

MIXED USED DEVELOPMENT

By

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ABSTRACT

Human settlement in Dhaka can be traced back as far as the 12th century, but it was the Mughals who for strategic reasons established a town in the early seventeenth century. Since then the city has experienced an adventurous path under different rulers and has faced multifaceted challenges. Starting as a military outpost, Dhaka has served as a business centre, trading hub, regional capital, and provincial capital and now as the primate city of a nation with 16million inhabitants. This paper focuses on the current situation of Dhaka – one characterized by high densities and overcrowding, environmental degradation, severe traffic congestion and haphazard planning. Our analysis has a focus on growth and changes in urban structure over time. There is wide heterogeneity in its urban form as different parts of Dhaka were developed over different centuries for different purposes.

Livability in Dhaka City is at stake- a complaint often raised by all Dhaka City dwellers. Stressed by environmental pollution, traffic congestion, increasing incidence of crime, critical housing situation and overcrowding, the primate city Dhaka is said to be gradually losing its ground as livable place in many respects. However, despite a host of complaints, the trend of swarming of migrants into the Capital City Dhaka continues uninterrupted. There is a continuous centrifugal movement to Dhaka and no centripetal movement from Dhaka to outward urban centres.

Determinants of livability comprise a host of factors of social, economic, political, environmental, and psychological origin. Intricately integrated together, the factors work so delicately on human psychology that lack or absence of adequate degree of any of the determinants can affect livability.

Tolerable consumer price level, cost of housing and transport is important determinants of livability. Adequacy, quality, and cost of utility and other everyday life services and facilities induce people to live in any particular area. Overall physical and social environment are important for comfortable living. However, the most important determinant, for creating livability in any urban centre, is the scope of earning a living or employment. Lack of employment generation opportunities slows down population growth in an urban centre, which in turn reduces demand for goods and services in that urban centre and weakens further the conditions of livability. However, the factors of livability may or may not affect all social or economic groups equally. For instance, any social disorder caused by an issue involved with a minority group will affect livability of that group only. It may have very insignificant impact on the majority group.

However, there are factors like change in consumer price index, which affect all social groups indifferently, but not all income groups.

1. BACKGROUND OF THE PROJECT

1.1 What Makes Dhaka Attractive?

Despite availability of so many positive factors of livability in other urban centres of the country why do people rush to Dhaka? What makes Dhaka so attractive that hundreds of thousands of migrants from all over the country swarm into the capital city every year?

First and foremost, Dhaka is the best place for earning a living. From a day labourer to a highly educated young man can hope for a job in this city than anywhere else in the country. An educated young man from any part of the country will choose Dhaka to find a job. A businessman finds all his buyers and financiers near at hand in Dhaka City. An industrialist can manufacture his products taking advantage of good infrastructure and services available in Dhaka and market his products all over the country using good transport and communication facilities from the capital city. An exporter can make quick contact with his buyers abroad or visit their places in a short notice or invite them to his place and treat him with the best living and entertainment facilities available in the city. Dhaka is the best place for higher education seekers. Even beggars find the city the most lucrative place for earning living. Despite its high cost of living people from all over the country rush towards Dhaka to take advantage of its opportunities and avenues of higher income. Despite leading a hard life in this city one can at least save something to build a better future.

1.2 Purpose of Mixed-Use Development

Determining what the purpose of mixed-use development is not nearly as difficult as defining or conceptualizing it, but the process is still more complicated than for other types of real estate development. After all, the same question is not asked of the traditional development products: residential development serves the purpose of providing housing for the residents of a given area; office development serves the purpose of providing space for administrative, clerical, professional, and a variety of other business activities; and retail development serves the purpose of providing space for the showcasing and sale of goods and services to consumers. More specifically, each traditional real estate product provides space for an individual and necessary function of modern day society. The same cannot be said for mixed-use development. Instead, mixed-use development is a strategy for arranging the physical space that is required for society to function. Moreover, the modern conception of mixed-use is predicated on the practice of segregating land uses through zoning policies, which have

contributed to undesirable growth patterns characterized by the following:

The idea is to enhance other uses creating a harmony to it as a development type that can address a variety of social and environmental problems such as:

- a mixed-use core within walking distance of residents;
- employment and civic centers;
- streets in a grid pattern that provide multiple paths for drivers and pedestrians;
- pedestrian-oriented streets with wider sidewalks that are protected from vehicle traffic via on-street parking, traffic calming, or shade trees acting as a buffer;
- narrow streets with sidewalks and alleys running behind homes;
- housing for different income levels;
- higher housing density and smaller lots than those in conventional suburbs;
- streets that are social spaces as well as transportation facilities; and
- common open spaces such as village greens.

1.3 What Are the Benefits of Mixed-Use Development?

Different communities choose mixed-use development for different reasons. Some see it as an excellent way to incorporate a mix of housing types on a small scale while enhancing traditional town character. Others see it primarily as a vehicle for revitalizing struggling areas and spurring economic development. Still others use it to create or enhance downtowns or village centers, particularly when located near transit. Whatever the reason for choosing mixed-use development, it has many potential benefits.

Benefits of Mixed-Use

Greater housing variety and density, more affordable housing (smaller units), life-cycle housing (starter homes to larger homes to senior housing)

Reduced distances between housing, workplaces, retail businesses, and other amenities and destinations

Better access to fresh, healthy foods (as food retail and farmers markets can be accessed on foot/bike or by transit)

More compact development, land-use synergy (e.g. residents provide customers for retail which provide amenities for residents)

Stronger neighborhood character, sense of place

Walkable, bike-able neighborhoods, increased accessibility via transit, both resulting in reduced transportation costs

50% will be permanently affordable to a range of incomes, and 50% will be market rate. 20% of the affordable units will be available for low income households, 10% for moderate income households, 10% for middle income households and 10% for senior housing. The development program allows for a ratio of 60% residential space to 40% commercial space. Community facility space is also encouraged.

The project will provide a dynamic streetscape, with a newly built Market anchoring the development, and the opportunity for a diverse range of retail and other commercial uses. The project will include a locally oriented public open space and the potential for underground parking.

Presently, Dhaka has become one of the fastest growing cities in the world and its population is more than 12 million. Around 350 thousand new people are added to the existing city population every year, which creates huge pressure on traffic and transportation, housing, power, gas and other utility services. It has become almost impossible for the city development agencies to deliver housing, transport and other services to the city dwellers. So, every year, the city's environment is getting worse than the previous year.

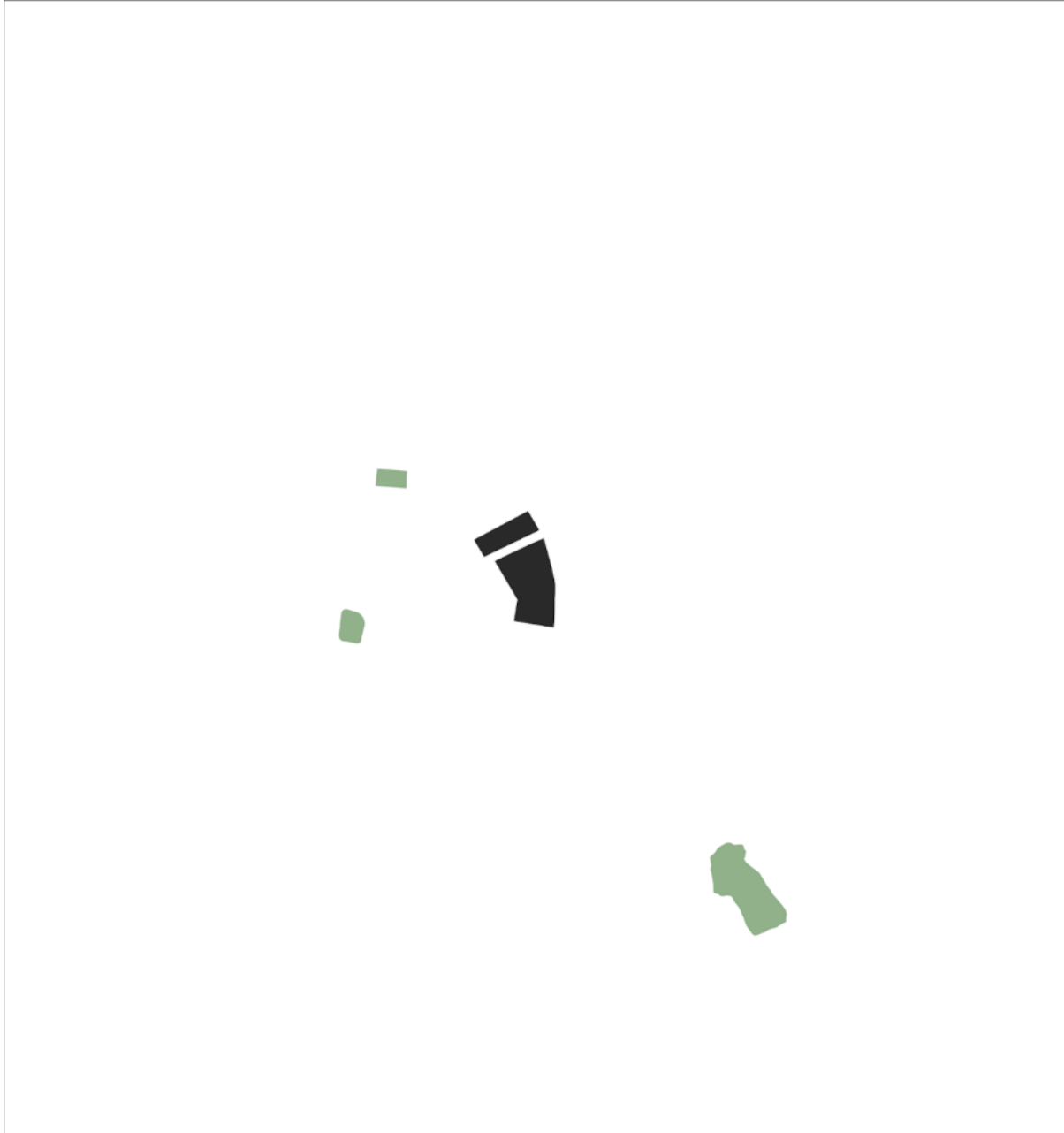
Dhaka city grew in a haphazard way and has turned into an unmanageable mega city. Living conditions have deteriorated very rapidly and the social as well as physical infrastructures are on the verge of collapse.

2. SITE APPRAISAL

2.1 Site



2.2 Open spaces



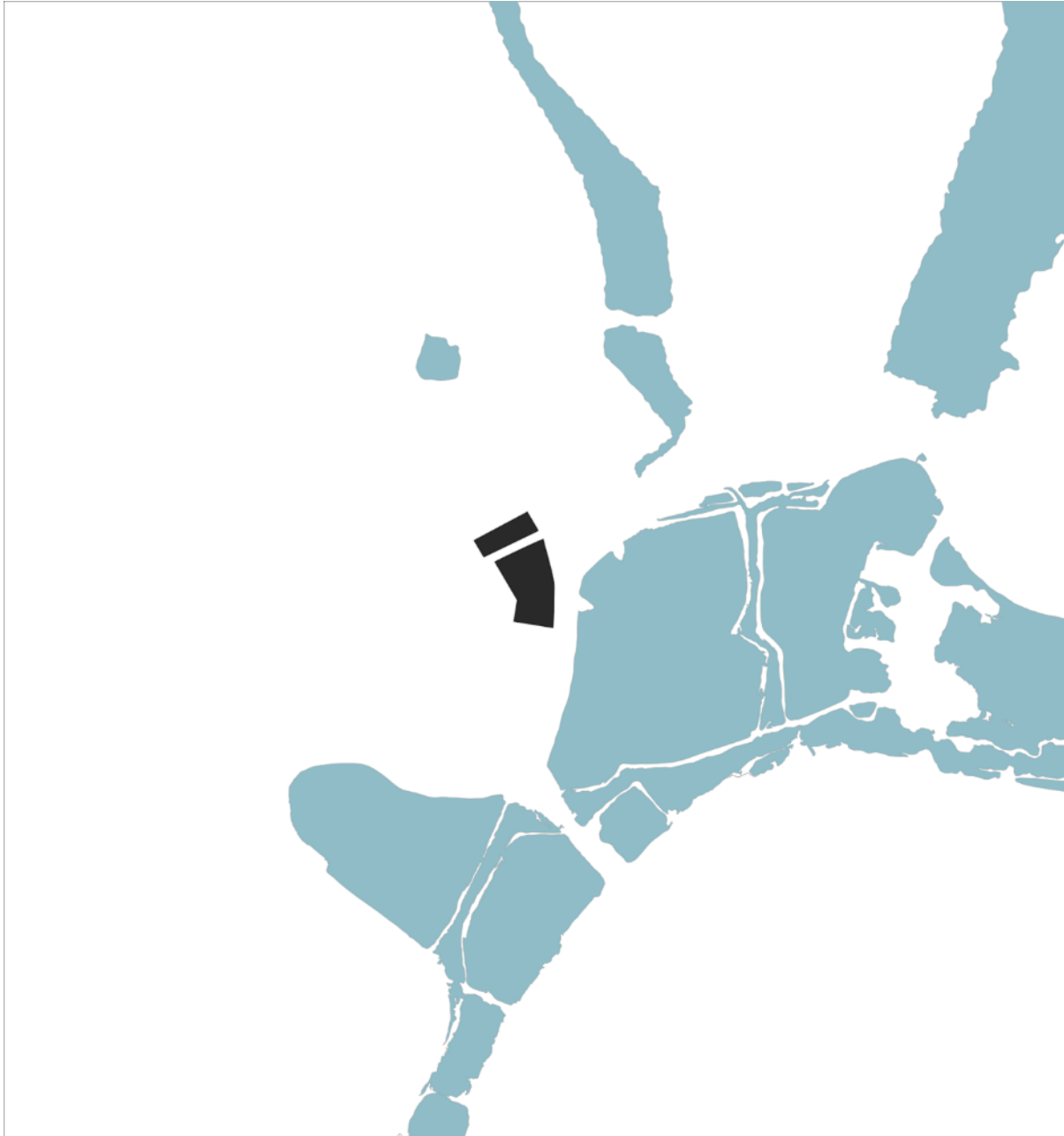
2.3 Green



2.4 Solid void



2.4 Water

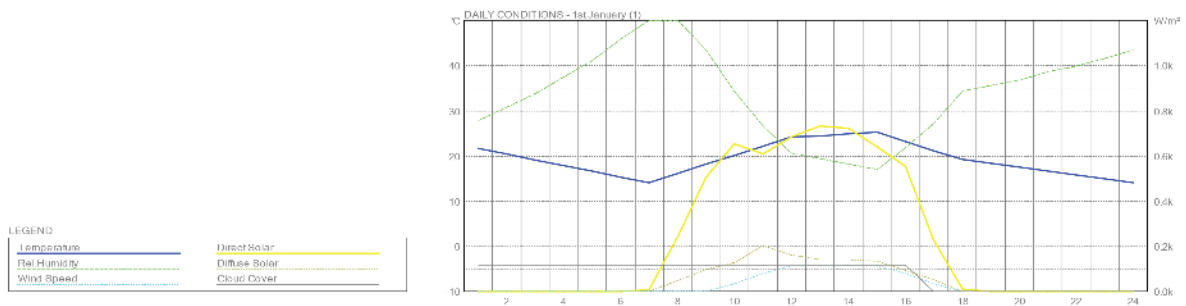
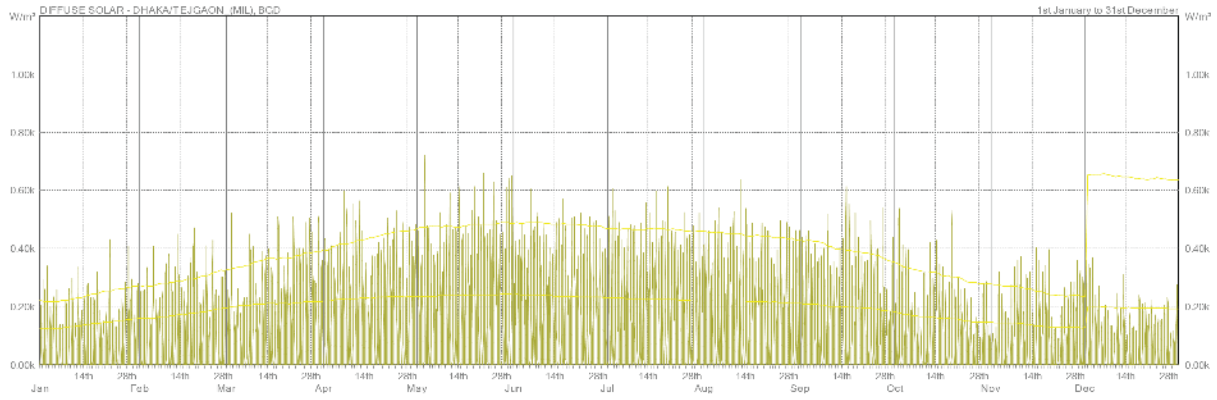


2.5 Community capacity map



- MIXED USE 
- RESIDENTIAL 
- INDUSTRIAL 

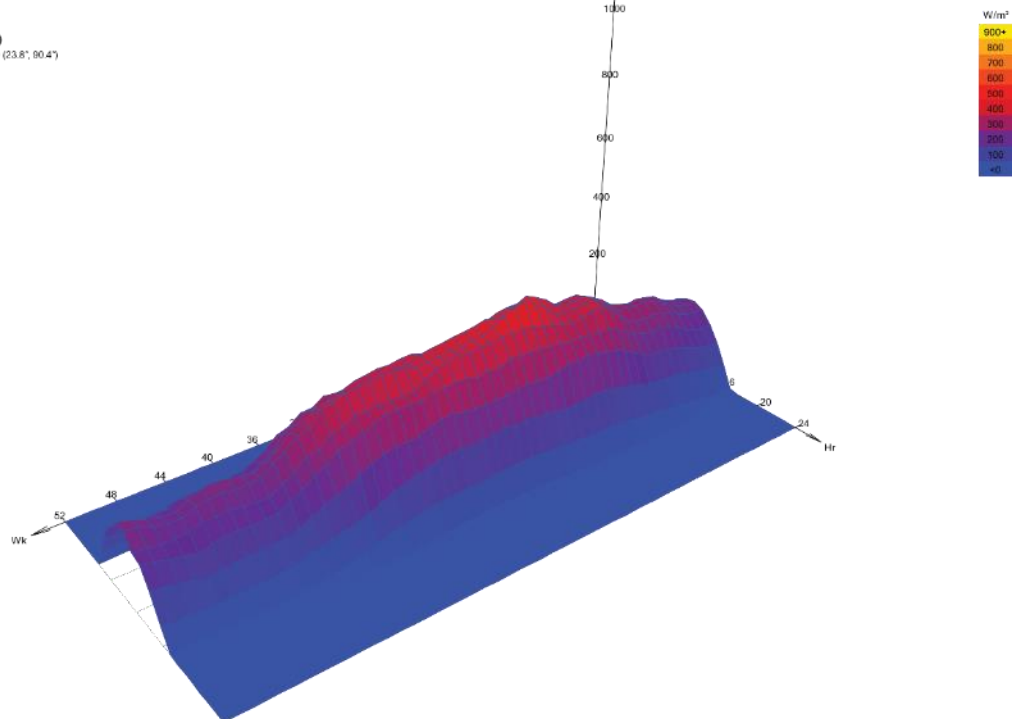
2.6 Weekly summary

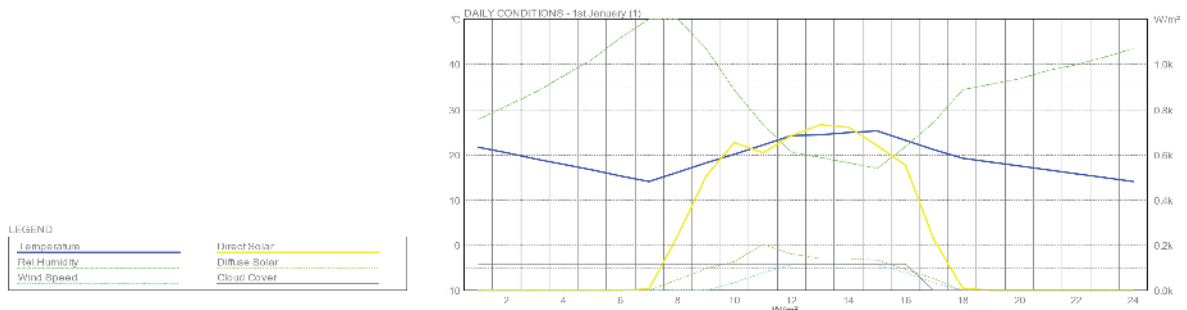
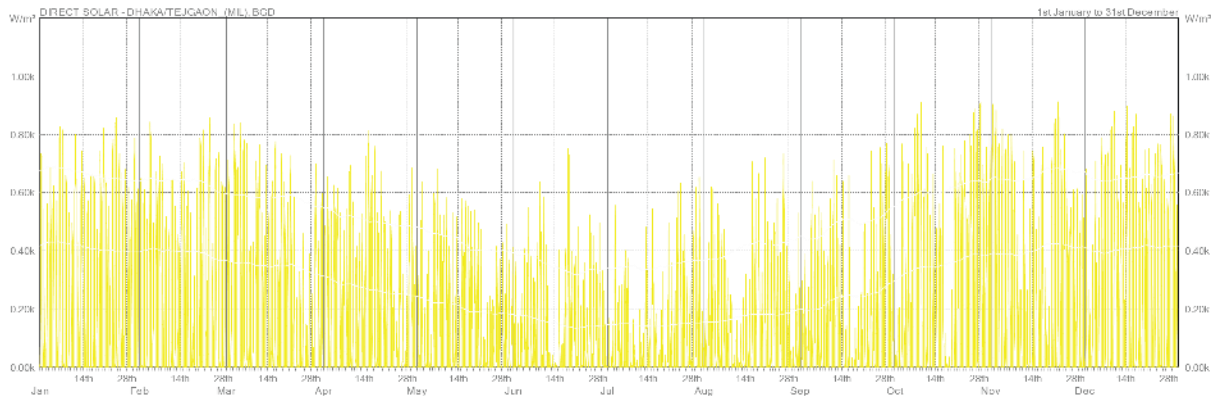


LEGEND

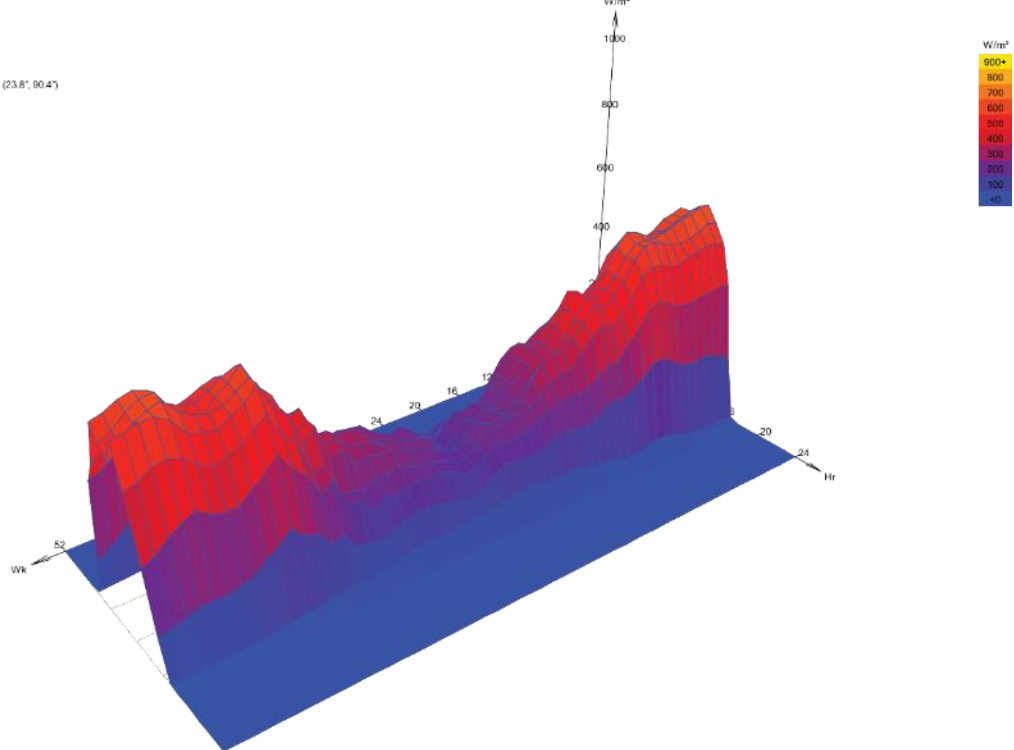
- Temperature
- Rel Humidity
- Wind Speed
- Direct Solar
- Diffuse Solar
- Cloud Cover

