





LIU SHIYU  
**portfolio.**

selected  
works

2023



# LIU SHIYU



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# CURRICULUM VITAE

## EDUCATION

Sep.2022-Sep.2023

University College London, UK

- MArch Architecture Design
- Research Cluster 5: Product Architecture

Sep.2017-Jun.2022

Beijing Jiaotong University, China

- Bachelor of Architecture, GPA: 3.54 / 4.00
- Bachelor of Law, GPA: 2.96 / 4.00 (Minor/Double Degree)
- Scholarship:
  - Third Prize Academic Scholarship (twice, 2018 & 2019)
  - Sports Activities Scholarship (twice, 2018 & 2019)

## EXPERIENCE

Jul.2022-Sep.2022

Internship Experience : AECOM, Shenzhen

- Background search, Analytical mapping

Nov. 2021

Workshop Experience : UNREAL2.0 Online Workshop, SCI-Arc

- Individual Work
- Project Name: Redefine Cyberpunk

Sep.2020-Nov.2020

Competition Award : SUPER RESIDENCE-JDC 2020 International Student Competition in Architectural Design

- Honorable Mention
- Individual Work
- Project Name: Lung-Tree City

Aug.2020-Dec.2020

Competition Award : "Yi Ju CUP" National College Students Real Estate Planning Competition

- National 2nd Prize Award
- Team Work / Model Design, Rendering Videos, Images
- Project Name: The Smart Eco-Residential Community

Apr.2020-Jul.2020

Competition Award : "Guyu Cup" National College Students Sustainable Architecture Design Competition

- Finalist
- Team Work / Concept Generation, Plan and Section Drawing
- Project Name: The Autonomy Campus

## SKILLS

Modelling

CAD | SketchUp | Rhino | Grasshopper | Maya | Revit | Houdini

Rendering

Enscape | Lumion | Unreal Engine | VRay | Unity

Adobe CC

InDesign | Photoshop | Illustrator | Premiere | Media Encoder | After Effects

Microsoft Office

Word | PowerPoint | Excel

## LANGUAGES

Mandarin

Native language

English

IELTS 7.0

## OTHERS

Psychology

Certificate of Competence in Foundation Training for Psychological Counsellors

- Certificate Number: 220501110449

Softball

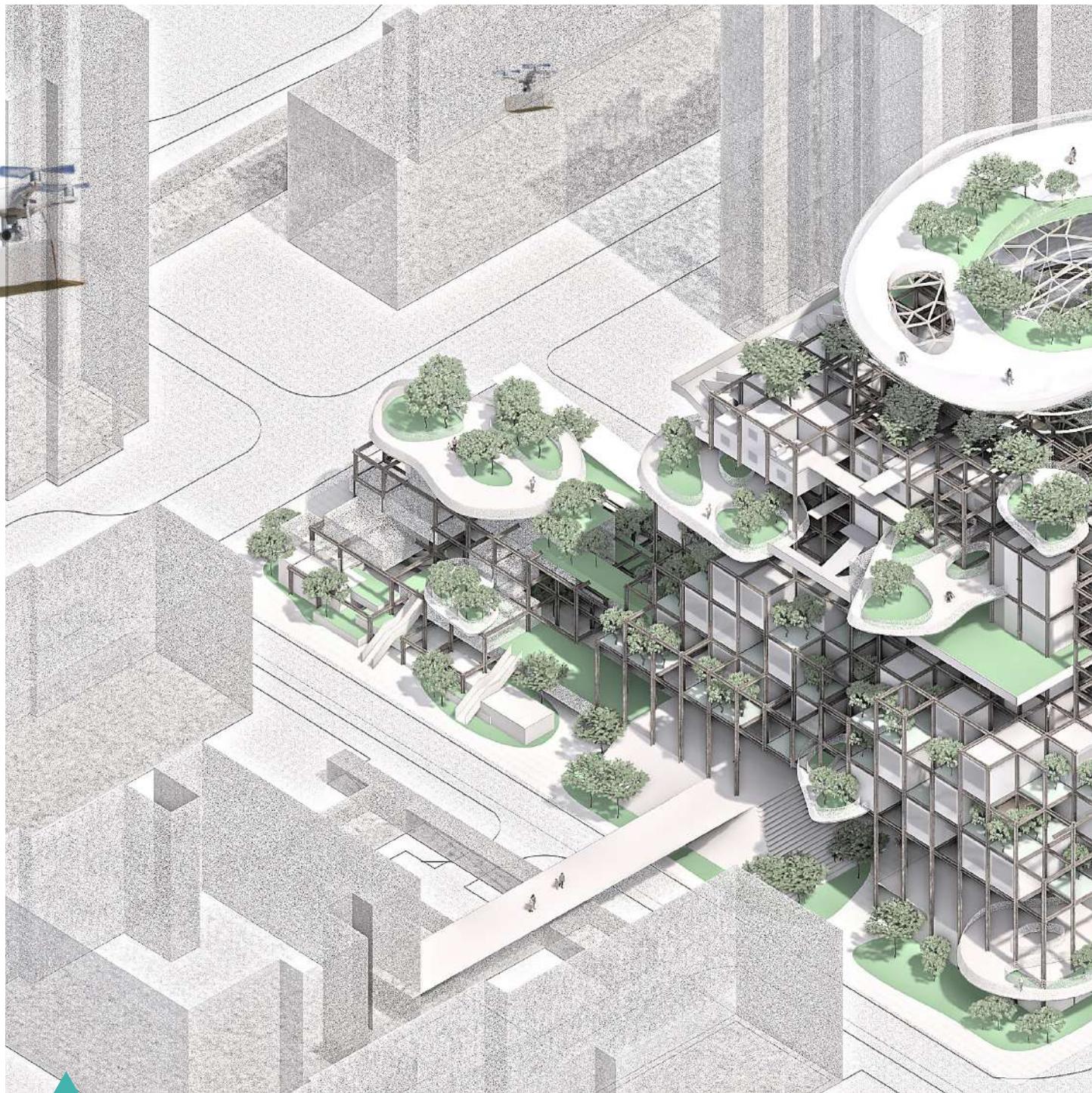
The Baseball and Softball Association in Beijing Jiaotong University

- Participated in University Slow Softball Games five times
- Vice President in 2018
- 5th prize in the 15th National University Students' Softball Finals



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# LUNG-TREE CITY

A RESIDENTIAL DESIGN

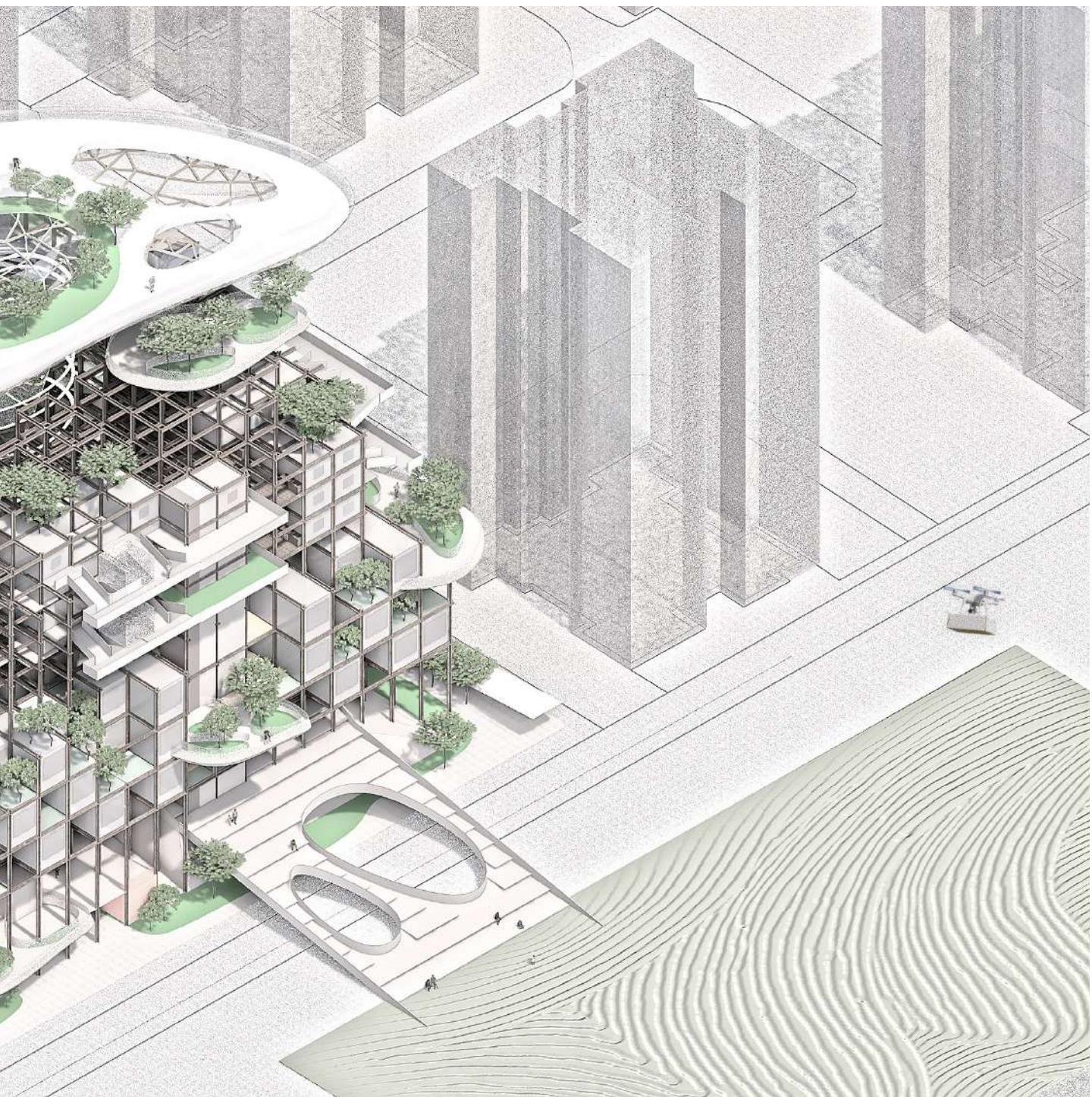
Competition: Honorable prize in JDC2020 International Student Competition In Architectural Design.

Date: September-November 2020

Location: Haidian district, Beijing, China

Category: Individual Project

Site Area: 7853m<sup>2</sup>

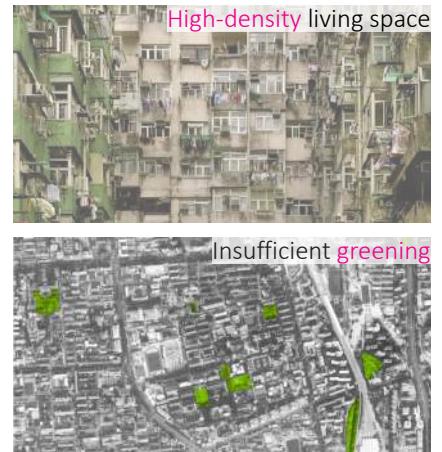
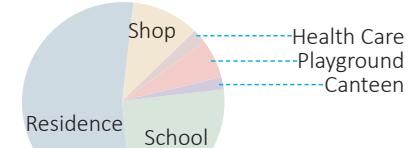
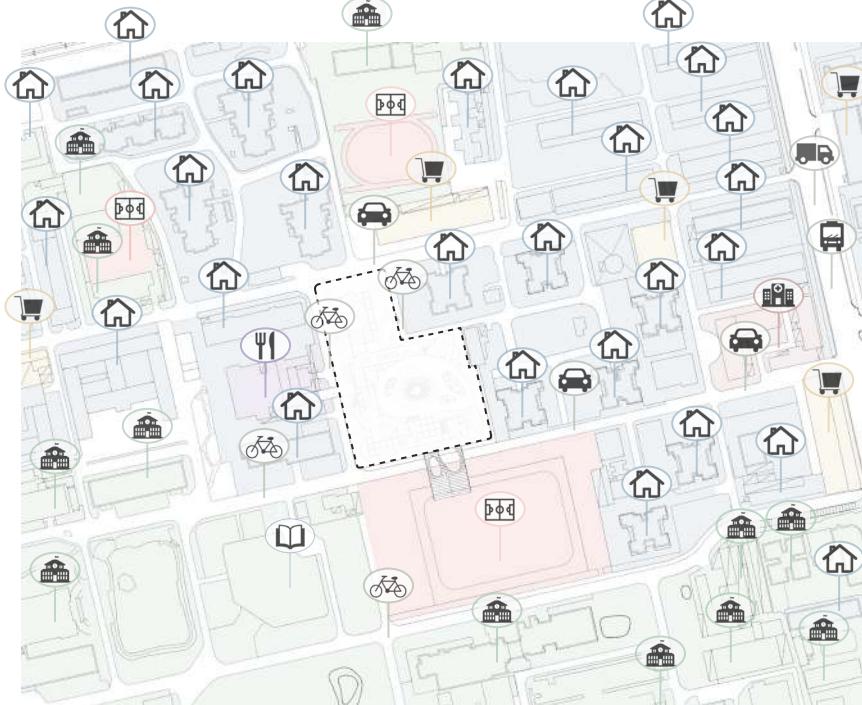


In the Anthropocentric epoch, the outbreak of the **COVID-19** in 2020 has been bringing disaster to the world. **Urbanized and globalized cities** have caused the epidemic to spread rapidly and uncontrollably. To grapple with the post-COVID19 predicament, concerns on accommodation often come at the top of our agenda. During the quarantine, in particular, many residential spaces and communities suffer from a lack of self-sufficiency. It is a warning sign. If we have to be isolated for a long time, how should human architectural design establish a new order to ensure survival and life?

According to **Le Corbusier's residential city theory**, in this project, the **modern machine form is connected with the building**. By establishing **sliding rails**, the house-type construction is fast, flexible, and variable. There are two different life states of openness and communication during the non-epidemic period and closed, introverted life during the epidemic period.

Judging from the living needs of people in the surrounding area, more green space is needed here to create more clean oxygen and reduce smog. Because Beijing's second ring road lacks public places for micro activities, the design draws on a balcony system with a vertical farm system to provide more spaces for working out, farming, and greening, both isolated and non-isolated. With a tree-shaped atrium constituting the most prominent space on the top, the cloud-shaped park collects sunlight, rainwater, and fresh air and sends them to every household.

## AROUND THE SITE



## ABOUT THE SITE



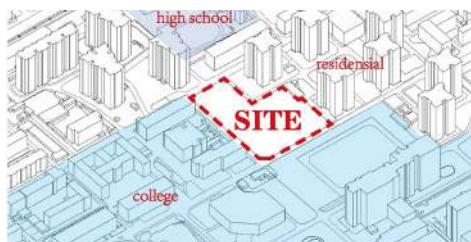
Parking-lot

Lack of management

Chaotic entrances and exits

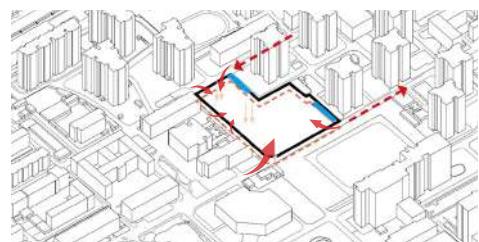
Inadequate parking spaces

## MASSING DEVELOPMENT



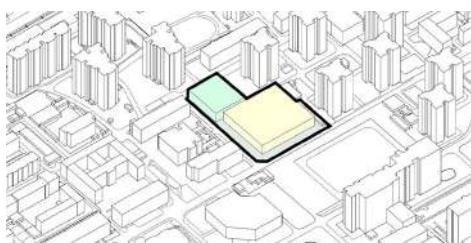
STEP 1

The design site is located at the intersection of the university, middle school, and residential area. Original on the field is a ground parking lot, scattered nail households, a few trees, some temporary prints, and a small barbershop, which are dilapidated and need to be updated urgently.



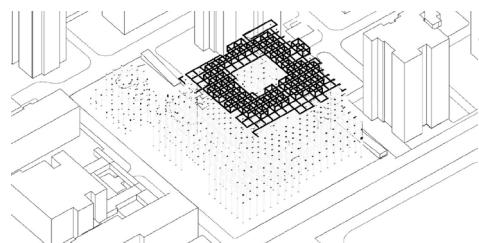
STEP 2

The design preserves the original functions of the site. Relieve the parking function underground and release it to the ground space. Set up entrances and exits according to the characteristics and direction of the flow of people.



