

1 a l k e

A Sustainable Campus Extension for Bilkent University

**Take**

I.D. Bilkent University  
Faculty of Art, Design and Architecture  
Department of Architecture  
Spring 2017-2018

ARCH 402 Architectural Design Studio VI

Instructors:

Dr. Mark Frederickson (Course Coordinator)

Jesus Espinoza Alvarez

Dr. Segah Sak

Dr. Yigit Acar



Dear Segah Sak,  
and All Dear Instructors,

We tried to collect together all architectural outcomes of the semester in this book, but there also lots of discoveries about architecture, future, ourselves and life which we wouldn't have achieved without you. We - as the future architects - would like to thank you for all your effort, inspiration, motivation and support on us. Beginning from today, we are all ready to face with reality not only for architecture but also for the world. You shared a magical inspiration with us, which we will never let go.

Thank you, for everything.

**ARCH 402, Section 3 Students.**

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# INTRODUCTION

## Preface

Here, we report from Ankara, the rapidly growing and constantly changing Capital of Turkey. Various issues play role in the transformation of Ankara urban texture where one is the development of multiple universities around Beytepe Town. Growth of the campuses of Middle East Technical University (METU), I.D. Bilkent University and Hacettepe University acts as a substantial trigger for ongoing urban sprawl towards the Southwest.

Within this context, our project site was the campus lake basin at the Main Campus of Bilkent University. We built our work upon the idea that the site has a significant importance for existing and potential green corridor between three campuses. In our search for a “Sustainable Campus Extension”, revitalization of the lake, dialogue between campuses, existing socio-cultural and functional patterns around Beytepe Town were discussed. According to the conducted research and discussions, two master plan proposals emerged. In the light of the master planning decisions, 13 architectural projects with individually defined functions and programs within re-elaborated site plans were created.

Since the site already holds infrastructural, functional, environmental, economical and social qualities, through the synthesis of architecture and other disciplines, we adopted varying approaches to a potential “Urban Sustainability Node”. The studio, we believe, had a common entity embracing multiple approaches to sustainability and architecture, and advocating the power of such campus extension in urban scale.

Eventually, our studio, physically and intellectually, was placed amid the thresholds of the ongoing urban (de)formations. Throughout the semester, we shared the struggles of both being and designing within this context. We had, not only excessive urban / architectural / social / environmental issues in hand to discuss, but also manifold planning works to strive for. On one hand, we worked towards developing spaces with a new language, on the other, we took steps to go out of our safe but riddling zone.

This book shares with the reader the outcomes of our struggles. Along our path, we have been lucky to have Dr. Mark Frederickson, Jesus Espinoza Alvarez, Dr. Yiğit Acar and the other ARCH402 students with us. We have greatly benefited from the mind-opening lectures by Dr. Oktan Nalbantoğlu, Dr. Olgu Çalışkan and Hüseyin Kezer, and from the feedback of Zeynep Öktem, Dr. Ayşe Henry, Melih Cin, Dr. Giorgio Gasco, Hema Farzana Mirza, Serpil Altay and Maysam Foolady during the reviews. We hope the book reflects our inspirational, unique and enriching experiences all together.

Thank you,  
Segah Sak and the Students

# Studio Brief

## URBAN SUSTAINABILITY NODE | Sustainable Campus Extension for Bilkent University

Ankara is changing rapidly and beset with developmental issues involving growth, sprawl, economic stagnation and stratification, a dearth of open space, congested transport, environmental degradation, as well as socio-cultural isolation. In our continuing search for “sustainable” design and planning solutions, we must consider an array of urban issues. Pedagogically, this project offers us an excellent opportunity to expose students to complex, multifaceted, real-world professional experiences. Many urban mobility, infrastructural and open space deficiencies throughout the city are being identified and discussed. This studio team will collaboratively generate, explore and synthesize alternative urban and site specific architectural concepts that address the creation of a sustainable and livable urban fabric. The project will focus on the development of a sustainable campus extension near and around the existing campus lake watershed basin.

Here, we have the opportunity to generate a series of alternative master planning concepts for this campus waterfront area. We will be working through a range of scales from urban, to neighborhood, to site specific focus areas and architectural designs. Projects of this sort have importance to a variety of user groups and our solutions could potentially have significant impact on surrounding social and environmental contexts. This studio will therefore devote itself to generating sustainable design and planning alternatives appropriate to the campus and to Ankara. Simply stated, we have an opportunity to demonstrate how a variety of planning and design strategies can encourage intelligent development within the existing infrastructure of our campus, thereby contesting wasteful urban sprawl. Although we should remain apprehensive regarding the use of the term “sustainability”, we will honor it as an elusive yet worthy goal integrated into all our planning and design efforts. It is likely that a truly sustainable urban environment must necessarily be defined across an array of dimensions: economic, cultural, environmental, functional, aesthetic, etc.

Accordingly, in complex projects we evaluate the relative merit of our ideas per the following design and planning ordering systems: Economy; is the design economically sustainable? Does it create jobs and income sources for the community? Environment; is the design environmentally sensitive? Does it connect and enhance existing ecosystems? Does it reduce our carbon footprint? Culture; does the design create opportunities for meaningful social exchange and learning? Function; does the design circulate effectively? Is it safe? Is it easily maintained? Aesthetic; has the design identified and created an aesthetic sensibility appropriate to the history and culture of the region and its vision of the future? These systems can become a form of checklist deeply embedded in a design process, and an idea’s relevance and usefulness increases according to the number of different ordering systems that it engages. ... We will use these invariably interconnected systems as a means of verifying the relevance of our ideas. Our solutions must be multi-layered and satisfy the complex range of design determinants present in all urban settings. ... Emphasis will be placed on design, design process, design synthesis, and digital, graphic, verbal and written communication. The design process module will focus on a variety of ordering systems. These will be continually engaged throughout the data collection, data analysis and design synthesis phases of design. and our solutions could potentially have impact on surrounding social and environmental contexts.

Dr. Mark Frederickson





ELİF ARA



ÖZGE BAYAM



BURAK ÇELİK



ABDUL REHMAN DANDIA



İLAYDA GÜLER



HAZAL GÜMRÜKÇUOĞLU



BAŞAK GÜNALP



SİNEM KARA



LERZAN KEĐOĐLU



DİLARA AYŞEGÖL KÖKTEN



IRMAK ŞENER



GÜLSEN ŞENOL



TUANA VURAL



SEGAH SAK



## SITE ANALYSIS

Abdul Rehman Dandia  
Başak Günalp  
İlayda Güler  
Ayşe Sinem Kara  
Dilara Ayşegül Kökten  
Tuana Vural

## CASE STUDIES

Elif Ara  
Özge Bayam  
Lerzan Keçoğlu  
Irmak Şener  
Gülşen Şenol

## 3D MODELING

Burak Çelik

## MASTER PLANS

### INTERFERENCE

Elif Ara  
Özge Bayam  
İlayda Güler  
Hazal Gümrükçüoğlu  
Ayşe Sinem Kara  
Dilara Ayşegül Kökten  
Irmak Şener  
Gülşen Şenol

### TRANS[FUSION]

Abdul Rehman Dandia  
Başak Günalp  
Burak Çelik  
Lerzan Keçoğlu  
Tuana Vural

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## EDITORS

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Hazal Gümrükçüoğlu



# 01

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## Site Analysis

Abdul Rehman Dandia  
Bařak Gnalp  
İlayda Gler  
Ayře Sinem Kara  
Dilara Ayřegl Kkten  
Tuana Vural

# Urban Context





Söğütözü , Ankara  
Background Photo Credit: Elif Ara



# CITY DEVELOPMENT OF ANKARA



September, 1st 2003



September, 17th 2010



September, 21th 2017

The aerial views from September 2003, 2010 and 2017 shows the development and change of the site in a greater scale. The major differences of images are the roads and the movement of the water with its streams throughout the years. Roads indicate the development of social areas through years that create the demand of transporting by using shorter roads, which is definitely a must in an urban context. Urbanization also increased, however since the settlements are universities' properties not a rapid change had occurred. Also, the streams had a strong connection in September 2003, which has weakened day by day, today leaving only the riparian areas as traces. Not only the annual precipitation affects the activity of streams, but also the activity of human beings. The nourishment of the lake with the streams also have impacts on the environment and ecology in terms of biodiversity of species and these kind of changes may affect the overall diversity.

The change of roads reveals the eager to connect the sites together. Concurrently, the creation of roads indicates a damage to nature as it had happened to the new road next to METU site, which eases the circulation but harms many species and green areas.

The rapid changes of roads excluding the main branches show that there is a constant harm to nature in terms of balance between natural and urban. This development indicates that there is a demand to connect three sites, which can create various possibilities, without forgetting the profits of an economic, environmental and social sustainable solutions.

The water feature at the site can be enhanced with new technologies such as stormwater collection, rainwater harvesting. In general, with the development of overall plan's problems offers solutions for further development by taking the development throughout the years into account.



The change of streams in October and June shows the water characteristic of Bilkent Lake during seasons. There is an increase of flow of streams because of the climatic conditions, and the source of water which comes from the top of the roofs and roads mostly. In winter the water is frozen, and in June since the water capacity reaches its maximum due to melting ice. The movement of water may affect the design because the level also changes during seasons, which will take into consideration as well, while managing the features of water.



June, 26th 2016



October, 3rd 2016

# ANKARA CITY PLANS



## Lörcher Plan (1924)

First city plan created after proclamation of the republic.

## Jansen Plan (1931/1932-1957)

Recently emerging views on urban aesthetics, developing economy and health sectors led to changes in land use.



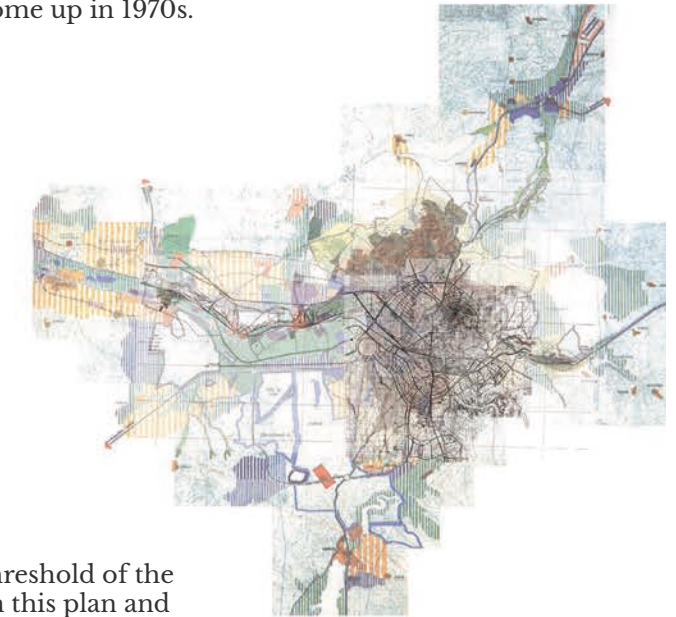
## Uybadin and Yücel Plan (1957-1969)

Uybadin and Yucel plan created to keep up with the developments and growing rate of the city.



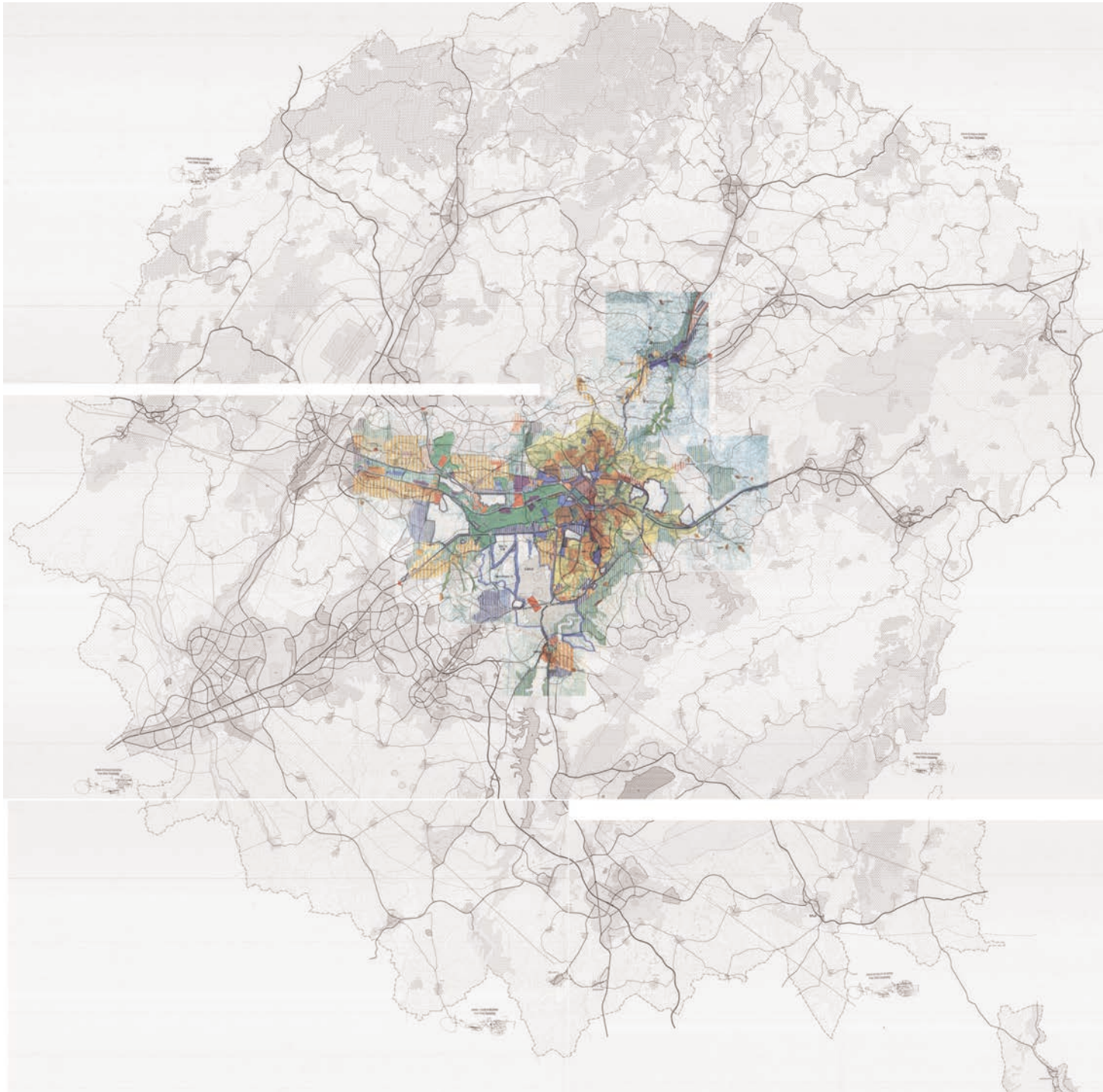
## Nazım Plan (1990)

Nazım Plan developed to resolve the issues which started to come up in 1970s.



After the proclamation of the republic, all these three city plans focused on one spine which is Atatürk Boulevard and reserved Ankara Fortress as a historical landmark. Ankara is therefore known as bowl-shaped. However, as city grew and expanded and population increased, there were some issues related to air pollution and dense traffic. In 1970s, studies started to develop new city plan and resolve these issues.

This plan is known as a way to overcome the threshold of the bowl. Some regions were added to the city with this plan and resulted a decentralized urbanization and overall city.



### **2023 Nazım Plan of Ankara**

Nowadays, Ankara is mostly growing outside of the threshold of the bowl towards Southwest corridor and becoming more like an edge city rather than a decentralized.

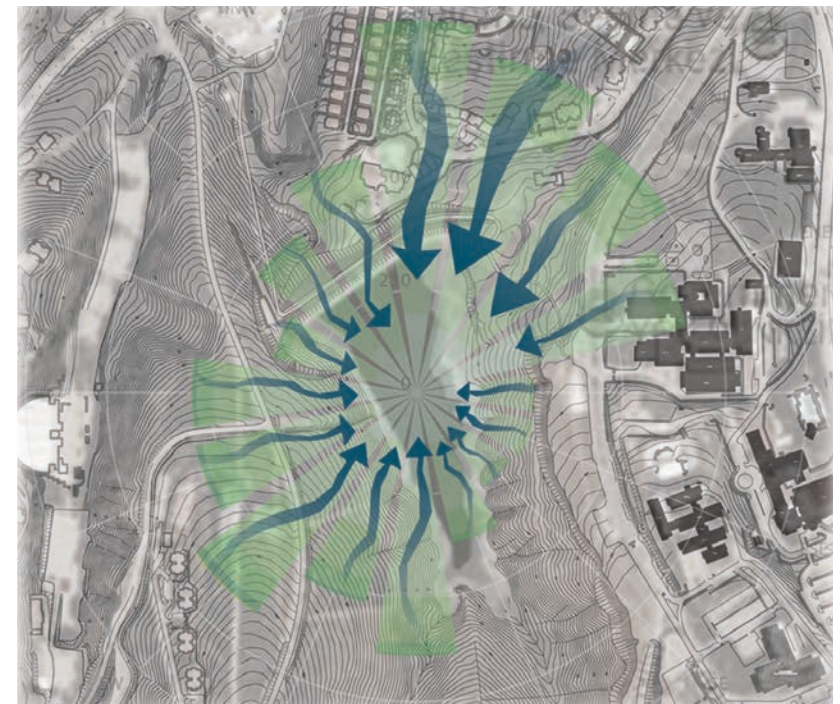
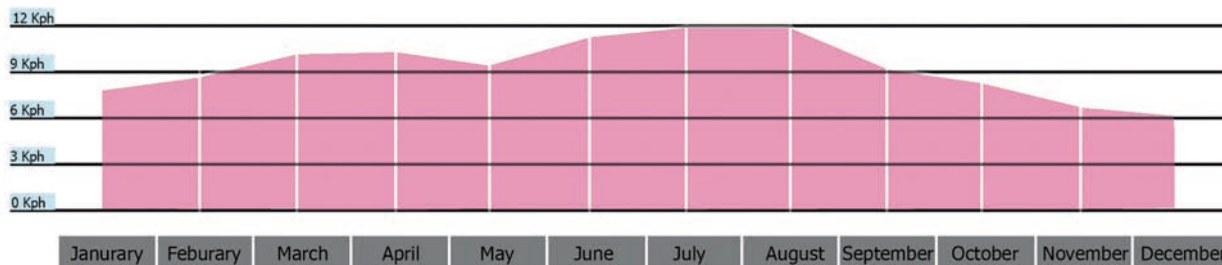
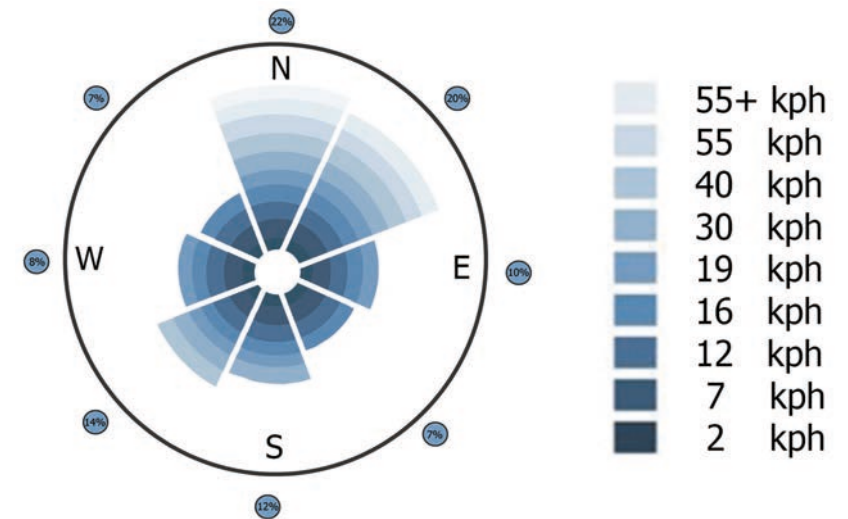
# CLIMATIC DATA OF ANKARA

The Wind speed in Ankara is the from North-East to South-West has the highest speed of the flow of wind, which makes the crossing from East to West very difficult especially for sailing boats.

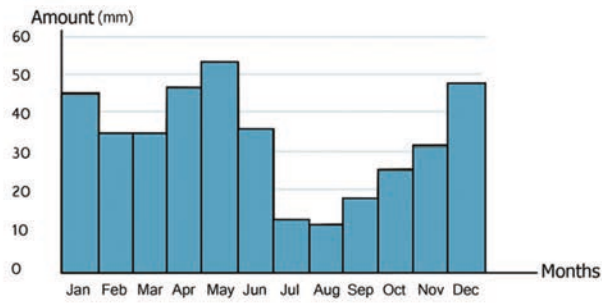
The small circles around the wind rose indicates the percentage proportion of wind towards each side through out one year.

The wind speed shown emphasises that there are stonger winds during the summers and lowers down in the winter season.

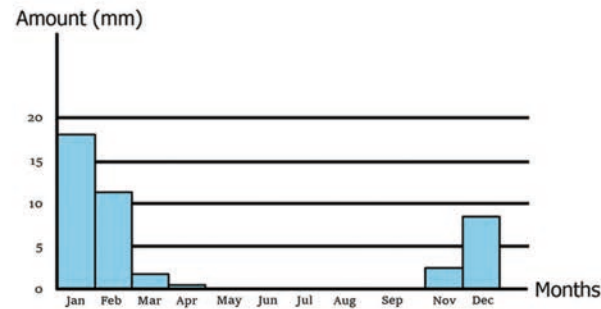
The diagram on the top right shows both the percentage of annual wind and its speed whereas the diagram below points out the monthly average spped of wind with respect to Kph. In addition, the diagram on the right bottom is to show the prevailing winds in our site. It can easily be seen that the frequency of the wind is the most at the northeast side of the lake. It is very likely that it is due to that fact that there is less blockage of wind since there is hill.



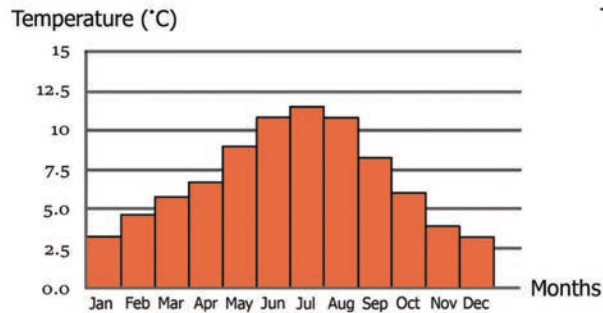
# PRECIPITATION, TEMPERATURE AND SUN MOVEMENT



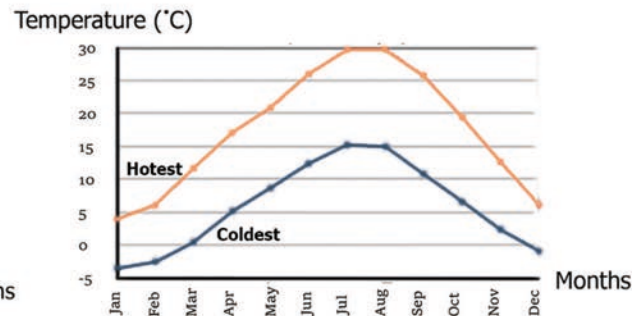
**Monthly Average Rainfall (mm)**



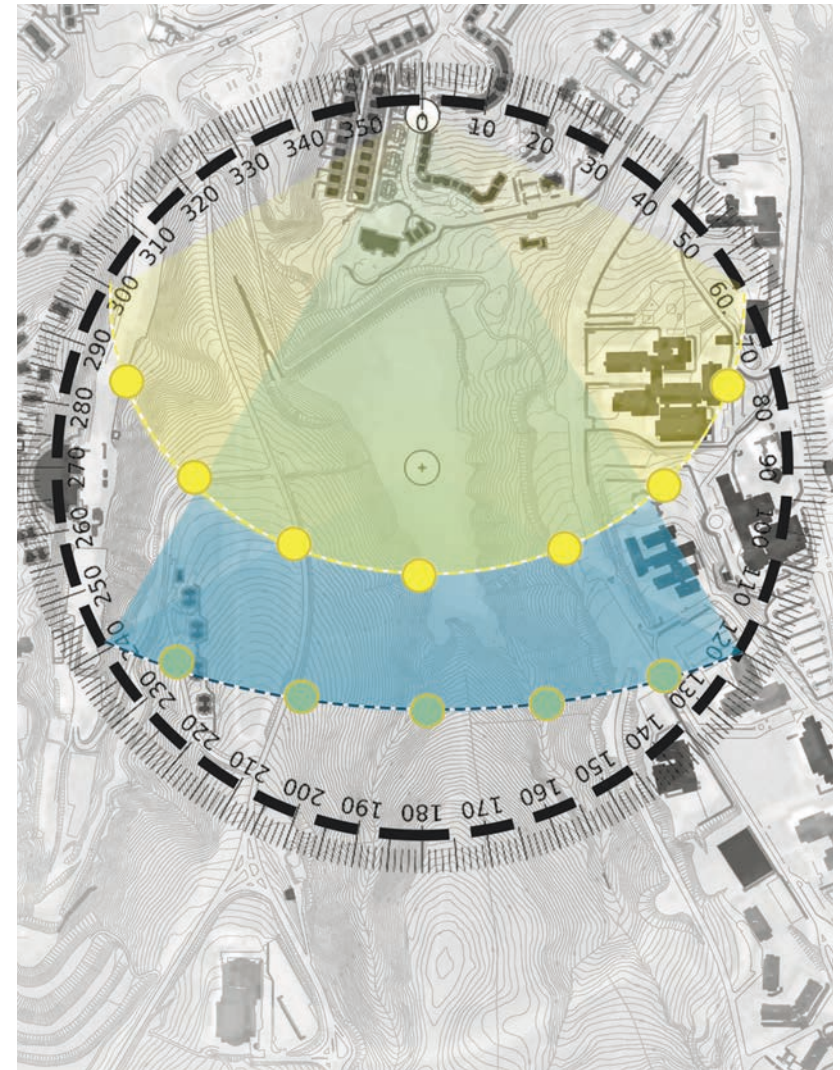
**Monthly Average Snowfall (mm)**



**Average Monthly Solar Gain**



**Average Coldest and Hottest Monthly Temperature**



# The Site










Bilkent Lake , Ankara  
Background Photo Credit: Segah Sak

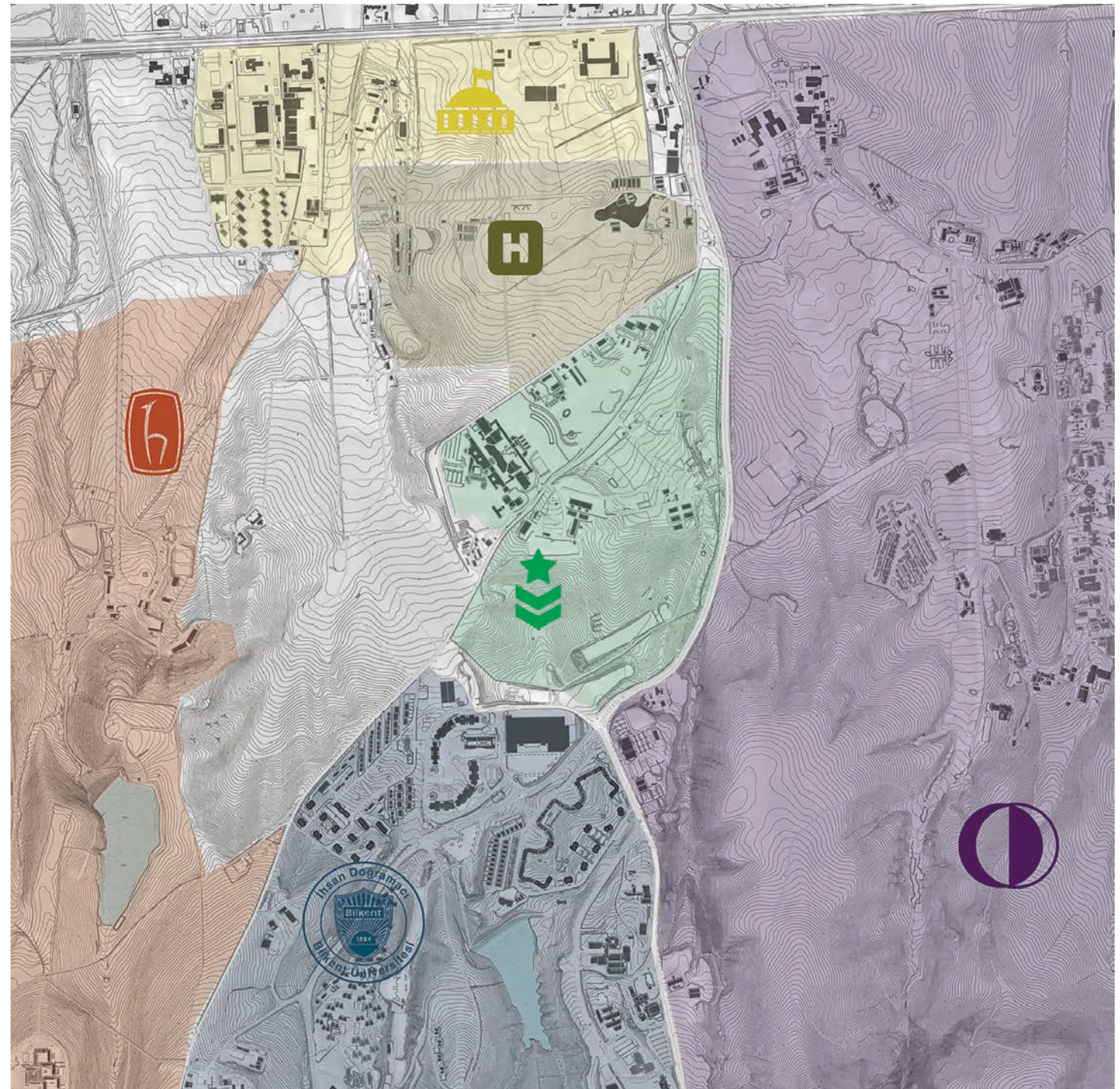


# ZONING

The three major universities of Ankara are not only close to each other distance-wise, but also in terms of hosting various types of users and activities whereas there are other zones nearby which are mostly governmental such as ministries and military bases, in addition to a research hospital. As a common ground, three universities share green areas and lakes.

The existence of water features provide huge potential in terms of social and sustainable opportunities for development of Bilkent Lake, just like Green Valley of Hacettepe and Eymir Lake.

-  Bilkent University
-  Hacettepe University
-  METU
-  Military Zone
-  Atatürk Hospital
-  Ministry Zone









# ACCESS



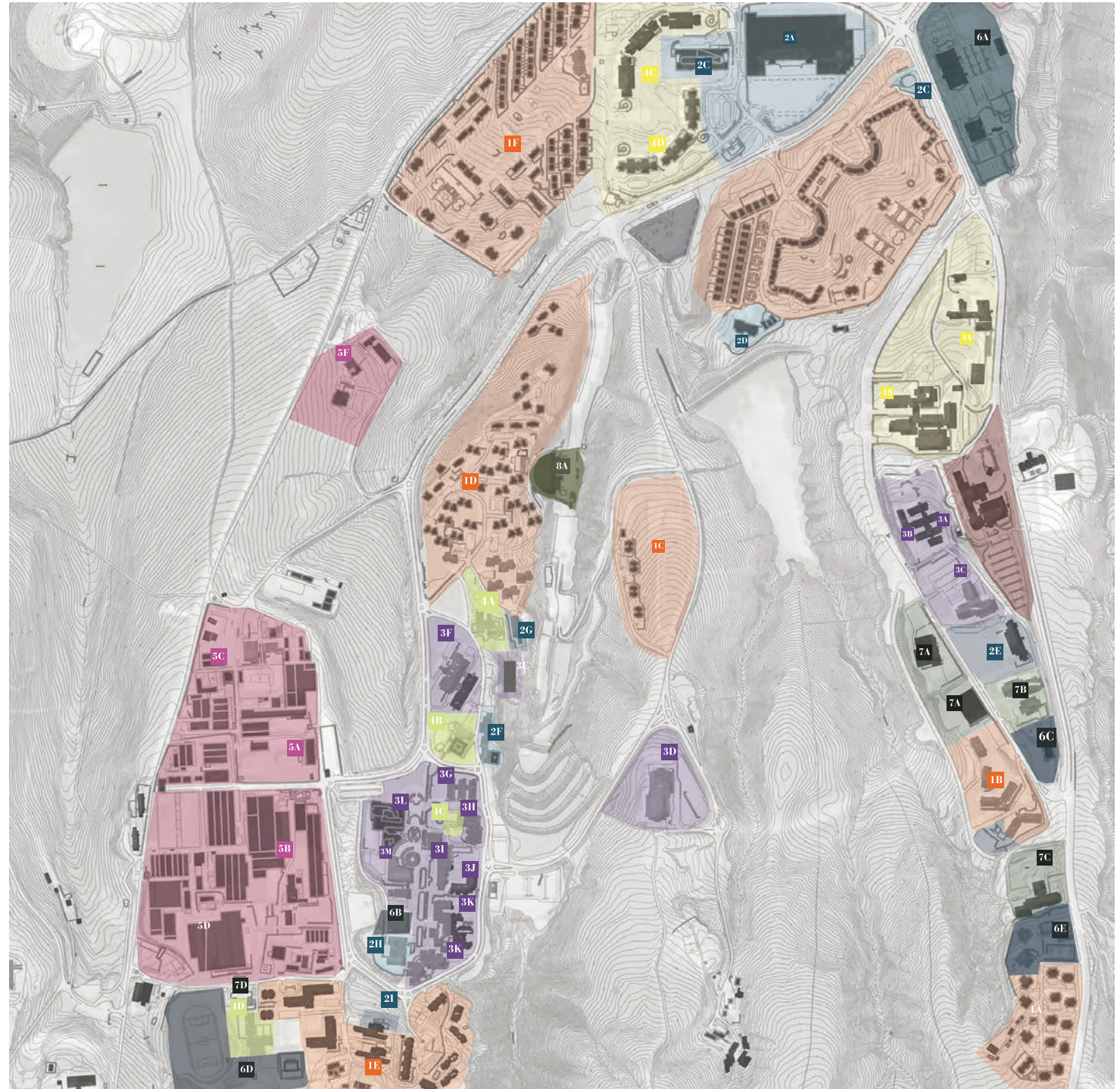
The existing transportation system encourages an access by cars. There are bus stops on the main roads whereas subway is only available along Eskisehir Road. Additionally, the shuttle system operates in universities along with the pedestrian access within their individual sites.

In addition to problematic access between three universities, dense parking zones indicate the excessive use of private cars due to deficient public transportation. These datum proves that there are various opportunities to both ease the access to the area and bring Hacettepe, Bilkent and METU together, in order to host many activities with the integration of tram, pedestrian paths and public transportation.

-  Bus Line&Stops
-  Subway Line&Stops
-  Bilkent University Shuttle
-  METU Shuttle
-  Parking Areas
-  Vehicle Roads

# FUNCTION

After the establishment of Bilkent University in 1984, the surrounding areas began to develop. Mostly governmental, commercial and residential areas emerged. Among the governmental buildings, there are OSYM and YOK, which are both related to higher education. OSYM is an institution which facilitates central university exams and placements whereas YOK is an institution which is responsible for all the higher education institutions in Turkey. Furthermore, within the campus borders, there are factories, research centers and educational facilities. Such variety in terms of function enables various interactions in education and provides countless opportunities for the students.



- east campus faculty housing
- 1B** east campus dormitories
- 1C** middle campus faculty housing
- 1D** main campus faculty housing
- 1E** main campus dormitories
- 1F** bilkent1 çamlık sitesi
- 1G** bilkent2 park sitesi
  
- 2A** bilkent station
- 2B** ankuva shopping center
- 2C** bilkent2 starbucks coffee shop
- 2D** bilkent2 restaurant
- 2E** east campus catering center
- 2F** main campus catering center
- 2G** meteksan market
- 2H** speed/kıraç cafe
- 2I** main campus bilka fast food
  
- 3A** vocational school of tourism and hotel services
- 3B** school of applied technologie and management
- 3C** school of english language
- 3D** faculty of music and performing arts

- electrical and electrics engineering
- 3F** faculty of engineering
- 3G** vocational school of computer technology
- 3H** faculty of humanities and letters
- 3I** faculty of economics, administrative and social sciences
- 3J** faculty of business administration
- 3K** faculty of art, design and architecture
- 3L** faculty of law
- 3M** faculty of science
  
- 4A** ösym
- 4B** yök
- 4C** rtük
- 4D** botas
  
- 4A** dean of students' office
- 4B** library
- 4C** health center
- 4D** registrars' office
  
- 5A** cyberpark
- 5B** tepe group
- 5C** meteksan group

- meteksan system
- 5F** dilek group
- 6A** sports international
- 6B** main cam. sports hall
- 6C** east cam. sports hall
- 6D** dorms sports hall
- 6E** facul. hous. sports hall
- 7A** bilkent elementary sch.
- 7B** bilkent high school
- 7C** blis
- 7D** bilkent kinder garden
- 8A** odeon

# WALKING DISTANCES

There are many facilities that can be accessed easily on foot. Therefore, the following diagram asserts the walking distances with respect to time by taking the main site entrance as the starting point. In addition to these distances, main roads and secondary roads are marked so that the main routes of walking can be highlighted.



- Main Roads
- Secondary Roads

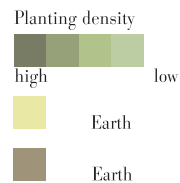
# NOISE

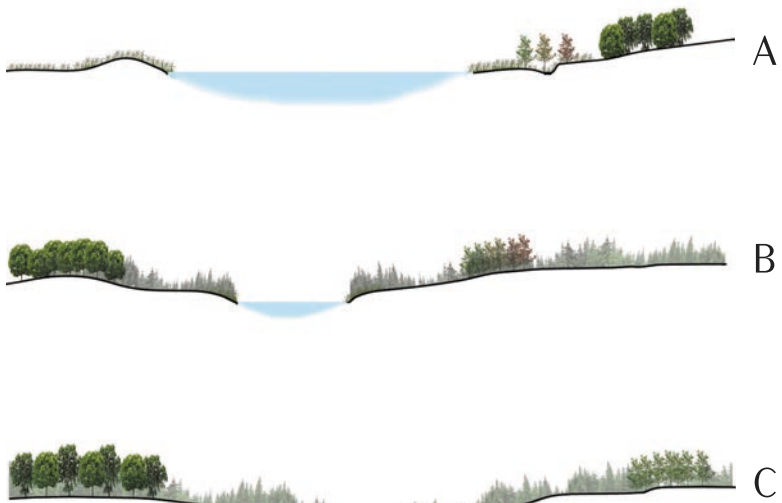
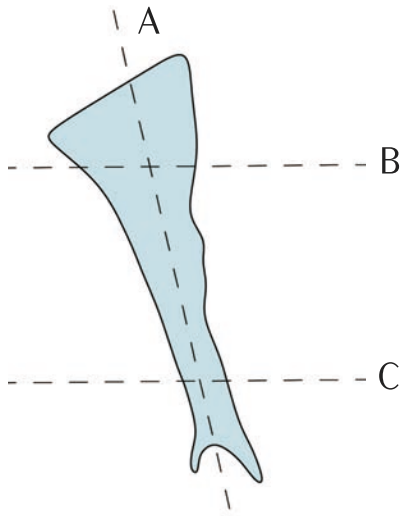


Most of the sources of noise around the site are caused due to the vehicle roads. However, in addition to the roads, Odeon nearby which is the auditorium of Bilkent University, can be a significant source of noise when it is occupied. Also, Bilkent Station and Ankuva which is on the northern side of the site is another significant noise source since majority of the commercial/ retail spaces are located either in there or around there.

# VEGETATION

The harmony between the lake and the nature that surrounds it, creates a peaceful atmosphere that is home to various types of vegetation that mostly comprise of briars, reeds and shrubs rather than pine trees, if it is to be considered from the natural formation aspect. There are three major riparian areas which define the characteristics of the site, that is, mostly affected from the climate and topography. On the other hand, the pine trees surround the site are planted too dense which hinders growth. The green area distribution affirms that the dominant characteristic of the site is more natural than urban, even though the site itself lies within an urban context. Thus, the site creates various attraction points in a more sustainable way whilst conserving the riparian areas.







# TOPOGRAPHY

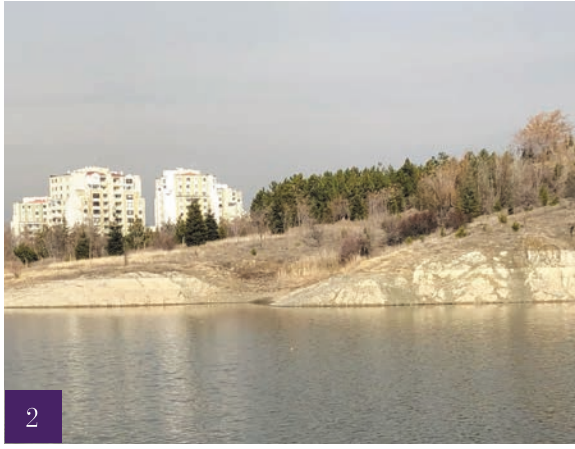




- Regular Path
- Path Near the Waterfront



As it has been shown before, the topography of the site is extremely inconsistent. Some parts of the site is flat whereas some parts of it has a steep slope. Thus, due to this dramatic difference, the paths which preferred by the site visitors differs. In addition, the views depending on the angle of the slope and perspective of the visitor changes as well. A person walking on a pathway cannot experience the site in a same manner as a person gazing through near the waterfront. This particular quality, provides the chance of creating individual and unique experiences.







# 02

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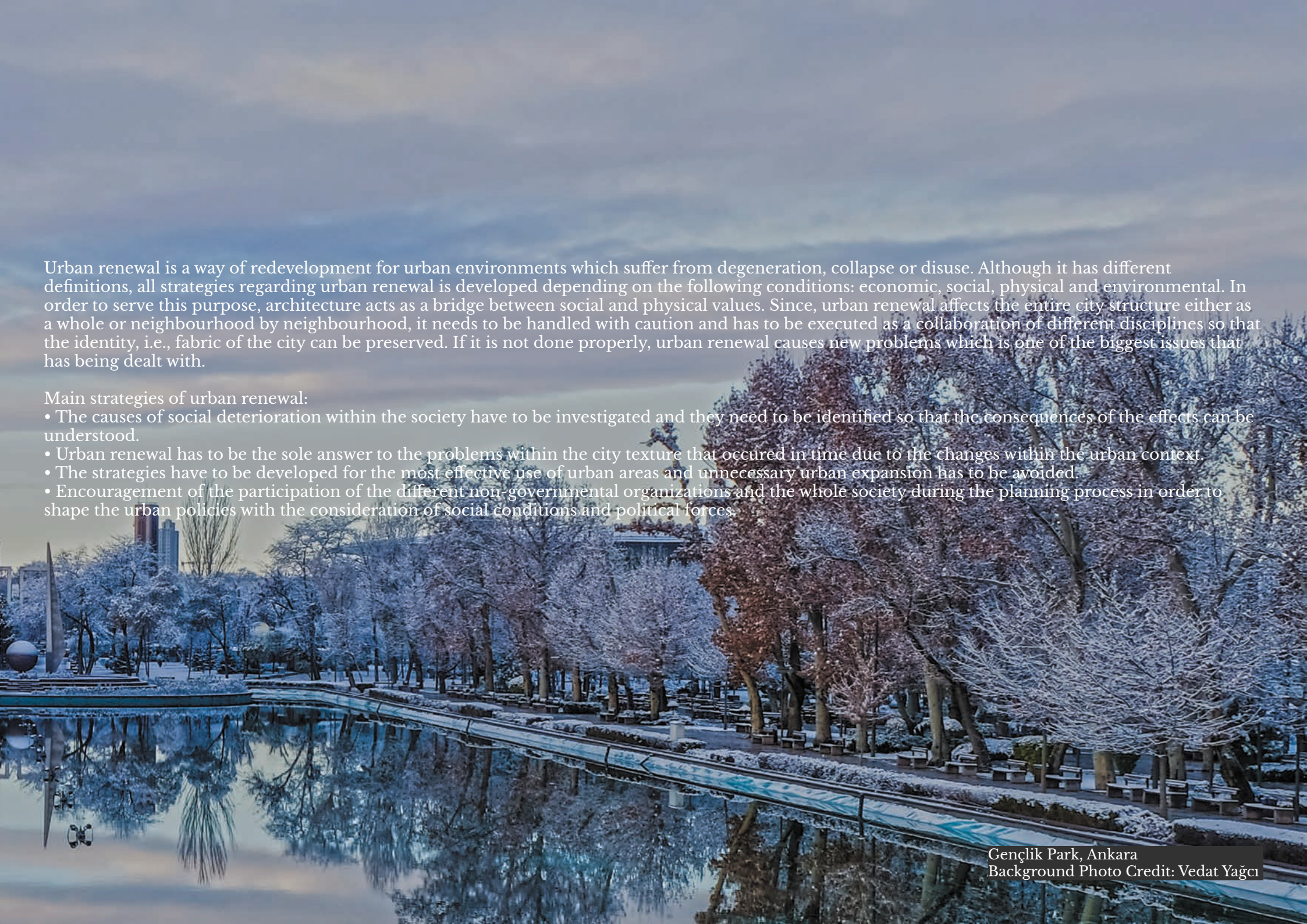
## Case Studies

Elif Ara  
Özge Bayam  
Lerzan Keçođlu  
Irmak Şener  
Gölsen Şenol



# Urban Renewal



A wide-angle photograph of a park in winter. The scene is dominated by numerous trees whose branches are heavily laden with snow, creating a white and blue palette. In the foreground, a calm pond reflects the sky and the snow-covered trees. A paved path with a metal railing runs along the edge of the pond. In the background, a few modern buildings are visible under a cloudy, overcast sky. The overall atmosphere is serene and quiet.

Urban renewal is a way of redevelopment for urban environments which suffer from degeneration, collapse or disuse. Although it has different definitions, all strategies regarding urban renewal is developed depending on the following conditions: economic, social, physical and environmental. In order to serve this purpose, architecture acts as a bridge between social and physical values. Since, urban renewal affects the entire city structure either as a whole or neighbourhood by neighbourhood, it needs to be handled with caution and has to be executed as a collaboration of different disciplines so that the identity, i.e., fabric of the city can be preserved. If it is not done properly, urban renewal causes new problems which is one of the biggest issues that has being dealt with.

Main strategies of urban renewal:

- The causes of social deterioration within the society have to be investigated and they need to be identified so that the consequences of the effects can be understood.
- Urban renewal has to be the sole answer to the problems within the city texture that occurred in time due to the changes within the urban context.
- The strategies have to be developed for the most effective use of urban areas and unnecessary urban expansion has to be avoided.
- Encouragement of the participation of the different non-governmental organizations and the whole society during the planning process in order to shape the urban policies with the consideration of social conditions and political forces.

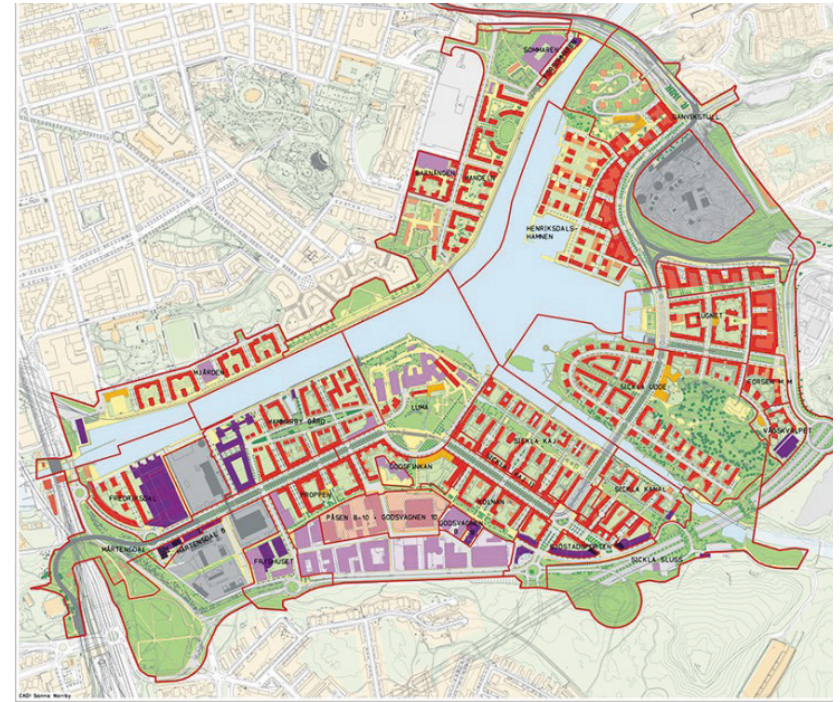


#urbanrenewal

# HAMMARBY LAKE CITY

Stockholm, Sweden

In the early 90s, Hammarby Sjöstad had a bad reputation for being both a run-down and a polluted industrial and residential zone. In time, it has changed and became one of the most peaceful districts of Stockholm. It is also known as one of the world's most successful urban renewal districts. It is designed to be a village with a thousand apartments and the site is designed by taking the lake as the reference. Sustainable solutions for water, energy and waste management were carefully studied in terms of architecture and infrastructure.



**SO?** New types of fuel cells, solar cells, solarpanels, rainwater harvesting, high-tech waste sorting and waste transportation system, kinetic pavement  
Social: socially gathering places, parks, outside spaces for inhabitants.  
Aesthetic: 4-5 story buildings in a compact neighbourhood outline, but with reasonably spacious green courtyards  
Economic: works offered for 10000 people



# CHEONGGYEcheon RIVER URBAN DESIGN

Seoul, South Korea



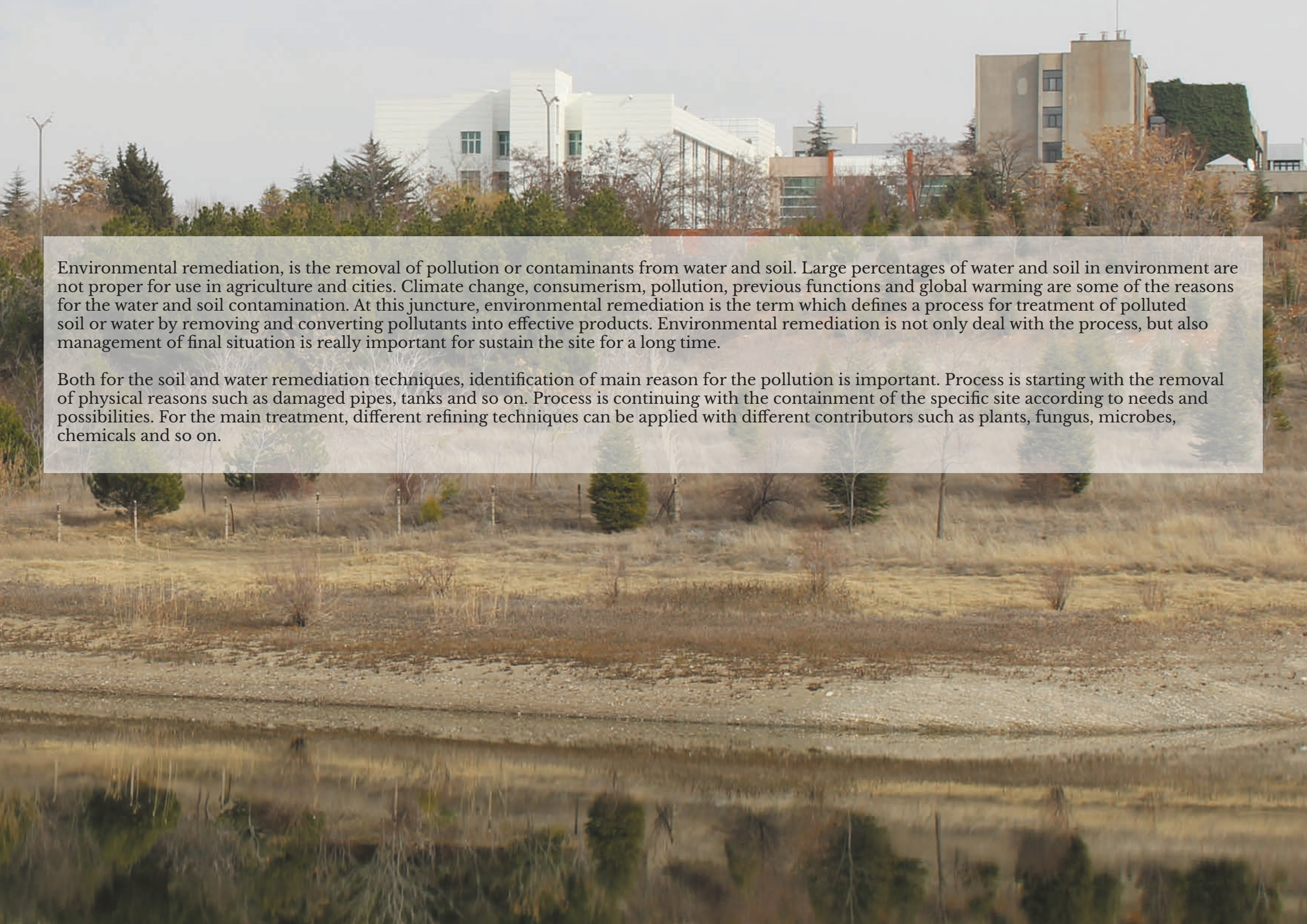
A green oasis in a concrete jungle, this inspiring urban renewal success underwent a dramatic transformation from a traffic-choked elevated freeway and concrete paved waterway into a lush, 3.6-mile-long “day-lit” stream corridor that attracts over 60,000 visitors daily. The restoration process has also provided huge boosts to local biodiversity and catalyzed economic development.



**S?** It increases the overall bio-diversity, reduction in the urban heat island effect and air pollution. It catalyzed the economy with the help of the redeveloped waterfront. It provides social urban gathering area for special events and leisure time. Aesthetically, old and busy highway turned into a green open area.

# Environmental Remediation



The background image shows a campus scene with several buildings, including a prominent white one and a taller grey one, partially obscured by trees with autumn foliage. In the foreground, a body of water reflects the scene, and a grassy area with some trees is visible between the water and the buildings.

Environmental remediation, is the removal of pollution or contaminants from water and soil. Large percentages of water and soil in environment are not proper for use in agriculture and cities. Climate change, consumerism, pollution, previous functions and global warming are some of the reasons for the water and soil contamination. At this juncture, environmental remediation is the term which defines a process for treatment of polluted soil or water by removing and converting pollutants into effective products. Environmental remediation is not only deal with the process, but also management of final situation is really important for sustain the site for a long time.

Both for the soil and water remediation techniques, identification of main reason for the pollution is important. Process is starting with the removal of physical reasons such as damaged pipes, tanks and so on. Process is continuing with the containment of the specific site according to needs and possibilities. For the main treatment, different refining techniques can be applied with different contributors such as plants, fungus, microbes, chemicals and so on.

# LOS ANGELES RIVER REVITALIZATION

Los Angeles, USA

The project is planned to include revitalization and reuse of the river. The master plan envisions lowering the concrete walls to create trails, rain gardens, habitat and recreational spaces, using terraces and ramps to retain flood protection while creating safe access. With eventual flood attenuation upstream the bottom of the channel will become a soft river bottom again, returning aquatic life and sediment transport into a functioning riverine ecosystem.



The project itself offers a reuse and revitalization of the river, in addition to the fact that the introduction of new functions such as park, hiking and public spaces for users to spend time in. Introduction of the new facilities directly encourages people to bond whereas induces the creation of new social hubs. Within a dense city context, such project also offers a huge green area which is aesthetically pleasing for the uses. Also, these new qualities add to the cash value of the region.

# URBAN STORM – WATER MANAGEMENT

Augustenborg, Malmö, Sweden

Sustainable urban drainage systems with 6 km of canals and water channels and retention ponds were included in these new physical changes of infrastructure. “The rainwater from roofs, roads and car parks is channeled through trenches, ditches, ponds and wetlands, with only the surplus being directed into a conventional sewer system.” With these solutions and techniques, the flooding has been ended and the appearance of the neighborhood has been developed. It is calculated that 90% of the storm-water from the roofs of the buildings and other water resistant surfaces is driven to the open storm-water system.


What’s more, the aggregate yearly drainage volume is lessened by around 20% compared with the regular systems. Furthermore, these characteristics of the project encouraged residents to be more interested in renewable energy and sustainable transport.



**ISI** With this urban storm - water management project in Sweden, green roofs and a urban drainage system is provided. Also, increase in greenery automatically increases biodiversity of the region. Use of a technology related with sustainability informs people about such issues and thus they become interested in sustainability. In addition, offering such facility increases the cash value of the region.

# Urban Waterfront Regenerations





Waterfront can be defined as an area associated from water and land. Waterfront landscape design tools are mostly consist of greenbelts, shorelines, water / land situations and proper plantings. Waterfront public spaces are really important for urban textures. But, they have an important role for main design tools, urban structures and ecological continuity.

Main aspects of waterfront landscape:

- Natural: Waterfront landscape not only work as a design tool, but it also stand for the natural balances and continuity ecology.
- Public: Waterfront areas are mostly used as public spaces. So, it has to be position and function for public needs.
- Characteristic: Paths, edges, nodes and landmarks have to be found for specific tools of architecture.



# LANDSCAPE DESIGN FOR HAN RIVER (Not Constructed)

Da Nang, Vietnam

The city of Da Nang in Vietnam has the coastline named Han River Delta which is presently in a case of ample economically profitable expansion and urban advancement.

OMGEVING and Partners participated the international landscape design competition, which was launched in 2016, with a 2.2 hectare park design along the coastline and Han River. This interference changes the two riverbanks in a nice park design for the people of Da Nang. The public park's design indicates the existing waterfront while protecting the riparian vegetation within the city of Da Nang.

There are some functions placed by the designer team such as sports and leisure areas as well as water hub building and water-taxi stops. OMGEVING Landscape Architecture aimed to have a continuous greenery by adding 3,000 new trees to the site, to create an attractive spot for the tourists and a sustainable vision for the river. The relationship between the two sides of Da Nang is completed by the usage of two bridges which are (motor)bike and pedestrian bridges.

**SO?** In addition to the introduction of new functions such as leisure areas, plazas and recreational opportunities, the project also offers new types of vegetation whereas preserves riparian areas. It is designed to be user oriented and creation of a public park is aimed.



# UMEA CAMPUS PARK

Umea, Sweden




A campus park should provide a variety of spaces designated for hosting and discussing informal discussions. In open, non-hierarchical areas, not in conference rooms or lab microscopes where student researchers and teachers really engage in creative interaction. The quality of the campus park increases the attractiveness of the university as a whole. An island in the lake is the point of departure for a small archipelago with bridges leading to the southern shore.

**SO?** This particular campus park introduces new relaxing areas, green areas, decks, jetties, open lawns, walking trails which are organized around an artificial lake. Also, such park, encourages students, teachers and researchers to interact with each other. The park itself is designed in such a way that it provides unique views.



# Function Proposals



The image is a vertical composition. The upper portion shows a large, modern apartment complex with multiple stories, many windows, and balconies. The building has a mix of light and dark tones. A semi-transparent white box is overlaid on the middle of the image, containing text. The lower portion of the image shows a river or canal with a barge in the foreground. The barge has a white cabin and blue structural elements. The background of the lower portion is a rocky, sparsely vegetated bank. The water in the foreground is calm and reflects the sky and the buildings above.

Function means in architecture is the purpose that is solely based on. The current conditions of the cities, neighborhoods or buildings should be clearly determined in order to find the most proper function. Proper function is not only just about the type or size of places but also the needs of users who experience this place. While determining the function, social memory, ways of living, economical conditions, belief of society, socio-cultural habits are also other factors. For the smaller society units, age, personal taste, professions, hobbies may lead the new functions.

# UCLA ADJACENT STUDENT AND FACULTY HOUSING

Los Angeles, USA

University housing is very critical to support recruitment, transition, personal growth and development, academic achievement, retention and graduation of undergraduate students. According to these concerns, design of student and faculty housing is very important because university housing helps create a supportive and cohesive student community by integrating the housing program with other aspects of campus life.

LOHA designed UCLA Adjacent Student and Faculty housing to create a liveable place by using environmental and social aspects that affects users' psychology positively. Continuing LOHA's efforts to add green spaces into dense, urban developments, the building incorporates landscaped roof terraces at various levels, creating inviting outdoor areas for students. Continuous terracing idea from street level to roof is used in order to connect the powerful urban life and surrounding community outside.

**SO?** During the design process, structure's overall massing is integrated with the existing landscape so that wind cross-ventilation for the apartments can be proper. Moreover, 31 units and recreational amenities pay homage to its preminent neighbor. Terraces arranged in a way that they can be socially integrated for a gathering use.



# ECOLOGICAL RESEARCH PARK

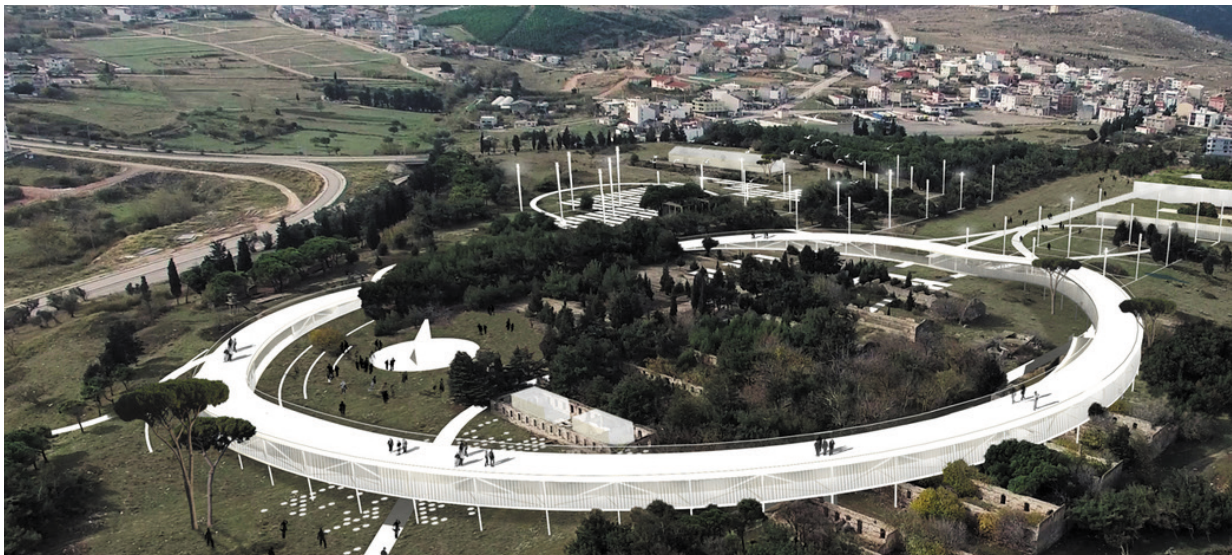
Bandırma, Balıkesir, Turkey



By centering the park around a Design and Research Institute, the intent is to create an environment that will strengthen Bandırma's socio-economic standing, and offer a new hub for the city's future, while seamlessly integrating into the natural ecological identity.

The park embraces the urban fabric and provides varying degrees of connected urban and park programs, with a 5-star hotel and retail areas on the westerly side, and a 4-star hotel towards the east. Embedded within the landscape, these buildings cause minimal interruption in the surrounding topography and are used as public platforms.

**S?** Ecological Research Park in Bandırma offers rainwater management, rehabilitation of flora and fauna, reforestation and productive agriculture which allows the park itself to become the heart of ecological research, practices and education. Furthermore, overall project includes Maritime Museum, Marine Research Center, bird friendly wind farms-energy solution, auditoriums and outdoor workshops. Since Research Park of Bandırma provides a variety in facilities, it creates a new hub for people. It is designed with a minimum interruption to green environment. It also encourages tourism with the hotels surrounds the site.



#function proposals

# PLAY LANDSCAPE BE-MINE

Beringen, Belgium

All integrated play elements in both the pole forest and the prismatic play surface have one thing in common: they challenge children physically, to play together and use their motor skills.

Playful landscape design provides natural playground for children, prismatic play surface and all integrated play elements with the nature have common idea: children play together and use their skills and they challenge children physically.

Topography provides different heights and with the help of topography, parcours' difficulty levels are varied.

**SO?** Within Be-Mine parcours, tunnels and climbing areas are provided, in addition to the fact that creating a social environment for children which encourages them to collaborate whilst doing certain activities. Aesthetically, it is a playful landscape with its topography which allows the site to look coherent with the rest of the environment.



# ECOPOLIS PLAZA KINDERGARTEN AND NEW PUBLIC SPACE

Rivas - Vaciamadrid, Spain



This particular project in Spain, is a new face of urban plaza; transformed from an urban sprawl which surrounded by industrial and traffic infrastructures. It aims to create a sustainable interaction between citizens and nature. As well as the main structure provides a green childcare; they aim to incorporate the idea of sustainability not only a tool of building; but also a principle for a daily life.

‘Open environmental classroom’ idea was purposed for integrating children into ecological activities such as, water purification system, recycling facilities, gardening from wastes and generation of energy.

**SO?** In addition to the fact that Ecopolis providing a new urban space, it also offers water and soil purification, recycling, sustainable irrigation systems. Also, it can be perceived to be an extraordinary type of kindergarten along with its social gathering area. The overall project is designed to be a mixed-use urban plaza which invites sustainability as a tool for learning.





#functionproposals

# BOTANICAL RESEARCH INSTITUTE OF TEXAS

Fort Worth, Texas, USA

BRIT aims to inspire people to appreciate plants and sustain our planet by education and volunteer opportunities. To grow generations with the understanding of value plants, they organize family programs, preschool outreach, adult workshops, camps, workshops etc. Its building consists of two parts: the “Think Block”, housing administration and research offices, education department, exhibit area, and public spaces, and the “Archive Block”, housing the herbarium and library.

The design of the building has LEED Platinum certificate through its green roof, stormwater management, geothermal wells, solar panels and etc.

BRIT has partnership with University of Texas for students to experience the facilities of the research institute and work with scientists and for BRIT scientist to discover new fields of research in plants.

**SO?** Furthermore, BRIT aims to reduce its carbon footprint through sustainable building strategies and exploring and learning about plants. In addition to its environmental sustainability approaches, it also encourages social sustainability via its interactive spaces, in addition to its main function as a research centre. Within the centre, awareness of plant and planet is taught to children and many other groups of people. The building itself profits through its sustainable systems.



# CHINESE ECO-RESTAURANT

(Not Constructed)  
Xixian, China

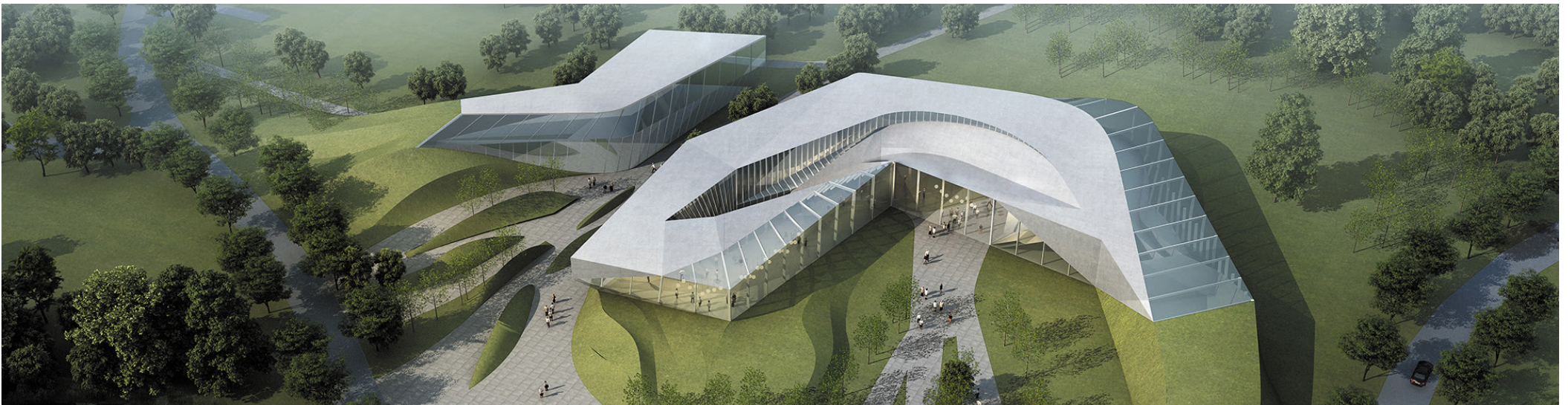


The restaurant also serves as greenhouse, hydroponic garden, and indoor playground for children. It prepares a menu consisting of Xixian's regional crop and the local ingredients harvested from the garden and the in-house hydroponic garden. They make it possible for visitors to pick up the ingredients such as vegetables by themselves and to participate in the cooking processes. Children are welcome to enjoy the playground and greenhouses.

The structure rises from the topography and forms a curve. The changing slopes and the splits create interesting spaces and brings natural light.



In addition to its sustainable facilities, it encourages agriculture and provides a local experience. The space is designed as a mixed use area. Also, the overall form enhances the use of natural light whereas it becomes a whole with its immediate surrounding.



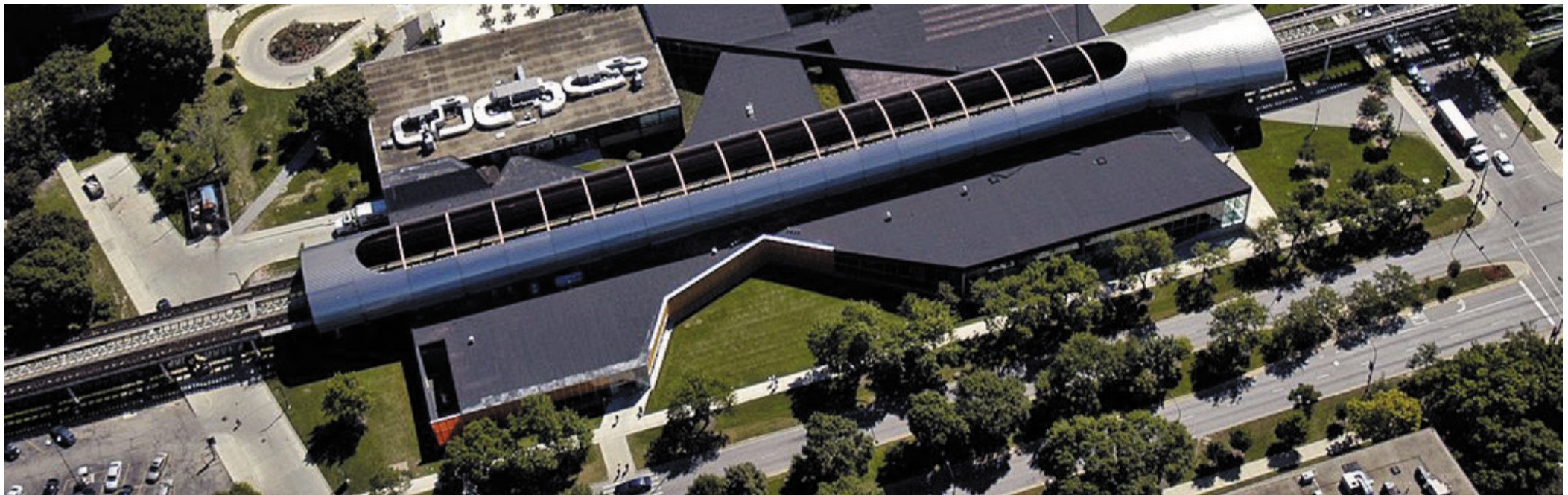
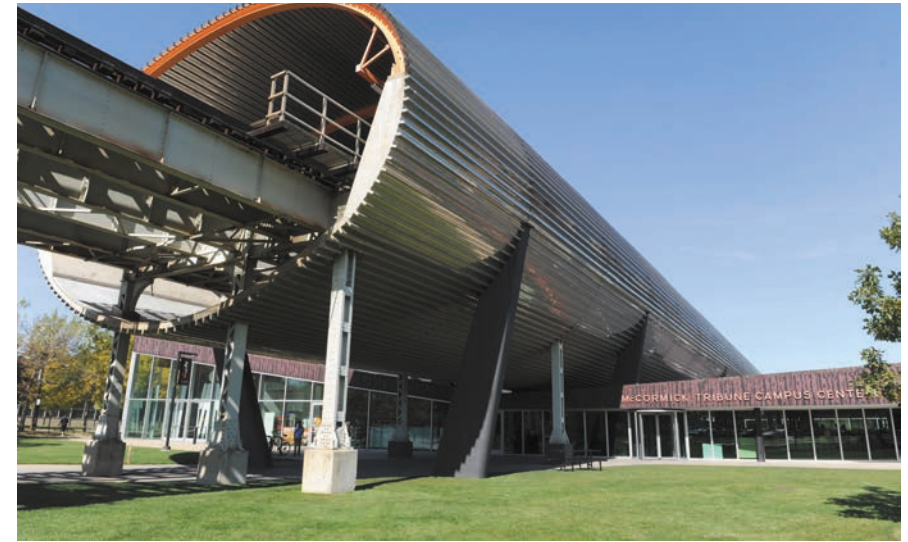
#functionproposals

# MCCORMICK TRIBUNE CAMPUS CENTRE

Chicago, USA

The single-storey campus center was organized different areas throughout diagonal pathways and reminiscent interior streets. The main struggle was the public transit which passes over the building and creates a remarkable noise. A concrete and stainless steel tube, that has an independent structural system to reduce the vibration, was put to enclose the commuter rail tracks as a design solution to the noise problem.

**SOS?** The campus centre, in terms of facilities, offers dining facilities, an information centre, offices, retail shops and meeting spaces. It is built in order to bring Illinois Institute of Technology students together. Moreover, retail shops and dining facilities provide a certain profit.



# ALGAE-POWERED ECO-CITY

Simrishamn, Sweden



Algae produce nearly 80% of the world's oxygen and also filter water and forms biofuel. With the use of algae in architecture, it reduces carbon footprint, lowers greenhouse gas emissions, provides long-term savings and etc. the city of Simrishamn, Sweden carries using algae to city-wide scale with algae farming and aims to base everything on algae such as tourism, research and production.

“Migro Towers” are ETFE canopies to cultivate algae for food and oil production, a socializing place for tourists and nesting areas for birds. Tourism will be introduced to city via spa, Marine Science Museum which is attached to a floating farm and tourists will be able to participate tours and learn about algae businesses.



**SO?** “Migro Towers” are to produce biofuel, provide food and energy and filter water. Introduction of such new technology and sustainable systems also create affordable job opportunities and promotes the growth of tourism and thus contributes to economy. In addition, they propose new activities so that new interaction points can be formed. Designwise, they are to offer a strong statement of being green.

# Public Transportation



In the broadest sense, transportation is the action of moving someone / something to somewhere. With the increasing population, it becomes more important both in small villages and metropol cities. There are many alternatives that can be implemented for different neighbors, villages, cities or in order to cross cities, countries, continents. The possible transportation ways can be classified according to distances and it may differ in culture. On the other hand, there might be some challenging situations because of the topography, climatical conditions, economical situation of the region or usual disasters etc. Also, transportation is a tool of architecture, which aims and suggests connection and relation between masses and spaces.

15.07.2015

T.C.  
ENERJİ VE TABİİ KAYNAKLAR  
BAKANLIĞI

YENİLENEBİLİR ENERJİ  
GENEL MÜDÜRLÜĞÜ

PETROL İŞLERİ  
GENEL MÜDÜRLÜĞÜ

TÜRKİYE ELEKTRİK  
TİCARET VE TAHHÜT

ULUSAL B  
YATIRMA F

Atatürk  
Hastanesi  
Bilkent  
100m

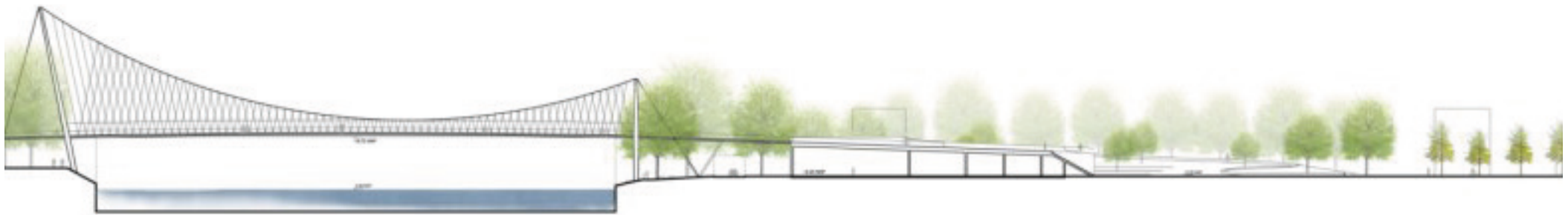
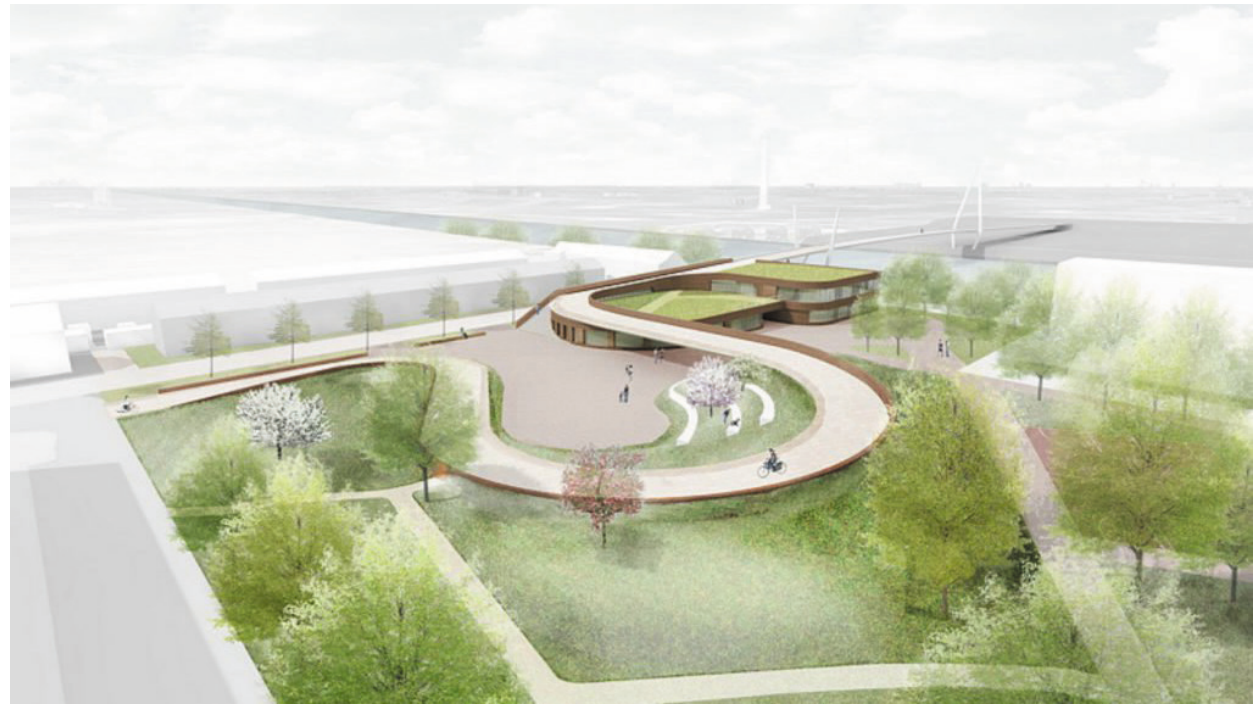
#publictransportation

# BICYCLE BRIDGE AND SCHOOL 'OOG IN AL'

Utrecht, Netherlands

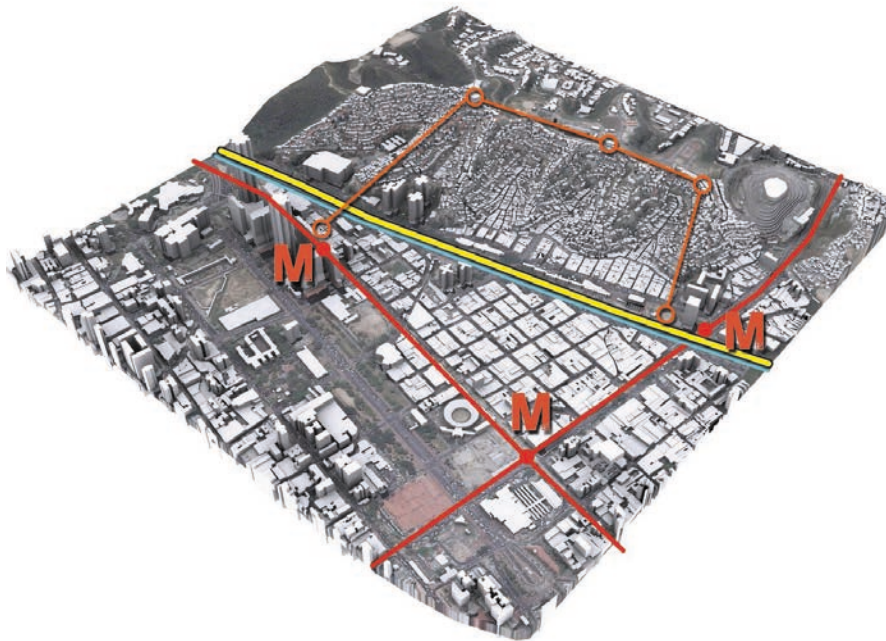
This project enhances practicality and will allow families to bring children to school by bike, passing through green areas. 110 meters spanned bridge connects city in a new way. With this connection, cycling from the city centre to a huge residential development is possible. One another aim of this project, creating a new cohesive architecture and landscape from the bike path, the park and the school.

**SO?** Projects like Bridge + School aims to reduce the carbon footprint by encouraging people to use alternative transportation methods instead of private cars via large paved area. Also, green belt balances the natural texture of the city. Through its bicycle bridge, project itself promotes cycling as well as creating a new public space with bicycle paths and park. The project is to aim using cycling as a main tool of transportation for students.



# METRO CABLE

Caracas, Venezuela



It is a new approach in urban design and planning. Cable car system is integrated with currently used metro system. The total system capacity is estimated at about 1,200 people per hour in each direction. Two of the stations are located in the valley itself and connected to the public transport. The 3 additional stations will be located on the mountain, along the route in plots that concentrate fundamental community needs. It is aimed not to harm and demolish existing houses. Each station includes cultural, social administrative spaces. The construction of public spaces, a vertical gym, a supermarket and a nursery are also planned.

**SU?** The development of sustainable infrastructure gives permanence and stability to the community. Also, metro cable transportation system helps to increase mobility whereas such planning reduces crime and thus increases safety. Metro cable project introduces public spaces like vertical gym as well. In terms of its design, city texture on hill is conserved. In order to contribute to the economy of the neighbourhood, such projects provide opportunities of employment, improve health, education and as a result, quality of life for the residents of San Agustin.