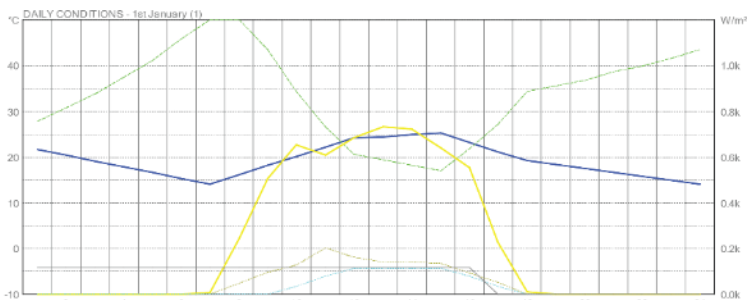
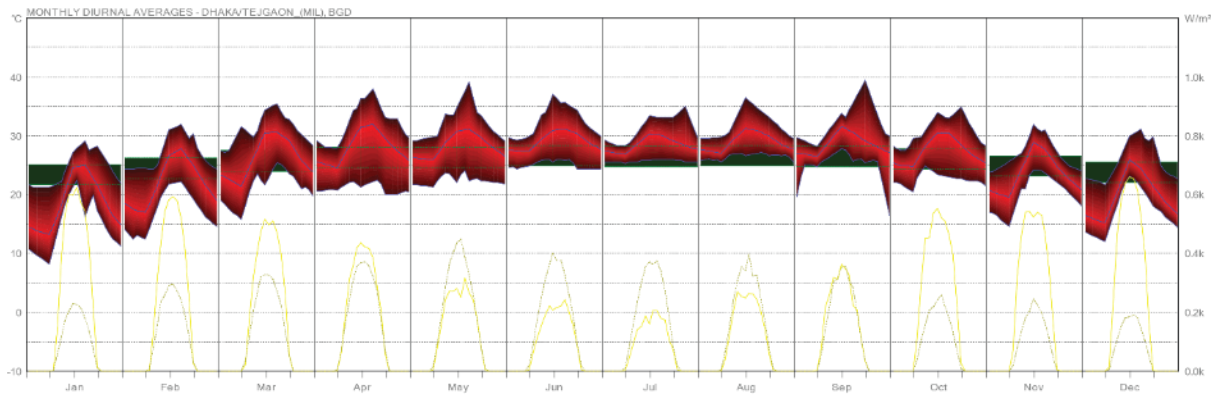
Weekly Summary
 Diffuse Solar Radiation (W/m²)
 Location: DHAKATEJGAON (MIL), BGD (23.8°, 90.4°)





Weekly Summary
Direct Solar Radiation (W/m²)
Location: DHAKATEJGAON (MI), BGD (23.8°, 90.4°)



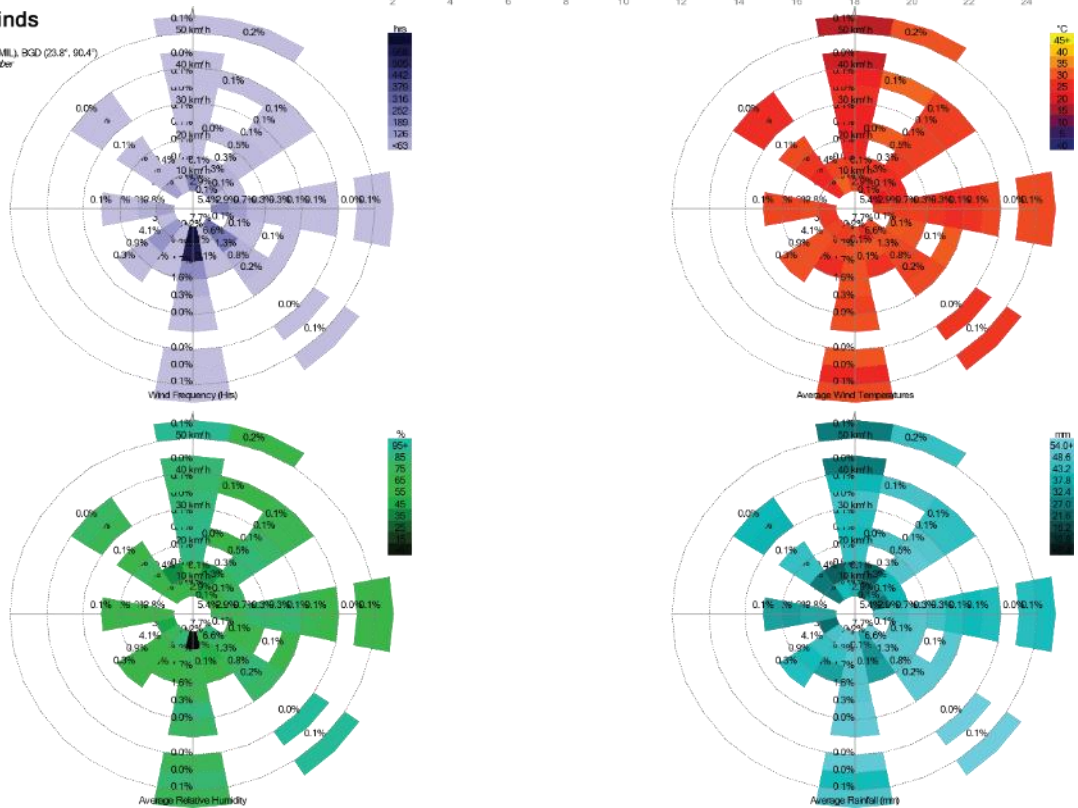


LEGEND

Comfort Thermal Neutrality	
Temperature	Direct Solar
Rel Humidity	Diffuse Solar
Wind Speed	Cloud Cover

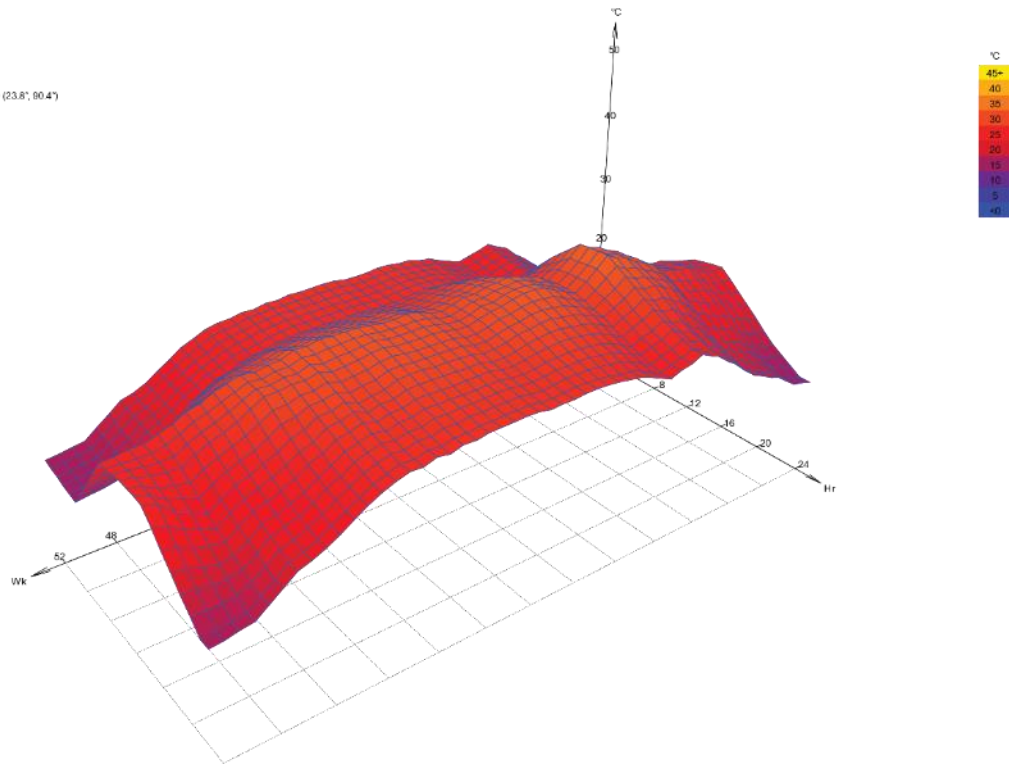
Prevailing Winds

Location: DHAKA/TEJGAON (MIL) BGD (23.8°, 90.4°)
 Date: 1st January - 31st December
 Time: 00:00 - 24:00



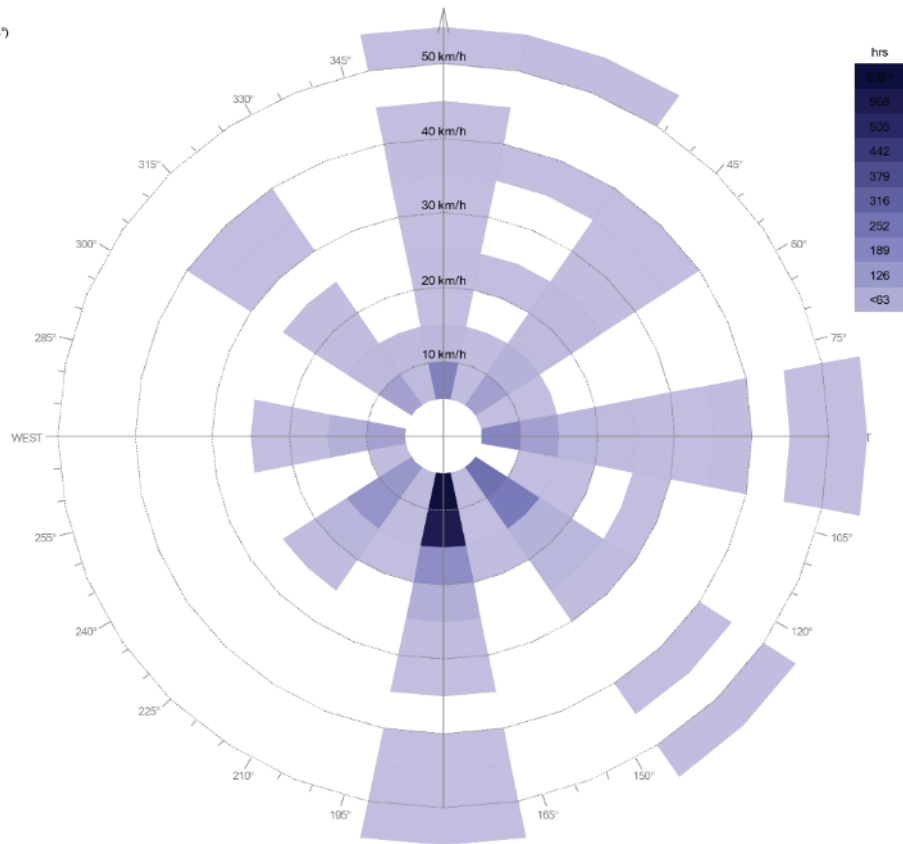
Weekly Summary

Average Temperature (°C)
Location: DHAKA/TEJGAON (MIL), BGD (23.8°, 90.4°)



Prevailing Winds

Wind Frequency (Hrs)
Location: DHAKA/TEJGAON (MIL), BGD (23.8°, 90.4°)
Date: 1st January - 31st December
Time: 00:00 - 24:00



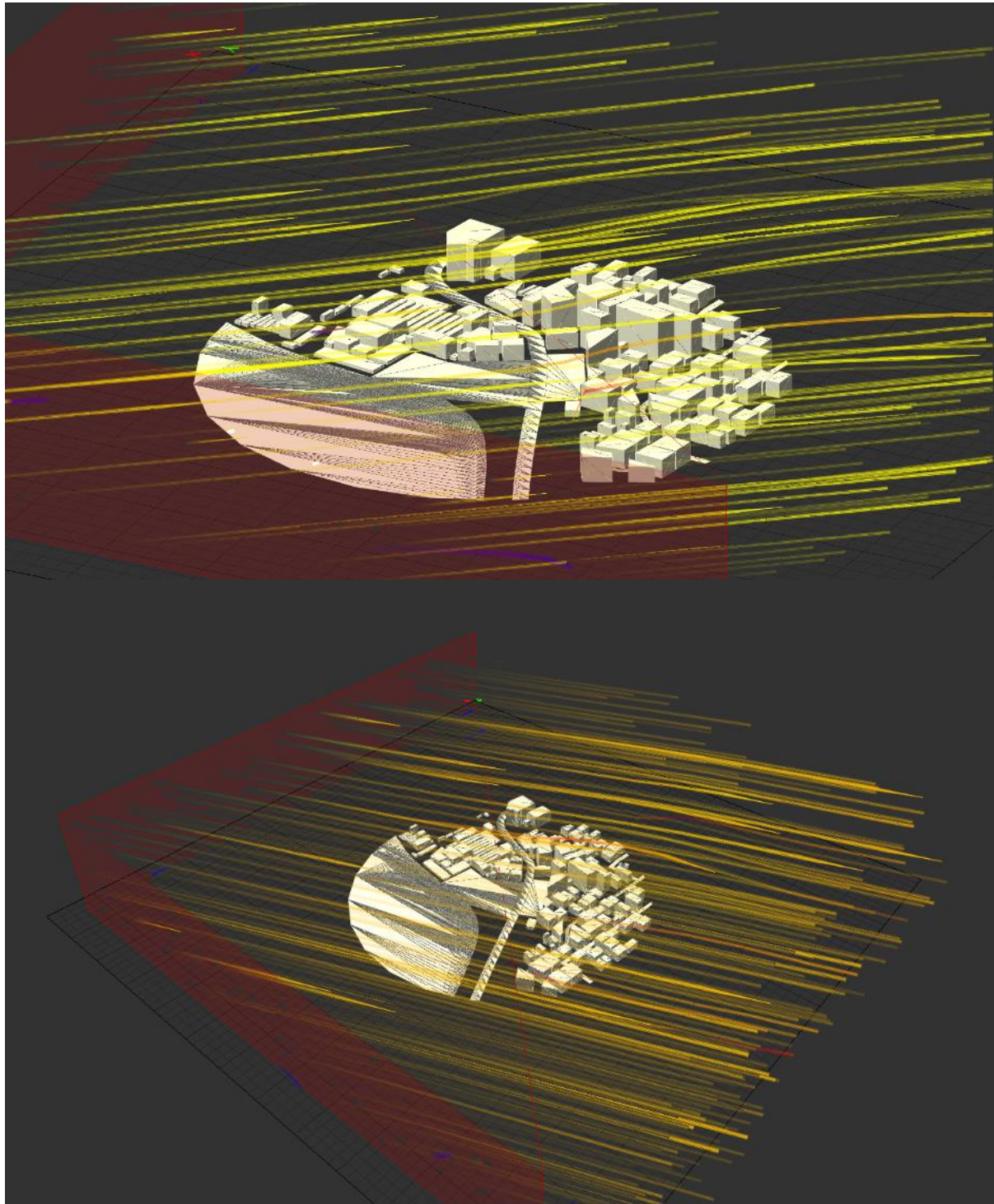


Fig: FLOW LINES THROUGH THE SITE

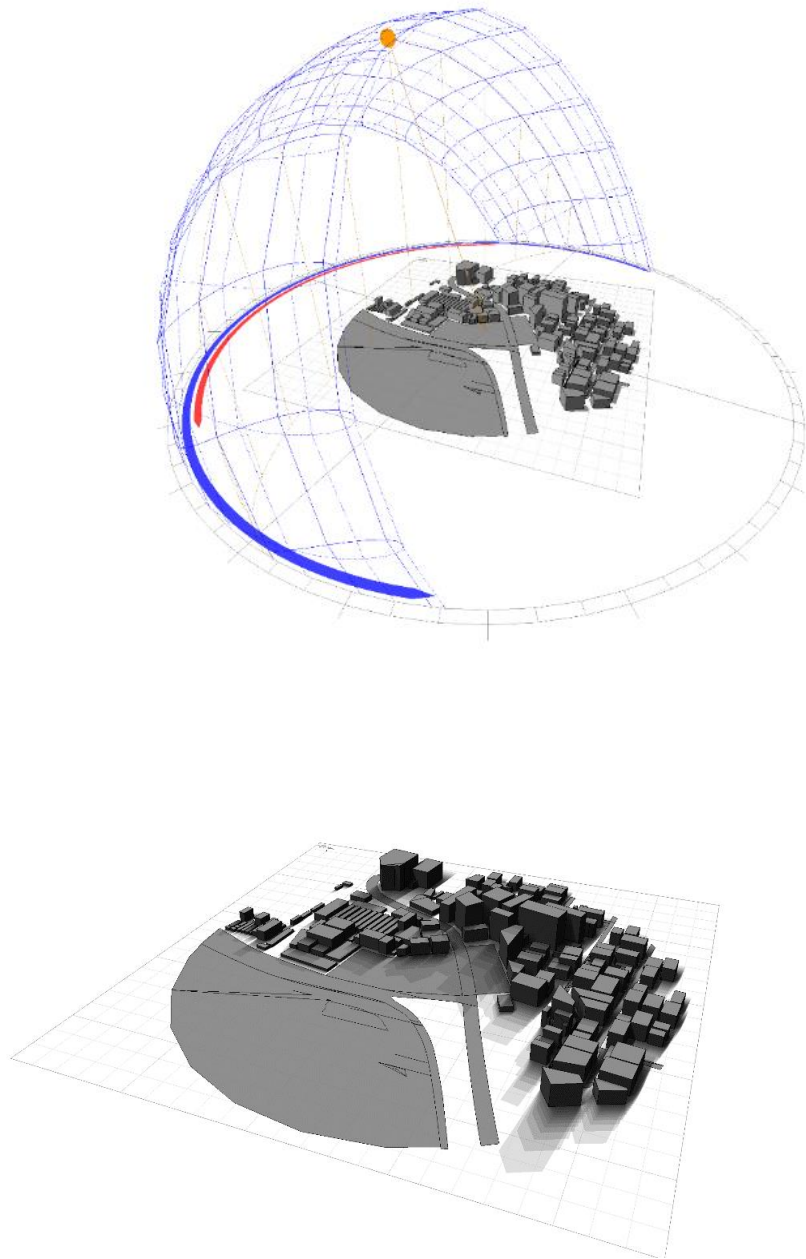


Fig: SUNPATH DIAGRAM

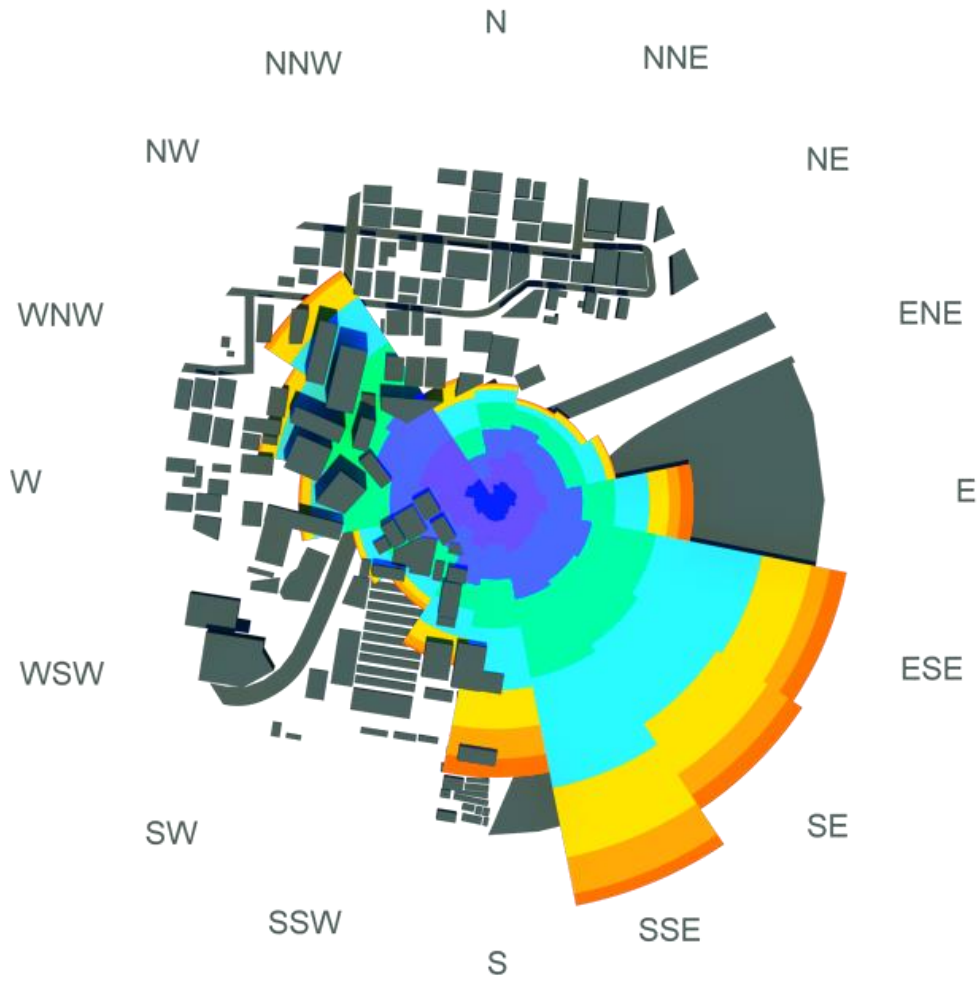


Fig: WIND ROSE DIAGRAM

3. LITERATURE REVIEW

3.1 WHAT IS MIXED USE?

“Mixed Use” refers to developing structures and communities that have a mixture of residential, business and retail uses. By incorporating retail, office, and residential space into a single project, mixed-use developments take advantage of the land upon which they are built during more hours of each day and by more people than a single-use building would be able to do.

Those who live in these developments do not have the same dependence on a car that people who live in traditional neighborhoods have because they can walk or bike to work and to run many of their errands, making it easier for them to stay active and function without a vehicle.

Additionally, retailers benefit from the traffic flow of customers who reside so close to their businesses while residents enjoy the ease of proximity to so many options.

The uses can be integrated horizontally or vertically, depending on the zone and location, however, a typical mixed-use project often consists of ground floor retail with either housing or office space above. Some mixed-use projects are not limited to uses within one building and may include entire neighborhoods where different uses are mixed together in close proximity. Many planners see mixed-use projects that have a housing component as an important factor in reviving urban and industrial areas. Mixed-use is often associated with terms like “**SmartGrowth**,” “**New Urbanism**,” “**Transit-Oriented Development**” and “**Traditional neighborhood development**.” However, mixed-use is merely one possible component found in these development concepts and can help achieve objectives such as increasing density, reducing the number of vehicles, creating localized employment, gentrification of urban neighborhoods, and providing dynamic living environments.

3.2 CAUSES OF MIXED USE

As the land-use planning plays an important role in the administration of the urban land use, the mixed use planning has a huge impact on the protection of old city. The commercial and residential land use mix is mainly promoted by the development of social-economic and the implementation of new protected policy, and some detailed analysis is as follows:

a. The demand of the social-economic development:

Although almost all the land in Historical and Cultural Protected Area was residential in the old time, today some parts of it have changed to be commercial and use. There are two main reasons:

1. The improvement of living standard of old city residents encourages the growth of commercial facilities.
2. The outstanding location advantages of the Beijing old city, as well as the landscape, culture, history and other unique resources, make the rapid development of cultural & creative industry.

Obviously, the increase of the commercial land in Historical and Cultural Protected Area is a product of the social-economic development.

b. The demand of the implementation of new protected policy.

According to the master plan of Beijing city (2004-2020), the protection work of Beijing old city has went into a new stage, self-renovation. The new plan says, “The renovation of old buildings should be decided and carried out by the property owner, as well as comply with the standards made by the government”. This new regulation is going to promote not only the growth of individual transformation events, but also the commercial use of the old buildings. As a result, the original administration of the residential land use should be more flexible.

3.3 TYPES OF MIXED USE ALL AROUND

Neighborhood commercial zoning - convenience goods and services, such as convenience stores, permitted in otherwise strictly residential areas

Main Street residential/commercial - two to three-storey buildings with residential units above and commercial units on the ground floor facing the street

Urban residential/commercial - multi-story residential buildings with commercial and civic uses on ground floor

Office convenience - office buildings with small retail and service uses oriented to the office workers

Office/residential - multi-family residential units within office building(s)

Shopping mall conversion - residential and/or office units added (adjacent) to an existing standalone shopping mall

Retail district retrofit - retrofitting of a suburban retail area to a more village-like appearance and mix of uses

Live/work - residents can operate small businesses on the ground floor of the building where they live

Studio/light industrial - residents may operate studios or small workshops in the building where they live

Hotel/residence - mix hotel space and high-end multi-family residential

Parking structure with ground-floor retail

Single-family detached home district with standalone shopping center

3.4 History of Mixed-Use Development

Mixed-used development was the most prominent style of development during the large majority of the history of cities and towns. Because people walked for daily transportation, it was most convenient to locate the uses in proximity. People often made a living from their own homes. This was particularly true in urbanized areas, where the bottom floor was often devoted to some sort of commercial use, and living space was upstairs.

Mixed-used development fell out of favor during the Industrial Age in favor of more efficient manufacturing in dedicated structures. Many of these buildings produced substantial industrial pollution, detrimental to those who lived nearby. These factors were important in the push for zoning that separated land uses. To protect both public health and residential property values, early zoning focused on separating different uses and buffering them from each other to minimize nuisances.

This separation however, was extended to commercial uses as well, setting the stage for the suburban style of life that is common in America today. This type of single-use zoning was

widely adopted by municipal zoning codes. Completely separate zoning created isolated “islands” of each type of development. In many cases, the automobile became a requirement for transportation between vast areas of residential neighborhoods and the separate commercial and office strips.

Throughout the late 20th century, it began to become apparent to many urban planners and other professionals that mixed-use development had many benefits and should be promoted again. As American cities de-industrialized, the need to separate residences from dangerous factories became less important. Many professionals and citizens alike now argue that a mixture of uses is vital and necessary for a healthy urban area.

Mixed-use development is not a new idea. Housing above stores was common in town centers before the advent of zoning, as these turn-of-the-century photos of the Plaza area show.



An Early Example of a Mixed-use - Community use:

The medieval village is a perfect example of a functional, productive community, incorporating



all of the rules community, incorporating all of the rules of mixed-use development

The Medieval Village:

A medieval village was typically located on a hill protected by walls. The smaller on a hill protected by walls, the more the circumference of the walls, the village dense.

By building all property uses close together, the walls were able to protect the village more securely than if the village were spread out over; many village were spread out over many hundred acres.

As the population of a village grew, density was contained within the limitations of the walls until no further growth could be supported. Only then were new ramparts constructed.





Fig: Only remaining fortified city walls north of Mexico.

As cities sprouted from medieval villages, they adopted many of the principles common to a mixed--use community.



We can see the adoption of mixed-use principals in this old map of London.

