

Arc Interventions | Yujia Fang

Southern California Institute of Architecture
Master of Architecture 1
2019-2022



01 | Beyond Tabula Raza

Summer 2022
Graduate Thesis
Instructor : Marcelo Spina

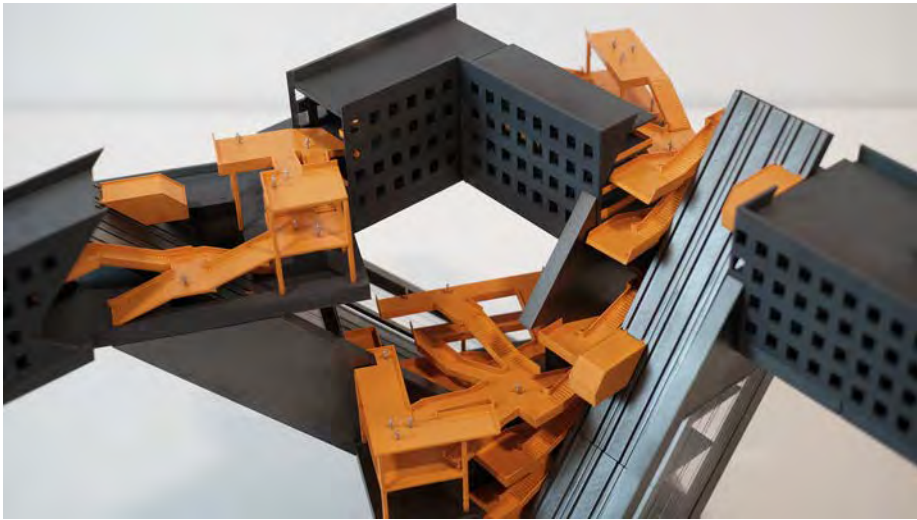
An Additive and Subtractive Spatial approach to Urban Renewal for China existing dense Urban Villages.

Rather than merely continuing the mainstream tendency in China to completely erase the past in pursue of urban renewal, and at the same time, continue to advocate the need to progressively intervene in our cities while creating a new village typology for all. My thesis speculates on a radical albeit plausible middle-ground between Tabula Raza and pure preservation.

To achieve this, I have subjected my project to some of the predicaments of Jane Jacobs, not to abide by her anti-development approach but to suggest that these ideas can still be used nowadays while supporting innovative spatial frameworks for intense living and dense communities.



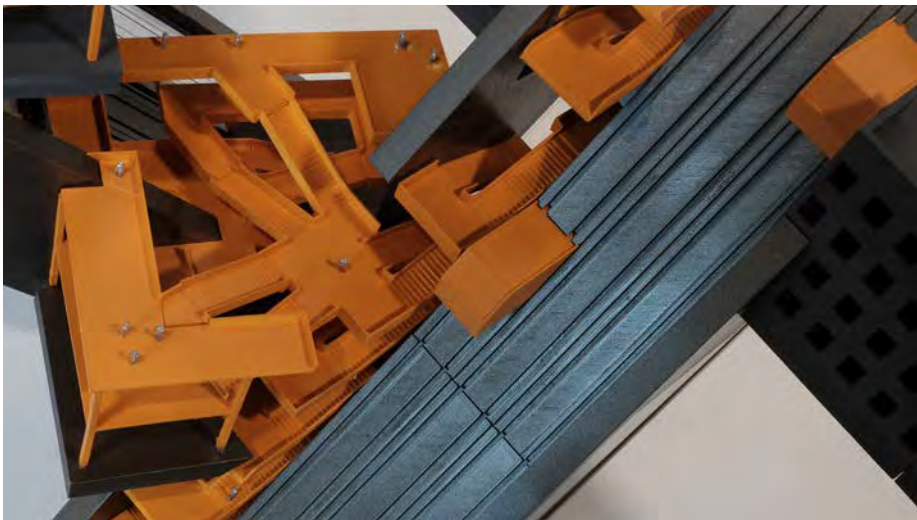
Axis Rotating Chunk



Three Transition Stops

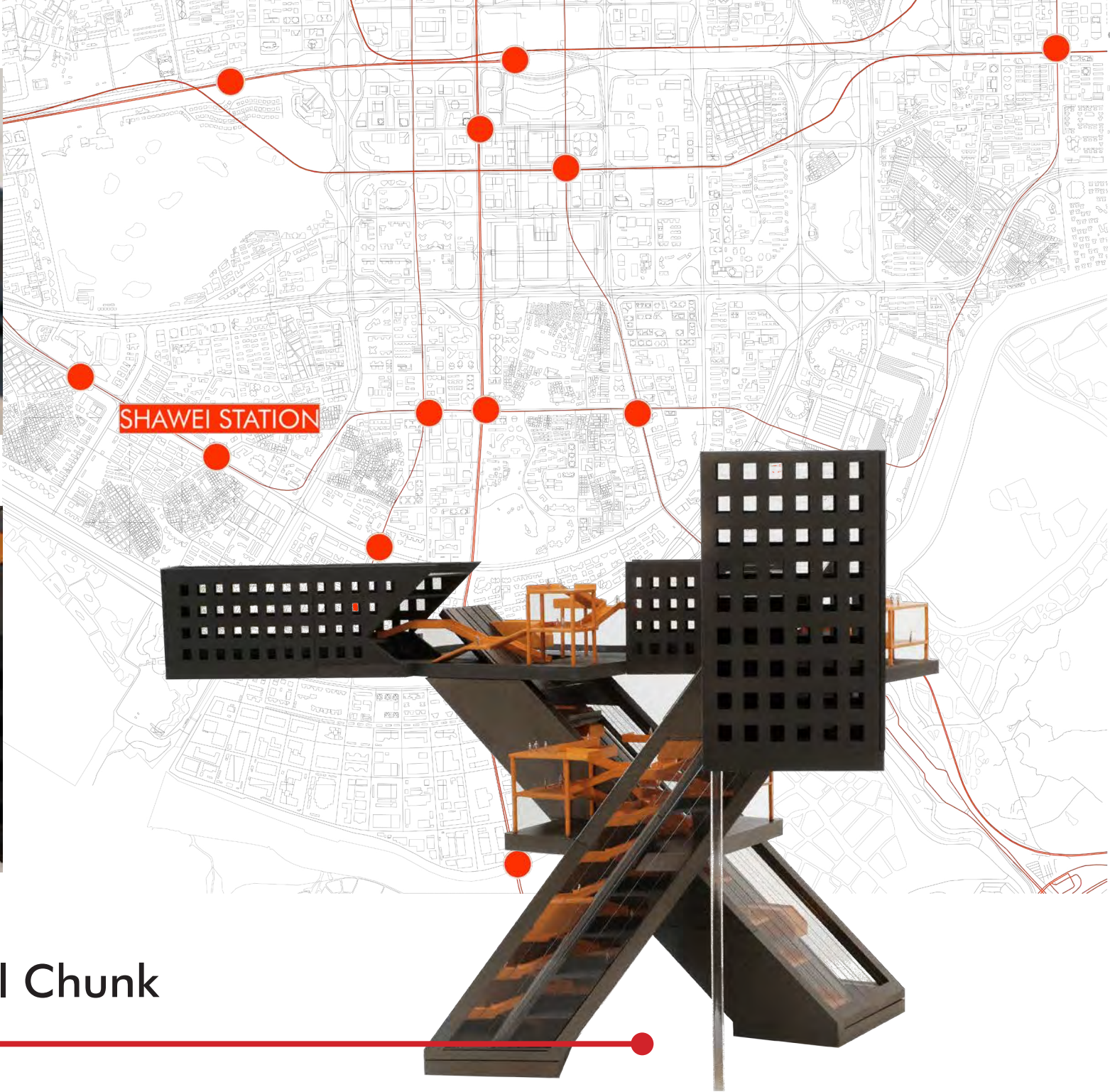


Ascending to Stop



Ascending to Stop (Bird)

Site Model to Selected Detail Chunk



Site Model



South East Opening



Ascending Oblique



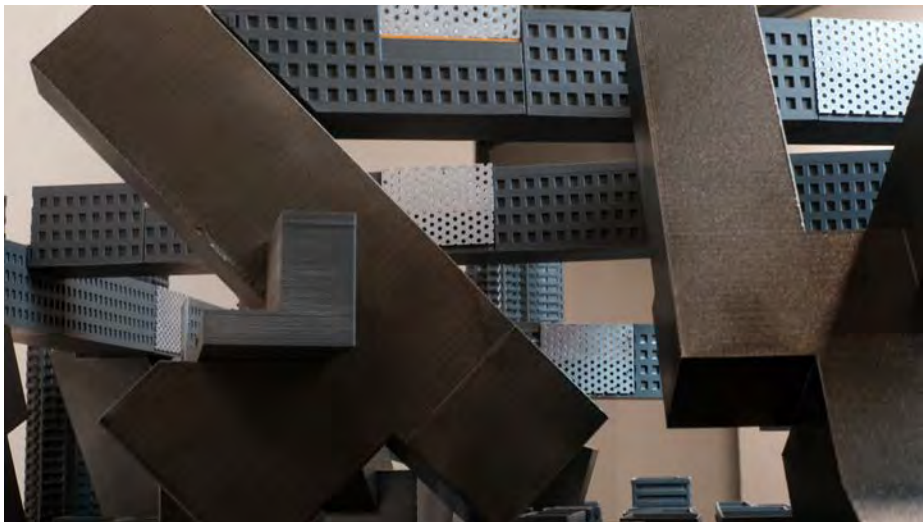
Declining Oblique



South West Envelope



Ascending Oblique (Right)



