

TELETALK HEADQUARTERS

By

S M Mobasheer Meead
15108005

A thesis submitted to the Department of Architecture in partial fulfillment of the
requirements for the degree of Bachelor of Architecture

Department of Architecture
BRAC University
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Declaration

It is hereby declared that

1. The thesis submitted is my/our own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
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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Student's Full Name & Signature:

S M Mobasheer Meead
15108005

Approval

The thesis/project titled “TELETALK HEADQUARTER” submitted by S M Mobasheer Meead (15108005) of Fall, 2019 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Bachelor of Architecture on 12.12.2019.

Examining Committee:

Fuad H. Mallick, PhD
Professor & Dean, School of Design
BRAC University

Iftekhar Ahmed, PhD
Associate Professor, Dept. of Architecture
BRAC University

Supervisor:

Huraera Jabeen, PhD
Associate Professor, Dept. of Architecture
BRAC University

Mohammad Hafeez
Visiting Faculty, Dept. of Architecture
BRAC University

Departmental Head:

Zainab Faruqui Ali, PhD
Professor & Chairperson, Dept. of Architecture
BRAC University

Abstract

Teletalk Bangladesh Ltd. Is the only government run mobile phone operator in Bangladesh, with the brand name “Teletalk”. Starting its journey in 2004, Teletalk now has a subscriber base of 4.5 millions. Till now Teletalk does not have a proper headquarters, but its office and/or departments scattered mostly around different part of Gulshan, Dhaka. In order to boost Teletalk’s business, management and service, as well as to declare its strong presence both in national and international arena, Teletalk has decided to build its own headquarters. It is very necessary for an entity as such to have its own office at its own premise for the best of the business. This dissertation paper deals with my academic architectural design journey of Teletalk Headquarters as how to make the project an energy efficient, interactive iconic landmark, from the background researches to the finished design product.

Keywords: Headquarter, Teletalk, Office, Energy-efficient, Interactive, Iconic Landmark.

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Table of Contents

Declaration.....	iii
Approval	iv
Abstract.....	v
Acknowledgement	vi
Table of Contents	viii
List of Figures.....	xi
Chapter 1:Introduction	1
1.1 Introduction to the Project	1
1.2 Aim and Objectives of the Project	2
1.3 Project Summary.....	3
Chapter 2: Literature Review	5
2.1 About Telecommunication.....	5
2.1.1 Definition of Telecommunication	5
2.1.2 How Telecommunication Works.....	5
2.1.3 Pioneers of Telecommunication	6
2.1.4 Modes & Development of Telecommunication through History.....	7
2.1.5 Importance of Telecommunication	8
2.2 About Headquarter.....	9
2.3 About Office	9
2.3.1 History of Office Building	9

2.3.2 Human Psychology & Office Space Environment.....	10
2.3.3 Optimal Office Environment & Employee Performance	11
2.3.4 Environmental Satisfaction for an Employee.....	11
2.3.5 Types of Office Space Design.....	12
Chapter 3: Site Appraisal.....	13
3.1 Site Location & Surroundings	13
3.2 Solid-void Relationship of Site Surrounding.....	16
3.3 Accessibility & Connectivity.....	17
3.4 Greenaries and Waterbody of Site Surroundings.....	18
3.5 Land-use Pattern of the Site Surrounding.....	19
3.6 Site Surrounding Structure Heights	20
3.7 Climatic Condition.....	21
3.8 Solar (stereographic) Diagram.....	24
3.9 Socio-cultural & Economic Context.....	24
3.10 Images of Existing Site Condition	24
Chapter 4: Case Study Appraisal.....	25
4.1 Grameenphone House	29
4.1 CAT Telecom Headquarter.....	34
4.1 Maroc Telecom Tower.....	37
4.1 Bouygues Telecom Headquarter.....	40
Chapter 5: Program Appraisal.....	43

5.1 Administrative Facilities	44
5.1 Customer Service Facilities	47
5.1 Training & Meeting Facilities.....	48
5.1 Recreation & Anciliary Facilities	49
5.1 Security & Maintenance Facilities.....	50
Chapter 6: Design Considerations.....	51
Chapter 7: Design Suggestions	52
7.1 Design Concept & Form Development.....	53
7.2 Plans.....	58
7.3 Sections & Elevations	66
7.4 3D Renders.....	69
7.5 Physical Model Images	73
References.....	77
Appendix A.....	78

List of Figures

Fig. 3.1.1: Zooming into the site

Fig. 3.1.2: Site surrounding map

Fig. 3.2.1: Solid-void relationship map

Fig.3.3.1: Road network map

Fig. 3.4.1: Vegetation and water body map

Fig.3.5.1: Land use pattern map

Fig.3.6.1: Surrounding structure height map

Fig.3.7.1: Average temperature in Dhaka(collected)

Fig.3.7.2: Average rainfall in Dhaka(collected)

Fig.3.7.3: Average humidity in Dhaka(collected)

Fig.3.7.4: Average daylight hour in Dhaka(collected)

Fig.3.7.5: Average UV index of Dhaka(collected)

Fig.3.8.1: Solar (stereographic) diagram of the site

Fig.3.10.1: Site images

Fig.3.10.2: Site images

Fig.4.1.1: Form & function analysis of Grameenphone house (Level 01)

Fig.4.1.21: Form & function analysis of Grameenphone house (Level 05)

Fig.4.1.3: Structure analysis of Grameenphone house (Level 05)

Fig.4.1.4: Grameenphone House (collected)

Fig.4.2.1: Form & function and structural analysis of CAT Telecom. HQ (Level 01 & 06)

Fig.4.2.2: CAT Telecom Headquarter

Fig.4.2.3: CAT Telecom Headquarter

Fig.4.3.1: Form & function and structural analysis of Maroc telecom headquarter (typical floor plan)

Fig.4.3.2: Maroc telecom headquarter (collected)

Fig.4.4.1: Form & function and structural analysis of Bouygues telecom headquarter (typical floor plan)

Fig.4.4.2: Bouygues telecom headquarter (collected)

Fig.7.1.1: Design considerations and concepts

Fig.7.1.2: Design ideas

Fig.7.1.3: Form development and materiality

Fig.7.1.4: Conceptual section

Fig.7.2.1: Site plan

Fig.7.2.2: Ground floor plan

Fig.7.2.3: 1st floor plan

Fig.7.2.4: 2nd floor plan

Fig.7.2.5: 5th floor plan

Fig.7.2.6: 9th floor plan

Fig. 7.2.7: 12th floor plan

Fig. 7.2.8: Basement 01 plan

Fig 7.3.1: Section A-A

Fig 7.3.1: Sectional elevation C-C

Fig. 7.3.3: Sectional perspective B-B

Fig. 7.4.1: Outdoor perspective from North-Western side to the plot

Fig. 7.4.2: View of Western plaza, central courtyard and shallow pool from office space

Fig. 7.4.3: View of public spaces and central courtyard shallow pool from Northern plaza entry

Fig. 7.4.4: Main vehicular approach view from the North-Eastern point

Fig. 7.5.1: Physical model image 01

Fig. 7.5.2: Physical model image 02

Fig. 7.5.3: Physical model image 03

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Chapter 1: Introduction

1.1 Introduction to the Project

Teletalk Bangladesh Ltd. Is a public Ltd. Company, registered under the Register of the joint stock companies of Bangladesh. All shares are owned by the Government of the People's Republic of Bangladesh. Teletalk continues to grow and engage their customers customers through clear commitment of offering high quality products and services as well as leading customers retention and loyalty programmers. Teletalk continues to be a part of the revolution that's connecting millions of Bangladeshi people and around the world.

Teletalk Bangladesh Ltd. was established keeping a specific role in mind. Teletalk has forged ahead and strengthened its path over the years and achieved some feats truly to be proud of, as the only Bangladeshi Operator and the only operator with 100% state owned and engineering human resource base, Teletalk thrives to become the true people's phone- "Amader Phone".

Teletalk Bangladesh limited (the "company") was incorporated on 26 December, 2004 as a public limited company under the companies act, 1994 with an authorized capital of tk.20,000,000,000 being the only government sponsored mobile telephone company in the country. On the same day the company obtained certificate of commencement of business. Company's network expansion: Teletalk Bangladesh limited has continually expanded its network, to better accommodate its growing customer base as well as to keep the promise of providing better service. As of now, Teletalk has already established its network foothold in 64 districts, 402 upazilas, and most of the highways. Teletalk is continuing its network expansion to reach more corners of Bangladesh.

With the view described above, Teletalk Bangladesh Limited, being the only government sponsored mobile telephone company in the country, was incorporated on 26 December, 2004 as a public Limited company under the companies Act, 1994 with an authorized capital of Tk. 20,000,000,000 on the same day, the Company obtained Certificate of Commencement of Business.

1.2 Aim and Objectives of the Project

The aim of the project is to create an iconic architectural landmark in the national level to look up to and also to declare Teletalk's presence in the international arena.

The objectives:

- To design a sustainable, energy efficient and green structure.
- To create different spaces for the employees for maximum work efficiency and job satisfaction.
- To integrate the urban fabric's essence and give back to the site surrounding community.

1.3 Project Summary

Project Name	Teletalk Headquarter
Project Type	Office Building Complex
Client	Teletalk Bangladesh Ltd.
Industry	Telecommunication
Project Fund Agency	BTCL
Implementer	Teletalk Bangladesh Ltd.
Location	Tejgaon, Dhaka, Bangladesh
Total Site Area	2,40,555 sft (5.52 Acres)
Proposed Usable Area	95,800 sft (2.20 Acres)
Total Built Area	1,98,000 sft

List of programs:

- Office Space for:
 - Managing Director's Office
 - Board of Directors' Office
 - Department of Administration & Human Resource
 - Department of System Operation
 - Department of Planning & Implementation
 - Department of Finance & Accounting
 - Department of Sales & Distribution
 - Department of Procurement
 - Department of IT & Billing
 - Department of Marketing & VAS
 - Department of 3G Project
- Customer Care
- Call Centre
- Auditorium
- Conference Hall
- Restaurant
- Café
- Indoor Sports, Gym & Swimming Pool
- Day Care
- Prayer Space
- Library & Study
- Dormitory
- Security & Control Room
- HVAC Room
- Generator Room
- Sub-Station (Power Room)

Chapter 2: Literature Review

2.1 About Telecommunication

2.1.1 Definition of Telecommunication

The term “telecommunication” is derived from the two separate words; the French word, “*tele*” which means “distance/distant” and Spanish word “*comunicacion*” meaning “to communicate”. Thus, the word telecommunication means to communicate over a distance. (Collins Dictionary Web Version)

In 1932 the term “telecommunications” was officially recognized by International Telecommunication Union (ITU) and defined it as: “any telegraph or telephone communication of signs, signals, writings, images and sound of any nature, by wire, radio, or other system or processes of electric or visual (semaphore) signaling”, while as of today it has been modified to “any transmission, emission, or reception of signs, signals, writings, images, and sounds; or intelligence of any nature by wire, radio, visual, or other electromagnetic systems.” (HUURDEMAN, 2003)

2.1.2 How Telecommunication Works

Telecommunication is information transmission by electromagnetic process and the 21st century challenge is to transmit information in huge chunks over long distance without a drop-in quality of data. Transmission of voice, data, radio and television signals are the core components of today’s digital telecommunication network. Digital transmission is highly reliable and cost efficient compared to analog transmission system, yet there has to be a analog-to-digital conversion of voice, radio and television communication that is produced by analog signal. . All the signals are processed into binary codes to reduce redundancy via source encoder and channel encoder to detect

and correct errors. The encoded signal is multiplexed for transmission by modulation into a carrier wave, which is sent through a multi-access transmission channel and the whole process is then reversed to extract data at the receiving end. (Borth, Stark, & Lehnert, 1998; HUURDEMAN, 2003)

2.1.3 Pioneers of Telecommunication

The development of telecommunication is the result of successful usage of the discoveries made by inventions of ingenious pioneers:

- Claude Chappe (1763–1805): The pioneer of telecommunications which began with the successful operation of his optical telegraph between Paris and Lille in 1794.
- Samuel Finley Breese Morse (1791–1872): Invented the writing telegraph system which proved its success and its worldwide use.
- Alexander Graham Bell (1847–1922): Made the first telephone apparatus with a successful operation of its line across Boston and Cambridge in 1876.
- Heinrich Rudolf Hertz (1857–1894): Founder of radio transmission method, who proved the existence of electromagnetic radiation and its similar behavior to light in 1889.
- Guglielmo Marconi (1874–1937): Conducted the first successful radio signal transmission over a few kilometers at Bologna in 1896 and helped it to come to commercial usage.
- Almon Brown Strowger (1839–1902): Developer of today's gigantic worldwide telephone network, which is interconnected through thousands of automatic telephone exchanges.
- Michael Idvorsky Pupin (1858–1935): Developed the Pupin Coil for which he was awarded the Pulitzer Prize.

- Alec H. Reeves (1902–1971): Founder of digitalized speech idea and pulse-code-modulation (PCM) technology. (HUURDEMAN, 2003)

2.1.4 Modes & Developments of Telecommunication through History

Before 1800

- Optical Telegraphy

From 1800-1850

- Electrical Telegraphy

From 1850-1900

- Image Telegraphy
- Telephony
- Telephone Switching
- Radio Transmission

From 1900-1950

- Electromechanical Telephone Switching
- High-Frequency Radio Transmission
- Photo Telegraphy
- Tele Printers

- Copper-Line Transmission
- Radio-Relay Transmission
- Cryptography

From 1950-2000

- Coaxial Cable Transmission
- Satellite Transmission
- Optical Fiber Transmission
- Electronic Switching
- Telex
- Tele Fax
- Cellular Radio
- Multimedia (HUURDEMAN, 2003)

2.1.5 Importance of Telecommunication

For centuries, messages were transported by messengers physically but with telecommunications the need of a messenger is eliminated. Telecommunication is a technology that reduces geographical distance between people. Telecommunications enormously cuts down the cost and time required to transport messages, accelerates business transactions and improves human relationships. (HUURDEMAN, 2003)

2.2 About Headquarter

A headquarters is the entity of the top of a corporation that takes full responsibility for the overall success of the corporation, and ensures corporate governance. The corporate headquarters is a key element of a corporate structure and covers different corporate functions such as strategic planning, corporate communications, tax, legal, marketing, sales, finance, human resources, information technology, and procurement. Acting as the “corporate brain”, the Headquarters services the top-management team which includes chief executive officer (CEO) as a key person and his or her support staff such as the CEO office and other CEO related functions; the "corporate policy making" functions, including all corporate functions necessary to steer the firm by defining and establishing corporate policies; the corporate services encompassing activities that combine or consolidate certain enterprise-wide needed support services, provided based upon specialized knowledge, best practices, and technology to serve internal (and sometimes external) customers and business partners; and the bidirectional interface between corporate headquarters and business units. (Foss, 2019)

2.3 About Office

2.3.1 *History of Office Building*

The history of office building is neither consistent nor continuous. The different forms of administrative buildings in our time-cell-like office arranged in row along corridors, open plan office in interconnected open areas, office in a differentiated structure of rooms with lounges and café bars, as headquarters, as satellite office or home workplace with central meeting points. (Marquis & Christopher, 2016)

From the middle of the nineteenth century, the expansion of industrial, commercial and transportation enterprises (railways) generated a growing demand for financing, which led increasingly to the establishment of limited companies, in which the banks participated significantly. In addition to economic expansion, technological developments had a significant influence on office construction. (Marquis & Christopher, 2016)

In the 20th century, while coping with construction, building technology and aesthetic design were determinant for architects of the skyscraper, Frank Lloyd wright set a new standard in office building layout in 1906 with his design solution for the Larkin Building. To compensate for a hard, monotonous day at work, the company's direction organized picnics, weekly concerts, continuing education and vocational courses, as well as giving employee a share in profits. The supposed innovations of the close of the 20th century-lounges, libraries, YWCA were already at that time available for staff to relax in their breaks, in the annex at the side of the building. (Marquis & Christopher, 2016)

2.3.2 Psychology and Office Space Environment

The psychological contract is an important factor for the smooth performance of the employees of an organization. It depends on a number of factors associated with the inner feelings of the employees which are constituted of personal and social factors. Among these factors the working environment has a substantial impact on the psychological contract of the employees. (Islam & Habib)

The working environment is perceived as an important independent factor related to psychological contract. This variable can be attributed to factors such as the physical working environment, working in a company in the future, job satisfaction, information about work, cost

efficiency, goals and strategies of the company, flexible program, opportunity to interact with others, supervision, encouragement, training, involvement in decision making and climate within the work group. (Islam & Habib)

2.3.3 Optimal Office Environment and Employee Performance

An optimal design is one where the environment supports the needs of the workers and where the worker is operating in an environment most conducive to the individual's abilities. Most of the studies conducted in this subject have concluded that, although environmental factors play a role, it is complex and that the physical/environmental, aspects of the individual, or job designation alone cannot account for the complexity of individual performance and satisfaction. (Otto, Brian, 1996)

2.3.4 Environmental Satisfaction for an Employee

Overall environmental satisfaction for an employee is dependent upon four factors. First, the characteristics of the employee including his/her position or job type influence how he/she evaluates a work environment. A clerical worker and a manager both working in an open office may have different feelings about their work environment. Secondly, the organizational context in which employees operates. AN employee requiring privacy may not view the workplace favorably if the organizational requirements also necessitate its being used for group meetings. Third, it is also dependent on the individual's perceptions and assessments of several specific attributes. Finally, the objective attributes themselves contribute to overall environmental satisfaction. Excessive noise and

stuffy air, aside from a person's perceptions of these attributes, could influence that individual's feelings about the office in which he/she works. (Marans & Spreckelmeyer)

2.3.5 Types of Office Space Design

There are many different types of office designs, ranging from traditional, private/closed offices to open offices. To resolve the potential tensions between the work process demand and the office environment provision Van der Voordt proposed the use of a combi-office: One of the main reasons for using combi-offices, with a mix of shared and activity-related workplaces, has been to overcome the disadvantages of office units (too closed, poor conditions for social interaction) and open-plan offices (too open, too many distractions) . The combi-office approach appears to address the concerns of mismatching the office layout and the work processes; it even offers a potential solution to the behavioral issues. However, establishing the right balance of private and shared areas requires a detailed evaluation of user needs. (Haynes)

Chapter 3: Site Appraisal

3.1 Site Location & Surrounding

Project: Teletalk Headquarter

Site: Tejgaon, Dhaka, Bangladesh

Location Coordinates: 23.7583°N, 90.3917°E

Site Area: 95,800 sft (1.90 Acres)

Tejgaon is a thana of Dhaka District in the Division of Dhaka, Bangladesh. It is in the centre of Dhaka, the capital. In 2006, the boundaries of the thana were redrawn when Tejgaon Industrial Area Thana was created out of the former larger area and again in 2009 when Sher-e-Bangla Nagar Thana was created.

