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# FABIANA VILLANI

## PORTFOLIO

2019-2024

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Spring 2024  
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Fall 2023  
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Partner: Zeynep Akgol  
Crit: Anne Nixon & Rychiee Espinosa

# 01 Heaven Machine

Thesis Project/An Elevated Ground Over Cities

What is heaven? Heaven is a mindset. Heaven is a place. Heaven is space... "Heaven Machine" presents a new kind of urban public architecture, focused on creating a dynamic higher ground above cities. Our project aims to defy traditional architectural norms and traditional 'public park typologies' by suspending structures above ground level. These ideas come from material explorations in floating, tension, balance, and suspension. Our concept for "Heaven Machine" is based on promoting unity, community, adaptability, and transformation, drawing inspiration from the concept of heaven as a mind state and a physical space.

Our project suggests a new type of 'park' that goes beyond geographic and cultural limits, providing welcoming spaces that promote personal creativity and group participation. "Heaven Machine" aims to assess and adapt to the various activities of individuals in urban settings globally, by utilizing flexible structures and dynamic public areas. Our goal is to transform urban areas into elevated sanctuaries or 'heavens' for the well-being and cultural expression of communities.



LOOKING UP



CONCEPT DRAWINGS

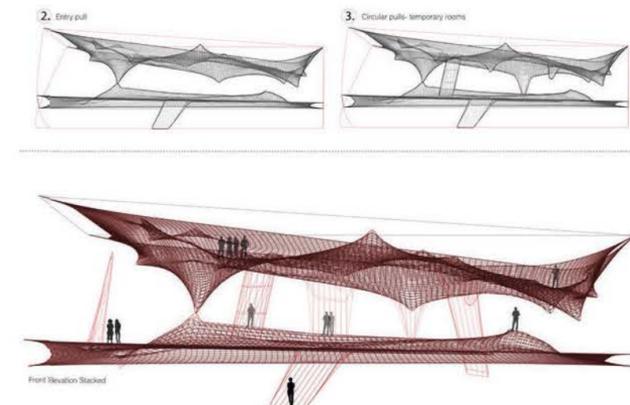
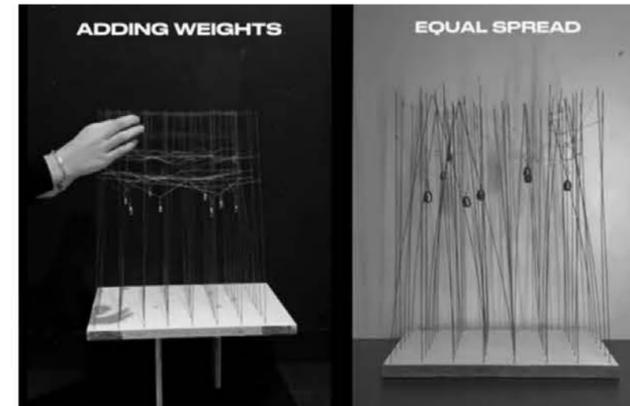
STUDY MODEL

Mesh and wire physical model; testing tension forces and material properties.

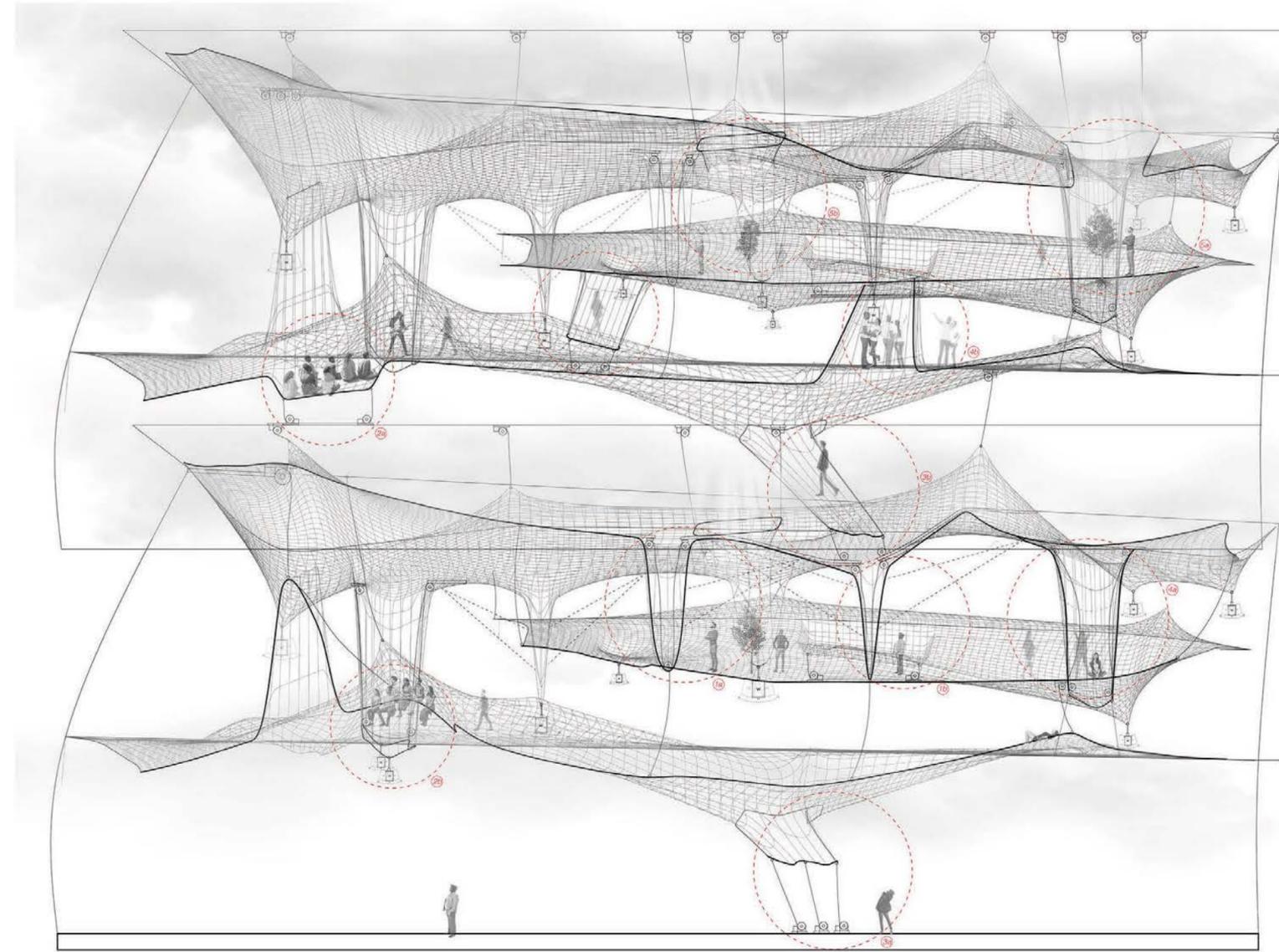




INSTRUMENTS OF CHANGE



As we move forward, we use a variety of tools and methods such as digital modeling software and physical prototyping to enhance our design. By conducting repeated tests and experiments, our goal is to enhance the efficiency, flexibility, and visual attractiveness of our constructions. In the end, "Heaven Machine" goes beyond the design project; it represents our shared dreams of reshaping the cityscape. By conducting thorough research, implementing experiments, and working together, we aim to build environments that promote togetherness, relationships, and spiritual growth. By accepting the difficulties and intricacies of our selected environment, our goal is to spark fresh approaches in architectural methods that connect profoundly with society and the environment.



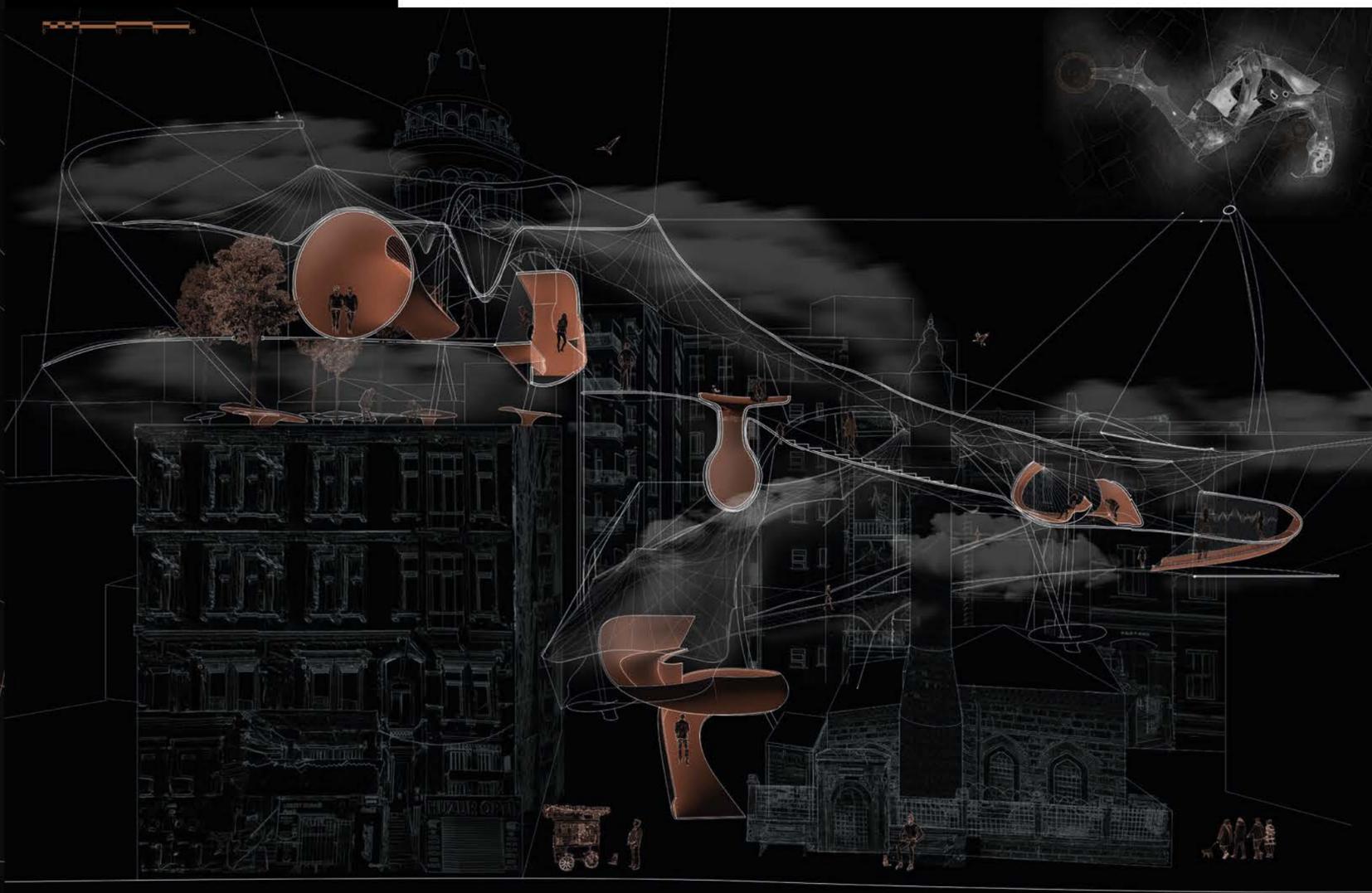
- ① Point Pull- Projections
- ② Sag Belly- Seating
- ③ Entry Pull- Access
- ④ Enclosure Pull- Rooms
- ⑤ Opening up- Gardens

SECTION DRAWING EXPLORING MESH CHANGE

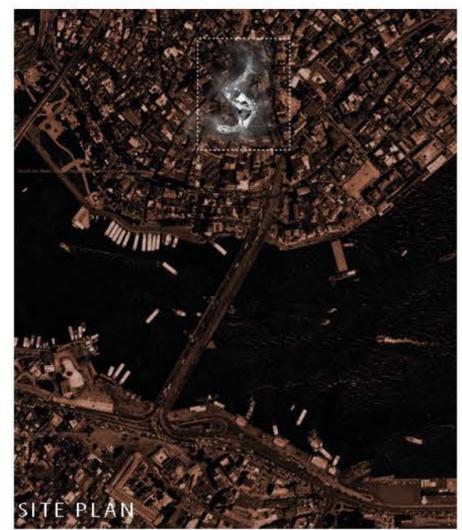




PLANS



LONG SECTION



SITE PLAN



ISOMETRIC VIEW 'THE CLOUD'

