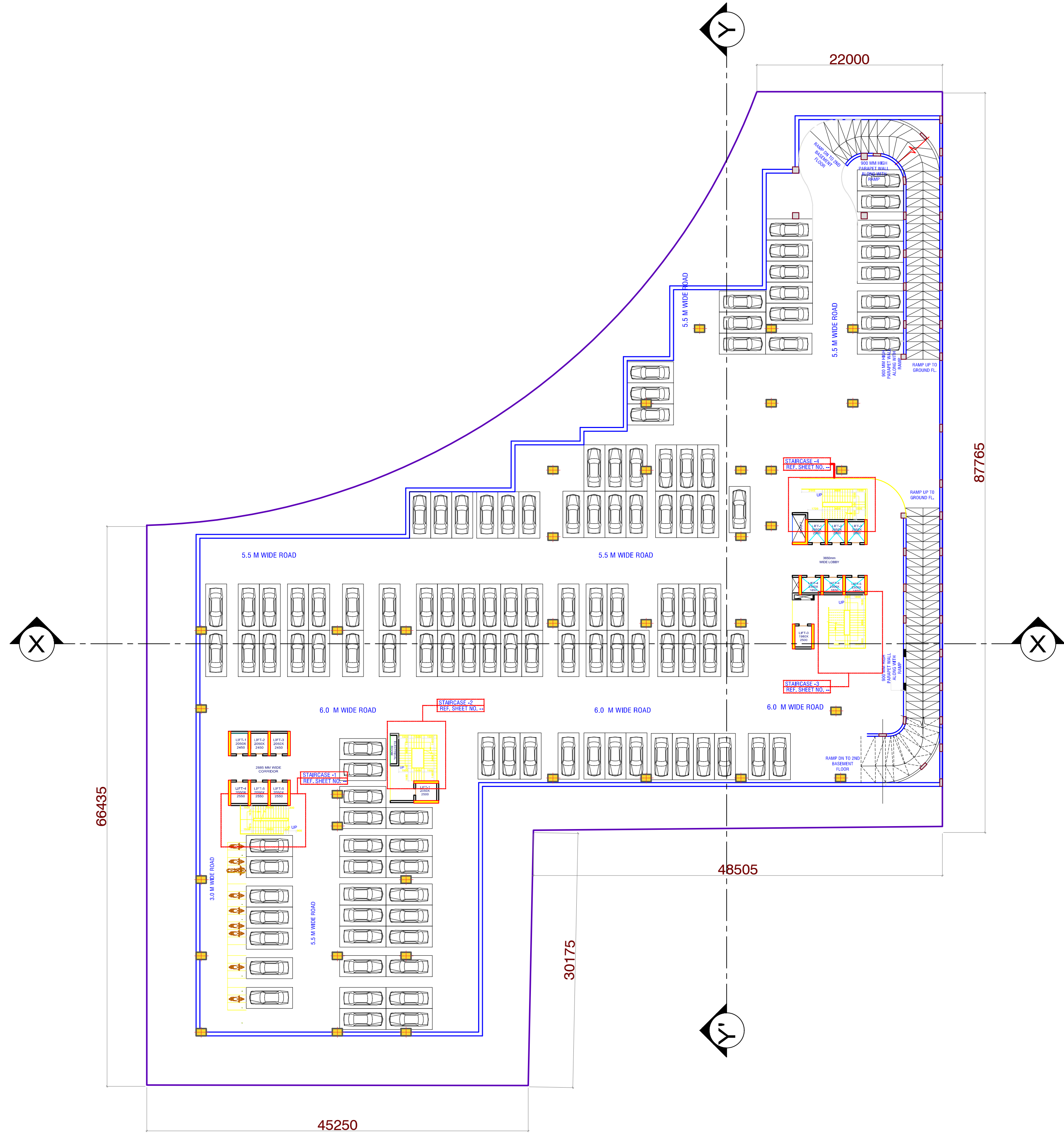
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B.ARCH X SEMESTER
ROLL NO-1190101010
B.B.D.UNIVERSITY
LUCKNOW





BASEMENT 1



BASEMENT -2

PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOCATION- LUCKNOW

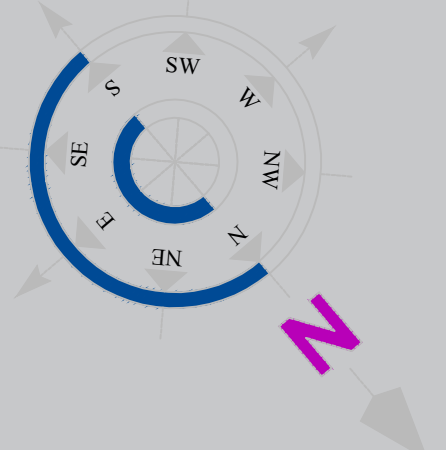
DWG. TITLE
FLOOR PLANS

AREA-6.5 ACRE
FRONT SET BACK- 9M
SIDE SET BACK - 6 M

SCALE
1:100

ALL DIMENSIONS AREA IN
METERS

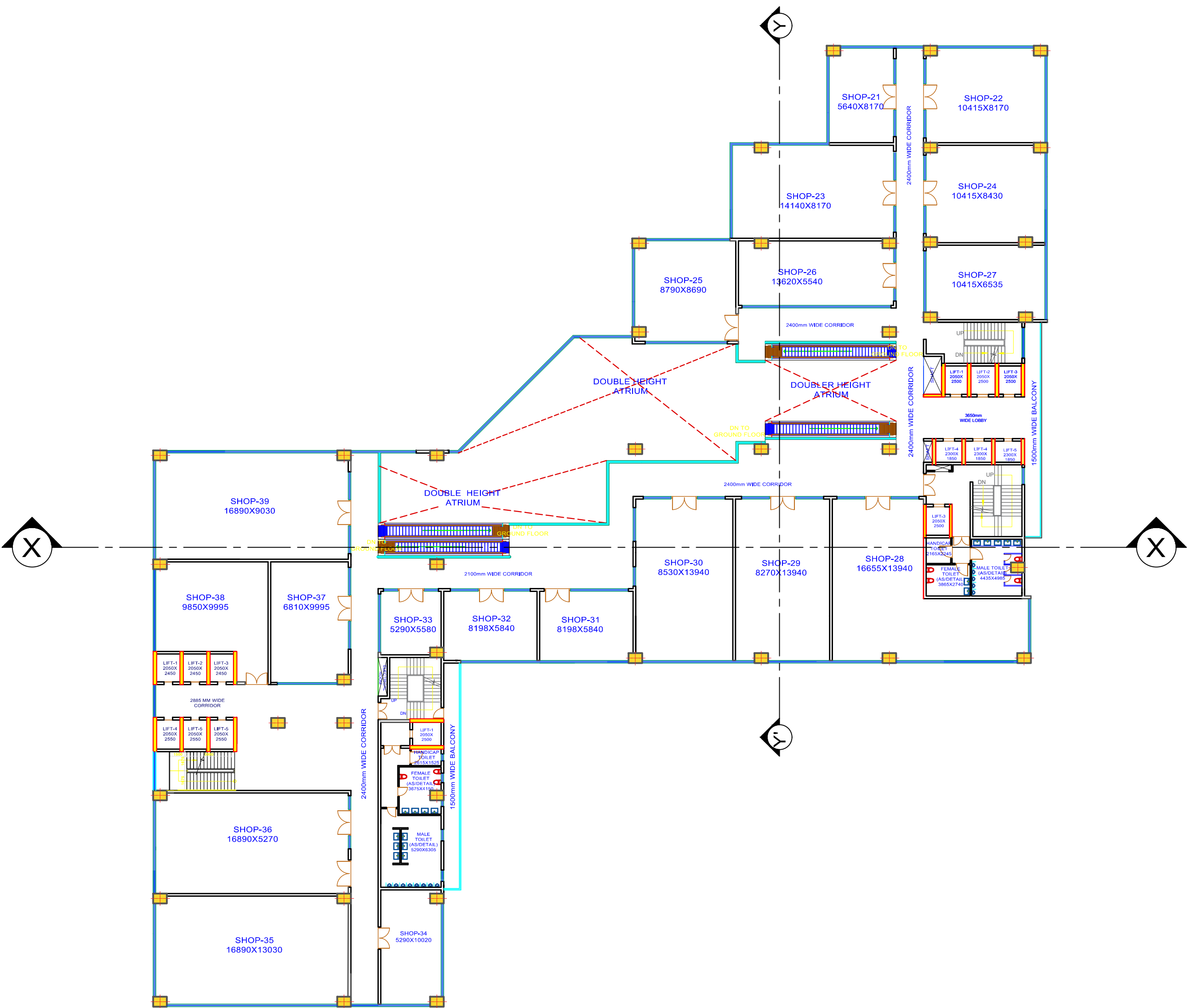
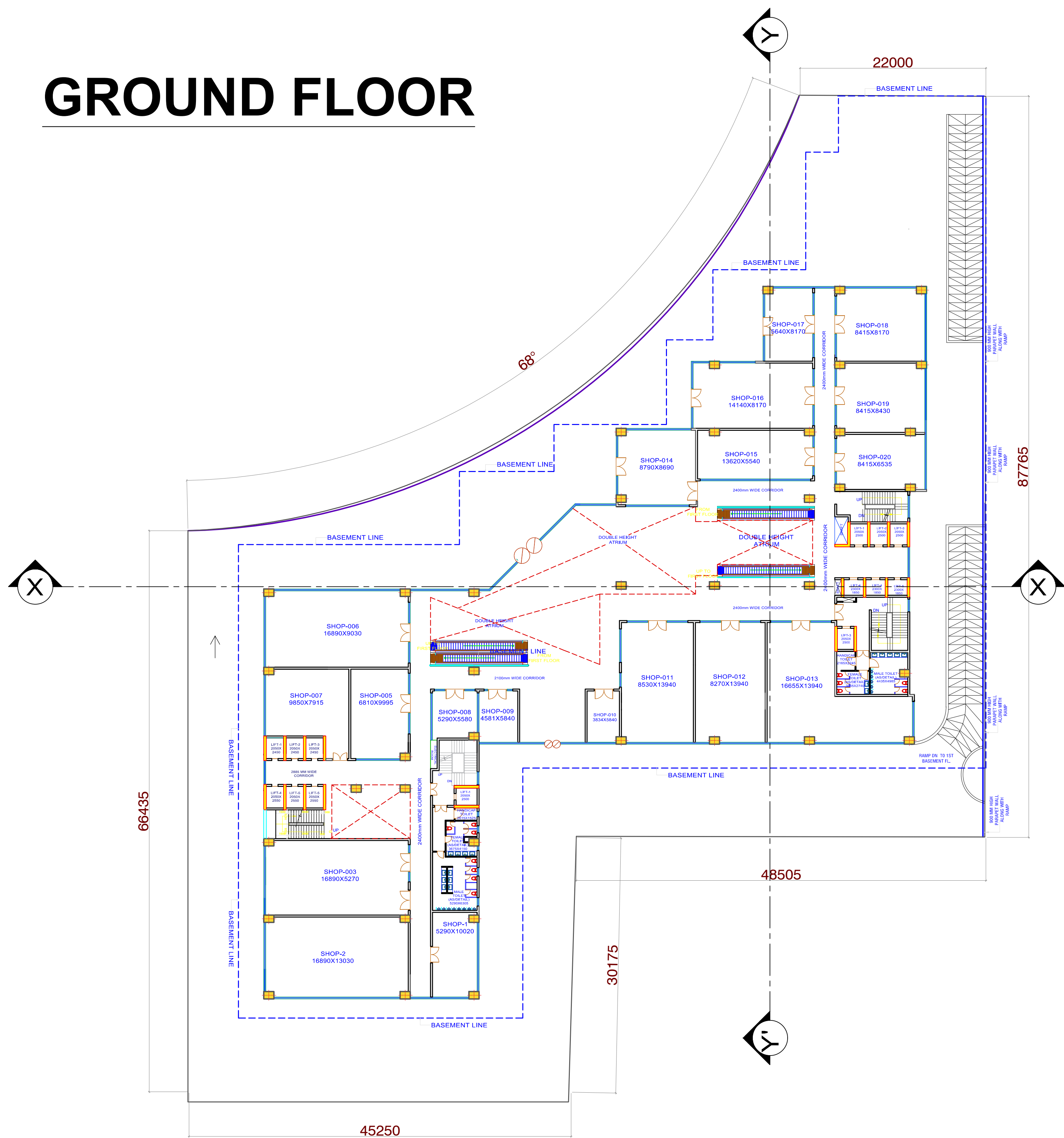
NORTH



