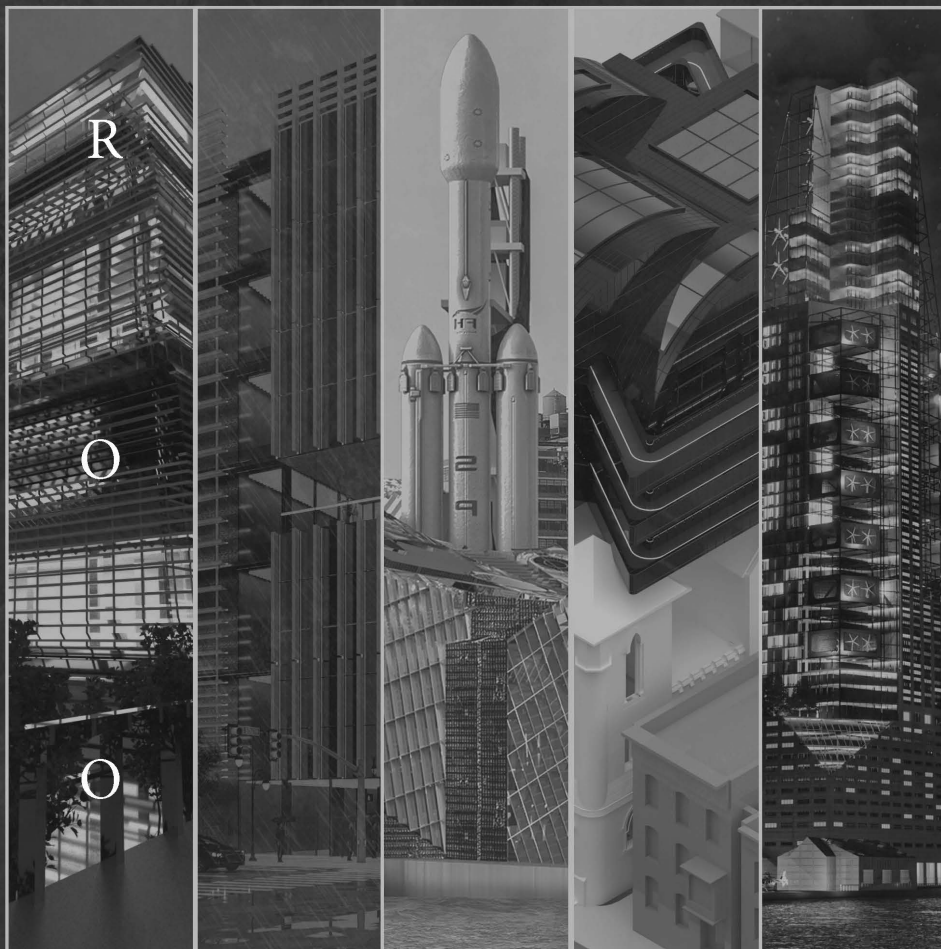


P O R
T F O
L I O



Zonglin Li
Works 2020 - 2024



Traveling exposes you to many innovative design concepts and breathtaking buildings. As a student designer, and architect at Rensselaer Polytechnic Institute, my goal is not just to excel in design challenges, but to redefine the boundaries of creativity and innovation. My goal is to innovatively and interactively connect design and our civilization together. Each project that is shown presents its own unique complexities, but passion has led me to create designs that leave a lasting impact on both myself and those who interact with them.

This portfolio contains the design work of Zonglin Li.



Bachelor of Architecture
Rensselaer Polytechnic Institute

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Personal: Zongylin222@gmail.com
Phone: (413) 768-8695

01



NEW YORK PUBLIC LIBRARY, CHELSEA
Design Schematic

02



ACOUSTIC DIVIDE
Design Development

03



MANHATTAN SPACEPORT
Spaceport Museum

04



ST.MARY'S CHURCH
Adaptive Reuse

05



SUSTAINABLE SUPERSTRUCTURE
A Wind Power Mix - Used Tower

NEW YORK PUBLIC LIBRARY

DESIGN SCHEMATIC

Course: Comprehensive Design Studio 1
Type: Public Library
Professor: Per Stefan Svedburg

Selected For Publications



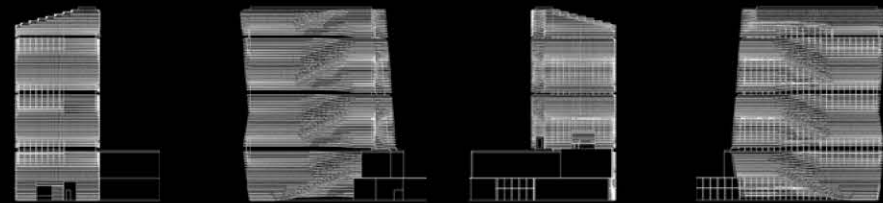
NEW YORK PUBLIC LIBRARY

PUBLIC LIBRARY DESIGN SCHEMATIC

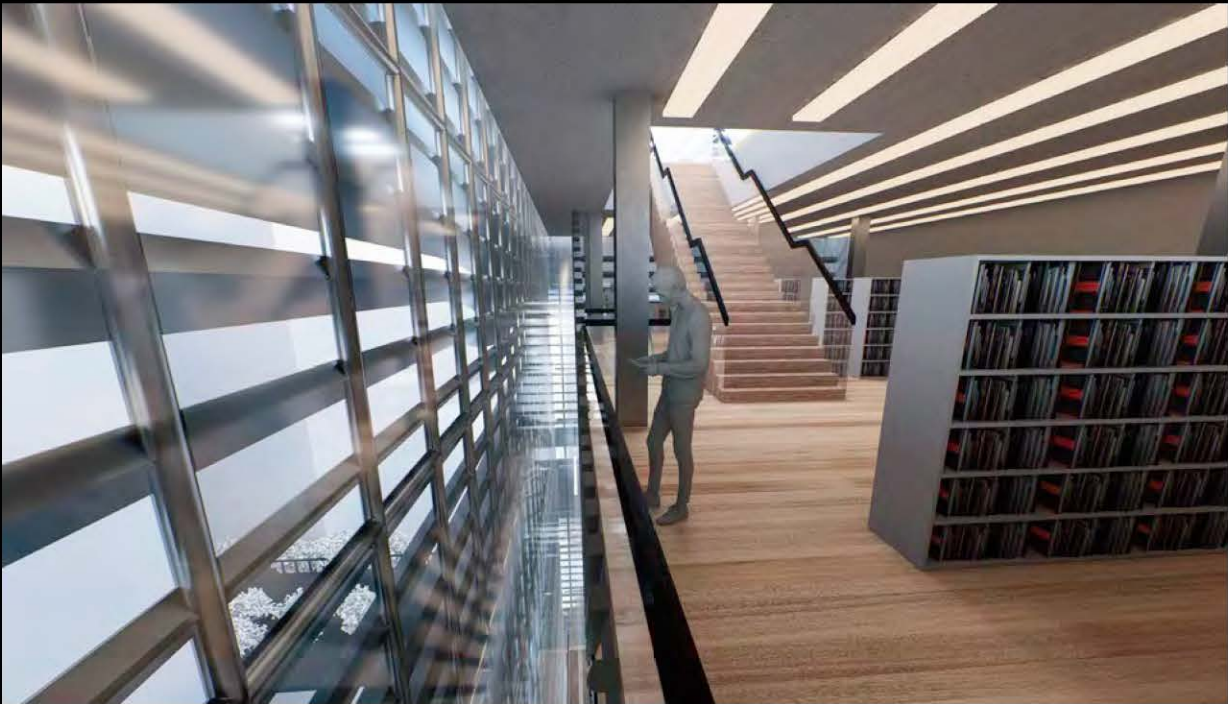
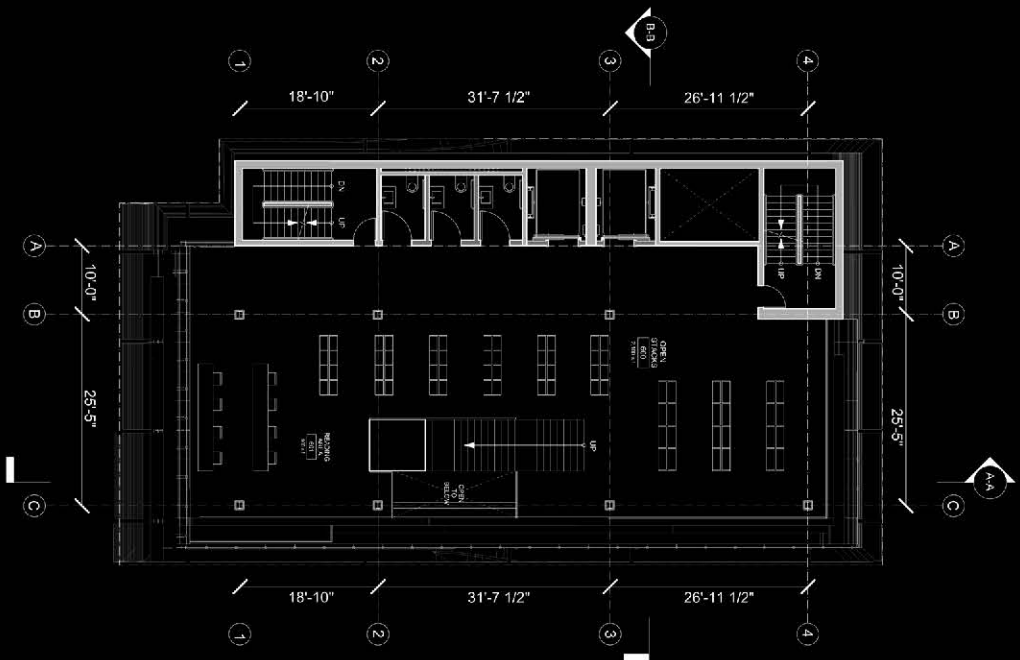
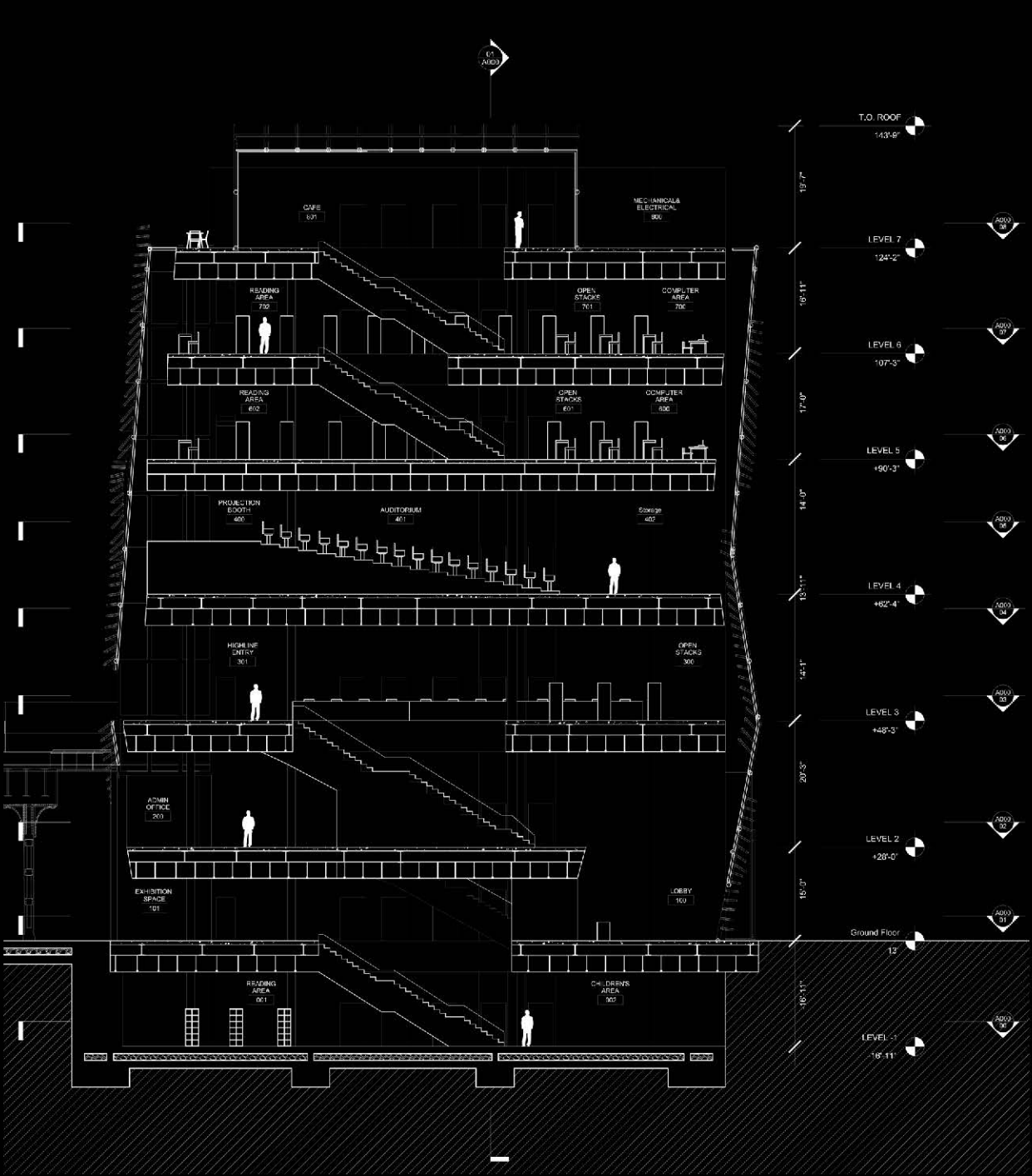
My project sits on a corner on 10th avenue across to 27th street, In midtown Manhattan in the Chelsea district. The concept of my project involves a multi-layered facade as I believe it involves a unique approach to both the lighting and the aesthetic of the building.

My first attempt at the facade focuses on a stair shell and how it could be used both as a lighting and design perspective. The stair shell wraps around parts of the building so that certain study areas have a sense of enclosure. Beside the stair shell is a glass mullion facade followed by louvers. Louvers were added because they are used for filtering out excessive noise from the street and creating a proper air flow throughout the building. They were designed in a similar way to the stair shell as they block out unwanted sunlight on each floor of the building.

Because of the design of the louvers, I was able to control both the environment and lighting factor in each and every floor according to their program.