Tejgaon is an important area of Dhaka city as the prime minister's office is here. It is bounded by Mohakhali to the north, Old Airport Road to the east and Moghbazar-Malibagh to the south and Dhanmondi to the west. It consists of several localities, including Tejgaon Industrial Area, Kawran Bazar, Nakhhalpara, Shaheen Bag, Arjat para, East Raja Bazar, West Raja Bazar, Tejturi Bazar and Tejkunipara.

Historically, the area has been a centre of industrial activity in the city. Numerous plants and factories are in Tejgaon, in such diverse industries as garments, food processing, metal works, pharmaceuticals, etc.

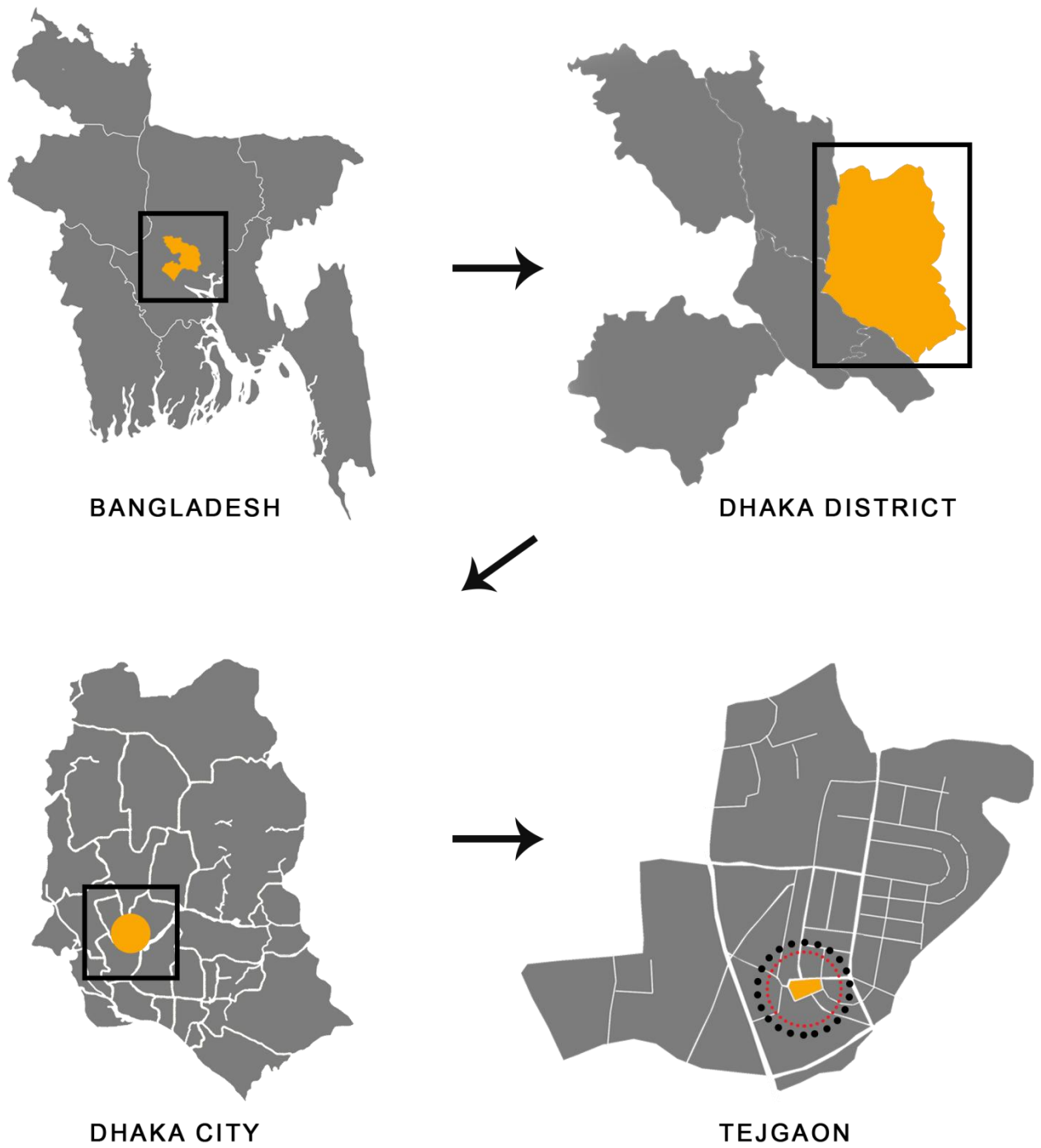


Fig. 3.1.1: Zooming into the site

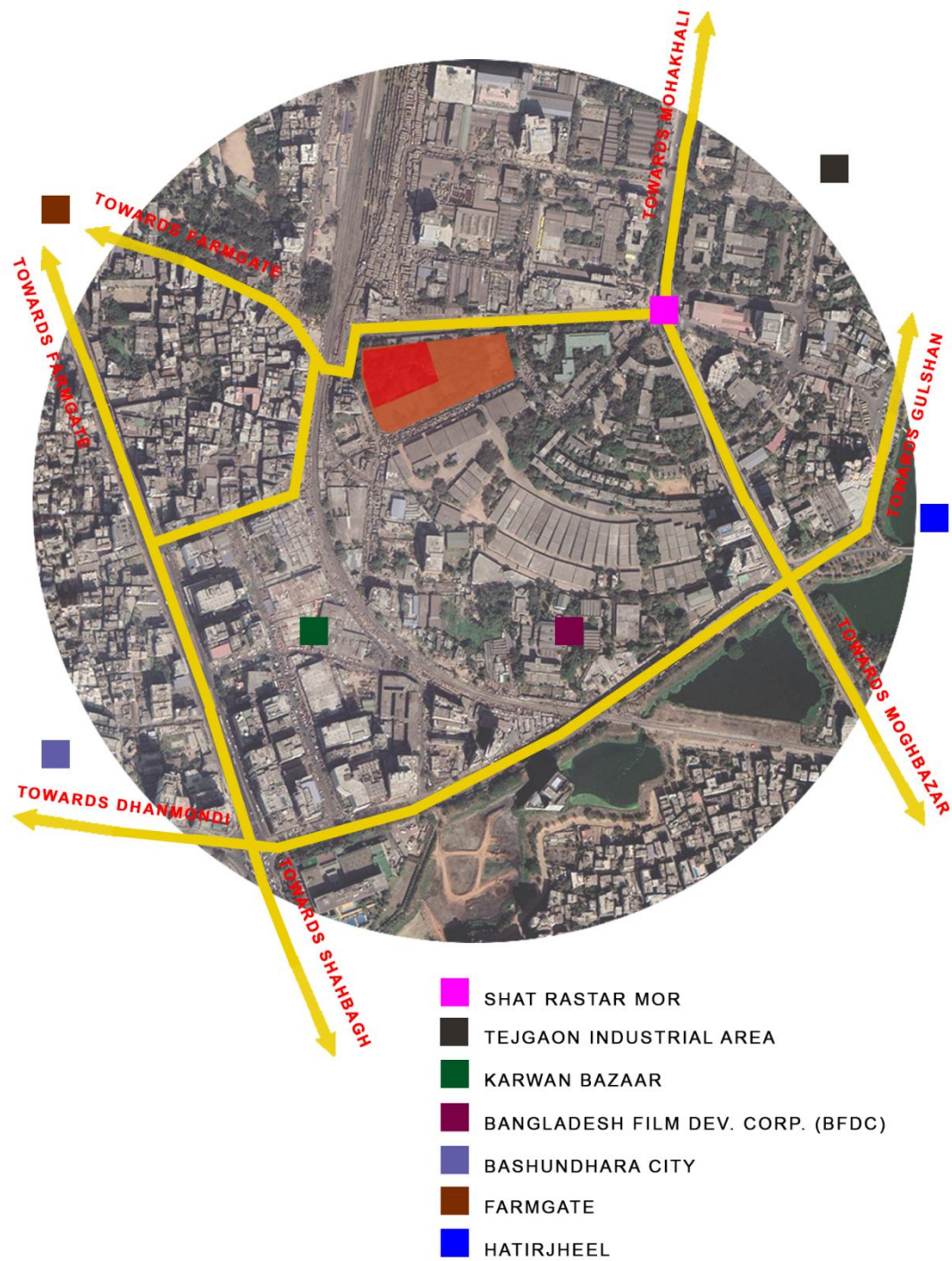


Fig. 3.1.2: Site surrounding map

3.2 Solid Void Relationship of the Site Surrounding

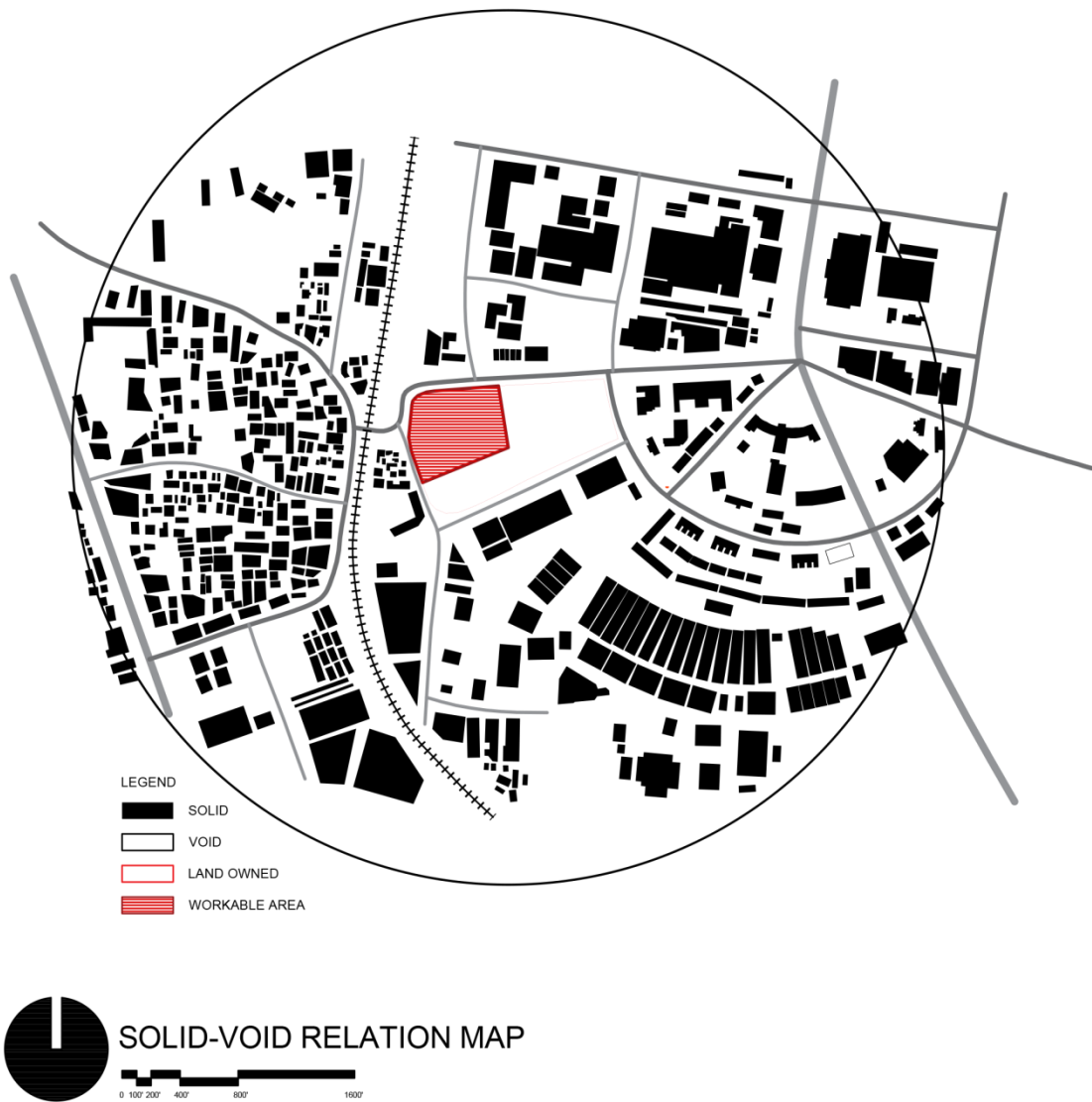


Fig. 3.2.1: Solid-void relationship map

3.3 Accessibility and Connectivity

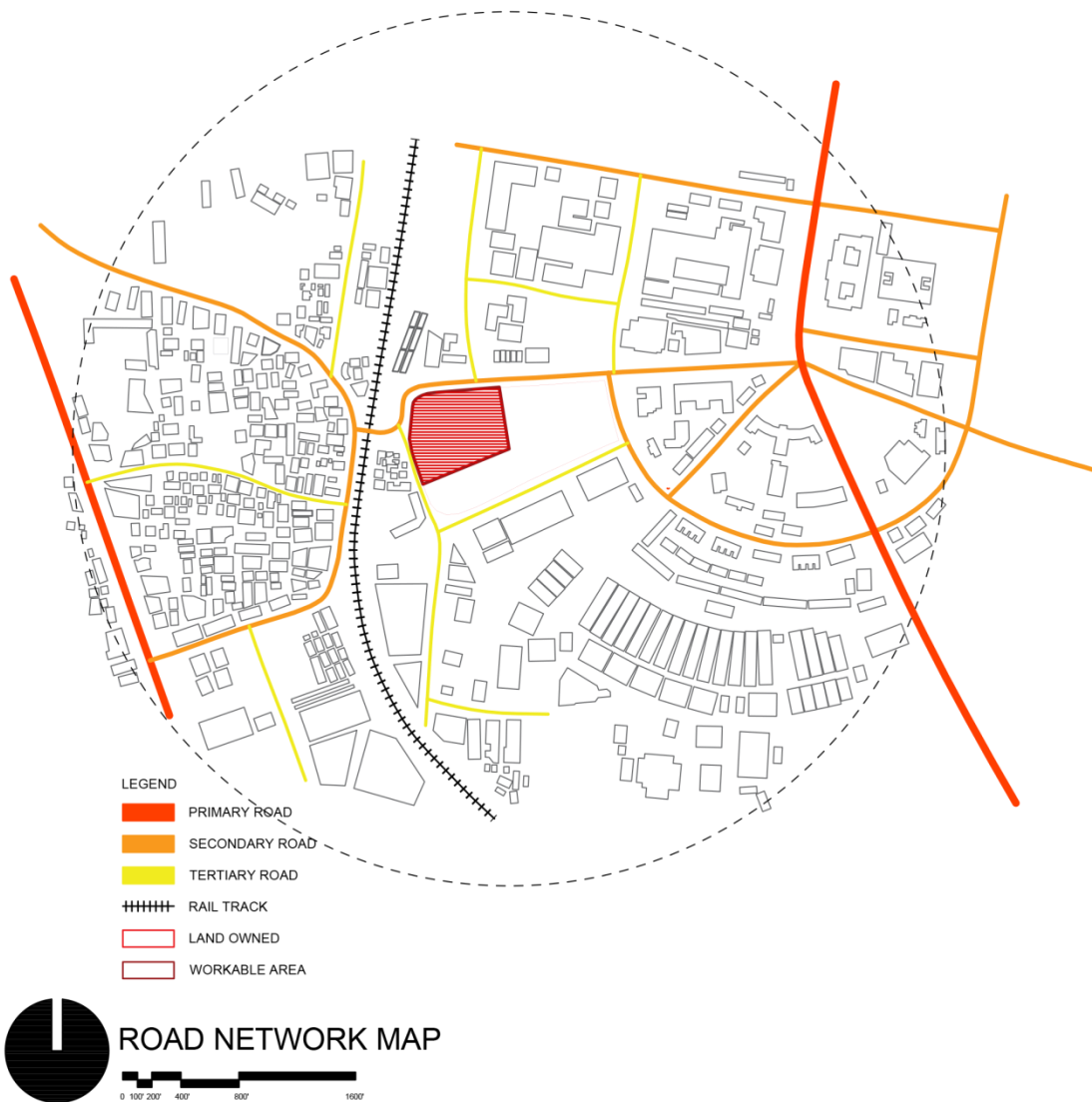


Fig.3.3.1: Road network map

3.4 Greeneries and Water Body of the Site Surrounding



Fig. 3.4.1: Vegetation and water body map

3.5 Land-use Pattern of the Site Surrounding

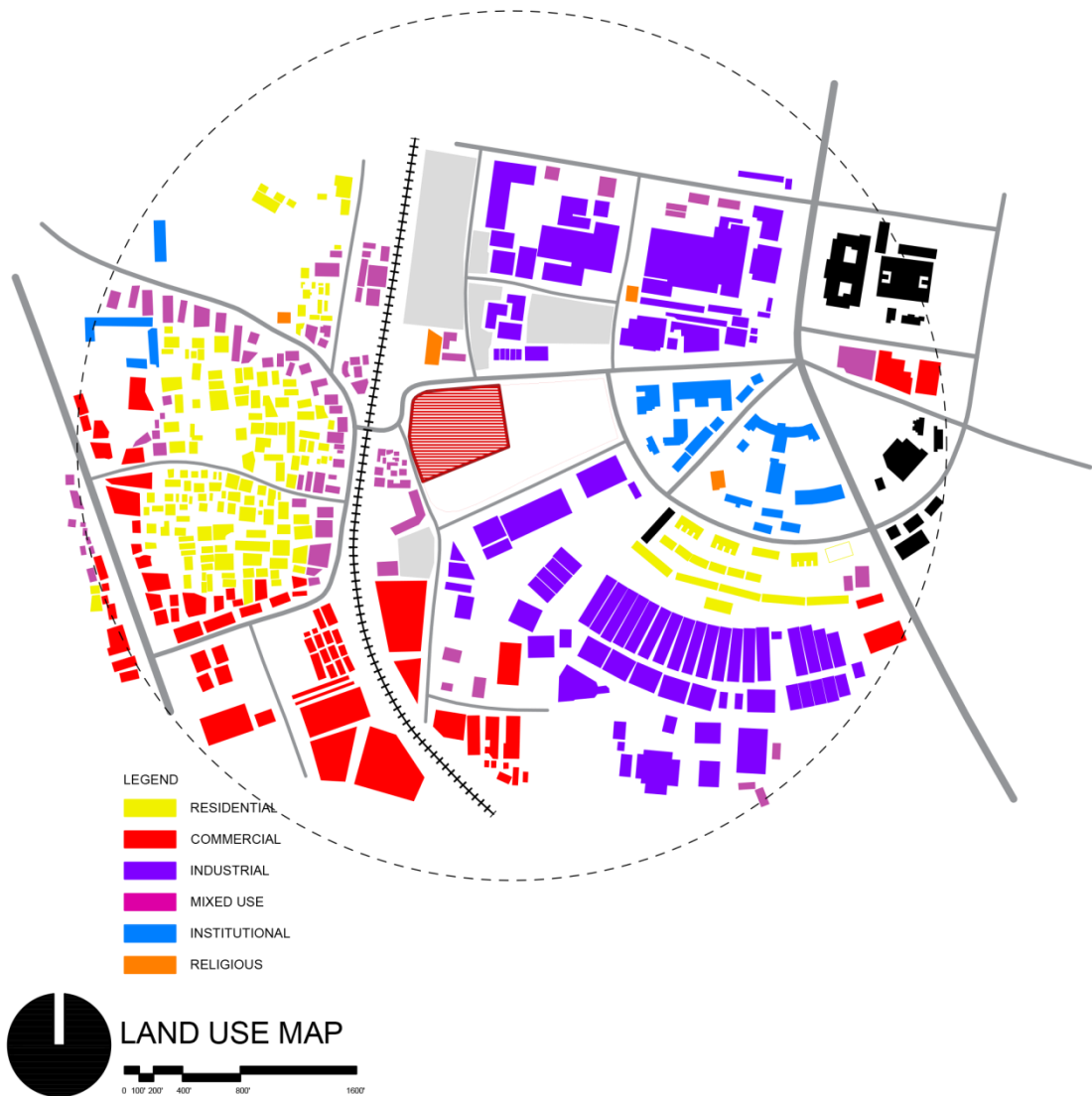


Fig.3.5.1: Land use pattern map

3.6 Site Surrounding Structure Heights

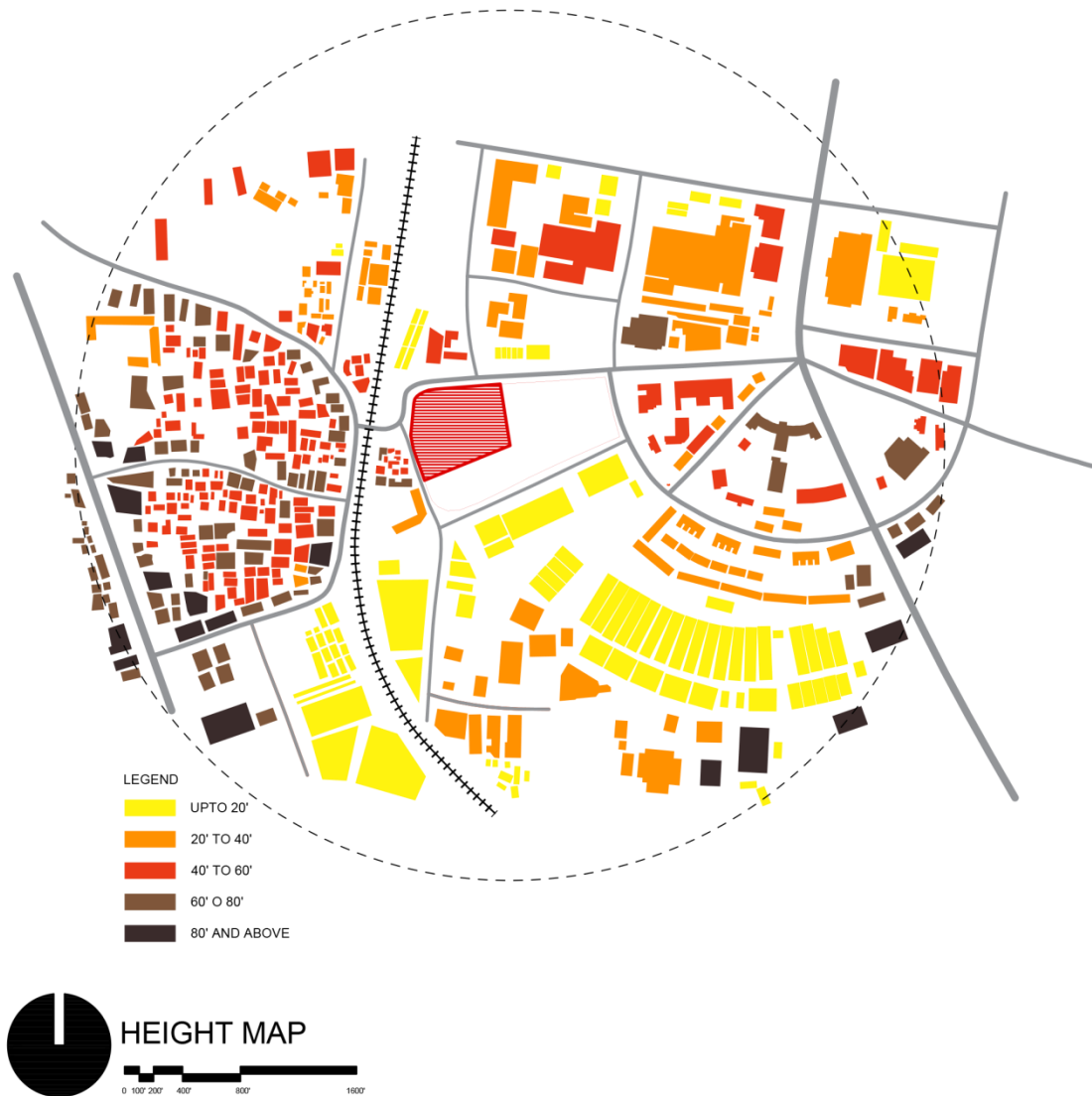


Fig.3.6.1: Surrounding structure height map

3.7 Climatic Conditions

