

# **TECHNO HUB: A CENTRE FOR E-SPORTS, GAMING, & ANIMATION**

PURBACHAL, DHAKA

By

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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

June, 2024

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## **DECLARATION**

It is hereby declared that

1. The thesis submitted is my/our original work while completing a 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 complete and accurate referencing.
3. The thesis does not contain material that has been accepted or submitted for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

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## **APPROVAL**

The thesis/project titled “Techno Hub: A Centre for E-sports, Gaming, and Animation” submitted by Tanha Mehjabeen (19108001) of Fall, 2023 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Bachelor of Architecture on 24.12.2023.

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## **ABSTRACT**

The "Project: Techno Hub: A Centre for E-sports, Gaming, and Animation" provides an opportunity to grow Bangladesh's gaming and animation businesses in Purbachal (Sector 19), Dhaka. The project aims to resolve the issues plaguing Bangladesh's e-sports, gaming, and animation sectors. It also presents an opportunity to evaluate the potential for development and advancement in these fields. The Ministry of Information and Telecommunication Technology of the Government of Bangladesh is funding the project to encourage and support the growth of the gaming and animation industries.

## **KEYWORDS:**

E-sports, Gaming, Animation, Hub, Training Centre, Arena, IT Shopping, Recreational Zone

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## **CHAPTER 1: INTRODUCTION**

### **1.1 Introduction to The Project**

Gaming and animation have become part and parcel of our lifetimes, But Bangladesh's progress in these industries is not remarkable. Bangladesh may not outshine a significant expansion, but concluding that development has yet to be made would be unfair. Such as in Esports Zenetic Gaming, in gaming Ulka Games Limited, and animations like "Meena" and "Boka Bagh o Chalak Horin" are samples of how fast these industries are flourishing in Bangladesh.

The "**Project: Techno Hub: A Centre for E-sports, Gaming, and Animation,**" located in **Purbachal (Sector 19 )**, Dhaka, is a gateway for expanding Bangladesh's gaming and animation industries. The project aims to solve the challenges affecting Bangladesh's gaming, animation, and e-sports industries. Additionally, it creates a prospect to assess the possibilities for growth and progress in these domains. The project is geared towards stimulating and endorsing the Gaming and Animation Industry promotion and is funded by the Government of Bangladesh under the division of the Ministry of Information and Telecommunication Technology .

### **1.2 Aims and Objectives of the Project**

The project vision is to survey the current state of Bangladesh's gaming, animation, and e-sports industries, including their challenges, prospects, and growth potential. The project will offer a vision and strategy for the growth and development of Bangladesh's

gaming, animation, and e-sports industries. Furthermore, it will help to identify the factors critical for the growth and development of these industries in Bangladesh, including infrastructure, funding, skills development, regulation, and awareness.

### **1.3 Project Summary**

**Name of the Project:** Techno Hub:A Center for E-sports, Gaming, and Animation.

**Implementer of the Project:** Ministry of Information and Telecommunication Technology.

**Location:** Purbachal (Sector 19), Dhaka.

**Site area available for the Project Development:** 10-acre

**Proposed Built Area:** 1,57,137 sq ft

#### **Proposed Program**

- Game Developing Studio
  - VFX studio
  - Texturing room
  - 3D modeling room
  - Character design room
- Animation Studio
  - 3d Modelling & Texturing
  - Sketch development room
  - Library & Archive
  - Rigging studio

- Recreational Zone
  - Retro gaming museum
  - VR gaming room
  - Animation museum
  - Animation art gallery
  - AR gaming arena
- Hardware & Electronics Sales
  - Interactive art gallery
  - Shop Area
  - Theme Restaurant
- Multipurpose arena
  - Arena seating
  - Practice rooms
  - Restaurant
  - Food Courts
  - Game center
- ESports Training Centre
  - Training Room
  - Team Room
  - Leisure Room

#### **1.4 Project Rationale**

Purbachal, the Future business hub of Dhaka, having an area of 6,227 acres divided into 30 sectors, is one of the most significant projects of RAJUK. It consists of an

eight-lane expressway connected with the Pragati Swarani / Airport Road. More than 20% is assigned to businesses, educational institutions, and sports facilities. About 26% is for roads, footpaths, and additional infrastructure, while 13% of the project is for lakes, parks, and other beautification projects.

The Project site is in the Purbachal central business district (Sector19). The Bangabandhu tri-tower project is known as the prime landmark of the Purbachal CBD development project which is located opposite of the site.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Gaming Industry In Bangladesh**

The journey of the gaming industry in Bangladesh is a short one. The first computer-based gaming produced in the country was 'Dhaka Racing', which released a demo version in 2002 and a full version in 2003. The game was awarded with the best software in the country.

In 2004, a game titled "Arunodoyer Agnishikha," based on 1971, was developed by Trimatrik Interactive. Nevertheless, after that, no significant development was in the gaming industry in Bangladesh until 2015, when "Heroes of '71," funded by the ICT division, was released. The most recent game 'Zero Hour' has gained massive popularity among the players. Newzoo released a report in 2017 that the gaming market of Bangladesh is worth US\$62.22 million.

### **2.2 Top Game Developers in Bangladesh**

In the early 2000s, a few undergraduates launched the Bangladesh game development community. Trimatrik Interactive's first big release, "Arunodoyer Agnishikha," a first-person shooting game based on the events of the Bangladesh Liberation War, came out in 2004. Consequently, professional game production teams developed with a vision of creating outstanding computer and smartphone games. Bangladeshi video game firms have recently contributed to some significant releases, and fascinating projects are in the making.

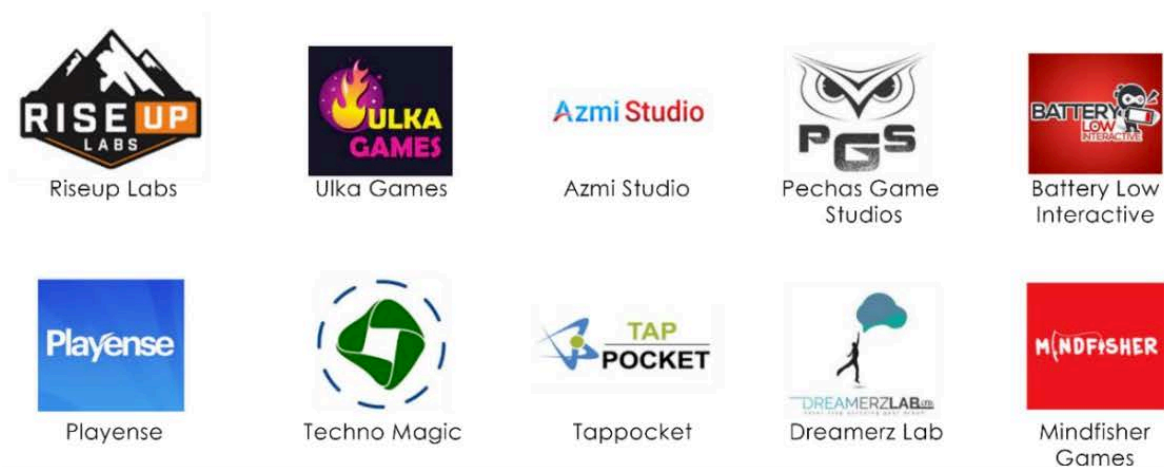


Fig 2.1: Top Gaming Company

The game developer primarily concentrates on recreational and mid-core mobile games and has seen much success in making their games profitable. They had 5 Apple Store highlights and over 5 million purchases.

### 2.3 Animation Industry In Bangladesh

The animation business in Bangladesh continues to grow swiftly and has become a crucial aspect of the creative industries. The business involves approximately 12,000 individuals in Bangladesh, most of whom generate animations for outsourced projects from nations with advanced economies. Additionally, the industry covers animation projects for awareness-raising campaigns, television commercials, and short animated movies and movies developed by a few animation studios. Bangladesh hosts yearly animation festivals, the most renowned of which is the International Animation and Cartoon Festival.

