



[DIALOGUES]

Portfolio of Niki Jingxiao Zhou

Selected Works 2018-2022

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[DIALOGUES]

Architecture is the carrier of endless dialogues. It is represented in plethora of forms—sometimes silent—yet each embodies distinct messages to different receivers: a person, an object, a community, or a city.

[ENVELOPE STUFFING]

Give "bad" fruits another chance

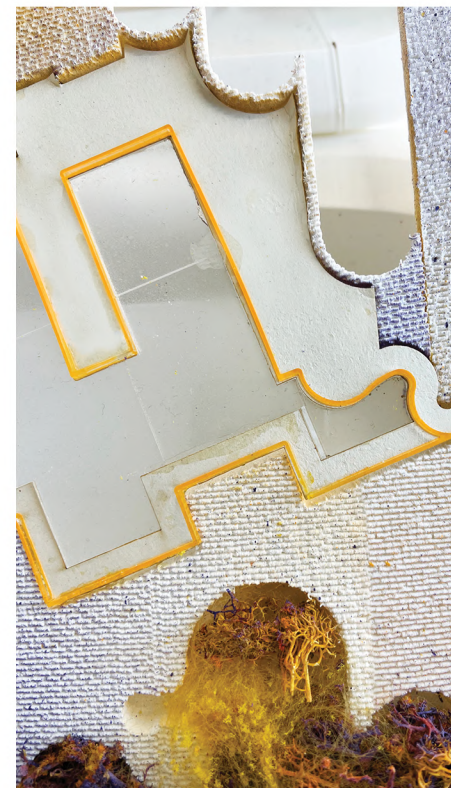
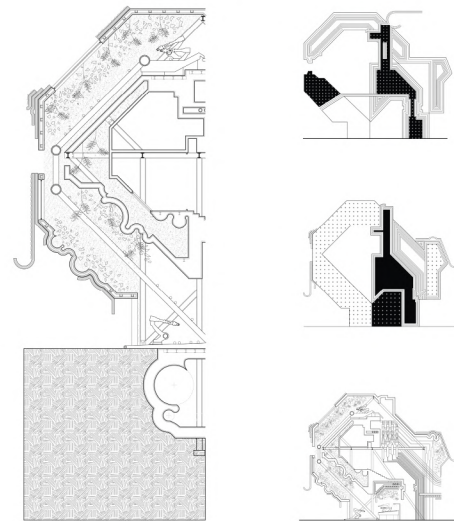
A food innovation center in Philly, Pennsylvania

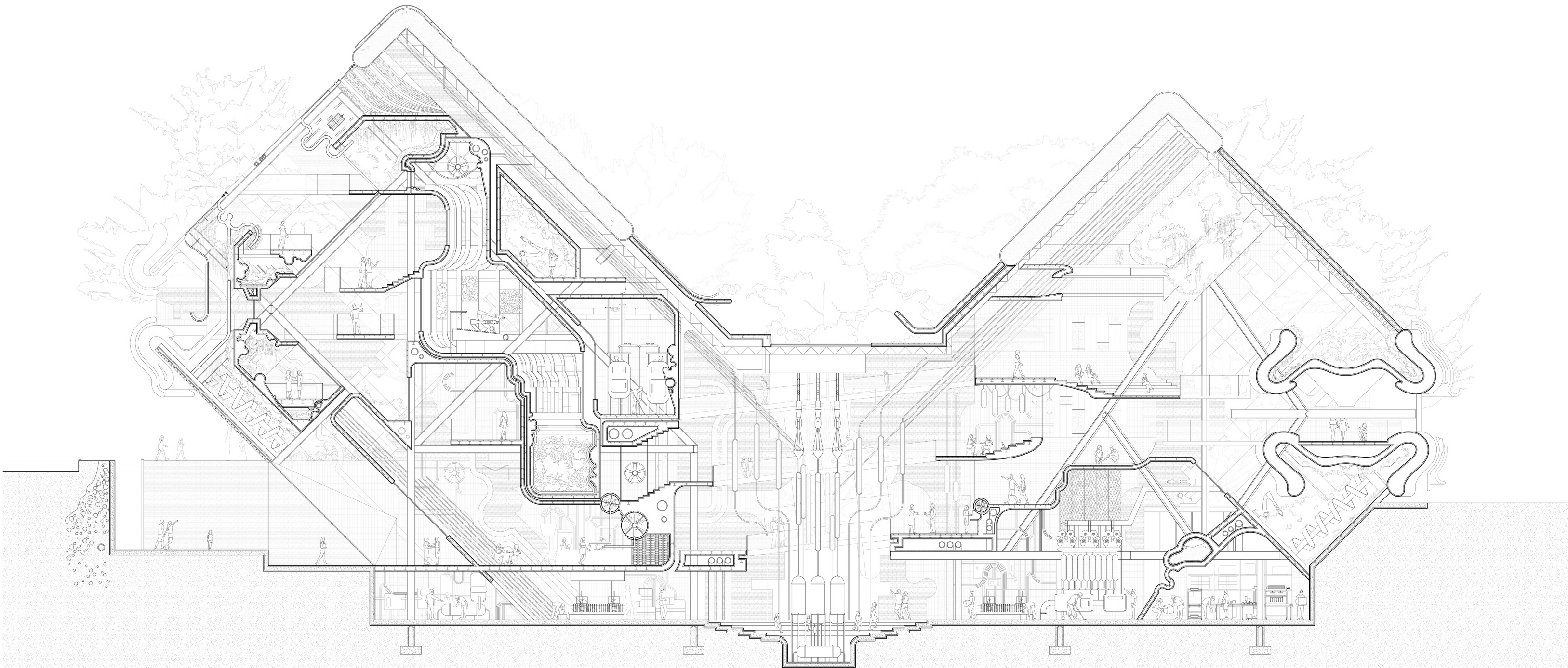
Studio Project, Instructed by Nate Hume
Collaborate with Ziai Huang | Spring 2022
Conceptual Design, Section, Renderings, Physical Model

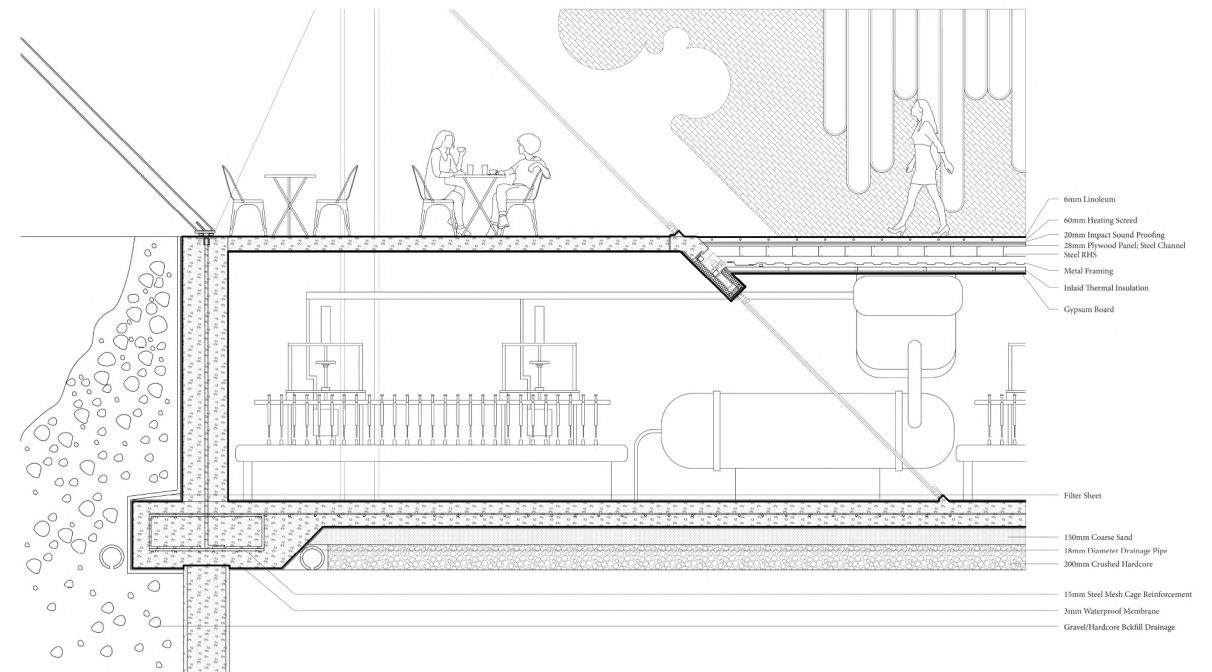
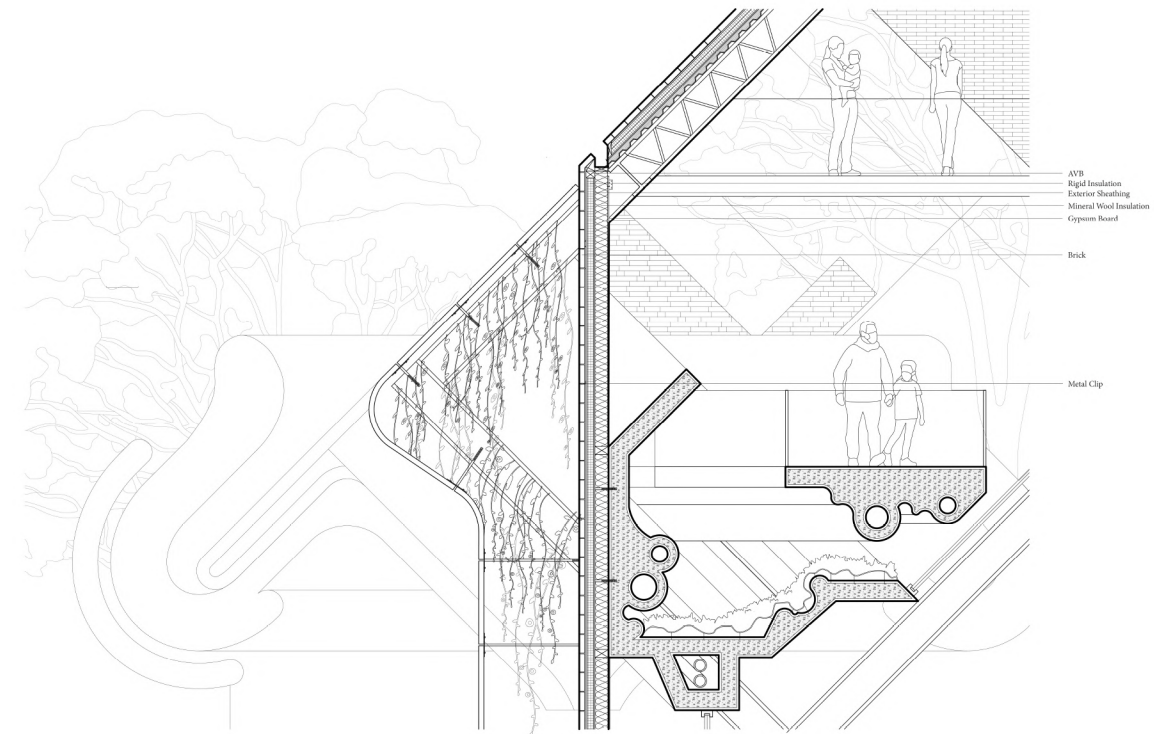
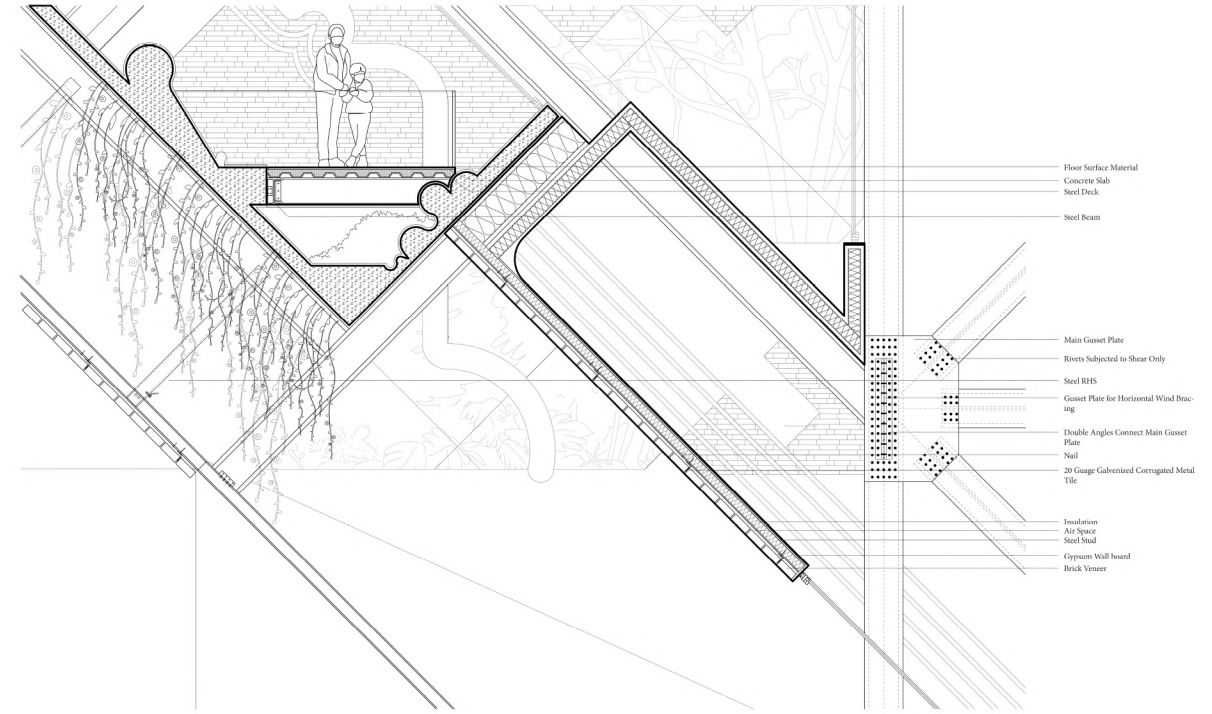
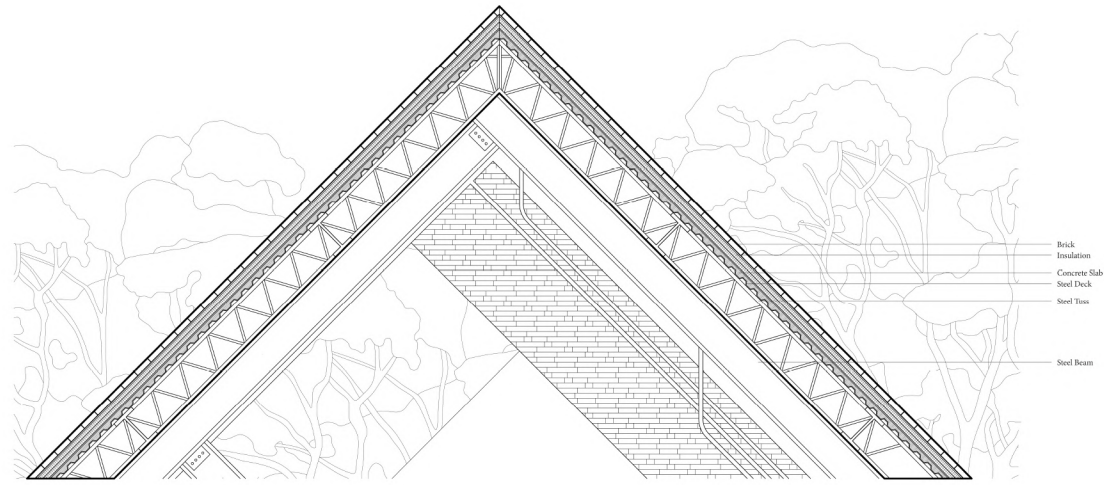


CONTEXT AND CONCEPT

The innovative concept behind this project not only addresses food waste, but also promotes sustainability and healthy eating. By collecting bad-looking fruits that would otherwise go to waste, the food innovation center not only helps to reduce food waste, but also promotes the use of locally-sourced ingredients. Furthermore, the design of the building itself is innovative, with the juice pipes serving as the skeleton of the building, showcasing the unique and creative ways in which everyday materials can be repurposed. The multi-layered envelope design, which includes space for wheat grass growing, not only adds to the aesthetic appeal of the building, but also promotes healthy eating practices by providing an additional source of nutritious ingredients to be added to the juice. Overall, this project exemplifies the potential for innovation and sustainability in the food industry, and serves as a model for similar projects aimed at reducing food waste and promoting healthy eating practices.







