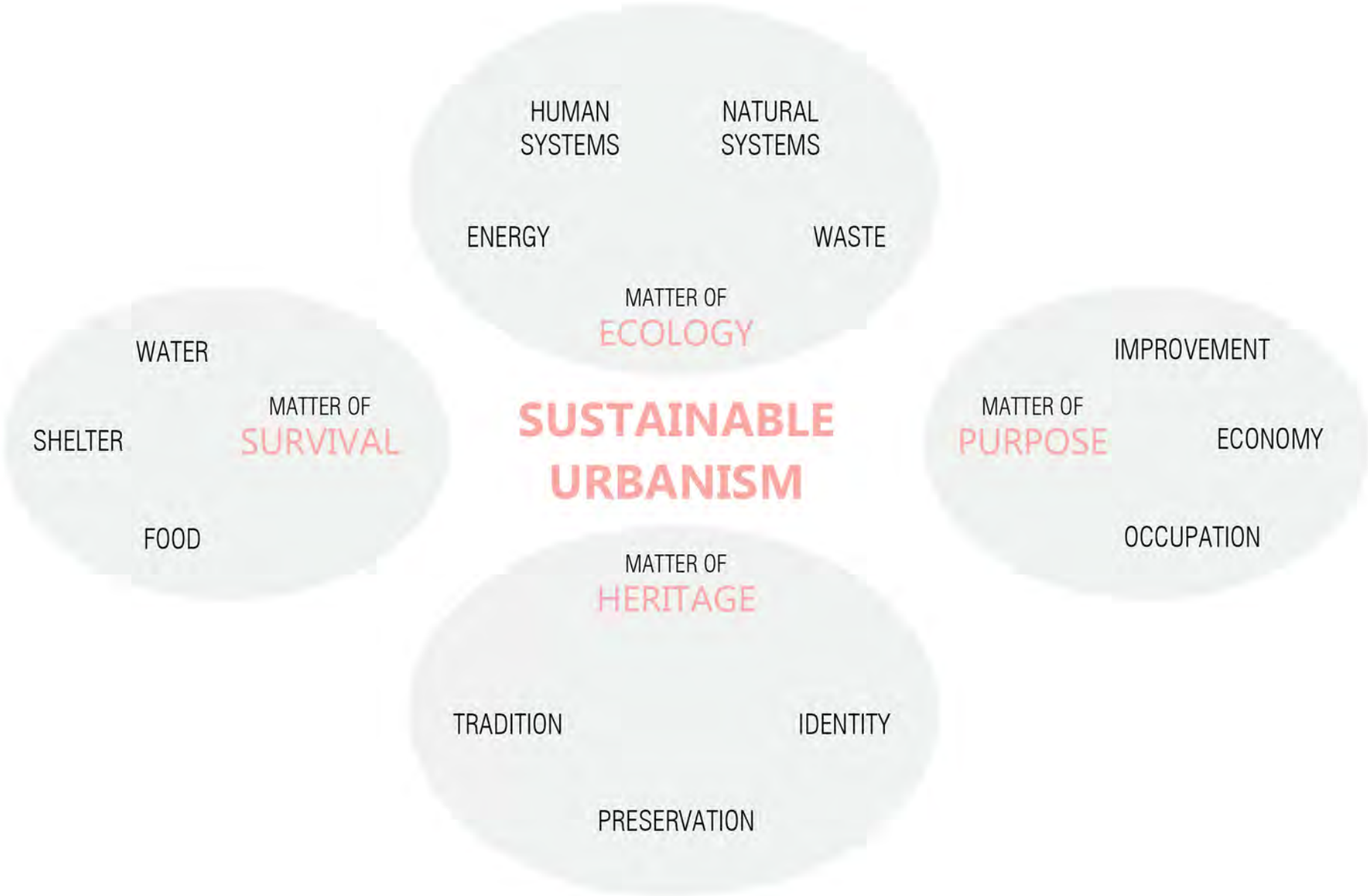
VERTICAL CHINA DESIGN STUDIO [SUSTAINABLE URBANISM]

Arch 510-610 | Fall 2018 | Chongqing, China

University of Nebraska
Lincoln

Studio Introduction


HUMAN SYSTEMS
NATURAL SYSTEMS
ENERGY
WASTE
MATTER OF
ECOLOGY
WATER
MATTER OF
SURVIVAL
SHELTER
FOOD
IMPROVEMENT
MATTER OF
PURPOSE
ECONOMY
OCCUPATION
SUSTAINABLE
URBANISM
MATTER OF
HERITAGE
TRADITION
IDENTITY
PRESERVATION

STUDIO PLATFORM

Fall 2018

The planet is a finite resource inhabited by a dwindling collection of flora and fauna. The rise of homo sapiens has skewed the ecology of this environment in ways that threaten not only the existence of other living things, but of the human race itself. Blinded by the potential of technology and their own sense of entitlement, humankind has developed a dysfunctional relationship between human settlement and the natural world. To find a healthy balance on the planet between all of its inhabitants, one that has the resilience to sustain a dynamic balance, requires the reorientation of planning and design trajectories from their exploitive and self-centered approaches. The framework this studio operates on is an interactive construct between the areas of **survival, purpose, ecology** and **heritage**. Survival, to reconnect settlement to water, food and shelter as the foundations of settlement. Purpose, to connect human industry and innovation to the needs of settlement while being mindful of their impacts. Ecology, to integrate systems of urbanism and the systems of the environment in ways that operate through renewable energy and eliminate waste. Heritage, to critically consider the role the past has in defining the present and the future definition of place. This diverse construct serves as the platform from which this studio explores various trajectories in pursuit of a 'sustainable urbanism'.

Based on this platform, the Sustainable Urbanism Studio focuses on **exploring alternative strategies** to evolve the nature of the city from its unsustainable present towards a resilient future. The rapid urbanization of the planet has made this a pressing reality for the professions concerned with human settlement and the environment. The Studio pursues this goal through grounded speculation in the present, seeking balanced, inclusive solutions as opposed to singular, biased polemics. Density is embraced, as a response to the need to reserve land to feed the worlds growing population and preserve the important natural habitat necessary to balance the world's ecosystem. Basic needs are understood as something that must be addressed within development not somewhere else. Growth is a reality pursued strategically where integration and diversity are important as opposed to segregation and singularity. Human industry, as manifest in economics, improvement and occupation, provides the means for civilization and the environment to adapt to the dynamic conditions of our world. Sustainability is not just green. It comes in all colors, requiring a holistic approach where ecological balance is valued over human arrogance. The breadth of sustainability is not its weakness. It is its strength. Humanity's weakness is its failure to embrace this reality. The Studio embraces the challenge of pursuing balance over polemics, inclusion over exclusion, integration over segregation and the fact that human settlement is a part of the environment not apart from the environment.

STUDIO FOCUS

Chongqing, China: Urban Re-Development

Sustainability: Humanizing High Density

As society (re)considers growing its future urban environment, it can no longer ignore the social and environmental challenges facing the contemporary world. The growing separation of people from 'nature' has been proven to have negative impacts on child development, wellness and productivity. To address these challenges, cities must start with the (re)integration of natural systems into its urban framework, establishing a greater harmony between settlement and nature. As our cities necessarily increase in density to preserve land for other important purposes, they need to examine how they can integrate 'green' not just at the surface but also vertically. Settlement will also need to develop robust and resilient circulation systems that collectively yield a lower carbon footprint and less pollution of the environment. The production, processing and delivery of food will need to give greater emphasis to local sources. Distributed infrastructure systems will need to supplement or replace centralized systems. Waste will need to be (re)considered in the context of a broad system of reuse and recycling. It also means that the heritage landscape of a community should be identified and preserved integrally within the new fabric of the city. The future of the city does not lie in the segregated patterns of modernism, it lies in the integrated patterns of a more sustainable form of urbanism.

Context

The rapid growth of Chinese cities, caused largely by the in-migration of rural people, has created extraordinary challenges for these communities.

> "By 2030, the nation's urban population is forecast to grow by an additional 310 million people, the equivalent of the entire population of the United States, to 70 percent of the total population. By this point, more than 1 billion Chinese will live in cities. The new urbanites will require more space, water and food, imposing severe environmental pressures. "
>
> Institute of Urban and Environmental Studies under the Chinese Academy of Social Sciences; China Daily 9/4/2013

China is on the threshold of the next wave of urban growth. The first wave, fueled by real estate speculation, rapid growth and little regard for the cultural and ecological landscape of the city, has created the need to take a different path. The government has indicated that the next wave needs to focus on 'green' solutions to sustainably accommodate new residents migrating into the cities. This policy shift will put greater pressure on cities to change their development trajectories away for the wasteful, segregated, modernist development model towards a more integrated and sustainable model.

SUSTAINABILITY CHALLENGE

Population Growth, Program Density

As designers (re)consider previous development patterns with an eye toward more resilient and sustainable forms of urbanism, the management of water, energy, food, and waste will be base line considerations. Understanding the ability of the land to support settlement is becoming an important question to ask. Cities have both natural and human ecologies that need to work in harmony with each other if sustainability is to be achieved. The design of progressive water systems or lower carbon energy usage alone will not establish a development as 'sustainable'. Community building should also focus of creating a positive 'open' environment that is inclusive and offers choice to potential users. The possibility for economic development at various scales is necessary to allow the population to prosper. Circulation systems should focus on the pedestrian as the first and most energy efficient mode of transportation followed by the accommodation of other circulation systems based on their efficiency and carbon impacts. Finally there is a need for cities to recognize the continuity of culture and its role in the definition of place. Sustainable cities will accommodate the requirements for survival, purpose, ecology and heritage.

DESIGN RESEARCH

The continuing migration into cities puts greater pressure on cities to grow. There is, however, an equal pressure to limit the expansion of cities to protect productive agricultural land and important natural habitat. The net result of these opposing pressures is the need to explore new strategies for city development that both increase density and (re)integrate nature into its fabric. Current practices tend push the natural environment further and further from the urban dweller, increase the distance food has to travel to get to the table and increase the heat island effect requiring the use of more and more energy. As recent research has shown, access to the natural world is important to human health and human development. Based on this realization the presence of nature is an important factor in 'humanize' the dense urban environment. Traditional strategies focused on the ground plane as the only location for 'green' in the city. As density grows, new strategies need to be considered allowing 'green' to migrate into more places in the cities. Community gardens could migrate to roof spaces, park spaces to sections within buildings and overlapping ground planes allowing us to make more of the limited space in the city.

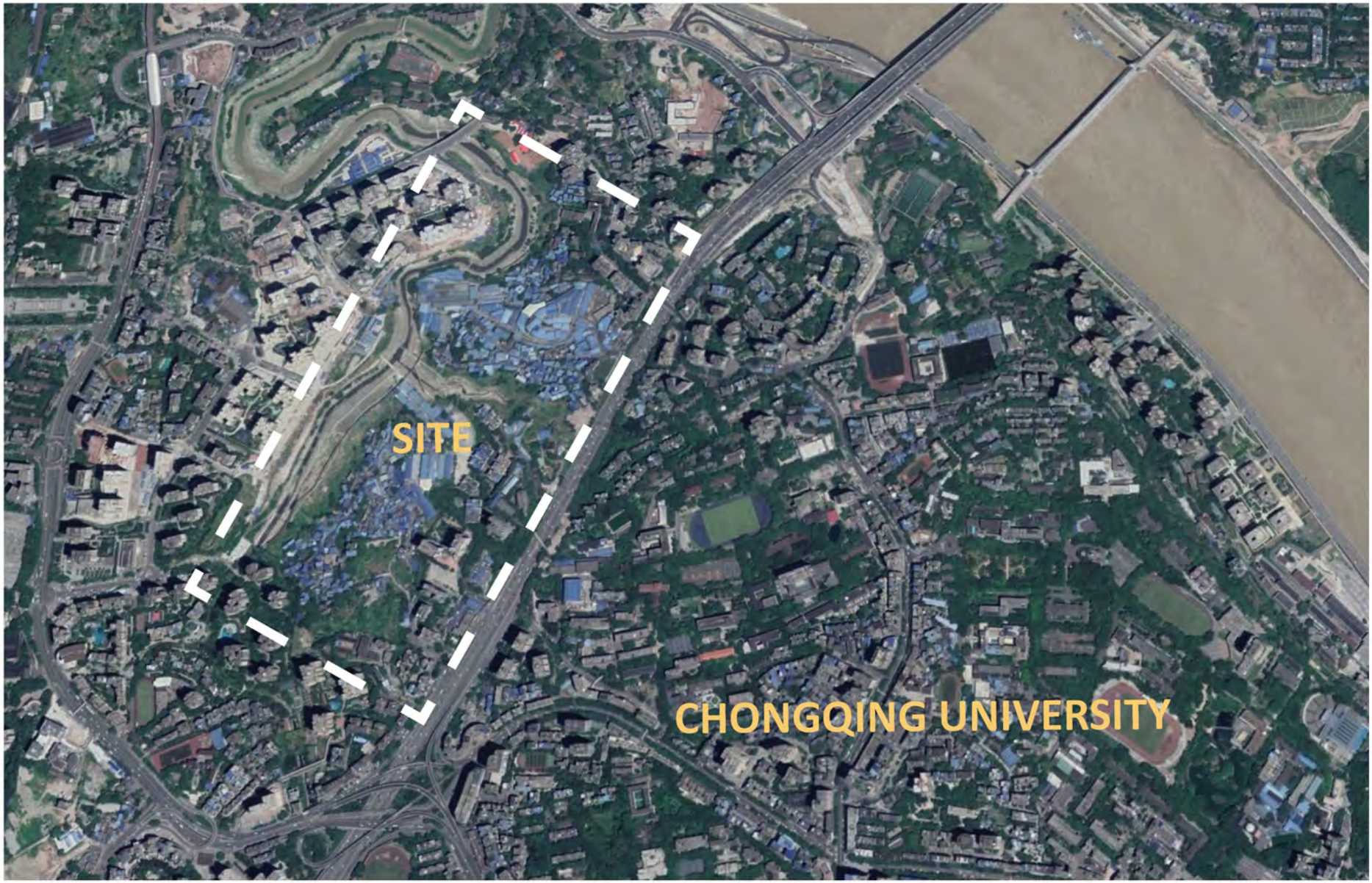
SITE INTRODUCTION

Chongqing, China

The central urban area of Chongqing, or Chongqing proper, is a city of unique features. Built on mountains and partially surrounded by the Yangtze and Jialing rivers, it is known as a "mountain city" and a "city on rivers". Chongqing is set to become the most economically important city in West China and is the biggest inland city of the country with plans for even more massive growth.

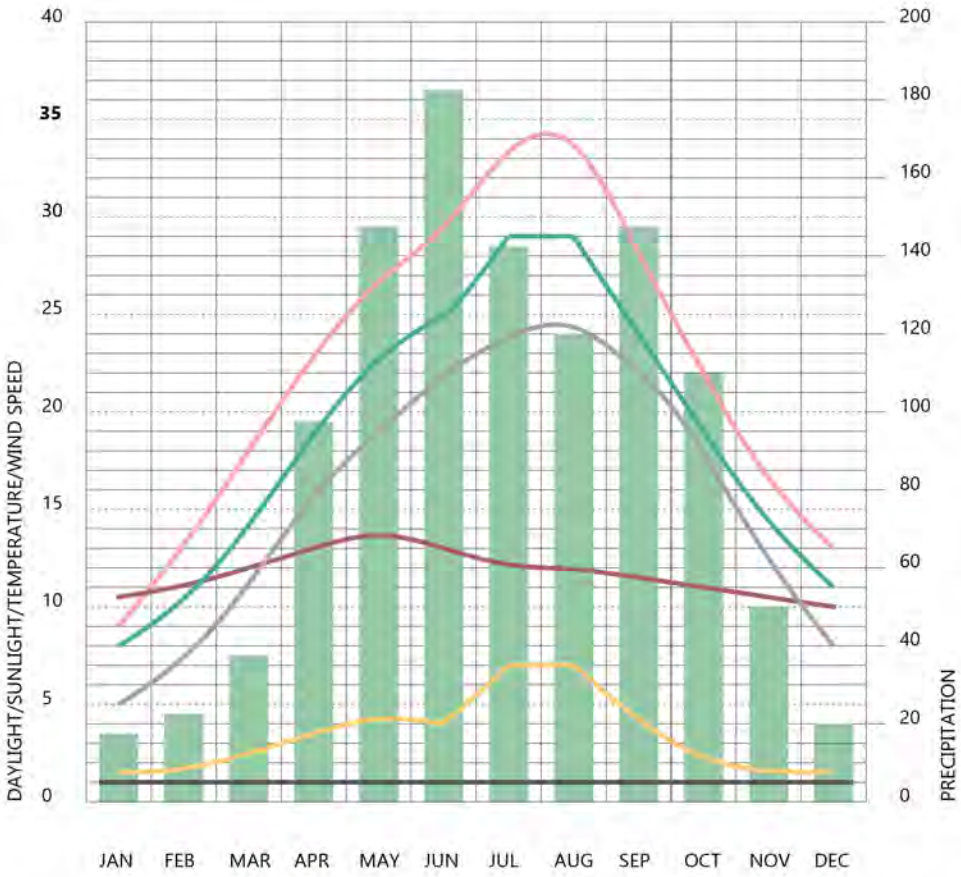
Land Area: 31,700 mi^2 (82,000 km^2)
Population: 31.8 million
Climate: humid subtropical climate

Studio Research


SITE
CHONGQING UNIVERSITY

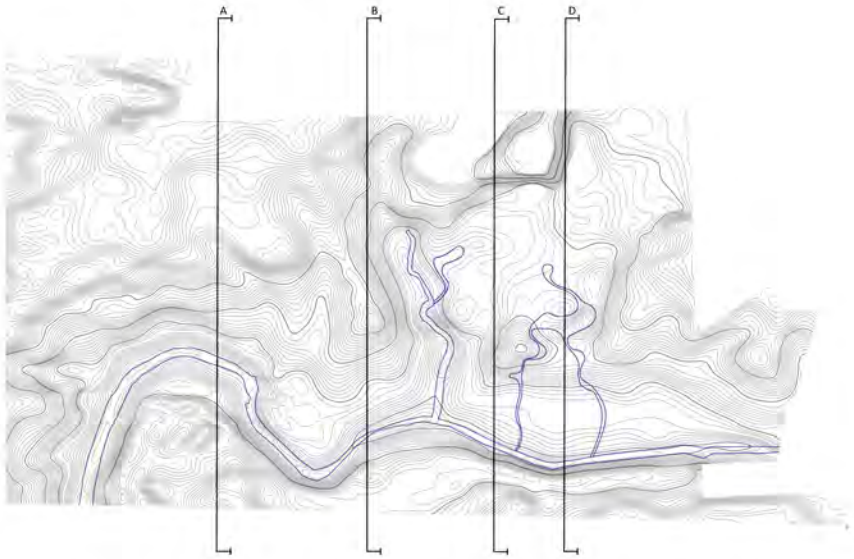
CHONGQING CLIMATE

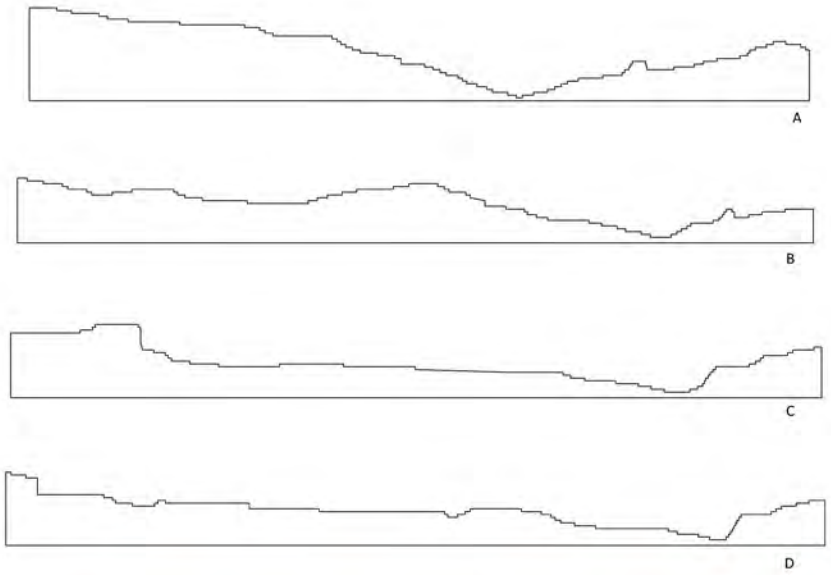
Precipitation, Humidity



Chongqing is noted for its mild and intensely humid climate. It is shielded from the cold northern winds by the Qin (Tsinling) Mountains in Shaanzi and has little or no frost or ice in winter; the mean temperatures in January and February, the only cool months, are about 47 degrees Fahrenheit on average. Summer, which lasts from May through September, is hot and humid; the August mean temperature is 84 degrees Fahrenheit, and on many days the high temperature exceeds 100 degrees Fahrenheit. The remaining months are warm, with an annual mean temperatures ranging between 64 and 67 degrees Fahrenheit.

The bulk of the municipality's precipitation (all as rain) falls from April through October; the average annual total ranges from 43 to 55 inches. Because of the high humidity, fog and mist are particularly heavy. From October to April the city is perpetually blanketed by fog, which hampers inland navigation, aviation, and local traffic. Chongqing's climate has earned the city nickname "fog capital" (wudu). The aptness of this name has only increased under present-day conditions; contaminated by soot, carbon and acid rain, the atmosphere of Chongqing is among the most polluted in China.

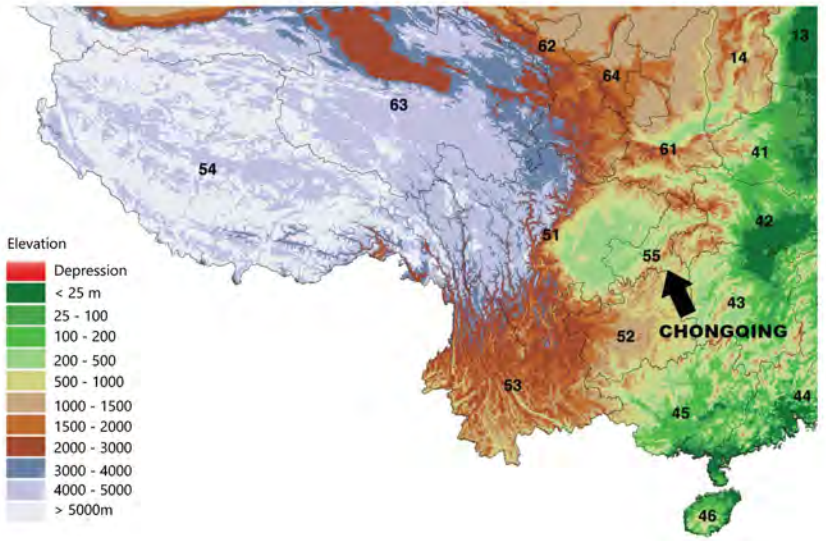




SLOPES & TOPOGRAPHY

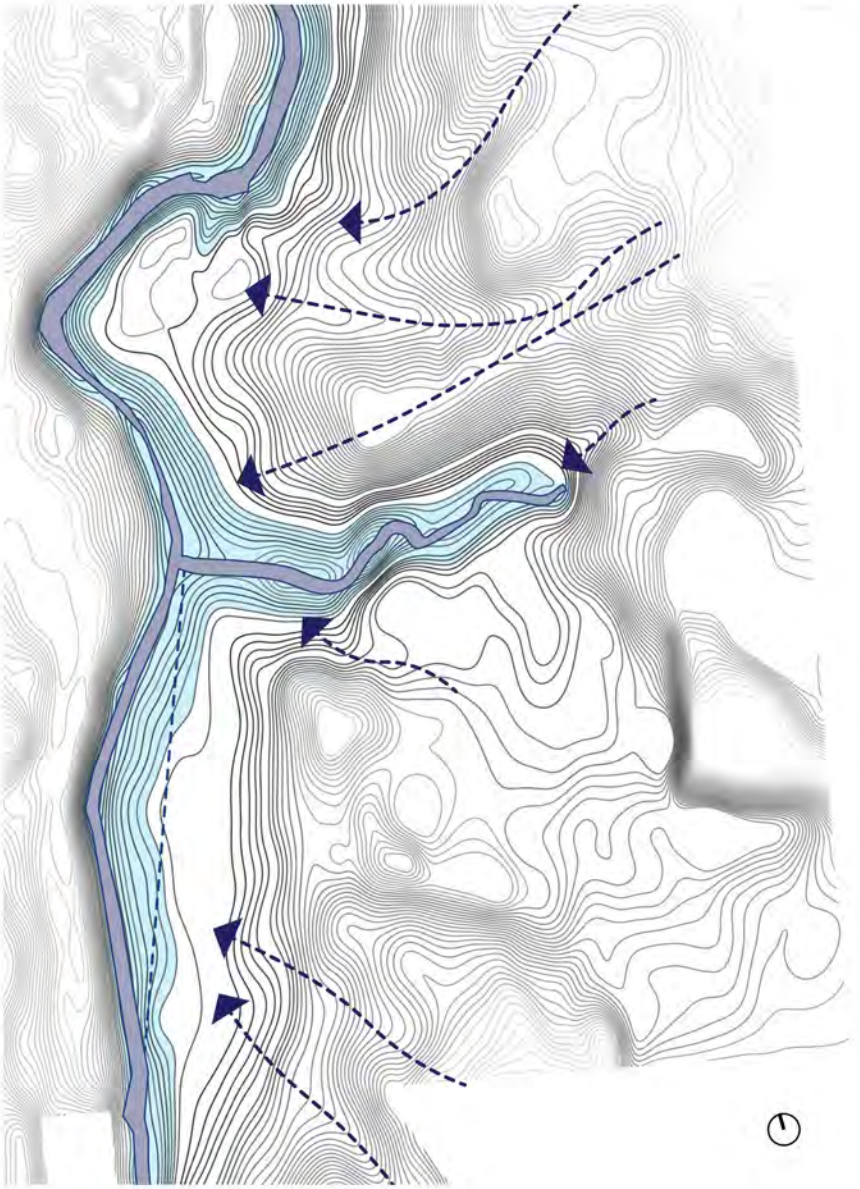
Although the topography of the Chongqing city is fairly complex, it fairs between the highest and lowest topography elevations in the region. Based on the graphic above, this range varies from 25 to 3,000 meters.

