



**THESIS REPORT ON
SPORTS COMPLEX
DWARKA SECTOR 8, SOUTH DELHI**

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

**BACHELOR OF ARCHITECTURE
BY**

MOHD SADIQUE

1180101032

**THESIS GUIDE
PROF KESHAV KUMAR**

**SESSION
2022-23**

**TO THE
SCHOOL OF ARCHITECTURE AND PLANNING
BABU BANARASI DAS UNIVERSITY
LUCKNOW.**

ACKNOWLEDGEMENT

I sincerely thank my guide Prof Keshav Kumar, who guided me through active participation in discussions and cooperated throughout the process.

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

CERTIFICATE

I hereby recommend that the thesis entitled “Sports Complex, South Delhi” under the supervision is the bonafide work of the students and can be accepted as partial fulfillment of the requirement for the degree of Bachelor’s degree in architecture, School of Architecture and Planning, BBDU, Lucknow.

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Recommendation Accepted

Not Accepted

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SPORTS COMPLEX IS A GROUP OF SPORTS FACILITIES. SPORTS SUCH AS HOCKEY, KABADDI, BADMINTON, TENNIS, FOOTBALL AND CRICKET LEAGUES INCLUDING STADIUMS HAVE BECOME POPULAR IN THE LAST FEW YEARS, AND THIS REQUIRES SPORTS FACILITIES FOR PRACTICE AND COMPETITION.

SPATIAL REQUIREMENTS:

MINI STADIUM (FOOTBALL FIELD, CRICKET FIELD), ACADEMY BUILDING, INDOOR STADIUM, HOCKEY FIELD, VOLLEYBALL COURT, KABADDI, GYMNASIUM, TENNIS, ARCHERY, MULTI-PURPOSE HALL,, PARKING AREA, RESTAURANTS/FOOD COURT

HISTORY AND BACKGROUND

THE SPORTS AUTHORITY OF INDIA ORIGINATED WITH THE COMMITTEE FORMED TO HOST THE 1982 ASIAN GAMES IN NEW DELHI. ON 25 JANUARY 1984, "SPORTS AUTHORITY OF INDIA" WAS ESTABLISHED AS A REGISTERED SOCIETY BY THE "DEPARTMENT OF SPORTS" OF GOVERNMENT OF INDIA'S MINISTRY OF YOUTH AFFAIRS AND SPORTS.

WITH THE FIRST OLYMPIC GAMES IN 776 BC—WHICH INCLUDED EVENTS SUCH AS FOOT AND CHARIOT RACES, WRESTLING, JUMPING, AND DISCUS AND JAVELIN THROWING—THE ANCIENT GREEKS INTRODUCED FORMAL SPORTS TO THE WORLD. THE FOLLOWING BY NO MEANS EXHAUSTIVE LIST TAKES A LOOK AT THE BEGINNINGS AND EVOLUTION OF SOME OF TODAY'S MOST POPULAR SPORTING PASTIMES.

AIM OF THE PROJECT

THE NEED OF SPORTS COMPLEX IN ANY CITY IS MUST AS ITS REQUIREMENT OF EVERY AGE, FROM CHILD TO OLD MAN EVERYONE NEEDS A COMPLEX AS IT PROVIDES VARIOUS ACTIVITIES FOR ALL THE AGE GROUPS.

OBJECTIVE

- THE PROJECT IS ENVISAGED TO BE CLUSTER OF MODERN MULTI FUNCTIONAL WORLD CLASS SPORTS FACILITIES. IT AIMS TO PROVIDE THE USERS AN AFFORDABLE, COMFORTABLE AND ENJOYABLE EXPERIENCE.
- TO CREATE RELAXED AND EASY ATMOSPHERE THROUGH DESIGN, ARCHITECTURAL EXPRESSION, SO AS TO MAKE THE COMPLEX RETREAT FROM CITY LIFE.
- TO CATER TO THE NEEDS OF ALL AGE GROUPS-CHILDREN, ADULTS AND AGED PEOPLE.
- INTEGRATION OF BUILT FORM WITH LANDSCAPE

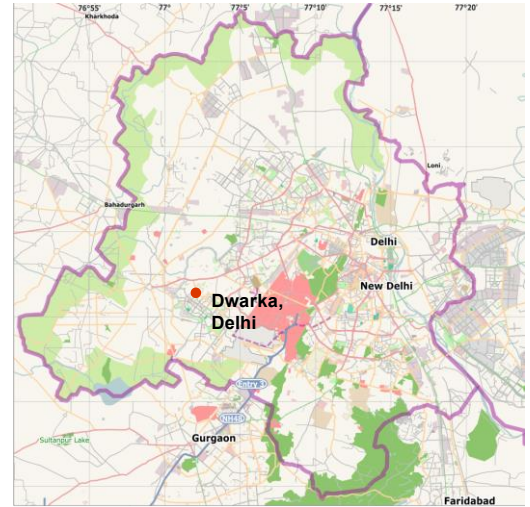
NEED OF SUBJECT

SPORTS AND RECREATIONAL ARE IMPORTANT COMBINATIONS OF CIVILIZED LIFE BELOW ARE SOME FACTORS WHICH EMPHASIZE THE NEED OF A SPORTS COMPLEX.

- THIS HECTIC LIFE SCHEDULE ENSURES THAT PEOPLE ARE DRIVEN TO FULLY.
- EXPLOIT THEIR LIMITED FREE TIME. WE SEEK AN ATMOSPHERE TO WHICH ONE
- EXPOSES ONESELF TO SPORT ACTIVITIES AND SUCH NEEDS GIVE RISE TO A SPORTS COMPLEX WHICH PROMISE TO GIVE AN HEALTHY ENVIRONMENT ALONG WITH ITS ENORMOUS SIZE.
- A NEW SYSTEM SHOULD BE ESTABLISHED SO THAT PEOPLE CAN PARTICIPATE AND ENJOY THESE ACTIVITIES REGARDLESS OF THEIR INCOMES I.E A PLEASANT ENVIRONMENT WITH ADEQUATE SPACE FOR WALKING AND PERFORMING THE VERY BASIC EXERCISE.
- SUCH SPORTS COMPLEXES CAN ACTUALLY PROVIDE OPPORTUNITIES FOR UPCOMING SPORT TALENTS WHO CAN BRING PRIDE TO INDIA IN DIFFERENT TOURNAMENTS AND COMPETITIONS

Dwarka is a neighborhood located in South West Delhi district of Delhi. The district court that functions under the Delhi High Court for South West Delhi is located in Dwarka.

The sub-city is located near to Indira Gandhi International Airport. It is among the largest sub-city in Asia. Dwarka is organized into sectors and mainly has Cooperative Group Housing Societies as residential options. It is one of the most sought-after residential areas in New Delhi. The sub-city also has the largest rooftop solar plant in the Union territory of Delhi.



HISTORY

Dwarka is named after the legendary Dwaraka Kingdom. It is a short distance away from Gurgaon which is a major hub for large national and multinational corporations in the country and about 10 km away from Indira Gandhi International Airport. With the opening up of the Airport Express Line in 2011, the travel time from the Dwarka Sector 21 Metro station to Airport was reduced to less than 10 minutes.

Dwarka Baoli (also known as Loharehri Baoli) is a historical stepwell recently discovered in Dwarka Sub City, in southwest New Delhi, India. It was constructed for the residents of Loharehri village by the Sultans of the Lodi Dynasty in the early 16th century. Dwarka now stands where the Loharehri village once stood.



Dwarka Baoli is a stepwell constructed for the residents of Loharehri village by the Sultans of the Lodi Dynasty in the early 16th century

Some parts of modern-day Dwarka historically came under the colony of Pappankalan, which are now being developed under the 'Urban Expansion Projects' of the Delhi Development Authority.

GEOGRAPHY

Ecology

Dwarka lies on the banks of Sahibi River, a tributary of Yamuna which originates from the Aravalli range in Rajasthan and flows through west and South Haryana into Delhi where it is also known as the Najafgarh drain.

LOCATION

- The sub-city is located in South-West Delhi in the vicinity of Gurgaon and Delhi's International Airport.
- It is bounded by NH-8, Outer Ring Road, Najafgarh Road, Pankha Road Near Dabri Mor, and the Rewari railway line.
- West End, Uttam Nagar, Vasant Kunj, Vikas Puri, Najafgarh, Bijwasan, Palam vihar, Vasant Vihar, Janakpuri residential areas and Delhi cantonment are the other major surrounding areas in south/west Delhi.
- Dwarka is the largest residential suburb in Asia, with a total of 1718 residential enclaves, and a net population of 1,100,000.

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HISTORY

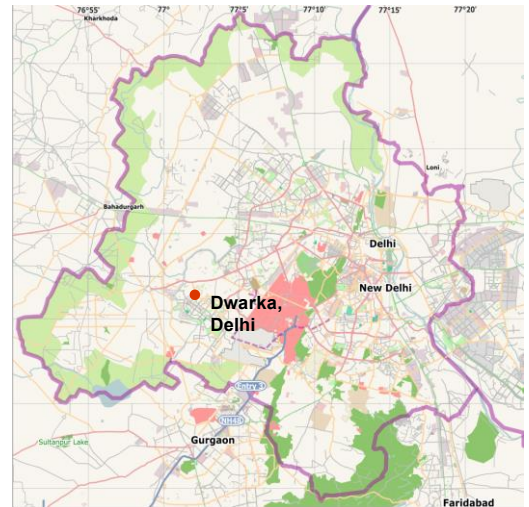
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Some parts of modern-day Dwarka historically came under the colony of Pappankalan, which are now being developed under the 'Urban Expansion Projects' of the Delhi Development Authority.

IN ASIA

- Azadi Sport Complex
- Cebu City Sports Complex
- Dasana Indah Sport City
- Davao City—UP Sports Complex
- Davao del Norte Sports Complex
- Deli Sport CityDoyo Baru Sport Complex
- Gelora Bung Karno Sports Complex
- Gelora Bung Tomo Sports Complex
- Rizal Memorial Sports Complex
- Jerusalem Sports QuarterJakabaring Sport City
- Jalak Harupat Sports Complex
- JRD Tata Sports Complex
- Kalinga Stadium
- Lukas Enembe Sport Complex
- Malaysia National Sports Complex
- Marikina Sports Center
- Mimika Sport Complex
- Nanjing Olympic Sports Center
- New Clark City Sports Complex
- Olympic Green
- Panaad Park and Sports Complex
- Rawamangun Sports Complex
- Shree Shiv Chhatrapati Sports Complex
- Seoul Sports Complex
- Siliwangi Sport Complex
- Singapore Sports Hub
- The Sports Hub Trivandrum



Dwarka Baoli is a stepwell constructed for the residents of Loharehri village by the Sultans of the Lodi Dynasty in the early 16th century

CULTURE

Sports

Dwarka is home to a sports complex (DDA Sports Complex) in Sector 11 with facilities such as Tennis (Clay & Hard Courts), Badminton including covered Badminton Hall, Table Tennis, Billiards / Snooker / Pool, Basket Ball, Volleyball, Jogging Track, Cricket, Cricket Practice Pitches, Multigym, Skating, Snack - Bar, Pro - Shop, Tennis Practice wall, Squash, Children Park, Yoga, Karate, Swimming Pool with Toddler Pool.

The Delhi Development Authority is planning to create an 18-hole state-of-the-art golf course over an area of 173 acres in Sector 24 .

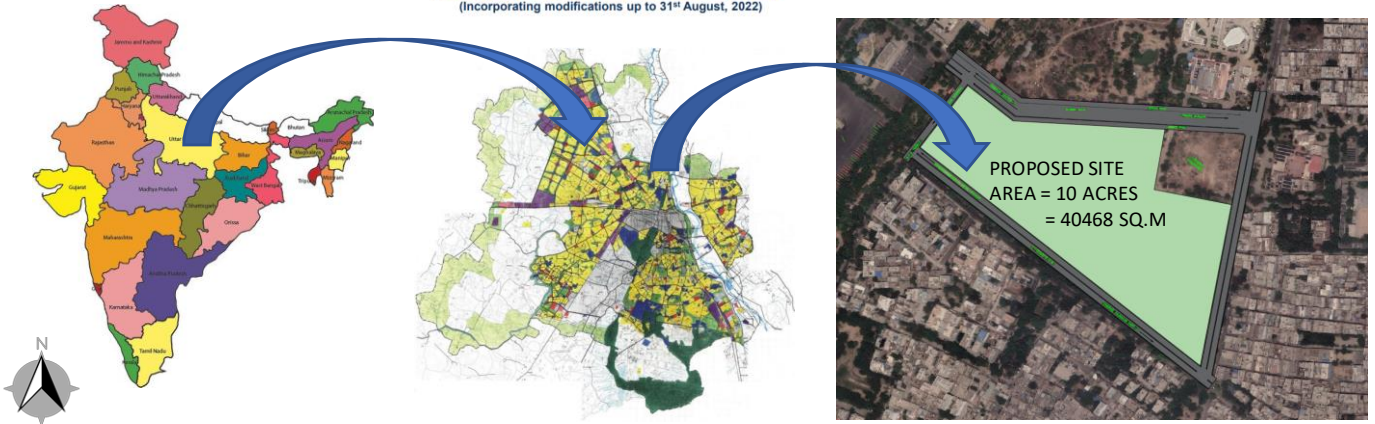
TRANSPORTATION

- Dwarka has a robust and well-connected road network built to modern specifications to each of its sectors and adjoining areas.
- The sub-city is well connected by metro rail with the city centre and other major parts of the city by MRTS. There are a total of 8 metro stations in Dwarka.
- Connected to Indira Gandhi International Airport Terminal 3 via Sector 21 Station interchange with the Airport Express Line.
- The sub-city is now connected via the Delhi Metro to Noida (UP) and Anand Vihar and Ghaziabad (Vaishali Station).
- The sub-city will be connected to the mother city by 4 major roads from all directions.
- If entering from the north, a 45-meter wide road connecting Pankha Road partly by covering Dabri palam drain. Work was completed and the road was opened for the public in 2007.
- If entering from the west, a 60-meter wide road connecting Najafgarh Road is constructed.
- If entering from the east, a 45-meter wide road through Cantonment area with a fly-over near Palam. The flyover and road were opened for the public in 2006.
- If entering from the southeast, go through a 60-meter wide road from NH-8 (with a rail underpass). The road was already constructed.
- Airport Express (Orange Line) of Delhi Metro connects Dwarka to the Indira Gandhi International Airport and terminates at New Delhi metro station from where one can go to New Delhi railway station.
- Dwarka is expected to be connected to Gurgaon by metro in the near future due to its close proximity to the NCR town.

MIXED LAND USE CONCEPT

DDA has implemented a unique concept of Mixed Land Use (MLU) in Dwarka. Most of the DDA housing clusters in Dwarka have commercial buildings in close proximity. In many sectors, approximately 80% of a plot is used for residential flats and the remaining 20% for commercial use. This unique MLU concept is convenient for the occupants of Dwarka DDA flats, as they get the facility of shopping, dining and purchasing groceries in close proximity.

Master Plan for Delhi-2021 (Incorporating modifications up to 31st August, 2022)



THE PROPOSED SITE IS LOCATED IN SEC-8 NEW DELHI INDIA. THE PROPOSED SITE ACCESS FOUR SIDE. ITS PROXIMITY INTERNATIONAL AND DOMESTIC AIRPORT - TRAVEL TIME LESS THAN 15 MIN. DELHI METRO PROVIDING EXCELLENT CONNECTIVITY WITH NORTH WEST AND CENTRAL DELHI. THE SITE SHOULD BE REGULAR AND FLAT SURFACES ARE MOST SATISFACTORY AND THE SIMPLE SITES CAN BE USED FOR FORMING THE TIERS OF THE SLOPE.

CLIENT

DELHI DEVELOPMENT AUTHORITY

ACCESS

METRO RAIL.
NI MALARIA ROAD ON THE NORTH
VIVEKANAND MARG ON SOUTH
CANTONMENT AREA.
100 METER WIDE EXPRESSWAY LINKING NH-8 DWARKA.

SHAPE AND SIZE OF SITE

THE SHAPE OF SITE IS TRAPEZIUM.
THE AREA OF SITE FOR FILM FESTIVAL IS 8 HECTARE APPROX.

SITE SURROUNDING

- THE WEST FACE OF SITE ABOUT 45 METER WIDE ROAD ALONG SECTOR 16-B WHILE THE EAST FACE OF SITE ABOUT 12 METERS.
- WIDE ROAD ADJOINING THE SITE FOR COMMUNITY CENTER AND POLICE STATION.
- THE NORTH AND THE SOUTH FACE OF THE SITE ADJOINS PARKS, RESIDENTIAL AREA AND MASTER PLAN GREEN AND DDA HOUSING RESPECTIVELY.

APPROACH TO SITE



PALAM RAILWAYS STATION 3 KM



DTC BUS STAND 100 M



I.G.I. 11 KM



DWARKA SEC-8 1.5 KM

GEOGRAPHIC LOCATION

GEOGRAPHIC LATITUDE 27.8 DEGREE
NORTH
GEOGRAPHICAL LONGITUDE 76.8
DEGREE



CONSTRAINT AND POTENTIAL OF SITE

THE PROPOSED SITE IS LOCATED IN SEC-8 NEW DELHI INDIA. THE PROPOSED SITE ACCESS FOUR SIDE. ITS PROXIMITY INTERNATIONAL AND DOMESTIC AIRPORT - TRAVEL TIME LESS THAN 15 MIN. DELHI METRO PROVIDING EXCELLENT CONNECTIVITY WITH NORTH WEST AND CENTRAL DELHI. THE SITE SHOULD BE REGULAR AND FLAT SURFACES ARE MOST SATISFACTORY AND THE SIMPLE SITES CAN BE USED FOR FORMING THE TIERS OF THE SLOPE.

VEGETATION

- THERE IS MANY TREES ON THE SITE BESIDES GRASSES AND SHRUB.
- THERE IS NOT ANY CONSTRUCTION OR EXISTING STRUCTURE ON THE BESIDES THE MASTER PLAN GREEN AREAS, SOME VEGETATION IN BUILDING AND THE SMALL TREES AND PLANT ALONG THE PEDESTRIAN IS PROPER TREE OR MAJOR VEGETATION IN SURROUNDING OF SITE.
- TYPOGRAPHY-RELATIVELY FLAT LANDGROUND WATER 19 METER

SITE SERVICES

• ELECTRICAL SUPPLY

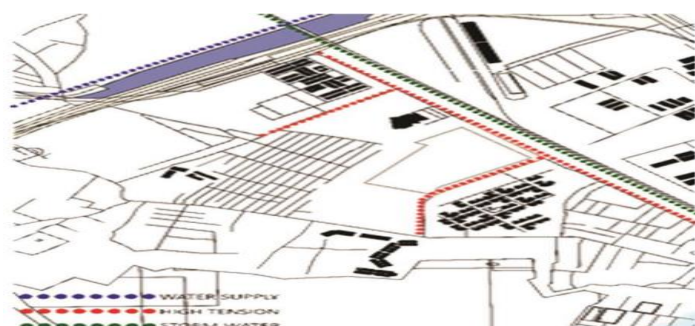
THERE IS ELECTRIC LINE RUNNING OUTSIDE OF THE BOUNDARY LINE OF THE SITE WHICH CAN BE STEPPED FOR THE POWER REQUIREMENT OF THE STRUCTURE, BY CONSTRUCTING THE SUITABLE SUBSTATION/TRANSFORMER.

• WATER SUPPLY

THERE IS NO PROVISION OF WATER SUPPLY BY THE AUTHORITIES AROUND THE SITE. A TUBE WELL WILL HAVE TO BE CONSTRUCTED . WATER LINE PILE BEHIND SITE, SWEAGE SYSTEM INFRONT OF SITE, GAS PIPELINE.

SITE CONDITION

- ALLUVIAL SOIL HAS BEEN DEPOSITED BY THE INDUS, THE GANGES, AND THE BRAHMAPUTRA RIVERS. THE ENTIRE NORTHERN PLAINS, CHANDIGARH,
- DELHI (ALMOST ENTIRELY), HARYANA, HIMACHAL PRADESH, JAMMU AND KASHMIR, MADHYA PRADESH, PUNJAB, RAJASTHAN, UTTARAKHAND, UTTAR PRADESH, AND WEST BENGAL) ARE MADE OF ALLUVIAL SOIL..
- THE COMMONLY USED FOUNDATION SYSTEM IN ALLUVIAL DEPOSITS IN THE INDIAN SCENARIO ARE RAFT FOUNDATION.
- LOADS ARE TRANSFERRED TO THE GROUND THROUGH A RAFT SLAB COVERING THE WHOLE FOOTPRINT OF THE BUILDING.



SEISMIC ZONE

SITE LIES IN ZONE 4 AND PRONE TO EARTHQUAKES

Seismic Zone
Map of India: -2002

About 59 percent of the land area of India is liable to seismic hazard damage

Zone	Intensity
Zone V	Very High Risk Zone Area liable to shaking Intensity IX (and above)
Zone IV	High Risk Zone Intensity VIII
Zone III	Moderate Risk Zone Intensity VII
Zone II	Low Risk Zone VI (and lower)

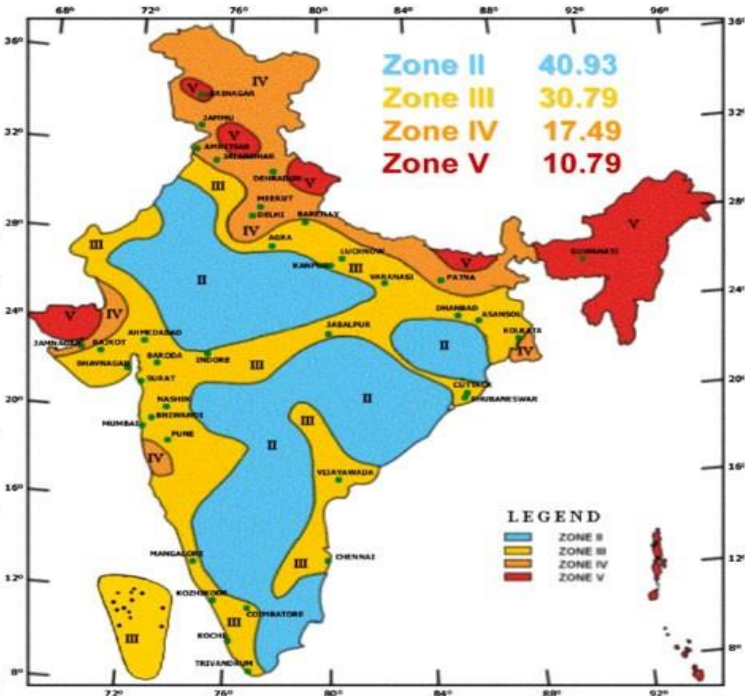
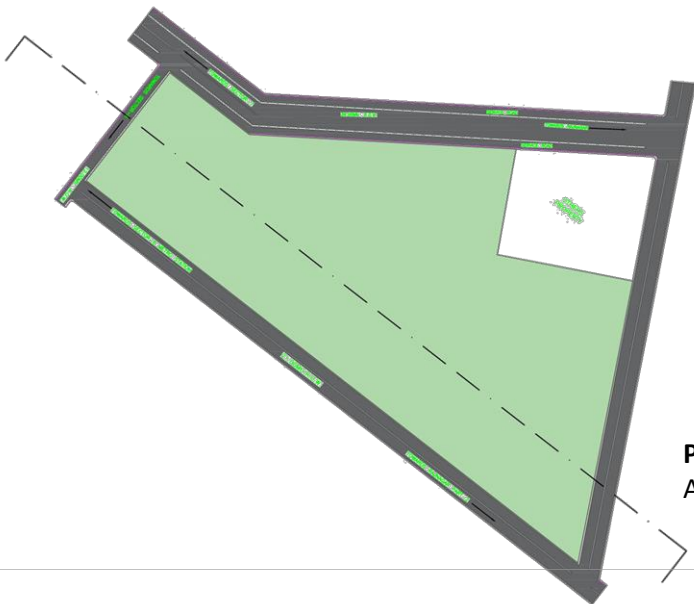
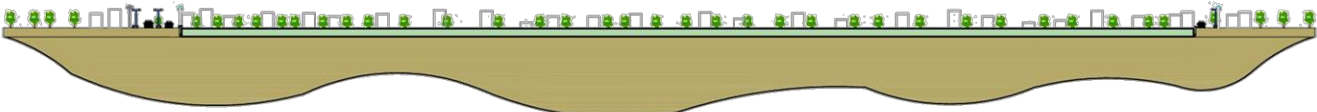


Fig. 1 Seismic zonation and intensity map of India



PROPOSED SITE
AREA = 10 ACRES = 40468 SQ.M



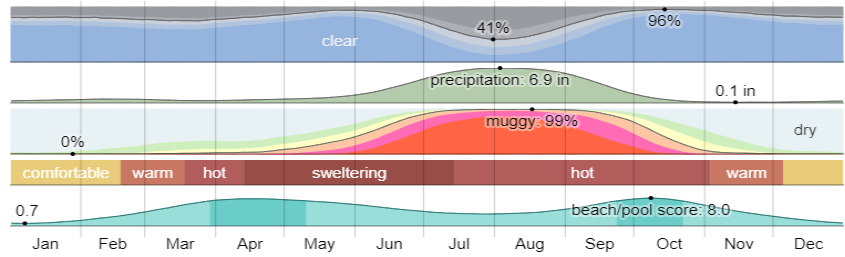
SECTION XX'



THE CLIMATE OF DELHI IS COMPOSITE, A MONSOON INFLUENCED HUMID SUB-TROPICAL WITH HIGH VARIATION BETWEEN SUMMER & WINTER TEMPERATURES & PRECIPITATION.

TYPES OF CLIMATE

- TROPICAL WET
- TROPICAL DRY
- SUBTROPICAL HUMID
- MOUNTAIN CLIMATIC ZONE



SUBTROPICAL

IN THIS CLIMATE THREE SEASONS OCCURS: HOT & DRY CLIMATE (MARCH TO JUNE) WARM & HUMID (JULY TO SEPTEMBER) COOL & DRY (OCTOBER TO FEBRUARY) IN HOT AND DRY SEASON MAXIMUM TEMPERATURE RISES UP TO 45 DEG. AVERAGE RAINFALL IS ABOUT 714 MM.

