

SPORTS COMPLEX, GULSHAN 2

By

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Declaration

It is hereby declared that

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3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
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Approval

The thesis/project titled “[Urban Sports Complex]” submitted by

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of [Winter], [2019] has been accepted as satisfactory in partial fulfillment of the requirement for the degree of [Bachelor of Architecture] on [24/12/19].

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Abstract

The project Sports Complex is a sports facility in Gulshan 2 residential area where it will serve as a sports facility and will also be a community space for the people in the area and the project is in a compact space with indoor and outdoor activities which will encourage a sports enthusiastic to use it as well as other people to enjoy the public facilities in that area. The facility provides sports activities from communal level to competitive level.

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Chapter 1: Introduction

1.1 Introduction to the Project

Bangladesh is a South Asian country bordered by Burma and India and it has great love for sports as it is one of the main sources of entertainment for them. The national and traditional sports for the nation are Kabadi which first originated in India but the game through time lost its place in the spotlight although it still remains as the nation's national sport till now. As time went by and global media's influence grew on the country football emerged as the favorite sport of the country and its national football team was one of the most feared teams in Asia around mid 80's but for corruption and lack of facilitation the growth of it went downside of the chart.

In the early 90's Bangladesh got exposed to cricket and it immediately clicked for the nation. Now Bangladesh cricket team is one of the top teams and the country is known as a cricketing nation where they co-hosted the ICC World Cup in 2011 with India and Srilanka.

On the other hand, Bangladesh since 1984 have participated in the Olympics for other sports but failed to grab a medal till now but the nation has produced the world's best chess player Grand Master Niaz Murshed.

Although Bangladesh is a lush green, riverine delta country, its capital Dhaka is a highly dense urban mega city and it sadly does not have that lush green and have very few sports fields or facilities compared to the amount of people living on the city. Even though there are some sports facilities in the country but the city does not have adequate space for sports talents to be expressed.

Moreover, children are playing in the streets, rooftops, garages and constrained sites which does retain the interaction and spirit of the game but does restrict the growth of it. Among the many dense areas Dhanmondi, Gulshan, Motijheel, Old Dhaka and others there are few sports facilities which serve its communities. In Dhanmondi there are Sheikh Jamal, Kamal, and Rasel sporting institutes but in Gulshan area being one of the densest and developed areas do not have more than one or two sports facility. Gulshan 1 is a commercial and residential zone but Gulshan 2 is a residential and diplomatic zone which is turning to a highly dense high-rise residential area with clubs, schools and embassies on its surroundings.

Furthermore, a sports complex in that area will not only make it beneficial in sports sector but also for the public and the community itself. As the area of the proposed complex is adjacent to the Gulshan Madani Avenue it will not only attract the people from the nearest community but also from the further areas also.

1.2 Aim and Objectives of the Project

The main objective of the project is to allow people to express their talent in different forms of sports in a very constrained area. Secondly, making them aware that a certain level of lifestyle can be maintained in the society being a sports person or an athlete. Thirdly, revenue can be earned from different sports events and mainly it will act as a relief for the people which anyone will feel like being a part of.

1.3 Project Summary

Name of the Project: Urban Sports Complex

Implementer of the Project: National Sports Council

Location: Gulshan 2

Site area available for the Project Development: 4.85acres

Proposed built-up area of the Project: 1,10,100 sft

Proposed Program of the Project: Admin, Multipurpose hall, Café, Medical, Indoor, Gymnasium, Swimming Pool, Gym.

The site is in Gulshan 2 opposite to the Qatar embassy, 4.85 acres in site area with lush green on its surrounding with roads on three sides of the site with one connecting to the main road (Gulshan Madani Avenue) making it accessible for people.

The proposed programs of the project are based on the scope of the project itself and they are not only outfield sports but also indoor sports are there so there are more diversity and people are exposed to different sports which are globally celebrated.

Chapter 2: Literature Review

“Sport has the power to unite people in a way little else can. Sport can create hope where there was once only despair. It breaks down racial barriers. It laughs in the face of discrimination. Sport speaks to people in a language they can understand.” Mandela, N. (2010)

Sports facilities are there in different parts of the world so that people can participate in different forms of sports and that they are both mentally and physically fit in their own environment. It also plays a major role in bringing people of mixed ages together for a certain cause.

2.1 [Sports Facilities in Dhaka]

There are many organized sports such as football, cricket, hockey, tennis, badminton, volleyball, handball, chess, carom, wrestling, weightlifting, squash, billiards and snooker. Most of the country's sportsmen and women compete at district levels and there are university, armed forces and public sector sporting teams. In response to the country's interest in sporting activities, a large number of sporting clubs have been developed. Some of the most prominent clubs are the Dhaka Wanderers, the Abahani Sports, the Dhaka Mohammedan, the Arambag, the Brothers Union, the Azad, the Dilkusha, the GMCC, the Muktijoddha Sangsad, the Suryatarun, the Kalabagan, the Victoria and the Wari sporting clubs. Often these clubs host national and sometimes even international tournaments, so many of their facilities are kept in the best condition possible. Overall, Bangladeshis are fond of sport and there is a good sporting infrastructure in the country.

Pursuing a sport in Dhaka can be a cumbersome task, given the lack of parks, pockets of green space or even a designated sidewalk for pedestrians. Picking up a sport can also be a

tough decision, the amount of physical labor you are willing to put in, the proximity of the location where you can practice and your overall dedication to the game.

With the advent of the potato-couch like lifestyle that us Dhakaiites are becoming more and more accustomed to, it has become exceedingly important to partake in some kind of physical excursion to keep the doctor's visit at bay. Chowdhury, A.R (2017)

However, the restrained sport participation in Bangladesh can be blamed for its economic underdevelopment in sports but in many economic theories; government revenue and household income, both escalate with growth. Keeping in perspective with sport; when economic advancement takes place, individuals are more likely to have greater purchasing abilities (in this case sport equipment). Simultaneously, greater tax revenue received by the government lets them initiate expenditures which are sport supportive; such as delivering sport facilities and sport activities in schools. On the other side, where there is underdevelopment means there is low government revenue and household income. To summarize the effects of underdevelopment, low income countries cannot afford substantial progress in sport. The length to which any government will fund sport is controlled via the political process and thus varies as per the responsiveness of the nation to the general population's predispositions. Nonetheless, government revenue and household income, individually or in union – represent the key elements of sport association in a nation. Mandle, J.R(2012).

2.2 Need of Sports Facilities

The WHO has estimated that “one in four patients visiting a health service has at least one mental, neurological or behavioral disorder, but most of these disorders are neither diagnosed nor treated”. A number of studies have shown that exercise may play a therapeutic role in addressing a number of psychological disorders. Studies also show that exercise has a

positive influence on depression. Physical self-worth and physical self-perception, including body image, has been linked to improved self-esteem. The evidence relating to health benefits of physical activity predominantly focuses on intra-personal factors such as physiological, cognitive and affective benefits, however, that does not exclude the social and inter-personal benefits of sport and physical activity which can also produce positive health effects in individuals and communities.

There are a wide range of social benefits of children playing sport. The value of having young people participating in physical activity can often be overlooked. Yes, they want to have fun and be active and healthy, but what about the importance of making friends, feeling as if they fit in and limiting their amount of free time with no direction.

Involvement in sport is one-way young people can develop self-confidence and high self-esteem. Participating in sport and other forms of physical activity can assist in building your child's confidence as well as allowing them to gain a sense of achievement. For a lot of kid's sport is their chance to shine, but others can get demoralized. So, remember to make sure the sport your child plays are the one they're best suited so that they can maximize their own potential.

Researchers have also suggested that exercise can help to ease some common mental illnesses such as anxiety and depression. No one enjoys to be left out of the pack, or be a loner. That's where sport provides bonding and a sense of belonging. It also challenges them to work in a group, and encourages them to think of others. Kids like to feel part of a team and with sport they can feed off the energy and enthusiasm of their team-mates.

For thousands of years people have invented Indoor games and sports to amuse themselves when confined within a house or other building. Often these are played in social or family situations, or when darkness or bad weather prevent people from moving outside.

Such amusements have been developed throughout the world. Others require a great deal of skill on the part of the players.

Perhaps one of the most famous indoor game is basketball, which was created as an active sport to be played in the winter time.

There are different types of indoor games. They are: Card games, Board games table top games. Etc. Indoor sports complexes are springing up around the country. These complexes often provide a Turf Field that allows a wide variety of typically outdoor sports to be played indoors. These turf fields are large and has a grassy texture to it without the maintenance required to keep it green and plush. Many sports are being played on this type of service, such as soccer, baseball, flag football, softball, lacrosse, rugby, and many others.

An International squash court measures 21' wide by 32' long and requires a minimum ceiling height of 18' 6" for lighting. An optimum design would allow for ceiling/lighting height of 20' as a lob ball off the front wall (15' high out of bounds height) will have less chance of hitting the ceiling and the striker losing the point.

Olympic-size swimming pool is the type of swimming pool used in the Olympic Games, where the race course is 50 meters in length. This is typically referred to as "long course", distinguishing it from "short course" which applies to competitions in pools that are 25 meters in length. If touch panels are used in competition, then the distance between touch panels should be either 25 or 50 meters to qualify for FINA recognition.

2.3 Sports facility Users

Theodore Hesburgh in his journal "The Importance of School Sports and Education," have said it is a must for school age children to have access to sports and games. This is because it empowers youth and promotes higher self-esteem and motivates students, enables them to earn better grades, especially in schools where obtaining certain grades is a pre-requisite to staying on the team. The physical benefits of being active in any type of sports are like healthy features, no gain in weight, prevention from many diseases and learning to live a healthy lifestyle. Moreover, sports not only have positive impact on children but also on adults, providing opportunities to get exercises and spend time in a healthy environment with everyone.

2.4 Social and Economic conditions of Users

Participation in sports in Dhaka is quite limited, which in turn has hampered the possibility of sport as a medium to attain social progress. The Ministry of Youth and Sports is present, at a government level but unfortunately juveniles in Bangladesh do not have enough accessibility towards sports for proper healthy growth and development. UNICEF in their article, pointed out that “sports equipment is expensive for the general population. In the urban and semi urban areas adequate sports ground is not always available” (UNICEF, nd.). This segregation is even more prominent for girls than boys. Most young girls do not partake in sporting activities or physical education. There are few examples of girls taking part in primary or secondary school level sports. However, after graduating school or marriage, even these girls stop practicing sports. In the rural areas, girls are usually prevented from participating in any sort of sport, even from annual sports days. Stoffers, S.(2010). Since sport is so finite, there are a handful of ventures that seek to implement athletic engagement to boost progressive social transformation.

However, the restrained sport participation in Dhaka can be blamed for its economic underdevelopment in sports but in many economic theories; government revenue and household income, both escalate with growth. Keeping in perspective with sport; when economic advancement takes place, individuals are more likely to have greater purchasing abilities (in this case sport accessories). Simultaneously, greater tax revenue received by the government lets them initiate expenditures which are sport supportive; such as delivering sport facilities and sport activities in schools. On the other side, where there is underdevelopment means there is low government revenue and household income. To summarize the effects of underdevelopment, low income countries cannot afford substantial progress in sport. Nonetheless, government revenue and household income, individually or in union – represent the key elements of sport association in a nation. Mandle,J.R(2012). But on the other hand, since the country started becoming a developing country major changes are starting to happen in every sporting clubs of Dhaka and with exposure in media level there are certain improvements of qualities of the infrastructures. Many parents nowadays are starting to let their children pursue their dreams in sports and make a carrier out of it seeing the global lifestyle of sportspersons.

