

Architecture
Design

U Kei (Alexa)
Long
Selected Work

PORTFOLIO

Columbia • GSAPP

FALL 2018 - SPRING 2022

Logistic x Media

Domesticity

Rooms

NYCHA

Quarry Waste

Retail

CLT

Curtain Wall

BIM

Cultural Matter - Weaving in Between 01

Reuse | Cultural Infrastructure | Bushwick

House for Everyone 02

Museum | Domesticity | The Frick Collection

Library Without Rooms 03

Public | Third Space | New York City

Park Tower 04

NYCHA | Housing Complex | Bronx

Incremental Urbanism 05

Islamburg | Rural Development | NY Upstate

Sleepless Scaffolding 06

Infrastructure | Retail | Flatiron District

18 Greenpoint Theater 07

Revit | Theater | Brooklyn

Exoskeleton 08

Curtain Wall | Retail | Tokyo

The Slender 09

BIM | Skyscraper | Central Park

Logistic x Media

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NYCHA



Cultural Matter:
Weaving In Between

Flatiron District:
Sleepless Scaffolding

Frick Collection:
House for Everyone

Islamberg:
Incremental Urbanism

Alone Together:
Library Without Room

NYCHA Prototype:
Park Tower

GSAPP
Advanced Design Studio V

GSAPP
Core Design Studio I

GSAPP
Advanced Design Studio VI

GSAPP
Advanced Design Studio IV

GSAPP
Core Design Studio II

GSAPP
Core Design Studio III



Cultural



In Appreciation



Redefine

U Kei Long

Statement

This portfolio sets the intention of "Cultural - Redefine - In Appreciation" that weaves through six design studio projects, as the response to the design can be succeeded through the history and memories of one space.

01

Cultural Matter: Weaving in Between

Fall 2021, GSAPP Advanced Design Studio V
Instructor: Marc Tsurumaki | LTL Architects
Partner: Talia Li

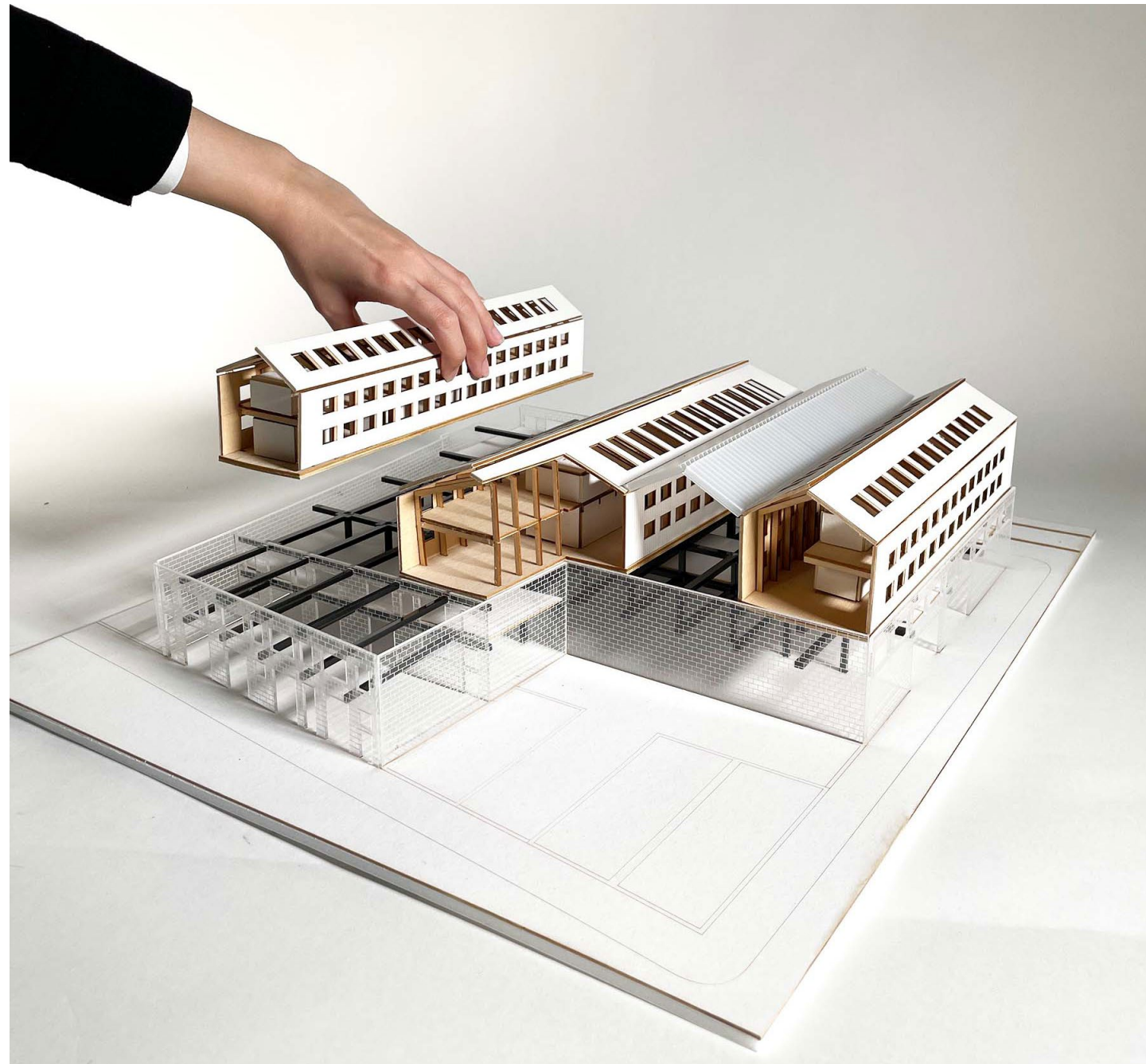
In the 1890's, Bushwick established dominance in breweries, while the expansion in railways to transport these goods, easing the access between Brooklyn and Manhattan. Decades later, **the railway is now underutilized** going across next to the site, because of the gentrification in the neighborhood, which is **slowly changed to a media distribution hub**.

Realizing the fact that **lots of the creative production** process is being put behind walls with **no apertures and rendered unseen**. In order to reveal the process requires the different media professionals, the design of this warehouse exposes some of the process and make it **more rooted to the Bushwick context**.

Based on these two major factors that is happening in Bushwick, this project acts as a **joint of sound and image production for local artists**, while it is also a logistical extension of the railway, where the local goods **produced by food factories and handicrafts made by local artists** could be sent to display at the market. At the same time, these goods will be transported to the rest of the city with the railway system.

The Ground Floor is the most open space where **the local food market and the distribution center congregates**. Walking up the central stairs to the second floor, the public could encounter the sound and image production process by seeing professionals working on **the open platform and reviewing outcomes in the gallery or research library**.

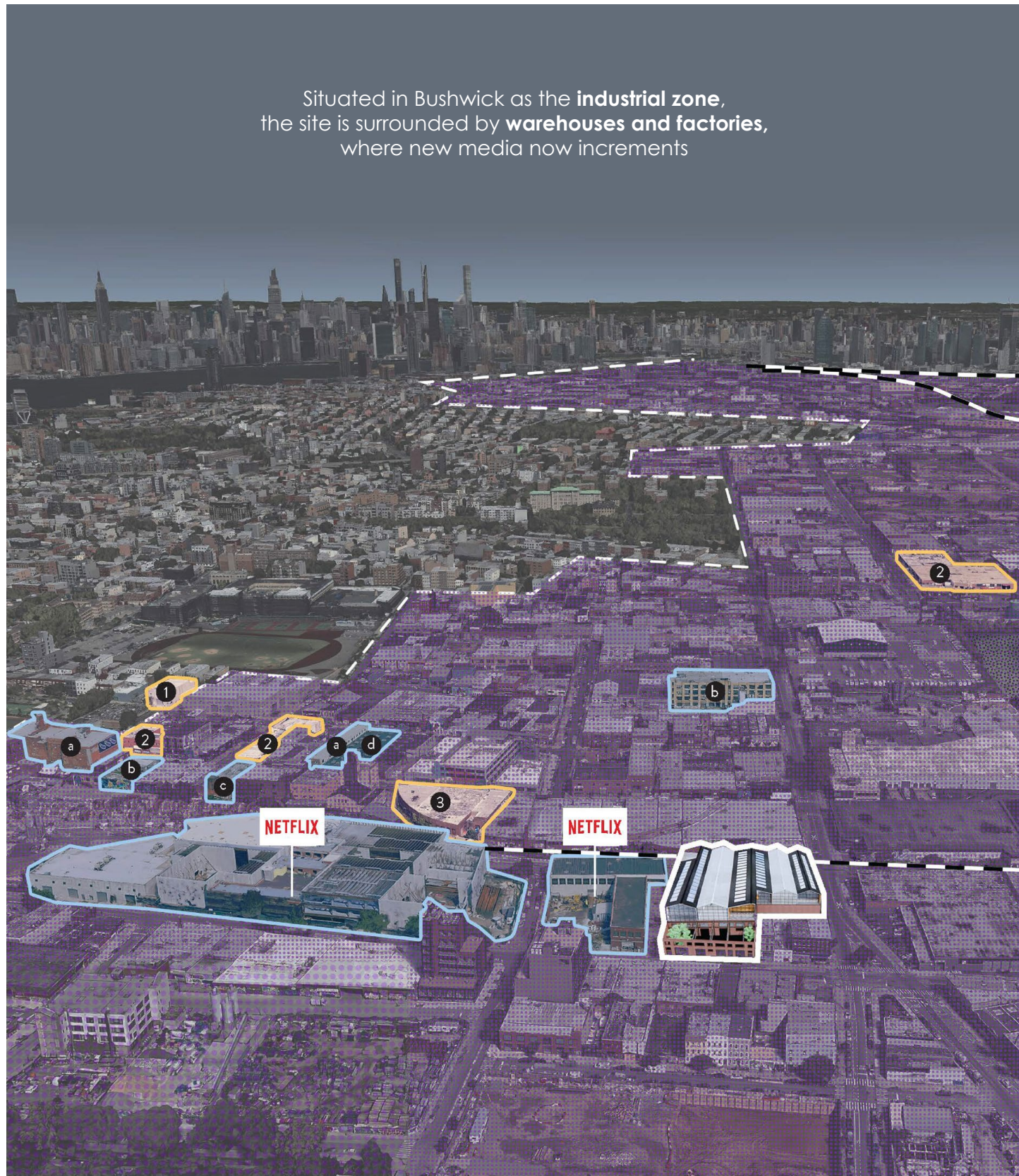
Due to **acoustic and light requirements**, the sound and image production will be housed in the solid rooms in the center of the tubes, while the periphery is where various kinds of pre and post production take place.



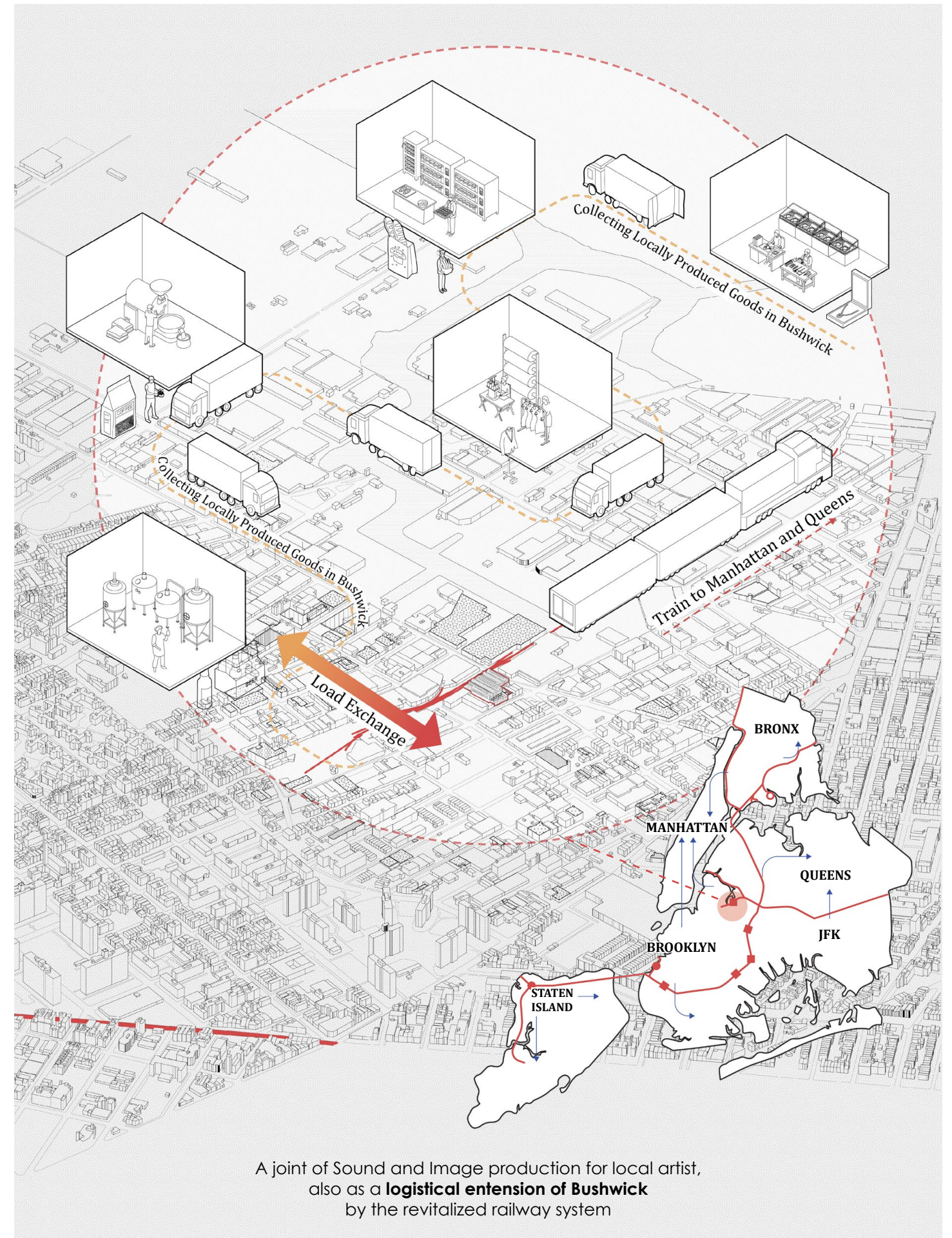
Physical Model

Bushwick X Media Production

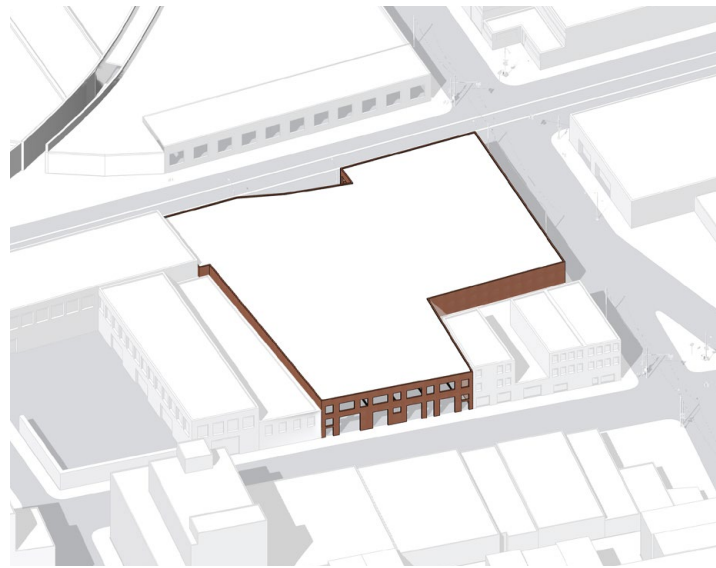
Situated in Bushwick as the **industrial zone**, the site is surrounded by **warehouses and factories**, where new media now increments



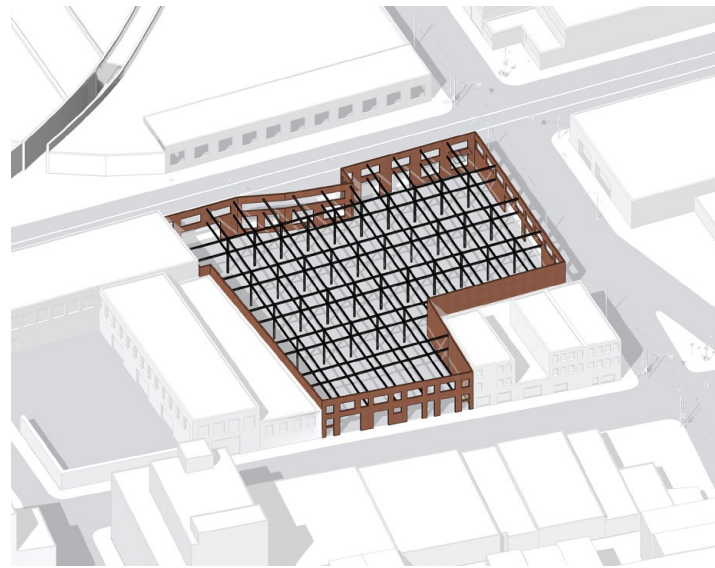
- 1 Wholesale Food & Beverage Distributor
- 2 Food Factory and Distributor
- 3 Food Warehouse
- a Sound Production in Reconfigured Factories
- b Recording Studio in Reuse Warehouse/Factory
- c Audio Visual Equipment Rental
- d Coffee Brewery in Reused Warehouse



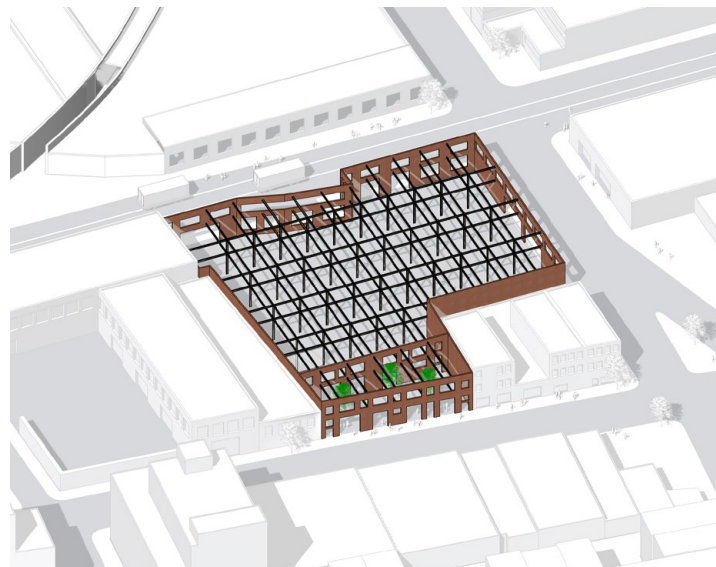
A joint of Sound and Image production for local artist, also as a **logistical extension of Bushwick** by the revitalized railway system



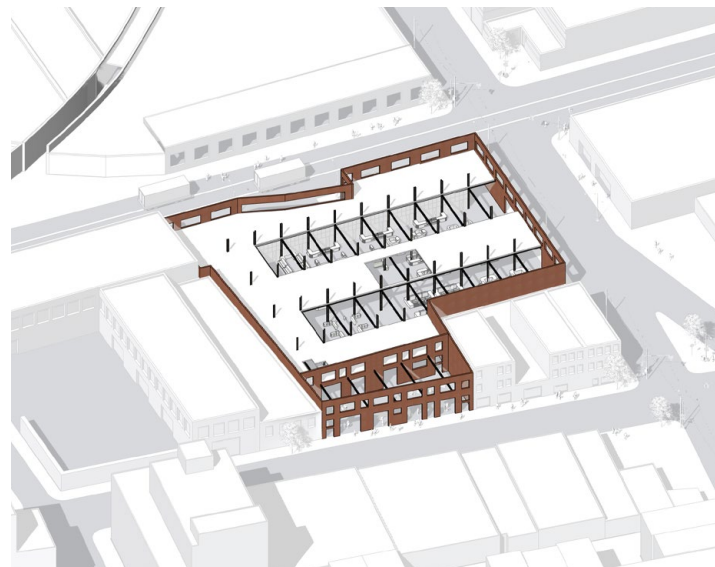
1 — Original Warehouse



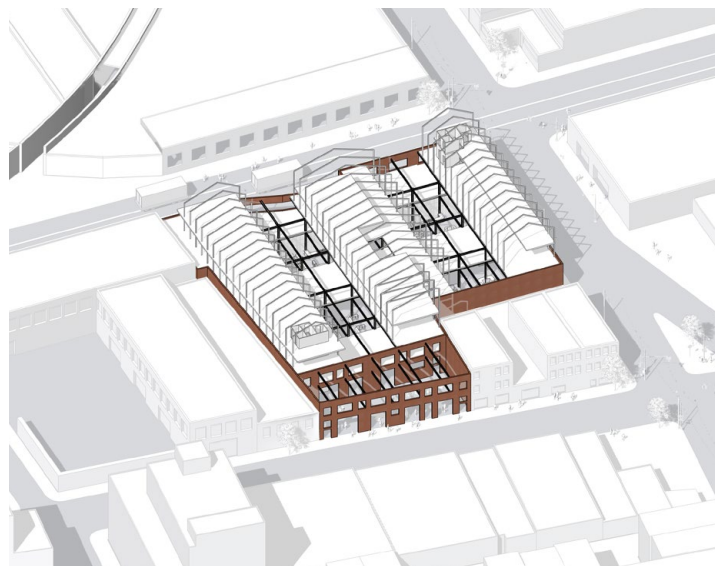
2 — Reuse of Existing Structure: Brick and I-Beam



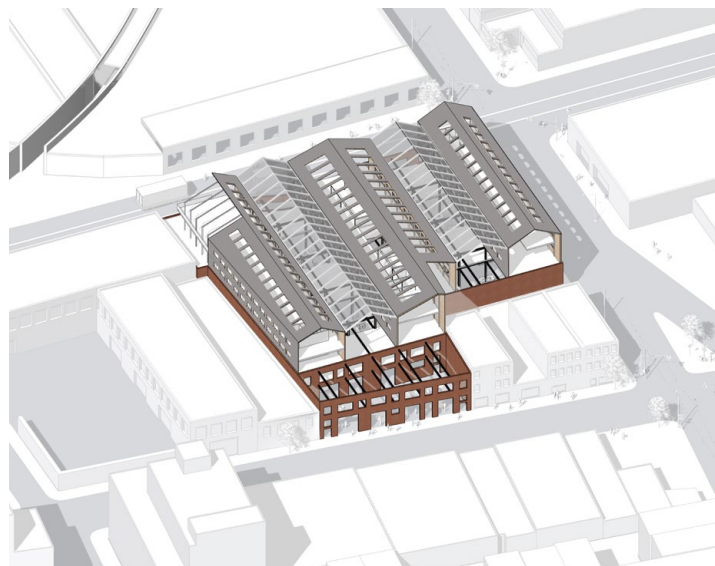
3 — Double Entrance Facade as Entry Garden