Dhaka and in general whole of Bangladesh has a subtropical monsoon climate characterized by wide seasonal variations in rainfall, high temperatures and humidity. There are three distinct seasons in Bangladesh: a hot, humid summer from March to June; a cool, rainy monsoon season from June to October; a cool, dry winter from October to March. The country is flat, as well as Dhaka and occupied by the huge Ganges-Brahmaputra Delta, and it's therefore exposed to floods as well as to storm surges when cyclones hit the Bay of Bengal.

Average highest temperature for Dhaka ranges from 30 to 34 Celcius during March/April to June/July with generous rainfall, while during July/Aug to Sept/Oct it experiences the maximum amount of rainfall and very high humidity. The average lowest temperature varies from 10 to 13 Celcius during December to Jan/Feb and experiences almost no rainfall with lowered humidity. Average Daylight hours is about 12.5hours while average sunshine hours ranges from 3 to 9 hours.

Average temperature Dhaka, Bangladesh

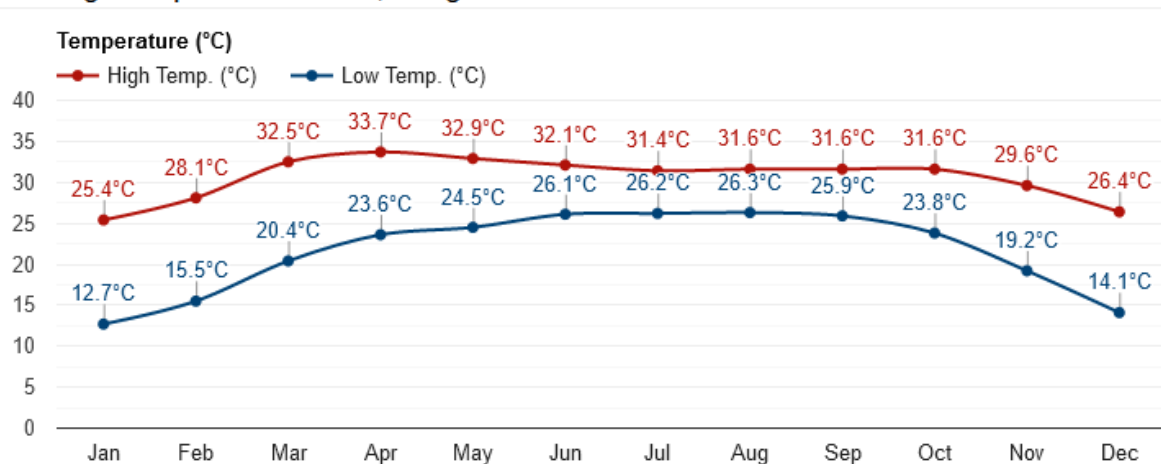


Fig.3.7.1: Average temperature in Dhaka(collected)

Average rainfall Dhaka, Bangladesh

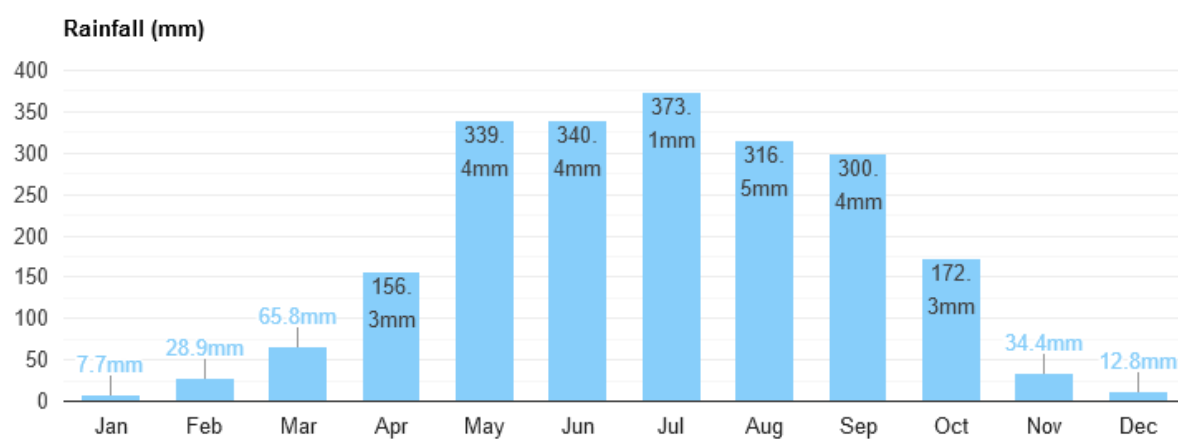


Fig.3.7.2: Average rainfall in Dhaka(collected)

Average humidity Dhaka, Bangladesh

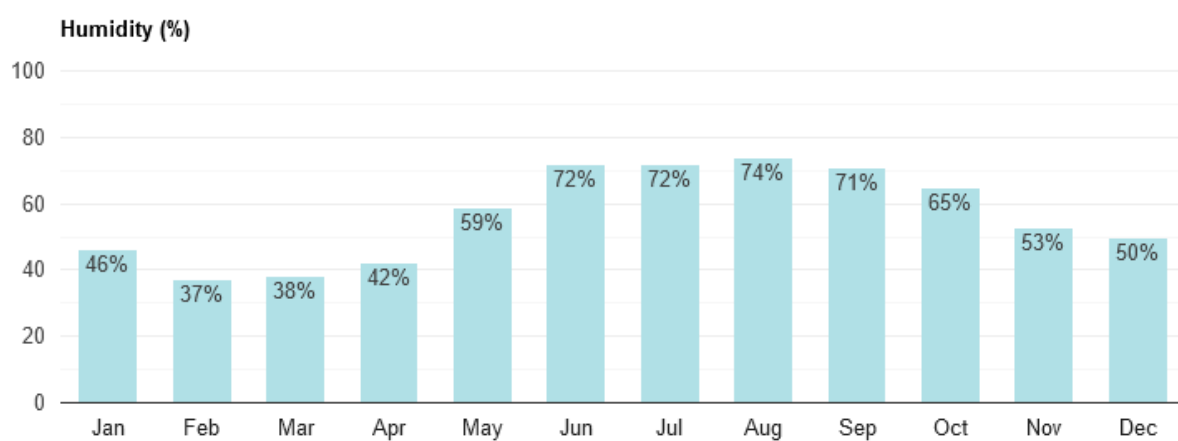


Fig.3.7.3: Average humidity in Dhaka(collected)

Average daylight / Average sunshine Dhaka, Bangladesh

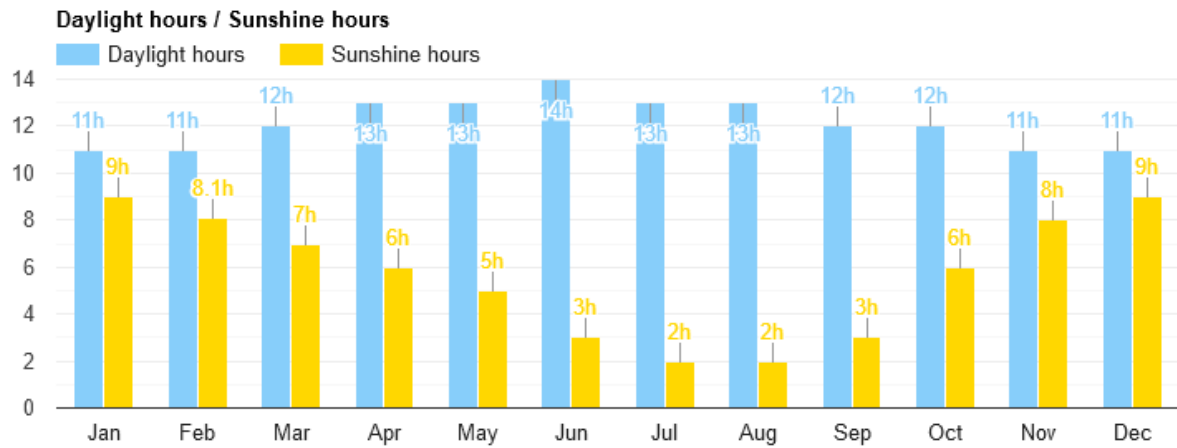


Fig.3.7.4: Average daylight hour in Dhaka(collected)

Average UV index Dhaka, Bangladesh

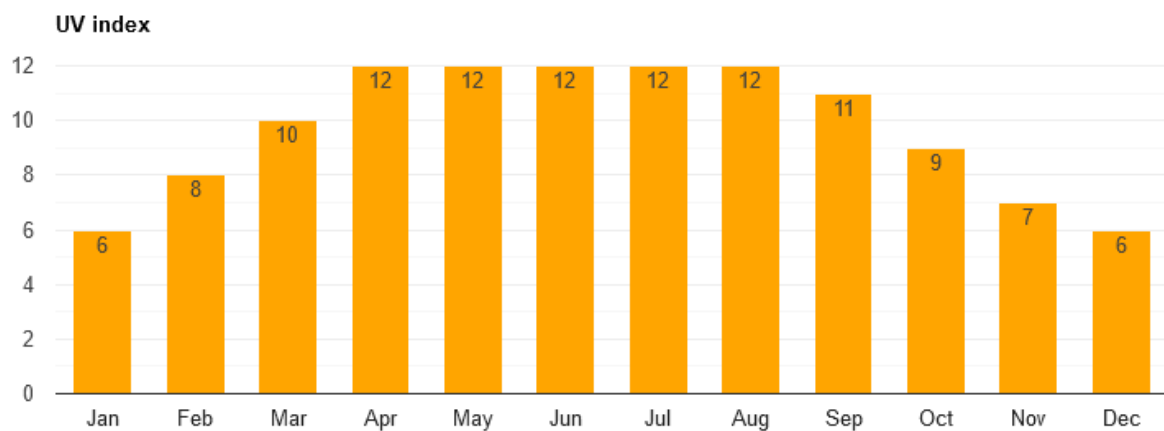


Fig.3.7.5: Average UV index of Dhaka (collected)

