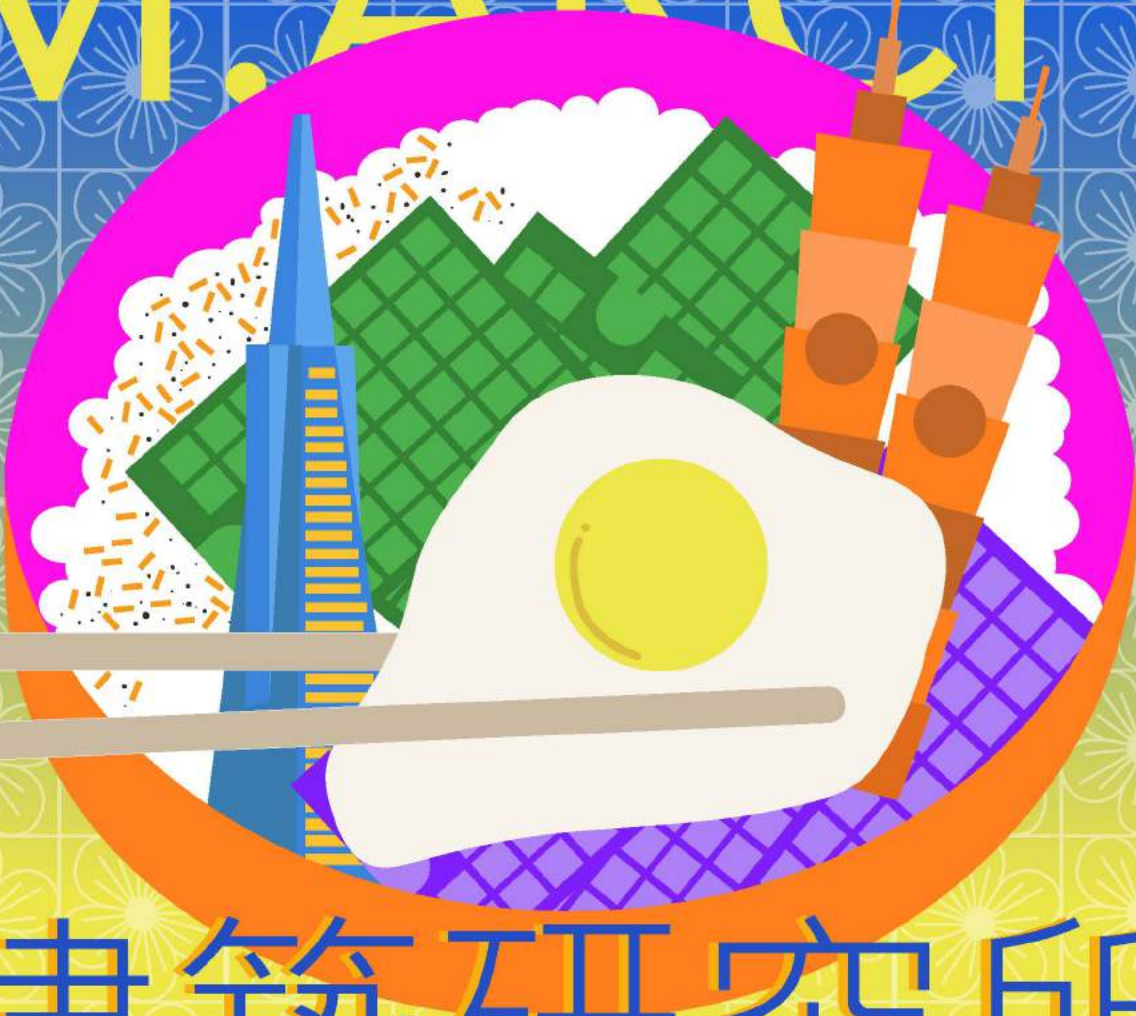


MARCH



建築研究所

BIANCA J.Y. LIN

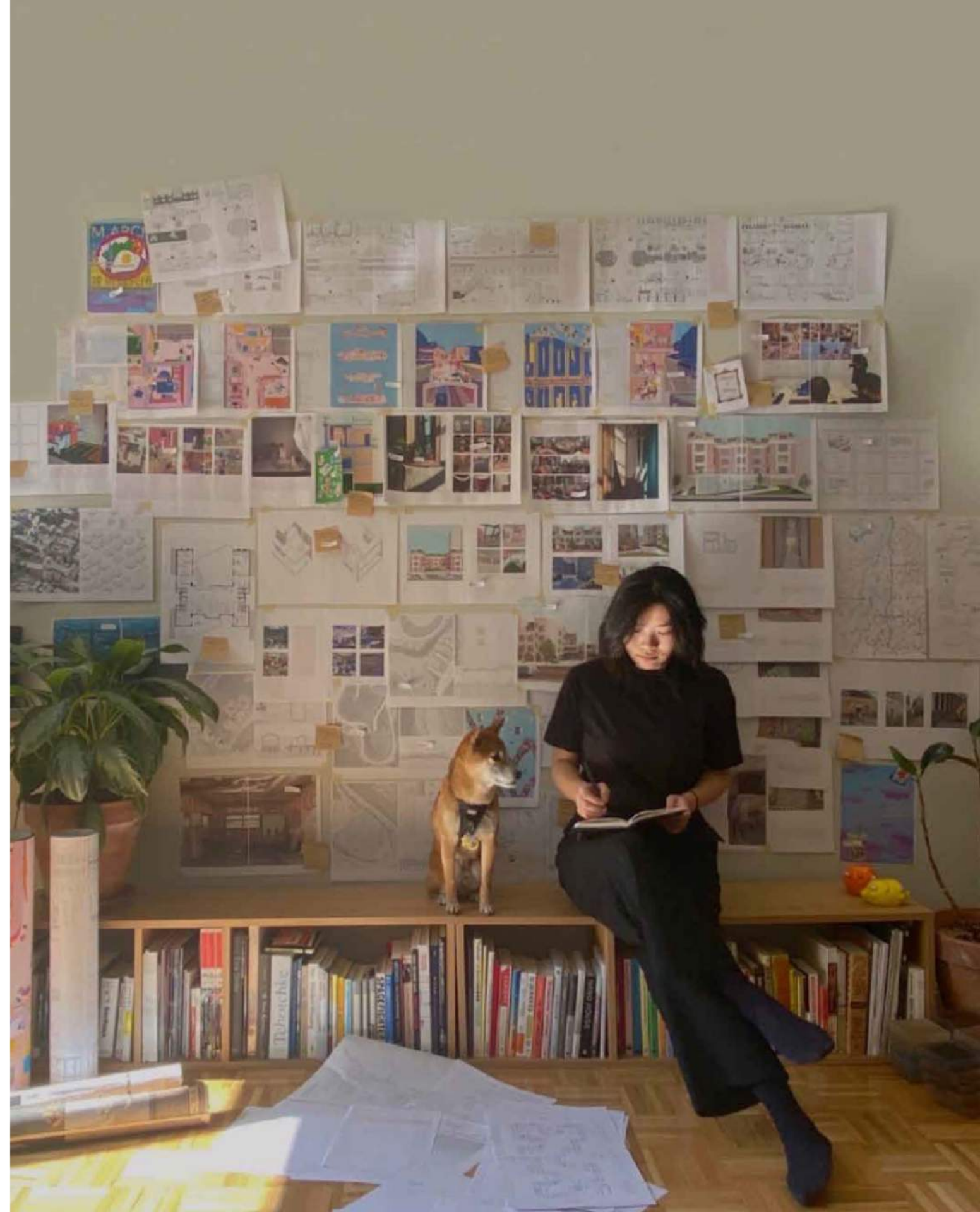
ACADEMIC PORTFOLIO

This is not a clean and pristine production of an academic portfolio.

During my time at GSAPP, I was drawn into documenting the background tasks, whether the messy desk I have while working on a drawing with cups of coffee, sketches and test prints all around; or the chaotic environment of glue, scrap materials, and my model intertwined in the 24/7 space. This documentation process gradually informs the types of projects I design. Often calling attention to the background support programs, or the hidden narratives that usually get undocumented.

My peers at GSAPP are also another unseen factor in which I want to celebrate. We go into interviews with our own portfolio, talking about our own works through our own narrative. But in reality some of the best projects I've done started with random chats with colleagues, with help and advice from peers, and we don't document that, or we don't know how to document that in a portfolio setting. Here, you will find not only the refined published works, but also the background tasks of those works.