# 03

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## Master Plans

03



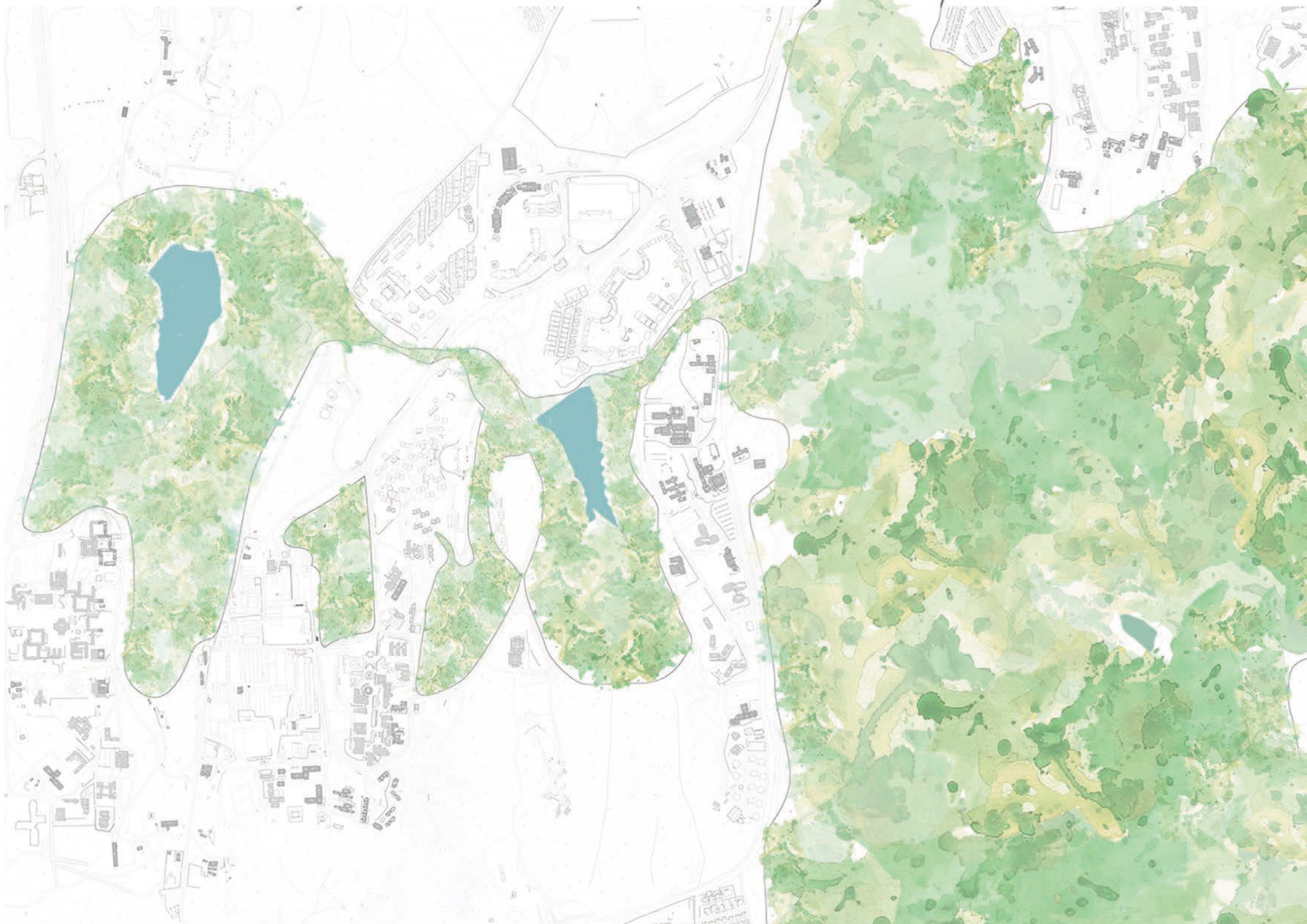
# INTERFENCE

Elif Ara  
Özge Bayam  
İlayda Güler  
Hazal Gümrükçüođlu  
Ayşe Sinem Kara  
Dilara Ayşegül Kökten  
Irmak Şener  
Gölsen Şenol

# MANIFESTATION

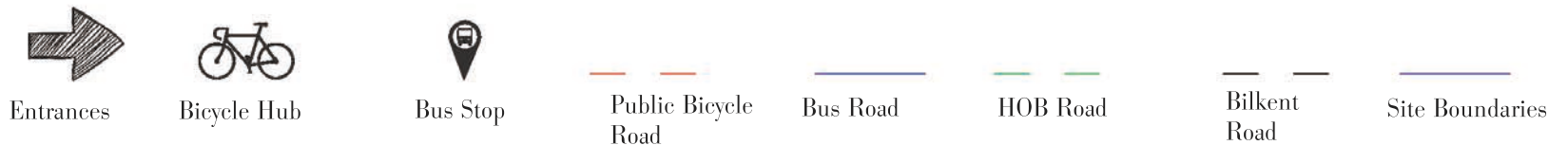
The ideological concept of the project aims to create a new consciousness between the three major campus universities of Ankara: Hacettepe, Bilkent and METU. Although, area-wise, they cover a major space in Ankara, they were designed to be gated communities. On the other hand, even though these three universities share a collective sociology, today's conditions and perceptions are not accustomed to share common socio-cultural values. Hence, with these ideas in mind, the design process has begun with the following question: "What differs between these three communities other than fenced campuses?"

As a starting point for the design process, "green" is used as an element of conjunction for all three universities. As a common point, these three universities have unused lakes, and the main idea comes from the collective image of these three separated green and water balance. In order to develop a greenbelt that connects these three, existing lakes and riparian areas that surrounds these lakes were taken as focal points. From these three points, new bicycle paths, trekking paths and transportation routes were proposed for connection of universities. Since, campus of Bilkent University is located in the middle of METU and Hacettepe University, it has a great potential to become a social point of proposed knot. Thus, Bilkent Lake acts the role as the point of junction in terms of proposed roads and green belt, and it creates a new hub for forgotten and futuristic values of us. Therefore, the urban scaled master plan is on behalf of destroying our invisible and tangible fences and pictures a common knot for social sustainability.



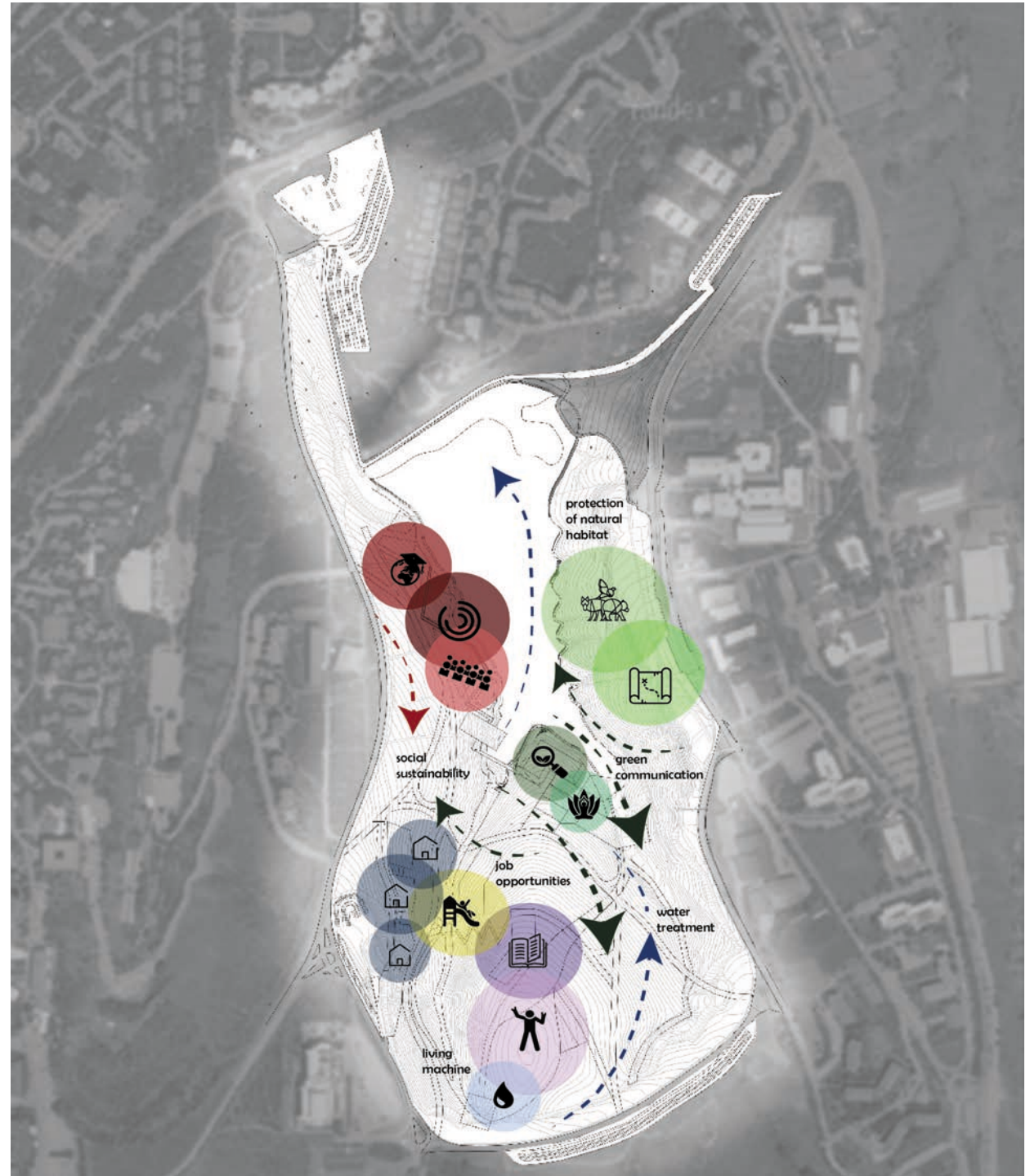
# TRANSPORTATION

For the proposed transportation plan, green belt come to light with a bicycle and trekking path, which not only aims to connection but also aims the enhance the outdoor sport activities and natural transportation options. Besides, a public transportation line is also proposed for creating an inner connection between these three universities. Both of these proposed roads are tangent to existed security gates but give a chance to merge at Bilkent Lake.



# CONCEPT

In this social campus park, functions and forms are in a coherence for creating a new merge for social communication between generations and gates. The main aim of site is creating an unusual hub for the ones who are not belong to some certain fences in their lives and their social environments. Existed and purposed natural impressions are classified as the most important indicator for the site. Massing strategies are mainly decided with respect of conservation and sustainable alternatives of existed nature. In terms of functions and massing strategies, social sustainability is adopted as the initial rule for the site. All functions are support each other, and each function acts as a nutritious for others. For the hole site, there is three common flow for the general concept. Water and water treatment flow is for maintaining the lake and enhancing sustainable solutions. Social flow for functions, and their relationship. And, green flow, for conserving nature and using it as a main tool for site.

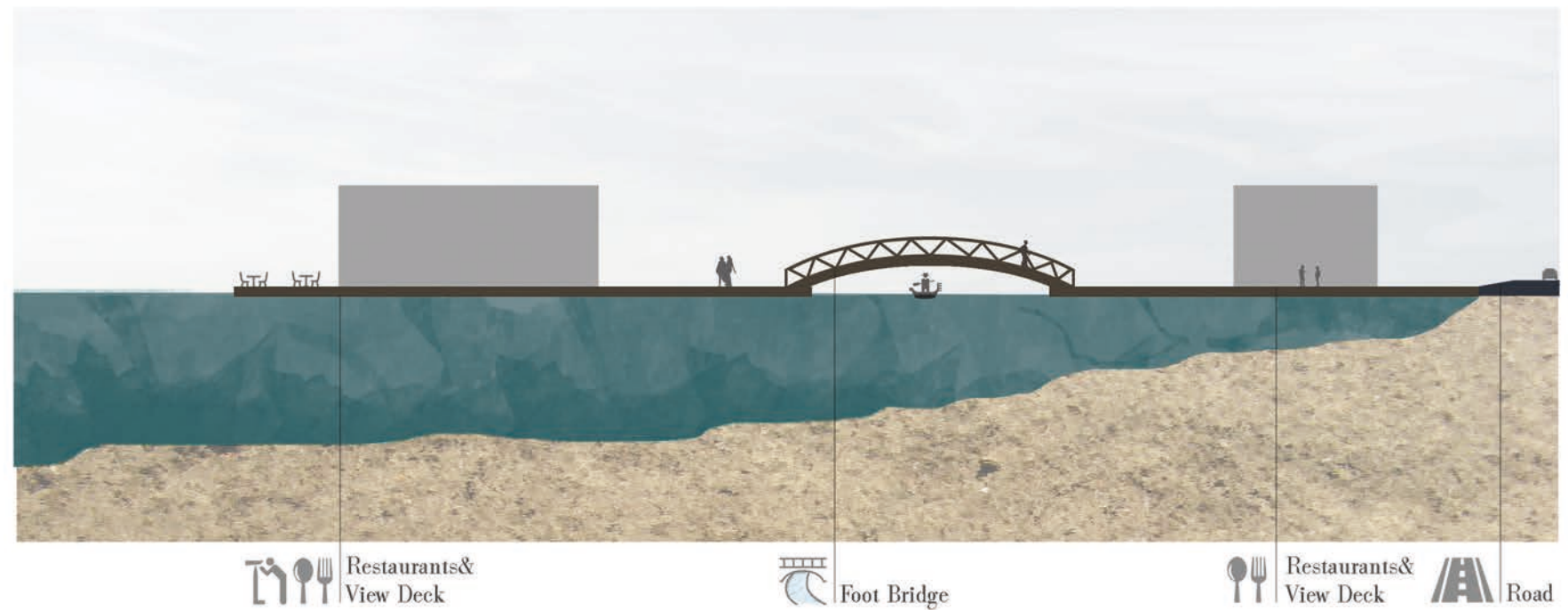
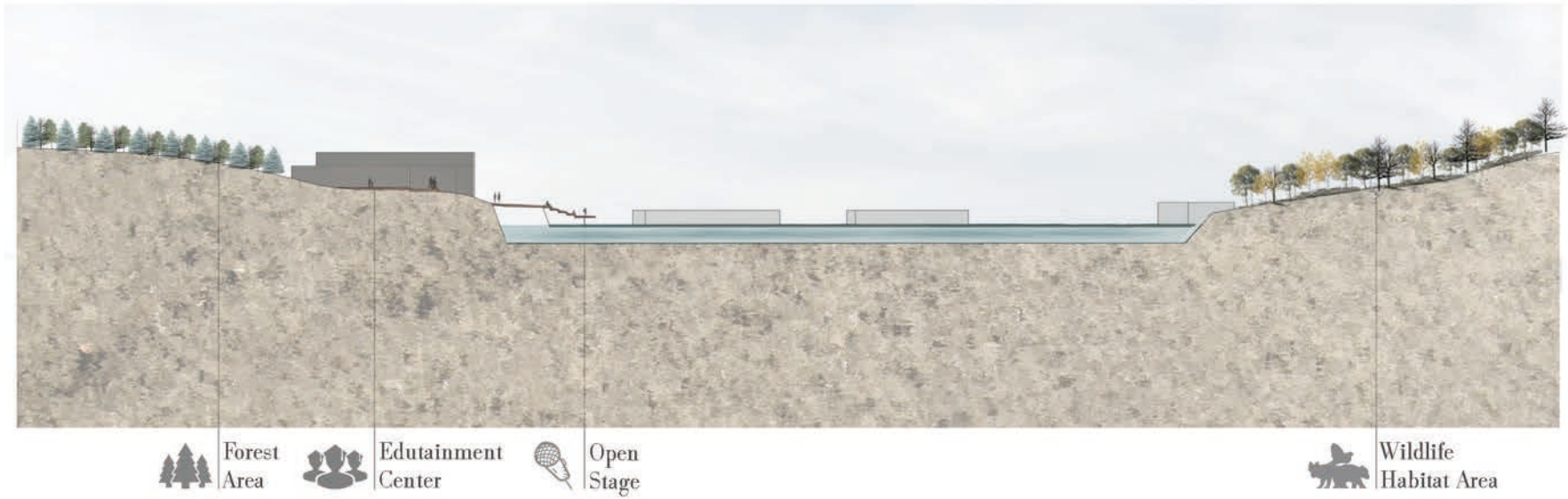




# MASTER PLAN





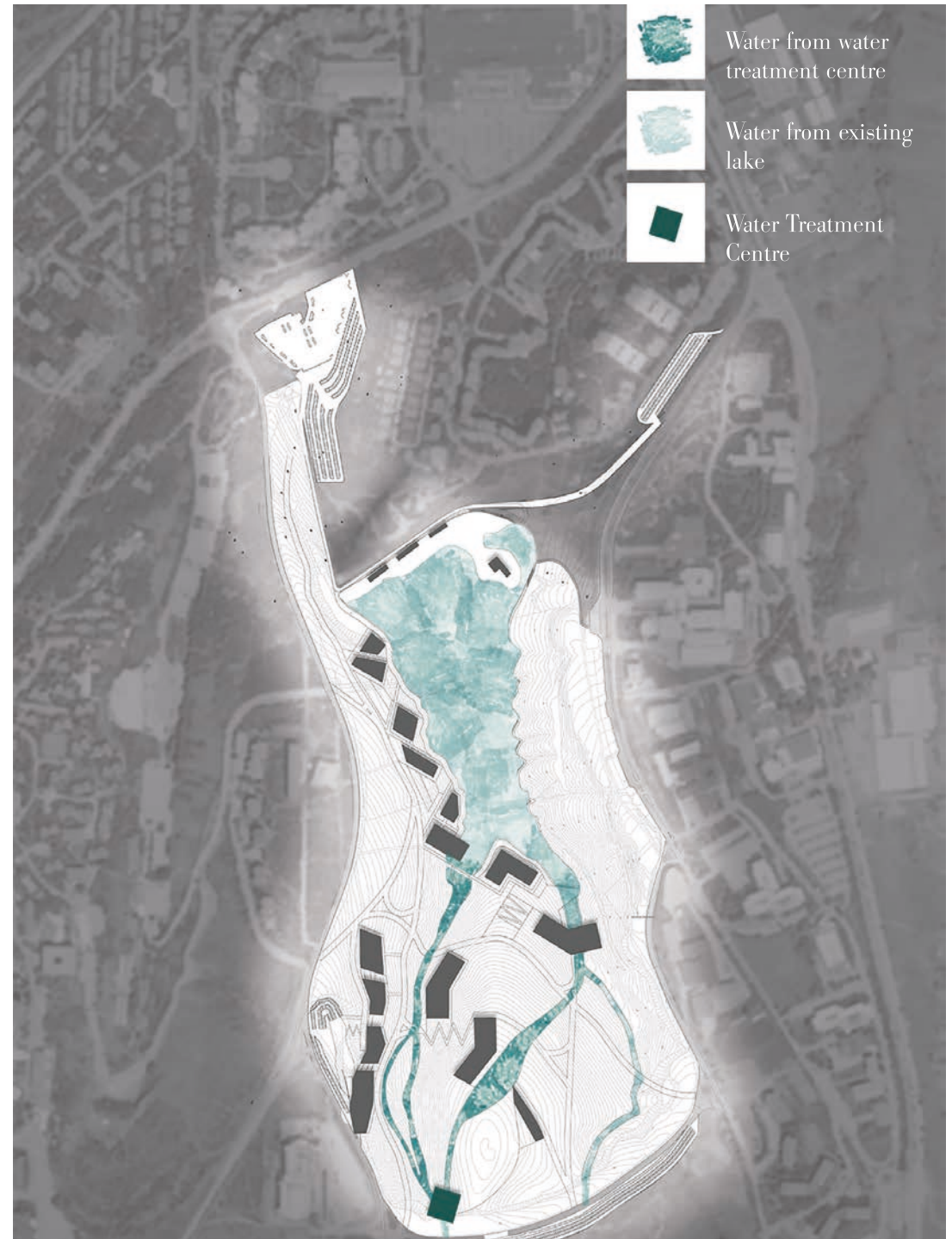


# WATER

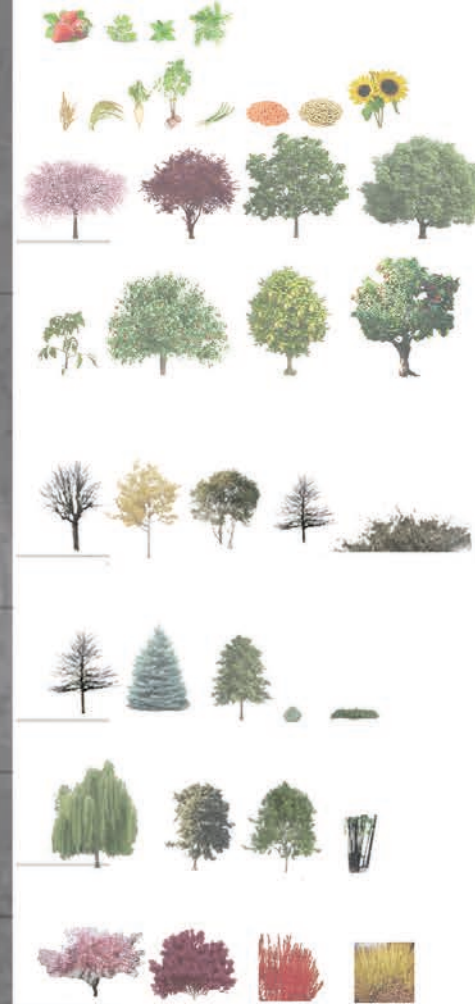
As well as water is used for the junction element for these three campuses; it forms the major part of the site plan. Massing strategies are located considering the water condition interms of both physical and non-physical states. Water border creates the main axe for walking and connection knots for masses. Also, water is one of the transportation options between the masses. Existed analyzes about the water give us an opportunity to enlarge it between the riparian areas. For the site, it is provided with several water treatmentment solutions which also create environmentally sustainable systems. Proposed treatments are not only have an impact for lake, they also provide a sustainable cycle for campus and new solutions for waste water management issues.



# WATER TREATMENT



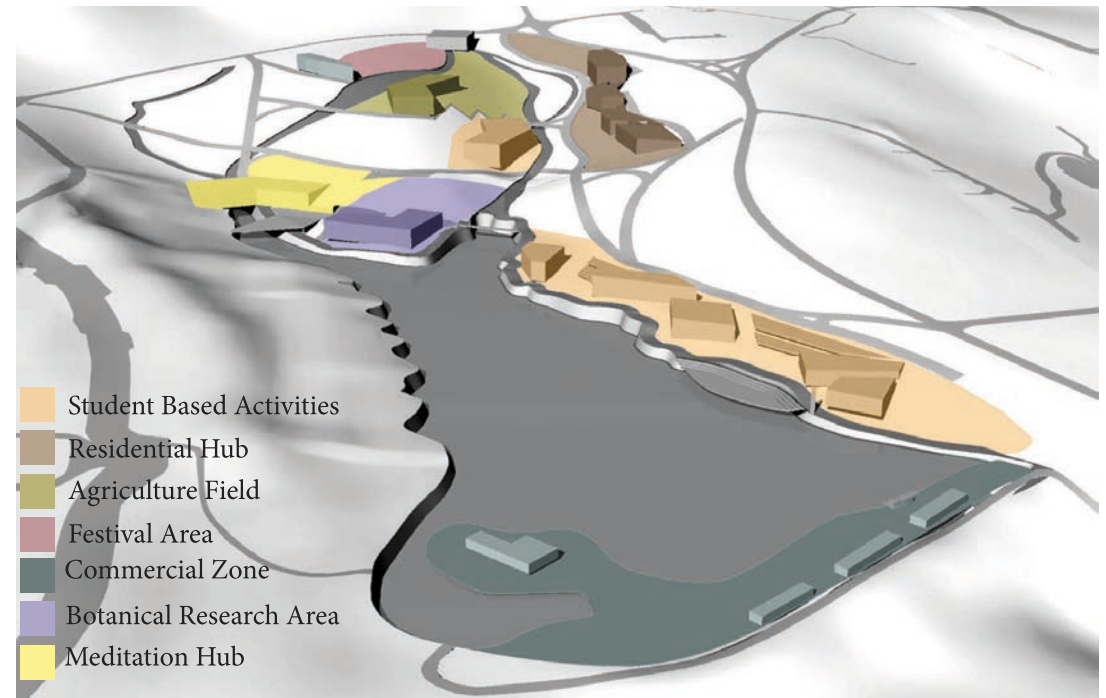
# VEGETATION



- Fragaria Ananassa (Çilek)
- Petroselinum Crispum (Maydanoz)
- Mentha Longifolia (Nane)
- Anethum Graveolens (Dereotu)
- Hordeum Vulgare (Arpa)
- Avena (Yulaf)
- Oryza Sativa (Pirinç)
- Triticum Aestivum (Bugday)
- Beta Vulgaris Sacchariferae (Çeker Pancarı)
- Solanum Tuberosum (Patates)
- Phaseolus Vulgaris (Fasulye)
- Lens Culinaris (Mercimek)
- Helianthis Anhuus (Ayçiçeği)
- Solanum Lycopersicum (Domates)
- Malus Domestica (Elma)
- Pyrus Communis (Armut)
- Cydonia Oblonga (Ayva)
- Prunus Cerasus (Vişne)
- Prunus Domestica (Erik)
- Juglans Regia (Ceviz)
- Castanea Sativa (Kestane)
- Bambusa Nigra (Bambu)
- Bambusa Nana (Bodur Bambu)
- Bambusa Aurea (Bambu)
- Picea Pungens 'Hoopsii' (Mavi Ladin)
- Tilia Tomentosa (İhlamur)
- Tilia Americana (Açık İhlamur)
- Salix Babylonica (Salkım Söğüt)

# ZONING

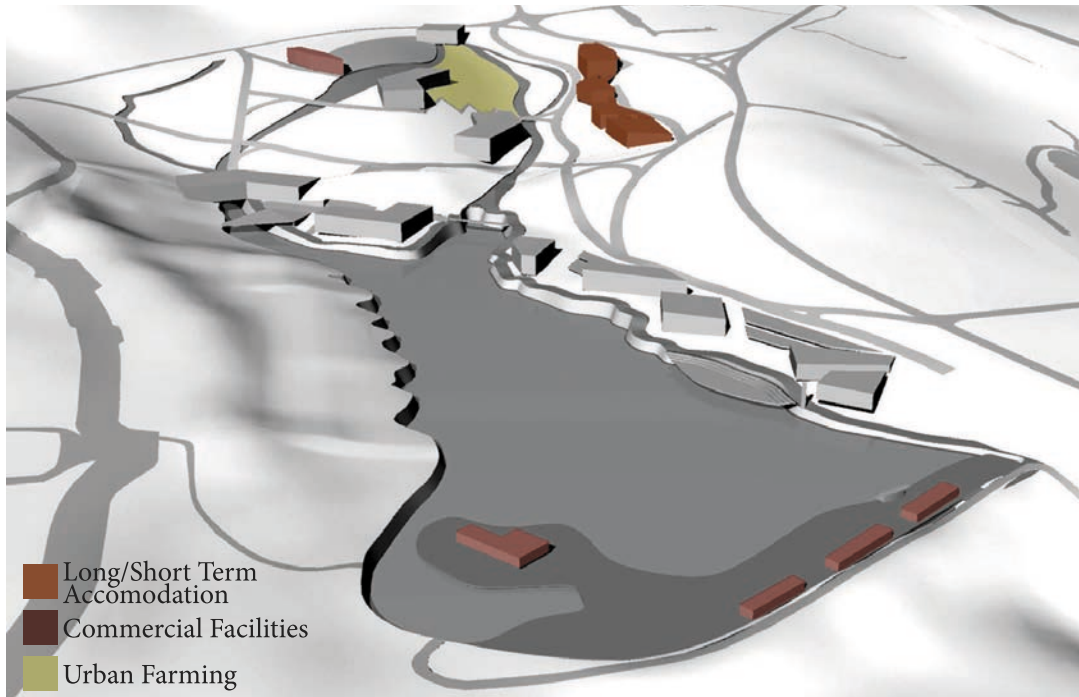
The site is divided to seven main zones. The zoning circle is starting with the student based activities, and aimed to finished on more residential and commercial zones for site. These seven zones are aimed to be in a relation for theirselves, and sustain each others.



# FUNCTION

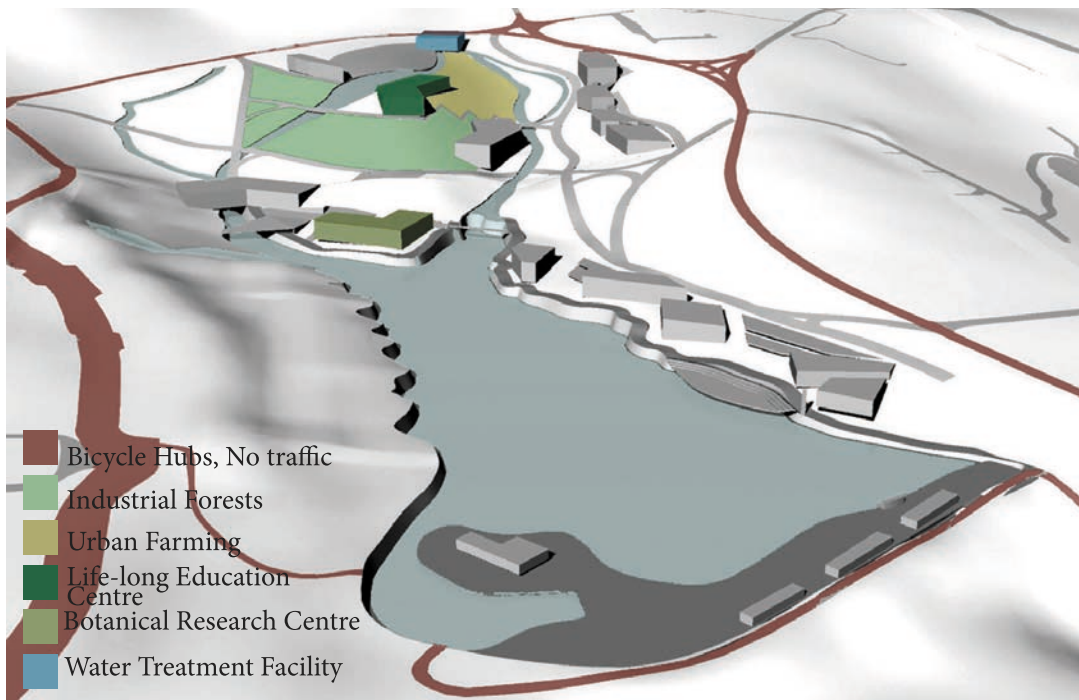
According to zoning strategies, function based planning is formed from the flow of zones. Zones are divided into masses according to their aims. Their inner communications and transportations are provided with natural pedestrian roads, bicycle roads and gondolas on water.





## ECONOMIC SUSTAINABILITY

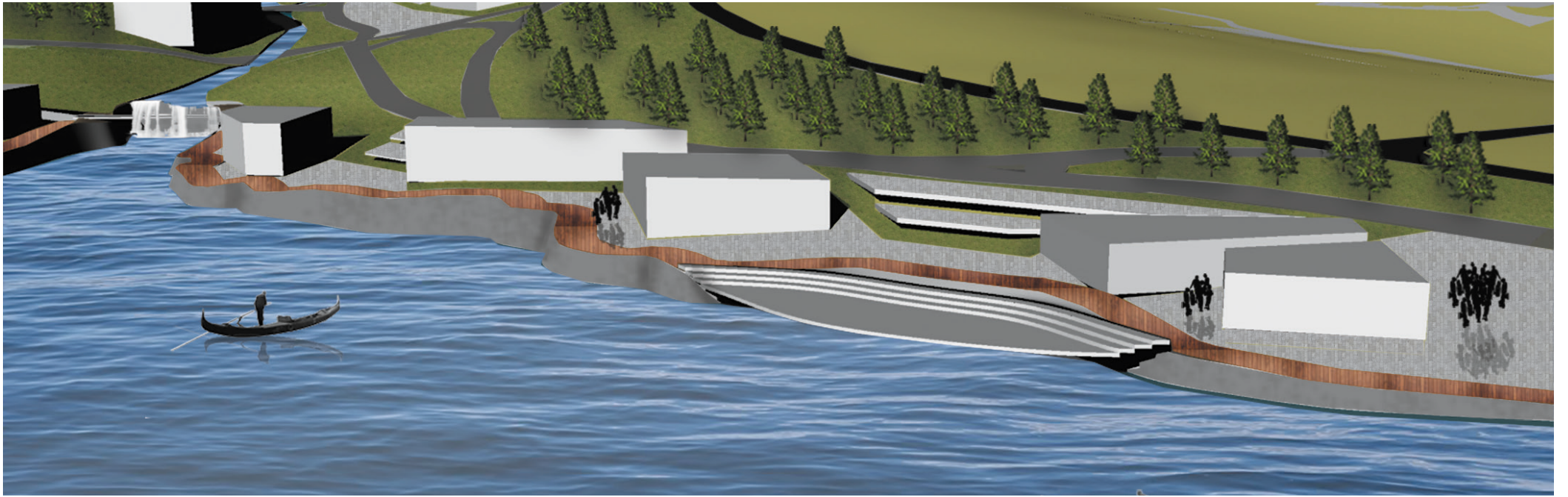
For the economic sustainability of site, commercial market places, restaurants and long/short term guest houses are potential job opportunity for many people. There is also an agricultural field that is engaged by life-long education centre. Harvesting from agricultural land can be sold or used in commercial market and restaurants.



## ENVIRONMENTAL SUSTAINABILITY

No cars in the site. Bicycle hubs are created in 3 universities' campuses. It is preferred for transportation which prevents pollution on site. Industrial forests' planting has harvested in every five years and the wooden product regenerate itself. Urban farming is used to harvest local plantings for being used in commercial facilities in site. Life-long education center provides sustainable learning environment which is directly connected to nature for people from different ages. Botanical research center uses the existing planting in wildlife part of site for research.









# TRANS[FUSION]

Abdul Rehman Dandia  
Başak Günalp  
Burak Çelik  
Lerzan Keçođlu  
Tuana Vural

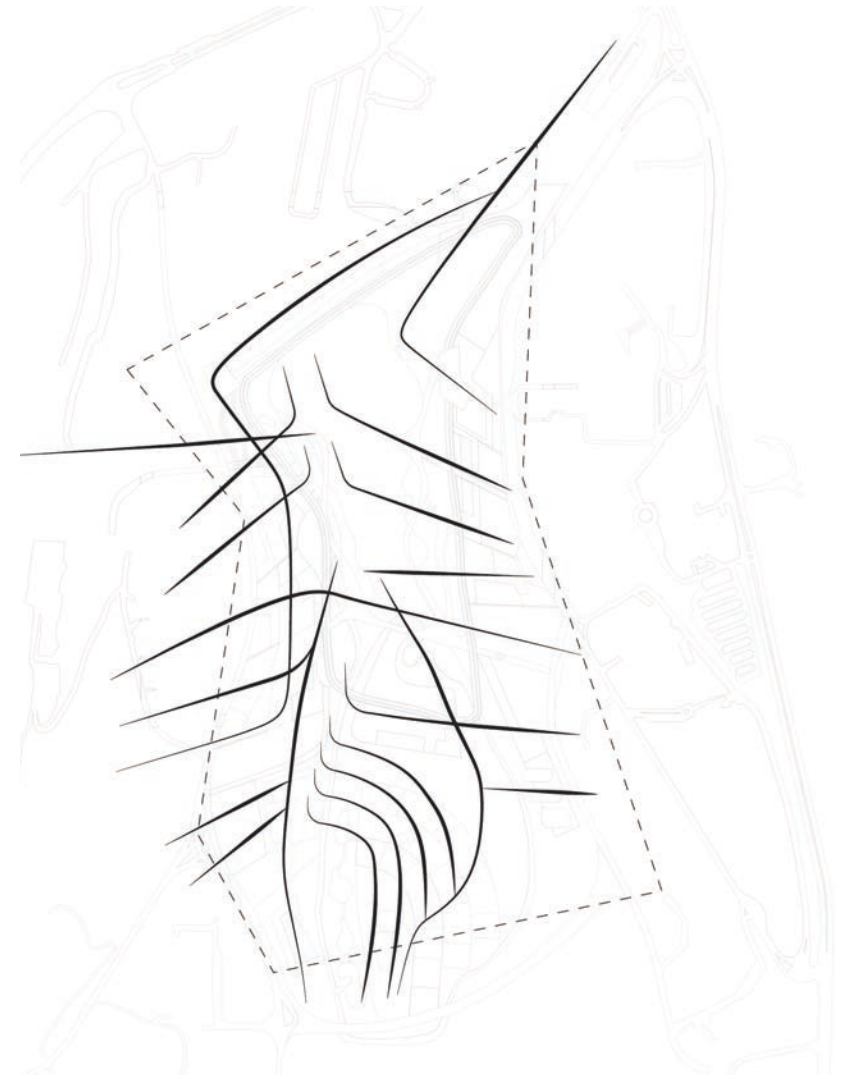
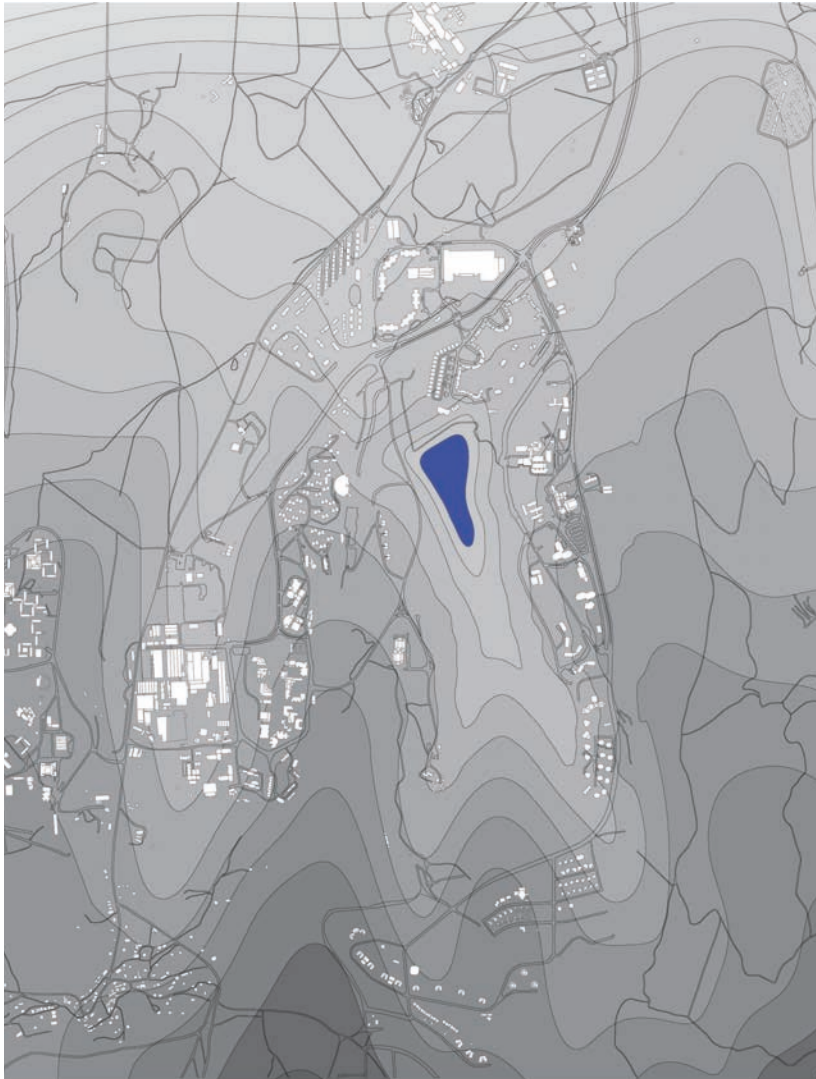


The master plan proposes a unique solution to combine the history of Ankara's universities to today's cultural richness of Ankara in the Bilkent Lake, by proposing a self-sufficient site that invites people of the city, primarily the profiles of Hacettepe University, Bilkent University and METU with various facilities that are enhanced by sustainable solutions in cultural, economic and environmental aspects.

The aim is to highlight the natural and tranquil characteristic of the site, which is located in the middle of a urban settlement, connects three universities together offering an escapade on a research and experience basis from the routines of an ordinary campus life. Self-sufficiency is a key term on the project to create a supply-demand equilibrium for society.



Topography plays an important role on the site, with the variable heights and water feature. Topography lines create the reference lines, that leads to create the features of the site such as main plazas, drainage lines and forms by forming a local characteristic. Also, reference lines supports the concept of “maximizing the lake view” by spreading at a greater angle from south to north, offering views of water and greenery on every point of the site.








The steep angle from the roads that surround the site, to the site creates an intangible border and a transition zone for the designated site. From an environmental aspect, the topography and reference lines form a great opportunity to collect and to put to good use the water that comes with the drainage.

# TRANSPORTATION



The ideas about circulation for the site was efficient for the private transportation but not for public transportation. Since the aim is to bring three universities together, public transportation plays a crucial role. Bus stops were far from the site, and Bilkent University's subway stop locates in Eskisehir Road, which breaks the continuity. In spite of having a vehicular connection between METU and Bilkent University, the connection with Hacettepe University was indirect and impractical creating an invisible barrier contrary to what is wanted.

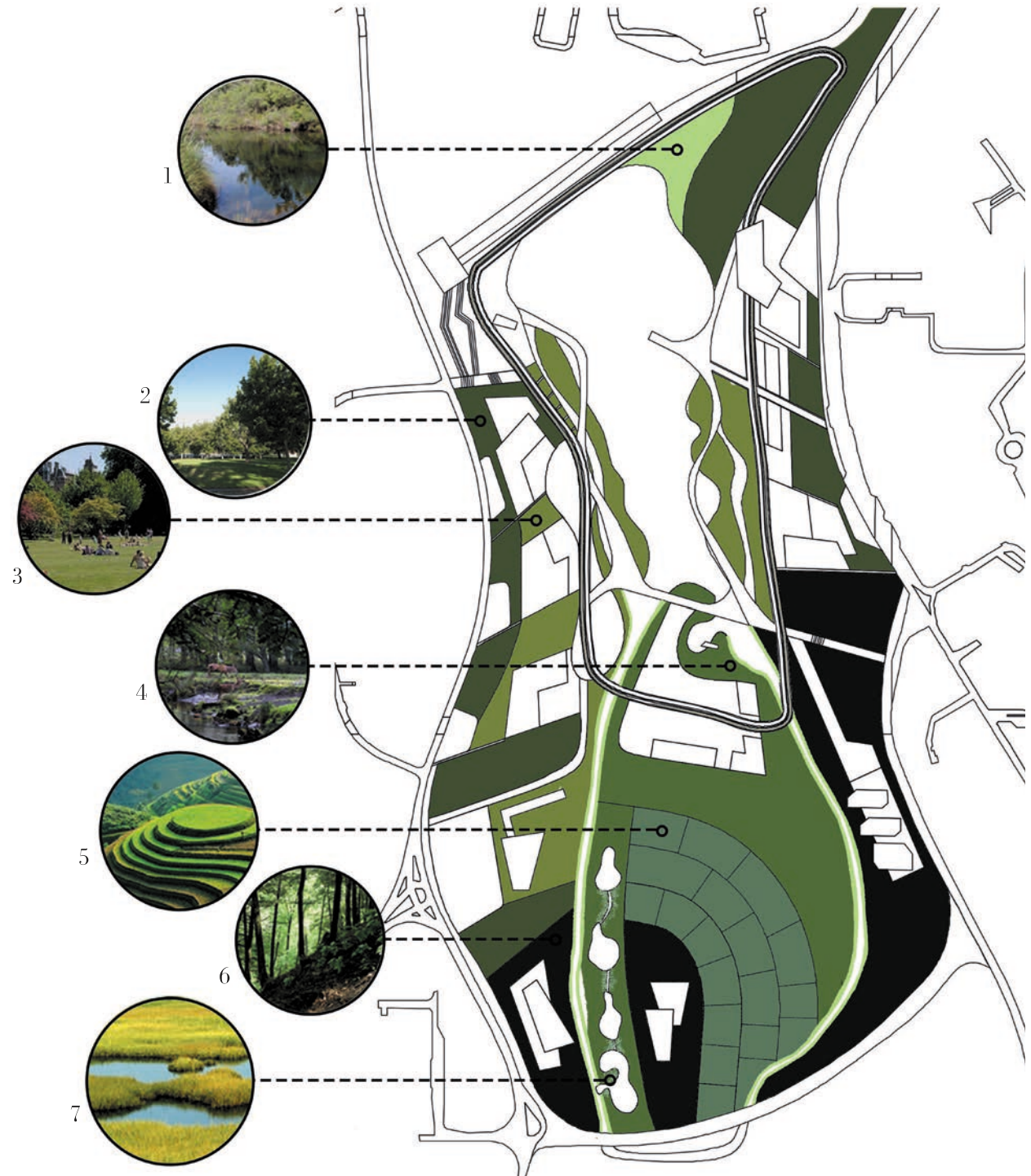
In order to overcome the mentioned issues the new bus stops and, bicycle and pedestrian paths are proposed. In order to provide direct connection between Beytepe Lake in Hacettepe University and Bilkent Lake, pedestrian and bicycle road as a green belt is introduced by using the topography. This creates a web between three universities that eases the access to site which invites a wide range of user profile. When focused to Bilkent University, in order to enhance the access within the site the focal points are specified. From Odeon, pedestrian and bike road as a green belt is introduced whereas from Faculty of Music and Performances and Mayfest Area to one of the plazas in site a telfer line is put, in order to overcome the issue of variable topography. In the designated site, a new tram way is put, which is a combination of a tram line, bike road, greenery and pedestrian (used also as emergency access). The aim of not integrating car roads in site is to create a more natural and walkable urban environment which contributes to social, economical and environmental sustainability.

-  Bus Stops
-  Proposed Bus Line
-  Existing Bus Line
-  Telfer Line
-  Bicycle and Pedestrian



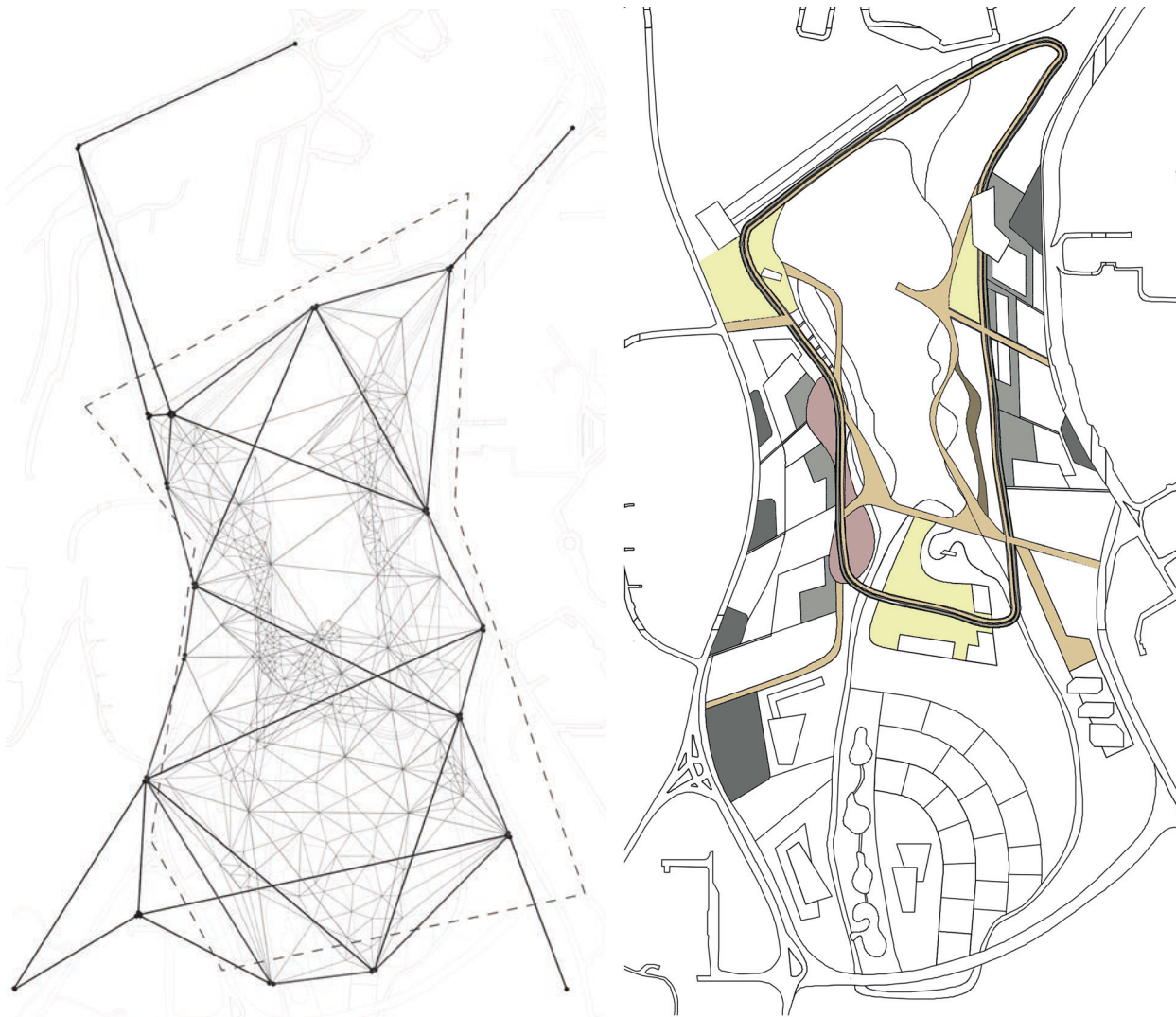
# VEGETATION

Various greenery through the site with various purposes is proposed. The riparian areas constitute the foremost areas in the site thus they are protected. The southern part of the site, terraced agriculture zone within the natural park is provided. In this part through the riparian areas, wetland is created along the streams. In order to prevent erosion, urban woods which also create a buffer zone through the site are provided. Walkable greenery between the functions is preferred instead of hard surfaces in order to enhance the greeneries in the site.



- 1- Riparian Area
- 2- Urban Woods
- 3- Walkable Greenery
- 4- Nature Park
- 5- Terraced Agriculture
- 6- Woods
- 7- Wetlands

# PATH USE AND NETWORK WITHIN THE SITE

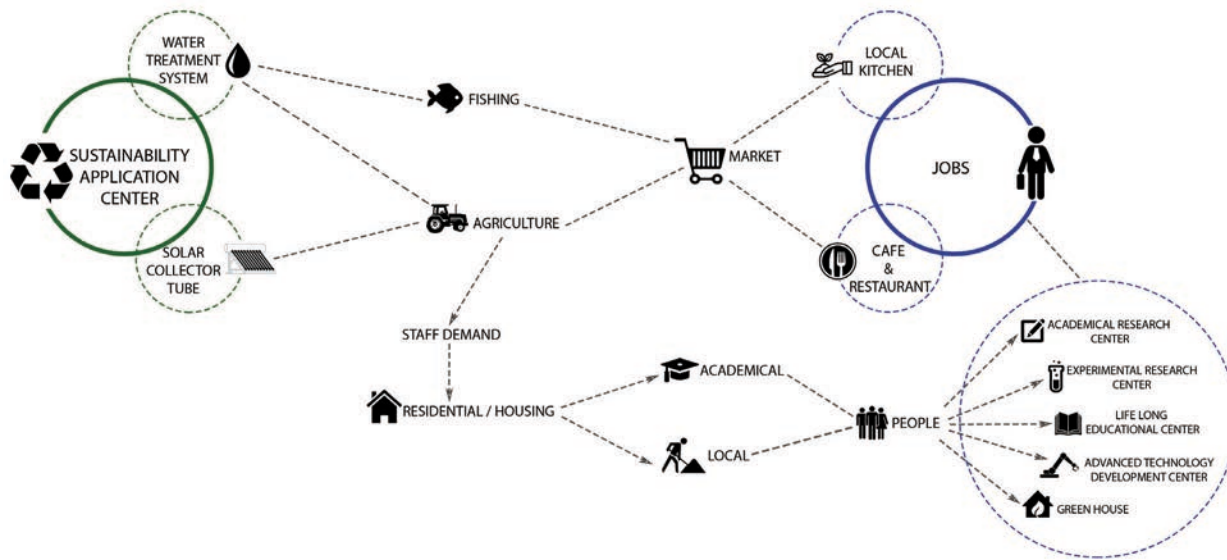


In order to introduce the density of the people, the focal points which invite into the site are indicated. By connecting these, sub points are created and this network represents the continuation of the site.

The site provides different paths for different purposes. The wooden path gives different experiences and views of the lake with level differences to pedestrians. Three squares are defined to gather people in open areas. Pavements cover the area between buildings and tram road or recreation area to create movement flexibility. Each building has parking areas attached to main vehicle road to minimize carbon footprint of the site.

- Tram Way
- Pedestrian Path
- Car Parking
- Building Pavement
- Plazas
- Recreational Area
- Platform

# ENVIRONMENTAL AND ECONOMIC STRATEGIES



The proposed master plan aims to be self-sufficient cycle via environmental and economic sustainability. Driven by sustainable energy strategies, this cycle provides opportunities for jobs, accommodation and education. This closed loop allows sustainability through water treatment system and solar collector tubes which supports agriculture through the site. The water treatment system provides clean water through the site and support fishing facilities. Agriculture and fishing supply products to market places for local kitchen and cafe & restaurants. The functions through the site – academic research center, experimental research center, life long educational center, advanced technology development center and greenhouses which increases the job opportunities and educational activities in the site.

Tramway road with pedestrian path circulates in the site and allows accessibility. This urban road is provided with kinetic pavement and electric tram to reduce the energy need.



Green Path  
1m.

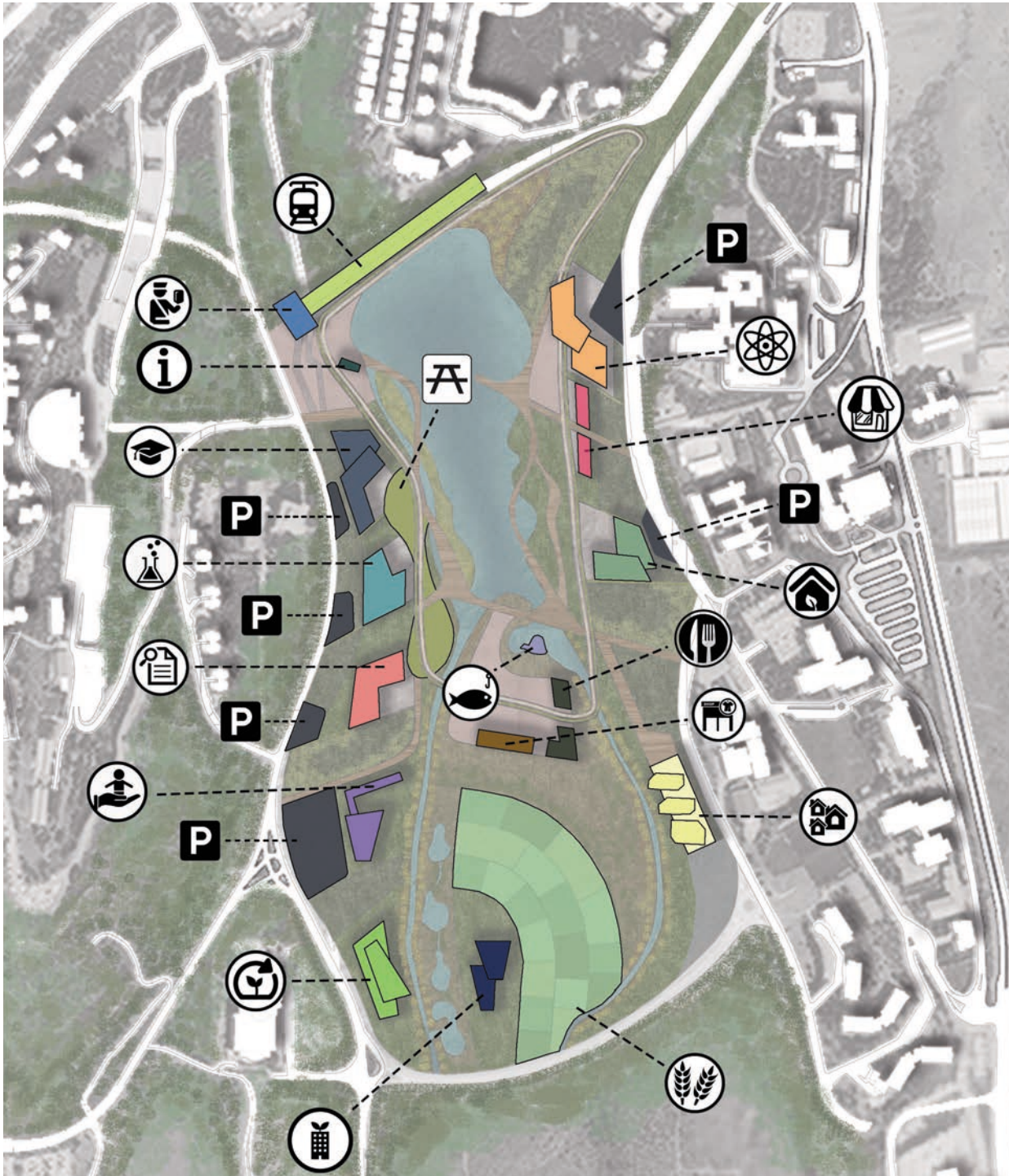
Tram-way  
3m.

Bike Path  
1m.

Green Path  
1m.

Pedestrian and Emergency  
Road

Green Path  
1m.



-  Tram Station
-  Transportation Hub
-  Information Center
-  Life-long Education Center
-  Parking Area
-  Experimental Research Center
-  Academical Research Center
-  Children Attraction Center
-  Sustainability and Recycle Center
-  Sustainability Application Center
-  Agriculture Field
-  Faculty Residence
-  Local Shops
-  Restaurant
-  Fishing Area
-  Greenhouse
-  Advanced Technology and Research Center
-  Recreational Area





### Green Areas

The series of trees surrounding the pavements and recreational area provide oxygen for people. The trees along the tramline reduce the noise of tram by adding its own boundary. The grass and riparian areas provide a safe and clean environment for the users of the space.



### Trams

Electric tram consumes 1.65 Megajoules per passenger kilometer travelled, which is more efficient than cars, taxis, motorcycles etc, which rises up to 2.95. Trams work on electricity and it can be provided from the production of electricity from the solar panels and kinetic pavements considered in the masterplan.



### Rain

Rainwater capturing is considered by making the topography supportive to stream down rainwater and drainage to the lake.



### Public Amenities

Open spaces, green spaces and recreational activities provide amenities, improve health and wellness for the users of the site.



### Shops

The local shops and commercial sides on the masterplan support the local economy and provide employment to the local people. The food activities provide better food in a hygienic environment.



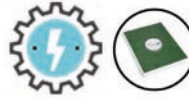
### Water Treatment Plan

The water treatment system considers user experience and emphasises on public education about water treatment.



### Agricultural Activities

Agriculture on the site promotes local eating culture, and provides earnings to the site, employment to the locals, provides wetlands, protection against erosion, promotes fishing and aquaculture etc.



### Electricity Production

The solar panels and kinetic pavements generate electricity to supply the energy needs of the tram and the buildings.



The water is reused, agriculture fields, toilets and the cleaning of water also promotes aquaculture and marine life. More fishing would also increase economic activities within the site.



Bicycles consume 0.06 megajoules per passenger km travelled and is the most efficient transportation.



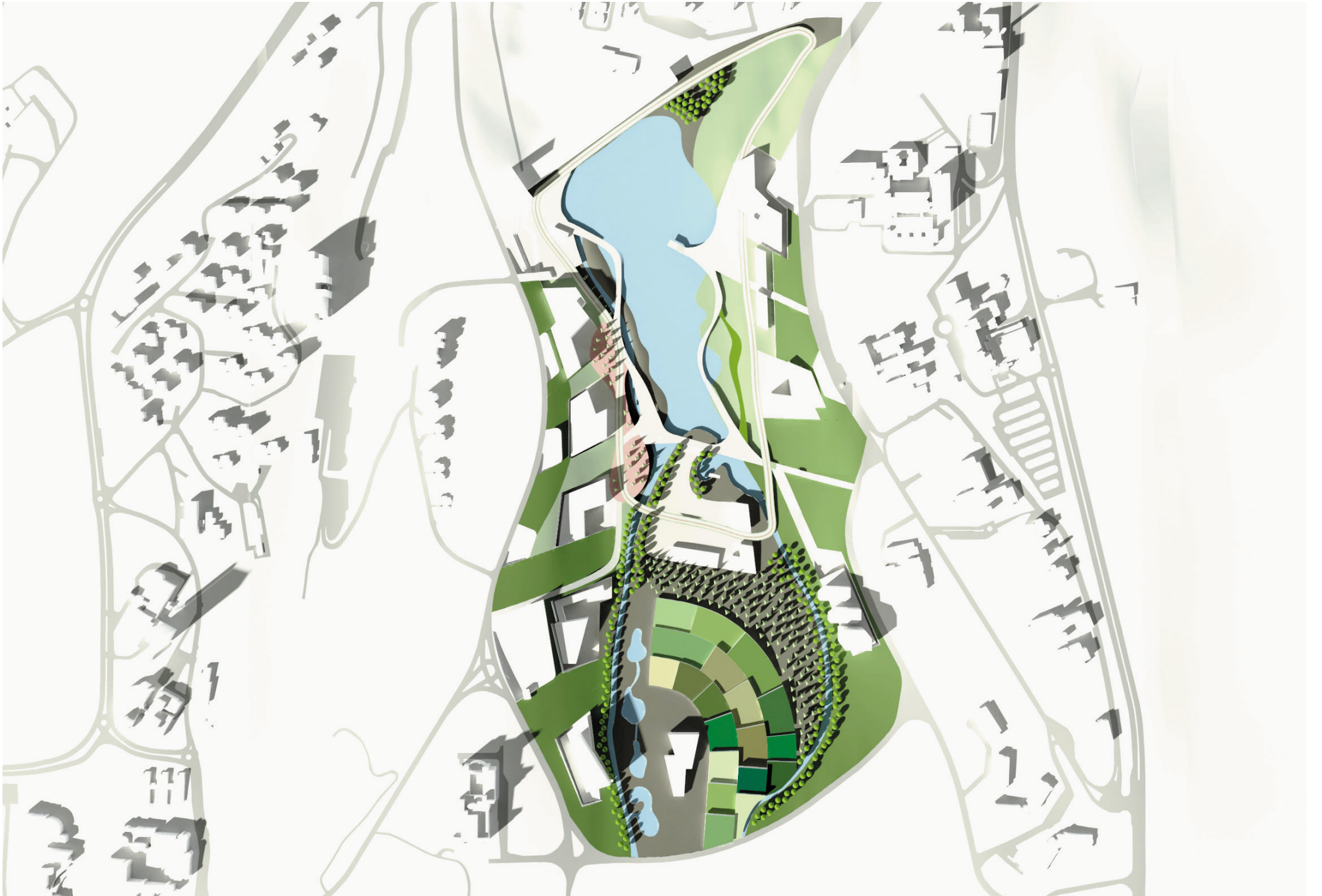
Water treatment separates grey water for the agriculture fields and irrigation.

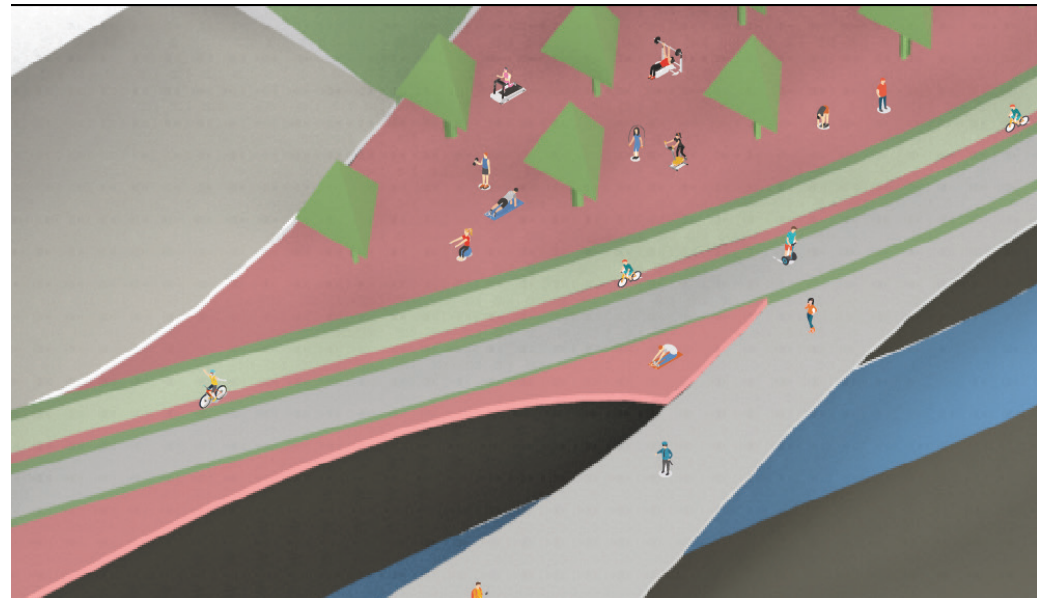
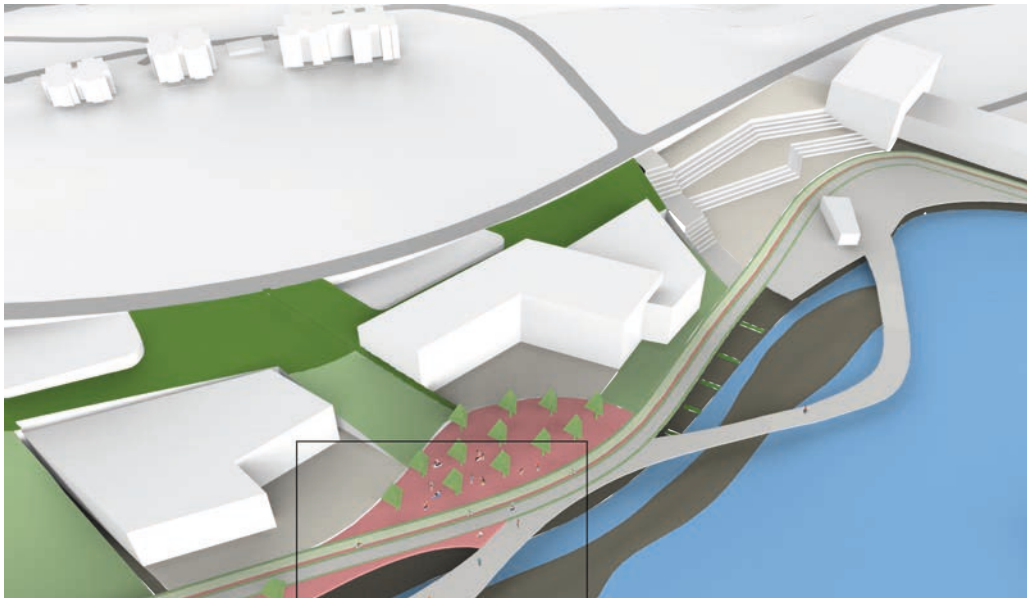
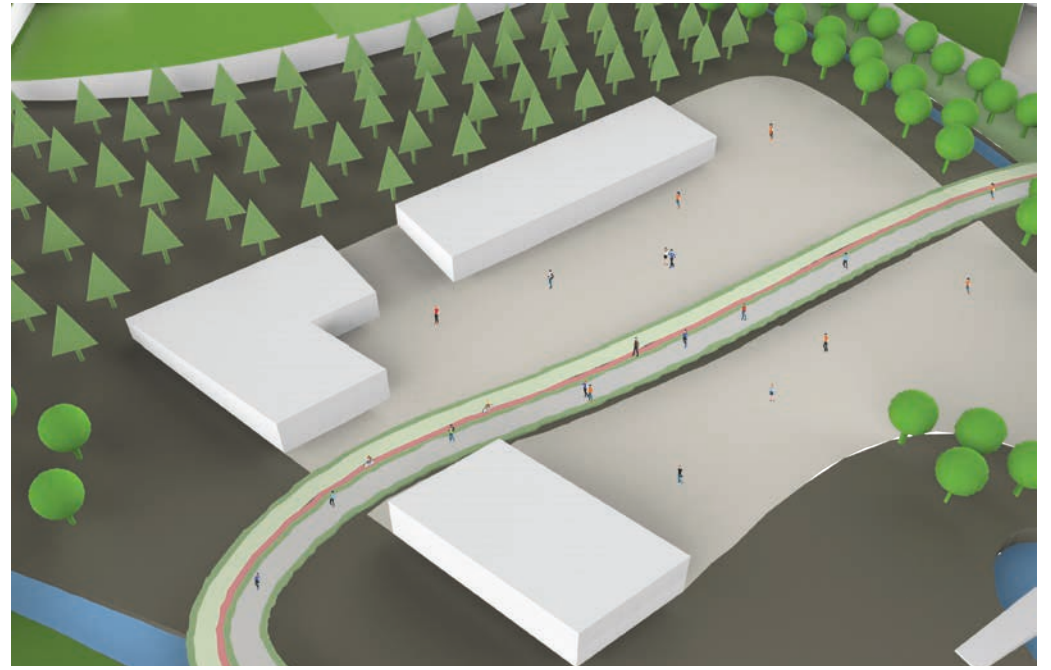


The water flowing from the streams goes through wetlands. Wetlands filter the water and increase the quality of the lake.

- 1) Inlet Water Features (Water Control)
- 2) Reflection Pool (Sedimentation)
- 3) Bird Blind Lounge (Treatment Channel)
- 4) Bubbling Pool (Aeration)
- 5) Riparian Edges

To provide a safe and clean environment for the people as well as other inhabitants of the site.

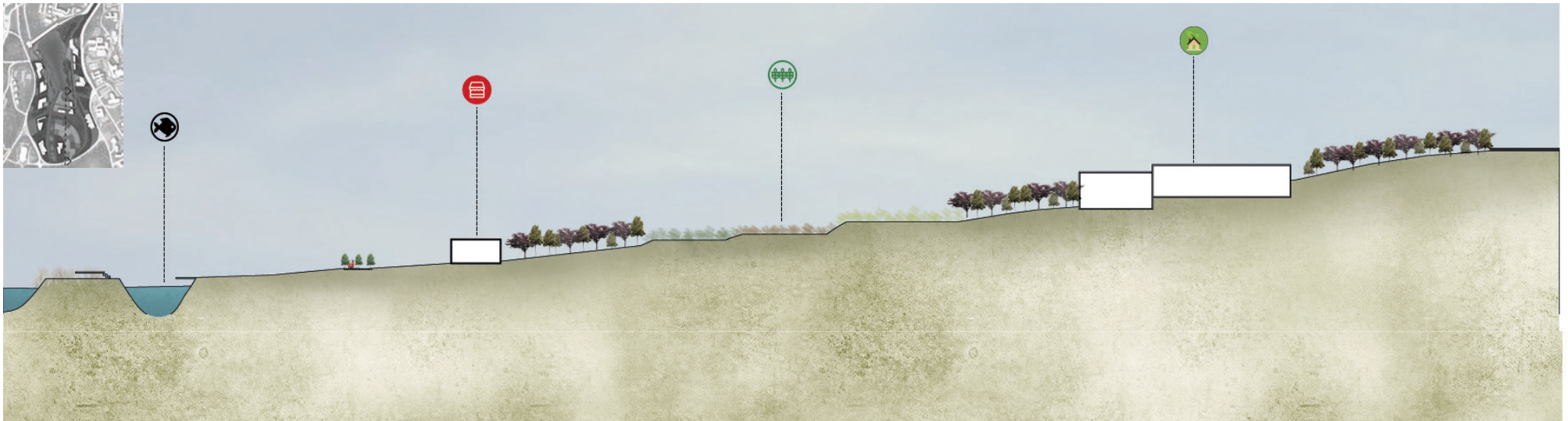




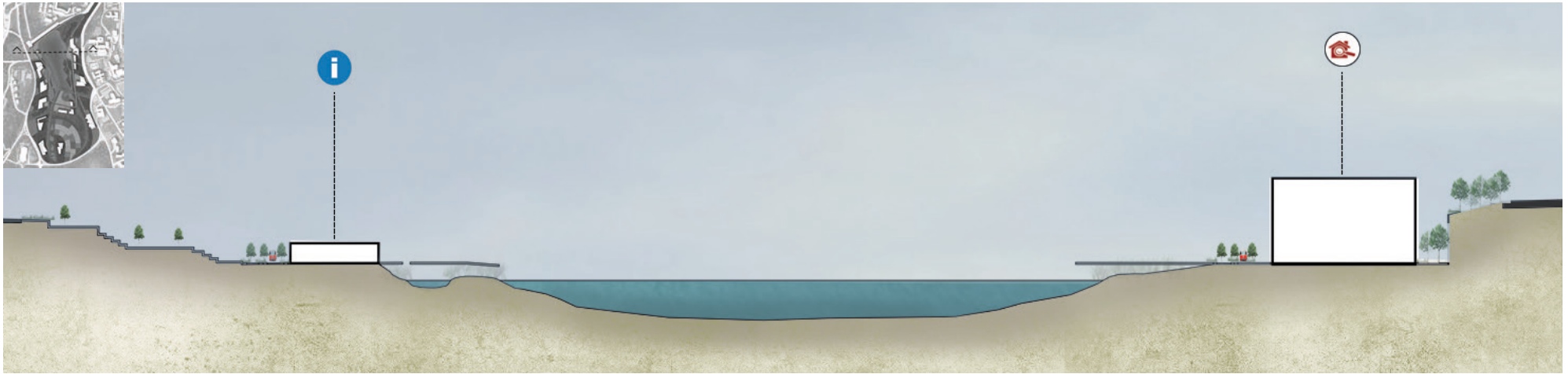




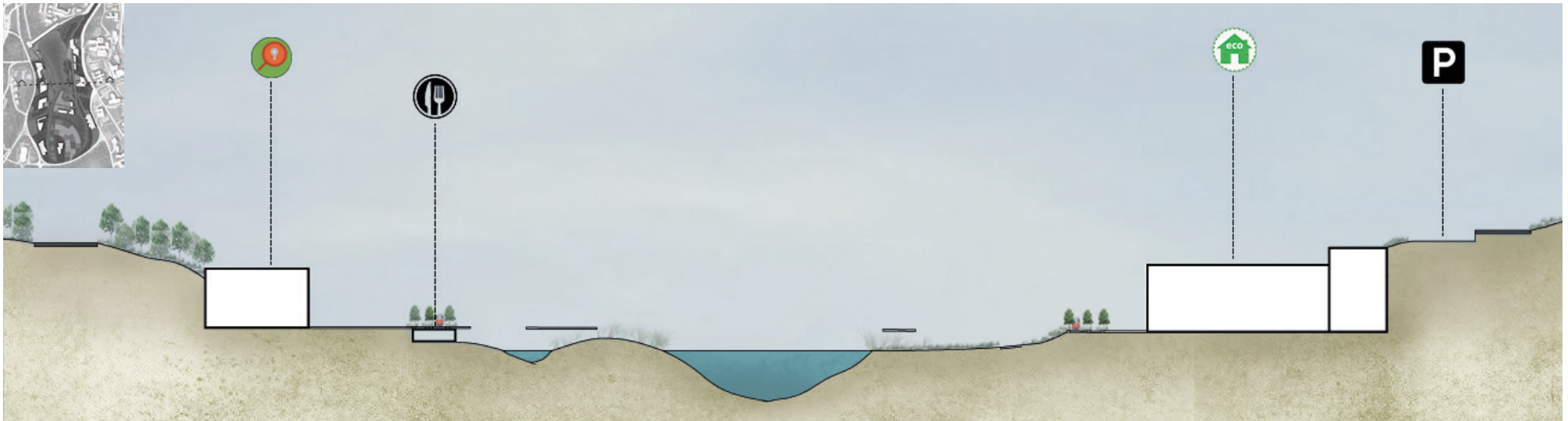
SECTION CC



SECTION DD



SECTION AA



SECTION BB





04

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Individual Projects



# Group I: INTERFERENCE

Elif Ara  
Özge Bayam  
İlayda Güler  
Hazal Gümrükçüođlu  
Ayşe Sinem Kara  
Dilara Ayşegül Kökten  
Irmak Şener  
Gölsen Şenol





# WELLNESS RESEARCH NODE

Elif Ara



# CONCEPT

Wellness is defined as the state of being in good health both physically and psychologically.

Wellness Research Node responds to two main arguments:

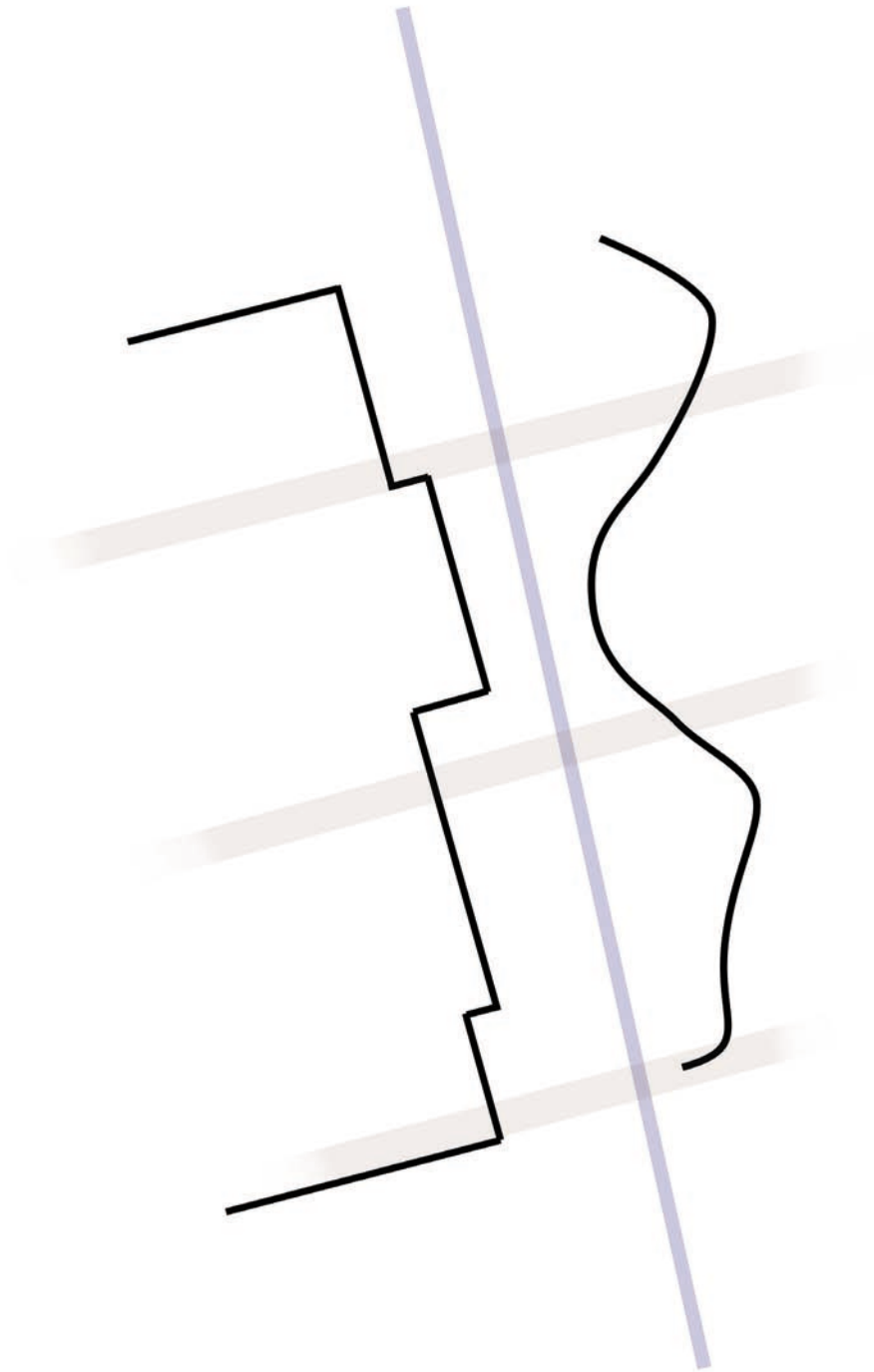
- Firstly, neither psychological support and related activities nor their spaces are sufficient at Bilkent.
- Secondly, the soil around the lake is fertile and thus the vegetation has significant potential to be used for alternative medicine.

In this building, necessary functions are combined to provide for the wellness of the users.

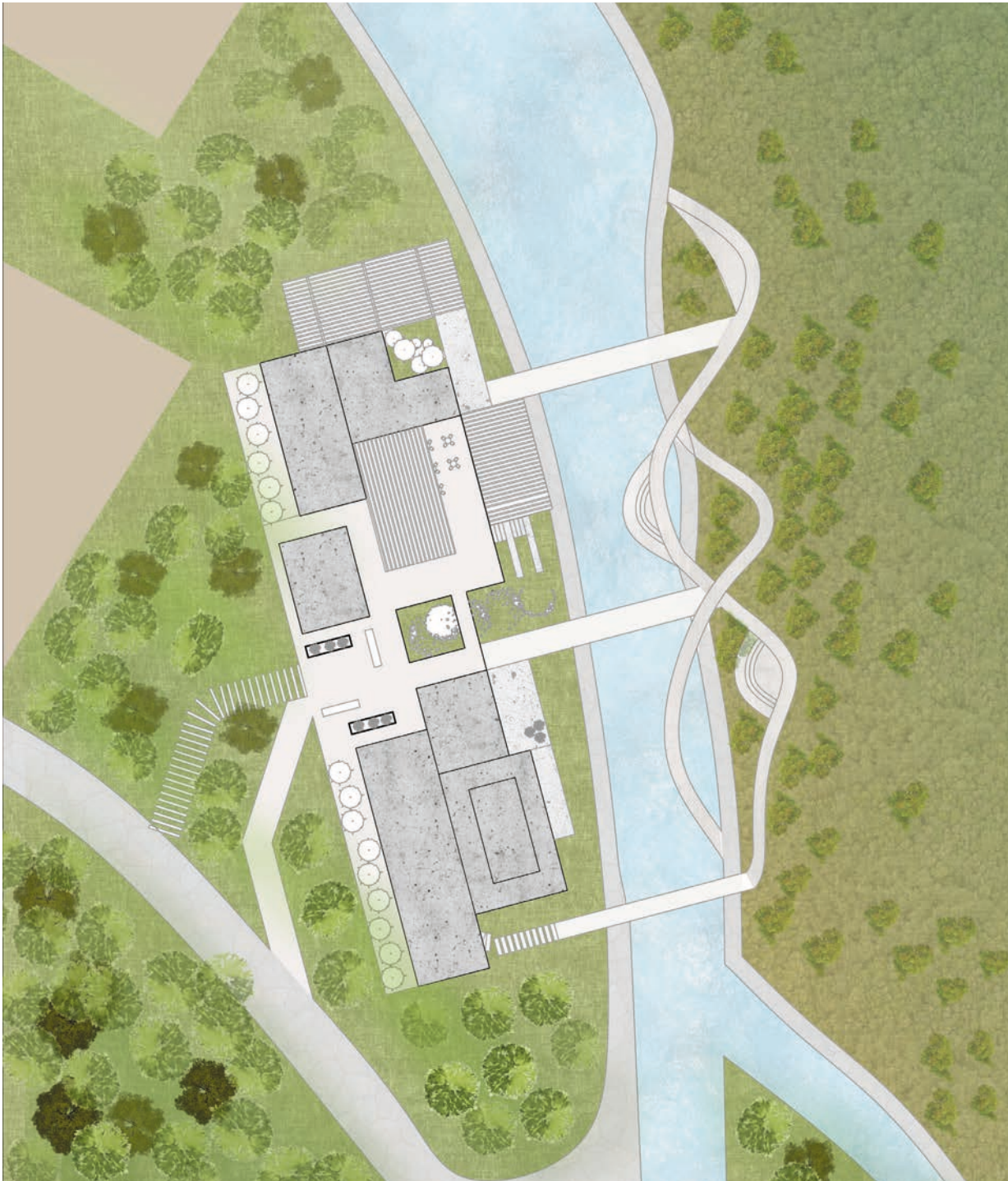
Wellness Research Node is located at one of the points where wildlife and built areas of the master plan converge. This structure provides a connection between these two sides while itself being divided into two parts depending on the site plan.

Vertical circulation is provided through two cores, one for each section, and they are connected by a corridor on each floor. Spaces are attached to the circulation system according to their related functions. On the other direction, there are three bridges that connect the built part to the wildlife part. These bridges go through laboratories and the wellness part.

As sunlight is very important for human psychology, solids and voids both of the mass and of the facade are designed elaborating direct and indirect use of daylight.



# SITE PLAN



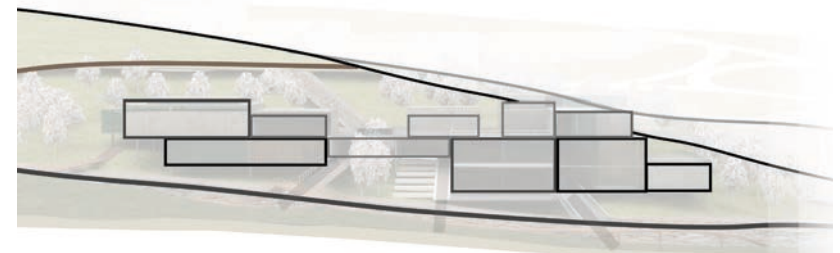
Wellness Research Node has located in a place which wild life and build are converged. It does not have connection with the other buildings on site.

Wildlife part is constituted by flying paths and open air retreat platforms designed in an organic form. In order to avoid any strong intervention to the existing vegetation, light timber structural system is used. The chosen material is redwood which is resistant to water and can be used outside.

The built part is orthogonal and rather solid. It has reinforced concrete frame system. Whereas concrete is also the main finishing material, in some parts, wood or metal are used. The building is divided into two sections orthogonal to the site's division.

One section accommodates research activities on wellness, and includes laboratories, workshop spaces and a health library. Laboratories are used for research on vegetation while workshop areas are where applicable techniques are taught to the public. Health library serves for people in learning, experiencing and accessing alternative medicine products. The other section focuses on realization of the wellness of the users. Here are two meditation halls, massage and facial rooms, and physiological support rooms.

