PORTFoLIO

WENJING TU

COLUMBIA UNIVERSITY
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01

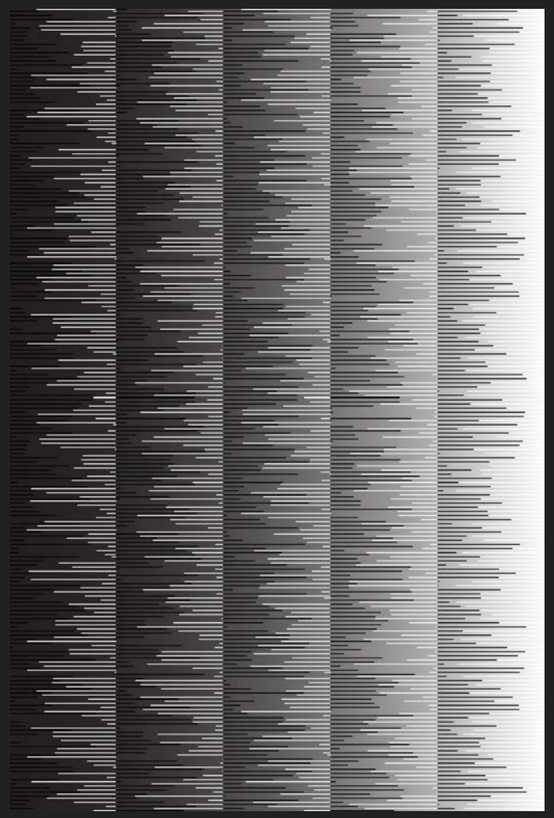
Advanced Studio VI

Spring 2023

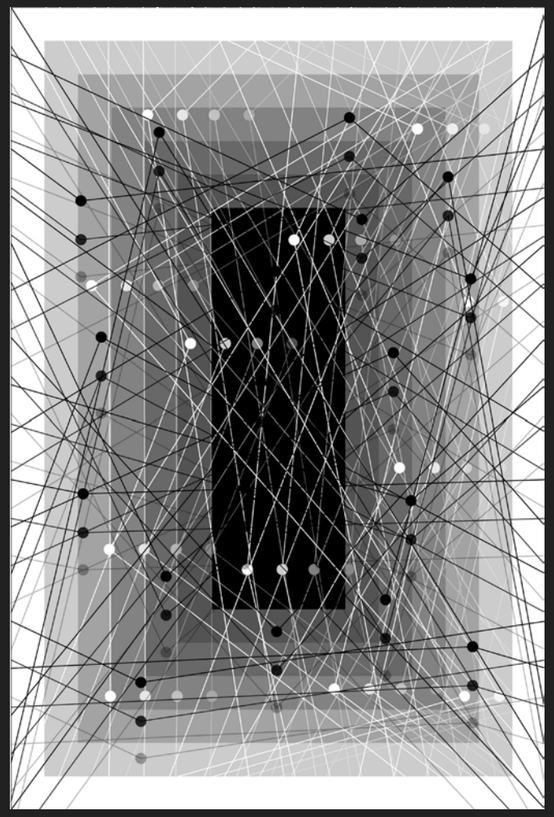
Partner: Zixiao Zhu

Instructor: Karla Rothstein

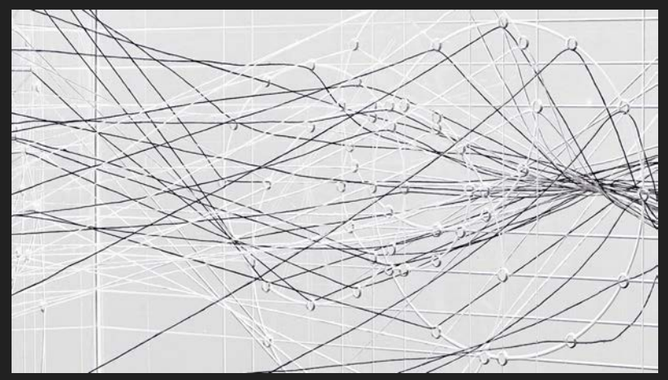
<Overpass>



Model Drawing 1

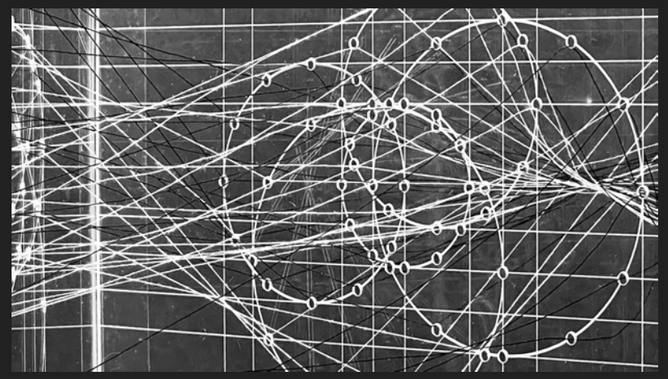


Model Drawing 2

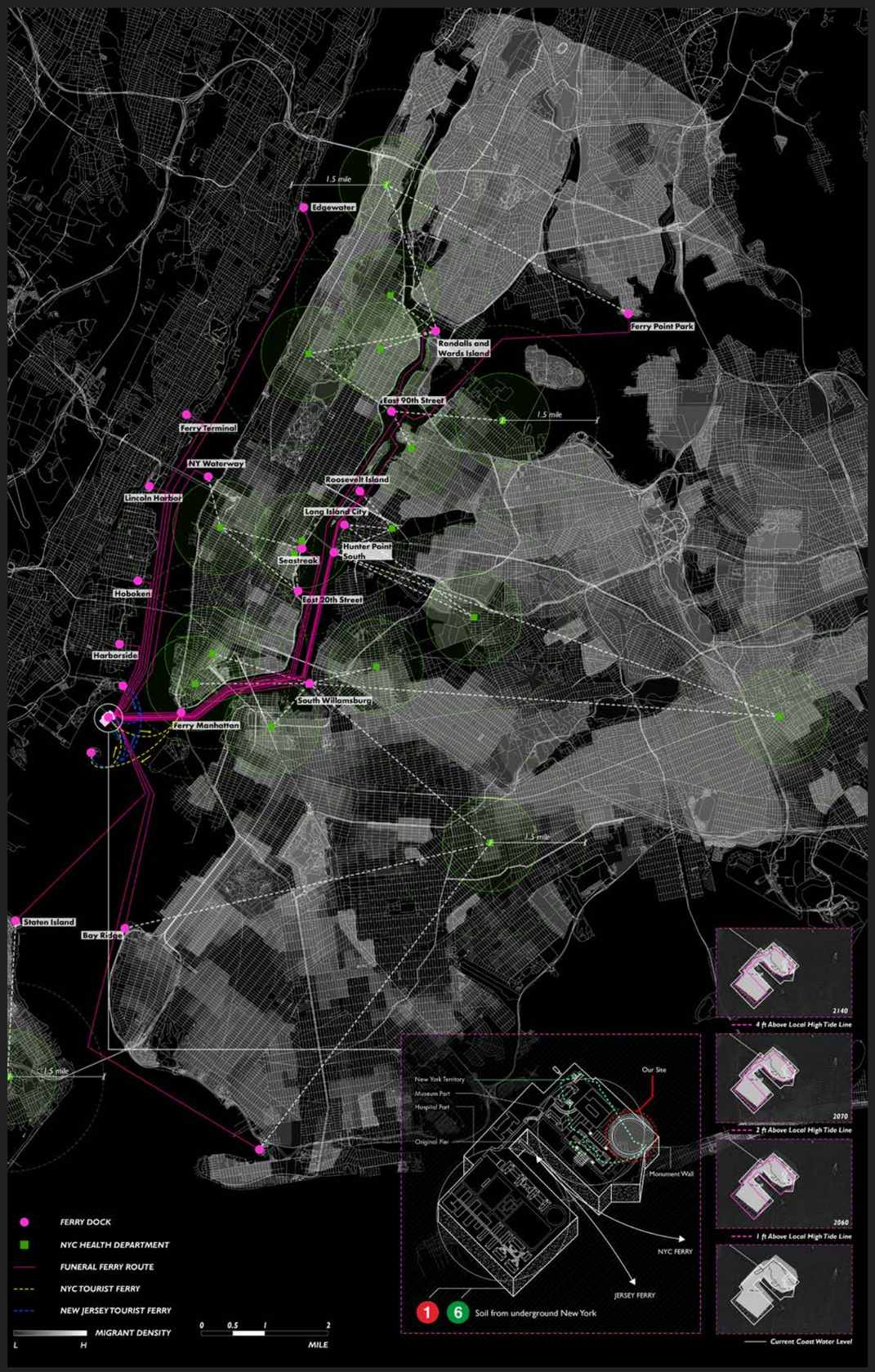


Immigrants are a huge portion of the demographic composition of New York city. Immigrants comprise 37.2 percent of the city's population and 44.2 percent of the total labor force. The map recorded the density of migrants in the entire New York City, and locations of the health department (Green), where the family members can get the death certificate from for the dead. The ferry docks are able to deal with corpse transportation. It is connected to the health department to show the convenience and difficulties to deal with the death of a family member for the living.

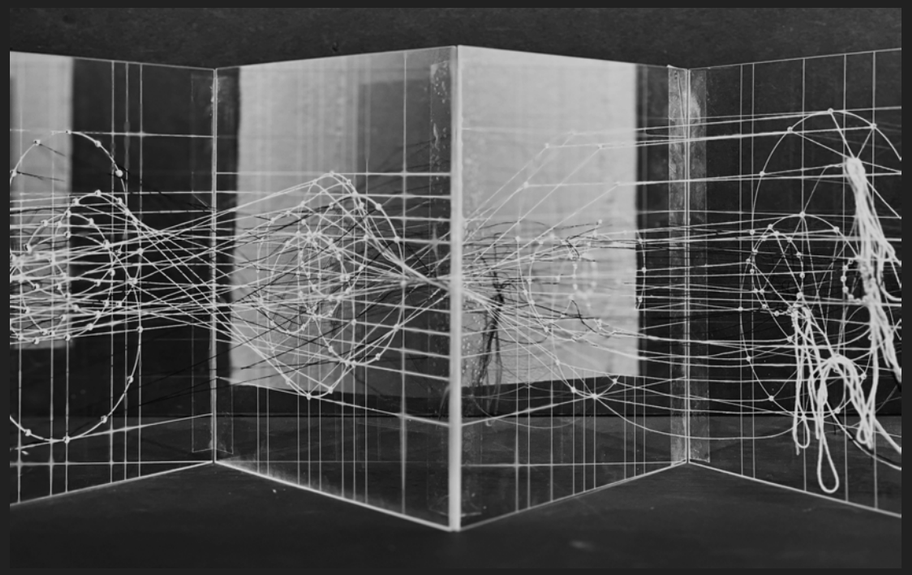
The health department is not primarily located in the densely populated areas, the white hatch behind the road line. Many communities, including those with strong connections to their homeland and ethnicity, have been overlooked when it comes to addressing death rates.We also did some analysis on the water level change of Ellis island in the following 100 years.



The water level rise in the future 20 years reaches 1 ft above current level, potentially floods over the ground level. Dislocation and displacement is experienced by most migrants. This project aims to capture the essence of liminality between death and place, invoking a sense of distance between New york and immigrants' homelands.



New York Immigration and Ferry Transportation Map



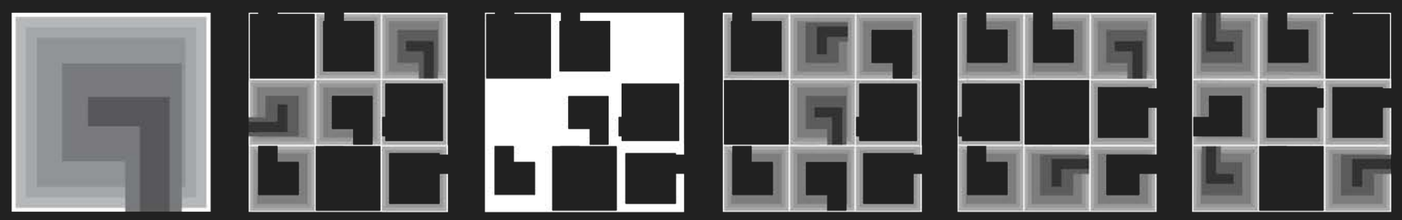
Model Image

A series of physical tactics were made to experiment the liminal quality of this coexistence.

Although co-existing within the same spatial framework, the observable quality of the black and white strings against different backgrounds is rather ambiguous.

The model analyzes this observative fluctuation. The lines appear and disappear along the change of background not only echoing the situational character of migrants, but also invokes our spatial design.

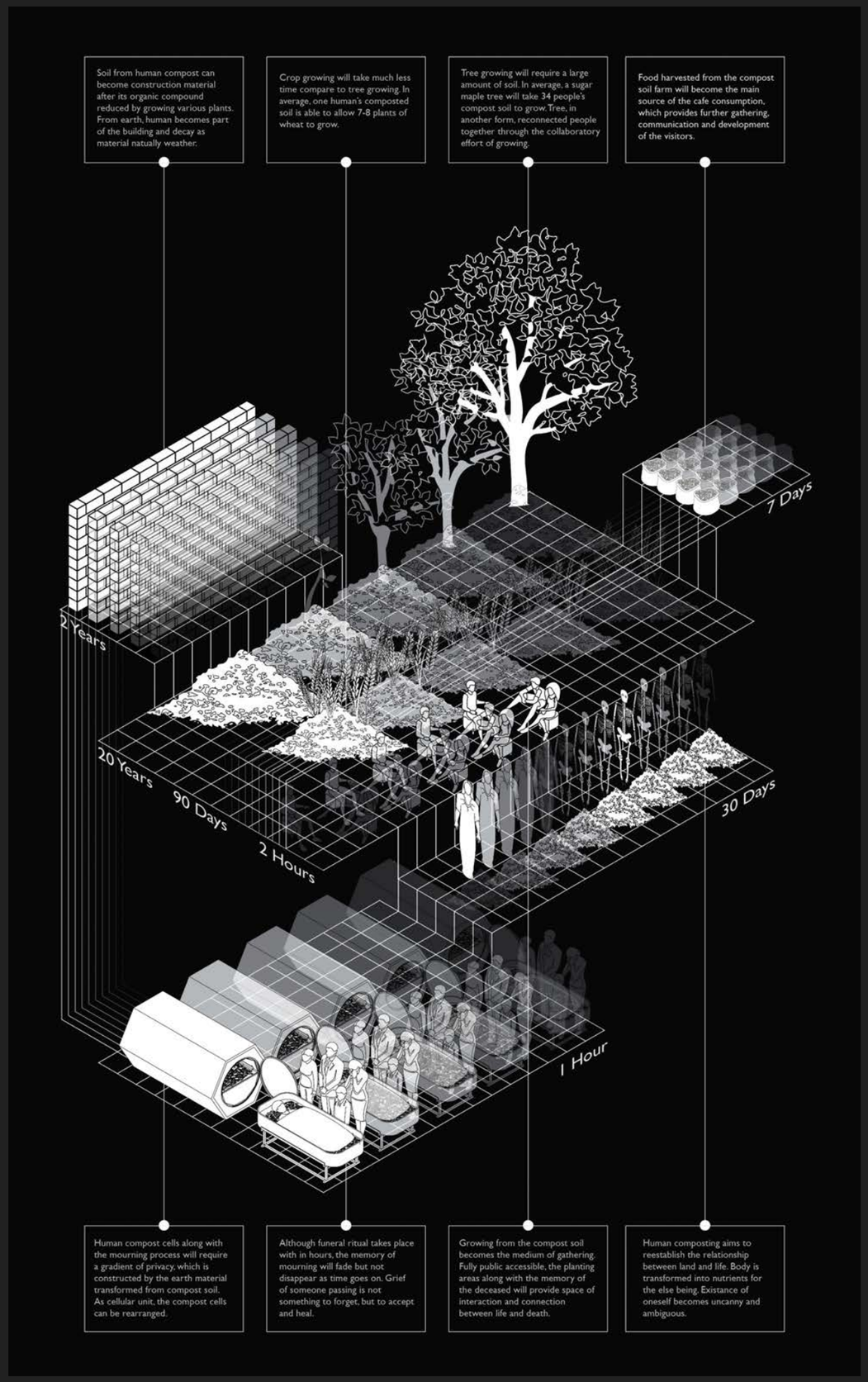
The continuous accumulation, integration and deterioration of soil from human composing would become the means of sculpting the space within this human compost facility. Meanwhile becoming the thread connecting the migrants and the land.



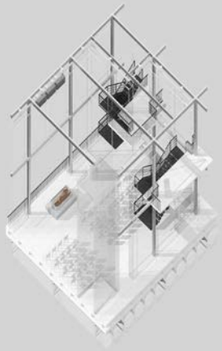
Spacial Recomposition throughout time

Composting is the natural process of recycling organic matter, such as leaves and food scraps, into a valuable fertilizer that can enrich soil and plants. Different from cremation or embalming burial, the human composting process provides an alternative end of life by reintegrating the body back to earth. The 1 cubic yard of decomposed soil from one human body becomes a sustainable and transformative infrastructure of humans that transcends the significance of the soul.

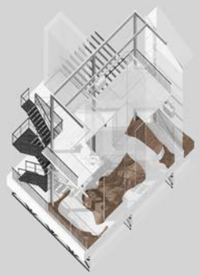
The intention of our project is to re-establish a relationship between land and life.
Addressing the sorrow and grief of death within a displaced environment and culture, the project provides an alternative form of belonging and reinstates lost kinship for the deceased migrant.

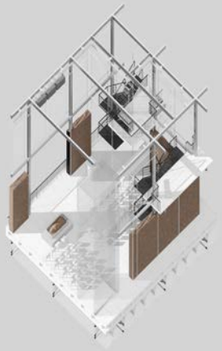


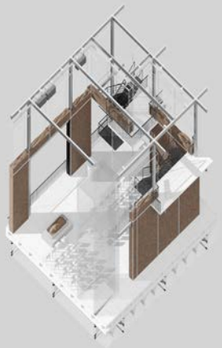
Human Compost Process

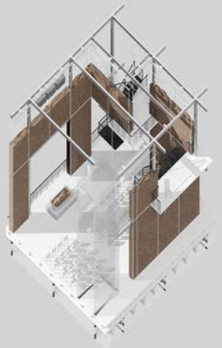


Double Mesh Module Soil Accummulation









Single Mesh Module Soil Accummulation

From the qualitative envisions, a series of modular islands are developed to allow for the gradual buildup of soil over time. Roughly, one island has a usage from 16-20 years. The islands serve as the foundation for funerary events and self-mourning. The interconnectivity of them allows people to move in between, fostering a sense of community and shared grief.

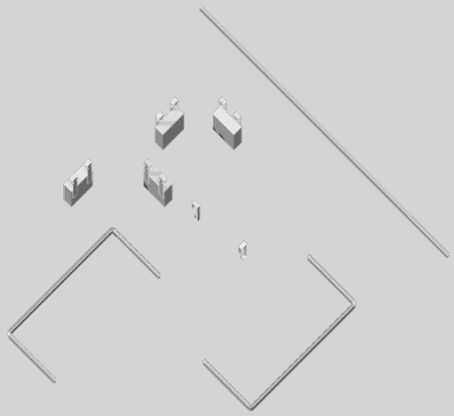
The **double mesh module** is semi-enclosed by the double mesh walls that contain compost soil from the tower to host the funeral. Soil is accumulated in the double mesh wall to create a series of experiences for events. Over time, vegetation begins to sprout from walls that have aged and weathered. This type of wall serves as a poignant reminder of the inevitable cycle of life and death.

The **single mesh module** is enclosed by single mesh walls to allow soil being accumulated along the wall and gently sliding down to take over the floor. The narrow hallways and intimate rooms for mourning aims to provide a more private atmosphere for individuals to contemplate as the soil accumulates by time .

The greenhouses on each island provide different climate systems that accommodate different climate zones. It creates a profound link between the livings and their distant motherlands

The Outdoor Green Space reproduces the landscape of New York, coexisting in harmony with the greenhouses on each island with distinct vegetations.

Human Compost Transportation Kits



Human Compost Transportation Routes

The Transportation Pipe and kits are located under the roof of the floor, which pours the soil onto the edge of the walls. As the soil being accummulated, vegetation starts to grow out of it onto the mesh walls and columns, creating an immersed natural environment for audience to mourn and contemplate.

Soil:

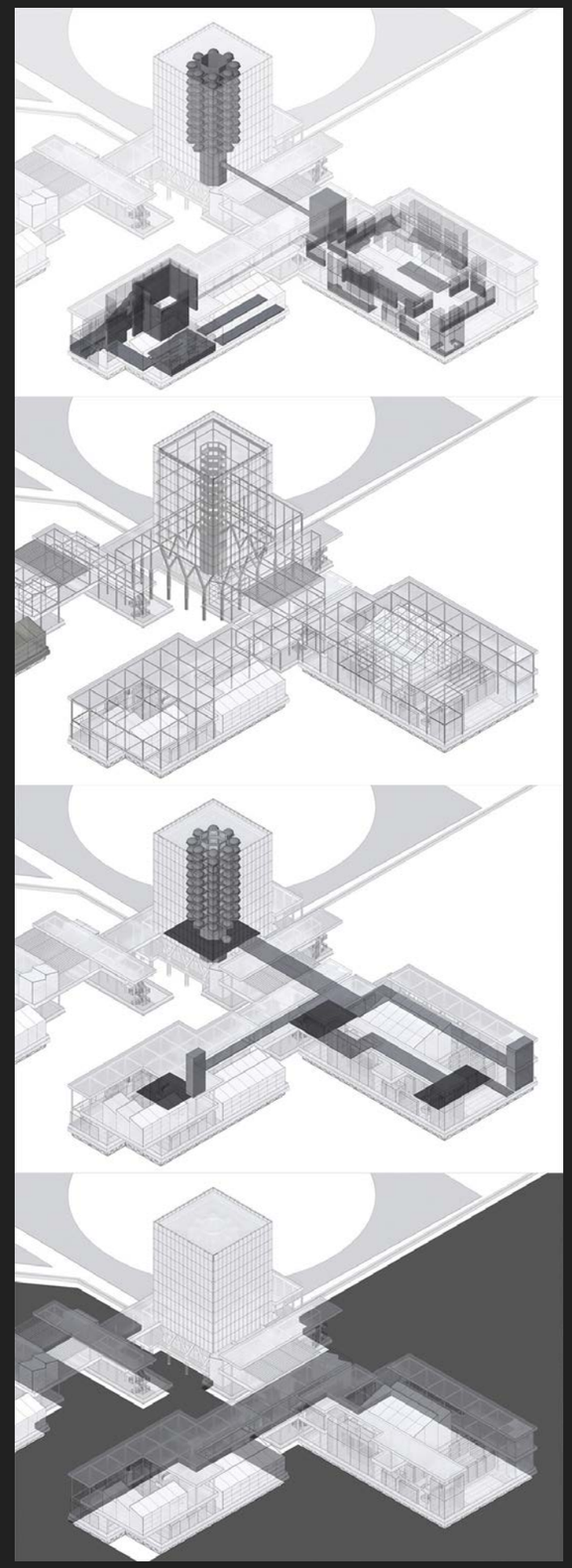
After total of 60 days (composting & settling), the soil is loaded to the empty vessels for distribution. The mechanical setup is linked from the tower to the transitional island and then to the funeral islands. The containers travel on tracks situated along the edge of the meshes to distribute soil, allowing for a more even layering effect.

Structure:

The towers is deeply anchored into the riverbed as they need great dead load capacity. The first level of the tower is concrete V-columns, based on the study that will need to resist flooding. All modular islands have a buoyant foundation with steel construction.

Funeral Routes:
The funeral route starts from the point people arrive on the transitional dock spaces. The body along with the relatives will head to the ceremonial space on the modular islands. After all, the body will go along the elevators and be sent to the compost tower through the second level.

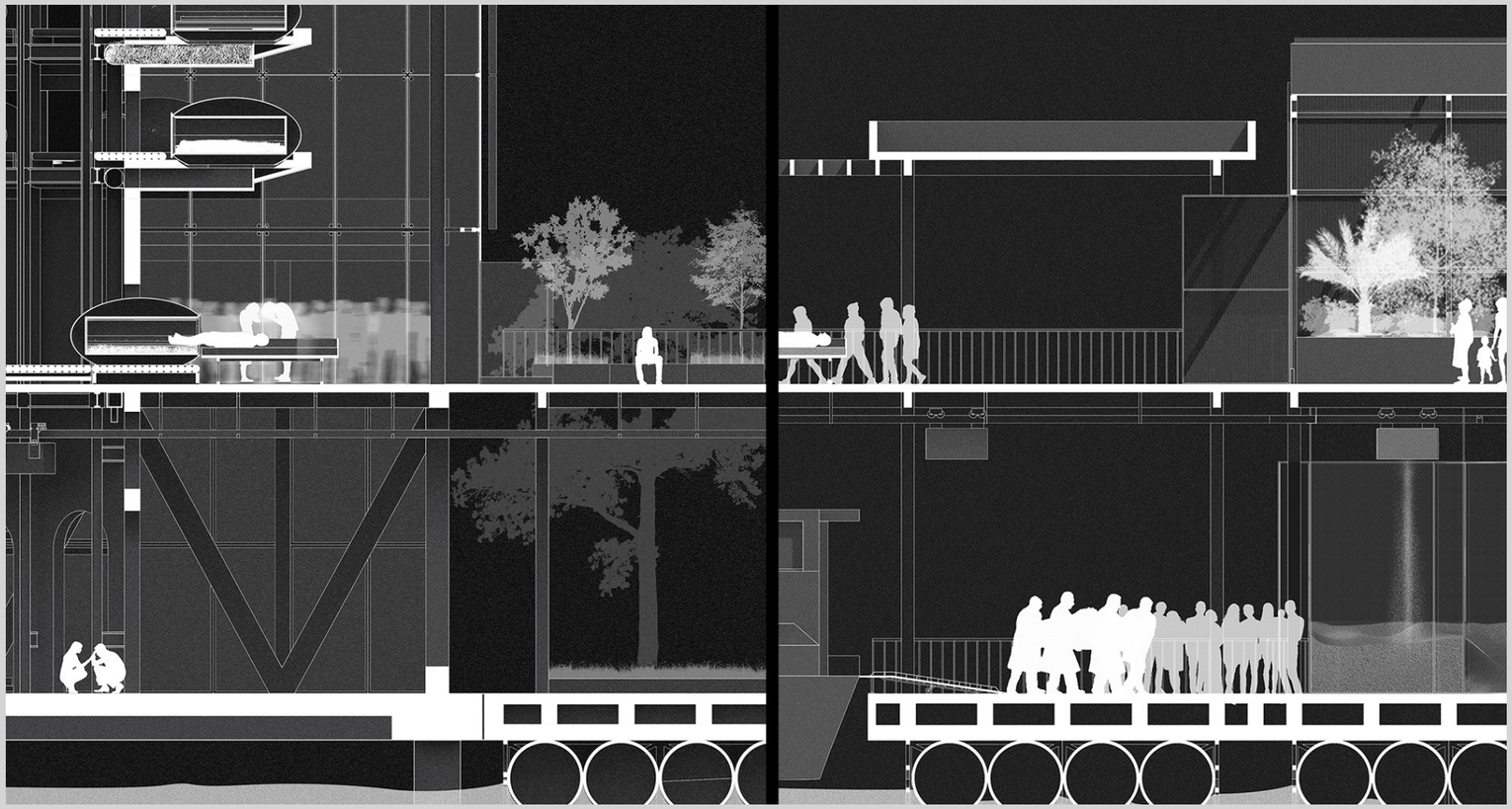
Water Routes:
Water routes act as a main charater in the entire circulation system of the project. The spacing between the islands are calculated to allow ships to pass. They are mainly used for corps' transportation in the steps of funerals.