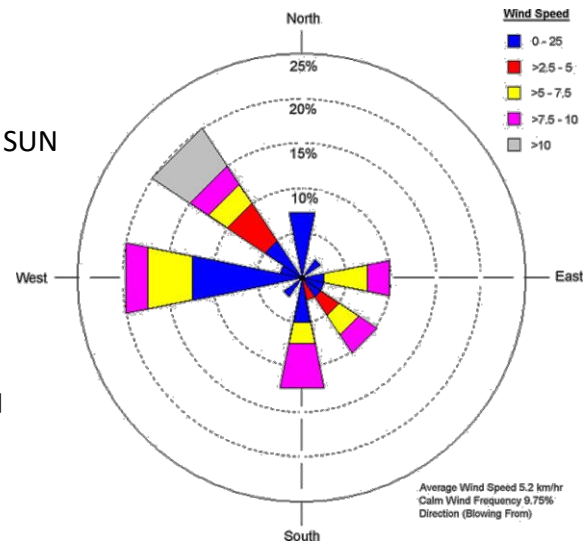
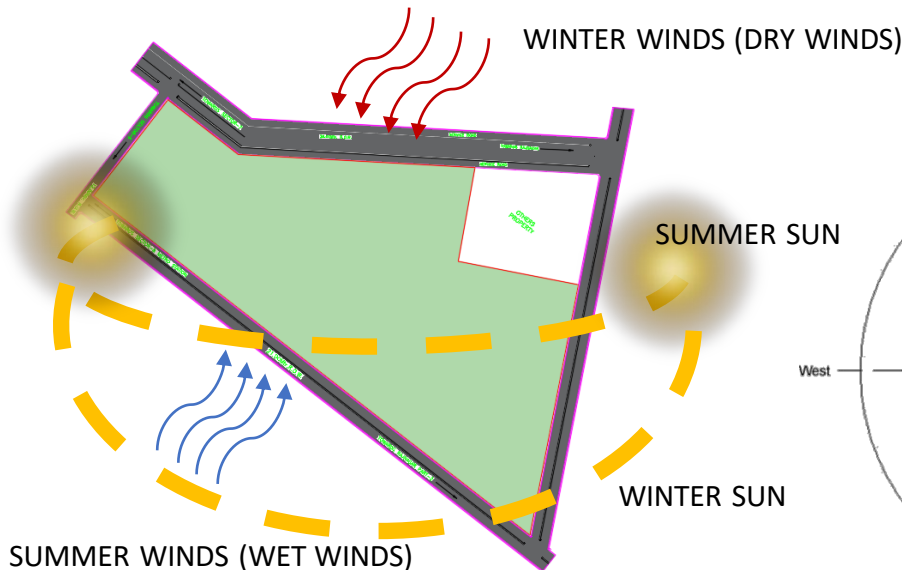
SUMMER SUN

THE SUMMER SUN IS UNPLEASANT, HOT DUSTY WINDS AND SHADOW PATTERNS DICTATE OUTDOOR ACTIVITY

WINTER SUN

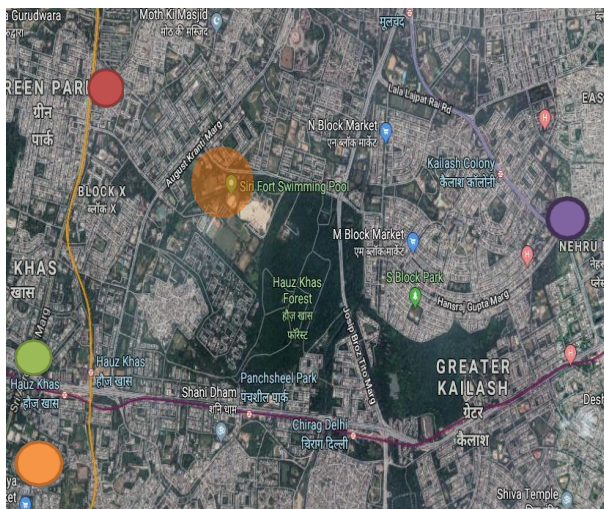
THE WINTER SUN IS A WELCOME ELEMENT AND SUNNY AREAS ACTIVELY USED FOR OUTDOOR ACTIVITY. PREVALENT WINDS DIRECTION IS N.W. - S.E

NEW DELHI IS 215M ABOVE SEA LEVEL. THE PREVAILING CLIMATE IN NEW DELHI IS COMPOSITE CLIMATE.





SIRI FORT SPORTS COMPLEX, NEW DELHI



ARCHITECT: PEDDLE & THORP
SEATING CAPACITY: 5740
TOTAL AREA FOR INDOOR: 10970 SQM
BASEMENT: 27401 SQM
GROUND FLOOR: 21500 SQM
FIRST FLOOR: 11000 SQM



NEW DELHI RAILWAY STATION 9.9 KM



I.G.I. 11 KM

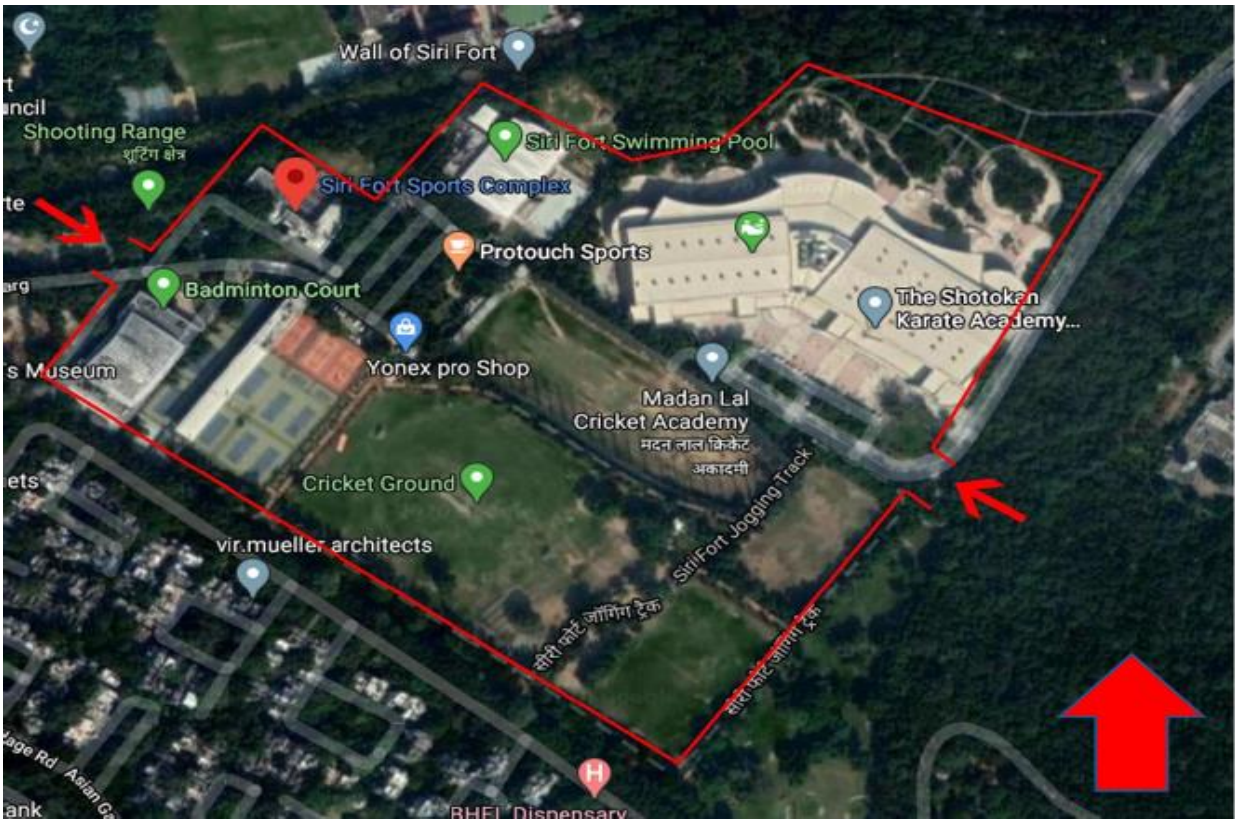


**HAUZ KHAS 2 KM
 GREEN PARK 1.5 KM**

INTRODUCTION

THE **SIRI FORT STADIUM** HAD BEEN CONSTRUCTED TO SERVE AS A COMPETITION AND TRAINING VENUE FOR THE **COMMON WEALTH GAMES, 2010**. THE ARCHITECT FIRM **PEDDLE AND THORP** DESIGNED THE STADIUM AND WAS CONSTRUCTED BY THE DELHI DEVELOPMENT AUTHORITY. AROUND 329 CRORES HAD BEEN SPENT ON IT





SITE PLAN

BASEMENT FLOOR

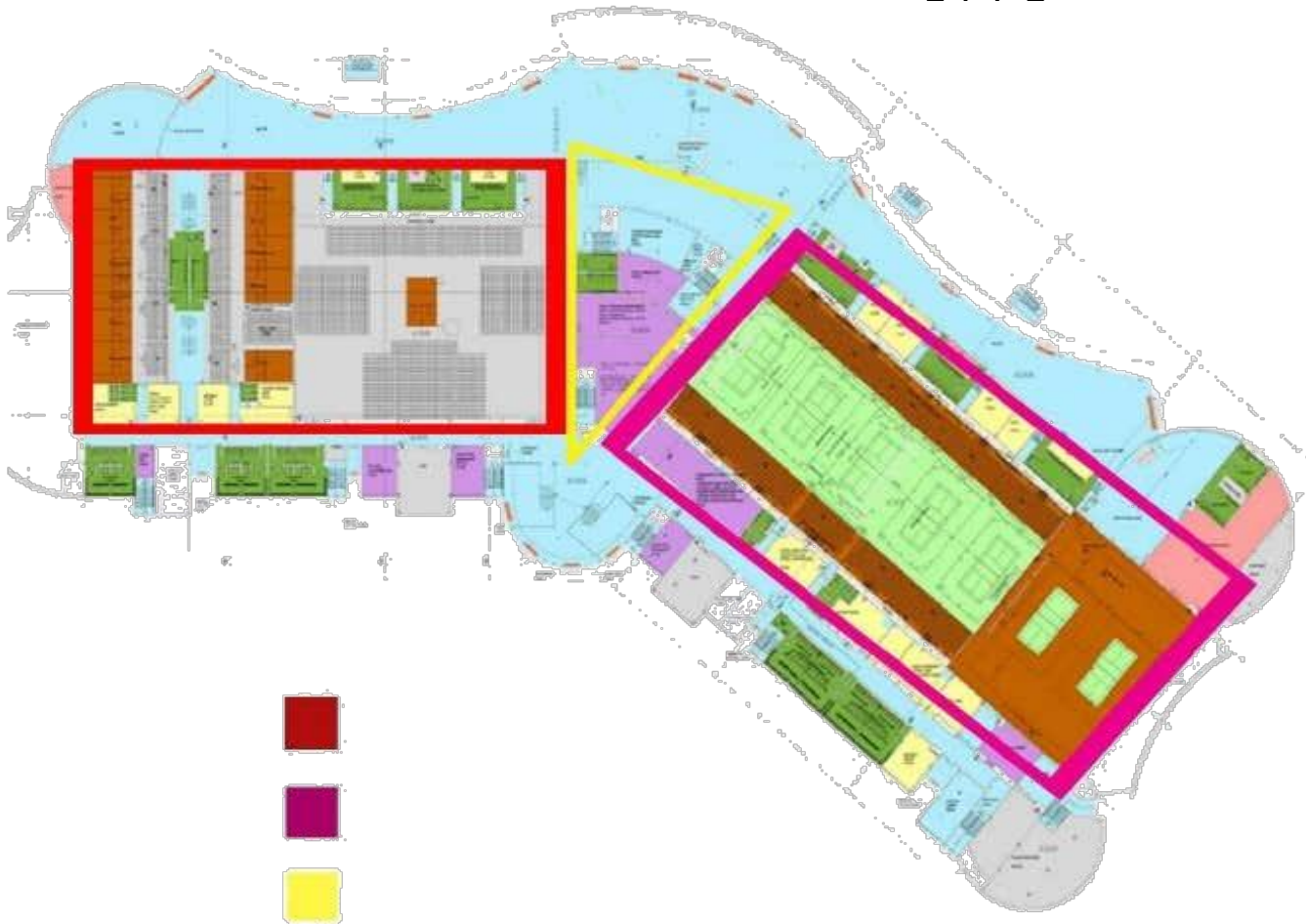
TOTAL AREA: 27401 SQUARE METERS.

PARKING SPACE FOR 804 VEHICLES HAS BEEN PROVIDED. BUT, FOR SECURITY PURPOSE, IT WAS NOT USED DURING THE COMMONWEALTH GAMES, 2010. THERE ARE VARIOUS TANKS PROVIDED FOR DIFFERENT PURPOSES IN THE BASEMENT- FIRE WATER TANK, BLACK WATER STORAGE TANK, TOILET FLUSHER WATER TANK, POTABLE WATER TANK, DOMESTIC WATER TANK, STORM WATER BREAK PRESSURE TANK. PUMPS HAVE ALSO BEEN PROVIDED- FIRE PUMPS, SEWER PUMP, STORM WATER PUMP, FLOOR DRAIN PUMP, ETC. A KITCHEN, A NUMBER OF LOBBIES, FIRE STAIRCASES, AC PLANT, SUPPLY AIR FAN ROOM, TRANSFORMER ROOM, PANEL ROOM, AIR WASHER ROOM, EXHAUST DUCTS, ETC. ARE A FEW OTHER SPACES.



BASEMENT PLAN





GROUND FLOOR PLAN

TOTAL AREA: 10970 SQUARE METERS.

THE STADIUM IS DIVIDED INTO THREE SECTORS :

- SECTOR-1
- SECTOR-2
- SECTOR-1A
- OR THE CENTRAL ARENA

SECTOR-1: THE PRACTICE COURTS AND THE MAIN COURTS FOR SQUASH ARE PROVIDED IN THIS SECTOR. 12 PRACTICE COURTS WITH A SEATING CAPACITY OF AROUND 740 SPECTATORS HAVE BEEN PROVIDED. ALSO, A SHOW COURT (MAIN COURT) HAS BEEN PROVIDED WITH A SEATING CAPACITY TO ACCOMMODATE 3460 SPECTATORS. A NUMBER OF ROOMS ARE PRESENT NEAR THE COURTS LIKE- A DOPING CONTROL ROOM, A MEDICAL OFFICE, A MASSAGE/PHYSIOTHERAPY ROOM, A RACQUET STRINGING ROOM, A FEW STORES, KIOSKS, AN ATHLETES' LOUNGE, AN OFFICIALS LOUNGE, ELECTRICAL ROOMS, A COMPETITION MANAGEMENT OFFICE, A CAFE AND A NUMBER OF WASHROOMS.

SECTOR-1A OR THE CENTRAL ARENA: THIS AREA INCLUDES AREA LIKE- A PRESS CONFERENCE ROOM, A RECEPTION/HELP DESK, A SECURITY COMMAND CENTER.

SECTOR-2: WARM-UP COURTS AND 5 MAIN COURTS WITH A SEATING CAPACITY TO ACCOMMODATE 5000 NUMBER OF OTHER ROOMS ARE PRESENT ON BOTH SIDES OF THE COURTS- A COMPETITION MANAGEMENT AND RECREATION OFFICE, AN ORGANIZING COMMITTEE OFFICE, A RESULTS ROOM, A DOPING CONTROL ROOM, A RACQUET STRINGING ROOM, A MEDICAL CEREMONIES PODIUM STORE, A MEDICAL ROOM, A FIELD OF PLAY STORE, AN ATHLETES' LOUNGE, A SPORTS INFORMATION ROOM, A MASSAGE/ PHYSIOTHERAPY ROOM, AN OFFICIALS LOUNGE AND A MEETING ROOM, AN ELECTRICAL ROOM, A PRE-FUNCTION SPACE, A PLANT ROOM, A CATERING KITCHEN, A GALLERY HAS BEEN PROVIDED AT THE NORTHERN SIDE OF THE STADIUM.



FIRST FLOOR:

TOTAL AREA: 11000 SQUARE METERS.

SECTOR-1: A WORKFORCE BREAKOUT ROOM, A WORKFORCE BREAKOUT OPERATIONS OFFICE, AN ELECTRICAL ROOM, A GAMES FAMILY LOUNGE, A PLANT ROOM, A WAITING ROOM AND WASHROOMS HAVE BEEN PROVIDED.

SECTOR-1A OR THE CENTRAL ARENA: A PRESS CONFERENCE ROOM, A RECEPTION, A SECURITY COMMAND CENTER.

SECTOR-2: A MEDIA LOUNGE, A CATERING ROOM, AN OFFICE, A LEGACY ROOM, A WORKFORCE BREAKOUT, A GAMES FAMILY LOUNGE, AN ELECTRICAL ROOM, A PROTOCOL ASSISTANTS' ROOM, WASHROOMS, A CLEANER STORE AND A RESTAURANT.

SECOND FLOOR AND THIRD FLOOR:

ONLY A FEW ROOMS LIKE ELECTRICAL ROOMS ARE PRESENT.

ROOF PLAN:

THERE IS A SOLAR PANEL PLATFORM WITH 16 SOLAR PANELS, A 1200 WIDE ACCESS WALKWAY, AND A SATELLITE DISC PLATFORM.

DESIGN DETAILS

- ADMINISTRATION BLOCK.
- BADMINTON BLOCK.
- SHOOTING BLOCK.
- NEW BLOCK OF BADMINTON AND SQUASH.
- POOL AREA.
- CHILDREN PLAY AREA.
- SKATING AREA.

FACILITIES AVAILABLE

- TOTAL 12 TENNIS COURTS INCLUDING 8 SYNTHETIC COURTS
- TENNIS PRACTICE WALL
- INDOOR MULTIPURPOSE STADIUM
- BADMINTON
- GLASS BACK WALL SQUASH COURTS
- TABLE TENNIS
- BILLIARDS/SNOOKER
- BASKET BALL
- HOCKEY,
- CRICKET, CRICKET PRACTICE PITCHES
- FOOTBALL
- JOGGING TRACK
- CHILDREN PARK
- SKATING
- GOLF DRIVING RANGE
- PITCH & PUTT COURSE
- OLYMPIC SIZE SWIMMING POOL
- TODDLERS POOL
- AIR RIFLE/PISTOL SHOOTING RANGE
- AEROBICS
- YOGA
- FITNESS CENTRE
- NATUROPATHY CENTRE
- HEALTH & NUTRITION CENTRE
- SPORTS SHOP
- SNACK BARS
- A MULTIPURPOSE INDOOR STADIUM HAS BEEN RECENTLY ADDED.



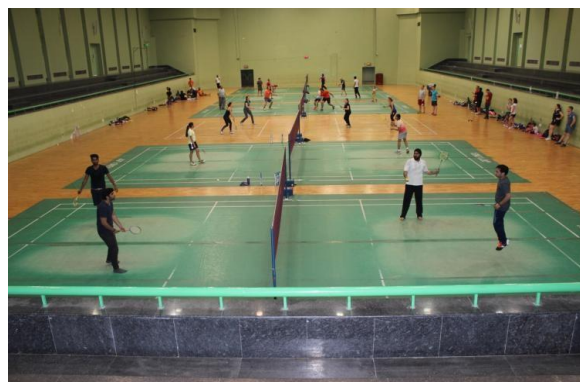
SQUASH

- CAPACITY 3,128
- COMPETITION ARENA: ONE ALL GLASS SHOW COURT AND 10 SINGLES COURTS CONVERTIBLE INTO DOUBLES COURTS
- DISTANCE FROM GAMES VILLAGE: 17 KM



LAWN TENNIS

12 COURTS IN WHICH 8 ARE COMPETITION AND 4 COURTS FOR WARM UP.



BADMINTON

CAPACITY: 4,748
COMPETITION ARENA: FIVE MATCH COURTS, THREE WARM-UP COURTS
DISTANCE FROM GAMES VILLAGE: 17 KM



MINI CRICKET GROUND



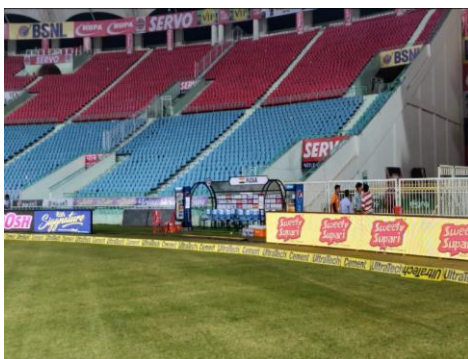
GOLF COURSE



GYMNASIUM



GOLF DRIVING RANGE



PAVILLION



SWIMMING POOL



TENNIS COURT

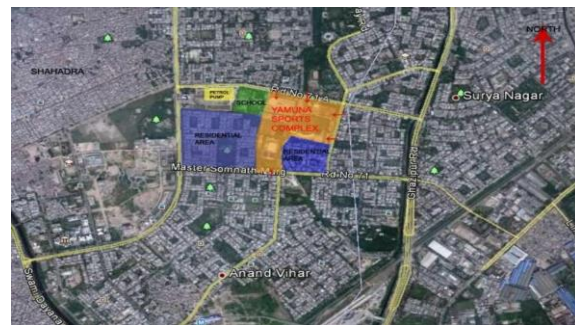
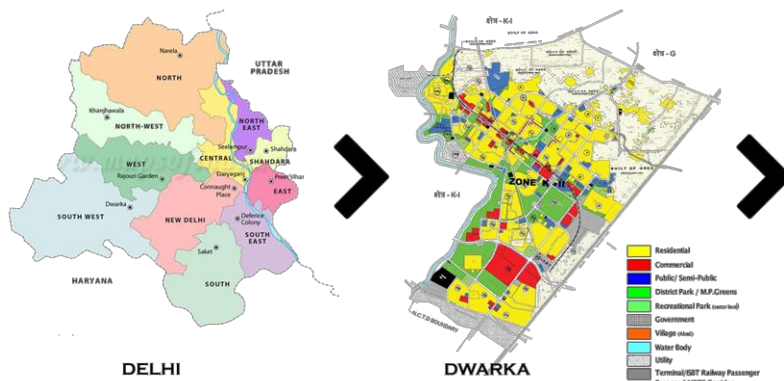


SHOOTING RANGE

SOCIAL AND PHYSICAL INFRASTRUCTURE

- RAIN WATER HARVESTING
- EFFLUENT TREATMENT PLANT
- SOLAR PRE-HEAT SYSTEM
- SOLA TUBE SYSTEM
- RE-USE OF TREATED WATER FOR
- HORTICULTURE
- HEAT INSULATION THROUGH EXTERNAL FAÇADE WITH INSULATIONS
- GLAZING WITH DOUBLE INSULATED GLASS
- THERMAL INSULATION ON ROOF CONSERVATION OF WATER
- THROUGH: USE OF RECYCLED WATER FOR FLUSHING AND HORTICULTURE

YAMUNA SPORTS COMPLEX, NEW DELHI



ACCORDING TO THE DELHI MASTER PLAN 2021. THE SITE LOCATION HAS BEEN PROPOSED FOR PUBLIC/SEMIPUBLIC.

INTRODUCTION

The **Yamuna Sports Complex** is a sports complex located in New Delhi, India. Inaugurated in 1999, it hosts table tennis. It is owned by the Delhi Development Authority. It was a venue for the 2010 Commonwealth Games.

Location: Master Somnath Marg, Near Vivekananda College, Surajmal Vihar, New Delhi, Delhi 110092.

Project: **Peddlethorp architects.**

Owned and managed: **Delhi Development Authority.**

Area: **62.7 acres.**

Indoor stadium: **4800sqm.**

Services: **3480sqm.**

Capacity: **3035.**

Nearest metro station: **Anand Vihar metro station.**

The stadium was a venue for the 2010 Commonwealth Games for the event of Archery, Lawn bowls and Table tennis.