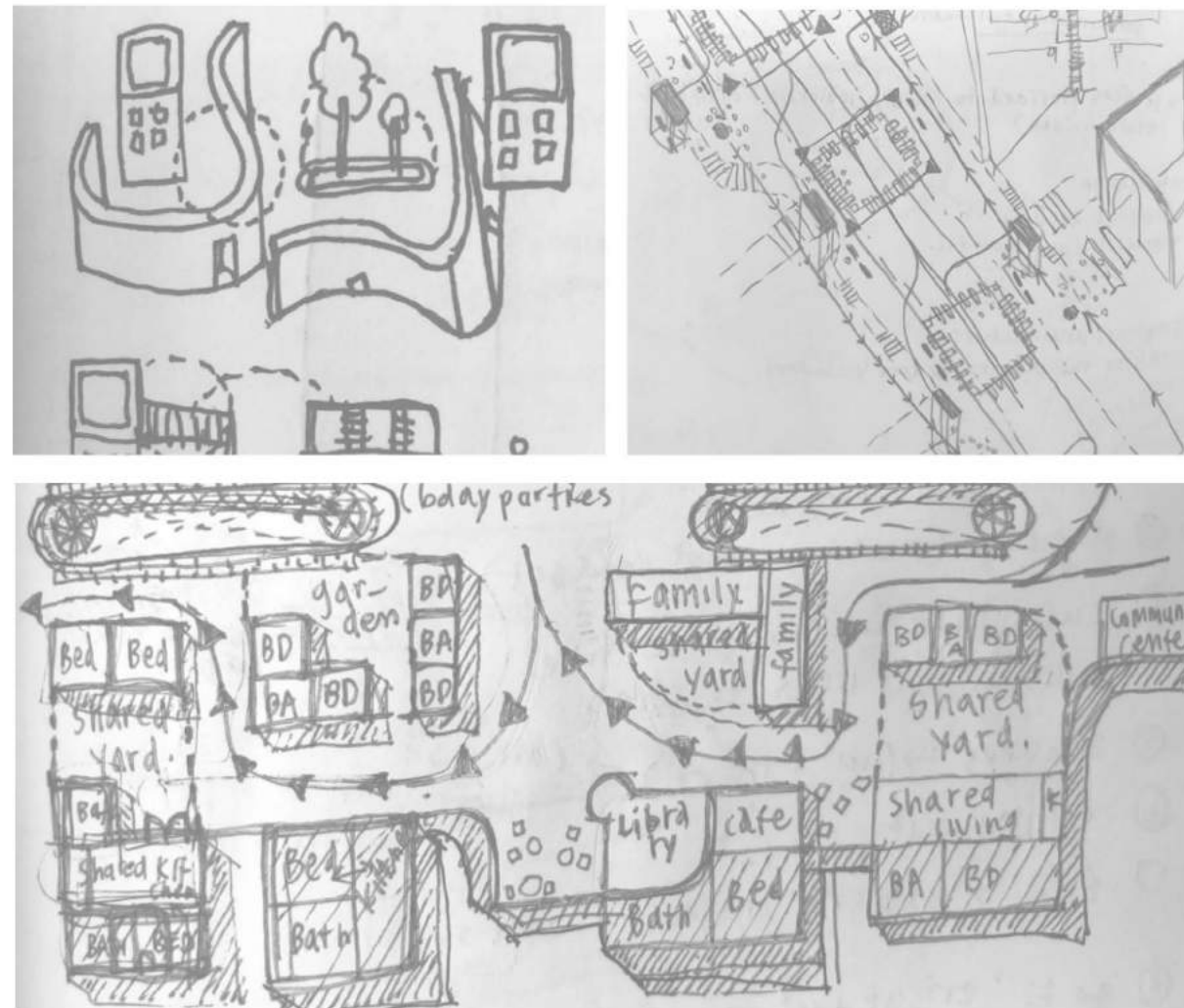
I hope by revealing the unseen in this portfolio, I am able to remind myself to always acknowledge the smaller, often neglected aspects, and not be afraid to really look into the overlooked, because sometimes you find the best solutions in the hidden.