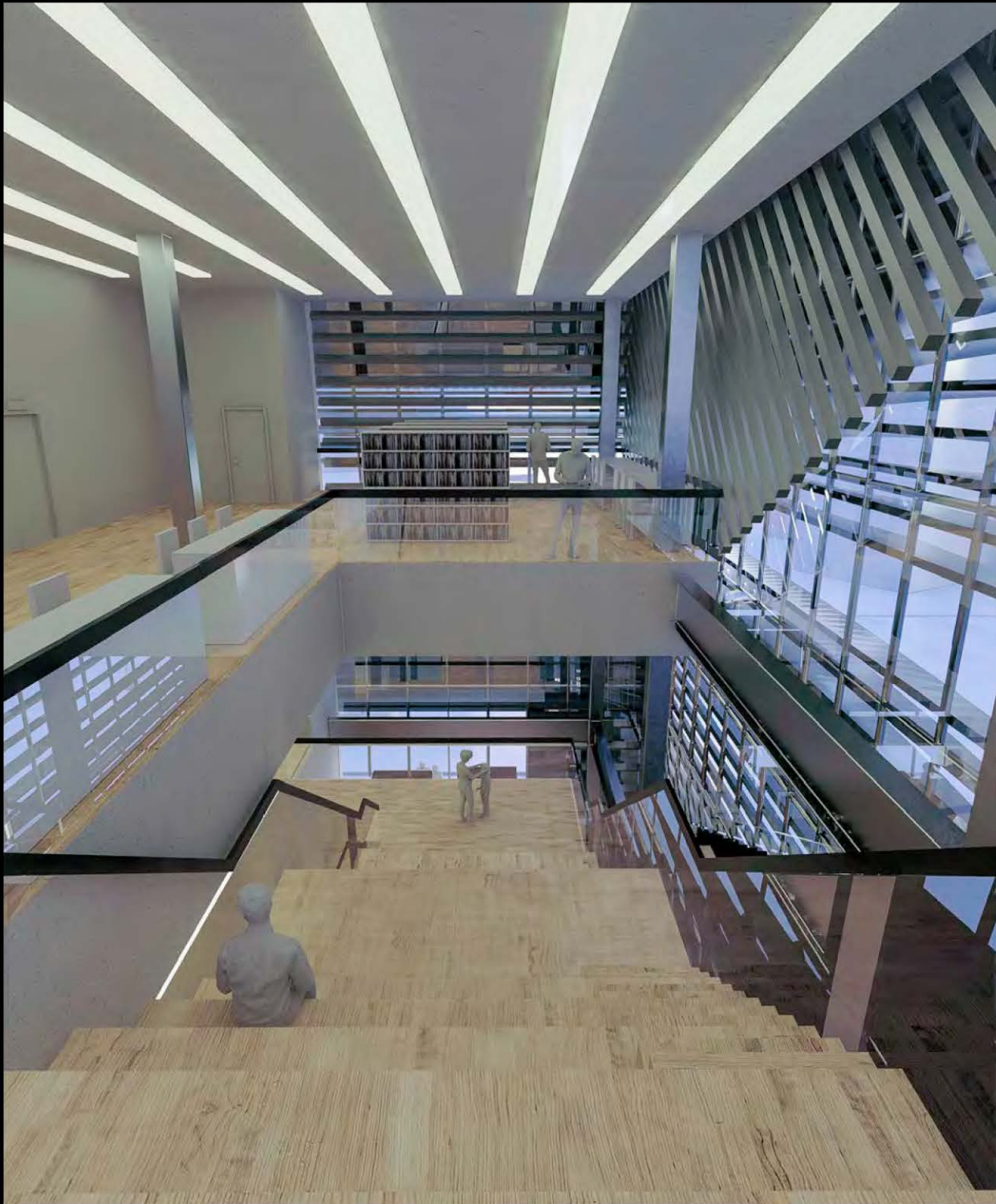


Perspective Short Section

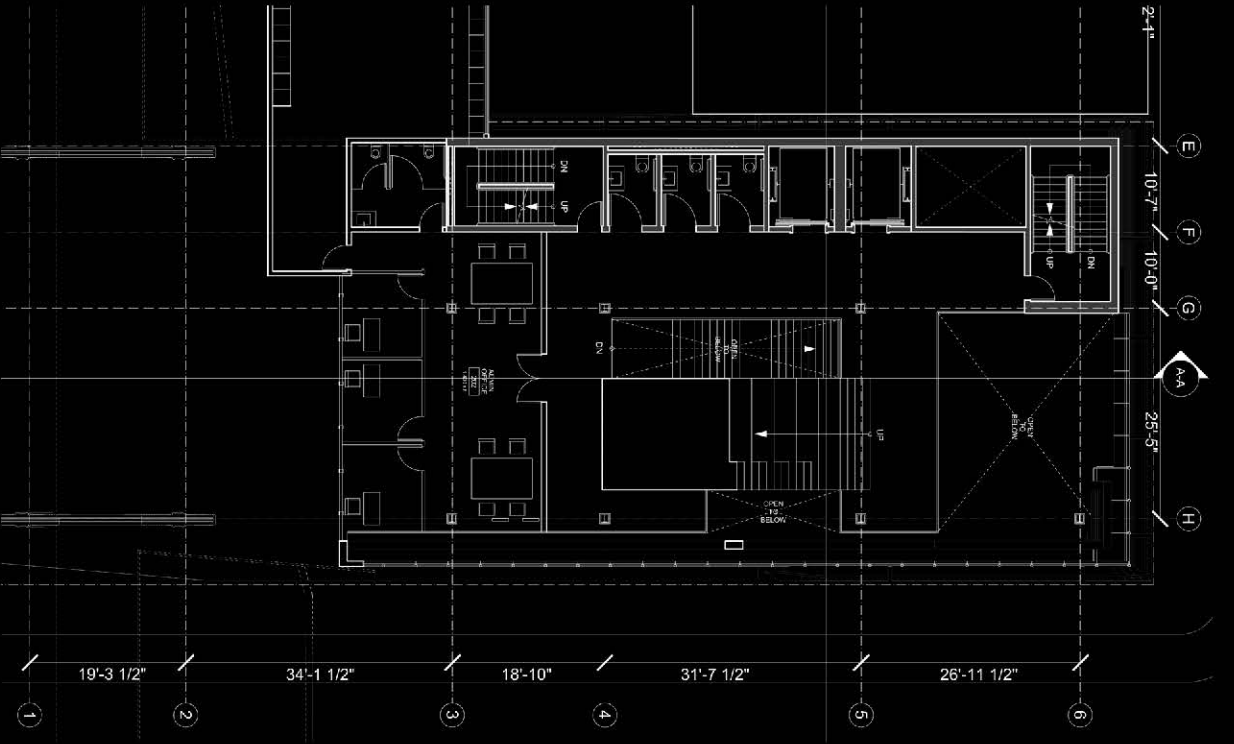




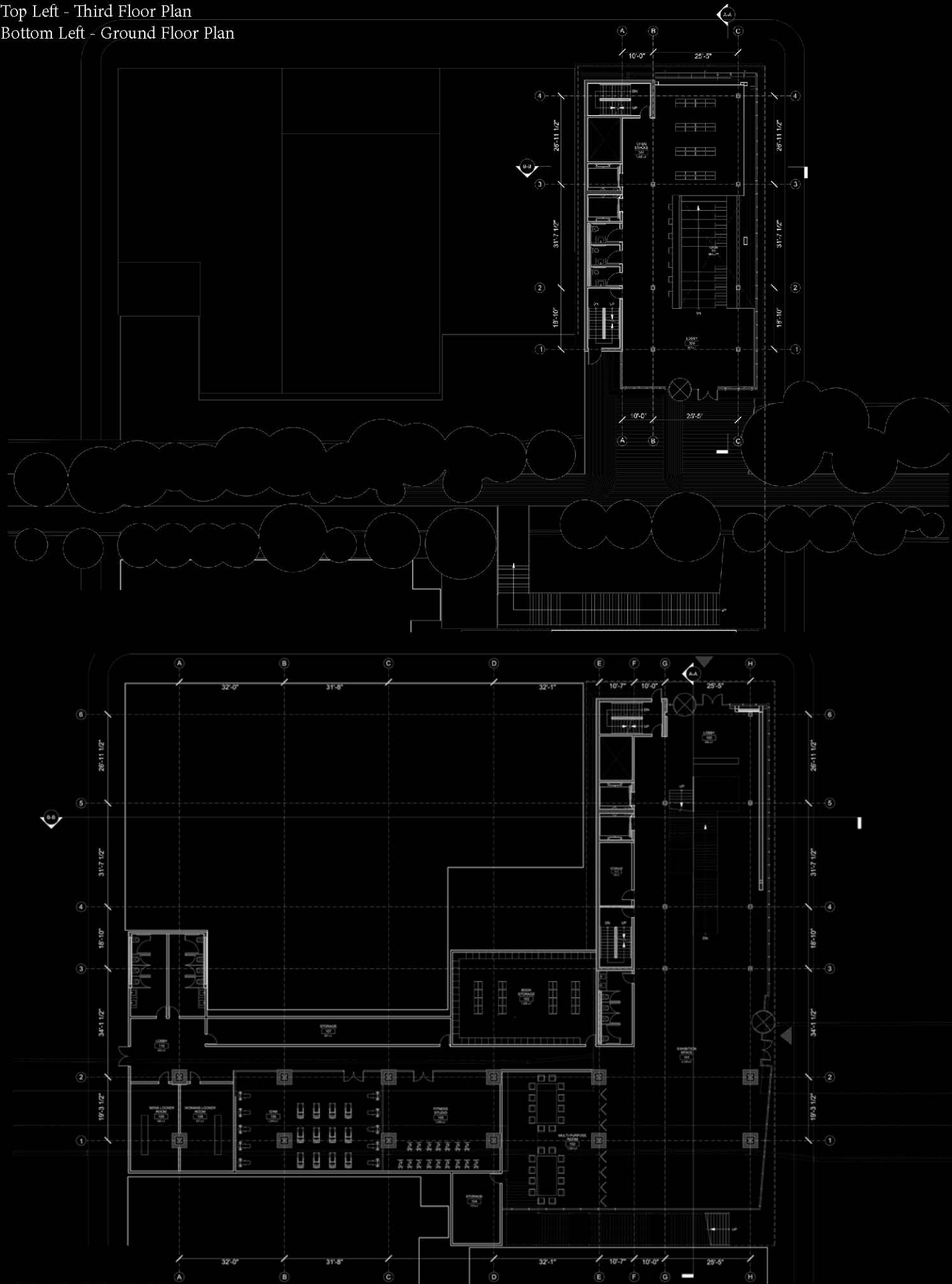
Interior View From Second Floor Staircase



Top Right - Interior View Of Physical Model
Bottom Right - Second Floor Plan



Top Left - Third Floor Plan
Bottom Left - Ground Floor Plan



Exterior Render From Street



ACOUSTIC DIVIDE

DESIGN DEVELOPMENT

Course: Comprehensive Design Studio 2
Type: Public Library
Professor: Emily Gruendel

Selected For Publications
Selected For Awards Review

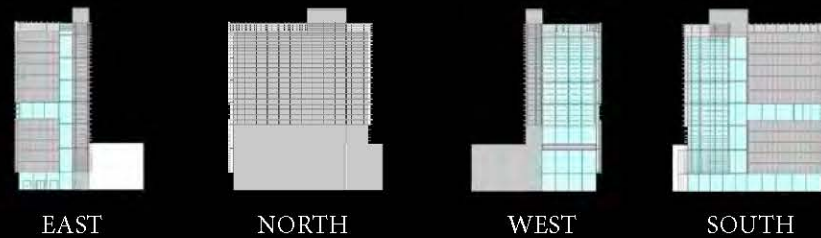


ACOUSTIC DIVIDE

PUBLIC LIBRARY DESIGN DEVELOPMENT

This project builds upon and refines the ideas explored in the previous Comprehensive Design Studio I project. By reconfiguring circulation, programming, and massing, the building strives to better address the site's conditions and interact with the surrounding urban environment. Furthermore, it endeavors to enhance the structural integrity and environmental sustainability of the building. This library serves as a design that balances functionality and aesthetics to create an environment that would be enjoyable for anyone. The Parti outlines the building's primary axis, separating a noisy environment from a quiet private one.

The design incorporates red individual shapes to visually emphasize the separation of environments. Entering from the south side, you're greeted by a gallery space, with your gaze drawn upward to an expansive atrium void. Turning left, a continuous atrium stair and glass elevator in the southwest corner catch your eye. To the right, red opaque areas invite quiet activities like reading, designed as enclosed spaces. On the High-line level, entering from the west side, you'll encounter the red parti boxes and access points to the stair and glass elevator. Externally, my building blends matte metal panels with a curtain wall glazing system. Vertical and horizontal aluminum louvers create a dynamic double-layer facade, accentuating the varied massings of the structure. The louvers are only performative on the glazing but not necessarily on the metal panels.



SITE NOTES
PROPERTY OWNER: 26-10 CORP
250 W 26TH ST, NEW YORK, NY, 10001

APPLICANT: Zonglin Li (413)-768-8695
6 Verde Dr. Greenfield MA, 01301

SITE INFORMATION
Address: 279 10 Avenue New York, 10001
Zone: (Commercial) C6-3
Building Class: Licensed Parking Lot (G6)
Block: 698
Lot: 32
Lot Area: 7,075 sq ft
Lot Frontage: 59.25 ft
Lot Depth: 104 ft

BUILDING PROPOSAL
Program: Library
Area: 42,340 sq ft
Height: 8 stories / 135'-6"
No driveways,
curb cuts,
and walkways

CONSTRUCTION TYPE
TYPE IIA

USE GROUPS
A-3: ASSEMBLY
B: BUSINESS

BUILDING UTILITIES: None
PROPOSED BUILDING UTILITIES:
Gray water collection system
Electrical Units
Mechanical Heating and Cooling (DOAS)
Overhead Fire Sprinklers

PARKING: No additional parking is proposed
Street Parking.
SNOW: Maintained by district
STORM: Drainage goes to river
TRASH: Maintained by district

Building Hours of Operation
Monday - Saturday
7:00 AM - 7PM

Sunday
CLOSED

HIGHLINE 7AM - 7PM

LEGEND

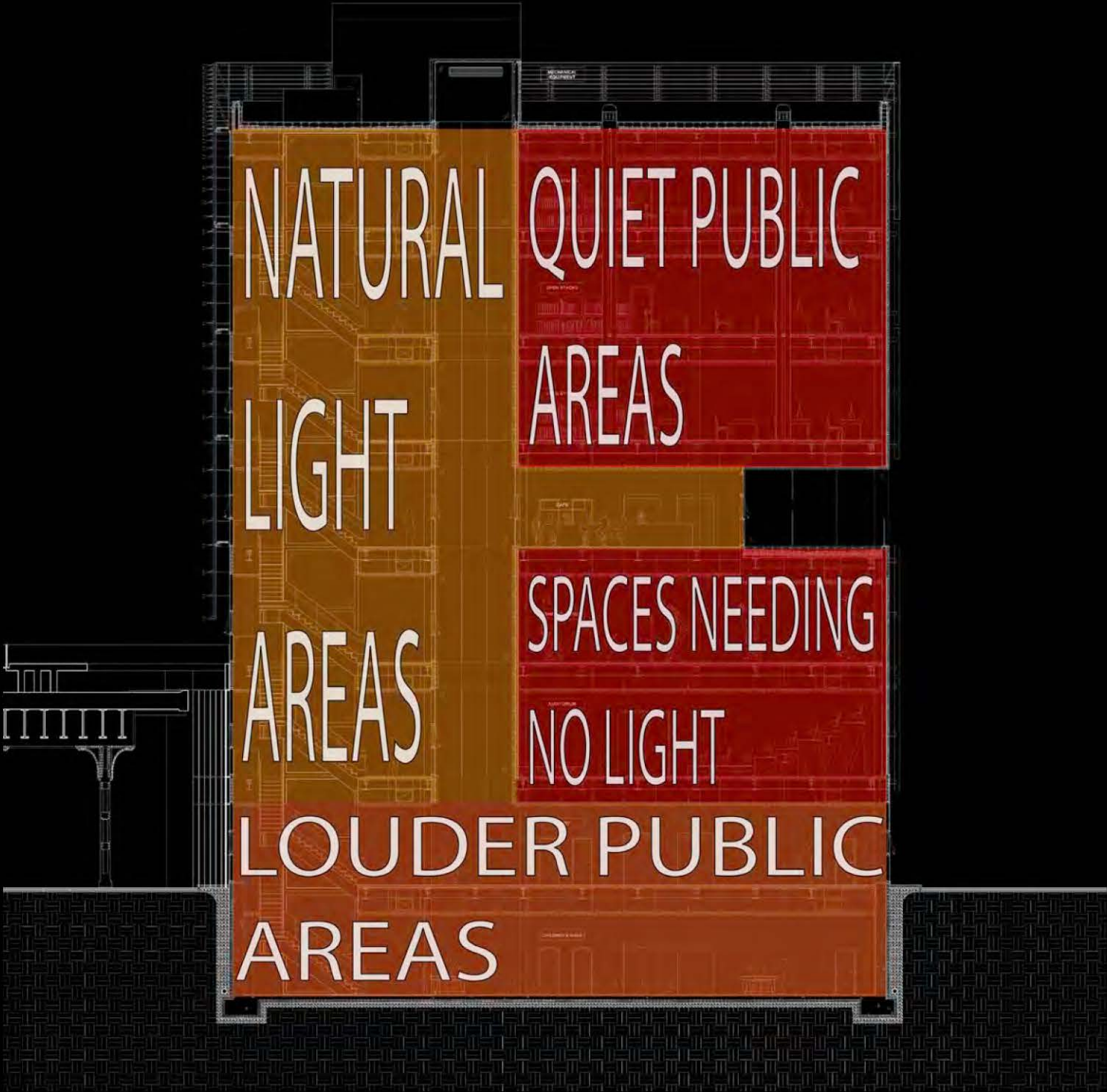
- STREET LAMPS
- TRAFFIC LIGHT
- FIRE HYDRANT
- TRASH BIN
- STORM DRAIN
- AIR VENTS
- ENTRANCE
- TRAFFIC FLOW

SITE DIMENSIONS



PROPOSED SIGNAGE
Overall Sign Dimensions: 2'-0" x 27'-8"
Sign Color: White
Method of Illumination: LED
Approx. messages: WEST 26TH LIBRARY
Installation Height: 14'
Location: East facade
Installation Method: Mounted

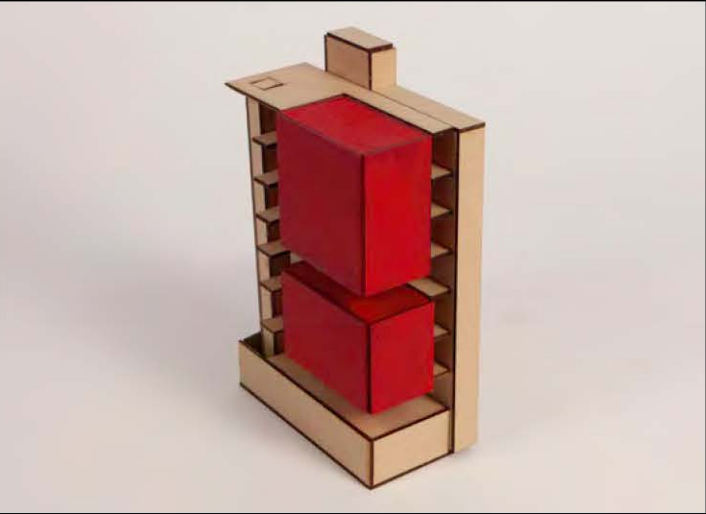


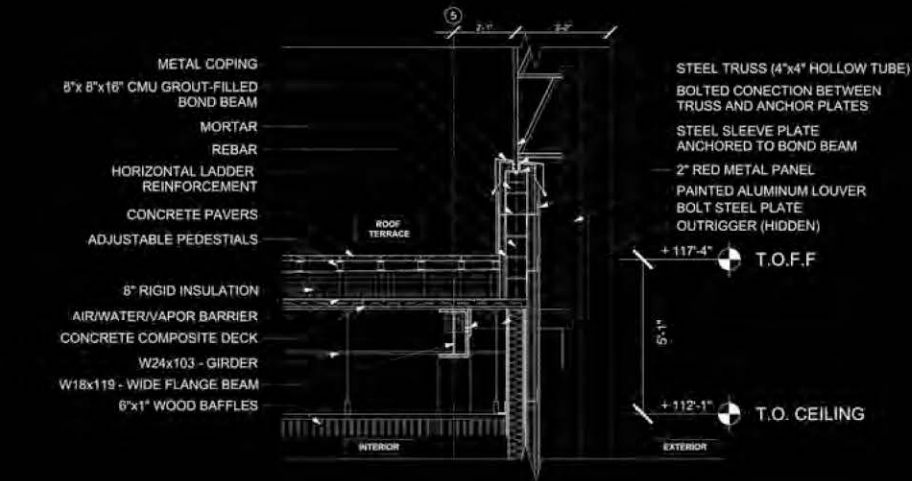
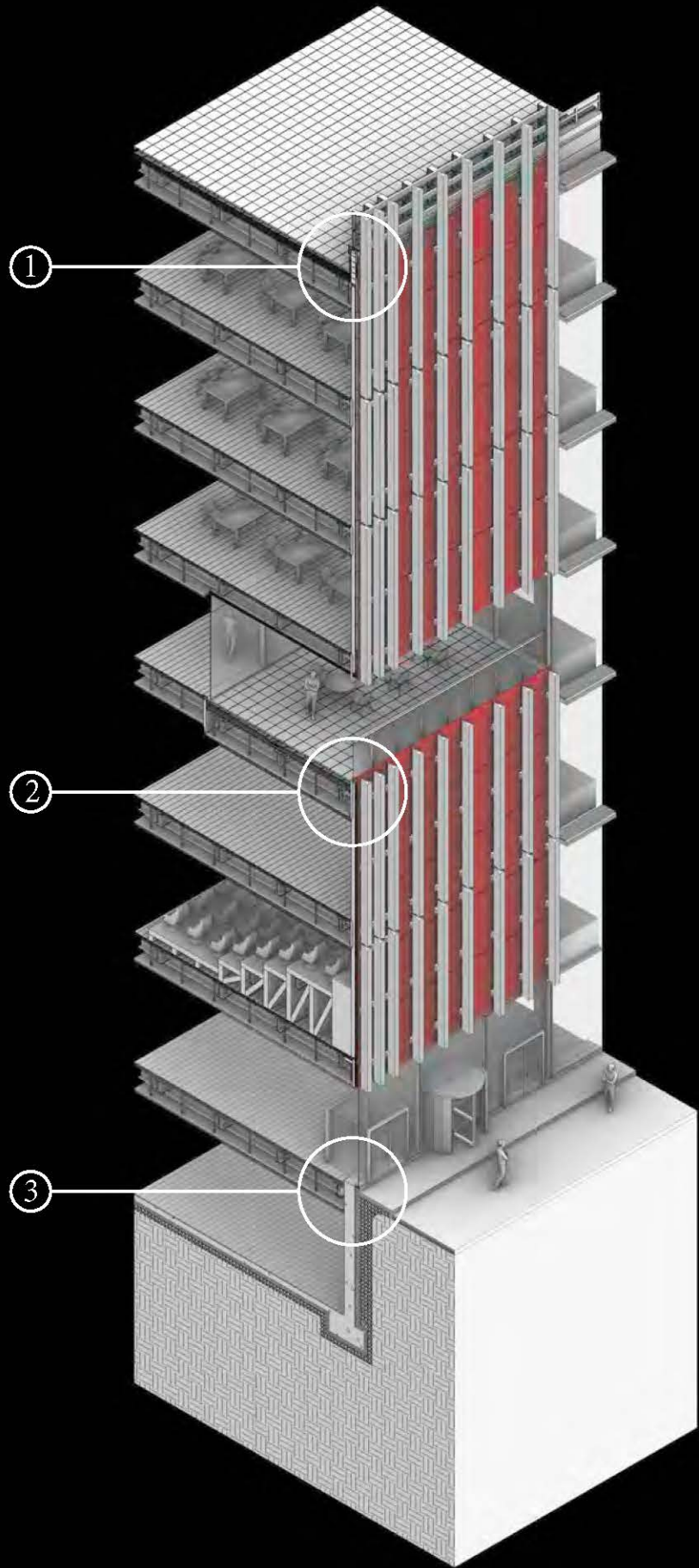


The parti diagram shows the initial axis of the building as it separates a loud noisy environment from a quiet environment.

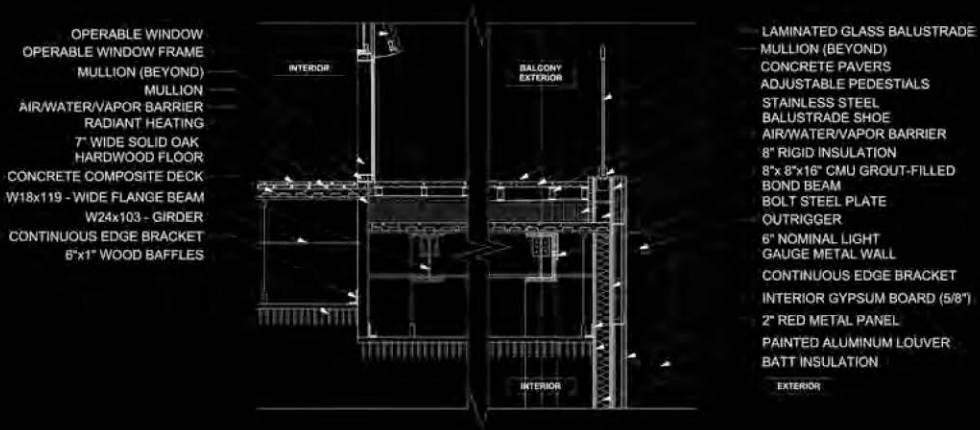
Enclosed red areas would make use of these quiet areas. The top three enclosed areas utilizes open stacks, reading areas, and computer areas. The bottom two enclosed areas includes a auditorium and gallery space for the floor above.

Areas such as the basement, first floor, continuous atrium stair and glass elevator in the southwest corner shown in the left diagram would take part in these louder public areas.