OLD DELHI RAILWAY STATION **8.2 KM**



ISBT KAMIRI GATE **8.1 KM**



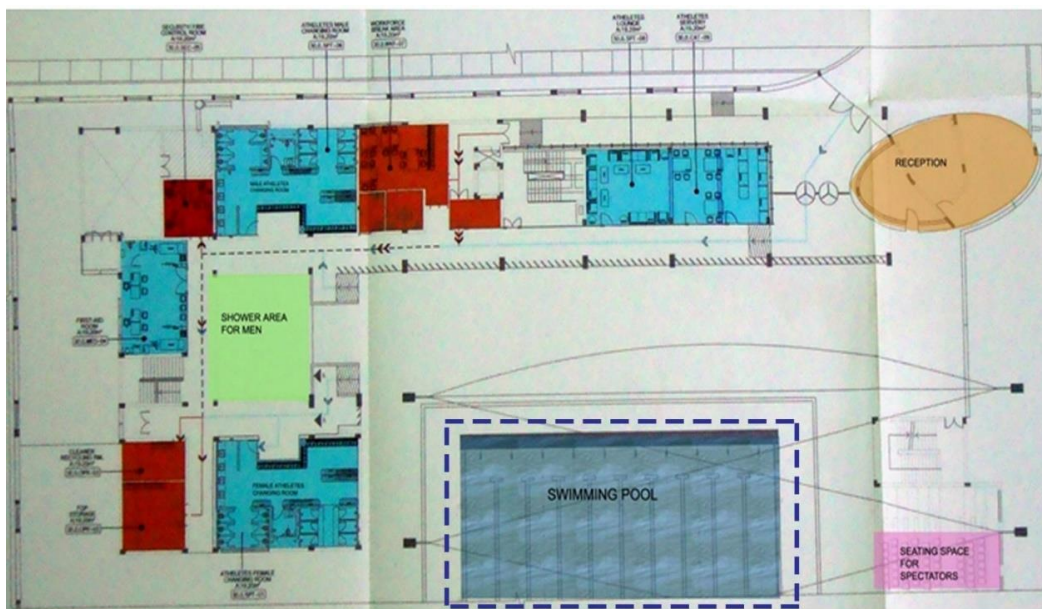
KARKARDOMA **1.4 KM**

- **PERMISSIBLE GROUND COVERAGE :** 20%-30%
- **PERMISSIBLE FAR :** 0.4
- **PARKING AT RATE OF 2 ECS PER 100 SQ MT OF FLOOR AREA**
- **SETBACKS :**
FRONT : 15 MT
SIDE :AND REAR : 12 MT



- 1. TABLE TENNIS
- 2. OFFICE
- 3. PARKING
- 4. HOCKEY
- 5. VIGYAN VIHAR
- 6. SWIMMING POOL

SEATING FOR AROUND 126 PEOPLE
 MAIN STRUCTURE FACES NORTH
 FACILITIES:
 PHYSIOTHERAPY ROOM
 FIRST AID ROOM
 CANTEEN
 LOUNGE
 STAFF REST ROOM

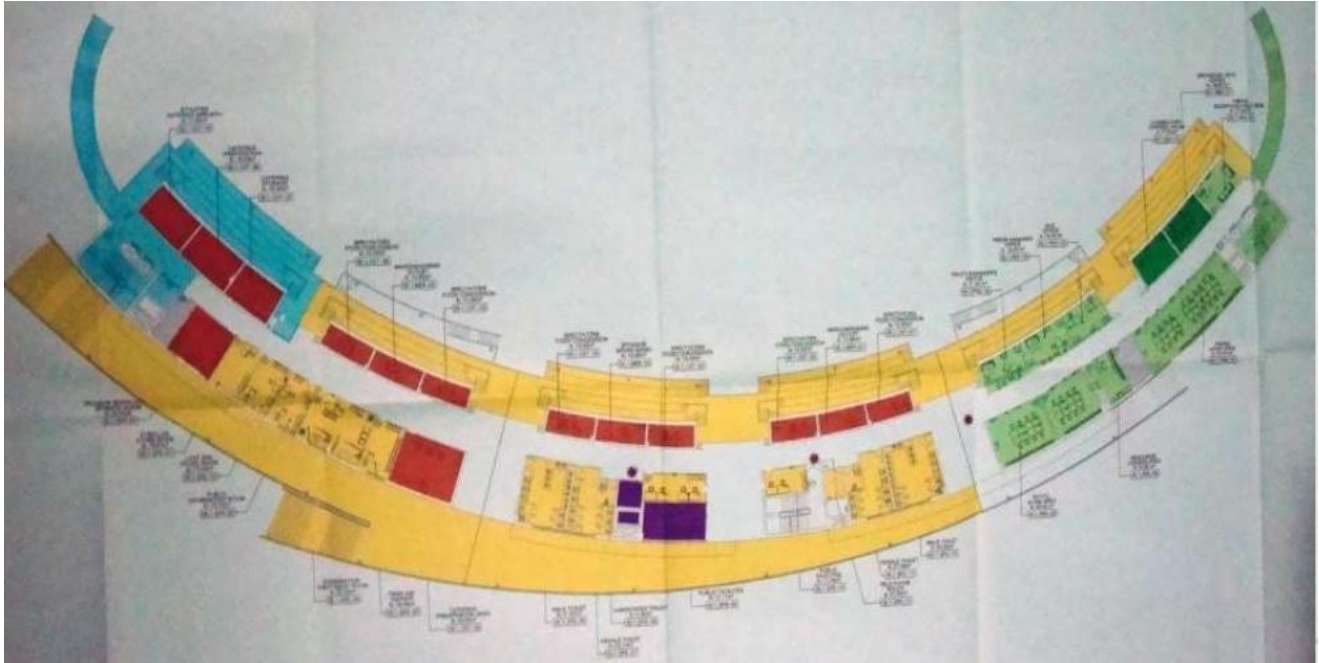


SWIMMING POOL

DEPTH OF POOL= 1.35 METERS
SEATING FOR AROUND
ADMINISTRATIVE BLOCK ON
FIRST FLOOR
FIRST AID ROOM PROVIDED
FIRE HOSE , SMOKE DETECTORS
AND SPRINKLERS PROVIDED.
PROPER RAMPS PROVIDED

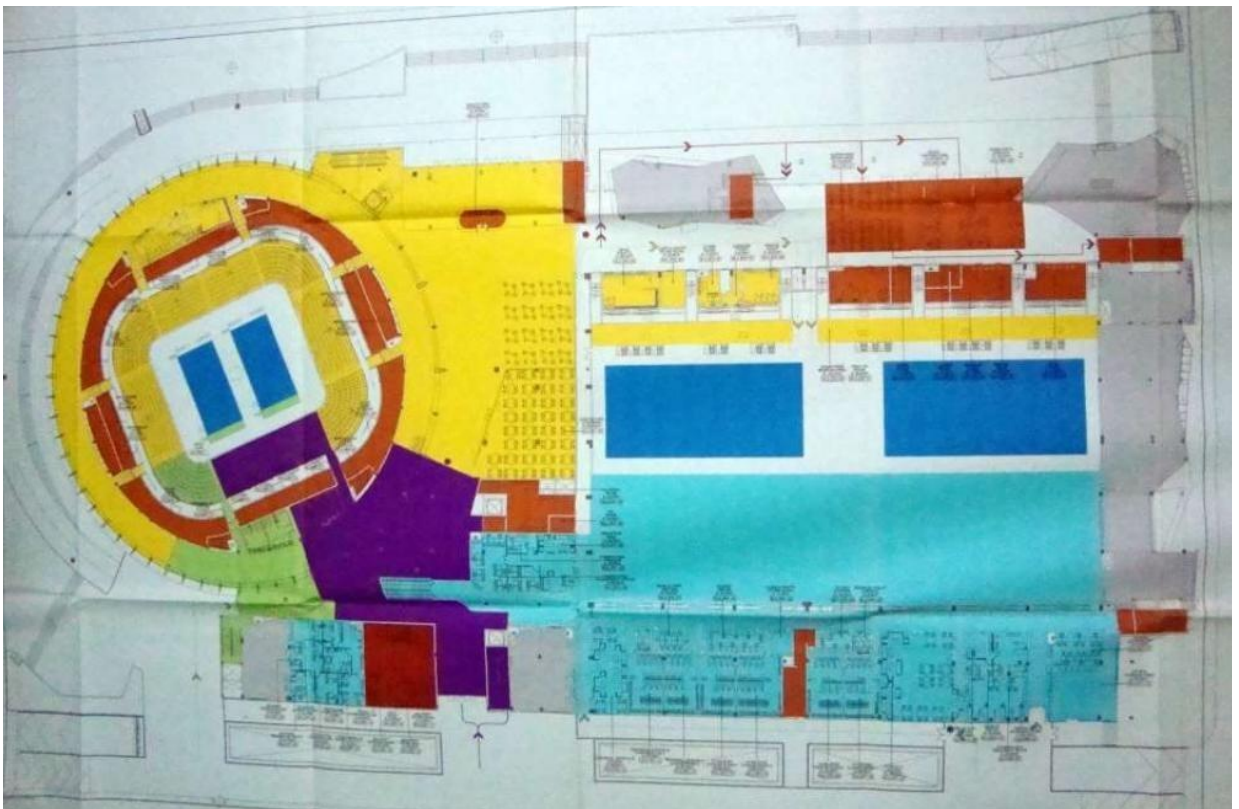
ADMINISTRATION BLOCK

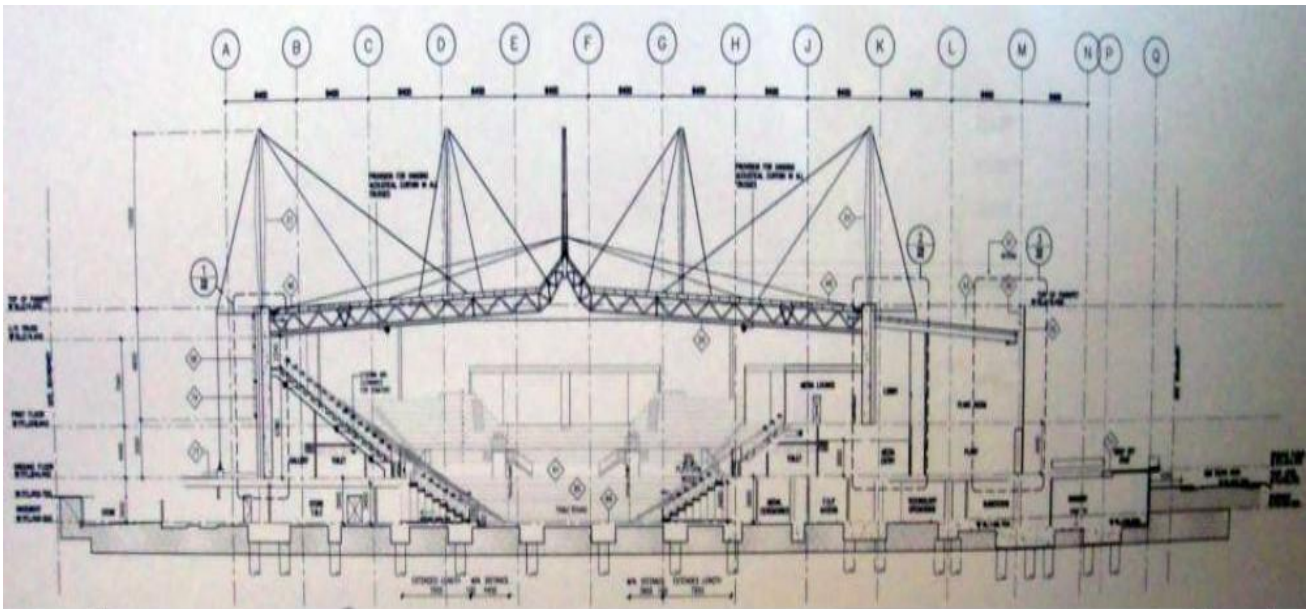
ARCHERY BLOCK



- The archery range has a capacity of 1500 people.
- The total area of plot is 40000 sq. m
- It has car parking facilities for 500 cars.

TABLE TENNIS BLOCK

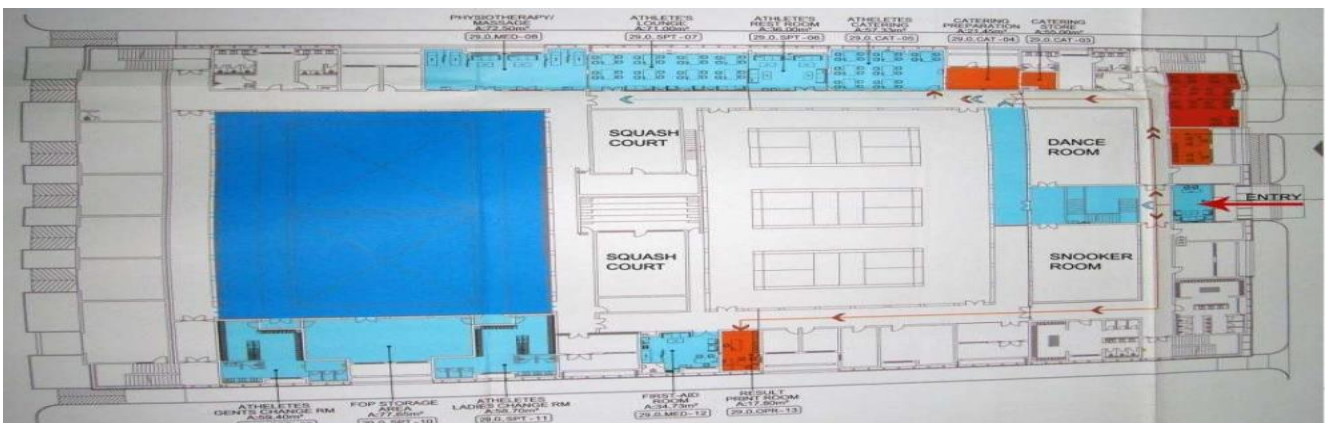




SECTION THROUGH TABLE TENNIS SHOW COURT

- It has a capacity of 4,297 people.
- It has two show court tables, eight match tables and 10 warm-up tables
- The total area of the plot is 26000 sq. m.
- It has wooden flooring in match courts and show courts.
- The basement has a car parking facilities for 504 cars aisles were 600mm wide.
- Lower rows were retractable. If more space is required then they can be retracted.
- Special aisles for physically challenged.

LAWN BOWL BLOCK





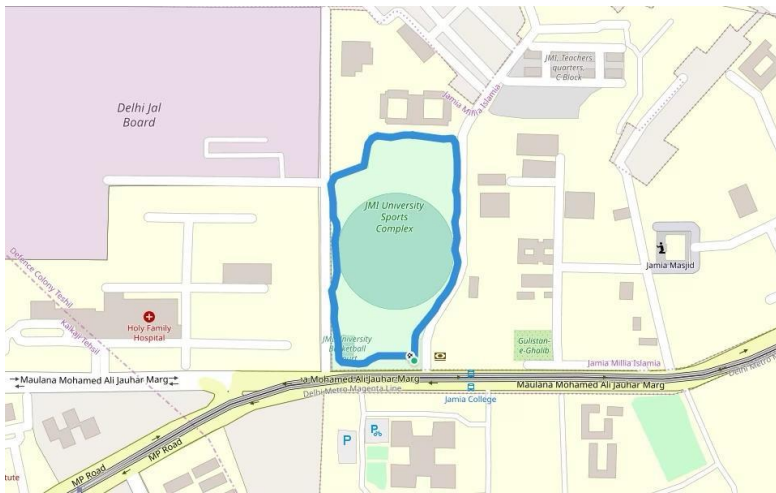
MERITS

- Proper ramps provided.
- Sprinklers and fire detectors provided
- Special provision made for physically challenged people stadiums with retractable seating.
- Sufficient parking space.
- Battery operated cars to move inside the premises of sports complex.

DEMERITS

- Only one basket ball court
- Parking far from venues distance between two stadiums was large

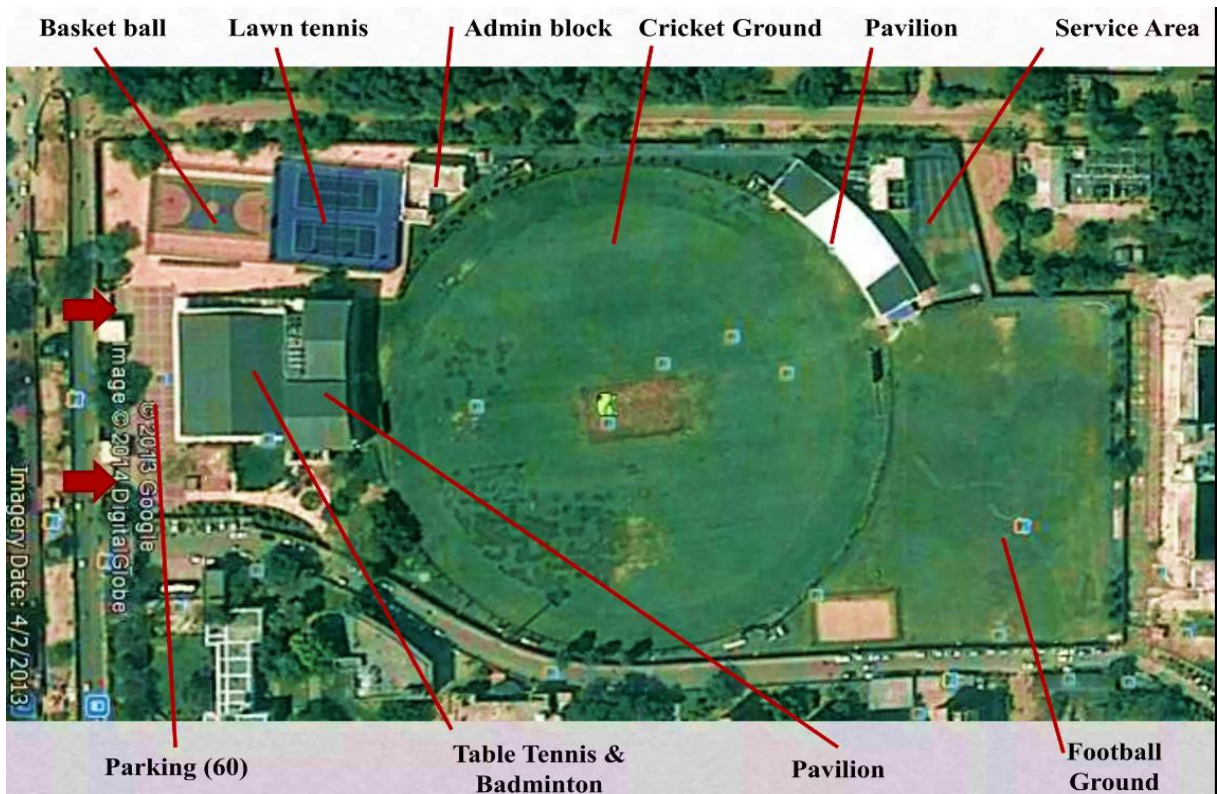
JAMIA MILLIA ISLAMIA SPORTS COMPLEX, NEW DELHI

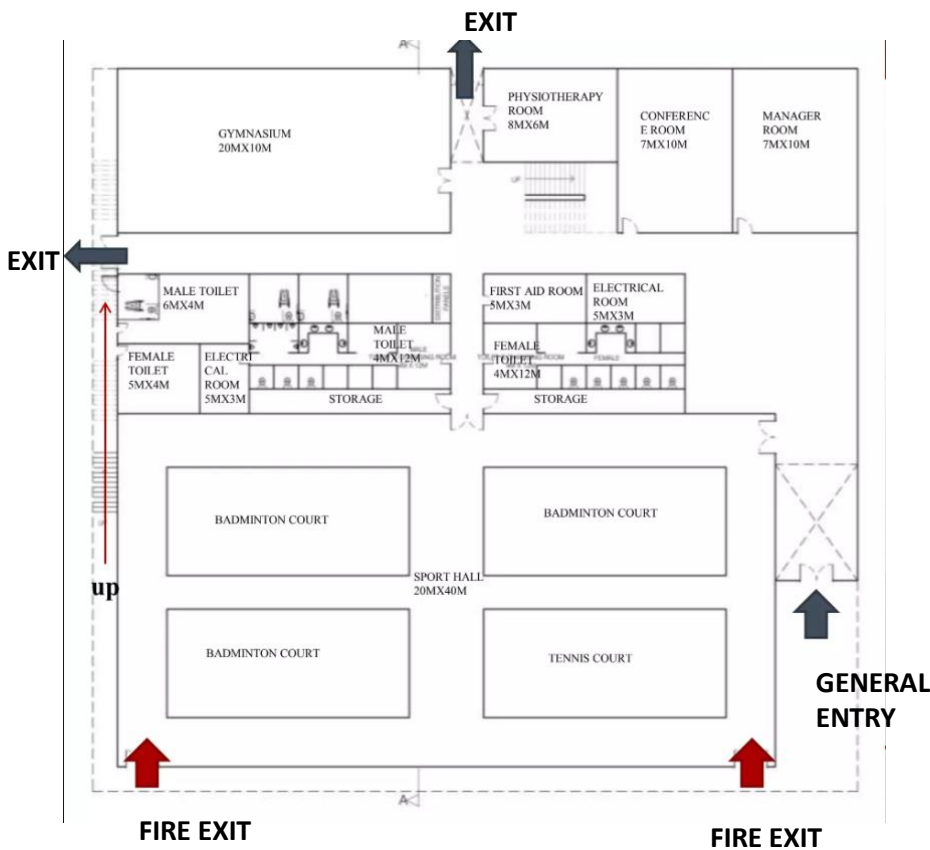


LOCATION-M.M.A Road Jamia Nagar, DELHI

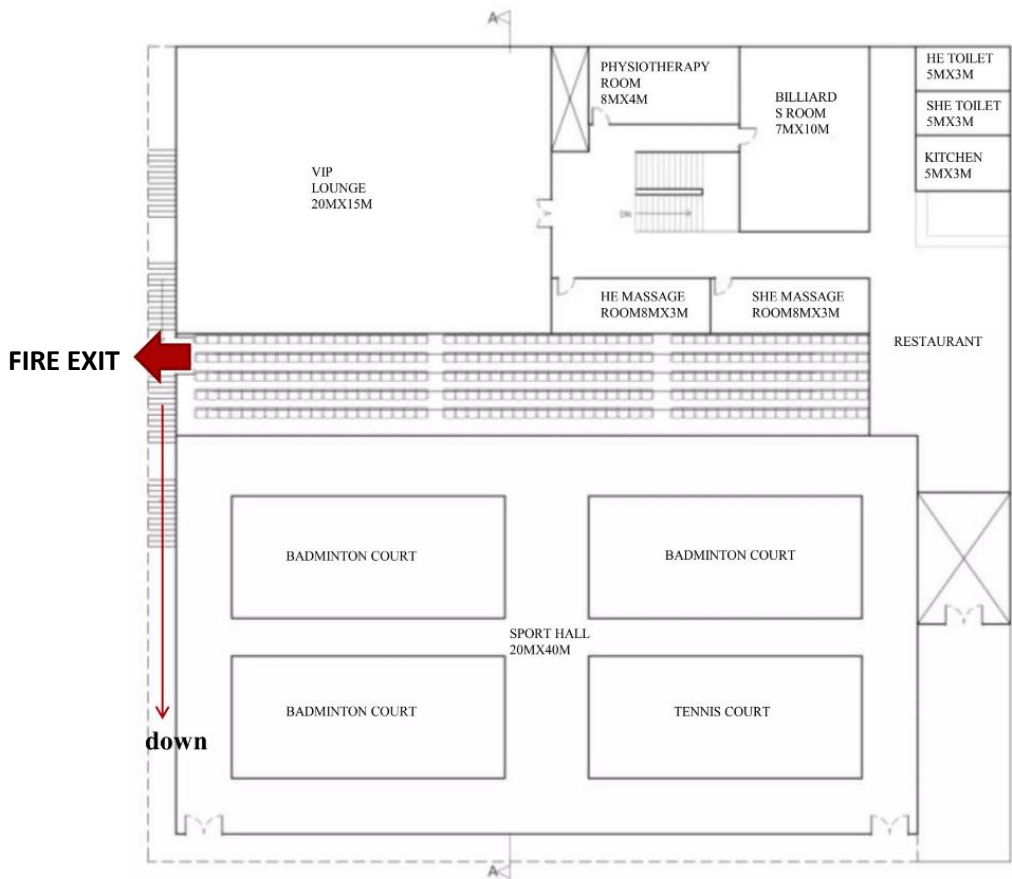
Architect-Goel Associates, Delhi

- Indoor stadium
- Grounds (cricket & football)
- Courts
- Main entry
- Service entry
- Parking 100 cars

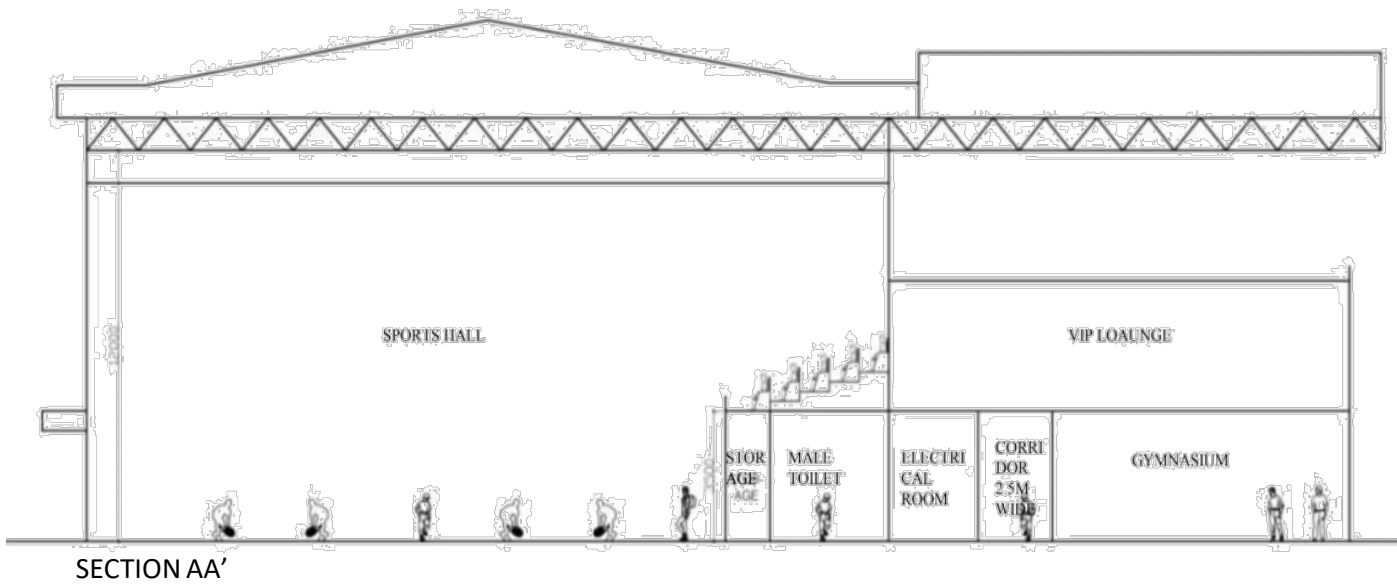




GROUND FLOOR PLAN



FIRST FLOOR PLAN



- HEIGHT OF HALL – 12 MT
- TRUSS ROOFING
- SPECTATOR'S SEAT HEIGHT – 3.5 MT



ADMIN BLOCK

- Reception
- Gym (30)
- Cafeteria
- Coordinator room
- Medical & Massage room

AREAS

- Reception- 10.5M X 11M
- Conference Room-7mx10m
- Manager Room- 7mx10m
- Washroom-No of Cubical- 03M/ 05F
- No of Showers-05M/05M
- No of Changing cubical-03M/02F
- No of urinals-06
- No of HP- IM/IF
- Locker Room-4x3m
- Gym-20XTO



RECEPTION

TABLE TENNIS HALL

- Changing room
- Washroom
- Store room.
- Resting area.
- Reception Area



REAR VIEW OF TABLE TENNIS HALL

- 4 Exits on the Floor level (including 2 fire exits)
- 1 Main Entry for the Athletes
- 2 Entry/Exit For the Spectators From First Floor (LVL +4000)
- AIR Conditioned • Hall measuring 40mx30m
- Spaces Beneath the spectator sitting was used for Storage.
- Seating for the spectators are provided along the wall on one side.
- Seating is with back & it can be folded-up
- Space between each row-900mm
- Seat dimension-600x450mm
- Hall can be used for badminton & Basketball also.
- At one time 4 table can be placed.
- Width of all Door (HALL) - 2m
- Flooring-Wooden paneling on walls.
- Hall Ceiling-Steel Truss
- False Ceiling was covering up the trusses.
- 3m aisle around the court for walking & Advertisement
- For spectators, fire exit was provided through external staircase. (width-2000mm)





GYMNASIUM



CRICKET STADIUM

- Ranji Trophy matches are a regular event every year at the Jamia Cricket ground.
- Jamia has also hosted Women's Cricket Test matches, Women World Cup matches and Blinds Cricket World Cup matches in the past.