## BROADWAY STORIES \_ 1.0

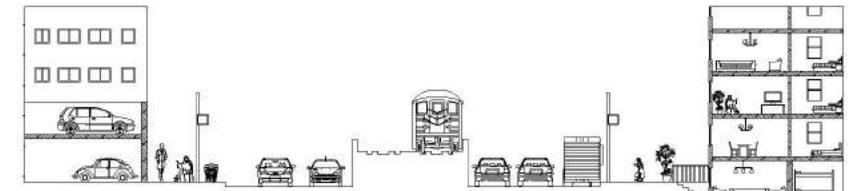
With Broadway being the oldest street crossing north-south of the island of Manhattan, it connects a series of different realities and architectural systems along the way. Whether it is a 1960s old apartment building or a newly built skyscraper, each intersection of Broadway tells a different story. By understanding the Architecture of the City not only consists of the buildings but also the small systems that made the city function, one can realize the importance of looking through the details of each intersection and researching the histories behind it. Through observation of this area of Broadway, a series of drawings were produced to represent the findings of systemic architecture in the city.

I was interested in the different characteristics of each intersection in this part of Broadway. With its proximity with Morningside Heights and Harlem, this area represents a different side of Manhattan, a side where it is sometimes forgotten and neglected through its history. Each of the black and white drawings are represented in both plan oblique and section to show the findings of different qualities at each intersection. This observation then influenced the following projects drawings:” the color blocks, the section model and the 1-1 scaled model.

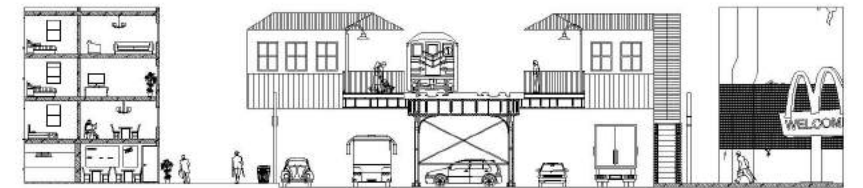




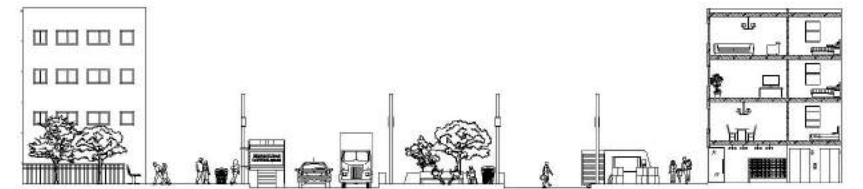
Please use this to look through the drawings.  
You might find unexpected texture and grains around each site.  
The five drawings each represent an instance of intersection along the studio site. Each has their own unique characteristic and also similarities.



