

**COCO WANG**

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# Resume

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## Education

- 2012 - 2014 St Stephen's College, Hong Kong
- 2014 - 2016 Saigon South International School, Ho Chi Minh City
- 2016 - 2021 Pratt Institute Undergraduate Architecture, New York City

## Work Experience

- June - Aug. 2018

**TAN Architects**  
Assisted with drawings required for formal submittals to the DOB, along with schematic, design development and construction documentation.
- Dec. 2017 - Jan. 2018

**Cheerland Investment Group**  
Accompanied firm partners to assorted construction sites to oversee construction process and discuss progress with clients. Assisted with the verification of construction drawings and designed a banner for advertisement purposes.
- July - Aug. 2017

**SOFTlab NYC**  
Worked as a fabricator for the VOLUME project, an interactive installation at the 2017 Panorama Music Festival NYC.
- June 2016 - Aug. 2016

**Archilier Architecture**  
Assisted with design research and model making for entry to Port Authority Bus Terminal design competition.
- June - Aug. 2015

**Sculpture Center Internship Program**  
Participated in and organized numerous artist selection panel for a public installation in Long Island City, NYC.

- Soft Skills

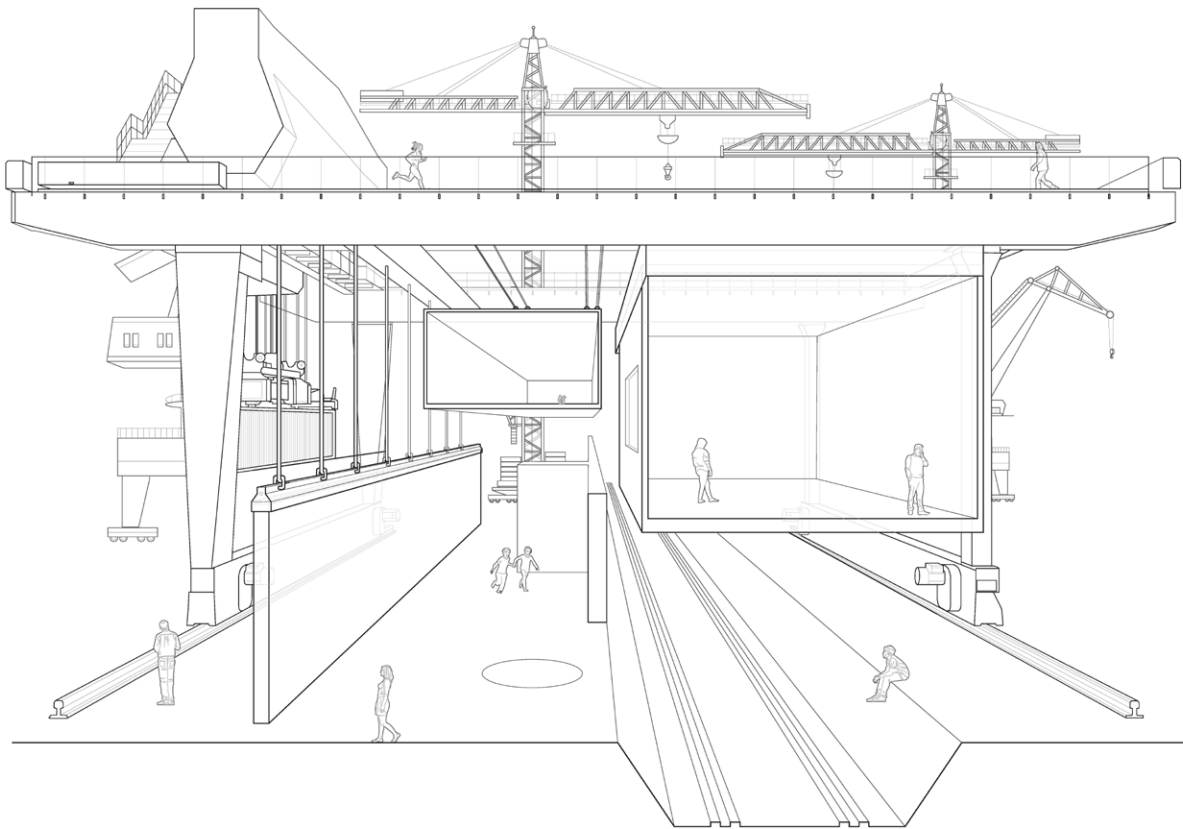
Architecture, UI/ UX, Visualization, Graphic design, Advertising, Exhibition
- Hard Skills

Rhinoceros 6, Vray, Unity, Grasshopper, Autocad, Revit, Adobe Suite: Photoshop, Illustrator, Indesign, Premiere, XD  
HTML/CSS/Javascript, ReactJS, Git, SQL, NoSQL
- Recognition

Presidents List Candidate  
Various design projects, structural projects, and representation projects archived.  
Best Representation I Drawing Award

Minor Morphology

Languages English, Mandarin, Cantonese

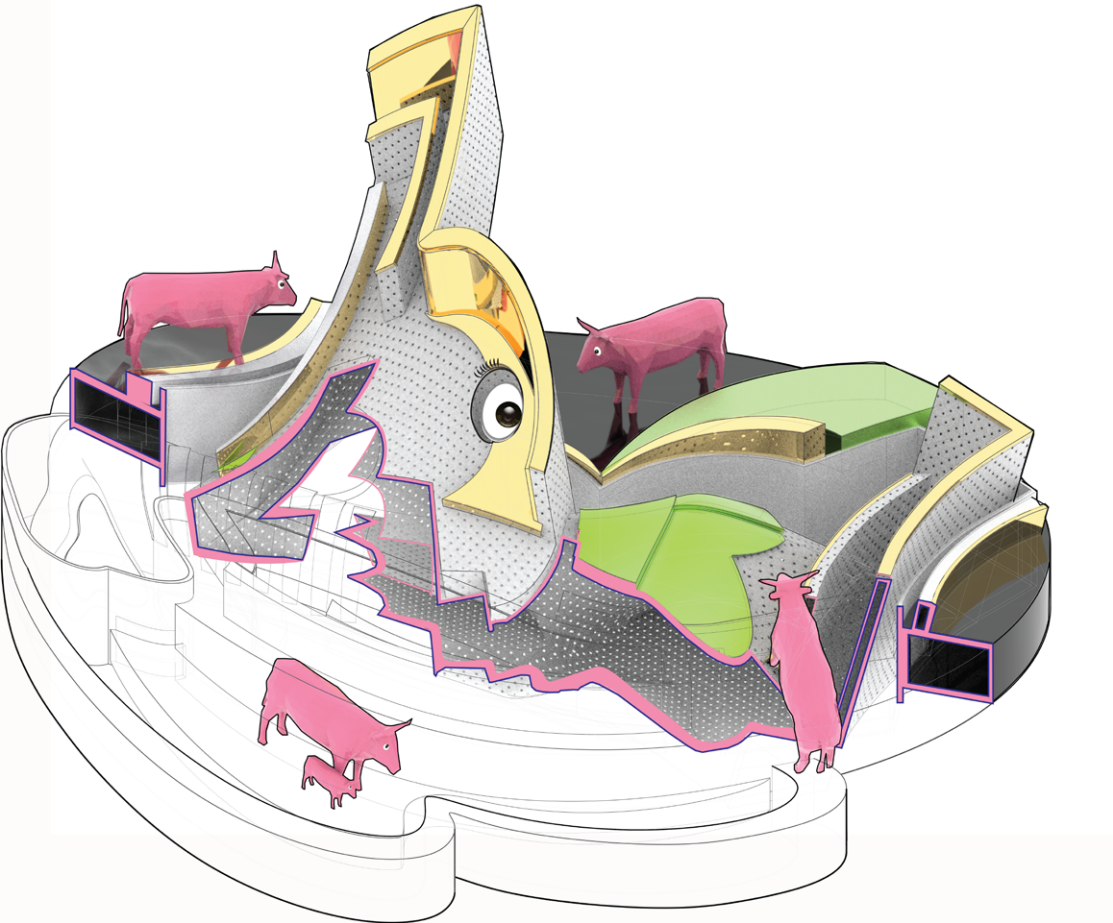


Thesis Conceptual Drawing



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Representation II Drawing

## Vertical Farm in Singapore

Professor Jason Lee  
Summer 2020  
Design 403 - Option Studio  
Dirty Realism: The Green New Civic

This project investigates the role of architecture as an instrument to transmit knowledge, with its primary mission to promote the idea of the "Green New Civic", a collective effort to sustain or improve the quality of living and the environment over a long term.

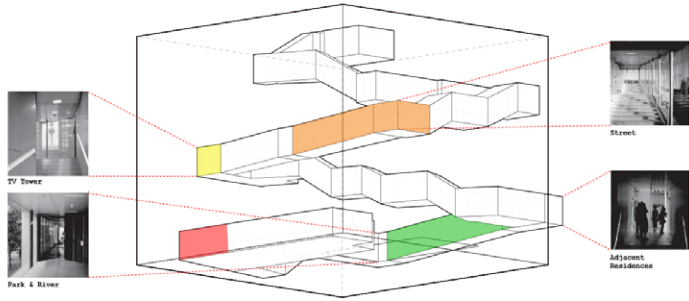




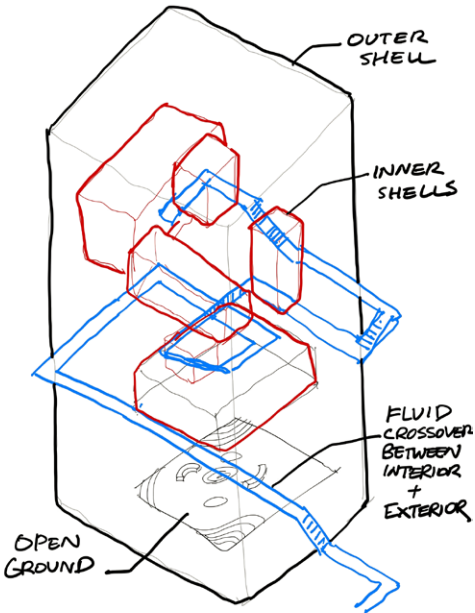
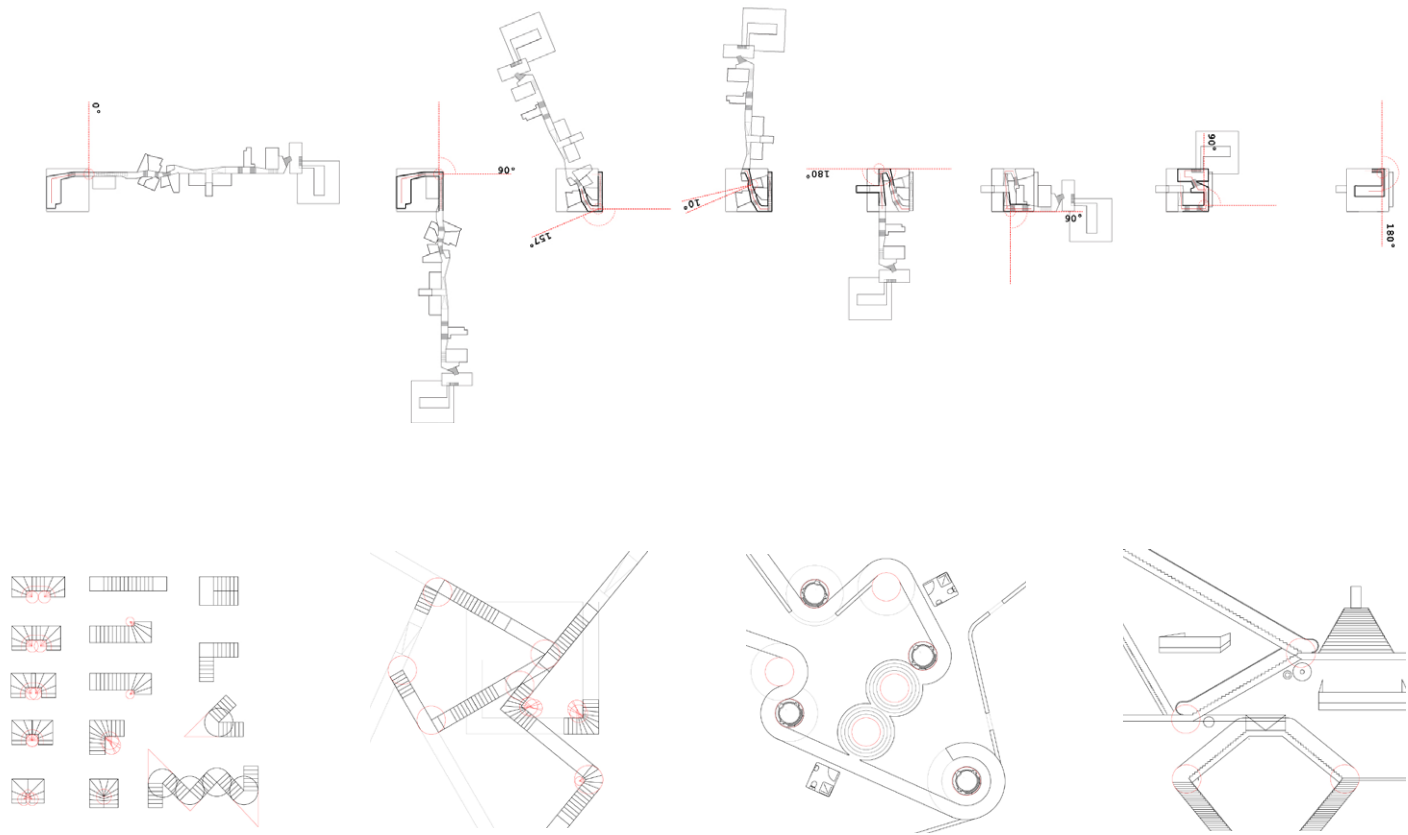
Precedent Analysis

The Dutch Embassy in Berlin by OMA

A continuous trajectory reaching all eight stories of the embassy shapes the building's internal communication. The workspaces, situated along the façade, are the 'leftovers' after the trajectory was carved out of the cube.



Indexing the degree of rotation of the Dutch Embassy



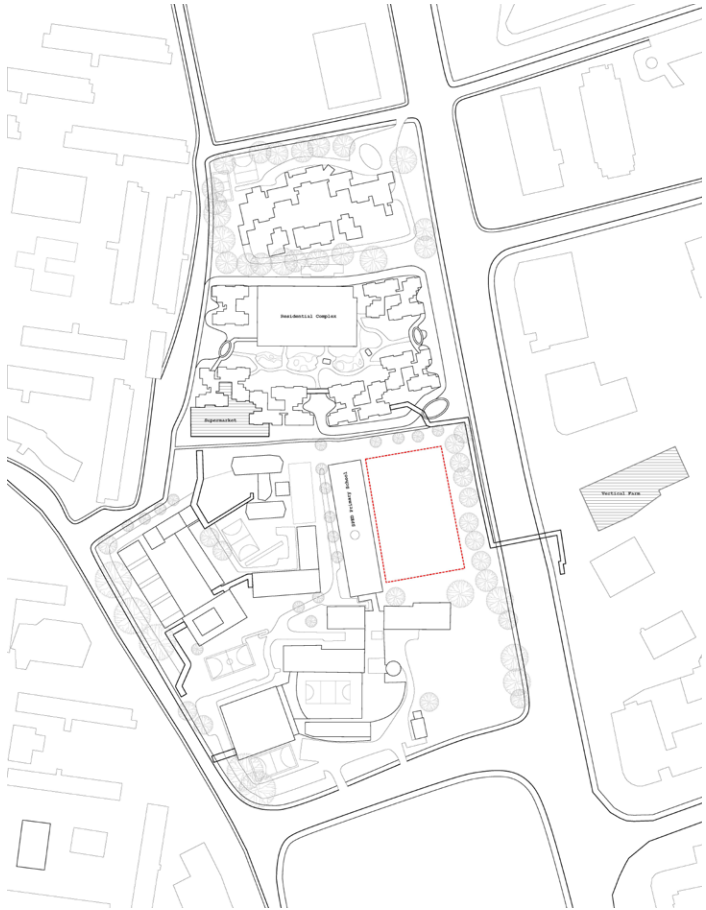
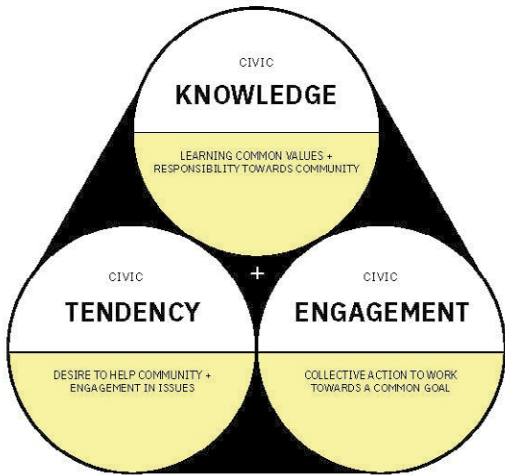
Inspired by the Dutch Embassy, I initially envisioned the Vertical Farm to have a continuous circulation cutting through the mass, creating glimpses into and out of the space. This creates an increased degree of transparency and engagement, allowing people to observe the inner workings of the farm, thereby instigating more conversations regarding our food and our environment.