Finally mixed-use was the norm before the development of modern zoning and land-use practices

Such mixed-use commercial and residential areas thrived into the twentieth century, often at intersections and transit stops



Fig: Mixed-use at Randolph & Snelling Avenues, St. Paul

Modern zoning practices assigned land uses according to function. Houses were segregated from commerce, work, and school. From the 1910s through the 1950s finely mixed land uses were rare in new developments



In the 1960s and 70s mixed use re-emerged, as a tool for urban revitalization, in large-scale projects referred to among the development community as MXDs (Mixed-use Developments) MXDs were variations on PUDs (Planned Unit Developments)



Fig: Fashion Island and Newport Center, Newport, CA

In the late 1970s and 80s, mixed-use developments were built on smaller scales than older MXDs and PUDs. They also were more integrated with their urban contexts, as interest in historic preservation grew. In the 1990s–2000s, mixed use emerged as a key component of Transit Oriented Development (TOD), Traditional Neighborhood Development (TND), Livable Communities, and Smart Growth principles.

Fig: East Village, Minneapolis

3.5 Mixed-use Development Today

Three Approaches to Mixed- use Development Today

Increase intensity of land uses

Increase diversity of land uses

Integrate segregated uses

Benefits of Mixed Use

Activates urban areas during more hours of the day

Increases housing options for diverse household types

Reduces auto dependence

Increases travel options

Creates a local sense of place

Mixed-use Scales and Issues

Mixed-use may be developed at a range of scales:

Mixed-use Buildings

Mixed-use Parcels or Sites

Mixed-use Walkable or Transit Areas

Mixed-use Development Issues

Mixed-use Scales and Issues

Intensity of Development and Density

Mix of Housing

Walkability

Transit Access

Parking

Environment and Open Space

4. CASE STUDIES

4.1 Case Study 1

Cheongna Tower

EMERGENT - TOM WISCOMBE

Building Type - Tower

Architect - EMERGENT

Project Team - Takeshi Masuyama, Josh Sprinkling, Alina Grobe,

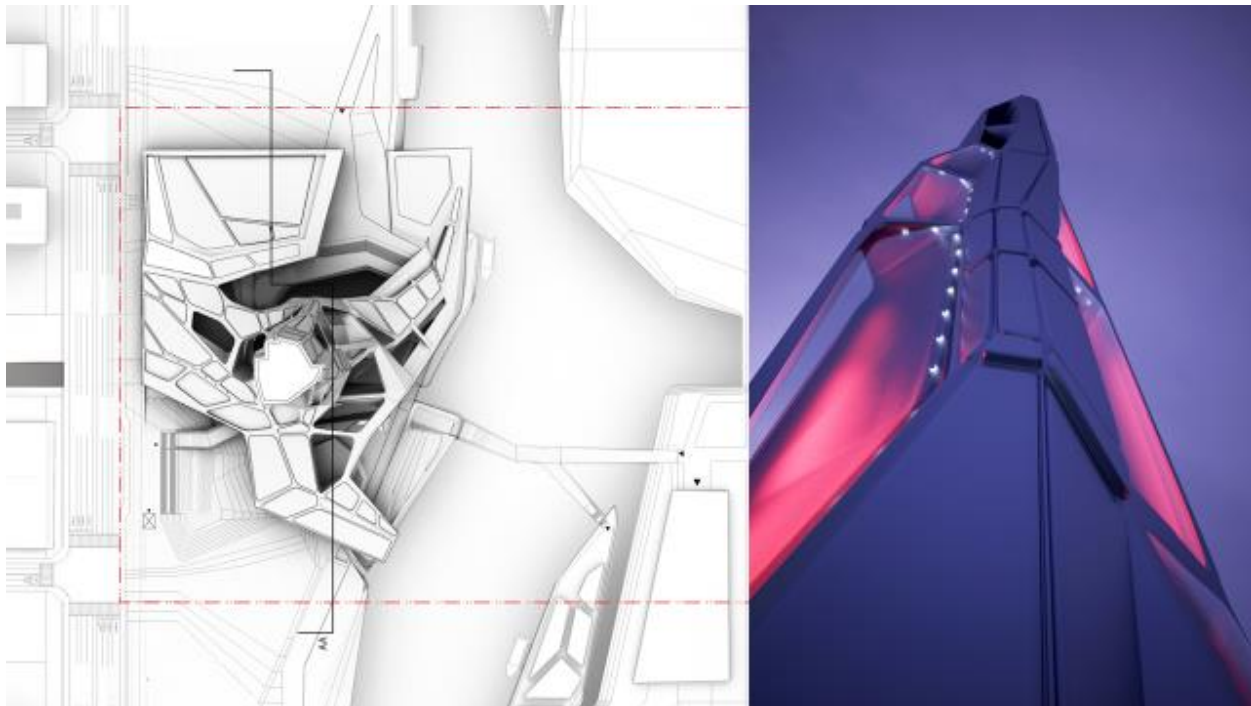
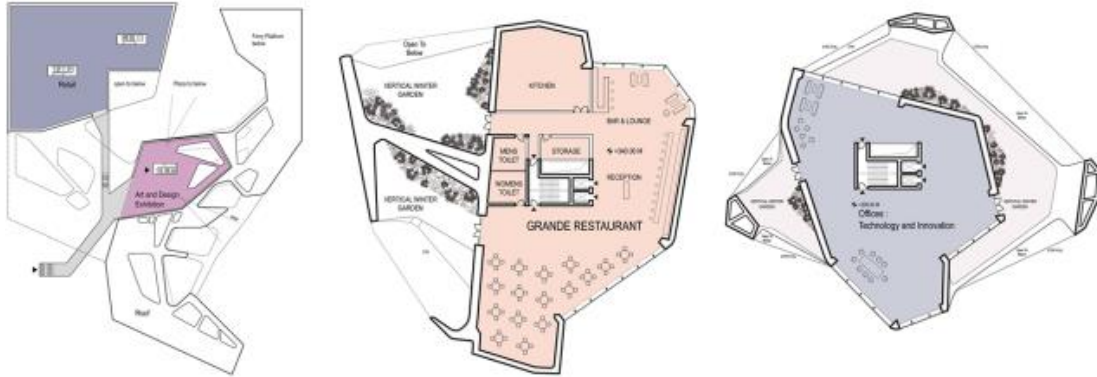
Jon Anderson, Seton Beggs

Structural - Buro Happold, Matt Melnyk

THE TOWER

This design for the Cheongna City Tower is based on creating an innovative spatial, structural, and energy production device which will become an operational symbol of the future for the IFEZ Cheongna region. Located at the intersection of the main pedestrian passageway from east to west and the main artificial waterway from north to south in Lake Park, the Tower is intended to be a hub of urban activity and a new destination for the region. It is 400 M. tall and offers views of the ocean, the Incheon Airport to the west and Mt. Geyang to the east.

The lower levels of the Tower contain various leisure and cultural activities such as art and design exhibition spaces, an assembly and lecture space, gift shops, and bars. The mid-levels of the Tower contain public Sky-Terraces every 50 M. as well as a Business Spine which contains showroom office space for various technology companies and cultural institutions. The upper levels of the Tower contain an astronomical observatory, a seasonal high-end restaurant with star chefs, and various lookout points and observation decks.





4.2 Case Study 2

Galaxy Soho

Zaha Hadid Architects

Architects: Zaha Hadid Architects

Location: Soho, Beijing, China

Architects In Charge: Zaha Hadid & Patrik Schumacher

Project Director: Satoshi Ohashi

Associate: Cristiano Ceccato

Project Architect: Yoshi Uchiyama

Project Team: Stephan Wurster, Michael Hill, Samer Chamoun, Eugene Leung, Rita Lee, Lillie Liu, Rolando Rodriguez-Leal, Wen Tao, Tom Wuenschmann, Seung-ho Yeo, Shuojiong Zhang, Michael Grau, Shu Hashimoto, Shao-Wei Huang, Chikara Inamura, Lydia Kim, Yasuko Kobayashi, Wang Lin, Yereem Park

Local Design Institute: BIAD Beijing Institute of Architecture & Design

Area: 332857.0 sqm

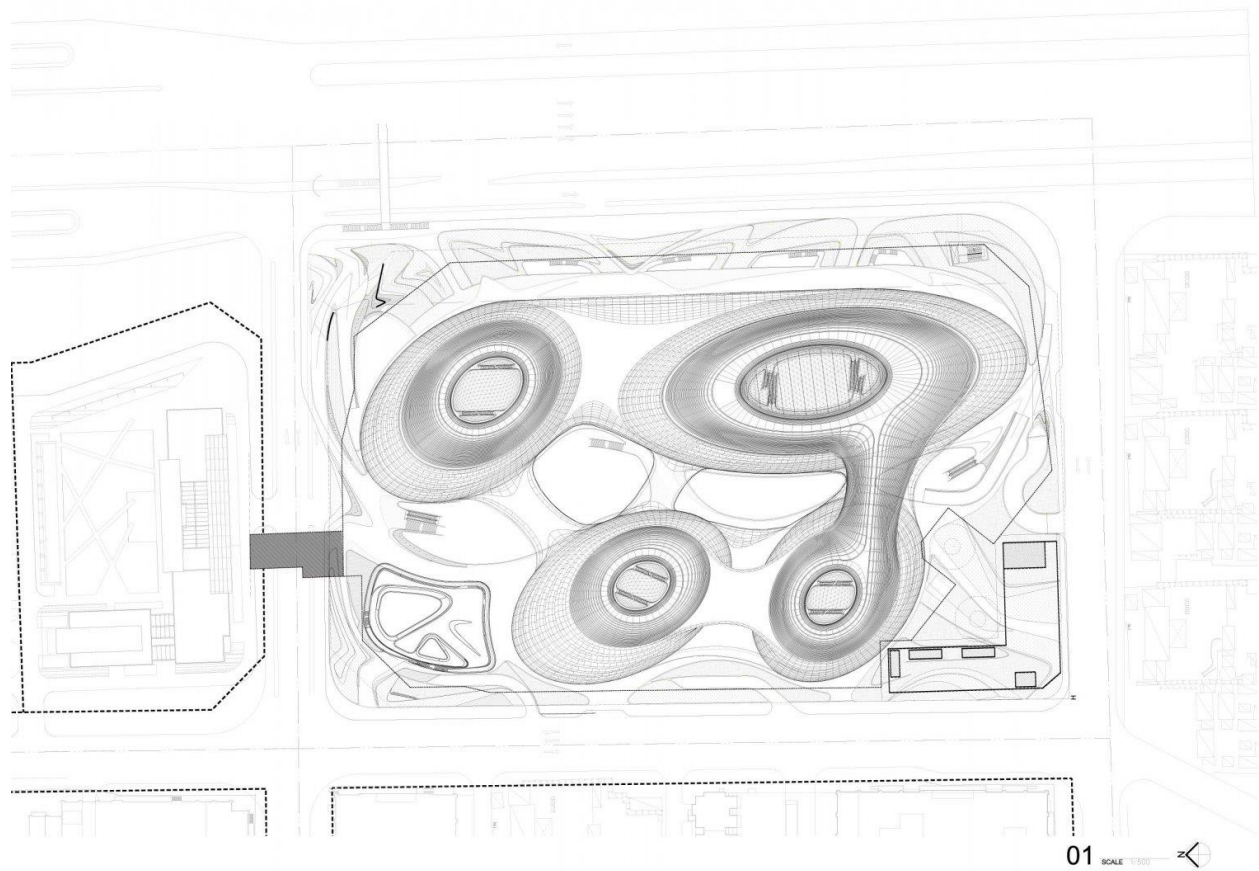
Year: 2012

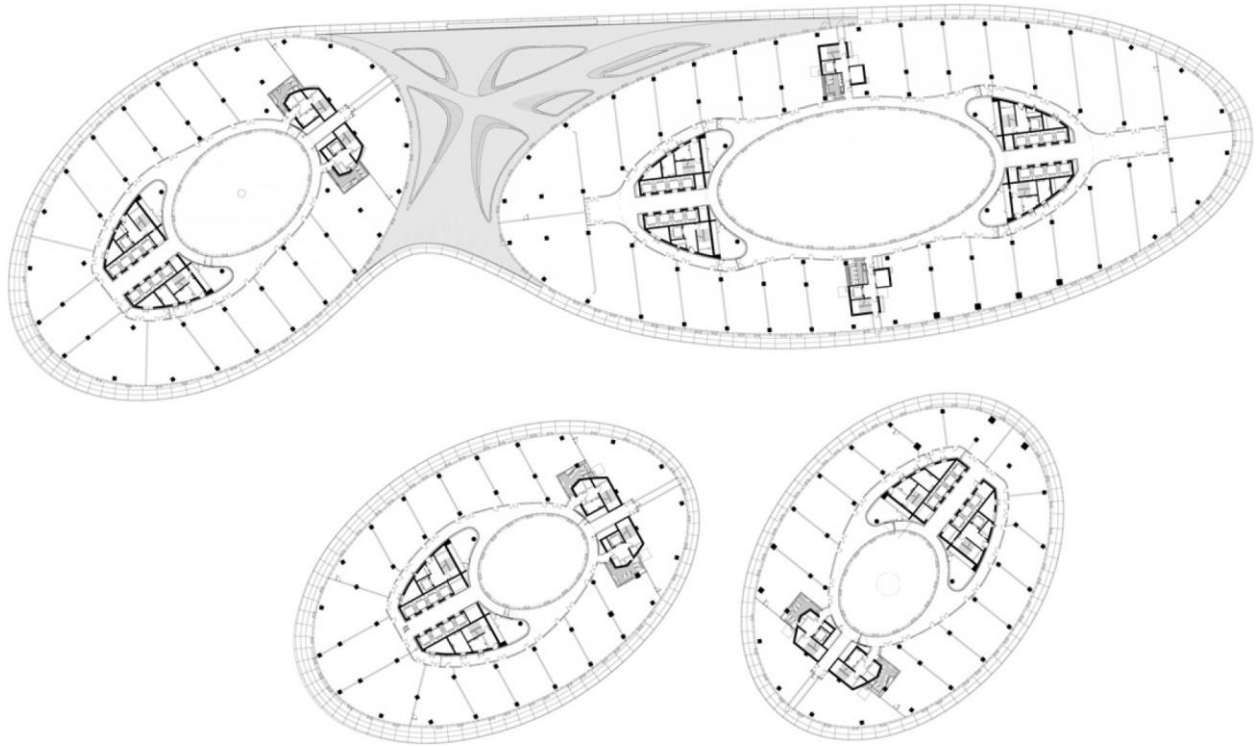


The Galaxy SOHO project in central Beijing for SOHO China is a 330 000m² office, retail and entertainment complex that will become an integral part of the living city, inspired by the grand scale of Beijing. Its architecture is a composition of five continuous, flowing volumes that are set apart, fused or linked by stretched bridges. These volumes adapt to each other in all directions, generating a panoramic architecture without corners or abrupt transitions that break the fluidity of its formal composition.

The great interior courts of the project are a reflection of traditional Chinese architecture where courtyards create an internal world of continuous open spaces. Here, the architecture is no longer composed of rigid blocks, but instead comprised of volumes which coalesce to create a world of continuous mutual adaptation and fluid movement between each building. Shifting plateaus within the design impact upon each other to generate a deep sense of immersion and envelopment. As users enter deeper into the building, they discover intimate spaces that follow the same coherent formal logic of continuous curve linearity.

The lower three levels of Galaxy SOHO house public facilities for retail and entertainment. The levels immediately above provide work spaces for clusters of innovative businesses. The top of the building is dedicated to bars, restaurants and cafés that offer views along one of the greatest avenues of the city. These different functions are interconnected through intimate interiors that are always linked with the city, helping to establish Galaxy SOHO as a major urban landmark for Beijing.







4.3 Case Study 3

Beach and Howe Mixed-Use Tower / BIG

BIG

Architects: BIG

Location: Vancouver, Canada

Team: Julianne Gola, Marcella Martinez, Chris Malcolm, Karol Borkowski, Michael Taylor, Alina Tamosiunaite, David Brown, Tobias Hjortdal, Alexandra Gustafson

Partner-in-Charge: Bjarke Ingels, Thomas Christoffersen

Project Leader: Agustin Perez-Torres

Collaborators: Dialog, Cobalt Engineering, Phillips Farevaag Smallerberg Urban Design, Buro Happold, Glotman Simpson, James KM Cheng Architects

Client: Westbank Projects Corp.

Size: 653,890 sf / 60,670 m²

The 49-storey residential building will have a twisted form that is set back from the adjacent motorway flyover to prevent any windows or balconies from overlooking it.

Nine floors at the base of the tower will accommodate offices, shops and restaurants, which will spill out onto a series of public plazas that stretch underneath the elevated highway.

The tower is situated on a nine-story podium base offering market-rental housing with a mix of commercial and retail space.

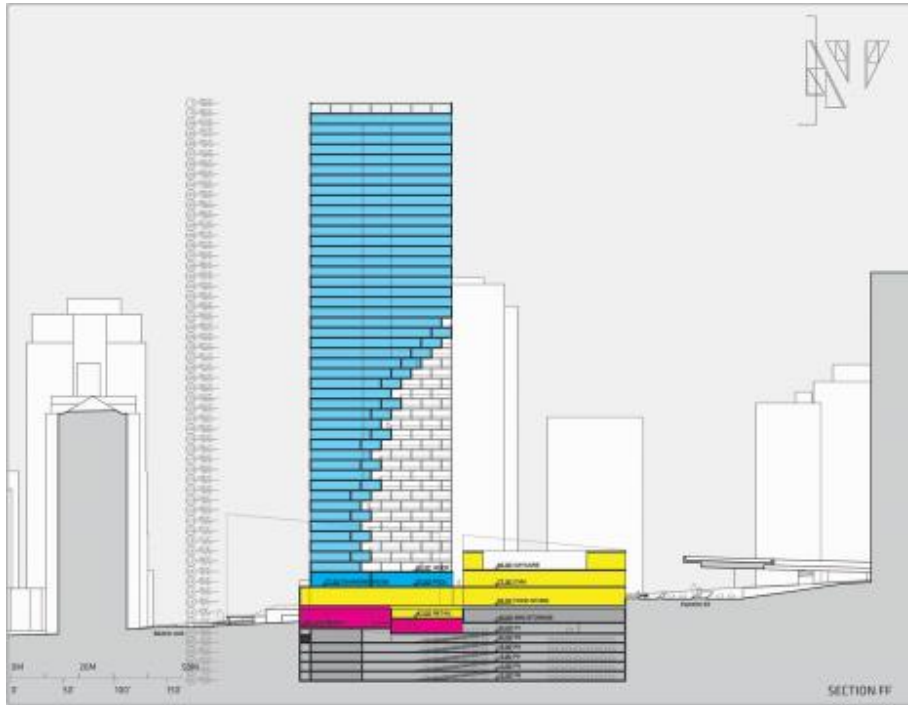
The tower takes its shape after the site's complex urban conditions aiming to optimize the conditions for its future inhabitants in the air as well as on the street level. At its base, the footprint of the tower is conditioned by concerns for two significant neighboring elements, including a 30-meter setback from the Granville bridge which ensures that no residents will have windows and balconies in the middle of heavy traffic as well as concerns for sunlight to an adjacent park which limits how far south the building can be constructed. As a result the footprint is restricted to a small triangle.

As the tower ascends, it clears the noise, exhaust, and visual invasion of the Granville Bridge. BIG's design reclaims the lost area as the tower clears the zone of influence of the bridge,

gradually cantilevering over the site. This movement turns the inefficient triangle into an optimal rectangular floor plate, increasing the desirable spaces for living at its top, while freeing up a generous public space at its base.

The resultant silhouette has a unique appearance that changes from every angle and resembles a curtain being drawn aside, welcoming people as they enter the city from the bridge.











4.4 Case Study 4

SHANGHAI WUZHOU INTERNATIONAL PLAZA SDA & SHENZHEN GENERAL ARCHITECTURAL DESIGN INSTITUTE



The project is located along Huatai Road in the third ring of the urban metropolis of Shanghai, the Shanghai Wuzhou International plaza. The northern block features an enclosed 4 story luxury retail shopping podium anchored by the corporate headquarters of developer Hong Kong Wuzhou International Group and a 5 star hotel tower. The southern block is composed of a 4 level retail, lifestyle and entertainment complex anchored by two office towers. The fluid canyon condition connects the two entry plazas of the site with a “river” of free-standing detached retail units with a network of connective sky bridges, while simultaneously curating a series of framed views within the site.

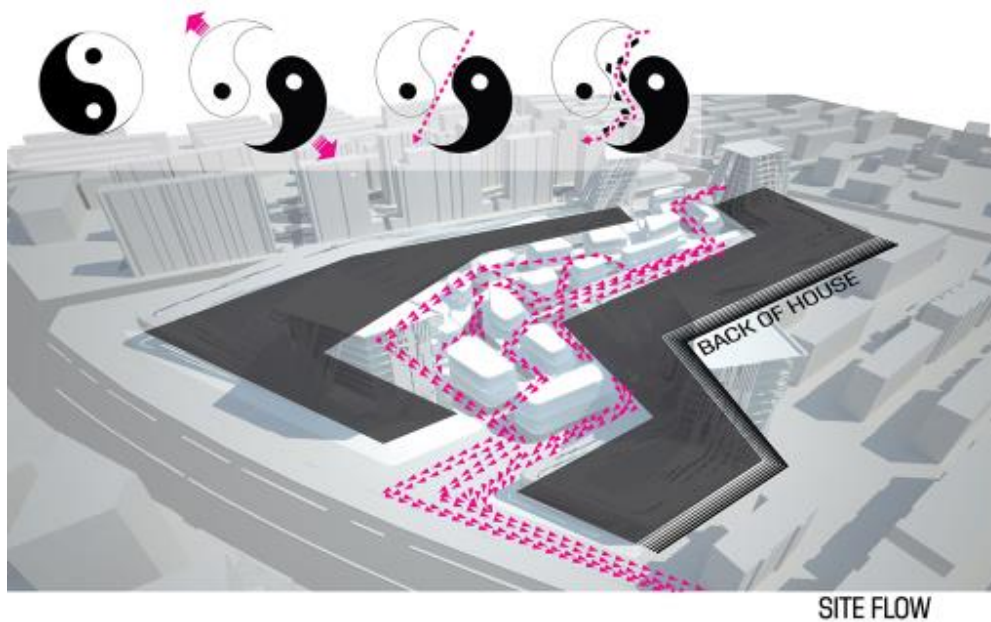


SDA | ARCHITECTURE, DESIGN, INTERIORS, 1015 S. GARDEN AVENUE, LOS ANGELES, CALIFORNIA 90024
 310.441.1111 | WWW.SDA-ARCH.COM

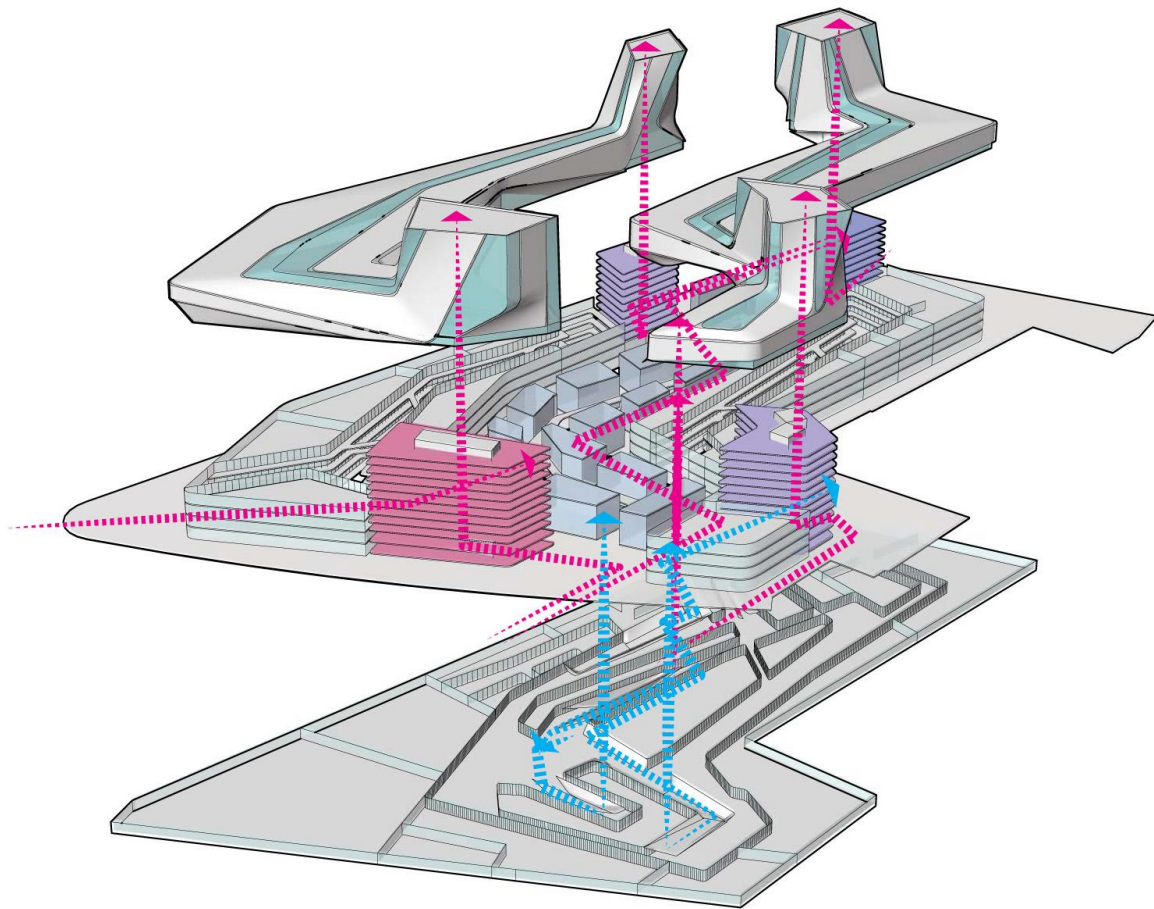
EMERGENT DESIGN + ARCHITECTURE
 101 N. 111 ST. PASADENA, CA 91101

133 SHANGHAI HUTAI ROAD PLAN LEVEL 1 1:2000 @ A3

A series of green space “islands” are distributed within the river to provide natural shading and to soften the urban condition. At the mouth of each canyon is a landscaped entry plaza framed by the portal created by its respective towers. Integrated landscaping, furnishings, and lighting within the plaza hard-scape are arranged in pulse like formations which stimulate and encourage visual and pedestrian activity.