2.5 Environment of Sports Facilities

Sports facilities is very heterogeneous and depends on several factors, such as the State organization and the intended use of the facilities. Sports facilities are often multi-functional buildings, where different type of sport can be carried out, but that can be used also for other purposes such as recreational or leisure activities. Different countries have different approaches. For example, the majorities of sporting facilities in Australia are operated and maintained by local governments, schools (both public and private) and private sector business institutions which include sporting organizations or various commercial operators.

Cianfanelli, C (2016)

In five European cities, a numerous amount of sport projects, are analyzed on spatial, programmatically and organizational aspects (Amsterdam, Berlin, Copenhagen, Porto and Valencia). These cities represent a range of different sport typologies and spatial solutions. As well, all have a distinguish sport policy at a municipal level. Lessons of the various sport projects are translated into a design and planning toolbox which consists of spatial, programmatically and organizational aspects.

In an interview by the chess grand master Niaz Morshed (2016) he said he grew up playing chess in place where it was full of trees isolated from many people where he was focused on it.

In the documentary "The Greatest of All Time." C. Ronaldo was asked what gave him so much energy running on the pitch tirelessly. He said it was the crackling sound of the net and when the ball hits it and the chanting of the people which kept him going.

In a sports facility the right environment for the players to bring out their full potential is very important so the architecture plays a vital role in it.

To conclude, all the dense urban cities that has a sports complex have identified the urban issues, tried to incorporate the people and tried to make them participate through public activities making the communities participate more and targeted the corporate lifestyle for earning revenue and most importantly the architecture makes the athletes imagine. Moreover, while designing these factors can be taken into consideration while designing.

Chapter 3: Site Appraisal

3.1 Site surroundings

The site of the project is adjacent to end of the Gulshan north avenue. It is a 213098 sft (4.85 acres) area which is currently run by the Italian Embassy and Dutch Club. The site is a lush green area, quiet accessible area with schools, embassies, residences and clubs on its surrounding.



Figure 1



Figure 2

3.2 Historical Development of the Site

Gulshan was a planned model town in 1961 with its own municipality corporation but later it became a part of Dhaka. It was originally built to serve as a residential area but now it's a mixed area but now it's a mixed area with many public facilities and diplomatic zone consisting embassies of different countries. Before the area was modeled the whole area was forest with major water bodies of Dhaka and now there are very few green lefts.

3.3 Geographical Characteristics of the Site

The immediate area of the site is lush green with less sound and dust pollution. The area has a tropical humid climate with distinct monsoon season. Annual average temperature is 28 degrees Celsius. It is a flat land with variety of trees like mango, jackfruit blackberry Krishnochura Katgolap and etc.

3.4 Land-use Pattern of the Surroundings

The surrounding of the site has schools, clubs, embassies and residences. Many residences are now getting sold to developers and high-rise apartments are getting built. There are some clubs which serve the people there and most building in the immediate site are 8 storied but as it goes to the main road it becomes till 15 storied. 50% of the land use is residential, 20% commercial 12% diplomatic and 18% others.



Figure 3

3.5 Accessibility and Connectivity

The site is accessible from the Gulshan north avenue which connects to both Gulshan 1 and 2 circles. It has MRT 5 line connecting from Gabtoli to Madani Avenue so the site is accessible for people from those areas. The site has 20 ft wide roads on its south, east and west side with wide pedestrian and shading with trees so the site is accessible through vehicles and pedestrian friendly



Figure 4

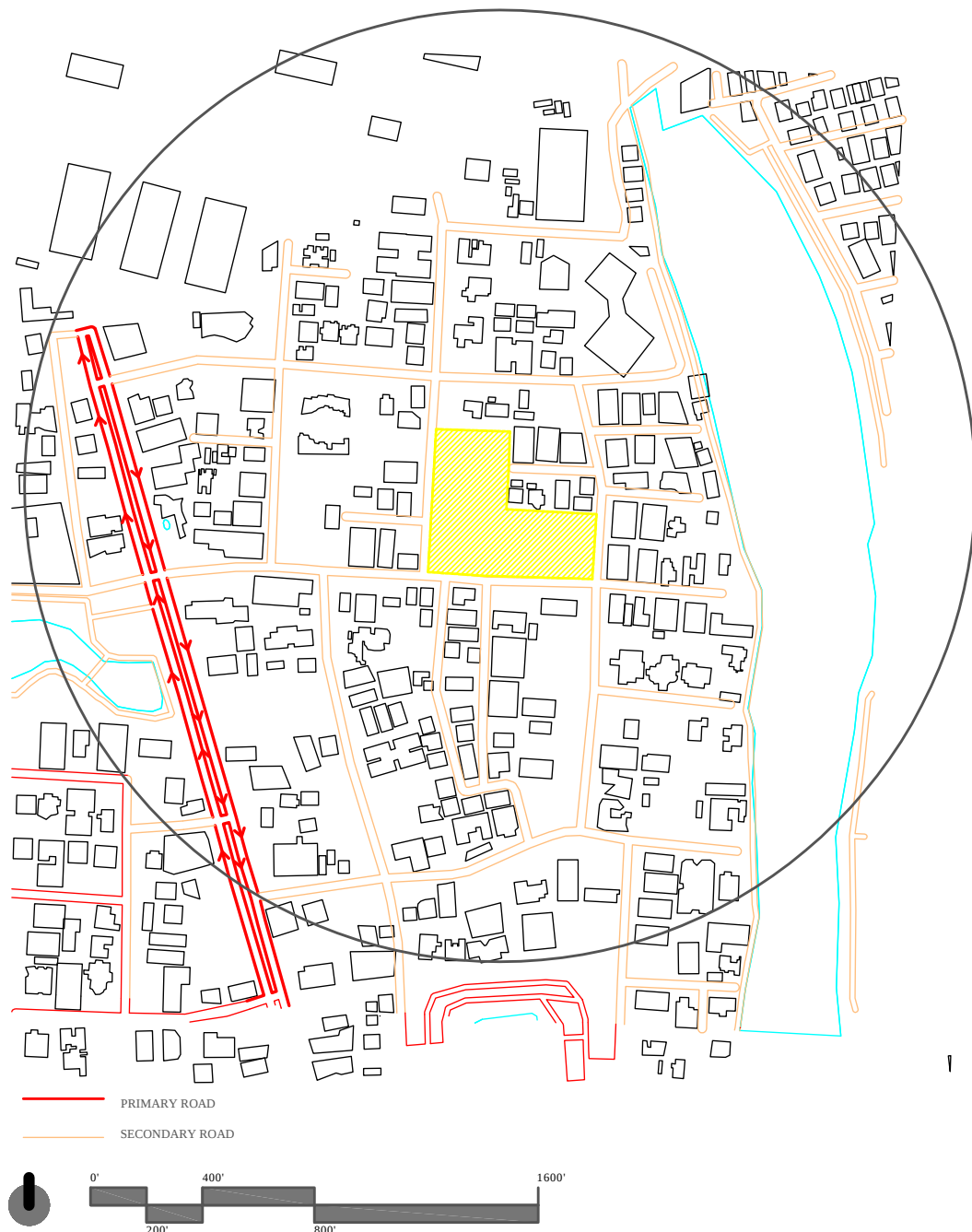


Figure 5

3.6 Socio-Cultural and Economic Contexts

Among the population of Gulshan area 45% of them are female and 55% are male of which 22% are residents with business as their occupation and 41% as professional service holders. 94 % of the population are Muslims and with around 30 mosques in the whole area. Among the whole population 55% of the people are around 5-29 years old. Most of the areas are headquarters of multinational companies with very few refreshing areas and there are some clubs, shopping mall, restaurants but very few sports facilities.

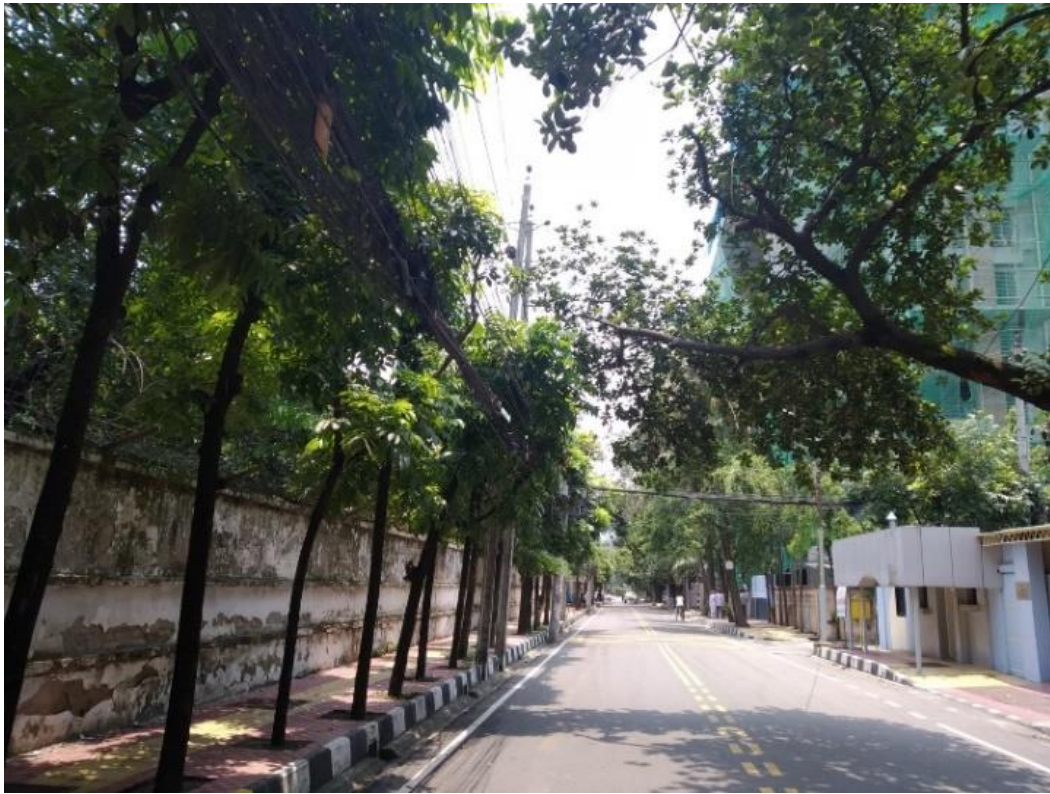
3.7 Images of Existing Site Condition

Image 1

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Image 2



The 5ft pedestrian beside the site is shaded with trees and a 20ft both way road along with it.

Chapter 4: Case Study Appraisal

The case studies selected were based on the urban context on which sports facilities are made.

The plans, structure, materials, microclimate, parking, form and function, circulation and landscape are analyzed of the chosen case studies.

The case study selections were also based on how the similar functions were designed in similar site areas. Three of the case studies are Asian and one is Indian, which is similar to our climatic condition.

4.1 San Wayao Community Sports Centre, China

The project in Shichun Sheng, China is a sports facility which serves an urban community in a dense area. The area of the site is 11,936 sqm (12,28,500 sqft)



Figure 6

Source: Arc Daily

4.1.1 Environment and micro climate

Due to the constrain of site green chunk was cut for construction but the project compensated the green on its plaza level which is at different levels and the total amount of green in the present is more than in previous.

Although there is no natural ventilation in the project and it is mechanically ventilated.

4.1.2 Form and Function

The 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.

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.

