TCS IT PARK

(Tata Consultancy Service- Information Technology Park)

A THESIS

Submitted in partial fulfillment of the requirements for the award of

Bachelor of Architecture degree

By

A ASHWIN RAGHUL

(39210009)

DEPARTMENT OF ARCHITECTURE

SCHOOL OF BUILDING AND ENVIRONMENT

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY) Accredited

With Grade "A" by NAAC

JEPPIAAR NAGAR, RAJIV GANDHI SALAI,
CHENNAI - 600 119

MAY 2024

SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited "A++" Grade by NAAC | 12B Status by UGC | Approved by AICTE
www.sathyabama.ac.in

DEPARTMENT OFARCHITECTURE

BONAFIDE CERTIFICATE

This is to certify that Thesis Report is the bonafide work of **A Ashwin Raghul (39210009)** who carried out the Thesis entitled **"TCS IT PARK (Tata Consultancy Service - Information Technology Park)"** under our supervision from December 2024 to May 2024.

Internal Guide
Ar. Kavitha

Internal Review Member
Ar. Sarath Chandrakanth

External Guide
Ar. Pramod Balakrishnan

Dean and Head of the Department
Dr. DEVYANI GANGOPADHYAY

Submitted for Viva voce Examination held on

Internal Examiner

External Examiner

Scanned with CamScanner

DECLARATION

I, **A ASHWIN RAGHUL** hereby declare that the Thesis Report entitled "TCS IT PARK (Tata Consultancy Service-Information Technology Park)" done by me under the guidance of **Ar.Kavitha** (Internal Guide), **Ar.Sarath Chandrakanth** (Internal Review Member) and **Ar.Pramod Balakrishnan** (External Guide) Sathyabama Institute of Science and Technology is submitted in partial fulfillment of the requirements for the award of Bachelor of Architecture Degree.

DATE: 18-05-2024

PLACE: Chennai

SIGNATURE OF THECANDIDATE

Scanned with CamScanner

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **Sathyabama Institute of Science and Technology** for their kind encouragement in doing this Thesis and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr.Devyani Gangopadhay**, Dean and Head of the Department, School of Building and Environment, Our Design Chair **Ar.Sarath Chandrakanth,** Thesis Coordinator **Ar.Kavitha** for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Thesis Internal guide **Ar.Kavitha,** Internal Review member **Ar.Sarath Chandrakanth** and External Guide **Ar.Pramod Balakrishnan** their guidance, suggestions and constant encouragement which paved the way for the successful completion of my Thesis work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the **Department of Architecture,** all my family members and also juniors Mohammed Fayas and Tamilmaran helpful in many ways for completion of the Thesis.

A ASHWIN RAGHUL

THESIS SYNOPSIS

Designing an Information Technology Park for Tata Consultancy Service, through Architectural Design on understanding their Ideology with suitable component required with specific user requirement.

Tata Consultancy Service has a deep rooted network of building software solutions in India, Which led by F.C.KOHLI the first CEO of TCS and also the Father of Indian IT Industry and a brilliant technocrat.

As designing an IT Park will increase the greater future and also provide innovative and collective knowledge, and also helps me to learn the outcome of IT Network and also designing an greater office space with large scale user and cleaner environment. And also the IT Industry has started to evolve in a dynamic way across India with encouragement from government and also with different advantages in India.

TABLE OF CONTENTS

CHAPTER No.	TITLE	PAGE No.
	THESIS SYNOPSIS	v
	LIST OF FIGURES	viii
	LIST OF PLATES	x
1	INTRODUCTION	**1**
1.1	INTRODUCTION	1
1.2	NEED OF THE PROJECT	1
1.3	AIM AND OBJECTIVE	1
1.4	METHODOLOGY	2
2	**LITERATURE CASE STUDIES**	**3**
2.1	CHENNAI ONE IT PARK – THORAIPAKKAM	3
2.2	INTERNATIONAL TECH PARK – TARAMANI	8
2.3	ZYDUS CORPORATE PARK – AHMEDABAD	11
2.4	INFOSYS CAMPUS - NAGPUR	14
3	**STANDARDS**	**17**
4	**SITE STUDY AND ANALYSIS**	**20**
4.1	SITE SELECTION	20
4.2	SITE JUSTIFICATION	21
4.3	SITE ANALYSIS	22
5	**ARCHITECTURAL DESIGN**	**25**
5.1	SPATIAL REQUIREMENTS	25

5.2 CONCEPT 26
5.3 DETAILED DRAWINGS 30
5.4 MODEL 37

6 REFERENCES 38

LIST OF FIGURES

FIGURE No.	TITLE	PAGE No.
2.1	Plan of Chennai One IT Park	3
2.2	Transportation facility	4
2.3	Work station	5
2.4	Exterior office building	5
2.5	Plan of International Tech Park - Taramani	8
2.6	Crest building	9
2.7	Pinnacle building	9
2.8	Plan of Zydus Corporate Park	11
2.9	Conceptual Development of Zydus corporate park	12
2.10	Spatial analysis of Infosys Nagpur	14
2.11	View of Infosys	15
2.12	Interior work space	15
3.1	Tamilnadu Combined Development and Building Rules	17
3.2	Tamilnadu Combined Development and Building Rules	18
3.3	Tamilnadu Combined Development and Building Rules	19
4.1	India map, Tamilnadu map, map of Mahindra city	20
4.2	Site evolution from 2010 to 2024	21
4.3	Neighborhood context	22
4.4	Site Neighborhood view	23
4.5	Site analysis	24
5.1	Area Requirements	25
5.2	Site view	26
5.3	View of mutual shading	27
5.4	View of Landscape	27
5.5	View of Walkway and Greenery	28
5.6	Concepts used in Site	29
5.7	Site plan	32
5.8	Pedestrian entrance to Site	31
5.9	Lift lobby access from Basement parking level	31

5.10	Aerial view of central courtyard	31
5.11	View of courtyard from balcony	31
5.12	Site entry from Gate 01	33
5.13	Site entry from Gate 02	33
5.14	Site entry from Gate 03	33
5.15	Overall site view from Top	37

LIST OF PLATES

PLATE No.	TITLE	PAGE No.
2.1	Study of Chennai One IT Park	6
2.2	Study of Chennai One IT Park	7
2.3	Study of International Tech Park - Taramani	10
2.4	Study of Zydus Corporate Park	13
2.5	Study of Infosys Campus - Nagpur	16
5.1	Typical Floor Plan of IT Park	32
5.2	Floor plan of Executive Dinning and Column Layout	34
5.3	Section AA and Sectional Elevation	35
5.4	Plan of Fire service and Water supply	36

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Tata Consultancy Service[TCS] a sector owned by Ratan Tata, which has its footprint on various categories towards National development and growth, Information Technology sector has been an immense growth and a continuous progress in development and arising new pockets of job opportunities for young India. A design of Information Technology in a Socio-economic sector of Tamilnadu, towards arising 4000 IT Job opportunities.

1.2 NEED OF THE PROJECT

As a need for future development this project shows fruitful opportunity for young people and also supporting the growth of IT Infrastructure in India. And also location of project is just offset from the urban environment to travel ahead with equality in opportunities.

1.3 AIM AND OBJECTIVE

(a) Developing IT Infrastructure will be one of the parameter for Inclusive growth and development.

(b) Accelerating job opportunities for many people

(c) Infrastructure development and increasing more investment on IT sector.

(d) Designing infrastructure with greener environment and also climate responsive.

1.4 METHODOLOGY:

Topic selection - IT Park

Detailed study about IT Park

Site selection and Justification

Selection of site and literature case studies
Literature – Zydus corporate park
Infosys Nagpur
International Tech Park Taramani

Live – Chennai one IT Park Thoraipakkam

Comparative analysis of case study and its inference

Spatial requirements and area statement

Site analysis and site documentation

Concept and zoning and conceptual zoning

Single line schematic, site zoning and 3D massing and study model

Site plan, Floor plans and section and elevation

Detailed working drawing and 3D model and rendered view

CHAPTER 2

LITERATURE CASE STUDIES

2.1 CHENNAI ONE IT PARK – THORAIPAKKAM

Location - Thoraipakkam, Chennai - India

Architect- Oscar and Ponni Architects

Building type- Office building

completion – 2020

2.1.1 SPACIAL ANALYSIS:

The Site has access through 2 entries. Both the entries can access through main road. The service entry measures about 7meters and the main entry measures about 15 meters with both entry and exit.