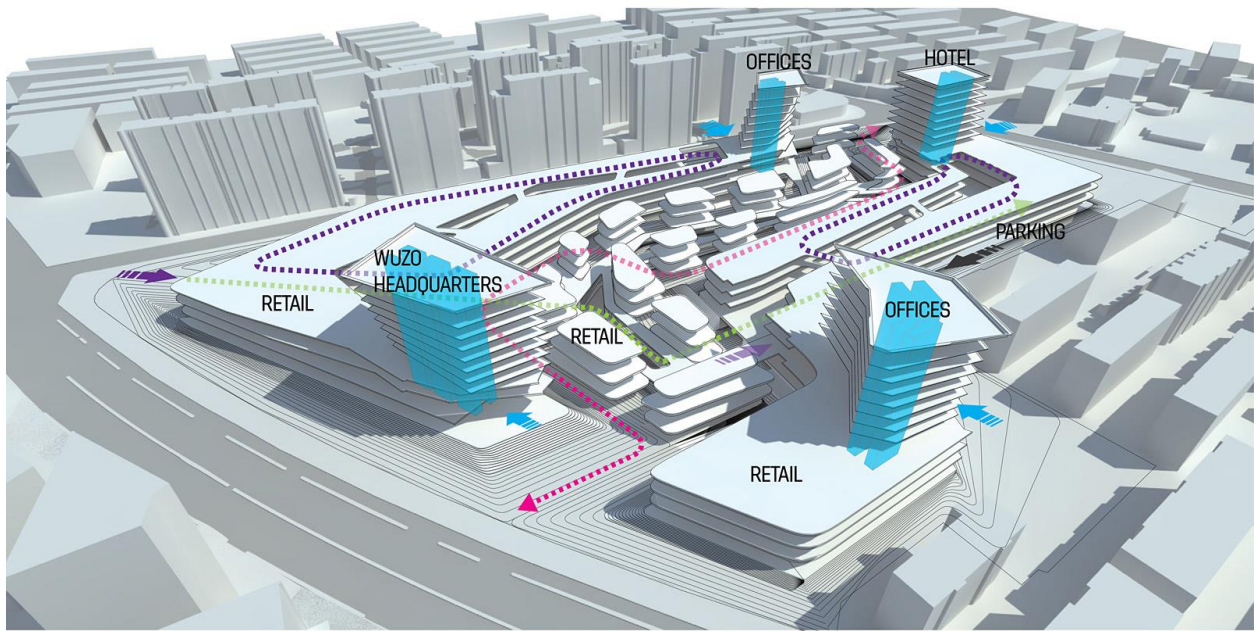


The dynamic patterning of the plaza is further expressed in the striated articulations that define the pattern of the cladding. This pattern embodies the pulses of activity and urban energy of the city to merge façade with roof and podium with tower, which is conceptualized as the river that has carved the canyon. The façade is to be clad with RHEINZINK standing-seam titanium zinc panels, while the roof system utilizes RHEINZINK double standing-seam titanium zinc panels.

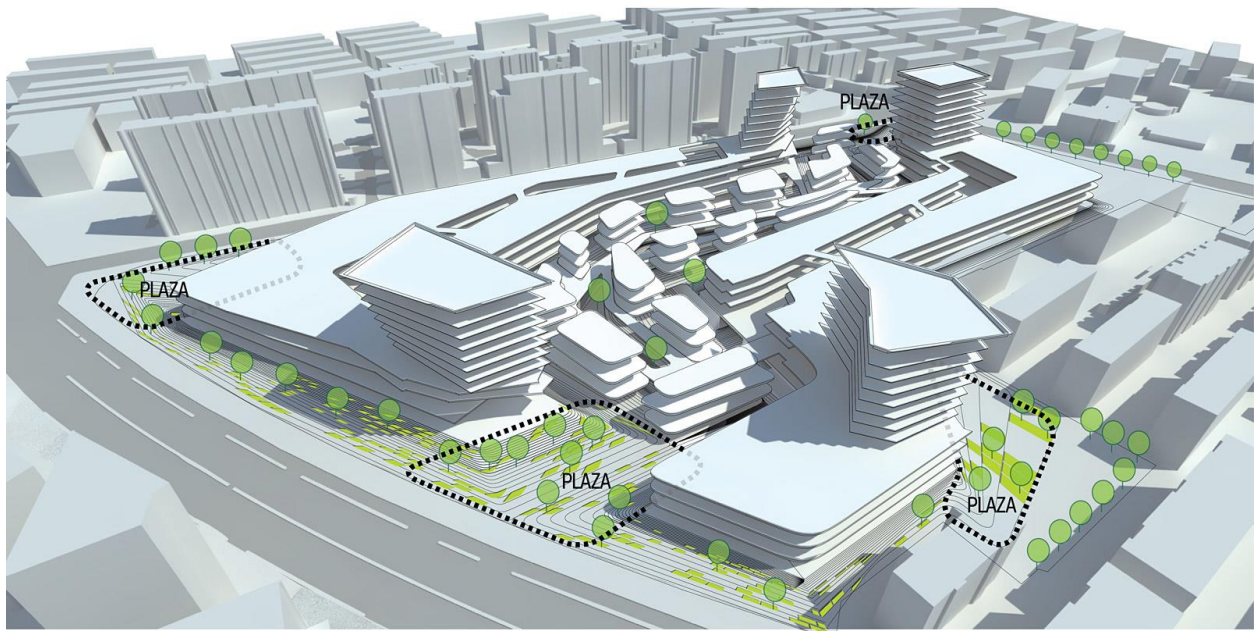


Circulation

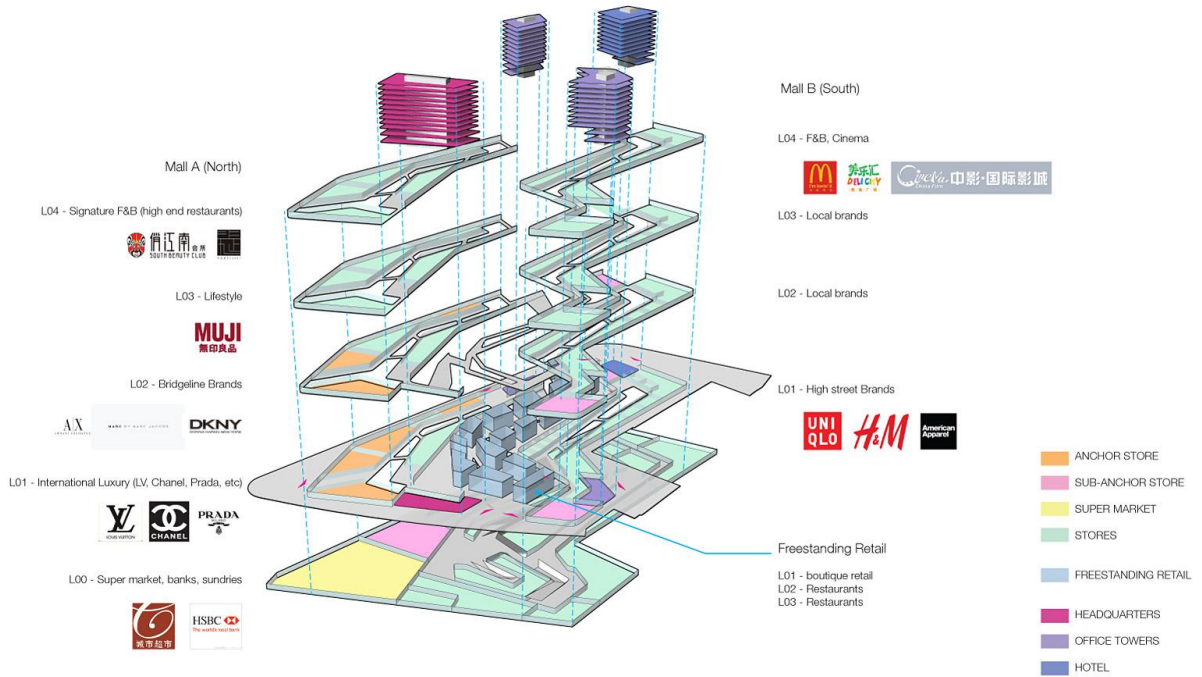
The roof area is equipped with interior gutters at its lowest points and is covered with perforated standing-seam profiles to protect it from soiling. The building material needs no maintenance because of the material's patina, which develops during the course of natural weathering and protects it from corrosion. The patina is a layer of zinc carbonate, which regenerates itself.



CIRCULATION
LOWER LEVEL
TOWER
EXTERNAL
INTERNAL



GREEN AREA





5. BRAC

5.1 Short Summary of BRAC



BRAC was formed in 1972, right after the independence of Bangladesh, by Sir Fazle Hasan Abed, in an effort to rehabilitate the Bangladeshi war refugees coming from India. Policies were developed towards helping the poor to develop their capacity to better manage their lives. BRAC's primary objectives emerged as alleviation of poverty and empowerment of the poor. In the span of only four decades, BRAC grew to become the largest development organization in the world in terms of the scale and diversity of its interventions.

BRAC is present in all 64 districts of Bangladesh as well as in Afghanistan, Pakistan, Sri Lanka, Uganda, Tanzania, South Sudan, Sierra Leone, Liberia, Haiti and The Philippines as of 2012. It maintains offices in 14 countries throughout the world, including BRAC USA and BRAC UK. Around 80% of its \$485 million budget is self-funded through a number of commercial enterprises including a dairy and food project and a chain of retail handicraft stores called Aarong.

BRAC has organized the isolated poor and learned to understand their needs by finding practical ways to increase their access to resources, support their entrepreneurship and empower them to become agents of change. It reaches more than 110 million people with its holistic, sustainable approach to poverty reduction.

In 1972, BRAC began as the Bangladesh Rehabilitation Assistance Committee. It renamed itself as the Bangladesh Rural Advancement Committee a year later. Today, BRAC has crossed the geographical boundary of Bangladesh to become the world's largest development organization. BRAC is no longer an acronym; it has become a synonym for progress.

Vision

A world free from all forms of exploitation and discrimination where everyone has the opportunity to realise their potential. aim to achieve large scale, positive changes through economic and social programmes that enable men and women to realise their potential. - BRAC has been an innovator in the creation of opportunities for the poor to lift themselves out of poverty.

Mission

Our mission is to empower people and communities in situations of poverty, illiteracy, disease and social injustice. Our interventions aim to achieve large scale, positive changes through economic and social programmes that enable men and women to realise their potential.

Values

- **Innovation**- BRAC has been an innovator in the creation of opportunities for the poor to lift themselves out of poverty. We value creativity in programme design and strive to display global leadership in groundbreaking development initiatives.

- **Integrity**- We value transparency and accountability in all our professional work, with clear policies and procedures, while displaying the utmost level of honesty in our financial dealings. We hold these to be the most essential elements of our work ethic.

- Inclusiveness- We are committed to engaging, supporting and recognising the value of all members of society, regardless of race, religion, gender, nationality, ethnicity, age, physical or mental ability, socioeconomic status and geography.

- Effectiveness- We value efficiency and excellence in all our work, constantly challenging ourselves to perform better, to meet and exceed programme targets, and to improve and deepen the impact of our interventions.

- Gender equality, respect for the environment and inclusivity are themes crosscutting all of BRAC's activities.
- In order for the poor to come out of poverty, people must have the tools to fight it across all fronts. BRAC developed support services in the areas of human rights and social empowerment, education and health, economic empowerment and enterprise development, livelihood training, environmental sustainability and disaster preparedness.
- For inclusive growth, community engagement is essential.
- Equal participation of men and women is necessary to ensure positive outcome and sustainability.
- Community proactively identifies problems, suggests solutions and participates in implementation.
- Multi-stakeholder participation (people, local government officials, religious leaders) ensures greater ownership and accountability.

"No matter where they come from, whether they are rich or poor, everyone has potential. I want to help it to flourish. I want to see it flowering in my society." - Sir Fazle Hasan Abed

5.2 The Evolution of BRAC: 1972-2012

1972

- Establishment of BRAC by Sir Fazle Hasan Abed. The Organisation then known as Bangladesh Rehabilitation Assistance Committee
- (BRAC) begins relief and rehabilitation operations in Sulla, Sylhet, following the end of Bangladesh's War of Liberation.

1973

- Activities transform from relief and rehabilitation to long term community development
- BRAC is renamed Bangladesh Rural Advancement Committee

1974

- BRAC begins microfinance activities
- Relief work is started among famine and flood victims of Roumari, Kurigram

1975

- BRAC's Research and Evaluation Division is established to support its core activities
- The Jamalpur Women's Project commences

1976

- The Manikganj Integrated Project is initiated
- BRAC's Agriculture and Fisheries Programmes are established

1977

- Targeted Development Approach commences through the formation of Village Organisations
- BRAC's Community Empowerment (CEP) Programme is launched

1978

- Emphasis is placed on staff training and the first Learning Centre (BLC) is established in Savar
- The Sericulture Programme is started to generate employment for poor women in Manikganj and a handicraft marketing outlet, Aarong, is set up

1979

- The Rural Outreach Programme is initiated
- The Rural Credit and Training Programme is launched

1980

- The Oral Therapy Extension Programme is launched to combat diarrhoea

1983

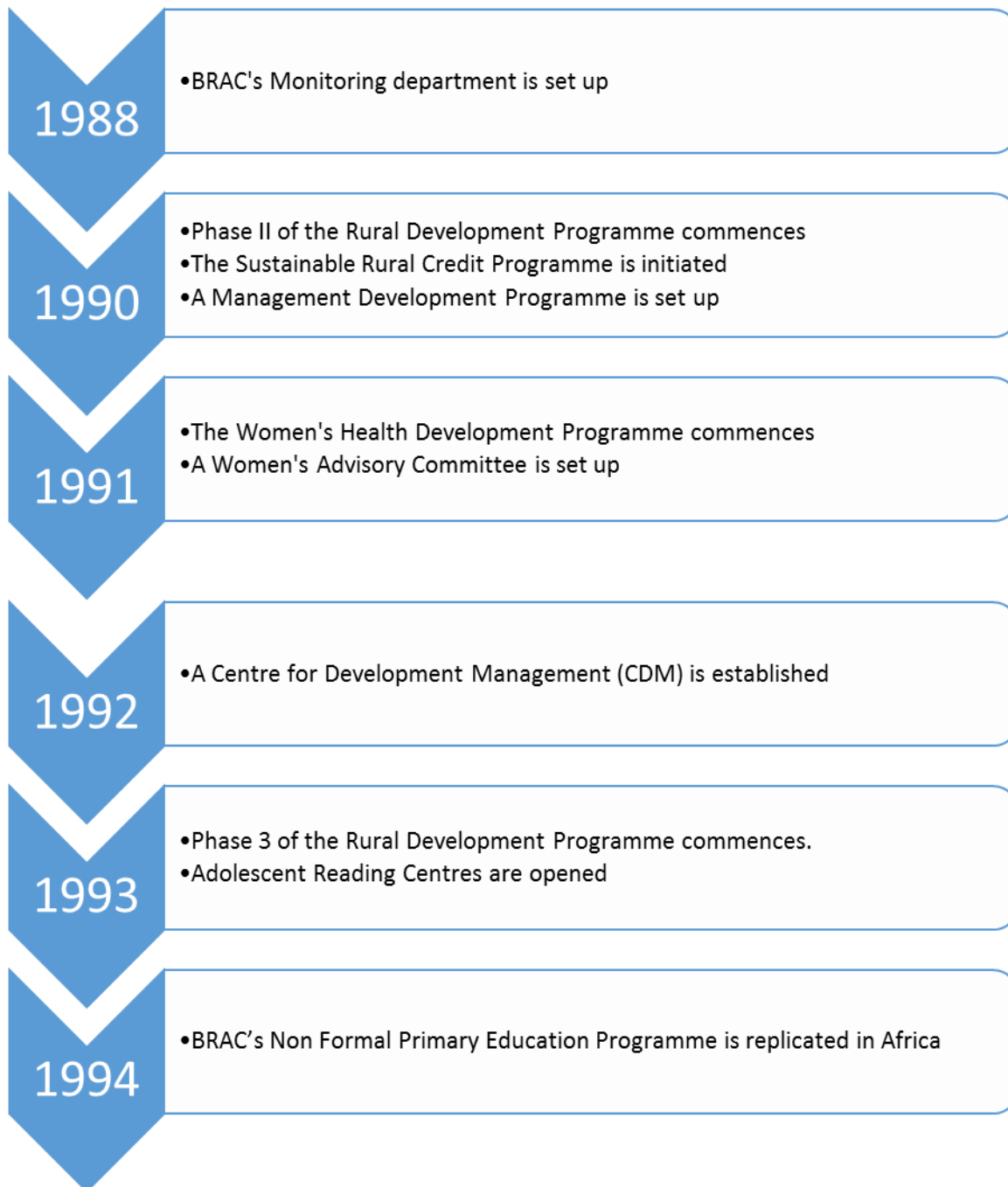
- The Poultry Vaccination Programme is initiated

1985

- BRAC's Non Formal Primary Education Programme (NFPE) is started
- The Livestock Programme is initiated
- The Rural Enterprise Project is launched
- The Income Generation for Vulnerable Group Development (IGVGD) programme is launched

1986

- The Child Survival Programme commences
- The Rural Development Programme is formed by merging the Rural Credit and Training Programme and the Outreach Programme
- The Human Rights and Legal Aid Services programme is introduced



1995

- BRAC Adult Literacy Centres are opened
- A Gender Quality Action Learning (GOAL) and a Gender Resource Centre (GRC) are set up
- The Continuing Education (CE) programme is started.
- BRAC Health Centres (Shushasthyas) are established

1996

- The Micro Enterprise Lending and Assistance (MELA) programme is launched
- Phase IV of the Rural Development Programme commences

1997

- Development programme started in urban areas
- BRAC's Gender Policy is launched.

1998

- BRAC Legal Aid Clinics are established
- The BRAC Dairy and Food Project is commissioned
- BRAC's Chittagong Hill Tracts Development programme is started

1999

- The BRAC Information Technology Institute is launched
- The Adolescent Peer Organised Network (APON) courses are created

2000

- BRAC's Limb and Brace Fitting Centre is established

2001

- BRAC University is established
- BRAC Bank Ltd. is launched
- The Post Primary Basic Education (PBE) programme is set up
- The Adolescent Development Programme (ADP) is initiated

2002

- The Challenging the Frontiers of Poverty Reduction: Targeting the Ultra Poor (CFPR-TUP) programme is launched
- BRAC commences development work in Afghanistan
- BRAC Advocacy and Human Rights Unit is set up

2003

- BRAC Tea Estates is established
- The Continuing Education and Post Primary Basic Education programmes are integrated into a single programme called the Post Primary Basic and Continuing Education (PACE) programme
- The Employment and Livelihood for Adolescents (ELA) programme is launched
- BRAC's TB programme coverage expanded nationally

2004

- An Office of the Ombudsperson is established
- A microfinance programme for commercial sex workers is initiated
- BRAC University establishes the James P. Grant School of Public Health and the Institute of Educational Development

2005

- The Centre for Governance Studies is established by BRAC University
- BRAC commences programmes in Sri Lanka following the Asian Tsunami
- Maternal, Neonatal and Child Health (MNCH) programme launched in Nilphamari

2006

- Development programmes in Tanzania and Uganda commence
- BRAC establishes BRAC UK and BRAC USA as resource mobilization organisations
- Phase I of the Targeting the Ultra Poor (TUP) programme is completed
- Replication of TUP programme in Haiti and India is started
- The Water, Sanitation and Hygiene (WASH) programme is launched
- A pilot project to distribute reading glasses is started
- The Leadership for Advancing Development (LeAD) programme is launched

2007

- BRAC registers in Pakistan as an NGO and begins programmes.
- BRAC started providing technical assistance to an NGO in Indonesia for post-Tsunami rehabilitation and microfinance.

2008

- BRAC Education Programme initiates pilot programme for capacity building of Government and registered non-government primary schools in 20 sub-districts
- BRAC registers in Sierra Leone and Liberia
- BRAC Africa Loan Fund is created to provide local currency debt financing to BRAC's microfinance programmes in Tanzania, Uganda and Southern Sudan

2009

- BRAC continue supporting the long-term rehabilitation of the cyclone Aila victims.
- A foundation called Stichting BRAC International formed at the Hague, the Netherlands.
- BRAC launched a groundbreaking credit scheme for sharecroppers.
- BRAC developed Alive and Thrive programme to increase exclusive breastfeeding.

2010

- BRAC Chairperson knighted at Buckingham Palace in London
- BRAC sets up community radio station in Bangladesh
- Exploring further opportunities to contribute to rehabilitation and development work in Haiti
- Completed a rebranding process
- Established an in house legal counsel
- BRAC launches new website

2011

- Sir Fazle Hasan Abed receives WISE Prize for outstanding achievement in the education sector
- Launched boat-schools to provide the children living in remote and/or waterlogged areas
- Designed Model Disaster Resilient Habitat (DRH) in the southern part of Bangladesh
- Launched iCRESS, a technological intervention for better delivery of human rights services

2012

- Expanded to Philippines with education programme
- Launched a driving school under Road Safety Programme
- Signed strategic partnership with AusAid and DFID

6. PROGRAMME AND DEVELOPMENT

6.1 Developing the program

By keeping the clients functions intact, a new set of program was introduced to the site, based on a research with the intension to include the community to the building





6.2 List of functions

- a. BRAC NURSERY
- b. SOCIAL HUB
- c. WATER GARDEN
- d. EXHIBITION
- e. AARONG
- f. GRASS ROOT CAFÉ
- g. SHOPPING
- h. CHILD CARE
- i. RESTAURANT
- j. BOTANICAL RESEARCH LAB
- k. GREENHOUSE
- l. FINE DINING RESTAURANT
- m. GYM

- n. YOUTH CLUB
- o. CONFERENCE ROOM
- p. HELIPAD
- q. PRAYER ROOM
- r. ROOF GARDEN
- s. ROOFTOP RESTAURANT

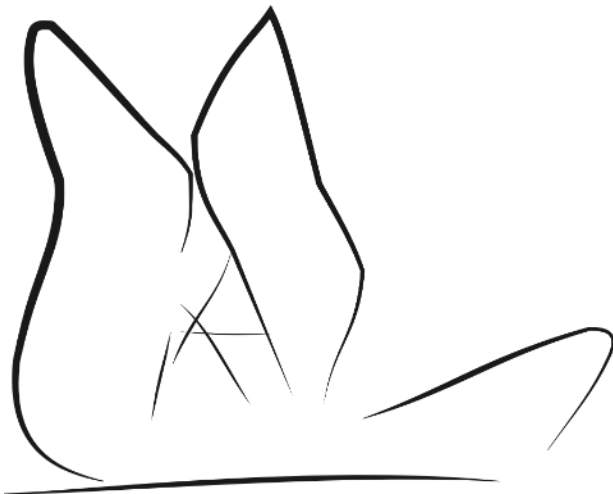
7. CONCEPTUAL STAGE AND DESIGN DEVELOPMENT


7.1 PHASE I: CONCEPT DEVELOPMENTS

Determining what the purpose of mixed-use development is not nearly as difficult as defining or conceptualizing it, but the process is still more complicated than for other types of development. The idea is to enhance other uses creating a harmony to it as a development type that can address a variety of social and environmental problems. This can be integrated horizontally or vertically, depending on the zone and location.

Green that was once a prominent element is slowly disappearing in our city. An idea of a green scraper was proposed to revive the lost appearance of the city which will not only give a reason to the people to visit the place but will also accommodate various functions and allow an inclusive growth of the community.