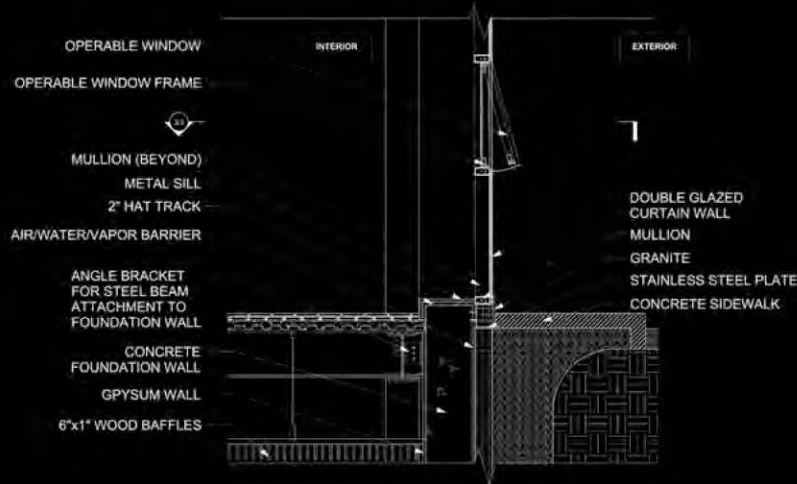




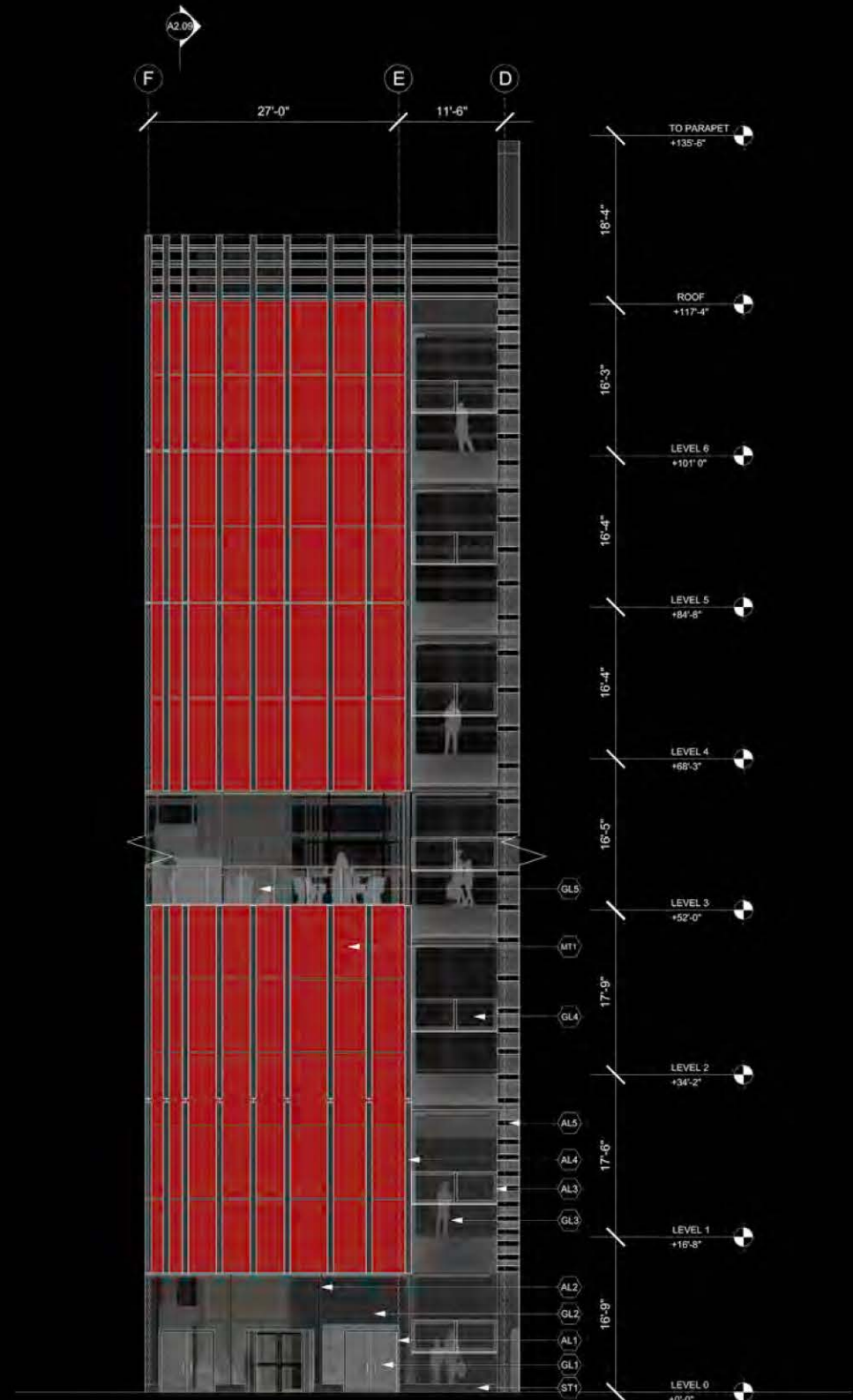
1 SECTION DETAIL AT ROOF PARAPET



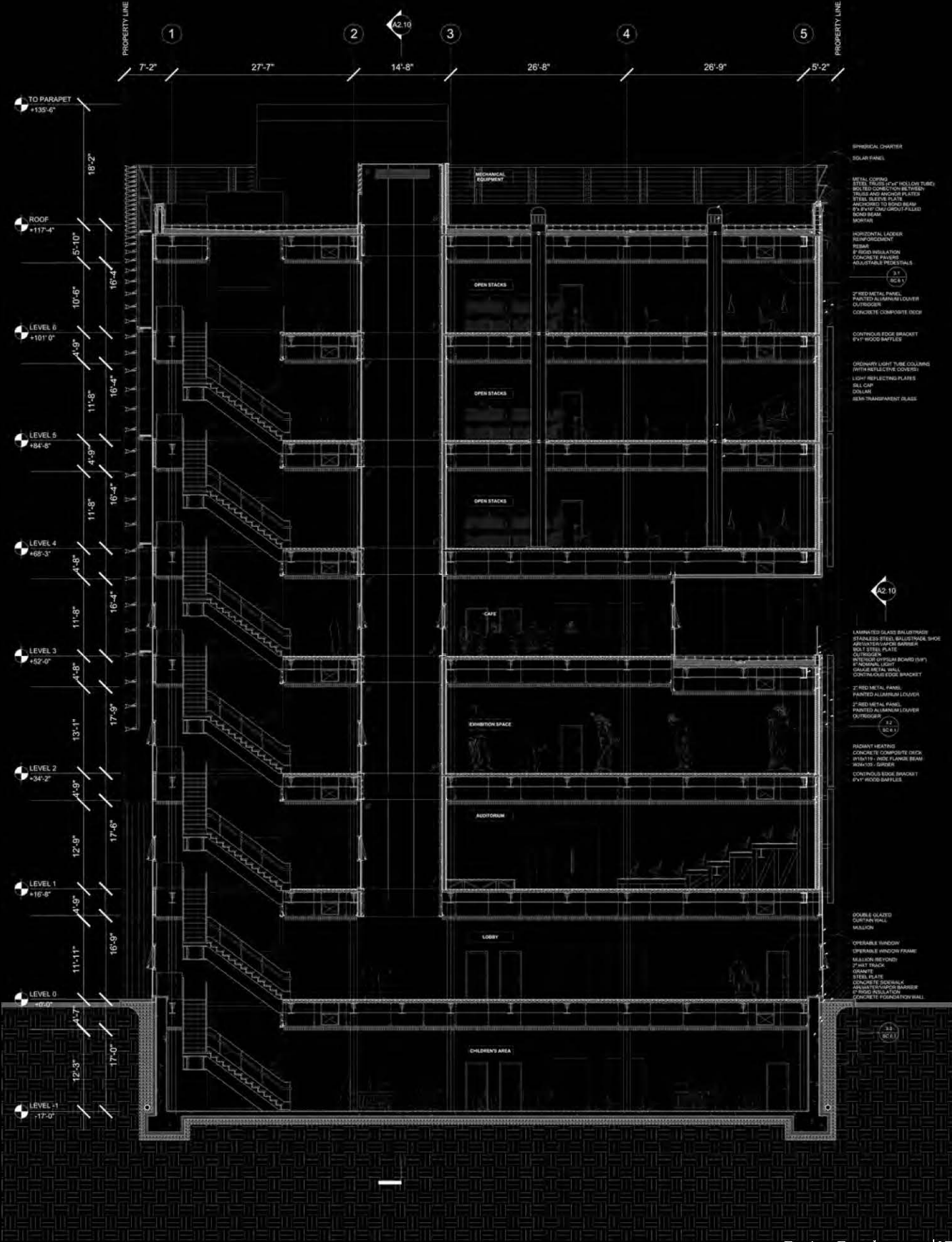
2 SECTION DETAIL AT TYP. SPANDREL



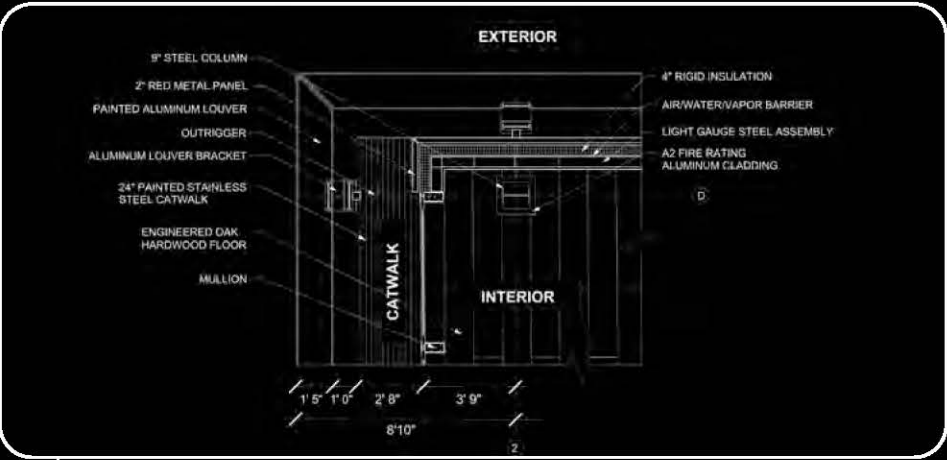
3 SECTION DETAIL AT GROUND



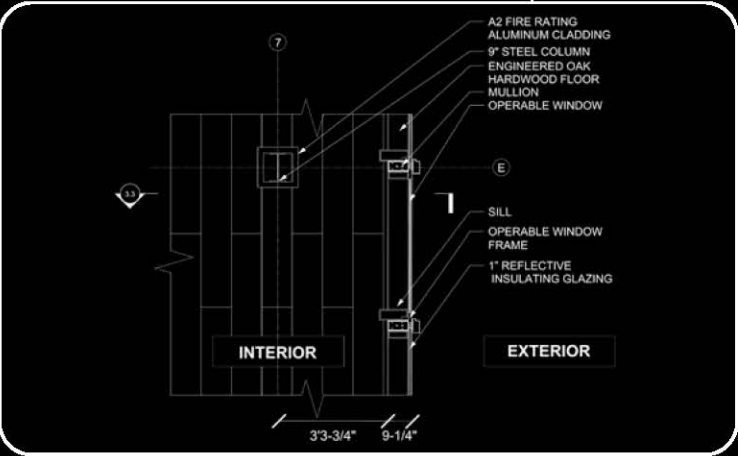
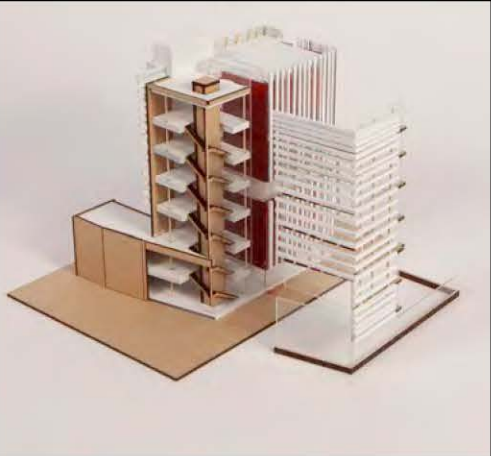
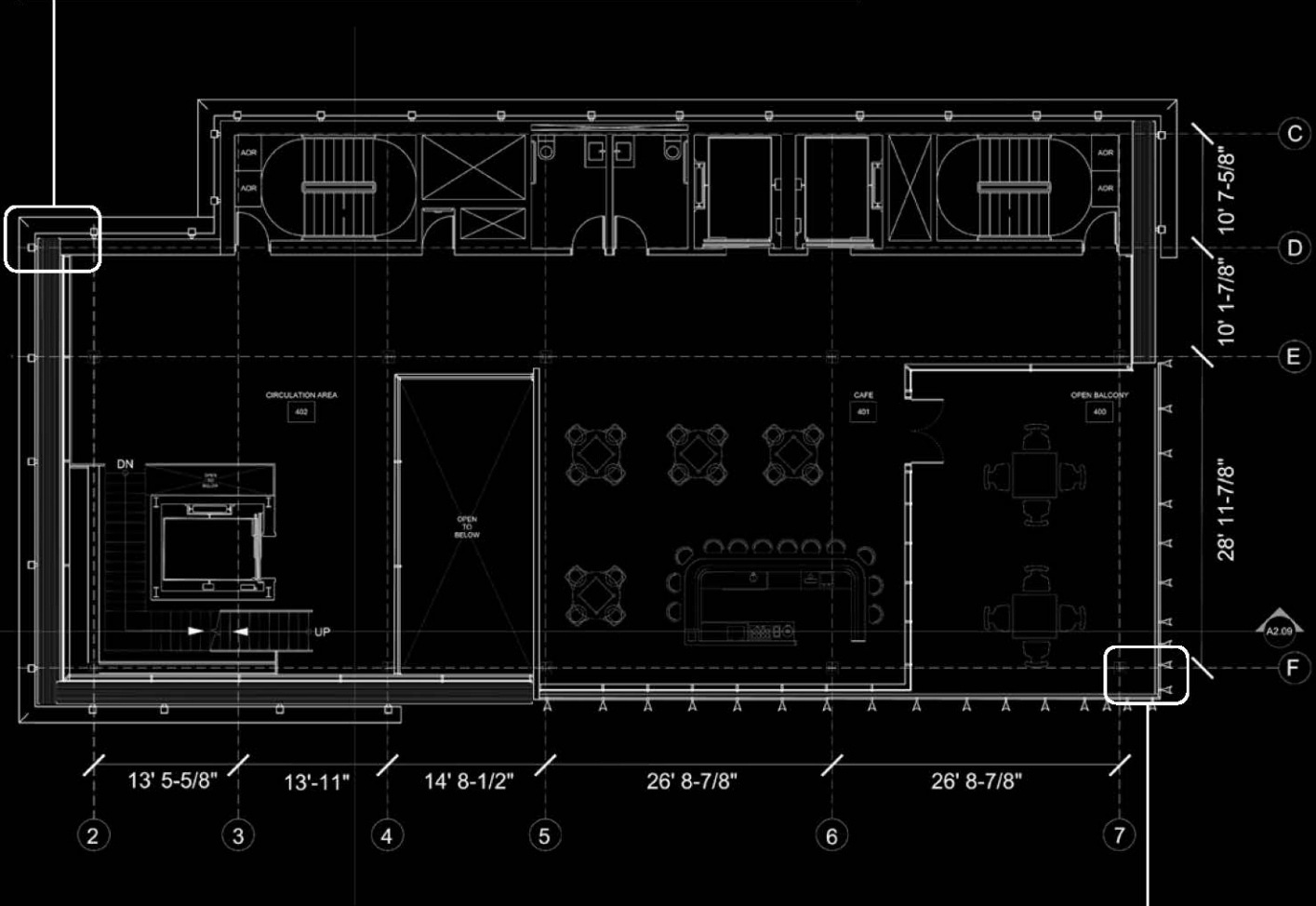
MATERIALS	
MARK	DESCRIPTION
ST1	GRANITE PANEL
GL1	DOUBLE GLAZED EXTERIOR DOOR
GL2	DOUBLE GLAZED CURTAIN WALL
GL3	DOUBLE GLAZED CURTAIN WALL
GL4	SINGLE GLAZED OPERABLE WINDOW
GL5	LAMINATED GLASS PANEL
AL1	ALUMINUM DOOR FRAME
AL2	ALUMINUM MULLION
AL3	ALUMINUM WINDOW FRAME
AL4	VERTICAL PAINTED ALUMINUM LOUVER
AL5	HORIZONTAL PAINTED ALUMINUM LOUVER
MT1	RED METAL PANEL

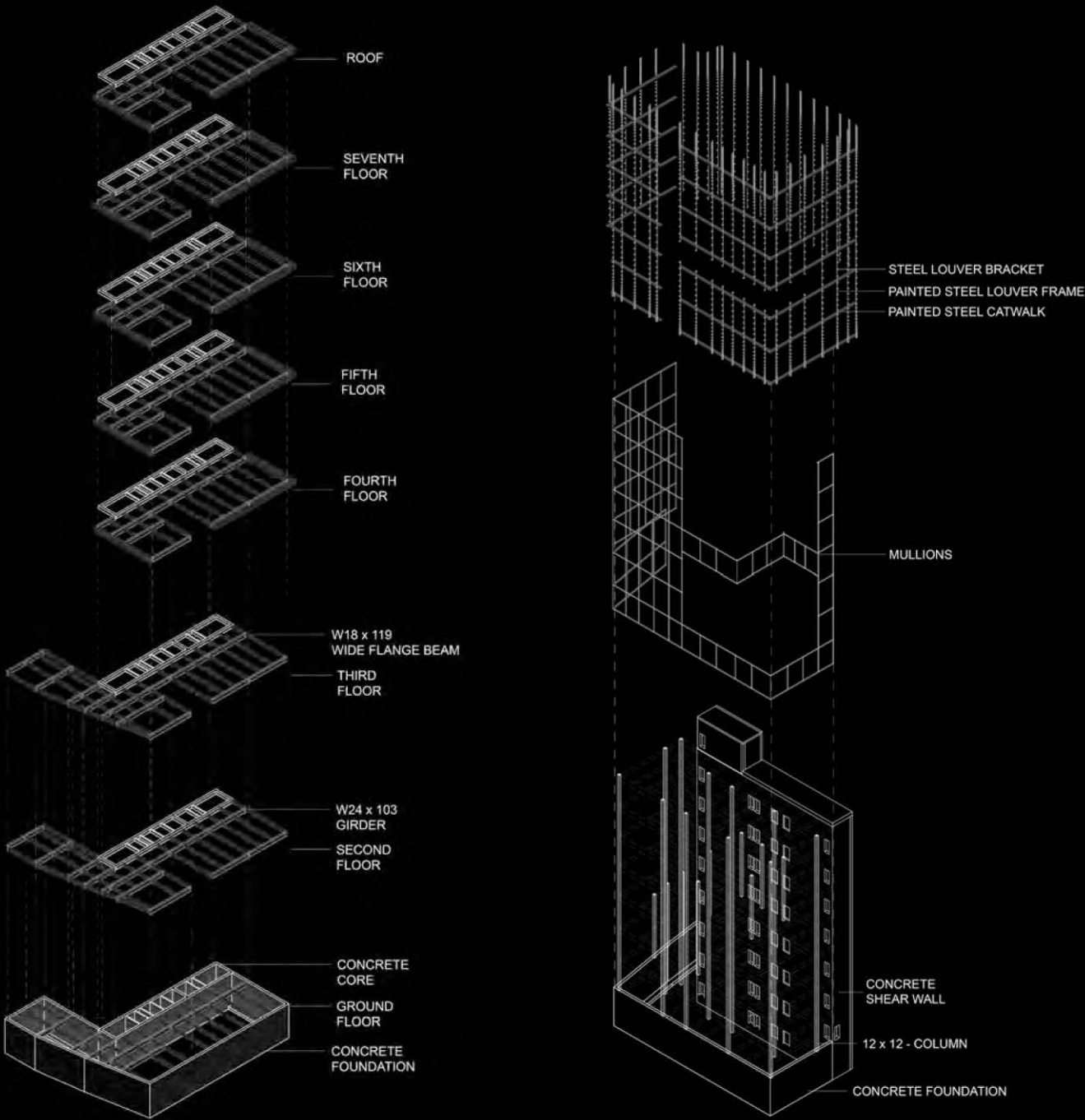
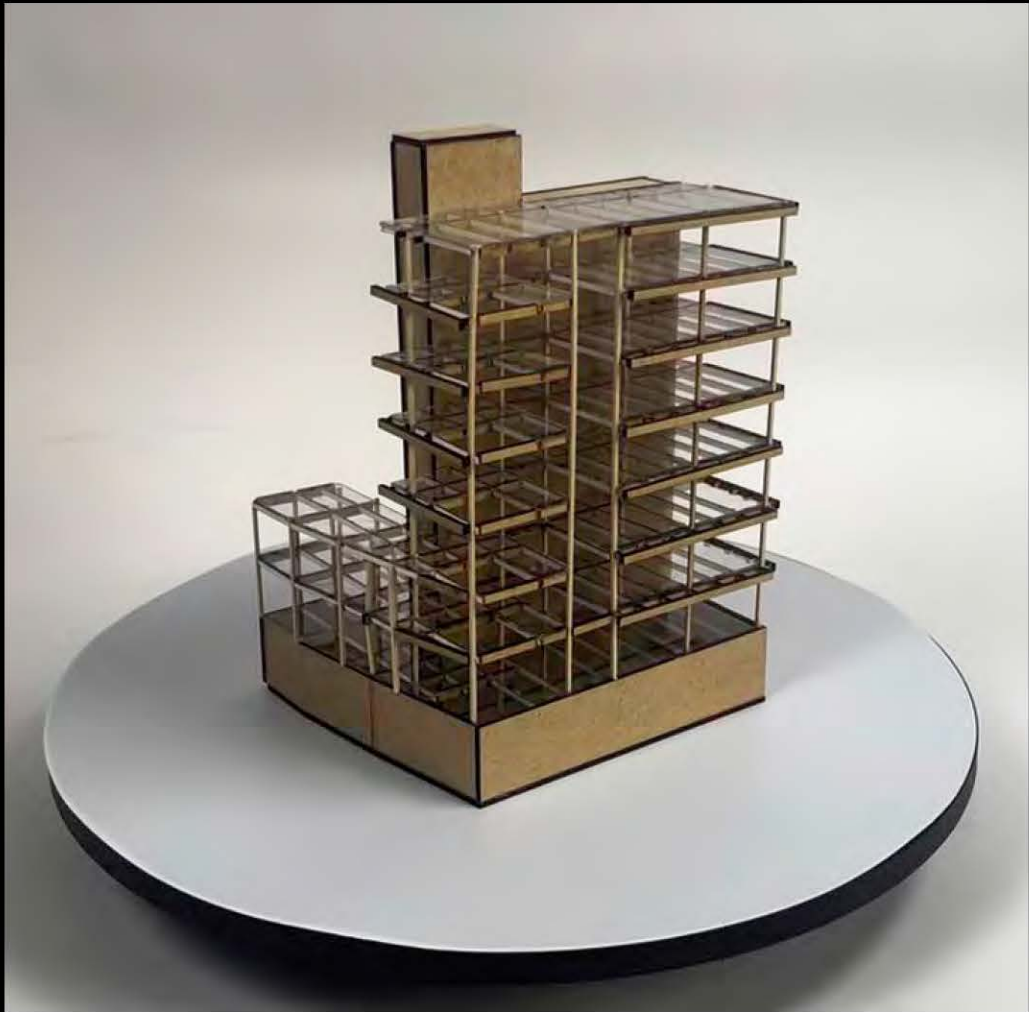


