

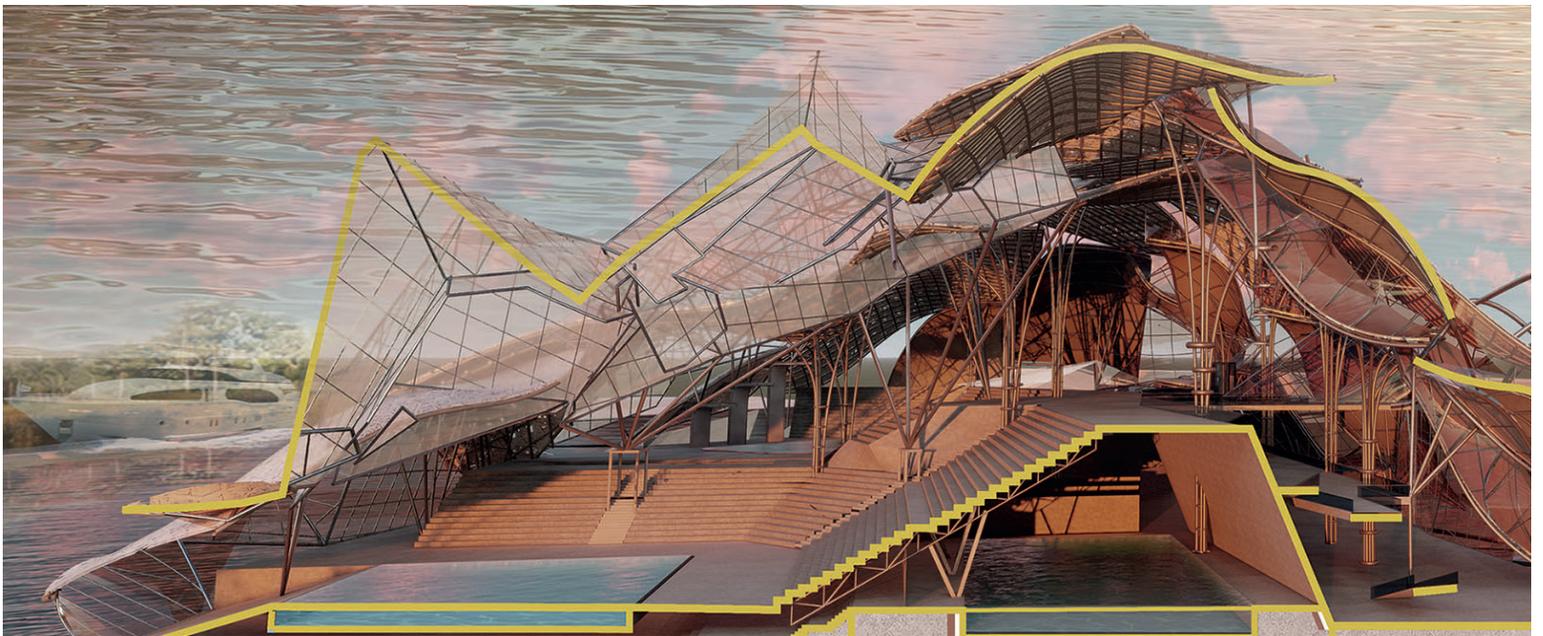
TEJIDO GROUP / PORTFOLIO

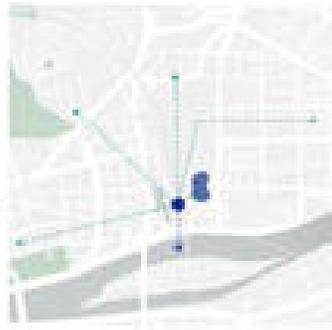
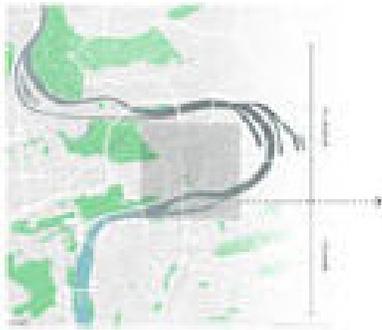
For the past thirty years the Tejido Group has developed into an interdisciplinary and collaborative applied research program in which faculty and professionals in Architecture, Landscape Architecture and Planning work side by side with university graduate and undergraduate students in an apprenticeship-style professional learning environment. Tejido has worked on design and planning projects on five continents: North America, Europe, Latin America, Africa and Asia.

Tejido is an extension of the applied research and community outreach activities of Mark Frederickson PhD. LEED AP. The work of Tejido stands as an effective illustration of Dr. Frederickson's pedagogic strategies, and the design outcome of his students' efforts. He is the Founder and Director of the Tejido Group and project manager on all projects. The following are excerpts taken from several recent Tejido projects in the U.S., the Czech Republic, Senegal, Mexico, Turkey, Panama, Oman, Palestine, Pakistan, South Africa and Hong Kong, (the underlined title to each project links to a copy of the final published master planning monograph online).

PRAHA 7 / 2019 4th year studio revitalization project for the city of Prague, Czech Republic

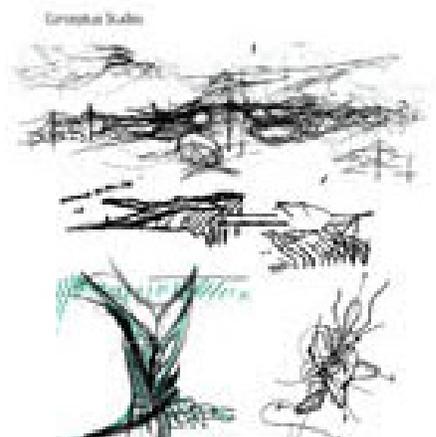
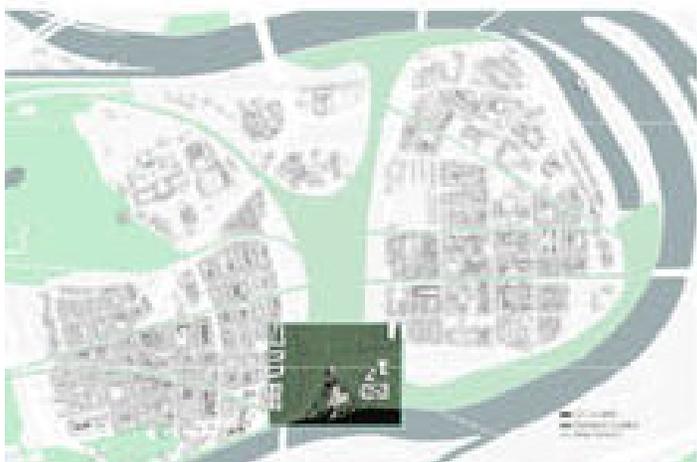
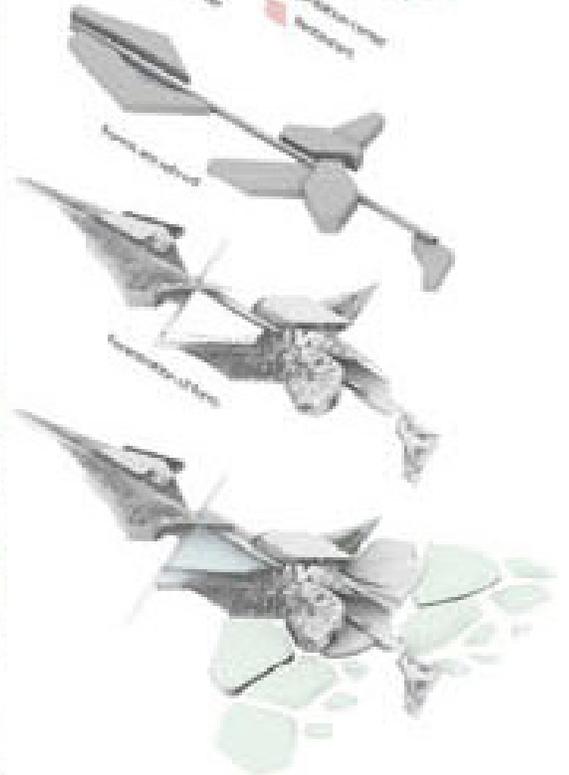
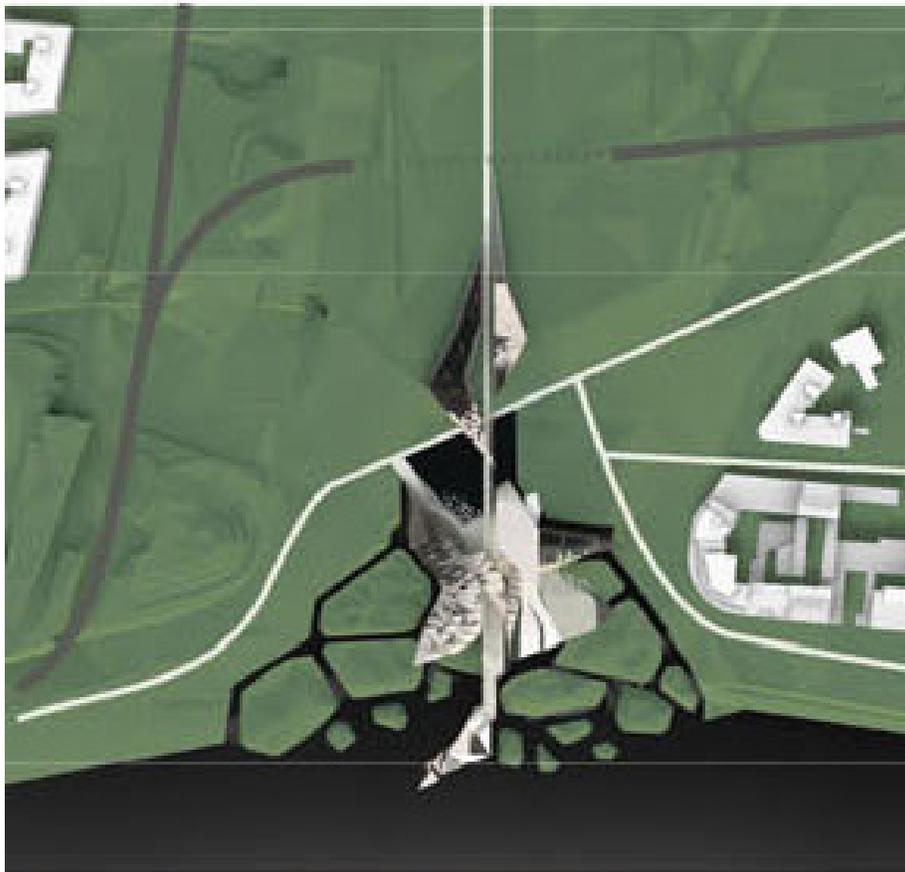
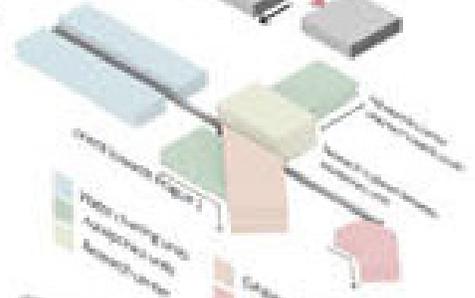
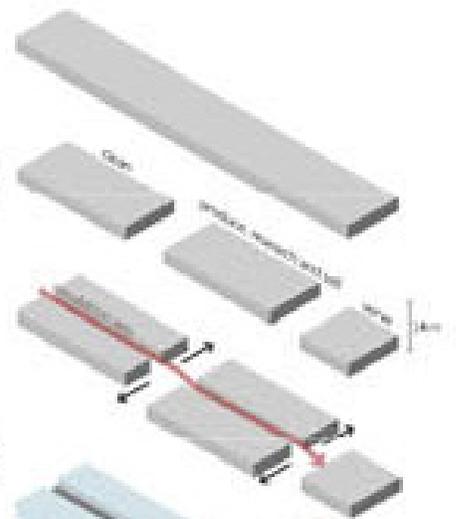


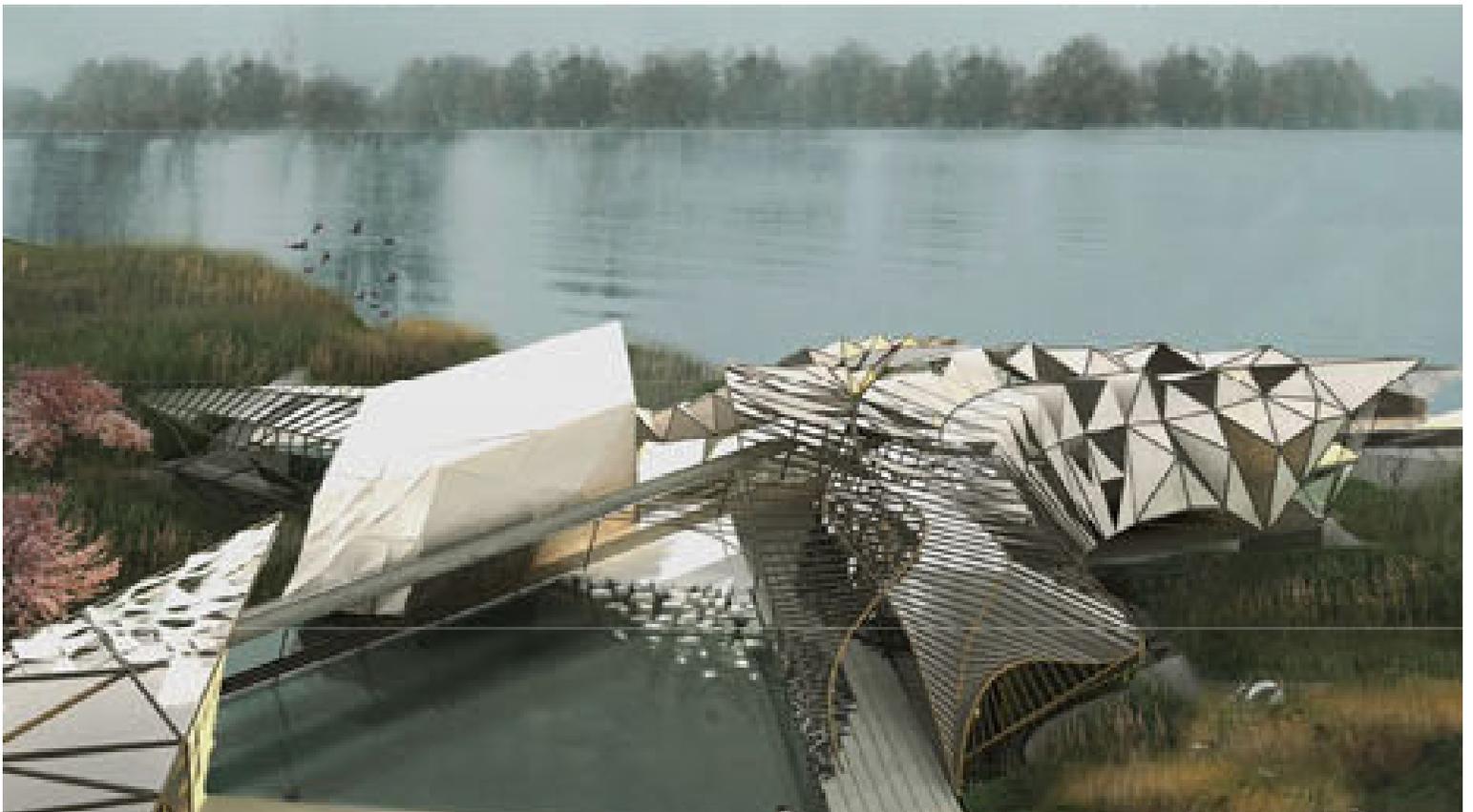
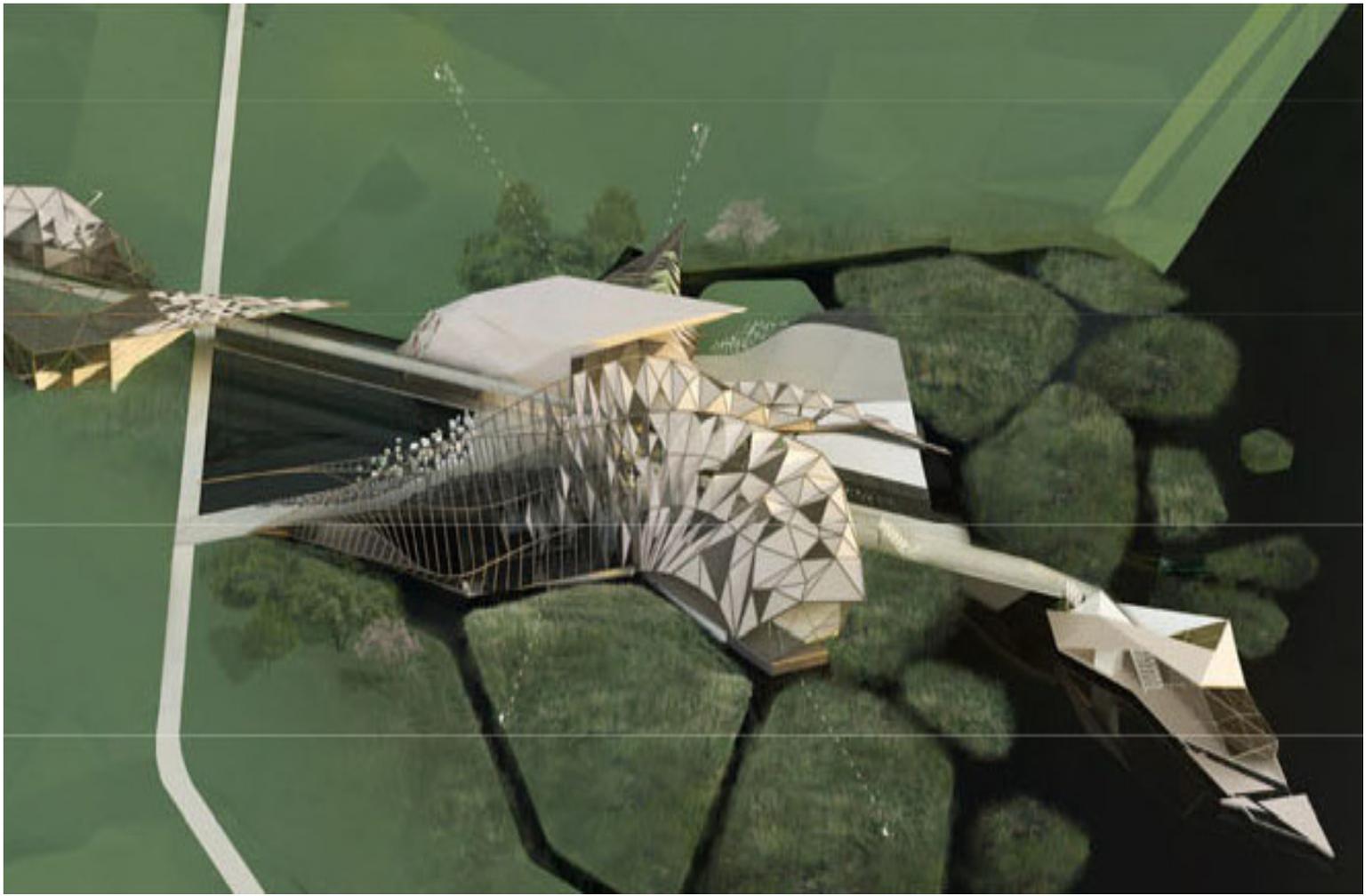


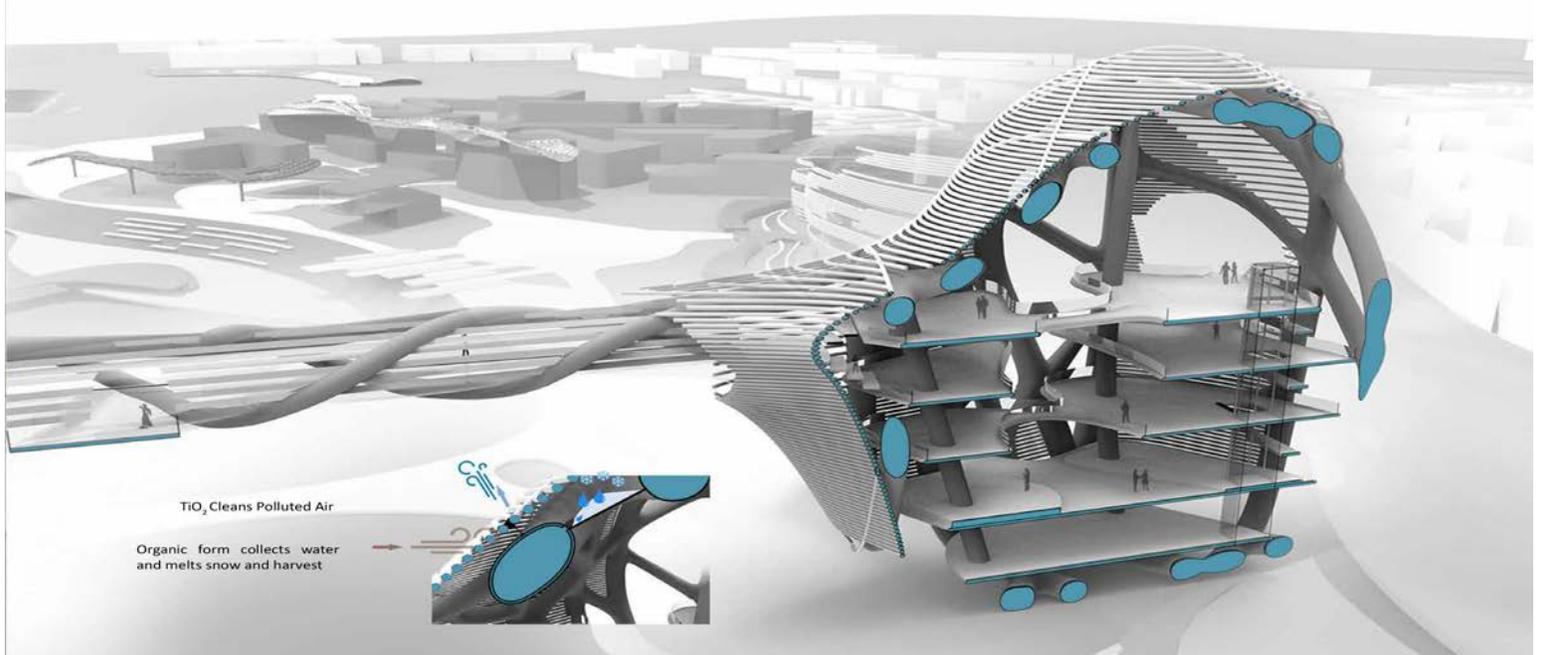


The river of Vilva defines the grid of Pragui. Towards the northern industrial zone of Pragui the area gets polluted. The project aims to revitalize Vilva by closing the urban sources of water and recirculating the treated water back to the river.

- Green area (industrial zone)
- Urban area (city center)
- Industrial zone of Pragui



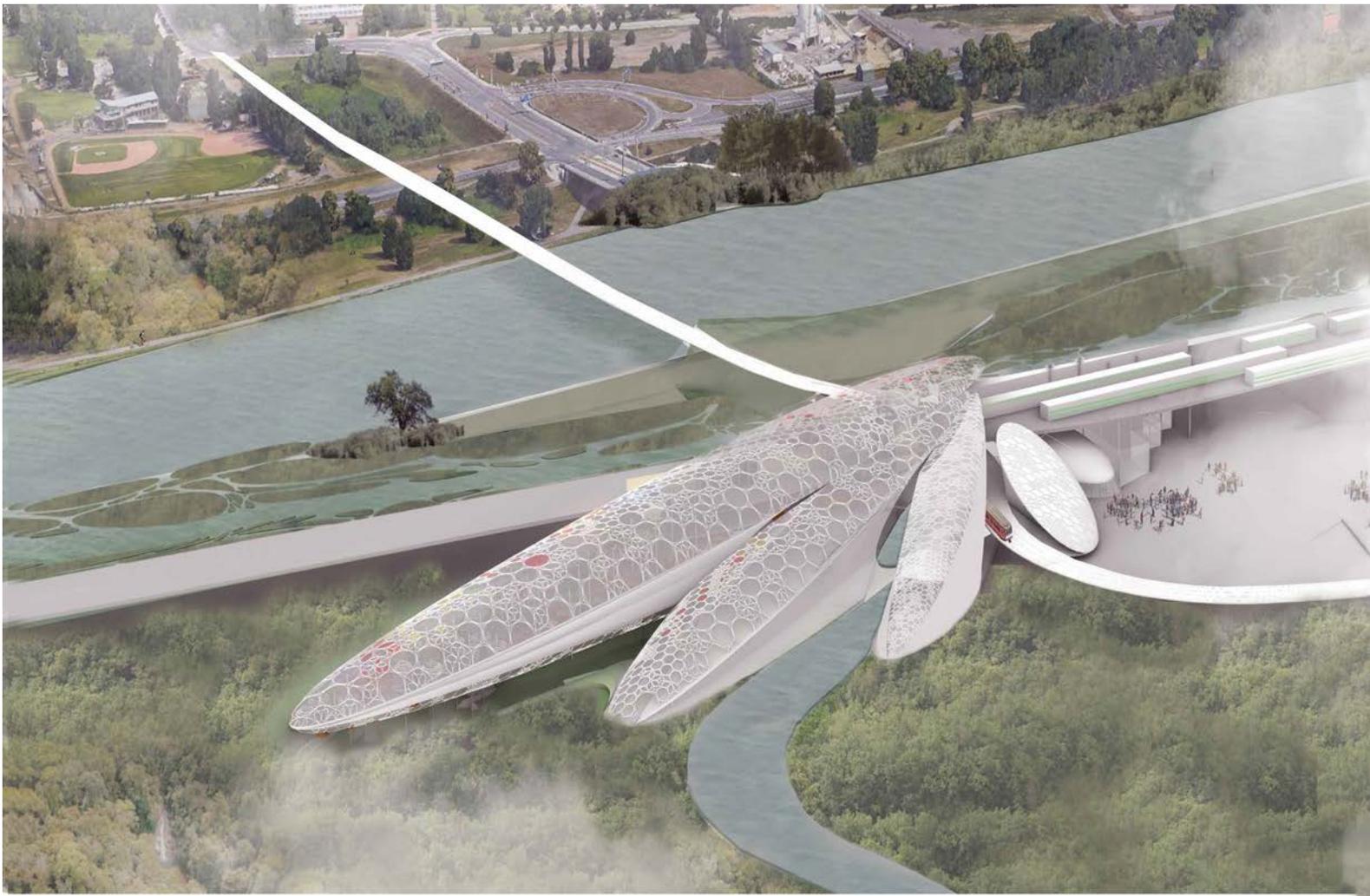




TiO₂ Cleans Polluted Air

Organic form collects water and melts snow and harvest

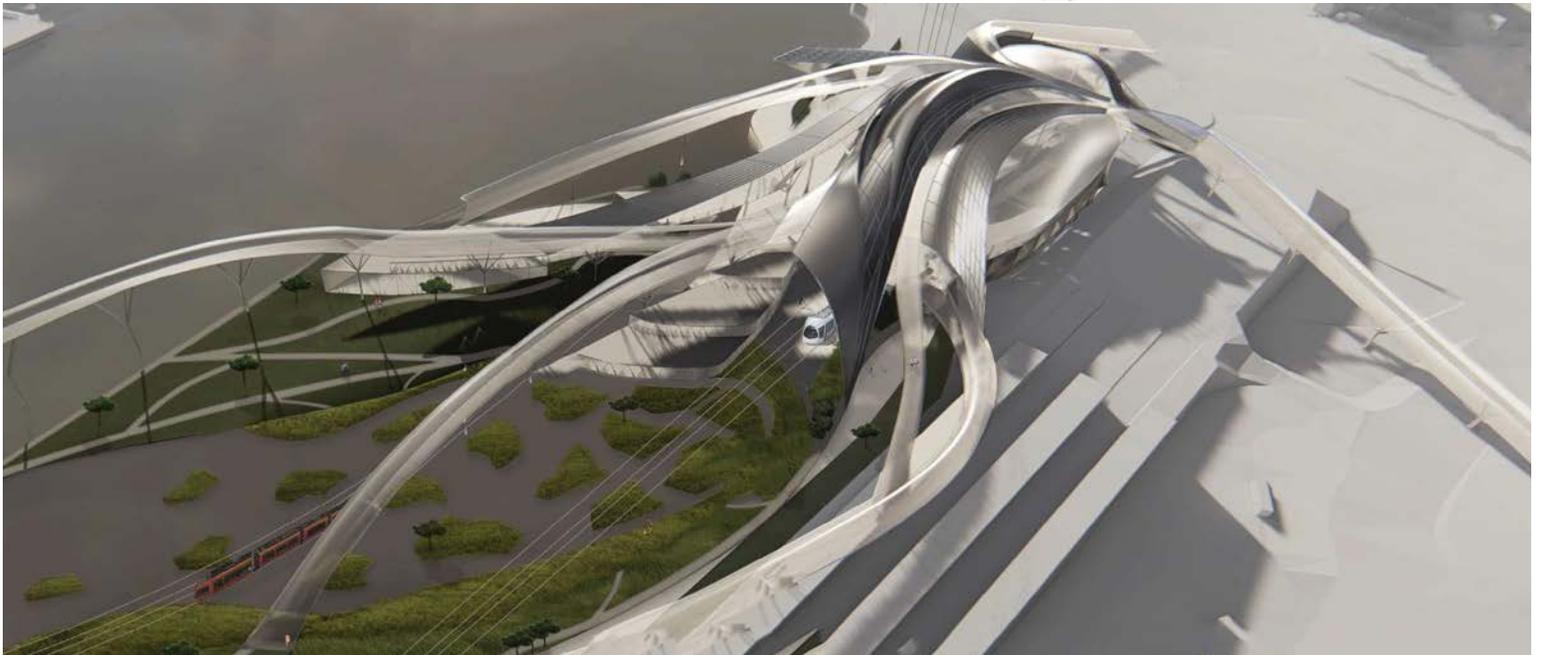
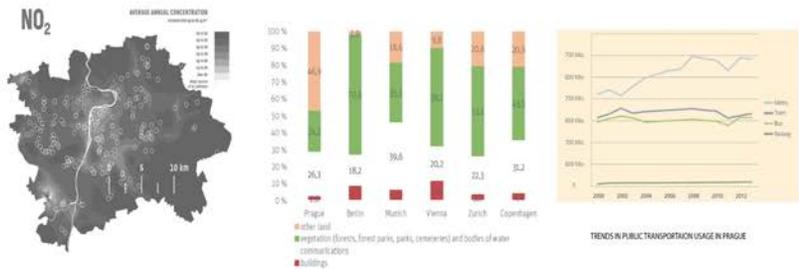