## RELATIONSHIP OF SITE AND BUILDING:

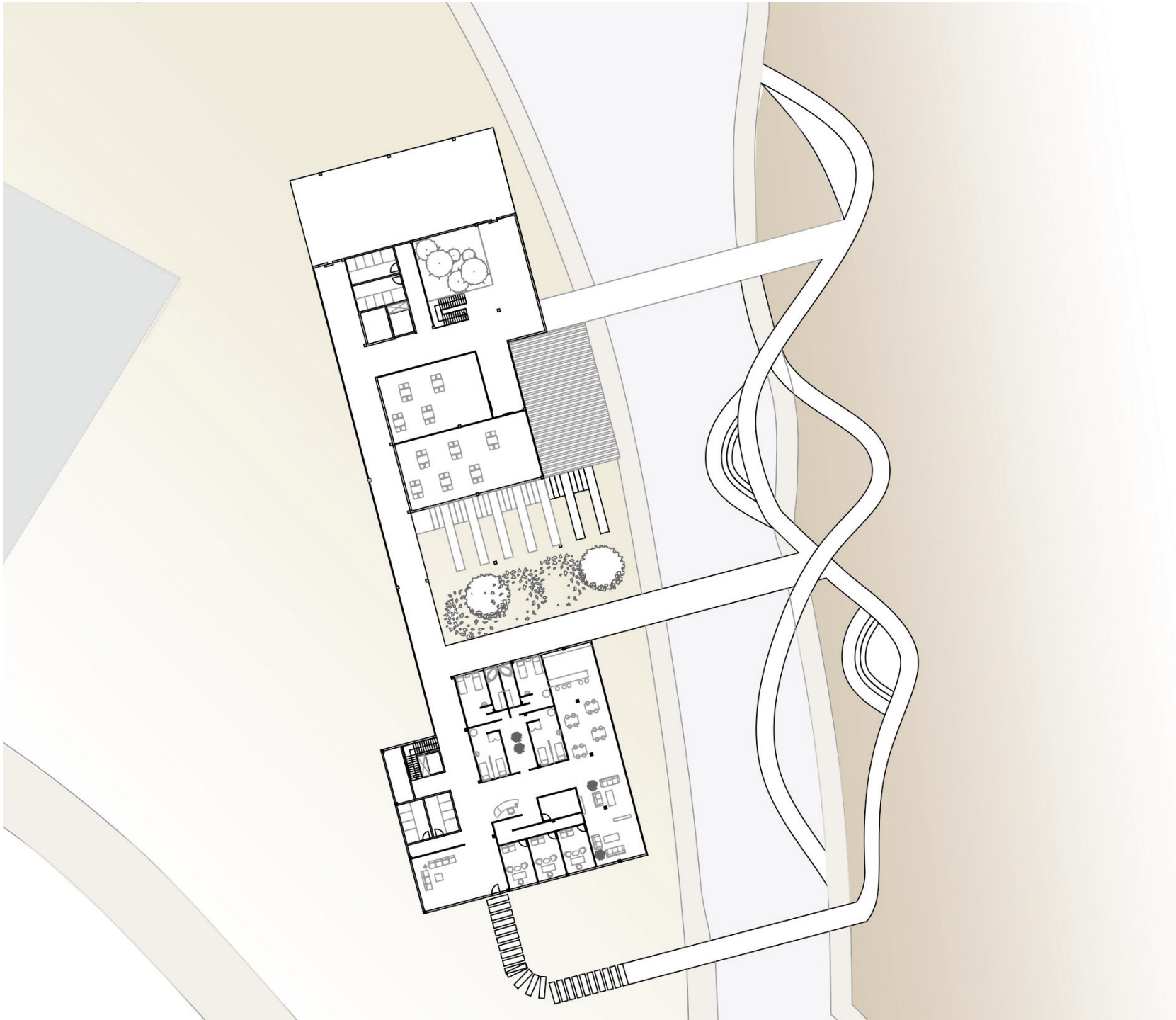


# PLANS

## GROUND FLOOR

1. Main Meditation Hall
2. Meditation Hall
3. Changing Rooms
4. Waiting / Resting Room
5. Health Shop
6. Terrace
7. Coffee Shop
8. Health Library



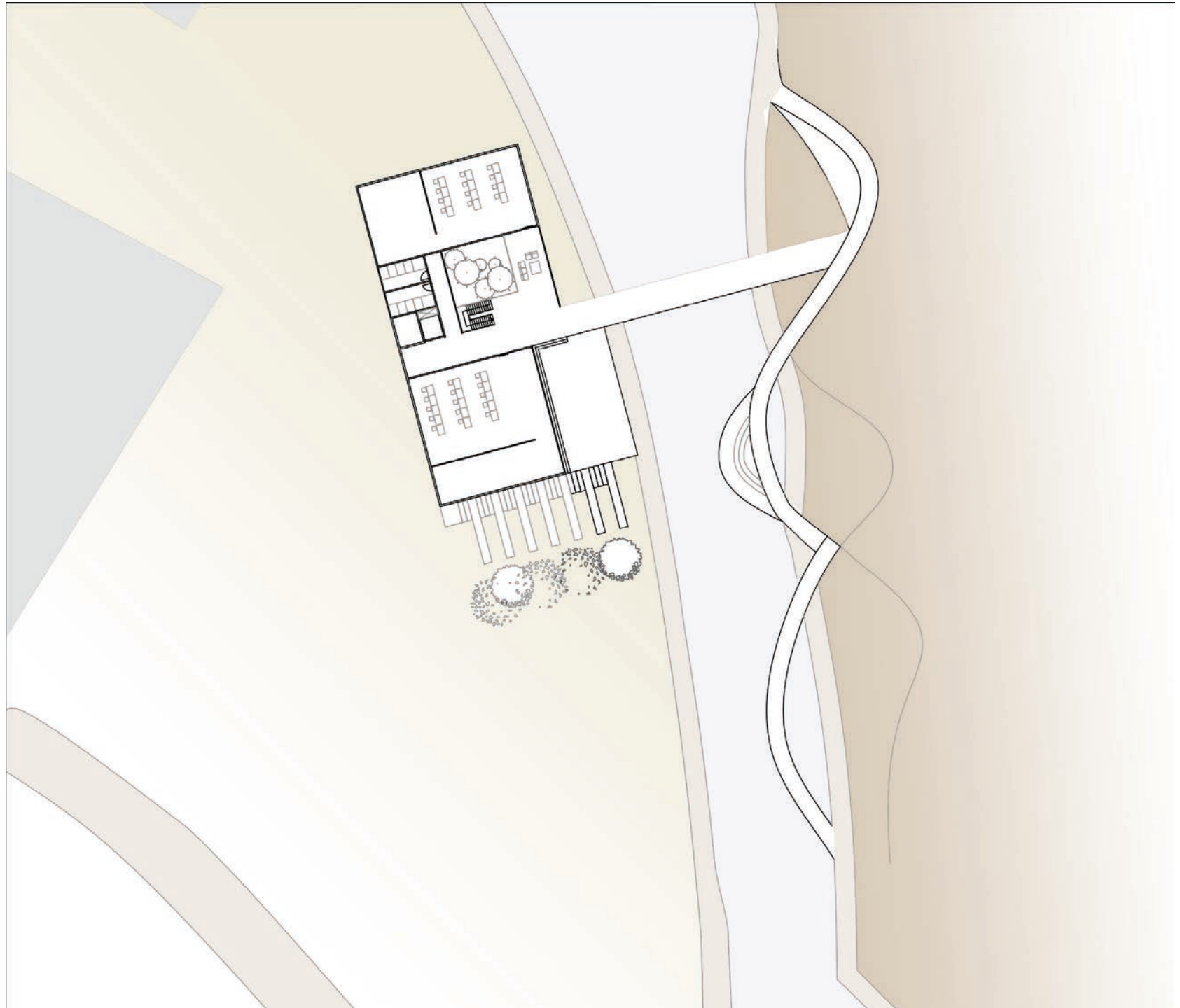


-1 ST FLOOR

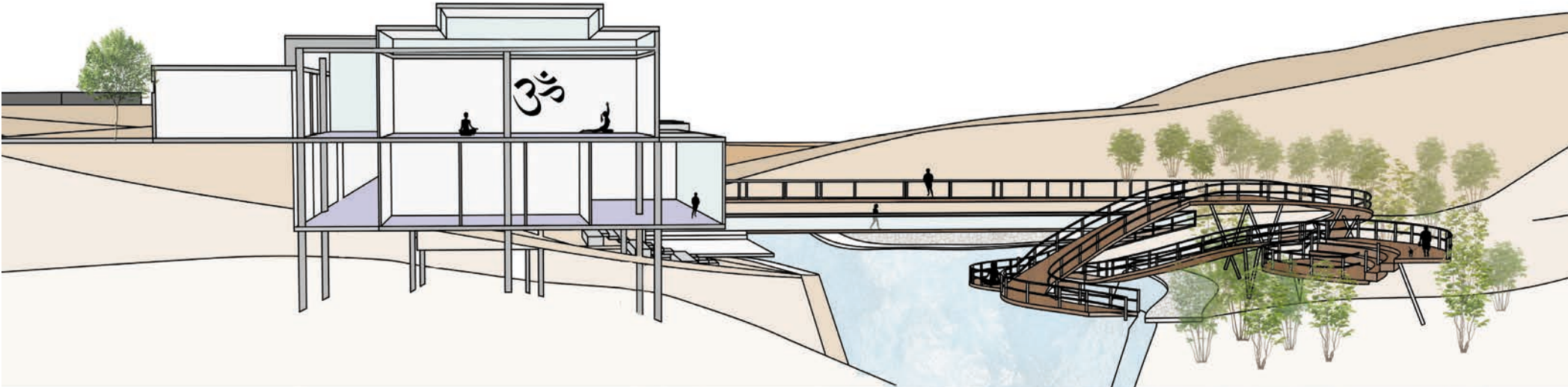
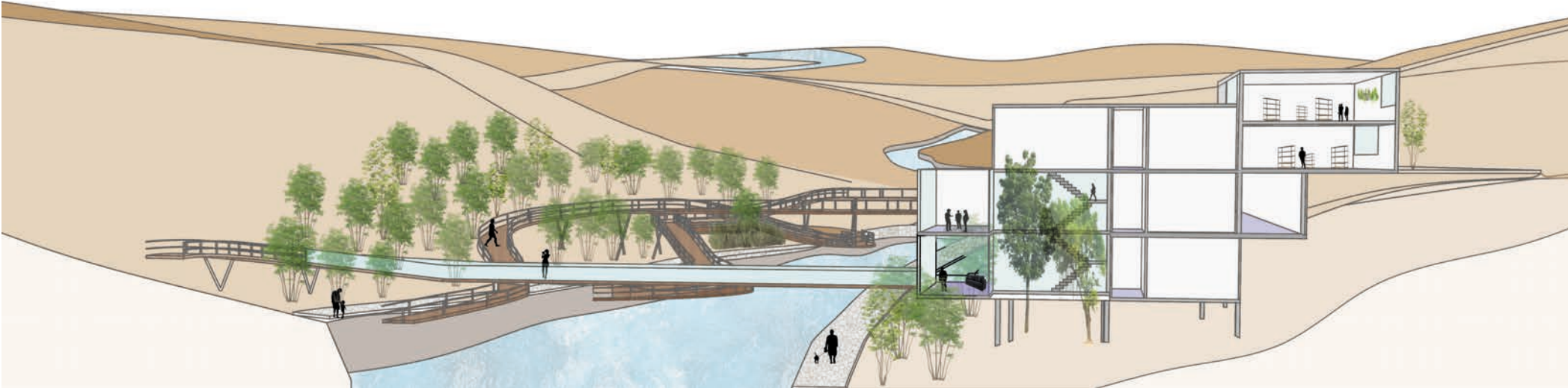
- 9. Massage Rooms
- 10. Facial Rooms
- 11. Psychological Support Rooms
- 12. Coffee Shop
- 13. Waiting/ Resting Hall
- 14. Workshop spaces
- 15. Social corridor

-2ND FLOOR

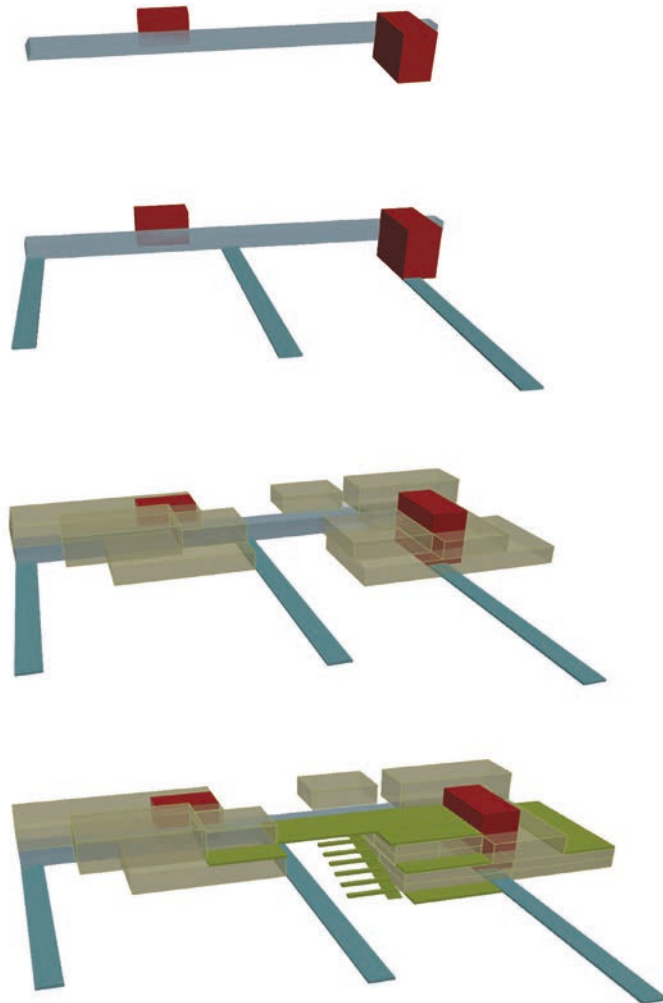
- 16. Laboratories
- 17. Social Corridor
- 18. Terrace



# SECTIONS



# DIAGRAMS



There are two circulation core in order to provide entrances for every part of a building program. One main corridor connects these two cores.

- Circulation Cores
- Main Corridor

In order to connect the other part of the site, there are three bridges that have connections to circulation cores and main corridor.

- Bridge Connections

Masses are attached around main corridor and circulation cores according to the related functions.

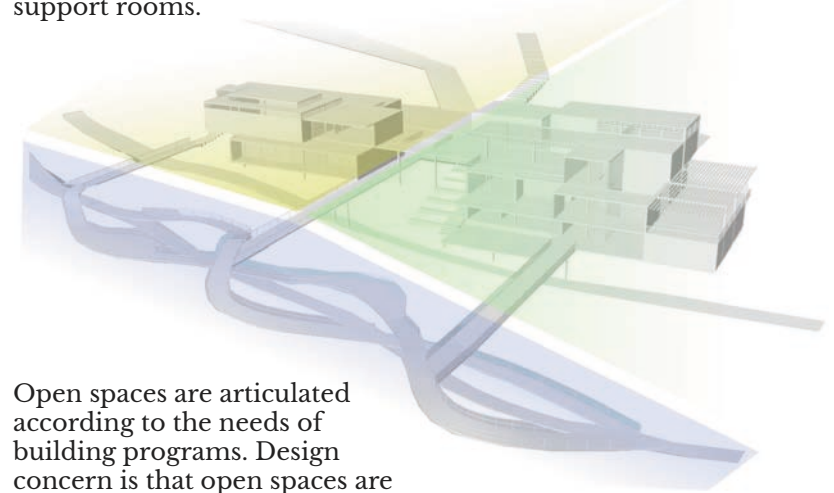
- Masses

Open spaces are articulated according to the needs of building programs. Design concern is that open spaces are connected to nature.

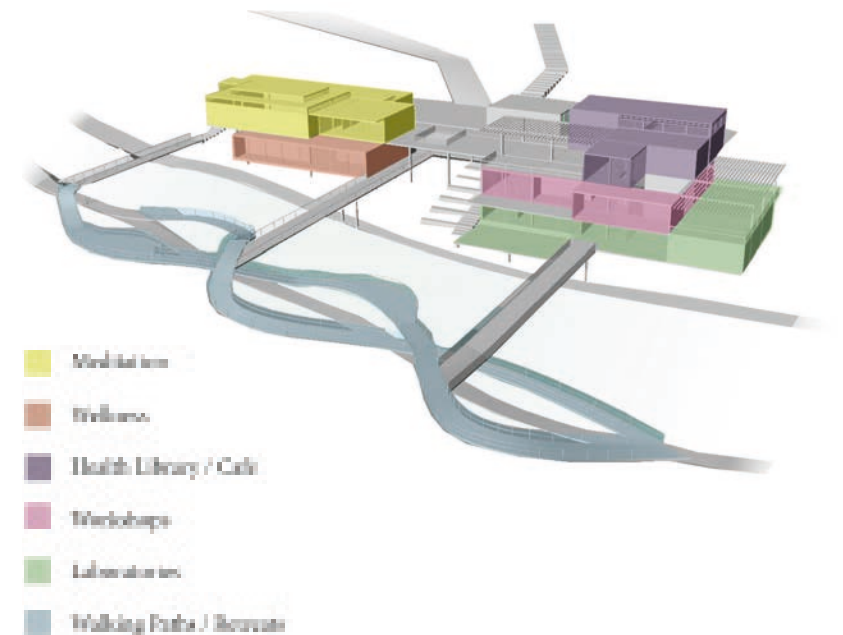
- Open spaces

This section focuses on realization of the wellness of the users. Here are two meditation halls, massage and facial rooms, and physiological support rooms.

This part accommodates research activities on wellness, and includes laboratories, workshop spaces and a health library.



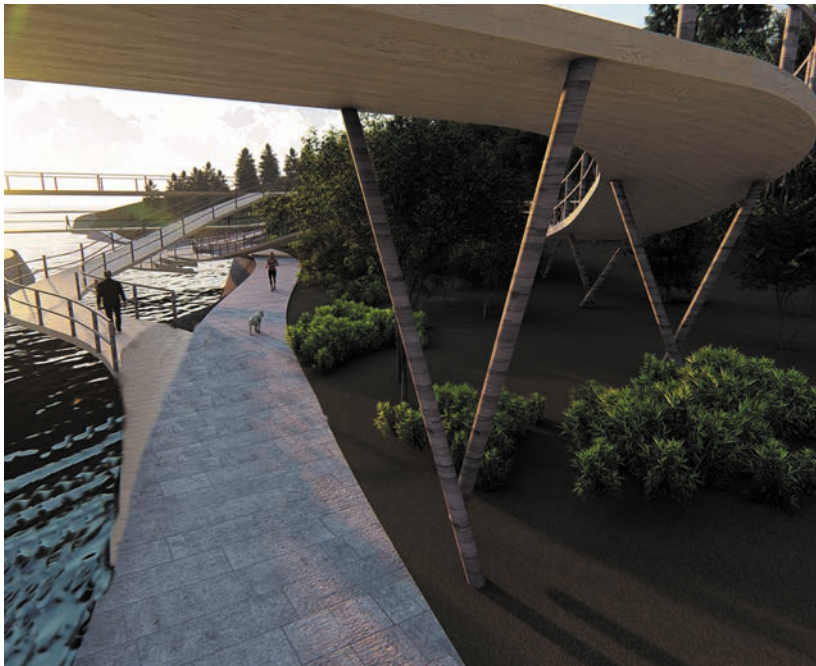
Open spaces are articulated according to the needs of building programs. Design concern is that open spaces are connected to nature.



- Meditation
- Wellness
- Health Library / Cafe
- Workshops
- Laboratories
- Walking Paths / Bicycle



Social Corridor

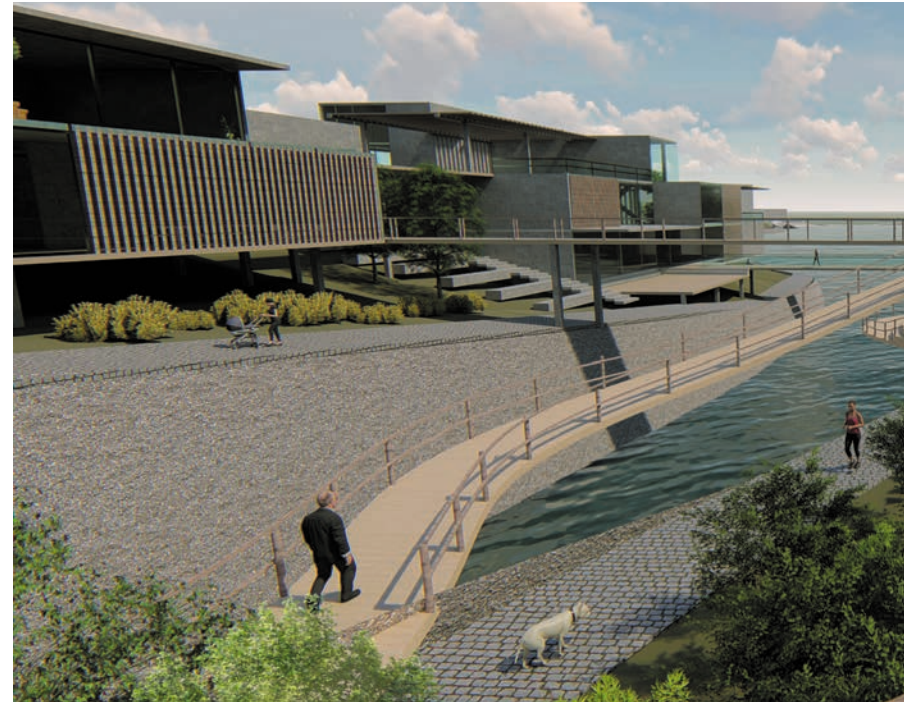
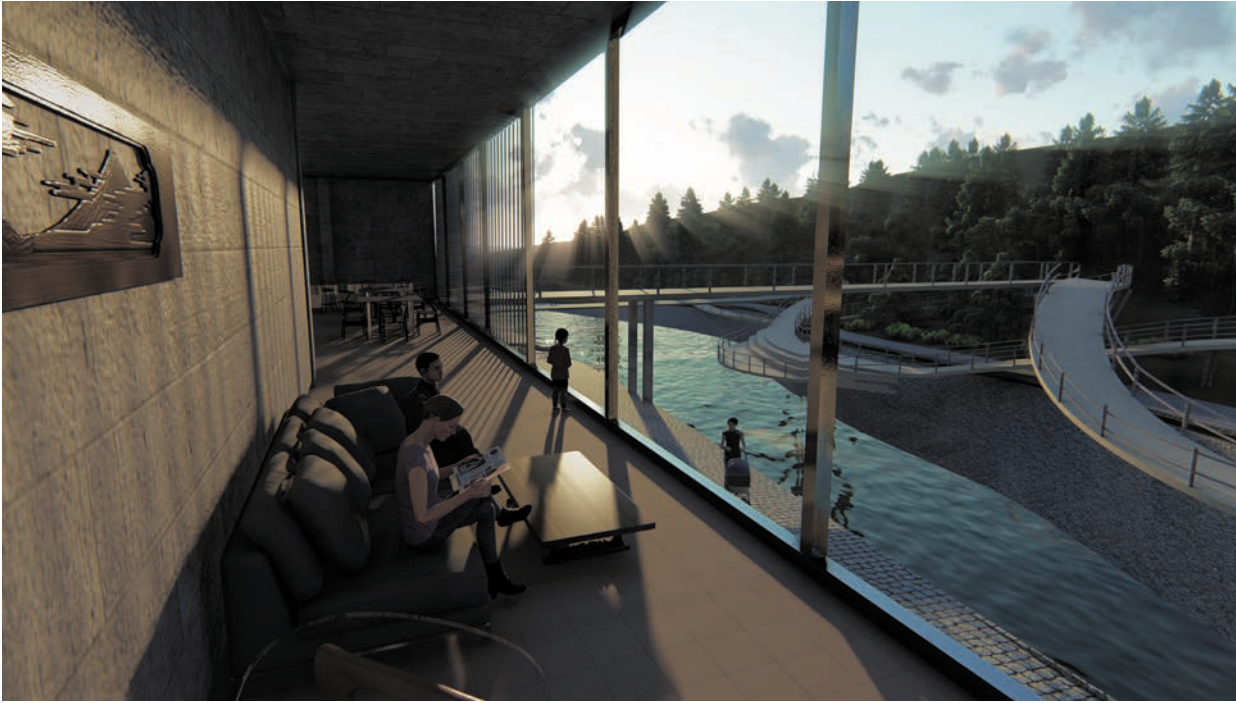


Light-weight Timber Structure

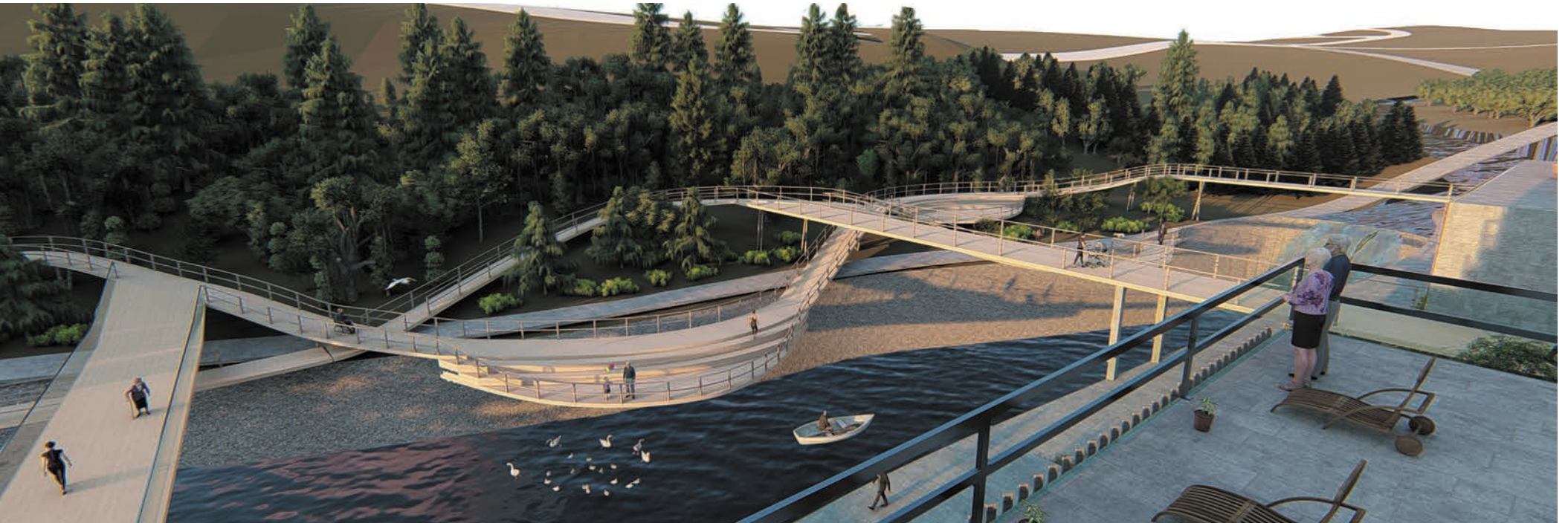


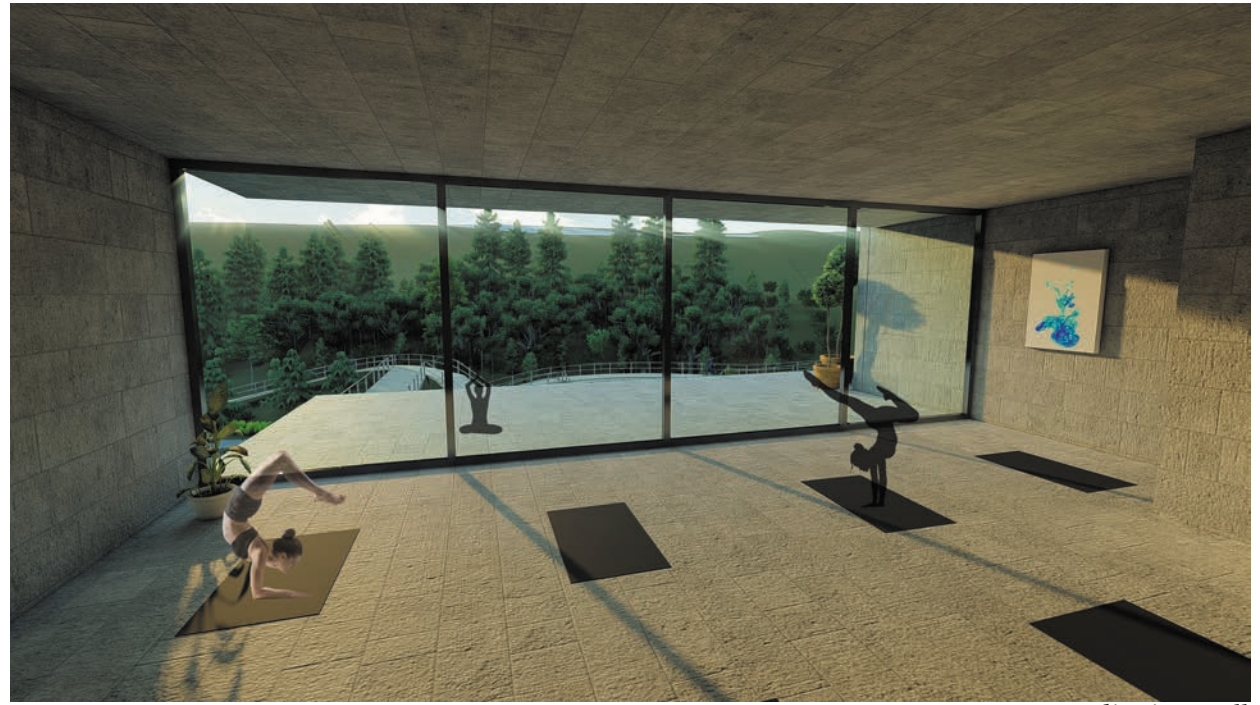
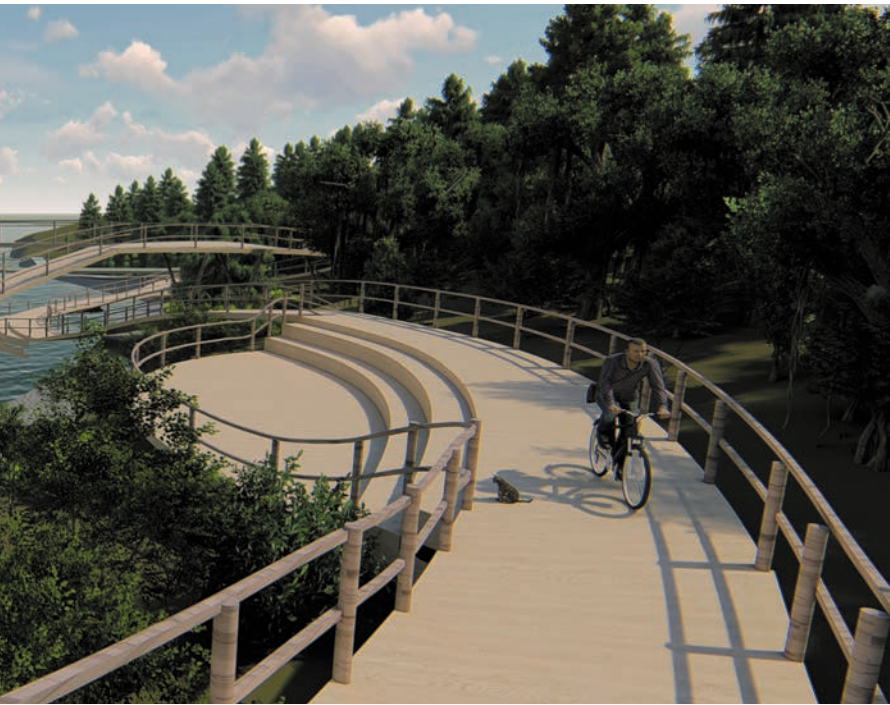
Health Library





Wellness Center Waiting Hall

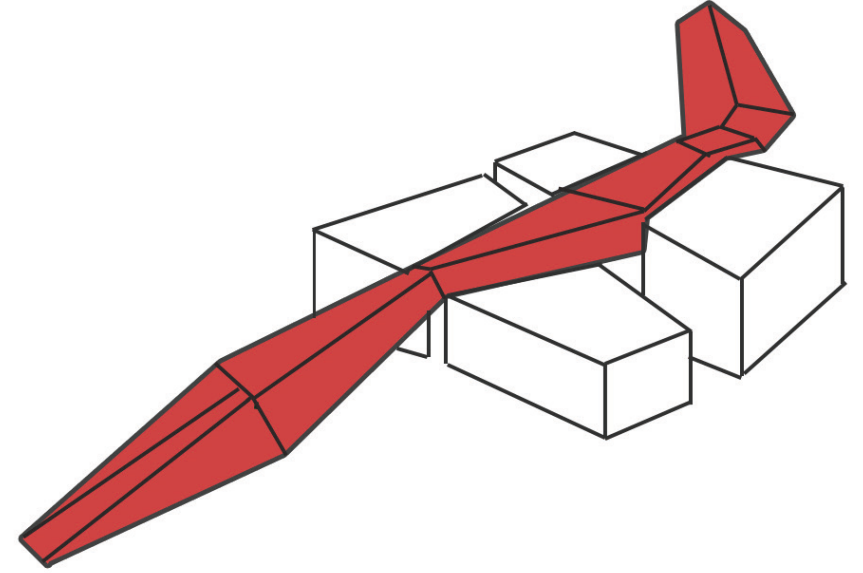




Meditation Hall







# BOTANIC RESEARCH CENTER

Özge BAYAM

# CONCEPT

-It is located on the most visible part of the lake, and, connects the forest and wild life with the Botanic Garden Bridge.

-Main design idea is to achieve harmony of the botanic garden bridge and the research center.

-The nature, which constitutes the foundation of the presence of this center, is integrated with the research labs and workshop spaces.

-Botanic garden bridge acts as an interface that facilitates interaction among public and private, and among the nature and the built.

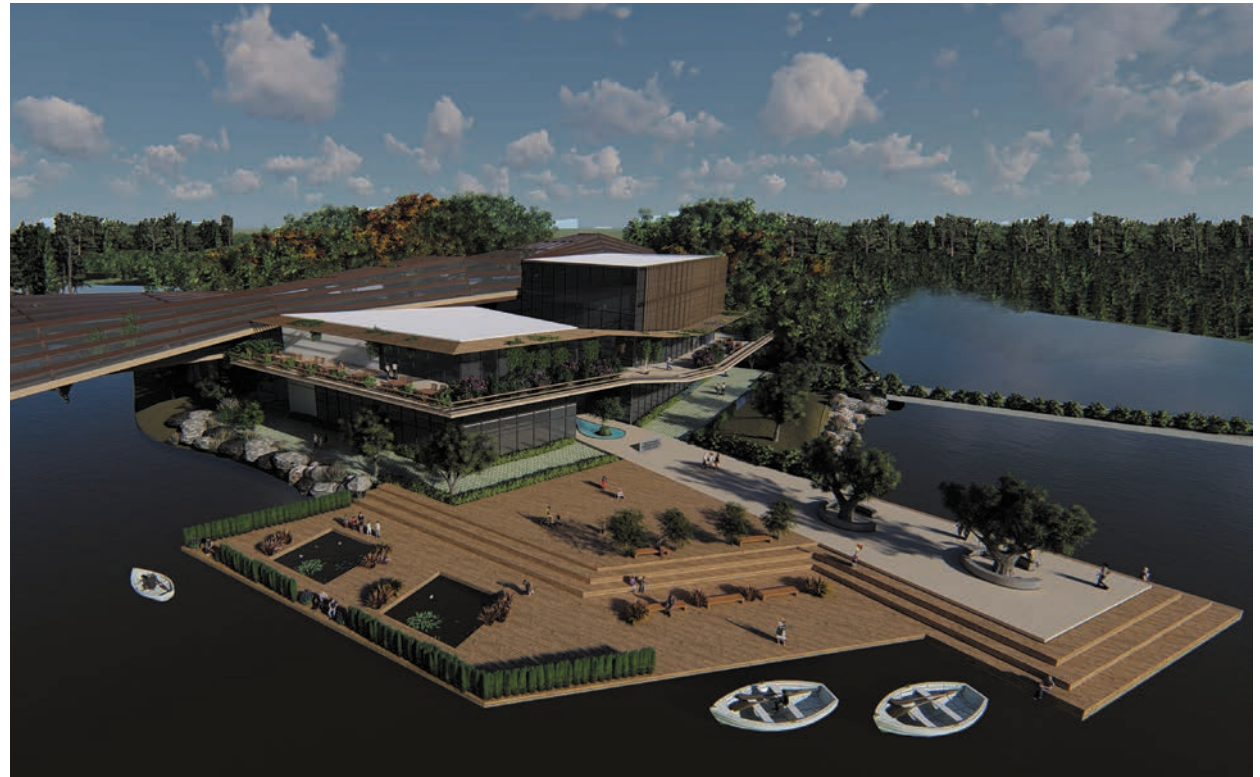
-The research center involves not only private spaces for the researchers, but also common exploration spaces for the public.

-The workshop spaces and the library are accessible by the public.

-The bio-diversity museum exhibits the products of the workshops where people of different ages and status interact with the center's research activities.

## PROGRAMME

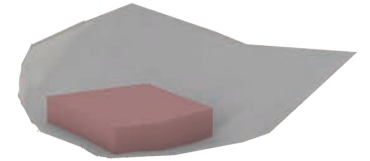
- Research Labs
- Workshops
- Library
- Offices
- Bio-diversity Museum
- Storage /Archive
- Marine Observation Deck
- Multipurpose Hall & Lecture Rooms
- Cafe





# SITE PLAN

REFERENCE LINES  
OF LAKE AND MAIN  
MASS FORMATION



VIEW AXIS TO THE  
LAKE



CONNECTION OF  
FOREST AND WILD  
LIFE



FORMATION OF BO-  
TANIC  
GARDEN BRIDGE

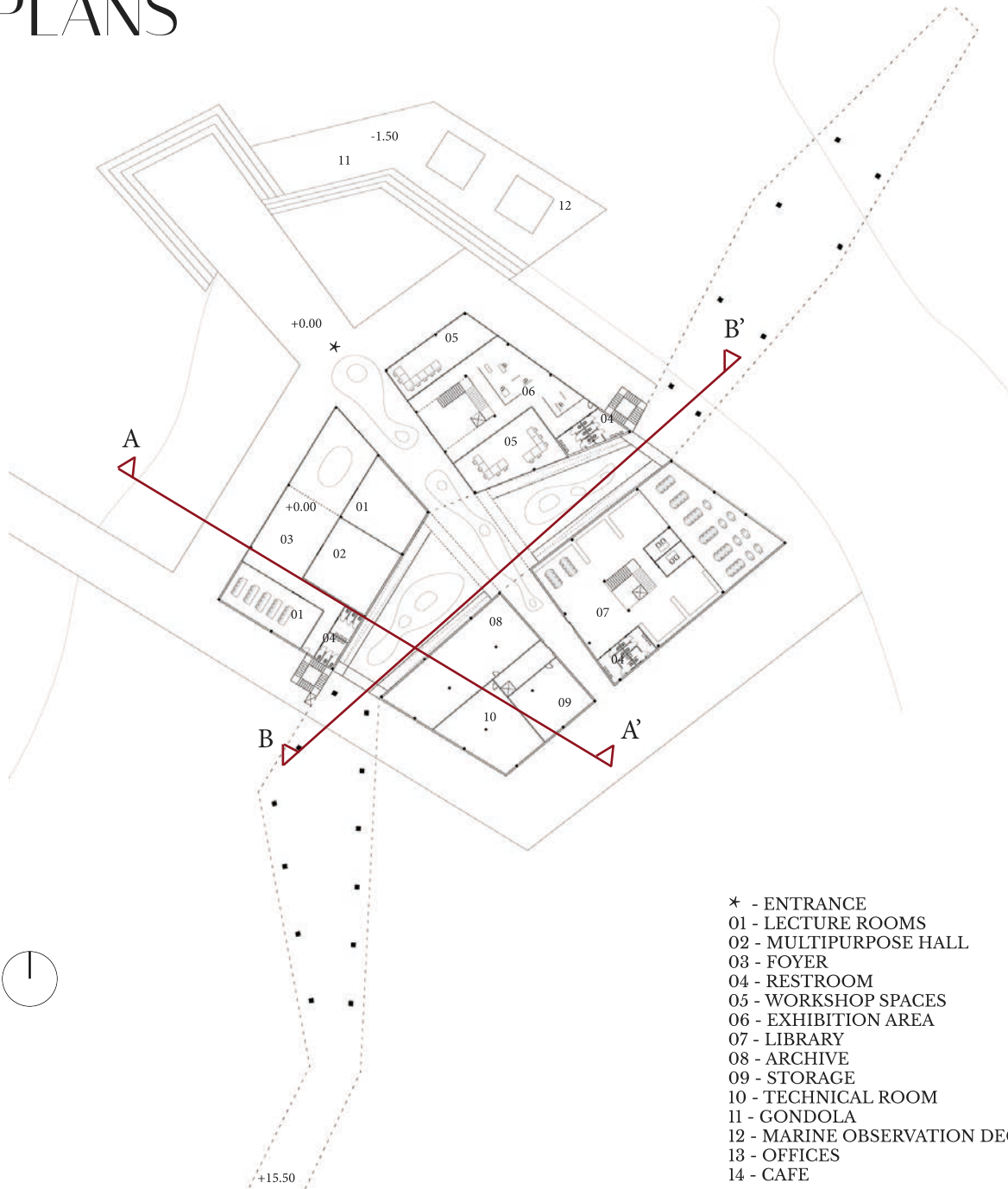


BOTANIC GARDEN  
BRIDGE AND PUBLIC  
& PRIVATE



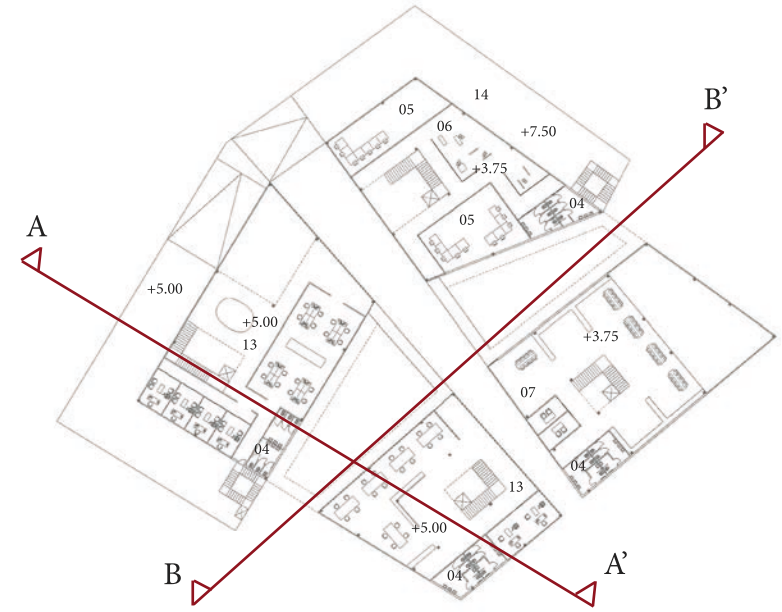
MASS FORMATION

# PLANS

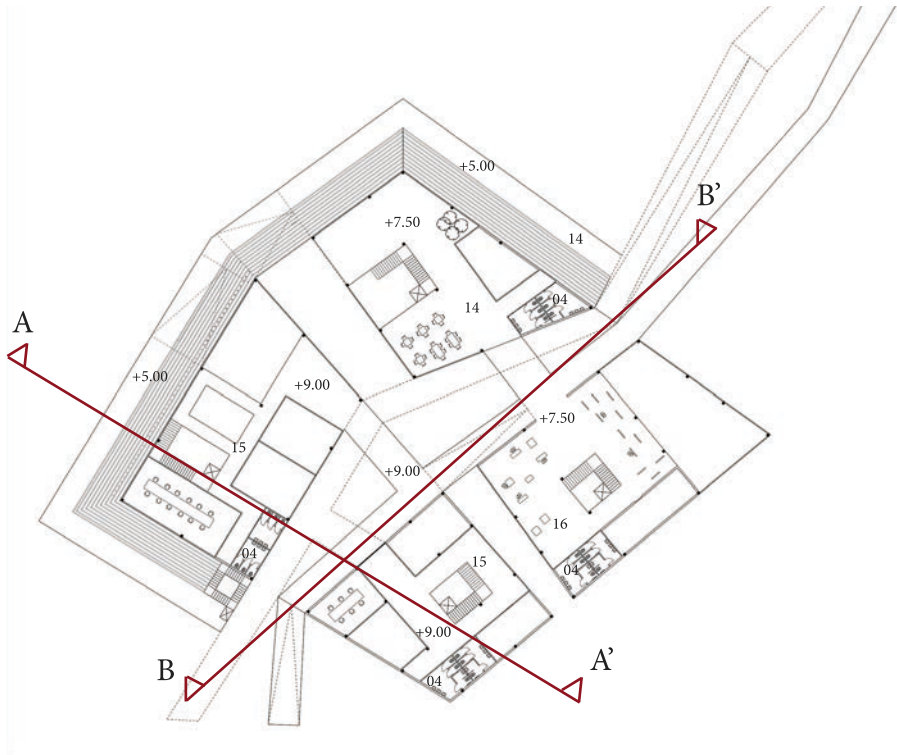


GROUND FLOOR PLAN

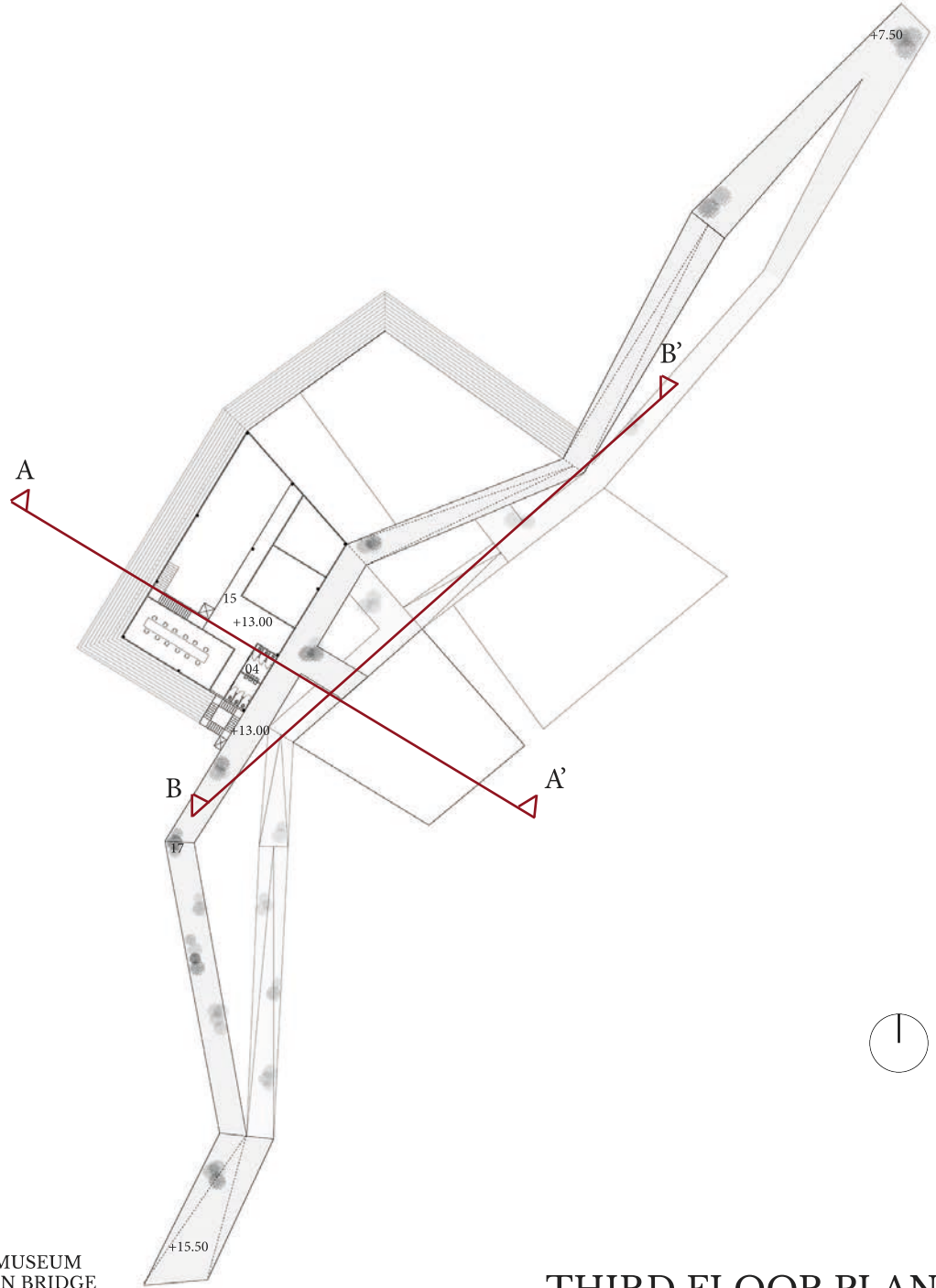
- \* - ENTRANCE
- 01 - LECTURE ROOMS
- 02 - MULTIPURPOSE HALL
- 03 - FOYER
- 04 - RESTROOM
- 05 - WORKSHOP SPACES
- 06 - EXHIBITION AREA
- 07 - LIBRARY
- 08 - ARCHIVE
- 09 - STORAGE
- 10 - TECHNICAL ROOM
- 11 - GONDOLA
- 12 - MARINE OBSERVATION DECK
- 13 - OFFICES
- 14 - CAFE



FIRST FLOOR PLAN



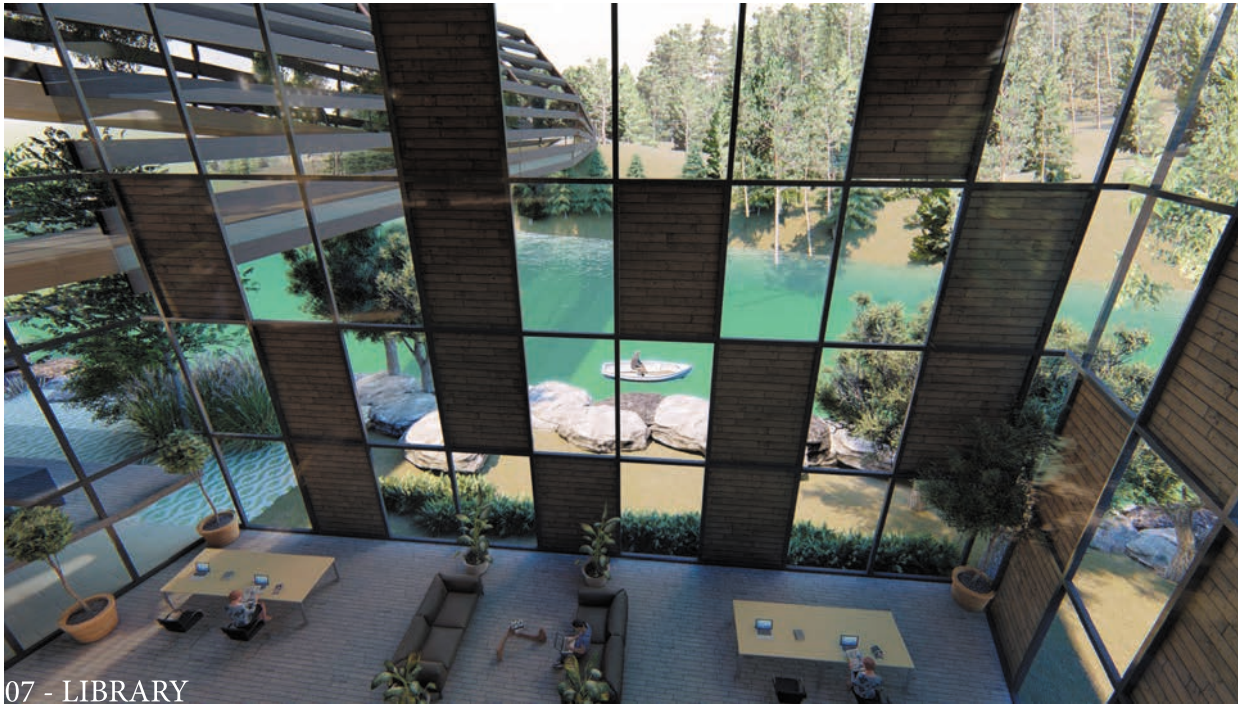
SECOND FLOOR PLAN



THIRD FLOOR PLAN

- 04 - RESTROOM
- 14 - CAFE
- 15 - RESEARCH LABS
- 16 - BIO-DIVERSITY MUSEUM
- 17 - BOTANIC GARDEN BRIDGE





07 - LIBRARY



14 - CAFE



13 & 15 - OFFICES & RESEARCH LABS

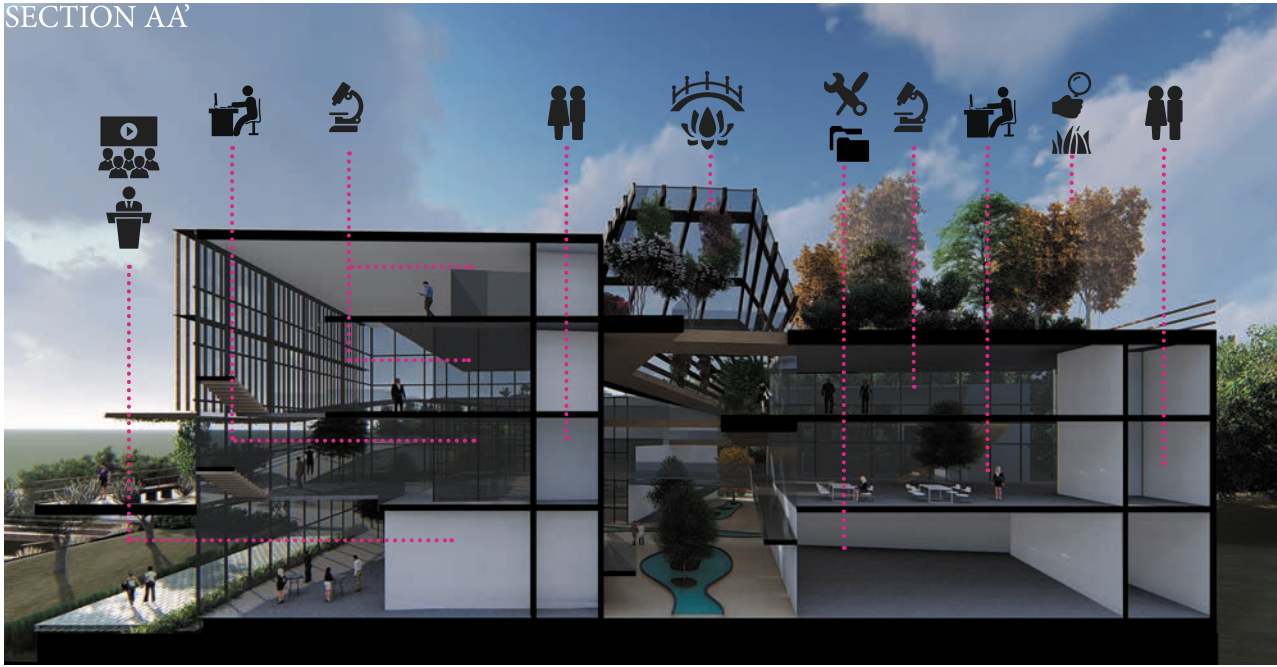


\* - ENTRANCE



17 - BOTANIC GARDEN BRIDGE

SECTION AA'

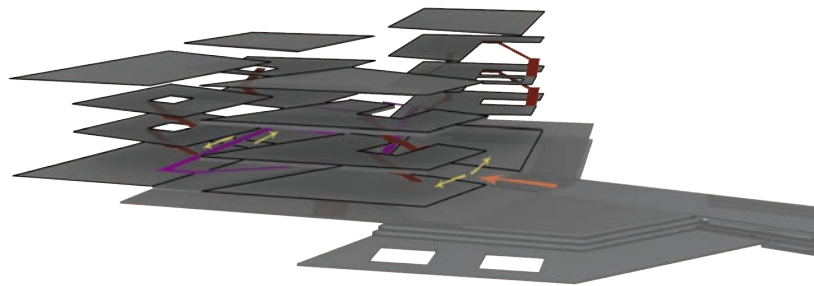
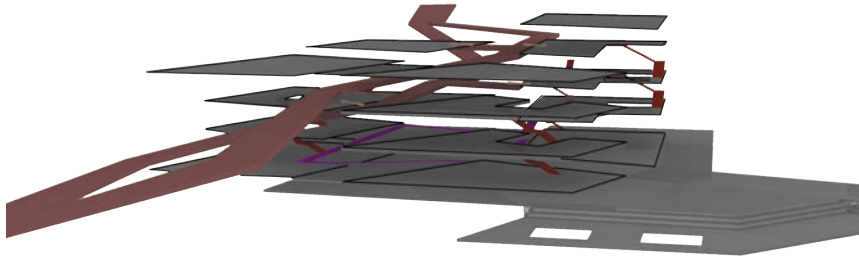


# SECTIONS

SECTION BB'

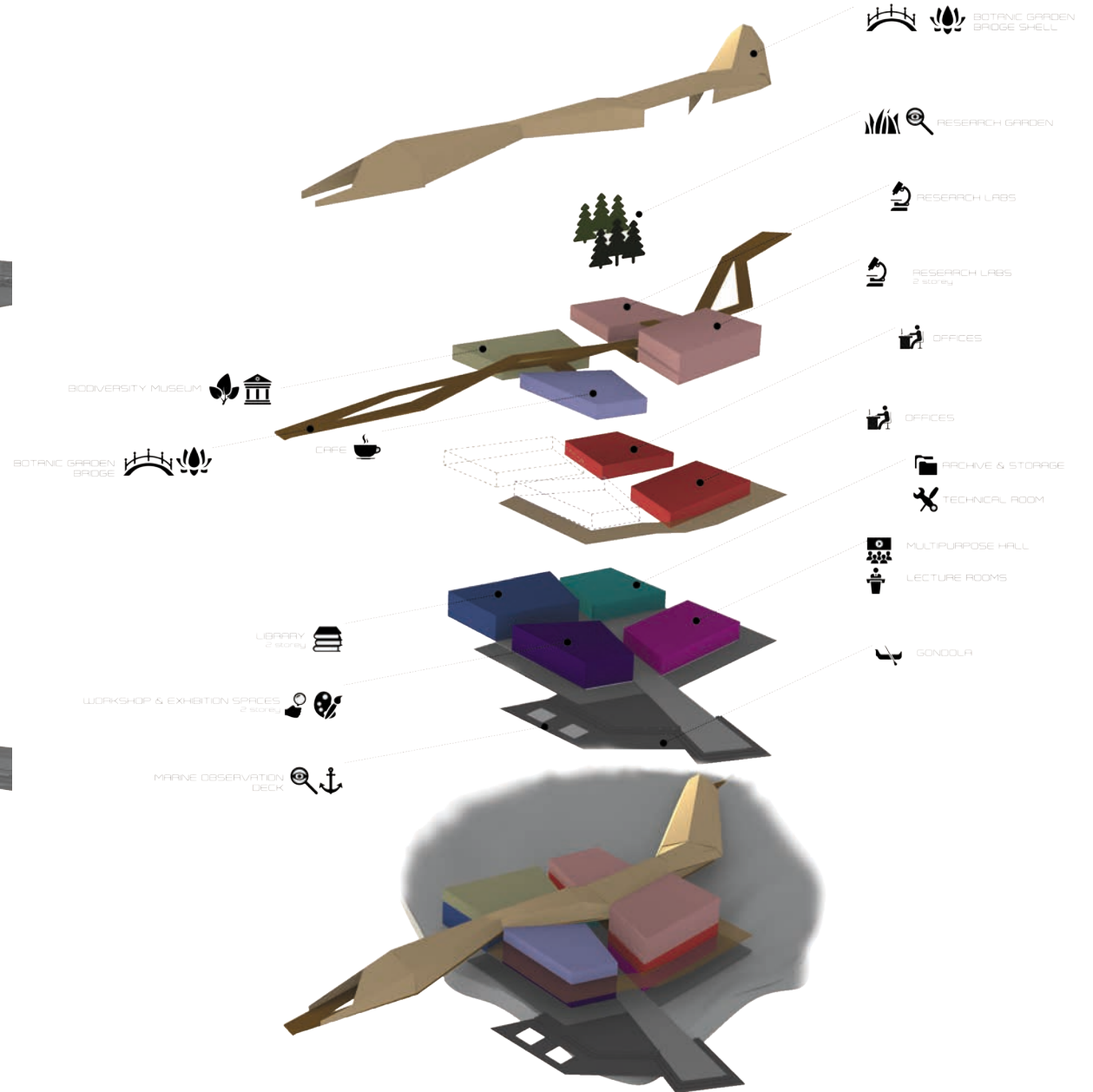


# DIAGRAMS

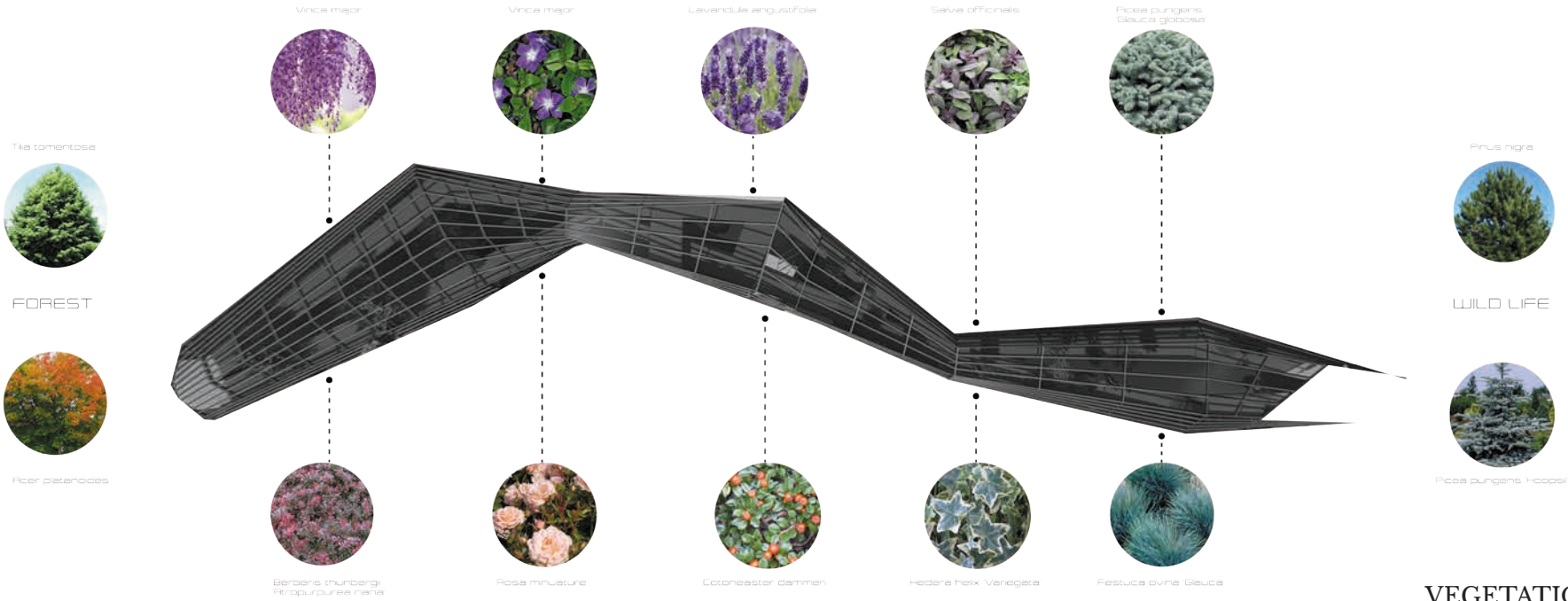


stairs  
ramps  
entrances  
main entrance  
botanic garden ramps  
bridge entrances

CIRCULATION DIAGRAM



FUNCTION DIAGRAM



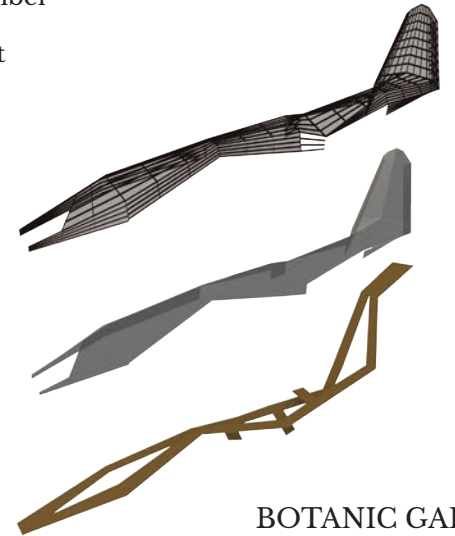
VEGETATION DIAGRAM

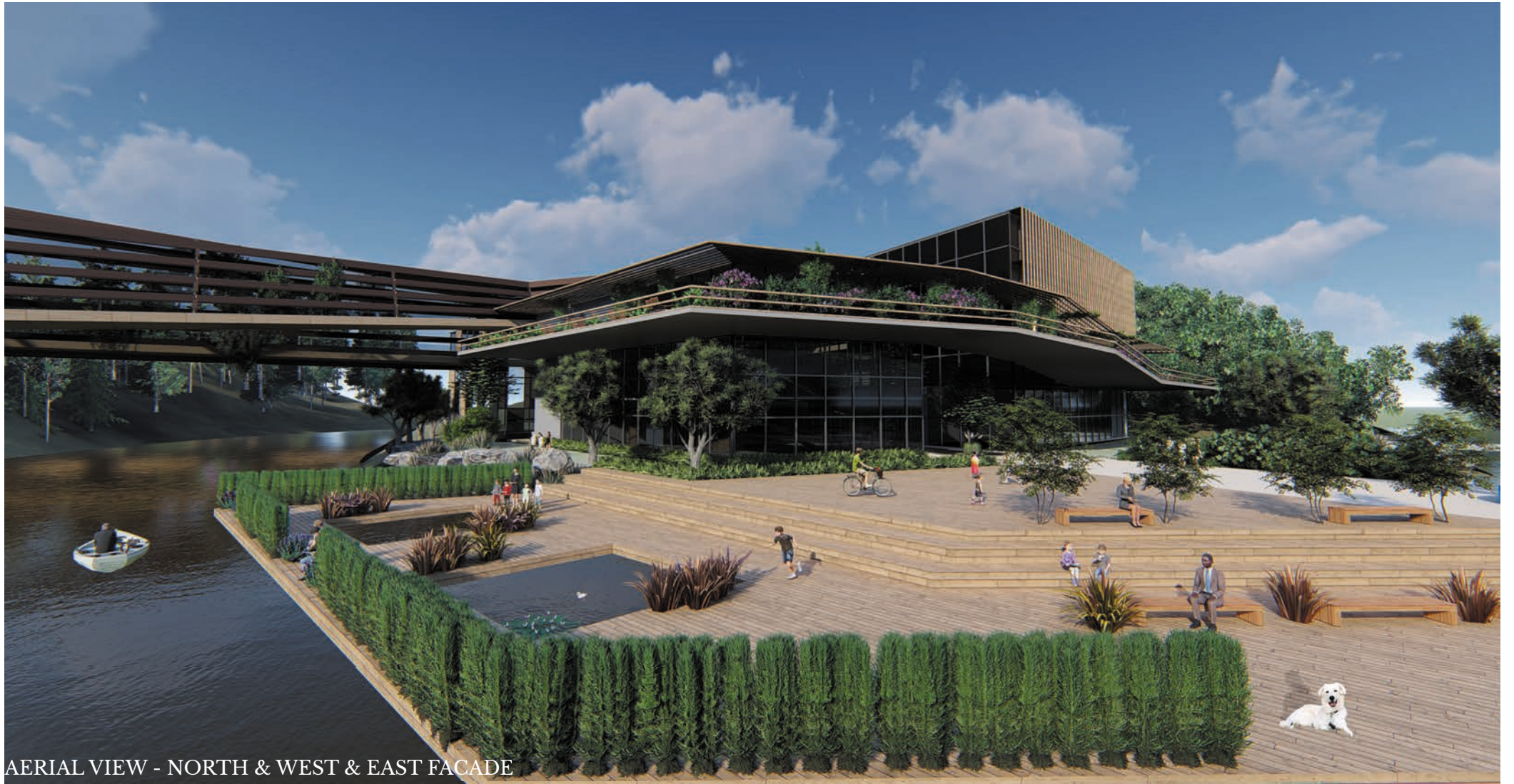


Glulam Timber  
Structure  
Lightweight

Glass

Ramp

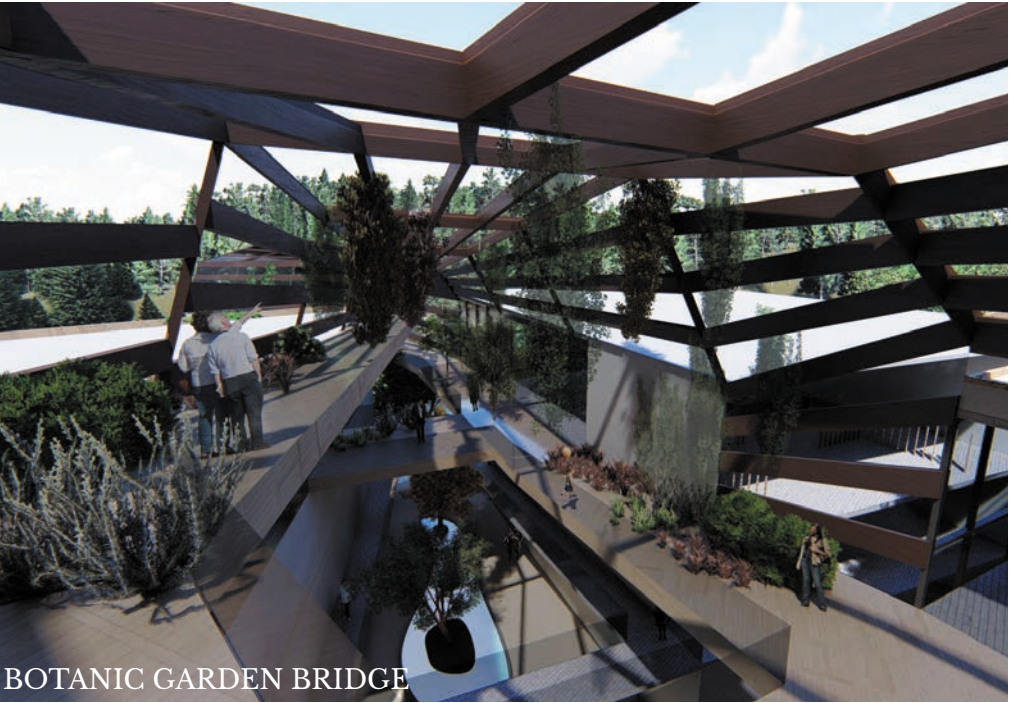




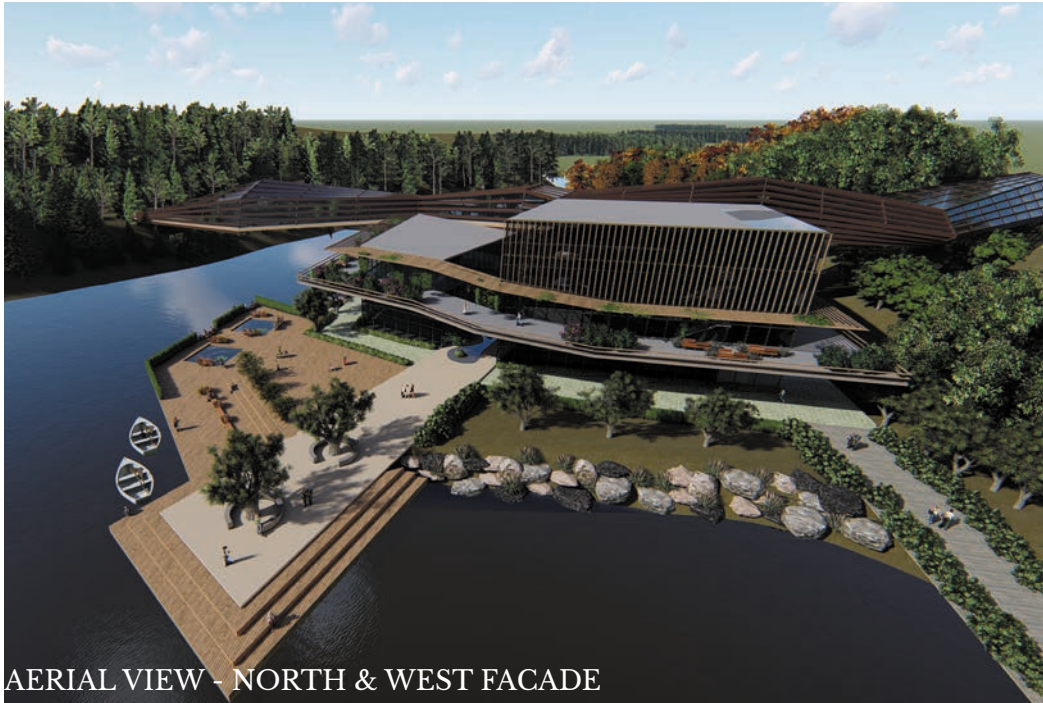
AERIAL VIEW - NORTH & WEST & EAST FACADE



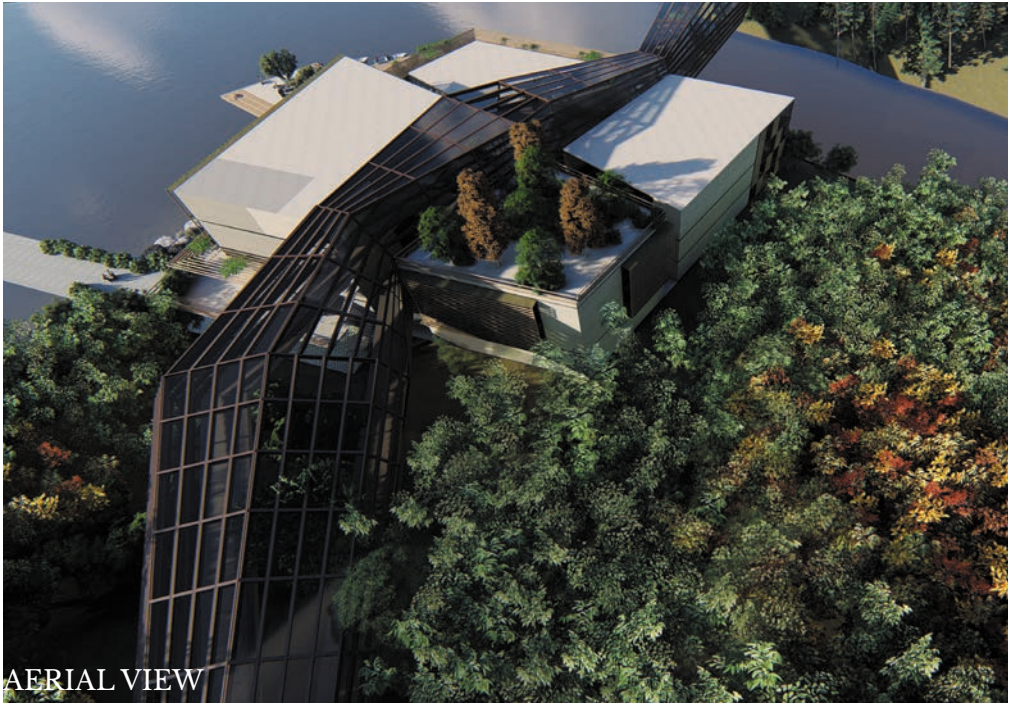
AERIAL VIEW - EAST FACADE



BOTANIC GARDEN BRIDGE

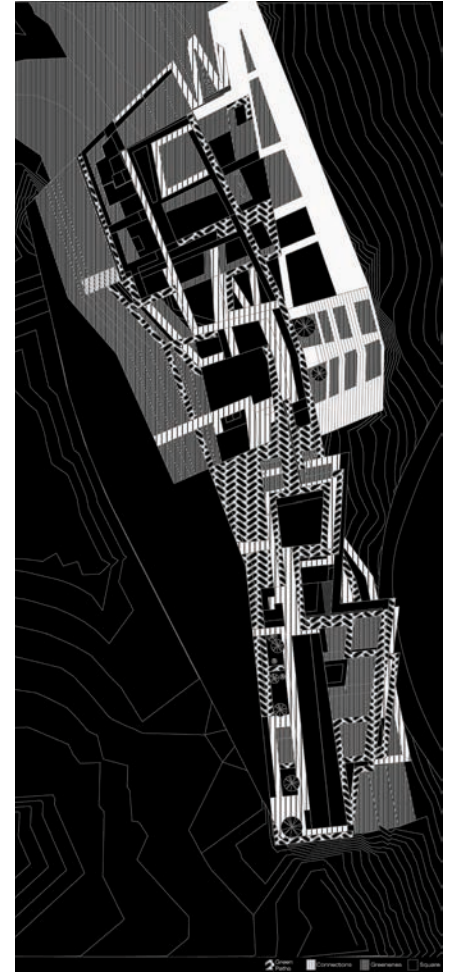


AERIAL VIEW - NORTH & WEST FACADE



AERIAL VIEW





# THE NEIGHBOURHOOD

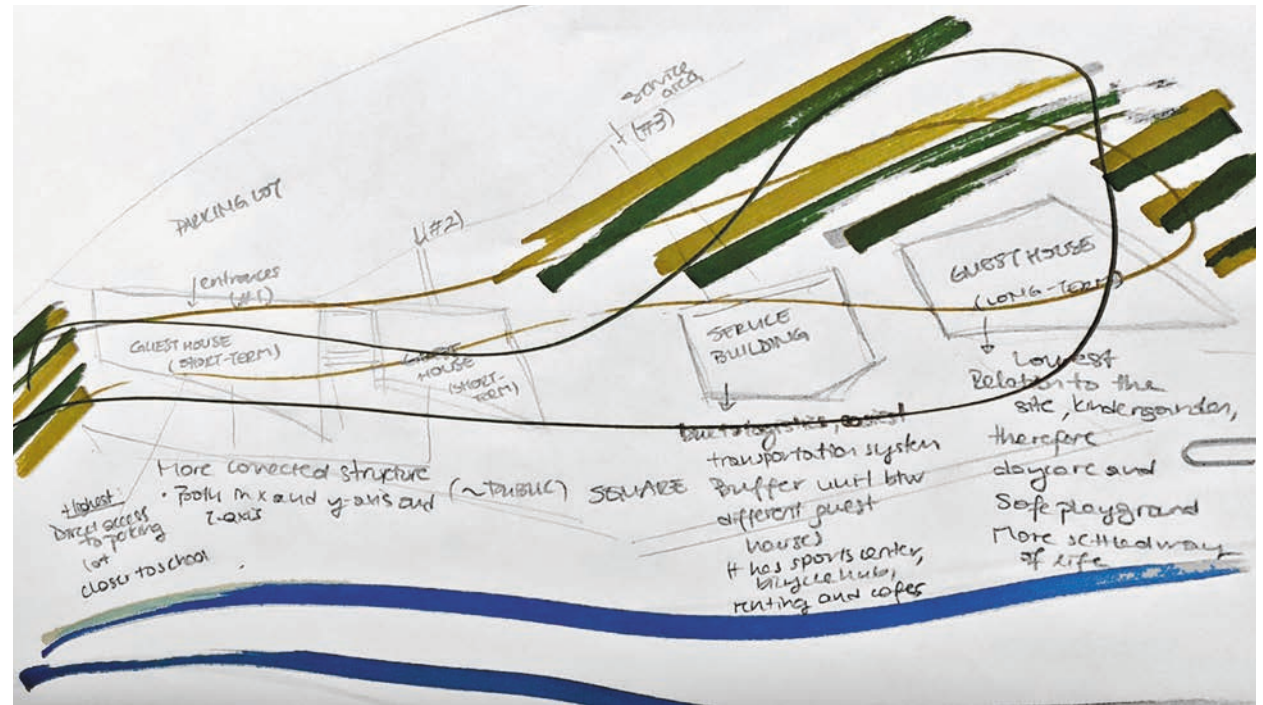
İlayda Güler



# CONCEPT

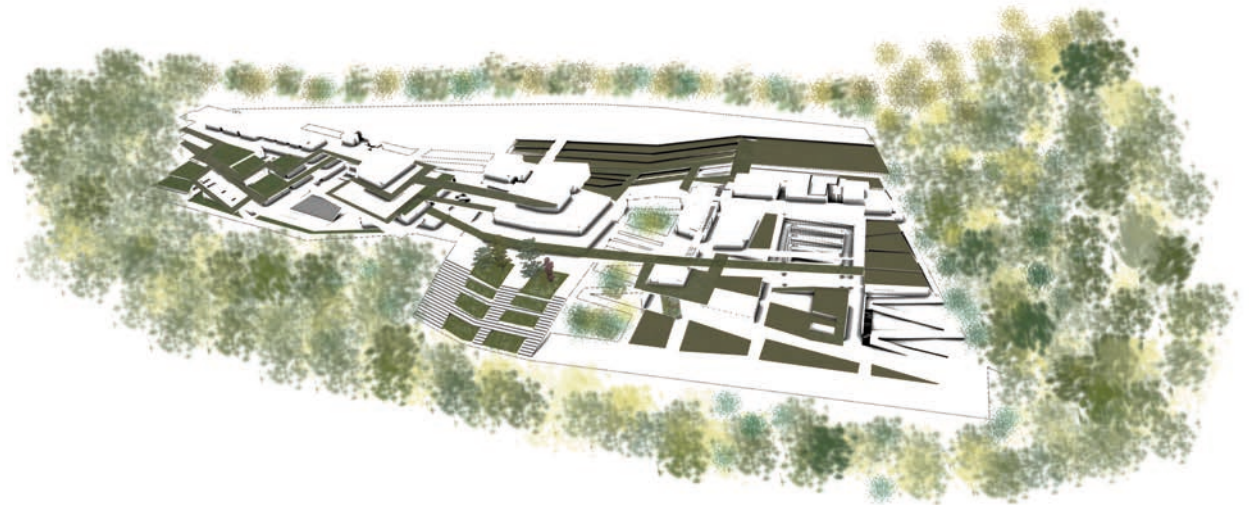


“THE NEIGHBOURHOOD”  
 Concept of this project is generated from the idea of creating an open and social complex where people can have street-like experiences and interactions. It is inspired from Alison and Peter Smithsons’ idea of “streets in the sky”.



After the masterplan stage, bigger mass located for the residential block is transformed into a three separate buildings that are connected to each other with regular and green paths, and also terraces. The neighbourhood is created by subtracting and adding spaces to a whole. Therefore, in the project, there are some lightwells and attachments. It can be seen as a combination of positive and negative spaces between two forests.

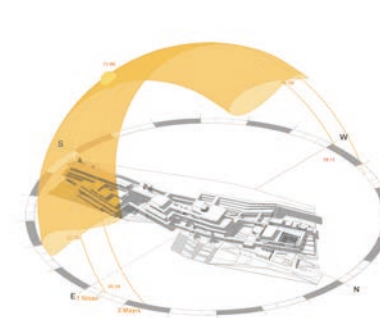
As it can be seen from the conceptual sketch, two blocks at the left became one building for short term guests, one in the middle is for sports facilities and the one at the right side closer to the site is for long term guests. Separation between guest houses enable different groups to have their own comfort and communication. These guest houses can be rented by Bilkent academic staff, students, and international guests. For instance, an international research guest will come to Bilkent for a year, he/she can bring his/her family and settle into one of the long term units. Or, a student studying for the finals and living far from the campus can rent a short term unit and stay. While there is a separation between the buildings, there are common spaces for people to interact and socialize. All paths created follows the same logic and act as meeting/intersection points.



# SITE PLAN



1/1000 Site Plan



Annual Sun Path Diagram



Wind Rose Diagram

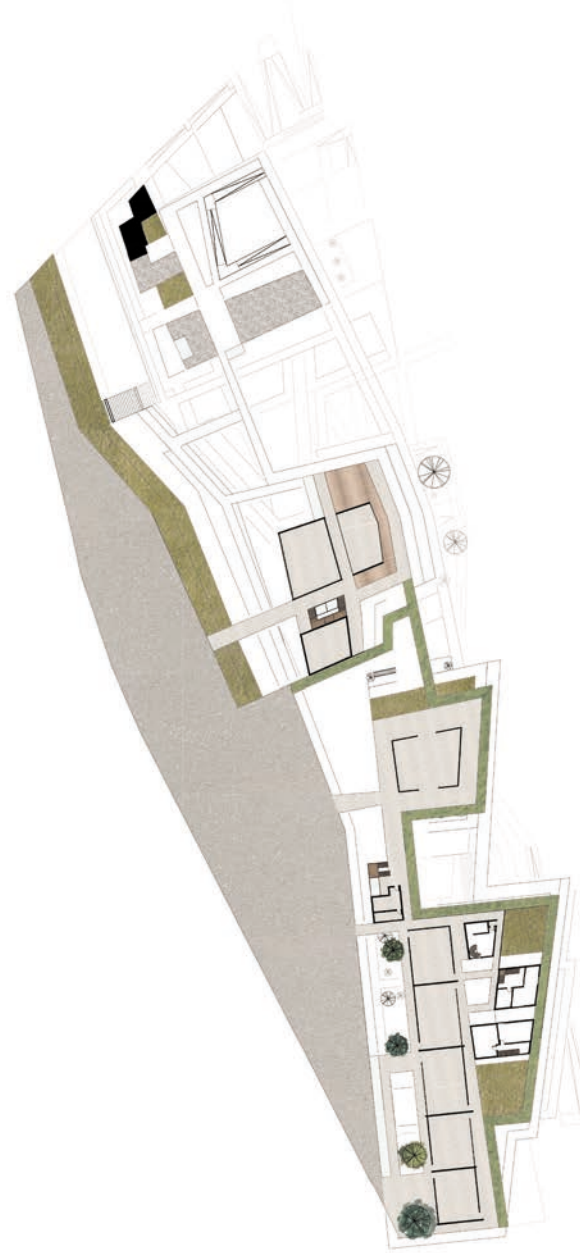
retrieved from [https://www.meteoblue.com/en/weather/forecast/modelclimate/ankara\\_turkey\\_323786](https://www.meteoblue.com/en/weather/forecast/modelclimate/ankara_turkey_323786)

Site Plan is generated according to the constraints of the site. These constraints can be listed as follow: harsh topography and high inclination, no western exposure due to topography, prevailing wind from north side, delicate vegetation due to riparian area. Therefore, the neighbourhood is embedded into the topography and used the high inclination to separate itself from the rest of the site to give the sense of safety and privacy. At the west side of the neighbourhood, topography is terraced to enable the natural light coming into the spaces, and also it opens up space for green paths. Lastly, positioning of the complex and forming it by subtracting spaces from a whole mass provides prevailing north wind to disperse and enter into the building as a natural ventilation source and protected and contained the riparian area.