I believe it is our civic responsibility to learn common values, help the community, and work towards a common goal.

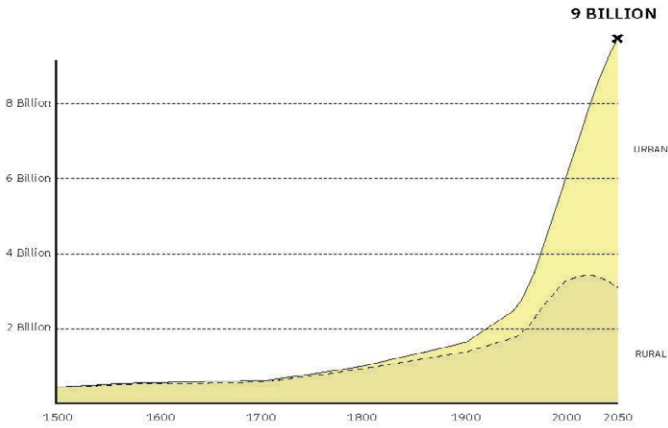
A major problem we are facing is the lack of land in urban areas. In fact, by 2050 the world population will reach 9 billion, which is likely to result in extensive food shortage.

This problem has been haunting Singapore, a land scarce and import dependent country. Currently, only 7% of food in Singapore is grown locally. To increase local production, its government has started a “grow your food movement”, with a goal to become at least 30% self sufficient in food production by 2030. The ultimate goal for this Vertical Farm is to help achieve this mission.

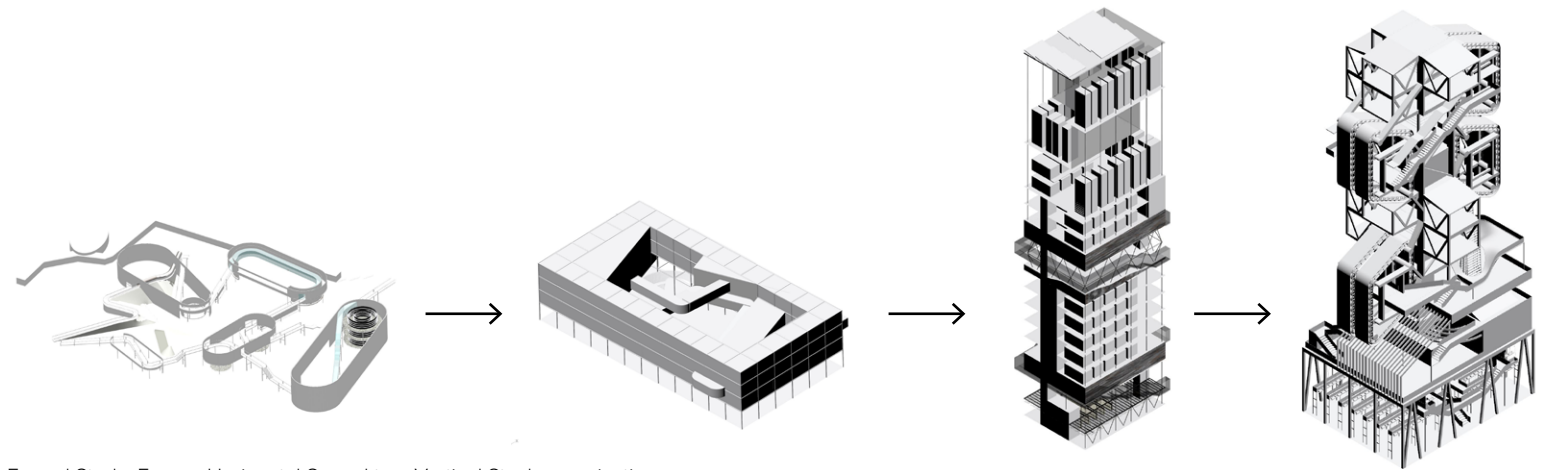
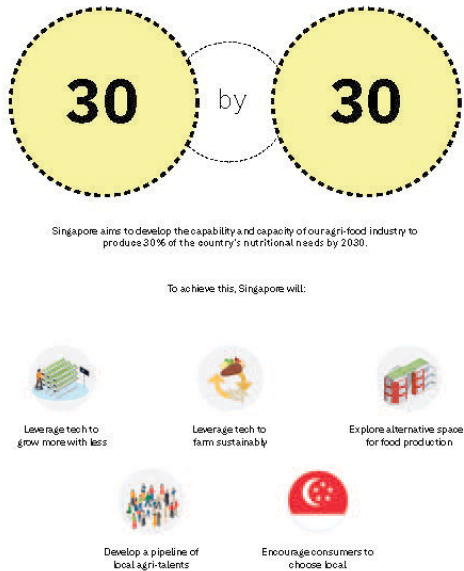


My site is located to the right of a Special Education School that specializes in teaching children with hearing loss. Action speaks louder than words, therefore amplifying the idiosyncrasies of vertical farming can help students understand and visualize better about the workings of the farm.

WORLD URBAN & RURAL POPULATION PROJECTED TO 2050  
Source: OWTID based on UN World Urbanization Prospects 2019 and historical sources

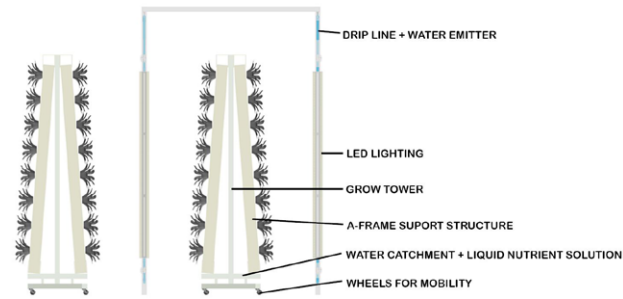


SINGAPORE'S GROW YOUR FOOD MOVEMENT

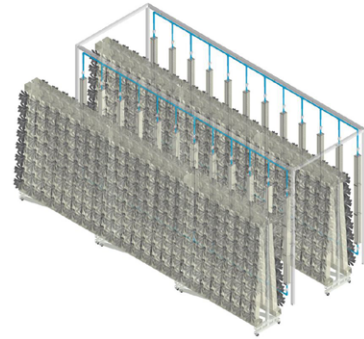


Formal Study: From a Horizontal Sprawl to a Vertical Stack organization

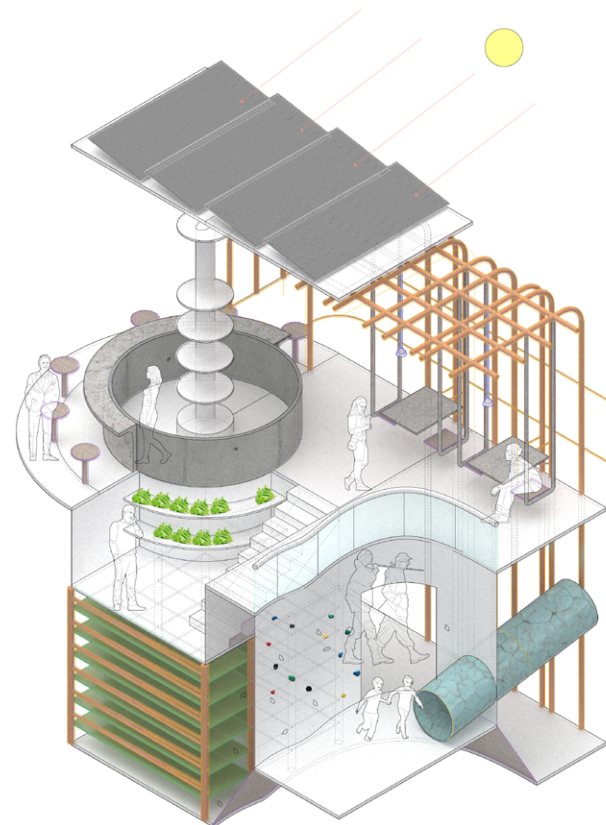




Zip-Grow Hydroponics System Analysis Diagram

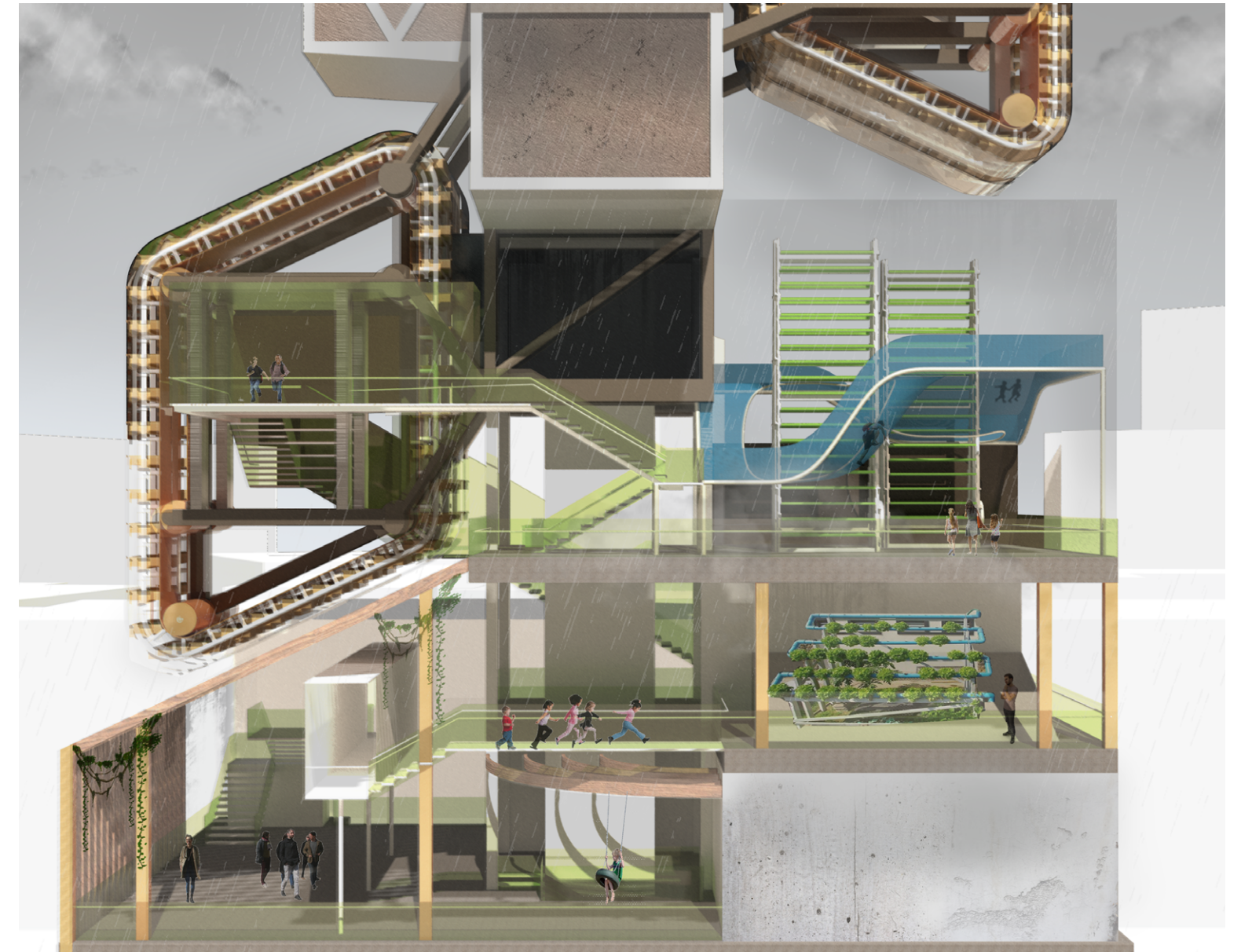


A-Go-Gro Hydroponics



Vertical Farm Chunk Study

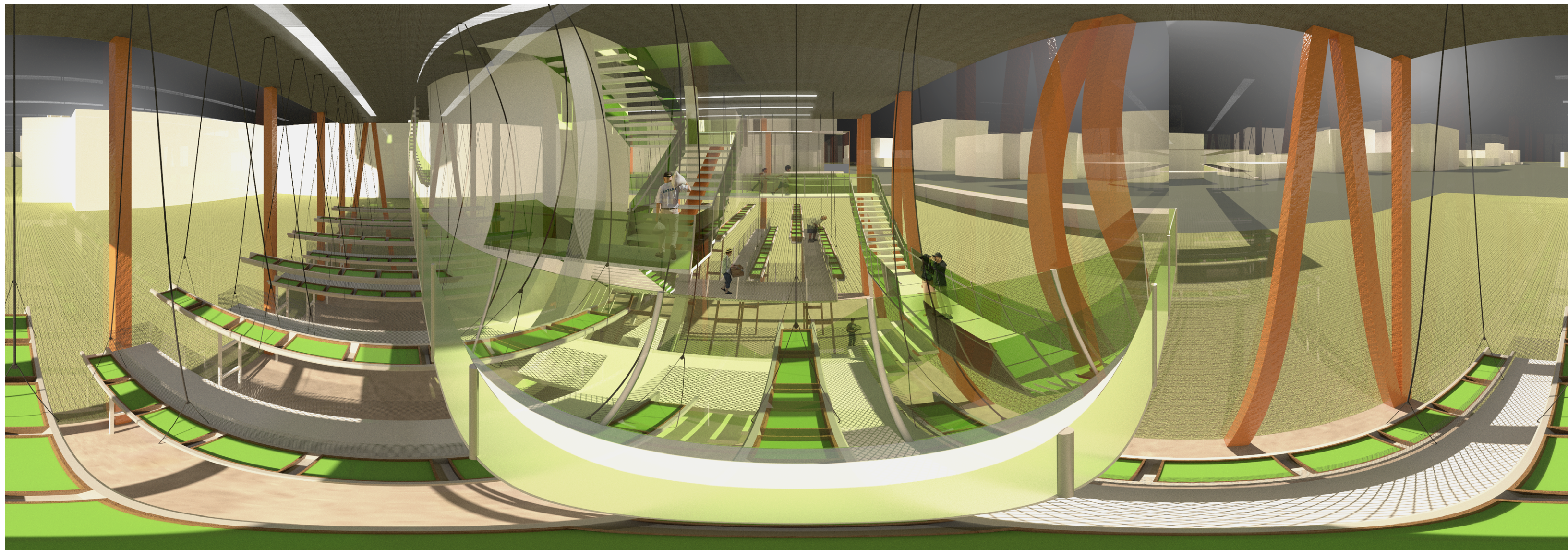
2 different hydroponic systems designed locally in Singapore are analyzed. The Zip-Grow System, with an area of 500 square feet, can feed around 500 people per crop cycle. The A-Go-Gro System uses a water pulley system to rotate racks. Racks rotate 3 times to get a total of 2 hours of sunlight each day.



The rotational system in this Vertical Farm also works in a similar way as plants would rotate upwards to get sunlight, rotate downwards to get some rest. Its size is magnified to create big central voids for continuous pathways to penetrate through. In addition to the massive rotational systems, the Zip-Grow System and Fungiculture are also implemented indoors. Students are introduced to the workings of a hydroponic system by understanding the

use of slope to create inclination for water to flow through. Greens are harvested directly from the system to the central tower, where plants are cleansed, packaged, and delivered to the supermarket underneath.





A Hydroponics Pulley System is situated right above the Ground Floor supermarket.



## Diagonal Slit

Professor Sal Tranchina

Fall 2018

Design 301

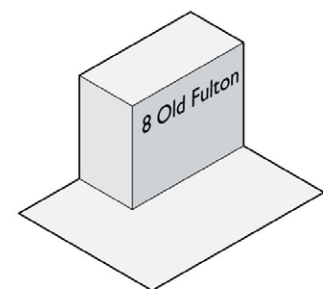
Saint Francis Dormitory

In collaboration with Jonathan Tjhang

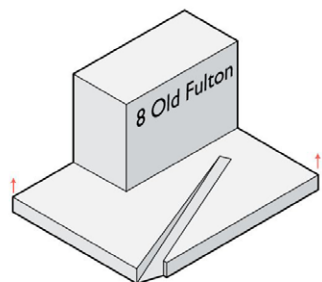
The formal concept of the dormitory is driven by a diagonal cut from its entry to the direction of the Brooklyn Bridge, effectively framing the view while dividing the dorm into two building blocks.