[COMMONSPOLY'S CARNIVAL]

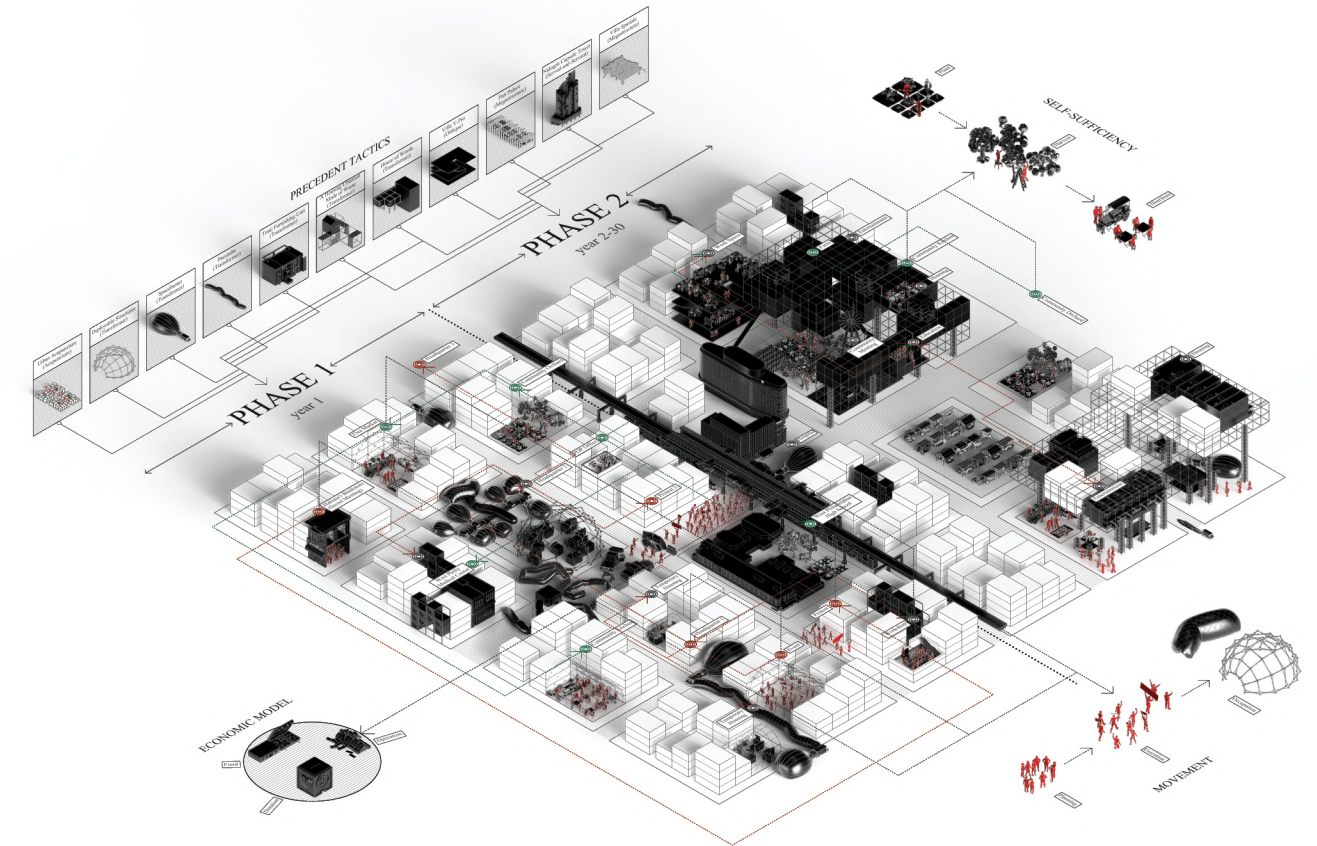
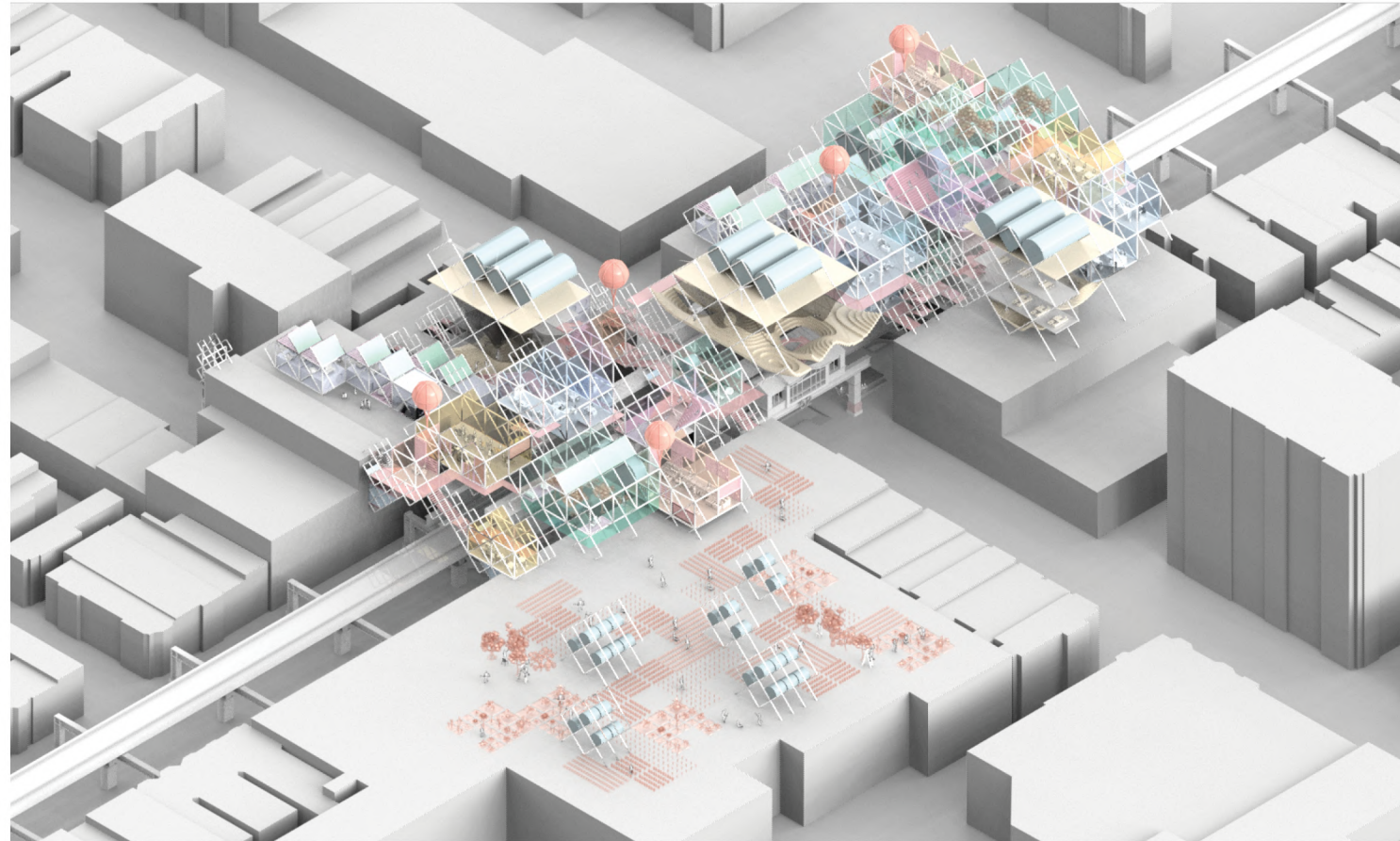
Durations of Autonomy: Phase 2 - Sustained Takeover

Architectures of Commoning in Philadelphia, Pennsylvania

Studio Project, Instructed by Eduardo Rega

Individual Project | Spring 2021

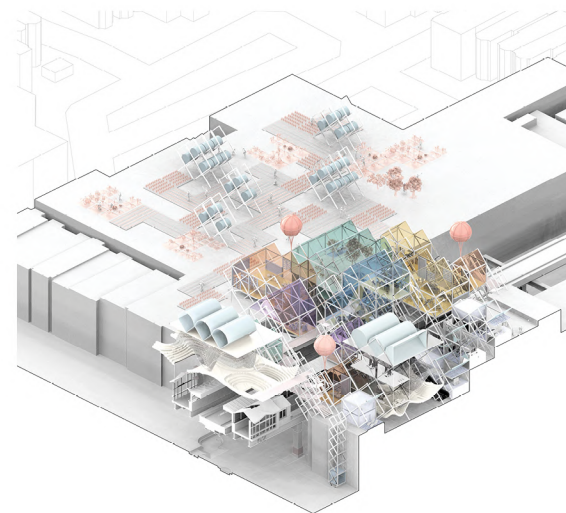
Conceptual Design, Diagrams, Renderings



CONTEXT AND CONCEPT

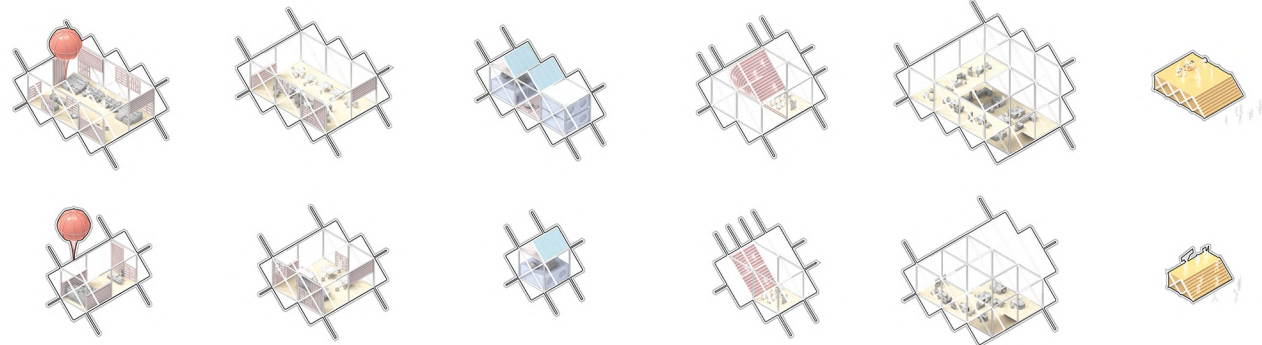
In the capitalist world, the polarization of wealth and gentrification becomes more and more serious. The spatial Equity of the city needs to be redefined. Meanwhile, rifts existing in the society, such as racial discrimination, need to be mended. In such circumstances, two local grassroots organizations in West Philly decided to create shelters and promote services and education for people in need. One is Philadelphia Coalition for Racial Economic and Legal Justice (REAL), who fights for providing a safe space for community organizations and individuals to come together and combine resources to eliminate racial discrimination. The other is Philadelphia Orchard Project (POP), who fights for urban ecosystems that create beautiful green spaces, connect neighbors, provide hands-on learning experiences, and grow fresh fruit for generations to come.

This project focused on the Phase 2 of the development of Autonomy, which is 2 years after the instant takeover, Phase 1.

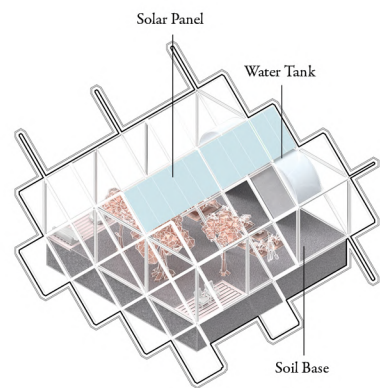


In phase 2, POP and REAL got enough personnel, funds as well as support from other organizations. Therefore, they begin to build a more stable autonomous zone. Inspired by Ville Spatiale, they build structure above streets, on rooftops, and between buildings to set up the base for permanent autonomous zones that connect already commonized architectures of the neighborhood. The megastructure provides citizens enough space for various programs such as classrooms, workspaces, markets, and living units. In order to provide self-sufficiency in the autonomous zones, farms are spread over the city on previously vacant lots and commonized buildings' rooftops. People plant, harvest, and serve food around the farm where megastructures aggregated. Meanwhile, the temporary spaces still exist within the megastructure to provide flexibility in hosting temporary activities like performance space.

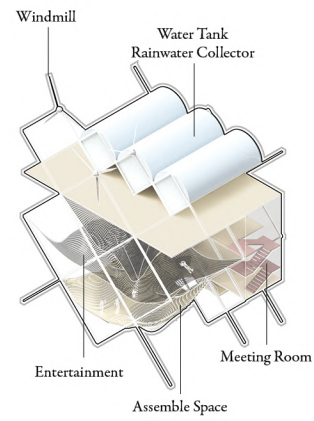
[Market] [Community Kitchen] [Capsule Housing] [Classroom] [Work Space] [Assemble Space]



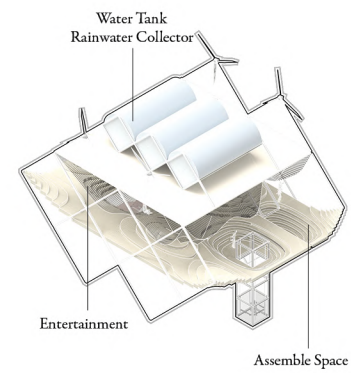
[Green House]



[Vertical Park]



[Parliament]



[Bridge 1]

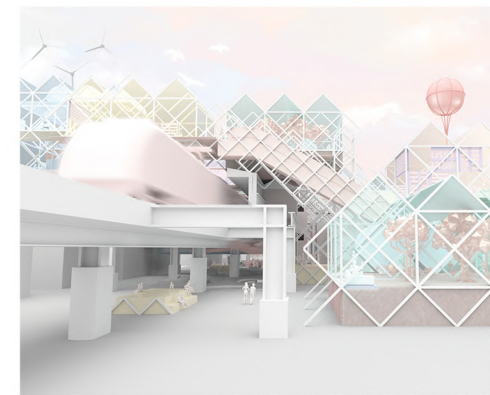
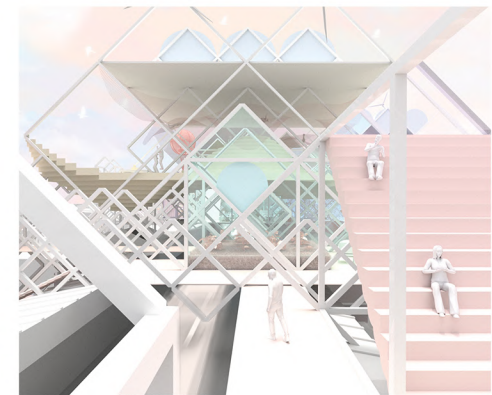
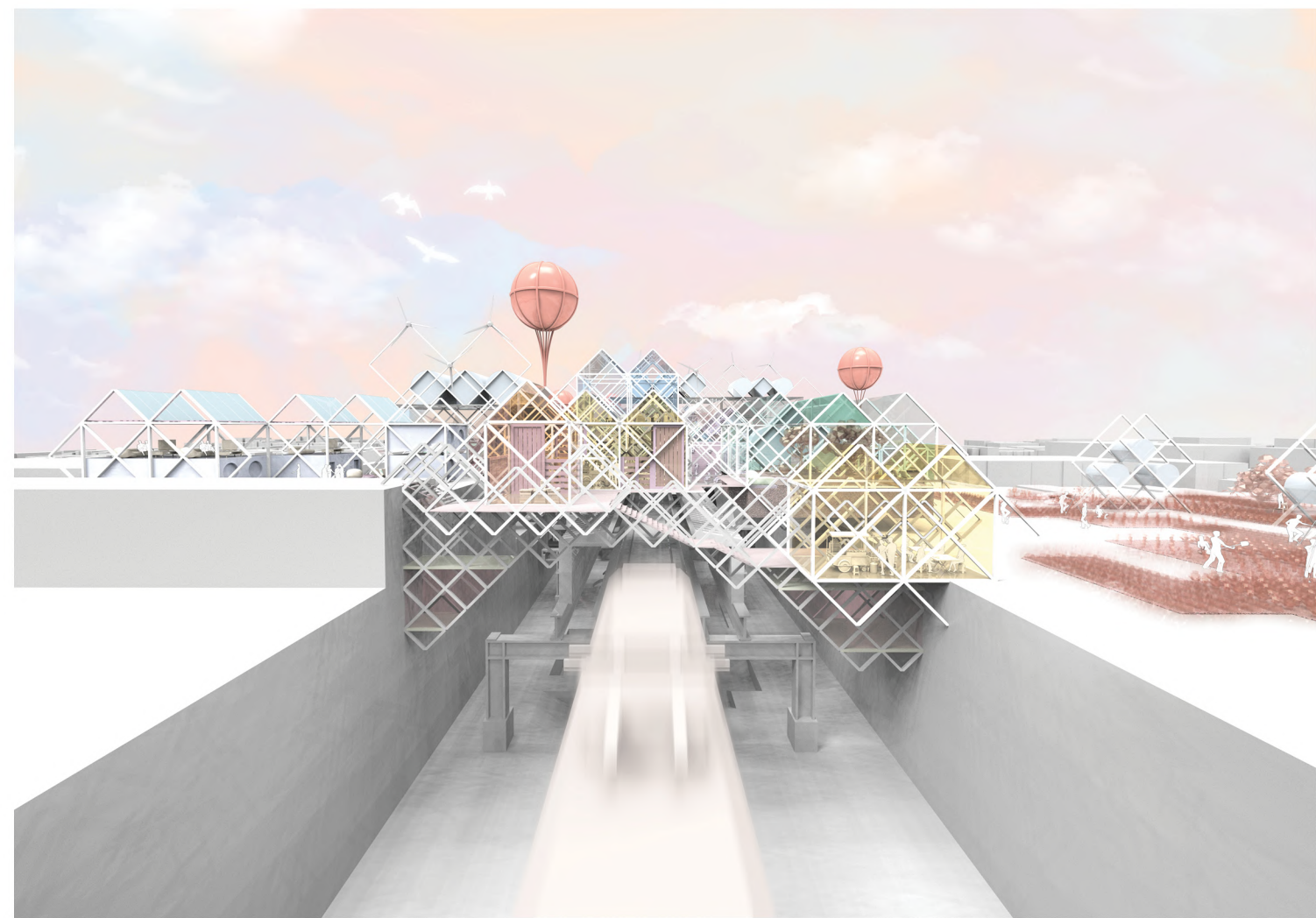
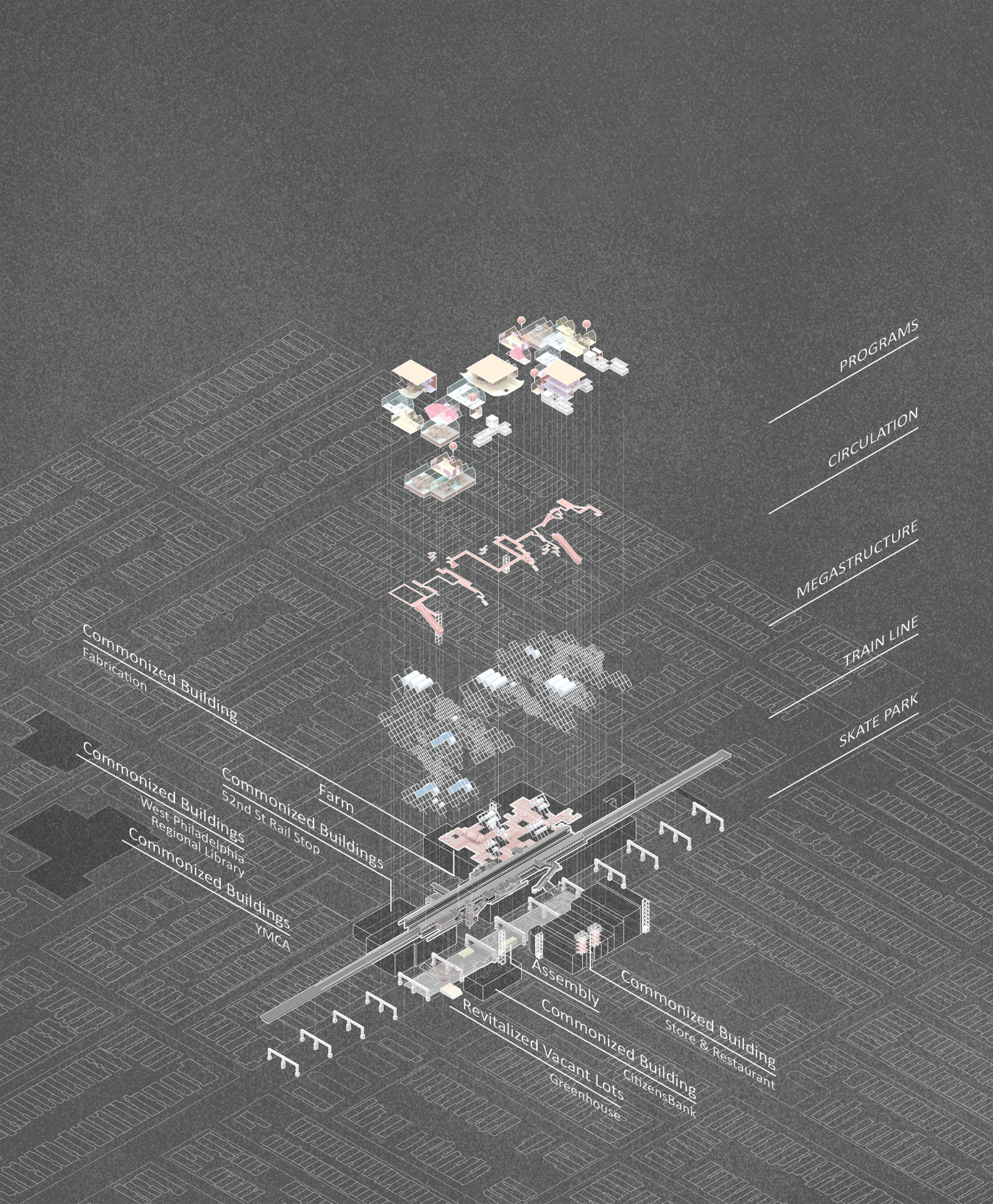