Shows like Meena and The Adventures of Montu Miah first aired in the early 2000s, but the potential of producing animated television ads was limited. Nonetheless, with the introduction of a few studios to the scene, things have taken an even more favorable turn. Mighty Punch Studios, primarily focused on printing, converted their popular comic 'Captain Kathal' into an entertaining 2-minute film.

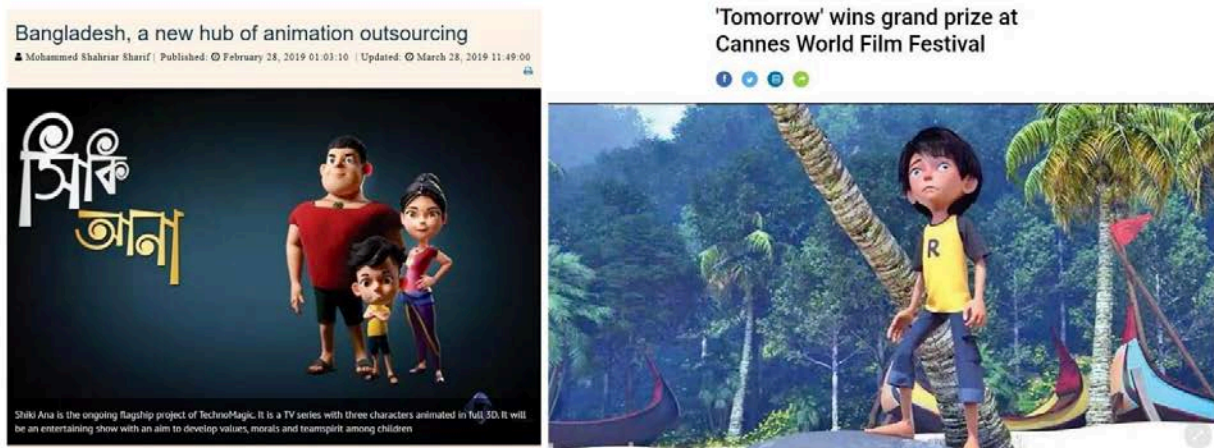


Fig 2.2: Top Animations

In the country, there are barely any 3D animation studios. Maverick Studios and Cycore Studios are the companies creating 3D animation content that will be released soon. Games, films, and advertising are the industries that rely heavily on animation. Earlier, Bangladeshi filmmakers used to recruit Indian VFX animators, but nowadays, it is executed by local artists. Approximately 95% of animation-related activity is done here.

## 2.4 Top Animation Studios in Bangladesh

- Dreamer Donkey (1997)

- Ogniroth (2010)
- Daffodil International Professional Training Institute (1998)
- Dot3 Production(Pvt)Ltd. (2013)
- Aava3D (2010)
- Latitude-23 (2003)
- Sketch Studio Limited (2005)
- Click.House (2007)
- Roopokar Creative Studio (2010)

## **2.5 E-Sports In Bangladesh**

Esports are competitive computer games performed in online or in-person matches providing cash or alternative compensation benefits. PC players from Bangladesh have ruled the Southeast Asian gaming industry for quite some time. Notable teams like as Zeusaberz Esports and others have gained an excellent track record for demonstrating their fierce rivalry in popular games such as Rainbow Six Siege, CS: GO, Apex Legends, and others.

Two years ago, the top gaming competitions would provide a total prize pool of Tk 5,000. According to an official from Zenetic Gaming, a local esports company, monthly tournaments with more than Tk1 lakh in prize money are now hosted, and gamers perceive esports as a practical career choice. In total, 71 Bangladeshi esports players were awarded \$203,383.30 in winnings from 73 events.



## **2.6 E-sports current market & its future in Bangladesh**

The esports industry in Bangladesh is anticipated to increase in popularity, marketing, endorsement, and competitiveness by 2021. Event prize money has gradually increased, with even small-scale events granting a minimum of Tk1 lakh. Following the dominance of smartphone operator Airtel, electronic giant Tencent entered the marketplace as a sponsor this year, with the industry expected to appreciate Tk 500 crores by 2025, according to analysts.

Tencent and Infinix sponsored the Arena of Valour Bangladesh Championship, which had a prize of Tk25 lakh. Ulka Gaming's CEO, JamilurRashid, said that their company generated roughly Tk50 crore and paid Tk11 crore in taxation the previous year, adding that other companies in the field are also doing well. According to him, the industry for online gaming in Bangladesh will be worth roughly Tk500 crore by 2025.

Top-tier participants earn Tk 50,000 to Tk 70,000 per month through participating in commercials, commercial shots, and sponsored collaborations, among other things. Monthly games with cash prizes over Tk1 lakh are now standard. Acknowledging esports as an authentic sport would encourage greater participation among young people.

## **CHAPTER 3: SITE ANALYSIS**

### **3.1 Site Location:**

The proposed site of the project is in Sector 19, The Central Business District (CDB) in Purbachal, Dhaka, which has an area of 10 acres. Purbachal Project lies in Rupganj Upazila of Narayanganj district, with the majority of it in Kaliganj Upazila of Gazipur district, with the river Balu on the west and the river Sitalakhya to the east of it. It is 16 kilometers away from Dhaka's downtown. The land area is 6227 acres.

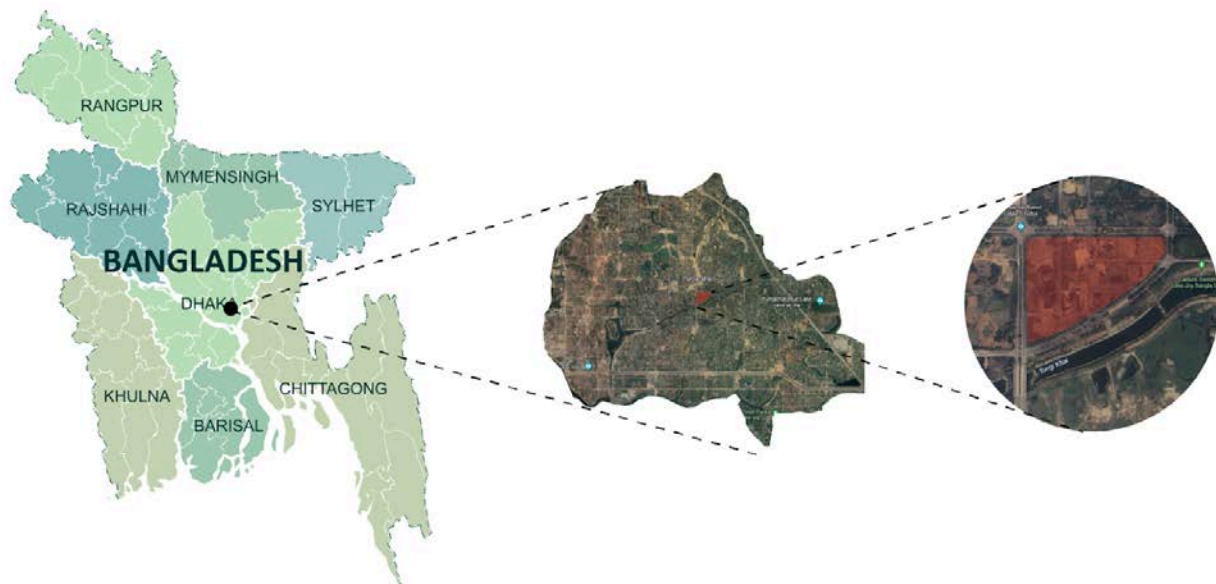


Fig 3.1 : Site Location

### **3.2 Site Surroundings:**

Purbachal –The first smart city Of Bangladesh. The project is in Sector 19, The Central Business District (CDB) in Purbachal, Dhaka. The site is situated in the eastern part of Dhaka city (Latitude: 23°85'19.43" N Longitude: 90°50'60.74" E). The site is away from

the centric city. An essential street of the city, the Purbachal Express Highway, flanks the south of the site.



Fig 3.2: Site along with the peripheral area

The site is in Sector 19, the Central Business District (CDB). The newly proposed landmark of Dhaka, The Bangabandhu Tri Tower, is opposite the site.