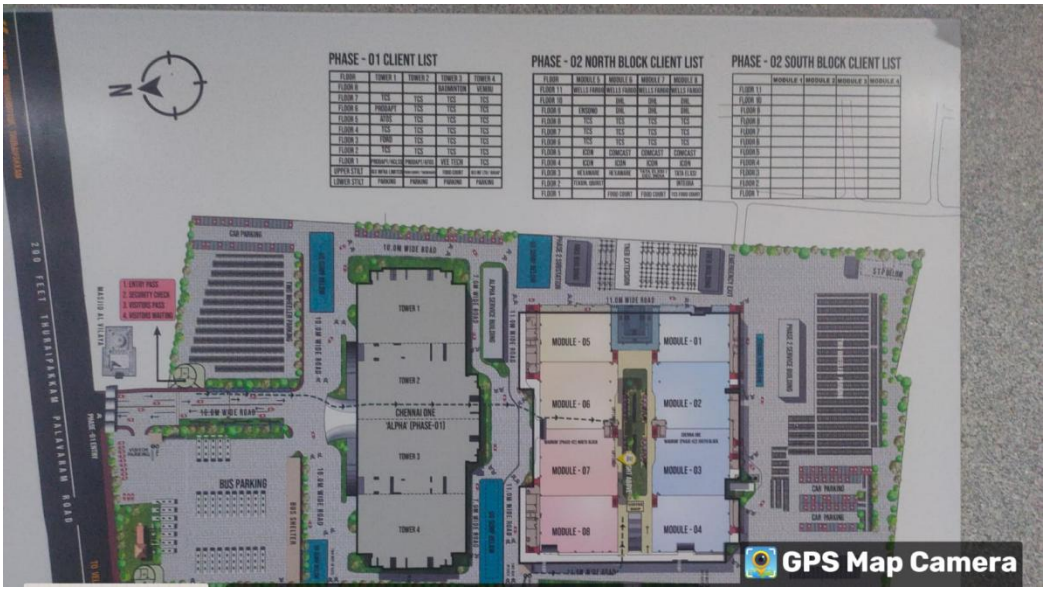


Fig 2.1: Plan of Chennai One IT Park

The IT Park enhances the livelihood and development opportunity,but it also act as a factor which reduce the area of pallikaranai marsh land.

2.1.2 DETAILS OF THE SITE

Total Area: 28 acres

Built-up Space: 33250 sq.m

Working Population: 80000-100000

2 phase blocks: Phase-1 : 12650 sq.m

Phase-2 : 20600 sq.m

2.1.3 TRANSPORTATION FACILITY

TRANSPORTATION			
VEHICLE	PROVIDED	SHIFT TIMING	ACTUAL COUNT
VAN	25 PER SHIFT	10AM - 3PM AND 4PM - 9PM	20-25
CAR	3800	USER ACCESS	MORE THAN 3800
BIKE	MORE THAN 500	USER ACCESS	MORE THAN 500
BUS	32	10AM - 3PM AND 4PM - 9PM	40-45

Fig 2.2: Transportation Facility

2.1.4 WORK STATION:

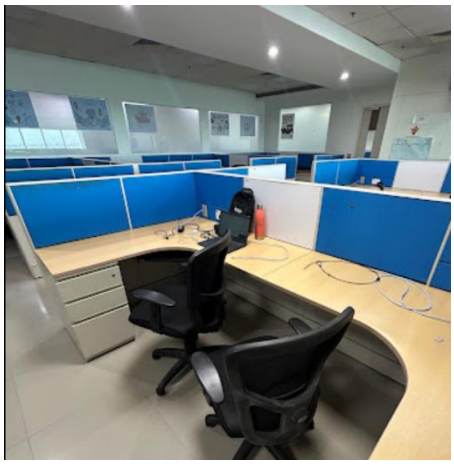


Fig 2.3: Work Station

A Single module accommodates 8user, each floor consist 12 module totally 96 workstation per Floor has been provided.

2.1.5 MATERIALS:

Fig 2.4: Exterior of Office building

The Exterior facade has been treated with ACP Panel [Aluminium Composite Panel] and usage of SCG Glass with the color tone of Coral Green as it stands with shading co-efficient of 0.43 and U-Value of 5.7 and also Kadapa stone has been used as a exterior facade material.

Plate 2.1: Study of Chennai One IT Park

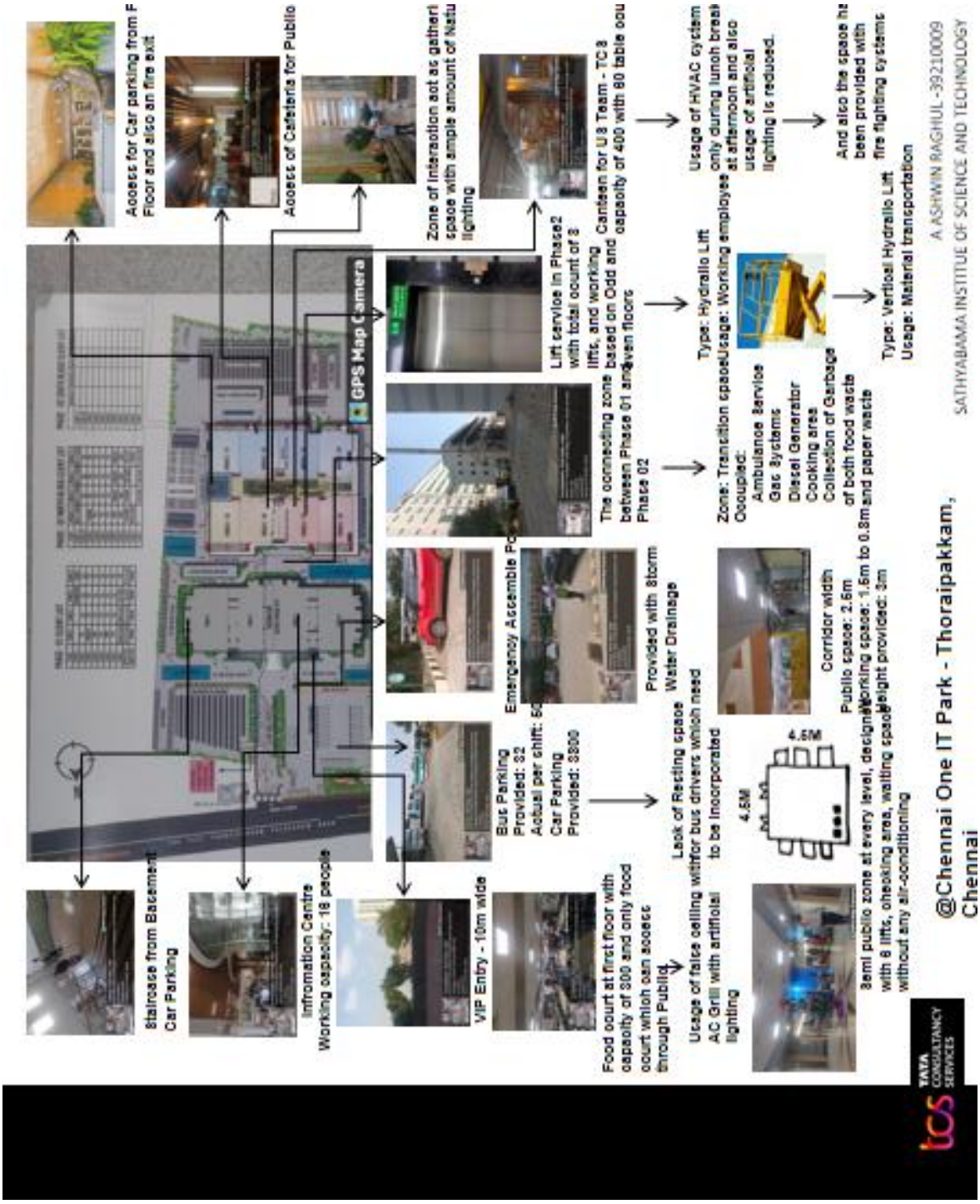


Plate 2.2: Study of Chennai One IT Park

2.2 INTERNATIONAL TECH PARK – TARAMANI

Location - Taramani, Chennai, India

Building type -Office building

Area - 186900 sq.mtrs

2.2.1 SPACIAL ANALYSIS:

The Site has four entries, 2 entries from the main road and 2 entries from the sub-road. Each entry measures upto 7 meters with separate lane for pedestrian, two wheelers and cars.