# 'The Jigs'

Inserting program and structure into the mesh

## OUR IDEA OF HEAVEN

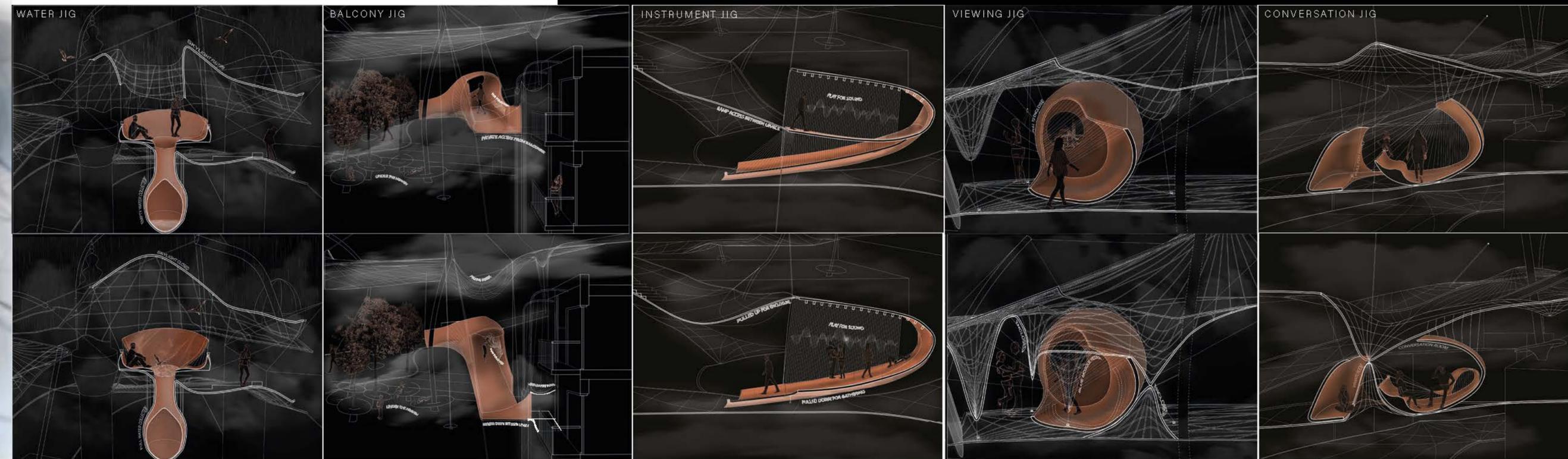
Comes from the idea of union, gathering, flexibility, and transformation. No architecture can design heaven but we can create an environment that encourages people to create their own, and shape their own heavens.

## OUR IDEA OF MACHINE

Comes from wanting people and users to participate and engage in this space, therefore creating a dynamic public space. As a result of these ideas we decided to use the materiality of the mesh fabric. By it being flexible it becomes adaptable to change.



## MESH AND JIG INTERACTION/CHANGE



## 3D ACETATE EXPERIMENTAL DRAWING

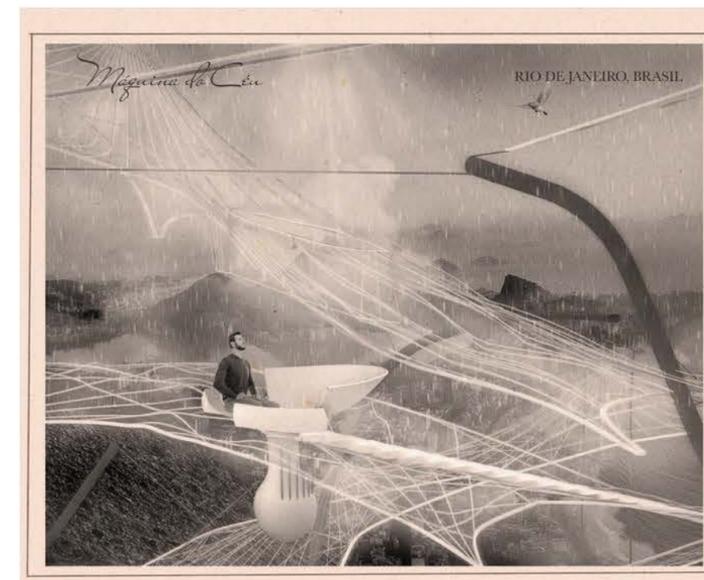
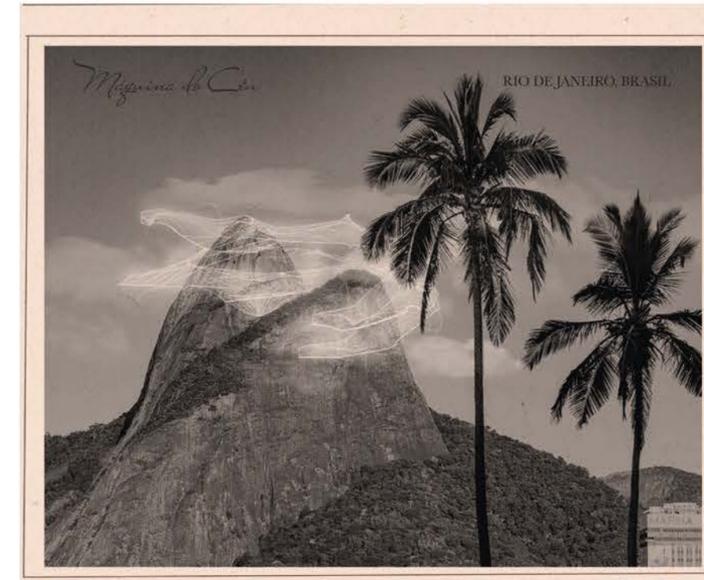


POST CARDS FROM HEAVEN

Exploring different sites and conditions around the world.



WHERE IS YOUR HEAVEN?



Partner: Zeynep Akgol  
Crit: Adam Elstein

01  
FRAGMENTED LENS

Museum / Photography Galleries

This design studio was based on architecture and photography. We began by using New York City as our museum. The exercises started by re-inventing already existing architectural spaces through collaging. We focused a lot on spatial transparency. I decided to use photography to develop my ideas for this museum design. My research on the concepts of 'fragmentation' and 'projection' began by photographing distorted projections on different surfaces.



ELEVATION



CONCEPT PHOTOS

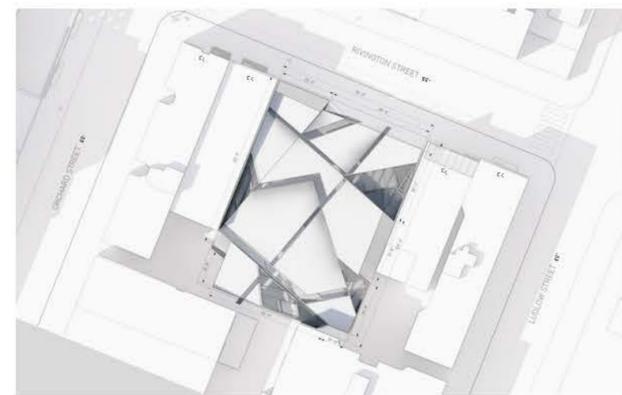
LIGHT BOXES

Used to fragment light to create projection photos.

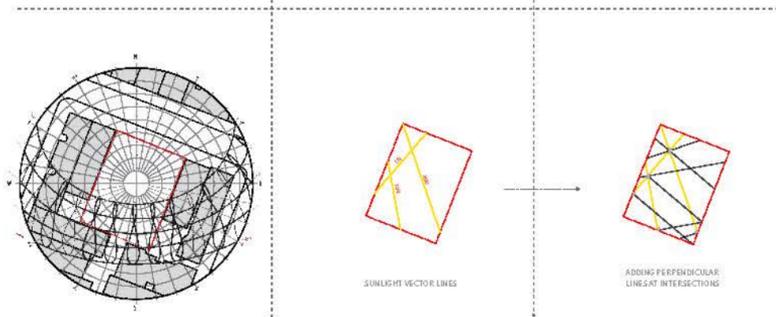
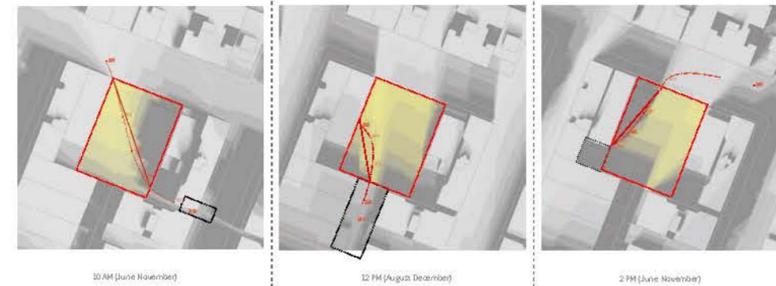


"Museum in New York City For Three Photography Expositions"

Concept: Fragmentation to intensify the perception of light and darkness at each floor. This concept of a gradient of light and experience is heightened as you travel up the floors into our "prismatic" gallery. It is a build up of visual intensity as the building creates a gradient as you move vertically through the museum. We needed to thoroughly examine the light in the site at first. The introduction of folded triangular cut-outs that point towards the lower floors bring "shards" of light to all floors. The folded cut-outs along with slit skylights and apertures create a triangular slit of light that scans through the space on floors and walls, varying in position and shape according to time and date with the sunlight angle.



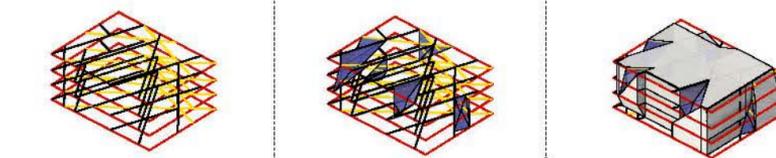
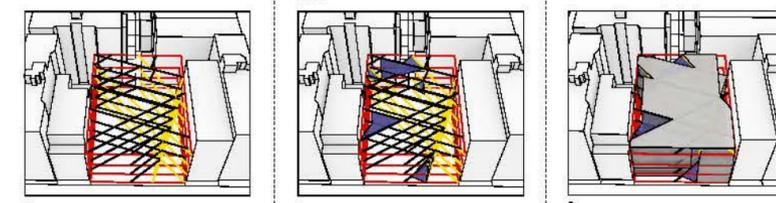
SITE PLAN



