

AUTOMOBILE HUB

THESIS

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Architecture degree

By

VIJAY.S
(3621089)



DEPARTMENT OF ARCHITECTURE
SCHOOL OF BUILDING AND
ENVIRONMENT

SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited with Grade "A" by NAAC
JEPPIAAR NAGAR, RAJIV GANDHI SALAI,
CHENNAI - 600 119

MAY-2021



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Jeppiaar Nagar, Rajiv Gandhi Salai,

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DEPARTMENT OF ARCHITECTURE

BONAFIDE CERTIFICATE

This is to certify that this Thesis Report is the Bonafide work of **VIJAY.S (3621089)** who carried out the Thesis entitled "**AUTOMOBILE HUB**" under our supervision from January 2021 to December 2020.

Internal Guide

(Ar. SINDHU)

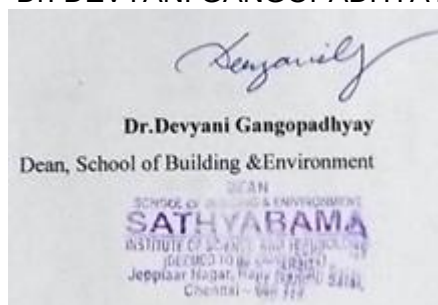
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(Dr. DEVYANI GANGOPADHYAY)

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Dr. DEVYANI GANGOPADHYAY



Submitted for Viva voce Examination held on _____

Internal Examiner

External Examiner

DECLARATION

I, **VIJAY.S** hereby declare that the Thesis Report entitled “**AUTOMOBILE HUB**” done by me under the guidance of **Ar.SINDHU** (Internal Guide) and (External Guide). Sathyabama Institute of Science and Technology is submitted in partial fulfillment of the requirements for the award of Bachelor of Architecture Degree.

DATE:

PLACE: Chennai

SIGNATURE OF THE CANDIDATE

ACKNOWLEDGEMENT

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I convey my thanks to **Dr. Devyani Gangopadhyay**, Dean and Head of the Department, **Dr.Suresh Kuppuswamy**, Design Chair of School of Building and Environment, Department of Architecture and providing me necessary support and details at the right time during the progressive reviews.

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THESIS SYNOPSIS

The purpose of the project "AUTOMOBILE HUB" is, Chennai though an Urbanizing city is still in lacking in a lot of fields, one of it mainly being automobile sale. Separate showrooms for vehicles are found all around the city but are still not Convenient because, it puts people in a confused state of mind where they don't know What to choose, resulting in wrong choices that are regretted later. To bring a solution to this dilemma is the proposal of an automobile hub, Accommodation all brands under one roof, helping in precision and sense of Satisfaction.

CHAPTER 1

INTRODUCTION

AUTOMOBILE HUB

The history of urban transportation is first a story of the evolution of technology that has been gradually increasing with speed, vehicle capacity, and range of travel that has shaped cities and structured the lives of those who live in them. Daily Transport plays an important part in the economic growth and globalization. Transportation is a major necessity in most industrialized nations. Automobiles therein play an important role in promoting transport. Now speaking of automobiles there are a number of brands that launch different models of auto movers with unique styles, creating confusion in the buyers minds as to "what brand to buy or what is it that they really want?"

Therefore, a cohesive conclusion for such confusion is an automotive complex, understanding the needs of the crowd, displaying all brands of transportation means and services under a single roof. The Automotive Complex Project plans to provide a place of international business for both domestic and overseas Automobile Corporations, where a large-scale, production-line manufacturing of affordable automobiles can be debuted. An automobile complex could be the fourth dimensional gateway to a new era of automobiles, thereby inviting new brands and dealers under a single roof.

Creating a complex of auto movers is like a mile stone, definite and productive. Chennai, though a metro city still lacks in a lot of fields, when in comparison to other urban cities. One of the medians of communication with other well-renowned countries and cities is the magnanimous use of automobiles by the crowd today. Automobile seems to have become one of the basic necessities apart from food and clothes these days. When such a demand is being realized, it is time to take a step ahead in promoting an automobile complex which could pave a connection to other countries and in return increasing production sales and the economy on the whole which leads to the macroscopic development of the country in itself.

An automobile complex is just an ignition spark, in promoting automobiles at a faster, easier and in a more satisfactory way to buyers of all classes.

A thorough study is done on different classes of people and their needs and the sales and exhibits are categorized accordingly, to suit fashion and demand.

Automobiles were once owned by lovers of luxury, but today has become a normal commodity to suit one and all.

There is a saying, "men walked the earth. This phrase has become a metaphor. Everything we see is techno based. Transportation, once considered difficult, is now one of the easiest. Everything we see or learn these days has been once insignificant and has stepped up to what it is today. Automotive complex though now considered significant is a sure boon to the automobile industry as well as the economic growth. Therefore, an automotive complex is a platform for a productive interaction between the buyers and sellers.

As one of the national pillar industries and the, representative of complex product, automotive industry has already marched towards complete independent innovation nevertheless, automotive manufacturing enterprises always keep the innovation process tightly sealed in its internal environment, and would not like to communicate and cooperate with other organizations, especially with their competitors. Hence making marketing under a single roof, more profitable and competitive. Undoubtedly, they will restrict the optimized and controlled effects of progress, quality and cost factors of innovation process. The automotive industry in India is one of the largest in the world and one of the fastest growing globally.

The level of technology change in the Motor vehicle Industry has been high but, the rate of change in technology has been medium. Investment in the technology by the producers has been high. System- suppliers of integrated components and sub-systems have become the order of the day. However, further investment in new technologies will help the industry be more competitive. Over the past few years, the industry has been volatile. Currently, India's increasing per capita disposable income which is expected to rise by 106% by 2015 and growth in exports is playing a major role in the rise and competitiveness of the industry.

The role of the complex will primarily be in designing and manufacturing products of world-class quality establishing cost competitiveness and improving productivity in labour and in capital. With a combined effort, the automotive industry will emerge as the destination of choice in the world for design and manufacturing of automobiles.

Determinants of demand for this industry include vehicle prices (which are determined largely by wage, material and equipment costs) and exchange rates, preferences, the running cost of a vehicle (mainly determined by the price of petrol), income, interest rates, scrapping rates, and product innovation.

AIM

The aim is to enable a coherent approach to planning and design, manufacture, transportation, storage, vehicle exhibition, sales and

- To bring all renowned brands of auto mobiles under one roof.
- To provide a single platform for dealers and sellers.
- To create a sense of awe to the buyers and also offering them a wide range of choice.
- To ensure distribution channels for completed automobiles and vehicle parts.
- To attract business functions related to the automotive industry.
- To built /create an e hub and showroom along with a live simulation centre that deal with electric motor/vehicles(ev).

OBJECTIVES

- To study the alternative technologies in auto mobile industry.
- To educate the public on electric cars and eco driving systems by providing mixed reality and simulation of the vehicles.
- To study the current scenario causing slow growth of ev.
- To give people a better idea and knowledge about electric vehicles which are to replace fuel run vehicles.
- To give a real-life experience to the people about electric vehicle with real life simulation beds.

- To create a sense of satisfaction to the crowd on what they need, providing a wide range of choice.
- To provide an infrastructure in such a way as to accommodate different brands of cars and help display efficiently.
- To ensure a healthy competition in the automobile launch.
- provision of drive-in theatres and other recreational facilities, thereby making it not only place to bus ' a fun place as well.

NEED FOR THE PROJECT

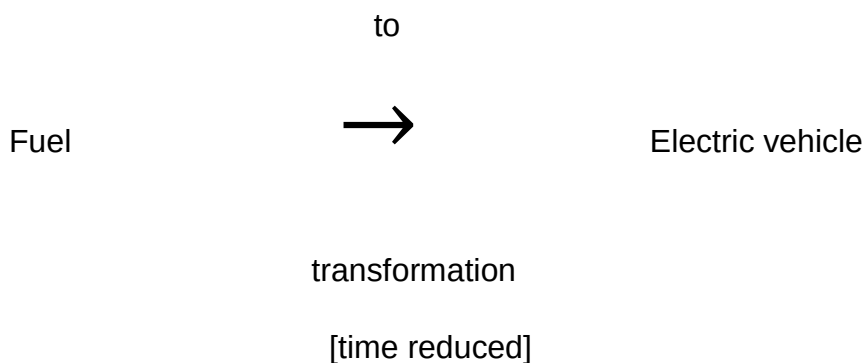
Chennai though an urbanizing city is still in lacking in a lot of fields, one of it mainly being automobile sale. Separate showrooms for vehicles are found all around the city but are still not convenient because, it puts people in a confused state of mind where they don't know what to choose, resulting in wrong choices that are regretted later.

To bring a solution to this dilemma is the proposal of an automobile hub, accommodation all brands under one roof, helping in precision and sense of satisfaction.

SCOPE

The project is not only a buyer sealer platform, but also a recreational space having theatres and food courts accommodating the crowd who does not come to purchase cars as well. The market world today is fast moving and competitive. Thus, making the project a futuristic hub.

MOTIVE



PROJECT FEASIBILITY

- Hyundai motor company became the first manufacturer to introduce a long-range electric vehicle, kona (a sport utility vehicle) in India.
- sales of electric vehicles (evs) in India have reached 280,000 units till November, according to the economic survey 2019-20.
- the national electric mobility mission plan (nemmp) 2020 is a national mission document providing the vision and the roadmap for the faster adoption of electric vehicles and their manufacturing in the country.
- this plan has been designed to enhance national fuel security, to provide affordable and environmentally friendly transportation and to enable the Indian automotive industry to achieve global manufacturing leadership.
- as part of the nemmp 2020, department of heavy industry formulated a scheme viz. faster adoption and manufacturing of (hybrid &) electric vehicles in India (fame India) scheme in the year 2015 to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth.

CHAPTER 2

LITERATURE REVIEW & CASE STUDIES

2.1 SHOWROOM DESIGN

The new car showroom performs a merchandising and advertising function for the entire dealership. The exterior should be designed, decorated, and lighted so it will stand out from its immediate surroundings in an appealing way as well as identify the business quickly and be inviting to potential customers, it represents the basic physical image of the dealership as it first appears to the customer, influencing not only his original valuation of the facility as a place of business but also his continual impression of it. It exerts an immeasurable but certain pressure on owner relation. As shown in fig 2.1.

A typical showroom-built post 1995, would have a double height display area, often with a balcony used as sales Offices. Alternatively, such a showroom may have a high wall head in the display area. The front is sheet glass, giving a prominent display. The showroom area will include offices and customer toilets finished too the same standard as the showroom.

Older showrooms are normally single storey, with prominent glass frontage, and finishes often to a similar standard as the modern unit. As shown in fig 2.2.



Fig. 2.1 Exterior of Showroom



Fig. 2.2 Exterior finish of Showroom

2.1.1 Showroom Design — Position

Showrooms and ancillary offices/ toilets should be measured on a Gross international basis. Workshops, stores, workshop offices and other uses should be measured on the same basis as comparable industrial buildings. As shown in fig 2.1.

A showroom will normally face the main road, either directly or obliquely, and be visible from both directions along the road. Usually, the Location is behind a car display, or landscaped area. No allowance should be made for such a location.

The modern style of showroom often has a balcony or gallery area used as sales office. This area should be valued at the same rate as industrial offices. As shown in fig 2.3.



Fig. 2.3 Oblique Approach



Fig. 2.4 Direct Approach-Showroom

- They are display areas for a particular product by which they get maximum exposure of all people of all walk of life.
- Generally, showrooms are located on besides highways or prominent place of people gathering and convenient for accessibility from all location of the particular town or city. As shown in fig 2.5.



Fig. 2.5 Display Area of Showroom



Fig. 2.6 Interior of Showroom

- Showrooms should have enough parking space beside it and also need attractive features externally to invite the people in form of landscaping, custom made light effects, musical fountain, natural waterfalls, and granite stroke marble facias.
- In the last few years, a new trend has developed like Alucobond and structure glazing facade to have a durable long-lasting maintenance _ free elevations

with LEDs (light emitting displays) signage's, pylon signage's, colourful signage's were adopted. As shown in fig 2.6.

- Trees are widely used in front of the showrooms for aesthetic purposes.



Fig. 2.7 Internal display Area

- Eloquence — showrooms are with the modern types of finishing with lot of luxury mixed with luxurious, expensive material to have a rich feeling ion all their look which will attract the customer which loosen the high prices of vehicles.
- Showrooms, generally, display as many cars as much the showroom as many cars with many colours and varieties. As shown in fig 2.7.
- Cars are also displayed externally just in front of the showroom without roof to attract people.
- It is all occasions we have noticed car display on externally on the water body, roof of the building.

2.1.2 Showroom Finish

- One flooring with combination of porcelain, vitrified tiles, parapet floor, ash tiles, granite marble with stainless steel strips. As shown in fig 2.8.
- walls are mostly front side of the showroom will be of glass area, columns will be fitted stainless steel cladding.
- Showroom ceilings consists of very expensive Bari sole ceilings, metal ceilings
- car display platform with the car moving and facility to rotate and rise the car at various heights. As shown in fig 2.9.