In reference to the sections within our site, one can notice the steep slopes that are present. While a majority of the topography follows a gradual drop, most of the drastic change begins when the land starts to meet with the river on site. These slopes present the challenges of orientation, drainage, and leveling. The sections made are based on the boundaries set for each of the master plans developed.



DRAINAGE

As a result of the steep topography on the site, there are key areas that face drainage issues. Being located near a river, areas nearby are bound to flood. Being aware of the consequences of global warming, China is building "sponge cities" that will help combat against floodwaters. "In April (2017), utility company Sues started installing a new 7-square mile drainage system in Chongqing. The system's embedded sensors will allow local officials to monitor their sewer and storm-water networks to mitigate the risk of flooding," (Garfield). Noting that China is focused on controlling their flooding, it is important that there becomes consideration for the types of infrastructure created around areas that will be prone to flood.



LAND USE

The government has currently been promoting settlement in urban areas. Through growth there are needs for amenities such as grocery stores, residential areas, post offices, schools, drug stores and more. Allowing for a large array of goods and services furthers the expansion of the city.

Museum

Post Office

Residential

Bank

Grocery Store

Hotel

Restaurant

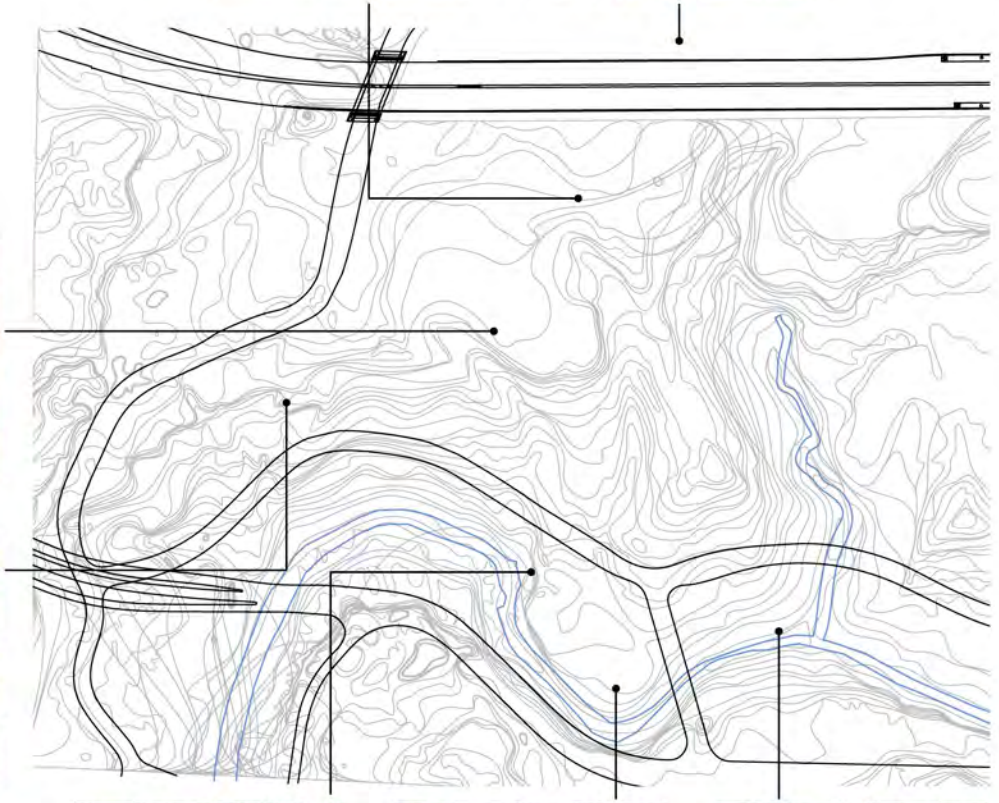
Education

Furniture Factory

Drug Store

CIRCULATION STUDY

As a result from the topography, the circulation from the site consists of many narrow pedestrian walkways with some inclusion of wider roads (that are still small in comparison to average standards). From the way the buildings turn or land on the site, sharp turns of pathways are formed, buildings help funnel people downward, and bridges begin to connect different buildings to allow for better access.



CHONGQING CHARRETTE

Throughout our visit to China we were able to see great examples of how density was dealt with in the city and how nature was able to be incorporated with it. Upon arriving in Chongqing we were introduced to students at the University that we would be developing the first draft of the Master Plan with. Together we analyzed the site, with the hopes of understanding the history, topography, and nature that we would draw into our master plan. From our site visit we worked in three groups to create a plan for our site.

When exploring our project site on foot, we quickly realized some issues we would consider in our master plan including access, slope, drainage and the practice of rural farming hidden in the middle of the city.

Another point of concern was the water quality in the valley; pollution was evident. Runoff from the city streets is released from a pipe near the top of the project site, flows into a brook, and eventually meets with the Yangtze River. To improve this cycle, our master plan developed three locations of treatment centers under each development node to manage their wastewater before it is reintegrated into the landscape and either cleansed downhill on its route through indigenous plant species or stored in a retention pond at the top of the site.

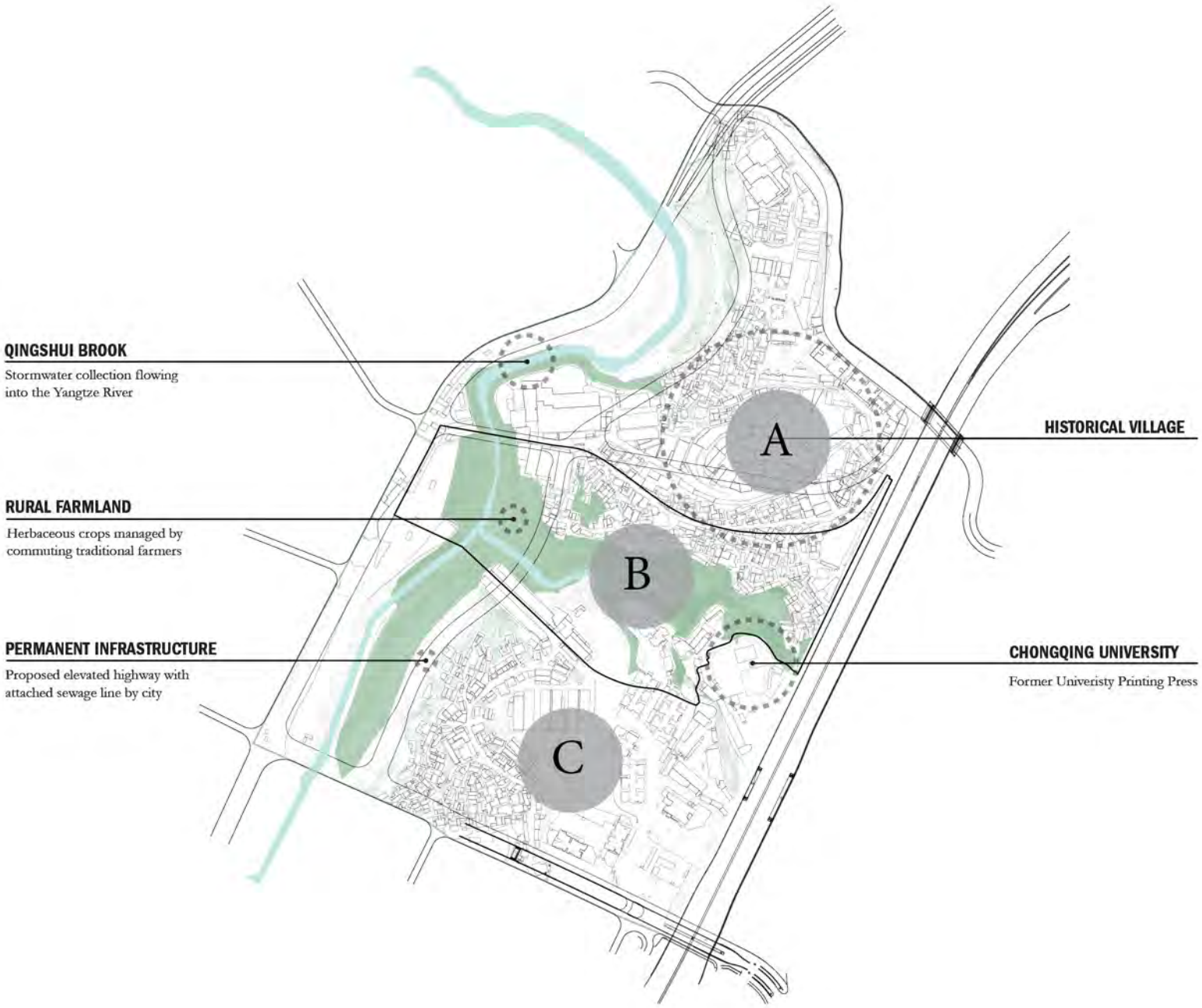
Throughout this week Charette we learned a lot from our Chinese partners, from sharing meals, being introduced to new concepts and places and were able to successfully create an initial plan to redevelope our site.

BEIJING
Sept 12 - 14

XI'AN
Sept 12 - 14

CHONGQING
Sept 12 - 14

Master Plan


QINGSHUI BROOK
Stormwater collection flowing into the Yangtze River
RURAL FARMLAND
Herbaceous crops managed by commuting traditional farmers
PERMANENT INFRASTRUCTURE
Proposed elevated highway with attached sewage line by city
A
B
C
HISTORICAL VILLAGE
CHONGQING UNIVERSITY
Former Univeristy Printing Press

MASTER PLAN BREAKDOWN

Our studio decided to break our site into three groups. These three groups consisted of the North end of the site, which contained a traditional village and industrial buildings. The second group focused on the center of the site surrounding the stream that mainly was home to urban farming. And finally the South end of the site which has connections to Chongqing University and some exhisting highrise apartments.

Our master plan focused on circulation, water, energy and green systems unique to each of the features on the site while also working together as one master plan. Our hopes, with our divisions of the site was to be able to develop the entire space, without ignoring the green area in the middle.

GROUP A

PROTECT

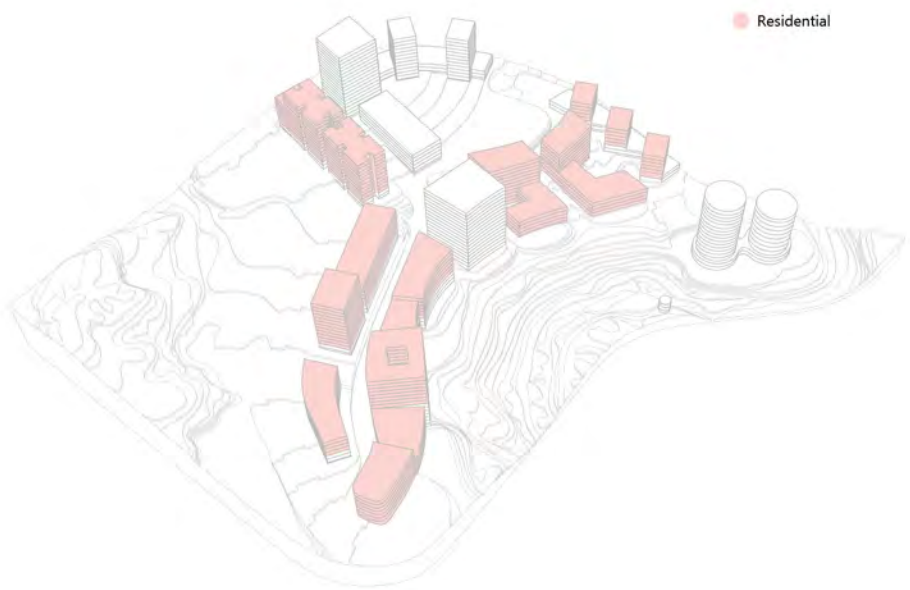
Managing the waterways and the natural environment are a key component in our design. Having steep topography with the combination of two flat areas, there is the opportunity to have enhanced natural spaces and there is the challenge of incorporating a drainage system.

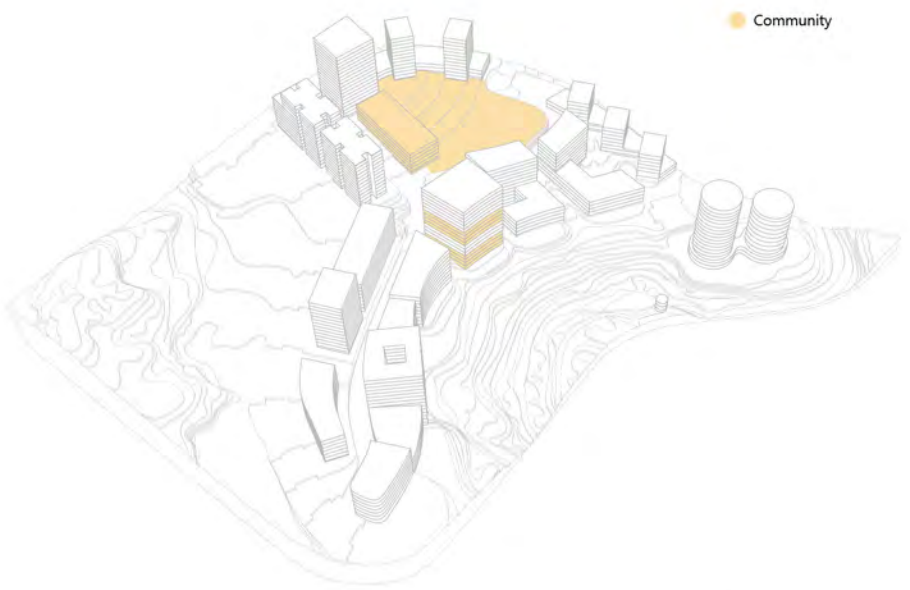
CELEBRATE

Culturally, parks spaces can be used for activities such as dancing, tai chi, and more. By opening the flat areas to the public, there becomes a higher priority for the pedestrian and the opportunity for the people to freely gather.

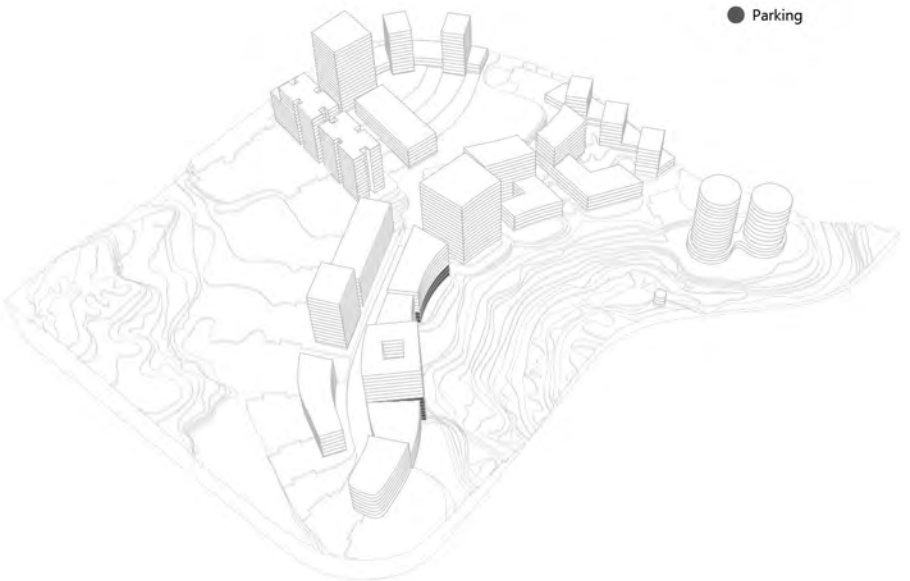
PROVIDE

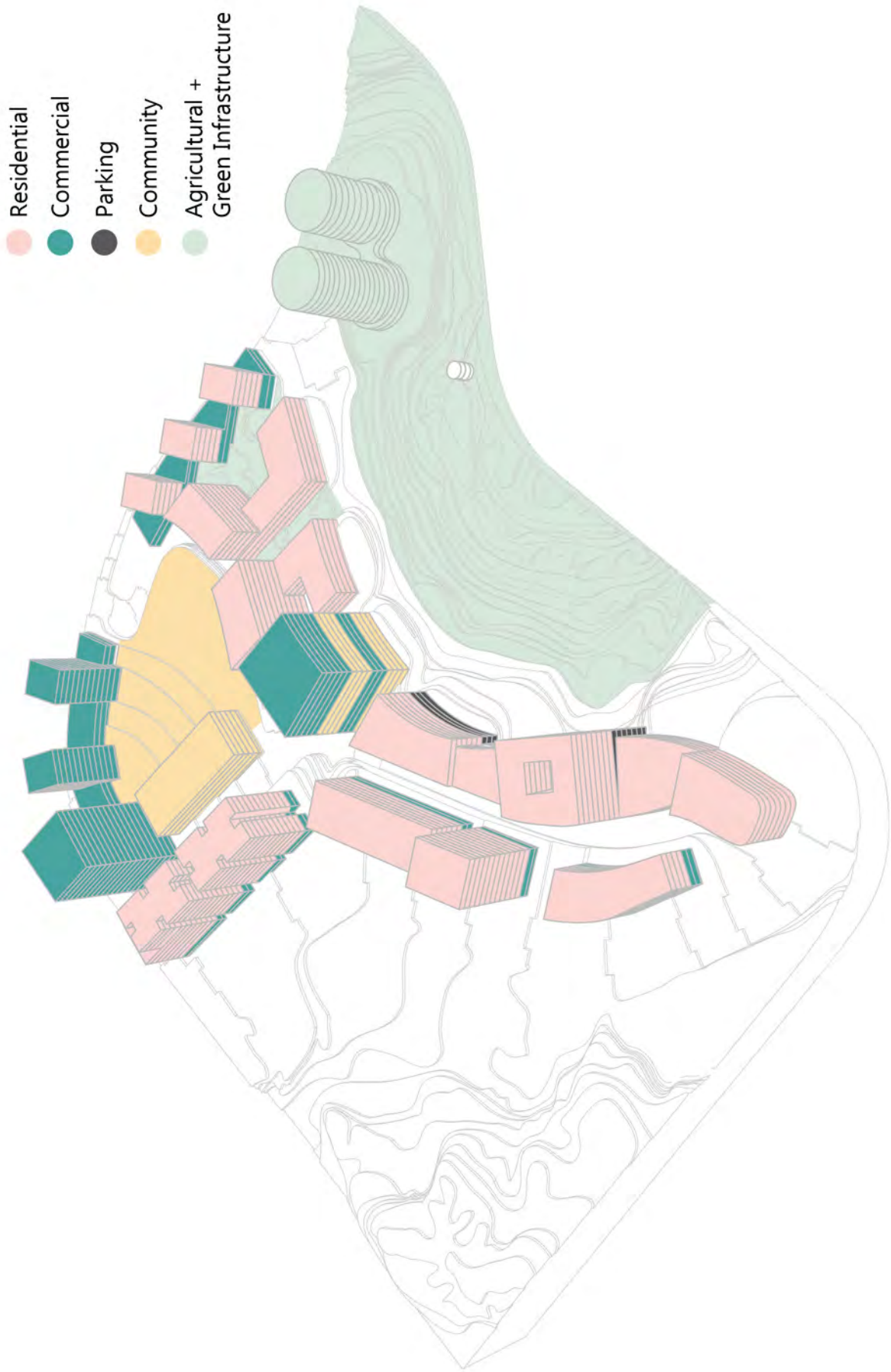
Through giving space for agricultural services, sustainable systems, and commercial areas, there is the opportunity to provide for the community. Food, water, energy, and jobs all take part in creating a sustainable environment for our site.


Residential


Community


Agricultural +
Green Infrastructure

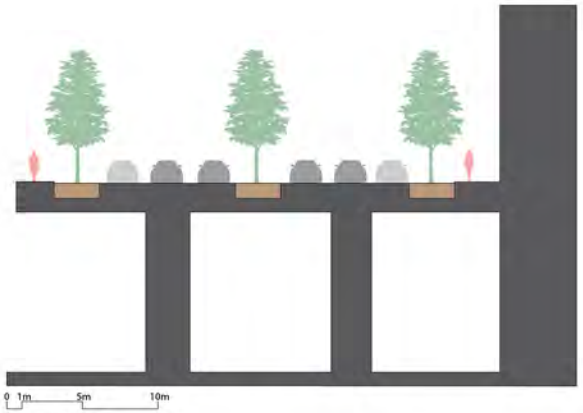

Parking


Residential
Commercial
Parking
Community
Agricultural +
Green Infrastructure

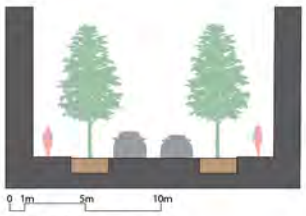
SYSTEMS: CIRCULATION

Circulation of the site; with two entry points in the North and two in the South including entry points to the Western half of the site.

The roads are designed into three zones, all of which include greenery and storm-water management systems. Additionally, certain roads also include on-street parking.



Medium Traffic (Zone 1)



Light Traffic (Zone 2)

Light Traffic with Wall (Zone 3)

High Traffic

Medium Traffic

Low Traffic

Pedestrian Paths

Drainage

Bioretention + Bioswales

Stream

SYSTEMS: WATER

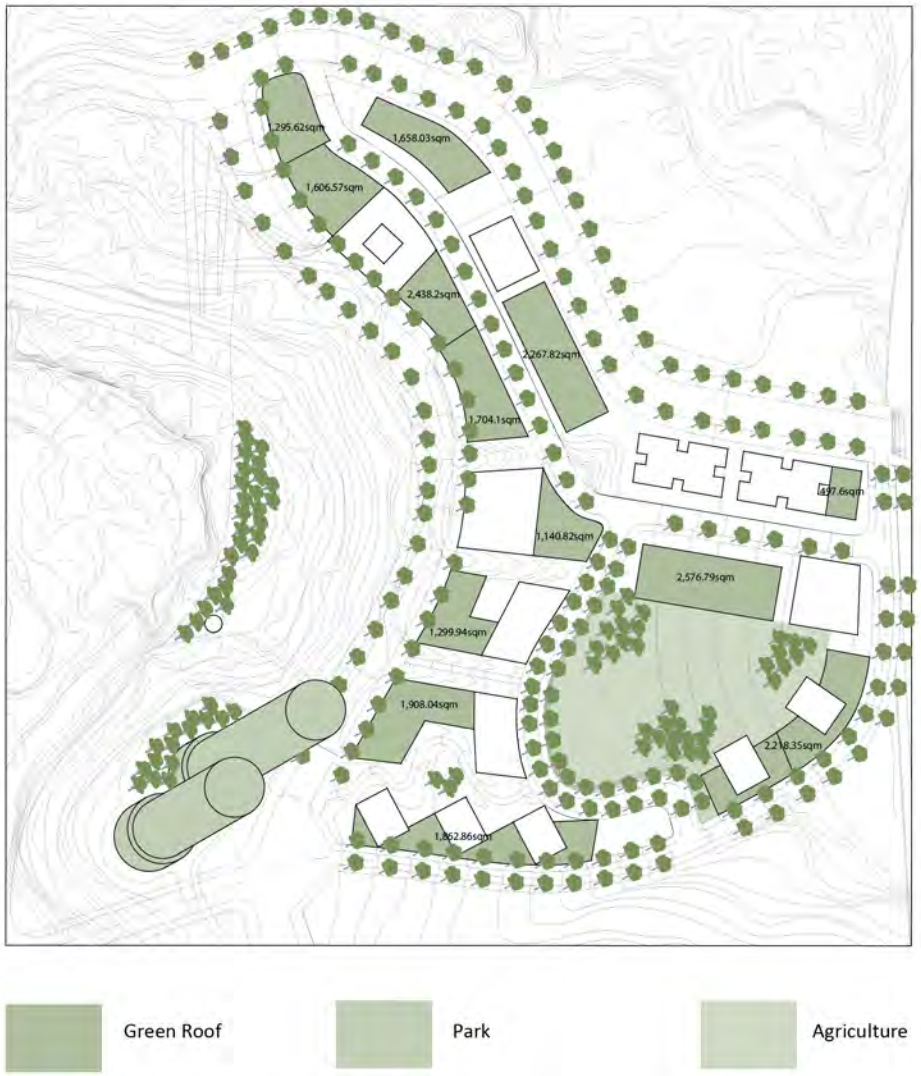
Our water infrastructure system includes a bioretention system to restore and purify the stream running along the Western half of the site. Including in the water infrastructure are also bioswales which are part of the natural drainage slope in several points along our Western road.

SYSTEMS: GREEN

Greening our site is very important, especially with the mountainous terrain in which people are at times looking down onto other roofs.

For our green belt, we have our main feature of our park with some trees providing shade and a small wooded trail. Most roofs are green, collecting rainwater and providing additional shading.

Along with our green system, we have urban forests in the form of street tree plantings. Additionally, certain areas of our site have small dense forests for aesthetics of functional purposes.

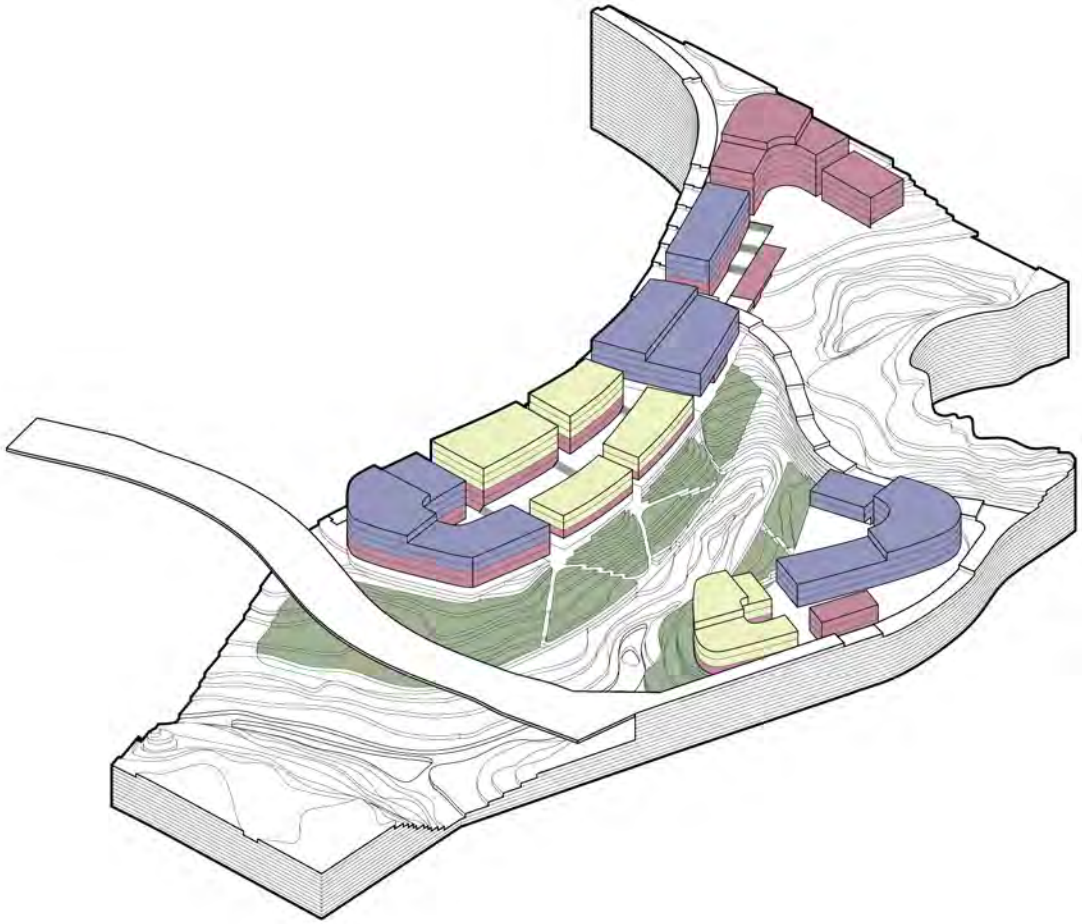


Solar roofs

SYSTEMS: ENERGY

The main energy source for our site will be solar powered, in which the panels are located at the top of the taller buildings on the site in order to avoid being cast in shadows.