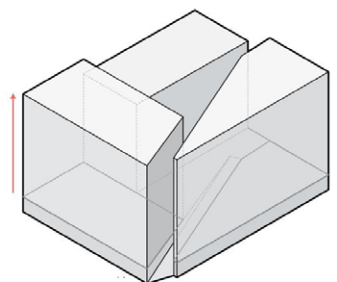




Plane



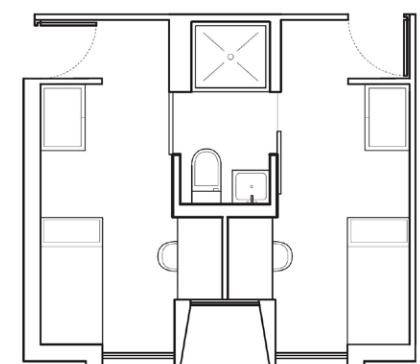
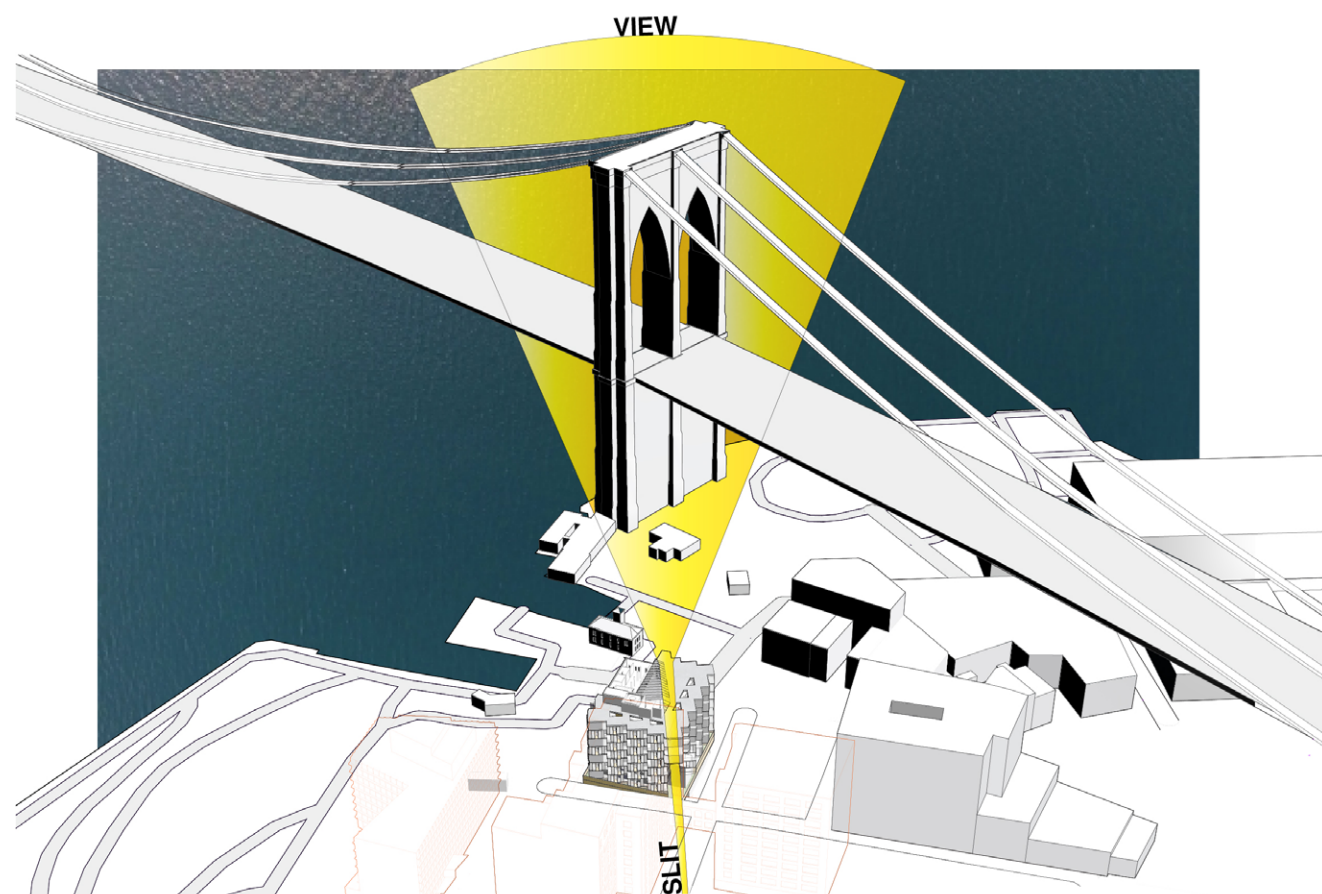
Lift + Diagonal Slit



Extrude Building Mass



Massing Studies



A standard unit plan



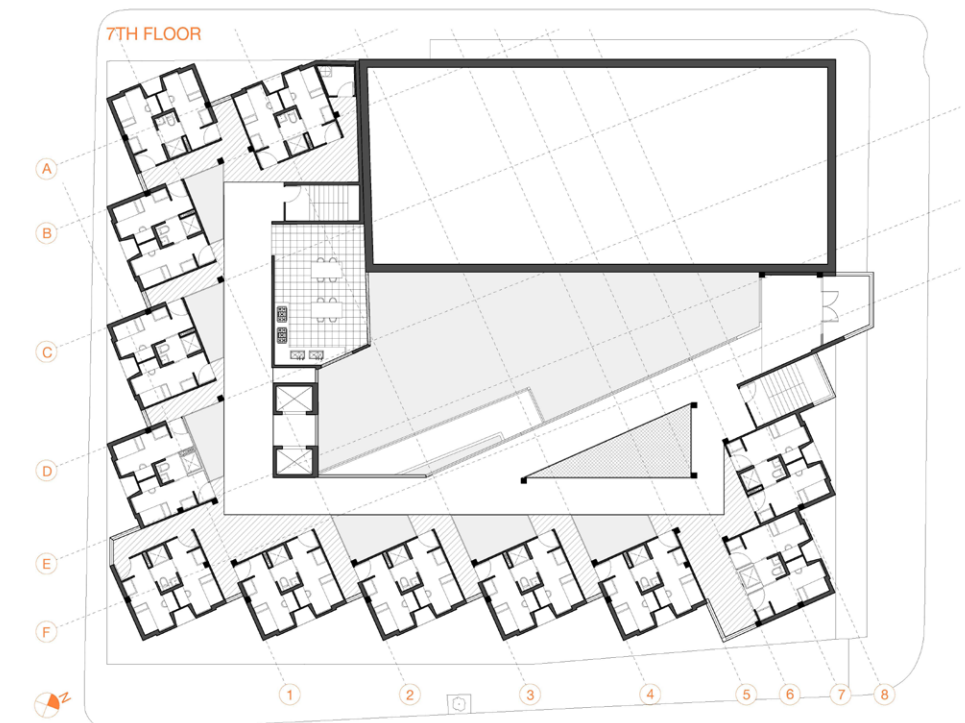
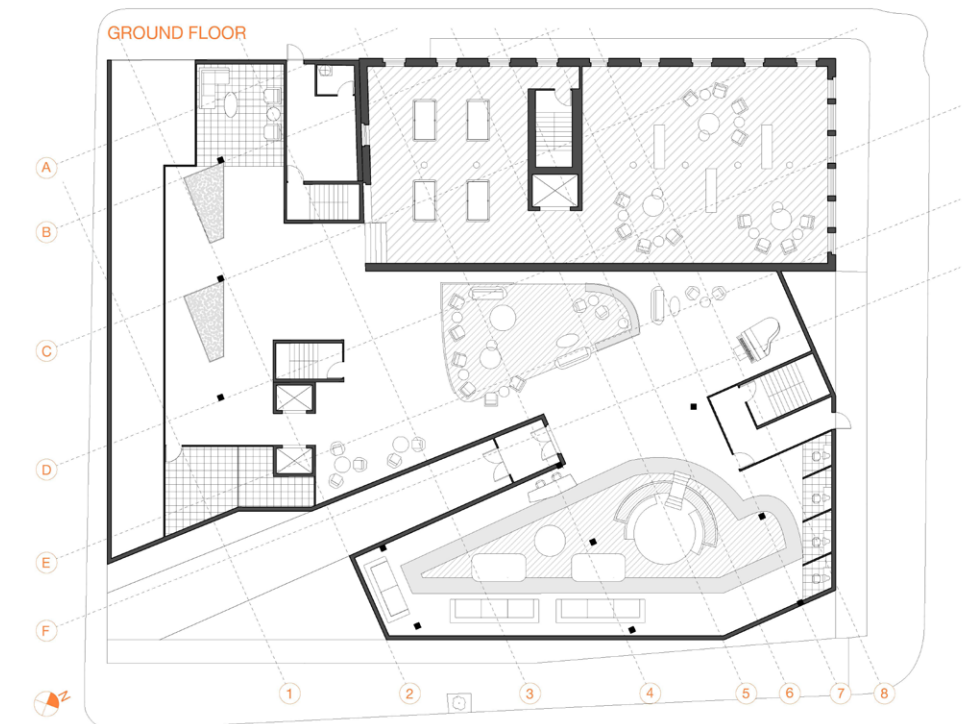
Unit Organization





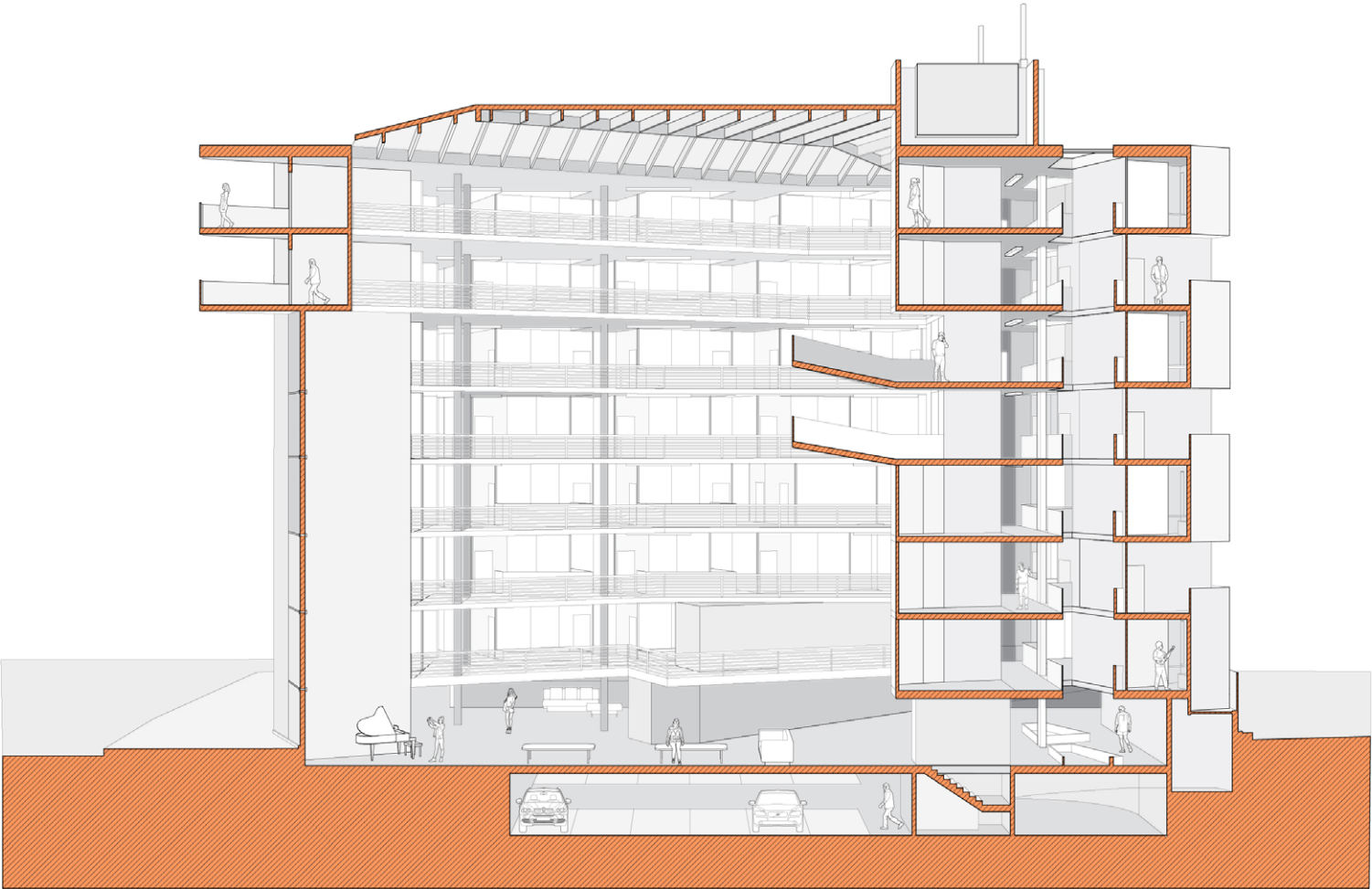
Unit Detail Section

Units are organized according to a slanted structure grid parallel to the direction of the Brooklyn Bridge.





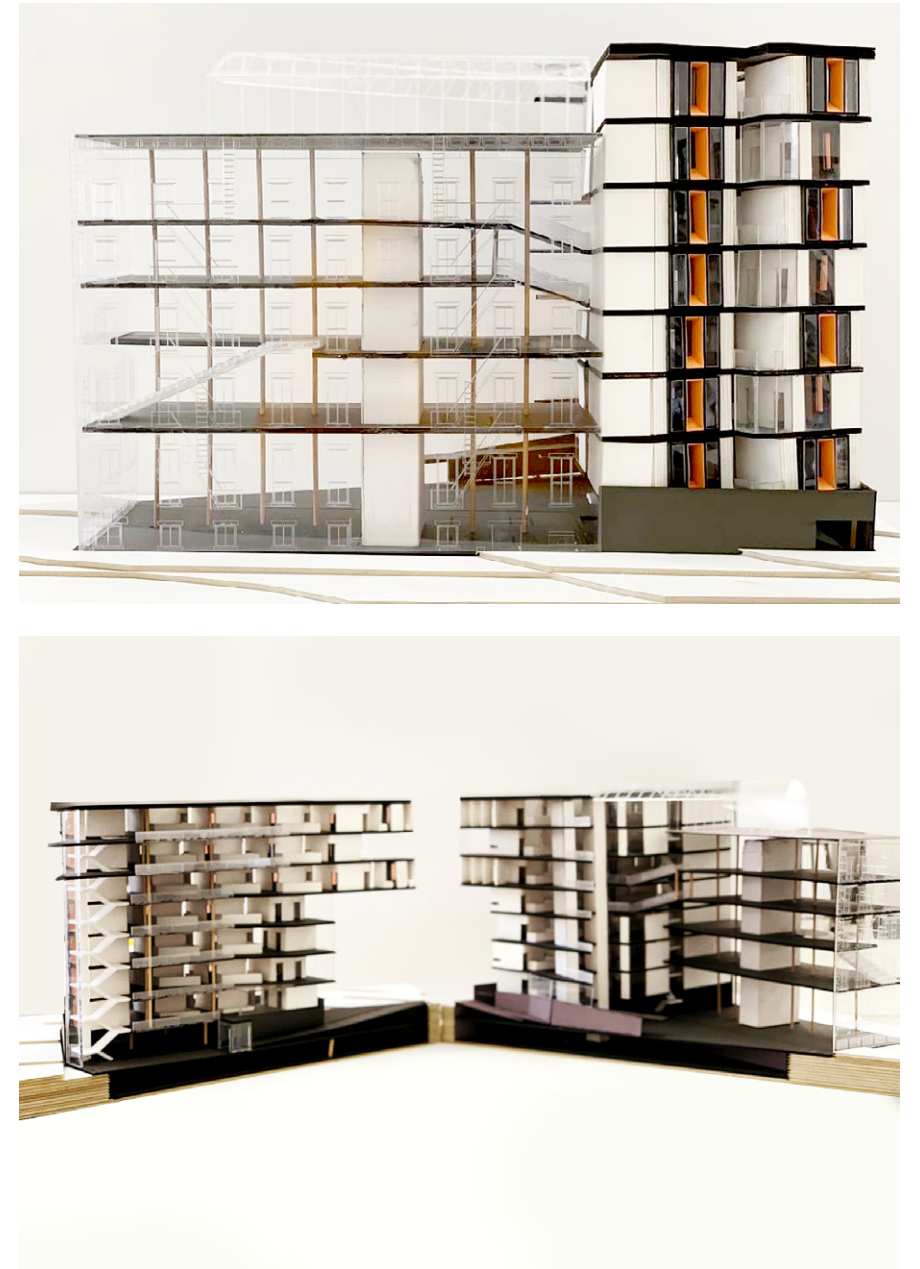
This section features the central atrium and a vertical tunnel in front of the dorm units. The atrium and tunnel allows ample skylight to filter through, minimizing the amount of electricity needed for the building during the day. Students can also access a small gallery space on the top two floors, directly overseeing the Brooklyn Bridge.