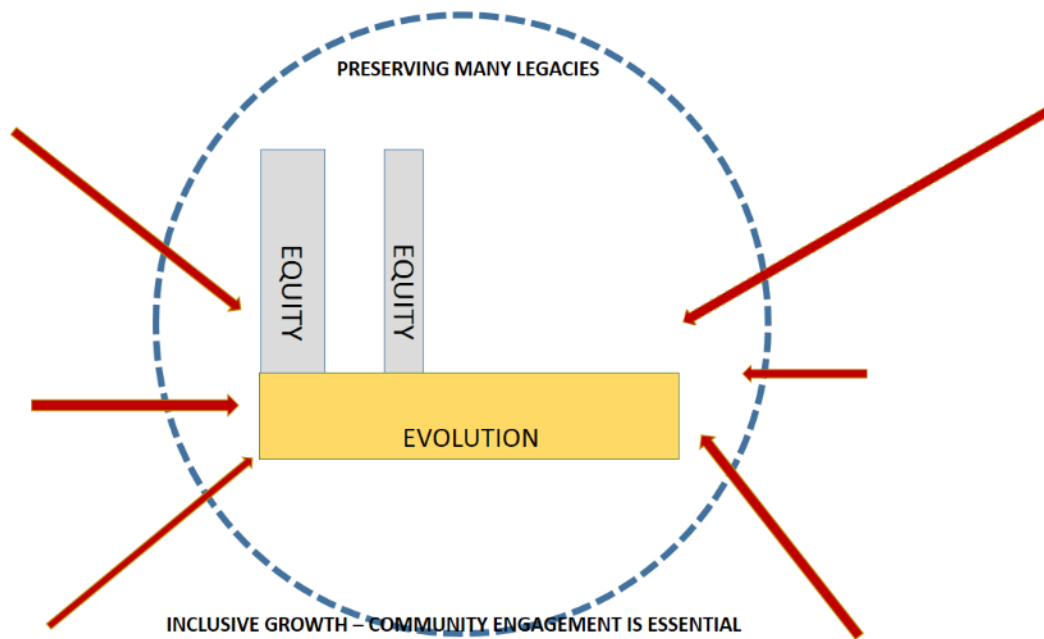
IDEA

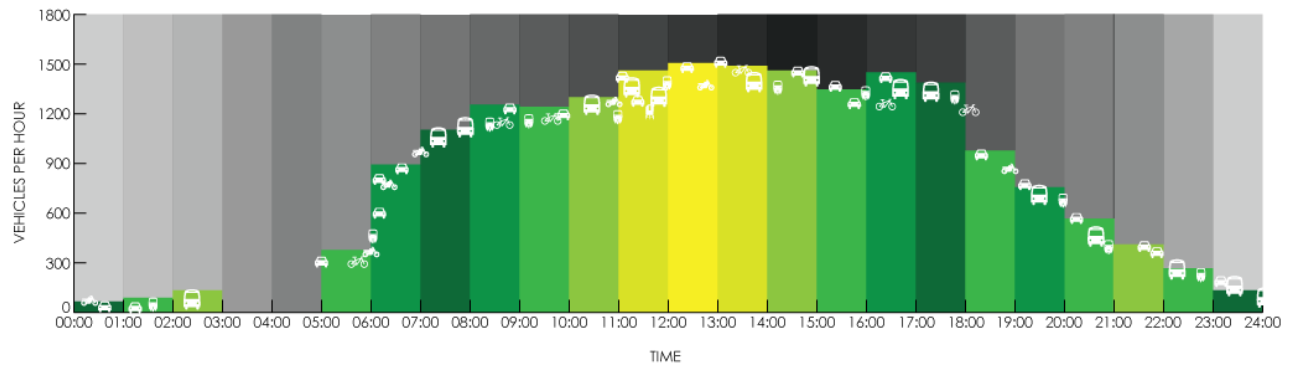


CLIENT:	 brac
TYPE:	MIXED USE
LOCATION:	TEJGAON, DHAKA
LATITUDE:	23.8
LONGITUDE:	90.4
AREA:	39981.11
	SFT + 104841.57 SFT =
	144822.68 SFT

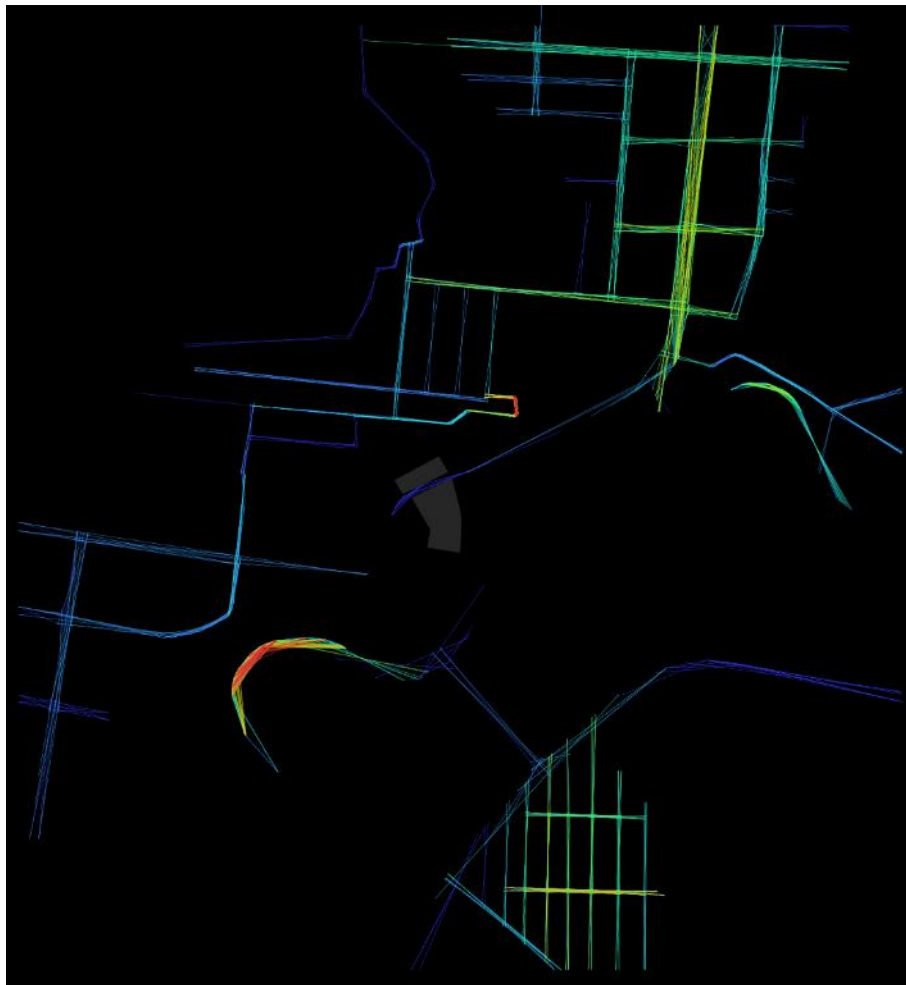
URBAN SCULPTURE
VERTICAL GROWTH
LANDMARK

CONCEPT: THE TOWERS REPRESENTS EQUITY IN COLLABORATION OF EQUITY ERECTED ON THE GROUND OF EVOLUTION PRESERVING THE LEGACIES WITH AN INCLUSIVE GROWTH OF THE COMMUNITY.





Graph above shows that there is a presence of vehicle almost all throughout the day.



Even though a flowing traffic is seen there, no distinct human activities are experienced in or around the site. It is neither dead nor alive.

A Conceptual Sketch of the form derived from an eaten leaf concept with the holes acting as large opening to the building and the leaf as a mesh that houses a bunch of custom chosen plants for bio filtration. It gives it its own identity within the collective visual language.

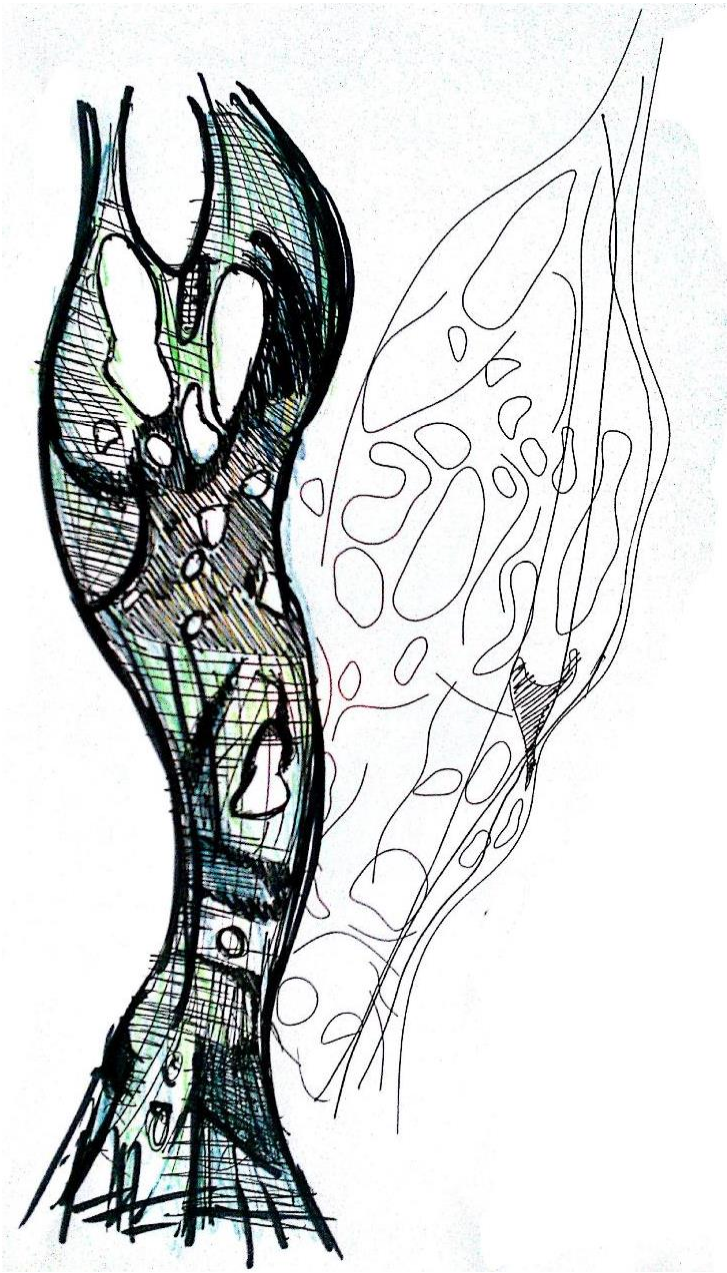


Fig: A Conceptual Sketch

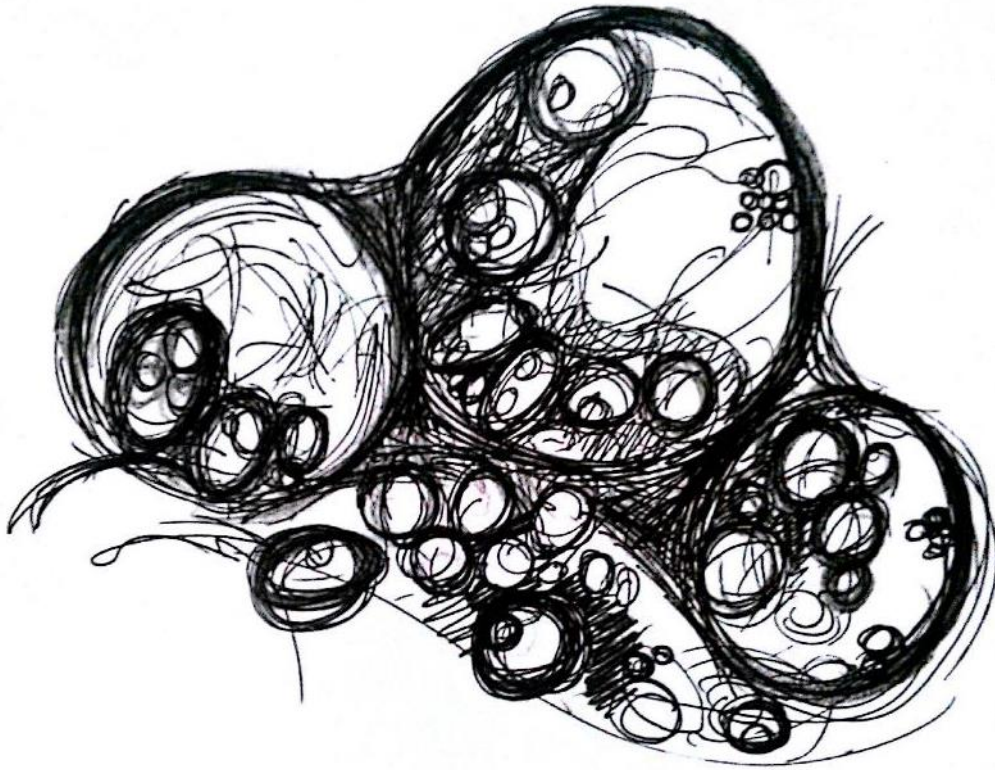


Fig: Conceptual sketch of the inner façade screen.

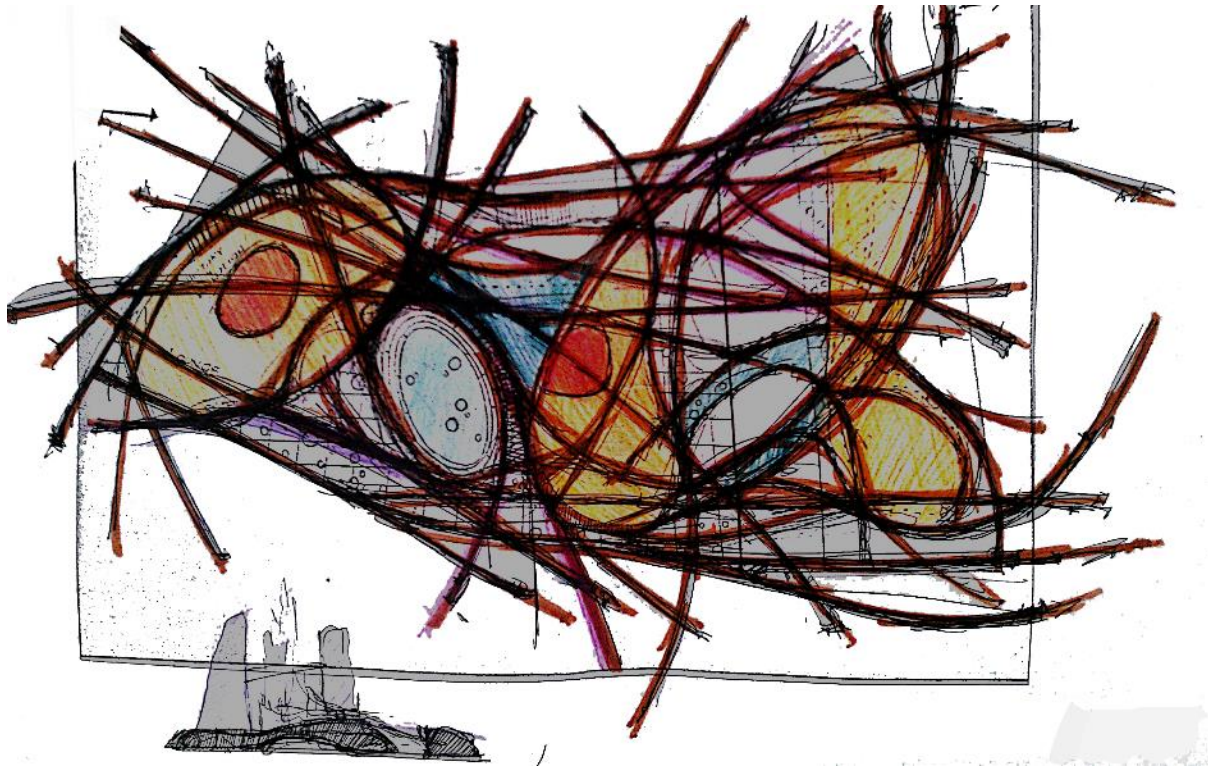
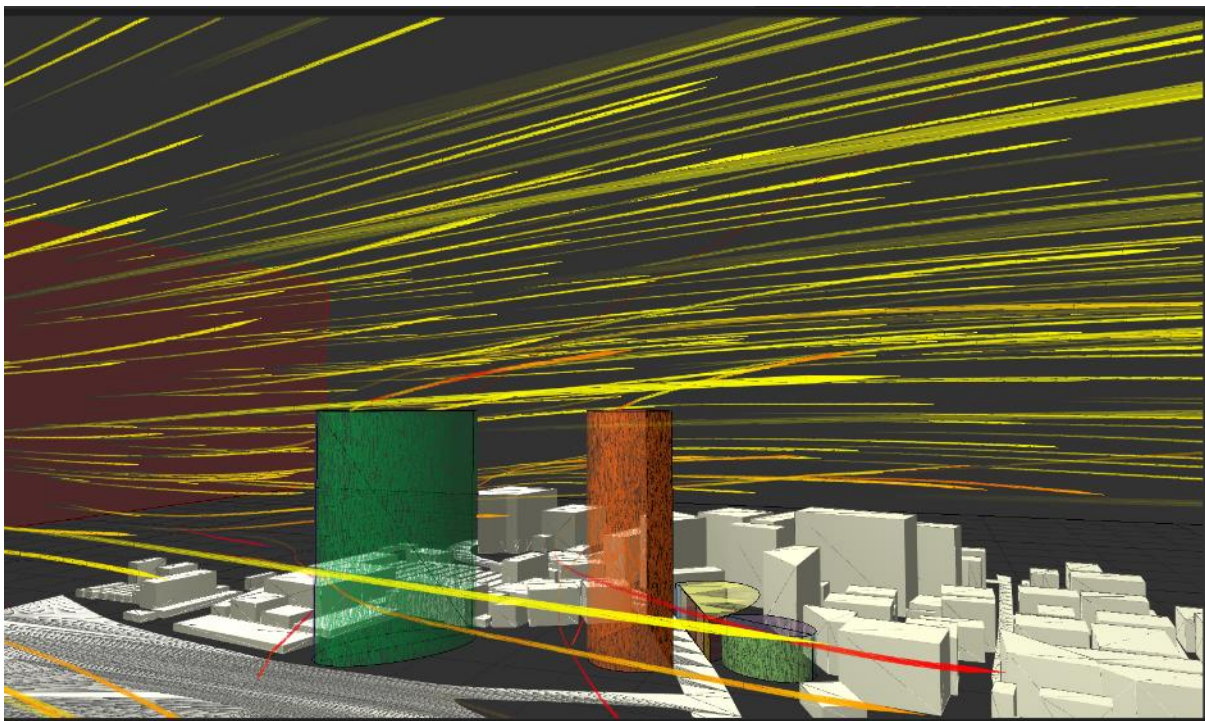
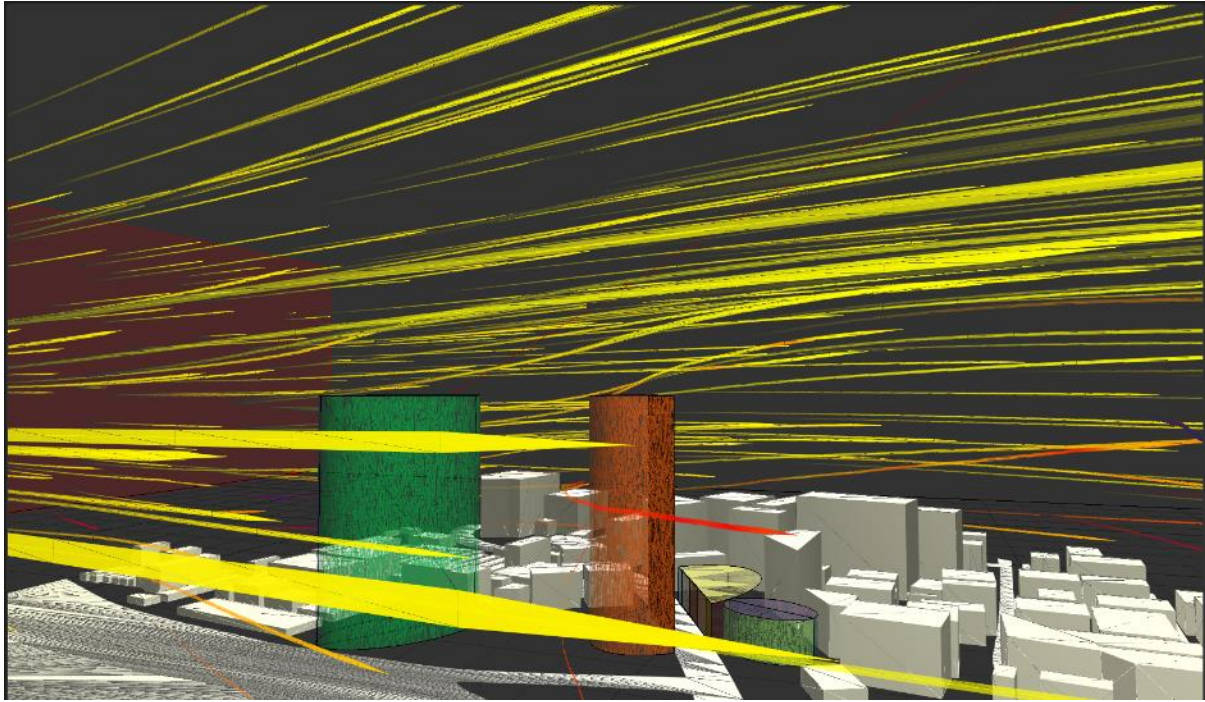
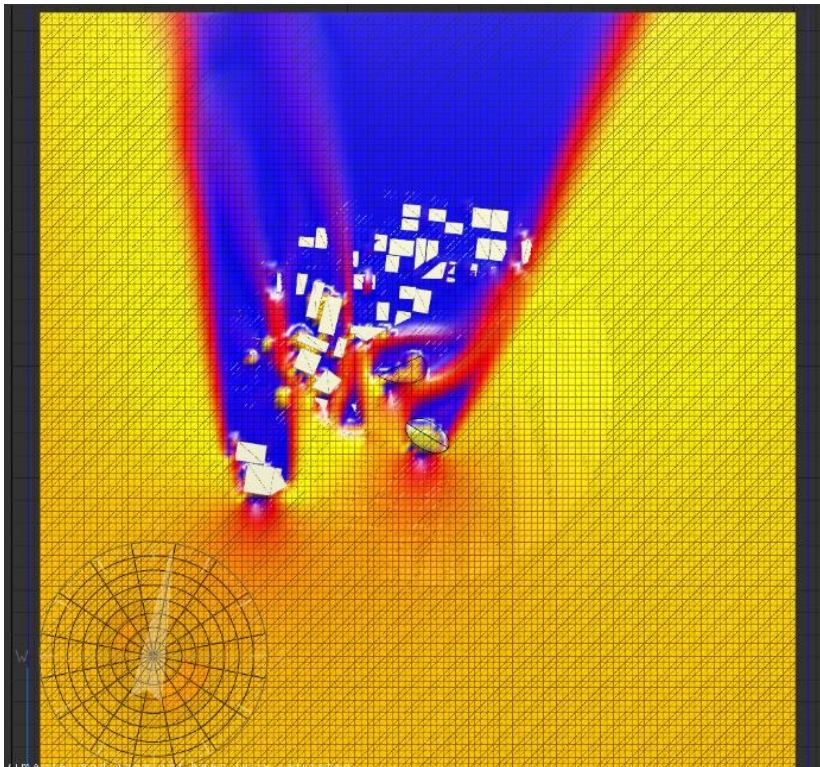
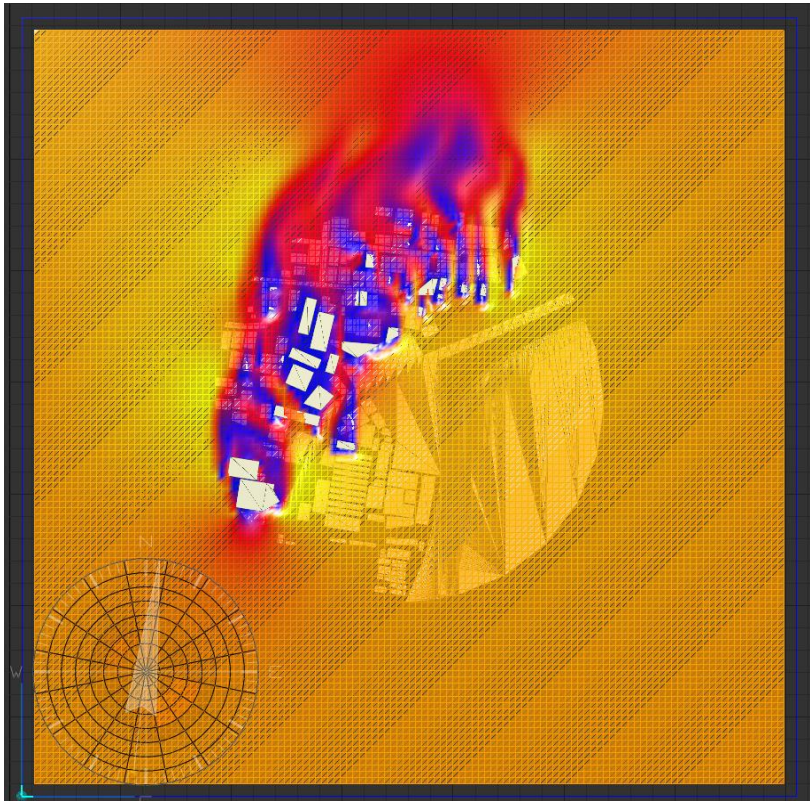


Fig: Site forces and programmatic position guides the shape of the form horizontally.

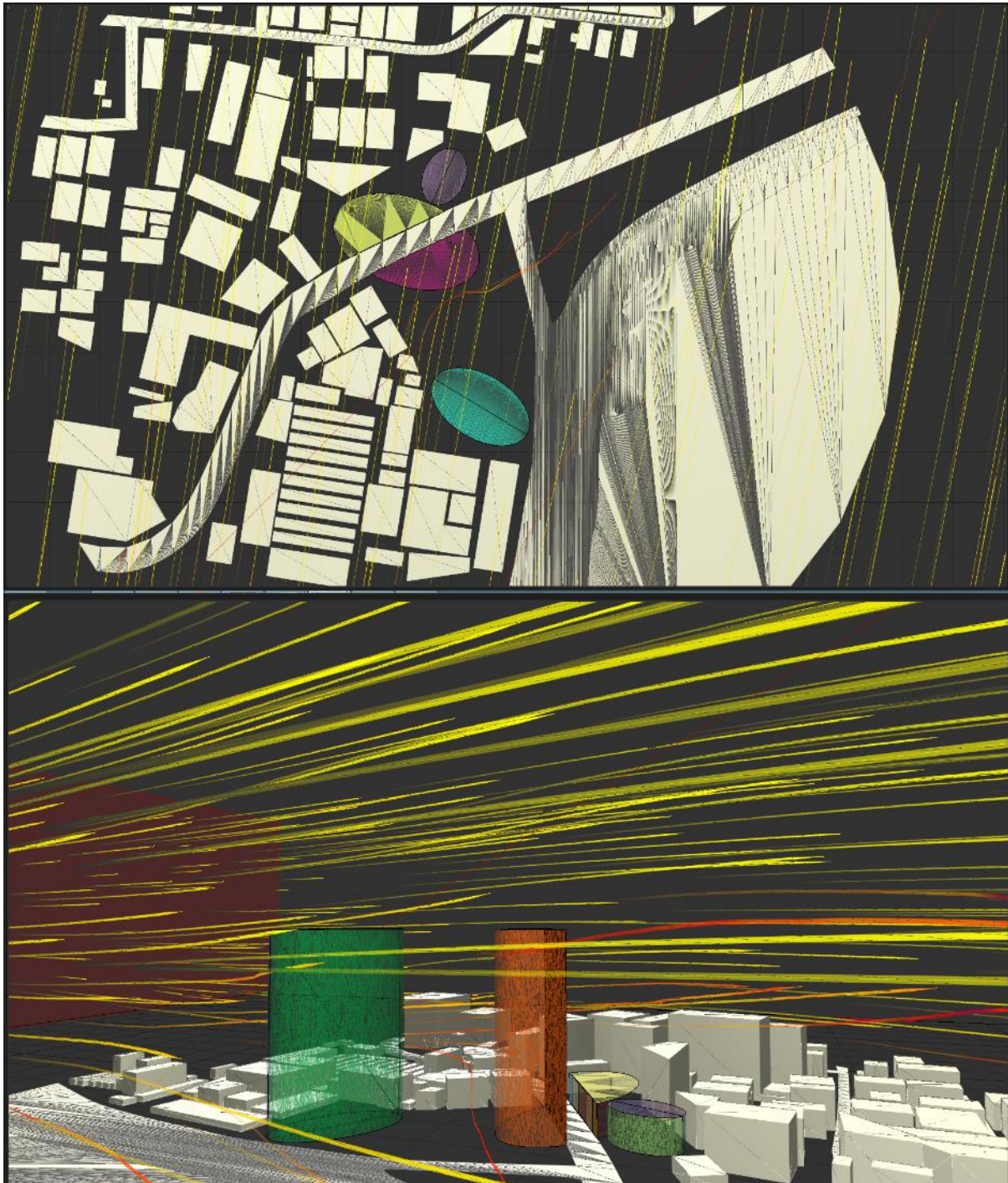
WIND ANALYSIS ON TWO BASIC FORMS TO DERIVE THE VERTICAL GROWTH.