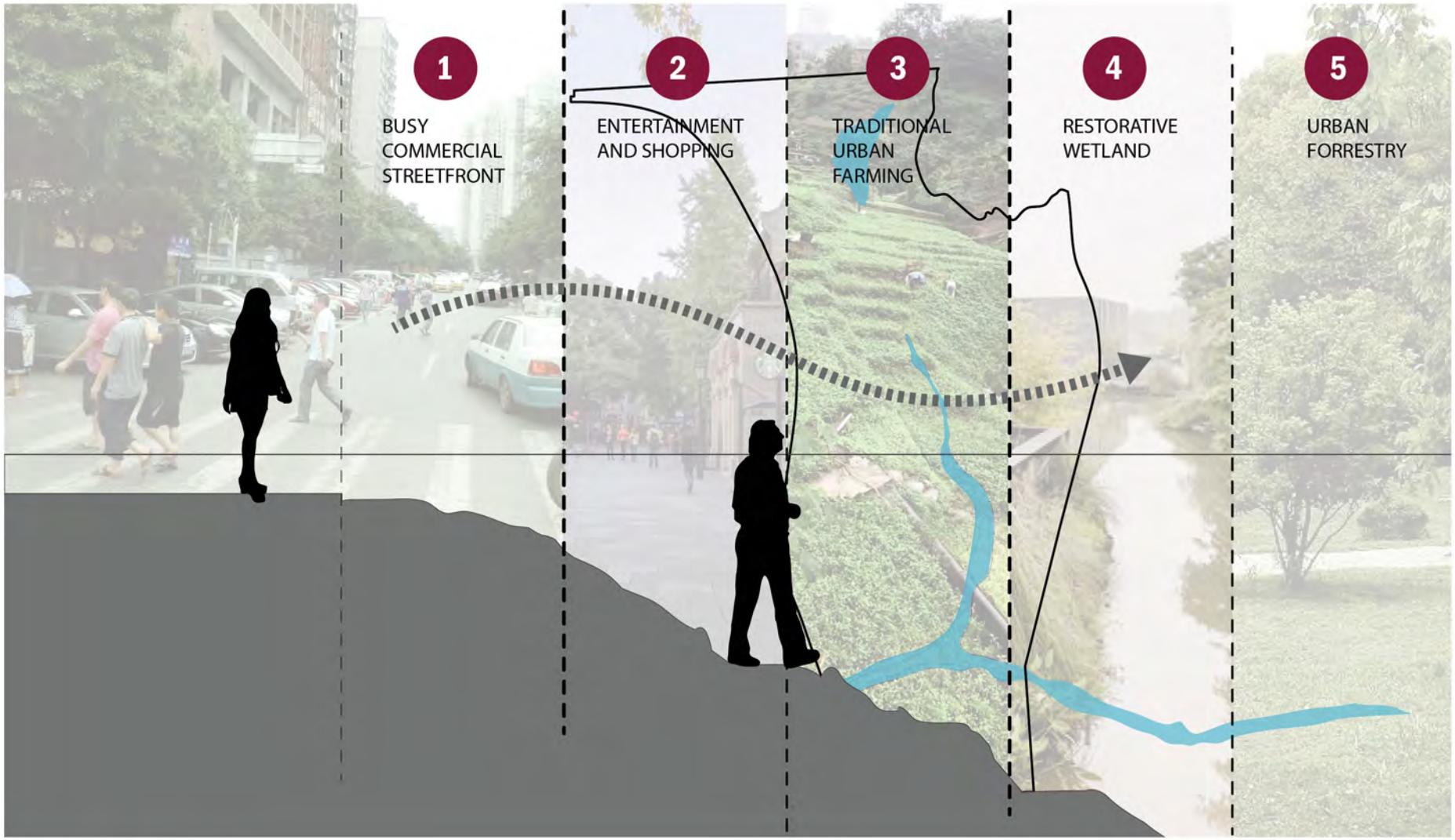
GROUP B



Legend
RED = Commercial
YELLOW = Residential
PURPLE = Community Facilities
GREEN = Agricultural Land/Wetland

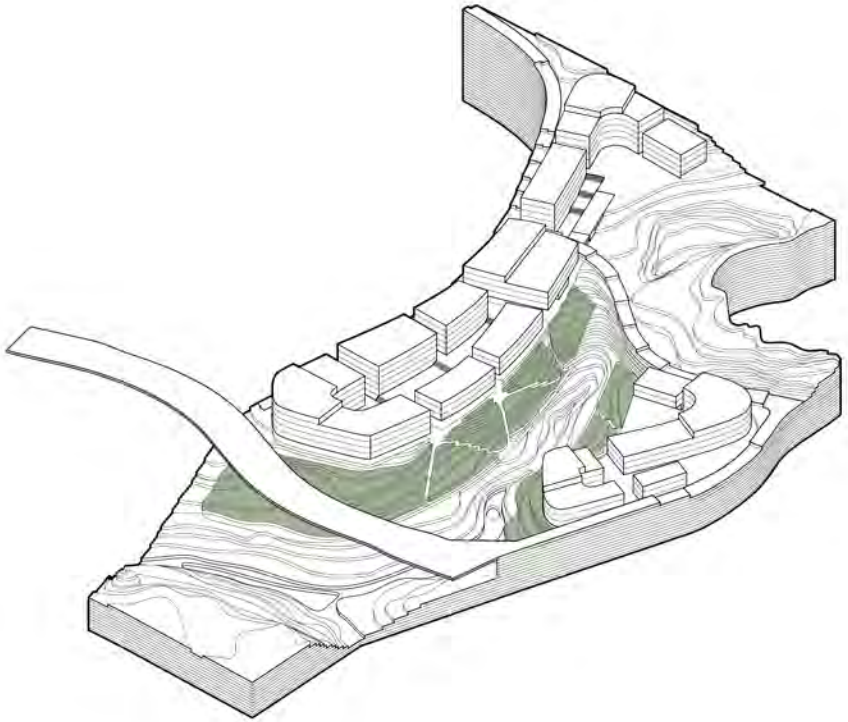
PROGRAM DISTRIBUTION

CONCEPT

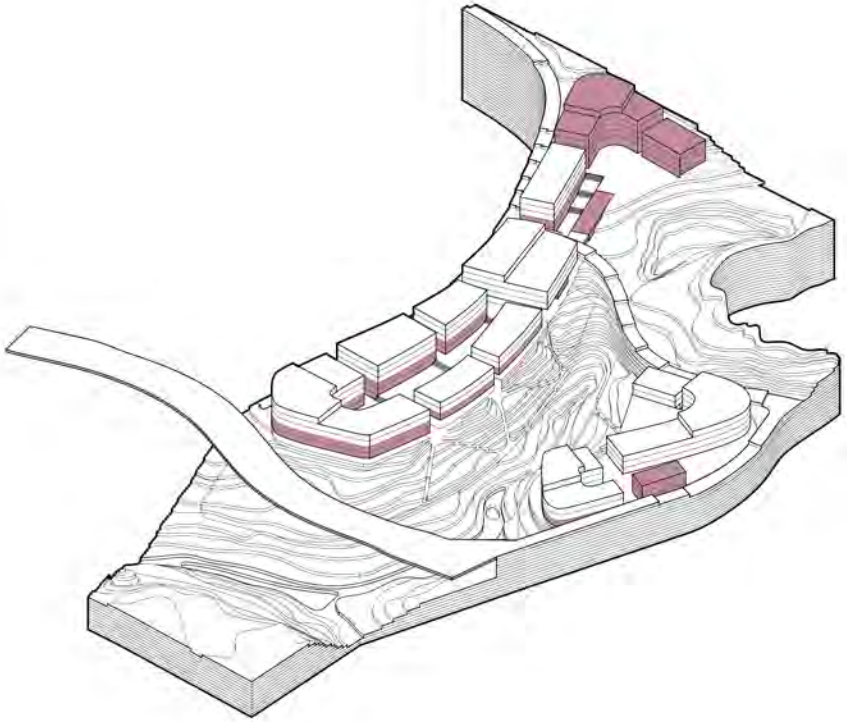


CONCEPTUAL DESIGN DIAGRAM

PROGRAM

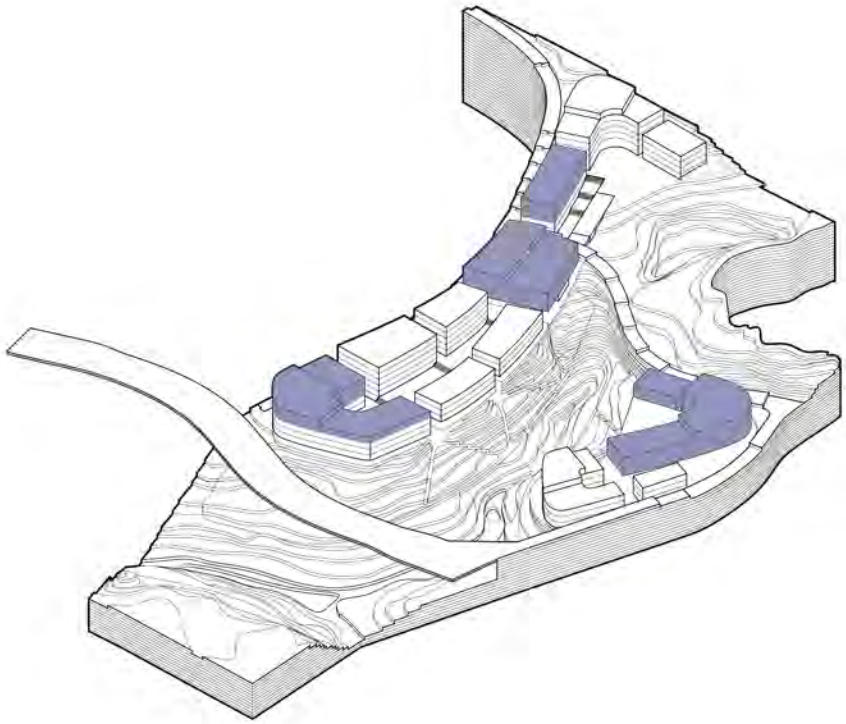


AGRICULTURE AND INFRASTRUCTURE

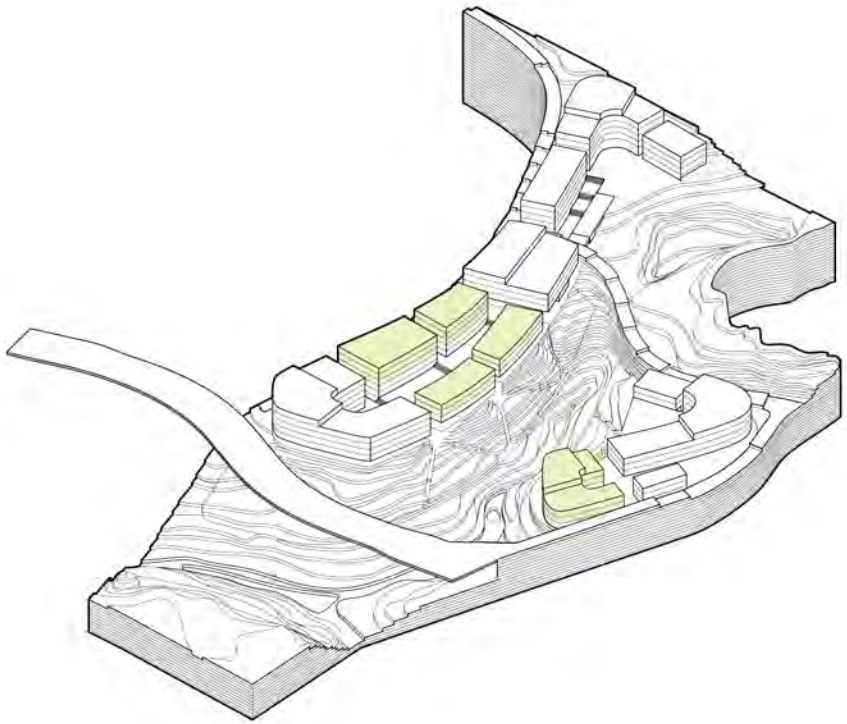


COMMERCIAL

PROGRAM

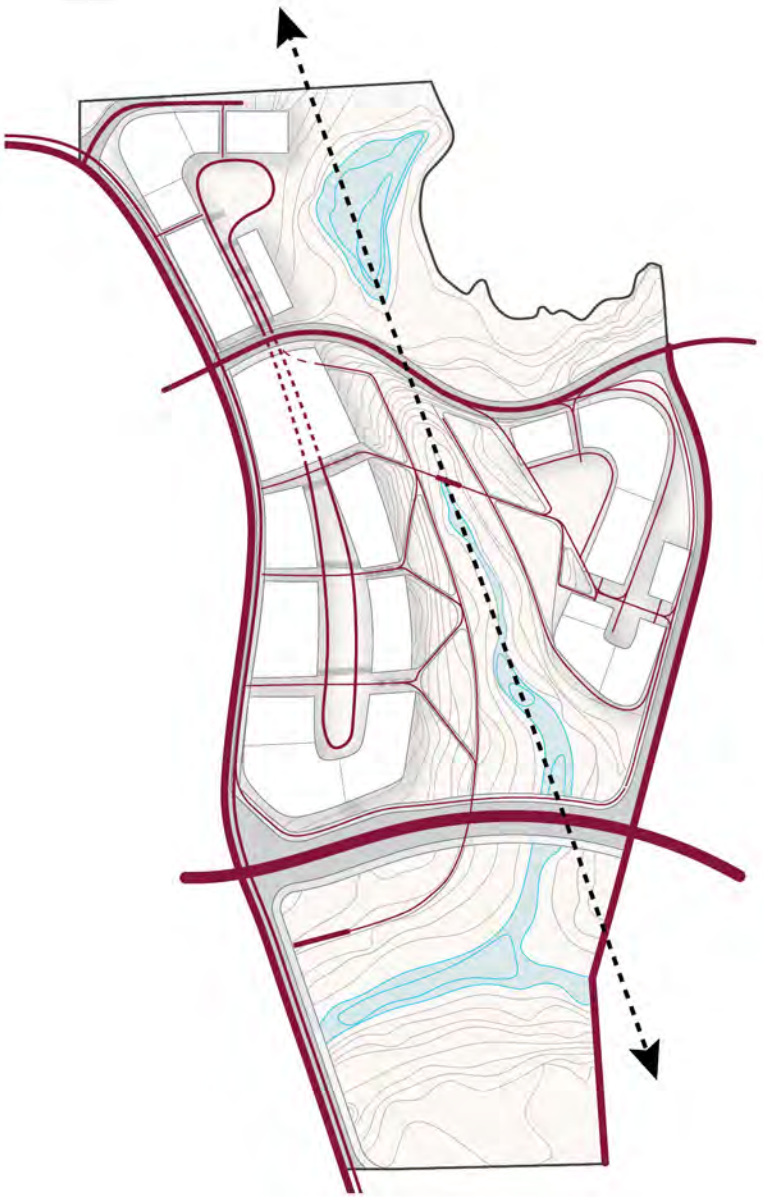


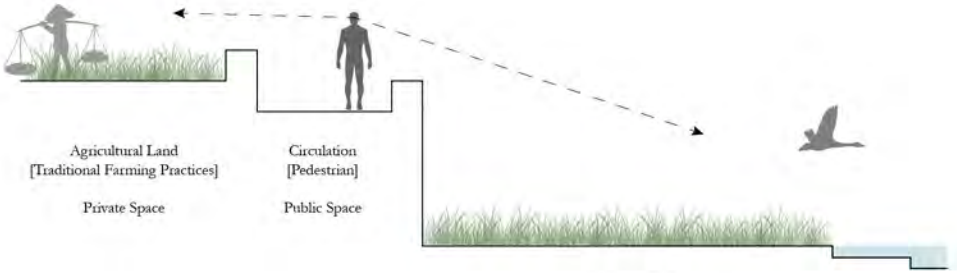
COMMUNITY FACILITIES

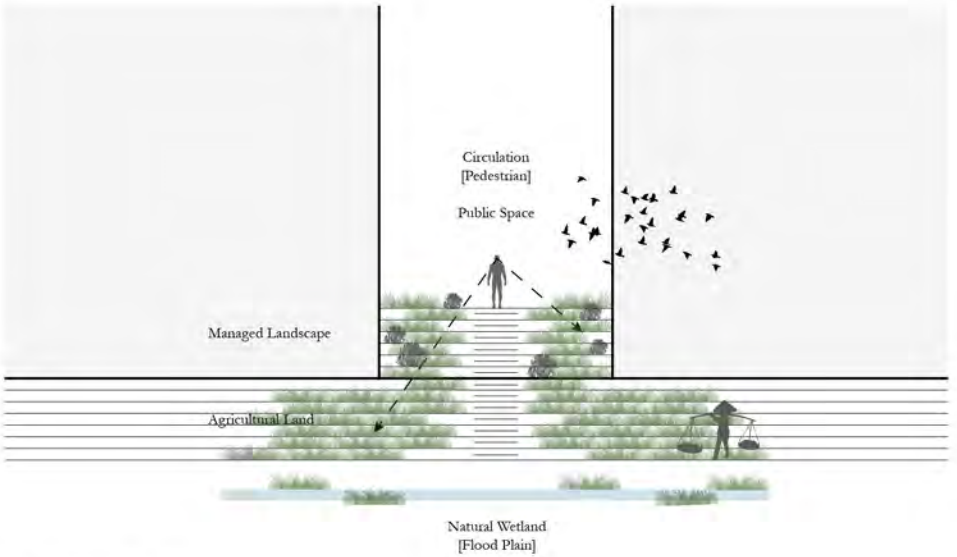


RESIDENTIAL

CIRCULATION







DEVELOPMENT ZONES
Scale: m = ____ m

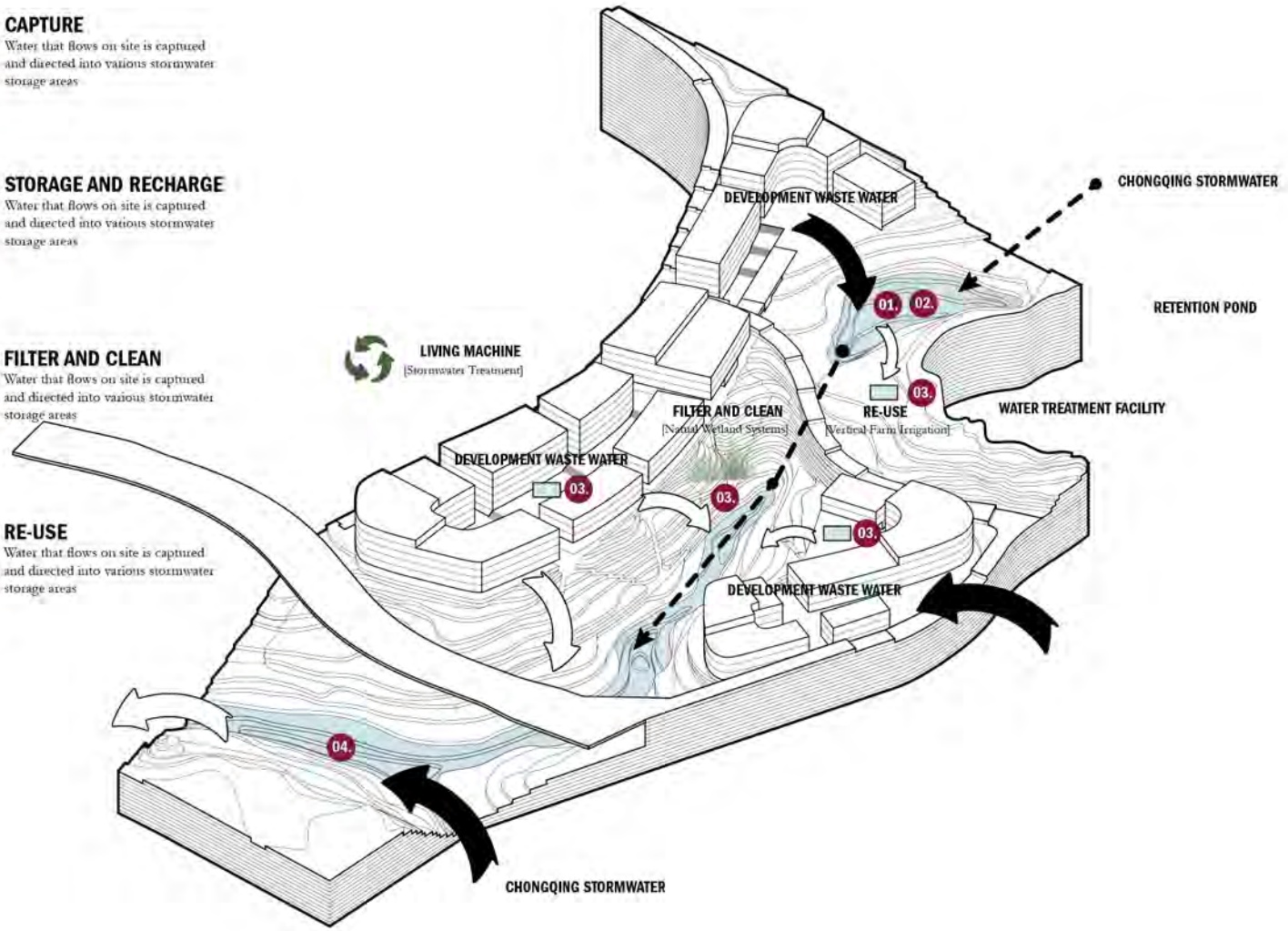
WATER

01. CAPTURE
Water that flows on site is captured and directed into various stormwater storage areas

02. STORAGE AND RECHARGE
Water that flows on site is captured and directed into various stormwater storage areas

03. FILTER AND CLEAN
Water that flows on site is captured and directed into various stormwater storage areas

04. RE-USE
Water that flows on site is captured and directed into various stormwater storage areas



WATER DIAGRAM

ECOLOGY

LANDSCAPE ECOLOGY PRINCIPLES

1. Ecosystem Services
2. Landscape Multi-functionality
3. Landscape Structure

LANDSCAPE FEATURES SUPPORTING ECOLOGY PRINCIPLES

1. Vegetative Buffers
2. Natural and Constructed Wetlands
3. Edible Gardens (Agriculture)
4. Stormwater Infiltration Systems
5. Waste Treatment Systems

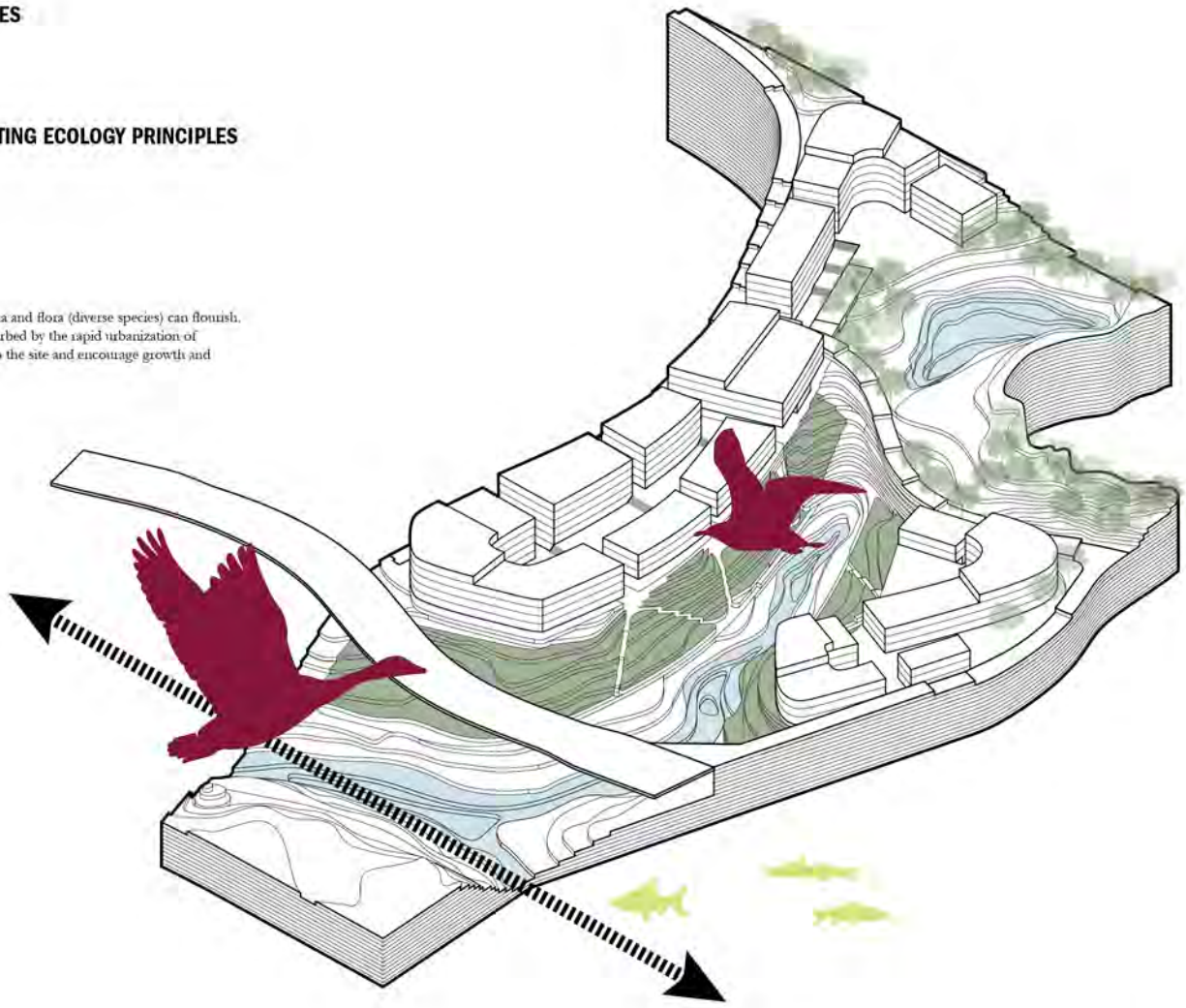
FAUNA AND FLORA

Construct a rich landscape where abundant fauna and flora (diverse species) can flourish. Revitalize the damaged ecosystem that was disturbed by the rapid urbanization of Chongqing, China. Reintroduce native species to the site and encourage growth and development by establishing habitats.