STEP 3

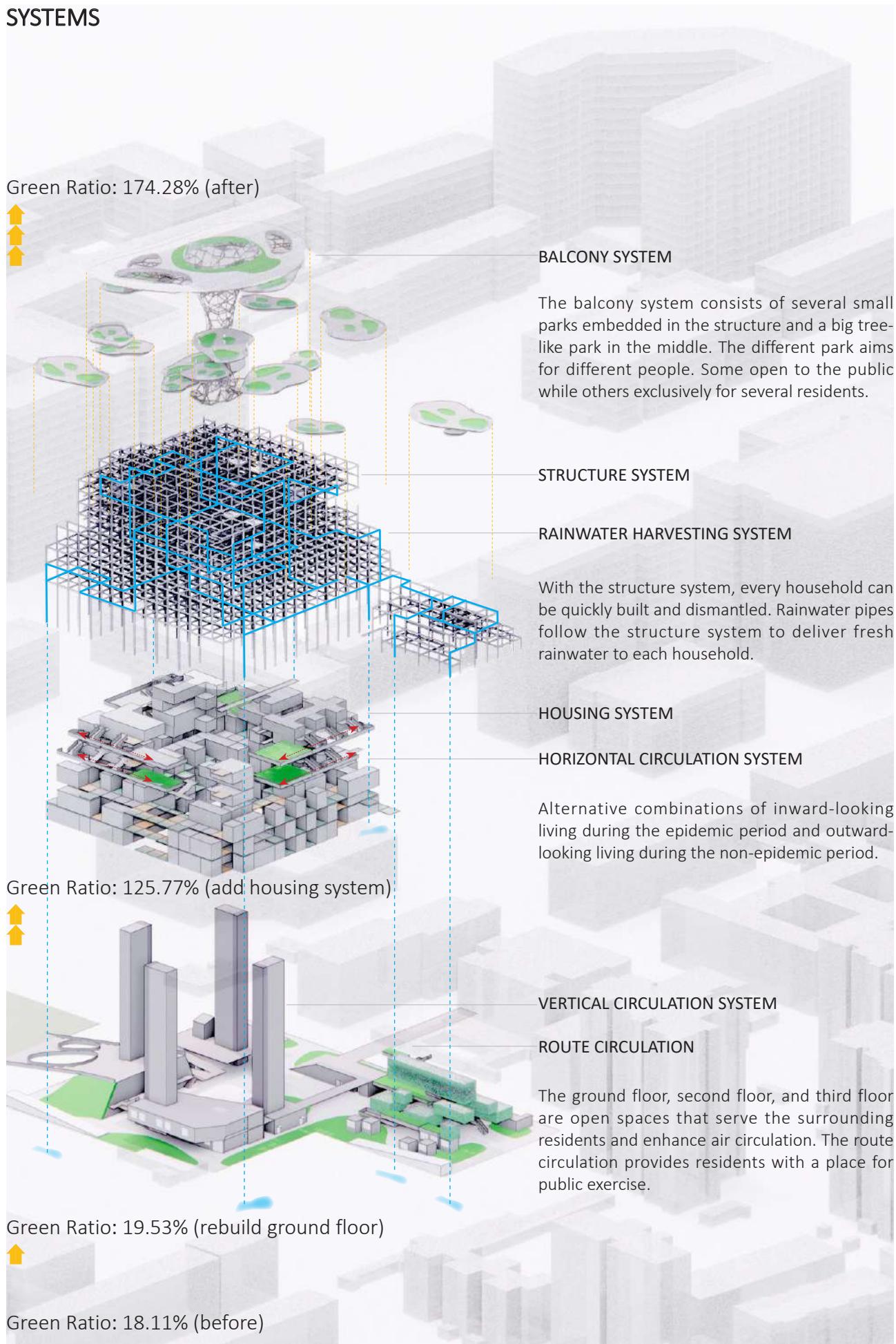
According to the surrounding texture of the site, two basic shapes are determined, the small one for leisure and the larger one for residence.



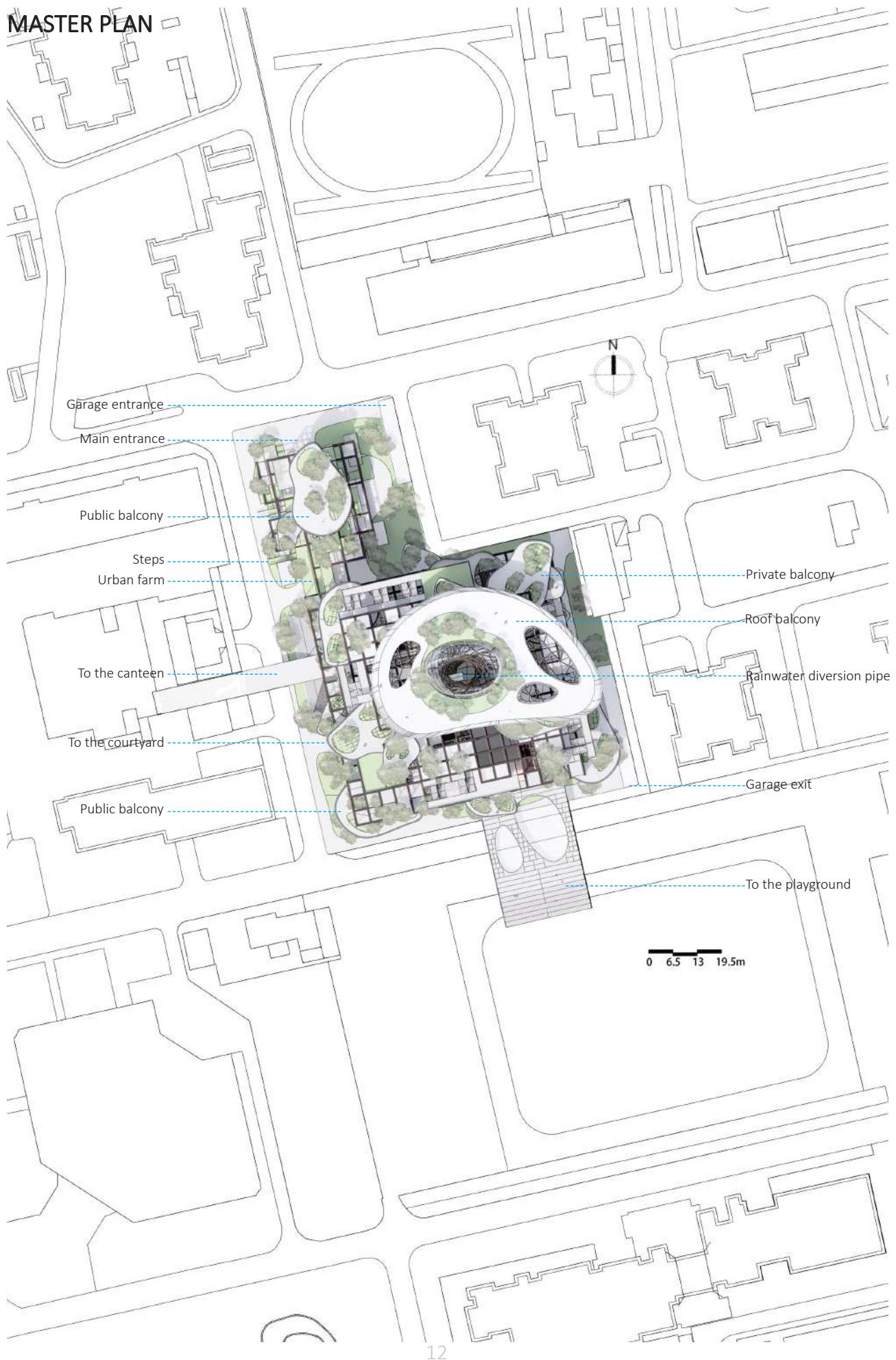
STEP 4

When the epidemic comes, time is the key. To quickly establish isolation, the slide rails are set up in advance. (slide axis 3900\*3900) All super residential cells (cell axis 3600\*3600) can be prefabricated from the factory, put in place on slide rails, and spliced into super residential units.

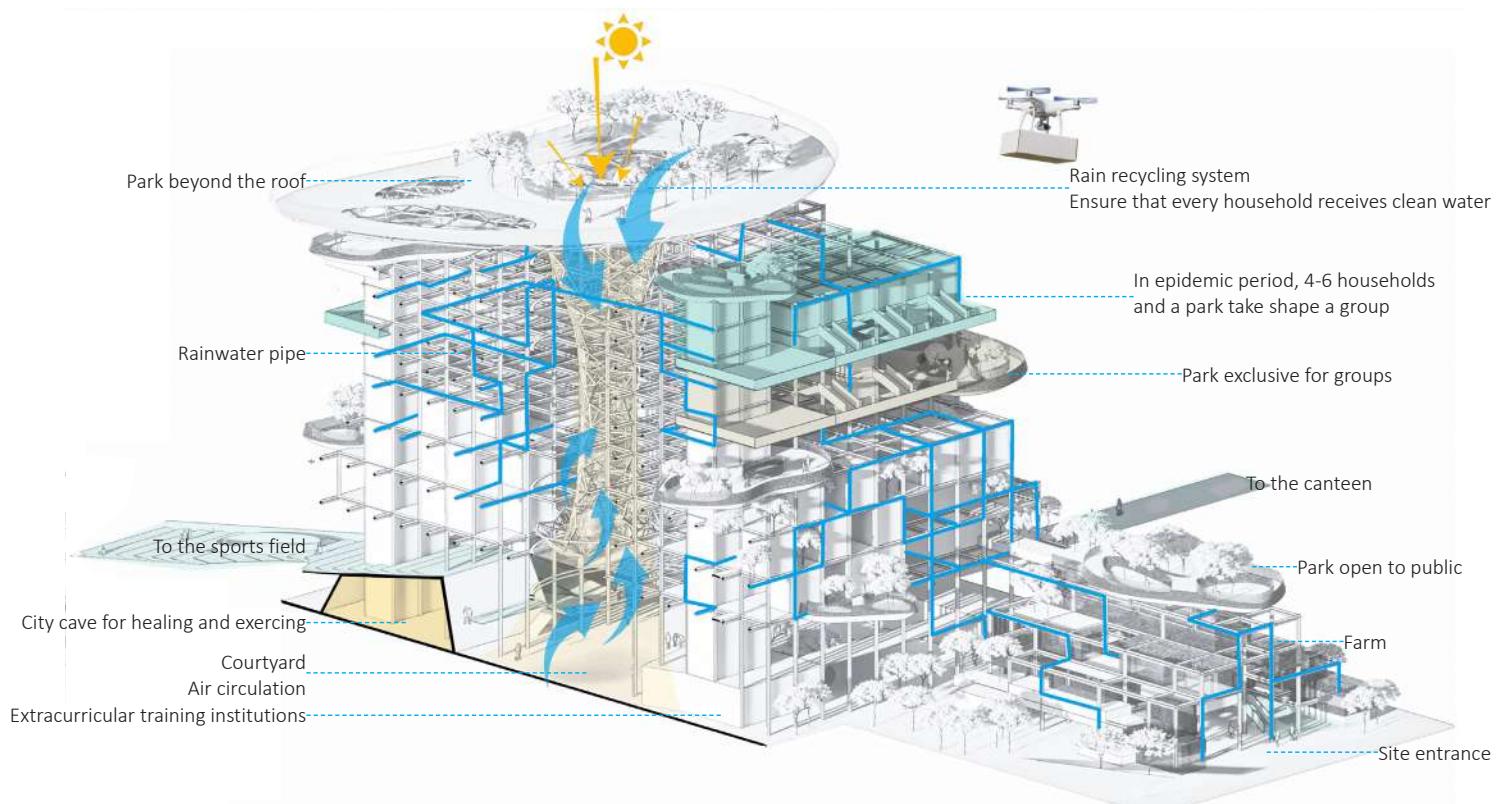
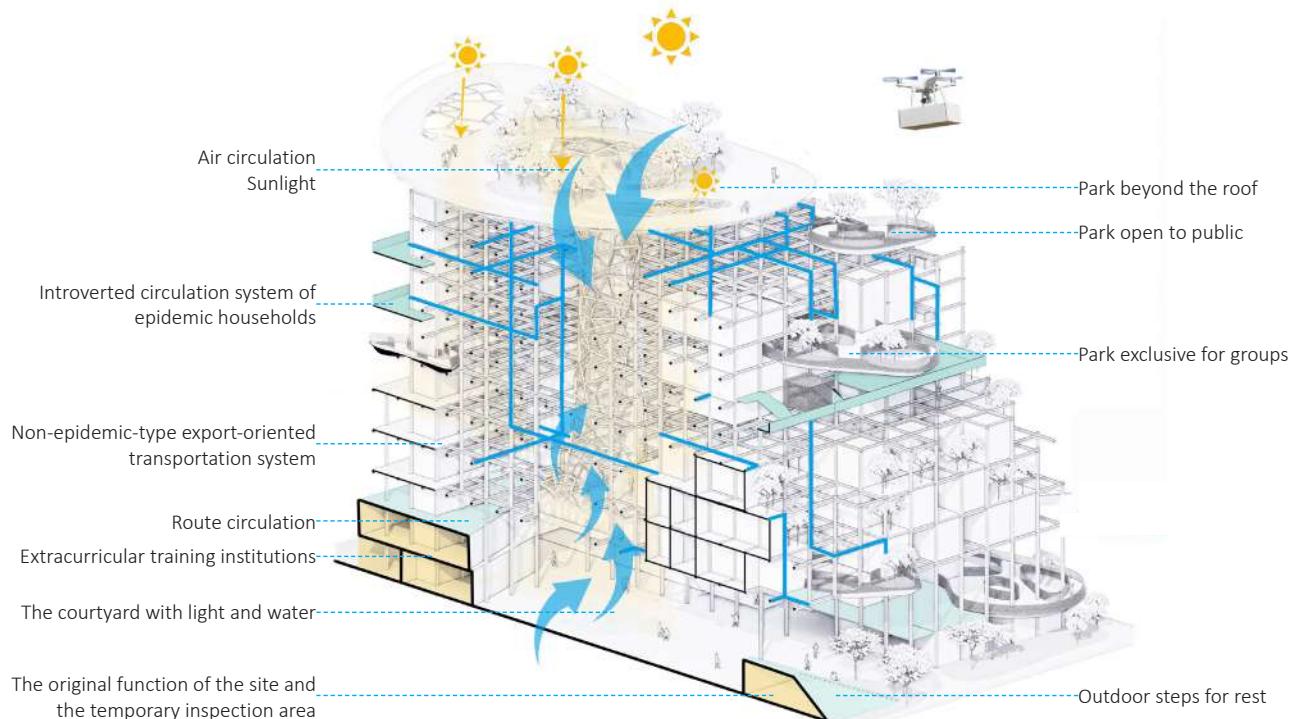
## SYSTEMS



## MASTER PLAN



# SECTIONS

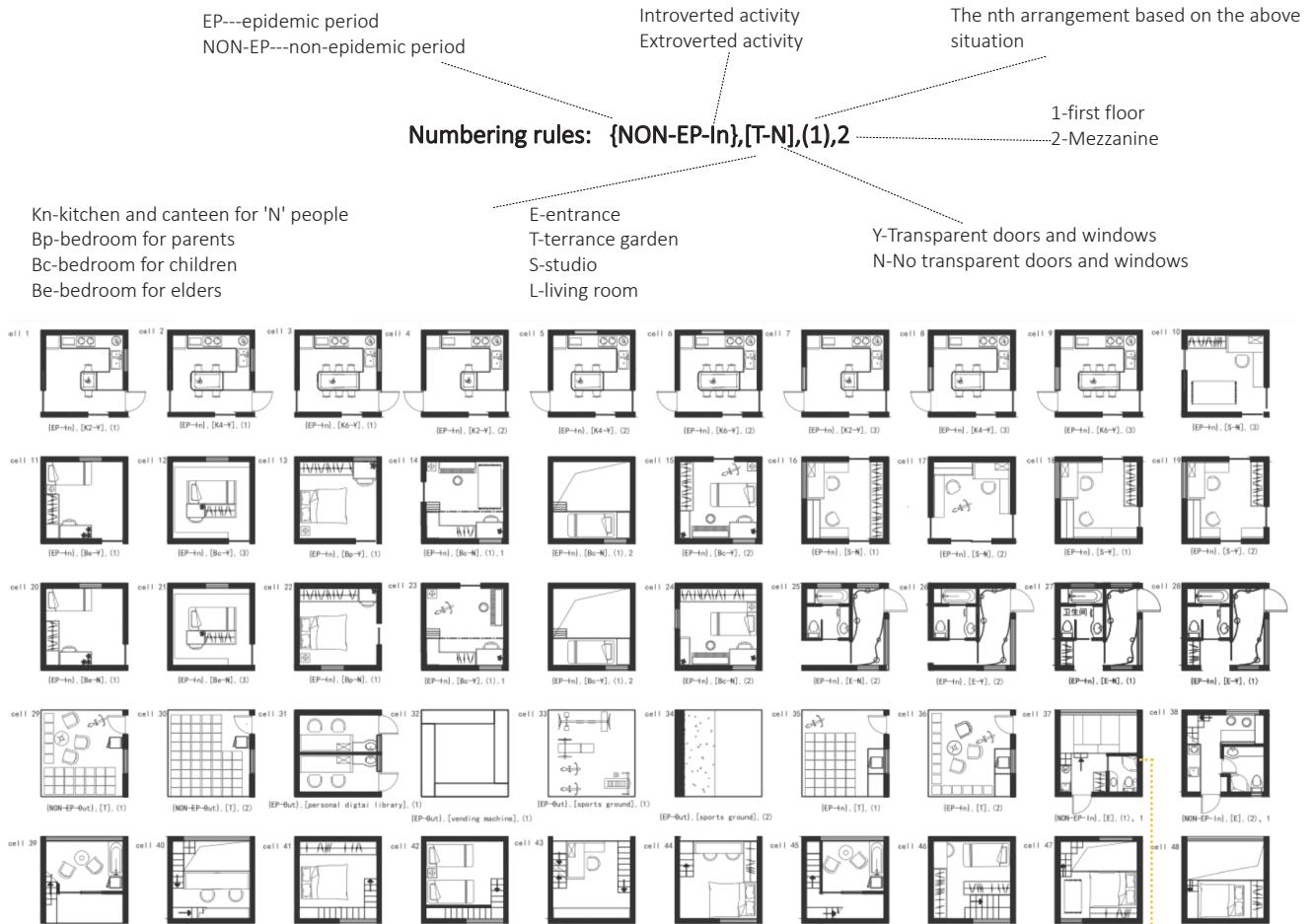


## TYPOLOGIES OF THE ROOMS

The basic unit of the building is developed from the [open building theory system](#), starting from the function of the smallest room, deriving the relationship of large groups from the small cell space, developing micro-community units from the bottom up, connecting and changing positions through slide rails to meet different families in different periods.