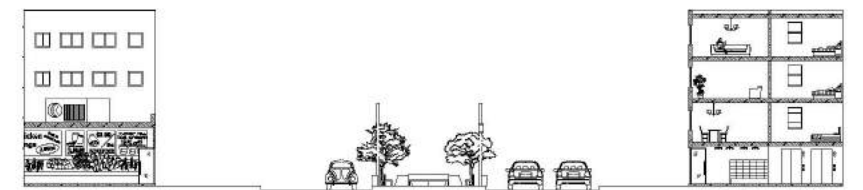
- intersection 1 - subway -



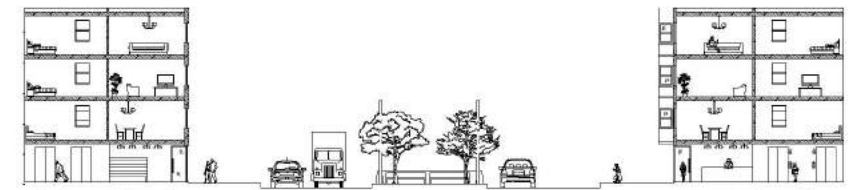
- intersection 2 - station -



- intersection 3 - park -

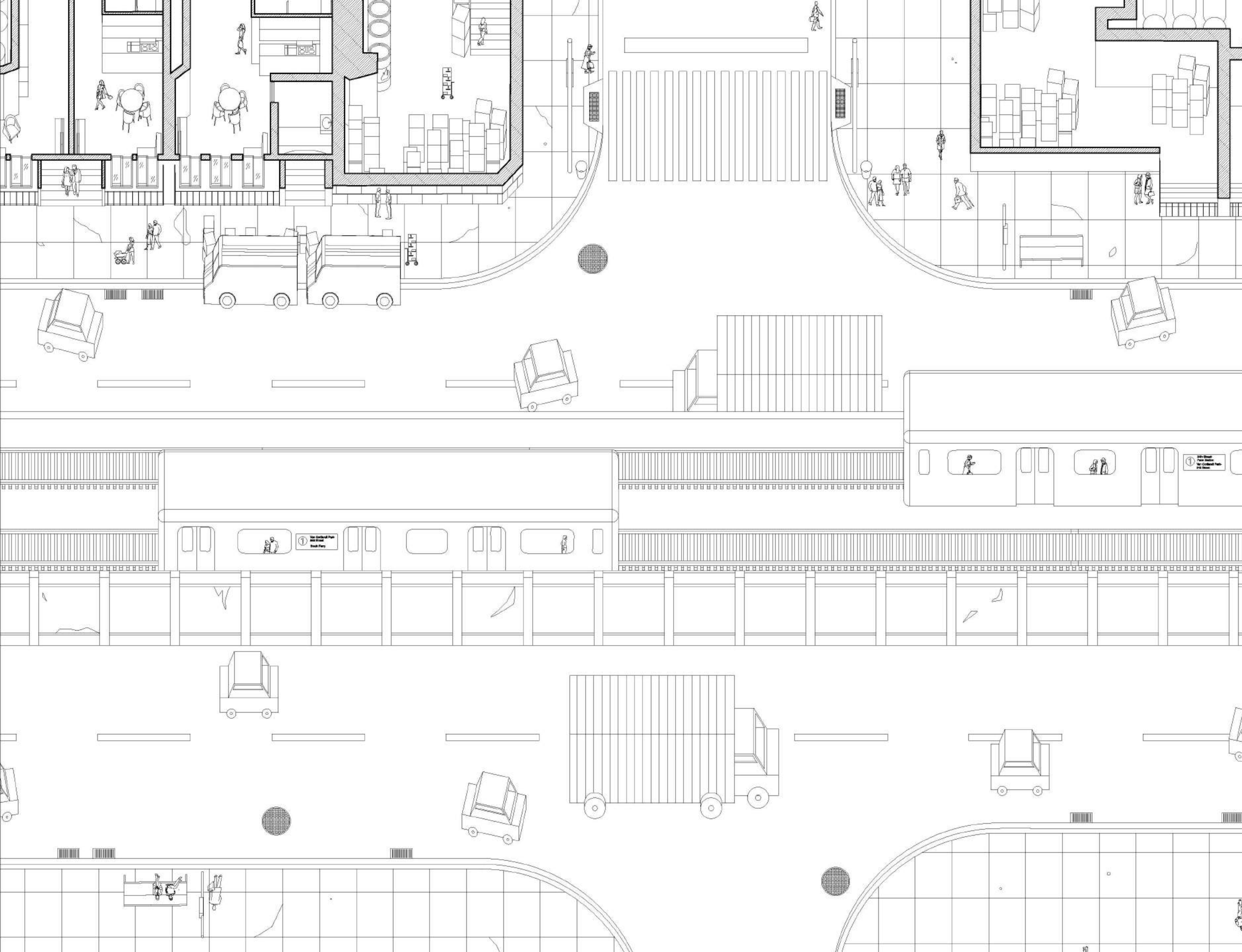


- intersection 4 - typical median -



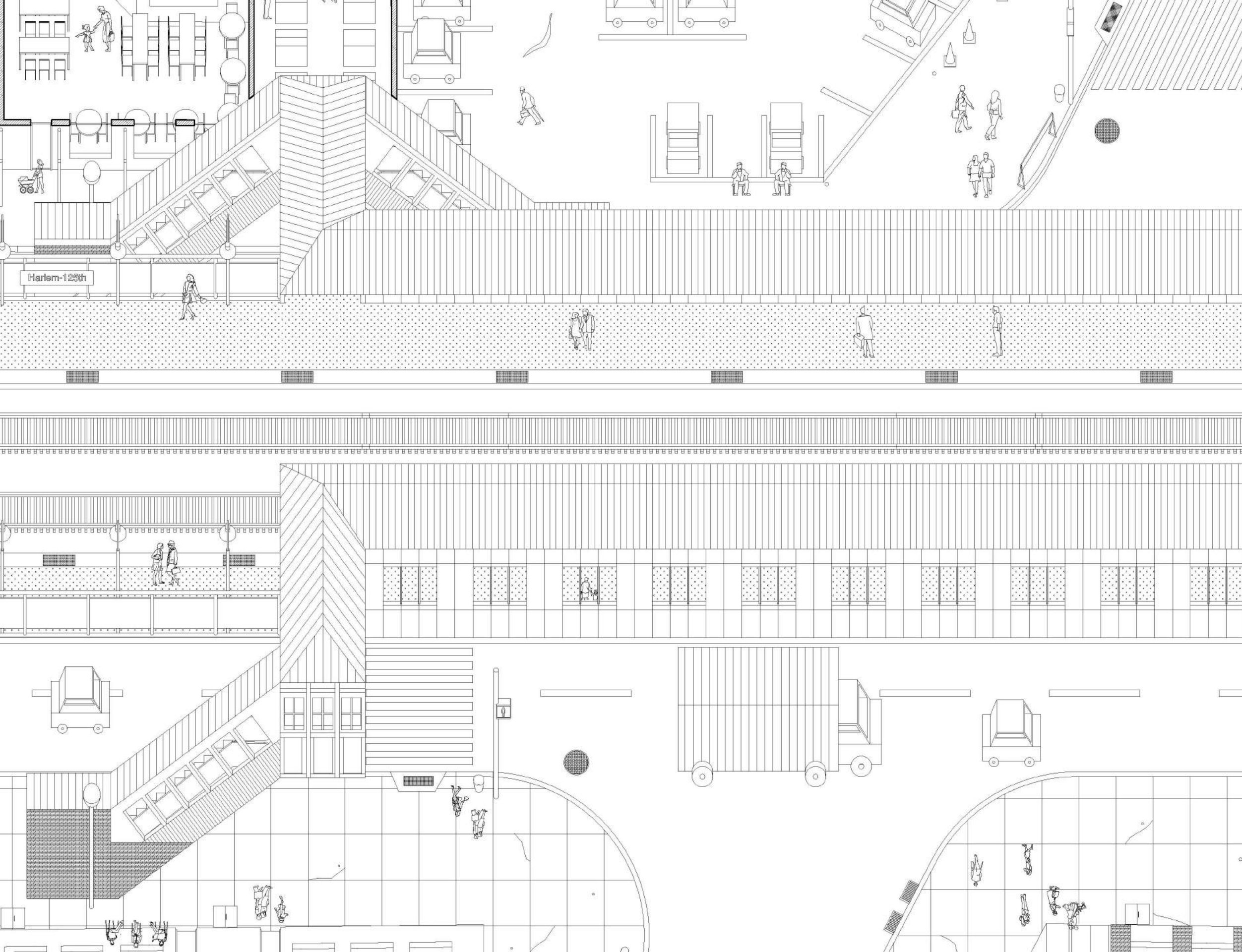
- intersection 5 - unused median -

INTERSECTION: SUBWAY TRACKS  
LOCATION: W122nd - W124th



This first intersection is looking at the subway tracks that are built right on top of the road. This typology of tracks created a very prominent division between the two directions of roads. Within the tracks there are two sets of tracks. Both for the 1 train to run on. This connects the 116th and 125th stations on the 1 train. Each road has two lanes for cars and trucks and buses. Since this is a wider set of roads, there is space for temporary parking at the curb-side. On the east side of the road, there are usually vacant plots or larger parking structures, making the sidewalk on the east side fairly isolated with large infrastructures on each side of the sidewalk. On the west side of the sidewalk, there are mostly townhouse typologies. Below these townhouses, in the basement, there are sometimes units and/or storage spaces for the tenants above to use.