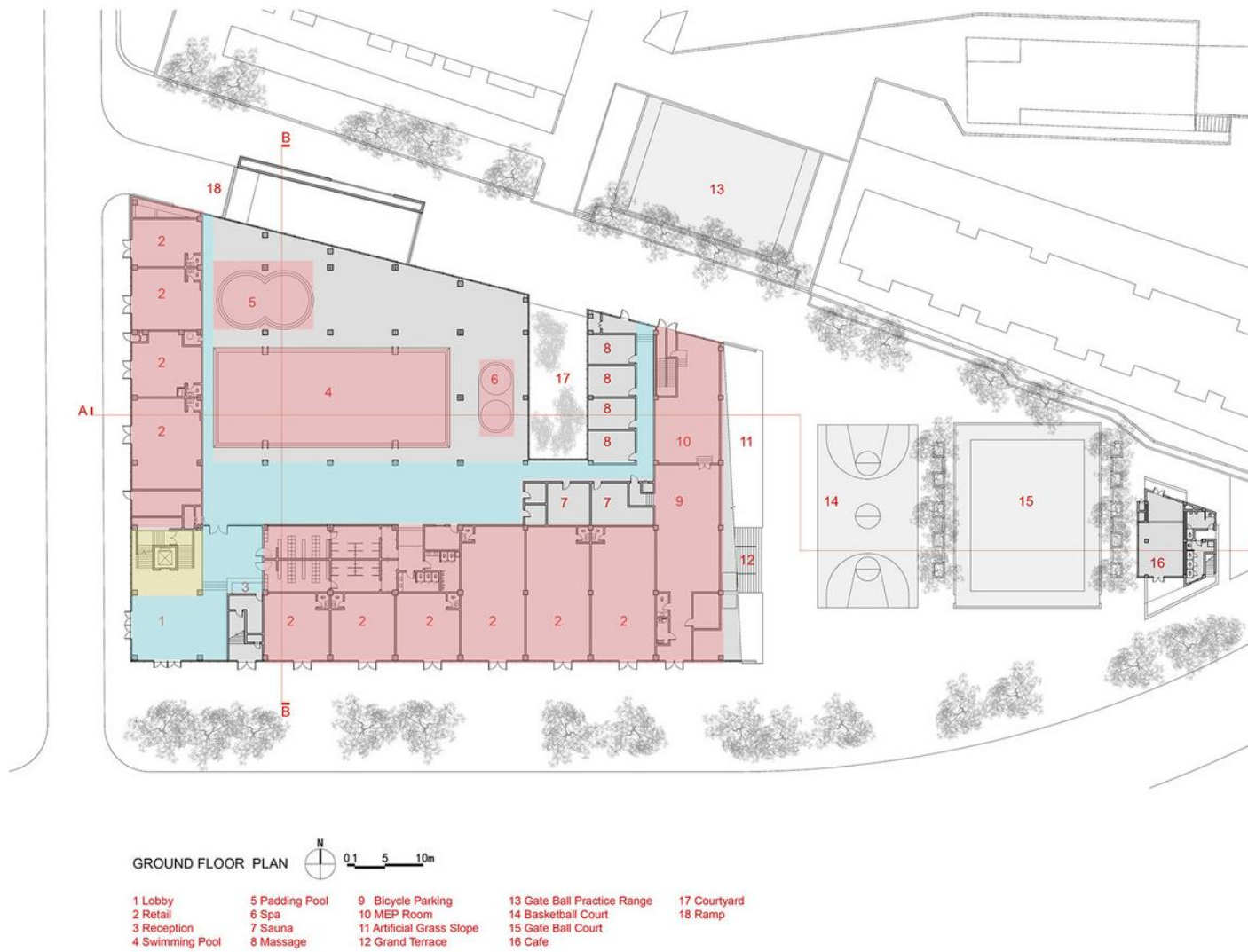


Figure 7

Source: Arc Daily

4.1.3 Horizontal and Vertical connection

The blue space is dedicated for horizontal circulation and it is all through connected to every served area in red color and the yellow vertical connection.

4.1.4 Site planning and Landscape.

The design cut in only one place of the site for entry with another grand public entry into the roof plaza which becomes part of the landscape and for people in the urban space to enjoy and the design to be a part of the society rather than sitting alienated.

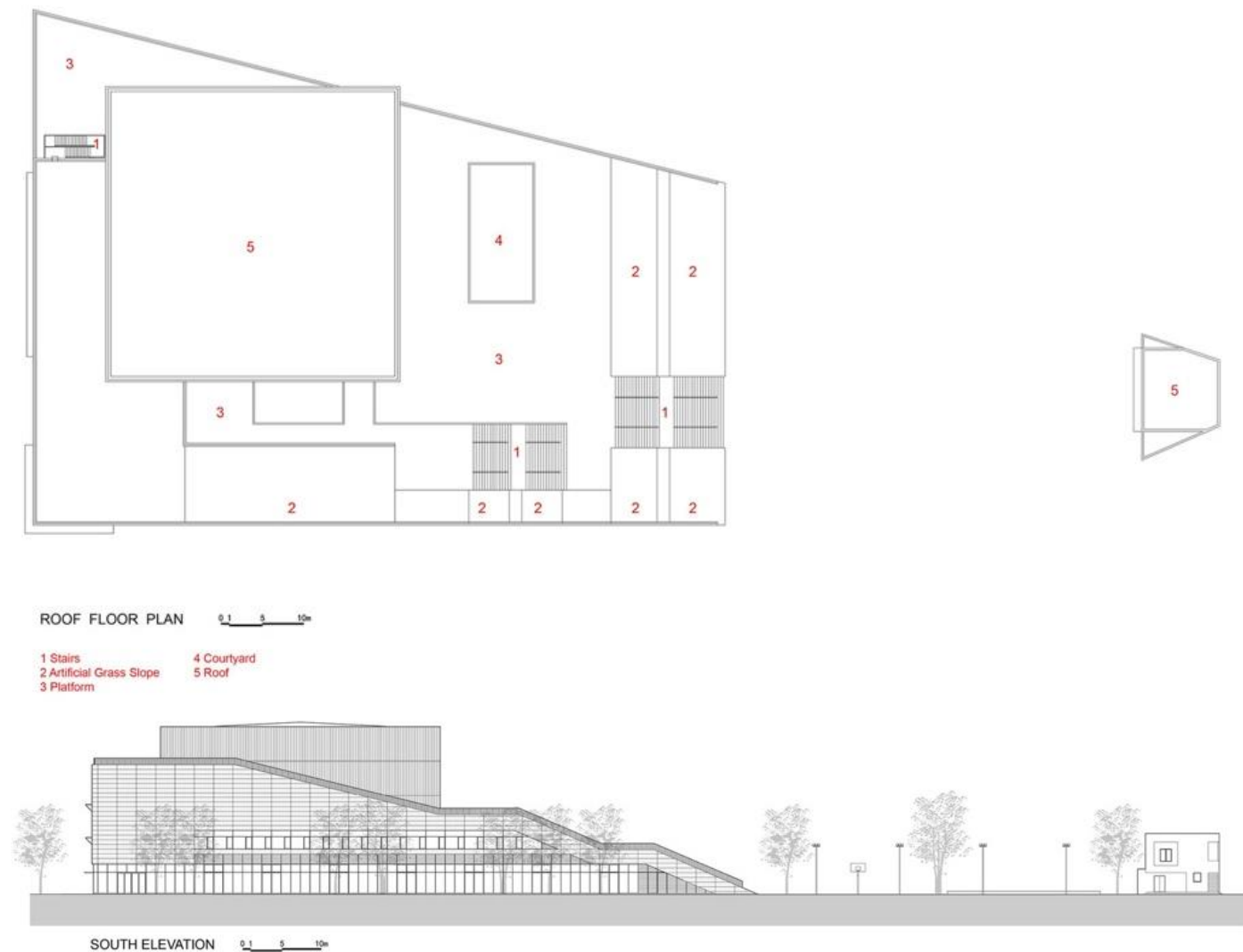


Figure 8

Source: Arc Daily

4.1.5 Structure Details

The structure of the building is steel beam column structure with wood and some composite materials as claddings.

There are V column Structures in the building to hold longer span space with space frames on the roof to make it lighter.

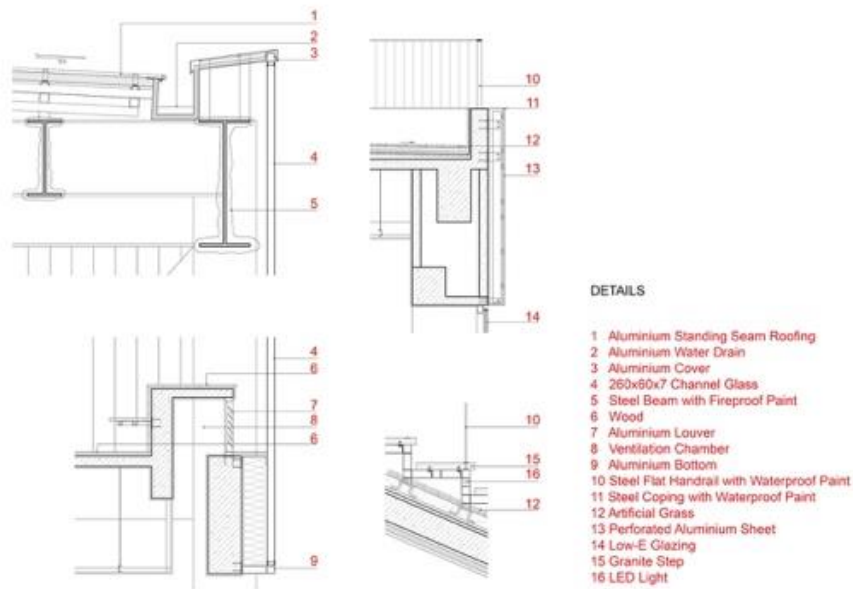


Figure 9

Source: Arc Daily

4.1.6 Parking Details

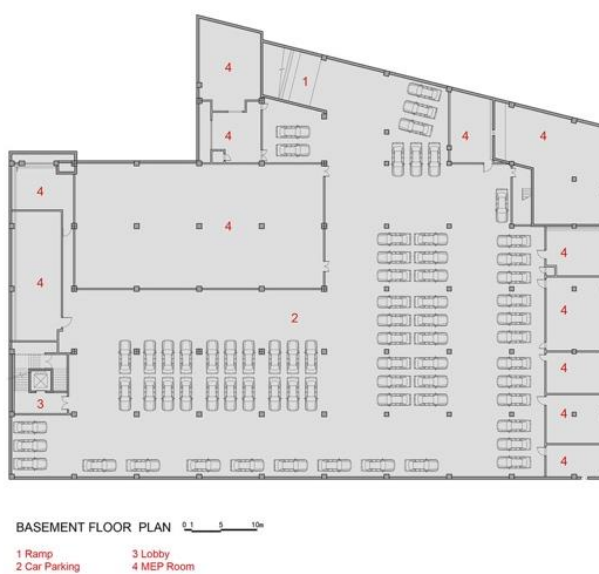


Figure 10

Source: Arc Daily

The parking is solved in a basement floor with a broad both way ramp.

4.2 Tucheng Sports Center, Taiwan

Tucheng Sports Center is composed of three interlocking volumes that stack on top of each other. The area of the project is 13,791sqm (1,48,500 sft) and is in the New Taipei City in Taiwan.

4.2.1 Environment and micro climate

The exterior of the building is clad with a composite window/wall system that incorporates perforated aluminum in the front and glass/insulation in the back, which allows sunlight to be filtered gently into the interior space. With this cladding system, one is able to look out from within with maximum transparency, but at the same times provides privacy when looking from outside inwards with maximum opacity. Moreover, the design of exterior is composed with an array of gradient colors which reflects the analysis of heat gain/loss (using lighter color panels for the most heat gain area, darker color panels for the least heat gain area).