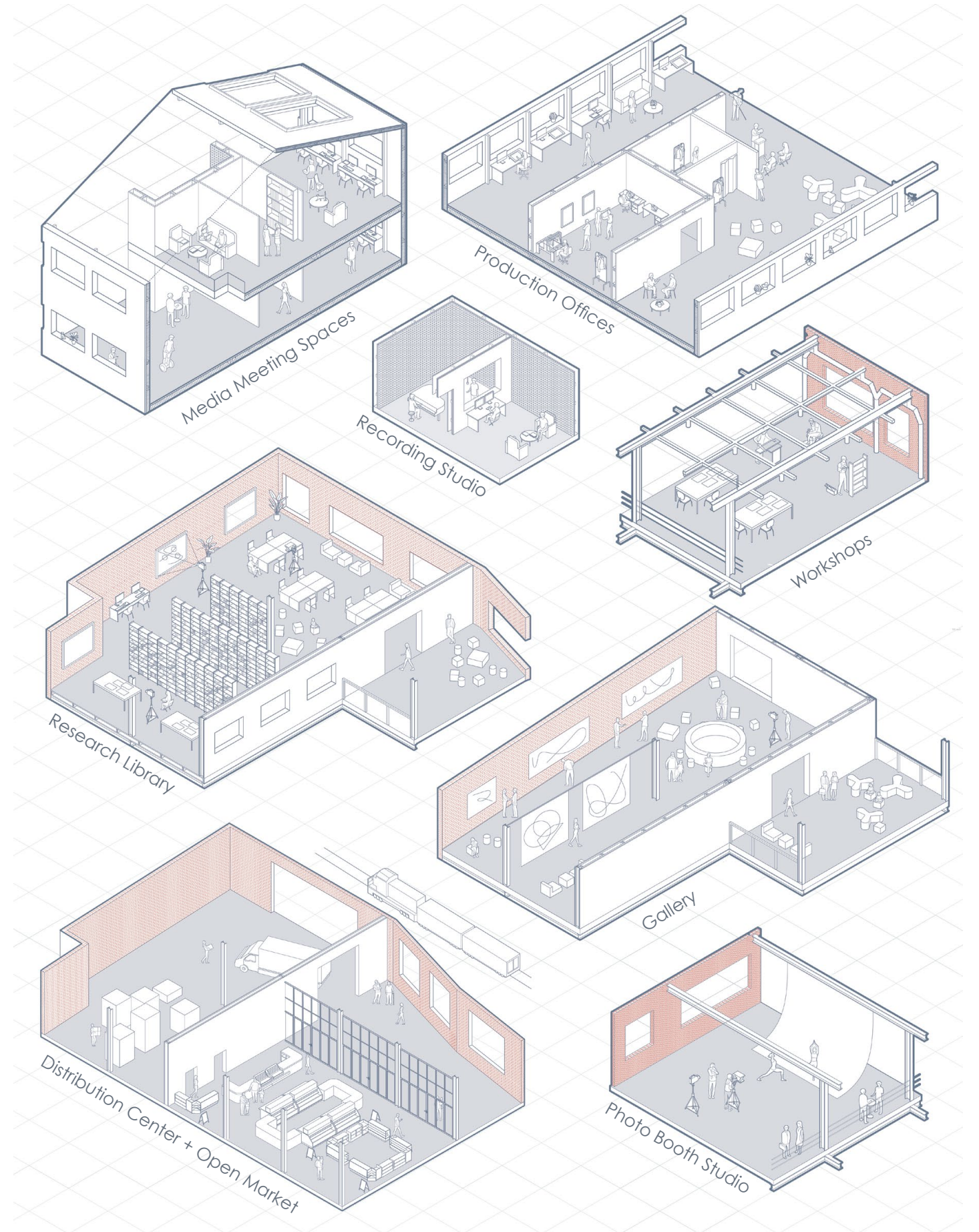
4 — (Re)carving the Floor



5 — Building New Structure By Using CLT

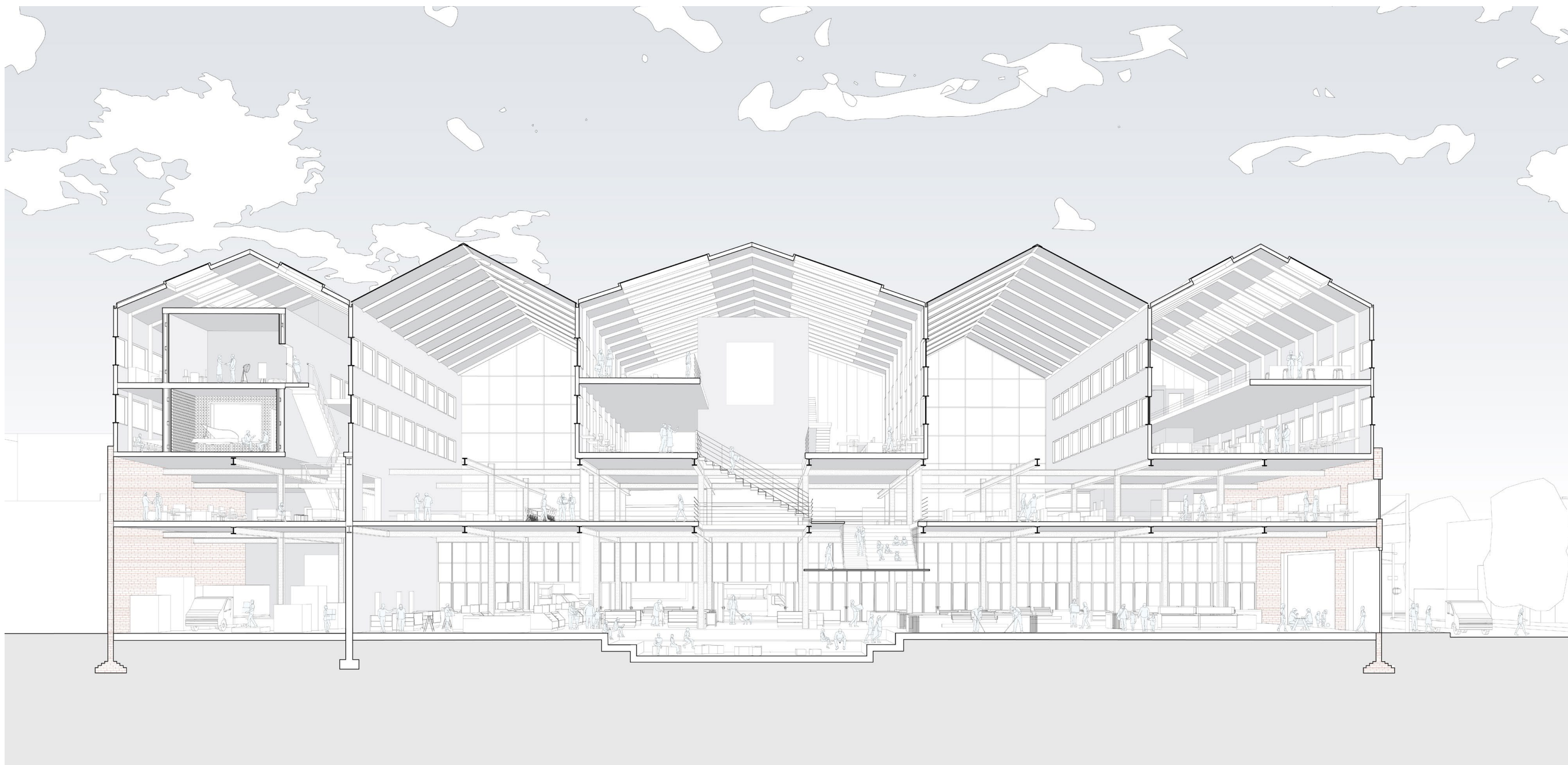


6 — Adding Roof Shades to Complete

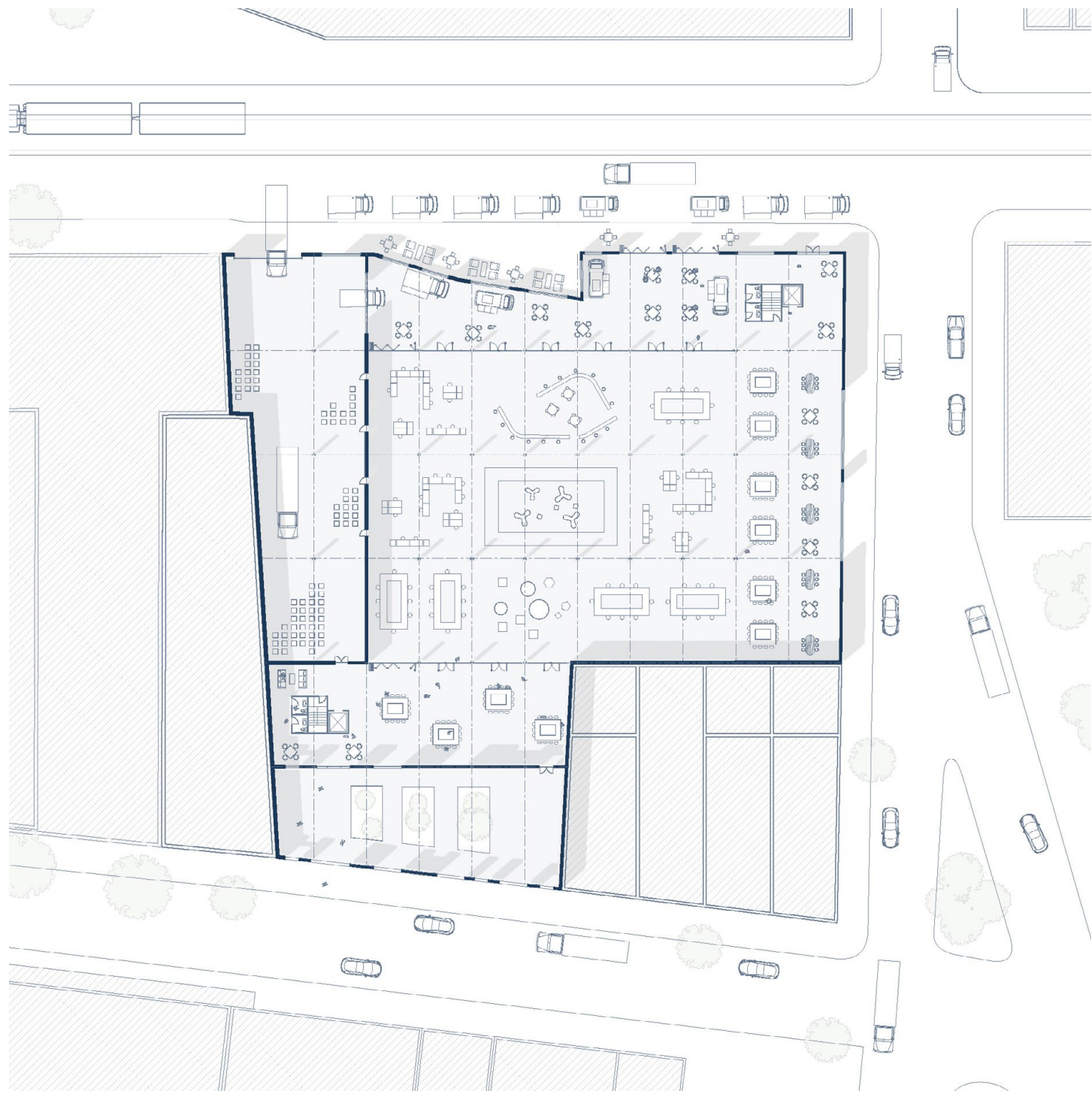


Inspired by the **two material operations** from original warehouse, every moments that is designed to consist different variations of building materials.

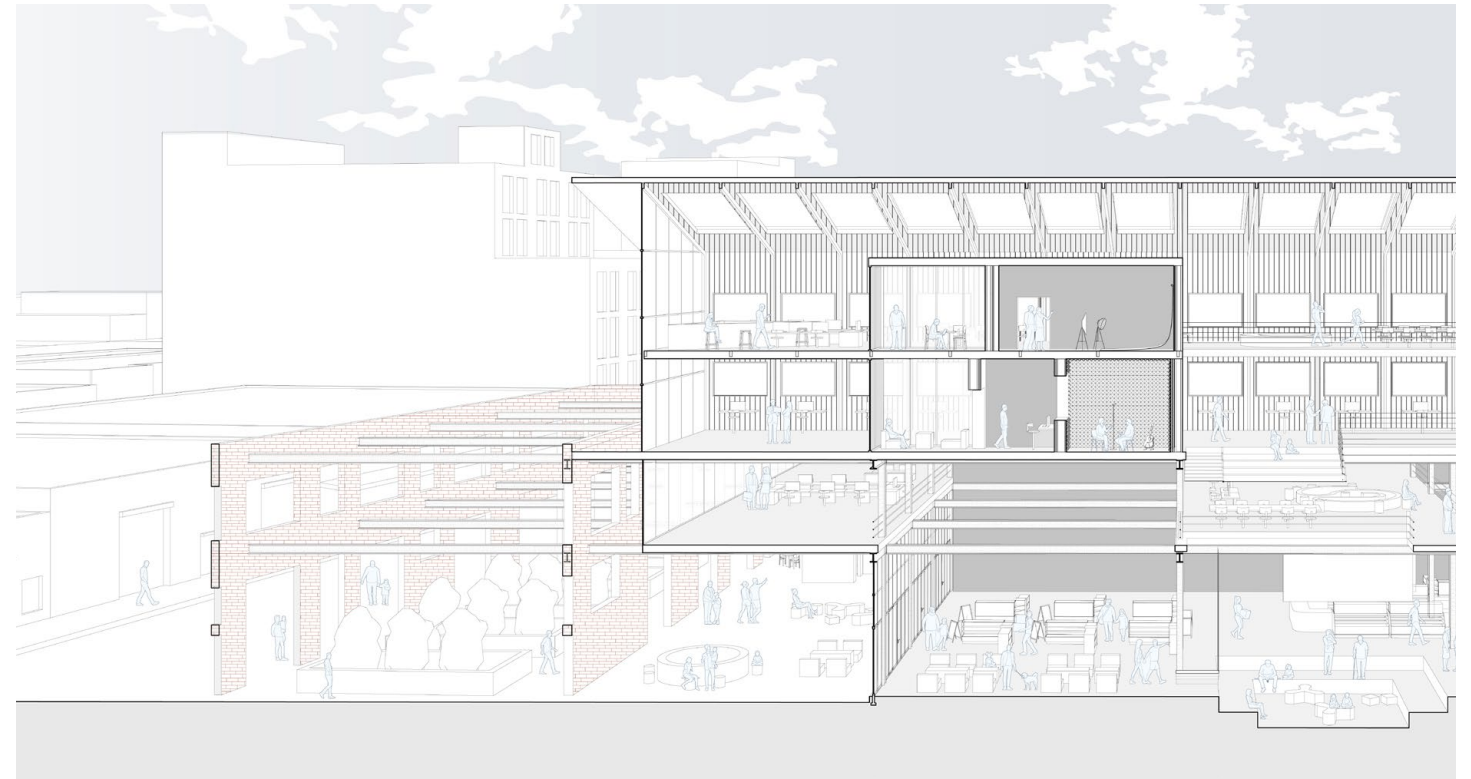
U Kei Long



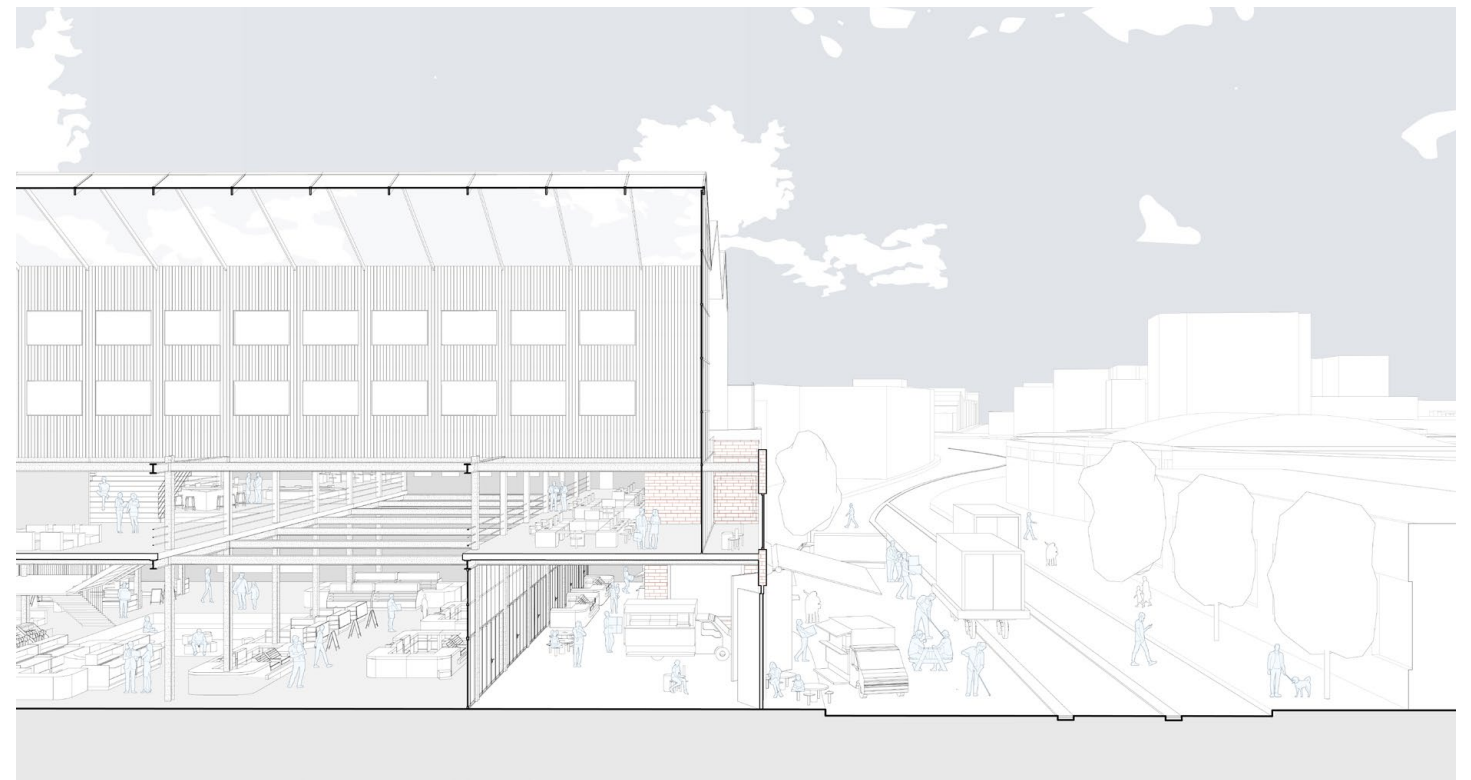
Cultural Matter



Ground Floor as **the local food market and the distribution center** where every Bushwick goods congregates.



-- **Two main entrances** with double layer facade as entry garden --



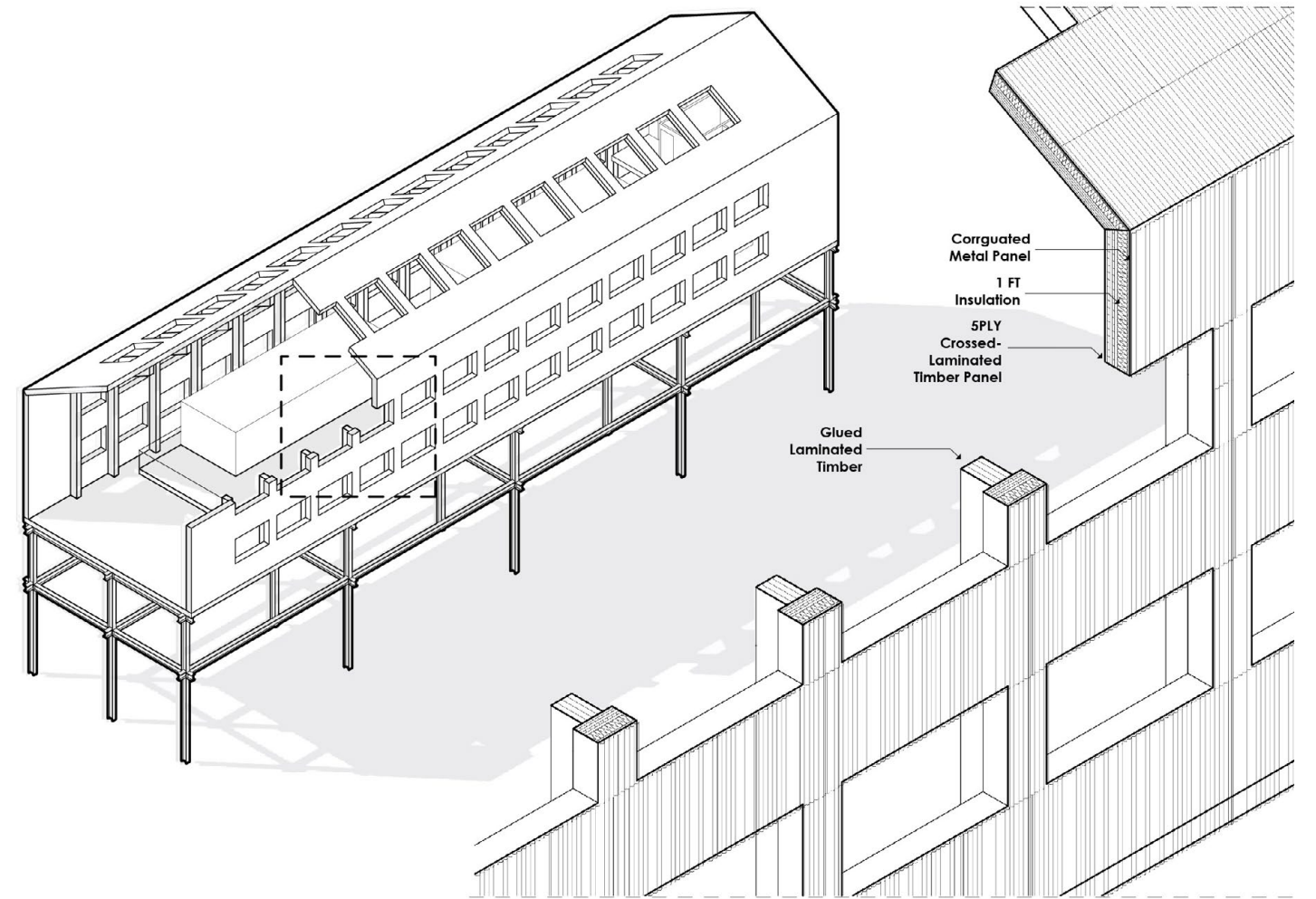


-- Reuse the existing structure system to new design --





-- As the aspiration of media transparency to public --



-- Cross Laminated Timber + I-Beam Construction --



Bushwick
X
Sound and Image
Media
X
Logistic Station

02

The Frick Collection: House for Everyone

Spring 2022, GSAPP Advanced Design Studio
Instructor: Juan Herreros | estudio Herreros
Partner: Chuqi Huang, Xueyin Lu

As the Frick Collection museum transformed from a luxurious 20th century residence, **the exclusiveness of the Frick Collection has isolated itself from the public** which it is supposed to serve.

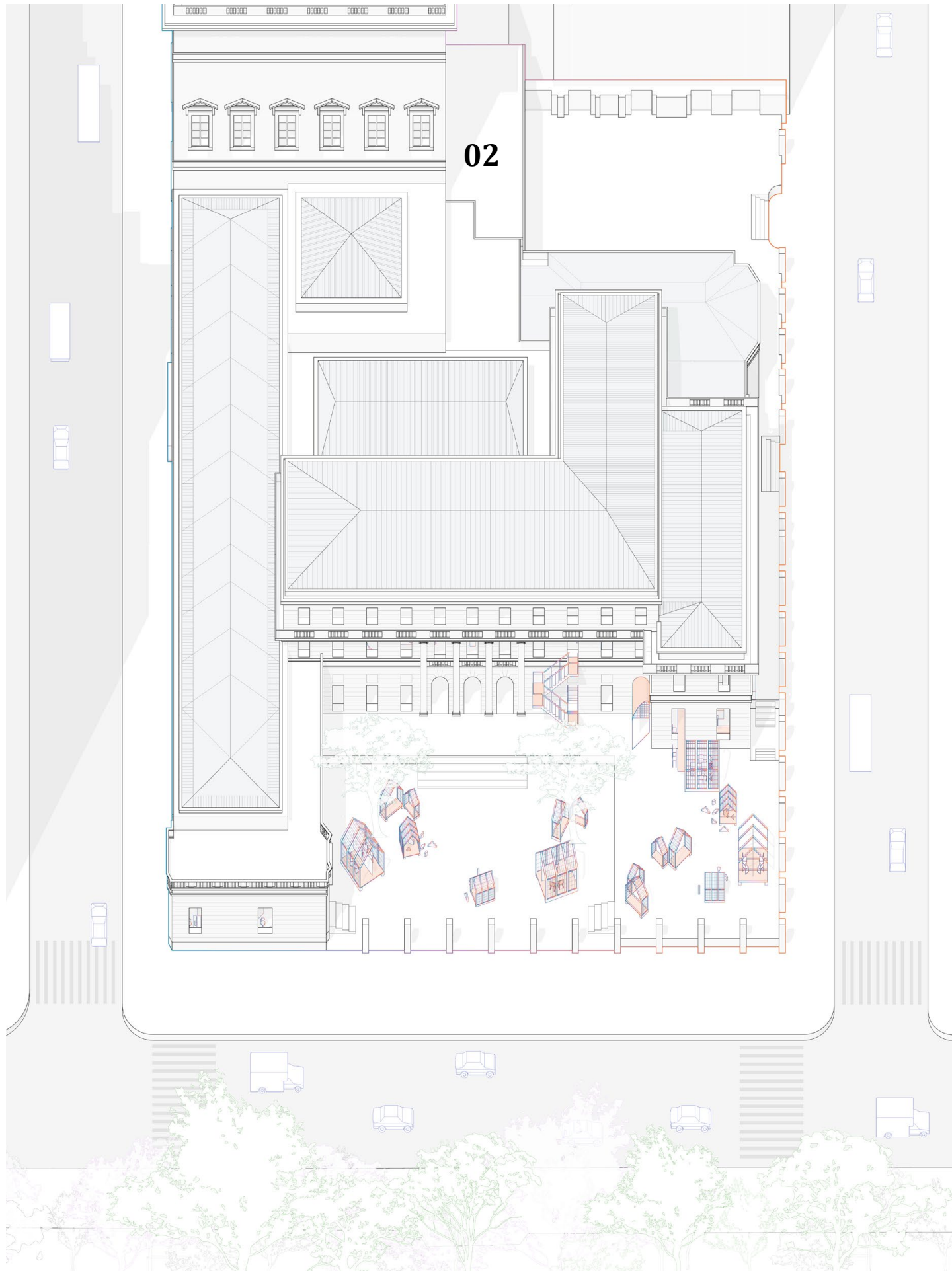
During the days when Henry Frick used it as a residence, the art collections were no more than a background of the family's daily life. To reconnect the Frick Collection to the public, the project **aims to highlight the domesticity by restoring its original function as residence before.**

With its art collection as the background of context to **demonstrate** This movement is intended to sustain the form of domestic activities with different groups of people, including visitors and locals, kids and artists related groups.

With the idea that **"to destroy the part is to destroy the future,"** this is the way that we redefine the meaning of domesticity to this home-like museum, by proposing the juxtaposition of different domestic possibilities for everyone to find their home there.

We are able to weave the publicness into this island, where we can now manifest: **Frick Collection is the House for Everyone.**

Domesticity

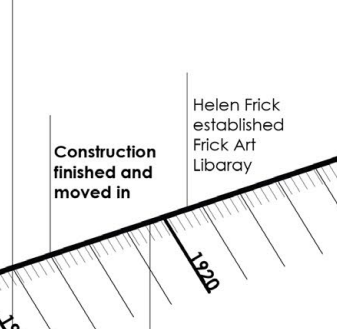
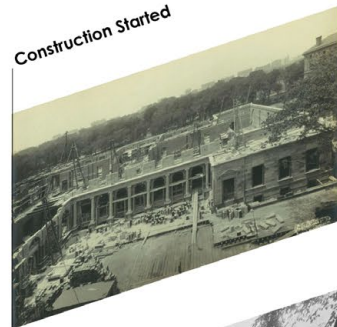
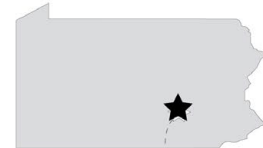


HENRY CLAY FRICK'S RESIDENCE

FRICK COLLECTION

With an endowment of nearly \$40-million and an annual income in excess of \$1- million
Trustee members who each give a minimum of \$25,000 a year to the Frick Collection
Hosting 270,000-300,000 visitors per year

← Residence
CLOSED
→ Museum
OPEN



Henry Clay Frick - an American industrialist, financier, and art patron, Founder of Frick Collection

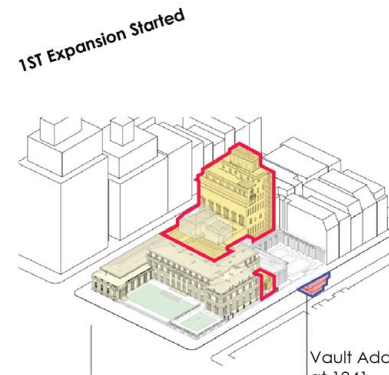
Moved to NYC Before Pittsburgh

Frick bought the land and design

Frick's death due to sudden heart attack



Adelaide and Helen Frick lived until the death of Adelaide Frick. Helen Frick inherited most of wealth, became the trustee of Frick Collection



1ST Expansion Finished

ROCKEFELLER GIFT OF ART IS REFUSED

Trustees of Frick Collection File Suit Against Daughter of Steel Maker Over Ban
7 LEGAL POINTS AT ISSUE
Counsel for Defendant in Case Challenges Legality of Any Donations Besides Founder's

Helen Frick and Rockefeller Joined As the Chairman Board of Trustee

Helen Frick moved most of the archive to Midwest in the worries of WWII

Helen Frick In Conflict with Rockefeller

Harry Grier Is Appointed Frick Collection's Director

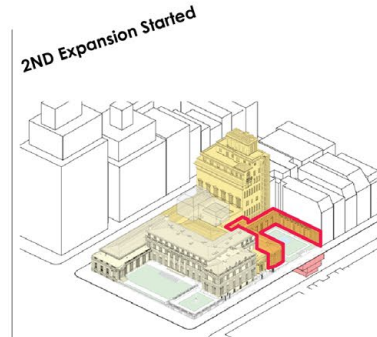
Harry D. M. Grier, assistant director of the Frick Collection, 1 East 70th Street, was appointed director yesterday by the board of trustees. He succeeds Franklin M. Biebel, who had held the post since 1951. Mr. Grier, who is chairman of the Museums Council of New York, had been assistant director of the Minneapolis Institute of Arts and assistant dean of education at the Metropolitan Museum of Art.