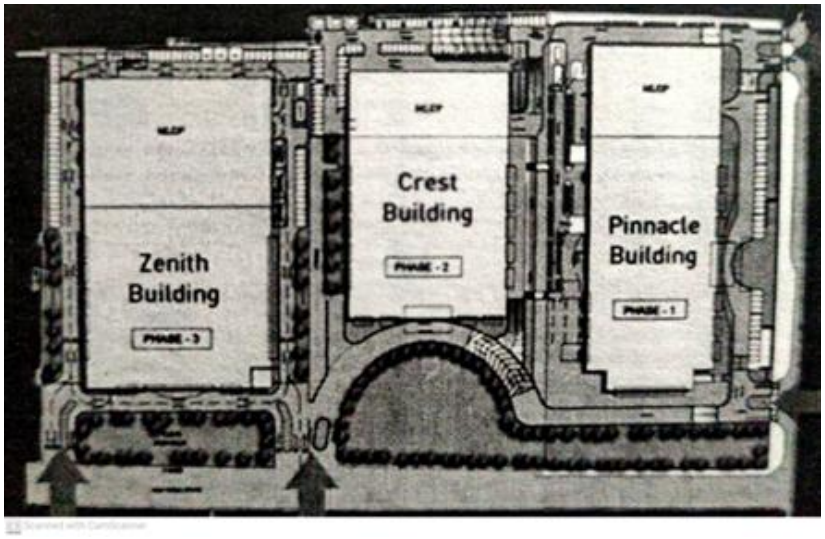


Fig 2.5: Plan of International Tech Park - Taramani

2.2.2 SITE SUSTAINABILITY FEATURES:

The park has in place native or adapted vegetation covering 25.9% of site area. 95% of cr parks are covered which will create more open spaces on the ground and also reduces the local heat island effect.

Fig 2.6: Crest building

2.2.3 MATERIALS:

Fig 2.7: Pinnacle building

The exterior facade is composed with Aluminium composite panels and glass, which has grid pattern towards east to neglect the direct sunrays between 9am - 11am

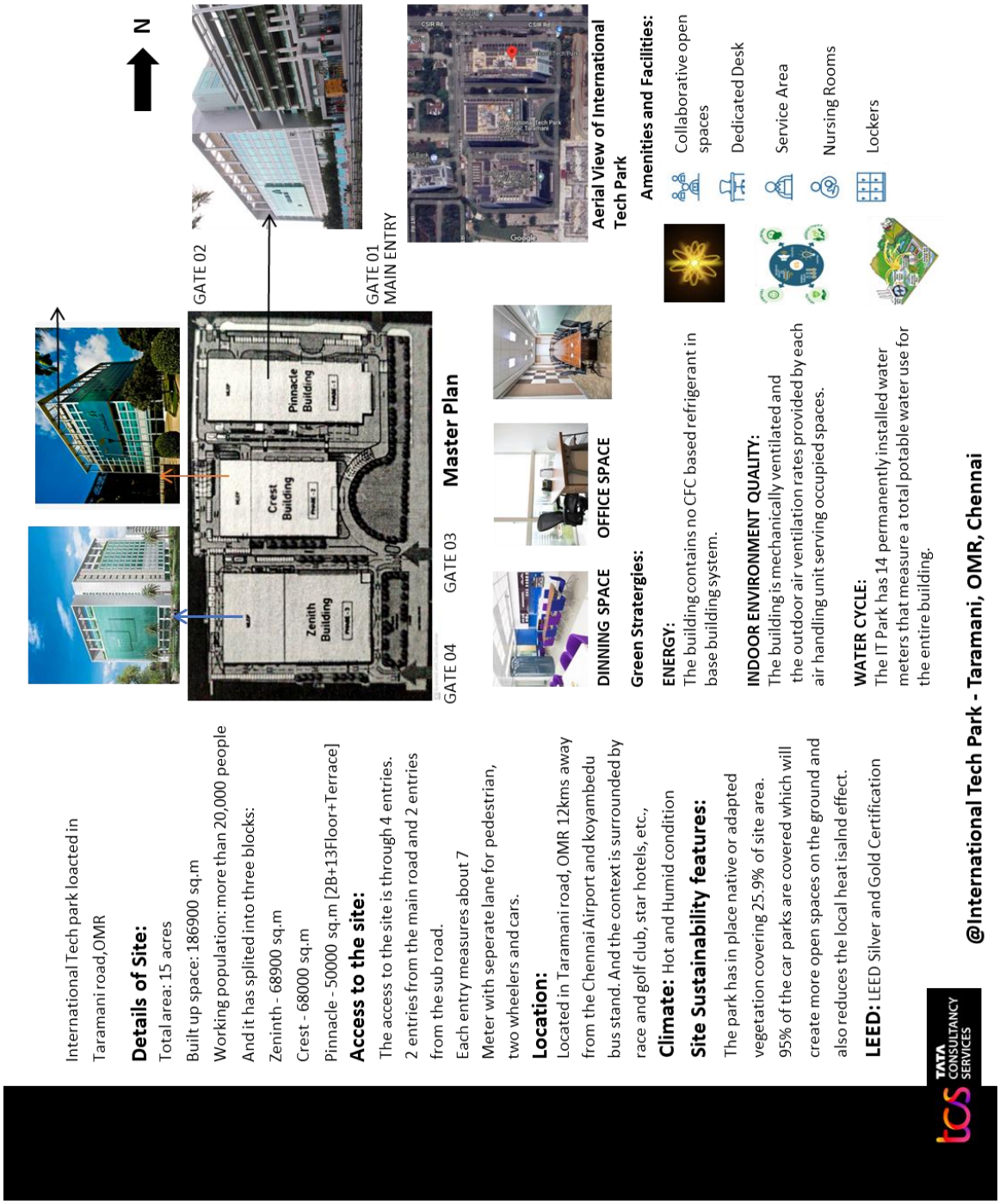


Plate 2.3: Study of International Tech Park - Taramani

2.3 ZYDUS CORPORATE PARK – AHMADABAD

Location - Ahmadabad

Architect - Morphogenesis

Area - 76550 sq.mts

2.3.1 SPACIAL ANALYSIS:

Spanning east to west, the walls shield and create and create an oasis for the north - south oriented office towers that are above their edge. The towers are spaced apart to shade the stepped courtyards between them, therby generating a suitable microclimate to encourage outdoor reaction and engagement.