3.8 Solar (Stereographic) Diagram

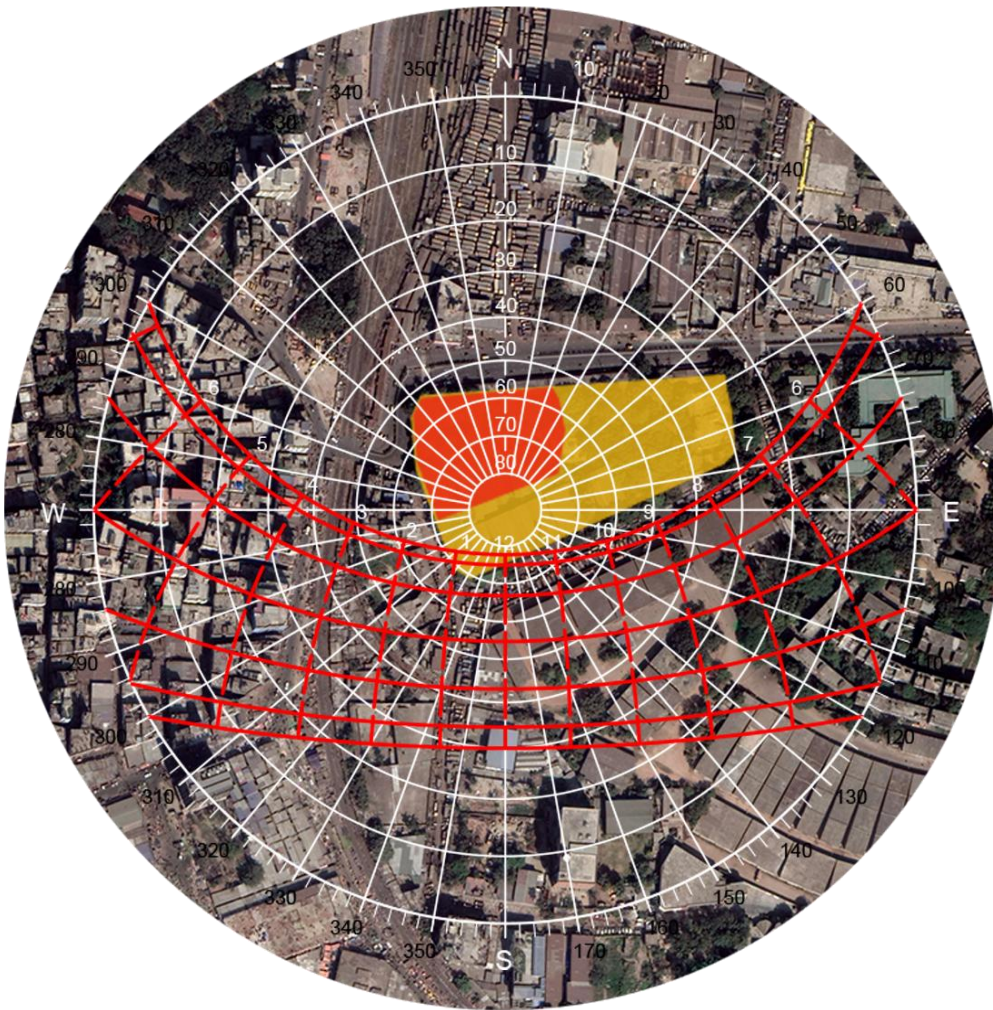


Fig.3.8.1: Solar (stereographic) diagram of the site

From this Diagram its clearly visible that the sun has a high altitude in summer time almost hitting the 90 degrees. Winter days are shorter and sun altitude is low to 70 degrees where its needed.

The circular outer ring is the azimuth angle, vertical line holding angles are for sun altitude, circles inside the outer one is altitude lines and red line is yearly sun path. Central hatched area shows the possible shadow casting and possible spread area.

3.9 Socio-Cultural and Economic Contexts

Tejgaon has emerged as an important business district of Dhaka. The first five-star hotel of Bangladesh, Pan Pacific Hotel Sonargaon, is in Kawran Bazar, Tejgaon. The main offices of the *Daily Prothom Alo*, the *Daily Star* (Bangladesh), *The Independent*, and several other newspapers are here. Also, the office and studio of television channels Ekushey Television, NTV, ATN Bangla, Boishakhi TV, Channel i and Channel 1 are at Tejgaon. The main campus of Ahsanullah University of Science and Technology is here as well. Tejgaon has the headquarters for the Trading Corporation of Bangladesh. Almost every bank operating in Bangladesh has an outlet in Tejgaon.

There exists an emerging trend of commercial uses in the place of industrial activity and the rate of growth of commercial activities in this area greater than that of industrial one. The price of the plots in Tejgaon industrial area varies between a wide range and the average price of land is quite high in this area comparing to other areas of Dhaka city. With continuous rapid development there exists a rising trend of high rise building in Tejgaon industrial area because of its location in the core of Dhaka city.

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3.10 Images of Existing Site Condition

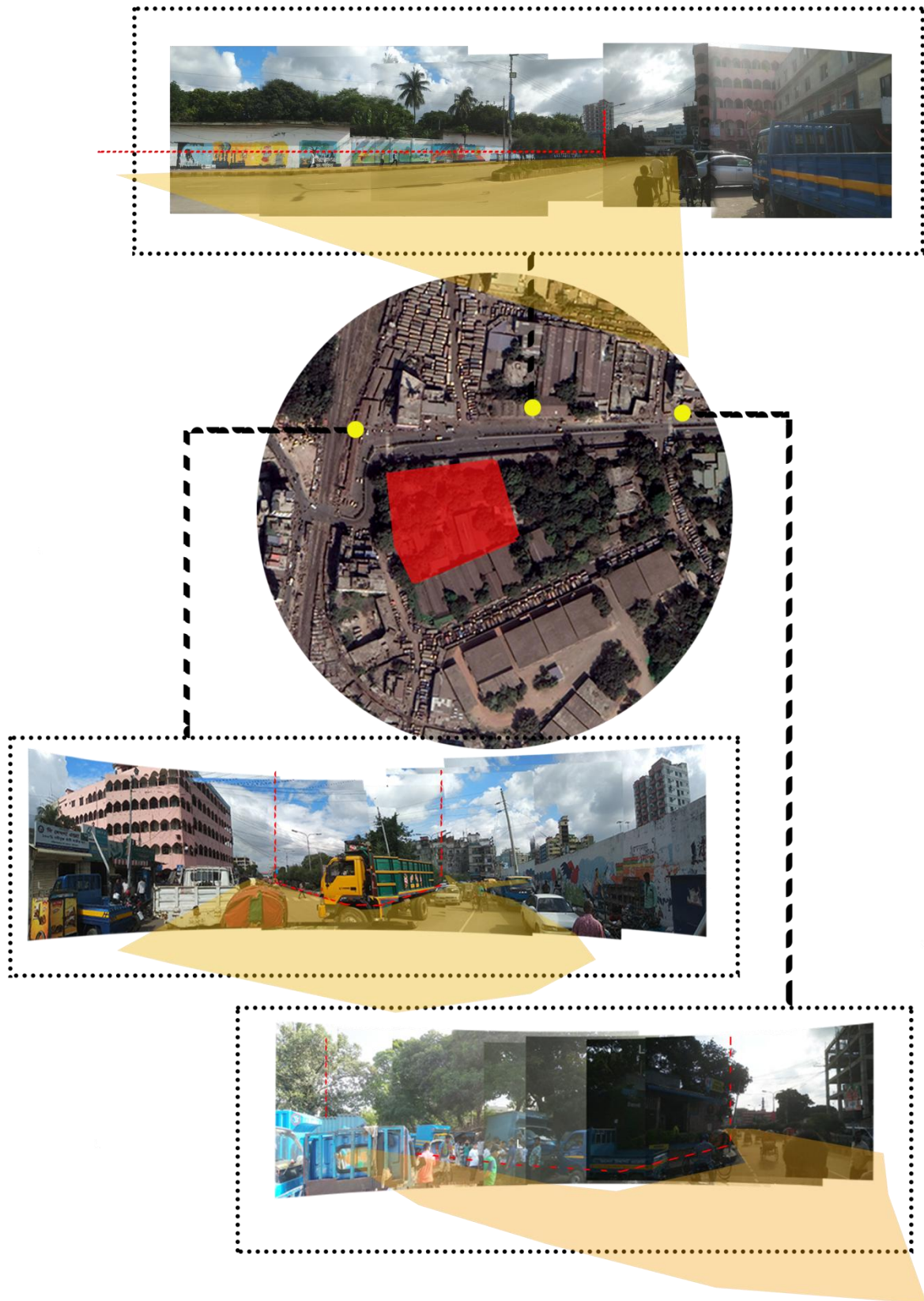


Fig.3.10.1: Site images

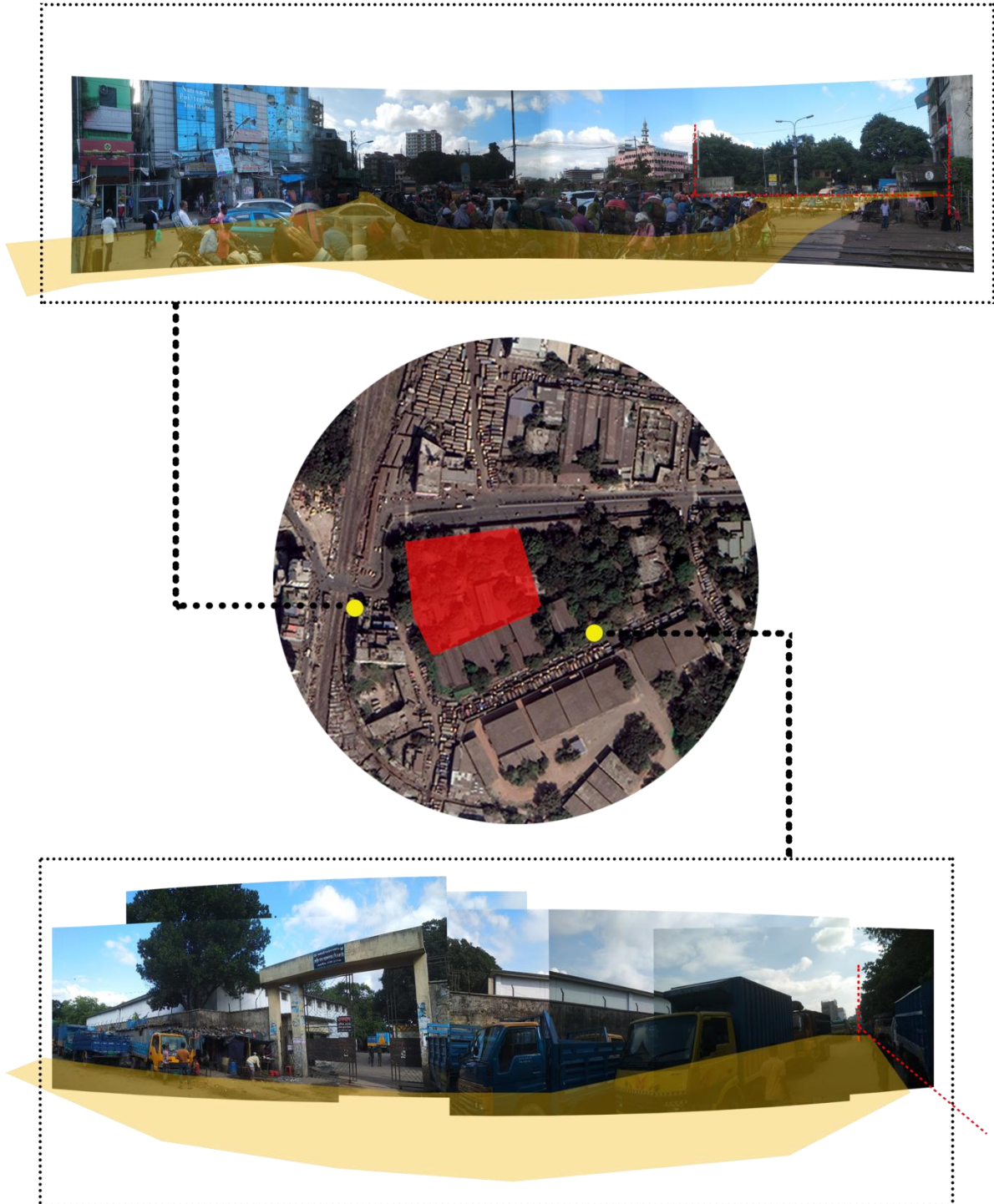


Fig.3.10.2: Site images

Chapter 4: Case Study Appraisal

Four different projects, one national and three international, has been chosen to be studied and analyzed to understand the spatial organization of programs, function, structure etc. All the projects are related to telecommunication offices, being headquarters of respective telecommunication companies. There is a brief about the project, designer and client at the start of each case study and the plan drawings are color coded to understand the orientation and relation of different served and serviced spaces. The case studies are of various sizes in terms of built area and also vary in horizontal and vertical expansion; first two being of large building scale while the later two are of more high-rise structure.

4.1 Grameenphone House

Location: Bashundhara R/A, Dhaka, Bangladesh

Client: Grameenphone (Telenor)

Site Area: 1.85 acres (80,586 sft)

Total Built Area: 4,86,528 sft

Living Area:Circulation Area= 2,36,913 sft: 68,781 sft

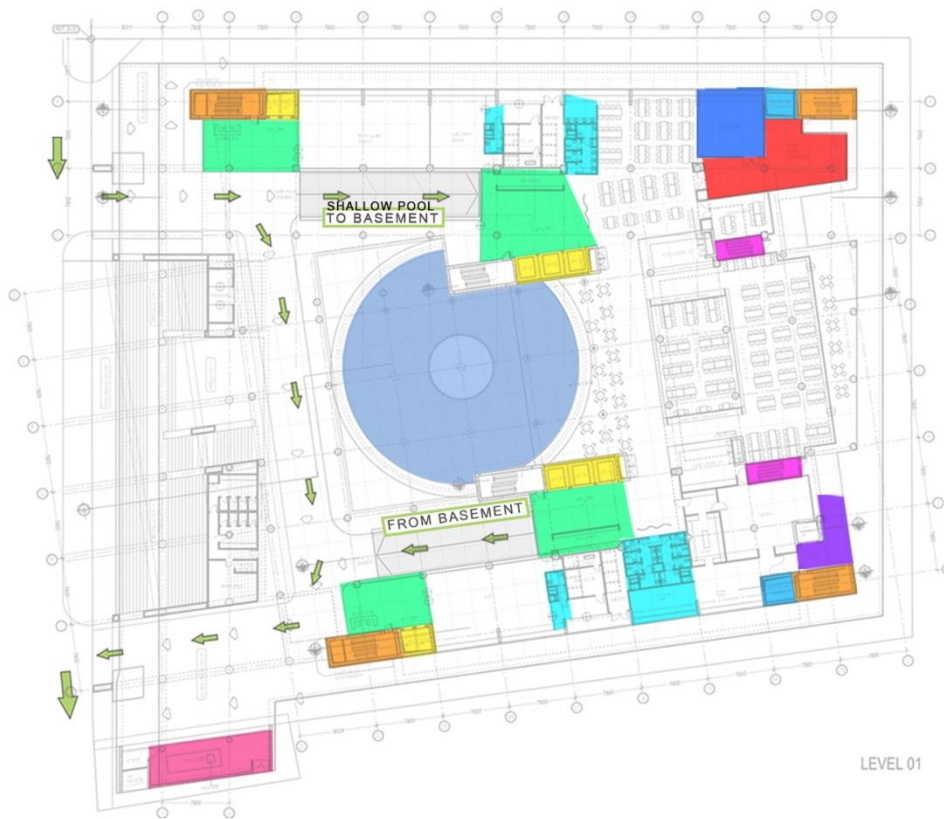
Parking Area : 1,26,583 sft

Landscaped Area : 43,055 sft (including Terrace Gardens)

Design Team/ Firm: Vistaraa

The site for Grameenphone Corporate Head Office is almost of rectilinear shape. The plot has two roads on the South and North.