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B.ARCH X SEMESTER
ROLL NO-1190101010
B.B.D.UNIVERSITY LUCKNOW

GROUND FLOOR



FIRST FLOOR

PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOCATION- LUCKNOW

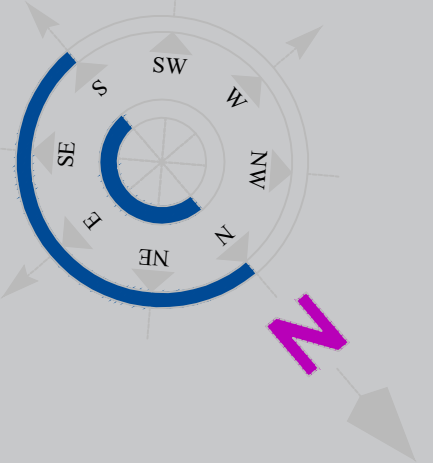
DWG. TITLE
FLOOR PLANS

AREA-6.5 ACRE
FRONT SET BACK- 9M
SIDE SET BACK - 6 M

SCALE
1:100

ALL DIMENSIONS AREA IN
METERS

NORTH



THESIS GUIDED BY
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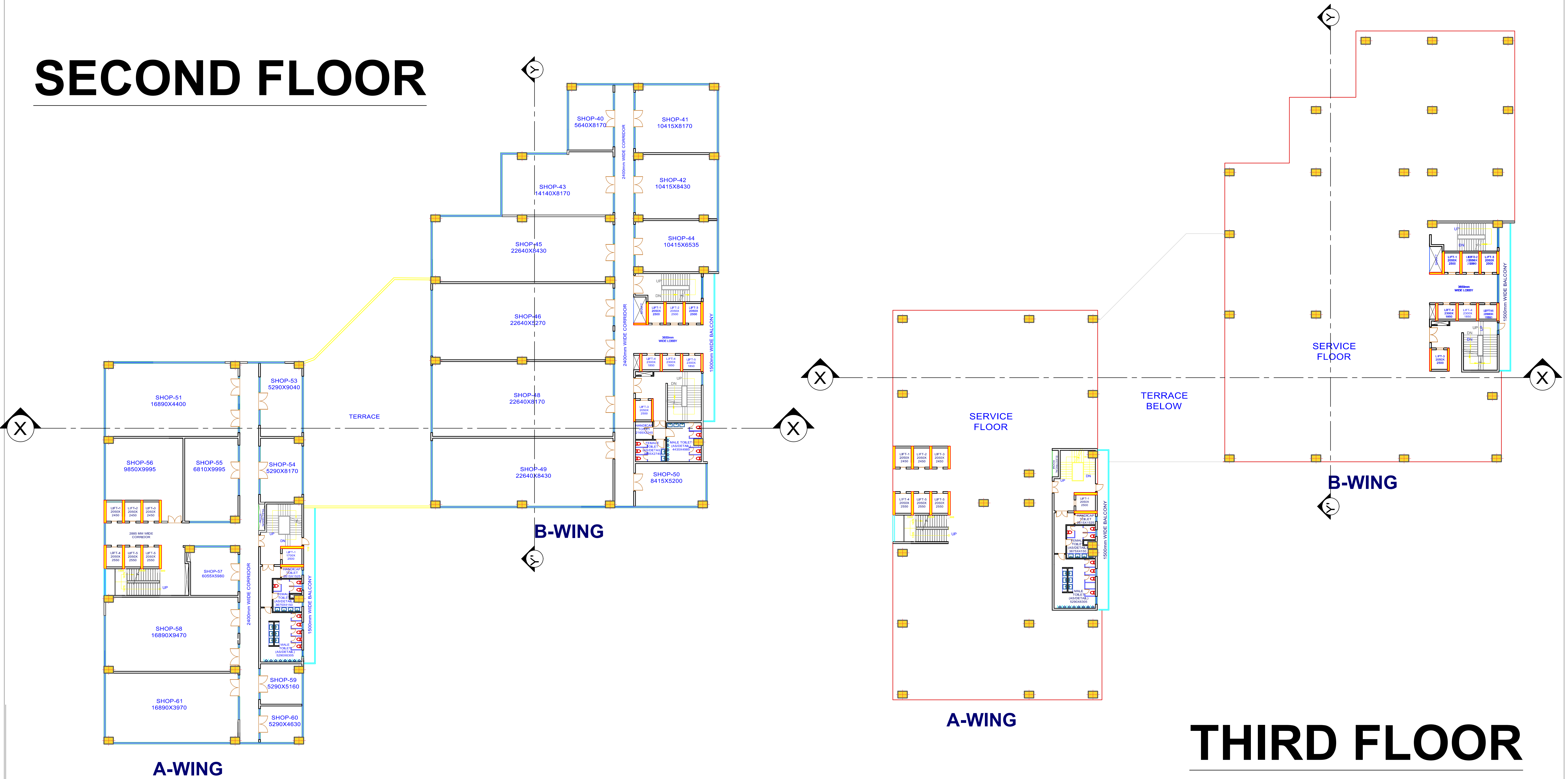
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ROLL NO-1190101010

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SECOND FLOOR



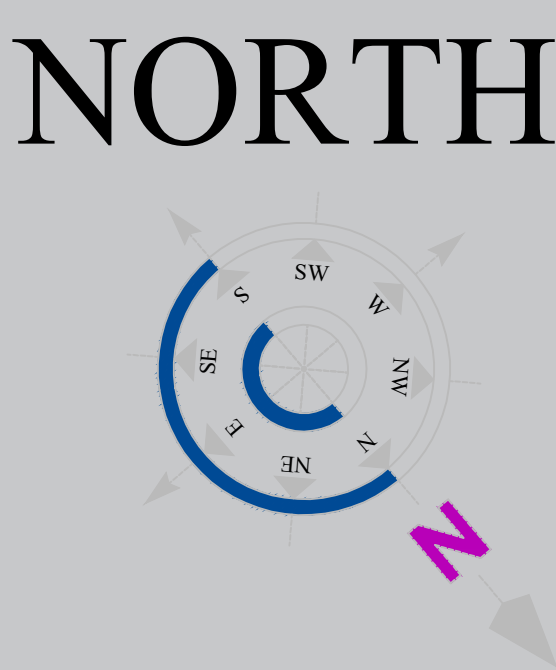
PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOCATION- LUCKNOW