Figure 11

Source: Arc Daily

4.2.2 Form and Function

Tucheng Sports Center is composed of three interlocking volumes that stack on top of each other. Both the red (basketball courts) and the grey massing (ice hockey rink) cantilever 9 meter out from the blue massing (swimming pool) which create a continuous walkway beneath for semi-outdoor activities such as casual strolling, rock climbing and street dancing.

With three volumes intersecting each other, interior is created with maximum visual connectivity that allows visitors to see beyond their own sports space. For example, when inside the swimming pool, one is able to see the other space such as fitness gym, snooker room, yoga rooms, and spinning bike rooms located on the second floor, and vice versa.

4.2.3 Horizontal and Vertical connection

Tucheng Sports Center embraces both horizontality and verticality in design. It explores the opportunity of engaging visitors with height differences in building section and at the same

time brings people together with open floor plan layout. It is a building with delightful surprises at every turn of the corner as well as on every change of levels.

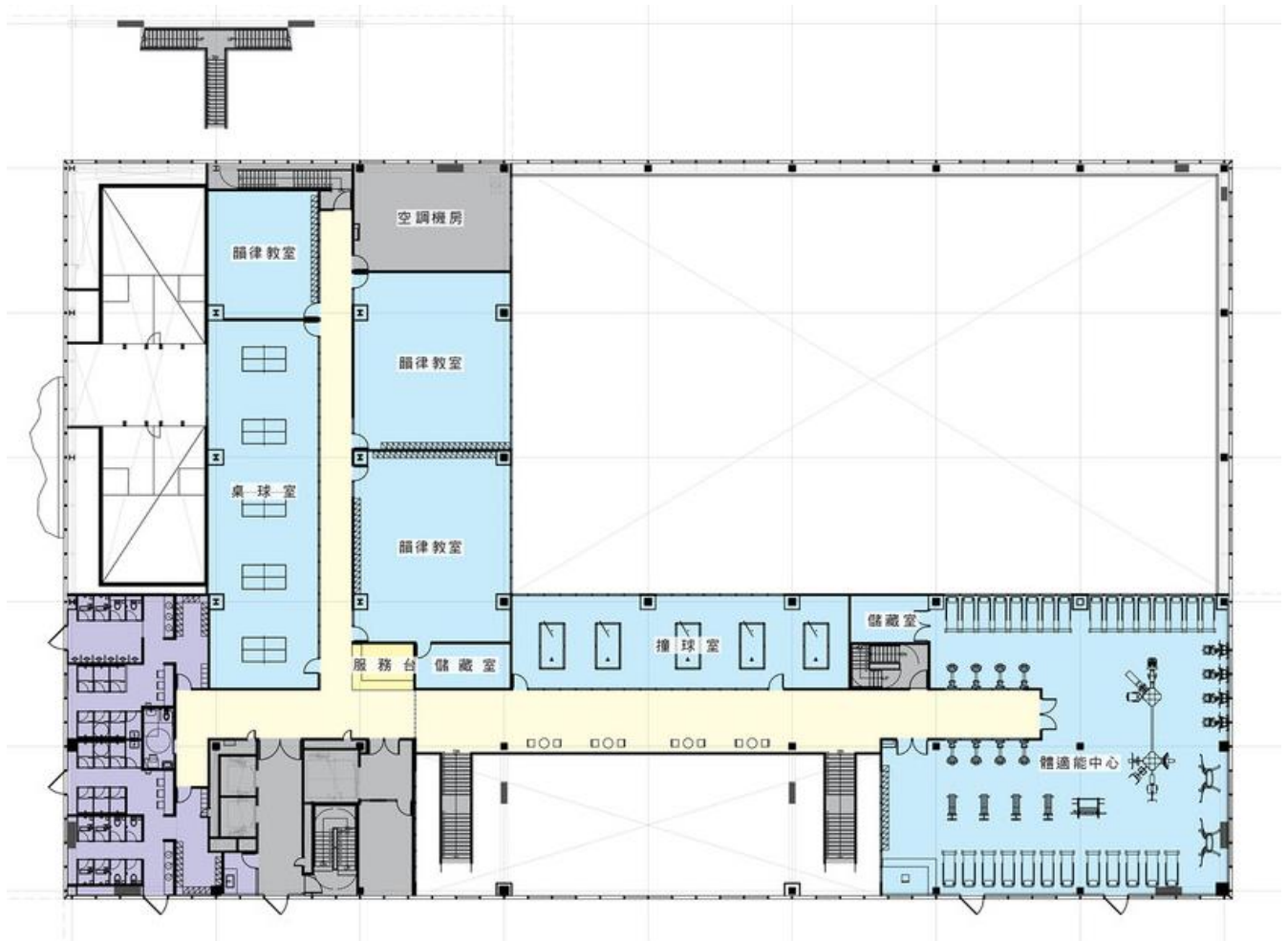


Figure 12

Source: *Arc Daily*

4.2.4 Site planning and Landscape detailing.

The built mass is surrounded by a plaza and is surrounded by green. The landscape treatment is similar to the elevation and is public friendly for people to spend time there.



Figure 13

Source: *Arc Daily*

4.2.5 Structure Details

The structure is of steel beam column with space frames in some places for bigger span and the grid of the project is 35'x 35'. There are v columns in places to hold the structure for a longer span in a lesser footing.

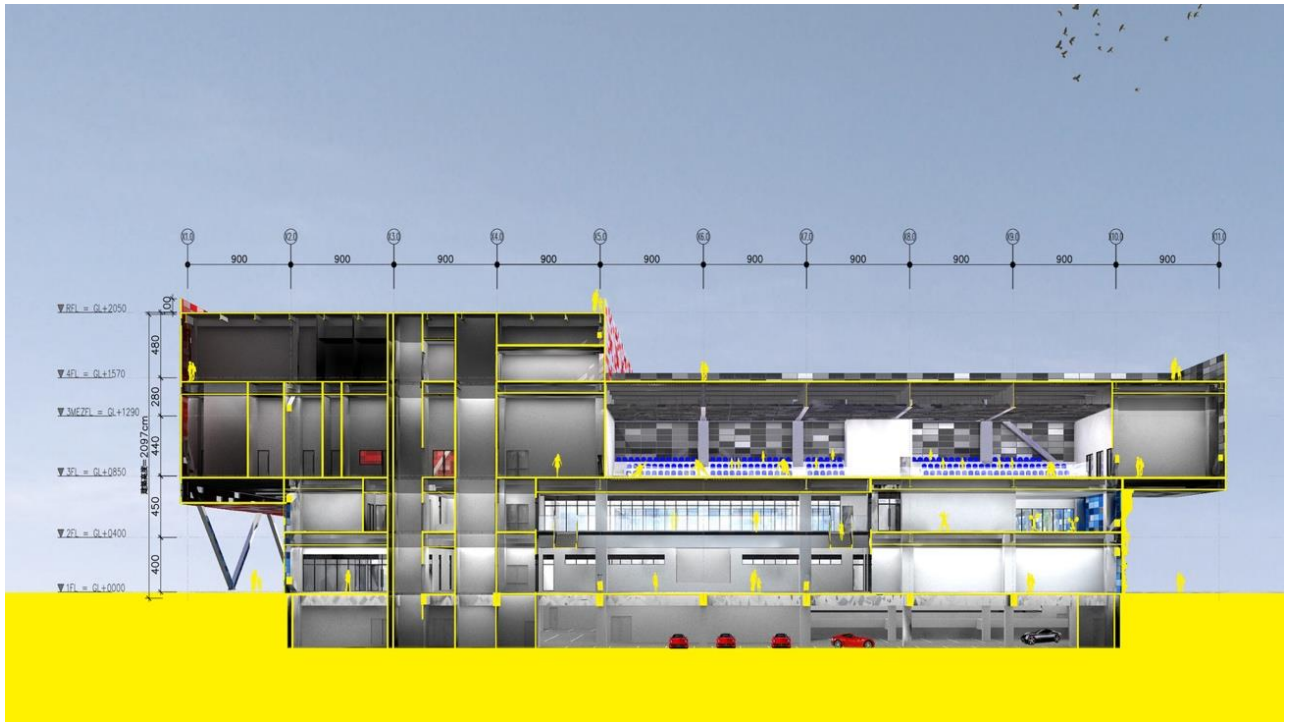


Figure 14

Source: Arc Daily

4.2.6 Parking Details

The parking is in one layer under the basement so that the ground level can be treated with landscape and other public spaces and a single one-way ramp to solve the vehicular circulation.

4.3 IIM Sports Center, India.

The sports center is planned in proximity to the existing hostel blocks. The planning had to take care of existing trees at the site. Main access and secondary access spines are created using trees as focal points. The project is 3,438sqm (40,000 sft) in area and the built area is almost 110,000 sft.

4.3.1 Environment and micro climate

The sports facilities are planned in two levels, in response to the contours on site. The structure is designed as a non- building that emerges from the green ground. There is a gradual transition: starting from the pergola-covered double height, which acts as the main circulation spine, up to a semi open verandah and eventually to the enclosed sports hall. Wide steps and platforms located in the sporting facility hold cultural activities and also connect the building to the landscape. The intended concept aims to establish a tranquil relationship between building, human, site and nature. Formal and informal interaction is encouraged through the use of common areas for staff and students.



Figure 15

Source: Arc Daily

4.3.2 Form and Function

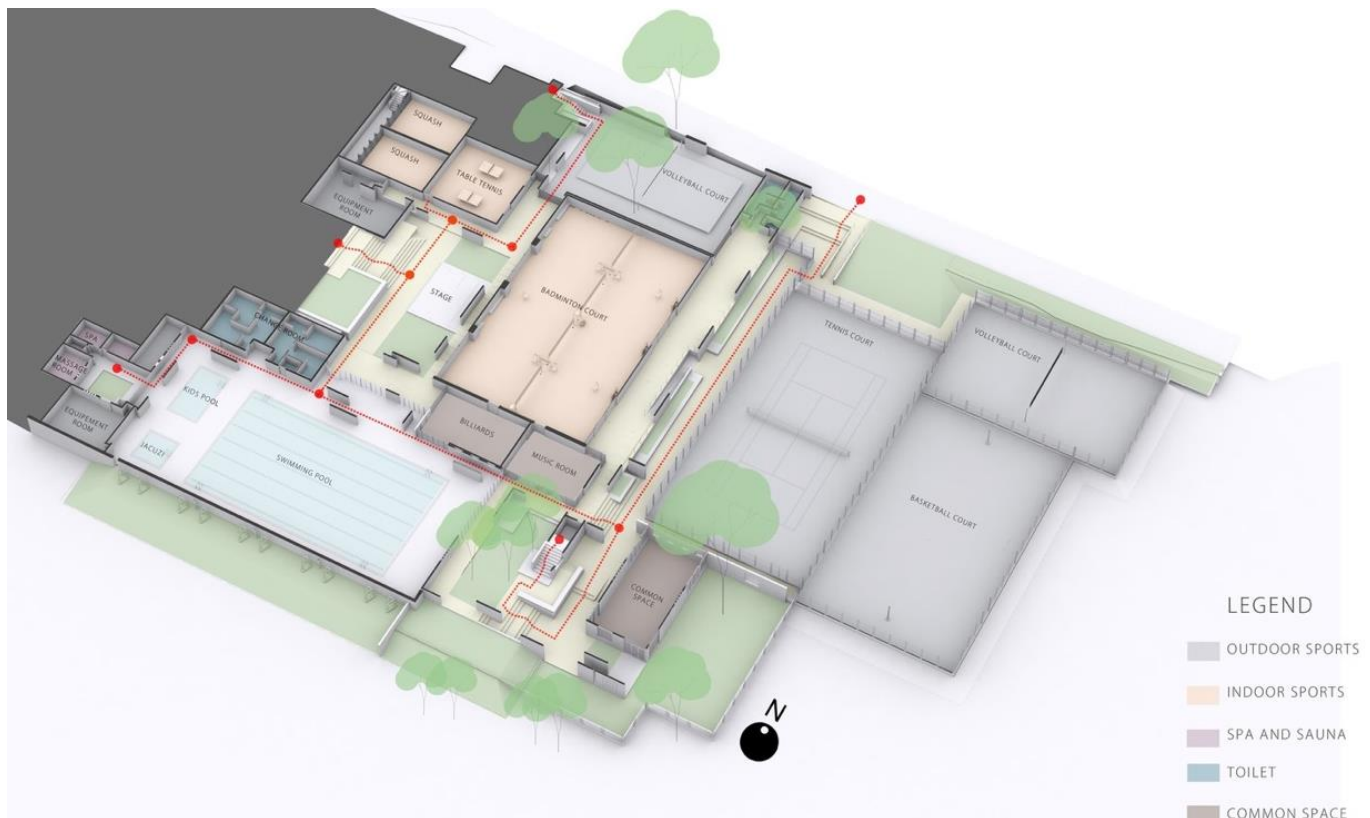


Figure 16

Source: *Arc Daily*

The project is an example of a south Asian contextual project and the form merges into the site and the trees are respected while designing in the site. The functions are the ones which are required to run a sports function and public facilities like library and cafeteria are there.