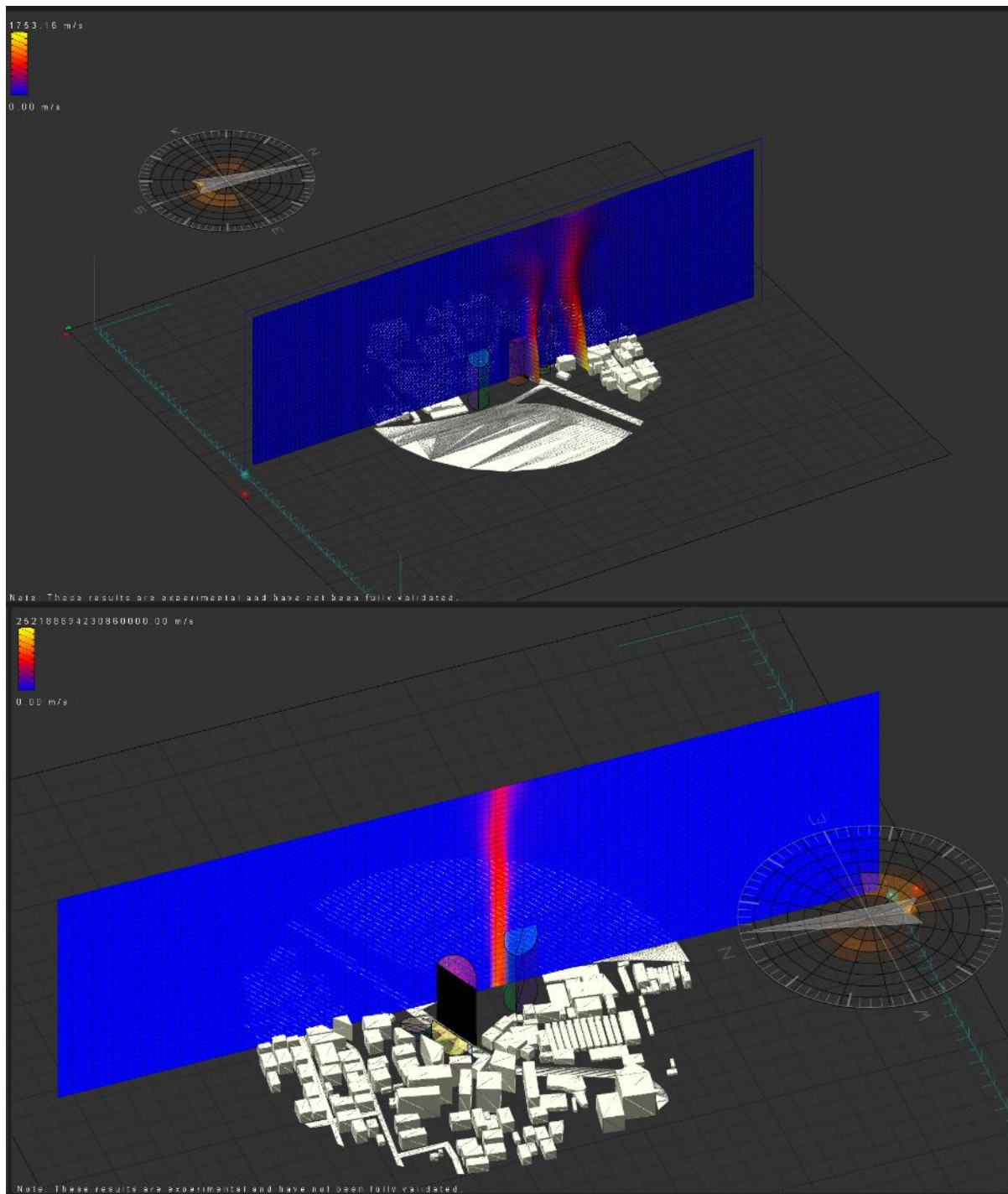
WIND FLOW LINES



WIND TUNNEL



WIND FLOW LINES



SECTIONAL WIND ANALYSIS

7.2 PHASE II: FENESTRATION AND STRUCTURE

A multilayer air purifying and technology is used where air passes through the different stages and eliminates particular moulds <powders, pounds, other pollutants and removes bad smell

The basic idea is to reduce the thermal exposure and as a consequence reduce the energy consumption for the air and as a result it looks differently and performs differently.

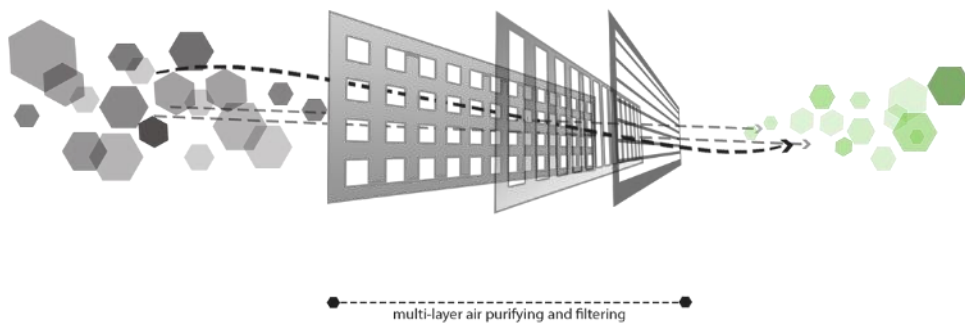
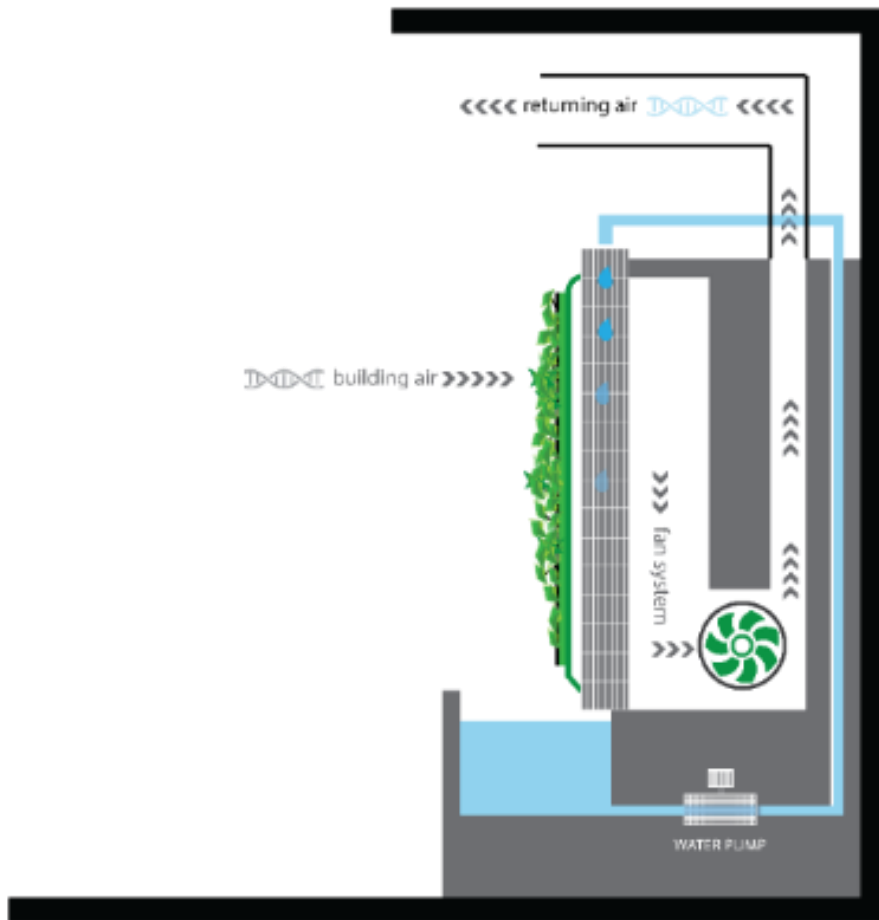
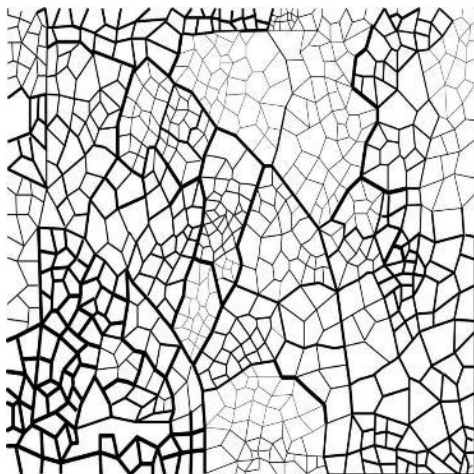


Fig: Mechanical purifying system

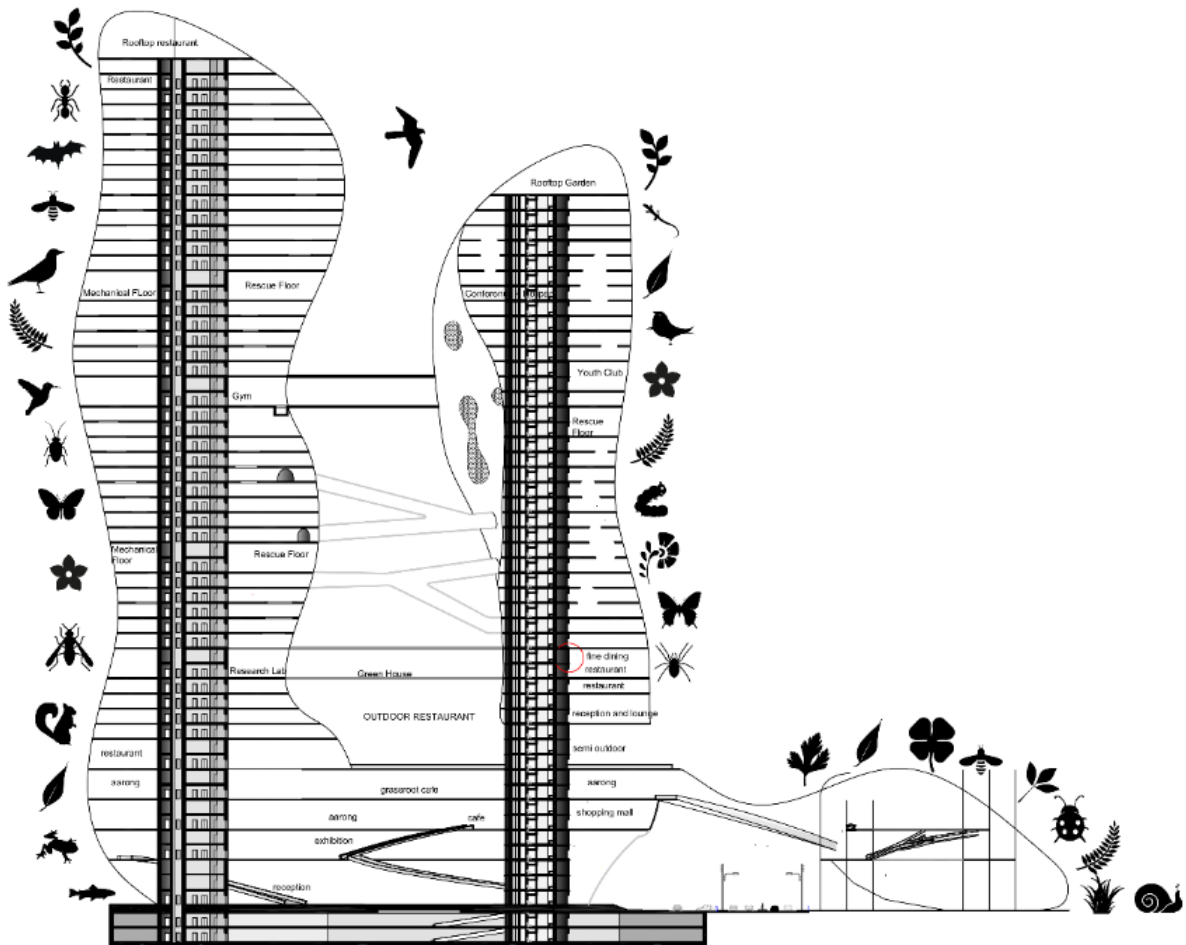
The Living Wall Concept



LIVING WALL CONCEPT



Façade



BIODIVERSITY is a new challenge in the field of architecture. Here are some of the plant, animals and other living things that are expected in this area or region that are essential to the health of our planet's ecosystem.



Fig: INNER SCREEN OF THE BUILDING

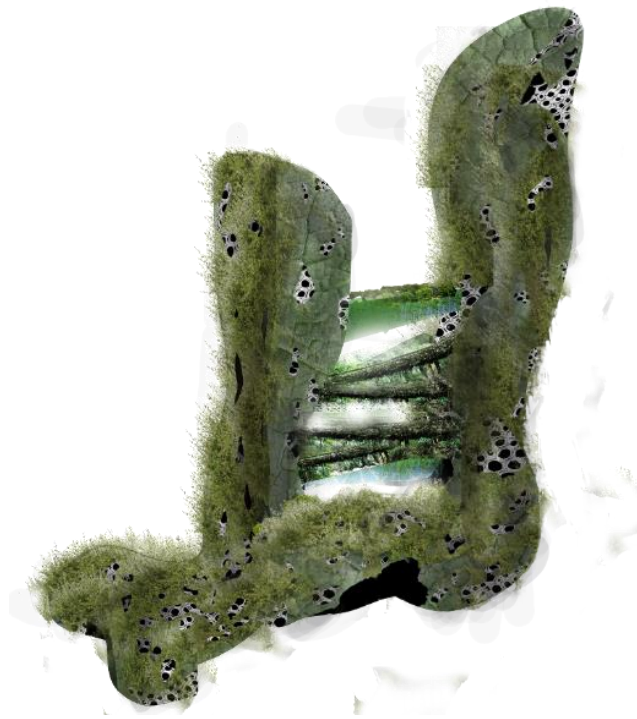
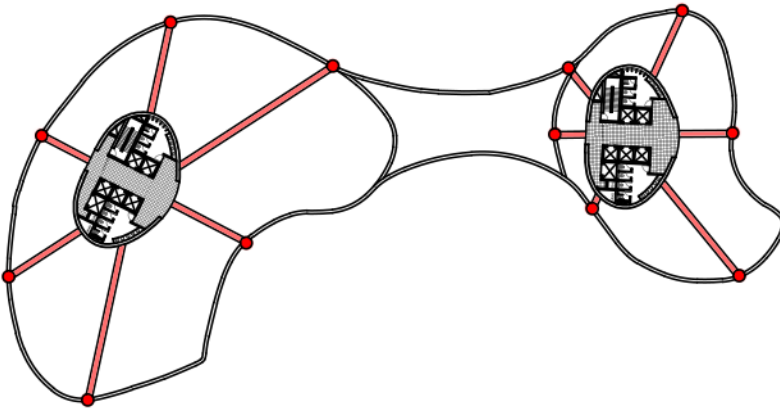
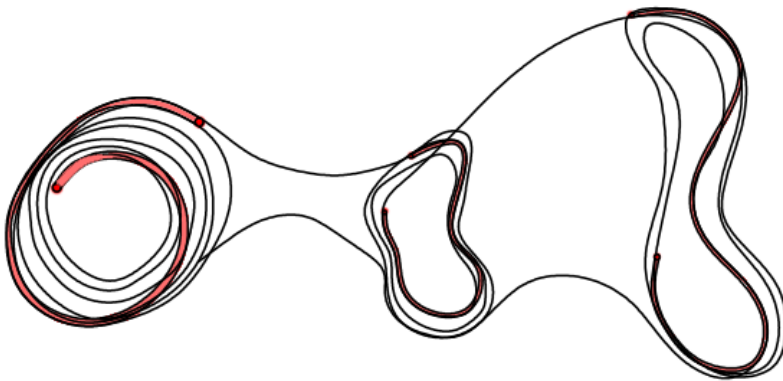


Fig: A CONCEPTUAL RENDER OF THE BUILDING

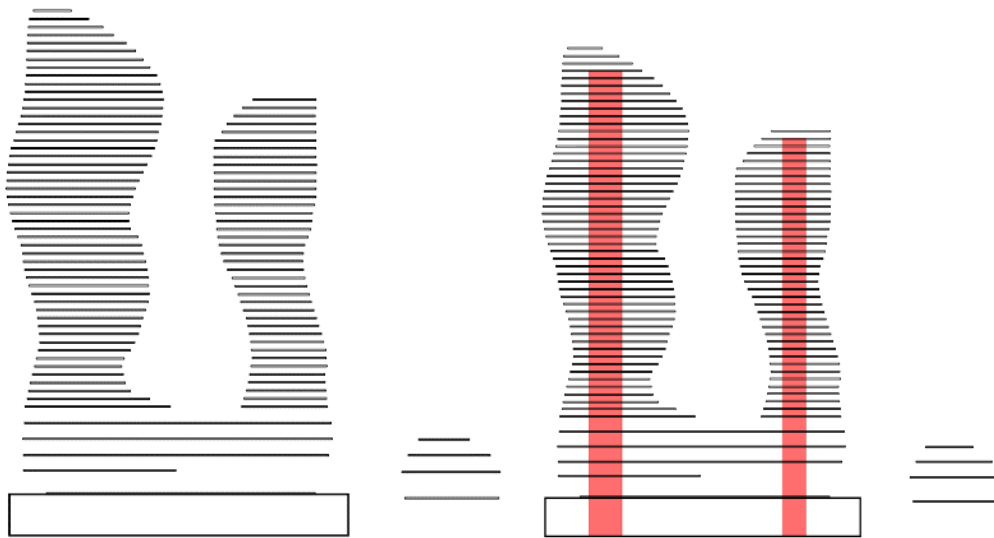
HYBRID STRUCTURE



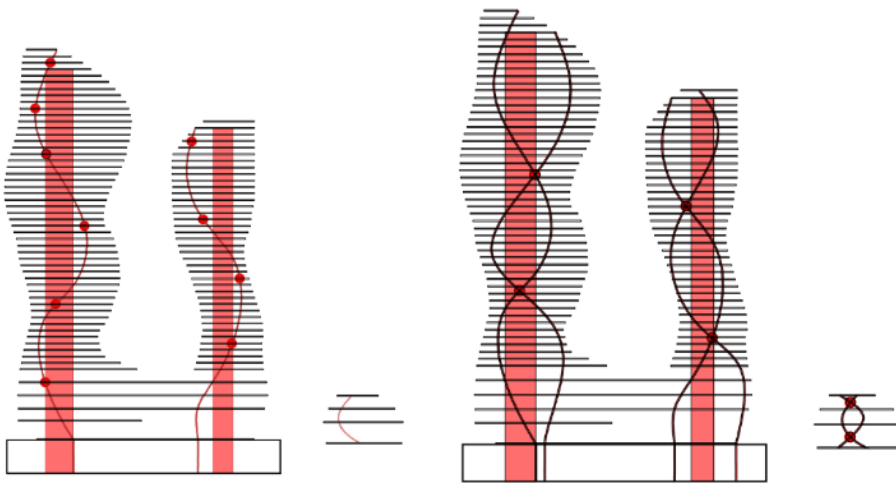
-THE HORIZONTAL BEAMS WHICH CONNECT EACH HELIX TO THE STRUCTURAL CORE FORM THE PRIMARY FLOOR STRUCTURE AT EACH LEVEL.



INTERSECT THE **HELICAL STRUCTURE** FOLLOWING AN **ELEPTICAL FOOTPRINT** WOULD BE THE MOST EFFICIENT WAY OF STRUCTURING THE BUILDING.



CONCRETE FLOOR SUB STRUCTURE

STRUCTURAL CONCRETE CORE- FLEXIBLE
BUILDING ENVELOPE

-PREFABRICATED STRUCTURAL HELICES ARE FIXED TO THE STRUCTURAL CORE WITH EACH FLOOR CONSTRUCTION

-STRUCTURAL HELICES ARE MECHANICALLY FIXED TO EACH OTHER AT THE POINTS OF INTERSECTION

-EXTERNAL SKELETON BECOMES WOVEN TOGETHER AND MORE STRUCTURAL CONNECTIONS ARE MADE TO THE CORE

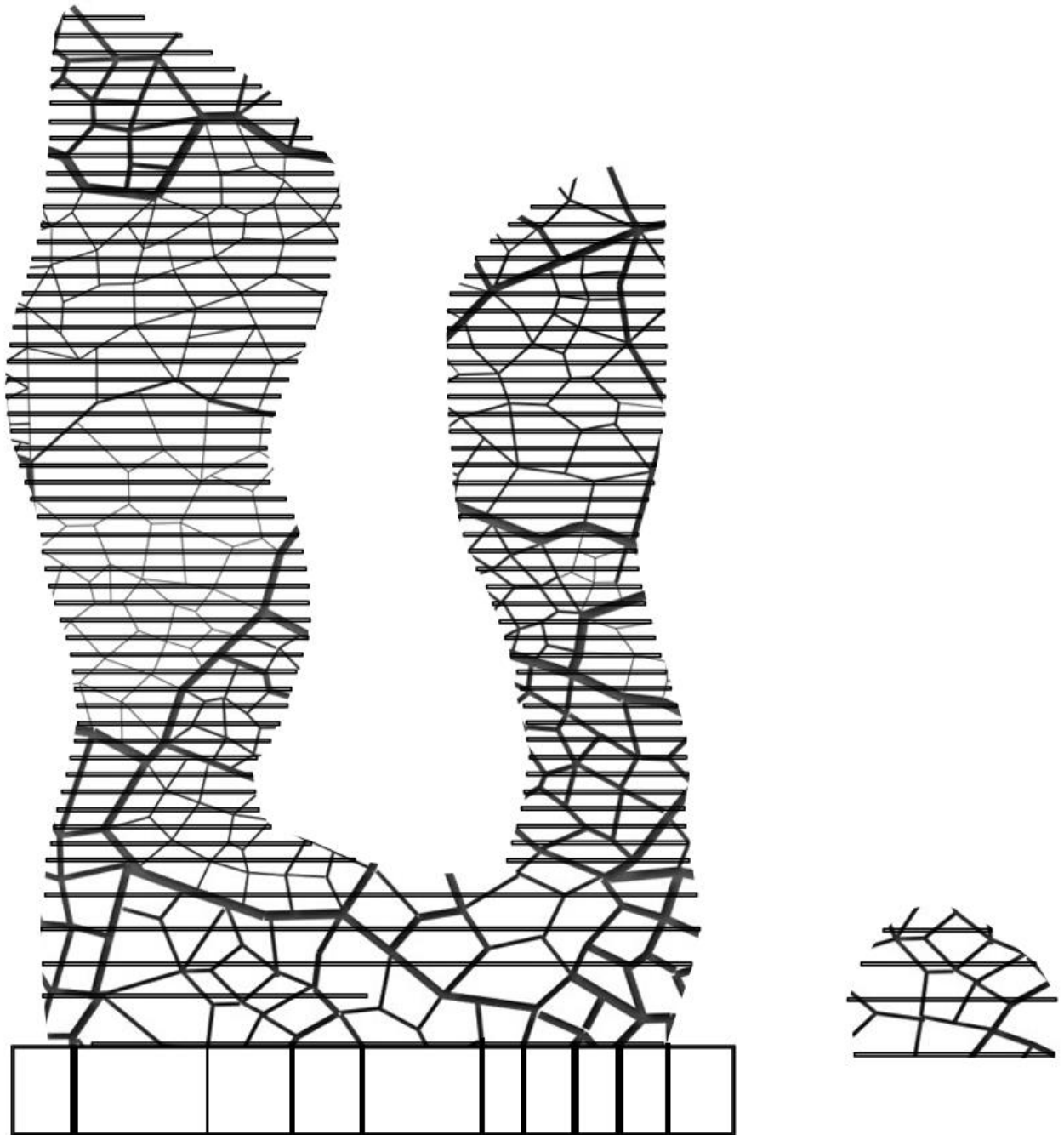
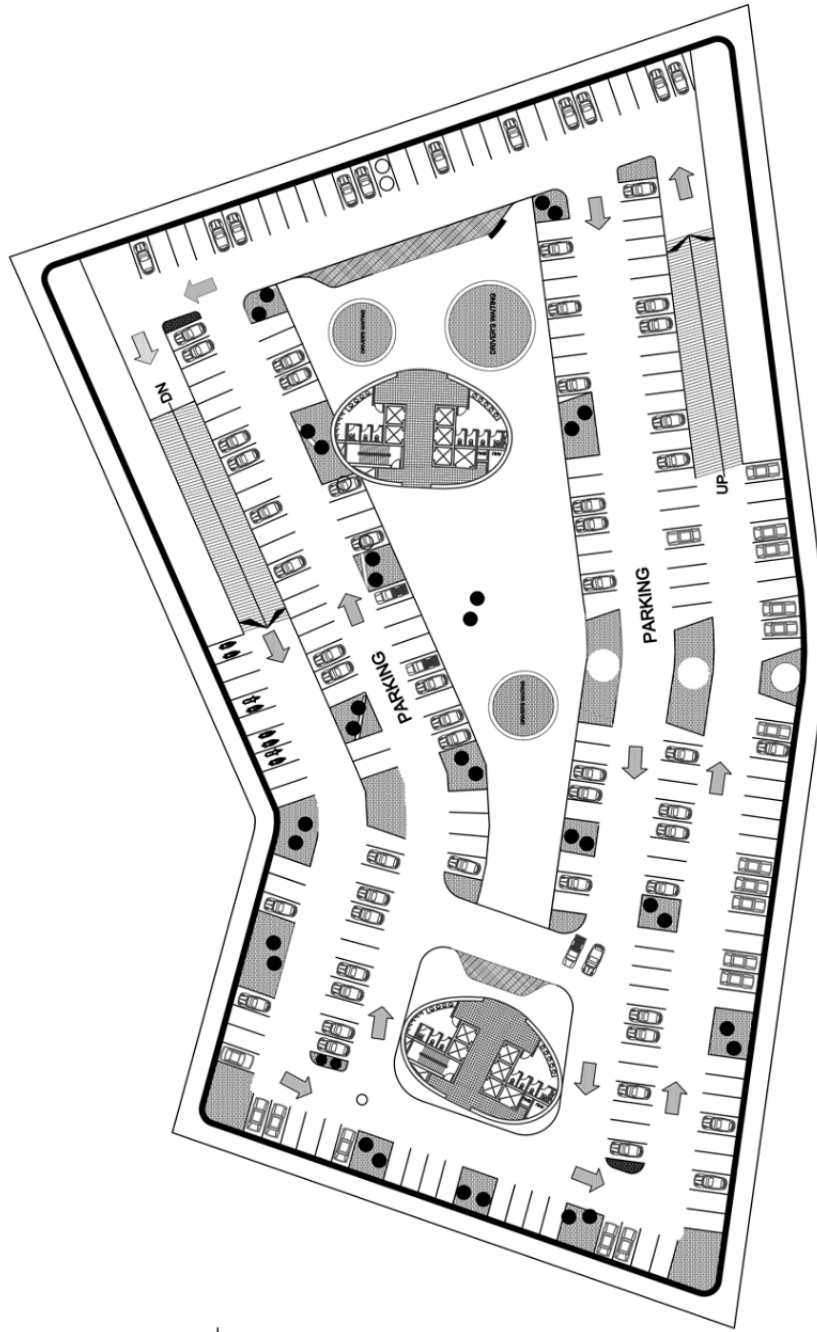


