

F A L L   2 0 1 8 - S P R I N G   2 0 2 3

L  
A Y A  
C Y B U L

PRATT INSTITUTE SCHOOL OF ARCHITECTURE  
ARCHITECTURE PORTFOLIO

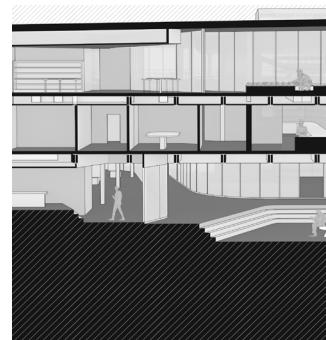
# SELECTED WORKS

FALL 2018 - SPRING 2023

1

## "A World of its Own"

Arch 302 / Comprehensive Design  
Spring 2021



2

## "Medicinal Botanical Garden"

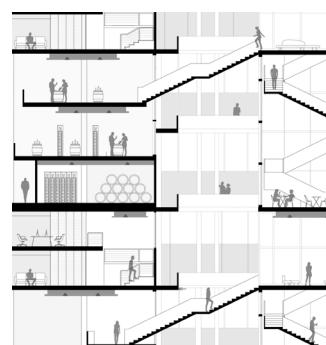
Arch 403 / Advanced Design  
Fall 2020



3

## "Kitchens For a Living: An Interactive Community"

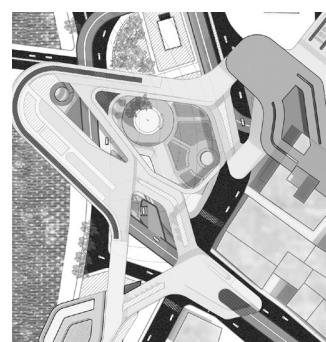
Arch 301 / Comprehensive Design  
Fall 2020



4

## "Delirium Rome"

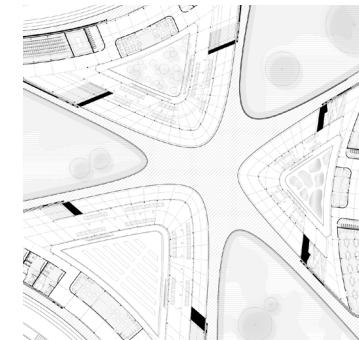
Arch 402 / Advanced Design  
Spring 2022 / Study Abroad Rome



5

## "Bioma"

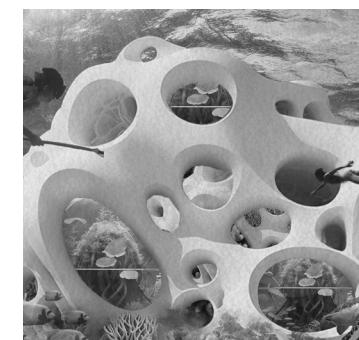
Arch 401 / Advanced Design  
Fall 2021



6

## "Sea Gardens: Multi Species Architecture"

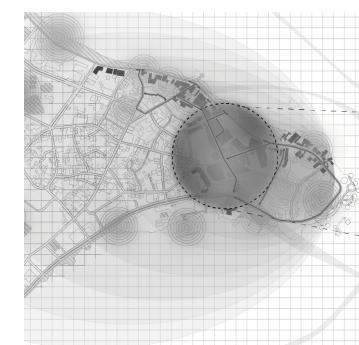
ARCH 500 / Thesis  
Fall 2022 - Spring 2023



7

## "San Andres Island: Us vs Them"

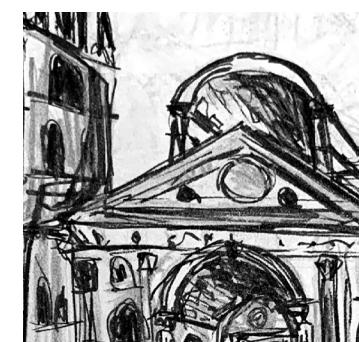
Urban Genealogies / Research  
Fall 2021

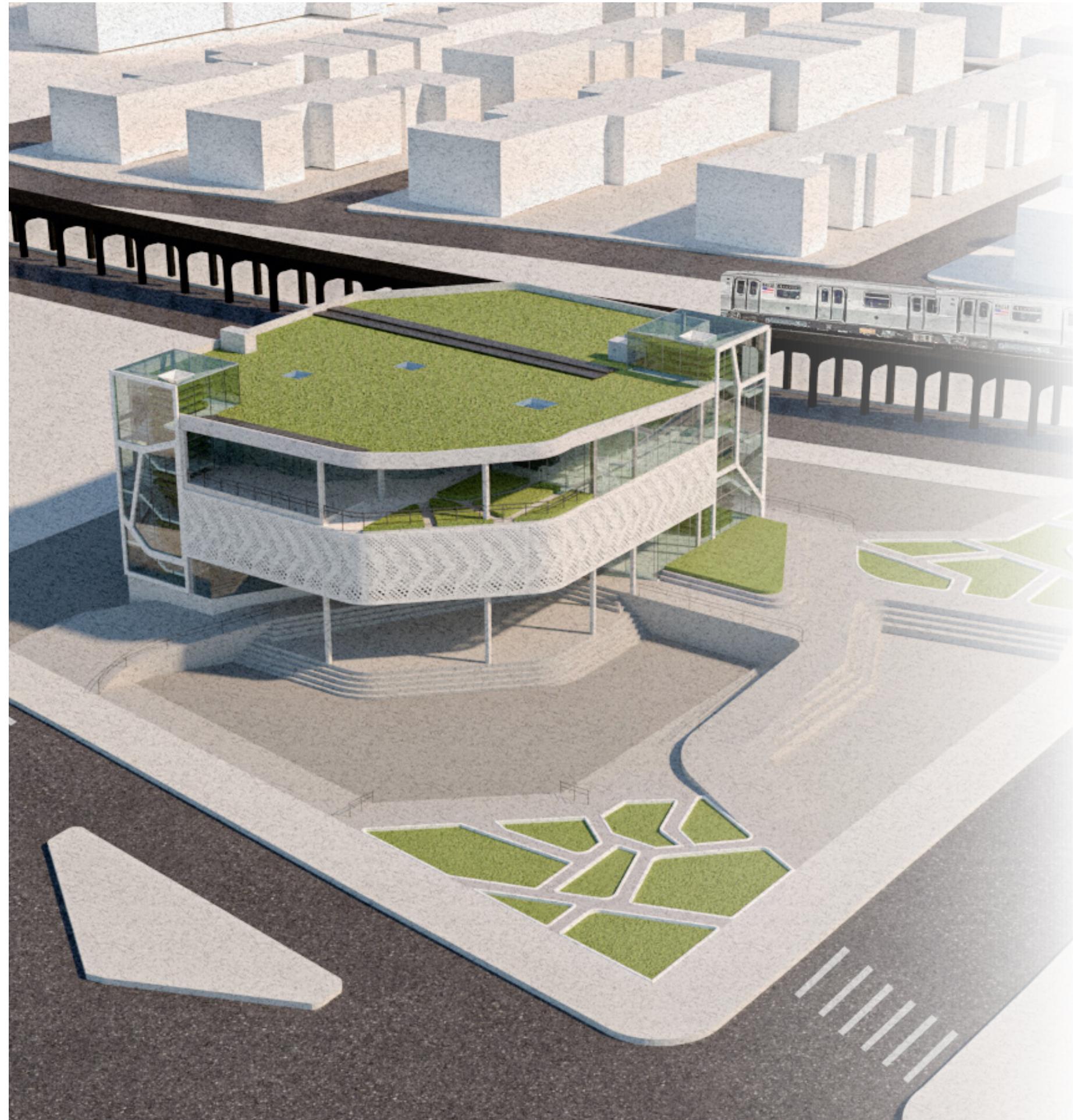


8

## "Rome"

Drawing / Sketching  
Spring 2022





## "A World Of Its Own"

62nd Beach street Far Rockaway - Community Center / Emergency Shelter

Partner: Louise Anteby

Professor Greg Merrywether

Located in Far Rockaway, this community center turned emergency shelter focuses on the integration of growing and resiliency while bringing the community together. The moving factor for this project is the idea of farming as a tool to incentivize the occupants to participate in the improvement of the community. Farming starts on the ground floor and is introduced into the building by the two vertical towers that are meant to allow circulation as well as generate an artificial environment for the growing of plants and vegetables. Furthermore, the agricultural landscape is introduced once again on the third floor following the same language in regards to circulation and the experience of the occupant.

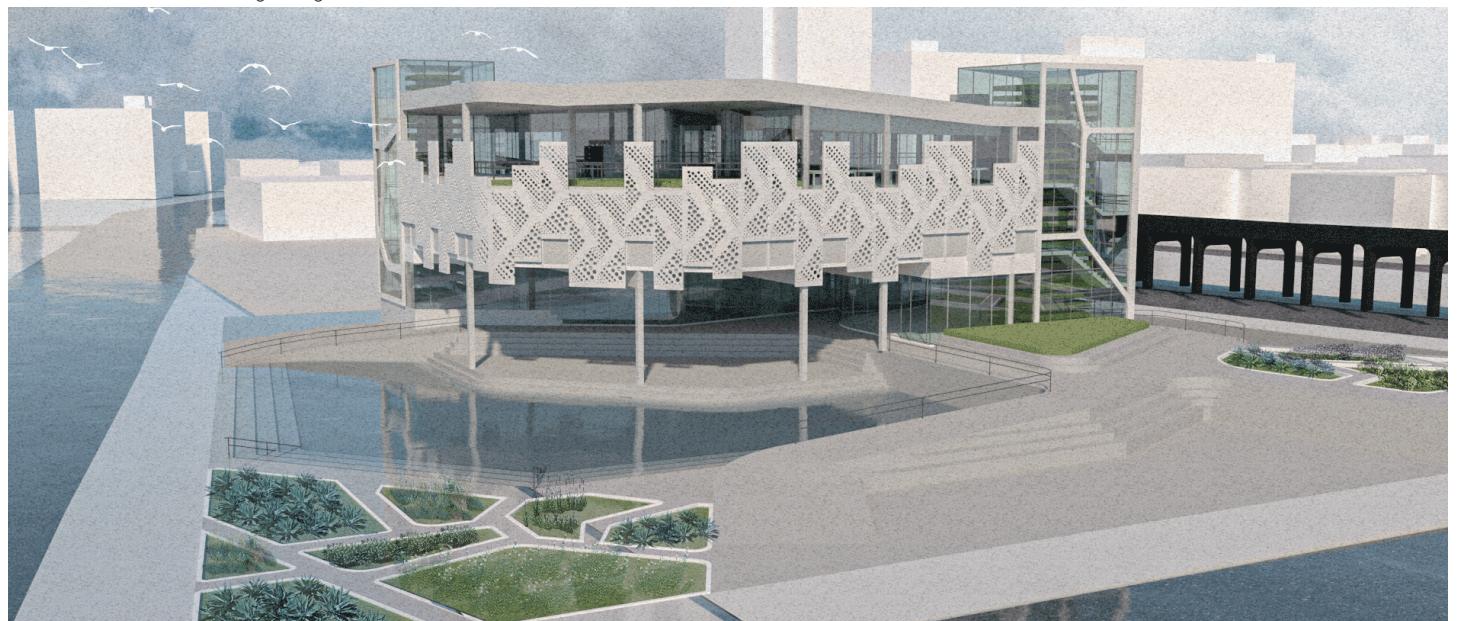
Circulation from the street is continued from the landscape into the building wrapping around all of the internal programs and the gardening spaces. On the outside, the pathways intersect from the street leading to the interior of the building and public hangout areas that surround an outdoor market.

The whole first floor is considered sacrificial space in regards to the flood plain of the site. The landscape is designed to comply with the flooding patterns of the area, while the building is slightly elevated from the street level. The building transitions into an emergency shelter when the metal panels that are located on the second-floor shift to the third floor to enclose completely the outdoor areas that are located on the third floor.