DWG. TITLE
FLOOR PLANS

AREA-6.5 ACRE
FRONT SET BACK- 9M
SIDE SET BACK - 6 M

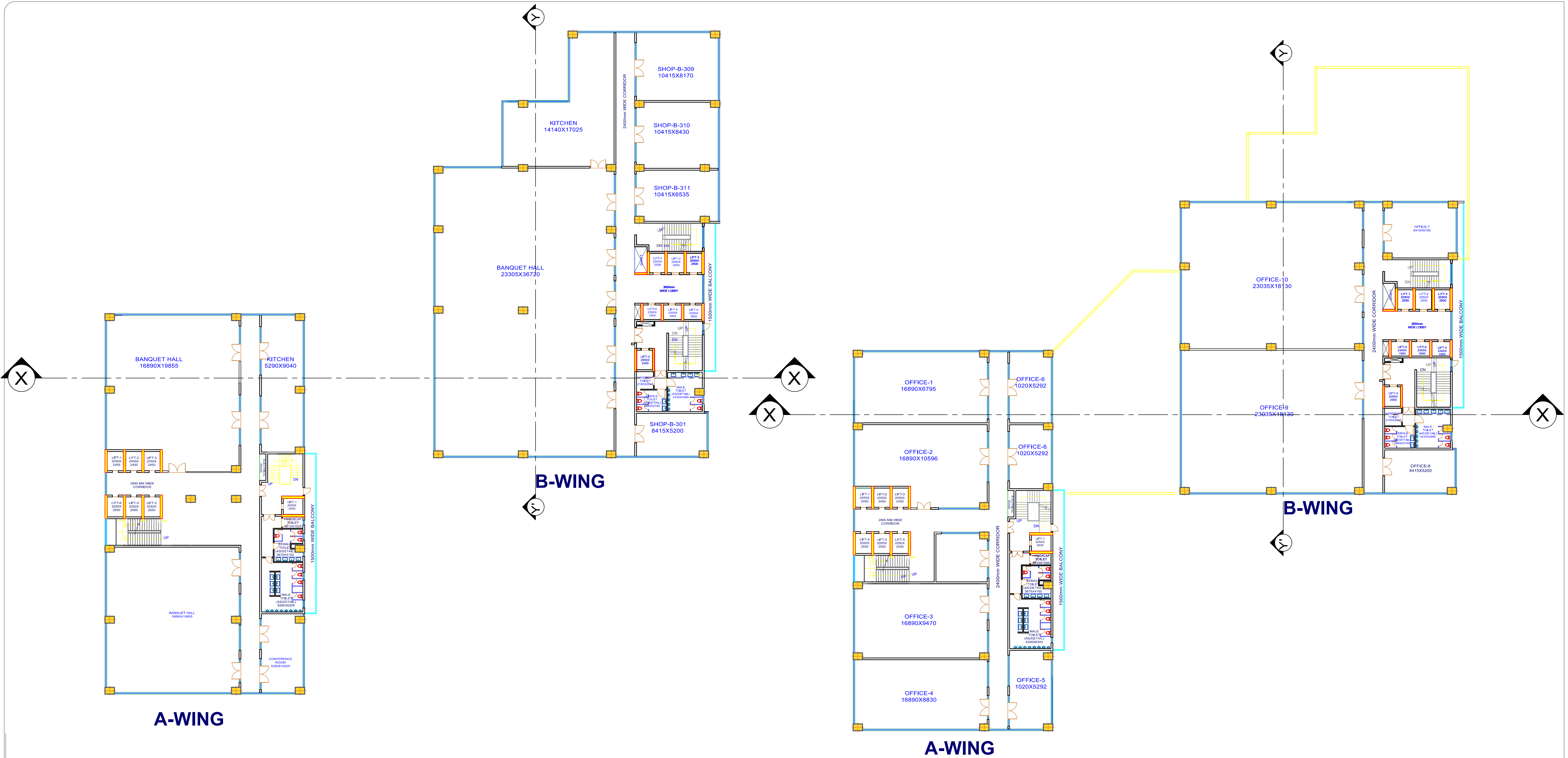
SCALE
1:100

ALL DIMENSIONS AREA IN
METERS



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FOURTH FLOOR

FIFTH FLOOR

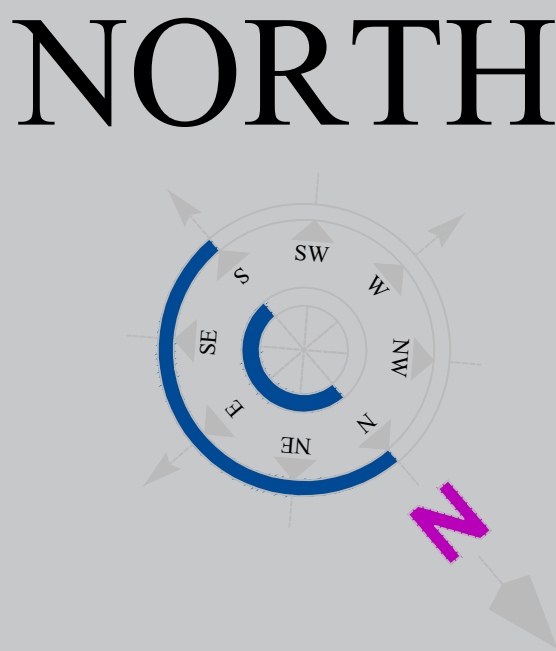
PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOCATION- LUCKNOW

DWG. TITLE
FLOOR PLANS

AREA-6.5 ACRE
FRONT SET BACK- 9M
SIDE SET BACK - 6 M

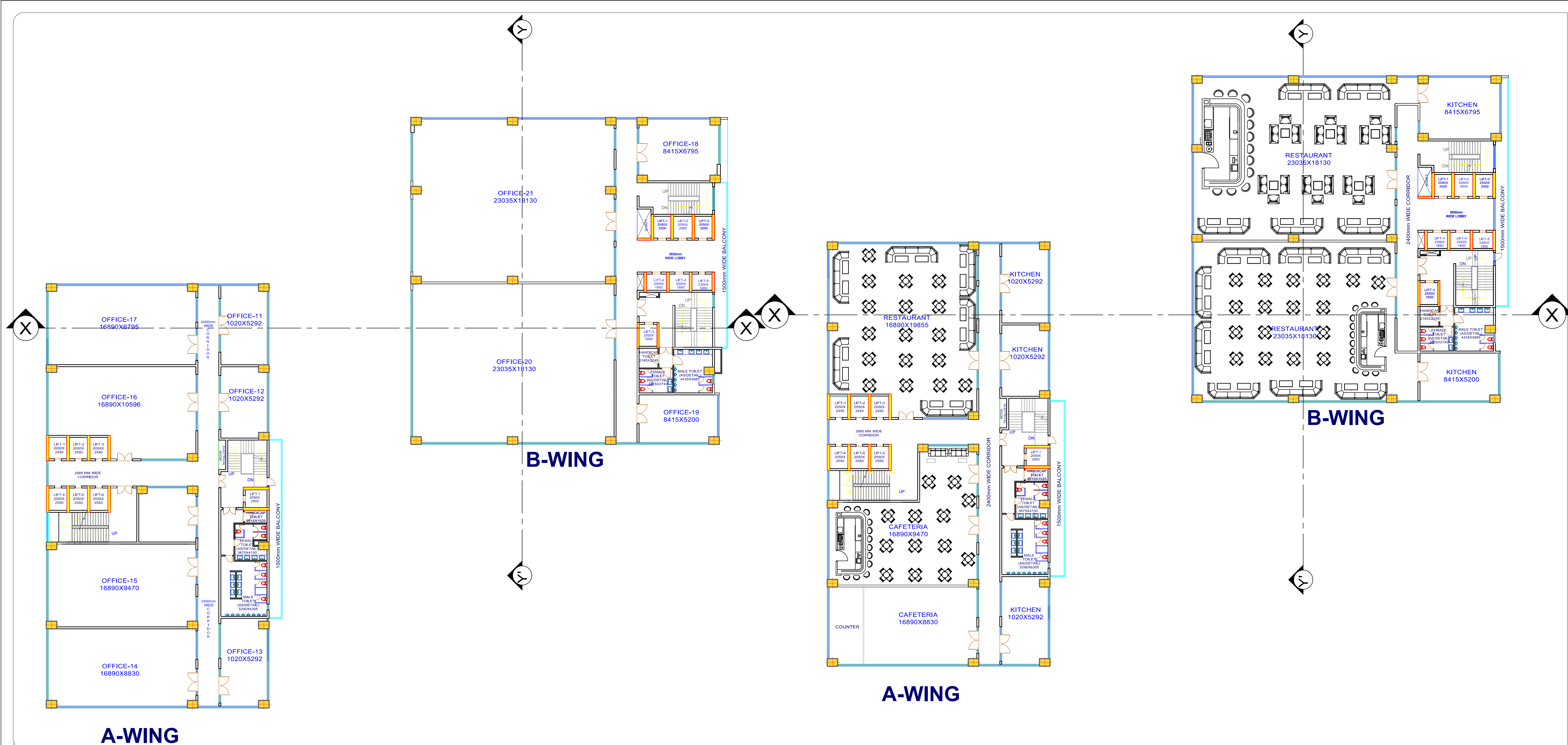
SCALE
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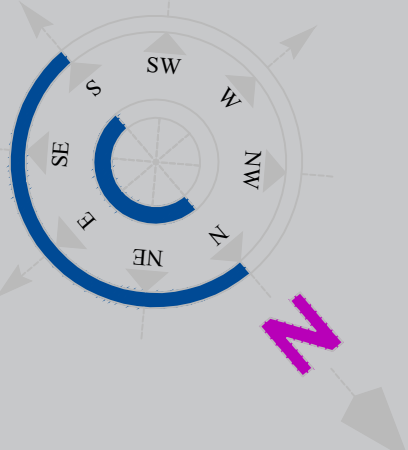
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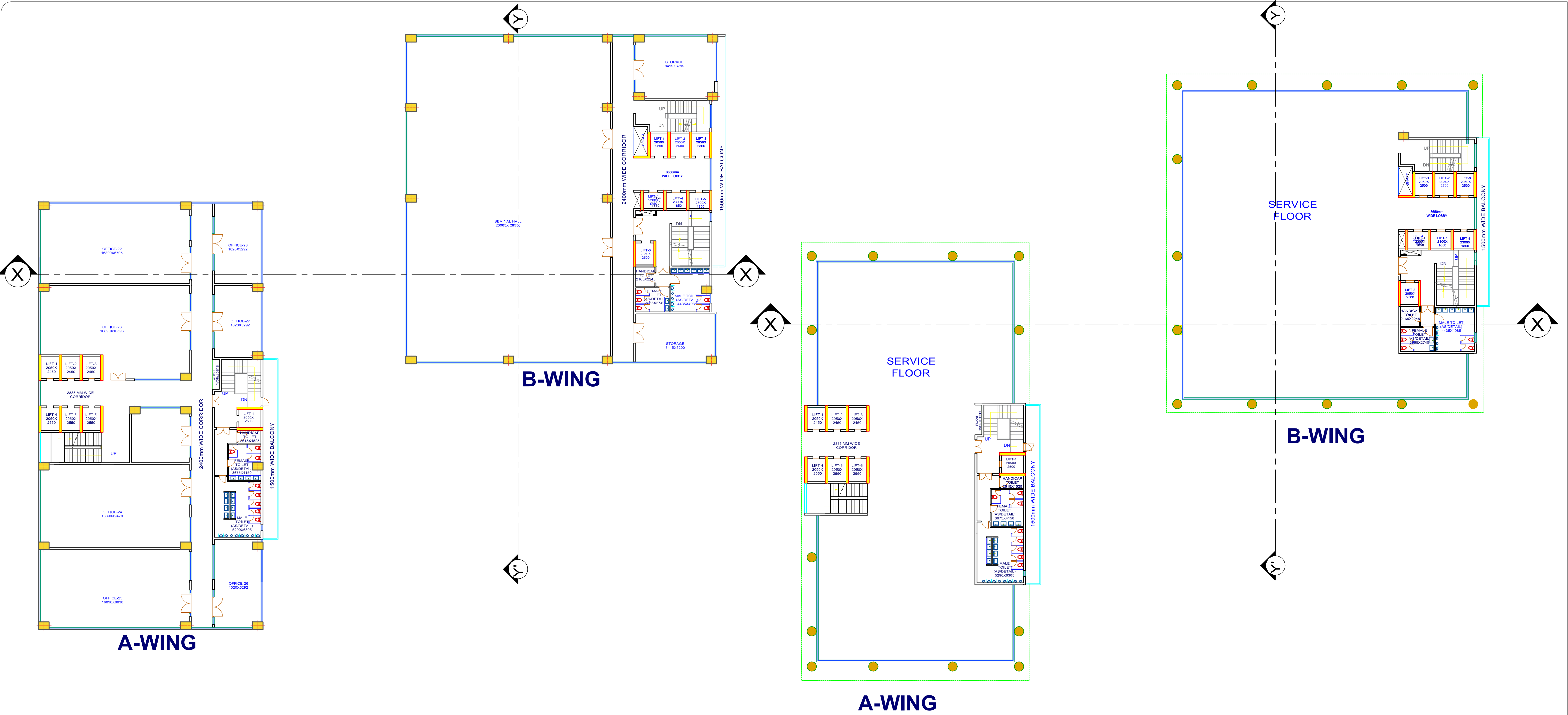