Glyptothorax fokiensis
Liobagrus marginatus
Psendobagrus pratti

Flora

CHONGQING POLLUTION



SITE B ECOLOGY DIAGRAM

NATURAL RESOURCES AND POWER

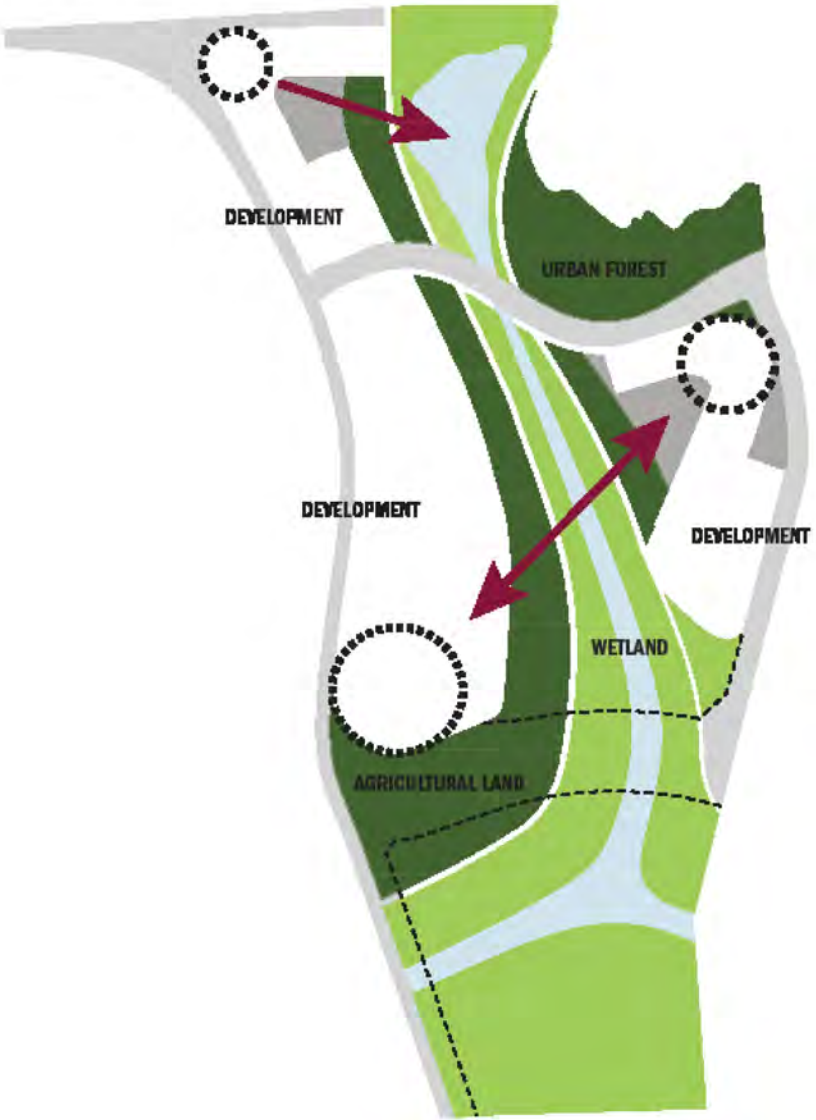
GREEN ROOFS TYPES
Extensive-
Natural Low-Maintenance Green Roof

Semi-Intensive-
Garden Green Roofs

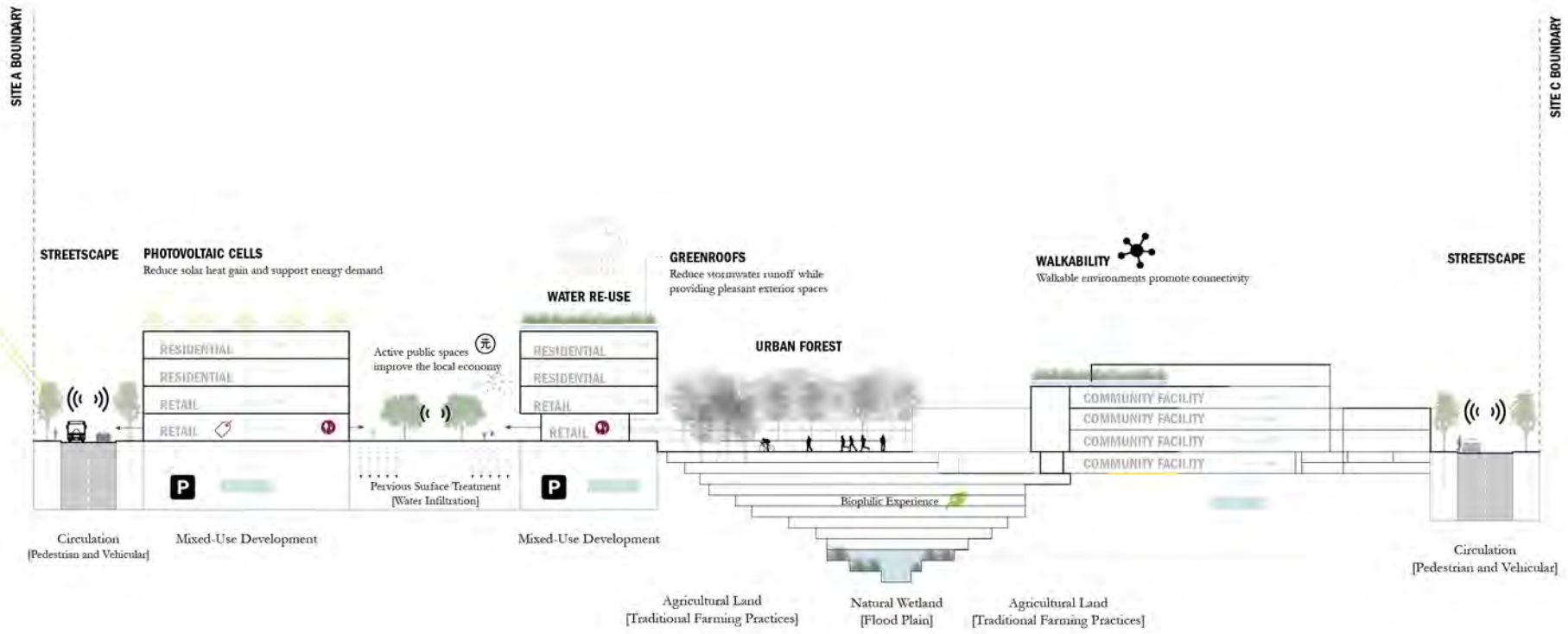
PHOTOVOLTAIC CELLS
arden Green Roofs

ROOFTOP USE DIAGRAM

URBAN FORESTRY



SITE SYSTEMS

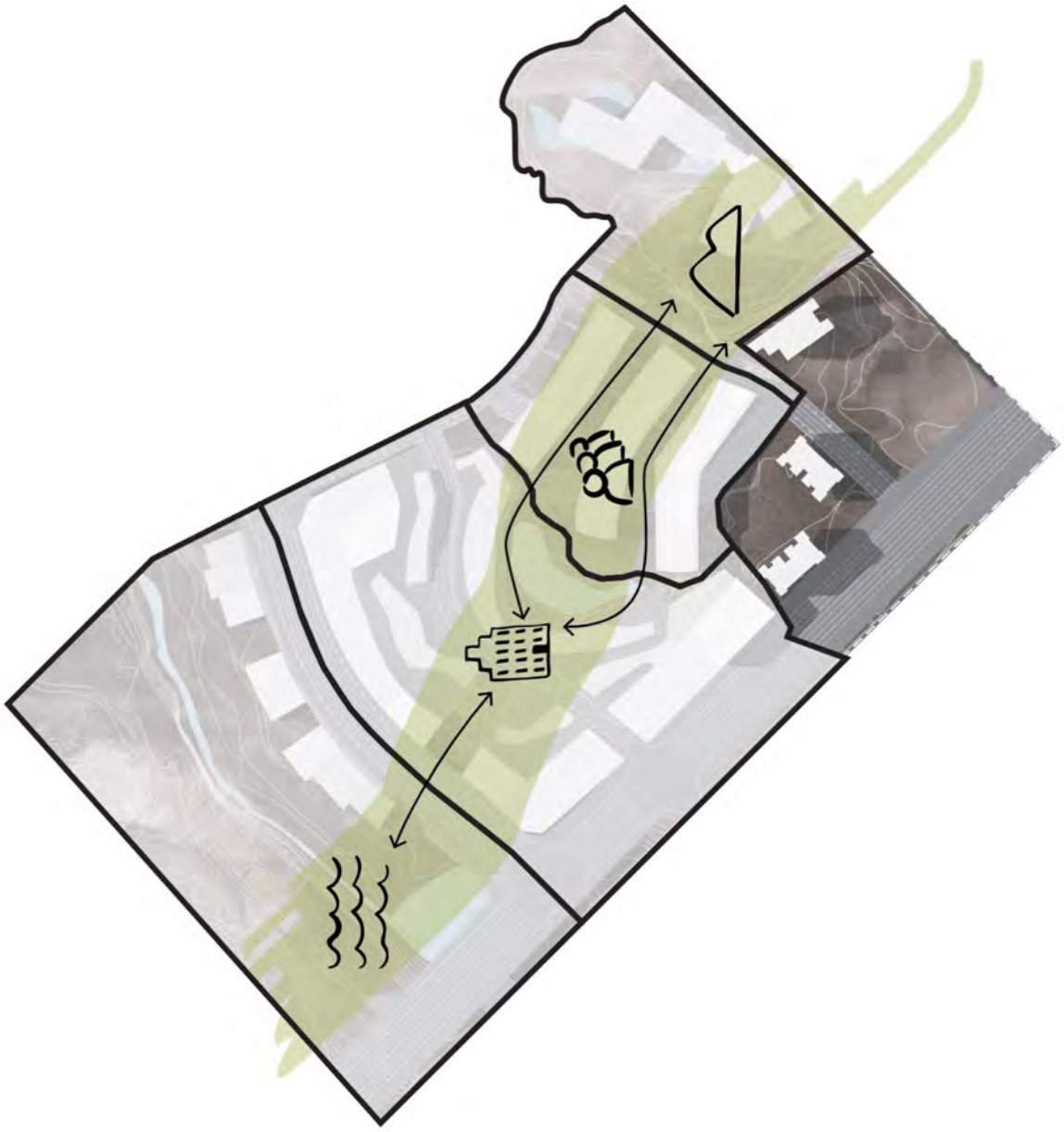


Section A
Scale: 1m = 500m

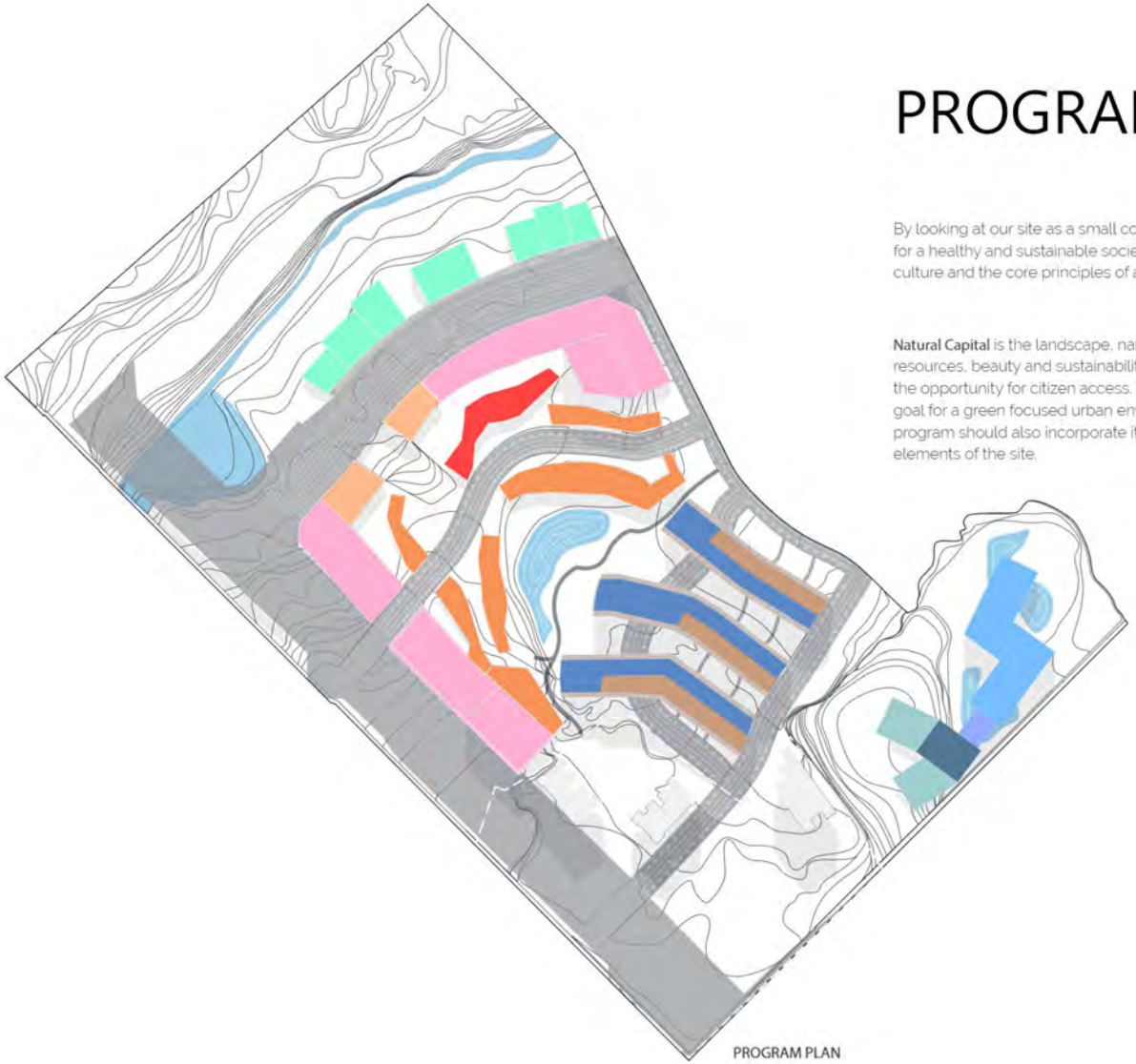
GROUP C

SITE PLAN
1m = 1000 m

Site C is located on the southwest side of the overall site. It is the only area of the site that has direct access to Chongqing University on a elevated mountain top. This site also shares it's southwestern border with a large proposed commercial road.



CONCEPT



PROGRAM PLAN
1m = 1000 m

PROGRAM

By looking at our site as a small community our site plan was able to identify core programs that were needed for a healthy and sustainable society. Programs for our site were identified around our understanding on Chinese culture and the core principles of a healthy community, which are:

Natural Capital is the landscape, natural resources, beauty and sustainability of a city and the opportunity for citizen access. Tying into our goal for a green focused urban environment, the program should also incorporate itself into the green elements of the site.

Cultural Capital is the common fabric and includes common language, beliefs, resources and values of a community. This can include art, music, museums, entertainment and recreation. The creation of cultural spaces for all generations and income levels was a key element within our plan.

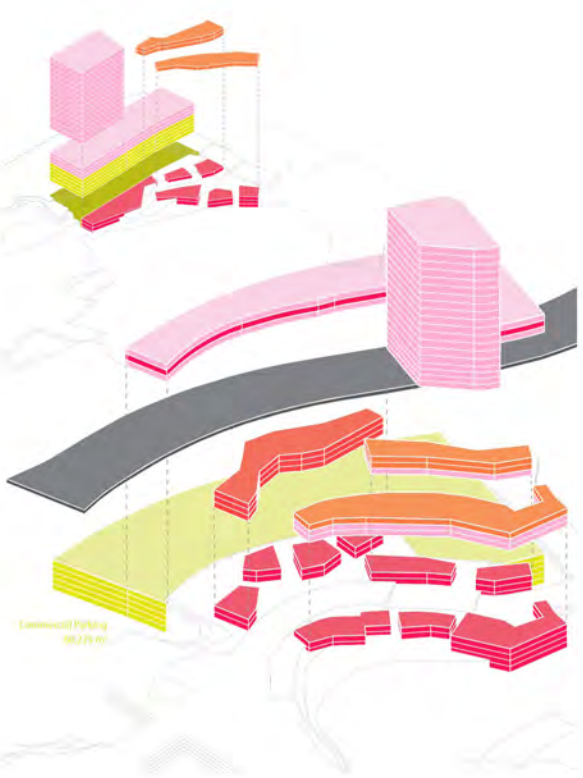
Human Capital is the investment in the welfare of residents. Within our site a commitment to education, healthcare, and strong cultural tradition develops strong human capital.

Social Capital is the "glue" that holds a community together. This often represents availability of community services, programs, and traditional or cultural programming.

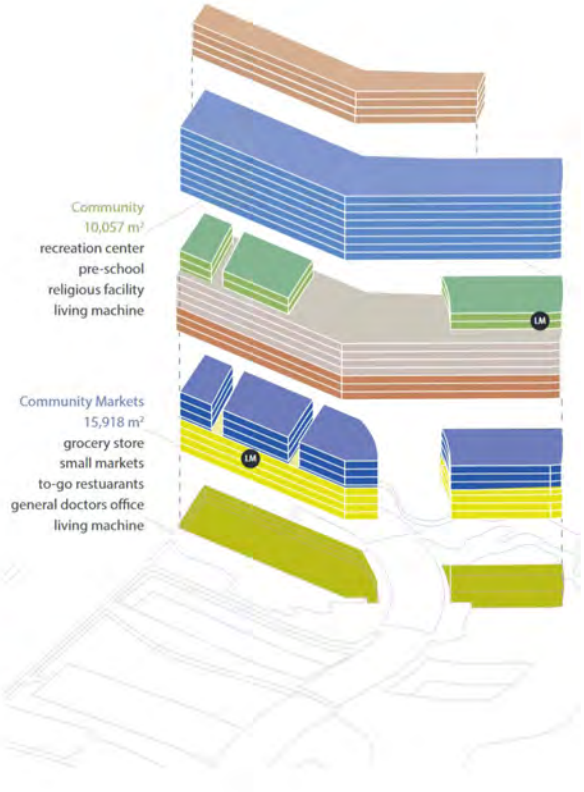
Financial Capital is the resources and economic opportunities that are available to the community. A stable city is dependent on retail and trade, wealth creation and a stable economy. An important financial factor for our site was to create ample jobs to allow residents to work within their communities.

Built Capital is the roads, bridges, airports, buildings and public works functions that are available to a community. The built capital includes improving access for vehicles, pedestrians, service and emergency vehicles. This included both the creation of new roads and the revitalization of existing paths.exissting paths.

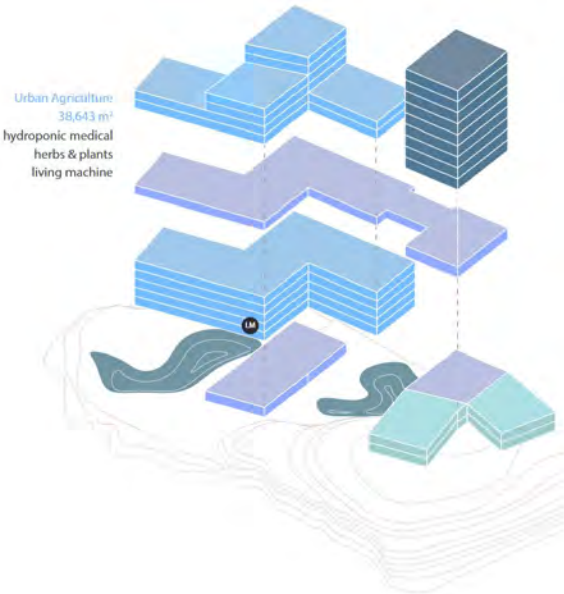
SITE A



SITE B



SITE C



CIRCULATION PLAN
1m = 1000 m

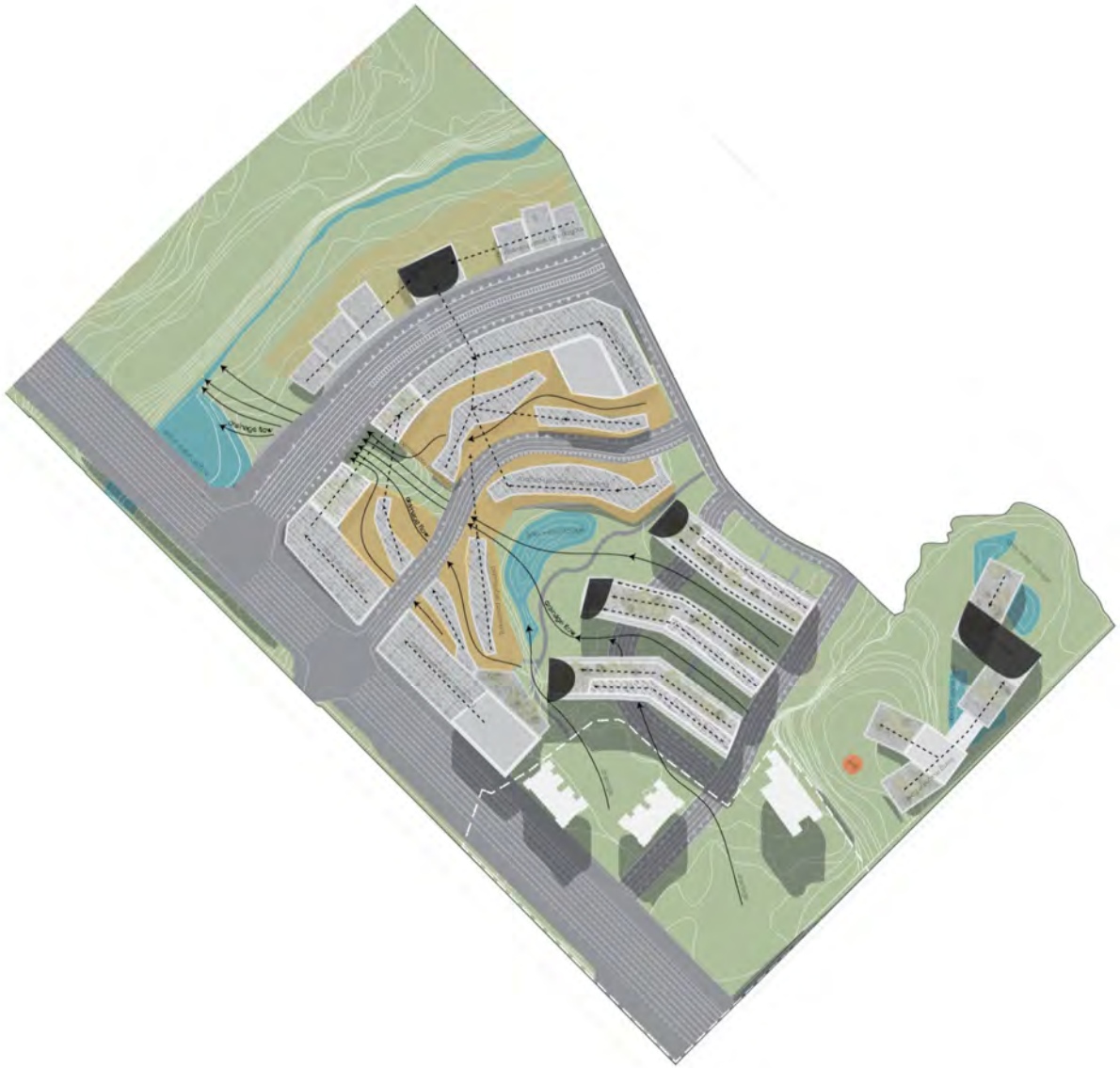
CIRCULATION

The existing circulation on Site C is poorly planned, unsafe and insufficient. Many of the vehicular paths were not designed for car traffic and often pedestrians and vehicles are mixed.

Beyond the quality of the roads, there are not enough within the site. Access to the existing programs and housing is limited with only one official vehicular road accessing the site. Due to this, the current industrial programs are not able to function properly with large vehicles unable to make their way to the properties. The existing farming practices are also hard to access with vehicles.

In order to create better access to Site C and build connections throughout the overall site, several new roads are being proposed. A core circulation road to the northwest of the site is proposed to stretch across the entire development area. Another road, branching off of this core road will run between Site C and B and will span the length of the site along the eastern site edge from north to south.

Existing residential paths will be converted to more accessible commercial roads with seperated vehicular and pedestrian traffic. The new residential program will be accessed by the existing residential road and a new road that will cut across the site.