Fig. 2.8 Showroom Exterior finish



Fig. 2.9 Showroom Interior Finish

2.1.3 Display Area

The showroom provides large display area for the product display in an attractive Manner where the customers can access the product touch and feel. The arrangements Of the products in the display area are sorted as follows:

1.3.1 Linear Arrangement

These arrangements are to be focused on less spaced area, the arrangement are meagerly to face the external glazed wall for better attraction. As shown in fig 2.10.

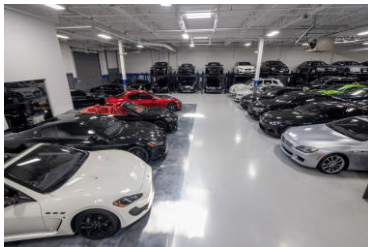


Fig. 2.10 Linear Arrangement

2.1.3.2 Radial Arrangement



Fig. 2.11 radial Arrangement

2.1.3.3 Random Arrangement

These arrangements require a large area and artificial environments to be created to add the beauty of the product, these arrangements are commonly seen in the luxury class vehicle showrooms. As shown in fig 2.12.



Fig. 2.12 Random Arrangement

2.1.4 Location of the Showroom

The showroom should be located in a position of unobstructed visibility-one that will readily attract the attention of people passing by. It should present at a glance an impressive and appealing view of the new cars on display. If the building site is on a corner, the showroom should be on the corner facing both streets for maximum customer visibility. Additional new unit display, if desired, can be provided outside the showroom under a canopy or roof extension, adjacent to the customer reception area or through use of a landscaped patio display area. These types of new unit display areas are relatively inexpensive to provide and can be very effective. The minimum space guide for inside showroom display is 50 square meter per unit. Leave atleast 1.5m open around each car. This will allow space so that the customer may walk around and open the hood, doors, and trunk freely. Allow as much extra space as possible around the display, so that customers can stand back and get a good view of the car from all angles.As shown in fig 2.13

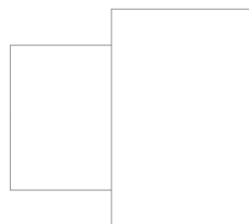


Fig. 2.13 Location of showroom

2.1.5 Customer Reception

The reception area should be immediately inside the display entrance, decorated, well lighted, and equipped to create the best possible impression and selling atmosphere. It is strongly recommended that the customer reception area be away from the productive service area. This concept has the following advantages since customers prefer a clean, quiet atmosphere to the normal noise, dirt and congestion of the shop area. Straight-through reception area is preferable and more conducive to service soiling. Traffic control also is much more efficient, with congestion and car maneuvering kept to minimum. Where local climate permits. The outdoor reception area can be designed to attractively complement the building architecture.

2.1.6 Office

The general office should be in a central location, convenient to all operating departments, the size of the general office is determined by the number of employees and the amount of office equipment. Sufficient space should be provided for the storage of stationery, office supplies, and promotional literature.

2.1.7 Meeting Room

When facilities have lunchrooms, these are frequently used as meeting rooms. If it's not possible to have a separate room for meetings, consider installing a folding wall between two small private offices so that they can be opened up into a meeting room. Or consider using the dealer's office for a meeting room. Wherever the meeting room is, it should be possible to darken it so that pictures can be projected. Equipment for film projection should either be permanently set up or be stored in a convenient cupboard. A blackboard and/or chart stand will also be useful.

CHAPTER 3

LITERATURE REVIEW & CASE STUDIES

3.1 FERRARI WORLD

FERRARI WORLD

THEME PARKS

LOCATION: ABU DHABI, UNITED ARAB EMIRATES

ARCHITECTS: BENYO

AREA: 176000 M²

YEAR: 2010

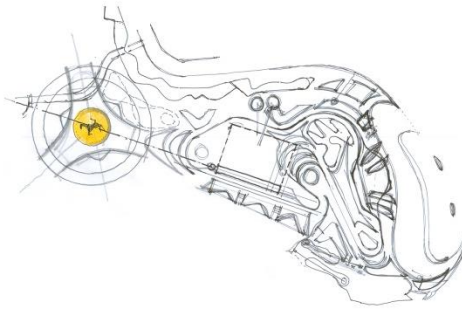
BENYO'S DESIGN WAS A REVOLUTION, REFLECTING THE FAMOUS SINUOUS FORM OF THE FERRARI GT CHASSIS WITH THE BRAND'S SIGNATURE COLOUR AND DOUBLE CURVES. ENSURING SUSTAINABILITY, WE APPLIED AN INSULATED METAL SKIN ROOF AND EFFICIENT GLASS TO REDUCE THERMAL LOADS AND GLARE.

A THRILLING BRAND EXPERIENCE LIKE NO OTHER AND A MULTI-SENSORY CELEBRATION OF A DESIGN ICON – FERRARI WORLD IS A LANDMARK LEISURE DESTINATION THAT REFLECTS BOTH THE INTEGRITY OF THE FERRARI BRAND AND THE AMBITIONS OF ABU DHABI. AS THE WORLD'S LARGEST INDOOR THEME PARK, IT IS AN IMMENSE ACHIEVEMENT IN THE FIELD OF ARCHITECTURE.

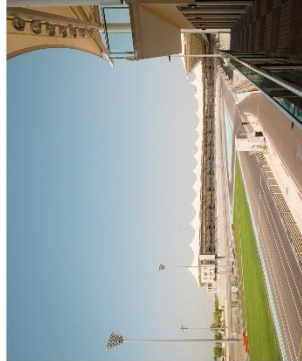
CONCEPT

- THE BUILDING WAS CONCEIVED AS A SIMPLE EMBRACED THE SOIL STRUCTURE.
- A THREE-POINTED STAR ON EXTENSIVE PLANT WITH THREE CLAWS THAT CREATE ATTRACTION OUTSIDE THE ENCLOSURE.
- THE 3D NATURE OF THE BUILDING DERIVES FROM THE SINUOUS DOUBLE CURVE OF THE FERRARI BODY CLASSIC, FOR WHICH 3D DESIGNS WERE CRUCIAL IN THE EVOLUTION OF THE STRUCTURE.
- ACCORDING BENYO ARCHITECTS, WORD FERRARI HAS BECOME THE "SPIRITUAL CENTER" OF THE ISLAND OF YAS.



SITE PLAN



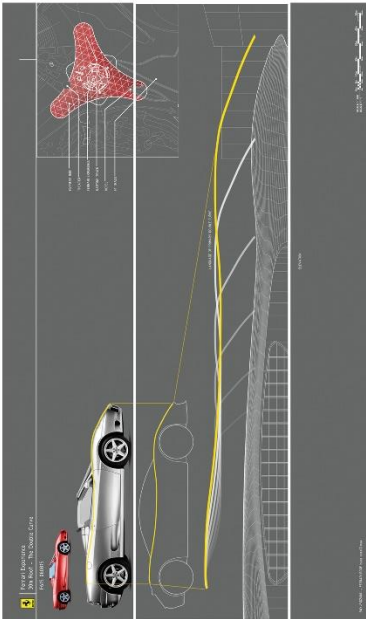


Plate no : 3.1.ferrari world

3.2. OTOPORT

OTOPORT

ARCHIECT

- GONYE PROJECT
& DESIGN

LOCAION

- BEYLIKDUZU,
URKEY

YEAR

- 2011



FEATURES

INSTALLATION ONTO THE SPACE OF 120.000M2

HUGE SHOP WINDOW OF 200 METERS, OVER LOOKING
TO E-5

1.60 UNITS OF AUTO GALLERIES

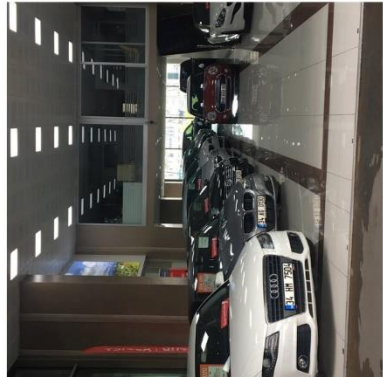
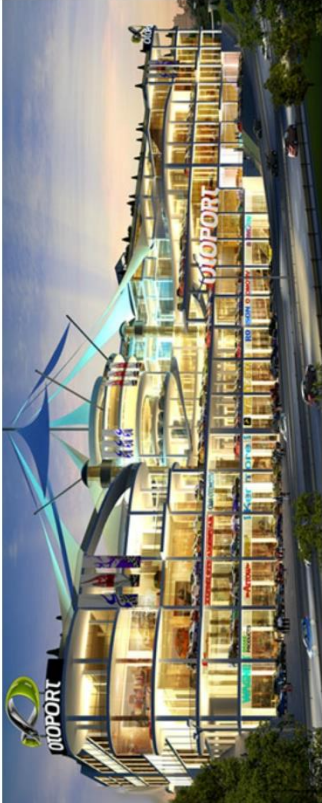
HOBBY CENTER

RUNWAY FOR KID STOP VEHICLE WITH BATTERY
GO-CORD RUNWAY

BUGGIES WITH SPECIAL GUIDES

INSURANCE AGENTS SER VICE AREAS AUTOMOBILE COIFFEUR
TUNING WORKSHOP

CAFES VE RESTAURANTS



ANYMORE, THE ONE WHO WISHES TO BUY AN AUTOMOBILE WILL BE ABLE TO FIND SOLUTIONS TO ALL OF HIS REQUIREMENTS AND EXPECTATIONS IN ONE ADDRESS WITHOUT RUSHING TO THE PUBLIC NOTARY, BANK AND INSURER WITHOUT TOURING FOR KILOMETERS. IN THIS HUGE AUTOMOBILE CENTER ESTABLISHED ON A SPACE OF 1 20 000 SQUARE METERS, YOU WILL BE ABLE TO FIND EVERYTHING NEEDED WHILE BUYING A CAR AND ALL MARKS OF FIRST- AND SECOND-HAND CARS.

OTOPORT ATTRACTS THE ATTENTIONS ON IT WITH ITS HUGE SHOP WINDOW OF 200 METERS WITH FRONT OVERLOOKING TO E-5. THIS HUGE COMPLEX OFFERING ALL SERVICES TOGETHER WILL BE OPEN FOR 365 DAYS. THE MAIN OPTIONS IN OTOPORT OFFERING MANY ALTERNATIVES WHERE HE/SHE WILL BE ABLE TO ENTERTAIN THROUGHOUT THE DAY AND TO SPEND TIME CHEERFULLY TO ITS VISITOR: RESTAURANTS AND CAFES, HOBBY CENTER, RUNWAY FOR KID STOP VEHICLE WITH BATTERY, GO-CARD RUNWAY.

Plate no : 3.2.otoport

OTOPORT

-TURKEY



AUTOPIA, EUROPE'S LARGEST, TURKEY'S FIRST AUTOMOBILE MALL, INVITES YOU TO AN AUTOMOBILE FAIR, CONTINUING 365 DAYS A YEAR. AUTOPIA OFFERS WITH FIRST AND SECOND HAND AUTOMOBILE GALLERIES AUTOMOBILE ALTERNATIVES AFFORDABLE FOR EVERYONE AND APPROPRIATE FOR EVERY PLEASURE. BESIDES, IF THE VISITORS WANT, CAN REACH ALL GALLERIES IN THE SHOPPING MALL WITH THEIR VEHICLES. ON THE TEST DRIVING TRACK ABOVE THE MALL, THE VISITORS TRY THE VEHICLE. THEY WANT TO BUY INSTANTLY, AUTOPIA IS BEING BUILT TOGETHER WITH A JOINT VENTURE OF GUI CONSTRUCTION AND KELESOGLU CONSTRUCTION, WHICH ARE AMONG LEADING GROUPS IN THE CONSTRUCTION SECTOR WITH THEIR PROJECTS REALIZED. YEARLY 6.000.000 PERSONS ARE AWAITED TO VISIT AUTOPIA, WHICH REVOLUTIONALIZES IN THE AUTOMOTIVE SECTOR. THE LIVING SPACES AND CAR PARK OF AUTOPIA HAS BEEN PLANNED TO BE VISITED COMFORTABLY, NOT ONLY BY THE AUTOMOBILE AFFECTIONATE PERSONS. BUT ALSO BY FAMILIES. AUTHORIZED AUTOMOBILE SERVICES, INSURANCES, VEHICLE BUYING-SELLING COMPANIES AND BANKS PROVIDE TO BE DONE ALL PROCEDURES QUICKLY AND EASILY. AT AUCTION HALLS. EACH MODEL AUTOMOBILES ARE BOUGHT UNDER VERY SPECIAL CONDITIONS. IN STORES OF AUTOMOBILE SPARE PARTS, ACCESSORIES AND TUNING, EVERYTHING ABOUT AUTOMOBILE IS TO BE FOUND. BESIDE .CLASSIC, ANTIQUE, SPECIAL AUTOMOBILE EXHIBITIONS AND COLLECTIONS ALSO MOTORCYCLES. BICYCLES, SEA VEHICLES, BATTERY-POWERED CARS AND MODEL PLANES, AUTOPIA IS O MAGICAL WORLD WITH EVERYTHING MOVING.