Helen Frick resigned after years in the gender politics matter and conflicts with Rockefeller in the Trustee

Henry D.M Grier appointed as the director of Trustee

over 300,000 books and exhibition catalogues, extensive auction and provenance records, and 1.2 million images of art from the 4th to the 20th centuries From 1922 to 1967 Commissioned by Helen Frick

Vault Addition at 1941



2ND Expansion Started

Reception Hall & Garden Baylay Addition

ARCHIVES
The Frick Changes Plan for Vacant Plot, Proposing 2d Wing
MAY 17, 1974

PRINT EDITION
May 17, 1974



3RD Expansion Started

Portico Gallery Addition

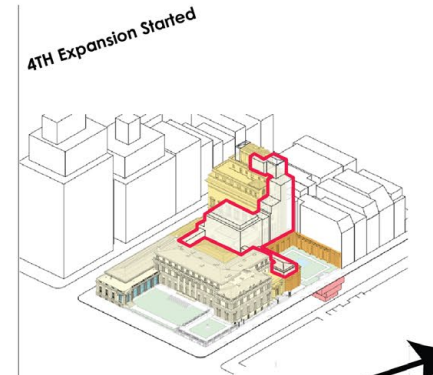
Helen Frick served as Director of the Library from its inception until shortly before her death at 1984.

The Frick Collection had an operating budget of \$10 million and an endowment of \$170 million.

The Frick hired Rika Burnham as head of their education department. Burnham introduced several changes to the museum, including the introduction of monthly free entrance to the museum, called First Fridays.

Anne L. Poulet as former director retired

Current Director Ian Wardchopper on board



4TH Expansion Started

Library, Conversation Reception

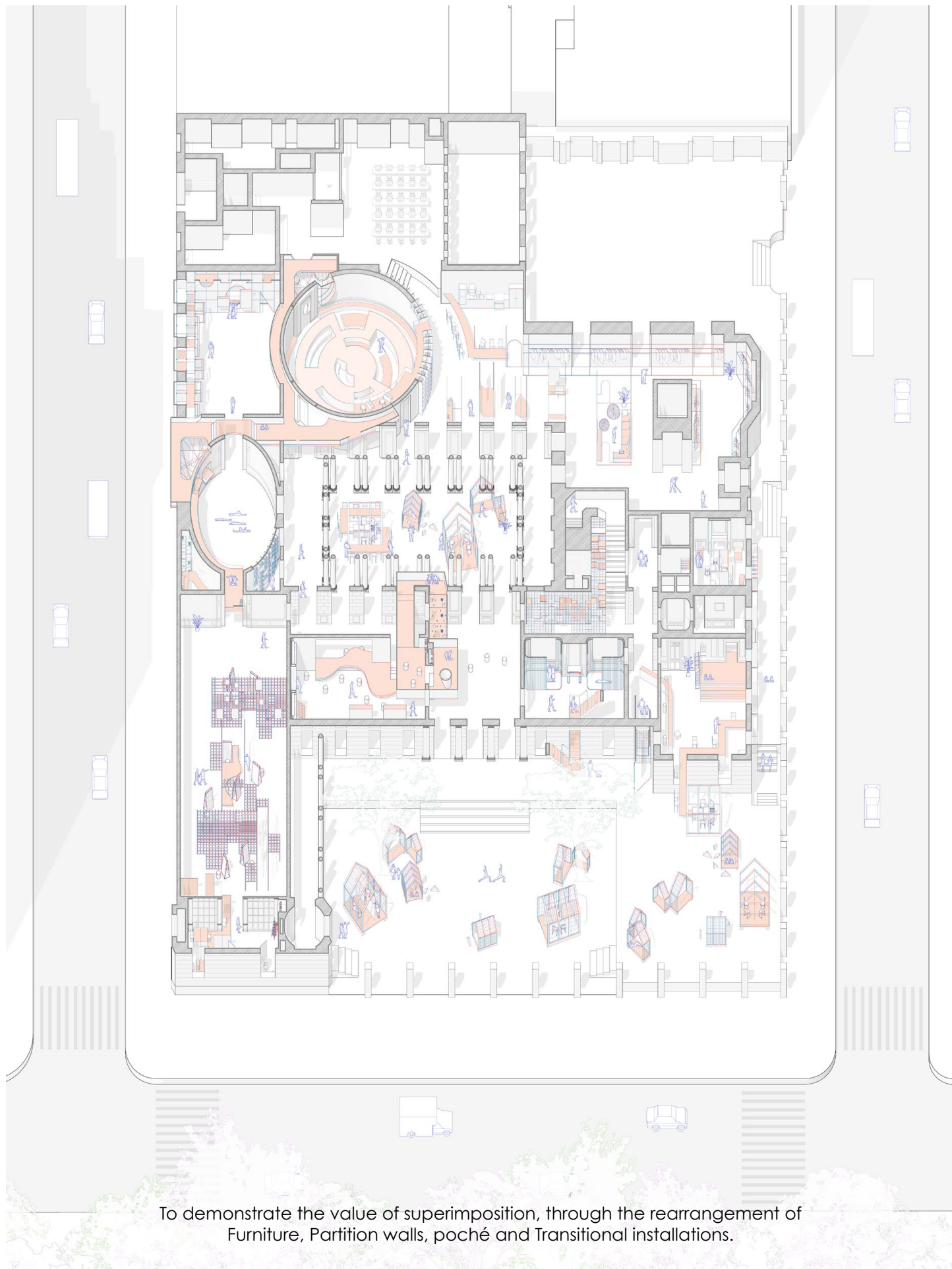
Save the Frick Collection
The new expansion plan isn't right for the small museum in a mansion.
By David Masello

ART & DESIGN
Preservationists Protest New Frick Collection Expansion Plan
Critics say the plan would still destroy the mansion's gated garden as well as its music room, a chamber concert venue.
By Robin Pogrebin

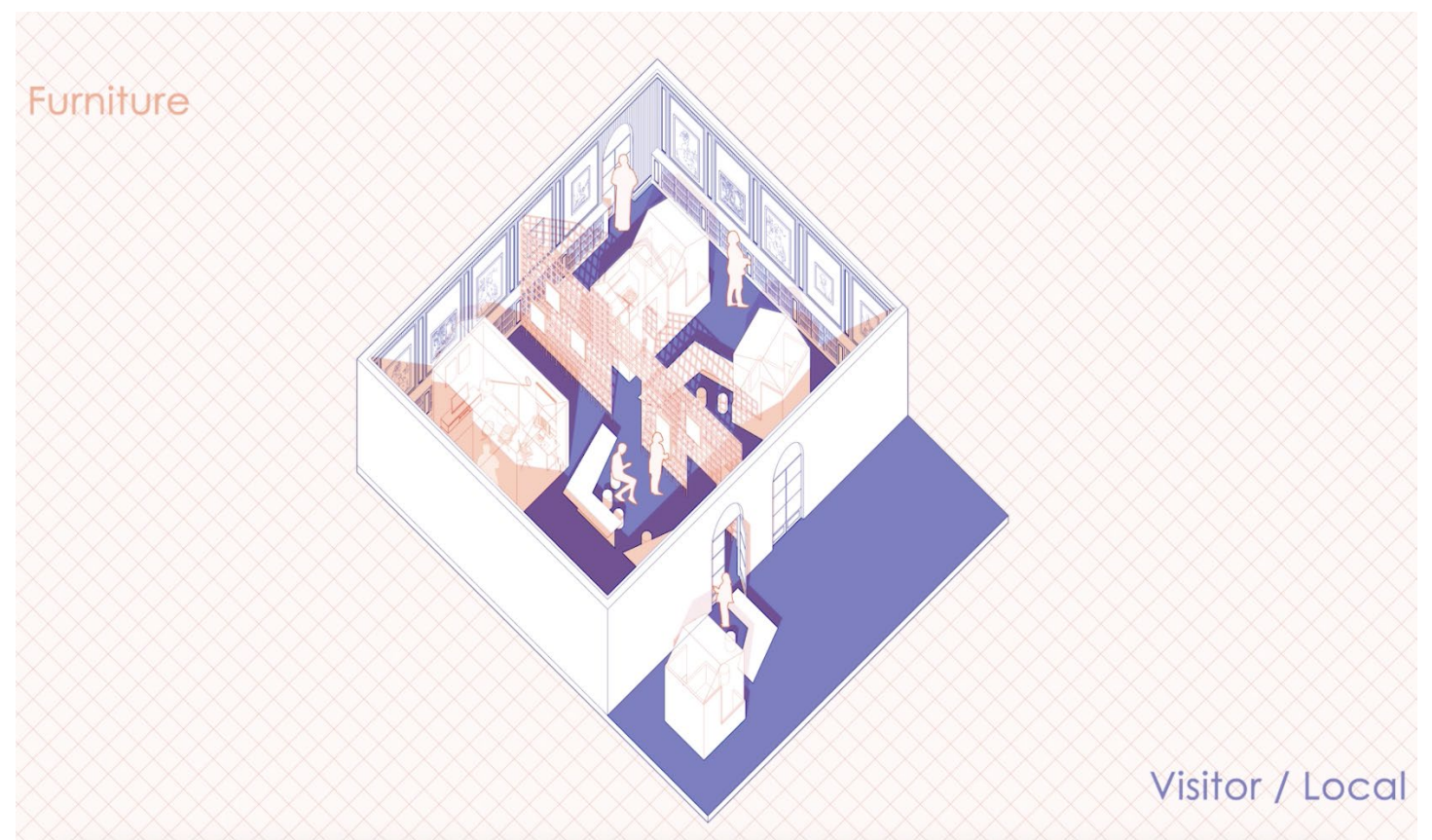
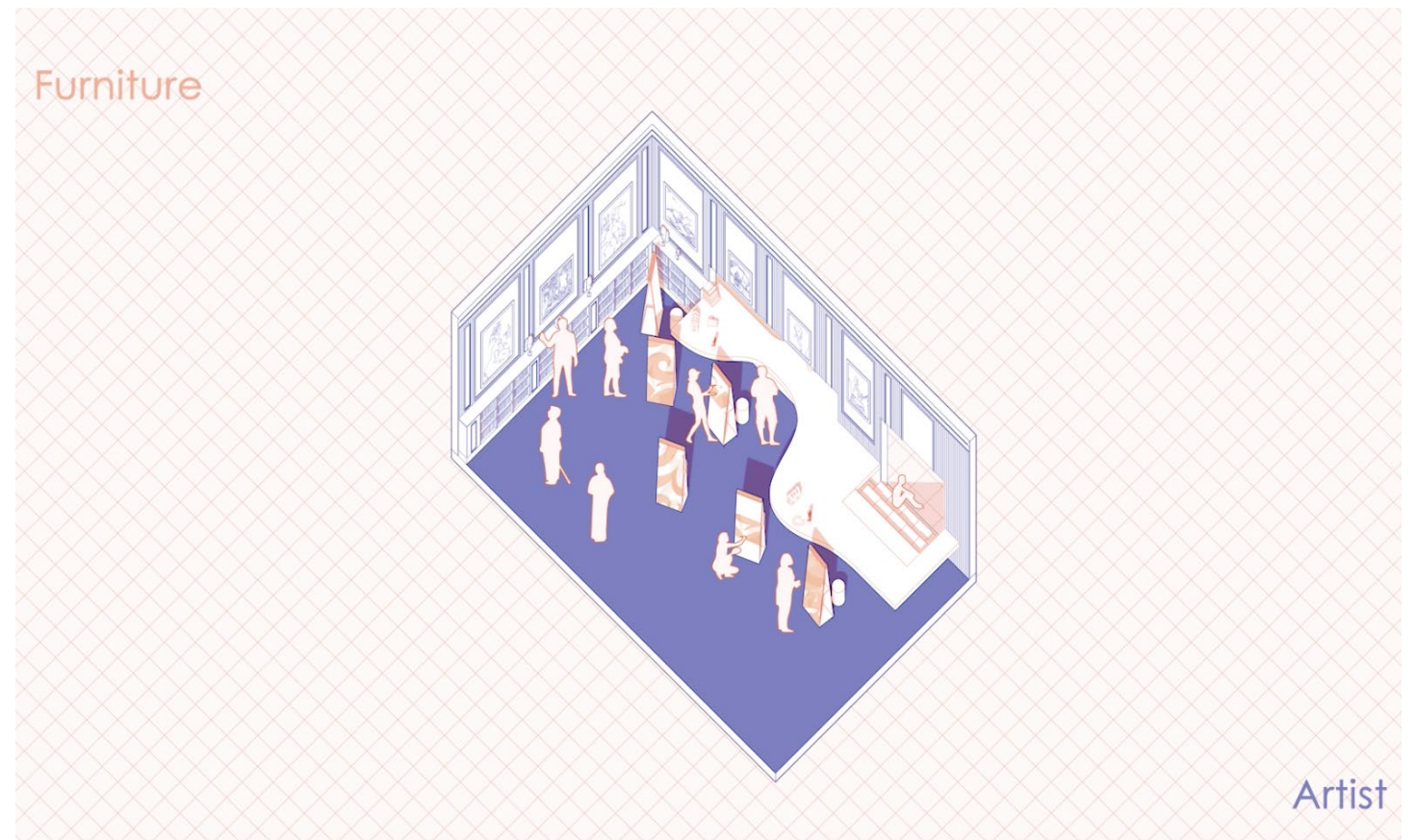
ART & DESIGN
Frick Collection, With Fourth Expansion Plan, Crosses Its Fingers Again
The new design by Annabelle Selldorf highlights its controversial department, and brings visitors up into former living quarters for an intimate experience with art.
By Robin Pogrebin

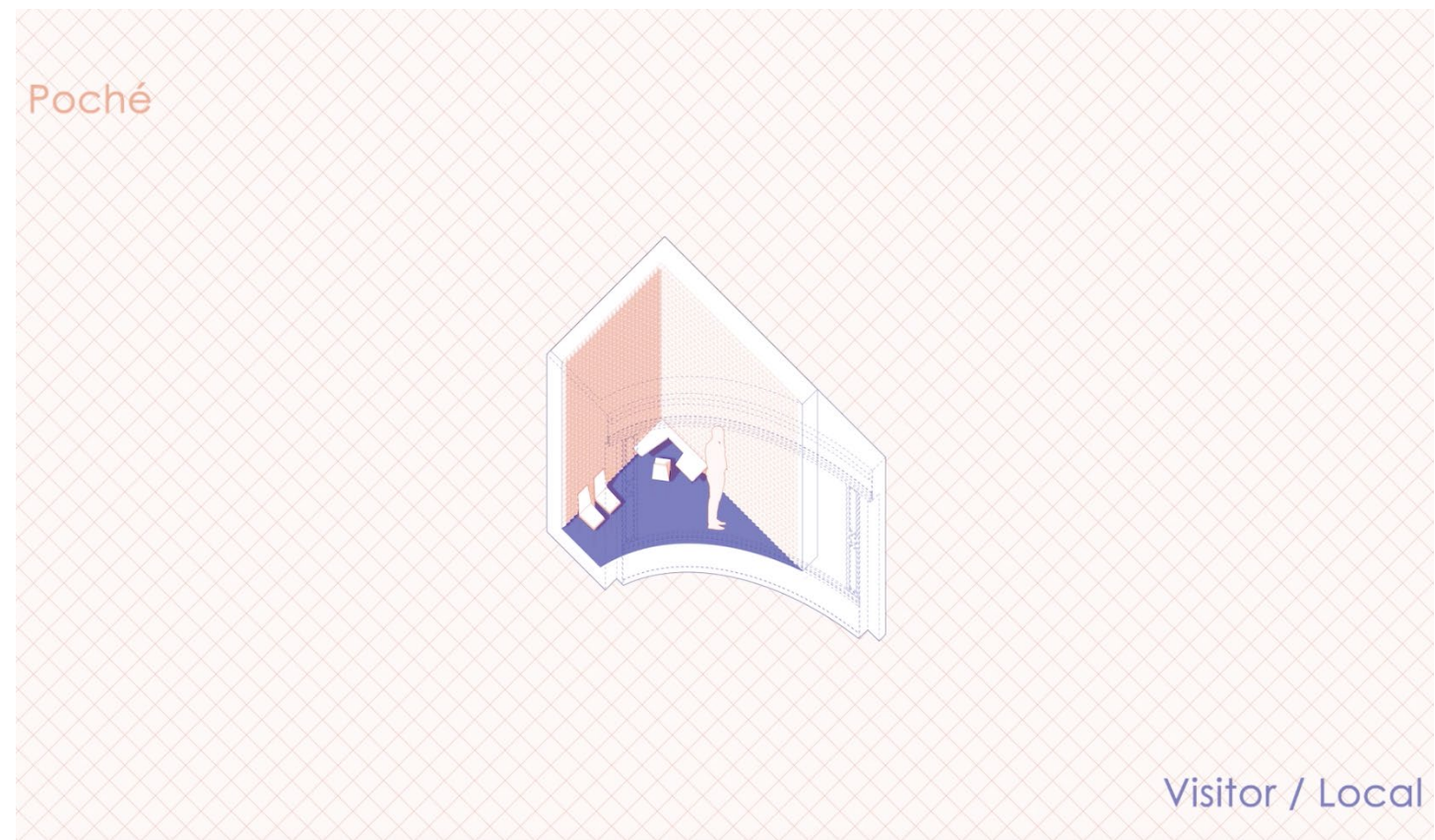
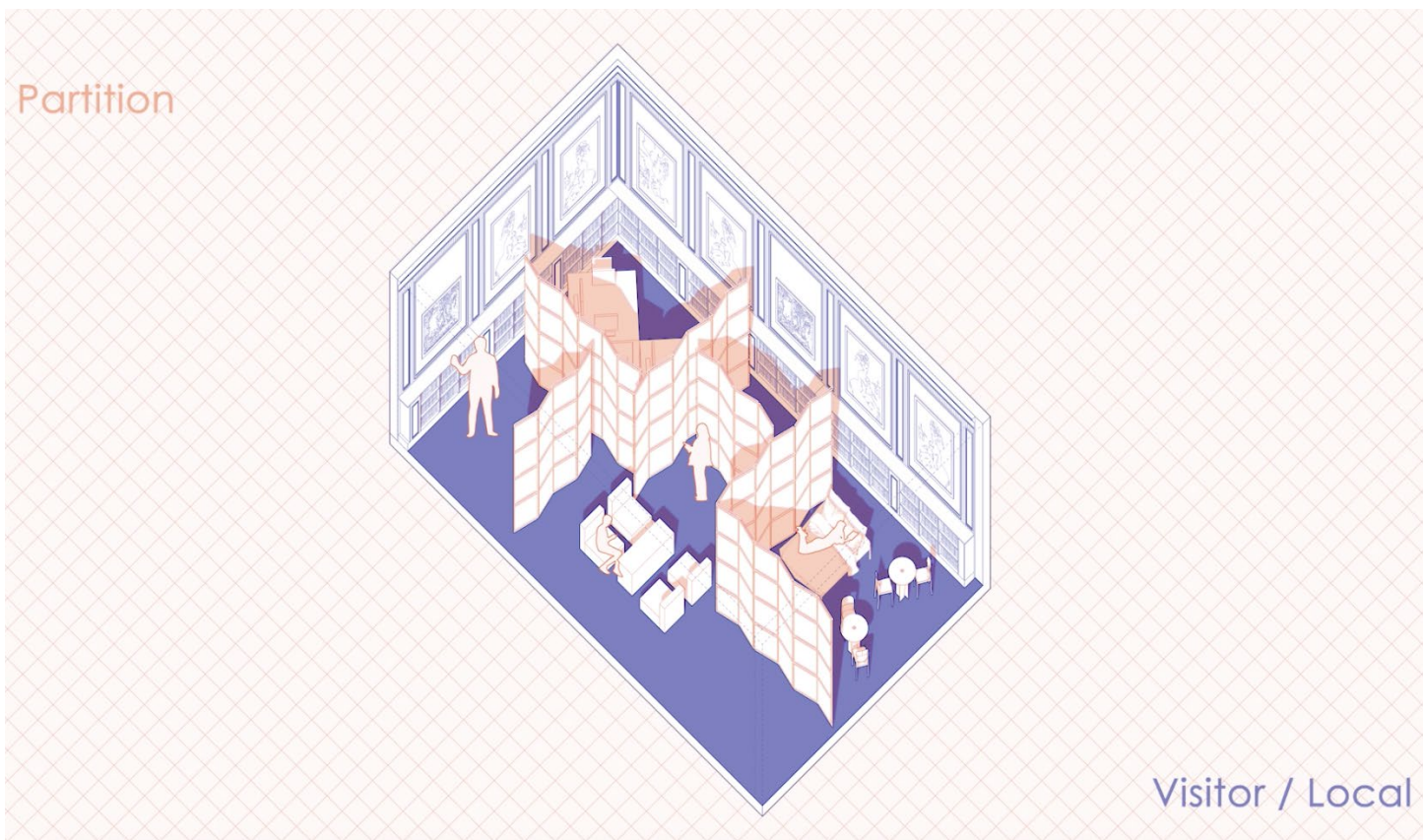
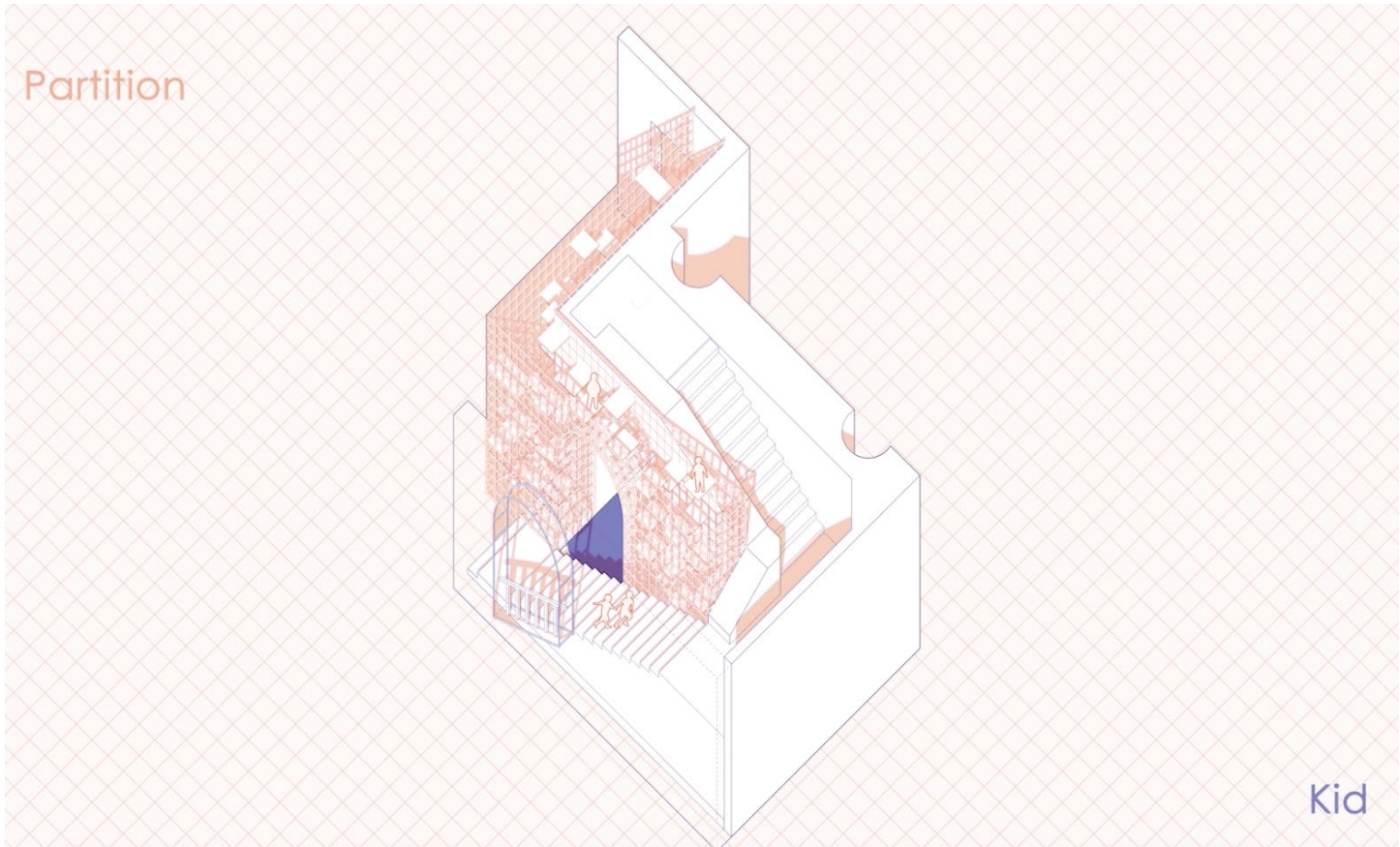


Frick Madison- The temporary home of the Frick Collection while the start of 4TH expansion

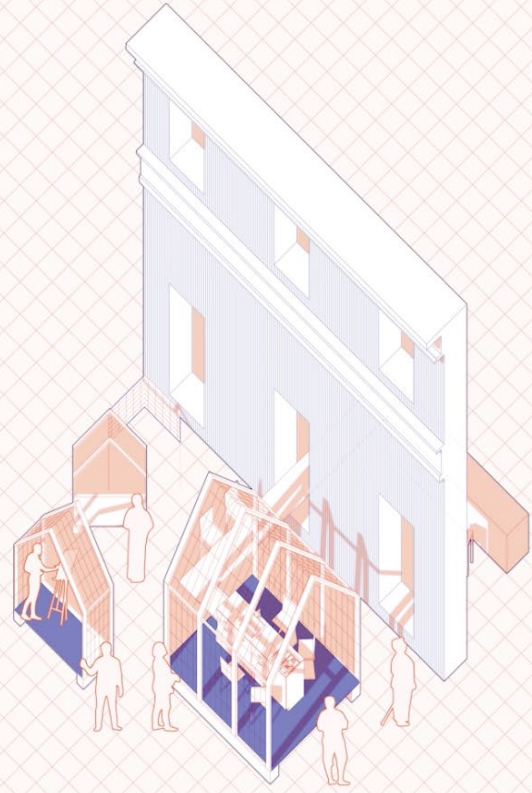


To demonstrate the value of superimposition, through the rearrangement of Furniture, Partition walls, poché and Transitional installations.

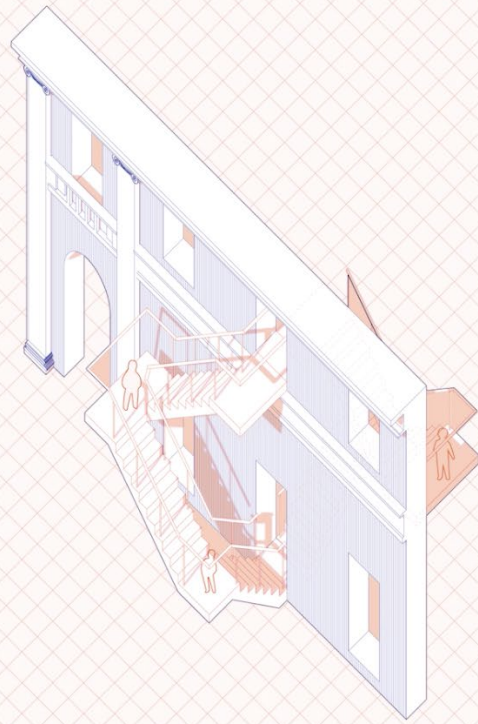




Transition



Transition



U Kei Long



House for Everyone

U Kei Long



House for Everyone

These intersections of spaces for different groups of people performing their domestic activities behind the Frick Collection's context will be superimposed on each other.