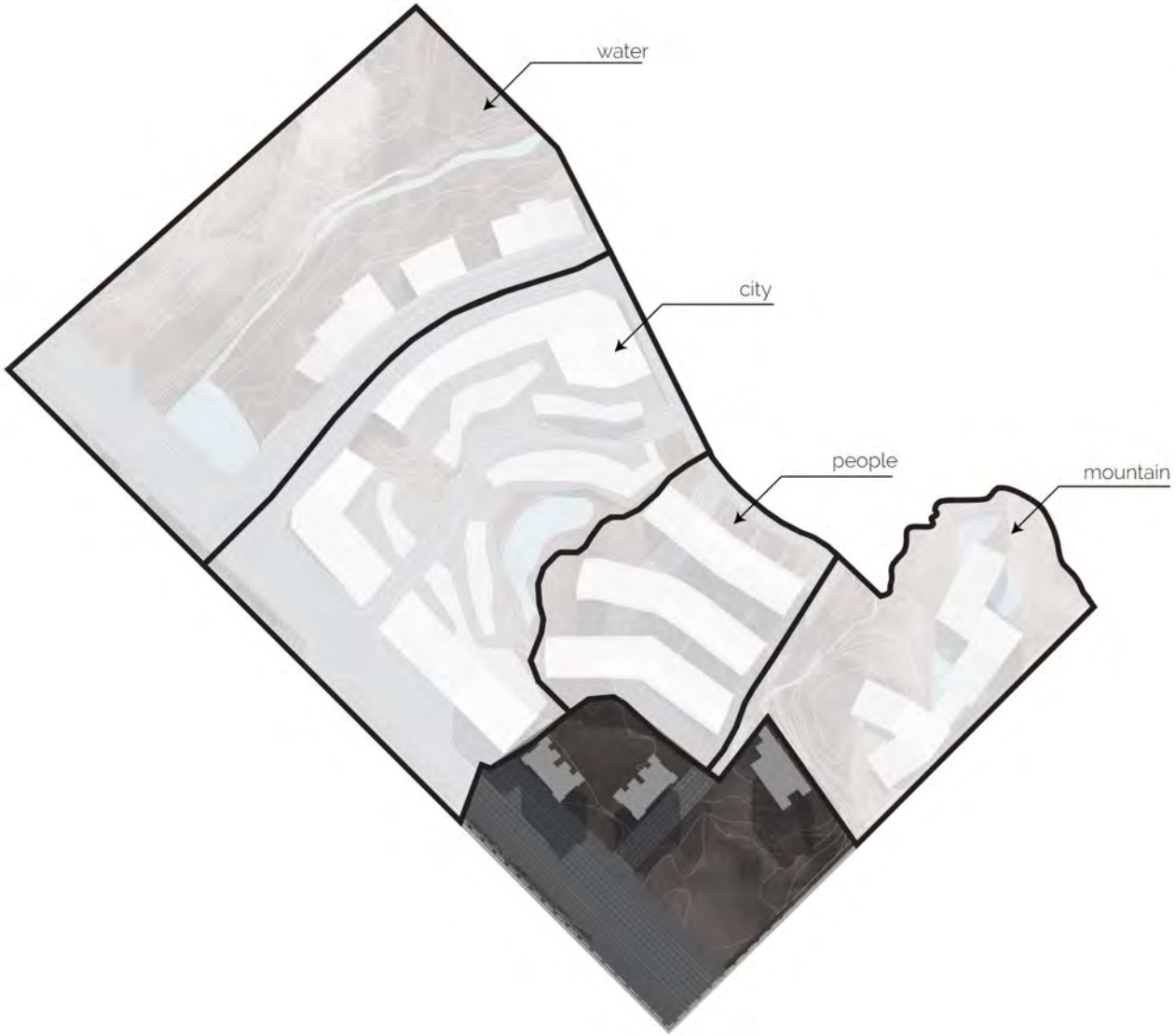
WATER

Self-sufficiency is an increasingly important topic relative to waste water management design. The main objective of our site design is to capture as much water as possible, in order to make it a part of the recreational life of the community in an efficient manner. The primary way to achieve this goal is to figure out how water is to be used and then reused, while reducing the amount that requires treatment, throughout the waste water segment of the cycle. Programming for the project begins with the question, "How much water is required to support the projected populations and uses?" Ultimately, designing a sustainable future always requires that we make the most of what we have now.

The merging of storm water and waste water in ways that facilitate ecological recharge and architectural reuse is one way to achieve the overall objective of our site design pertaining to water management. While understanding and embracing the hydrology of our site, those factors had a direct impact on the site layout and water system design for our project. The urban core followed a topographic valley and the residential fingers were defined by natural flow corridors on the site. Managing storm water appropriately also includes ground water recharge, and understanding the permeability of the horizontal surfaces of the site.

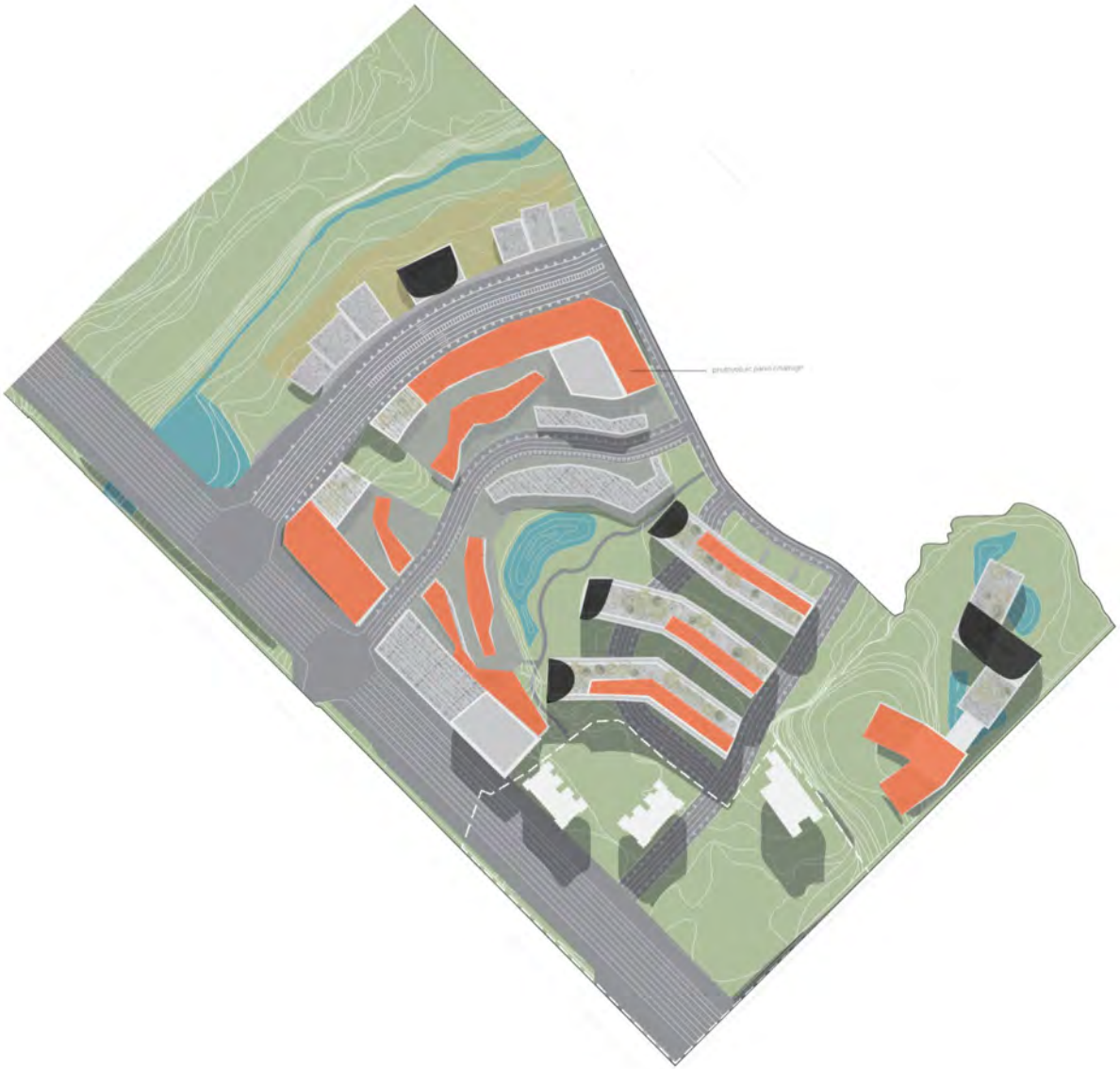
Overall, the core goals of our waste water management system and design include, capturing as much water as possible, reuse water efficiently, merging storm water and waste water, and using the permeability of the horizontal surfaces of the site.

Chongqing 20



GREEN PLAN

The green zones on our site are broken up into the 4 different elements common to the people of Chongqing; water, city, people, and mountain. "Water" is focused on reimagining the existing agriculture programming of the site. "City" is the large commercial zone of the community. "People" houses both the residential and community programs that focuses on catering to the core needs of the residents. "Mountain" acts as a natural barrier to separate the University from the surrounding community since security is a top priority for the school.



ENERGY

Self-sufficiency is an increasingly important topic relative to energy management design. The main objective of our site design is to capture as much energy as possible, in order to make it a part of the recreational life of the community in an efficient manner.

The use of solar energy in ways that facilitate ecological recharge and architectural reuse is one way to achieve the overall objective of our site design pertaining to energy management. While understanding and embracing the solar efficiency of our site.

Overall, the core goals of our energy management system and design include, capturing as much solar energy as possible, use energy efficiently, and using the horizontal surfaces of the site.

Chongqing 2018

Individual Projects

GROUP A

REBECCA ALANIS

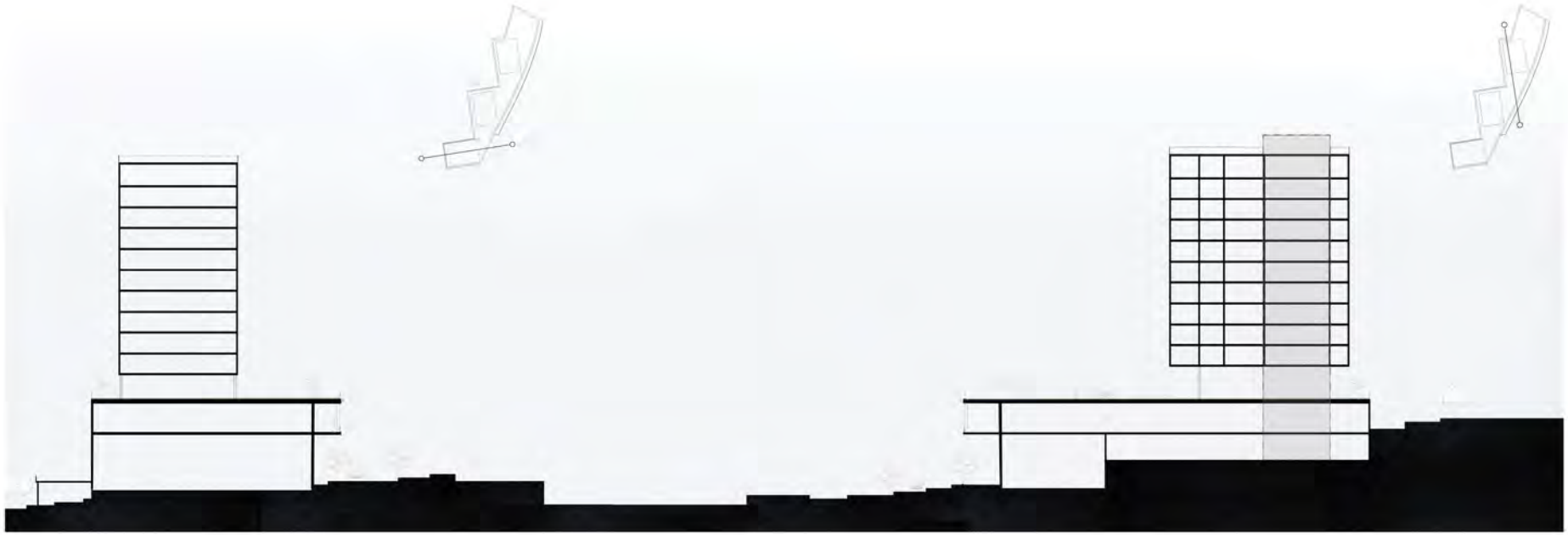
KATELYNN LARSEN

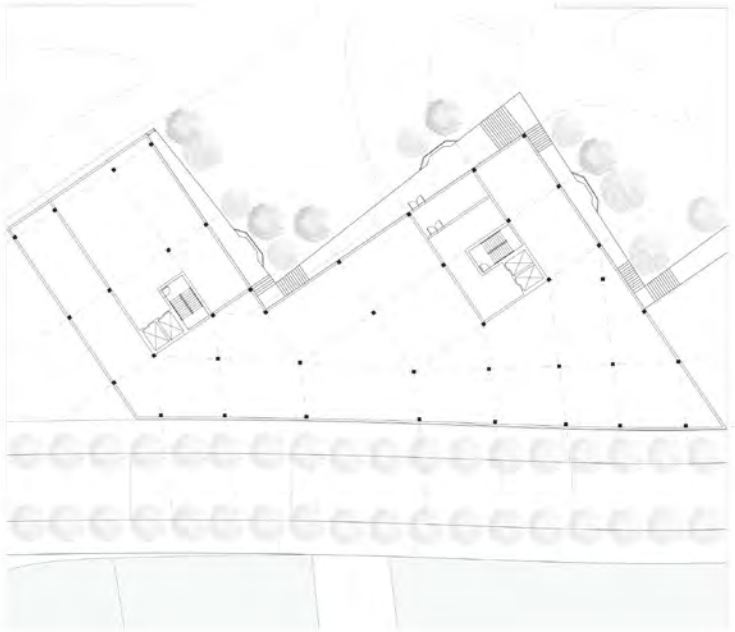
KYRA STRADLEY

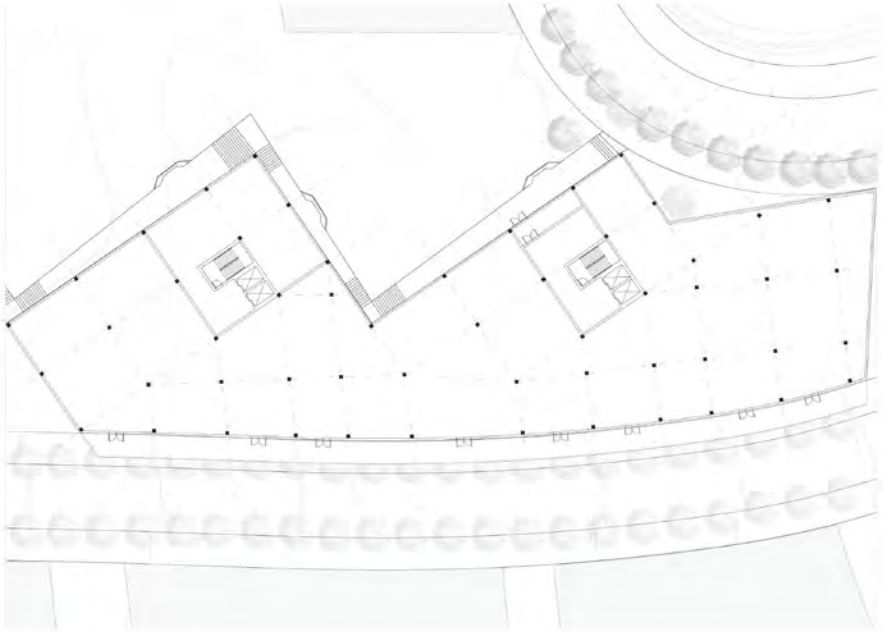
GROUP A

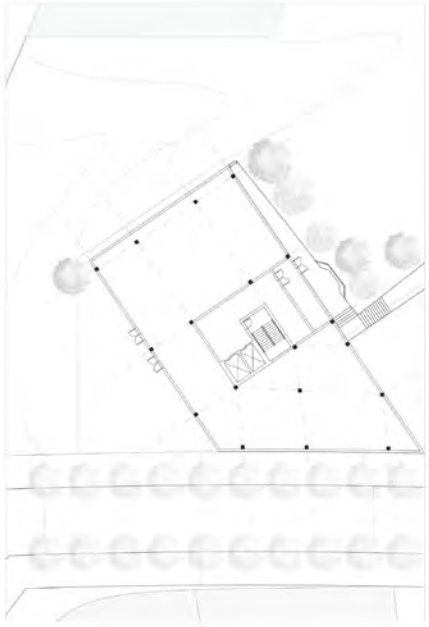
TERRACED HOUSING

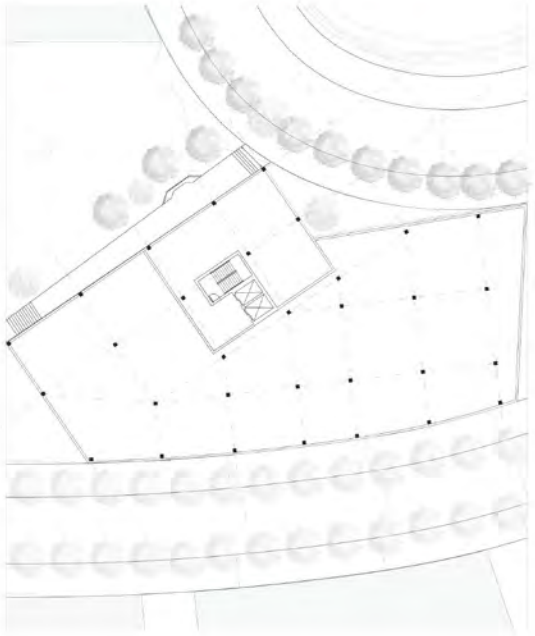
This mixed-use building serves as a retail space from below while its towers support residential housing. The towers include both market-rate and affordable housing units—all given a main outdoor common area located on the roof of the retail space. This green roof serves as an element of sustainable design; other elements include designing for modularity for the towers and resolving the drainage pathways along the chosen site.