Fig 3.3: Site Surrounding

### 3.3 Land-use Pattern of the Surrounding:

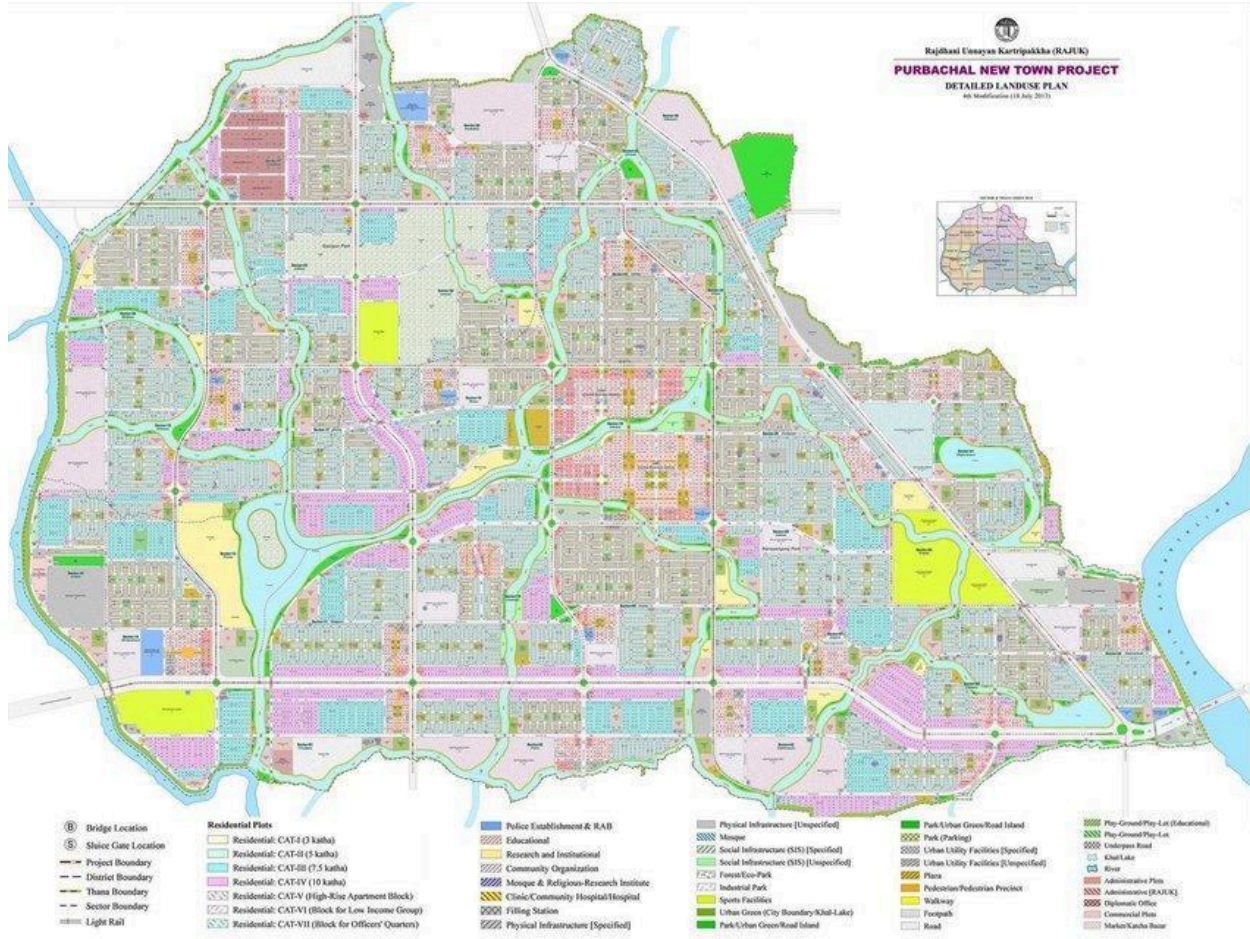


Fig 3.4: Land Use Map(Purbachal)

#### Land Distribution Percentage for Different Purposes

- 38.60% of the land is used for residential purposes.
- 25.9% road
- 6.41% for commercial and administrative
- Lakes/canals: 7.1%
- 6% for institutions and education

- 6% for utilities, urban infrastructure, and social infrastructure.
- 6.6% for green and open places in cities
- 2.5% is set aside for sports.

### 3.4 Site Accessibility:

Purbachal is located east of Dhaka and has seen significant expansion and development throughout recent years. The typical distance between the core neighborhoods of Dhaka and Purbachal is roughly 20-25 kilometers. The precise distance can vary depending on where people travel inside Dhaka and Purbachal and the form of transportation people use.



BUS STAND: 500 M



TRAIN STATION: 6KM



LOCAL MARKET: 50 M



AIRPORT: 6KM

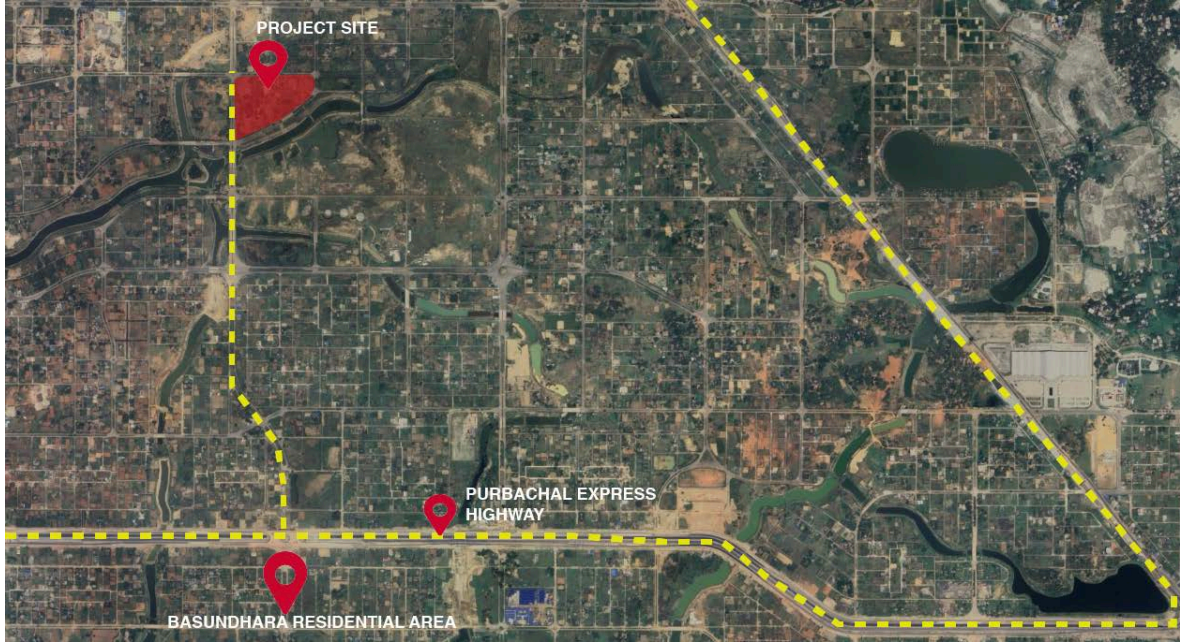


Fig 3.5: SITE ACCESSIBILITY (ROAD)