All modular islands are connected to the compost tower, which mainly host all the human compost facilities, which will become the soil source. At the same time, connection islands will bridge the tower and the funeral islands. It hosts mainly the docking of ferries and centralizing soil room for soil distribution.

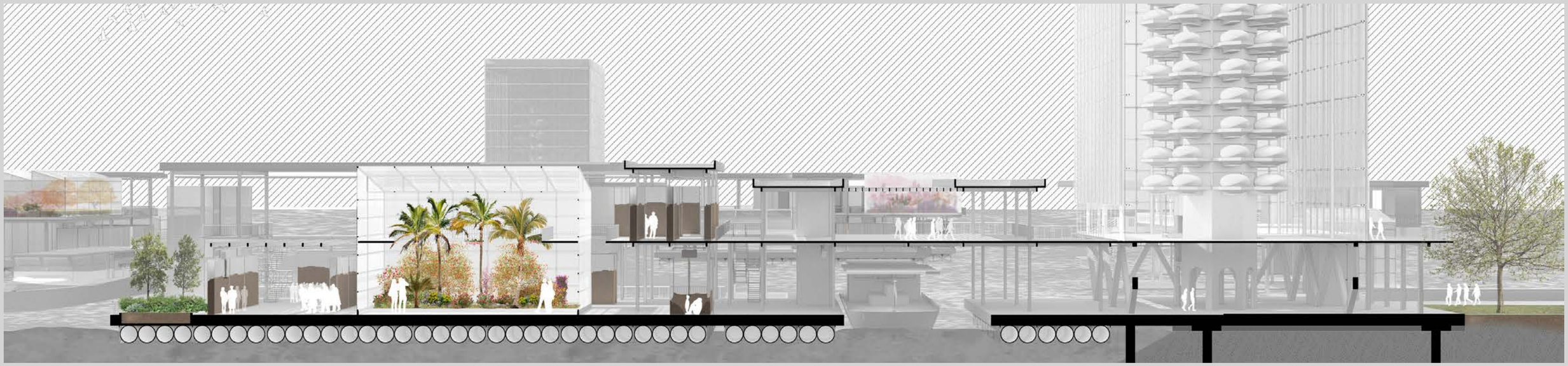
Compost Tower

Greenhouse



The continuous accumulation, integration and deterioration of soil from human composing would become the means of sculpting the space within this human compost facility. Meanwhile becoming the thread connecting the migrants and the land. The soil beneath the survivors' feet, oft-overlooked and unassuming, holds a marvel of potential. It is a testament to the ingenuity of nature, for it can take on the form of architecture itself. Solid partitions, enclosed spaces - all can be crafted from the very soil upon which we tread.

Moving from the solemn to the verdant, the soil is also capable of nurturing lush vegetation in greenhouses and outdoor parks. Cultivated with careful attention to the temperature and moisture of diverse ecological regions, these habitats become immersive and familiar for flora from distant homelands. It is a unifying force, connecting individuals across disparate geographies and forging meaningful connections between them.



The Transportation Pipe and kits are located under the roof of the floor, which pours the soil onto the edge of the walls. As the soil being accummulated, vegetation starts to grow out of it onto the mesh walls and columns, creating an immersed natural environment for audience to mourn and contemplate.

Urban Village

02

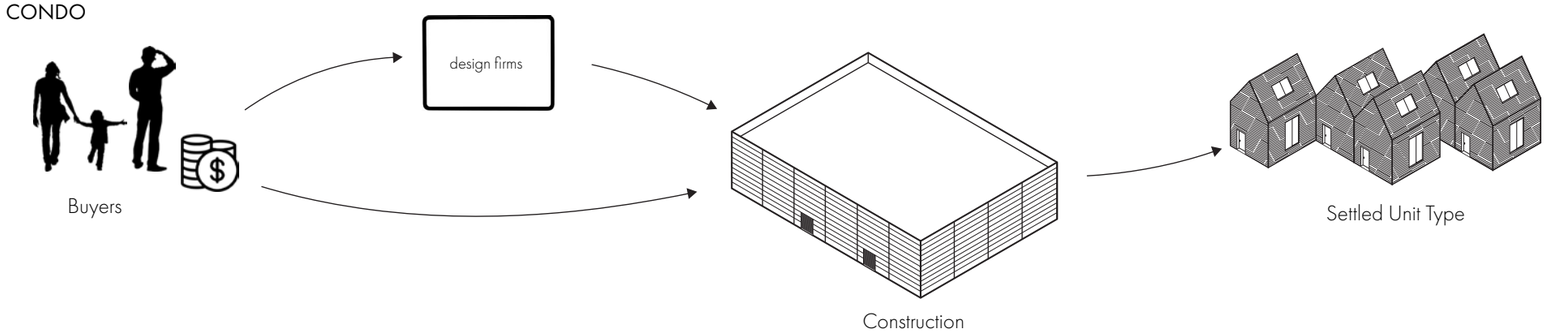
Architecture Core III
Fall 2021
Partner: Kaixi Tu
Instructor: Michael Caton

RENT - VACANCY - *OPERATIONAL EXPENSES*

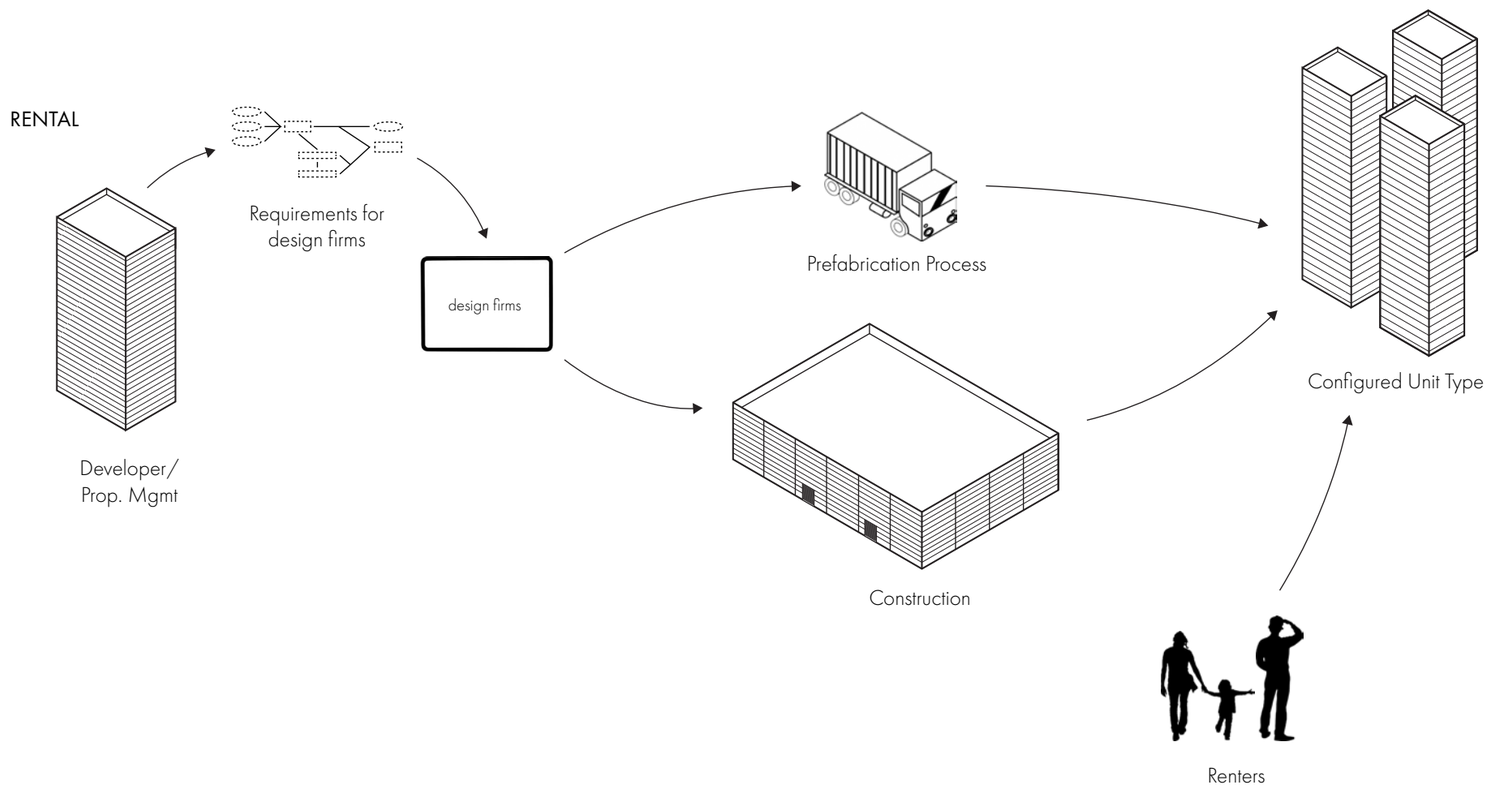
HARD COSTS *+ SOFT COSTS + LAND ACQUISITION COSTS*

ARCHITECTURE
MANUFACTURING
CONSTRUCTION

CONDO



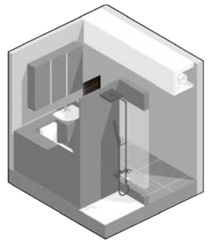
RENTAL



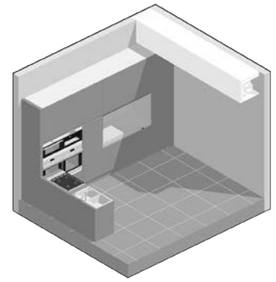
The Value Propositon formula describes the relationship between **ARCHITECTURE, MANUFACTURING,** and **CONSTRUCTION**.

The aims are to lower the vacancy by providing the future residents with multiple options in *rental process*, and decrease the hard costs through a series of prefabrications throughout the manufacturing and construction process.

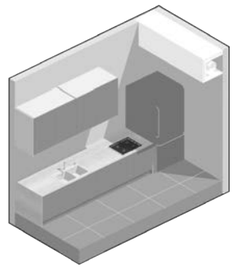
Bathroom Set A



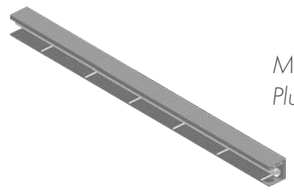
Bathroom Set B



Kitchen Set A

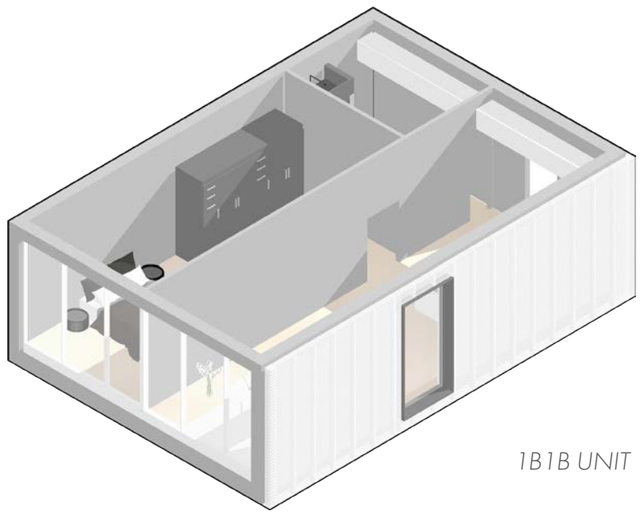


Kitchen Set B



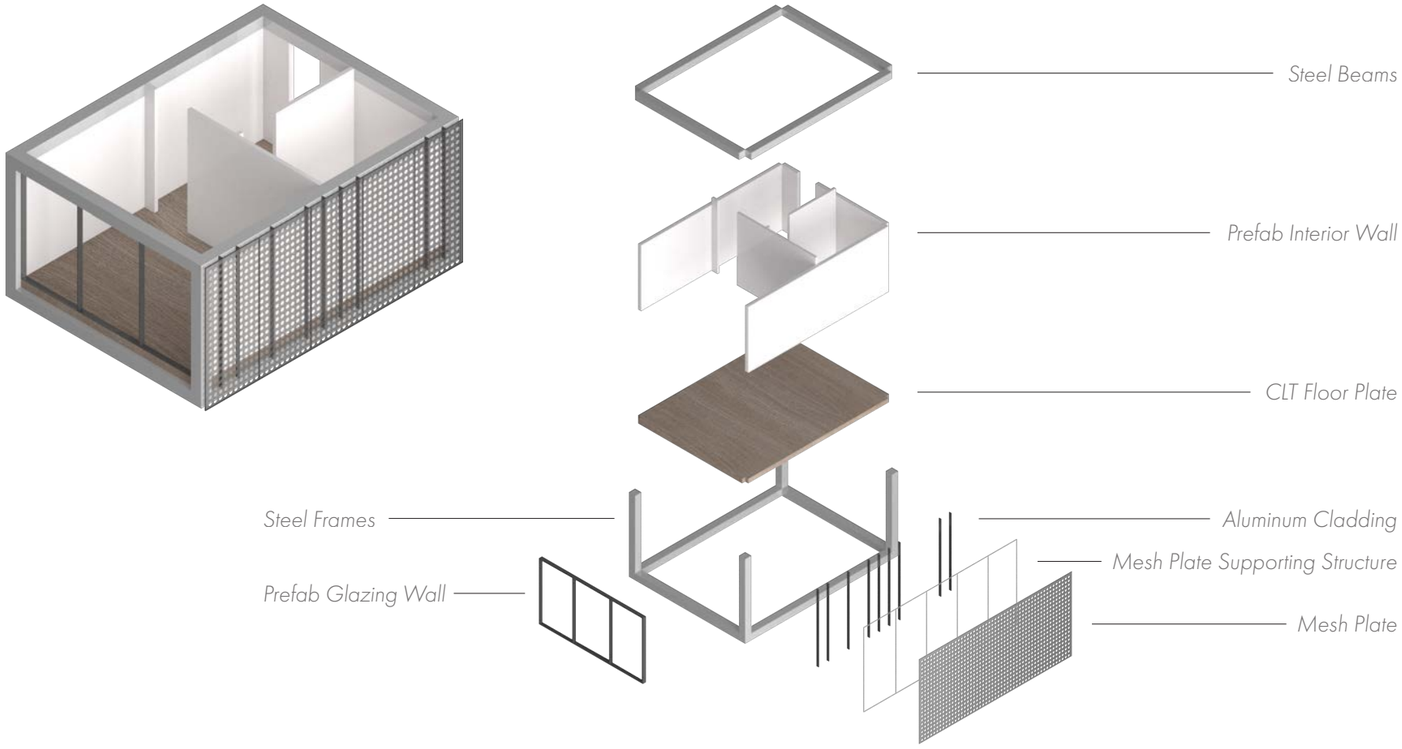
Mechanical, Electrical & Plumbing Assemblies

The prefabricated kitchens, bathrooms, and duct work are adaptable and provide possibilities for the unit layout. The prefabrication process of the assemblies and the unit happens at the same time, decreasing unnecessary time and budget for the entire construction on site.

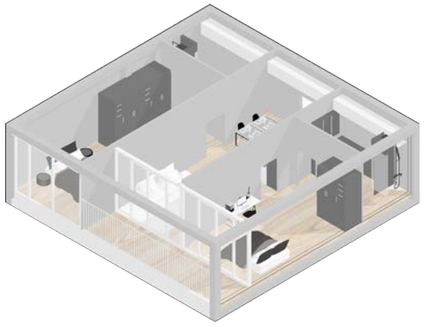


1B1B UNIT

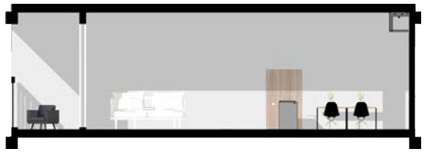
UNIT PREFAB PROCESS & UNIT LAYOUT



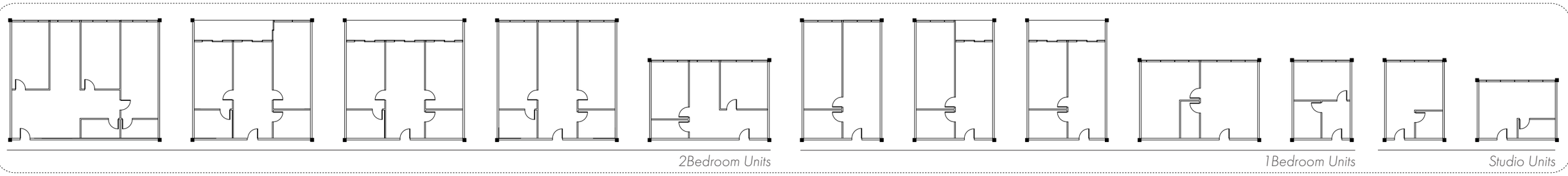
The prefabrication of a single unit allows multiple different units being constructed at the same time, lowering the time and cost of the whole process.

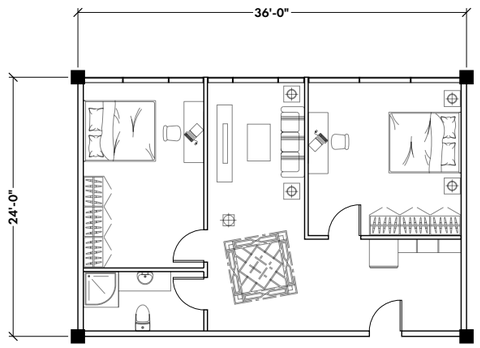


2Bedroom 2Bathroom w/terrace

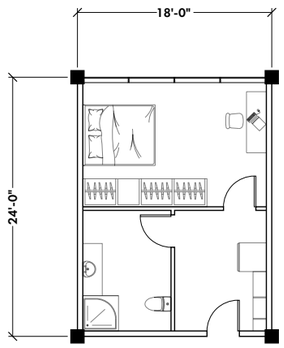


2Bedroom 2Bathroom w/out terrace

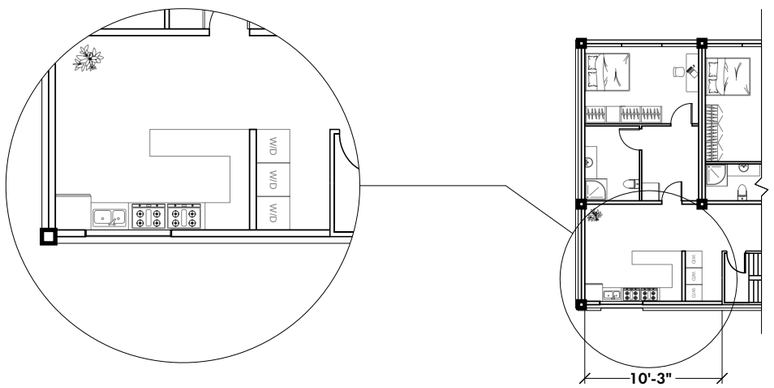




2B1B w/out kitchen & W/D X 1

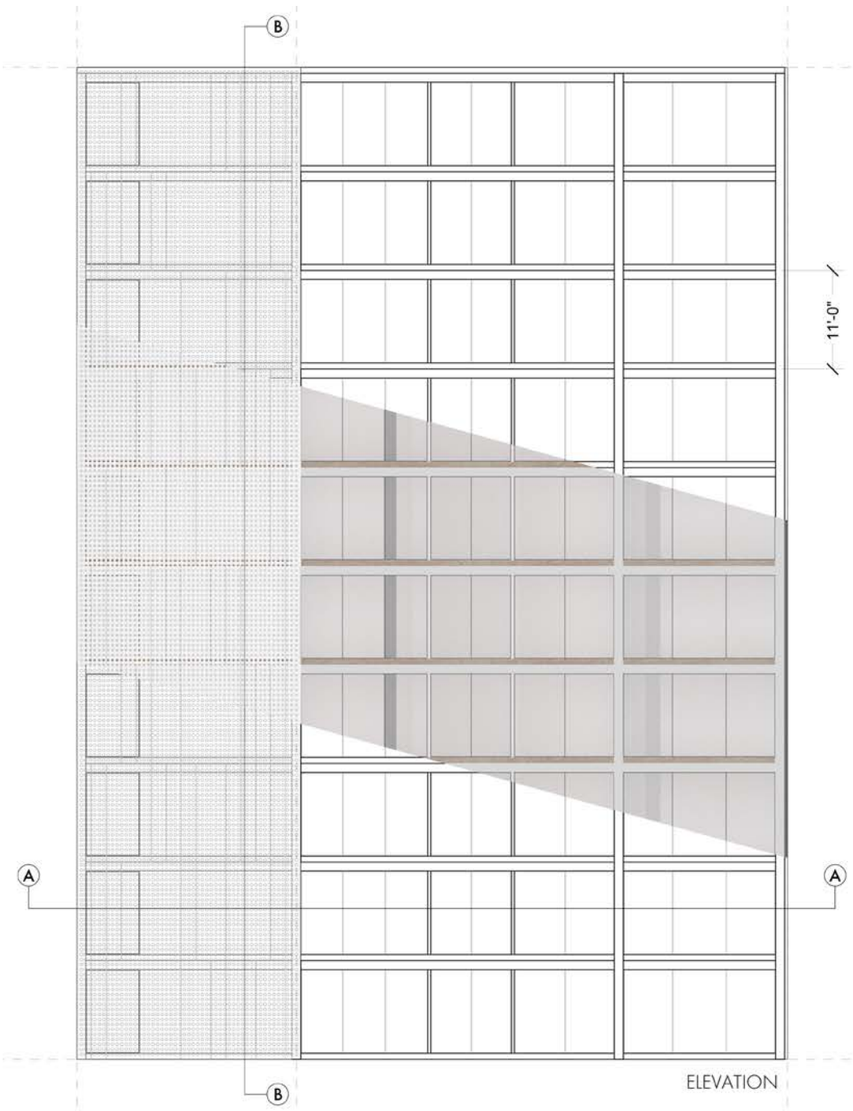


1B1B w/out kitchen & W/D X 1

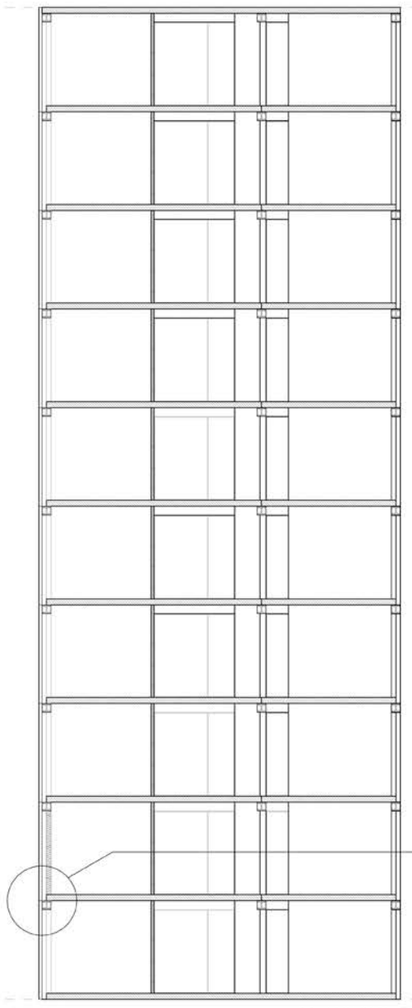


Located at the corner of the building on each level, CO-LIVING space is designed for studio and 1b1b users allows them to share a kitchen and a laundry.

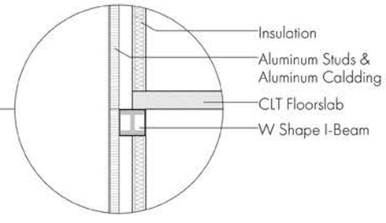
With the CO-LIVING space, the area of each unit will be reorganized and the rent price will be lowered to benefit people with less budget on living.