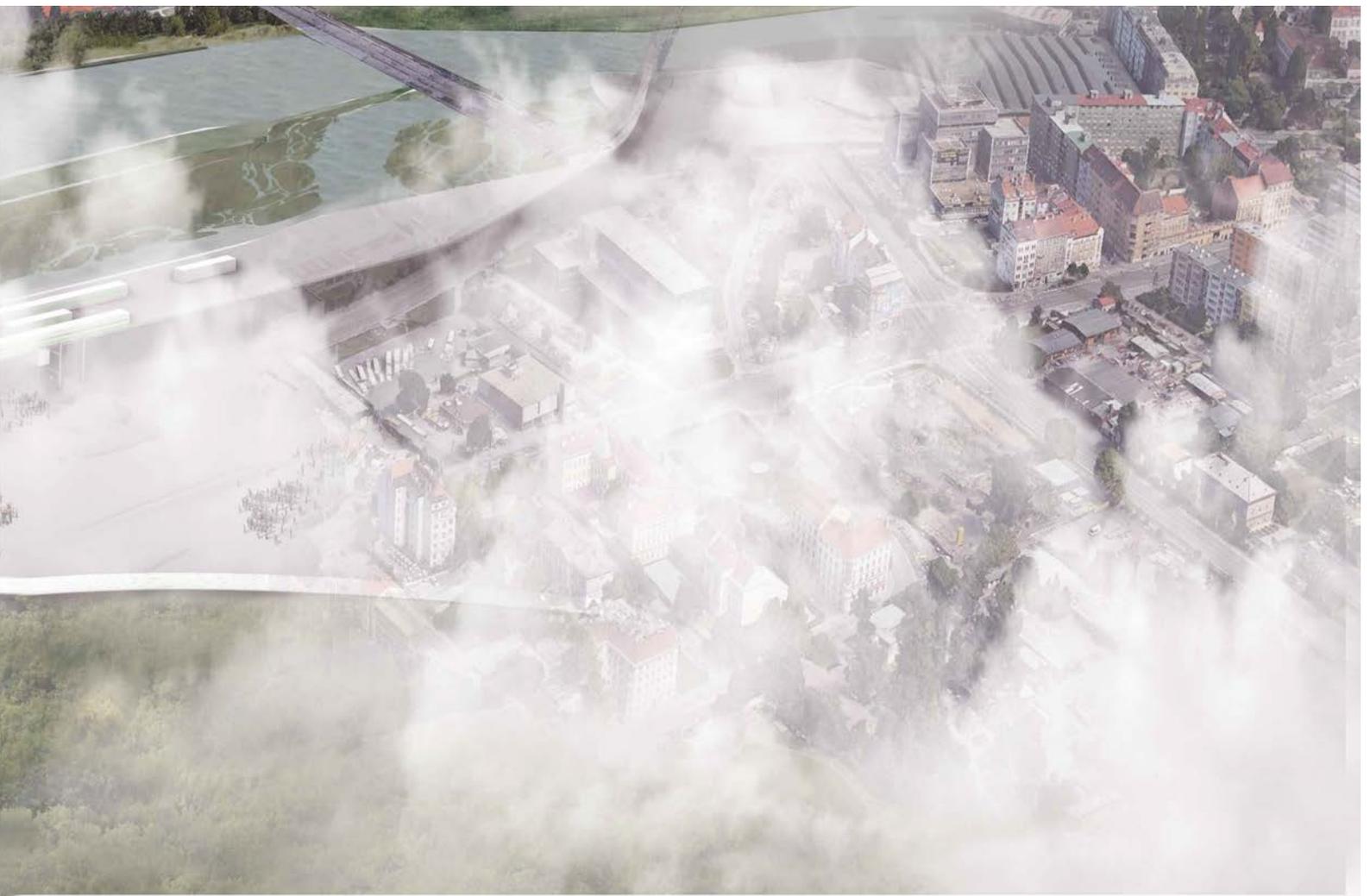


ABOUT PRAGUE 7

Historically, the area offered favourable conditions for hunting, fishing, and for agriculture. During the period of Celtic settlement around the year 500 BC the so-called Bubeneč-Dejvice settlement existed here; it was a trade crossroads between north, south, west and east, where many different kinds of goods were exchanged. From the 1st to the 4th centuries AD, one of the largest centres of German iron-working was to be found on the territory of today's Prague 6 and 7. With the gradual arrival of the Slavs, however, the centre of settlement shifted in the 8th – 9th centuries to what today is the Old Town.

The historic settlements of Holešovice and Bubny form the basis of Prague 7. Today, Prague 7 is a post-industrial site that is slowly developing and is still somewhat isolated from the rest of Prague.



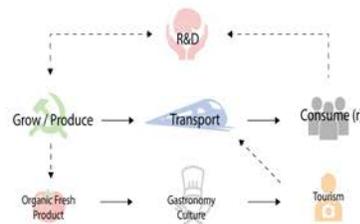


GROWTH IN MOTION : VERTICAL FARMING AND TRANSPORTATION HUB

Nature and humans; the connection is undeniable and yet, we have perhaps become so disconnected from it as distances have shortened down into minutes through modern technology and various modes of transportation.

Here in the post-industrial Prague 7, the project proposes a new or perhaps a more traditional vision of the future in which the separation once again ceases to exist and men and nature enable each other to prosper.

Drawing from the agricultural history of the site and combining it with its more recent political history; through movement in time and growth interpreted into physical movement, this building project along with its multi-phased masterplan, brings a new value to the Czech society from which they can be proud of.

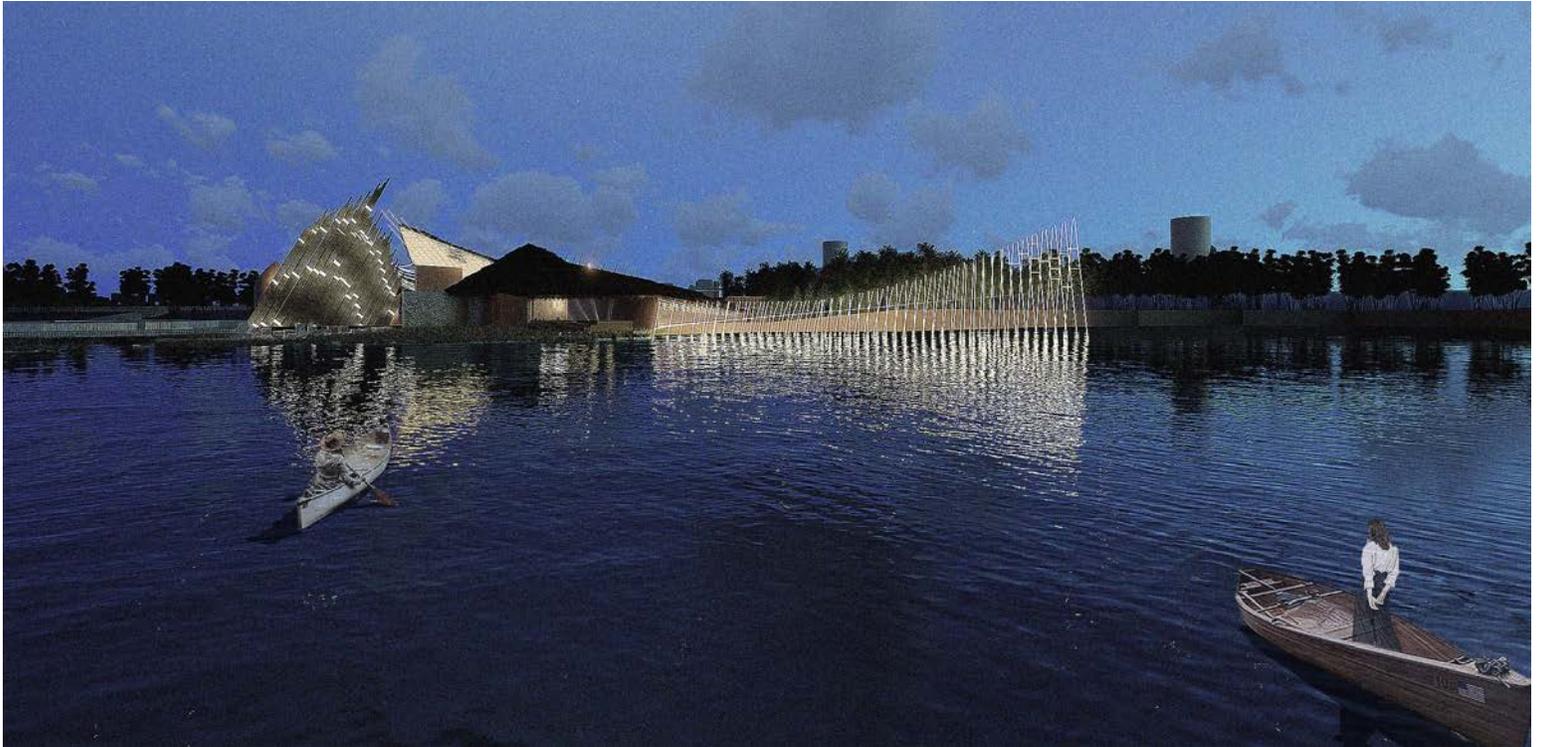


ABOUT NON-PLACES

A non-place has a huge unused potential. It is usually somewhat only temporarily in existence in the experience of the person, which makes it a very fluid space. This fluidity may perhaps be the perfect environment for changes to start to occur. Once an idea is planted, as time passes and experiences accumulate, it will grow and finally when it's ready, it will present itself as if it has come down from the heavens.



SENEGAL / The Womens House: A sustainable rural living prototype for low income women in Sub-Saharan Africa.



PROMOTING GENDER EQUALITY
IN AFRICA, SENEGAL

A Sustainable Rural Living Prototype For Low Income
Women in Sub-Saharan Africa

BILKENT UNIVERSITY
Faculty of Art, Design and Architecture

SPRING 2021

Mark Paul Frederickson

Recep Ögüç

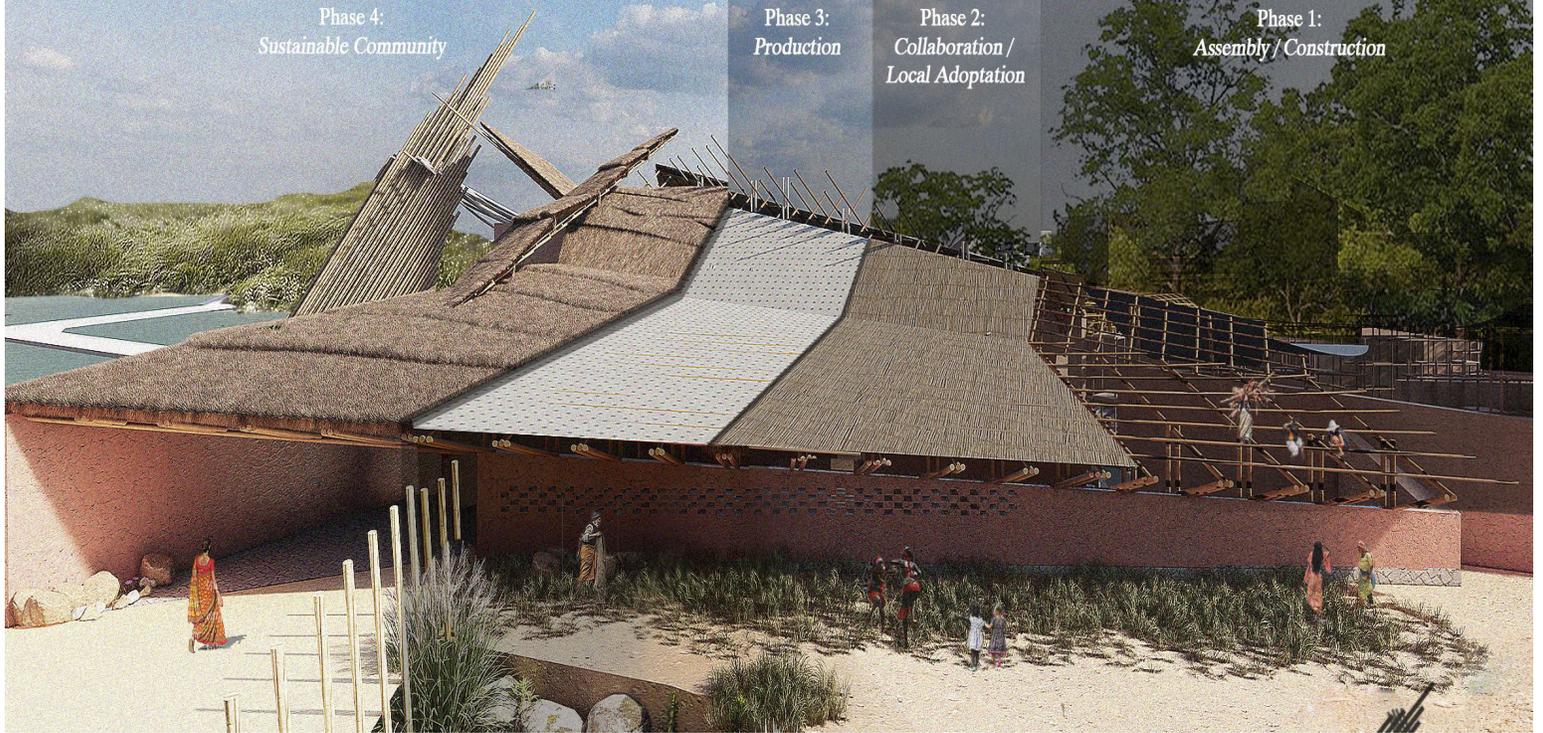
The Women's House

Phase 4:
Sustainable Community

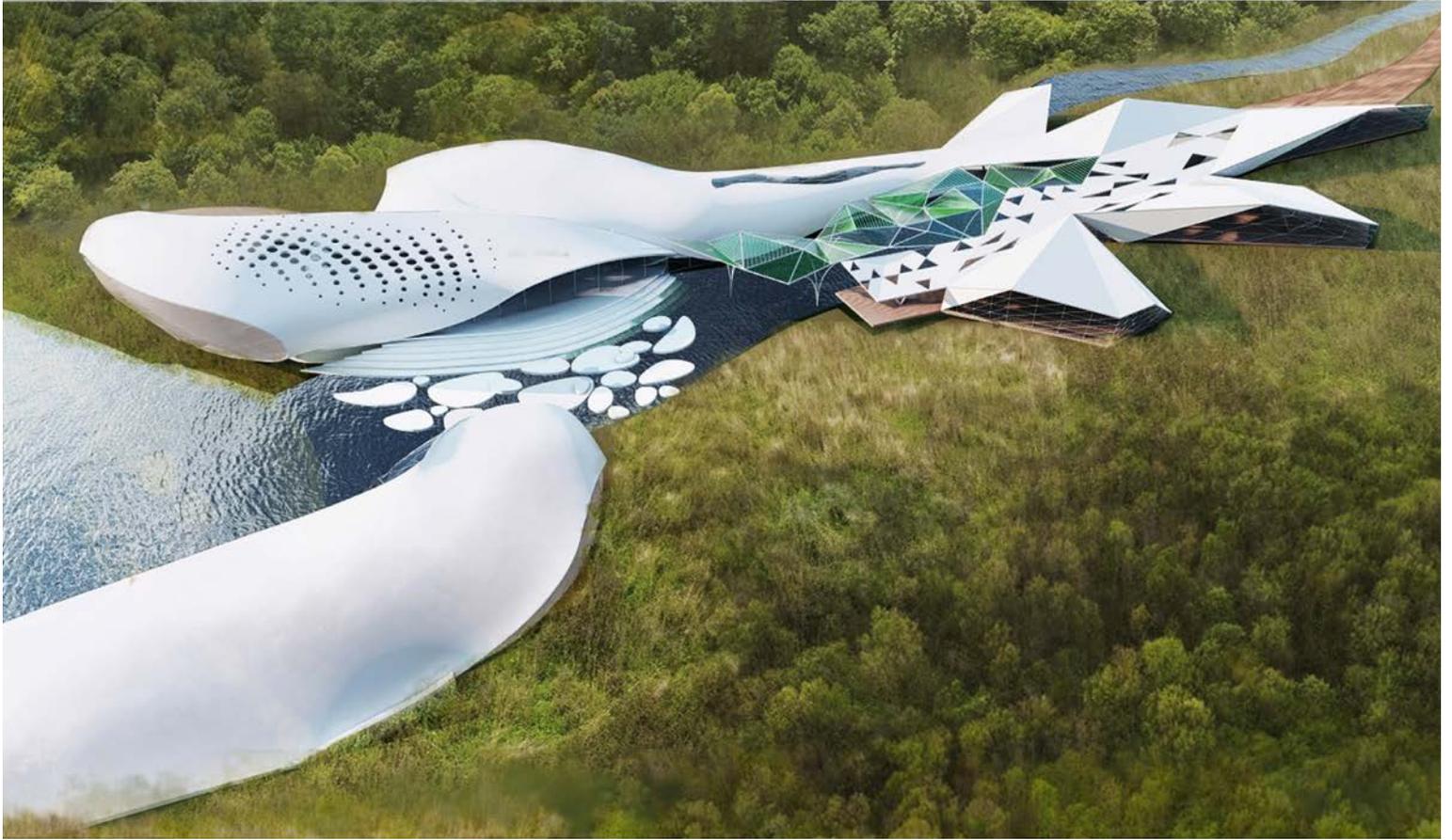
Phase 3:
Production

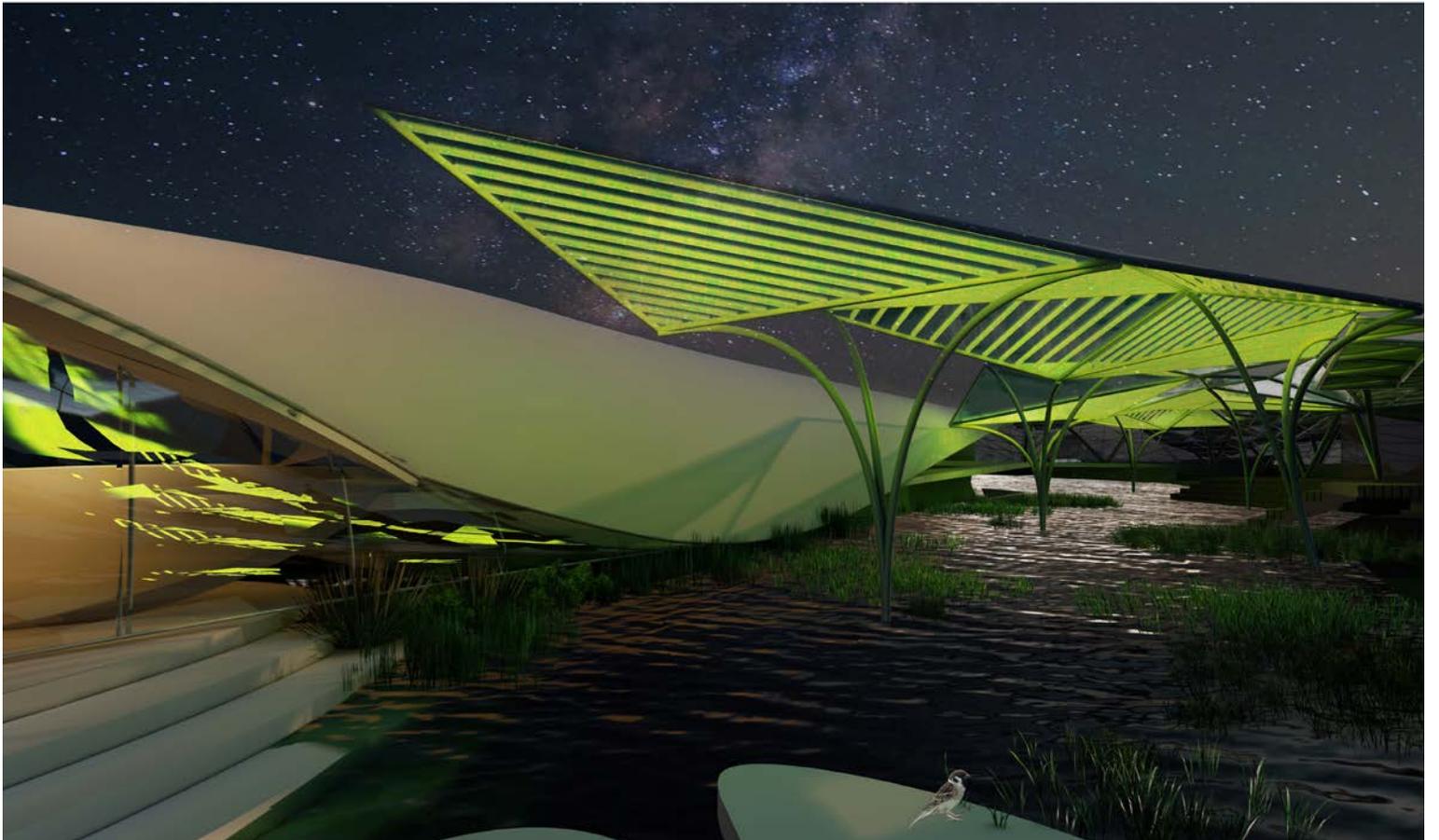
Phase 2:
Collaboration /
Local Adoption

Phase 1:
Assembly / Construction



IZMIR, TURKEY / Urban Sustainability Research Facility.