To show the vertical interactions in different levels that interweave the ground and second floor together, and break the uniformity of the spatial sequence.



The meaning of domesticity to this home-like museum, by proposing the juxtaposition of different domestic possibilities for everyone to find their home there.



This Frick Collection welcomes everyone to attend, and provides all domestic possibilities for everyone to install their daily life there.

03

Alone Together: Library Without Rooms

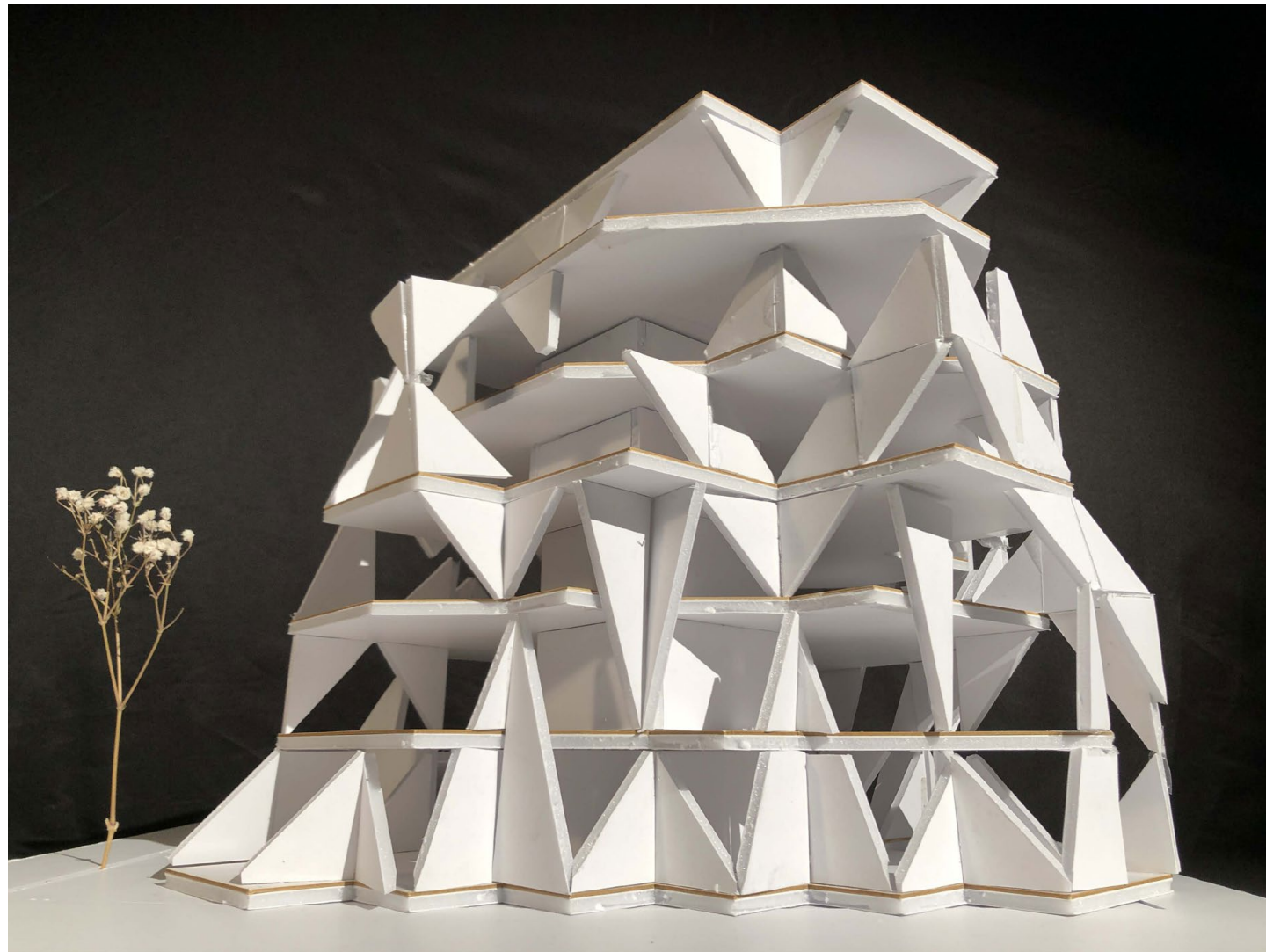
Spring 2019, GSAPP Core II Design Studio
Instructor: Mimi Hoang | nArchitects

The Core II Library studio starts with the theme - **Alone Together**, where the project defines the **moments of expansion and attraction**, to create the wrapped atmosphere with **interweaving moments**.

The proto model is inspired by the Beinecke Library's grid completion, to develop the idea in physical form and investigate the spatial moment in layers of **grid distortion** in contrast.

The concept of triangle structure form that can be run in four different directions to create a topology of program, spaces and layers in the library, where this structure can be expanded everywhere inside and outside of the building, the moments of expansion and attraction will then separate into a forest of triangle structure form.

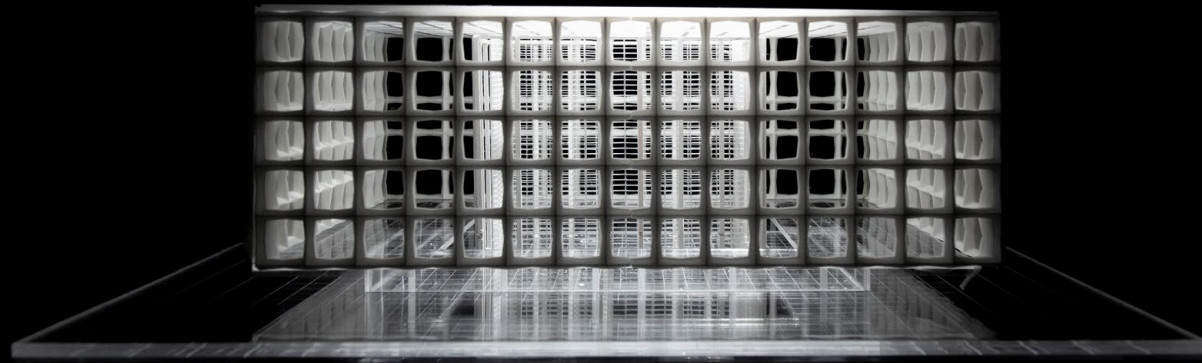
It works as a knot in every levels that is pulled from one point to another that will create gathering spaces and also individual spaces throughout the entire building, while every architecture moments such as facade, wall, envelope, space and bookshelves is working with this structural expansion formula to create calm and small spaces or dynamic and bigger spaces.



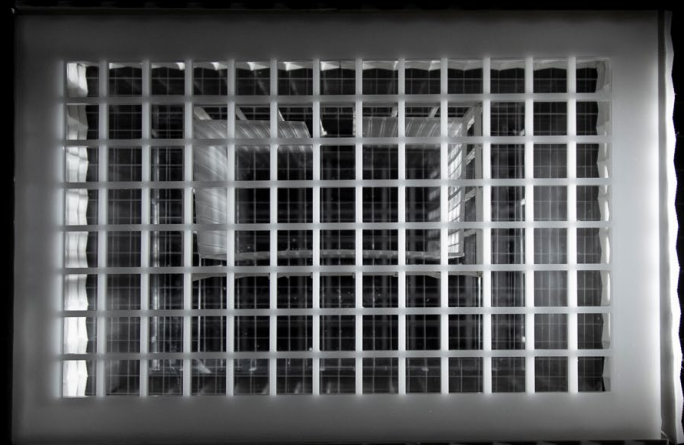
Structural Model

Alone Together

Expansion



U Kei Long

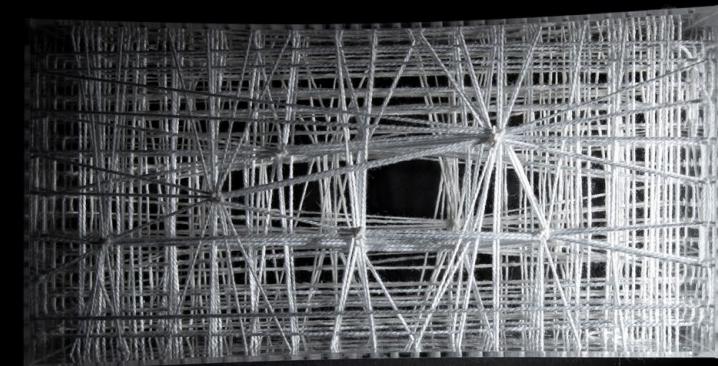


Beinecke Library, SOM
Study model of Grid Completion

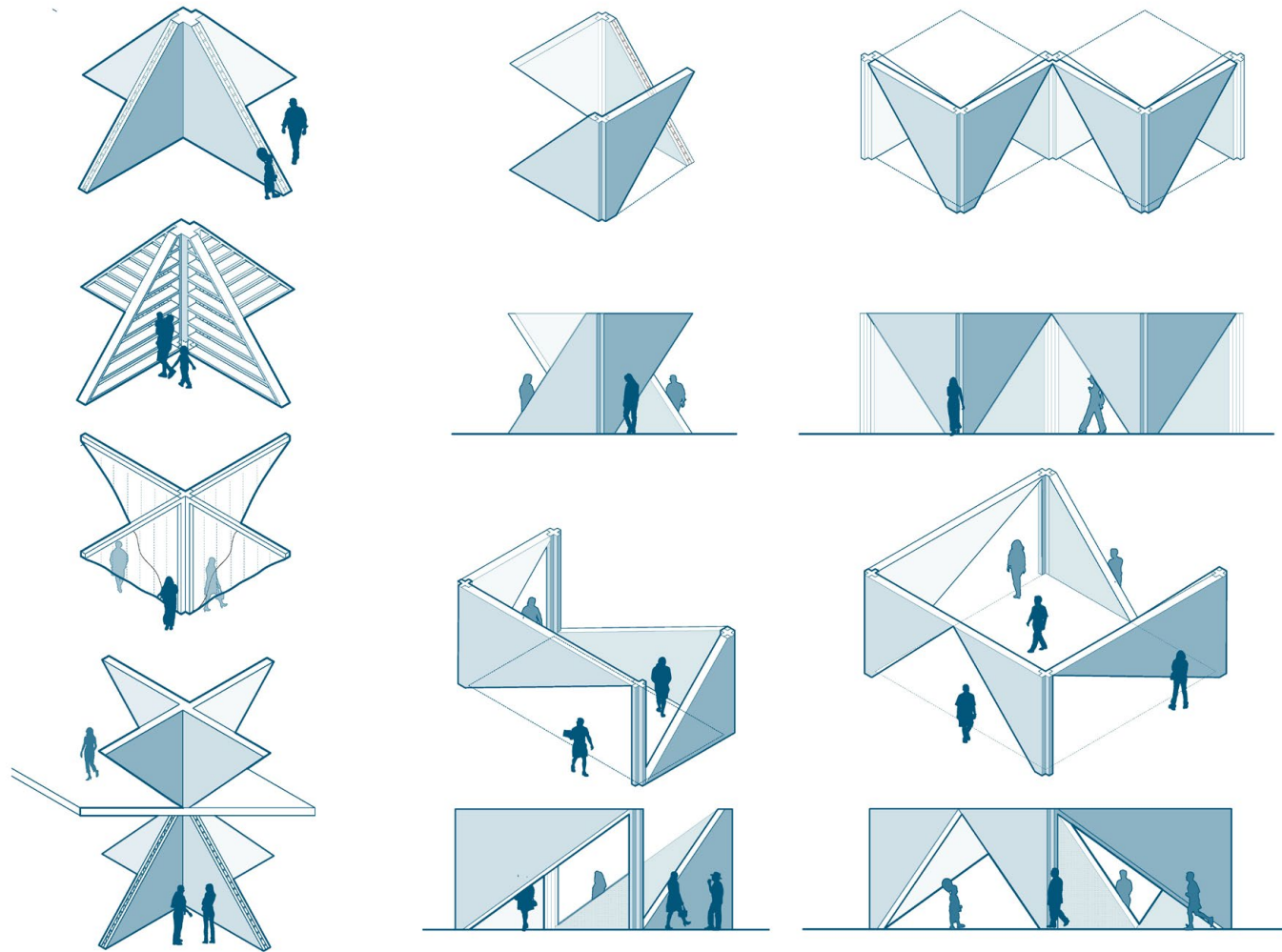
Attraction



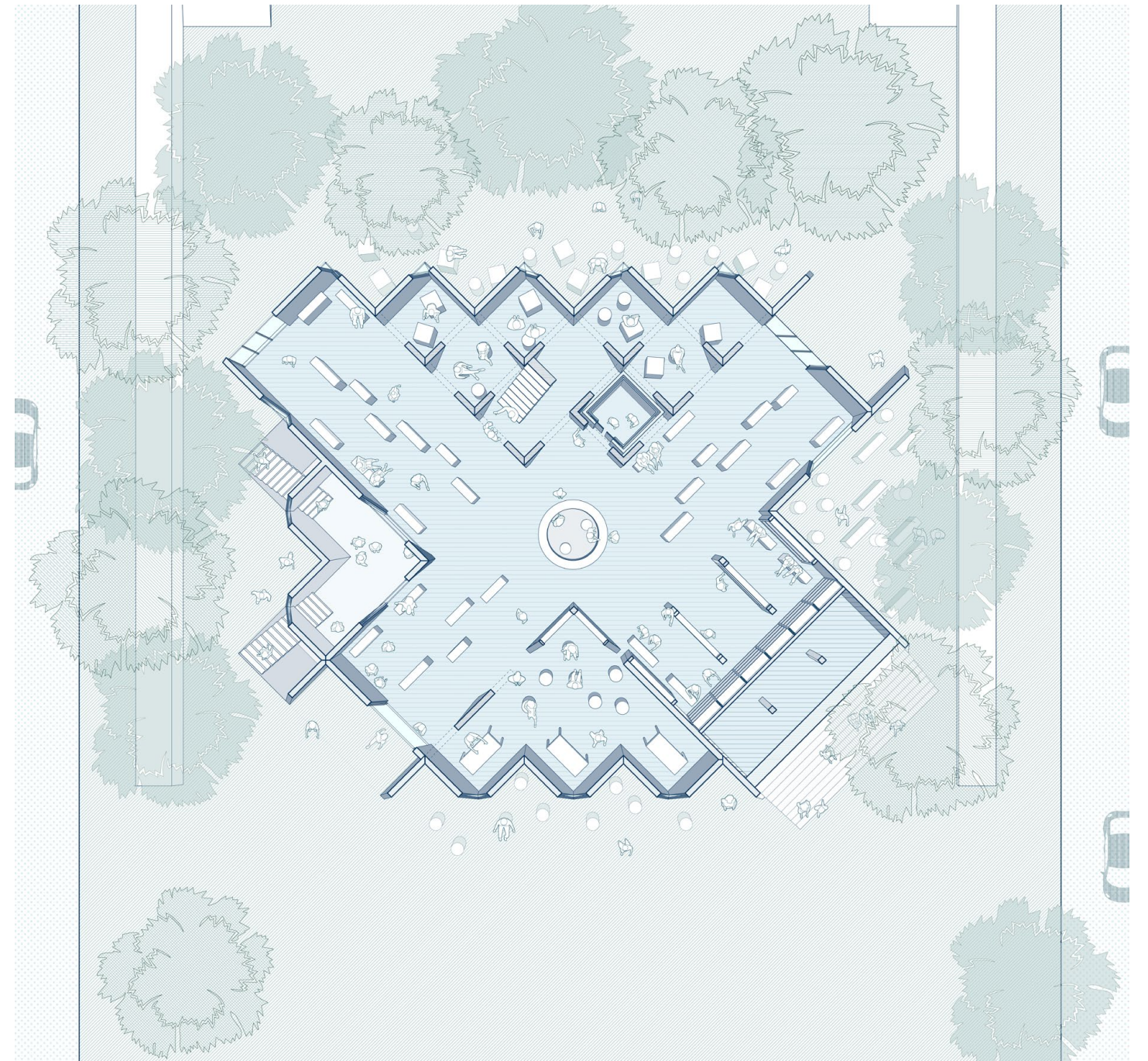
Library Without Rooms



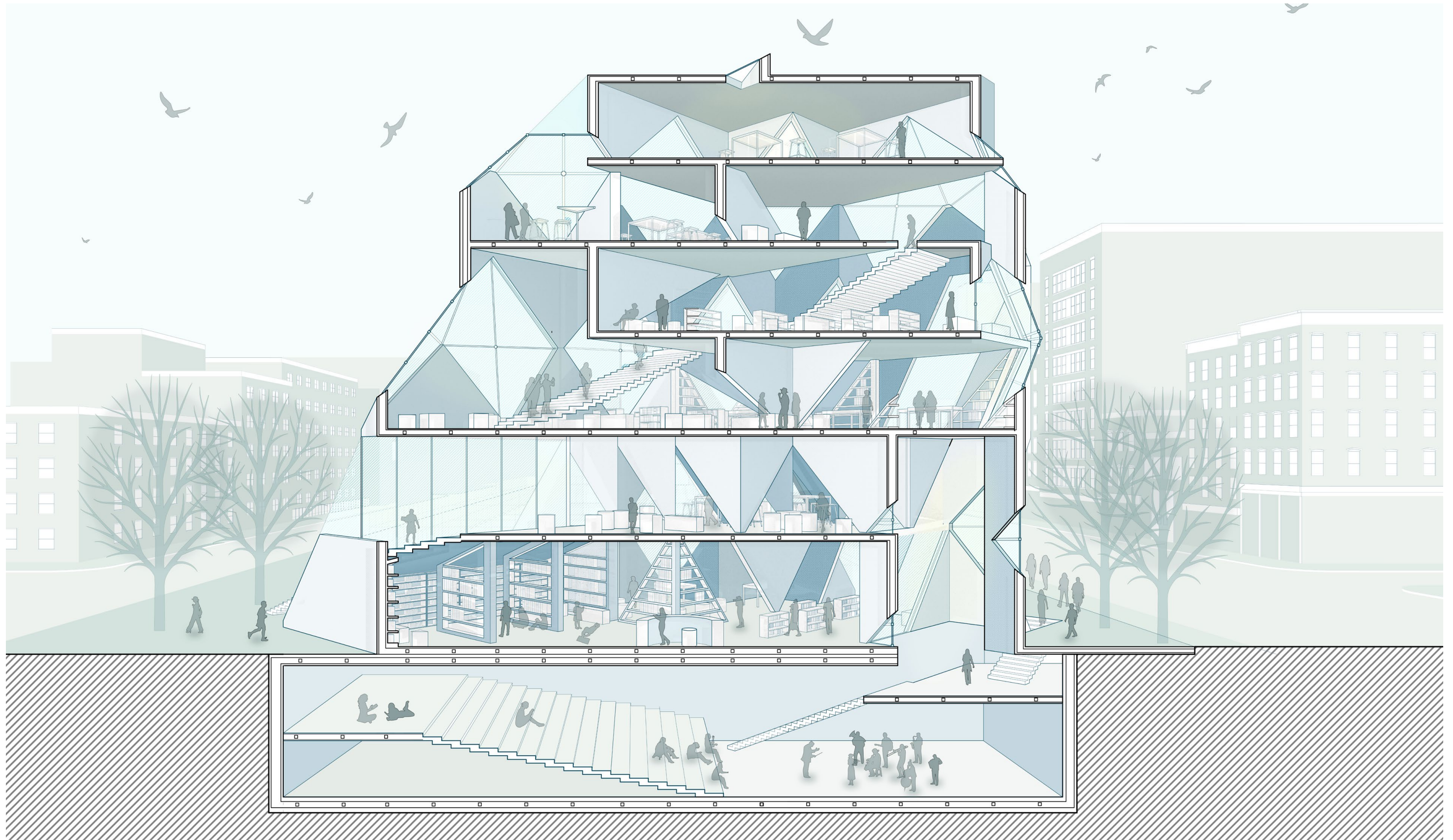
Prototype Model
Study Model of Grid Distortion



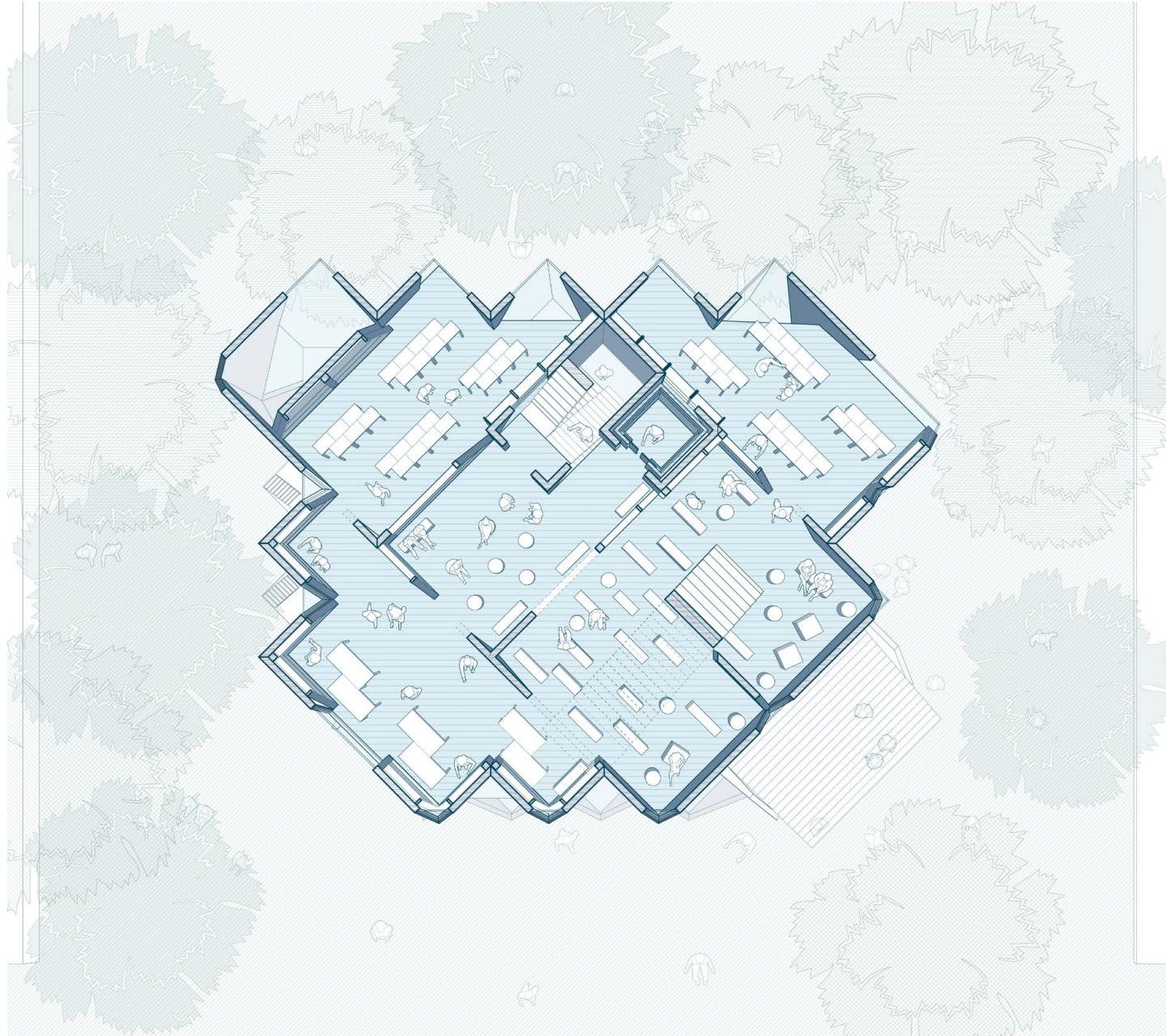
Alone Together is where the library is **the fantasy of interweaving knowledge as connection**, and distorting spaces through human interaction.



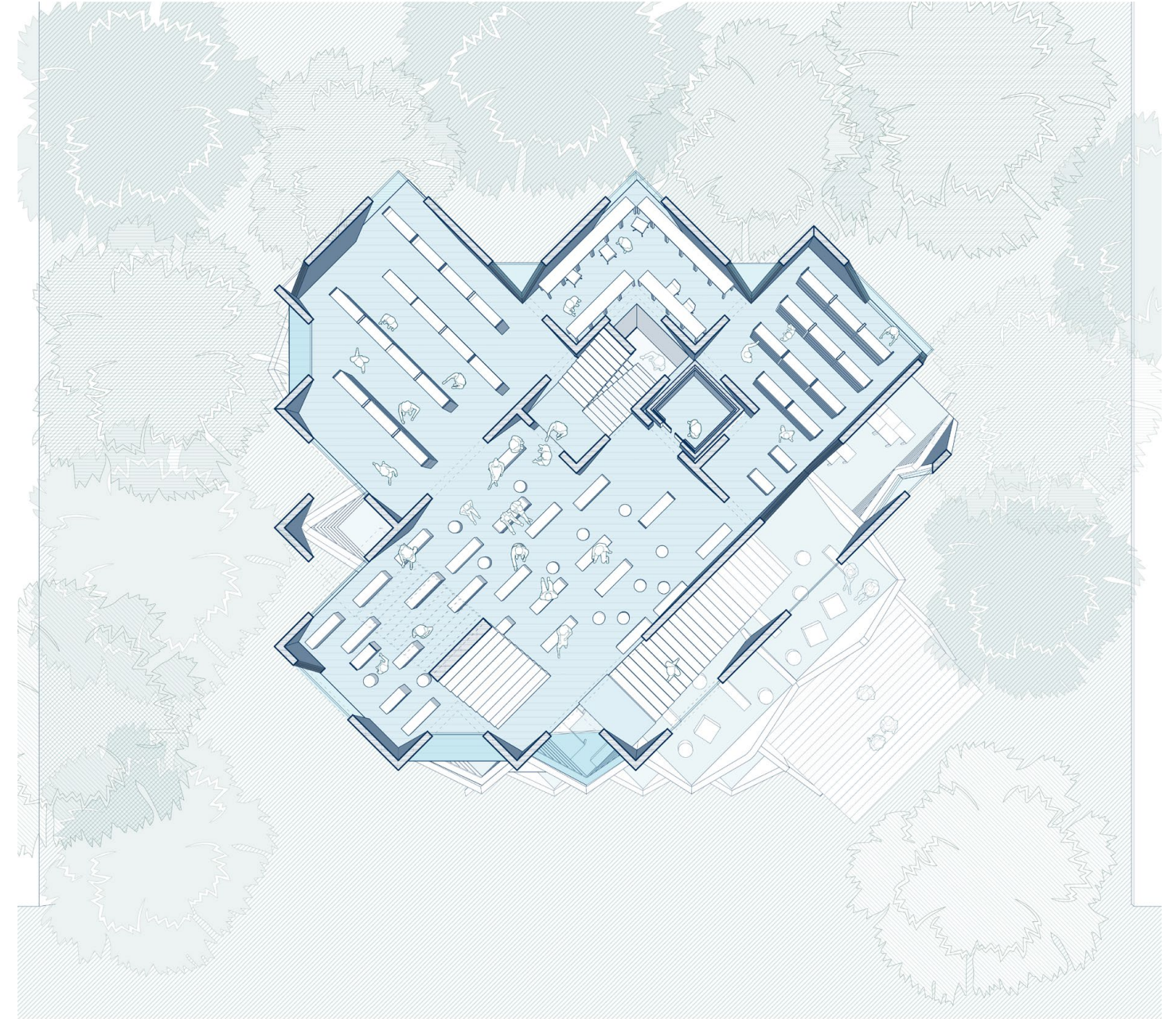
In this library, the metaphor of Alone Together is **without any vertical wall construction**. There are nearly **no walls, doors or rooms**.