Declining Oblique 2

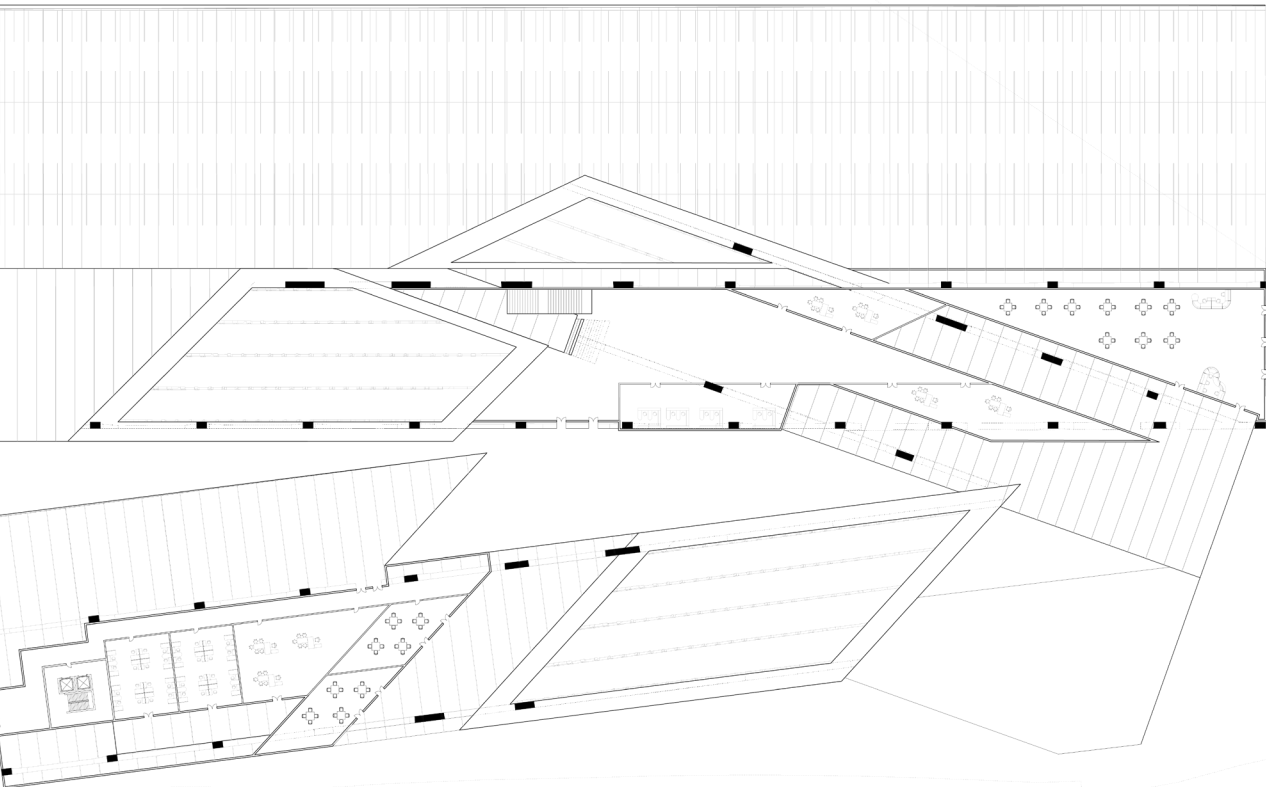
02 | Obulique Collision

Fall 2021
3GA Design Studio
Instructor : Andrew Zago

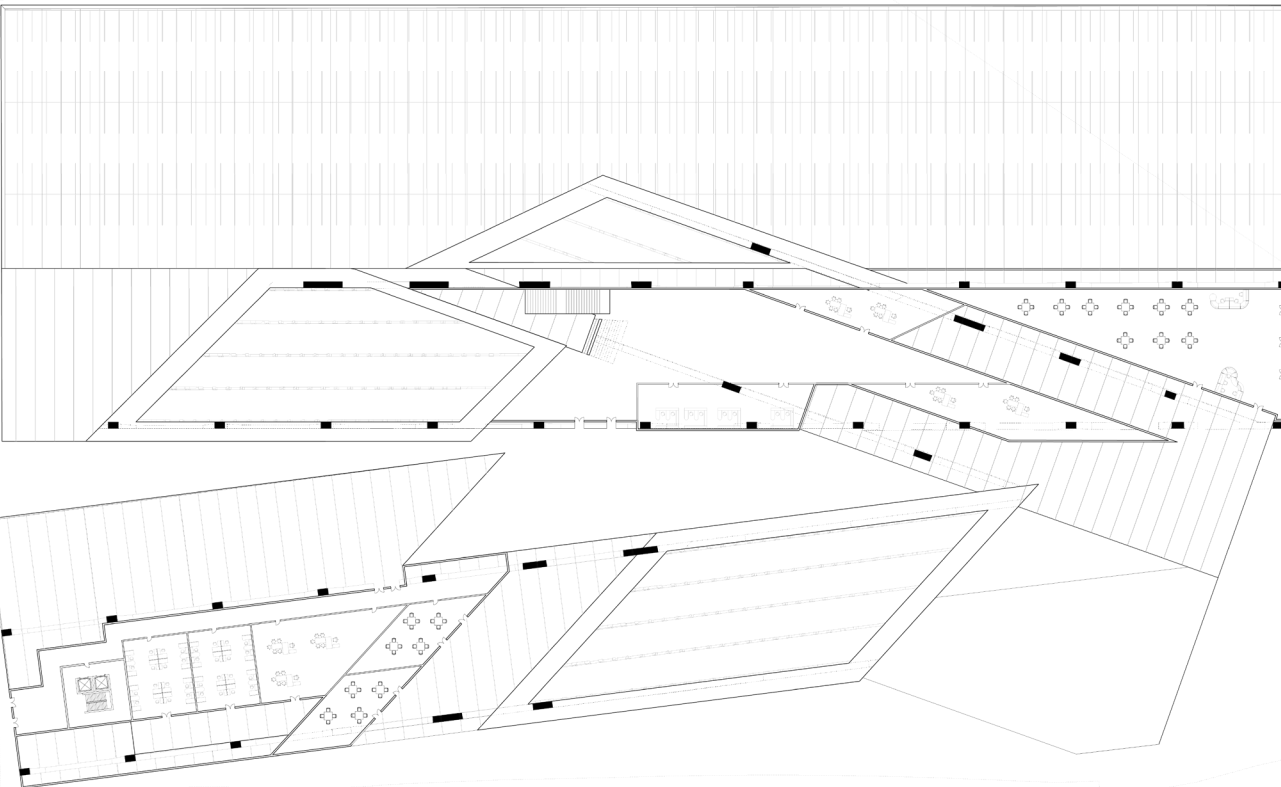
Choreographs: architecture in the expanded field

Researching images which use simple letters as representations of Military form from Del-la arte della guerra by Machiavelli Niccolò and various works of Palladio Andrea, Looking into the Choreographs of Ancient Korean Palace drawings, the chaos and collaboration of this two were translated by the typewriter drawings which only can type limit size letter in strictly arrange space.

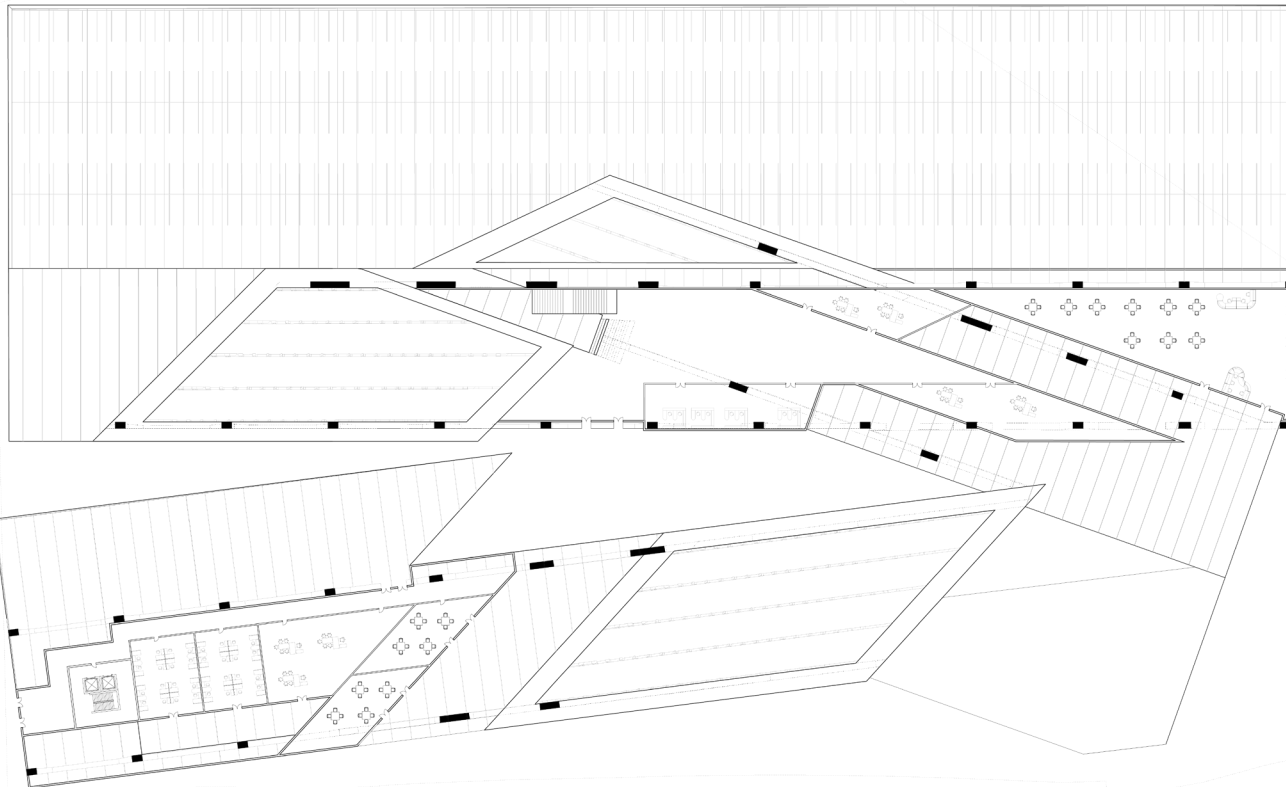
Continuted from the typewriter drawing which indicates how two different set of letter collide, the project presents three bars come from the ground and each of them has their own slope in both vertical and horizontal directions. The 1:20 slope provide walking friendly surface both for exterior roof and interior space. The intersection block become the chaos to connect three different movements.