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ROLL NO-1190101010
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<div>PROJECT DETAILS:</div> <div>MIXED USE BUILDING</div> <div>ENHANCE</div> <div>THE URBAN SPACE</div> <div>LOCATION- LUCKNOW</div>	<div>DWG. TITLE</div> <div>FLOOR PLANS</div>		<div>SCALE</div> <div>1:100</div>		<div>NORTH</div> <div></div>	<div>THESIS GUIDED BY</div> <div>BY</div> <div>AR. ANSHUL</div>	
	<div>AREA-6.5 ACRE</div> <div>FRONT SET BACK- 9M</div> <div>SIDE SET BACK - 6 M</div>						
	<div>ALL DIMENSIONS AREA IN METERS</div>						
	<div>DEEPTI SRIVASTAVA</div> <div>B.ARCH X SEMESTER</div> <div>ROLL NO-1190101010</div>						
	<div>B.B.D.UNIVERSITY LUCKNOW</div>						

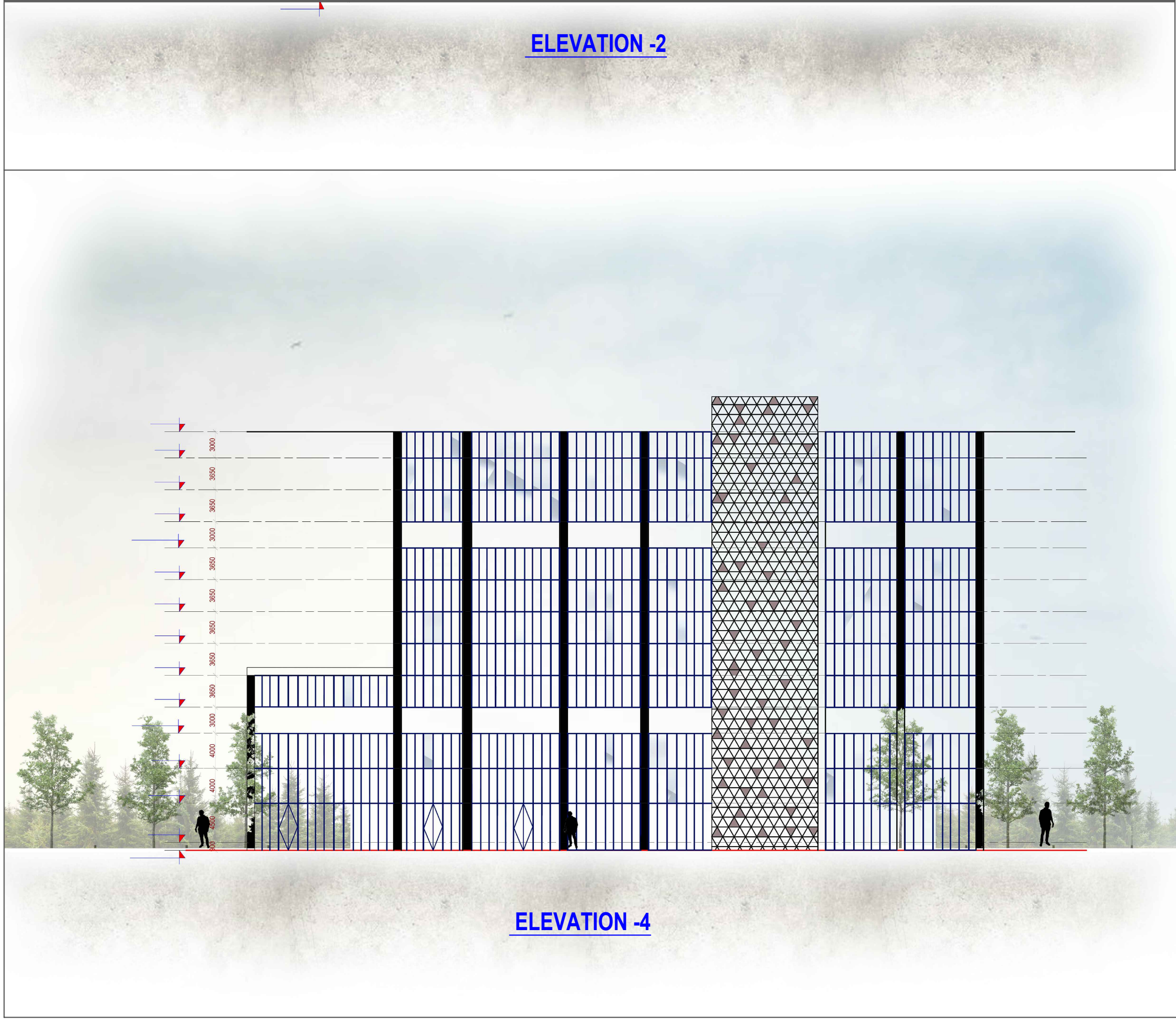
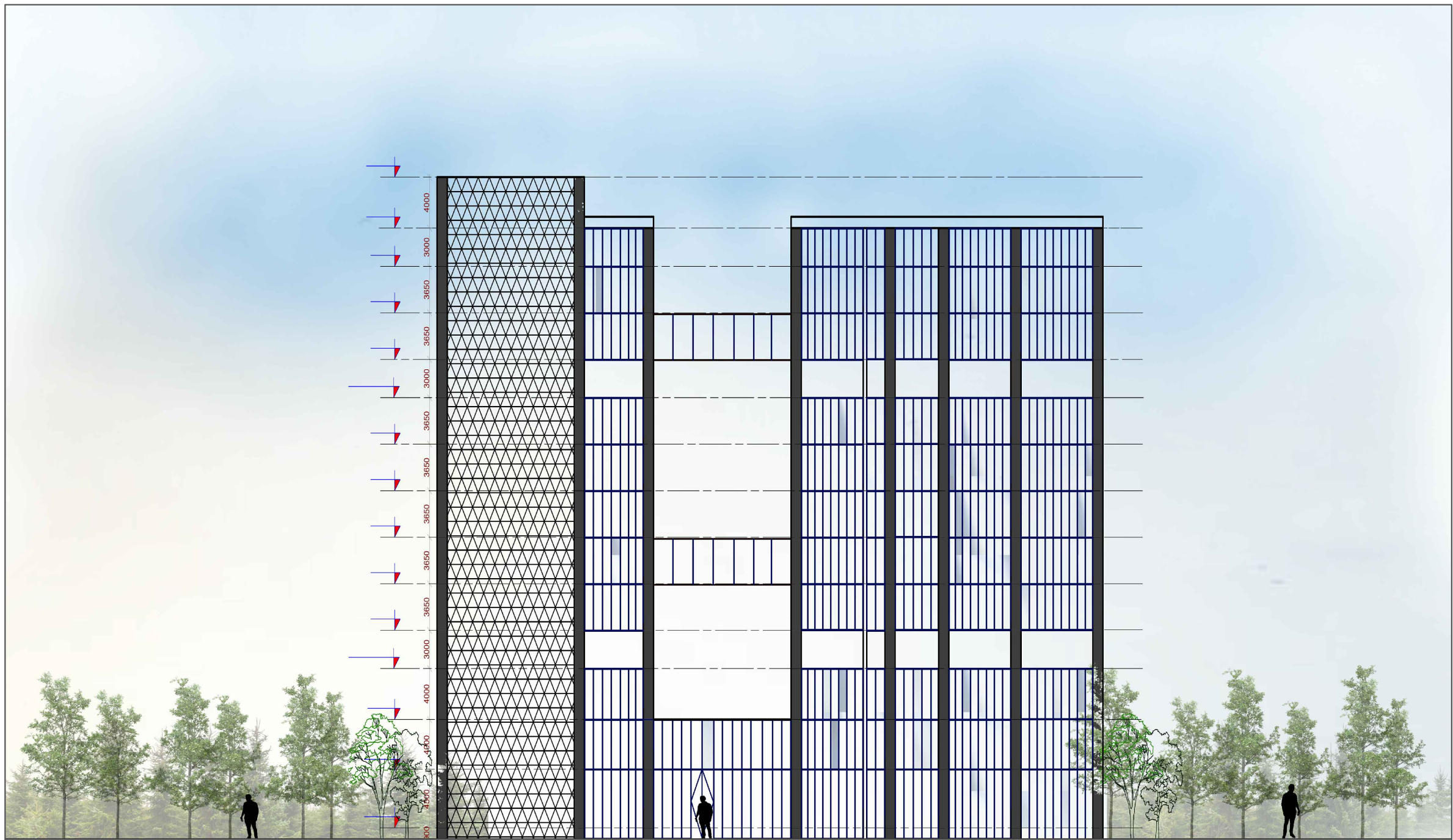
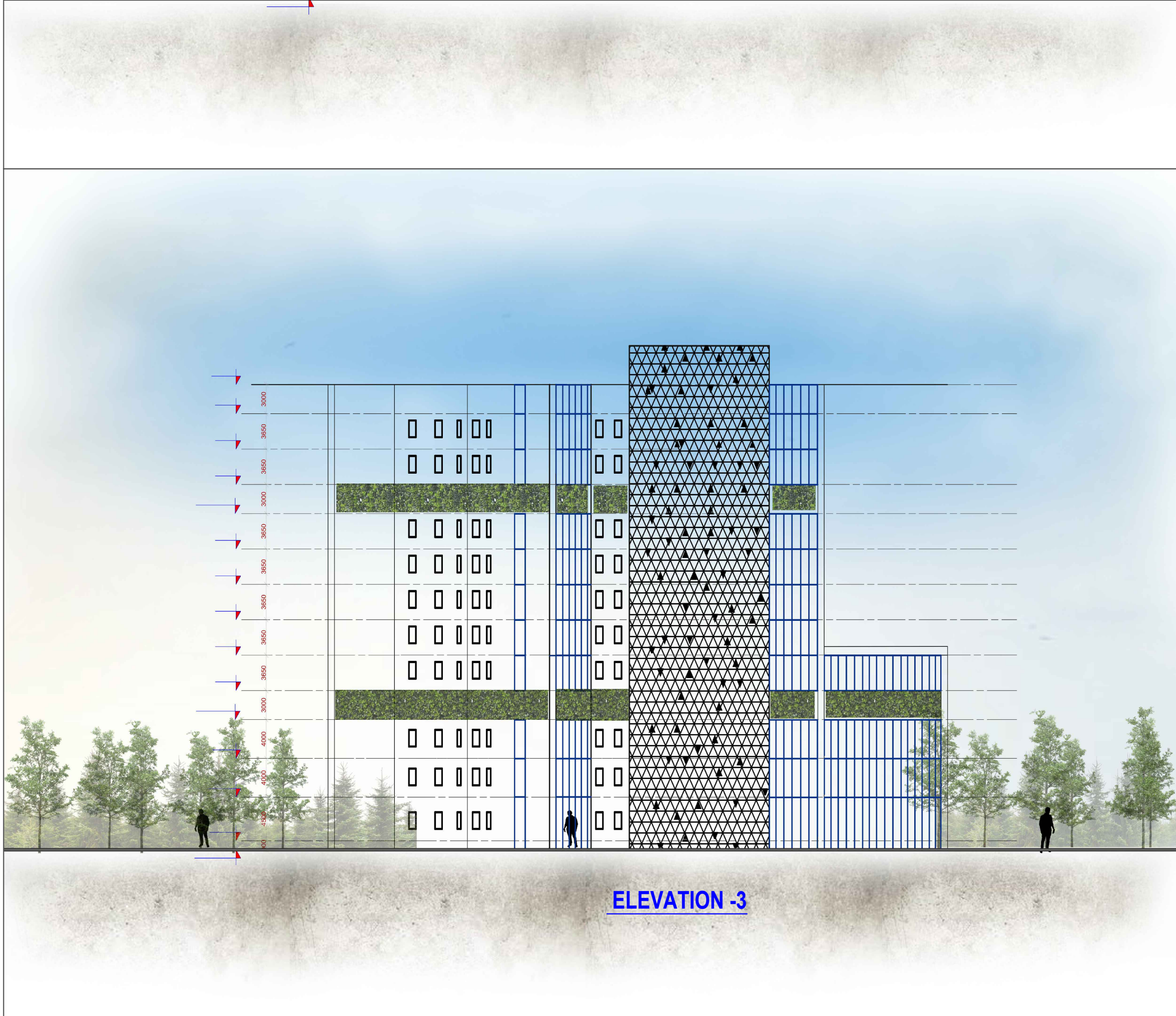
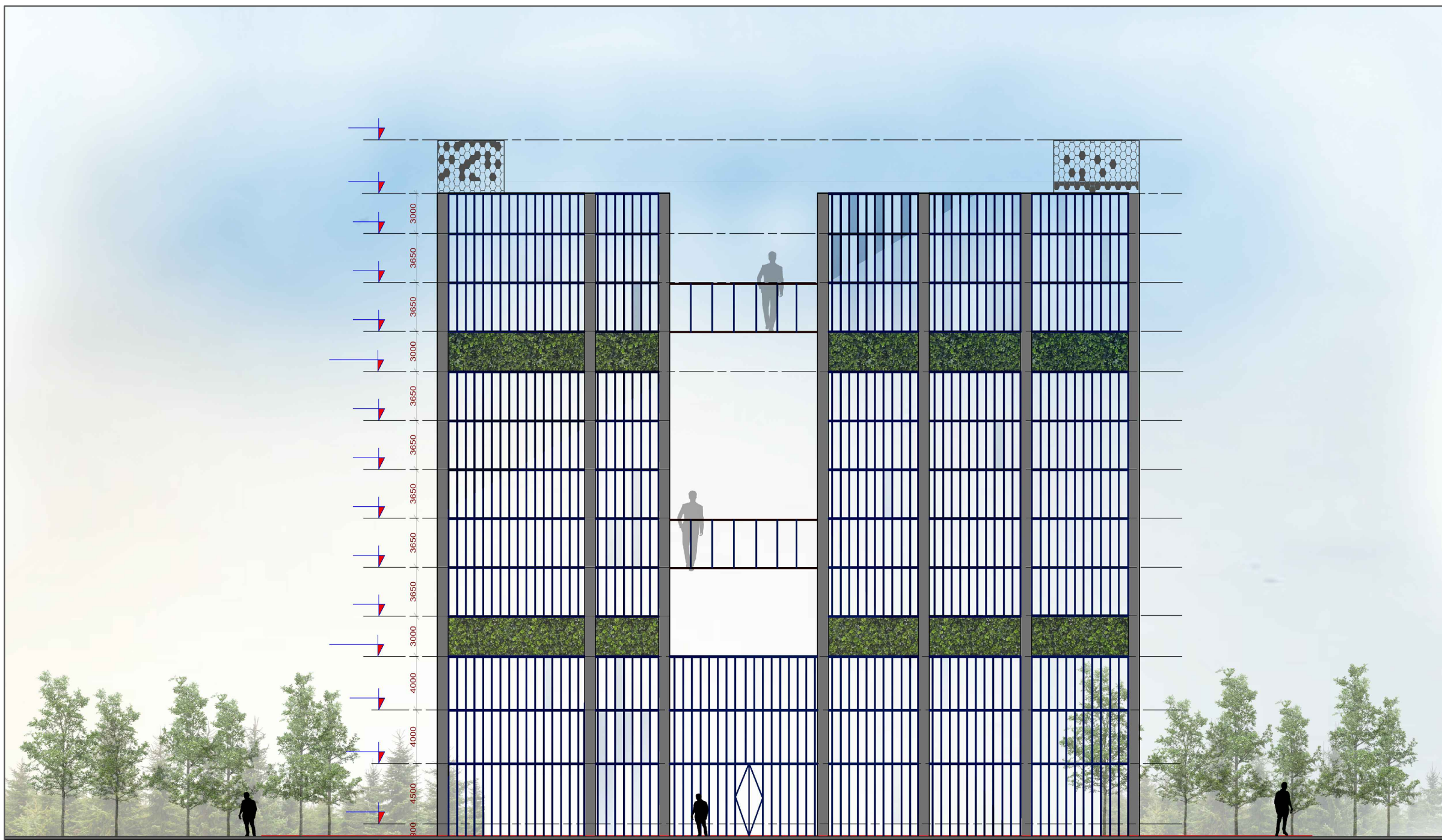


EIGHT FLOOR

NINE FLOOR

PROJECT DETAILS: MIXED USE BUILDING ENHANCE THE URBAN SPACE LOCATION- LUCKNOW	DWG. TITLE FLOOR PLANS		SCALE 1:100	<div>NORTH</div>	THESIS GUIDED BY AR. ANSHUL		DEEPTI SRIVASTAVA		
	AREA-6.5 ACRE FRONT SET BACK- 9M SIDE SET BACK - 6 M				B.ARCH X SEMESTER		ROLL NO-1190101010		
					ALL DIMENSIONS AREA IN METERS			B.B.D.UNIVERSITY LUCKNOW	