# PLANS



1/1000 Plan of +12.0 Floor



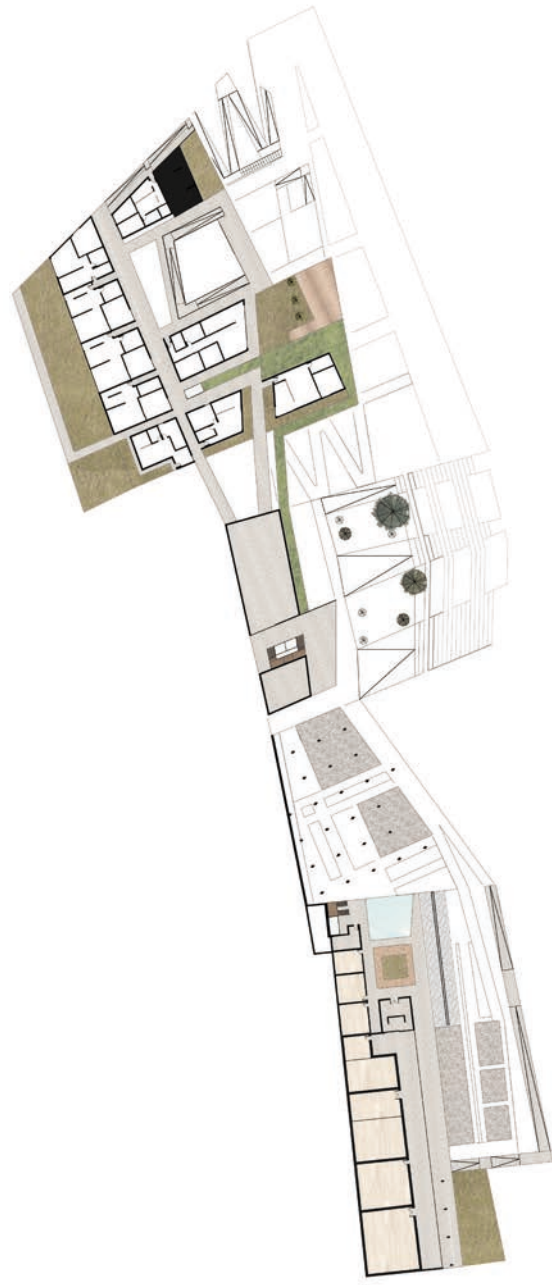
1/1000 Plan of +9.0 Floor



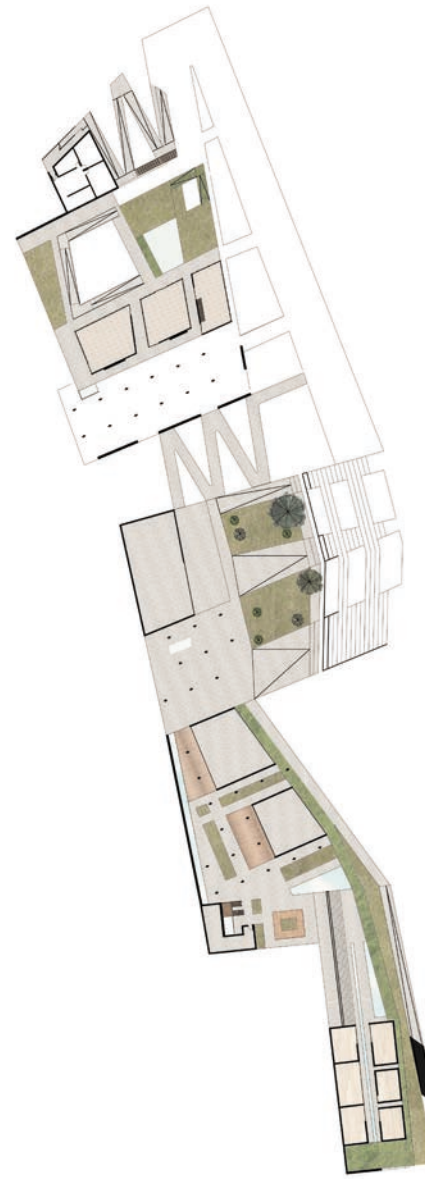
1/1000 Plan of +6.0 Floor



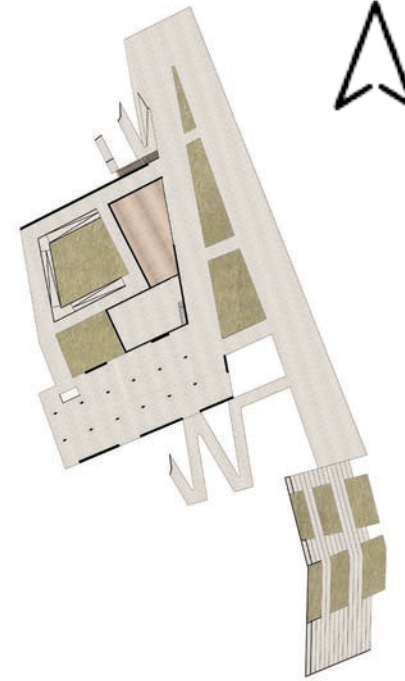
1/1000 Plan of +3.0 Floor



1/1000 Plan of +0.0 Floor



1/1000 Plan of -3.0 Floor

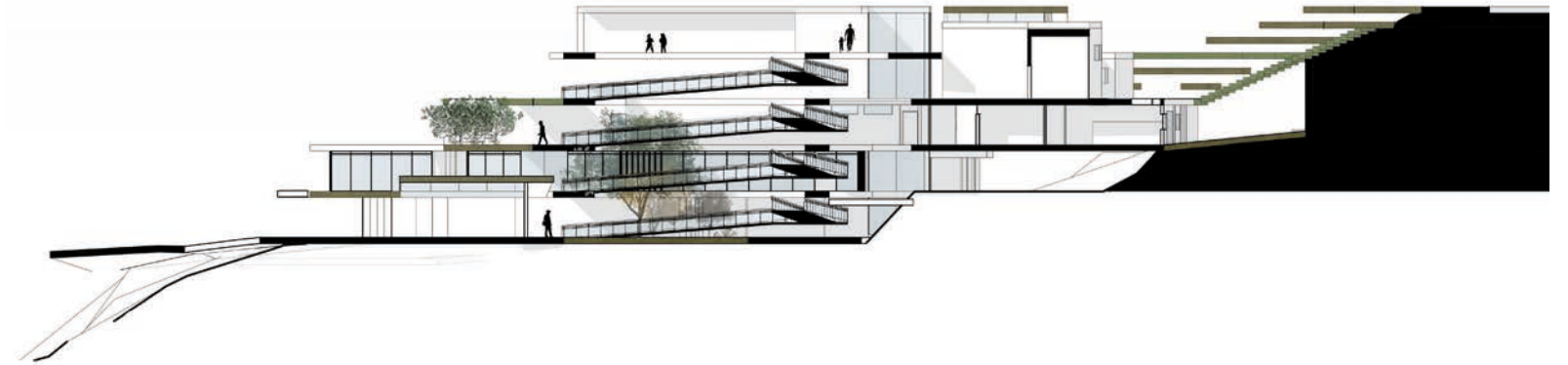


1/1000 Plan of -6.0 Floor



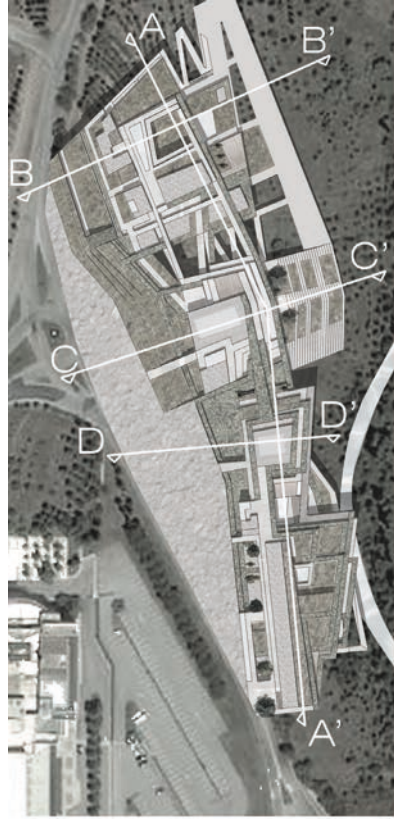
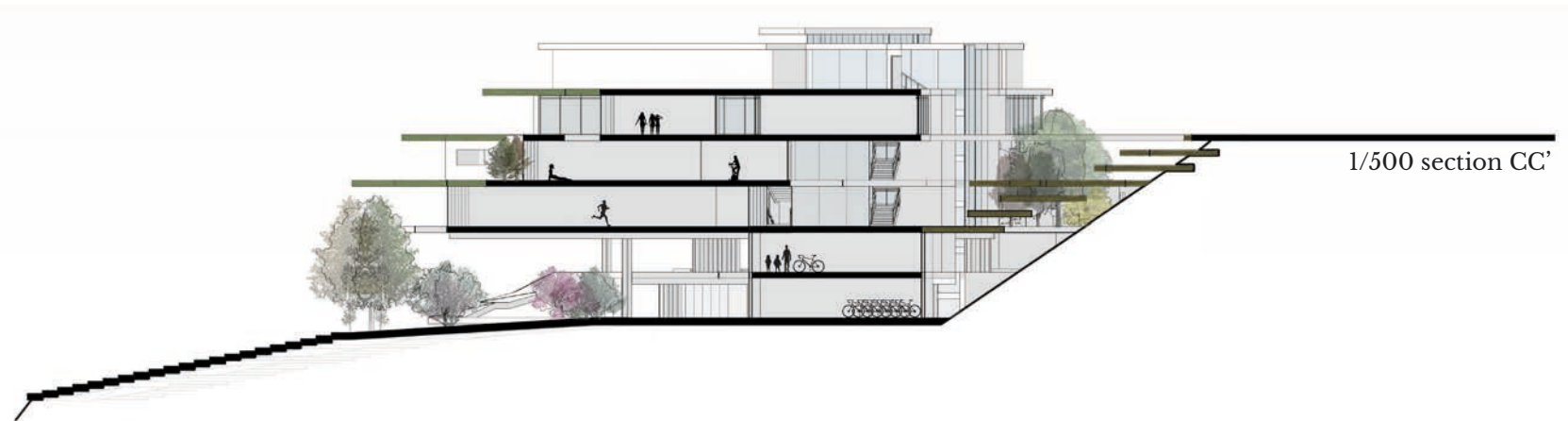


1/500 Section AA'

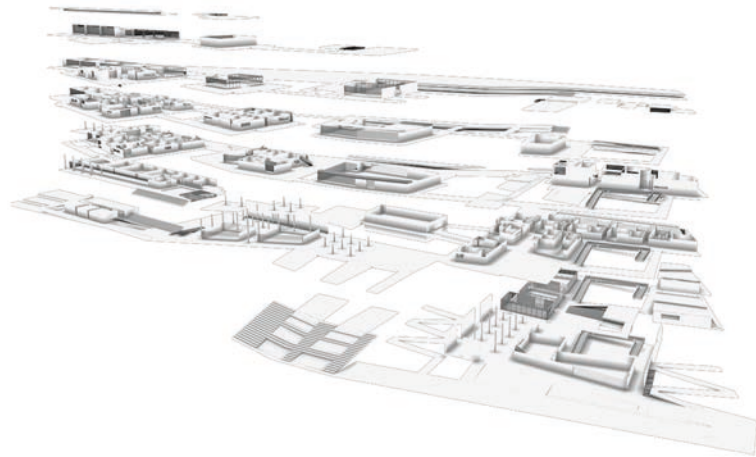


1/500 Section BB'

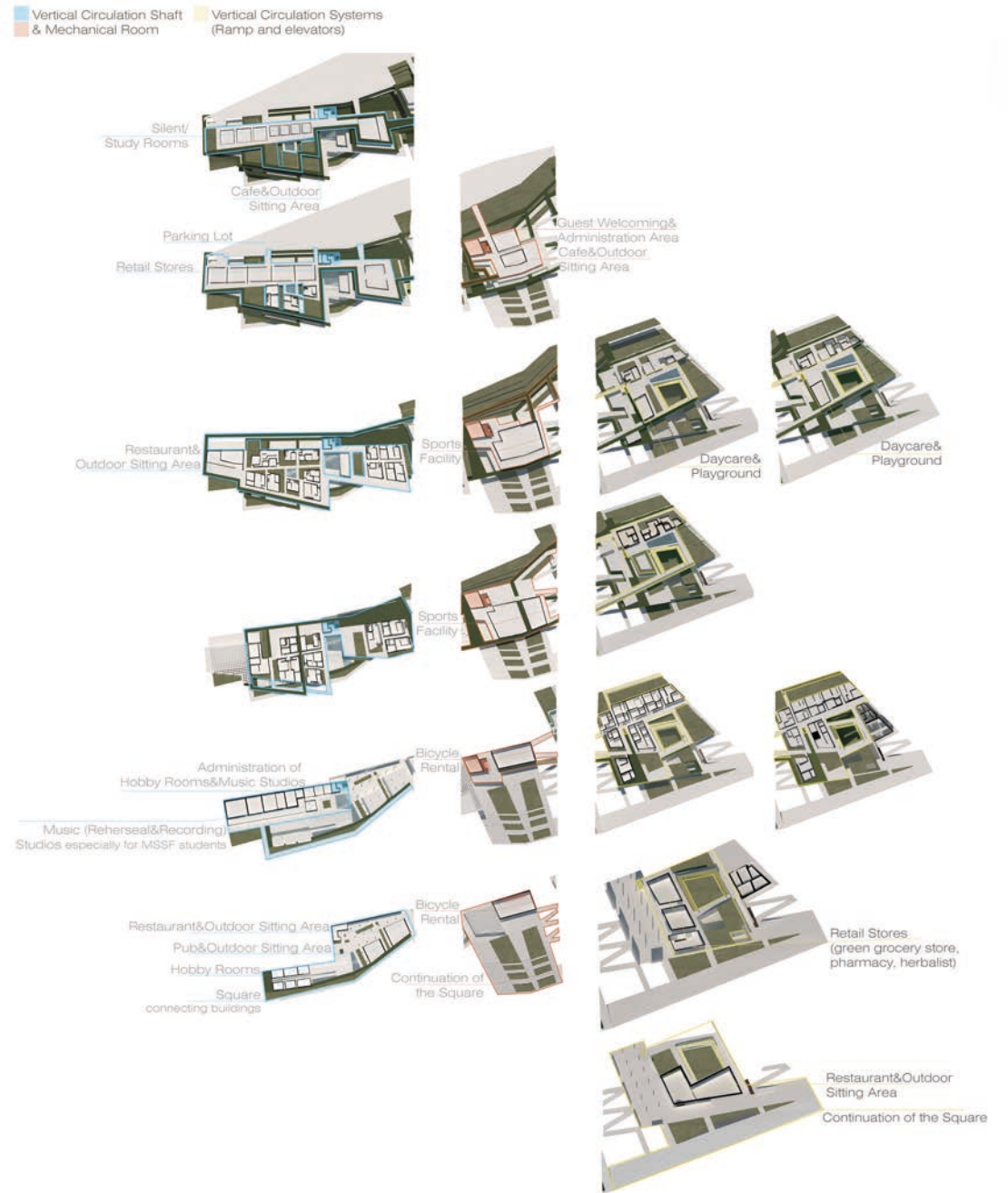
# SECTIONS



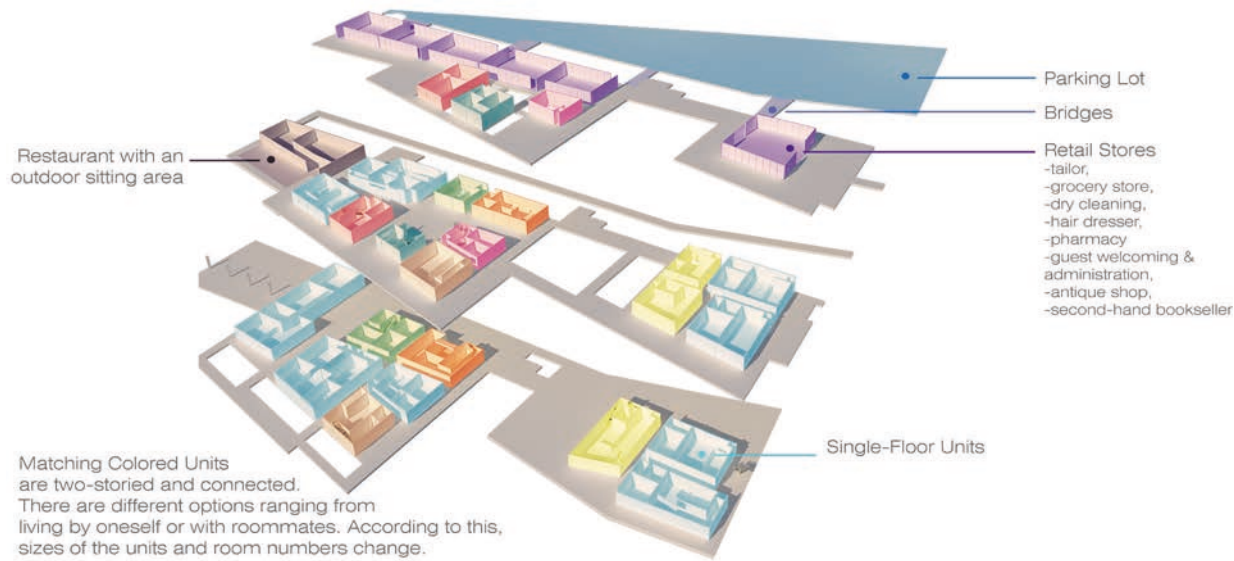
# DIAGRAMS



Exploded view of The Neighbourhood



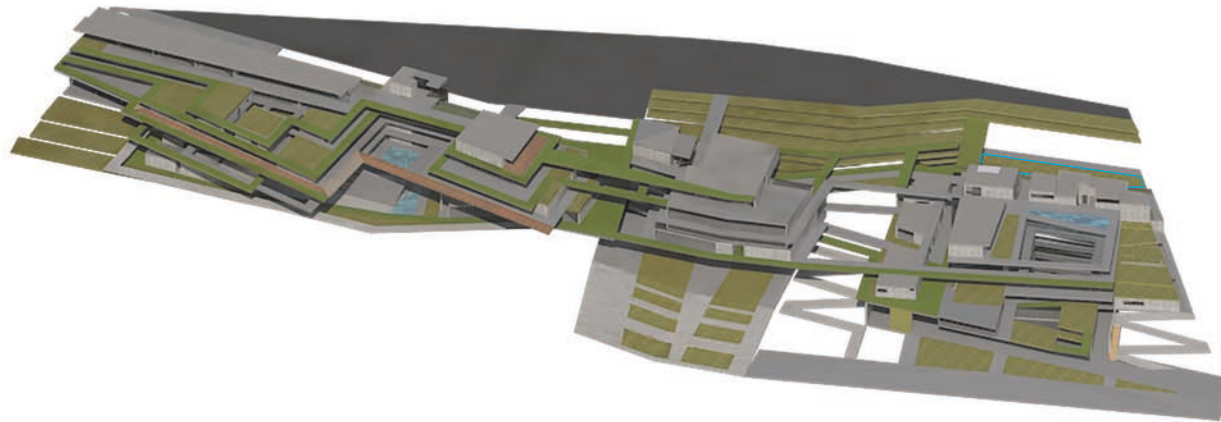
Circulation and Organization Diagram of The Neighbourhood and its units



This neighbourhood is a layered complex that each guest house unit is unique. This creates a difference in guests' experiences as well as architecture itself. Some units have their own gardens while the other units may have greenroofs which become upper layer's landscape element.

As it can be seen from the diagram at the left side, there are single-floor and two-storied units at the same block. Units change based on the numbers of bedroom, bathroom and shared spaces. In this diagram, three layers of short term guest house is shown. It starts with the parking lot and direct entrances to the building with bridges. At first, retail stores welcome people into the building and then guest house units start. The ones located at the retail store's floor do not have entrances at that floor. Instead, all of the units' entrances start at the one floor down.

View of Garden of Long Term Guesthouses at the West Side (Marked with blue lines at the aerial view)







View Towards the Square from the Short Term Guesthouse  
Waffle Slab and Column Structure, Green Wall and Sitting Area of  
Rstaurant is visible

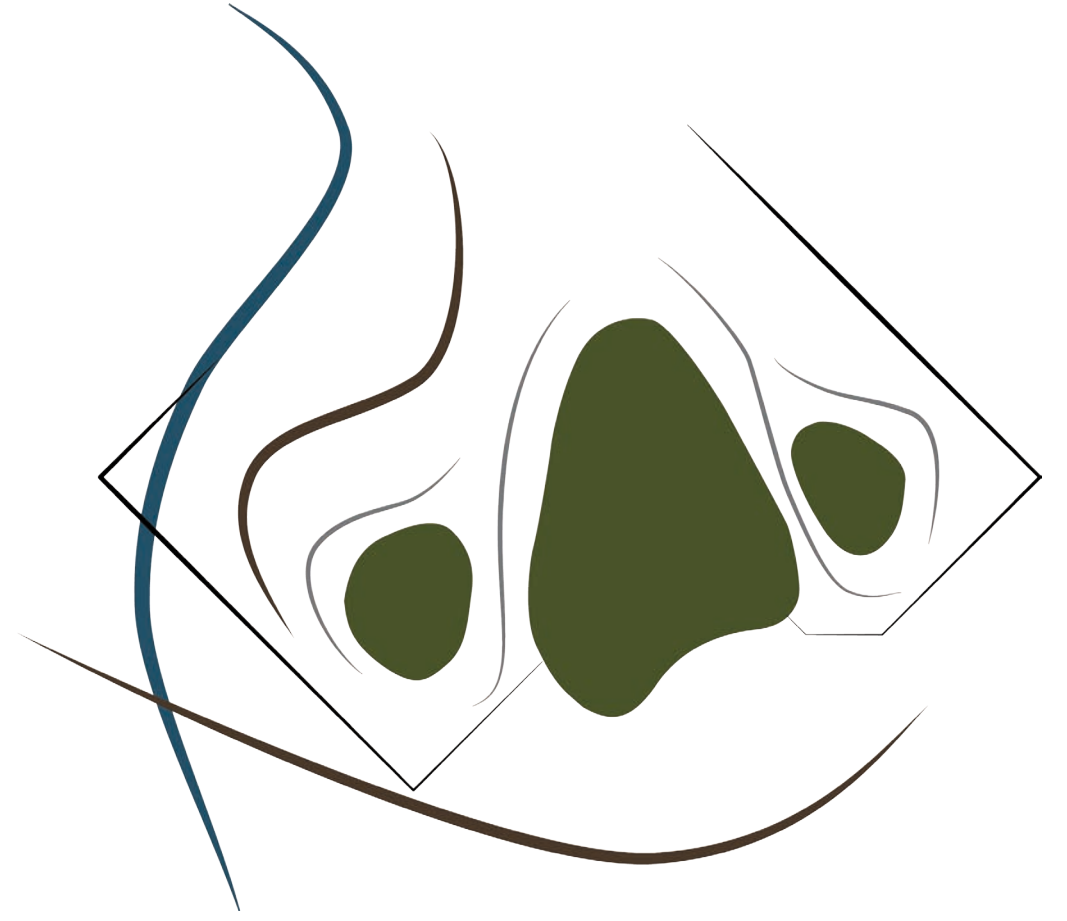


1/500 East Elevation



View Towards to the Square from the Common Building's Staircase





# LIFE LONG LEARNING CENTER

Hazal Gümrukçüođlu

# CONCEPT

Education is not something that is to be received in classrooms and within class hours. It can also happen dependent on human interactions regardless their social status, culture, nation and so forth. Therefore, within this design, a building that brings people together and encourages them to interact is aimed.

To do so, a central organization is formed and a courtyard with a curvilinear form which has a controlled vegetation is designed for their use for the purpose of interaction. On the one hand, ground floor encourages interaction through both the courtyard and the spacious café/dining hall, in addition to the auditorium and a multipurpose hall and on the other hand, first floor provides common art, music and culinary arts classes that can both be used for workshops as well as by anyone who desires to use it at any time. There are also, a library that is combined with study halls and a science lab and interactive classrooms. Interactive classrooms provide regular classes, however, they are accesible off-the-campus, meaning that a person who wishes to attend classes, but working at the time can in fact attend online either live or after the class.

Although the courtyard is separate on the ground floor, it connects and becomes one at the upper floor so that people upstairs can benefit from it.

The overall building design aims to provide a social sustainability through the encouragement of interaction. In addition, it is located in a natural environment, that is, the building itself is surrounded by agriculture fields, industrial forest and other vegetations such as the riparian areas.

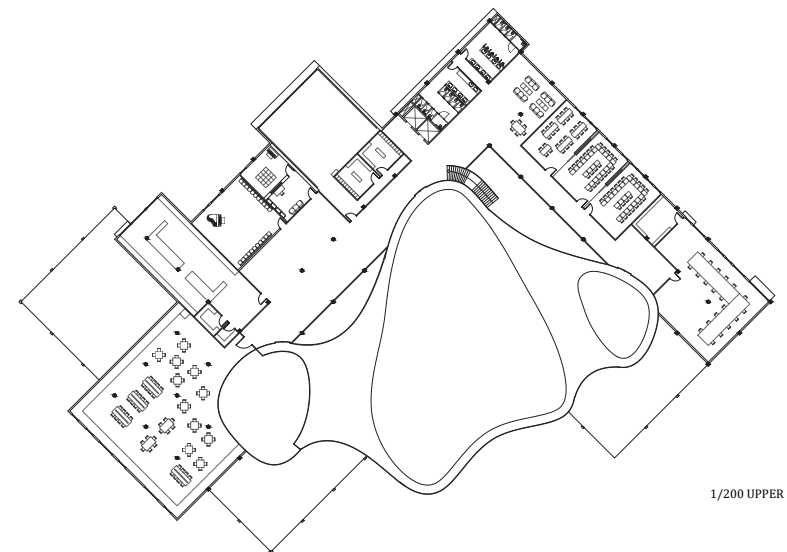
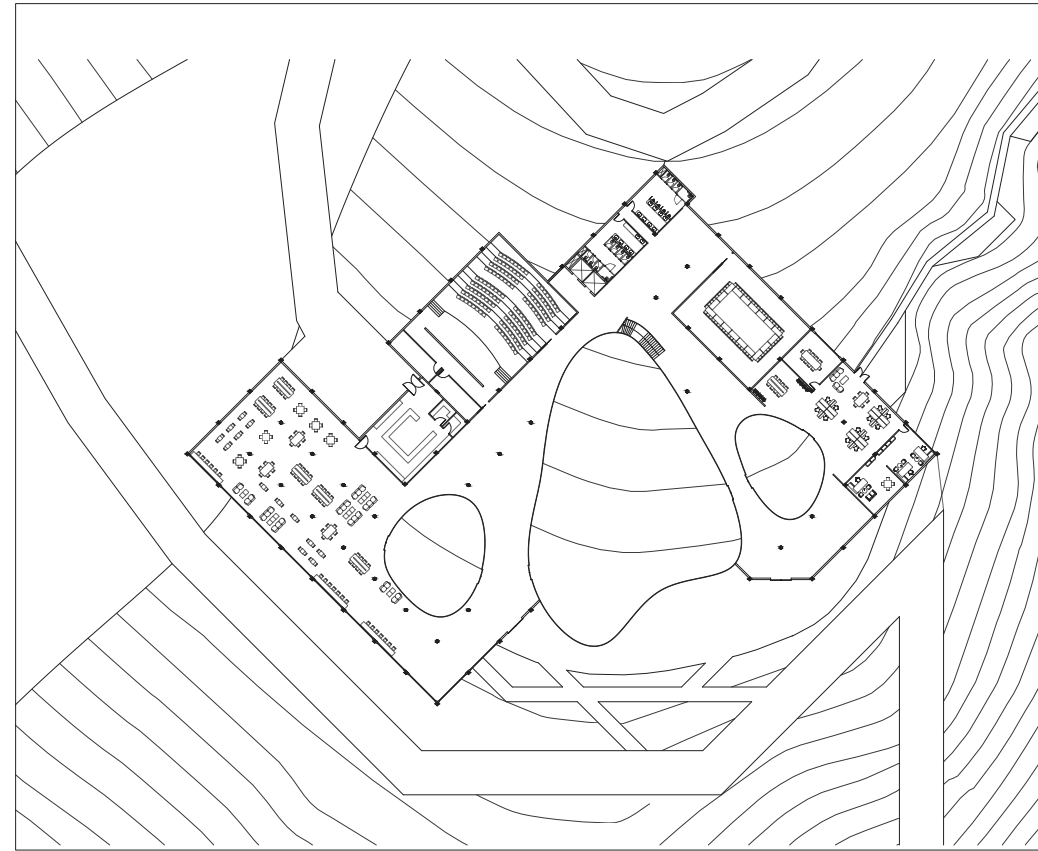
# SITE PLAN



As can be seen the center is located at the very top of the site. It faces both the lake and the city of Ankara. Although looks quite disconnected to both other facilities within the site and Bilkent Campus, in fact it is connected to site and the campus through service roads and ramps that can be seen from the site plan. The center is surrounded by industrial forest, wild life and agriculture fields in addition to an artificial water source. Such water source is planned to be developed depending on storm water collectors and black/gray water treatments. As well as the water source leads up to the water treatment facility at the top, it is also planned to be used for the irrigation of the agriculture fields and industrial forests.

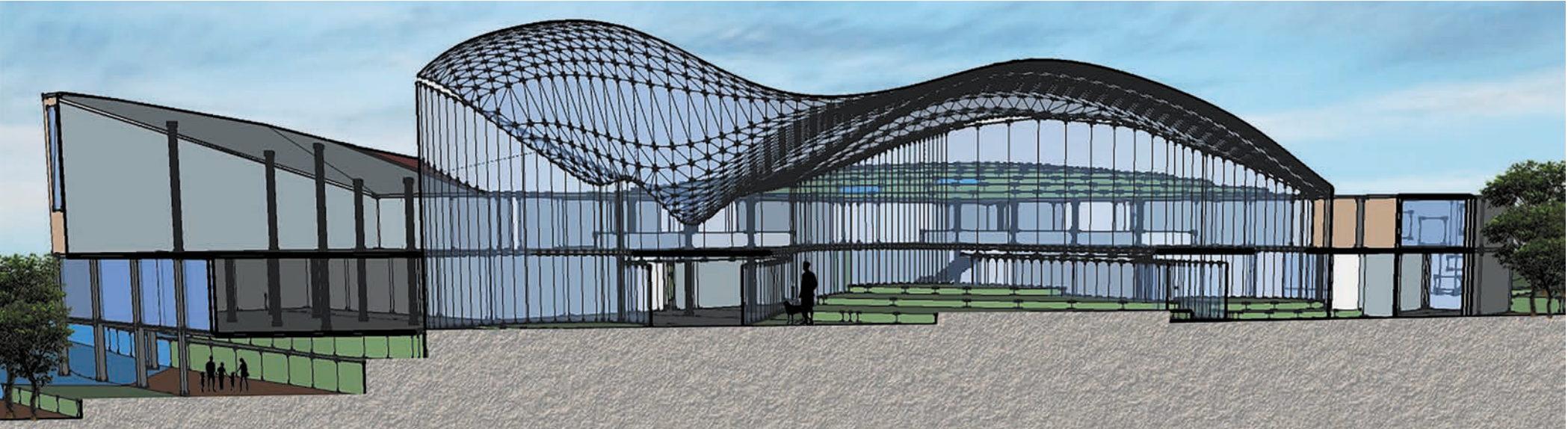
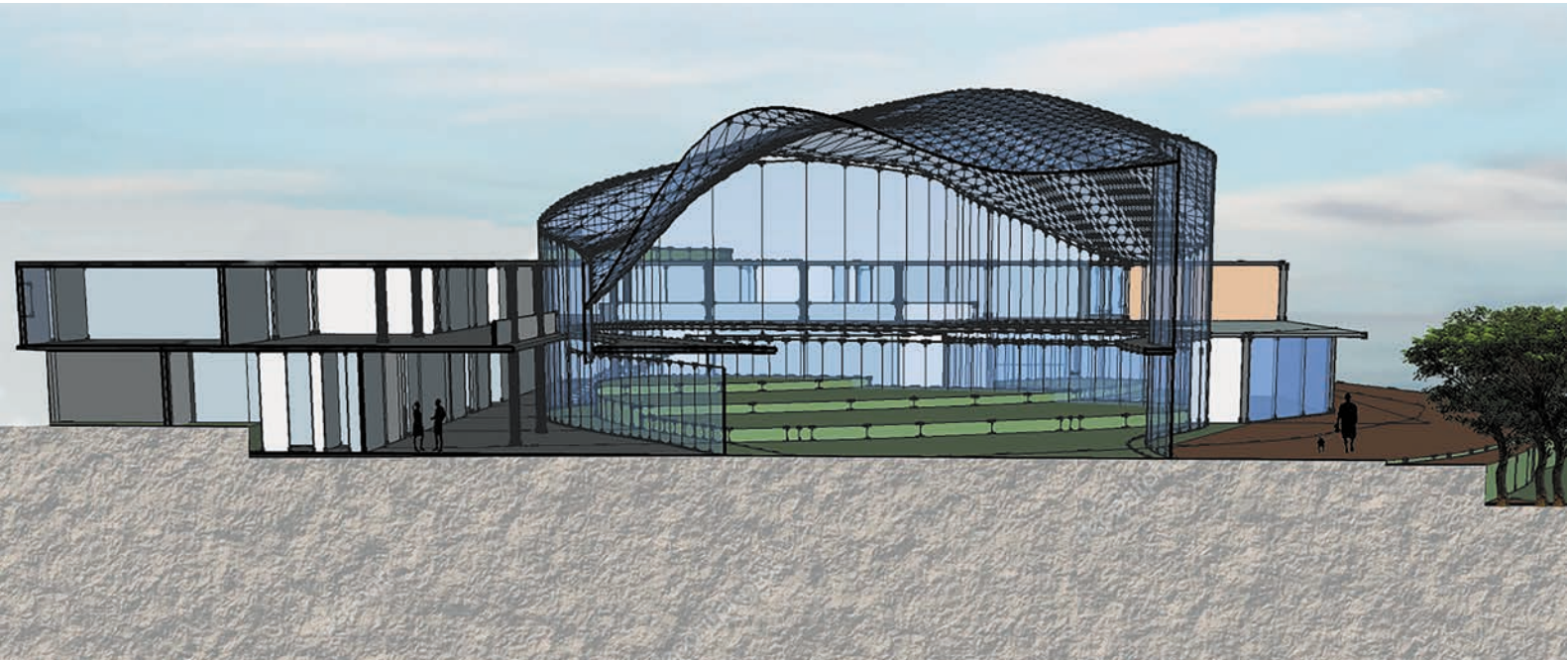
# PLANS

Life Long Education Center comprise of two floors in total. On the ground floor, there are the major public spaces: auditorium, restaurant, multipurpose hall ; in addition to administrative offices. Also, there are three different courtyard accesses from this floor. On the upper floor, there is a library with its study, culinary arts workshop, common music studios, dance studio, common art studios and interactive classes. Common studios are to be used whenever they are desired to be used whereas interactive classes are to serve people who have to be at work or such during a class hour. On this floor, three separate courtyard becomes one and connects through pathways.



1/200 UPPER FLOOR PLAN

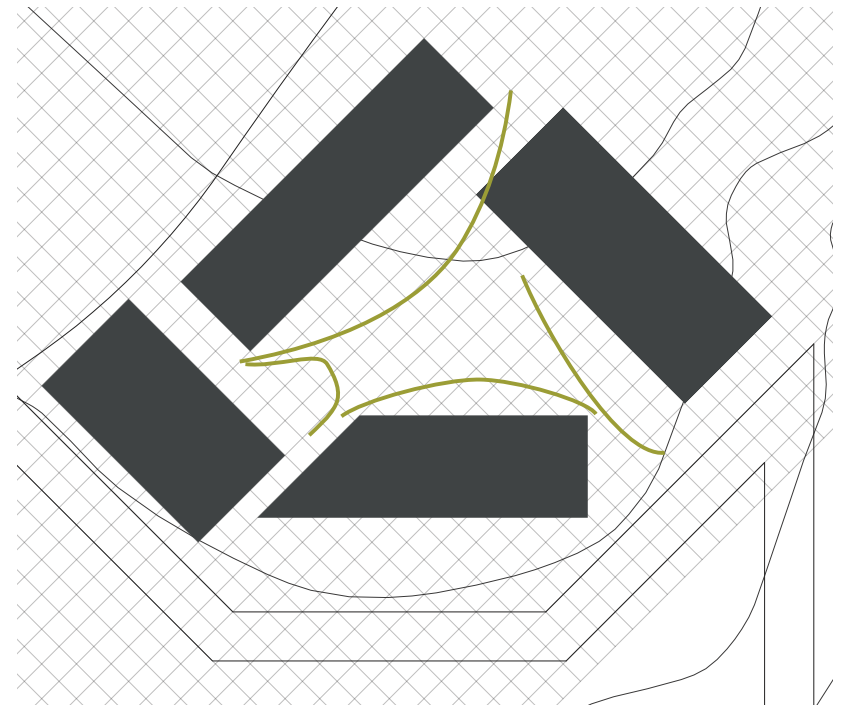
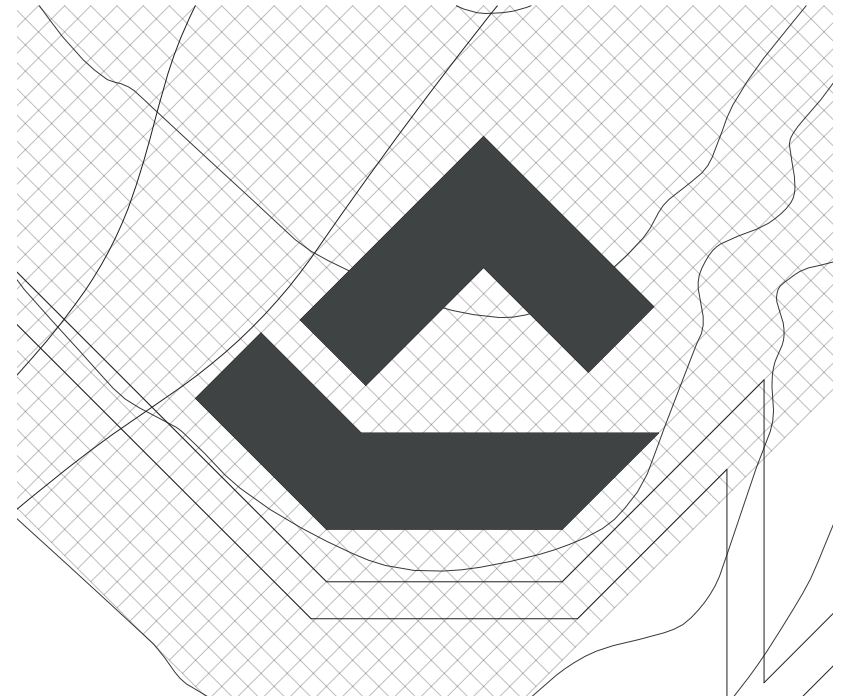
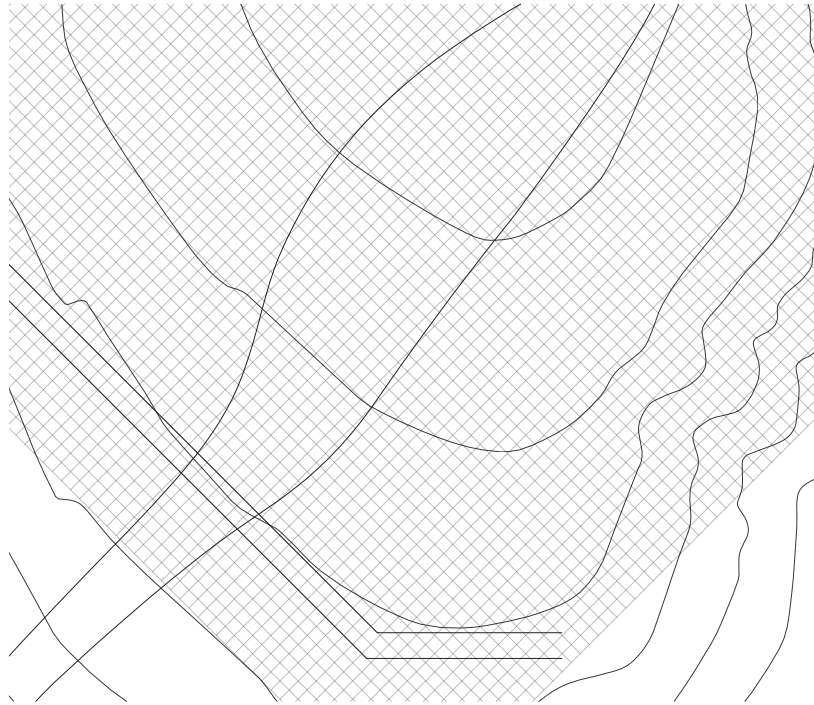
# SECTIONS





# MASS DEVELOPMENT

After the placement of the grid system, roads and water re-designed accordingly. Then, the form of the centre is designed as a stain with respect to the major public spaces on the ground floor. At the end, the stain is divided and shifted, again with respect to the building programme of the ground floor. In the end, depending on the function of the ground floor (auditorium, restaurant, administrative offices, multipurpose hall) and the space required in front of it provided a certain guideline in order to form the shape of the courtyard.

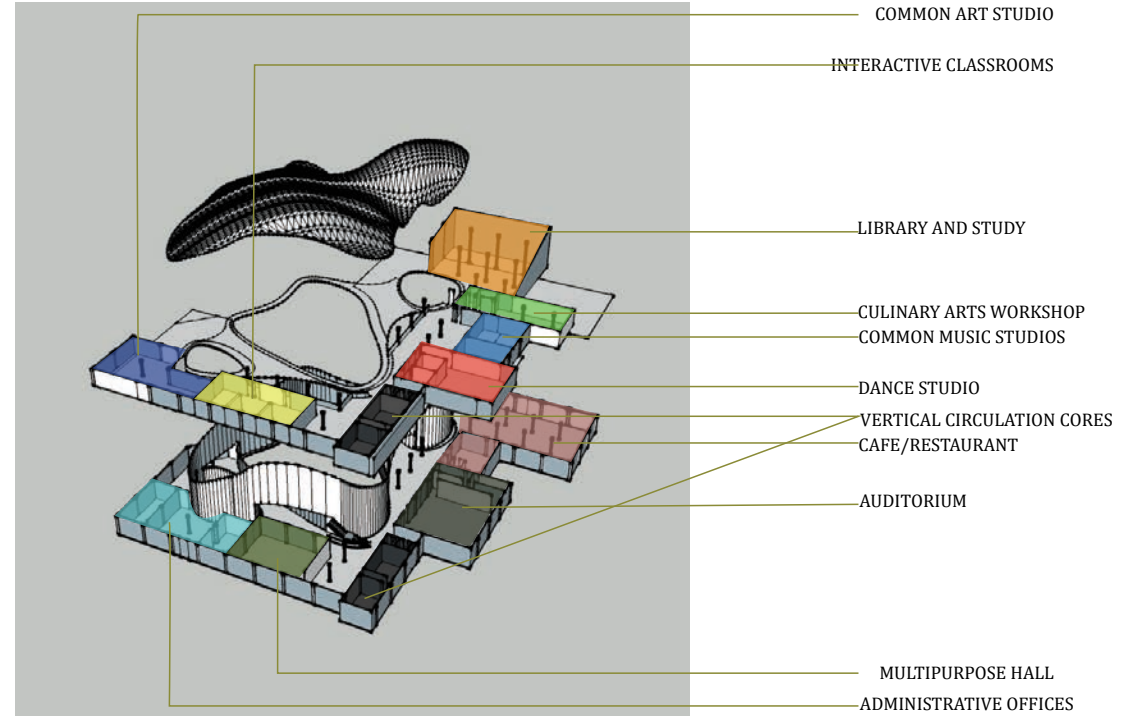
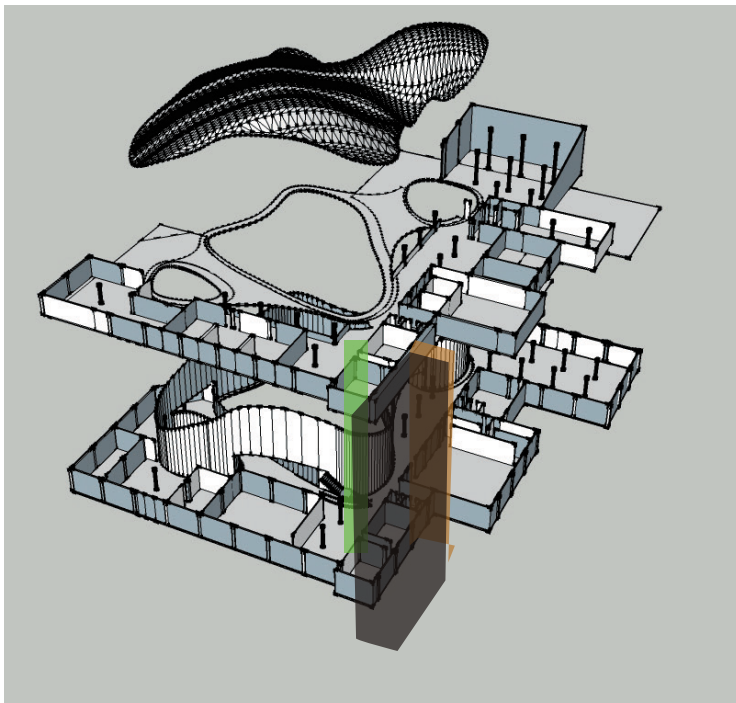


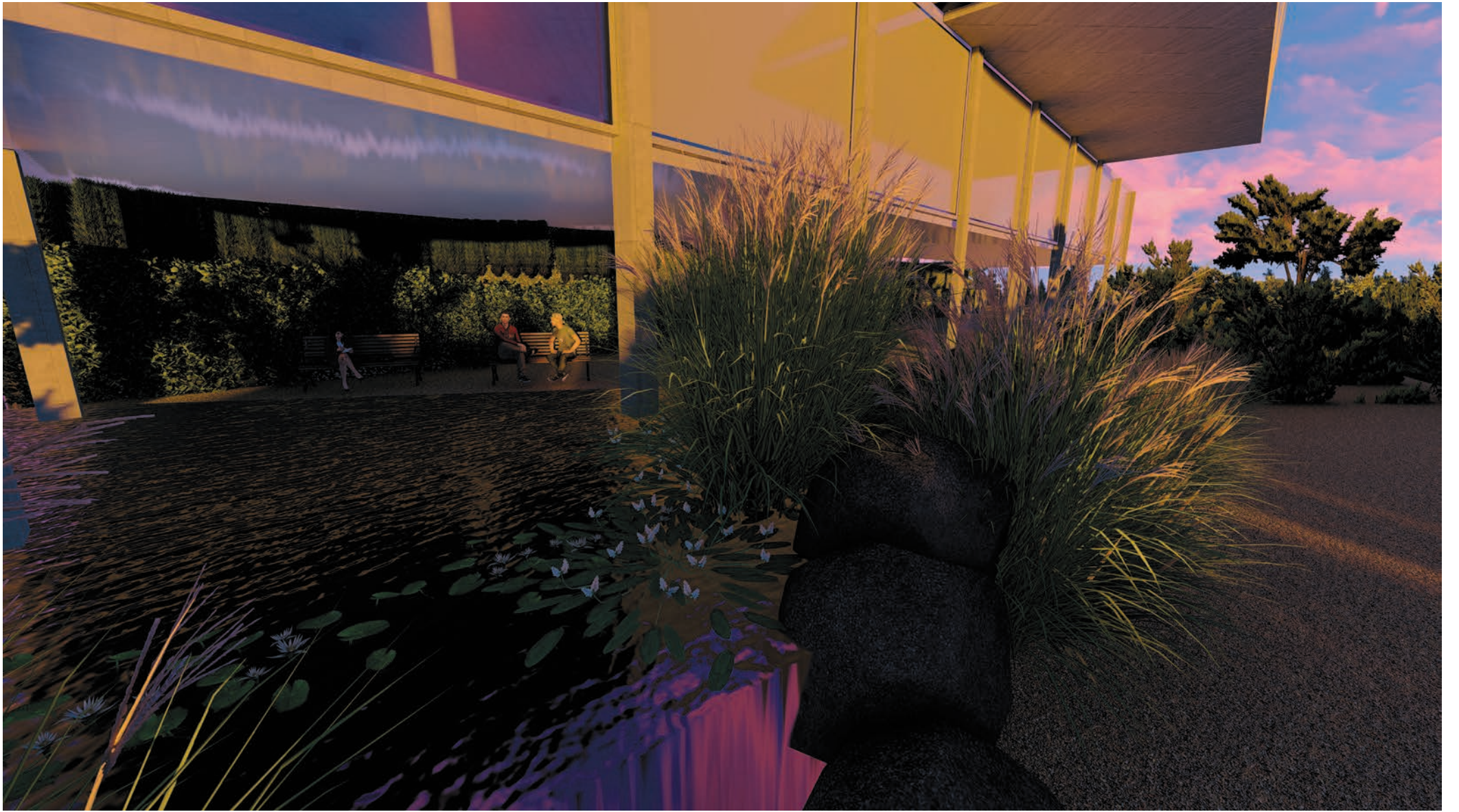
# DIAGRAMS

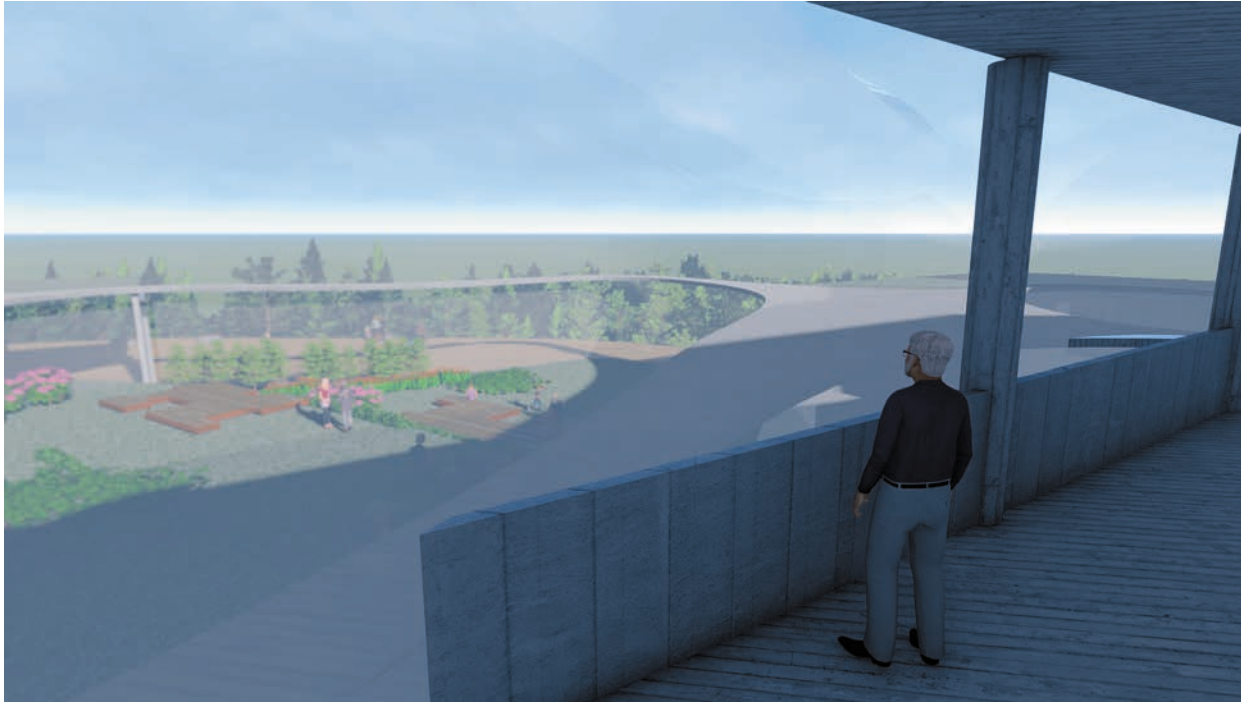


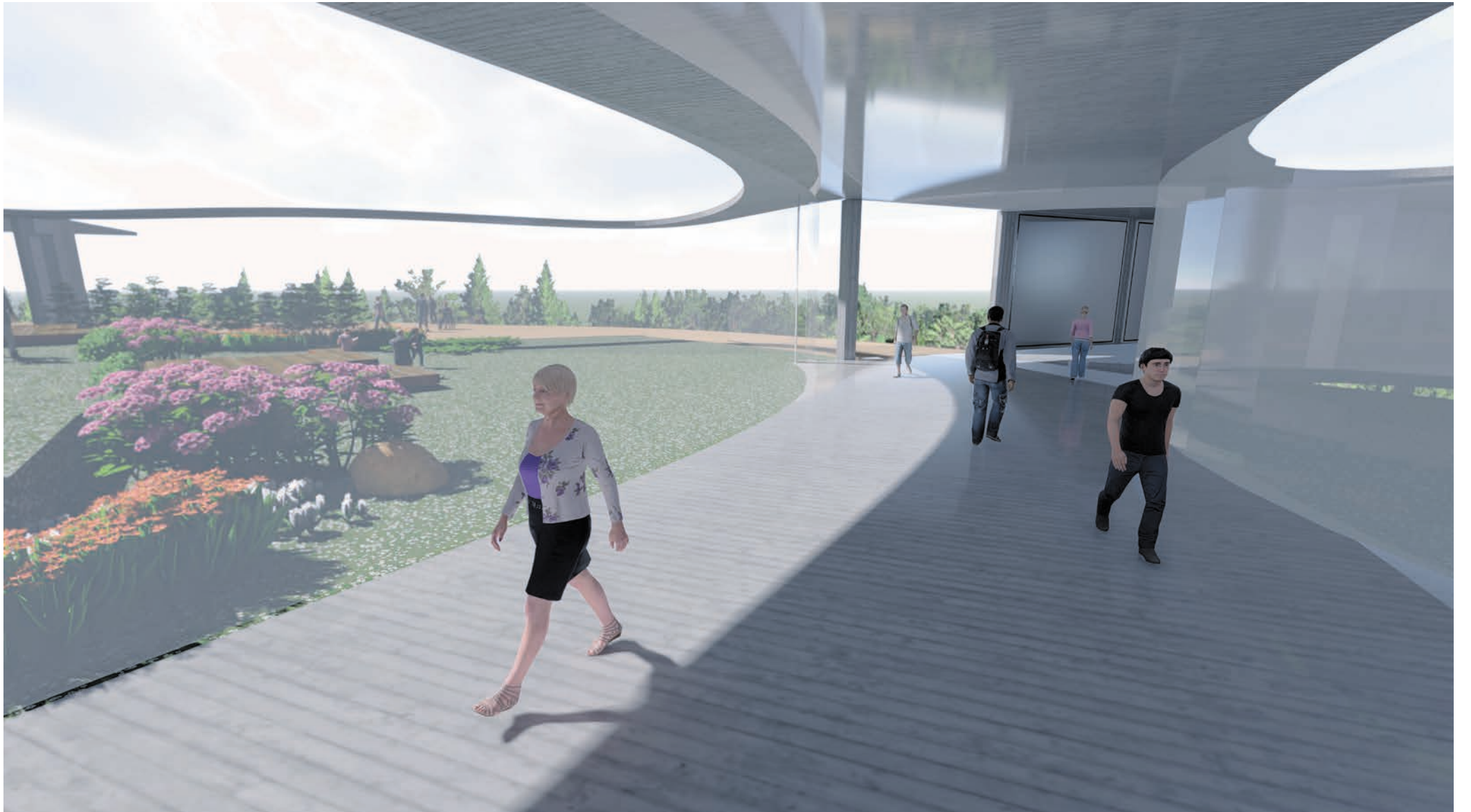
The 'mages on the left are to give a notion on the structure of the courtyard that is located in the middle. For the walls of the courtyardi spider joints are planned to be used whereas, for its roof, space truss system is needed.

As pointed out on the left corner image, vertical service cores are located on the corner of the building where they are almost left underground.



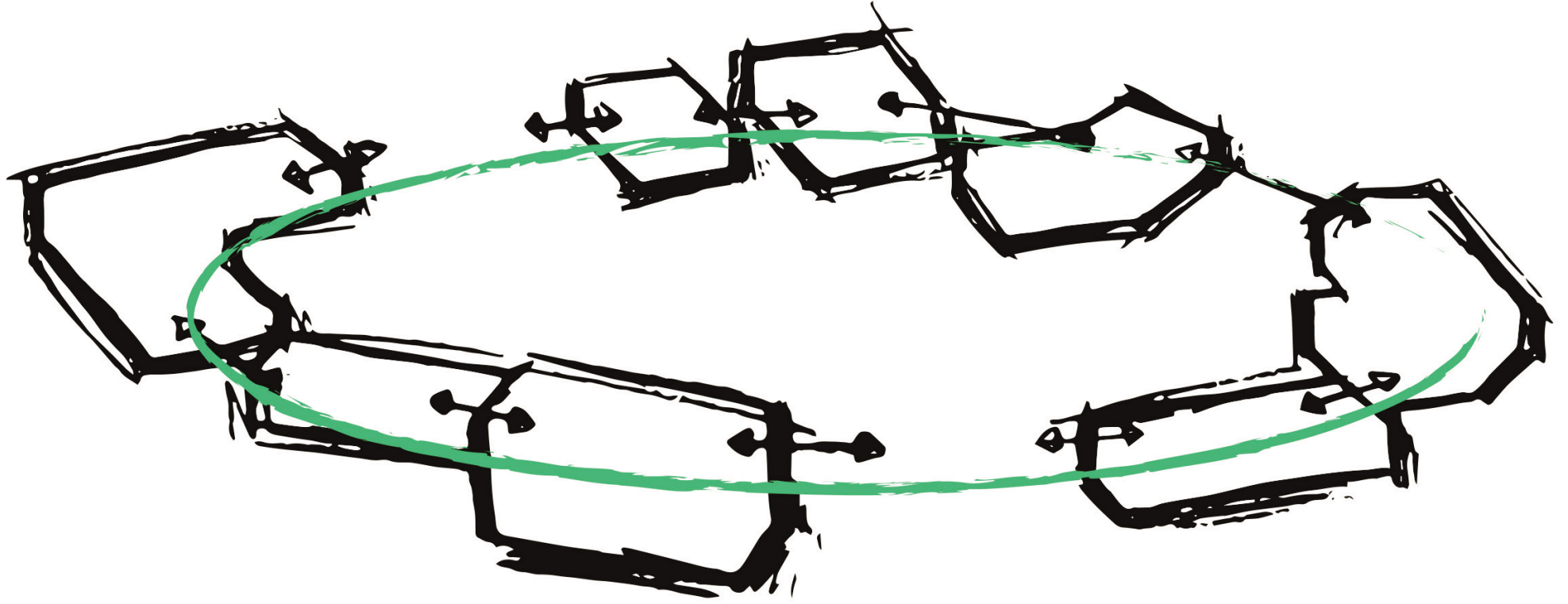












# KNOW - HOW' CENTER FOR CHILDREN

Ayşe Sinem Kara



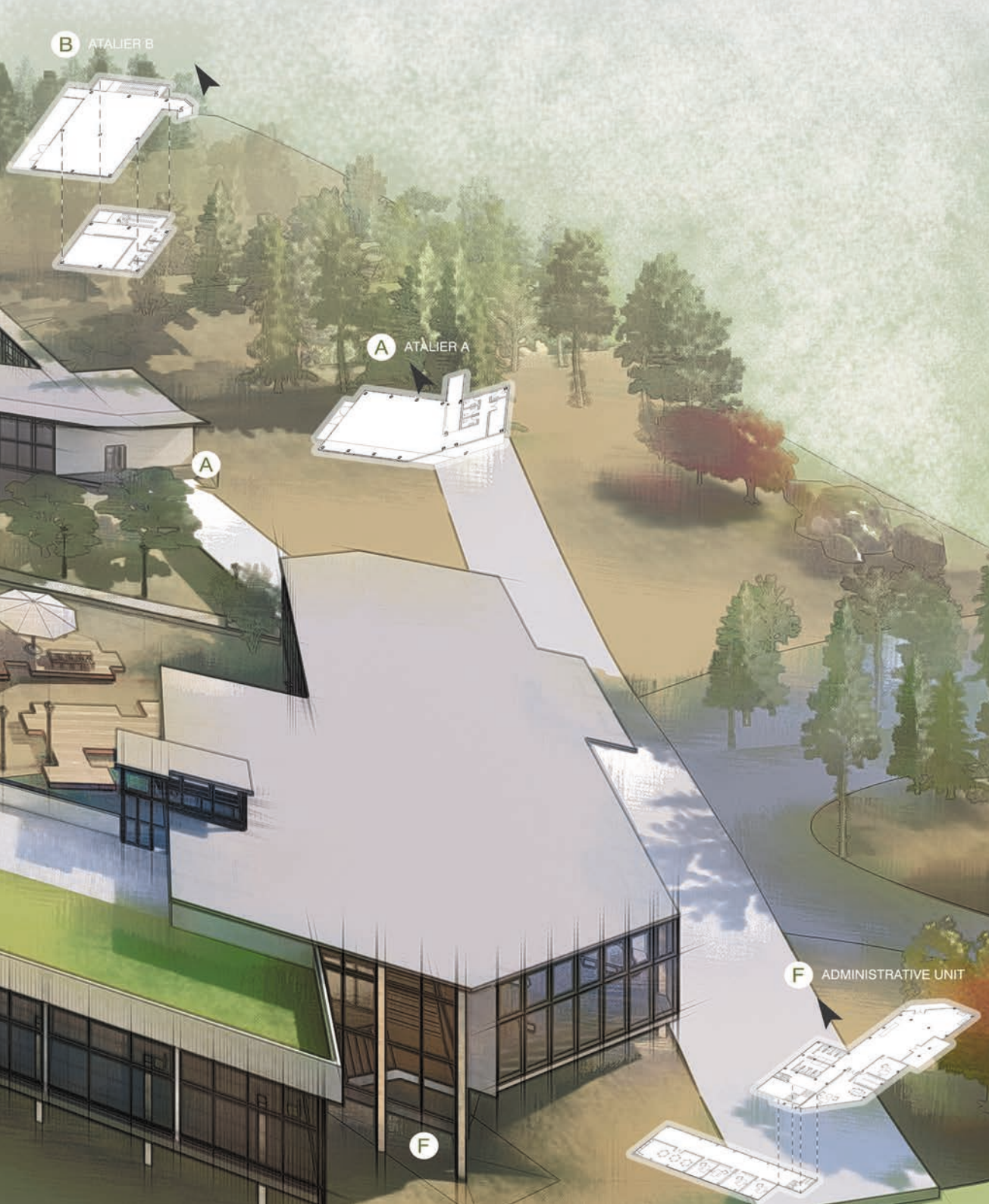
C ATALIER C

D GARDENING ATALIER & GREENHOUSE

E DORMITORY AND EATING FACILITY



# CONCEPT

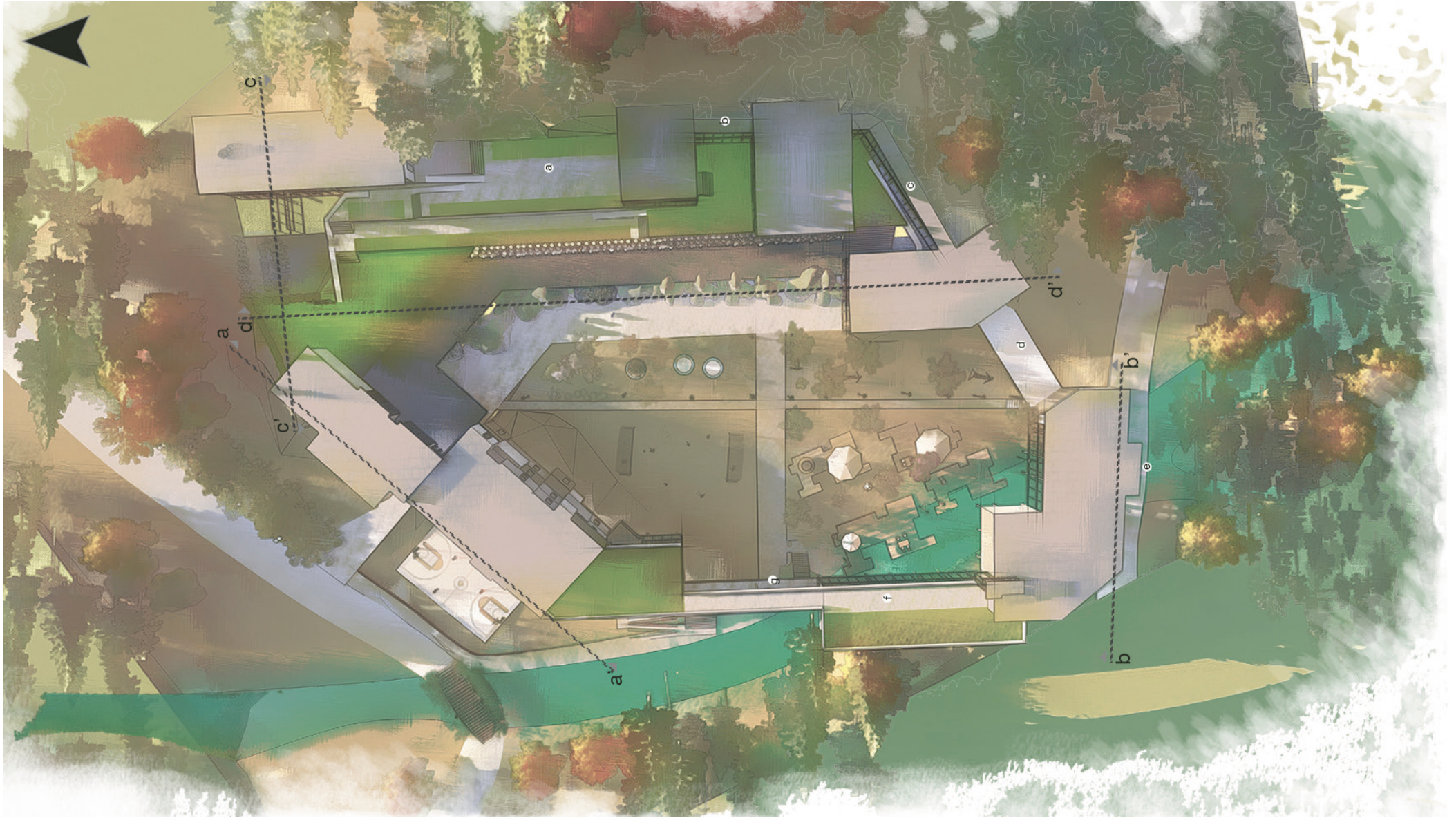


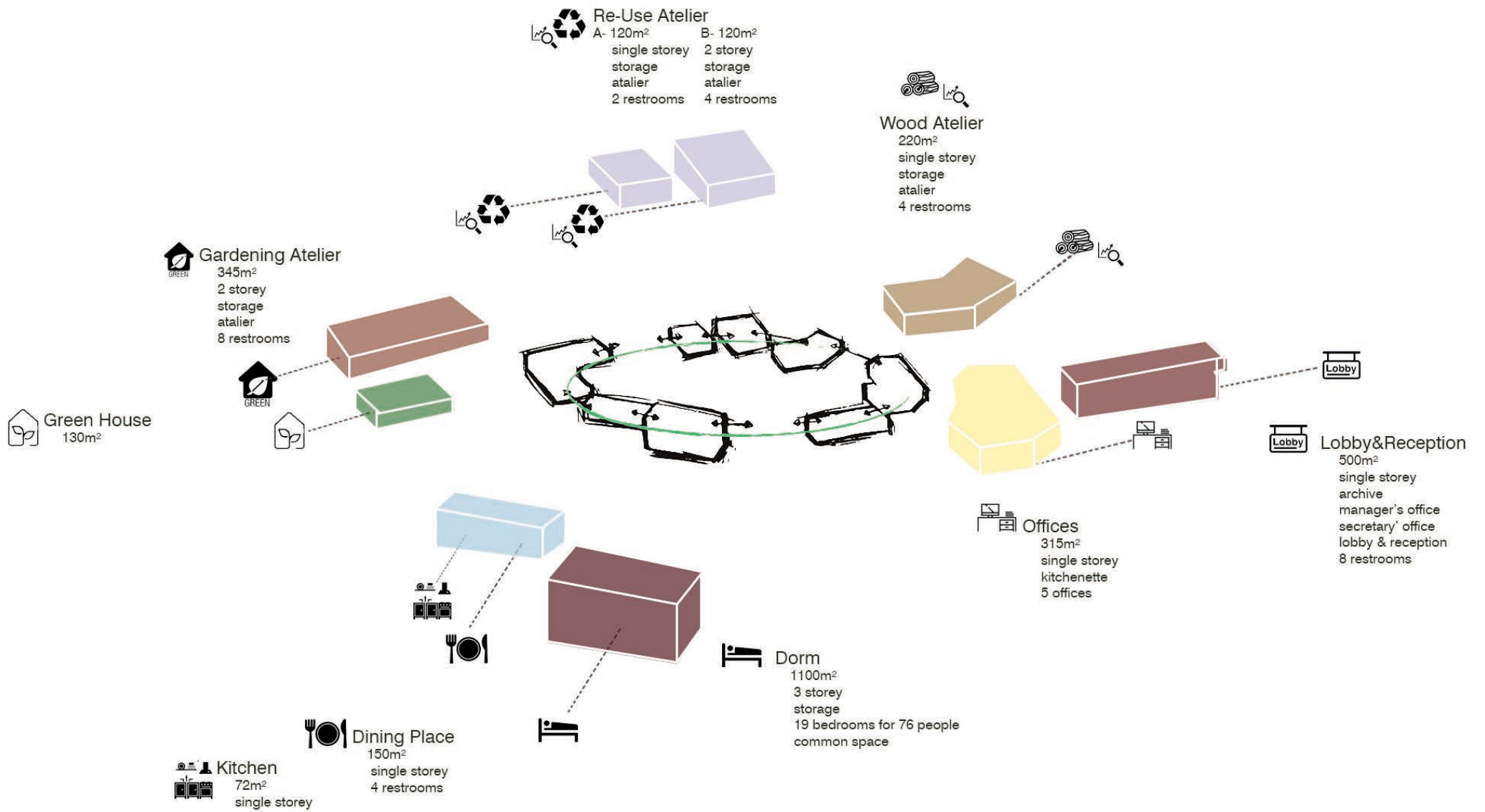
The Know-How Center aims to support development of children with environmental consciousness. The proposal considers the problems in Turkish education system and handles the design problem as a response to the missing parts of this system.

This Center is designed not as a school, but as an experiment based education center. Rather than ordinary classrooms, the building provides flexible spaces where children learn through experiencing and producing. These learning spaces are handled as ateliers. Among the proposed ateliers, there are wood atelier, gardening atelier and re-use atelier for work with non-recyclable materials. The dorm block is attached to the gardening atelier and the food production atelier for children. There is also an administrative block which serves the educators and officers. Ateliers have glass façades to enable connection among the ateliers as well as to outer spaces. The open spaces of the center support the flexible and permeable spaces and experiences.

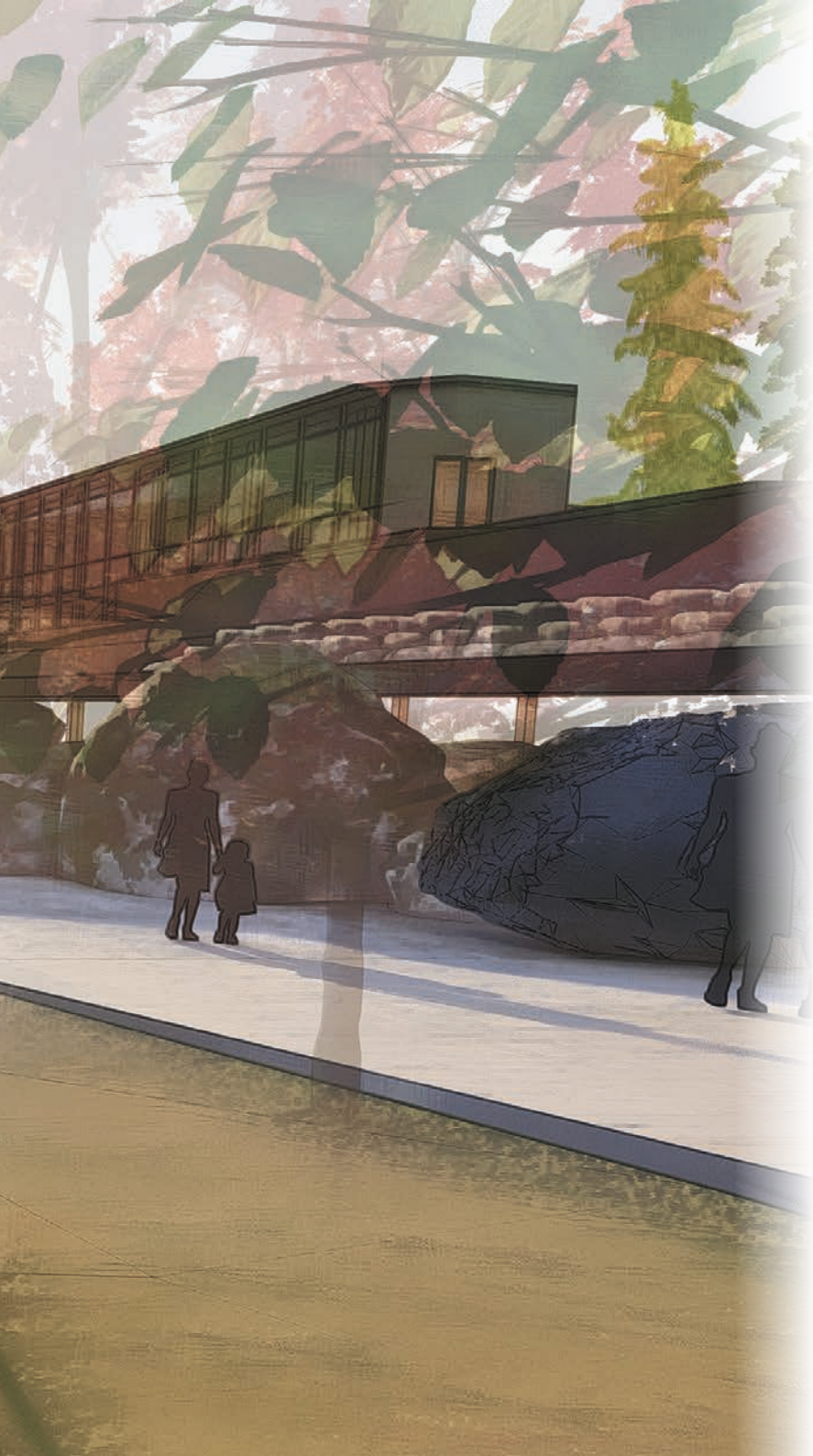
This complex offers spaces for hands-on experience for learning. Children can grow their plants, cook them and eat them. In ateliers they can play and produce with various natural and in-organic materials to get conscious about the world that they live in

# SITE PLAN

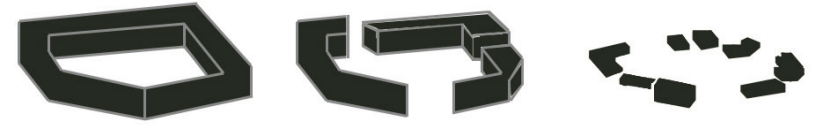




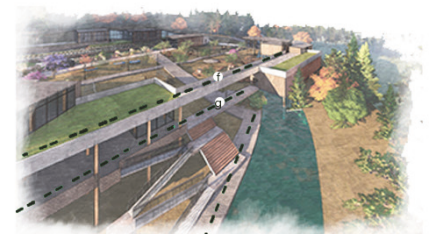
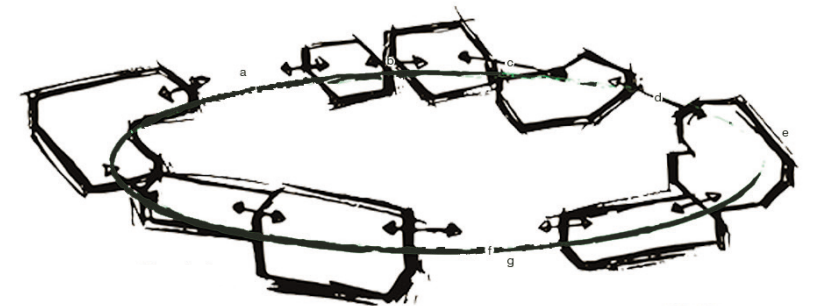
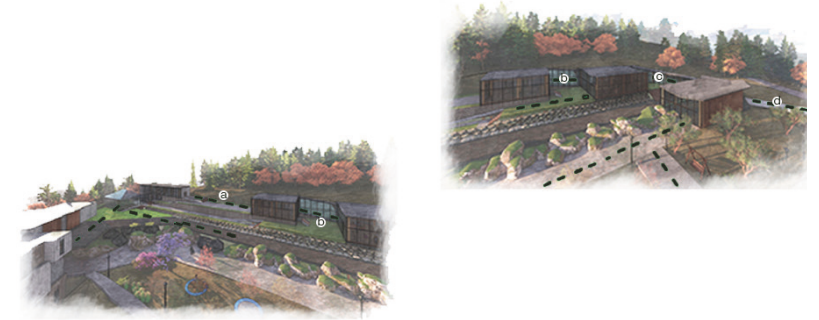




mass formation



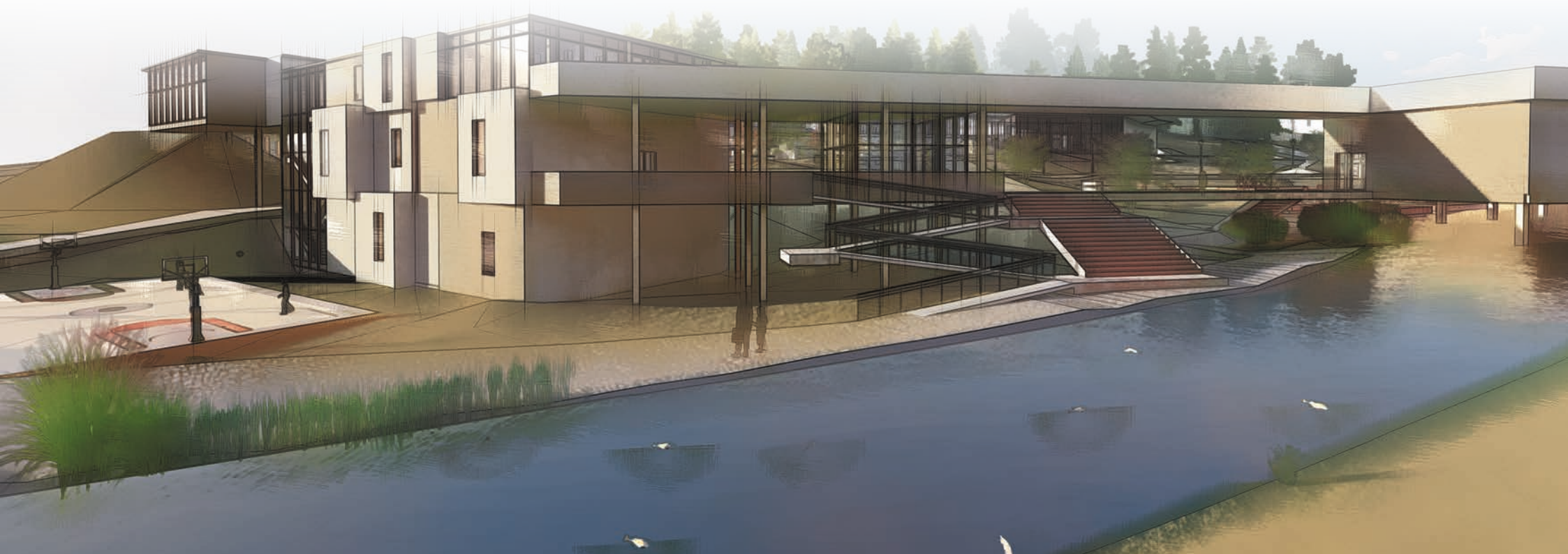
circulation



# SECTIONS

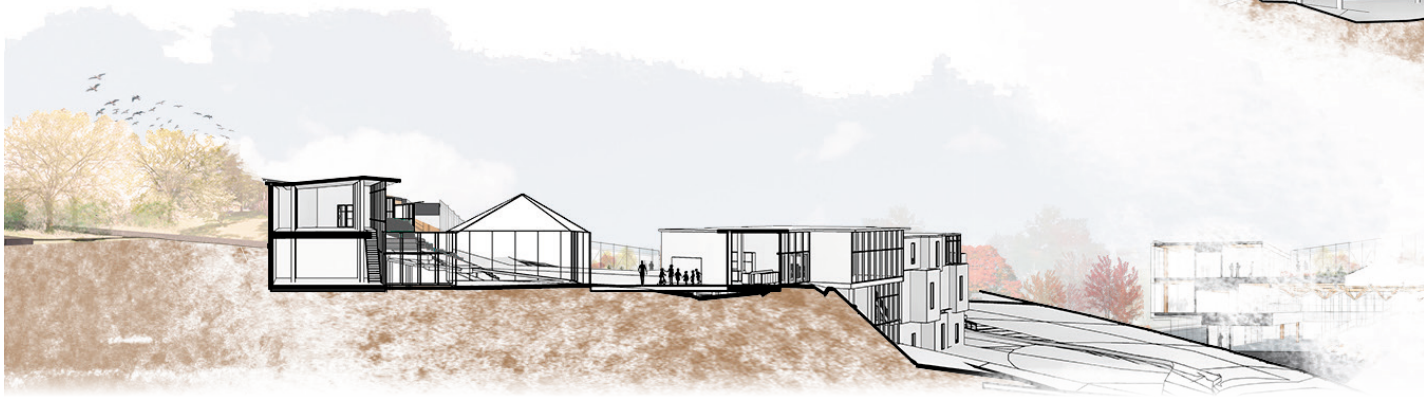


SECTION A-A'  
Dormitory & Food Production Atelier  
Façade Composition



## SECTION B-B'

Administrative Block Superimposed Mass Composition

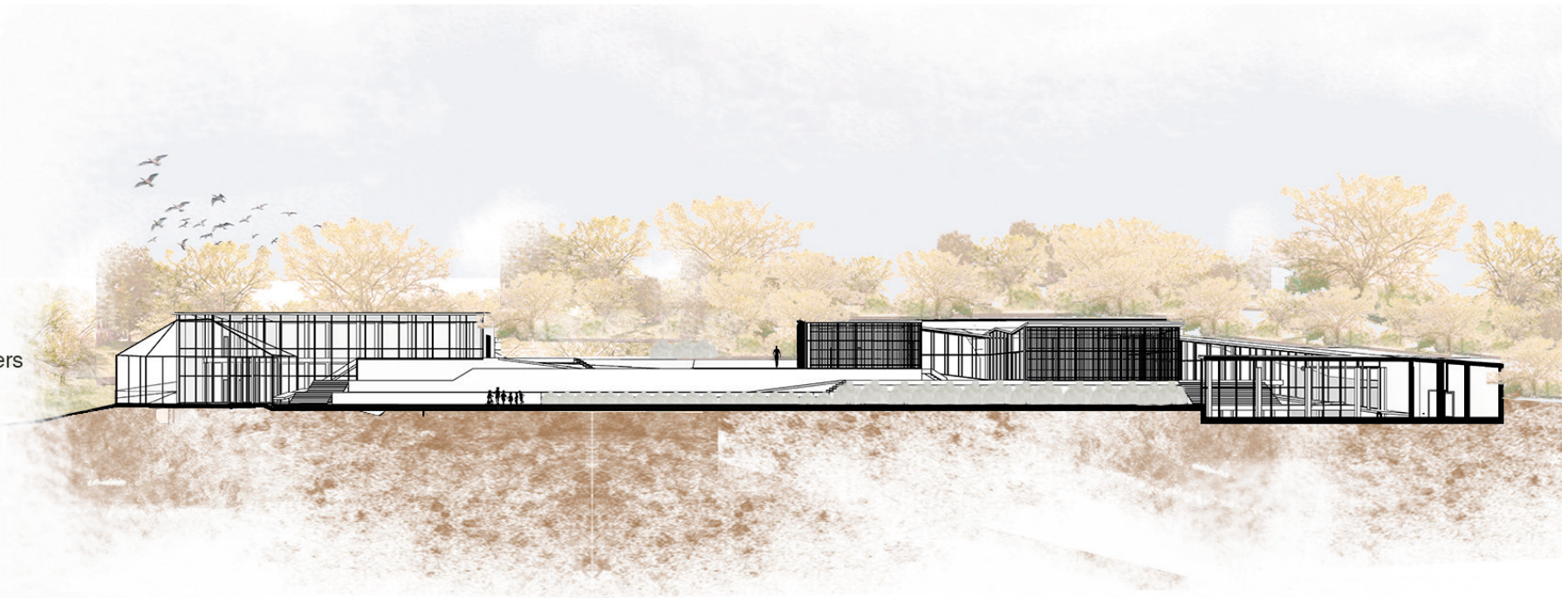


SECTION C-C'  
Gardening Atelier & Food Production Atelier & Dorm  
Composition



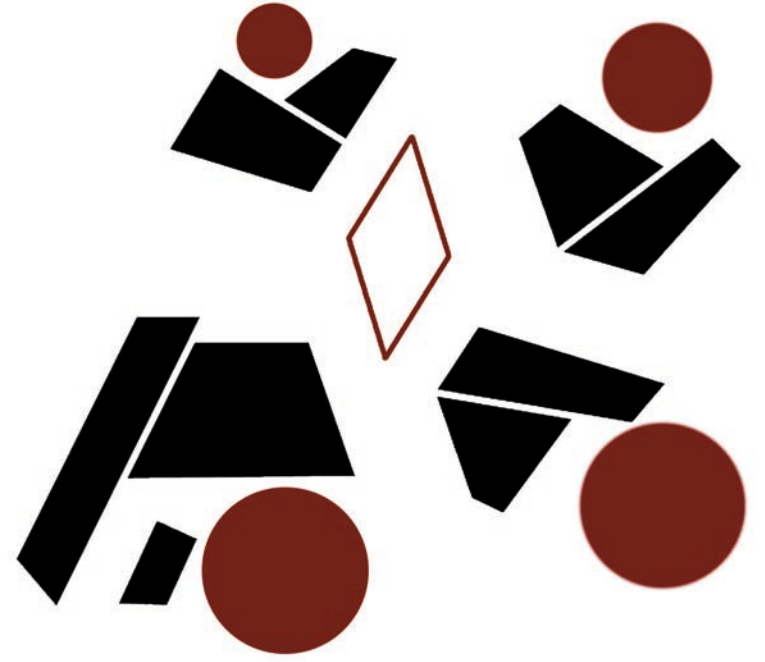


SECTION D-D'  
Composition of Ateliers









# INTER-FACES

Dilara Ayşegül Kökten

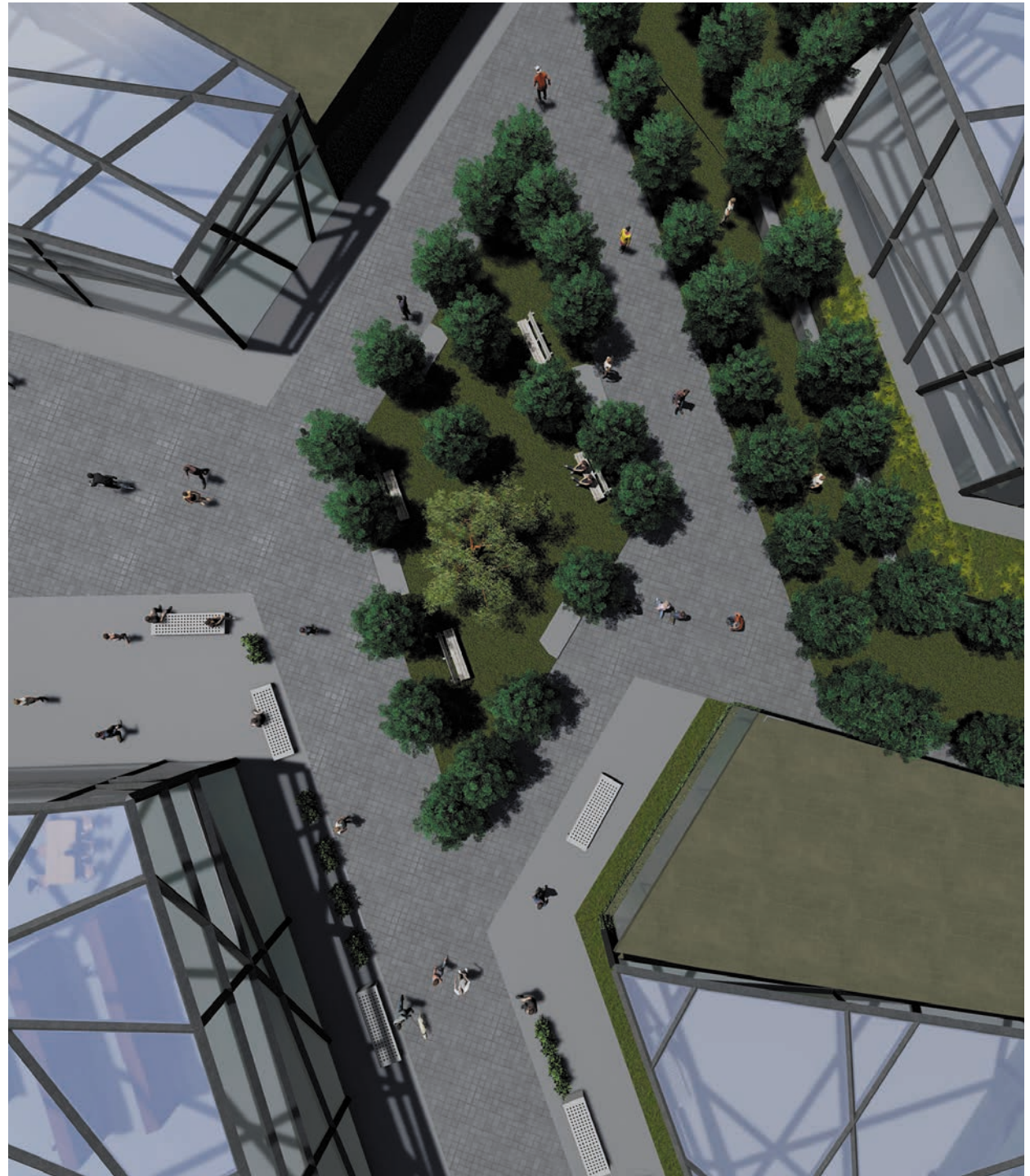
# CONCEPT

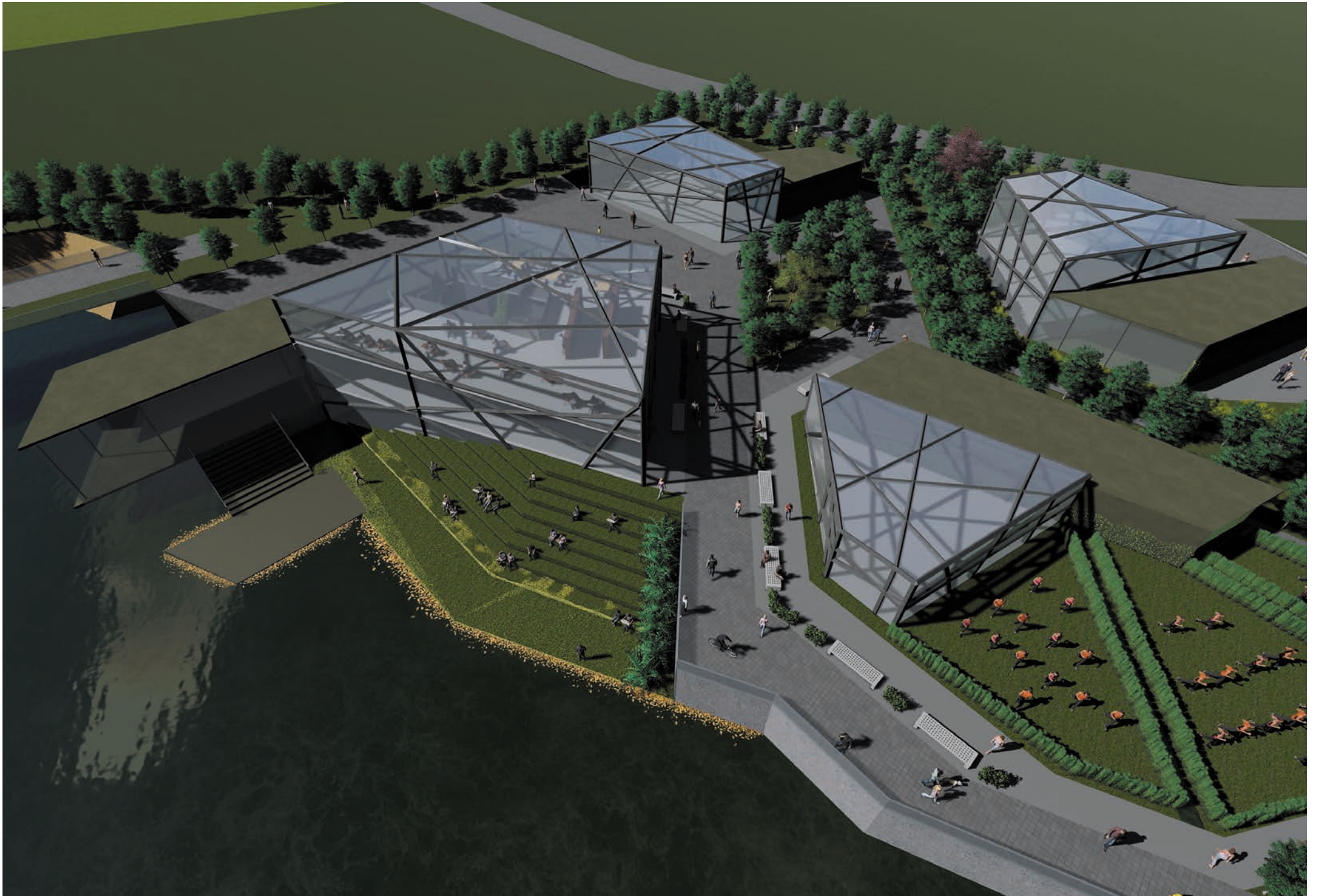
At Bilkent Campus, there are many green areas, but they are not well integrated with the buildings. As a response, on our site have green belts to integrate the landscape and our daily lives. Student Hub facilitates communication and interaction among the Bilkent students while providing them a relaxing yet playful environment. Around Student Hub, circulation and green belts are working together.