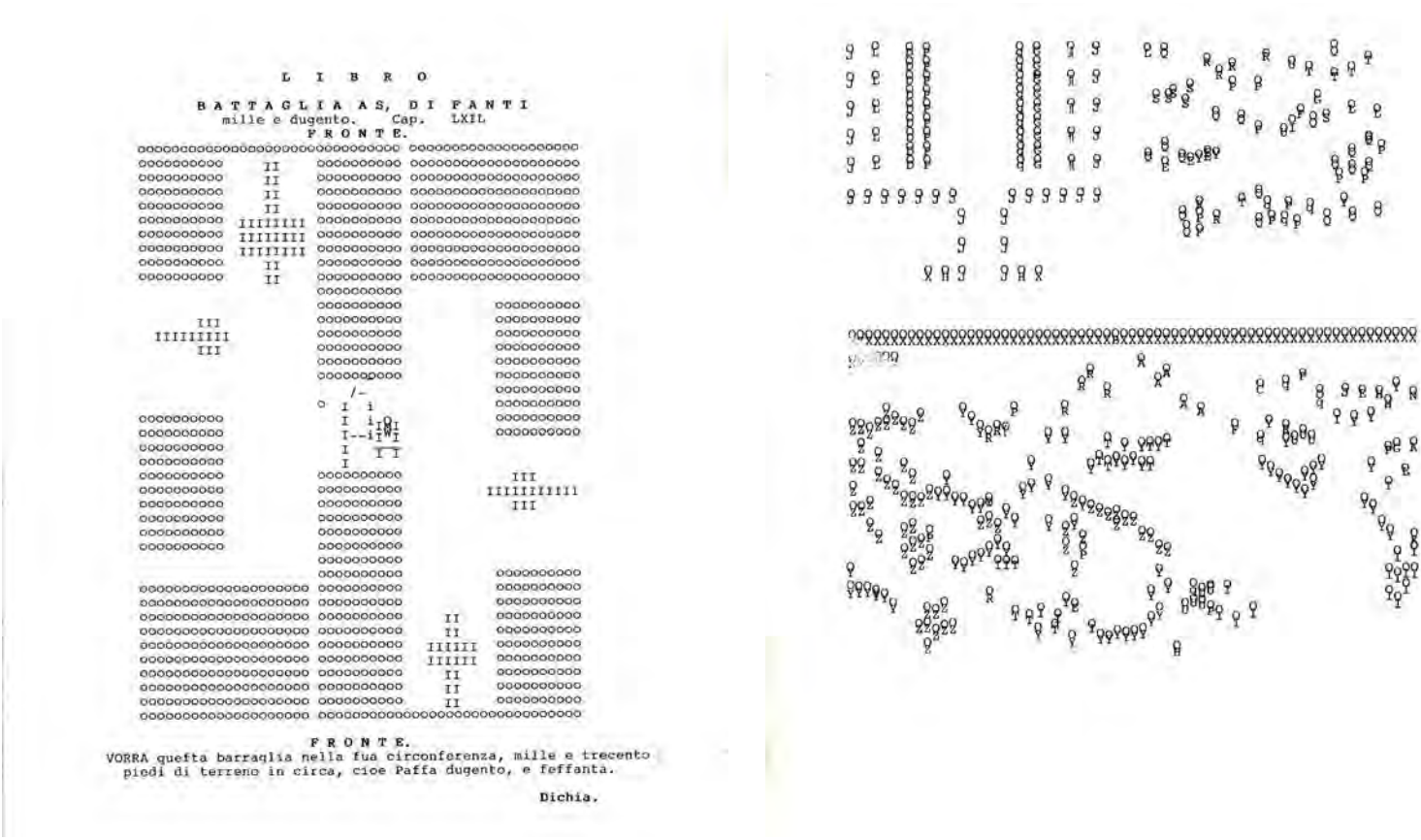
Ground Floor Plan 1:500



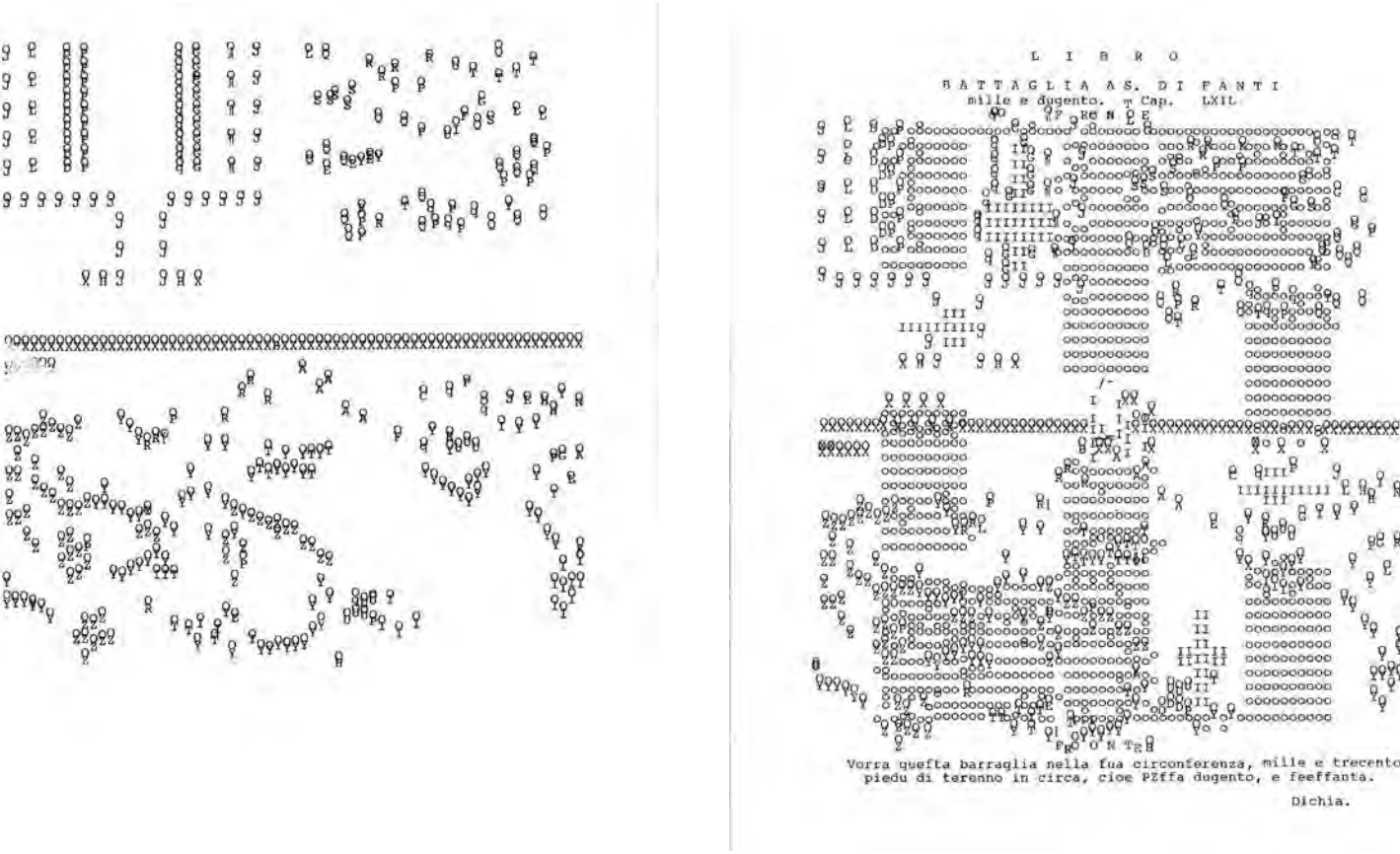
Second Floor Plan 1:500



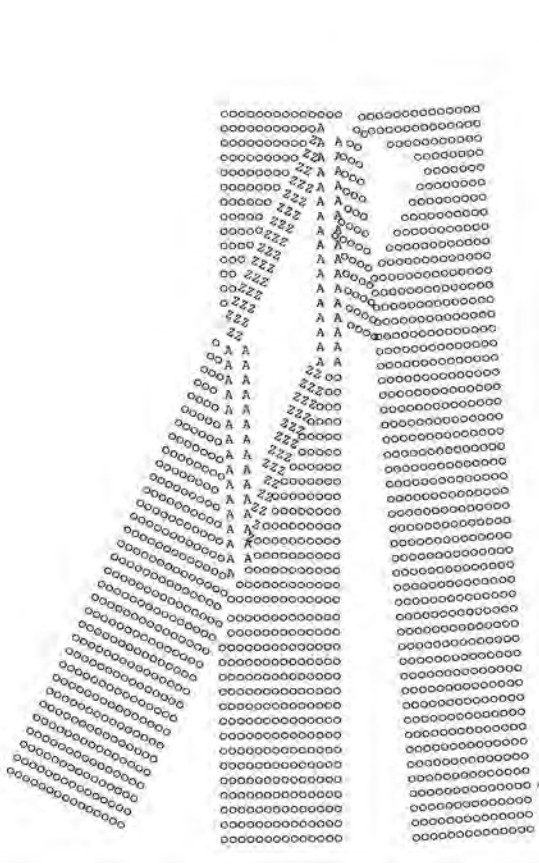
Third Floor Plan 1:500



Translation From Military Array



Translation from Painting of the Royal Procession to Hwaseong



Choreographs Recreation



03 | Positive Intervention

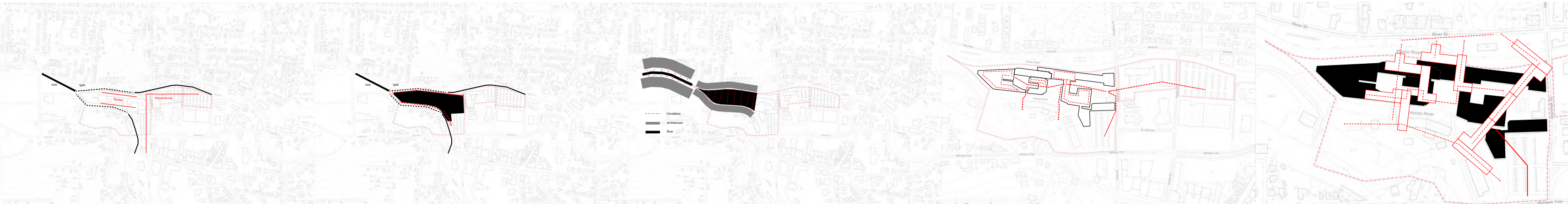
Spring 2022
3GB Design Studio
Instructor : Marcelo Spina

Unstable Ground: Oblique Forms Reconsidered for Social, Political, Cultural & Environmental Engagement

The studio explored new forms of engagement with the ground; literally, conceptually, socially, politically, culturally and environmentally; wherein the ground both retains and challenges the preeminence of pure horizontality. Whilst considering architecture's necessary commitment to planarity as a way of fostering social interaction, the studio will aim to expand this notion by incorporating an ensemble of oblique forms and volumes, therefore bestowing the architecture itself with a degree of instability.

By focusing on the [existing] ground, the studio aims to deal with both disciplinary and specialized aspects of our field, but also with critical environmental and social questions of our present-day world. The studio will engage the discipline of architecture by revisiting a problem, that of the oblique, which registered an important formal innovation in architectural theory in a period wherein architecture and culture began to intersect. Similarly, it will engage the profession, by recognizing a certain pragmatism and accessibility of horizontally organized structures. Lastly, the studio seeks to address environmental and social justice issues by emphasizing the importance of an architecture in close proximity with the ground, as the predominant collective and cultural milieu wherein human activity and interaction as well as public life takes place.