### SETP1--CELLS--FUCTION

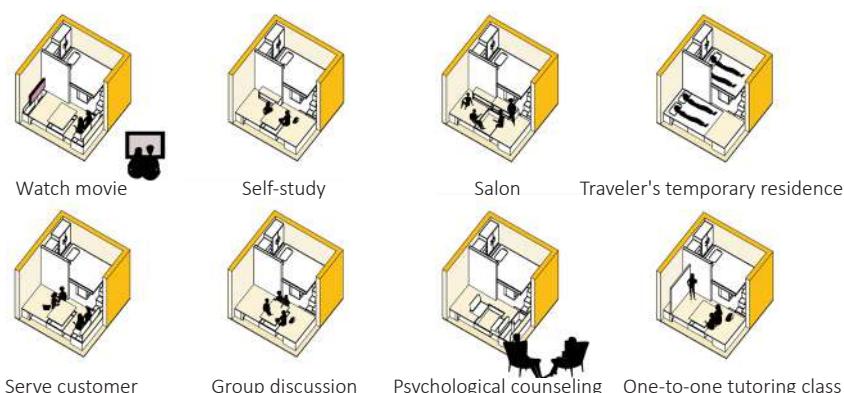
Coding system



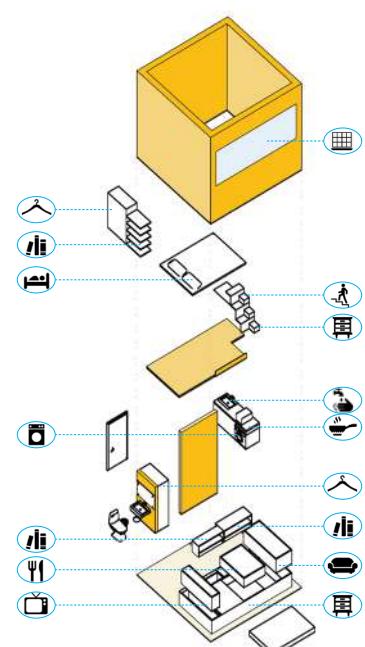
### HOTEL | FOR SHORT-TERM RENTAL

cell 37  
cell 48

Indoor space 3400\*3400\*3400



When the epidemic comes, it becomes a [Temporary quarantine area](#).

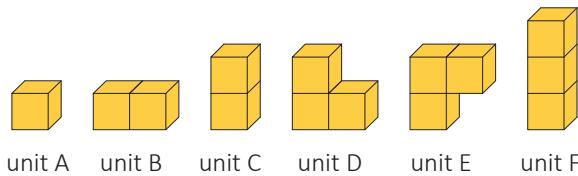


## SETP2--HOUSE TYPE--PEOPLE'S ACTIVITIES IN A DAY

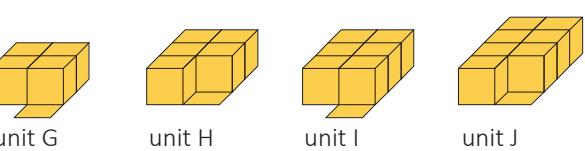
During the **non-epidemic period**, the residents are mainly young people chasing their dreams in Beijing. Given the high rent, the non-epidemic apartment aims to provide an economical and comfortable space for those in need.

During the **epidemic period**, the residents are individuals and families who need to be isolated and observed in the neighborhood.

**positive pressure**  
encouraging communication



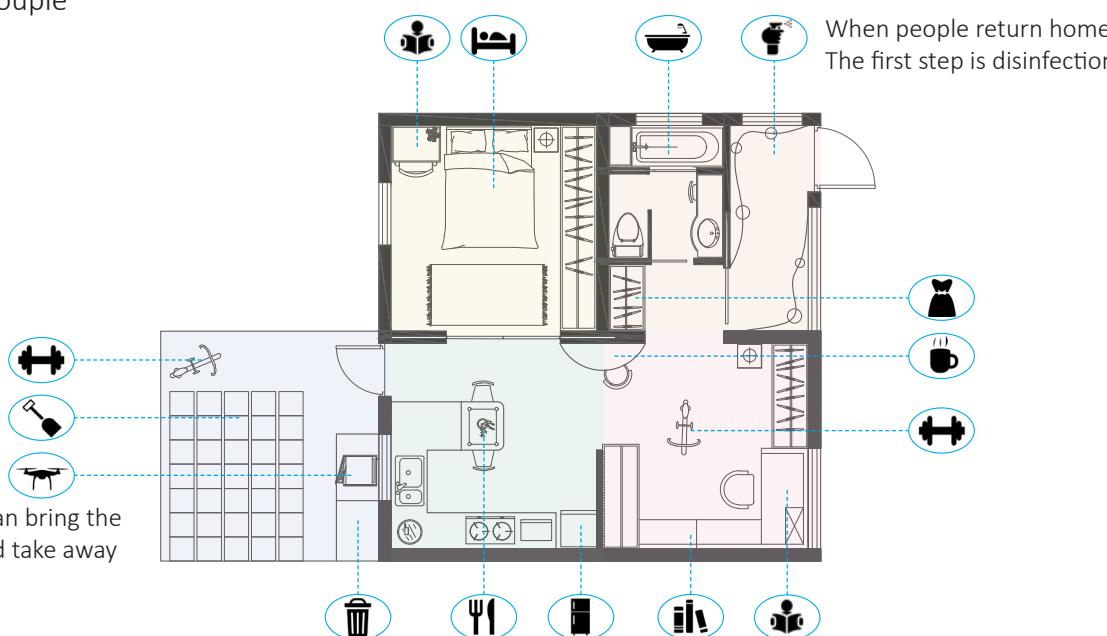
**negative pressure**  
close communication is not encouraged.



### GHIJ | EPIDEMIC PERIOD

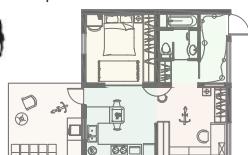
#### Unit G1---Couple

cell 1  
cell 18  
cell 22  
cell 27  
cell 35



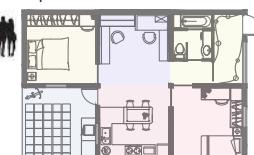
#### Unit G2---Couple

cell 1  
cell 18  
cell 22  
cell 28  
cell 36



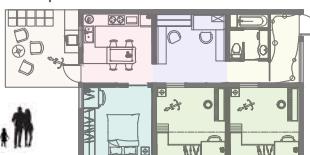
#### Unit H3---Couple With An Old Man

cell 2  
cell 11  
cell 17  
cell 22  
cell 26  
cell 35



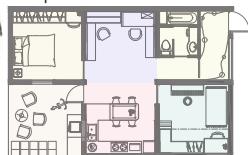
#### Unit I1---Couple With Two Toddlers

cell 2  
cell 13  
cell 17  
cell 23  
cell 23  
cell 26  
cell 36



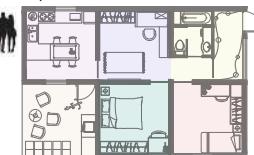
#### Unit H1---Couple With A Child

cell 2  
cell 17  
cell 20  
cell 22  
cell 26  
cell 36



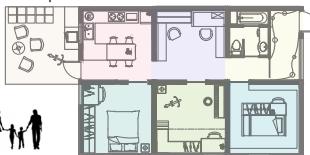
#### Unit H4---Couple With An Old Man

cell 5  
cell 11  
cell 13  
cell 17  
cell 26  
cell 36



#### Unit I2---Couple With Two Children

cell 2  
cell 12  
cell 13  
cell 17  
cell 23  
cell 26  
cell 36



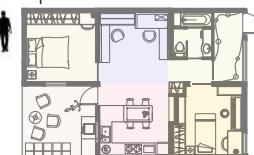
#### Unit H2---Couple With A Child

cell 2  
cell 13  
cell 19  
cell 24  
cell 25  
cell 36



#### Unit H5---Couple With A Child

cell 2  
cell 13  
cell 22  
cell 24  
cell 26  
cell 36



#### Unit I3---Couple With Two Children

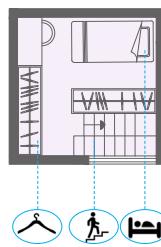
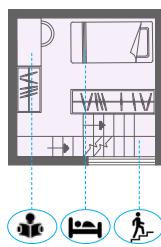
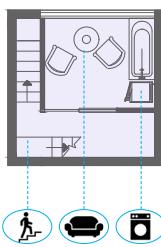
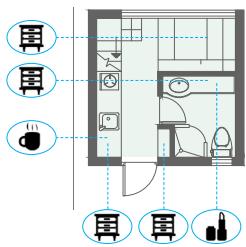
cell 2  
cell 13  
cell 17  
cell 20  
cell 23  
cell 26  
cell 36



## ABCDEF | NON-EPIDEMIC PERIOD

Unit F---College Student Shared Rent---Indoor Space 3400\*3400\*11200

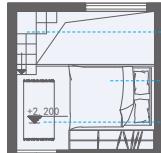
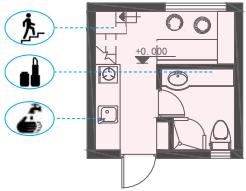
cell 37  
cell 45  
cell 46  
cell 46



There are independent and open communication spaces to meet the needs of different situations. The basic living space is broad.

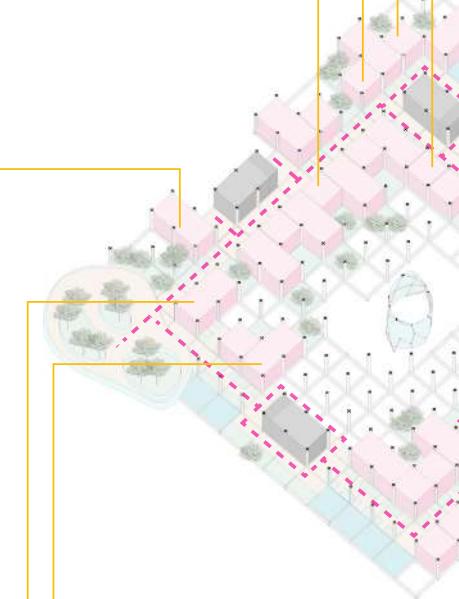
Unit A---Singles Or Young Couples---Indoor Space 3400\*3400\*3400

cell 38  
cell 47



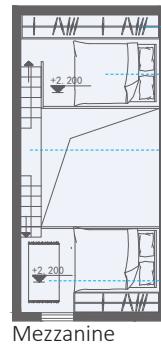
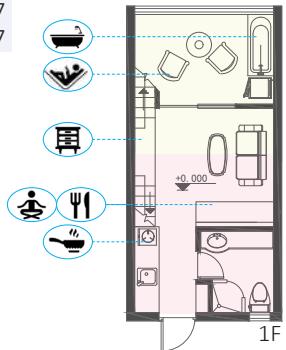
In unit A, the basic life function area is relatively simple. Half of the indoor space is a changeable functional area; the host can invite friends to the home and hold various activities.

4th floor



Unit B1---Friends Sharing---Indoor Space 7300\*3400\*3400

cell 38  
cell 39  
cell 47  
cell 47

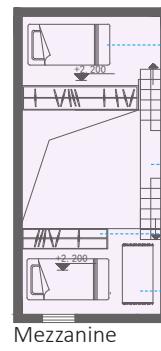
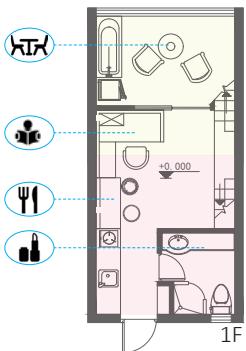


1F Mezzanine

Unit B1 is suitable for two single adult friends who have just joined work to rent together. Most spaces are open and shared, creating conditions for two people to communicate. Young people do not prefer cooking at home but leave a foldable table to meet the occasional needs of eating and working. For them, home is a place to relax. When the dining table is folded up, the dining space becomes a yoga space.

Unit B2---Accompanying Family---Indoor Space 7300\*3400\*3400

cell 38  
cell 39  
cell 46  
cell 46



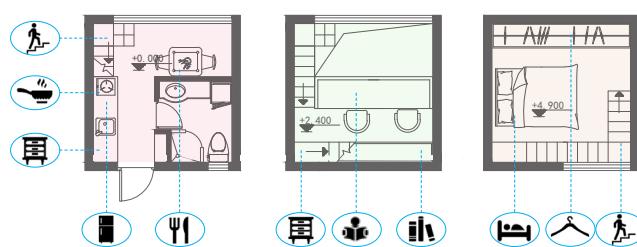
1F Mezzanine

In Beijing, many mothers will temporarily rent houses near the school for their children to sprint for the entrance examination and college entrance examination. The child spends most of the time at school, and the parent eats at home alone. As a result, the dining table can be folded to save space. Learning is the focus of the family, so there is more room for learning. The separation of study and sleeping space is conducive to efficiency improvement. Parents and children have their own private sleeping spaces and do not interfere with each other.

- Farm
- Greening
- Aisle
- Vertical C
- Units
- Route Cir

### Unit C1---Student Couple Family---Indoor Space 3400\*3400\*7300

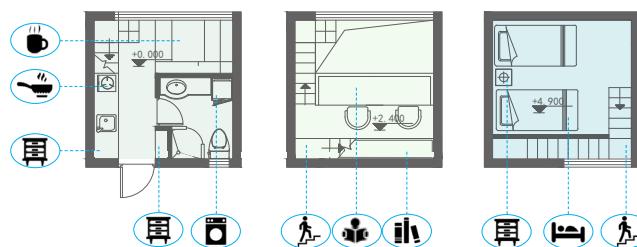
cell 38  
cell 40  
cell 41



Couples of college students who have a common goal (preparing for the postgraduate entrance examination, studying abroad) hope to have a more comfortable living environment and study space. The study space is separated from the bed, which is conducive to improving efficiency.

### Unit C2---College Student Shared Rent---Indoor Space 3400\*3400\*7300

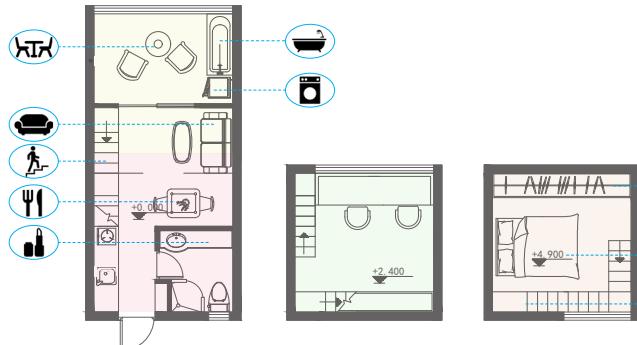
cell 37  
cell 40  
cell 42



Friends of college students who have a common goal (preparing for the postgraduate entrance examination) hope to eliminate additional interference and concentrate on learning, encourage each other, and make progress together.

### Unit D---Newlyweds

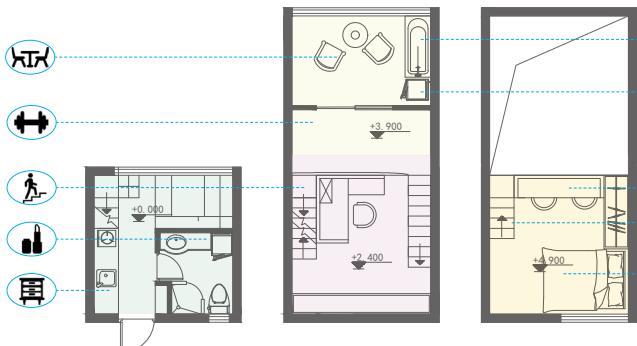
cell 39  
cell 38  
cell 40  
cell 41



Young couples pursue the quality of life. They want accommodations that are comfortable and economical. I create a flexible space for them, maybe a small animal's home, a yoga space, or a tea room.