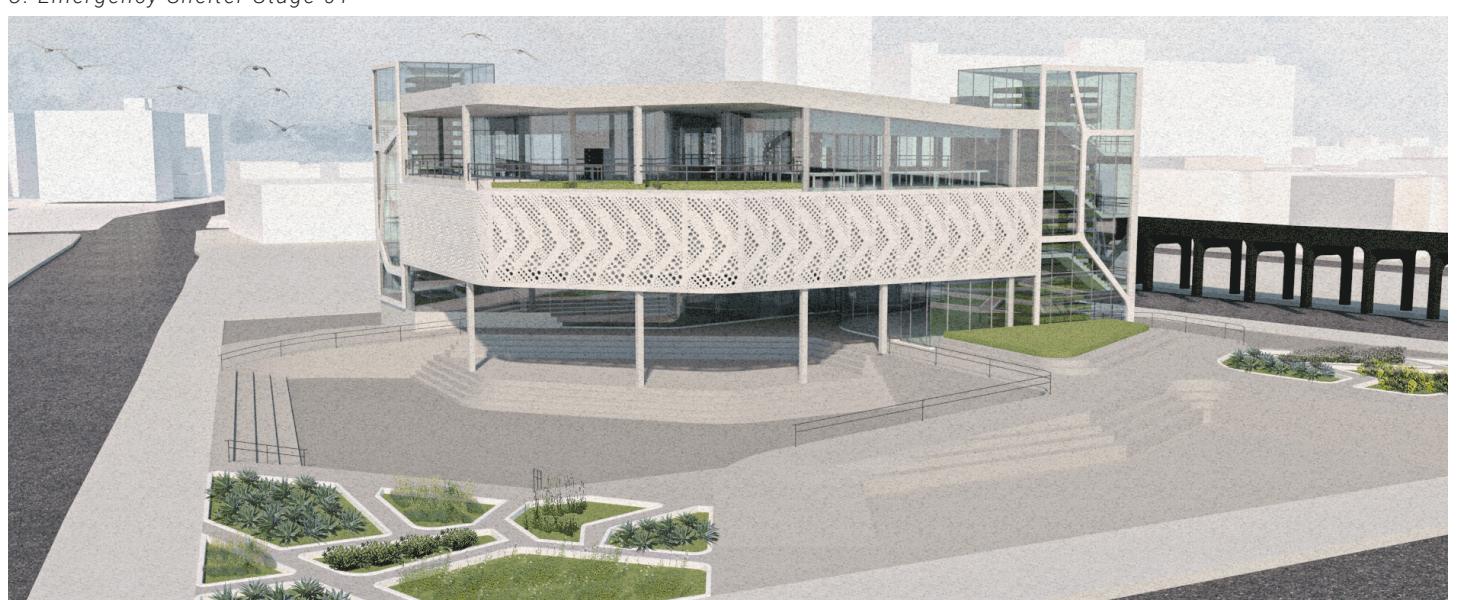
A. Emergency Shelter Stage 03



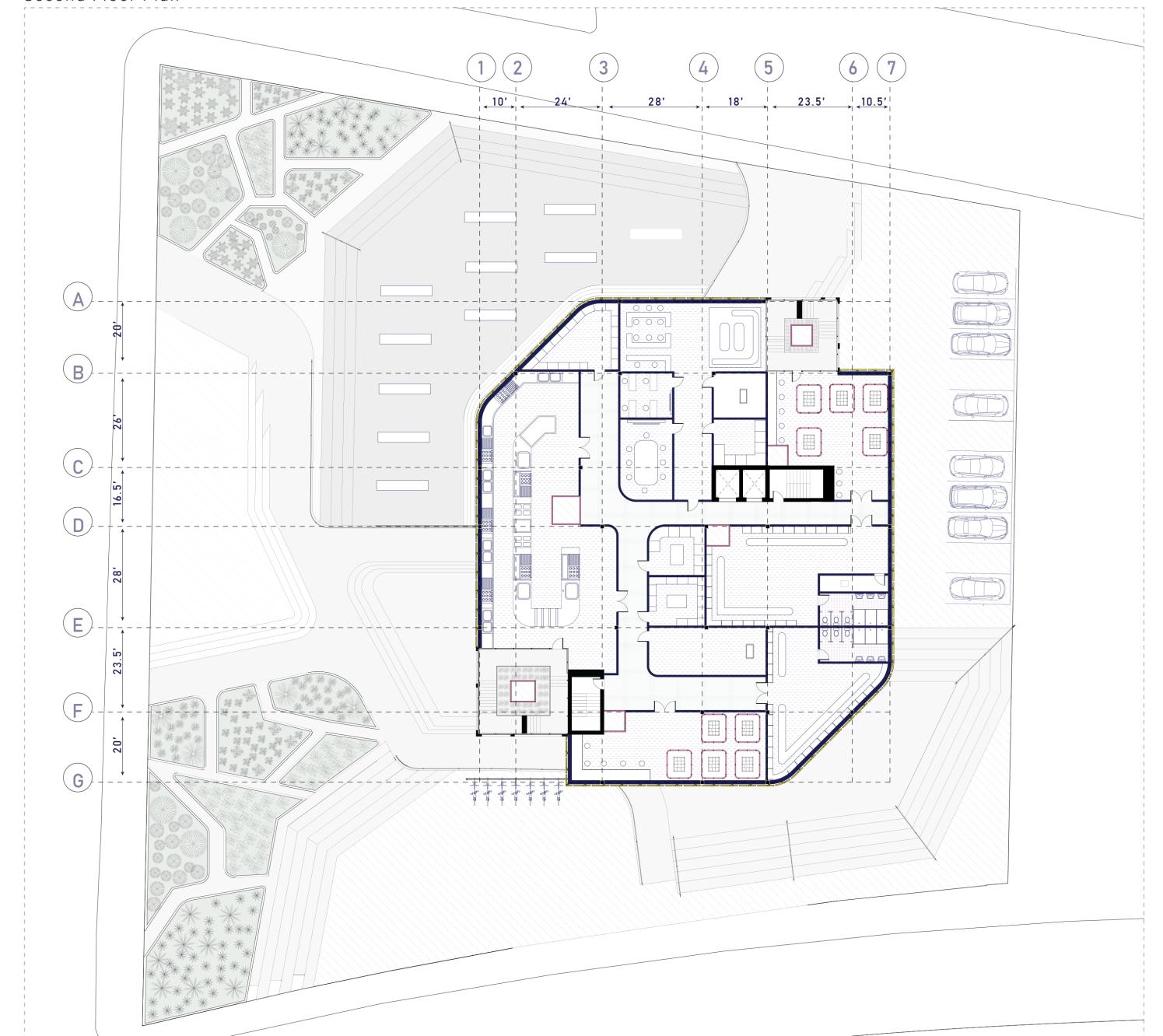
B. Facade Transitioning Stage 02



C. Emergency Shelter Stage 01

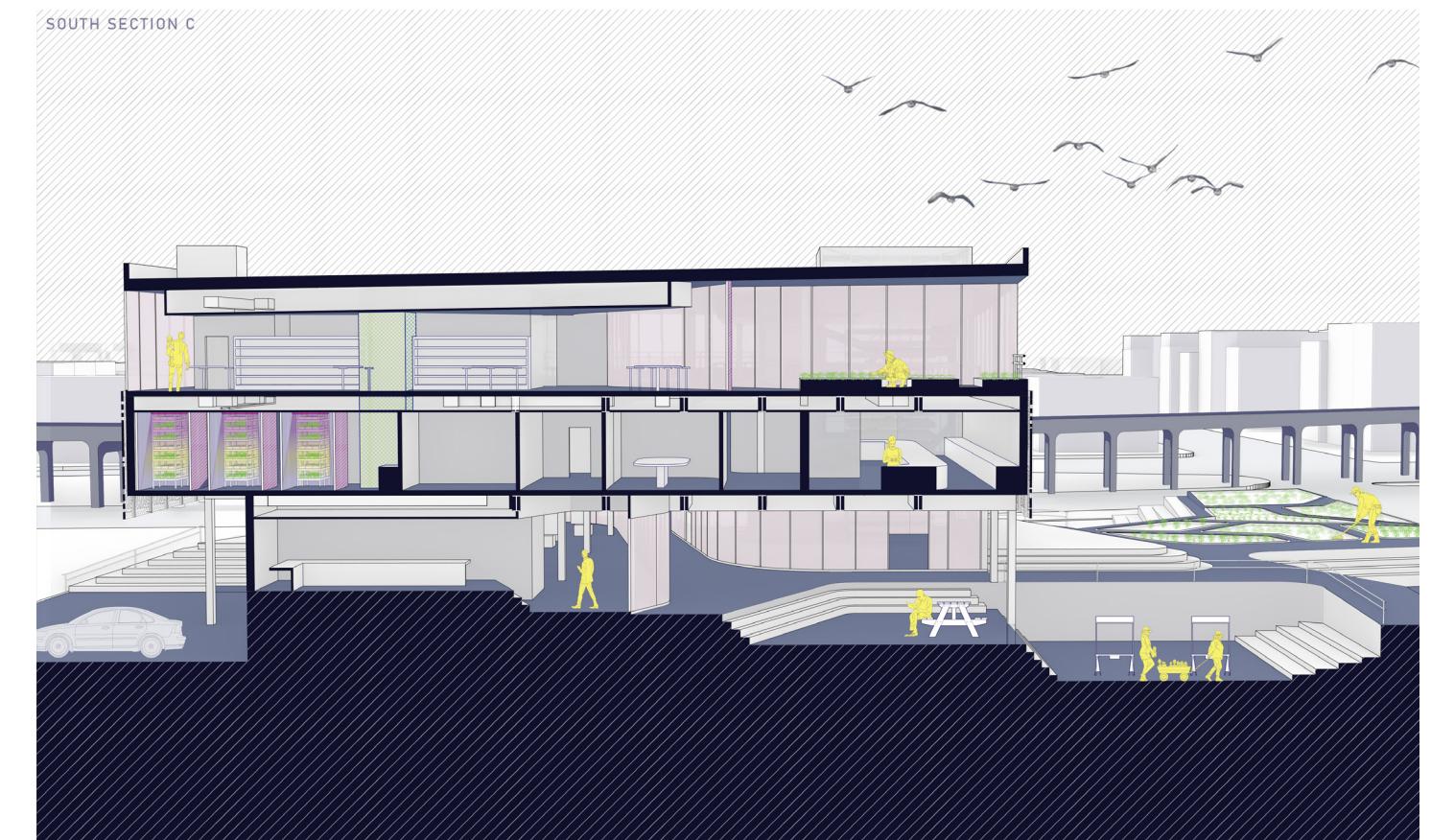
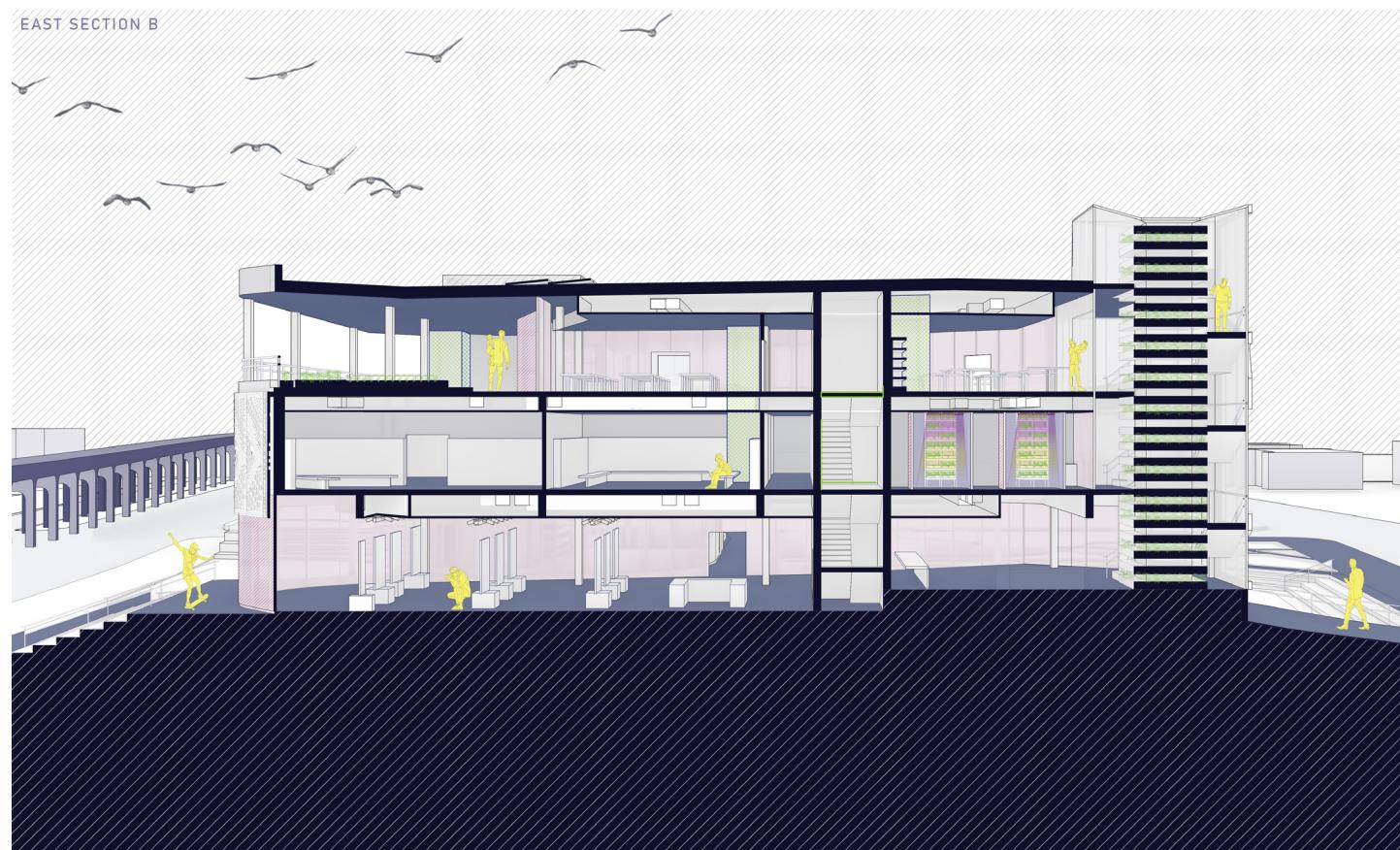
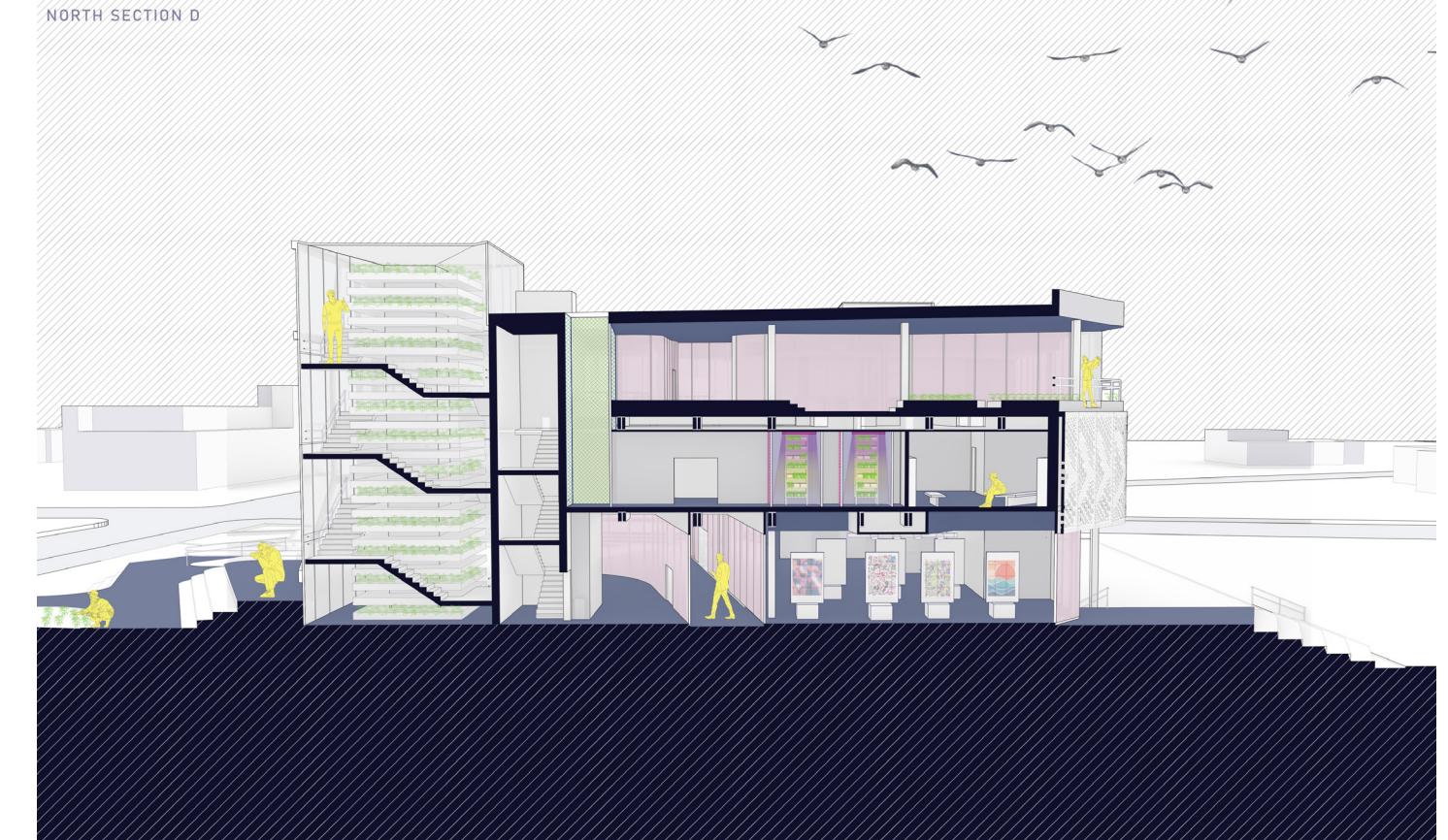
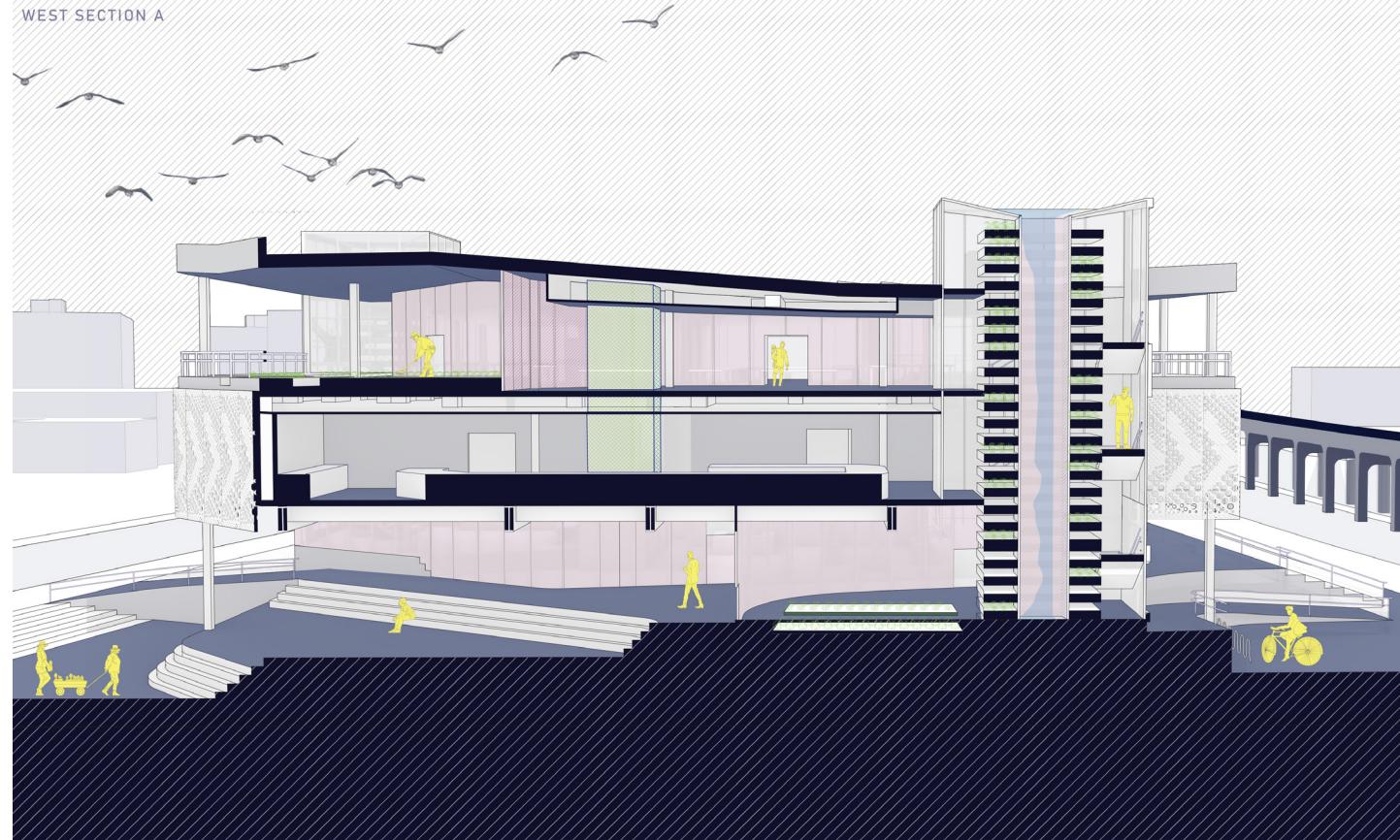


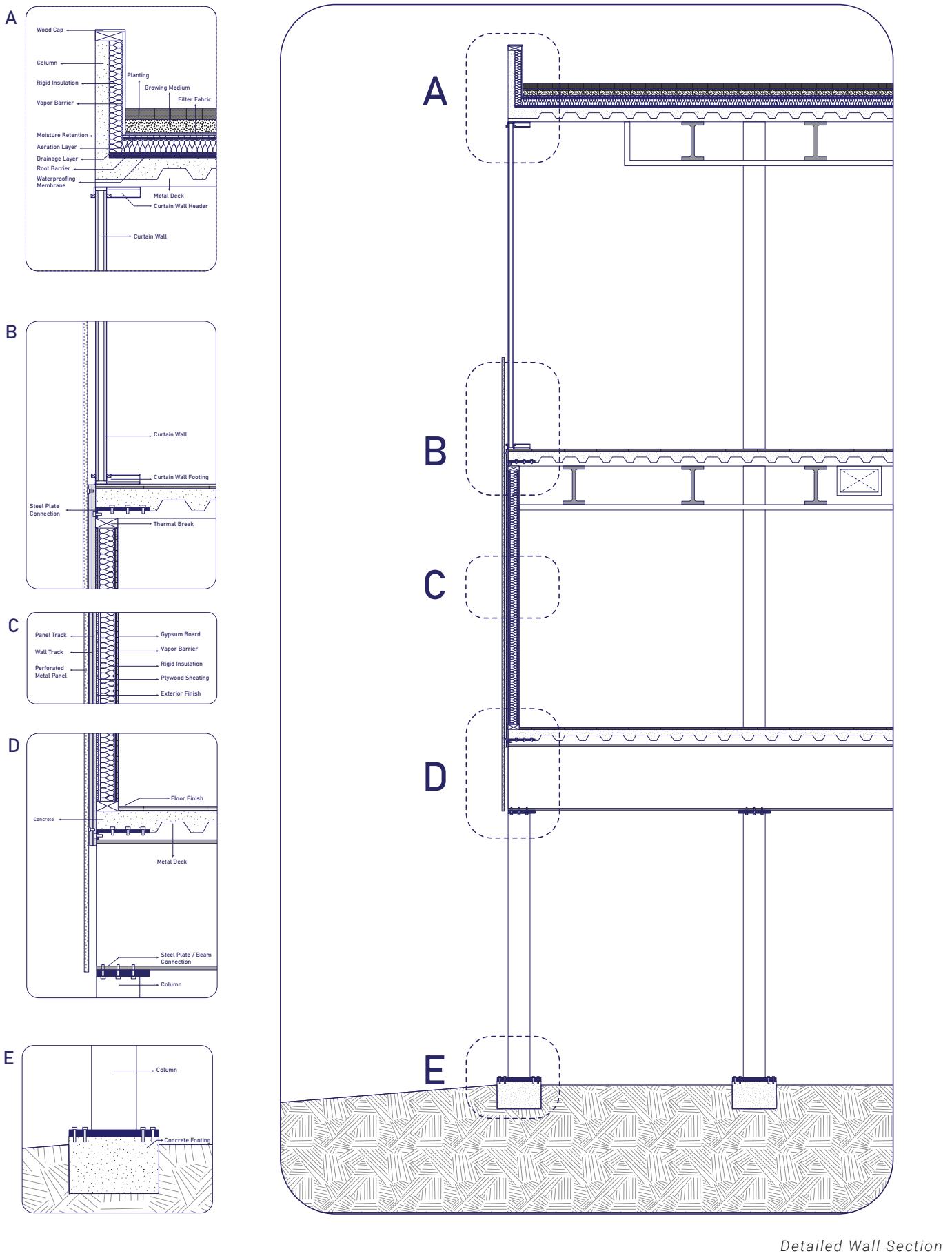
Second Floor Plan



Concept Section Diagram







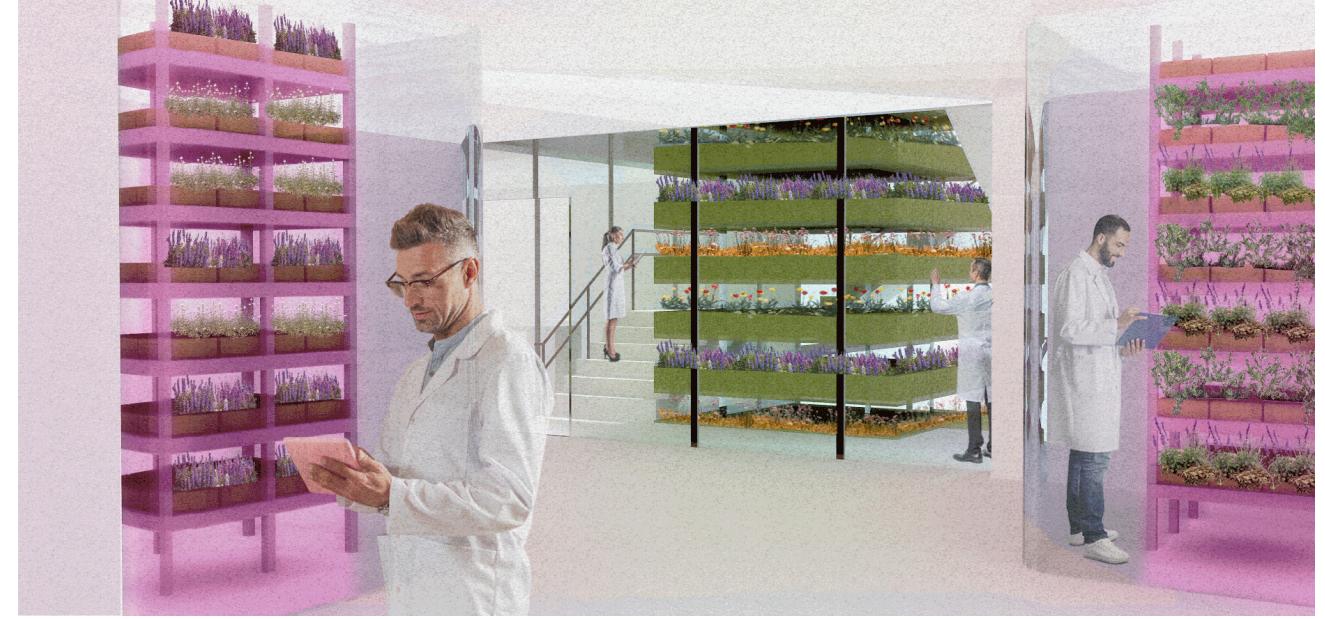
A. Third Floor Garden Exterior Perspective

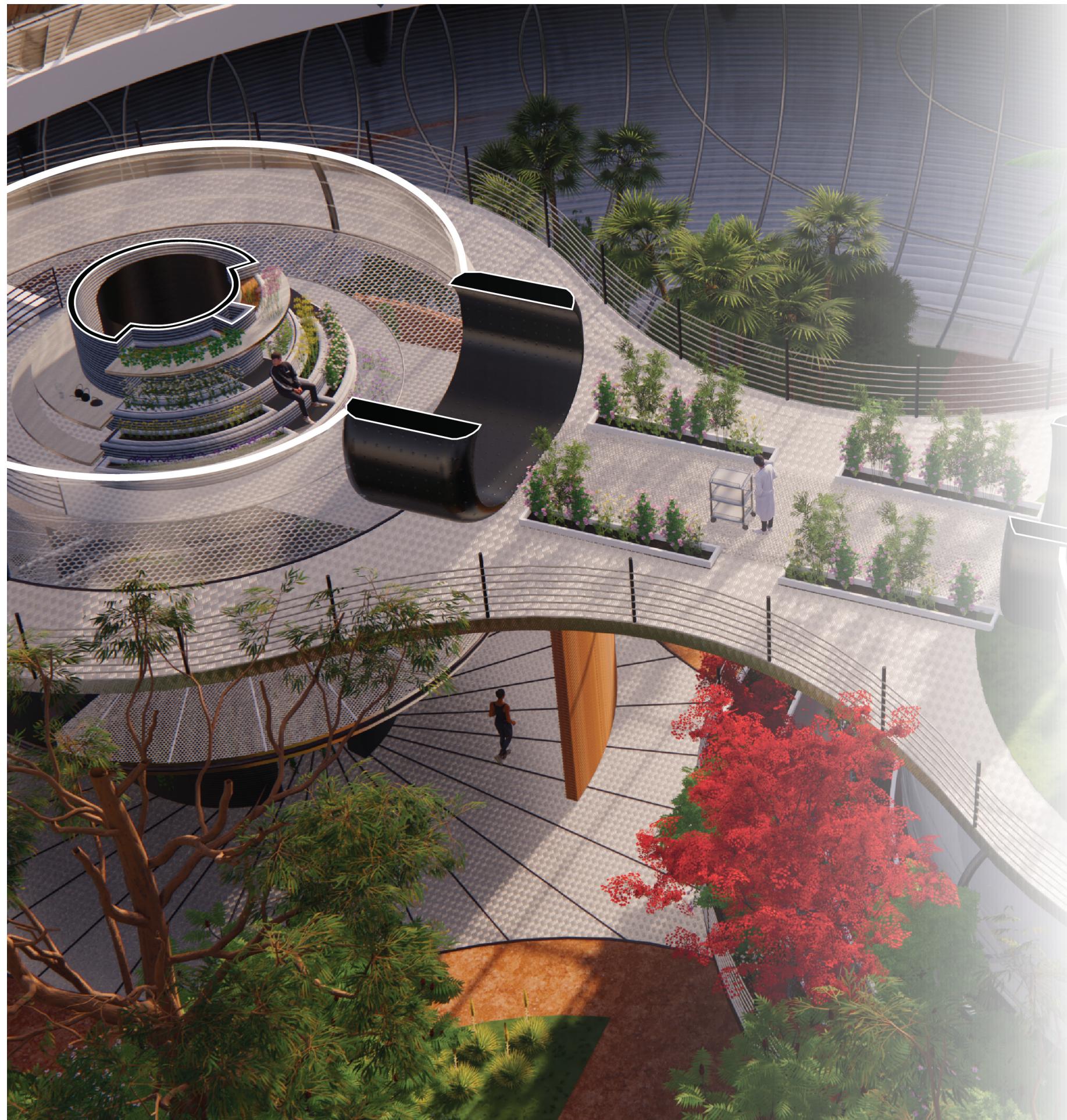


B. Exterior Perspective



C. Growing Lab Interior Perspective





## "Medicinal Botanical Garden"

*Planet Mars, NASA Gardens*

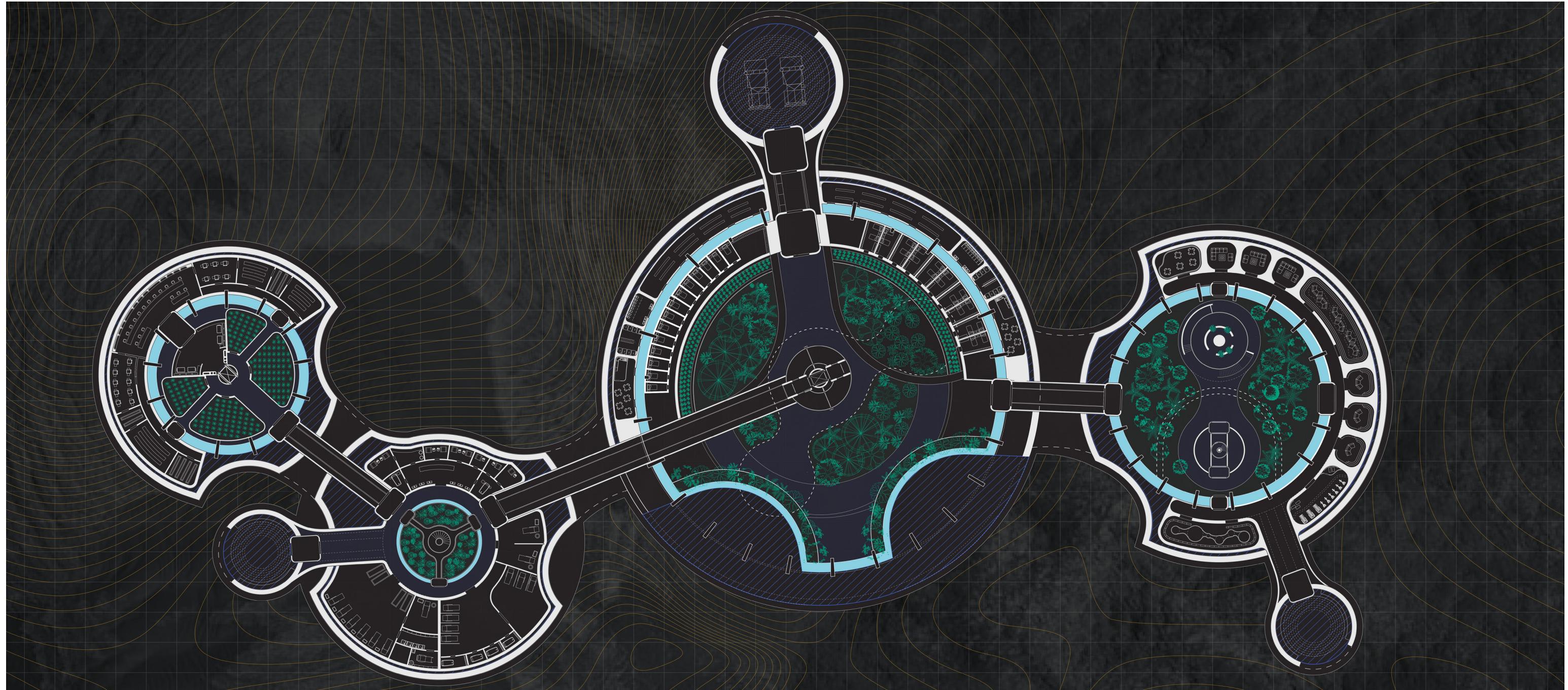
Design Partner: Mariana Bravo Rivera  
Professor Michael Morris

Located on Deuteronilus Mensae, a maze of canyons and valleys where traces of buried glacier ice have been detected beneath the surface of Mars; "Medicinal Botanical Gardens" proposes a preventive and curative facility for radiation exposure illnesses caused by the high radiation levels in Martian atmosphere. Following through with NASA's "ARTEMIS: Moon to Mars" expedition, we speculate that our project will place in the year 2080.