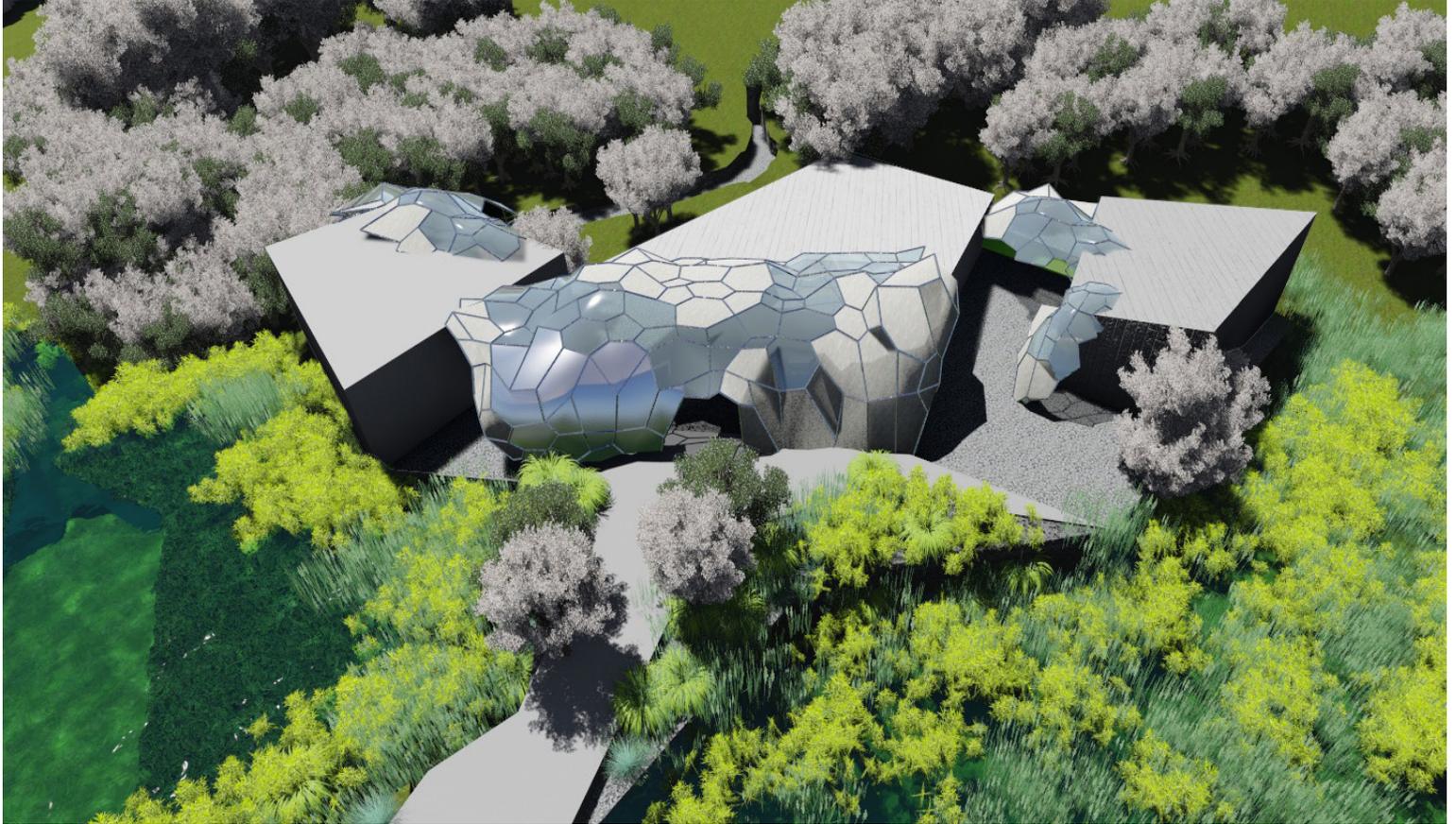


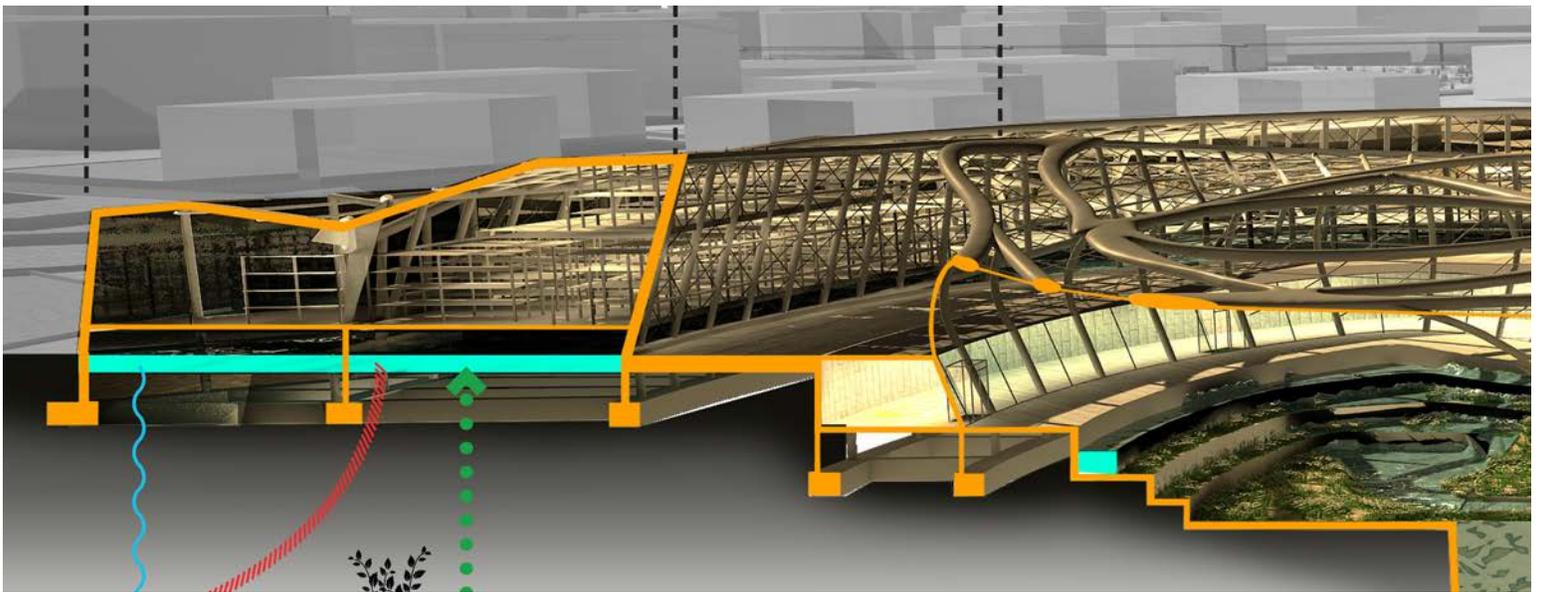
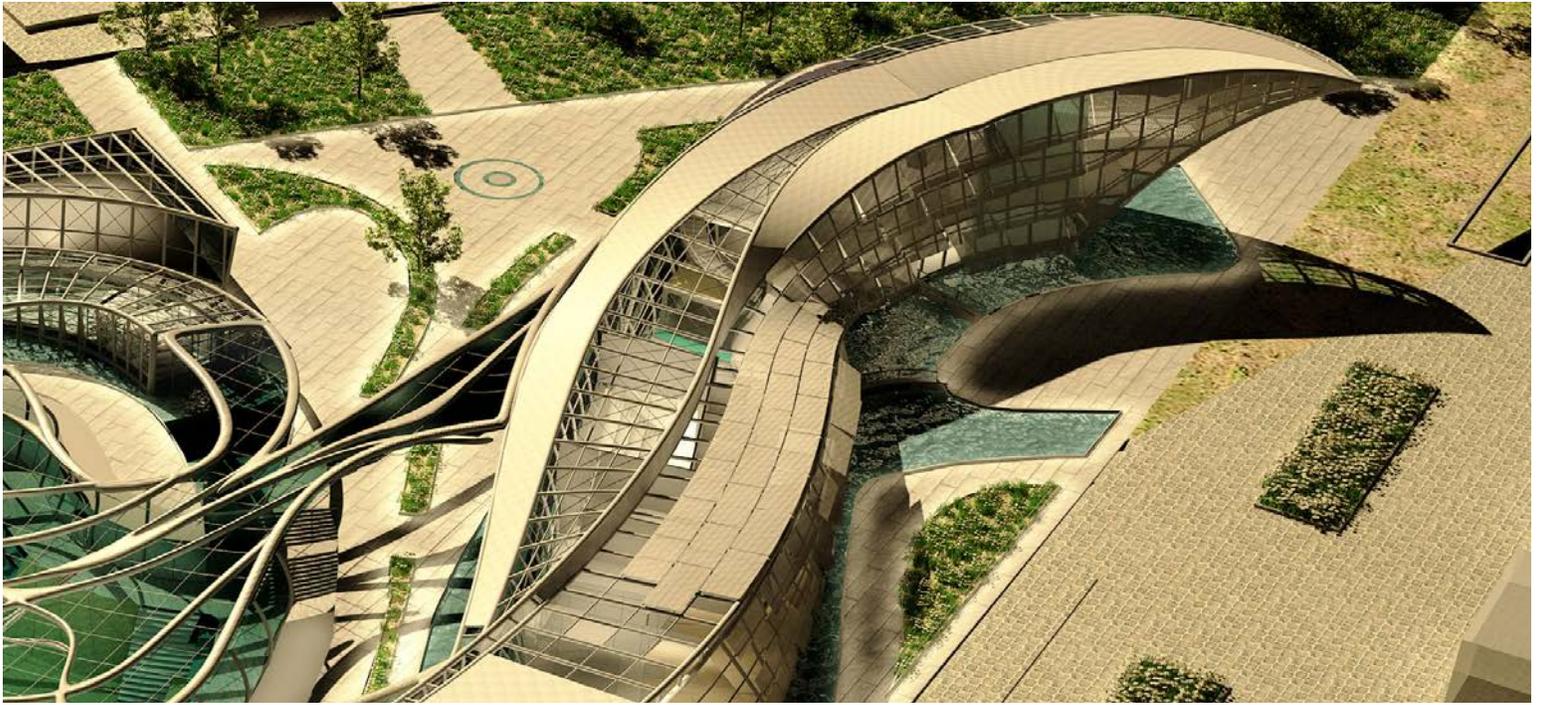
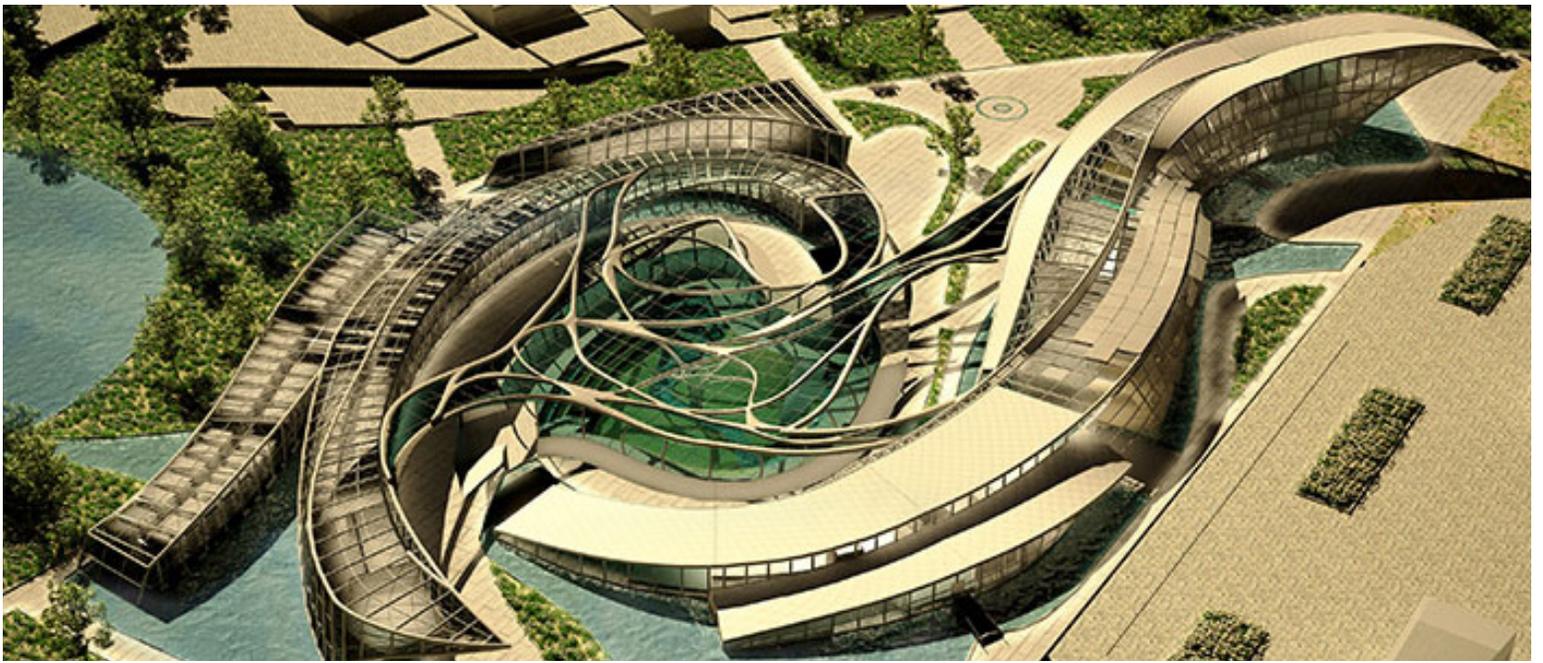




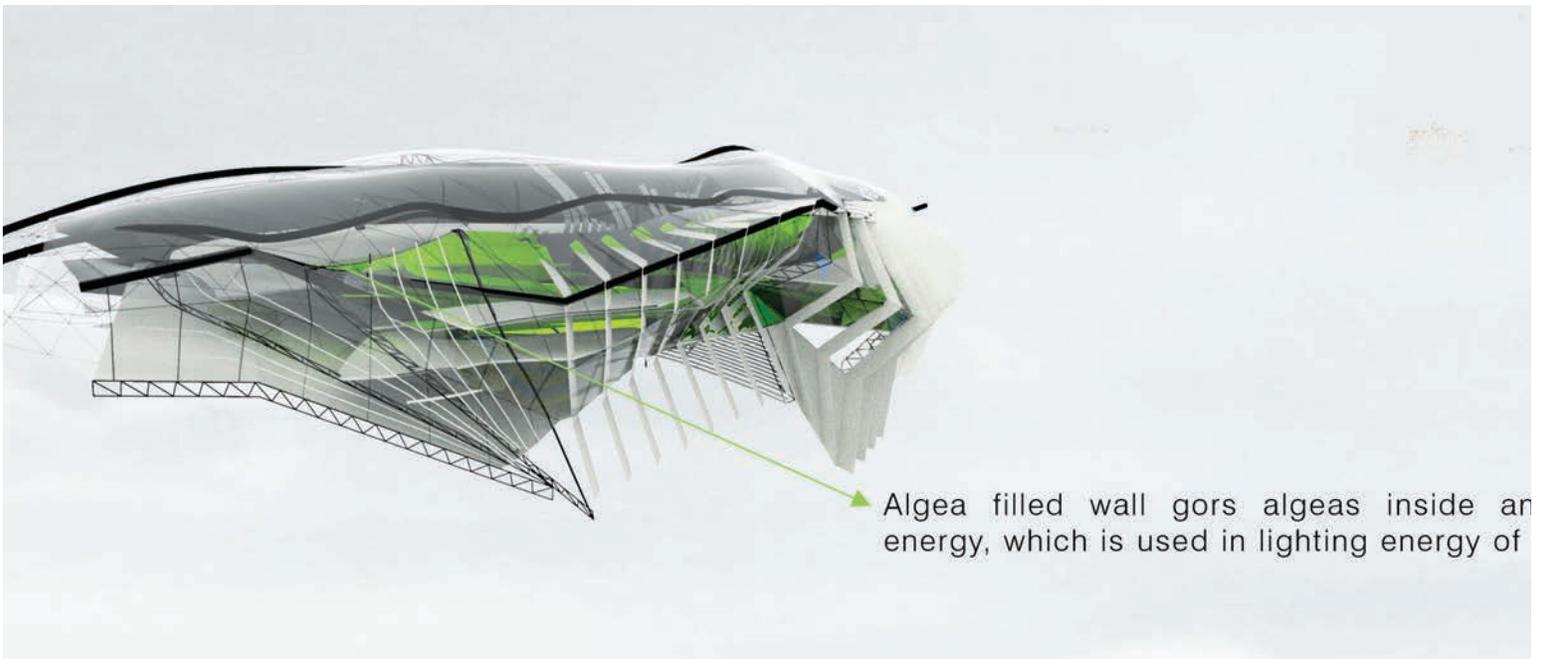
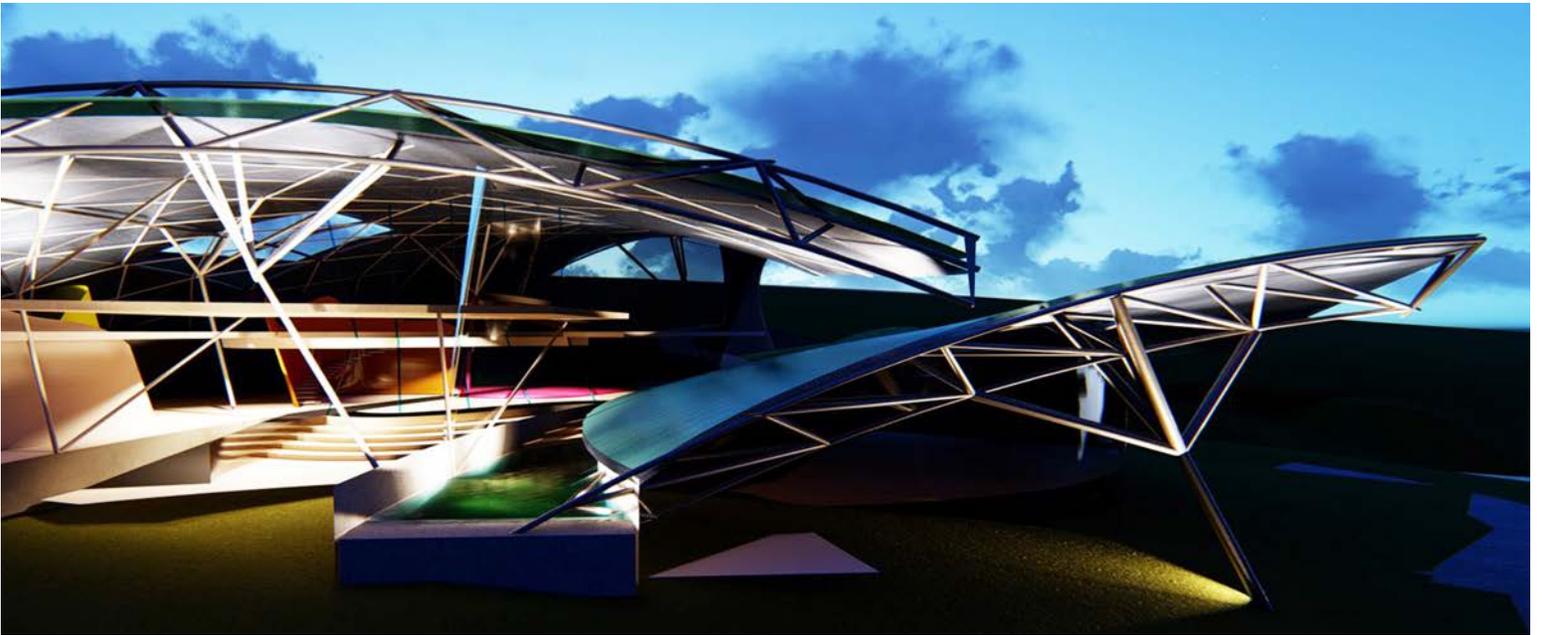
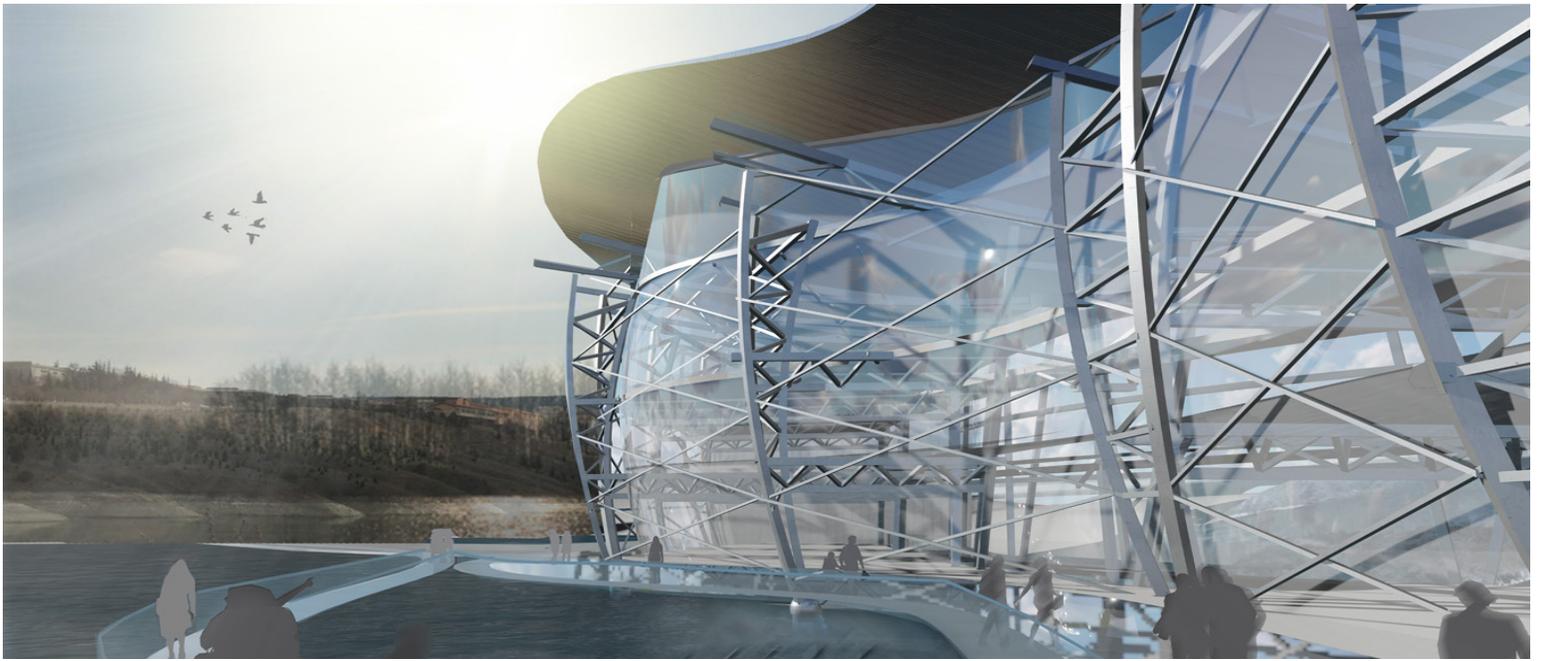
Ankara River and InterLake Projects:

These projects offered Ankara sustainable urban prototypes and provided a consortium of Bilkent, Hacettepe and METU Universities, research facilities in all fields of study related to sustainability. Their design and infrastructure highlight advances in sustainability i.e. net zero architecture, urban fabric that embraces the principles of smart growth, alternative sources of energy, urban agriculture, water conservation and purification strategies, wildlife and watershed basin conservation and remediation, etc. The sites' importance as potential catalysts in the development of a collaborative research centers as well as a sustainable urban prototype in the reimagining of Ankara's urban fabric, its economic potential, scale, and proximity to potential interconnected greenways suggest immense potential, both in terms of the scale of and variety of design and planning interventions possible.

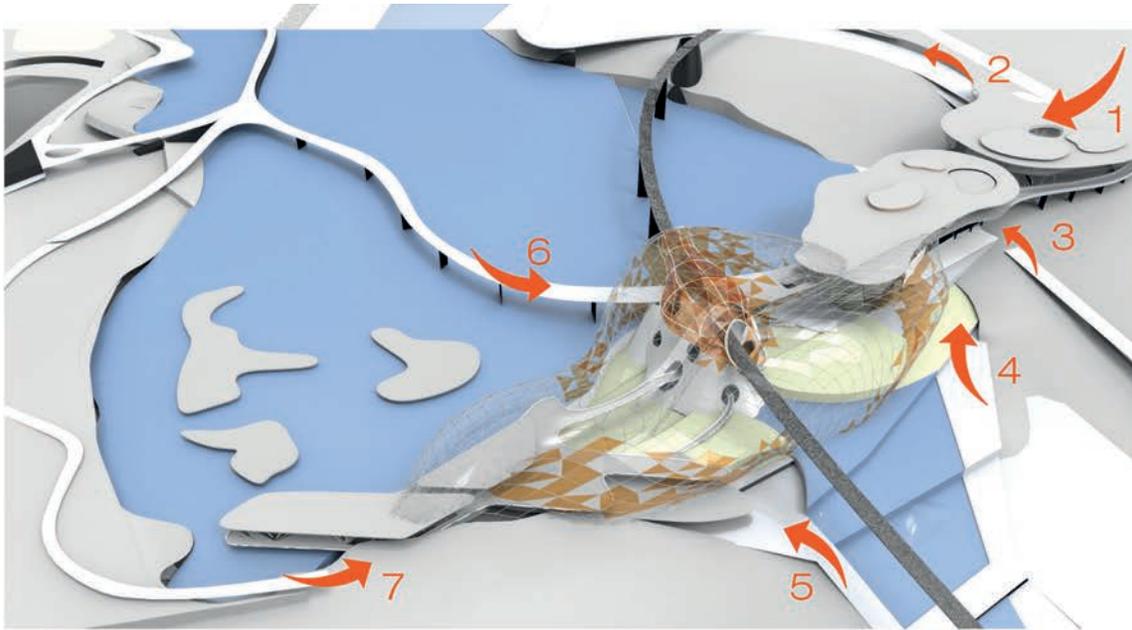






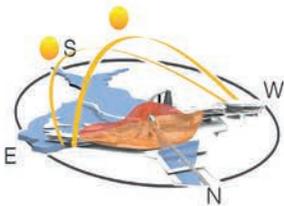


Algae filled wall grows algae inside an energy, which is used in lighting energy of



ENTRANCES

1. Main entrance from Main Campus to T-HUBITAT
2. Main site path
3. Service road
4. From Bilkent Centre to T-HUBITAT
5. From Bilkent Centre to research labs
6. From East Campus and winery to T-HUBITAT
7. From riparian area to research labs



BIOMES

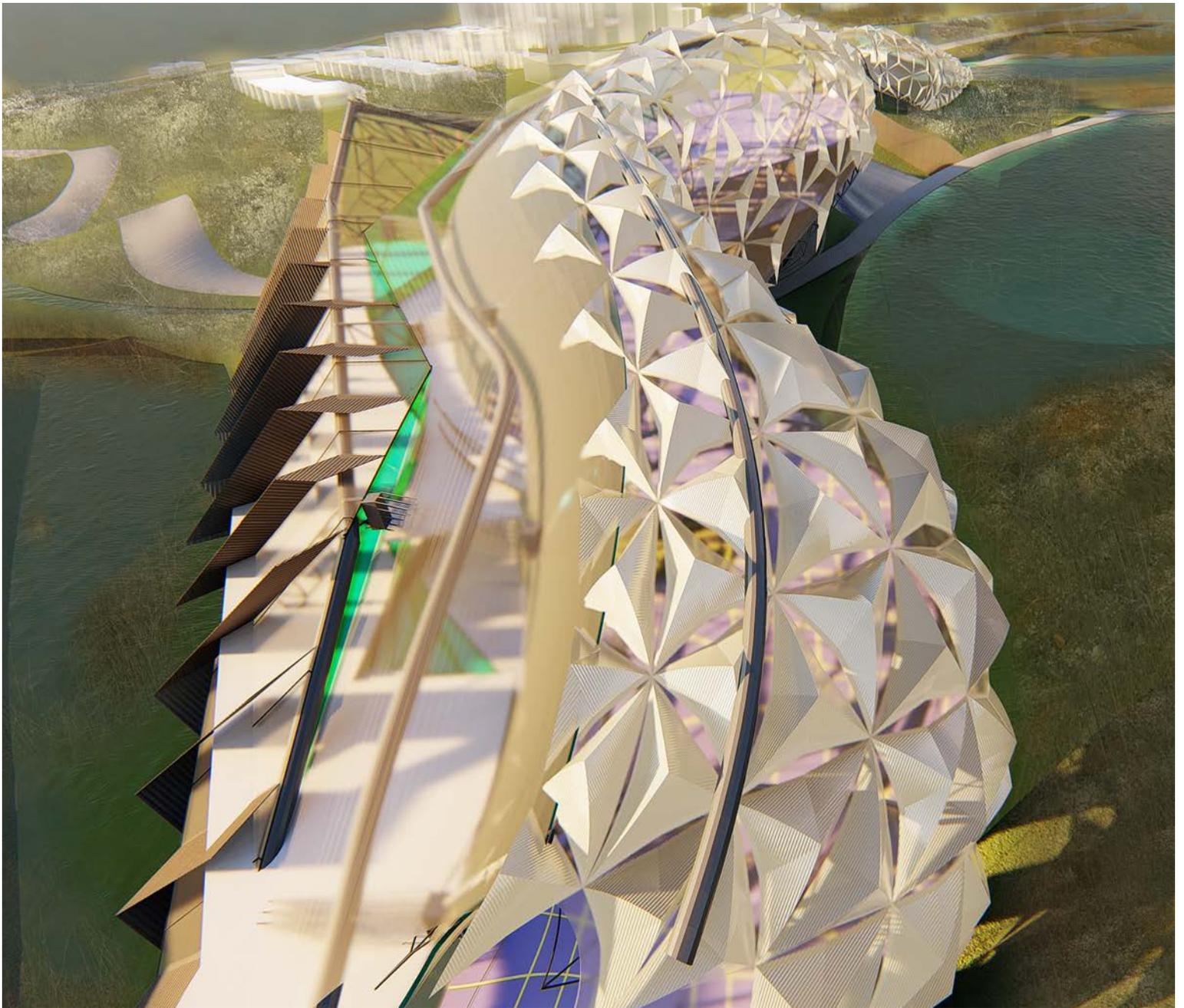
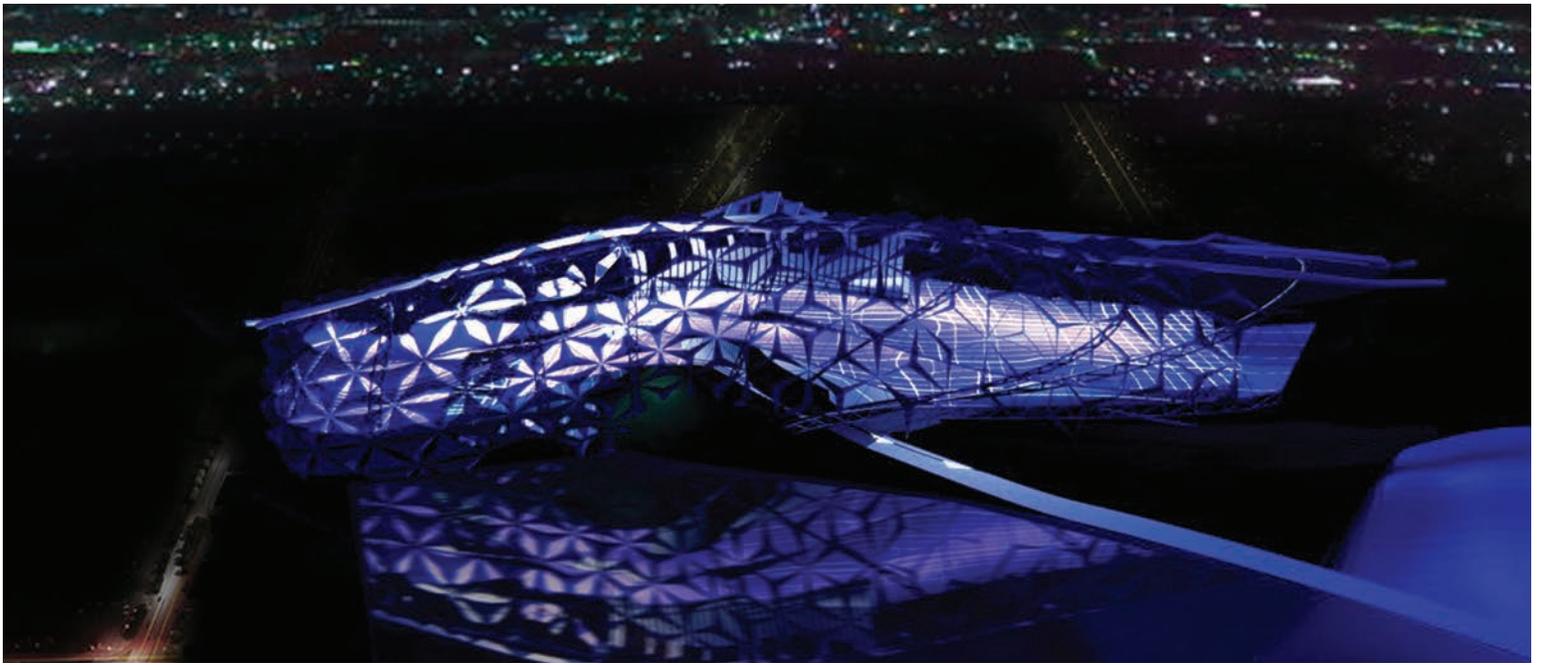
biome: a large naturally occurring community of flora and fauna occupying a major habitat
 architectural biome: type of conservatory that is specified for a type of biome

Two biomes are designed according to sun orientation. On the north side where the biome faces to the city, the Black Sea climate biome is placed. On the south side where the biome faces to the Bilkent Lake, mediterranean climate biome is located. South biome rises where the tram enters into biomes. The tram stop has a glass capsule that isolate itself from biomes to protect the stabilized biomes climate.