The moments of **expansion and attraction** will then separate into **a forest of triangle structure form.**

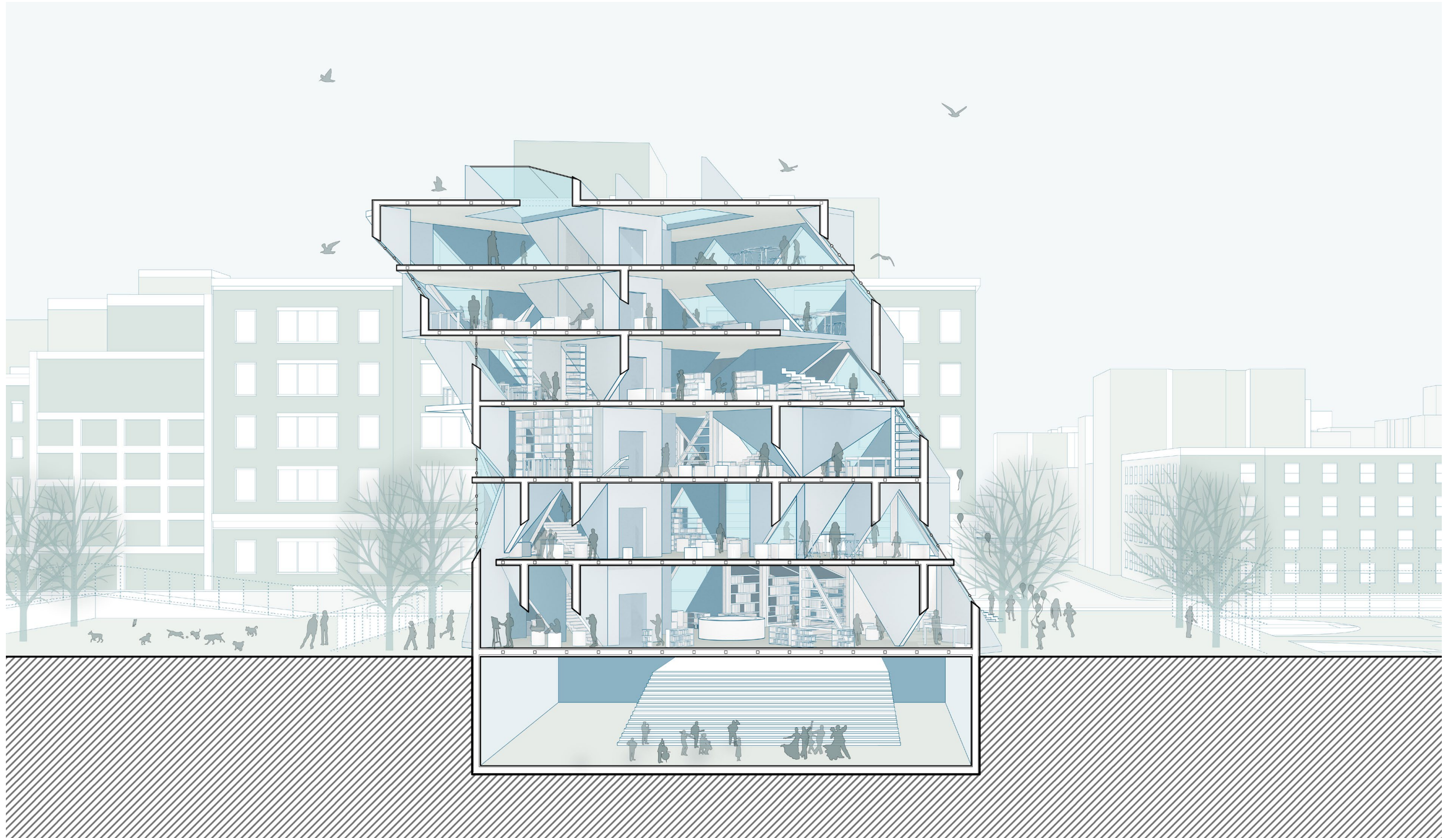


" This is the Library has no boundaries or rooms that will interweave us through our visual and spatial instincts."



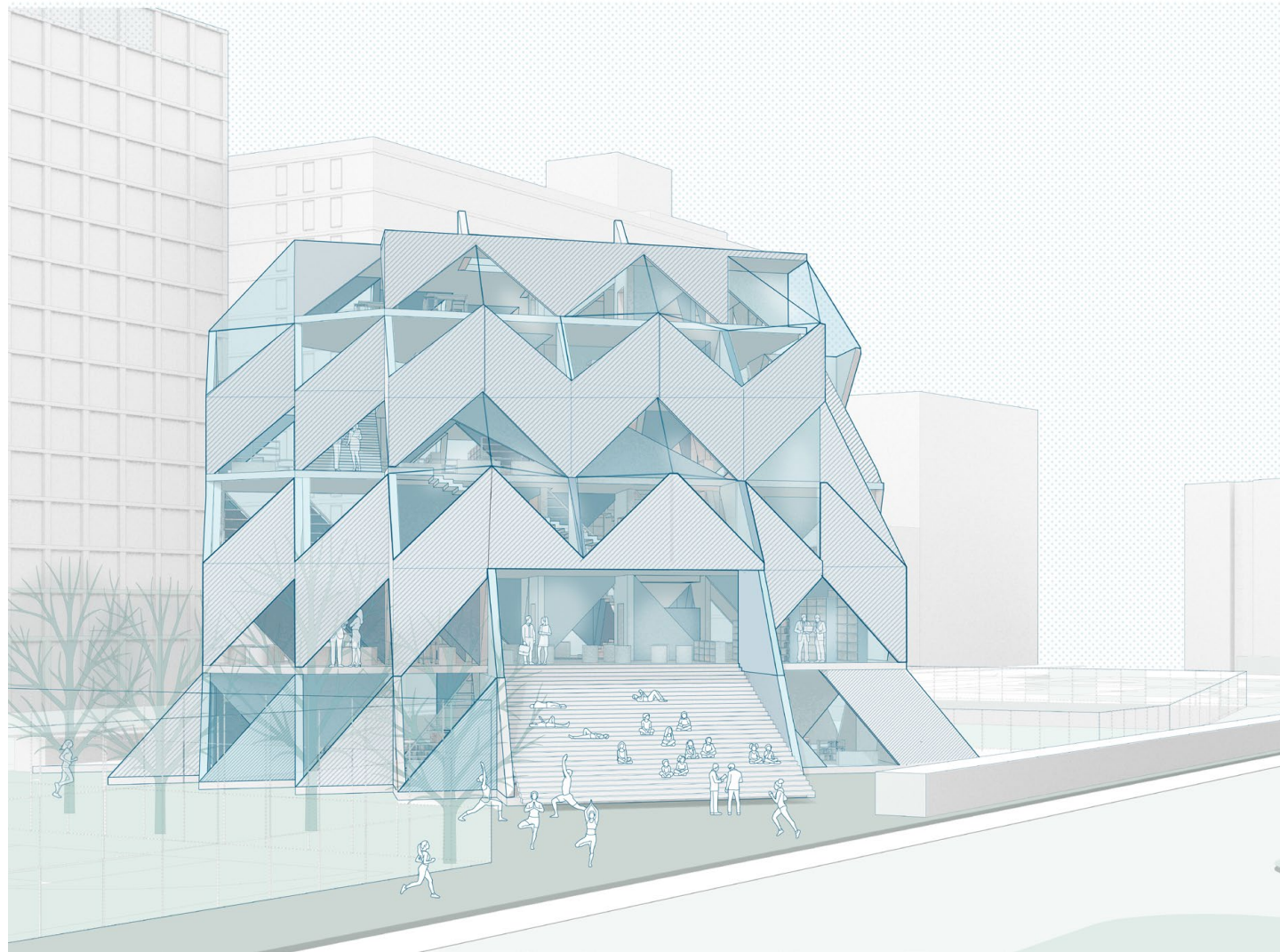
It works as a knot in every levels that is pulled from one point to another that will create gathering spaces.

U Kei Long



Library Without Rooms

The moments of **expansion and attraction** will then separate into **a forest of triangle structure form**.

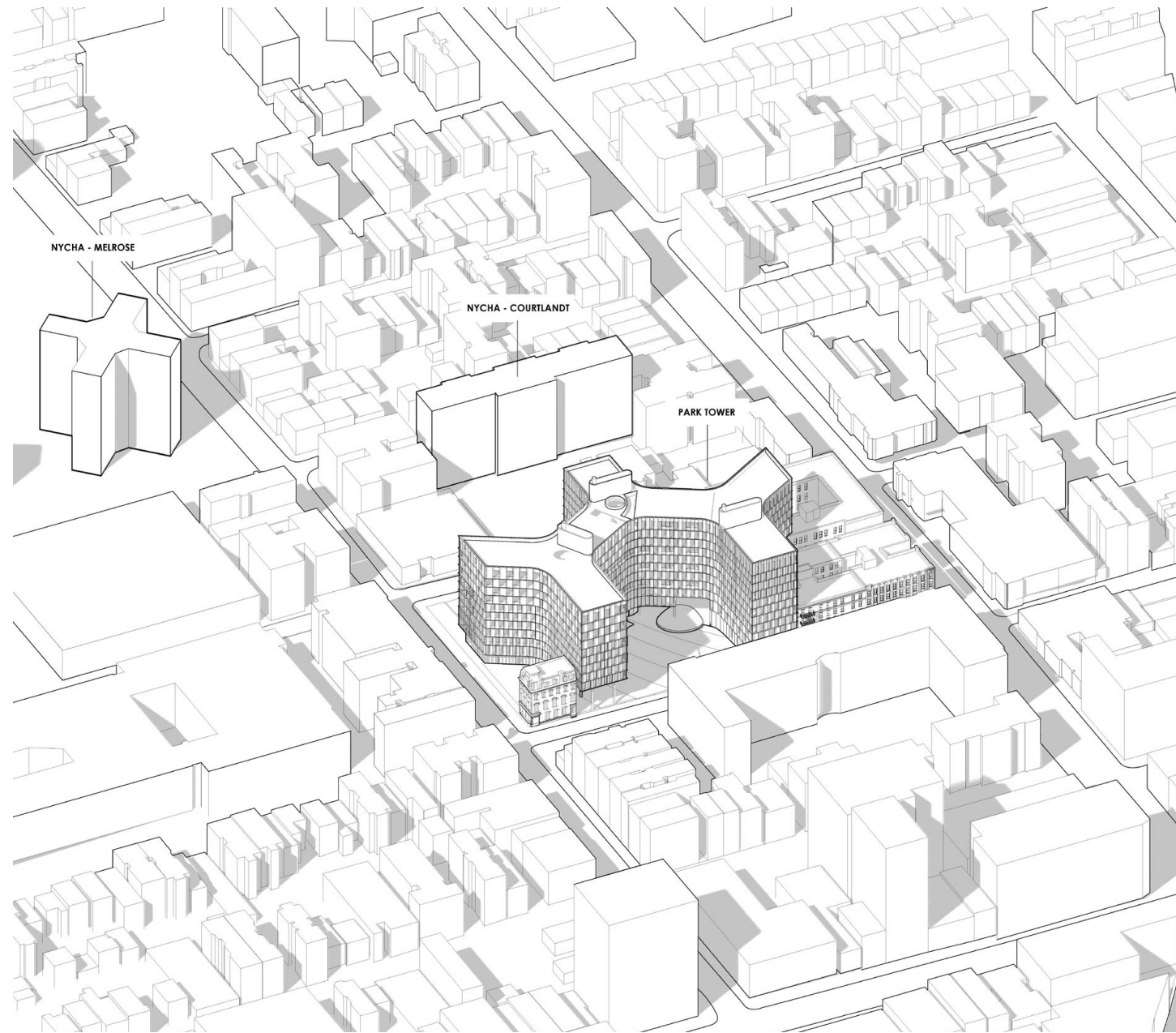


These triangles are the connection between **floors to extract or dissolve** public moments inside and outside of the building.



At night, the library luminates the triangular landscape that **interweaves individual and collectives.**

04



Site Perspective

Park Tower

Fall 2019, GSAPP Core III Housing Studio
 Instructor: Adam Frampton | Only-If

The condition of current **NYCHA Housing is crowded, squalid and dangerous** living conditions in the Manhattan Neighborhood. While the typical NYCHA floor plan has **no interest in providing commercial space** to the residents, the tower in the park style is widely considered a failure.

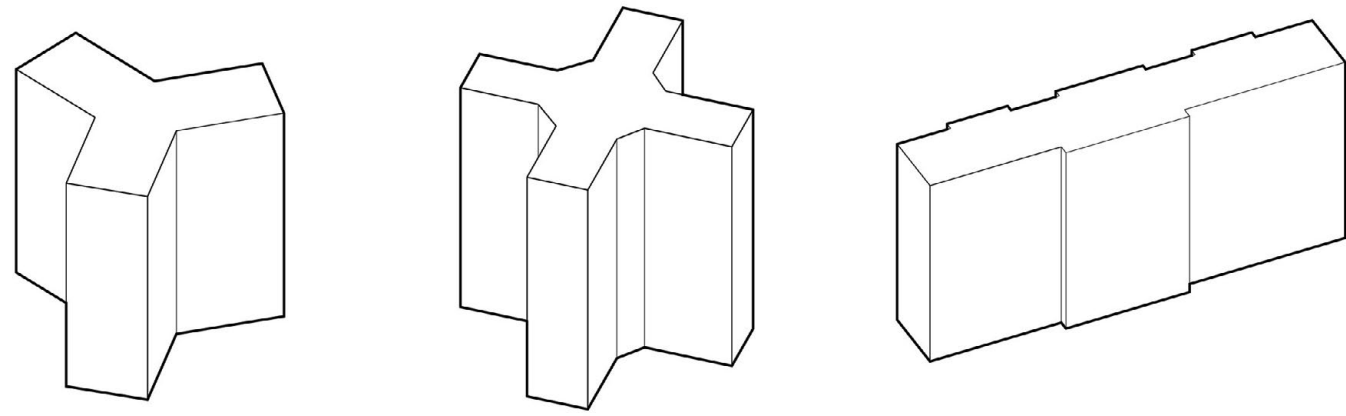
With **the confusion of visual and functional space** to the residents and audience, the inactive and obstruction of the entrance to the NYCHA building, leads to the failure of the tower in the park.

This project **attempts to approach the failure of NYCHA building moments and criticize the theory of Tower in the Park**. The type Y Housing structure is a successful building type with enough sunlight and social efficiency, while the **connections of these three Y housing structure** brings in the continuous housing apartment throughout the entire site.

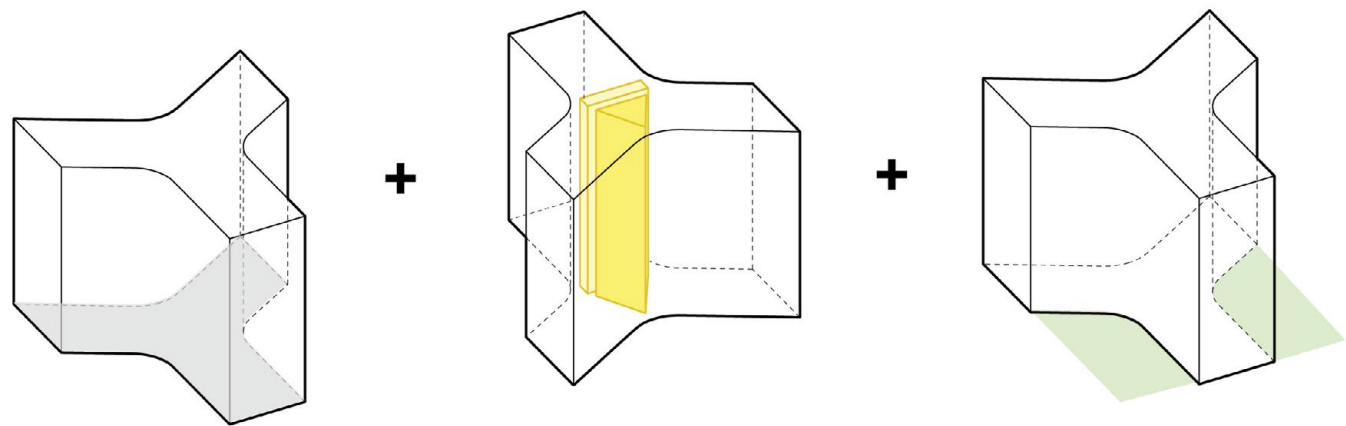
The Park Tower engages with **possibilities of the building afterlife** through **different green space**, with enough social engagements and tree life to the building, and even inside the building. The Tower activates many different programs throughout **the commercial hubs as three cores connect with the apartments**.

The Roof level becomes **the social engagement for the building residents** as other private spaces with a view to the Manhattan skyline.

NYCHA Prototype



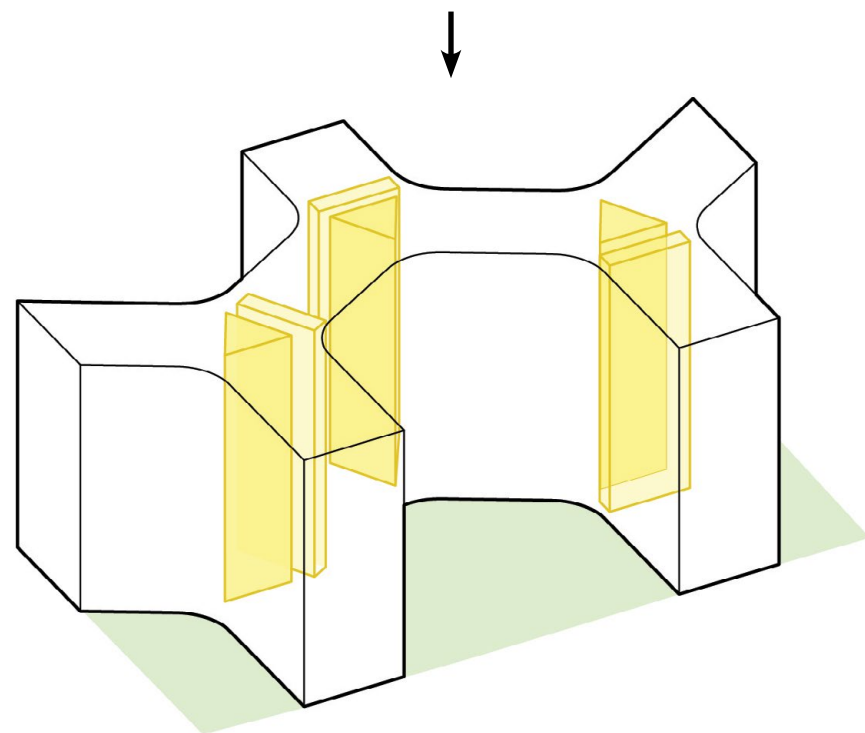
Typical NYCHA Housing Type



Less Footprint

Better Circulation

More Public Space



Park Tower Prototype

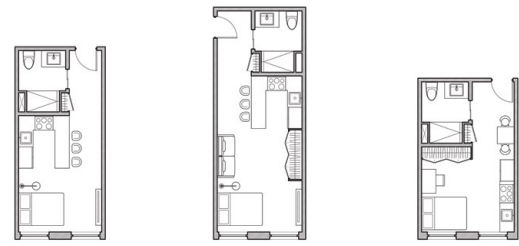
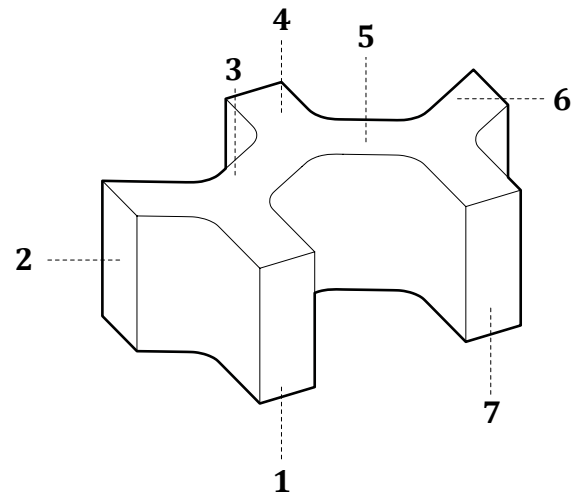


The Park Tower engages with **the possibilities of Housing afterlife** and opens up different green space, with more **social engagements and tree life** to the building.

U Kei Long

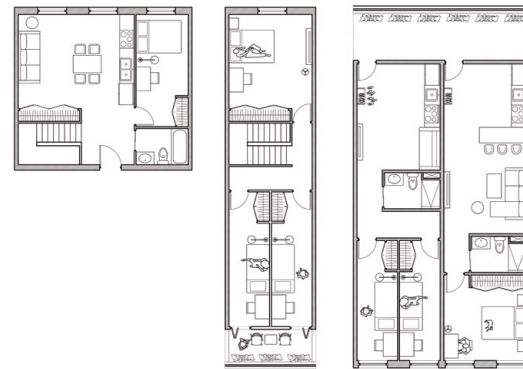


Park Tower



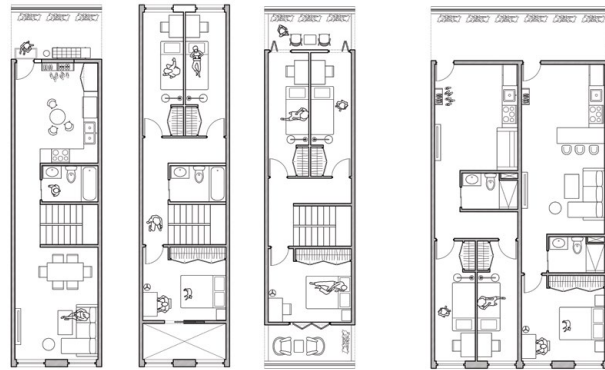
1,2 West Wing

3 Studio Types



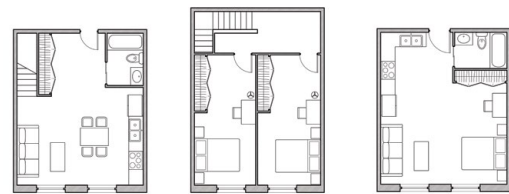
5 East Wing

Duplex Apartment - Up to 4 Bedrooms



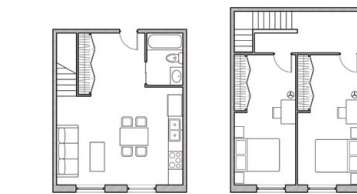
3 West Wing

Triplex Apartment - Up to 6 Bedrooms
Rectangle Studio - Up to 2 Bedrooms



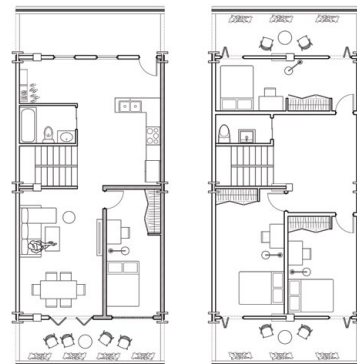
4 North Wing

Duplex Apartment - 2 Bedrooms
Studio Apartment



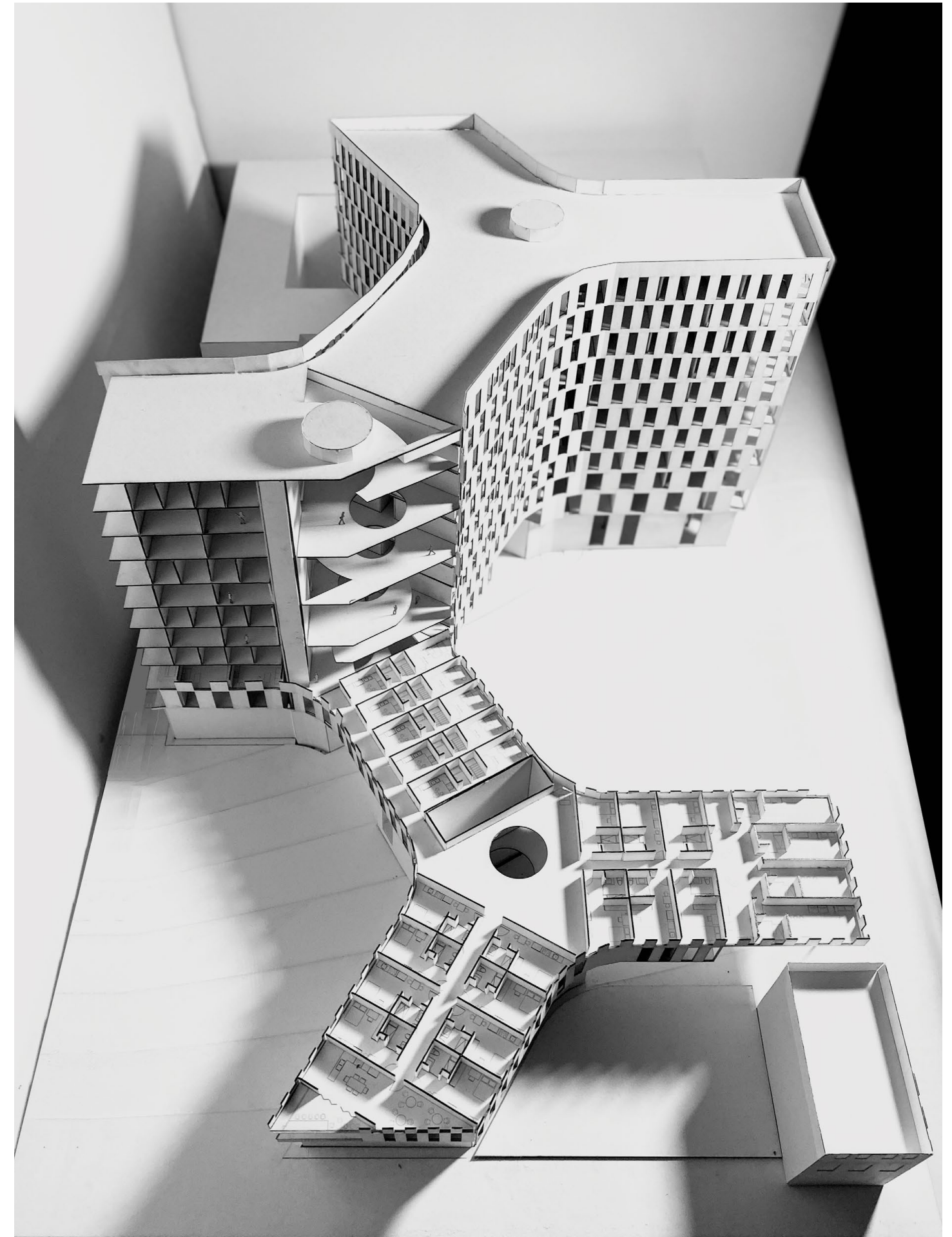
6 East Wing

Duplex Apartment - 2 Bedrooms

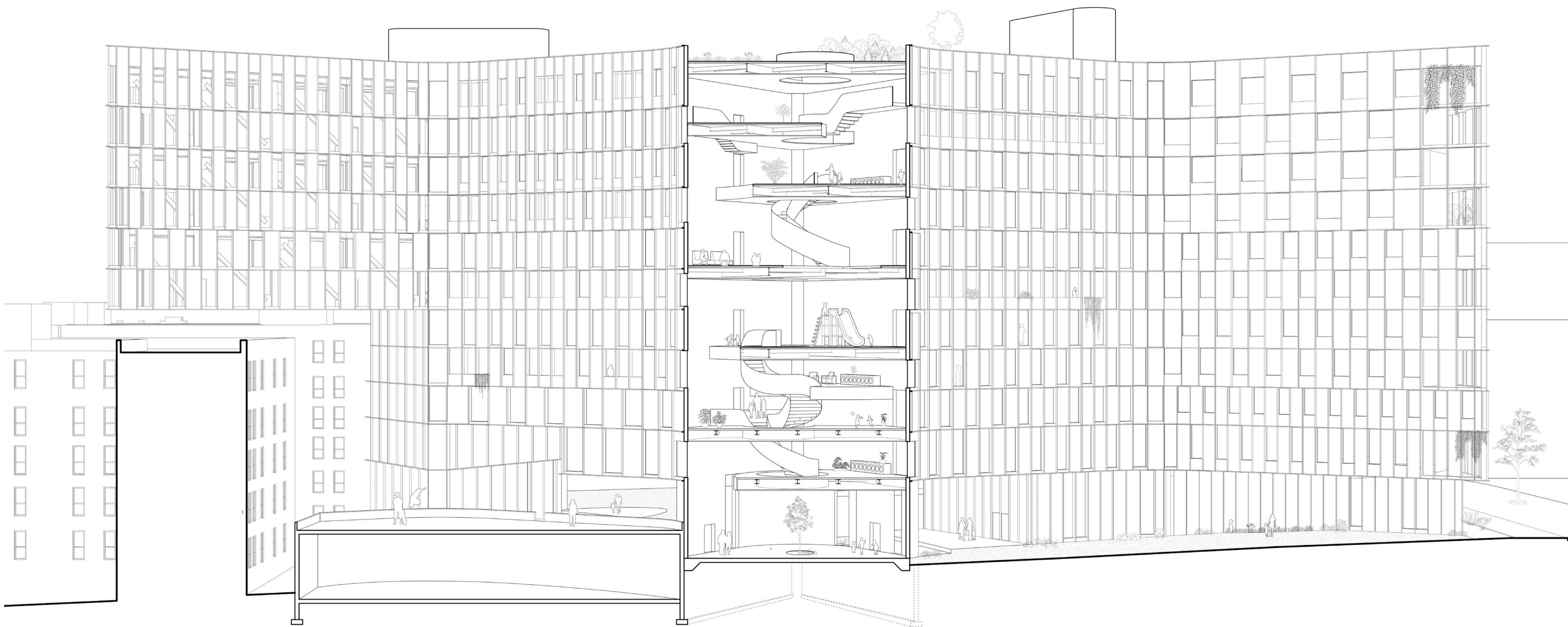


7 East Wing

Duplex Apartment - Up to 4 Bedrooms



U Kei Long



Park Tower



The Tower activates many different programs throughout **the commercial hubs** as **three triangular cores** to activate the social programs.