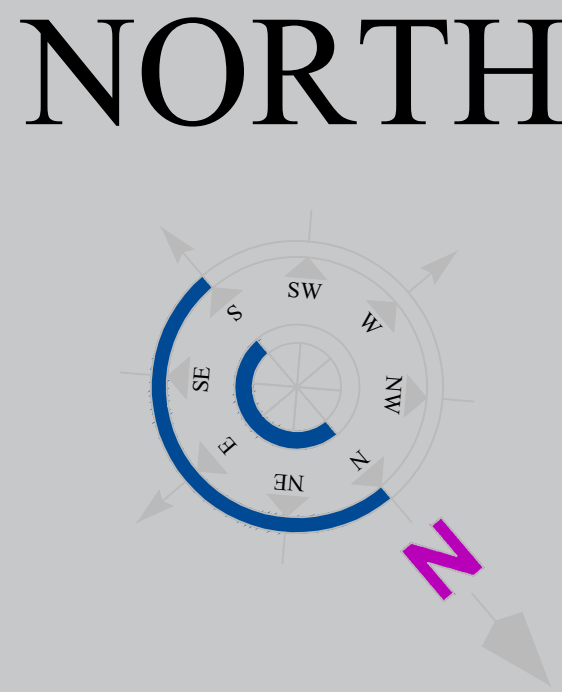
ELEVATION



PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOCATION- LUCKNOW

DWG. TITLE
SITE PLAN
AREA-6.5 ACRE
FRONT SET BACK- 9M
SIDE SET BACK - 6 M

SCALE
1:100
ALL DIMENSIONS AREA IN
METERS

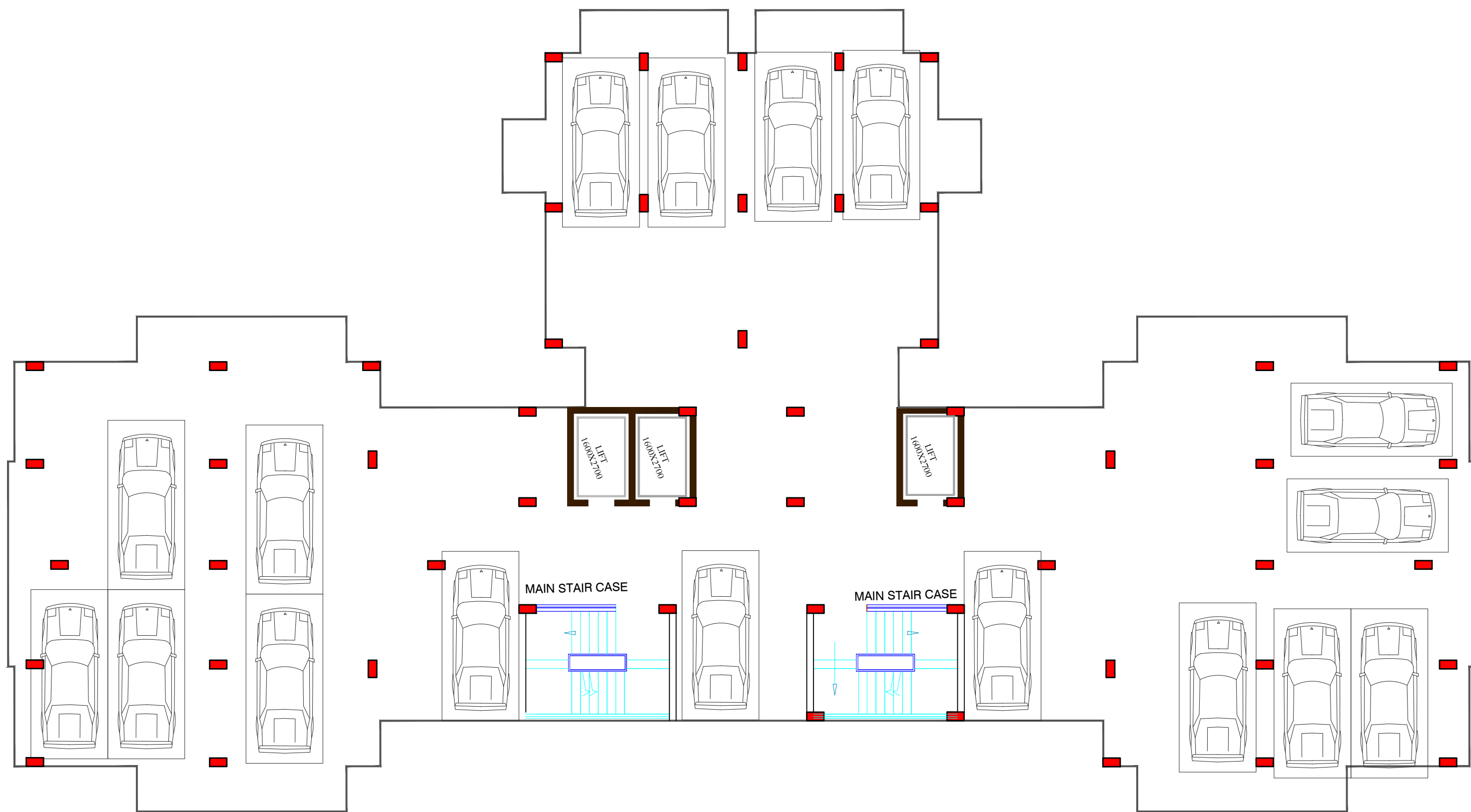


THESIS GUIDED BY
AR. ANSHUL

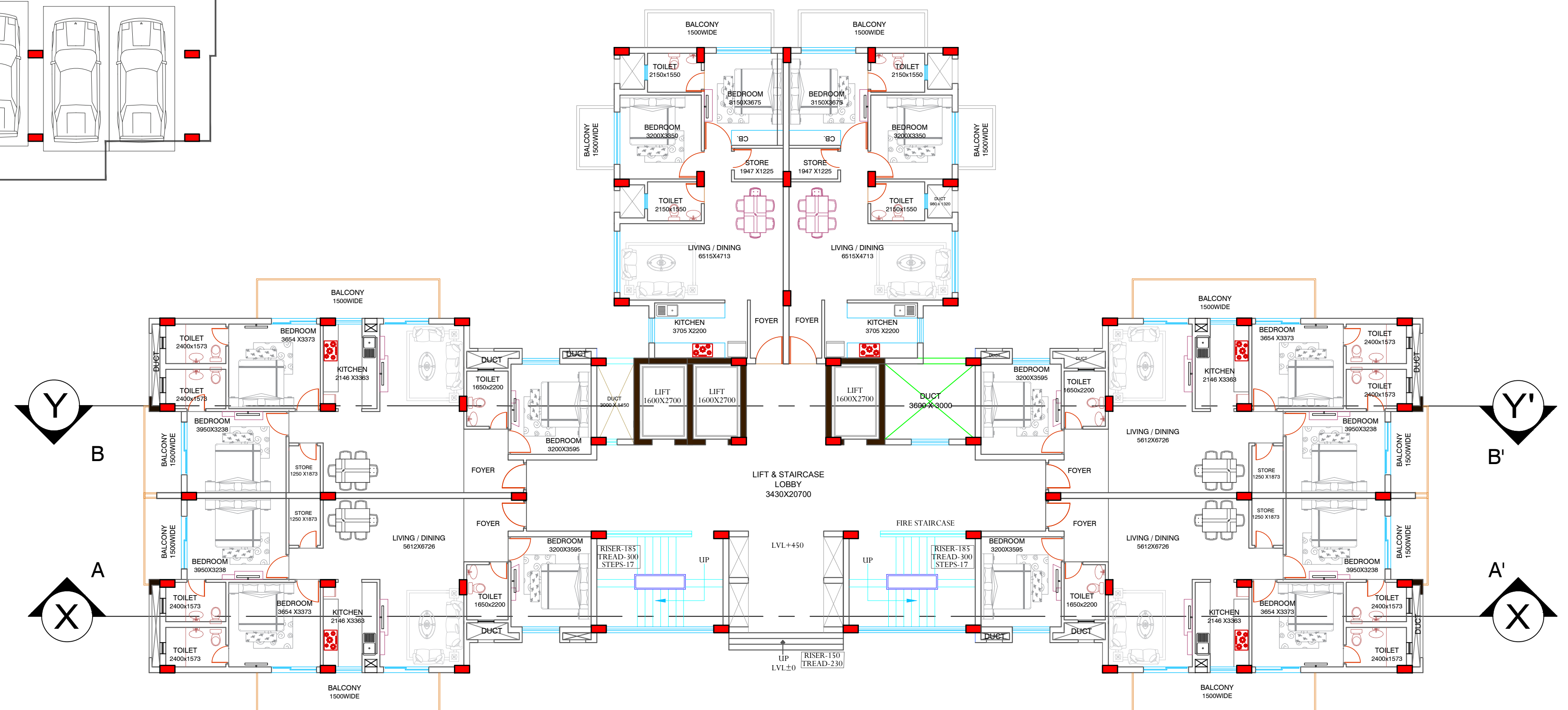
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STILT FLOOR PLAN