Site Analysis



Site vs River

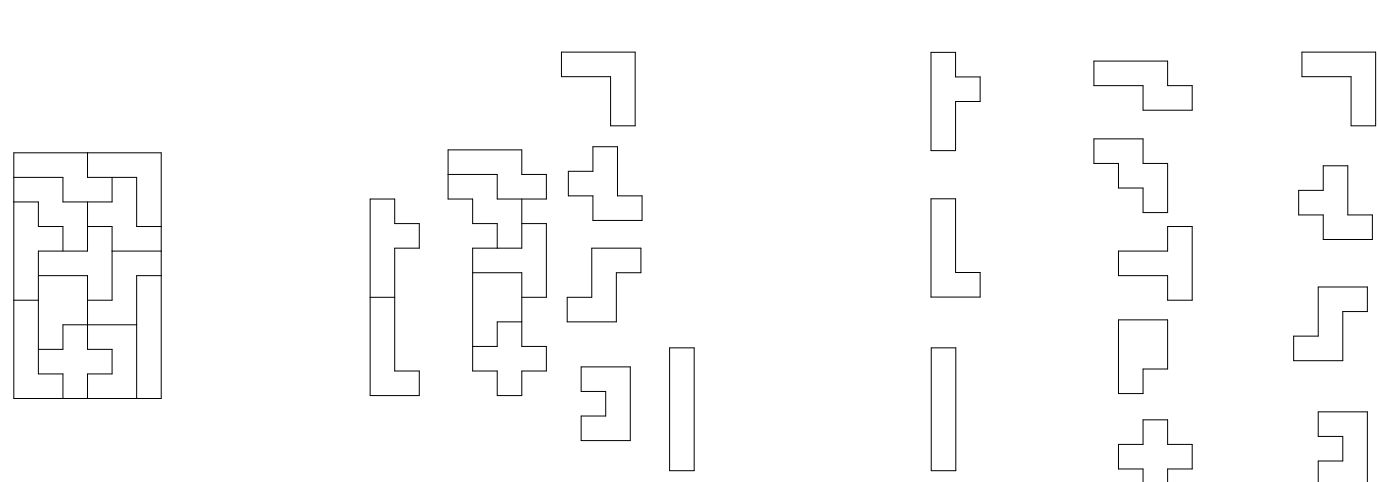
Existing Condition

River vs Ground

Existing Circulation

New Circulation

Massing Approach



Original Puzzle

Explosion

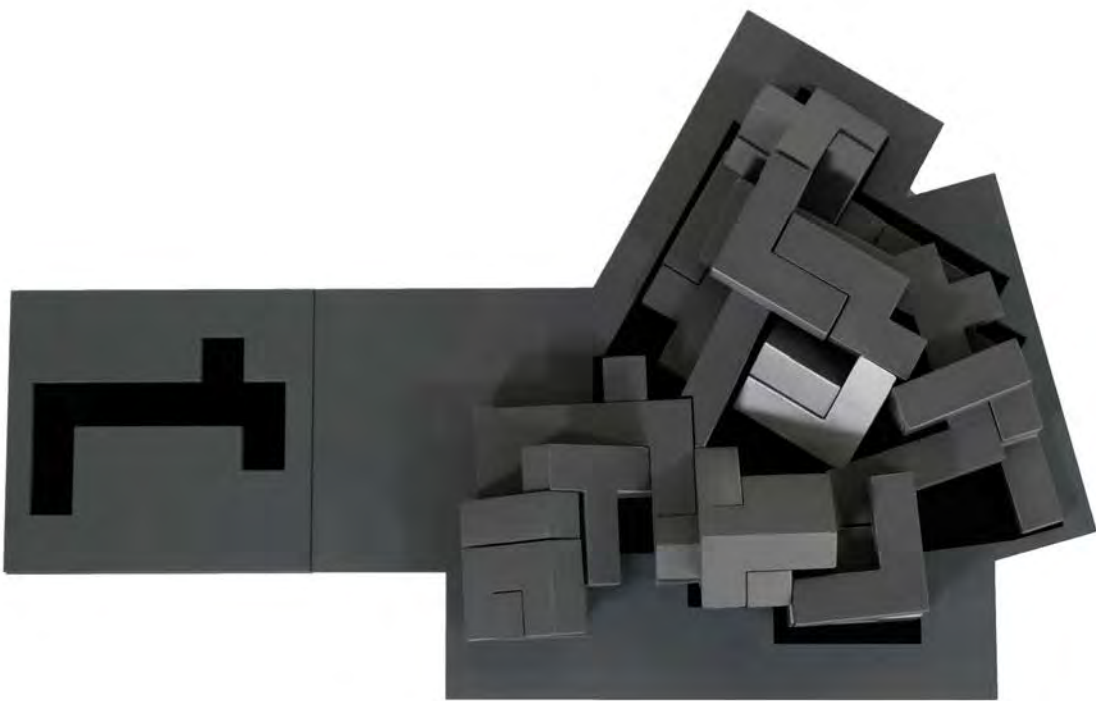
C1

C2

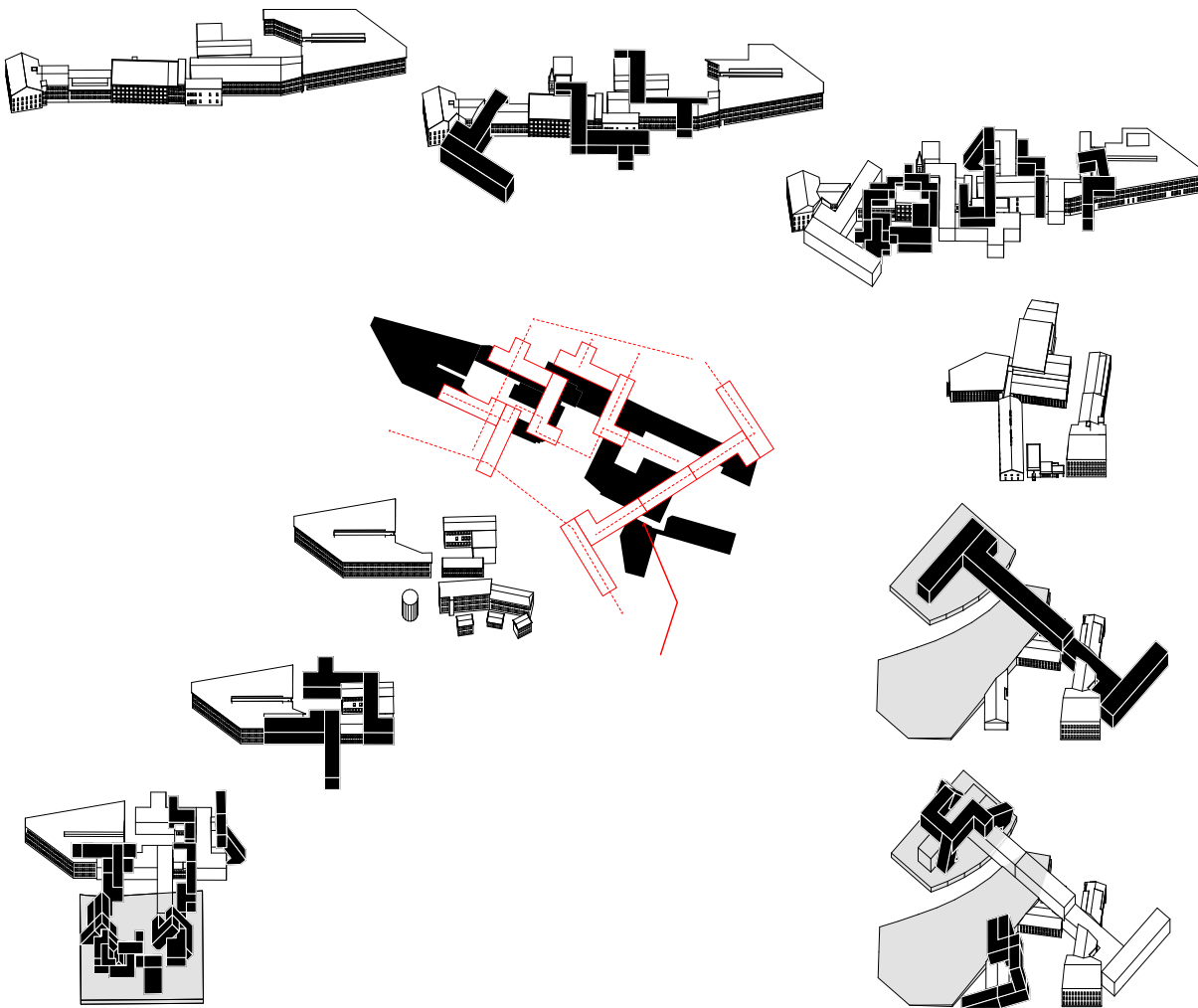
C3

Puzzle Combo

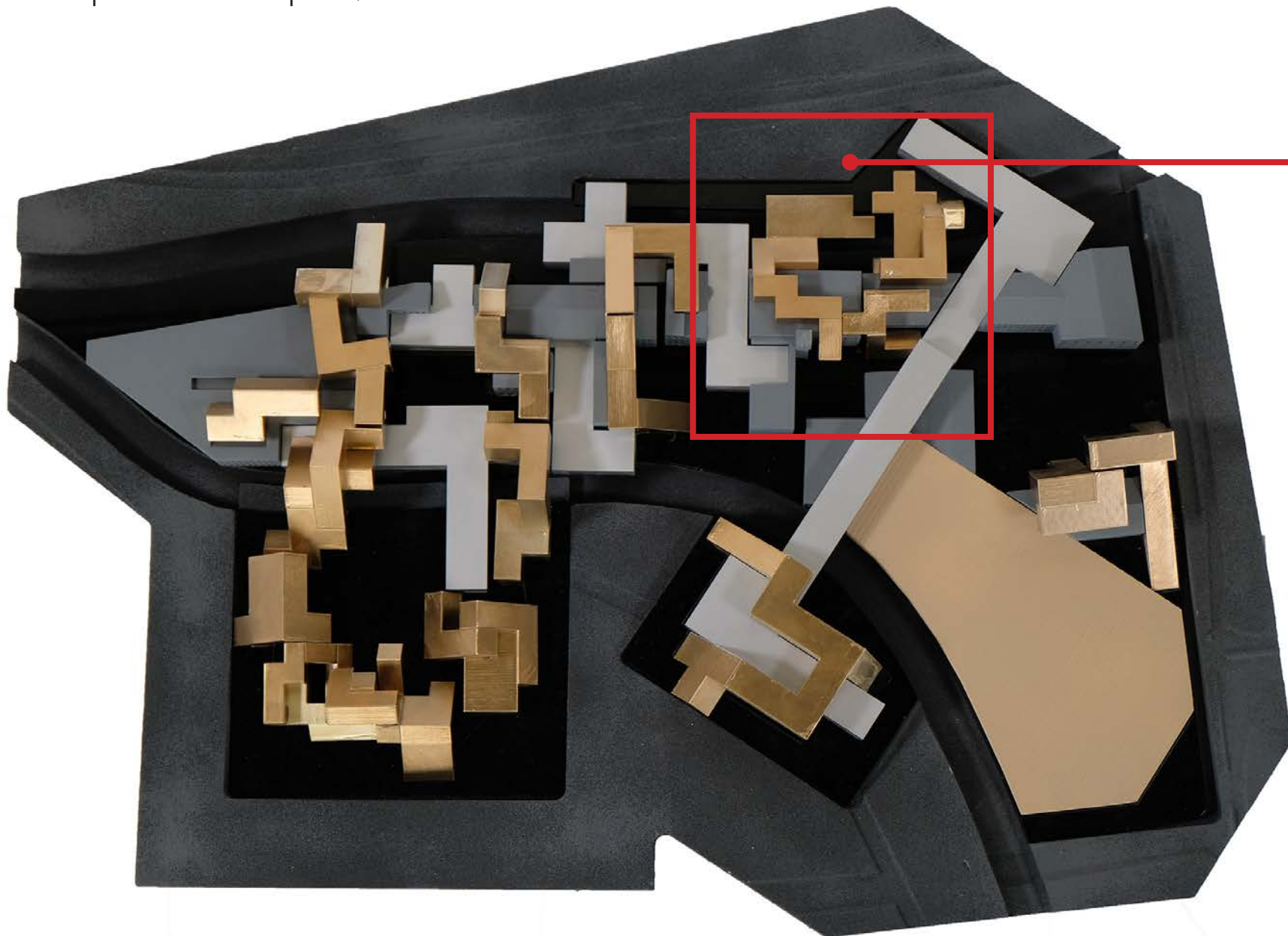
The L shape puzzle piece is composed by the catalog 1 pieces from the whole puzzle. In my puzzle exercise, catalog 1 was used to form a spine representing circulation spaces. And the pieces from other catalogs will be attached to the spine.



Puzzle Renovation



Adapt Diagram



Masterplan Model



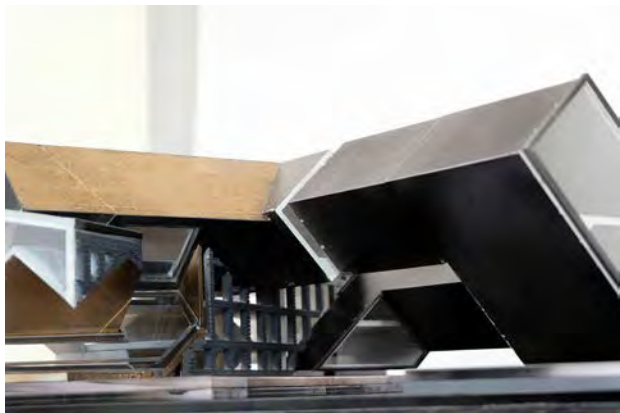
Chunk - Cross River



Chunk - Museum Side



Chunk - Section



Chunk - Cross River Detail



Chunk - Museum Detail



Chunk - Section Detail

04 | Art College

Spring 2021
2GB Design Studio
Instructor : Zeina Koreitem

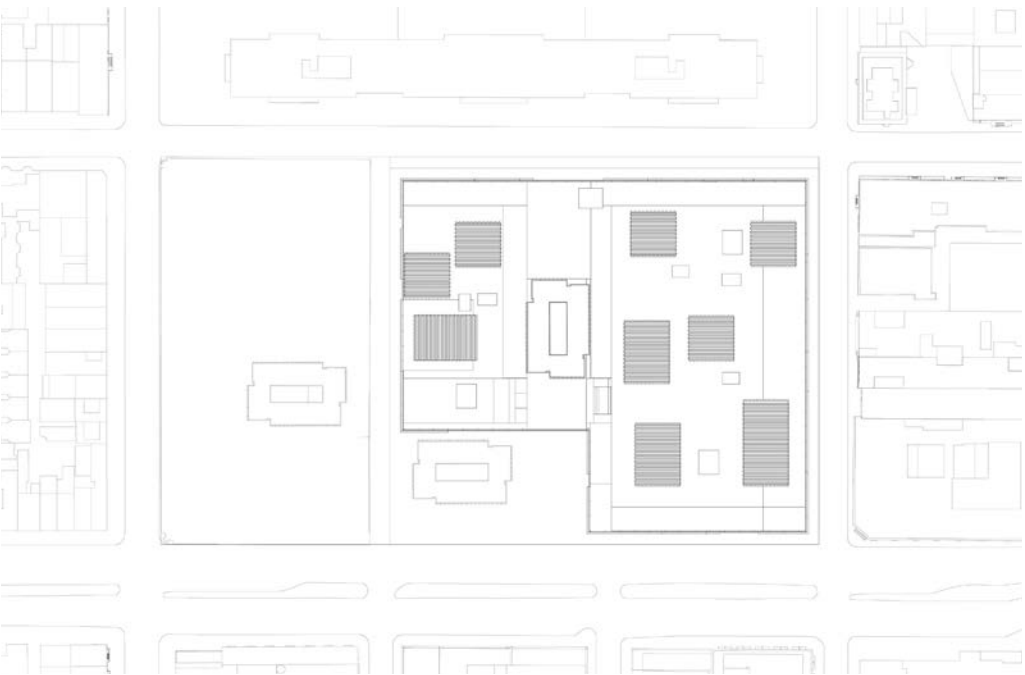
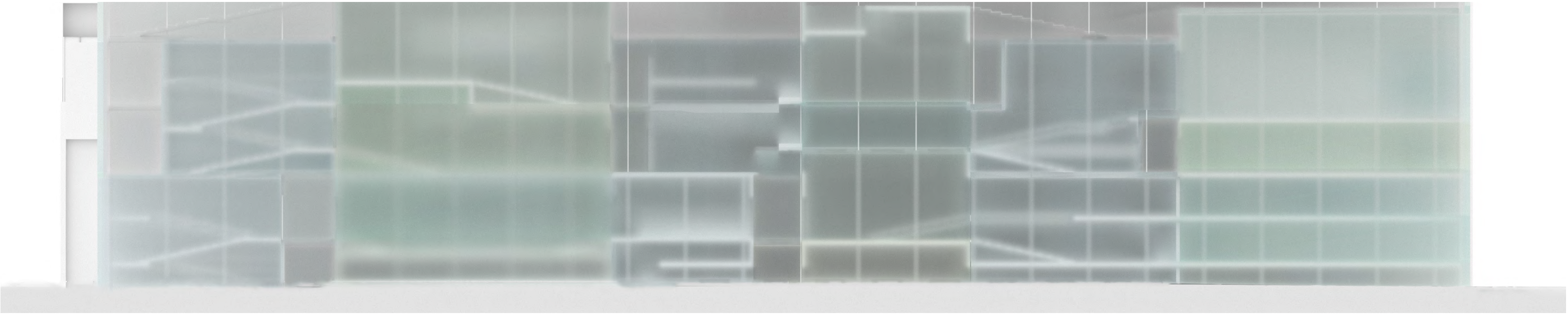
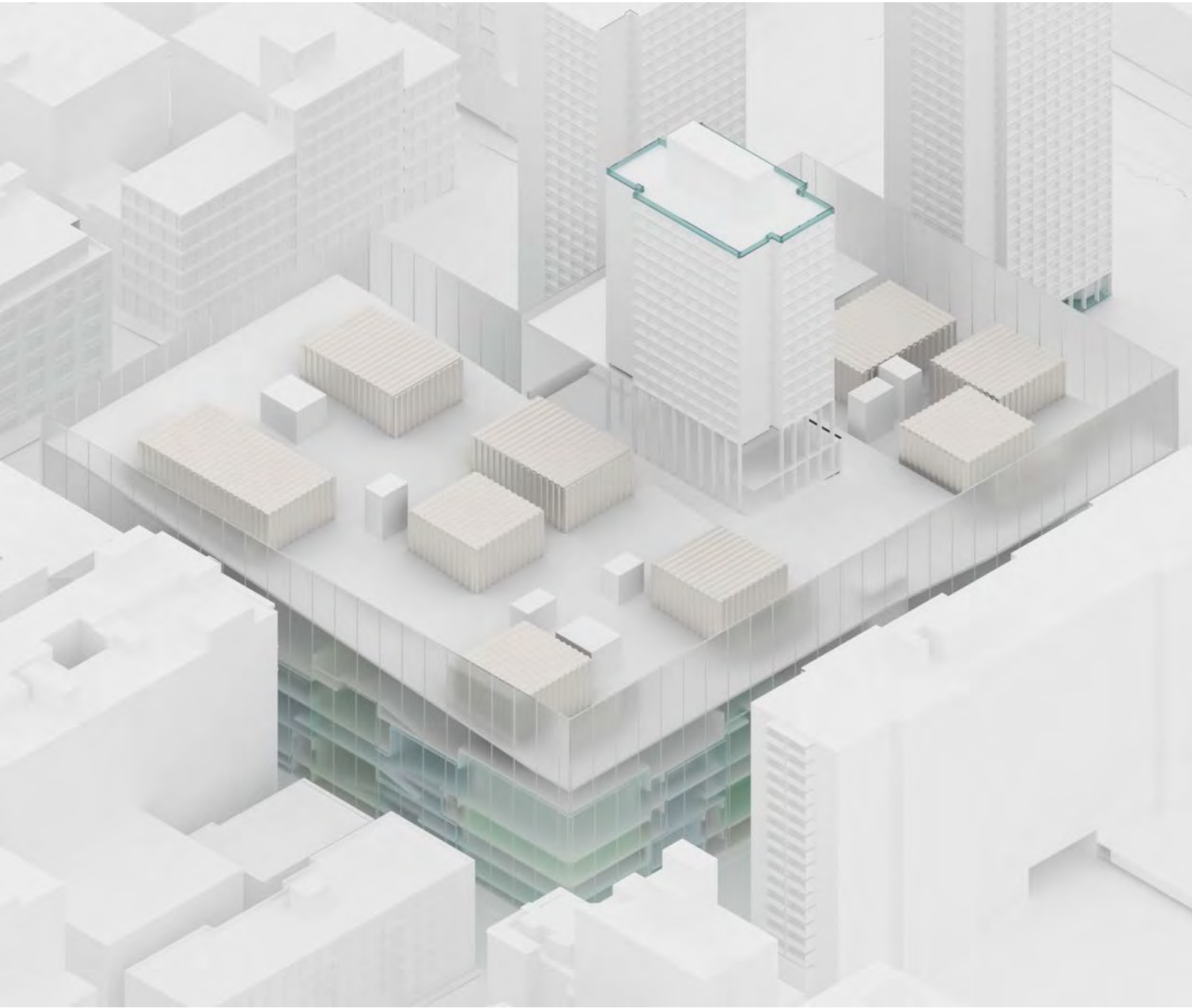
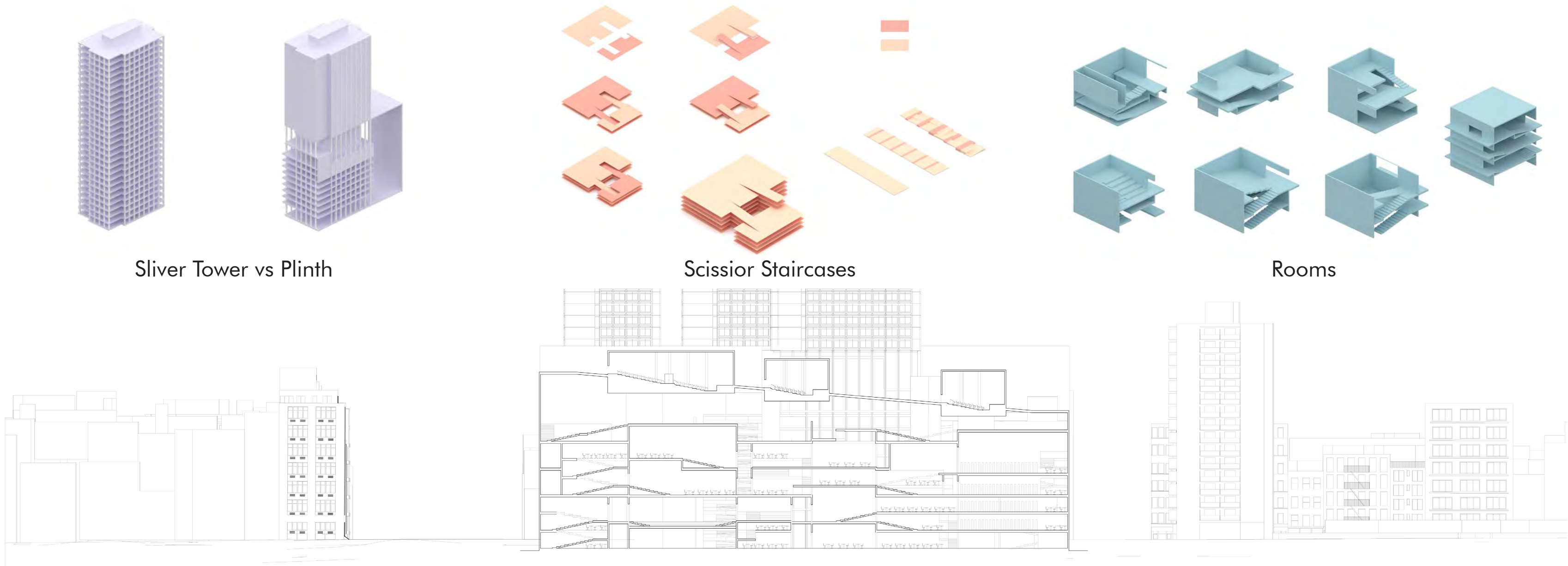
How should we design a art college today?