As a foundation for this project, we question how can the development of a medicinal botanical garden support the performance of humans on Mars. Providing preventive and curative treatments for radiation diseases, and immersive isolation experiences? to what we respond with the development of three simulated environments that represent different ecosystems that would be beneficial for the mental and physical health of the scientist on site. Giving them a sense of belonging on a foreign planet. Each ecosystem holds an immersed medicinal wing that deals with specific stages that come with radiation exposure illnesses. those being preventive, curative, and in the worst-case scenario a hospice-isolated environment.

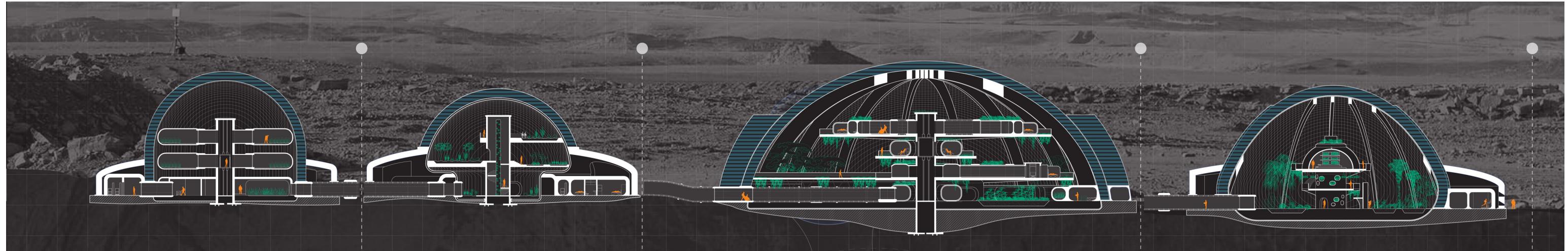


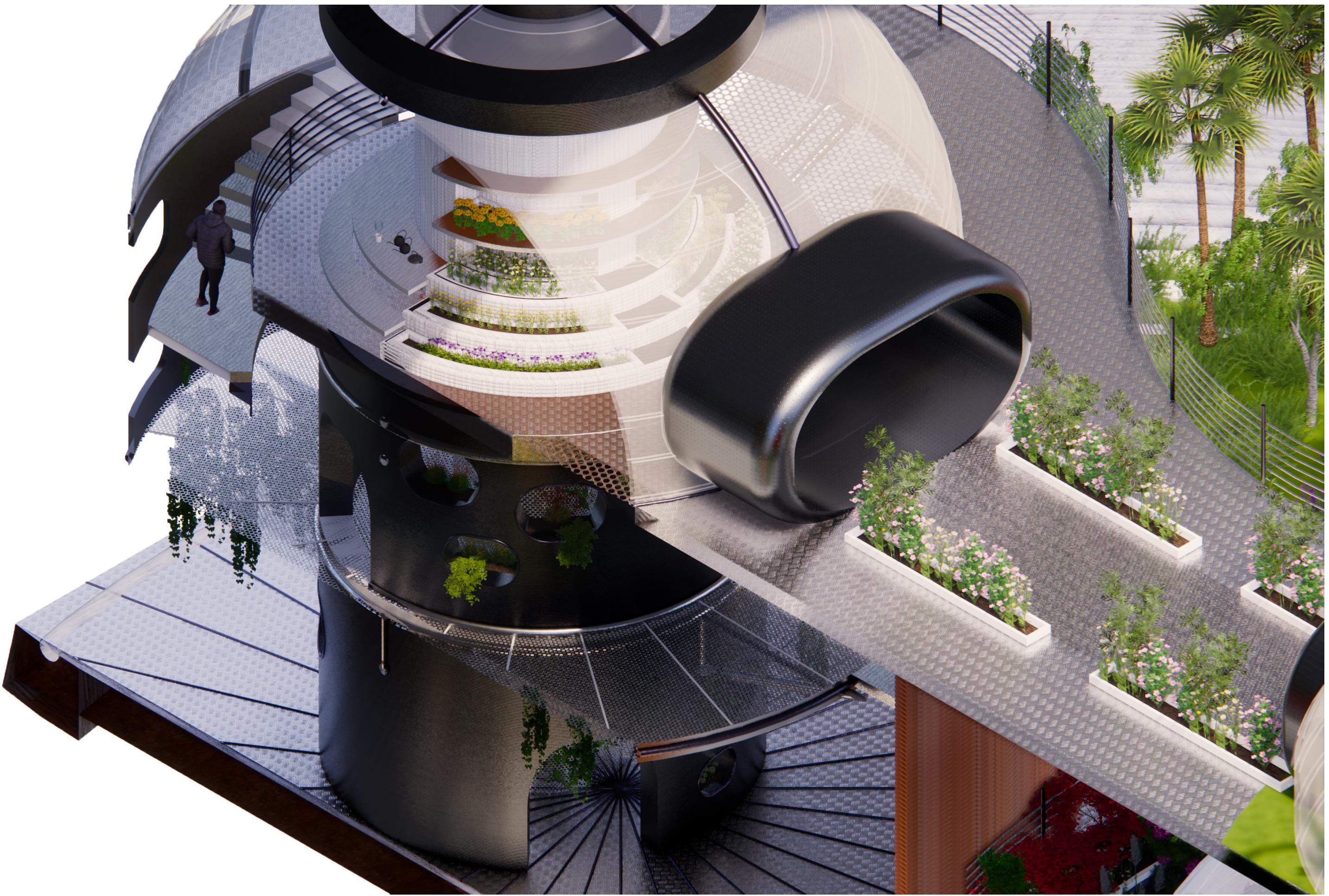
Ground Floor Plan



FALL 2022

Unfolded Section







## " Kitchens For a Living - An Interactive Community "

*47 Bridge St Co-Housing Project*

*Design Partner: Katie Kwok  
Professor Salvatore Tranchina*

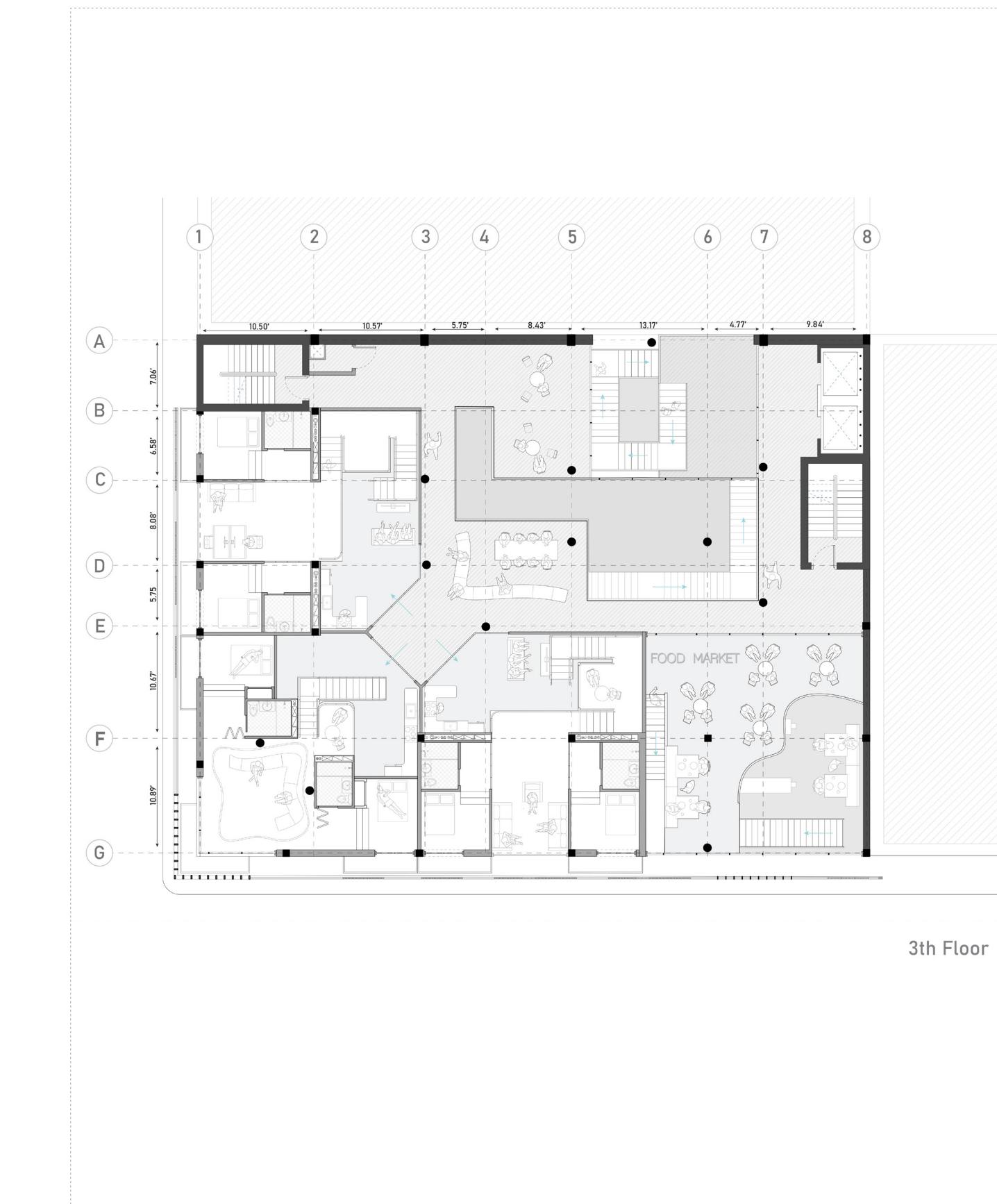
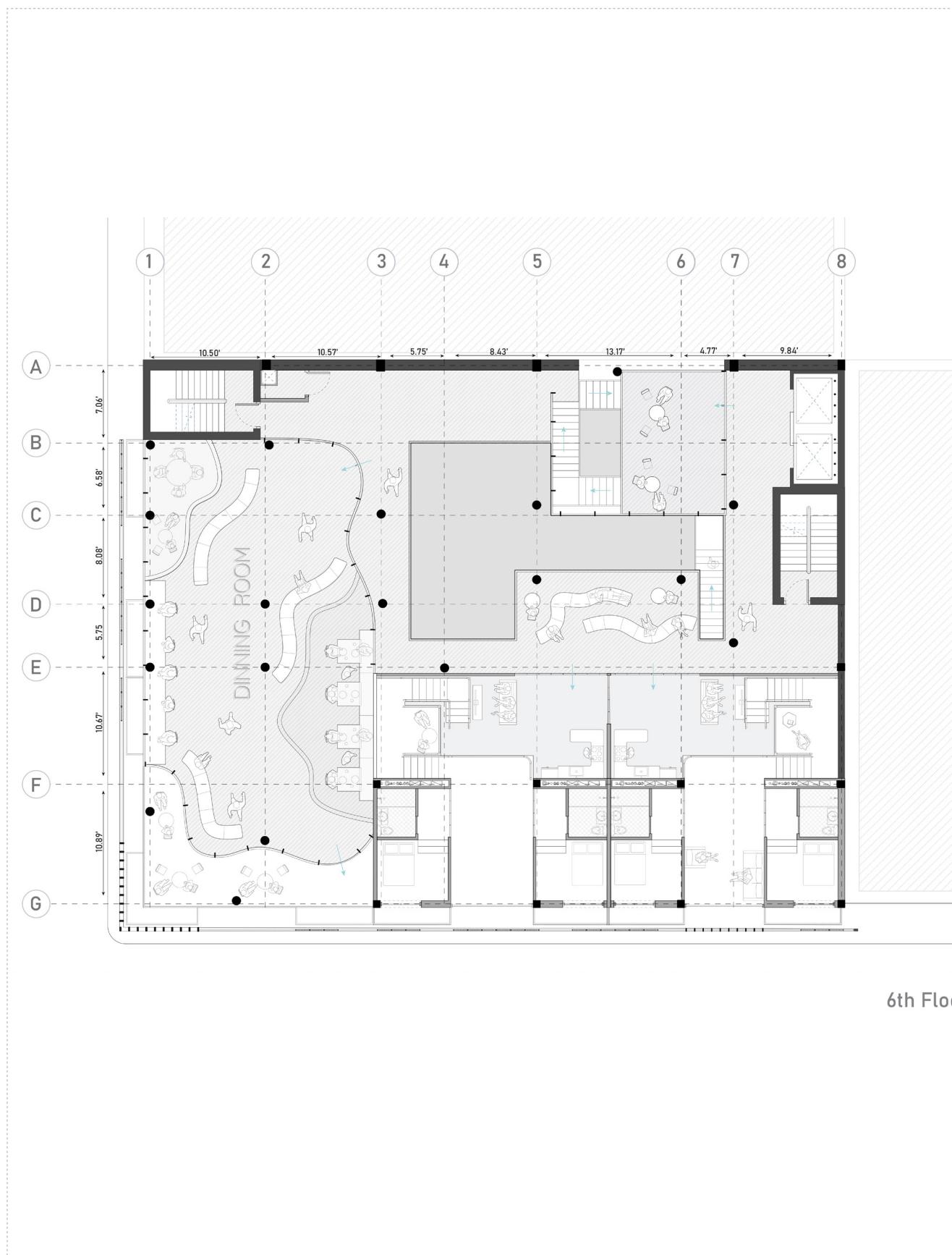
Located in Vinegar Hill, this co-housing project was designed specifically for individuals working in the culinary industry. The intent is to encourage relationships between the dwellers through merging and intertwining the spaces and circulation while respecting the privacy of the users. Beginning from the individual "cell", or bedroom, inhabitants can choose to connect to an adjacent workspace or living room to another person by opening folding walls. Each unit can combine kitchen spaces with their neighbors enforcing the idea that food brings people together.

For each unit to receive generous sunlight and to distribute a communal program, the clusters are stacked in an offset pattern. This condition creates the opportunity to manipulate circulation, redistribute lighting, and ultimately generate our two atrium. The overlapping staggering allows for light to travel to the lower regions of the building that would normally be shaded by the neighboring building.

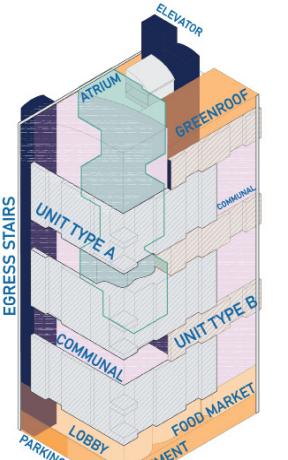
We treat the journey as the destination. The staircase sequence starts inside of the ground floor then circles around to the outdoor atrium, up the outdoor stairs, then back inside, and continues intertwining to transform the atrium into an engaging avenue with activities and scenic views.

## THIRD FLOOR

## THIRD FLOOR

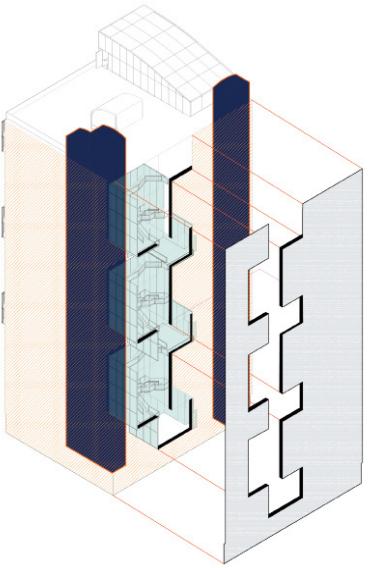


## A. Program Organization

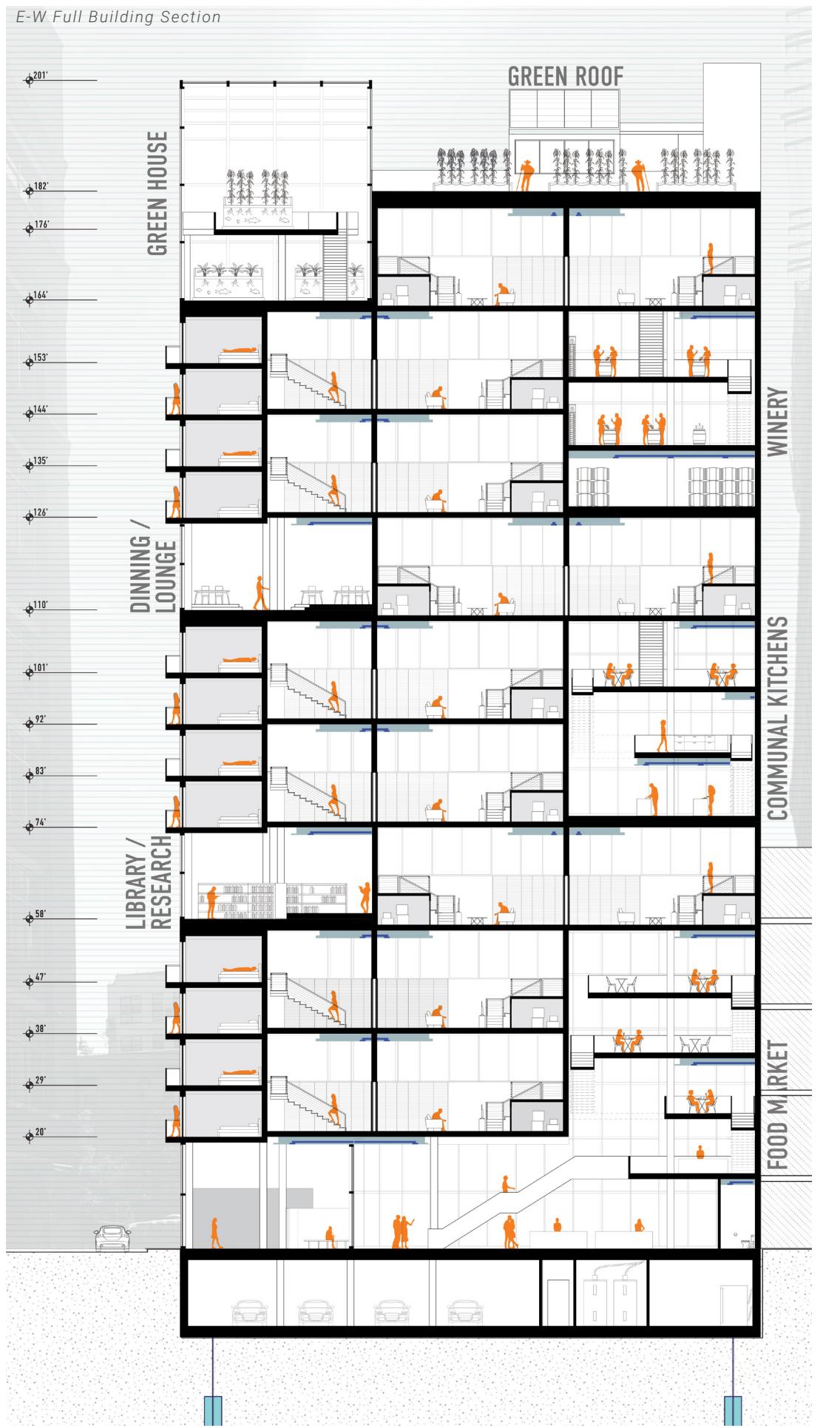
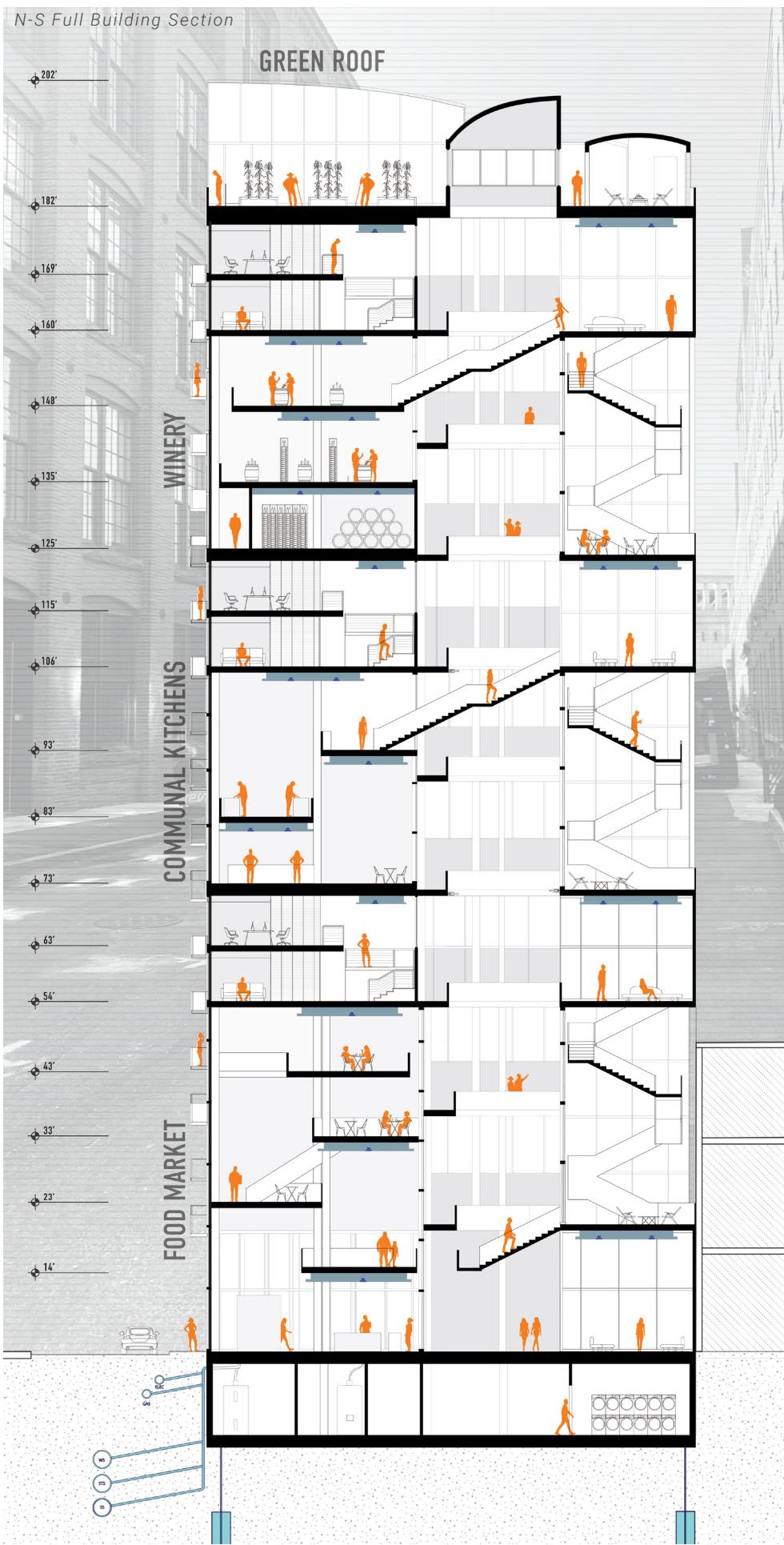
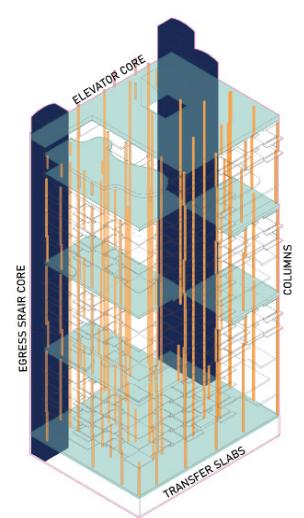