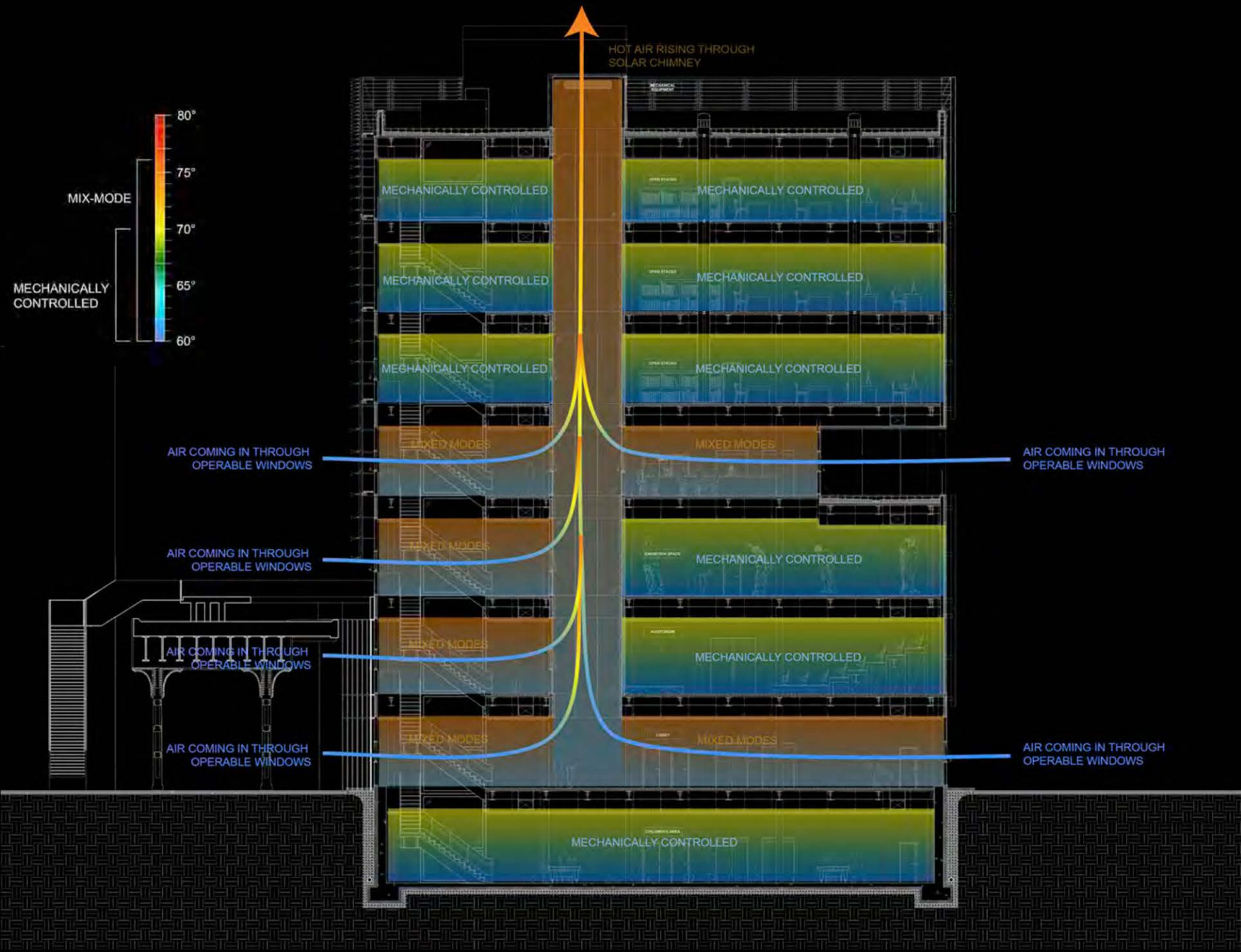
Fourth Floor Open Balcony/Cafe Render



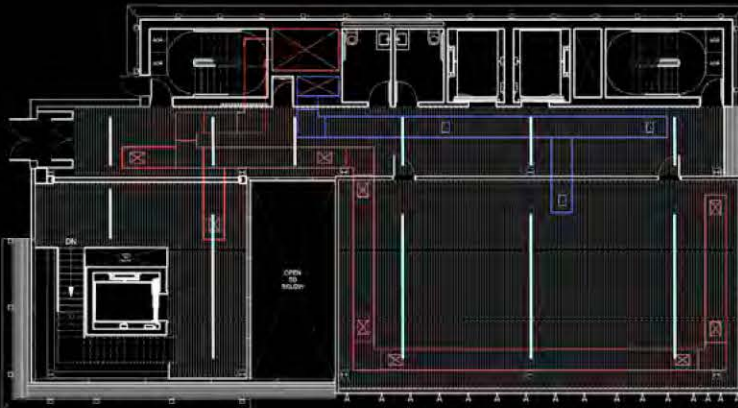
Top: Detail At Ground Window Wall
Middle: Fourth Floor Plan With Details
Bottom Left: 1/16 Physical Model
Bottom Right: Typ. Envelope Detail



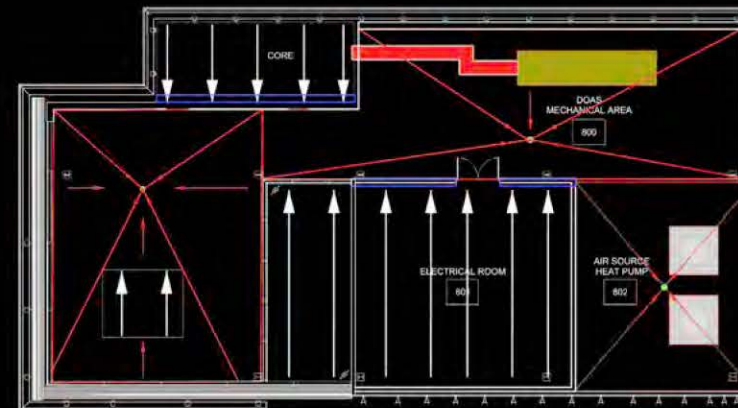




Plan Diagram Of MEP Systems

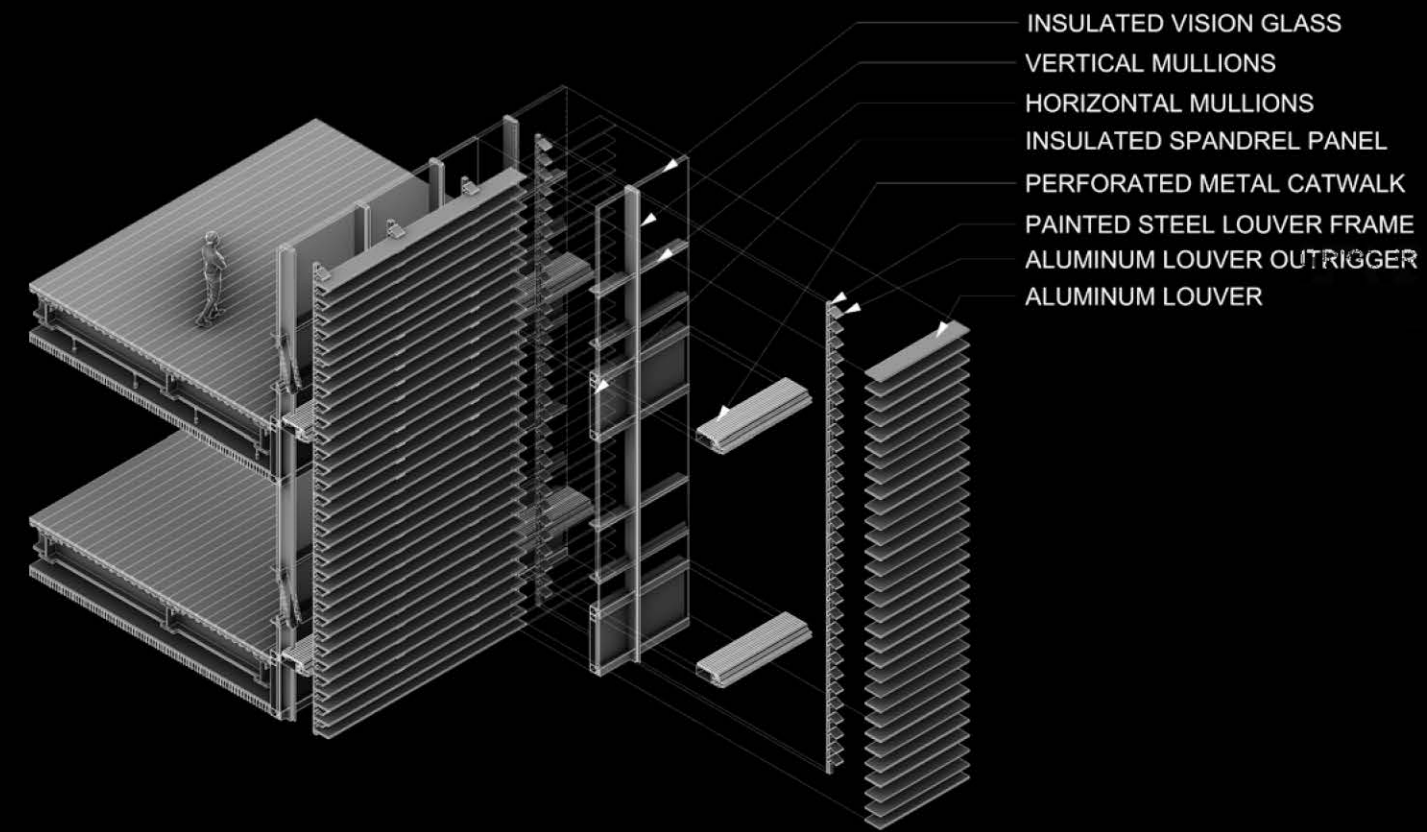


Reflected Ceiling Plan Diagram Of MEP Systems



Roof Plan Diagram Of MEP Systems





The facade of my building incorporates aluminum louvers, which play a key role in improving its overall performance. These louvers are carefully integrated into the facade, greatly enhancing the building's energy efficiency, thermal regulation, and sustainability.

The denser louvers at the top and bottom would block more sunlight during peak hours when the sun is higher in the sky, while the less dense louvers in the middle would allow more daylight to enter the building during times when the sun is lower in the sky. This balanced design would help maintain comfortable indoor temperatures and reduce the need for additional cooling, thereby increasing energy efficiency. Moreover, the aluminum louvers help control ventilation and privacy, while also adding a unique architectural touch to the exterior.

MANHATTAN SPACEPORT

SPACEPORT MUSEUM



Course: Design Studio V
Type: Museum
Professor: Caleb White
Partner: Preston Kwok
Selected For Publications

Featured on Dezeen

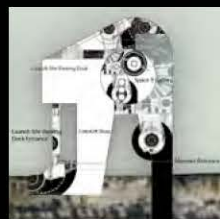


MANHATTAN SPACEPORT

SPACEPORT MUSEUM

In the past decade, there has been a surging private investment in space flight. There has been a corresponding surge in the public interest on the topic as well. Our proposal for the Manhattan Spaceport incorporates the four breakthrough spacecraft from Space X allowing the general public to experience these vehicles up close. Located along the Hudson River waterfront with access to the Highline, the spaceport represents the new central hub for Space X. The spaceport also incorporates a ferry dock to send people to the Atlantic Ocean launch site. The Manhattan Spaceport acts as the gateway to space travel's future, connecting the general public to the exciting "next step for mankind."

Using our collage of the Tantive IV and Orion V as a graphic tool, the form of the building is derived from the different major "pivot" points, located on the engines, that rotate and connect on the x-y-z axis, which also serve as the different program area. Additionally, our collage has red datum lines that organize the different directions of the form and act as an exterior detail that flows along the building.