Located in the NYU zone of New York City, an art college with three grid systems and three different speed of circulations serve the programs and activities areas of two different programs of students- Undergrads & Grads.

Silver Tower - Serve as student dormitories and connects to all the floors

Main Floors - Two parallel scissior ramps for two programs’ students and they are also learning spaces

Rooms - Rooms on the facade have their own staircases connected the Undergrads floor and Grads floor. There are always public use room between two studio spaces and they share the circulations.



Site Plan 1:1000



Atypical Plan 1:500



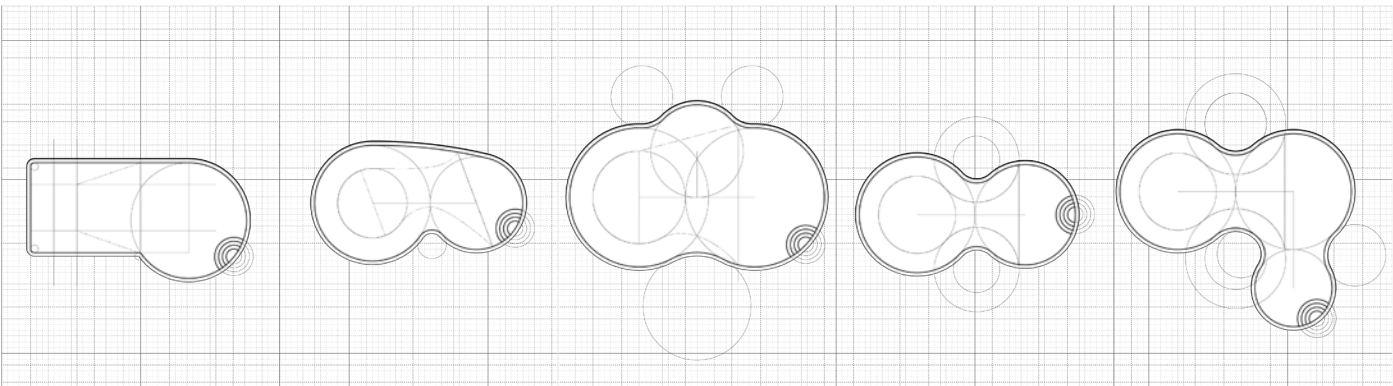
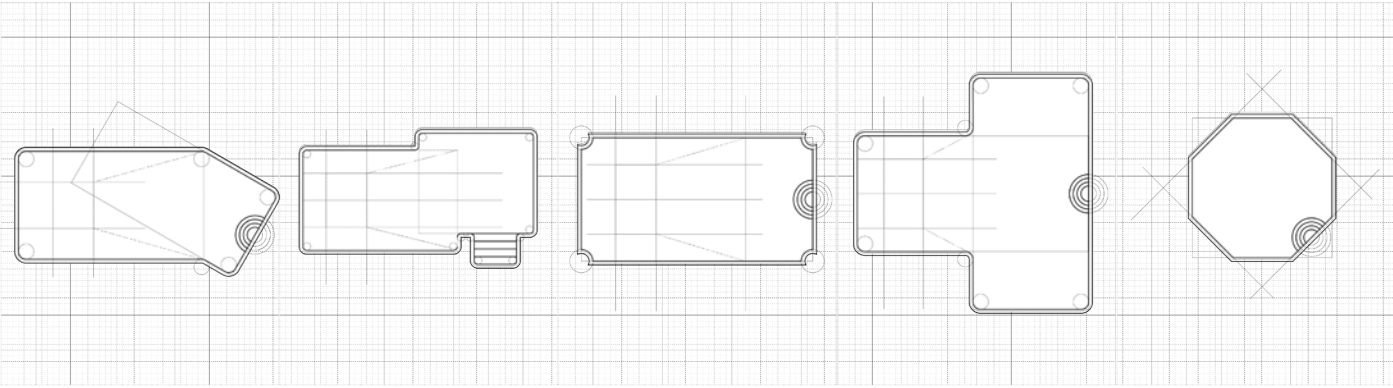
Typical Plan 1:500

05 | Forest Divisions

Fall 2019
1GB Design Studio
Instructor : Matthew Au

What would a Bathhouse look like now?

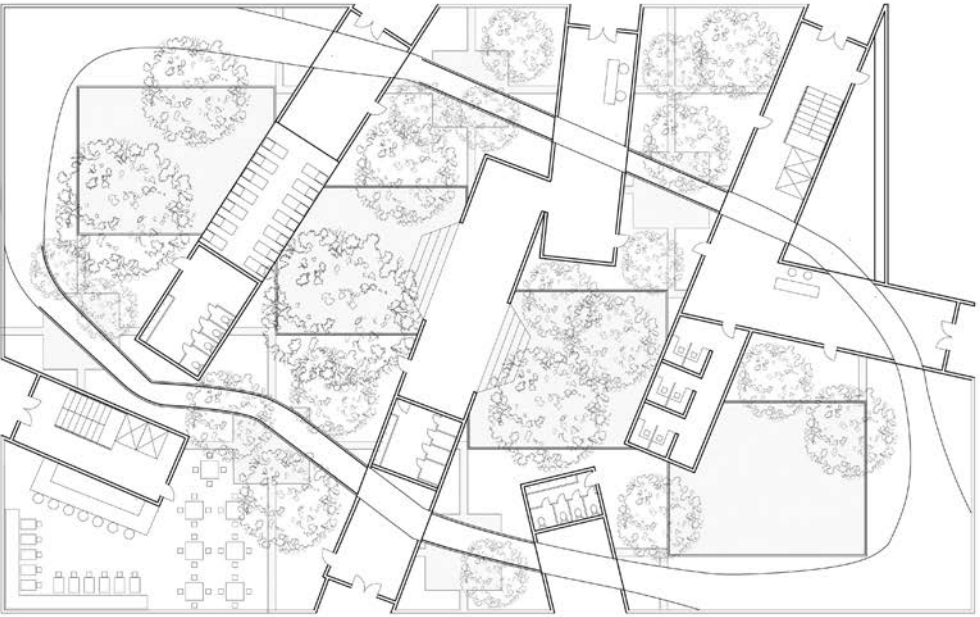
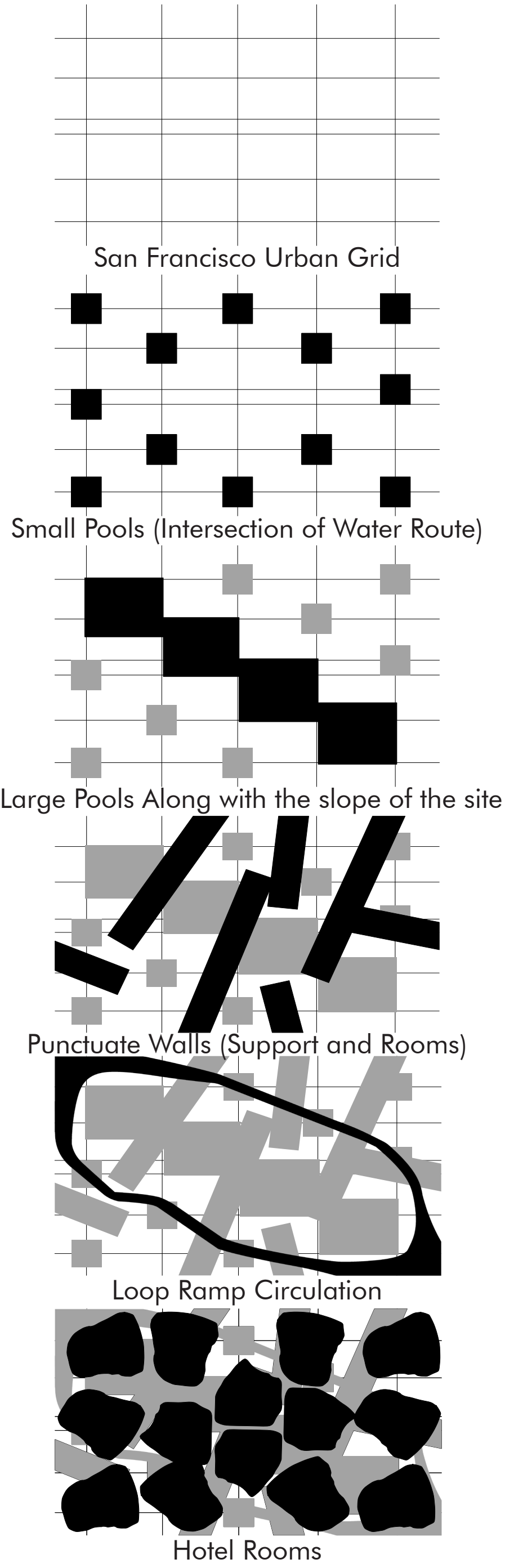
Based on the studies on swimming pool profiles, the extrusions of sectional experiences combined to create a special stone-like form. Based on the studies of precedent Fin garden Bathhouse in Iran, the water network and space arrangement are learned and redesign in vertical stacking.