FALL 2020

## B. Circulation Cores



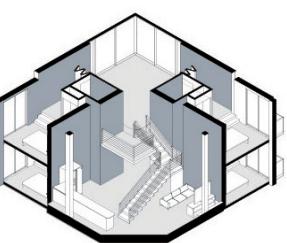
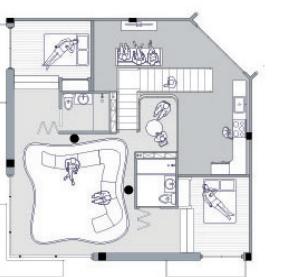
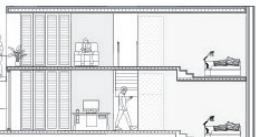
## C. Structural Systems



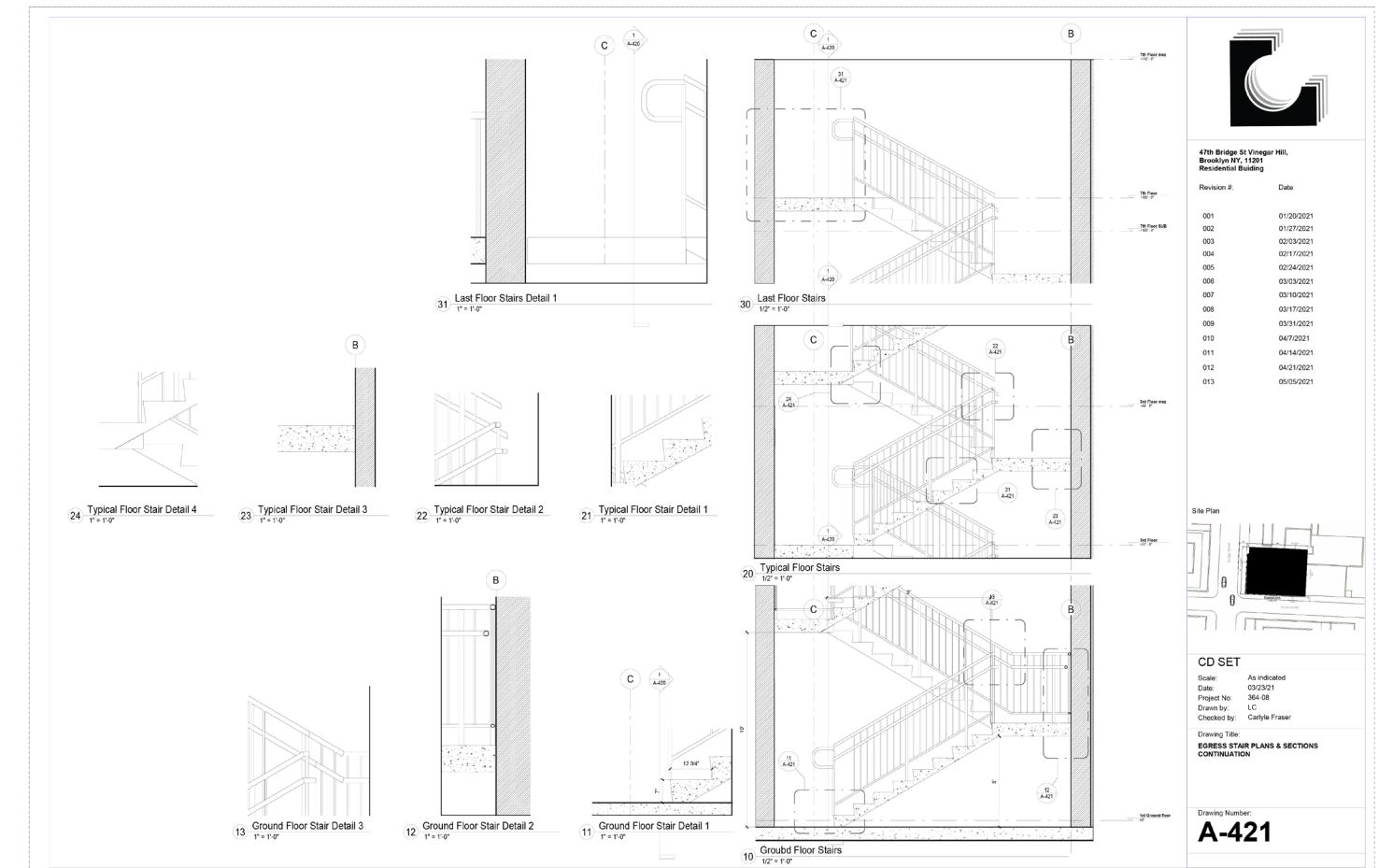
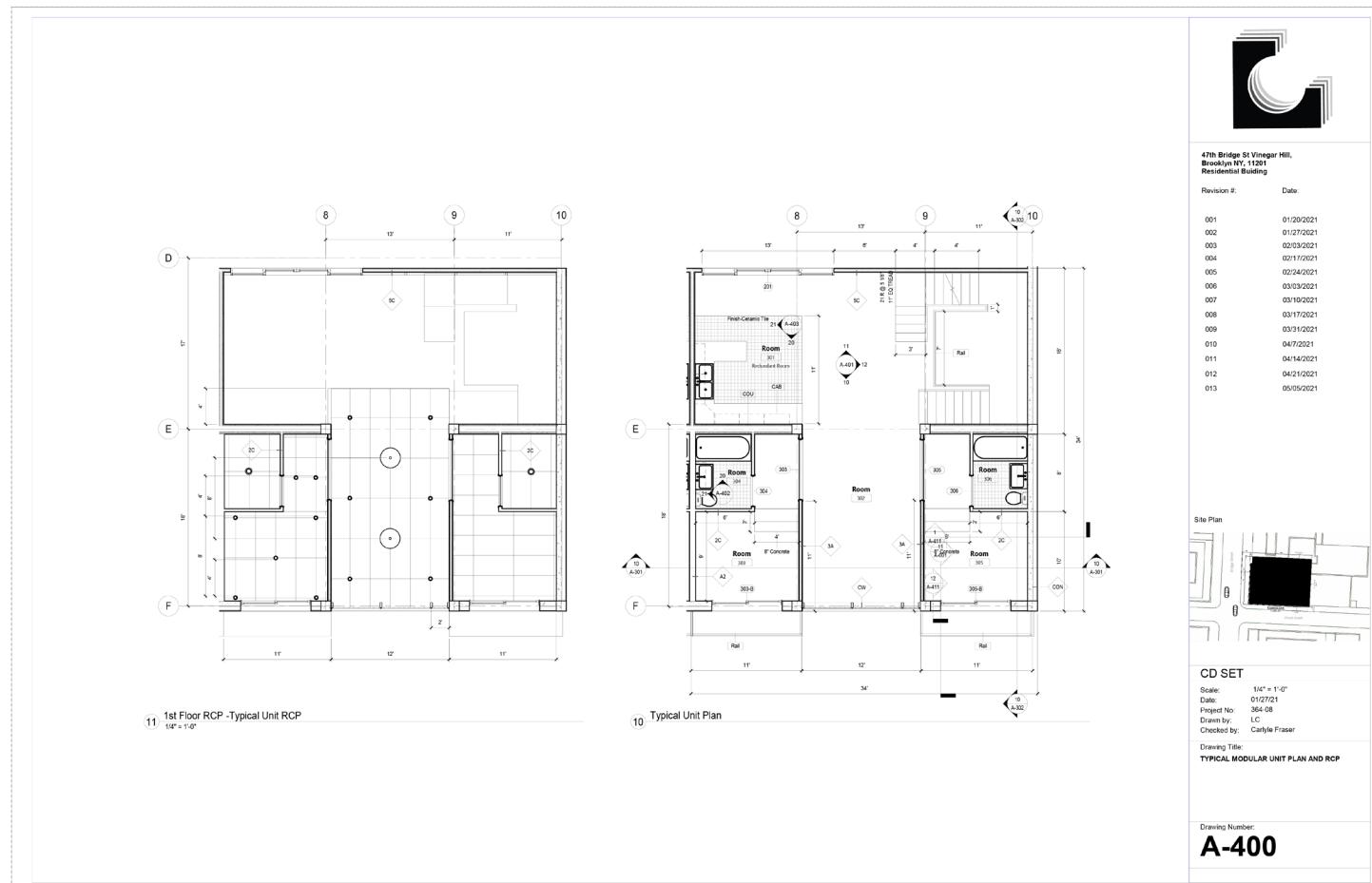
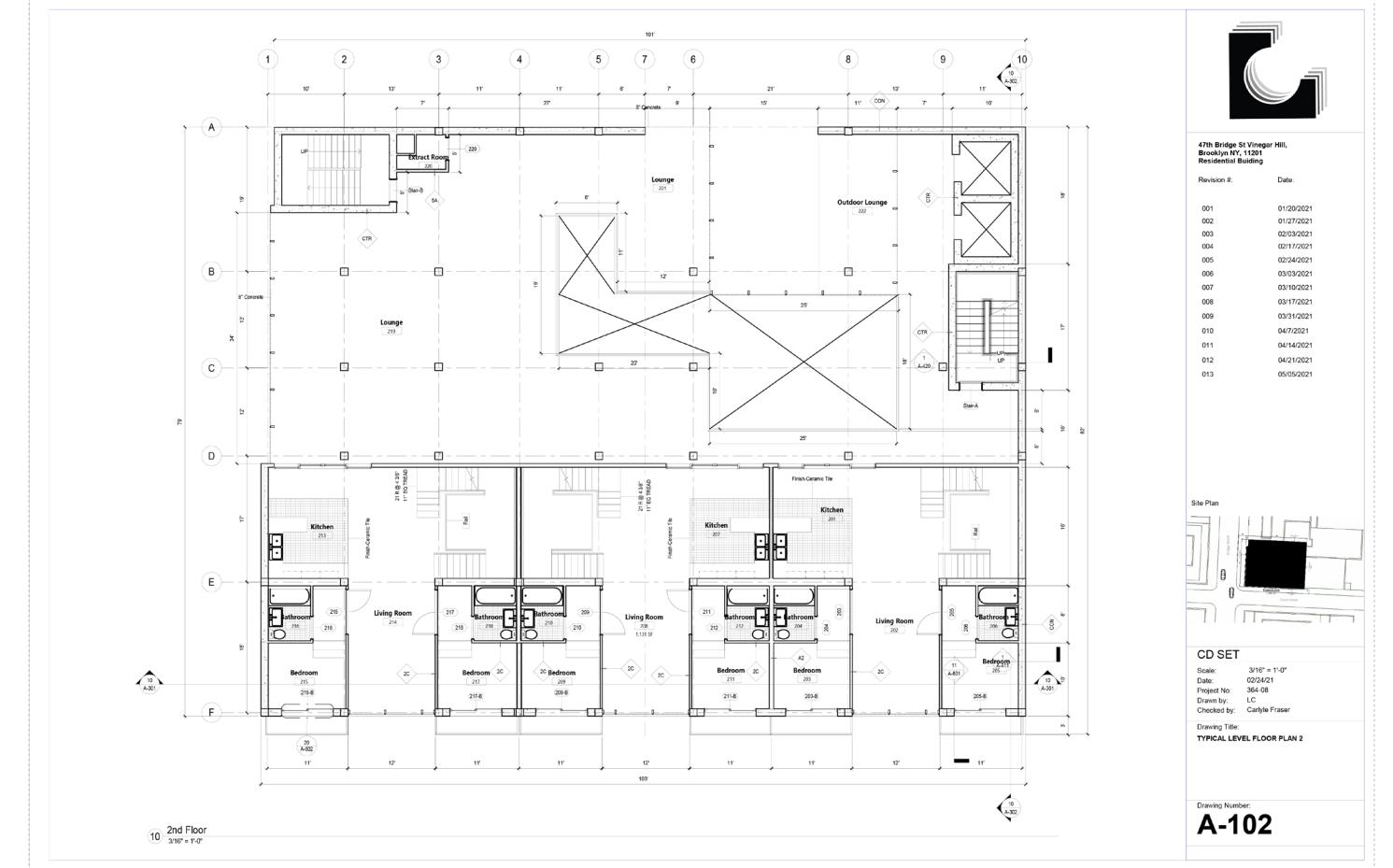
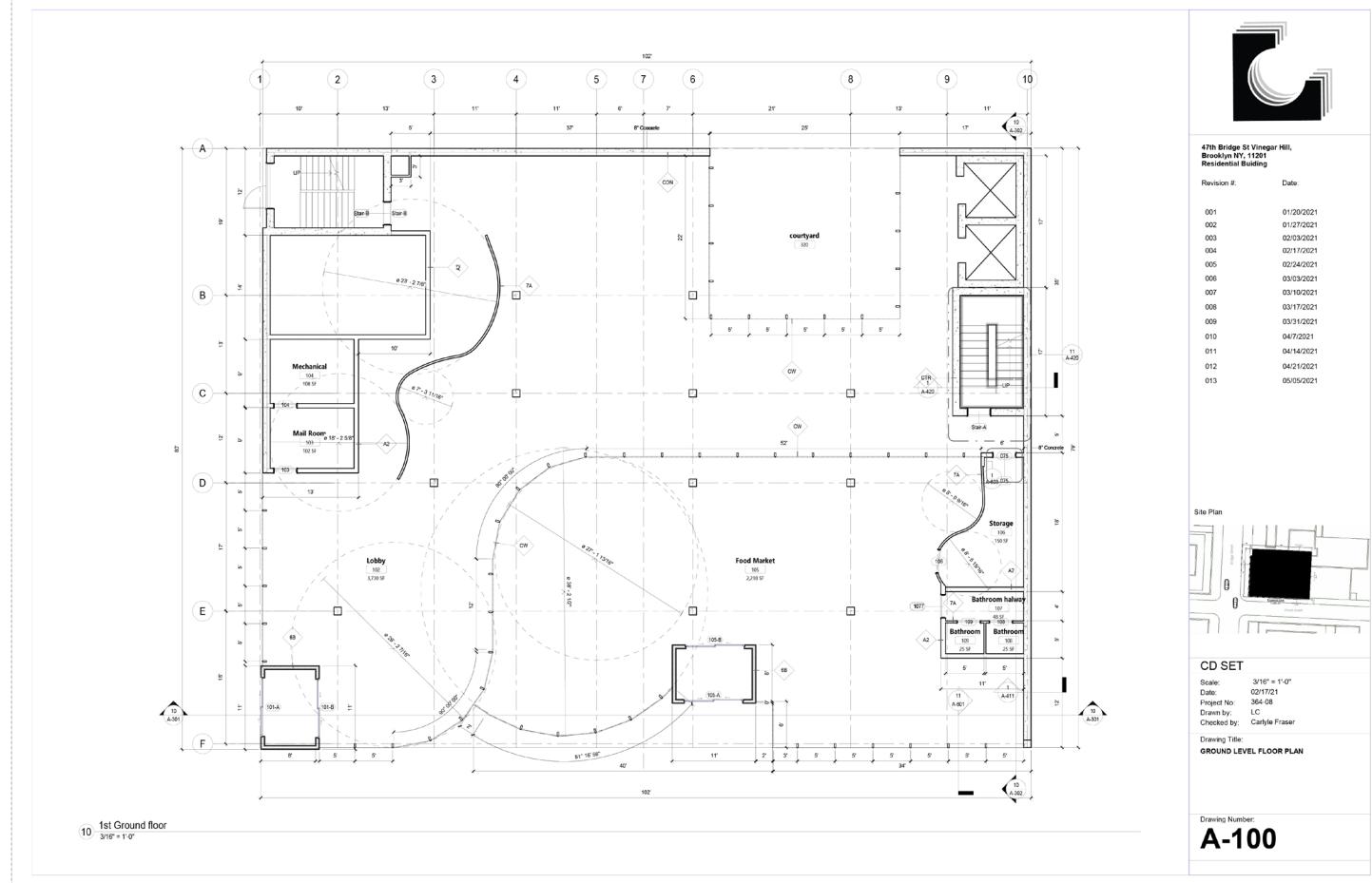
## UNIT TYPE A