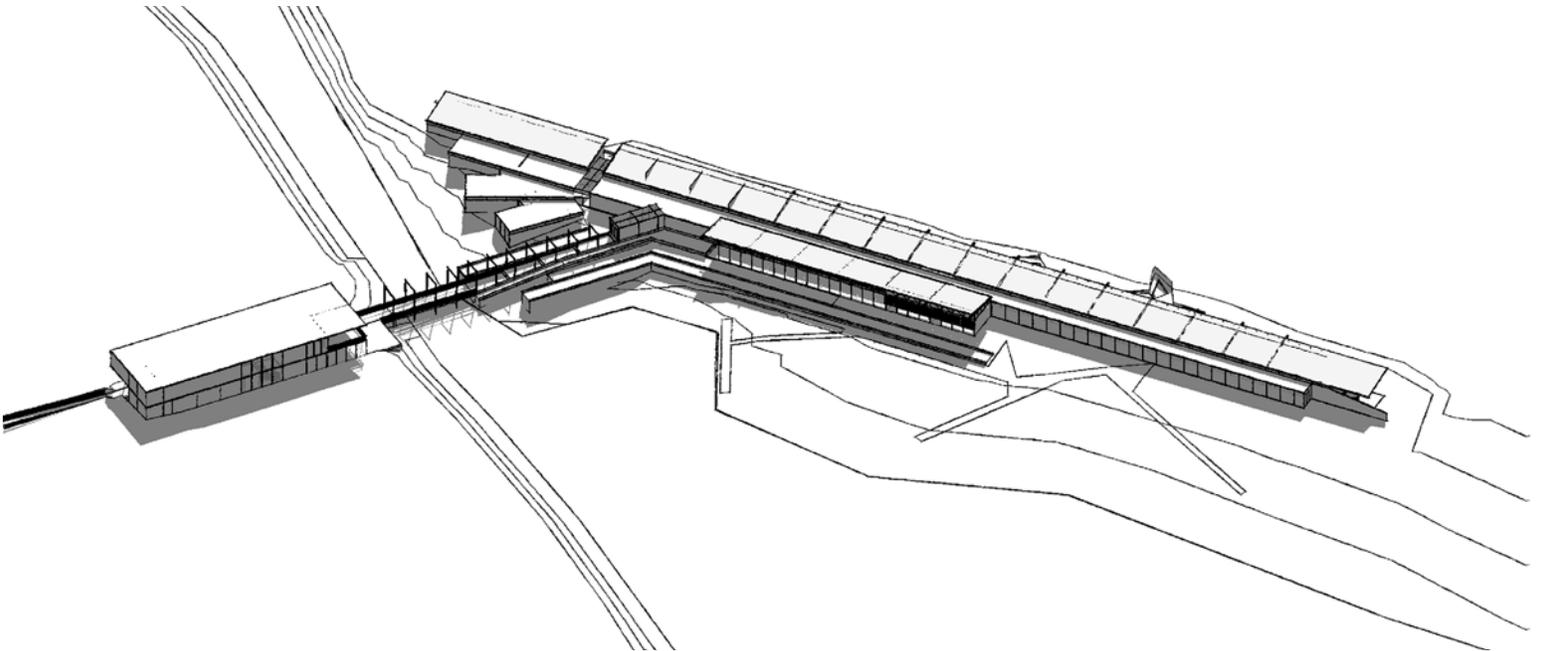
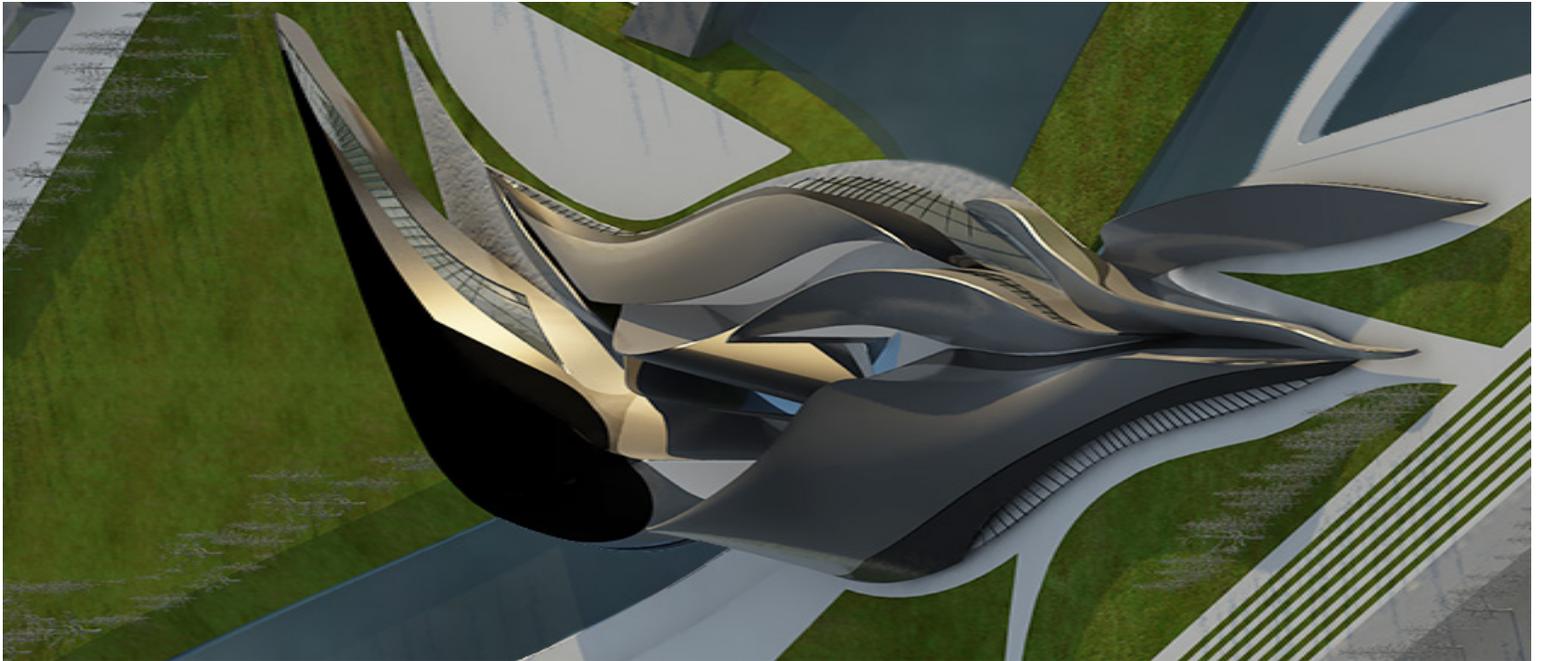


- | | |
|--|---|
| <p>■ North Side - Black Sea Biome</p> <p>broad-leaved trees: oak, beech
 coniferous tree: fir, spruce, black pine</p> | <p>■ South Side - Mediterranean Biome</p> <p>palms, clematis
 citrus trees, scotch pine</p> |
|--|---|



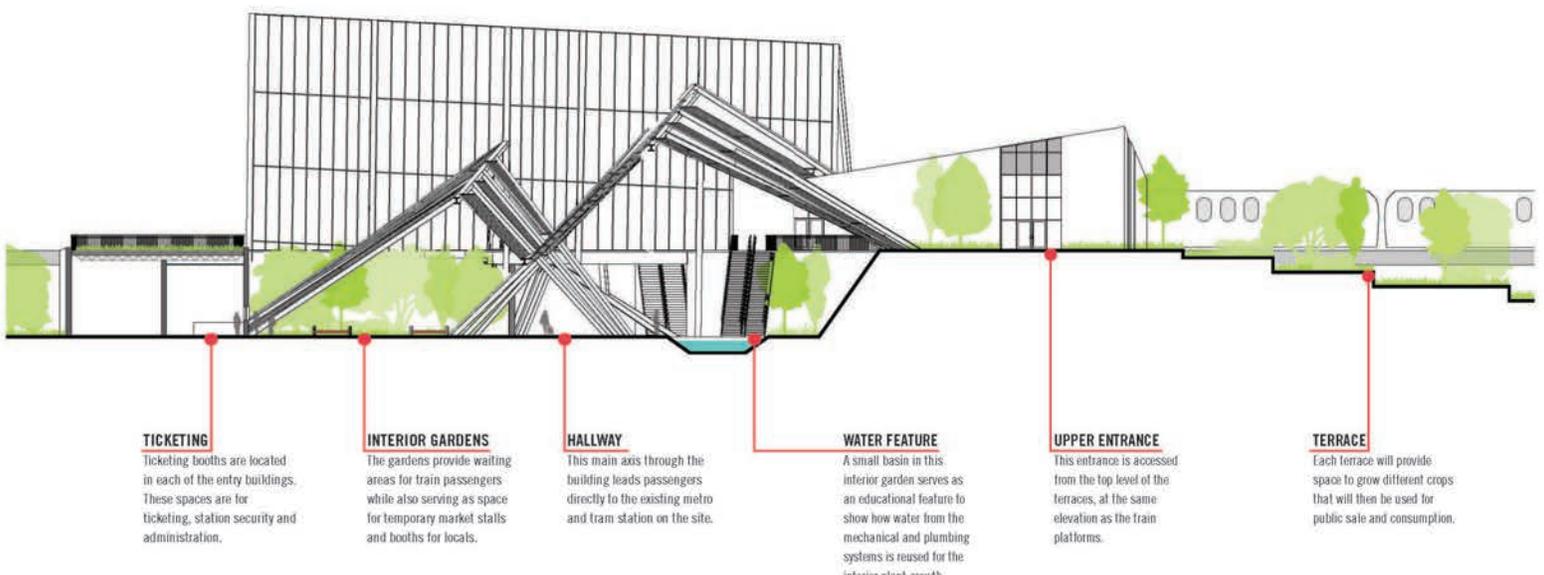


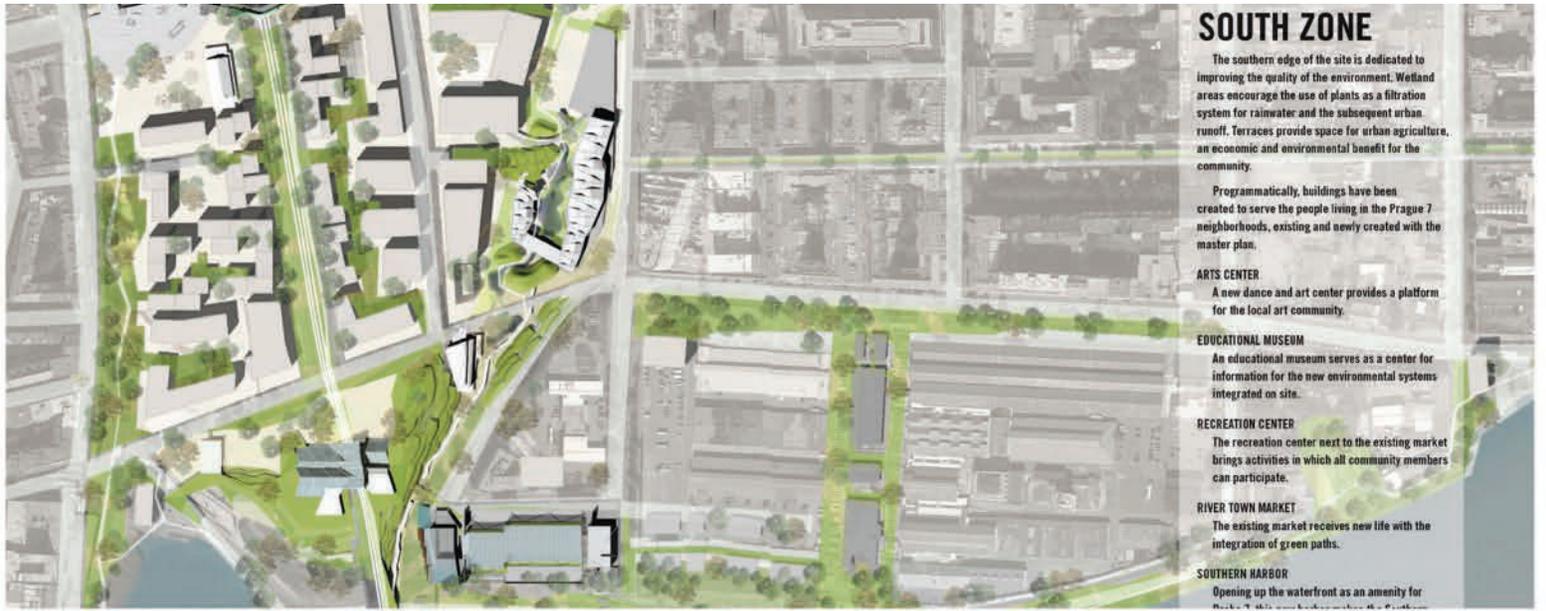




PRAHA 7 / 2015

Fall semester of 2015, we offered a vertical, interdisciplinary and international studio integrated into the core design curricula of three universities: the Architectural Institute in Prague, Bilkent University in Turkey and the University of Arizona. We then developed highly selected teams of students to participate in an urban design studio in Prague. The project focused on the redevelopment of the post industrial urban water front of District Seven in Prague. This project seems to have catalyzed a better understanding of the potential influences and confines inherent in our design and planning professions regarding their ability to effect meaningful change in urban fabric. Cultural and professional commonalities also emerged and became apparent to all participants.





SOUTH ZONE

The southern edge of the site is dedicated to improving the quality of the environment. Wetland areas encourage the use of plants as a filtration system for rainwater and the subsequent urban runoff. Terraces provide space for urban agriculture, an economic and environmental benefit for the community.

Programmatically, buildings have been created to serve the people living in the Prague 7 neighborhoods, existing and newly created with the master plan.

ARTS CENTER

A new dance and art center provides a platform for the local art community.

EDUCATIONAL MUSEUM

An educational museum serves as a center for information for the new environmental systems integrated on site.

RECREATION CENTER

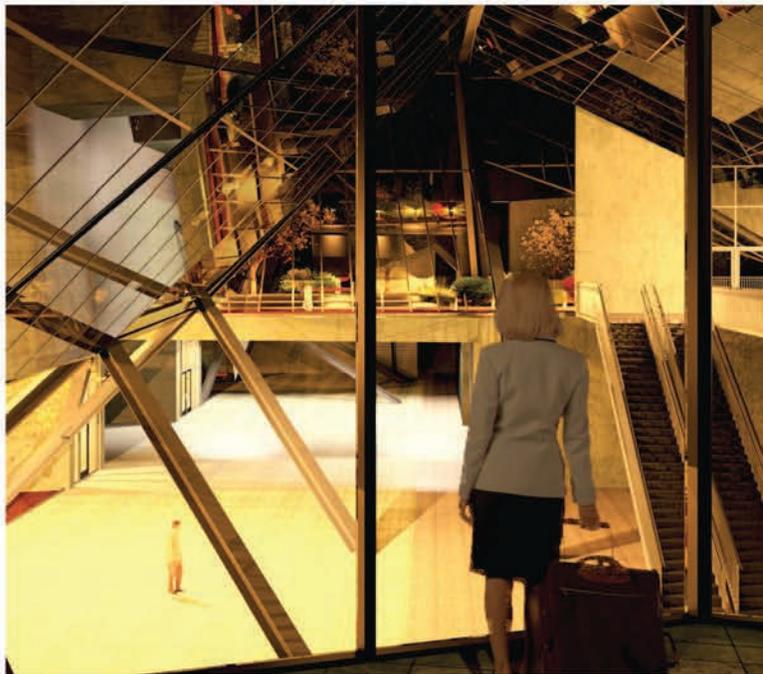
The recreation center next to the existing market brings activities in which all community members can participate.

RIVER TOWN MARKET

The existing market receives new life with the integration of green paths.

SOUTHERN HARBOR

Opening up the waterfront as an amenity for





the West, this pedestrian path is integrated with the Praha 7 Warehouse, and culminates in a skatepark and vocational school.

OLD WAREHOUSE (LARGE)

Historically used to store and repair trains, this warehouse has been re-envisioned as a culinary hub. Working with the Voc with a bustling market, specialty food shops, restaurants and cafes, a brewery, and beer garden.

OLD WAREHOUSE (SMALL)

Much like the large warehouse, the small warehouse is adapted for new commercial use.

MIXED-USE RESIDENTIAL COMPLEXES

In response to Prague's housing shortage, these units promote a healthy lifestyle with a mix of economic benefits and amenities.

EAST-WEST BRIDGE

Connecting the roads Veletržní and Delnická, the bridge completes the missing link in the connection between the East and West of Praha 7, and employs sustainable and energy producing strategies.

BUBNY HOLOCAUST MEMORIAL

This historic train station was the place of departure for many of Prague's Jewish citizens during WWII. Spearheaded by the Memorial Shoah Praha o.p.s., The Memorial of Silence has been designed to be a center of discussion and remembrance.



KEY MAP



ČI MOST

(VING BRIDGE)

bridge acts as a functional on for multiple modes of tation, as well as a node of ity gathering. It draws people to gather and celebrate energy on and water purification, which natically integrated with the ling neighborhood - jobs, parks, sportation. bridge is an example of icture as an attractor.





(which means fish in populations of fish are e fresh produce for units and markets. Pike, d carp will provide the fish populations grown The surplus of fish into the Vltava river to e bountiful waterway that lation of Praha. Beyond and jobs, the hatchery will tional component to the well. Classrooms and a will teach the community



LOCAL ENERGY PRODUCTION
providing energy, produce, industry, and income for the surrounding area.

FISH HATCHERY

This fish hatchery grows local fish that provide produce for the nearby restaurants and markets along the revitalized waterfront. The excess fish are released into the Vltava river to revitalize the area.

HOTEL

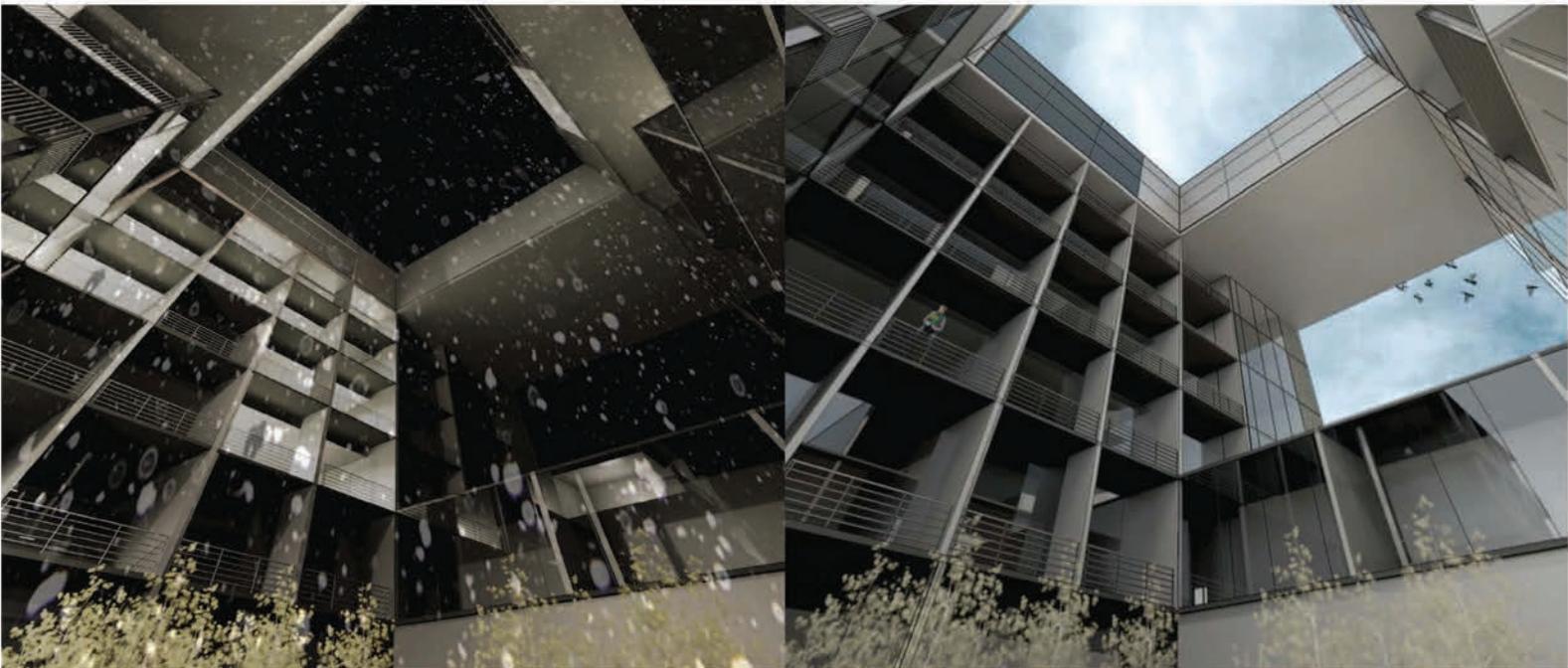
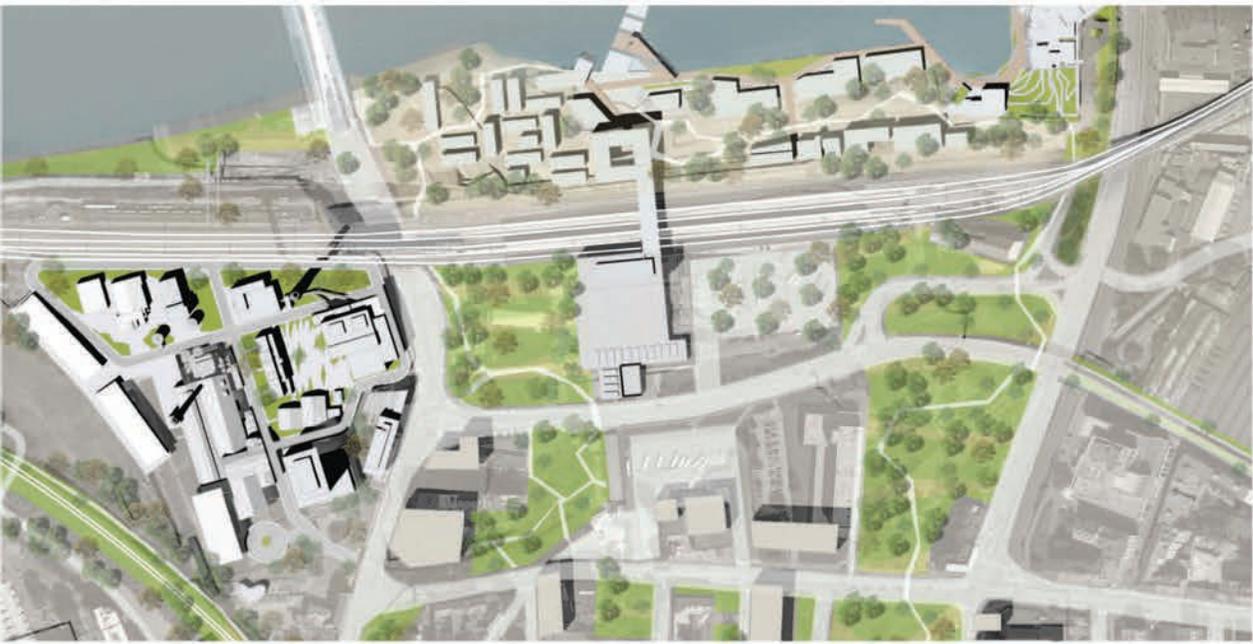
To revitalize the waterfront, mixed use and retail building are placed on the waterfront to attract locals and tourists alike. To promote this growth, a large hotel was created to expand off the existing transit hub for the tourists that visit Prague.

PIER AND HARBOR

This concrete and wood pier provides energy and a small ecosystem for Praha seven. While replacing the coal power heating for the area, it also provides an attraction and learning experience for locals and tourists to come and visit.