Proposal 1



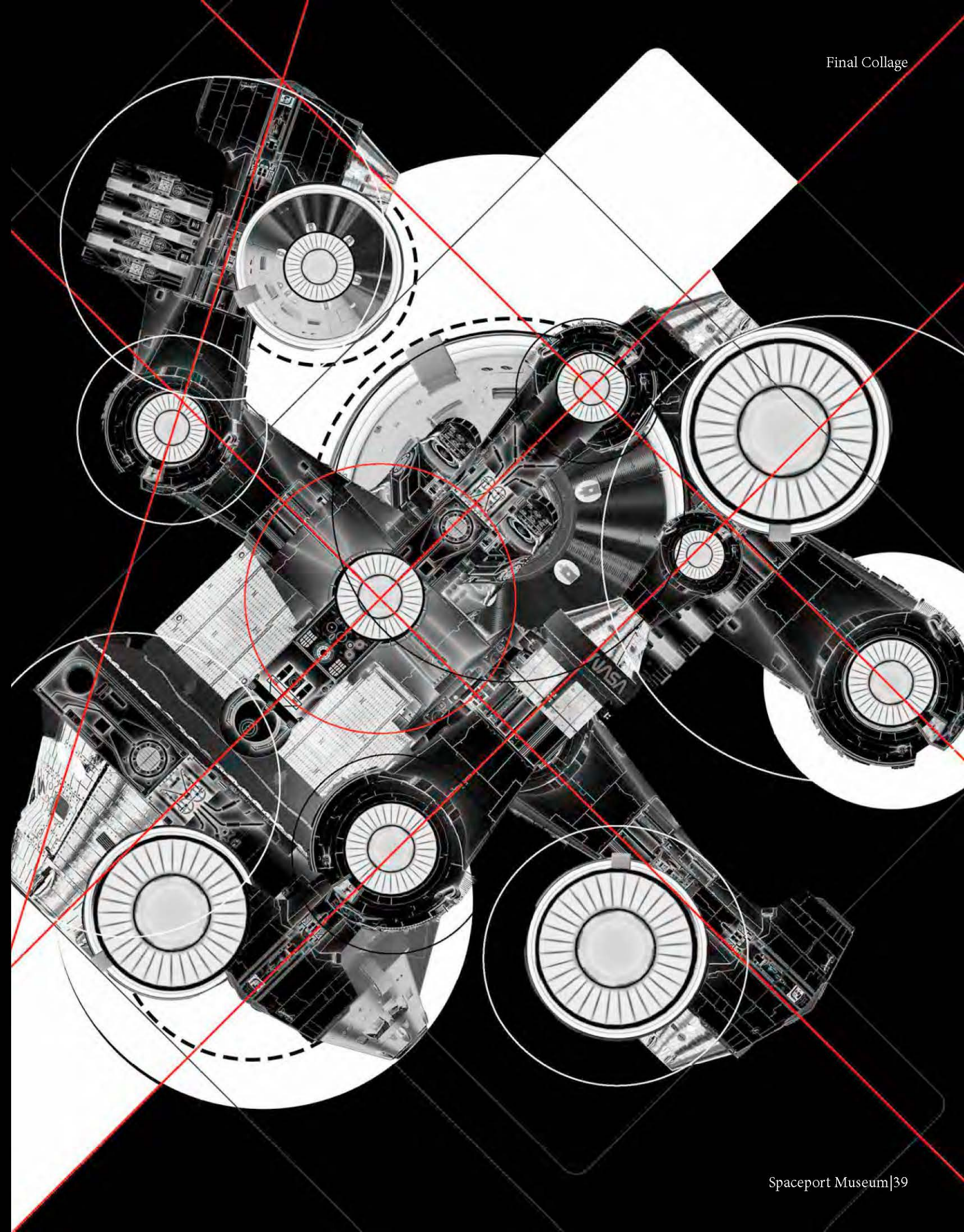
Proposal 2

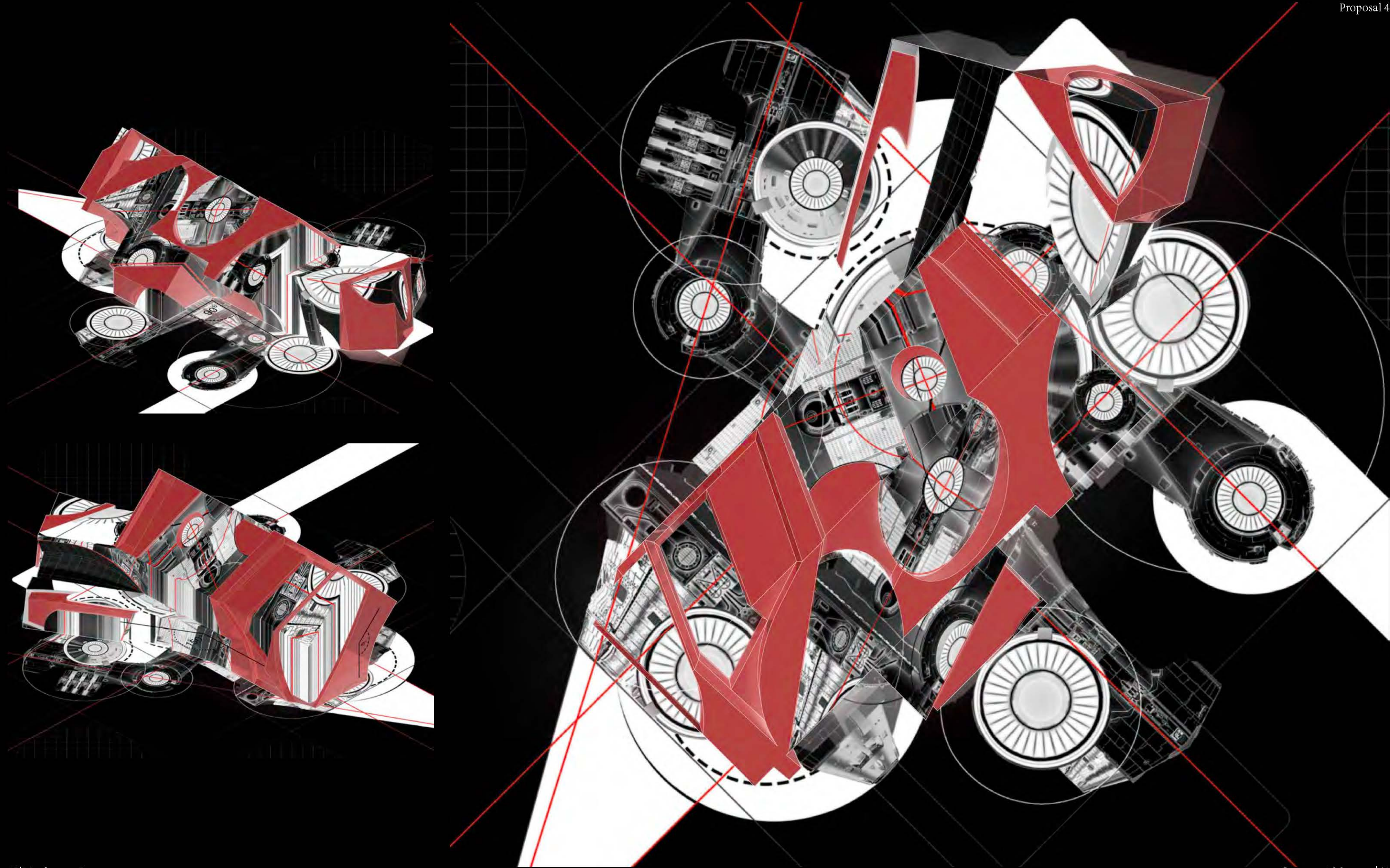


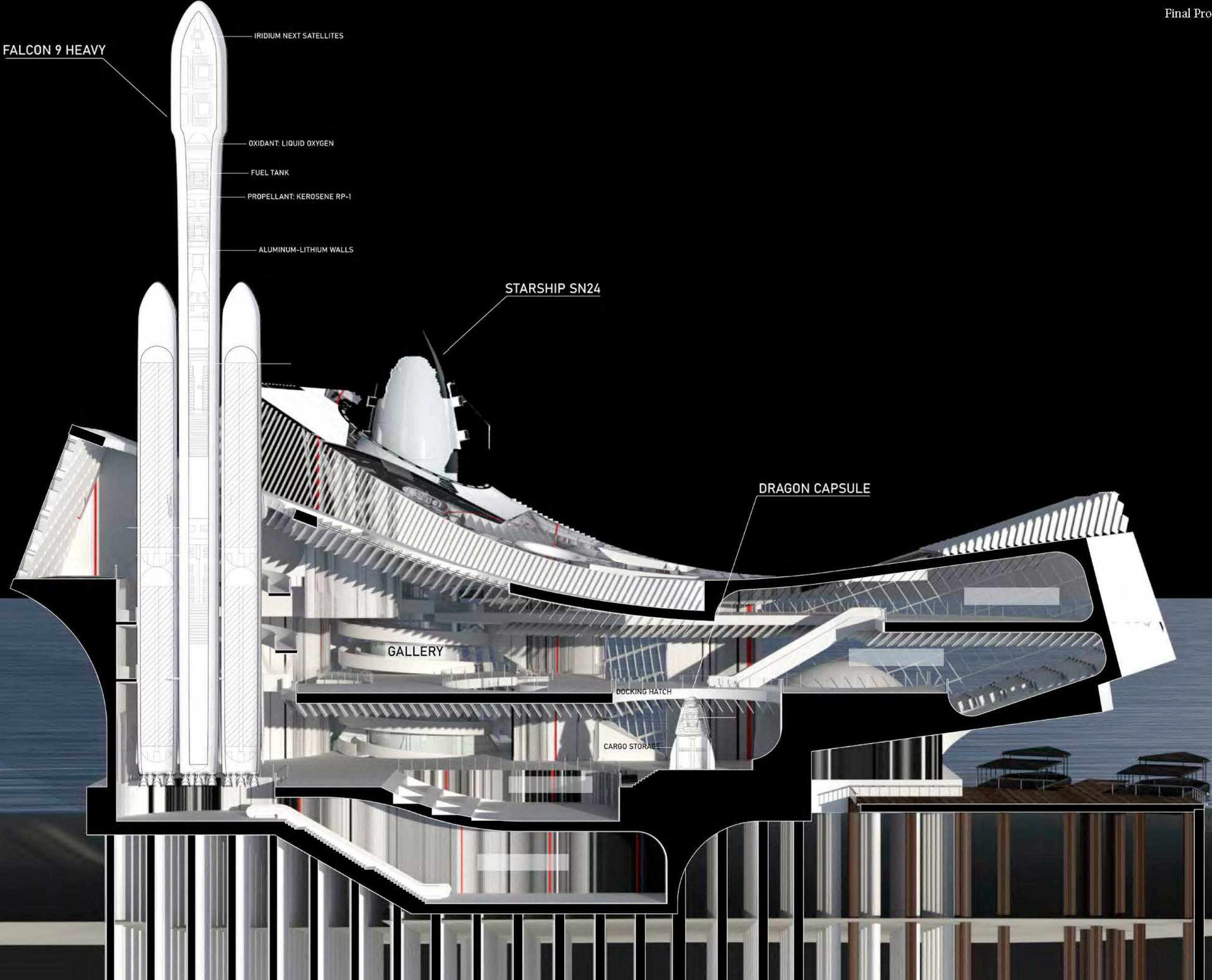
Proposal 3

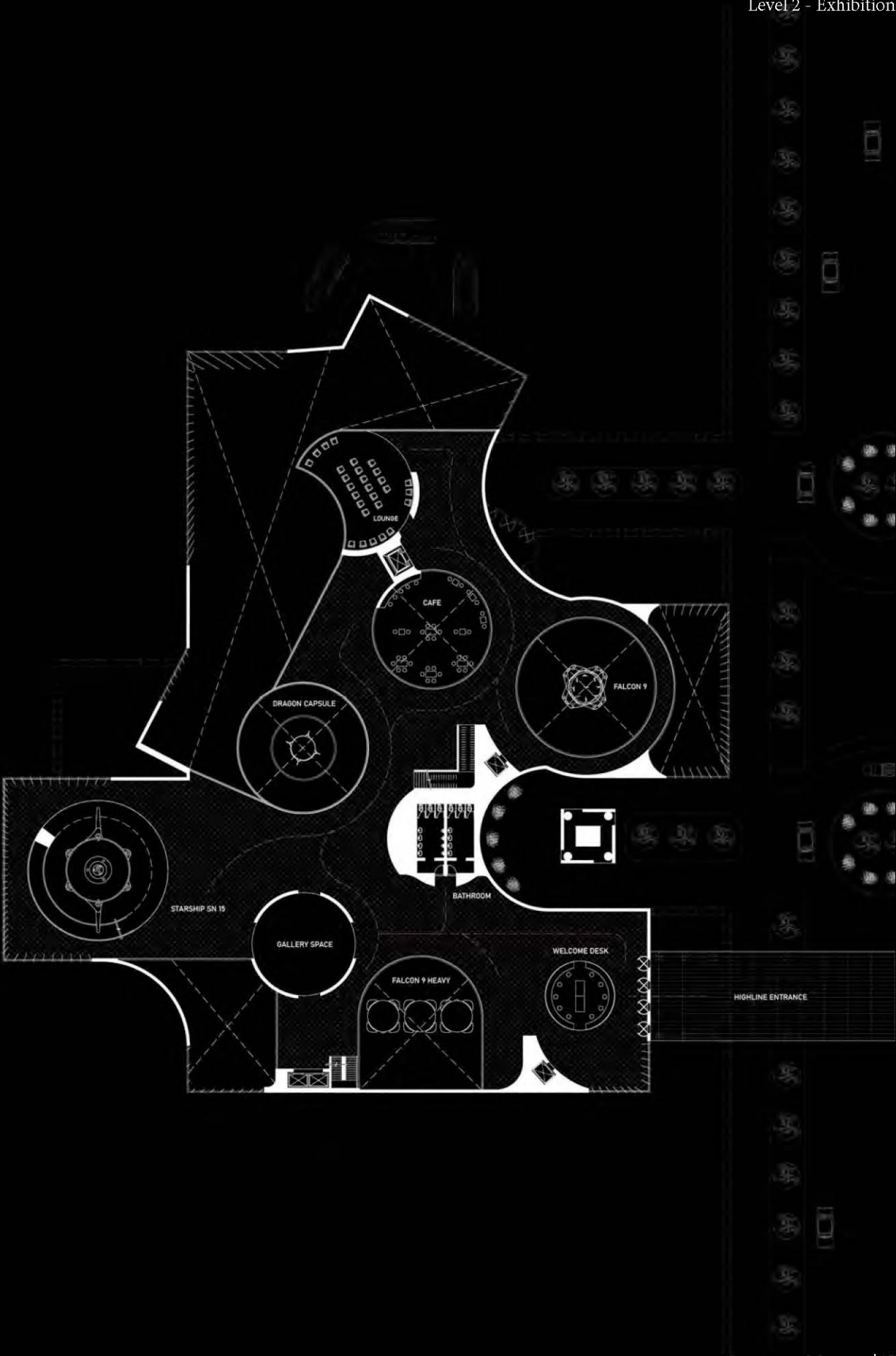
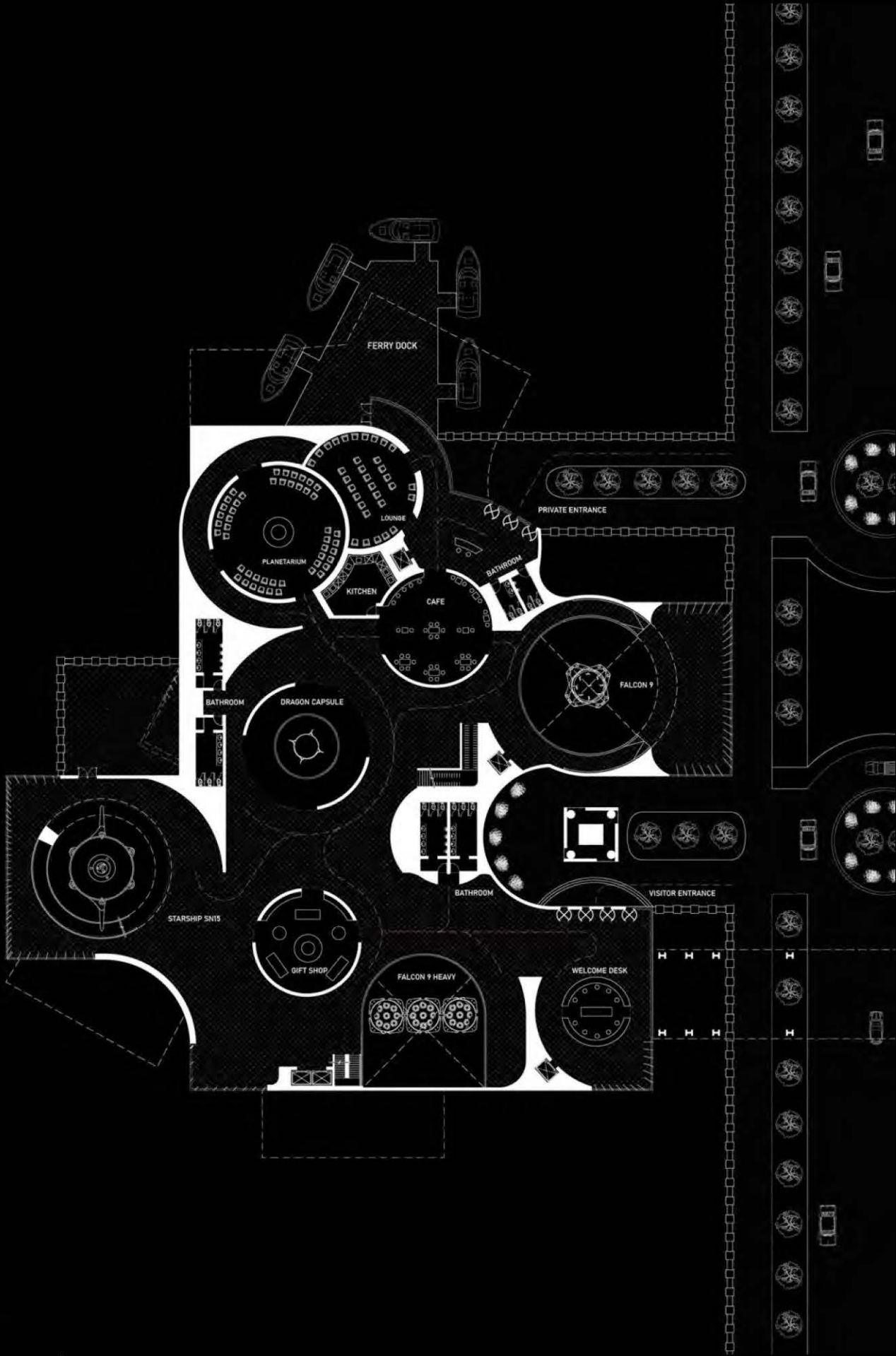


Final Proposal









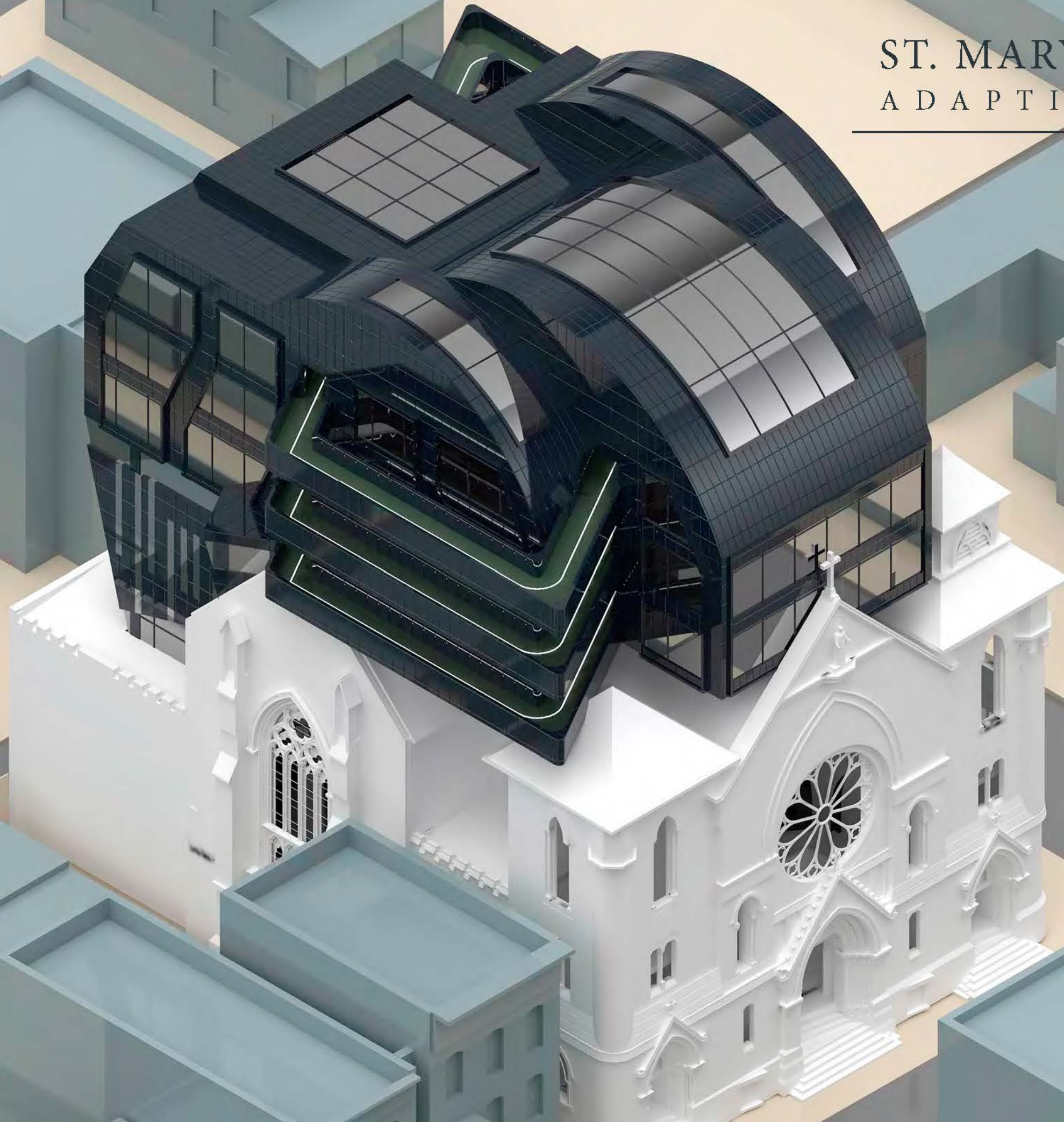


ST. MARY'S CHURCH

ADAPTIVE RESUSE

Course: Design Studio IV
Type: Church Resuse
Professor: Edwin Liu
Partner: Preston Kwok

Selected for Publications
Selected for Awards Review



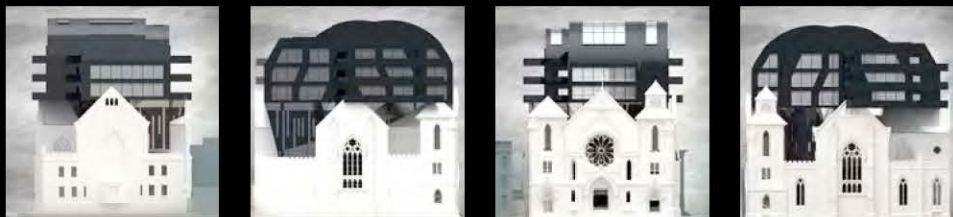
ADAPTIVE RESUSE OF ST.MARY’S

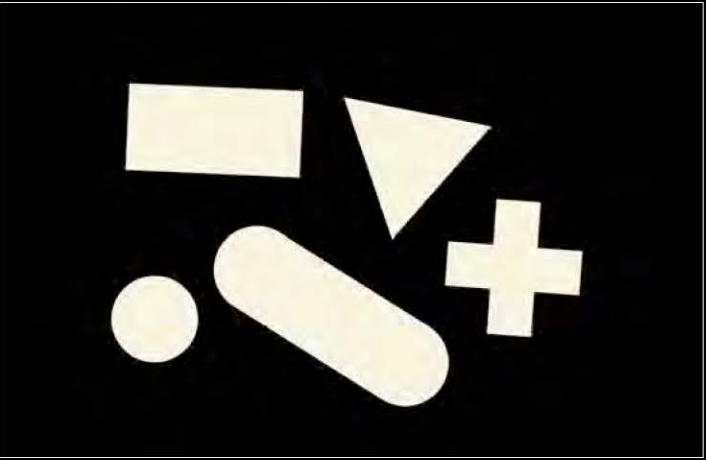
HOUSING AND EXERCISING FACILITY

Our adaptive re-use proposal for the Saint Mary’s church in Troy, NY aims to repurpose it as an after-school athletic program for children and a fitness center for adults.

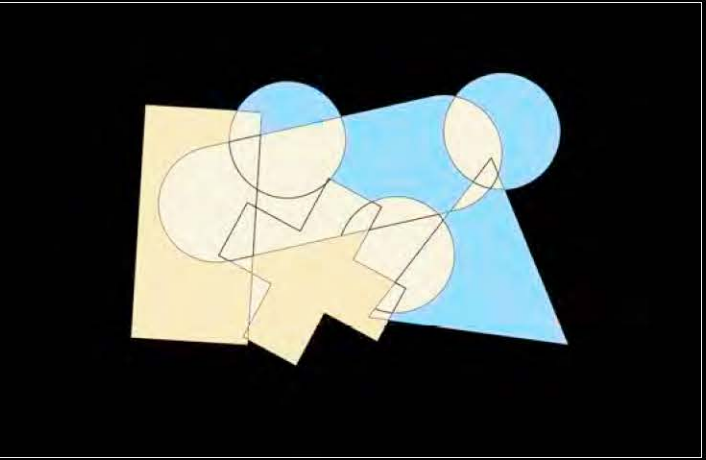
The church will be renovated into a multi-purpose athletic facility, sponsored by the YMCA, that will encourage an active lifestyle while also providing nutritional meals, given there are few restaurants in the neighborhood. In addition, the church will serve as a multi-unit collective housing that provides units ranging from studios to triple bedrooms. Although studios will be offered at market price, double and triple bedrooms will be available through a lottery drawing which will benefit the lower-income population.

With the adaptive reuse of the Saint Mary’s church, we want to provide additional housing while also encouraging people to live healthier lifestyles by providing a facility that is convenient and open for everyone.