[Bridge 2]



[Bridge 3]

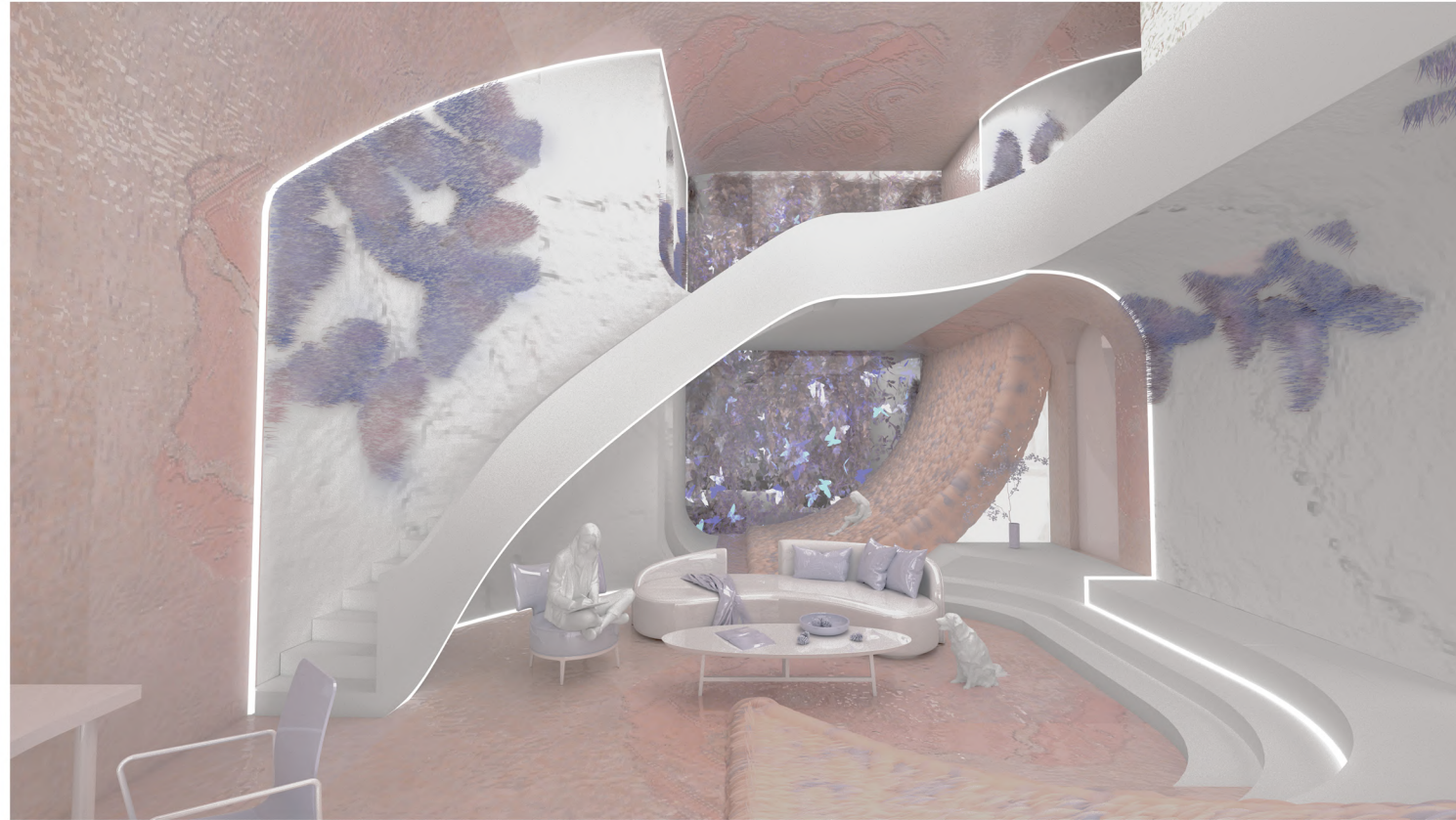




[MICRO | MAX]

Design for the Connected Body: Dialogues between Human and Butterfly
Urban Dwelling in New York City

Studio Project, Instructed by Gisela Baurmann
Individual Project | Autumn 2021
Conceptual Design, Diagrams, Drawings, Renderings, Physical Model

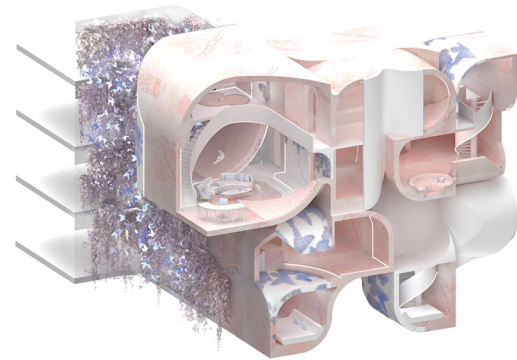


CONTEXT AND CONCEPT

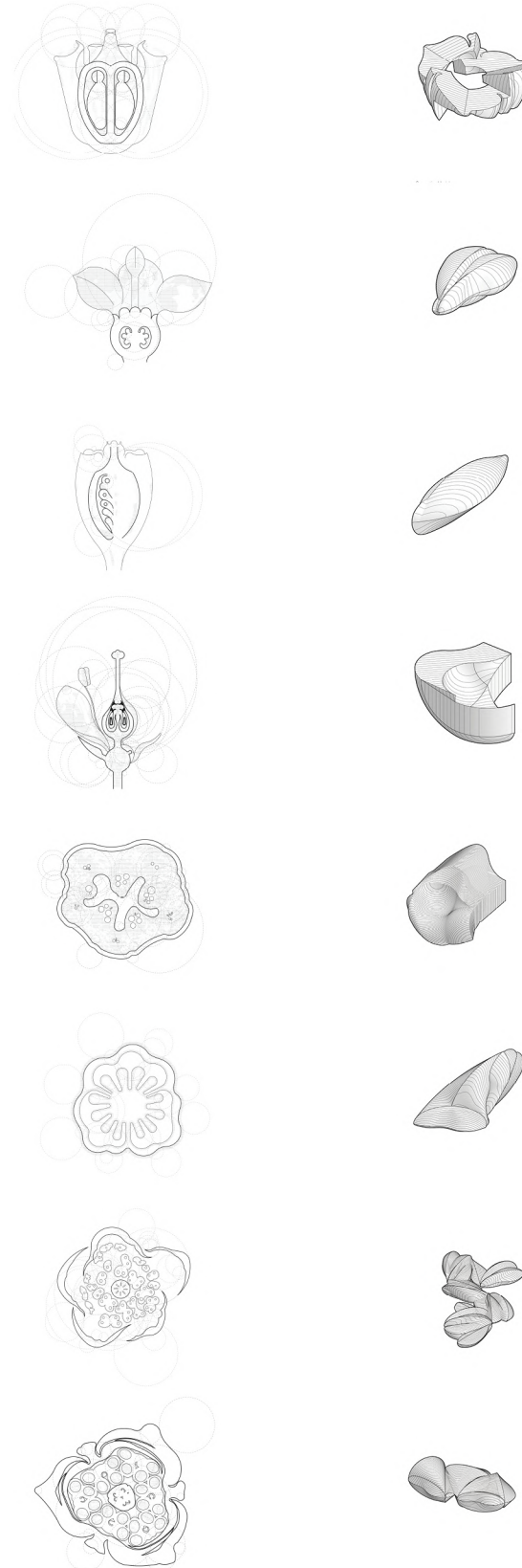
This studio proposes an urban housing project and a community justice court on a densely urban site in SoHo, New York. It discusses the notion of comfort in the context of human and non-human habitats, and proposes built environments for various living organisms to flourish in. These environments may spawn interstitial spaces that facilitate novel modes of comfort. MICRO // MAX is invested in matters of social justice while exploring the idea of integrating human housing systems with other ecological processes.

Beyond the anthropocentric idea of housing, the design develops spaces for co-habitation of human and non-human dwellers, giving equal developmental agency to all inhabitants and processes. The co-habitant of this project is butterfly.

In my design, human units form the perimeter, allowing butterflies that need a warm environment to live in the central atrium of the building. Thus, the human unit has both windows facing the street view and rear windows facing the butterfly garden. At the same time, the butterfly garden has gained more heat and suitable light conditions because of the human unit. Humans and butterflies complement each other in this building to achieve living harmony.