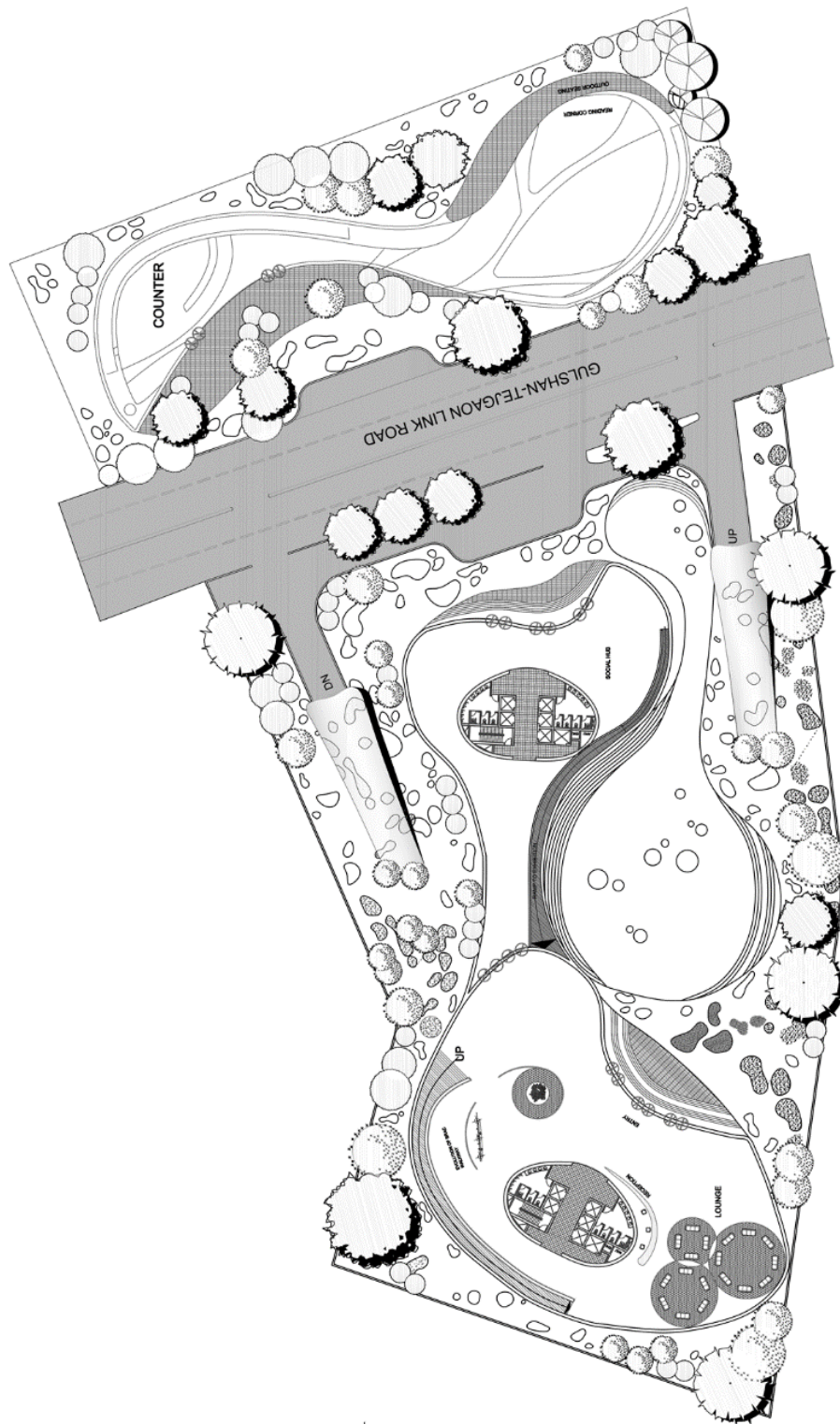
Fig: GREENSCRAPER

7.3 PHASE III: PLANS, SECTIONS AND ELEVATION

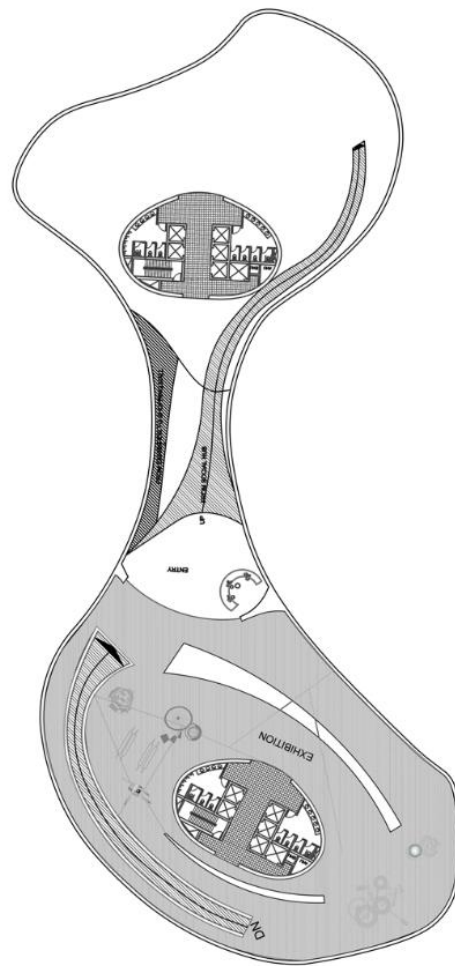
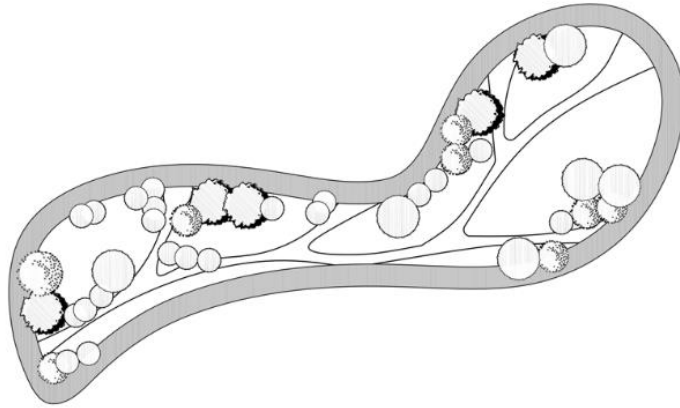


BASEMENT

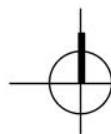
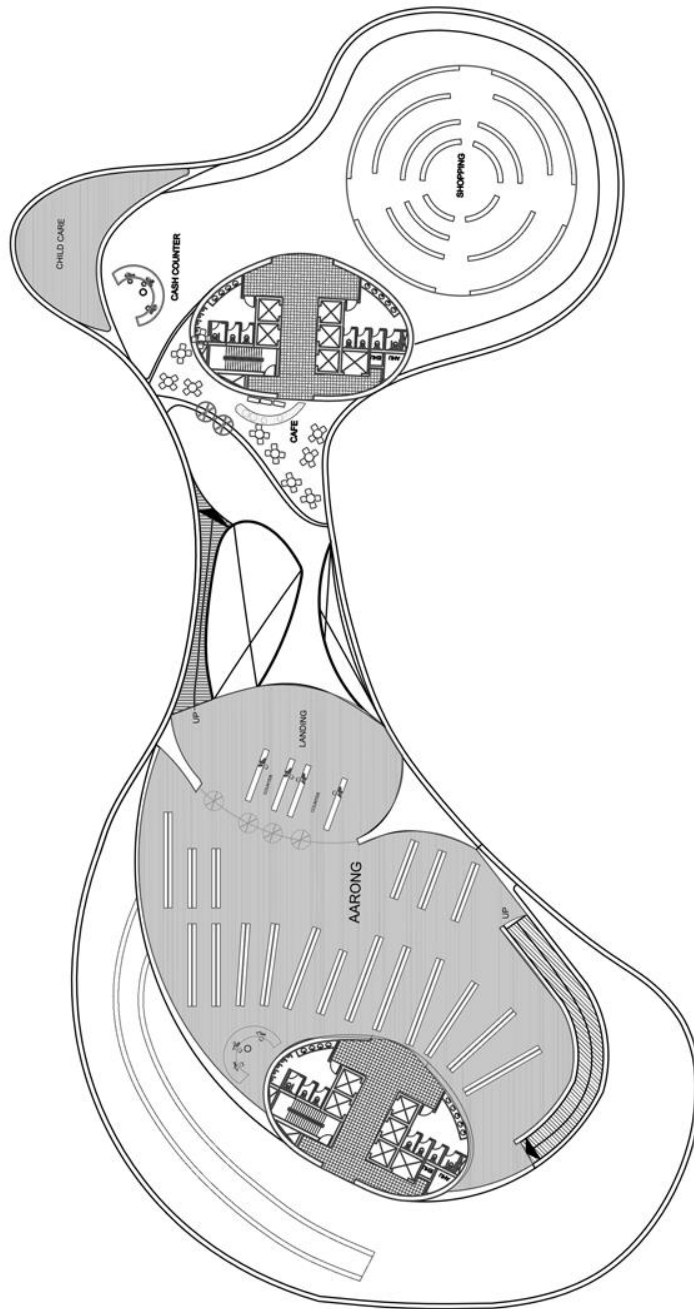
SCALE: $\frac{3}{64}'' = 1'-0''$



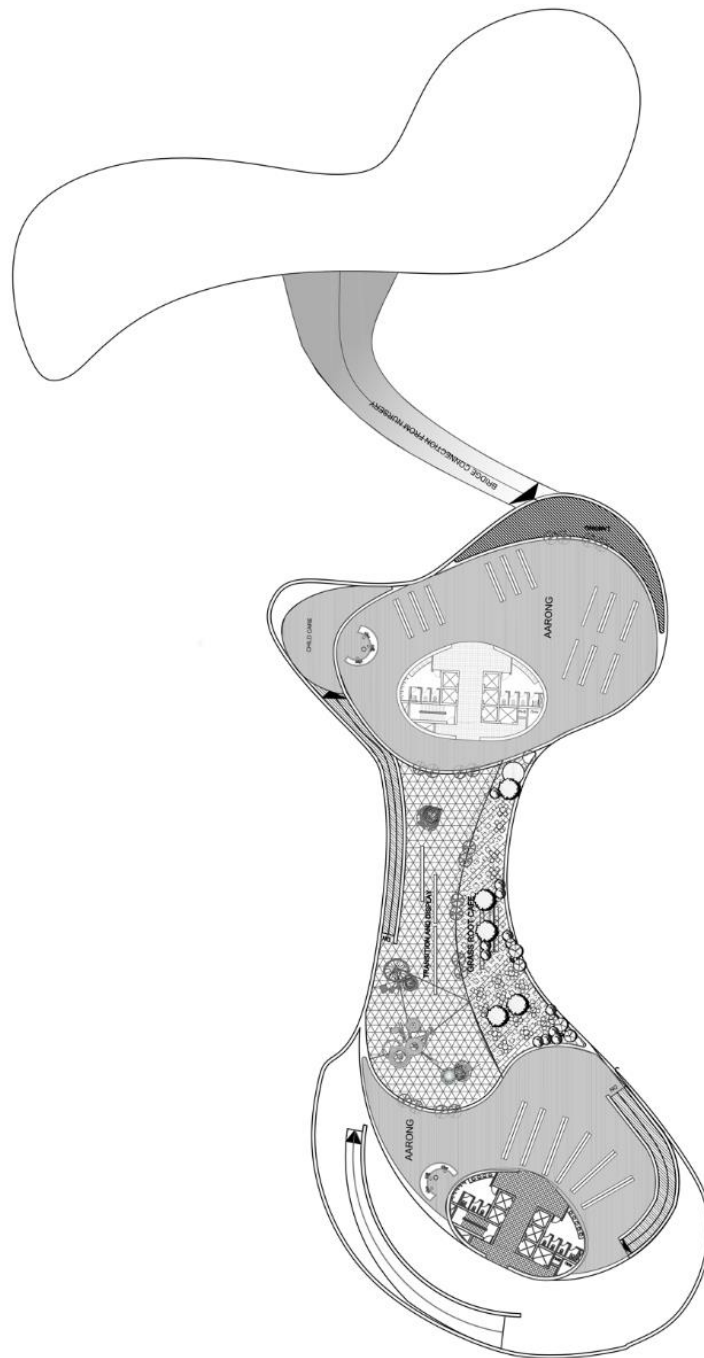
GROUND FLOOR PLAN
SCALE: 3/64" = 1'-0"



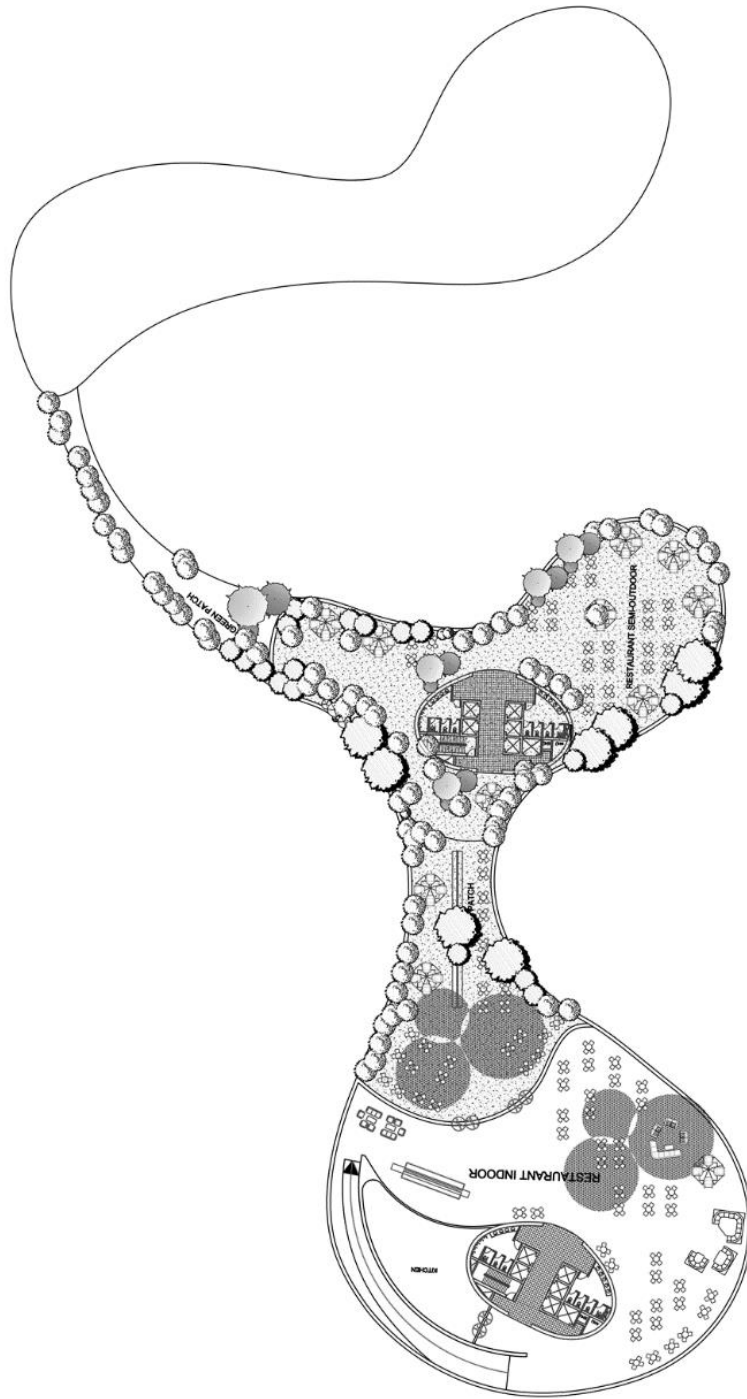
 EXHIBITION SPACE
BRAC NURSERY



AARONG SHOPPING & CHILD CARE



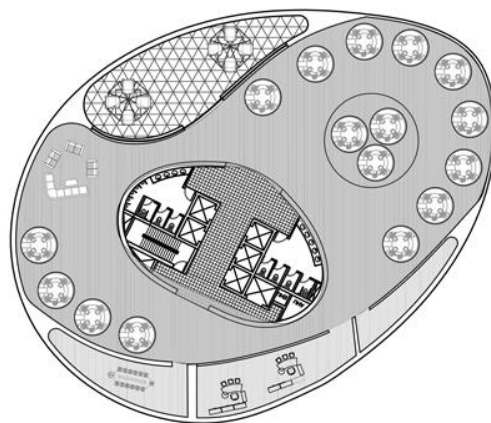
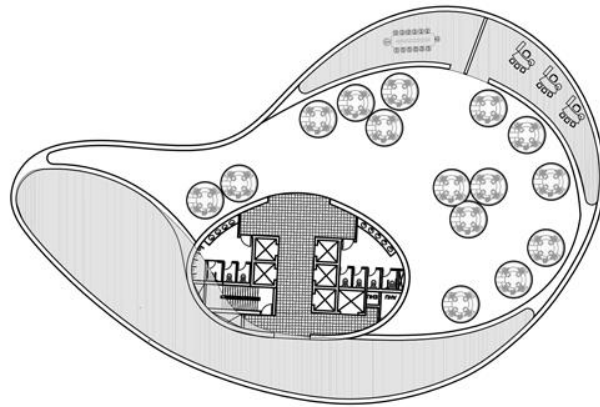
 **AARONG SHOPPING
GRASSROOT CAFE**