4.3.3 Horizontal and Vertical connection

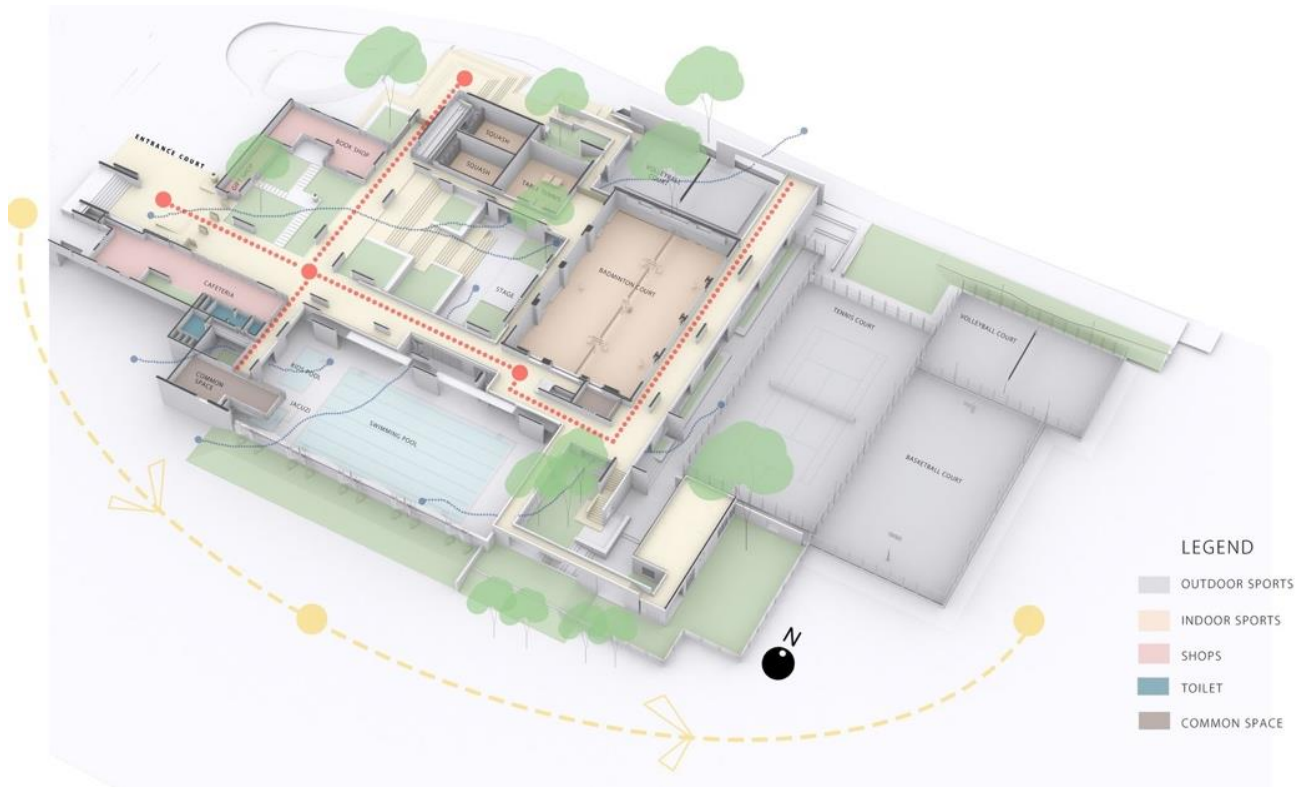


Figure 17

Source: Arc Daily

The horizontal connection from the plaza level connects to every served area with the vertical stairs. It enters like a spine and branches out into services or served areas. The circulation is not monotonous either as there are some experiential turns and still it is not complicated.

4.3.4 Site planning and Landscape.

The design is formed in such a way the contour is respected along with the vegetation in the area and the green merges with the project.

4.3.5 Structure Details

The structure of the project is of concrete wall with columns and space frames in certain areas where it is required. Since it is a low structure beam column structure is not required rather the wall structure hold the load of it.

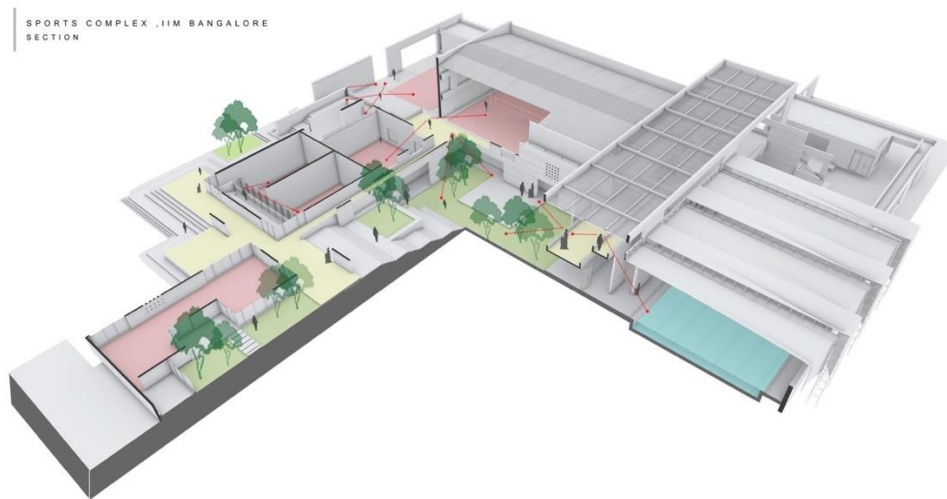


Figure 18

Source: Arc Daily

Chapter 5: Program Appraisal

The total built program is 1,10,100 sft which is about 52% of the total site area. (211300 sft) and the basic programs given in the project are gymnasium, indoor games, swimming pool and outdoor activities like jogging and skating tracks playground and sitting.

There are other service facilities like vehicular entry and parking of cars and two buses.

Through feasibility study public facilities like gallery for the indoor, dining facilities, multipurpose hall for seminars or events were proposed in as supporting function.

Administrative Facilities

The administrative facilities will include lobby to accommodate 100 people and a reception to guide people to the places they want to go and it is connected to the office for visibility purpose. Along with it there will be prayer space and wash room accessible for anyone in the complex and conference room if there is any decision making in the complex. There are two office rooms for 5 personals.

Multipurpose Hall

The hall initially requires a lobby for itself so that it can distribute the amount of rush of people when a conference or program is finished or where refreshments are served. It has to be at least one third the space of the main hall. Furthermore, backstage and toilets for at least one third of the accommodated sittings are required.

Emergency Medical Facilities

It is mandatory to have a medical facility in case of an injury before admitting into proper treatment and there are two rooms for male and female.

ADMINISTRATIVE FACILITIES					
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)
Lobby		100			1000
Lounge	1	30	10	300	300
Conference room	2	25	20	1000	1000
Prayer space			1	1000	1000
Wash rooms				300	300
Admins Office	2		5	150	750

Storage			1	500	500
Total					4850
MULTIPURPOSE HALL					
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)
Lobby	1	100			1000
toilet	2	100		300	600
Back Stage					
- Lobby	1		400		400
- toilet	1		100		100
- Reharsal	1				600
- Store	1				400
- Stage					500
Seatings	1	350	3500	10	3500
Total					7100
DINING FACILITIES (CAFETERIA)					
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)
Kitchen	1				800
Store	1				500
Cold Store	1				200
Indoor Dining	1	125	20	2500	2500
Outdoor Dining	1	60	20	1200	1200
Toilets				300	300
Total					5500
EMERGENCY MEDICAL FACILITIES					
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)
Treatment Room	2			300	600
Med waiting				500	500
Emergency room				300	300

Toilets				150	150
Doctors Office				1000	1000
Total					2500
PARKING FACILITIES					
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)
Car parking		25		128	3200
bicycle parking		50		16	800
Bus		2		576	1152
Total					5152

Indoor Games

The Chess playing space have to be segregated from the other sports since the other sports make lots of sound.

INDOOR GAMES						
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)	
Lobby	1			300	300	
Tennis		3		2000	6000	
Table Tennis		5		180	1000	
Carom		15		25	375	
Chess		20		20	400	
Cricket Net Practice		4		750	3000	
Badminton Court		3		800	2400	
Squash Block	3			650	1950	
Store	1			1000	1000	
Total					15425	
GYMNESIUM						
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)	
Lobby				500	500	
Gallery		1000	10		10000	

Press Box				200	200
Court (Hand Ball, Gym, Judo.)				9500	9500
Court (Basketball, Futsal)				9000	9000
Staff Dorm		10	200	200	2000
Shower		25		20	500
Locker	2			800	1600
Store	2			1000	2000
Total					35300
GYM					
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)
Lobby	1			300	300
Gym	2			3000	6000
Spa and Sauna	2			2000	4000
Locker Room				850	850
Shower				500	500
Washrooms				300	300
Gym Storage	1			300	300
Total					12250
SWIMMING POOL					
Program	Number of rooms	Number of users	Space per person sft	Space per room(sft)	Total Area(sft)
Lobby	1			300	300
Swimming Pool (50m)	1			18000	18000
Kid's Swimming pool				2000	2000
Shower			25	20	500
Washrooms	1			300	300
Pool Maintenance	1			1000	1000
Pool Storage	1			1000	1000
Total					23100

Swimming Pool

the swimming facility have a 50m long track for swimming and a kid's swimming pool for learning as sometimes bigger pools is sometimes intimidating.

Gym

Male and Female gym spaces for privacy and comfortability. Furthermore, sauna and spa are further added program which will give more revenue and act as a relaxing break in the physical activities.

Chapter 6: Design Considerations

6.1 [Maximizing efficiency of sports facility]

The first consideration for the project comes from the basic sports field orientation.

The indoor and outdoor field have to be north south orientated so that there is no direct glare from sunlight. To even further cut the direct sunlight proper fenestration can be used to act on it. When direct sunlight falls on the sportspersons it creates visual disruption so if the field is north south orientated so there is less visual disturbance.

Since the site is L shaped with the longer span on the east west direction this challenge has to be solved since there are outfield activities also like public spaces, outdoor field, tracks for cycling and jogging so there are issues that have to be addressed while designing on this site.