The circulation axes are for rapid movement and for services and emergency whereas green belts are rather experiential spaces with the lanes for bikers and pedestrians and the urban furniture. At certain points, the belt gets wider allowing the formation of small parks. One of my main objectives was to bring students closer to the lake. The terracing on the site creates a playful topography where the defined paths lead the users to the lake.

Buildings and gathering spaces are formed according to the intersections of the circulation axis and the green belt. On this hub, there are four buildings and each is a combination of two masses. The levels of the buildings are arranged so that they do not destroy the visual relation between users and the lake.

The hub has a large open gathering space shaped by the buildings and circulation routes. Each building has its own closed gathering area which relates either to the outside or to the interior gardens. The gardens are designed as nature integration elements, and vertical circulations are also designed in relation to them.



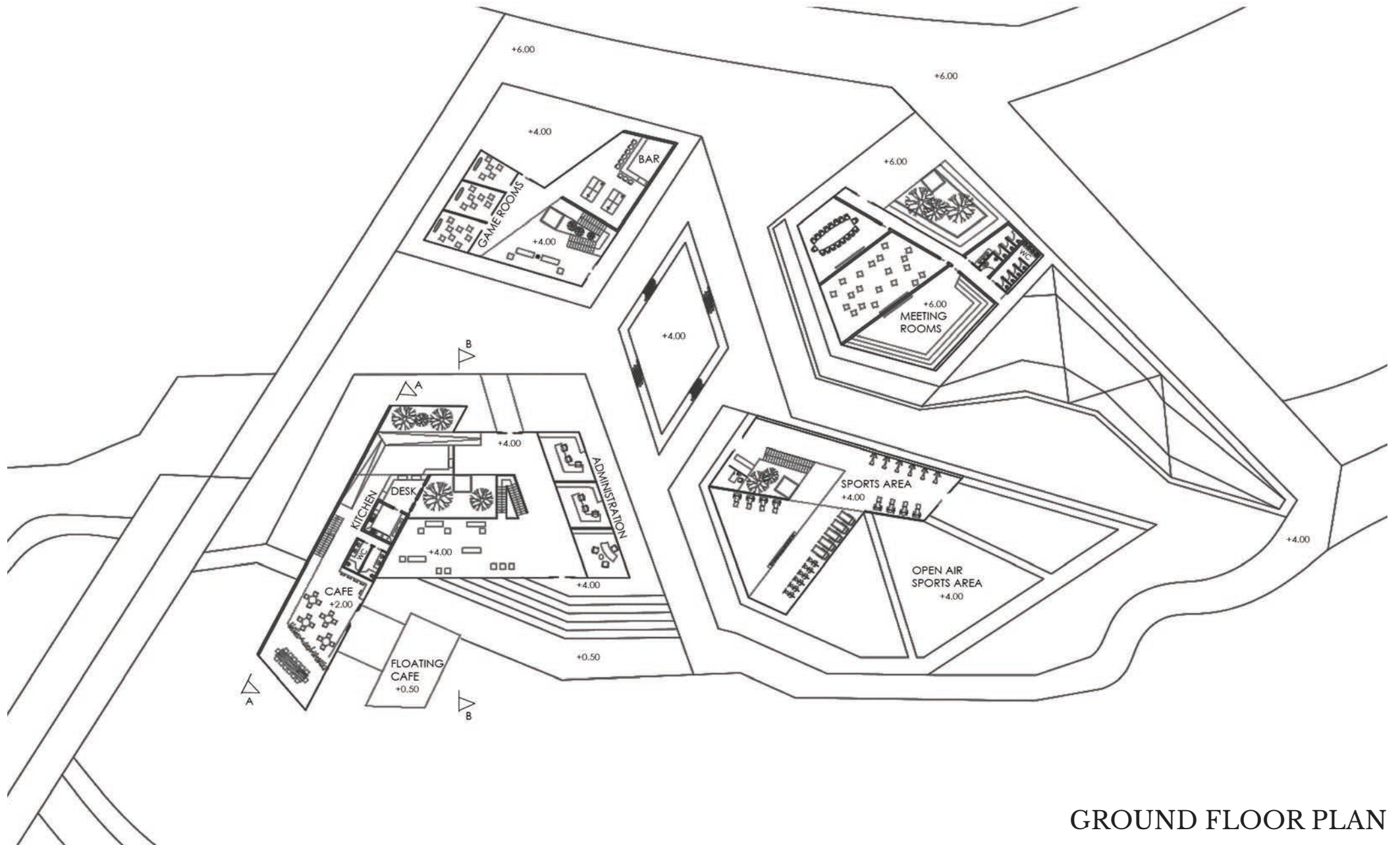




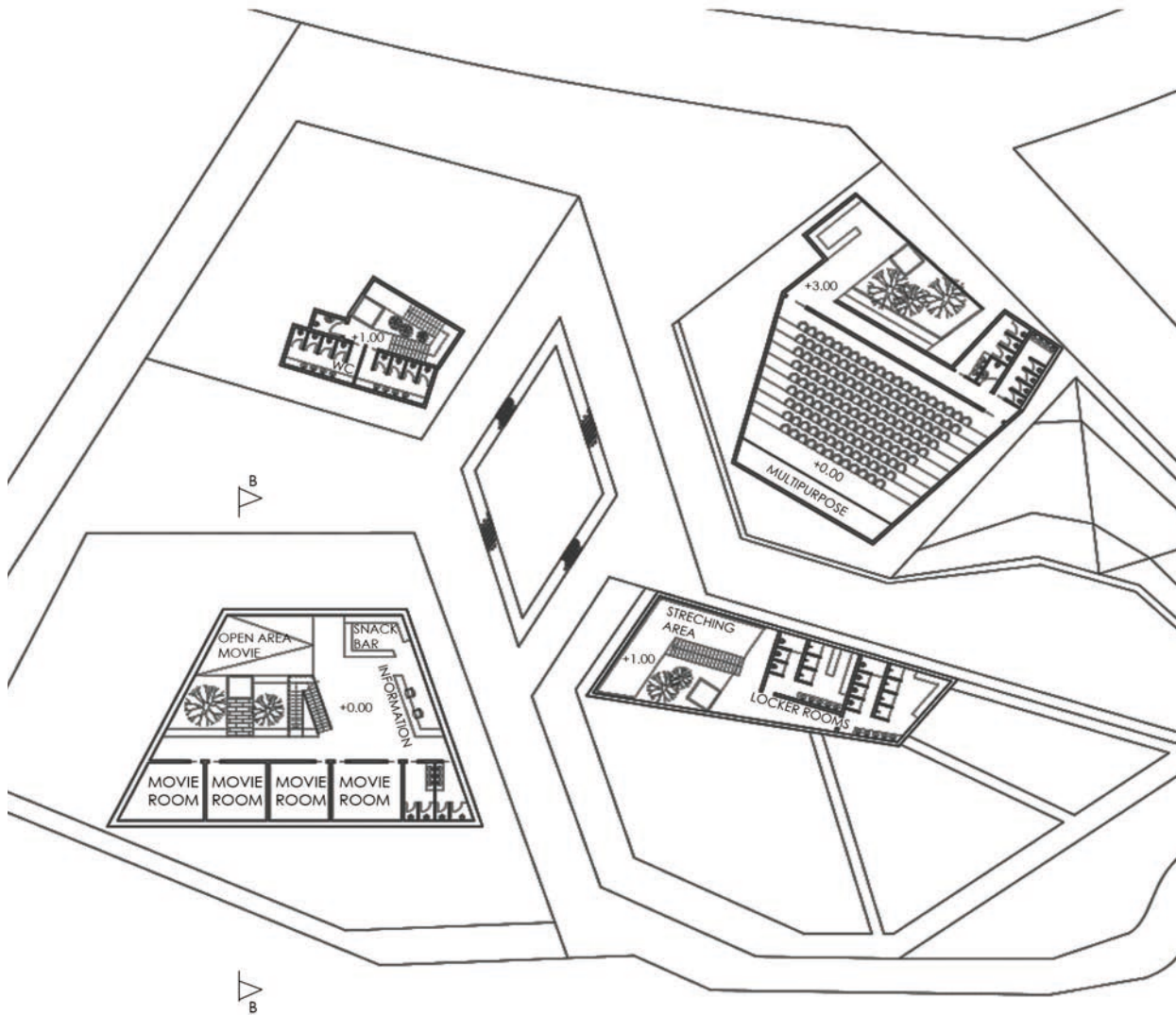




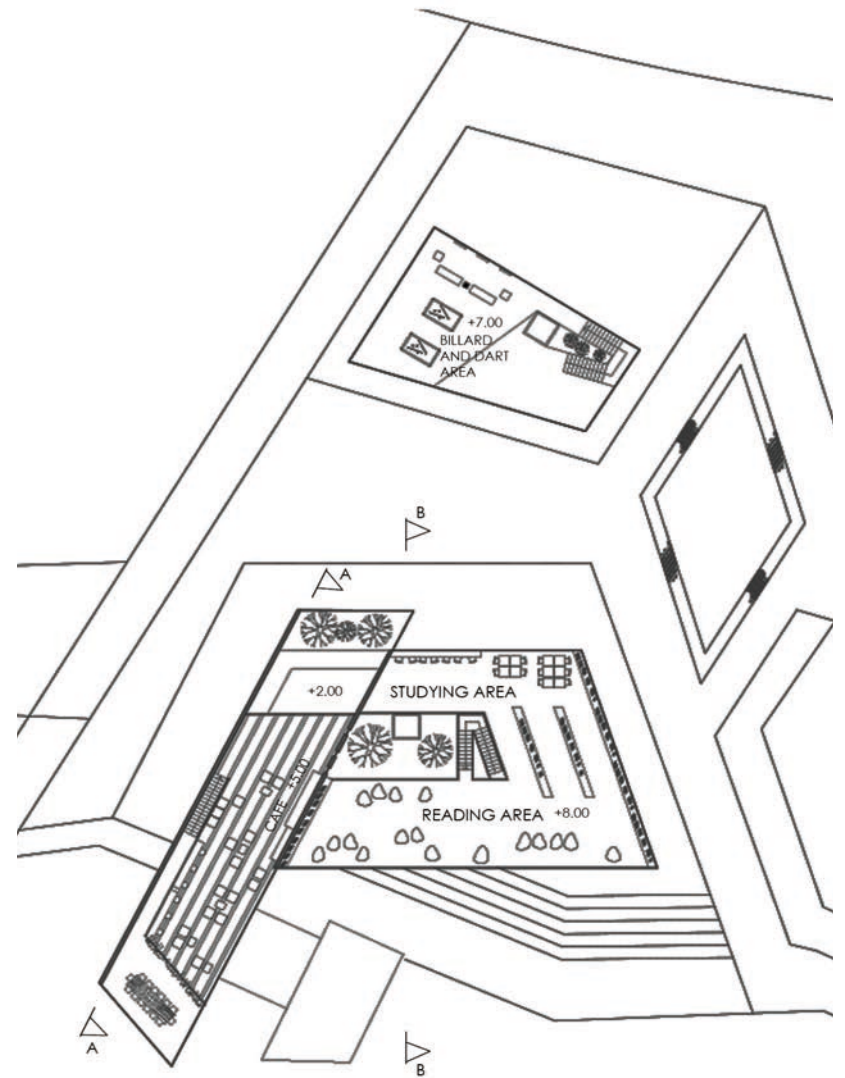
# PLANS



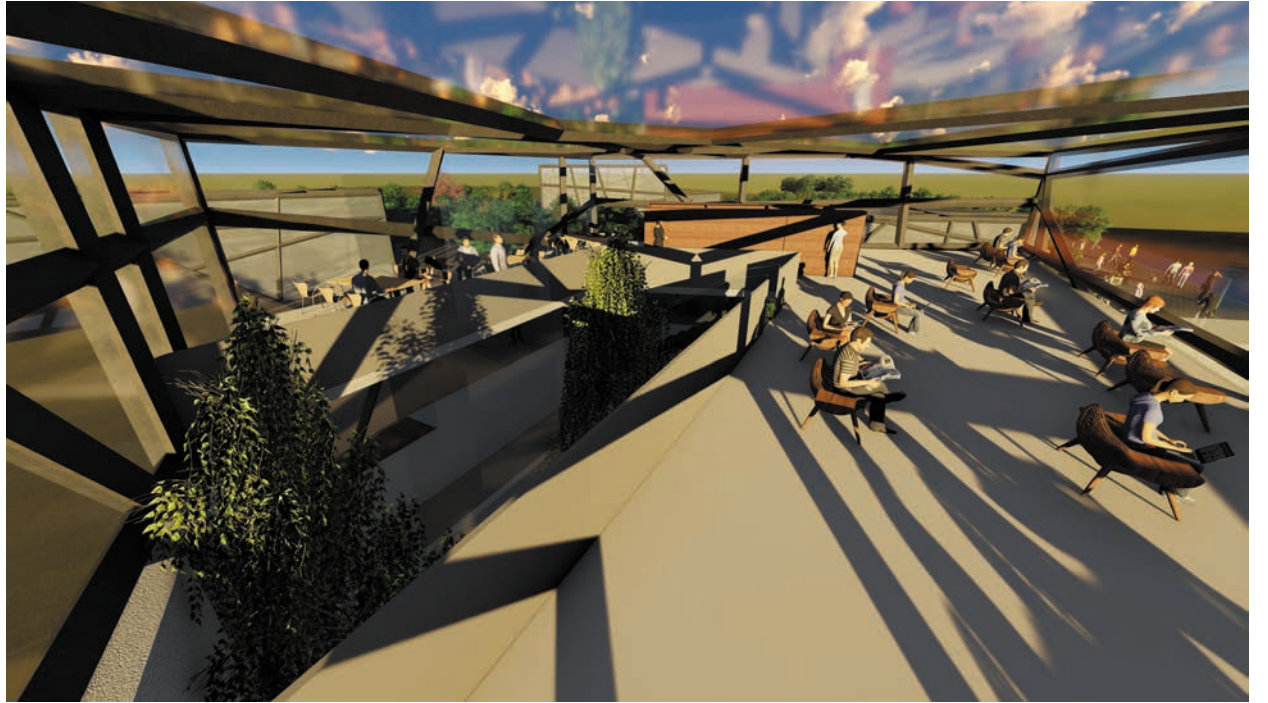
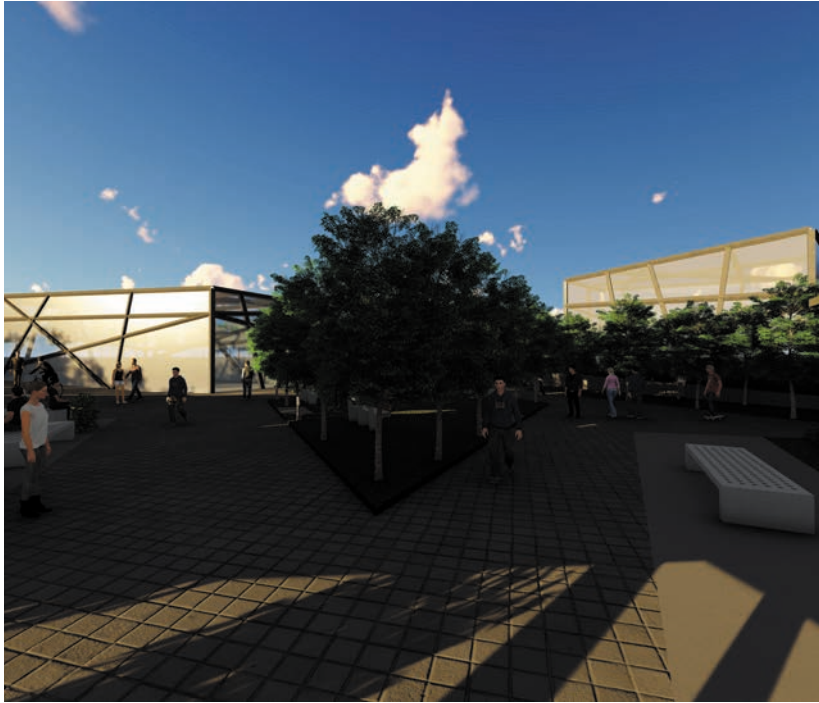
GROUND FLOOR PLAN

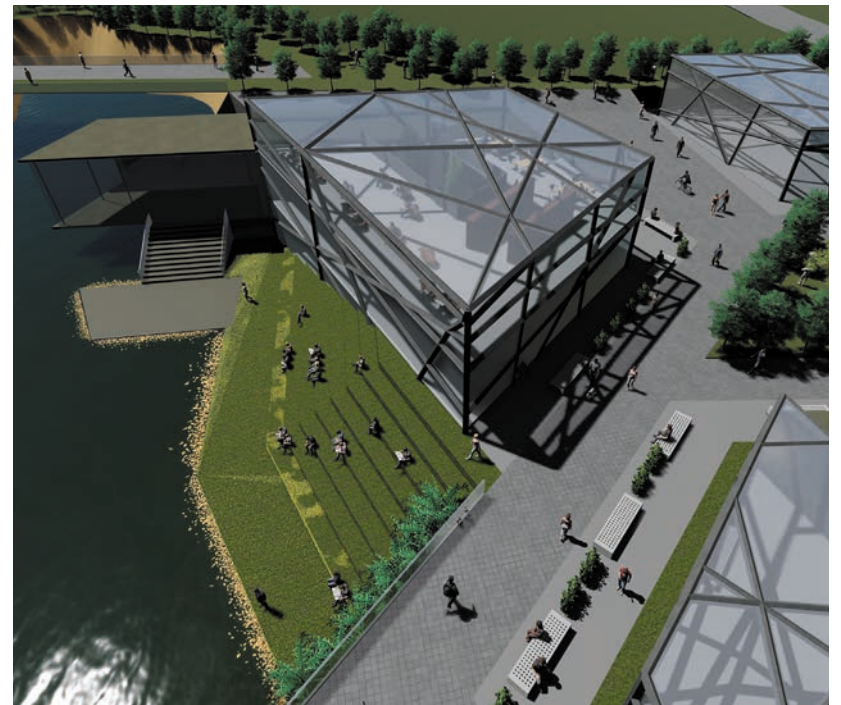
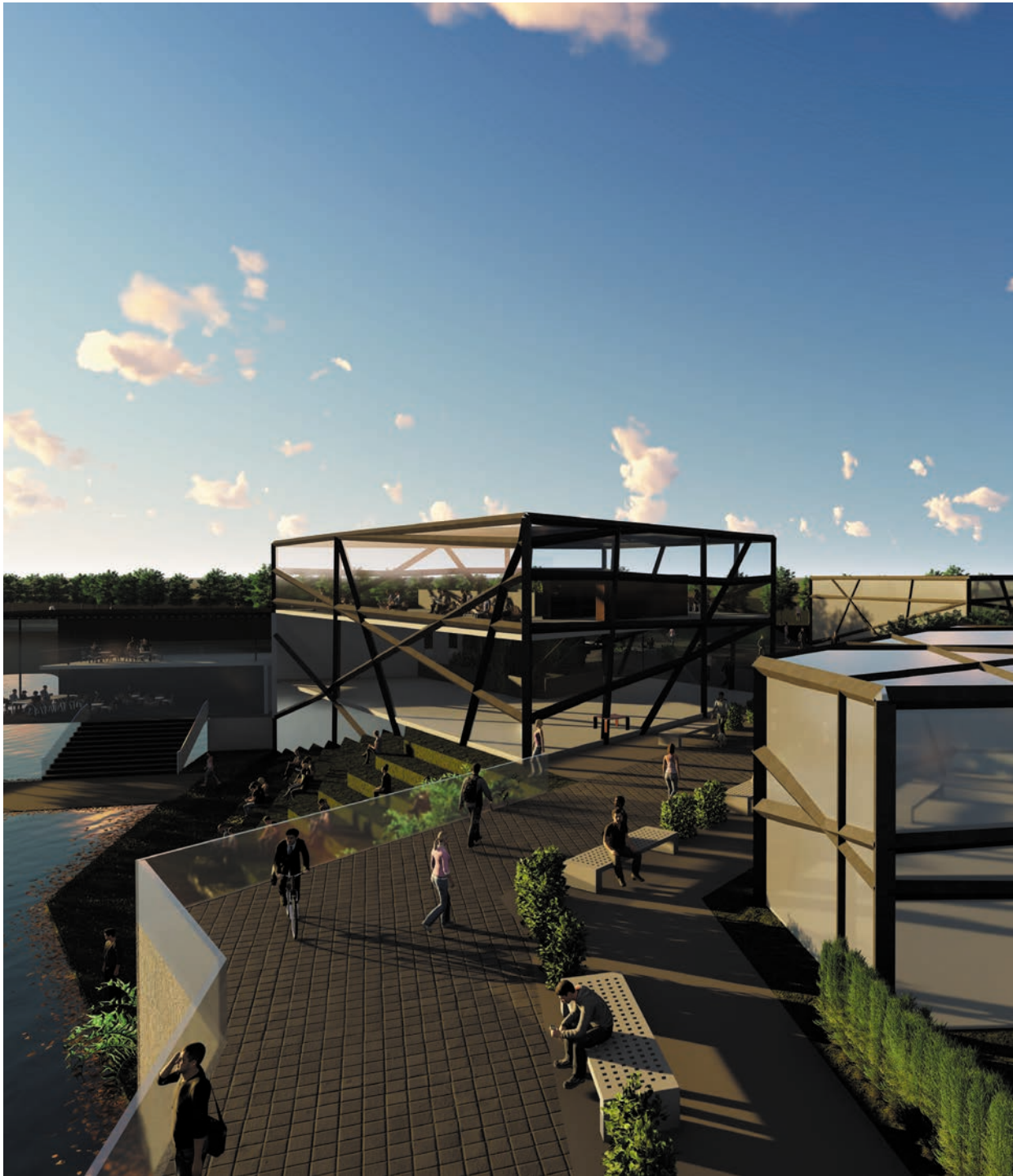


BASEMENT FLOOR PLAN



FIRST FLOOR PLAN



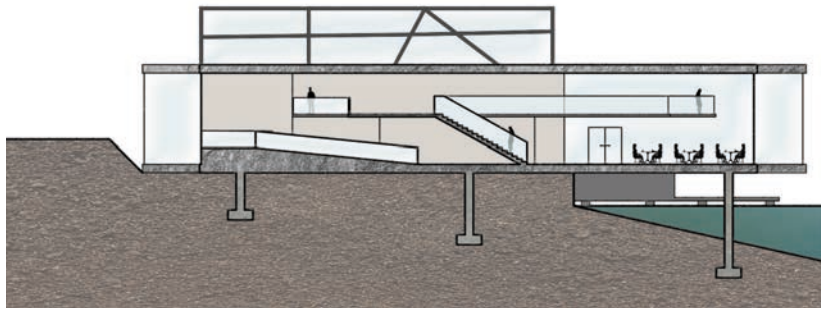


# DIAGRAMS

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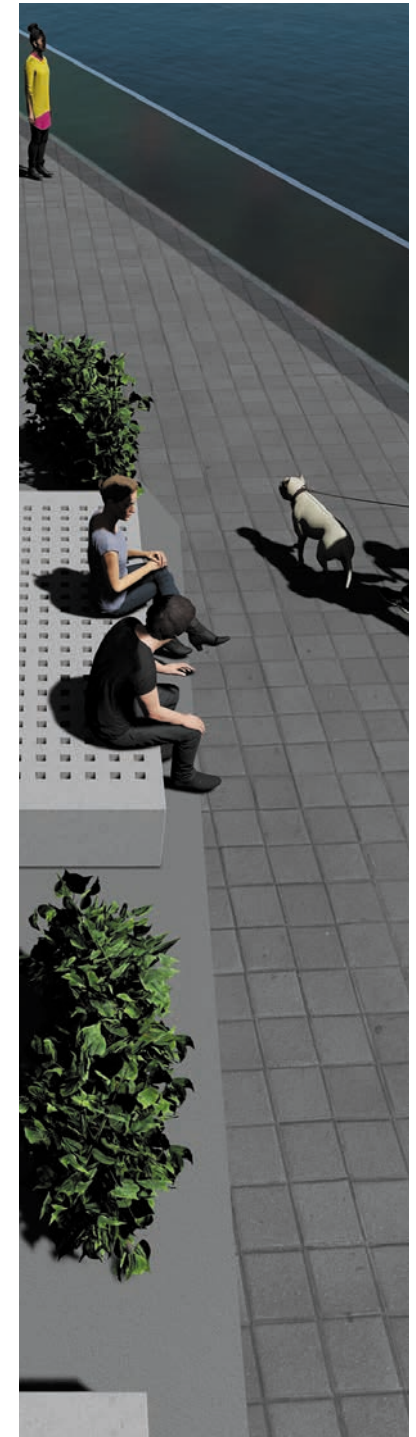
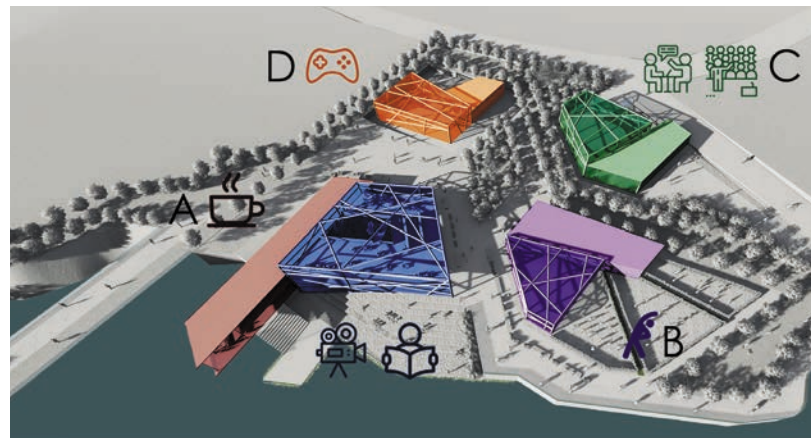
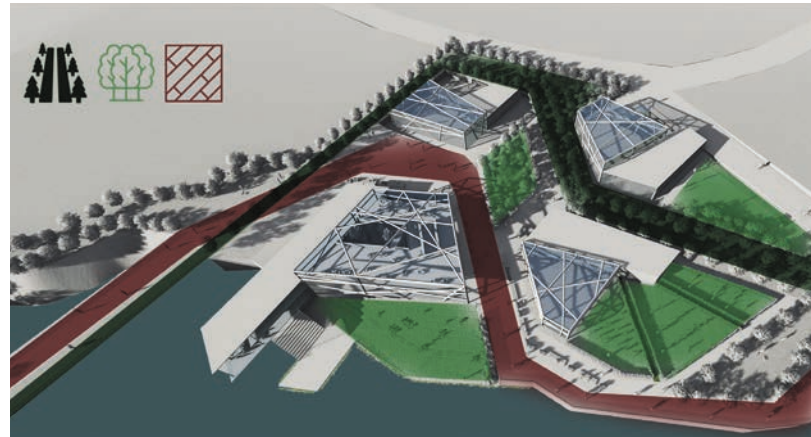
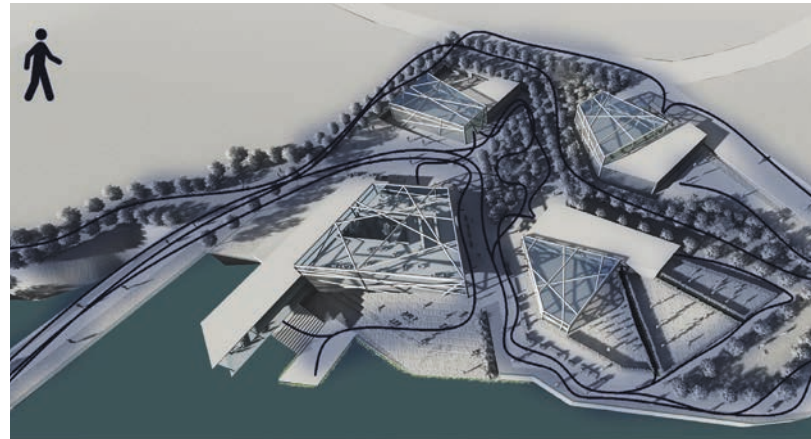
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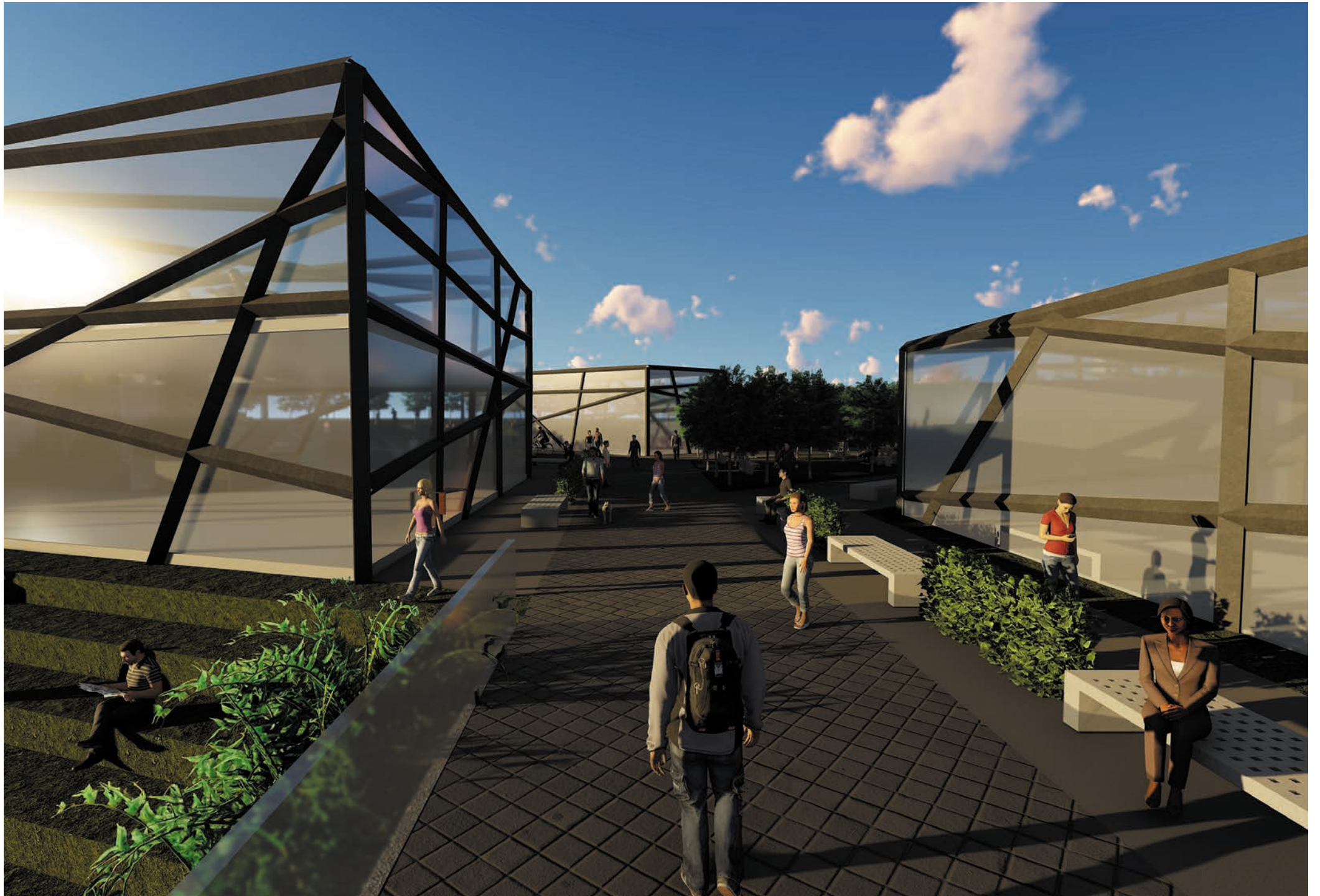


AA SECTION

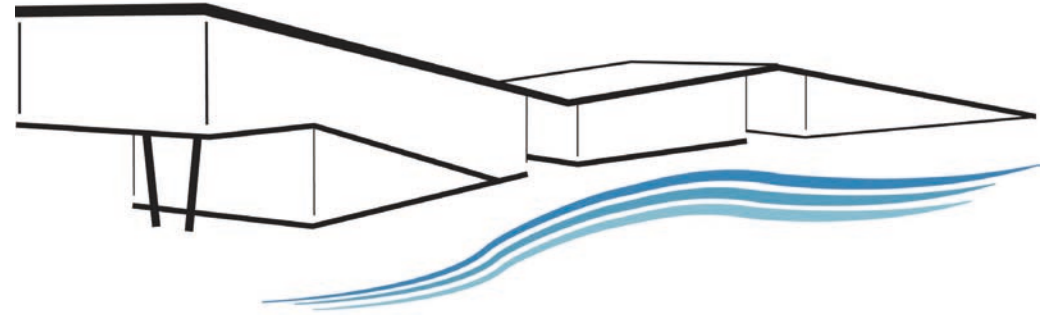


BB SECTION









# STUDENT'S COMMONS

Irmak Şener



# CONCEPT

Student's Commons is a student-oriented complex that has several functions assigned to it. There are three masses which are created for specific functions such as educational, club activity and open and closed movie theatres.

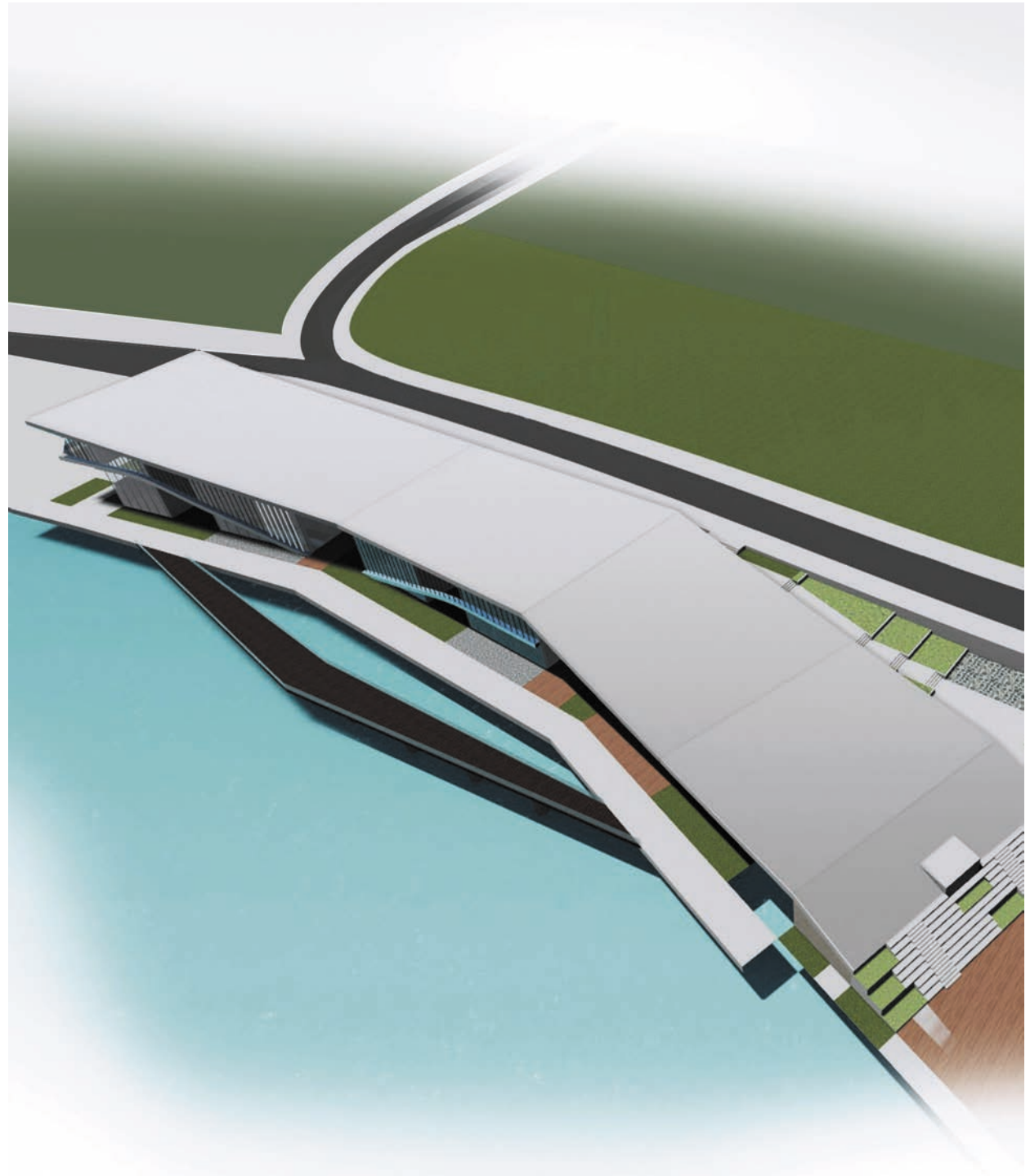
There are both individual and group study areas, library, reading corner and lecture halls in the educational building.

Club activity building serves for student clubs in the university such as dance club, gastronomy club, musical club, movie club, coffee & tea club, computing club and chess club. Dance studio, gourmet kitchen, exhibition area, coffee corner, recording studio, computer lab and billard area are placed in the activity building.

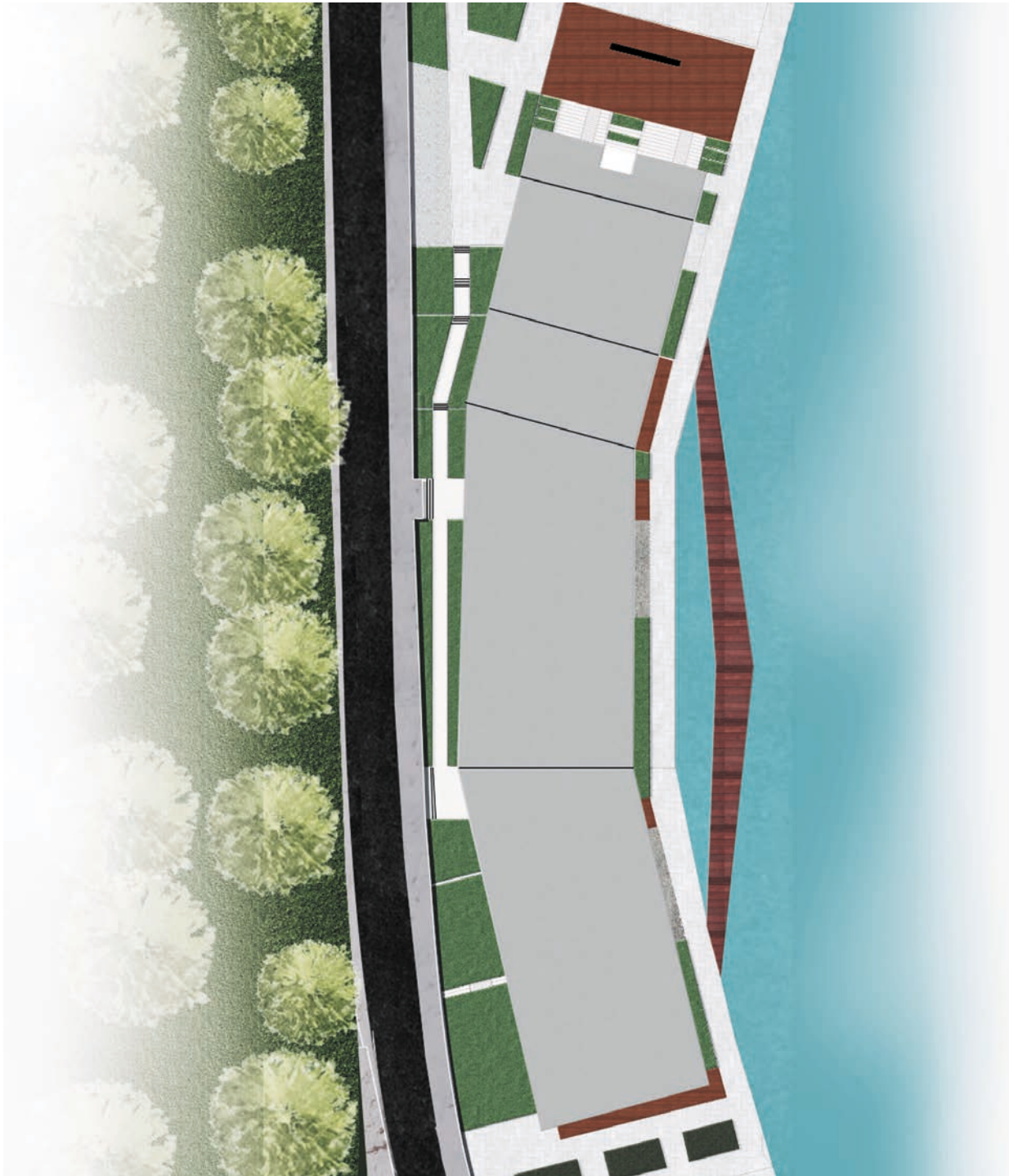
These three masses are covered with a single roof which acts as a continuous element. When the roof starts to go down and touch the ground, it turns into an open-air movie theatre. It can also be used as a performance area.

Roof is shaped depending on wind's direction which comes from the north. Entrances are placed between the buildings with a closed top for the same reason.

The center gains morning and evening sun from east and west side, thus shading elements are situated on those facades.



# SITE PLAN



Student's Commons is located in an area which is longitudinal and narrow. Regarding the shape of the land, the building has a similar shape as well. There is a four meters tall level difference between the traffic road and the sidewalks around the lake. Because of that reason, terraced landscape elements are used around the building.

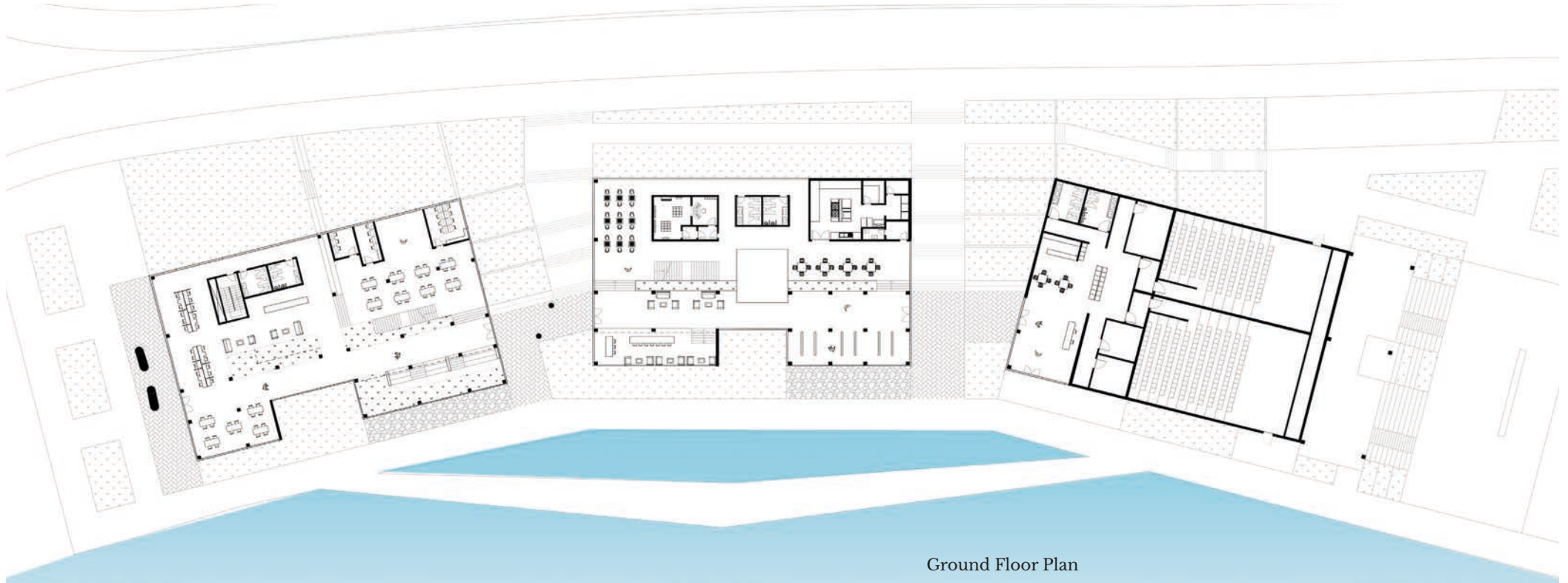
Some level differences are made inside of the buildings as well to integrate the buildings and landscape. With this design approach, continuity between interior and exterior is achieved.

Educational and activity building has their own gardens on the back side assigned for their usage. There is a garden which is adjacent to the gourmet kitchen for gastronomy club students to plant and collect fresh fruits and vegetables.

Forest area which is behind the student complex is kept as it is. Thanks to the forest, people who are on the upper floors will have great vistas both from the east (lake) and the west (forest) side.

Open-air theatre itself acts as a landscape element. It also provides a levelled sense like the other parts of the complex. A large screen is placed in front of the seating areas.

# PLANS

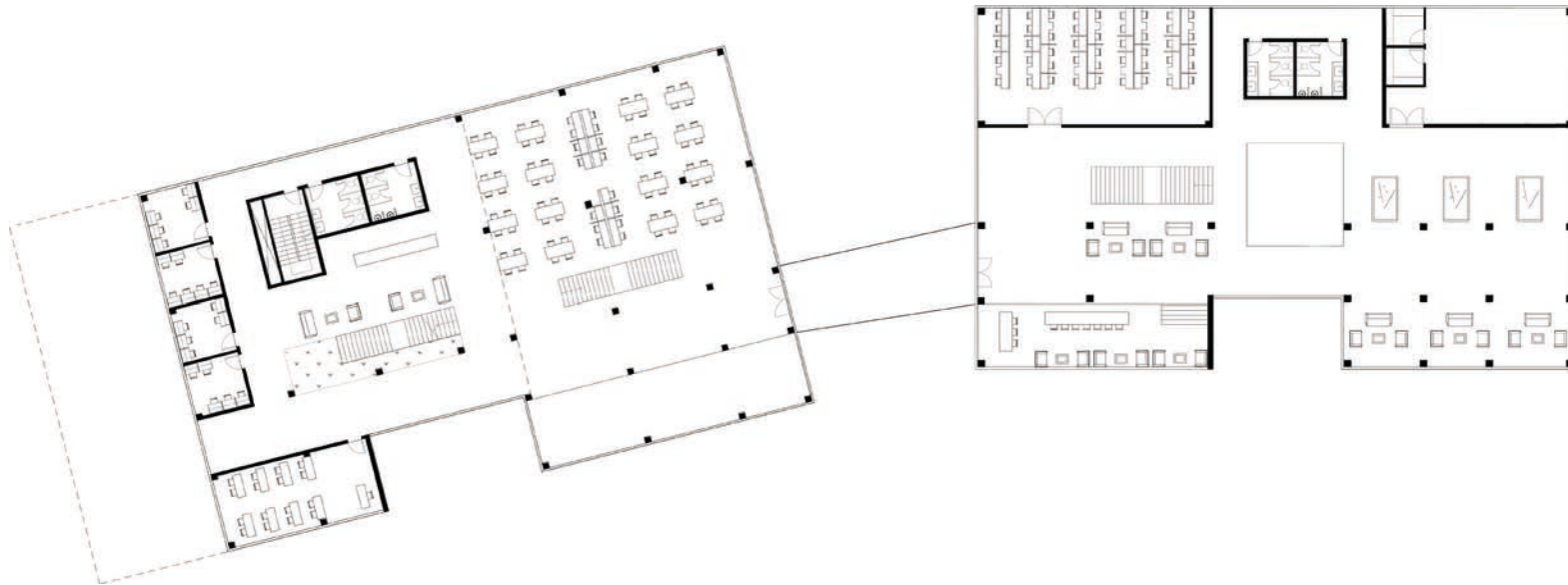


Ground Floor Plan

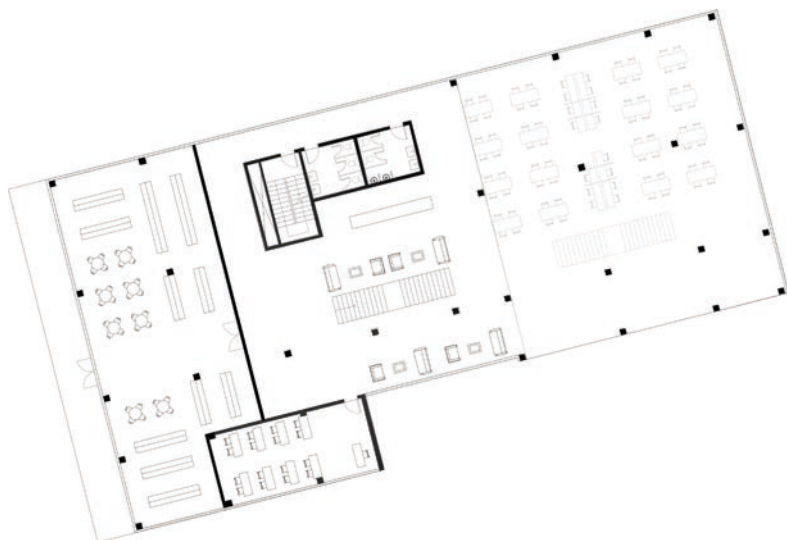
Here, each building and other details of the site plan can be seen. In the educational building which is on the left, there are reading corner, computer area and elevated study area and individual study rooms. Elevated area's stairs continue from one building to another.

In the activity building which is in the middle, there are coffee & tea corner (on the lower level), exhibition area, a small performance space and on the elevated level there are chess area, recording studio and gourmet kitchen.

In the movie theatre building which is on the right, there are two movie theatres with different capacities which can be also used as lecture halls for conferences.



First Floor Plan

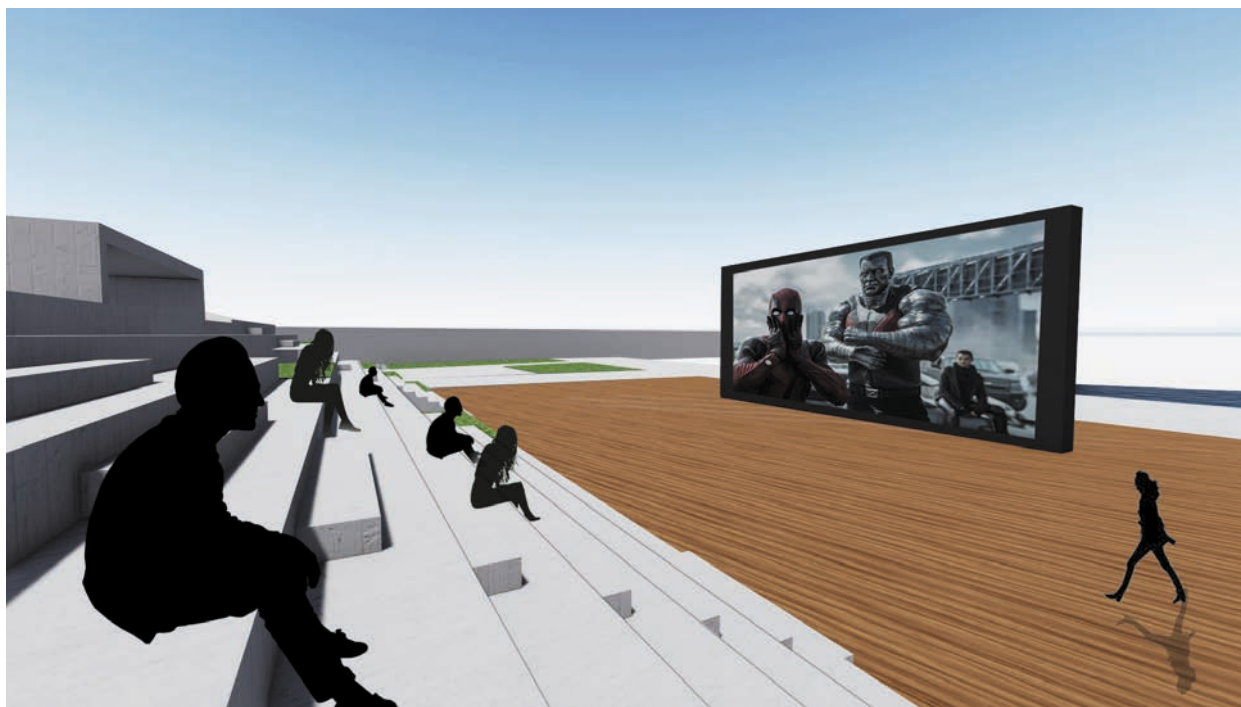


Second Floor Plan

On the first floor, individual study rooms, common study and workshop area and a lecture hall is placed. Since the workshop area can be used by the club students, a bridge is placed to connect these two buildings.

On the activity building, there area computer lab, dance studio with changing rooms, sitting and billard area.

The only building which has three storeys is the educational building on the left. On the second floor of this building, a lecture hall, library and sitting area is placed.



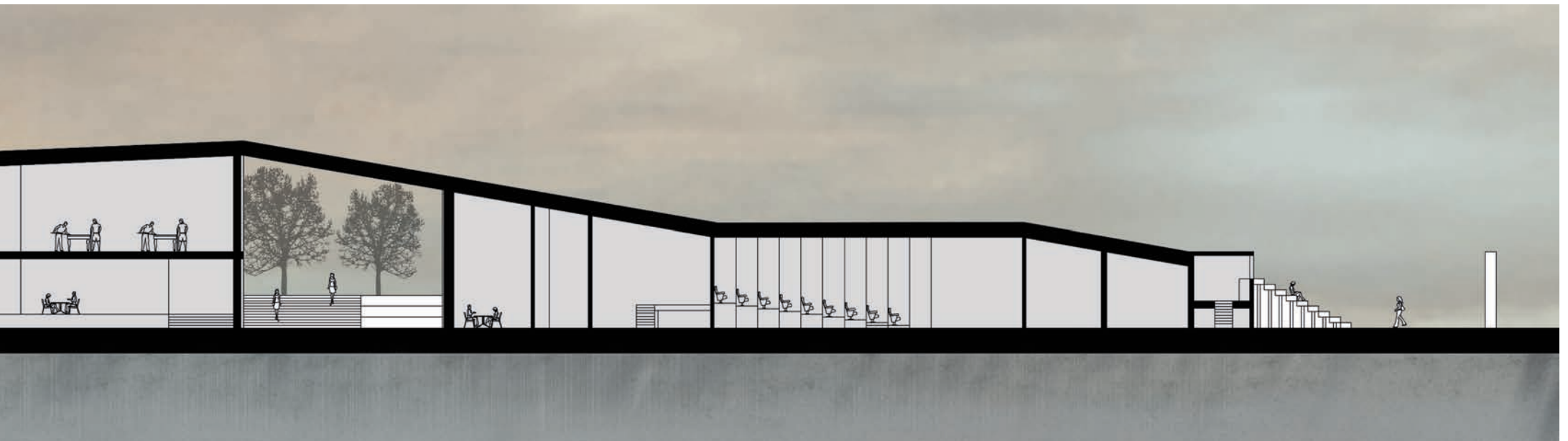
On the right, the open-air movie theatre is shown.



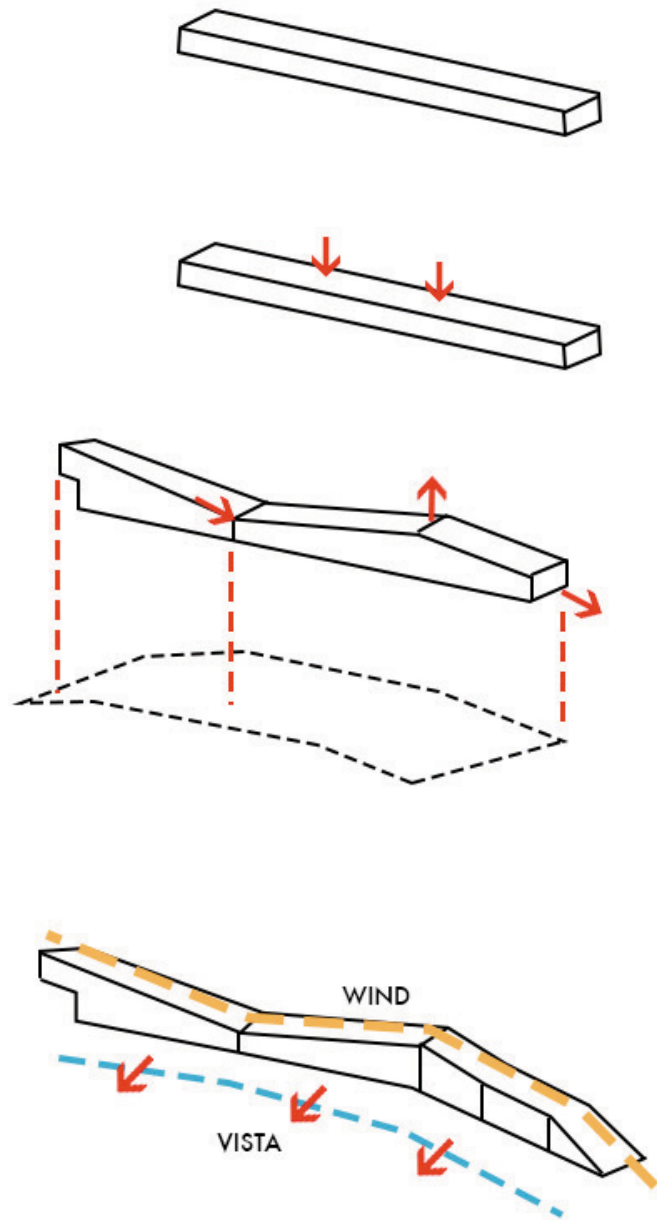
# SECTION



In this section; level differences, elevated areas, connections with landscape, the shape and the breaking points of the roof, interior spaces, the bridge between the educational and activity building, open-air theatre, access to the technical rooms of the movie theatres are shown.



# DIAGRAMS



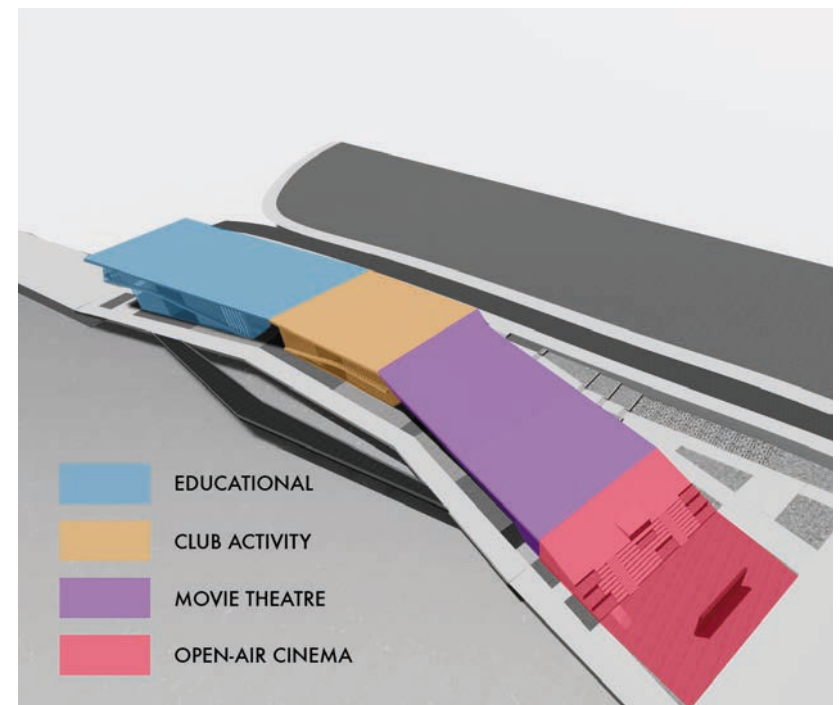
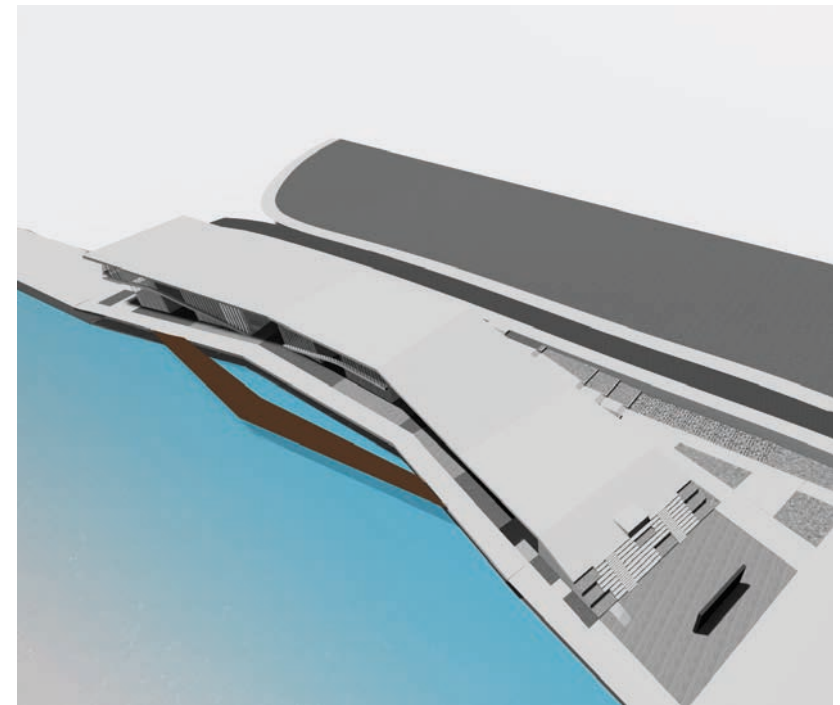
On the left, the form generation process can be seen. Since the land is long and narrow, it was the primary cause for the shape of the building.

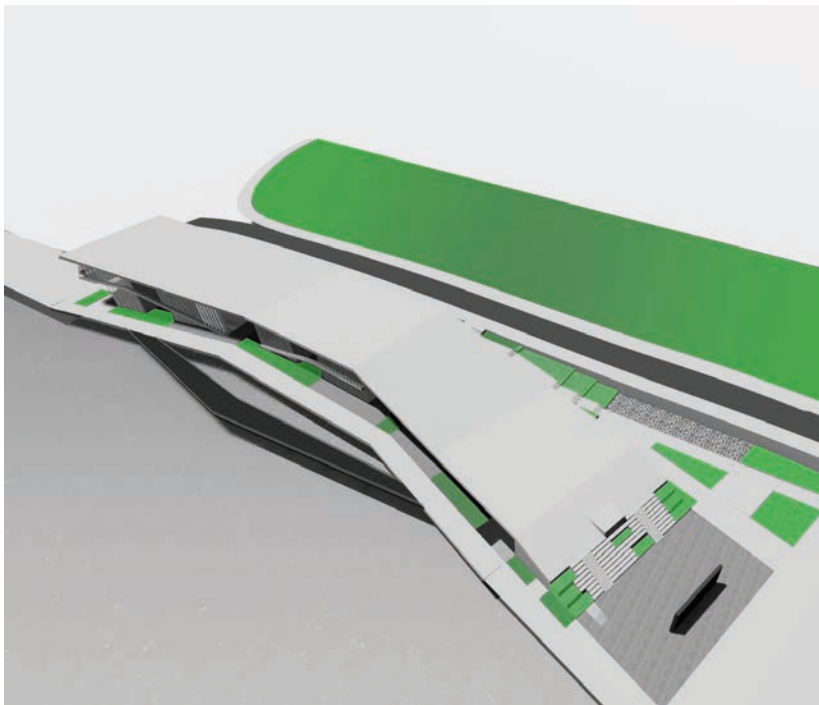
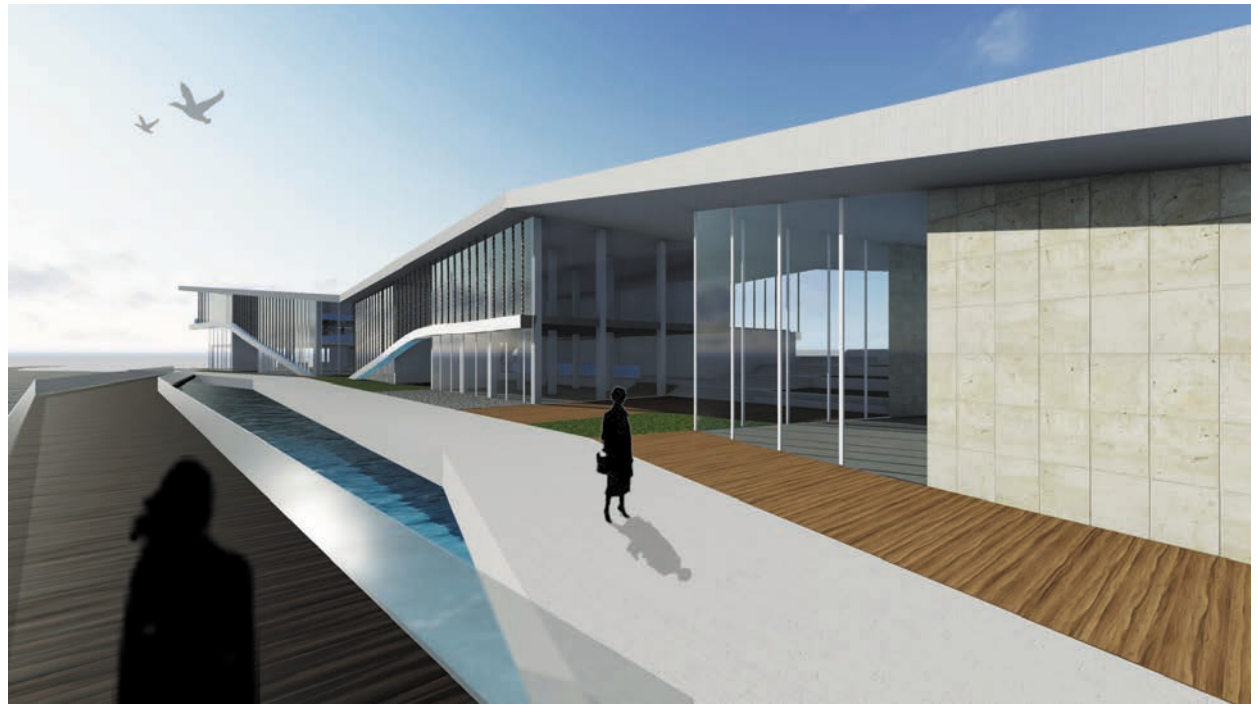
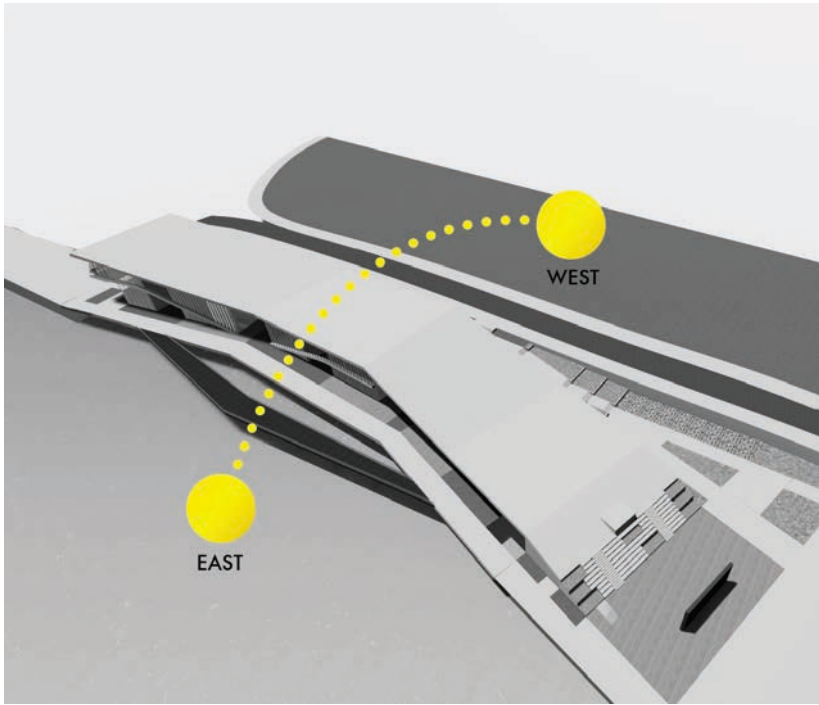
Then it is divided into three according to different functions like education, activity and movie theatre.

After that, the roof and the buildings were shaped depending on the wind's direction and the breaking points of the roofs are appeared.

After shaping the buildings, roof was extended until it touched to the ground and the area where it touches the ground turned into an open-air movie theatre.

Glass facades are placed on the east side because of the lake view and on the west side because of the forest view.





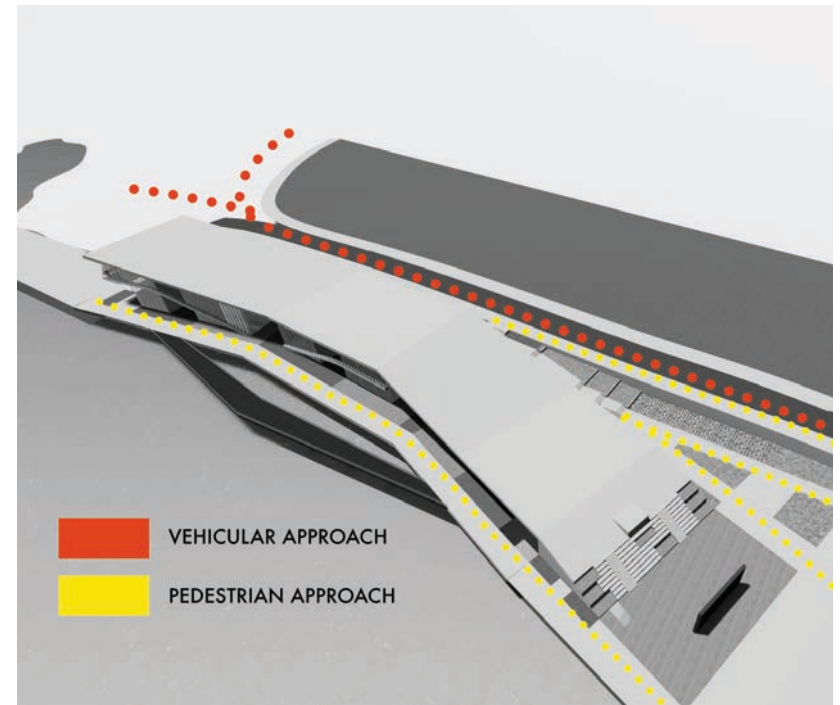
The first diagram shows the relation between the lake and the building itself.

It is followed by function diagram which shows the boundaries of the different buildings.

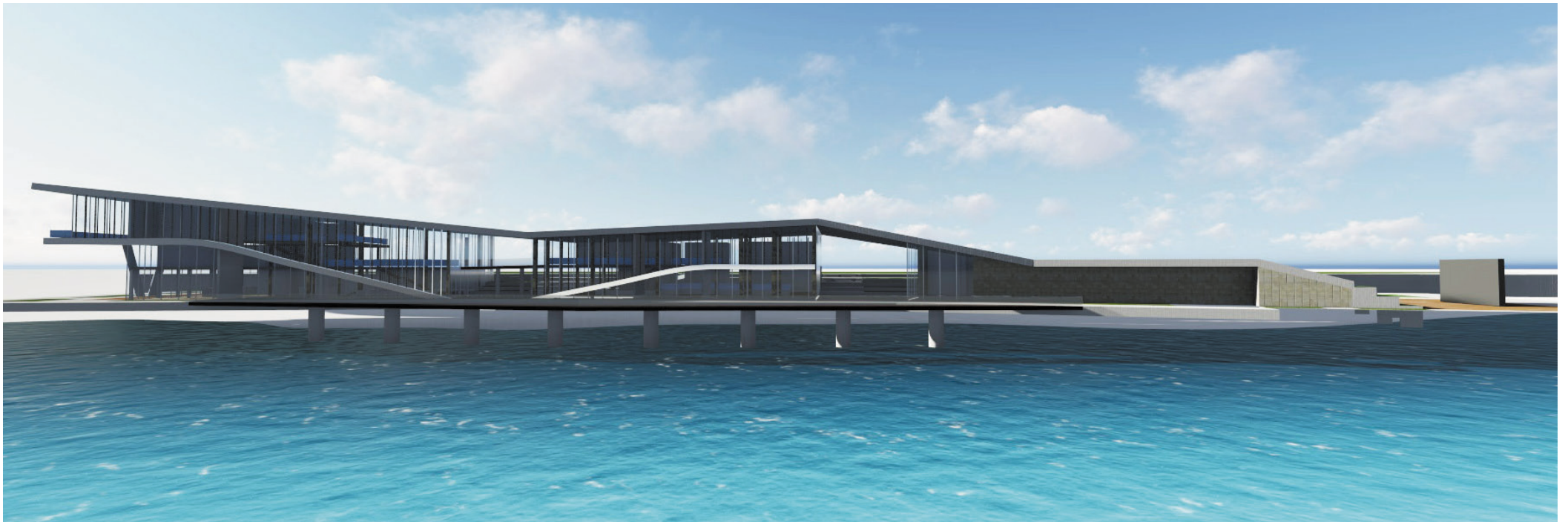
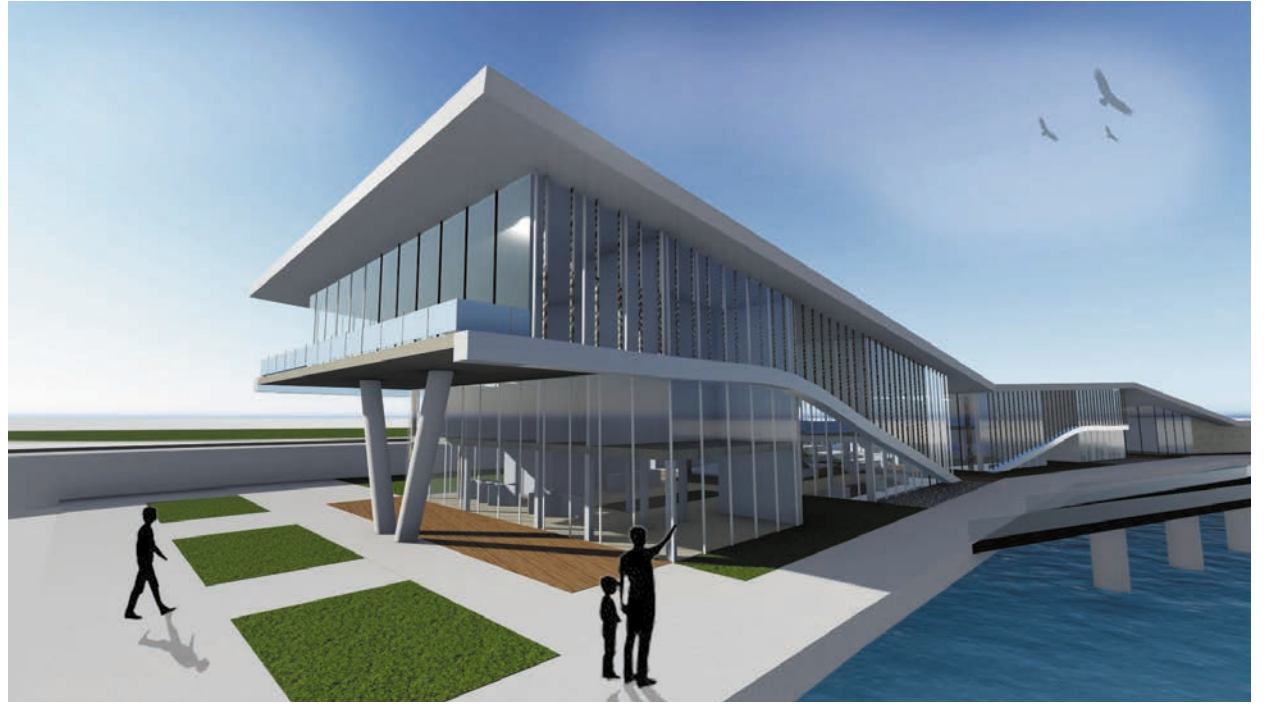
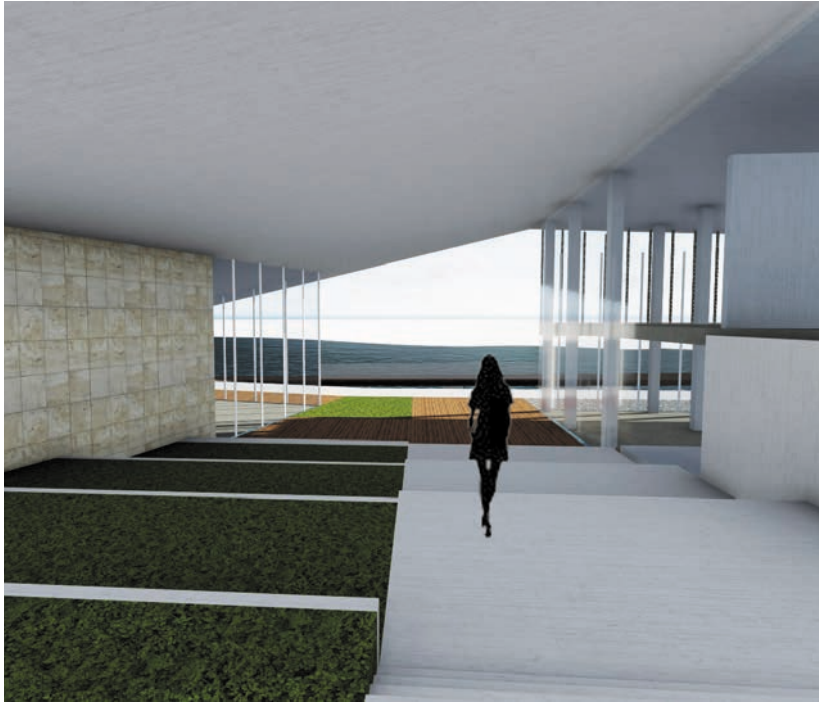
East and west directions are shown to make a reference to the vistas and shading elements.