2BHK AND 3BHK TYPICAL FLOOR PLAN

PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOCATION- LUCKNOW

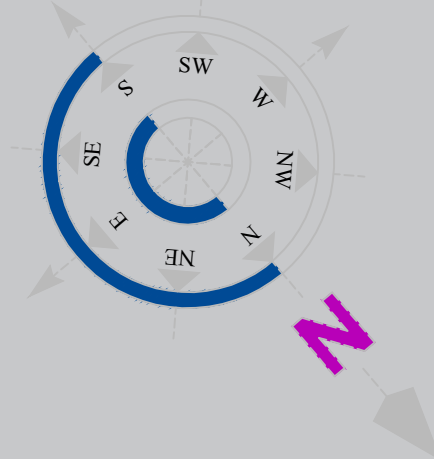
DWG. TITLE
FLOOR PLAN

AREA-6.5 ACRE
FRONT SET BACK- 9M
SIDE SET BACK - 6 M

SCALE
1:100

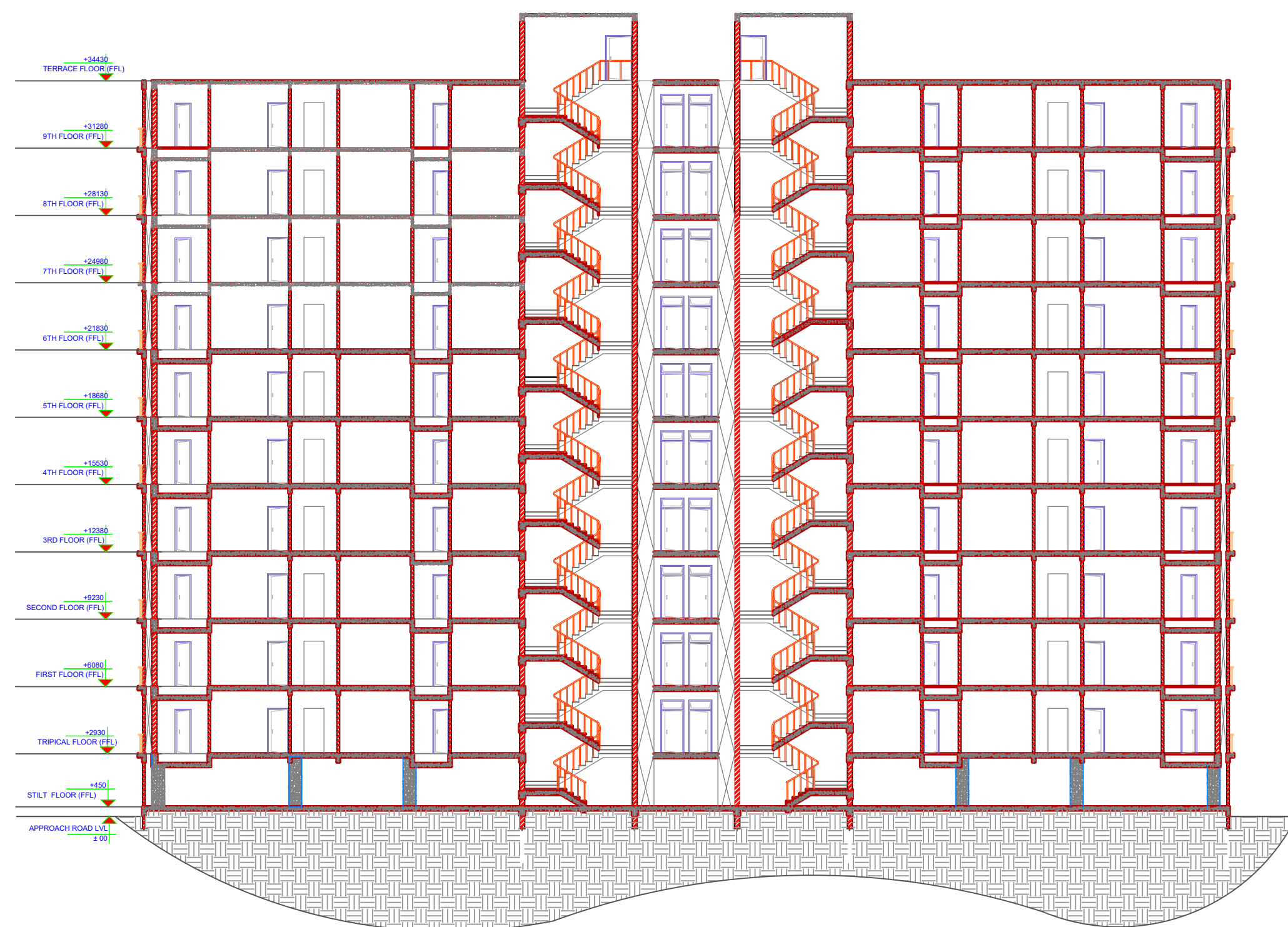
ALL DIMENSIONS AREA IN
METERS

NORTH

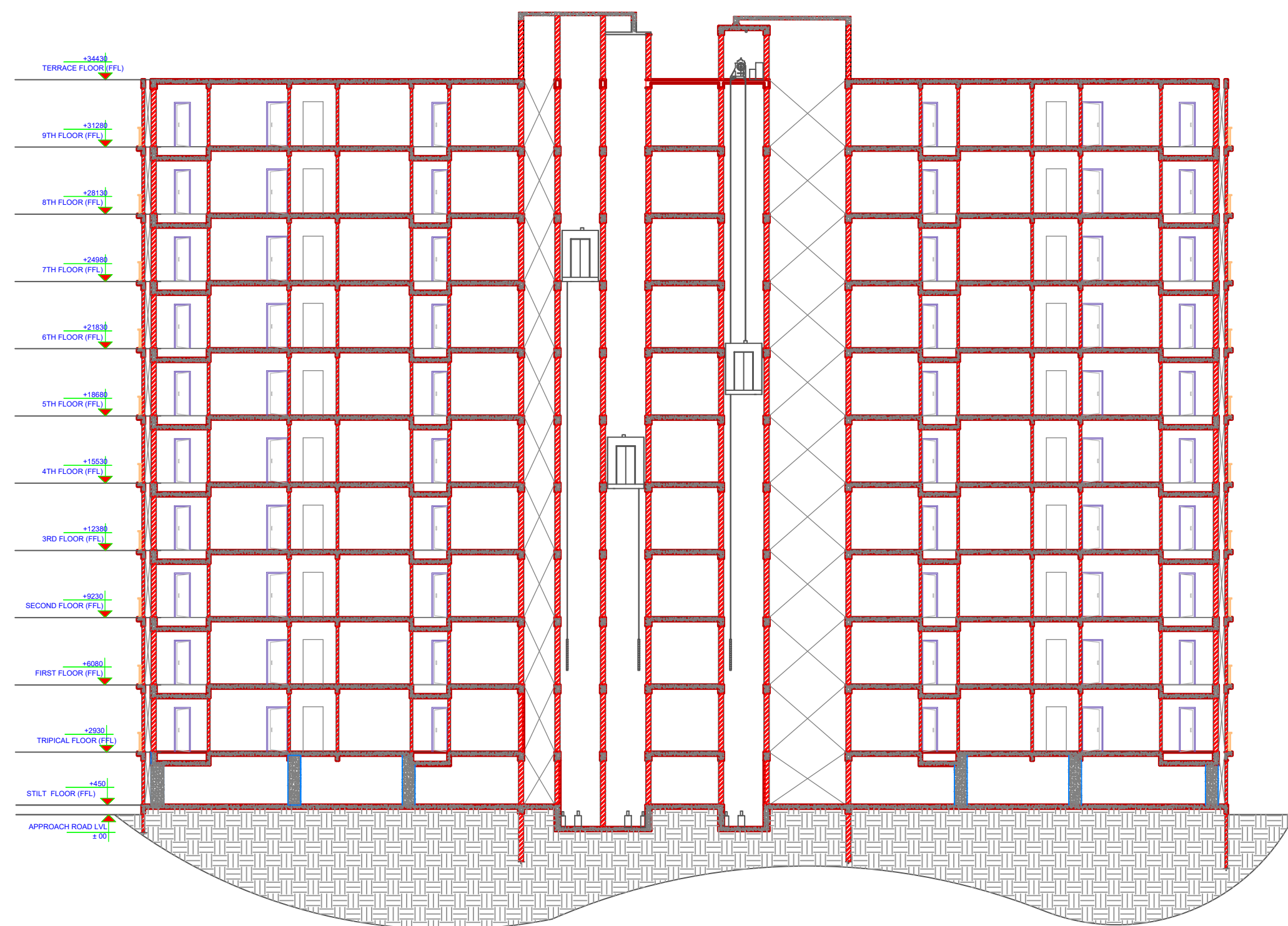


THESIS GUIDED BY
BY
AR. ANSHUL

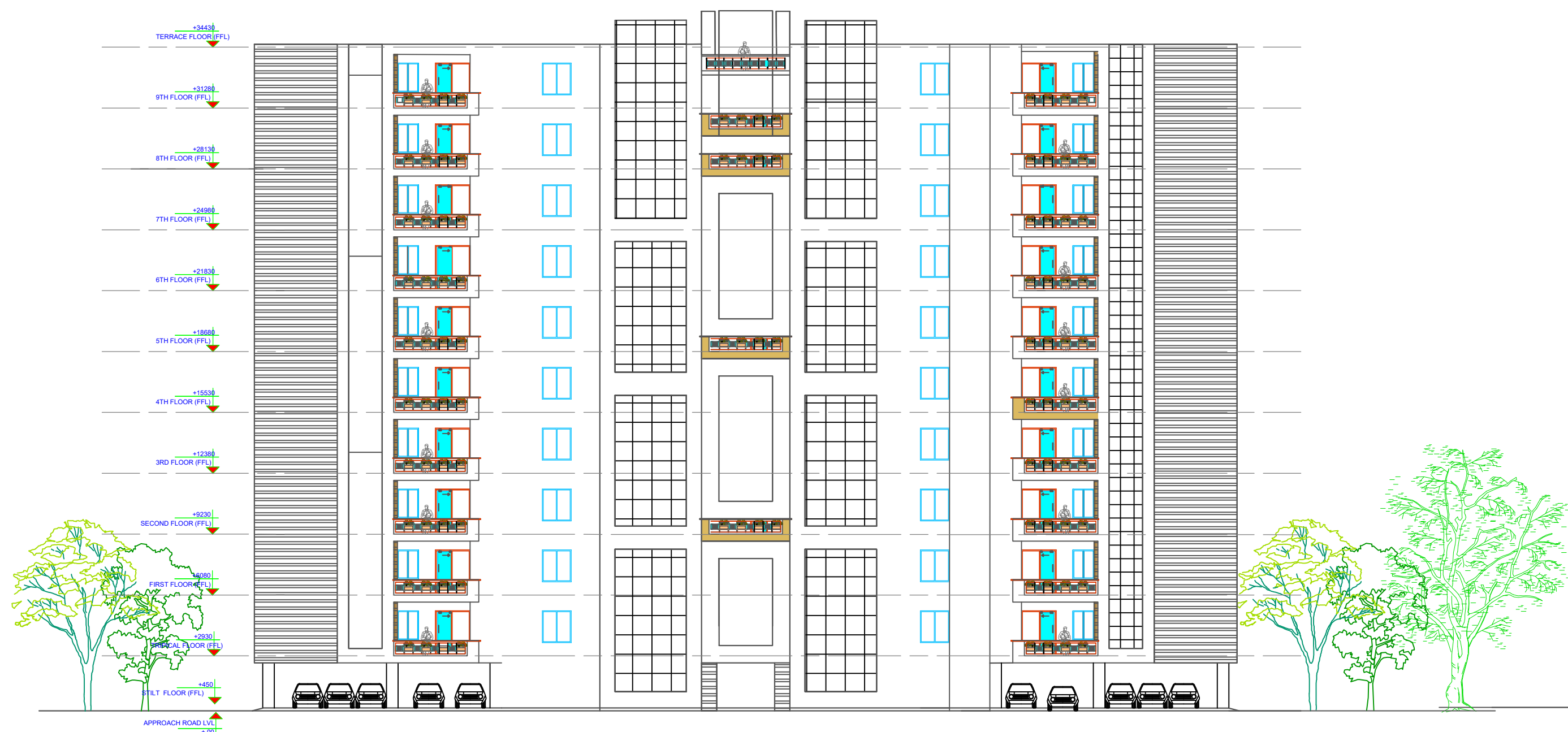
DEEPTI SRIVASTAVA
B.ARCH X SEMESTER
ROLL NO-1190101010
B.B.D.UNIVERSITY LUCKNOW



SECTION-XX'



SECTION-YY'