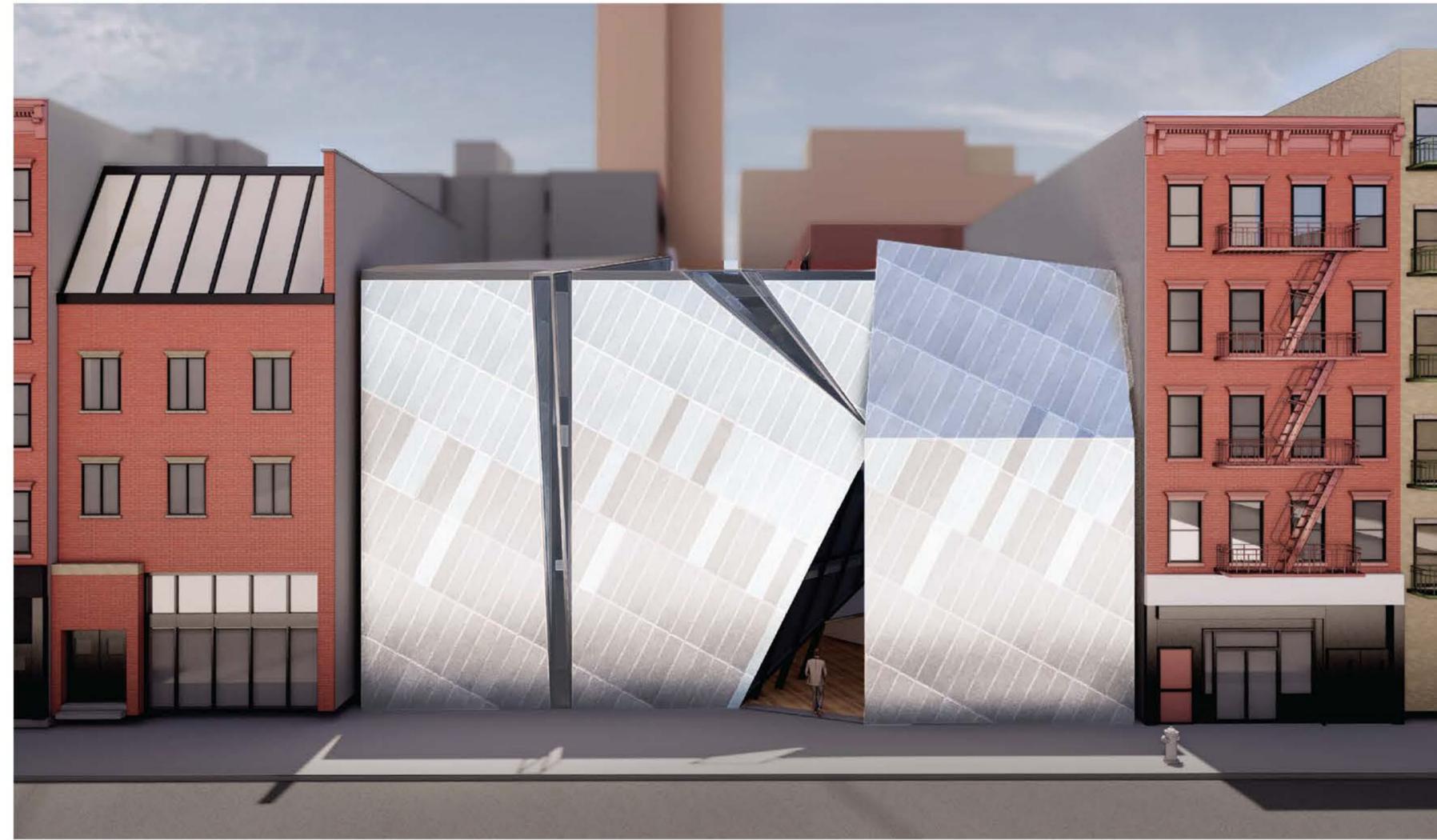
TRACKING OF LIGHT



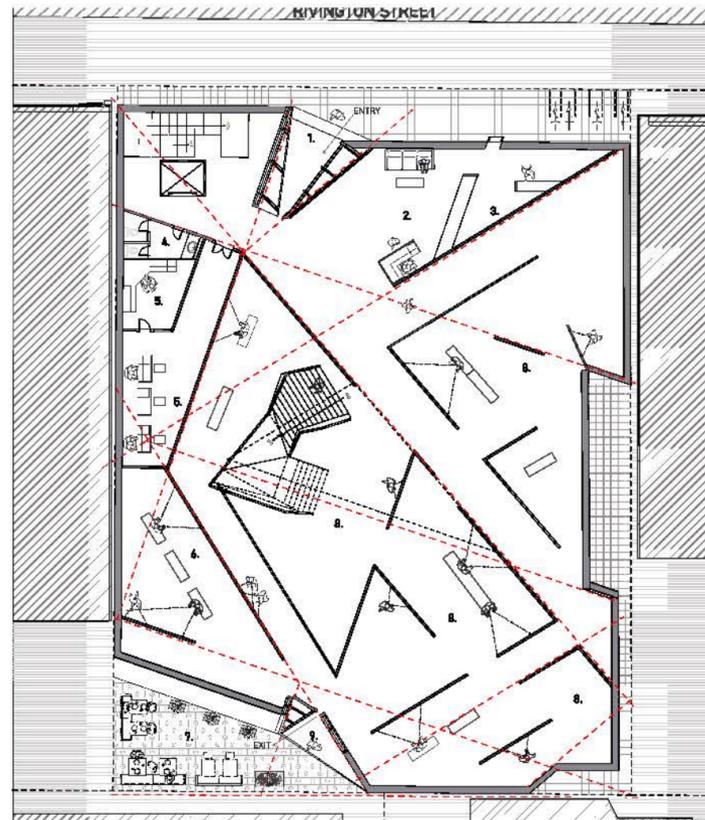
1. MAIN PATH LINES - PERPENDICULAR LINES ADDED AT INTERSECTION AND END POINTS TO CREATE FRAGMENTATION  
2. VERTICAL TRIANGULAR FOLD "SHARD" CREATED FROM LINES TO BRING MAXIMUM SUNLIGHT IN FROM ALL SIDES  
3. FLOOR PLATES ARE SET BACK TO MAKE ANGLE WALLS AND ALLOW MORE LIGHT TO GET IN



FOLDS AND SHARDS

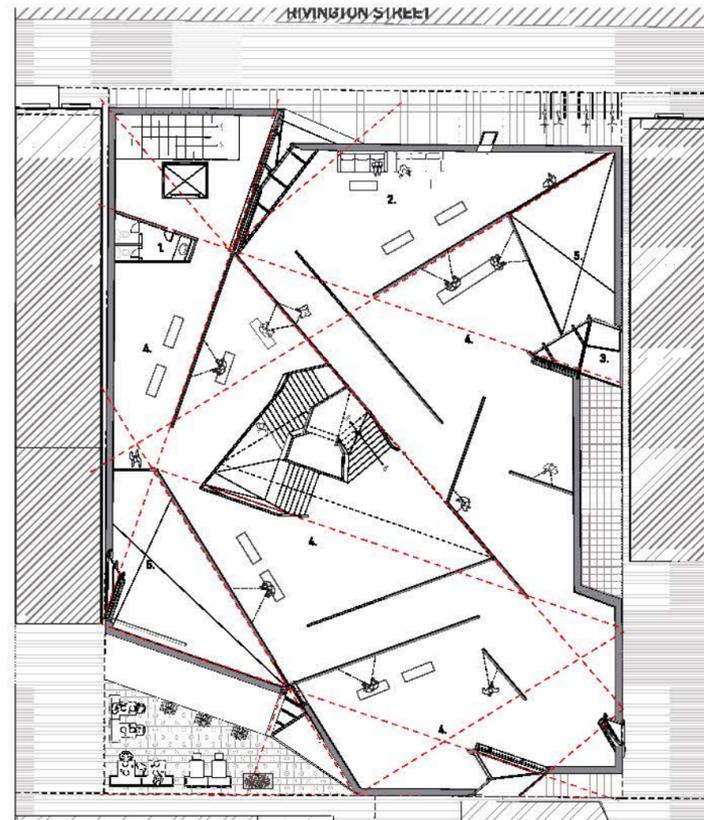


GROUND FLOOR



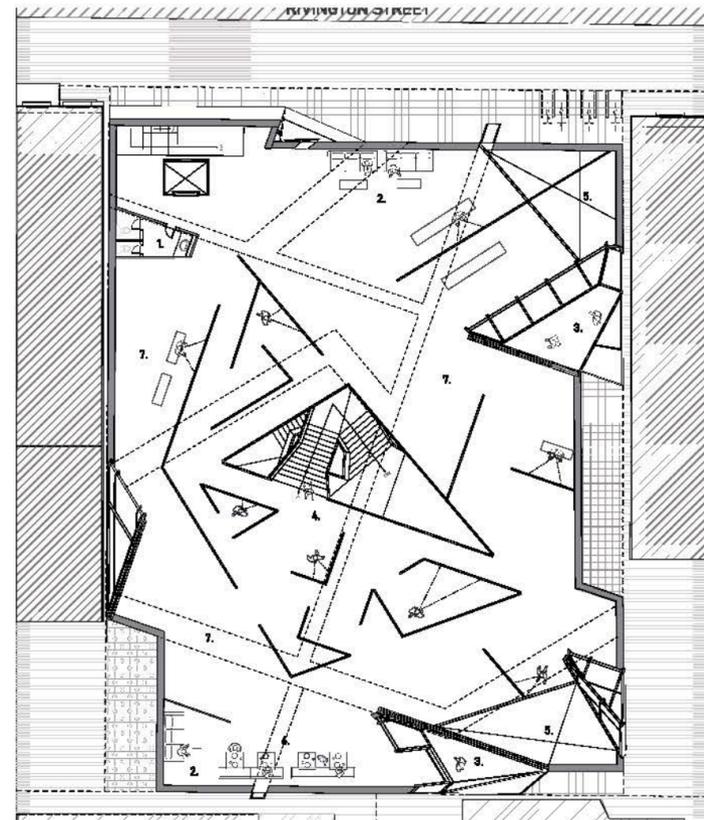
- 2. LOBBY
- 3. BOOKSTORE
- 4. WC
- 5. OFFICE
- 6. DARK ROOM
- 7. CAFE
- 8. GALLERY 1
- 9. EXIT

SECOND FLOOR



- 2. LOUNGE
- 3. BALCONY
- 4. GALLERY 2
- 5. OPENING

THIRD FLOOR

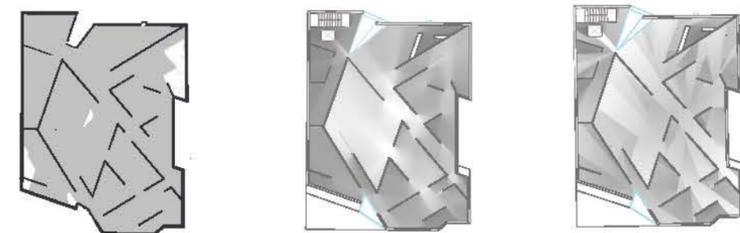
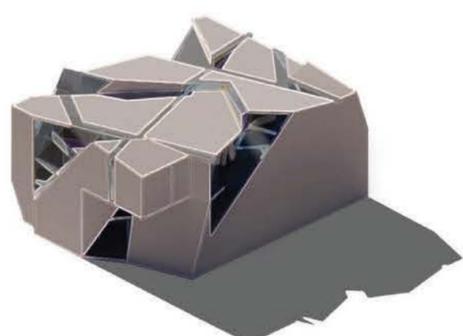