Vegetation diagram is placed which shows proposed and existing greenery. Plantations will be done with riparian plants which will grow naturally without any treatment or special care.

Lastly, pedestrian and vehicle approach is shown.

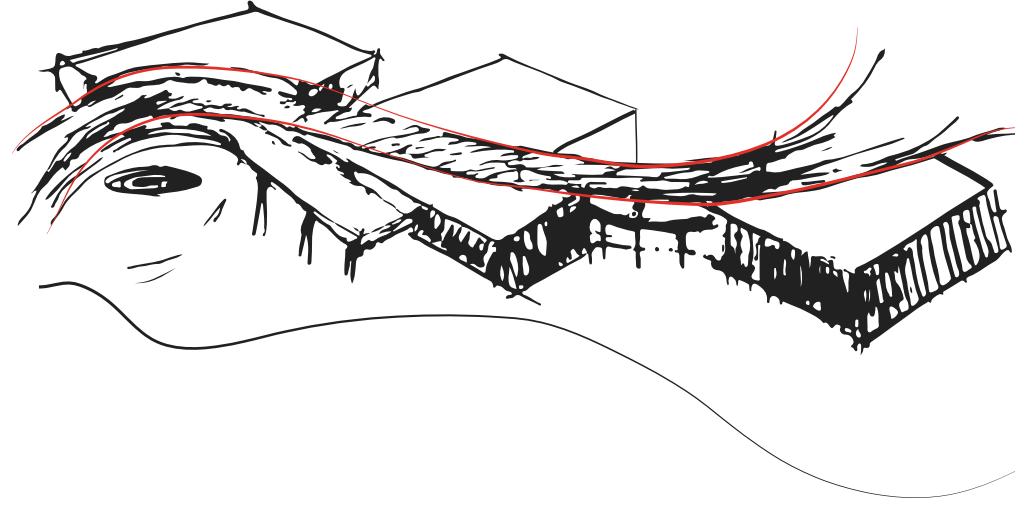










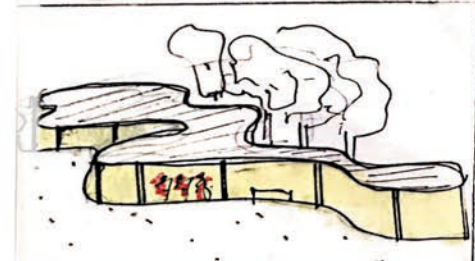
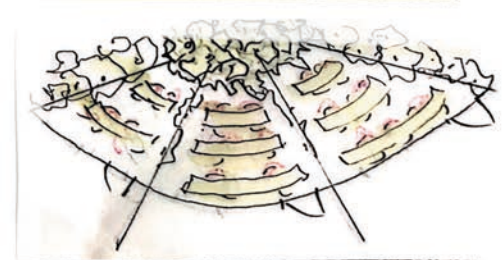
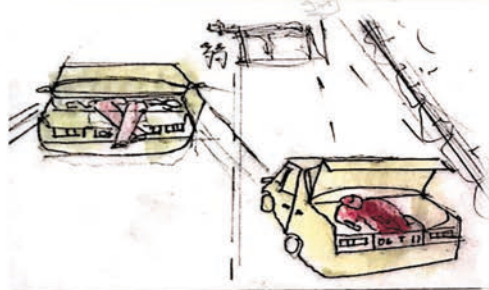
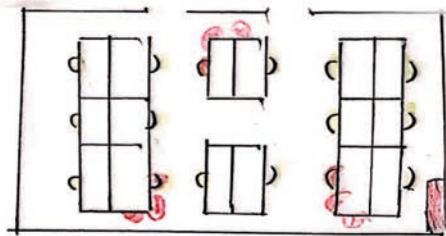
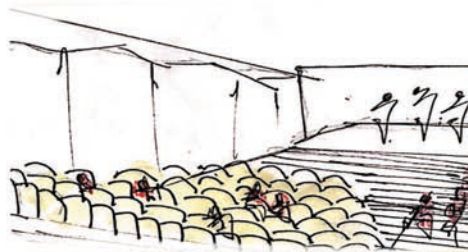
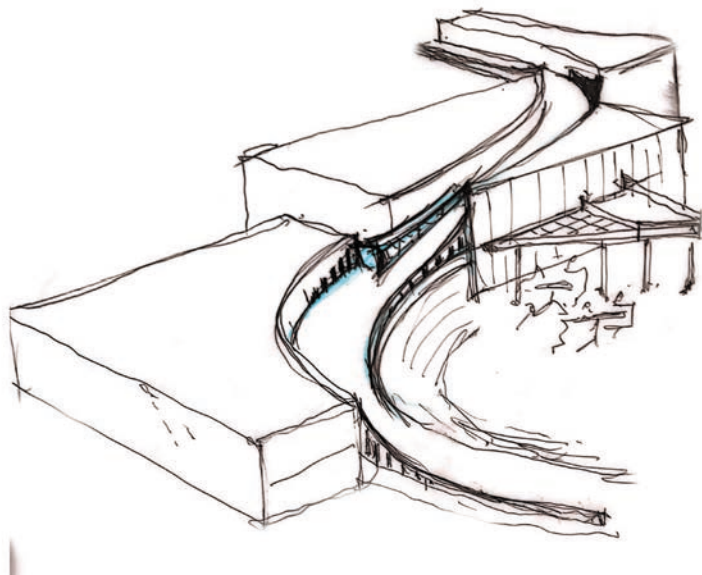


CO\_FUSION  
sharing node

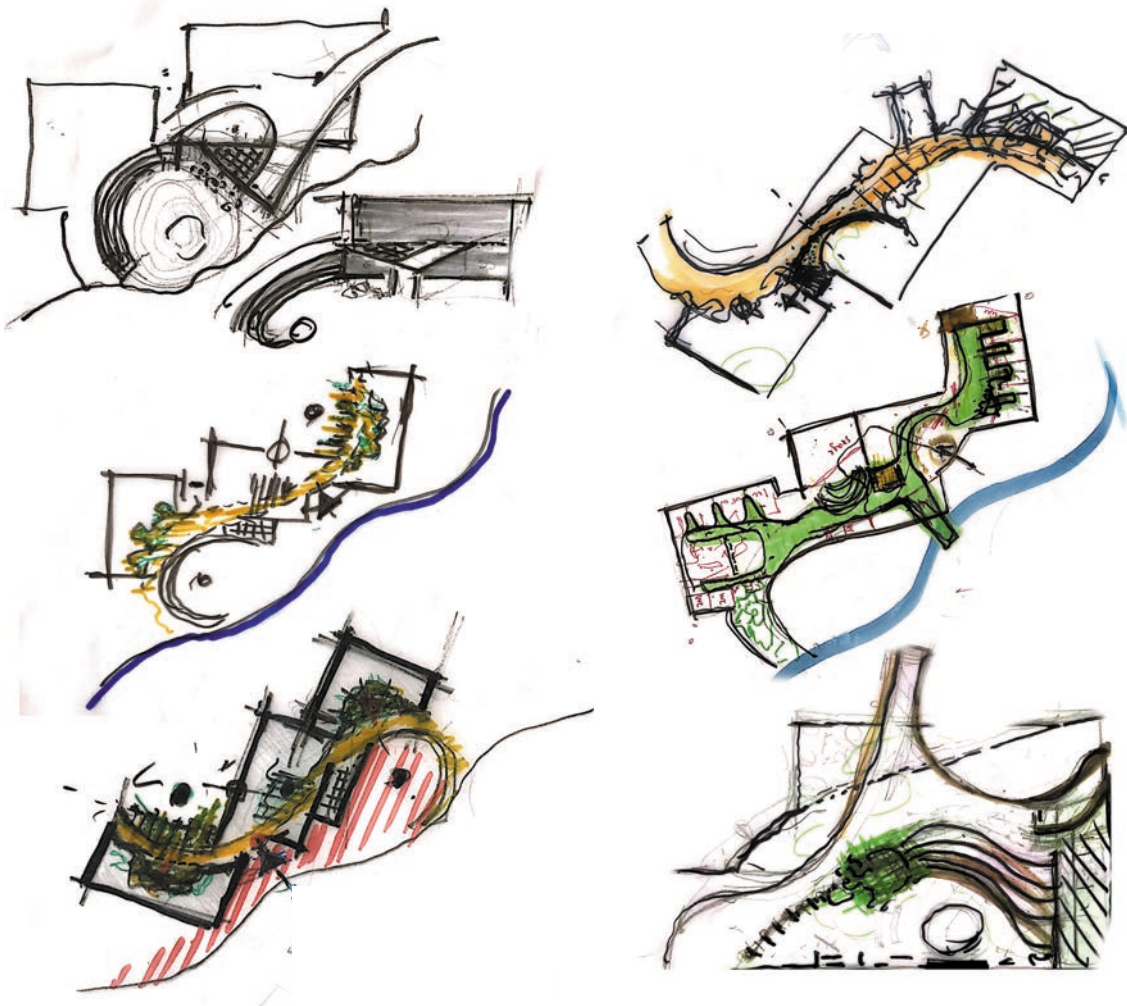
Gülsen Şenol

# CONCEPT

Through out the extensive collaborative spaces, the design aims to blur boundaries between communities, campuses, and perspectives. Initial aim of project come to exist to be opposed to tangible and intangible borders between walls, places, campuses and people. Mainly three function based spaces embody their dynamic character with unconventional arrangement of spaces. Shared experience road play as a spatial bowtie role for the site. As the existence of the road comes from the level difference of topography, it carries on more roles for the changing levels, and at the end it exists for gathering, integrating and circulating for spaces, places and people.



# DICTIONARY



Co\_fusion bares to be resist on borders of places, which we bear as a witness for their 'names'. Co\_fusion and its' own dictionary, try to generate a new language on conventional sense of places.

co\_fusion: nonconventional way of sharing social memories of communities

node: Tangible intersection of senses, spaces and places

border: forgotten and never mentioned character for 'co\_fusion'

shared experience: transformative way of sharing spaces, places, reasons and communities

embodiment void: place for creating, and imaging.

visionary hall: place for touching to new visions.

treasure box: mainly mentioned as an usual place to say something from stage to world.

knuckle: space of nodes. experiencing, intersecting and observing different senses of places.

learning void: place for searching 'the new one'

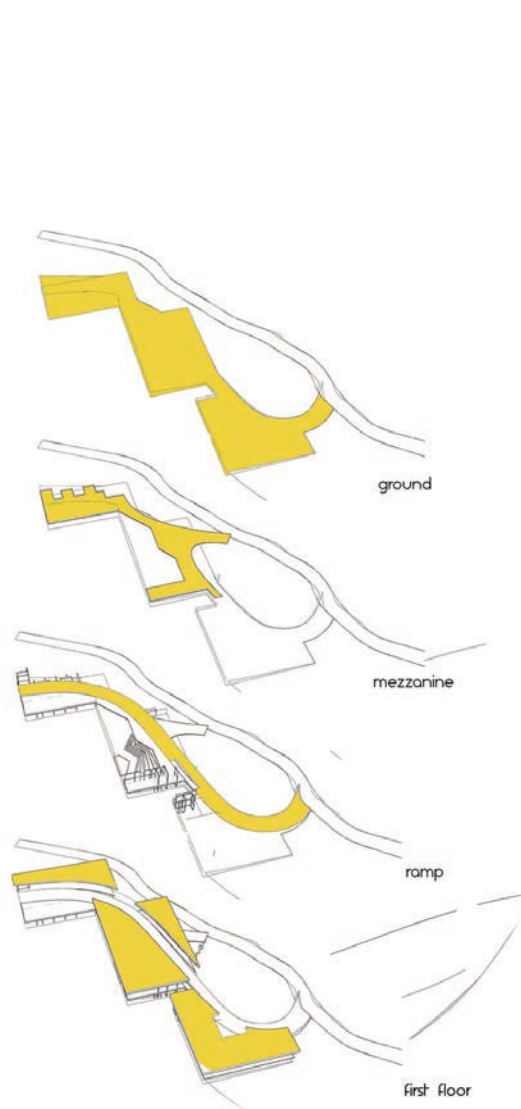
embodivation: knuckle space on sharing of creations

statement: knuckle space on treasure box

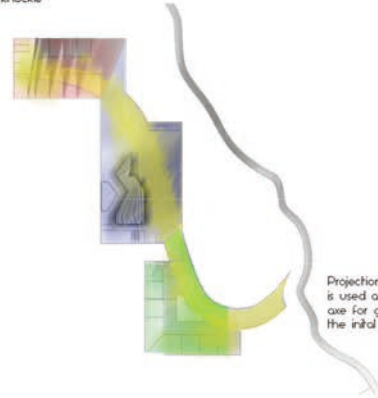
hub: nonconventional way of creating places from 'non\_borders' freedom



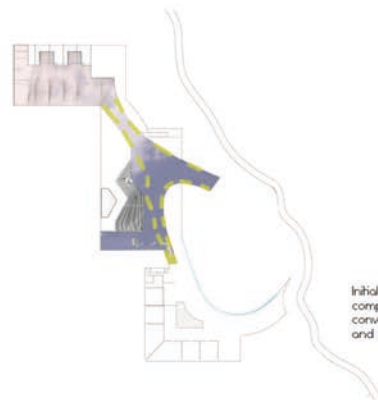
## transformation of shared experience mass



- spread of shared experience
- embodiment void
- learning void
- knuckle



Projection of shared experience road is used as the main circulation axis for ground floor. It determines the initial freedoms of spaces.

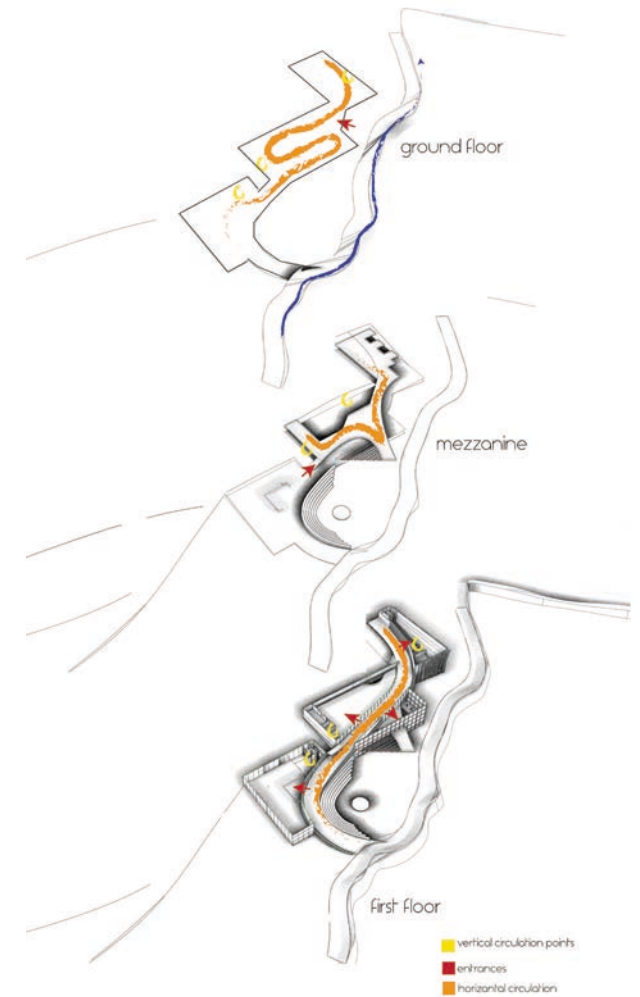


Initial rising of shared experience road composes a mezzanine, which has a conversation on ground level functions, and has a freedom to reach ramp.



For the top level shared experience road grows as a solid 'ramp' which perceptibly reaches topographical differences, discretely communicates for separated functions.

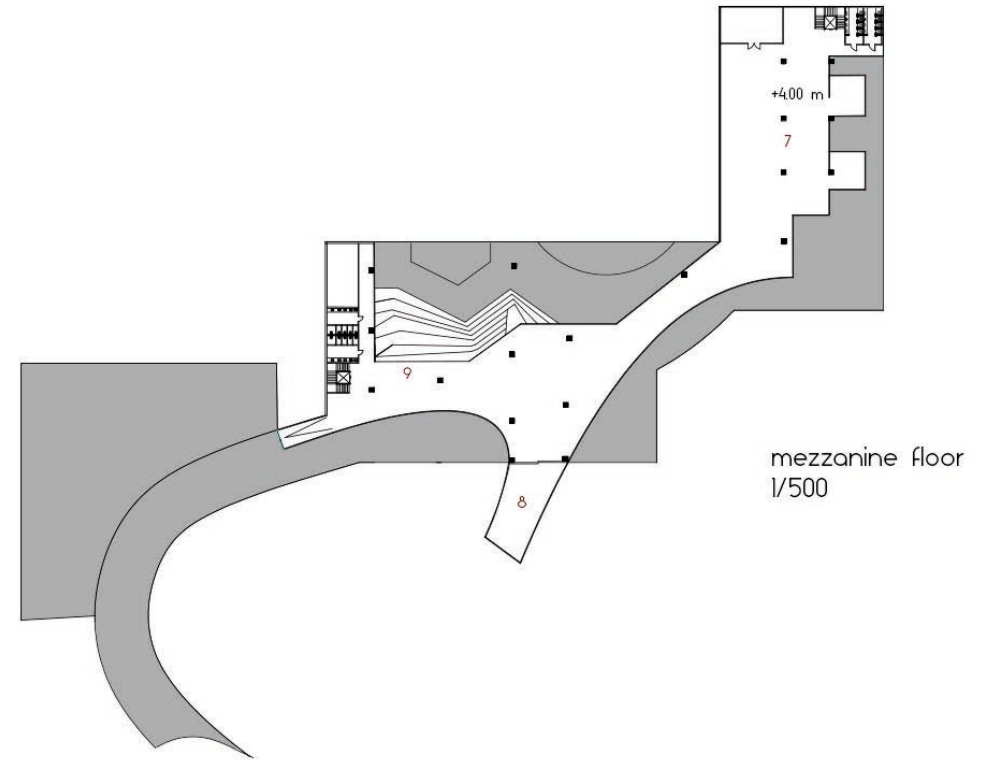
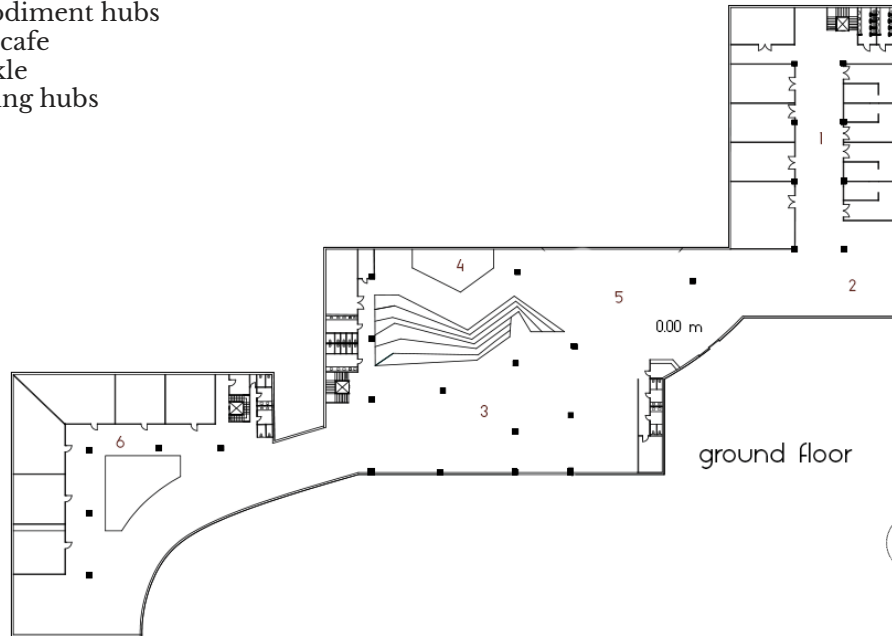
## circulation and accesses

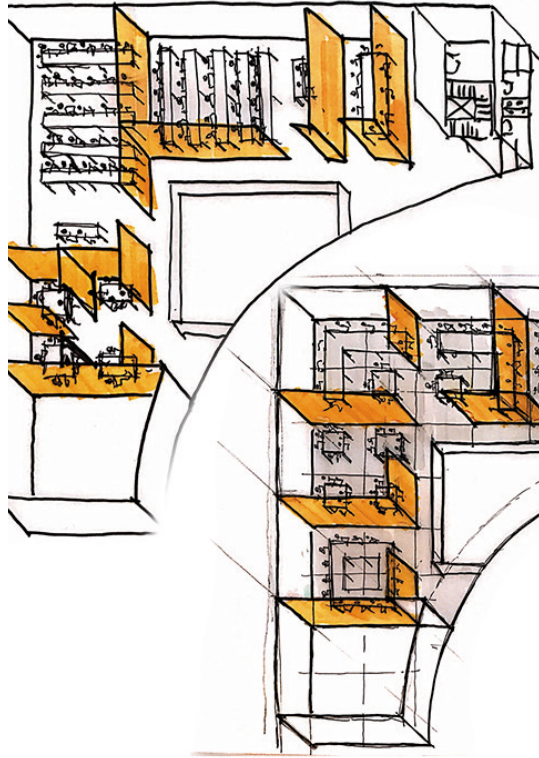




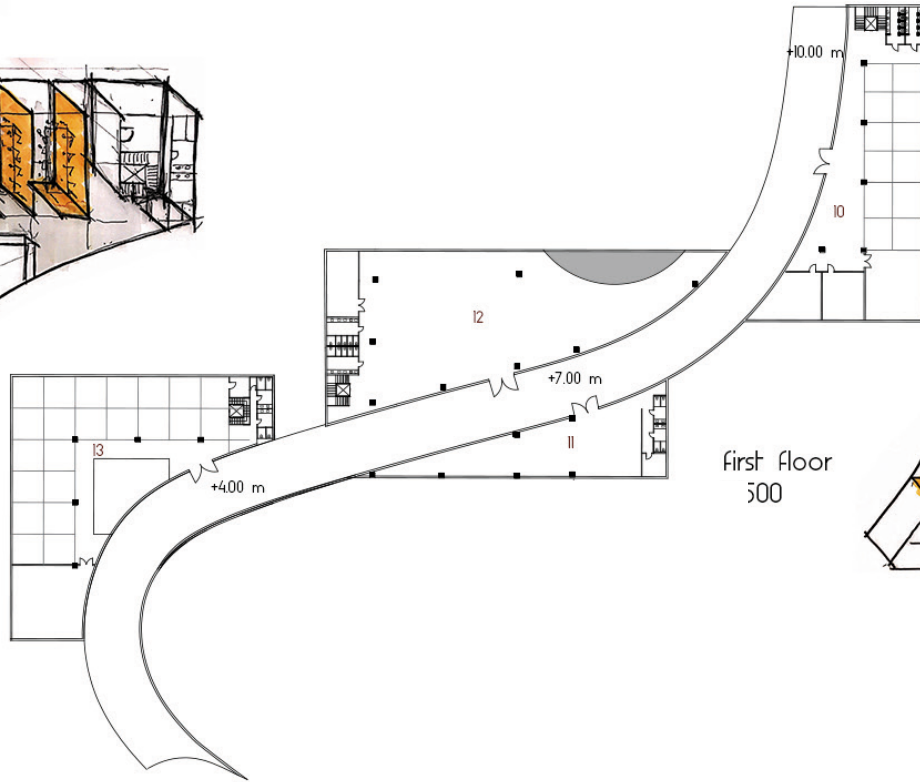
# PLANS

- 1- embodiment void
- 2- visionary hall
- 3- cafe
- 4- treasure box
- 5- knuckle
- 6- learning void
- 7- embodiment
- 8- sharing cafe
- 9- statement
- 10- embodiment hubs
- 11- silent cafe
- 12- knuckle
- 13- learning hubs

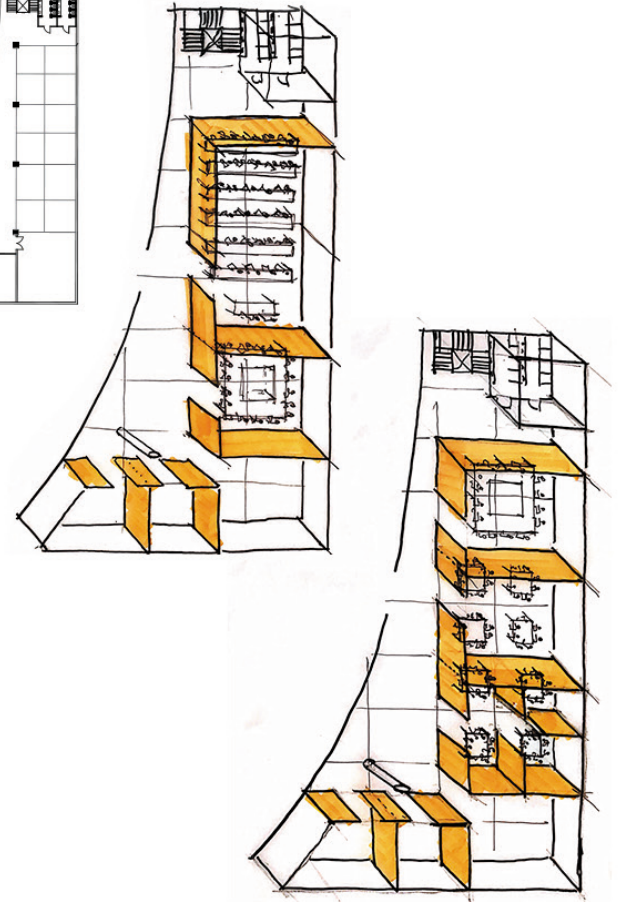




Movable system of walls are proposed for flexible sense of hubs. They are attached to specific rail system, and user is the decision maker for their location.



First floor  
500



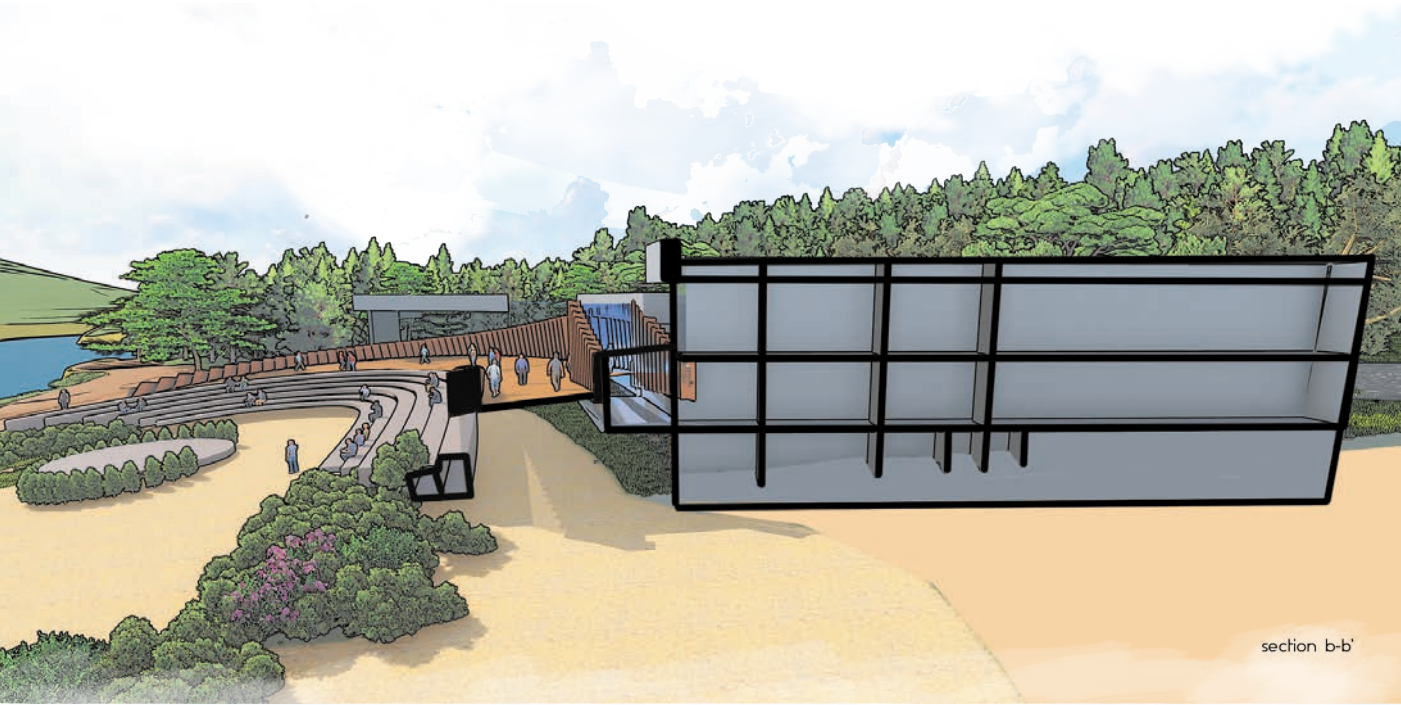
Main flow of spaces are composed by different layered floor systematics. Between the two ends of topography, shared experience flow has different roles for both functions, mass grounds and communication between the ends of topography. Initial existence of shared experience mass bares as the general print of ground floor plan. As well as the ground floor plan is mainly occupied under the topography; it comes in sight as a mezzanine floor. For the mezzanine projection of shared experience mass, it initially forms the interior observation and sharing spaces and at the end it reaches the top level of topography and go on its' existence as a shared experience ramp. For the top level of topography, shared experience mass is transformed to a ramp which has a meaning for uniting the ends of topography and create a new access road for site. Shared experience ramp is the space for main circulations, divisions, and gatherings. Between the flow of shared experince mass, division of main mass into three partial masses can be also observed. Beside the spatial bowties between the masses; facade elements are also used for creating a rhythm from railings of ramp to shading elements of facade.



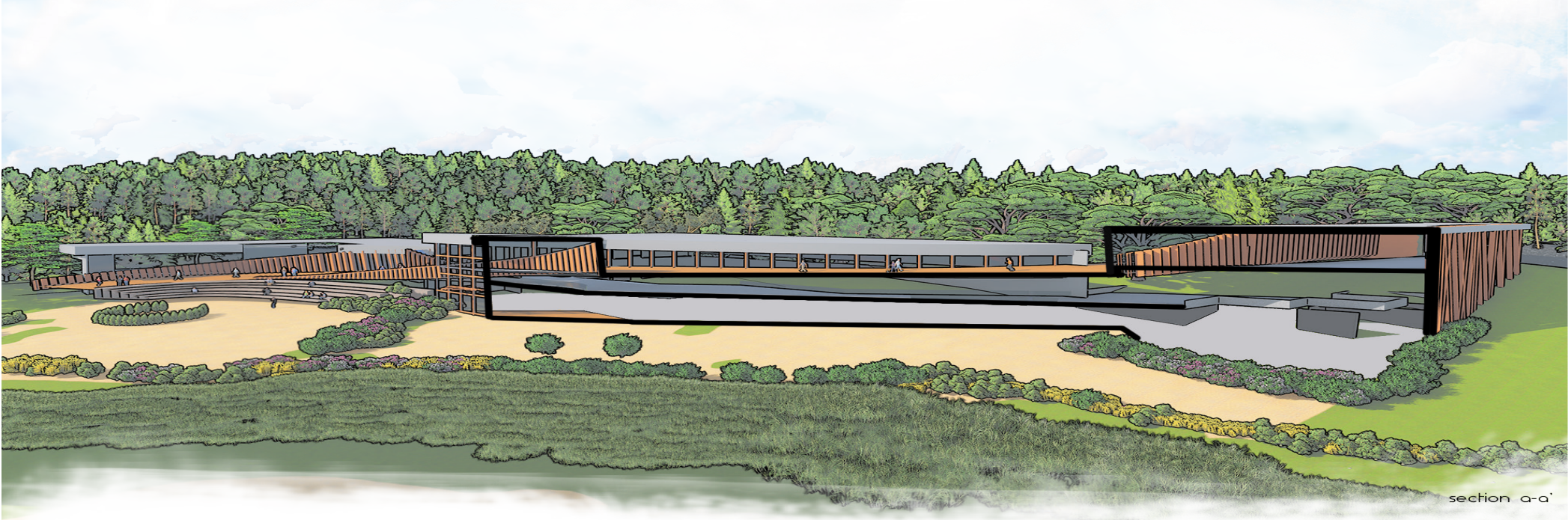
site plan



# SECTIONS

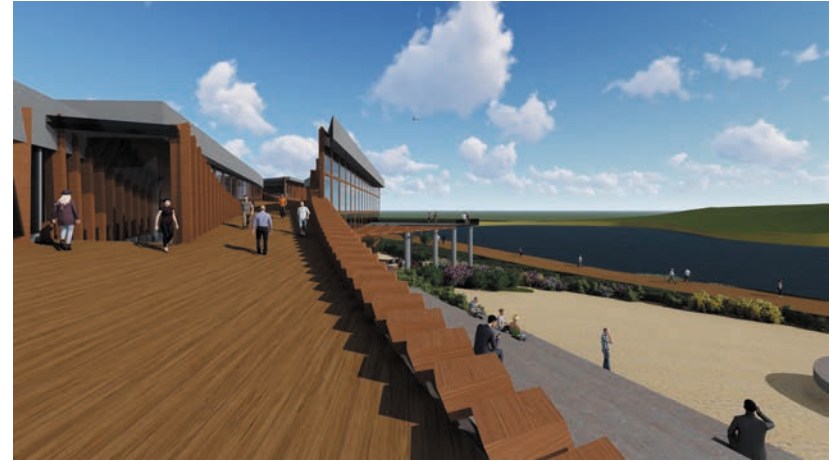


section b-b'



section a-a'







# Group 2: TRANS[FUSION]

Abdul Rehman Dandia  
Başak Günalp  
Burak Çelik  
Lerzan Keçoğlu  
Tuana Vural







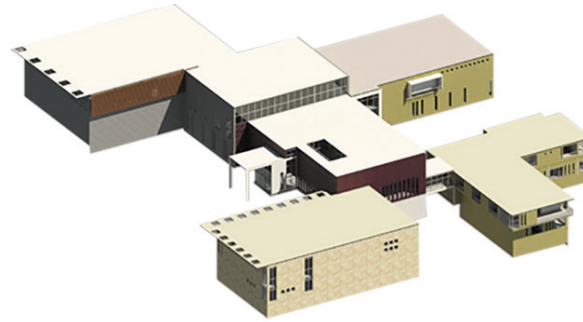
# RESEARCH & ACADEMIC CENTER

Abdul Rehman Dandia

# CONCEPT

Bilkent University has a very unique entertainment and activity area at Bilkent Lake, which if developed will uplift the land of Bilkent University into an attraction center for Ankara. The lake designed below has a tram and bicycle as means of transportation and pedestrian walkways are throughout the master plan in order for visitors to take a tour of any place they want on the lake. The lake has several functions proposed throughout the entire site, including social, public, private, offices, residential & commercial areas.

The Lake has several buildings built around it, and one of the is Research and Building Center as illustrated in the below picture, "Academic and Research Center". The Building Facilitates the postgraduate students as well as Phd students of Bilkent University in particular as well as the teaching staff of the University, etc, with a suitable research environment where there are offices for them to research efficiently, moreover they can find resources in library which is also a part of this building, additionally, the building also has an exhibition hall in order for the users to use the hall in times of exhibition, presentation of physical projects, inviting guest to show them some work etc.



Cafe and Snacks



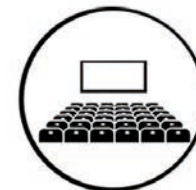
Library



Offices



Accomodation



Auditorium



Exhibition

# SITE PLAN



The site plan has controlled trees around it with a pathway leading from parking area to the stream. Additionally, the building has a seating and social area in front of the entrance, providing users to have a pleasant area outside the building as well.

Moreover, the pavement also gives the facility of providing a connection from the lobby to the stream passing underneath the bridge of accommodation.

The people coming to visit Bilkent Lake can walk on the pedestrian and come over to the Academic and Research Center using the same pedestrian pathway, which has a connection to the pedestrian that leads to the building.

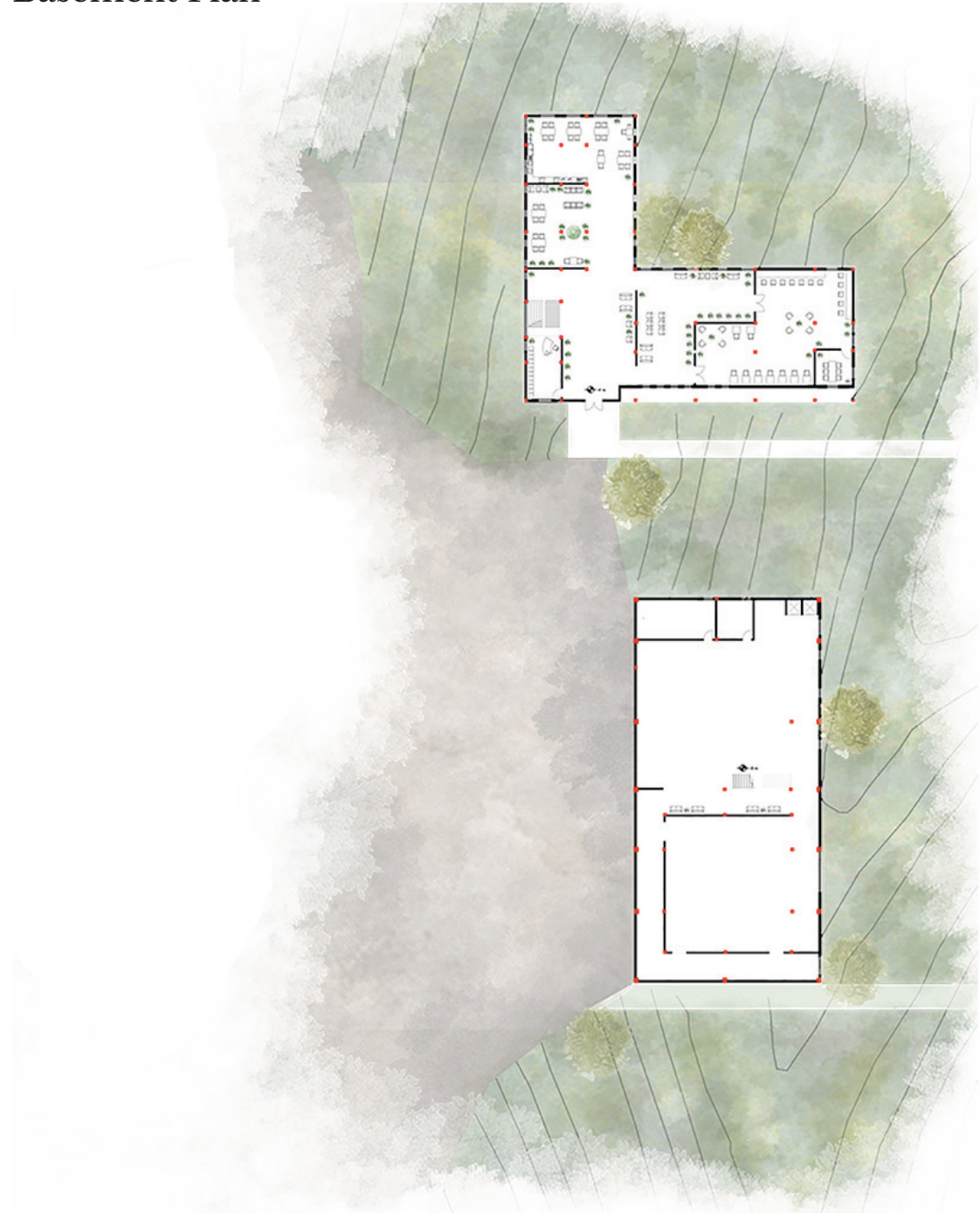
The Parking Area provides an opportunity for the visitors to park their car and walk towards the building, hence the absence or limitation of cars on the site would make the environment less polluted.

The open green lands allow the site to have the facilities of having activities which require large lands as well as future extension plans of the buildings space could also be not hindered by not having enough space, etc.

## Basement Plan

The floorplan shows the proportions of everything, the furnitures, the green area, the courtyard, the balcony, atrium, the exciting space going from one place to another. The entrance also has a surprising lobby, where there are information desk, people sitting and socializing with each other, together utilizing the cafe area at the sametime. The accomodation area has isolation created by the existence of a courtyard which allows the user to revolve around it and proceed to the accomodation. The library has an entrance behind the cafe area having office area above it having individual study area as well as combine study area as well. The Exhibition area's basement floor and the accomodation area's basement is a little dug inside the soil.

The Auditorium is also counted in for having presentation seminars, with a proper foyer with great views are also included in the building's concept. The accomodation place can be utilized by guest coming form oversea or from other city, etc, as to provide them the best efficient place to work and stay. And for the users refreshing break and socialization purpose a cafe and snackbar is thought and kept into the design.



Ground Floor Plan

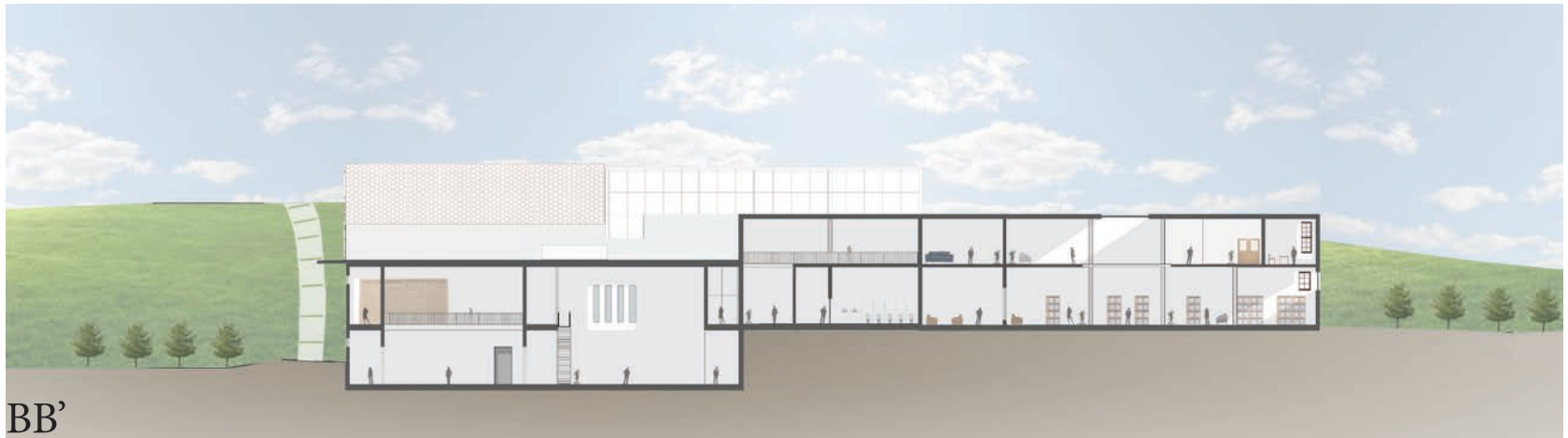


First Floor Plan





AA'



BB'



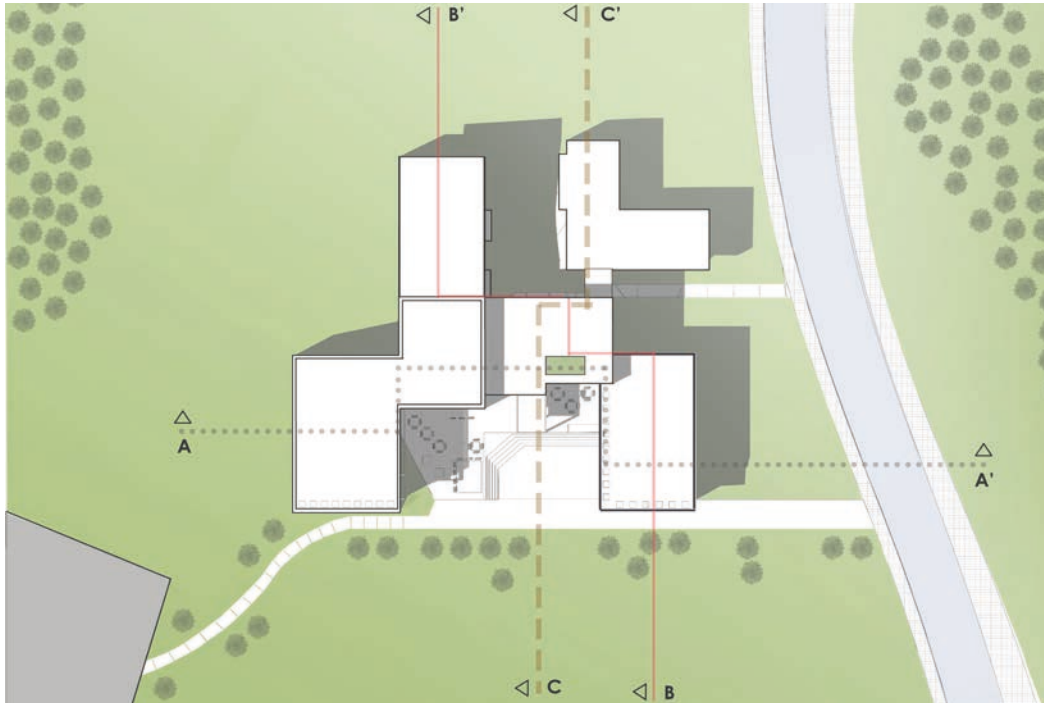
CC'

The section shows the sunlight coming from the windows, skylights, and other glazings making the place have an attribution of daylight saving, which saves energy during the day time.

The courtyard green space has leaves, plants, trees which is open to top having climate influence. The section also shows the accomodation area having separate rooms for every user, as well as big foyer place for the auditorium users.

The sections also illustrate the outer environment having trees, water element, pavements for people to have exciting space inside and outside of the building.

# SECTIONS



The site plan on the left shows an aerial view of the building having pedestrian pathways circulation and providing user-friendly circulation, which connects the parking area to the stream.

The site plan also has controlled trees planted around it in order to not disturb the circulation as well as other activities of the users related to the building and the site.

The open areas outside the building can be used for future extensions of the building or to house a new activity for the future generations. The water stream would be filled by the grey and black water collected from the drainage systems of the surrounding buildings.

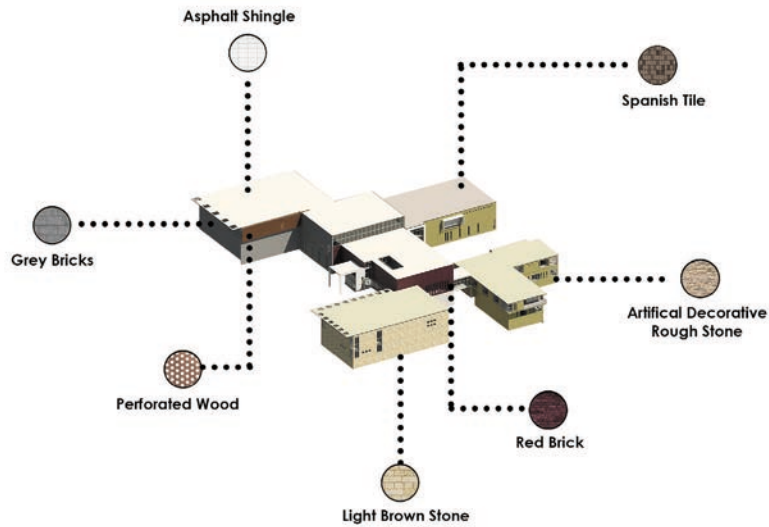


South Elevation



# DIAGRAMS

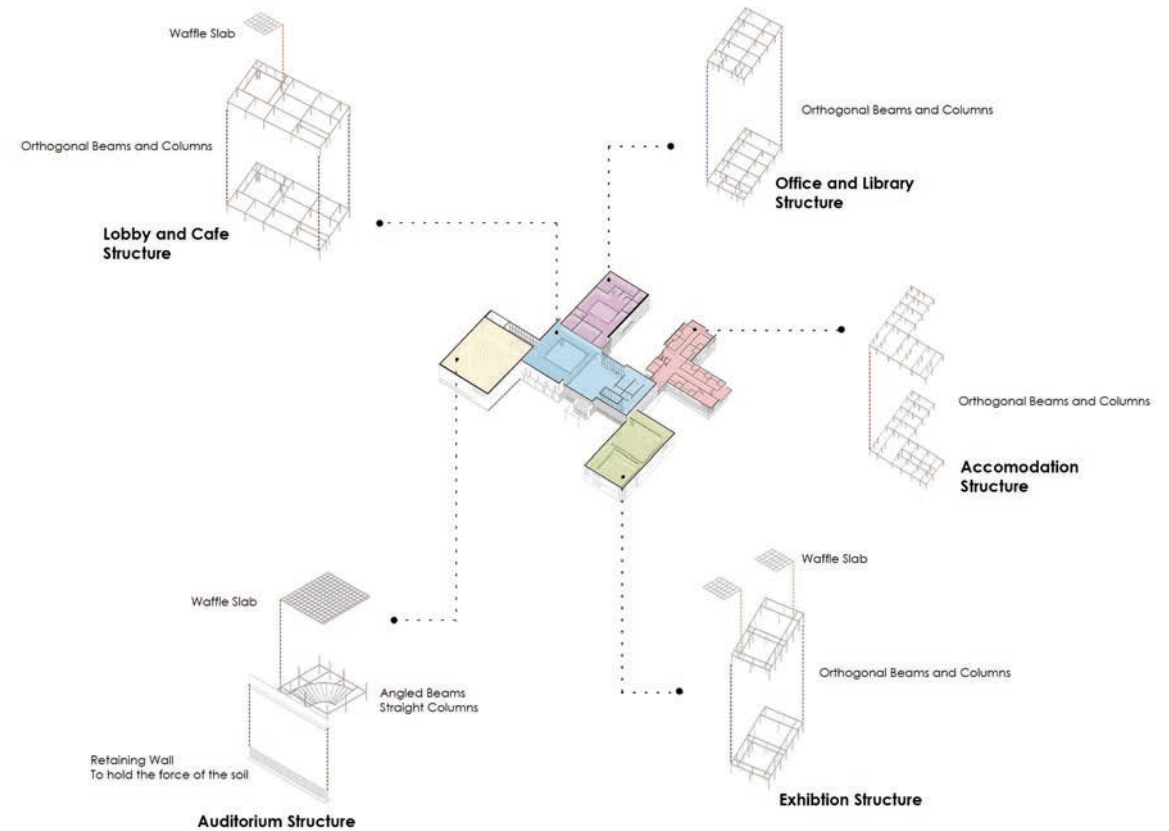
## Cladding System



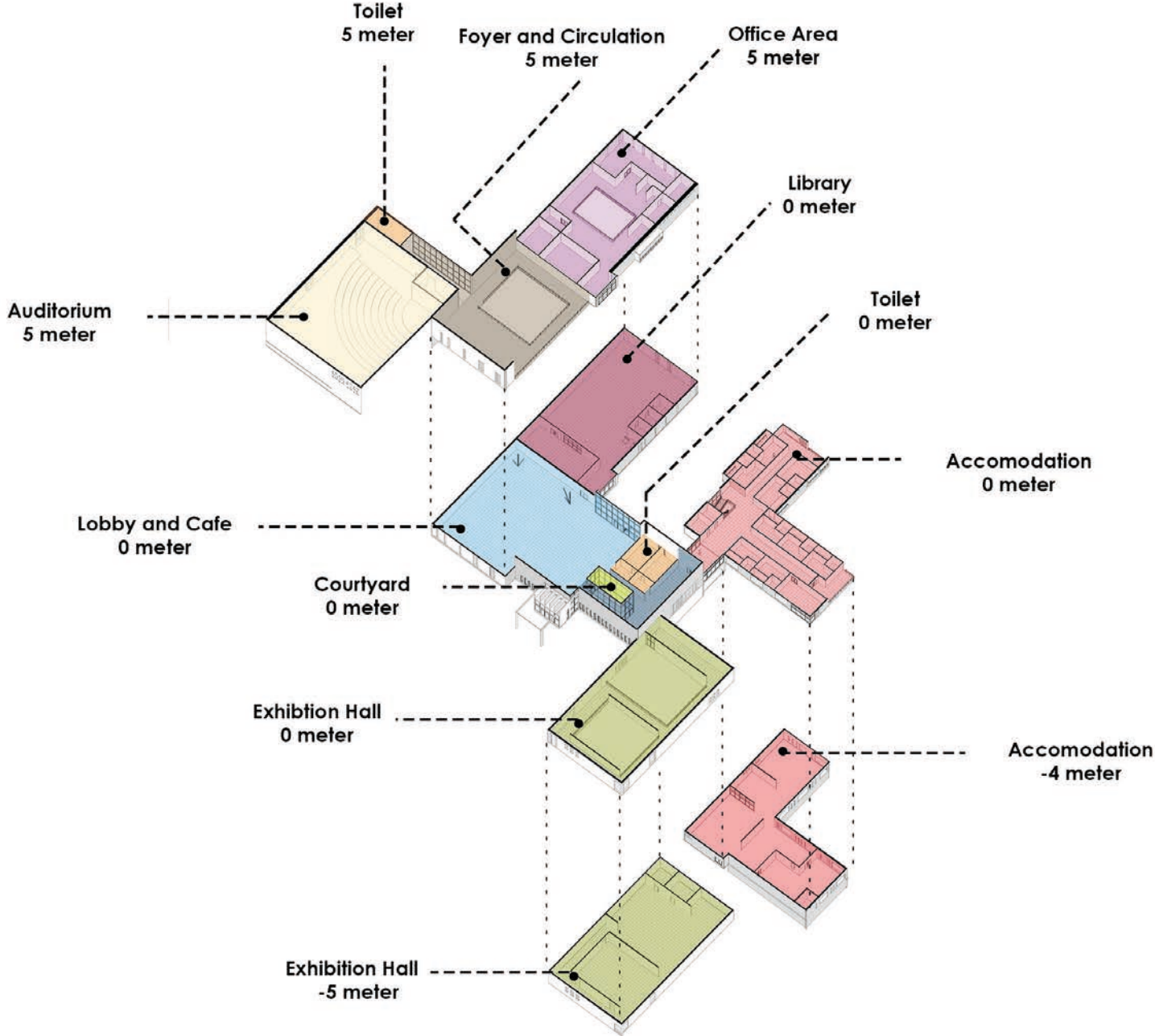
The cladding materials used in the building are chosen very carefully for it to be efficient throughout the year, during varying seasons. The exhibition hall has light-brown stone facade, making it look elegant. Additionally, the stone used on the facade of the accommodation area is artificially created in order to provide a comfortable outlook of the building. The auditorium has a perforated wood installed on the facade in order to provide dreamy light effects towards the interior space. Moreover, the material used on the roof is asphalt shingles and Spanish tile so as to complement Ankara's vernacular architecture and to provide the best solution for every season.

The Structure diagram shows the existence of consistency of structure throughout the building, however there are some retaining walls installed in order to hold up the weight of the soil. Additionally, the auditorium's structure have angled beams making up an appropriate structure for the construction of auditorium. The accommodation building have a very simple orthogonal structure with beams and columns arranged in a very efficient way. The library, office area, exhibition hall, lobby, and restaurant area also has the same orthogonal simple beams and columns installed. Moreover, the auditorium has waffle slab used on its roof because it has long slab on behalf of avoiding columns inside the auditorium.

## Structural Diagram



# Functional Diagram



The diagram shows the functions in the building which includes an auditorium, exhibition hall, lobby, cafe and snack bar area, accomodation area, library and office area. These functions are required for the research center as there are ants coming over from the main campus of the university as well as the oversee guests.





D

A: Library Space underneath the offices, used by the students carrying out research activities in the center. The library features study spaces including multimedia facilities.

B: Exhibition Hall with various height levels for different exhibition products connected with continuous walkways.

C: Auditorium on the first floor, with a mesmerising skin for interesting light effects.

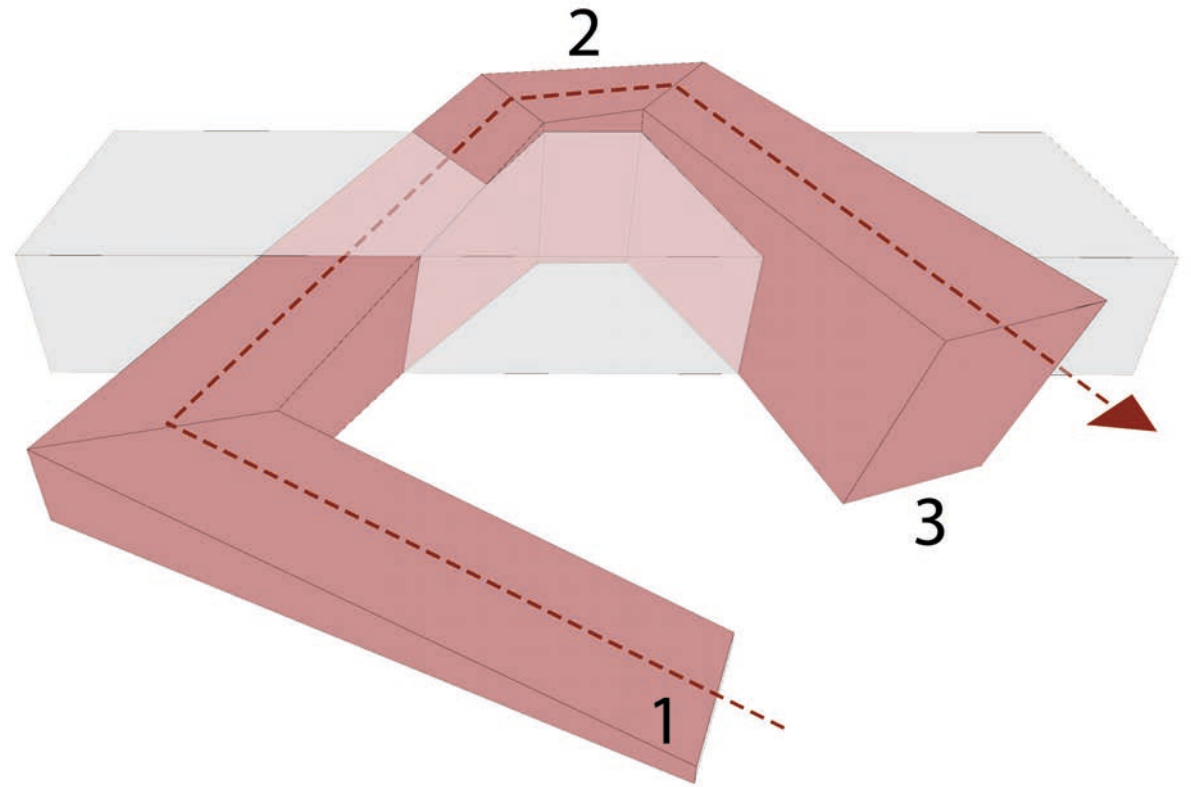
D: Foyer Space for the auditorium that serves as a gathering space, where people come around and discuss ideas.

E: Lobby and Entrance on the ground floor where people are introduced to the building.



E





# LIFE-LONG EDUCATION CENTER

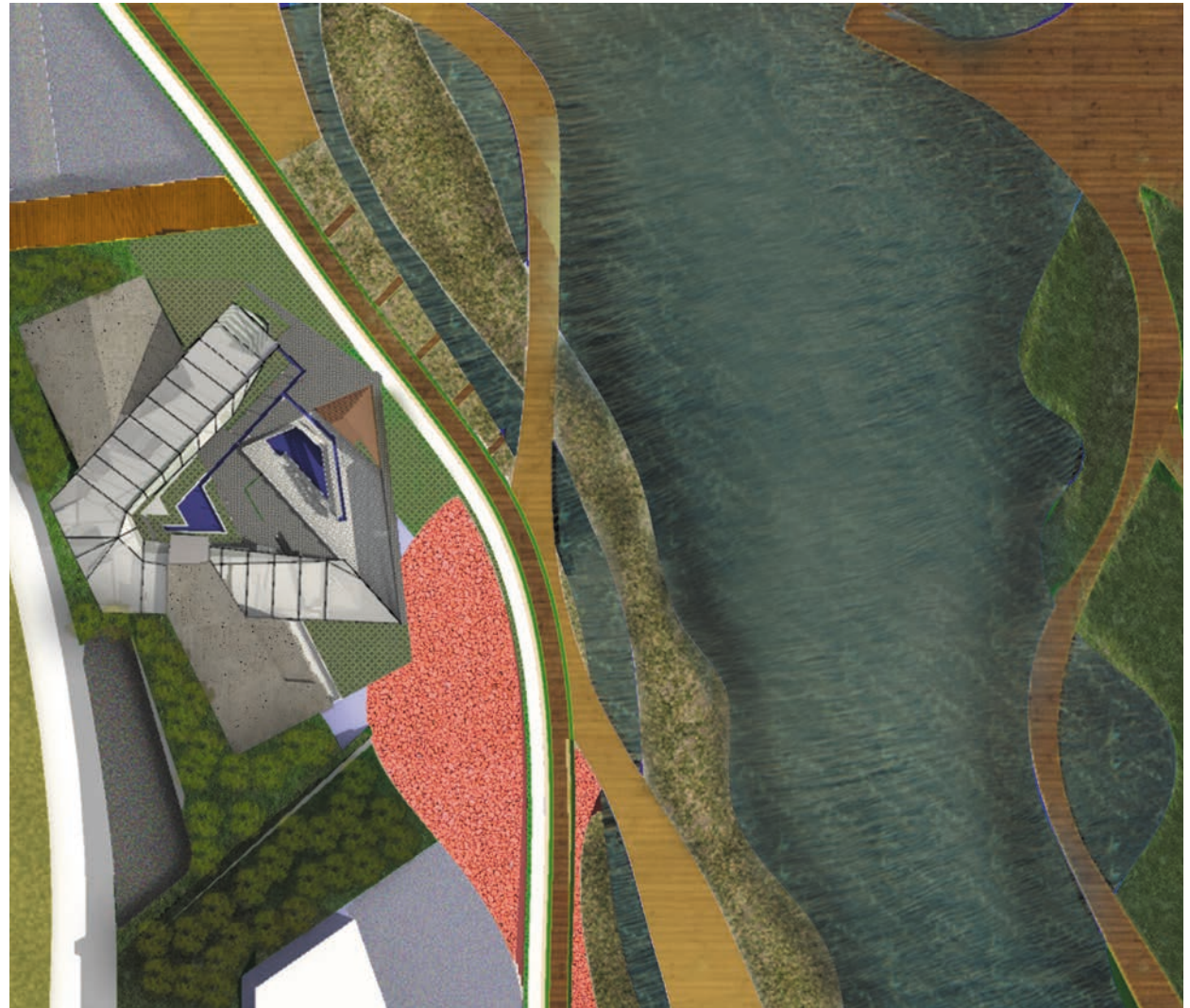
Başak Günalp



# CONCEPT

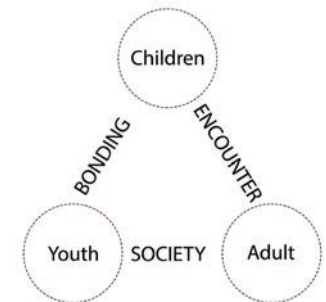
The learning mechanism starts on the day we are born and continues a lifetime. The main motto of this life-long education center is to support the non-stop learning system and enable its sustainability in many aspects. The fundamental approach is creating permeability, variety and dynamism in the building. This approach is a critique to the loss of creativity and flexibility in time through education that creates solid boundaries. The building aims to dissolve these boundaries and structures in its spaces and experiences.

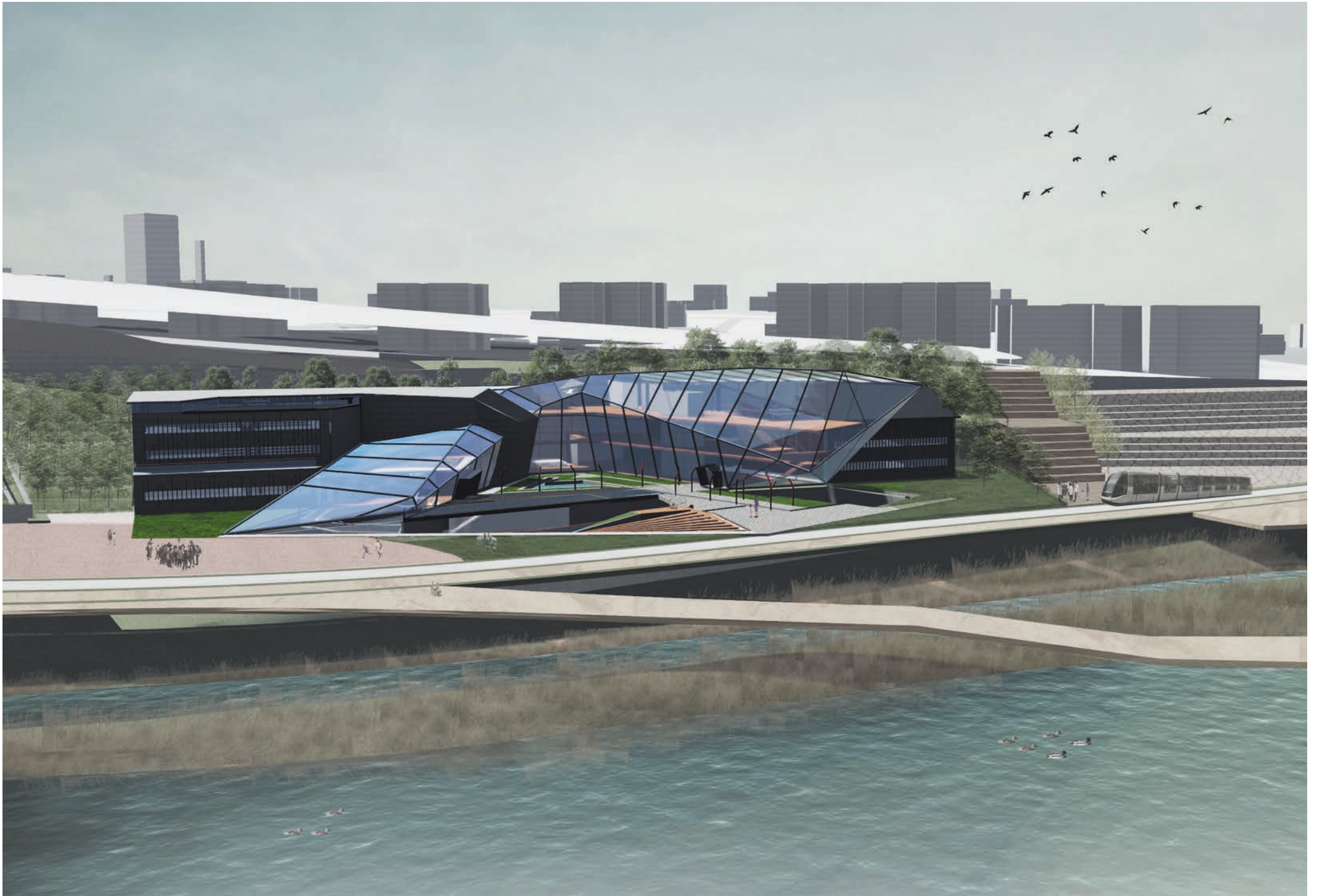
The building program offers variety of spaces to enable users develop themselves both individually and in groups. The solid mass works as a common learning center, including classrooms, open classrooms, library, conference hall and workshop areas, whereas the transparent mass includes the developmental functions for differentiating user profiles in terms of generation, such as motor coordination playground, life consultancy and entertainment and herbal treatment center. The variety and overlaps in spaces aim to welcome every user profile to use all the spaces without any boundaries.



As the diagram shows, the generations have a bond that creates a loop, starting from children and ending up with adults. In order to have a healthy society that sustains by itself, a cycle is created in the learning system that welcomes every learner in every learning program, by creating open classrooms and workshop areas.

By bonding the members of society starting from childhood, encounter is created that leads to a sustainable society in terms of environmental and social.







# PROCESS DIAGRAM

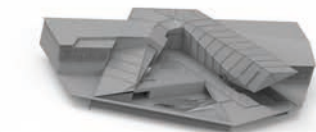
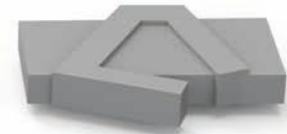
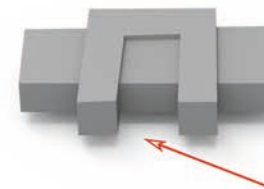
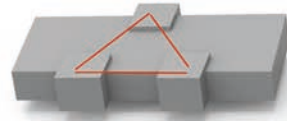
The building program is set as life-long education center for every user type consisting of children, youth and adults. The main mass is set as classrooms, workshop areas, conference hall etc.

As the trio requires, the generation-specific areas are set in the common mass.

Since learning is a continuous process, the generation-specific areas turned into one continuous space that also circulates the main mass.

The surrounding plays an important role for shaping the form, the main axis of approach set the arms' orientation to attract the people from the site, where tram-way passes. Open courtyard is supplied for public gathering in the middle.

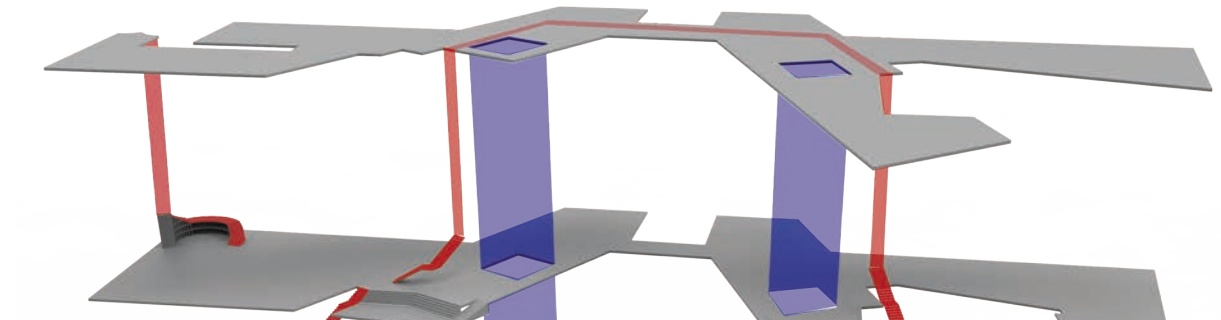
As people build their foundations from base in the learning process, the form gets its inspiration from the motion of getting higher by building foundations.



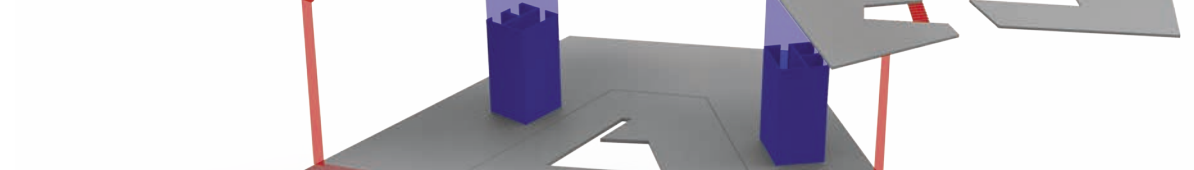
# CIRCULATION DIAGRAM

Since learning is a non-stop process, this idea is emphasized also in the circulation. The circulation forms a loop within every floor, allowing visitors to access the building from three different entrances. With directing stairs, the middle mass can also be used as an open exhibition gallery due to its continuous form enclosed with classrooms and workshops.

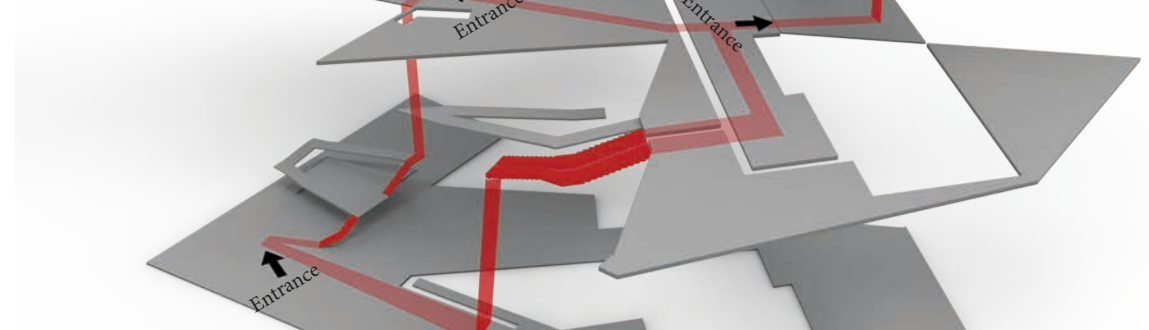
Second Floor



First Floor



Ground Floor



Basement Floor

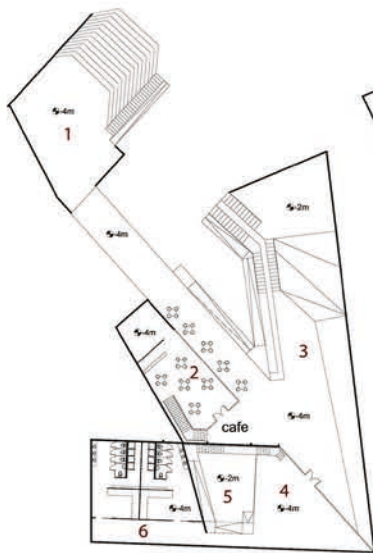


# BUILDING PROGRAM



- 1- Open Air Amphi
- 2- Cafe
- 3- Open Playground
- 4- Entrance & Lobby
- 5- Motor Coordination Playground
- 6- Locker Rooms
- 7- Open Classes
- 8- Multimedia Room
- 9- Laboratories
- 10- Conference Hall
- 11- Entrance & Lobby
- 12- Art Shop
- 13- Music & Arts Atelier
- 14- Material Storage
- 15- Entrance & Lobby
- 16- Workshop Area
- 17- Classrooms
- 18- Open Study Area

- 19- Botanical Treatment Space
- 20- Free-time activity Space
- 21- Cafe
- 22- Lounge
- 23- Workshop Area
- 24- Library
- 25- Office Area & Collaboration Space
- 26- Techno-Center
- 27- Consultancy & Entertainment
- 28- Entrance & Lobby -from parking lot-
- 29- Library & Common Study Space



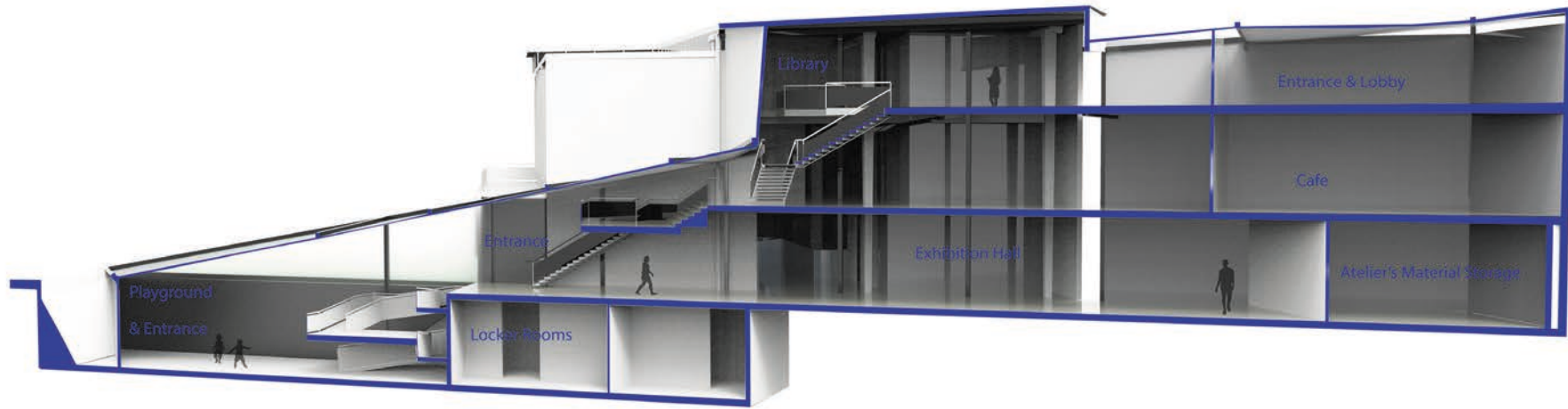
Basement Floor Plan

Ground Floor Plan

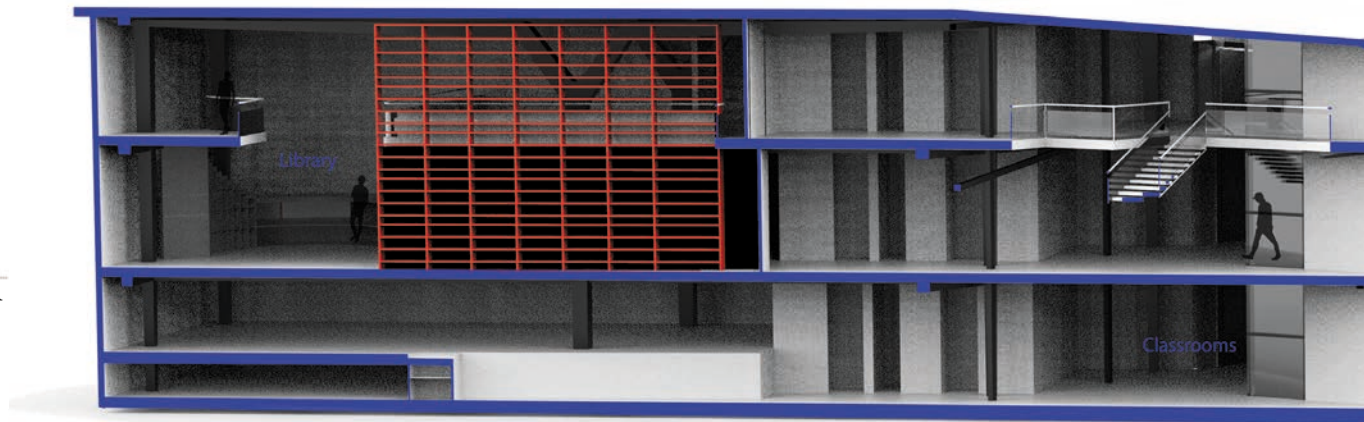
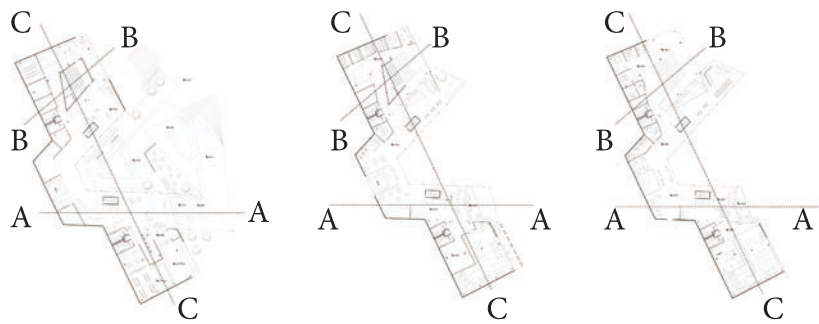
First Floor Plan

Second Floor Plan

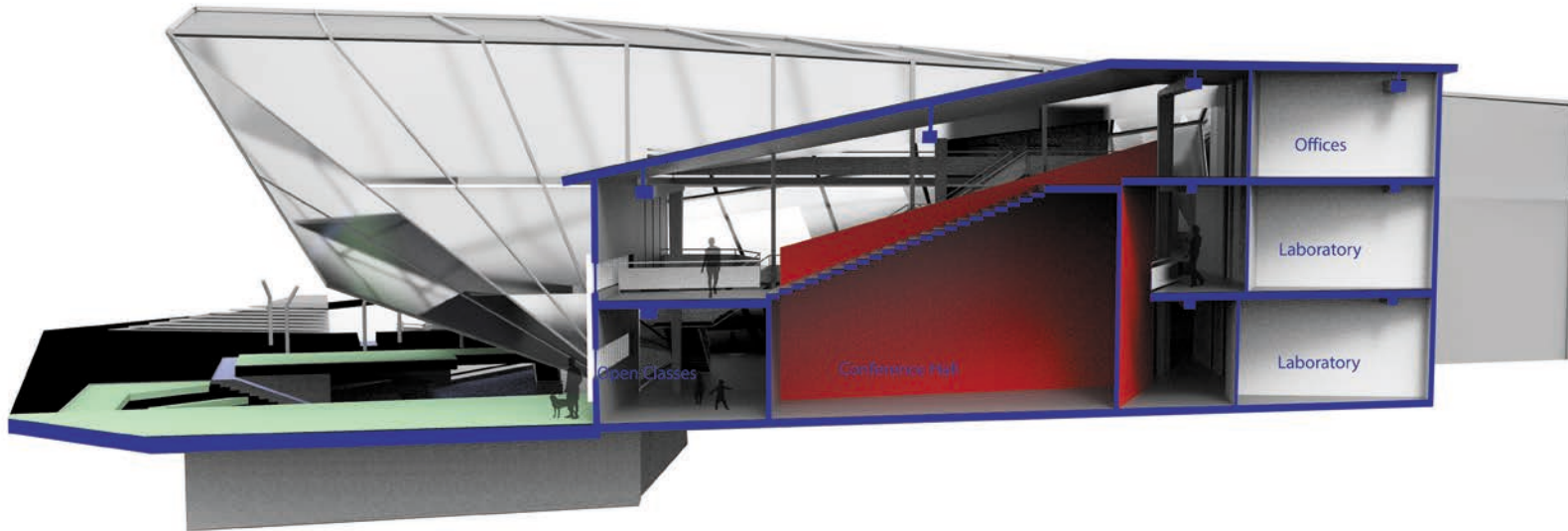
# SECTIONS



SECTION AA



SECTION CC

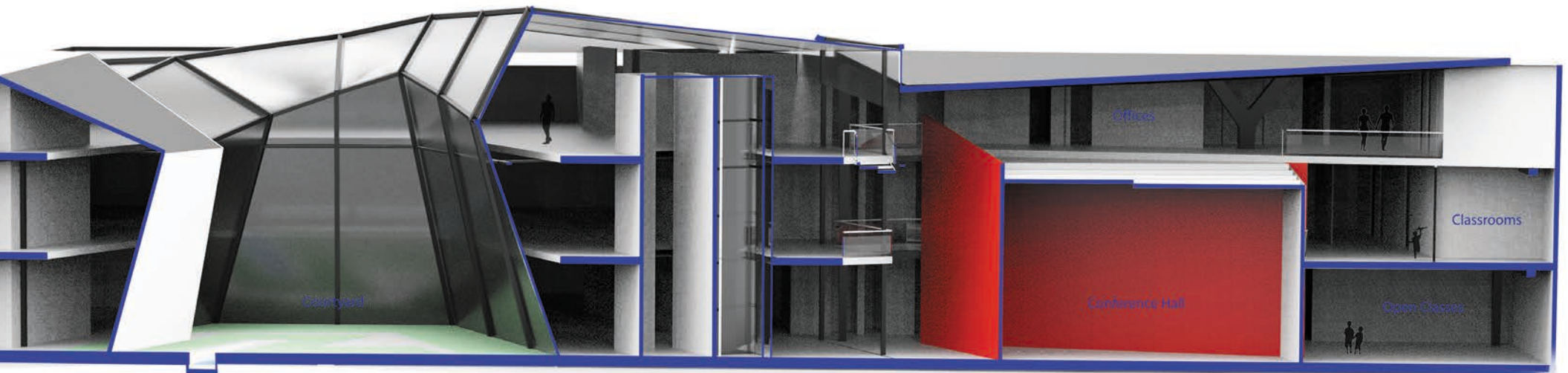


SECTION BB

The sections show the inside-outside and floor to floor relationships. The main mass has two local points creating the pique of the encounters with the solid and void definitions. The red areas are conference hall and library's 2 floor bookshelf. The other void that creates the encounter is the courtyard that can be used as an open learning area.