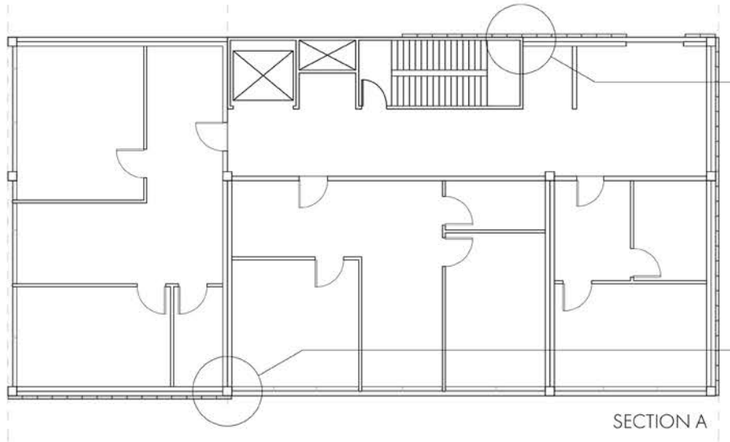


ELEVATION

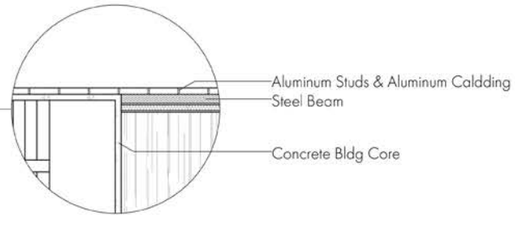


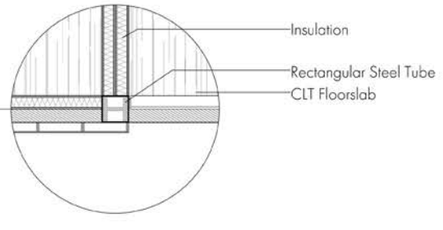
SECTION B



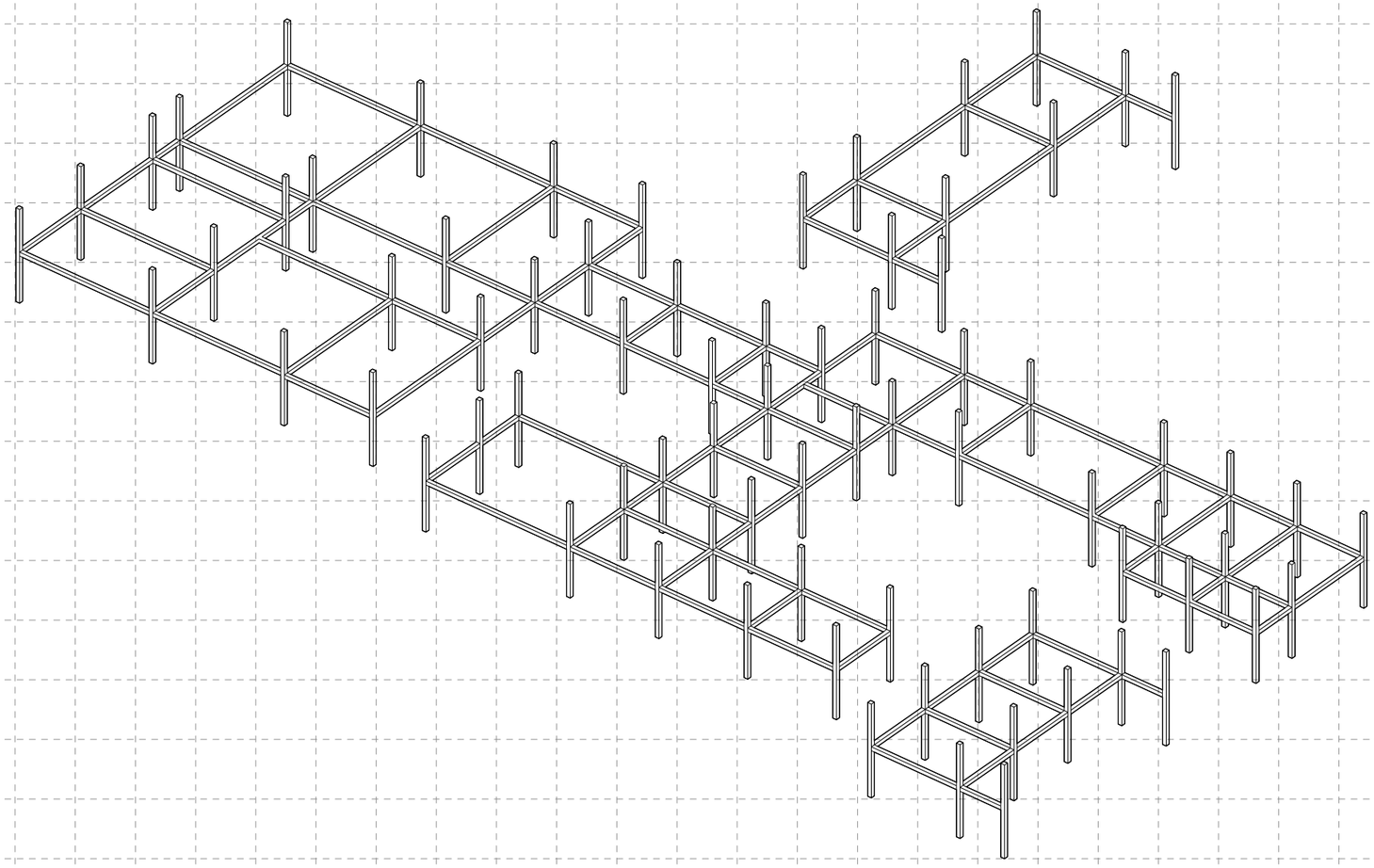


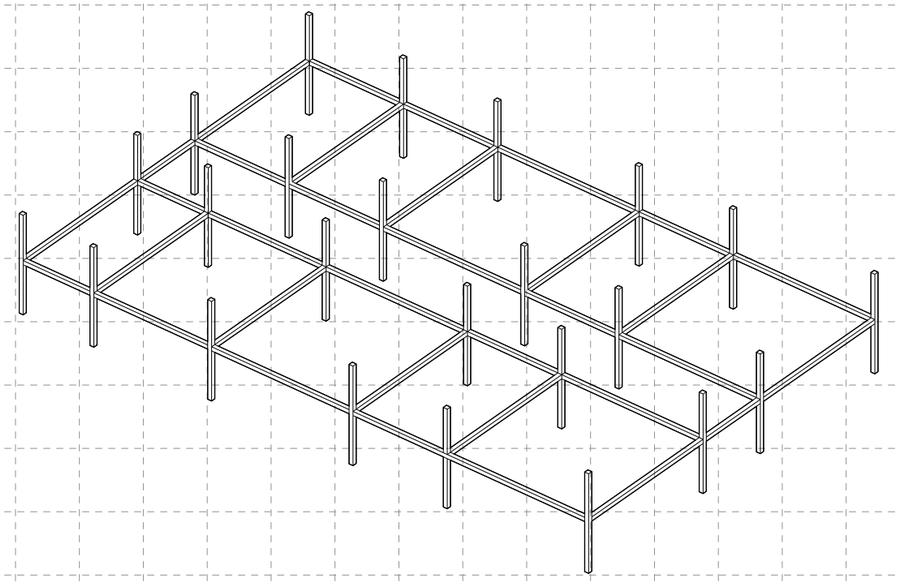
SECTION A



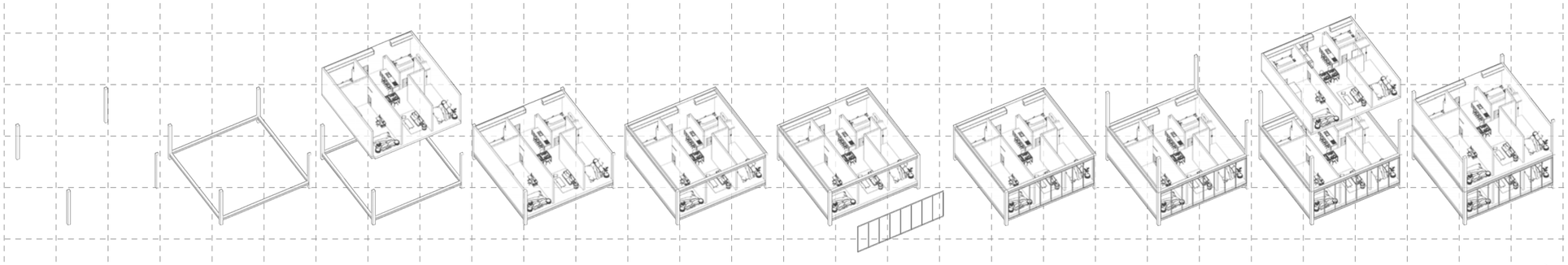


ON-SITE STRUCTURE ASSEMBLY

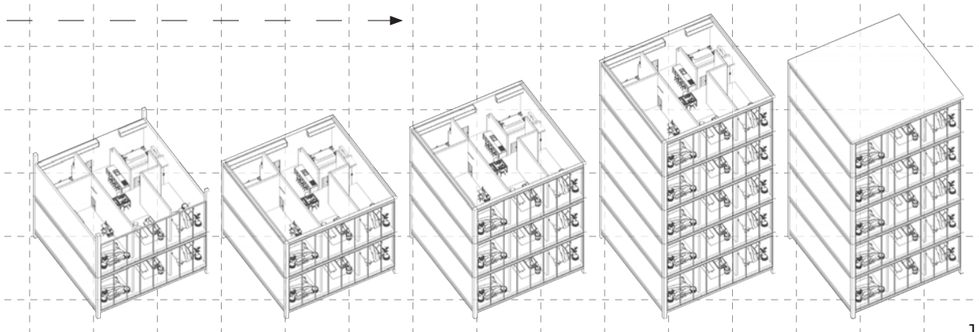




UNIT TO BUILDING ASSEMBLY



The very organized structure allows the units to fit in fast and easily. The same-length columns are arrayed on the site with designated distance in order for the beams to be manufactured and assembled with the columns easier. The easily built structure method is able to improve productivity, quality, and increase schedule certainty compared to traditional stick-built construction.



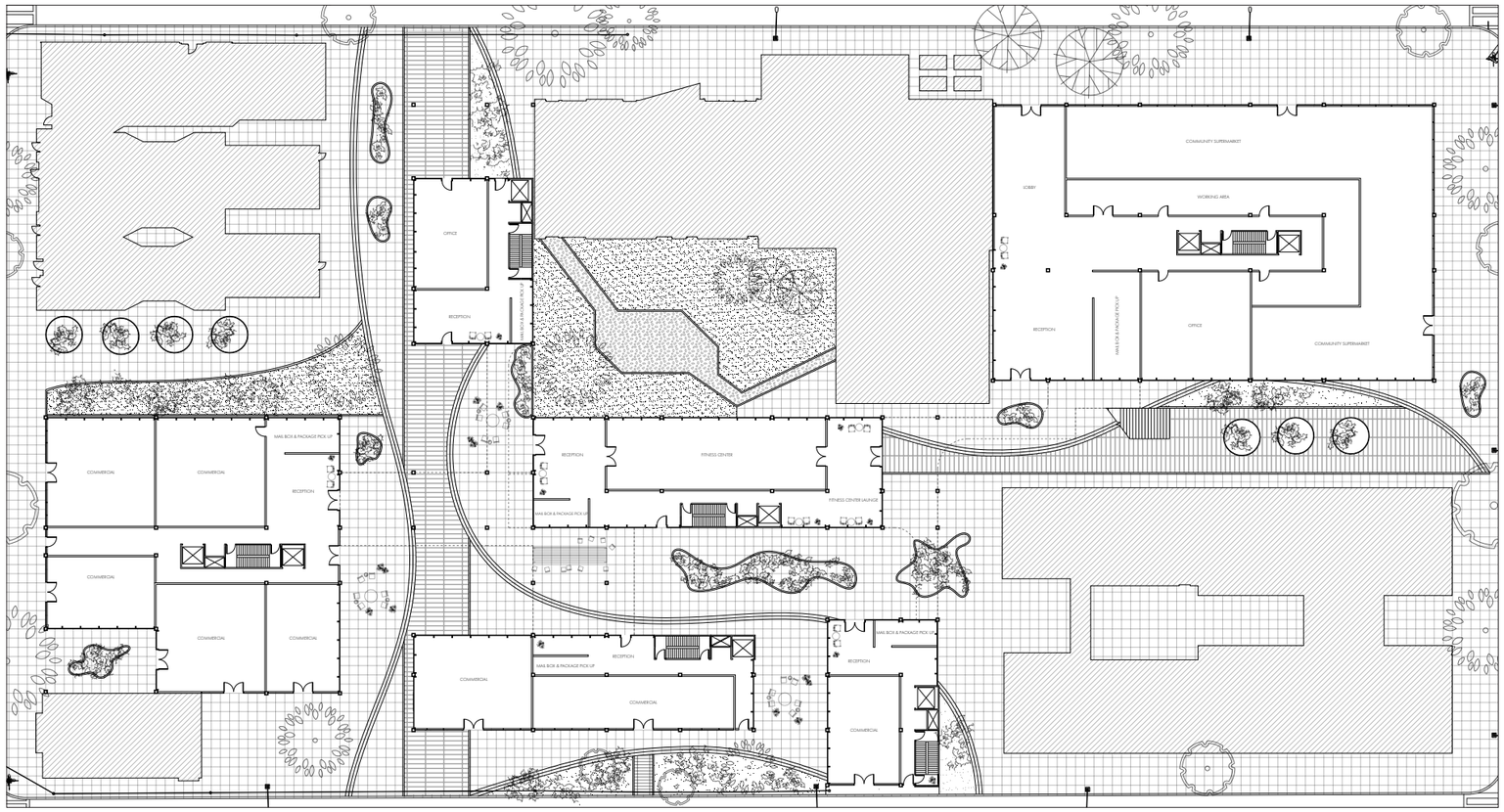
E 152st St

Courtlandt Ave

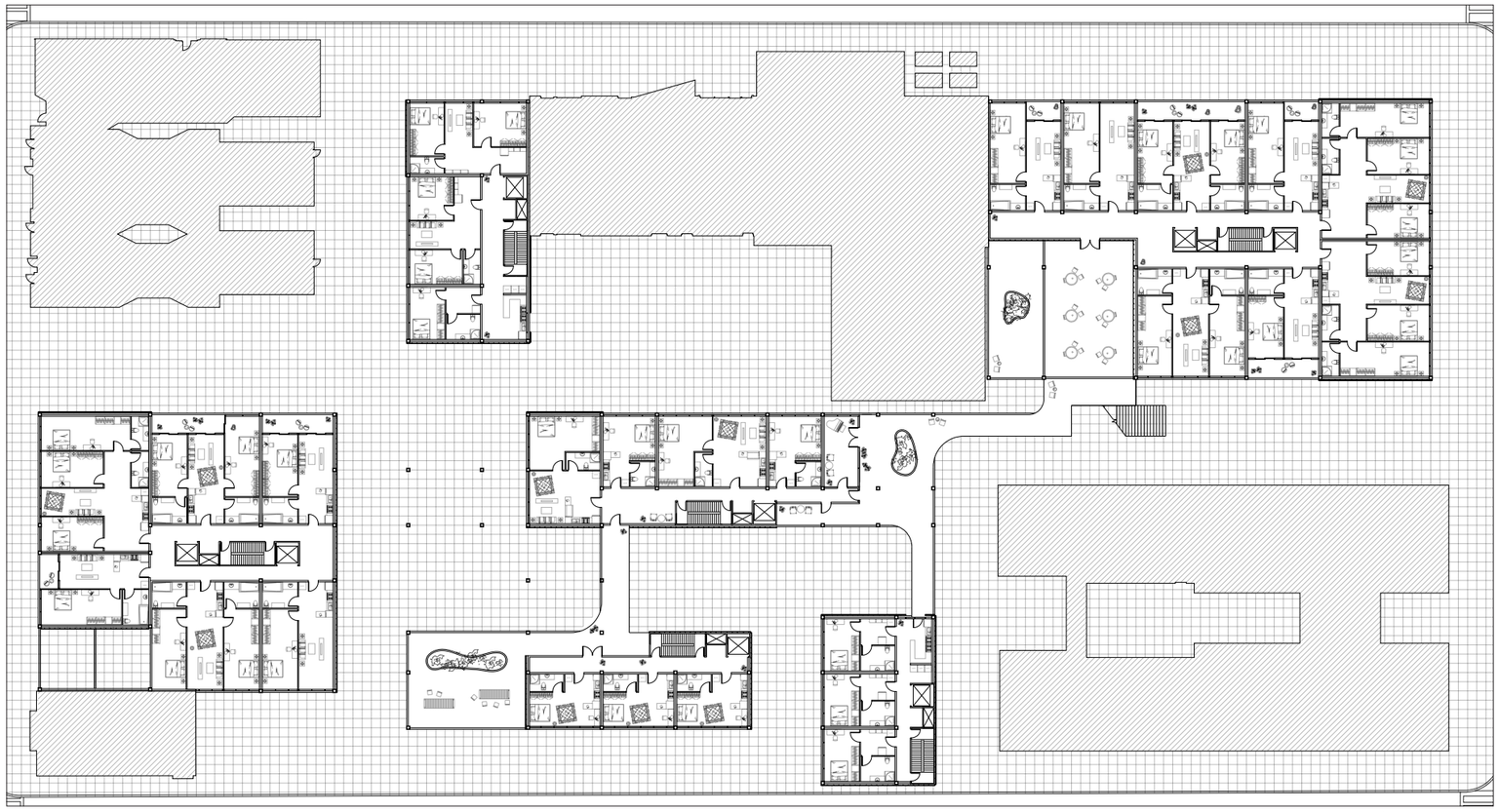
Melrose Ave

E 151st St

APT FLOOR PLAN LEVEL 3 w/landscape



FLOOR PLAN GROUND LEVEL w/landscape

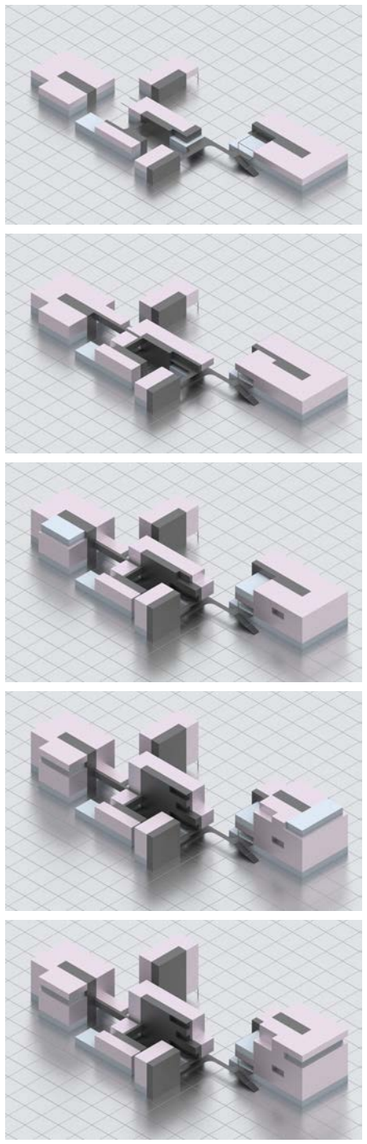


APT FLOOR PLAN LEVEL 2 w/landscape

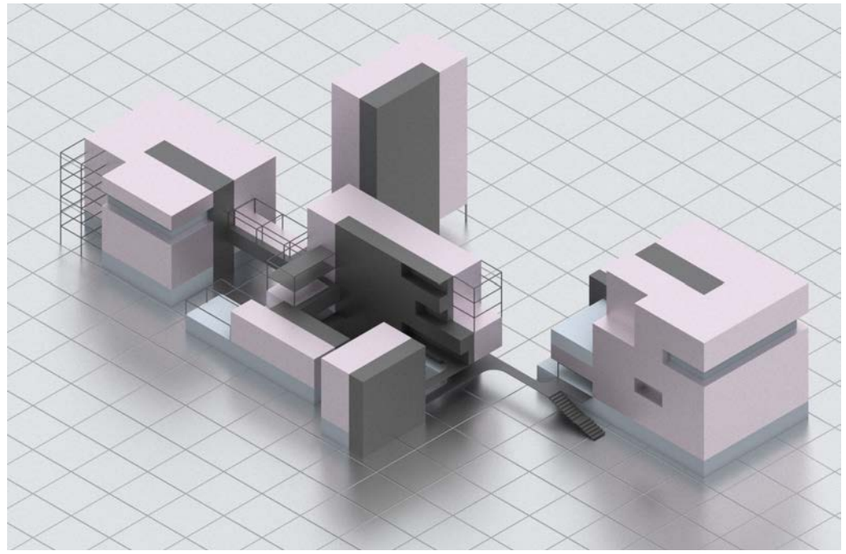
The location of the entire complex aims to increase interactions with the surrounding streests and blocks, without overrunning the property lines of the original buildings on site. Landscapes are planted to generate a natural atmosphere for the residents and visitors. Vines are able to grow on the mesh of the facades continuously through time.

The overall on-site construction process starts with the settled grid of columns, easy and fast to build. The buildinig blocks are connected by either units or indoor/ outdoor corridors which interlace different buildings and create interactions between the residents both three dimensionally. Flexible indoor/outdoor spaces also provide the residents with possibilties of hosting various activities, such as studying, meeting, or hosting parties, which build better connections between residents

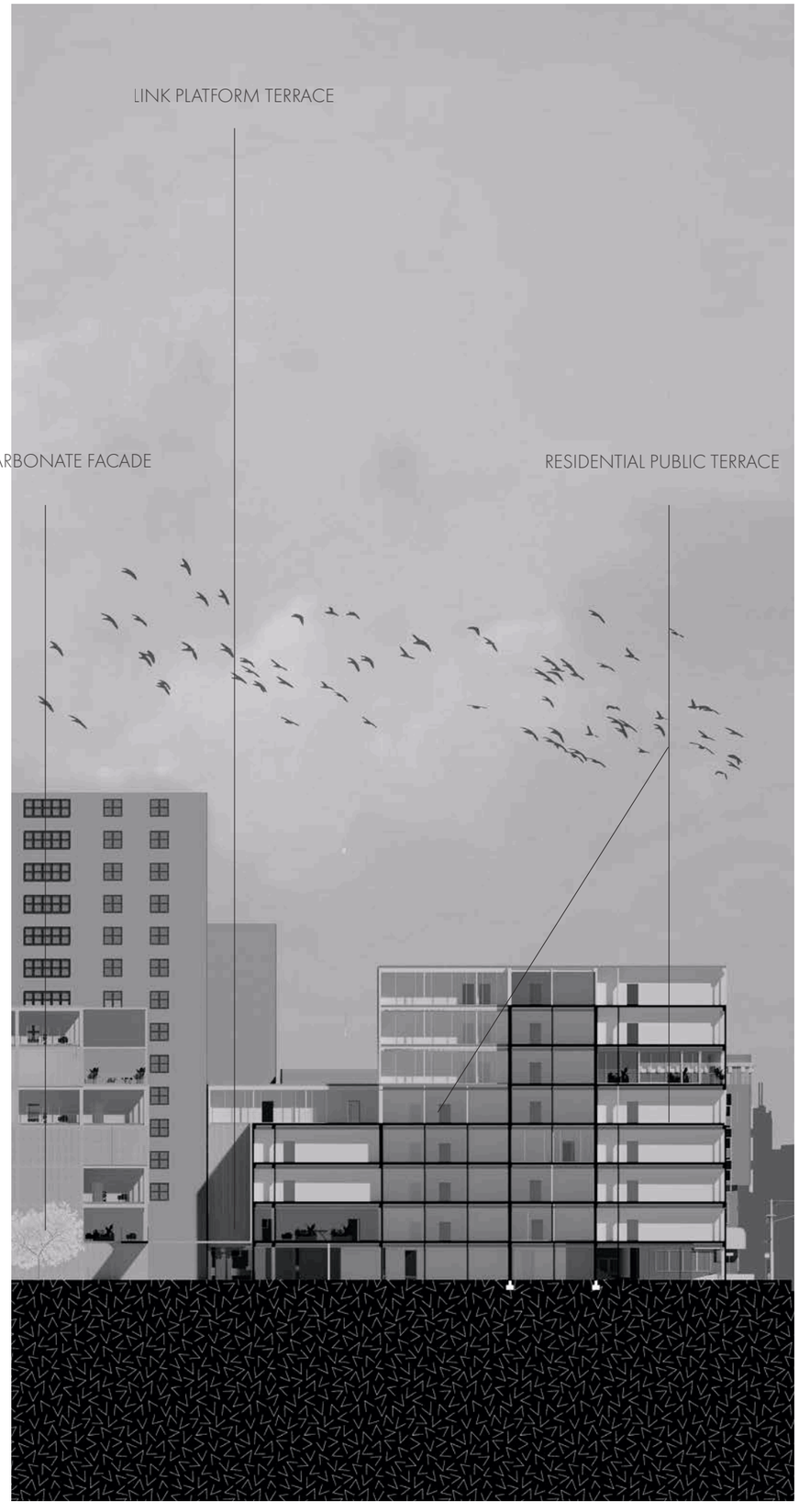
The windows of the units are all facnig appropriiate directions with gratifying views of the landscape or surrounding blocks without losing privacy.

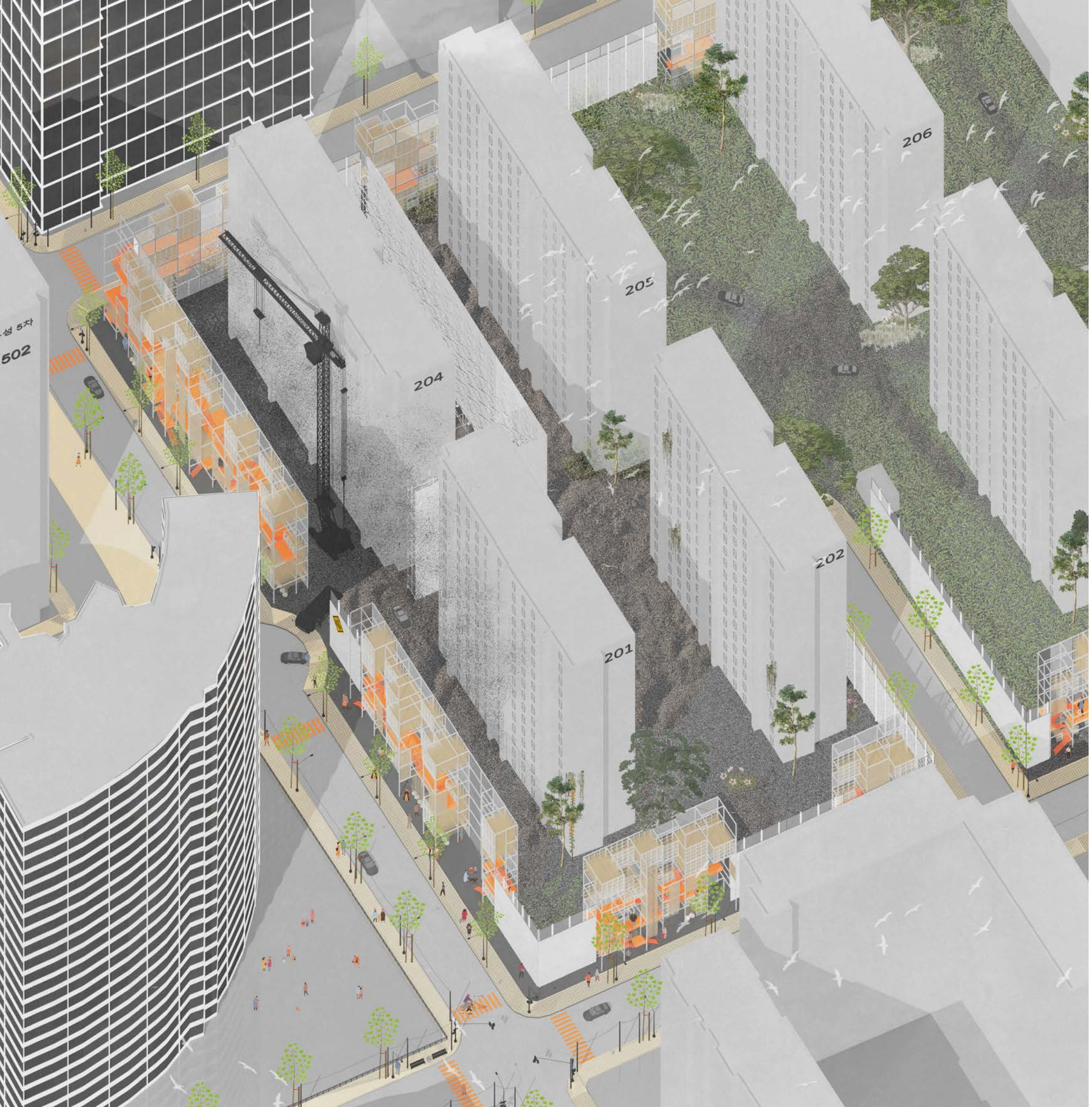


Commercial
Residential
Corridor
Metal Frame



SECTION & PROGRAM DETAILING





< Redemolish >
the
< Redevelopement >
/ 재개발

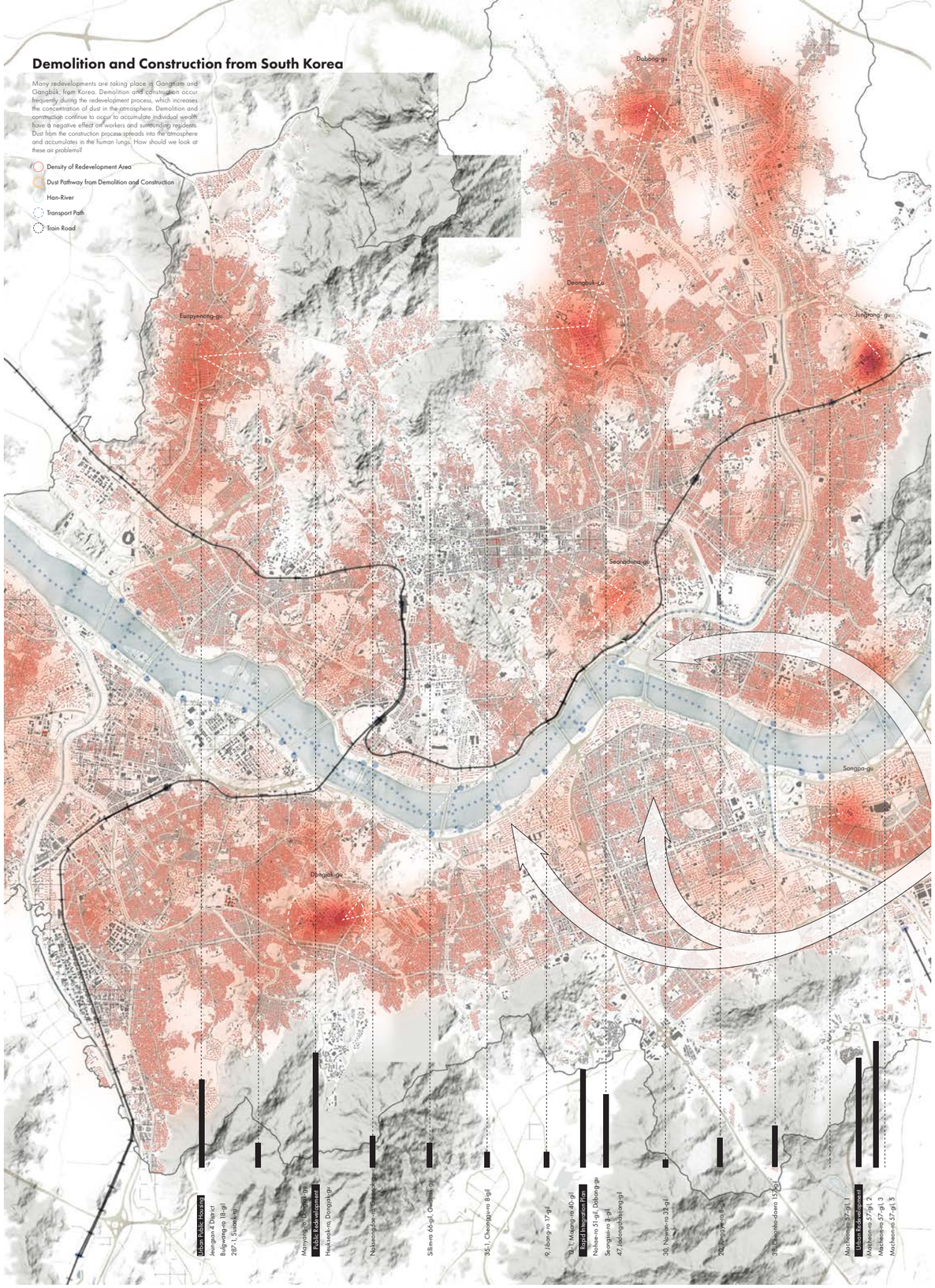
Advanced Studio V

Fall 2022

Partner: Juwan Nam

Instructor: Nahyun Hwang

03



After the 1990s, in Korea, the government's decision on building apartments has stimulated the apartment market and generated REDEVELOPMENT in the city. The generated dust from REDEVELOPMENT at the same time spreaded out but locked in the city for its mountaineous landscape.