3.5 Walking Through The Site:



Fig 3.6: Site Images

### 3.6 Over The History:

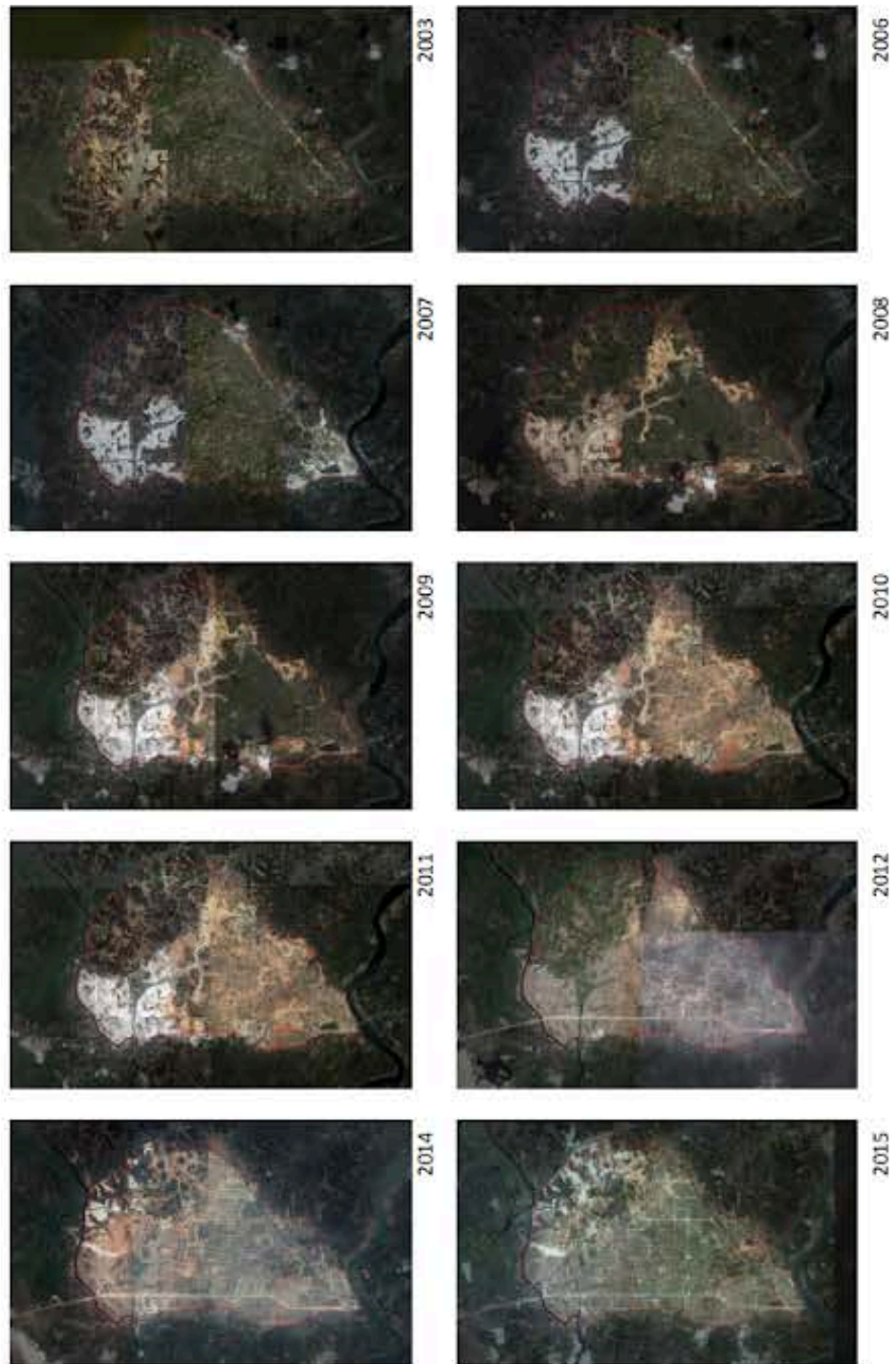


Fig 3.7: Transformation Of Area Through Satellite Images



## **CHAPTER 4: CASE STUDY APPRAISAL**

### **4.1 Bangabandhu Sheikh Mujib Hi-Tech Park, Rajshahi, Bangladesh:**

Bangabandhu Hi-Tech Park, located in Rajshahi, is an innovative technological and economic hub. This technological advancement park is intended to stimulate the region's creativity, study findings, and revenue generation.



Fig 4.1: Bangabandhu Hi-Tech Park

## 4.2 Site and its Surroundings:

Bangabandhu Sheikh Mujib Hi-Tech Park is located in Bangladesh's Rajshahi division. The park is being designed on approximately 31 acres of property in the Nabinagar neighborhood of Rajshahi. The location follows the DC office and the District Judge Court, 13 kilometers from Shahmakhdum Airport, and 7 kilometers from the Rajshahi railway and bus terminal.

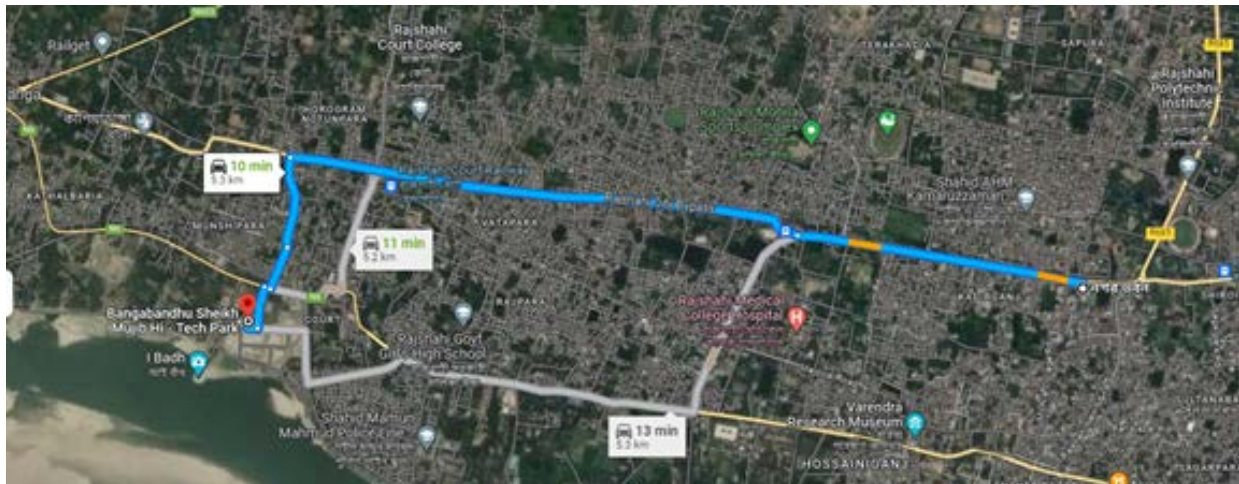


Fig 4.2: Site along with the peripheral area

## 4.3 Program List:

The project has been designed considering all the amenities like infrastructures, capacity building, lab facility, R&D, and start-up ecosystem. The major components of the project are

- Incubation and training center (Sheikh Kamal IT Training and Incubation Center)
- Multi-Tenant building (Joy Silicon Tower)
- Dedicated area for Industrial buildings
- Dormitory/ housing

- Parking lot
- Electrical substation
- Security stations
- Buffer area

#### 4.4 Form:

Sheikh Kamal IT Training and Incubation center has been influenced by technology and has a modern appearance. It also includes a central courtyard with an entrance that resembles a V form.



Fig 4.3: V-shaped courtyard

## 4.5 Masterplan:



Fig 4.4: Master plan of Bangabandhu Sheikh Mujib Hi-Tech Park, Rajshahi

## 4.6 Space Zoning:

On a global scale, Bangabandhu Sheikh Mujib Hi-Tech Park was planned with broad zoning in mind throughout the entire development, such as industrial zones, residential zones, commercial zones, education zones, administrative zones, utility zones, and so on. On the other hand, Sheikh Kamal IT Training and Incubation Centre and Joy Silicon Tower have indoor, semi-outdoor, and outdoor areas.