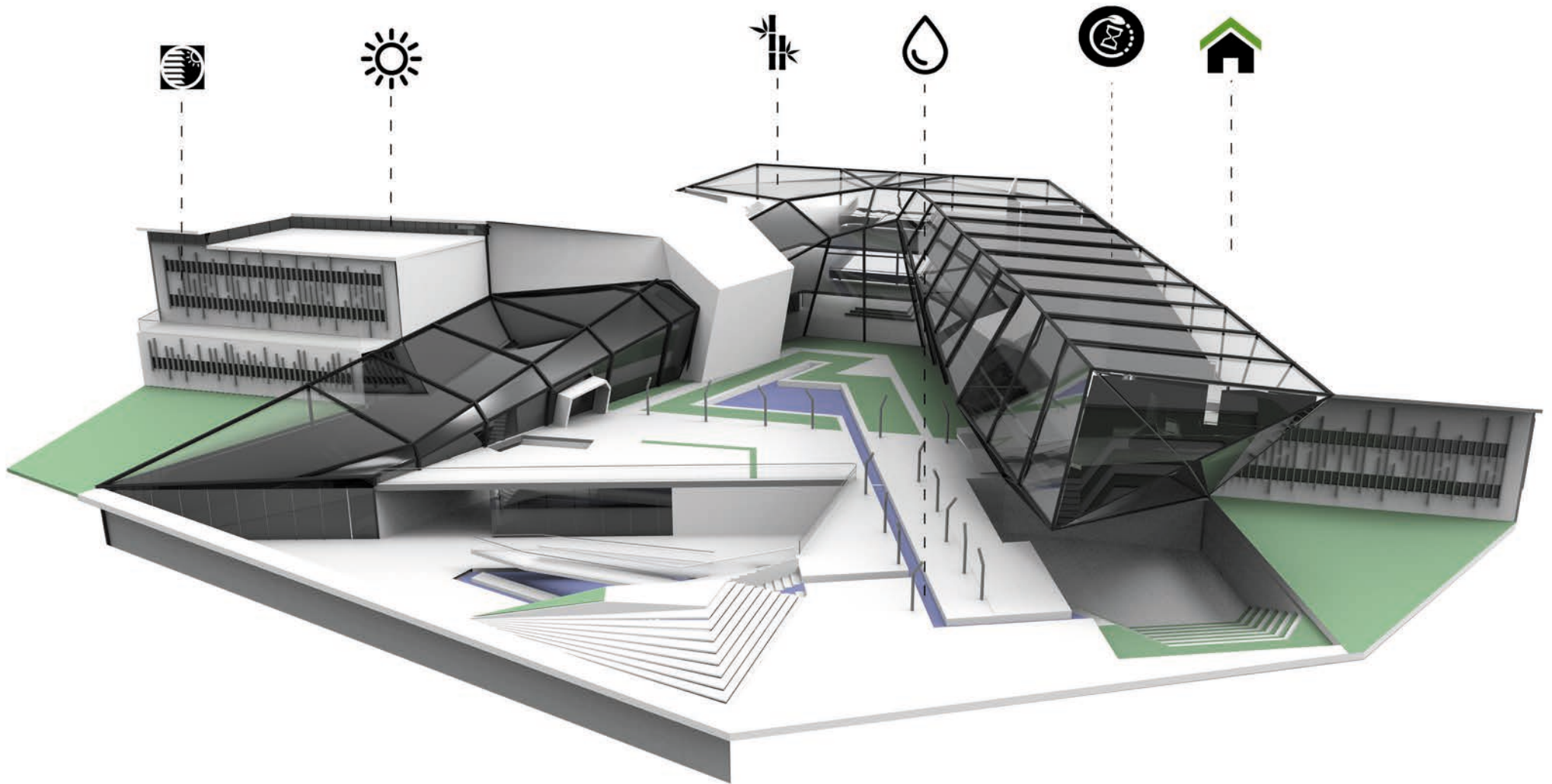
The main building is divided into two, one part consist of offices and classrooms and the other part consists of areas with free circulation such as workshop areas and library.

The continuous part's floors are turning into more rigid floors from the dynamic motor coordination playground.



# SUSTAINABILITY DIAGRAM

Environmental systems are applied throughout the site, beginning from the master plan. Applied systems include green roof, rainwater harvesting, durable and sustainable materials, louvers for passive cooling, chilled beam system inside the structure. These systems are not only applied but also “how to” part is taught in workshops, supporting the learning process of sustainability not only theoretical but also practical by making it visible.





Green roof system is used to create a delicate transformation from landscape to building



ETFE is used as covering material instead of glass to decrease the greenhouse effect and enhance the sustainability and durability of materials



Rainwater harvesting system is applied with landscape in order to use the water efficiently within the site (irrigation etc...)



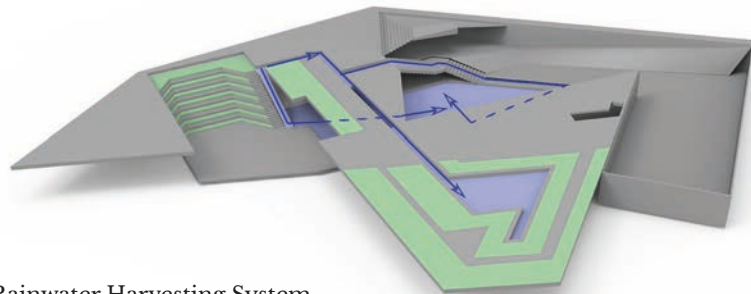
Bamboo is used as an interior material for material durability and sustainability



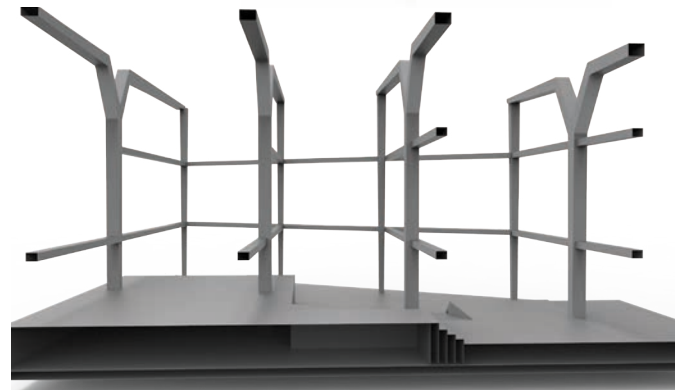
North light is invited to library with an opening on roof, creating homogenous lighting inside, decreasing the use of artificial lighting



Louver system is applied on east facade to increase the comfort and decrease the excessive thermal heating



Rainwater Harvesting System



Environmental Structure System

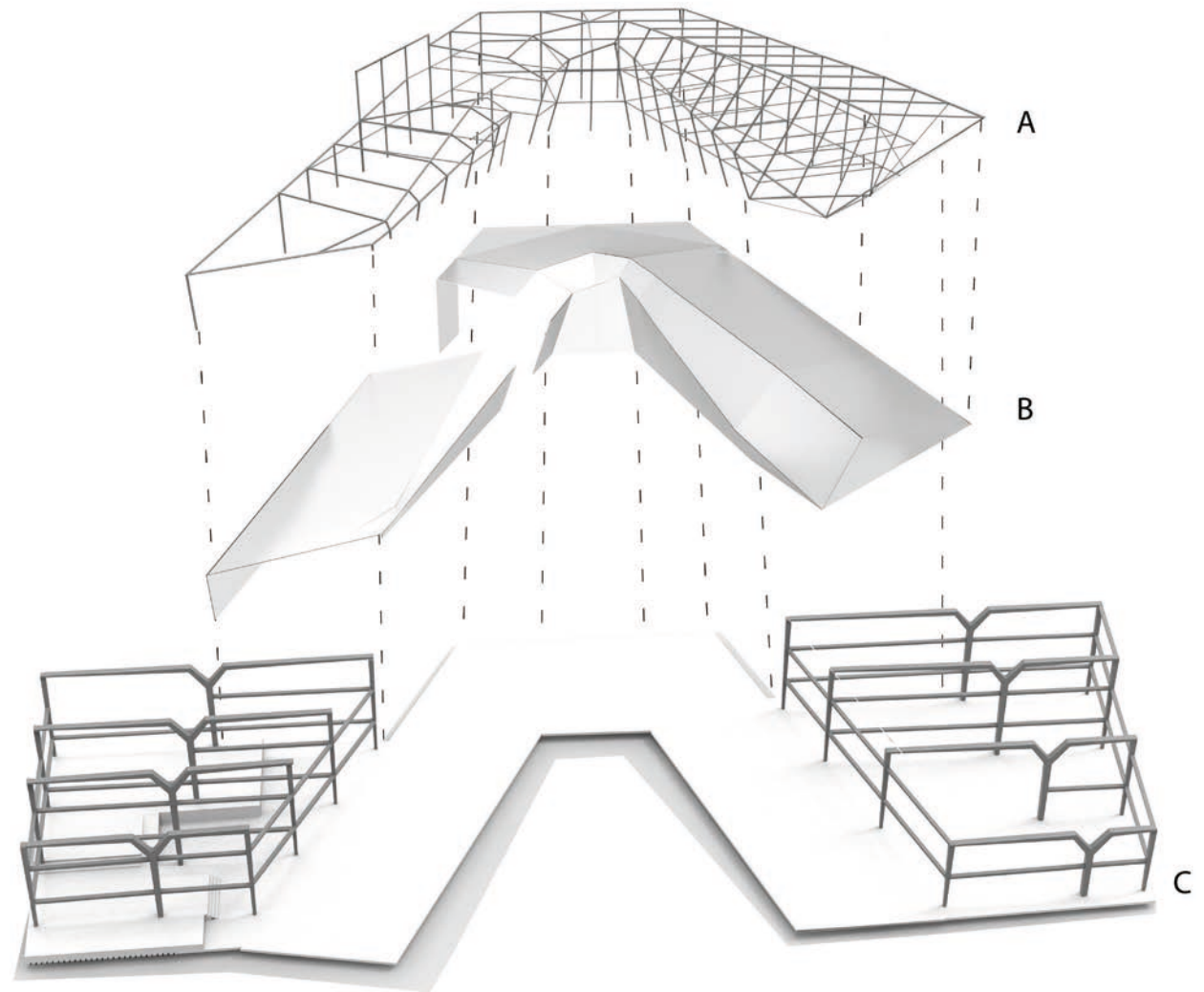
# EXPLODED STRUCTURE DIAGRAM

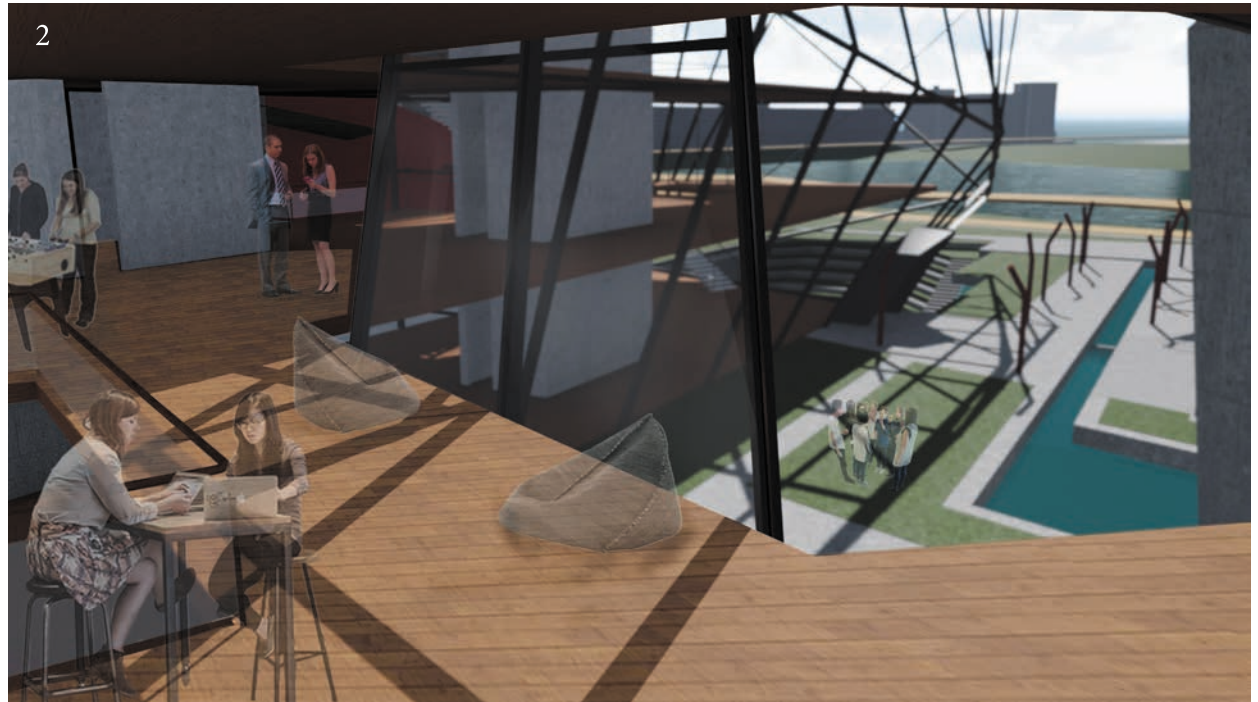
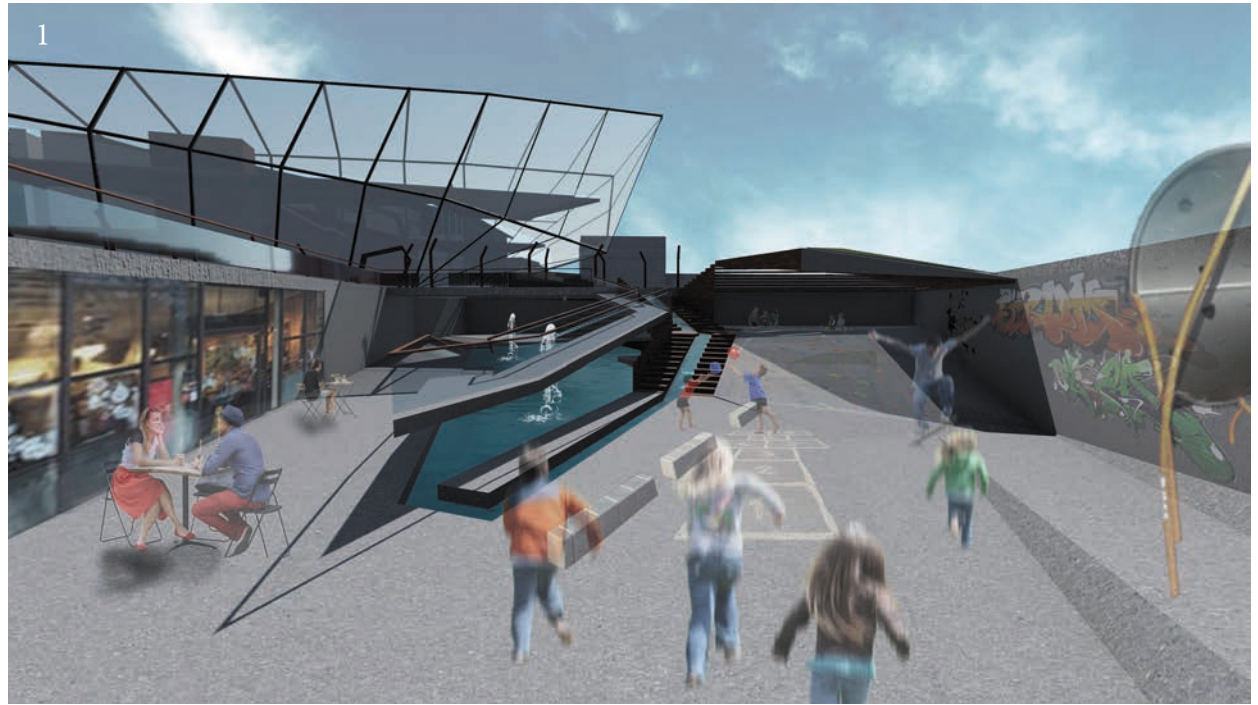
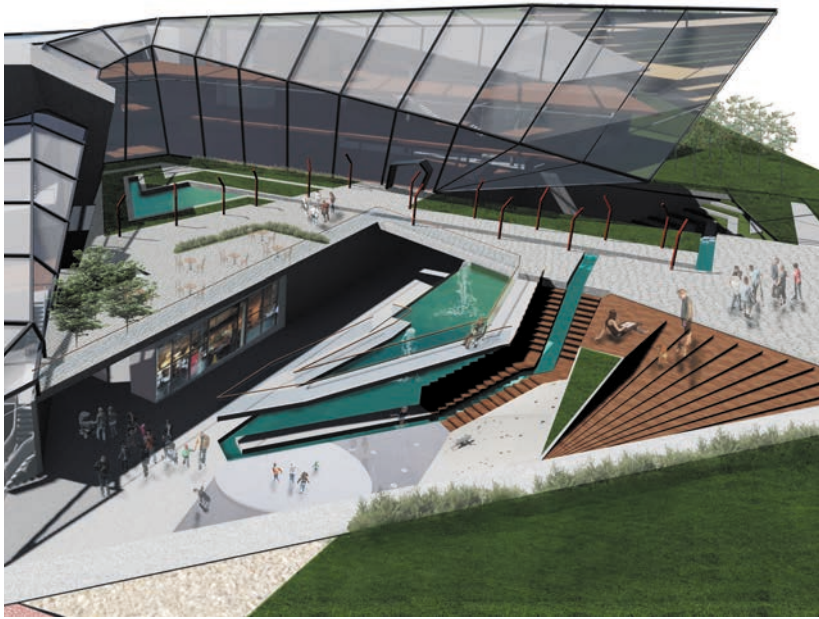
Structure is another part of design that emphasizes the differentiation of masses and solid void relationships. The main mass has a cage structure consisting of wide columns, that works as a chilled beam system. The continuous part has an ETFE cover that is supported with hollow steel structure. With this, the change during circulation along the life-long education center can be realized in experience.

A- Hollow Steel Structure

B- ETFE Cover

C- Hollow Steel Frame





Waterscape emphasizes the circulation and endless loop, by circulation around the site.

View from Library- Library is for public use allowing wide range of sources for the learning process.

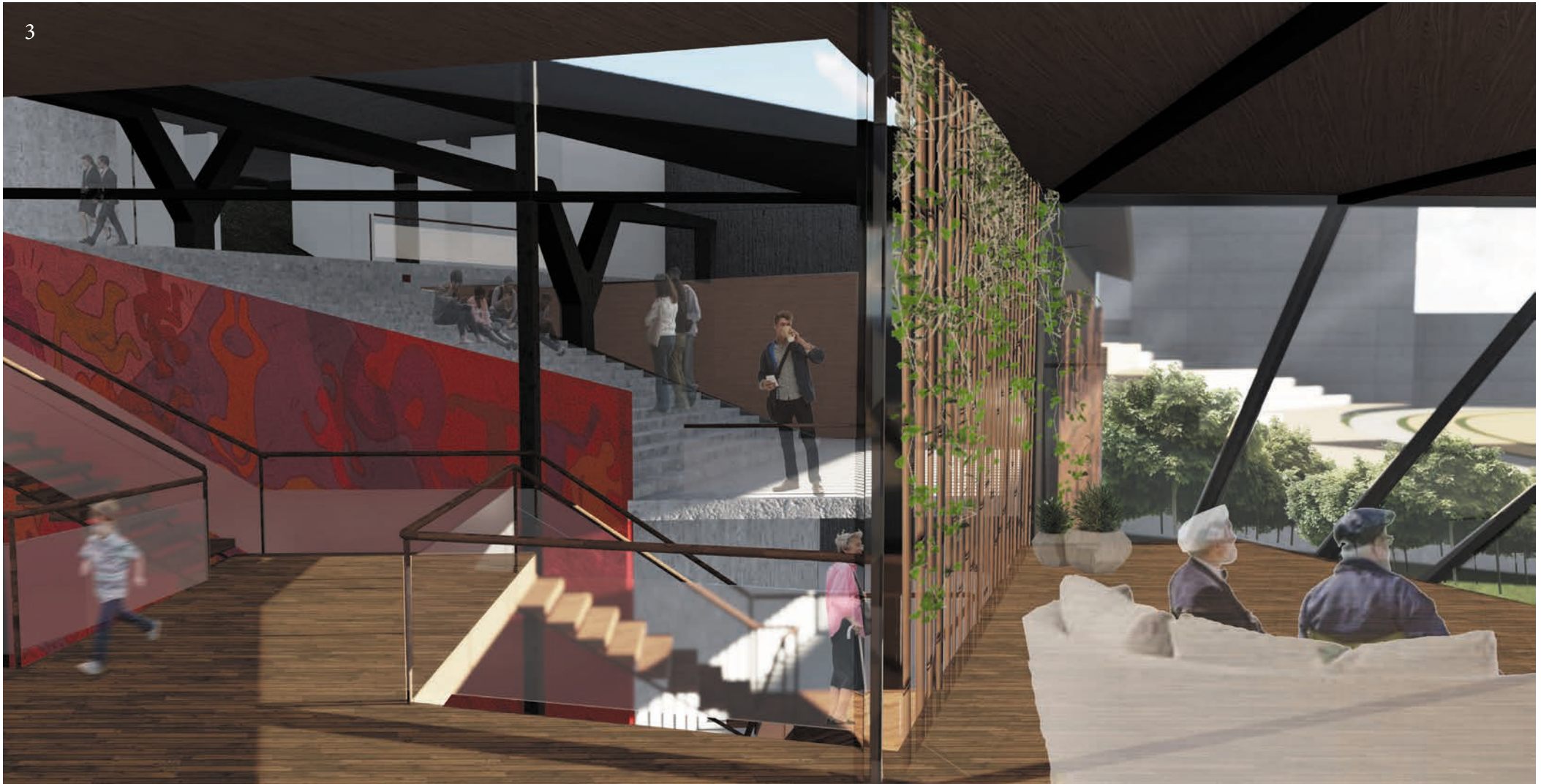
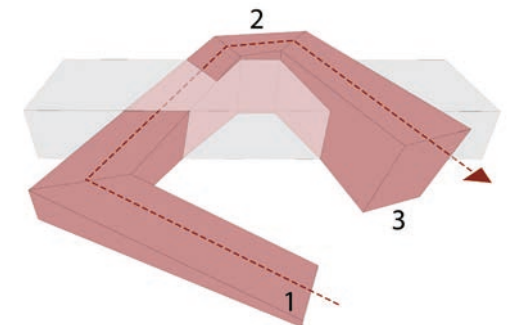


Diagram indicates the areas from 1 (open playgorund) to 3 (botanical treatment area):

1- Open playground and cafe creates an opportunity for encounter. The playground offers different areas -with different slopes, allowing skaters to play- and equipment for children for wide range of activities.

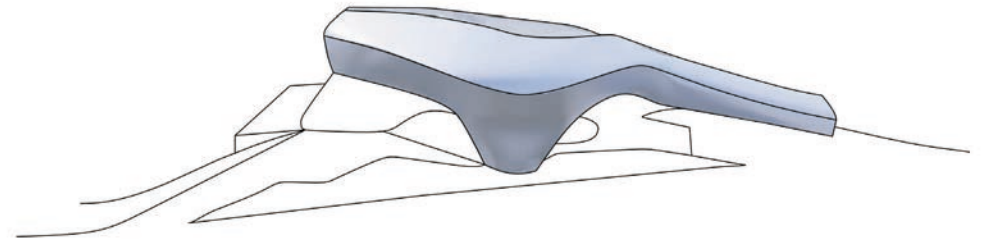
2- The entertainment and consultancy area offers many free time activities, from business to alternative sports such as table soccer and billard.

3- Botanical treatment area offers good view of site creating an efficient relaxation spot.









# CONNECT.TECH // Institute of Technology

Burak ÇELİK

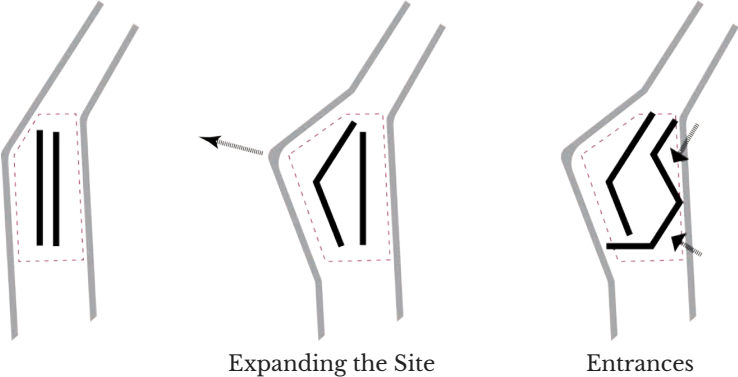
**Connect:** mid-15c., from Latin conectere “join together”

**Technology:** a body of knowledge devoted to creating tools, processing actions and the extracting of materials.

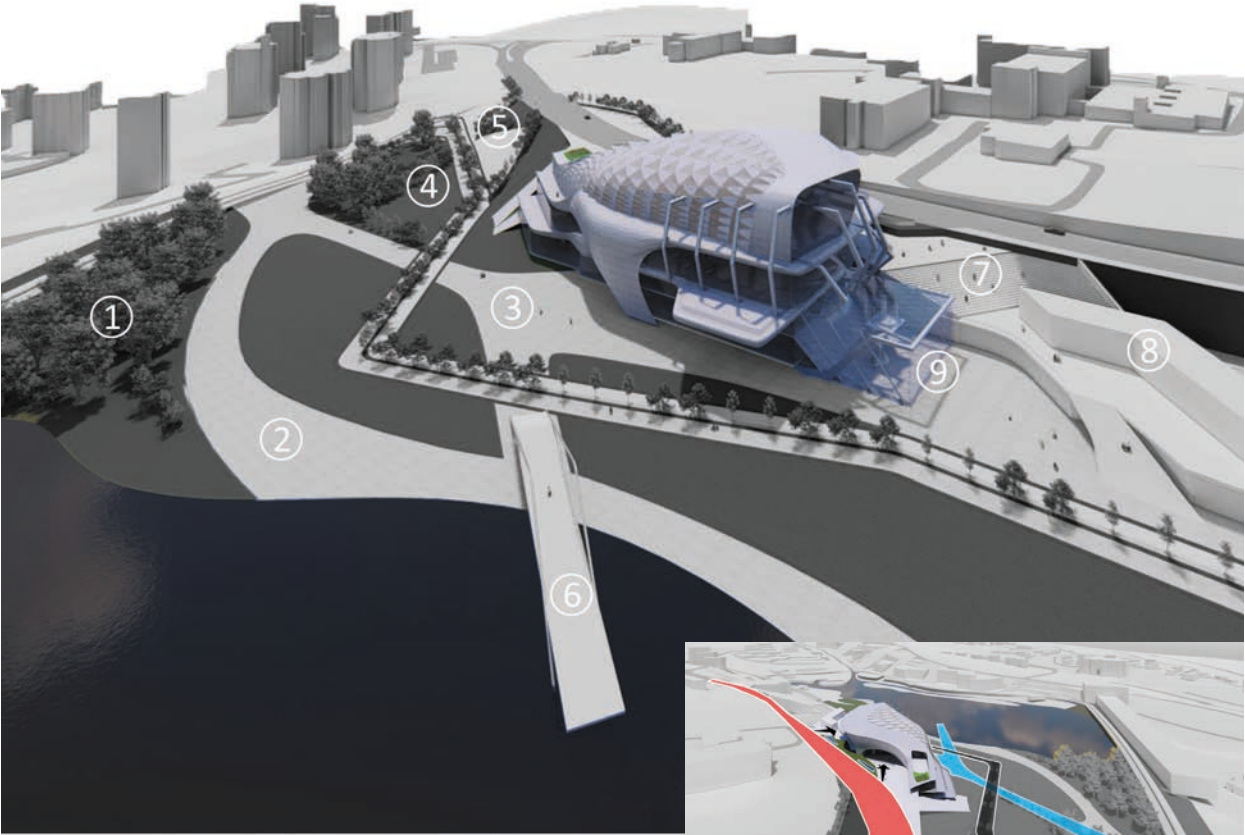
# CONCEPT

The project is intended to revitalize the area with its lake and riparian regions. The potential of the site directs the project towards a set of principles which increases the value of the land and its experience. The waterfront elements and the wide range of vegetation was taken into consideration to maintain and increase the existing natural and aesthetical values of the project site. Main objectives of the design are **education, integration and advancement.**

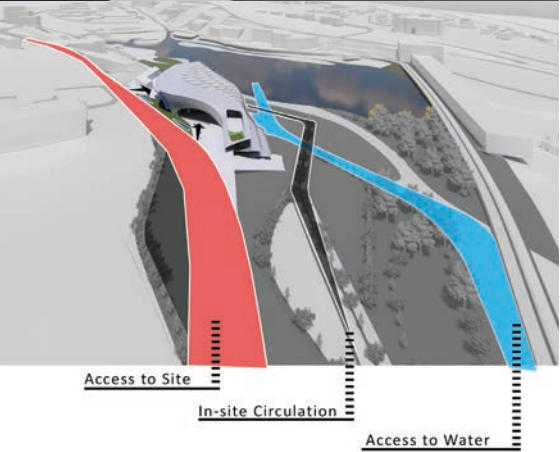
## Concept Diagram



## Site Strategy Diagram

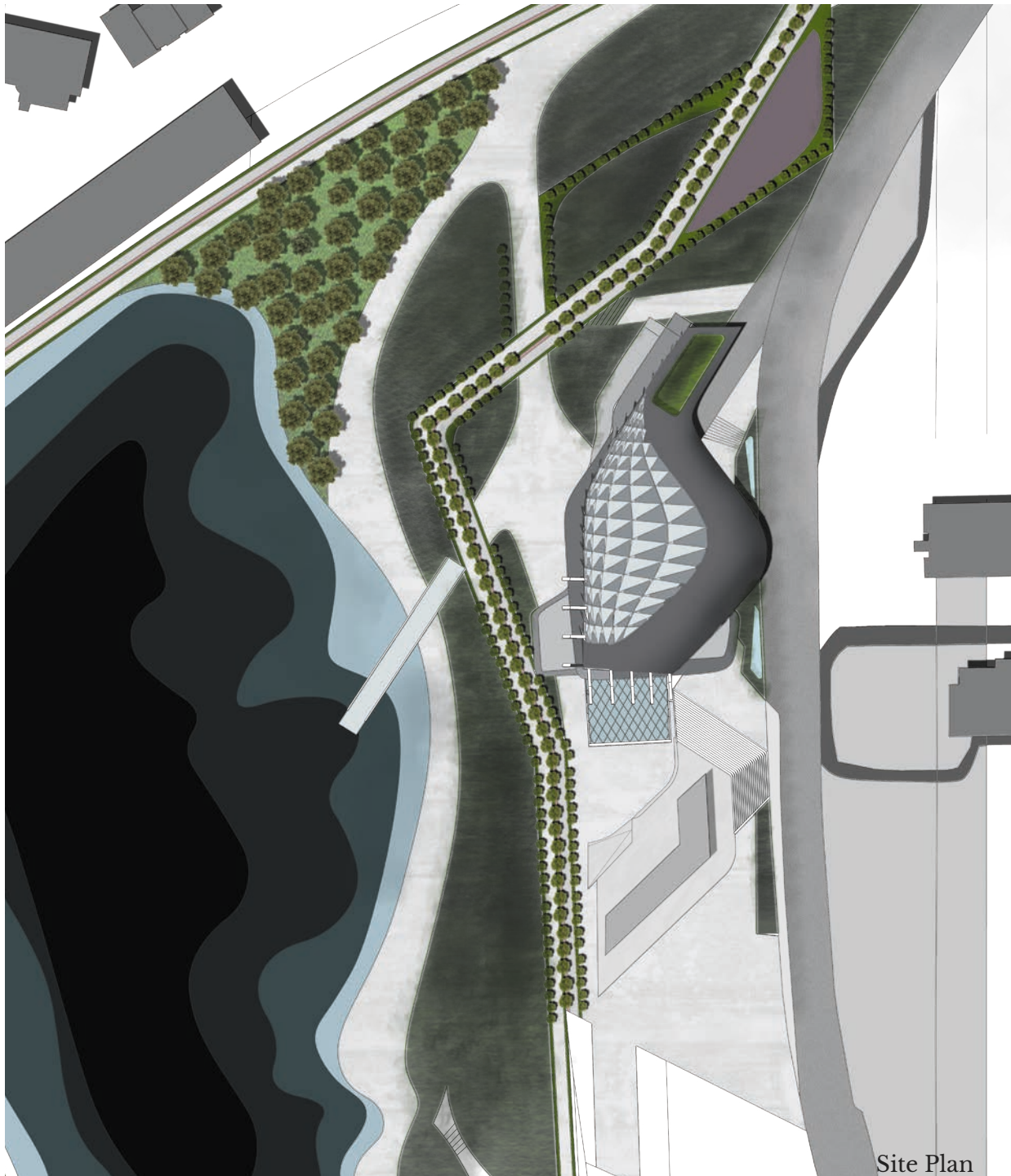


- ① Riparian Area
- ② Natural Waterfront Landscape
- ③ Plaza
- ④ Playground Area
- ⑤ Recreational Area
- ⑥ Fishing Deck
- ⑦ Open Auditorium
- ⑧ Restaurant/Cafes
- ⑨ THE WHEEL

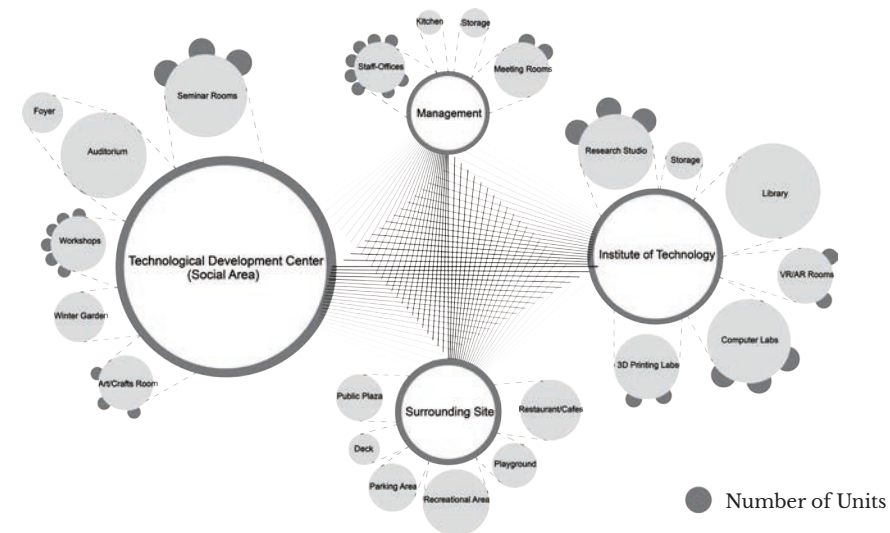


## Circulation

# PROJECT SITE



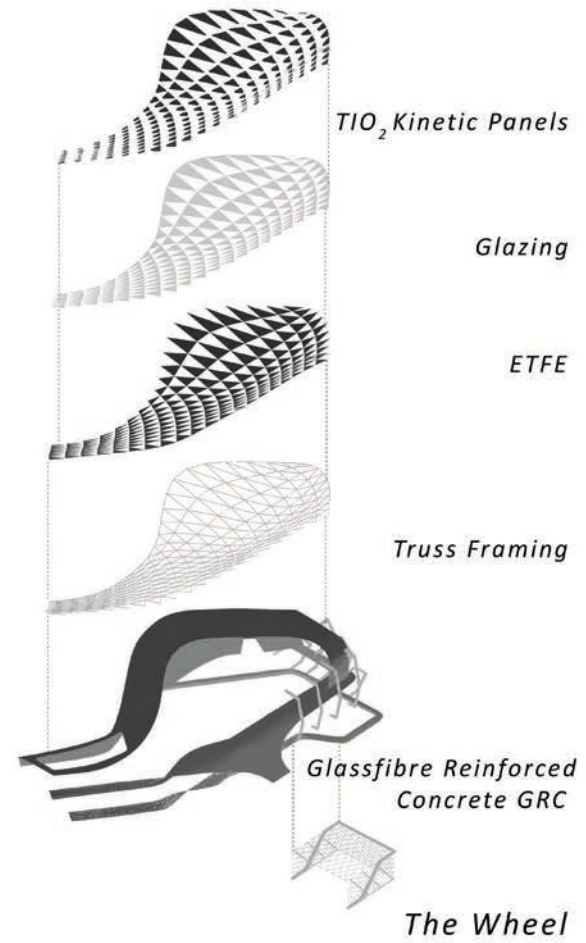
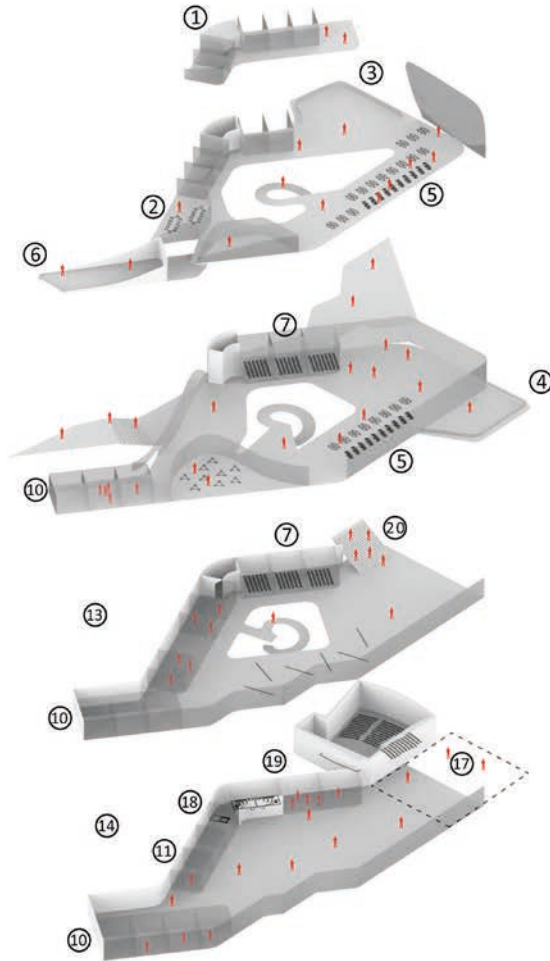
The project site is in between two campuses of Bilkent University. The design plays a **connector** role in three greenest and high-tech campuses of Ankara; METU, Hacettepe and Bilkent University. The research facilities are open to all campuses and visitors. Building Program is divided into three which are Institute of Technology, Social Interface and Management. Institute of Technology has Computer Labs, Library, 3D Printing Labs and Research Rooms while Social Interface provides spaces for social activities and events. The Institute adopts open-classroom concept.



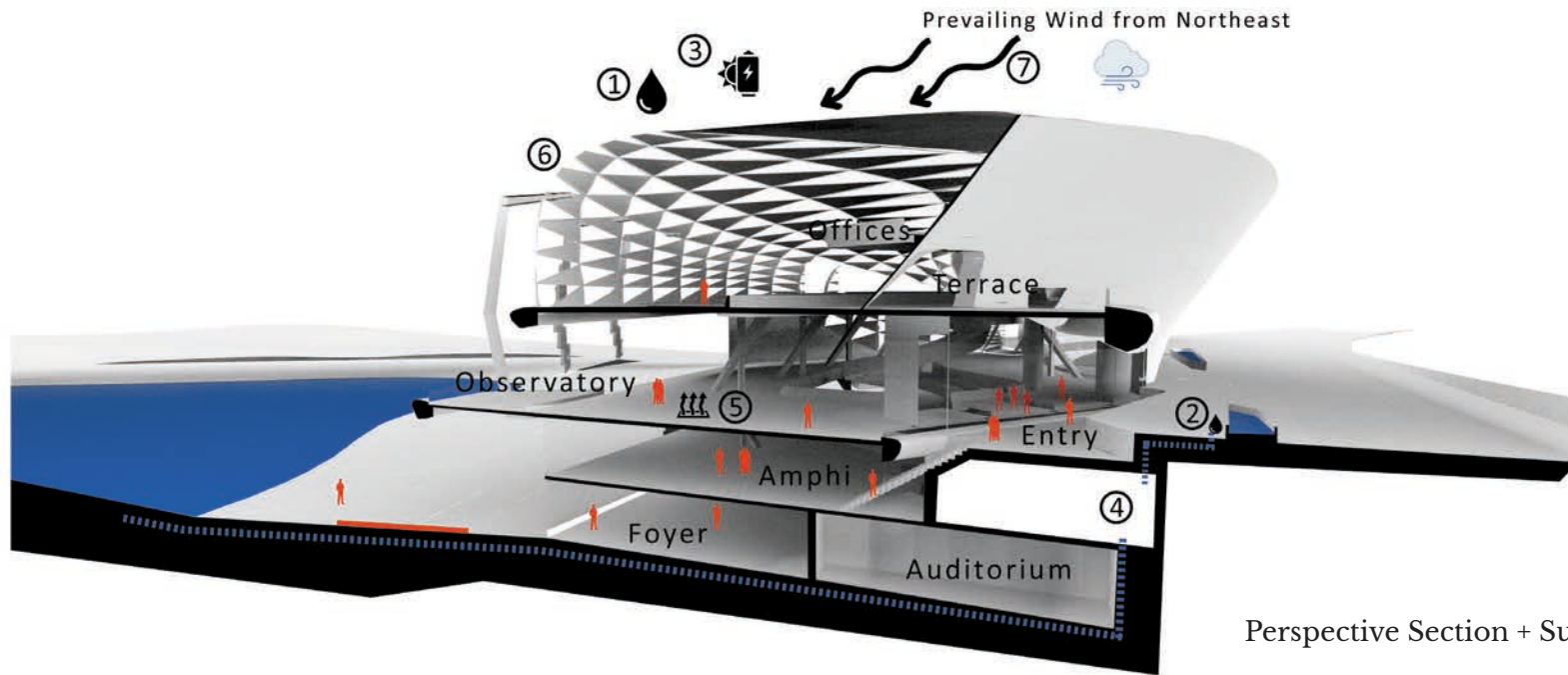
Function Network Diagram

**Building Program**

- ① Offices
- ② Meeting Room
- ③ Terrace
- ④ Observatory
- ⑤ Library
- ⑥ Green Roof
- ⑦ Open Classrooms
- ⑧ Waiting Lounge
- ⑨ Entry/Lobby
- ⑩ Research Labs
- ⑪ VR/AR Room
- ⑫ Exhibition
- ⑬ Computer Labs
- ⑭ 3D Printing Lab
- ⑮ Auditorium
- ⑯ Foyer
- ⑰ The Wheel Adaptive Architecture
- ⑱ Art/Crafts Room
- ⑲ Workshops
- ⑳ Amphi Area



Exploded Isometric Function + Structure Drawing  
1/500



Perspective Section + Sustainability Diagram



Circulation in the Site

- ① Water Harvesting
- ② Water Harvesting in Site
- ③ Solar Energy
- ④ Greywater Recycling System
- ⑤ Underfloor HVAC Systems
- ⑥ Lighting Control with ETFE
- ⑦ Air Control with Kinetic Roof

**GRC Transformable Material  
Areas of Uses**

Balustrade



Facade

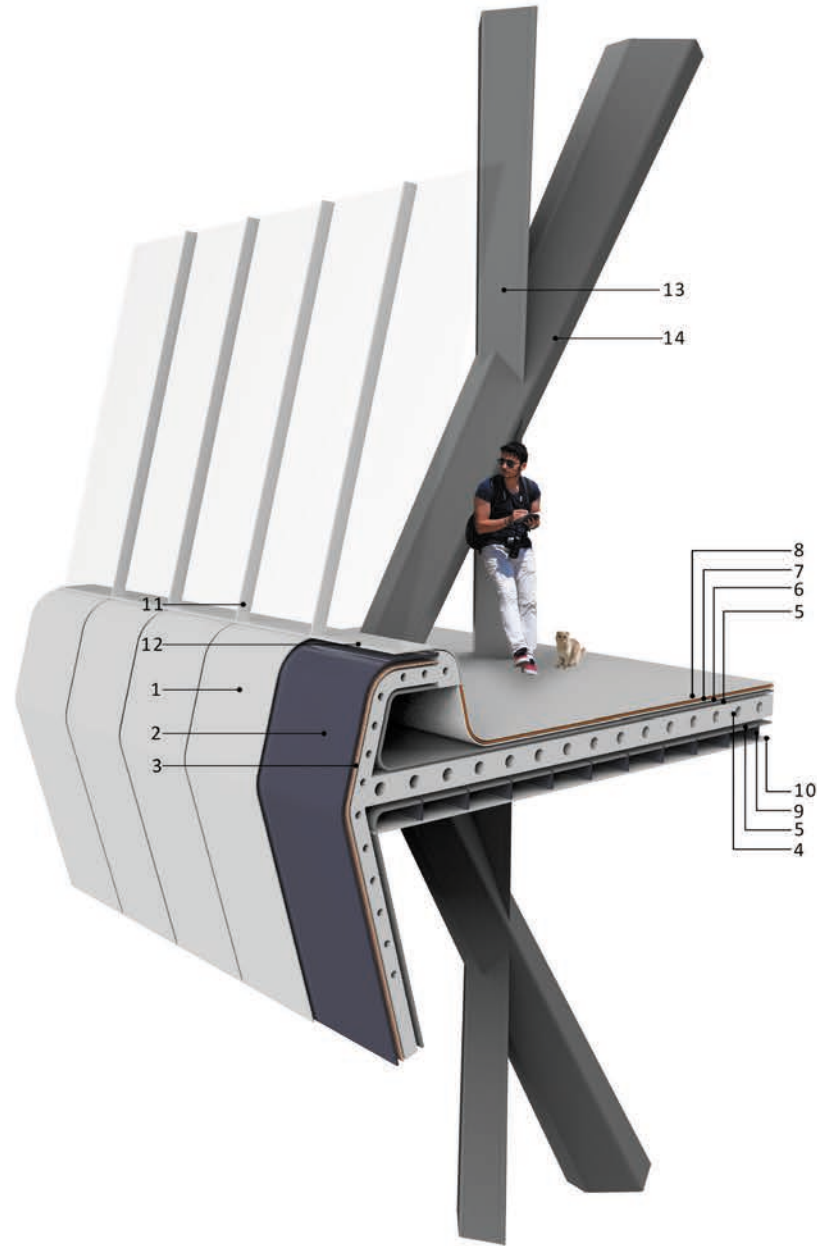


Slab



Roof

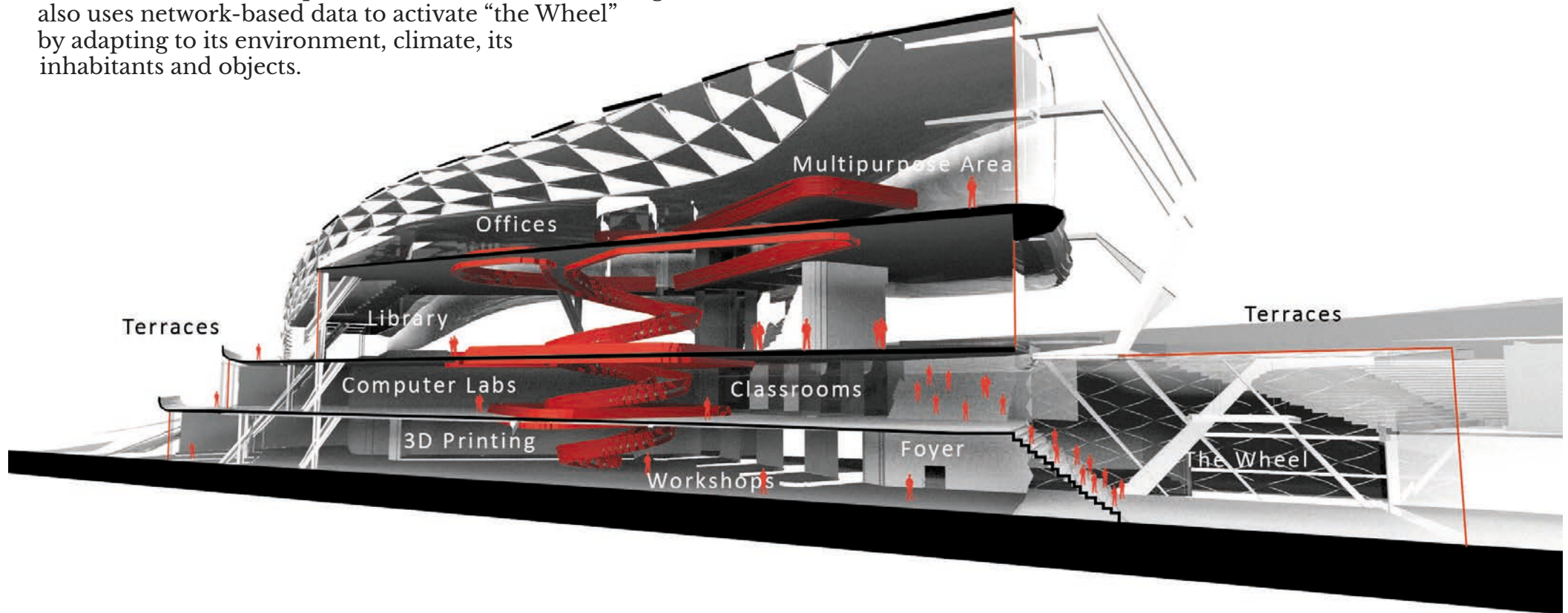
1. Glassfibre Reinforced Concrete GRC Panels
2. Galvanized Steel Facade Structure
3. Insulation Layer
4. Steel Frame
5. Corrugated Steel Deck
6. FlexiPLY Decking
7. Plywood Frame
8. Poured Concrete Floor
9. Suspended Ceiling
10. Hardwood Suspended Ceiling Panels
11. Window Mullions
12. Window Frame Box
13. Primary Column
14. Secondary Truss Column



Sectional Perspective Detail

## TECHNOLOGY CONCEPT

One of the key concepts of the design is “Motion”. Motion was intended to be perceived through every aspect of the building. The form, functions, circulation and the structure are designed to realize motion. Curved façade is dynamic to represent non-stop motion in technological advancements. The building provides spaces for educational activities that promote technological advancements, and is an experimental institute in which people of all ages and status can experience the action in the building and research. Adaptive part of the building, “the Wheel”, creates an extra closed space when needed. The building also uses network-based data to activate “the Wheel” by adapting to its environment, climate, its inhabitants and objects.



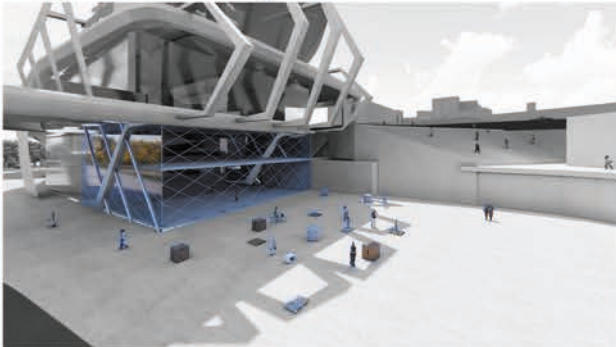
Perspective Section



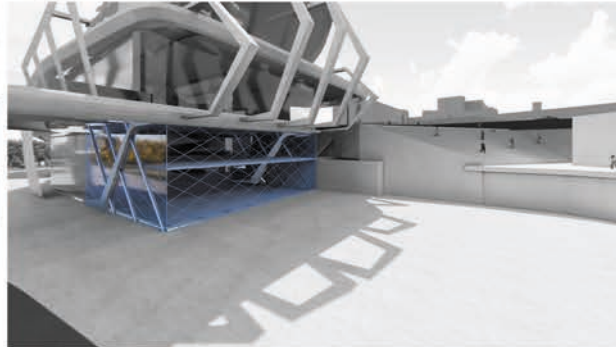
# ADAPTIVE ARCHITECTURE

THE WHEEL is a SYSTEM designed to adapt to its environment, its inhabitants and objects.

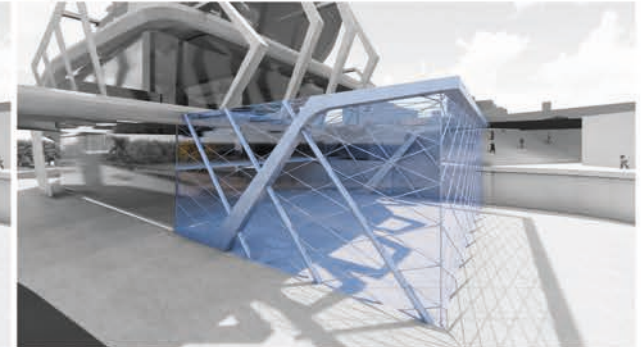
① Workshop Area



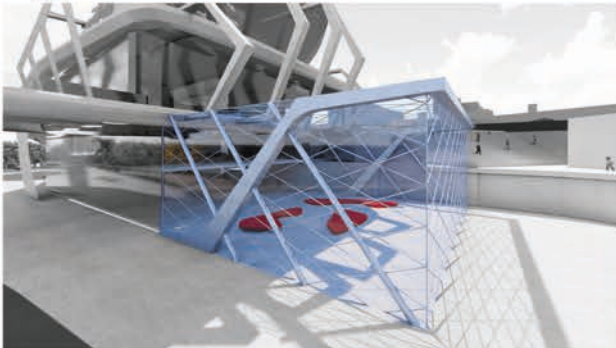
② Regular Position



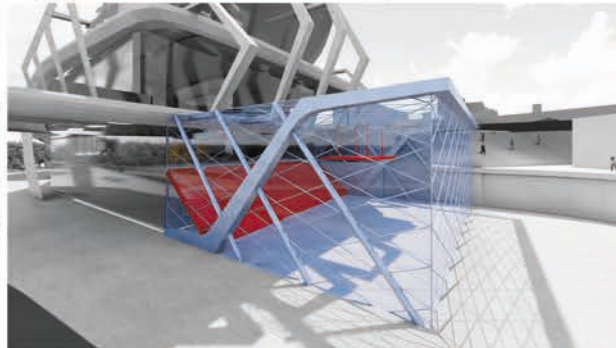
③ In-motion



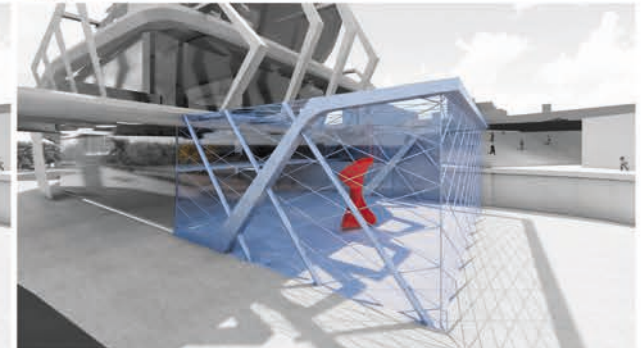
④ Leisure Activities



⑤ Mini Concert Space

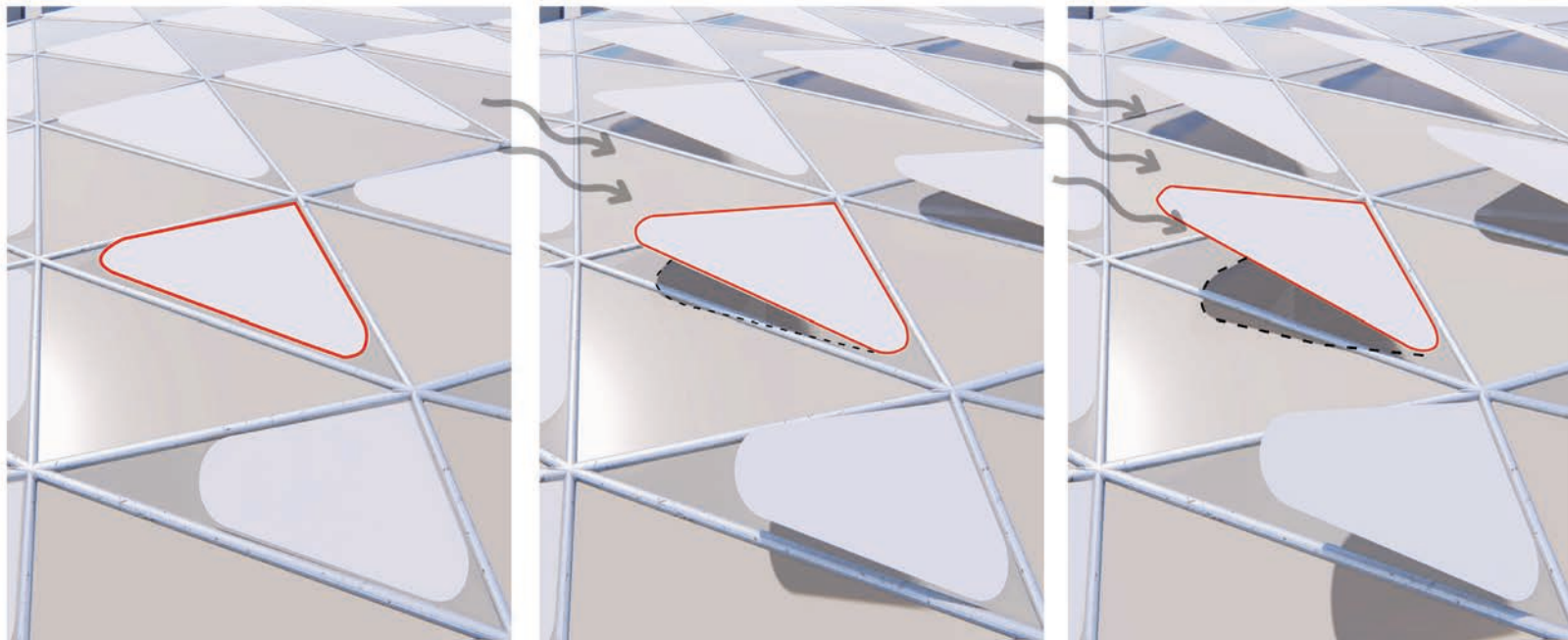


⑥ Art Exhibition



## KINETIC ROOF

Titanium dioxide roof panels work as a living machine where external data of sun and wind affects the mechanical system. TiO<sub>2</sub> is also a sustainable material that cleans the air by reducing CO<sub>2</sub> amount in the air.

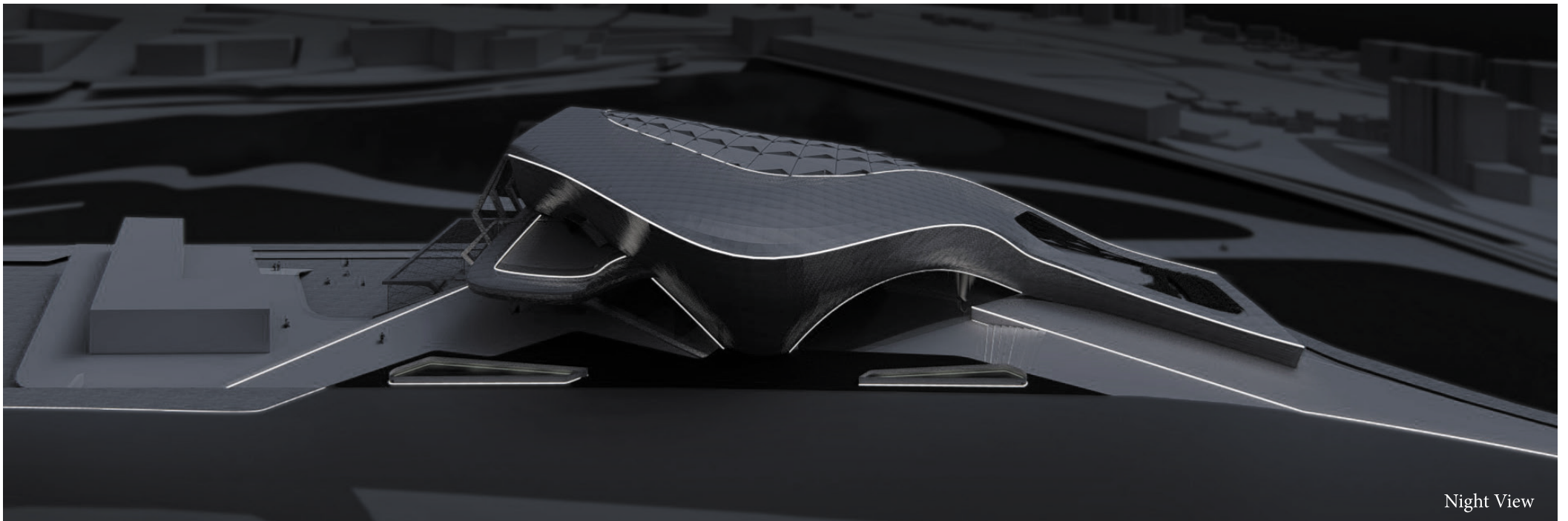




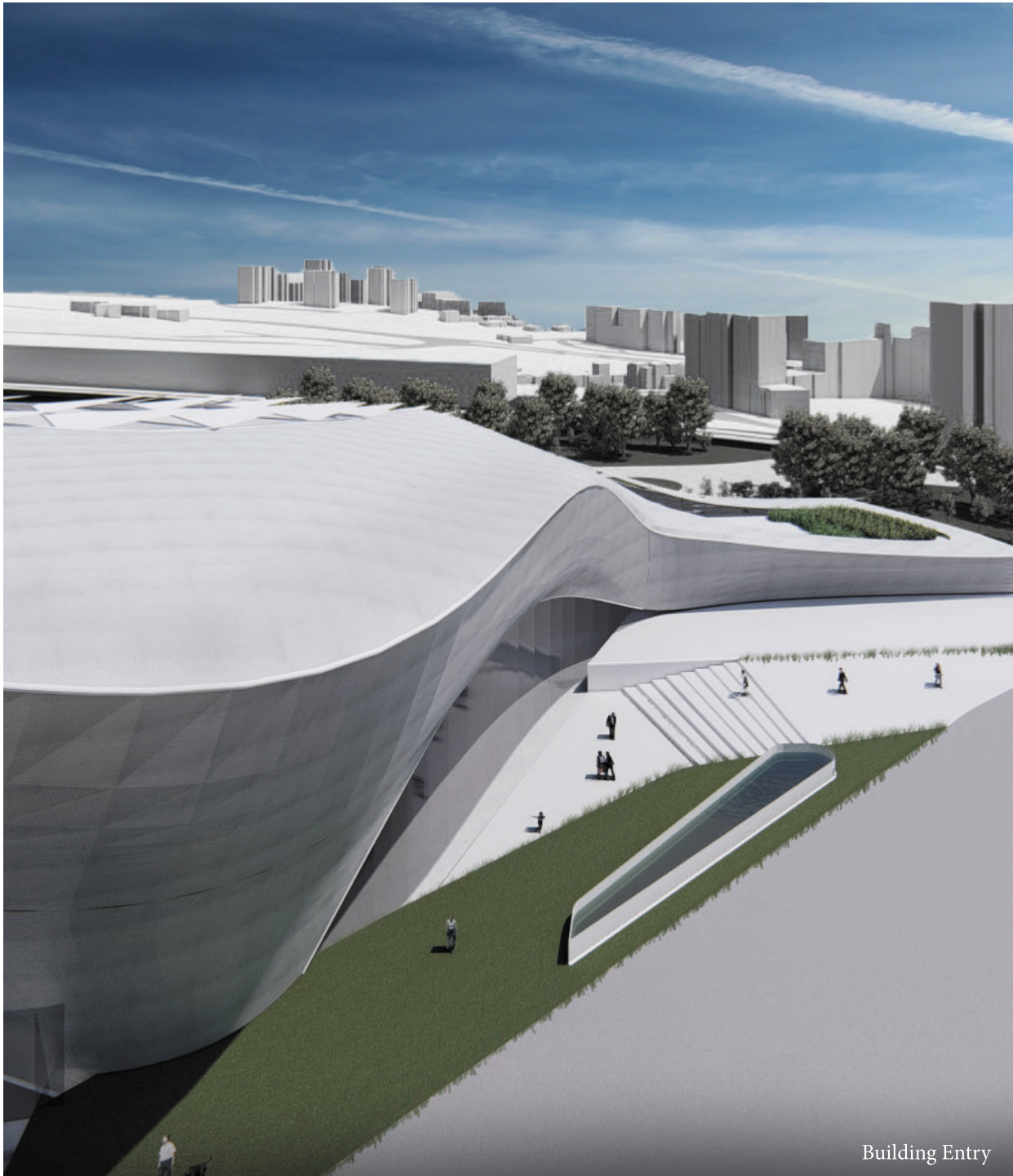
Lobby



Offices and Atrium



Night View



Building Entry

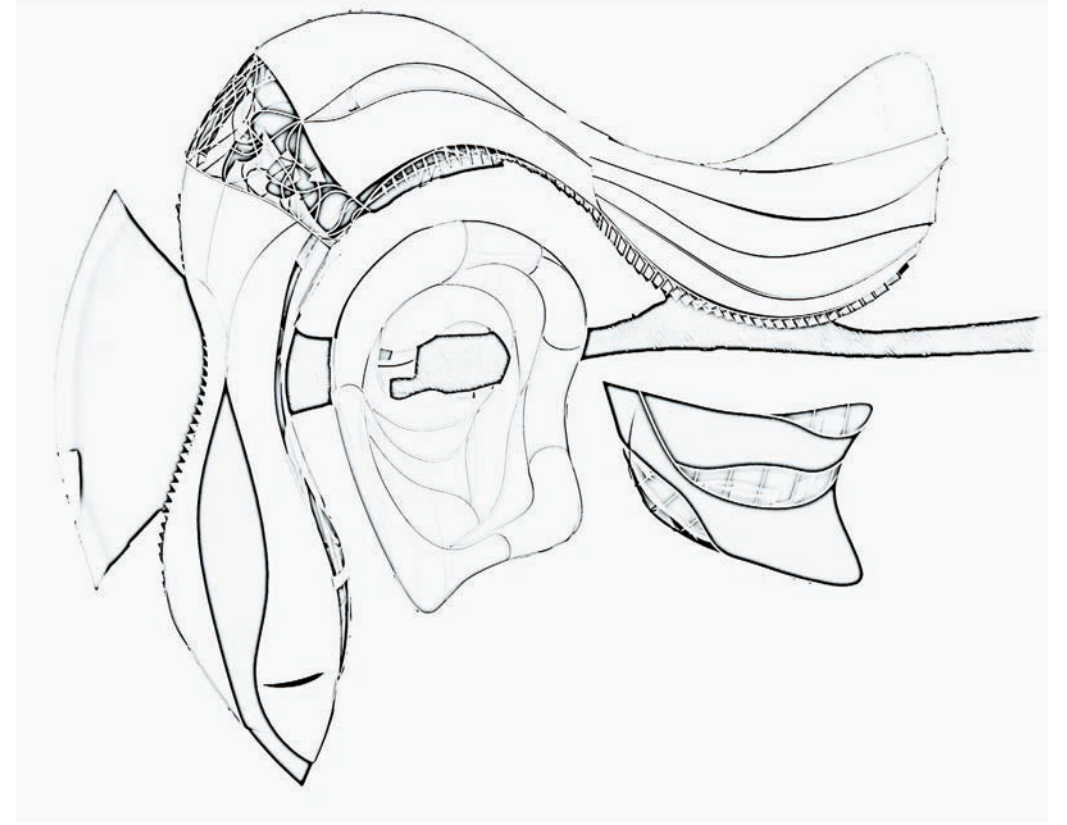


Library



East Facade





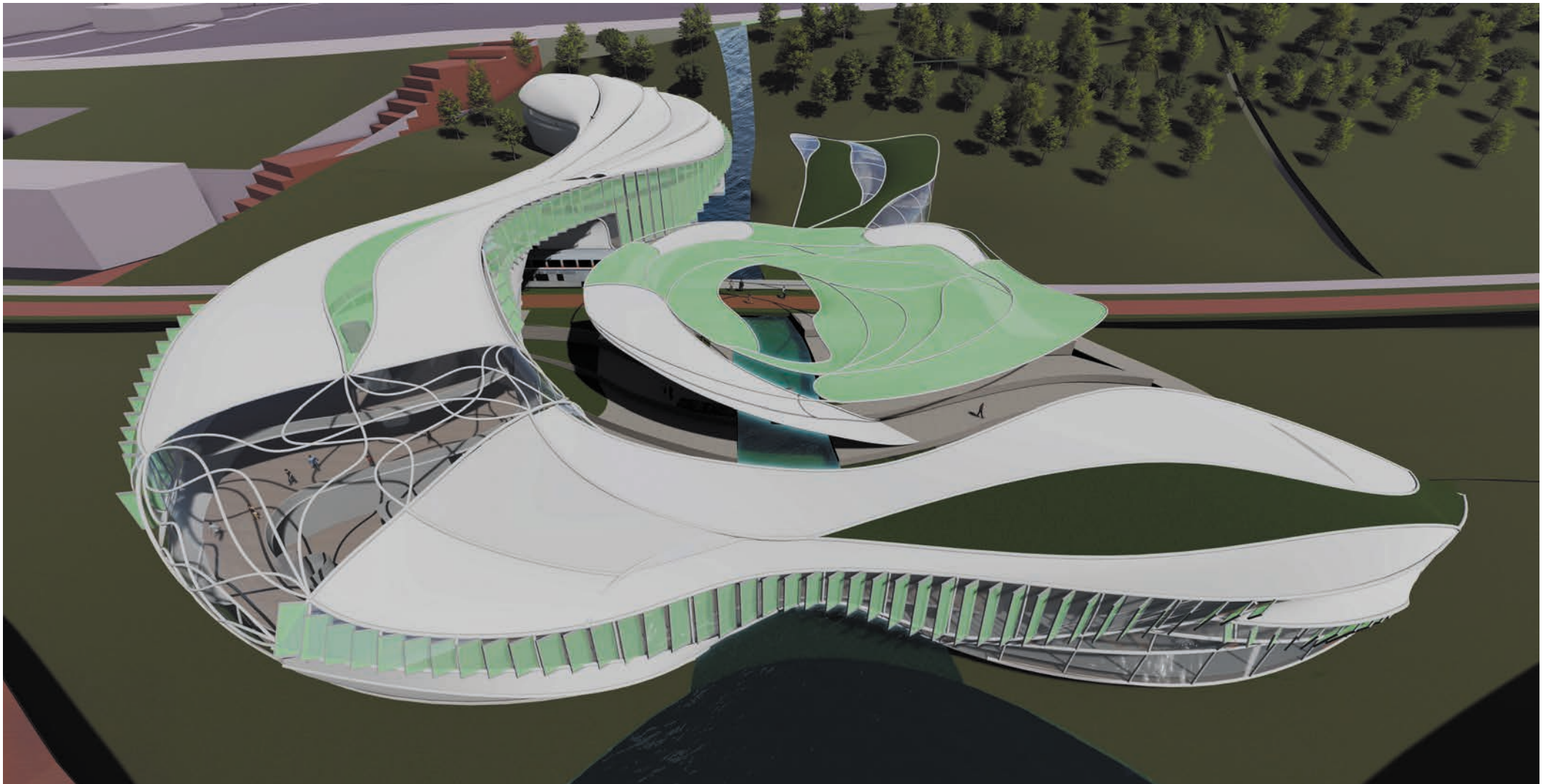
# ALGAE TOWN

Lerzan Keçođlu

# CONCEPT

Algae is an affordable, sustainable natural energy source that can be used in architecture. This proposal aims to raise awareness of the people about the potentials of algae facilities and its benefits. In the context of algae farming, this building facilitates learning and teaching through experiments while applying sustainable technologies.

The site is planned to be self-sufficient, environment friendly and a social gathering point for people. The dried up stream has been revitalized to be used in algae cultivation and to clean the lake and the environment.



# SITE PLAN



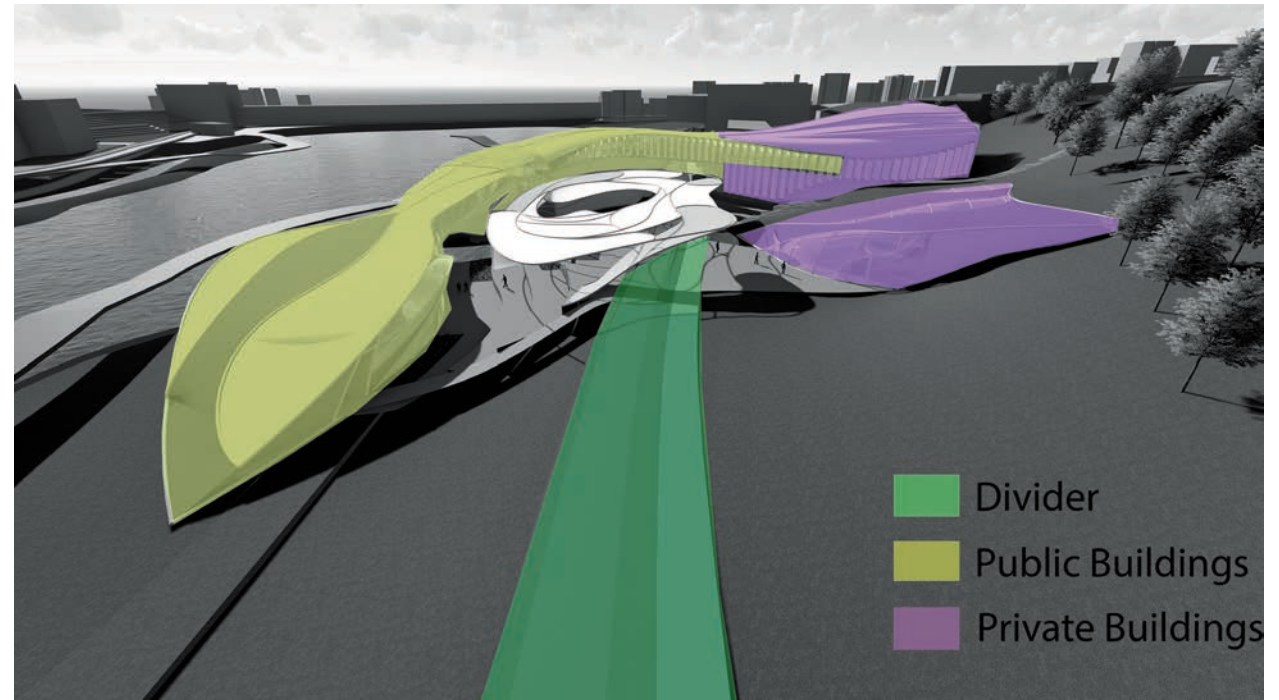
The products obtained from algae such as edible algae and furnishing objects are served to public to familiarize them with the potentials of algae while invigorating the economy. Experimental workshops and artwork exhibitions aim to raise awareness and information about algae. The algae town is supported by research laboratories for scientific development.



# DIAGRAMS

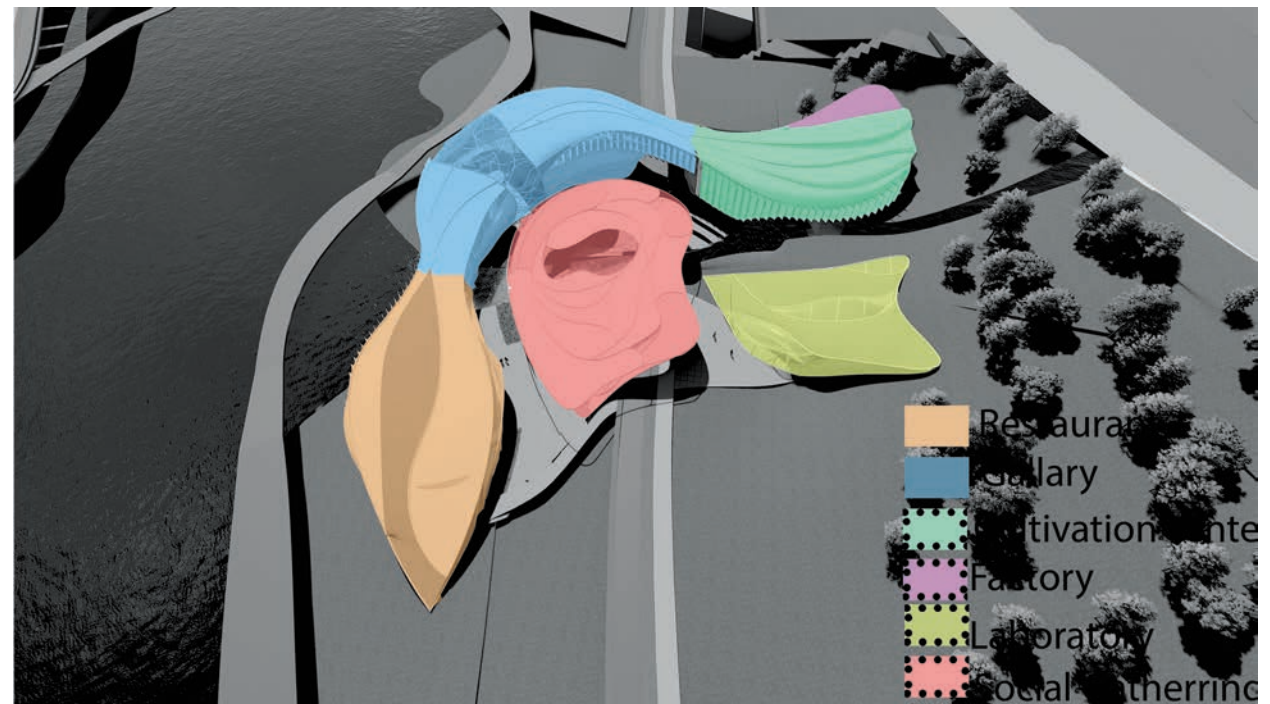
## PUBLIC PRIVATE DIAGRAM

The site is divided by circulation line which includes tram road, pedestrian road and service access. The waterfront is for public use and the further part is reserved for private use. The central open space which circulation line faces functions as a social area. The public part is composed of an algae gallery and a restaurant. The private part has a cultivation and factory building as well as algae laboratories. Cultivation building has a public part where people can see the process in place.



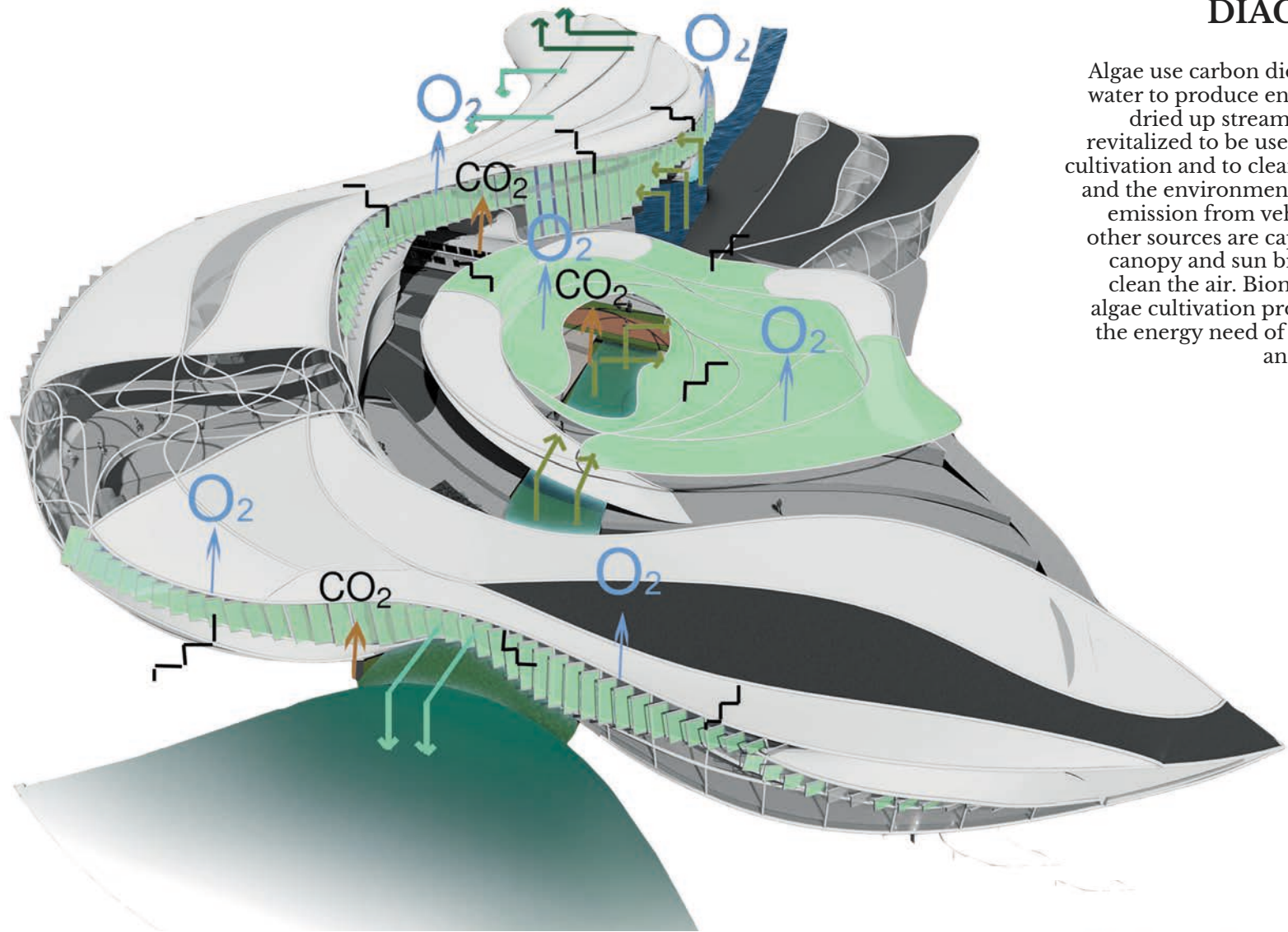
## FUNCTION DIAGRAM

Social space has the tram stop and people reach the site by public transportation and reach the buildings from the social space. The canopy covers the social space and provides shadow underneath while capturing the carbon dioxide producing by tramway and producing energy for site. The circulation road divides the site as public and private and the stream divides the functions. The connection between the gallery building and the restaurant let the stream pass under and as well as connection between gallery building and cultivation building let the tram pass. The research center and the cultivation building and factory alongside by the stream.



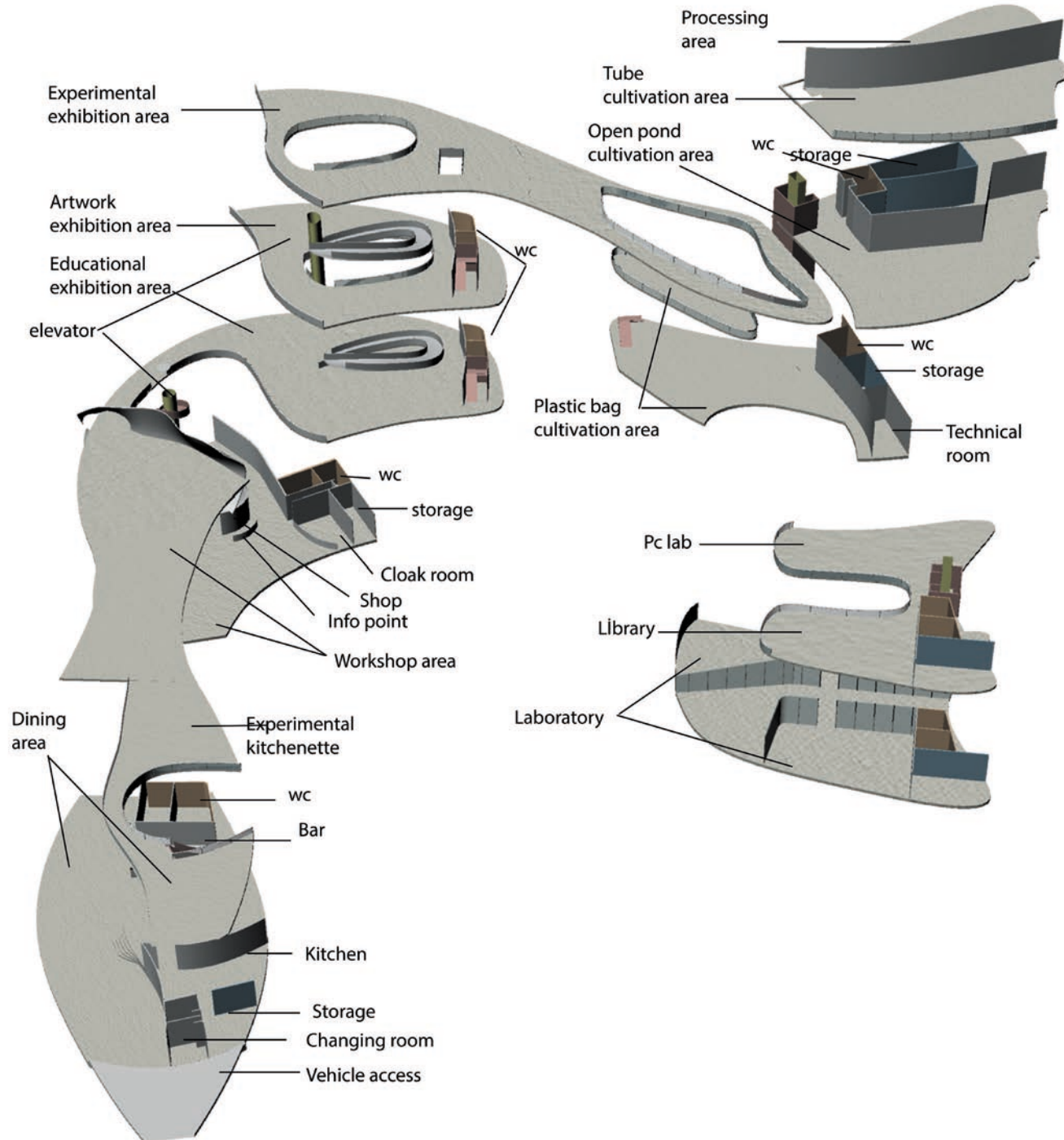
## SUSTAINABILITY DIAGRAM

Algae use carbon dioxide and water to produce energy. The dried up stream has been revitalized to be used in algae cultivation and to clean the lake and the environment. The gas emission from vehicles and other sources are captured by canopy and sun breakers to clean the air. Biomass from algae cultivation provides for the energy need of buildings and the site.