- 2. LOUNGE
- 3. BALCONY
- 4. SPECIAL GALLERY 3
- 5. OPENING
- 6. CAFE
- 7. EXPERIENCE SPACE

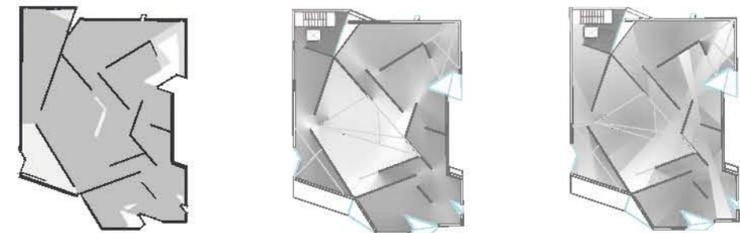
Scuro Gallery

Chiaroscuro Gallery

Chiaro Gallery/Prismatic Gallery



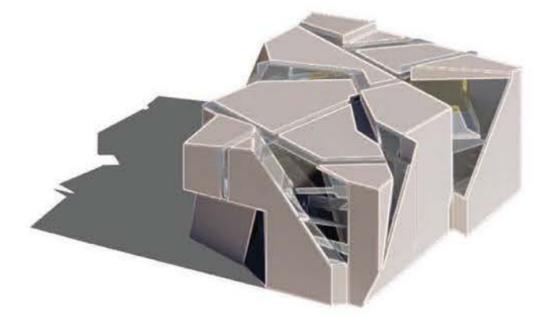
SHADOWS AREA VISTA LENGTH



SHADOWS AREA VISTA LENGTH

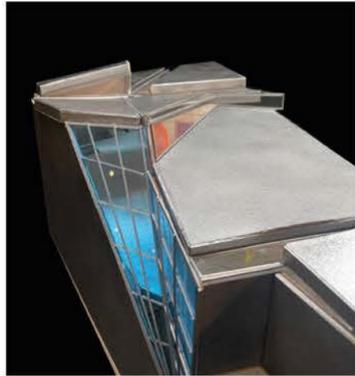


SHADOWS AREA VISTA LENGTH



Isovist Analysis to Show Spatial Transparency

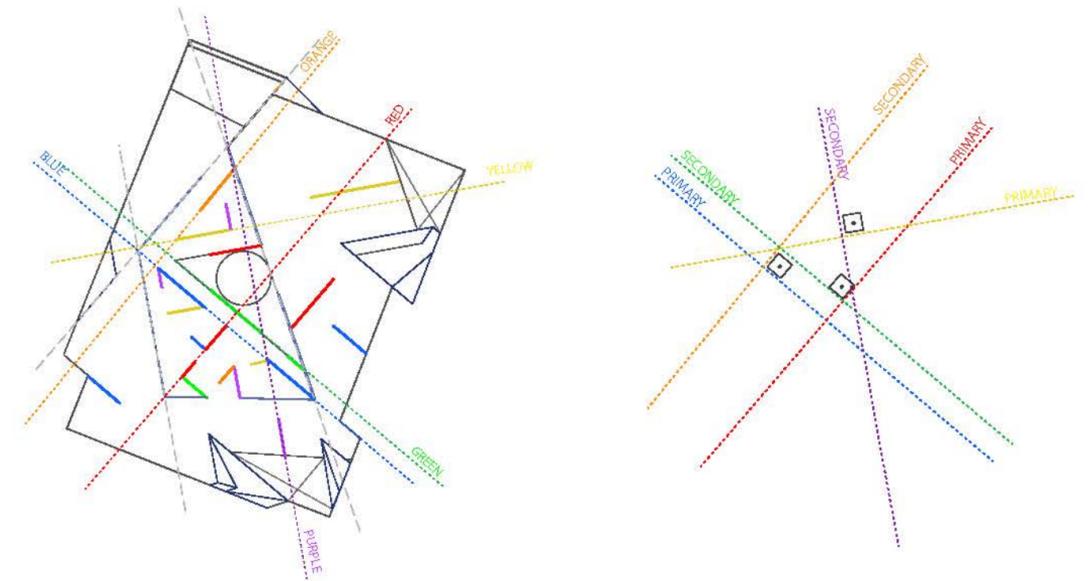
MODEL PICTURES



In architecture daylight is the main phenomena to understand time and to see the visual passage of time. The visitors experience a different fragment of light at any given time, encouraging them to be able to see light like a photographer.

The design consists of having a different gallery experience at each floor that heavily depends on the light. The 'Chiaro Gallery' or 'Prismatic Gallery' (top floor), 'Chiaroscuro Gallery' (middle floor) and 'Scuro Gallery' (ground floor).

WALL ARRANGEMENT FOR OPTIMAL COLOR MIXING



SECTION A



SECTION B



INTERIOR OF 'PRISMATIC/CHIARO GALLERY'





INTERIOR OF CHIARO  
AND CHIAROSCURO  
GALLERIES



●

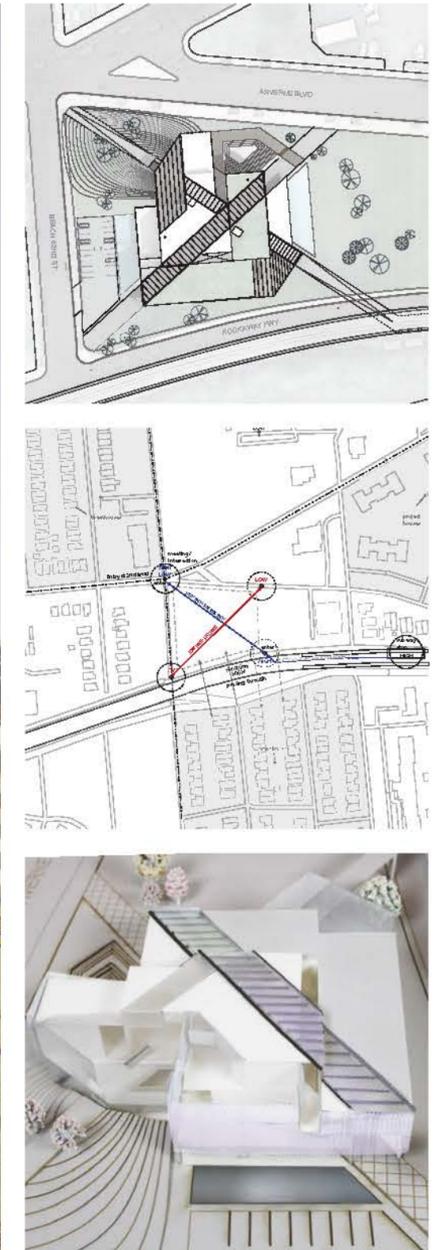
## 02 VEIL ON-TURN

Community Center with Making Spaces

Concept: Twisting building that changes orientation with a flood condition. The design of this building relies heavily on site strategy. This project is oriented and organized by using four focal points, which are the street intersections that surround the site. This creates two diagonal paths through the area as well as the building. With these paths I defined the low and high points, given that there is an elevated subway line. The structure uses two paths: the low path (public path) and the high path (community path). Since we were given a flooding condition at 13ft, the most crucial programs are placed on the higher level, and the open market and display programs are set below as open spaces. These upper-level programs would become emergency shelters in case of flooding.