6.2 [Designing in a compact space]

Moreover, from there the second design consideration that arises is since the site compact and the total percentage of program with outfield program will use up most of the space and

MGC is 50% so the functions have to be stacked vertically rather than being spread out horizontally. In the project of Tucheng Sports Center the architect stacked up the functions one above another and gave them individual colors for each function so that public can identify the functions through forms and the functions are connected through circulation while designing and achieved more open spaces due to that. While designing this can be considered and a similar thing can be achieved in this situation. Another major thing that needs to be addressed is the environment of the gallery on the futsal field since there can be major matches played on that field and crowd can be intimidating for players so minimum separation should be maintained while on the other hand the gallery should be in a visible range so that the viewer can enjoy from a visible range.

6.3 [Traffic Management]

The third consideration is more due to the site surrounding as there is a secondary school and embassies across the site 75no road so vehicular entry from the 74 no road which is adjacent to the site should be prioritized while designing since there is less traffic pressure on that road.

6.4 [Vegetation Preservation]

Furthermore, there are trees on the site and it is a major challenge of how the trees can be preserved while designing or they can be relocated onto some part of the design. If this thing can be achieved then the project will be more environmental conscious and annual 10% tax deduction if there is 20% vegetation on the total amount of proposed project.

Chapter 7: Design Suggestions

The design was approached with some forces from the immediate site and programs that were generated lead to the suggestions.

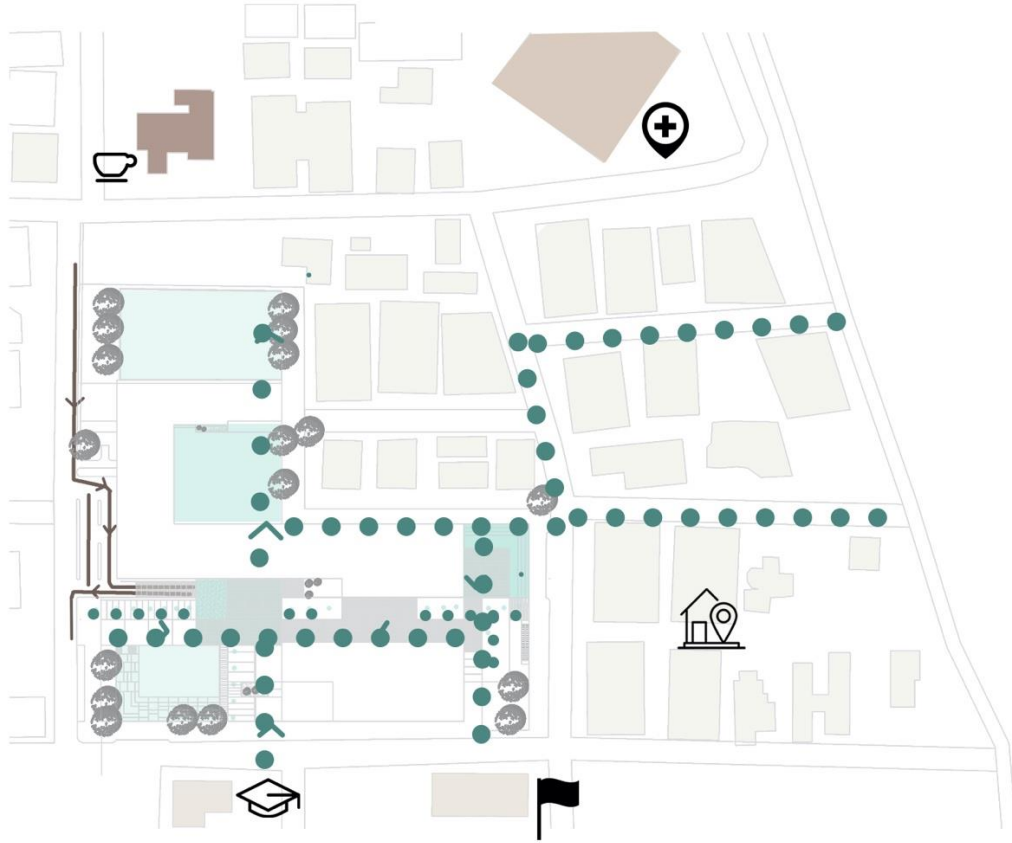


Figure 19

The Sports hall and swimming pool were on a competitive scale and the other indoor and fitness facility was to serve the community and corporate group.

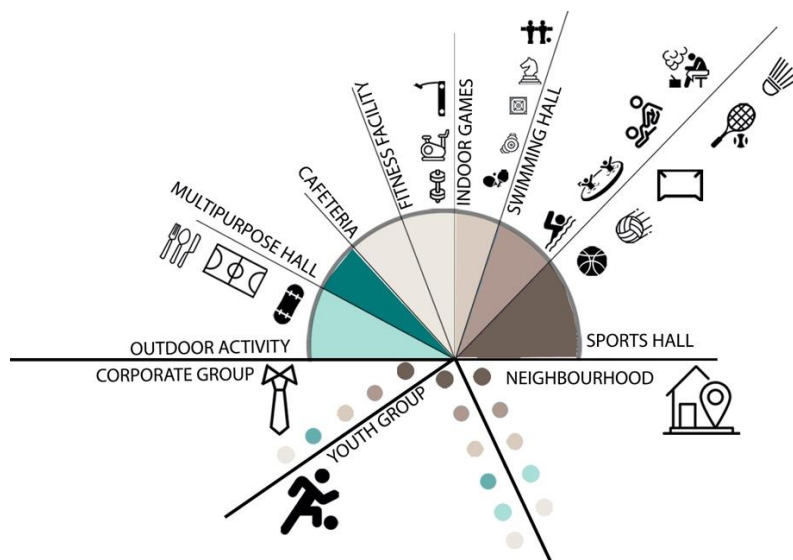


Figure 20

7.1 [Design Development]

The design started with considering accessibility and nodes in the site. The school and the neighborhood made an influence in designing. There was cul-de-sac beside the site so they were connected to the site.



Figure 21

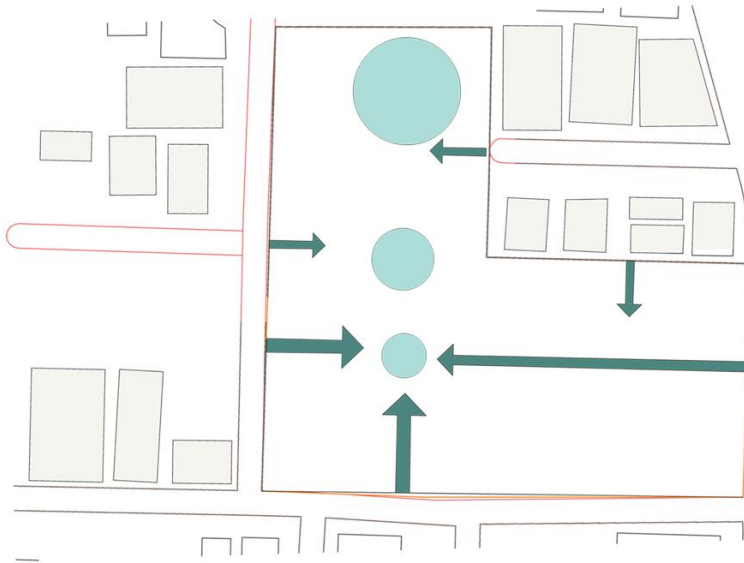


Figure 22

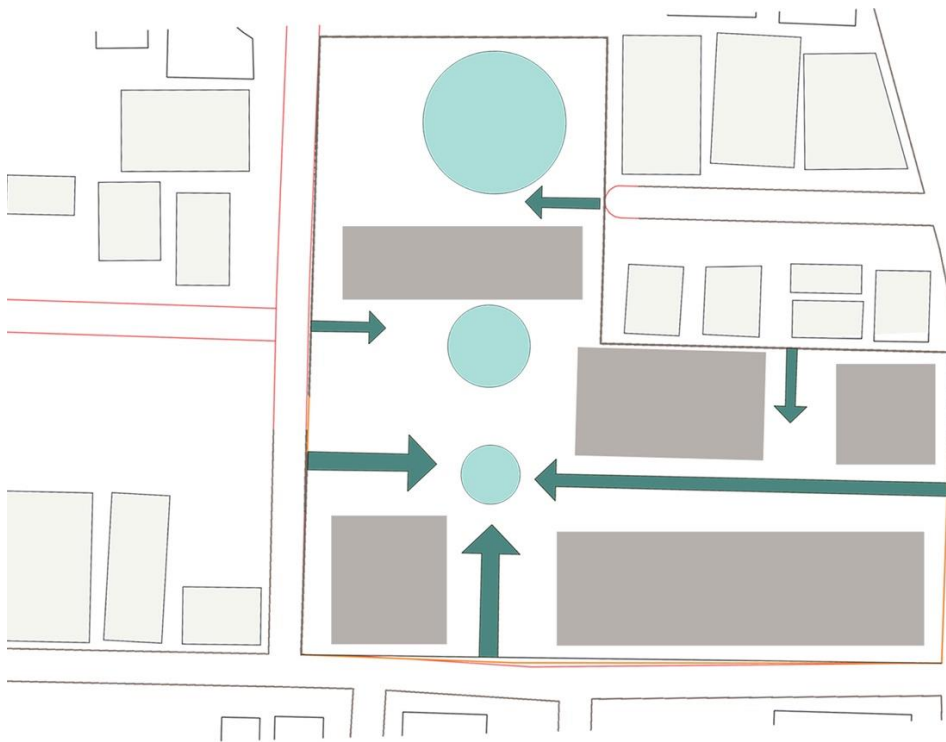


Figure 23

7.2 [Space Development]

Spaces started growing from the surrounding forces. The school and that 79no road was the main consideration for access road and public entry and the vehicular entry was from the 74no road with other pedestrian access for the from other points.