AUTOPIA, IS A FIRST MALL IN THE WORLD WITH A TEST DRIVING TRACK BESIDES THANK TO SPECIAL TRIBUNE SYSTEM. IT IS THE FIRST MALL, IN WHICH VISITORS CAN VISIT WITH THEIR CAR. AUTOPIA, BIGGEST SHOPPING MALL IN EUROPE. BASED ON SQUARE METER, IS A PROJECT, WHICH WAS SENT TO COMPETITIONS IN TERMS OF ARCHITECTURAL DESIGN AND FUNCTION. IN TURKEY, IT IS THE FIRST SHOPPING MALL WITH A HEAT RESISTANT GLASS CURTAIN-WALL. AT AUTOPIA, APPROPRIATE FOR EACH BUDGET AND PLEASURE, THE VISITORS CAN REACT TO THE FIRST SECOND HAND AUTOMOBILE GALLERIES WITH THEIR OWN CARS OR BUGGIES EASILY. AT AUTOPIA, WILL HOST, BESIDE BUYING AND SELLING OF AUTOMOBILES, TO AUTOMOBILE AUCTIONS AND LAUNCHING OF NEW MODELS. THE VISITORS WILL DO THEIR PROCEDURES WITH AUTHORIZED AUTOMOBILE SERVICES. INSURANCES, VEHICLE BUYING-SELLING COMPANIES AND BANKS QUICKLY AND EASILY.

- * WITH 216,000 M2 IT IS THE WORLD'S BIGGEST AUTO-MALL.
- * 5 STORIES • TWO OF WHICH ARE UNDER-GROUND.
- * EACH LEVEL IS 30,000 M2.
- * EACH FLOOR IS 6M IN HEIGHT.
- 1 ST-HAND AND 2ND-HAND AUTOS ARE SOLD TOGETHER.
- * 56 FOOD & DRINK SHOPS, CAFÉS & RESTAURANTS.
- * 48 PRIVATE CAR SERVICE STATIONS.
- Z * 24 BANKS.



AT AUTOPIA. OFFERING SPECIAL SOLUTIONS WITH DIFFERENT STORES, WHICH WILL COME INTO SERVICE IN 2011, BESIDE EVERYTHING REGARDING AUTOMOBILES, AUTOMOBILE SPARE PARTS, ACCESSORIES AND TUNING STORES, NOT ONLY AUTOMOBILE FANS, BUT ALSO MOTORCYCLE, SEA VEHICLE, BICYCLER BATTERY OPERATED CAR AND MODEL PLANE FANCIERS ARE THOUGHT. THE VISITORS WILL SPEND PLEASANT TIME IN CAFES, RESTAURANTS, CHILDREN AND AMUSEMENT AREAS, CINEMA, THEATRE HALLS AT AUTOPIA, THE AUTOMOBILE WORLD OF FUTURE.

KIA BEAT 360



INTRODUCTION

LOCATION: GURGAON, HARYANA

AREA: 490 SQM

ESTABLISHED: 19 OCTOBER, 2019

W/MOTORS INDIA LAUNCHED THE KIA BEAT 360 IN THE COUNTRY AS A FIRST OF ITS KIND DIGITAL EXPERIENTIAL CENTRE WHERE KIA WILL SHOWCASE ITS TECHNOLOGICAL ADVANCEMENT THROUGH VARIOUS FORMS LIKE VR, VIRTUAL REALITY, ETC. THIS IS THE FIRST BEAT 360 THAT HAS BEEN INAUGURATED OUTSIDE KIA'S HOME COUNTRY SOUTH KOREA.



INDIA

HARYANA

ACCESSIBILITY

1.1.4 KM FROM DELHI INTERNATIONAL AIRPORT

25.2 KM FROM NEW DELHI RAILWAY STATION

28.3 KM FROM BUS TERMINAL

1.1.6 KM FROM GURGAON, HARYANA

BEAT 360 HOUSES ENGAGEMENT ARENAS LIKE THE SURROUND MEDIA ZONE, MIXED REALITY ZONE, AND THE CONFIGURATOR ZONE TO ENABLE THE AUDIENCE TO CUSTOMIZE AND DESIGN A CAR OF THEIR DREAMS AND WITNESS ITS INTRICATE DETAILING.

• THERE IS A CAFE ZONE AT THE FACILITY. IT IS A FULLY DEDICATED SPACE, WHERE A VARIETY OF CULTURAL EVENTS INCLUDING BRAND IMMERSION WORKSHOPS, MUSICAL & ENTERTAINMENT GIGS, INDUSTRY EXPERT MEETS AMONG OTHERS, WOULD BE HELD TO ENGAGE WITH ENTHUSIASTS FROM VARIOUS WALKS OF LIFE TO PROVIDE A PLEASANT KIA EXPERIENCE.

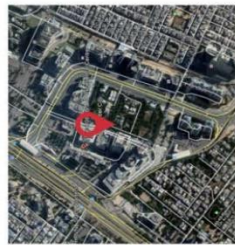
FACILITIES

• SURROUND MEDIA ZONE

• VIRTUAL REALITY ZONE

• CONFIGURATOR ZONE

• CAFE



• THE SURROUND ZONE ENGAGES THE AUDIENCE BY SHOWCASING KIA'S FUTURISTIC VISION FILM. ADDITIONALLY, THE VISITORS WILL EXPERIENCE A KIA CAR IN MOTION THROUGH THE TURNTABLE TECHNOLOGY.

• THE VISITORS WILL GET TO EXPERIENCE MIXED REALITY TECHNOLOGY IN THE THIRD ZONE, WHICH WILL BRING THE AUDIENCE CLOSER TO THE BRAND AND ITS PRODUCTS.



CAFE ZONE



CONFIGURATOR ZONE



SURROUND MEDIA ZONE



SURROUND MEDIA ZONE

PORSCHE EXPERIENCE CENTER AND HEADQUARTERS

ARCHITECTS: HOK

AREA: 24155 M²

YEAR: 2016

THE DESIGN OF PORSCHE'S NEW NORTH AMERICAN EXPERIENCE CENTER AND HEADQUARTERS COMBINES OFFICE, TRAINING AND DRIVING FUNCTIONS INTO ONE SLEEK, HIGH-PERFORMANCE FACILITY THAT ENCAPSULATES THE ESSENCE OF THE COMPANY'S BRAND. BRINGING TOGETHER 400 PORSCHE EMPLOYEES FROM FIVE DIVISIONS OF THE COMPANY, THE FACILITY SERVES AS A NEW DESTINATION FOR PARTNERS, CUSTOMERS AND CAR ENTHUSIASTS.



AN ESTIMATED 30,000 GUESTS ARE EXPECTED TO VISIT THE PORSCHE EXPERIENCE CENTER EACH YEAR. BY INTEGRATING A 1.6-MILE DRIVER TRACK INTO THE LOWER LEVELS OF THE OFFICE BUILDING AND WEAVING IN SUBTLE MOTOR-SPORT-RELATED CUES, THE DESIGN IMMERSES VISITORS IN THE PORSCHE EXPERIENCE WHILE DEMONSTRATING THE UNIQUE CAPABILITIES OF ITS SPORTS CARS. THE TRACK, WHICH RUNS THROUGH THE FACILITY'S COURTYARD, INCLUDES SIX DRIVING MODULES DESIGNED TO DEMONSTRATE THE CAPABILITIES OF DIFFERENT PORSCHE MODELS. CLASSIC AND MODERN PORSCHEs ARE ON DISPLAY IN A CLASSIC CAR GALLERY.



SITE PLAN

THE LEED GOLD-CERTIFIED BUILDING'S EAST-WEST EXPOSURES ELIMINATE GLARE WHILE THE NORTH-SOUTH CURTAIN WALLS MAXIMIZE NATURAL LIGHT AND MINIMIZE SOLAR HEAT GAIN. PREVIOUSLY HOME TO AN AUTOMOBILE PRODUCTION FACILITY, THE FORMER BROWNFIELD SITE WAS REMEDIATED AS PART OF THE DEVELOPMENT PROCESS. A GREEN ROOF LINKS THE BUILDING TO THE LANDSCAPE WHILE PROVIDING INSULATION AND REDUCING STORMWATER RUNOFF AND THE PARKING AREA INCLUDES CHARGING STATIONS FOR PORSCHE'S ELECTRIC VEHICLES. THE BUILDING IS DESIGNED TO PERFORM 60% BETTER THAN CBECs/AIA 2030 BASELINE.



ELEVATION

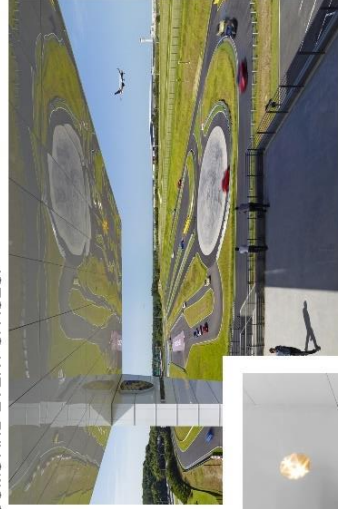
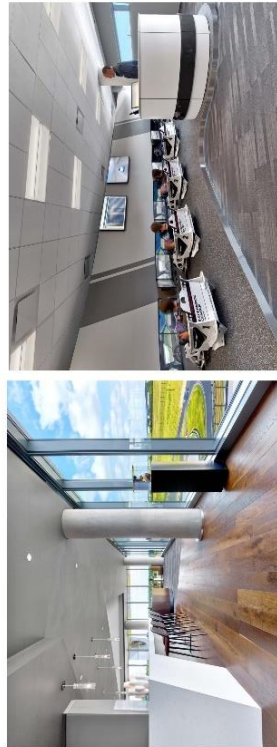


SECOND FLOOR PLAN



FIRST FLOOR PLAN

VISITORS CAN SEE HISTORIC PORSCHE'S UNDERGOING RENOVATIONS WITH VINTAGE GERMAN PARTS AT THE RESTORATION CENTER. IN THE DESIGN STUDIO, CUSTOMERS CAN VIRTUALLY CREATE THEIR DREAM CARS WITH FULLY CUSTOMIZABLE OPTIONS. RESTAURANT 356, NAMED AFTER THE FIRST PRODUCTION PORSCHE, OFFERS DINERS A FRONT ROW SEAT TO THE TEST TRACK. THE CENTER ALSO INCLUDES A DRIVING SIMULATOR LAB. THE CONTEMPORARY, NATURALLY ILLUMINATED OFFICE SPACE ENCOURAGES COLLABORATION AND CREATIVITY AMONG PORSCHE STAFF. A 13,000-SQ.-FT. BUSINESS CENTER FEATURES STATE-OF-THE-ART CONFERENCE ROOMS AND EVENT SPACES.



PORSCHE AND THE DESIGN TEAM WORKED WITH MARTA (METROPOLITAN ATLANTA RAPID TRANSIT AUTHORITY) TO INCREASE TRANSIT ACCESS TO SITE. A NEW BUS STOP IS LOCATED AT THE ENTRANCE TO THE CAMPUS. LOCATED ADJACENT TO HARTSFIELD-JACKSON ATLANTA INTERNATIONAL AIRPORT, THE BUILDING AND TEST TRACK ARE A PROMINENT SYMBOL OF THE PORSCHE BRAND TO PASSENGERS ON ARRIVING AND DEPARTING FLIGHTS. HOK IS CURRENTLY WORKING WITH PORSCHE TO DESIGN THE FOUR-STAR SOLIS HOTEL, WHICH WILL OVERLOOK THE PORSCHE EXPERIENCE CENTER AND CONTINUE TO CATALYZE DEVELOPMENT IN ATLANTA'S AEROTROPOLIS REGION. OPENING IN LATE SUMMER 2017, SOLIS HOTEL TWO PORSCHE DRIVE WILL FEATURE 214 GUEST ROOMS, EVENT SPACE, A ROOFTOP TERRACE, A FITNESS CENTER, LUXURY DINING AND RETAIL SPACE.

BMW NETHERLANDS

INTRODUCTION

LOCATION - CAIRO, EGYPT

SITE AREA : 2294 SQM



THIS PROJECT IS A TWIN FACILITY CAR SHOWROOM FOR EKRS, UCHERT, THE LARGEST BMW SHOWROOM IN THE NETHERLANDS. THE PROJECT IS CALLED EKRS HEADLIGHTS BECAUSE THE DESIGN WAS INSPIRED BY THE HEADLIGHTS OF A CAR, WHICH OVER THE YEARS HAVE BEEN TRANSFORMED FROM A NON INTEGRATED ELEMENT IN THE GRILLE OF THE CAR TO AN INTEGRAL PART OF THE BODY. THE GLASS FACADE ROUNDS THE CORNER OF THE BUILDING, LIKE THE HEADLIGHTS OF THE BMW.