SECTION OF STRUCTURE AND SITE

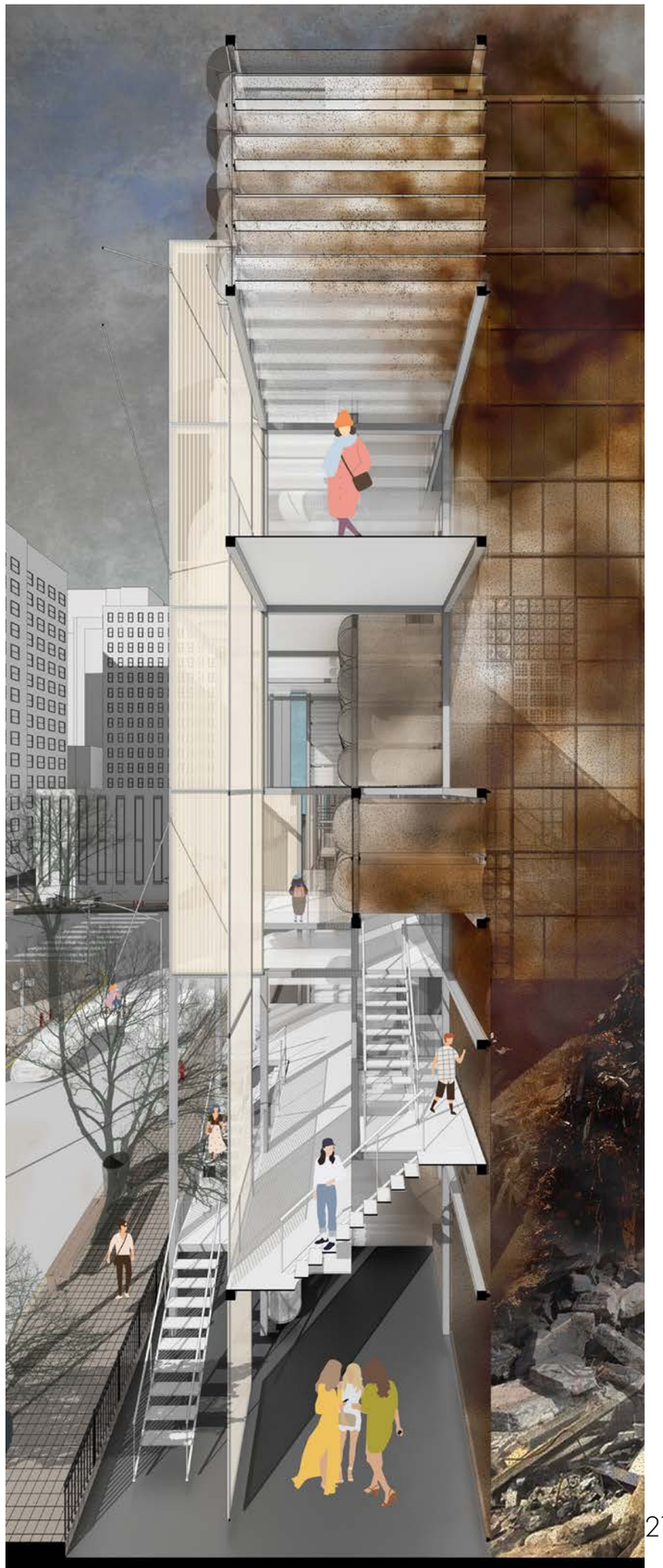
The intervention WALL aims to memorizes, visualizes and showcases dust in front of all people in the city.

With the occur of implosion, dust is diffused by gravity and wind. The diffusion range is determined by the weight of dust molecules. It enters the wall through layers in the modules and remains at different locations. The pipes are different in sizes to vary the effect of dust landing. The audience in the wall experiences the specialized dust generated from people's desire for REDEVELOPMENT. The narrowness of stairs and platforms allows the audience to focus more on the dust and inner site.

Located in Seoul, one of the most developed city in Asia, this project aims to reinforce the phenomenon of unreasonable demolitions and redevelopments and the dust from it on human city and urban environment.

Dust lung has been a very common ococupational disease especially in Asia, where a large number of development and redevelopment happens. The toxic airborne dust spreads everywhere around the site and damages the human body and the environment.

From the research and investigations on construction sites and the political and economical phenomenon behind it, the severeness of implosion and the dust generated from it needs to be addressed in an emphatic way for the government, landlords, and citizens from all aspects.



Pathway of Dust in Human Lung and the Infectors: Construction Dust

Asbestos Fibers on Mesothelial Cells
Scar Tissue on Bronchiole
Eye Infection
Thyroid Disruption
Plaque on Pleura
Heart Disease
Chronic Bronchitis
Chronic Kidney/Kidney Failure
Emphysema
Unhealthy Alveoli
Hepatopulmonary Syndrome
Rheumatoid Arthritis Swelling
Postural Drainage
Leafy Green & Cherry, ect..

A
B
C
D
E
F

Disease in other organs affected by Dust

Lung disease Treatments & other Industry products

Trachea
Pleura
Bronchiole
Mesothelial Lining
Alveoli
Bronchus

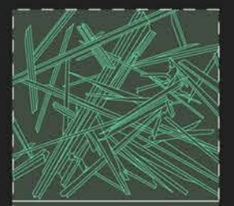
Asbestosis Lung

Silicosis Lung

Talcosis Lung

Lung X-RAY

A,D,F

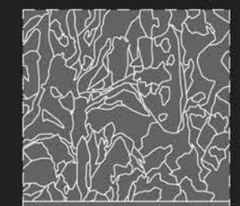


ASBESTOSIS

B,C,D

SILICOSIS

C,E

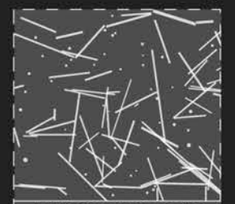


TALCOSIS

E

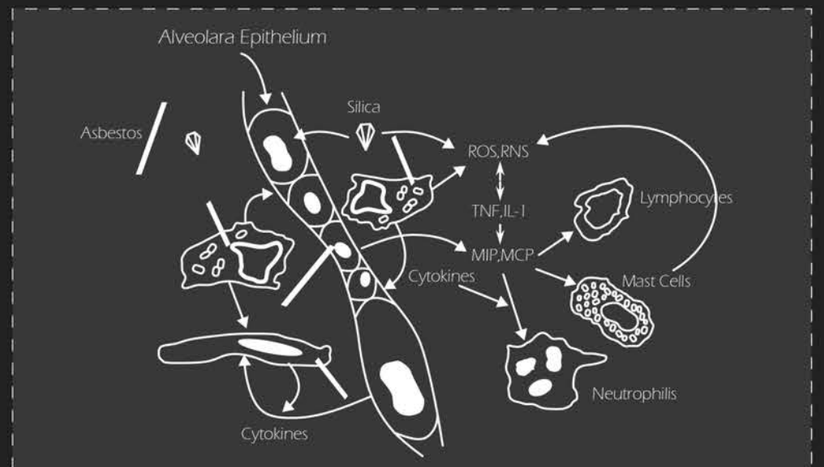
WOOD DUST PNEUMOCONIOSIS

D



AIRBORNE FIBERGASS PNEUMOCONIOSIS

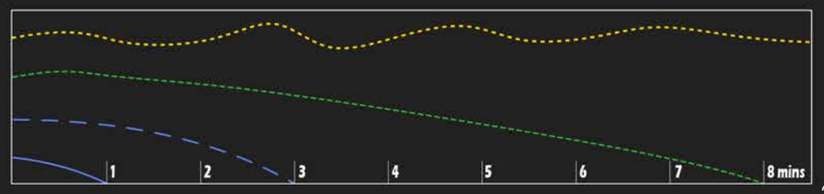
Other includes:
Barium,
Iron,
Aluminum,
Antimony,
Graphite, etc,.

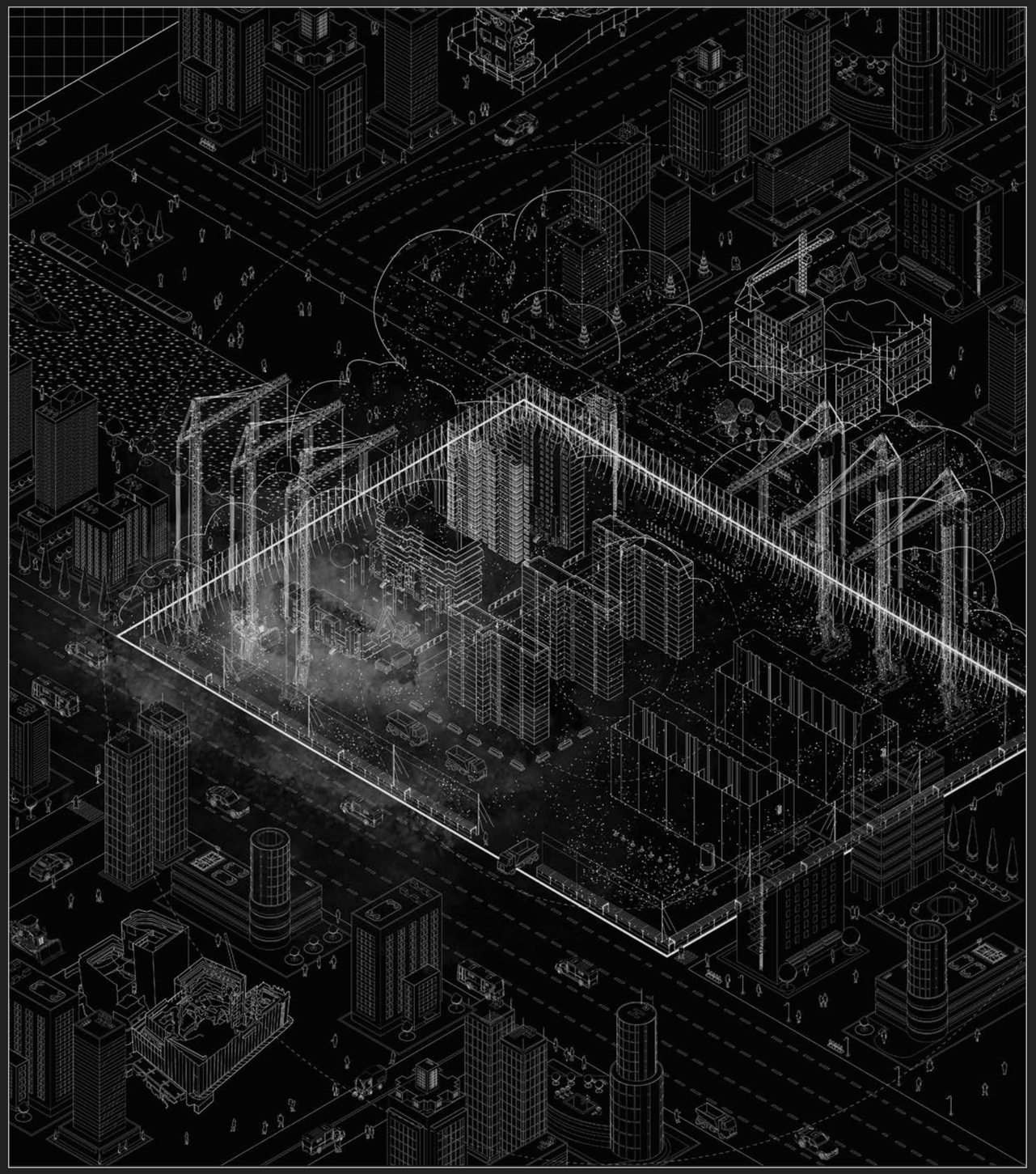


Thoracic dust comprises particles 10 microns or smaller in diameter that pass through the mouth and nose and reach the upper respiratory area.

Respirable dust consists of particles less than 5 microns that can reach all the way into alveoli of the lungs.

Inhalable dust consists of particles 100 microns or less in diameter that can enter the mouth and nose during normal breathing.

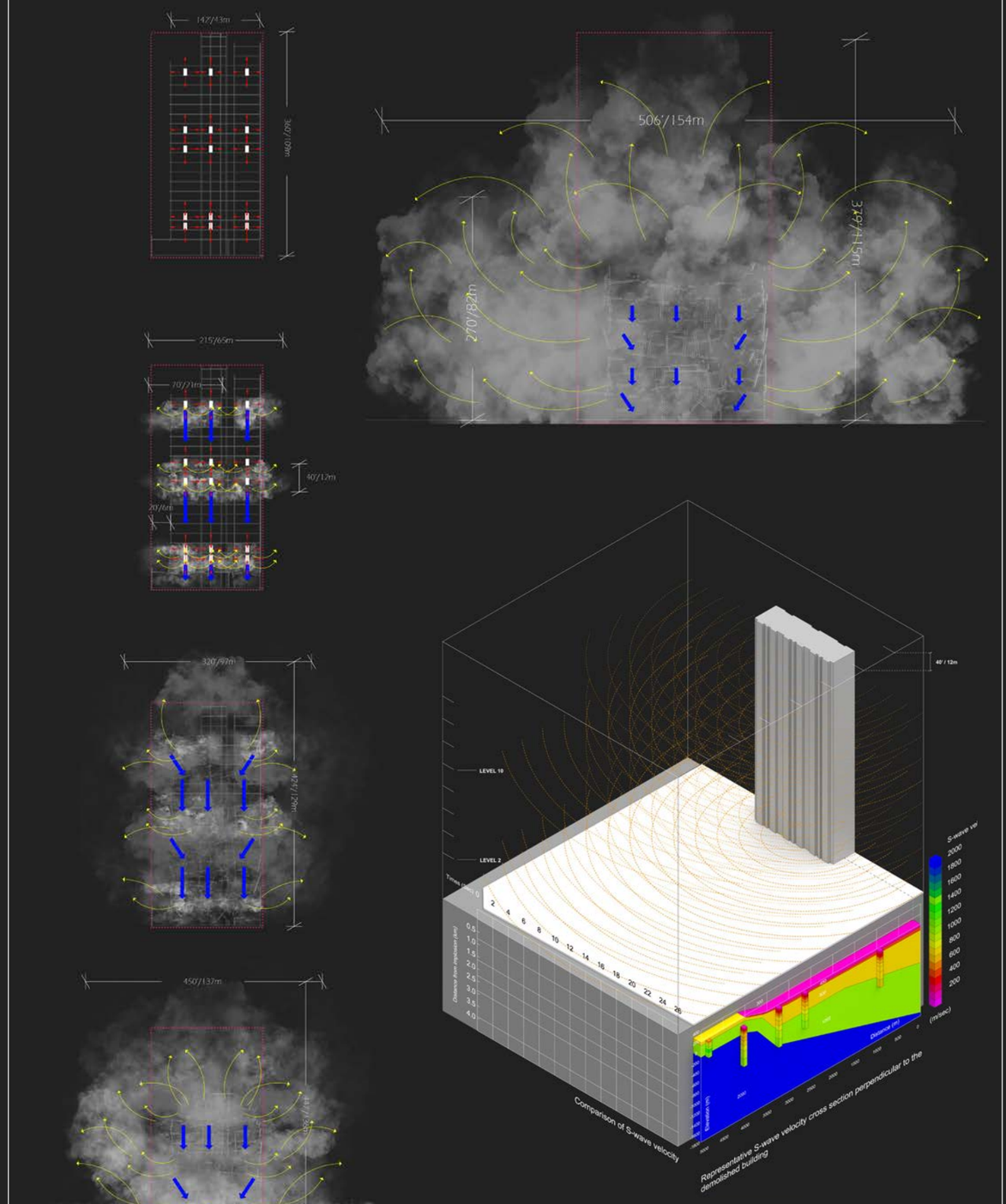




Detomate Building: An electrical current sets off the explosives and causes the building to collapse inward

Load Explosives: Explosives are drilled into tower level columns and a few upper stories to ake for an easier breakdown

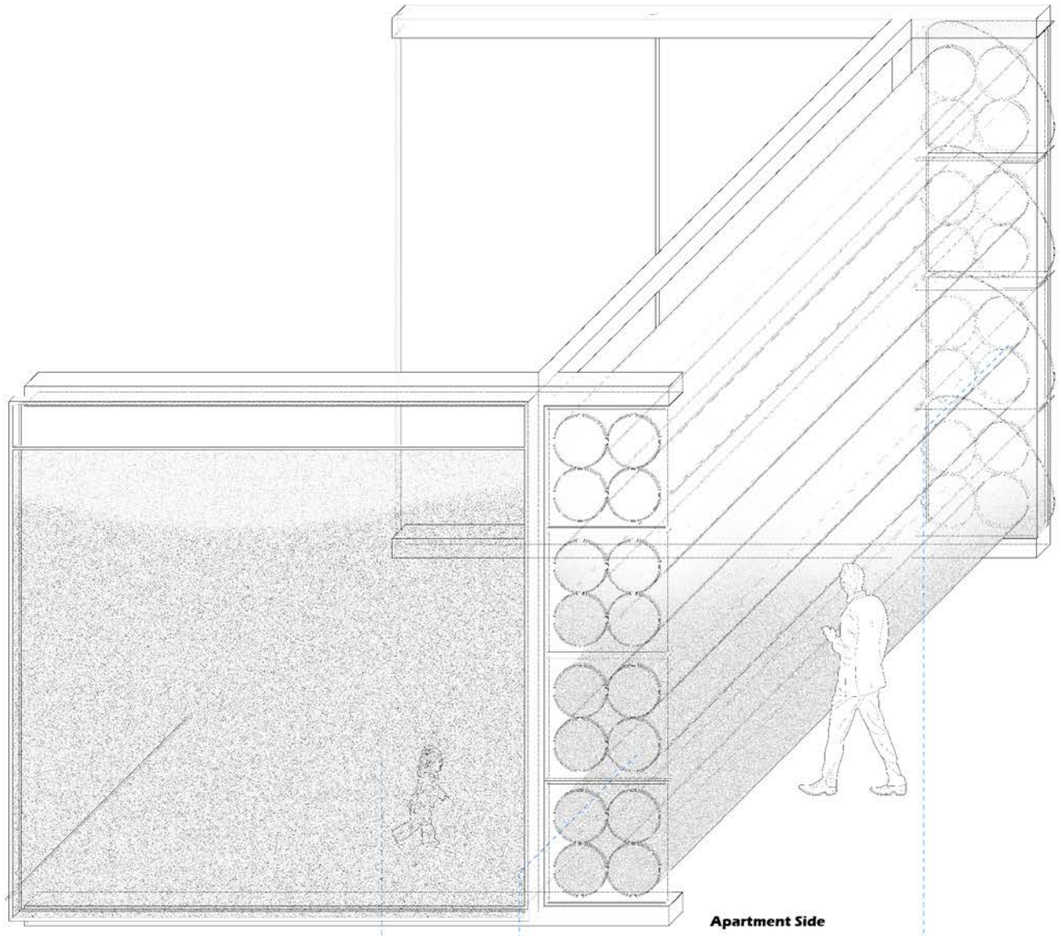
Prepare the site: Crews remove non-load-bearing walls and weaken support columns

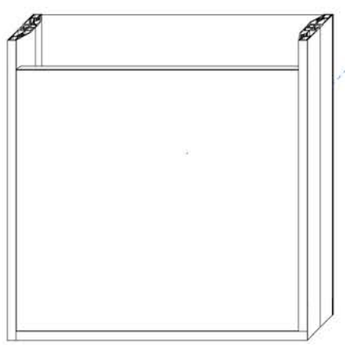


The dust from a demolition is not evenly spreaded in the air. The explosives are usually located in the ground levels which means the density of dust is larger outside of these levels.

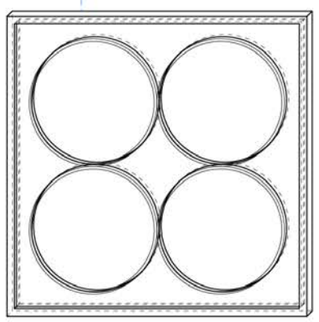
DUST IMPLOSION PROCESS

DUST VISUALIZATION MODULES

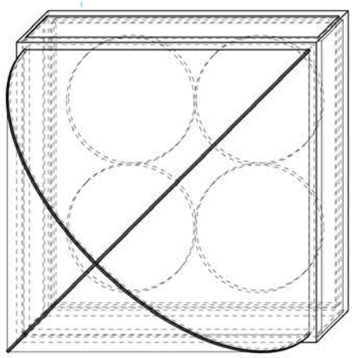




DUST COLLECTOR MODULE

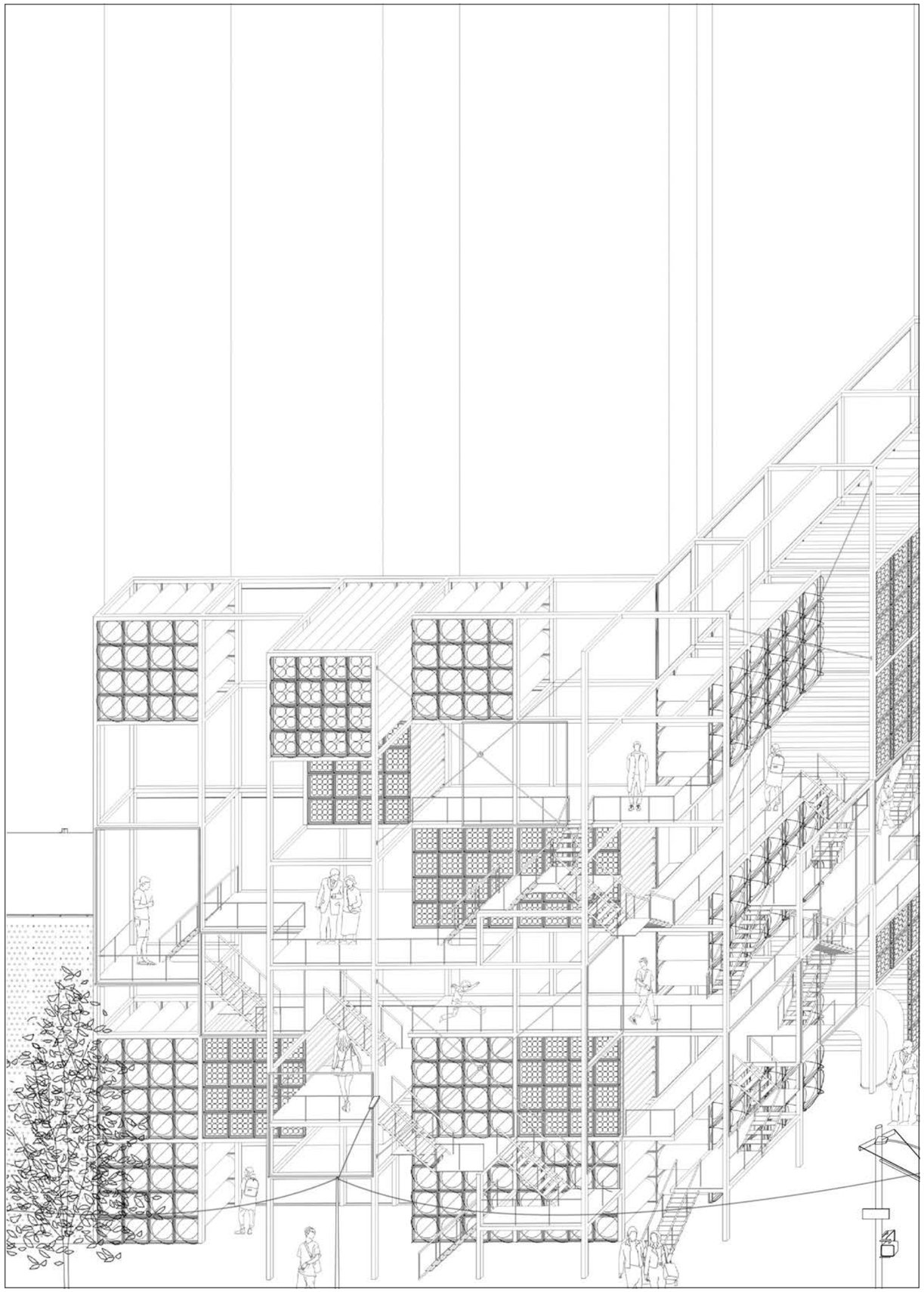


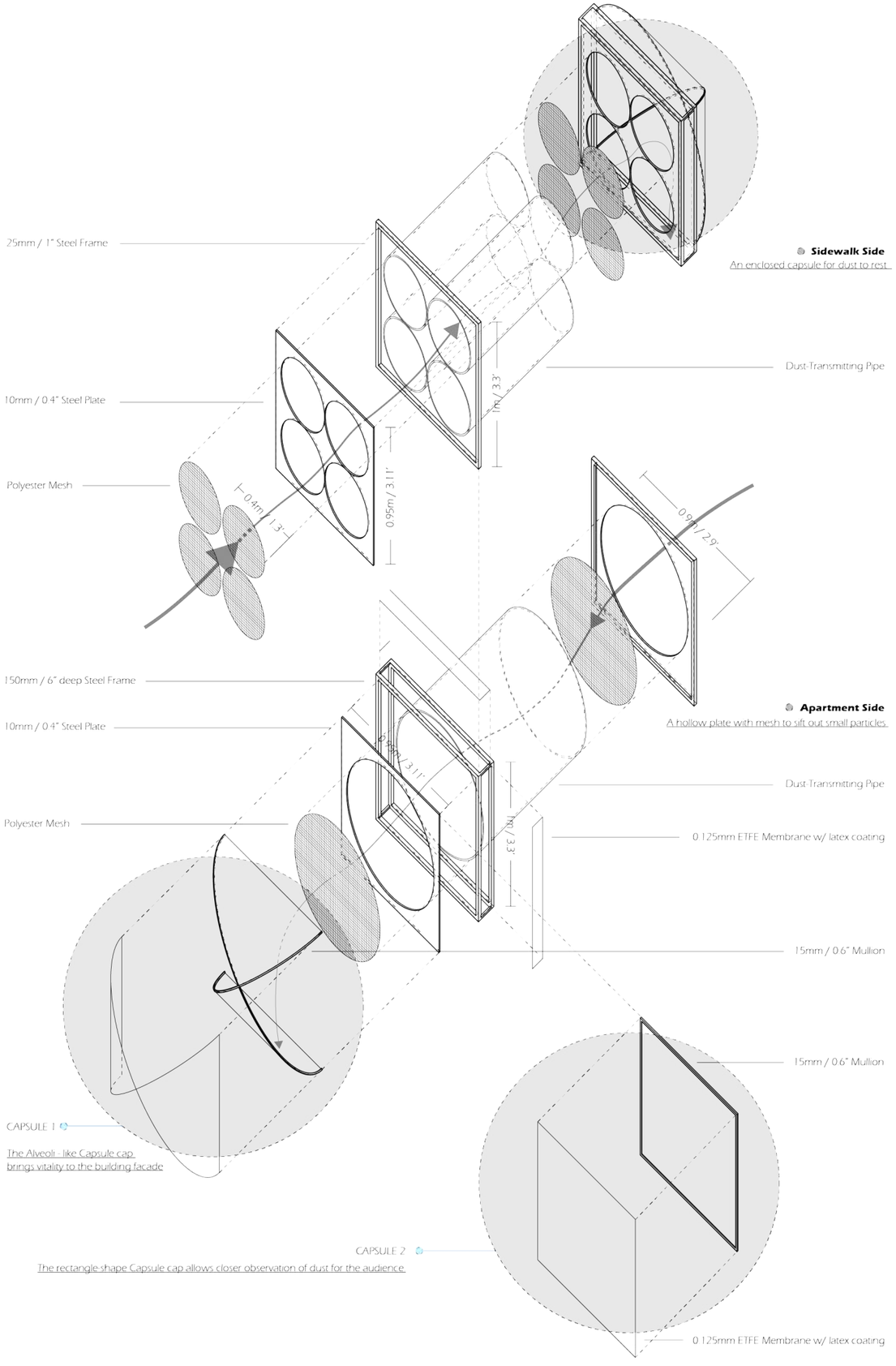
DUST VISUALIZING MODULE (BACK)