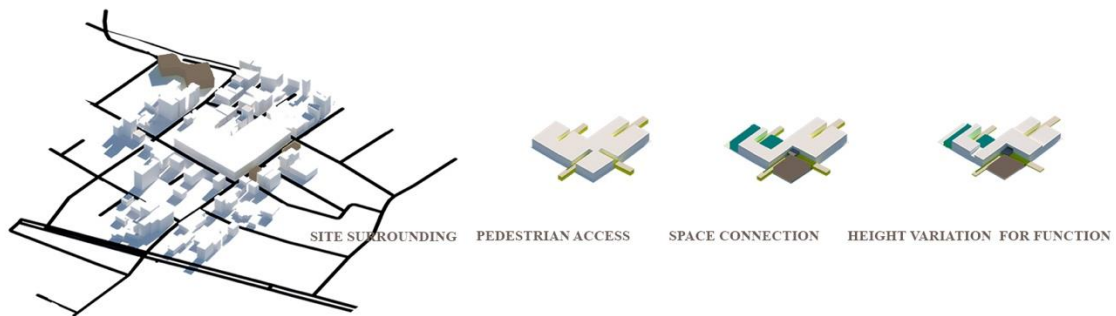


Figure 24

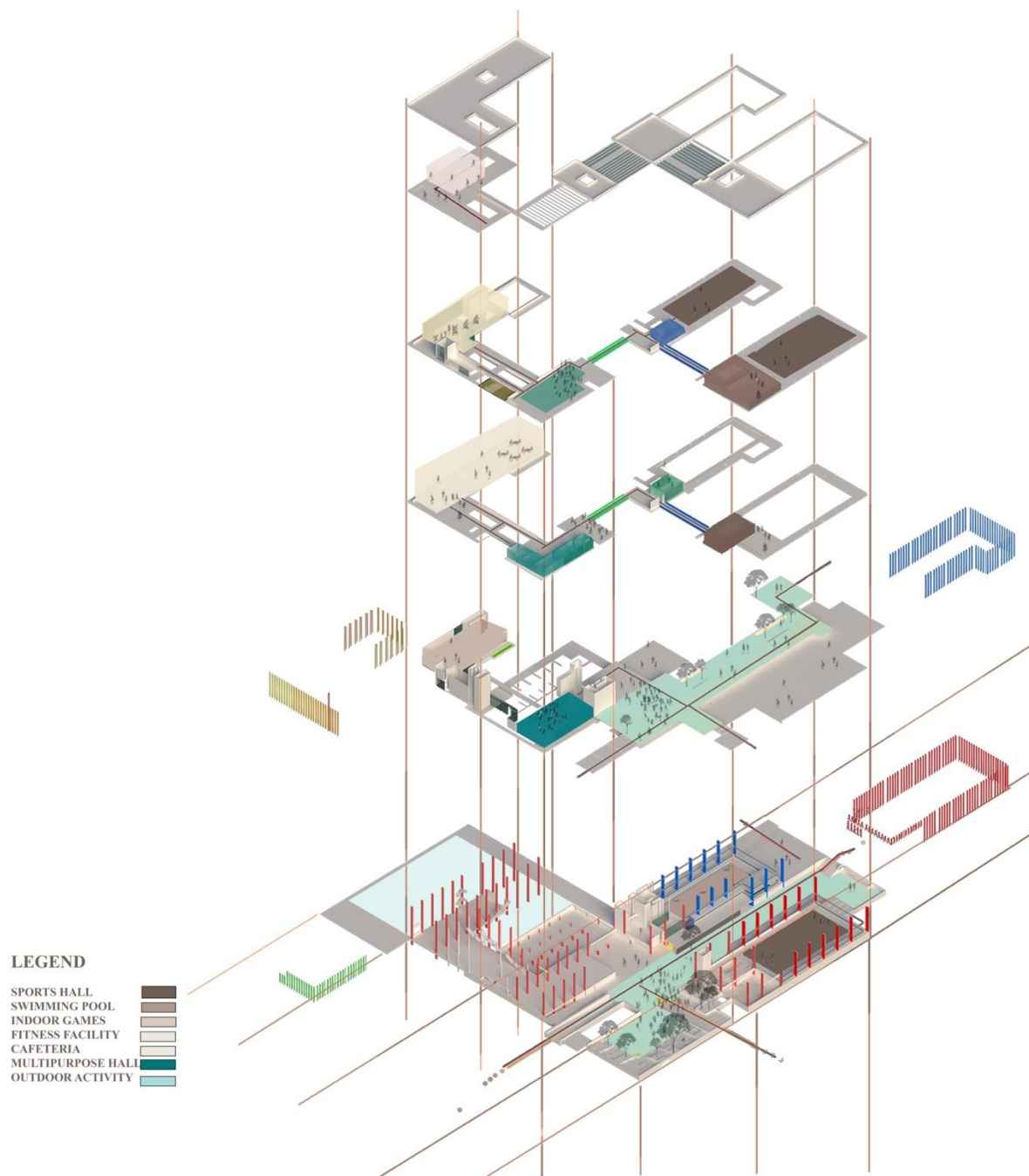
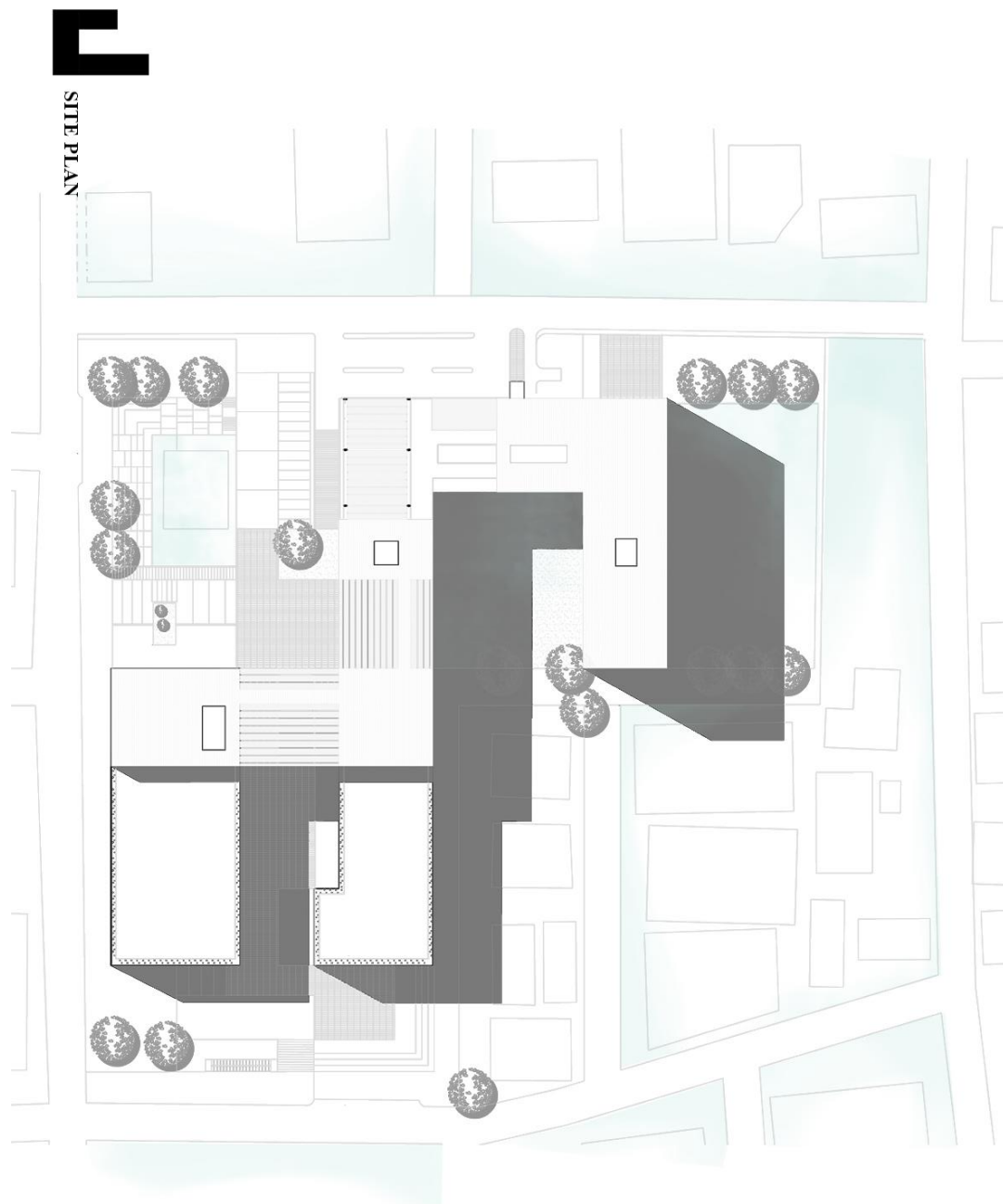


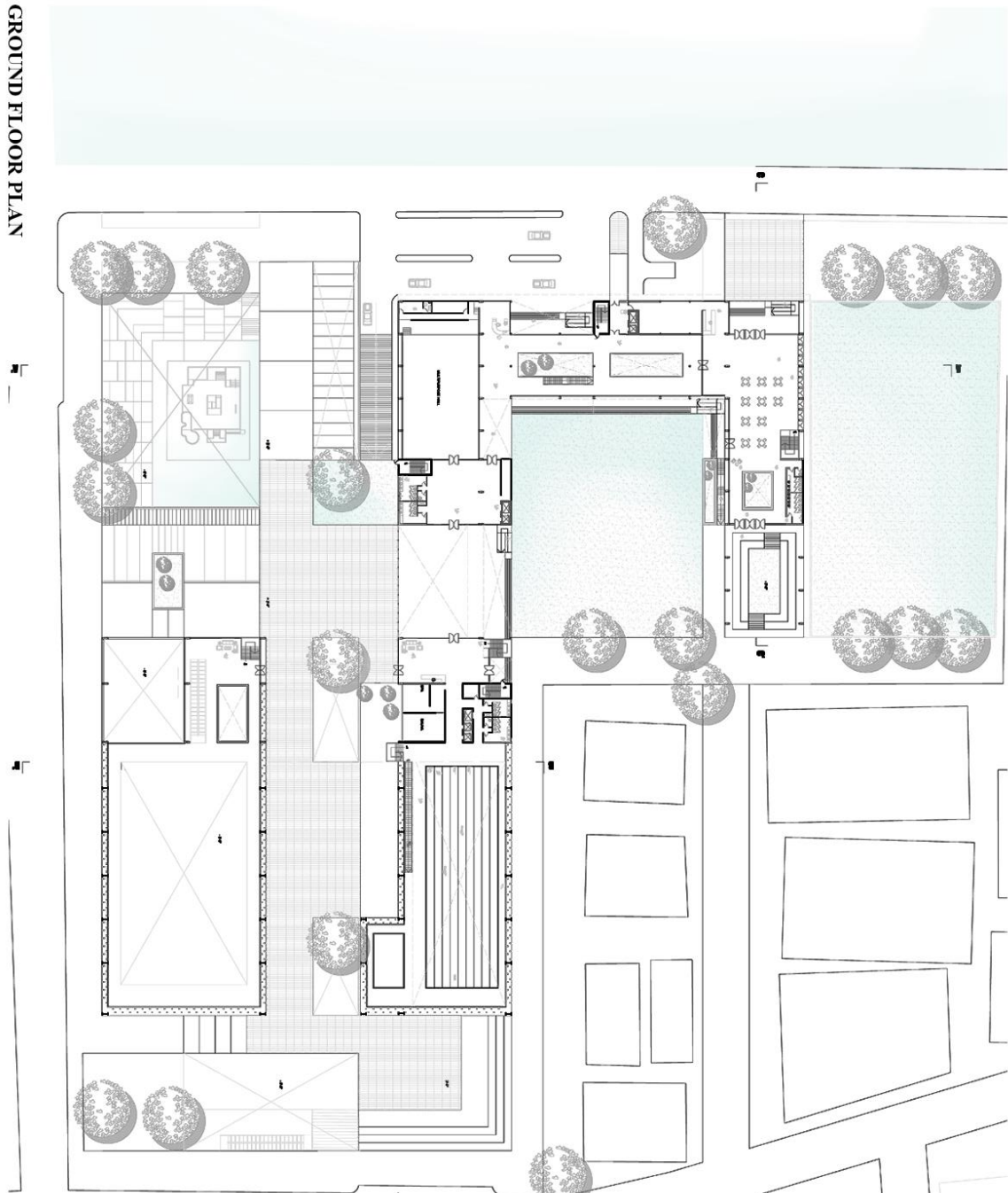
Figure 25

7.3 [Design Drawings]