BASKETBALL AND LAWN TENNIS COURT



SAN WAYAO COMMUNITY SPORTS CENTER, CHINA



LOCATION: SICHUAN SHENG, CHINA

ARCHITECTS: CSWADI

AREA: 11936.0 SQM

PROJECT YEAR: 2015

INTRODUCTION

THE SITE OF SANWAYAO COMMUNITY SPORTS FACILITIES IS SURROUNDED WITH AGED HOUSING, INTENSIVE HIGH-RISE RESIDENTIAL BUILDINGS WHICH WERE BUILT RECENTLY AND A PRIMARY SCHOOL. CHALLENGING THE LIMITED SITE AND BUILDING AREA, DESIGNERS CREATED AN ENERGETIC PUBLIC SPACE IN COMMUNITY, OFFERING NUMEROUS KINDS OF SPORTS FACILITIES FOR PEOPLE LIVING AROUND INCLUDING SWIMMING POOL, FITNESS CENTER, TENNIS COURT, BASKETBALL COURT, SQUASH COURT, PING PONG TABLE, BILLIARDS TABLE, GATE BALL COURT, OUTDOOR FITNESS CENTER. PLAYGROUND FOR KIDS AND SO ON.

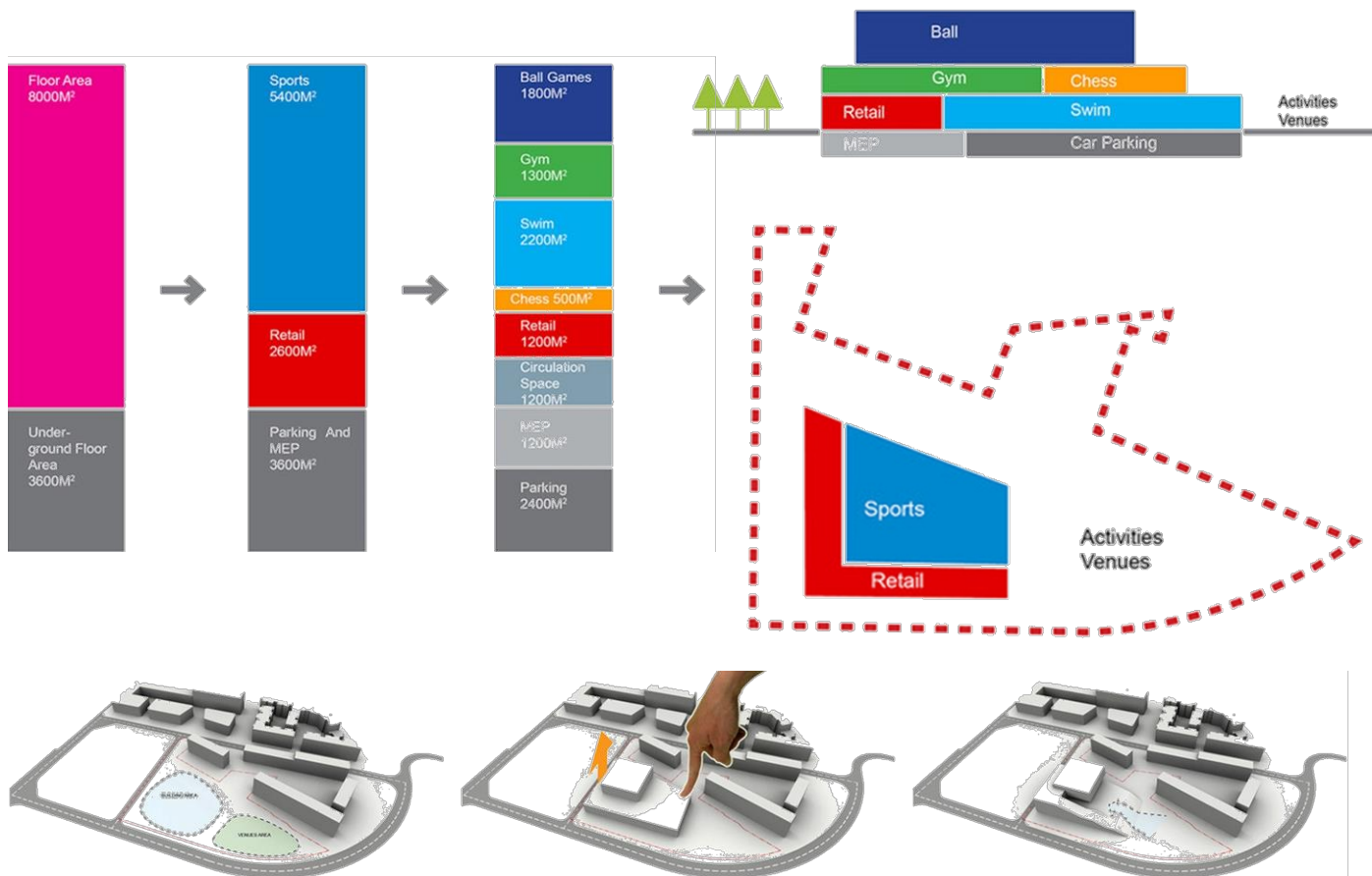
WITH THE AIM OF PRODUCING A FRIENDLY SPORTS SPACE, THE CONCEPT IS TO MAKE THE BUILDING AND SITE INTEGRATED. CREATING A SLOPING SHAPE OF THE BUILDING BY "EXTRUDING" AND CONNECTING THE SPORTS GROUND ON THE EAST WITH WALKABLE SLOPING ROOF LEAD TO A STRONGER SPACE PERCEPTION OF THE BUILDING AS A PUBLIC FACILITY.

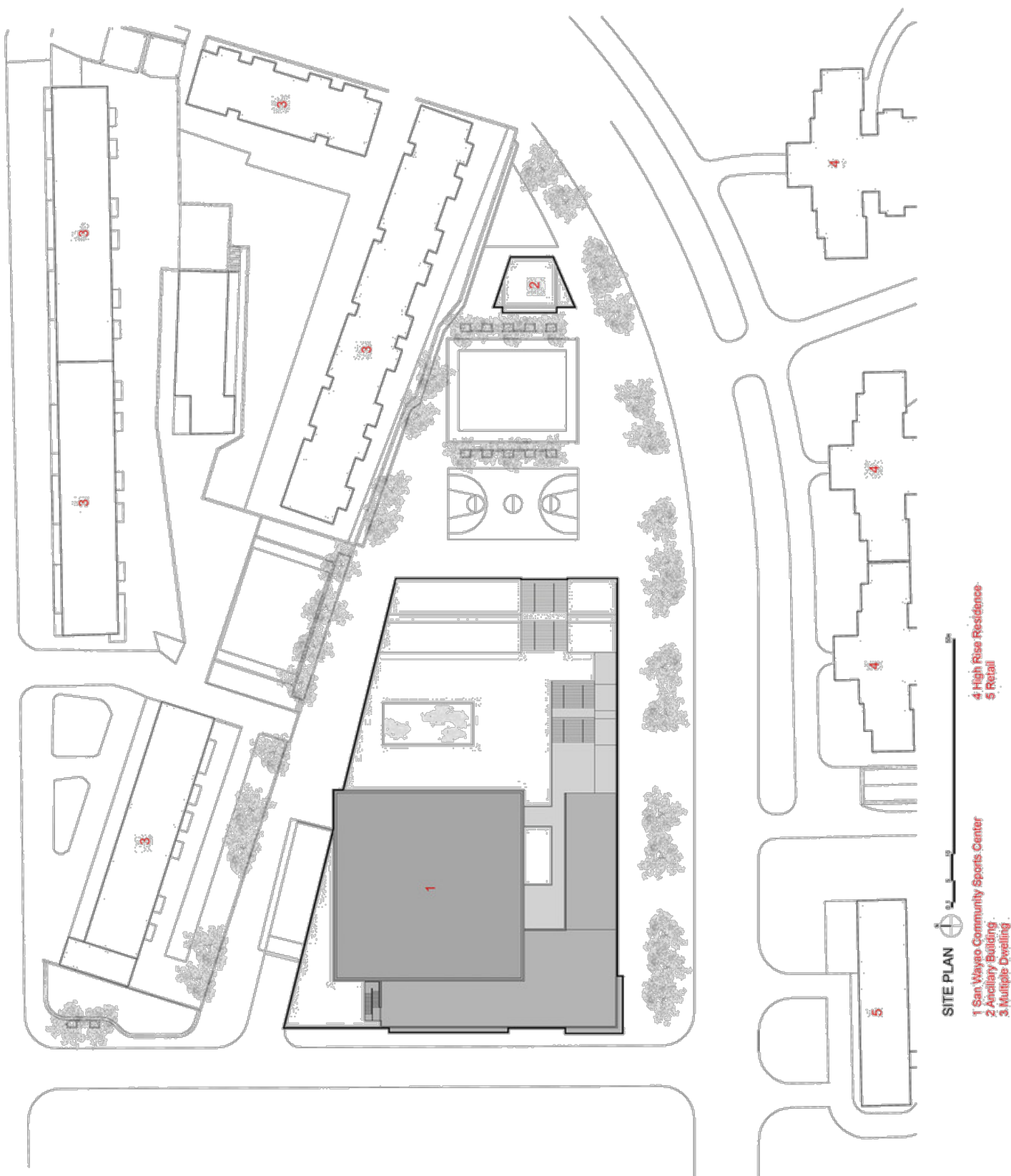




CONCEPT

SECTION DIAGRAM

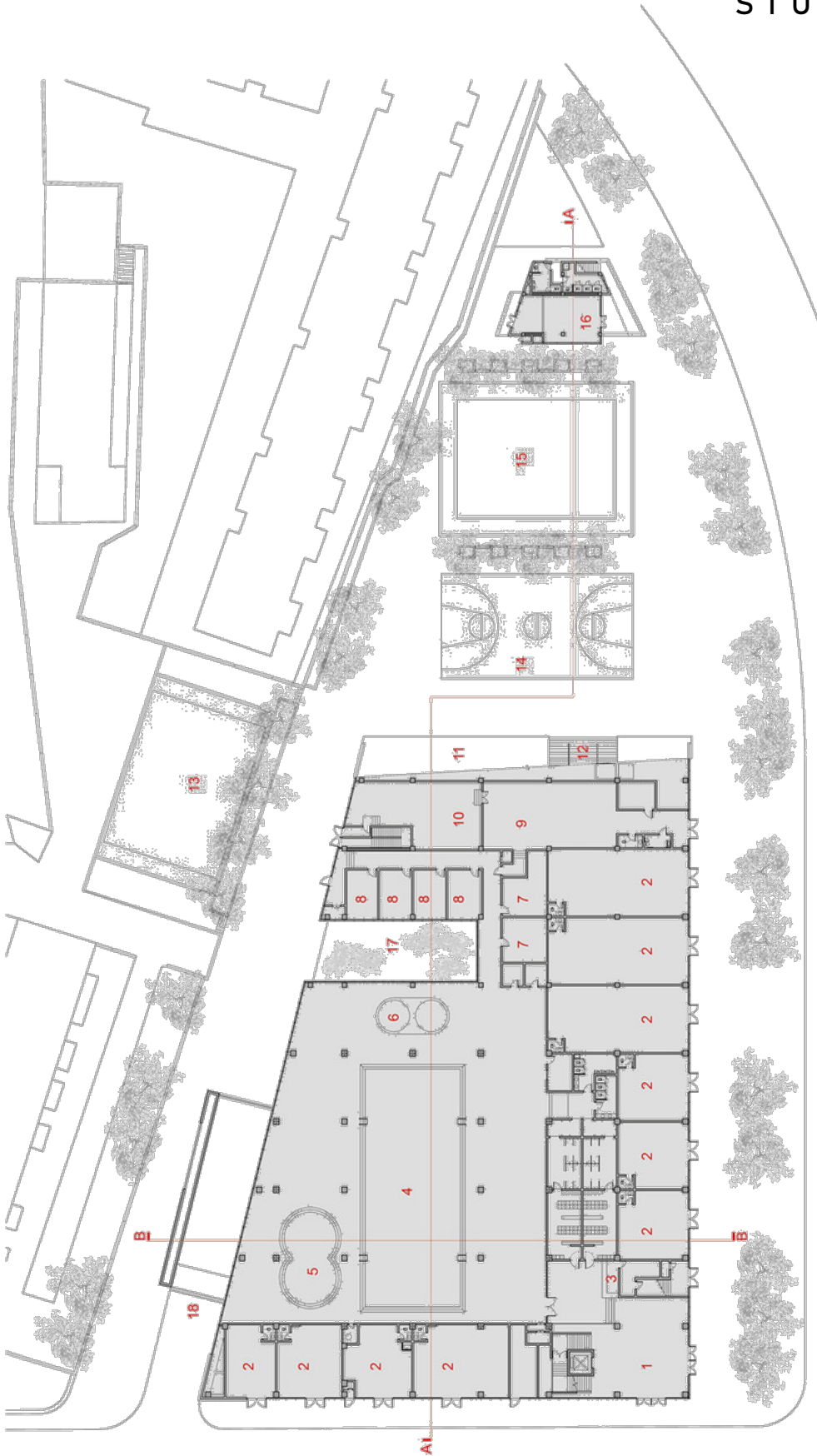






BASEMENT FLOOR PLAN 0 1 5 10m

- 1 Ramp
- 2 Car Parking
- 3 Lobby
- 4 MEP Room

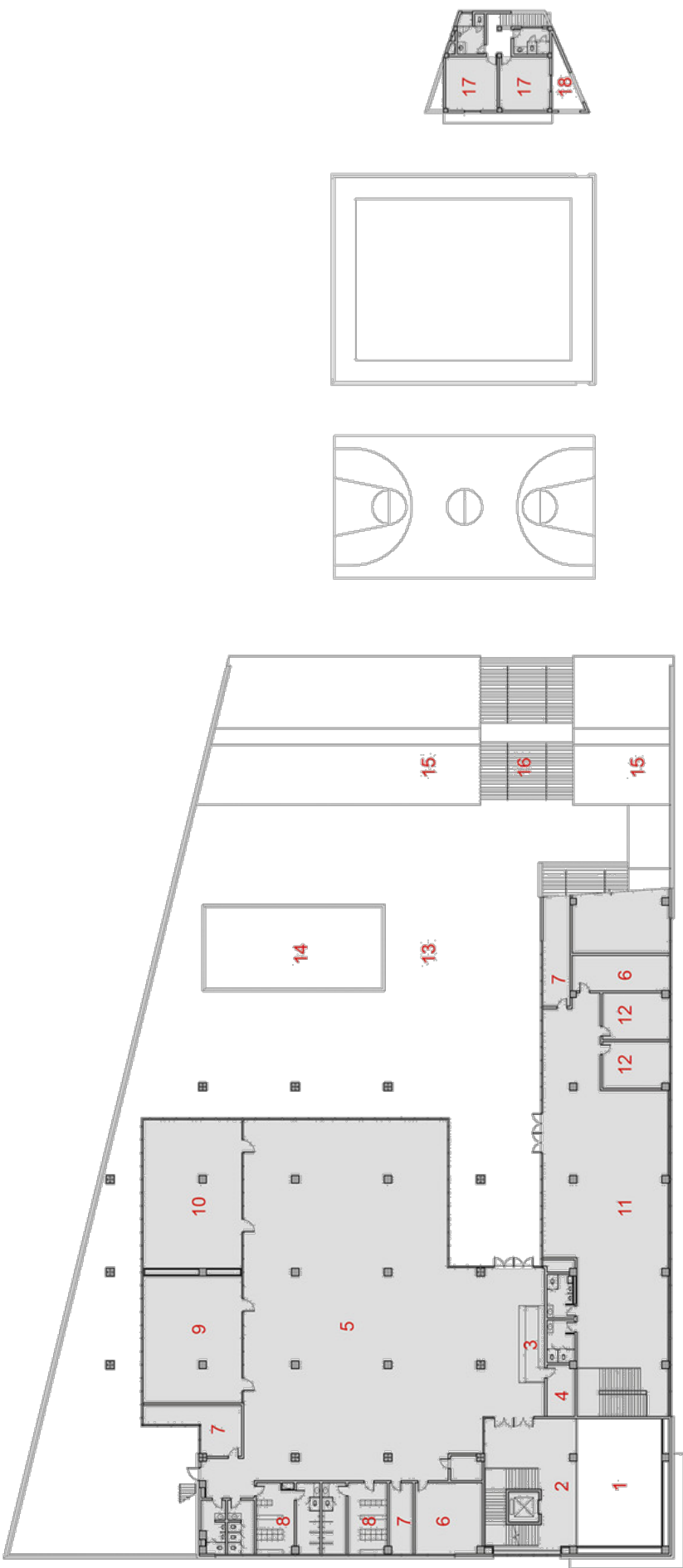


GROUND FLOOR PLAN

N

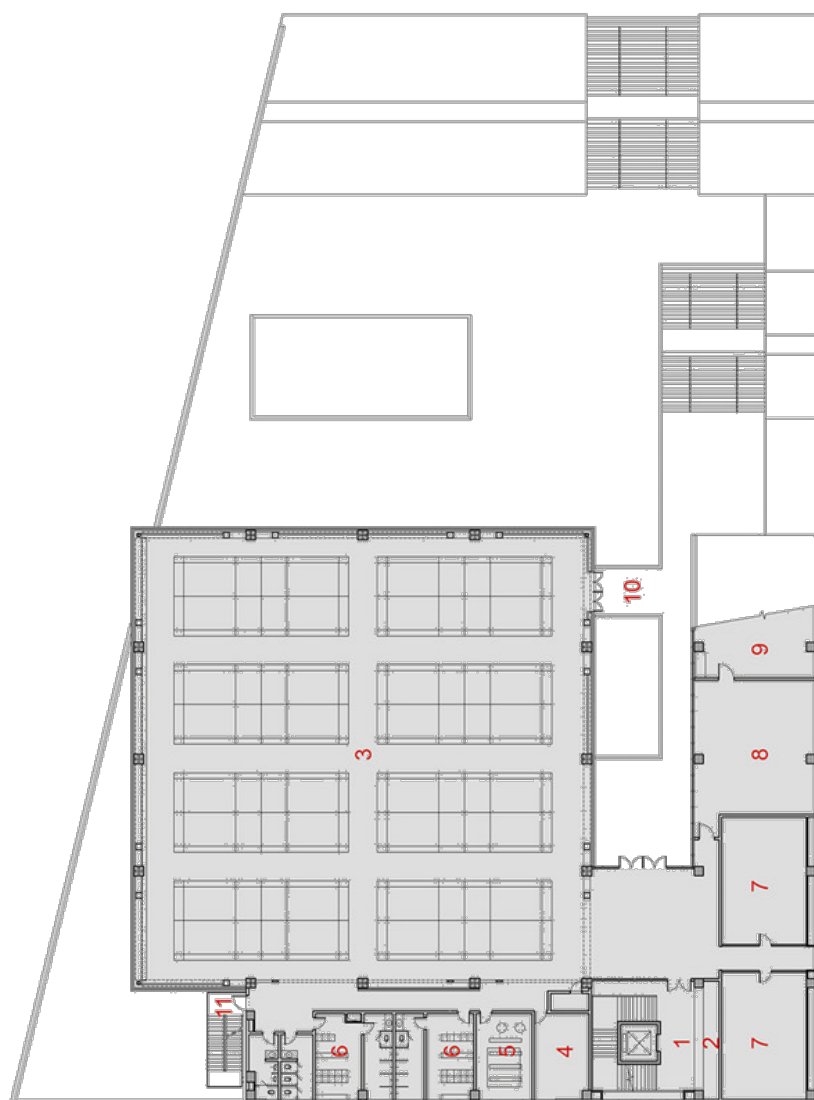
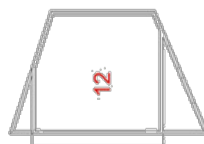
0 5 10m

- 1 Lobby
- 2 Retail
- 3 Reception
- 4 Swimming Pool
- 5 Paddling Pool
- 6 Spa
- 7 Sauna
- 8 Massage
- 9 Bicycle Parking
- 10 MEP Room
- 11 Artificial Grass Slope
- 12 Grand Terrace
- 13 Gate Ball Practice Range
- 14 Basketball Court
- 15 Gate Ball Court
- 16 Cafe
- 17 Courtyard
- 18 Ramp



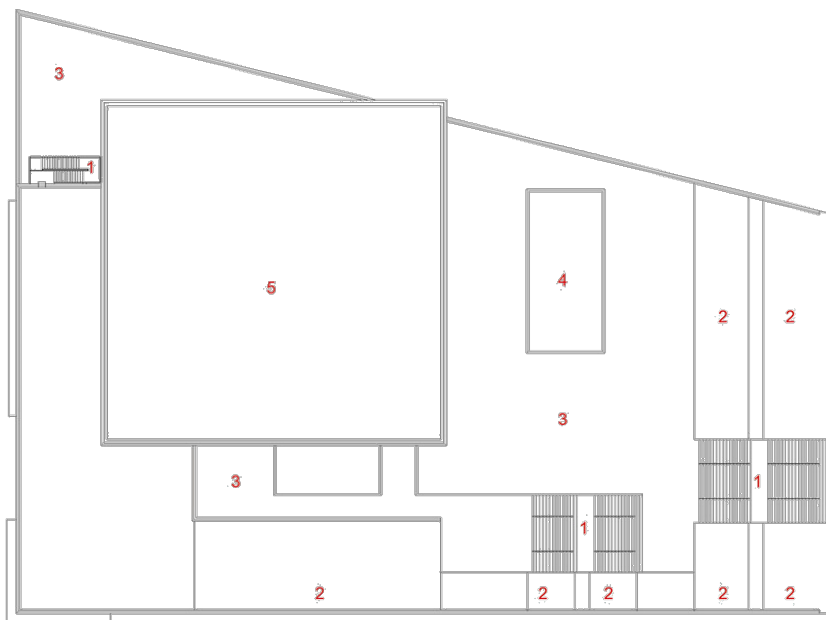
SECOND FLOOR PLAN 0.1 5 10m

- 1 Void
- 2 Lobby
- 3 Reception
- 4 Storage
- 5 Table Tennis
- 6 Office
- 7 MEP Room
- 8 Dressing Room
- 9 Gym
- 10 Billiards
- 11 Chess And Cards
- 12 Compartment
- 13 Platform
- 14 Courtyard Above
- 15 Artificial Grass Slope
- 16 Grand Stairs
- 17 Staff Dorm
- 18 Balcony



THIRD FLOOR PLAN 0.1 5 10m

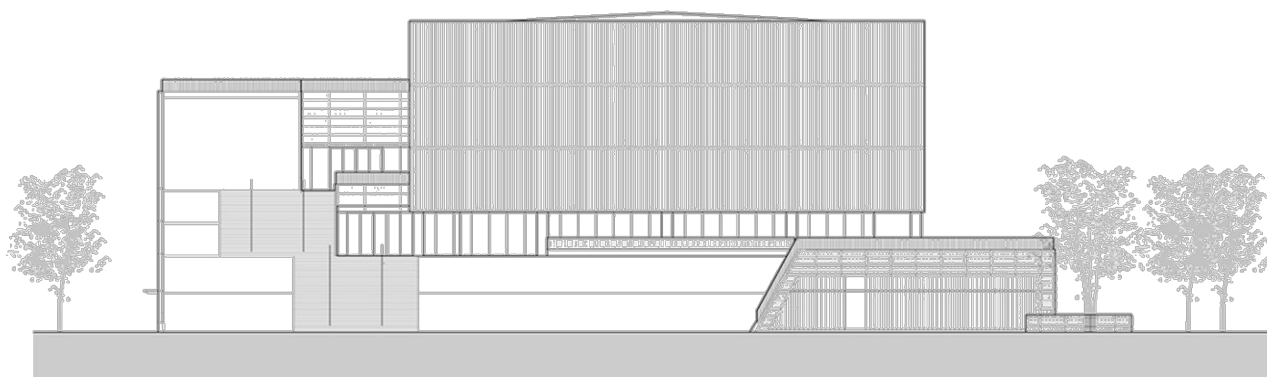
- 1 Lobby
- 2 Reception
- 3 Badminton Hall
- 4 Office
- 5 MEP Room
- 6 Dressing Room
- 7 Squash Court
- 8 Meeting Room
- 9 Storage
- 10 Bridge
- 11 Outdoor Stair
- 12 Roof