The project features two complementary office wings, one being aligned with the eastern boundary and the other being aligned with western and connected by a central communal space of courtyard of link-bridges, lifts and stairs. Each wing corresponds to similar functional program. Broadly divided into two zones i.e. the 'private' and the 'public', the site opens up with a formal plaza as entry zone leading to an informal zone of traditional 'courtyard' with water body symbolizing the presence of 'ponds' in traditional settlements and garden at the south plaza adds the 'soul' or spiritual zone' together with the help of building wings, shifting axis, internalized landscape, open stairways, views and vistas. Both the raised and the sunken plaza are dedicated to the pedestrian traffic consisting of both Grameenphone employees and visitors, while allowing the vehicular traffic of corporate employees' uninterrupted use of the sub-zero levels for parking



LEVEL 01

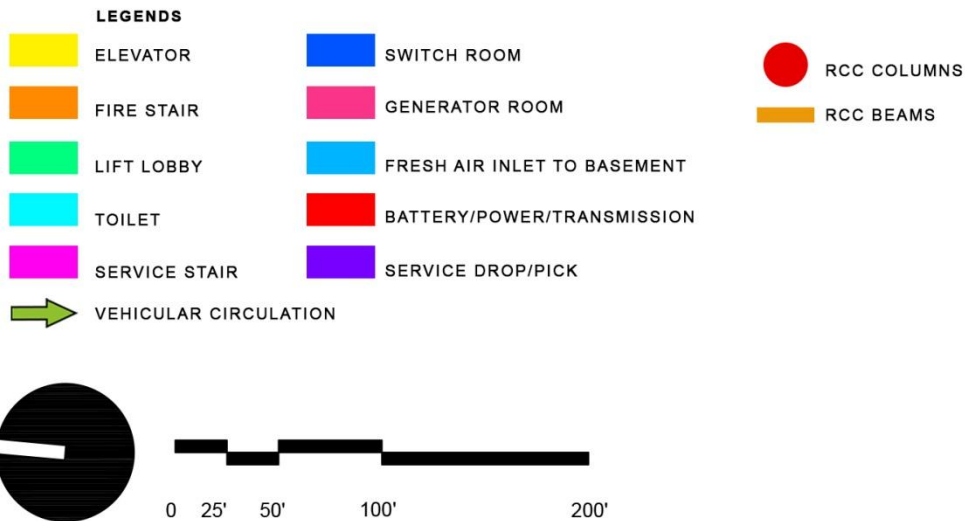


Fig.4.1.1: Form & function analysis of Grameenphone house (Level 01)

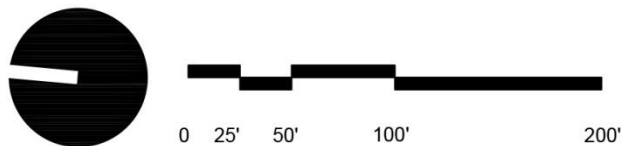
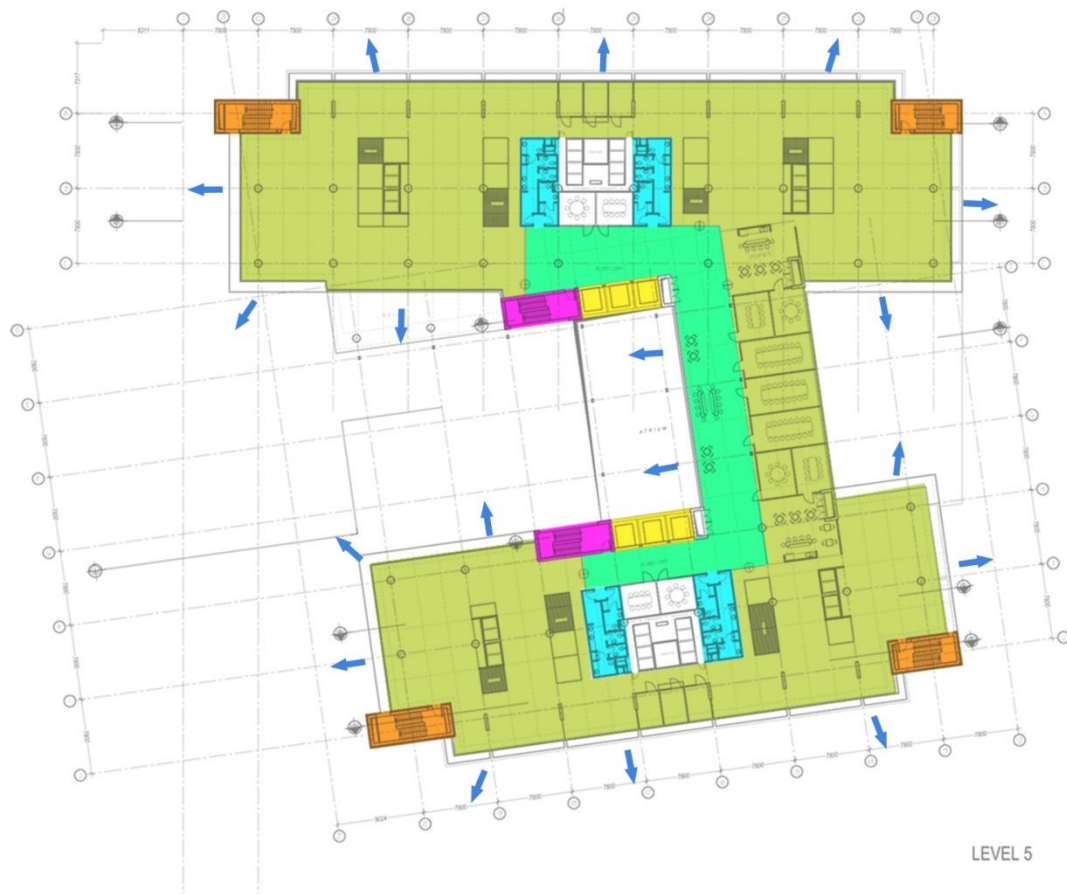


Fig.4.1.21: Form & function analysis of Grameenphone house (Level 05)

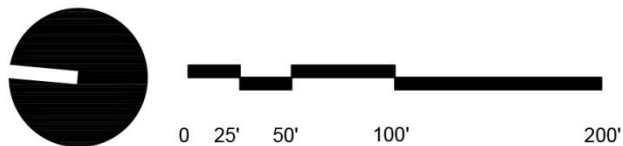
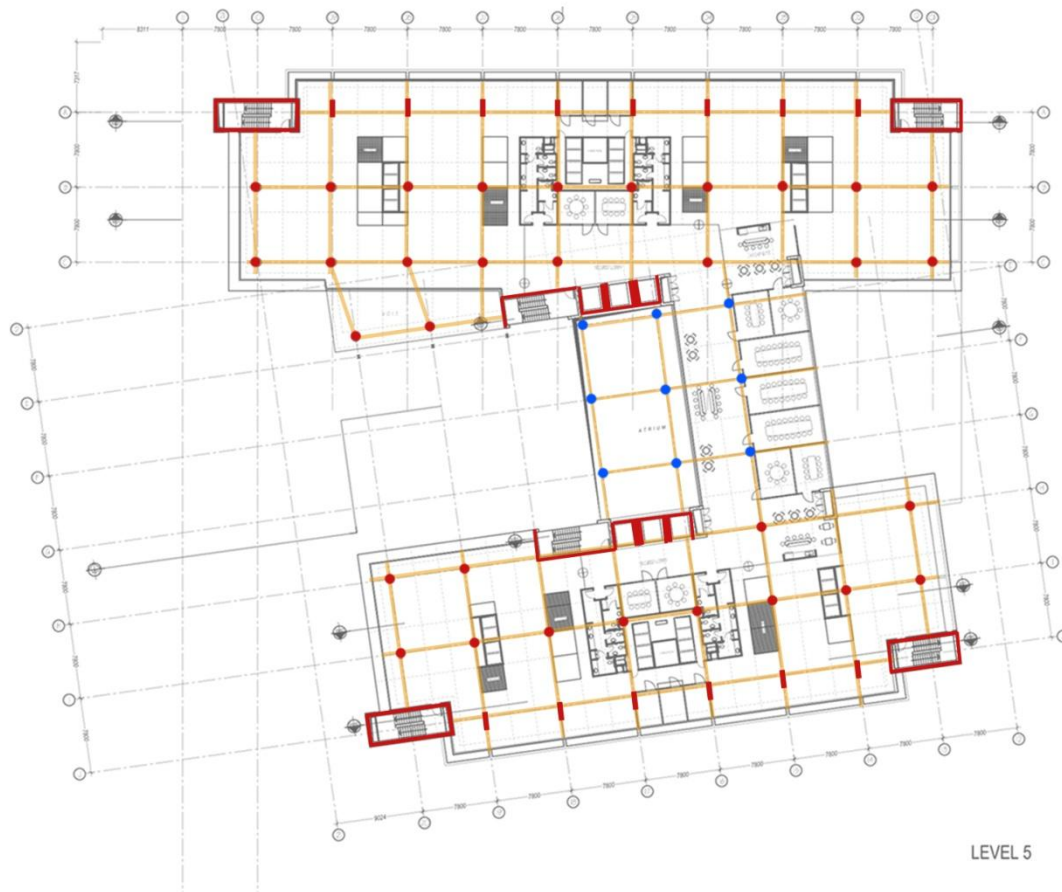


Fig.4.1.3: Structure analysis of Grameenphone house (Level 05)

As we can see from the study and analysis, most of the level 1 is used for more public and circulatory function whereas major part of the level 5 is dedicated to office space for employees to work at. There are two major vertical circulation core each serving portions of the East and West wings of the building and the central area as well. There are 4 emergency/fire exits at the corners of the building Major portion of the structural system is on a square grid of RCC columns and a few members of steel column structure at the bridging part of the two East and West blocks.



Fig.4.1.4: Grameenphone House (collected)

4.2 CAT Telecom Headquarter

Location: Changwattana, Bangkok

Client: CAT Telecom Public Company Limited

Site Area: 18.5 acres (8,05,860sft)

Design Team/ Firm: Plan Architects

The building layout is divided into 3 functional area; the offices, auditorium, and parking with a center green common space connecting the difference areas together. The green space between buildings can block sun light radiating into the building, maximizing the use of natural light in the space. Some area of the green common space can be used as an extra outdoor parking. The idea of the building layout is to have an auditorium as the front-face of the building for the use of public section. The gymnasium and fitness center are on top of the parking building to minimize the building footprint. The office building is placed in a proper orientation so it creates a good working environment. The roof of the buildings is designed by conceptually link the roofs together, creating a continuous rising roof shape in the process.



Fig.4.2.1: Form & function and structural analysis of CAT Telecom. HQ (Level 01 & 06)



Fig.4.2.2: CAT Telecom Headquarter

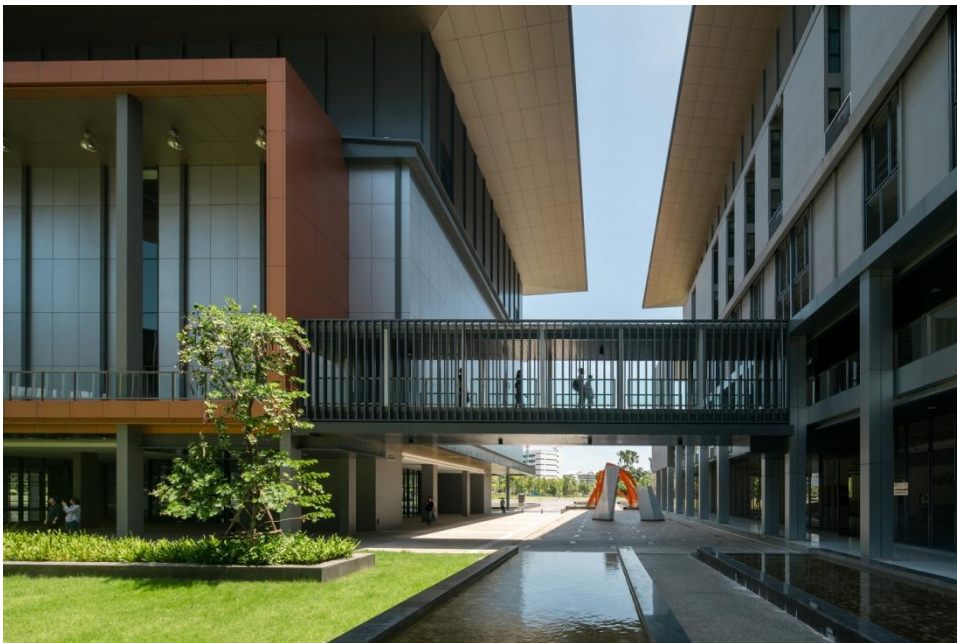


Fig.4.2.3: CAT Telecom Headquarter

4.3 Maroc Telecom Tower

Location: Rabat, Morocco

Client: Maroc Telecom

Site Area: 6.80 acres (2,96,208sft)

Design Team/ Firm: Jean-Paul Viguier Architecture

Like many historic cities, Rabat is proud of its past but also eager to look to the future. The city could not, therefore, avoid the necessity to grow while combining tradition and modernity. This tower had to reflect the flair and potential of tradition and also stand out as modern. Its design was thus influenced by the subtle dialectic underpinning the most outstanding buildings in the country: interior and exterior, sobriety and luxury, warmth and coolness, etc. These do not express relationships of opposition but rather form magical relationships with each other. The tower rises from a large, pure parallelepiped-shaped volume covering the whole surface area. Two prisms are formed by sliding two halves of the volume diagonally, thereby revealing the "original" interior of the form. Only the base of the tower remains intact as if rooted in the ground. This creates an architectural style combining shade and light, delicacy and power. The building is topped off by a 27-metre overhang, which makes a powerful impression on the observer.

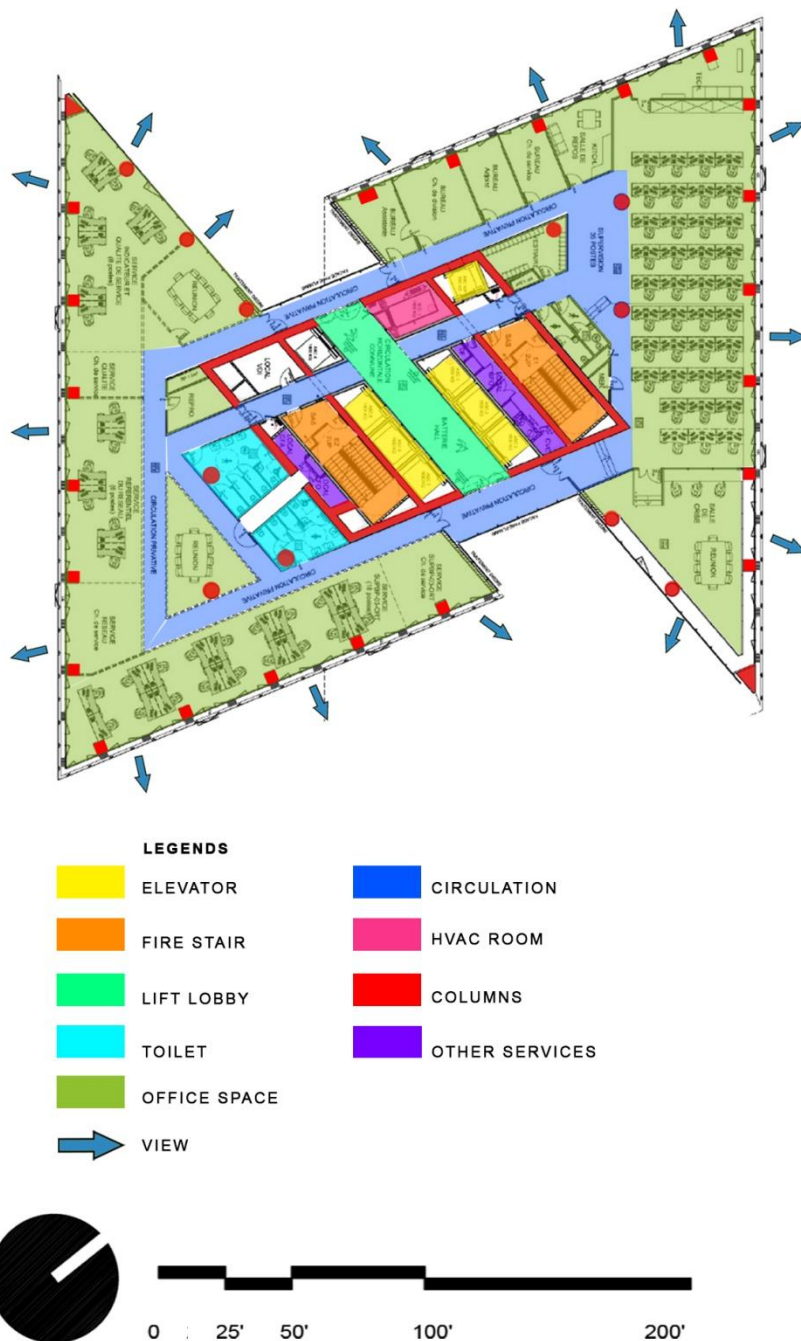


Fig.4.3.1: Form & function and structural analysis of Maroc telecom headquarter (typical floor plan)



Fig.4.3.2: Maroc telecom headquarter (collected)

4.4 Bouygues Telecom Headquarter

Location: Paris, France

Client: Bouygues Telecom

Site Area: 15 acres (6,55,000 sft))

Design Team/ Firm: Arquitectonica

The 25 story 484,376 sft corporate headquarters tower was designed to house 2,400 employees within the existing eclectic urban fabric of a Paris suburb. The tower is organized around a center core, with the surrounding area dedicated to meeting rooms and office support. The elliptical form expands the building's footprint for office space by widening in the center to accommodate the core, and narrowing towards the ends resulting in a large floor plate, with maximized perimeter offices. At the urban design level, the composition addresses the duality of the site. The elliptical shape gives the form direction and a dynamic facade. There is no front or back, yet its directional quality conveys movement from Issy to Paris, from the streets to the peripheries, from land to river. Its softly rounded form avoids hard edges and corners, implying a democratic space, and a certain sensuality in its relationship to the green landscape that surrounds the building. Efficient spaces allow for optimal performance of the building and its energy consumption, focusing in particular on use of renewable energy. Like speed lines or gills, they also provide occasional terraces and executive offices at selected locations throughout the building and add depth and dynamic interest to the otherwise pure prismatic volume. An organic message is projected subtly and mysteriously, yet clearly sculpted and shaped by the technology of man, the form is abstracted to its essence, and wrapped in the modernity of glass and steel.