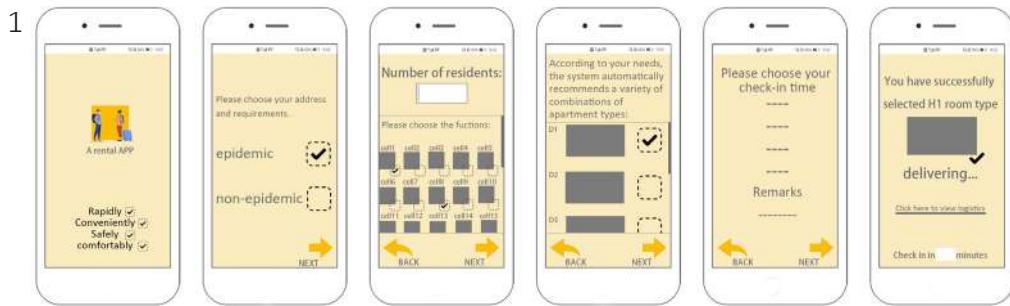
### Unit E---The Sociable DINK Family

cell 37  
cell 39  
cell 43  
cell 44

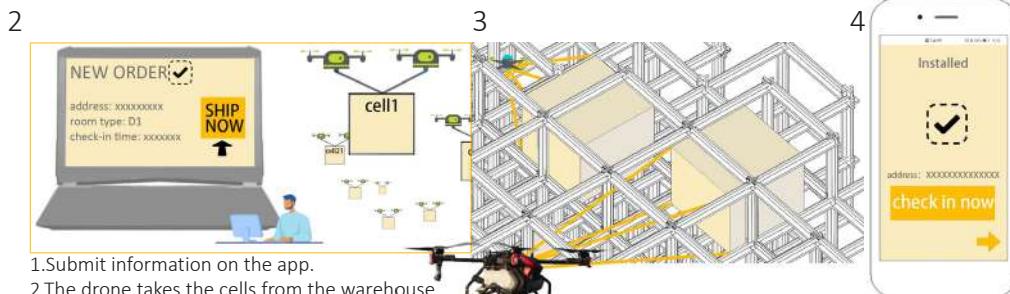


The basic living space is small. So the other space is flexible, which can furnish for hospitality and office.

## HOW TO RENT A HOME



Schematic diagram of structure  
Structure axis: 3900\*3900  
Cell axis: 3600\*3600



1. Submit information on the app.
2. The drone takes the cells from the warehouse.
3. The drone pulls the cells to the designated position.
4. Check in

## AN ALTERNATIVE ARRANGEMENT--- ISOMETRIC VIEW



In the ANTHROPOCENE, the survival of humankind is facing various severe challenges. Apart from the COVID-19, any disaster may break out at any time. The life philosophy advocated in this design is conducive to dealing with the challenges. We are confident about the future.



## STREET VIEW



### Farm

The urban farm is on the north side of the site.  
The farm area is connected to the main building.



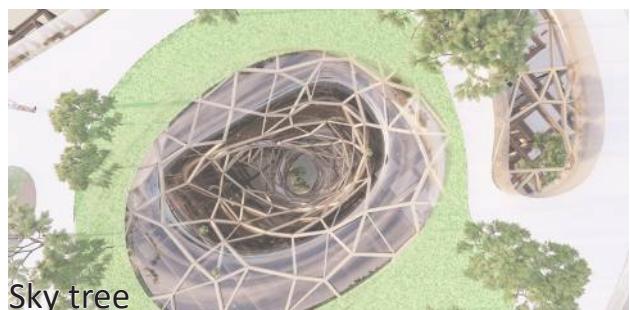
### Route circulation

The route circulation provides morning exercise places for nearby residents.



### Healing space

In the atrium of the building, sunlight and pool water form a quiet and public healing space.



### Sky tree

Sunlight pours into the atrium, forming a mottled shadow.



### Sky tree

The natural light that passes through the building changes during the day, which becomes a work of art.



### Sky tree

Sunlight and fresh air reach each floor through this big tree, bringing vitality to the entire building.



## EDEN RETURNING

URBAN VILLAGE RECONSTRUCTION DESIGN

Course: 2020-2021 2nd term/ Architectural Design V

Date: May-August 2021

Location: Haidian district, Beijing, China

Category: Individual Project

Site Area: 35579m<sup>2</sup>

Gross Floor Area: 47898m<sup>2</sup>

Floor Area Ratio: 1.35



Due to the [global greenhouse effect](#), summer temperatures in Beijing have been higher than usual in recent years. Dealing with the greenhouse effect has become one of the main tasks of architects. When the vision of Eden became more and more people's dream, I tried to [make the Garden of Eden return](#).

The site, located at the junction of Beijing's Third Ring Road and Metro Line 13, is a [chaotic urban village](#) that is growing spontaneously. The residents and practitioners here are migrant workers in poverty but dream of settling down in Beijing by working hard. However, since 2017, the Beijing Municipal Government has launched a demographic depopulation plan to improve the city's appearance. Their factory is closed, and their rented shelter is about to be demolished, which means they face unemployment and have to go back to the countryside to start again.

But I think there is still another gentler way to improve the appearance of the city and at the same time help the aborigines to transform their careers and give them humane care. In this design, I transformed this area that is no longer suitable for low-end homes into an Eden. I [retain the structure and beams still in function](#) and [add modern elements](#) to the current road texture. The new combination of greening, commercial, residence, and office provide new job opportunities for aborigines. Moreover, it provides new commercial and leisure destinations for students and residents in Haidian District. In this new [Instagram-Worthy Location](#), visitors will be impressed by the [contrast](#) between the new and the old. The tour will give everybody an irreplaceable experience.

## BEFORE

Urban Village

Greenhouse Effect

Over-Loaded City

Chaotic Urban Village

## AFTER

Eden Returning

Care For The Local People

Remain The History

Add Greening

CO<sub>2</sub>

CO<sub>2</sub>

CO<sub>2</sub>

Original inhabitants  
Monthly salary<5000RMB

O<sub>2</sub>

White-collar workers  
Monthly salary>6000RMB

Customers/ Hotel guests

Original inhabitants  
Higher salary and new jobs

22



The north side of the site is the North Third Road. For pedestrians, the flyover is the only connecting north and south.

The architectural element in the site---abandoned railway.

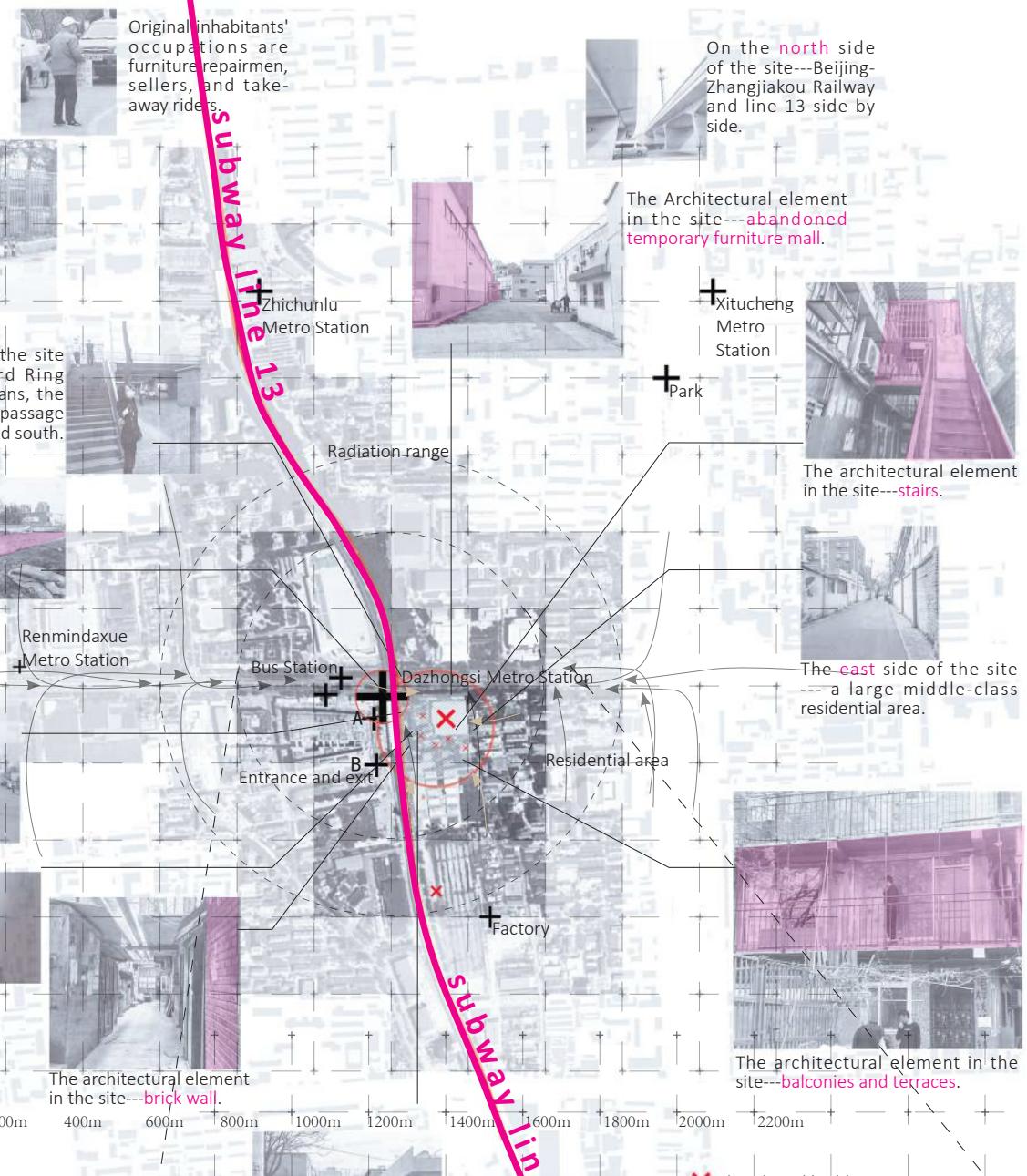
The west side of the site is split by the subway.

The architectural element in the site---narrow aisle.

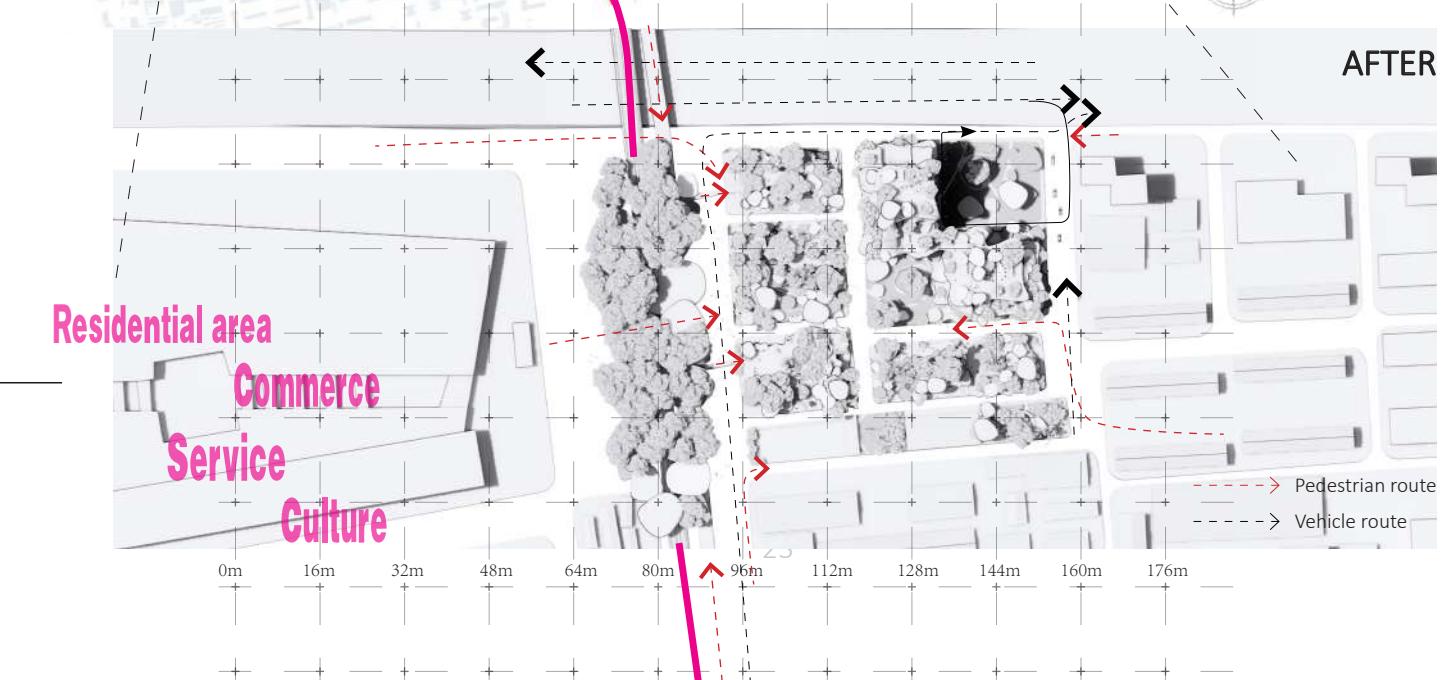
0m

20m

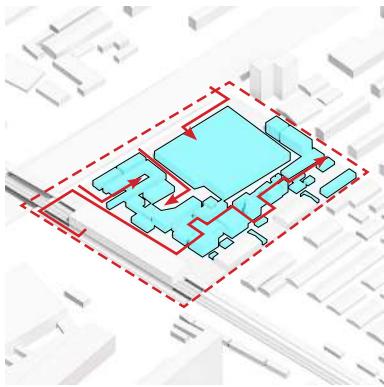
## BEFORE



## AFTER

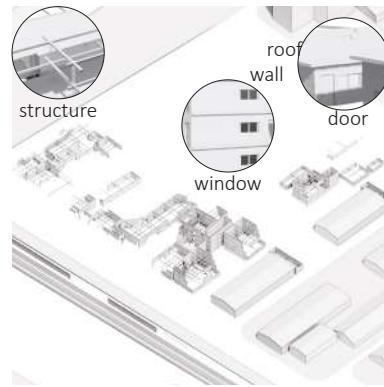


## MASSING DEVELOPMENT



### STEP 1 Circulation

With a chaotic circulation and many end-type roads, the original site looks terrible and does not comply with fire protection regulations.



### STEP 2 Conserve

Demolish temporary buildings, dilapidated and unstable buildings. Retain 30% of the brick wall and beam-column structure that can still be used.



### STEP 3 Urban fabric

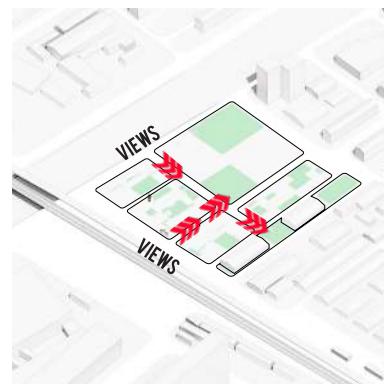
Plan the new cluster structure and road texture by considering the original architectural texture.

Main axis  
 Secondary axis



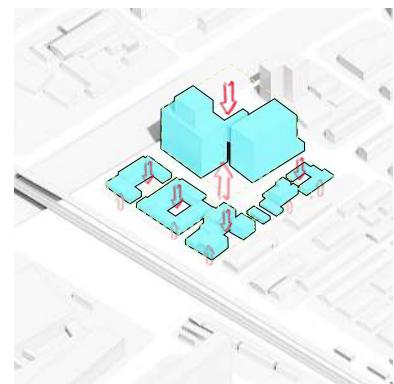
### STEP 4 Pedestrian system Car system

Hotel drop-off car passage  
 Vehicle access  
 Underground pedestrian passage  
 Ground sidewalk



### STEP 5 Vision

Place three types of courtyards of different sizes on the site: end-end, two-sided, and enclosed. Allow visitors to see different landscapes from near to far.



### STEP 6 Courtyard

Plan the height of the new building based on the original building height of the site. Create various forms of courtyards in each cluster area, echoing the original courtyard form.



### STEP 7 Curve

Create curved floor slabs that contrast sharply with the surrounding buildings and the reserved elements of the site. Furthermore, make the preliminary functional division.



### STEP 8 Umbrella Roof Garden

The organic umbrella roof gardens enhance the fun and leisure style, forms a commercial feature, increases the city's green area, and turns the commercial complex into a park.

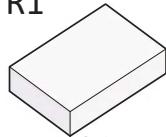


### STEP 9 Differentiation

Further differentiate the functions of the umbrella roof gardens into greening, landscape platform, pool, waterfall, and lights. Add art sculptures, 3D large screens, box spaces, urban furniture, and other elements to the venue.