The Roof level becomes the outdoor social space for the building residents as other private spaces with a view to **the Manhattan skyline**.



The intention of the commercial hub in Park Tower, is from the study of circulation model on Gifu Katagata by SANAA.

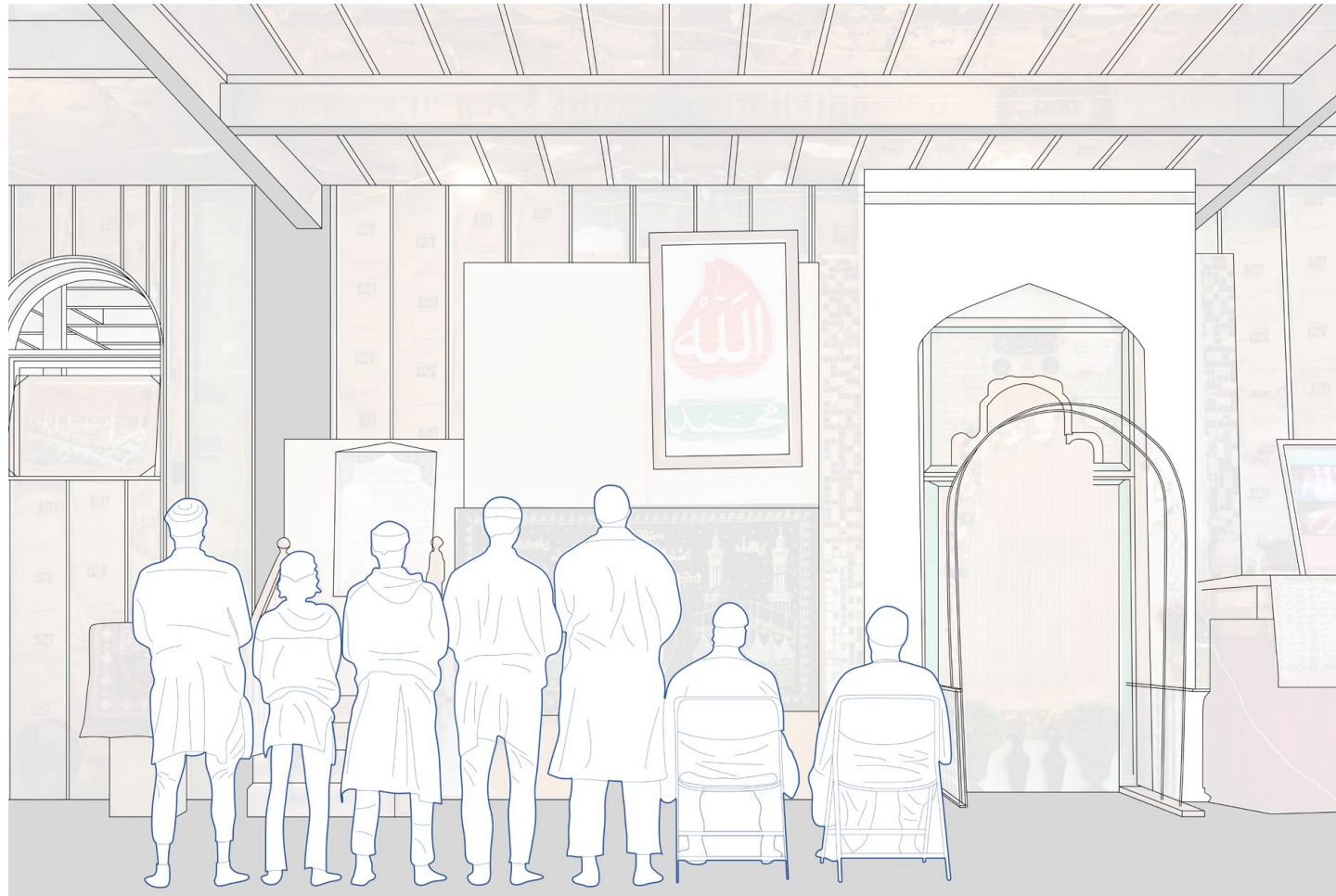


Endless staircases

05

Incremental Urbanism: Islamberg

Spring 2020, GSAPP Advanced Design Studio IV
Instructor: Ziad Jamaledine | L.E.F.T Architects
Partner: Lin Hou



-- Unfinished Mosque, Islamberg --

By collecting the quarry waste and dust around Islamberg to produce quarry brick as an efficient material to build on-site, this proposal is able to benefit Islamberg as an intentional community to **become self-construct and sustainable to expand**.

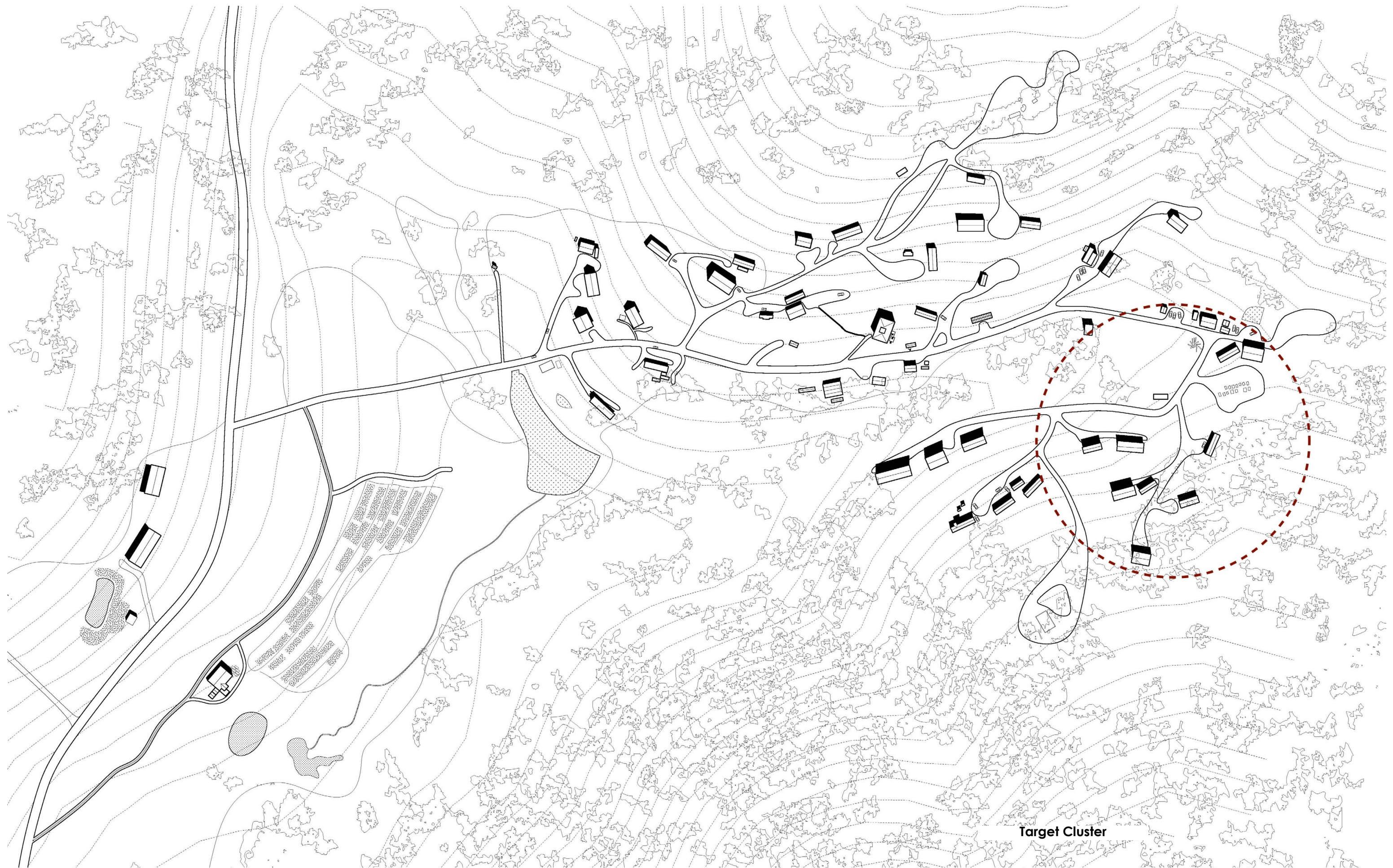
Quarry waste can be utilized efficiently for different purposes. By producing the quarry brick, people in Islamberg are able to **build their own manufacturing shops and building expansion**, while taking advantage of the site topography to create underground workshops as well as an elevated terrace by constructing retaining walls as a permanent brick wall, the quarry waste is also suitable for road development. Housing conditions can be renovated for water collection to use in the workshop underground and semi brick courtyard.

With the large amount of quarry waste that people will be able to collect, they have the opportunity to **build temporary brick walls as community and individual usage**: private courtyard, community center, marketing plaza for selling the brick with other communities.

The proposal of incremental urbanism in Islamberg is **a sustainable and conservative strategy**, to let people on the site **collect wasted material, manufacture new products, (re)build their own community** and even connect with other communities. The different phrases have been designed based on specific needs-driven.

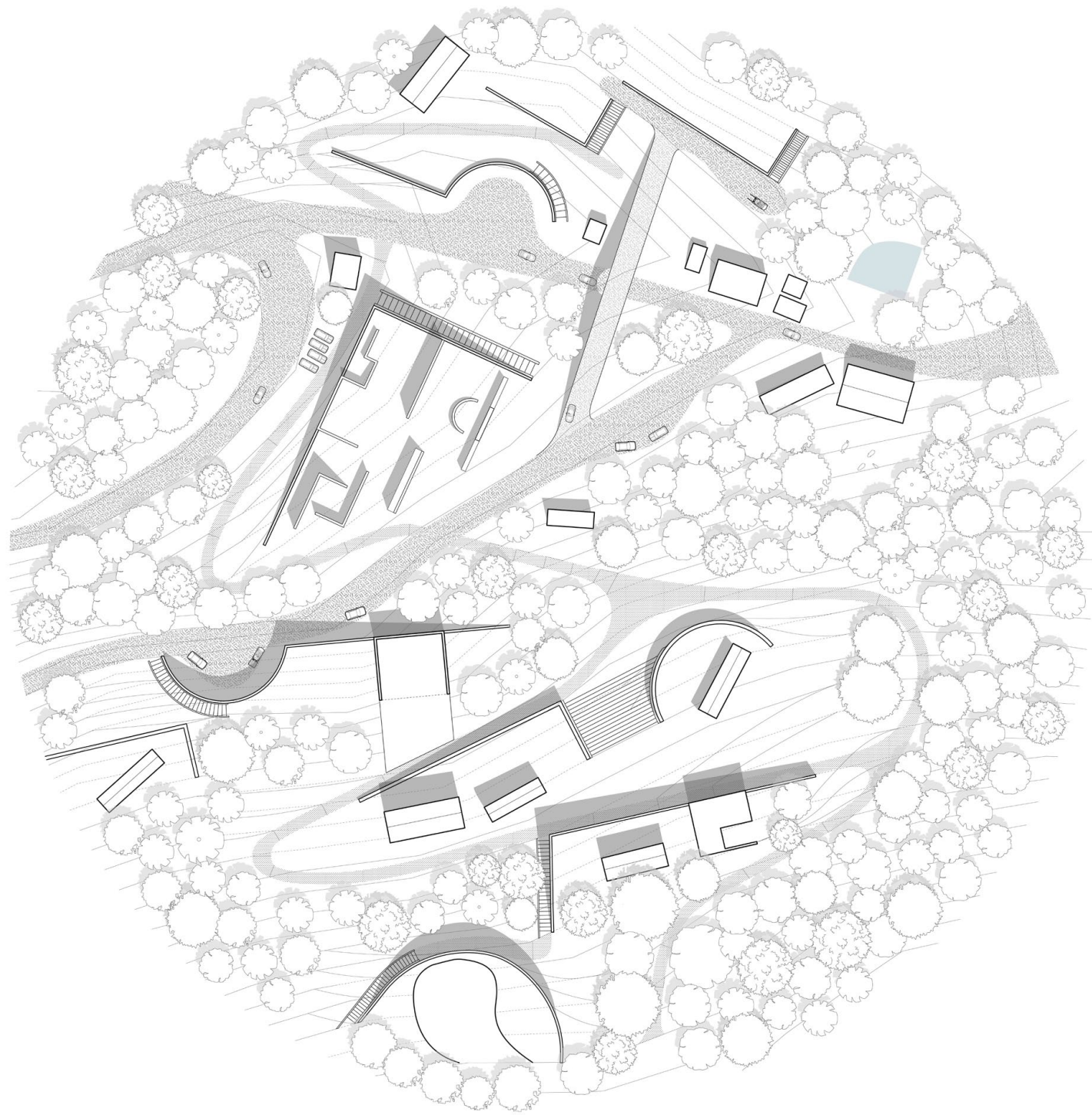
Quarry Waste

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Target Cluster

Incremental Urbanism

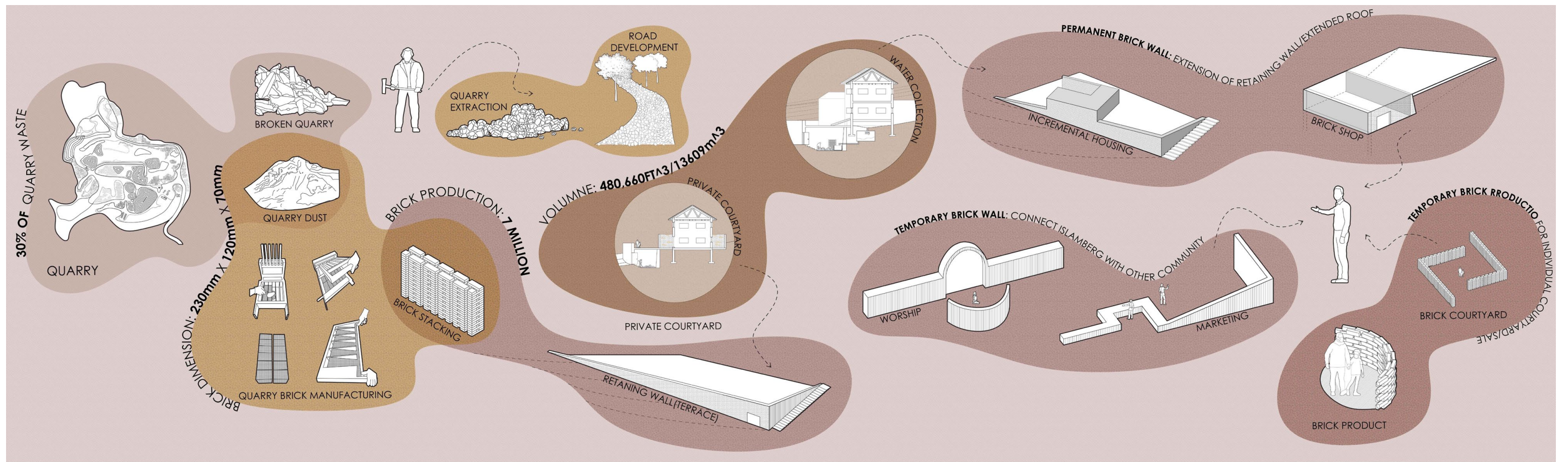


Islamberg Cluster Plan As First Phase



Islamberg Residents have the opportunity to build **temporary brick walls as community usage or individual usage** such as the private courtyard, community center, marketing plaza for **selling the brick with other community**.





By Producing the quarry Brick, residents in Islamberg can building their own Manufacturing shops and building expansion, to **first rebuild finish their major community buildings.**

Taking advantage of the topography of the site to **create underground workshops as well as elevated terrace** by constructing retaining walls as a permanent brick wall.

06

Flatiron District: Sleepless Scaffolding

Fall 2018, GSAPP Core Design Studio I
Instructor: Stephanie Lin | Dean of School of Architecture

Core 1 Studio discovers moments of infrastructure at Broadway Avenue, as the interest on the dynamic cultural changes of the Flatiron District, the project "Sleepless Scaffolding" captures this dynamic moment of retail area in Flatiron District, and departs from this multiple theme of furniture stores.

The site first starts at the ABC furniture and carpet store on 19th street that is right next to each other. The existing scaffolding condition in New York City is a tool to renovate buildings, but get abandon for years. In this historic district, the form of scaffolding has been used frequently because of building renovation. It has a great opportunity for the project to inhabit a new contemporary and futuristic retail experience.

This design of scaffolding is an new wave of retail production. As an new language of pedestrian to open up directional and liberate occupied spaces, it becomes an opportunities to distance consumption as a way to aware of mechanism.

The main design of these two building scaffolding is the program of one special and multiple activities that can happen in the same time with the level of engagement and distances to the existing buildings and the ground conditions.

It is planned to engage the public with rested spaces and exclusive moments like balcony on the top of the scaffolding volume, as the touristic moments to explore the ladies's mile.

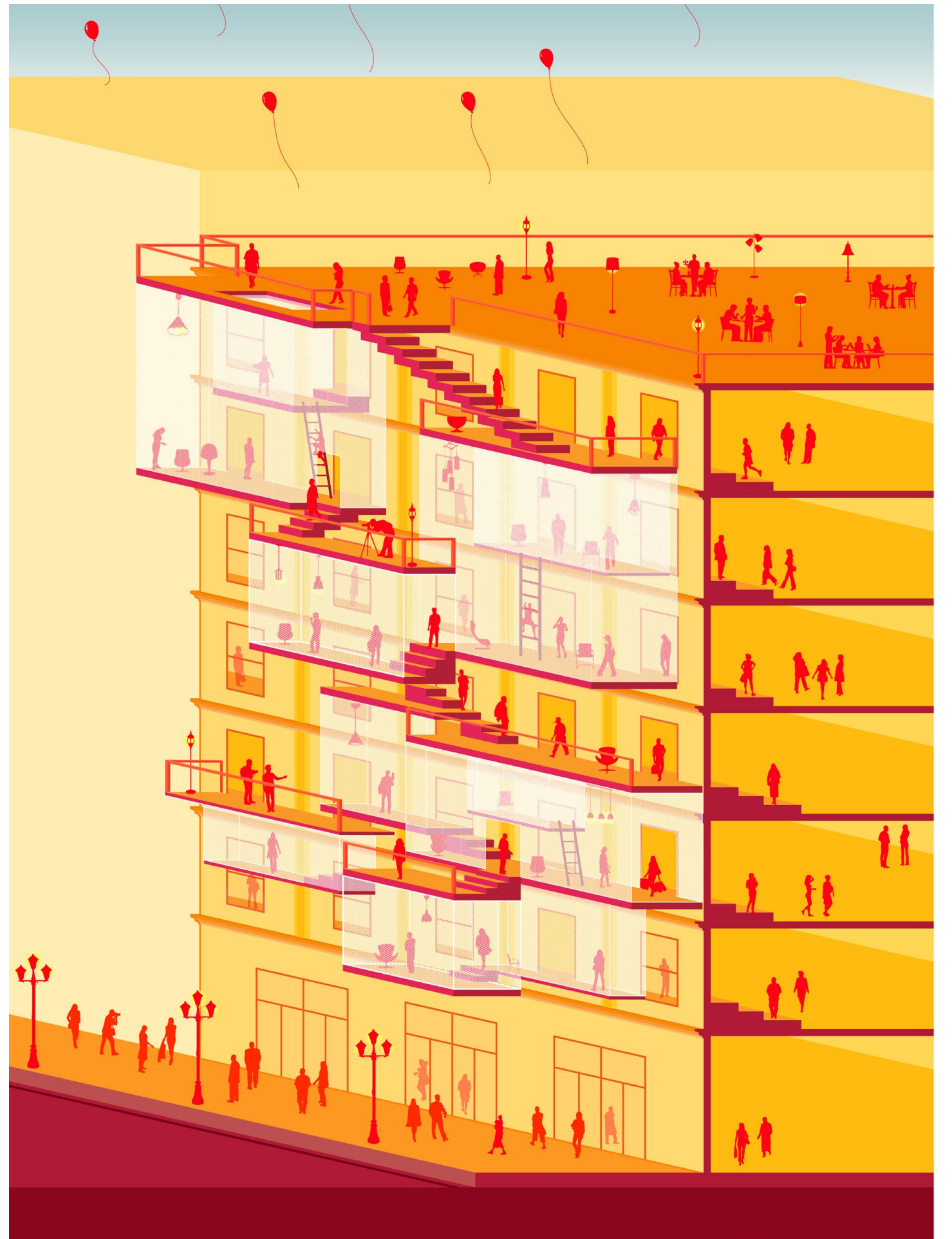
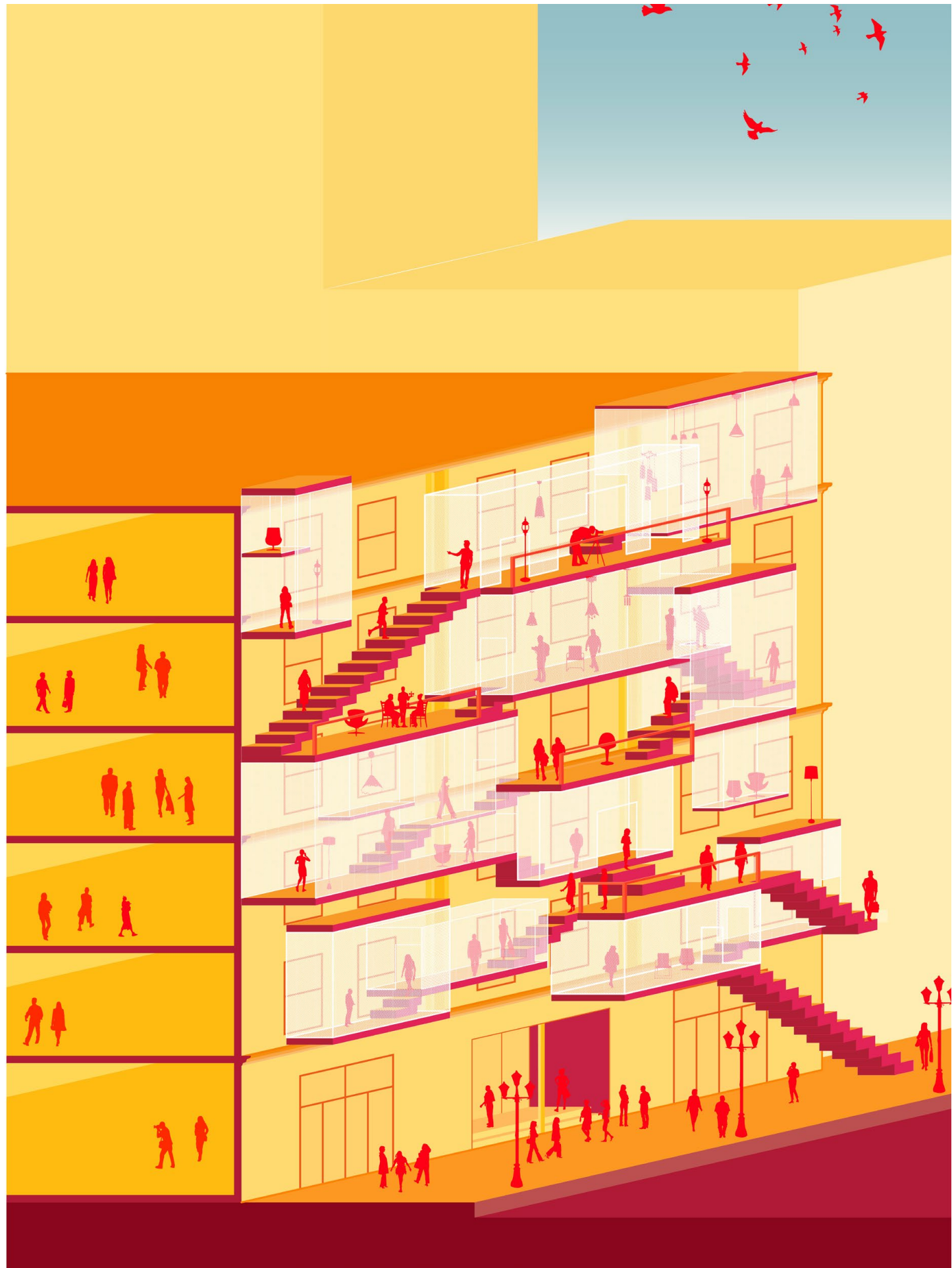


Site Model

Retail History



The scaffolding becomes an opportunities to distance consumption as a way to aware of mechanism.