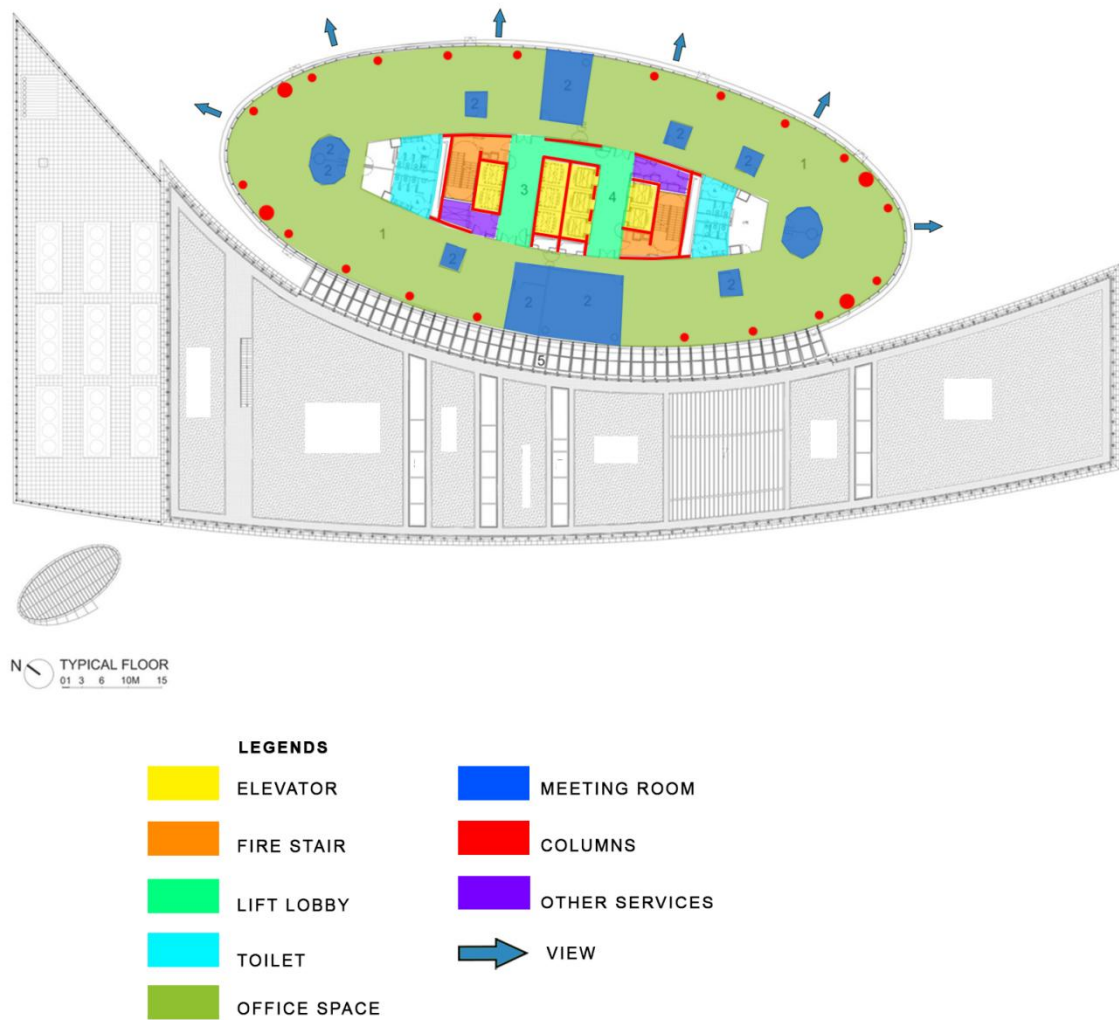


Fig.4.4.1: Form & function and structural analysis of Bouygues telecom headquarter (typical floor plan)



Fig.4.4.2: Bouygues telecom headquarter (collected)

Chapter 5: Program Appraisal

The program appraisal gives a detailed list of the programs of the project. The basic programs were given by the client, Teletalk, and then the programs were studied and analyzed to full fill their size and space requirements along with other necessary programs or spaces to serve the basic programs. Room/space size are placed in sft from the study of standards from Time Savers Standard, Neufert and case studies.

Functional space		Number of units	Number of users	Area per unit (in sft)	Total area (in sft)
A Administrative facilities					88200
A.1 Managing Director's Office					
1	Managing Director's Room	1	1	500	500
2	Private Secretary	1	1	200	200
3	Assistant Secretary	1	1	150	150
4	Lobby/Lounge/Waiting	1		250	250
5	Toilet	1		100	100
6	Pantry	1		100	100
7	Storage	1		100	100
8	(To be added)				0
Subtotal					1400
A.2 Board of Director's Office					
1	Board of Directors	9	9	350	3150
2	PA to Director	9	9	100	900
3	Conference Room	1		1000	1000
4	Lobby/Lounge/Waiting	1		500	500
5	Toilet	1		300	300
6	Pantry	1		100	100
7	Storage	1		100	100
8	Restroom/Lounge	1		200	200
9	(To be added)				0
Subtotal					6250
A.3 Department of Administration & HR					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
Subtotal					8950

A.4 Department of System Operation					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
				Subtotal	8950

A.5 Dept. of Planning & Implementation					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
				Subtotal	8950

A.6 Department of Finance & Accounting					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
				Subtotal	8950

A.7 Department of Sales & Distribution					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
				Subtotal	8950

A.8 Department of Procurement					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
				Subtotal	8950

A.9 Department of IT & Billing					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
				Subtotal	8950

A.9 Department of Marketing & VAS					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
Subtotal				8950	

A.10 Department of 3G/4G Project					
1	General Manager (GM)	1		300	300
2	Deputy General Manager (DGM)	3		250	750
3	Manager	4		200	800
4	Deputy Manager (DM)	8		150	1200
5	Assistant Manager (AM)	15		100	1500
6	Senior Executive (SE)	20		80	1600
7	Junior Executive (JE)	30		50	1500
8	Meeting room	1		600	600
9	Toilet	1		300	300
10	Pantry	1		100	100
11	Storage	1		100	100
12	Restroom/Lounge	1		200	200
13	(To be added)				0
Subtotal				8950	

B Customer Service Facilities		6550			
B.1 Customer Care					
1	Counter	20		30	600
2	Waiting Lounge	50		15	750
3	Storage	1		100	100
4	Toilet	1		500	500
5	Restroom/Lounge	1		300	300
6	Pantry	1		100	100
7	(To be added)				0
Subtotal					2350
B.2 Call Centre					
1	Work Station	100		30	3000
2	Storage	1		100	100
3	Toilet	1		500	500
4	Restroom/Lounge	1		500	500
5	Pantry	1		100	100
6	(To be added)				0
Subtotal					4200
C Training & Meeting Facilities		11900			
C.1 Auditorium					
1	Seating Area	300		15	4500
2	Lobby/Lounge	1		500	500
3	Toilet	1		1000	1000
4	Storage	1		200	200
5	(To be added)				0
Subtotal					6200
C.2 Multipurpose Hall					
1	Hall	1		4000	4000
2	Lobby/Lounge	1		500	500
3	Toilet	1		1000	1000
4	Storage	1		200	200
5	(To be added)				0
Subtotal					5700

D Recreational & Anciliary Facilities 19360					
D.1 Health Club & Indoor Sports					
1	Gym	1		2000	2000
2	Table Tennis	1		500	500
3	Pool/Snooker	1		500	500
4	Squash	1		500	500
5	Badminton	1		1000	1000
6	Swimming Pool	1		1500	1500
7	Changing Room, Shower & Locker	1		500	500
8	Toilet	1		500	500
9	Storage	2		100	200
10	(To be added)				0
				Subtotal	7200
D.2 Restaurant					
1	Seating Space	300		15	4500
2	Kitchen			30%	1350
3	Toilet & Handwash	1		1000	1000
4	Storage	1		350	350
5	(To be added)				0
				Subtotal	7200
D.3 Library & Study					
1	Study Space	1		800	800
2	Shelf Space	1		500	500
3	Librarian Office	1		100	100
4	Storage	1		100	100
5	(To be added)				0
				Subtotal	1500
D.4 Café					
1	Café	2		600	1200
2	(To be added)				0
				Subtotal	1200
D.5 Day Care					
1	Day Care Centre	1		1000	1000
2	Storage	1		100	100
3	Toilet	1		200	200
4	(To be added)				0
				Subtotal	1300
D.6 Prayer Space					
1	Hall	70		8	560
2	Ablution Space	1		200	200
3	Toilet	1		200	200
4	(To be added)				0
				Subtotal	960

E	Security & Maintenance Facilities				5800
E.1	Security & Control				
1	WorkStation Room	1		500	500
2	Changing Room	1		200	200
3	Toilet	1		100	100
4	Storage	1		100	100
5	Pantry	1		100	100
6	(To be added)				0
				Subtotal	1000

E.2	Electro-Mechanical Services				
1	Fire Protection Equipment Room	1		500	500
2	Service & Maintenance Room	1		500	500
3	Generator Room	1		2000	2000
4	Sub-Station (Power) Room	1		1500	1500
5	Pump Room	1		300	300
6	(To be added)				0
				Subtotal	4800

Total	131810
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Chapter 6: Design Considerations

Considering all the previous chapters of Literature Review, Site Appraisal, Case Studies, Program Appraisal along with the verbal demands of the client, Teletalk (BTCL) and my personal progression, the whole project of Teletalk Headquarter can be focused down to 3 major design consideration that would help guide the whole design process from top to bottom and inside-outside in terms of its physical stature to the spatial organization and connectivity between spaces, etc.

The design considerations are:

- **Iconic Landmark-** to uplift the face value of the company and declare its strong presence in the national and global arena in term physical form.
- **Energy Efficient Building-** to create a sustainable design that uses low energy consumption and if of contemporary and futuristic technology to within stand a long span of life time.
- **Interactive & Efficient Workspace-** to increase the productivity and happiness of the employees in order to enhance the business on larger scale.

Chapter 7: Design Suggestions

The whole project is a single building complex with two main vertical circulation and ancillary facilities core. There is only a single entry and a single exit from the Eastern side and Western side, consecutively. The Northern facade can be fairly called as the primary front face of the building while the Western side can be called the secondary front face. There are a total of 16 floors, which includes 2 basement parking floors.

The main portion of the building has been derived from a basic cube. The 350 seated auditoriums is pulled out of the main mass with a separate drop-off zone, as to serve the decision of making it a semi-public function which can be rented out. The ground floor is compromised to office drop-off, reception, waiting lounge and a few other basic functions. The 1st floor has been made completely public, accessible 24/7, with two plazas running from the West and North, and has the customer care center, a bank and two cafes. The next three floor (2nd floor to 4th floor) has been designed for the public, to give back to the society, with a telecom museum, flagship electronics stores, restaurants, etc. The main office floors starts from the 5th floor all the way up to the 11th floor, with 9 departments and others offices. From 12th floor to up to the rooftop is filled with ancillary faculties, such as multipurpose hall, library, restaurant, indoor sports, gym, day care, swimming pool, etc. which makes the office building more livable and communicative towards its beneficiaries.

7.1 Design Concept & Form Development

Teletalk being a state level business identity has a certain level of accountability of clarity and transparency towards the client, and being a state run business the accountability is even greater. In addition, just like any business venture, it demands purity in its dealings and motto as well.

To start with the initial massing, the terms “transparency”, “purity” and “clarity” helped sculpt the way; my design concepts. I took a cube, one of the most purest of forms and subtracted out from it in a way to bring in public plazas, a central courtyard, punches on the elevation on 4 different levels of 4 sides of the building that gave urban windows and uplifted courtyards acting as breakout green spaces. The punches are arranged in a way (as shown in Fig.7.1.2) to allow the Southern and South-Eastern cool breeze to be received in and the hot air to rise up and escape. Almost 70% of the whole outer and inner façade of the building is of triple layer argon filled glass, which allows the advantage of using sunlight at its maximum, cutting down on the power consumption and also helps keep the indoor space cooler compared to conventional glass by almost 25%, further cutting down on the power consumption. Along with extended floor slabs that act as sun-shades, vertical photo-voltaic louvers are placed on the East and West façade, while horizontal ones are placed on the South façade and a few on the North to complement the overall look of the office building. The solar movement tracking louvers not only help cut down direct sunlight but also generate electricity for the building, making it even more efficient and energy saving.