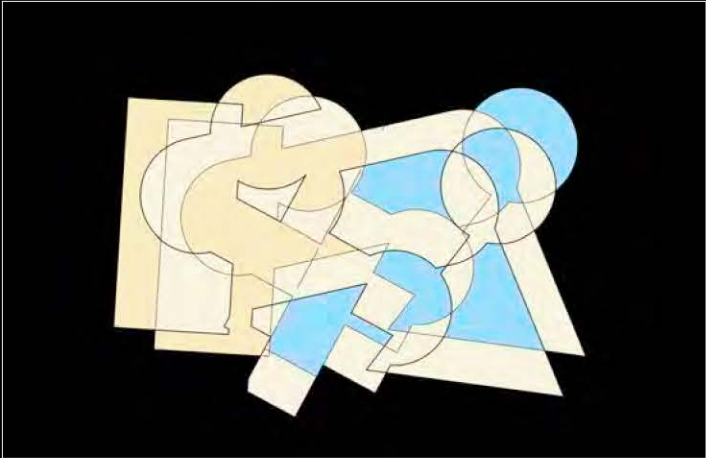




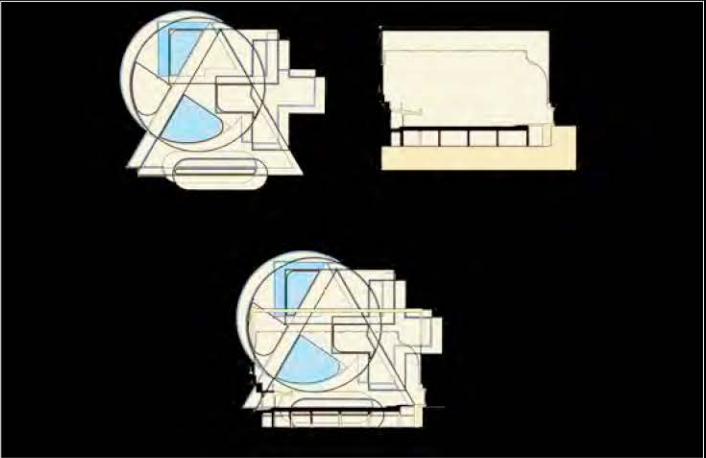
1. Five Primary Shapes



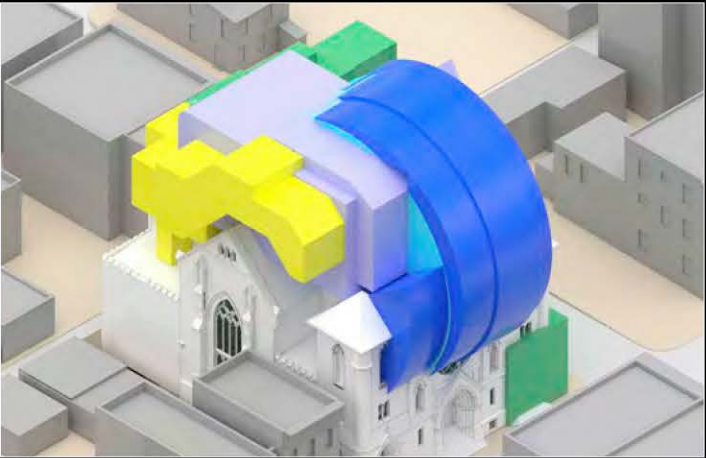
2. Overlapping To Create Solid And Void Spaces



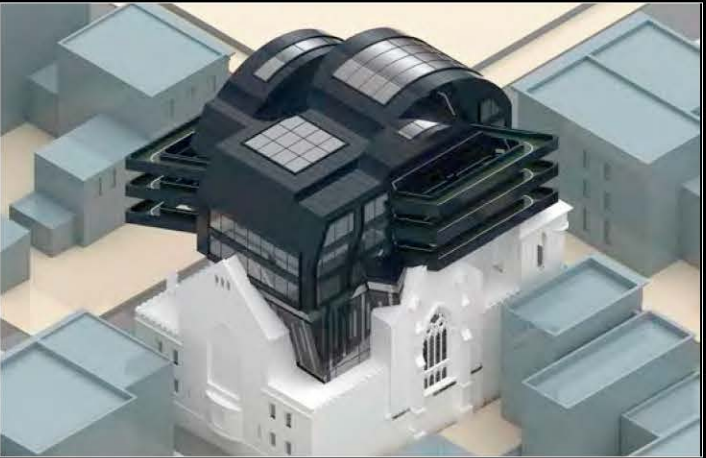
3. Shifting the shapes across the datum lines to create more solid and void spaces



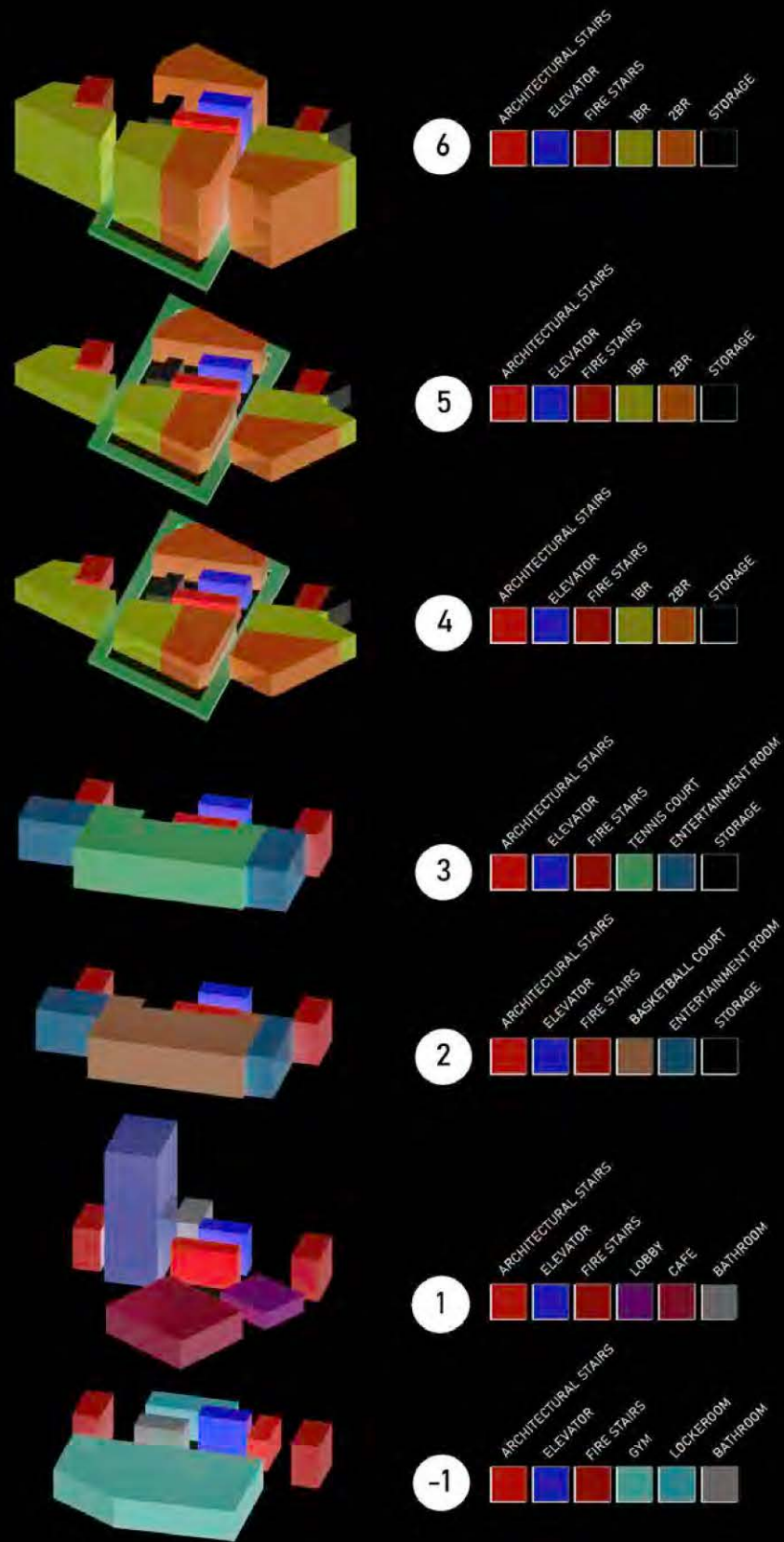
4. Intersecting the shape study with the section of the church