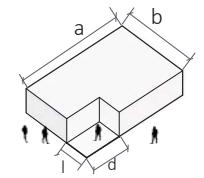
## REBUILD

R1



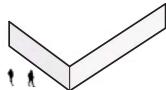
Push and pull

RULE 1

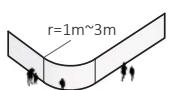


$l=20\% \sim 30\% b$   
 $d=20\% \sim 30\% a$

R2

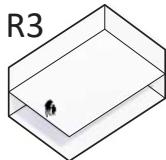


RULE 2

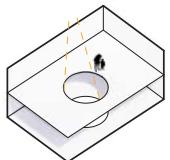


Transform sharp corners into rounded corners

R3

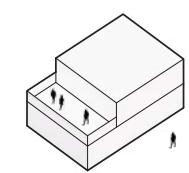
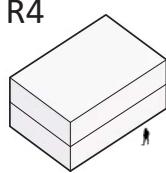


RULE 3



Open 20% of the floor area to make the space larger

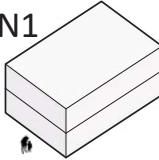
RULE 4



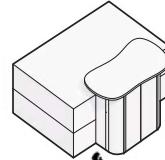
Reduce building area and form terraces and balconies

## NEW-BUILD

N1

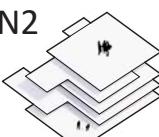


RULE 1

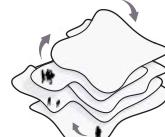


Create high space

N2

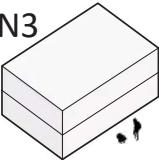


RULE 2

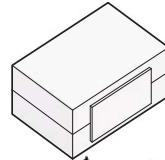


Curve the edge of the building

N3

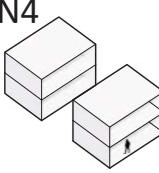


RULE 3

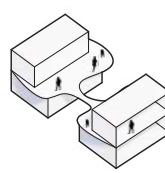


Add 3D screens on the facade of the building

N4



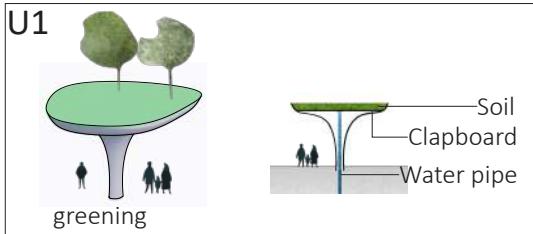
RULE 4



Connect two buildings with a sky corridor

## UMBRELLA ROOF GARDEN

U1



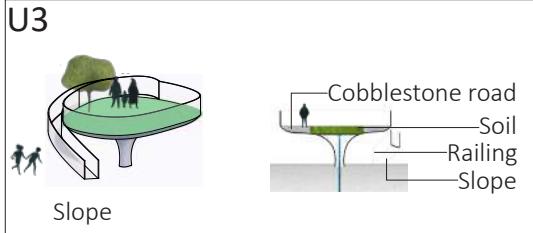
greening

Soil

Clapboard

Water pipe

U3



Slope

Cobblestone road

Soil

Railing

Slope

U5



Elevator

Cobblestone road

Soil

Railing

Elevator

Seat

U2



Solar photovoltaic panels

Support

Solar night light

U4

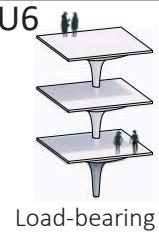


Clapboard

Water pipe

Waterfall and flowing water

U6

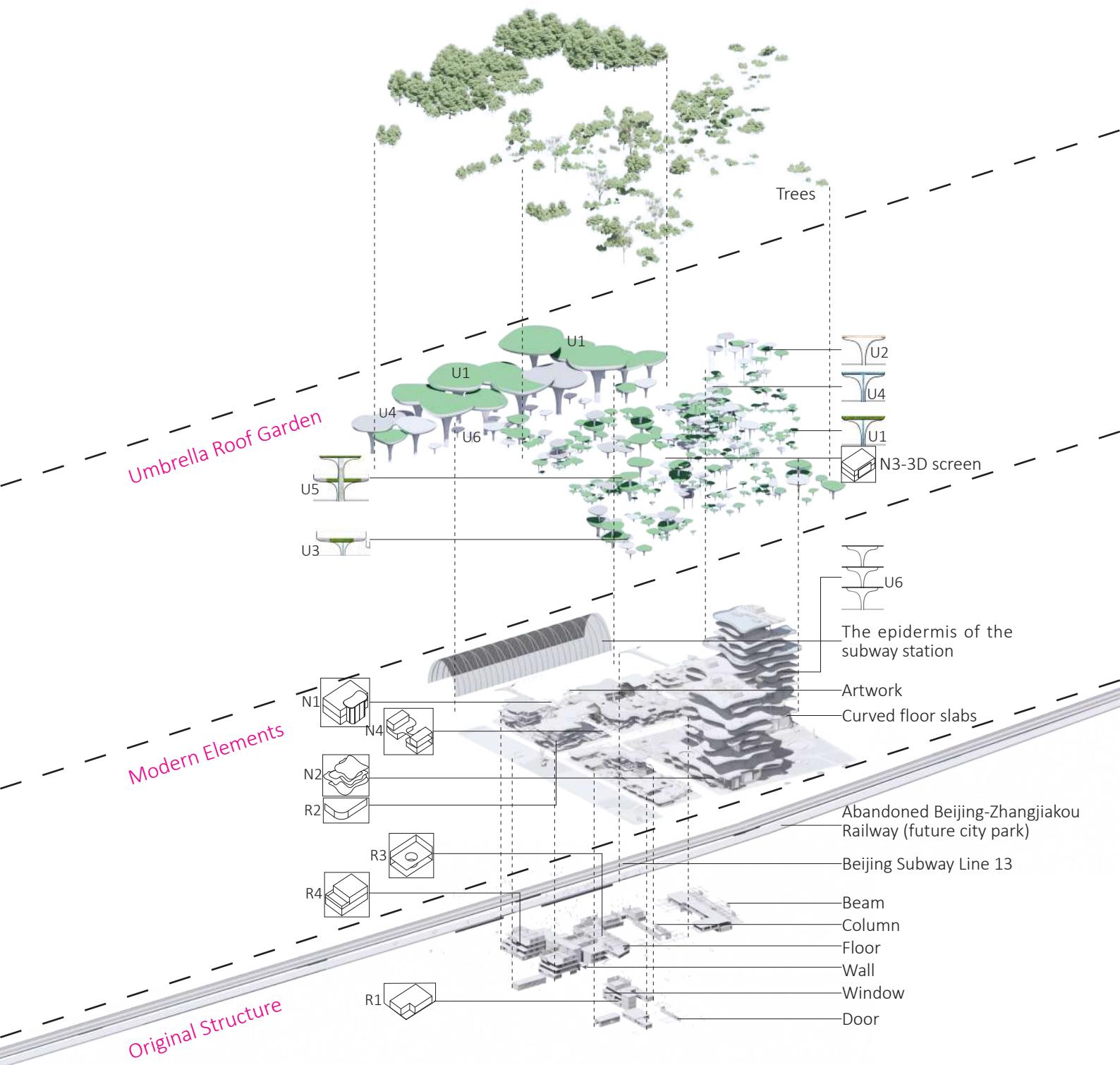


Floor

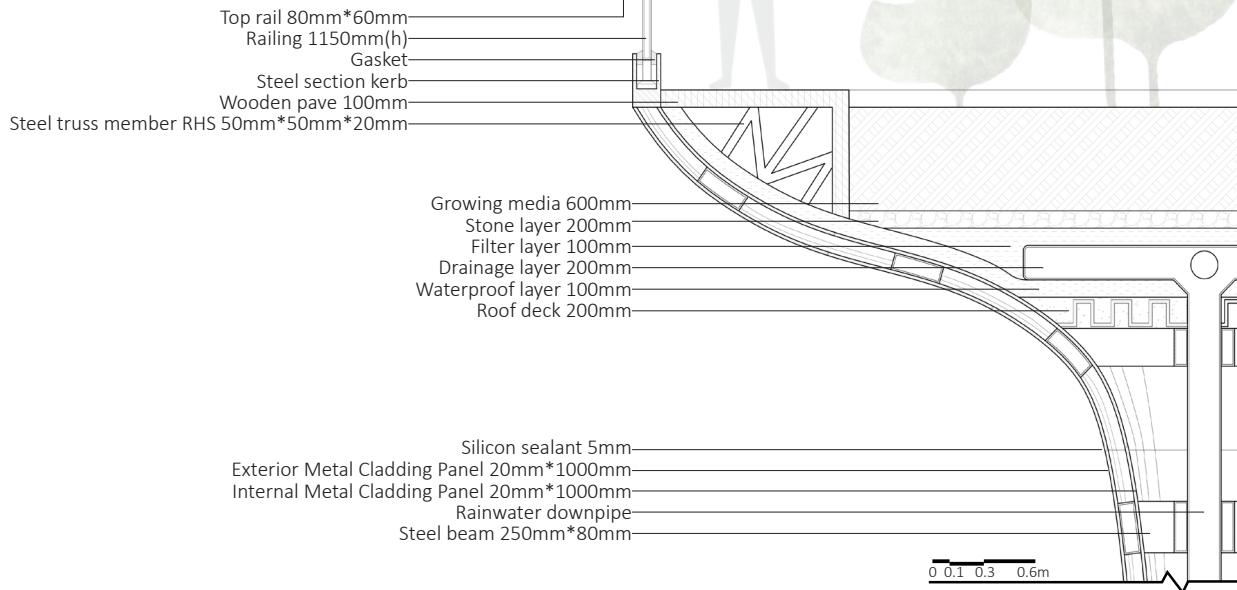
Pillar

Load-bearing structure

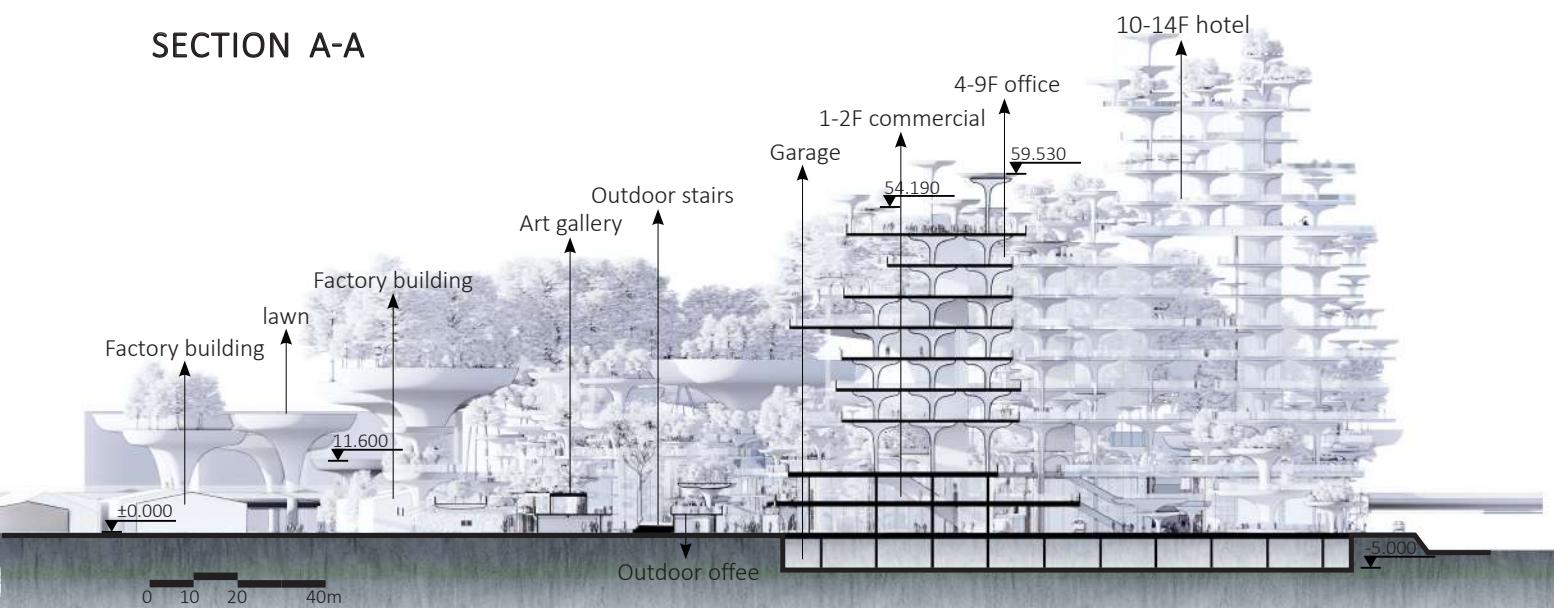
## EXPLODED ISOMETRIC VIEW



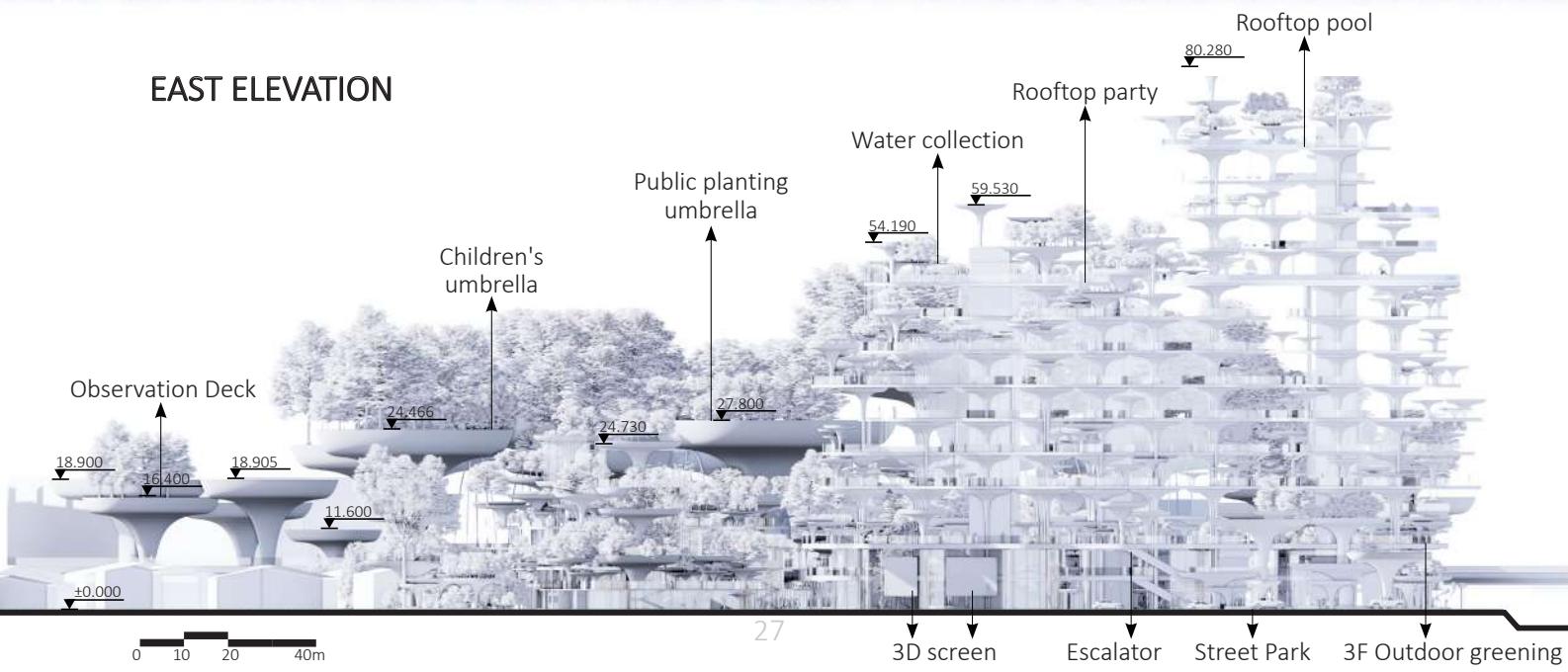
## DETAIL



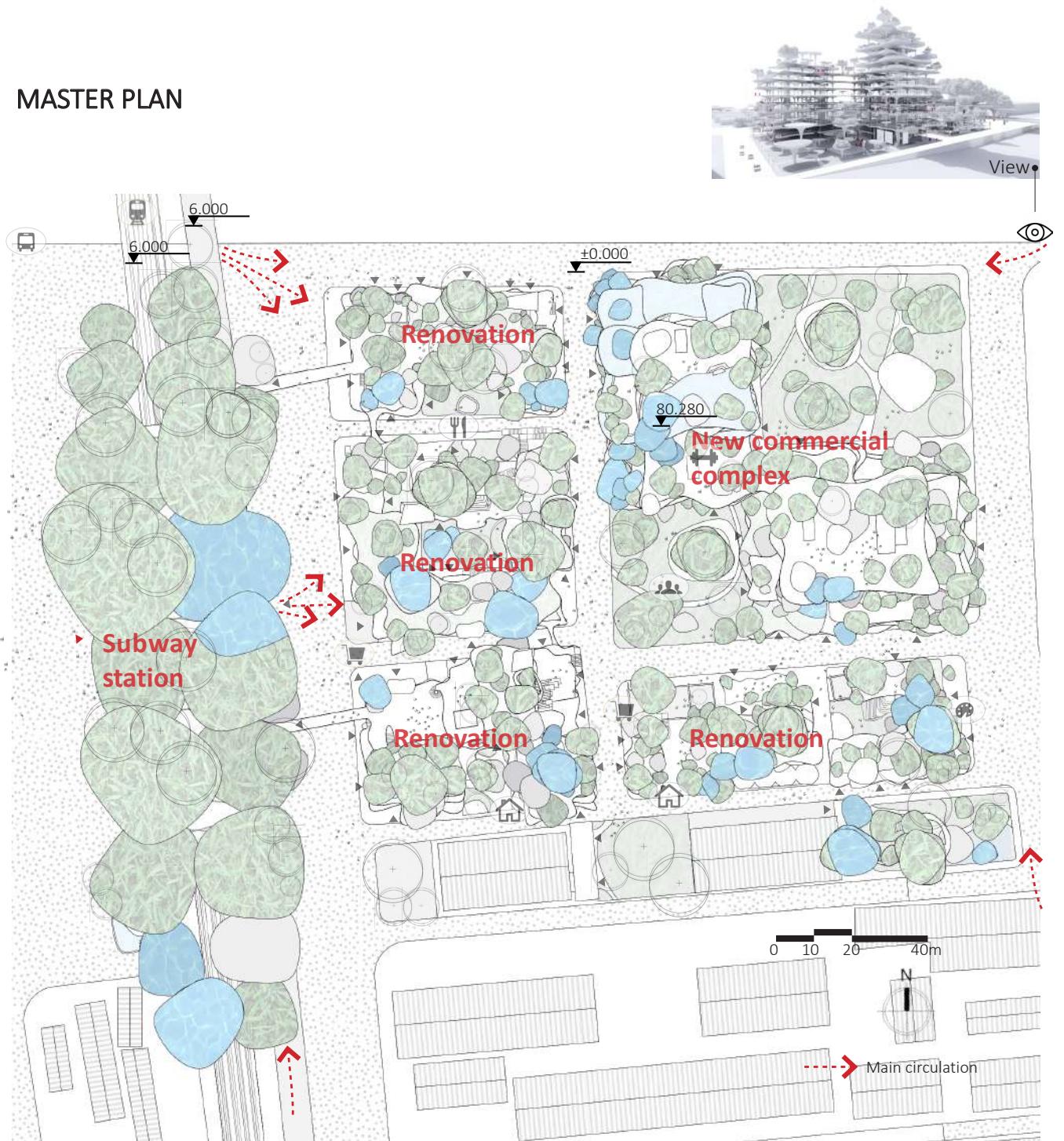
## SECTION A-A



## EAST ELEVATION



## MASTER PLAN



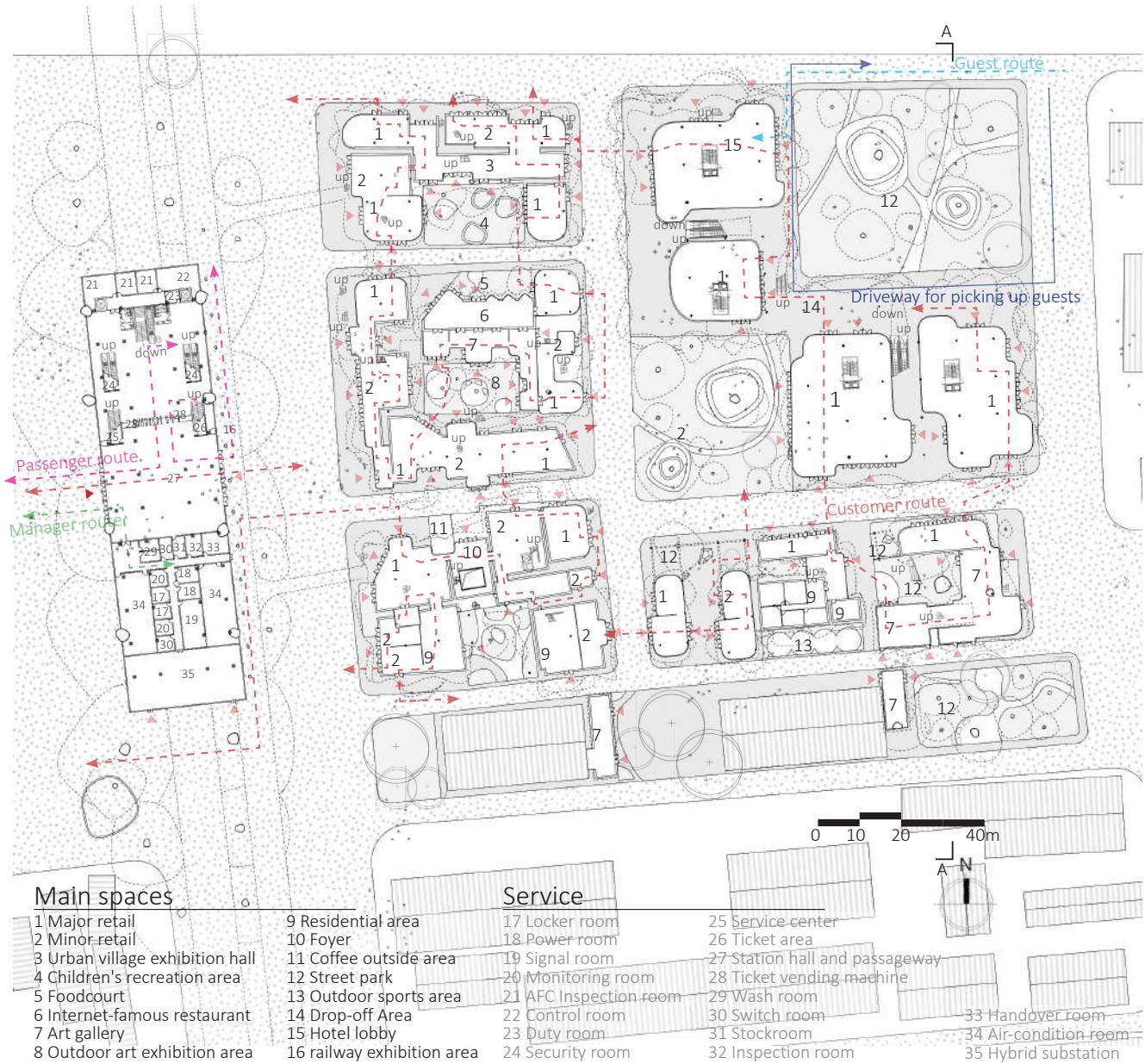
## FUNCTION ANALYZE



## RELATIONSHIP BETWEEN NEW AND OLD



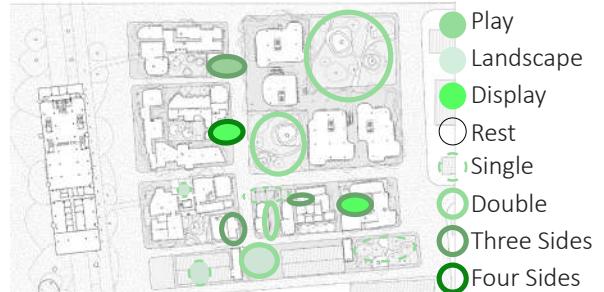
## GROUND FLOOR PLAN



MAJOR RETAIL



COURTYARD DISTRIBUTION



## STREET VIEW







## DENATIONALIZED FLYING CITY

A SKYCRAPER DESIGN

Competition: BORDERS-Transforming Forgotten Lines

Date: January-Feberuary 2021

Location: The Earth

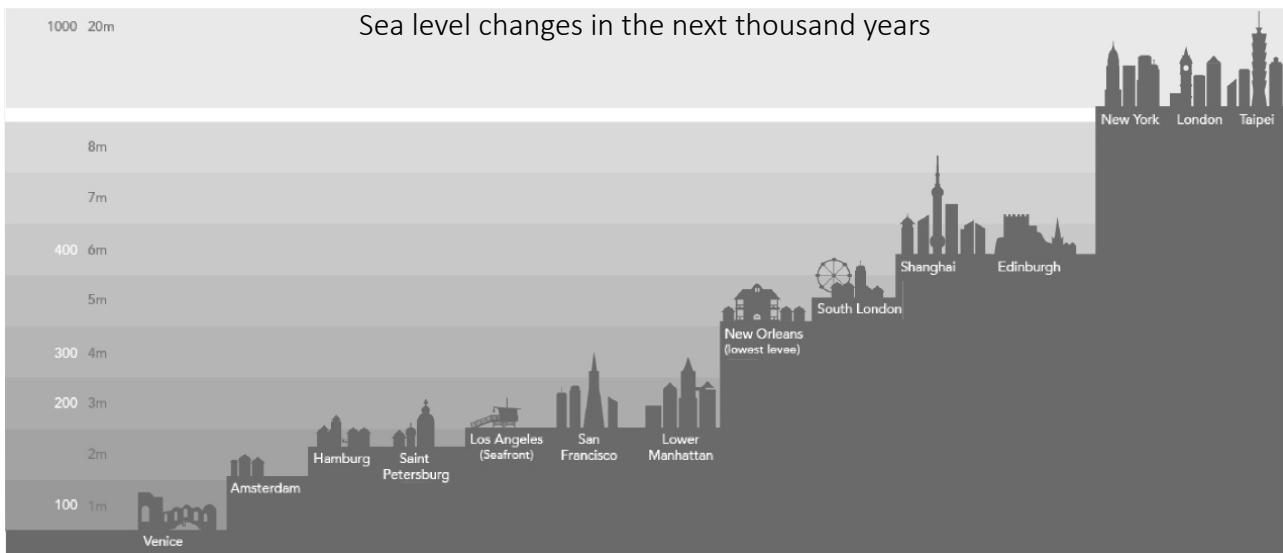
Category: Team Project / Concept Design, Model

Design, and Layout Design