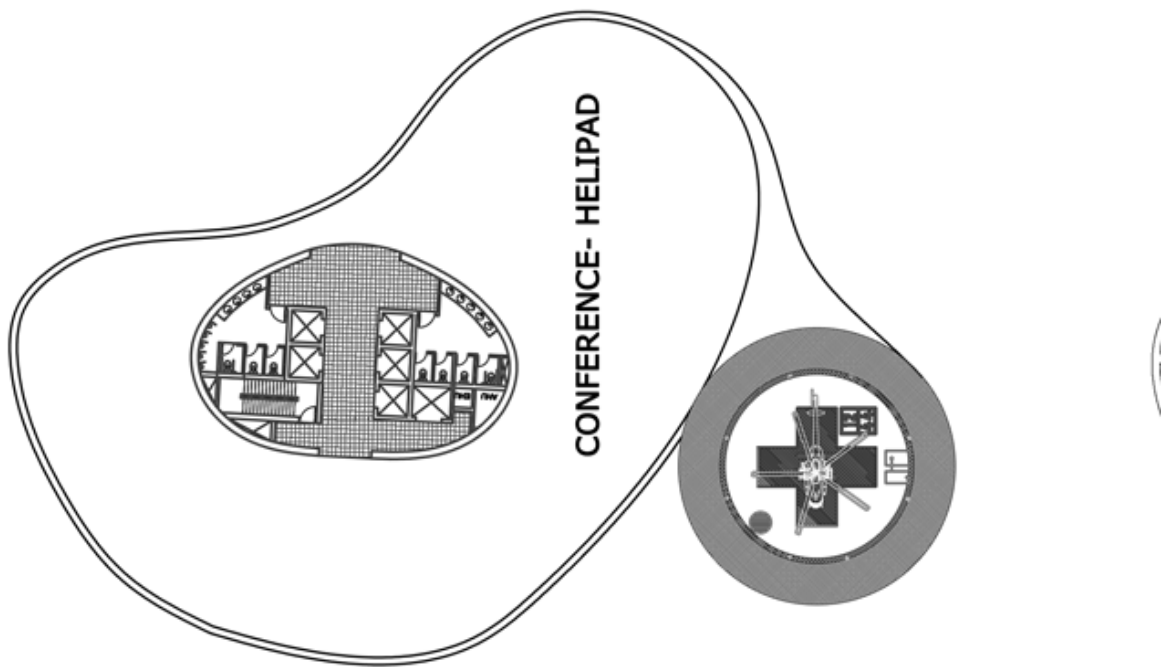
 RESTAURANT



 **BOTANICAL RESEARCH LAB**
GREEN HOUSE
FINE DINING RESTAURANT

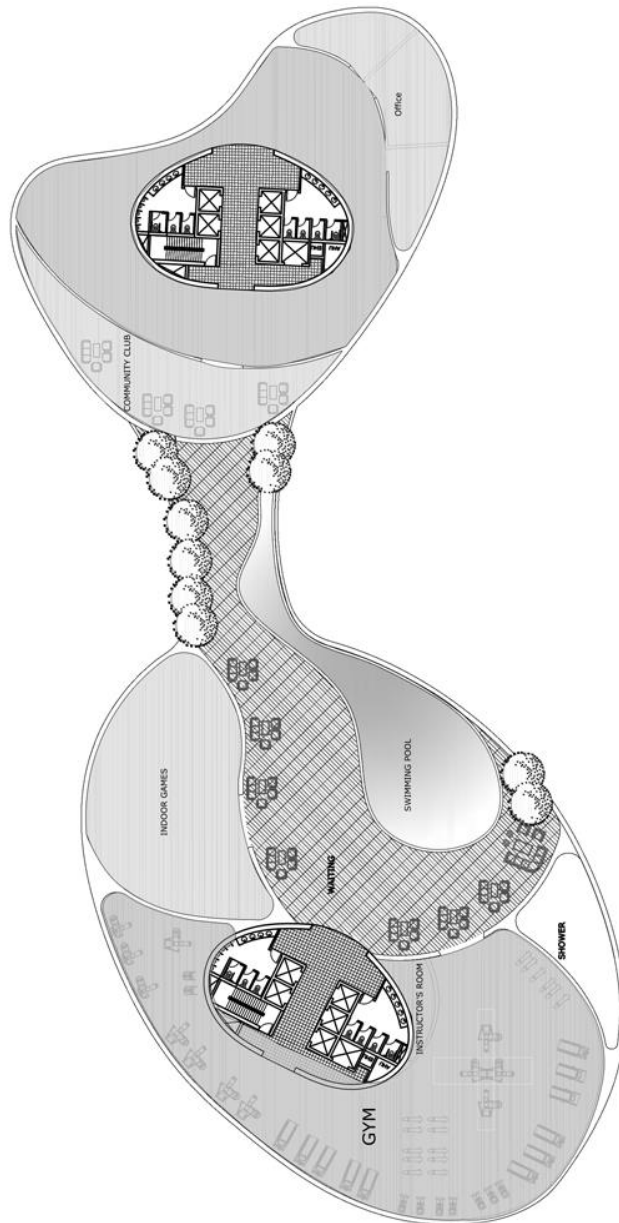


 TYPICAL OFFICE

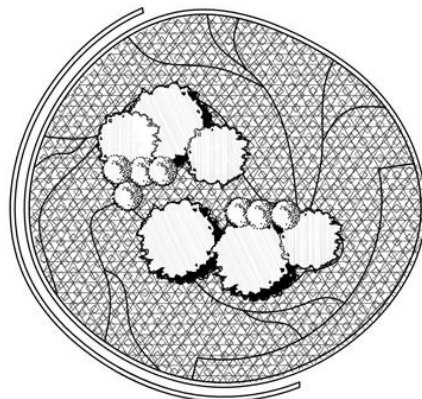



CONFERENCE-HELIPAD

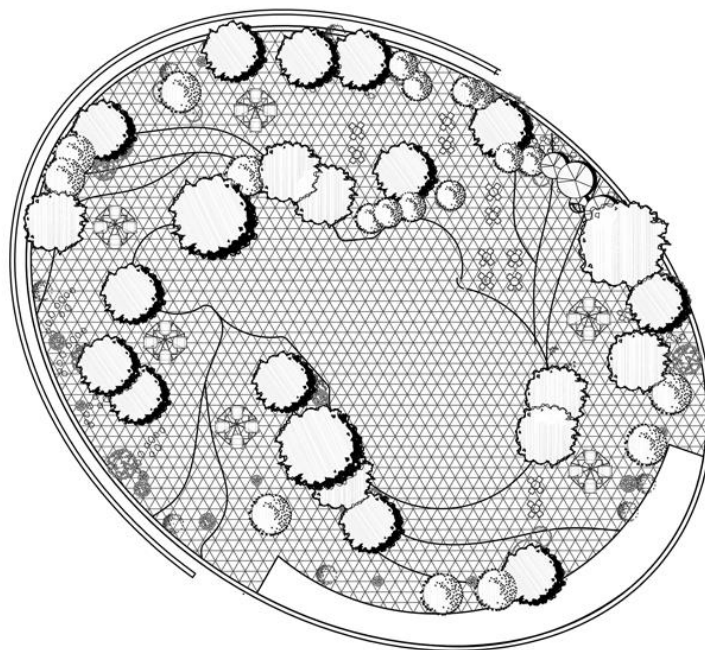
SCALE: $\frac{3}{64}'' = 1'-0''$



GYMNASIUM COMMUNITY CLUB

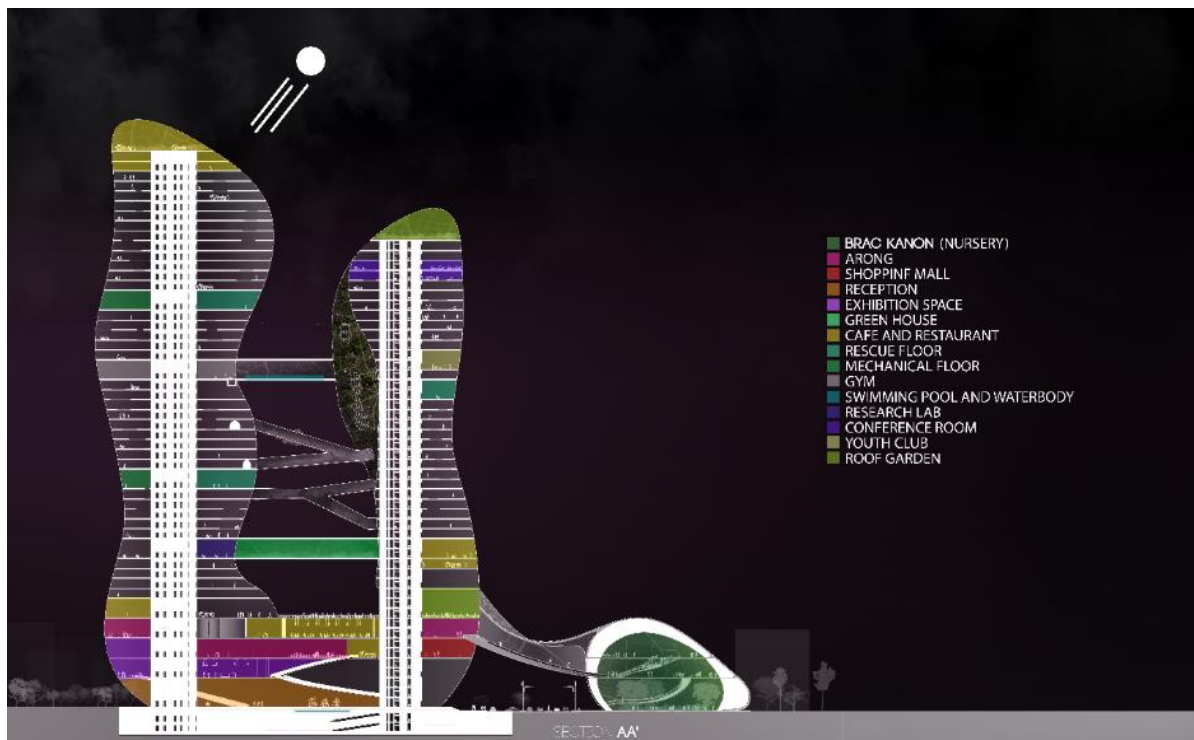


 **ROOF GARDEN**
SCALE: $\frac{3}{64}$ " = 1'-0"



 **ROOFTOP RESTAURANT**

DIAGRAMATIC SECTION





FAÇADE STRATEGY

EAST-SUNRISE TO AFTERNOON>> DIRECT SUNBLOCK BEFORE NOON

WEST- INDIRECT ILLUMINATION

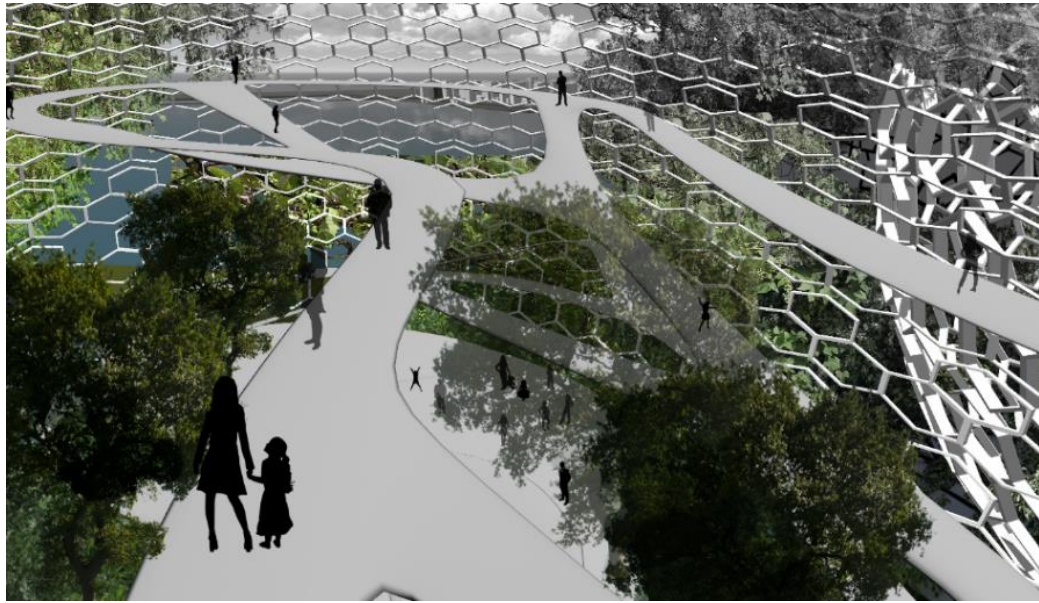
DIRECT SUNBLOCK AFTER NOON

SOUTH- FRESH AIR INTAKE>> WIND CATCHERS

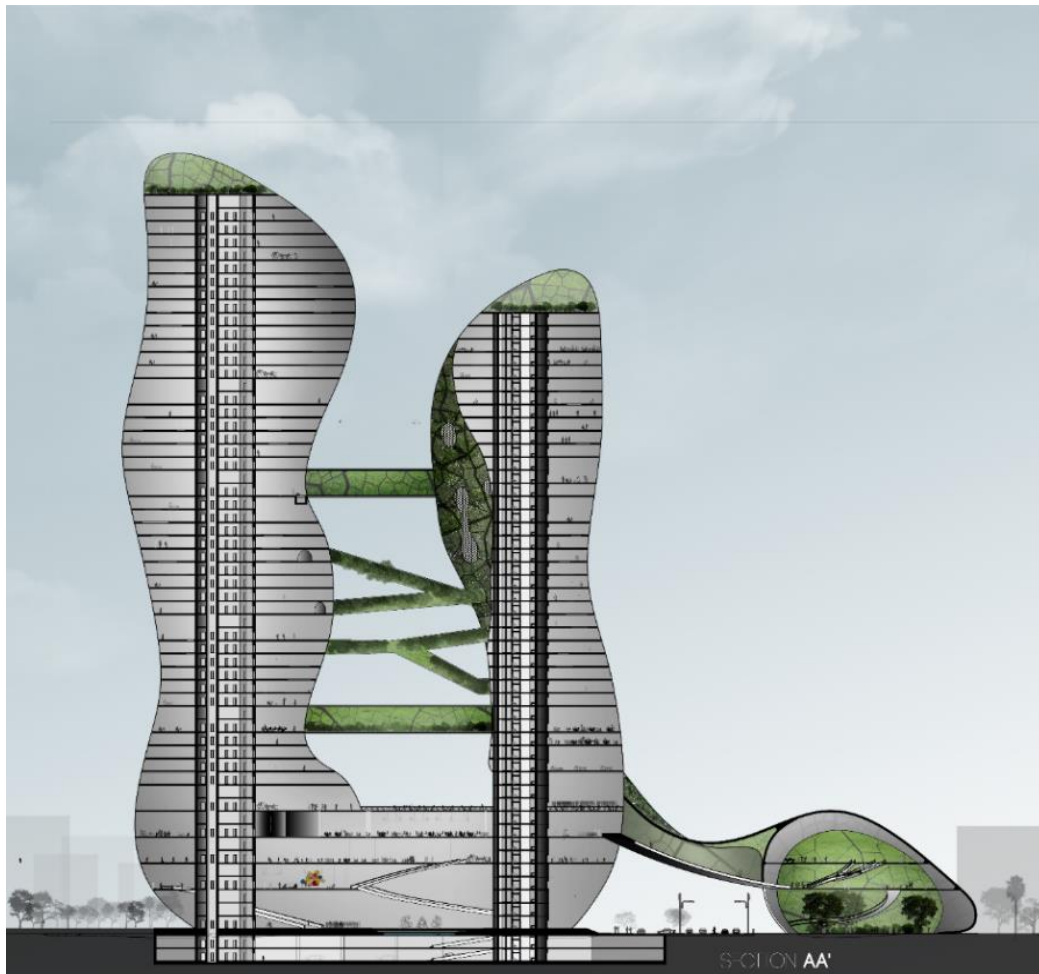
NORTH-MINIMIZE HEATING LOAD

TRIPLE SCREEN

MESH+GREEN WALL + CLEAR GLASS = GREENSCRAPER

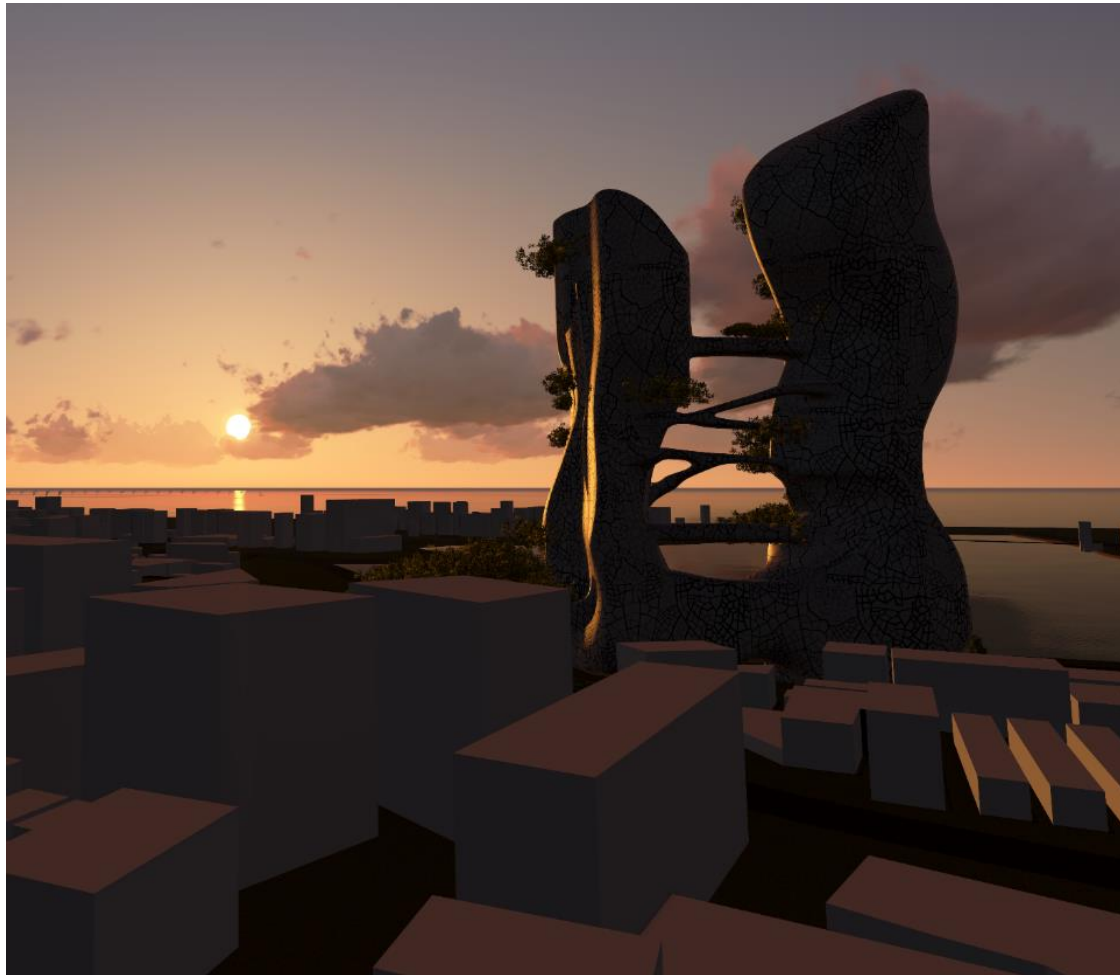


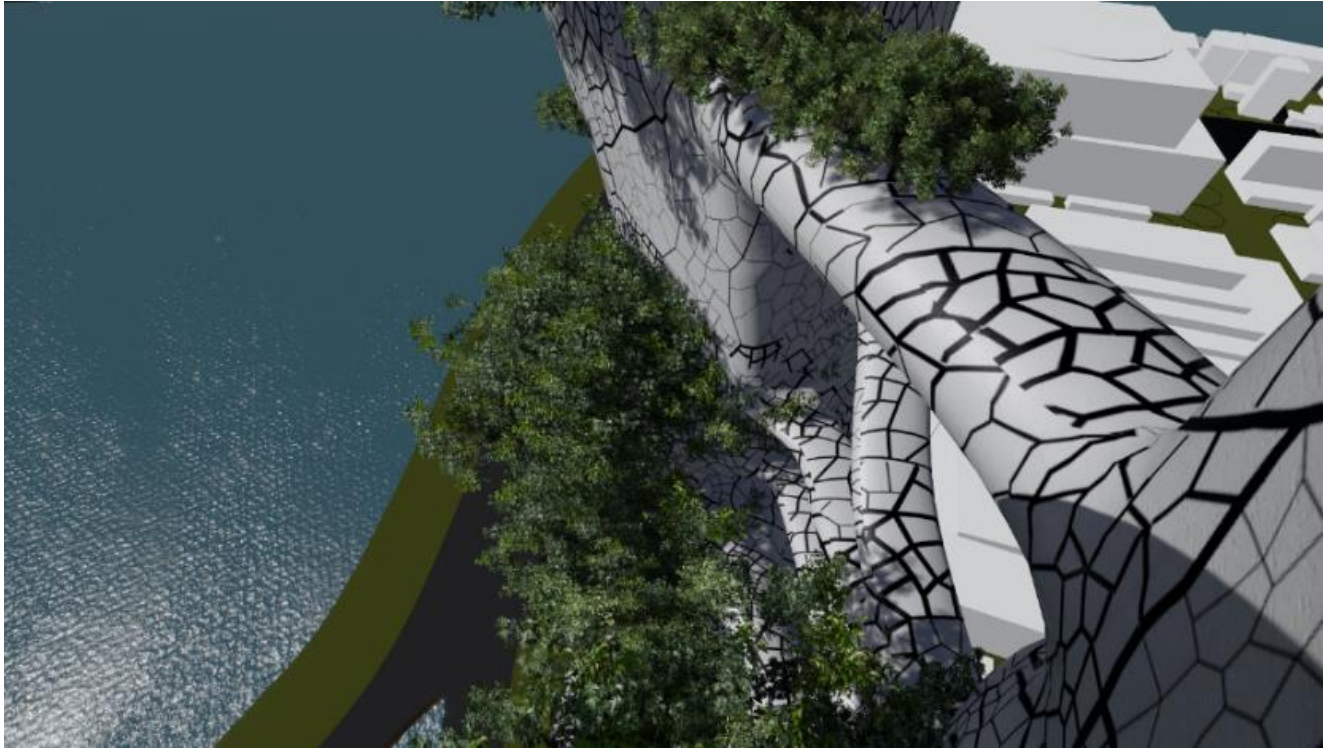
NURSERY PERSPECTIVE



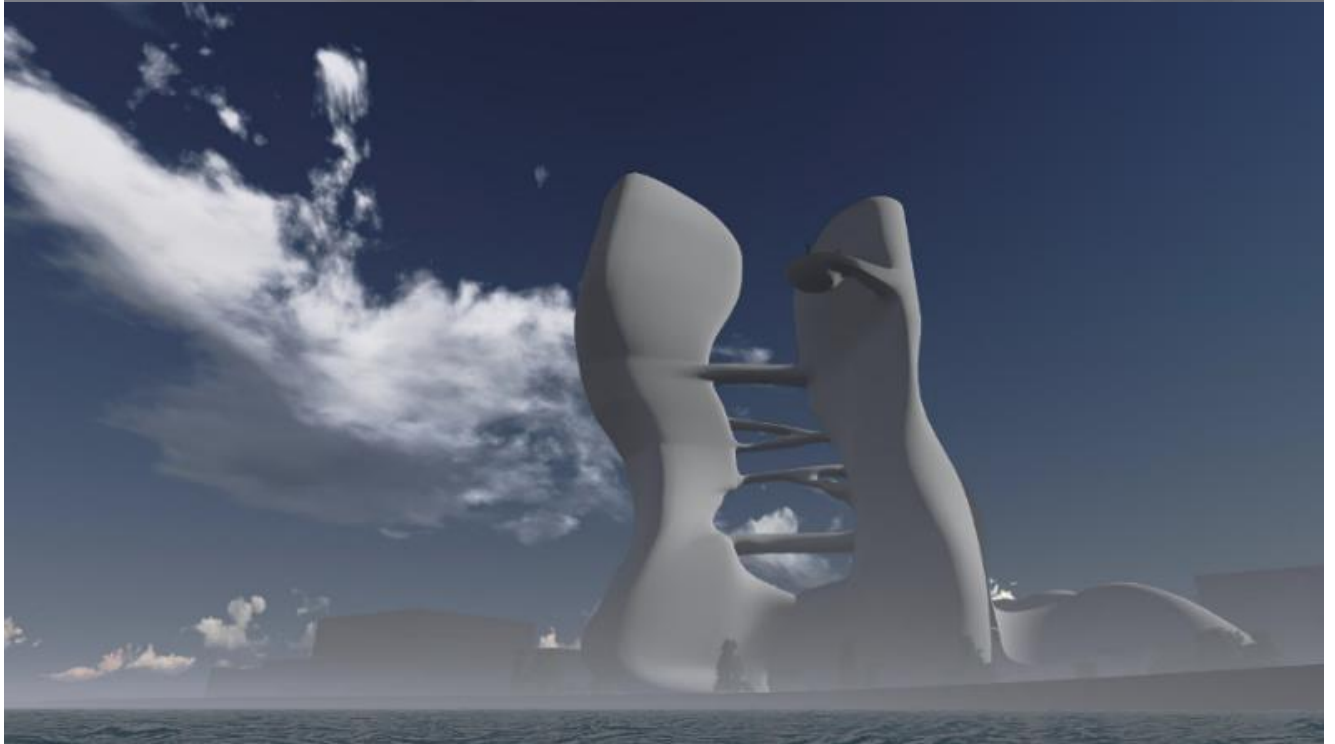
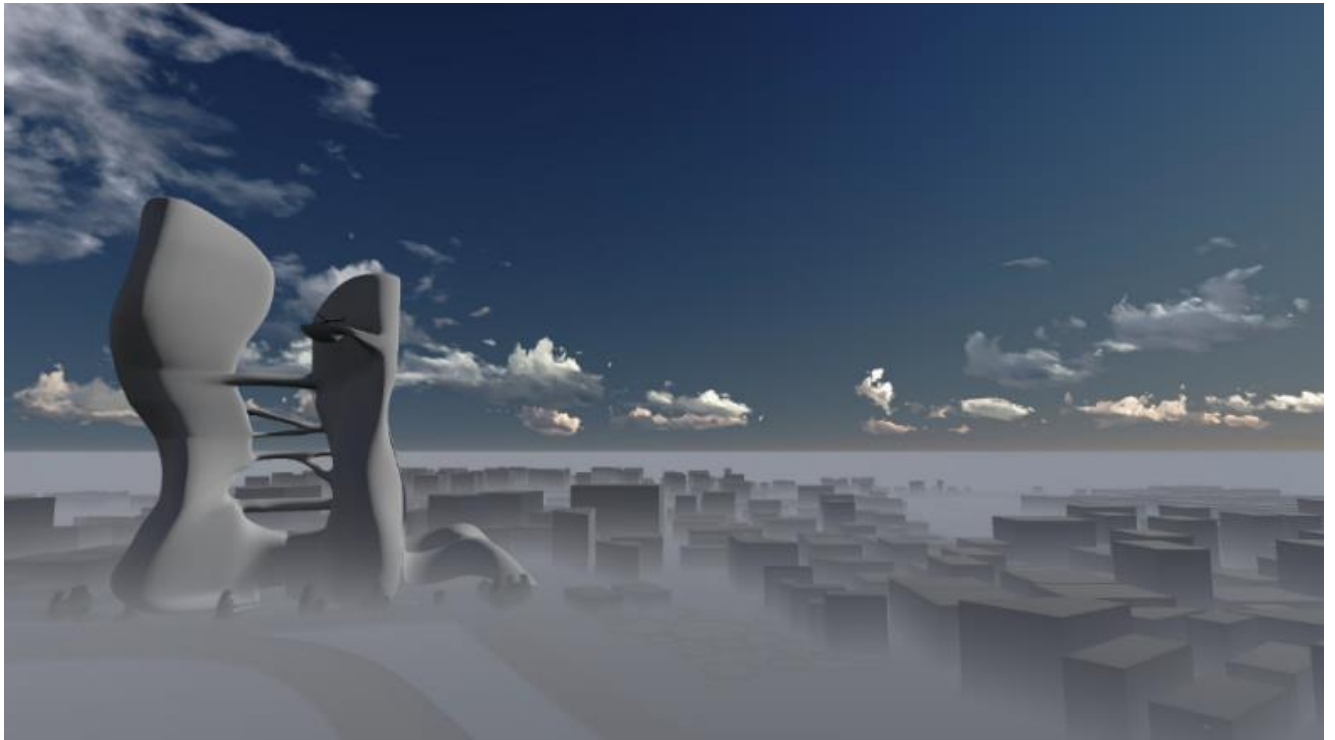
SECTION AA'

PERSPECTIVES









CONCLUSION

BRAC was formed in 1972, right after the independence of Bangladesh, by Sir Fazle Hasan Abed, in an effort to rehabilitate the Bangladeshi war refugees coming from India. Policies were developed towards helping the poor to develop their capacity to better manage their lives.

BRAC's primary objectives emerged as alleviation of poverty and empowerment of the poor. In the span of only four decades, BRAC grew to become the largest development organization in the world in terms of the scale and diversity of its interventions.

BRAC is present in all 64 districts of Bangladesh as well as in Afghanistan, Pakistan, Sri Lanka, Uganda, Tanzania, South Sudan, Sierra Leone, Liberia, Haiti and The Philippines as of 2012. It maintains offices in 14 countries throughout the world, including BRAC USA and BRAC UK.

Around 80% of its \$485 million budget is self-funded through a number of commercial enterprises including a dairy and food project and a chain of retail handicraft stores called Aarong.

BRAC has organized the isolated poor and learned to understand their needs by finding practical ways to increase their access to resources, support their entrepreneurship and empower them to become agents of change. It reaches more than 110 million people with its holistic, sustainable approach to poverty reduction.

In 1972, BRAC began as the Bangladesh Rehabilitation Assistance Committee. It renamed itself as the Bangladesh Rural Advancement Committee a year later. Today, BRAC has crossed the geographical boundary of Bangladesh to become the world's largest development organization. BRAC is no longer an acronym; it has become a synonym for progress.

They apply unique methods to pull people out of poverty and finds practical ways in solving their problems. Unity and togetherness seems to be their motto. A list of functions were provided in the towers that combine a progressive design and a biologically inspired form to match the modern image of BRAC. The challenge was to provide and test ideas for a vertically organized architectural system that are geometrically associated to suit a variety of potential programmatic requirements and site conditions

Through the sets of cores, exoskeletons and cellular façade, the tower becomes highly flexible and capable to house a multilayered program with the possibilities to open plan arrangements as well as that of cellular spatial arrangements.

It not only gives a reason to the people to involve themselves to the building but also accommodates culture to it and reminds us of who we are, as well as giving life to the place and making it rich with experiences and surprises.

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