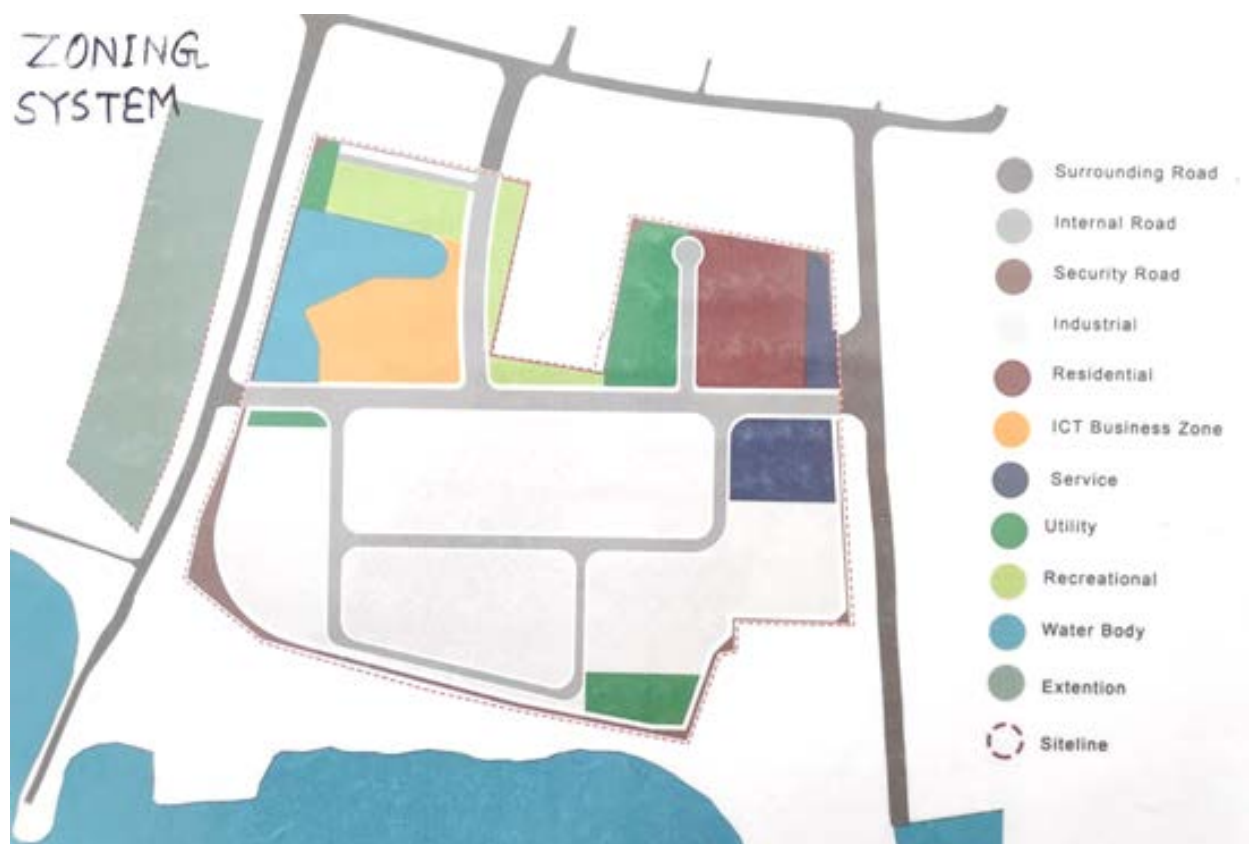


Fig 4.5: Zoning Map of Bangabandhu Sheikh Mujib Hi-Tech Park, Rajshahi

#### 4.7 Road network and Circulation:

The Tech Park features a distinctive internal road network to facilitate distinct zone access. A main road links all of the critical areas and separates a commercial zone, residential zone, and entertainment zone from the economic zone.



Fig 4.6: Internal Road network and circulation

#### 4.8 Climate:

Rajshahi lies in a tropical wet and dry climate primarily in the Köppen weather-related category. Monsoons, extremes in humidity and temperature, and light precipitation can describe Rajshahi's climate.

The hot season begins in early March and lasts until the second week of July. The peak mean temperature reported in April, May, June, and July is approximately 32 to 36 °C (90 to 97 °F), whereas the smallest mean temperature recorded in January is approximately 7 to 16 °C (45 to 61 °F). During the rainy season, the most rainfall is reported. The district receives approximately 1,448 millimeters (57.0 in) of rainfall yearly.

Climate data for Rajshahi (1991–2010)													[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	30.0 (86.0)	35.4 (95.7)	40.3 (104.5)	42.7 (108.9)	45.1 (113.2)	43.6 (110.5)	39.7 (103.5)	35.5 (95.9)	39.2 (102.6)	35.3 (95.5)	34.3 (93.7)	30.3 (86.5)	45.1 (113.2)
Average high °C (°F)	24.1 (75.4)	27.9 (82.2)	33.1 (91.6)	36.0 (96.8)	35.1 (95.2)	33.8 (92.8)	32.5 (90.5)	32.8 (91.0)	32.5 (90.5)	31.7 (89.1)	29.3 (84.7)	25.8 (78.4)	31.2 (88.2)
Daily mean °C (°F)	16.5 (61.7)	20.0 (68.0)	25.0 (77.0)	28.8 (83.8)	29.1 (84.4)	29.2 (84.6)	28.7 (83.7)	28.9 (84.0)	28.4 (83.1)	26.6 (79.9)	22.5 (72.5)	18.2 (64.8)	25.2 (77.3)
Average low °C (°F)	10.6 (51.1)	13.2 (55.8)	17.9 (64.2)	22.8 (73.0)	24.4 (75.9)	25.8 (78.4)	26.1 (79.0)	26.2 (79.2)	25.6 (78.1)	22.9 (73.2)	17.5 (63.5)	12.6 (54.7)	20.5 (68.8)
Record low °C (°F)	3.4 (38.1)	4.6 (40.3)	8.6 (47.5)	10.8 (51.4)	14.4 (57.9)	20.3 (68.5)	19.4 (66.9)	18.3 (64.9)	12.6 (54.7)	11.4 (52.5)	7.0 (44.6)	4.2 (39.6)	3.4 (38.1)
Average precipitation mm (inches)	8.0 (0.31)	15.1 (0.59)	23.0 (0.91)	56.5 (2.22)	136.8 (5.39)	243.7 (9.59)	303.2 (11.94)	240.6 (9.47)	271.7 (10.70)	115.3 (4.54)	12.6 (0.50)	9.8 (0.39)	1,436.3 (56.55)
Average rainy days	2	3	3	6	10	12	15	14	13	5	2	1	86
Average relative humidity (%)	78	71	63	65	75	83	87	86	86	83	78	78	78

Source 1: Bangladesh Meteorological Department<sup>[13][14][15]</sup>  
Source 2: WeatherBase.Com<sup>16</sup>

Fig 4.7: Climate data of Rajshahi, Bangladesh

#### 4.9 Structure:

Joy Silicon Tower and Sheikh Kamal IT Training and Incubation Center are constructed using the Post-Lintel Structural system. Reinforced Cement Concrete (RCC) structure is used.



Fig 4.8: Post-Lintel Structural system constructed using RCC

#### 4.10 Material:



Brick



Cement



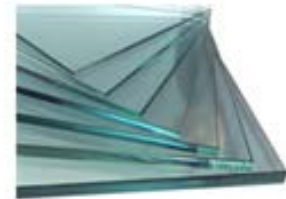
Concrete



Steel



Wood



Glass

Fig 4.9: Materials



#### **4.11 The Falling Lotus Blossom: EON IT Park, Pune, India:**

**Falling Lotus Blossoms:** EON IT Park, which is situated in India's seventh most significant metropolis, is aesthetically designed on 4,000,000 square feet that is located in the AEON, a designated Economic Zone established by the government to encourage growth.



Fig 4.10: The Falling Lotus Blossom: EON IT Park, Pune, India

#### **4.12 Site and its Surroundings:**

EON IT Park, situated in Pune, India is appraised as a milestone that remodeled the real state. This IT Park is situated in Kharadi, Pune's eastern IT Corridor.



Fig 4.11: Site

#### 4.13 Concept:

The design inspiration for this complex's geometric structure is India's national flower white lotus. The cluster of these buildings, each representing a petal, is arranged with an open area in the middle to resemble a four-leaf clover. The complex's motif was inspired by biomimicry.



Fig 4.12: Concept

#### 4.13 Form:

Four Lotus petal-shaped buildings are gathered with an open area in the middle to resemble a four-leaf clover, and a road connecting them all. These structures also have a central courtyard and a curved roof shaped like the cross-section of a nautilus bending.