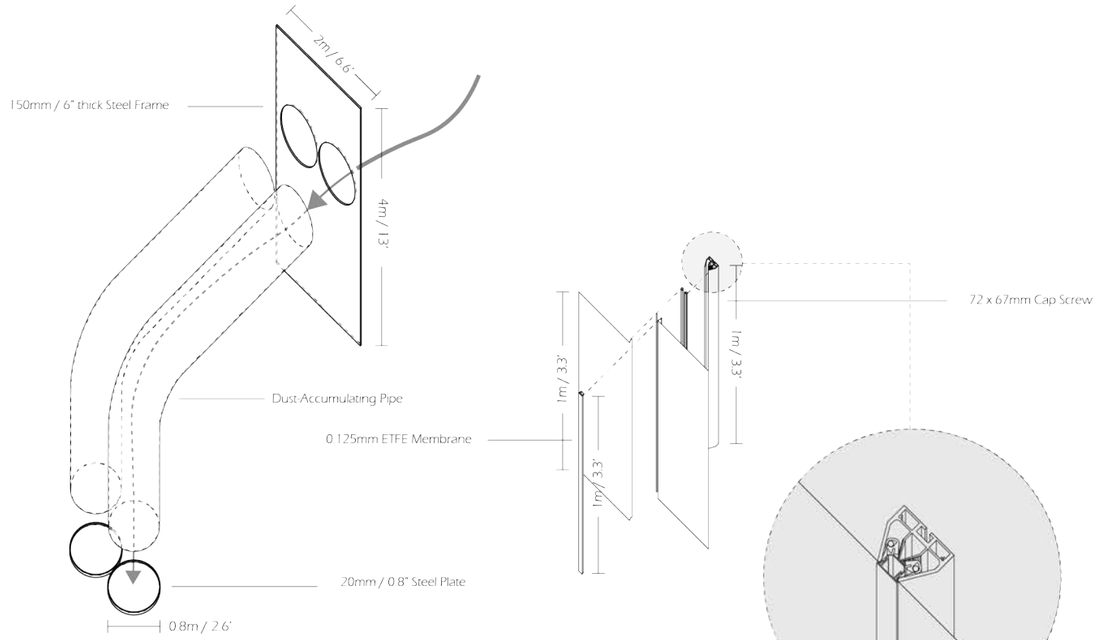


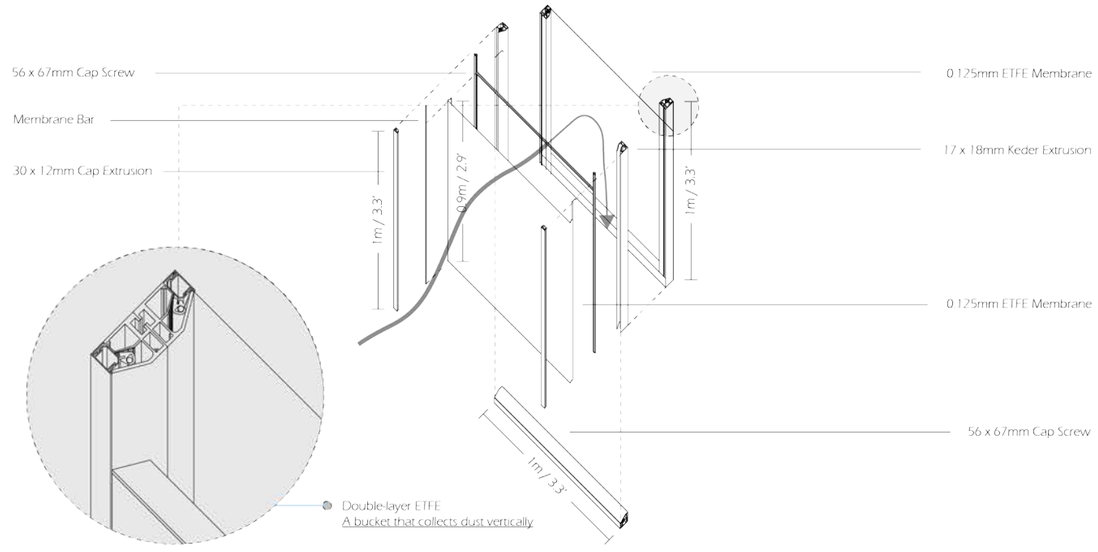
DUST VISUALIZING MODULE (FRONT)

The dust visualizing module is inspired by the shapes and structures of bronchus in the lung. It is a pipe with meshes on the two sides and two versions of etfe light structured capsule on the sidewalk side.





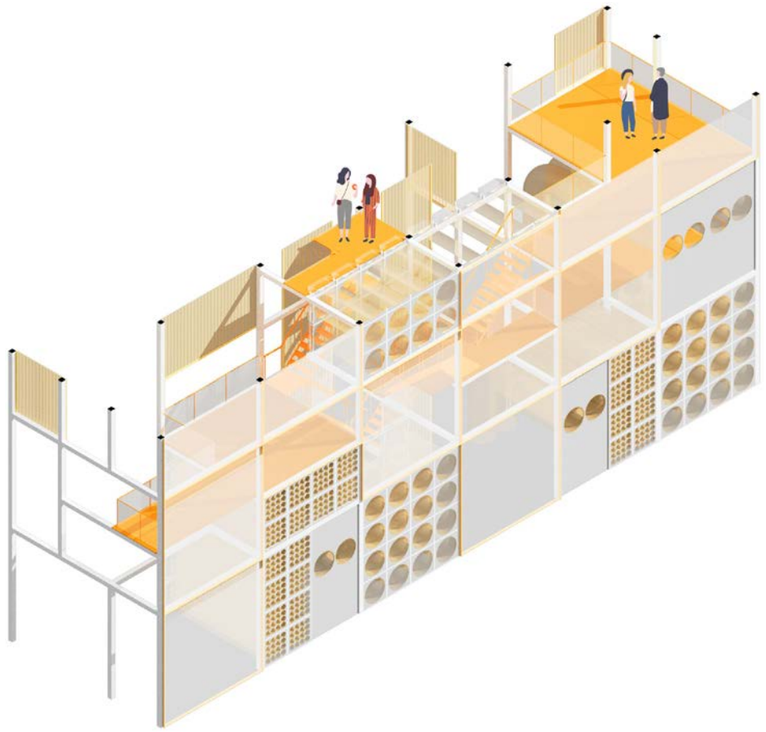




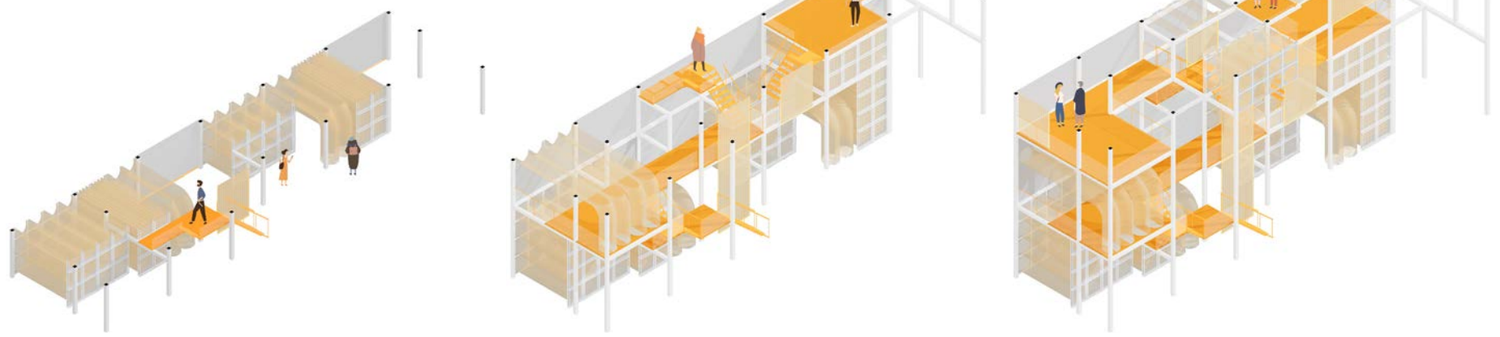
According to weight and size of **inhalable particles, thoracic particles and respirable particles,** the pipes are able to sift them up and the dust particles fly for very different distances and time inside of the tube. The latex coated on the inner side of etfe is able to catch and showcase dust to pedestrians.

The double layer etfe bucket hangs on the building side and collects the dust particles in all sizes. Its translucency gives a blurry silhouette of the site behind it.

ELEVATION - NORTH PART

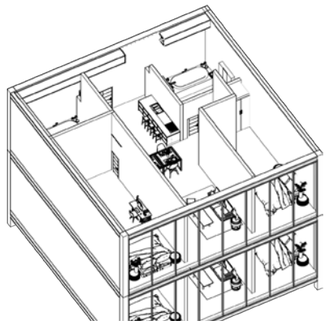


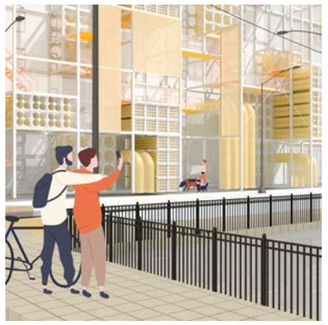
BUILDING SIDE FACADE

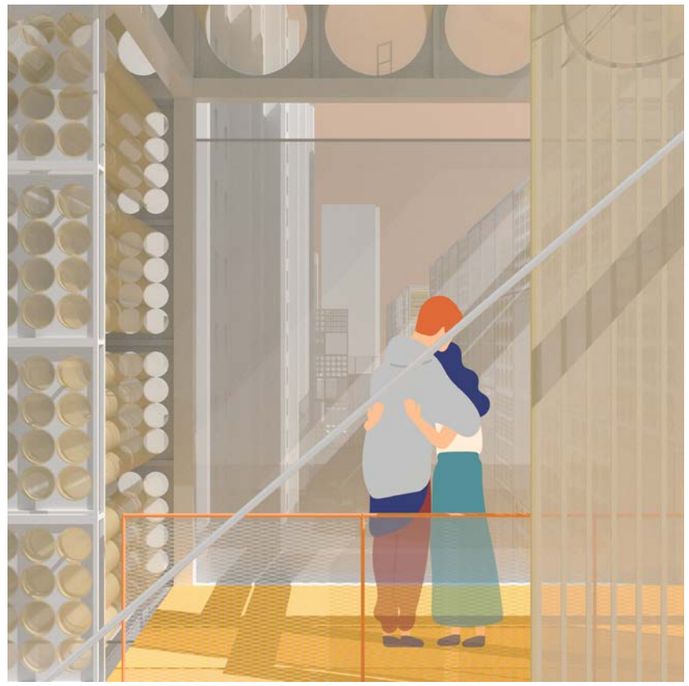


STREET SIDE FACADE

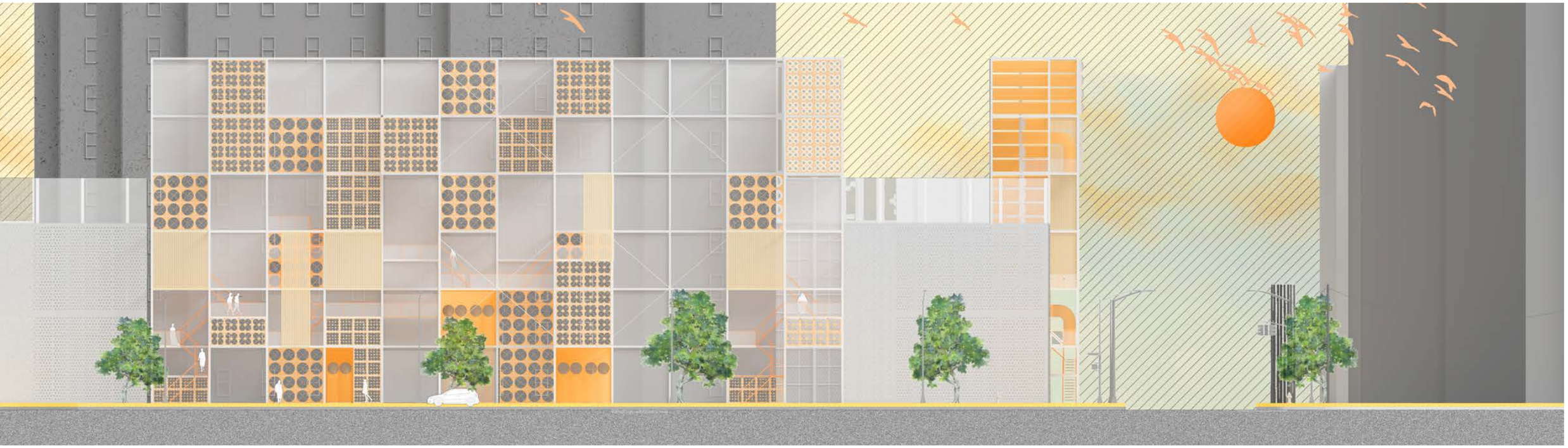
The structure and modules are all in standard sizes for easy assembling. The structure is a heavy steel frame to resist the implosion force and heat. The circulation is mainly on the lower levels and varies from different sizes of modules.





This wall structure intervention shows a timeline of demolition gradually and allows people from further distance to notice it. The original fences connect the walls to prevent people from entering the site. The overall structure works as a translucent later between the dirty site and the clean, organized urban area. Its aesthetics attracts people's attention and reinforces the influence of the demolition site on the city and people's daily life.



ELEVATION - SOUTH PART

04

Hudson Valley Meditating Sanctuary

Advanced Studio IV

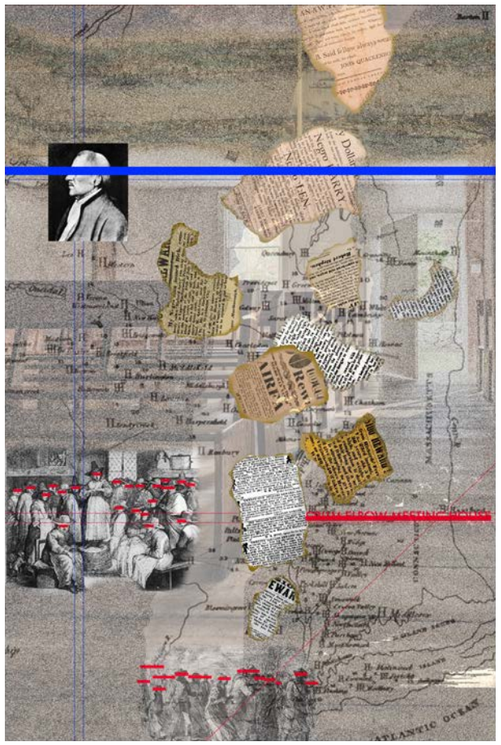
Spring 2022

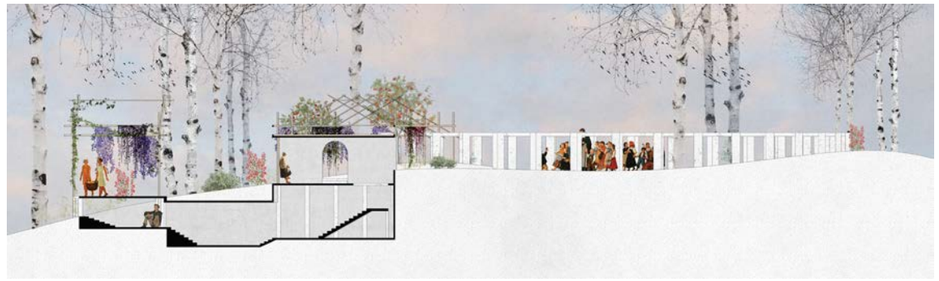
Instructor: Nina Cooke John

The collage shows the extravagant life of the high class comparing to the suffering life of the fugitives. With the help of the quakers and their meeting houses, the fugitives would be able to rest and hide from the slave catchers.

The key points of the memorial are memorization and contemplation, something that cannot be recorded as a part of the history. Visitors are brought here to a similar situation and time period which better help them learn and understand the background history.

HUDSON VALLEY HISTORY COLLAGE 2





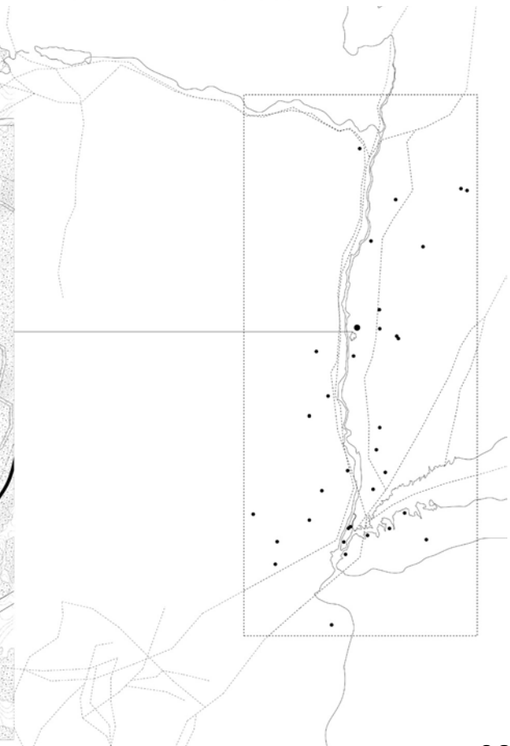
The quaker meeting houses locates in a dispersed way along the Hudson River bank, as well as the routes of the escaping of the fugitives across the northeastern states.

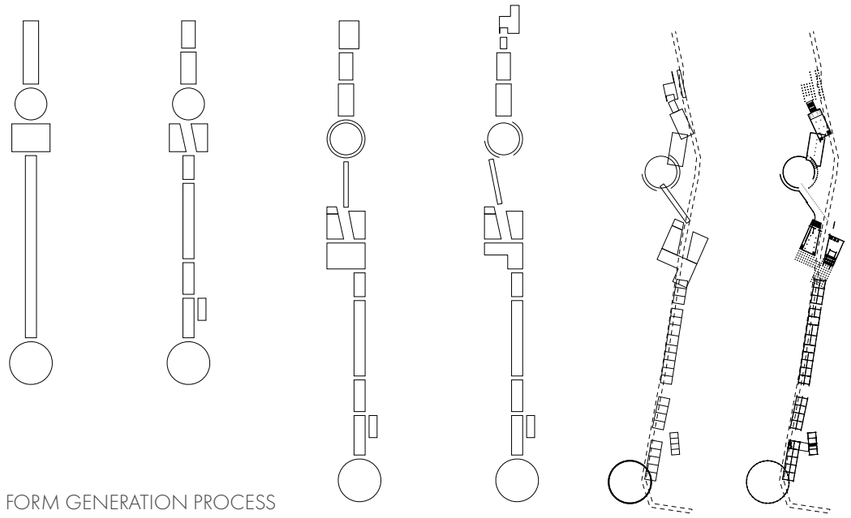
The research of the site starts from the Fredonia Lane and the surrounding landscape, including the tree covers on the land. The area of the tree coverage decides the exposure of the ground earth to the sunlight, which creates a different experience with the area without sunlight.

The aim of this diagram is to discuss the idea of moments, experiences, architecture being distributed on the site in a scattered way according to the landscape of the site and the historical context of the quaker meeting houses along Hudson Valley.

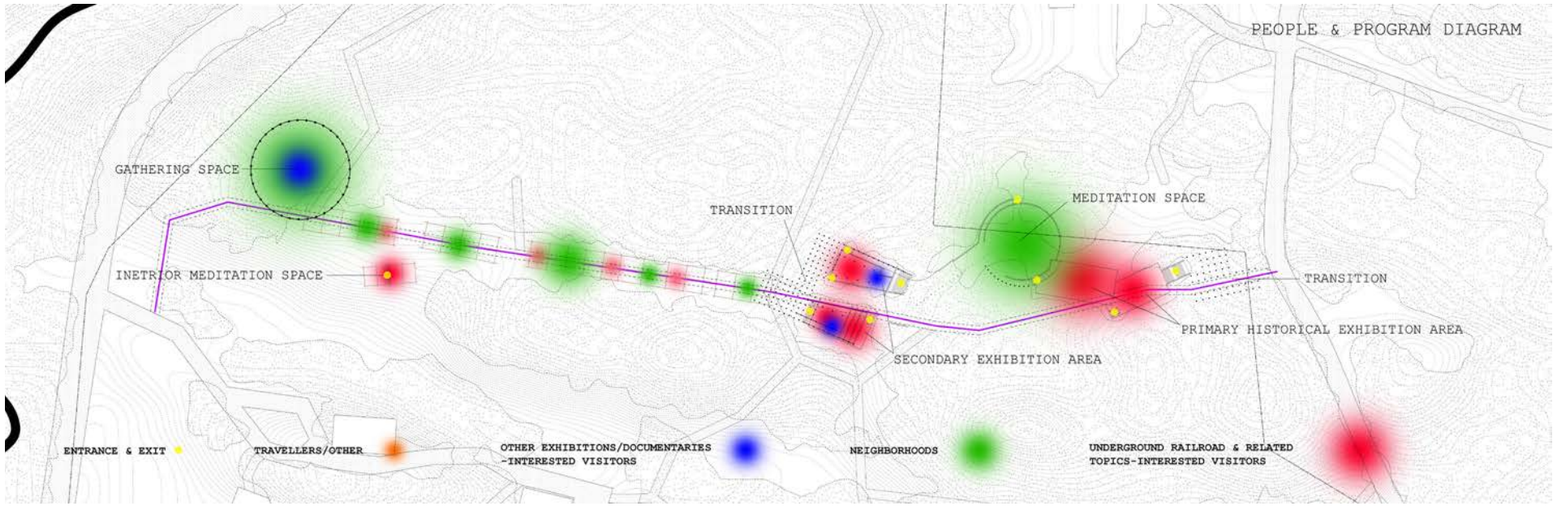
HYDE PARK SITE MAP

QUAKER MEETING HOUSE MAP





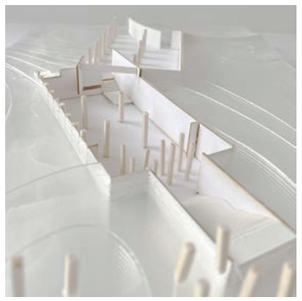
FORM GENERATION PROCESS



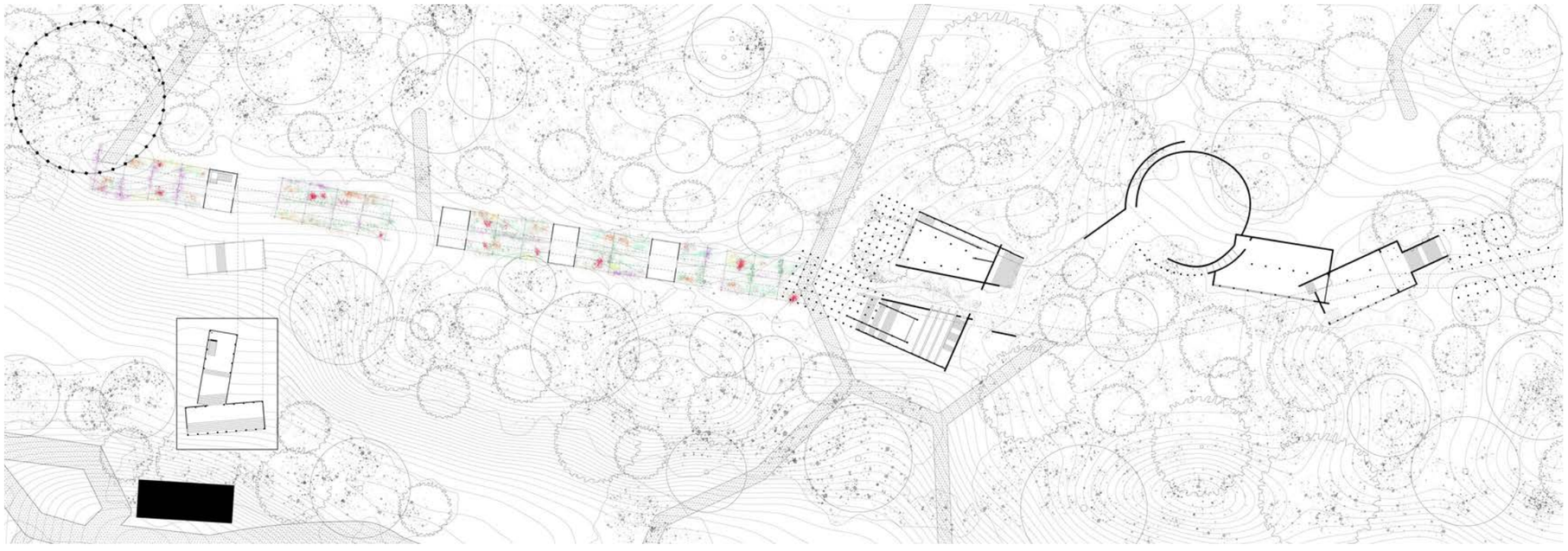
The building complex sits in a scattered way on top of the Fredonia Lane to let the path guide the audience to experience the architecture.