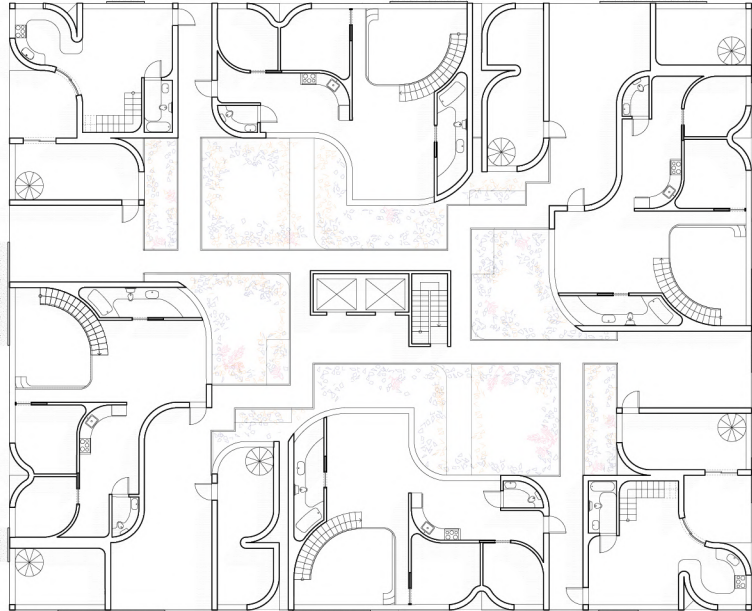
STUDY OF PLANTS



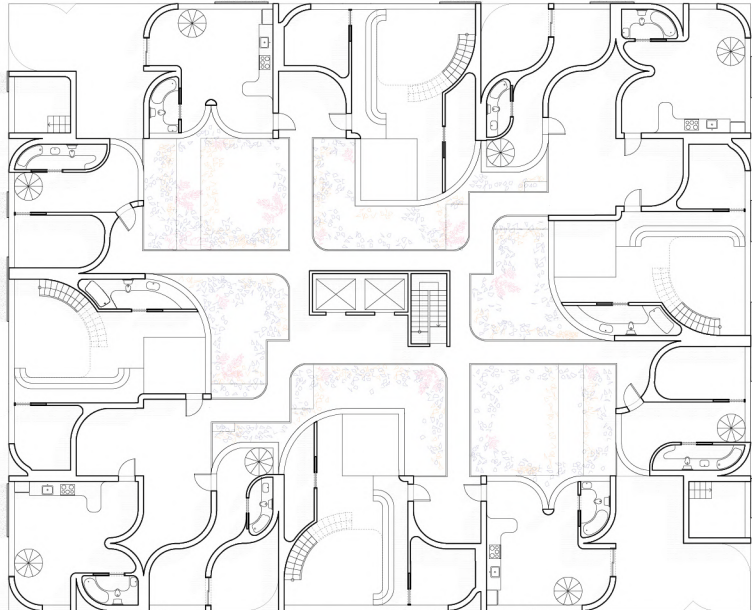
UNITS DESIGN



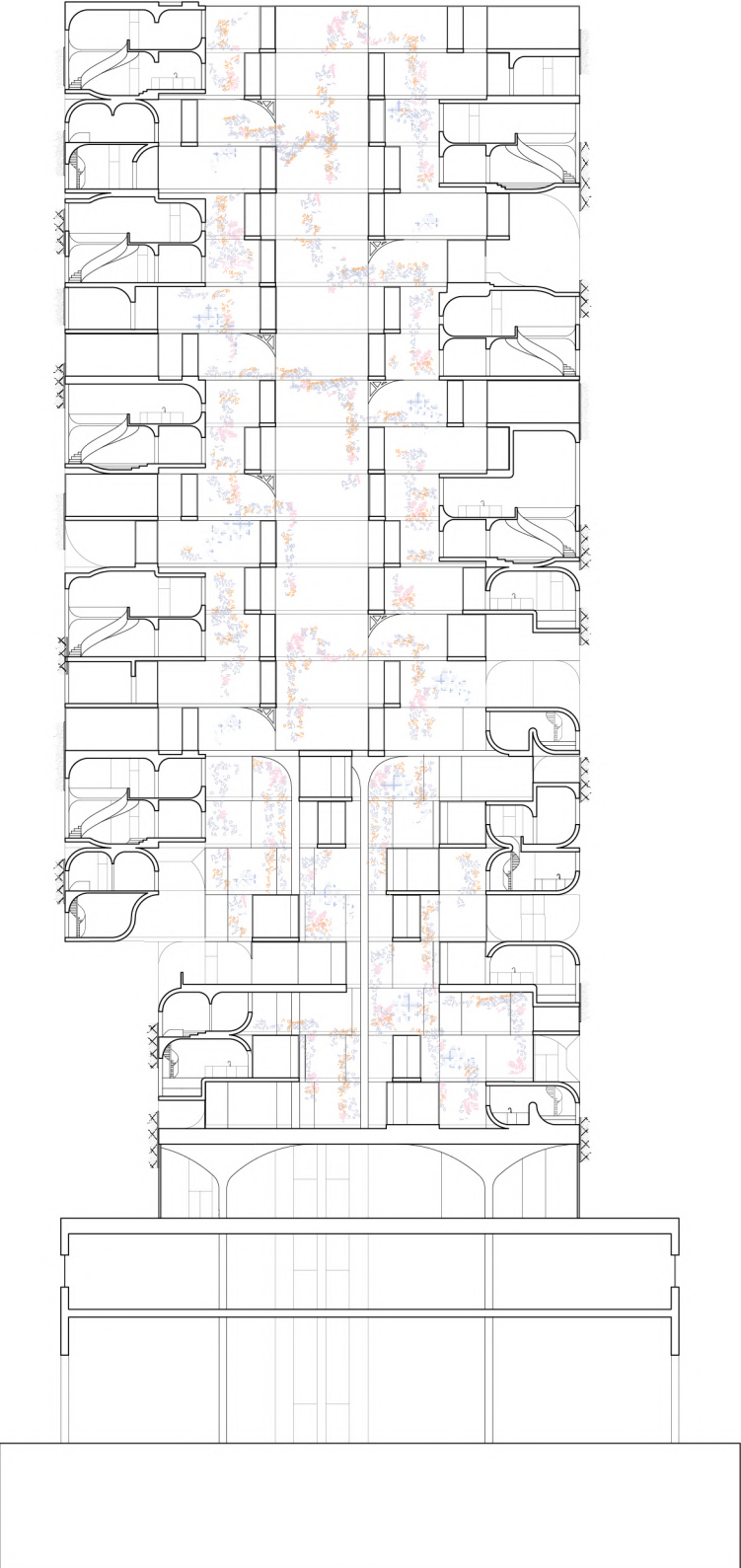
SECTION



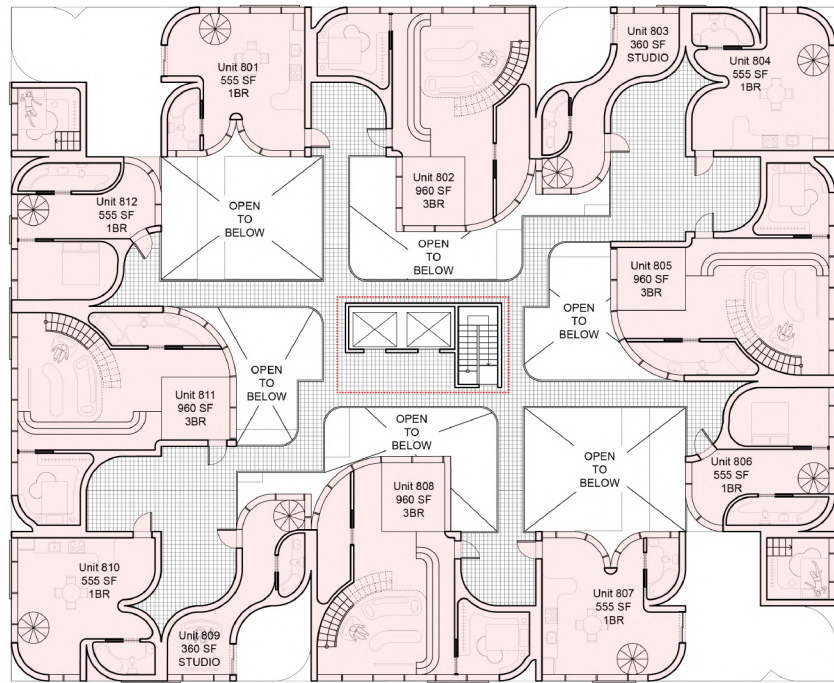
TYPICAL FLOOR PLAN TYPE I



TYPICAL FLOOR PLAN TYPE II



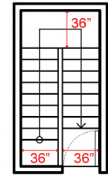
SECTION



EGRESS DESIGN ANALYSIS

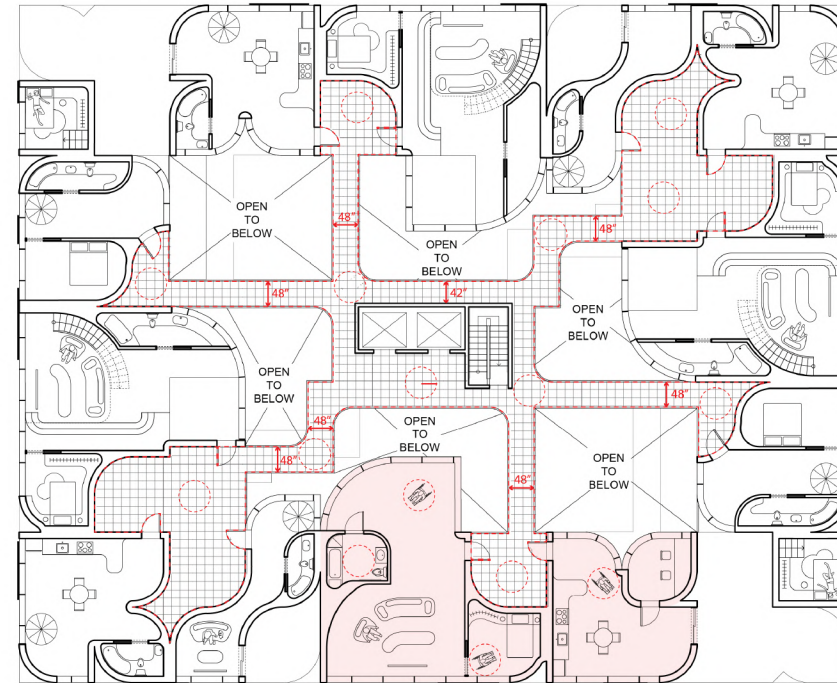
OCCUPANCY TYPE	SF	LOAD FACTOR	OCC
Residential	7890 SF	200 GROSS	39
TOTAL OCCUPANT LOAD: 39			

EGRESS STAIR



Floor Occupant Load: 39
 Required Stair Width: >36in
 Designed Stair Width: 36in
 Minimum Door Width: 32in C.O.**
 Designed Door Width: 36in

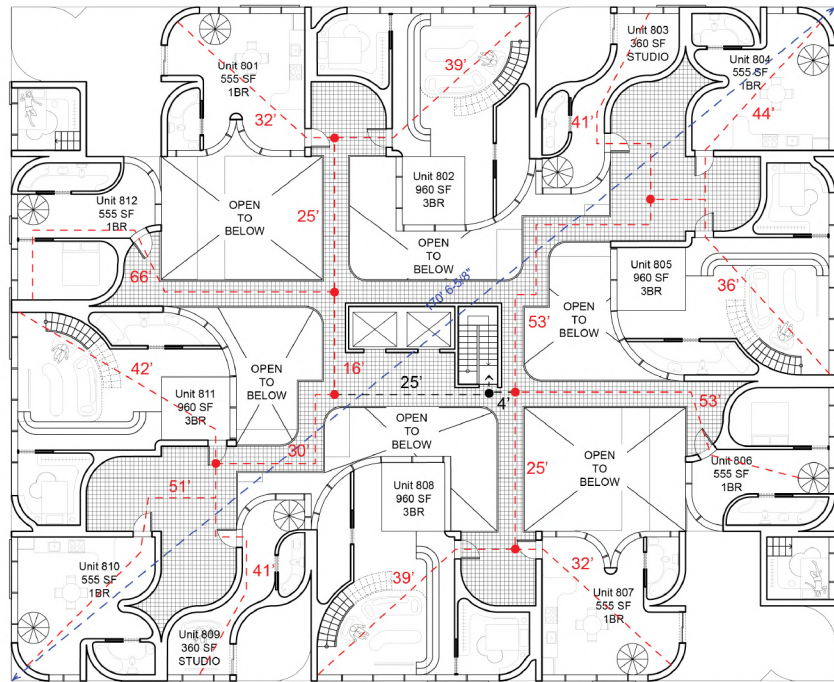
NON CONFORMING: Stair width needs to increase



SUCCESSSES
 - Fig. 403.5.1 Clear Width of an Accessible Route is adequate in nearly all locations with a minimum of 36".
 - 30" turning radius is accounted for at multiple locations along accessible route.

FAILURES
 - Spaces around some non-ADA Unit are not ADA friendly.

- 60" Wheelchair Turning Space
- Corridor
- ADA Unit



EGRESS DESIGN ANALYSIS

OCCUPANCY LOAD: 39
 EGRESS STAIRS PROVIDED/REQUIRED: 1/2

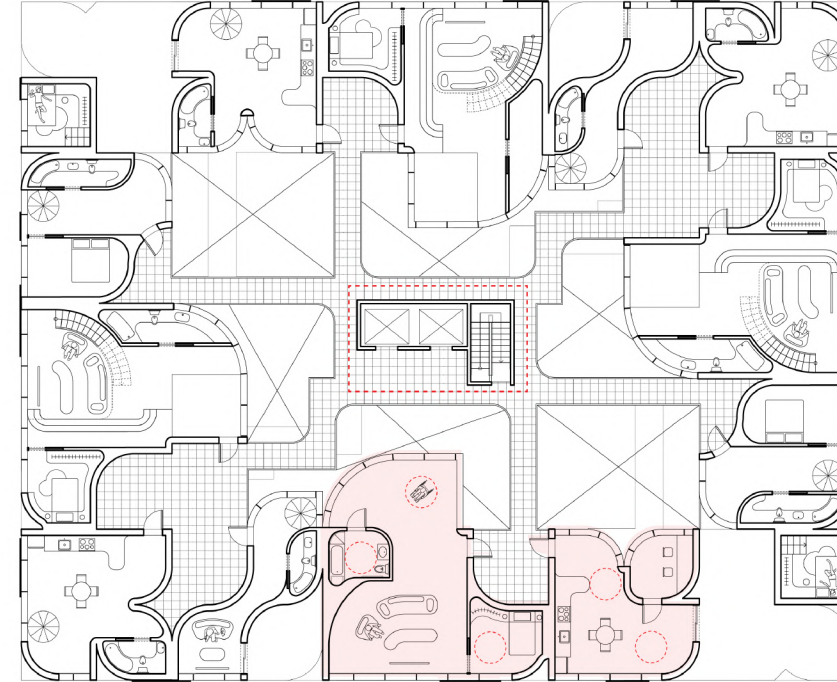
NON CONFORMING: 2 MEANS OF EGRESS ARE REQUIRED

--- DIAGONAL DIMENSION: 170' 6-5/8"
 SEPARATION DISTANCE 1/3 DIAGONAL: 56' 9"
 REMOTENESS TO 1/3 SEPARATION POINT: 39'

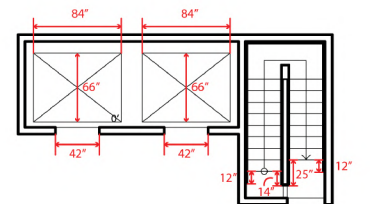
NON CONFORMING: THE EGRESS STAIR IS 39' FAR FROM THE 1/3 DIAGONAL AXIS POINT

--- COMMON PATH DISTANCE
 MAX TRAVEL DISTANCE: 107 FT < 250 FT

COMFORMING: 107 FT IS LESS THAN THE 250 FT TRAVEL DISTANCE REQUIRED BY R OCCUPANCY WITH SPRINKLER SYSTEM

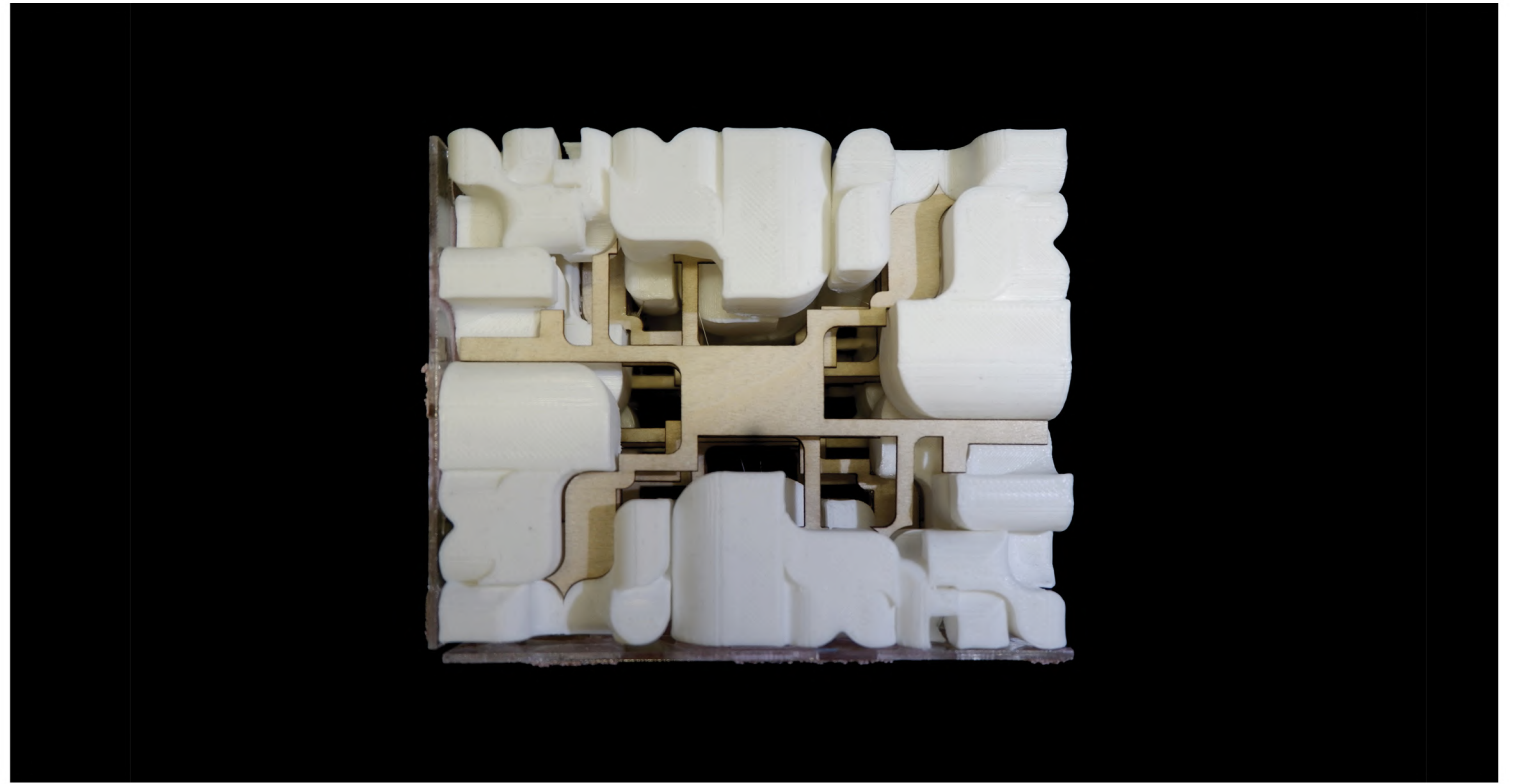


SUCCESSSES
 - Fig. 407.4.1 Elevator car dimensions are adequate.