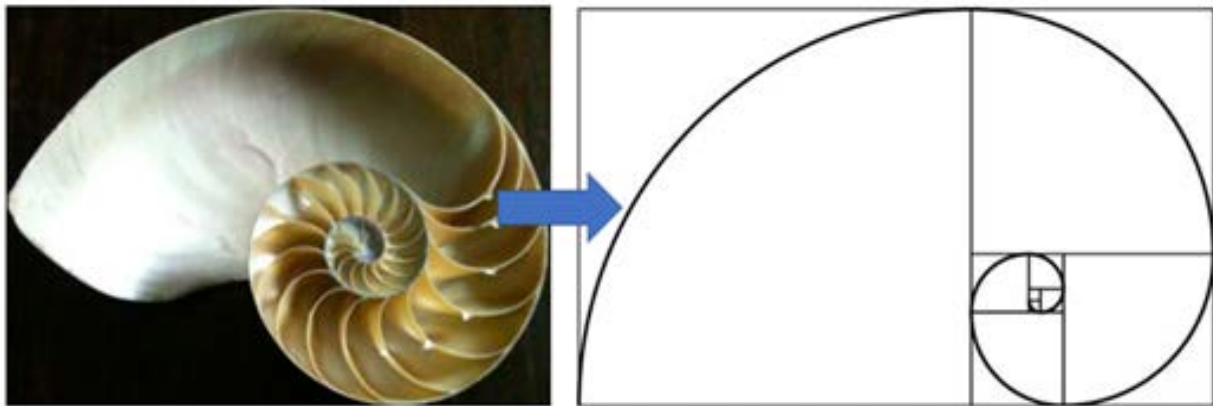


Fig 4.13: Form

#### 4.14 Program List:

With four separate office wings, three connecting cores, and an angular double-glazed façade on each floor plate, each building is a G+7 story structure. The site's contours were utilized to create beautiful pockets of landscape in addition to sectionally shifting parking and other facilities.

#### 4.15 Climate:

Pune experiences normal temperatures between 20 to 28 °C in its tropical wet and dry climate, which borders on a hot semi-arid environment. Pune experiences three distinct

seasons: summer, monsoon, and winter. Usually lasting from mid-March to mid-June, the summer months have maximum temperatures that can reach 42°C on occasion. In Pune, May is the warmest month. The city usually gets very strong dusty breezes in May, and the humidity is still very high. Pune's high altitude means the nights are

Climate data for Pune (1981-2010, extremes 1901-2012)													[hide]
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	35.3 (95.5)	38.9 (102.0)	42.8 (109.0)	43.3 (109.9)	43.3 (109.9)	41.7 (107.1)	36.0 (96.8)	35.0 (95.0)	36.1 (97.0)	37.8 (100.0)	36.1 (97.0)	35.0 (95.0)	43.3 (109.9)
Average high °C (°F)	29.8 (85.6)	32.1 (89.8)	35.6 (96.1)	37.6 (99.7)	36.9 (98.4)	31.9 (89.4)	28.3 (82.9)	27.6 (81.7)	29.4 (84.9)	31.5 (88.7)	30.4 (86.7)	29.2 (84.6)	31.7 (89.1)
Average low °C (°F)	11.2 (52.2)	12.2 (54.0)	15.7 (60.3)	19.6 (67.3)	22.6 (72.7)	23.1 (73.6)	22.4 (72.3)	21.7 (71.1)	20.9 (69.6)	18.4 (65.1)	14.5 (58.1)	11.5 (52.7)	17.8 (64.0)
Record low °C (°F)	1.7 (35.1)	3.9 (39.0)	7.2 (45.0)	10.6 (51.1)	13.8 (56.8)	17.0 (62.6)	18.9 (66.0)	17.2 (63.0)	13.2 (55.8)	9.4 (48.9)	4.6 (40.3)	3.3 (37.9)	1.7 (35.1)
Average rainfall mm (inches)	1.1 (0.04)	0.3 (0.01)	2.2 (0.09)	8.5 (0.33)	26.8 (1.06)	173.4 (6.83)	181.4 (7.14)	145.2 (5.72)	146.1 (5.75)	86.3 (3.40)	25.0 (0.98)	7.0 (0.28)	803.0 (31.61)
Average rainy days	0.2	0.1	0.2	0.8	1.9	9.5	12.4	9.8	8.0	4.4	1.2	0.3	48.7
Average relative humidity (%) (at 17:30 IST)	34	26	21	24	37	66	76	79	73	53	43	39	47
Mean monthly sunshine hours	294.5	282.5	300.7	303.0	313.1	183.0	114.7	111.6	177.0	244.9	264.0	279.0	2,868
Mean daily sunshine hours	9.5	10.0	9.7	10.1	10.1	6.1	3.7	3.6	5.9	7.9	8.8	9.0	7.9

Source: India Meteorological Department<sup>[93][94][95]</sup>

typically cool, even in the hottest months.

Fig 4.14: Climate data of Pune, India

#### 4.16 Space:

Each of the four buildings has a central courtyard opening, and the cluster is connected via a central open space by a road loop.



Fig 4.15: Central open space with an Amphitheatre in the cluster (left) and courtyard on a single unit (right)

#### 4.17 Circulation:

The complex's four buildings are linked by a central loop road network that leads to parking areas beneath the buildings. There is pedestrian circulation around each building's courtyard, which leads to the central open area with an amphitheater.

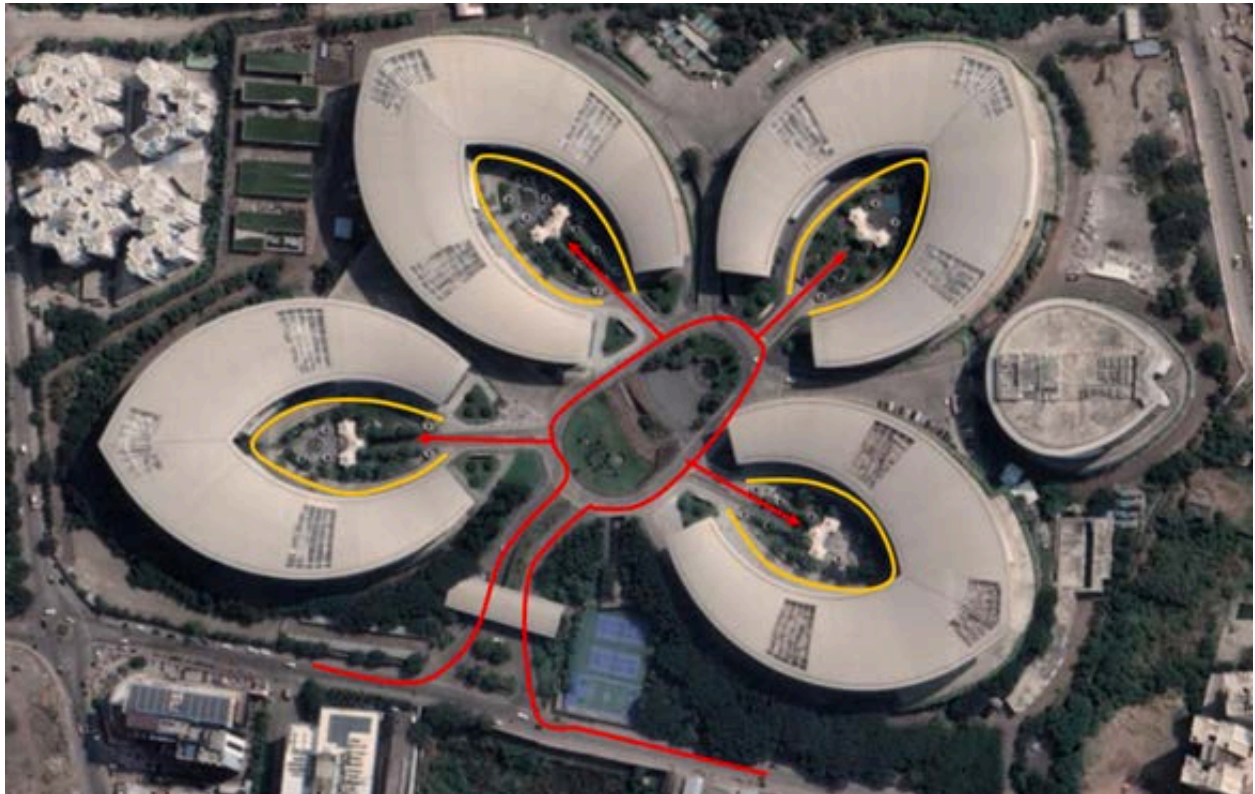


Fig 4.16: Major Roadway showing vehicular movement direction (red line) and pedestrian circulation (orange line)

#### 4.18 Structure:

The structural system is post-Intel structure and three connecting cores. The column is about 2'x 2' in size.