INDUSTRIAL PARK

This re-invisioned industrial complex stimulates the local economy through sustainable technology. This new park created a cultural and environmentally sustainable site that





KEY MAP

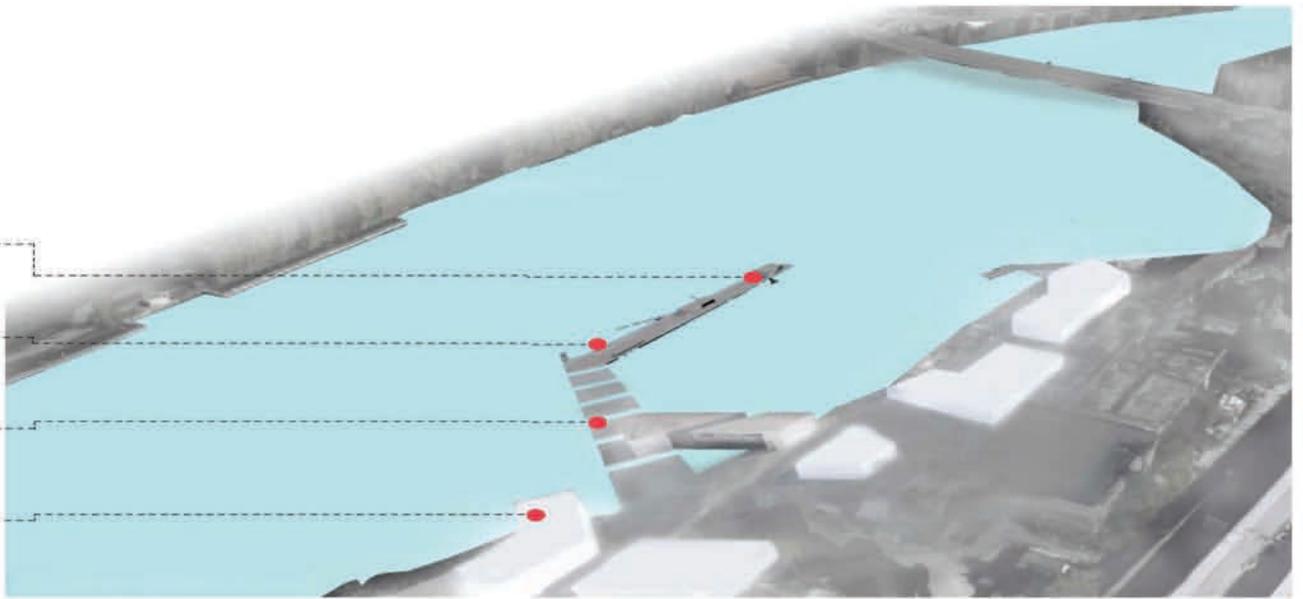
MOLO [THE PIER]

FISH RESTAURANT
This small restaurant attracts people to the end of the pier while the structure allows members to walk on top of the building to see river from above.

RIVER HABITAT
Plants and rocks line the outer edge of the pier to create habitat for fish and birds. This allows Prague citizens to fish and interact with the animals on the site.

ENERGY PRODUCTION
This interactive generator room allows views to see the production of energy and travel below water level to see a working turbine produce power for the complex.

PUBLIC POOL
Using the hot water produced by the turbines, the indoor pool is heated through geosists. Excess water is used in fountains outside.



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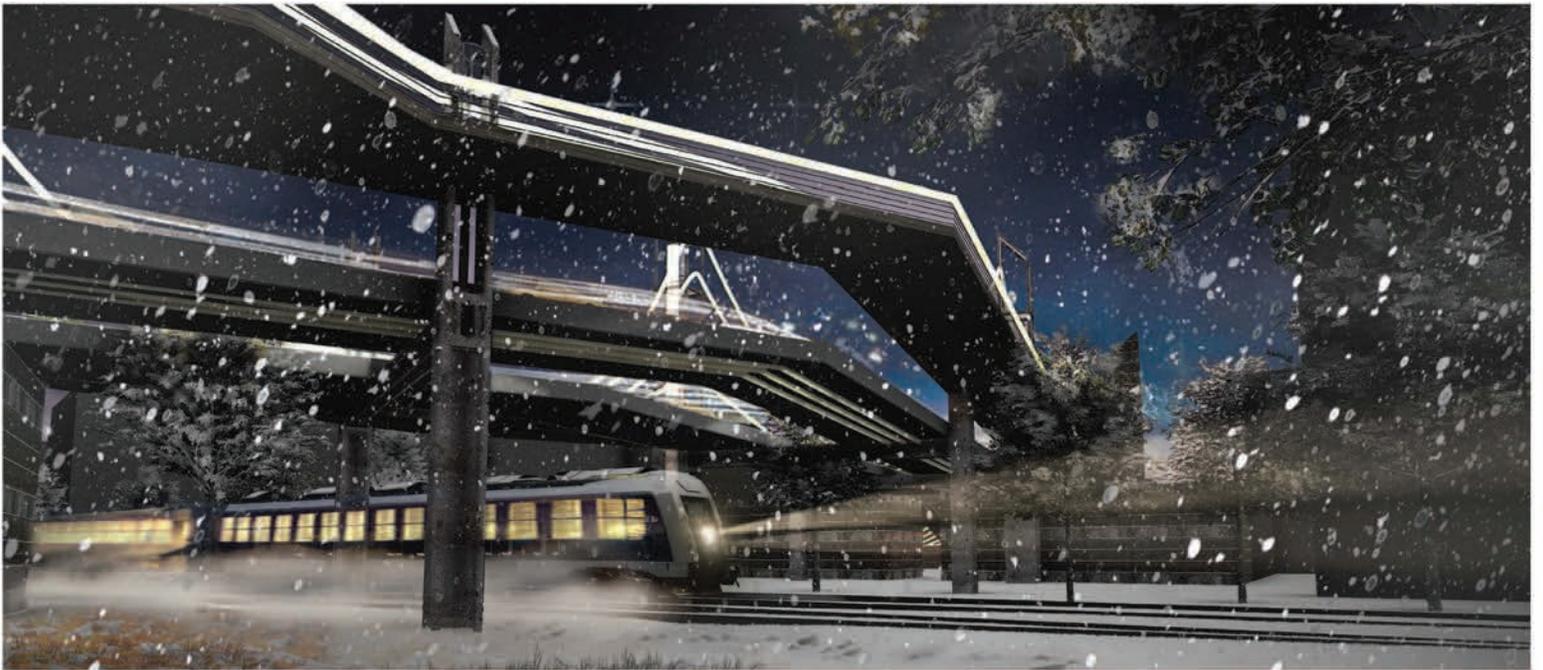
Scale: 1:1000 | 1:1000



KEY MAP

[A TEMPORARY STAY]

The proposed revitalization of the Buby site creates an urban fabric that is not only sustainable, but one that has the potential to be economically lucrative. Sustainable strategies are abounding in the reimagined waterfront: a boat dock that produces energy and provides wildlife habitat, a fish hatchery to provide food to nearby eateries, and an eco-friendly industrial park are just some examples. Economically, however, the north needed to take advantage of these exciting new features. This is done through the implementation of mixed-use retail buildings along the coast and more



AL HAMRIYA / OMAN:

During Fall semester 2014, CAPLA offered a vertical, interdisciplinary and international studio integrated into the core curricula of our three schools. We developed an interdisciplinary team to participate in an urban design studio / practicum in Oman in collaboration with the planning offices of the Muscat Municipality. Their Director and Mayor of Muscat, Sultan bin Hamdoon Al Harthi, invited us to participate in the urban revitalization master planning of the Al Hamriya District of Muscat. The basic pedagogical intent of the program was to enhance cross-cultural and cross-disciplinary awareness, collaboration and learning in the students and faculty of Architecture, Landscape Architecture, and Planning in both the University of Arizona and the Sultan Qaboos University. We trust that the processes employed and the community development solutions generated during this complex and multi-layered project will eventually gain relevance and bear witness in subsequent research and professional work of all student and faculty participants. Although cultural and political schisms are at times all too apparent, students and faculty in the allied design and planning professions do in fact share many common goals. And, we chose to focus this studio experience on perhaps the most important of these objectives: that of creating and revitalizing urban fabric envisioned and developed across a range of interrelated variables that are also their own measures of sustainability. Although we remain apprehensive regarding the use of the term "sustainability", we do honor it as an elusive yet worthy goal integrated into all of our planning and design efforts. We believe that a truly sustainable urban environment must necessarily be defined across an array of dimensions: economic, cultural, environmental, functional, and aesthetic.



1 INTRODUCTION

THE INTRODUCTORY CHAPTER CONTAINS A BRIEF OVERVIEW OF THE COUNTRY OF OMAN, INCLUDING A DESCRIPTION OF THE SULTANATE OF OMAN, THE HISTORY OF THE COUNTRY-PAST AND PRESENT, THE CULTURE OF OMAN AND THE VERNACULAR ARCHITECTURE OF THE COUNTRY, INCLUDING THE INFLUENCES THAT HAVE HELPED SHAPE THE LOOK AND FEEL OF THE SITE - AL HAMRIYA, WHICH IS LOCATED IN THE CITY OF MUSCAT, THE CAPITAL OF OMAN. THESE AREAS OF STUDY ALL PLAY AN IMPORTANT PART IN THE DESIGN PROCESS AS THEY INEVITABLY INFLUENCE THE PROJECT AND LEND RELEVANCE AND UNITY THROUGHOUT THE PROPOSED PLAN.

Known for its vast deserts, clean beaches, beautiful mountains, and unique Wadis, Oman is a popular tourist attraction for those seeking an intimate getaway. With the pressures of worldwide development increasing by the day, the country finds itself at a critical crossroad where growth and sprawl could disconnect the city from place and culture.

Until the 1970's, Oman was one of the most isolated countries in the world, which is evident by it remaining one of the more traditional countries within the Gulf region. Proud of its cultural heritage, the ethic of the country is to remain true to itself while also being open to the possibilities of modern technology.

Nestled within the heart of Muscat, Al Hamriya is one of the early developments in the Rawa district of the city. Surrounded by mountain ranges, the valley shows major concern for past and future issues of flood and drainage control. The pattern of suburban sprawl has led to most Omani families leaving the area.

Upon early research and site visits, it is clear that there is a population imbalance of workers to families. The apparent lack of planning has led to overpopulation and over-densification, resulting in a major lack of open space. The inadequate sewage system has escalated portions of the community into an unhealthy environment of sub-standard living. The circulation to and from the site is burdened with severe issues of congestion, due to the dependence on vehicular traffic. The auto-centric environment of impervious surfaces only enhances the dangers of flooding, and severs pedestrian connectivity throughout the community.

The intent of our intervention is to offer a sustainable approach toward the urban revitalization of this low income district. Our design process embraces the following categories of concern: functional, environmental, sociocultural, economic, and aesthetic. Influenced by the Omani culture, the design embraces the revitalization of the vernacular with a strong desire to provide a comfortable environment for those who dwell within the community.

AL HAMRIYA AREA

Located in the southeast corner of the Arabian peninsula, Oman is the oldest independent state in the Arab world. Oman lies in a unique environment of cascading mountain ranges and coastal edges resulting in extreme climates of hot and dry in the interior and high humidity along the coast.



INFLUENCES

2 INFLUENCES LITERATURE REVIEW & CASESTUDIES

IN BEGINNING A NEW PROJECT, THE REVIEW OF EXISTING LITERATURE AND PRECEDENT STUDIES ARE AN IMPORTANT PART OF THE DESIGN PROCESS, AND CAN HELP INFORM THE TEAM OF RELEVANT APPLICATIONS AND SOLUTIONS TO BE EMPLOYED ON A SITE. THIS PROCESS HELPS DELIVER INFORMED DESIGN THAT CAN BE RUN THROUGH AN ARRAY OF DESIGN AND PLANNING DECISIONS, THEREBY REVEALING THE OVERALL RELEVANCE OF THE PURPOSED INTERVENTIONS.

THE FOLLOWING PAGES DISCUSS THE DESIGN IMPLICATIONS DETAILED FROM APPLICABLE LITERATURE AND PRECEDENT STUDIES THAT IN TURN, INFORMED THE DESIGN OF VARIOUS FACETS OF AL HAMRIYA.



DESIGN

4 DESIGN MASTER PLAN AND FOCUS AREAS

THIS CHAPTER COVERS THE DESIGN AND PLANNING PROGRESSION OF THE PROJECT, WHICH BEGAN IN OMAN AND CONTINUED FOR FIFTEEN WEEKS ONCE THE TEAM HAD ARRIVED BACK IN TUCSON, ARIZONA. THE PROCESS BEGAN WITH THE TEAM SPINNING INTO 5 DIFFERENT GROUPS TO CREATE 5 DIFFERENT CONCEPTS THAT WERE PRESENTED TO THE MAYOR SALAH BIN HAMDON AL HAMRI IN OMAN. THE DIFFERENT CONCEPTS GENERATED WERE THEN SYNTHESIZED INTO ONE FINAL CONCEPT BASED OFF OF FEEDBACK RECEIVED FROM OUR CLIENTS (MUSCAT MUNICIPALITY), AND CONTINUING IDEA GENERATION WITHIN THE TEAM. DESCRIPTIONS OF EACH CONCEPT, INCLUDING PLANS, CAN BE FOUND WITHIN THIS CHAPTER AND THE OVERALL MASTER PLAN, SECTIONS, AND PERSPECTIVES THAT WERE GENERATED BY THE TEAM, FORM THE CONCLUSION OF THIS BOOK.



The "Old Souk" as an upgrade of Al Hamriya's existing economic base of construction material and light industry. This includes domesticated for workers that work for the city as well as vacation facilities and opportunities for income experimentation with terrace farming. The strategy of the "Street Edge" is to unify and announce the edge of Al Hamriya, showcasing the various sustainability strategies. The edge also creates opportunity for further development by providing parking and connectors to the mountains. The New Souk becomes a catalyst for job creation and creates a new centralized shopping district. The "Community Heart" features a central open space with a soccer pitch, the community mosque, and building space allocated for small scale local businesses. These focus areas are unified by the overall strategies which have emerged from previous plans and various discussions.

SCALE 0m 250m 500m

Mountain to mountain connection that shows the road, open space, "pedestrianized" human comfort, terraced road control strategies.



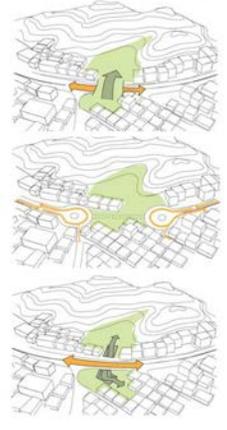
An aerial view of the existing layout

PEDESTRIAN UNDERPASS

Creating a connection between the sides of Suq Rawi street is necessary in order to unify Al Hamriya. Currently the road is heavily trafficked, making it difficult and unpleasant to cross.

- Since the south end of Al Hamriya will be developed extensively, ignoring the north end by keeping it cut off would create a situation where businesses on the north side would be left out of the benefits of the development.
- In addition, any development on the mountain would be cut off from the rest of Al Hamriya.

- We considered several options in connecting the two sides of Suq Rawi street. The decision to develop the underpass strategy in that proposal was taken cautiously, since we understand that underpasses may be perceived as scary and dangerous spaces. This problem can be turned into an opportunity by developing the underpass as a uniquely designed space. To the right a perspective showing the interior of the underpass.



OVERPASS

- While pedestrian bridges are often not efficient ways of connecting two sides of the road due to their height requirements, an overpass creates a continuous connection over a road.
- This would require the road being lowered in order to create adequate room for the overpass, and due to the large area of excavation this possibility was rejected.

ROUNDABOUTS

- An idea to disrupt the continuous traffic along the road for private vehicles. The roundabouts would create access to Al Hamriya and create an enormous plaza at the edge.
- This scheme turned out not to be compatible with the larger traffic strategy of the area. The new configuration would also drastically alter the character of Al Hamriya.

UNDERPASS

- The underpass would be the least intrusive way to connect the two sides of the street in terms of construction.
- The disadvantage of the underpass option is the general perception of unsafe spaces and the negative association. However, if it is designed correctly, this should not become a problem.



UNDERPASS DESIGN STRATEGIES

- Natural lighting
Natural light is necessary to prevent the underpass from being dark and scary. Furthermore, natural lighting if done well can give the space a unique and attractive feeling. Glass block in the medians of the road can help natural light penetrate into the underpass.

- Shops and cafes
Adding shops and cafes in the underpass ensures that it will always be occupied and therefore safe. They also give the underpass an economic base which in time will help to offset the cost of their construction.

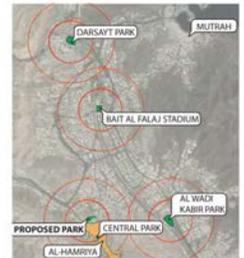
- Scale and Proportion
The underpass must be large enough in width and height to prevent people feeling confined. It should feel more like a souk than a standard underpass.

- Entrance integrated into the plaza
Entrances to underpasses are often small and intimidating. The design of the entrance is meant to integrate with the surrounding plaza and wadi elements. It should be perceived as part of a continuous experience.

- Thermal Comfort
Since the underpass is underground, it will naturally be much cooler and therefore more comfortable than the rest of the street. The thermal mass of the ground will naturally keep the temperature stable throughout the day, so the underpass may prove to be a more popular destination than above-grade parks and plazas!

The perspective on the right shows people entering the underpass from the plaza on the south side of Saq Rual Street, coming out into the "New Souk."

The section below shows the proportion and integration of shops and lighting below street level.



MOUNTAIN PARK

When considering what to use this space for, we kept in mind that among the main requests was for open space, and upon further analysis of parks in the area, it made sense to create a park that would serve residents outside of Al Hamriya. The diagram shows nearby parks, and as the other parks in the area are meant to serve mostly local residents, creating an amenity for those who do not live within walking distance of another park became a strategy to involve a wider area in what may be happening in Al Hamriya. This park will also help stimulate economic development around the street edge and "New Souk" since it will attract visitors and begin to change the negative stereotype about the area. At night, the park will most probably be used by expatriates, so its use may be divided temporally.

The park is designed to use the natural topography of the mountain to its advantage, it provides a variety of open space and program without running views to the mountain.

The park is programatically divided by the age of the users so as to create a place that will be usable by visitors of all ages.

- Families visiting have dedicated shaded picnic areas with trees and shade structures so they can enjoy a day out (when the weather permits).

- These areas overlook a "stone playground" for young children (ages 5 - 10). This playground is mainly built with a variety of climbing and rock sculptures which are meant to stimulate exploration and play.

- Above this are terraced areas for older children and teens (11-15) who often prefer to get away and hang out on their own, overlooking the activities below.

- Above that are more picnic areas which overlook Al Hamriya.

- Additional activities integrated into the park include two 1/6 size football fields, footpaths around the mountain, and a climbing wall.

DESIGN STRATEGIES

Overview of the program of the park.
Perspective looking into the playground from the picnic areas.





Perspective looking down from the top of the park back into Al Hamriya. One would get an overview of the park, including the terracing strategy which is common throughout the site.

- The section shows the park in relation to the mountain. Since it occupies the lower contours, it is accessible and unobtrusive to views to the mountain.
- Trails lead up to higher areas and are separate from the main park.
- The top of the park has the potential for a small vendor (ice cream, cafe etc) as an attraction.
- Shaded area along the park both from shade structures and trees create plenty of spaces to sit and have a picnic with a group or alone.

STREET EDGE



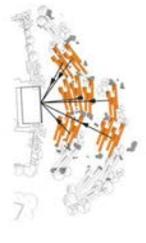
EXPATRIATE DORMITORIES

The basis for providing a vocational school for the workers is reasonable for the future development of Al Hamriya and Oman. At the new vocational school, workers learn about all the new techniques and fabrication methods, such as innovative construction techniques, the living machine system, and urban agricultural. Once the education is received, the workers are dispersed to the various focus areas in the community where they are now equipped with the knowledge to successfully contribute to the renovation of Al Hamriya. This investment in the workers education only increases the strength of creating a sustainable workforce internally for Oman.

EXPATRIATE DORMITORIES



Day Time Use



Night Time Use

EXPATRIATE DORMITORIES



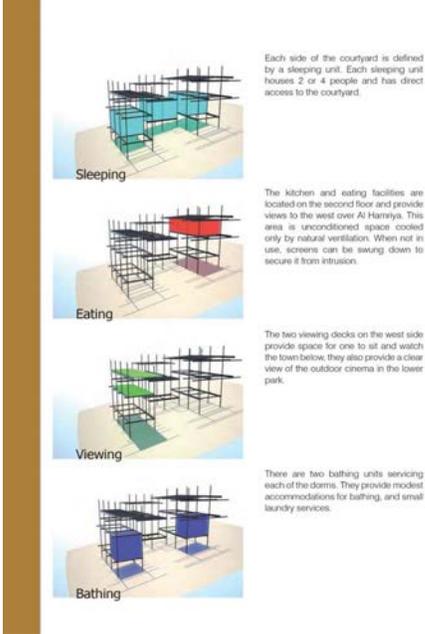
DORM DESIGN STRATEGIES

- Create a clustering that employs social adjacency strategies, fostering community within each unit and between adjacent units.
- Capture the great views from the high vantage point.
- Develop a modular housing unit that is versatile to topographical changes.
- Develop local manufacturing of this housing system within Al Hamriya using this site as a prototype for construction in other parts of Oman.
- Organize units about a retrofit utility grid, that minimizes excavation by utilizing above ground site wells to chase all utilities.
- Prevent erosion by maximizing ground cover.

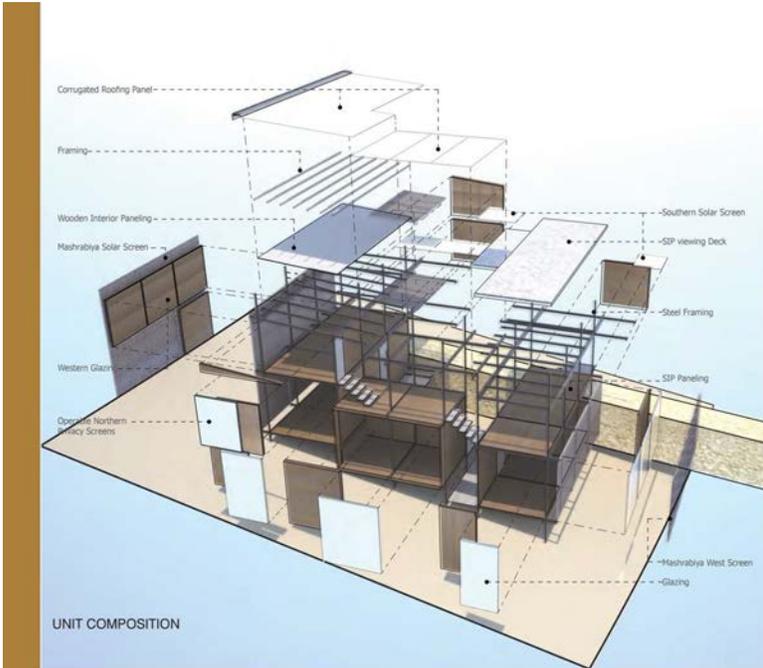
The dorms are a critical intervention in the new design. They are designed on the basis of meeting multiple physical and social needs for workers living and working in Al Hamriya.

The social needs of expat workers differ from those of Oman's families, yet are not adequately supported by the built environment in Al Hamriya. The dorms are designed to create expat specific social connections at two distance scales, by creating micro and macro social spaces. First, each dorm is clustered around a central courtyard that provides a micro scale area for residents to relax. Given the altitude of the site relative to Al Hamriya, the dorms have fantastic views that are captured by two viewing decks on the west side of each dorm, which also provides micro social spaces for residents. Each dorm is connected to an adjacent dorm via the viewing platforms, in order to promote connections between neighbors, promoting macro scale connections within the neighborhood.

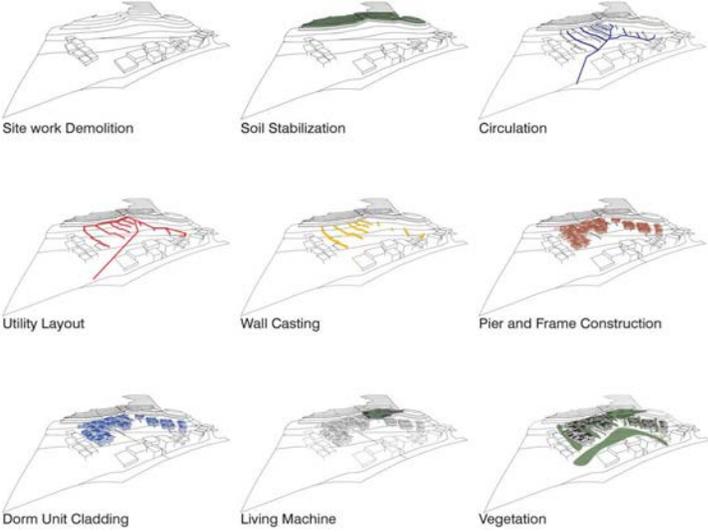
This housing strategy stimulates an opportunity for a low income, adaptable, and responsive housing model that can be developed and manufactured locally. It would provide business opportunities, and job opportunities locally and abroad both in the manufacturing process, and construction of the system in other areas subject to similar housing needs.



Interior courtyard



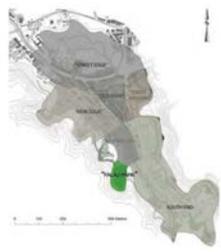
CONSTRUCTION SEQUENCE AND PHASING



CINEMA PARK



EXPATRIATE DORMITORIES



THE FALAJ PARK

Responding to the urgency within Al Hamriya to provide familiar, public spaces that can be used all day, and at the same time provide entertainment, we have created the Falaj park located in one of the edge of the mountains. This site is adjacent to the central park area, which is the largest open space and the central heart of Al Hamriya. The park announces the transition between workers and Omani families. The Falaj park uses topography to provide an open air amphitheater that will allow the community to enjoy dance performances, plays, music and movies at night.

The Falaj park also emphasizes in its design the promotion of environmental awareness and the local economy, by adding a satellite vocational school focused on "Urban Agriculture", which will educate people in Al Hamriya, create jobs and provide food for local consumption. Adjacent to the agriculture school and food production terraces, we have located a restaurant in which all the food produced on site will be prepared and sold it to the public.

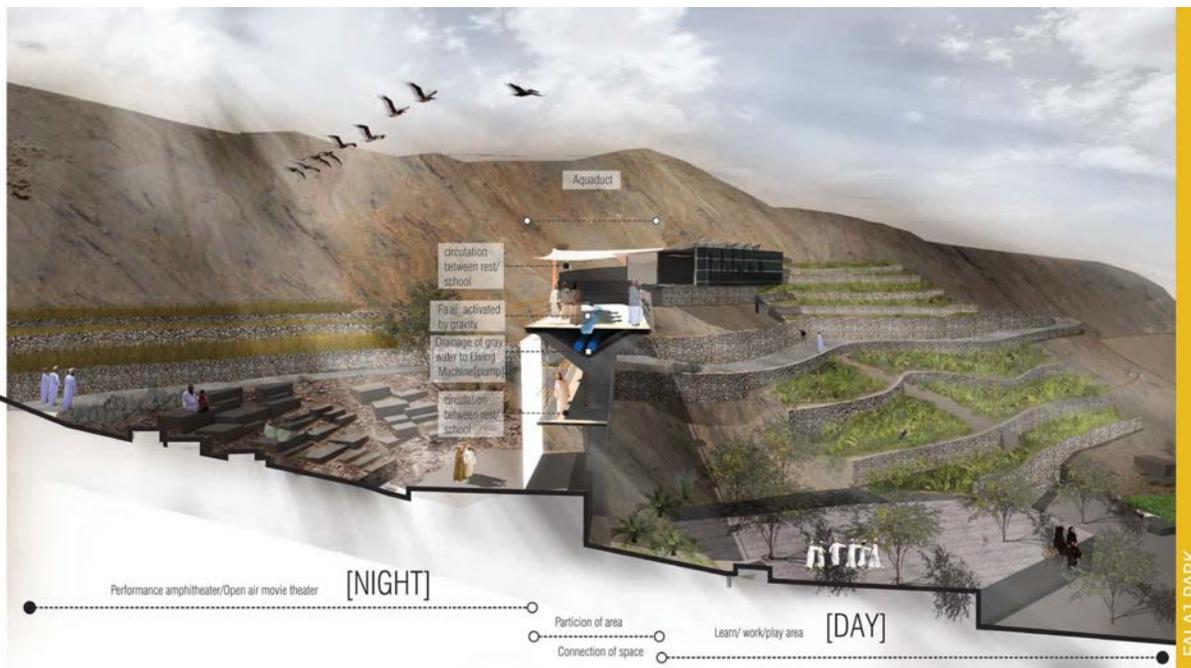
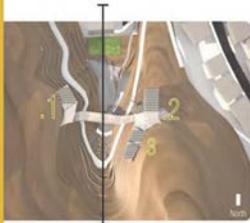
Finally, in order to promote the concept of a self-sustaining urban prototype community, we have added a bieng machine to purify site and grey water. This part of the program is key to complete an enclosed cycle system for this facility. Water will be cleaned and used for irrigation of the agriculture terraces and the food by-products will become compost to fertilize the land.