Framed view of the Brooklyn Bridge looking from the atrium.









## Speculative Tray

Professor Len Leung  
Spring 2019  
Design 302  
Columbia BoatHouse  
In collaboration with Olivia Chen

One must observe to acquire wisdom. Learning how to collaborate with teammates to get a 60-foot boat boat off the rack, rotate without hitting any obstacles, and set it onto the water is no different. This boathouse is not just a boathouse, but an observational deck for people to observe, learn, and appreciate the sport of rowing.







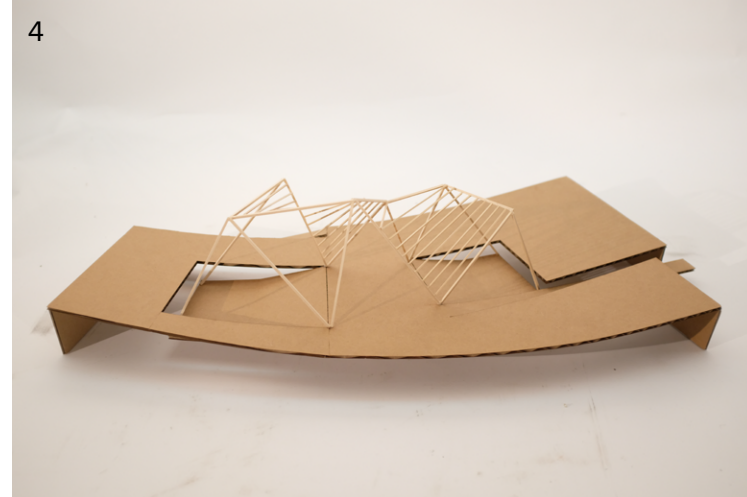
Initial study of the boathouse began with the analysis of circulation on site. The A-shaped path, hugged by adjacent mass, encourages people to converge at the center to encourage interaction.



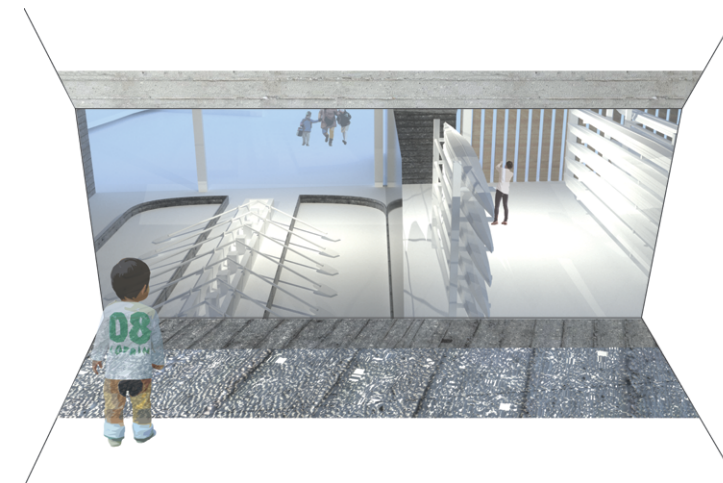
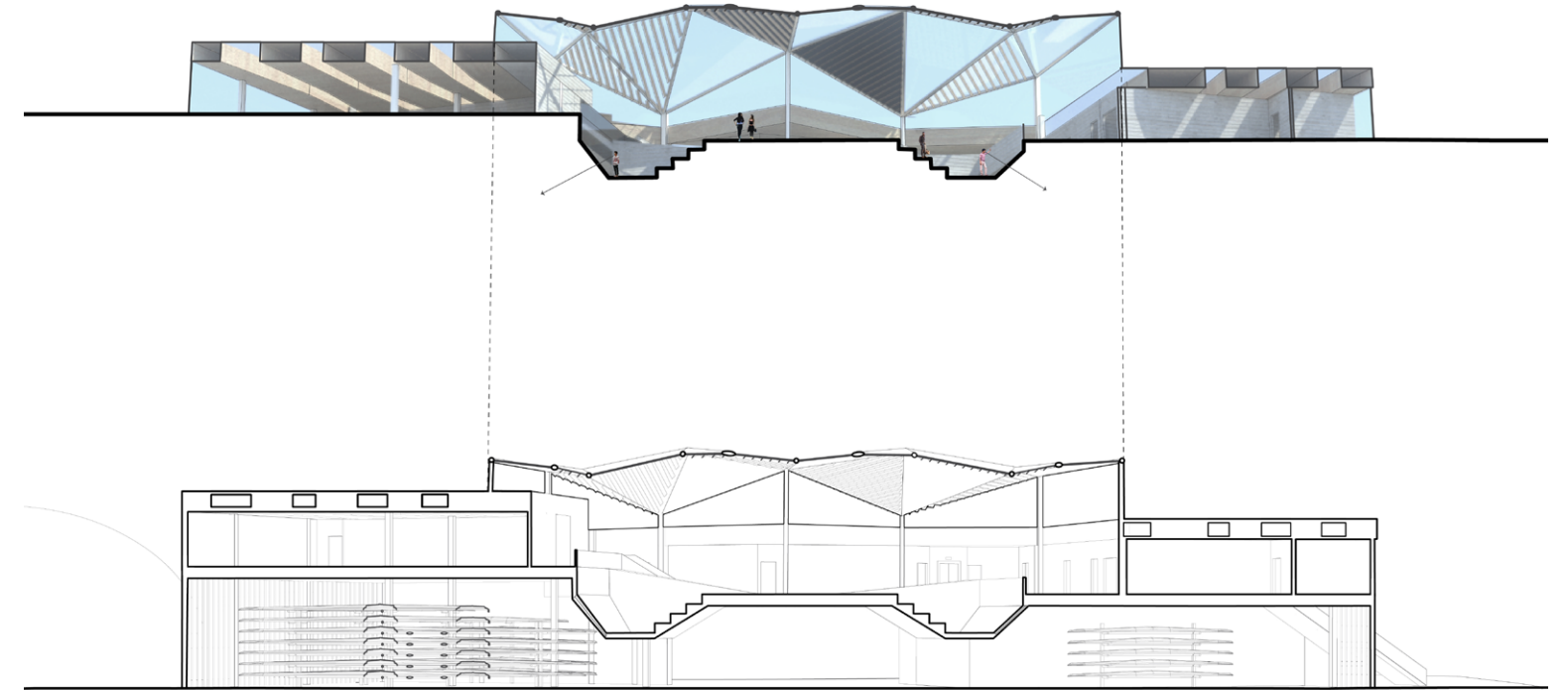
Mass merges with the circulation path, with the addition of small amphitheatres along that path. Roof articulates the idea of fluidity inspired by the continuous flow of water.



The legs of the A-shaped path merges into one, following the curvature of the hill behind. Platforms on both ends are lifted, leaving extra space for two larger amphitheatres to 'dive down' and 'look into' the boats.



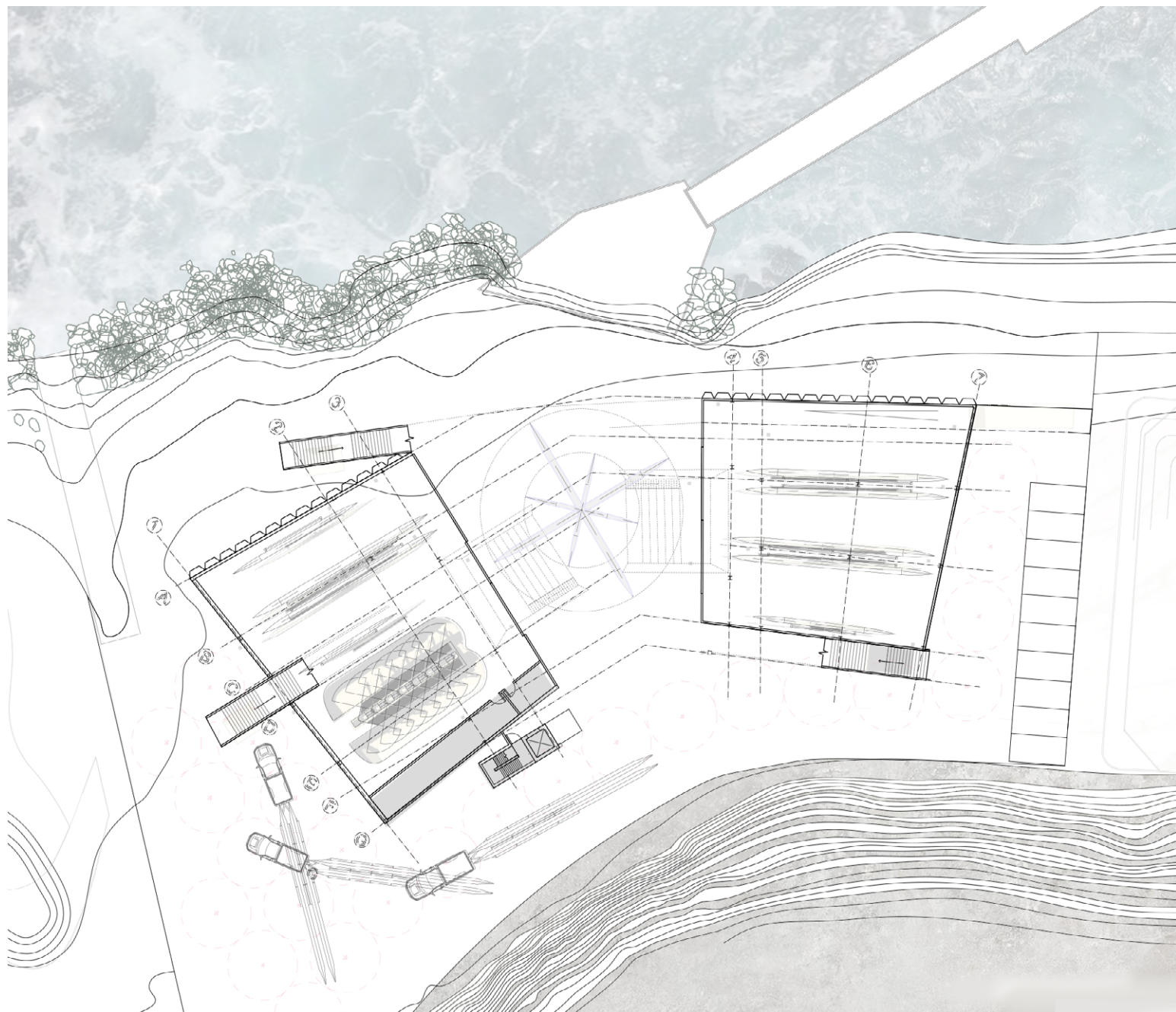
We envisioned a glazed folded plate structure to support the 70' span at the center. Ample skylight can be filtered through to provide light for the amphitheatres.



Inside the amphitheatre overlooking the boats and indoor rowing machine.

The two amphitheatres are the central figures of the boathouse. Their functions fluctuate over the day, transitioning from classroom, observation deck, to casual meeting area with friends and colleagues.







## Museum of the Art of Making

Professor Lawrence Zeroth  
Spring 2020  
Design 402 - Travel Studio  
Rome as Spectacle

The Salvini Decree announced that the system will only look after those who have already received refugee status or subsidiary protection of unaccompanied minors. This project counters the decree and in turn proposes a museum that educates and promotes the art of making. A place where all refugees & Immigrants are welcomed to work to legitimize their identities.





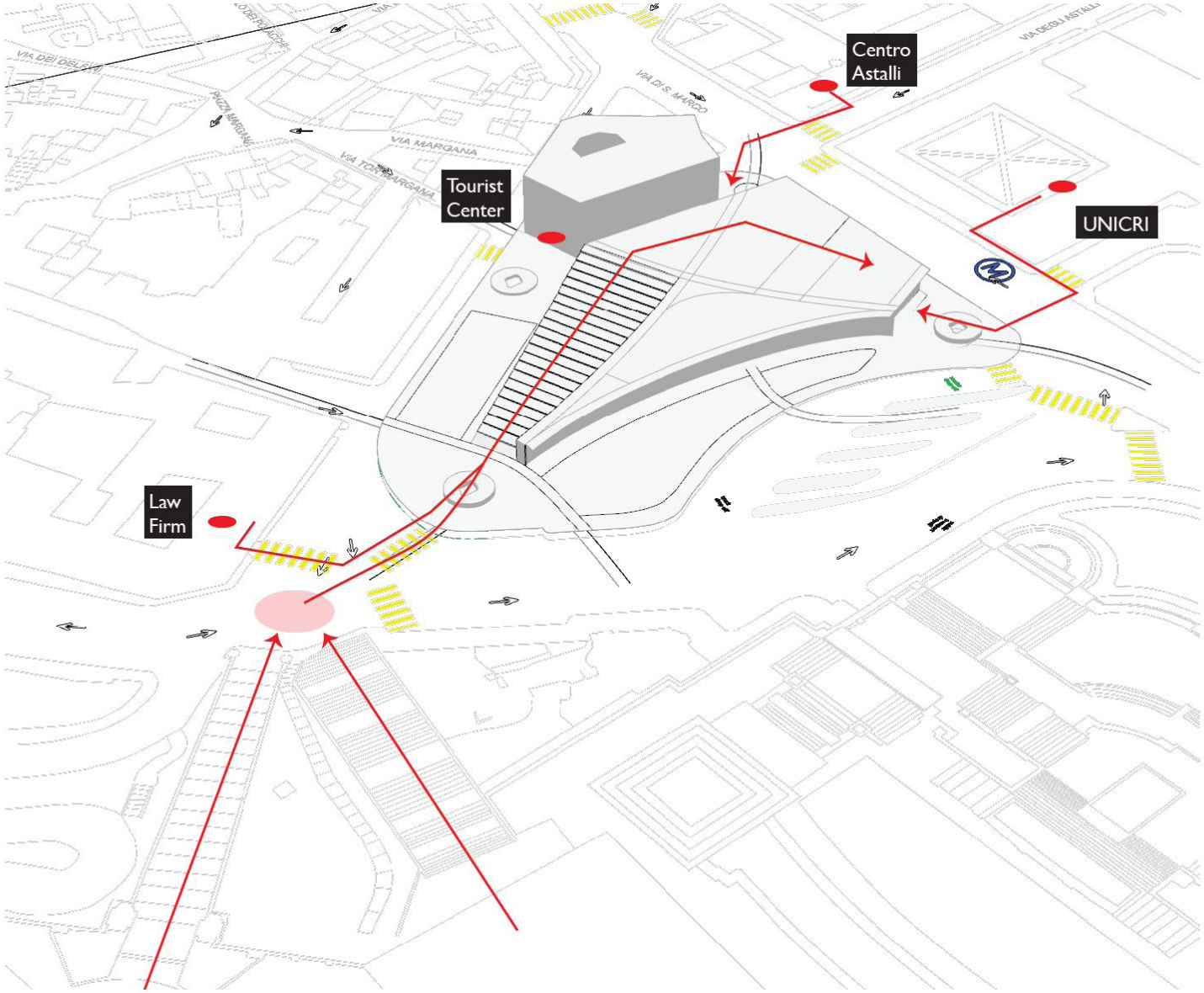
Precedent Analysis

Metropoliz Museum of the Other and Elsewhere

An abandoned salami factory in the outskirts of Rome has found a new life as both a collective art space and a shelter for refugees. It has become a popular tourist destination due to its vast amounts of murals and installations. Its residents are able to continue living there without risks of getting deported.