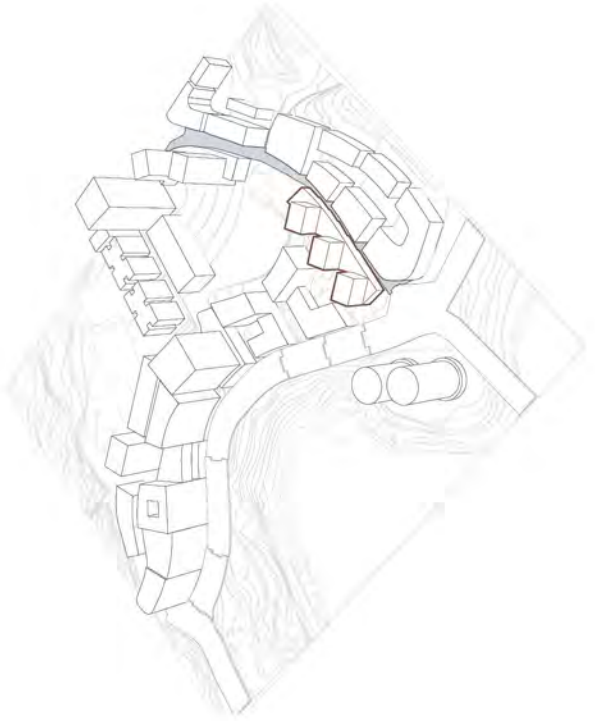


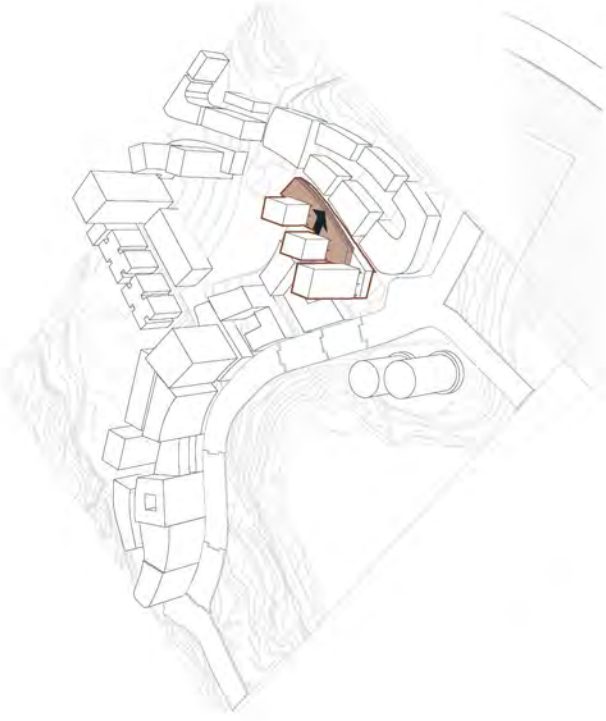


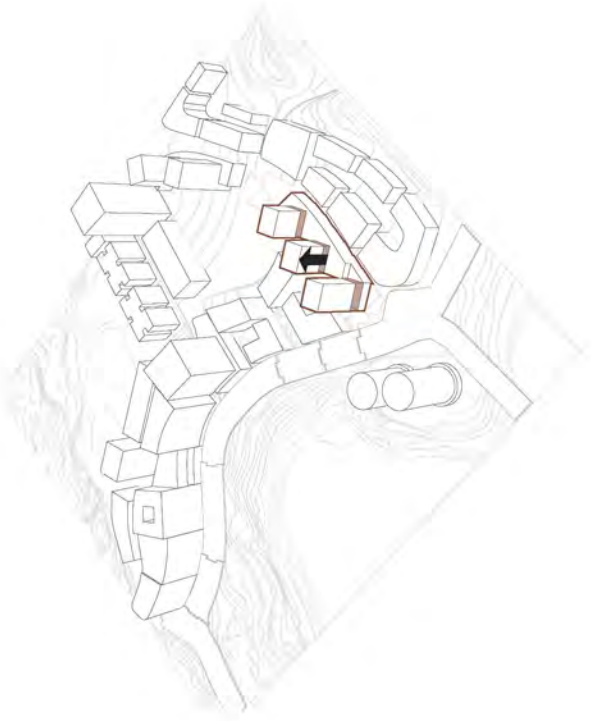




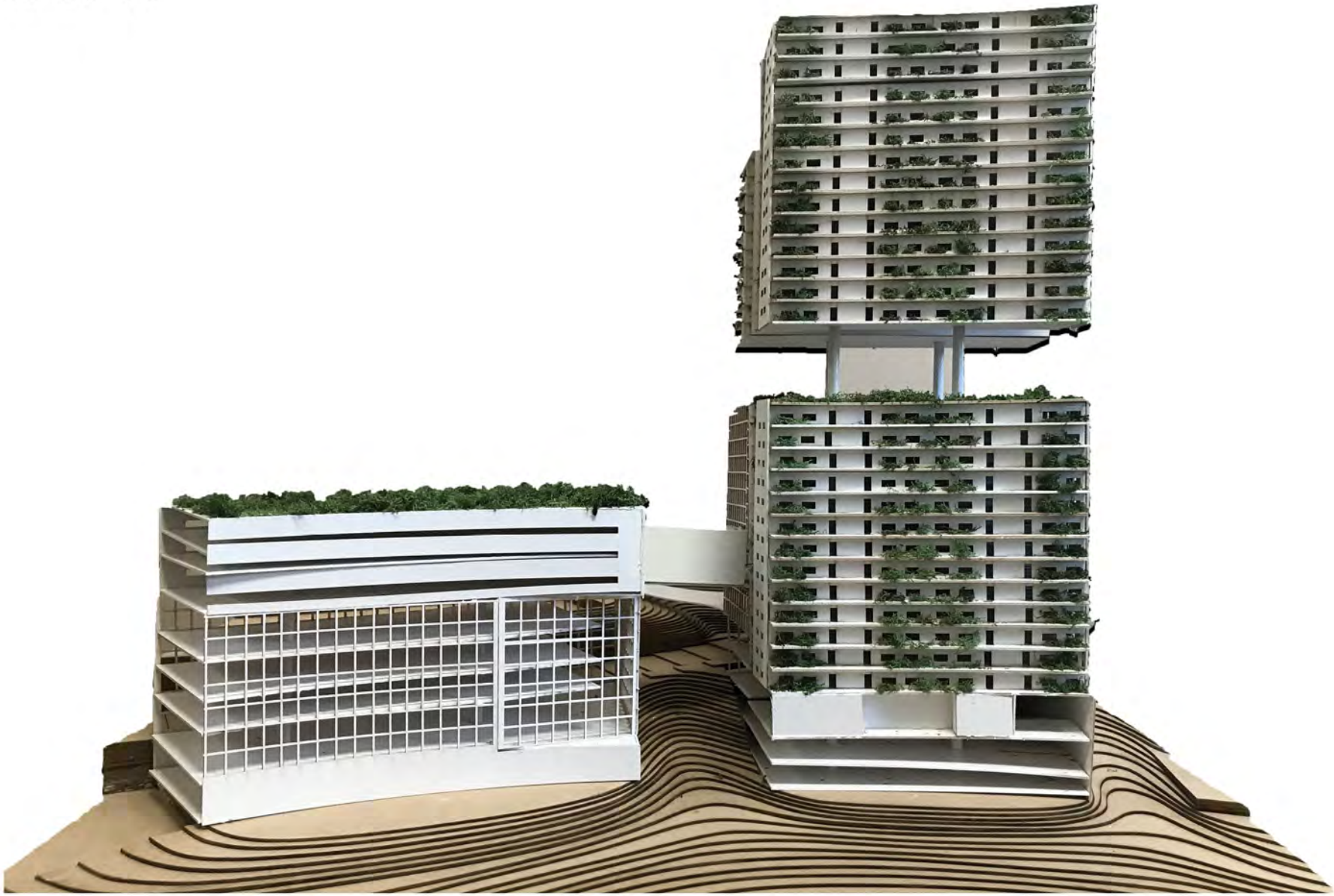






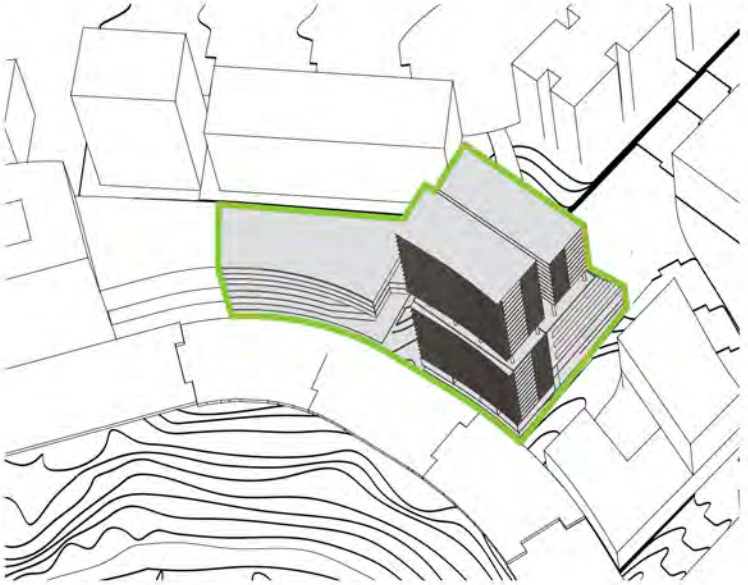


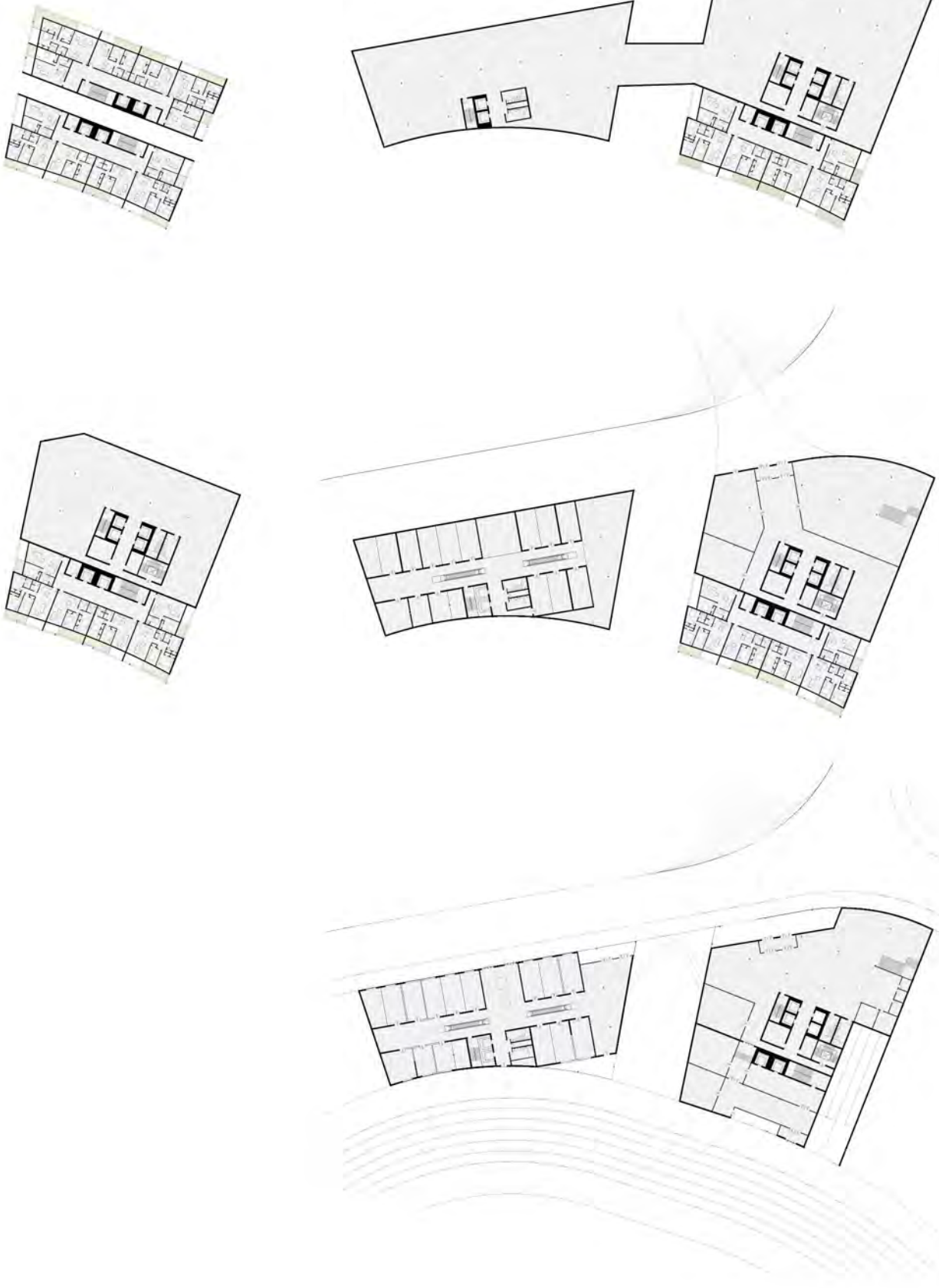
GROUP A

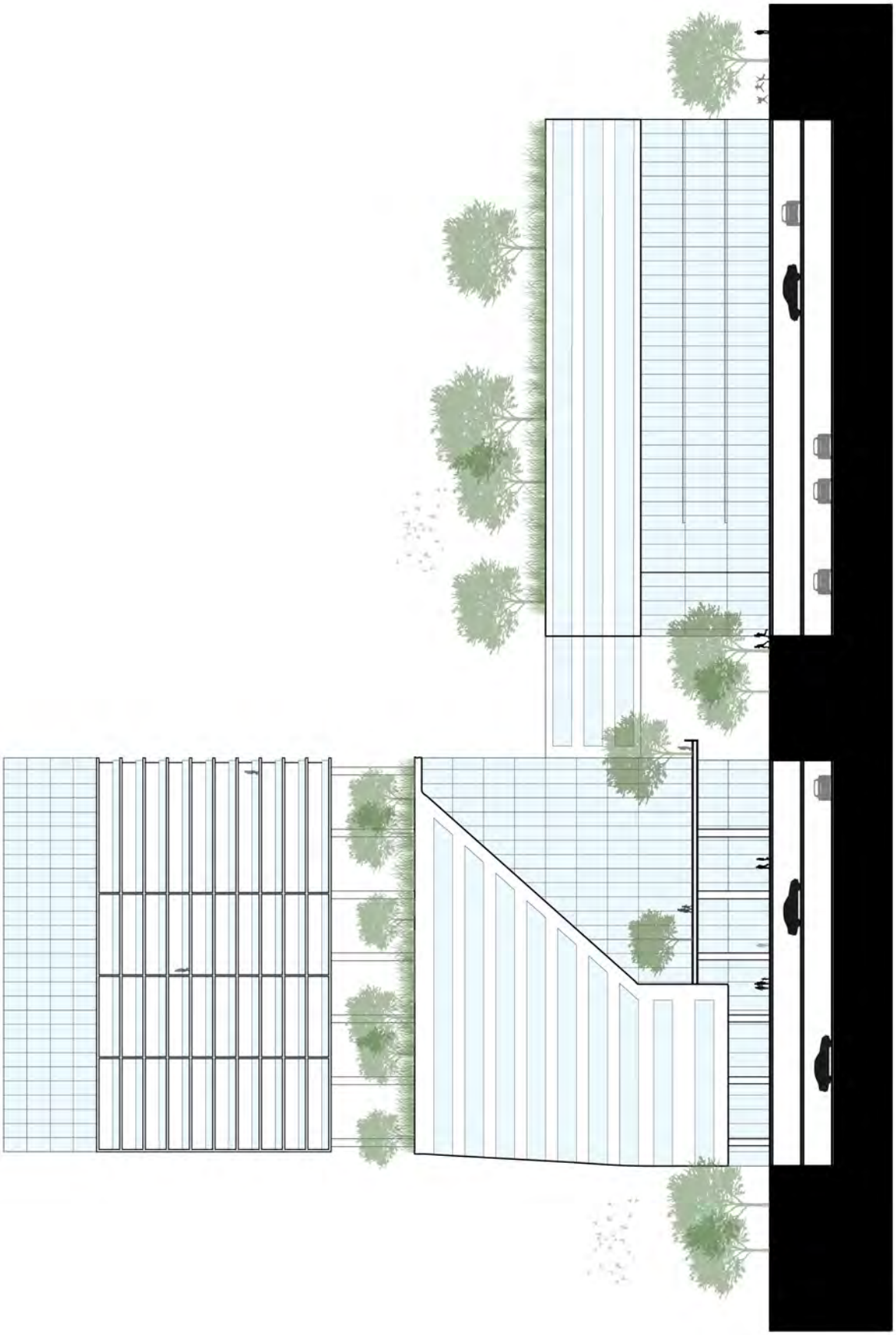


COMMUNITY TOWER

Community Tower is a project that lies at the heart of the redevelopment of this community. One unique aspect of this project is its connection to two roads and its location among steep topography. The program included in this project includes a shopping and retail center on the north, a community center at the base of the tower along with muliple levels of buisness offices and finally residential housing at the top. This multilevel, multi functioning building is tied together through the concept of social sustainability and an active, interactive community.





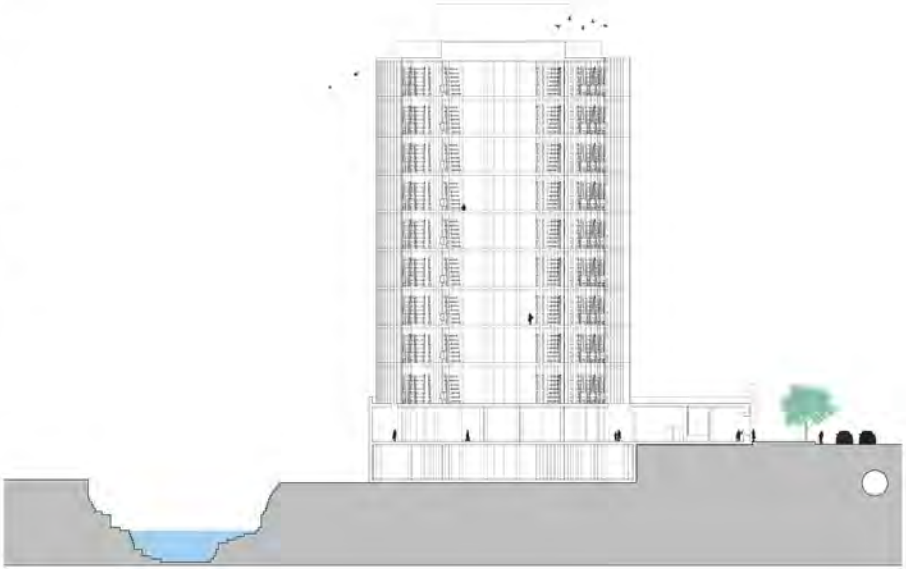


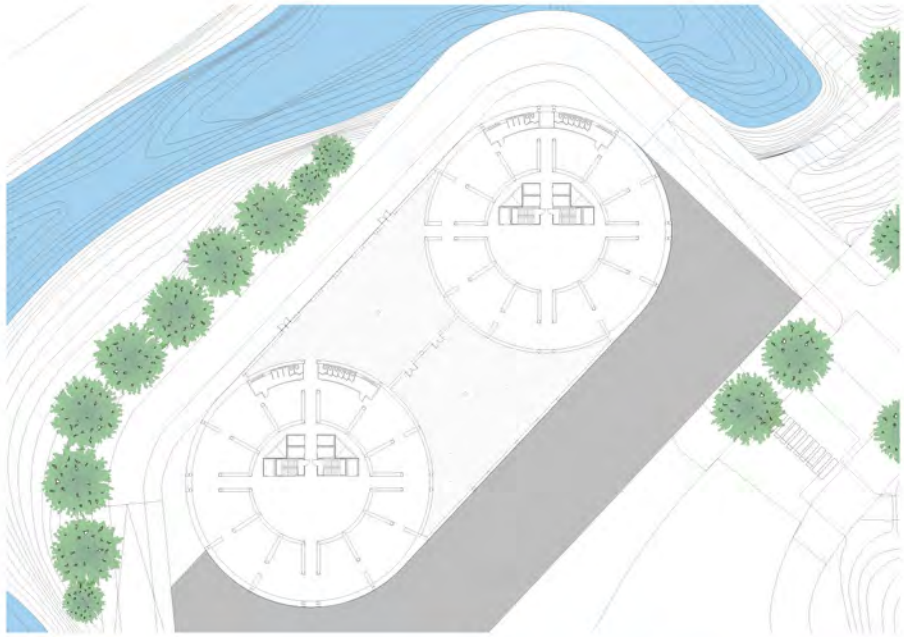
GROUP A

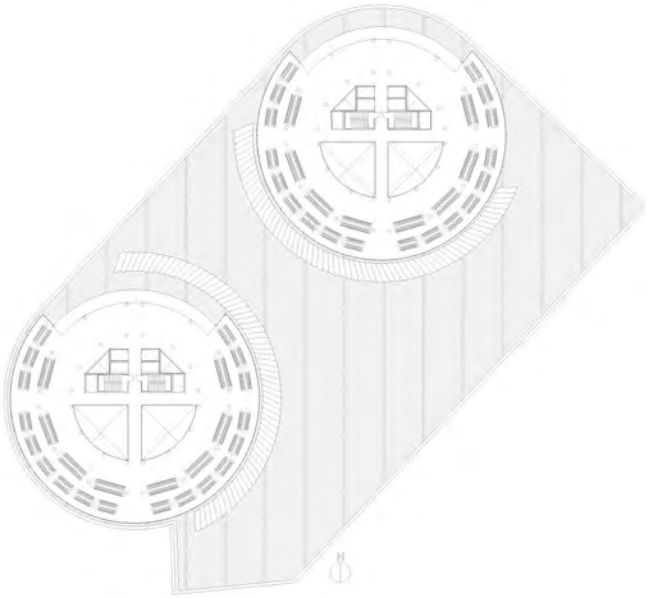
FARM TOWER MARKET

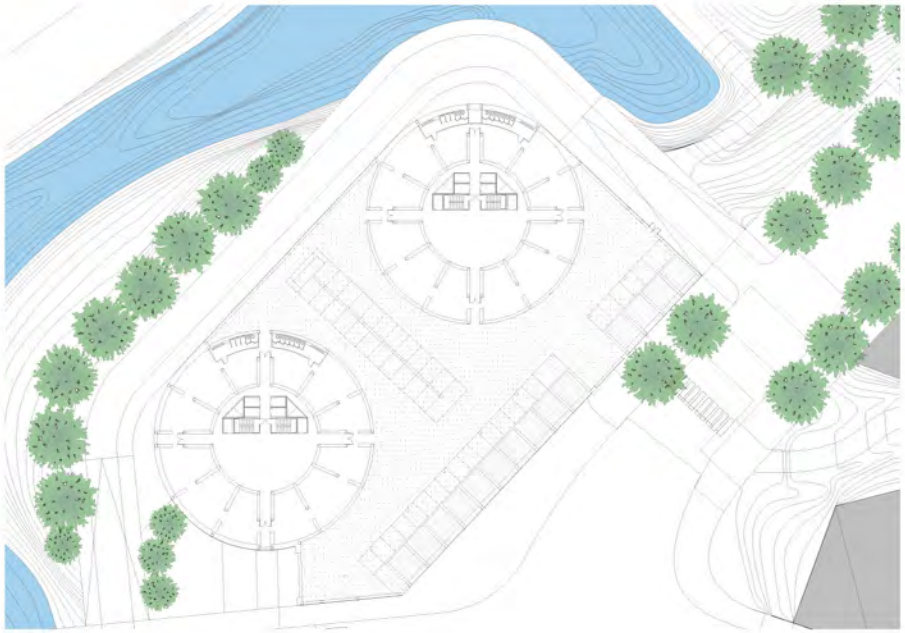
The purpose of Farm Tower Market is to grow and sell food in one singular building while integrating sustainable strategies to make the building efficient. Two silo-like towers produce the food through a hydroponic system on A frame structures which rotates the beds, giving each plant the same amount of sunlight required for its needs. The ground floor holds the marketplace – a huge importance in Chinese society. Food grown in the towers would be sold here, along with outside vendors setting up shop inside and restaurant units located along the sidewalk for easy access to passersby. Excess food would then be shipped off to other places around the area.

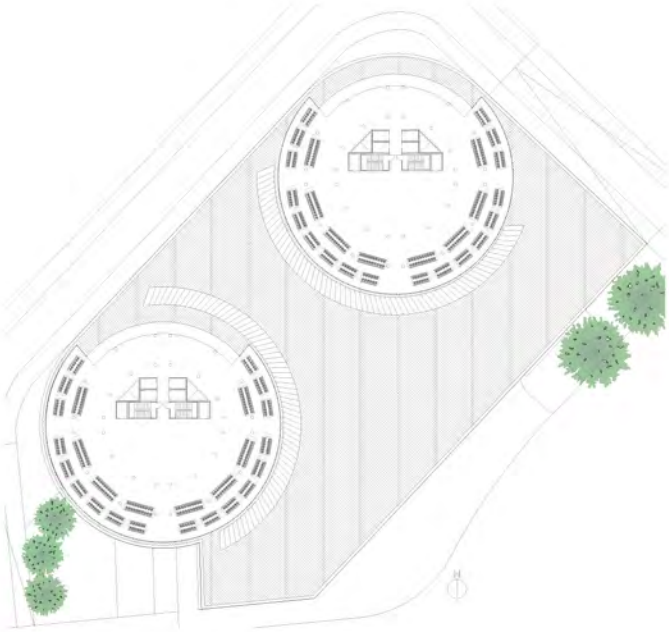
The location of Farm Tower Market was key in incorporating two main sustainable strategies. The proximity of the stream allows for a slight diversion into the building's basement to purify the water before sending it to the top of each building where a water reservoir is placed. Gravity then pushes the water down as it is being used, saving electricity, and the excess is then recycled into the system. Additionally, being on an isolated plateau allowed for ample sunlight into the site, thus focusing on sunlit grown produce instead of using grow lights. Being sunny also allows for a small solar farm to be installed on top of the first floor's roof, generating the electricity needed for the building.