0' 1' 2' 5' 10'

ADA Unit

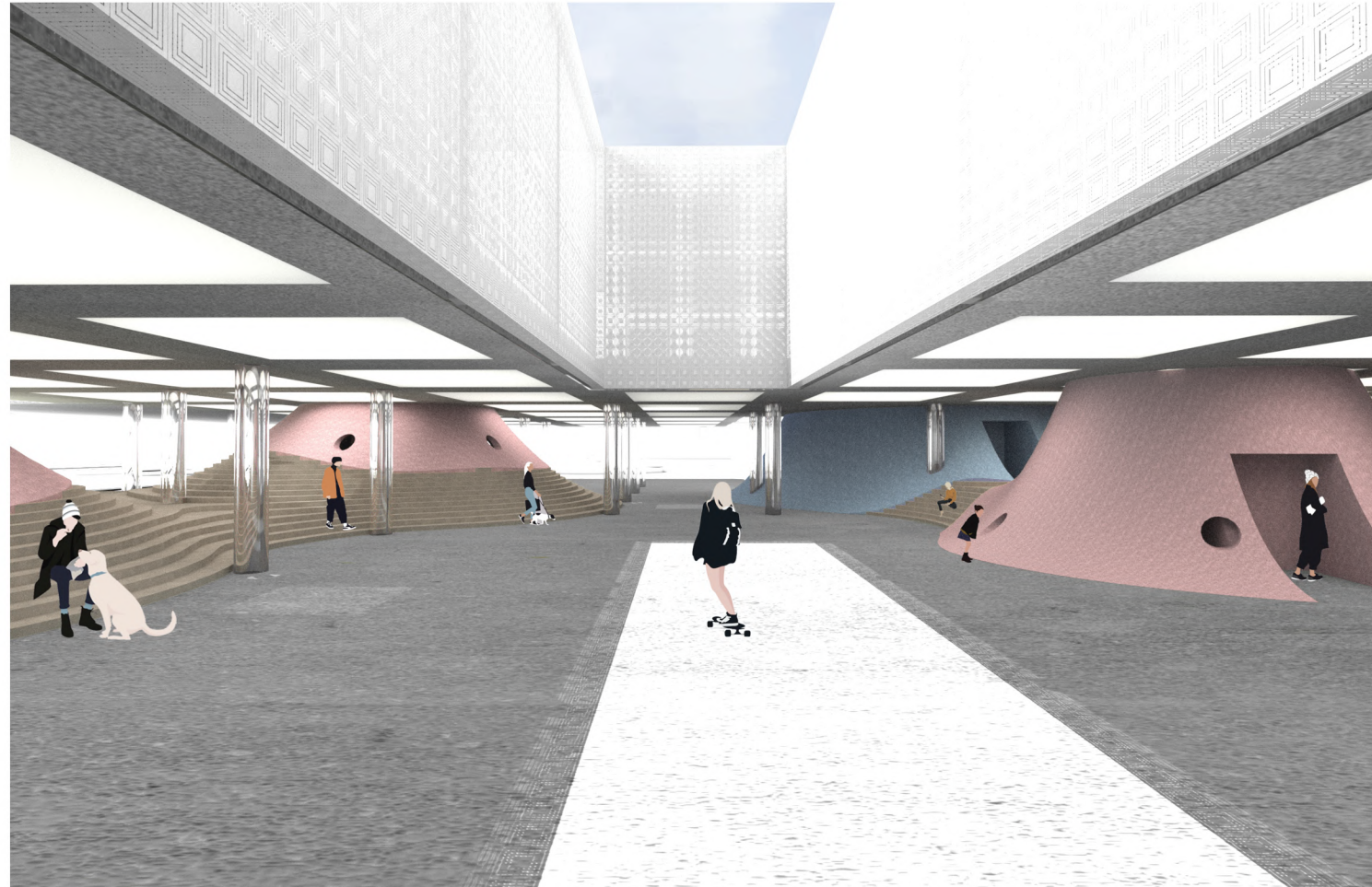


[DIALOGUES]

Dialogues between two architectural forms

Archeology museum in La Brea, Los Angeles

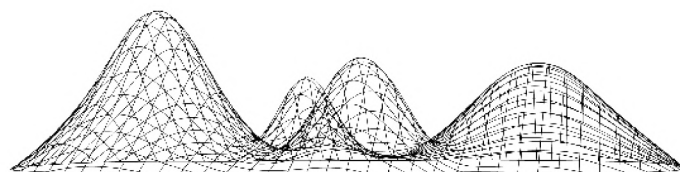
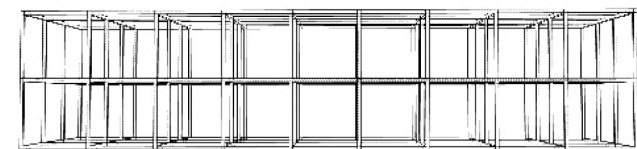
Studio Project, Instructed by Galo Canizares
 Collaborate with Qinyue Liu | Autumn 2019
 Conceptual Design, Diagrams, Plans, Sections, Renderings, Physical Model



CONTEXT AND CONCEPT

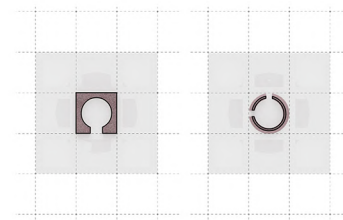
The project invites students to reconsider the design of the existing La Brea Tar Pits Museum and its adjacent landscape. Los Angeles is home to the largest working oil field in the United States, and the history of local oil exploitation is linked to this cultural landscape. It has become commonplace to see oil pumps within residential neighborhoods and architectural follies to mask oil infrastructure, while the La Brea exploration field, research laboratory, and working museum result from the same ecology.

Our project started with cooperating the fluidity of the tar pit with the rigidity of the buildings. Then, we put our focus on the various visiting experiences created by dialogues between the two architectural forms, the rigid and the soft. The boxes that generated from the grids represent the rigid form. While the hill-shape surface and landscapes represent the soft forms. We manipulate the two forms with distinct junctions and degrees of transparency in order to generate manifold spaces for exhibition, theater and research area. Meanwhile, our overall design imbued with a transition on the site from the urban view to the landscape view, from the building to the playground.



TYOLOGY OF DIALOGUES

[Type I]

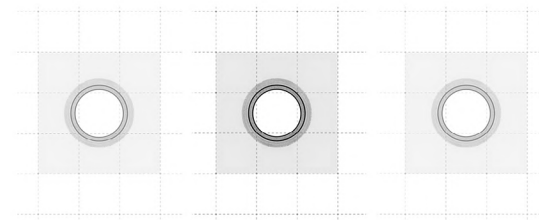


The hills are fully restricted by one grid.

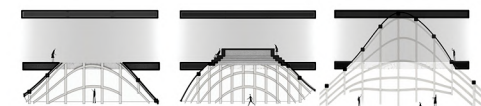


People perceive hill as a space inside a box or an object inside a bar.

[Type II]

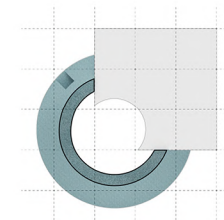


Hills expand and occupy more grids.



Hills enter in the box but cut by the box. Boundaries between box and hill can be permeable.

[Type III]

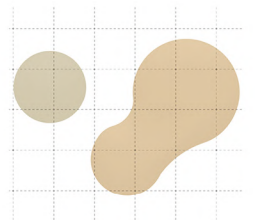


Hills keep expanding and shape the box.



Hill shapes the box.

[Type IV]



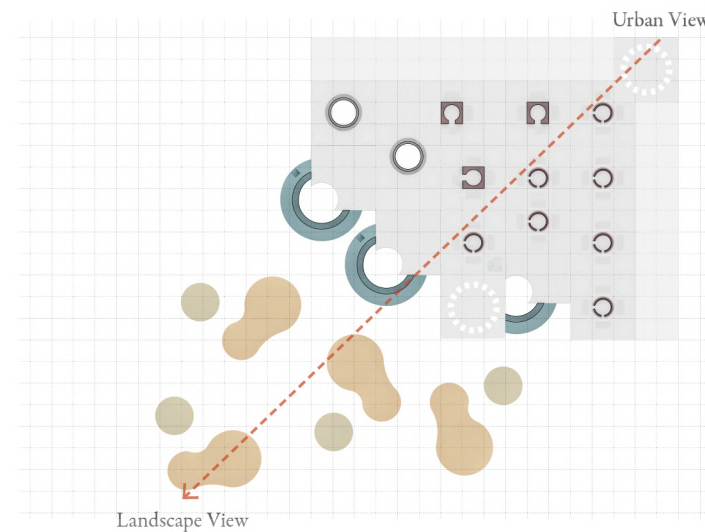
Hills dominate the space and no longer follow the grid.



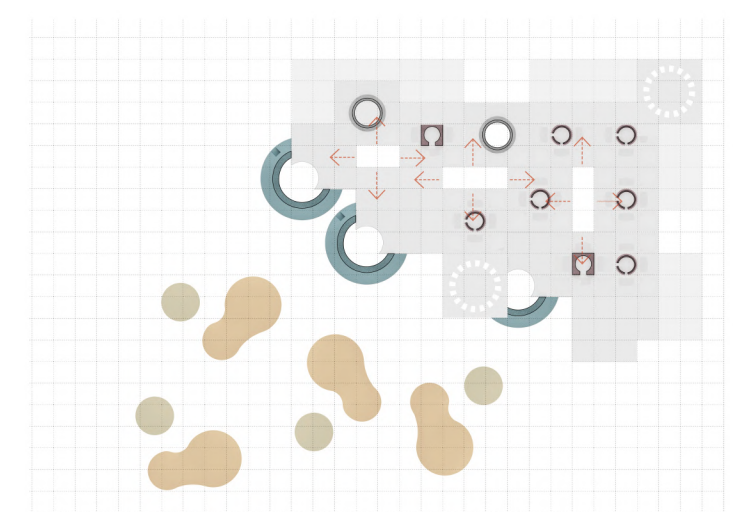
Hills become landscapes.

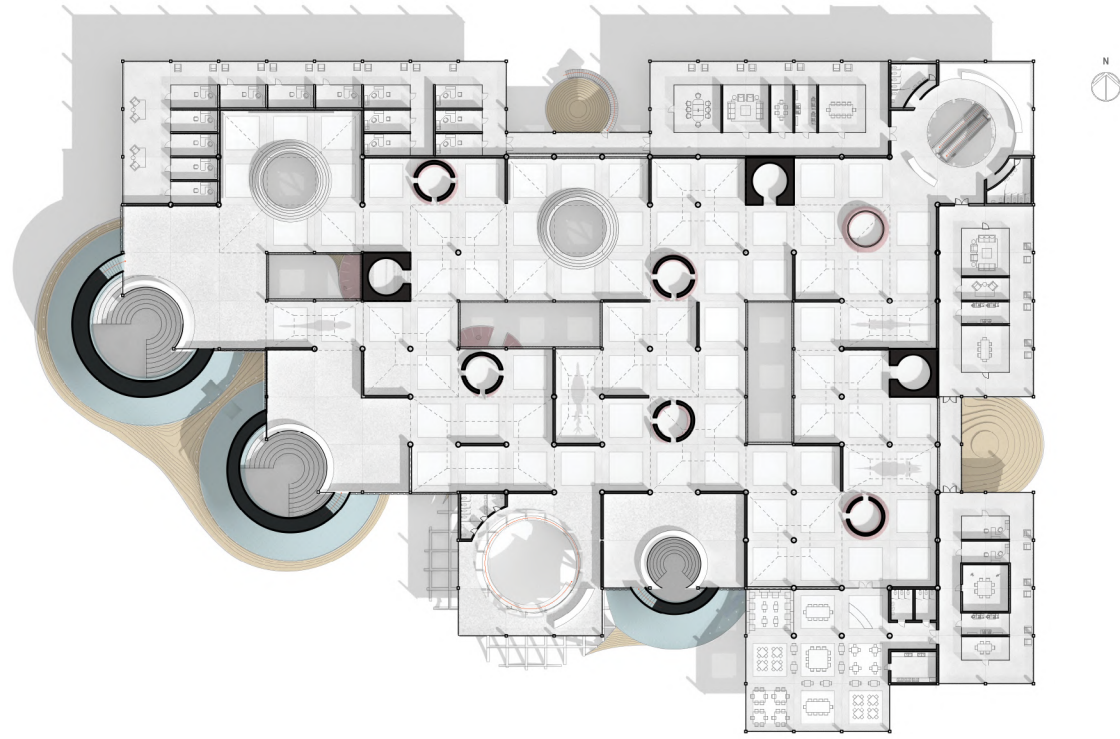
DIAGRAMMATIC PLAN

Arrange modules on the site following the transition along the diagonal axis

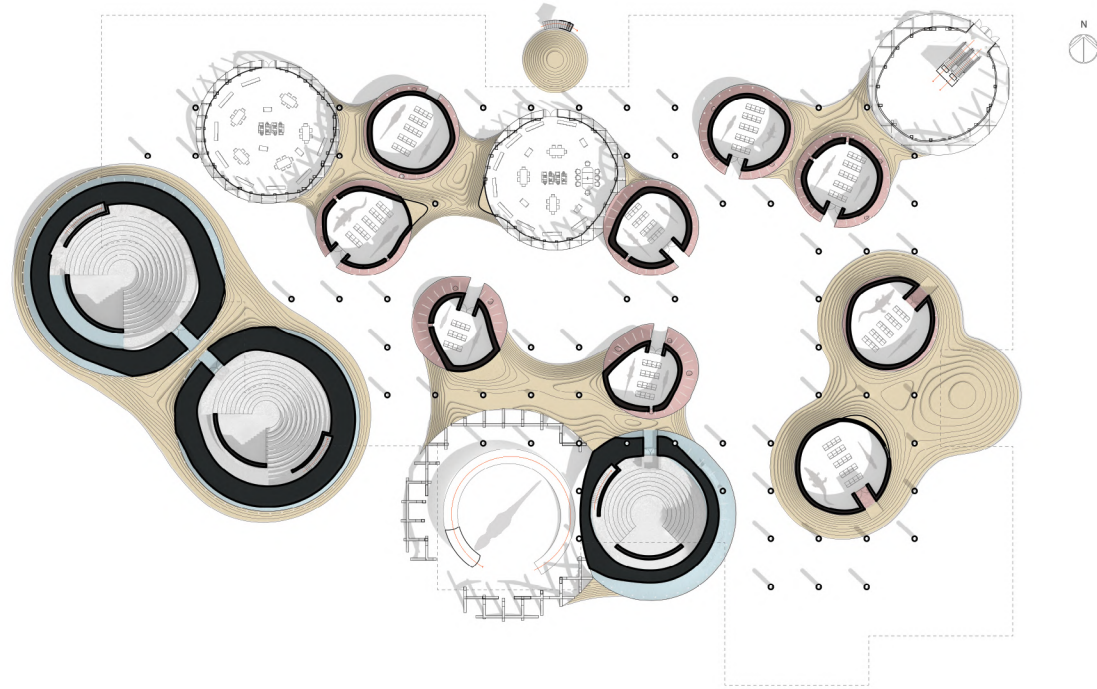


Move modules apart to create courtyards for bringing light down to the bottom



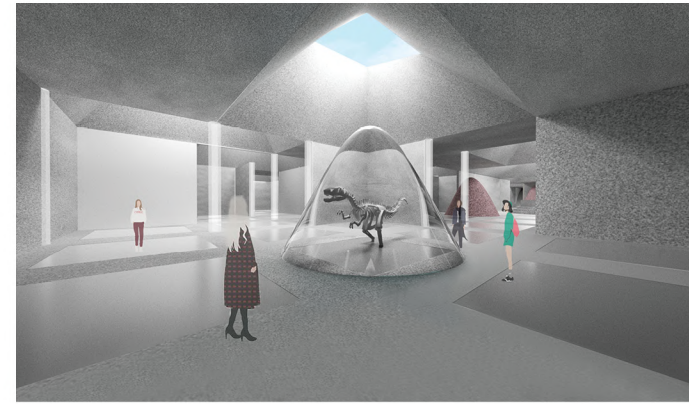
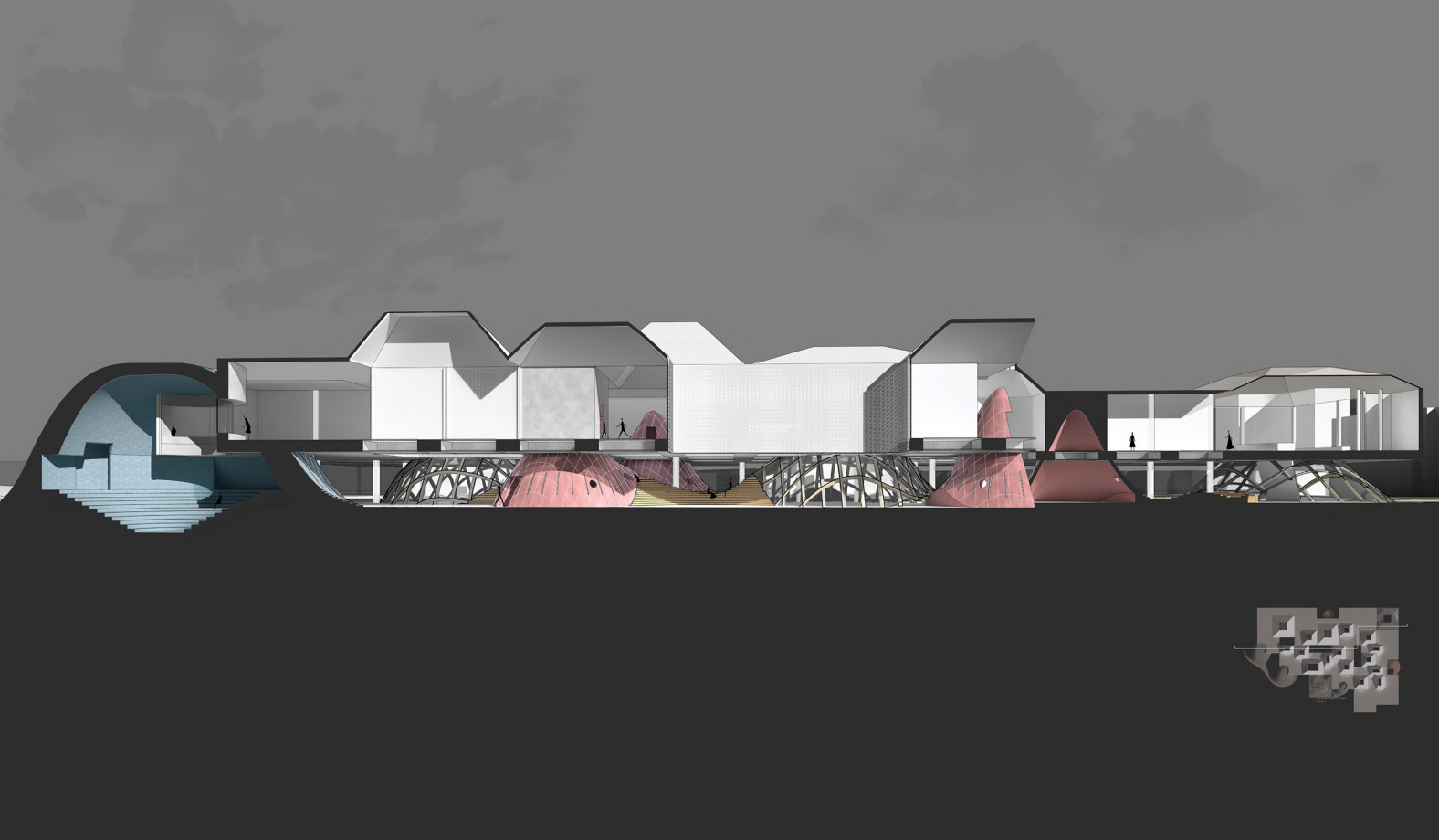