Fig 2.8(a),(b): Plan of Zydus Corporate Park

2.3.2 CONCEPTUAL DEVELOPMENT:

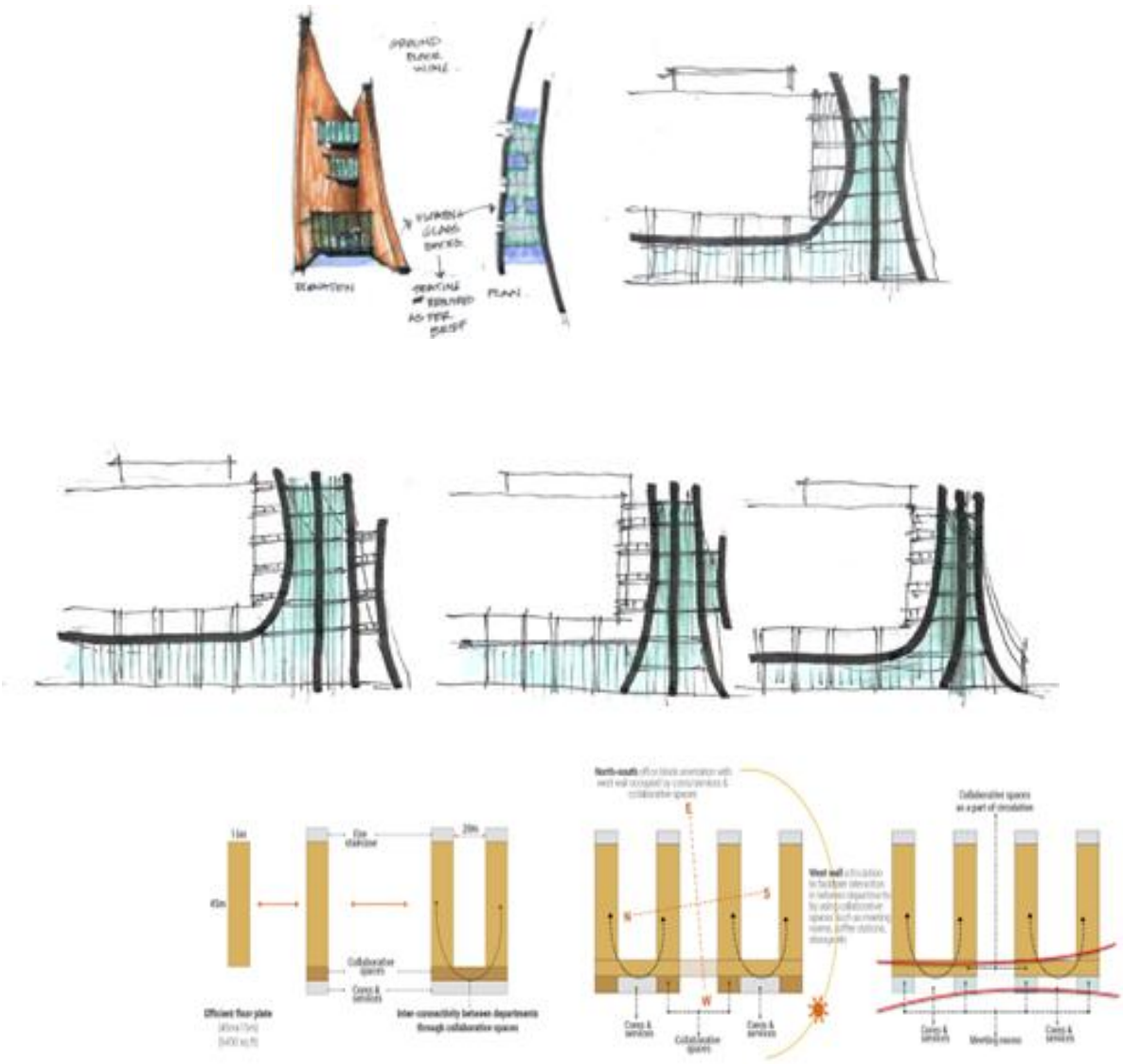


Fig 2.9(a),(b),(c): Conceptual Development of Corporate Zydus Park

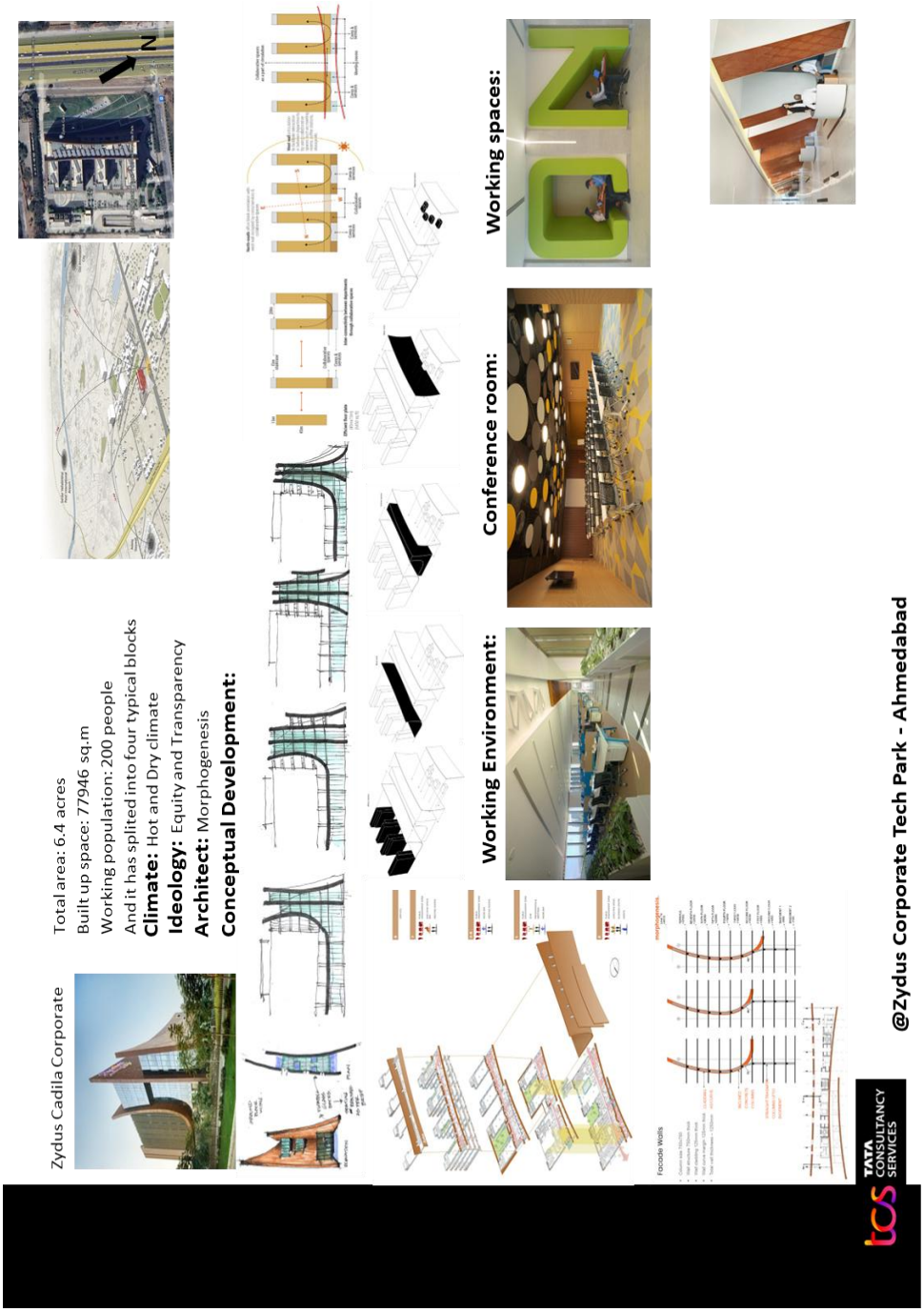


Plate 2.4: Study of Zydus Corporate Park

2.4 INFOSYS CAMPUS – NAGPUR

Location - Nagpur, India

Total site - 142 acres

Built up area - 76550 sq.m

Building type- Office Building

A Prototype for innovation in design of workplace through understanding the capacity and potential of the site, the plan has evolved. Design strategies such as pertaining to Natural Light, Ventilation

2.4.1 SPACIAL ANALYSIS:

The Zoning of Spaces have been offset from the busy road towards the natural characteristic which create a sense of functional zone and transition zone, The built form oriented towards east where 90% of open spaces and glazing were projected towards North-East direction and the design arise with the regular block plan.

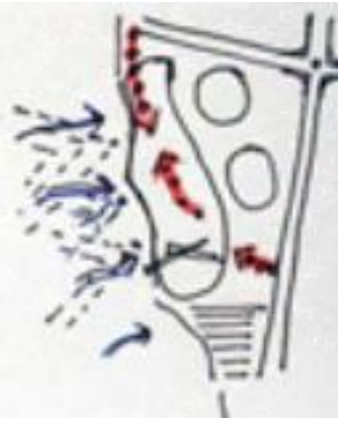


Fig 2.10: Spatial analysis of Infosys, Nagpur

2.4.2 MATERIALS:

Fig 2.11: View of Infosys

Usage of Precast profile with vertical and horizontal shading devices has been used at exterior facade and usage of glass is minimal , where the fins play a major role at exterior to reduce the penetration of heat into the building. Usage of passive design stratergies which were derived based on the context and incorporation of shading devices as both vertical and horizontal which reduces the penetration of heat into the built form.

2.4.3 WORKING SPACE:

Fig 2.12: Interior work space

Project Title:
Infosys campus, Nagpur

Architects: Morphogenesis

Details of Site:

Total area: 142 acres
Built up space: 76550 sq.m
Working population: more than 20,000 people.The geology of the land plays a vital role in the morphological evolution, as Nagpur lies in the seismic zone II.

Location:
The project is located in Nagpur, and sits on the Special Economic zone with aim of easing International Trade and foreign Direct Investment.

Access to the site:
The Site is located in an corner plot with an access from North[Gate 1] for ceremonial entry and from East[Gate 2] Employee entry.

Site Concerns:
A prototype for innovation in design of workplace
Through understanding the capacity and potential of the Site, the plan has evolved.
Design stratergies such as: Pertaining to Natural Light, Ventilation and Shading etc..,

Climate: Composite

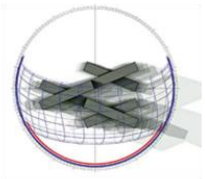
Site Stratergies:

Natural lake supplemented by an onsite man made reservoir

Direction of Cool southwest winds

Solar Plants and biodiversity parks incorporated in radial plan

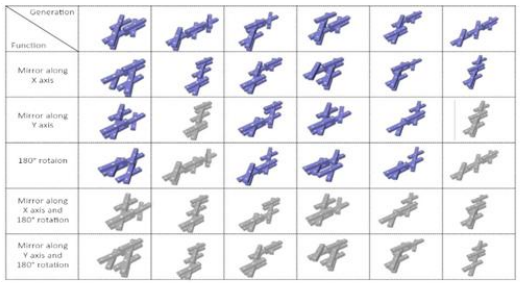
Passive Design Startergies:



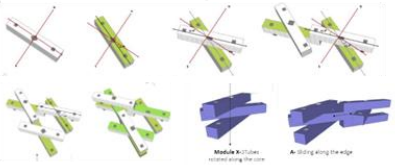
A Typical opening on each four orientation [NNW-SSE and NNE-SSW].
422m vertical fins for North and North-East.
600m Wide fins for North and North-West, both have been placed on spacing of 600mm C/C.
Solar controls for South facades were designed considering 21st December [Winter Solistice].

Potential Office Block Configuration:

Combination of Same module X using technique A [sliding along the edge] by placing 3 module at base generates 6 unique generation. where it resulted in 25 new generation.
And 4 modules are placed at base which provides 10 generation from [A-J]



Block Development:



The Envelope has been designed with the blocks orienting 22.5 degrees to the north in response to solar radiation and allows for 100% shading of all the windows and walls.
90% of all floor plates have desingned to be uniformaly Lit and glare free.