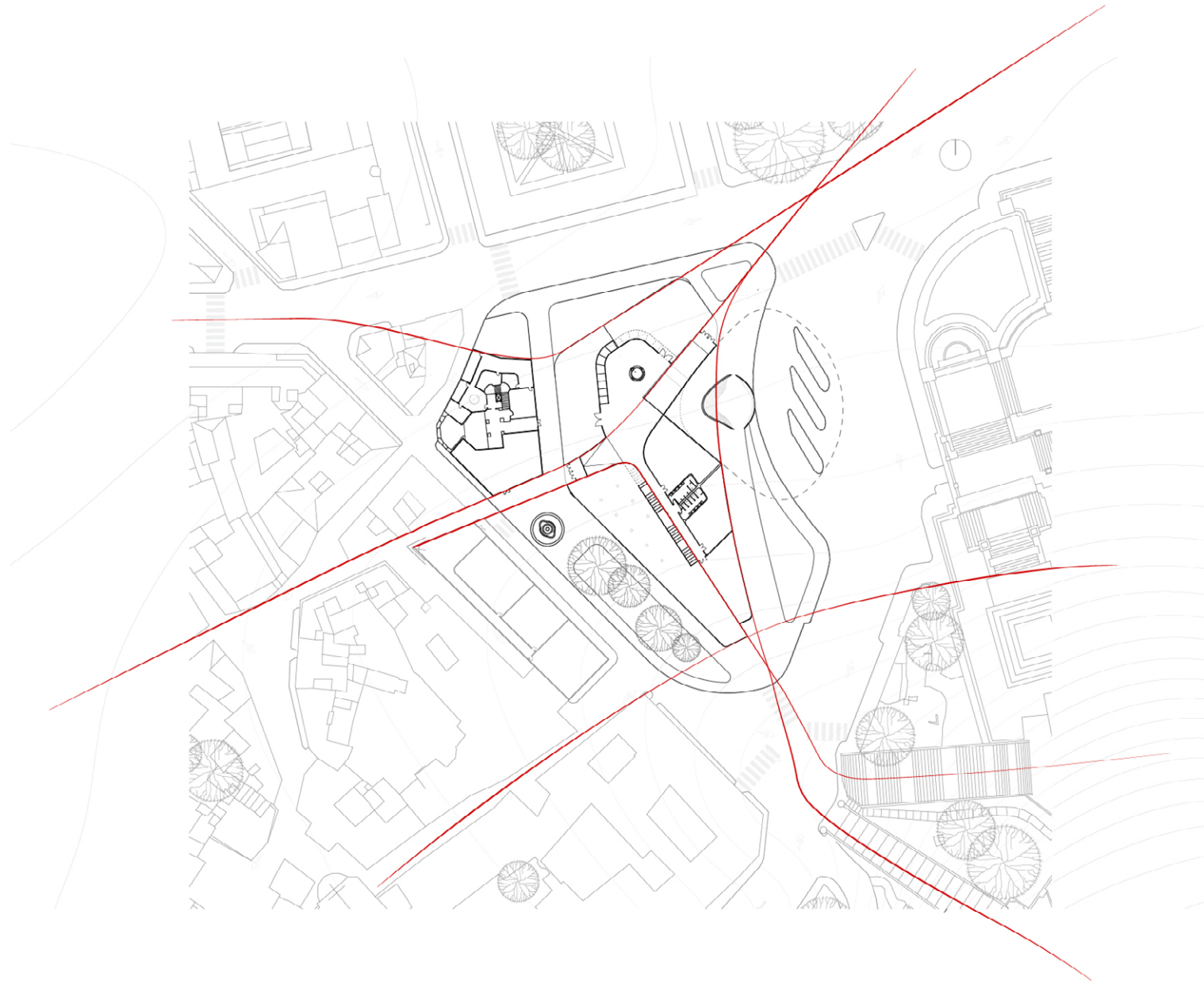


Site Traffic Analysis



The applicable programs on site include the Centro Astalli and the UNICRI. Centro Astalli provides training, education and shelter for refugees and immigrants, while UNICRI strives to fight poverty and reduce inequalities. These programs help supplement the goals of the museum.

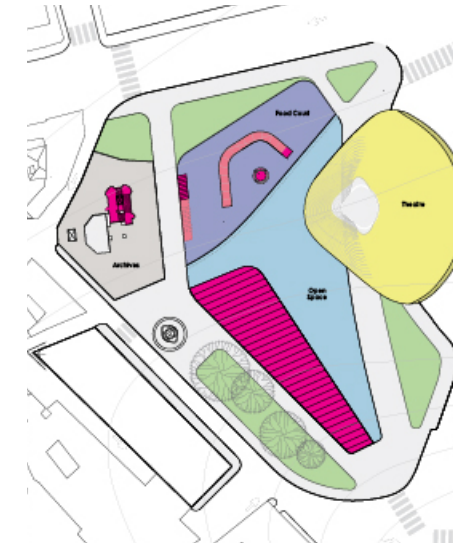




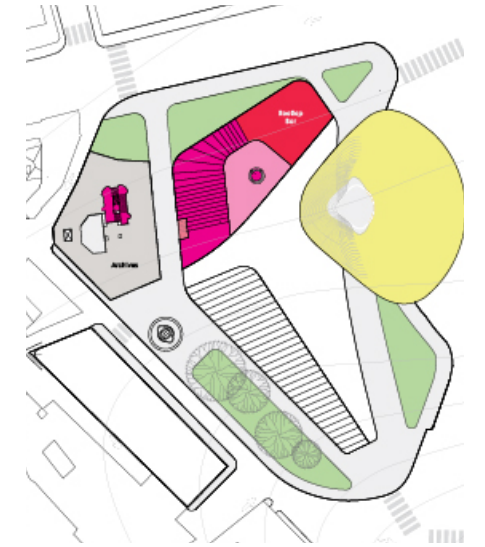
The circulation of the museum is carved out by the surrounding street edge conditions, thereby improving the pedestrian flow to the traffic island.



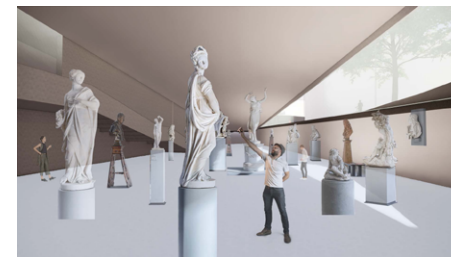
1st floor plan



2nd floor plan



Roof plan



Students at the museum are given the opportunity to learn and make porcelain sculptures, an art pursuit that is almost lost in the 21st century.



The outdoor amphitheatre allows people to hang out while appreciating public performances. It also turns into a movie theatre at night.



Simply sit down, order a glass of wine, and appreciate the view of the Victor Emmanuel II Monument at the rooftop bar.



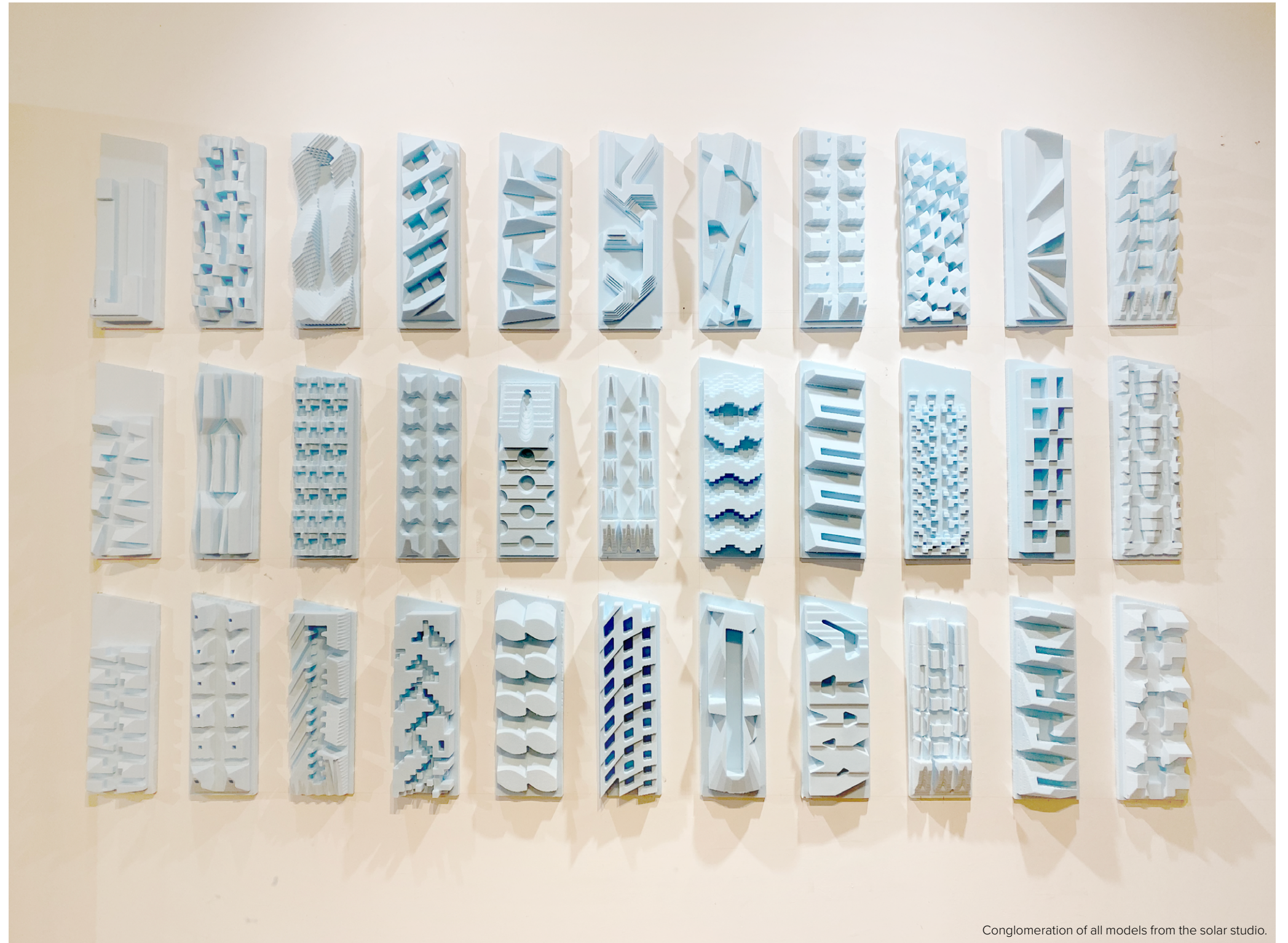




## Solar Sculpting

Professor Lawrence Blough  
Fall 2019  
Design 401 - Option Studio  
Myrtle Ave, Brooklyn

This studio explores different building mass and surface strategies that are highly energy efficient, generate on-site renewable energy, and produce a new vocabulary for sustainable construction.

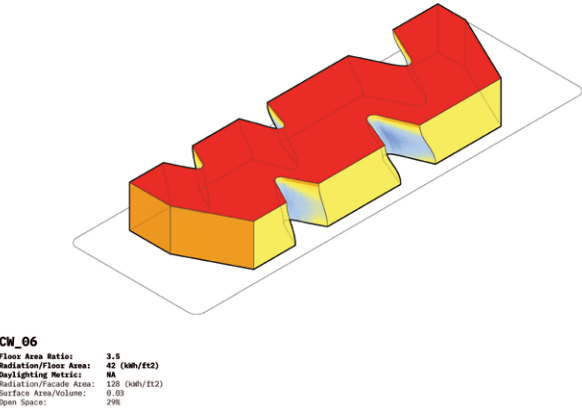


Conglomeration of all models from the solar studio.

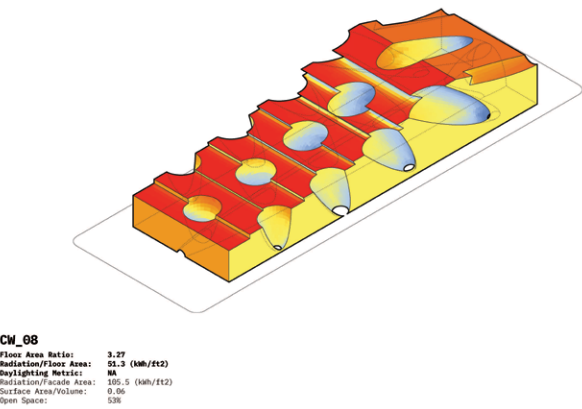


The process of speciation describe a systematic investigation of specific design traits in relation to solar intake. The urban morphologies go through an evolutionary process that rewards solar irradiation on building surface.

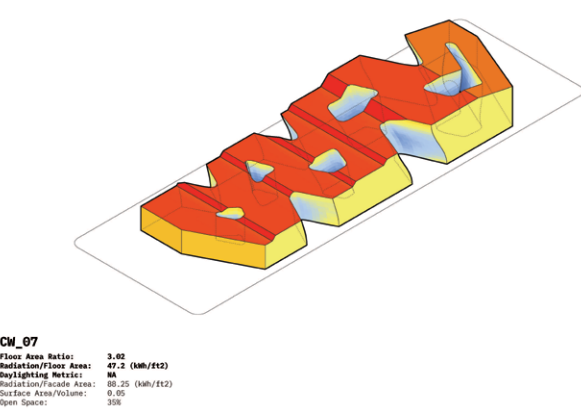
1.2.1\_Speciation\_CoCoWang



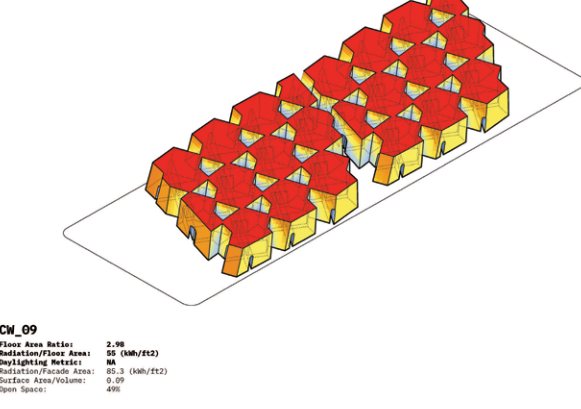
1.2.1\_Speciation\_CoCoWang



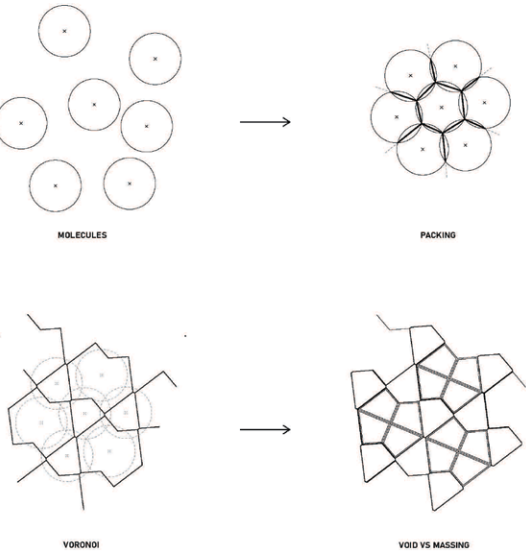
1.2.1\_Speciation\_CoCoWang



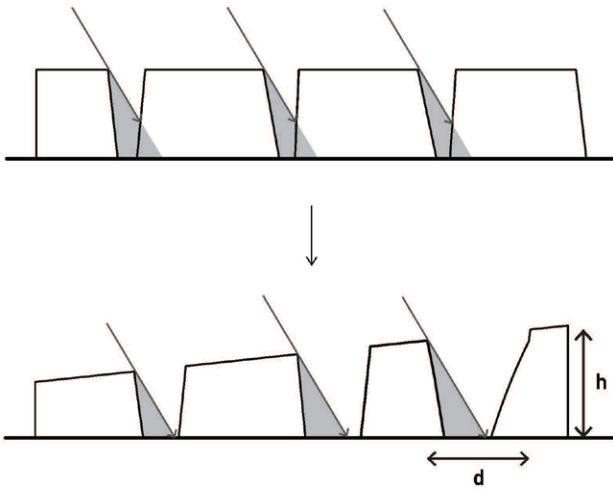
1.2.1\_Speciation\_CoCoWang



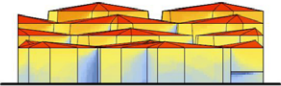
The pattern of the voronoi is used to generate a courtyard typology, resulting in a fairly even mass-void relationship.



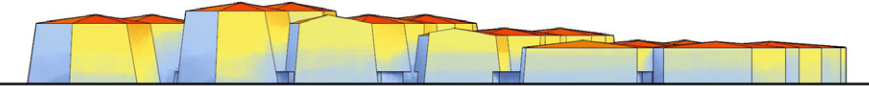
The creation of an urban gradient, or the gradual increase in height and size of voids. helps prevent overshadowing.