ROOF FLOOR PLAN

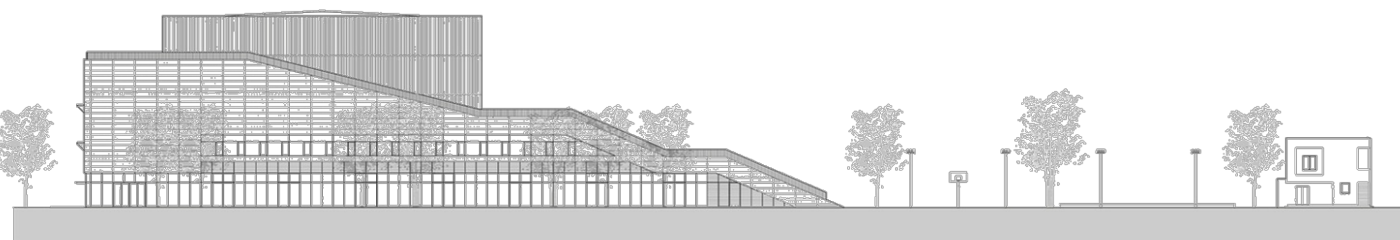
0 1 5 10m

- 1 Stairs
- 2 Artificial Grass Slope:
- 3 Platform
- 4 Courtyard
- 5 Roof



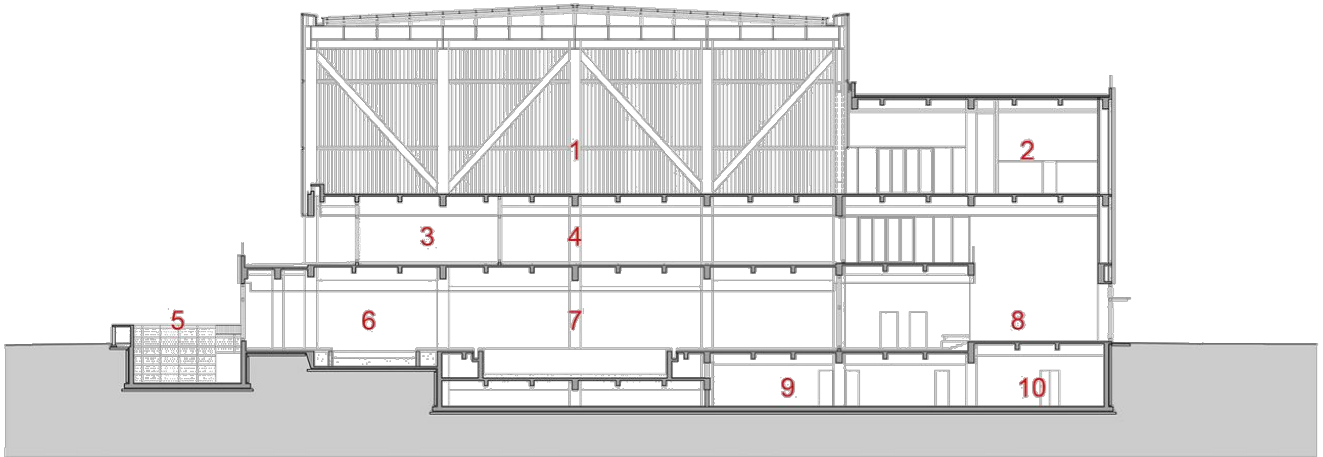
EAST ELEVATION

0 1 5 10m



SOUTH ELEVATION

0 1 5 10m



SECTION B-B

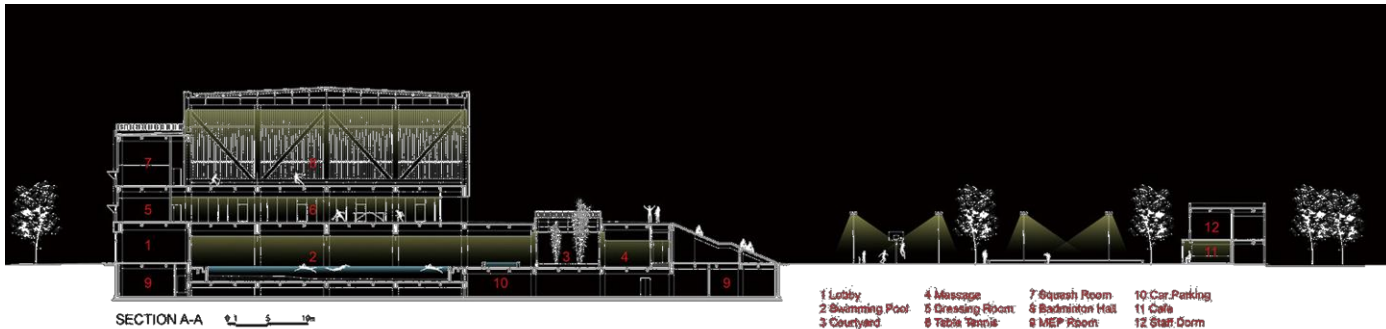
0 1 5 10m

1 Badminton Hall
2 Squash Room
3 Gym

4 Table Tennis
5 Ramp
6 Padding Pool

7 Swimming Pool
8 Lobby
9 Car Parking

10 MEP Room



SECTION A-A

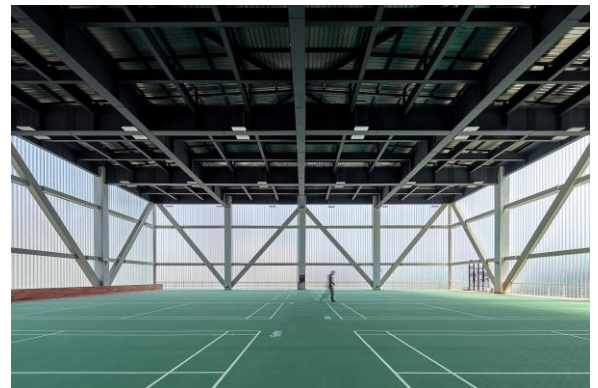
0 1 5 10m

1 Lobby
2 Swimming Pool
3 Courtyard
4 Massage
5 Dressing Room
6 Table Tennis
7 Squash Room
8 Badminton Hall
9 MEP Room
10 Car Parking
11 Cafe
12 Staff Room

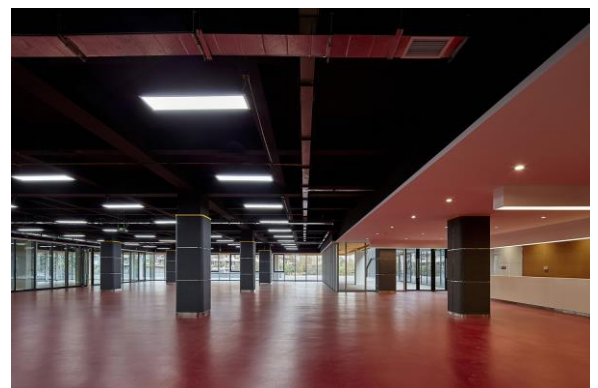
MULTIFUNCTION ARENA ON THE LAWSLOPE IS A PURE SEMITRANSSPARENT SPACEMADE OF U-SHAPED GLASS. IT PROVIDES TENDER INTERIOR LIGHT SUITABLE FOR VARIOUS KINDS OF BALL GAMES, GROUP CALIS THENICS, AND PARTIES. IN THE CORNER OF THE ARENA, BATTER POSTS REPLACE UP.RIGHT POSTS IN STRUCTURE WHICH MAKES THE BUILDING A FLOATING GLOW BOX AS A UNIQUE SIGHT IN COMMUNITY

ENTRANCE

RAMP HAS BEEN CREATED ON THE ENTRANCE WHICH HAS BEEN COVERED BY ARTIFICIAL GARDEN TO PROVIDE AN ASTHETIC LOOK TO THE STRUCTURE. CONTINUOUS SLOPING ROOF IS AN OPEN PUBLIC SPACE WITH BIG STEPS ACTING AS A WALKING ROUTE AND BLEACHERS FOR THE EAST SPORTS GROUND IN THE SAME TIME. MOREOVER, LAWN ROOF PROVIDES SPACES FOR GRASS SKATING, YOGA, PICNIC AND MORE FOR THE COMMUNITY WITHOUT CHARGING A FEE. PEOPLE COULD WALK SLOWLY UP TO ROOF DECK ON 4TH FLOOR ALONG THE SLOPE AND DOWN THROUGH A CANTILEVERED STAIRWAY ON THE NORTH. THESE FORM A ROUND ROUTE IN AN "ARTIFICIAL HILL*" BRINGING THE PLEASURE OF CLIMBING A REAL MOUNTAIN INTO THE CROWDED CITY TOWN



BADMINTON COURT



TENNIS COURT

SPORTS FACILITIES



INDOOR
 BADMINTON
 BASKETBALL
 BOXING
 TABLE TENNIS
 VOLLEYBALL
 SKATING
 SQUASH
 WRESTLING
 TENNIS
 TABLE TENNIS

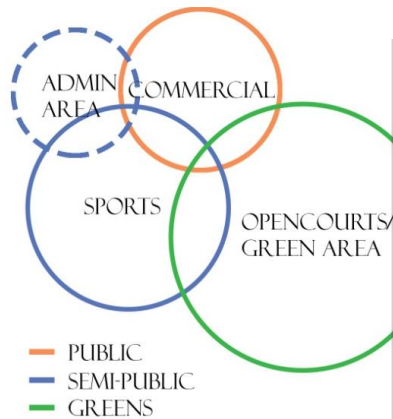


OUTDOOR
 BASKETBALL
 CRICKET PITCH
 CYCLING
 FOOTBALL
 TENNIS
 SWIMMING
 ATHLETICS
 TRACK

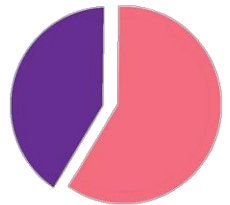


OTHER FACILITIES

RETAIL SHOPS
 SPORTS SHOPS
 FOOD COURT
 LIBRARY
 YOGA
 AEROBICS



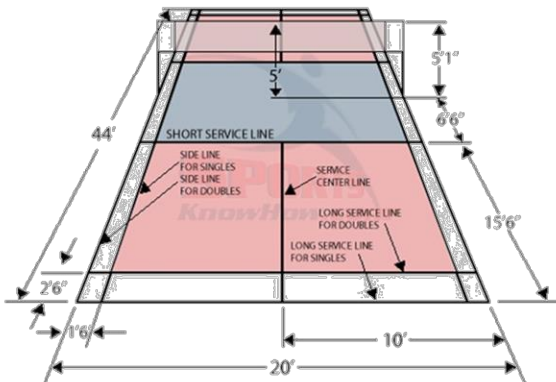
THE PROPOSED SPORTS COMPLEX WILL HAVE 70% OF SPORTS AND RECREATIONAL FACILITIES AND 30% COMMERCIAL ACTIVITIES WHICH WILL BE USEFUL FOR THE LOCAL PEOPLE.



SPORTS AND RECREATION
 COMMERCIAL

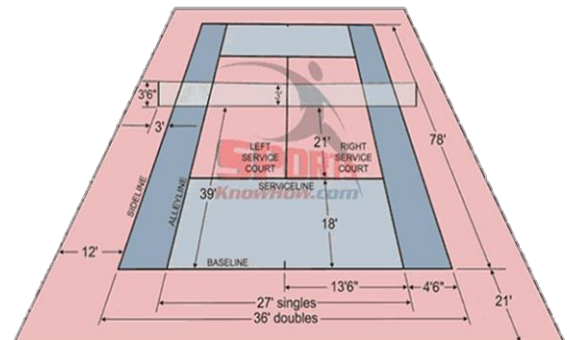
1. BADMINTON COURT

ALL REQUIREMENTS FOR COURT MARKING ARE TO THE OUTSIDE OF LINES EXCEPT FOR THOSE INVOLVING THE CENTRE SERVICE LINE WHICH IS EQUALLY DIVIDED BETWEEN RIGHT AND LEFT SERVICE COURTS.
 RECOMMENDED AREA: GROUND SPACE IS 150.5 SQM
 SIZE AND DIMENSION: SINGLES COURT IS 13.4 X 6.1 M
 WITH A MINIMUM UNOBSTRUCTED AREA ON ALL SIDES.
 ORIENTATION: PREFERRED ORIENTATION IS FOR THE LONG AXIS TO BE NORTH-SOUTH.



2. LAWN TENNIS

RECOMMENDED AREA: GROUND SPACE IS 643 SQM(MINIMUM) TO EDGE OF PAVEMENT.
 SIZE AND DIMENSION: COURT IS 10.97 X 23.7 M TO 6.4M.
 CLEARANCE ON SHORTER SIDE TO 3.5M ON LONGER SIDE OF THE COURT.
 HEIGHT OF COURT FOR RECREATIONAL PURPOSE IS 0.8M.
 ORIENTATION: PREFERRED ORIENTATION IS FOR LONG AXIS TO BE NORTH-SOUTH.

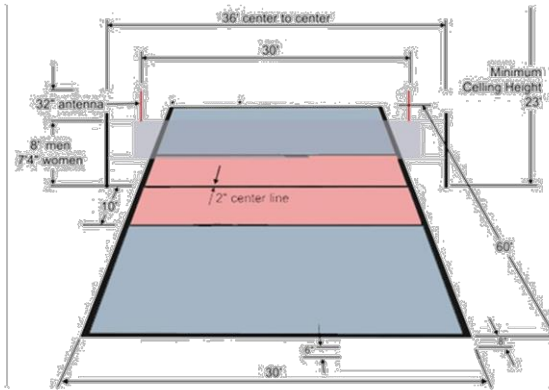


3. VOLLEYBALL



VOLLEYBALL COURT IS 18M (59FT) LONG AND 9M (29.5FT) WIDE, DIVIDED INTO 9MX9M HALVES BY A 1M(40INCH) WIDE NET.

THE TOP OF THE NET IS 2.4 M (8FT) ABOVE THE CENTER OF THE COURT FOR MEN'S COMPETITION, AND 2.24 M (7FT) FOR WOMEN'S COMPETITIONS. SIZE AND DIMENSION: MINIMUM HEIGHT CLEARANCE IS 7M (23FT), ALTHOUGH A CLEARANCE OF 8M (26FT) IS RECOMMENDED.

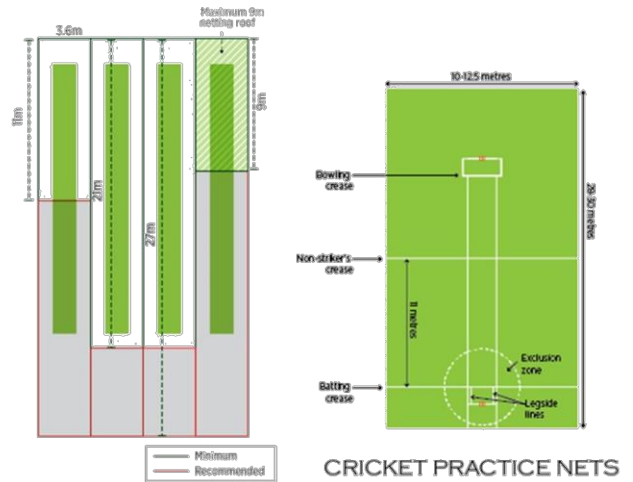


4. CRICKET



THE INDOOR CRICKET COURT IS A MINIMUM OF 28M TO A MAXIMUM OF 30M LONG AND A MINIMUM OF 10.5M TO A MAXIMUM OF 12M WIDE. THE HEIGHT OF THE FACILITY IS 4M TO 4.5M. ALL LINES ARE 55MM WIDE.

THE PITCH IS THE AREA BETWEEN BOTH SETS OF STUMPS, THE BOWLING RETURN CREASES AND THE OFFSIDE LINES AT THE STRIKER'S END.



5. TABLE TENNIS

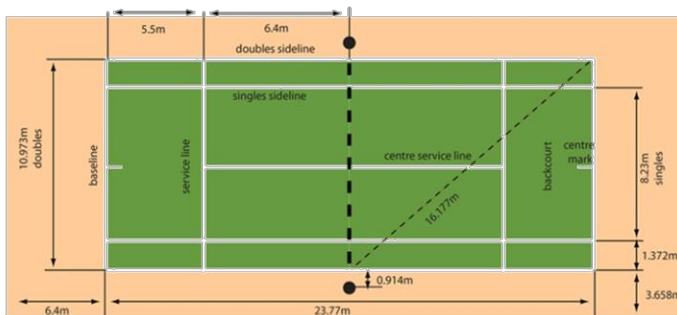


TABLE TENNIS IS 0.76M HIGH AND NORMALLY REQUIRES A SPACE OF 1.4X6M. FOR STORAGE.

WHEN IN USE EACH TABLE REQUIRES INDIVIDUAL LIGHTING.

SIZE AND DIMENSION: SIZE OF PLAYING SPACE 7.6 X 4.6M.

CEILING HEIGHT IS 4.2M MINIMUM. CLEARHEIGHT BELOW LIGHT IS 2.7M.

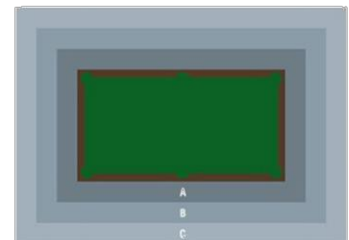


6. BILLIARDS

THE STANDARD SIZE OF THE BILLIARDS TABLE IS 3.5X1.75 M.

SIZE AND DIMENSION: SIZE OF THE PLAYING SPACE IS 5.3X7.1 M.

FOR SINGLES TABLE AND FOR DOUBLES TABLE HALL SIZE IS 7.5X8.7M AND WHEN IN USE EACH TABLE REQUIRES VISUAL LIGHTING.



A is the area required for a 48" cue.
B is the area required for a 52" cue.
C is the area required for a standard 58" cue.

Seven foot table: 3.5' x 7'
(Playing area: 30' x 70')
A - 11' 6" x 14' 6"
B - 12' x 15'
C - 13' x 15'

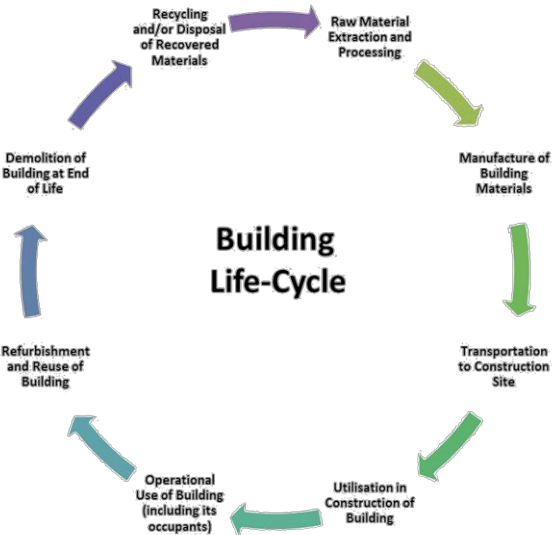
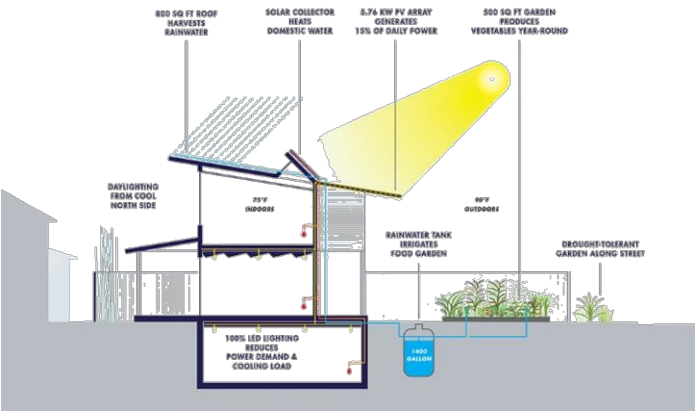
Eight foot table: 4' x 8'
(Playing area: 44' x 88')
A - 12' x 16' 6"
B - 12' 6" x 16'
C - 13' 6" x 17'

Over size eight foot table: 4' x 8'
(Playing area: 46' x 92')
A - 12' x 16'
B - 12' 6" x 16' 6"
C - 13' 6" x 17' 6"

Nine foot table: 4.5' x 9'
(Playing area: 60' x 108')
A - 12' 6" x 16' 6"
B - 13' x 17'
C - 14' x 18'

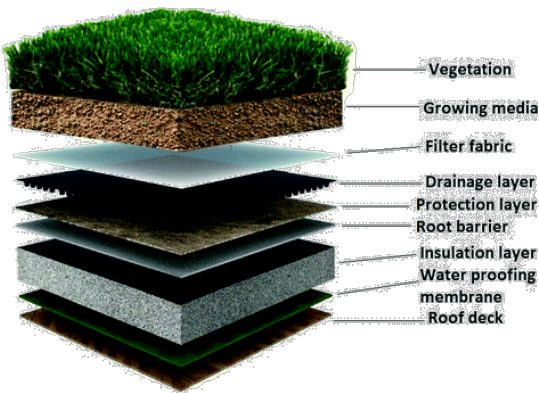
GREEN BUILDING AND SUSTAINABLE BUILDING

A ‘GREEN’ BUILDING IS A BUILDING THAT, IN ITS DESIGN, CONSTRUCTION, OR OPERATION, REDUCES OR ELIMINATES NEGATIVE IMPACTS, AND CAN CREATE POSITIVE IMPACTS, ON OUR CLIMATE AND NATURAL ENVIRONMENT. GREEN BUILDINGS PRESERVE PRECIOUS NATURAL RESOURCES AND IMPROVE OUR QUALITY OF LIFE.



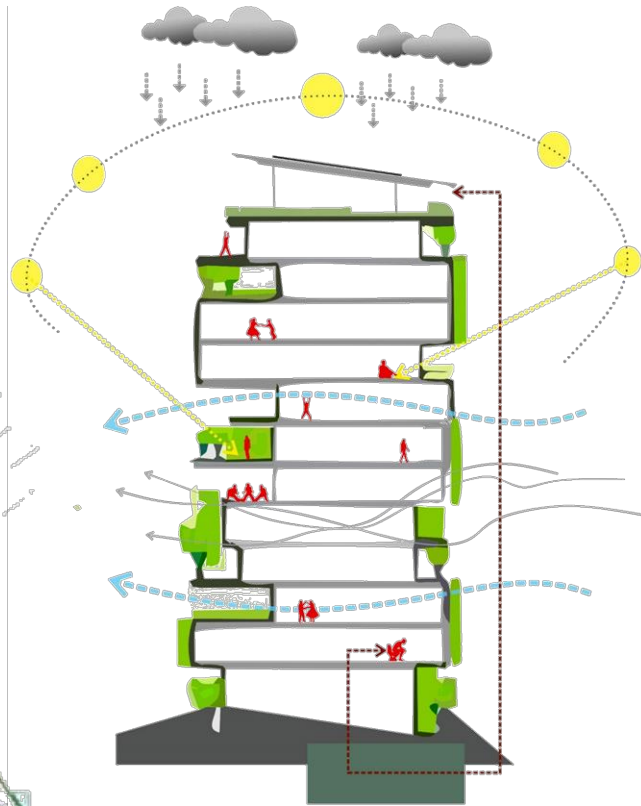
CONCEPT OF GREEN ROOF

GREEN ROOFS **PROVIDE SHADE, REMOVE HEAT FROM THE AIR, AND REDUCE TEMPERATURES OF THE ROOF SURFACE AND SURROUNDING AIR.** USING GREEN ROOFS IN CITIES OR OTHER BUILT ENVIRONMENTS WITH LIMITED VEGETATION CAN MODERATE THE HEAT ISLAND EFFECT, PARTICULARLY DURING THE DAY.



GOALS OF GREEN ARCHITECTURE

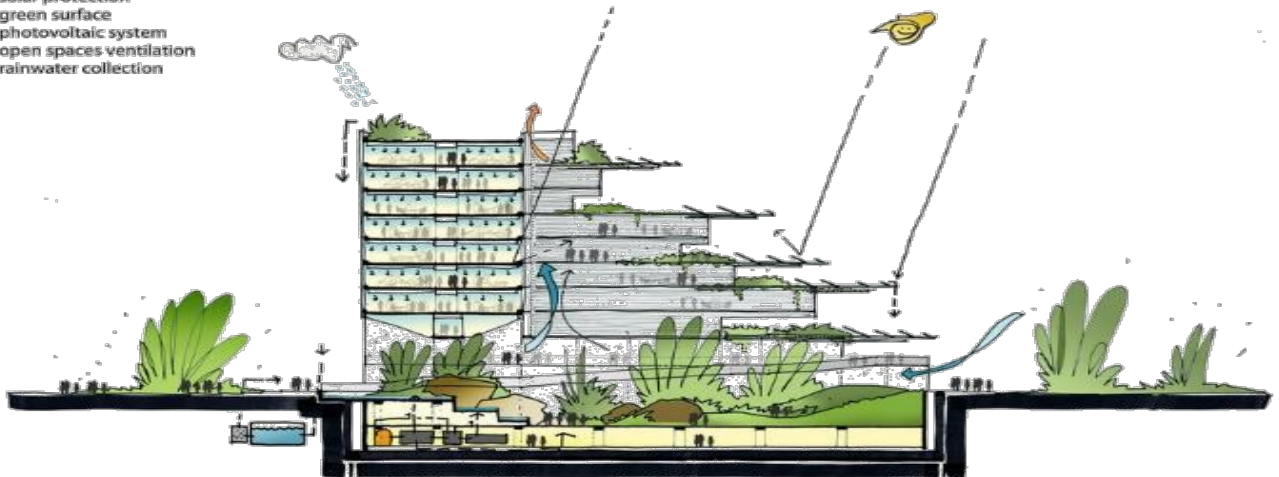
GREEN ARCHITECTURE CAN HELP TO **DECREASE THE USE OF NATURAL RESOURCES AND FUELS**. IT CAN ALSO HELP TO INCREASE WATER, AND MATERIAL EFFICIENCY, AS WELL AS IMPROVE STRUCTURES' MAINTENANCE FROM ENVIRONMENTAL ELEMENTS. GREEN ARCHITECTURE CAN HELP TO IMPROVE AIR QUALITY WITHIN, AND OUTSIDE, THE STRUCTURES.



environmental strategies

summer

solar protection
green surface
photovoltaic system
open spaces ventilation
rainwater collection



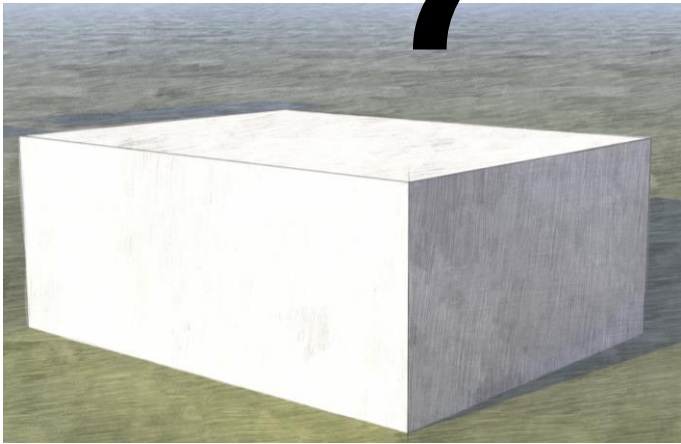
performance energetica
standard building