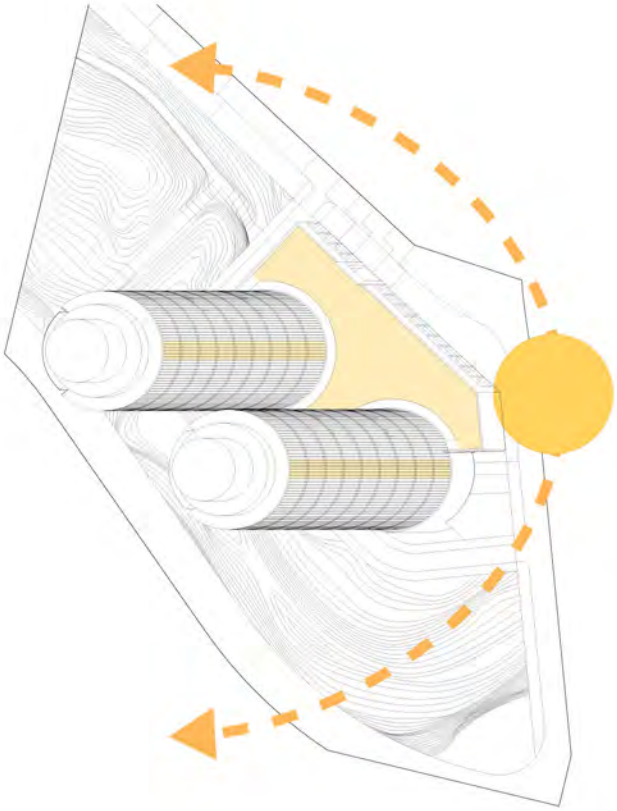


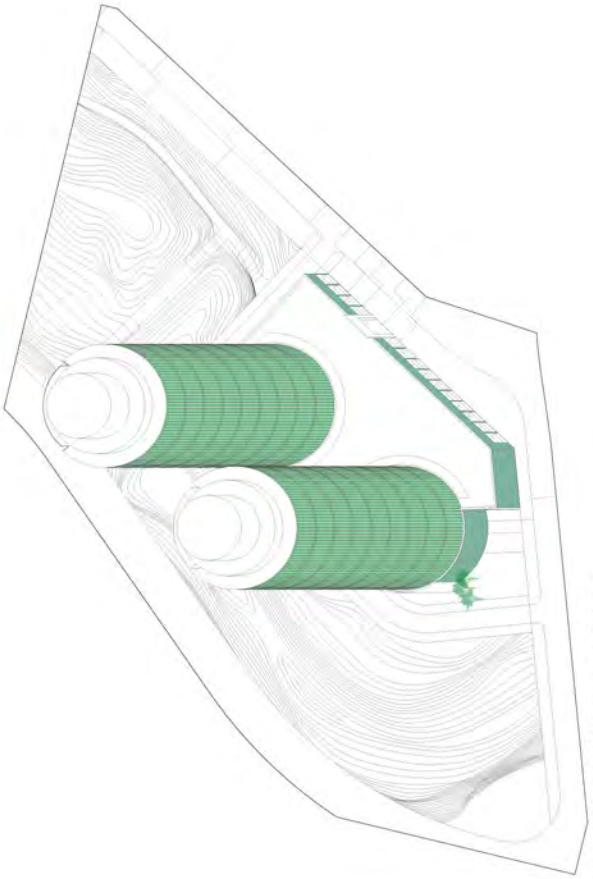




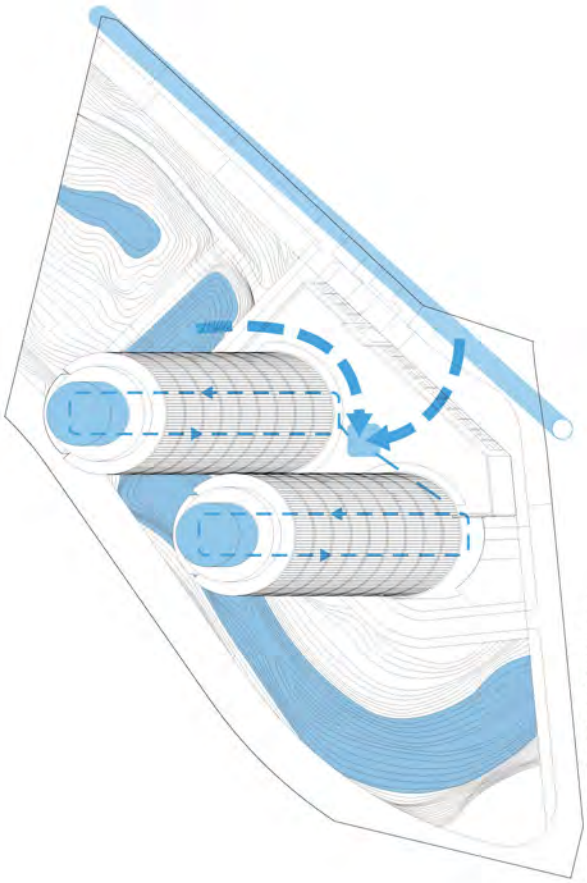




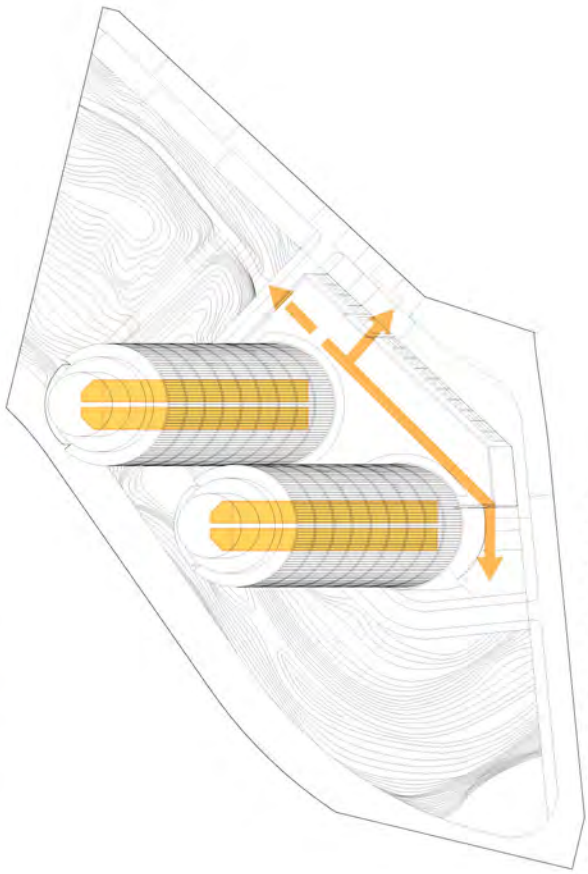




GREEN DIAGRAM



WATER DIAGRAM

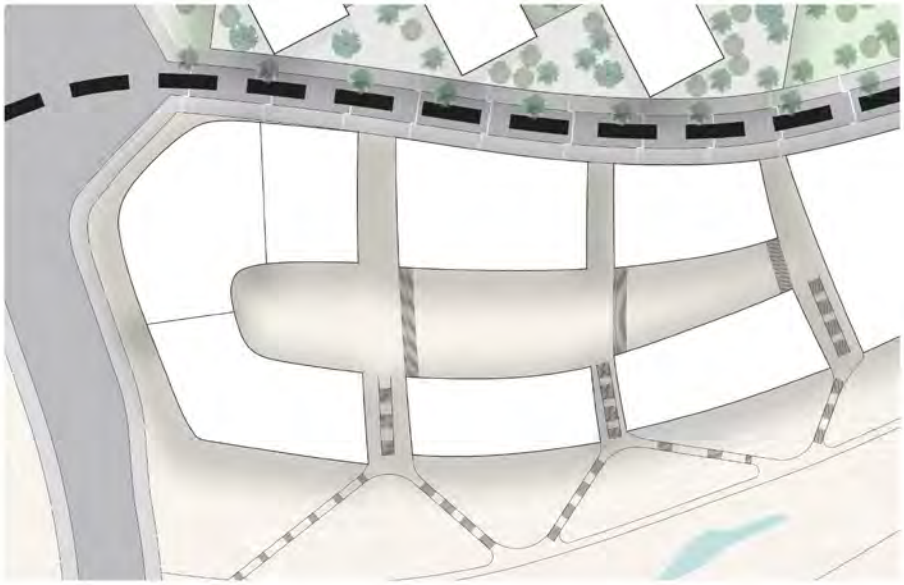


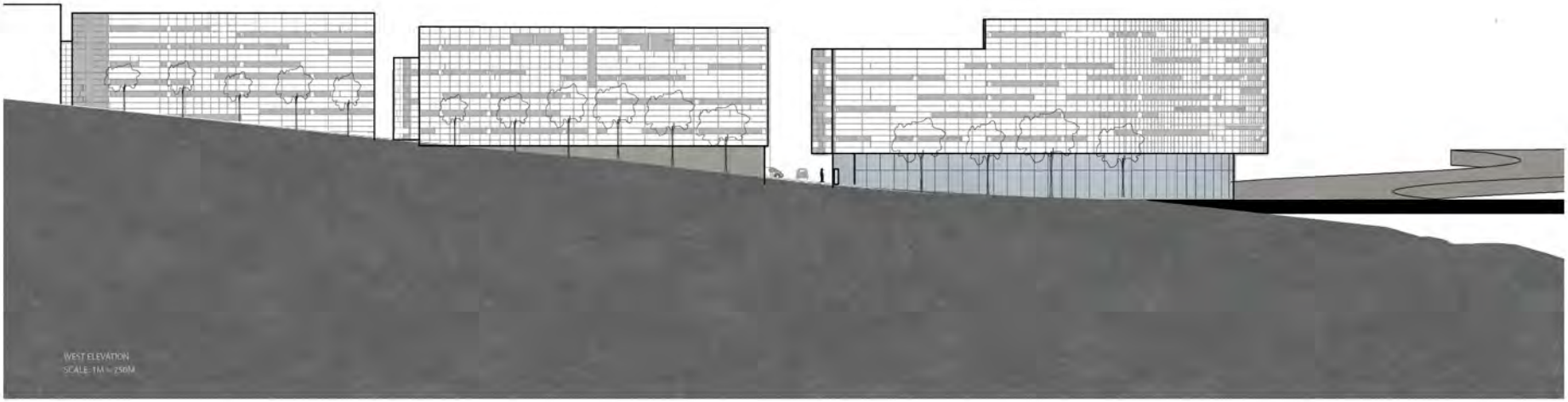
CIRCULATION DIAGRAM

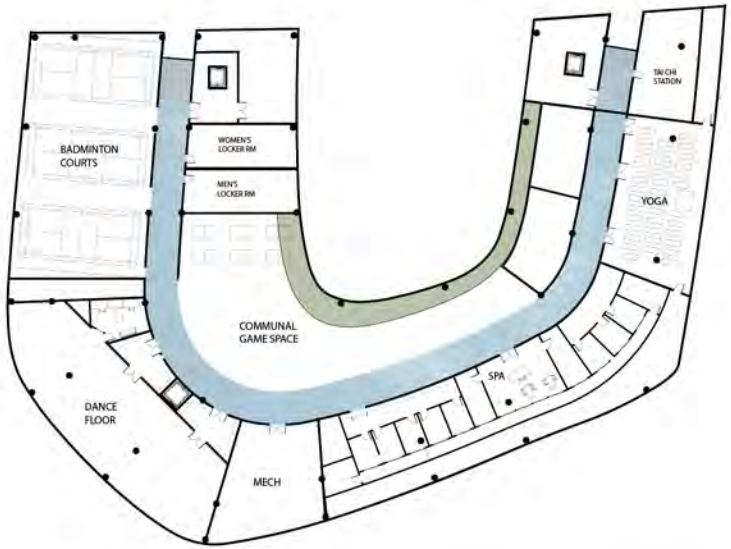
GROUP B

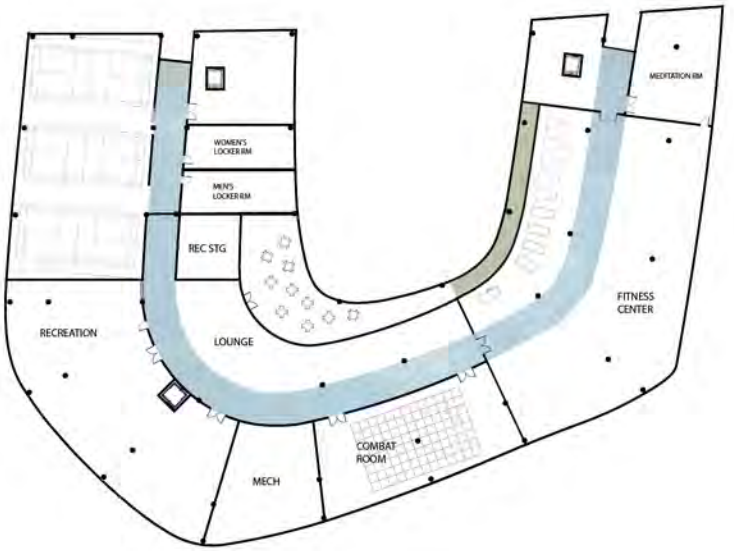
COMMUNITY CENTER

After completion of the master plan I individually developed a network of buildings in higher detail. I wanted to highlight the landscape as the connecting piece of this network, and designed the landscape to reflect a traditional Chinese garden. The biorentention cells in the landscape help to collect stormwater in Chongqing's rainy climate before it runs downhill into the terraced farming valley. This is part of China's 'Sponge City' initiative to combat street flooding in their heavily populated cities. The diagonal berms encourage people walking to slow down and reflect with nature which is an important and daily pursuit of Chinese culture.

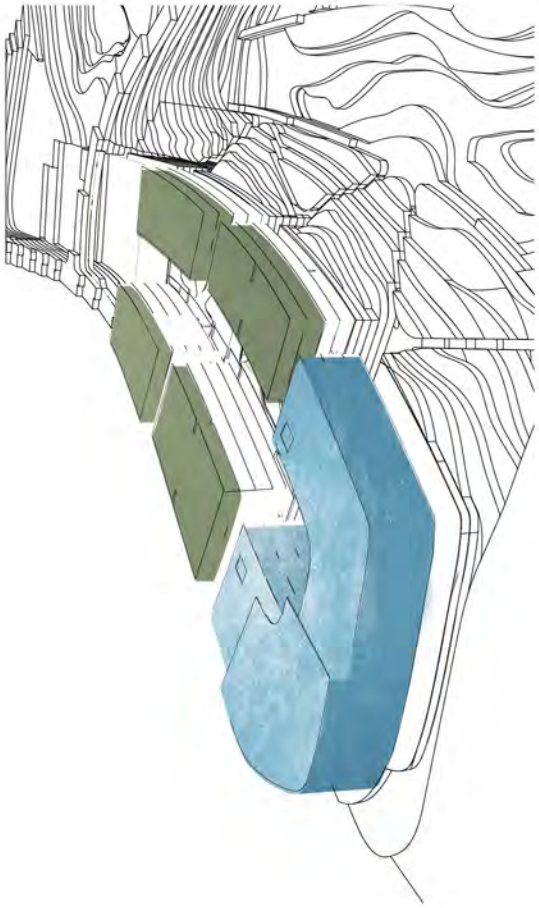


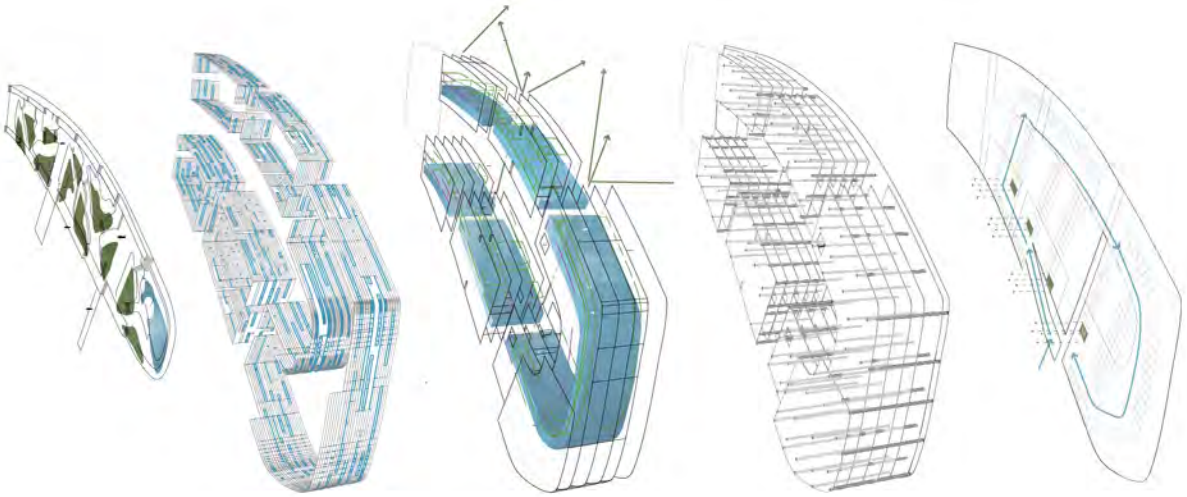



BADMINTON COURTS
WOMEN'S LOCKER RM
MEN'S LOCKER RM
TAI CHI STATION
YOGA
COMMUNAL GAME SPACE
SPA
DANCE FLOOR
MECH


MEDITATION RM
WOMEN'S LOCKER RM
MEN'S LOCKER RM
REC STG
FITNESS CENTER
RECREATION
LOUNGE
COMBAT ROOM
MECH


RENTABLE
RENTABLE
RENTABLE
WOMEN'S LOCKER RM
MEN'S LOCKER RM
CONF RM
CONF RM
CONF RM
CLASSROOM
CLASSROOM
DN
DN
WORKSHOP
AUDITORIUM
MECH
CLASSROOM
CLASSROOM

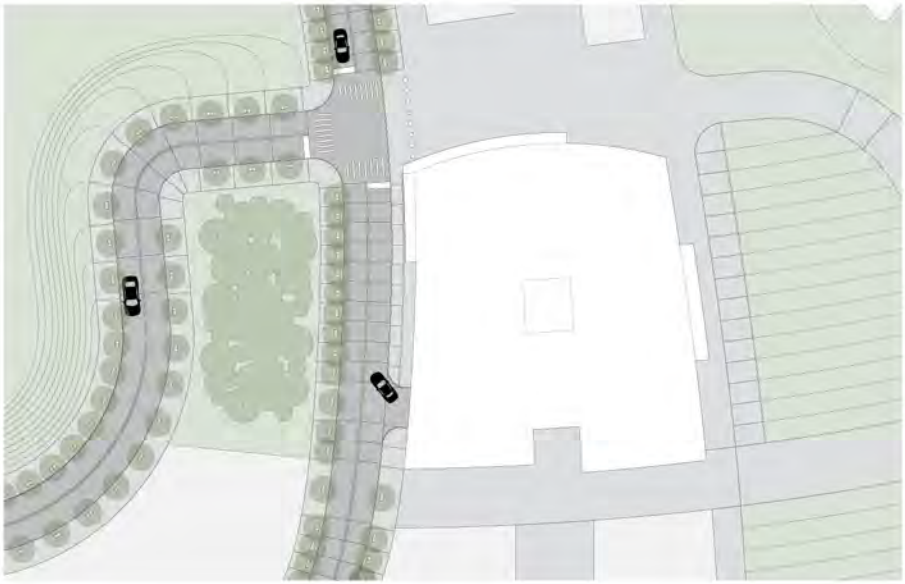


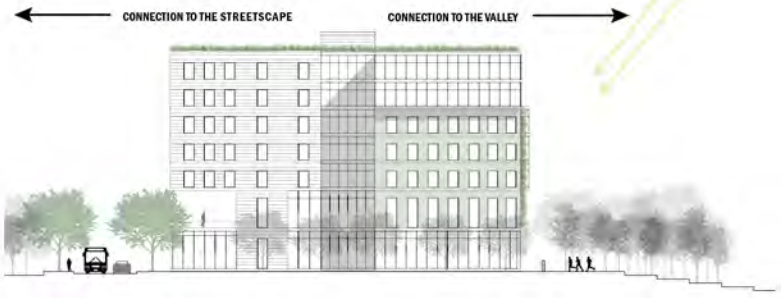


GROUP B

Civic Center

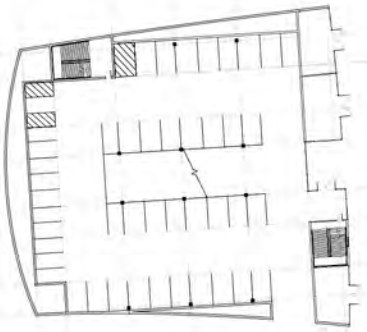
Located in the heart of Chongqing, China a civic center is found at the junction between Site A and Site C. The site between the North and the South end, refered to as Site B is characterized by the mountainous terain and lush agricultural land. The civic center serves as a hub of activity that offers gathering and educational space for the local population.

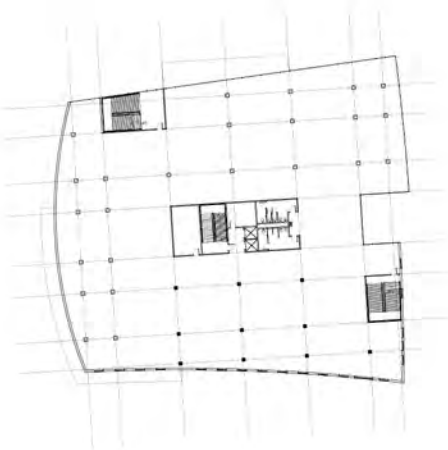


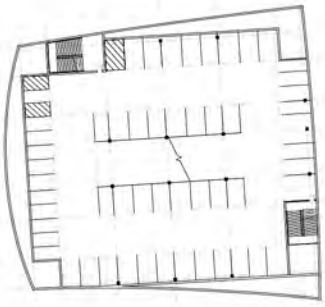


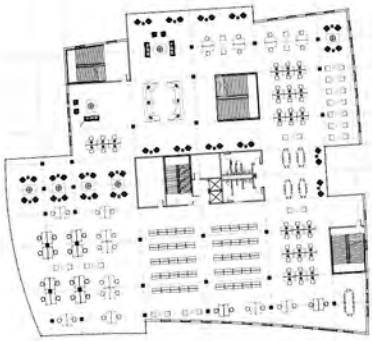
SOUTH ELEVATION
1:250

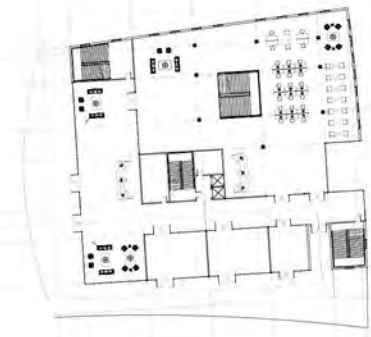
WEST ELEVATION
1:250

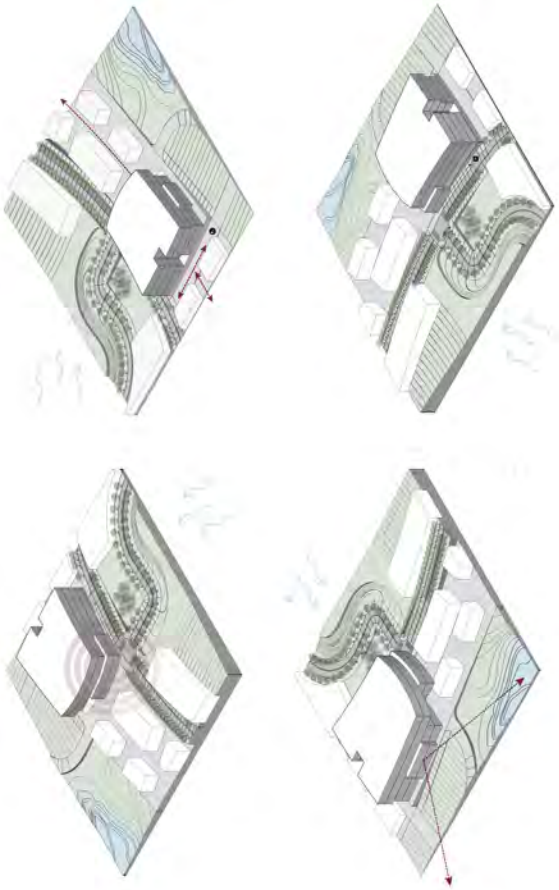




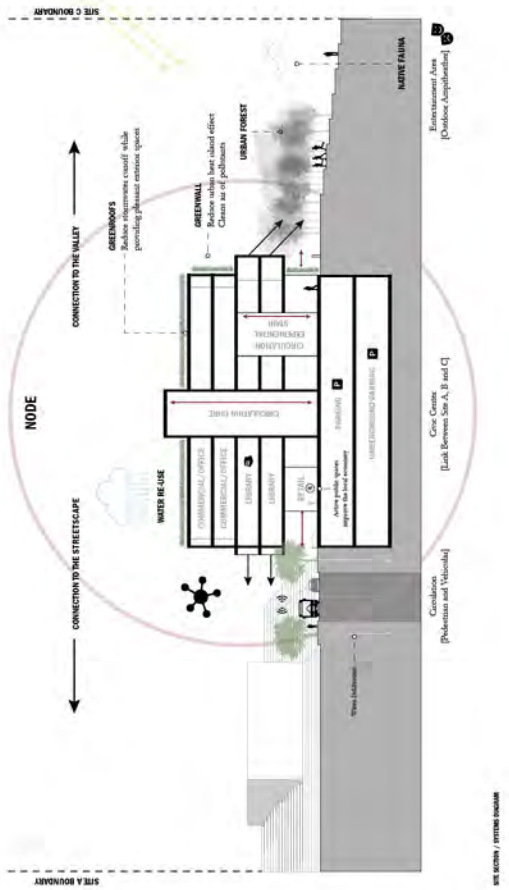








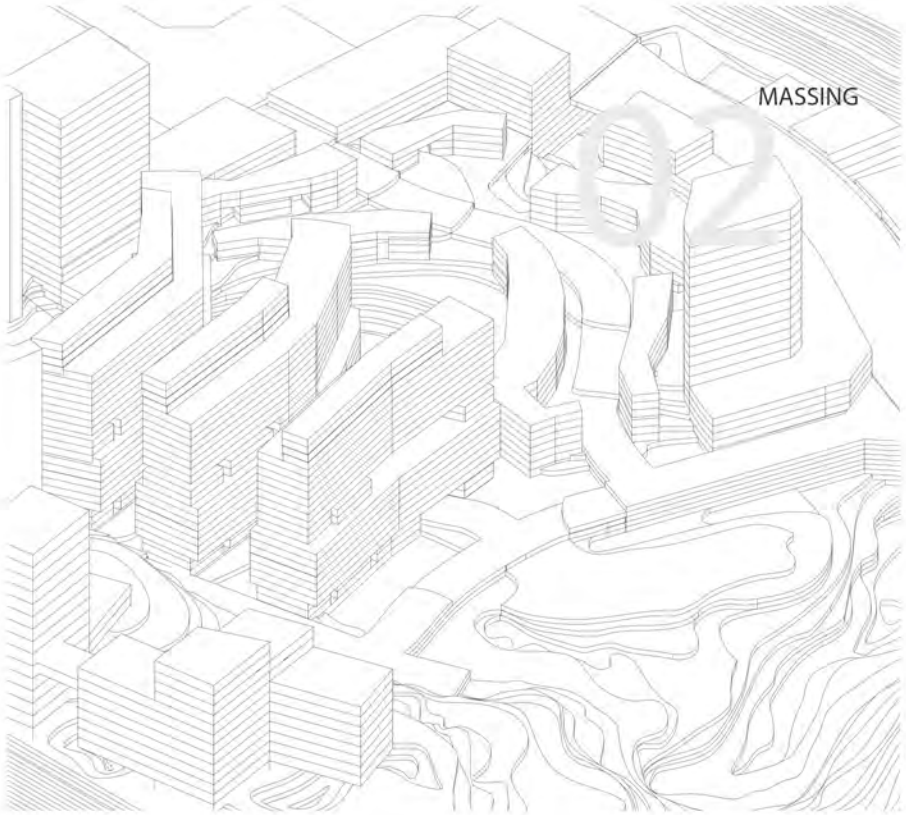
EAST ELEVATION
1:200



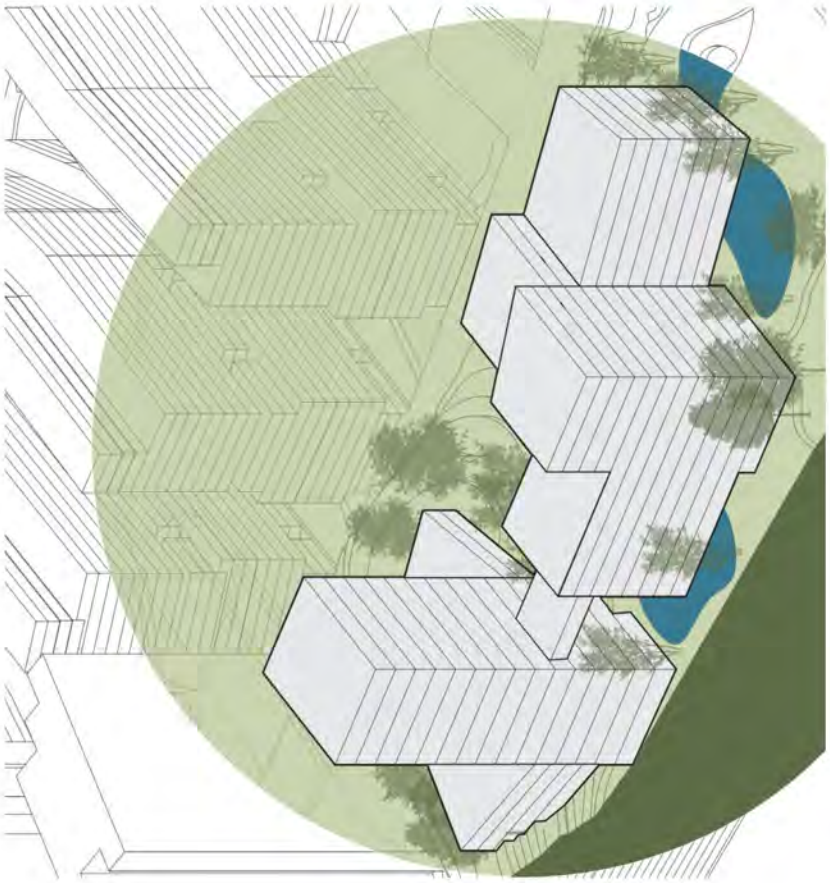
SITE SECTION / SYSTEMS DIAGRAM

GROUP C

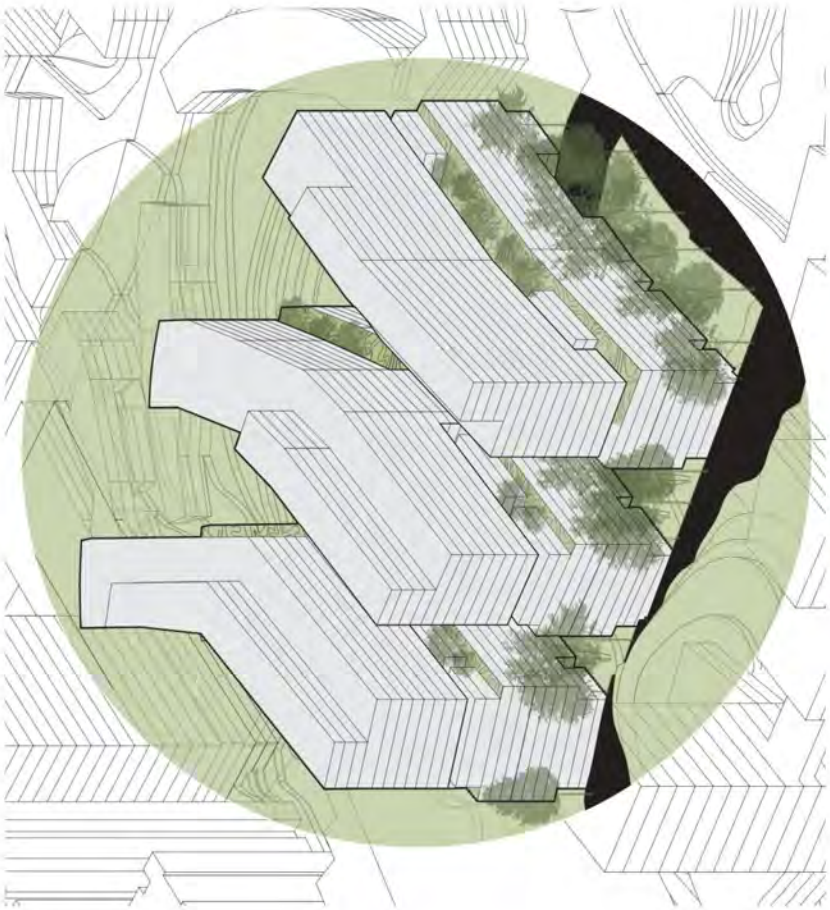
NEELY SUTTER



PAIGE NELSEN



COLLIN MEUSCH



GROUP C

THE CITY

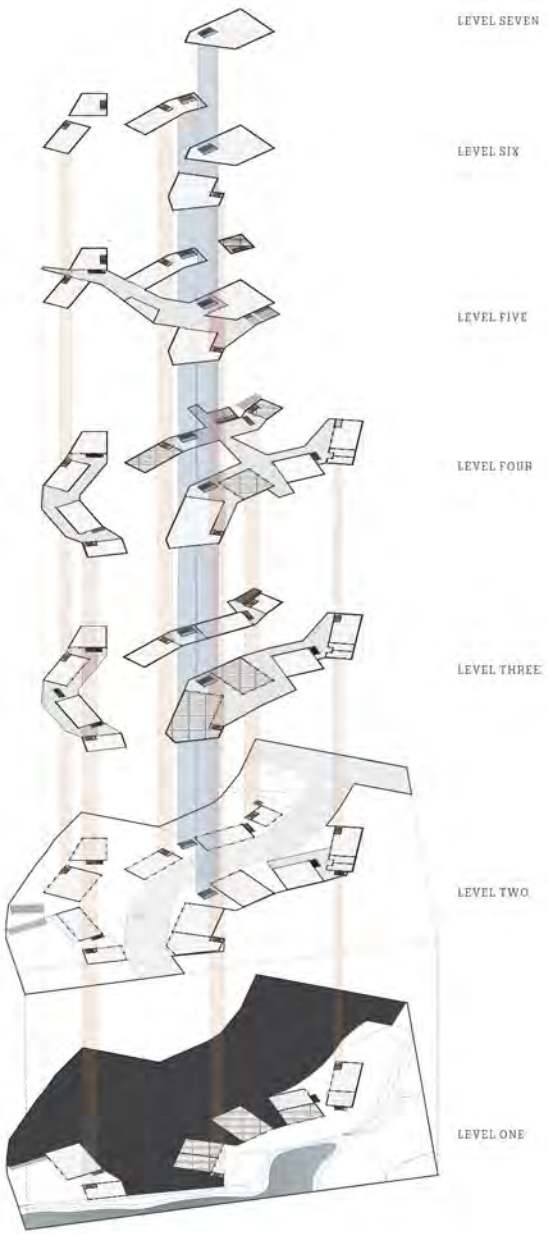
Highlighting the unique aspects of both our site and the city of Chongqing the four zones were: Mountain, People, City, and River. I individually developed the "city" zone with the design of the Chongqing Community Retail District. This district was developed with an understanding of the rapidly changing consumer culture in China.