The wood trellis aims to bring back the moments of the fugitives farming on this land in the past. The abstract form with the prosperously growing vegetations "inside of" the trellis gives visitors a brand new healthy experience which is opposite to the experience of the northern parts.

The architecture complex perceptibly help people *explore, learn, experience, and contemplate* the santuary in the nature, corresponding to the historical moments ever happened in the area. The architecture itself does not play a demanding role but exposes the visitors the outside and allow them to be the leader of the experiences.



This museum aims not to be merely a conventional concrete box that locks the visitors' senses and emotions inside. Instead, the architecture complex is both physically and conceptually deconstructed to help itself blend into the surroundings and let people express themselves and meditate in a more broader way.



05

PS 64 School Renovation

Architecture Core II

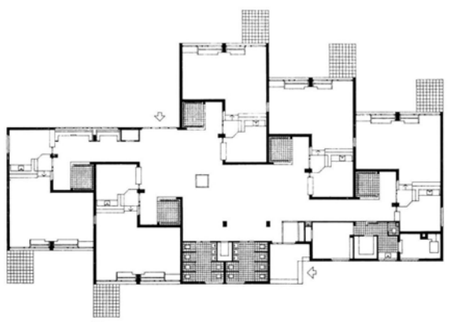
Spring 2021

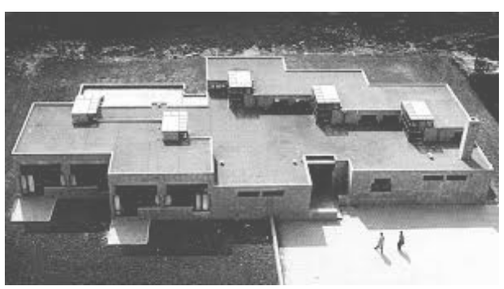
Instructor: Emmett Zeifman

MONTESSORI SCHOOL



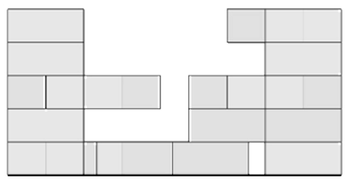

Herman Hertzberger juxtaposed many identical classrooms to form an atypical shaped corridor. He believed that the space outside of the classroom should be paid the same attention, as children at young age will be hesitant to join or communicate with others when they see a group is already formed. This strategy inspired the internal circulations of the new PS 64.

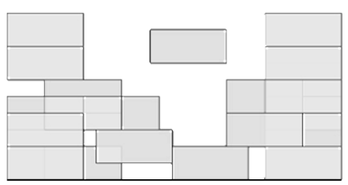


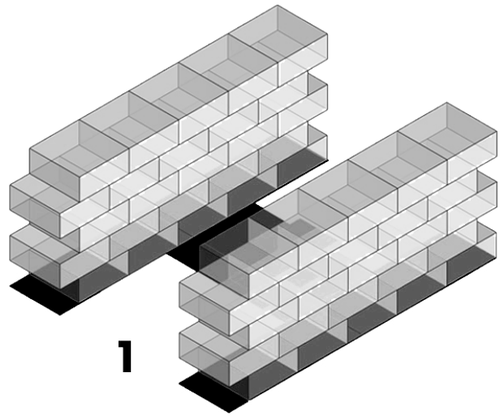


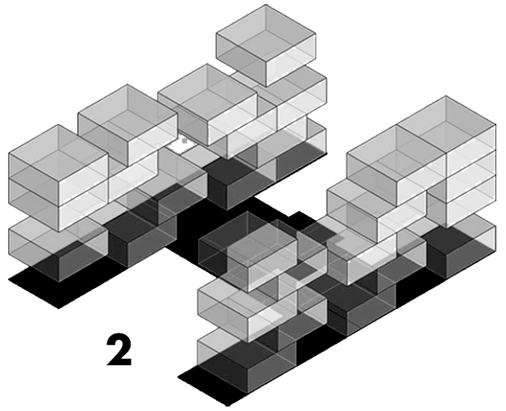
The design starts from the rearrangement of the classrooms as boxes. Vertically and horizonrally shifted, the classrooms generates a variety of pathways in between.

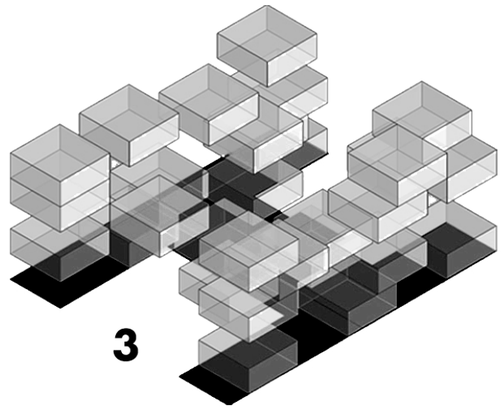
Within the existing footprint, the displacement of classrooms and corridors provide more flexible circulation for kids who need space both outdoor and indoor to take their breaks.

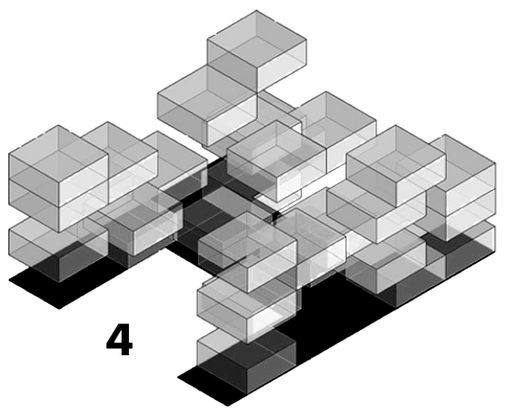


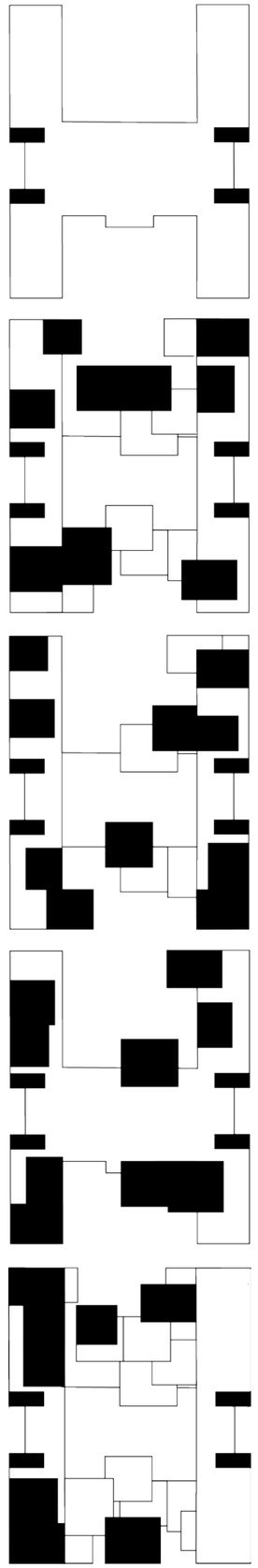




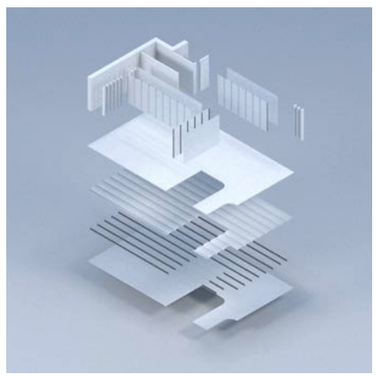


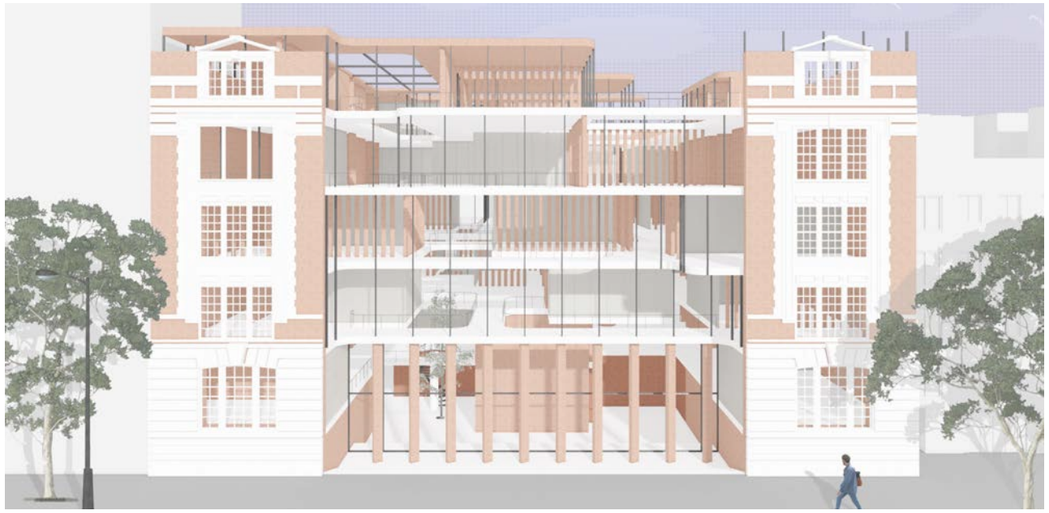


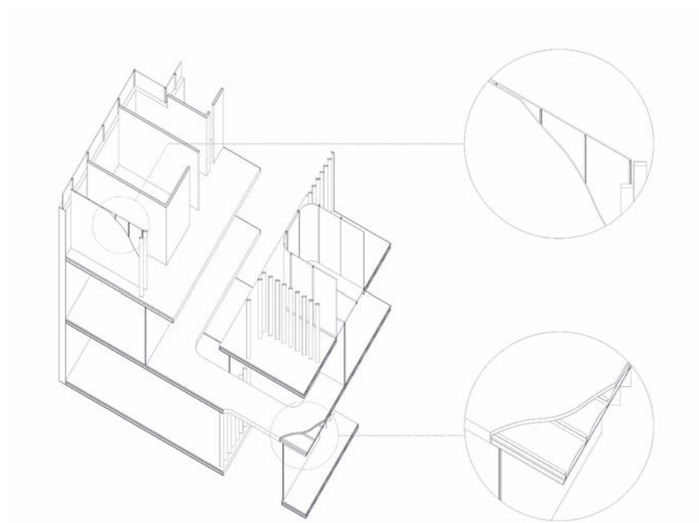




3DIMENTIONAL ARRANGEMENT



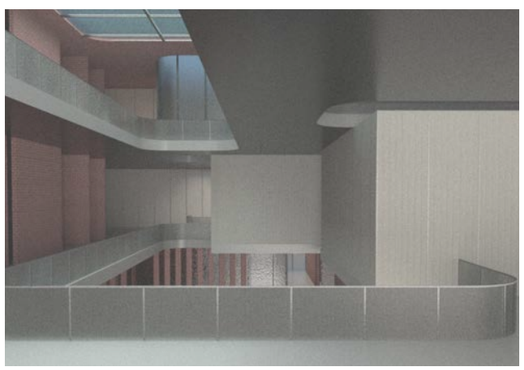


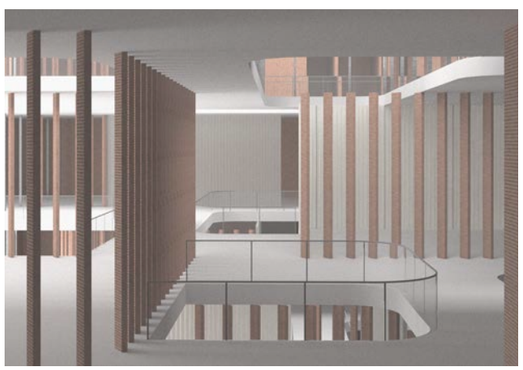


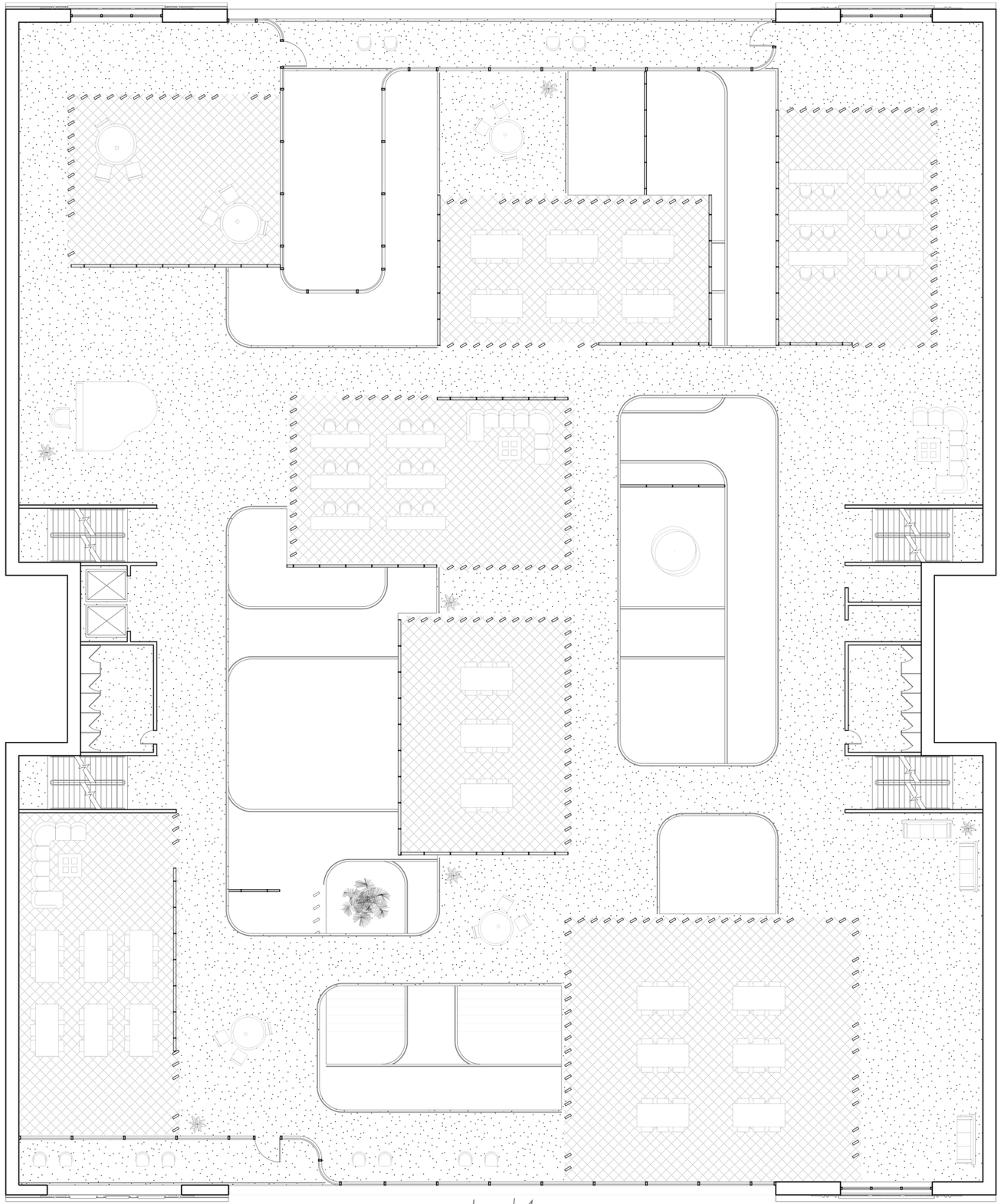
The original brick walls of the classrooms are deconstructed to rows of brick columns on a grid that create porous connections between the spaces inside and outside of the classrooms

.

The translucent polycarbonate panels serve as secondary walls that also blur the boundaries of the classrooms. The “gray transitional spaces” formed by these new classrooms vary in size, and can be flexibly functioned to offer children with different experiences.







Level 4

The shifting classrooms form the exterior corridors along the facade that allow students to enjoy fresh air. The vertical misalignment of floors with glass curtain walls create opportunities to bring natural light and elements inside the building that can be taken care of by children to make the school feel more like a home.

06

Architecture Core I

Fall 2020

Instructor: Lindy Roy

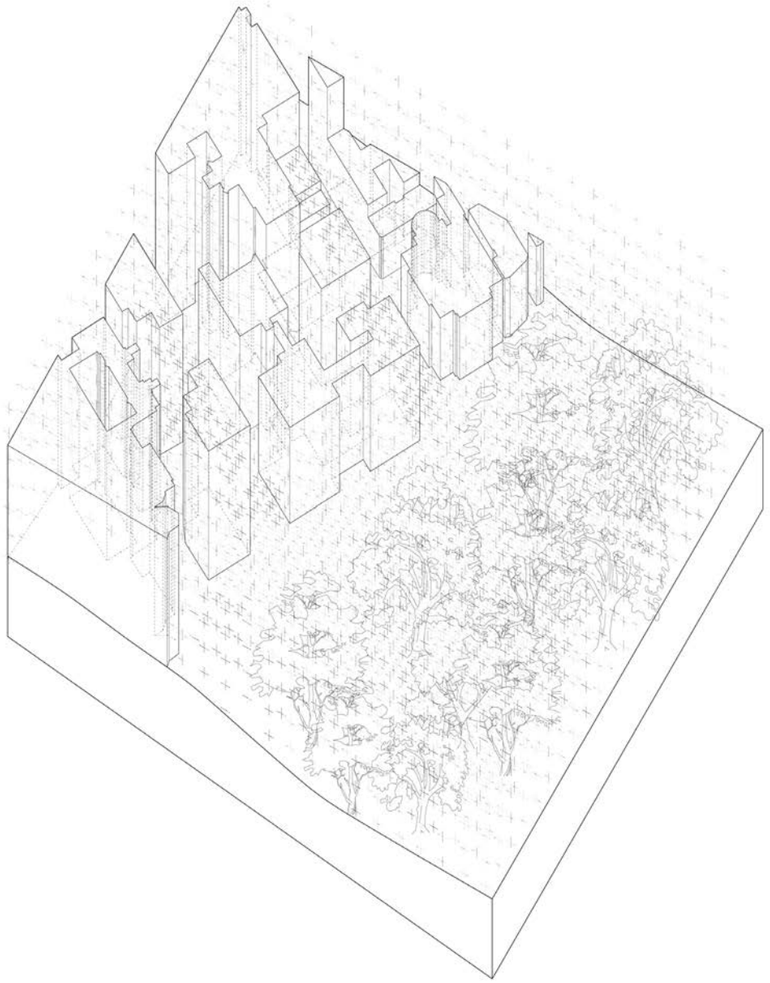
IN THE AIR

Pedestrain

Traffic

The sound of the urban area is mostly generated from pedestrians and traffic on the streets. Compared to sound of the urban area, the sound in the park shows more chaotic patterns but in an even way, consisting of various objects, including the sound if the leaves and branches, birds, other land animals like squirrels or rabbits, and people, etc. They all become components of the sound over the park and above the ground.

CITY vs. PARK NOISE 3D MAP

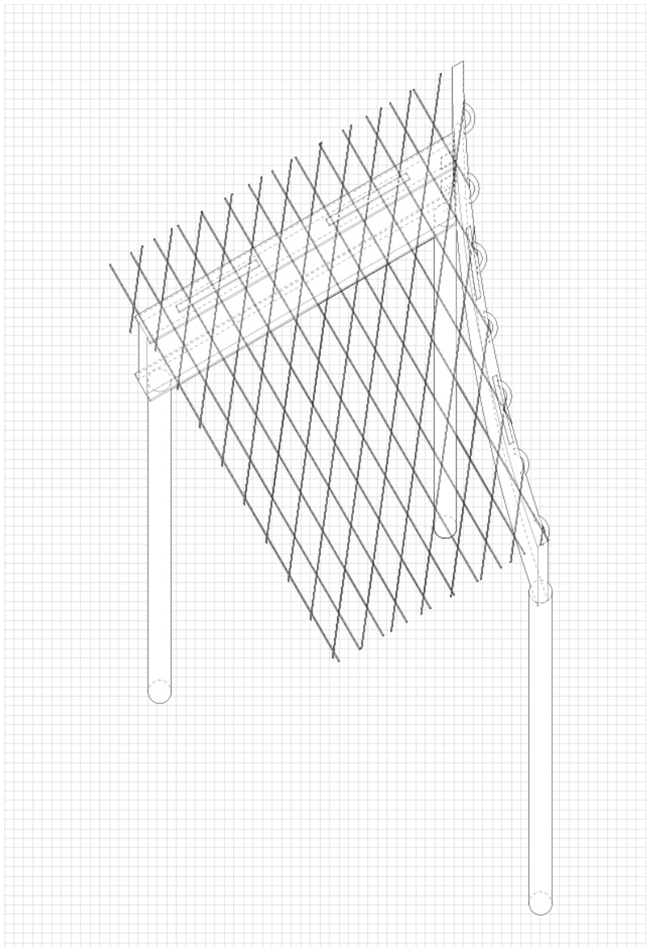


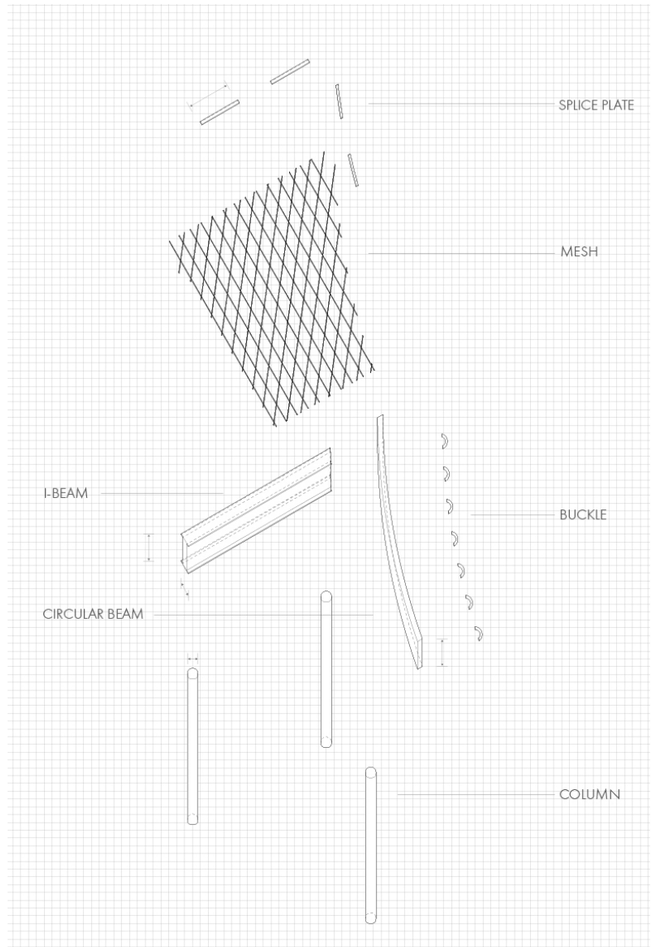
The direction of sound in urban area is from the ground to the sky, different from that of the park which is more disordered and unpredictable and dense in the air. There is something very vital in the air in the park that people hardly experience on the streets. To move such experience from the ground to the middle of the trees becomes interesting. These spaces at different levels create shortcuts for visitors to see more, smell more, and listen to more above the ground. People get to touch the leaves on tall trees on a light weighted structure that let them truly engaged in the surroundings.

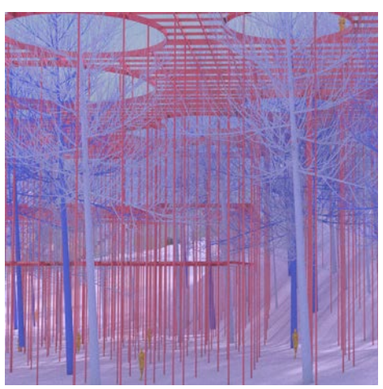
The keypoint of the project is to attract people's attention to engage in the park more, on their lame, tired, or busy days' afternoons, or in fresh mornings. It extends from the tall retaining wall on the Morningside Height across the park to Harlem. It welcomes people on two sides of the park, just like a bond allowing residents and visitors to travel as well as enjoy between the two areas.

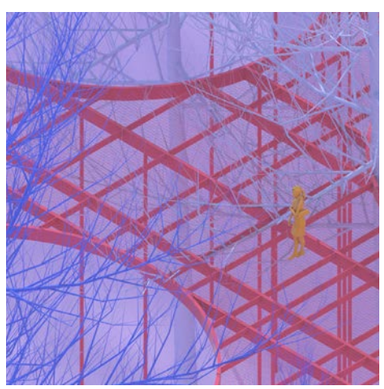
The structure is supported by many thin columns mimicking the tree trunks among the woods. The transparency of the structure allow spaces below not depressing and still prorous and open. This perpendicular structure and columns below could be seen as an expression of the rigid city grid, in a more chaotic way. The lightweight mesh above the beams are too light to be seen that the whole structure looks like floating in the air.