40% better

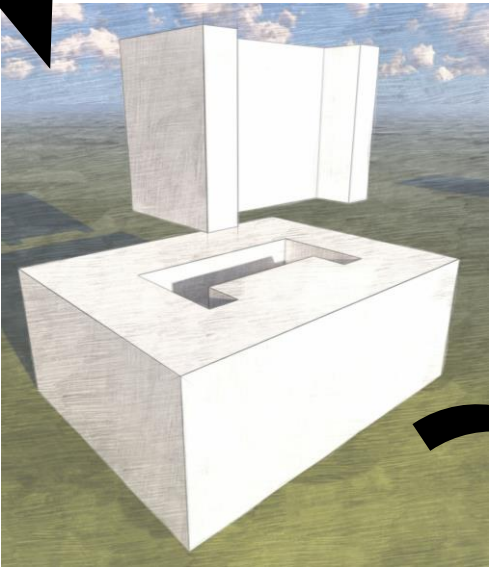
40% less CO₂
40% less CO₂

Heating 27 kWh/m²/y
cooling 92 kWh/m²/y

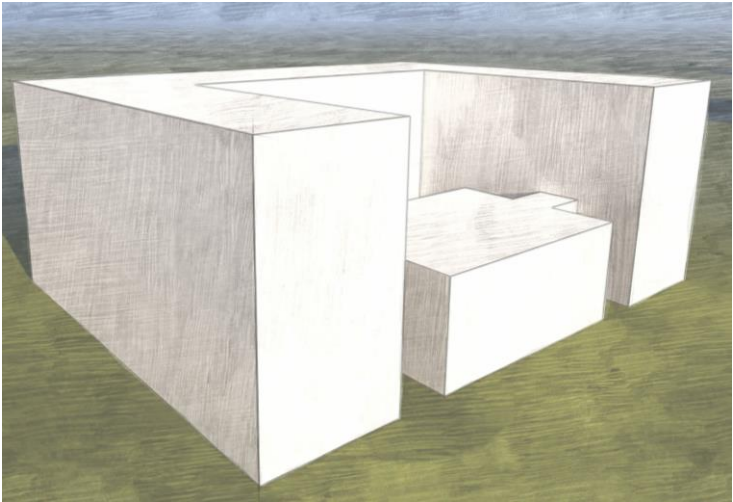
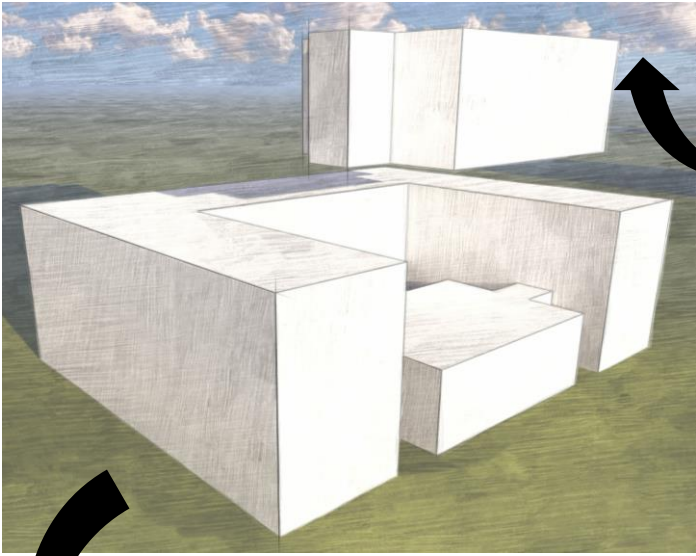
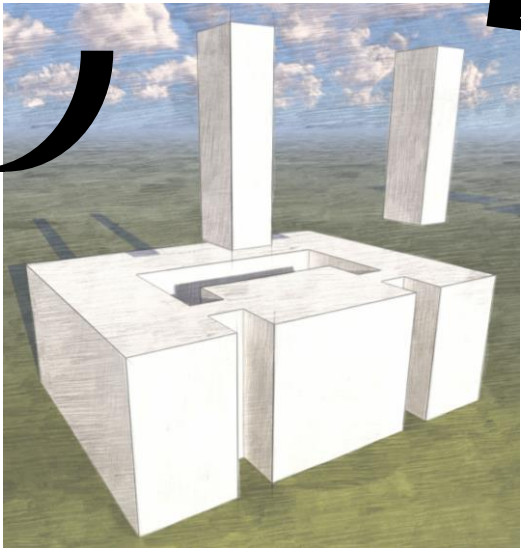
FORM EVOLUTION



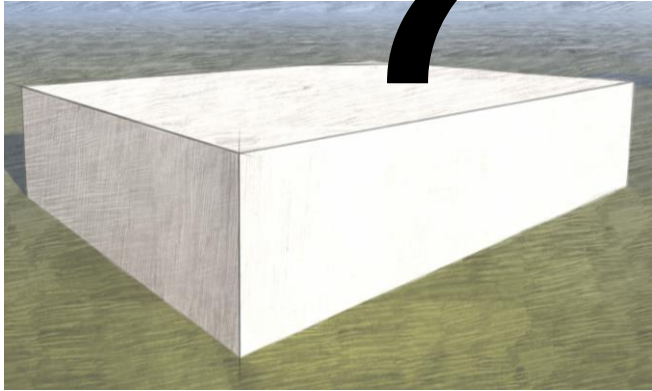
BOX



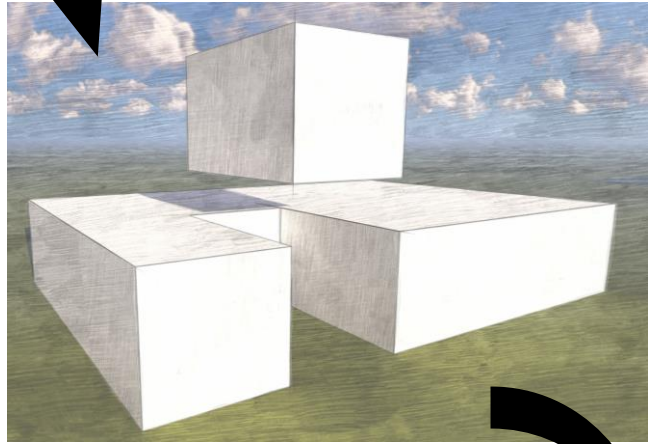
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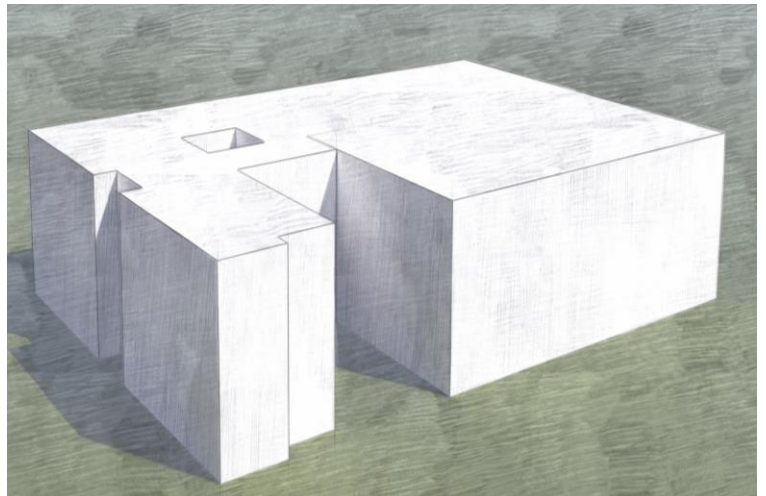
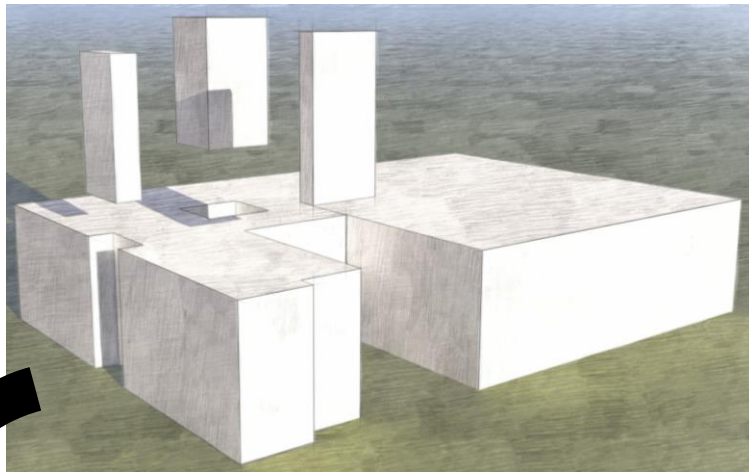
FORM EVOLUTION



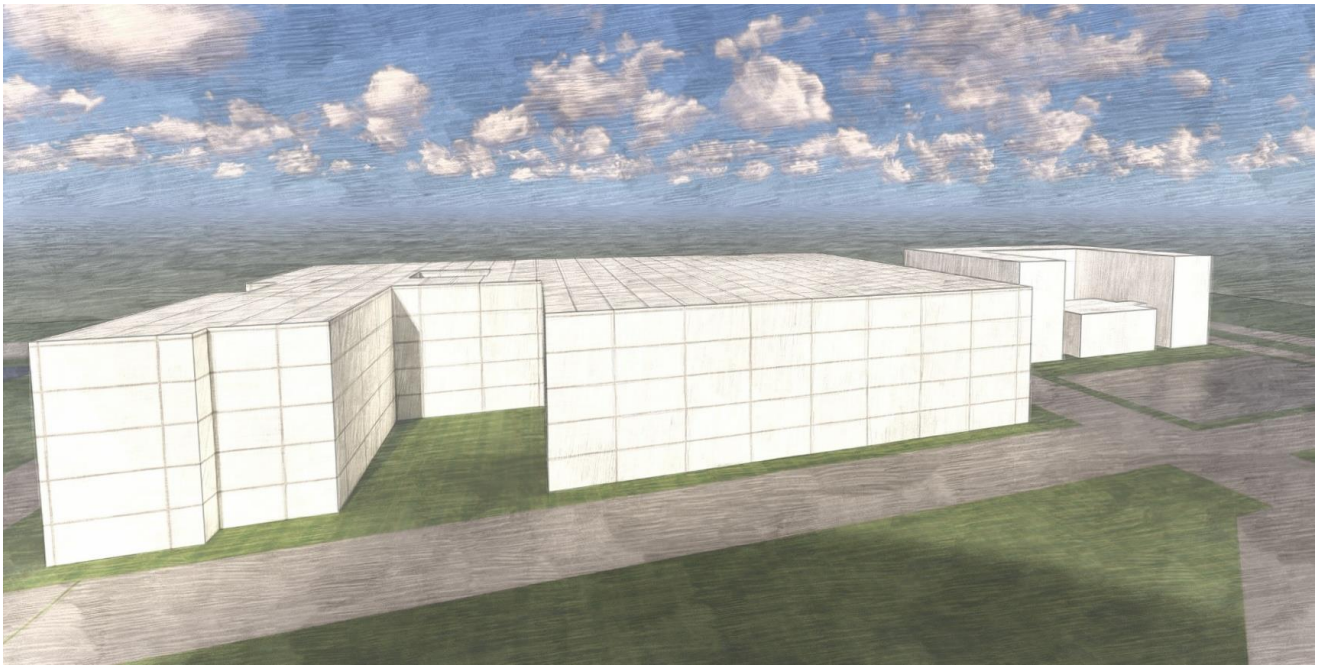
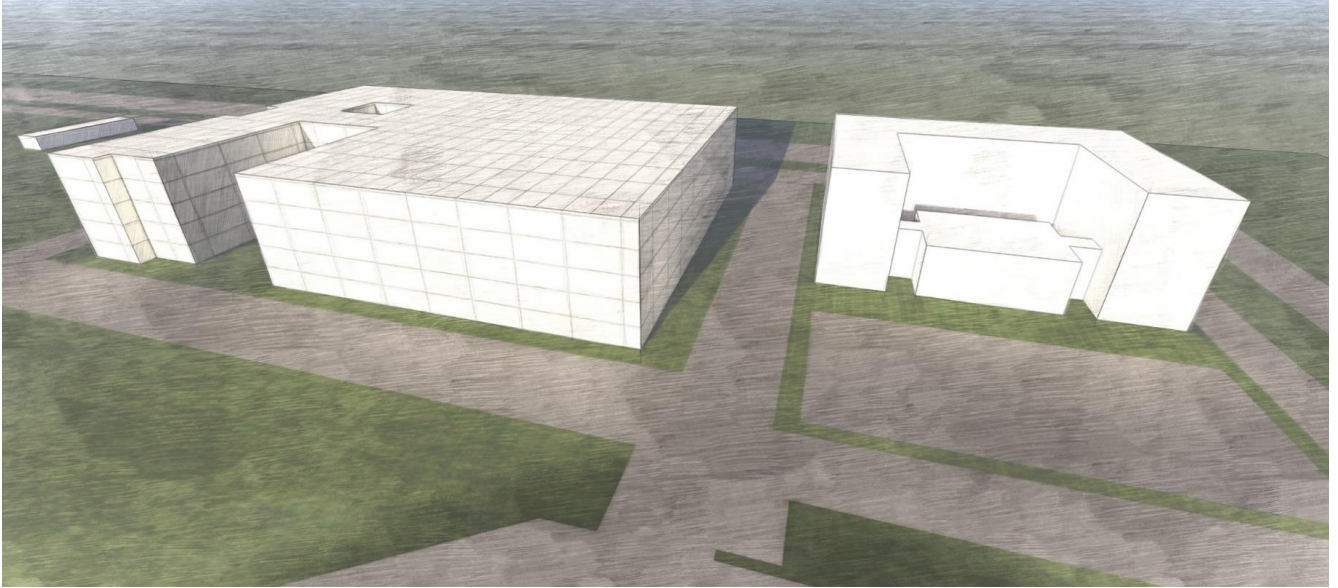
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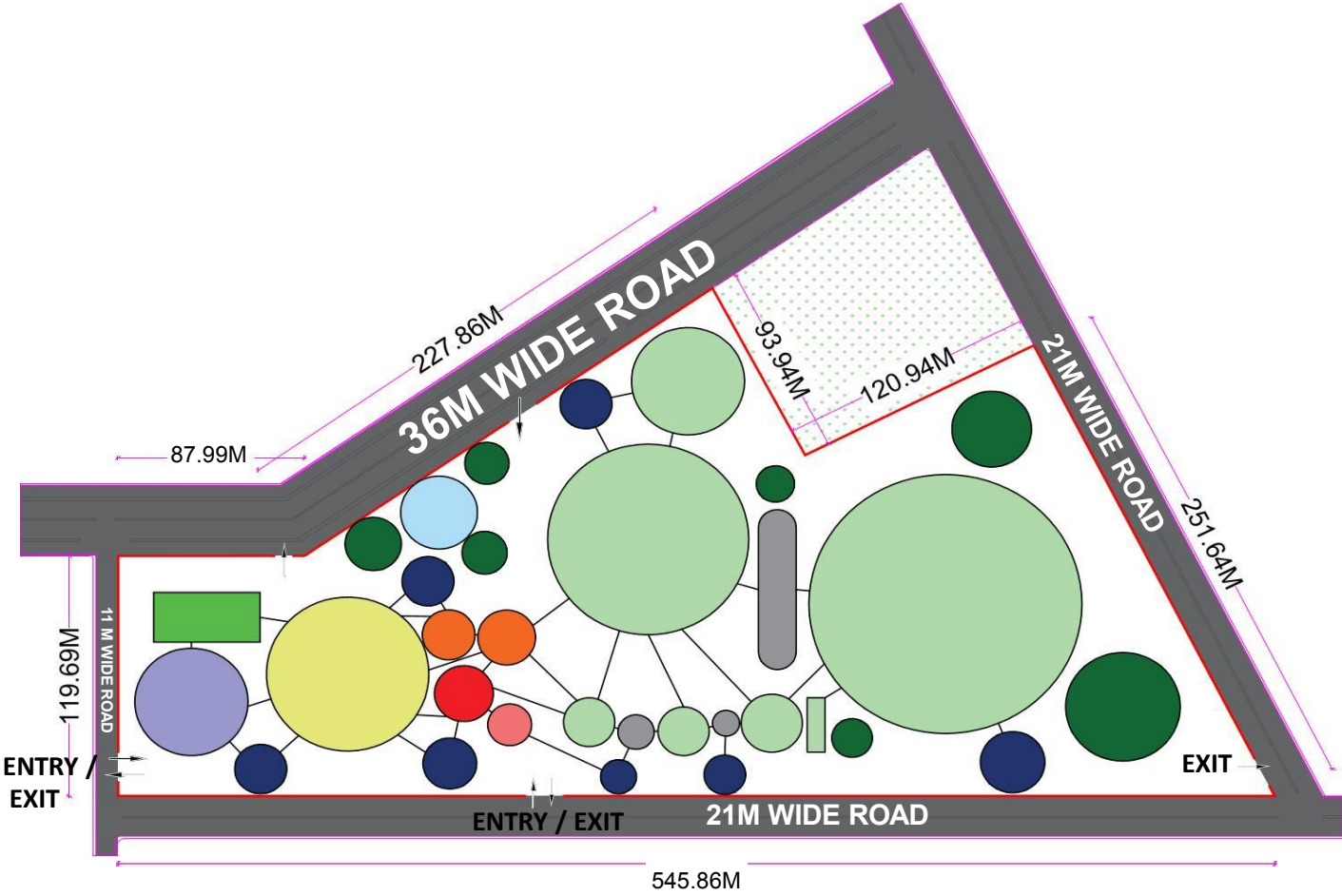


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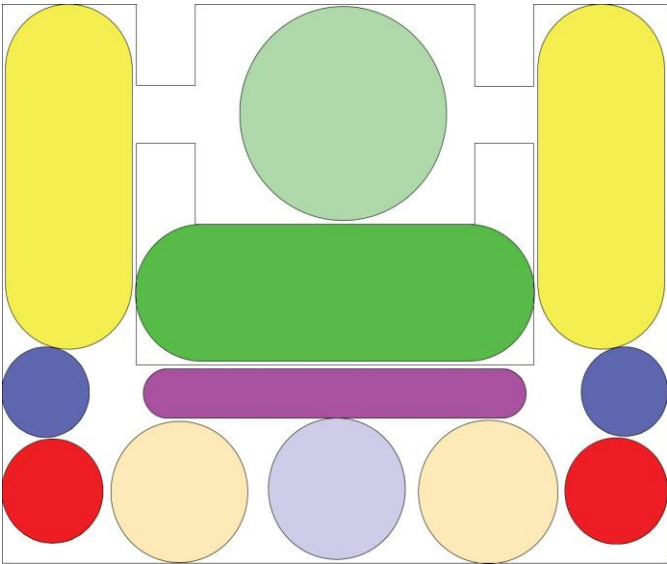


FINAL BLOCK

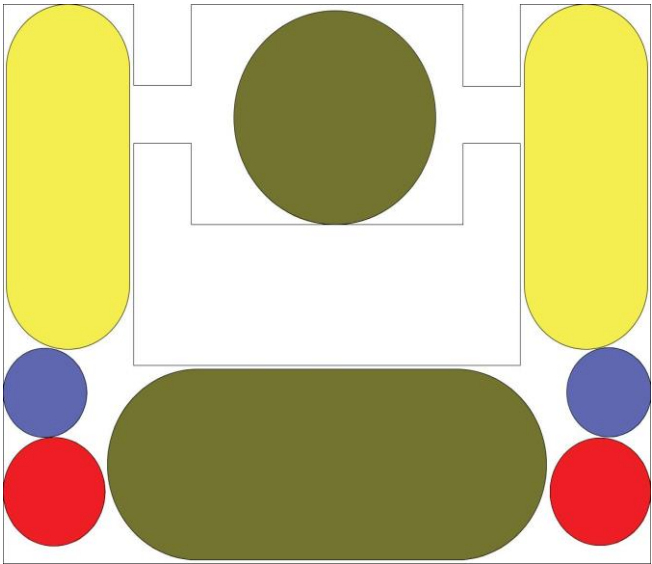




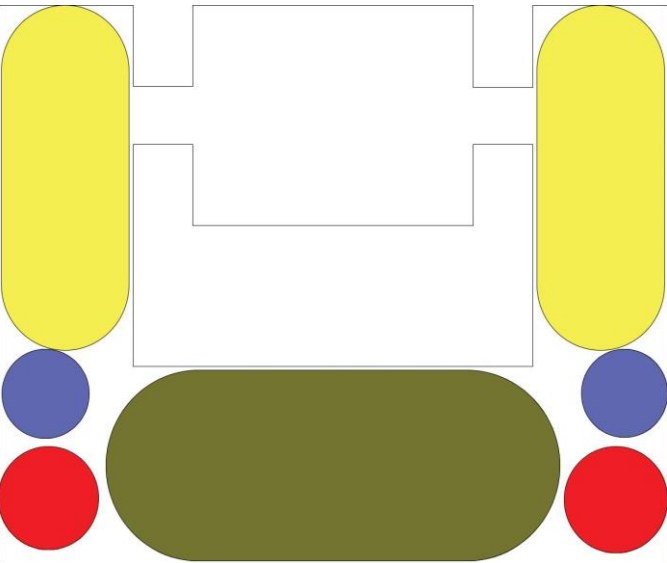
- | | | | |
|---|--------------|---|---------|
|  | INDOOR |  | ADMIN |
|  | HOSTEL |  | RETAIL |
|  | SITTING AREA |  | OUTDOOR |
|  | GREEN AREA |  | ADMIN |
|  | WATER BODY |  | PARKING |



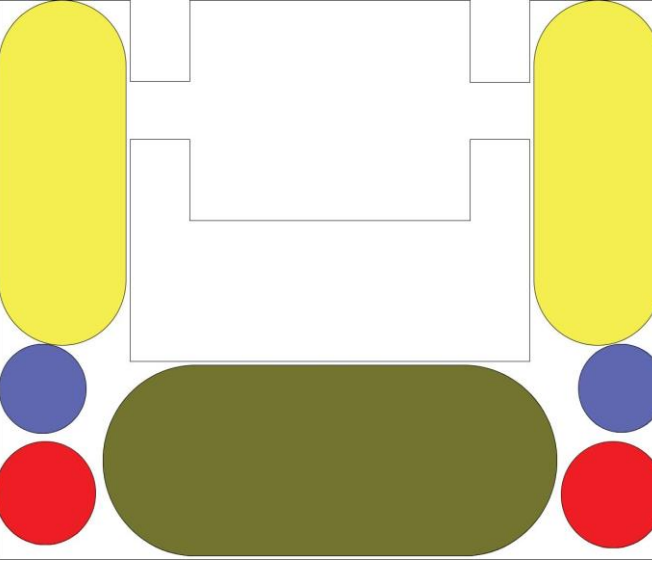
GROUND FLOOR



FIRST FLOOR



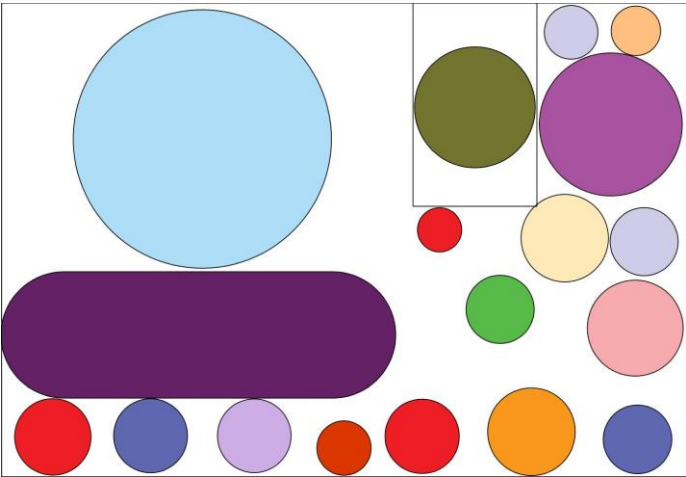
SECOND FLOOR



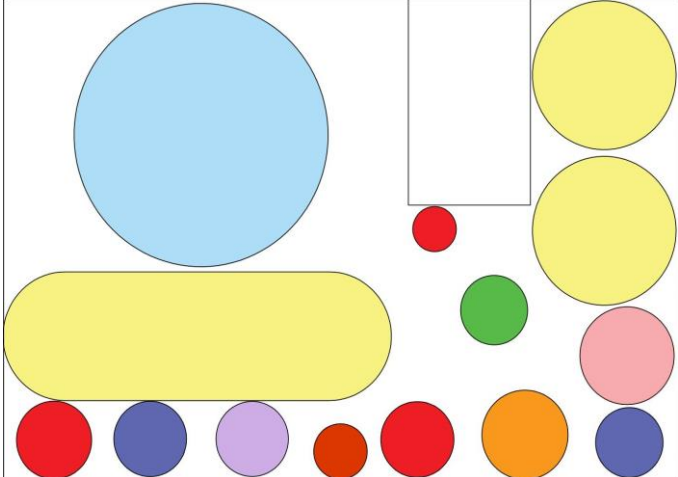
THIRD FLOOR

-  ROOMS
-  MESS/KITCHEN
-  OFFICE AREA
-  WATING AREA

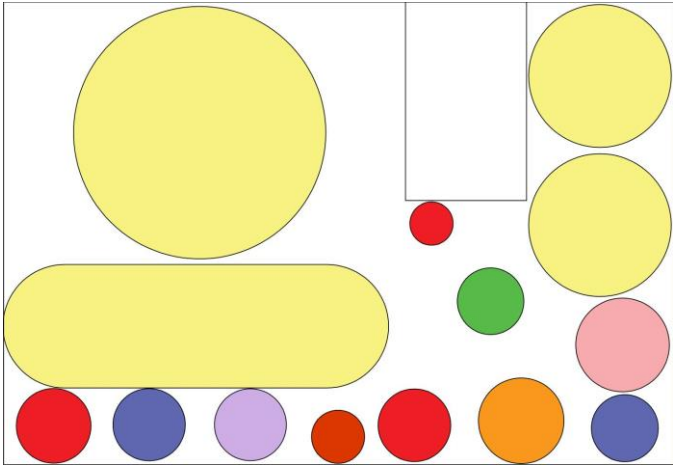
-  GREEN AREA
-  MULTI-PURPOSE HALL
-  TOILET
-  STAIRCASE /LIFT