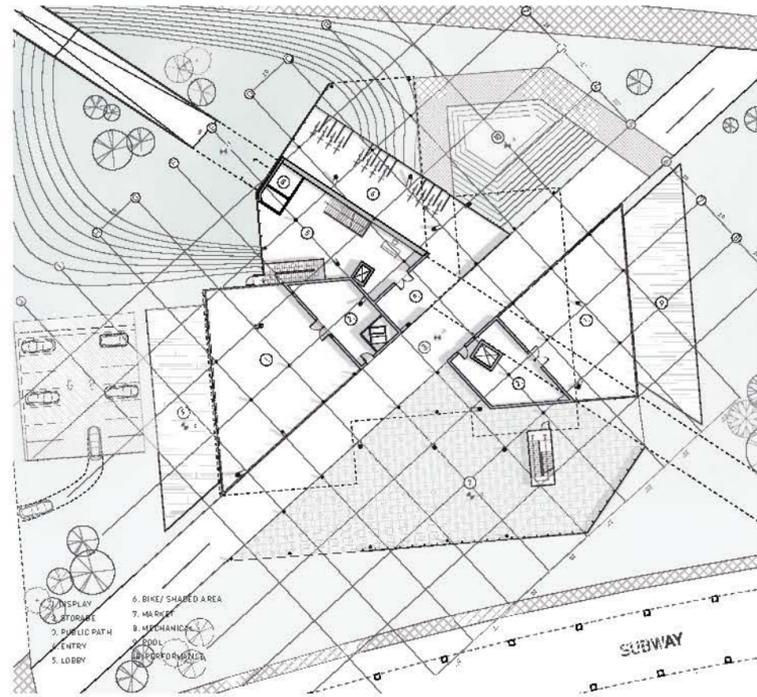


PERSPECTIVE RENDERING

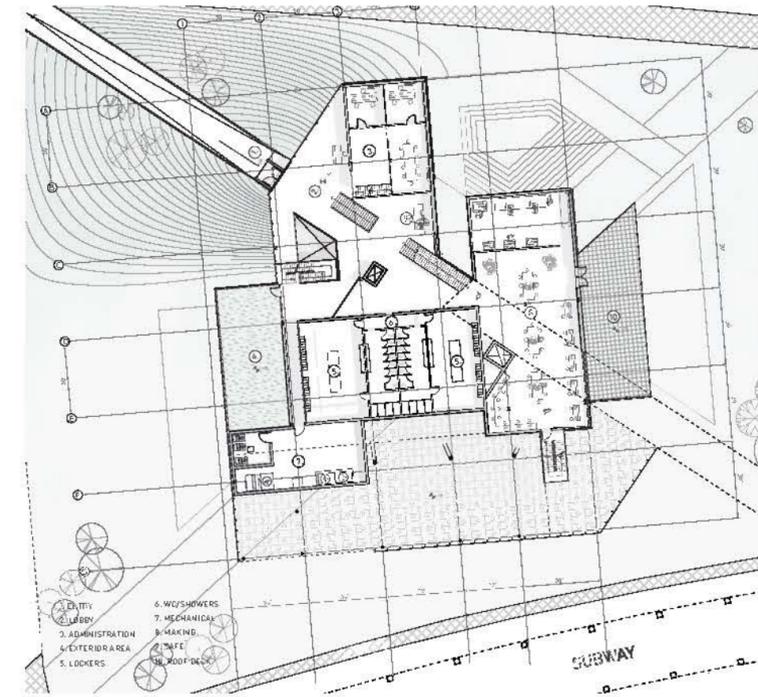


SITE ANALYSIS

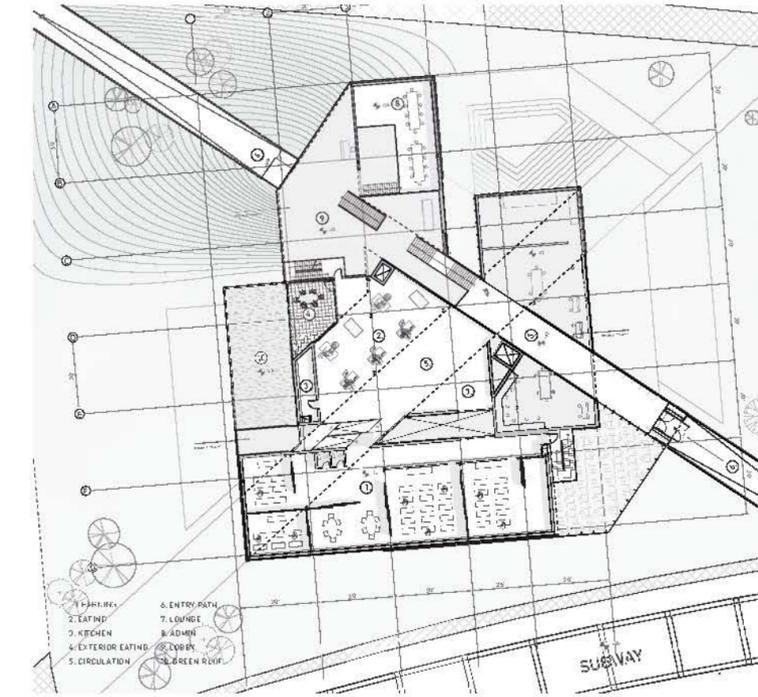
GROUND FLOOR



SECOND FLOOR



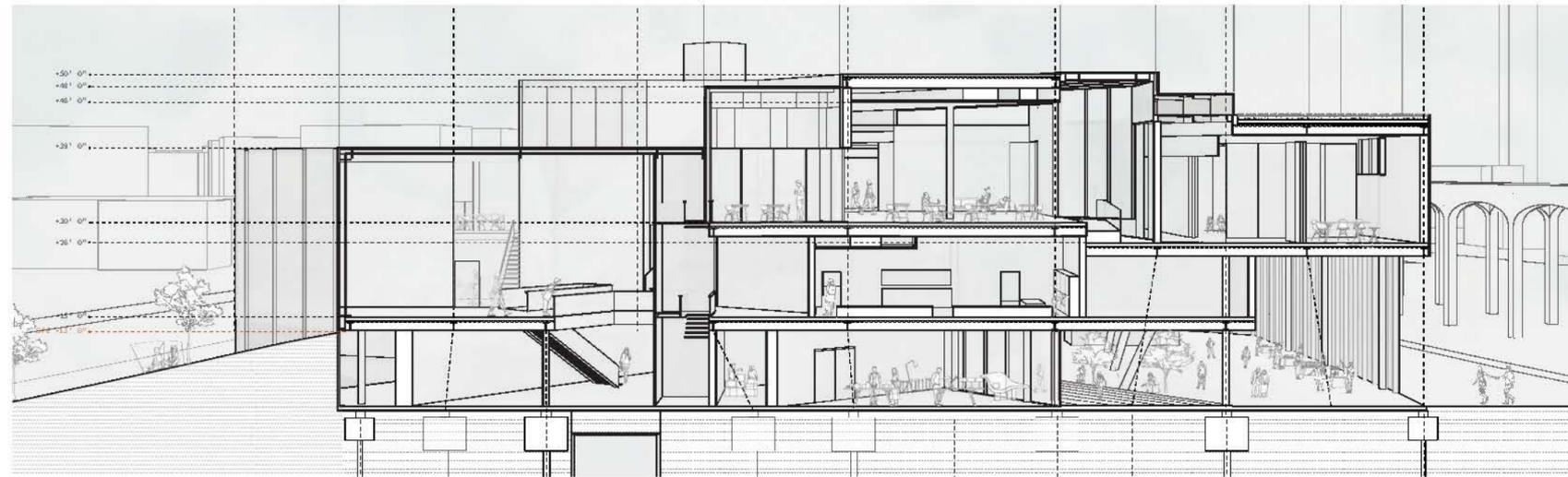
THIRD FLOOR



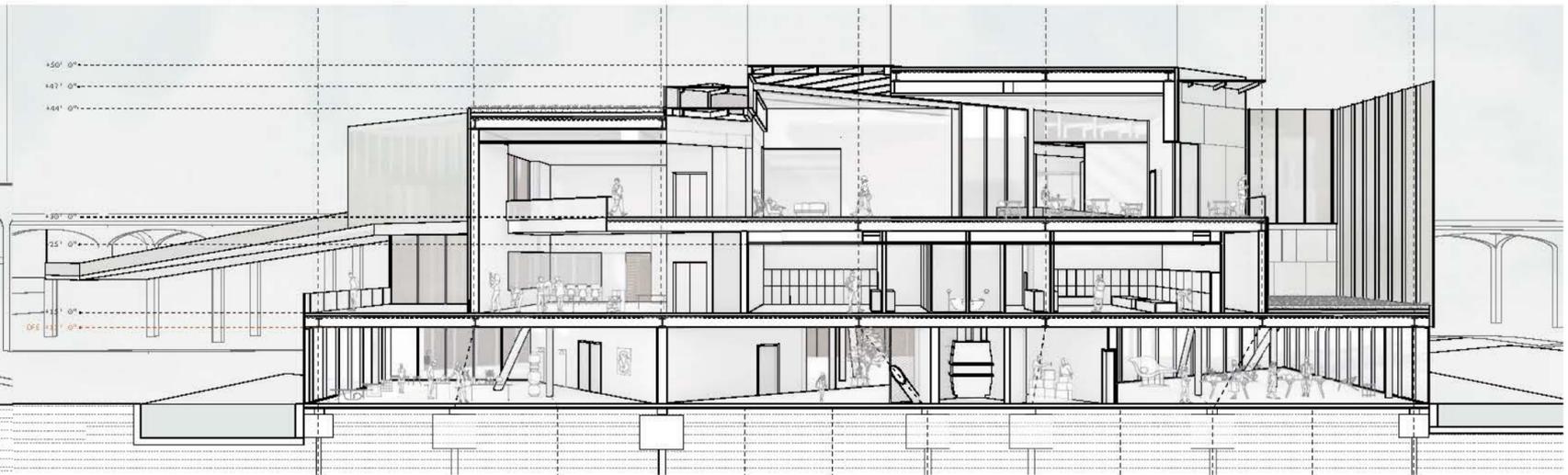
The idea of the 'twist' comes relates to the concept of 'changing with the flood.' The building wants to be dynamic; during a flooding condition, the turning and 'twist' of the building are 'veiled' and hidden. Then the building appears only to be orthogonal to the site. This is emphasized using two different structural grids: a concrete diagonal grid aligned to the path on the ground floor and a steel orthogonal grid aligned to the site path on the upper floors.

Using mesh as skin acts as a 'veil' that conceals this twist at specific viewpoints. It also holds the program together so that the layering of materials and transparencies creates a maze of solid/void.

SECTION A



SECTION B



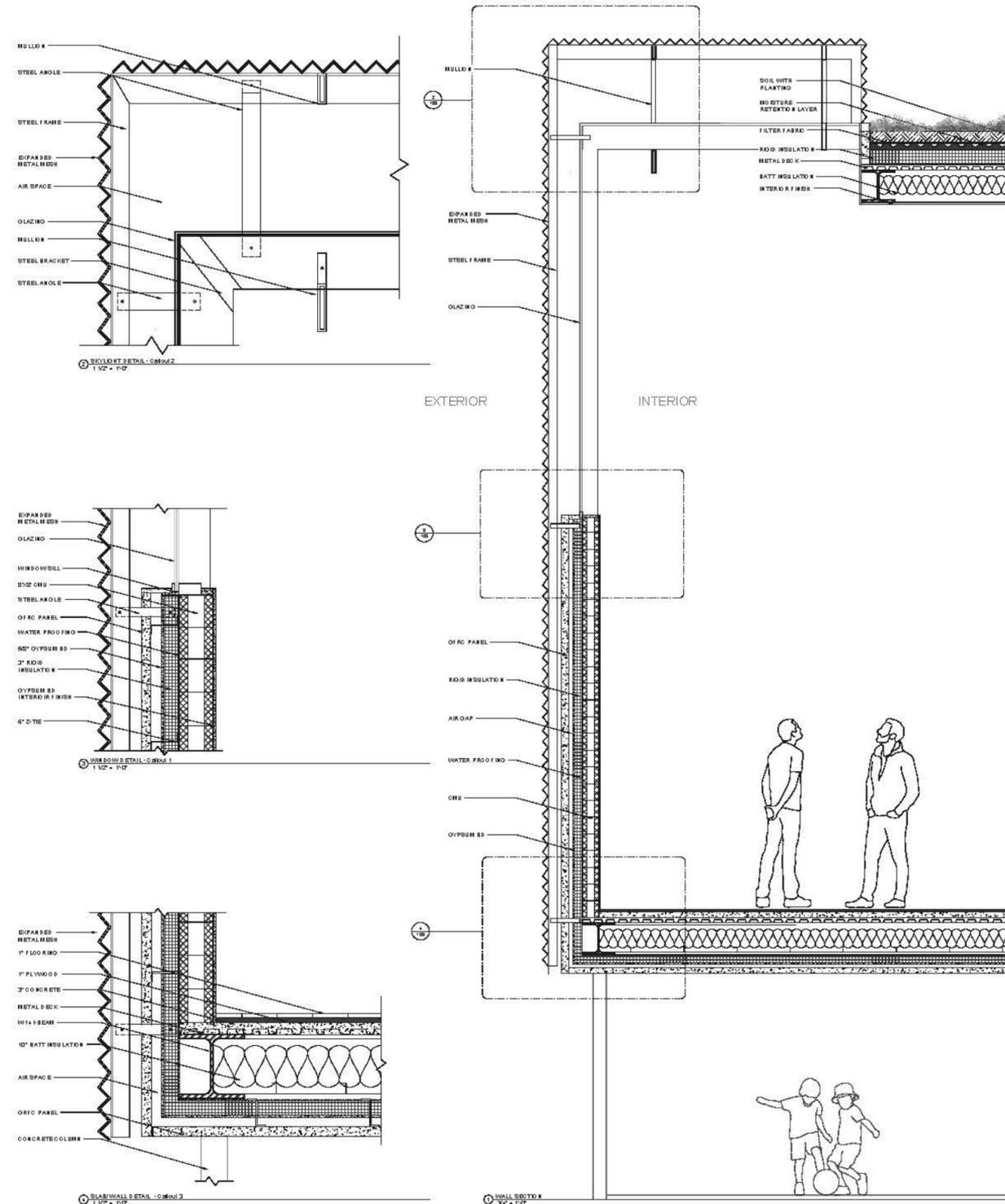


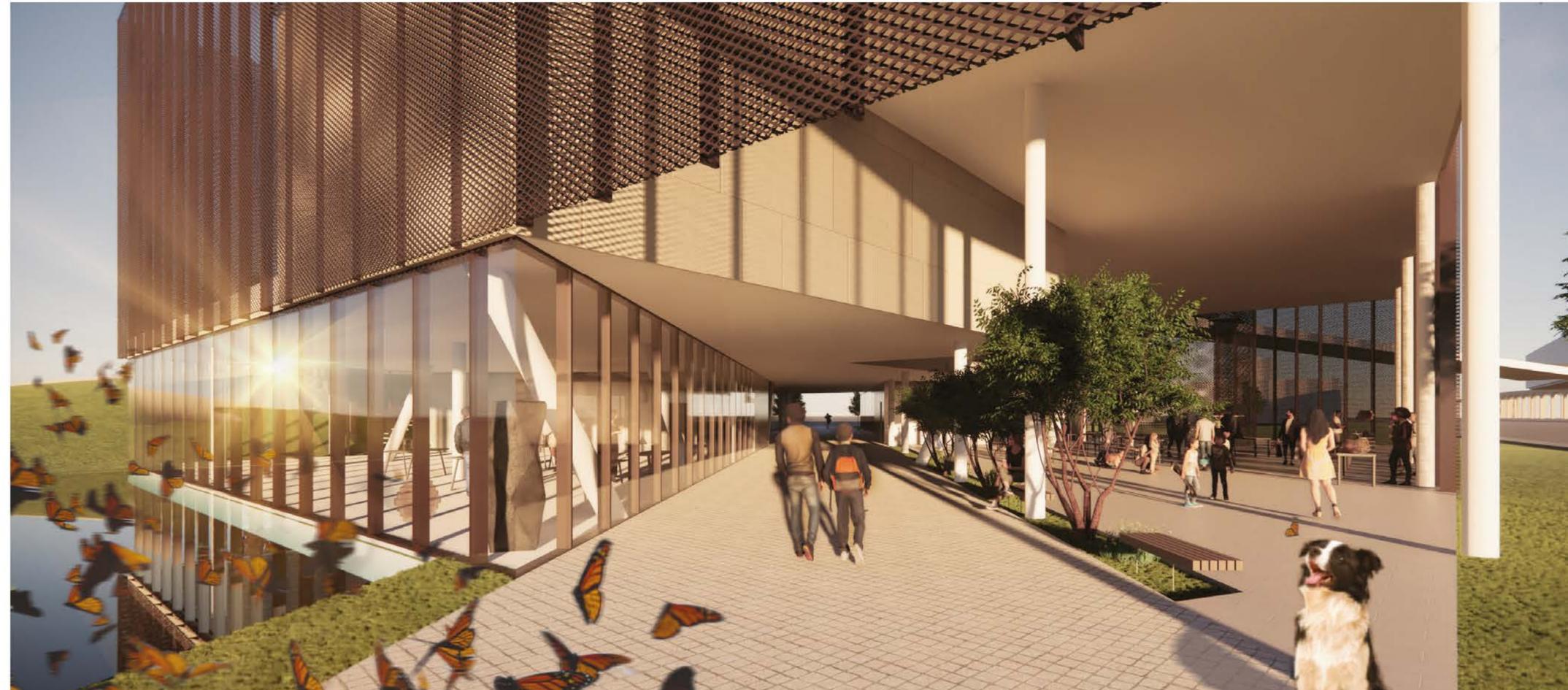


WEST ELEVATION



SOUTH ELEVATION





Partner: Zeynep Akgol  
 Crit: Beth O'Neill

●

# 03 AT THE OBLIQUE

Multigenerational Co-housing

"Large Scale Residential Building"

Concept: We are all part of a family that is part of bigger families, the neighborhood, and the society. As an individual your individual space is your bedroom, but that doesn't mean you have to be confined to a small room. Outside of your bedroom you are cohabitating in a space with your 'cluster family'- a kitchenette, a bathroom, maybe a couch, and a table. If you already have your micro family, you can have a cluster unit of your own. However, all of you are immediately part of the shared space, "the sharing field". This sharing field houses everyone's belongings, it has no strict doors, no strict boundaries with the clusters. It encourages the inhabitants to look up, look at the oblique, often meeting at the oblique; or meeting at the glass box dining areas that open up to the sky. The individual inhabitant has the choice to come with their cluster or be part of a cluster family.