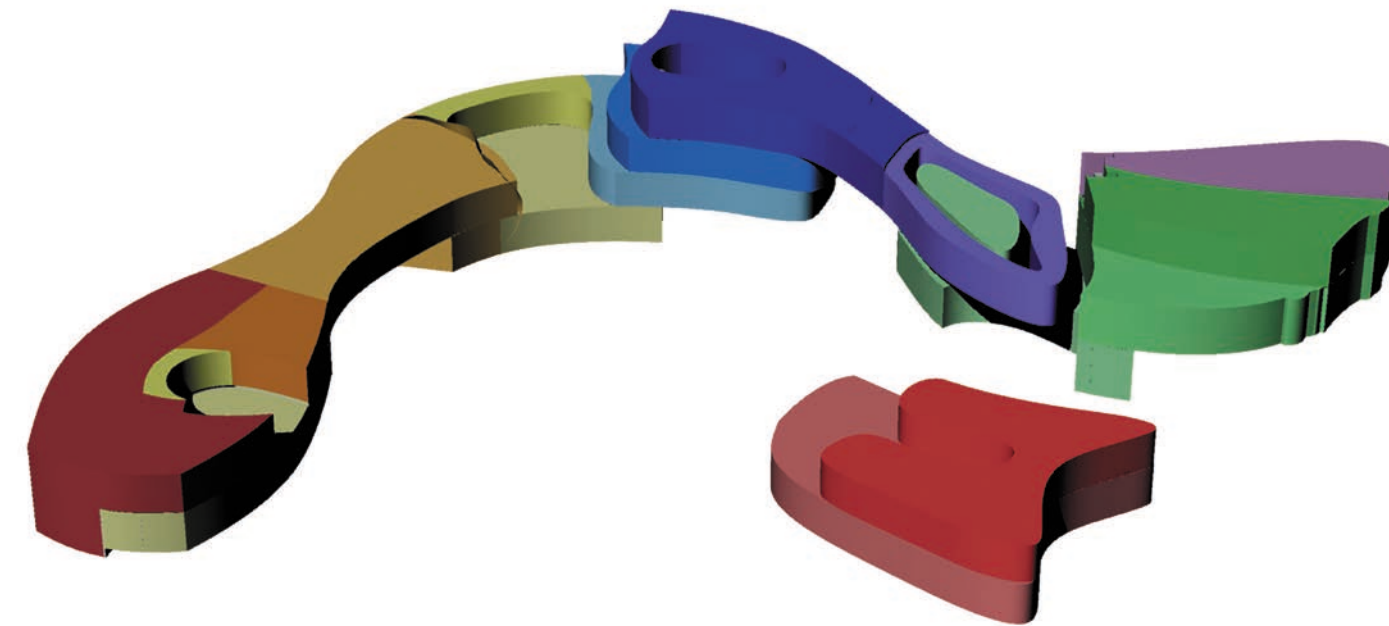


- Dirty water
- Clean water
- Biomass fuel
- Energy

# PLANS

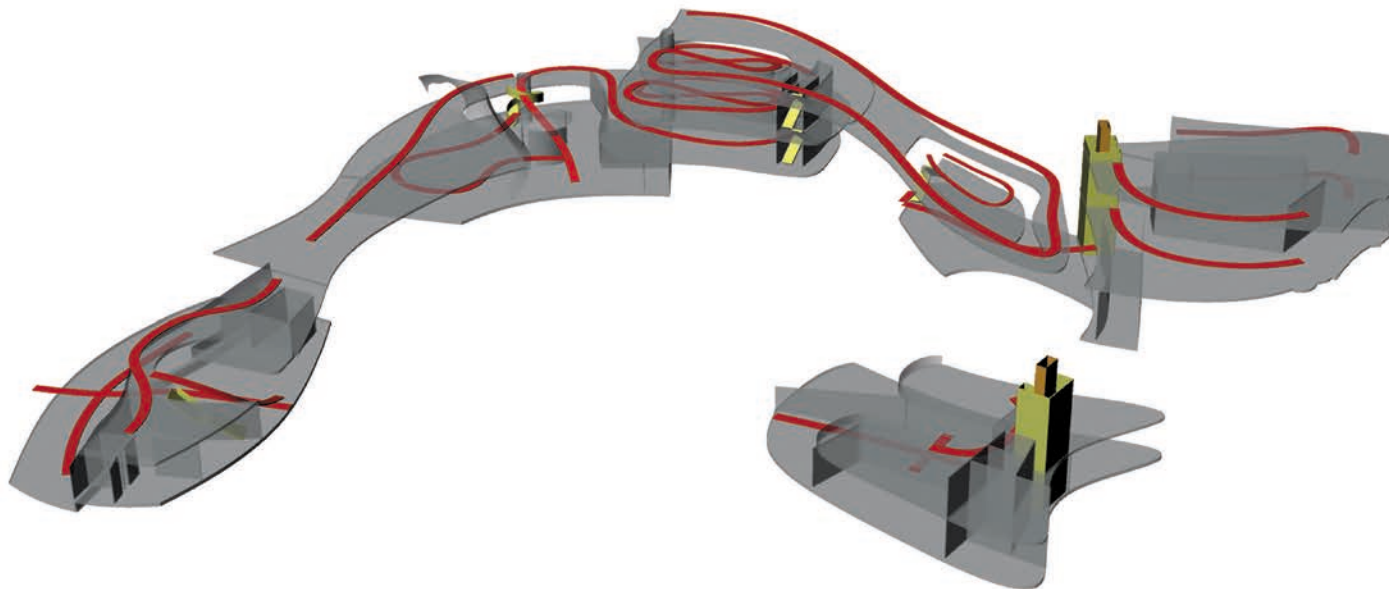





# SPACE ORGANISATION DIAGRAM

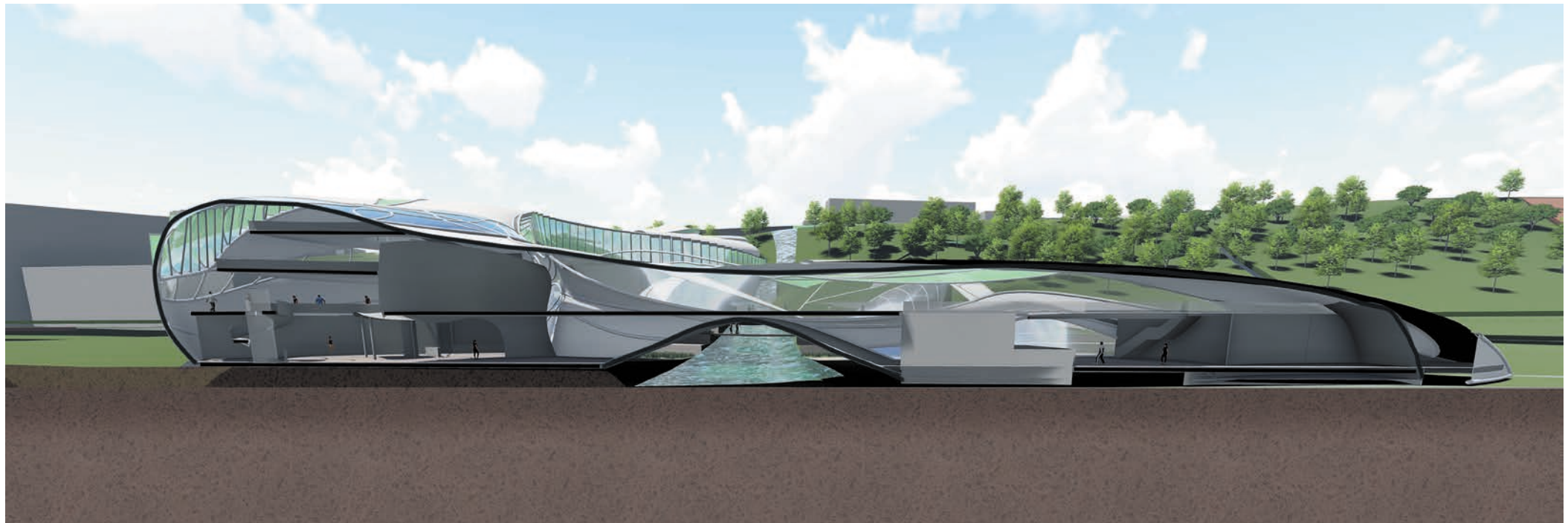
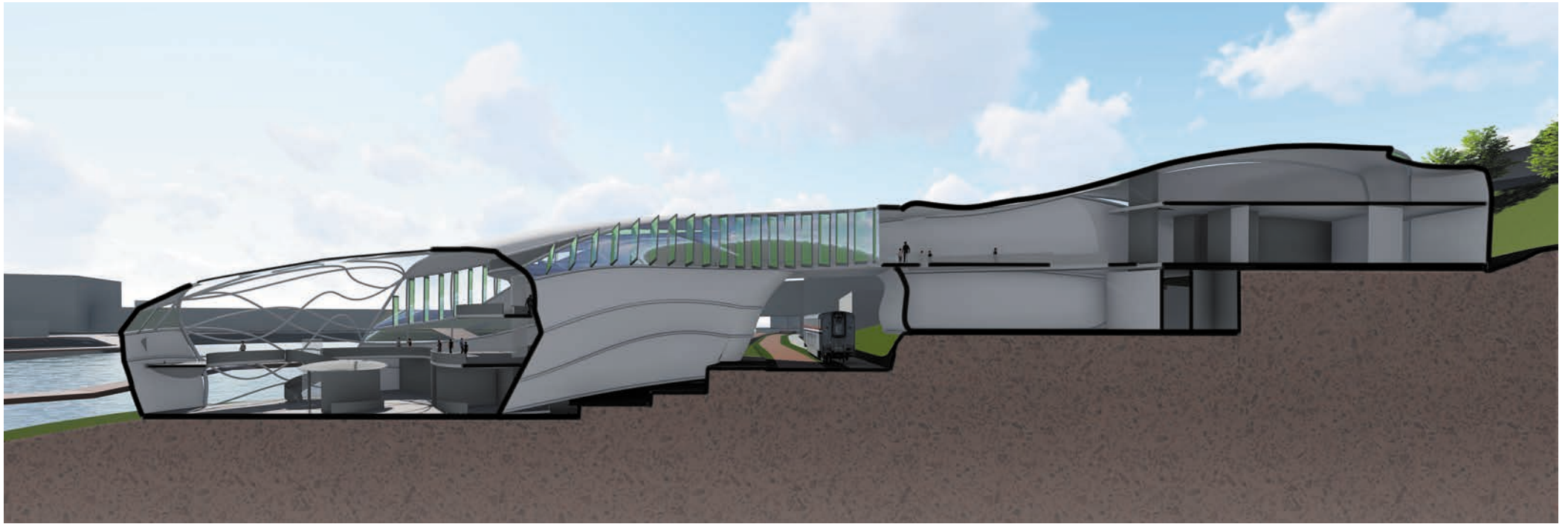


-  Dining Area
-  Experimental
-  Kitchenette
-  Lobby
-  Workshop
  
-  Educational
-  Exhibition artwork
-  Exhibition
-  Experimental
-  Exhibition Showroom
  
-  Plastic bag c.
-  Open pond c.
-  Tube c.
-  Processing
  
-  Laborator
-  Research

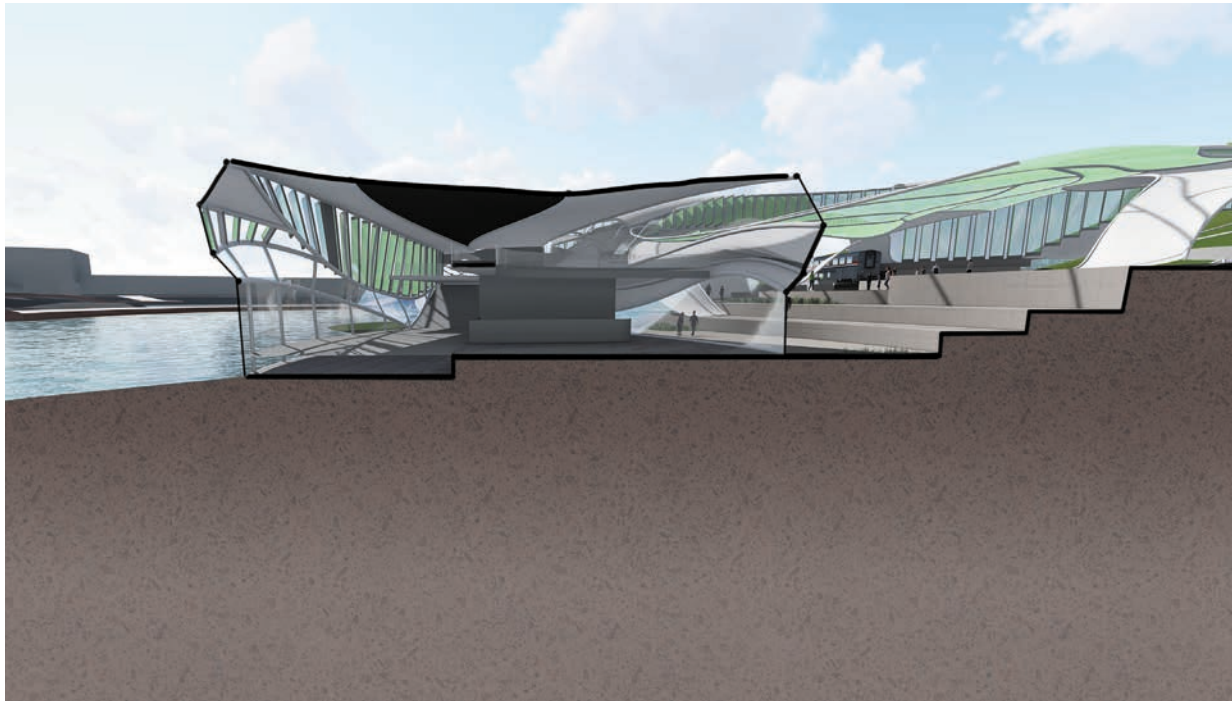
# CIRCULATION DIAGRAM



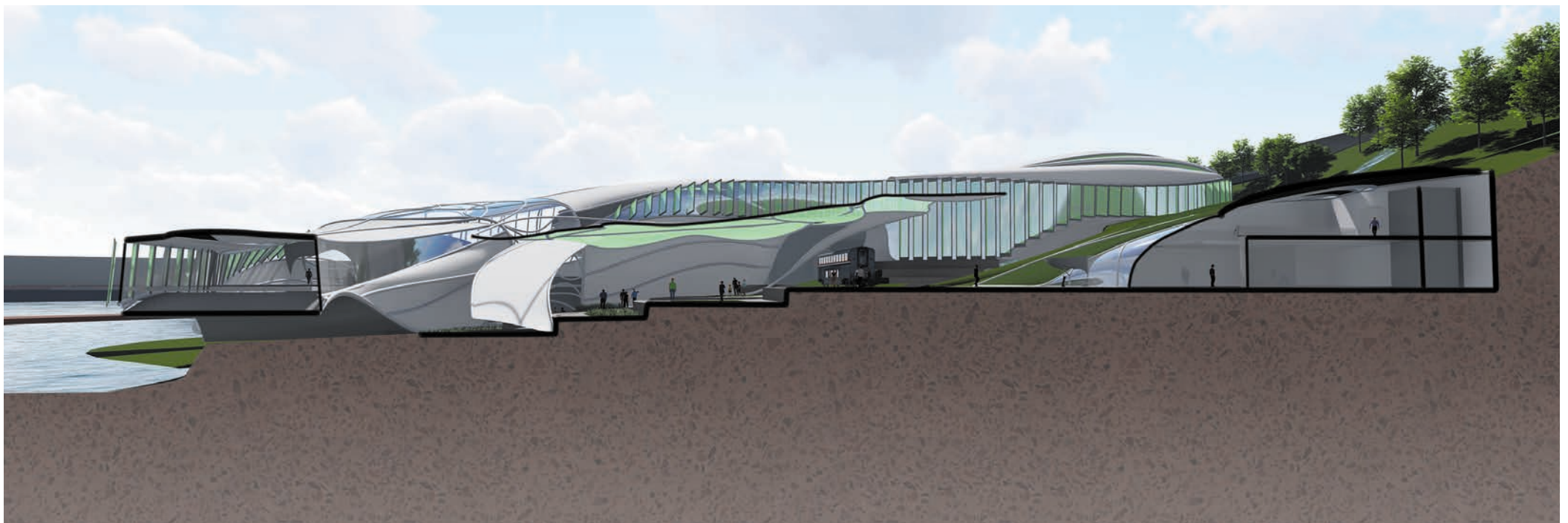
-  Main circulation
-  Elevator
-  Staircase

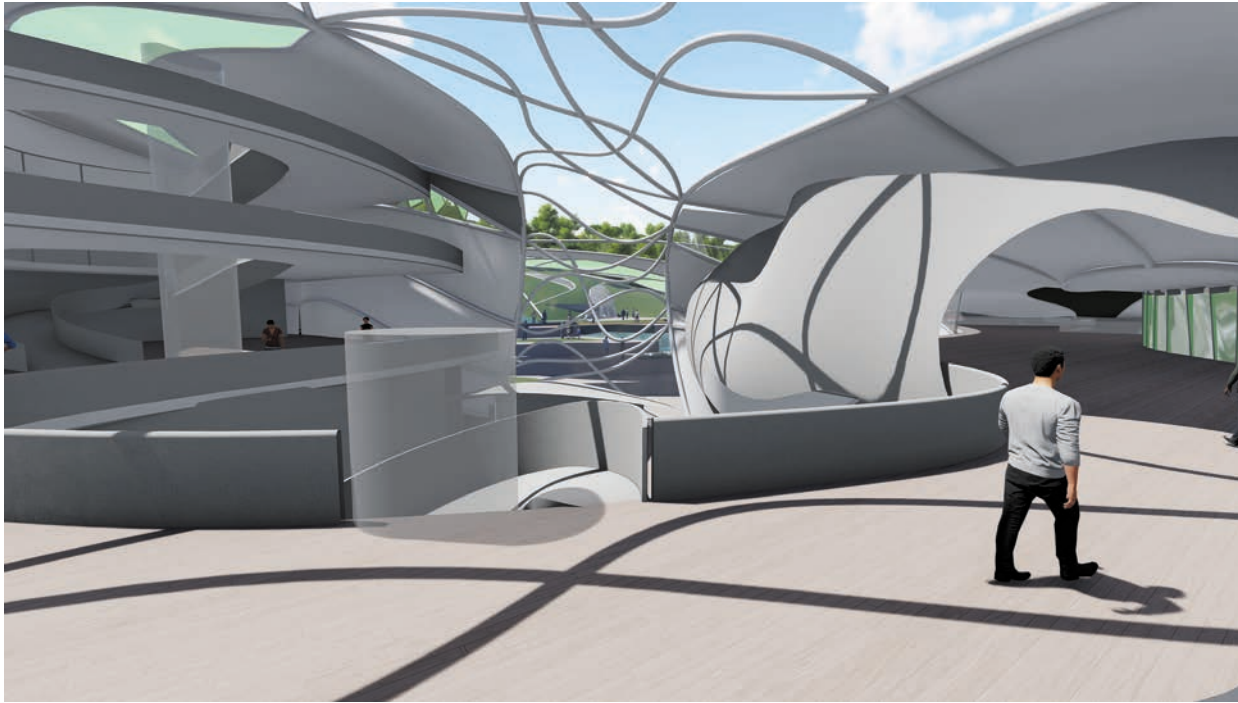


# SECTIONS

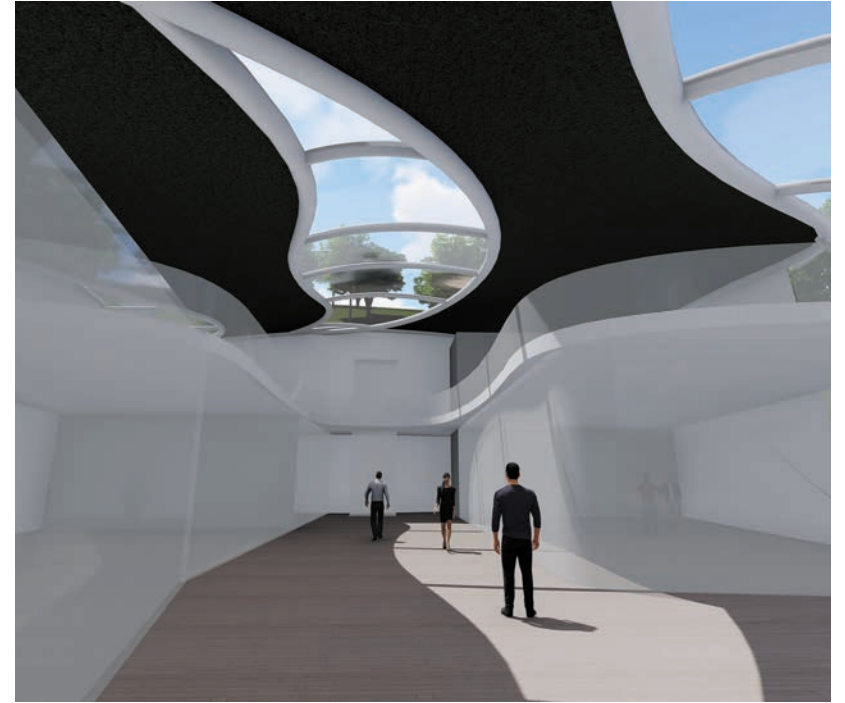


The building places according to the topography and sunlight. The gallery and the cultivation building faces the south and captures the sunlight for algae cultivation. Cultivation building has a higher location on topography to maximise sunlight captured and to equilibrate the level for stream to get the water to be used in cultivation process. The research center is placed into topography and be part of it with the green roof. With that way the sunlight from south which cultivation building would use will not be blocked. The gallery and the restaurant are on the edge of the lake and have the maximum view of it for public buildings.

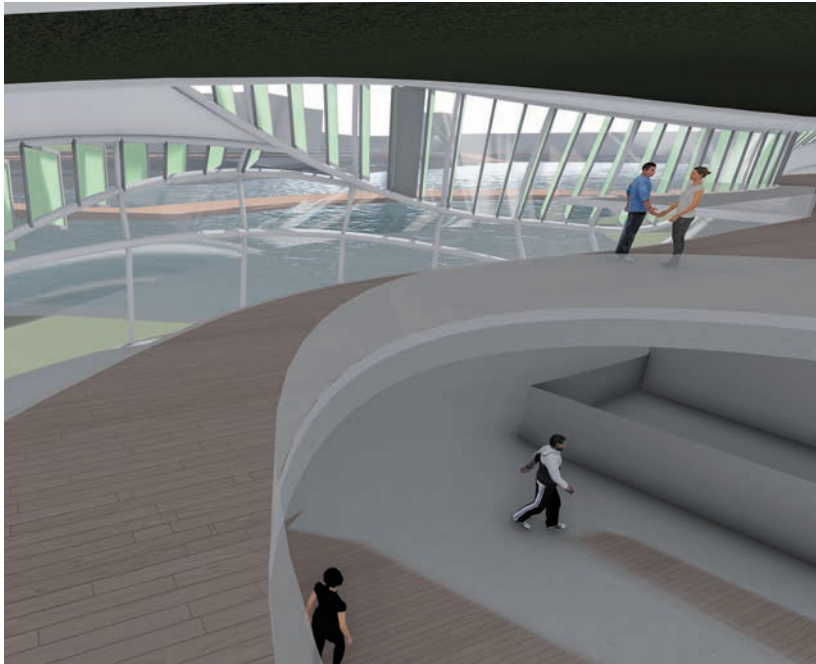




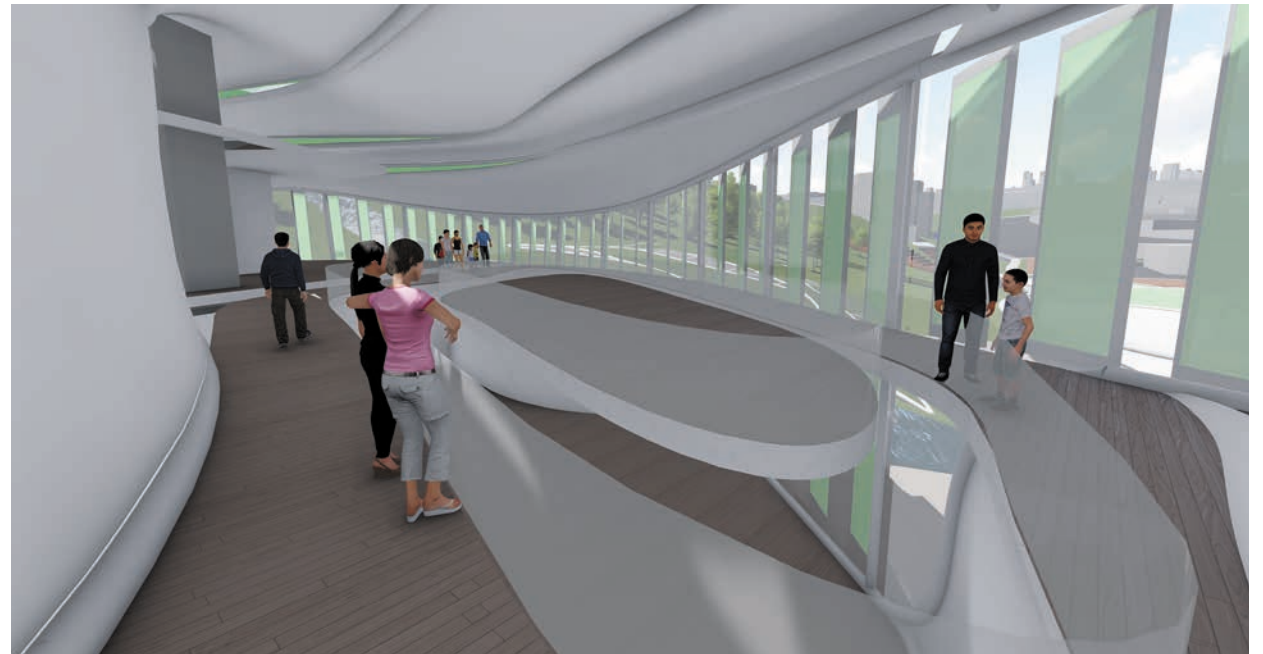
Interior view from the gallery



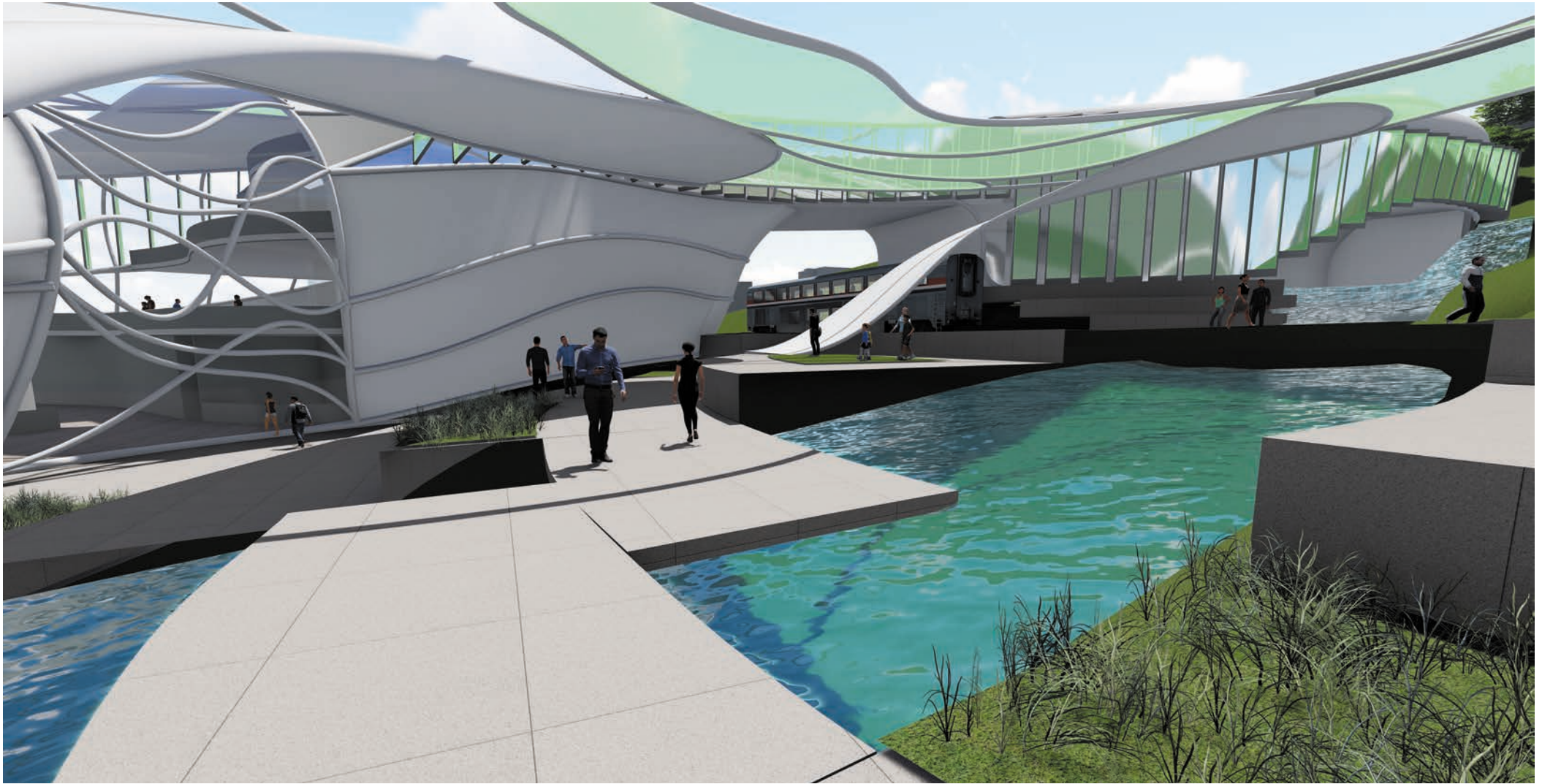
Interior view fromw research center



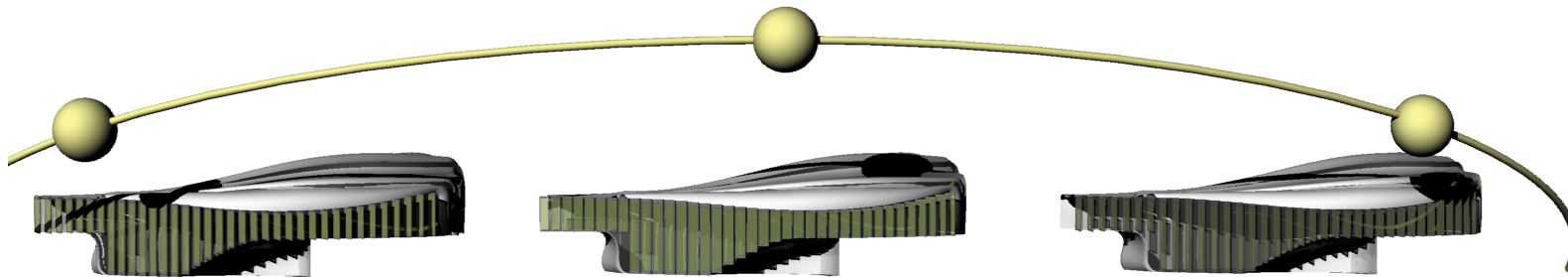
Interior view from restaurant



Interior view from cultivation building-showroom space



View from social space

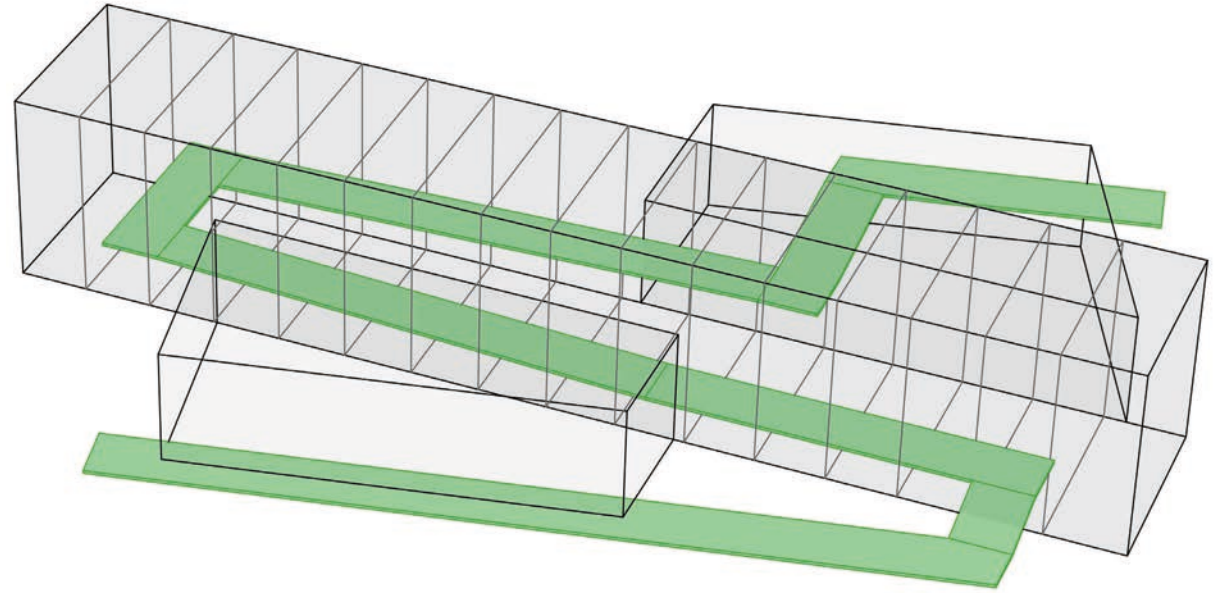


### Algae Powered Sunbreaker

The cultivation building faces the south to have maximum sun light. Sun breakers on this façade are fed by the sunlight for cultivation. The products of the cultivation facilities are processed in the factory and gathered energy is used for the design site.







# SUSTAINABILITY EXPOSITION CENTER

Tuana Vural

# CONCEPT

Sustainability exposition center is proposed depending on the master planning decisions. The center aims giving back what is taken from the nature through social and environmental sustainability. Thus, it serves for both the users and the environment. On one hand, the building offers various spaces of education, research and social activities. On the other hand, it aims to create a consciousness of sustainability by enriching encounters between people, natural environment and recycling process and products.

The center, within the larger system of the site, is planned to be self-sufficient. The orientation of the building is determined according to environmental conditions and the lake. The functions and circulation are defined to serve the purpose of exposing and making use of mainly two aspects of sustainability: recycling and algae use.

The building is composed of mainly two masses:

One is a linear transparent mass where recycling processes are realized and exposed and, which serves human and product circulation. This is where the recyclable materials coming from the campus are stored and put through the simple recycling processes.

The other mass, which is actually divided by the exposition mass, is rather solid. It accommodates the academic and social functions and is fed by the circulation within the exposition mass. The spaces are allocated according to their relations to the lake and the outer spaces.

In the exposition mass, algae is integrated into floor materials to create specific lighting conditions. Due to their special feature of giving light in dark, use of algae creates varying atmospheres in different times of the day. In addition, algae is also handled as an enlightening element to be used as a tool and product of sustainability.



The linear transparent mass, recycle center, is located as a main mass



Other mass is designed around the recycle center according to privacy



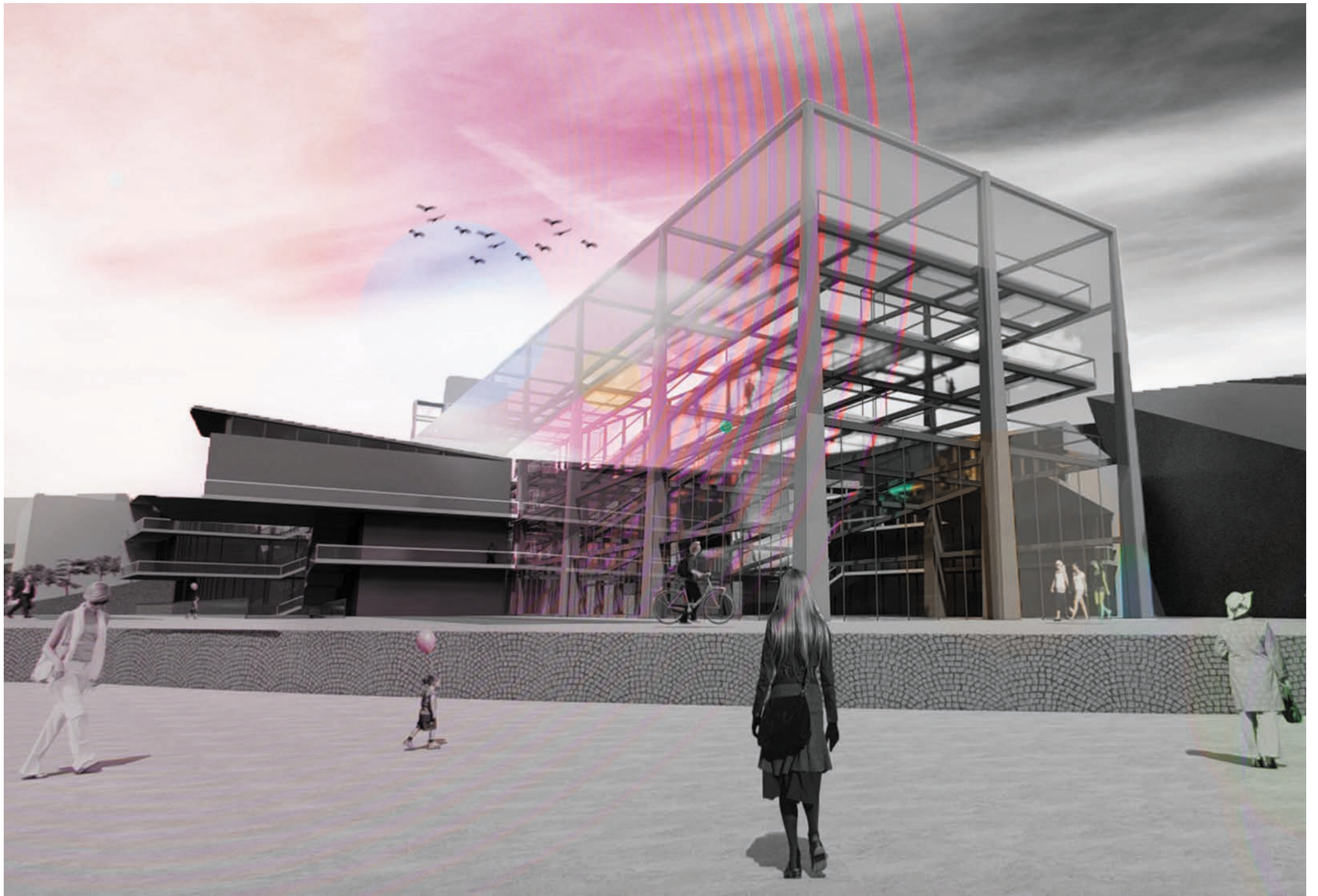
To create courtyards, other mass is divided



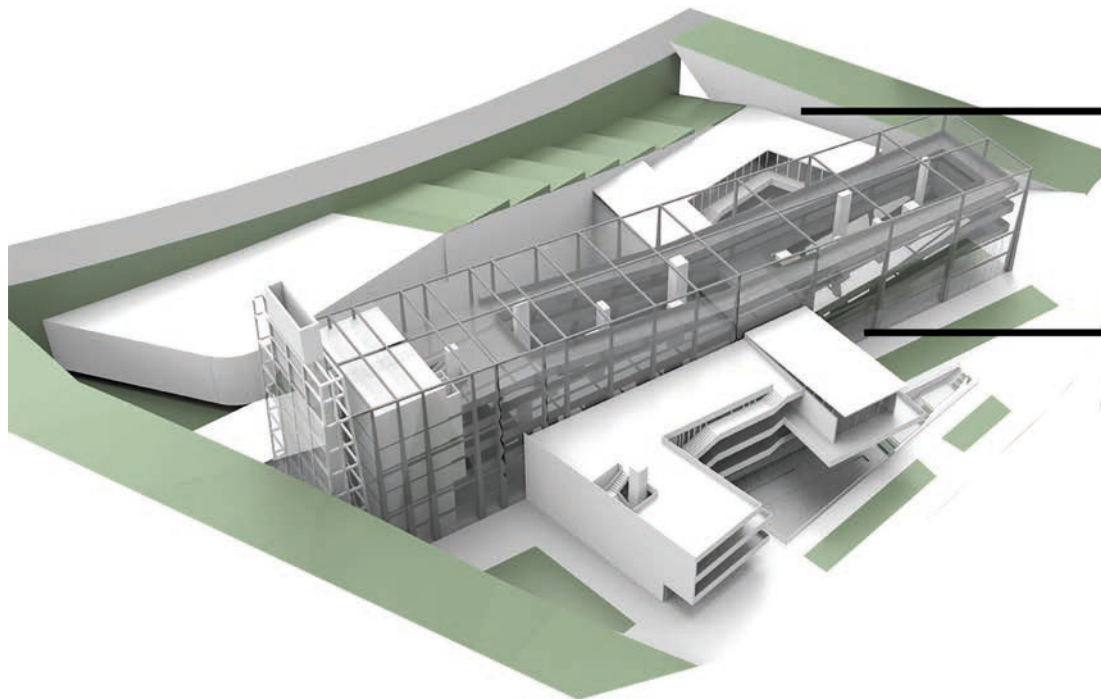
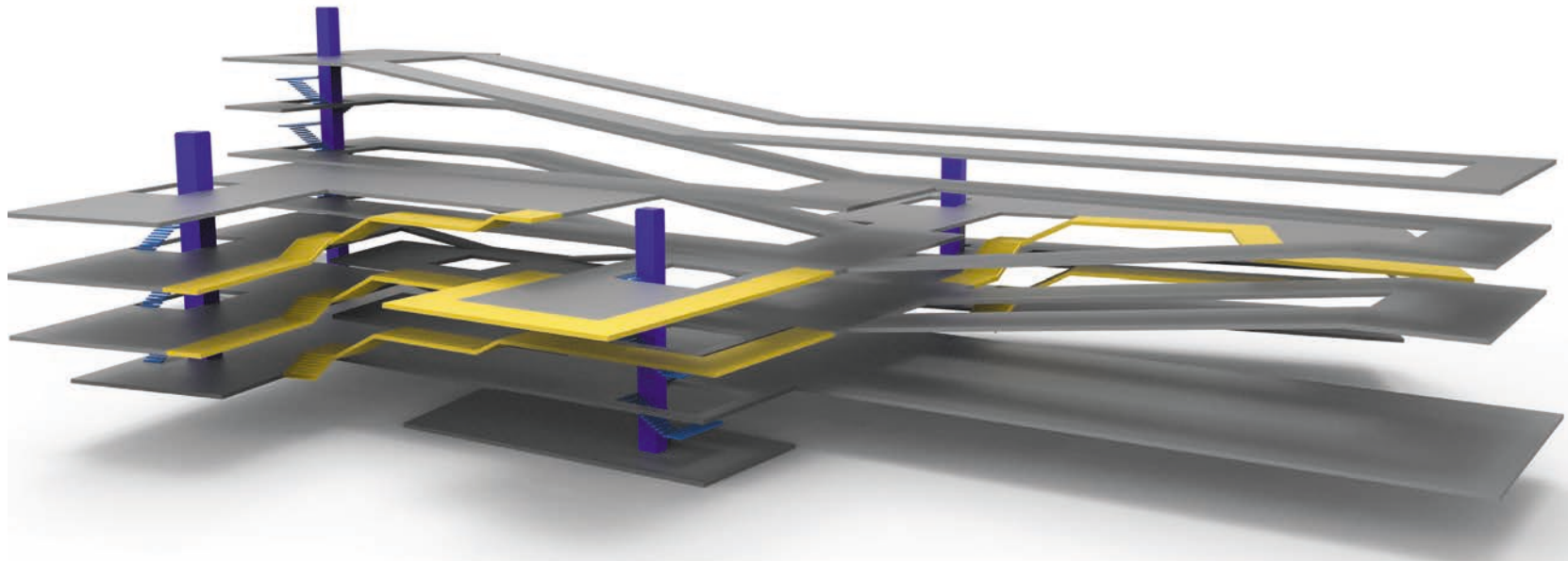
To emphasize the circulation which bonds private and public space within the recycle center is expanded



To create different entrances to the masses around the functions, another circulation element is added



# CIRCULATION & MASS ORIENTATION DIAGRAM



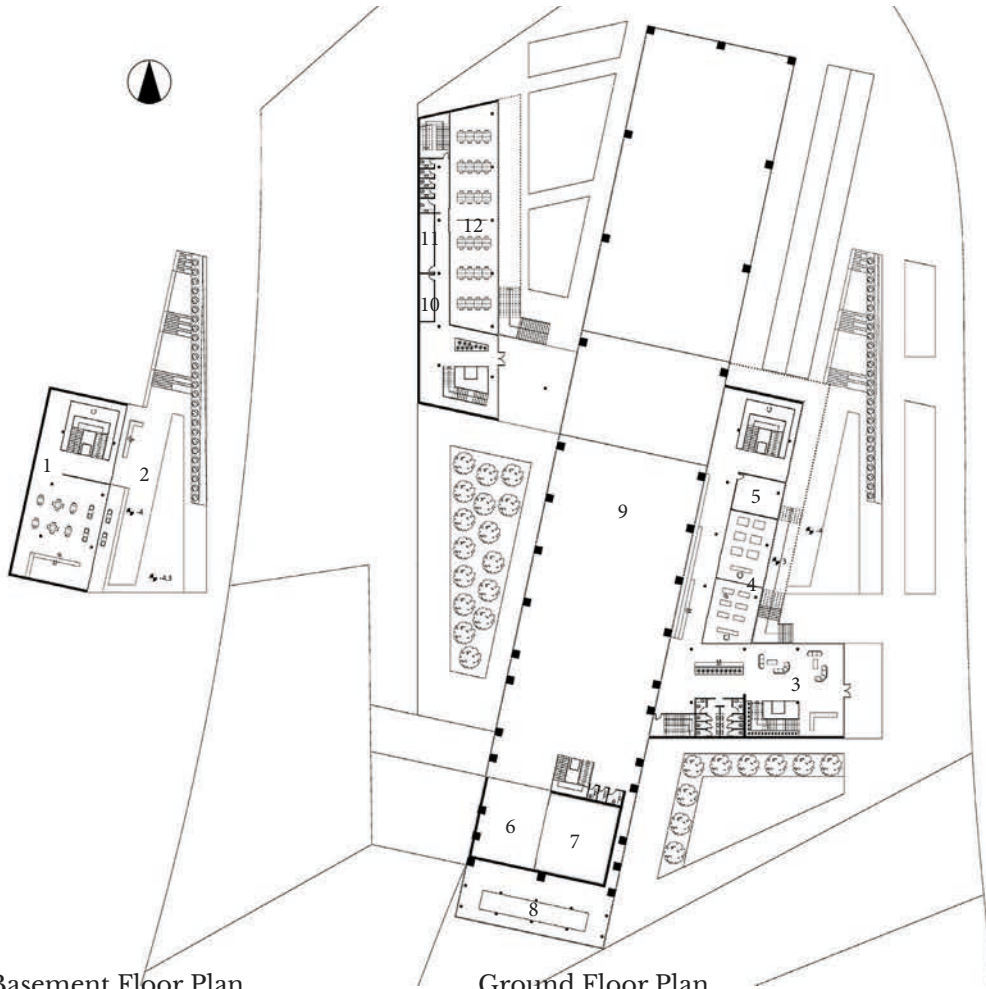
Private Mass : -Algae Research Labs -Offices

Public Mass : -Shops -Workshop Areas -Cafe -Library -Roof Terrace

The orientation of the building is arranged according to relation with the environmental conditions and the lake.

The private mass which serves for employees in offices and research labs is located behind the recycle center whereas the public mass which serves common functions such as shops, workshops, cafe and library is located in front of the recycle center with the view of lake.

# PLANS



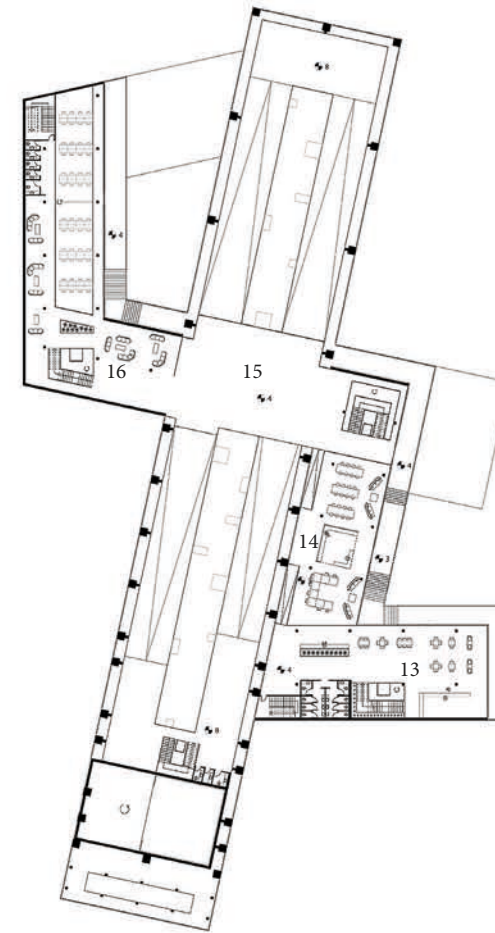
Basement Floor Plan

Ground Floor Plan

## Building Program

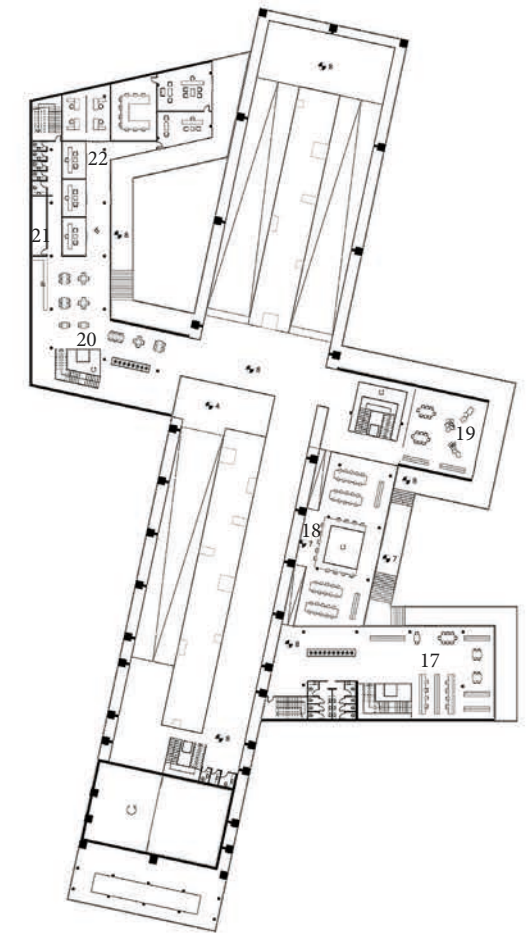
- 1. cafe
- 2. sunken plaza

- 3. entrance & lobby
- 4. shops
- 5. material storage
- 6. tipping floor
- 7. loading deck elevator
- 8. wind tower
- 9. recycle process
- 10. storage
- 11. locker room
- 12. algae research labs



First Floor Plan

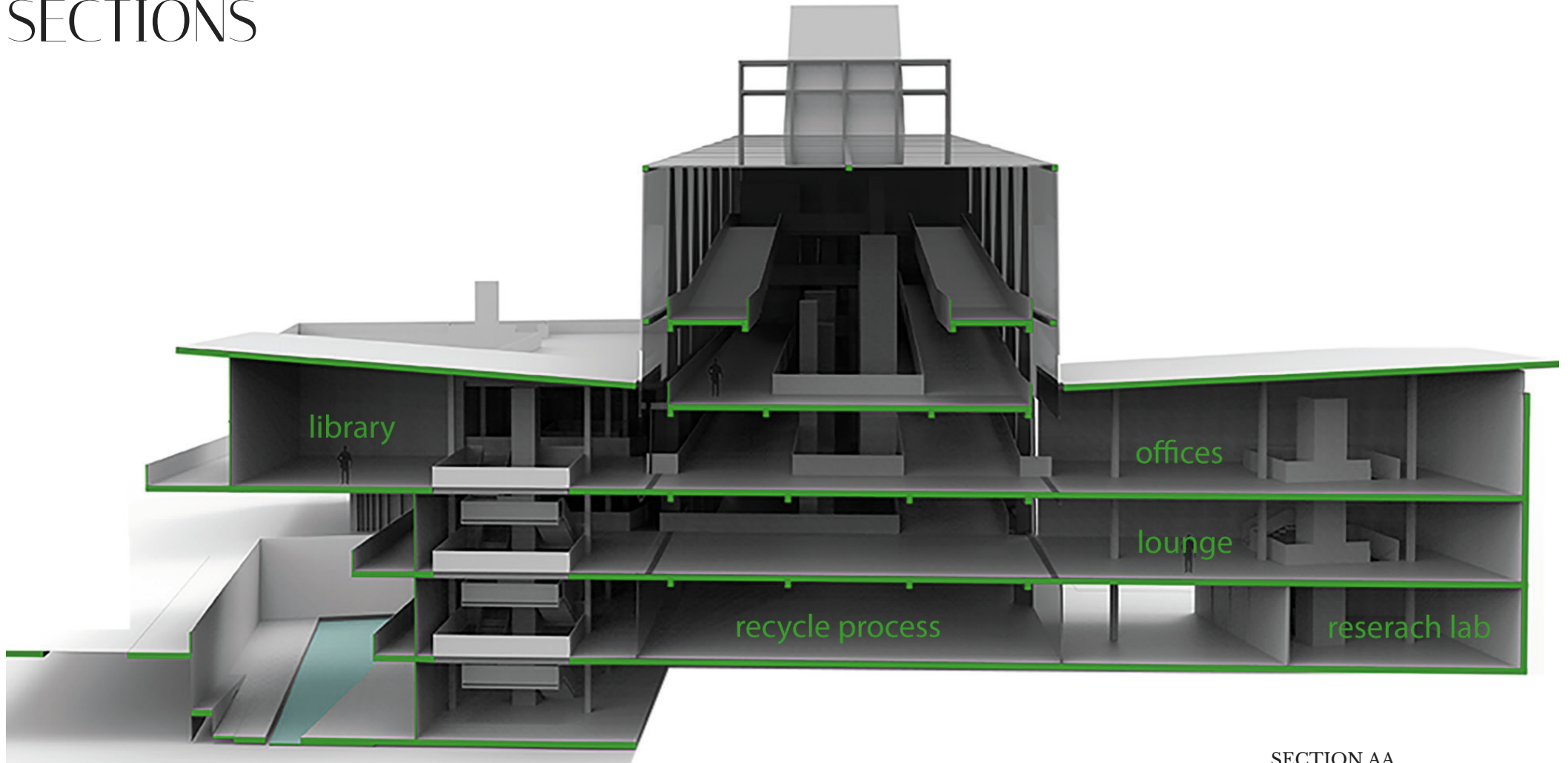
- 13. cafe
- 14. workshop area
- 15. connection bridge between public and private mass
- 16. lounge



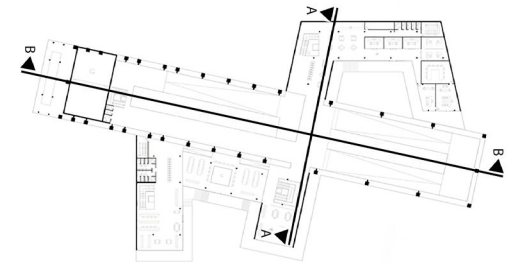
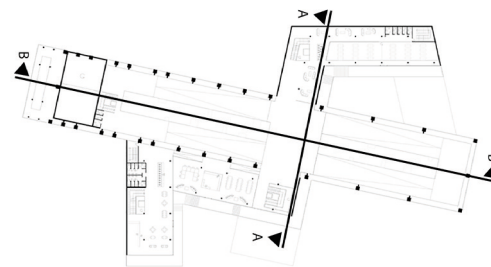
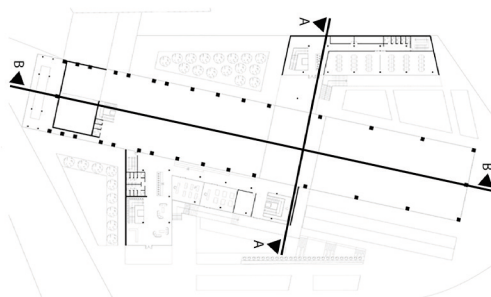
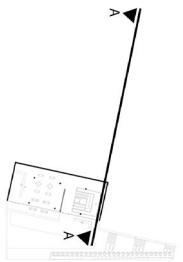
Second Floor Plan

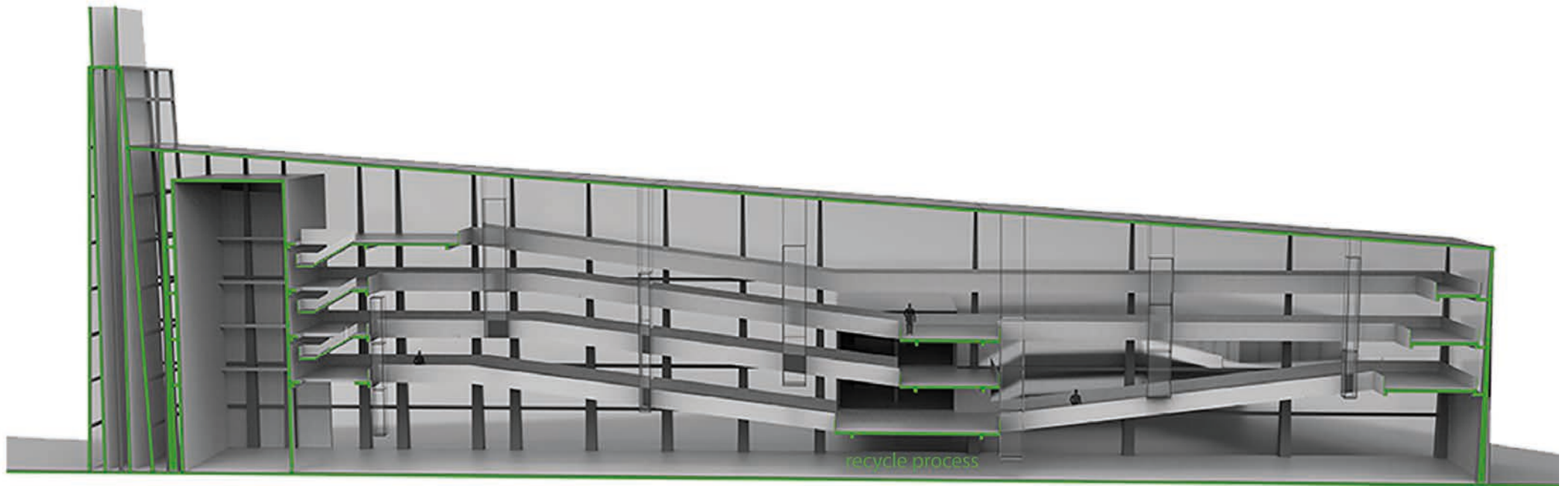
- 17. library
- 18. workshop area
- 19. library extension
- 20. collaborative work space & cafe
- 21. storage
- 22. offices

# SECTIONS



SECTION AA





SECTION BB



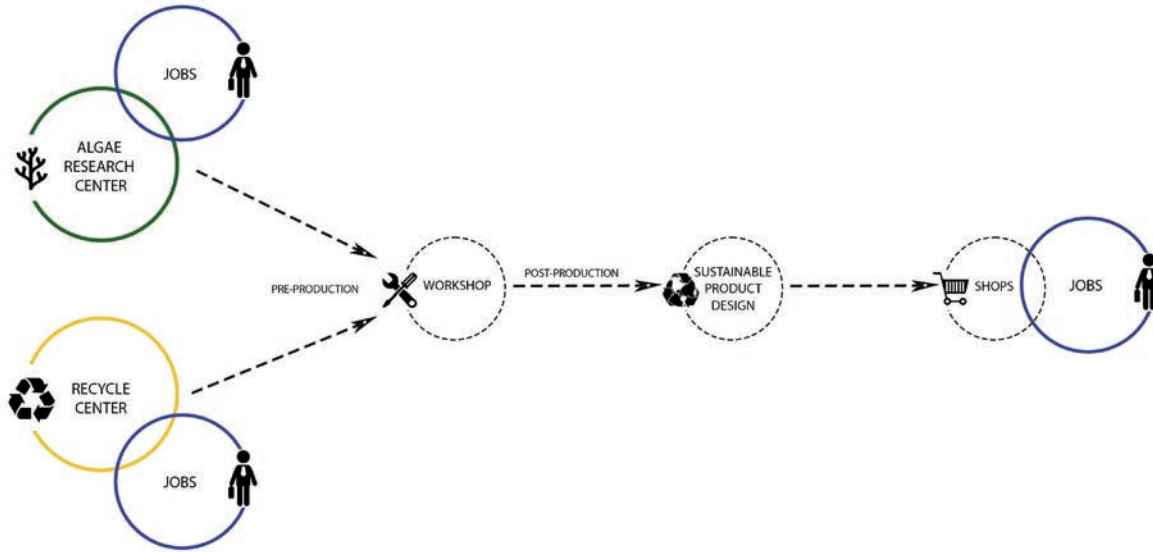
In AA section, the connection between the public and private space, how circulation cores are located and the sunken plaza can be observed.

In BB section, how ramps and glass storages are integrated within the recycle center can be observed.

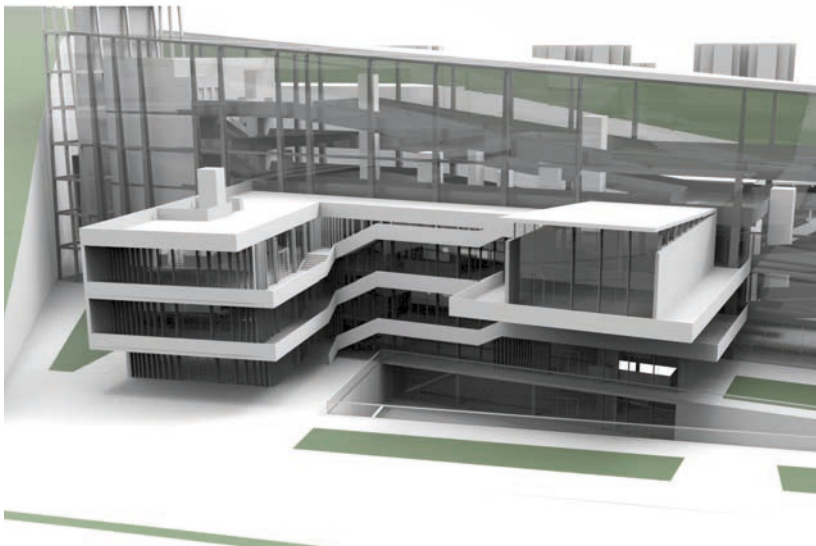
According to the render, the combination of these sections can be seen such as connection part with the material differentiation, sunken plaza and algae integrated floor materials within the recycle center.



# DIAGRAMS



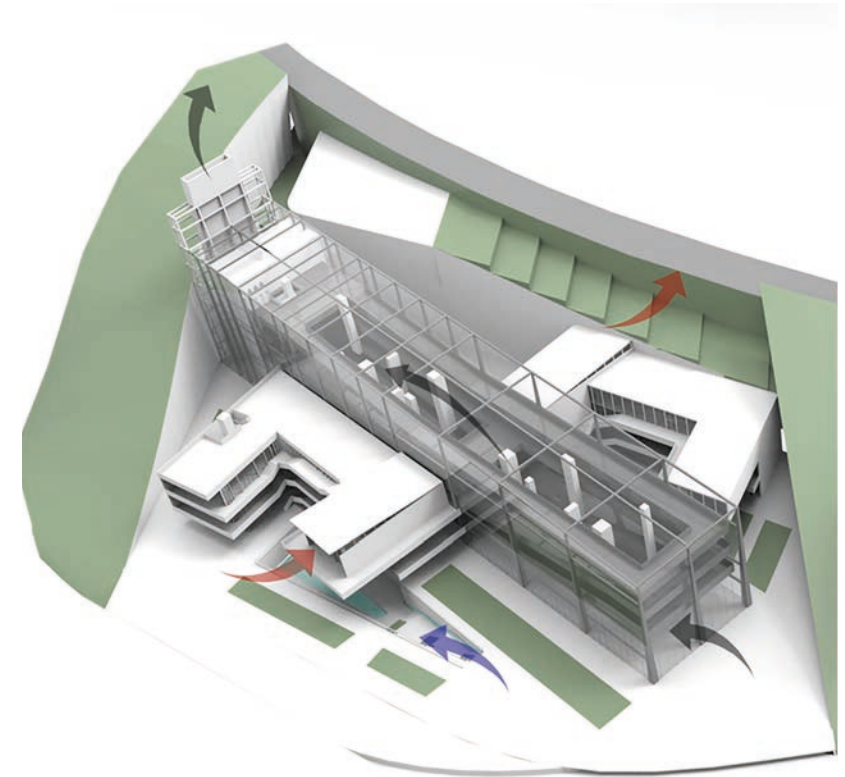
The project is planned to be self-sufficient. Algae research center and recycle center provide job opportunities. The elements that are coming from these centers go through the workshop areas and production process begins. Then these products go through the shops which also provides job opportunities to sell. These cycle is always in progress to create economical, social and environmental sustainability.






## Louvre Strategy

Vertical louvres are used on the east facades to prevent glare.

The density of these elements are arranged according to required natural light of interior functions.



-  stack effect
-  wind tower
-  rainwater harvesting system

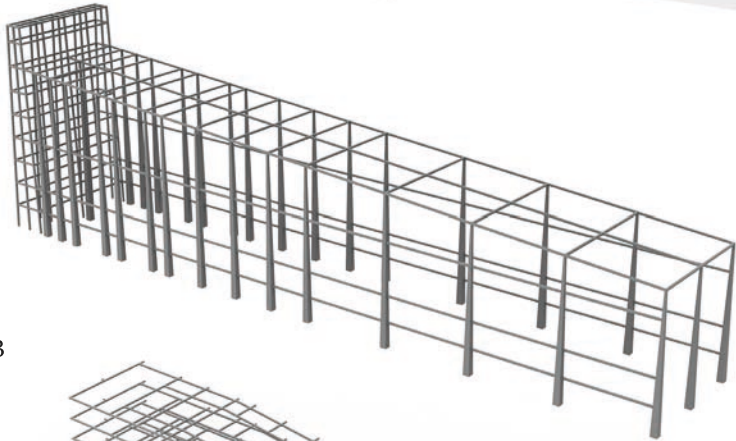
The connection part of the masses which is the most solid part of the project is designed with the inclined roofs to get light from the upper part and create cross ventilation by stack effect.

To take out the air pollution that is coming from the recycle machines, wind tower is designed.

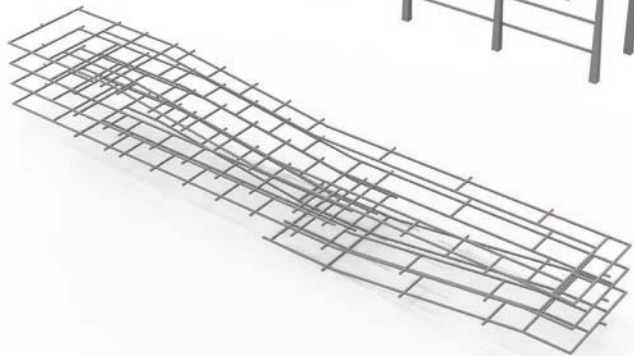
The rainwater is collected through the decreased levels of sunken plaza into the storage for the future use.



A



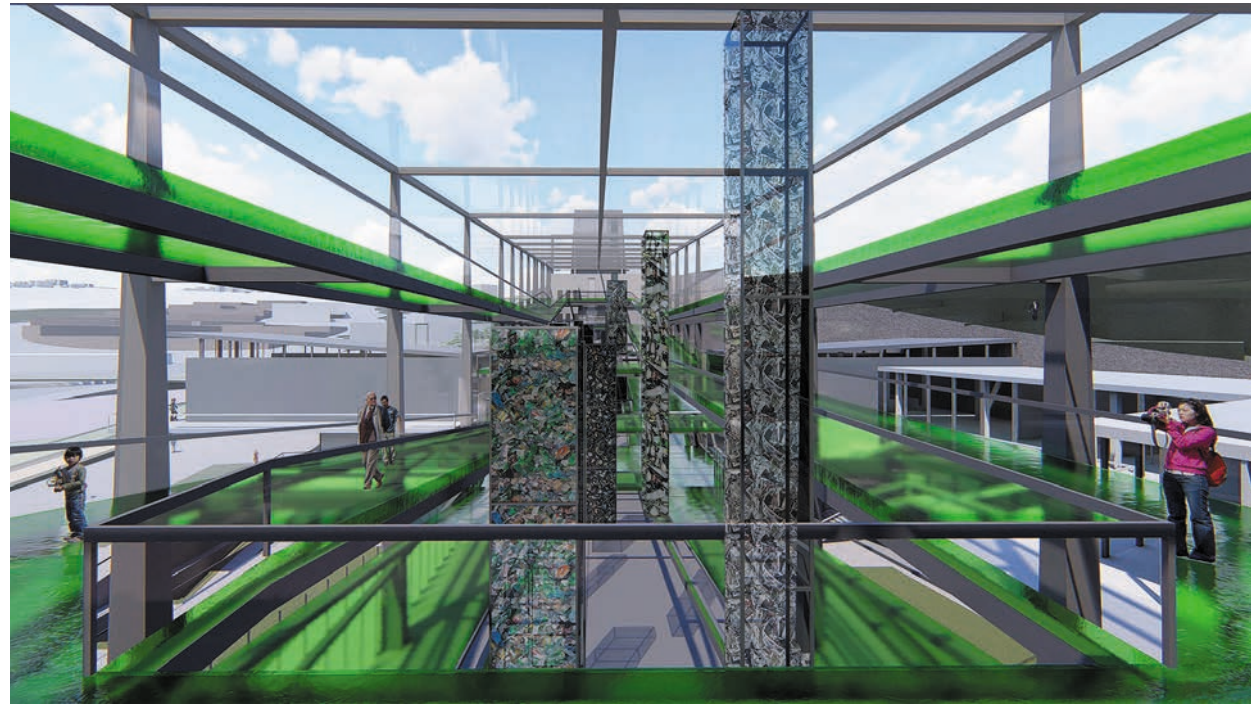
B



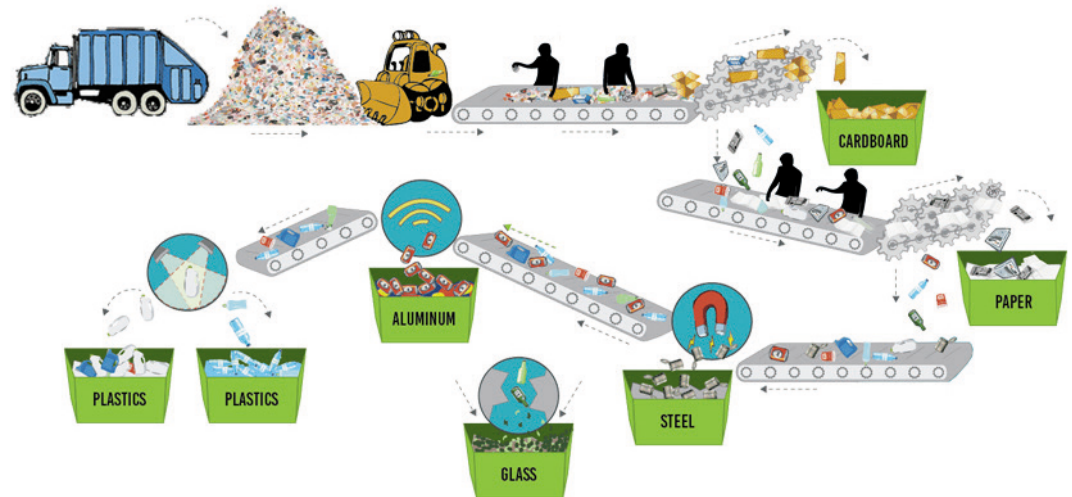
C

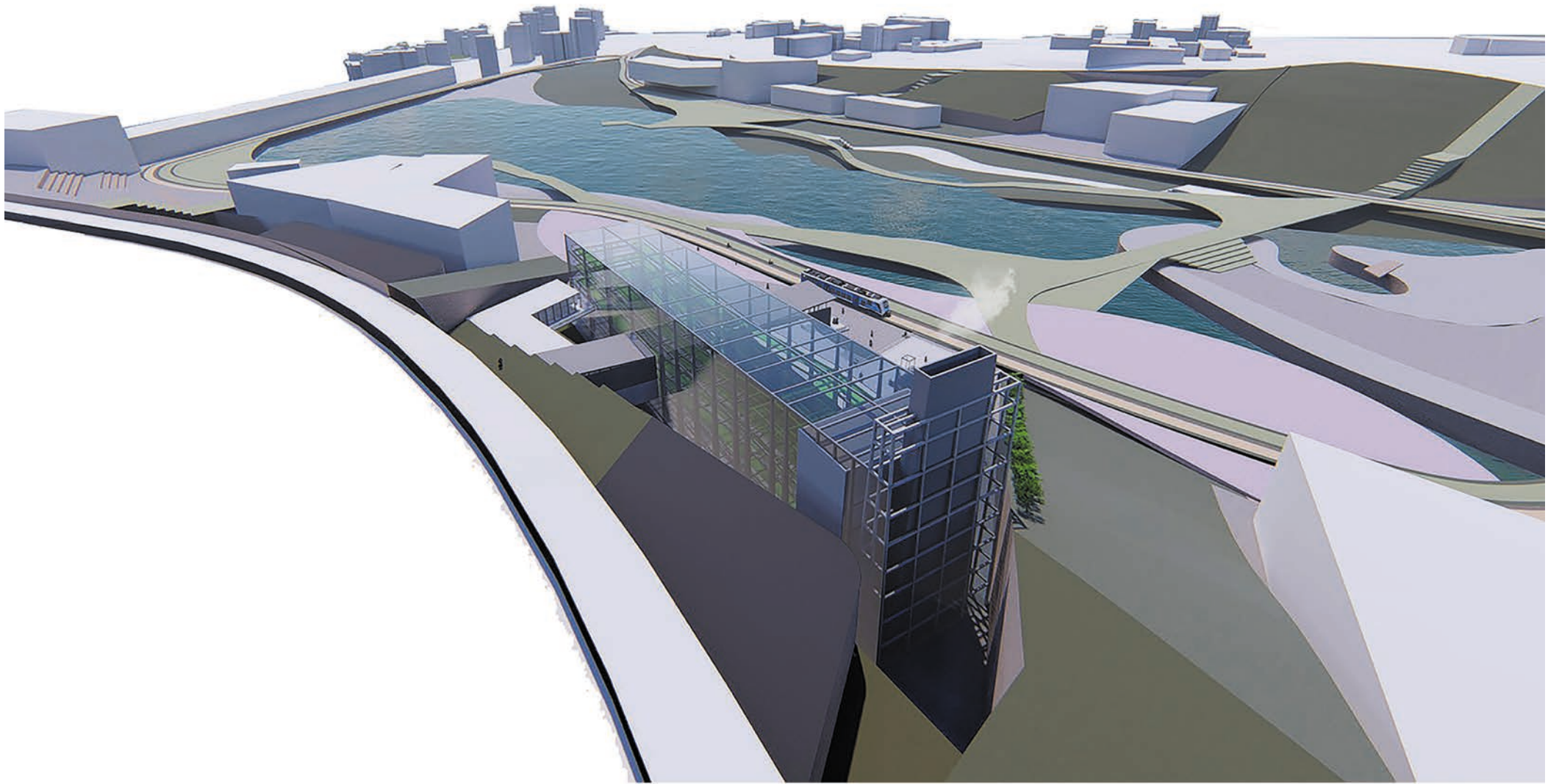
- A. ETFE
- B. structural steel
- C. structural steel

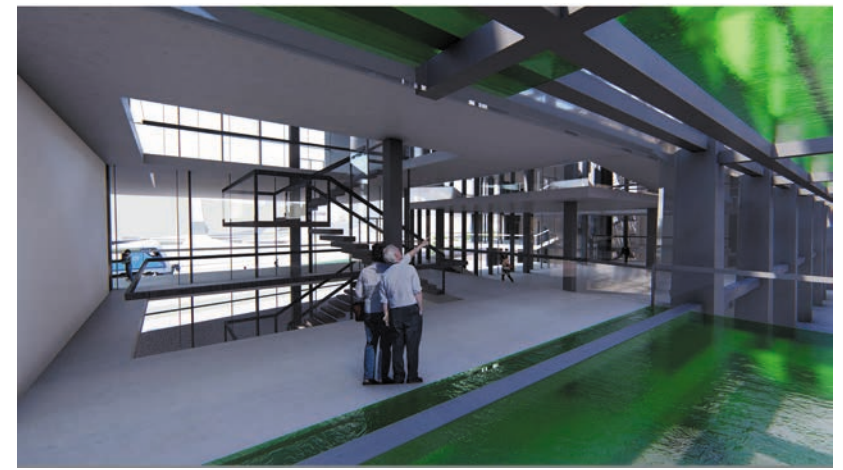
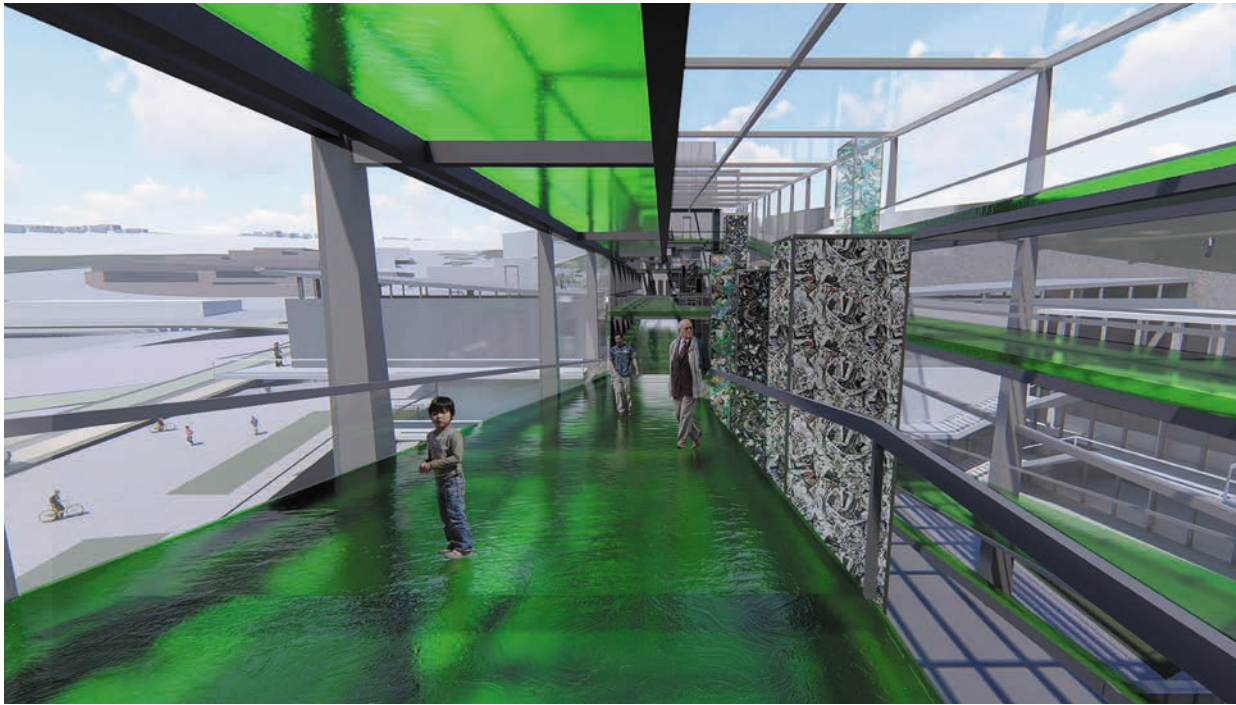
ETFE is used because of the ability to reliable environmental conditions within the building. Also it is chosen because of its lightness, heat insulation and acoustic permeability.



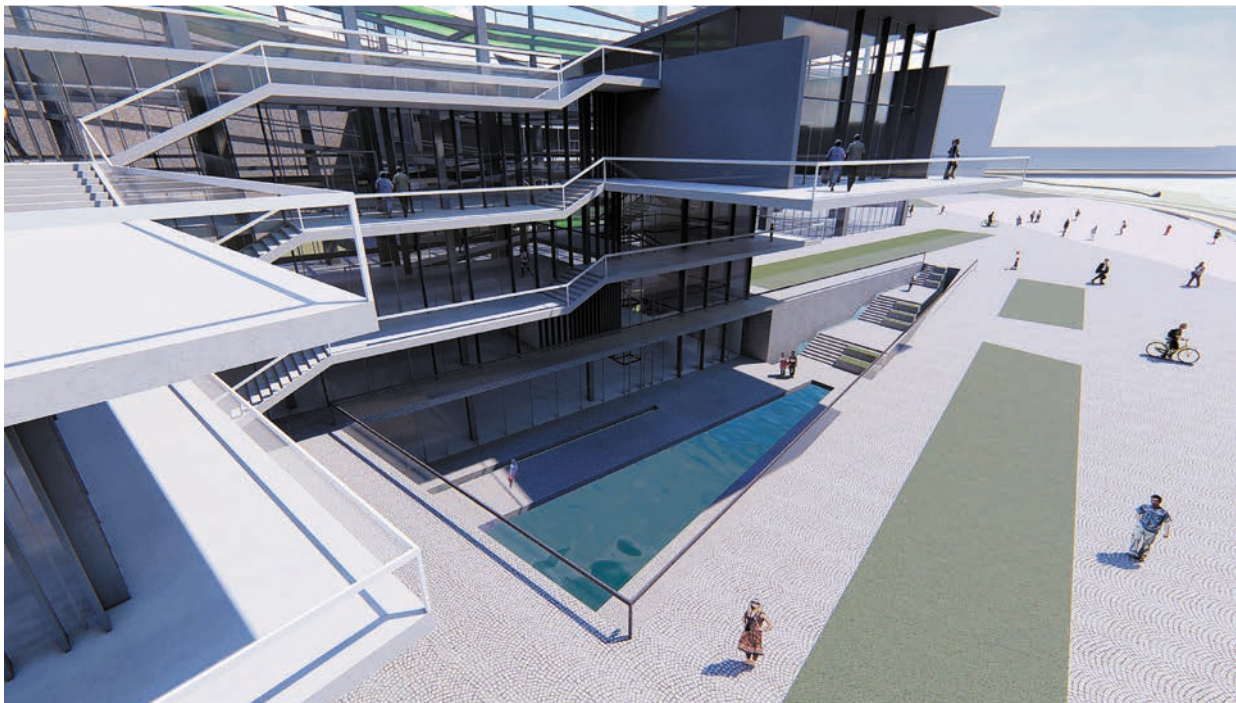
The recycle process takes part on the ground floor of the recycle center. The campus wastes are coming from the parking lot and carrying with the loading deck elevator through the ground floor. After that, they are collected in the tipping storages then the recycle process begins. According to design decisions, the wastes put in the glass storages and the ramps surround the center in different levels to actualize the exposition of recycle and cycle concept.







The floor materials change through the algae that is coming from the algae research labs. Within the transparent mass, the concept is actualizing the sustainability exposition with these algae floor materials and glass storages where wastes are stored.



The ramps within the recycle center and surrounding ramps around the public and private mass, are designed in different levels to actualize the concept of cycling.

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ARCH 402 Architectural Design Studio VI

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