NETHERLANDS

UTRECHT

GIZA



ACCESSIBILITY

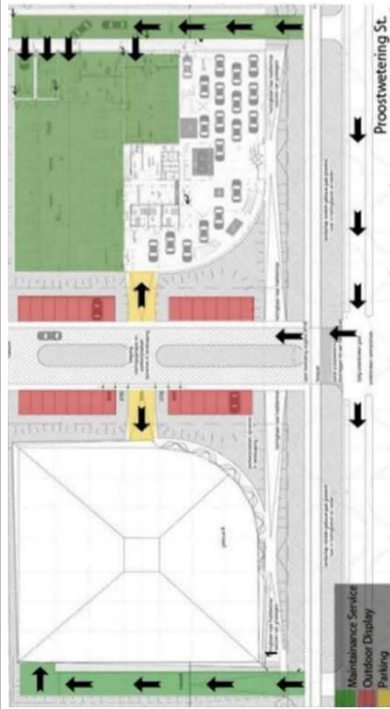
A CUSTOMER CAN ACCESS THE SHOWROOM THROUGH THE MAIN ENTRANCE OVERLOOKING THE PROOSTWETERING STREET OR THE GARAGE STAIRS. THE STAIR CASE TO THE NORTHERN PART OF THE GARAGE IS FOR THE CUSTOMERS. EMPLOYEES PARKING IS ALSO IN THE BASEMENT BUT THEY HAVE A SEPARATE STAIR CASE NEXT TO THE SECURITY OFFICE AND DIRECTS TOWARDS THE OFFLEZONE.

CLIMATE

THE TEMPERATURE VARIES FROM 0 -25 WITH 0 -12 IN WINTERS UPTO 25 IN HOT SUMMERS. THIS MAKES THE USE OF GLASS FACADE VERY CONVENIENT FOR THE CLIMATE. MAXIMUM INTENSITY OF LIGHT IS FROM THE SOUTHERN PART OF THE BUILDING

LIGHTING

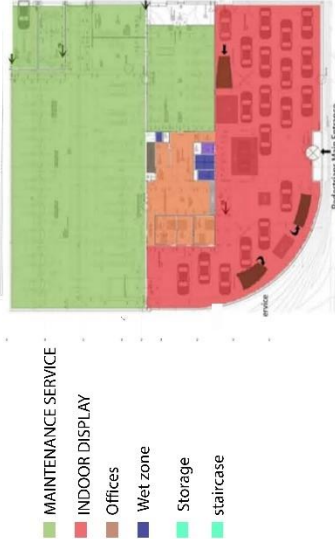
THE TWIN BUILDINGS HAVE THE MAIN ELEVATION TO THE SOUTH WITH GLASS CURTAIN WALLS ALLOWING DIRECT SUNRAYS PENETRATION TO PROVIDE NATURAL LIGHTING AND HEATING.



CIRCULATION PLAN FOR CARS

CAR CIRCULATION

RAMPS SURROUND THE BUILDING TO ALLOW EASY CIRCULATION FOR CARS. THE CARS ENTER THE SITE THROUGH A WIDE ROAD WHICH SEPARATES THE TWIN BUILDINGS. THIS IS THE ONLY ENTRANCE FOR BOTH CARS AND PEDESTRIANS. THE CARS ARE PLACED RIGHT IN FRONT OF THE STAIRCASE CAUSING A NARROW CIRCULATION. THE CARS ARE NOT PLACED IN A TECHNIQUE THAT DIRECTS CUSTOMERS INTO A CERTAIN PATH.



GROUND FLOOR PLAN

CUSTOMER CIRCULATION

THE CUSTOMER CIRCULATION STARTS FROM THE PEDESTRIAN ENTRANCE IN THE GROUND FLOOR. THE CUSTOMER CAN HEAD TOWARDS TWO DIRECTIONS, AND THE DISTRIBUTION OF CARS IS UNEVEN. THE RIGHT SIDE HAS MORE CARS THAN THE LEFT AND THIS HELPS IN EMPHASISING SPECTACULAR EDITION, HIGH END CARS

VENTILATION

THE SHOWROOM IS LOCATED IN A LOW TEMPERATURE REGION THROUGHOUT THE YEAR. SO WE ASSUME THAT THE GLASS FACADE TRANSMIT HEAT. THERE SHOULD ALSO BE A HEATING SYSTEM INSTALLED IT IS VERY WINDY IN UTRECHT SO NATURAL VENTILATION CANNOT BE PROVIDED AND ONLY VERY FEW OPENINGS ON THE GLASS FACADE.



VENTILATION

ACOUSTICS

ACOUSTIC BARRIER WAS BUILT TO REDUCE THE NOISE FROM THE A2 HIGHWAY ON THE NORTH SIDE OF THE SITE. THE OFFICES ARE NOT PLACED IN A QUIET ZONE BUILDING OVERLOOKING THE SHOW-ROOM FROM THE FIRST FLOOR

STRUCTURE

GIVEN THAT CAR SHOWROOMS SHOULD NOT HAVE COLUMNS IN THE DISPLAY AREA. THE ARCHITECTS USED SPACE FRAMES TO SUPPORT THE GROUND AND FIRST LEVEL THEN USED COLUMNS IN THE BASEMENT.



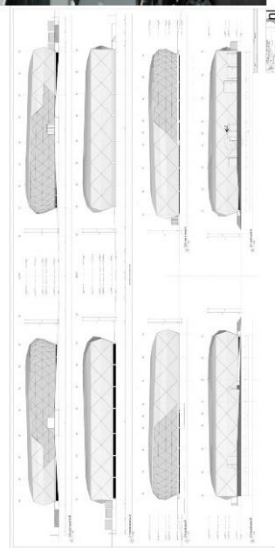
FIRST FLOOR PLAN



FIRST FLOOR PLAN

SECURITY AND SAFETY

DUETO EXPENSIVE VALUE OF CARS DISPLAYED IT TENSE SECURITY SYSTEMS ARE INSTALLED. SURVILLANCE CAMERAS, ALARM SYSTEMS ON ENTRANCES AND FOR EACH



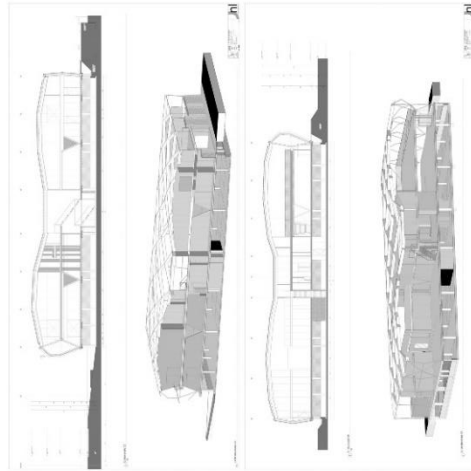
ELEVATION



SHOWROOM AREA

SHOW WINDOW

THE ENTRANCE OF BOTH THE BUILDINGS IS OVER LOOKING TO THE STREET AND COMMERCIAL AREA SO IT IS HIGHLY NOTICEABLE. REVOLVING DOORS ARE USED DUE TO HIGH WIND PRESSURES THE MAIN FACADE IS PARTLY GLAZED CURTAIN WALL AND PARTLY STEEL-FORMING THE HEADLIGHT SHAPE AND ALLOWING CATCHING DISPLAY.



SECTION AND MODEL

LANDSCAPE

THE BUILDING OVERLOOKS THE MAIN STREET. SEEN FROM A MAJOR HIGHWAY AND IT IS LOCATED IN A HIGHLY COMMERCIAL AREA. THERE BY IT NEEDS AN EYE CATCHING FRONTAGE TO MATCH THE SIGNIFICANCE OF THE LOCATION. SOME GREEN SPACES WERE ADDED TO GIVE A PLEASING VIEW. THE LAYOUT SHOWS THE LANES BETWEEN THE TWO BUILDING.



3D MODELS

CHAPTER 5

SITE ANALYSIS

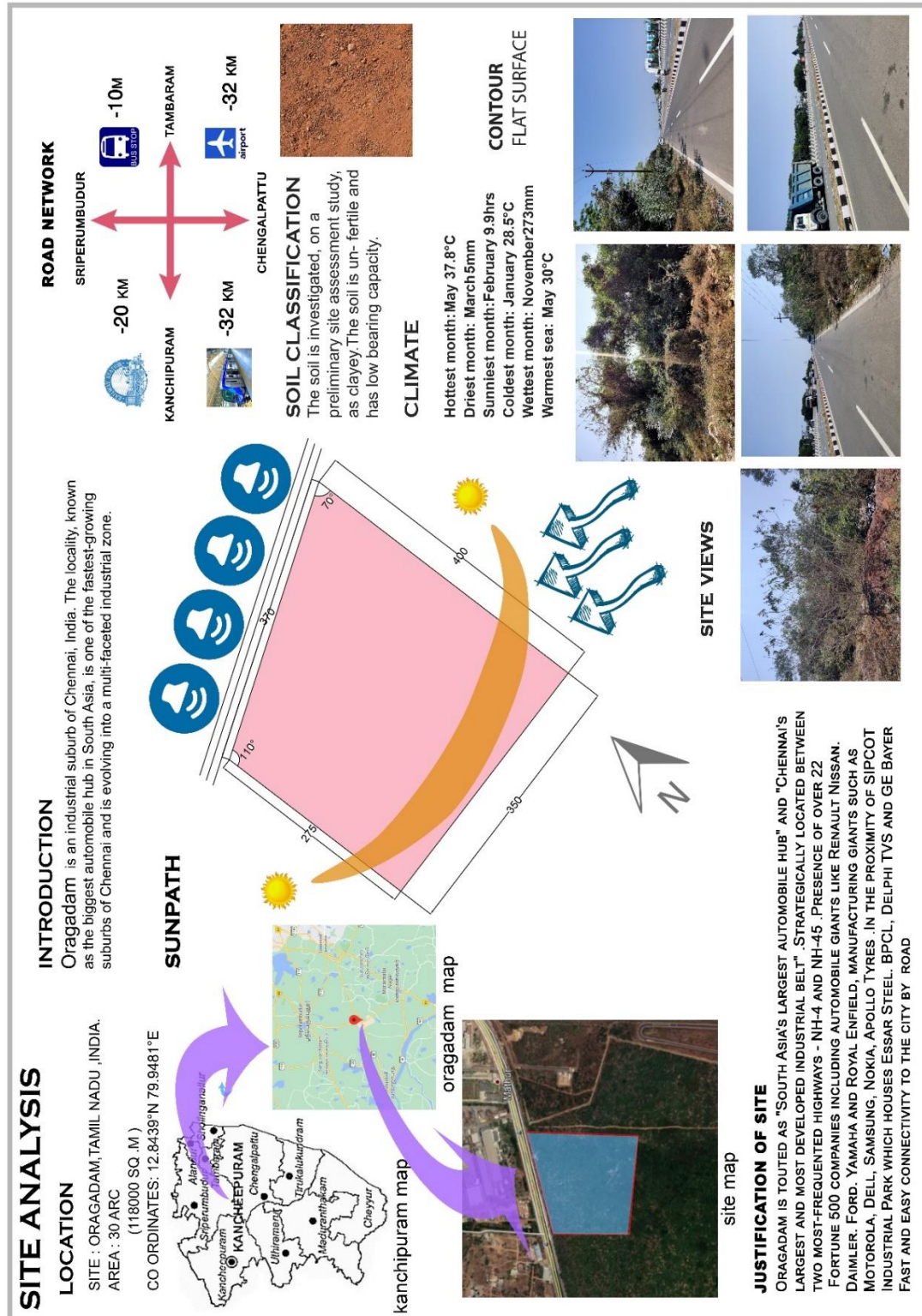
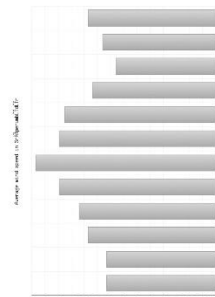
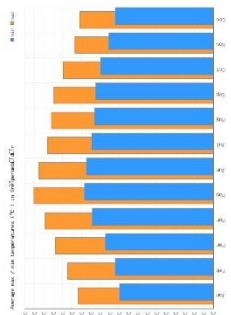
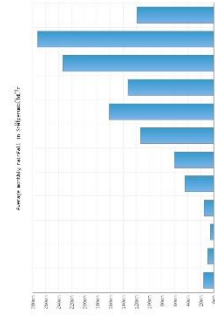


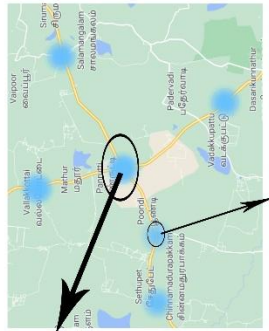
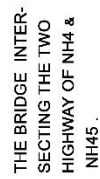
Plate no : 4.1.Site analysis



Country	Average weekly income in 1985 (millions of \$)
USA	95
Canada	85
France	75
Germany	65
UK	60
Italy	55
Spain	45
Portugal	35
Greece	25
Ireland	15
Belgium	10



ORAGADAM IS A OUTER FROM CHENNAI IT IS NO MORE TRAFIC.BRIDGE IS NEAR TO SITE.