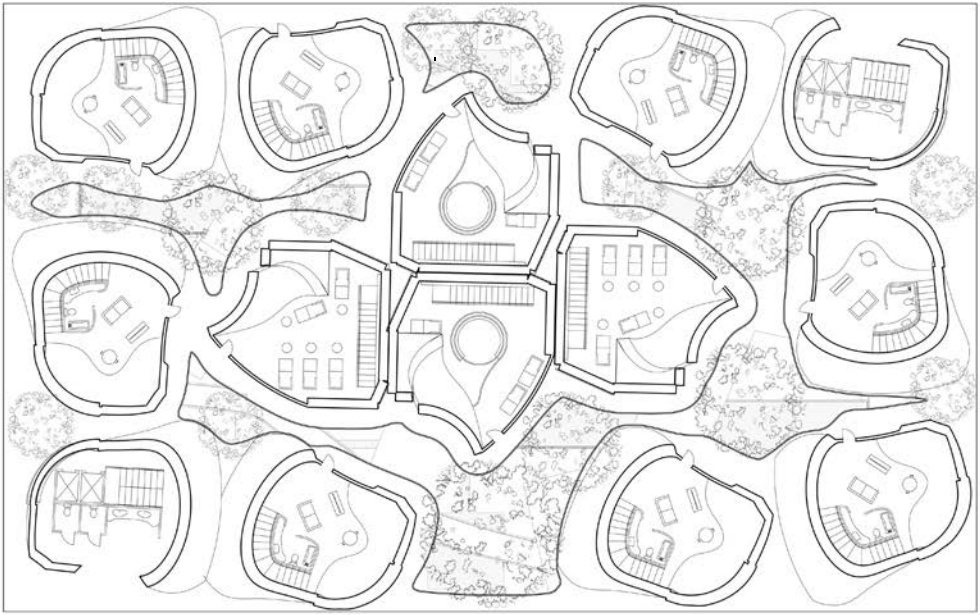
Swimming Pool Profile Study



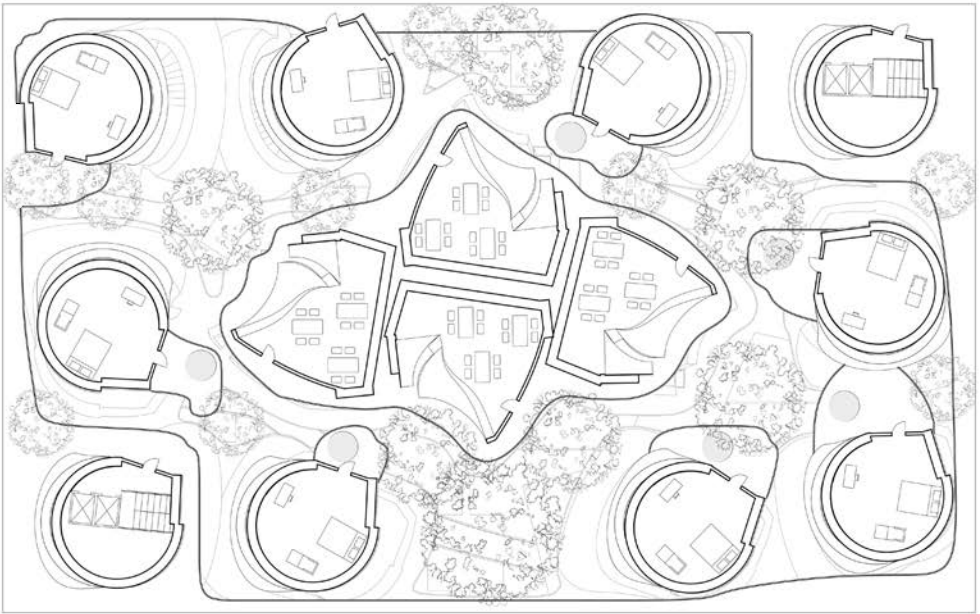
Hotel Rooms Generations



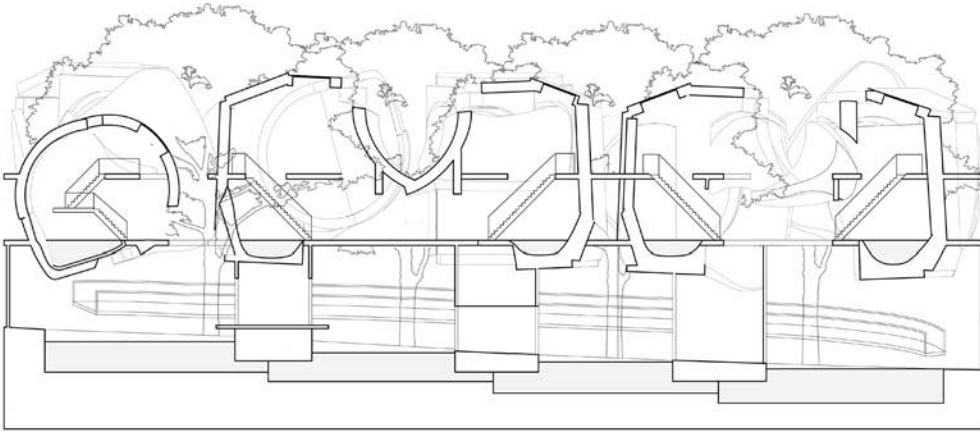
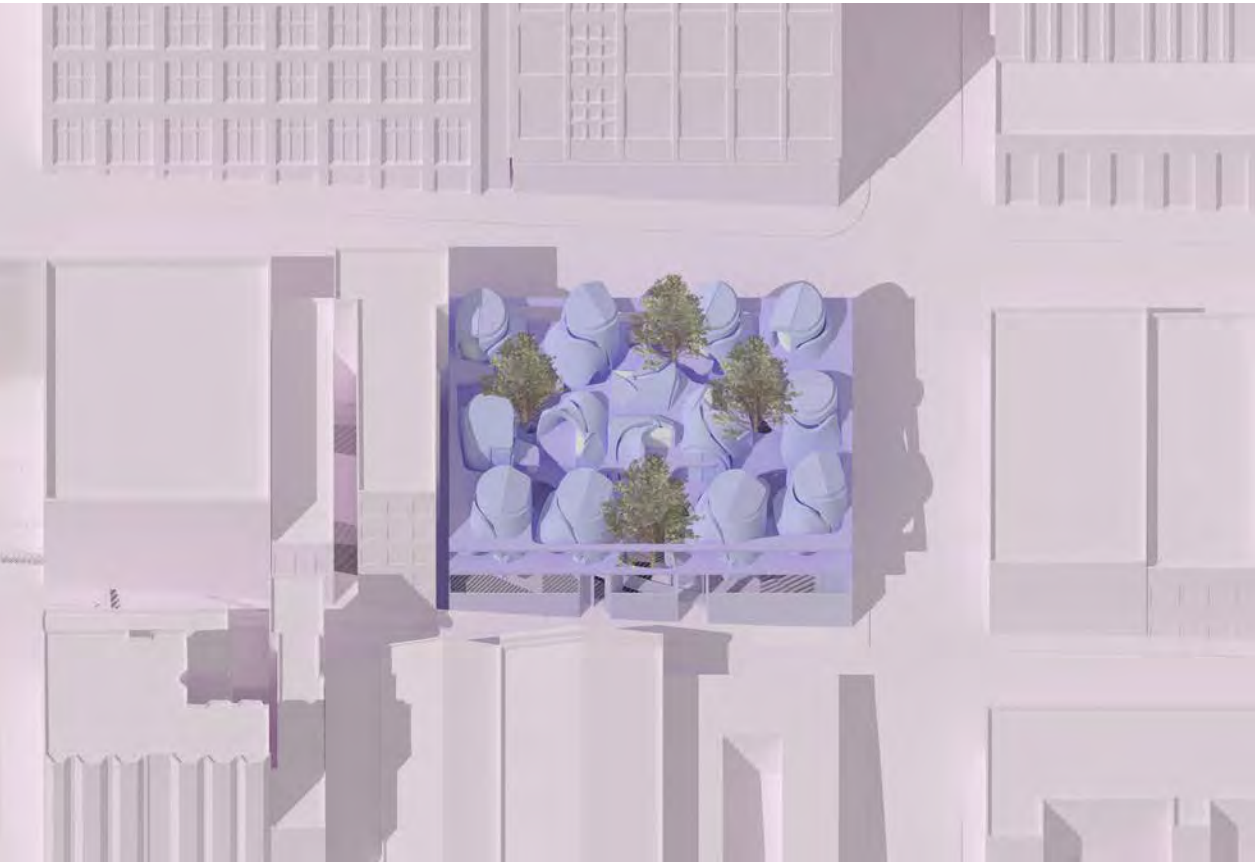
First Floor Plan



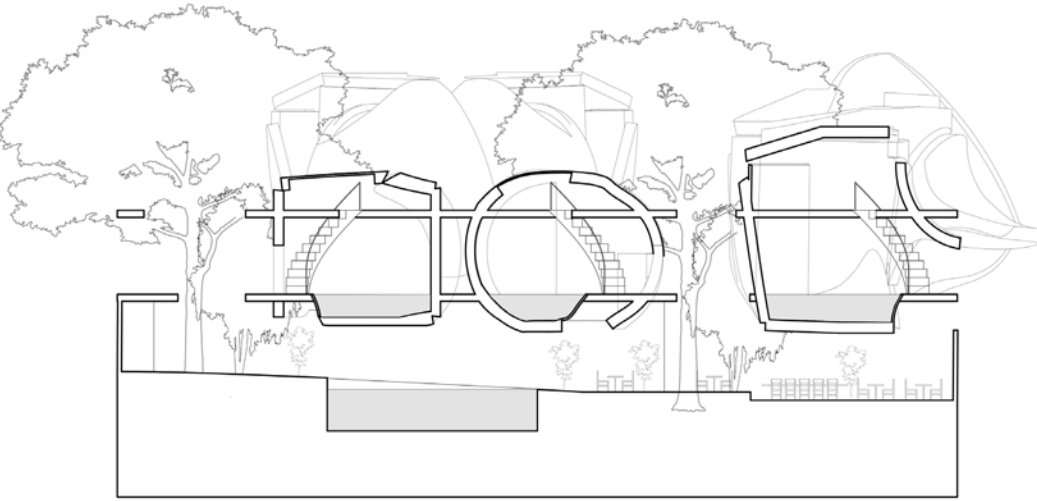
Second Floor Plan



Thrid Floor Plan



Long Section



Short Section

06 | Vitra Campus

Spring 2021
Design Development
Instructor : Herwig Baumgartner, Scott Uriu
Group : Yujia Fang, Jingyi Pan, Shuang Feng, Tianze Wu, Christopher Pennino, Kazuaki Kojima, Jiyun Kim

Material Selections

Skylight Material Choice

Photovoltaics Glass
Pros:
- generate clean energy, eco-friendly
- economical in the long run
- fully customizable
- flexible in transparency and size
- light weight
- easy installation
Cons:
- higher initial cost

Pleiglass
Pros:
- high shatter-resistant
- high erosion-resistant
- strong
Cons:
- low noise insulation
- higher cost

Flat Glass
Pros:
- long lifespan
- low price
- high scratch-resistant
- easy to recycle
Cons:
- high maintenance

Facade Material Choice

GFRP (Glass Fiber Reinforced Polymer)
Pros:
- high strength-to-weight ratio
- low cost
- highly customizable
- high durability and safety
- high corrosion-resistance
- long lifespan
Cons:
- cost may be higher in some areas

GFRC (Fiber Glass Reinforced Concrete)
Pros:
- light weight, can be thin panel
- no need for other kinds of reinforcement
- high strength-to-weight ratio
- high crack-resistance
Cons:
- no ductility
- higher cost than traditional concrete

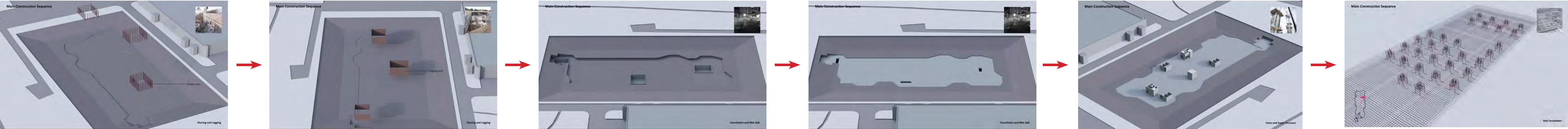
Metal Panel
Pros:
- highly versatile, highly durable
- highly customizable
- fire resistant, insect proof
- low maintenance
Cons:
- extensive
- expensive

Curtainwall System Choice

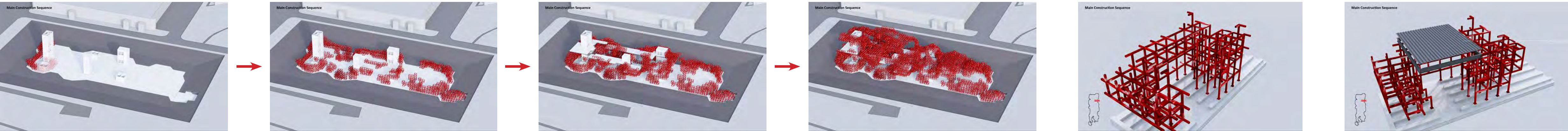
Unit Panel System Curtainwall
Pros:
- pre-fabricated panels and mullions
- can be attached to building structure
- cost-effective for large projects
Cons:
- shipping charge may be increased

Point Loaded Structural Glazing
Pros:
- vertical framing can be comprised behind the glass
- smooth facade, aesthetic appealing
Cons:
- high labor cost

Foudation Sequence

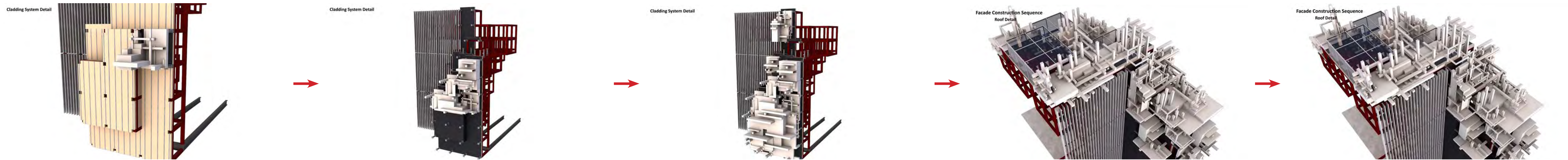


Structure Sequence



Structure Details

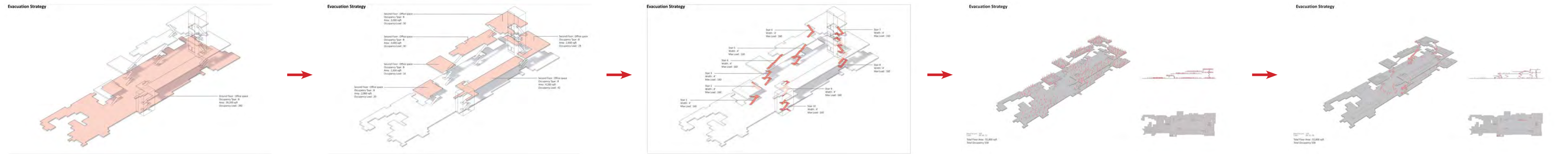
Pixel Facade Details



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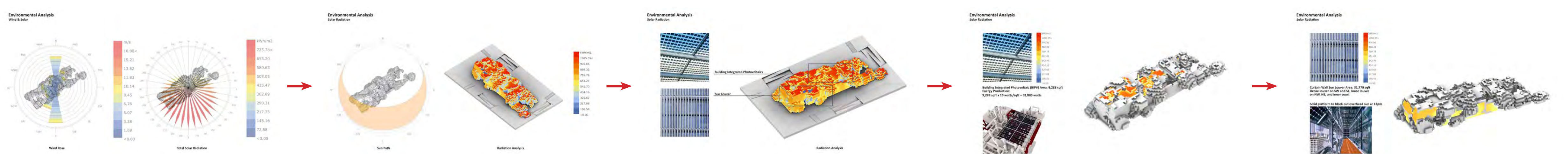
Evacuation Strategy