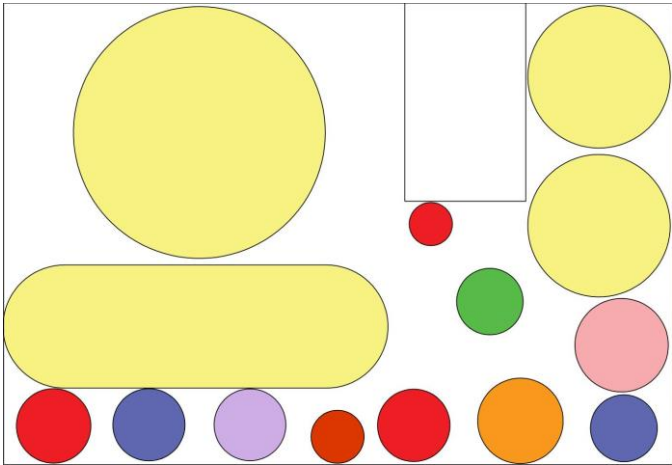
GROUND FLOOR



FIRST FLOOR



SECOND FLOOR



THIRD FLOOR

- INDOOR
- SWIMMING POOL
- GYM
- STAIRCASE/LIFT
- RETAIL
- SERVICE AREA

- MULTIPURPOSE HALL
- WAITING AREA
- ENTRANCE LOBBY
- EXHIBITION AREA
- AHU
- O.T.S

TOTAL SITE AREA- 40000 SQ M

FAR: 1.2

GROUND COVERAGE: 25%

S.NO.	ACTIVITIES	NO.S	LENGTH	WIDTH	AREA	TOTAL AREA
-------	------------	------	--------	-------	------	------------

1 ADMIN BLOCK

2 COMMERCIAL

3 INDOOR AREA

4 OUTDOOR AREA

A ADMIN BLOCK

1	RECEPTION	1	12	16	192	192
2	ENTRANCE LOBBY	1	6	7.5	45	45
3	SECRETARY ROOM	1	3.5	3	10.5	10.5
4	CONFERENCE HALL	1	6.5	15	97.5	97.5
5	ACCOUNTANTS OFFICE	1	3.5	3	10.5	10.5
6	WAITING AREA	1	5	7	35	35
7	MEETING ROOM	1	9	4	36	36
8	MANAGER ROOM	1	3.5	3	10.5	10.5
9	OFFICE PANTRY	1	4.5	3	13.5	13.5
10	SPORTS SHOP	1	18	10	180	180
11	GUARD ROOM	1	3.5	3	10.5	10.5
12	TOILET					
	Staff Toilet	1	7	3	21	21
	Visitors Toilet	1	7	3.5	24.5	24.5
13	FIRST AID ROOM	1	5	3.5	17.5	17.5
14	TICKET COUNTER	1	3	3	9	9
	CIRCULATION AREA	20%				
	TOTAL AREA-					1600

COMMERCIAL

1	RETAIL SHOPS	20	5	10	50	1000
2	SUPER MARKET	1				3500
3	YOGA ROOM	1				150
4	FOOD COURT	1				2500
5	SPA AND SALON	1				1100
6	DAY CARE CENTRE	1				600
7	OPEN GYM	1				
	CIRCULATION	20%				
	TOTAL AREA-					8800

B	INDOOR AREA					
	1 BASKETBALL COURT	2	28	15	420	840
	2 BADMINTON COURT	2	13.5	6.5	87.75	175.5
b.	Coach	2	4.5	3	13.5	27
c.	Store	2	4.5	3	13.5	27
	3 TENNIS	2	23.5	9	211.5	423
	4 BILLIARDS ROOM	2	6.5	4.8	31.2	62.4
	5 TABLE TENNIS	2	9.5	4.5	42.75	85.5
	6 SQUASH COURT	3	9.75	6.4	62.4	187.2
	7 MEDITATION ROOM	1	25	15	375	375
	8 FIRST AID ROOM	1	3	4	12	12
	9 MULTI-PURPOSE ROOM	1	12	9	108	108
	10 TOILETS					
a.	Male	1	9	4.5	40.5	40.5
b.	Female	1	9	4.5	40.5	40.5
	11 GYMNASIUM	1	29	24.5	710.5	710.5
a.	Coach	1	4.5	3	13.5	13.5
b.	Seating Room	1	5.5	3	16.5	16.5
c.	Store	1	4.5	3	13.5	13.5
	12 AEROBICS	1	15	9	135	135
	13 BOARD GAME ROOM	1	7	14.5	101.5	101.5
	14 YOGA	1	18	12	216	216
	15 CLOAKROOM AREA	2				
i.	MALE					
a.	Toilets	2	7.5	14.75	110.625	221.25
b.	Changing Room	2	3.5	5	17.5	35
c.	Locker Room	2	3.5	5	17.5	35
d.	Shower Room	12	1.2	1.5	1.8	21.6
ii.	FEMALE					
a.	Toilets	2	7.5	14.75	110.625	221.25
b.	Changing Room	2	3.5	5	17.5	35
c.	Locker Room	2	3.5	5	17.5	35
d.	Shower Room	12	1.2	1.5	1.8	21.6

	16 CAFETERIA	2	15.5	12	186	372
a.	Store	2	3	4.5	13.5	27
b.	Kitchen	2	10	7.5	75	150
c.	Dining	2	14	12	168	336
	17 HEALTH CLUB	1	16	12.5	200	200
	18 SWIMMING POOL	1	35	17.5	612.5	612.5
a.	Kids Pool	1	6.8	5	34	34
b.	Coach Room	1	5	5	25	25
c.	Mechanical Room	1	5	5	25	25
d.	Water Soft Room	1	5	5	25	25
e.	Equipment Room	1	5	5	25	25
f.	Store	1	5	5	25	25
	19 LIBRARY	1	18	14.5	261	261
a.	Computer Station	1	4	9.5	38	38
	20 BOWLING	1	32	18.5	592	592
	21 RESTAURANT	1	30	18.5	555	555
	BAR	1	6.5	3	19.5	19.5
a.	Kitchen	1	12	7	84	84
b.	Dining Area	1	22	18.5	407	407
c.	Store	1	3.5	7	24.5	24.5
d.	Toilets	1	3	2.5	7.5	7.5
	22 SERVICE AREA					
	23 CIRCULATION AREA	20%				
	TOTAL AREA-					11050

C	OUTDOOR AREA					
	1 BASKETBALL COURT	2	15	28	420	840
	2 VOLLEYBALL COURT	1	9	18	162	162
	3 LAWN TENNIS	1	11	24	264	264
	4 CRICKET TRAINING GROUN	1	135 m (dia.)			
	5 CHILDREN'S PARK	1	15	12	180	180
	6 PARKING					
a.	4 Wheeler Parking	200	2.5	5	12.5	2500
b.	2 Wheeler Parking	35	2	1.5	3	105
c.	Bicycle Parking	16	2	1.25	2.5	40
	TOTAL AREA-					7600

INTRODUCTION & SITE STUDY DATA

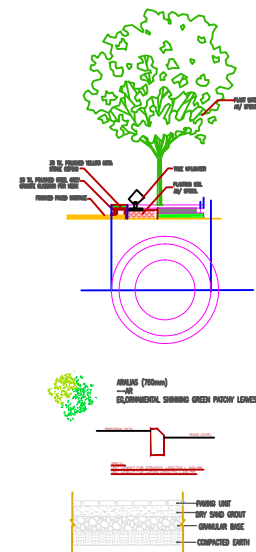
- ABOUT SOUTH DELHI - WIKIPEDIA.ORG.
- CLIMATE OF DELHI-[https://en.Wikipedia.Org/wiki/climate of Delhi](https://en.Wikipedia.Org/wiki/climate%20of%20Delhi)
- DELHI BUILDING BYE LAWS
- MASTER PLAN FOR DELHI 2021-DELHI DEVELOPMENT AUTHORITY
- ZONE DEVELOPMENT PLAN OF ZONE G-DELHI DEVELOPMENT AUTHORITY
FOR TRAFFIC COMPOSITION
- ENVIRONMENTAL REPORT BY PERFECT ENVIROSOLUTION PVT. LTD., NEW DELHI



LITERATURE STUDY DATA



- <https://www.archdaily.com>
- COMPENDIUM OF NORMS FOR DESIGNING OF SPORTS COMPLEX

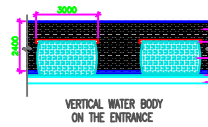
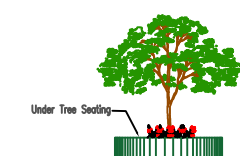
STANDARDS

- NEUFERT'S DATA
- NATIONAL BUILDING CODE
- <https://dda.gov.in>

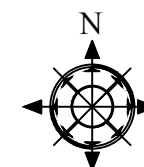
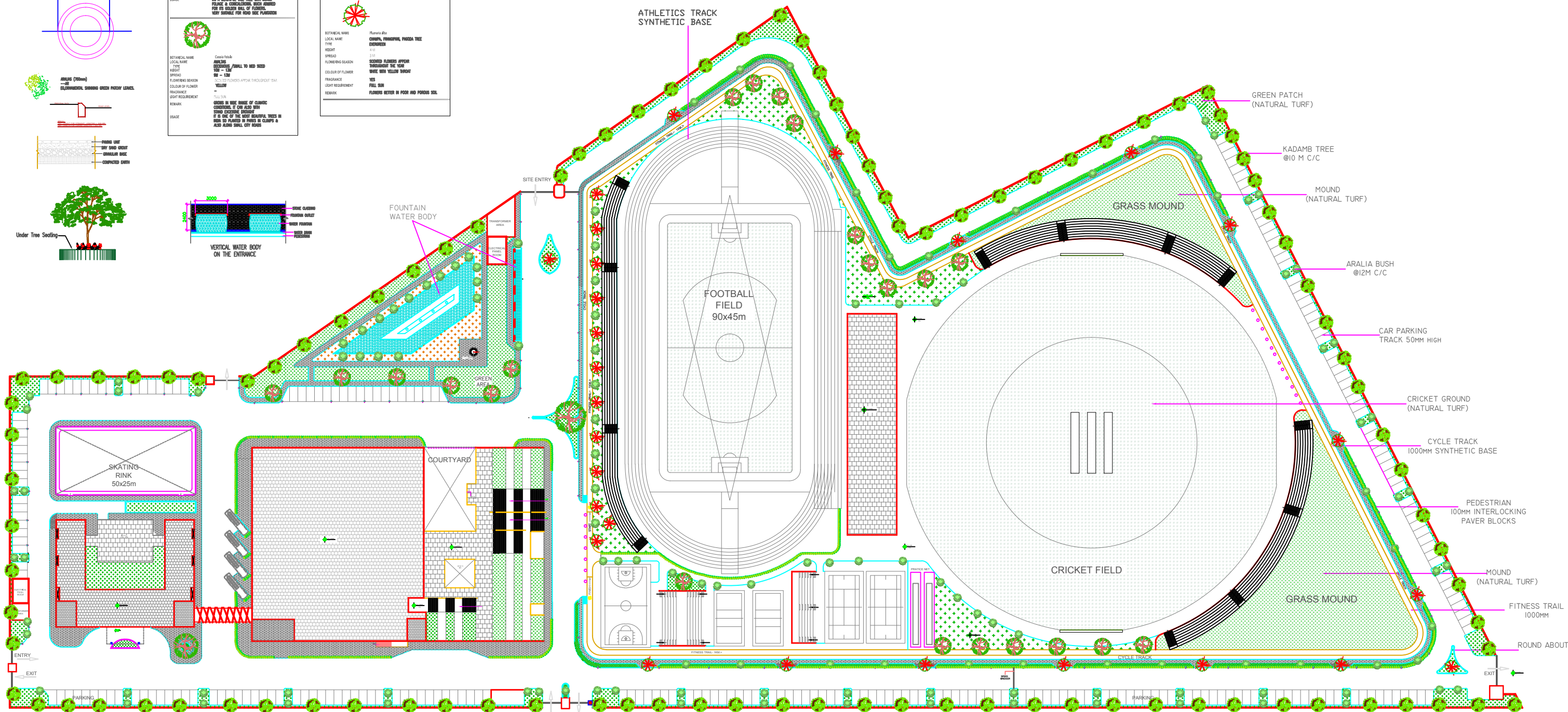


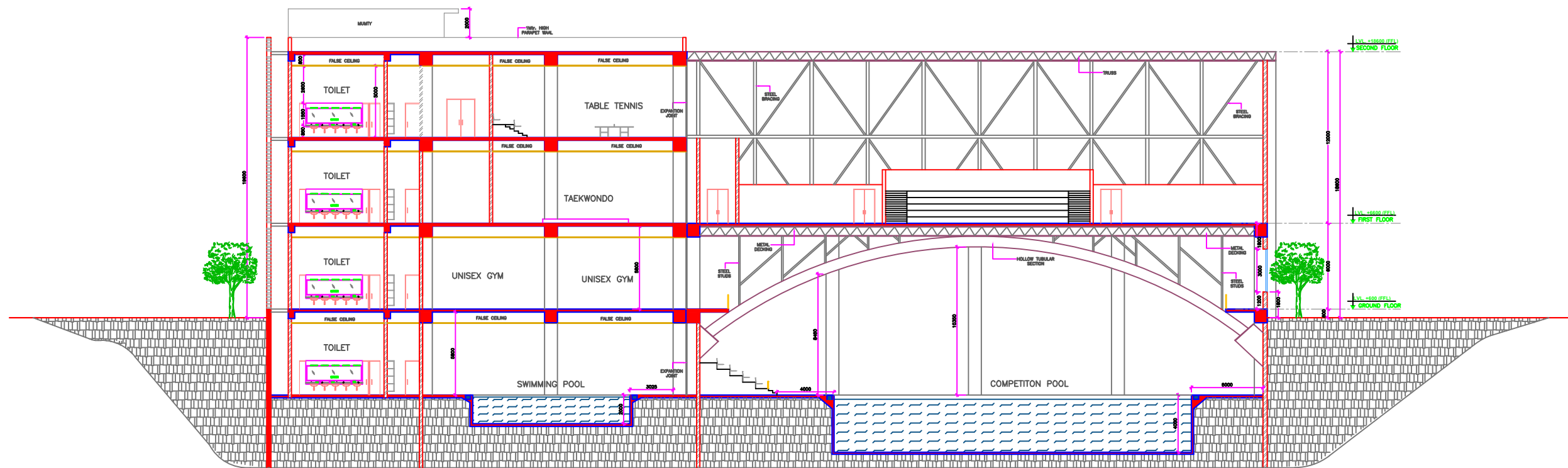
BOTANICAL NAME LOCAL NAME HEIGHT SPREAD FLOWERING SEASON COLOUR OF FLOWER FRAGRANCE LIGHT REQUIREMENT REMARK USAGE	 <i>Ardisia cuneata</i> BISHAM 100-150 100-150 JAN-MAY RED YES FULL SUN PREFERS WET CLIMATE. IT CAN BE SUCCESSFULLY GROWN IN SHADY CLIMATE. IT REQUIRES DEEP WELL DRILLED WATER. IT IS A DECIDUOUS TREE WITH DENSE FOLIAGE & CONSIDERABLE BUSH. IT IS VERY SUITABLE FOR ROAD SIDE PLANTATION.
BOTANICAL NAME LOCAL NAME HEIGHT SPREAD FLOWERING SEASON COLOUR OF FLOWER FRAGRANCE LIGHT REQUIREMENT REMARK USAGE	 <i>Ardisia cuneata</i> BISHAM 100-150 100-150 JAN-MAY RED YES FULL SUN PREFERS WET CLIMATE. IT CAN BE SUCCESSFULLY GROWN IN SHADY CLIMATE. IT REQUIRES DEEP WELL DRILLED WATER. IT IS A DECIDUOUS TREE WITH DENSE FOLIAGE & CONSIDERABLE BUSH. IT IS VERY SUITABLE FOR ROAD SIDE PLANTATION.

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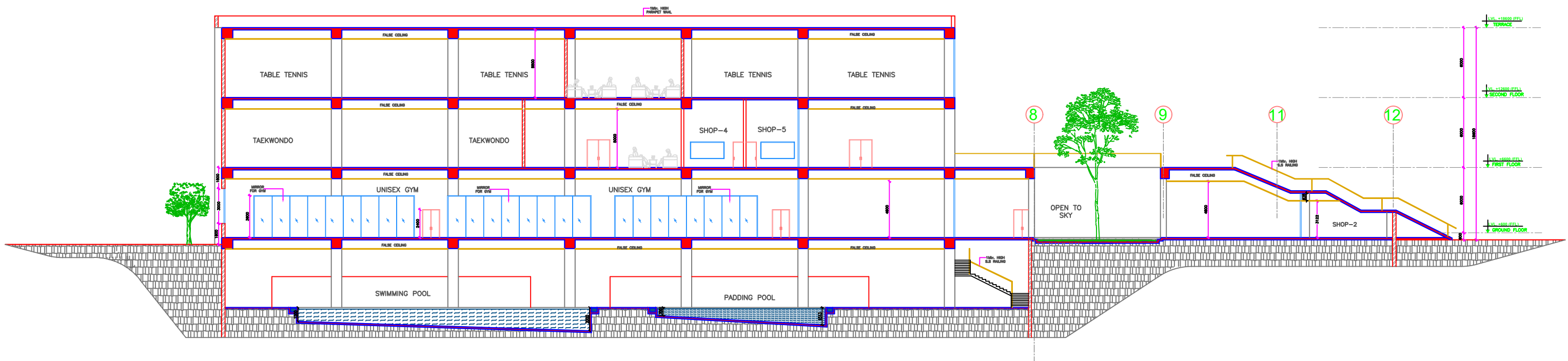


FOUNTAIN WATER BODY



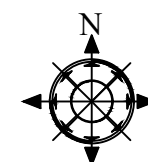


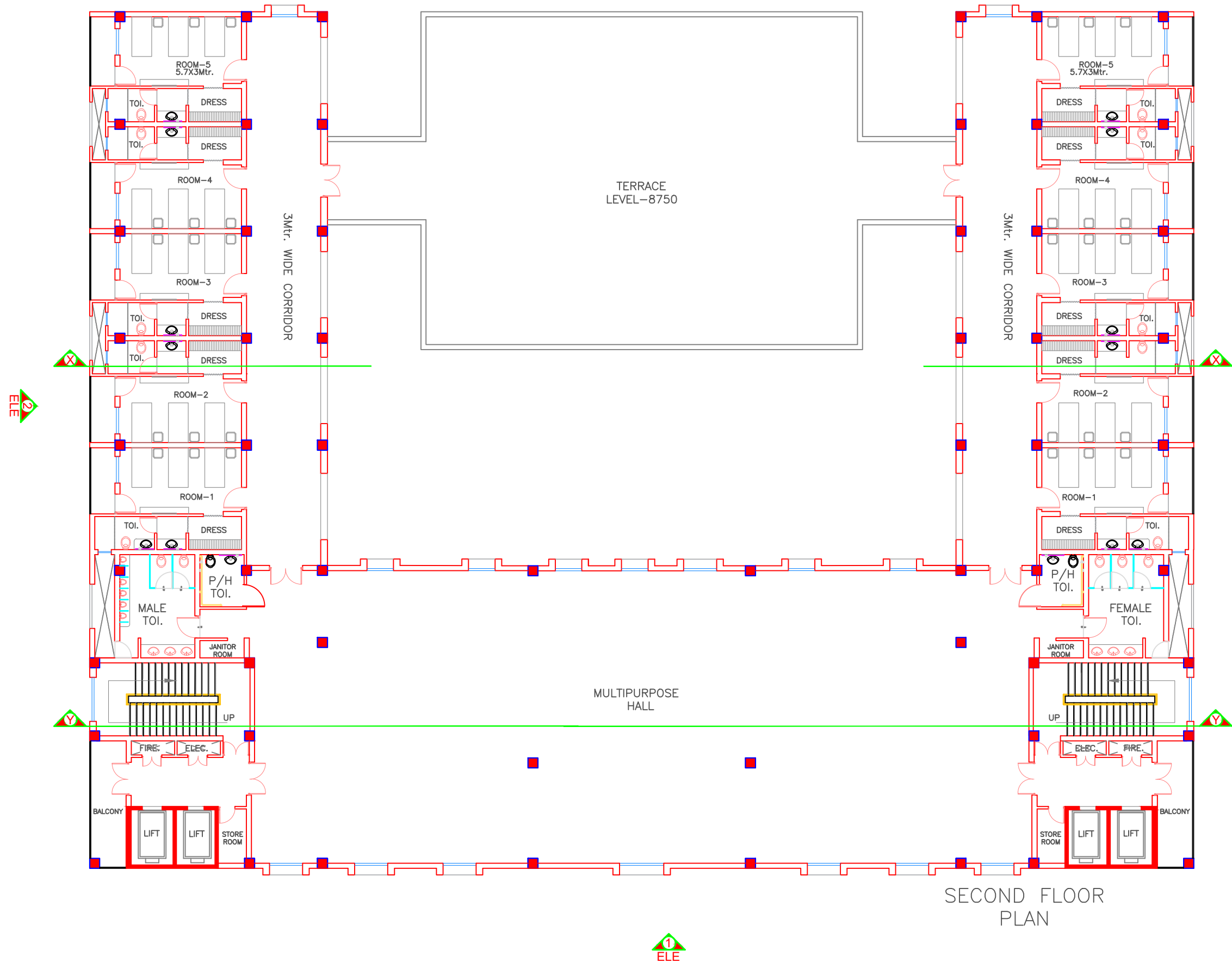
SECTION AT AA'



SECTION AT BB'

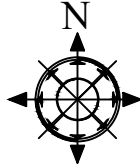
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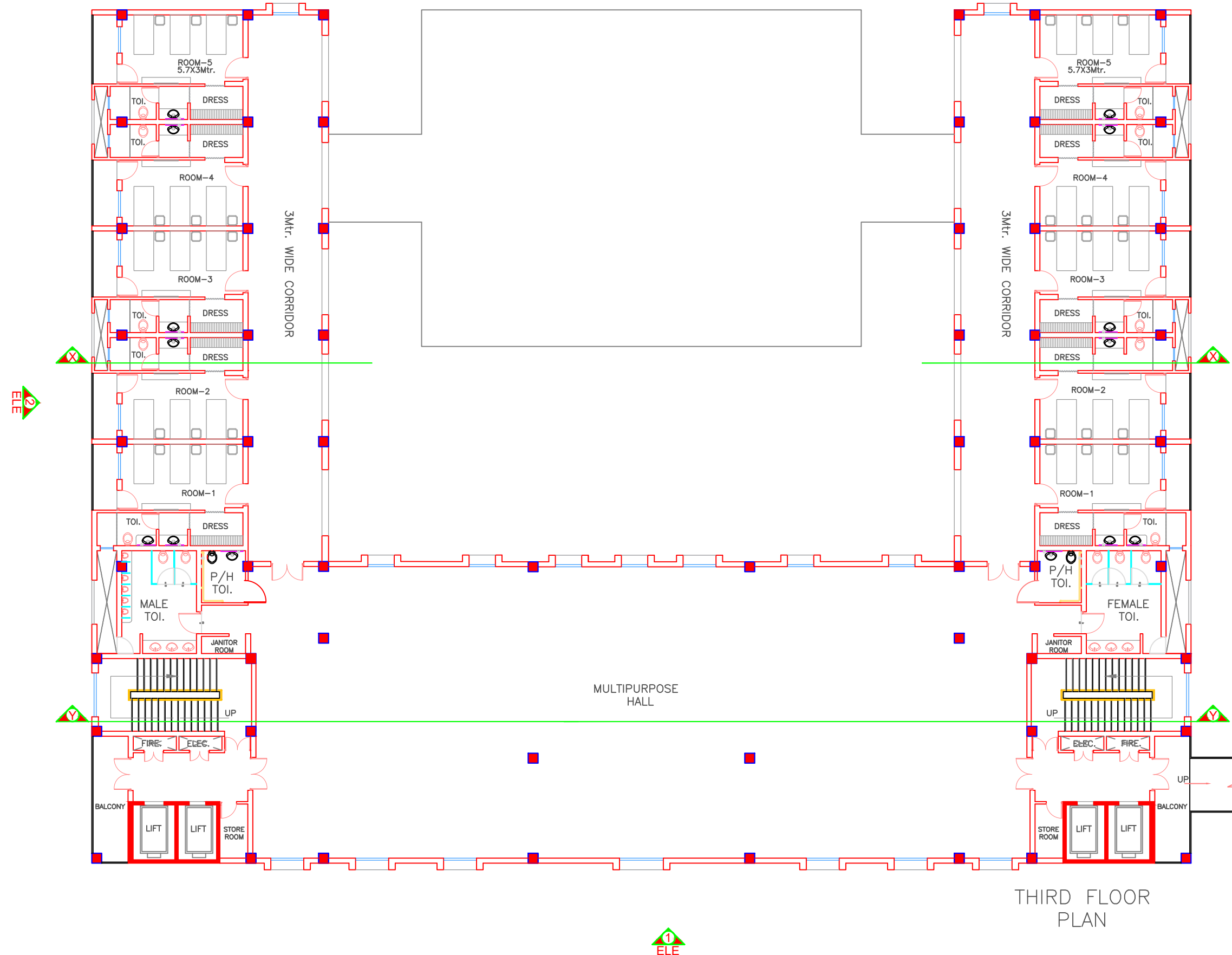




SECOND FLOOR
PLAN

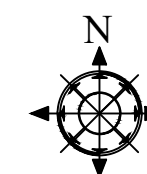
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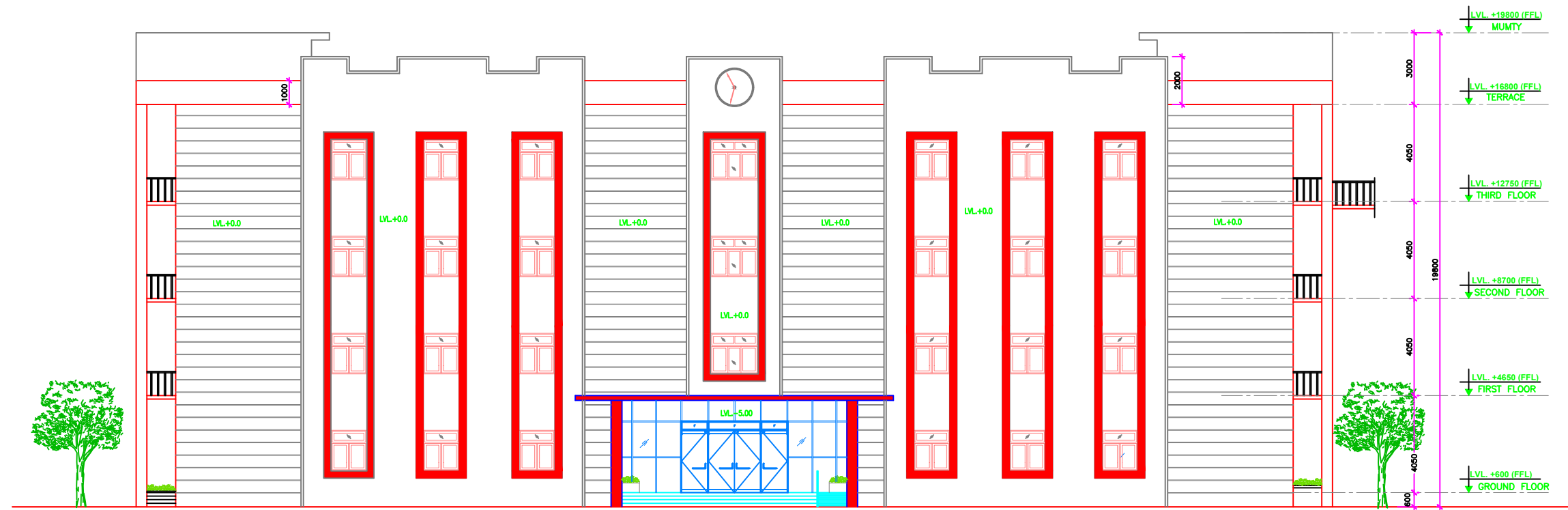