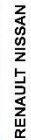
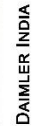
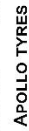
ROAD IS
INFORMT OF SITE.
ROAD IS NH 4 SO
MANUFACTURING F
TO SITE SO LORRY
THE WAY. PRIMAR
KANCHIPURAM. THI
ACCESS OF MANUF
EASY ACCESSIBILI
OFFICE, ETC..

**EASY ACCESS ABLE OF BUS, PRIVATE
VEHICLE ETC.**

MORE VEGETATION IN THE SITE
EASY ACCESS OF HOTEL ,RESTAURANT ETC.
ABLE TO BUILD A LARGE STRUCTURE.
MORE AUTOMOBILE COMPANIES NEAR TO

MORE NOISE POLLUTION
NO PROPER SHOP
NO PROPER DRAINAGE SYSTEM
NO PROPER STRUCTURE

ELECTRICAL LINES ARE FORNT IN THE SITE.



KOMATSU INDIA PVT LTD.



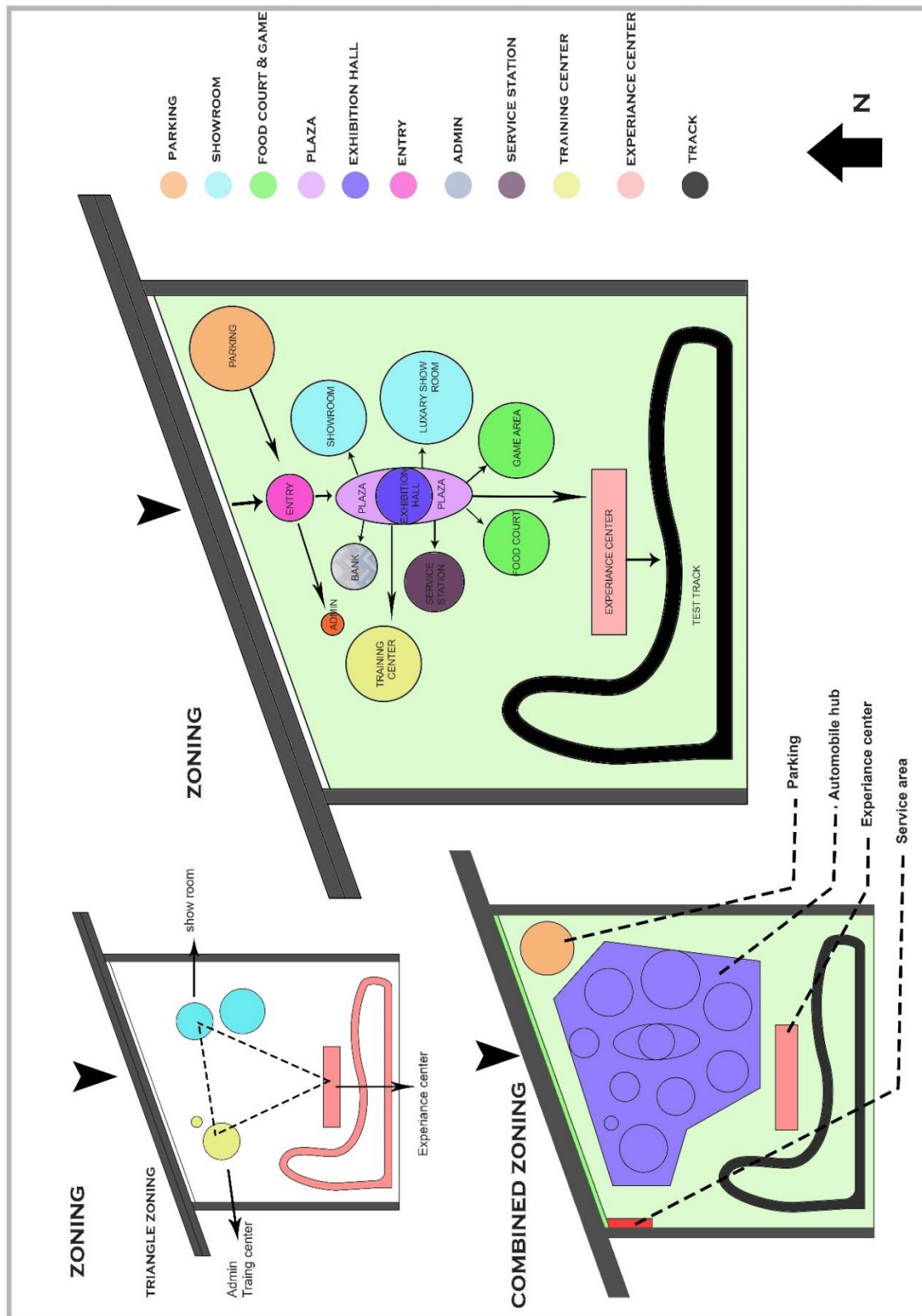


Plate no : 4.3.ZONING

AREA STATEMENT

PROGRAMMES	AREA (SQ.M)
ADMIN OFFICE 1. RECEPTION 2. WORKING AREA 3. MANAGER ROOM 4. STOREROOM 5. REST ROOM 6. MEETING ROOM	20 50 25 30 20 30
NORMAL CLASS SHOWROOM 1. RECEPTION 2. DISPLAY AREA 3. LOUNGE 4. MANAGER ROOM 5. PART DISPLAY AREA 6. REST ROOM 7. STAFF CABIN	6 150 (4 car +circulation) *8 50 15 20 20 25
LUXURY CLASS SHOW ROOM 1. RECEPTION 2. DISPLAY AREA 3. LOUNGE 4. MANAGER ROOM 5. PART DISPLAY AREA 6. REST ROOM 7. CONFERENCE ROOM 8. STAFF CABIN	10 200(5 car + circulation) *7 50 25 30 30 30 25
Test Track 1. LENGTH 2. ROAD AREA 3. STORAGE	660 10460 50
BANK 1. Waiting area 2. Cabin 3. Rest room	15 25(8*25) 10
GUEST ROOM 1. RECEPTION 2. LOUNGE 3. STAYING ROOM	10 30 25(25 *15)
Insurance & Financing 1. Waiting area 2. Cabin 3. Rest room	15 20 10

FOOD COURT REASUREMENT 1. KITCHEN WITH STORAGE 2. INDOOR COURT 3. Coffee SHOP	150 500 50
CHARGING STATION SOLAR UNIT	100 1000
Service area 1. Power station 2. AHU 3. Server room 4. HVAC 5. ELECTRICAL 6. MECHANICAL ROOM	50 50 100 150 50 50
Exhibition Hall 1. Entrance 2. Open Display Area 3. A/V Area 4. Stall Area 5. Information Desk 6. Gathering space 7. Rest room 8. Storeroom	25 250 100 500 50 100 60 30
PARTS STORE	50

STANDARDS

SHOWROOM	DEALER CATEGORY			
	A	B	C	D
DISPLAY AREA	325SQ.M	325 SQ.M	325SQ.M	325SQ.M
FRONTAGE	18M	18M	18M	18M
BACKOFFICE SPACE	120SQ.M	120SQ.M	120SQ.M	120SQ.M
CUSTOMER PARKING AREA	10 CARS	10 CARS	10CARS	10 CARS
KIDS PLAY AREA	6SQ.M	6 SQ.M	6 SQ.M	6 SQ.M
USED CAR DIVISION	YES	YES	YES	YES
TV	29IN	29IN	29IN	29IN
VCD/VCR	YES	YES	YES	YES
TELEPHONE(NOS)	10 LINES	8 LINE	6 LINE	5 LINE
COMPUTERS (NOS OF STATION)	5	5	4	4
FAX	1	1	1	1
INTERNET &EMAIL	YES	YES	YES	YES
PHOTOCOPIES	AS PER LOAD REQUIREMENTS			
GENERATOR	AS PER GMI RECOMMENDATIONS			

PARKING STANDARDS -

COMMERCIAL

FLOORS AREA ABOVE +50 SQ.M BUT BELOW 100 SQ.M - CAR SPACE EVERY ADDITIONAL 50SQ.M FOR 100SQM -1CAR SPACE RESTAURANTS- 1 PARKING SPACE EVERY 100 SQ.M
 DIMENSION 5*2.5 DRIVE ONE WAY 3X5 M & TWO WAY 7M

NO OF CARS BE CALCULATED ON 75% OF THE TOTAL FLOOR AREA OF THE BUILDING

MULTI LEVEL PARKING

GRADIENT RAMPS 1:10 (1:8 MIN.) CLEAR HEIGHT BETWEEN FLOORS PARKING"

DIMENSION " 2.5 X 5M INSIDE CURVE RADIUS - 7M CNADIENT OF SLOP\$NCA FLOORS NOT RAMPS PROVIDED ARE TWO WAY, THEY SHALL BE SEPERATED

FIRE SYSTEMS

FIRE EXTINCUESHERS TO BE INSTALLED DRY RISER OR PRESSURIZED SHAFTS REQUIRED OF SIZE 0.6 X 0.4 SQ.M HYDRANTS AROUND THE 10 M SPACING SPRINKLER SYSTEM NECESSARY (5000 900 TERRACE)

WATER & DRAINAGE FACILITIES

SUMP CAPACITY IS 10000 LTS STP 20,000 ITS CAPACITY (10000 ITS SUMP + 5,000 FIRE SUMP + 5000 EXTRA)

MIN SET BACK

FRONT — 6M

SIDES -1/4TH HT. OF THE BUILDING SUBJECT TO OF 3.5 ON EITHER SIDES
 REAR-1/4TH HT. OF THE BUILDING SUBJECT TO MIN OF 2M ON EITHER SIDES, 4M FOR A ROAD WIDTH OF 15 TO 30M

SANCTION WITHOUT LIMITATION OF FLOOR AREA

MIN.PLOT EXTENT- 110 SQ.M
 MIN .PLOT FRONTAGE- 7M
 MIN. FSI -1.5
 MAX. PLOT COVERAGE- 65%
 MAX. HEIGHT 1.5 TIMES THE
 WIDTH OF ABUTTING ROAD

DEALER CENTERS

SPACE ANALYSIS

THE ILLUSTRATED BUILDING LAYOUT WAS PREPARED AS AN EXAMPLE, IN ACCORDANCE WITH

	SQUARE FEET
TOTAL BUILDING AREA	46,200
SHOWROOM AND ADMINISTRATIVE OFFICES	7,200
PARTS DEPARTMENT	6,500
SERVICE DEPARTMENT	32,500
NUMBER OF SERVICE STALLS	66
PARTS DEPARTMENT	6,500
SERVICE DEPARTMENT	32,500
NUMBER OF SERVICE STALLS	66

OFFICES

AVERAGE OFFICE SIZE

	AVERAGE SIZE,	AREA, SQ FT
DEALER	12 BY 16	180
GENERAL MANAOER	12 BY15	180
SALES MANAGER OWNER RELATIONS	10 BY 12 G	120
MANAGER	10 BYB12	120
TRUCK MANAGER	8 BV 10	80
USED CAR MANAGER	8 BY 10	80
SALES CLOSING OFFICE MEN S END	8 BY 8	64

20 SQ FT GOT PERSON
 100 SQ FT + (60 SQ FT X
 NUMBER OF OFFICE EMPLOYEES)

STALL DIMARTSIONS

	WIDTH	LENGTH.
STALL FUNCTION FT FT	14	25
CUSTOMAR RECAPTION (AISLE)		
LUBRICATION (OVERHEAD EQUIPMENT)	12	24
MECHANICAL REPAIR	12	24
NEW CAR CONDITIONING.	12	24
POLISHING AND SHEET METAL	12	24
PAINT SPRAY BOOTH	14	28
WASH RACK	14	25
PARKING	10	20