TATA CONSULTANCY SERVICES

Plate 2.5: Study of Infosys Campus, Nagpur

CHAPTER 3

STANDARDS

3.1 STANDARDS:

(1) **Areas:** The proposed Information Technology development is permissible in the Local body Area, subject to the provision of adequate water supply and sewage disposal arrangements to the satisfaction of the Local body.

(2) **Activities:** Manufacture of hardware, development of software and its associated computer - communication technology applications, bio-informatics units including offices, conference halls and projection theatres connected there with, only shall be permitted. No showrooms, other offices, residential uses and activities of similar nature shall be permitted. Provided that incidental activities such as staff canteen, staff recreational area, guest accommodation, watchmen quarters, and the like not exceeding 10% of the total floor area shall be permitted.

(3) **Road width:** The proposed development shall either abut on a public road of not less than 18 metres in width or gain access from a passage of not less than 18 metres width which connects to a public road of not less than 18 metres width.

(b) The minimum road width, FSI, set back etc. for Non High Rise buildings upto 18.30m height and exceeding 16 dwelling units and exceeding 300 square meters of commercial building shall be regulated according to the table below:

Sl No	Description	Continuous Building Areas	Other areas	
1	2	3	4	
A	Minimum road width	9.0 m		
B	Maximum Height	18.30 m		
C	Maximum FSI	2.0		
D	Minimum Set backs	Where Street Alignment/new road is prescribed, it shall be from that street alignment/ new road line. In the case of others, it shall be from the property boundary.		
i)	Front set back	Abutting road width		FSB
		from 9.0m. upto 18m.		3.0m.
		More than 18m. upto 30.5m		4.5m.
		More than 30.5m.		6.0m.
ii)	Side Set back / Rear Set back	Nil	Height of the building	SSB / RSB
			Upto 7m.	1.0m.
			More than 7m. upto 12m.	1.5m.
			More than 12m. upto 16.0m.	2.5m.
			More than 16m. upto 18.30m.	3.0m.

Fig 3.1: Tamil Nadu Combined Development Rules and Building Regulations

3.2 SANITATION REQUIREMENTS:

Table:6 Sanitation Requirements for Governmental and Public Business Occupancy and Offices

Sl. No.	Sanitary Unit	For Male Personnel	For female Personnel
1.	Water Closet (W.C.)	One for 25 persons or part thereof	One for 15 persons or part thereof
2.	Ablution taps	One in each W.C.	One in each W.C.
3.	Urinals	Nil upto 6 persons 1 for 7-20 persons 2 for 21-45 persons 3 for 46-70 persons 4 for 71-100 persons From 101 to 200 add at the rate of 3%; For over 200 persons add at the rate of 2.5%.	--
4.	Wash Basins	One for every 25 persons or part thereof	One for every 25 persons or part thereof
5.	Drinking water fountains	One for every 100 persons with a minimum of one on each floor	One for every 100 persons with a minimum of one on each floor
6.	Cleaner's Sinks	One per floor minimum; preferably in or adjacent to sanitary rooms.	--
7.	Executive Room / Conference Hall	Toilet Suite (1 WC, 1 washbasin, optional shower for 24 hr usage) Unit could be common for Male / Female or separate depending on the number of user of each facility	

Fig 3.2: Tamil Nadu Combined Development Rules and Building Regulations

3.2 PARKING STANDARDS:

(B) Parking for Special (physically challenged) persons

For Buildings having more than 2 floors 10% of the required car/two wheelers parking spaces subject to minimum of 2 car spaces and 2 two-wheeler spaces shall be reserved for the physically handicapped persons near the entrance. This is to provide an exclusive reservation of car parking for physically handicapped and also to provide them easy access to the lift and staircase.

(C) Driveway and Aisle Widths

Driveway:

The driveway width shall be 3.0m for one-way movement and 6.0m for two-way movement.

Aisle Widths:

Aisle is a access lane leading to/abutting the individual parking lot within a parking facility. The aisle widths for different types of parking shall be:

Vehicle Type	Parallel Parking	All angles up to 60°	Angles above 60° & Perpendicular parking
Two Wheeler	1.5m	1.5m	1.5m
Car	3.0m	3.0m	4.5m.
LCV/Truck/Bus	7.0m	7.0m	10.0m

The width of the driveway and the aisle shall be free from kerb and other encumbrances.

(D) Width Entry and Exit Gates

The width of entry or exit gates shall be a minimum of 3.0m

Fig 3.3: Tamil Nadu Combined Development Rules and Building Regulation

CHAPTER 4

SITE STUDY AND ANALYSIS

4.1 SITE STUDY:

Site is located in Mahindra City, Chengalpet Dt. A socio-economic zone which is 60kms away from chennai city and lies adjacent to National Highway and a pathway for future development. Total site is 14acres.

Fig 4.1(a): India map *Fig 4.1(b): Tamilnadu State map*

Fig 4.1(c): Map of Mahindra City

4.2 SITE JUSTIFICATION AND FEASIBILITY:

*The Site is located in the working environment of IT Zone in Mahindra city, which has its own potential of working population around 300000 daily employees.

*And also the site is chosen away from the crowded city as a decentralization program, which can provide an easy access to my location.

*There are 2 bus stops and 1 railway station at 1.5kms which makes it easier access for user with public transport.

Fig 4.2(a),(b),(c),(d): Site evolution from 2010 to 2024

The Site chosen in IT Zone of Mahindra City, Which accomodates many IT Parks such as: Infosys, Ascendas, Capgemini, Hnager plus, WABCO etc..,

4.3 SITE ANALYSIS:

4.3.1 Neighborhood Context:

Site has two side roads as a corner plot. Highway is located on the main entry of mahindra city with connects many access to the site. Opposite to site there is an Infosys IT Park at southern side and the site is parallely handled with electrical lines throughout the street road.

Fig 4.3(a),(b),(c),(d),(e),(f): Neighbourhood context

4.3.2 Site and Zoning:

Setbacks – South (Front) - 6m
East - 6m
West - 6m
North - 6m

Height restriction - 45m

4.3.3 Circulation:

Site has two sides road access. Bus stop and railway station is at a distance of 1.5kms. Service trucks can be accessed from the main road.

4.3.4 Man Made Features:

There are no man-made features in the site. Power poles are throughout the road in the east side. There are office building in the south and west side of the site.

Fig 4.4: Site neighborhood view

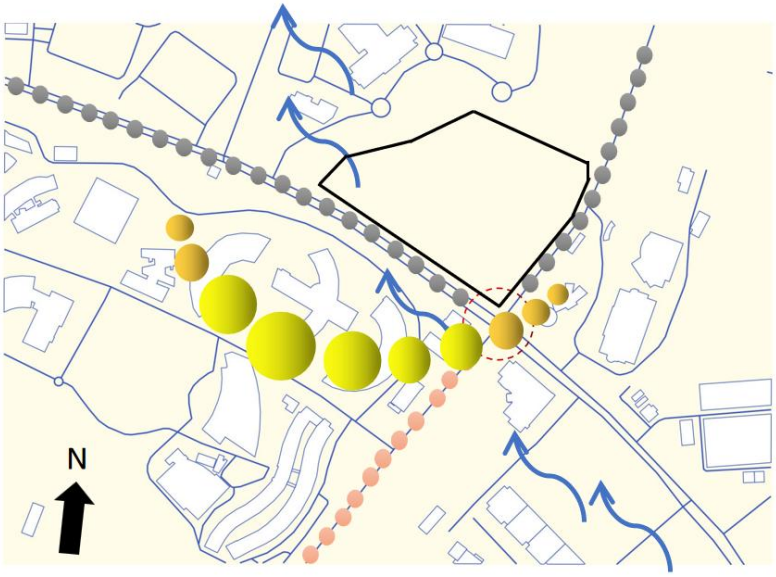


Fig 4.5: Site analysis

4.3.5 Natural Physical Features:

Site has a natural slope of 2m. Drainage pattern follows the slope to the south side of the site.

4.3.6 Climate of TamilNadu

Climate of Tamil Nadu falls under Hot and humid. My site is located in North of Tamil nadu which mostly experience Hot and Humid Climate.