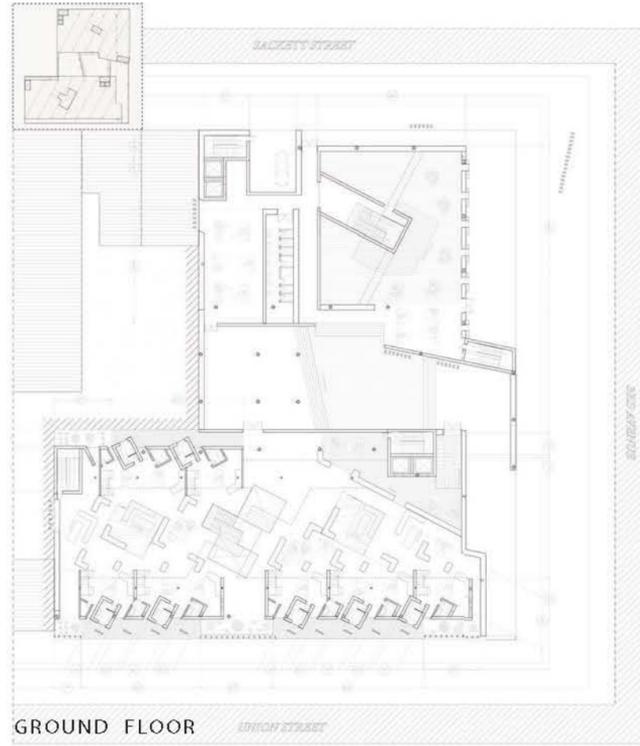
PERSPECTIVE RENDERING



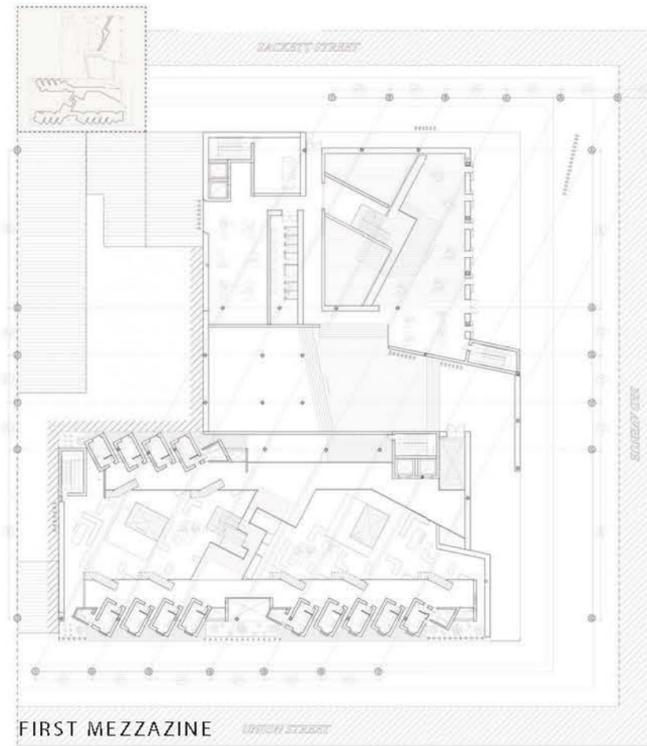
SITE PLAN



GOWANUS SITE ANALYSIS



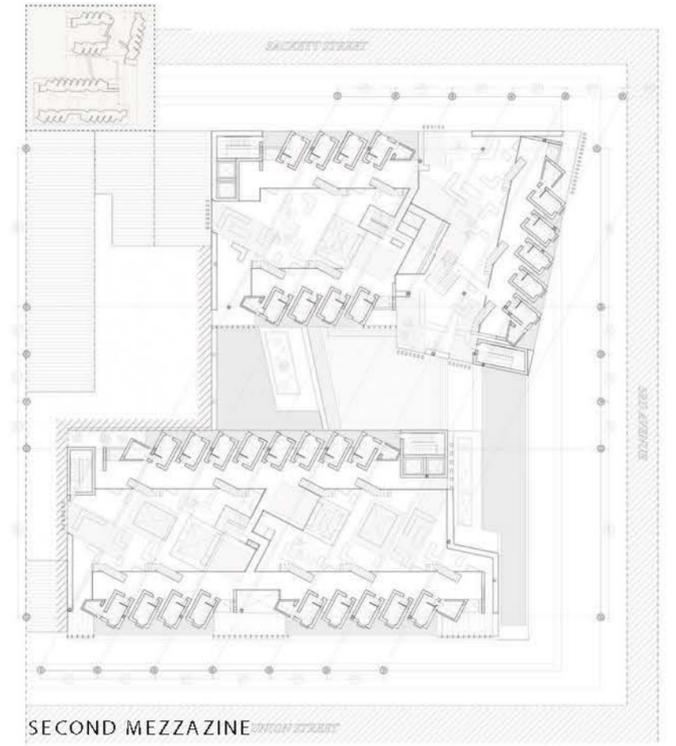
GROUND FLOOR



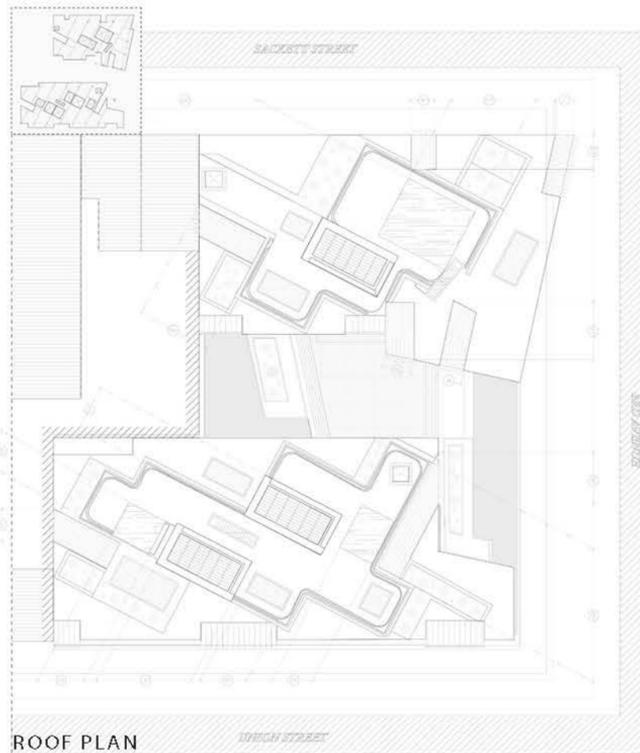
FIRST MEZZAZINE



SECOND FLOOR

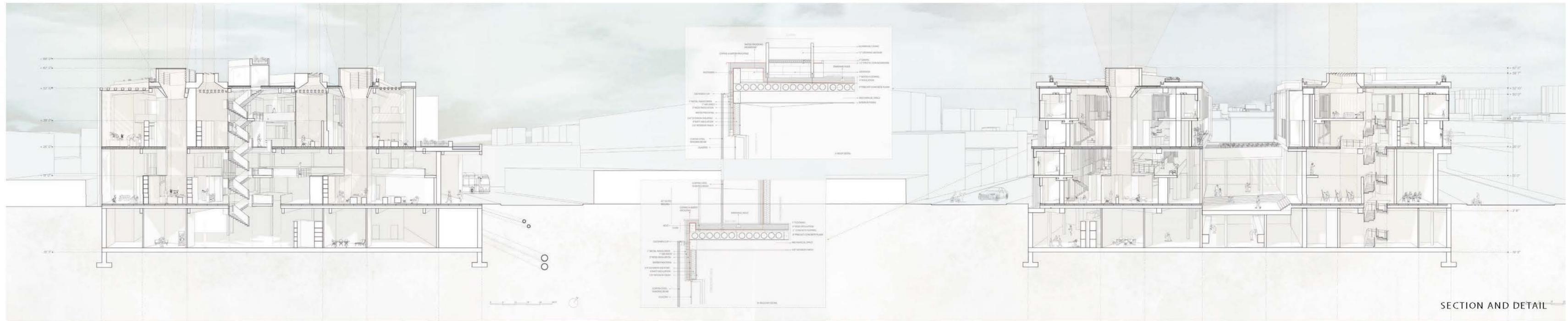
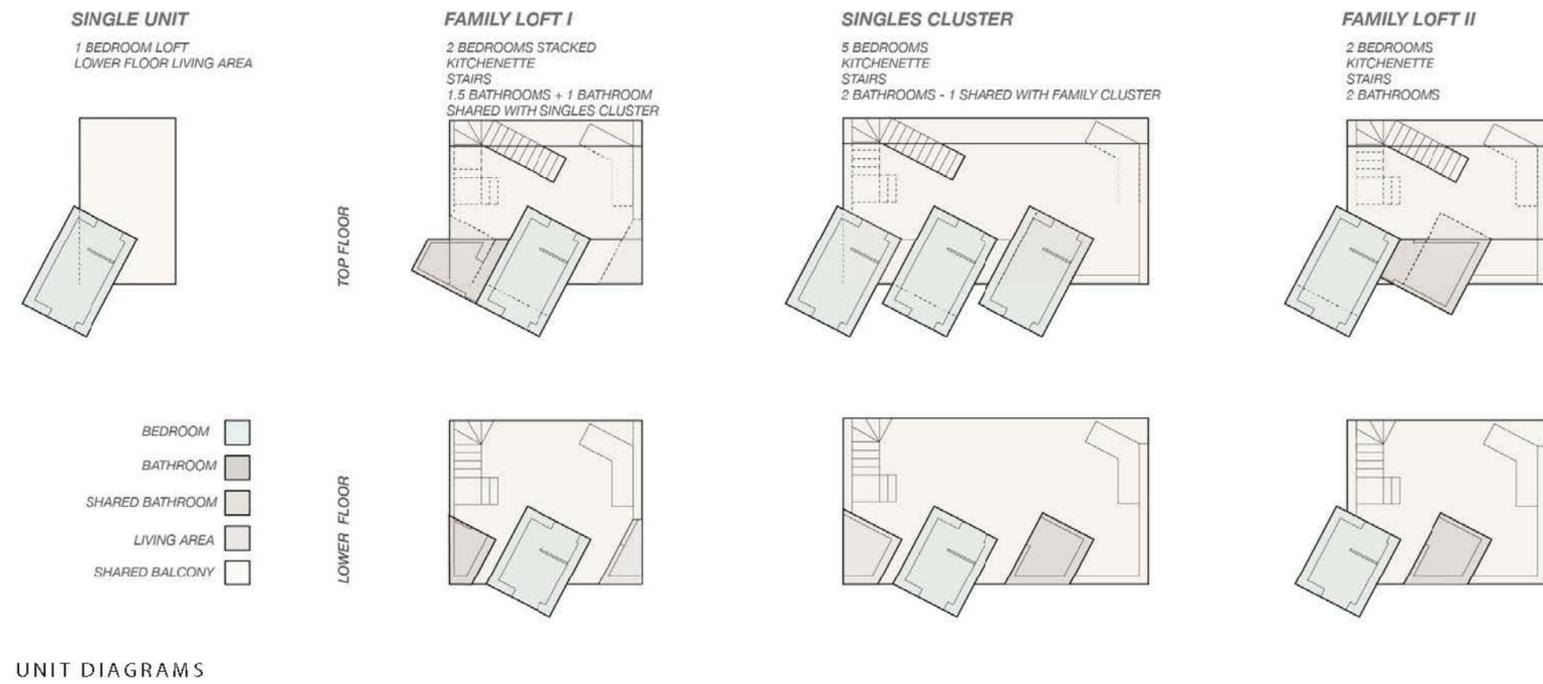
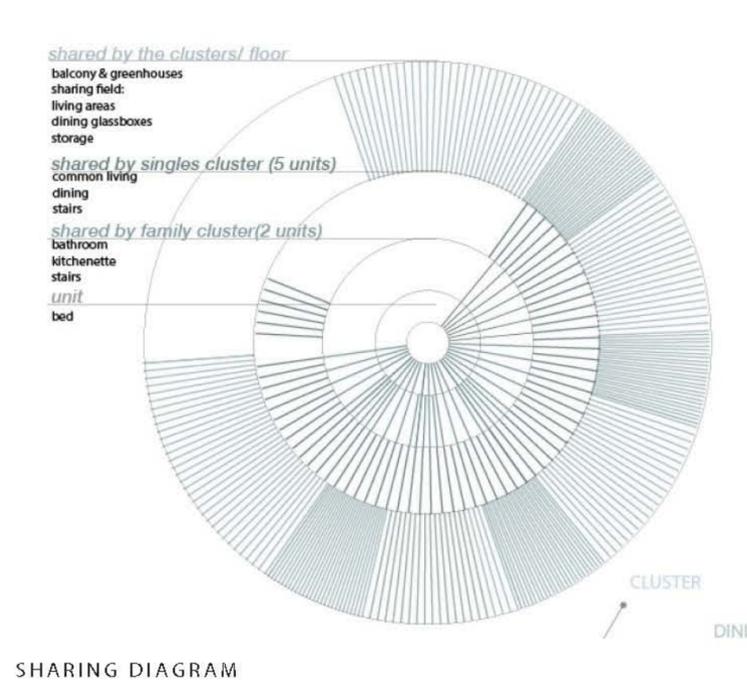