HVAC System



Wind & Solar



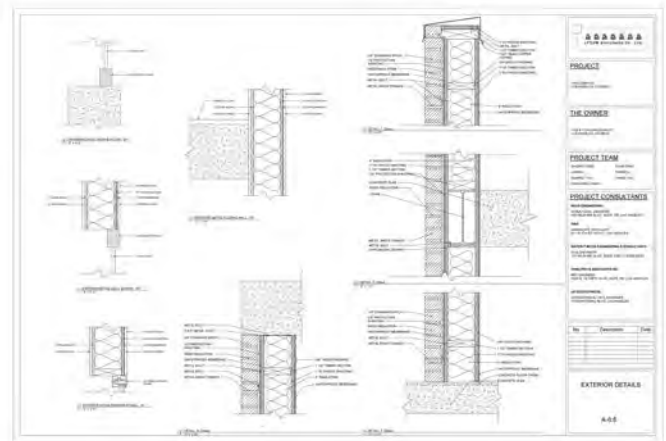
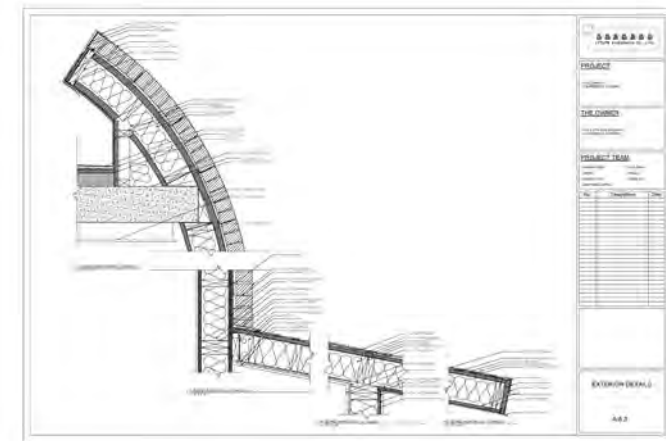
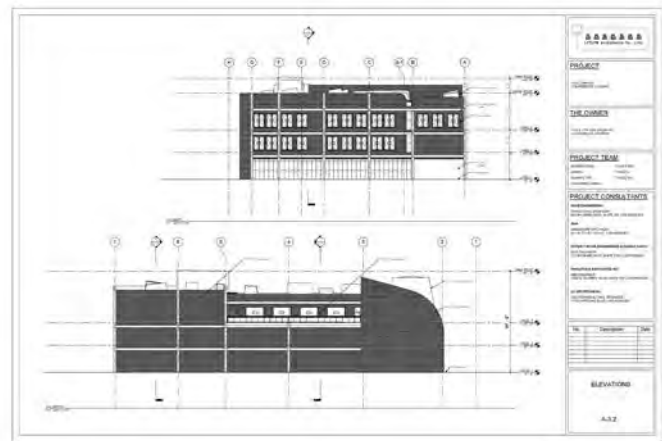
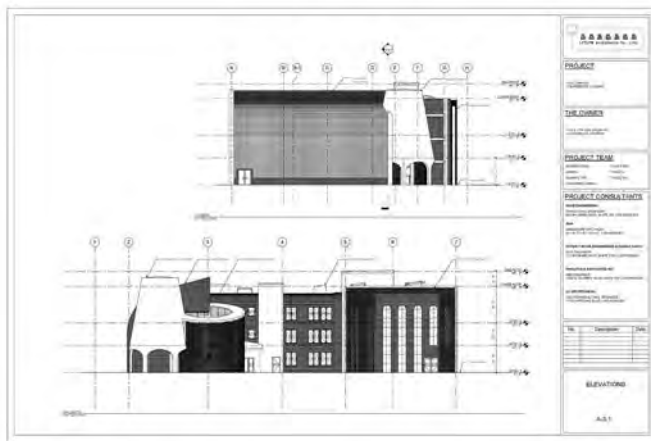
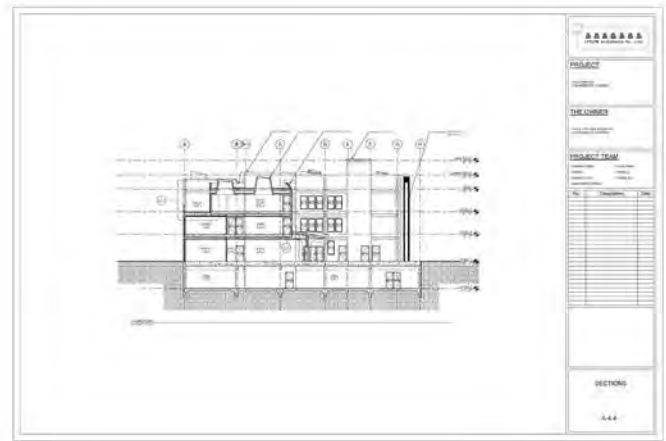
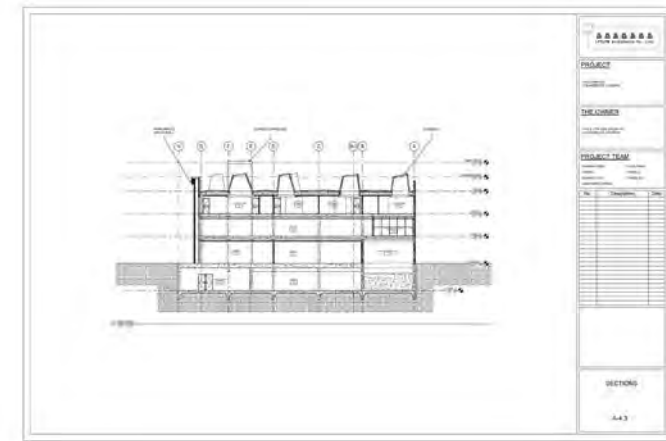
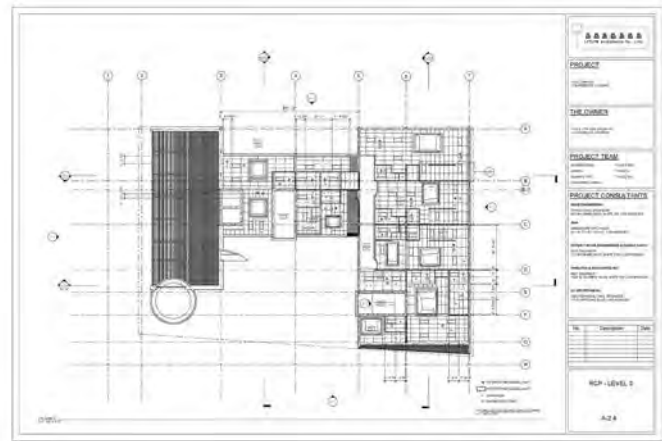
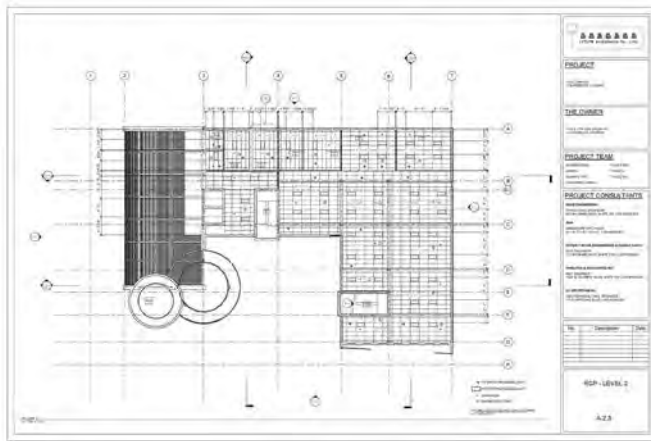
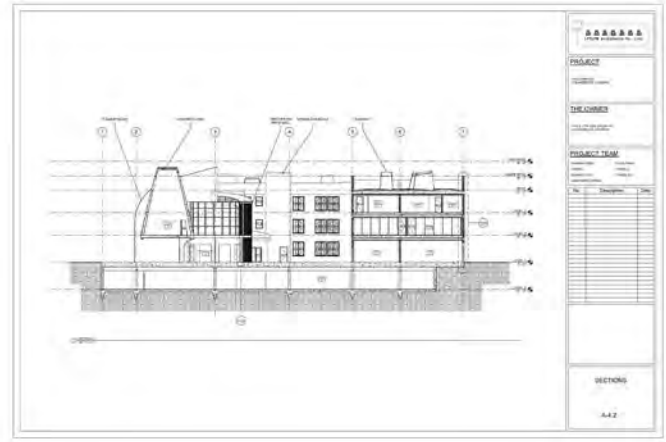
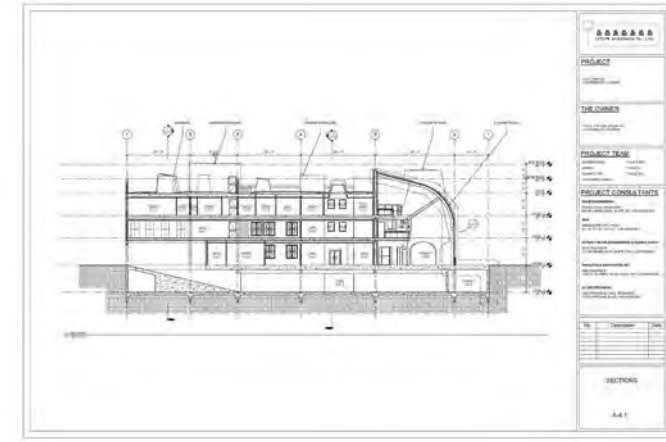
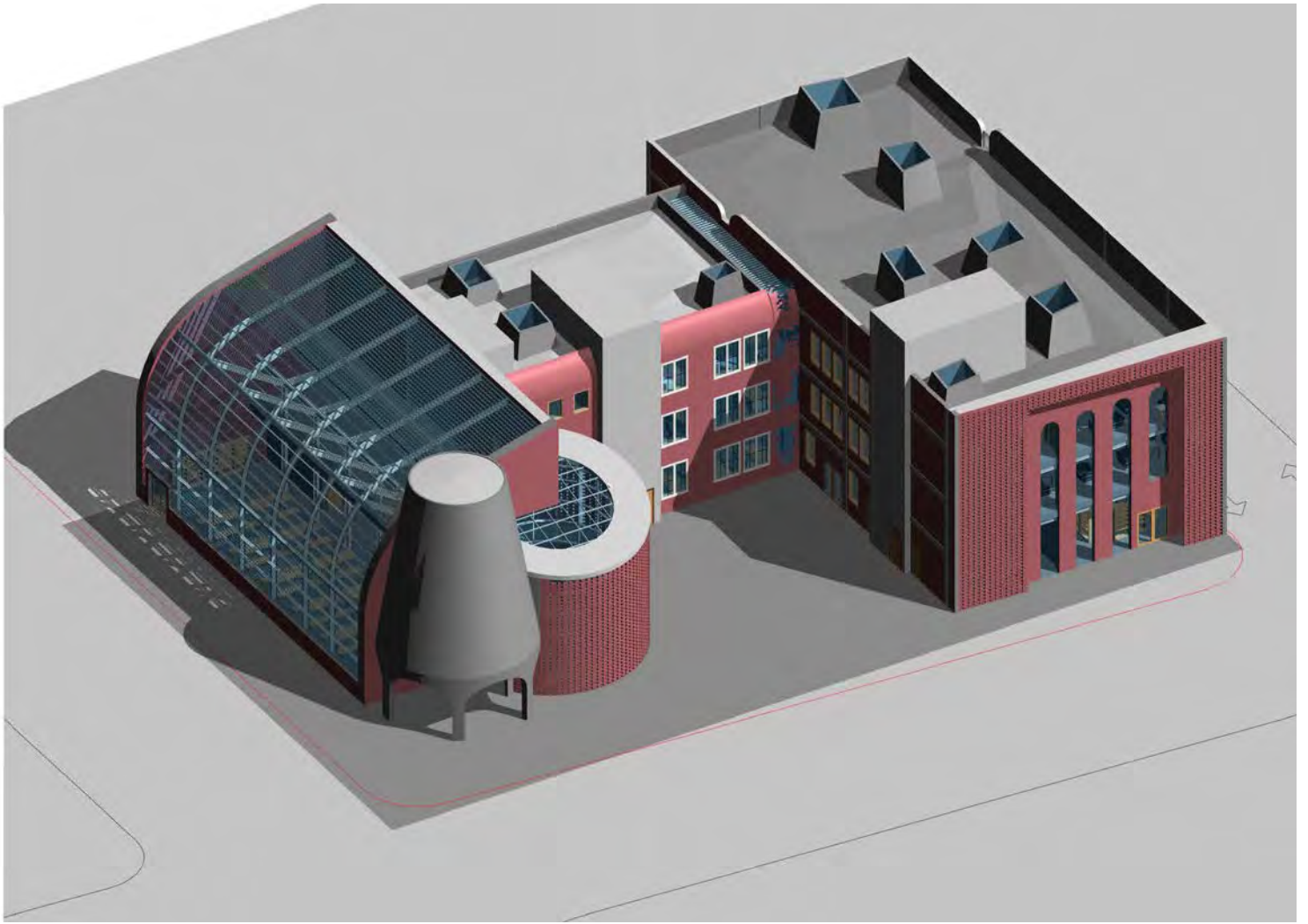
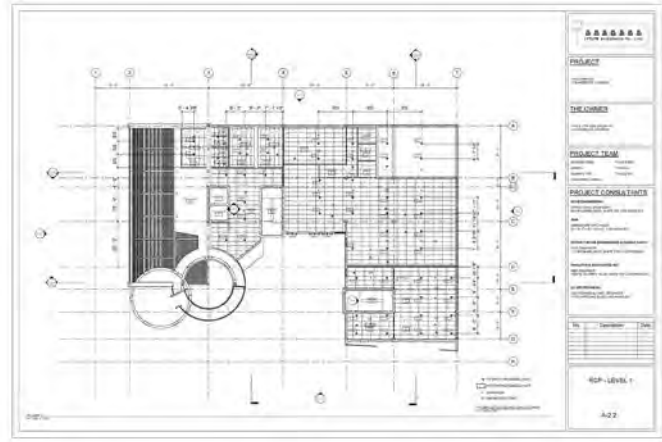