2.1.3\_RadiationElevation\_South\_CoCoWang



2.1.3\_RadiationElevation\_West\_CoCoWang



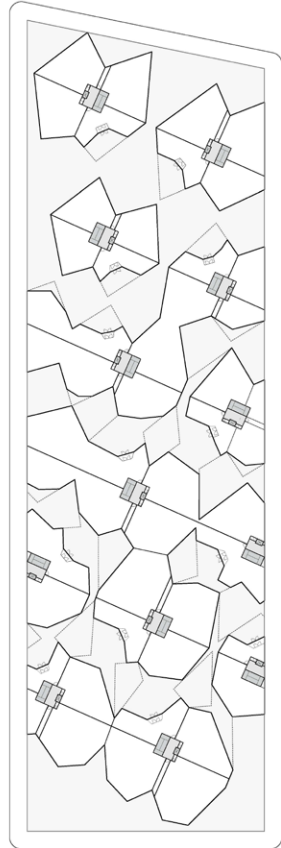
2.1.3\_RadiationElevation\_North\_CoCoWang



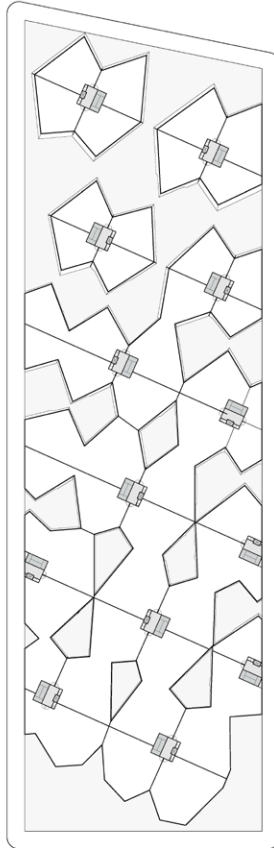
2.1.3\_RadiationElevation\_East\_CoCoWang



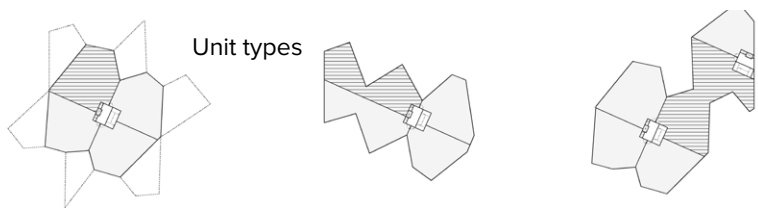
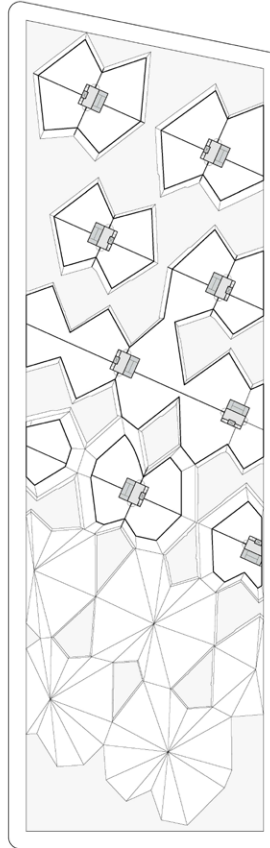
2.1.1\_SchematicPlans\_Floor1\_CoCoWang



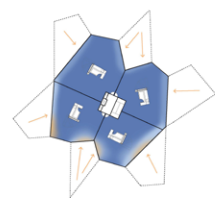
2.1.1\_SchematicPlans\_Floor2\_CoCoWang



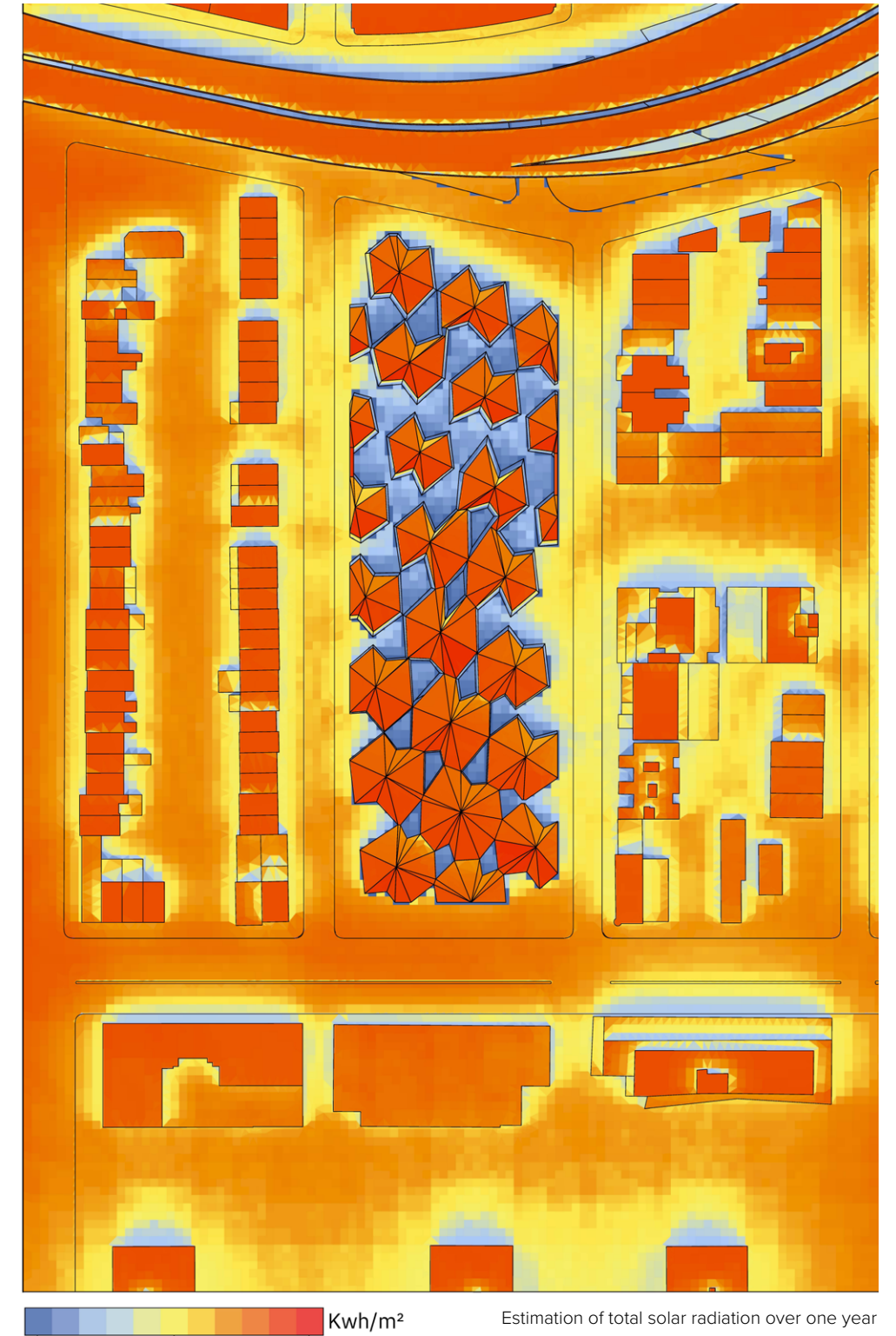
2.1.1\_SchematicPlans\_Floor5\_CoCoWang



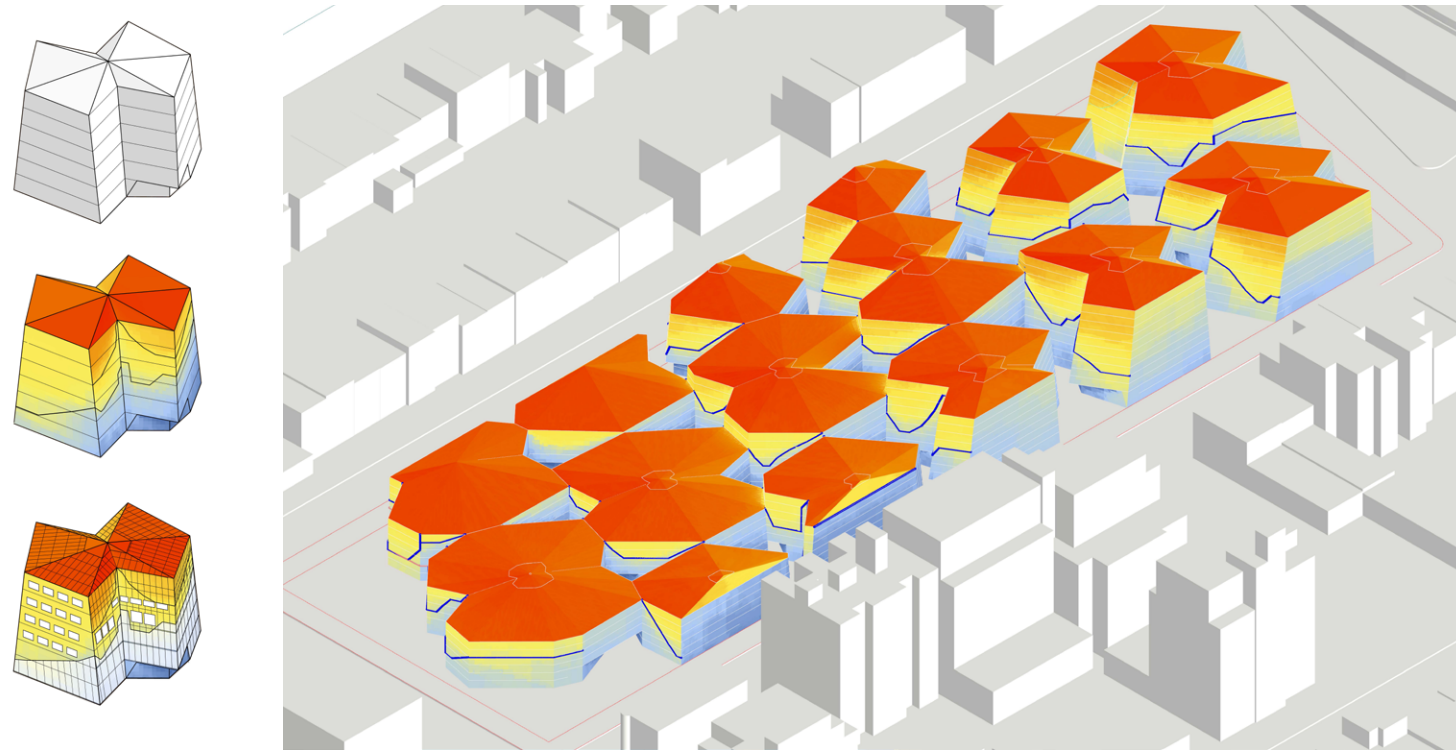
Unit types



Every building has a central core; all units are open. Some units start bleeding into one another, creating bigger units. On the ground floor, various edge conditions are eroded to widen the circulation path and enable courtyards to be more easily accessed.







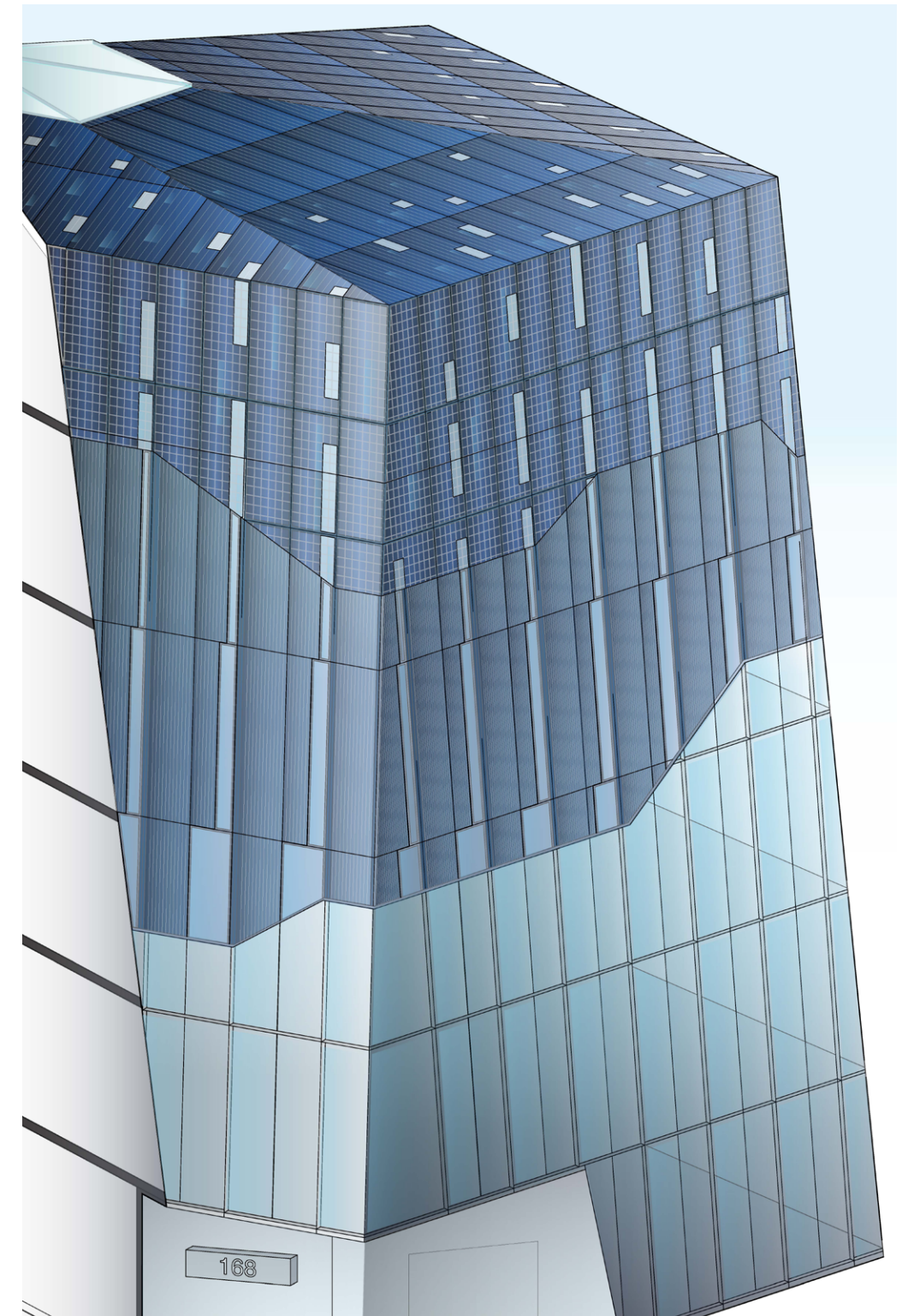
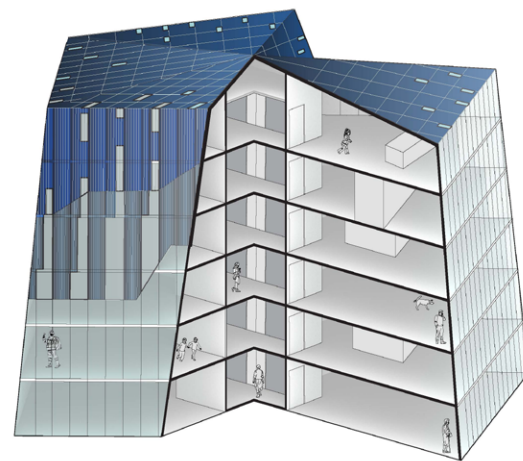
The radiation analysis create clear distinctions between different radiation levels: red (highest), yellow, and blue (lowest). These levels correspond to 3 types of exterior cladding:

**Red:** Photovoltaic panels to create electricity

**Yellow:** Solar thermal panels for heating air or water

**Blue:** Insulated glazing

A grid system is used to organize the window openings on the facade.