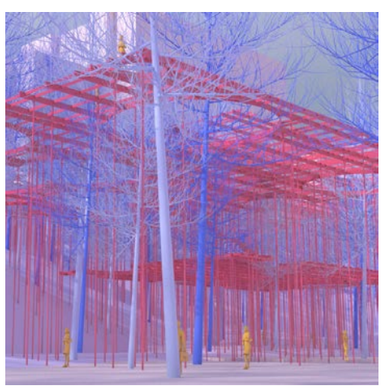
STRUCTURE ANALYSIS DIAGRAM

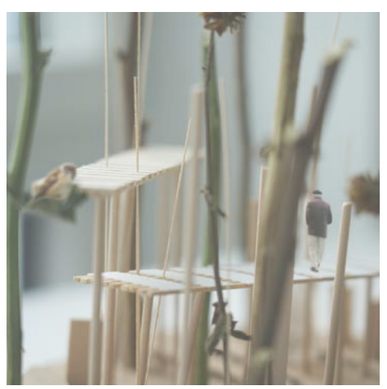


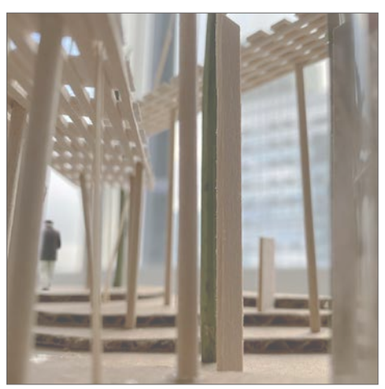


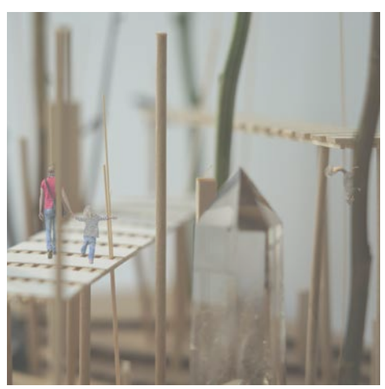


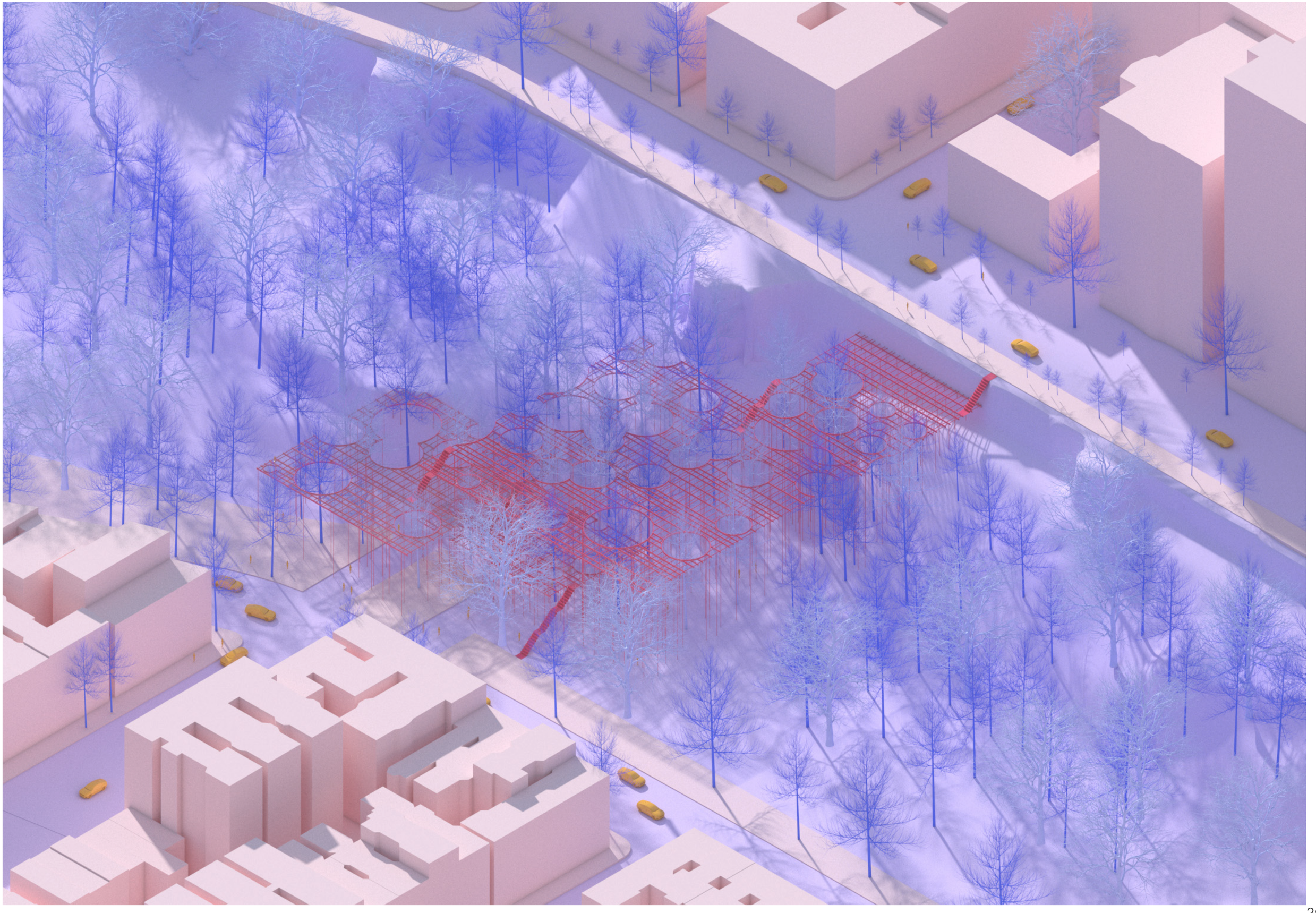












06

PS 64 School Constuction Documents

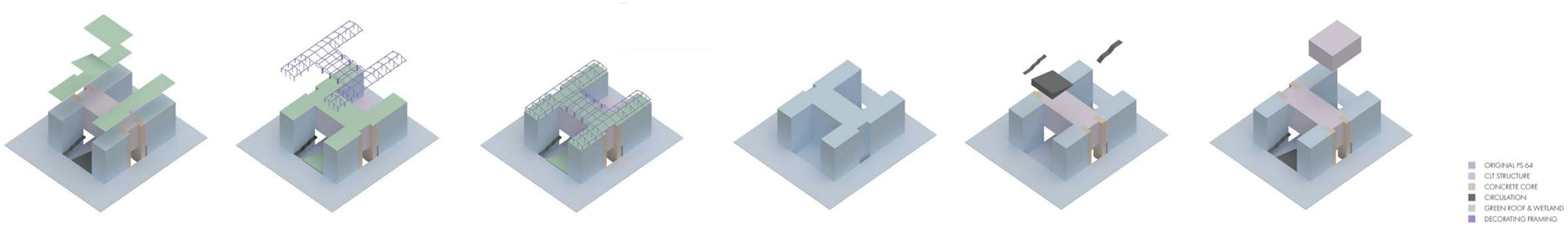
(Selected)

Arch Tech III& IV

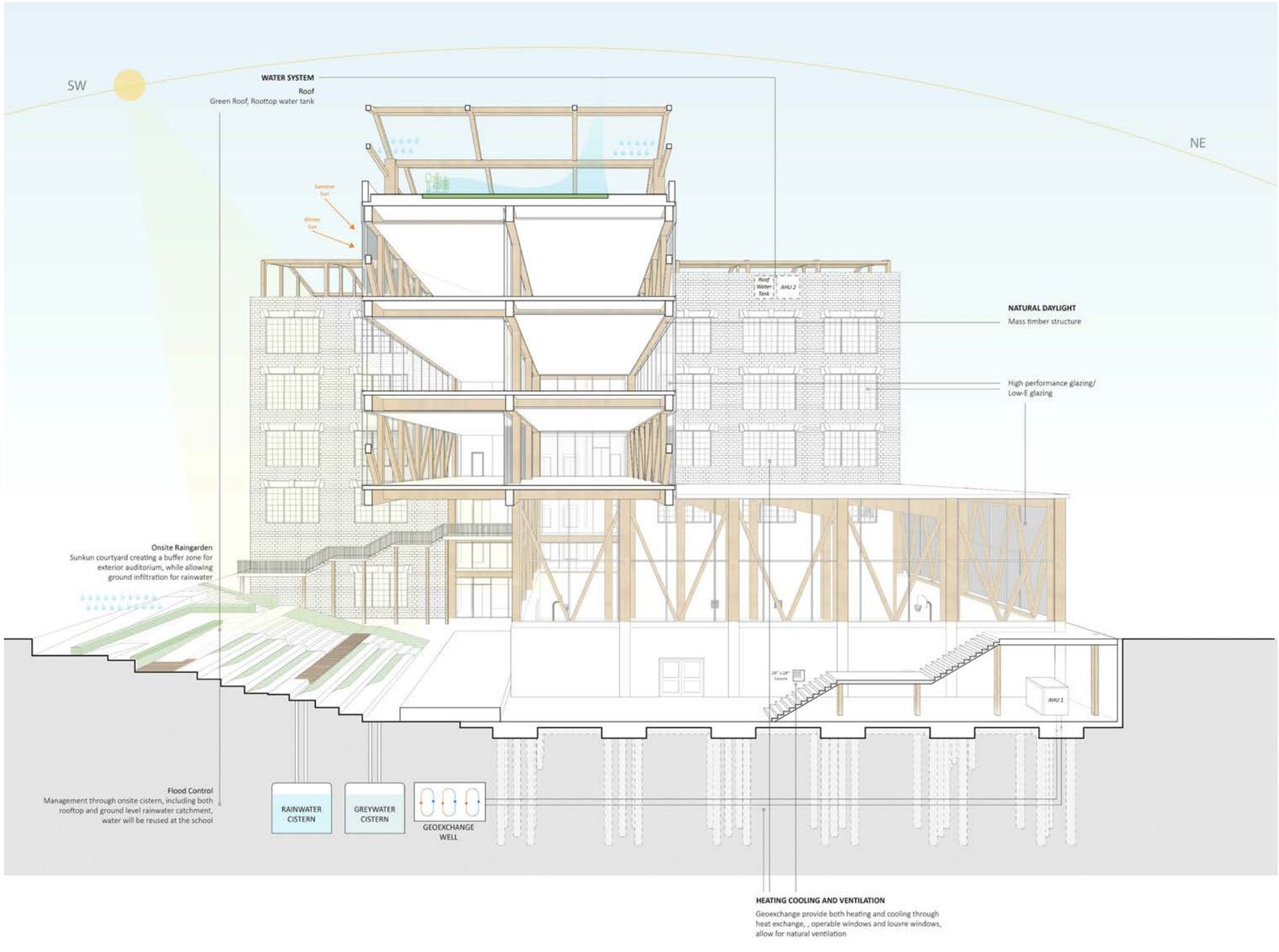
Fall 2021

Group: Linru Wang, Yiyi Gao, Shuyang Huang, Qingning Cao

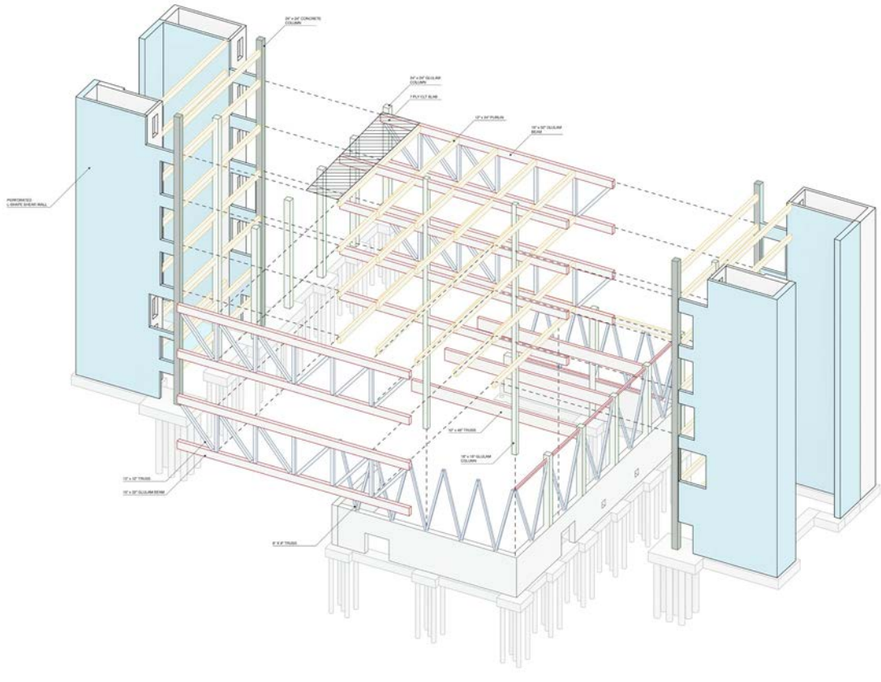
Renovation Generation Process



Sustainability Strategy

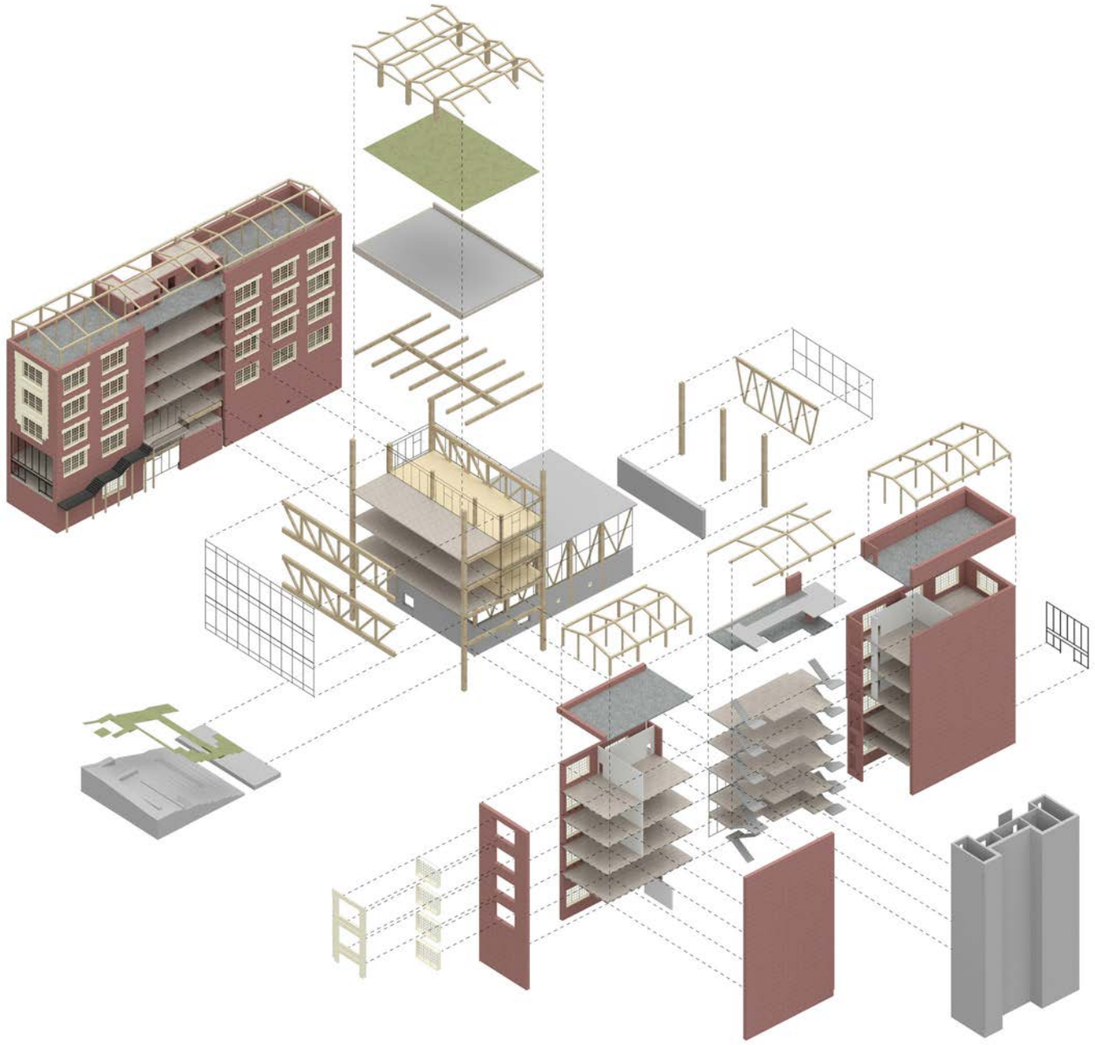


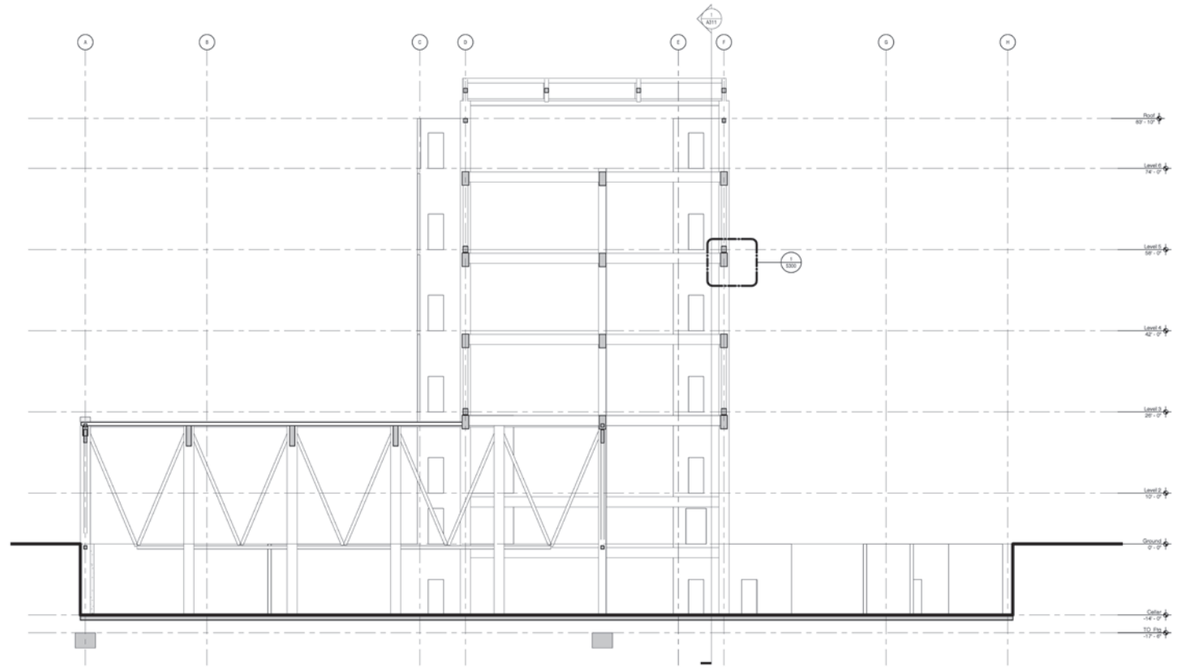
Keeping the partial structure of the old ps 64, we redesigned it with hybrid use of CLT truss, precast concrete, and glass, bringing the students with a transparent atmosphere.
Standing between east 9th and 10th streets, we kept the main entrance and added a new one on the other side. The original structure was excavated and a new truss structure was added, supported by four concrete staircases. New street circulations were introduced, and a wetland was built on the ground level to manage flood hazards. A basketball court was added on the northeast side, and two green roofs on top of the wings serve the same function as the wetland.
From the perspective, it's clear that the new structure extends into the two wings. The truss with glass curtain walls gives a transparent bay in the middle.
With the precast concrete and large span of the clt truss, the middle floor of the center can be cantilevered without any support and leave the interior clean and transparent.



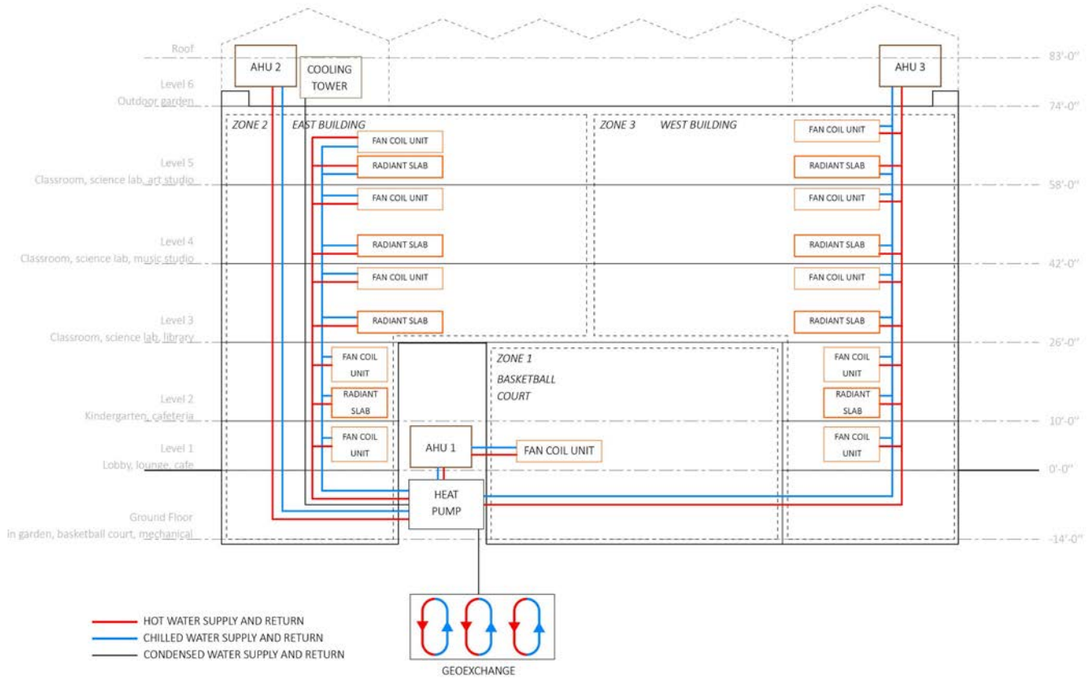
Exploded Structure

Exploded Axon

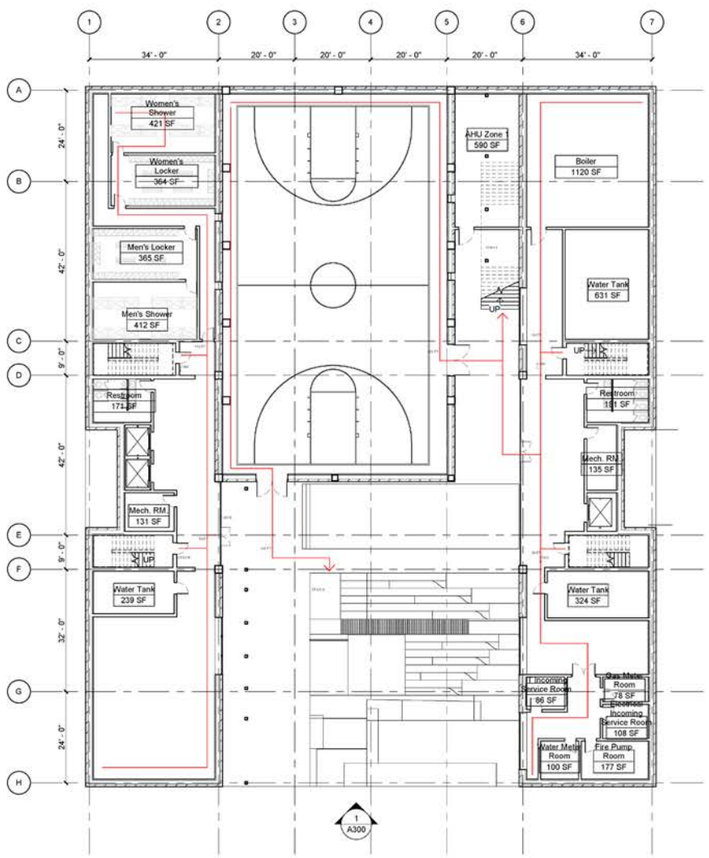




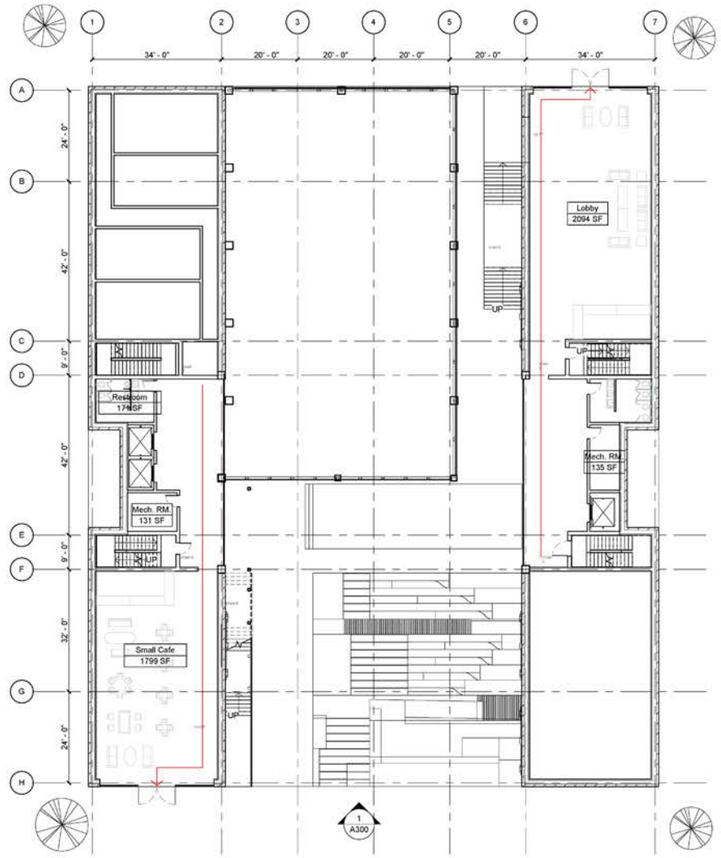
Structural Cross Section



Plumbing Hot and Cold Water



1 Cellar Egress
1/16" = 1'-0"

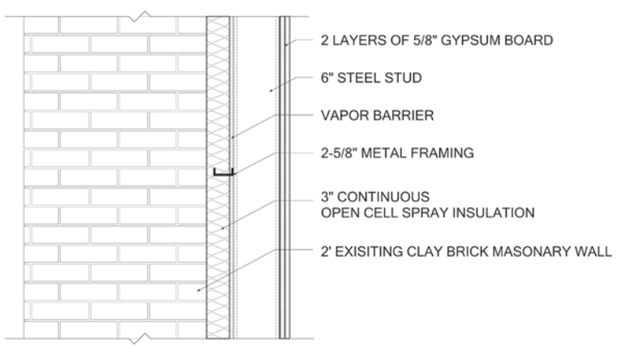


2 Ground Egress
1/16" = 1'-0"

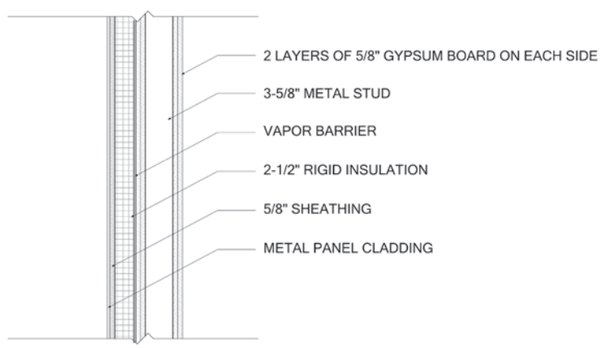
Occupancy Load - Cellar				
Program/Room	Use of Space	Area(sf)	Area per Occupant	Total Occupant Load
Basketball Court	Gymnasiums	4700	15	313.3333333
Woman's Shower	Business Areas	421	100	4.21
Man's Shower	Business Areas	412	100	4.12
Restroom	Business Areas	173	100	1.73
Restroom	Business Areas	184	100	1.84
Total				**325.2333333**

Occupancy Load - Ground				
Program/Room	Use of Space	Area	Area per Occupant	Total Occupant Load
Lobby	Assembly(Uncon centrated)	2075	15	138.3333333
Lounge	Business Areas	1804	100	18.04
Cafe	Kitchens	1537	200	7.685
Restroom	Business Areas	173	100	1.73
Restroom	Business Areas	184	100	1.84
Total				**167.6283333**

Egress Cellar-Ground

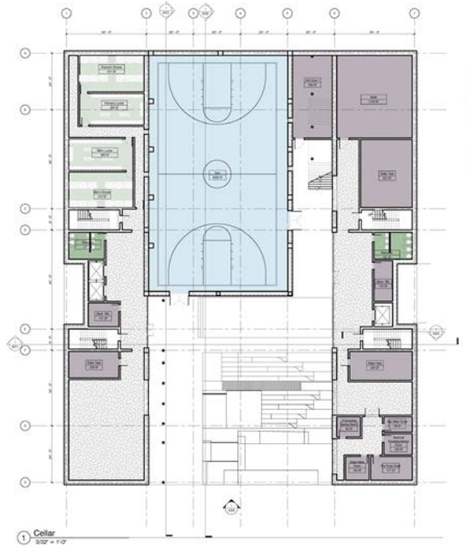


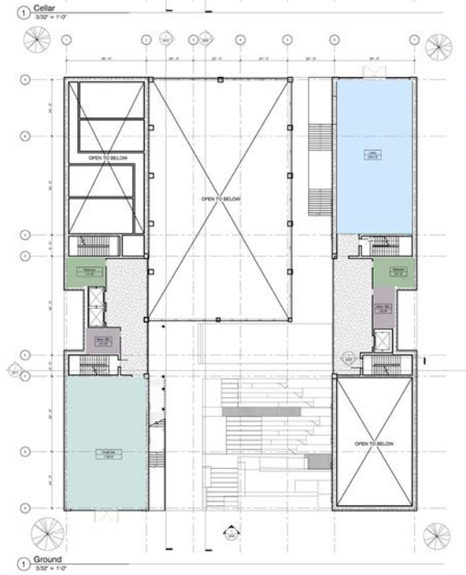
1 EXISITING EXTERIOR MASONARY WALL
1 1/2"= 1'