FALAJ PARK

MULTIPURPOSE PARK AREA

The Falaj park serves an array of activities throughout the day, making space more efficient, functional, and desirable for families located in the south portion of Al Hamriya. During the day it hosts students and people that work at the restaurant and with the urban agriculture. During the evening, when the sun goes down and children are out of school, they go to enjoy the lighted open green and shaded areas that the park provides for the community. While parents go to work at the restaurant or school, children play in the open green areas while their parents can observe from above. At night, the park becomes an entertainment and amusement park, where the community can perform, music, dance or theater plays. Utilizing the bridge as a frame to hang a cinema size screen to project movies and enjoy them with the family and experience the nice evening breezes. The distribution of activities throughout the day allows this place to be constantly active, which leads to the creation of more jobs and therefore stimulates local economy while it provides secure and familiar entertainment, and also encourages environmental education.



FALAJ PARK

EL CORAZON / TUCSON:

The spring semester 2013, Pima County, Arizona gave us the opportunity to participate in a wonderful project in Tucson along the Santa Cruz river corridor. The site north of Grant Rd. and south of Ina Rd., presented our design team an array of critical environmental and social issues with which to contend, i.e., uncontrolled growth, economic stagnation, transportation inefficiencies, a dearth of healthy natural habitat and recreational opportunities, environmental degradation, as well as diminishing sense of place. Consequently, the overarching intent of this project focused on the development of a sustainable urban living prototype for Tucson. A prototype that approaches sustainability across an array of dimensions: economic, environmental, cultural, aesthetic, and functional. Our master plan strives to encourage intelligent nodal development along the Santa Cruz river corridor in which dense, walkable mixed-use nodes are combined with strategically placed conservation easements that preserve, revitalize and interconnect the many unrealized/underutilized natural, cultural and economic amenities existing throughout the area. This was accomplished by graduate students in Landscape Architecture.



El Corazón Master Plan

ECONOMIC

- Attempts to locate employment centers near residences by proposing new mixed use nodal development as well as repurposing existing buildings into mixed-use development.
- To provide unique opportunities for new light industries along with other businesses to provide cross interests and walkable employment opportunities
- Use eco-tourism and nature enthusiasts to create employment and bring funds into the site.
- Bring athletes from out of state to reside and train within Tucson near the sports complex.

ENVIRONMENTAL

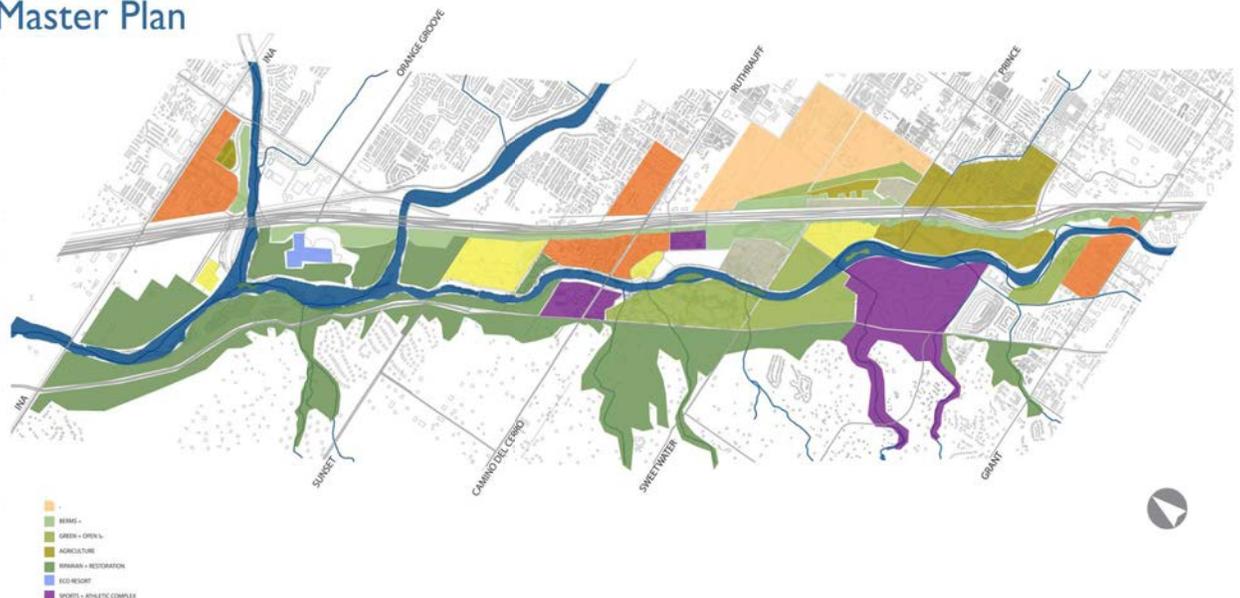
- Attempts to repair the riparian habitats along Silverbell and within the Santa Cruz River.
- Select heritage and drought tolerant vegetation to create the greenways and greenroofs.
- Decrease water consumption and increase grey and rainwater capture for irrigation.
- Re-adaptation of Roger Water Water Treatment facility into industrial algae farm and research park.

CULTURAL

- Improve street activities and park life.
- Tap into youth and young adult demographics with activities in cycling and active-sports complex.
- Provides inter-disciplinary education center between University of Arizona Agriculture and the existing industries.
- Express existing and historic cultural resources, such as the agricultural canals and archaeological sites.
- Express Tucson as an athletic center by providing access for "extreme" human-powered sports.

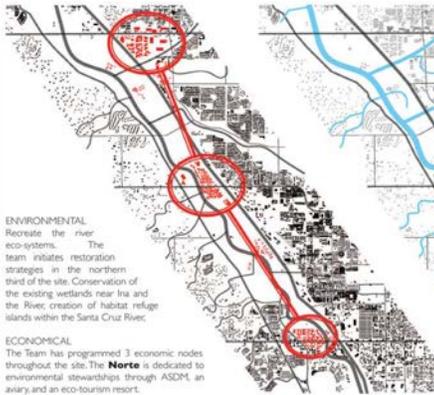
FUNCTIONAL

- Streets are de-steeled. Parking is pushed to access streets and parking structures. Main streets are designed as Greenways with pedestrian and bicycle dominant.
- Street width allows for surface, parallel parking providing "side-friction" to visual cause motor vehicle speed decrease.
- Provide multi-modal priority to decrease automobile reliance and improve walkable, bikeable routes, and nodes of interest.
- Nodes of interest provide variability throughout the site by offering varying uses from ecological interests, sports complexes, agricultural fields and farmers markets, and mixed-use communities.



Design Strategies

ORDERING SYSTEMS



ENVIRONMENTAL
Recreate the river eco-systems. The team initiates restoration strategies in the northern third of the site. Conservation of the existing wetlands near I-10 and the River; creation of habitat refuge islands within the Santa Cruz River.

ECONOMIC
The Team has programmed 3 economic nodes throughout the site. The **Norte** is dedicated to environmental stewardships through ASDM, an aviary and an eco-tourism resort.

The **Central** node is dedicated to athletics and a sports complex with an athletic village, an outdoor amphitheater integrated along the river edge increasing scenic views, and mixed-use development to provide accessory retail, restaurants, and residences.

The **Sur** increases the existing commercial and retail within the area by integrating residential infill within the commercial districts.



FUNCTIONAL
The masterplan functions by focusing and guiding development surrounding the 3 nodes. Focusing growth allows the preservation of ex-urban and rural lands west of Silverbell Road. A proposed trolley connects south to the north and passes through all three development nodes.

SOCIAL
Development mixed-use nodes to facilitate employment centers, reduce VMT and GHG emissions, and re-purpose the existing building stock. Create multi-sport parks to attract age demographics. Educational facilities and University of Arizona Auxiliary are adjacent to existing and new urban agricultural fields.



DESIGN STRATEGIES | DESIGN

DESIGN STRATEGIES | DESIGN

Affordable Housing

EL CORAZÓN SUR



Affordable housing is always a concern in large scale urban planning and revitalization projects. Also, the need for pedestrian and bicycle friendly greenways that create interconnected neighborhoods must be considered. El Corazón presents a precedent study to introduce a variety of housing typologies and densities, combined with office, retail, and commercial districts. Moreover, the existing industrial complexes parallel to the interstate are retained and enhanced through integration into the agricultural fields, boulevards, and earthen berms. This redevelopment removes dilapidated mobile home parks with the guarantee that the residences are relocated to new, affordable, sustainable, energy efficient, and safe dwellings. These dwellings are located near the commercial and office districts, with mixed-use options to provide employment opportunities within walking or cycling distances.

- Housing typologies: single-family (4 & 8 RAC), shared wall row-house, and mixed-use with residential atop
- Less than 1/4 mile to businesses
- Education and civic district within walkable distances
- Dense in use and multi-use block layout



EL CORAZÓN SUR | DESIGN

EL CORAZÓN SUR | DESIGN

Waterfront

EL CORAZÓN SUR



Introducing reclaimed water to the Santa Cruz River at 22nd Street through the 10,000 acre/ft/year City/County mutual accord, could provide opportunities for urban and environmental growth to all sites south of Silverbell Water Treatment Plant. On the south end of the site this can be seen by the addition of a Tucson RiverWalk, straddled by active riverfront hotels and commercial properties. Terraces along the river edge allow pedestrians access to the newly flowing Santa Cruz River and restored riparian habitat. Views of downtown Tucson and the Tucson mountains will be framed within different areas along the RiverWalk.

- Restoration of the Santa Cruz River and riparian habitat north of 22nd Street
- Stimulating social opportunities with hotels and commercial properties
- Flood control with use of terraces
- Improvements to existing bike paths and river edges



EL CORAZÓN SUR | DESIGN

EL CORAZÓN SUR | DESIGN

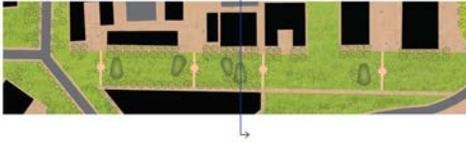
Educational Center

EL CORAZÓN SUR



One of the central concepts to the educational center is its adaptive reuse of existing commercial and light industrial buildings. Buildings can be stripped of their exterior facades and repurposed materials will hint at the University of Arizona's brick heritage - but also use smart and energy efficient materials.

The main road will be closed off to traffic and will be repurposed into a campus mall and pedestrian greenway. Berms and dips will bring a visual interest to an uninviting and flat site. Trees will be placed in double alley to shade pedestrians and students walking to class. All vegetation will be desert specific.



EL CORAZÓN SUR | DESIGN

EL CORAZÓN SUR | DESIGN

Algae Farm and Research Park

EL CORAZÓN CENTRAL



The existing Waste Water Treatment Facility has plans for moving to a different location. We suggest that the tanks be repurposed to become an aquaponics farm. They should be integrated into the natural environment by using parts of the existing wall structures of the tanks for planting. To complement the aquaponics farm, gardens are placed within the tank structures. There is also a strong integration of elevated pedestrian paths that connect to each farm zone.



EL CORAZÓN CENTRAL | DESIGN

EL CORAZÓN CENTRAL | DESIGN

Mixed Use High Density - South

EL CORAZÓN CENTRAL



This sunken garden is inspired by its original site, which contains a large and deep pit. We decided to take advantage of its depth and scale, and developed a solution that introduces water into this pit forming a detention pond that collects and purifies urban runoff water sources before transferring these into the Santa Cruz.

The many terraces transition visitors from the upper urban spaces down into the riparian zones along the Santa Cruz filled with canopies of native trees and wildlife. The bridge offers wonderful views of the terraces, the river and the cluttered urban development to the north and the east.



EL CORAZÓN CENTRAL | DESIGN

EL CORAZÓN CENTRAL | DESIGN

Mixed Use High Density - South



This perspective illustrates the relationship between bridge and islands. The bridge is regarded as an important role to connect urban mixed use areas with the more natural islands and river corridor. It transports people from east to west, from mixed use buildings to islands and on to the amphitheater.

In addition to the bridges we also designed a main road for pedestrians and bicyclists as well as a riparian trail along the river. This allows visual access to the water from the viewing platform above the river. The islands are concealed and situated with hydrological as well as view shed issues in mind.



EL CORAZÓN CENTRAL | DESIGN

EL CORAZÓN CENTRAL | DESIGN

Mixed Use High Density - North



In a move away from automobile dependence, El Camino del Cerro North has been developed as a high density, walkable city center where all amenities are within walking distance. In anticipation of Tucson's growing population, the center has been planned as higher density, higher buildings and more social amenities.

- Higher density and walkability
- Environmentally and economically sustainable and focused on social amenities.

El Camino del Cerro North and South are serviced by a local trolley which runs through the entire site and links to other services including the projected Light Rail service.

Soccer, baseball, softball and football fields are much needed amenities for the families surrounding the site. By establishing them here with strong transit links, people can get to them easily and it brings people to the retail center. This is close to the World class Velodrome and athletes village which firmly establishes Tucson as a bicycling center nationally and internationally.

El Camino del Cerro North is anchored by a central plaza which is situated at the mid point of the Promenade which leads to the river side cafes and riverside boardwalk. You can walk along the boardwalk to El Camino del Cerro South and the islands which are connected by footbridges.



EL CORAZÓN CENTRAL | DESIGN

EL CORAZÓN CENTRAL | DESIGN

Transit Stop and Path



The Transit stop is a main service center for the community. It links to the trolley service, bus and bike routes. It is a spatial threshold, a welcome center for new visitors and a community center.

A tree shaded path leads from the transit stop into the heart of El Camino del Cerro North.

A waterway and wooded area shield the center from the main road.



EL CORAZÓN CENTRAL | DESIGN

EL CORAZÓN CENTRAL | DESIGN

The Boulevard

EL CORAZÓN CENTRAL



Mixed Use area where there are restaurants and shops along the broad, shaded pedestrian-only street. This boulevard runs along the river between El Camino North and South and connects to the pedestrian footbridge that bridges both sides of the river.



EL CORAZÓN CENTRAL | DESIGN

EL CORAZÓN CENTRAL | DESIGN

The Plaza

EL CORAZÓN CENTRAL



The Plaza is the heart of Camino del Cerro North. It is the midpoint of the Promenade, a tree shaded pedestrian road that is flanked by shops and businesses. It is a gathering place for residents and visitors, as it is surrounded by restaurants, bars and the cinema complex.

The buildings surrounding the Plaza are higher than other parts of the community and there is an equitable mix of condos, apartments for rent and affordable housing. All housing is within walking distance of a school and other needed services, as well as local park.



EL CORAZÓN CENTRAL | DESIGN

EL CORAZÓN CENTRAL | DESIGN

Ina Mixed Use Center

EL CORAZÓN NORTE



The terraced underpass runs adjacent to the Cañada Del Oro Wash and under the I-10, serving as a major artery for pedestrians and cyclists thereby creating a strong connection between both sides of the Interstate. Amenities along this underpass include a bike share, open space, and vendors. The terracing strategy allows for constant access during flood events as water infiltrates into lower levels first then slowly moves upstream to the Santa Cruz River confluence. Riparian vegetation and native grasses planted along the edges reinforce the stability of slopes and work to further slowdown water. The openness of this underpass lends itself to increased use during cool evenings while well-lit, well-trafficked pathways ensure the safety of visitors, particularly at night.



EL CORAZÓN NORTE | DESIGN

EL CORAZÓN NORTE | DESIGN

Eco Resort and Sunset Canyon

EL CORAZÓN NORTE



The purpose of the proposed eco resort is to showcase the culture, environment, and history of Tucson. The eco resort hugs the repurposed quarry/canyon's rim and allows visitors to experience and relax in a beautiful wild desert setting. Visitors to the resort can also enjoy the many recreational activities Sunset Canyon offers, such as hiking, biking, zip lining, and climbing. The canyon improves upon the condition and aesthetic of the existing quarry pits by providing not only activities for guests in a lovely setting, but the canyon will generate jobs as well as improve habitat for local species.



EL CORAZÓN NORTE | DESIGN

EL CORAZÓN NORTE | DESIGN

Eco-Resort and Sunset Canyon

EL CORAZÓN NORTE



Sunset Canyon (the repurposed quarry) boasts a central free climb wall as well as an overhead zip line that glides through the entire length of the canyon. Numerous hiking and equestrian trails also exist both at the canyon base and along the rim. Blue trails also link the ASDM, aviary, eco resort and canyon together. Small concrete planters are built into the canyon walls in strategic locations for stability and erosion control.

The canyon section below shows the close proximity of the resort facilities to the canyon. The eco resort is strategically located near the Arizona Sonoran Desert Museum Extension and open air aviary and is very close to the canyon so that guests can partake in an array of recreational activities that the general area and canyon offer.



EL CORAZÓN NORTE | DESIGN

Ina Preservation Park

EL CORAZÓN NORTE



Located between Silverbell Road and the Santa Cruz River is the Ina Preservation Park. This gorgeous riparian habitat will be the highlight of this public park. Grand cottonwood trees, dense reeds and natural grasses immerse the public in a dense riparian habitat reminiscent of a time when the Santa Cruz River featured this lush vegetation along the entire riverbed. Hiking, fishing, and picnicking are some of the major attractions of this location. Heavy restoration and preservation strategies will be used throughout this area of the site to prohibit any possible future disturbances to this already thriving riparian habitat. This park is also a great educational and recreational tool for adults and children alike, as well as stretching the restoration of the Santa Cruz southward.

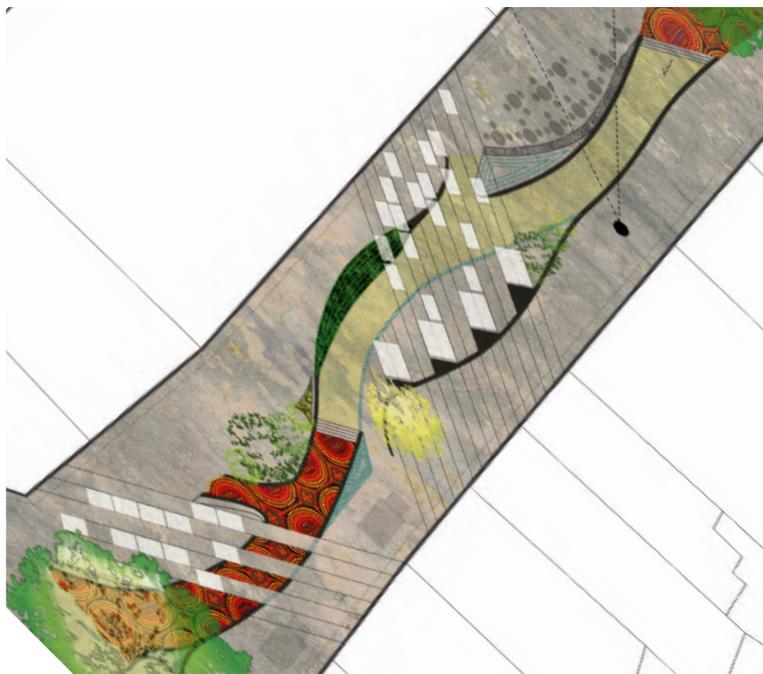


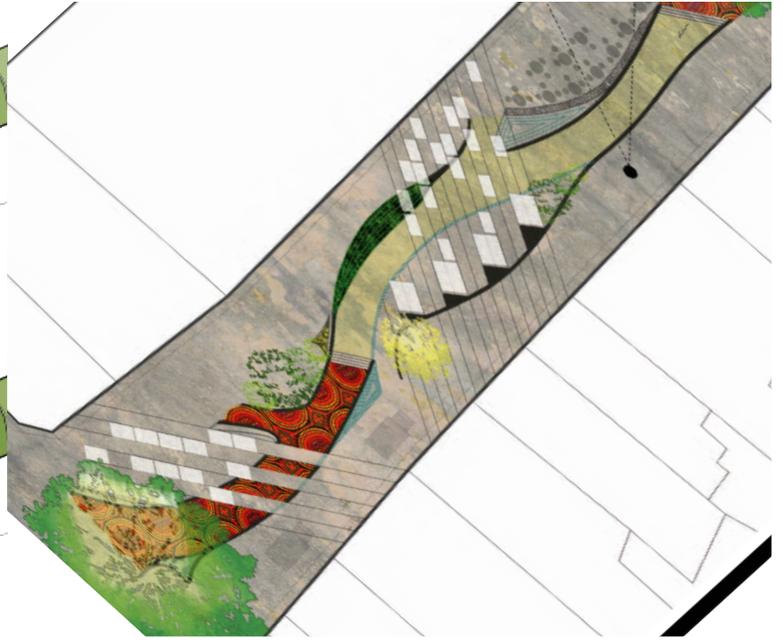
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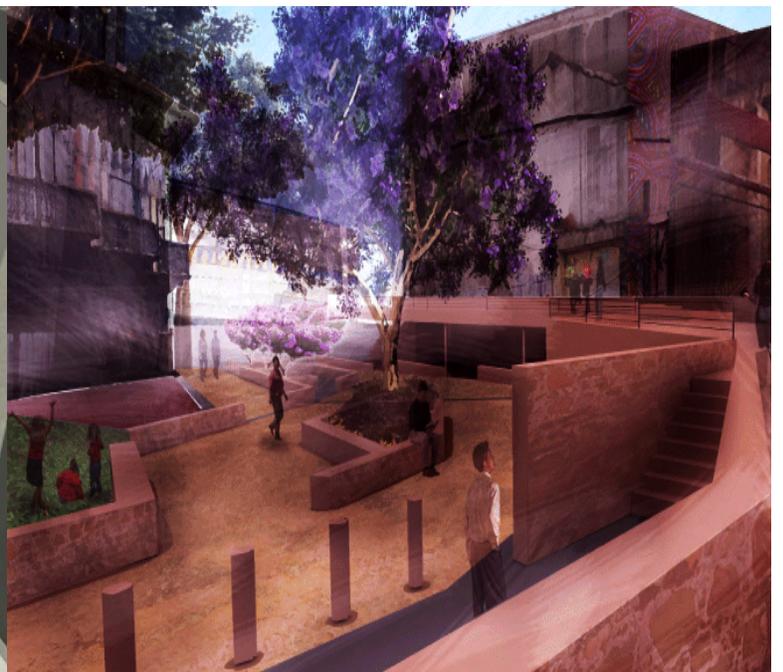
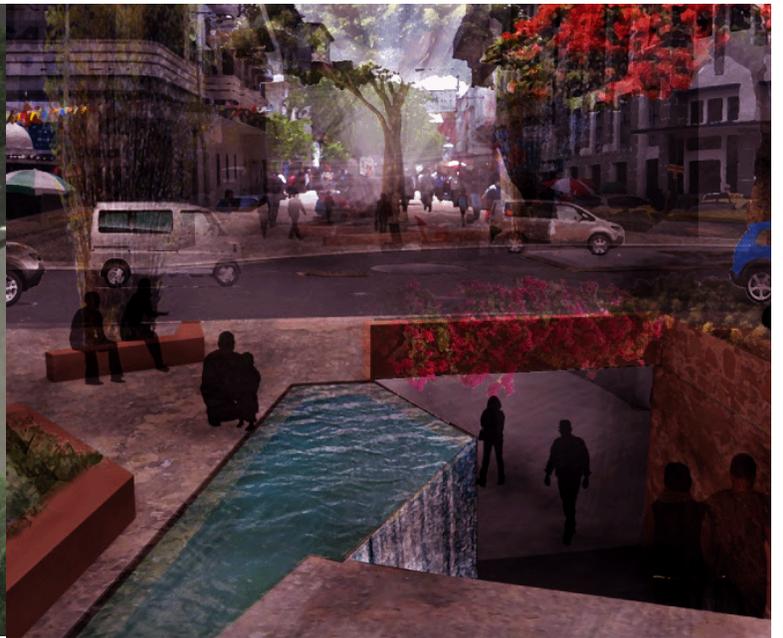
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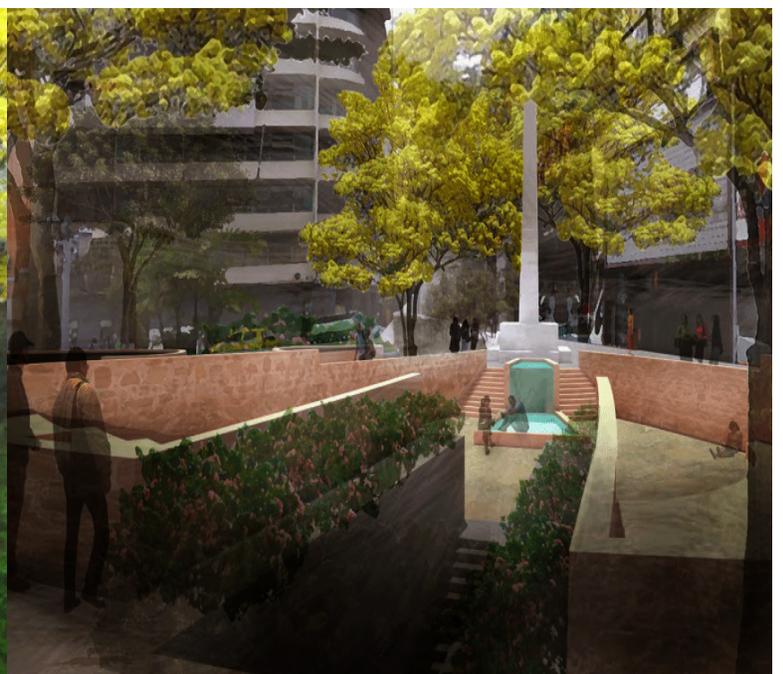
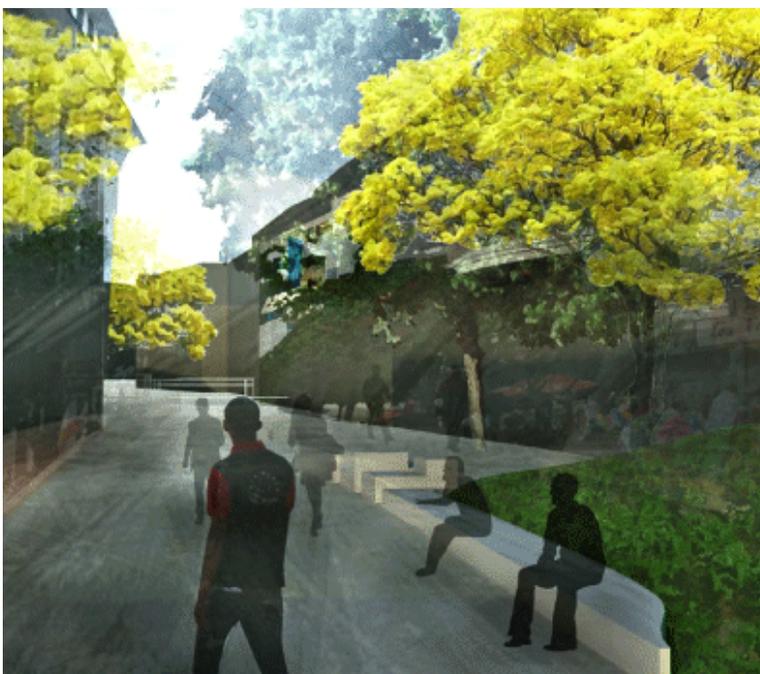
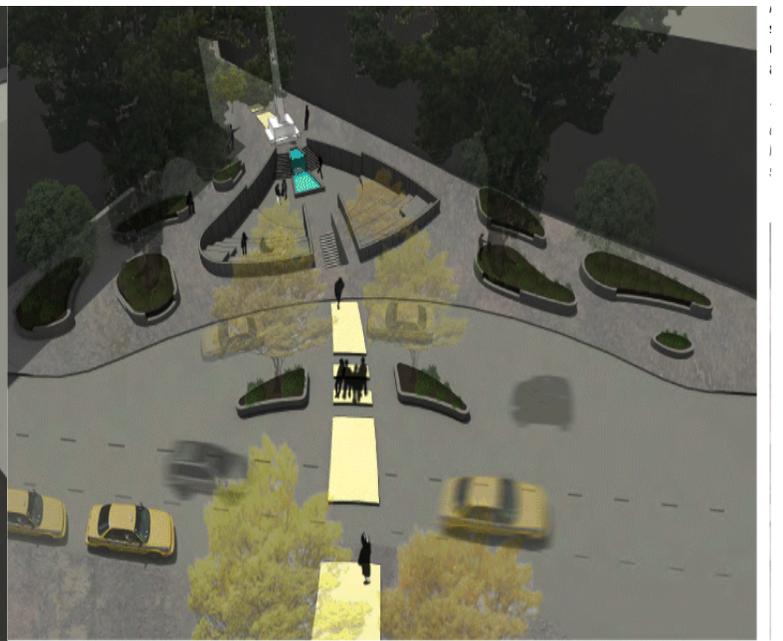
AVENIDA CENTRAL / Panama City, Panama:

In the summer of 2011, the Tejido Group from the University of Arizona gathered a group of volunteer students from both the Architecture and Landscape Architecture programs to develop conceptual design solutions along a pedestrian corridor in Panama City. The project illustrated a collaborative effort between the students from the University of Arizona and students from la Universidad de Panama as both groups worked together to create a revitalization master plan for Avenida Central, supplemented with connective strategies and circulatory corridors. With strong support from the governor's office, the students, professors, and all others involved experienced some unique design challenges resulting in experiences which fostered both academic and cultural growth. This revitalization project of Avenida Central has evolved into an attempt to develop a "sustainable urban living" prototype that may also have relevance to other distressed neighborhoods in this rapidly growing urban environment.