CHAPTER 5

DETAIL DESIGN DRAWINGS

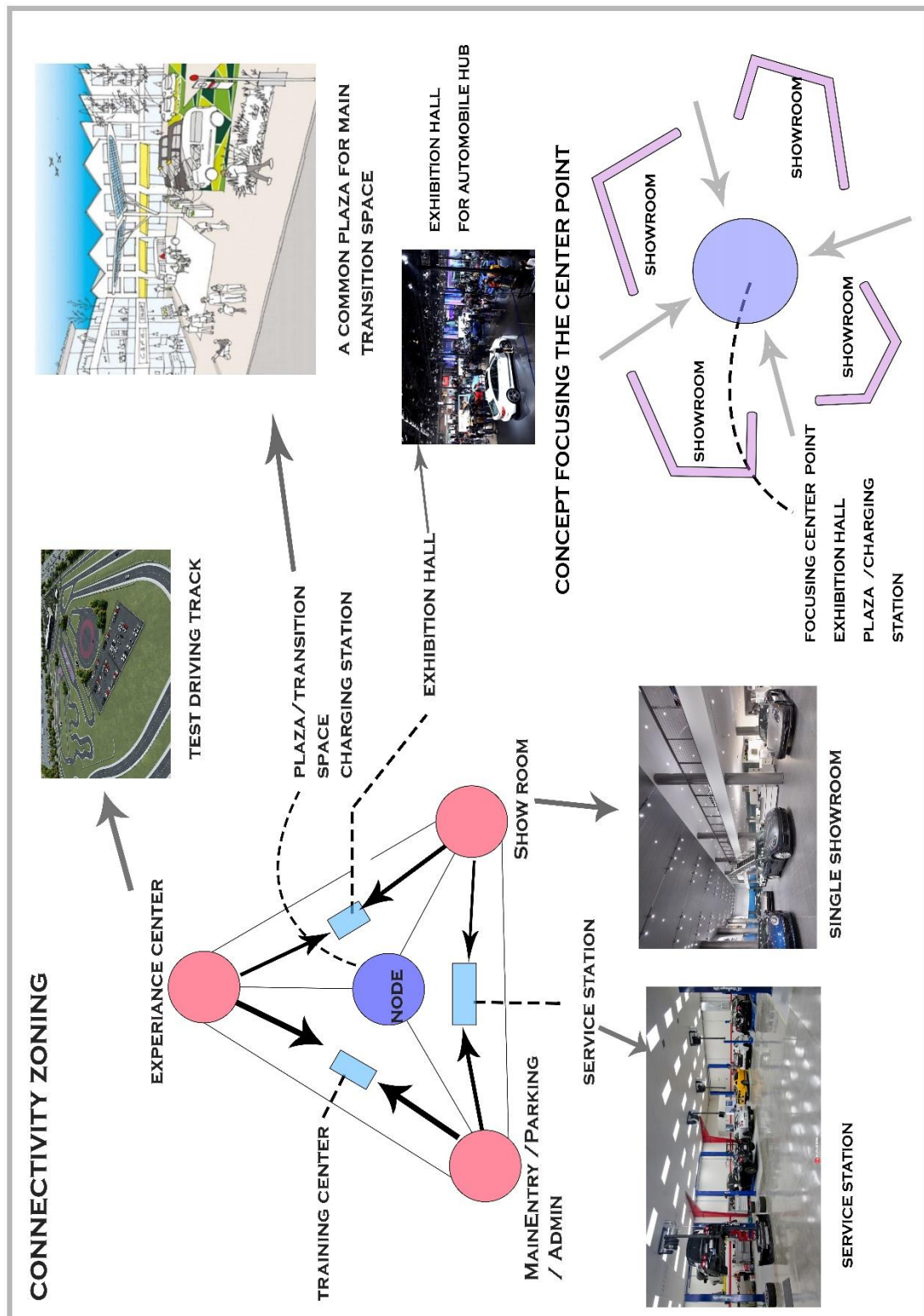


Plate no: 5.1. concept

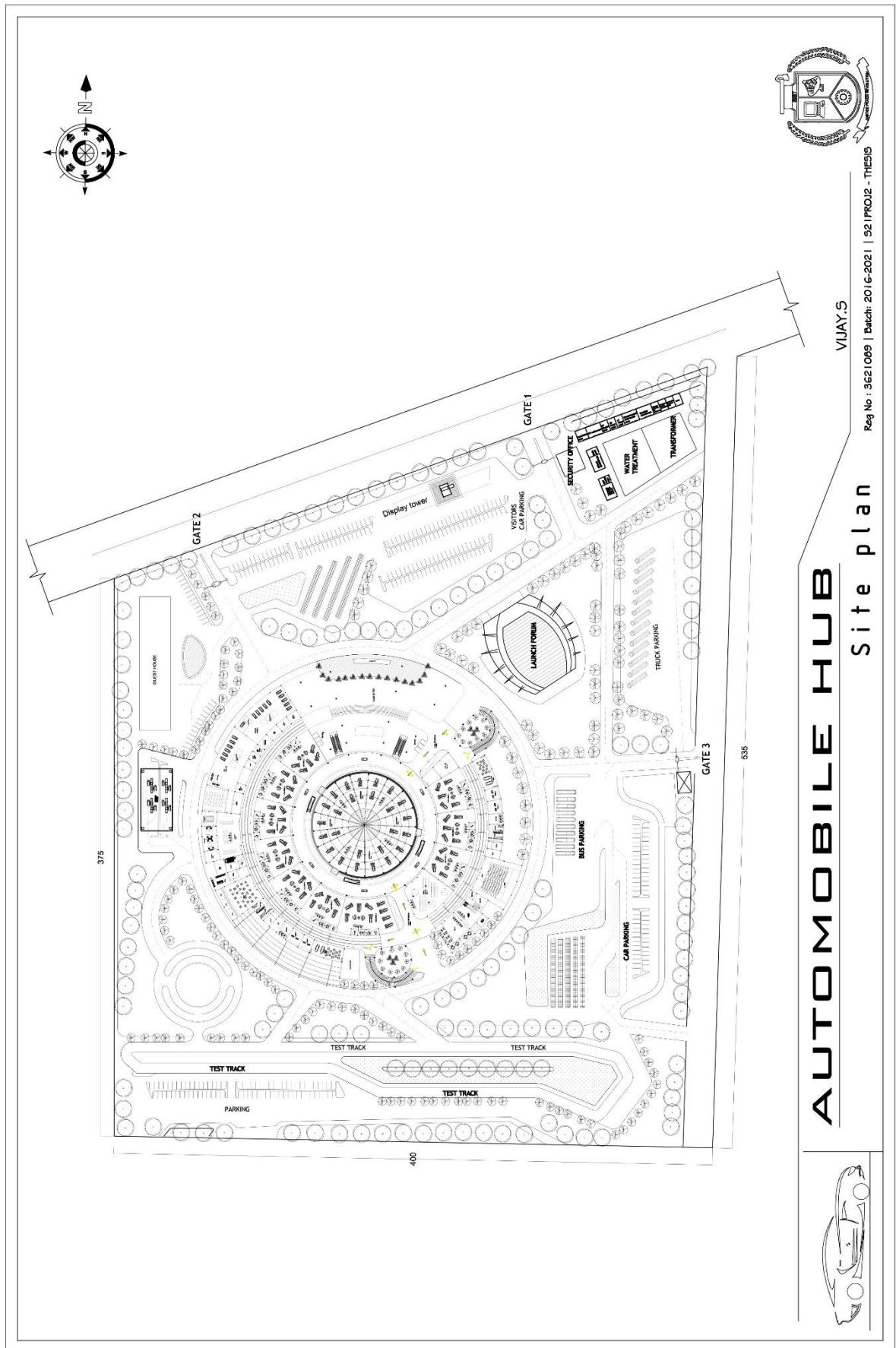


Plate no: 5.2. Site plan

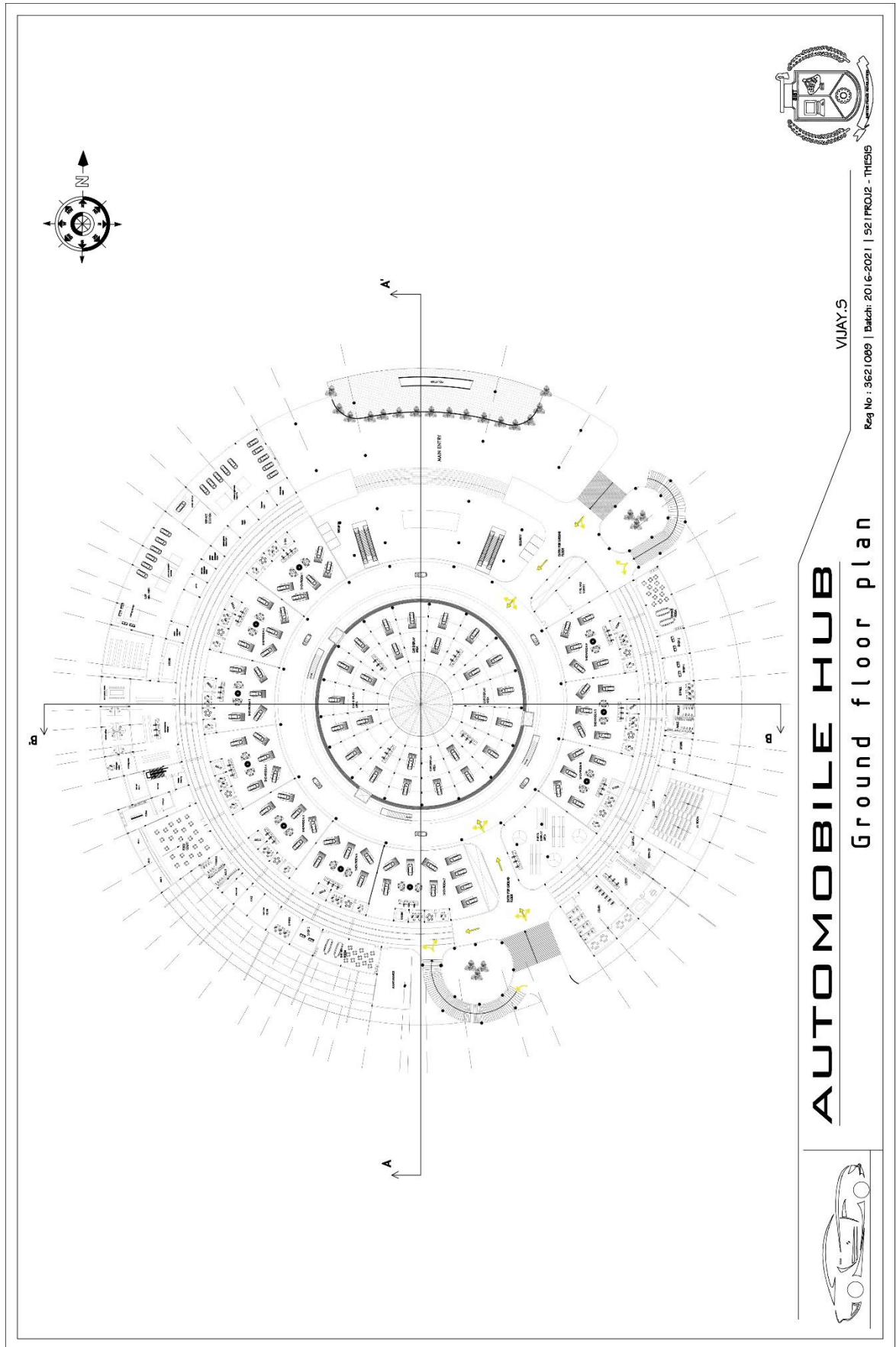


Plate no: 5.3. Ground floor plan

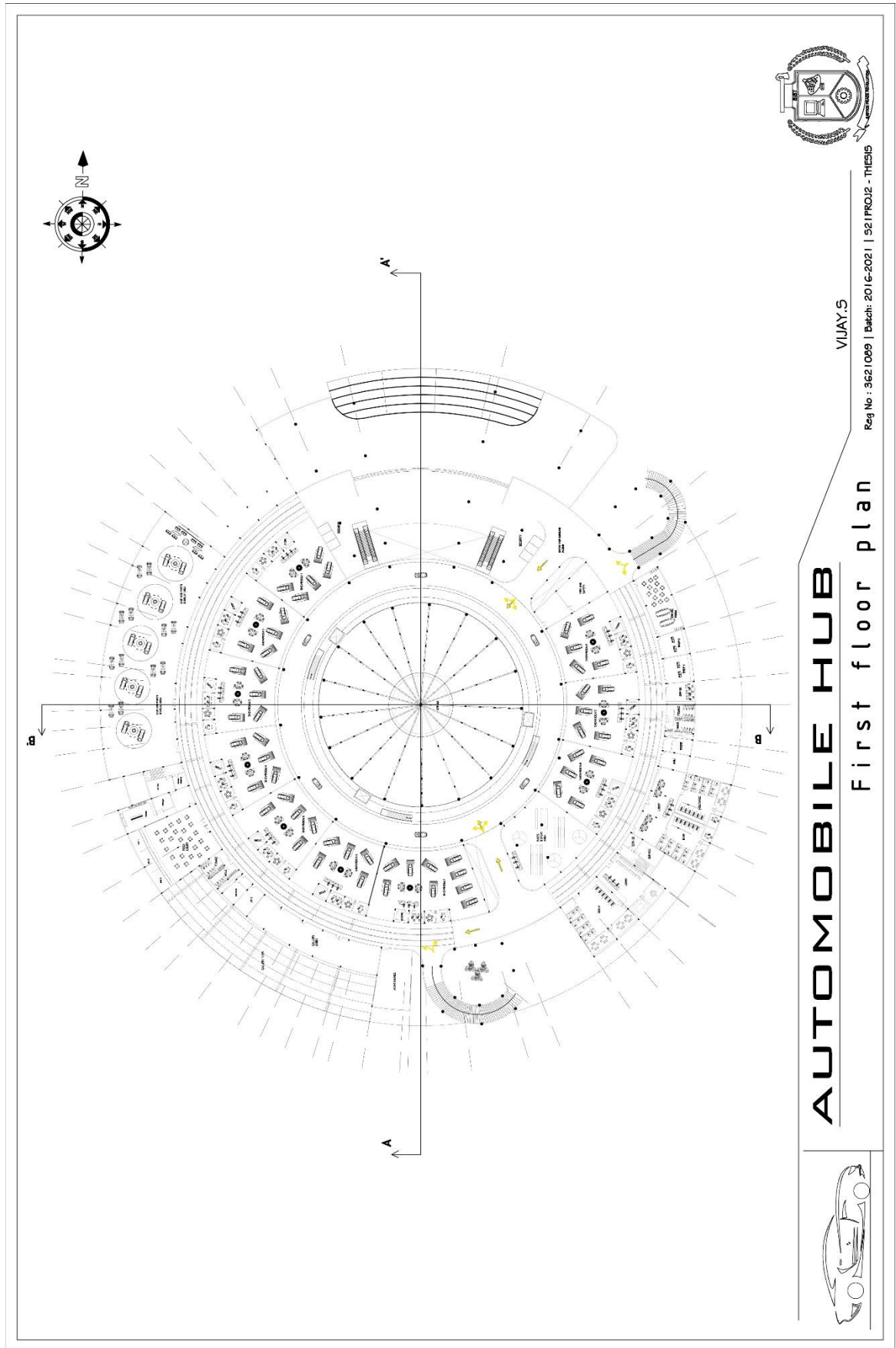
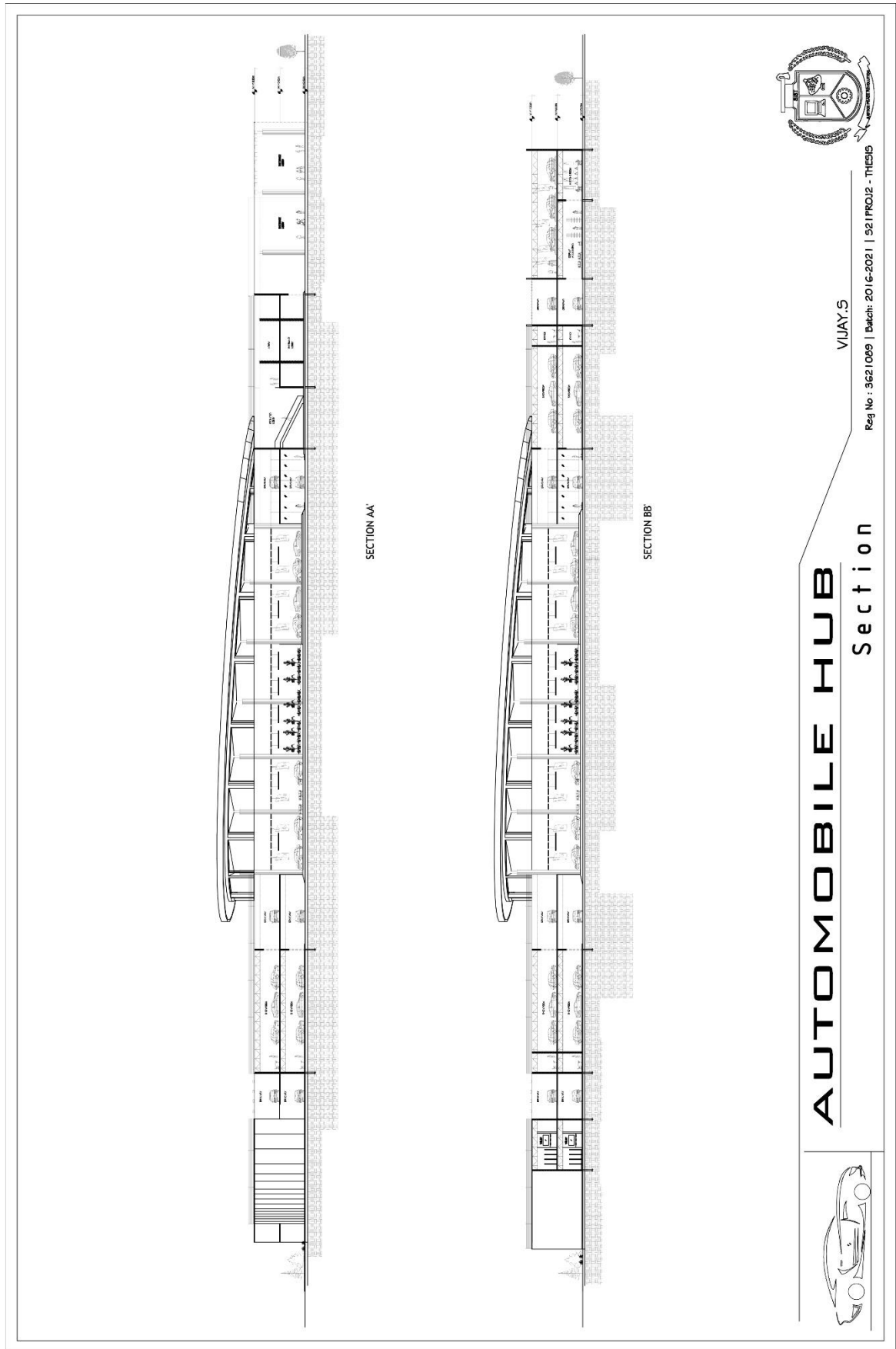