18 Greenpoint Theater Brooklyn, NY

Fall 2019, GSAPP Tech Design Project
Partner: Lin Hou, Rory Macfarlane, Florencia Yalale



Grid Column Facade

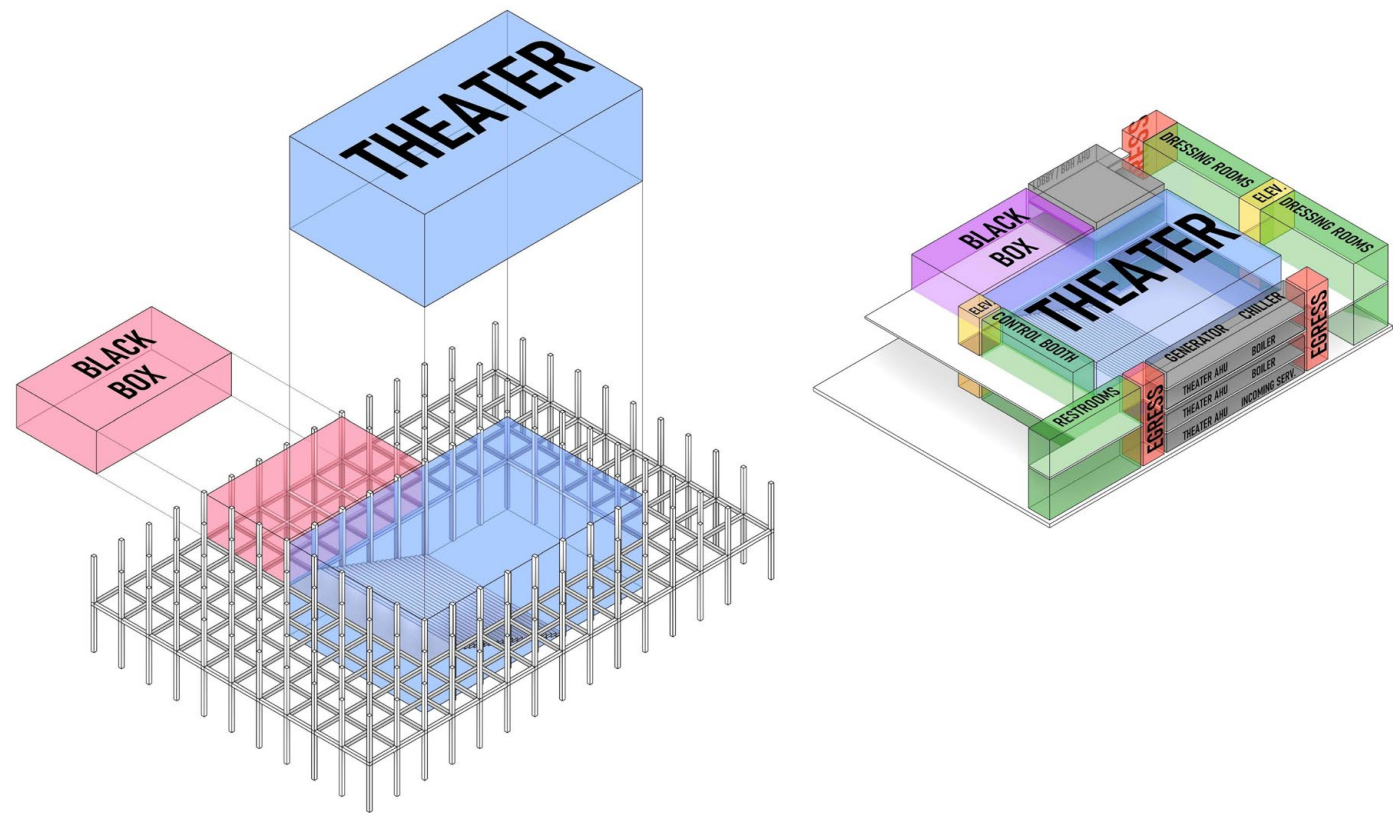
The design of 18 Greenpoint theater includes **the structural, mechanics and envelope engineering details** as a pack of construction documents from the beginning of the design.

For this theater, the project took **less than 30 millions as the budget** to include all the materials, equipment and furnishings. The structure of the entire theater is supported by the grid column system by mass timber, which is sustainable for the timber recovery and waste of Carbon dioxide.

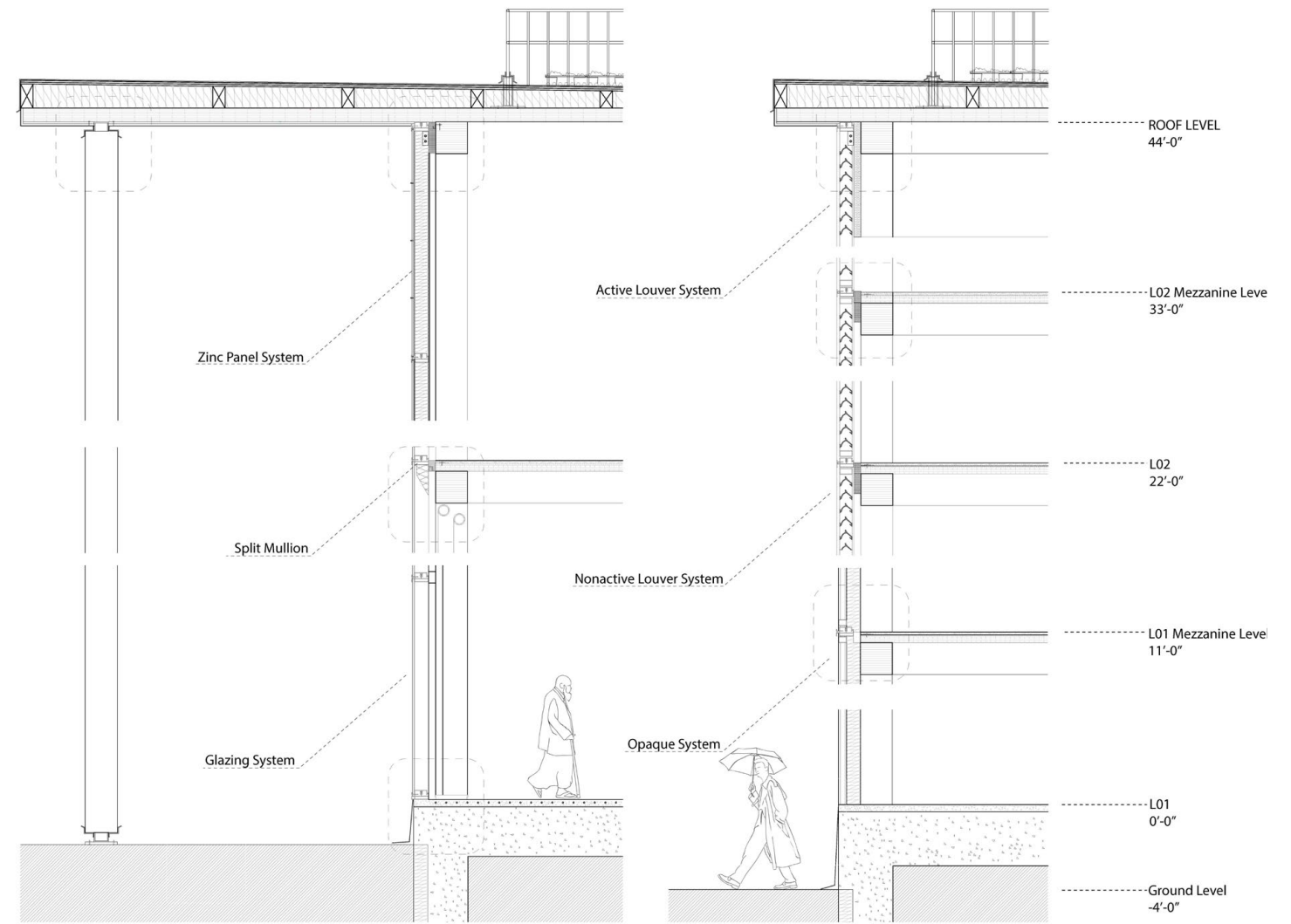
The **15' x 15' grid column system** has perfectly divided the theater and black-box for different amount of audience to attend in the theater. All different programs such as dressing room, egress areas and control booth are divided well and sit on this column grid structure.

The Front of House's lobby is facing the Manhattan Skyline through the glass wall, while it decreases **the solar heat gain with the roof canopy** and interior shade.

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Grid Column System Concept Diagram

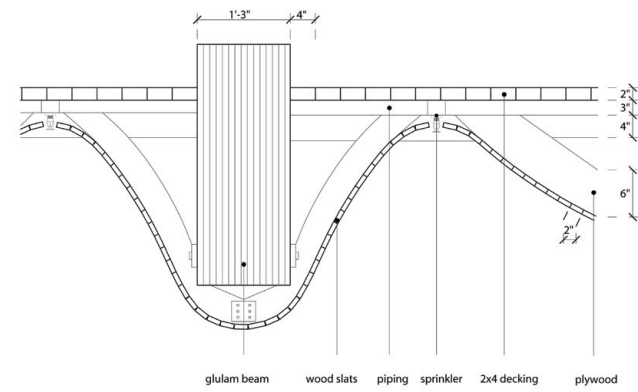


18 Greenpoint Theater

Front of House and Back of House
Curtain Wall Section

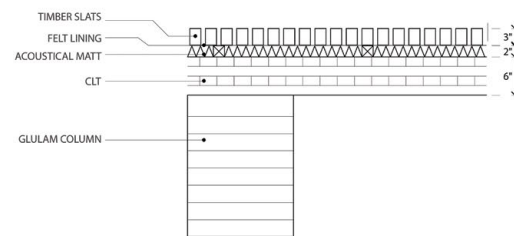


Theater Interior Ceiling

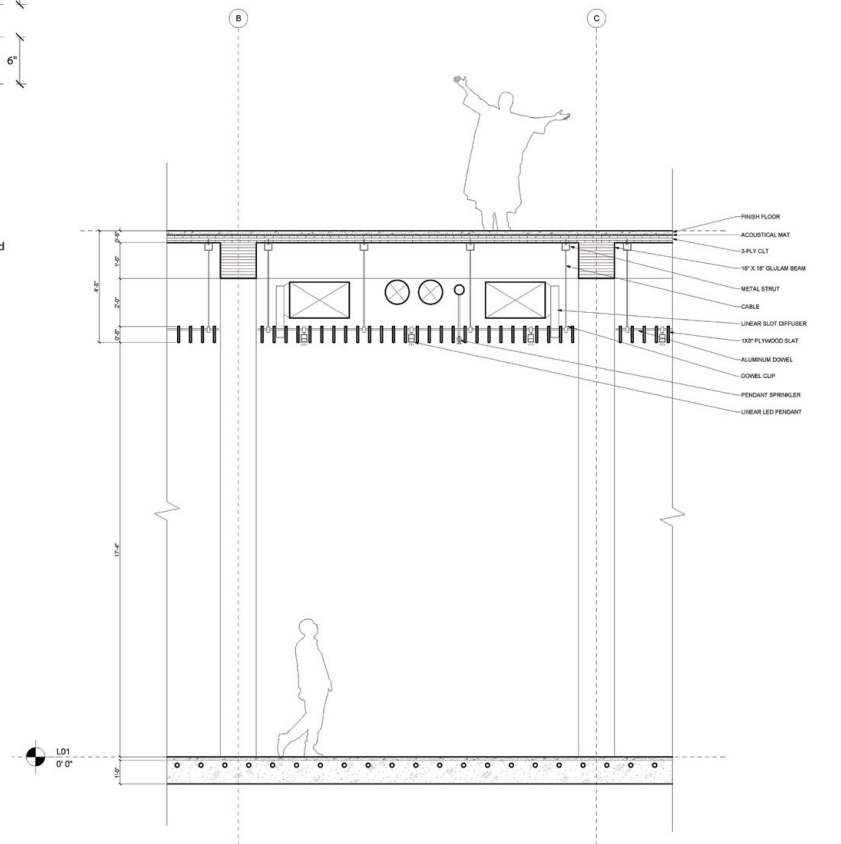


Theater Ceiling
1 1/2" = 1'-0"

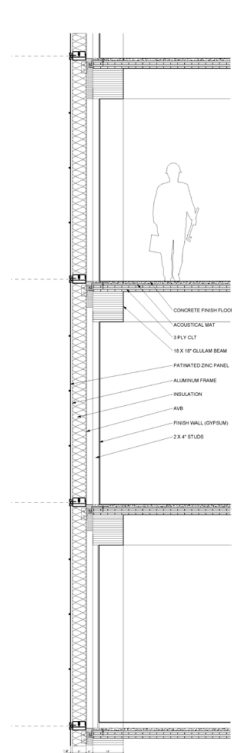
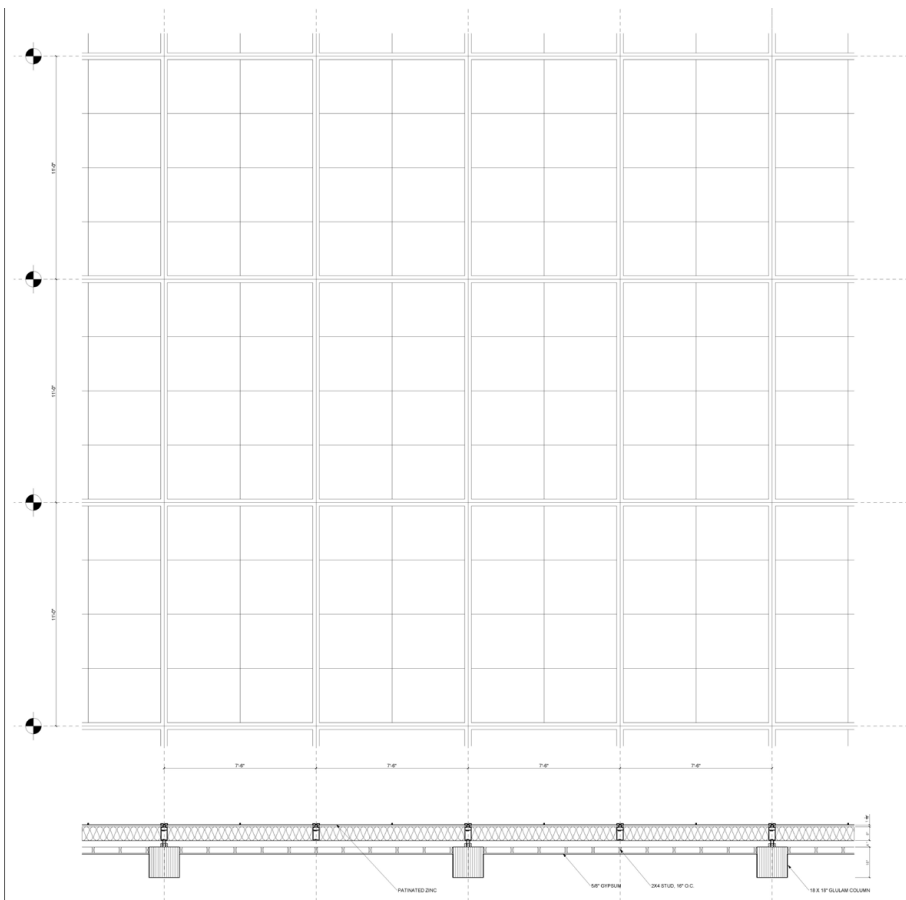
PLAN DETAIL



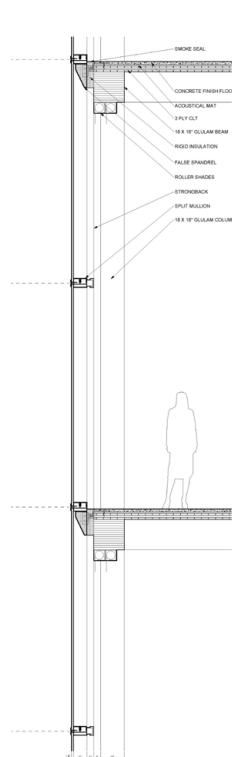
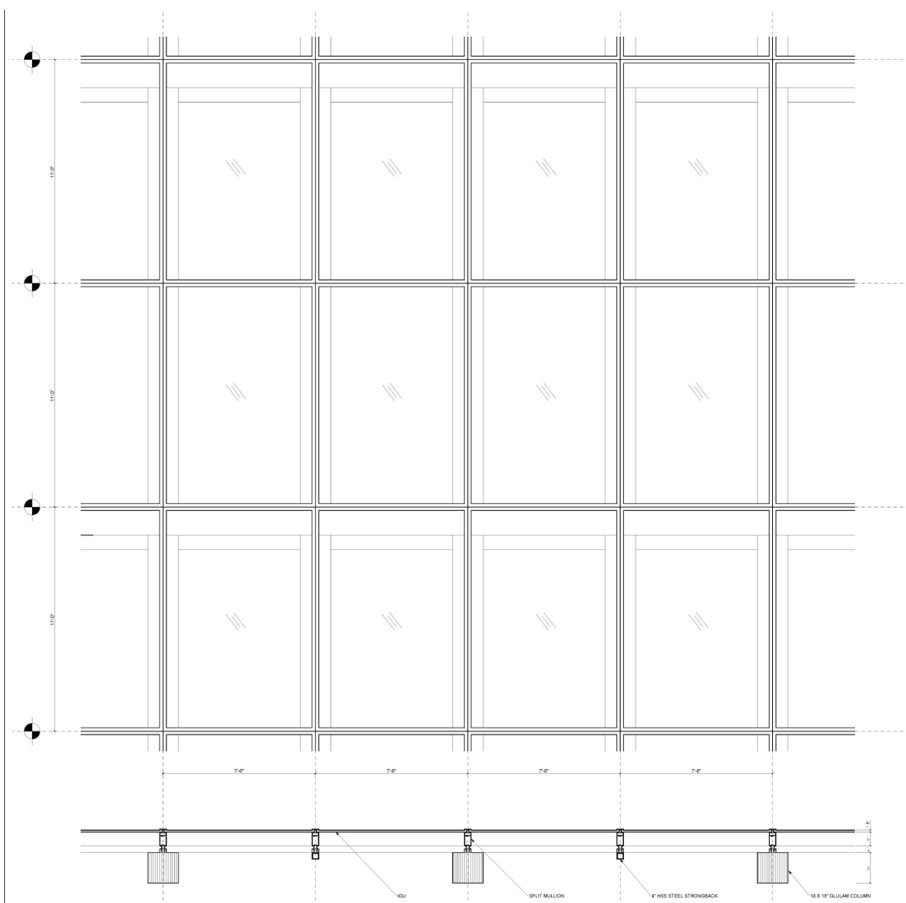
Theater Acoustical Wall
1 1/2" = 1'-0"



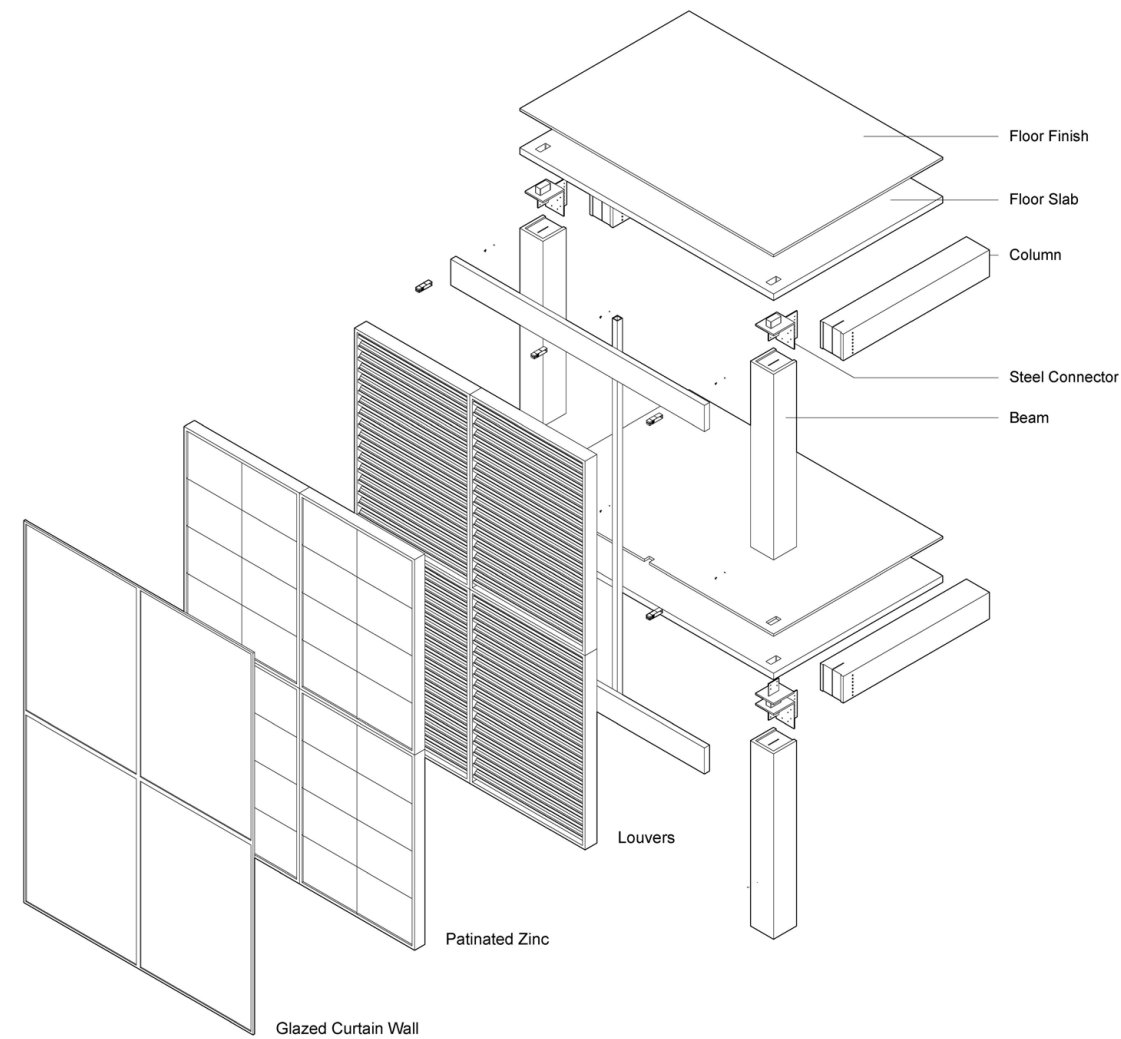
Theater Ceiling Details



Glazing System Roadmap

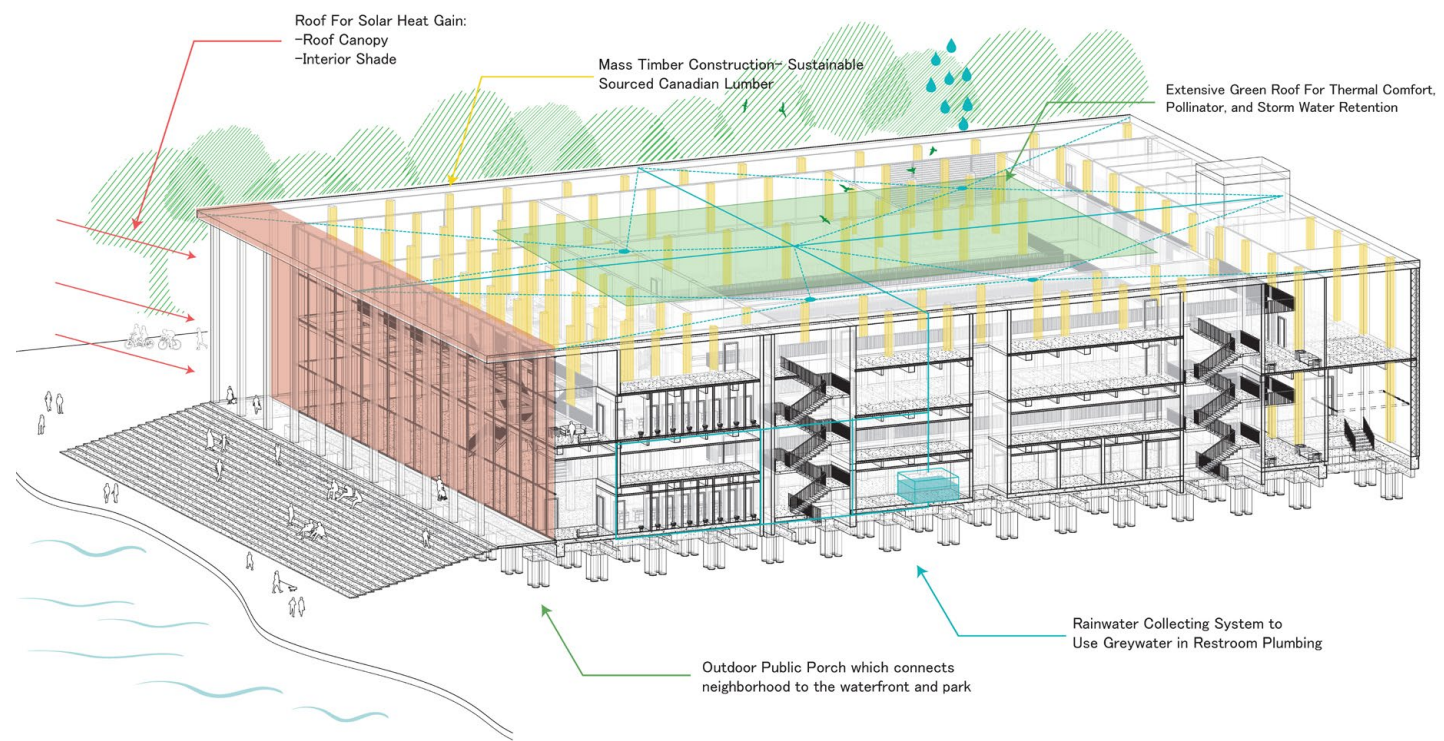


Opaque System Roadmap



Facade 3D Diagram

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Sustainability Strategy Diagram



18 Greenpoint Theater

CLT Construction Interior

08

The Proposed Slender Fins

Rethinking BIM: The Slender

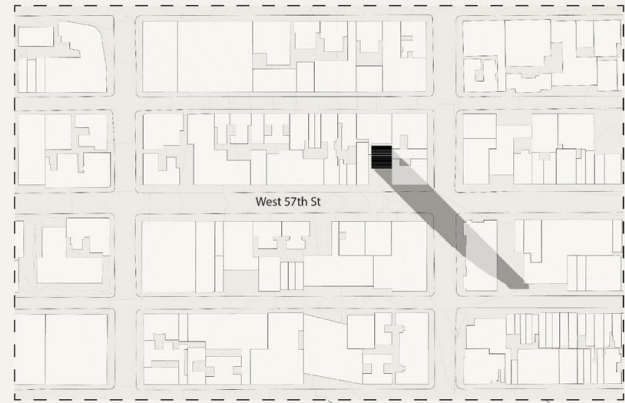
Spring 2022, GSAPP Tech Design Project
Partner: Audrey Marie, Daniel Kim, Leo Di Wan

To rethink one of the tallest buildings in the world that sits at the side of Central Park, this tower is the symbol of advanced technology and BIM construction to reach the height to the sky.