What is the **Post-Anthropocene** going to look like? Can you imagine the scene where the sea would flood over the city, and most residences would disappear in the sea in the next thousand years? Besides, Huge disasters such as earthquakes, tsunamis, hurricanes, and volcanic eruptions will happen more and more frequently. Meanwhile, due to advanced medical technology, the average life expectancy is getting longer and longer, leading to further population explosions and outbreaks of epidemics from time to time.

In the face of enormous survival challenges, humankind will finally put aside all the disputes and contradictions between them, then concentrated all their material resources and united to resist natural environmental disasters. **In this envisage of flying cities, borders and countries, which useless to the environment-protecting, will no longer exist.** Human society will be replaced by 'Flying cities', Which will create more green spaces for activities and comfortable living spaces and reduce the epidemic's spread. Each independent city will be an **independent eco-system**, and the geographic location can be changed. Every city on the earth will form a **global network** together. drones, fly buses, vessels, submarines will help transport passengers and materials between cities.



80 years later



800 years later



8000 years later



Sea-Level Rise



The Global Networks



Extreme Weather



Antarctica's ozone holes



Oasis



Glacier melting



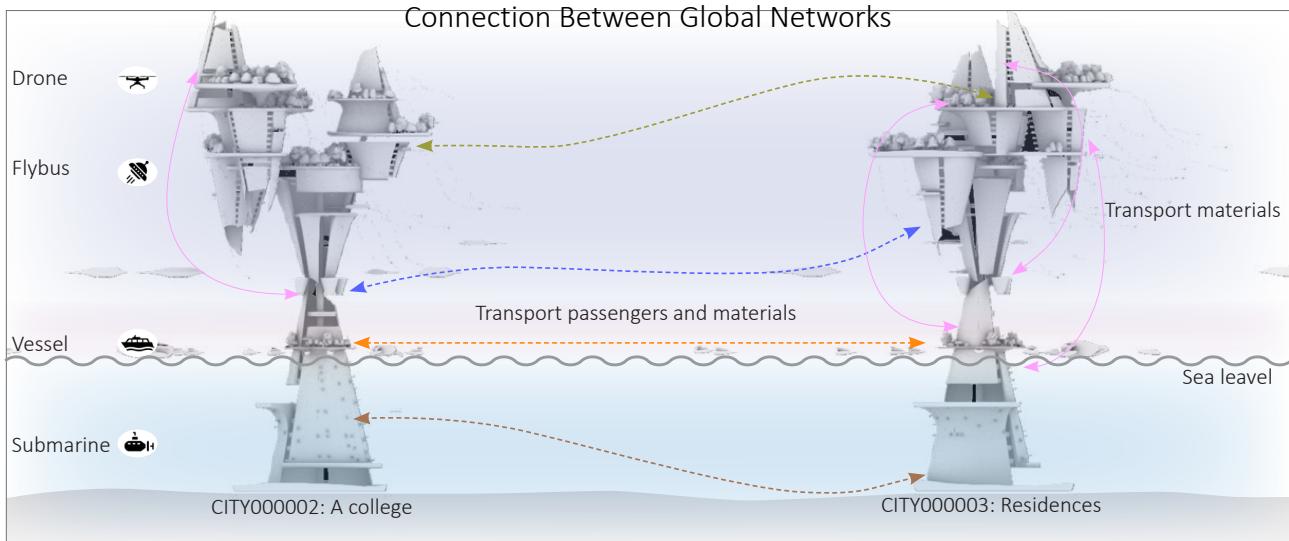
Dusk



Human population explosion

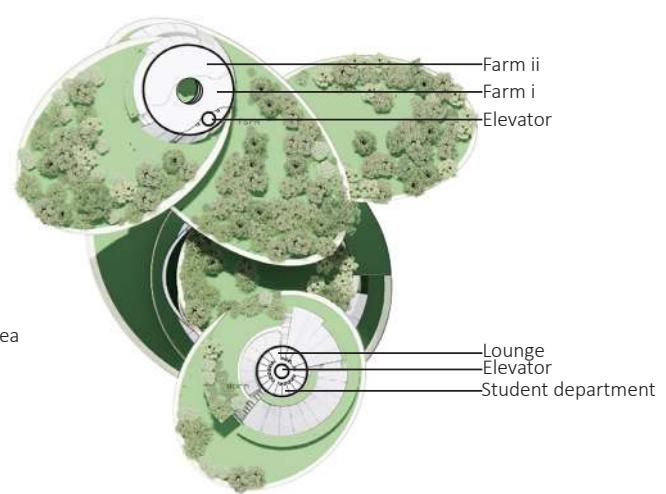
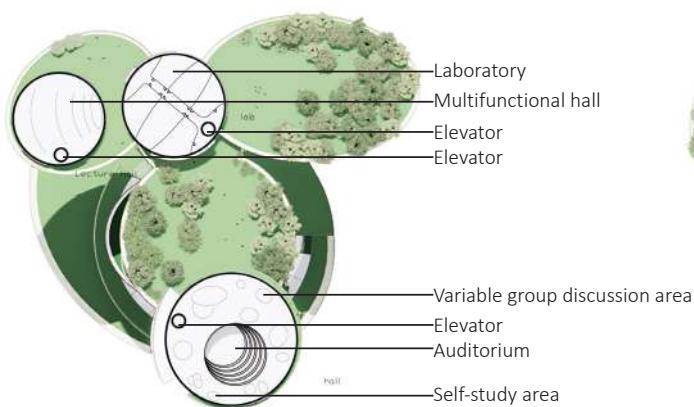
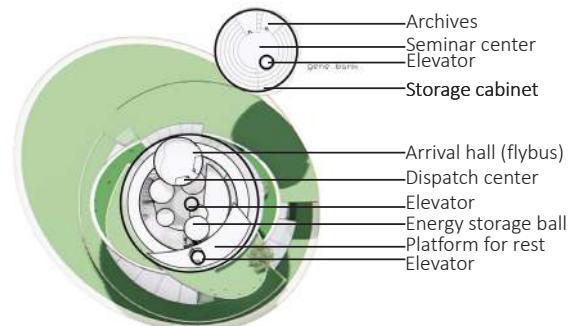
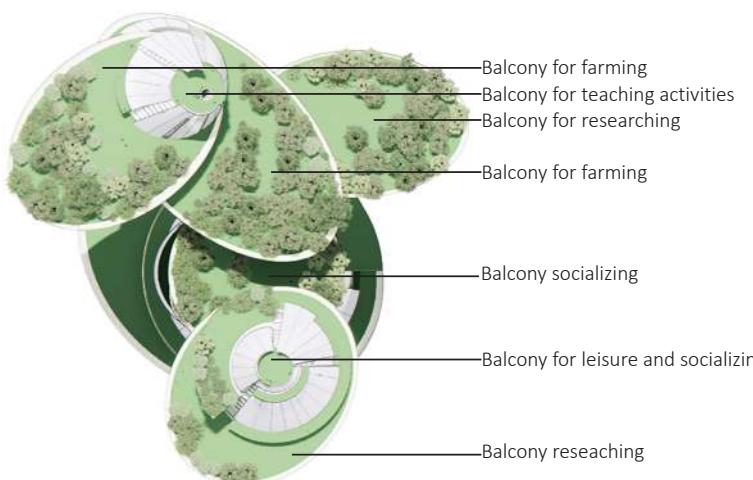
Over the past hundreds of years, human activities had a massive impact on the natural environment. We exploited a host of environmental resources and emitted massive carbon dioxide, which led to Antarctica's ozone holes, sea-level rise, and large-scale climate conditions changes.

I believe the younger generation discovers better strategies to save human-beings. Although the future of earth will be challenging, we should still maintain an optimistic attitude and believe in ourselves, so space and vision are designed in an upbeat and generous style.



### CITY 000002: A college

Ecocentric, the flying cities' perspective, is quite different from it in contemporary cities. People will not see any borders and walls. The word 'country' 'race' will not exist in the dictionary anymore. The world will pay more attention to individuals, and trade exchanges will base on individuals. The largest administrative unit in the world is the CITY, and each will have a unique number. This design focuses on CITY 000002: A college.