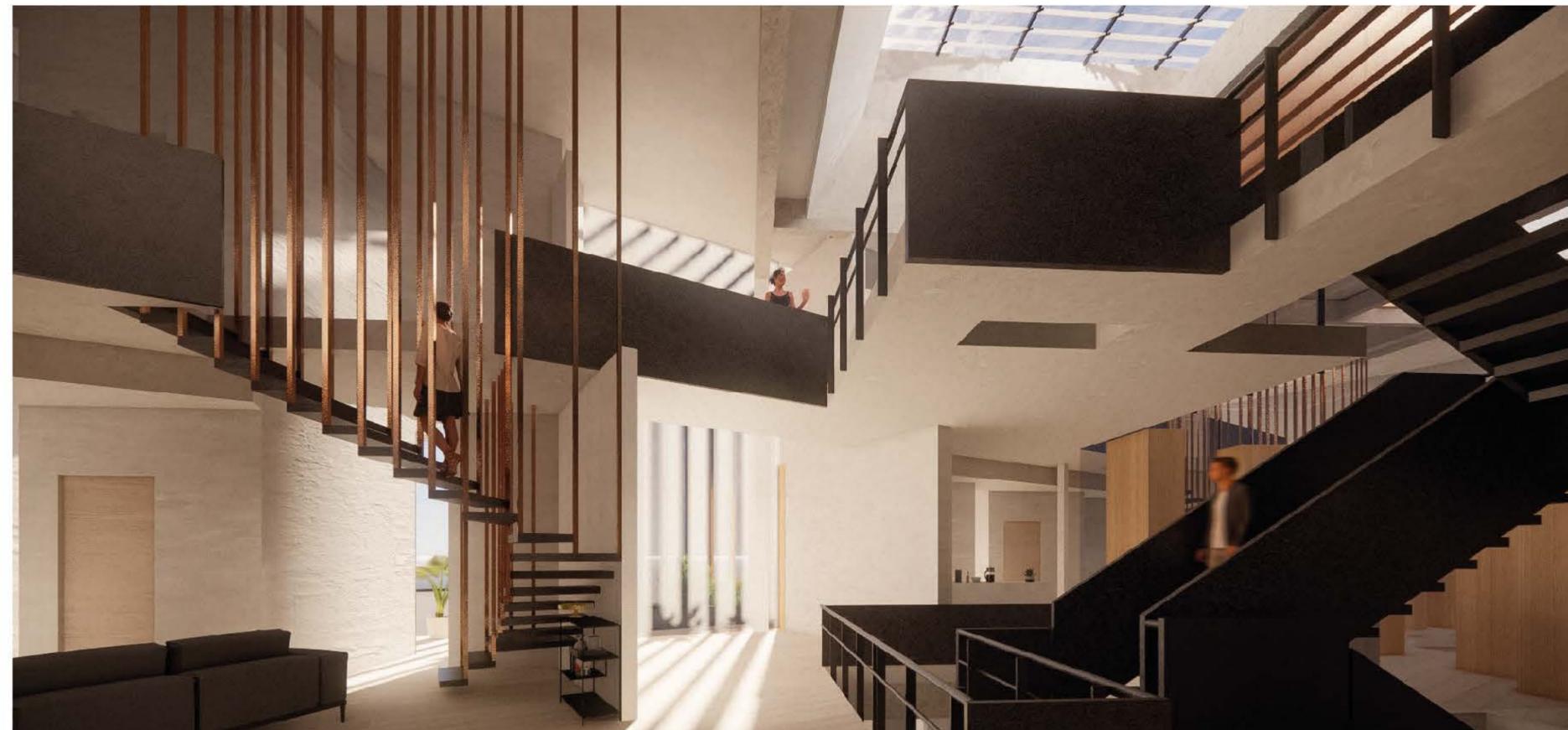
SECOND MEZZAZINE



ROOF PLAN







Crit: Mark Rakatansky

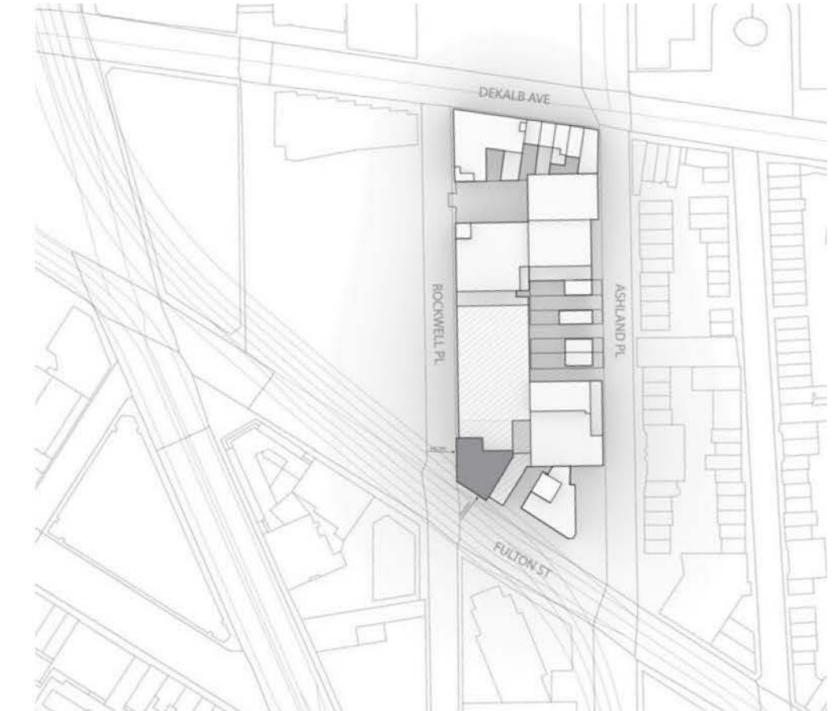
# 04 URBAN GLASS

Reforming urban glass

The aim of this studio project is to transform Urban Glass, located in Brooklyn, into a multifunctional space where creation, learning, exhibition, and commerce seamlessly converge. Previously, the institution lacked architectural emphasis on glass and failed to integrate its production and display areas effectively. Our solution addresses this by creating a vertical machine-like structure where glass tubes serve both as conduits for light and as display vitrines for student artwork. Inspired by renowned glass artists like Chihuly, the museum section showcases diverse glass art, attracting visitors and inspiring students. The design emphasizes connectivity and transparency, with workstations thoughtfully arranged to optimize productivity. Circulation and floor cutouts strengthen vertical and visual connections, fostering an environment where learning occurs simply by observing. Curves and built-in furniture guide the flow from hot shop to cold shop, while the facade features a dynamic system of panels with layered opacities, serving as both a functional and aesthetic element.