CHAPTER 5

ARCHITECTURAL DESIGN

5.1 SPATIAL REQUIREMENTS

AREA STATEMENT FOR TCS IT PARK			
WORKING BLOCK [FOR SINGLE FLOOR]			
S.NO.	SPACES	NO.OF. UNITS	TOTAL AREA
1	LOBBY	1	100
2	LIFT LOBBY	1	60
3	LIFT	6	26
4	RECEPTION DESK AREA	1	6
5	RECEPTION FOYER	1	40
6	STAIRCASE	2	56
7	UPS/SERVER ROOM	4	25
8	ELECTRICAL ROOM	4	33.6
9	DUCT SHAFT [FIRE, ELECTRICAL, DATA]	12	12
10	TRAINING ROOM	1	160
11	SIMULATOR ROOM	1	45
12	FIRE STAIRCASE	1	27.5
13	RESTROOM FOR DISABLED	2	12
14	RESTROOM FOR MALE	10	40
15	RESTROOM FOR FEMALE	10	25
16	CAFETERIA	2	30
17	MESS HALL	1	
18	CONFERENCE HALL	1	108
18	WORKING SPACE [2 SQ.M PER PERSON]	1	300
20	CIRCULATION SPACE	1	300

AREA STATEMENT FOR TCS IT PARK		
INFORMATION CENTRE		
S.NO.	SPACES	TOTAL AREA [SQ.M]
1	ENTRY AND EXIT	410
2	HT PANEL ROOM	25
3	TRANSFORMER YARD	108
4	SECURITY CABIN	25
5	ENTRY TO U.G.CAR PARKING	105
6	EXIT FROM U.G.CAR APRKING	105
7	DROP OFF AREA	1250
8	INFORMATION CENTRE	150
9	BLOCK A	1700

TOTAL WORKING BLOCKS = 04

EACH BLOCK PLOT AREA= 1700

TOTAL PLOT AREA = 1700*4= 6800SQ.M

BLOCK A & BLOCK D AREA

EACH WITH 9FLOORS= 15000SQ.M

BLOCK B & BLOCK C AREA

EACH WITH 5FLOORS= 10200SQ.M

TOTAL BUILT UP AREA= 50400SQ.M

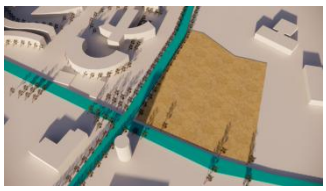
Fig 5.1: Area requirements

5.2 CONCEPT

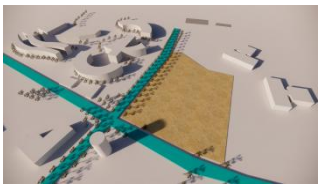
5.2.1 Strategies can be followed at site level:

(a) Orientation -

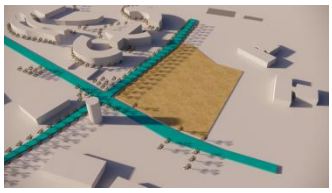
The built forms longer facades can be oriented facing the North and South directions. The North and South side orientations can have the larger envelope which it helps in capturing the direct e sunlight from the southern side and indirect lighting from the Northern side and helps preventing solar heat gain.



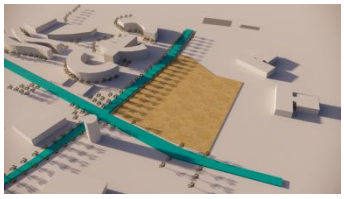
7AM



11AM



2PM



5PM

(b) Built form -

A Linear outcome with lesser in length encourages to capture Natural lighting which acts as an boon to office building, where maximum energy is reduced from lighting and also delivers an Built and Un-built relationship between the User and the Environment.

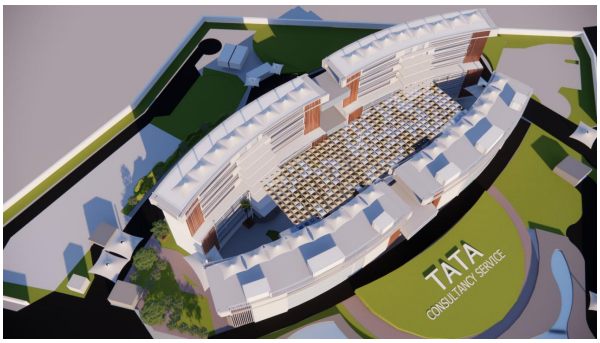


Fig 5.2: Site view

(c) Mutual shading -

The Central Courtyard is a celebration space combining entire four blocks, where cafeteria and play of seating space encourages user to spend the leisure time and also it turns as an active environment making a relationship between built and unbuilt.

And shading at different floors and projections of connections between the blocks highlights the hierarchy of buildings at different levels encourages the user and public attention.

Fig 5.3: View of mutual shading of buildings

(d) Vegetation -

Vegetation and landscaping can play a major role in changing the microclimate of a site and can lower the temperature, vegetation also acts as an buffer line reducing the noise level from the busy corner plot. Also the landscape mound at front shows of the greener environment and also delivers the ownership of monopoly office building.

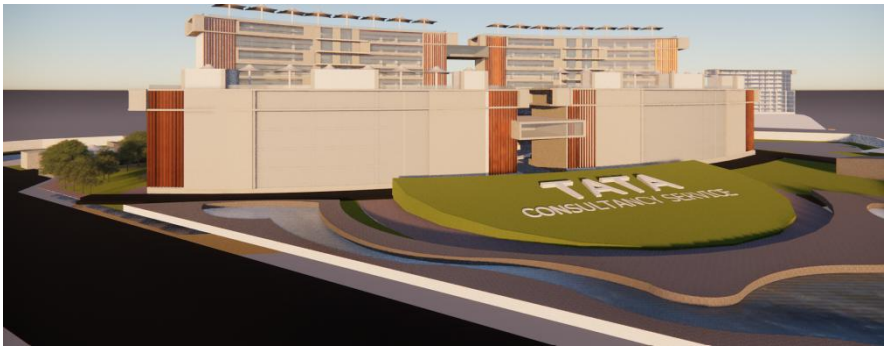


Fig 5.4: View of Landscape

(e) Wind channeling and buffer spaces -

Buffer spaces open gardens and courtyards can be provided to channel and bring in good Breeze and wind into the building

Fig 5.5: View of walkway and greenery

5.2.2 Passive design strategies:

(a) Courtyard effect –

Courtyard can be microclimate modifier and controller it helps in evaporative cooling and increase of heat loss through ventilation. Usually open to the sky but as in design it experiences partially sheltered space, where the heat has been neglected and the natural lighting and gentle breeze has been incorporated into it.

(b) Natural lighting –

Natural lighting has been incorporated through the built form on the either sides of the building through the envelope which cuts down maximum use of artificial lighting in to the building, and the southern facade is treated with the envelope where it can cut down the direct heat gain into the building.

(c) Rainwater harvesting –

An artificial drain has been created at the deepest point of site, where adjacently existing storm water drain has been placed, as collection of rainwater can be used for services on site and the overflow of water can be drain into storm water drainage.

5.2.3 Concepts at site level:

As the site experience a corner plot with roads on either side as a connectivity, the entrance and exit to the site is provided at 3 zones at both the sides of the site.

The entrance drives you to the parking level and for the pedestrians it connects from the information centre to the central space of the office zone area.