BIRZEIT / PALESTINE:

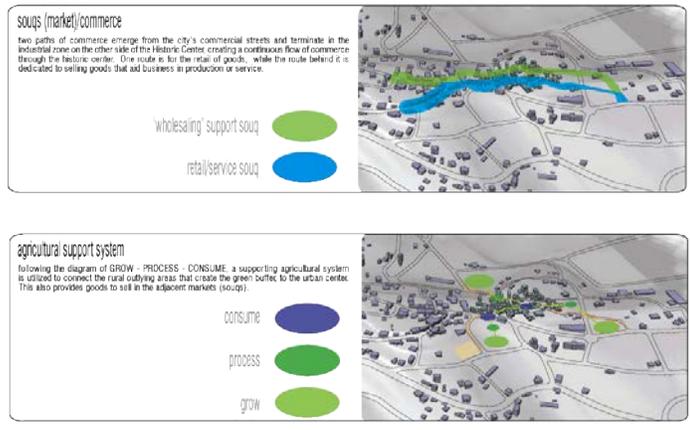
During the summer of 2010 the Tejido Group from the University of Arizona assembled a group of volunteer students from the University's College of Architecture and Landscape Architecture to collaborate on a series of projects in Palestine with RIWAQ / Centre for Architectural Conservation. The two groups focused on developing urban revitalization and connectivity strategies for historic Birzeit near Ramallah, Palestine. It was a wonderful experience for all involved. We grew in many unanticipated ways, both personally and professionally. As a consequence, the relationship between Tejido and RIWAQ will continue to flourish in the foreseeable future. The following is a brief summary of the design and planning outcome of this year's collaborative effort in Birzeit. The vision set forth in the following pages, is a result of the collaborative effort among faculty and students of the University of Arizona / College of Architecture and Landscape Architecture / Tejido Group and the RIWAQ Centre for Architectural Conservation in Palestine. The Tejido Group and RIWAQ have a long-standing relationship which provided the opportunity for our group of architectural students to come and take part in one of RIWAQ's most challenging design projects. The goal was to build off of previous RIWAQ research and through a fresh perspective, generate community revitalization and development concepts that could be coalesced into relevant master planning and design options for historic Birzeit and the surrounding Birzeit urban fabric. RIWAQ and the Birzeit project received an Aga Khan Award / 2013.



During the summer of 2010 the Tejido Group from the University of Arizona assembled a group of volunteer students from the University's College of Architecture and Landscape Architecture to collaborate on a series of projects in Palestine with RIWAQ / Centre for Architectural Conservation. The two groups focused on developing urban revitalization and connectivity strategies for historic Birzeit near Ramallah, Palestine. It was a wonderful experience for all involved. We grew in many unanticipated ways, both personally and professionally. As a consequence, the relationship between Tejido and RIWAQ will continue to flourish in the foreseeable future. The following is a brief summary of the design and planning outcome of this year's collaborative effort in Birzeit.

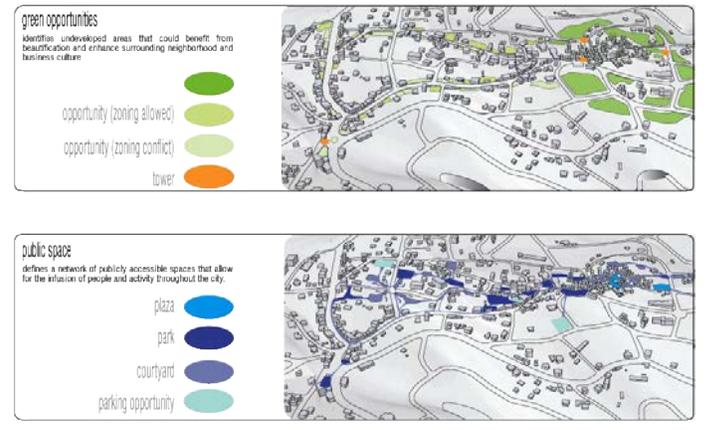
Proposed Economic Strategy

supporting a city through commerce and agriculture



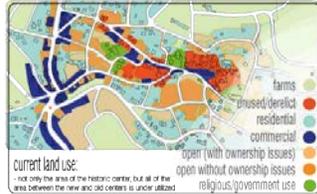
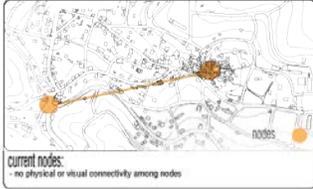
Proposed Strategy

networking, green space, public access, play and water strategies



Existing Conditions

nodes, circulation, land use, zoning



Existing Conditions

overall condition of the city

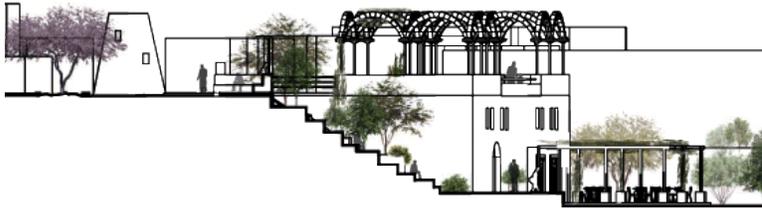
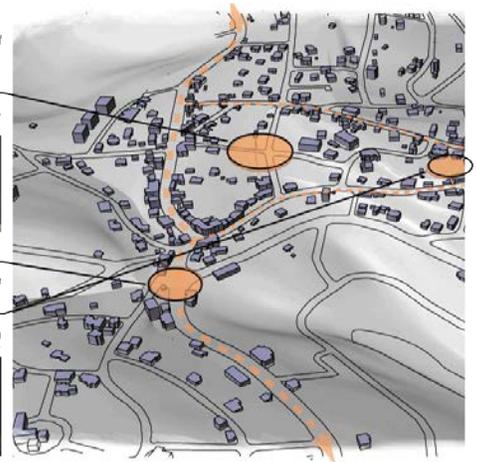
Node Separation
A large area of undeveloped land in the middle of the city separates the two primary nodes from one another.



New City Center
The economic center of the city, along a major route that moves traffic from north to south through the West Bank.



Old Birzeit University Campus
After the university moved to a new location, buildings of good condition, and a large, attractive open space were left vacant.



05. Old City Network

green network



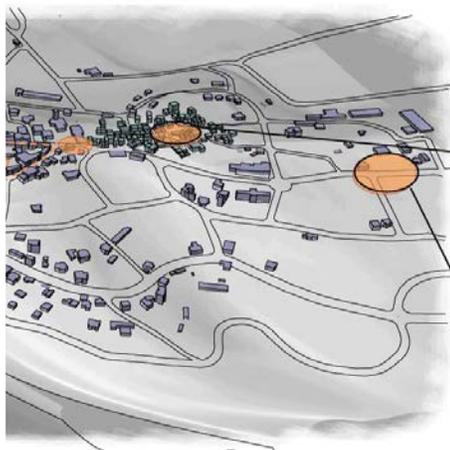
The proposal is to create a Green Network of systems that cover the perimeter and the interior of the historic core. The proposal encourages the sharing of abandoned private and public open spaces into a comfortable living environment that provides public spaces for social gathering.

- water pipes
- trash service route
- streetscape flow of water direction
- possible open spaces for plaza/courtyards
- trash/recycle dispersal areas
- cisterns



Operable windows and cross ventilation strategies are utilized to keep cool and eliminate the need for central air conditioning. Thermal comfort is also provided by proximity to trees that create a cooler micro-climate. Level changes and shared courtyards reference the traditional buildings in the area, and more spaces are created for spontaneous social interaction.





Major Streets

Currently, streets only reflect the growing increase in vehicular traffic and neglect to account for necessary pedestrian use



Historic City Center

The older buildings are not designed for modern living, and necessary facilities for economic viability are now neglected



Under-utilized Space

The outskirts of the city are only partially developed with sporadic housing, leaving unprogrammed and unused space



Proposed Strategic Plan

overall condition of the city

Green Core

A conceptual framework for connectivity will increase nearby property values, desirability and sense of place in Birzeit



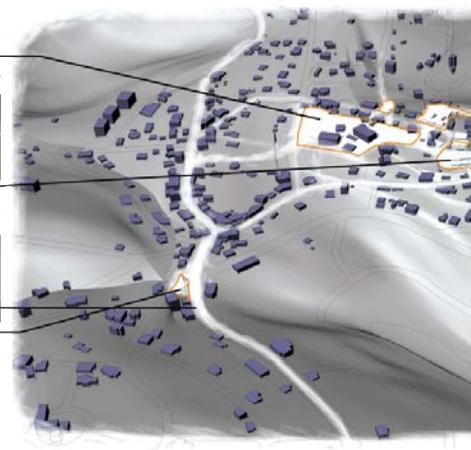
Old Birzeit University Campus

Will draw from every day child-oriented programs as well as larger events to regenerate the nearby struggling businesses



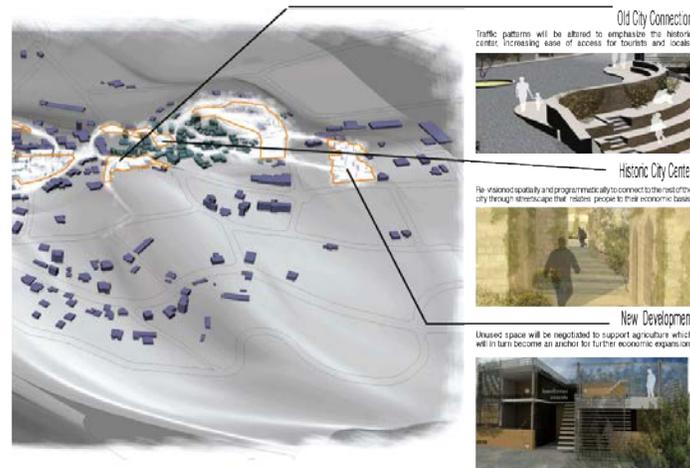
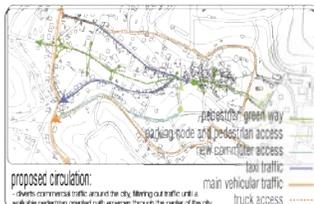
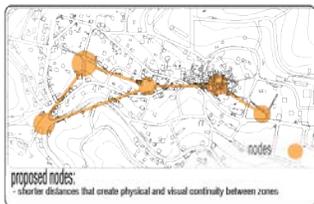
New City Center

Announces Birzeit as a PLACE with a functional streetscape language that will carry through the entire urban fabric

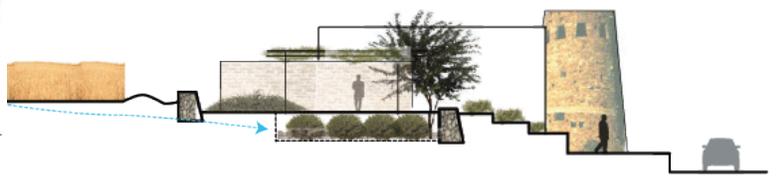
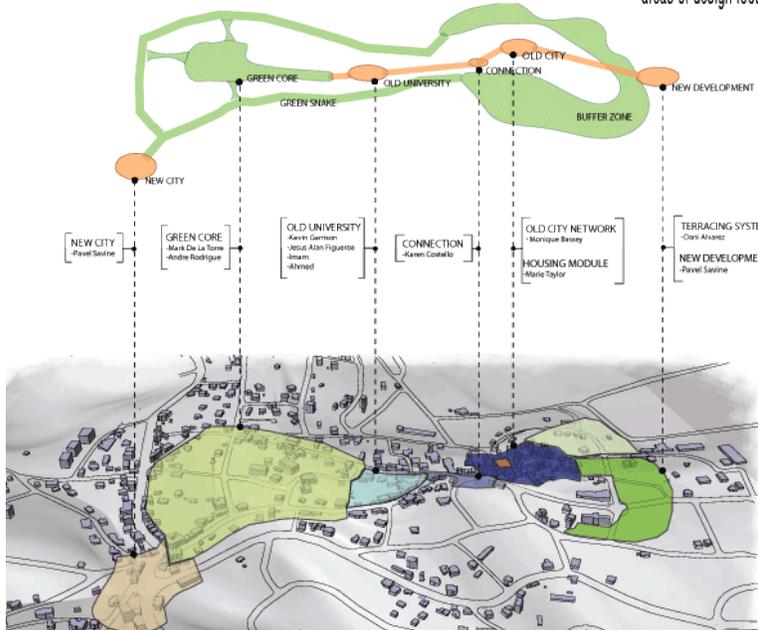


Proposed Strategy

nodes, circulation, land use, zoning



areas of design focus



03. Old University Campus

cultural node: reuniting the people of Birzeit



connection to green network



circulation diagram



The proposed design for the Old Campus focuses on revitalizing the open spaces and in turn, the buildings adjacent to them. By maximizing the use of the spaces year round, the Old Campus can help define Birzeit.

Open spaces accessible to the public:

- Sustainable cultural tourism
- Art and architecture school
- Hostel
- Day-care
- Urban gardens
- Children's play zone
- Large event facility to hold events such as: olive harvest, the annual Birzeit music festival, and other social gatherings.

03. Old University Campus

development strategy



- Function**
- Multifunctional spaces
 - Drawing visitors and travelers towards the historic center and bringing them to the campus.
 - Increasing student traffic.
 - Circulation through a central axis
- Sociocultural**
- Culture events and workshops are centered here.
 - Has the opportunity of becoming a cultural center drawing people from around Birzeit, i.e. Ramallah.
- Aesthetics**
- Adaptive reuse of old historic buildings, and revitalizing the area.
 - Maintaining a historic townscale with bits of modern fare.
- Economics**
- Proposal creates a dynamic, business market that will create new jobs and pull income from external markets, at the same time solidifying Birzeit's economic health.
- Environment**
- Reducing the heat island effect through large area shading
 - Creating educational gardens
 - Preserving heritage
 - Activating spaces with water harvesting efforts
 - Increasing green area for beautification and environmental purposes.



02. Green Core

north end



location within the larger green core



There are numerous parts of the "green core" that follow a similar program. Even supplemental circulation zones, such as the pedestrian connectors, play an important role in the success of the design as a whole. The northern pedestrian connectors have been developed in response to the residential population to the north. Additionally, these routes could serve as key access routes for future markets if additional agricultural components are incorporated along the northern border. The use of terracing in these connectors allows for multiple cores of activity, drawing from the historic site's natural geological features. Pulling the northern residents into the "core" promotes movement towards the historic center.

The terracing also works to utilize as much of the existing environment as well. The natural stonework incorporated in the way-finding strategies along the street fronts can be used as an iconic element to signify the movement through space as a whole. The physical entry markers for the site could be based on easily recognizable yet unique vegetation choices and scenic views.



Programmatically, the area of respite, as well as urban matrix that provides quiet, shaded areas for interaction. The area is divided into three categories

06. Housing Module

comprehensive unit for modern student living



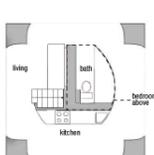
FUNCTION All the modern amenities in a simple plan. Considerations for light moving through a space with few apertures, created an open plan environment whose shape follows the vault of the ceiling in order to maximize use of the volume within while creating partitions for private spaces.

ECONOMICS minimalist modernism maximizes the use of small spaces and can be cost estimated closer to furniture prices and not standard construction.

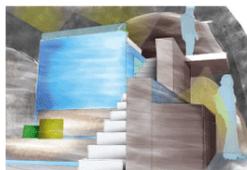
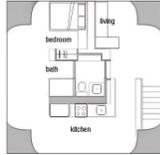
SOCIOCULTURAL Preservation: preserving the envelope but also making it a piece of art with reverence. The juxtaposition of old and new can make the old and forgotten become something cherished and remembered.



6x6 m module



8x8 m module



KAI TAK / HONG KONG:

In the summer of 2013, the Tejido Group from the University of Arizona / CAPLA assembled a group of volunteer students from both Schools of Architecture and Landscape Architecture to develop an urban redevelopment master plan for the former International airport of Hong Kong - KAI TAK in East Kowloon Harbor. The project illustrated a collaborative and interdisciplinary effort among our faculty and students from the University of Arizona. Our design team was graciously hosted by the Chinese University of Hong Kong throughout the four week duration of the project. CUHK faculty and students assisted us greatly in adapting to, and in better understanding the many complex social, economic and environmental issues confronting us in this fascinating project. With strong support from CUHK and their School of Architecture, the students, professors, and all others involved experienced unique design challenges resulting in experiences which fostered both academic and personal growth. This urban redevelopment project for KAI TAK has evolved into an attempt to develop a multipronged approach to the revitalization and conservation of the wonderfully complex urban and natural environment in need of open space, environmental remediation and an array of urban functions - housing, commercial and recreational. We sincerely hope that this "sustainable urban development prototype" may assist the East Kowloon area of Hong Kong in it's revitalization efforts. The area has immense potential.



ENVIRONMENTAL

- Mall captures harbor breezes
- Landscape drains into river
- Exchange of freshwater and saltwater habitats
- Green belts allow for ventilation into the southern site
- River creates microhabitats along it and drains into Bay.
- Low impact and low-rise development, uninterfering with view of the harbor from East Kowloon
- Vegetation greenbelt buffers sound pollution
- Vast expanse of uninterupted landscape
- Irrigation channels allow for flow into water
- Rich mangrove habitat

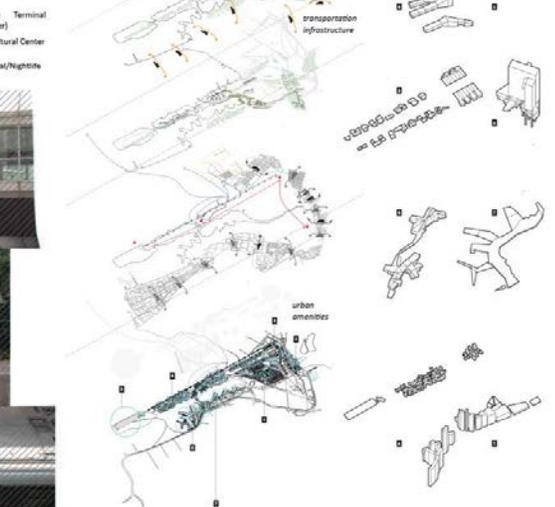
Our multi-layered, micro-region specific approach allows for a complex ecosystem to unfold itself. This ecosystem occurs alongside a complex network of habitable structures that accommodate the kind of activity that will bring out Hong Kong's culture. The juxtaposed structure of these distinct systems seeks to undermine conventional wisdom that delineates a sharp line between building and landscape. Our proposal acts as a portal into the city - a lush patchwork of nature amongst vibrant nodes of activity and culture.

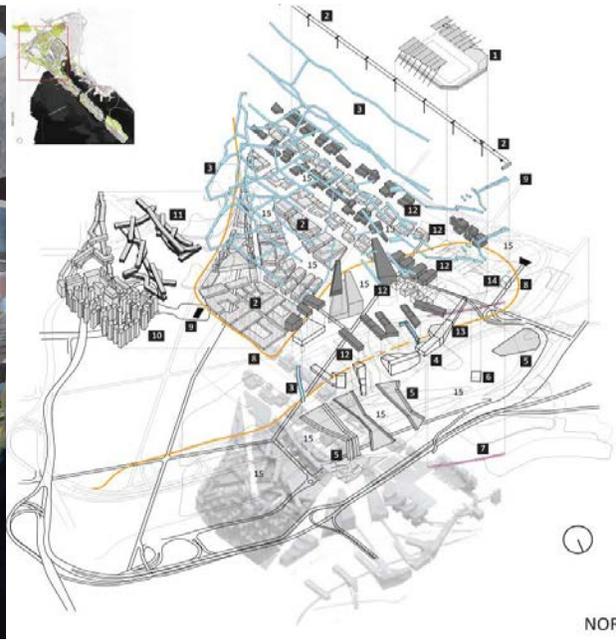


ECONOMIC

- Commercial/ Residential
- Commercial/ Office-space
- Stadium/ Fitness facilities
- Open markets/ Low-rise commercial

The placement of public transportation infrastructure along privately owned amenity is an urban strategy that harnesses the diverse user groups and their economic interests. The localities and visitors alike are able to exercise the use of public leisure space accompanied by supporting commercial activity. The site at large becomes a series of destinations to the broader city. The proposal allows Hong Kong to expand economically while regarding other critical factors of the living system of the city.



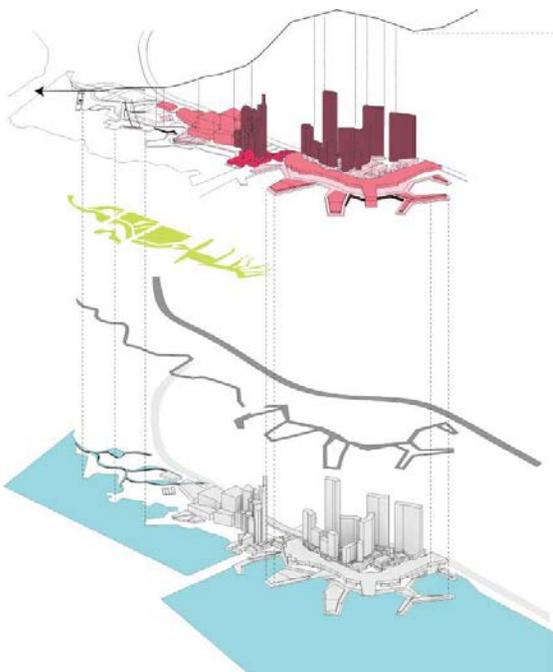


- 1 Stadium
- 2 Cable Car
- 3 Elevated walkways (pedestrian bridges)
- 4 High density commercial
- 5 Plaza
- 6 MTR Station
- 7 MTR Train
- 8 Bike/ Jog track
- 9 Tunnel entrance/ exit
- 10 Residential towers
- 11 Residential condos above commercial development
- 12 Office space
- 13 Recreational Fitness Facilities
- 14 Airport museum
- 15 Open landscape

NORTH EXPLODED



This vast open space on the ground level, over which high density commercial office strips hover is what characterizes the space. This northern flank of the site serves as a transition point between Kowloon and the rest of the site. Extreme open space and bareness on the ground plane coexist with extreme density above. Public space is rationed equitably, yet the proposal is sensitive to the city's need to develop.



Building heights and density transitioning from higher to lower adapting with the high existing urban conditions opening up views and easy access to the waterfront development.

High Density Residential and Commercial
Low Density Commercial

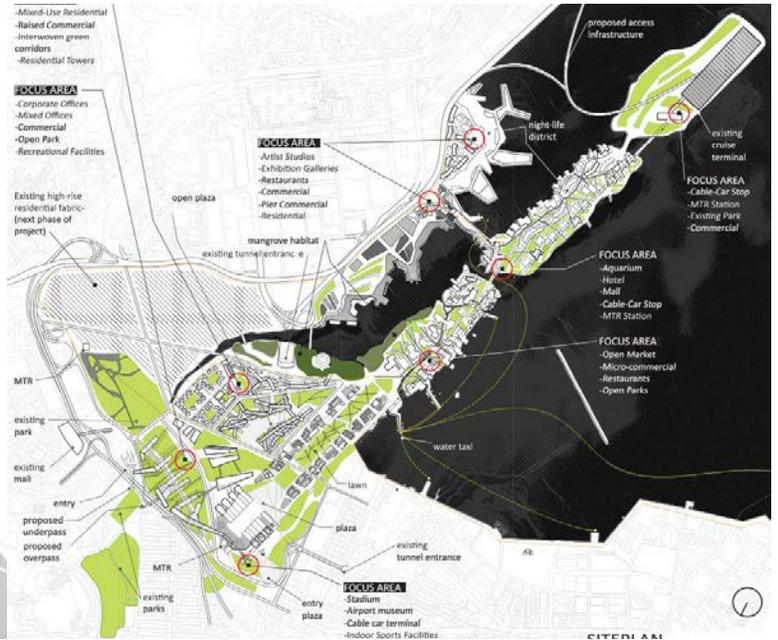
Open Area Green Spaces
South to North_ Opening up green corridors from within the city leading to the open park + river.
East to West_ Opening up views and green access paths to the open activity pier area.

Bike Connectivity

Water front



RUNWAY



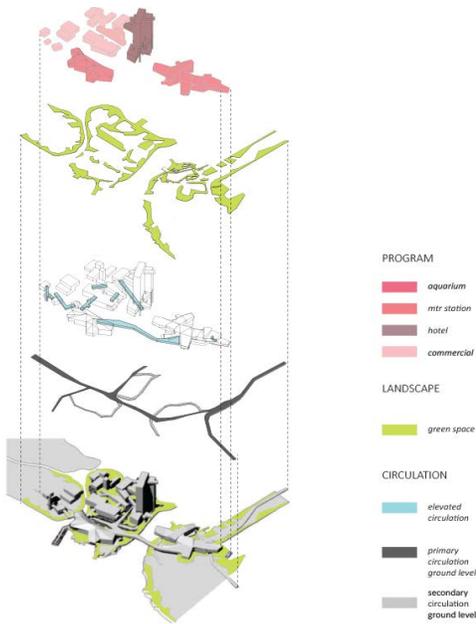
The programmatic addition of an aquarium to Kai-Tak is designed to serve as an enticing attraction and an iconic piece of architecture for Hong Kong. Attracting tourists and locals alike, it generates a large source of revenue for the city. The location capitalizes from the revenue as well as the restoring of the local ecosystems.

Environmental

A channels divides the aquarium into a North and South complex accentuating two main: the freshwater/ saltwater condition and the open harbor. The north focuses on the harbor while the south accentuates the amalgamation of freshwater and saltwater along the channels and coves that rehabilitate mangrove ecosystems.

Economic

The aquarium is an attraction that generates large amounts of revenue. Its proposed accessibility via MTR and cable car would maximize its economic value. The programmatic inserts that surround the aquarium such as the mall and hotel also generate revenue.