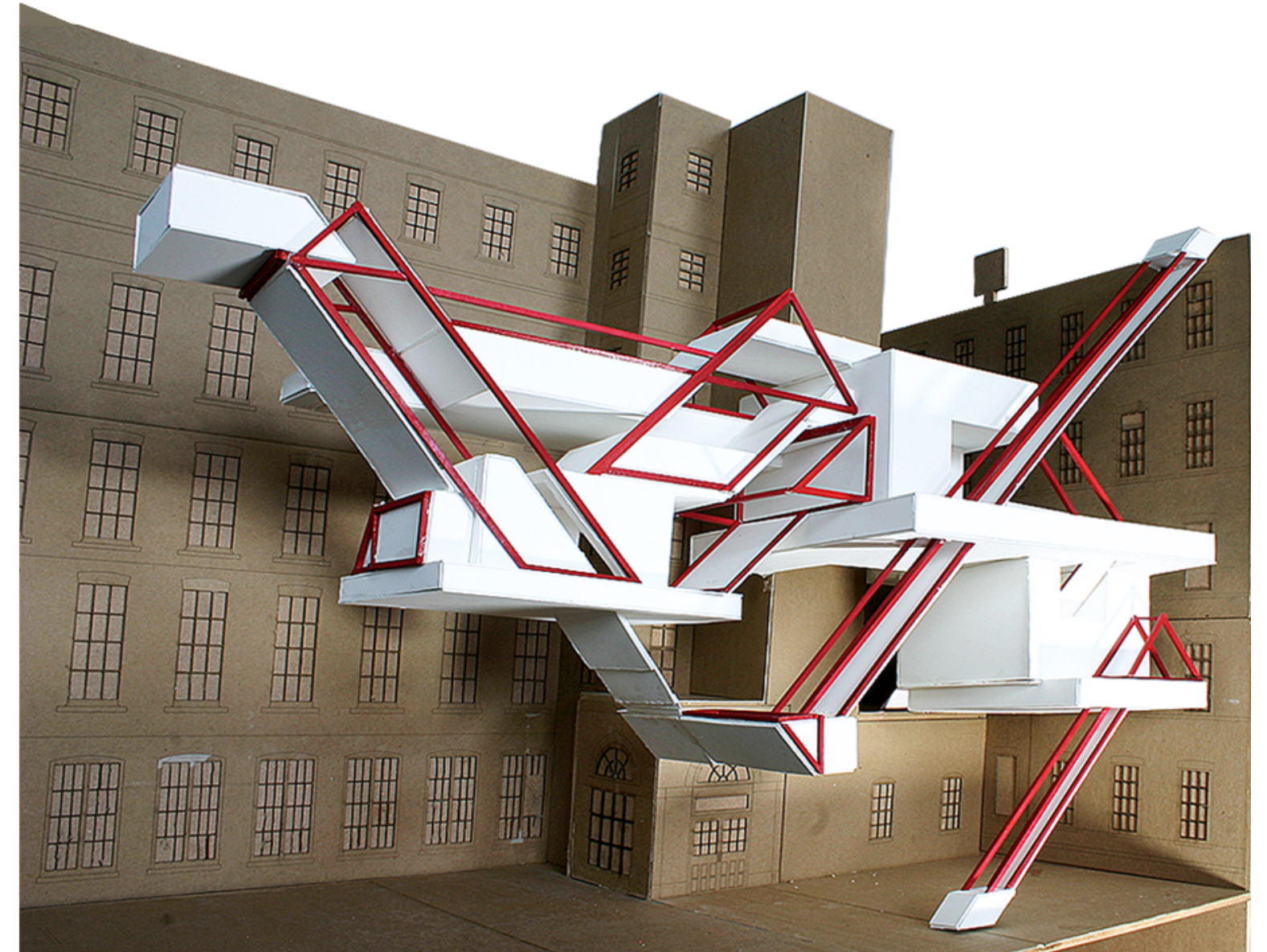
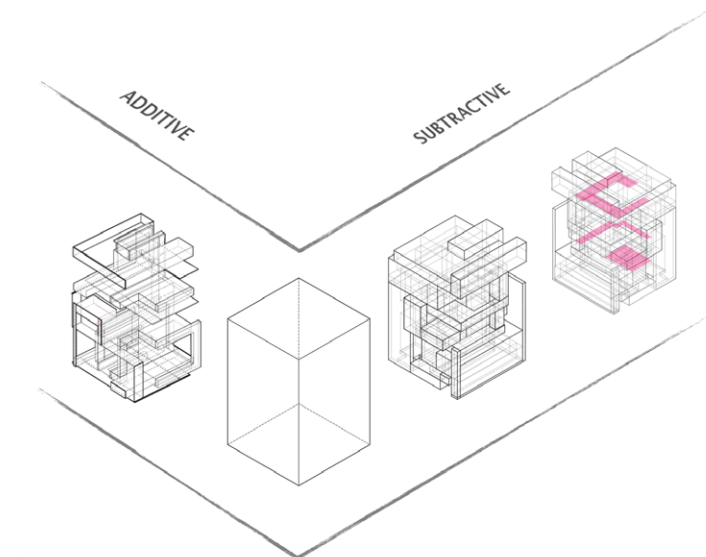
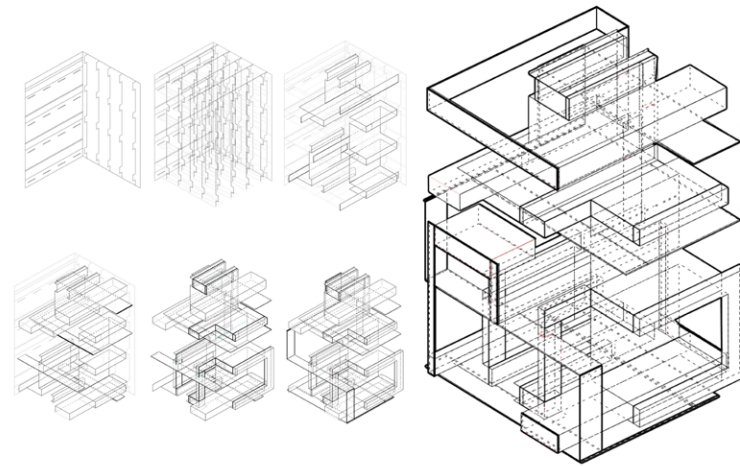




## Temporary Autonomous Zone for Vandalistic Liberation

Professor Gonzalo Lopez  
Spring 2018  
Design 102

This project is based on the idea to decriminalise the art for vandalism and the performance of the skateboarder by building a place where the forbidden is allowed. Overall, the interior spaces of my model allows the two occupants to either interact with one another, or perform their individual activities without interruption.





## Morphology

Professor Che-Wei Wang &  
John Gulliford  
Fall 2019 - Spring 2020

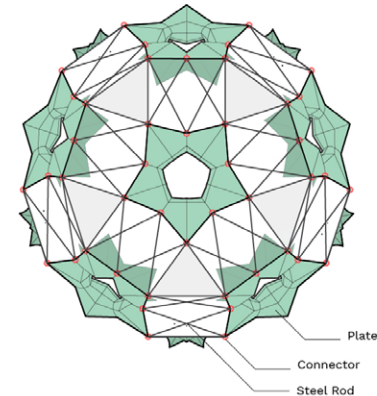
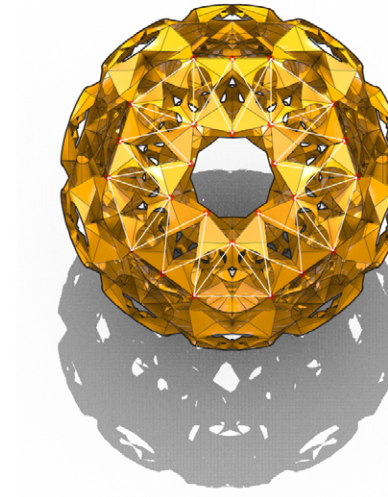
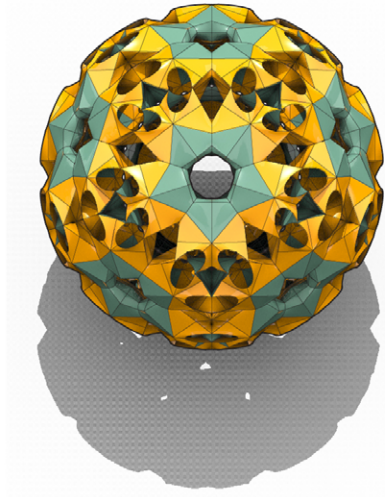
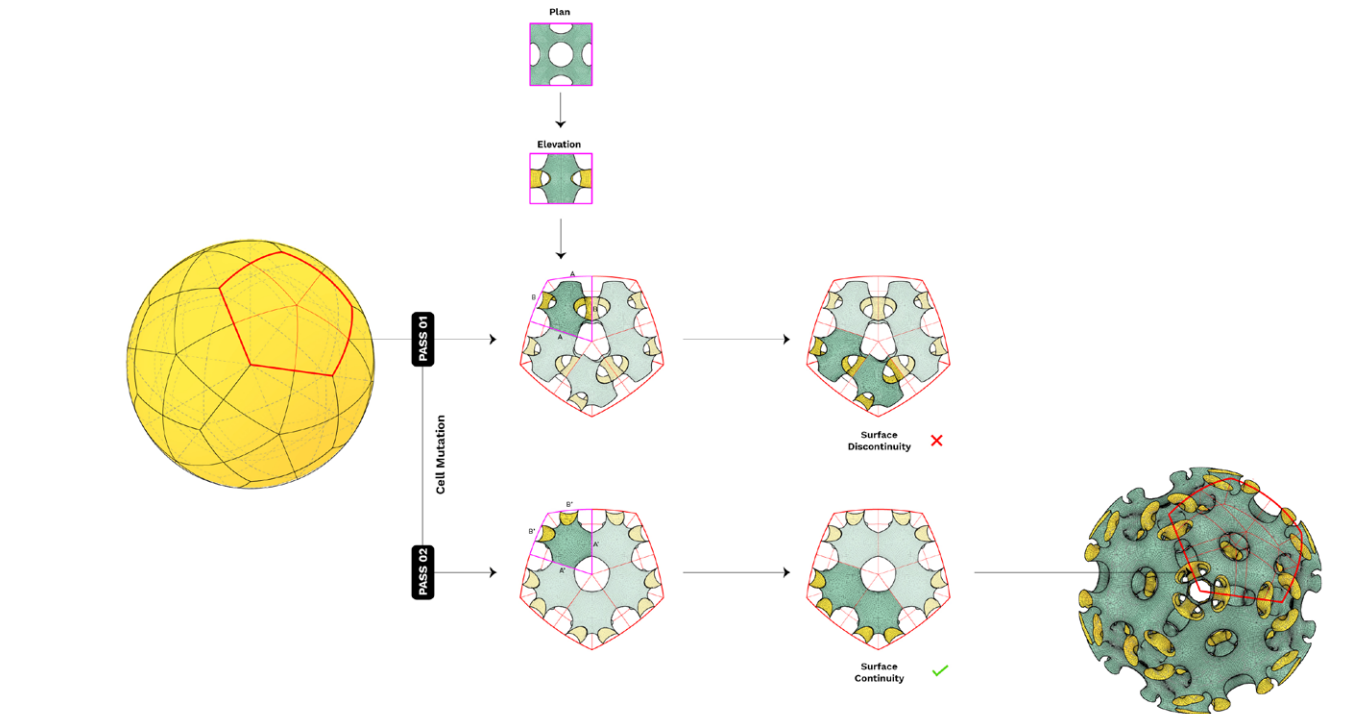
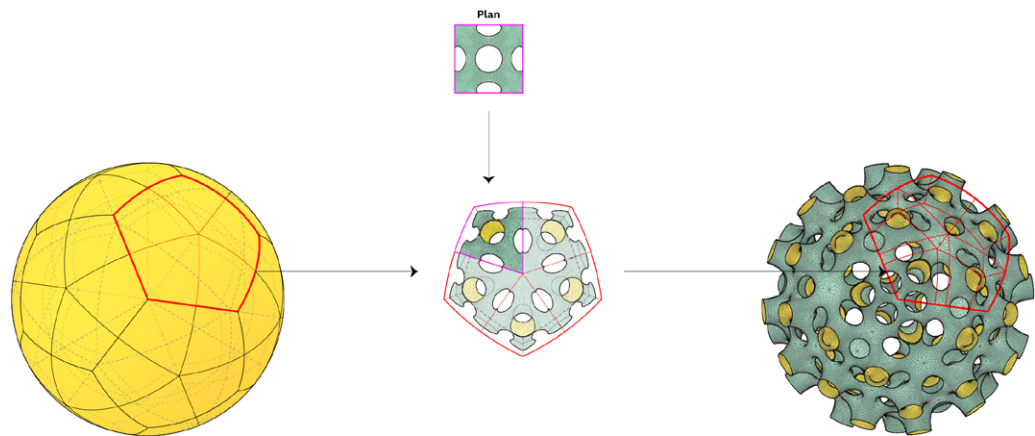
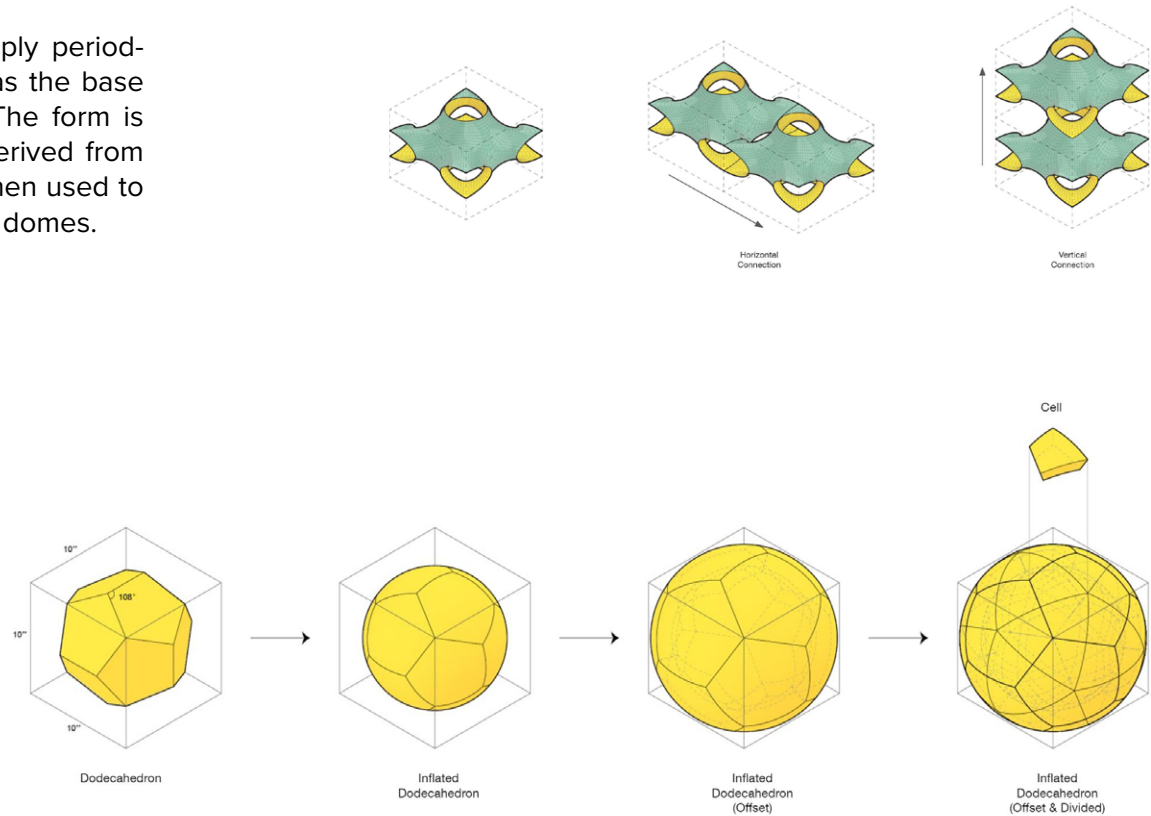
Exploration of space structures through geometry and topology leads to new ways of shaping form and space. The studio explores their generation, visualization and construction for potential architectural applications.



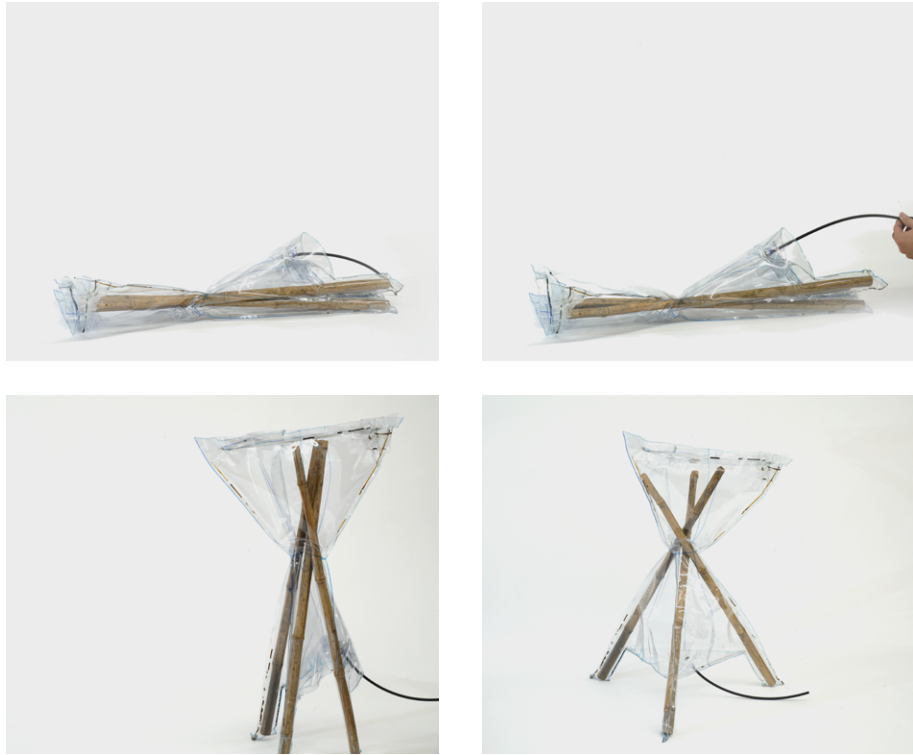


Creating a Minimal Surface Dome

The Scheon S S' Hybrid triply periodic minimal surface is used as the base form to create the dome. The form is distorted to fit into a cell derived from a dodecahedron, which is then used to propagate into two different domes.







### Inflatable Chair

In collaboration with Peiye Yang

A chair made of 3 bamboo sticks and a PVC envelope. Simply inflate and you're good to go. Simple, super lightweight, and easy to carry.