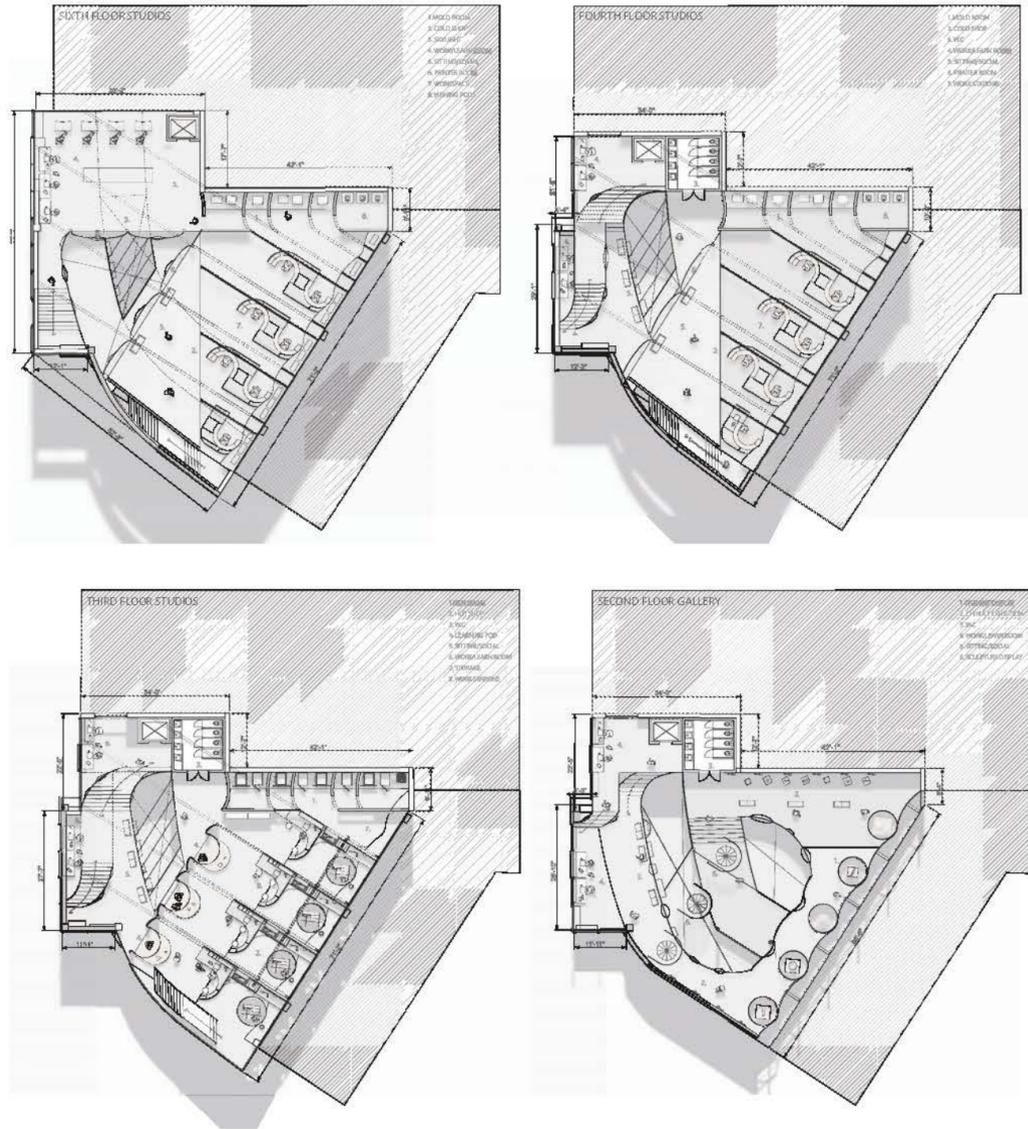
PERSPECTIVE RENDERING



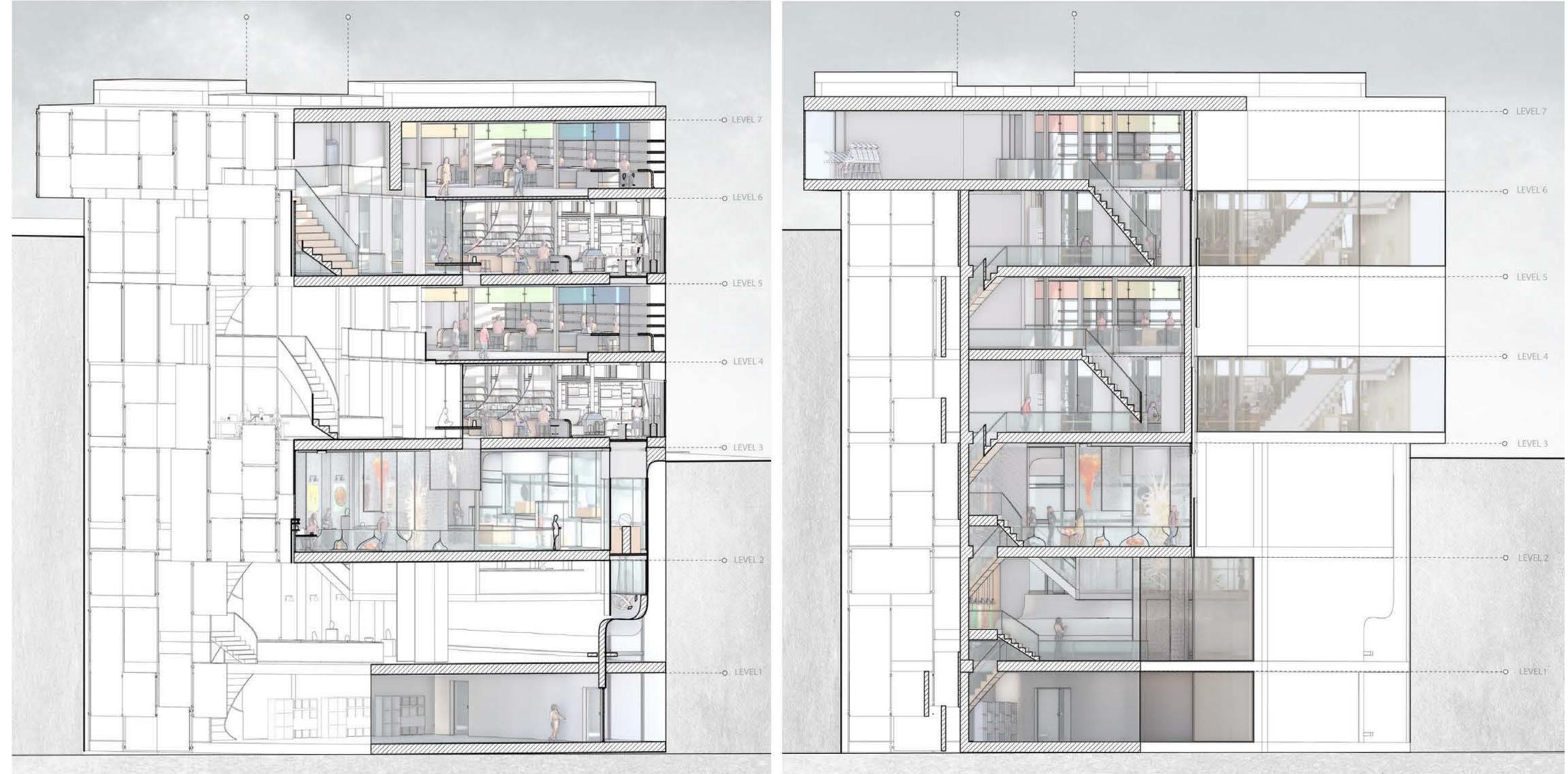
SITE PLAN



GLASS FACADE



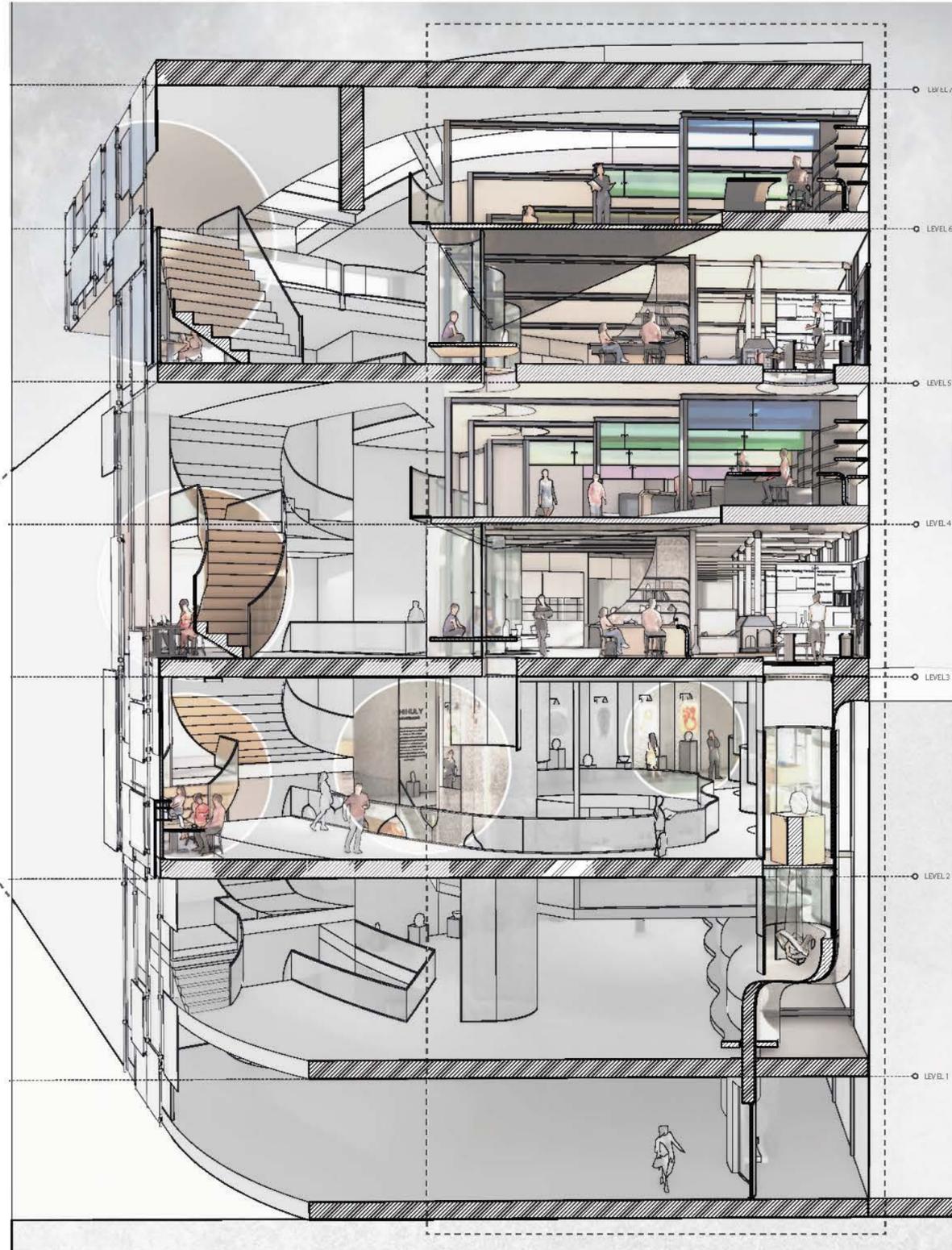
FLOOR PLANS



SECTIONS



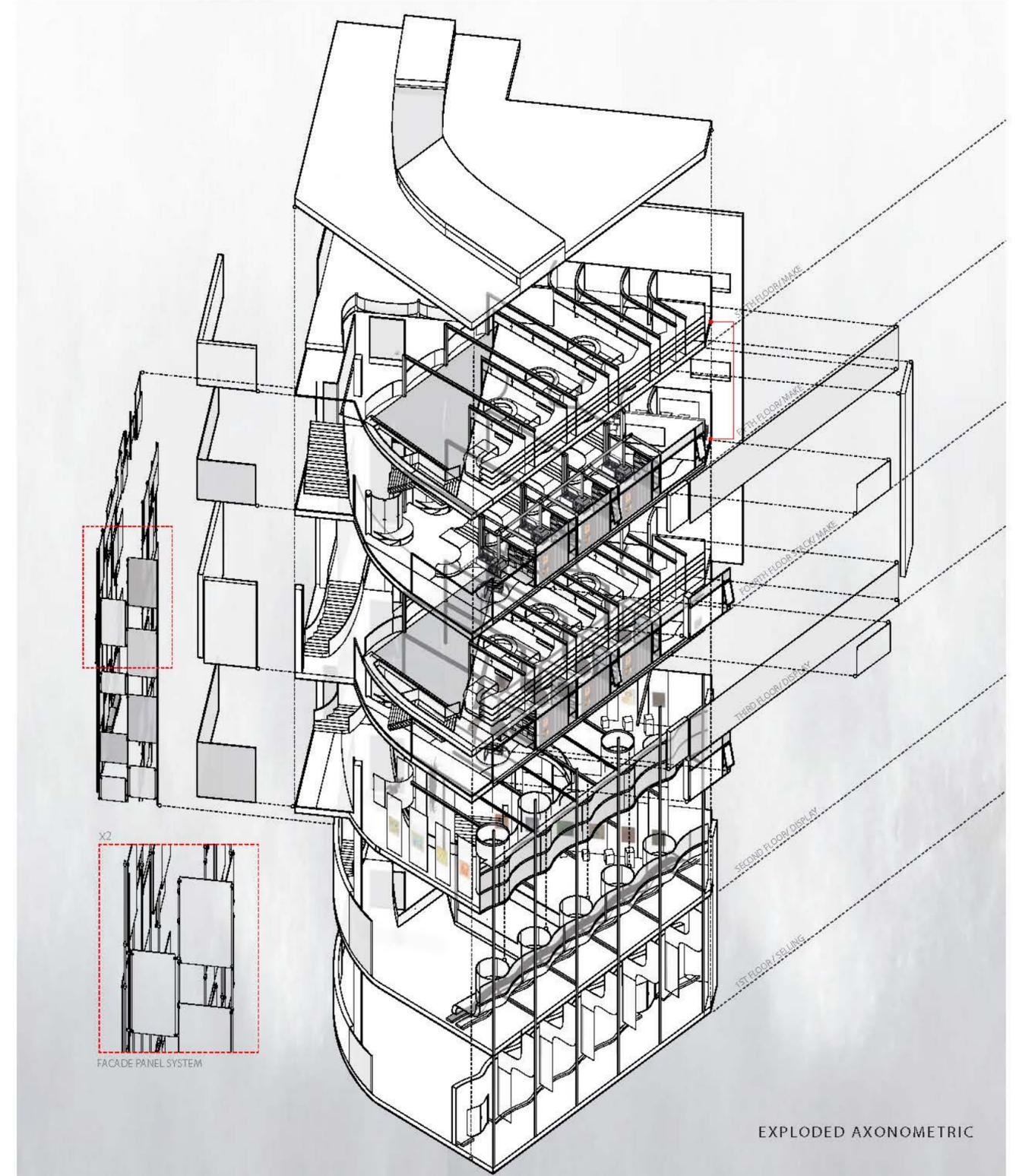
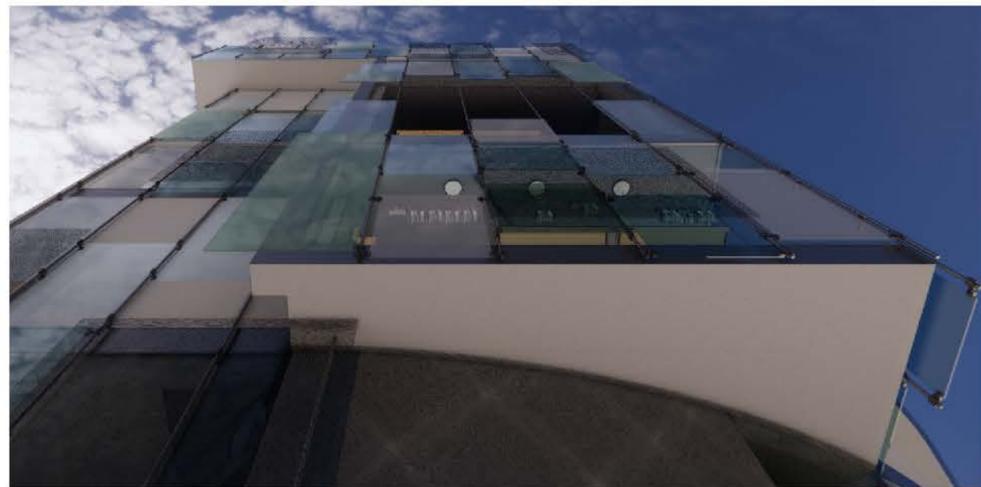
PERSPECTIVE SECTIONS  
'Vertical Machine'



FACADE MATERIAL STUDY



Our program retains the existing number of studios and machinery, offering spaces like the hot shop, cold room, kiln room, and mold room equipped with essential tools and equipment. Through the concept of "Double Agency," our design serves both creators and the community, transforming Urban Glass into a vibrant hub that balances artistic pursuits with social and commercial interests. This ethos permeates every aspect of our design, from the smallest detail to the larger architectural scale, encapsulating the spirit of "New Glassitude."





GLASS MAKING STUDIOS AND GALLERIES