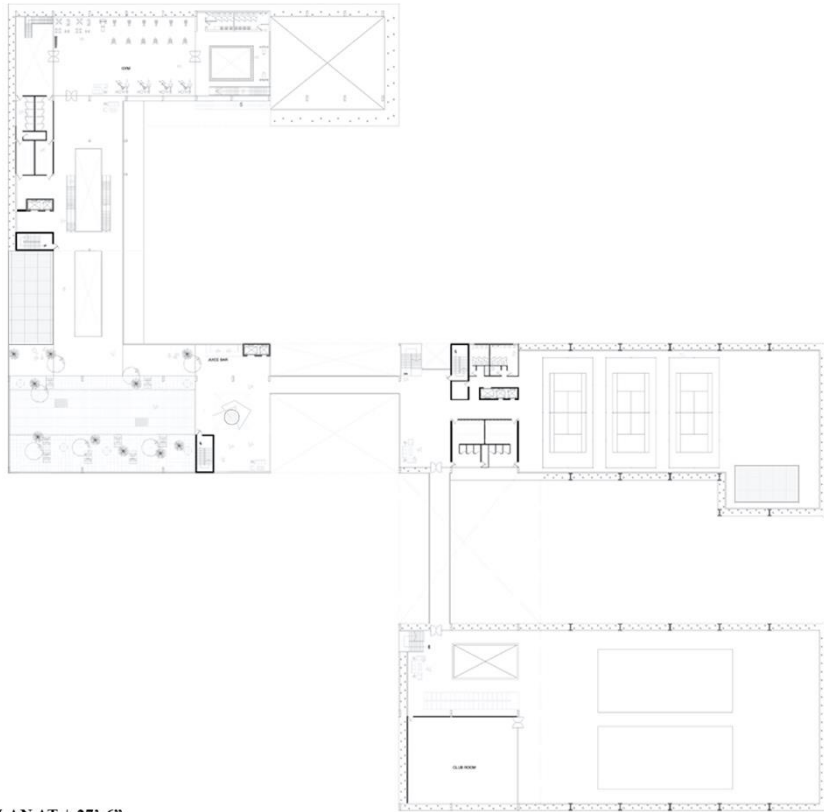


GROUND FLOOR PLAN

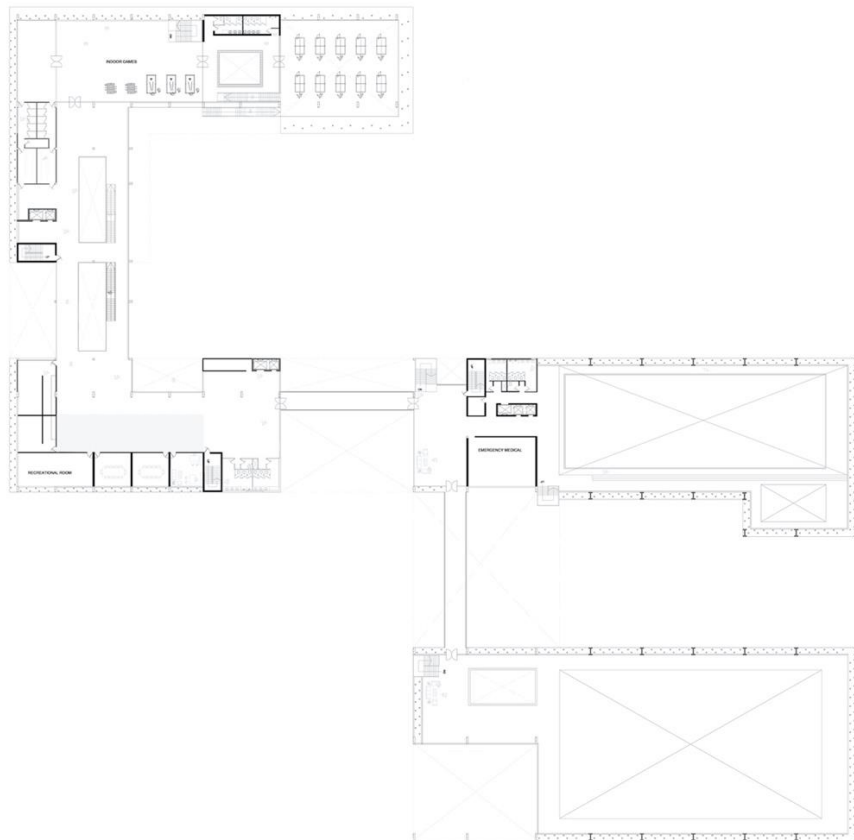




PLAN AT + 27'-6"

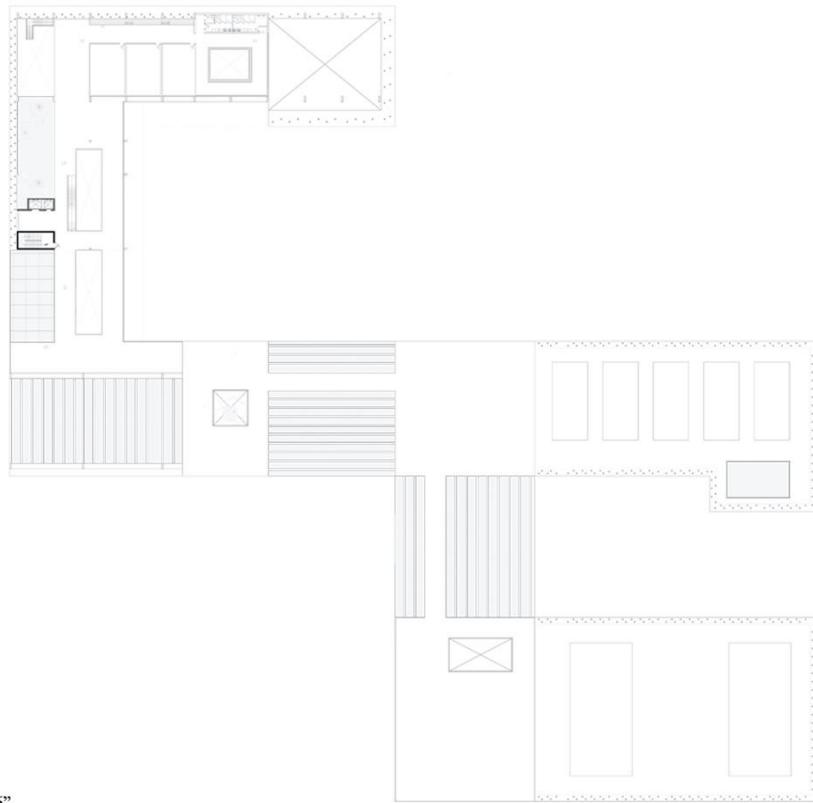


PLAN AT + 17'-6"

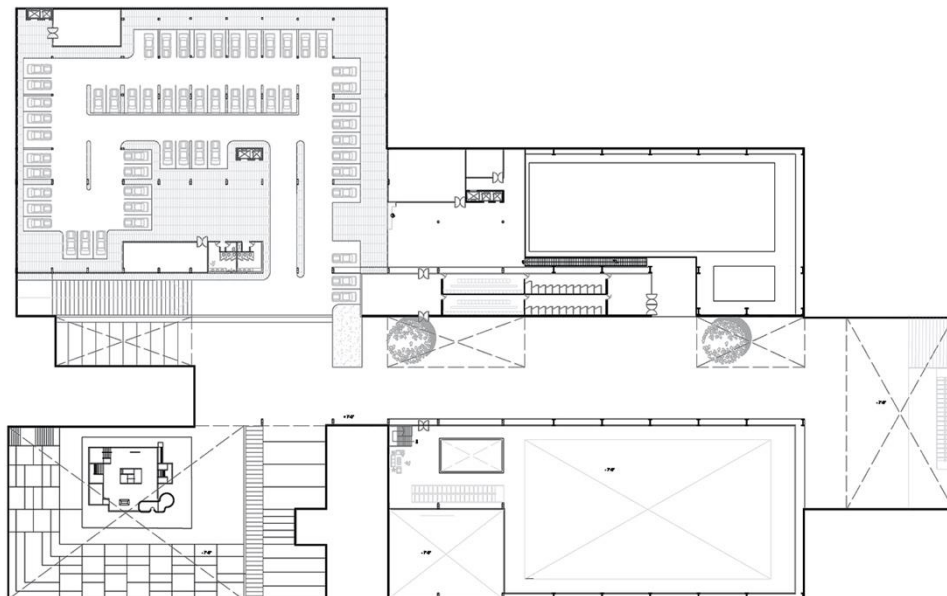




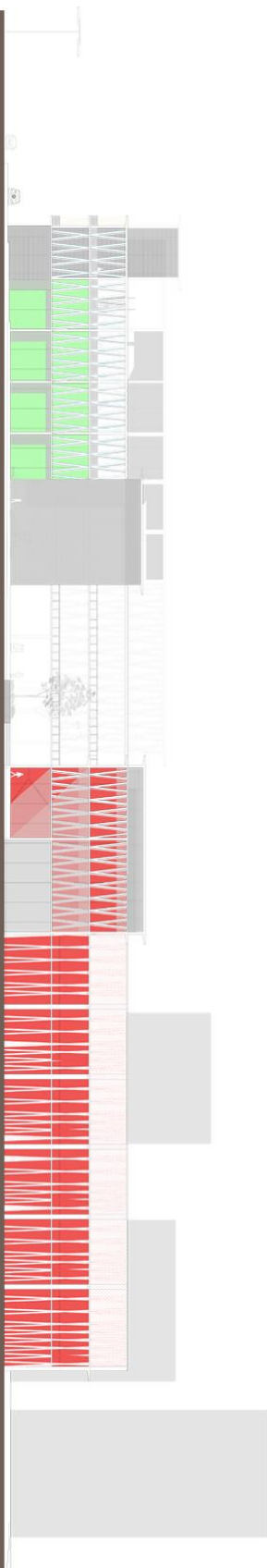
PLAN AT + 42'-6"



PLAN AT -8'



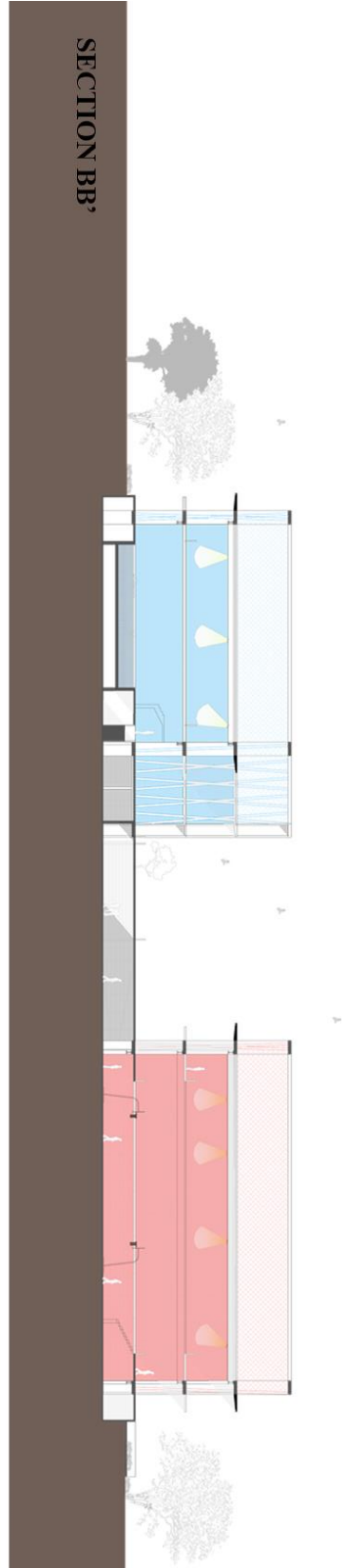
SOUTH ELEVATION



SECTION AA'



SECTION BB'



SECTION CC'





7.4 [Conclusion]

Sports is a spontaneous and important part of life. It does not always bring about a Physical impact but also a mental impact with it. Rather than designing a huge field for competition this project approached to help its surrounding community by providing different levels of sports activities and some public activities along within it. Sports Complex is an asset for a city and it is important that it exists in the society to serve the people economically, socially and culturally. The trend in designing an individual building should be eliminated as fast as possible only then it will be possible to create an interactive and responsive living environment. Public facilities should be designed according to the needs of the people. This project comes with the ideas of how an all integrated communal sports space can function as a major civic space and also in a competitive manner. It also aims to address people of all income levels in a variety of approaches through policies, strategies and design.

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