Plate no: 5.4.First floor plan

Plate no: 5.5. Section



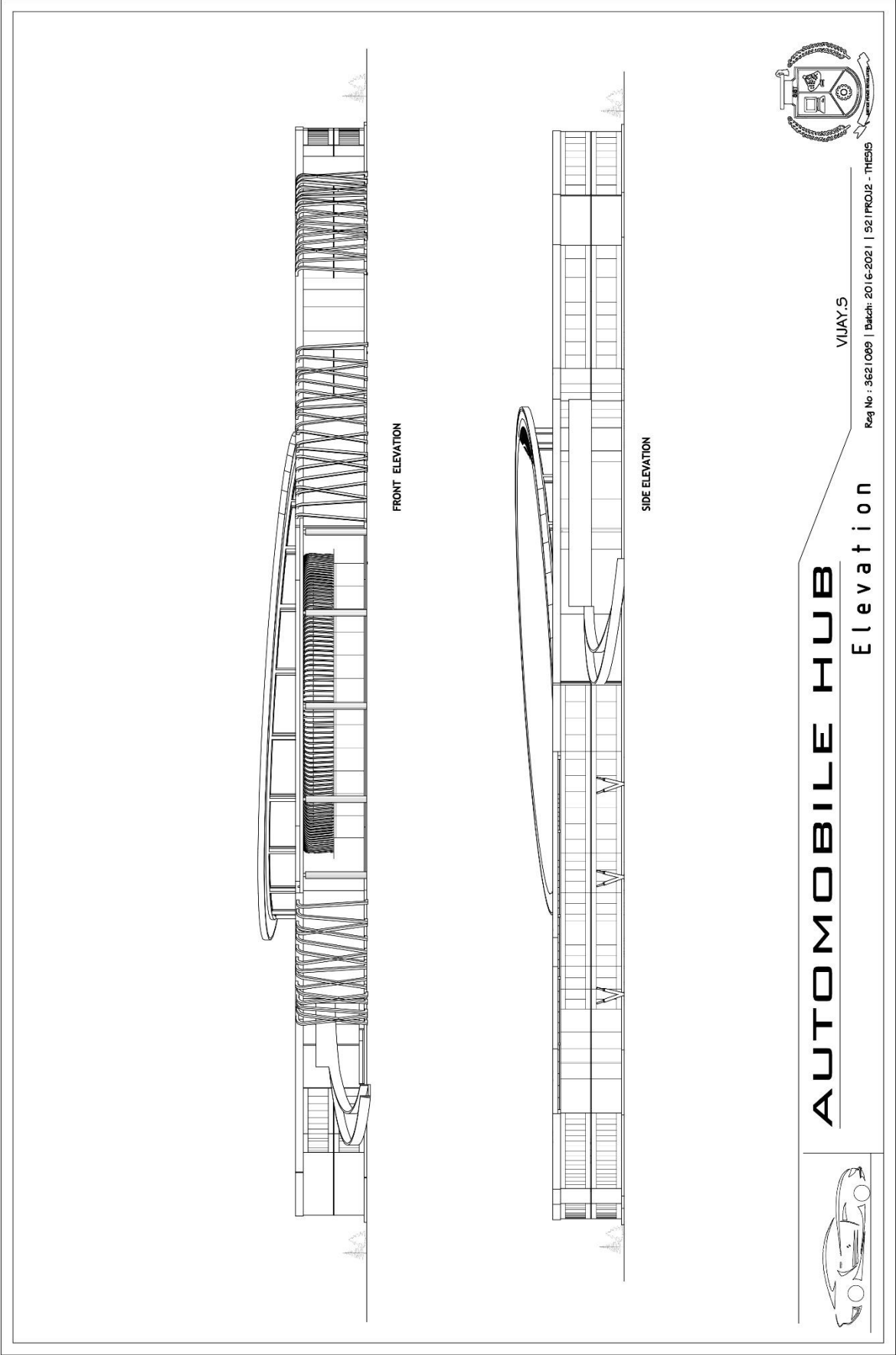


Plate no: 5.6. Elevation

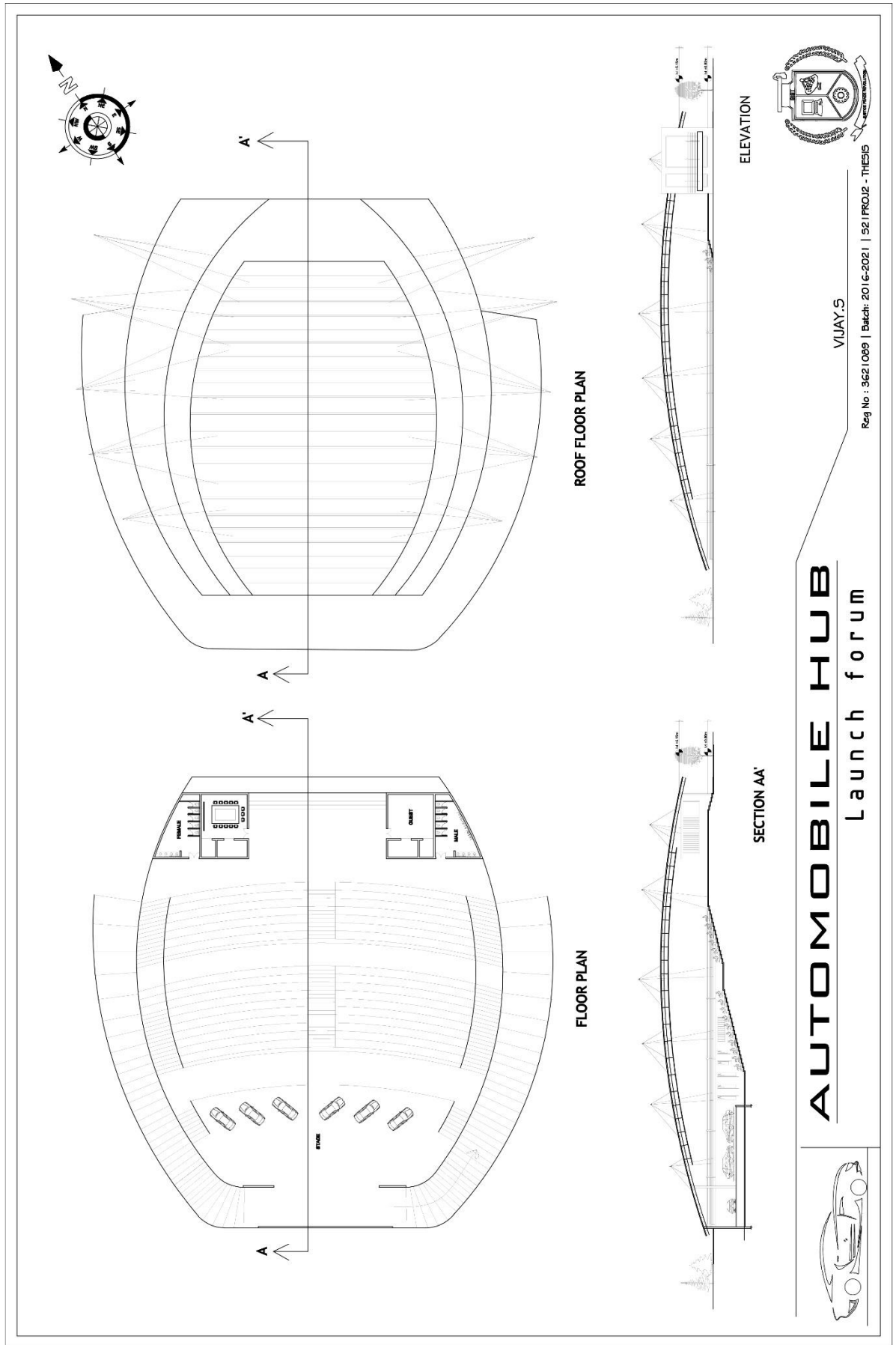


Plate no: 5.8. Launch forum



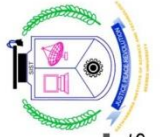
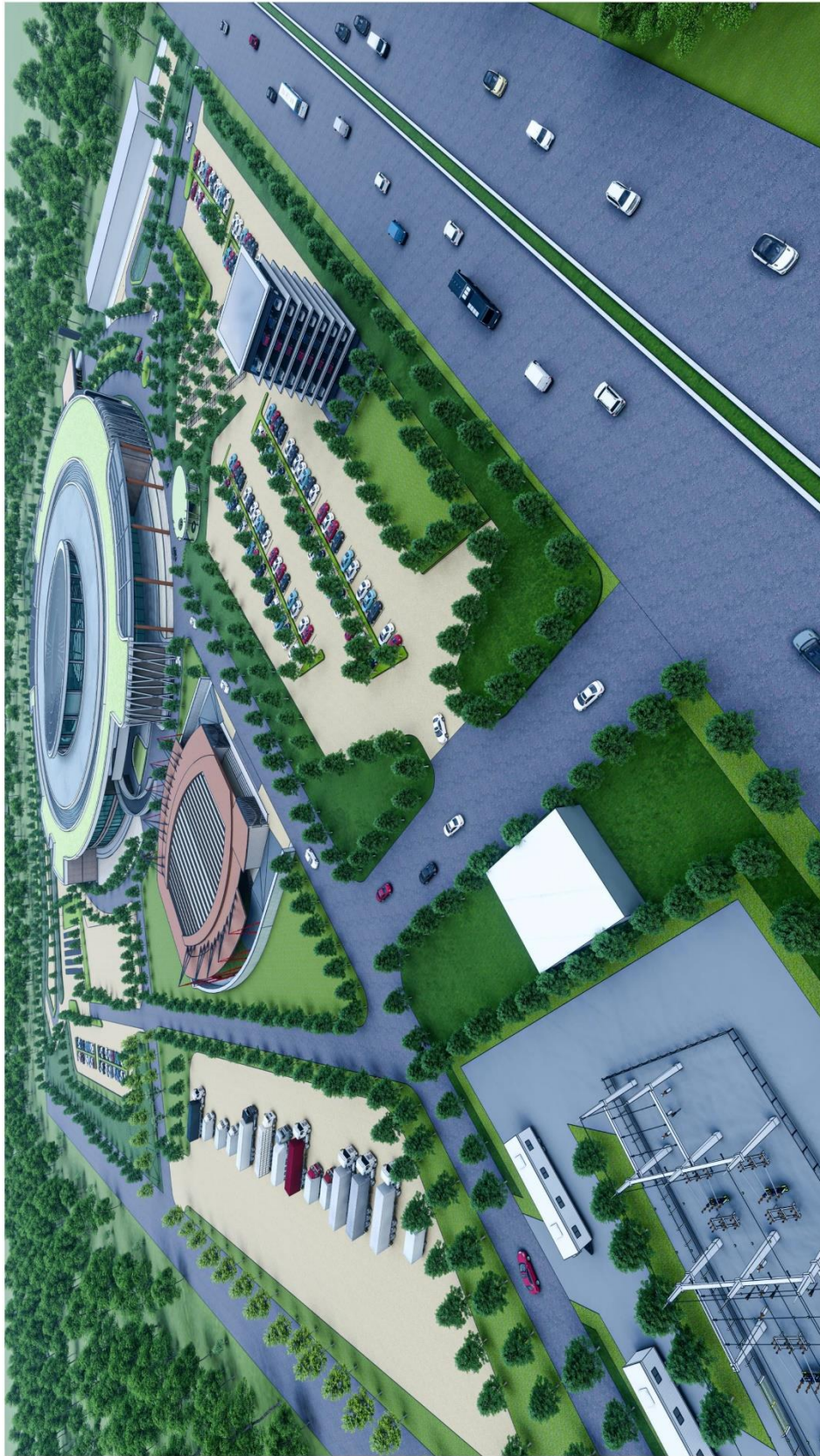
AUTOMOBILE HUB

VIJAY S | Reg No : 3621089 | Batch: 2016-2021 | S21PROJ2 - THESIS



Plate no: 5.9. View.1

Plate no: 5.10. View.2

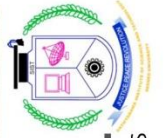


AUTOMOBILE HUB

Vijay S | Reg No : 3621089 | Batch: 2016-2021 | S21PROJ2 - THESIS



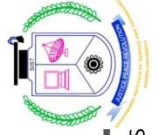
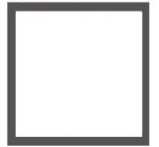
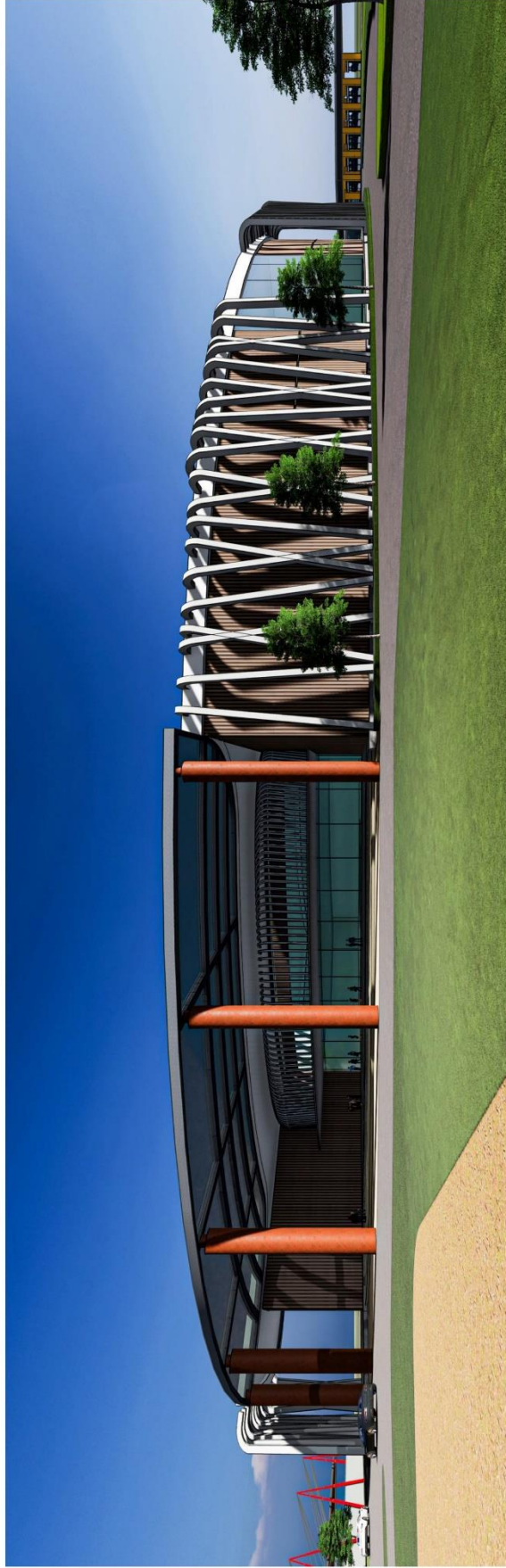
Plate no: 5.11. View.3



AUTOMOBILE HUB

Vijay S | Reg No : 3621089 | Batch: 2016-2021 | S21PROJ2 - THESIS

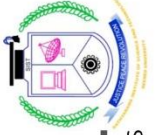
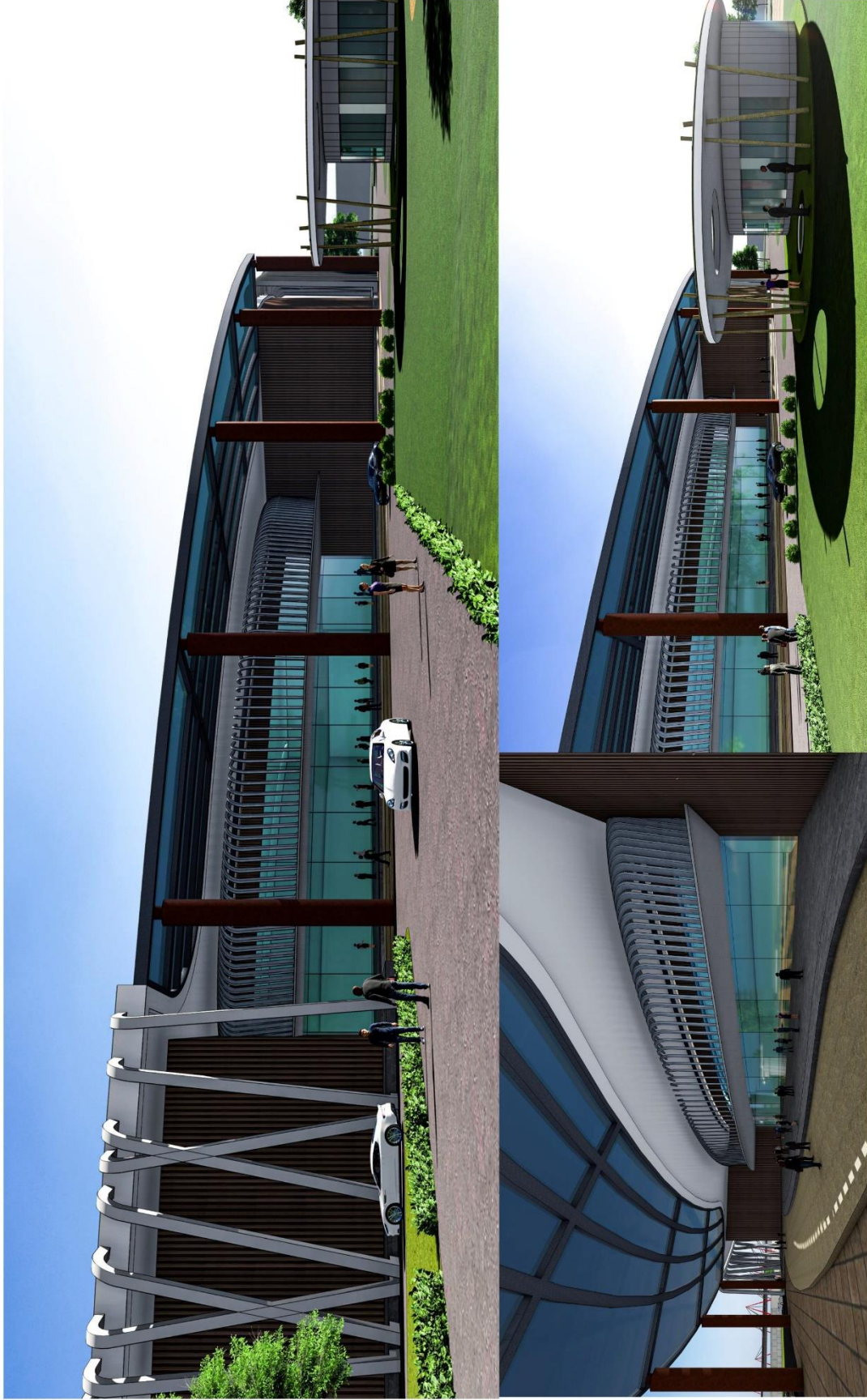




AUTOMOBILE HUB

Vijay S | Reg No : 3621089 | Batch: 2016-2021 | S21PROJ2 - THESIS

Plate no: 5.12. View.4



AUTOMOBILE HUB

Vijay S | Reg No : 3621089 | Batch: 2016-2021 | S21PROJ2 - THESIS



Plate no: 5.13. View.5

CHAPTER 6

CONCLUSION

Designing a Showroom involves many important factors like thermal comfort, air flow, handling systems and many more. In addition to these human comforts combined with machinery requirement are to be included in the process of designing. Landscapes play a good task in commercial buildings. The tireless of work and fatigue can be overcome by a calm and free environment. It is important to add aesthetics to the industries in order to make it a pleasant space to work and get an efficient output. Though it can be challenging to add architecture to the functional spaces, at the end of the day architecture is about designing a comfortable space for the people using it.