### Crocheting a Chair

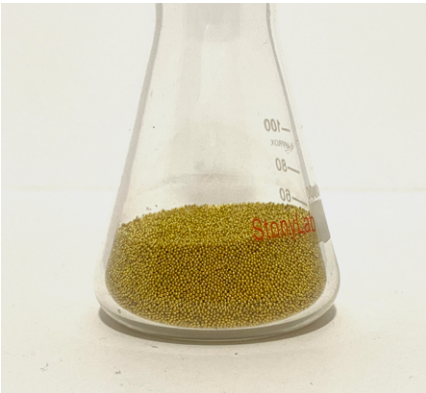
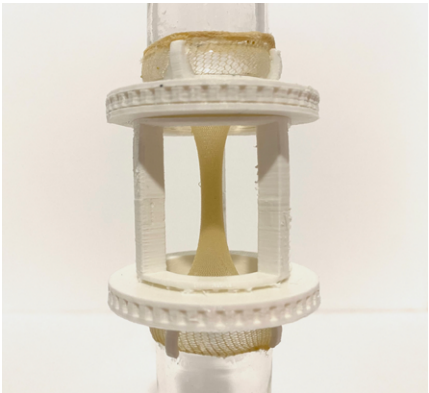
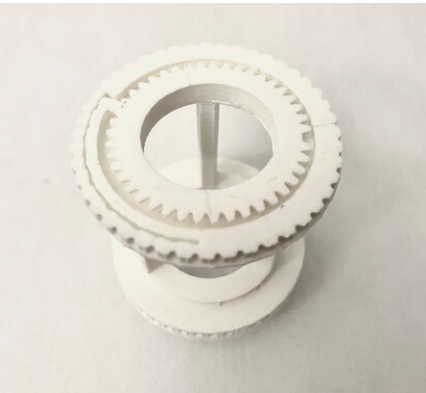
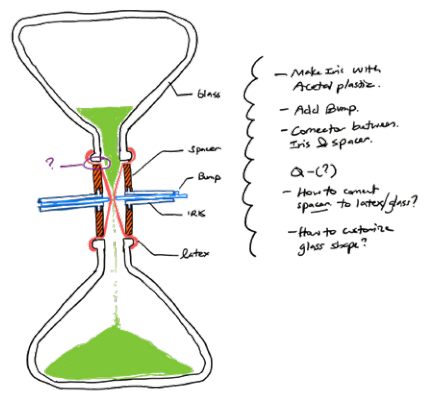
In collaboration with Haley Lee

Using leftover strings from the morphology lab, we spent many hours crocheting this soft and comfortable chair.



Designing an Adjustable Hourglass

This new hourglass design allows people to adjust time from 10s to 6 minutes. This idea helps people visualize time to accomplish tasks. This is an ongoing Morphology and Kick-starter project.





SpiderCat

In collaboration with Andrew Saldivar, Diyang Shen, Dillon McNamara, Peiye Yang, Haley Lee, Jeehoon Kim & Simon Galecki.

Our team worked together to crochet a minimal surface spiderweb on main campus to celebrate halloween.



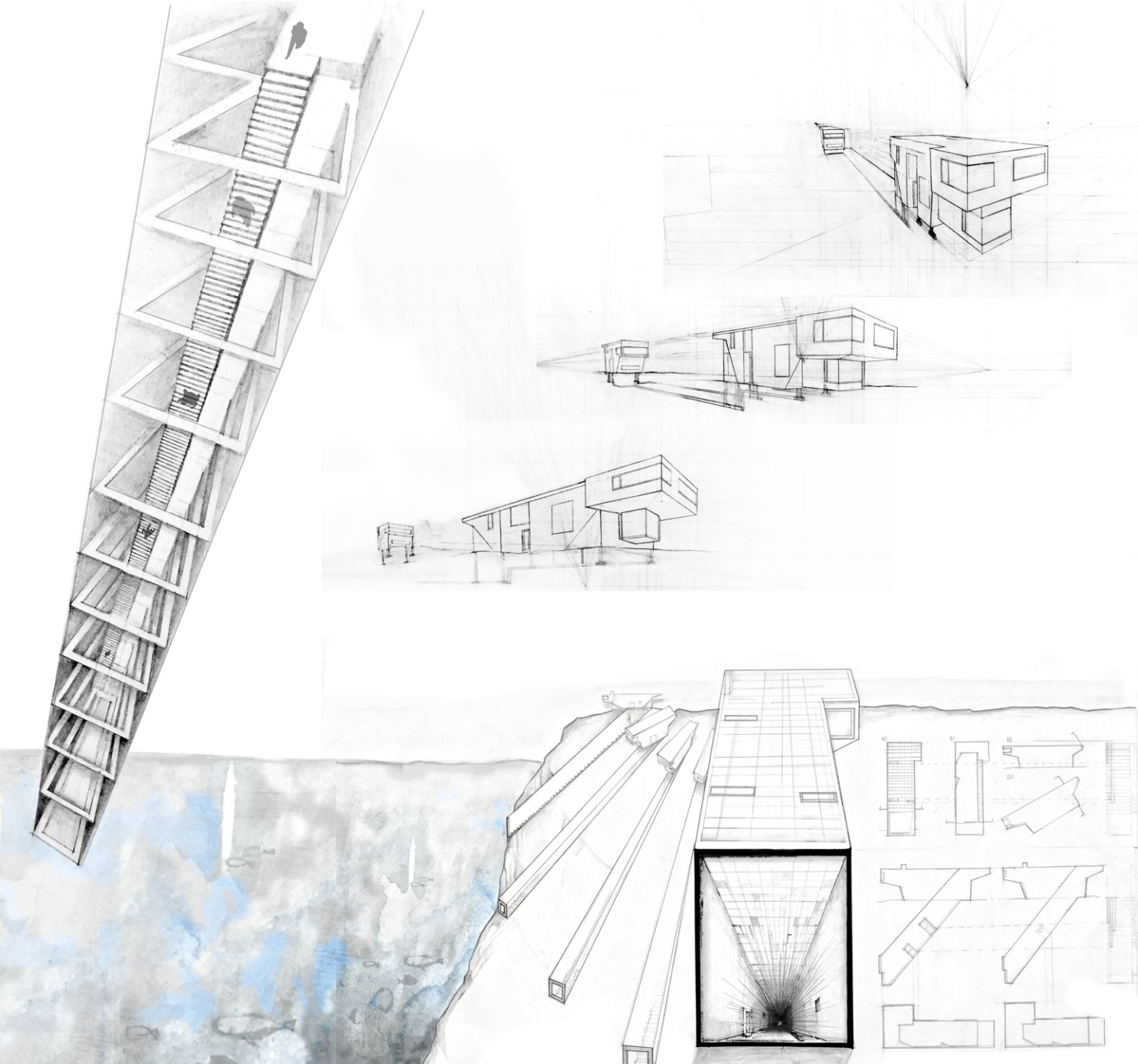


## Other Works

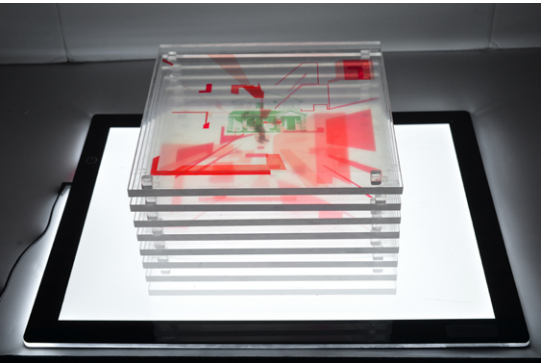
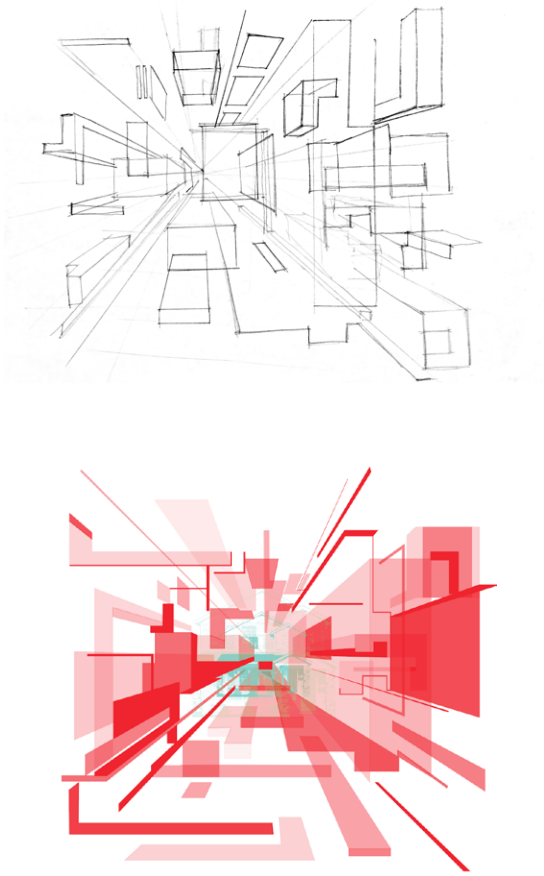
2017-2019



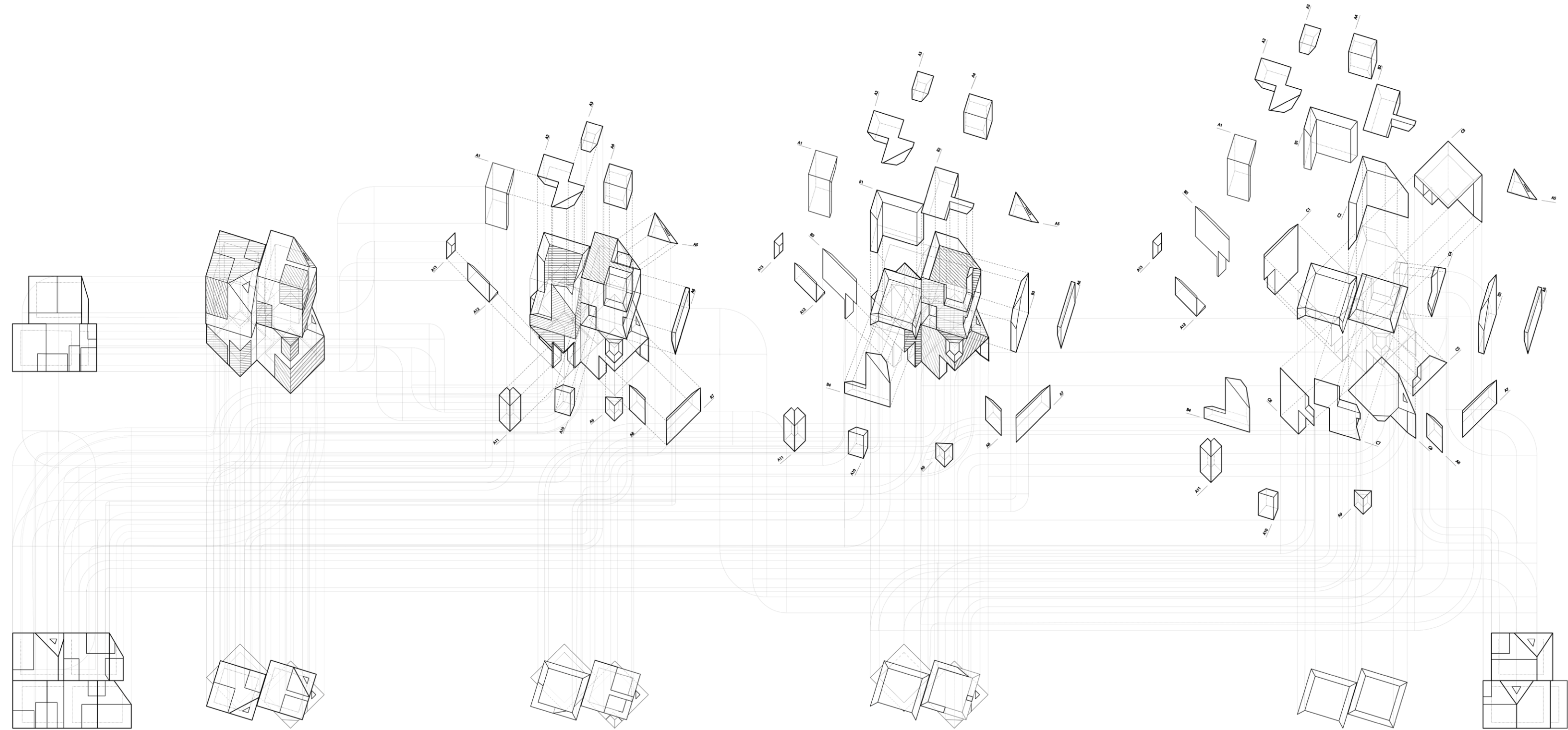
Surreal Perspective



Spatial Movement

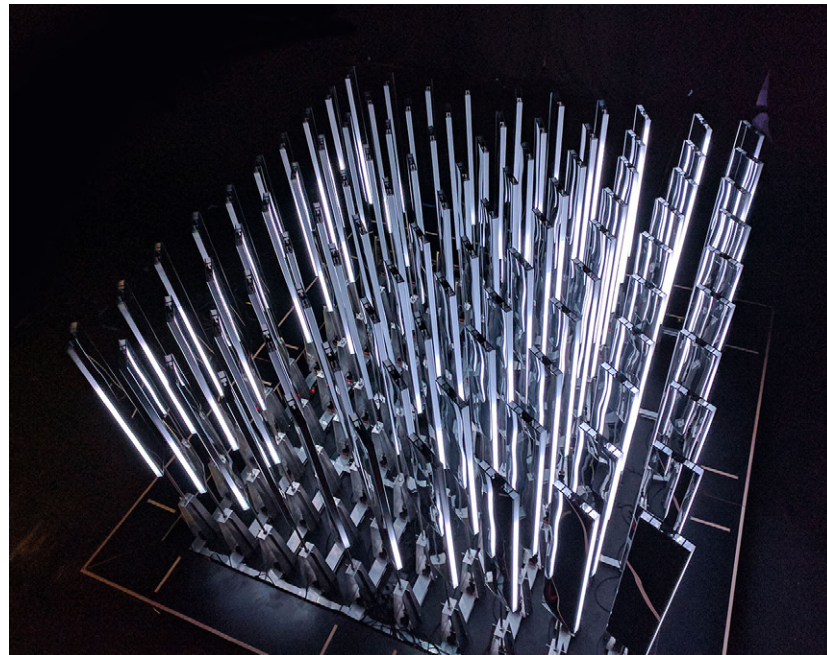
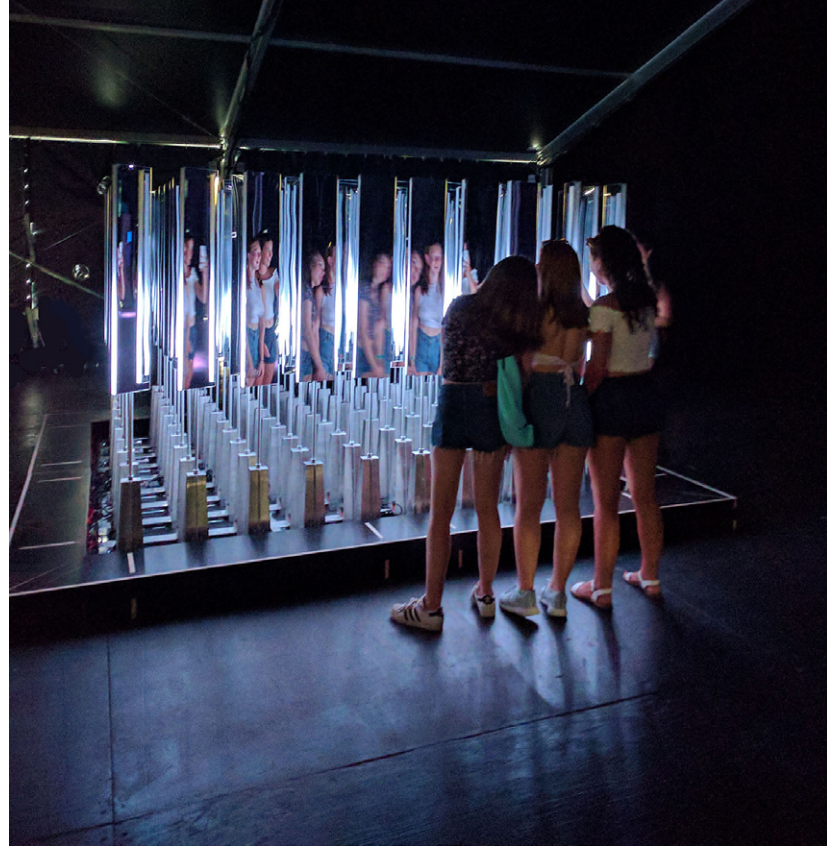








## Volume



When working with SOFTlab I was assigned to help install 'Volume', an interactive installation at the 2017 Panorama Music Festival NYC. Volume is an interactive cube of responsive mirrors that redirect light and sound to spatialize and reflect the excitement of surrounding festival goers.