## UNIT TYPE B



FALL 2020

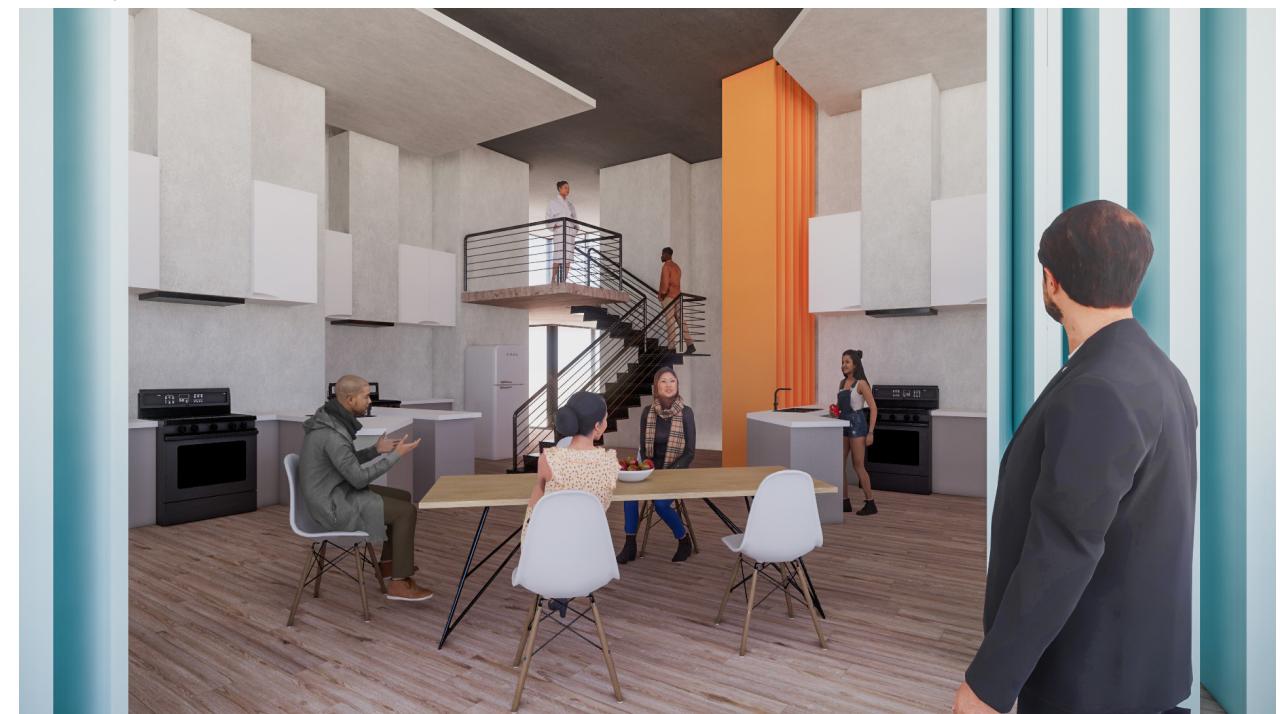


FALL 2020

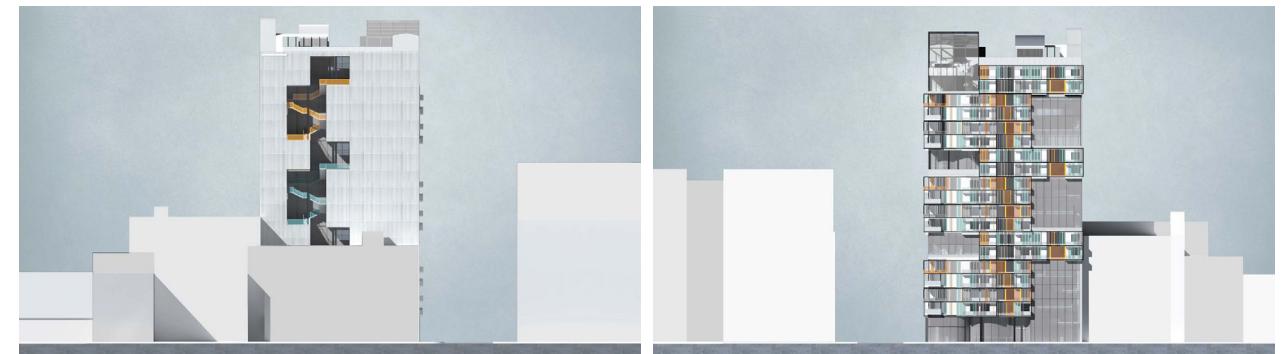


Outdoor Atrium + Circulation Core

## Indoor Open Kitchens

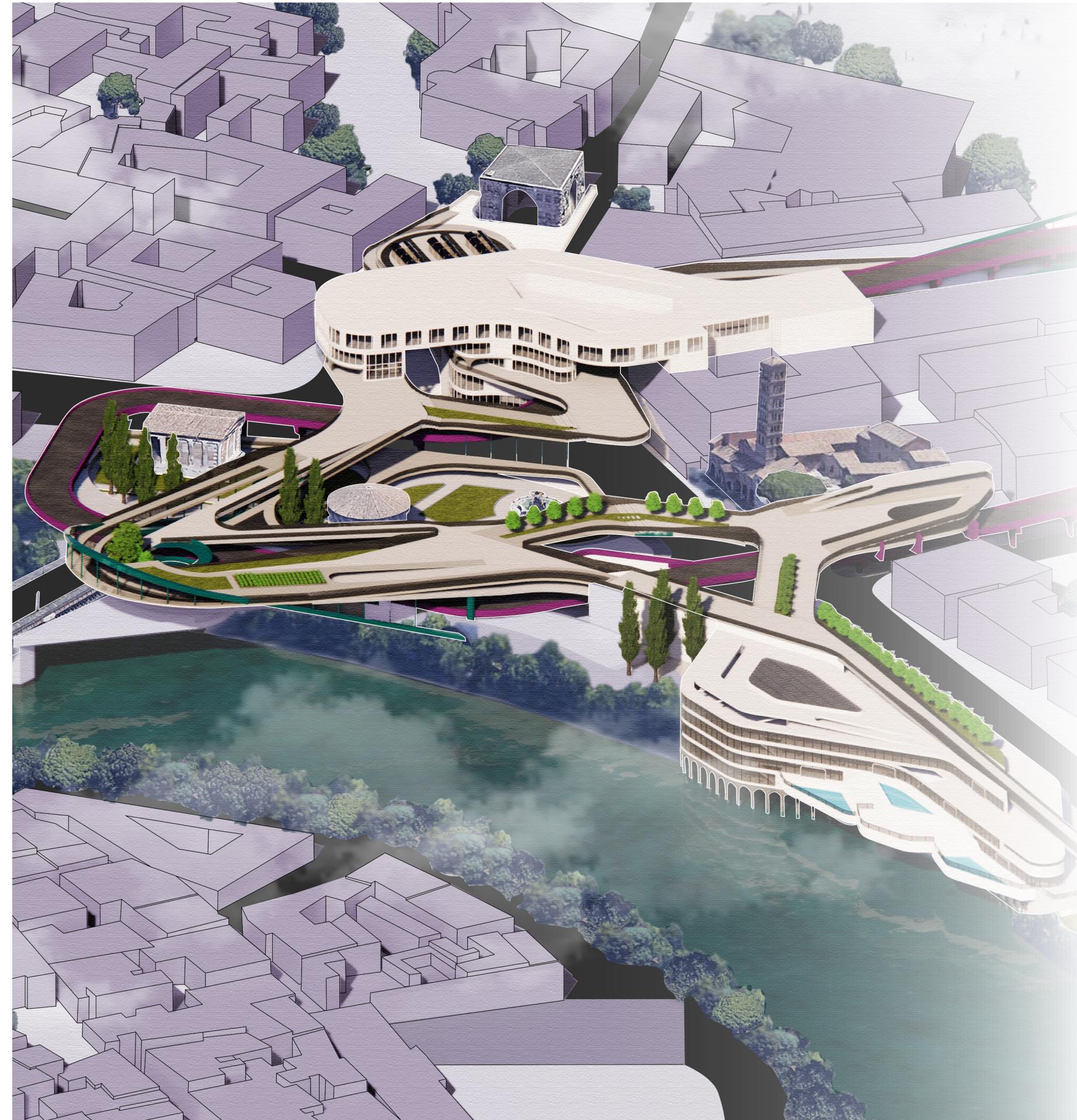


North Elevation



South Elevation





## "Delirium Rome"

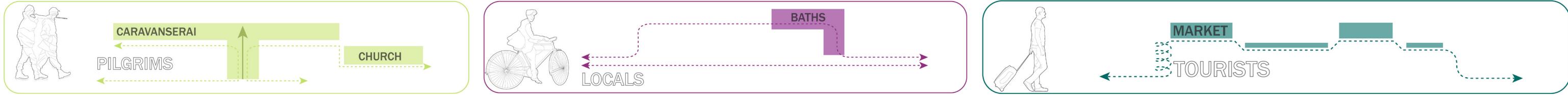
*Foro Boario, Rome, Italy*

Design Partner: Mariana Bravo Rivera  
Professor Beth O'Neill

Located on the Foro Boario, "Delirium Rome" proposes an additional historical layer that prioritizes the movement of pedestrians under a visually driven experience. By creating a new ground and city edge, the primary layers of Rome (History, Manufacturing, and Tourism) are merged into one, connecting all elements of the forum by introducing new boundaries. Starting from the edge of the Tiber river and spreading towards the Circus Maximus and the Arch of Janus, this proposal branches out on an elevated platform with multiple access points, offering an alternative that allows for continuous circulation over the highly congested site. The targeted users are divided into three groups based on the different levels of privacy to be: Tourists, Locals, and Pilgrims.

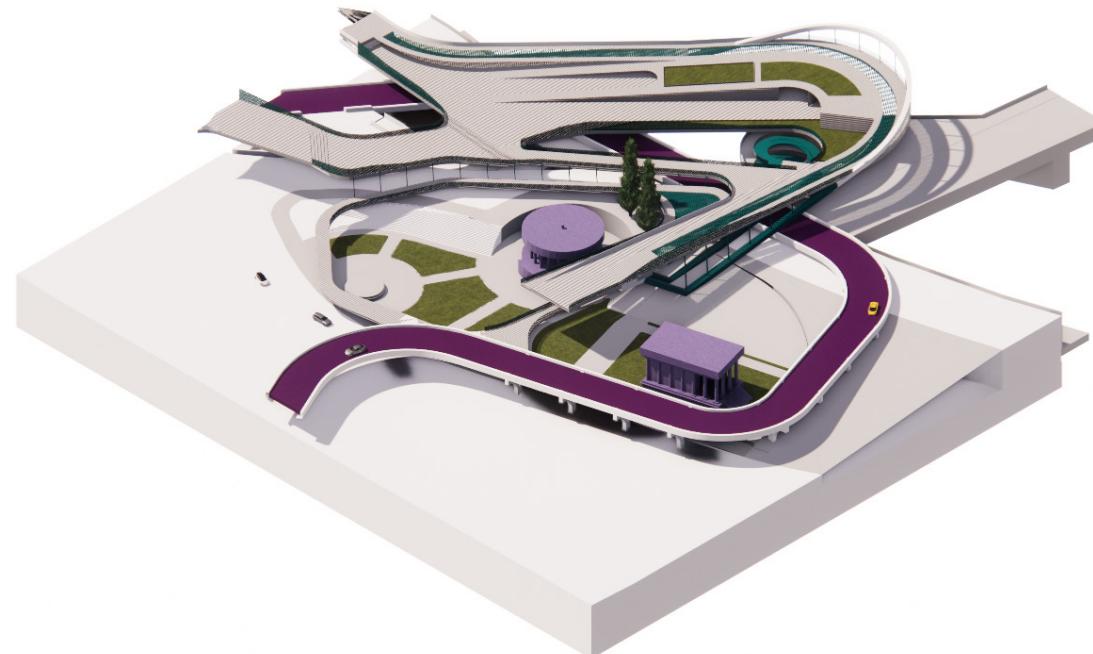
The market areas spread out throughout the entire platform, representing the multiple manufacturing industries of Italy, which allow for interaction between the different user groups. The bathhouse by the Tiber redefines the river edge and brings back the historical essence of ancient bathhouses. Located in the center of the platform next to Santa Maria in Cosmedin, is the Caravanserai. This building is intersected by a race track that covers most of the area of the platform. The race track serves as a binding element that creates a new form of interaction for the occupants with the site and with each other, enhancing the importance of the experience of the web that are the layers of Rome.

## Program To User Distribution

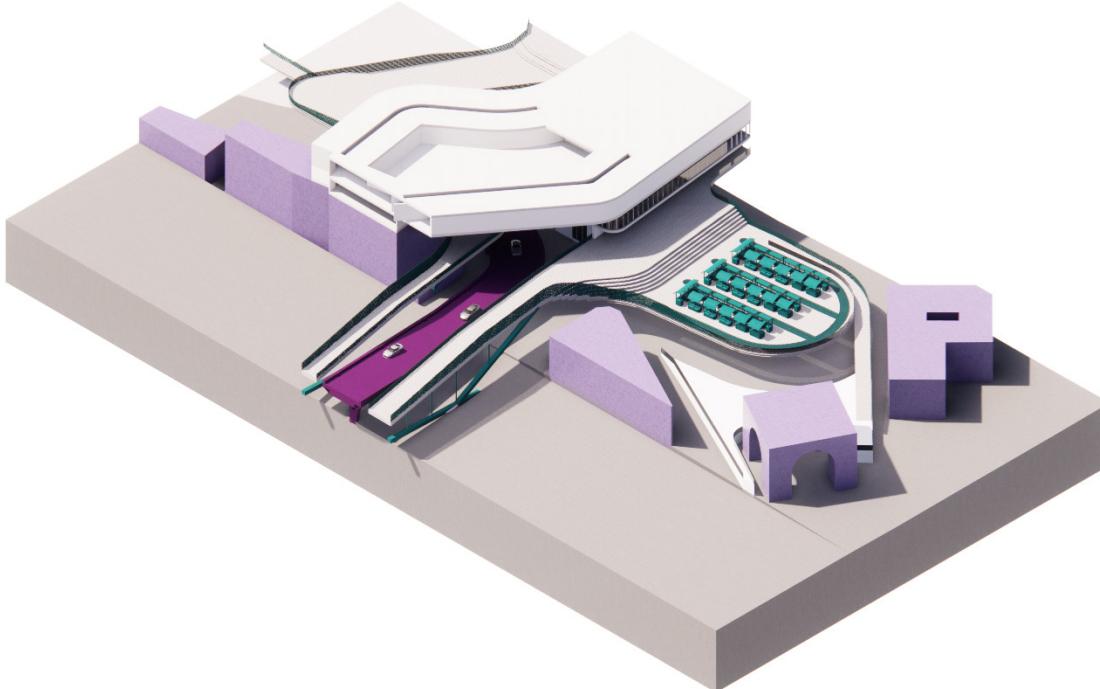


Site Plan





Foro Boarium + Track + Walkway

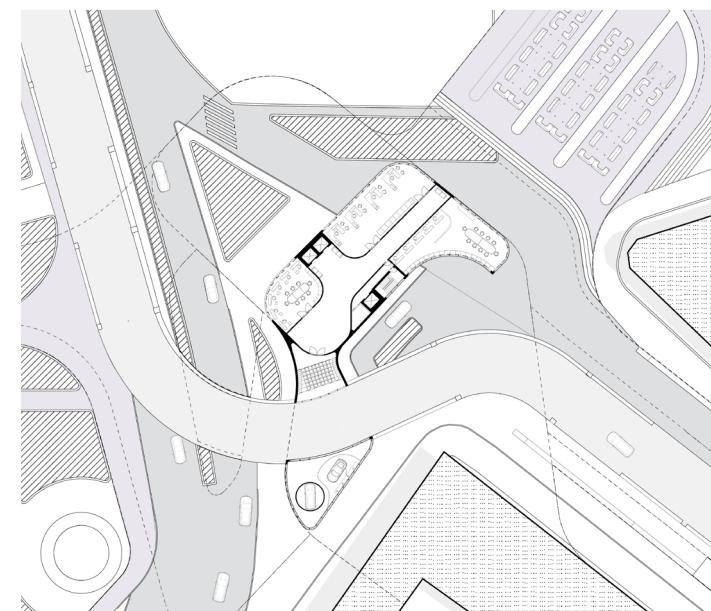


Market + Track + Caravanserai

Caravanserai + Track + Forum Boario Street Perspective



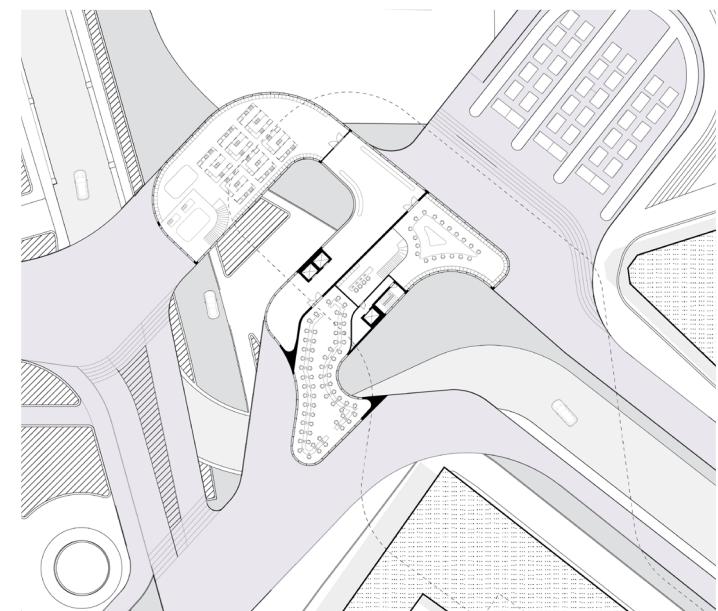
Caravanserai Second Floor Plan



Market core + Caravanserai + Track Section



Caravanserai Fourth Floor Plan





## "Bioma"

*Argentina Wetlands, Paraná River, Rosario*

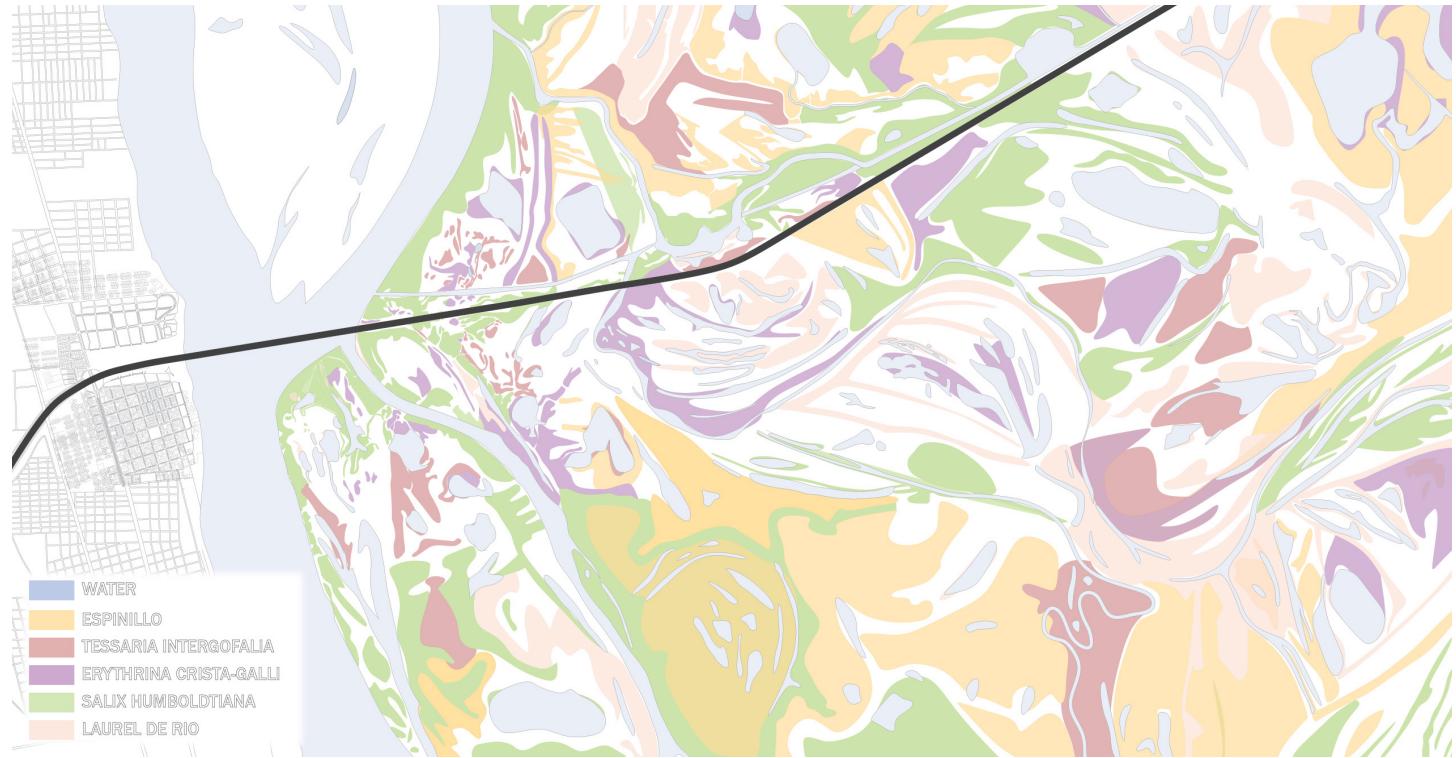
Professor Gonzalo Carabajo

Professor Guillermo Banchini

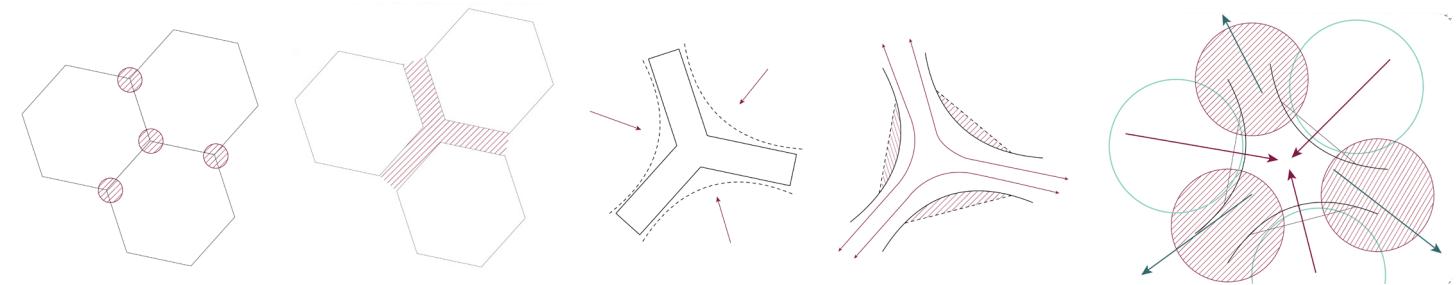
Located in the Delta of the Paraná River, in the Province Santa Fe, Argentina. This project is a Research and Science Center designed to study the conservation and protection of the freshwater wetlands and all of the species that inhabit the area. The main design strategy consists of the introduction of ecosystems into the buildings. Three buildings represent each habitat additional from their main program. Water, Earth, and Agriculture have a push and pull relationship as a result of the tension of the ecosystems "Invading" the buildings. As a consequence, the merging of interior and exterior spaces occurs.

The general program within the three buildings is divided based on the level of social exposure going from private (sleeping quarters), Semi-private (Research) to Public (exhibitions). The experience of the occupant is based on the transition from interior to exterior and ecosystem to ecosystem. Each building has a courtyard condition in which the ecosystem is inserted as an artificial environment which is reflected in comparison to the natural environment that is connected by the circulation through the buildings.