[Upper Level]



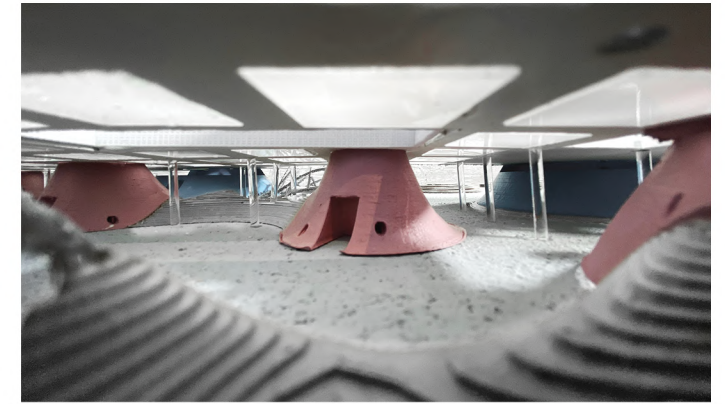
[Ground Level]





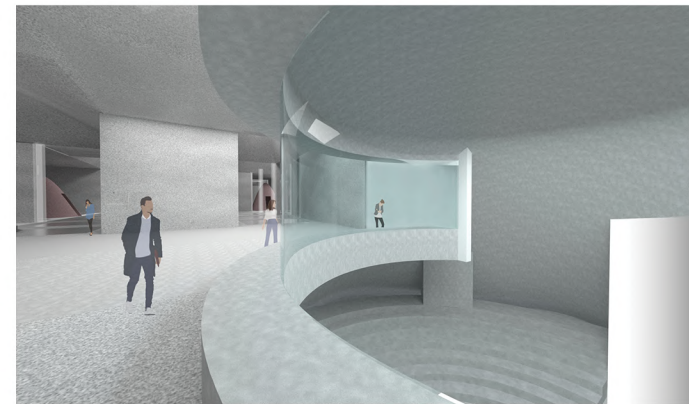
[Exhibition Space]

Visitors perceive hills as objects inside the box. Hills are used to display or guide circulation routes.



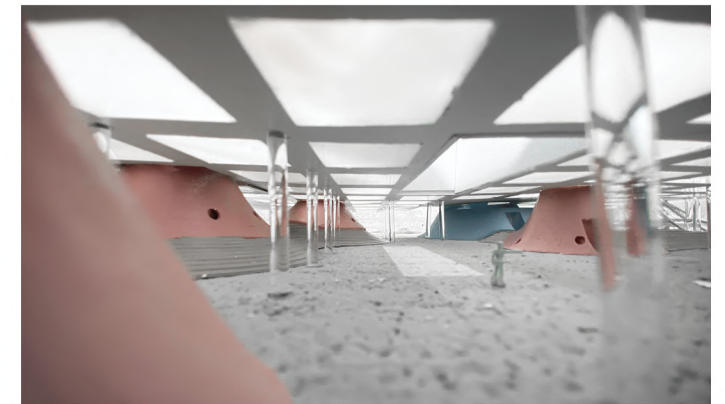
[Specimen Storage]

Bottom part of the hills become the specimen storage on the ground level. Visitors can look into the storage space through holes.



[Theater]

Huge hills cut into the box and shaped the edge of the box. Boundary between the box and the hill become transparent. The hill become theater. Visitors can watch theater on the upper level.



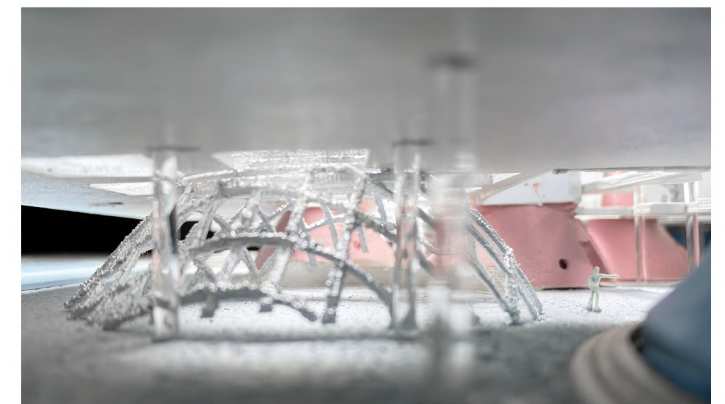
[Courtyard]

Courtyards brings sunlight to the ground level. Also, the translucent floor slab and transparent columns brings the interior artificial light into the ground level.



[Viewing Research]

Visitors can see through but not enter in the research space inside the hill. Skylight is used to illuminate both the box and the hill space.



[Research Space]

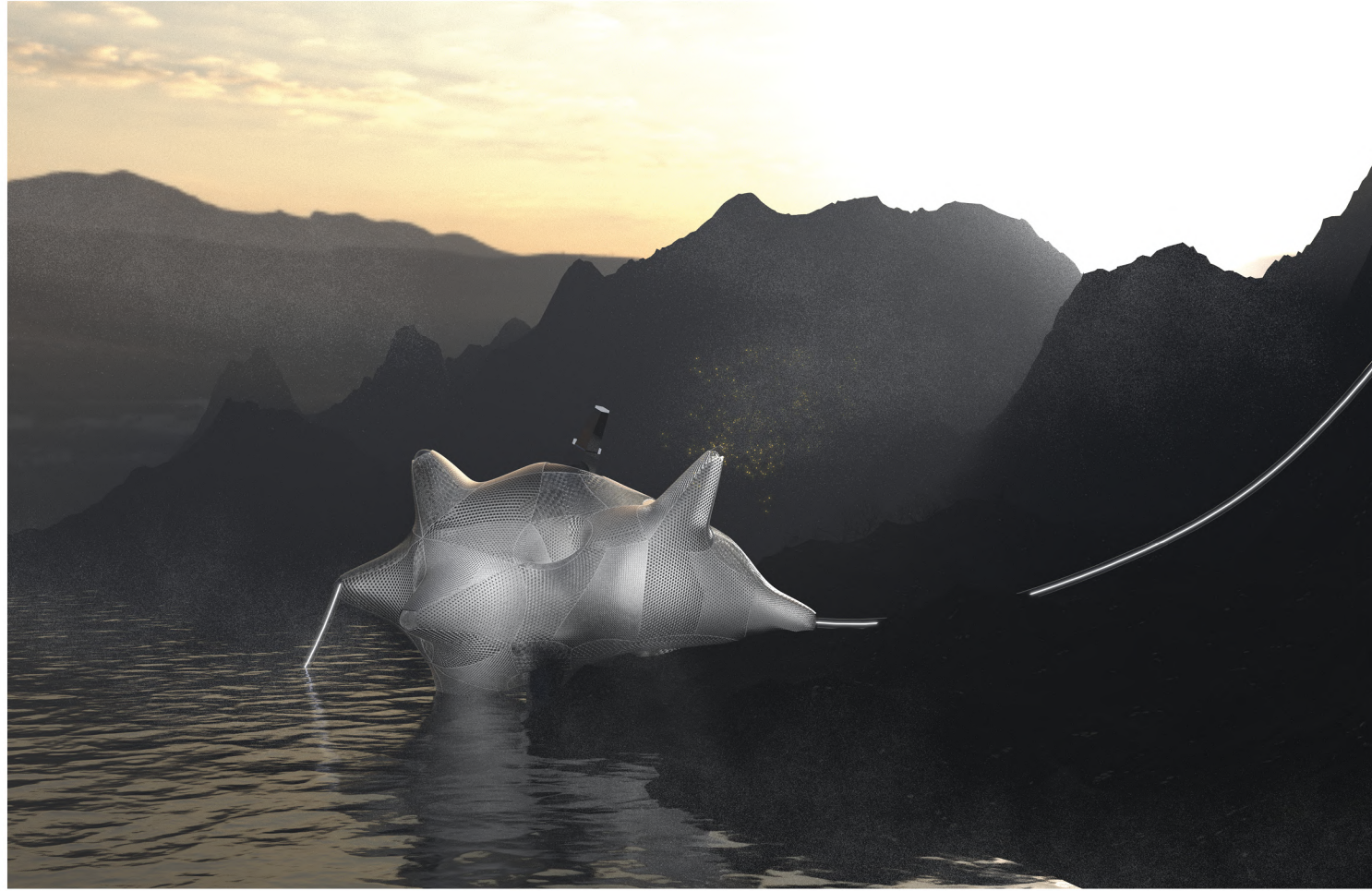
Research space can be accessed on the ground level. Sunlight from the skylight illuminate the research space.

[NIRVANA]

LOS ANGELES FOREST REIMAGINED

Forest in Bel Air, Los Angeles

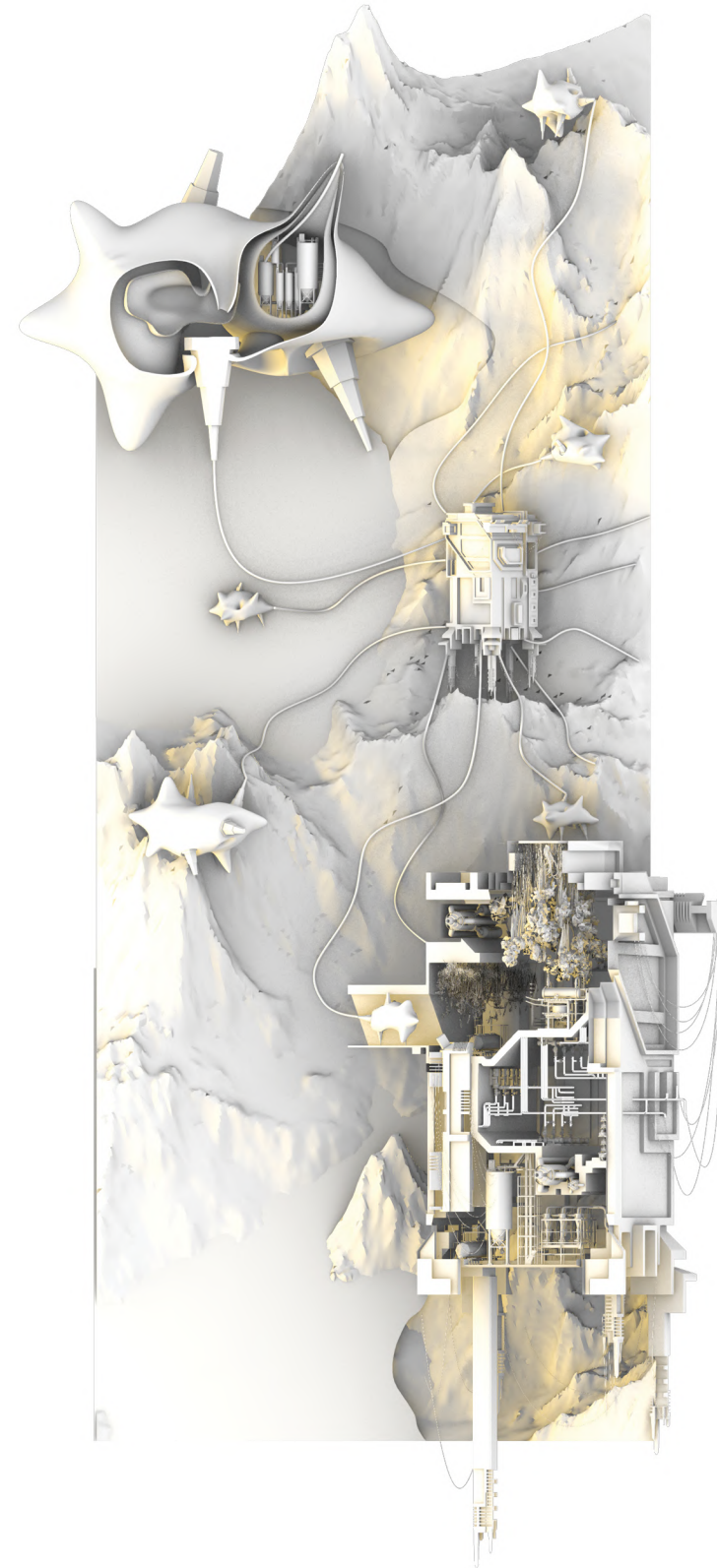
Studio Project, Instructed by Simon Kim
Collaborate with Kewei Lin | Autumn 2022
Conceptual Design, Renderings, Physical Model



CONTEXT AND CONCEPT

In our project, we drew inspiration from Kevin Crossley-Holland's "The Norse Myths," which highlights the earth's ability to regenerate and thrive after destruction. Like the depiction in the myth where Surt's fire destroyed Asgard, our focus was on the major wildfire that devastated Los Angeles, leaving everything scorched and burnt, with ruins covered in ash and carbonized trunks as the only remnants. However, amidst the depression, hope was found in the myth's representation of Baldr and Mistletoe. Mistletoe, collecting ash with its tentacles, brings it to Baldr, who purifies the preexisting leftovers and transfers them to nutritious soil within its core of light. Baldr seems to have his own plan for the future, as some seeds and embryos from old Los Angeles are also brought to this new nature. The soil, introduced back to earth by Mistletoe, comes with some alien form of life, breathing new life into the once scorched land.

Through our project, we aimed to embody the myth's message of hope, reminding us that even in the darkest of times, there is always the potential for new growth and the possibility of a better future.

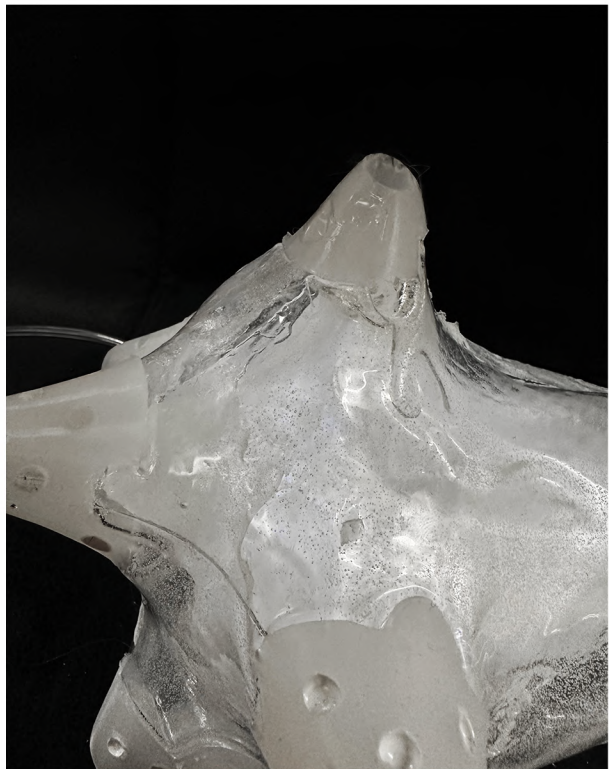




“Baldr”



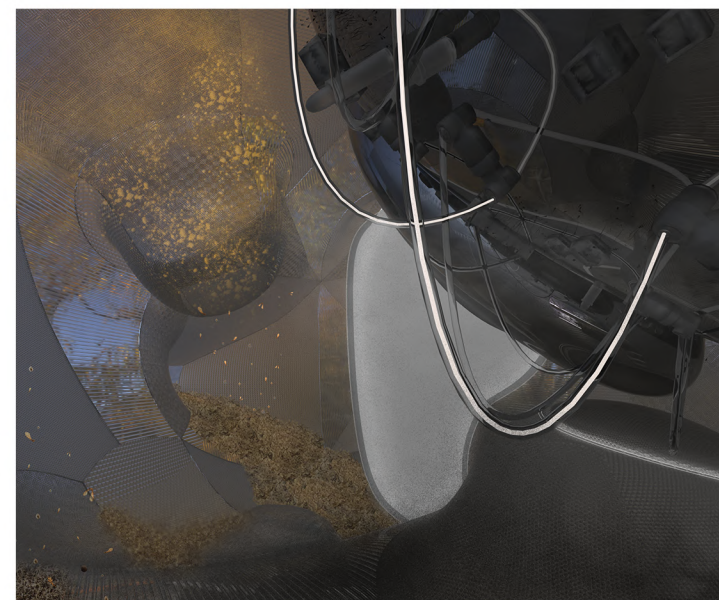
“Baldr 2.0”