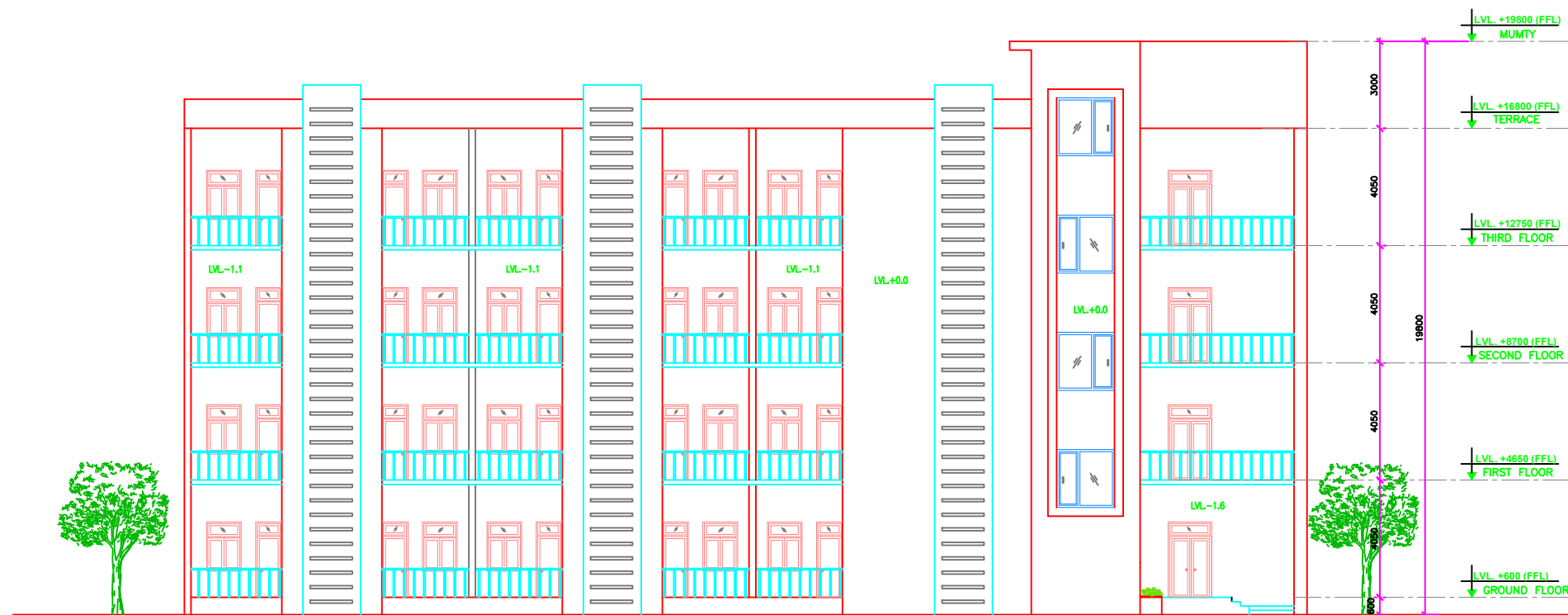
THIRD FLOOR
PLAN

NOTE: ALL DIMENSION ARE ALL IN MM



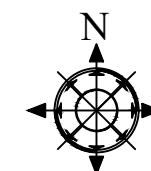


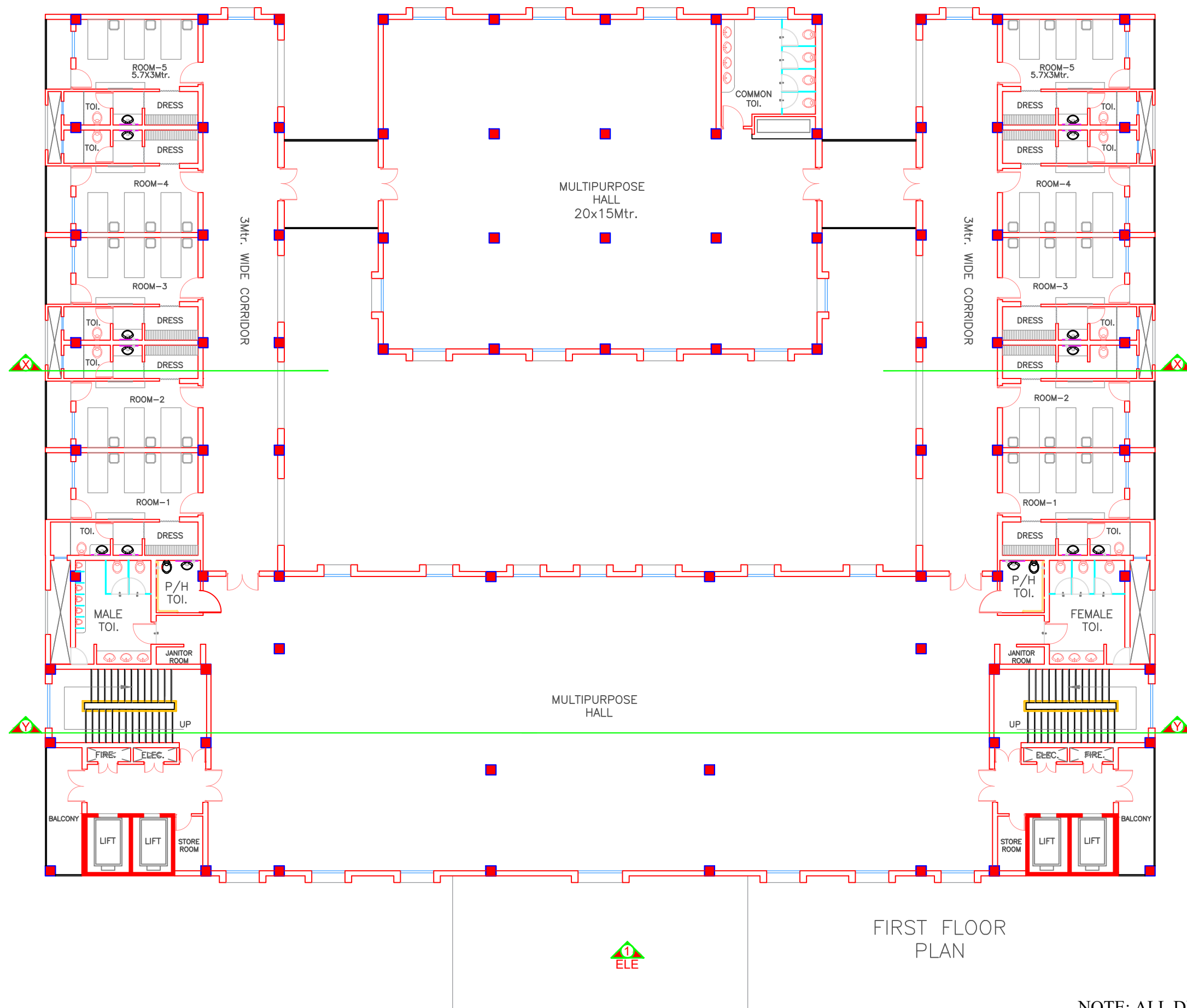
FRONT ELEVATION



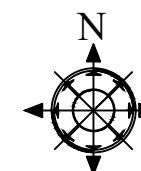
BACK ELEVATION

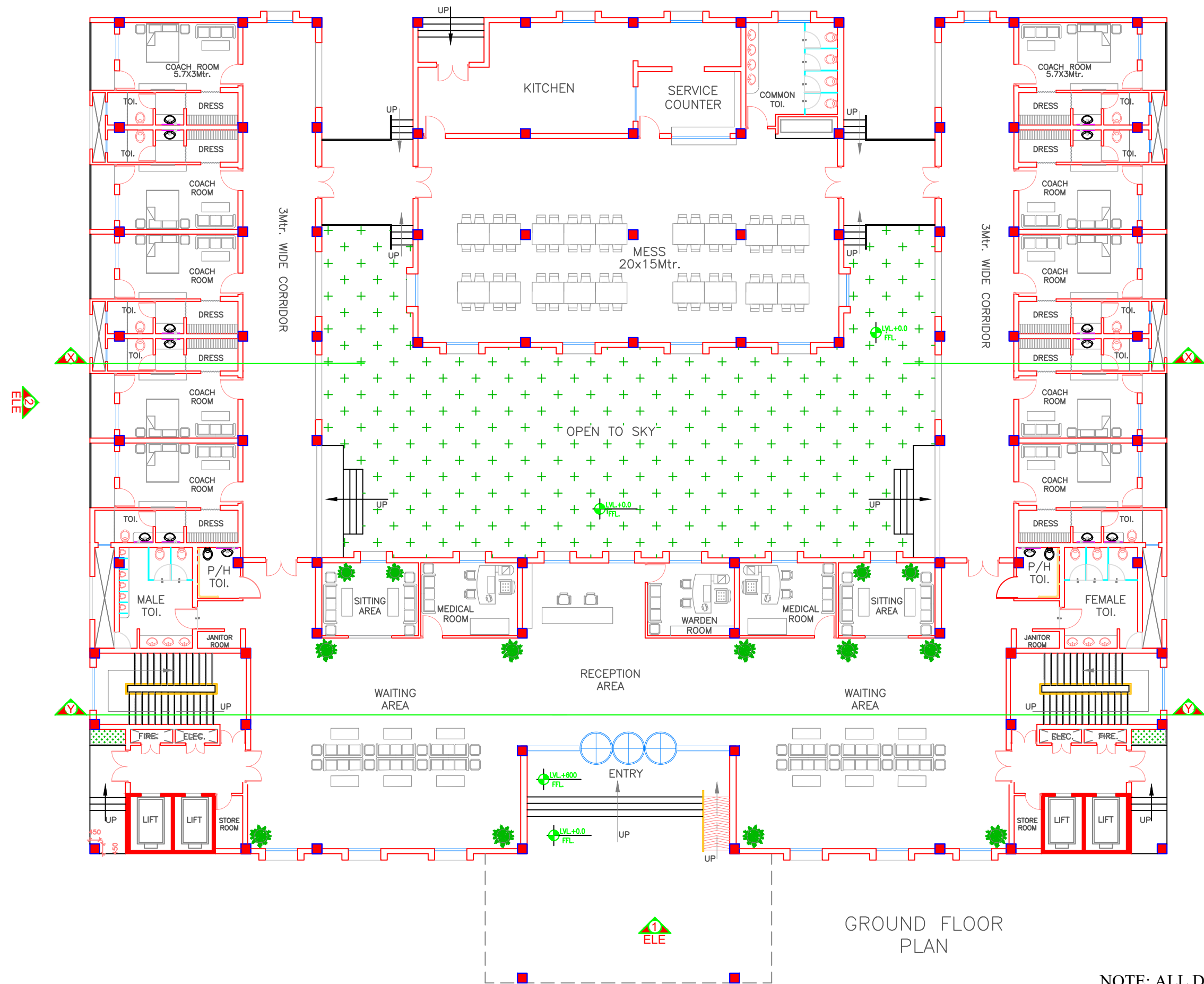
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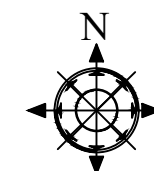


NOTE: ALL DIMENSION ARE ALL IN MM



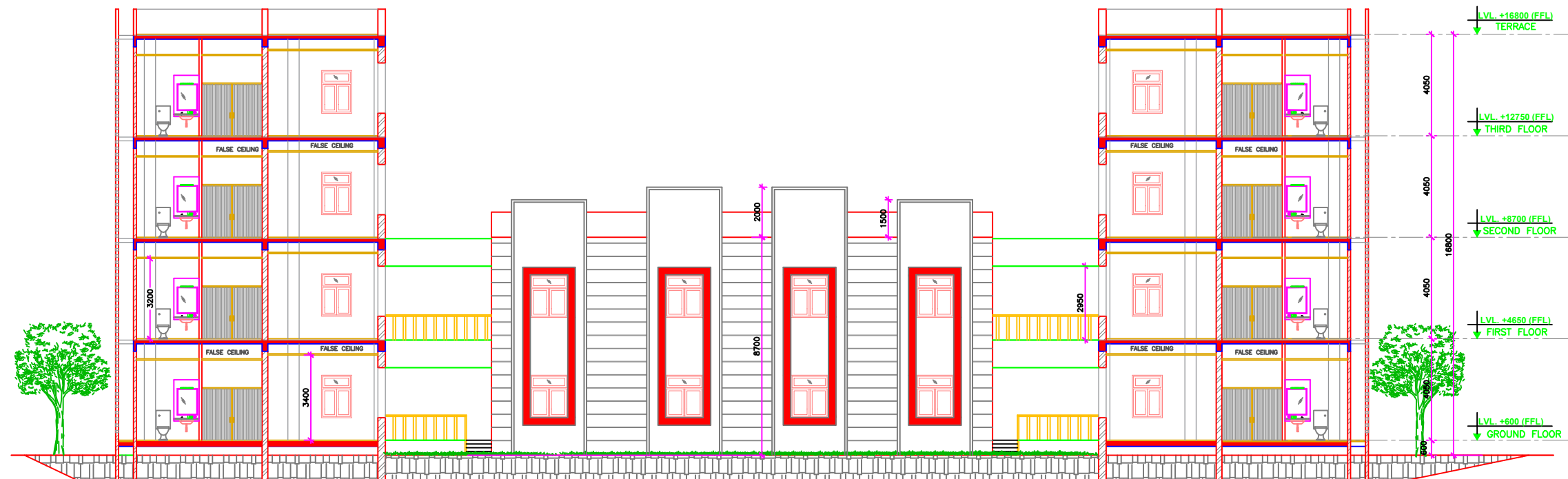


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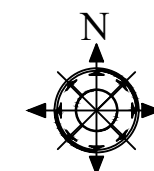


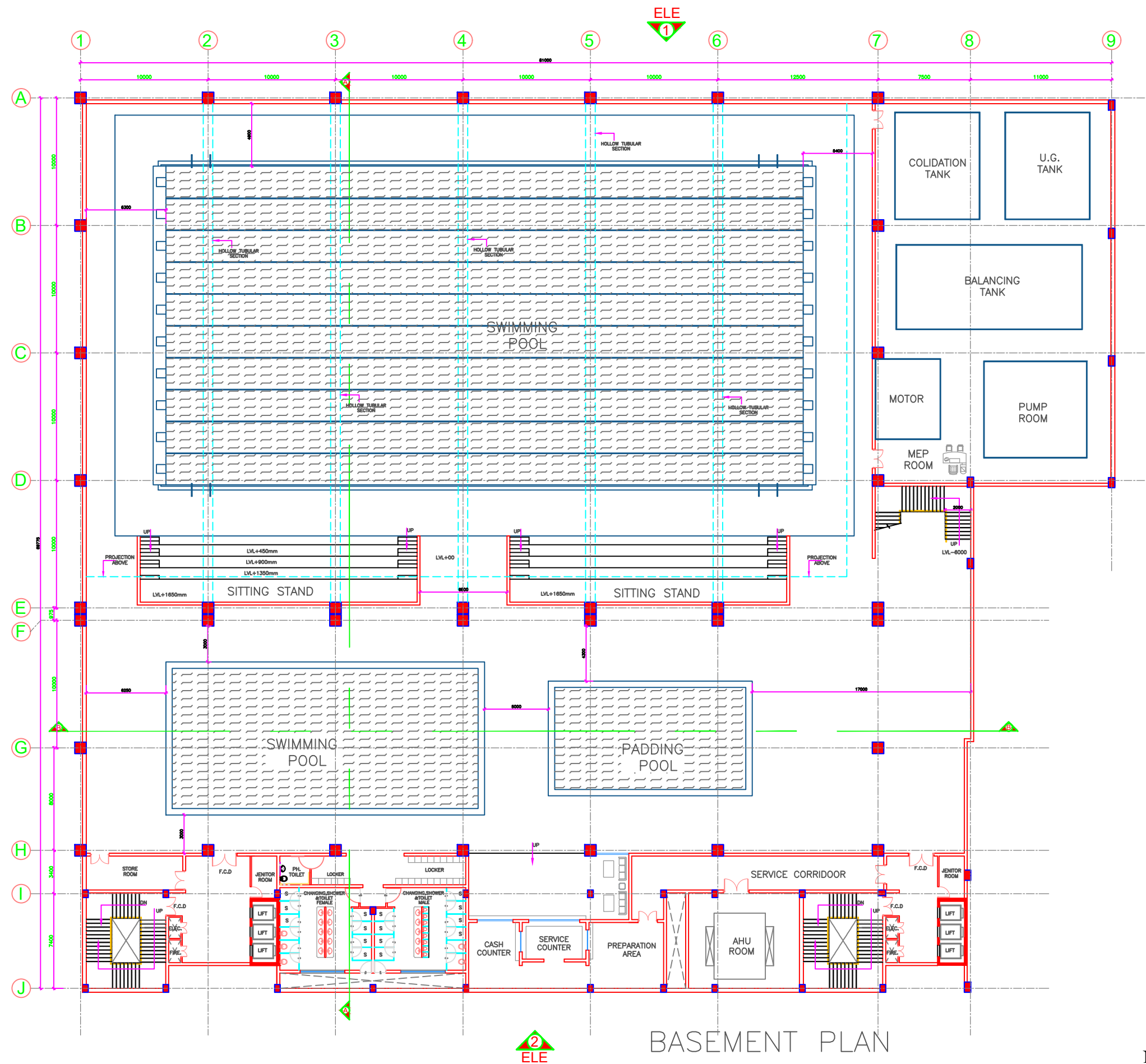
SECTION AT YY



SECTION AT XX

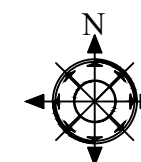
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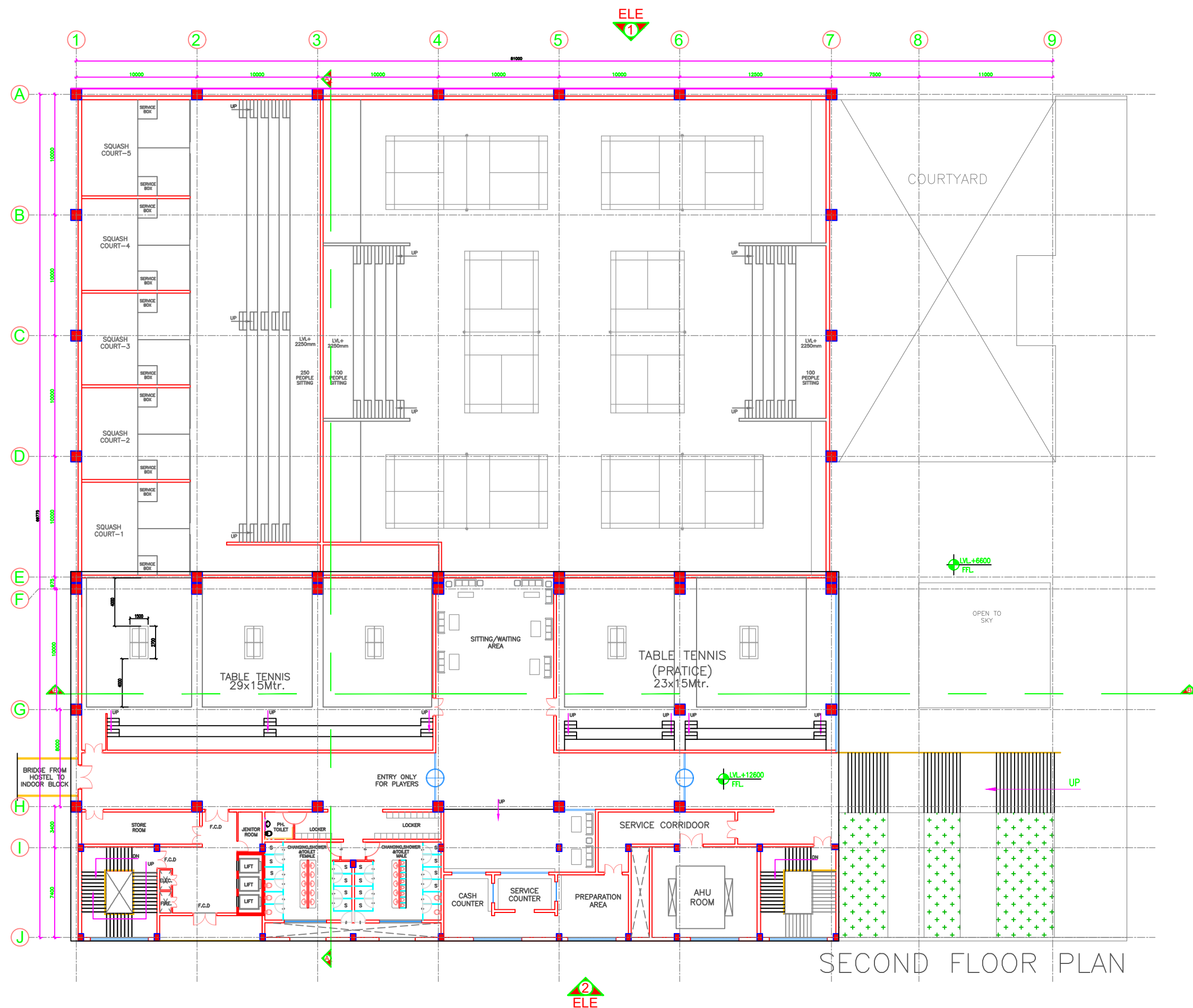




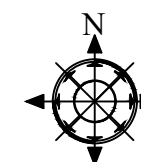
BASEMENT PLAN

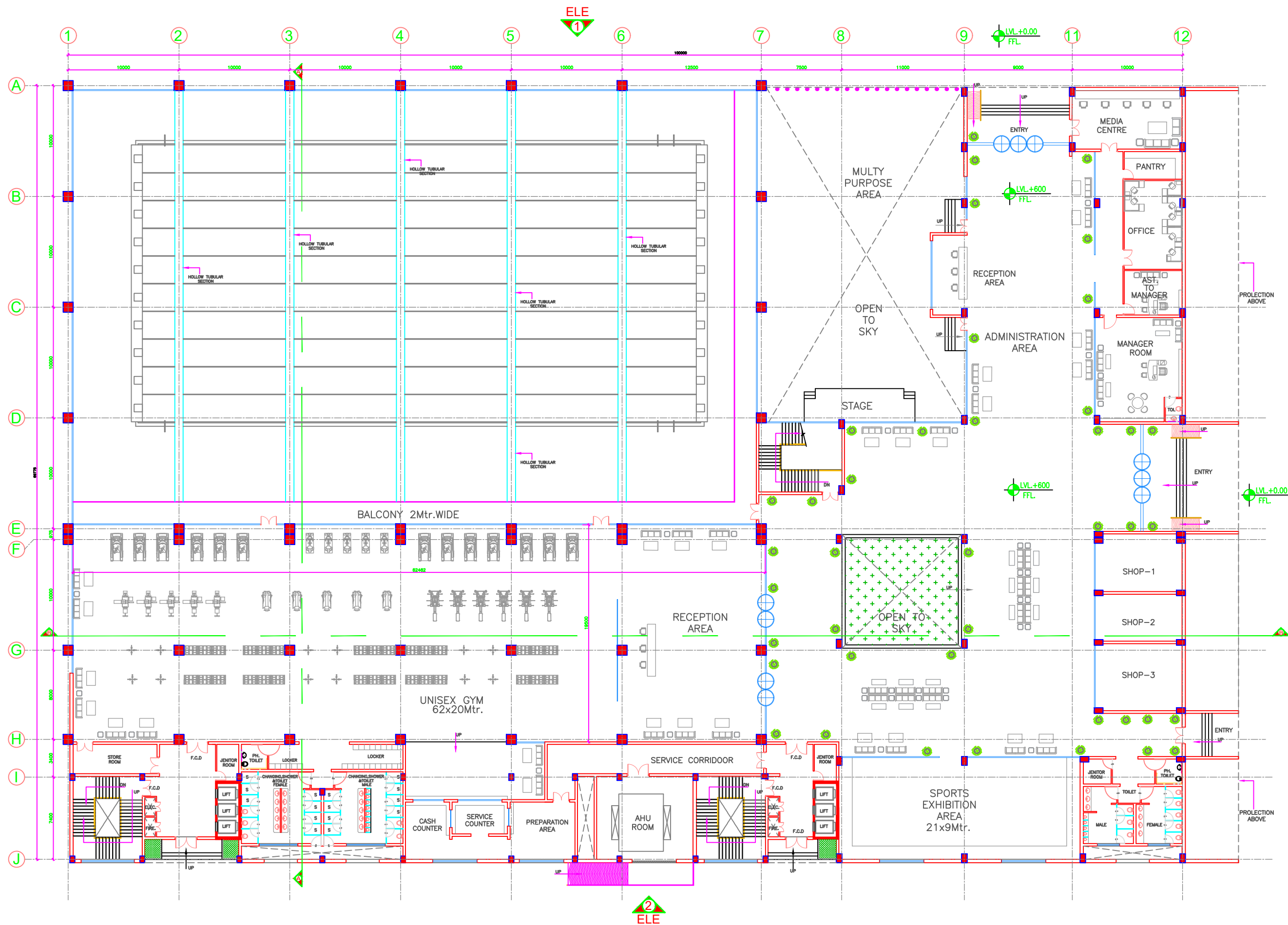
NOTE: ALL DIMENSION ARE IN MM





NOTE: ALL DIMENSION ARE IN MM





GROUND FLOOR PLAN

NOTE: ALL DIMENSION ARE IN MM