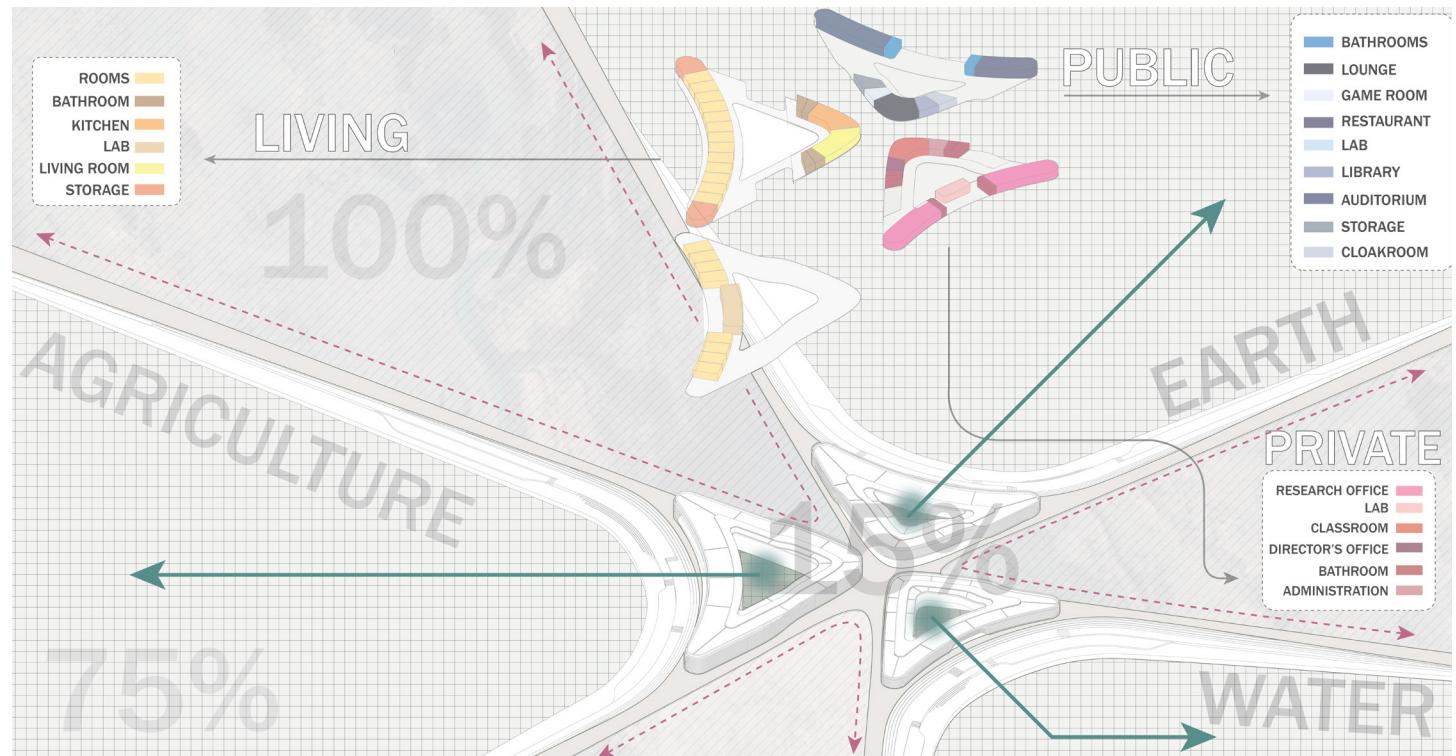
## Site Analysis

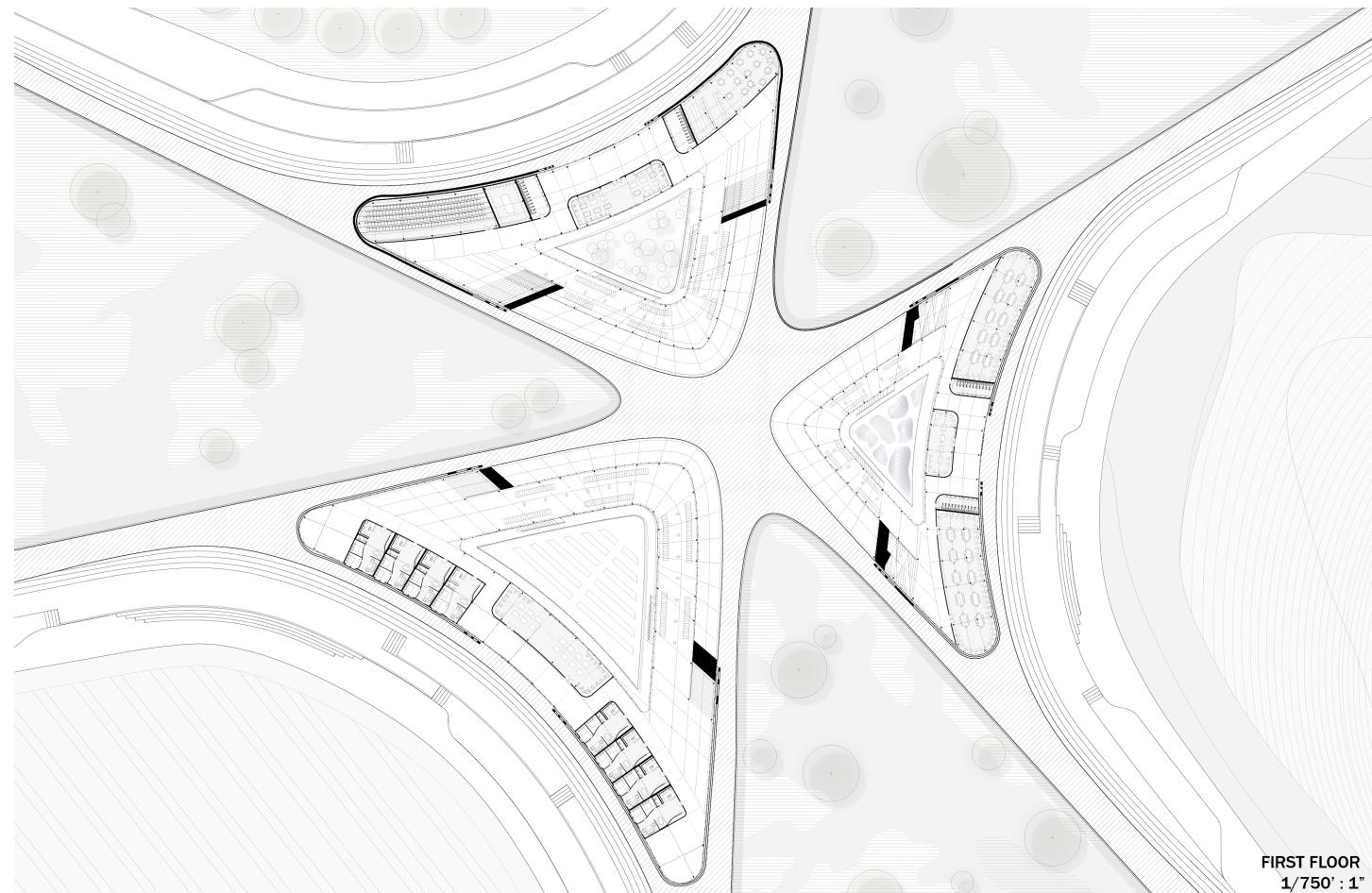


## Formal Concept

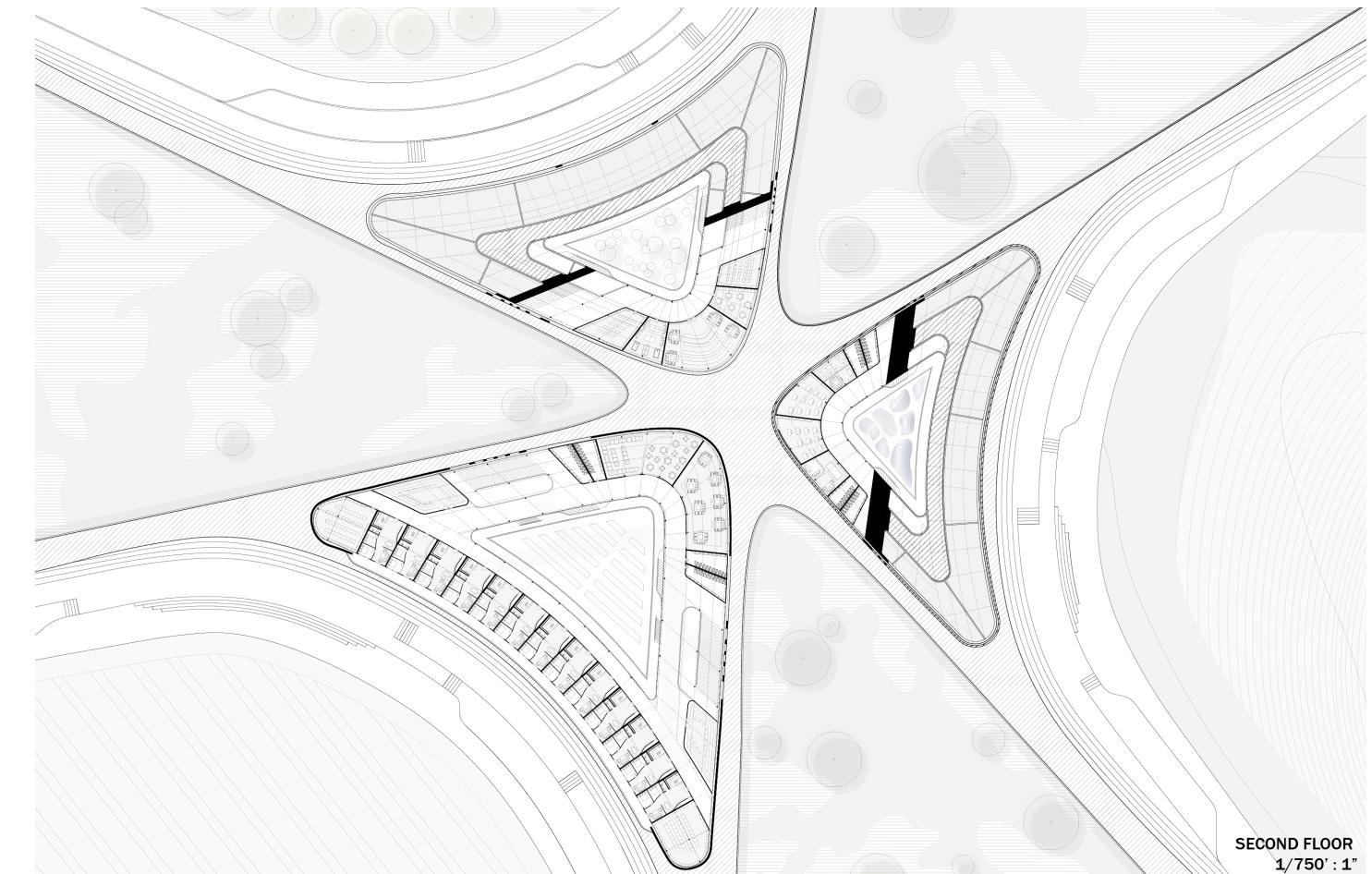


## Program Organization





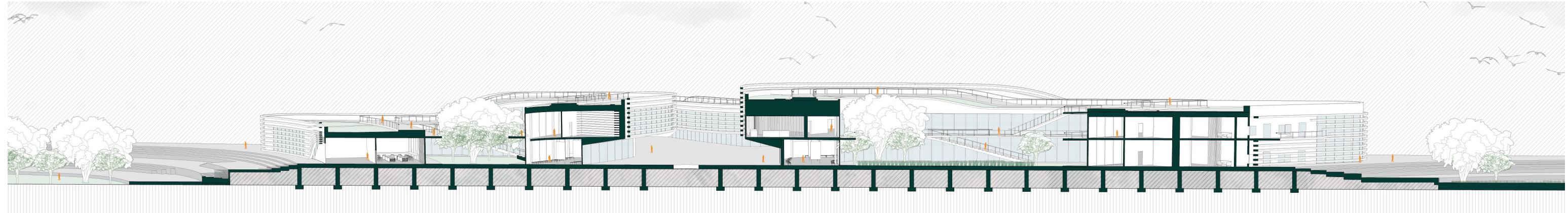
FIRST FLOOR  
1/750' : 1"



SECOND FLOOR  
1/750' : 1"

FALL 2021

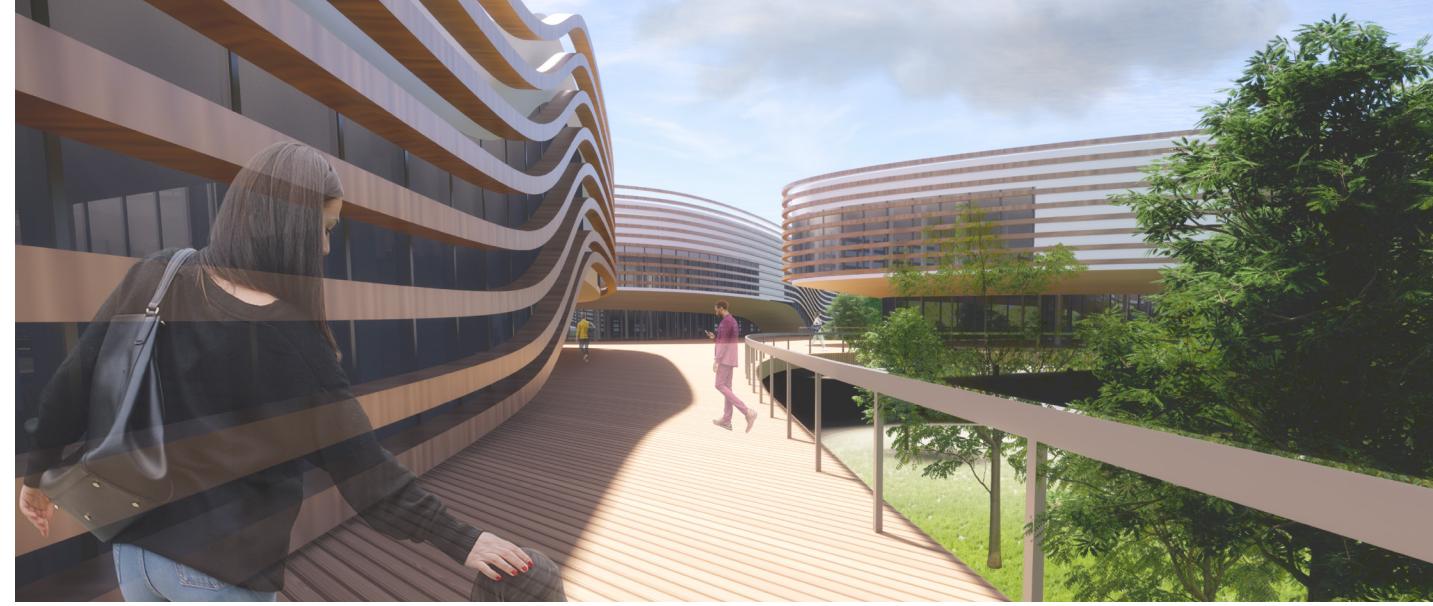
North-South Section



East Elevation



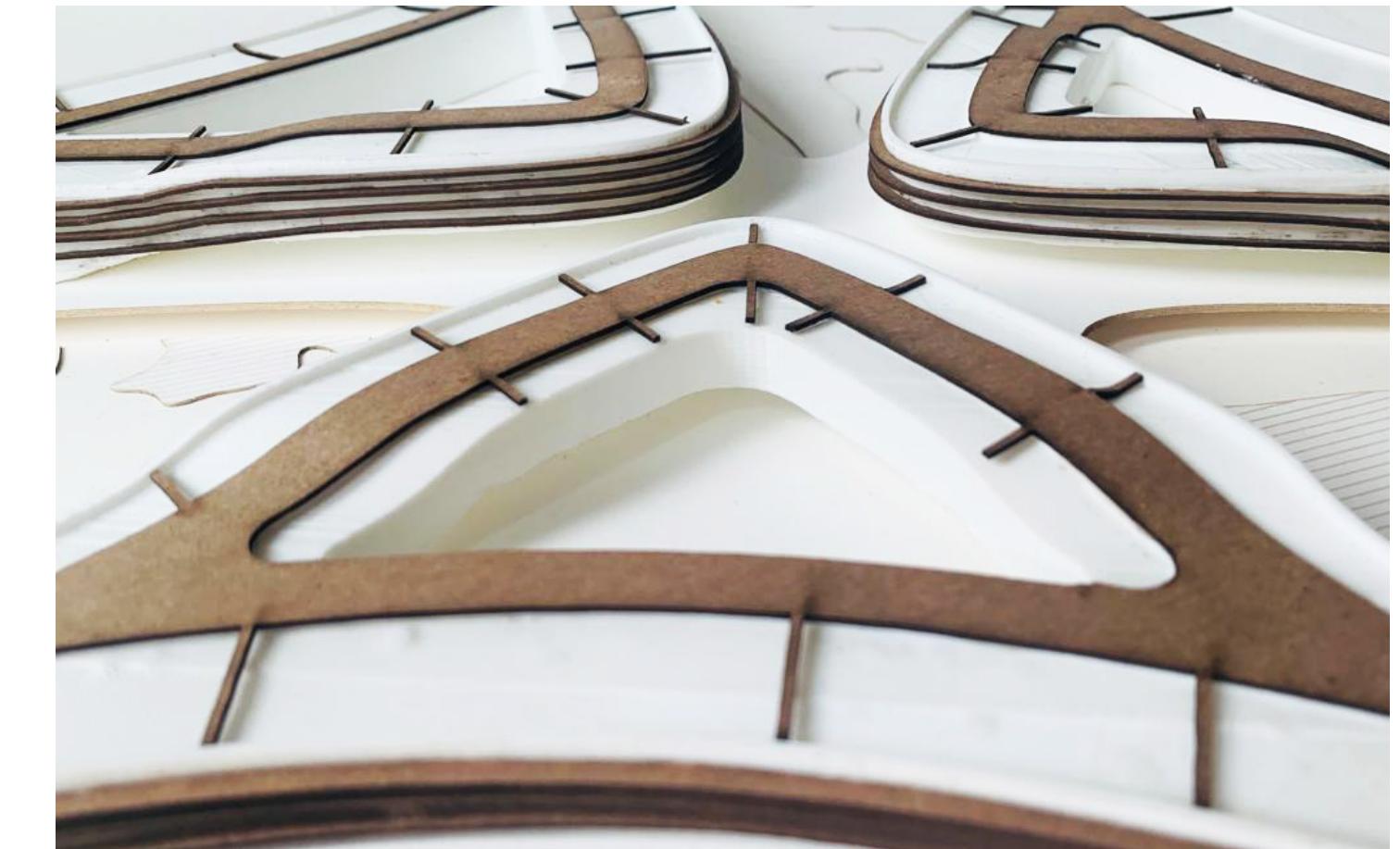
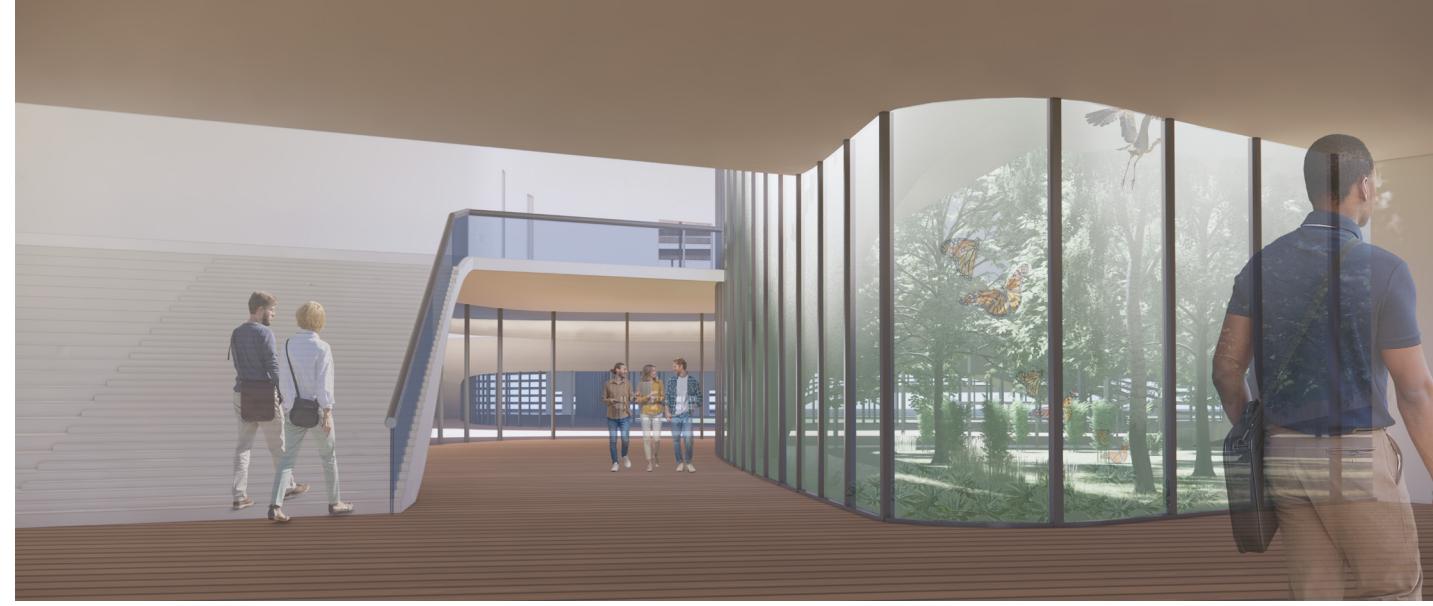
A. Exterior Building perspective