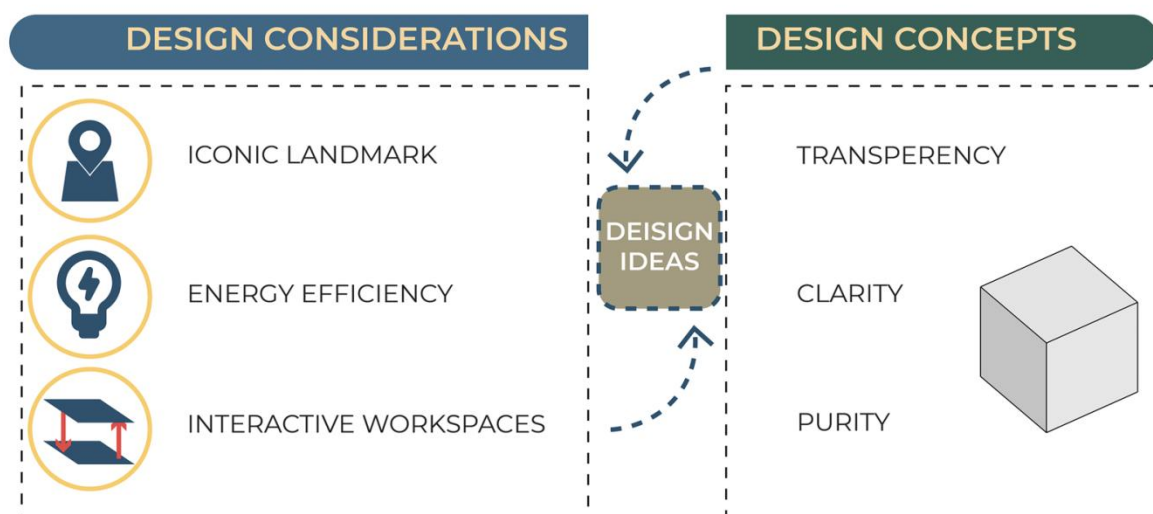


Fig.7.1.1: Design considerations and concepts

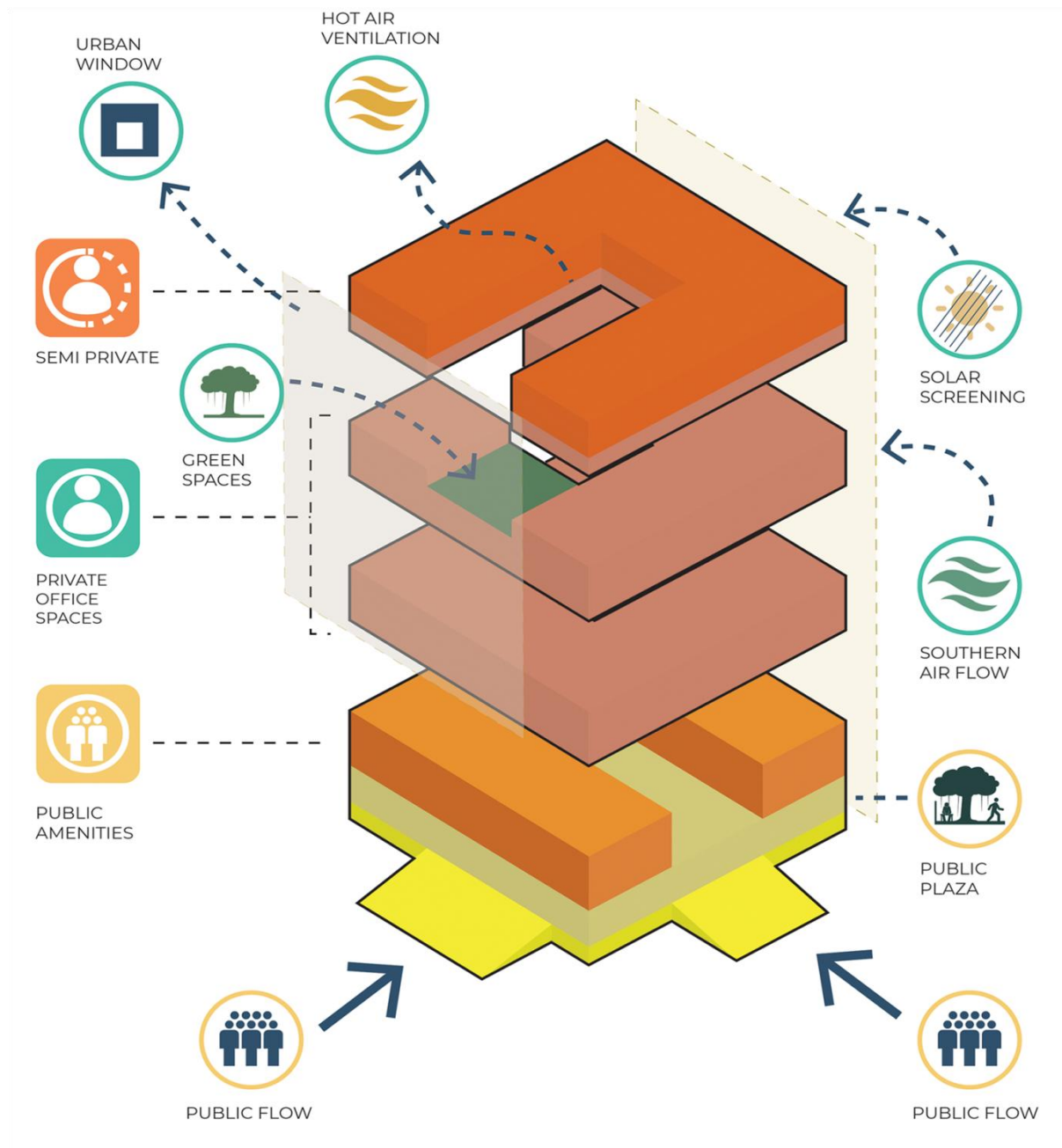


Fig.7.1.2: Design ideas

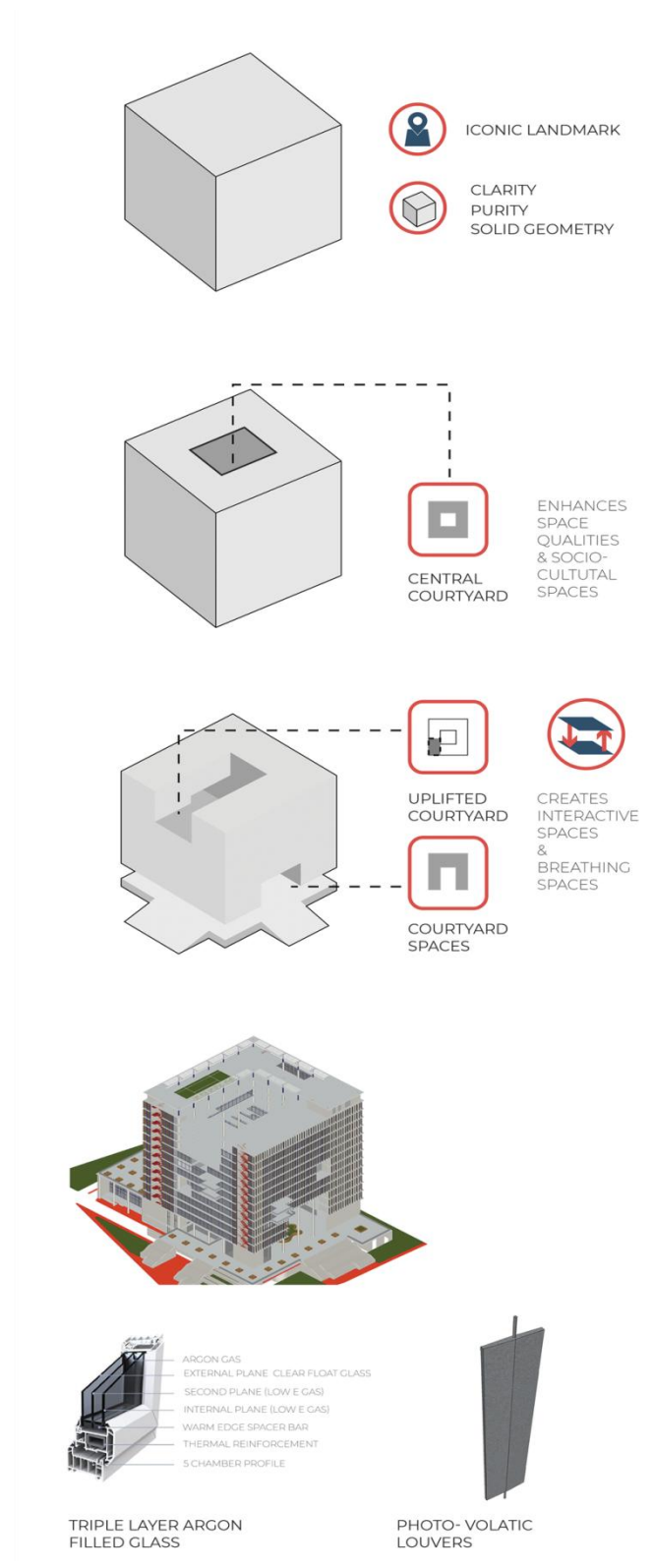


Fig.7.1.3: Form development and materiality

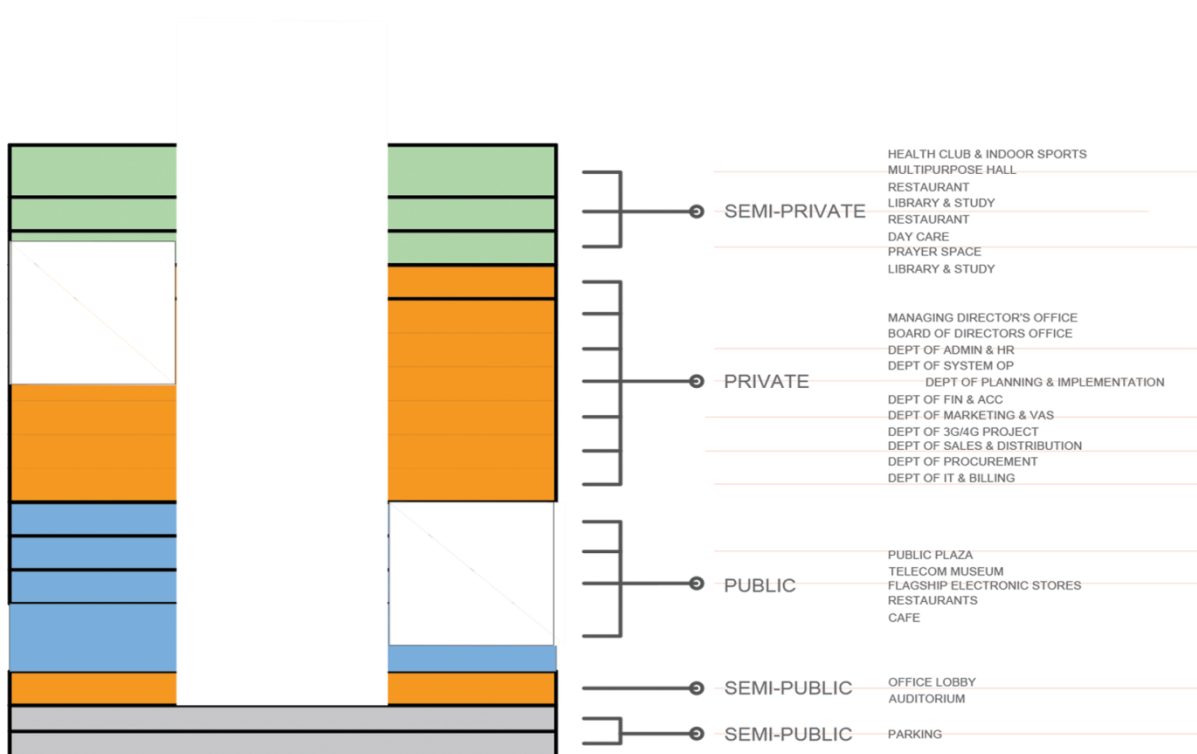


Fig.7.1.4: Conceptual section

7.2 Plans



Fig.7.2.1: Site plan

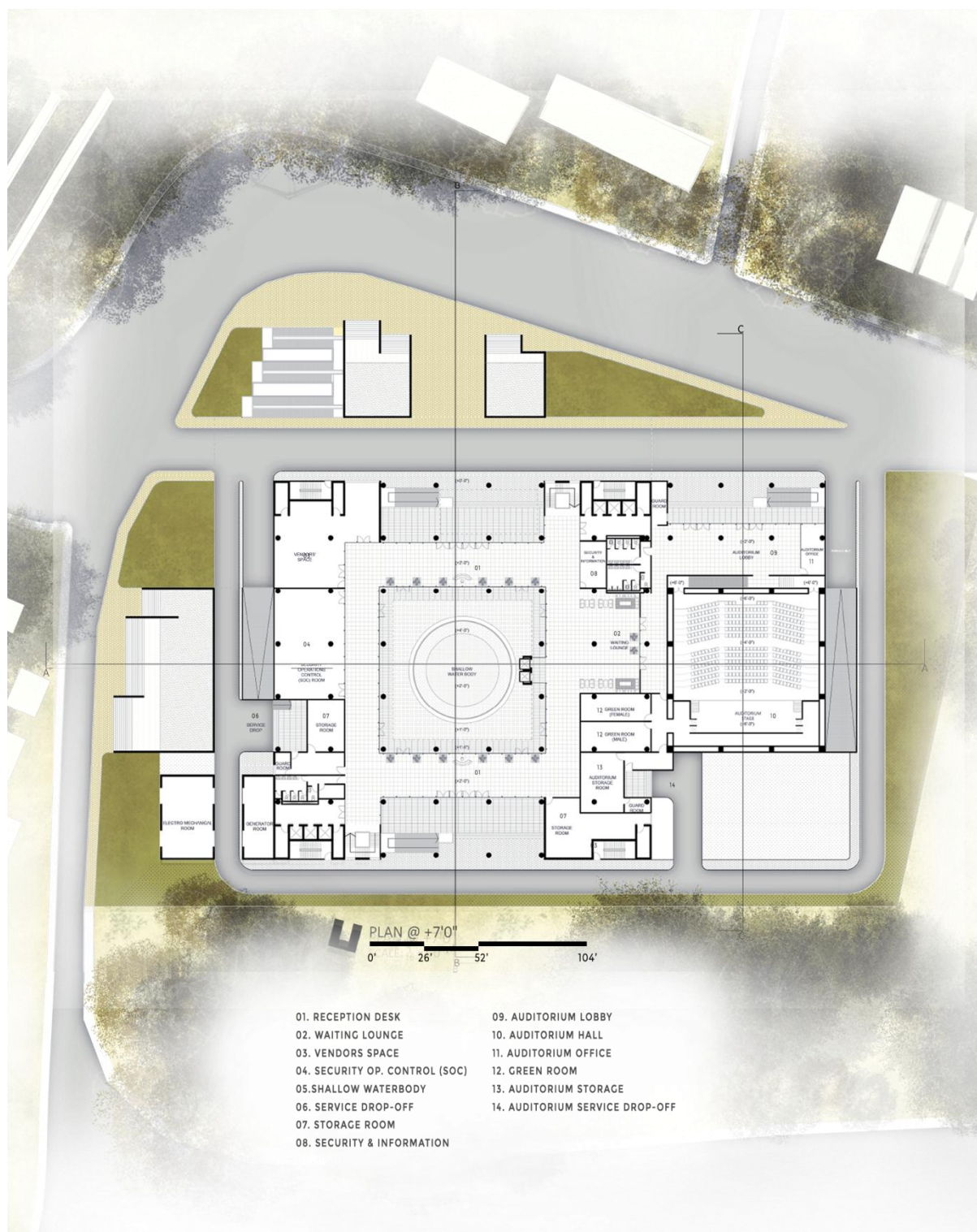
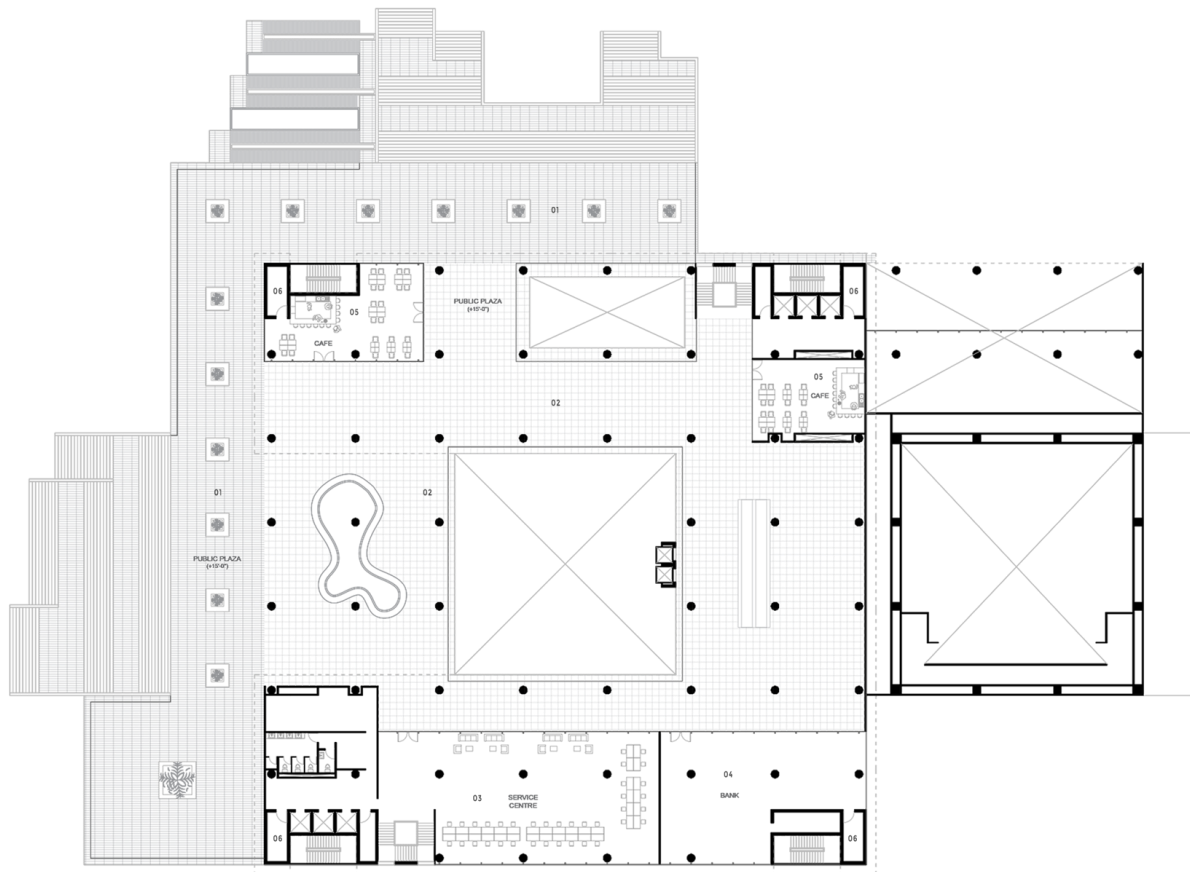


Fig.7.2.2: Ground floor plan

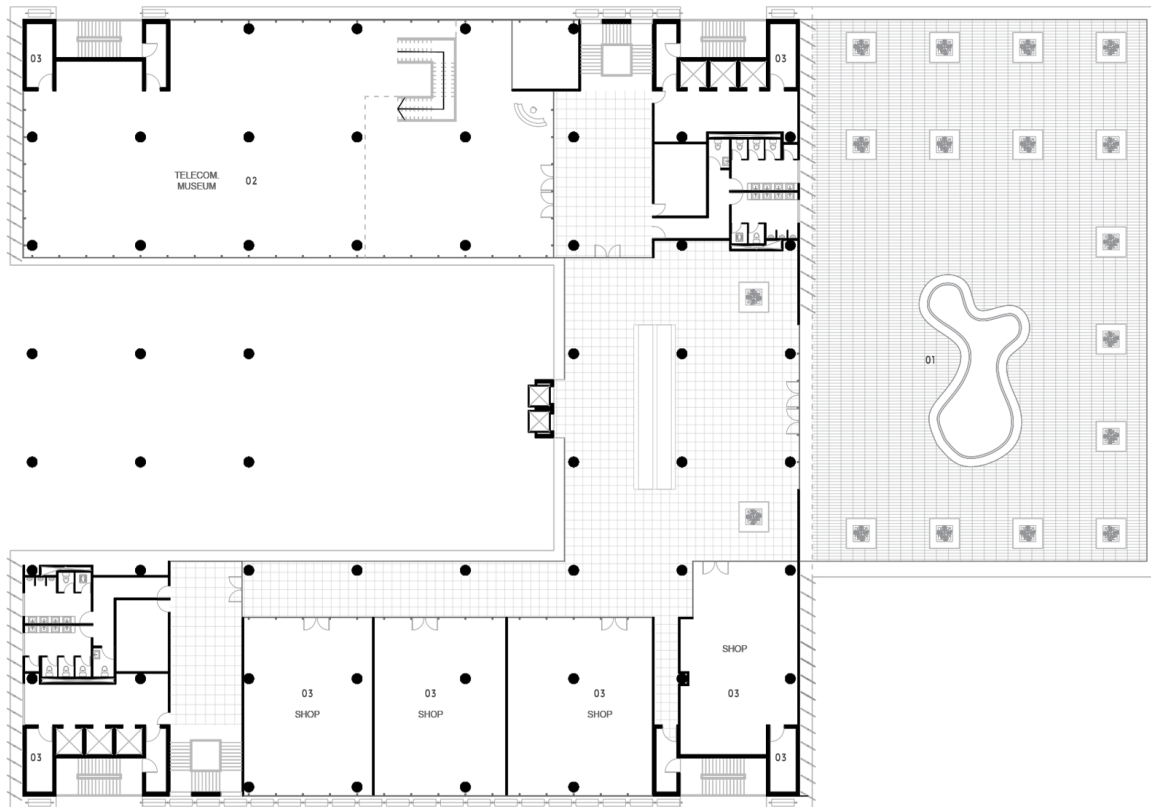


PLAN @ +20'0"

0' 26' 52' 104'

- 01. PUBLIC PLAZA
- 02. PUBLIC COURTYARD
- 03. SERVICE CENTRE/ CUSTOMER CARE
- 04. BANK
- 05. CAFE
- 06. MECHANICAL/HVAC