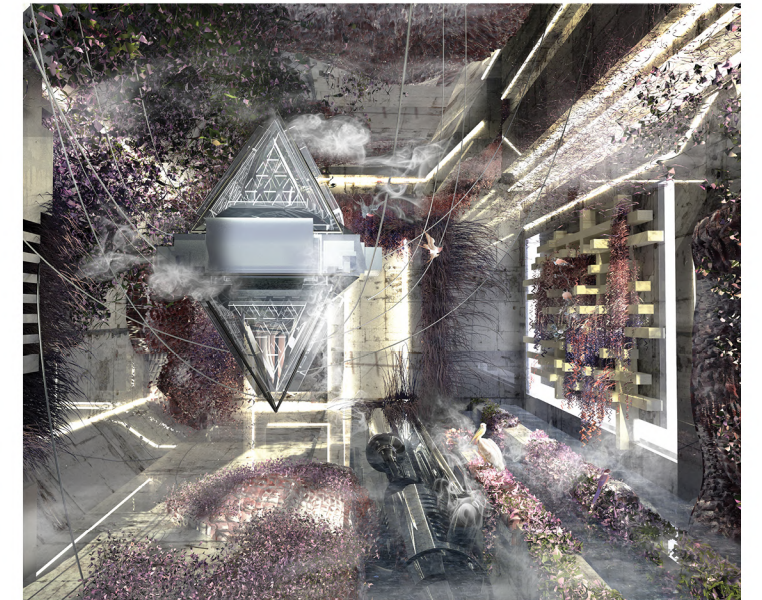
“Mistletoe”



Los Angeles Forest Reimagination



Interior of “Mistletoe 2.0”



Interior of “Baldr 2.0”

[PROFESSIONAL PRACTICE: COMMUNITY]

Internship project with Gensler San Jose
Summer 2022

Renovation for Homeless Shelter

Concept, Graphics, Exterior Renderings, 3d Modeling, Animations

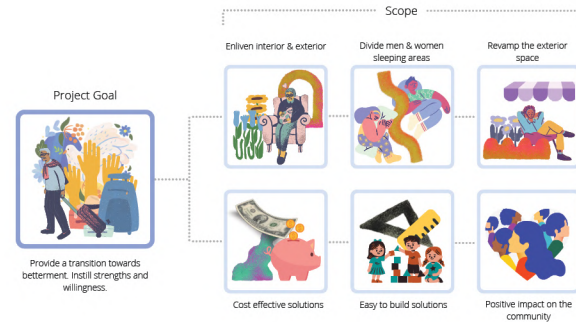


Courtyard Rendering

CONTEXT AND CONCEPT

As part of our internship, we were tasked with proposing revitalization strategies for the Boccardo Regional Reception Center, which is situated just south of downtown San Jose and is the largest homeless service center in Santa Clara County. This center provides vital year-round shelter, transitional housing, and services to those in need.

At the outset of the project, we conducted a comprehensive site tour, during which we gained valuable insights from the clients. We discovered that they have a strong desire for a clear division between the men's and women's sleeping areas, relocation of the mural to a more visible location, increased locker storage, better storage solutions for their beds, updated flooring, and a revamped courtyard with a new shade structure. Our proposed revitalization strategies focus on creating a more welcoming and pleasant environment for the clients.



Before and After



Interior Renderings

[OTHER WORKS: MONOLITHOS]

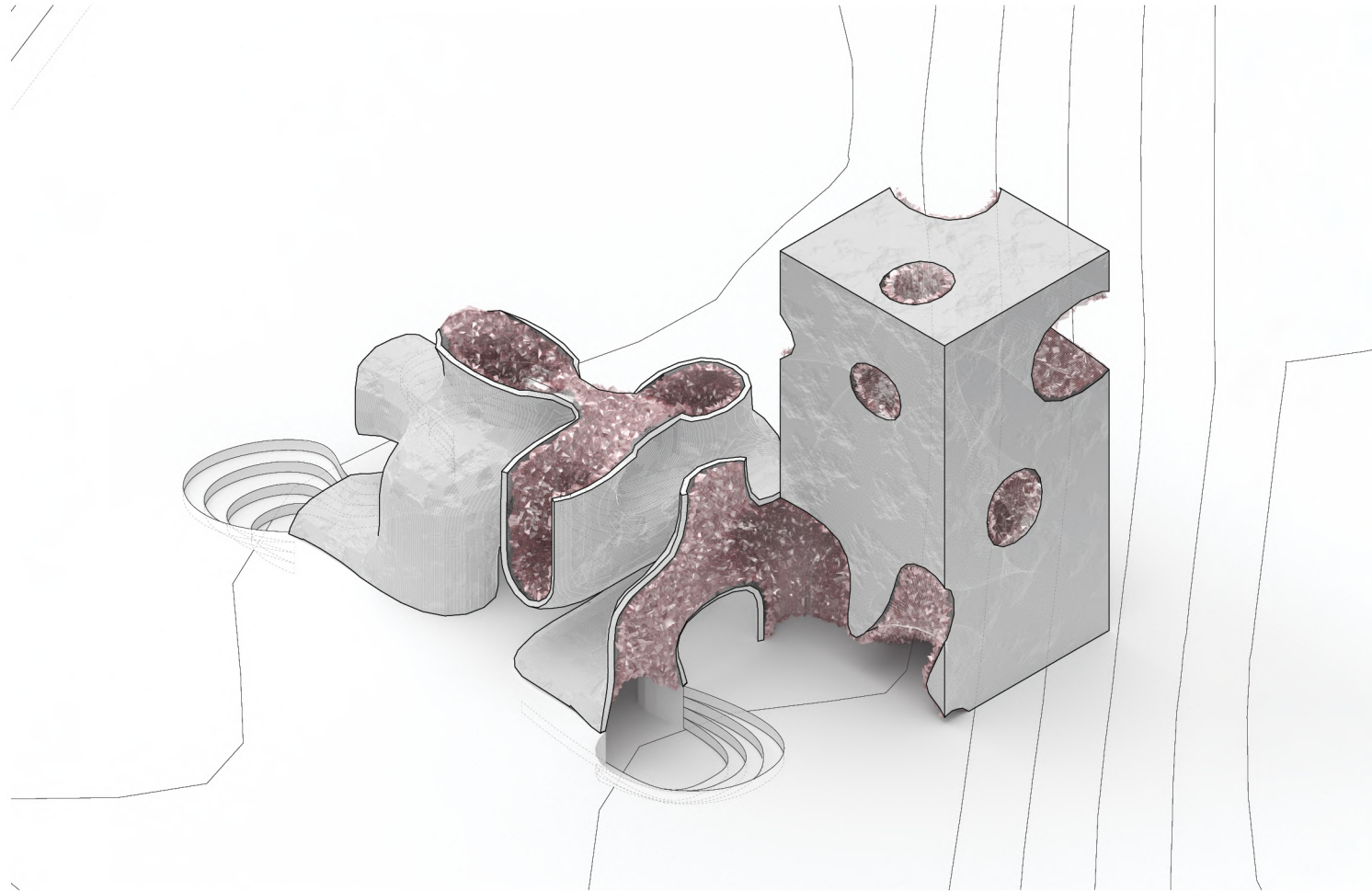
A dialogue between individuals and the society

A Climbing Folly

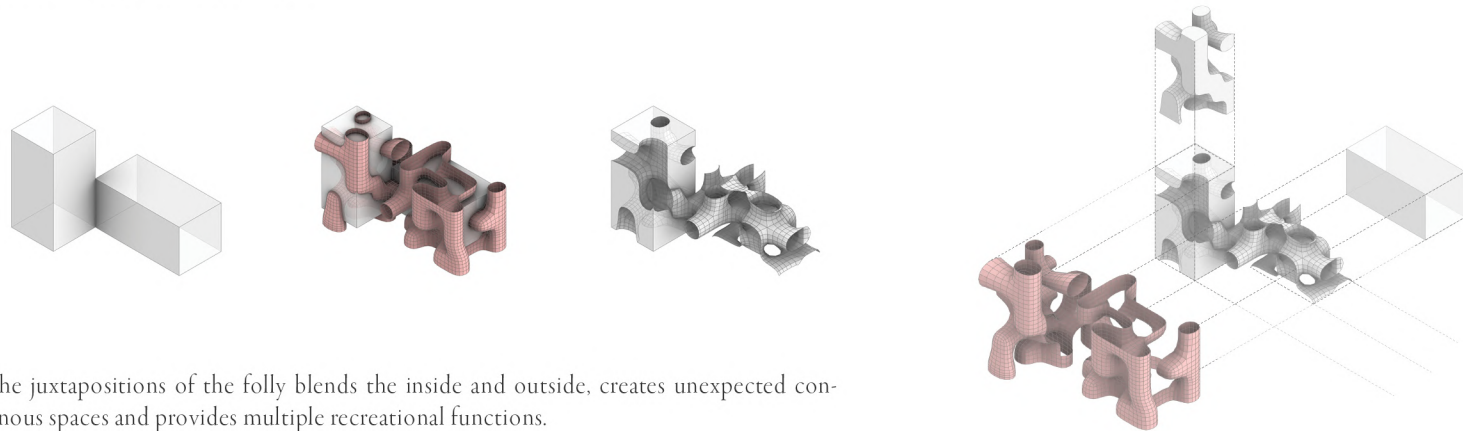
Studio Project, Instructed by Ezio Blasetti, Danielle Willems

Individual Project | Autumn 2020

Conceptual Design, Diagrams, Renderings, Drawings



CONTEXT AND CONCEPT



The juxtapositions of the folly blends the inside and outside, creates unexpected continuous spaces and provides multiple recreational functions.

Exterior view for climbing folly



A view inside the climbing folly

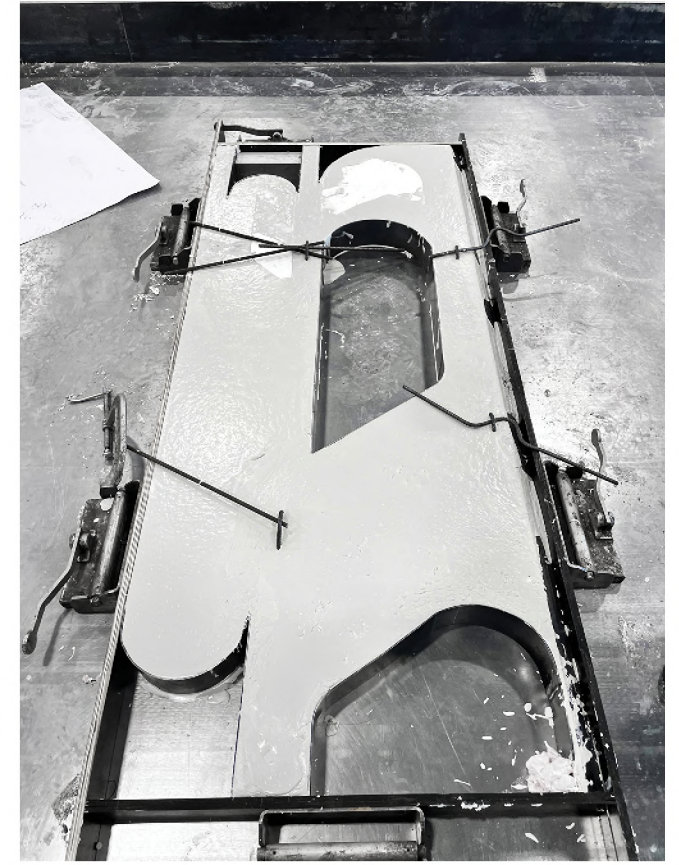
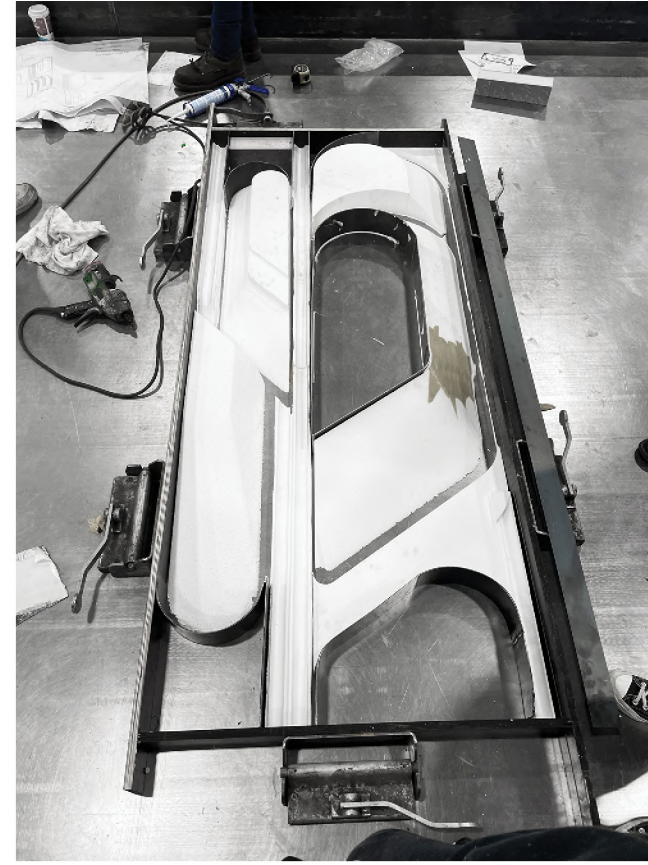


A view for one of the voids

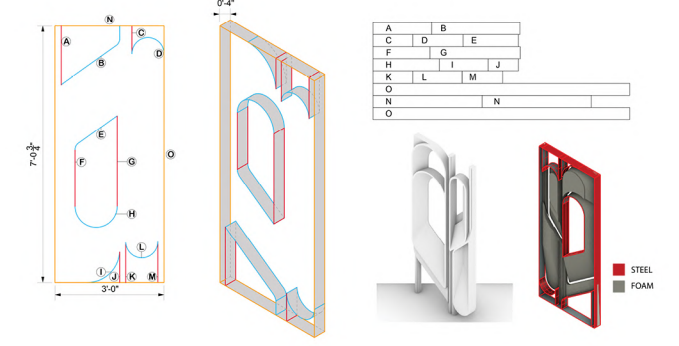
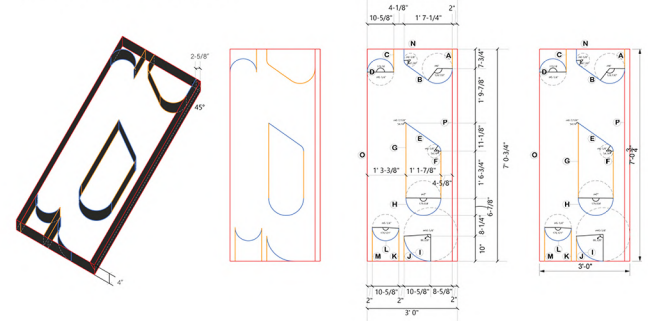
[OTHER WORKS: PRECAST CONCRETE]

Precast Concrete Panel in Philly, Pennsylvania

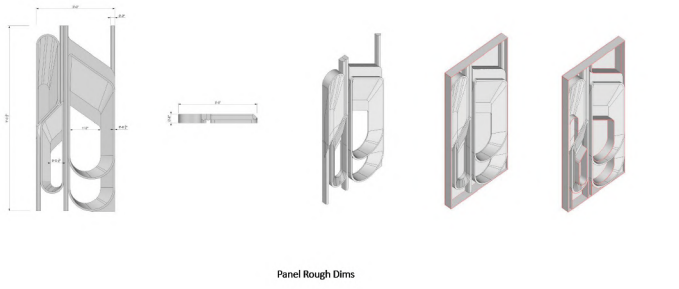
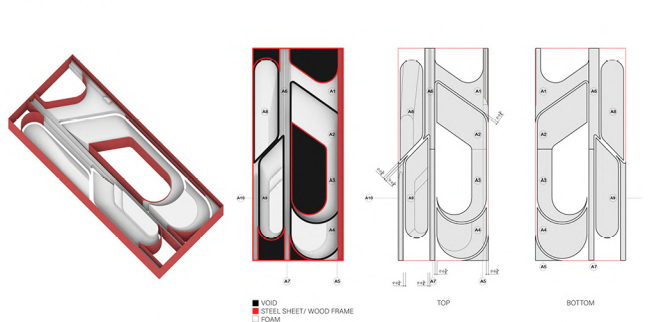
Studio Project, Instructed by Richard Garber
Collaborate with Jingwen Wu, Lixue Cheng, Monte Reed | Autumn 2022



STEEL SHEETS ASSEMBLY DIAGRAM (PART B)



FOAM ASSEMBLY DIAGRAM (PART B)

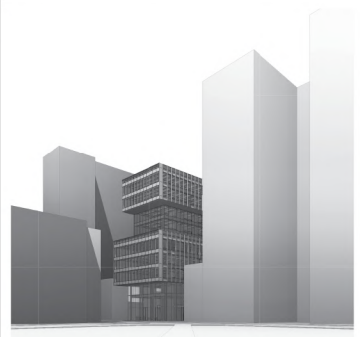


Panel Rough Dims

[OTHER WORKS: RITTENHOUSE PROJECT]