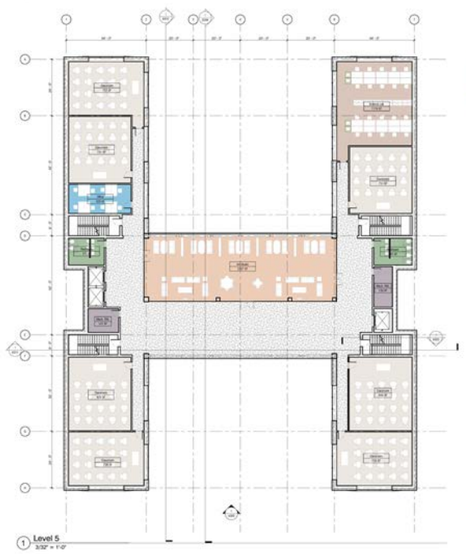


2 ROOF BULKHEAD WALL
1 1/2"= 1'

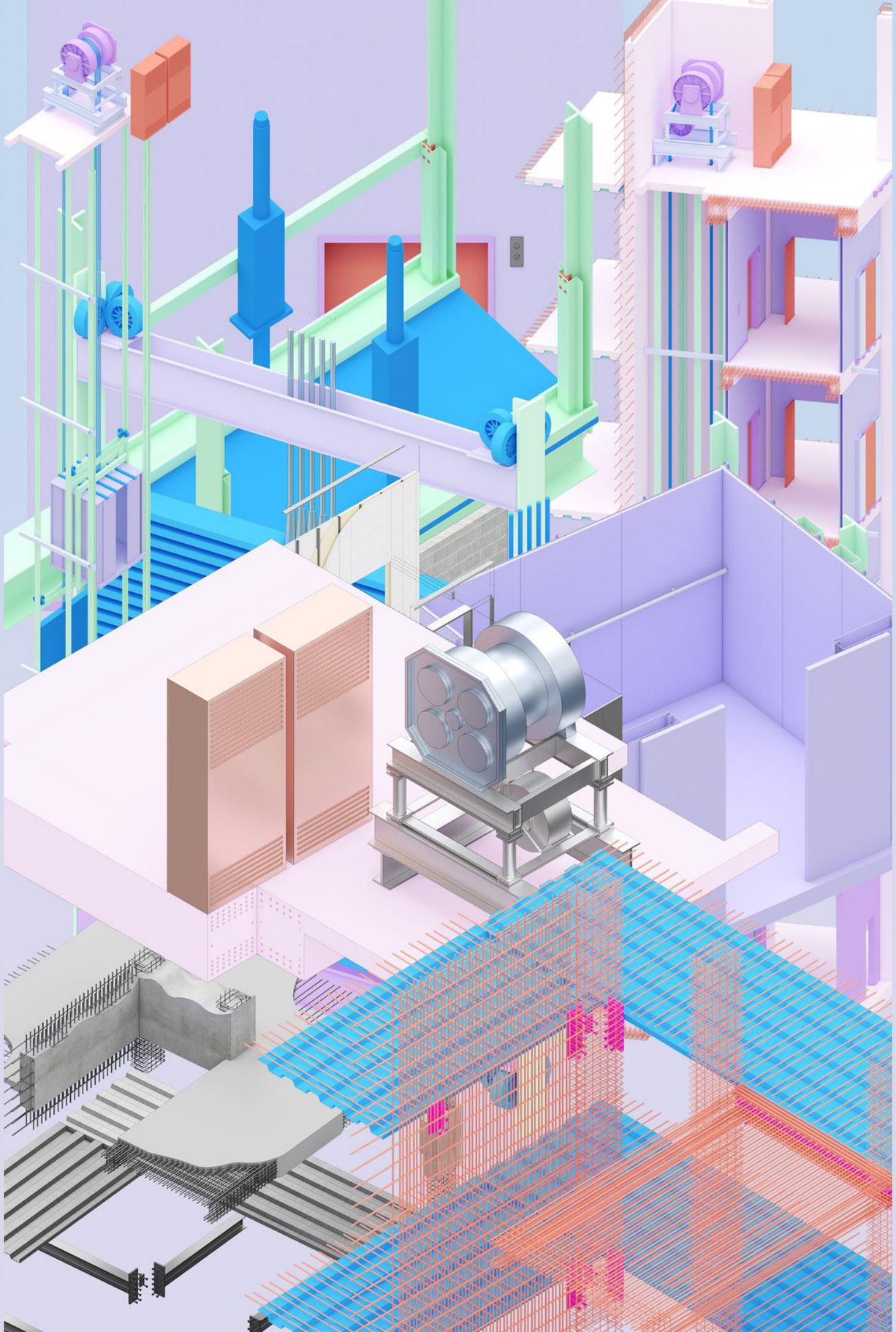
Wall Types







Floor Plans



07

Vertical Transportation

(Selected)

Arch Tech V

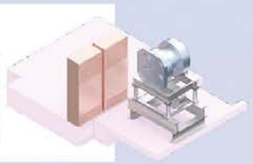
Spring 2022

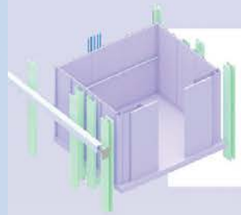
Group: Hanyu Liu, Minsoo Jeon, Anne Freeman

1

Controller and Machine

Elevator controllers are a system of coordinating all aspects of elevator service based on data collected from subsystems. The gearless machine system has a motor, traction sheave and brake. The traction elevator has the wheel directly attached to the electric motor. Gearless traction elevators have a very high travel speed i.e. up to 2000 ft. per minute and can travel a great distance.





Elevator Cab & Safeties

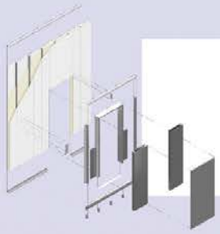
2

Elevator cab wall panels come with polished finishes and arrangements. Panels are installed on top of the base, their edges are called trims, and the areas between different panels are called reveals. They are divided into upper wall and lower wall panels, separated by a handrail in the middle. Moreover, the safeties are installed on the elevator cab to grab the hoistway rails and secure movements.

3

Counterweight

A counterweight is a weight that balances or offesets another, , by applying an opposite force and stability of a mechanical system. A counterweight is integrated in the elevator system to lift the load faster and more efficient. In traction (non-hydraulic) elevators, the counterweight is the weight of the carriage plus 40-50% of its rated capacity).



Elevator Doors

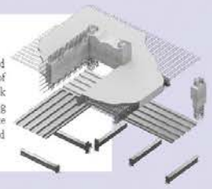
4

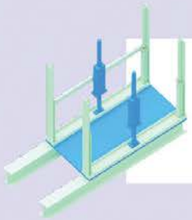
Elevator doors are set of doors that prevent passenger from falling onto the hoistway. Elevator entrances enhance the look of car landings by providing additional details. 2 hr fire rated walls maintain fire rating and wrapping with the desired finishes. The stainless steel doors that are covered with laminated sheet contains either plain single color or texture.

5

Floor Structures

Metal decking is a corrugated sheet metal that's supported by steel joists or beams. Concrete is then poured on top of the metal deck and it becomes either a composite floor deck system or a steel form decking. Corrugated metal decking is just another term for either steel form deck or composite floor decking. It's simply corrugated metal that's designed to have concrete poured on top of it.





Buffers

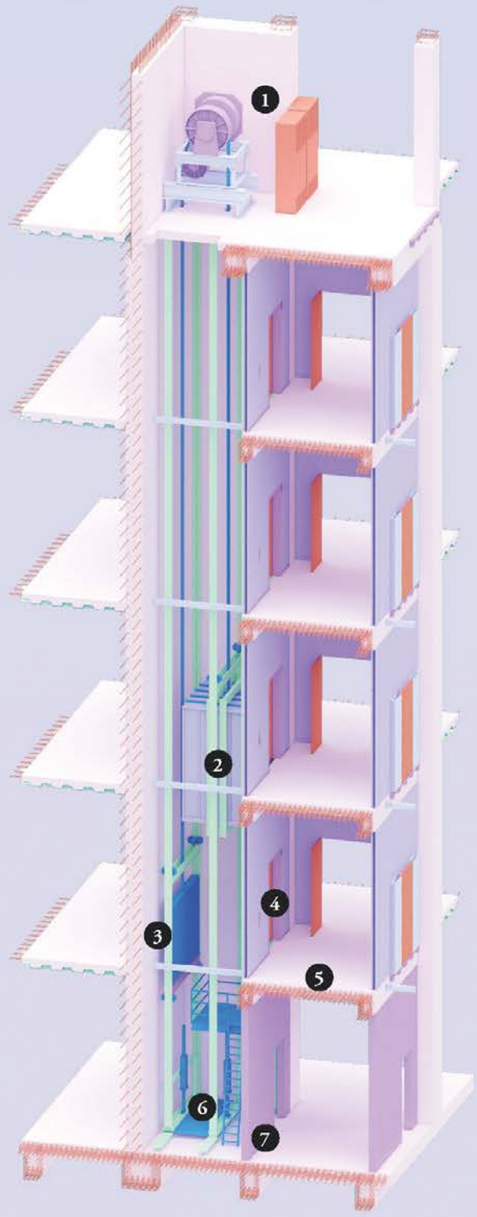
6

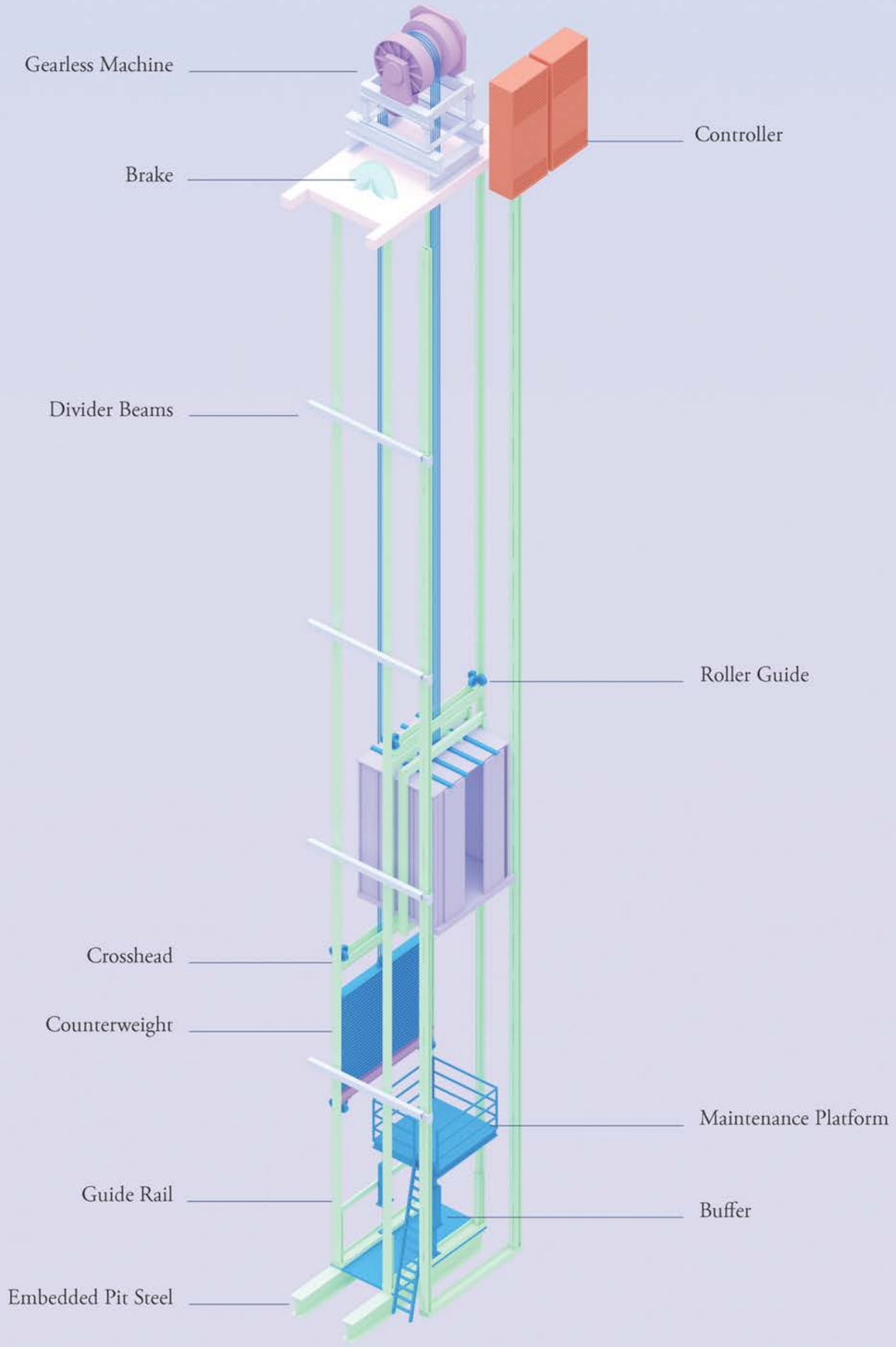
Mounted at the base of an elevator shaft, elevator buffers are required safety devices. A buffer is a device designed to stop a descending car or counterweight beyond its normal limit and to soften the force with which the elevator runs into the pit during an emergency. They may be of polyurethane or oil type in respect of the rated speed.

7

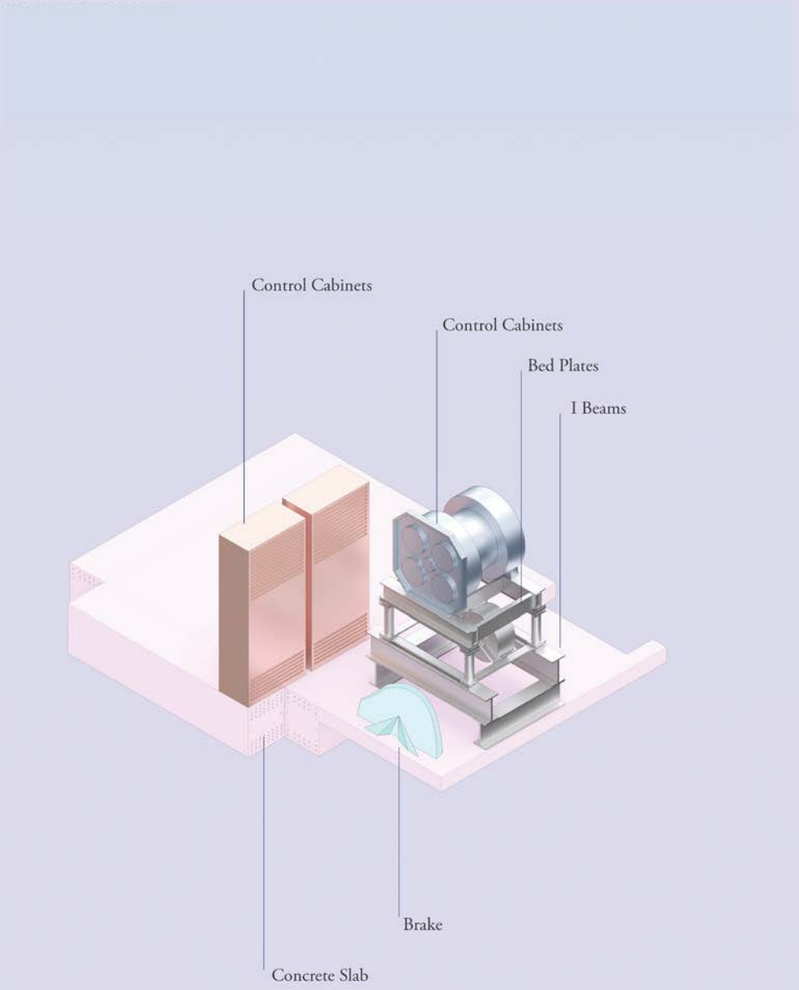
CMU Walls

CMU blocks are made from Portland cement, aggregates, and water. As a building material, CMU blocks offer several attractive characteristics to designers and builders, including the following: durable, easy to install, fireproof, low maintenance needed, decorative finishes available, and ornamented after installation. CMU manufacturers must conform to ASTM standards when fabricating concrete blocks.

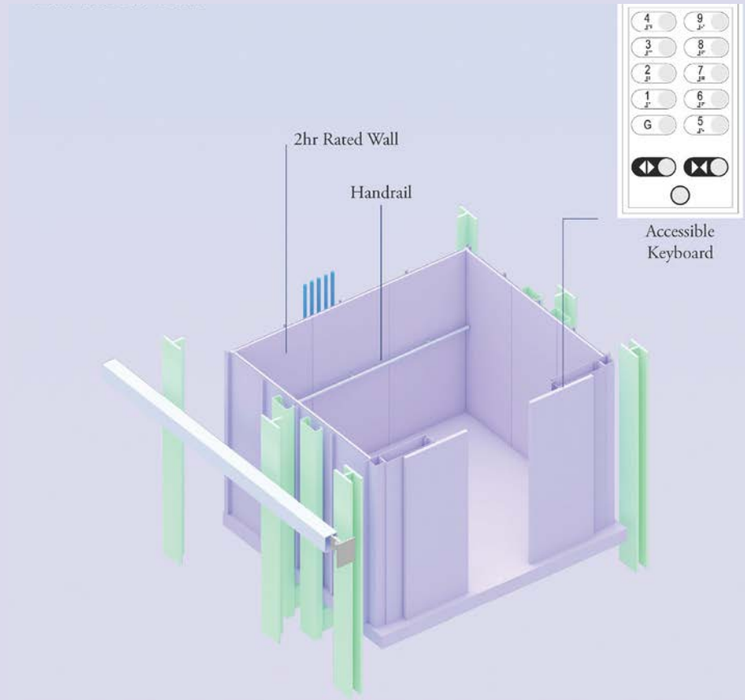


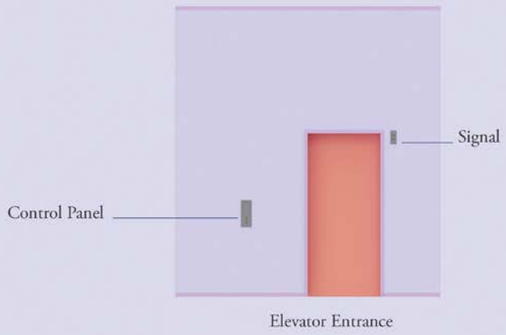


Machine Room

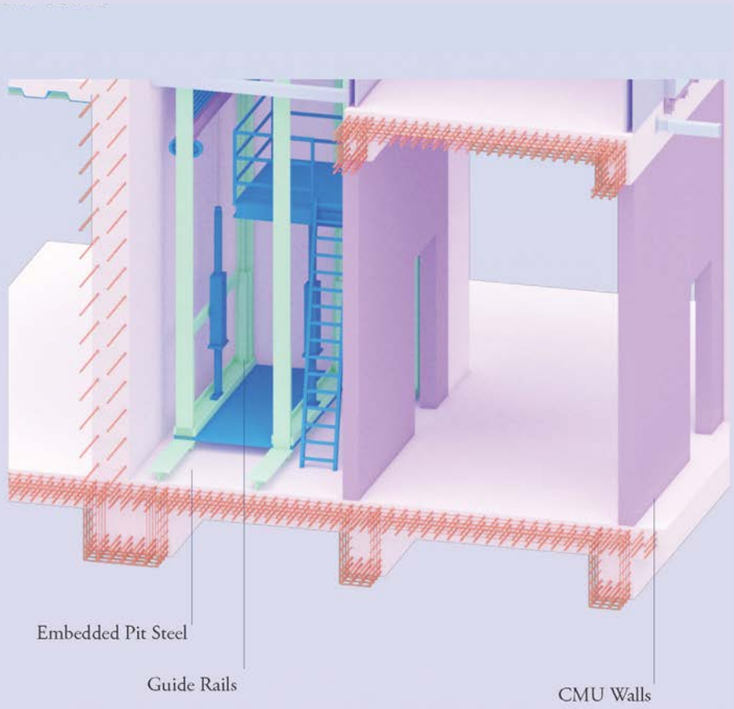


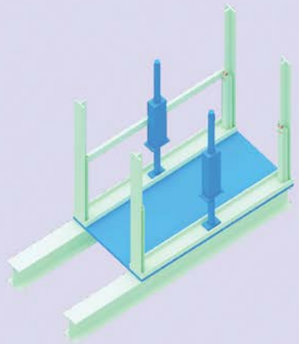
Elevator Cab



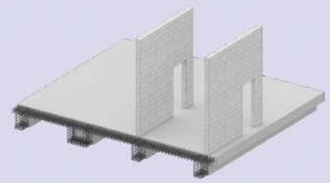


Pit Details





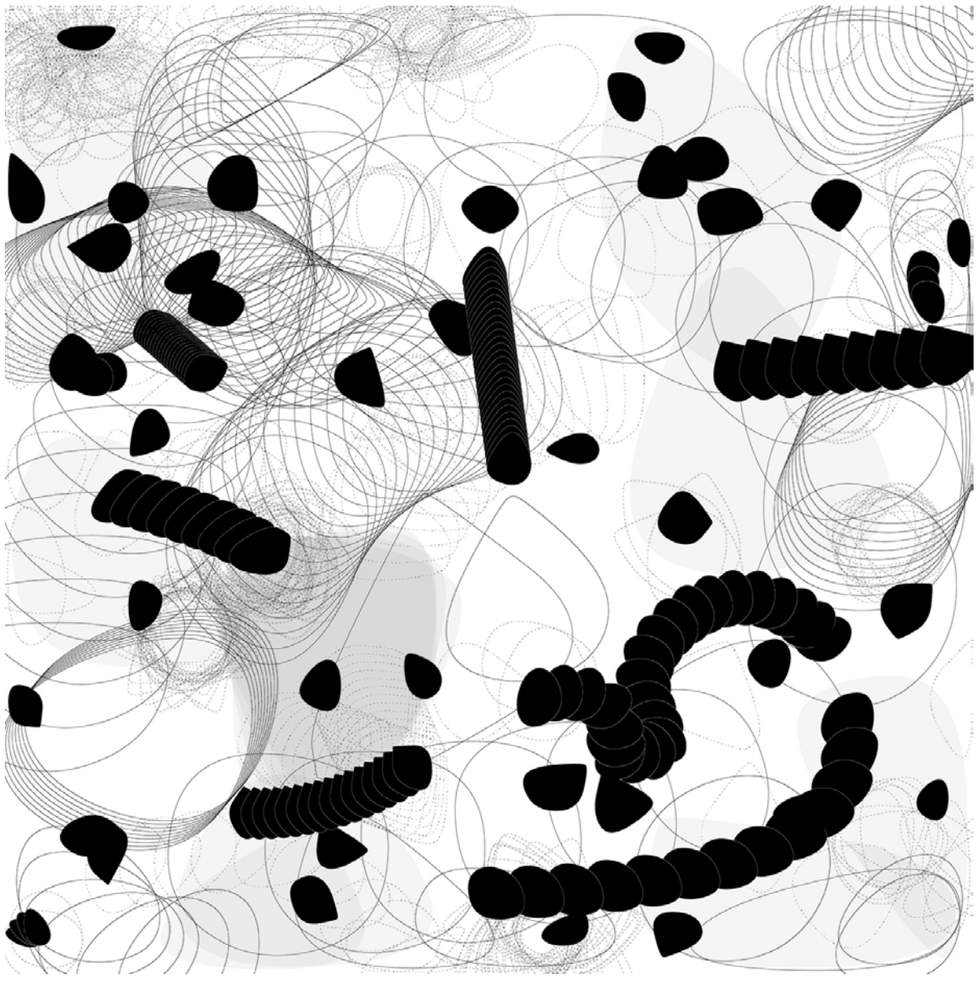
Buffer & Guide Rail Details

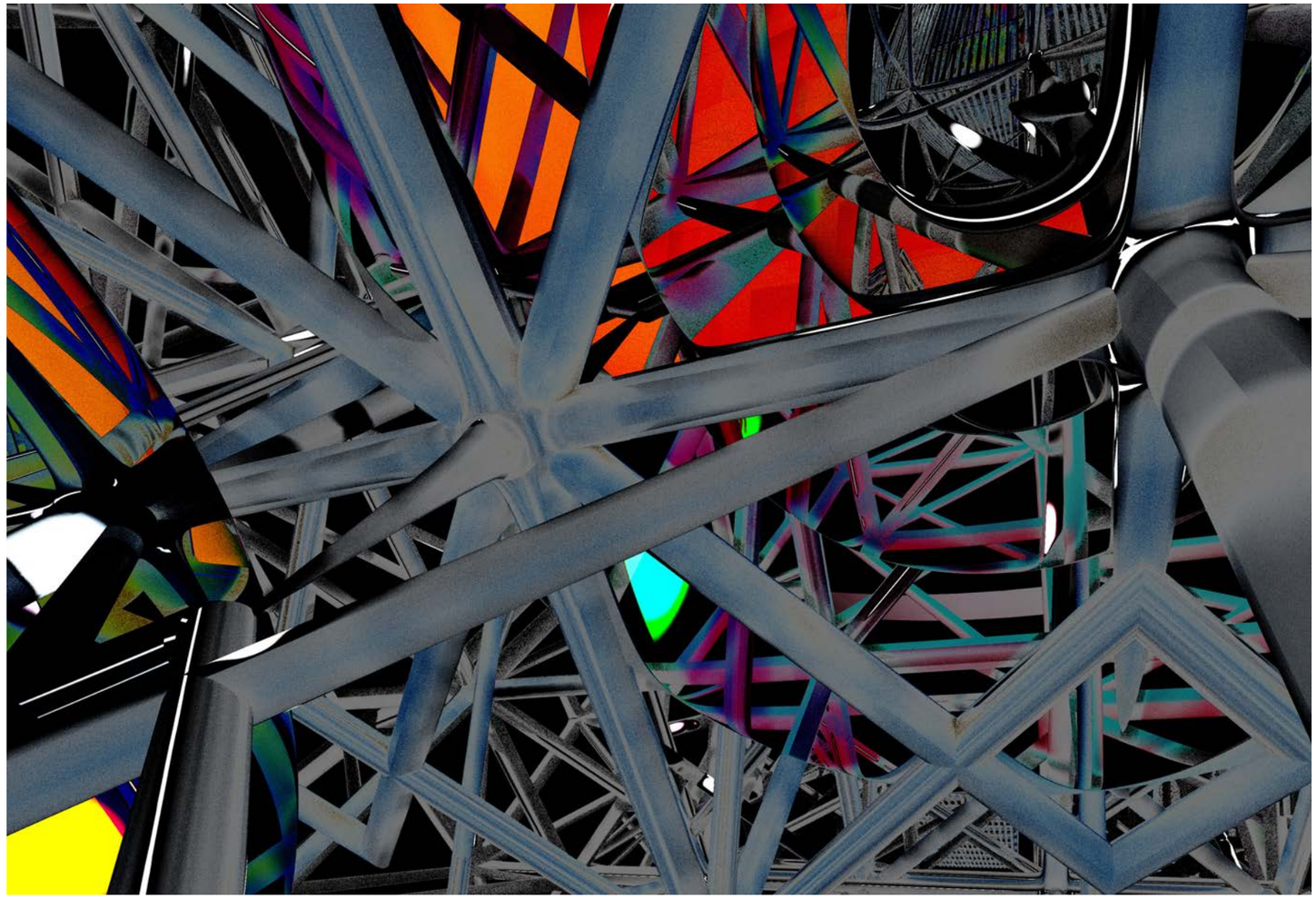


CMU Wall Details

08

ADR II





Ultra Real

09