Fig.7.2.3: 1st floor plan

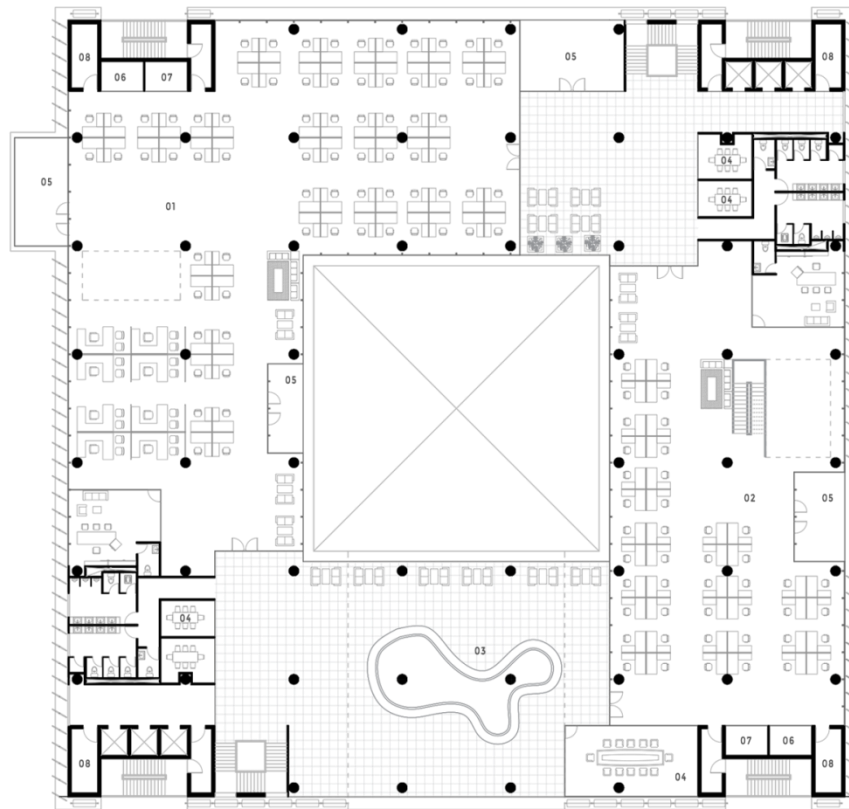


PLAN @ +46'0"

0' 26' 52' 104'

- 01. OPEN TO SKY TERRACE
- 02. TELECOM MUSEUM
- 03. FLAGSHIP BRAND OUTLET
- 04. MECHANICAL/HVAC

Fig.7.2.4: 2nd floor plan



PLAN @ +85'0"

0' 26' 52' 104'

- 01. OFFICE SPACE
- 02. OFFICE SPACE
- 03. UPLIFTED COURTYARD/BREATHING ZONE
- 04. MEETING ROOM
- 05. TERRACE/VERANDA
- 06. PANTRY
- 07. STATIONARY ZONE
- 08. MECHANICAL/HVAC

Fig.7.2.5: 5th floor plan

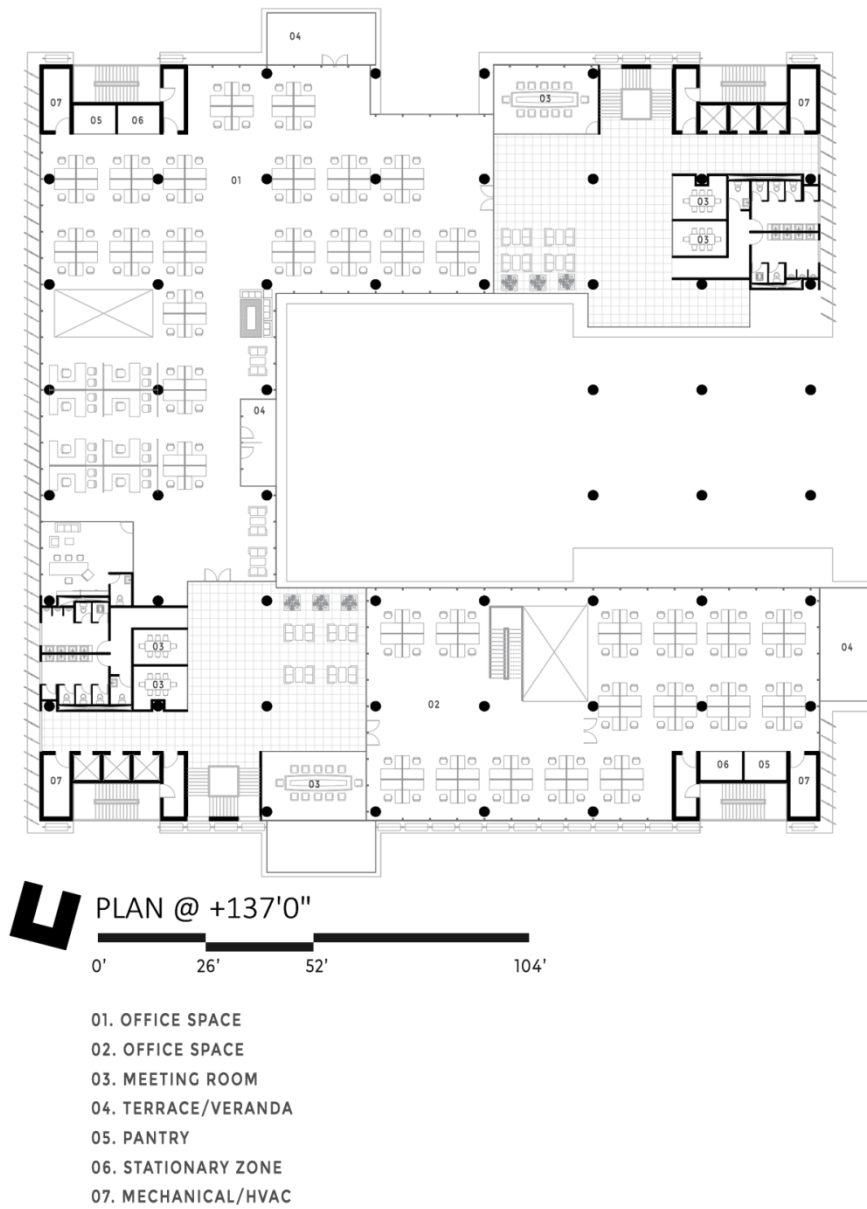
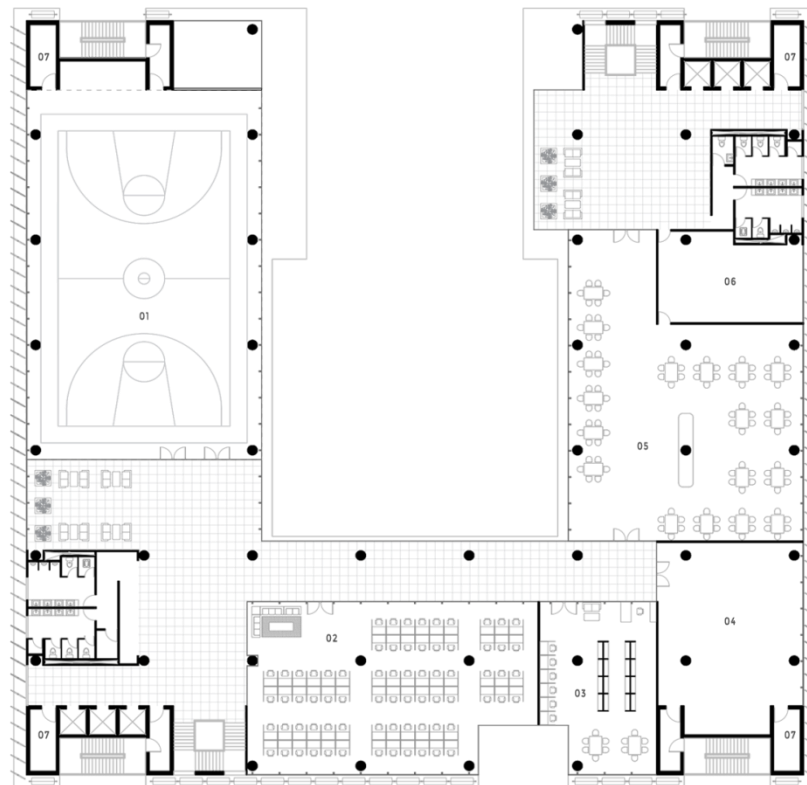


Fig.7.2.6: 9th floor plan



PLAN @ +176'0"

0' 26' 52' 104'

- 01. MULTIPURPOSE HALL
- 02. CALL CENTER
- 03. LIBRARY
- 04. DAY CARE
- 05. RESTAURANT
- 06. KITCHEN
- 07. MECHANICAL/HVAC

Fig. 7.2.7: 12th floor plan



Fig. 7.2.8: Basement 01 plan

7.3 Sections & Elevations

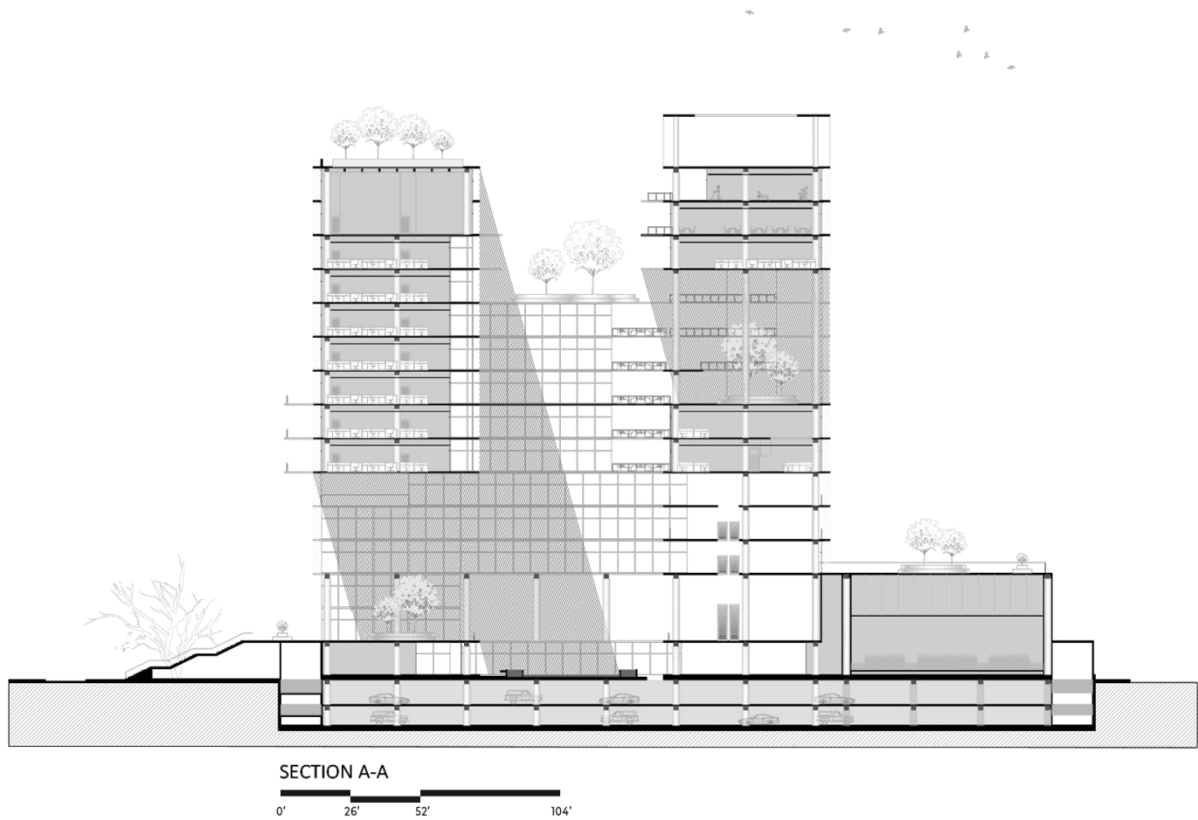


Fig 7.3.1: Section A-A

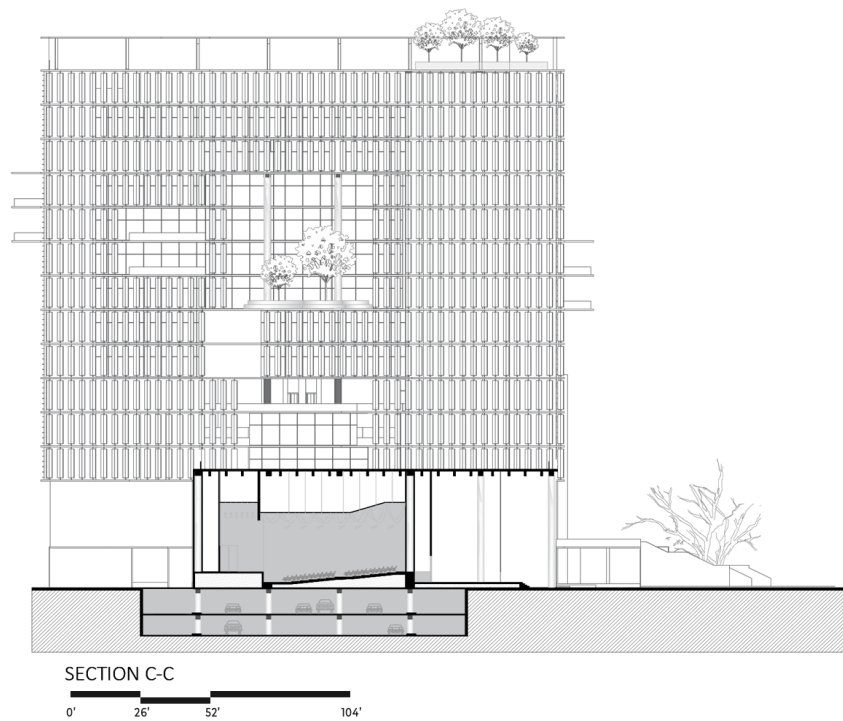


Fig 7.3.1: Sectional elevation C-C

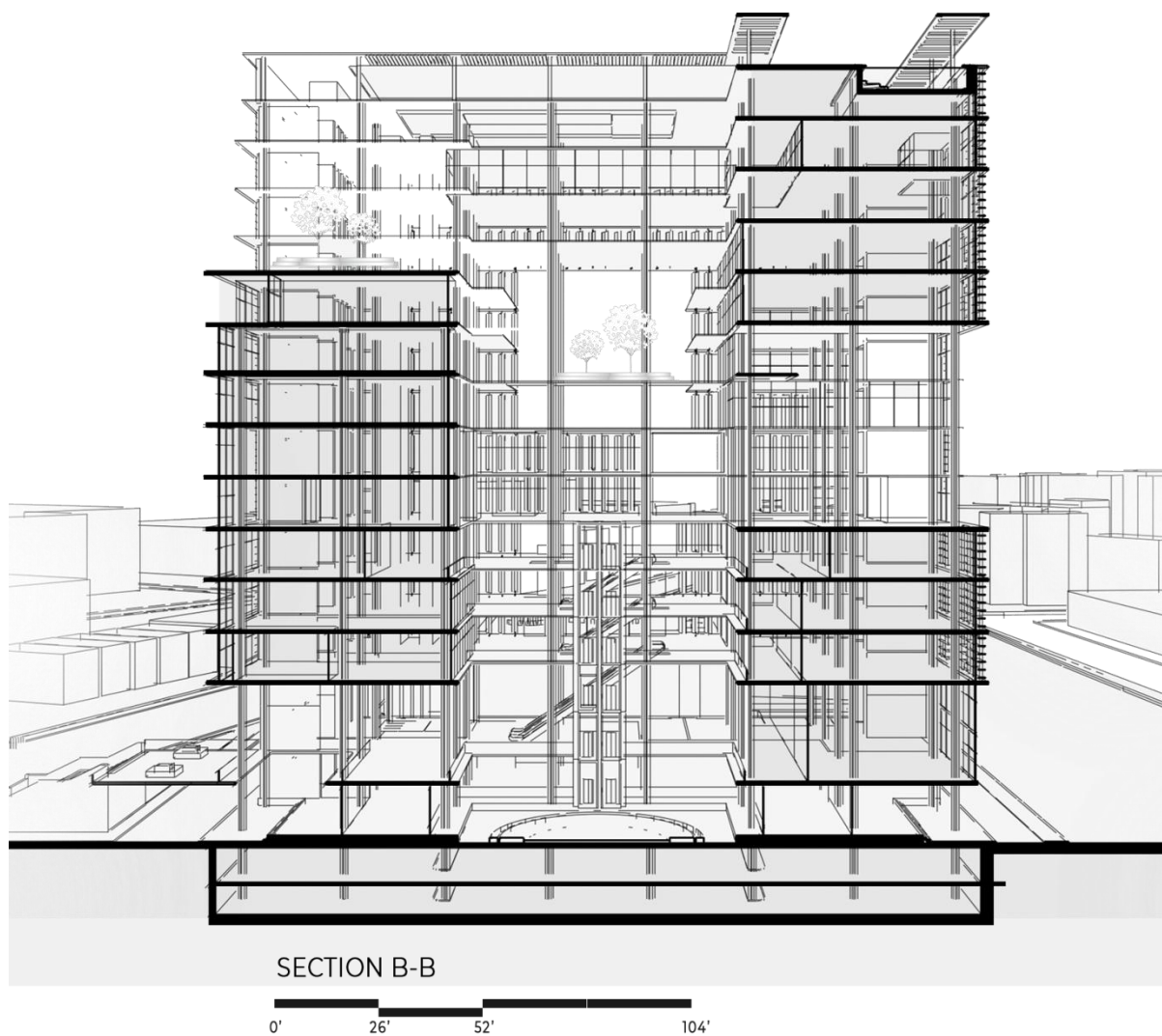


Fig. 7.3.3: Sectional perspective B-B

7.4 3D Renders



Fig. 7.4.1: Outdoor perspective from North-Western side to the plot



Fig. 7.4.2: View of Western plaza, central courtyard and shallow pool from office space



Fig. 7.4.3: View of public spaces and central courtyard shallow pool from Northern plaza entry



Fig. 7.4.4: Main vehicular approach view from the North-Eastern point

7.5 Physical Model Images



Fig. 7.5.1: Physical model image 01



Fig. 7.5.2: Physical model image 02



Fig. 7.5.3: Physical model image 03

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