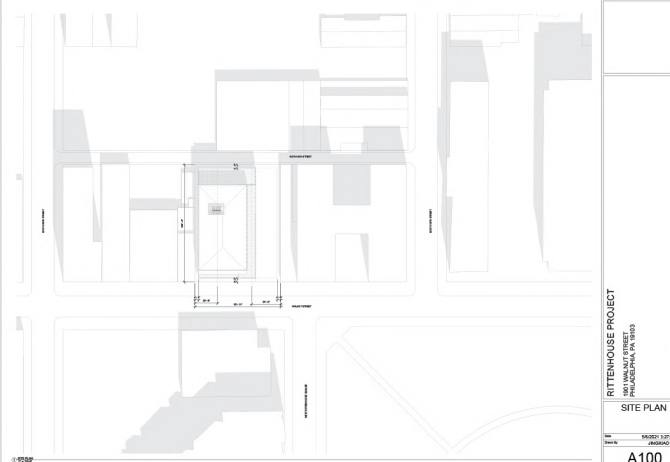
Construction Drawings

Studio Project, Instructed by Patrick Morgan
Individual Project | Spring 2021



RITTENHOUSE PROJECT
JINGXIAO ZHOU
180 WALNUT STREET
PHILADELPHIA, PA 19103

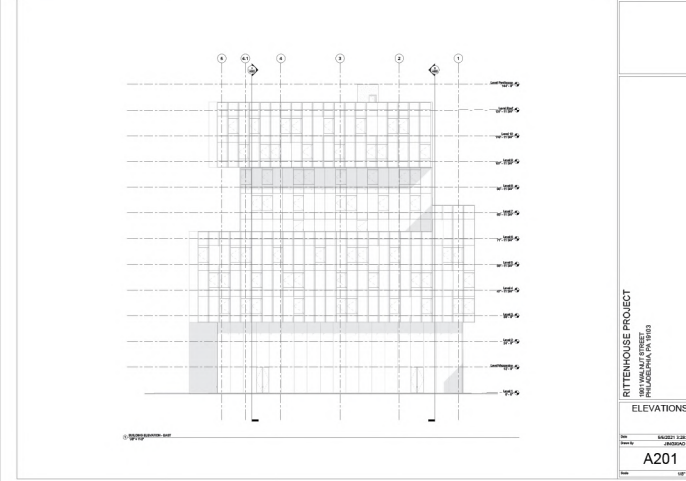
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01/15/2029	100	PRELIMINARY



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

SITE PLAN

A100



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

ELEVATIONS

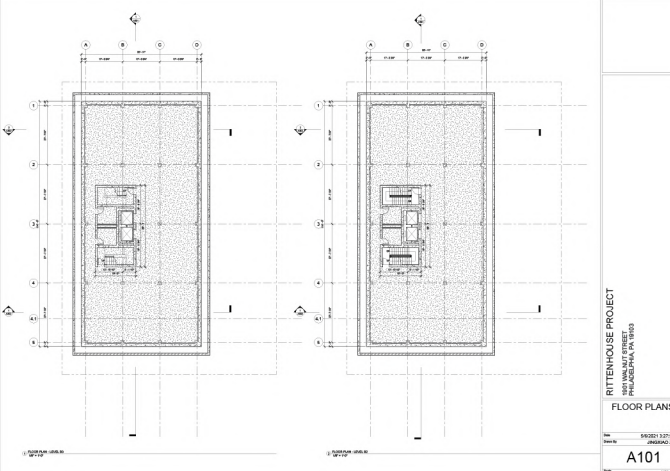
A201



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

BUILDING SECTIONS

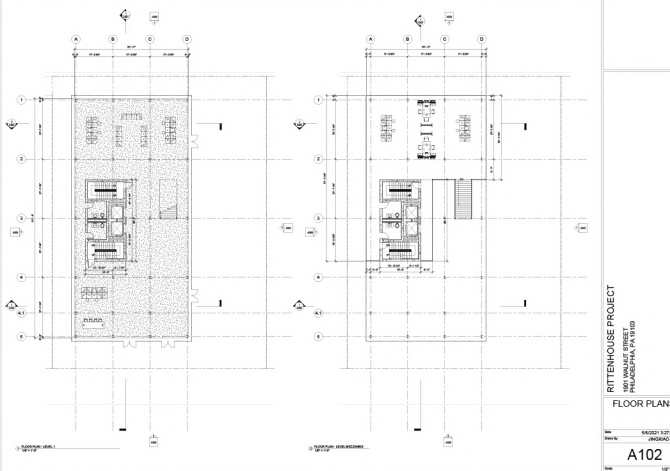
A302



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

FLOOR PLANS

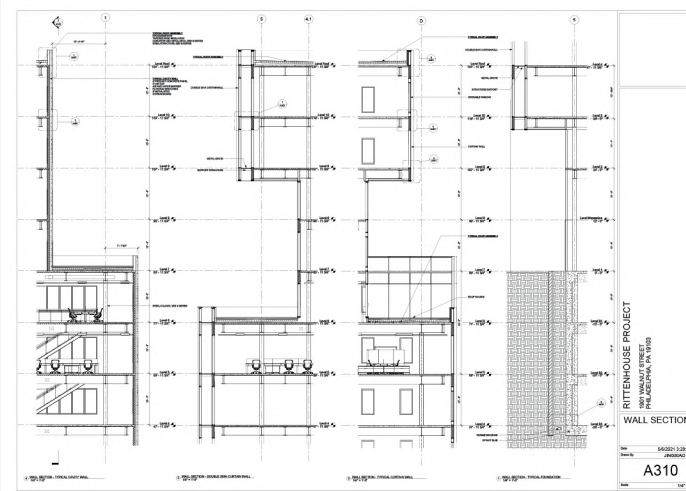
A101



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

FLOOR PLANS

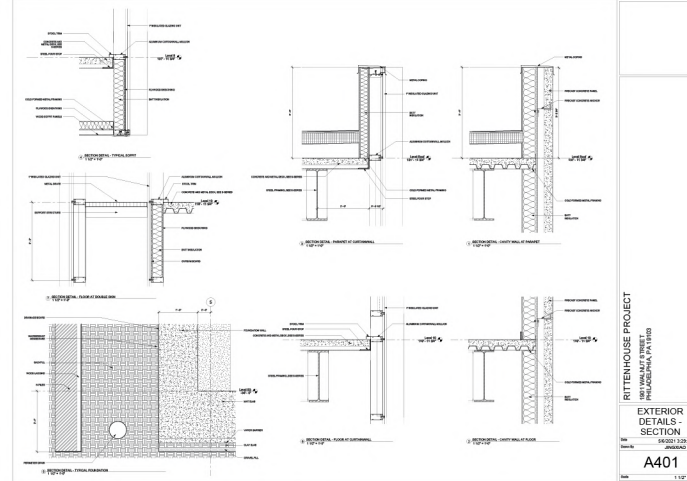
A102



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

WALL SECTIONS

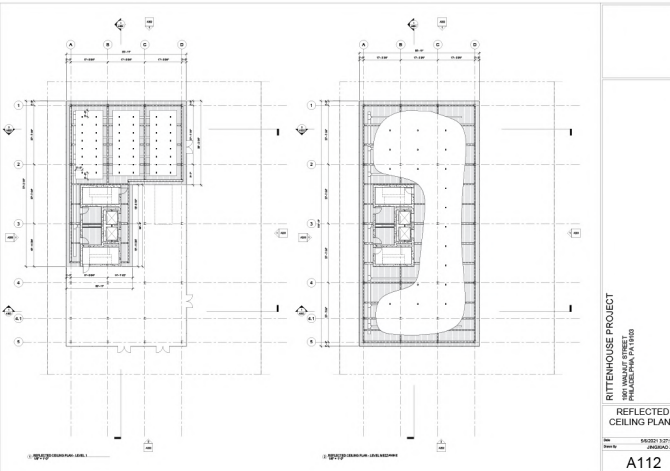
A310



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

EXTERIOR DETAILS - SECTION

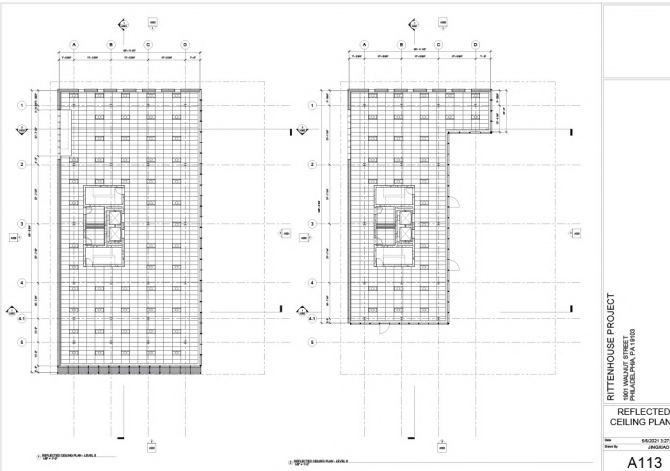
A401



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

REFLECTED CEILING PLANS

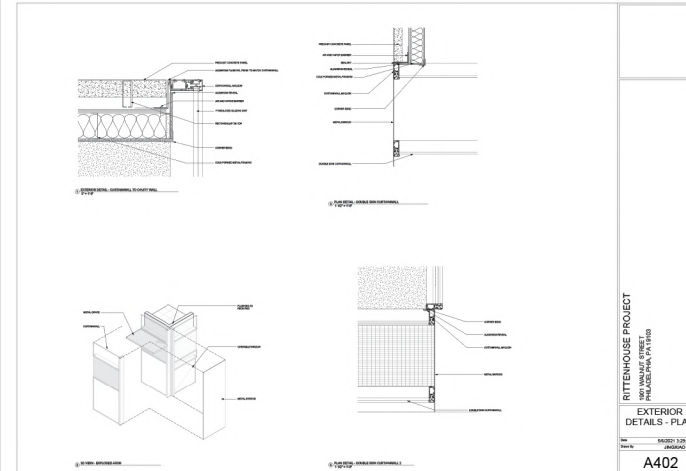
A112



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

REFLECTED CEILING PLANS

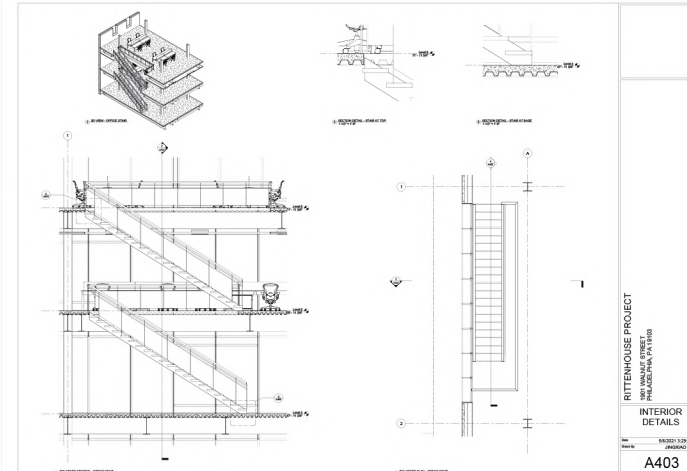
A113



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

EXTERIOR DETAILS - PLAN

A402



RITTENHOUSE PROJECT
180 WALNUT STREET
PHILADELPHIA, PA 19103

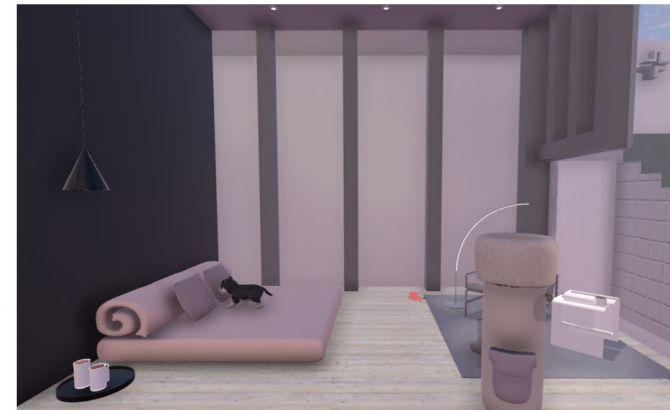
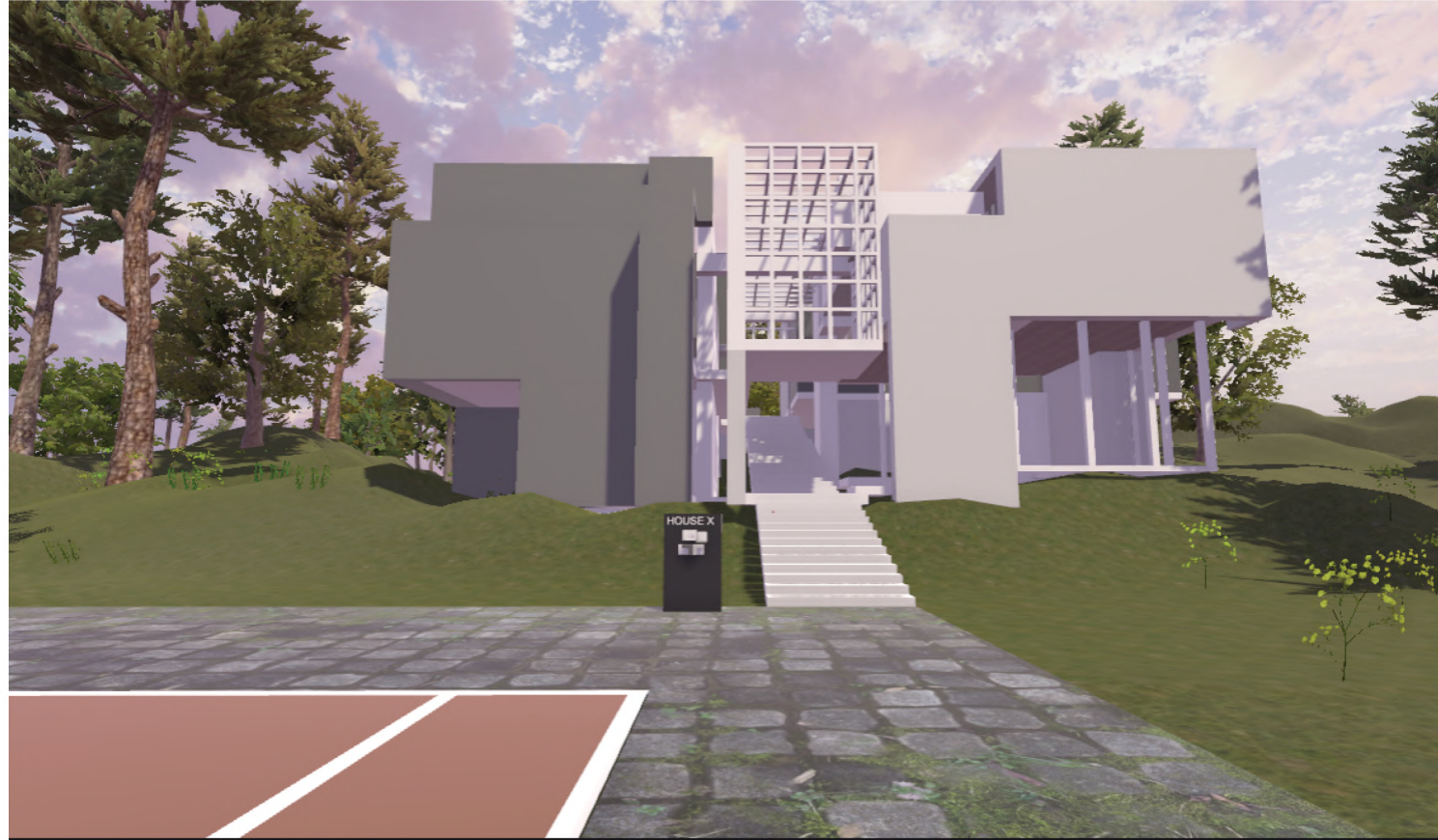
INTERIOR DETAILS

A403

[OTHER WORKS: SEMI-FICTIONOUS]

Rebuild House X in Virtual Reality

Studio Project, Instructed by Jeffery Anderson
Collaborate with Jingwen Wu, Kewei Lin | Autumn 2022



CONTEXT AND CONCEPT

This project is an immersive virtual reality game created in Unity that offers a unique opportunity to experience Peter Eisenman's House X project, which was never actually built in reality. While this is the first time the team has used Unity, the game design process has been incredibly enjoyable, with endless opportunities to explore and create.

In the game, the player takes on the role of the house owner, who is eager to collect items for a golf outing but is met with resistance from her furry companion who craves her company. The player must explore the interior and exterior of House X, gradually discovering that the dog has hidden all the items to keep the owner at home. As the game progresses, the player comes to realize that playing with the dog by the pool area is more rewarding than any golf game, leading to a heartwarming conclusion.

The concept of the game is not only entertaining but also educational, as it allows players to experience the iconic architecture of Peter Eisenman in a unique and interactive way. With stunning graphics and engaging gameplay, the House X VR game promises to be an unforgettable experience for all who play it.