The multi-level commercial district was cautious of the existing scale and the new building footprints were developed around the traces of the existing neighborhood. Through material, massing, and site lines the new development worked to maintain the existing culture, retailers, and spatial properties. It was important that the commercial district also be sustainable. Green systems were incorporated throughout the project and large openings in the development allow for the buildings to cross ventilate - creating a small micro-climate within the district.

MASTERPLAN

FENG-SHUI ZONES

"THE CITY" ZONE


LEVEL SEVEN
LEVEL SIX
LEVEL FIVE
LEVEL FOUR
LEVEL THREE
LEVEL TWO
LEVEL ONE


LEVEL THREE

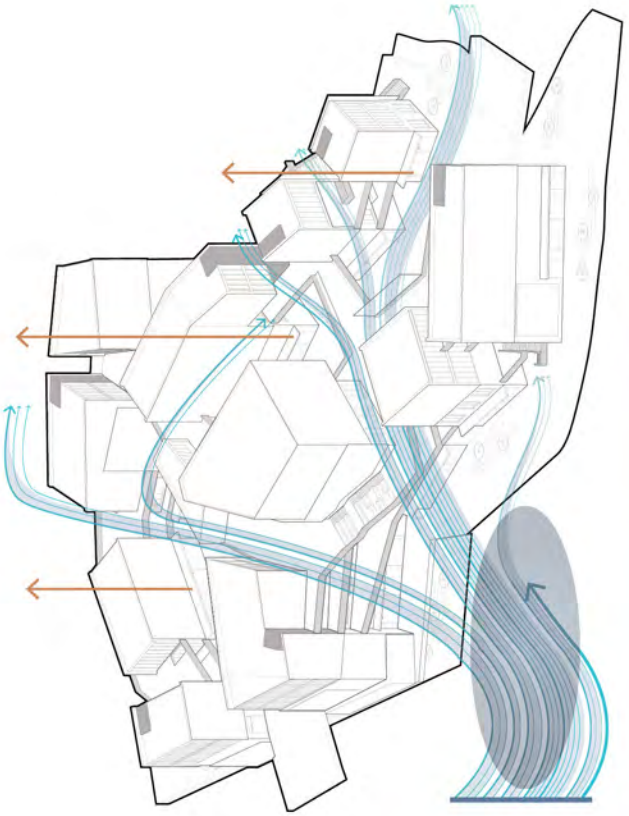

LEVEL TWO


LEVEL ONE

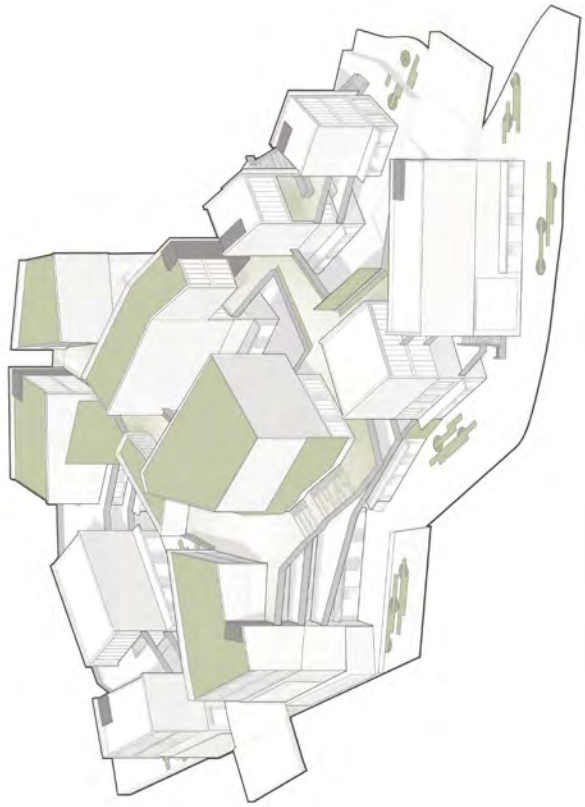

LEVEL SEVEN
LEVEL SIX


LEVEL FIVE


LEVEL FOUR




SLOW ZONE
FAST ZONE
POROUS COMPLEX
SECTION
1:250

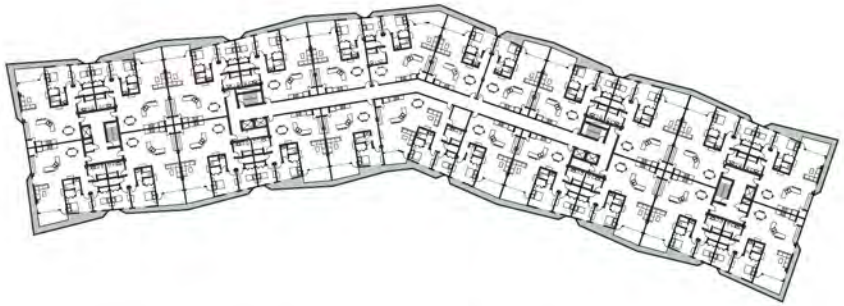


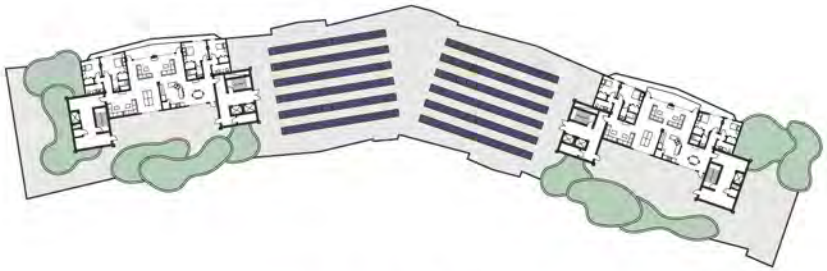

LAKE VIEW
COMMUNITY SHOPPING

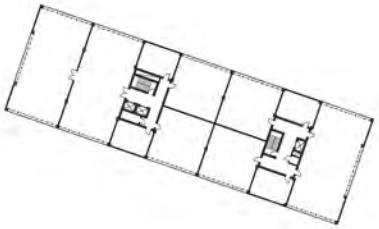
GROUP C

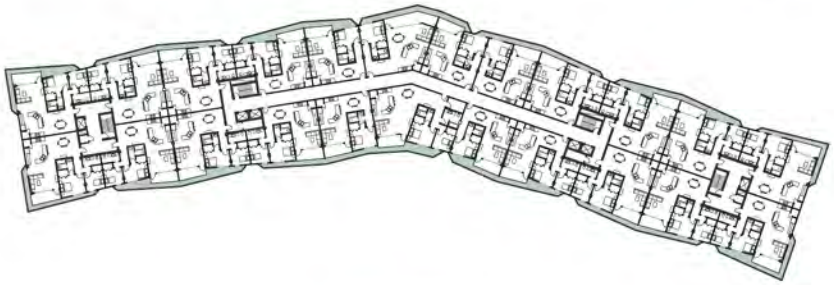
SKY HABITAT

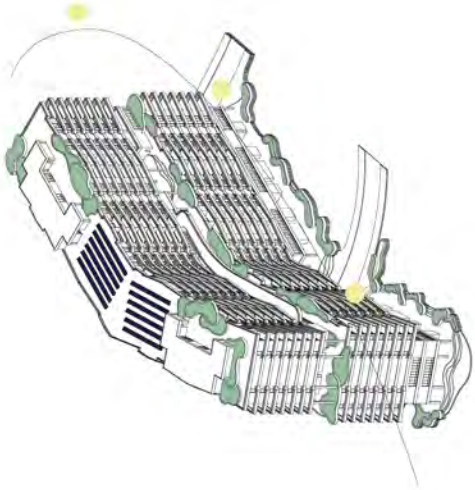
I chose to design one of the residential high-rise apartment buildings devised within the master plan our class developed. My major goals for this housing tower were to increase the resident density of the area, incorporate sustainable strategies, provide numerous amenities, promote health and fitness, and integrate elements of nature into a high density environment where there would normally be little space for. My proposed building consists of over 20 stories, 300 apartment units, small business shops, office incubator spaces, fitness and recreation areas, sport courts, a swimming pool, a running and walking track, and a large park space that interjects through the middle of the entire complex.

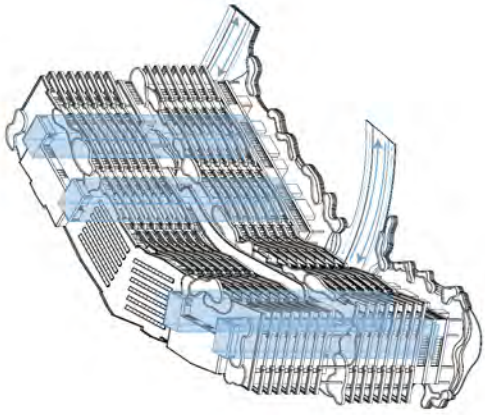




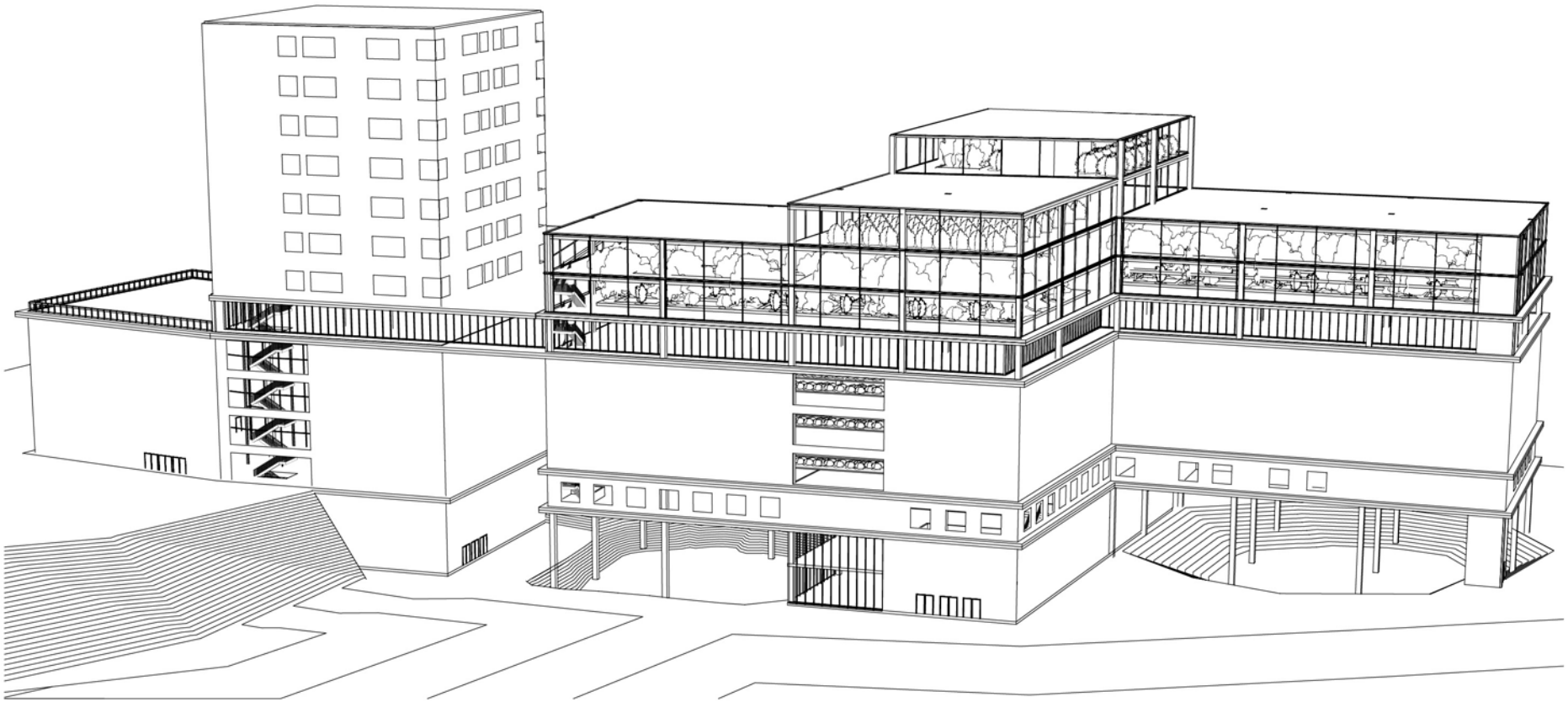








GROUP C



PROJECT TITLE

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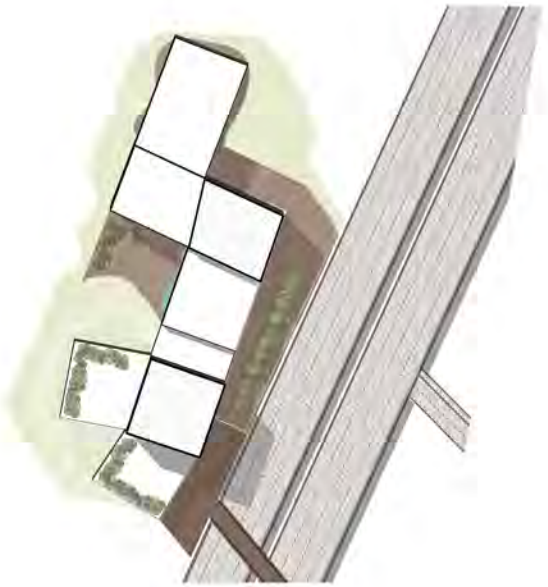

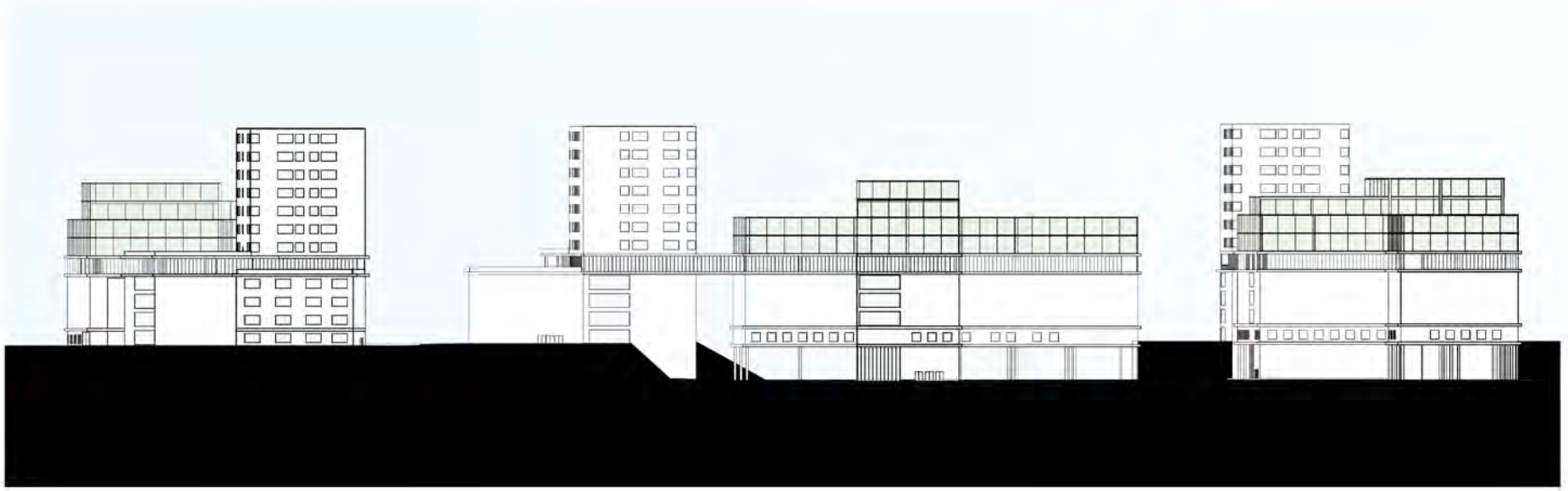

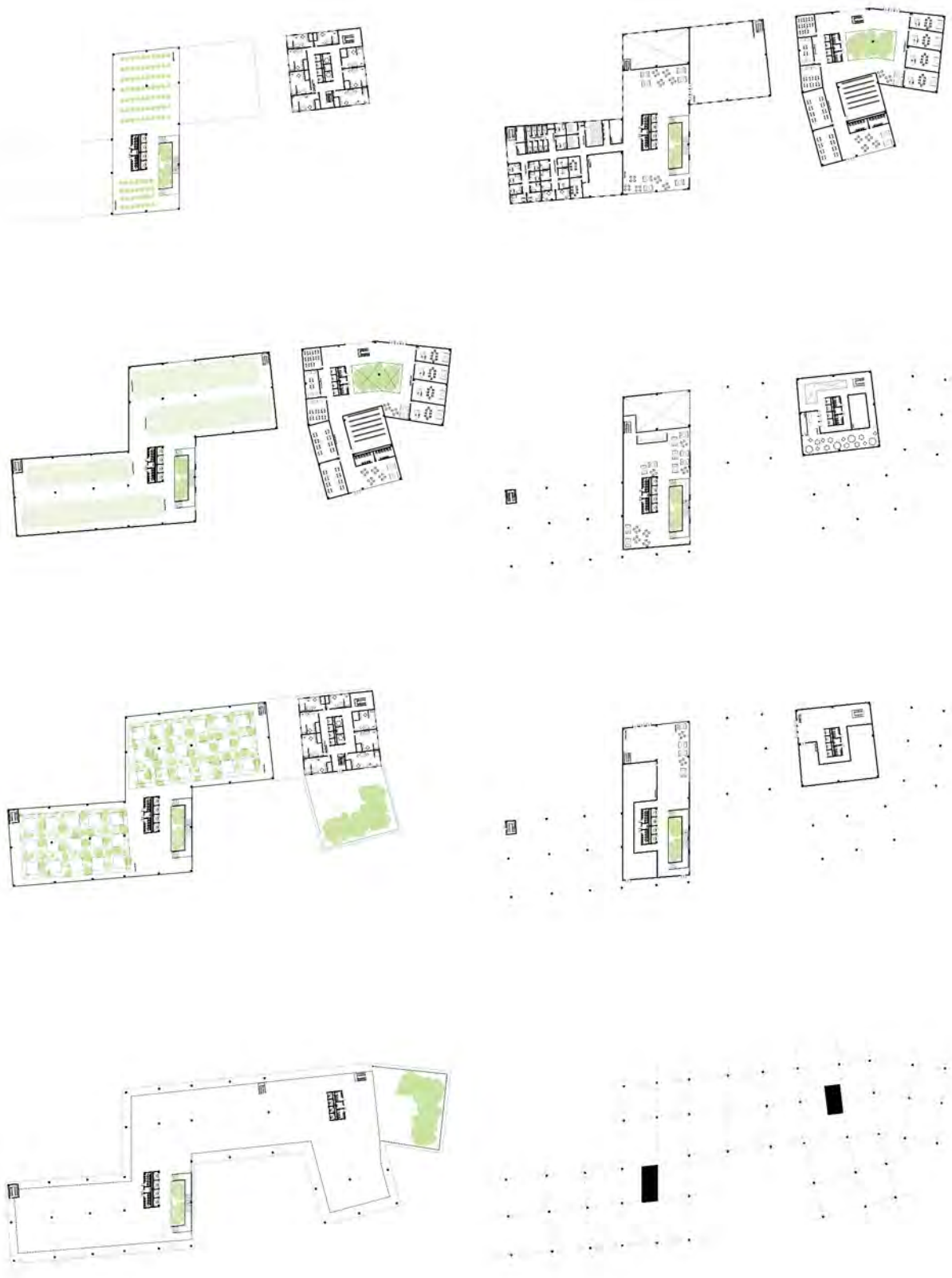

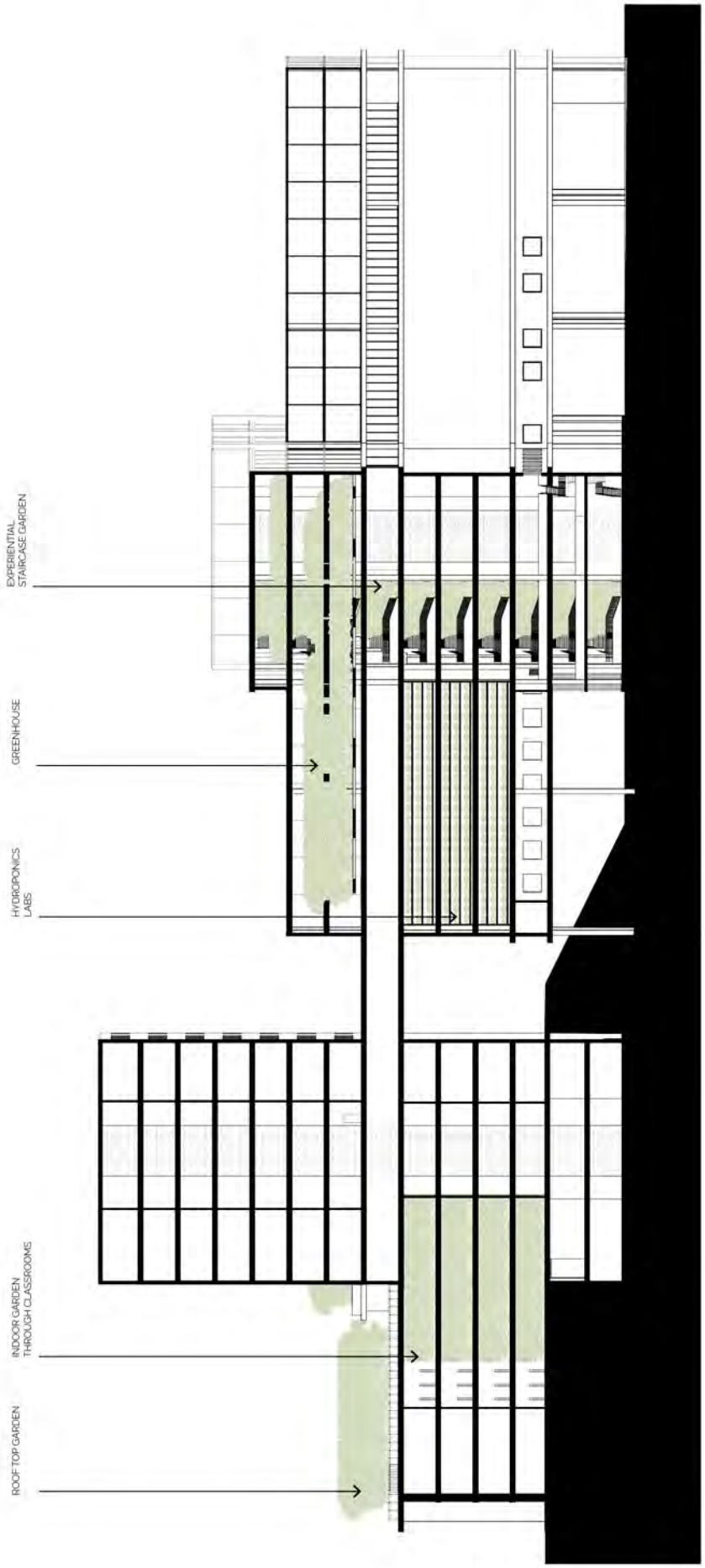
EXPERIENTIAL STAIRCASE GARDEN
GREENHOUSE
HYDROPONICS LABS
INDOOR GARDEN THROUGH CLASSROOMS
ROOF TOP GARDEN

Student Comments

Rebecca Alanis

Having the ability to explore China during my graduate studies has given me the chance to see different environments outside of the United States and analyze other ways of approaching design. It has also allowed me to envision what types of spaces we are capable of designing in order to incorporate more nature and sustainable elements into the urban environment.

Alaina Boudreau

I was able to learn so much about the architecture of China just through the enjoyment of seeing, hearing, and absorbing aspects of culture and life from every place that we visited. With this new perspective, I am beginning to see more architectural defaults that our society makes intuitively. This has allowed me to question design decisions that I may not have considered before. The experience that I had designing for a different culture that faces different problems with students abroad sparked a new interest of mine that directed me and my job search as I begin my career.

Katelynn Larsen

Through this studio I have gained great insight about high density environments and their multiple layered system that creates a vibrant city life. Taking this opportunity to travel in China, allowed me to experience a different kind of culture and high-density never seen in America. Canyons of vertical buildings that puts Manhattan to shame, architecture that dates hundreds of years ago, and a diverse array of foods unique to each province. In every city that we traveled, there were elements of water, rock, and plants incorporated into the city's infrastructure itself, creating a moment of quietness within the bustling traffic.

Collin Meusch

Visiting China was an unforgettable experience and immersion into a foreign culture. Seeing the massive scale of architecture, and how people live and interact within such high density environments was truly fascinating. The China trip is a great opportunity to expand and move outside of your comfort zone, and something that I would recommend to anyone.

Paige Nelsen

The Vertical Design Studio helped me grow as a designer in many ways. Our site in Chongqing created a unique perspective of how topography can be dealt with in a high density environment. Learning how to be mindful of the history of a place and how that can influence its future was also insightful. Overall the knowledge I gained from being immersed in high desity environments is one that will continue to develop my role as a design professional in the built environment for years to come.

Kyra Stradley

This studio was a great opportunity to experience foreign culture and a high density environment you don't see here in the United States. By experiencing these design opportunities first hand it has allowed me to change my own perceptions of the role of architects within our society. Having the ability to impact individuals from the vernacular to the extrodinary is something many professions don't have the opportunity to do. I know that my experiences from the trip will guide me in my future career.

Neely Sutter

This studio was a great look into the details and challenges of density that we are and will continue to face. Having the opportunity to travel to China and see first hand how the country is facing density was an eye-opening and invaluable experience. As a designer of spaces, it is important to understand how spaces will feel and function when they are being used, especially by large numbers. This trip has challenged my previous ideas about design. This studio experience has pushed myself to further understand the future of the sustainability, architecture, and the built environment.

Julia Tabaczyk

During the course of my three weeks of travel, I was able to experience some of the most spectacular, historic and beautiful places. This experience has allowed me to gain new insight into how culture, design, architecture, and engineering are at the forefront of civilization and how these fields often dictate experiences. I was amazed by how modern, dynamic environments complemented rich historical places so nicely.