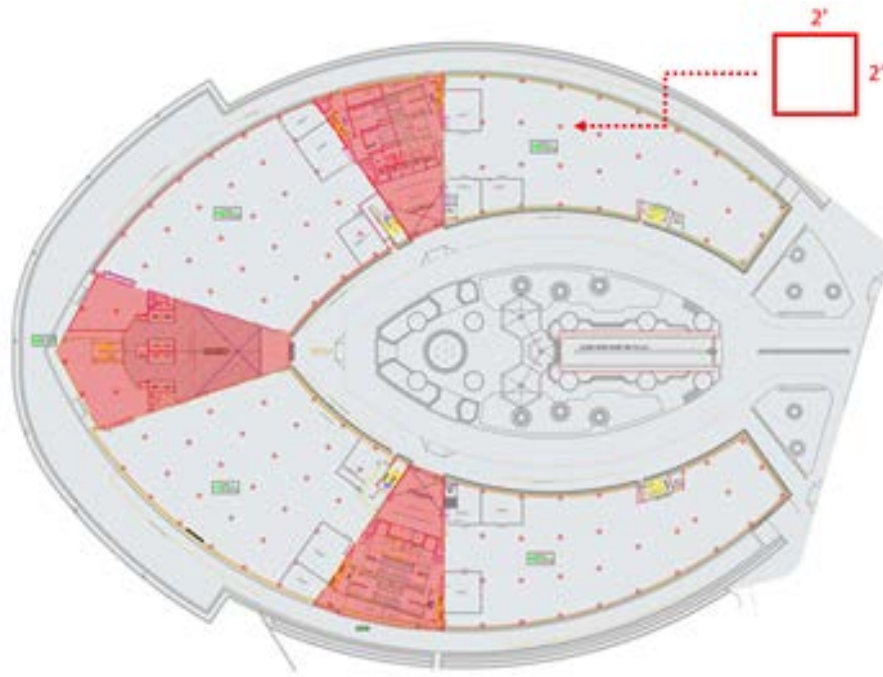
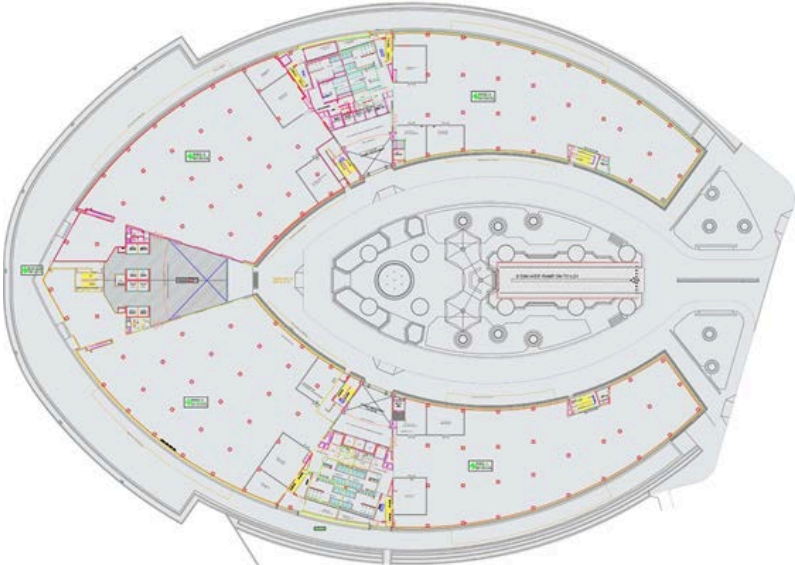
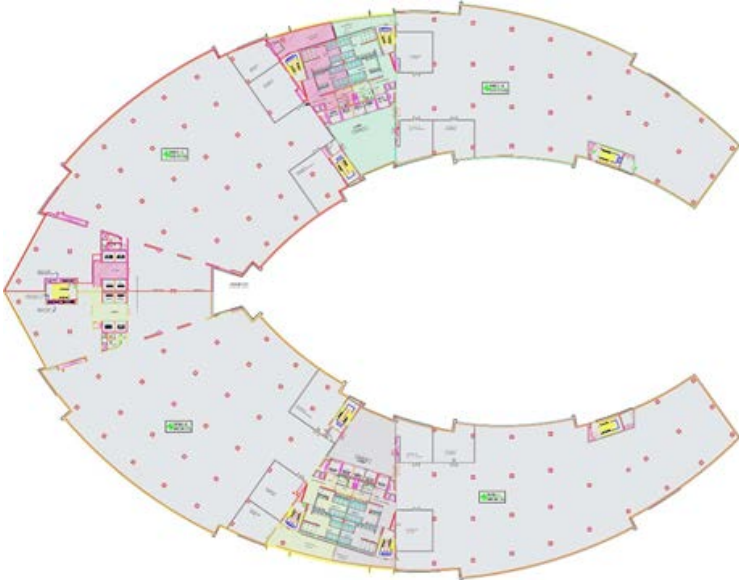


Fig 4.14: Core Placement

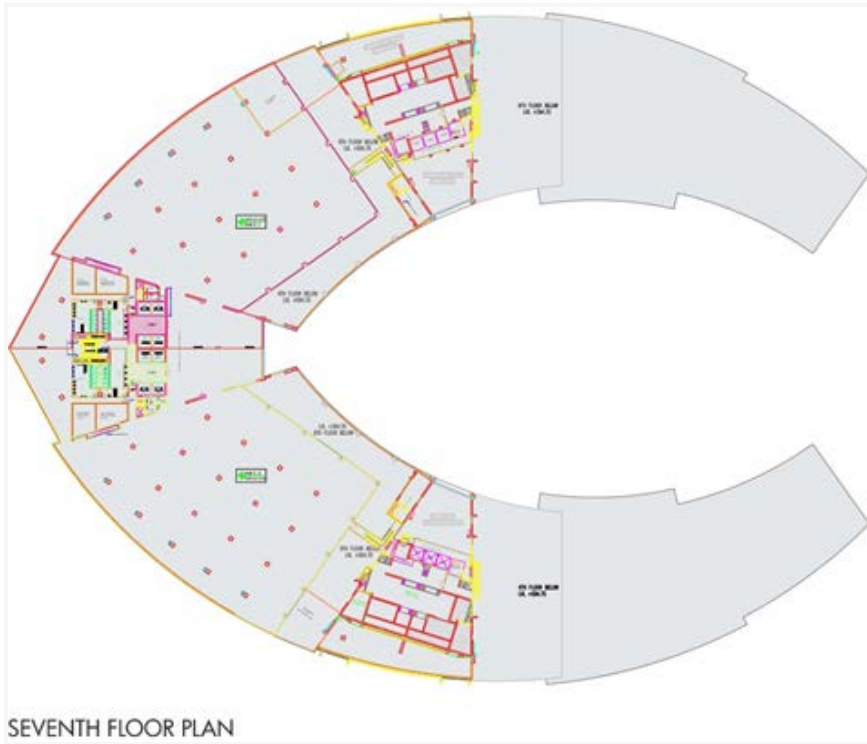
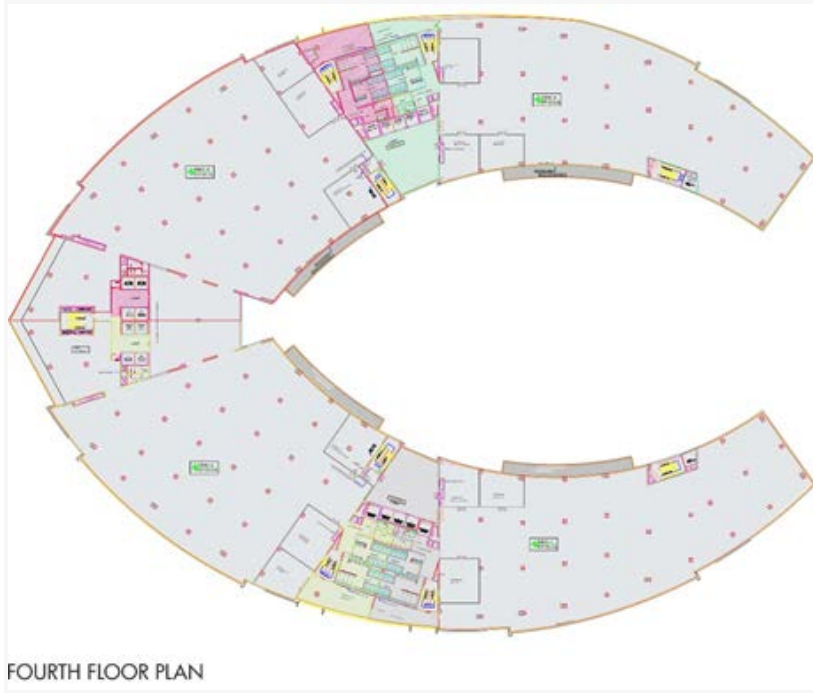
4.19 Plans:



GROUND FLOOR PLAN



FIRST FLOOR PLAN





#### 4.20 Material:

In terms of price, 800 kilometers or less away from the project site produced 75.60 percent of the materials used in the project. Materials supplied locally include false ceilings, glass, drywall, steel, fire-rated doors, cement, and bricks. High SRI materials were used in the project to cover the 13,350 square meter roof surface.

#### 4.21 Images:



Fig 4.15: The Falling Lotus Blossom: EON IT Park

## **CHAPTER 5: PROGRAM APPRAISAL**

### **5.1 Proposed Programs:**

Techno Hub, located in Purbachal (Sector 19), is a Centre for E-sports, Gaming, and Animation. The project is a gateway to assess the possibilities for growth and progress in these domains. The project aims to stimulate and endorse the Gaming and Animation Industry promotion. It is funded by Bangladesh's Ministry of Information and Telecommunication Technology (ICT) division.

The project has seven wings:

- Game Developing Studio
- Animation Studio
- Game Developing Studios & Animation Studios common area
- Recreational Zone
- Hardware & Electronics Sales
- Multipurpose arena
- E-sports Training Center

### **5.2 Game Developing Studio:**

This part of the complex deals with developing world-class games to enhance the gaming market of Bangladesh. This part includes

- Different studios
- Working stations
- Conference rooms

<b>Game Developing Studio</b>	Studio lobby	1064
	Conference room	745
	Editing and composing	313
	Programming and software studio	2660
	VFX studio	249
	Texturing room	226
	3D modelling room	226
	Character design room	279
	Story development & concept art	357
	<b>Total</b>	6119

Fig 5.1: Programs (Game Developing Studio)

### 5.3 Animation Studio:

This part of the project involves producing animation and creating opportunities for local animators. This part includes

- Different studios

<b>Game Developing Studio</b>	Studio lobby	1064
	Conference room	745
	Editing and composing	313
	Programming and software studio	2660
	VFX studio	249
	Texturing room	226
	3D modelling room	226
	Character design room	279
	Story development & concept art	357
	<b>Total</b>	6119

- Working stations
- Conference rooms
- Director Office
- Library & Archive
- Server room

<b>Animation Studio</b>	Discussion and sketch development room	406
	Marketing room	266
	Directors office	218
	Leisure	300
	Library & Archive	800
	Render farm	275
	Rigging studio	190
	Audio recording	225
	IT room	160
	Server room	290
	Studio lobby	564
	Conference room	745
	Editing and composing	310
	Layout Room	320
	Background art room	283
	3Dmodelling & texturing	350
	Character design	330
	Story development & concept art	350
	Sketch development room	360
	Leisure	400
Library & Archive	700	
Theatre	1164	
Coffee Corner	185	
	Audio recording	223
	IT room	200
	Server room	160
	Motion Capture Room	290
	Marketing room	266
	Directors office	218
	<b>Total</b>	<b>10548</b>

Fig 5.2: Programs (Animation Studio)

#### 5.4 Game Developing Studio And Animation Studio Common Area:

This project wing includes the common shared area by the game developing studio and Animation Studio. This part includes

- Office Lobby
- Lounge
- Cafeteria
- Workshop

<b>Game Developing Studios &amp; Animation Studios common area</b>	Office lobby	3483
	Lounge	4583
	Cafeteria	2171
	Workshop	2703
	<b>Total</b>	<b>12940</b>

Fig 5.3: Programs (Game Developing Studio And Animation Studio Common Area)

### 5.5 Recreational Zone:

This part offers recreational facilities to the public and individuals working on the project.

This part includes

- Arcade
- VR games
- Laser Tag
- AR gaming
- Mini Golf

<b>Recreational Zone</b>	Laser tag	2100
	Mini golf	3051
	Interactive sculpture	1137
	Retro gaming museum	2000
	VR gaming room	2289
	Arcade	2256
	Animation museum	2400
	Animation art gallery	1776
	Gallery + AR game lobby	2013
	AR gaming arena	2788
	<b>Total</b>	<b>21810</b>

Fig 5.4: Programs (Recreational Zone)

### 5.6 Hardware & Electronics Sales:

This part offers shopping facilities to the public and individuals working on the project.

This part includes

- Multifunctional zone
- Interactive art gallery
- Shop Area
- Food courts and Theme Restaurant

<b>Hardware &amp; Electronics Sales</b>	Multifunctional zone	2890
	Interactive art gallery	2357
	Souvenir shop	2078
	Comic Shop	2267
	Shop Area	6700
	Food courts	3467
	Merchandise Shops	2254
	Theme Restaurant	2456
	<b>Total</b>	<b>24469</b>

Fig 5.5: Programs (Hardware & Electronics Sales)

### 5.7 Multipurpose arena:

Multipurpose Arena offers esports competitions, product launching, trailer launching, cosplay expo, etc. This part includes

- Arena seating
- Practice rooms
- Food Courts
- Game center
- ION market

<b>Multipurpose arena</b>	Arena seating	9869
	Lounge rooms (2)	1500
	Program management Office	728
	Server	470
	Locker	569
	Practice rooms (4 )	1980
	Gaming lobby	2345
	Team store	1400
	ION market	2100
	Ticket counter	400
	Restaurant	2150
	Food Courts	3627

Fig 5.6: Programs (Multipurpose Arena)

### 5.8 E-sports Training Center:

E-sports Training Center offers Training esports players for national and international competitions. This part includes

- Coaches Room
- Fitness Room
- Practice Room
- Leisure Room

<b>E-sports Training Center</b>	Lobby	1280
	Coaches room (2)	1140
	Fitness room (2)	1352
	Training room (4)	4270
	Team room (2)	956
	Practice room (2)	1446
	Leisure area (2)	1096
	<b>Total</b>	<b>11540</b>

Fig 5.7: Programs (E-sports Training Center)

## 5.9 Total Program List:

<b>GRAND TOTAL</b>	<b>AREA (SQFT)</b>
Game Developing Studios & Animation Studios common area	12940
Game Developing Studio	6119
Animation Studio	10548
Recreational Zone	21810
Hardware & Electronics Sales	24469
Multipurpose arena	33449
E-sports Training Center	11540
<b>Total</b>	120875
30% Circulation	36262
	157137

Fig 5.8: Programs List



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