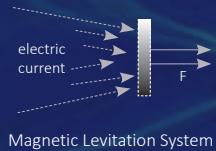
## CITY 000002: FUCTION AND CIRCULATION

In the context of human beings facing an existential crisis, CITY 000002 will focus on future **college education**. In the future, VR technology will replace all traditional classrooms, and spaces will become more flexible, spacious, and comfortable. Besides, survival courses will become compulsory courses in colleges and universities, and students must learn skills such as driving, planting, and maintenance. Agricultural activities will become one of the students' entertainment.



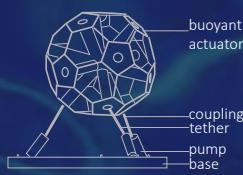
Power Source II--Flexible Solar Panels

Recently, methylammonium lead halide perovskites have been identified as promising absorbers for solar cells. We believe This is the most potential cutting-edge technology that can utilize in future architecture due to its flexibility.



Magnetic Levitation System

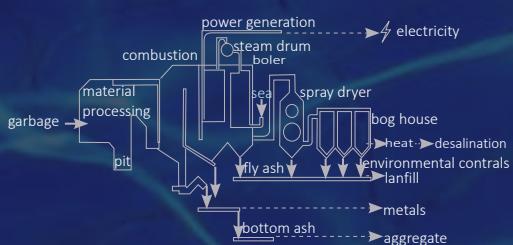
The system would allow cities to rise from the earth and levitate. If an earthquake occurs on the seabed, the superstructure will not be affected due to the magnetic buffer.



Power Source III

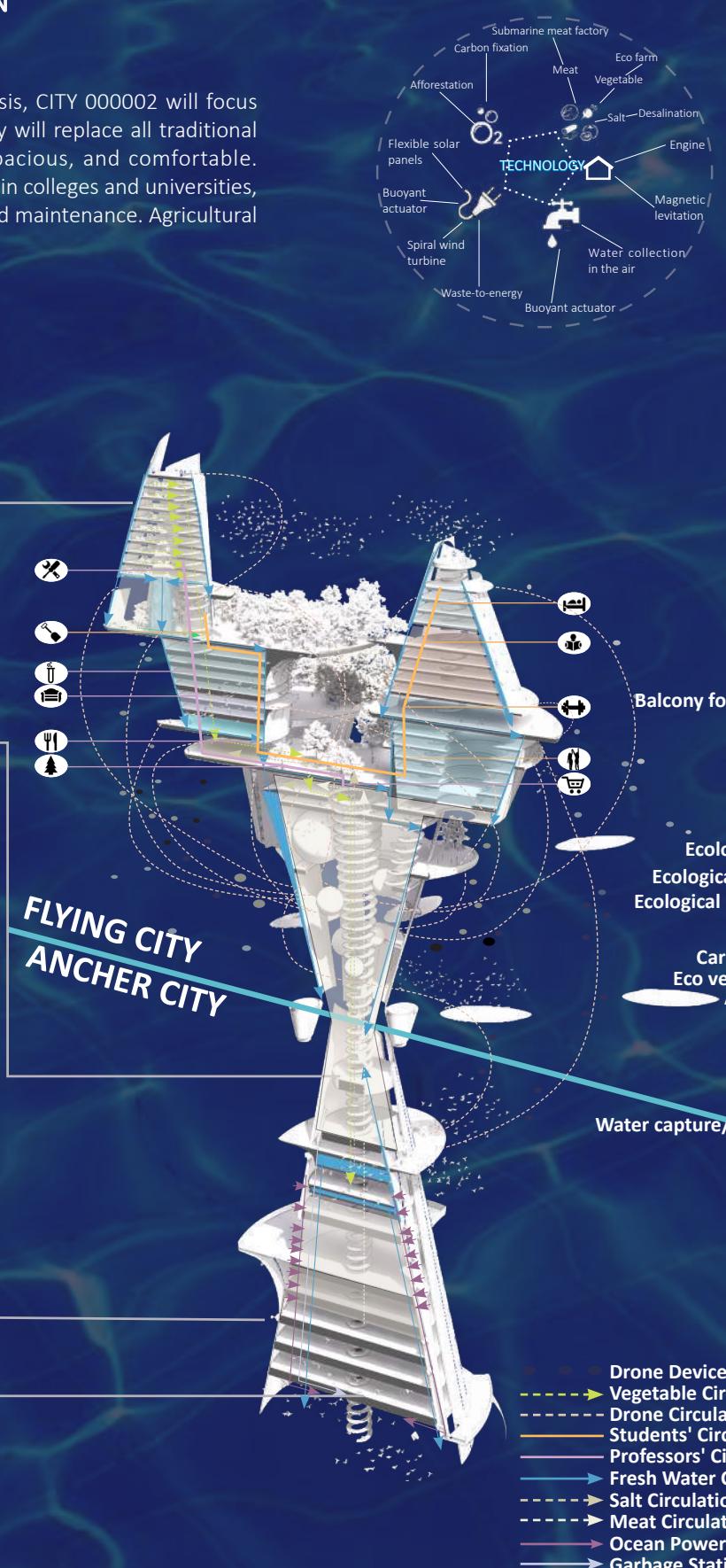
Freshwater II--Buoyant Actuator

It will not only provide power but also desalinated water. The apparatus is installed for operation on the surface of the anchor city. The apparatus's exterior surface has a plurality of openings for fluid flow between the hollow interior and the surrounding body of water. The ocean energy will turn into electricity when the seawater moves.



Power Source IV--Waste-To-Energy Station

MSW is the most effective method in the present day. It is a mixture of energy-rich materials such as paper, plastics, yard waste, and wood products. It can reduce the volume of waste by about 87%.





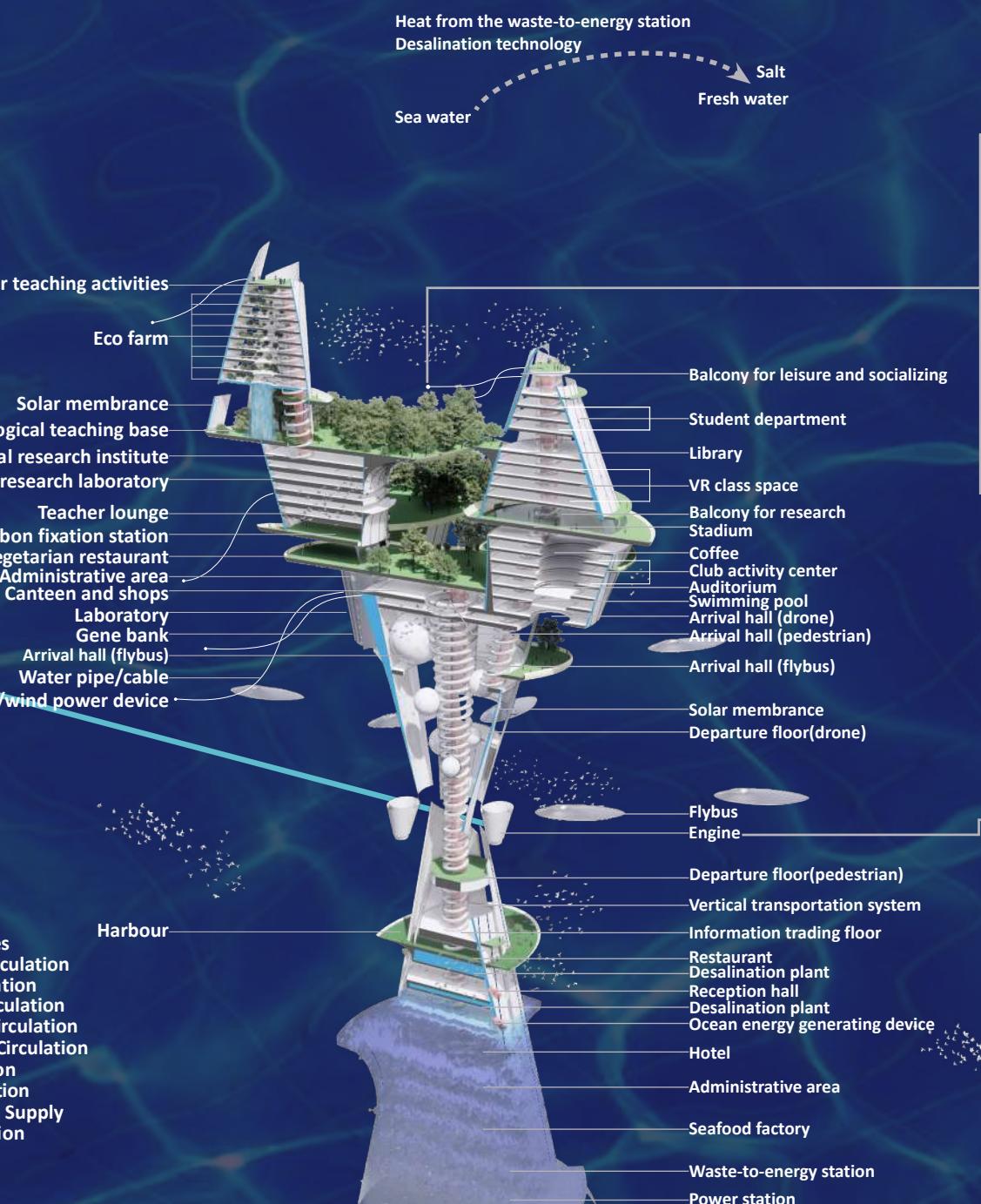
**1.Oxygen supply.** The flying city will be a green palace which aims to increase atmospheric oxygen content. Each unit will possess an oxygen monitoring laboratory with carbon fixation technology to keep the atmospheric oxygen concentration constant at 21%.

**2.Food supply.** Global warming brought the excessive breeding of the locust plague, which caused the reduction of food production. Therefore, agriculture in the future will be indoors based on advanced technology to ensure the food supply.

**3.Electricity supply.** The electricity generation will be transformed from solar energy, wind energy, ocean energy, and domestic waste energy.

**4.Freshwater supply.** The freshwater will be captured from the moist air and desalination.

**5.Floating structure.** A flying city is floating in the air will use magnetic levitation technology; that is, the electric current passes through a coil to generate a magnetic field, forming a repulsion force to support the floating structure. Engines installed at the bottom of the floating city can launch the floating city to space when the disaster comes.



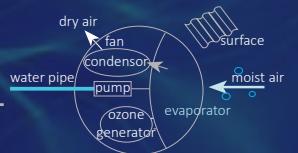
Heat from the waste-to-energy station  
Desalination technology

Sea water Salt Fresh water



Power source I--Spiral Wind Turbine Generator

It utilizes long helical blade scoops to adapt to turbulent, gusty, or multi-directional wind conditions. The rotor spin with quieter action in any wind is ideal for urban settings and environmentally friendly.



Freshwater I---Water Collection In The Air

In the atmospheric water generator, the refrigerant causes the air temperature to drop below the water's dew point temperature, causing water to condense. The variable speed fan pushes out the filtered air. The generated water is then sent to a storage tank to keep the water pure and reduce viruses and bacteria's risk.



Engine

When people have to fly out of the earth, the previously silent thrust chamber will burst out with colossal energy, pushing the flying city to the universe.



**AURORA**

AFFORDABLE FLEXIBLE HOUSING FOR THE YOUNG SINGLE HOUSEHOLDS

Course: March Architecture Design 22/23, UCL Bartlett

Research Cluster: 05 Product Design

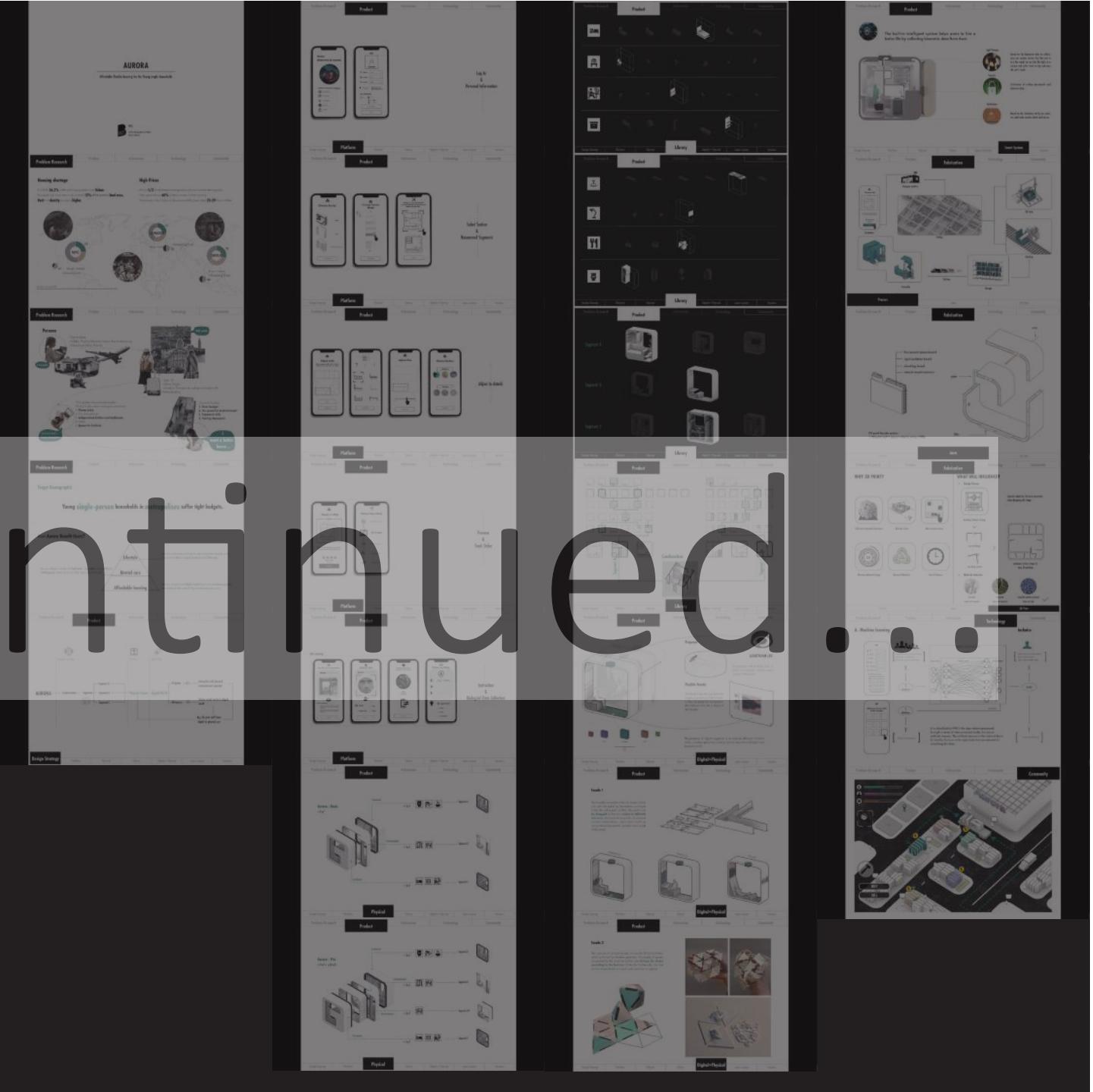
Date: September 2022 - September 2023

Category: Group Project

Group members: Diba Baghernejad, Haojin Qin, Shiyuan Liu, Chen Liang

Location: Metropolises worldwide.

Technology: 3D printing, Machine learning, UI/UX design, Game design, Topology optimization



In 2020, **56.2%** of the world's population was urban. However, the urban area only contains **15%** of the world's land area. As **density** are going higher, there are more and more **apartments** for renting compared to houses that are owned. The growing population in large cities cause **shousing shortages** leading to worse **living conditions** in metropolises.

We target the people most affected by this issue. Almost **1/3** of residents in metropolises are **low-income** demographic. They spend almost **60%** of their income on their housing. Urban residents with low income are mostly single households. The poverty rate is higher in the young adult group aged 20-29 than in others. So our **target group** is **Young single-person households in metropolises suffer tight budgets.**

Aurora is designed to benefit users from **affordable housing** (Aurora integrate multiple functions in the minimum space and reduce the cost of the construction process), to **mental care** (Aurora utilize a variety of high-tech, big data, and artificial intelligence methods to care for users mental health), to **lifestyle** (Aurora customizes and gives equal opportunities to users to promote their unique hobbies and lifestyle).



# FROM COAL-MINING TO GAME-WINNING

ABANDONED COAL MINE RENOVATION DESIGN

Course: Undergraduate Graduation Design.