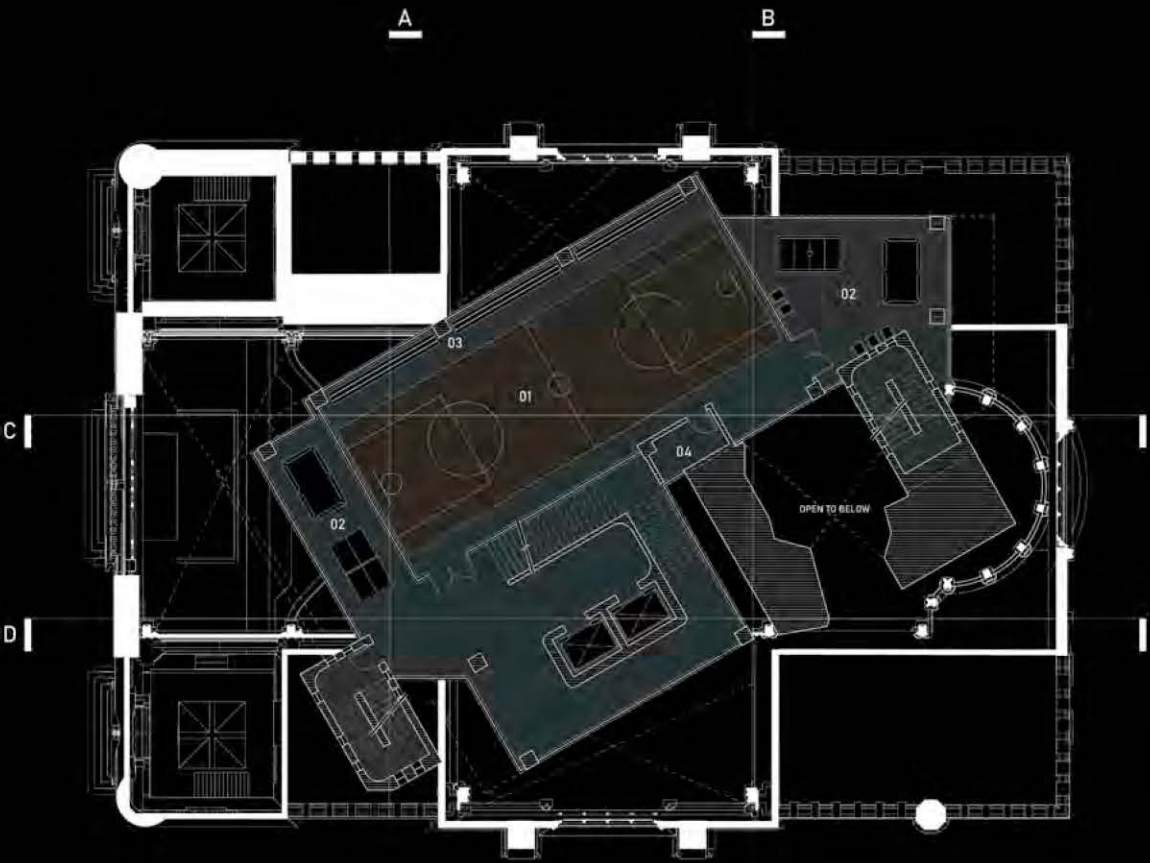
5. Massing Extruded from Section



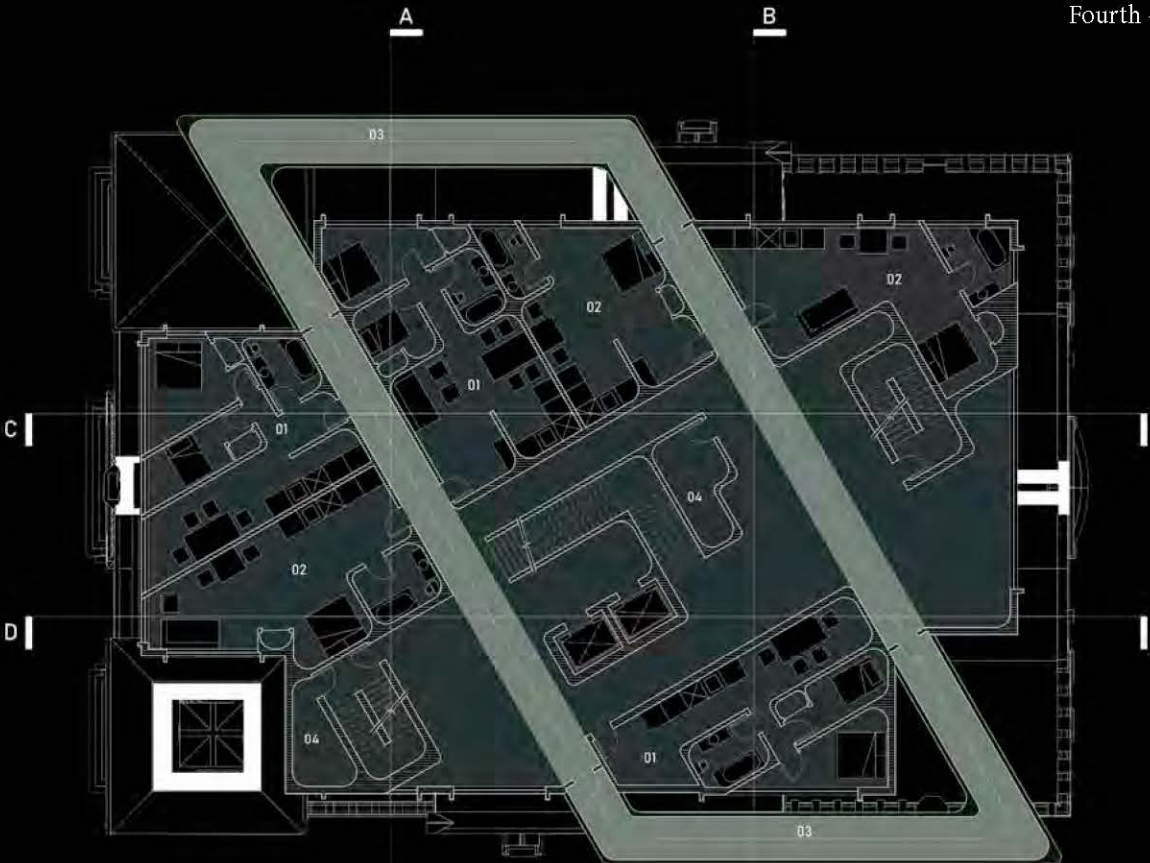
6. Massing Proposal



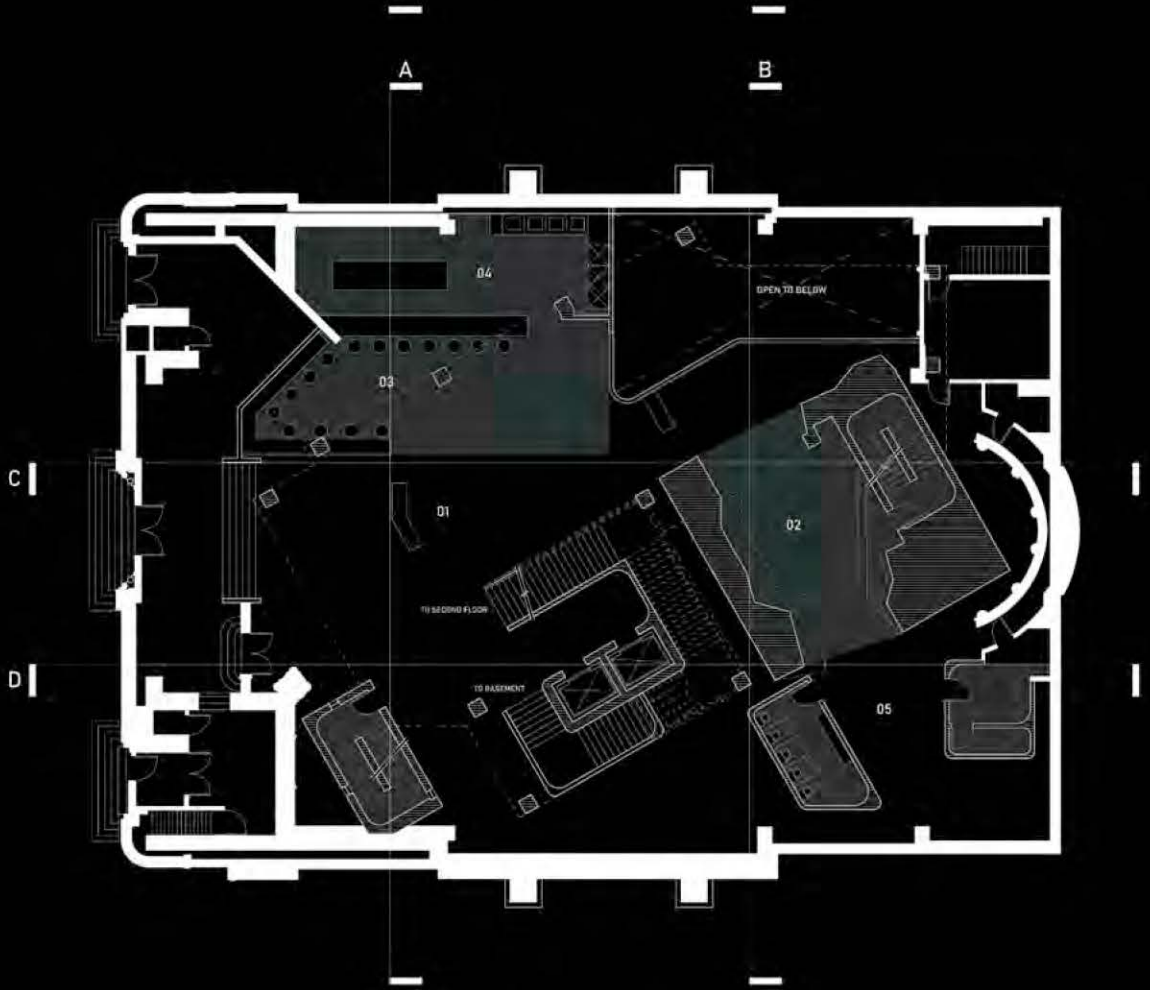
Second Floor



Fourth - Sixth Floor

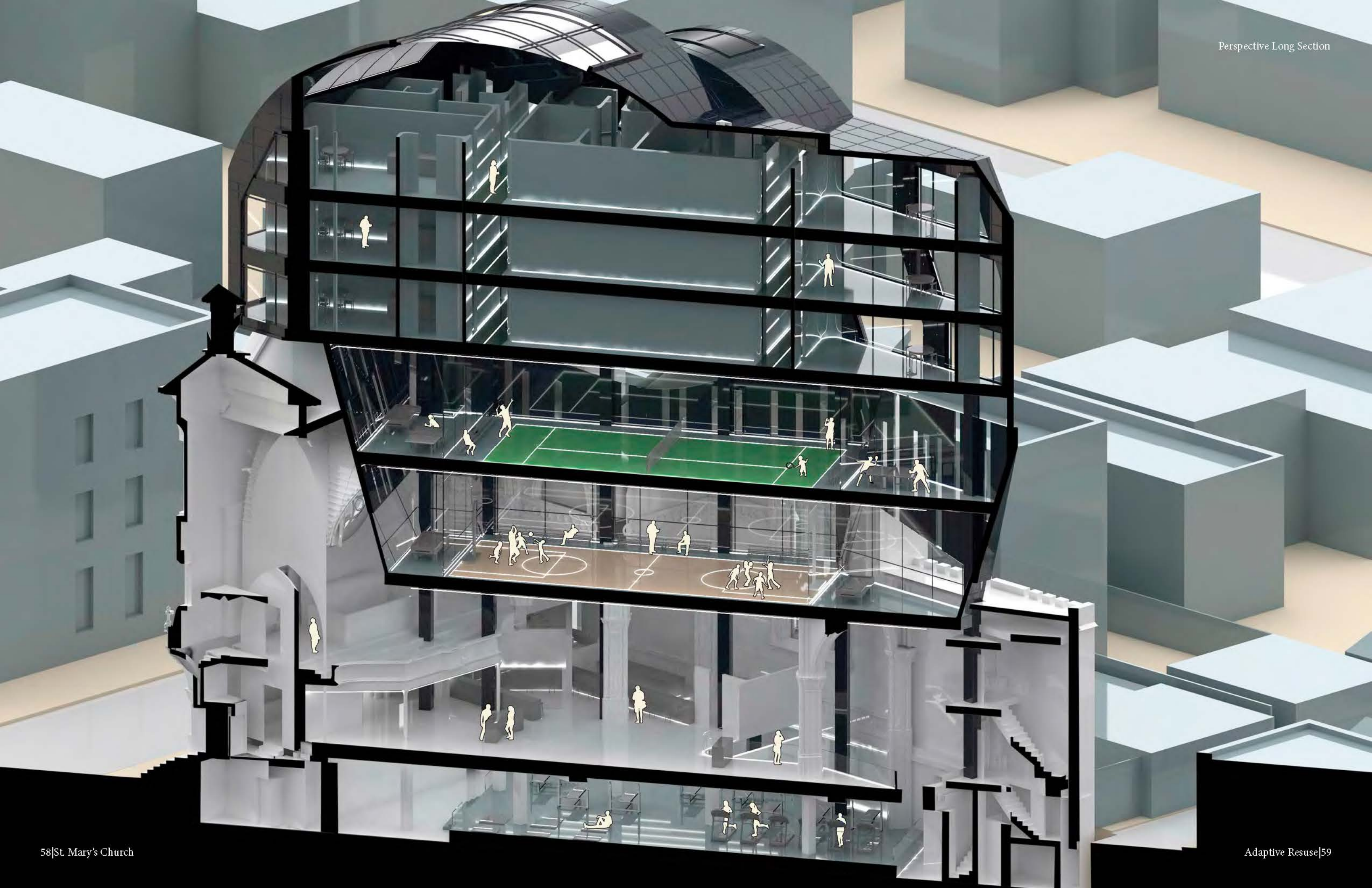


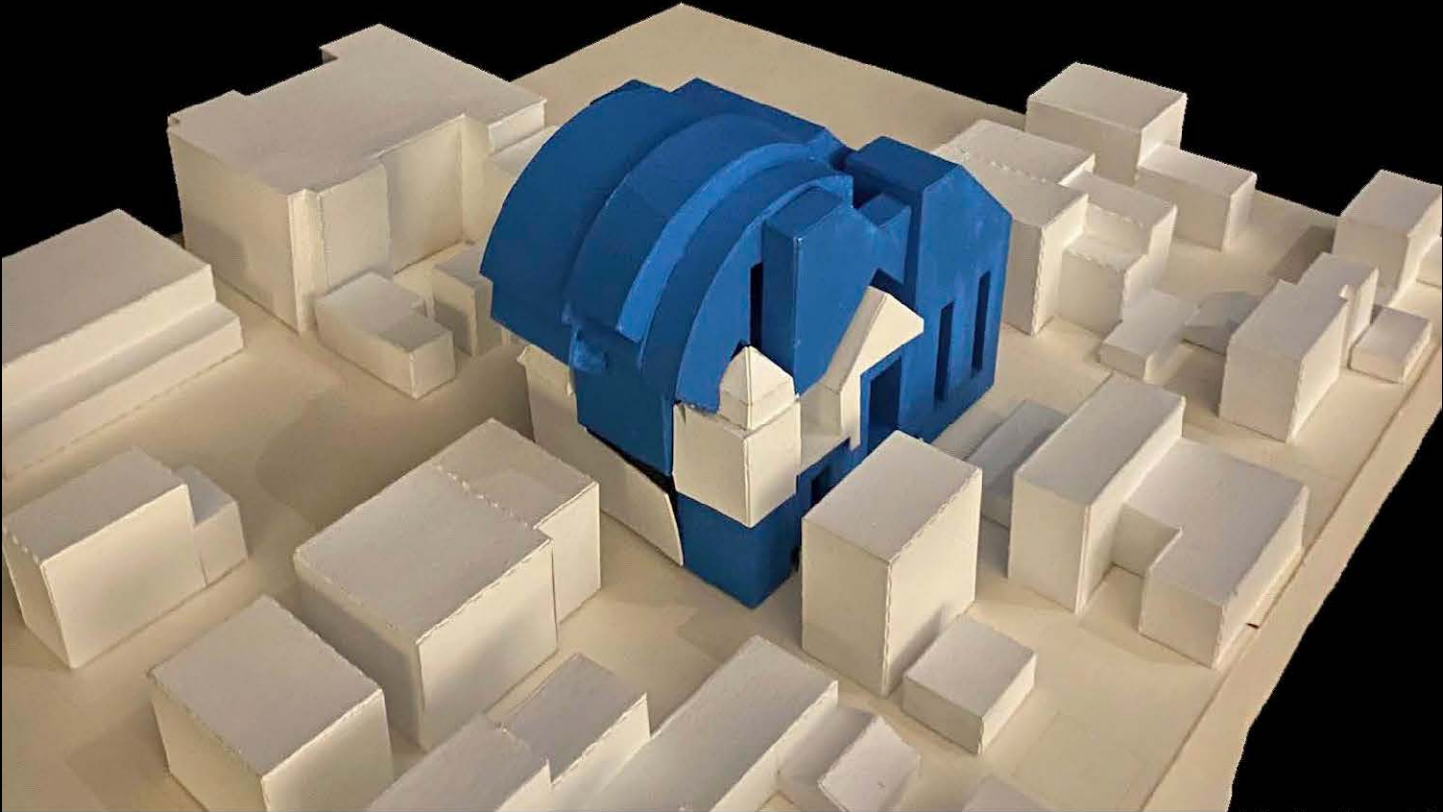
Ground Floor



Third Floor







SUSTAINABLE SUPERSTRUCTURE

A WIND POWER MIX-USED TOWER

Course: Design Studio VI
Type: Office Tower
Professor: Fleet Hower
Partner: Preston Kwok

Selected for Publications

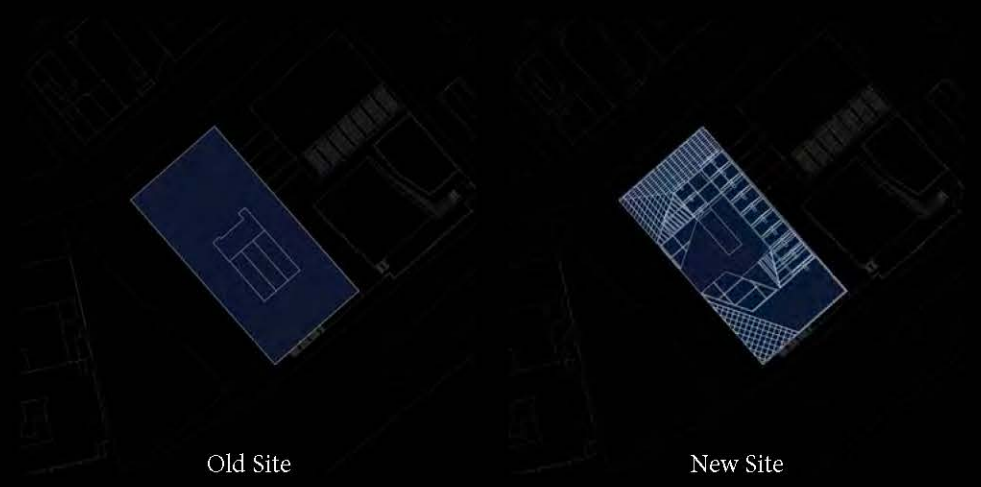
Sustainable Superstructure

A WIND POWER MIX-USED TOWER

Sustainable Superstructure is a wind-powered, mix-used tower located along Water street in the Financial District. The project focuses on the deconstruction of the existing building, 55 Water Street, because of the ever increasing vacancy of office buildings. The new building acts as a mix-used skyscraper featuring luxury retail, large office spaces, and premium residential units, while incorporating wind turbines to power the building.

Angled cuts were taken away from the building to maximize the amount of wind exposure the building would capture as well as reducing the existing floor area, resulting in the tapering form. Nestled within the existing structural grid are wind tunnels that funnel wind from one end to the other, spinning the turbines to generate electricity.

With the contrast of the wireframe grid and sleek form, Sustainable Superstructure is the next iteration for a net-zero building.

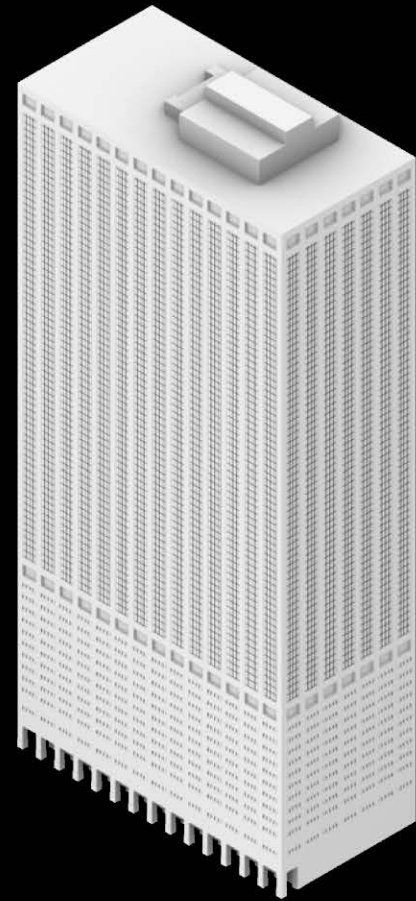


Old Site

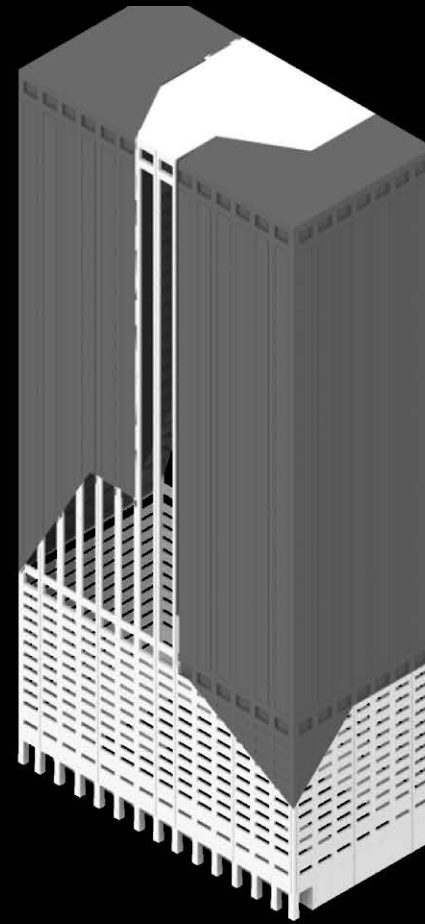
New Site



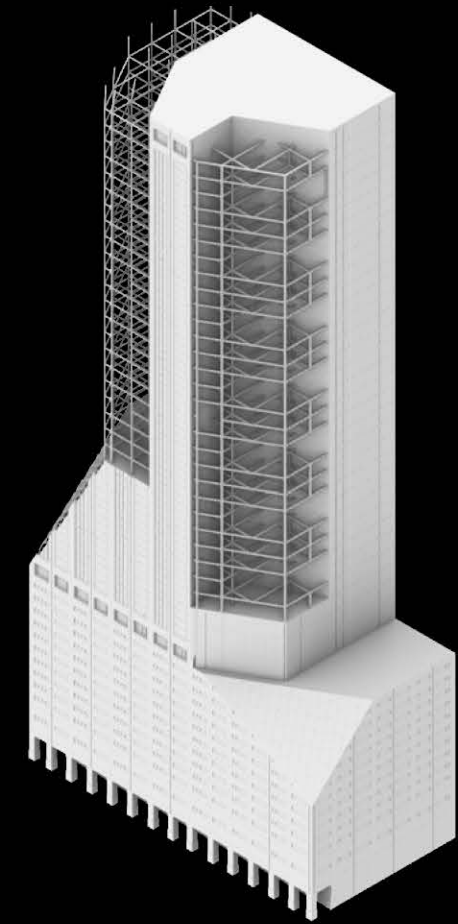
Isometric View



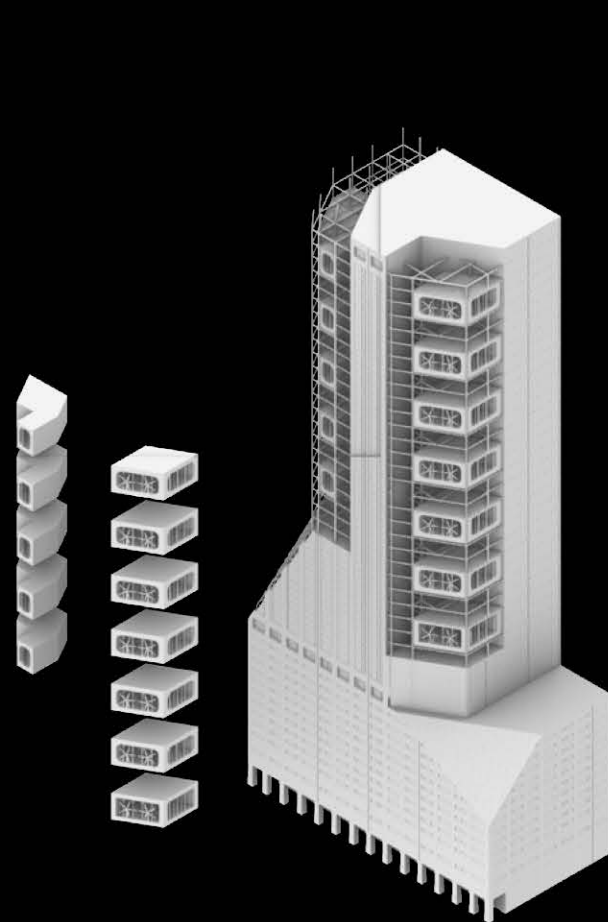
1. Original
Massing



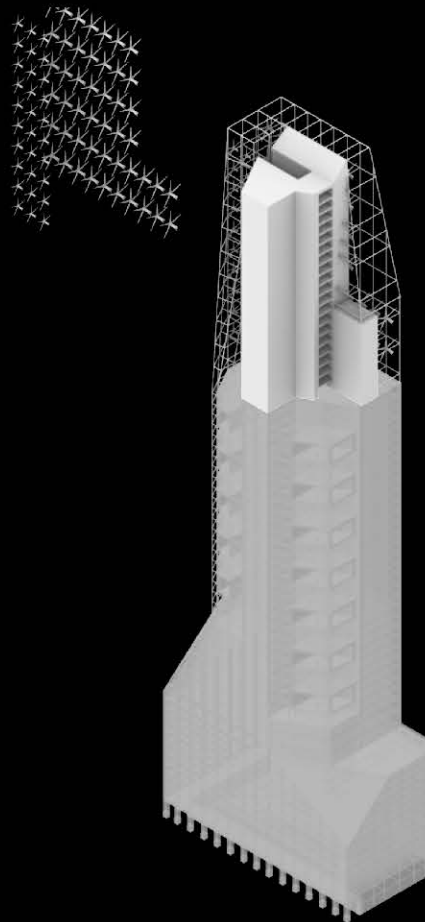
2. Subtraction
According To Wind
Directio And Sq.ft



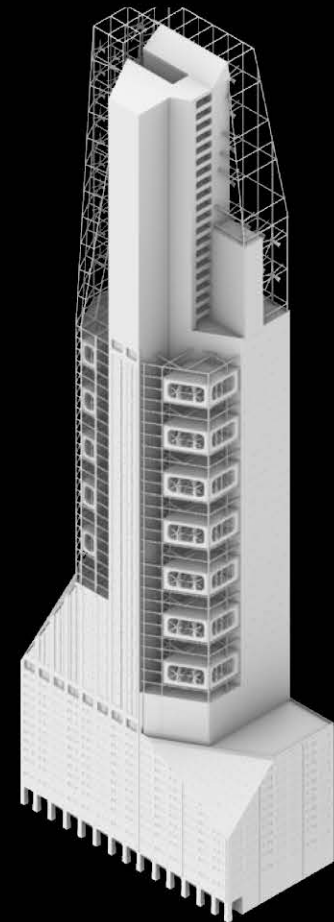
3. Resulting Form
With
Exposed
Structure



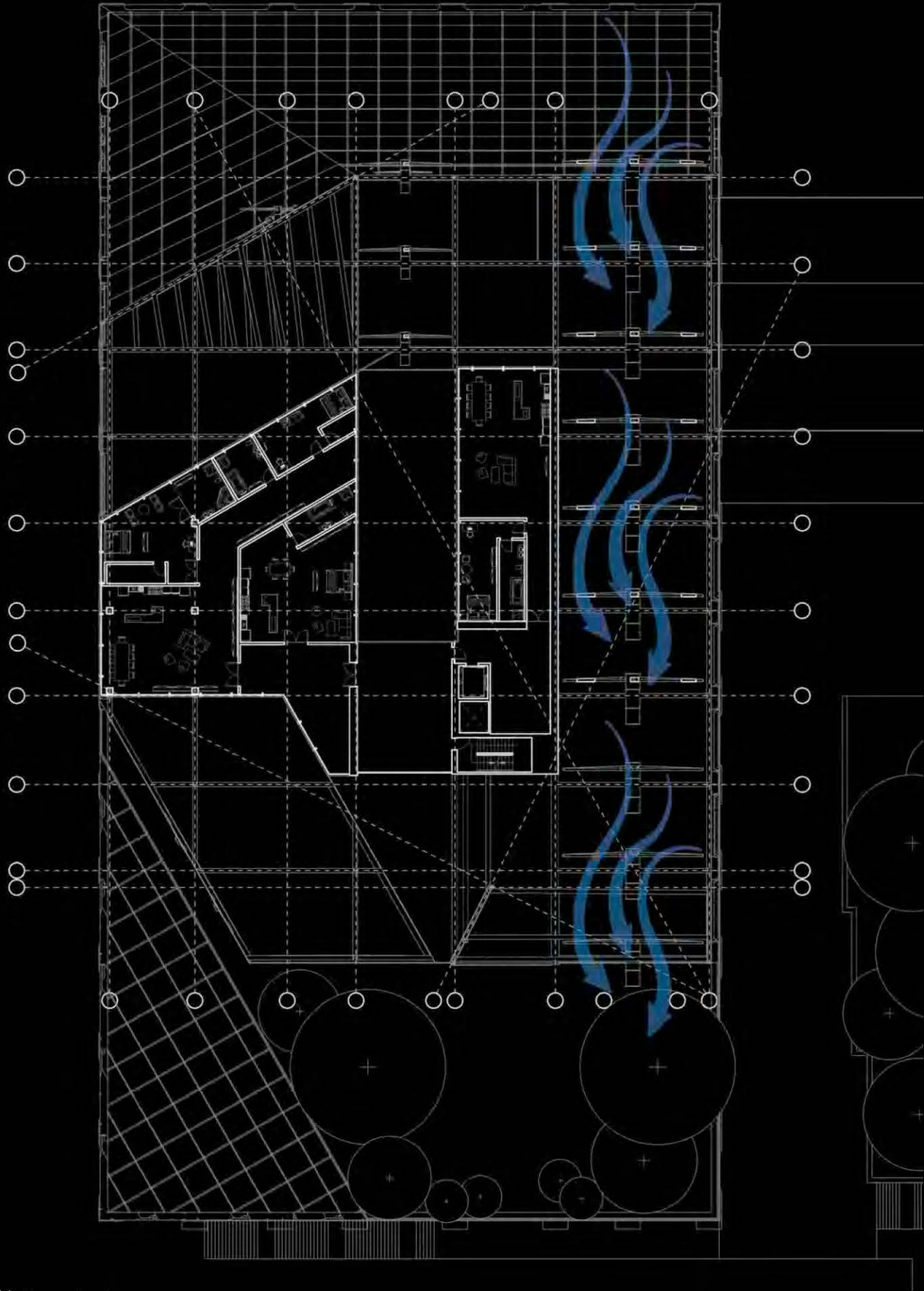
4. Modular Wind
Turbines Built
Into The Existing
Structure



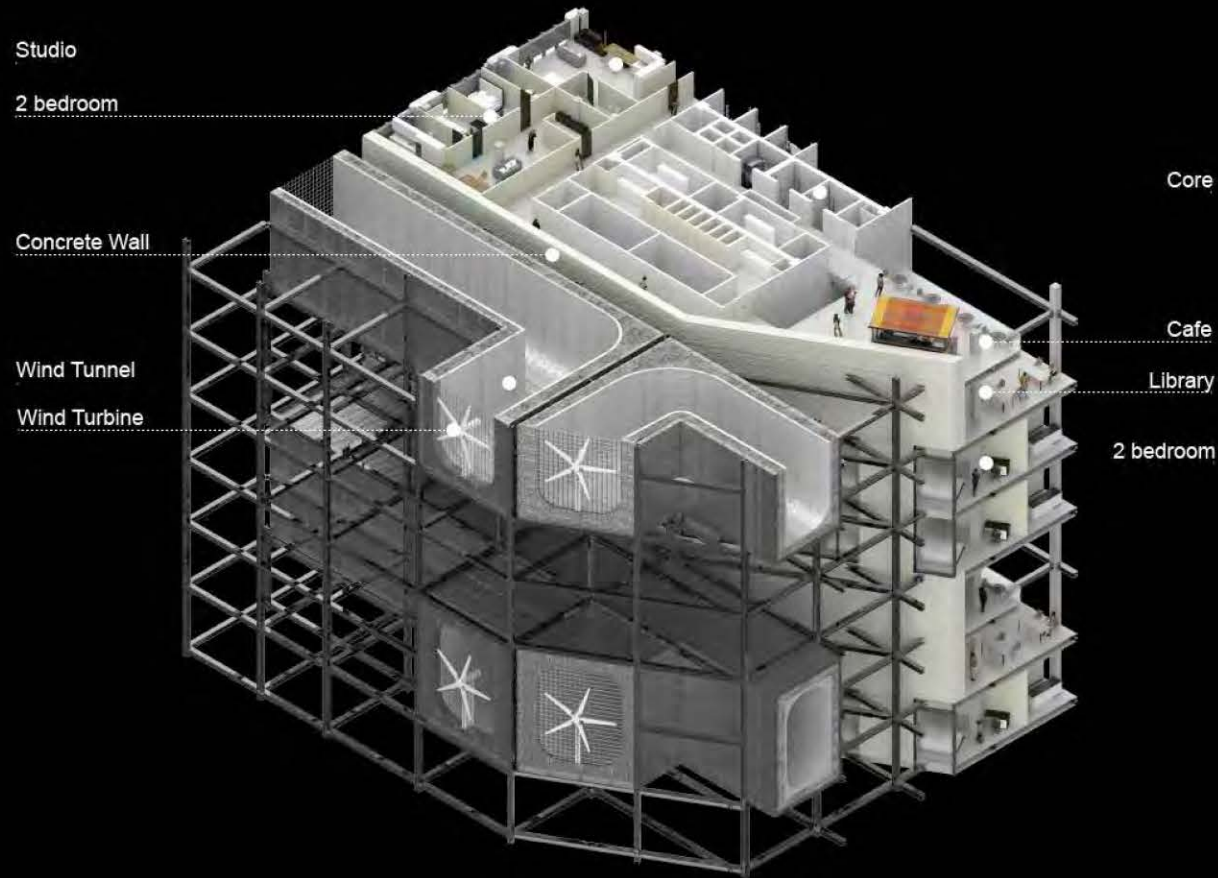
5. Remaining
Materials Added
Onto The Roof