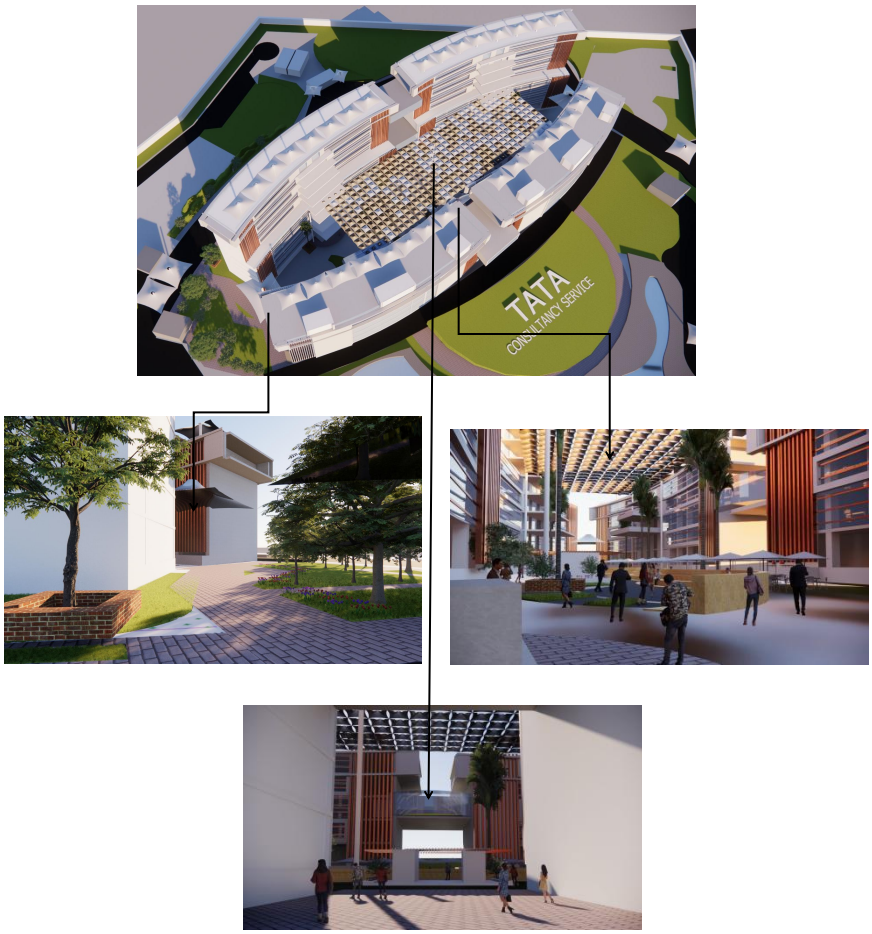


Fig 5.6: Concepts used in site

5.3 DETAILED DRAWINGS

5.3.1 Site plan:

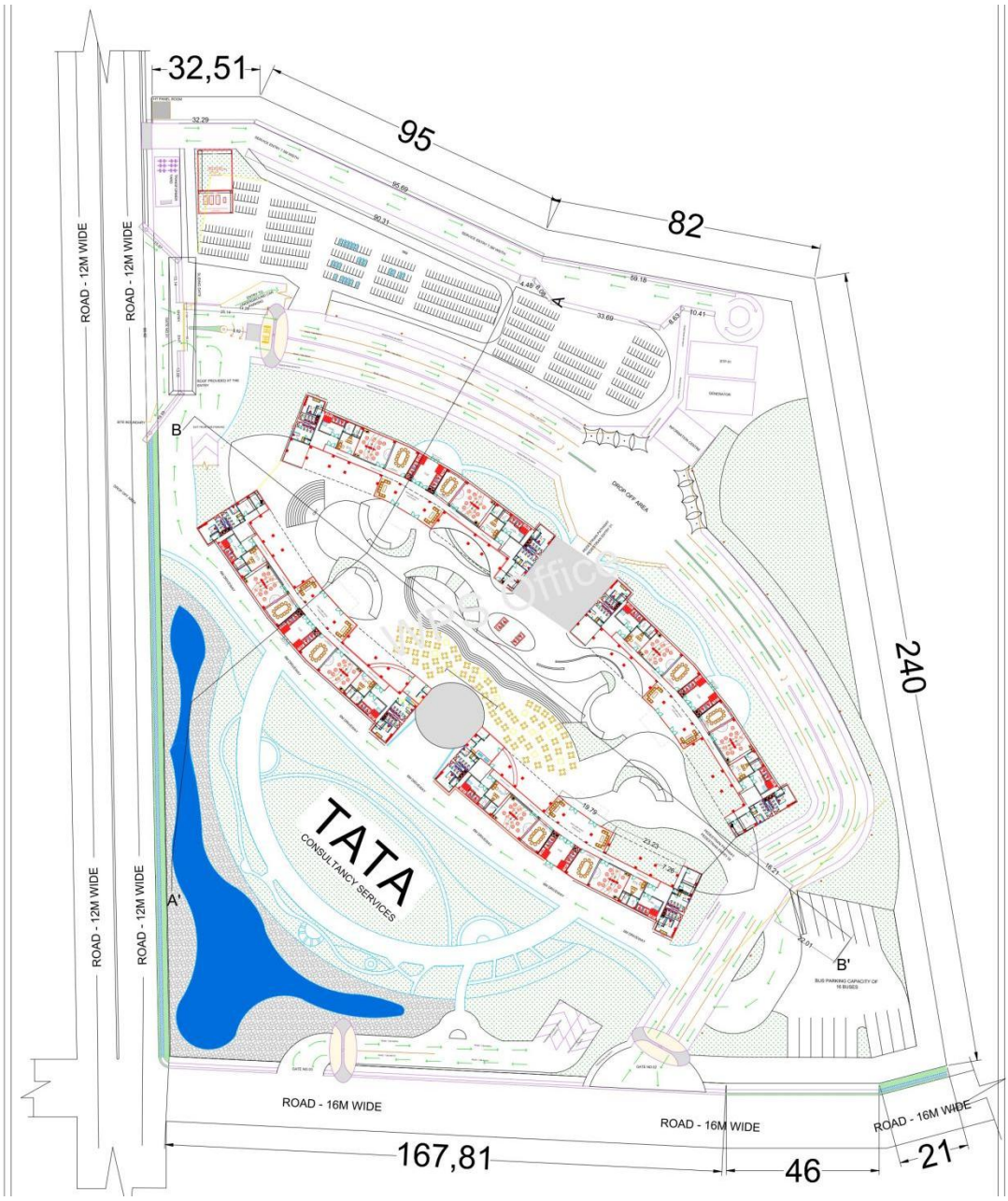


Fig5.7: Site plan

Fig 5.8: Pedestrian entrance to the site

Fig 5.9: Lift lobby access from basement parking level

Fig 5.10: Aerial view of central courtyard

Fig 5.11: View of courtyard from balcony

Plate 5.1: Typical Floor Plan of IT Park

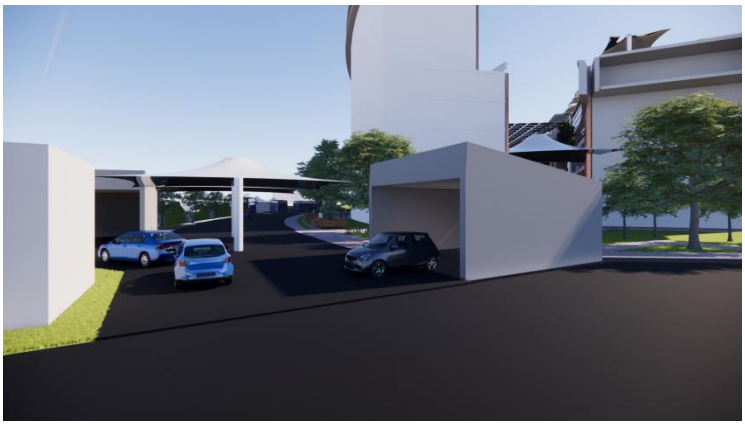
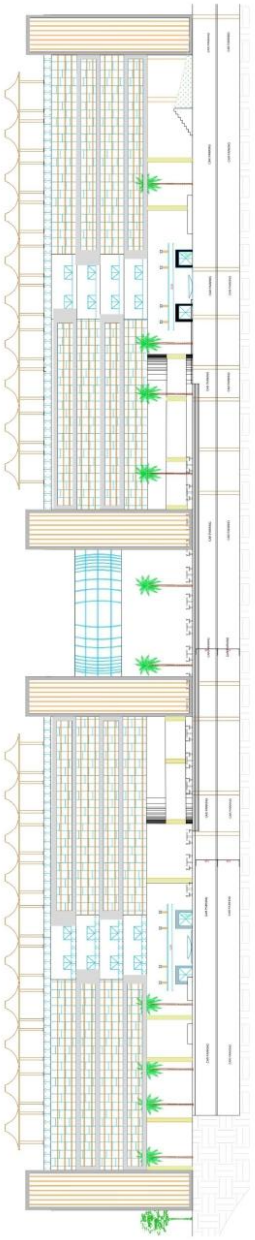