B. Interior Courtyard Simulated Water Ecosystem



C. Interior Hallway + Earth Simulated Ecosystem View



Physical Model Pictures



## "Sea Gardens: Multi Species Architecture"

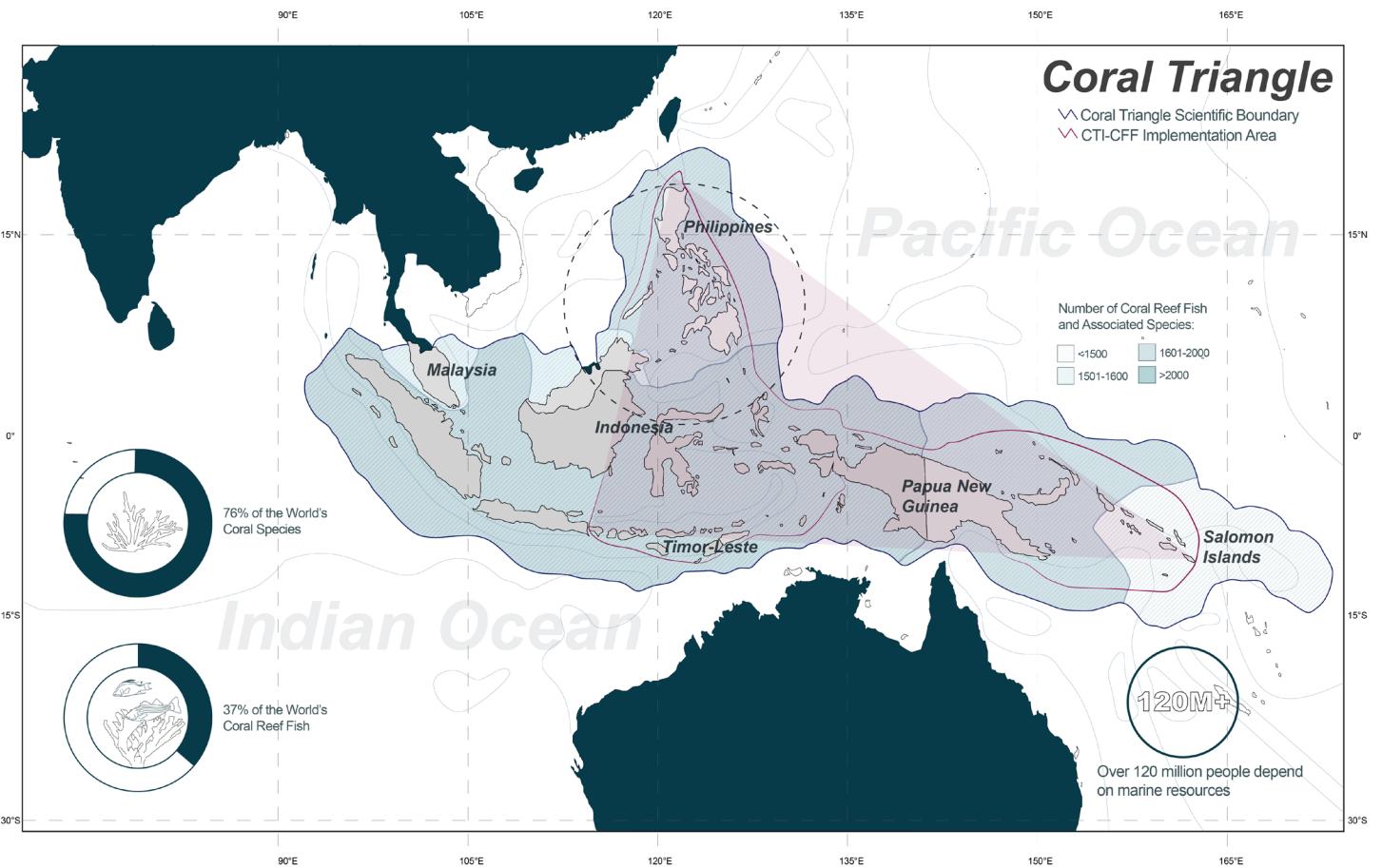
*Upcoming Thesis*

Design Partner: Louise Anteby

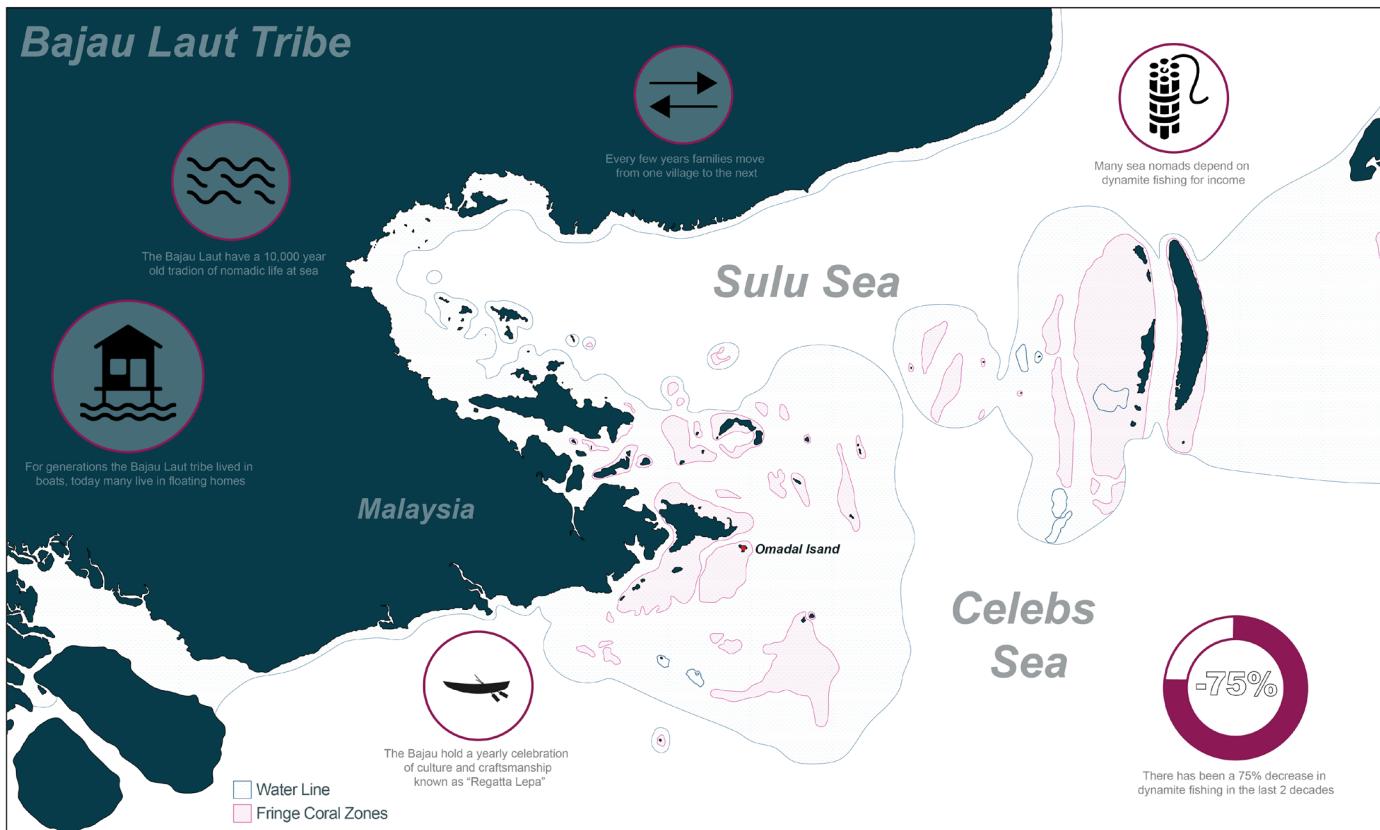
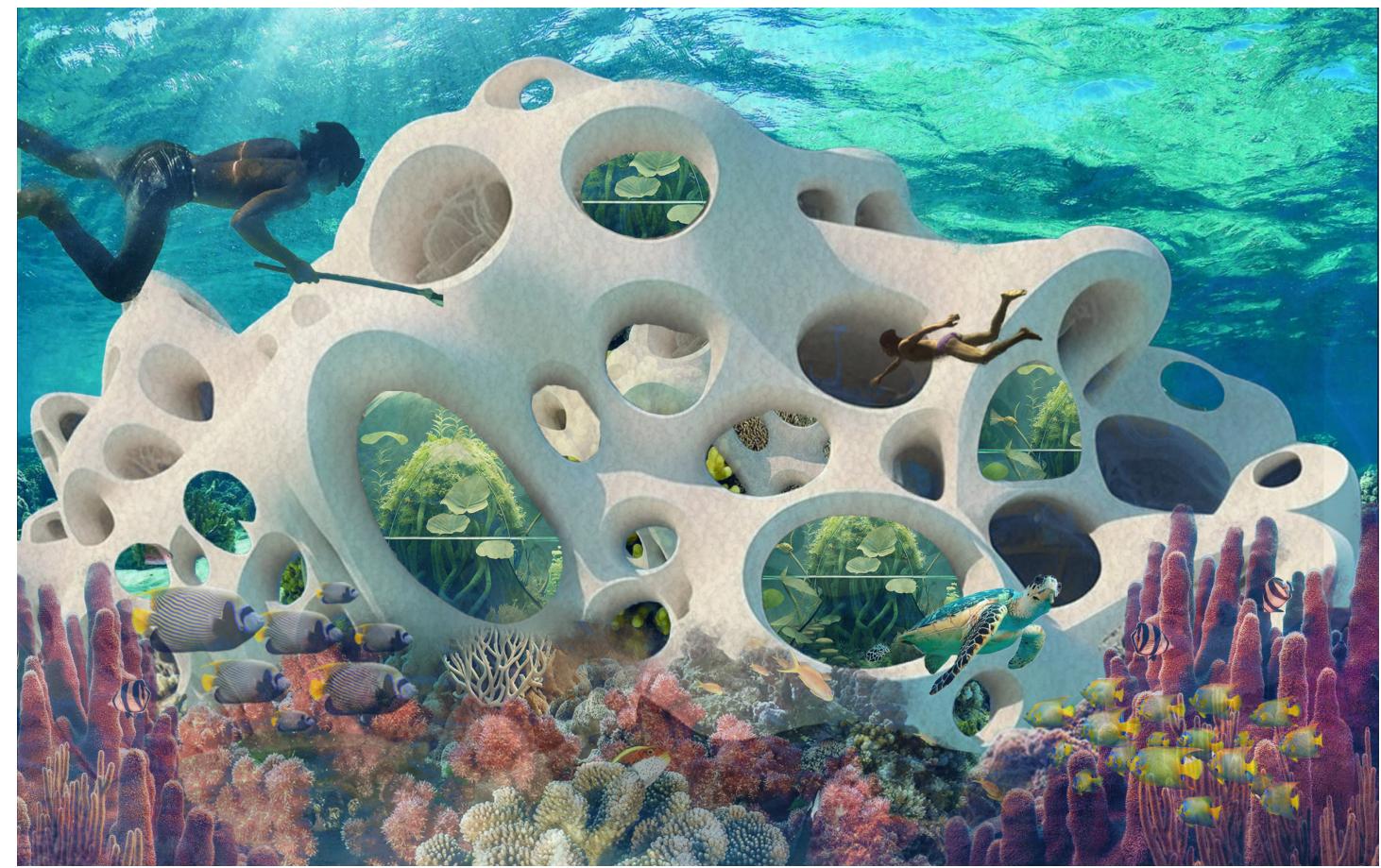
Professor Gonzalo Carabajo

Professor Eva Perez de Vega

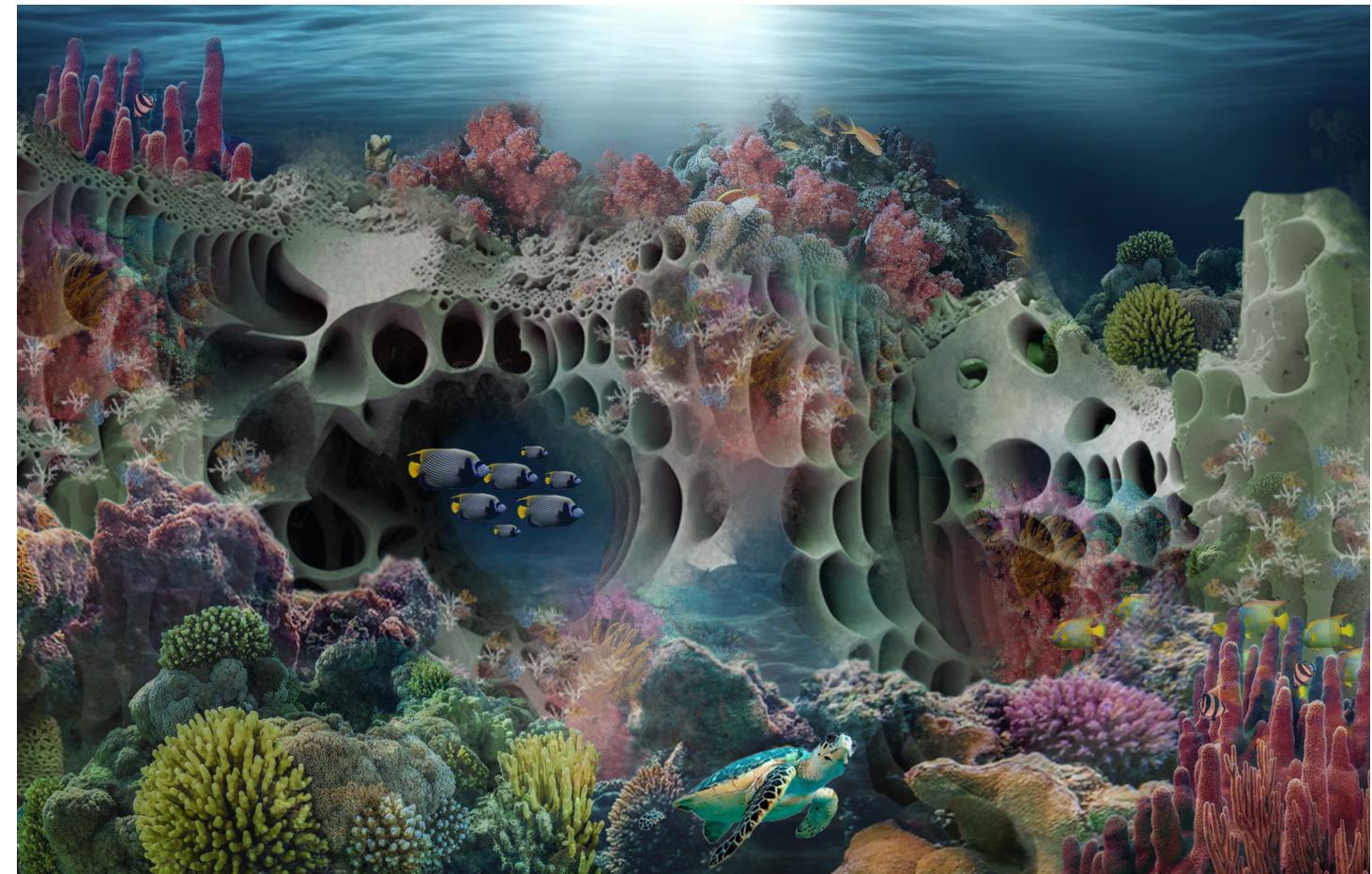
The gravity of climate change and its far-reaching consequences have become increasingly apparent, having a direct impact on oceanic ecosystems. Approximately 25% of all marine life depends on coral reefs, which makes them particularly vulnerable to the effects of climate change. The world's coral reefs are in grave danger of being extinct because of human activity, and without reaction to the issues at hand ninety percent of all corals will die by 2050. The health of marine ecosystems and the way of life in coastal communities are both greatly impacted by the loss of corals and the animals that depend on them. Apart from offering critical habitat for multiple species, corals serve as a natural barrier, preventing erosion and storm surges along coasts, and protecting humans and non-humans on dry land from great danger. Through the understanding of the life cycle of corals, the formation of coral reefs, and the integration of architectural intervention we believe it is possible to facilitate the living conditions of communities that are directly affected by the loss or deterioration of corals. Therefore, a modular additive system is being proposed in order to enable reef restoration by integrating architectural programs such as underwater farming, emergency shelter, and a trading market for production.



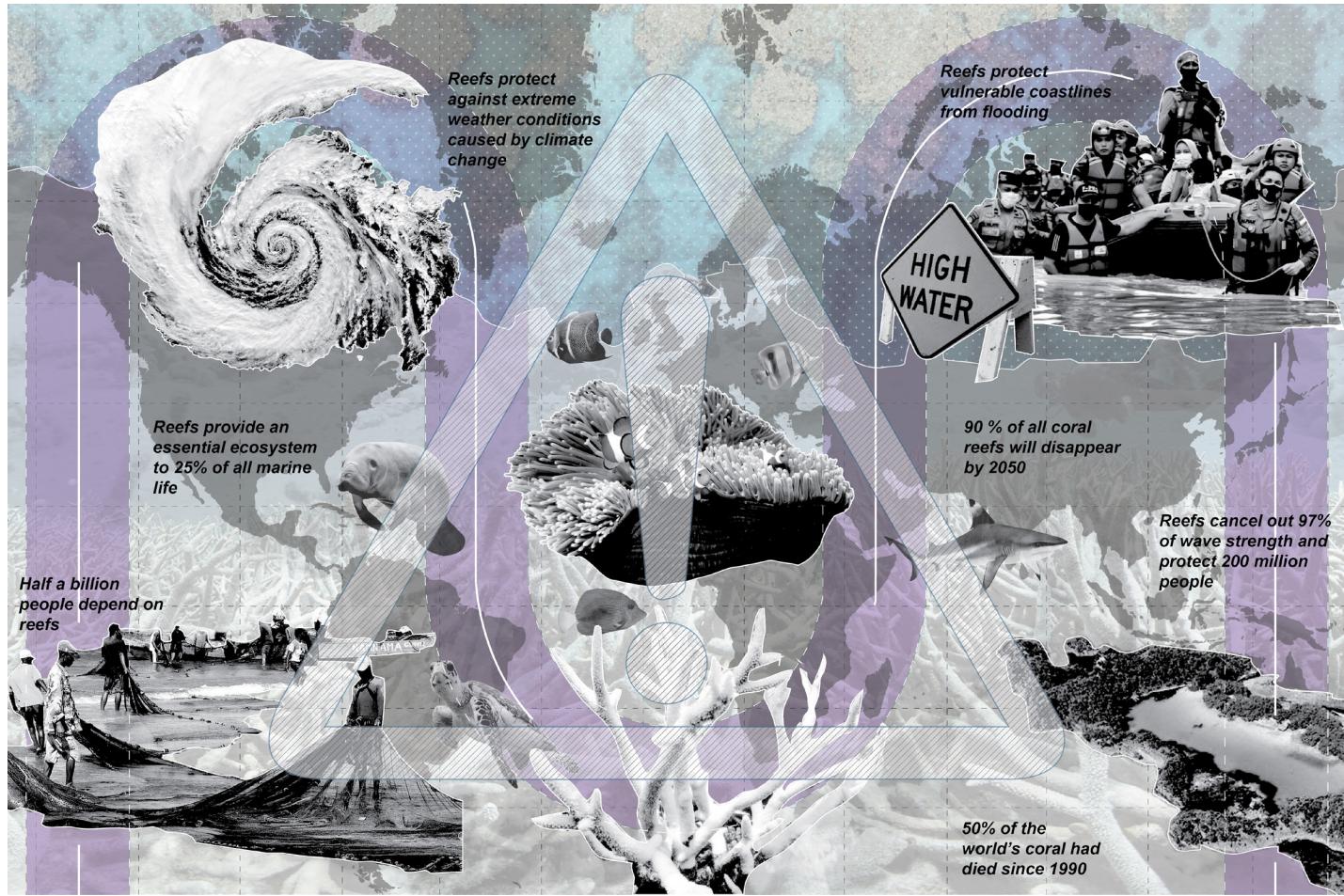
Project Stage I: Introduction to The Environment



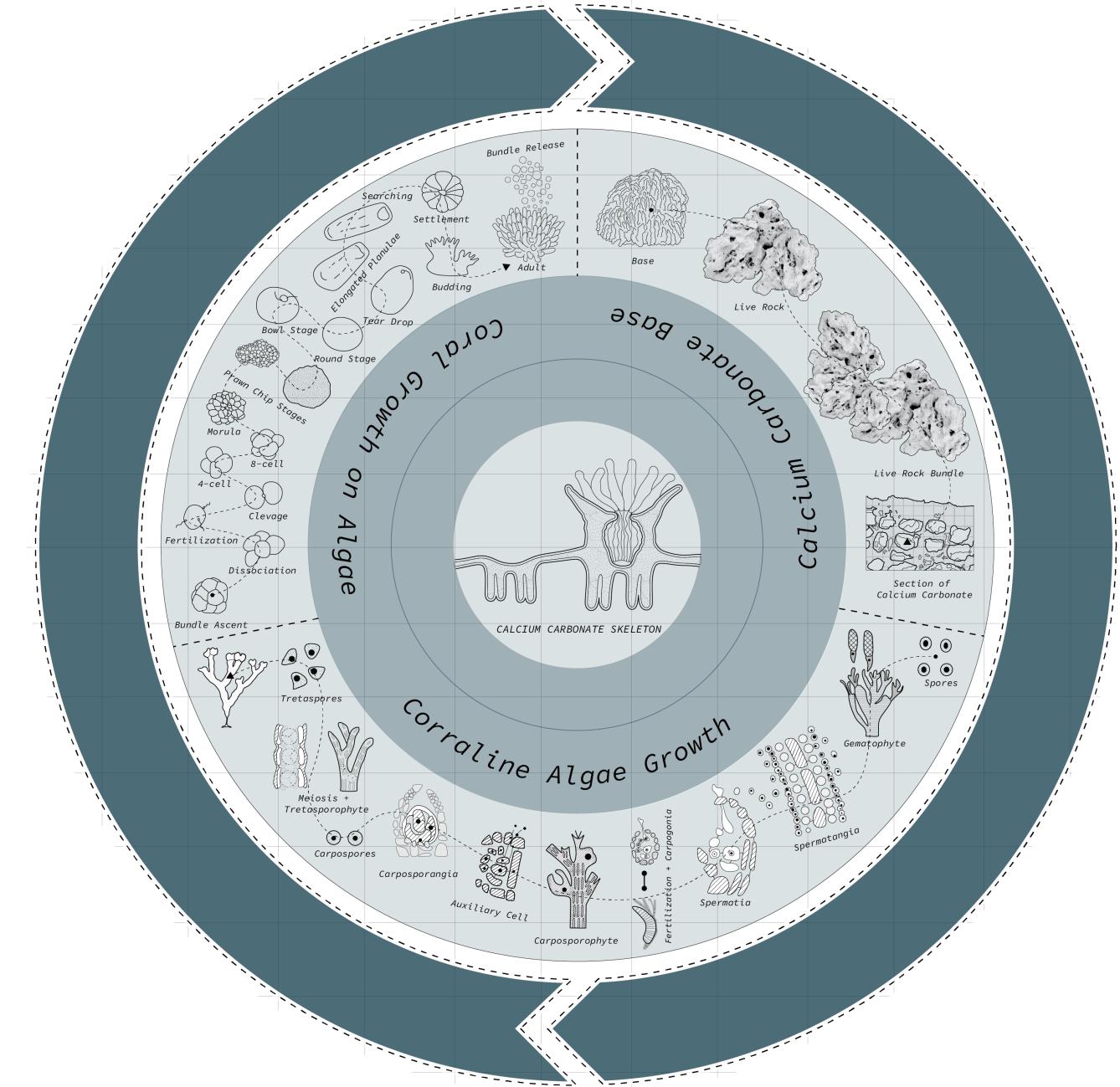
Project Stage IV: The Decay of Architecture