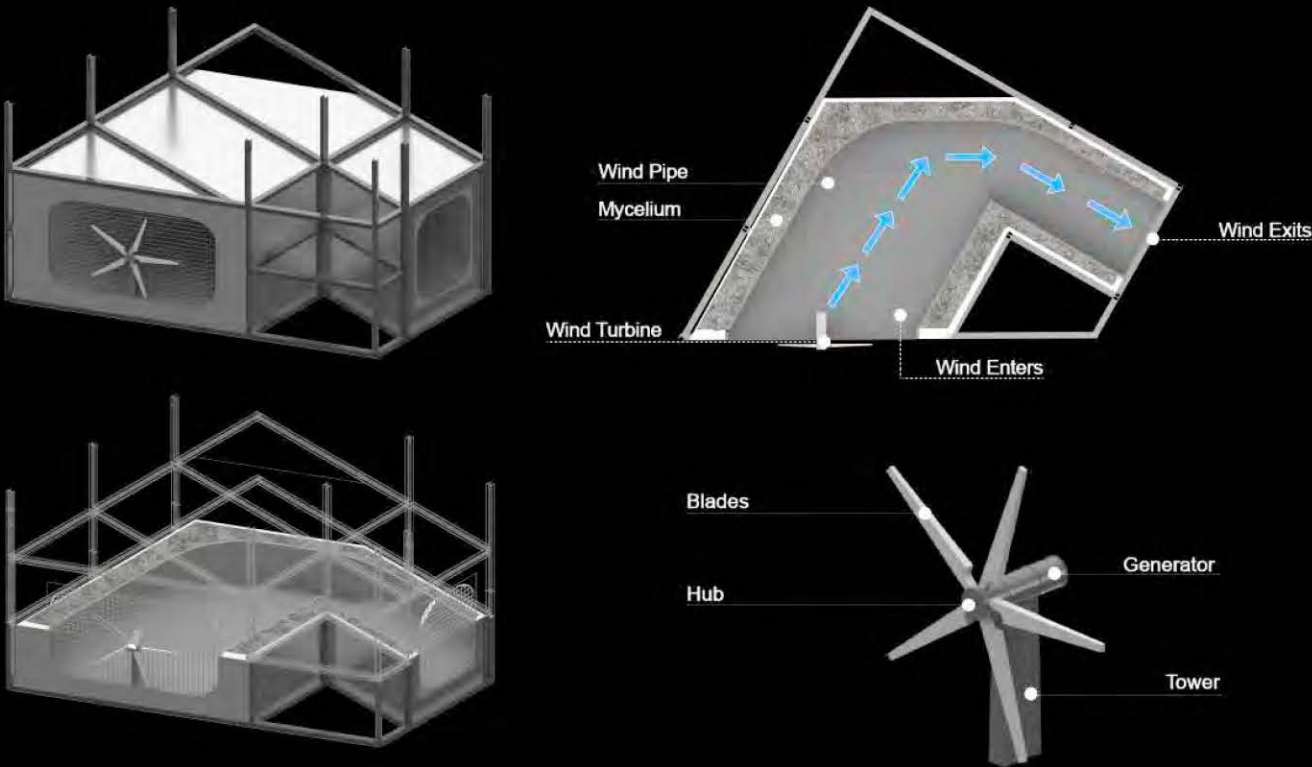
6. Final Massing



Chunk Diagram



Modular Wind Tunnel System

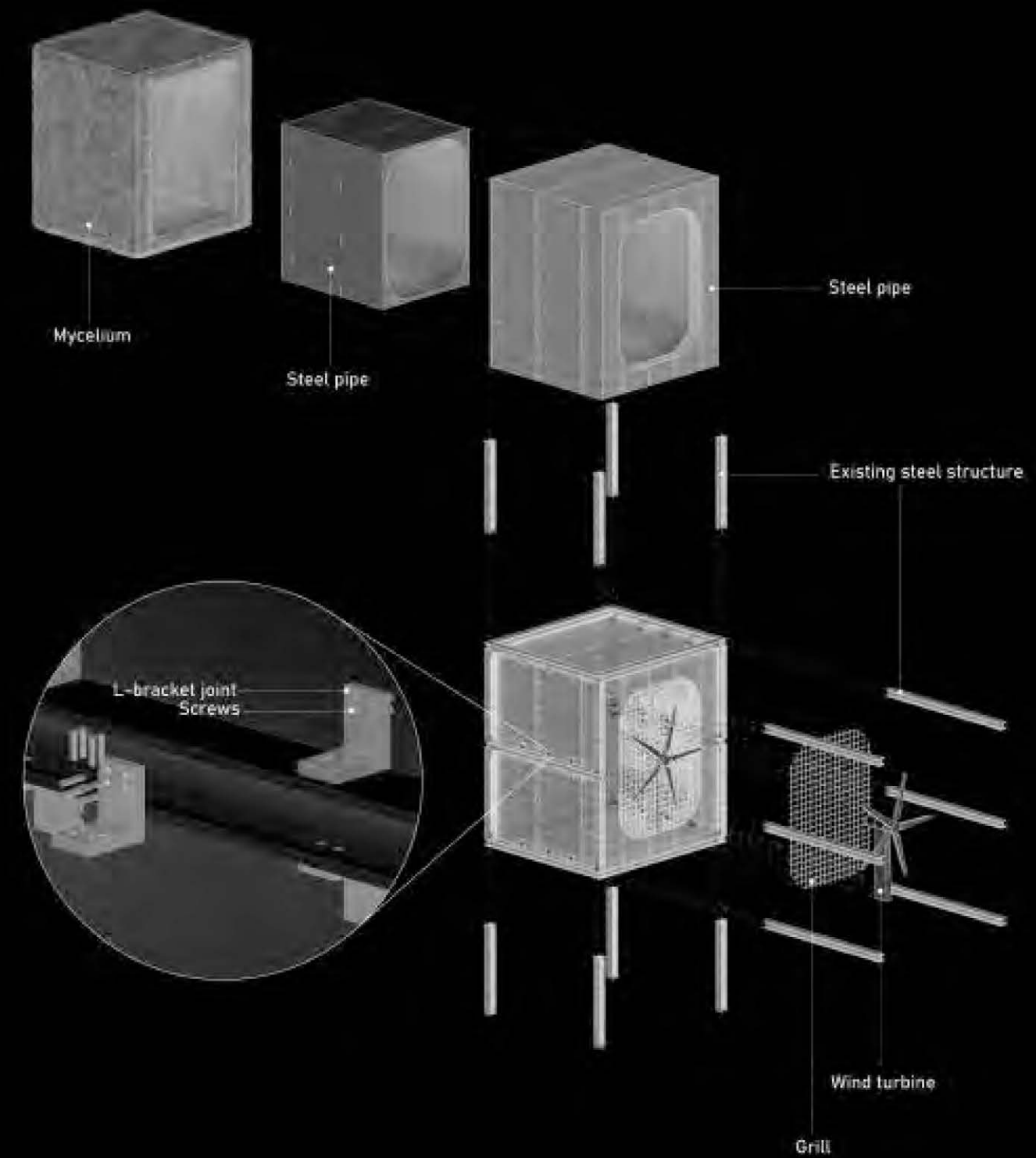


Axonometric Perspective Section





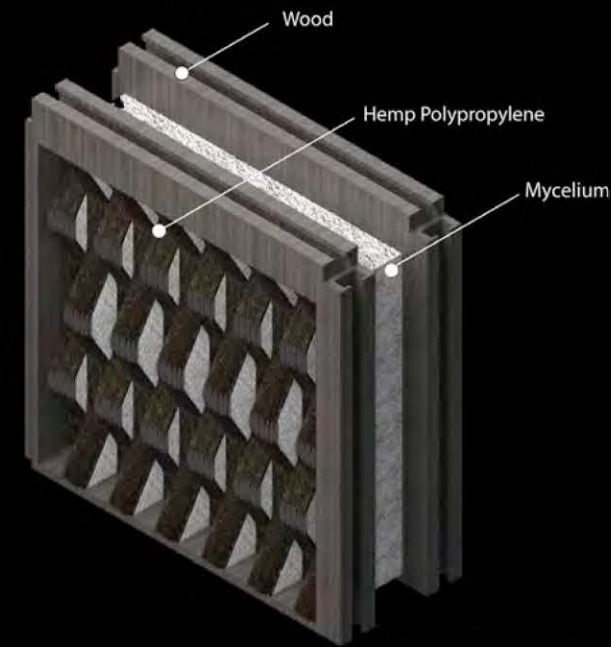
Exploded Wind Tunnel Joint Diagram





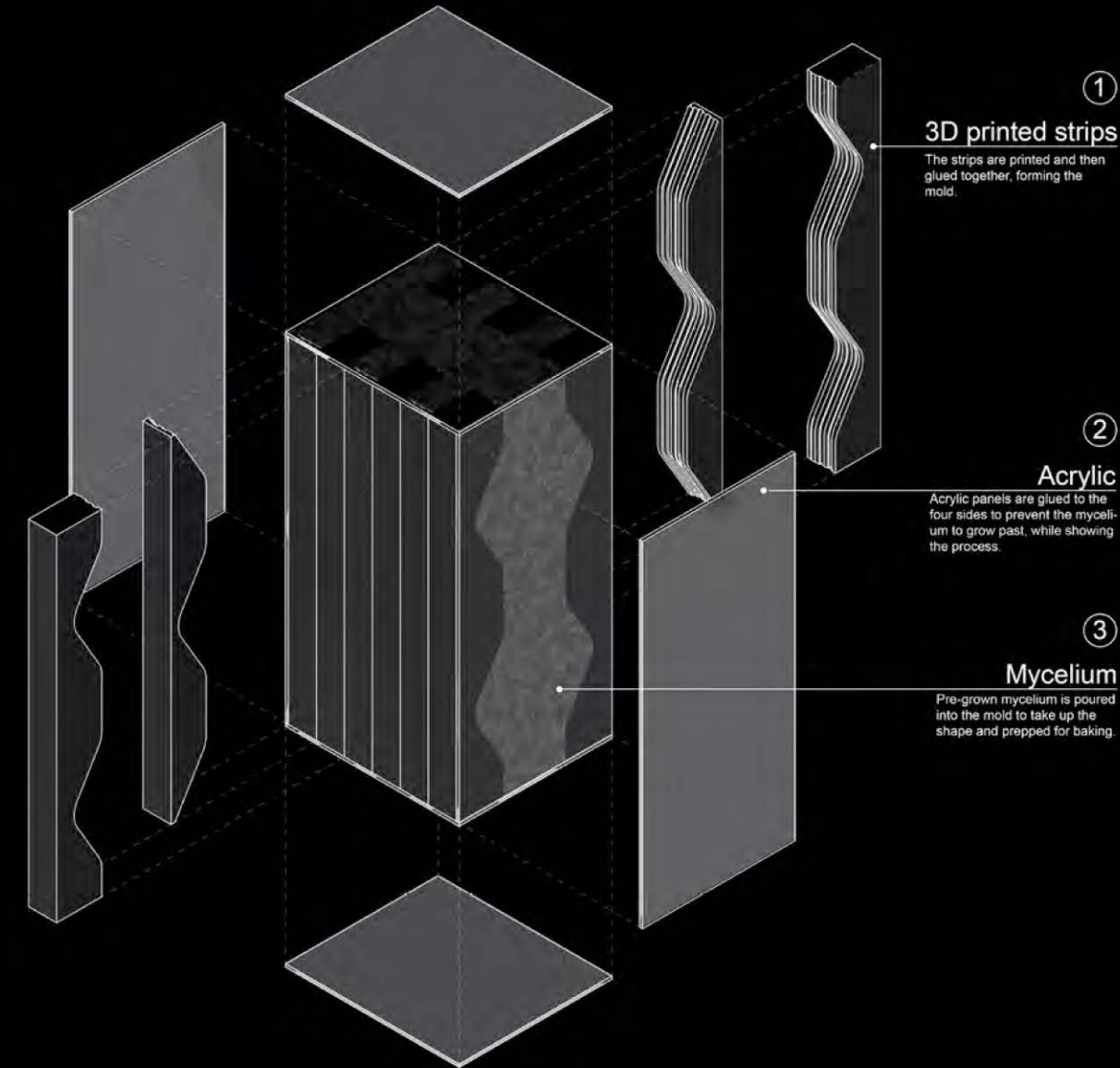
Prior to the deconstruction of our building, the interior walls consist of gypsum cardboard plates and 16 cm internal insulation.

To move a step forward toward an eco-friendly and carbon-reducing building material, we have developed a module. This module uses hemp polypropylene (replaces the gypsum cardboard plates) and mycelium (replaces the insulation) which fully incorporates itself into the building interior walls.

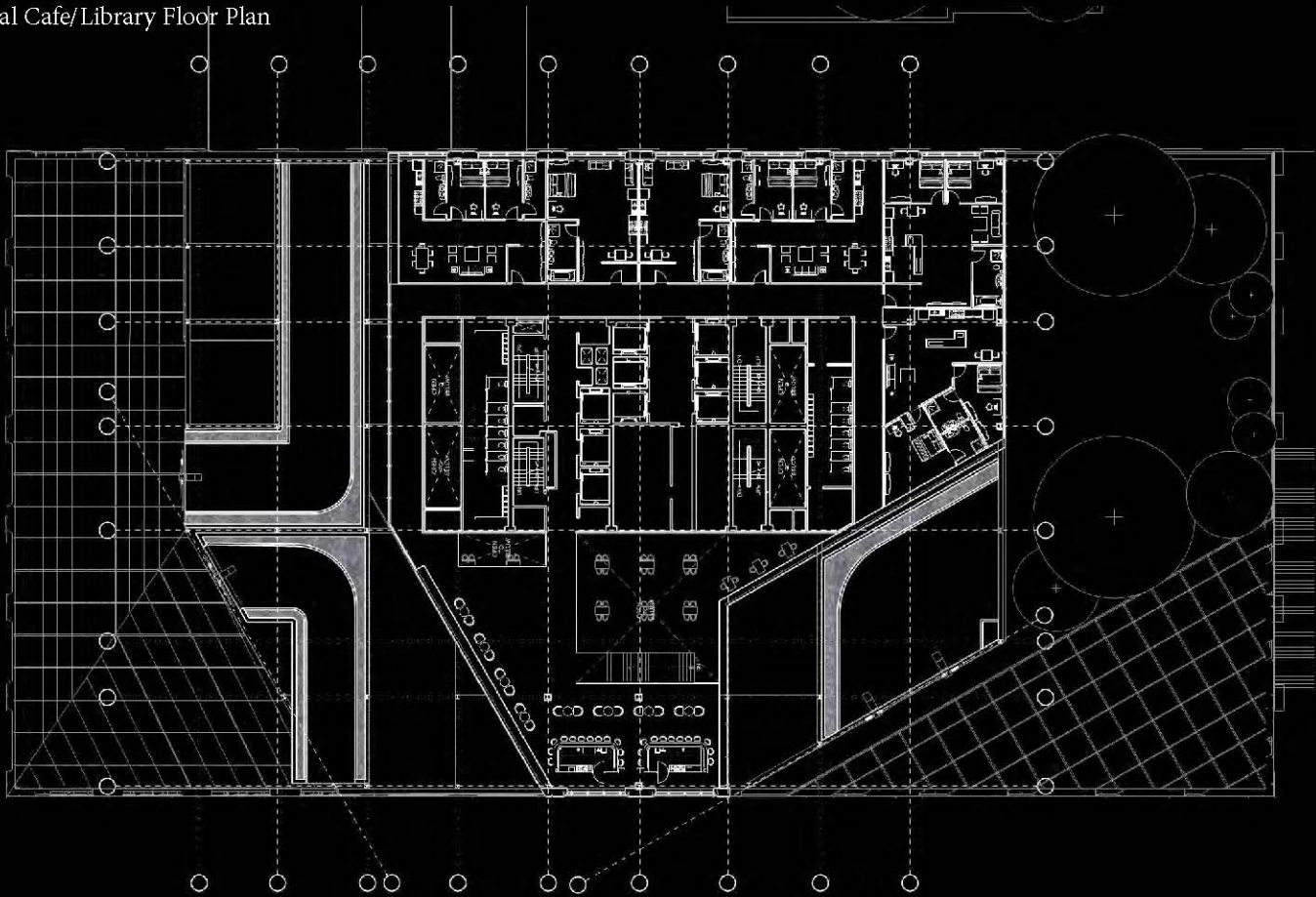


Each wall module would use eleven hemp polypropylene strips designed by using a heat press. The strips were designed in a way so that you were able to see the mycelium insulation. The strips would then be enclosed within a wooden structure.

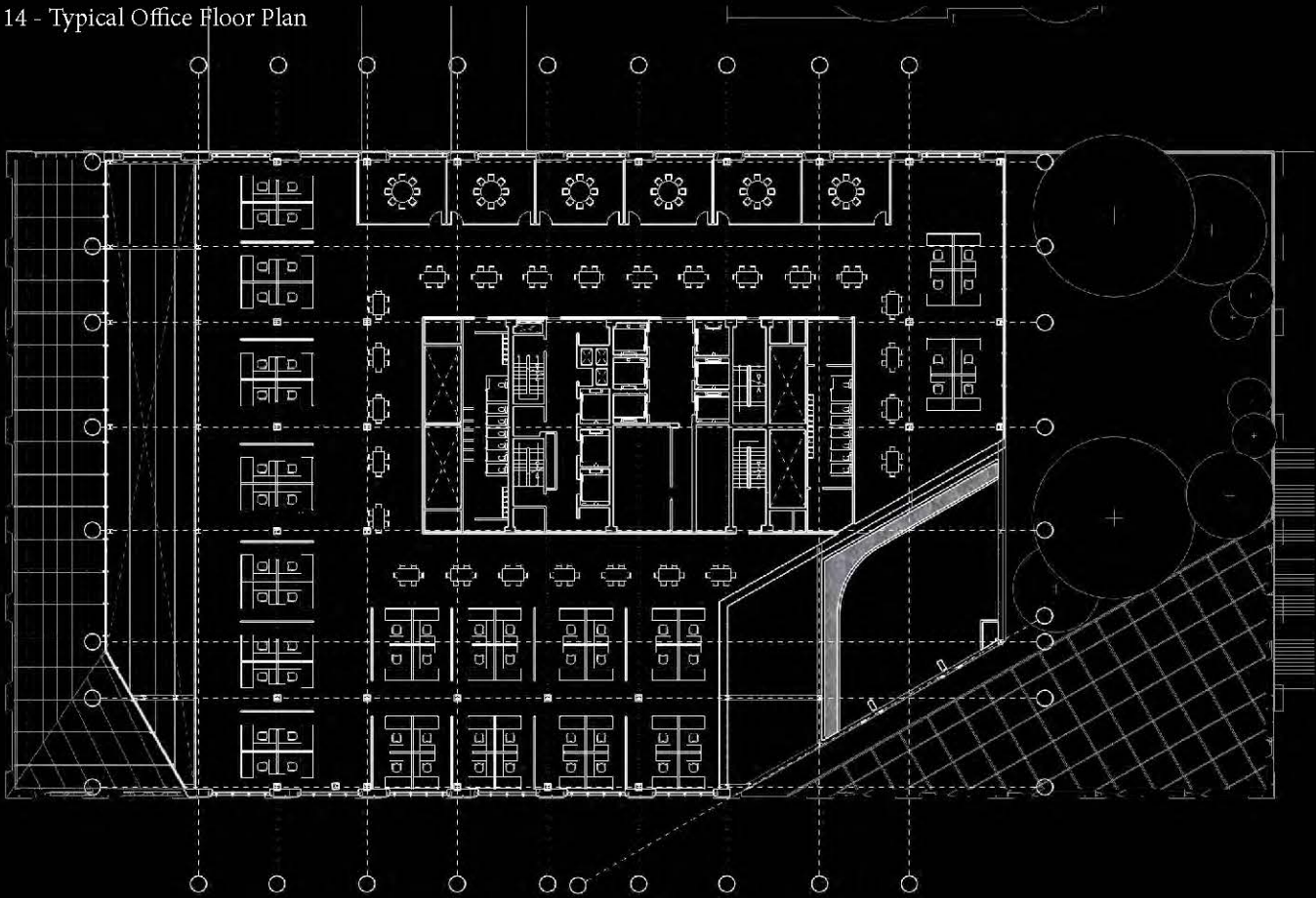
A separate mold module would be designed to grow the mycelium by pouring the mycelium into the mold. The mold would then be bake and placed in between the wall module panels.



Typical Cafe/Library Floor Plan



Level 14 - Typical Office Floor Plan



Night View From The East River



Zonglin Li

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