AQUARIUM



- North Aquarium
(Open ocean flora and fauna)
- South Aquarium
(Mangrove ecosystem)
- MTR Station
- Cable car station
- Commercial
- Offices
- Hotel
- Public plazas

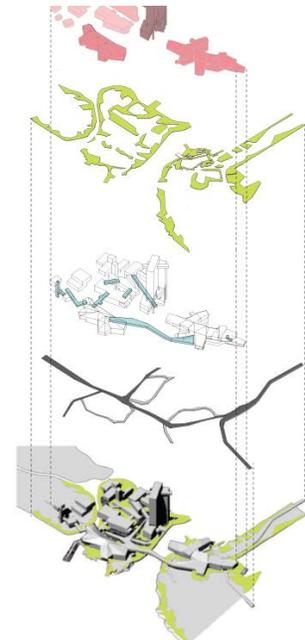
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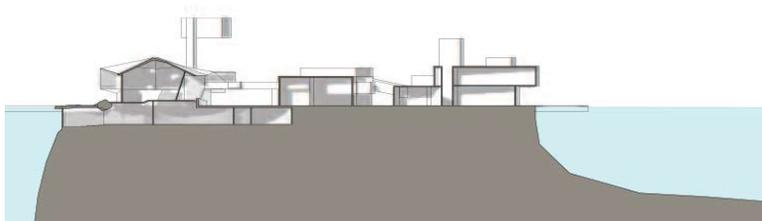
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- PROGRAM**
- aquarium
 - mtr station
 - hotel
 - commercial
- LANDSCAPE**
- green space
- CIRCULATION**
- elevated circulation
 - primary circulation ground level
 - secondary circulation ground level



North

This edge condition with broader Kowloon serves as a high-traffic activity center characterized by a network of open spaces that blurs the site boundary by bridging the site connecting to the city in multiple ways.

Runway

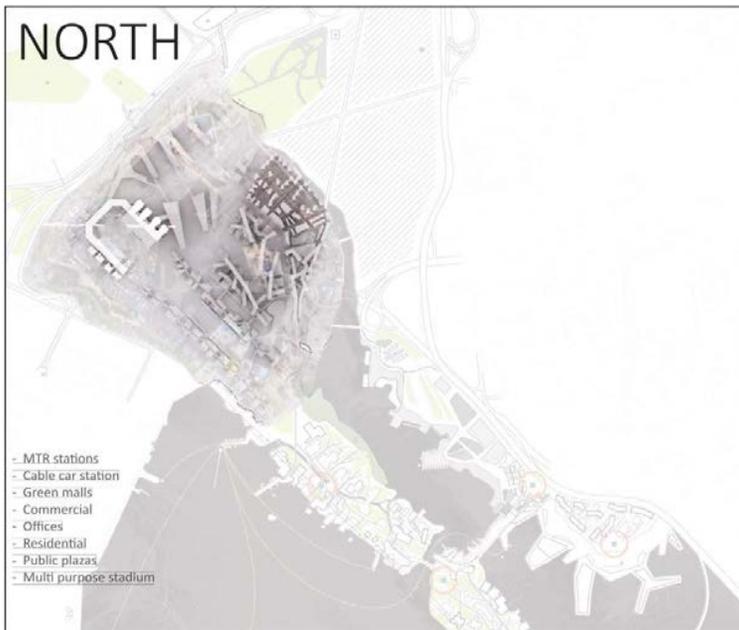
The runway brings a lively new economic and social outlet that provides locals with much more centralized businesses, jobs, shopping districts, and open spaces. The runway is divided into three islands that have different functions but are woven together by a continuous urban path that runs along the stretch of the runway.

East

This waterfront region becomes the venue over which East Kowloon's emerging artistic and entrepreneurial culture is manifested. It will unfold as another destination in Hong Kong's nightlife and entertainment culture. The highway-lined waterfront becomes a vibrant hub of culture.

TAI-O / LANTAU:

In the summer of 2013, the Tejido Group from the University of Arizona / CAPLA assembled a group of volunteer students from both Schools of Architecture and Landscape Architecture to develop a revitalization master plan for one of the last remaining fishing villages in the Hong Kong territories – TAI-O on Lantau Island. The project illustrated a collaborative and interdisciplinary effort among our faculty and students from the University of Arizona. Our design team was graciously hosted by the Chinese University of Hong Kong throughout the four week duration of the project. CUHK faculty and students assisted us greatly in adapting to, and in better understanding the many complex social, economic and environmental issues confronting us in this fascinating project. With strong support from CUHK and their School of Architecture, the students, professors, and all others involved experienced unique design challenges resulting in experiences which fostered both academic and personal growth. This revitalization project of TAI-O has evolved into an attempt to develop a multipronged approach to the revitalization and conservation of the wonderfully complex social and environmental context which is TAI-O. We sincerely hope that this “sustainable rural development prototype” may assist TAI-O in revitalizing a threatened, yet truly unique and relevant lifestyle. With very special thanks to CUHK and our gracious host Patrick Hwang we offer the following as a brief summary of the design and planning outcomes resulting from this summer’s three week charrette in Hong Kong.



EXISTING LAND USE

Much of the land surrounding the village of Tai O is already protected and not slated for development. Any future development within the historic village is also strictly limited, often times not allowing houses that have been destroyed to be rebuilt.



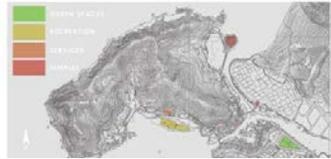
CIRCULATION

Circulation within the village is good, if not somewhat limited by the shape of the development and the water that surrounds most of it. Circulation is most limited in the access to the village from the outside, with the only main circulation paths being one road from the rest of Lantau and one ferry entrance at the port.



AMENITIES

There are amenities for the residents of the village, but they are often not placed with regard to the limited mobility of the mostly aging population of the village. Amenities tend to be concentrated in the newer developments, presumably because they are more easily located than in the existing village fabric.



ENTRANCE AND COMMERCIAL ZONE

Tai O is a picturesque fishing village that is facing several challenges. It's fishing industry has been trailing off as the young people are turning away from a low paying, physically demanding career to new career opportunities in urban Hong Kong. The village is also gaining attention as a possible ecotourism destination. With this in mind, the design team determined that maintaining the fishing industry was importance for integrity and relevance, but ecotourism should also be a target.

One crucial design issue was the purely functional but uninteresting entry sequence for visitors to Tai O. The bus depot dominated the entry plaza and there was no inviting sense of arrival. Also the seawall and drainage river between the old village and new high rise housing creates a barrier, both physically and visibly. The wall is so close to the old village buildings that it inhibits expansion and personal gardens and communal open space.



- GREEN SPACE
- NEW HOUSING
- WATER
- TREES
- PRIVATE AREA
- COMMERCIAL



WEST SIDE INFILL STRATEGIES

As you venture through the busy commercial corridor the historic stilt house community that is centrally located in the heart of Tai-o has a charming quality that is rich with authenticity, but can seem very congested, disorganized and lacks a direct connection to the waterfront. By breaking up the historic fabric to create thresholds and corridors, this concept proposes a green network that allows for both visitors as well as locals of Tai-O to maintain an easier connection to and through the old historic town.

The pocket park is also connected to the tourist boardwalk, which gives opportunities for social interaction.

CULTURAL

Provides community spaces that are comfortable for locals and visitors year-round.

Green space that provides an unobstructed view to the ocean which also creates a direct connection with visitors being transported via boat.

Instead of having a large central park, small pocket parks were provided to recreate the natural habits of the people of Tai O, such as gathering in small groups and enjoying a game of mahjong. These pocket parks allow for small groups to get together and experience a moment of quiet interaction.

FUNCTIONAL

Open space to be shared mostly by local people that live attached to or near the pocket park for recreational activities.

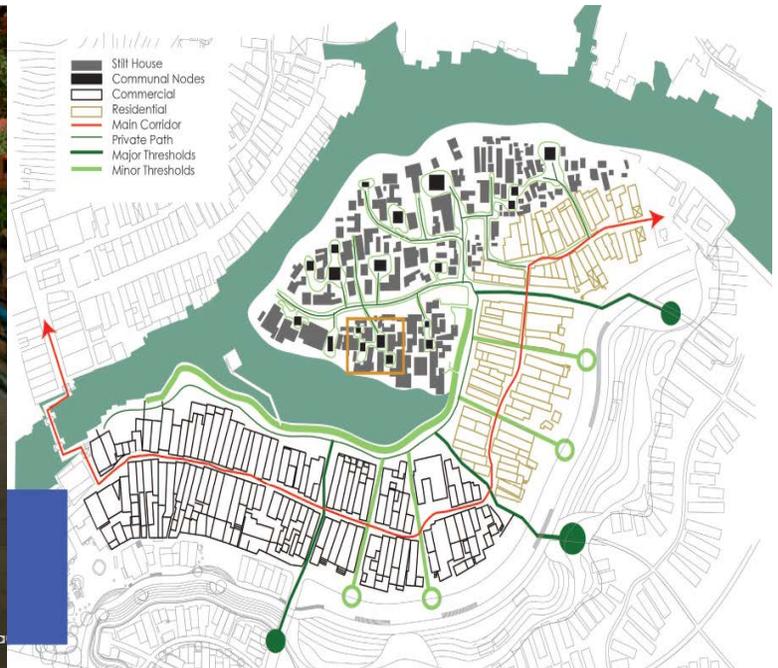
The pocket park is also connected to the tourist boardwalk, which also offers opportunities for social interaction.

ENVIRONMENTAL

Improve park life for the residents of Tai O, who do not have much in the way of private green spaces or yards.



30





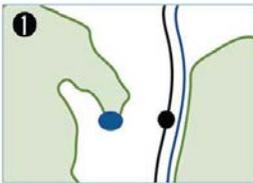
FRONTERAS / MEXICO:

Roberto Valenzuela in the Spring of 2008, approached the Tejido Group to develop a revitalization plan for Fronteras, Sonora, Mexico that would inspire economic stimulus as well as a plan for the anticipated future expansion of the town. The Valenzuelas articulated their vision of an enlivened Fronteras benefiting from the development of “diversified, grass roots enterprises” and an investment in infrastructure to support public health, light industrial and residential development. The Valenzuelas have since expanded their business to include eco-tourism adventures in the mountains that surround their ranch. Unfortunately, the culturally and historically vibrant town of Fronteras has not fared as well. Due to the closing of a local manufacturing facility in 2002, most jobs were lost. The lack of employment opportunities in Fronteras has forced many people to leave in search of work elsewhere. Despite the economic circumstances of the town, it is rich in cultural and natural resources which can serve as opportunities for economic stimulation. The town’s proximity to the Douglas, Arizona border to the north, the Sierra Madre mountain range to the east and west and its rich cultural history are all assets that could serve as a draw for tourism and investors. Community members have a vision for Fronteras, one with a healthier, more diversified economy for the town. A healthy economy will enable the children of Fronteras to remain if they choose and to raise their families in their hometown, secure in knowledge that there will be job opportunities for their children. Our clients envision a future full of growth and opportunity for the community. As Fronteras looks forward to a brighter future, having a master planning document to guide its development and growth has the potential to be a vital asset, particularly for attracting investment. This master planning document is intended to identify ways in which the town could be revitalized and to provide a basic road map for growth. It is important to note that this is a conceptual plan meant to stimulate discussion, begin the idea generation process and serve as a communication tool.

CONCEPT DEVELOPMENT | REGIONAL SCALE DIAGRAMS

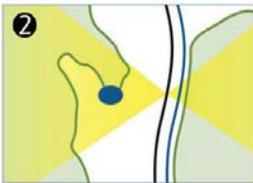


Fronteras regional aerial photo highlighting Highway 17 and the Naco river running parallel to another, the surrounding Sierra Madre and Lake Juribana



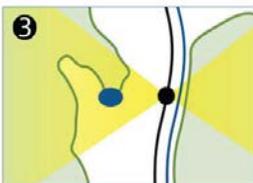
1. TARGET DESTINATION

Whereas Fronteras presently attracts little outside attention, its rich history and unique environment will form the foundation upon which the town evolves into a dynamic tourism terminus. Fronteras will also exemplify novel economic diversification strategies with rural northern Mexico, and serve as a model for the surrounding municipalities.



2. EXPLORATION NODE

Fronteras currently pursues commercial interests along highway 17, yet East/West points of interest will redirect traffic and provide more valuable cultural interaction between travelers and community members. The small town will anchor responsible recreational activities and unique educational endeavors along the beautiful landscape East/West of the highway.



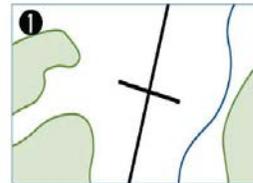
3. FRONTERAS FORKLIFT

Like a forklift, Fronteras will reach low into its cultural base to raise the economic standing of an entire municipality. Economic diversification strategies include environmental tourism, cultural tourism, alternative agricultural training, niche agricultural production, and produce marketing. Fronteras will thrive as it entices business through the outpouring of exceptional educational, recreational, and social opportunities.

CONCEPT DEVELOPMENT | LOCAL SCALE DIAGRAMS

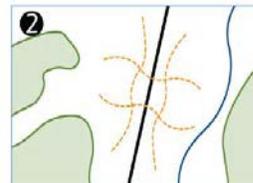


Fronteras local aerial photo highlighting Highway 17, the Naco river to the east and the old presidio to the west



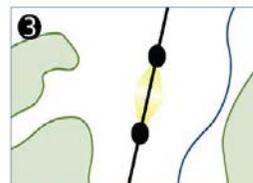
1. JUNCTION FUNCTION

Travelers may presently pass by the town of Fronteras without even recognizing its existence. A prominent East/West axis will slow traffic, and welcome visitors off of the highway. This junction will lead guests toward several key activity nodes within the community, and form positive first impressions of the urban environment.



2. PEDESTRIAN LACES

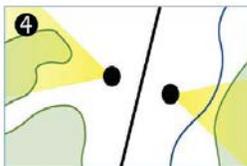
Fronteras is currently divided by a major rural highway, and encompasses several disjointed developments. Like the laces of a shoe, pedestrian corridors and streetscapes will bind various urban patches and unify seemingly dissociated land uses.



3. INNER RADIANCE

The majority of commercial activity in Fronteras presently occurs alongside Highway 17, as businesses pursue northbound and southbound travelers. Activity nodes on the northern and southern edges of the town will describe spatial functions along the highway and reveal town identity. These nodes will draw guests inward and unveil positive town sentiments about education, commerce, tourism, and community.

CONCEPT DEVELOPMENT | FINAL SYNTHESIS DIAGRAM

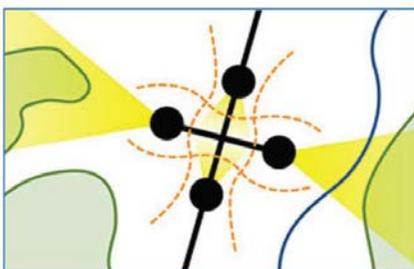


4. OUTER RADIANCE

While tremendous historical, environmental, and recreational interests lay east and west of the town of Fronteras, little has been done to organize, interpret, maintain, or unify these assets. Outer activity nodes will serve as sources of education and recreation, and encourage exploration in the surrounding environment. These nodes will orient visitors as well as provide meaningful interactions with community members.

FRONTERAS FUSION

Fronteras will enhance the lives of local residents through the integration of natural and cultural resources within its urban fabric and beyond. Redefined pedestrian and vehicular circulation routes will unite various community developments, and the gentle slowing of highway traffic will entice drivers to turn off and spend some time in Fronteras. Thoughtful activity nodes will reveal the true “face of Fronteras,” and anchor various commercial, community, tourism, and education spaces. Fronteras will fuse town values with physical planning concepts.





GENERAL IGNACIO ZARAGOZA PROMENADE

The main portal into town is the road and railroad running through town, and the adjacent spaces are the face of Fronteras. The redesigning of the boulevard will help create an inviting and comfortable environment that attracts locals and visitor. In turn, this will bring much needed revenue for the town.

The boulevard was redesigned as a pedestrian plaza, primarily as an area for a farmers market, performances, religious festivities and other events. The redesign focuses on accommodating existing north-south pedestrian movement and across the railroad tracks at three designated pedestrian crossings. Local vehicular use was also considered in the redesign of the boulevard. Residents along the west side park their vehicles along the sidewalk, and the boulevard is used as a vehicular corridor. Keeping this use in mind, a one-way, 24km/h thoroughfare was designed, with continued use of parking.



In an effort to accommodate future land use, including the renovation of residential to mixed-use or light commercial, the sidewalk along the existing residential strip was widened to allow space for outdoor dining, passerby, seating, and vegetation. The landscape area in front of the residences is reserved for adjacent residents as communal landscaping space. Currently, neighboring residents use the median as a planting space for small fruit trees, annuals, and roses. The use of the new median will continue this tradition, and promote individual ownership of the new boulevard space.

The largest trees throughout the boulevard are meant to unify the space and create a continuous visual line that extends along the north-south axis,

but also extends east west through the placitas, main town plaza, and the agricultural and architectural center. Smaller trees, shrubs, and accent plantings are used to create pedestrian scale and an aesthetically pleasing environment. The use of an array of tree sizes and dormancy periods also creates a variety of shade opportunities throughout the year. Trees between the railroad buffer zone and the boulevard are of a single species and serve as a physical and psychological buffer, while still allowing visibility across the railroad tracks.

The entry to Fronteras is its first impression and should be a major focus of redevelopment, beautification, and marketing for the town.



The gateway emphasizes the east-west axis. The design and materials are simple concrete and stucco, yet aligned with the local vernacular style. More than an architectural feature, it connects the east agriculture area with the west agriculture area through the urban corridor.

The water features are metamorphic of the existing and historic acequias throughout the region. Where possible, the water used will be from a non-potable source, or from an adjacent acequia. The reflecting pools and linear water feature have an interior black finish, designed to hold slow flowing water. The overall design aesthetic of the boulevard is contemporary, with crisp, clean construction lines and edges.



Seating areas are designed to accommodate a variety of users and activities, from people watching and outdoor performance, to private conversation and outdoor lecture. They are made from integral color concrete with a smooth finish.

The hardscape is composed of local stone in a square pattern and is consistent throughout the entire length and width of the boulevard, including the vehicular surface. The sidewalk surface is composed of the same, but the squares are half the size or less. Trees not in raised planters are set in a bed of local cobblestone, similar to the ones seen in Esqueda.



PLACITAS

The primary design goal inherent in the placitas and pedestrian walkways on the east side is to open up the existing barrier of buildings along Highway 17 in order to create circulatory and visual permeability. The placitas are intended to be places activated by commerce and deep, verdant vistas from the highway towards the east in a manner that creates secondary east-west axes.

By creating space that is pedestrian-only, the design increases social interaction and allows for integration of community. It encourages outdoor activity next to the comforting flow of historic acequias, and creates an opportunity for pedestrians, bikers, runners, and horseback riders to enjoy the beauty of Fronteras in an inviting public space. The walkways are programmed to be partially paved so that the space can be enjoyed by cyclists, parents with strollers, and disabled individuals.



The placitas were designed to be "punch-out," connecting the activity along Highway 17 to the newly-developed pedestrian corridors on the roadside. They have been sized and located around public aesthetic amenities to create small-scale commercial activity that could produce jobs and generate income for the local residents. Shop owners will be incentivized to take ownership of landscaped irrigated areas and walkways along their store-fronts in order to maintain an inviting customer environment.



The south placita creates an interior courtyard anchored by symbols of both potable and irrigation waters.



DESIGN



PLAZA

In Mexico, plazas serve a variety of purposes: park, party hall, gathering place, and landmark. Plazas are places for festivities and yet they are also places for reflection and solace. From elaborate quinceañeras and weddings to a simple coffee and conversation with a friend, Mexican plazas are spaces that are meant to be enjoyed. Plazas in Mexico also play a vital role in a town's identity, acting as a landmark and meeting place. Often when first visiting a town in Mexico, the plaza will be the place in town that you see and realize that you have arrived.

Fronteras' redesigned plaza has become more of a focal point within the town by connecting it to its surroundings. The planter wall between the plaza and auditorium has been removed and the plaza's main axis rotated, creating a welcoming forecourt to the town's cultural centers of activity. Within the plaza itself much of the geometry remains as this clearly directs movement in all directions. Removal of the fence surrounding the plaza and the addition of smaller trees transforms the plaza into an inviting and comfortable place.



146 DESIGN

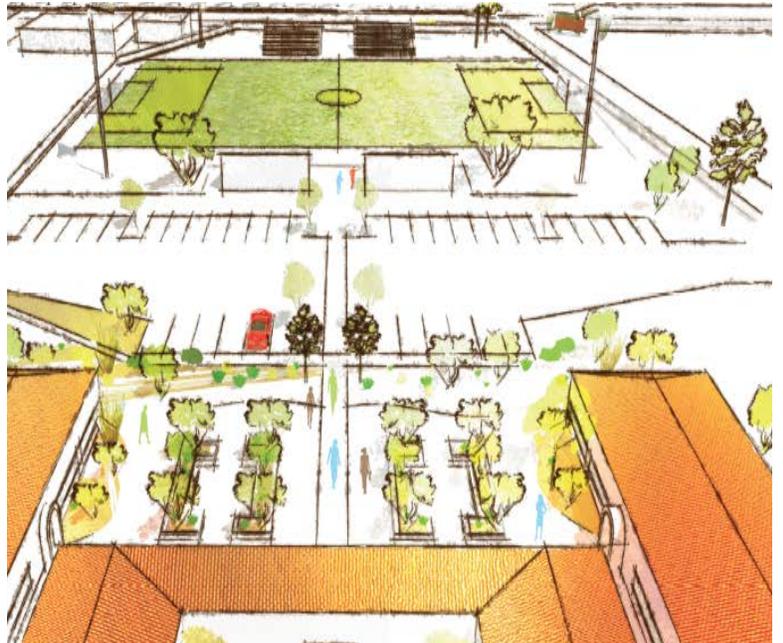


EDUCATIONAL DISTRICT

The educational district anchors the southern end of Fronteras and connects with the Gral. Ignacio Zaragoza Promenade. This zone lies between the Yaqui, Balcon, and Girasoles residential neighborhoods. Access to the educational district is pedestrian-oriented, although vehicles may enter from Plutarco Elias Calles road or the newly proposed highway exit, which crosses Blvd. Jose Lopez Portillo south of the present sports facility. Traffic calming strategies must receive the highest priority, in order to slow vehicular circulation throughout the entire district.

This educational zone would include daycare as well as primary, middle, and secondary school facilities. This region preserves the town's pastoral aesthetic and encourages continued agricultural involvement throughout the landscape. Within the educational district the secondary school assumes stewardship of the current sports ground, and provides the maintenance required for a model playing field. This sports field would accommodate students throughout the day, while catering to large outdoor sporting events on weeknights, weekends, and holidays.

DESIGN

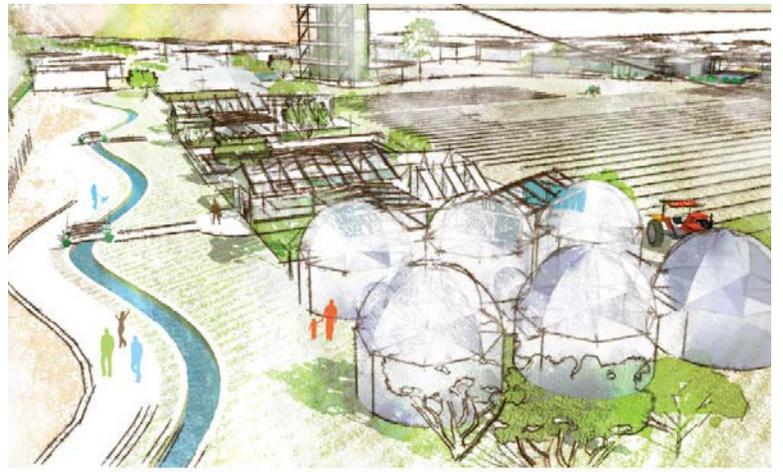


DESIGN 151



GREEN HEART

Central to the revitalization of Fronteras is the development of the Green Heart. The Green Heart occupies the vacant ex-agricultural fields between the streets Plutarco Elias Calles and Av. Dr. Samuel Garcia. While the site is accessible by vehicle along these roads, the main entrance is located at the western edge of the residential street Santa Rosa de Corodehuachi. This street would unite with Abelardo L. Rodriguez, to form a major pedestrian-oriented east-west town axis. This facility supports the proposed Institute for Sustainable Community Development (see appendix #) as well as a community center, Alternative Agricultural Learning Center, and iconic vegetative tower.

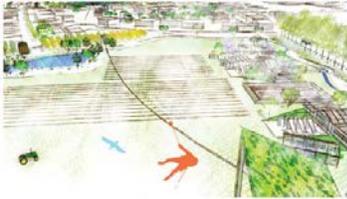


The Green Heart supports a range of alternative agricultural practices.



The iconic vegetative tower rises resolutely above experimental agricultural fields. This tower may be seen from the main highway.

The vegetative tower features a zip line. This recreational component refreshes the agriculture facility and adds an exciting tourism component. Alternative recreational options could include rock climbing up the tower, or bungee jumping from the tower.



RESIDENTIAL INFILL

The Institute for Sustainable Community Development focuses on emerging technologies in architecture, landscape architecture, and urban design, including solar and wind technologies, and materials. The town of Fronteras will be the primary beneficiary of this research, through the design and construction of innovative and experimental homes that showcase LEED principles.

Infill refers to the reuse of land or space within a built environment as a form of redevelopment and containment of growth within a town or city core. The goal is to preserve agricultural lands and natural areas and reduce energy consumption, ultimately creating a healthier town less dependant on automobiles.

The recommended sites for residential infill include the areas along the street Plutarco Elias Calles, and directly to the east and west of the main plaza. These areas will slowly be redeveloped into active spaces, filling in the gaps between existing structures.



HOMESTAYS

"Homestay" is a form of tourism that encourages visitors to rent a room in the home of a local family, rather than a commercial motel. Homestays enable residents to earn money from within their own habitation. This form of tourism also creates cross-cultural ties between the local populace and foreign travelers. While residents are encouraged to create homestays throughout the town of Fronteras, a central homestay hub and plaza would enable visitors to interact with one another and energize the heart of the pueblo. Incentive for the creation of homestays behind the Palacio Municipal would encourage enduring tourism in a central town location. This area connects directly to the plaza, the green heart, and the principle promenade. The creation of a communal homestay plaza may also serve as a center for dining, socializing, and recreation.

Example Mexican Homestay Websites:

http://www.intercultural-mexico.com/homestay_in_mexico.htm
<http://www.experienciatepoztlan.com/familyhomestay.html>
<http://www.bajacal.com/accommodations/homestay.html>
<http://www.spanishmexico.com/homestay.html>



DESIGN 167

GERONIMO'S CAVE



A local park in the El Balcon neighborhood can act as a gathering space and recreation area for residents on the west side of town.



The El Balcon park may also serve as a gateway to a trail system along the mesas to the west, as well as, the historic Geronimo's cave.



EQUESTRIAN CENTER

Multiple attractions adorn a naturalistic Abelardo L. Rodriguez, emphasizing a central spine of equestrian travel connecting the ecodge along the river to the Green Heart and beyond. An equestrian center, including stables, pastures, paddocks, and a show ring can be utilized by visiting horse-owners and will also provide resident horses for leaded town and hillside group rides.

Along the east side of the river, a gently rolling river trail runs along the banks from the RV and camping wetlands on the north, past the edge of a wilderness trailhead at the mouth of a rocky canyon, and leading to canopy-level and river-bottom crossings as one heads south. This public river trail will offer a more quiet and adventurous alternative.

Additionally, this trail system will be accessible by mountain bikes available for rent at the ecodge. In order to reduce conflict between horses and bikes, singletrack trails will be programmed by a single set of users each day of the week (eg., equestrians on Saturdays, mountain-bikers on Sundays.)





LIGHT INDUSTRIAL PARK

Light industrial development is designated for the area north of the RetroWorks Inc. factory. Industry will include plastics recycling, assembling of battery cables, and other manufacturing of materials for export. The entry to this industrial park will include a gas station, convenience store and rest area.