## Urgency

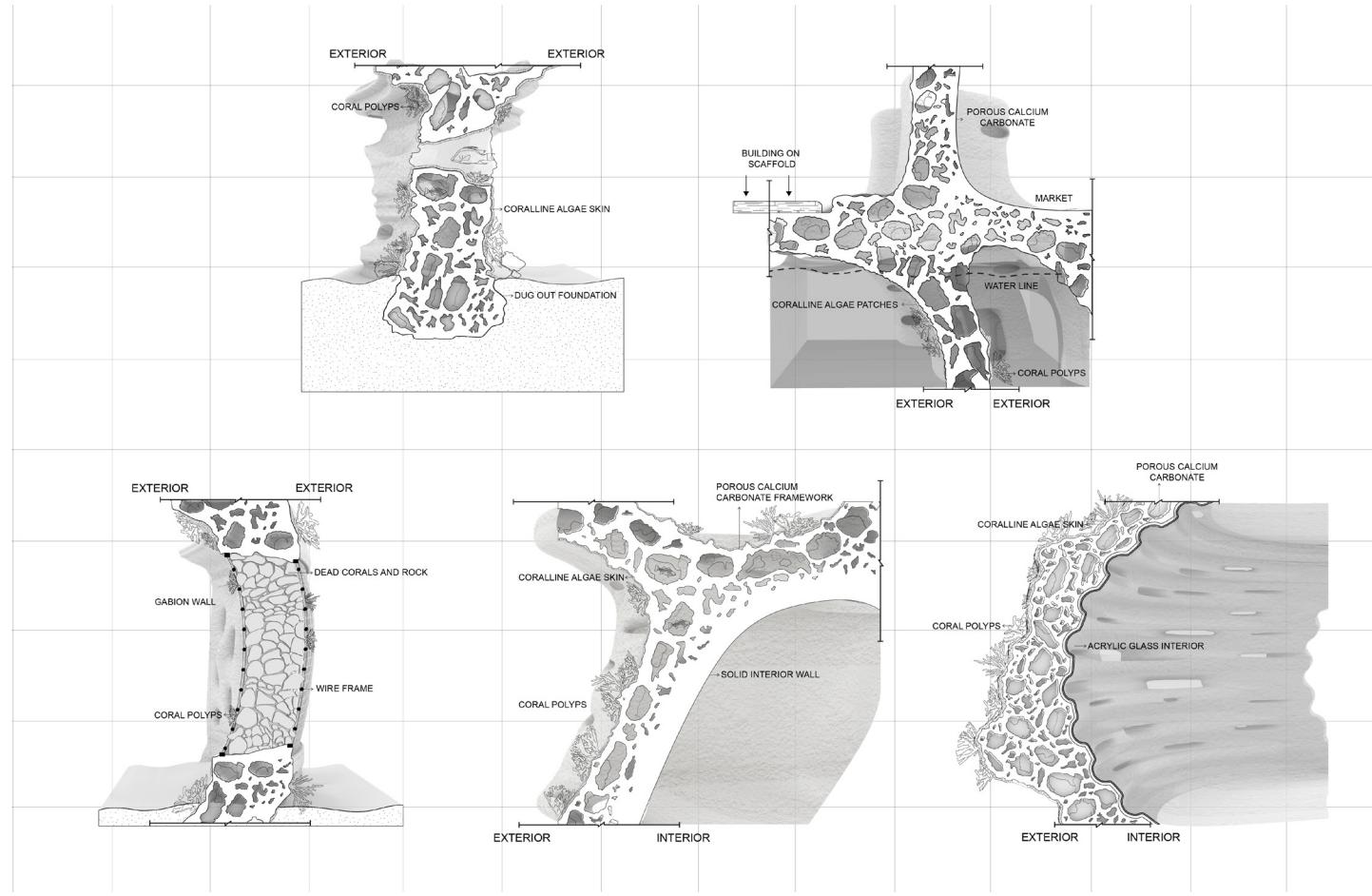


## Bajau Laut Tribe

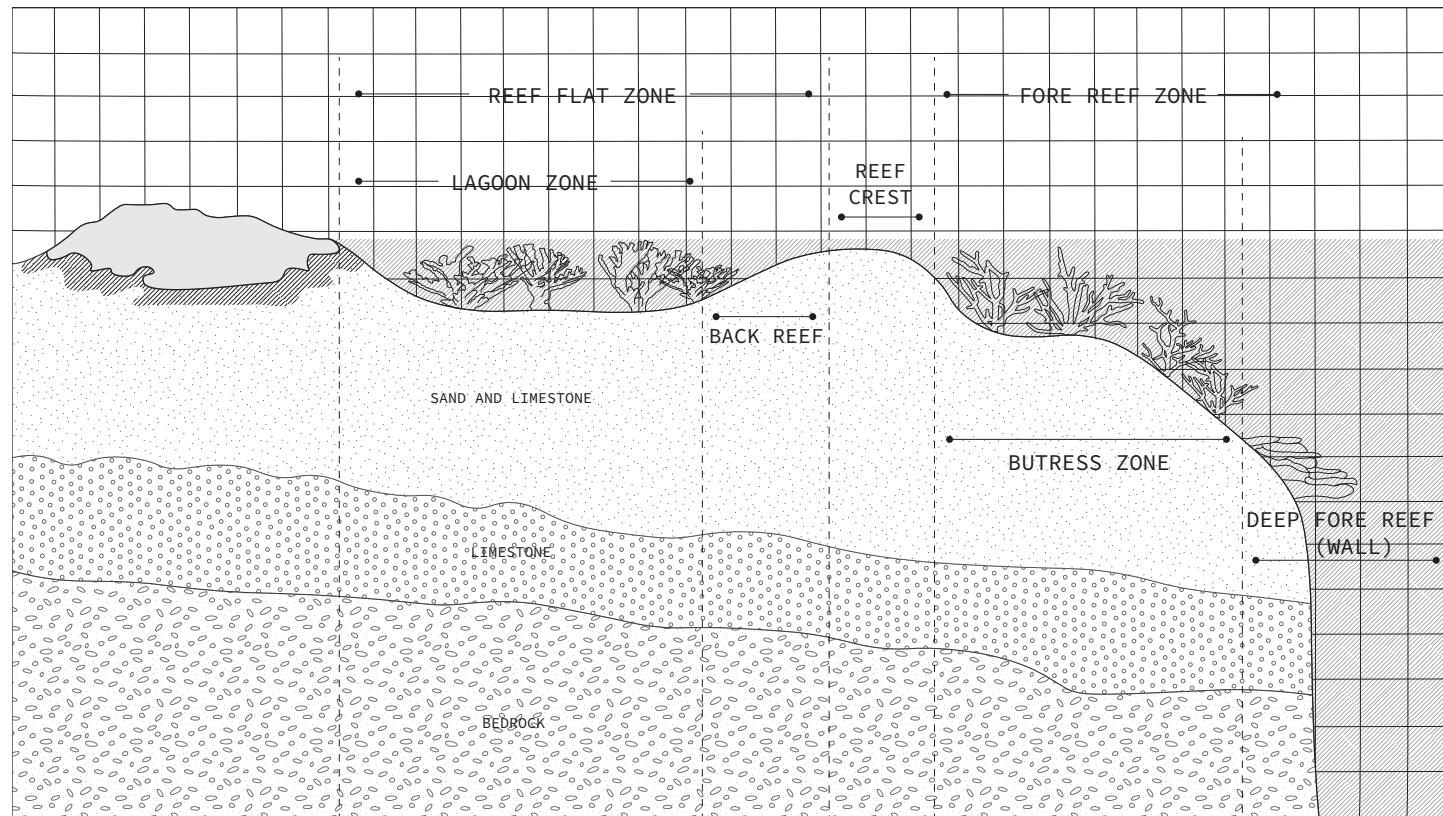


Coral Growth

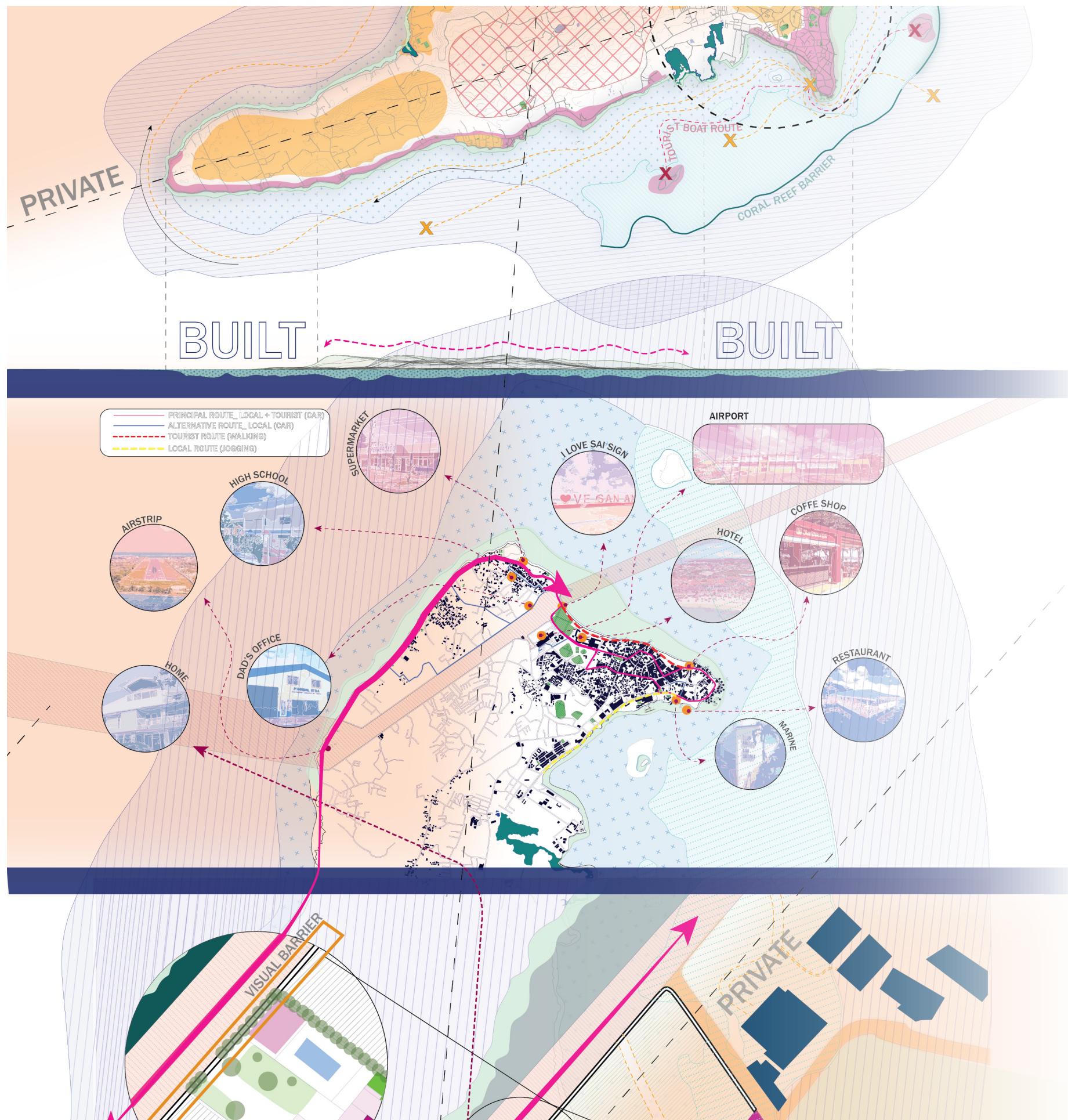
## Detailed Material Sections



## Coral Reef Sectional Condition



Form + Material Studies



## “San Andres Island: Us vs Them”

Research and Urban Analysis

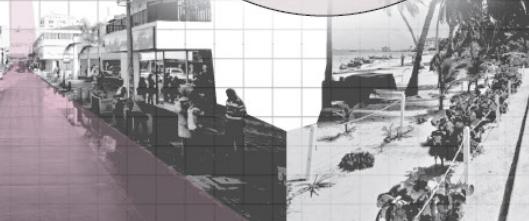
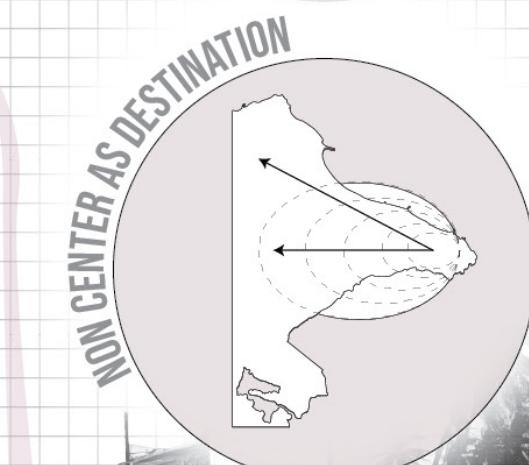
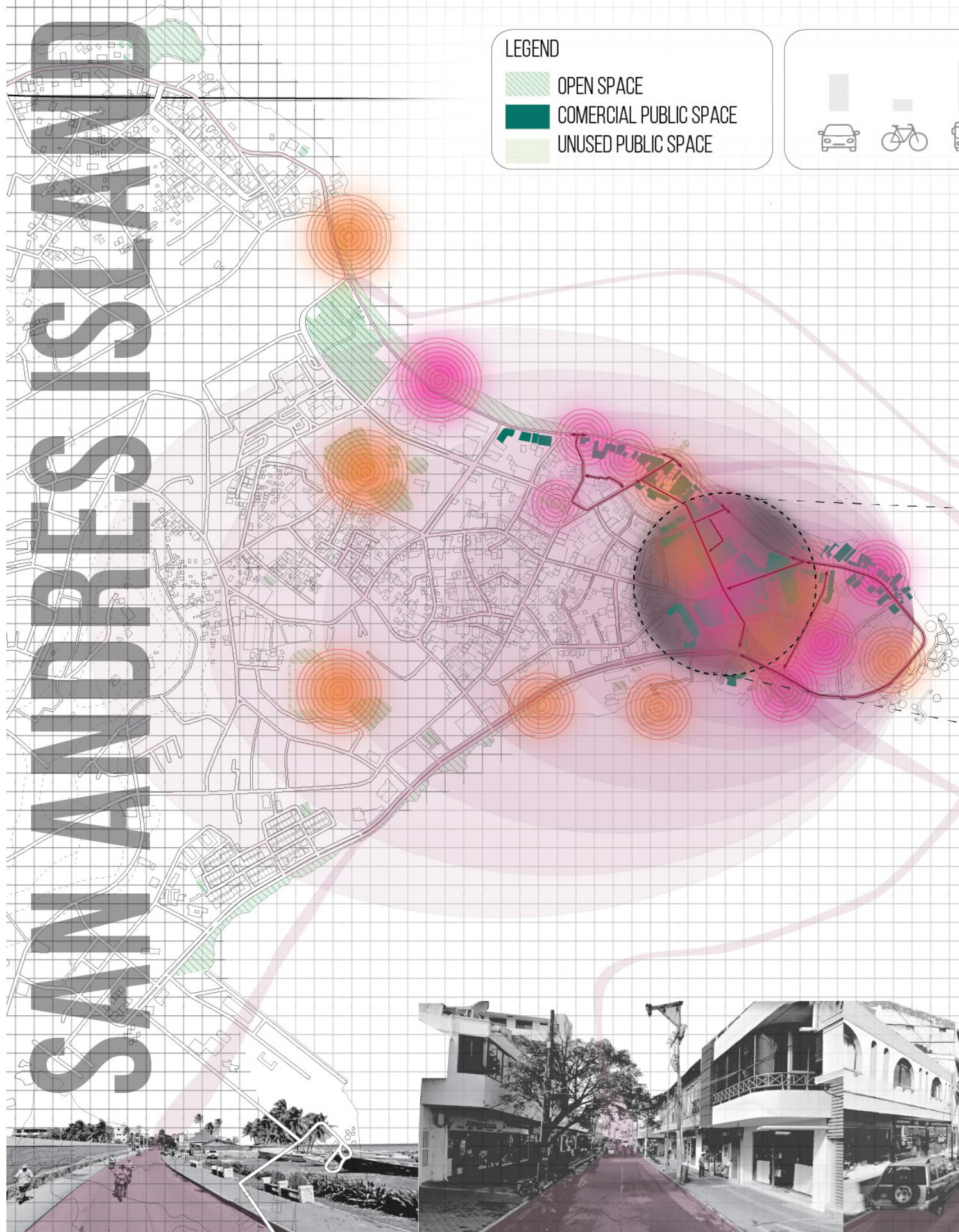
Professor Theodor Koffman

San Andres is a small Colombian island in the Caribbean located off the coast of Nicaragua.

The urban environment is defined by the differentiation of the journey of the resident versus the tourist and their forced interaction. This proposal intends to analyze how the presence of tourists alter the normal routines and rituals of the resident in terms of privacy and circulation.

This study realized to understand how the built environment is constructed mainly to satisfy the necessities of the foreign rather than the residents. Tourism is the biggest source of the economy on the island which is why the government and social entities are always looking after their benefit. The urban design of the area is centered around the idea of circulation and interaction, which is why the streets are the most successful gathering spaces and where a blur of interaction between the two groups happens the most. After Analyzing the density patterns and the urban context one can conclude that most of the gathering spaces are designed for the tourists and their necessities, while the locals are not only forced to share their space they also don't get to enjoy it.

Considering that the overlap is inevitable and the isolation of the “locals” and “tourists” from each other is nearly impossible. The proposed solution of the problem consists of the development of gathering spaces and areas of interaction that can benefit both subjects and avoid prioritizing one from the other.

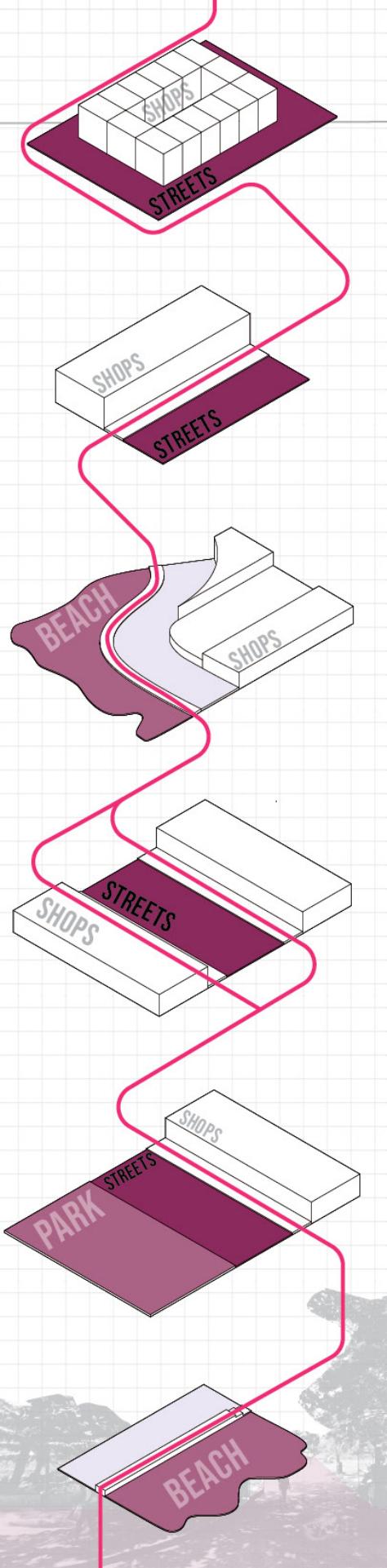


## TYPOLOGIES OF INTERACTION

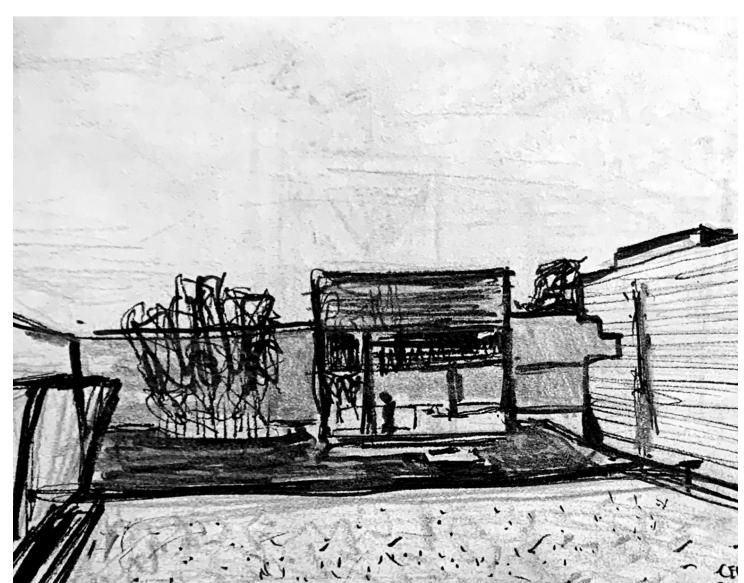
**COMMERCIAL**

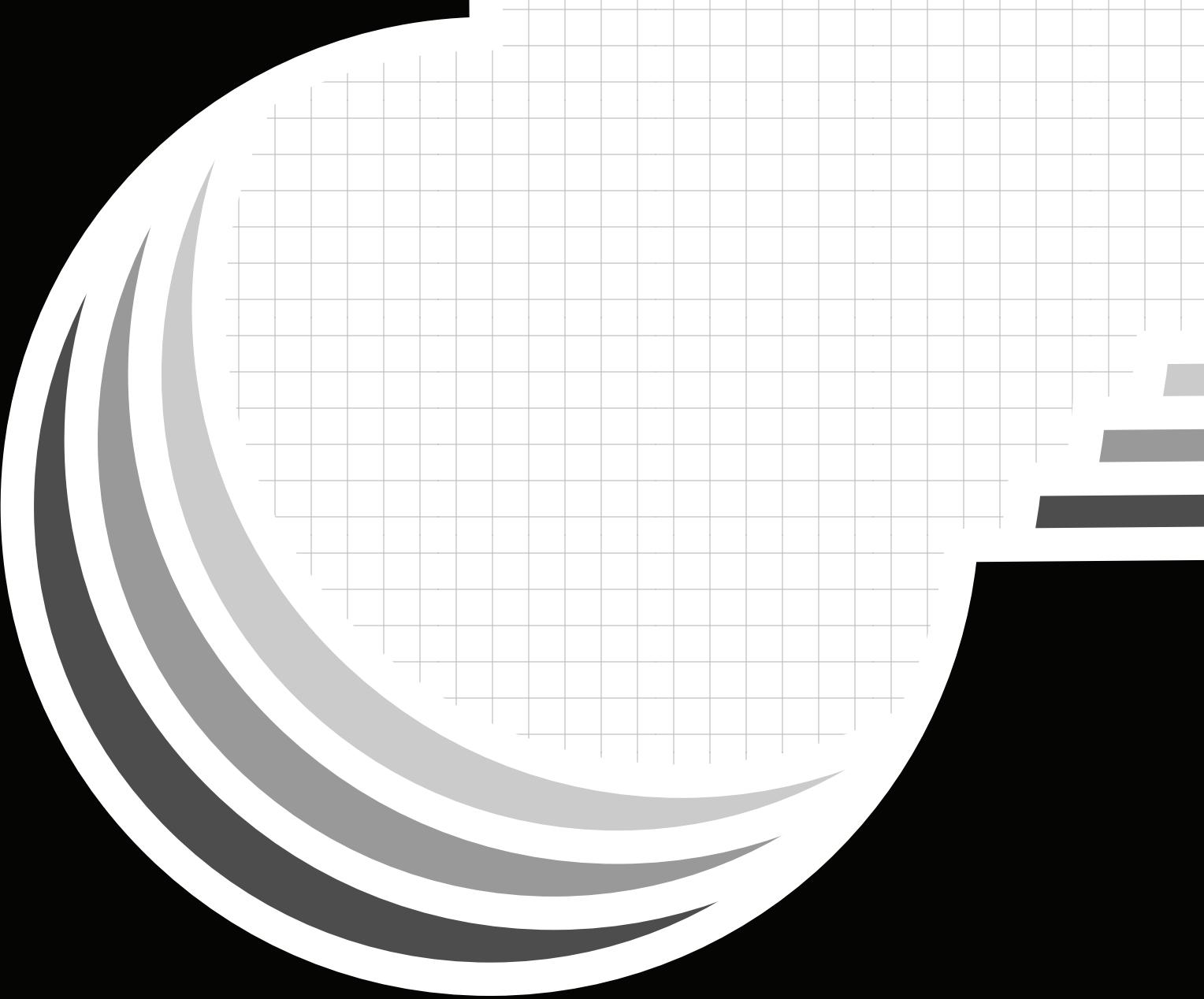
**COMMERCIAL + SOCIAL**

**SOCIAL**



SPRING 2022





F A L L   2 0 1 8 -

S P R I N G   2 0 2 3