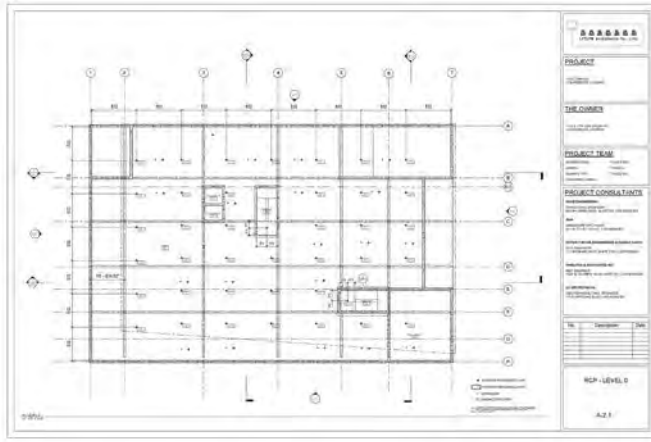
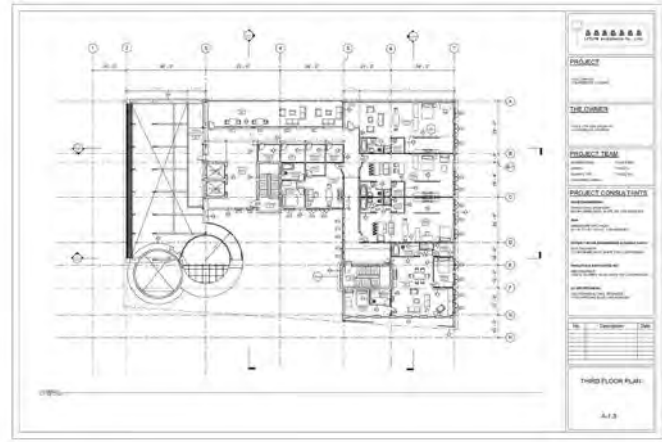
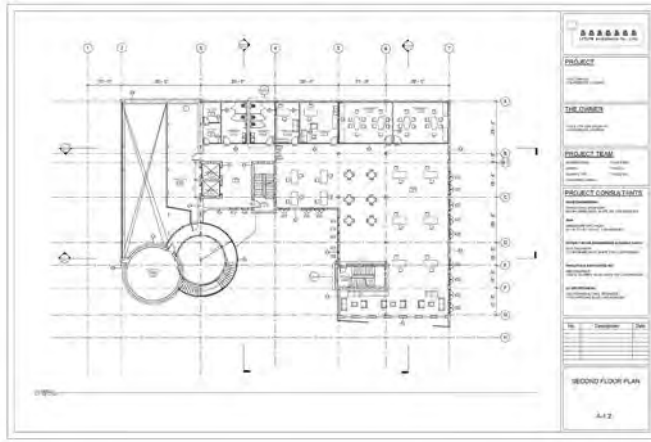
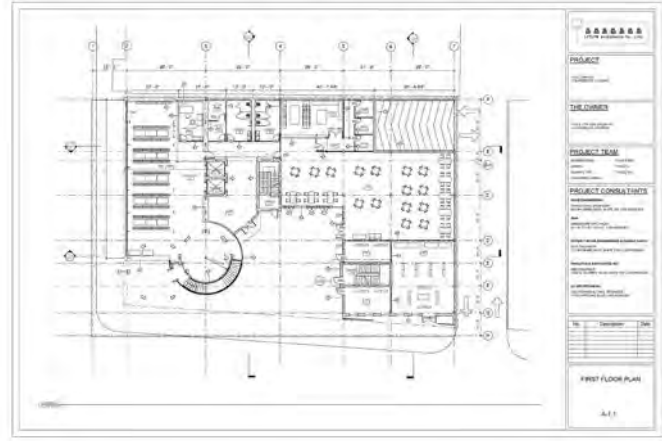
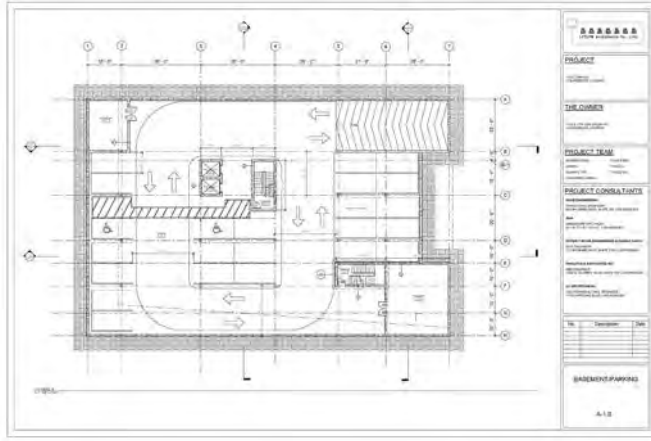
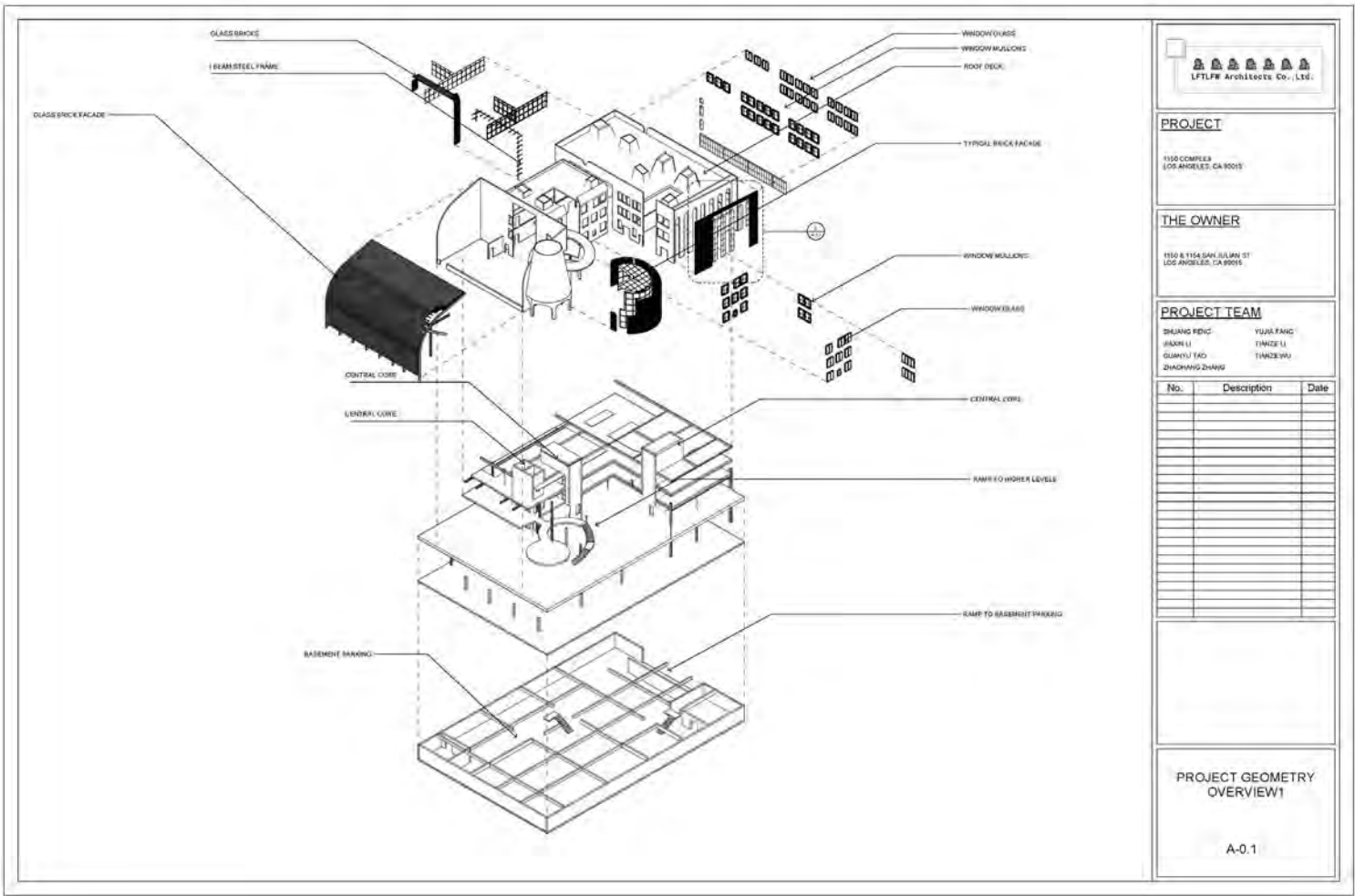
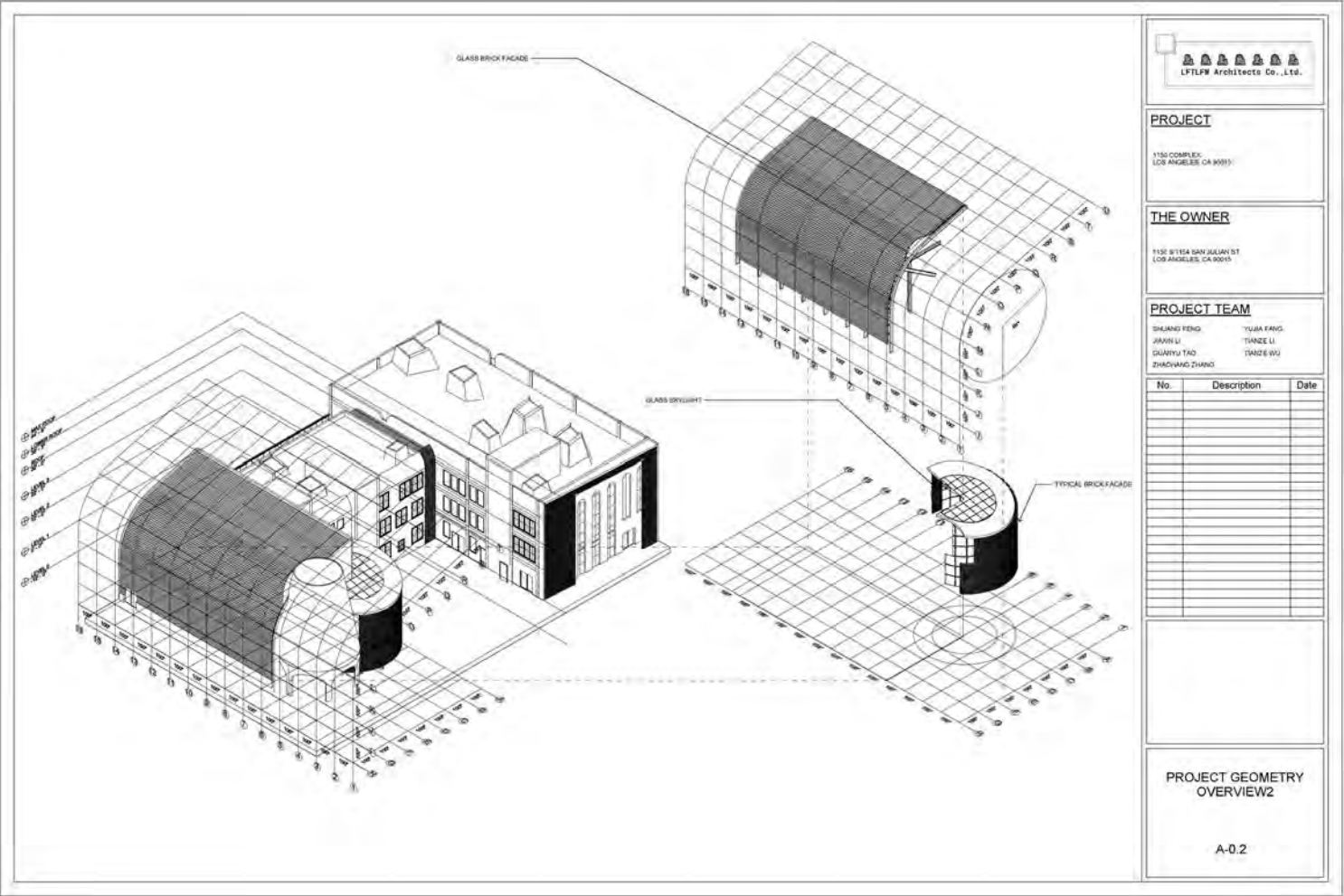
07 | Mini Commercial Complex

Fall 2022

Construction Documents

Instructor : Pavel Getov, Kerenza Harris

Group : Yujia Fang, Tianze Li, Shuang Feng, Tianze Wu, Guanyu Tao,
Jiaxin Li, Zhaohang Zhang



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