By studying the problems that may happen to this tower, we run through different software such as Ladybug, Grasshopping and Honeybee to understand the BIM behind this building.

This project demonstrates the roadmap of grasshopper and revit modeling to achieve the study of sunshades and the solution that we want to purpose to the Slender.

Sunshade Analysis



111 West 57th
Residential Tower
60 condominiums

1,428 feet tall
among the tallest buildings in New York City

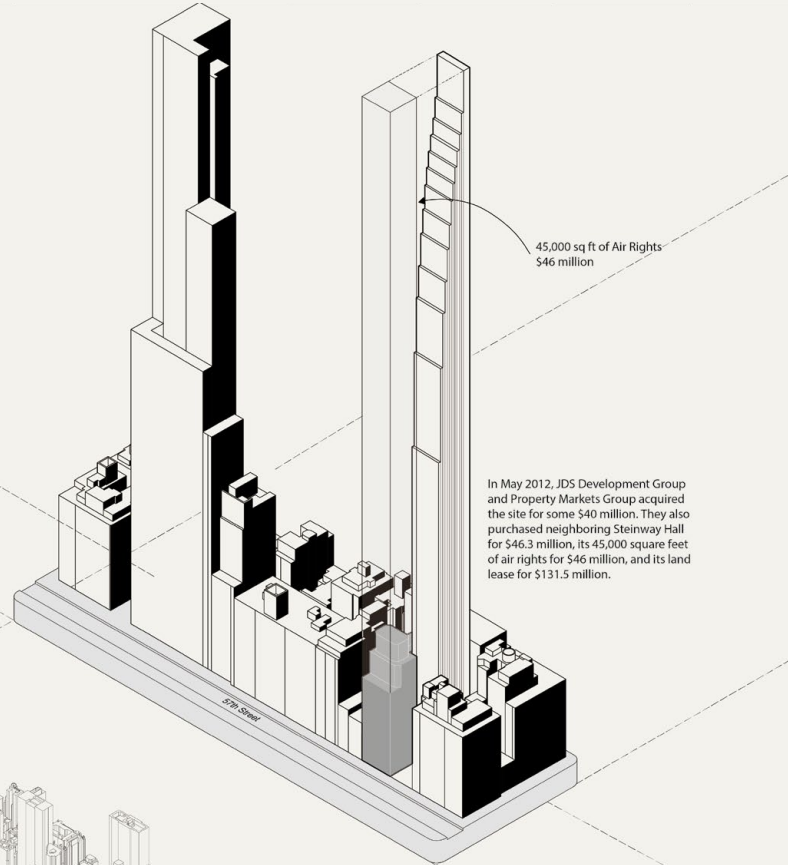
Height-to-width ratio of 24:1

Designed by SHoP Architects

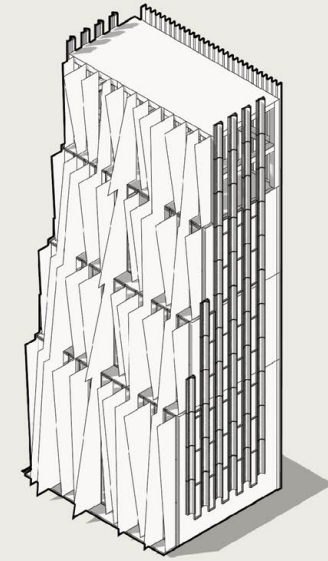
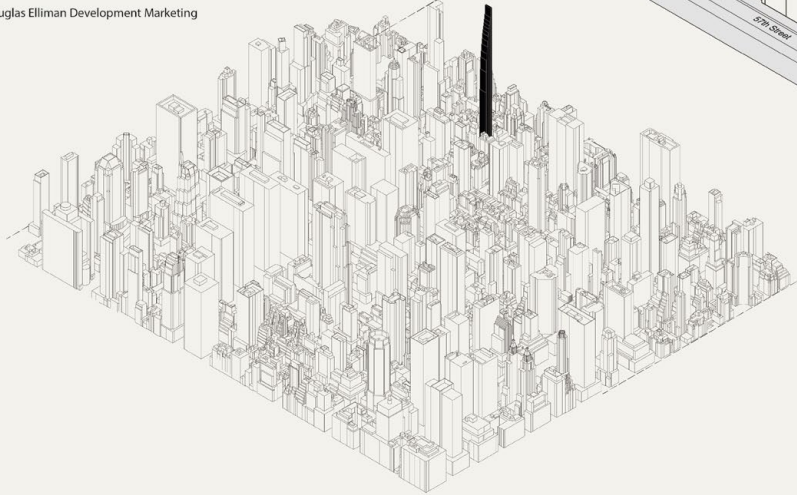
Developed by JDS Development, Property Markets Group
and Spruce Capital Partners

Interiors designed by Studio Sofield

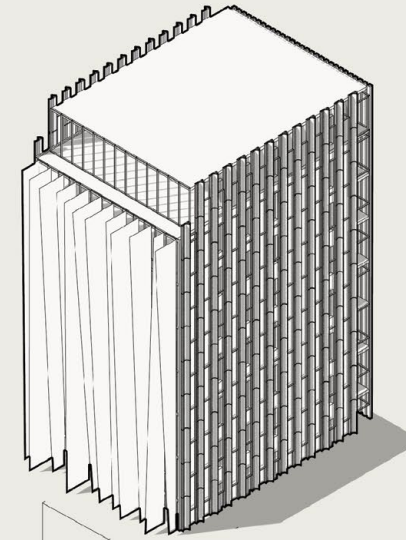
Marketed by Douglas Elliman Development Marketing



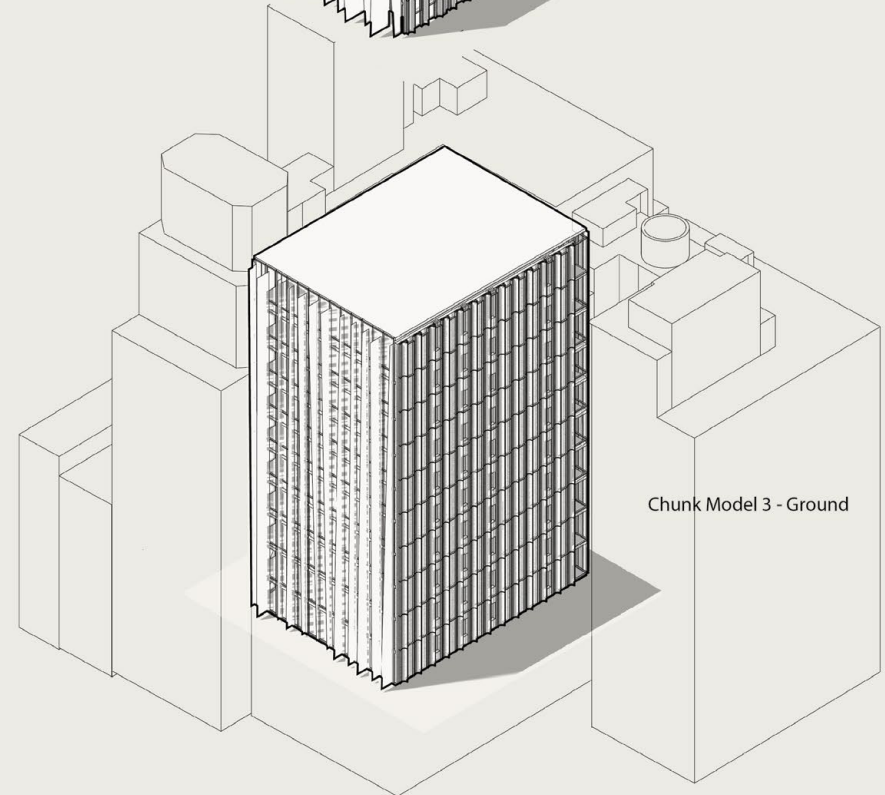
In May 2012, JDS Development Group
and Property Markets Group acquired
the site for some \$40 million. They also
purchased neighboring Steinway Hall
for \$46.3 million, its 45,000 square feet
of air rights for \$46 million, and its land
lease for \$131.5 million.



Chunk Model 1 - Top



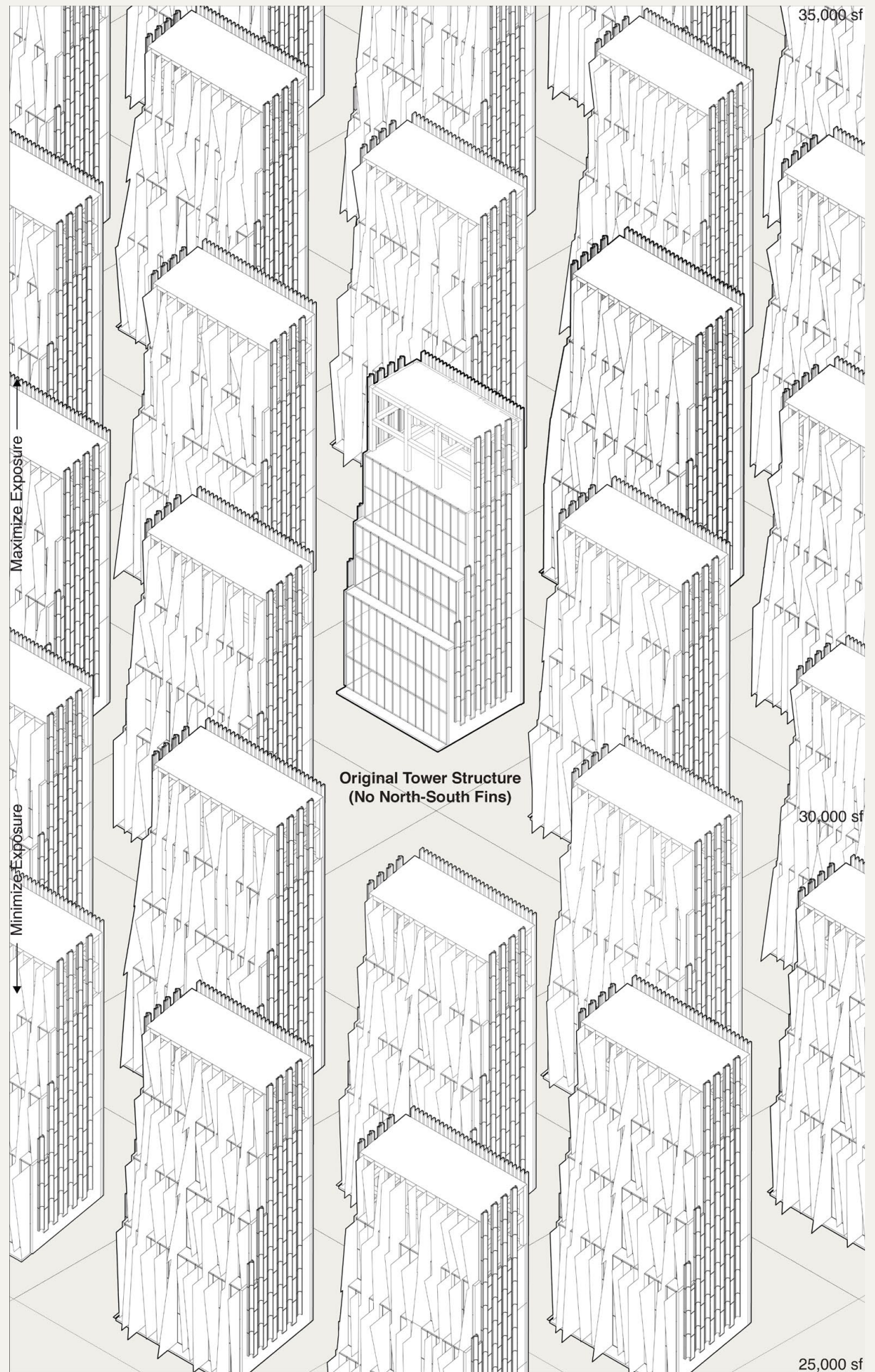
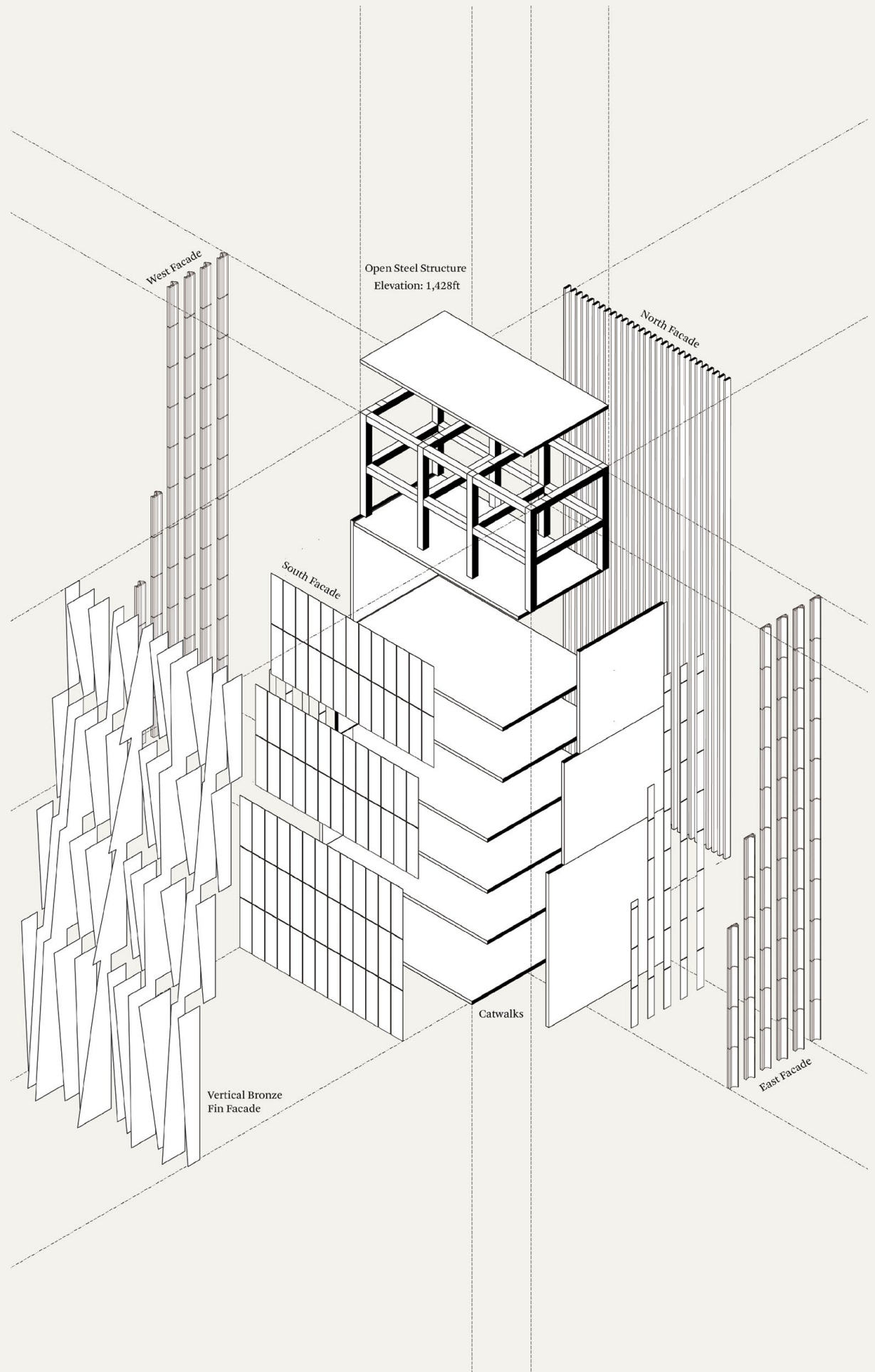
Chunk Model 2 - Middle



Chunk Model 3 - Ground

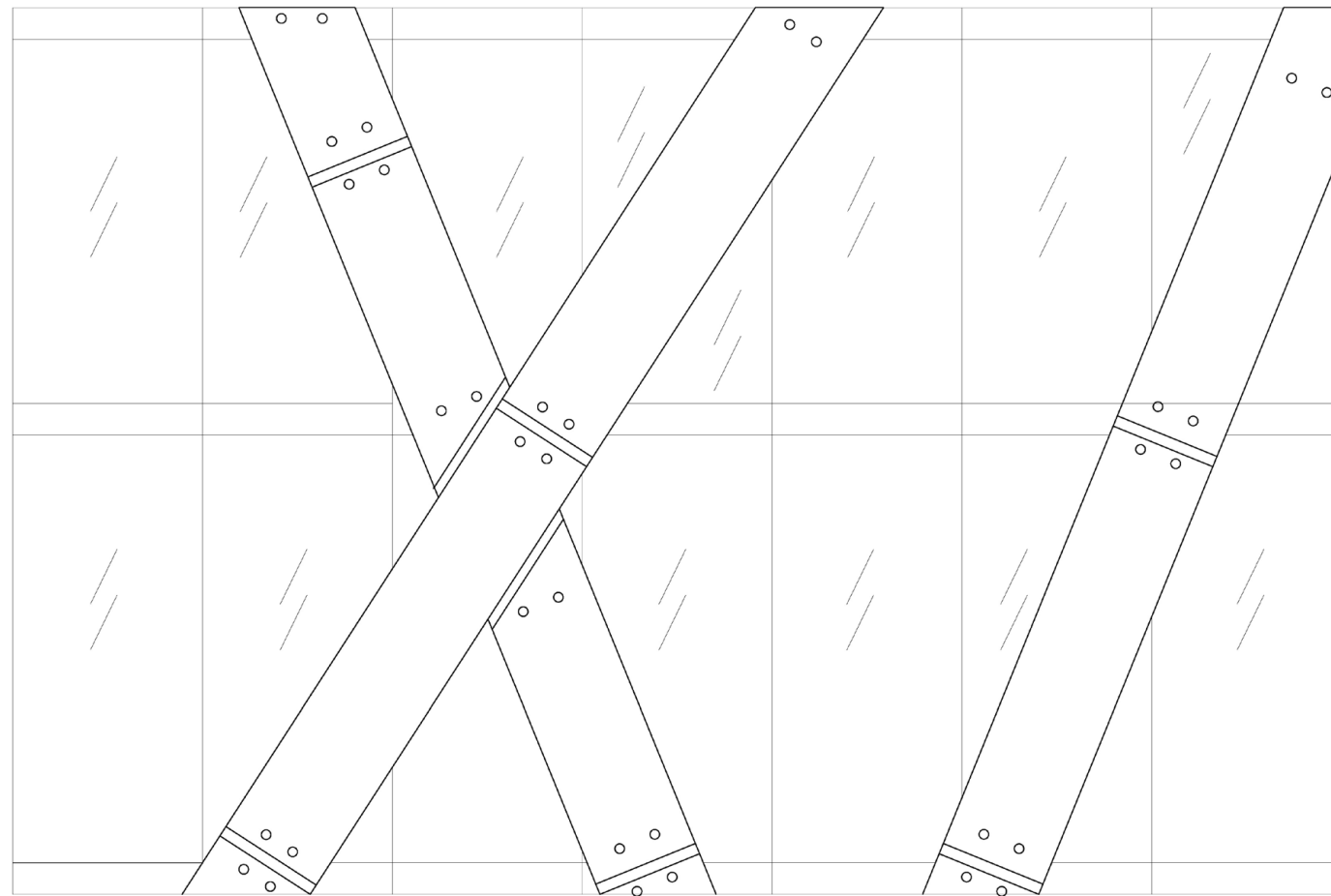
Slender

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Exoskeleton Tokyo, Japan

Fall 2021, GSAPP Curtain Wall Design Project
Instructor: Daniel Arvin Vos | Heintges



Exoskeleton Curtain Wall

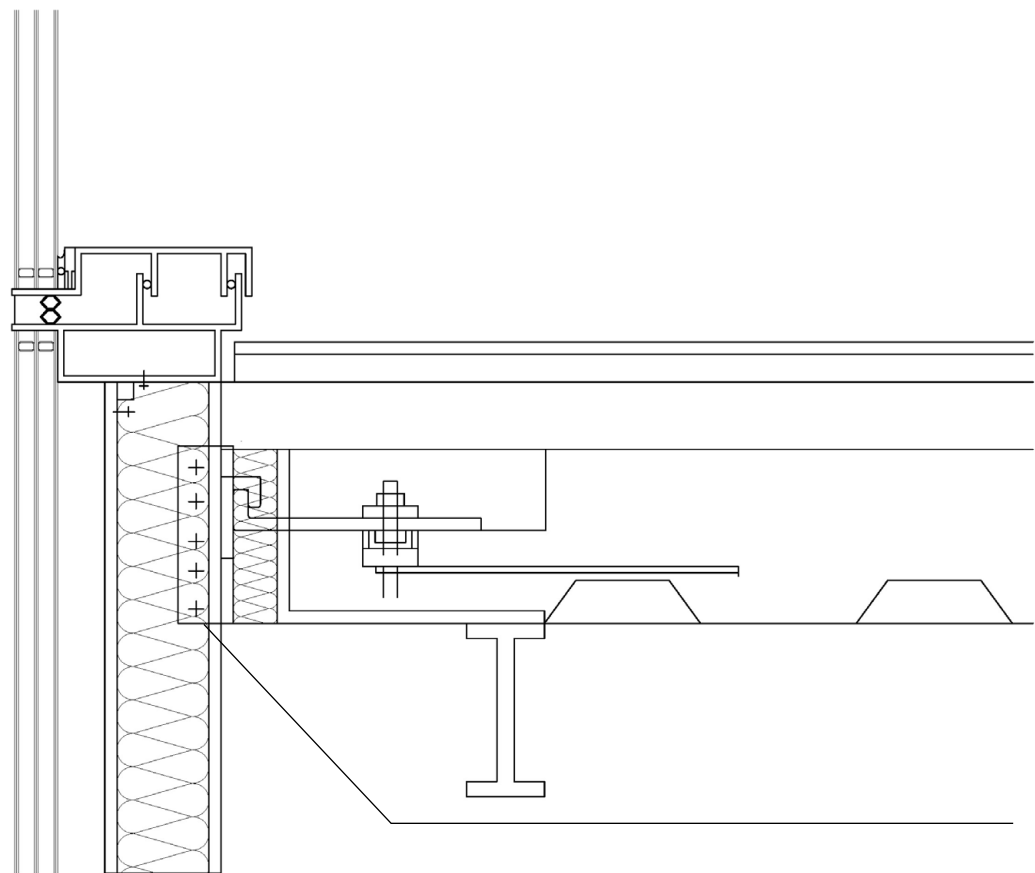
The concept of this small retail design that is located at the shopping district of Tokyo, its exoskeleton facade design collaborates with the curtain wall system, with three layers of glass that is printed with dotted and lined simple patterns. The assembly of this curtain wall exoskeleton will be followed by three steps of procedure.

The Curtain Wall Subcontractor shall design, engineer, test, fabricate, deliver, install, and guarantee all construction necessary to provide for the complete airtight and watertight enclosure of the building, while this design shall conform to all requirements of the Building Code of the Tokyo Metropolis of Japan.

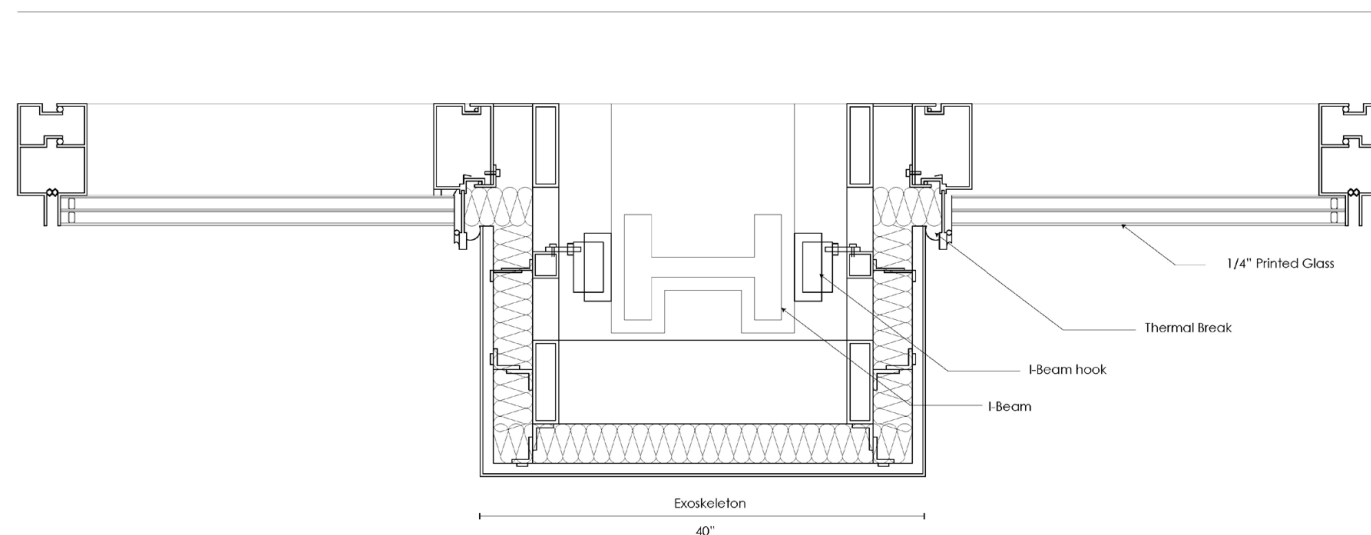
The Exoskeleton curtain wall consists of unitized extruded structural I- beam as the skeleton of the building that spans in two directions and followed by the curtain wall window system assembled on the skeleton structure.

- a. I beam spans covered with aluminum panels(anodic coating)**
- b. Three layers of printed pattern glass**

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Vertical Detail



Exoskeleton

Horizontal Joint Detail



THE CAMPAIGN FOR GSAPP

DESIGN CREATE ENGAGE

COLUMBIA
GSAPP

U Kei (Alexa) Long
Columbia GSAPP • 2022
Portfolio