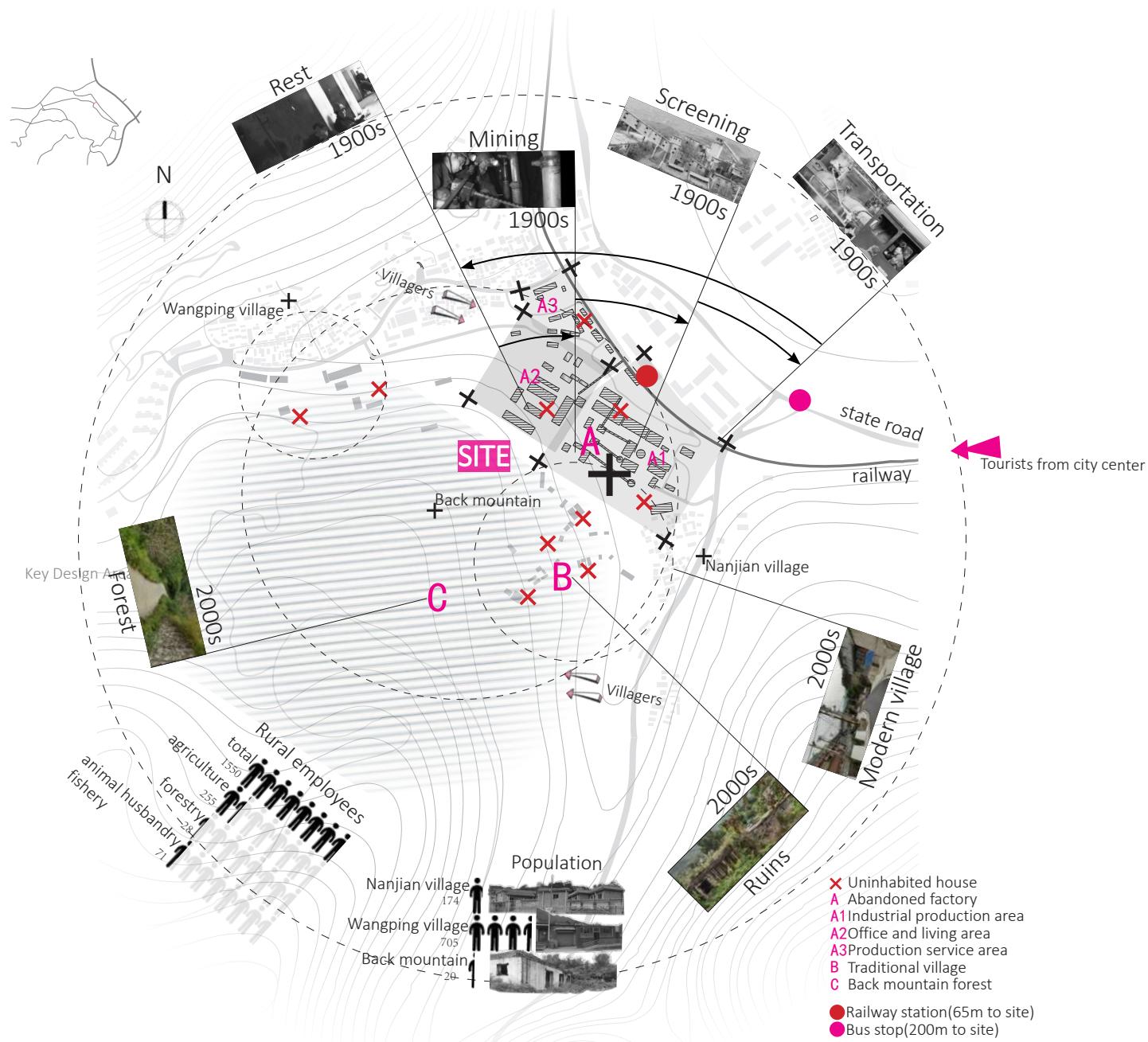
Date: December 2021-June 2022

Site: Wangping Village, Beijing, China

Category: Individual Project

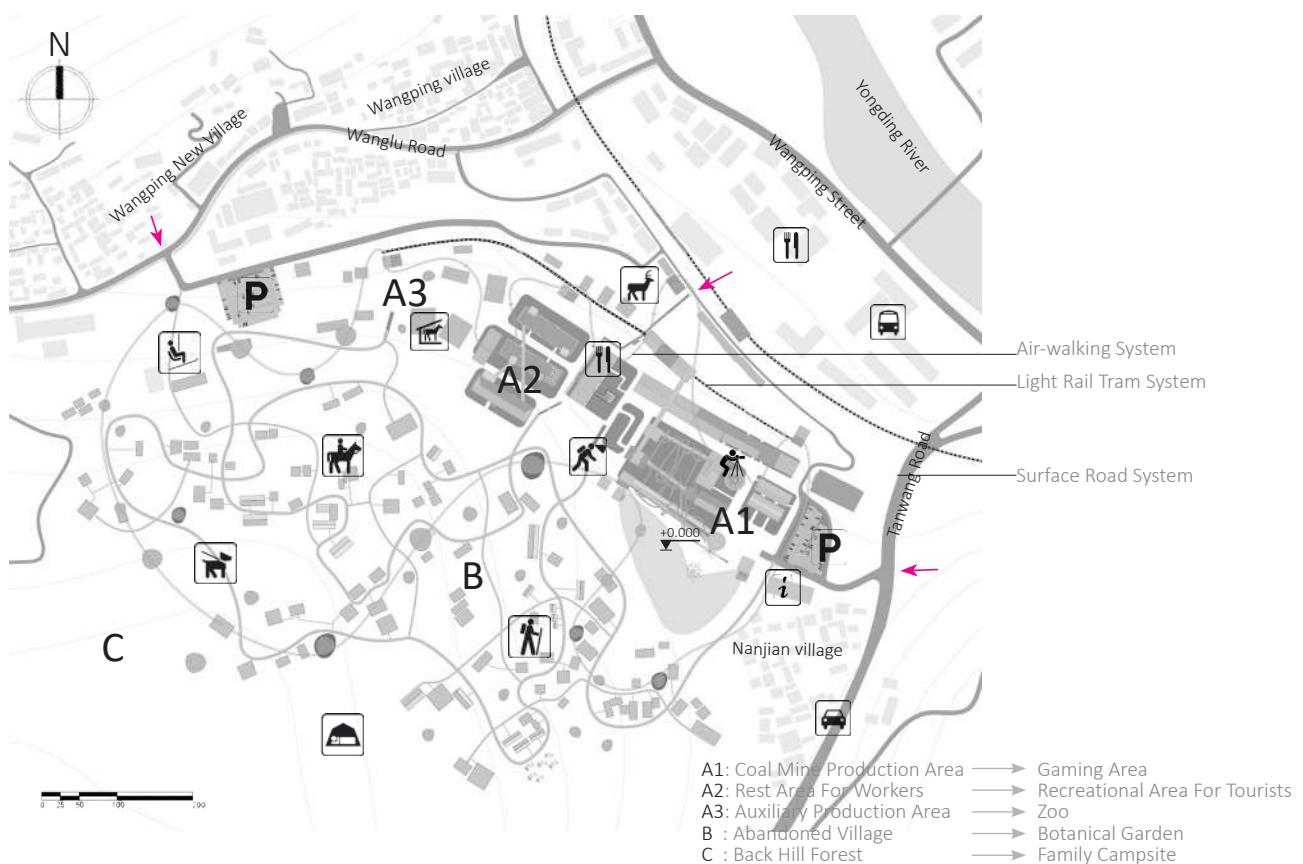
Video: <https://www.youtube.com/watch?v=KcOFwJlxQZU>

Amenities: Mall, Office, Podium Retail, Residential



The Wangping Coal Mine, once prosperous in the late 20th century, was shut down in 2004 due to ecological conservation. By 2021, this coal mine, along with its history and culture, has been forgotten for years.

The design is based on typological methods to update the old factory and surrounding area, facing the reality of resource-based villages' hollowness and the uneven demand and matching of urban and rural spaces. New functions are placed in different locations and architectural spaces in suburban villages. Aiming at the coal mine site, old factory buildings, scattered villages, forest roads, and other elements, realize the integrated utilization of space resources, zoos, and create children's playgrounds and other functions. This design turn coal-producing areas into catalytic sites that stimulate public life while meeting the leisure needs of urban residents of different ages. It also provides new job opportunities and lifestyles for surrounding villagers and retired coal mine workers living on the back mountain. Besides, it allows children to integrate into the Wild township environment, understanding nature, learning, and playing.



# OTHER WORKS

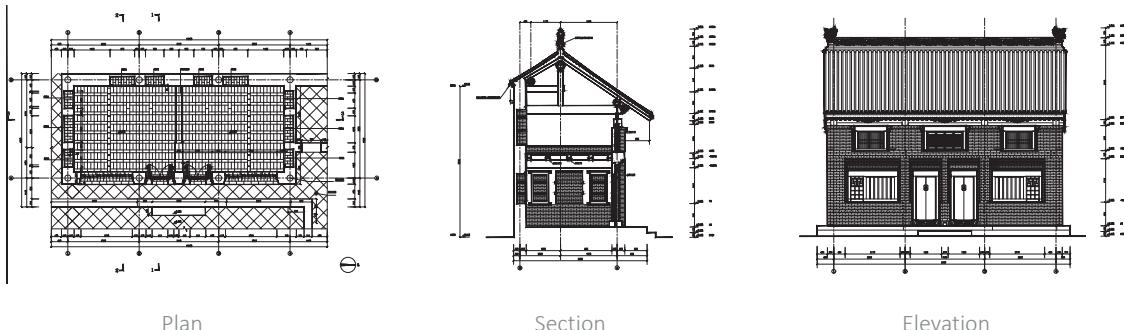


## ANCIENT ARCHITECTURAL MAPPING

Course: Memoir of Historical Building

Date: July 2020

Software: CAD, cyclone



Plan

Section

Elevation



## REDEFINE CYBERPUNK

FUTURE URBAN CONCEPT DESIGN

Workshop: UNREAL2.0 Online Workshop, Sci-Arc

Course instructor: Elena Manferdini, Andrea Cadioli

Date: November 2021

Category: Individual Project

Video: <https://www.youtube.com/watch?v=XROXBtLDktM&t=4s>

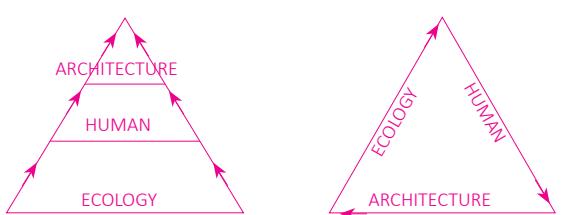
Software: Unreal Engine, After Effect, Media Encoder, Photoshop



The topic of the final are 'cyberpunk city in a bottle' and 'infrareds-invisible to humans'.

In the fantasy of novels and movies, the description of the future cyberpunk era is always cast with pessimism. But with the highly developed technology of today, 1000 years from now, we could still be able to construct a warm and peaceful cyberpunk city. That is why I redefine cyberpunk in my final video.

Villages and cities have been steadily constructed by human civilization over thousands of years, which has harmed the global ecosystem by reducing the number of animals and trees. To restructure the current order of the planet, I build a future ecological city in the bottle. Three sections of the city may be distinguished: the landscape, the upper architecture, and the underground. Human beings will give the land back to the sea, lake, forest, and animals in the future. The earth returns to its original state, and human activity take place in the air.





## INTERNSHIP

Date: July 2022-September 2022

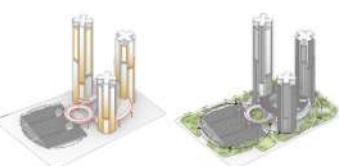
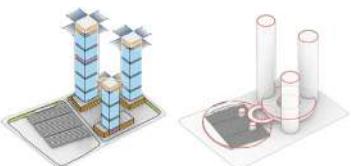
Software: CAD, Photoshop, Enscape, Rhino, Illustrator, Indesign, Powerpoint



Qianmotou Rural Revitalization Industrial Park in Shenzhou City



Changshuiwei Stagecoach



International Architectural Design Competition Of China Artificial Intelligence(Guangzhou)Industrial Park



## '2001 SPACE ODYSSEY'

FILM NARRATIVE EXPANSION

Course: Workshop 01, UCL bartlett.

Date: October 2022

Category: Group Project

Group members: Shiyuan Liu, Haojin Qin, Wenxuan Hu

**Video:** <https://www.youtube.com/watch?v=g6oaaVm1vE0>

Software: Houdini, Zbrush, Unreal Engine, After Effect, Premiere, Photoshop, Davinci, Illustrator



(1)

The project bases on the film *2001 space odyssey*. The background of our project takes place before the main character of the movie David becomes a baby. We create three boxes which are designed by Aliens for David to spend his lifelong. These three boxes are designed from cells--natural system--Paradise and turn into a baby in the end.

As David exited the ship, he noticed three structures with odd light flashes(1). When he touched the door, a gravitational force brought David into an overgrown area--box 1. There were huge eyeballs hanging from the red building. David jumped onto one of the eyeballs on the ground, and the eyeball immediately took David up to the highest part of the building. He touched the eyeball fell into a space full of eyeballs. He was terrified, and after a moment of vertigo, He arrived in a forest---box 2. He followed the bird's song, the divine deer and the guidance of the light, and ran all the way through the heavy barrier. When he came to a lake, a huge square box appeared in front of him. With another gravitational force, David was brought to a place that made him cry out of fairyland---box 3. Suddenly David saw the black stone in a mirror. this is exactly what he was looking for a long time in this mission. He was so excited that he couldn't tell if it was real or unreal, so he reached out to get it... A cry, a baby was born...



Box 1 top view



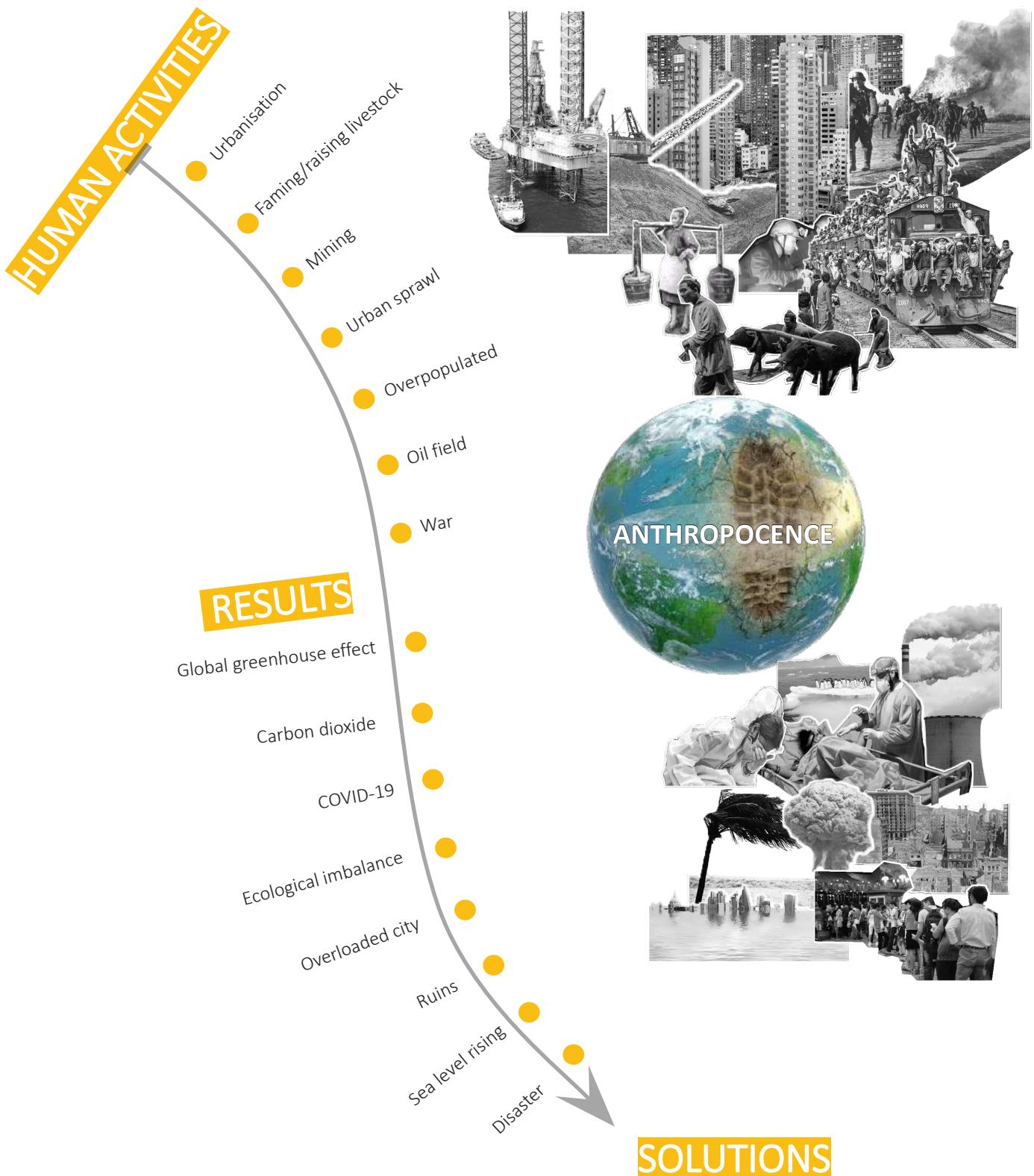
Box 2 top view



Box 3 top view

# APPENDIX

## My design philosophy



In the Anthropocentric epoch, human activities such as urban sprawl have left an undeniable impact on Earth's geology and ecosystems. Via deemphasizing the relationship between living creatures and the earth, I proposed an **equilateral-triangle model**, with architecture, human beings, and ecology being its three sides. This model served as my guide as I try and address various global problems brought on by humans.