FRONT ELEVATION



BACK ELEVATION

PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOCATION- LUCKNOW

DWG. TITLE

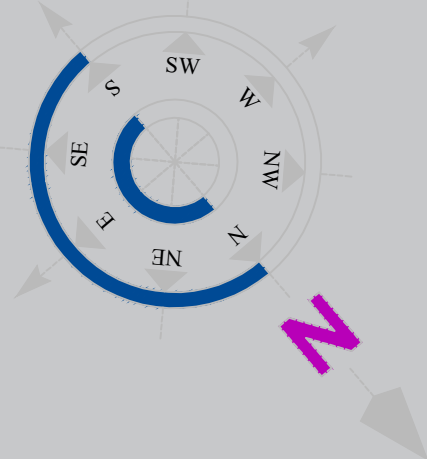
ELEVATION
SECTION

AREA-6.5 ACRE
FRONT SET BACK- 9M
SIDE SET BACK - 6 M

SCALE
1:100

ALL DIMENSIONS AREA IN
METERS

NORTH



THESIS GUIDED BY
BY
AR. ANSHUL


DEEPTI SRIVASTAVA

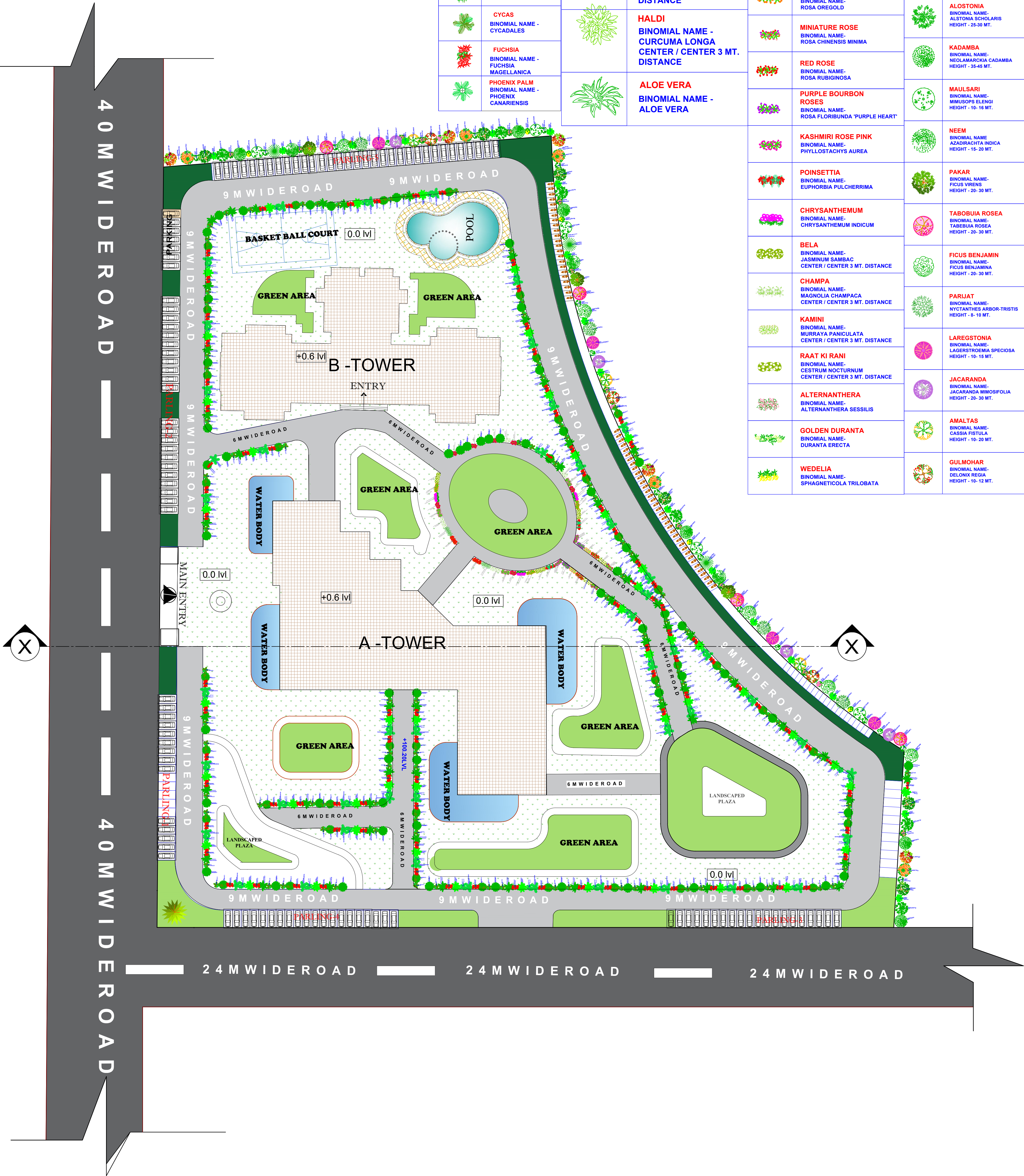
B.ARCH X SEMESTER

ROLL NO-1190101010

B.B.D.UNIVERSITY LUCKNOW

ELECTIVE- LANDSCAPE

	JUNIPERUS BINOMIAL NAME - JUNIPERUS COMMUNIS		SADABAHAR BINOMIAL NAME - CATHARANTHUS ROSEUS		MUSSAENDA BINOMIAL NAME- MUSSAENDA ERYTHROPHYLLA CENTER / CENTER 4 MT. DISTANCE		ARJUN BINOMIAL NAME- TERMINALIA ARJUNA HEIGHT - 18- 24 MT.
	ARAUCARIA BINOMIAL NAME - ARAUCARIA		SUPARI BINOMIAL NAME - ARECA CATECHU CENTER / CENTER 5MT. DISTANCE		IXORA BINOMIAL NAME- IXORA CENTER / CENTER 4 MT. DISTANCE		PALASH BINOMIAL NAME- BUTEA MONOSPERMA HEIGHT - 10- 15 MT.
	FOXTAIL PALM BINOMIAL NAME - WODYETIA BIFURCATA		BLACK PEPPER BINOMIAL NAME - PIPER NIGRUM CENTER / CENTER 3 MT. DISTANCE		FURCRAEA BINOMIAL NAME- FURCRAEA CUBENSIS CENTER / CENTER 4 MT. DISTANCE		SITA ASHOK BINOMIAL NAME- SARACA ASOKA HEIGHT - 7- 10 MT.
	WASHINGTONIA PALM BINOMIAL NAME - WASHINGTONIA		HALDI BINOMIAL NAME - CURCUMA LONGA CENTER / CENTER 3 MT. DISTANCE		DESI ROSE BINOMIAL NAME- ROSA MOSCHATA		ASHOK PENDULA BINOMIAL NAME- MONODON LONGIFOLIUM HEIGHT - 15- 20 MT.
	CYPRESS BINOMIAL NAME - CUPRESSUS		ALOE VERA BINOMIAL NAME - ALOE VERA		HYBRID TEA ROSE YELLOW BINOMIAL NAME- ROSA OREGOLD		ALOSTONIA BINOMIAL NAME- ALSTONIA SCHOLARIS HEIGHT - 25-30 MT.
	CYCAS BINOMIAL NAME - CYCADALES				MINIATURE ROSE BINOMIAL NAME- ROSA CHINENSIS MINIMA		KADAMBA BINOMIAL NAME- NEOLAMARCKIA CADAMBA HEIGHT - 35-45 MT.
	FUCHSIA BINOMIAL NAME - FUCHSIA MAGELLANICA				RED ROSE BINOMIAL NAME- ROSA RUBIGINOSA		MAULSARI BINOMIAL NAME- MIMUSOPS ELENGI HEIGHT - 10- 16 MT.
	PHOENIX PALM BINOMIAL NAME - PHOENIX CANARIENSIS				PURPLE BOURBON ROSES BINOMIAL NAME- ROSA FLORIBUNDA 'PURPLE HEART'		NEEM BINOMIAL NAME AZADIRACHTA INDICA HEIGHT - 15- 20 MT.
					KASHMIRI ROSE PINK BINOMIAL NAME- PHYLOSTACHYS AUREA		PAKAR BINOMIAL NAME- FICUS VIRENS HEIGHT - 20- 30 MT.
					POINSETTIA BINOMIAL NAME- EUPHORBIA PULCHERRIMA		TABOBUIA ROSEA BINOMIAL NAME- TABEBUIA ROSEA HEIGHT - 10- 15 MT.
					CHRYSANTHEMUM BINOMIAL NAME- CHRYSANTHEMUM INDICUM		FICUS BENJAMIN BINOMIAL NAME- FICUS BENJAMINA HEIGHT - 20- 30 MT.
					BELA BINOMIAL NAME- JASMINUM SAMBAC CENTER / CENTER 3 MT. DISTANCE		PARIJAT BINOMIAL NAME- NYCTANTHES ARBOR-TRISTIS HEIGHT - 8- 10 MT.
					CHAMPA BINOMIAL NAME- MAGNOLIA CHAMPACA CENTER / CENTER 3 MT. DISTANCE		LAREGSTONIA BINOMIAL NAME- LAGERSTROEMIA SPECIOSA HEIGHT - 10- 15 MT.
					KAMINI BINOMIAL NAME- MURRAYA PANICULATA CENTER / CENTER 3 MT. DISTANCE		JACARANDA BINOMIAL NAME- JACARANDA MIMOSIFOLIA HEIGHT - 20- 30 MT.
					RAAT KI RANI BINOMIAL NAME- CESTRUM NOCTURNUM CENTER / CENTER 3 MT. DISTANCE		AMALTAS BINOMIAL NAME- CASSIA FISTULA HEIGHT - 10- 20 MT.
					ALTERNANTHERA BINOMIAL NAME- ALTERNANTHERA SESSILIS		GULMOHAR BINOMIAL NAME- DELONIX REGIA HEIGHT - 10- 12 MT.
					GOLDEN DURANTA BINOMIAL NAME- DURANTA ERECTA		
					WEDELIA BINOMIAL NAME- SPHAGNETICOLA TRILOBATA		



PROJECT DETAILS:
MIXED USE BUILDING
ENHANCE
THE URBAN SPACE
LOACTION- LUCKNOW

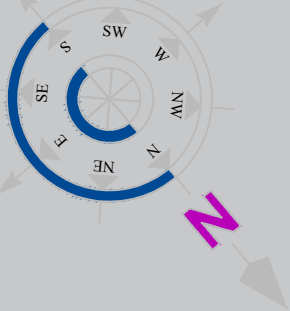
DWG. TITLE
ELECTIVE
SITE PLAN

AREA-6.5 ACRE
FRONT SET BACK- 9M
SIDE SET BACK - 6 M

SCALE
1:100

ALL DIMENSIONS AREA IN
METERS

NORTH



THESIS GUIDED
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