Fig 5.12: Site entry from Gate 01

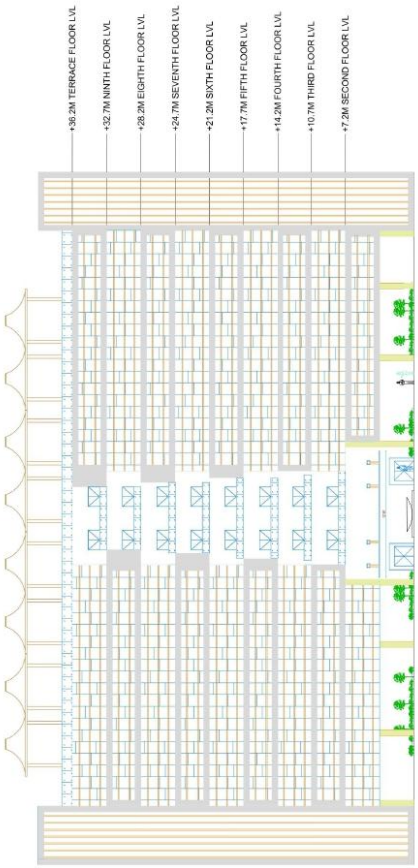
Fig 5.13: Site entry from Gate 02

Fig 5.14: Site entry from Gate 03

Plate 5.2: Floor plan of Executive Dinning and column layout



SECTIONAL ELEVATION



ELEVATION OF BLOCK A

TATA CONSULTANCY SERVICE

39210009 – A ASHWIN RAGHUL

CENTRAL SPACE WITH CAFETERIA AND SITTING SPACE

LIFT ACCESS FROM BASEMENT PARKING LEVEL

CAFETERIA

Plate 5.3: Section AA and Sectional Elevation

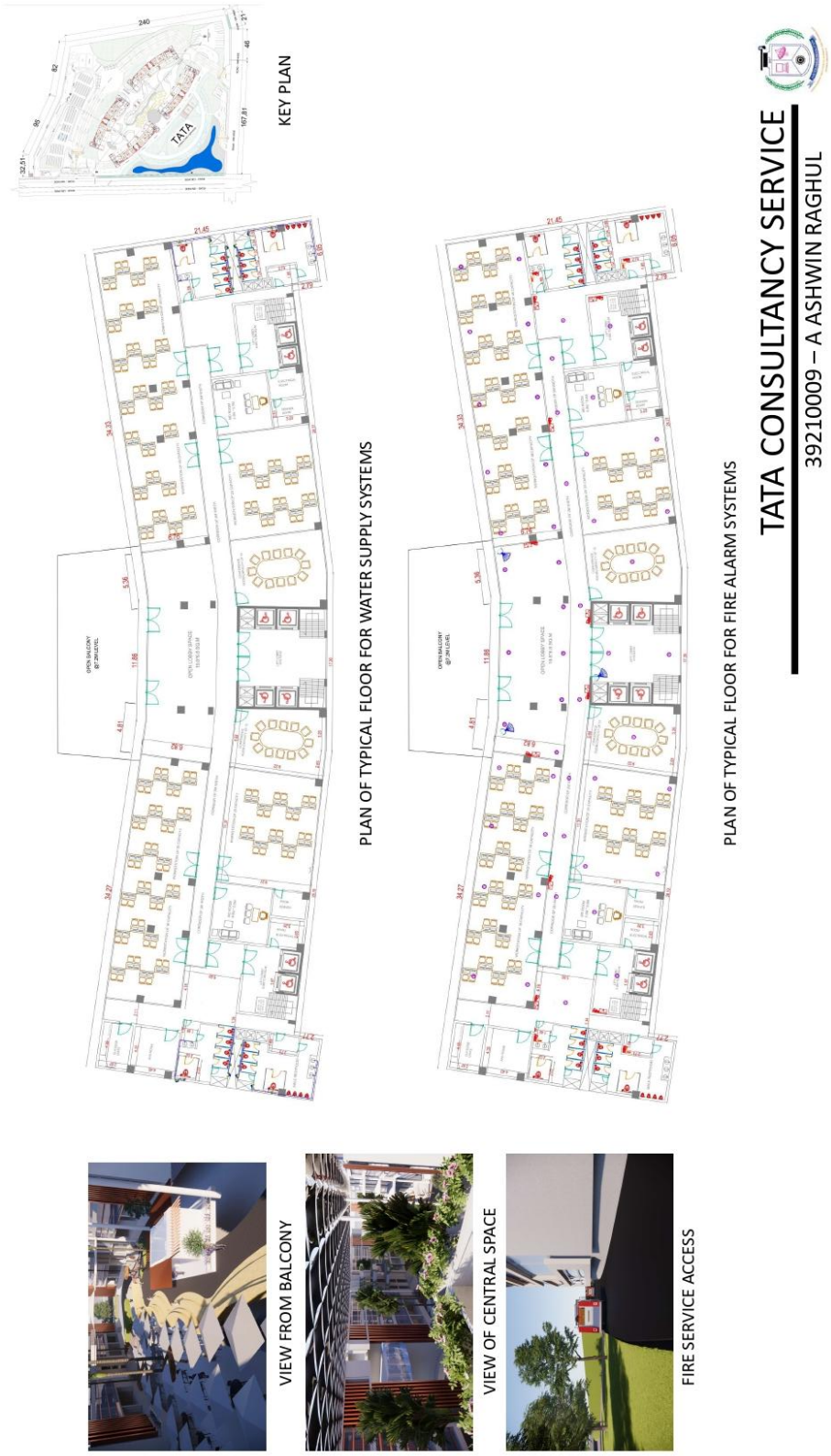


Plate 5.4: Plan of fire service and water supply

5.3 MODEL:

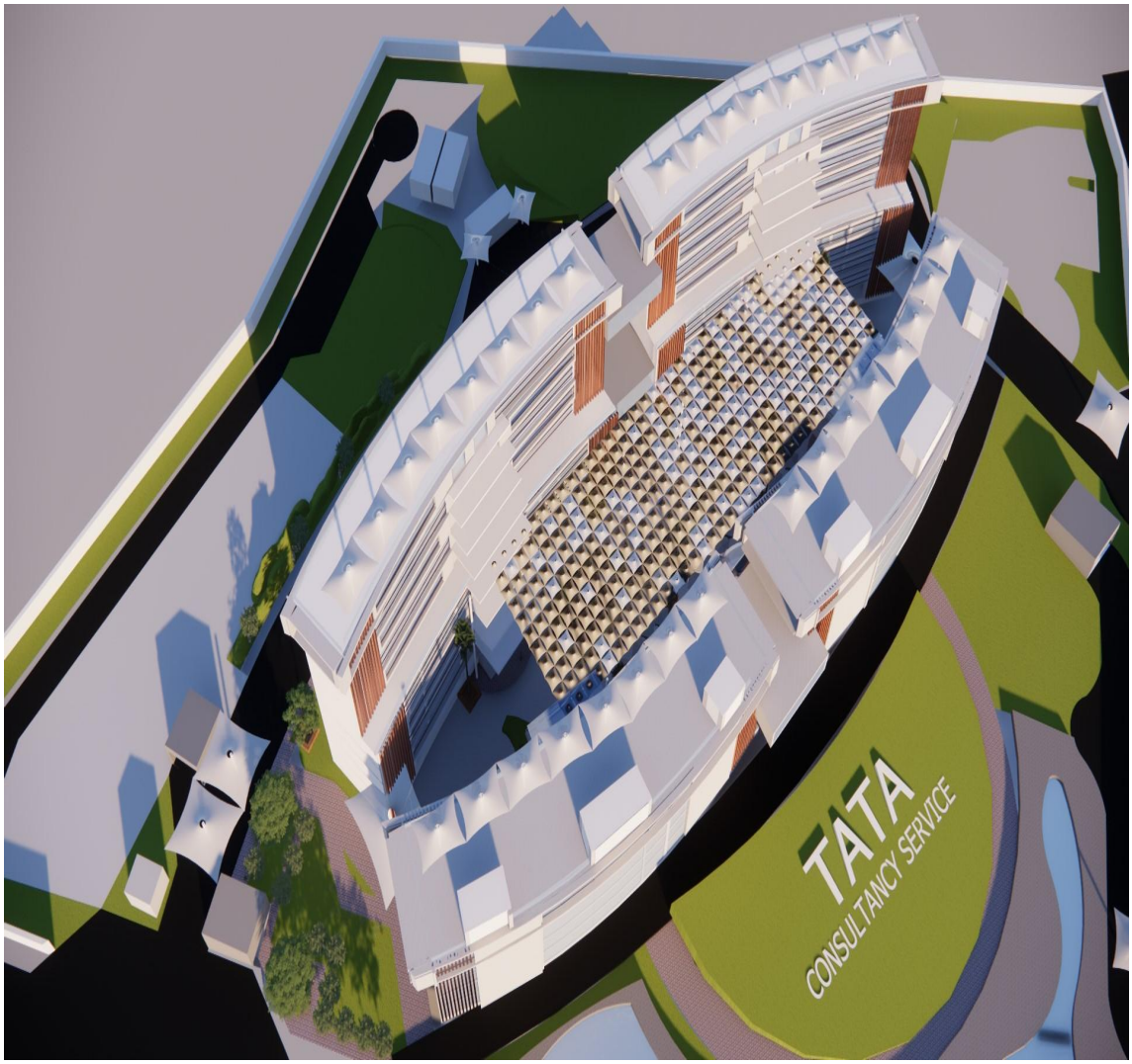


Fig 5.15: Over all site view from the top

CHAPTER 6

REFERENCES

6.1 Journals:

1. https://www.scribd.com/presentation/326163266/Case-Study-IT-PARKS-for-TCS-Noida-234

2. https://www.scribd.com/presentation/421180903/Tech-Park-Literature-Case-Study

3. https://www.tamarai.work/about-page/

6.2 Websites:

1. https://www.researchgate.net/publication/281169946_Passive_design_techniques_applied_to_green_buildings_as_an_aesthetic_and_spatial_design_concept
2. https://www.scribd.com/presentation/523935991/Case-Study-Mahindra-World-City-Chennai-PPT
3. https://www.designboom.com/design/green-office-design-work-spaces-promote-productivity-07-beach-02-13-2018/
4. https://www.re-thinkingthefuture.com/gada-2018-winners/ecospace-corporate-park-salient/#google_vignette