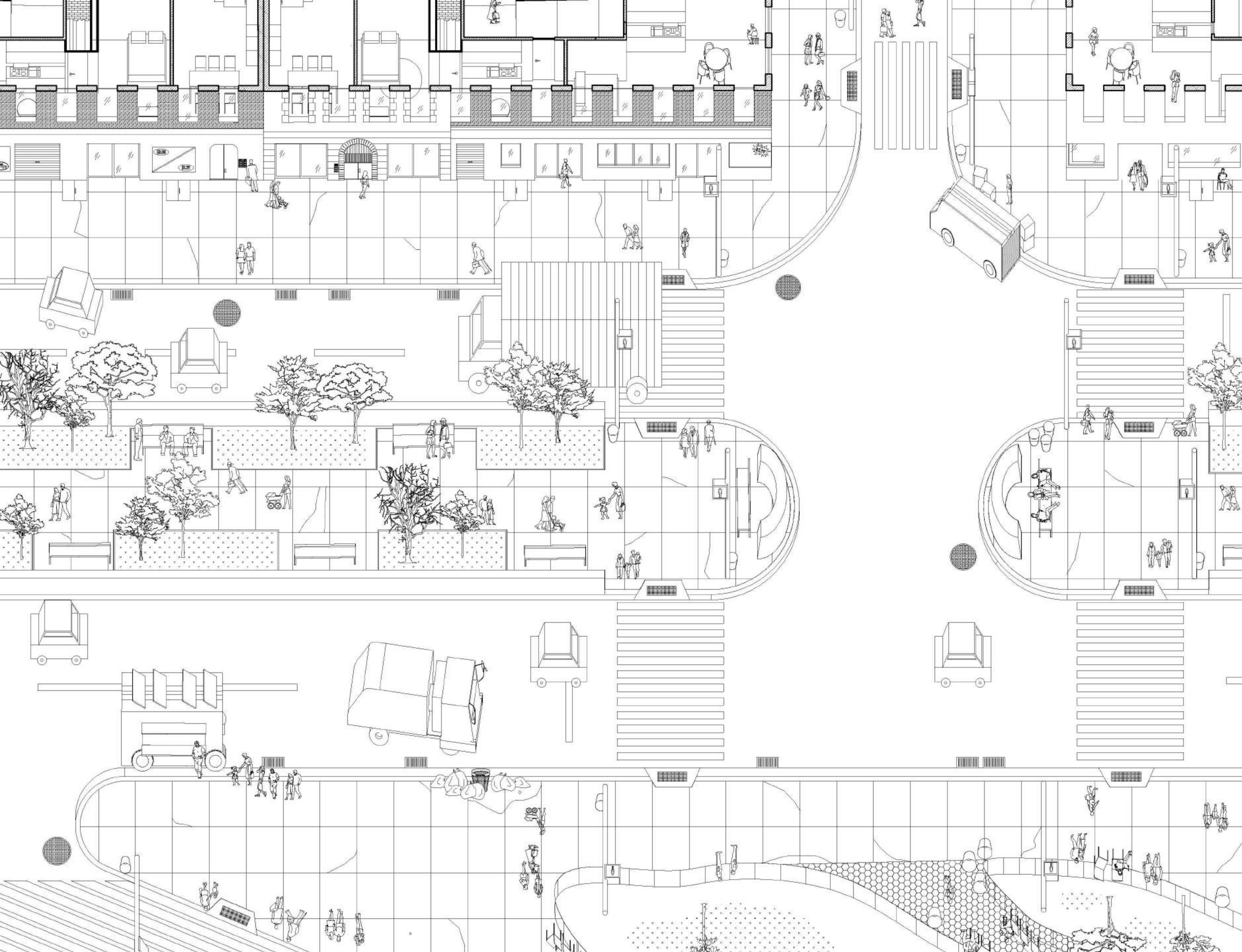
In general, intersections with this condition are inaccessible from the east-west direction. The sidewalks are in solitude. And with residential and transportation as its main program, the site is fairly quiet except for when subway trains run by.



INTERSECTION: STATION  
LOCATION: W125th - W126th

This intersection is one of the elevated stations of the metro system. In order to access the station, there are elevators and escalators accessible from the street level. Adjacent to the station is a busy intersection of 125th street. Compared to the previous intersection, this one has more commercial activities and more foot traffic on a regular day. Immediate to the intersection, there are many storefront typologies that contribute to the vibrancy of this intersection. There is also a stable McDonalds (unfortunately is now demolished) that hints at the historical reminiscent of the local demographic group. On top of the stores are mostly apartment typologies for small families.

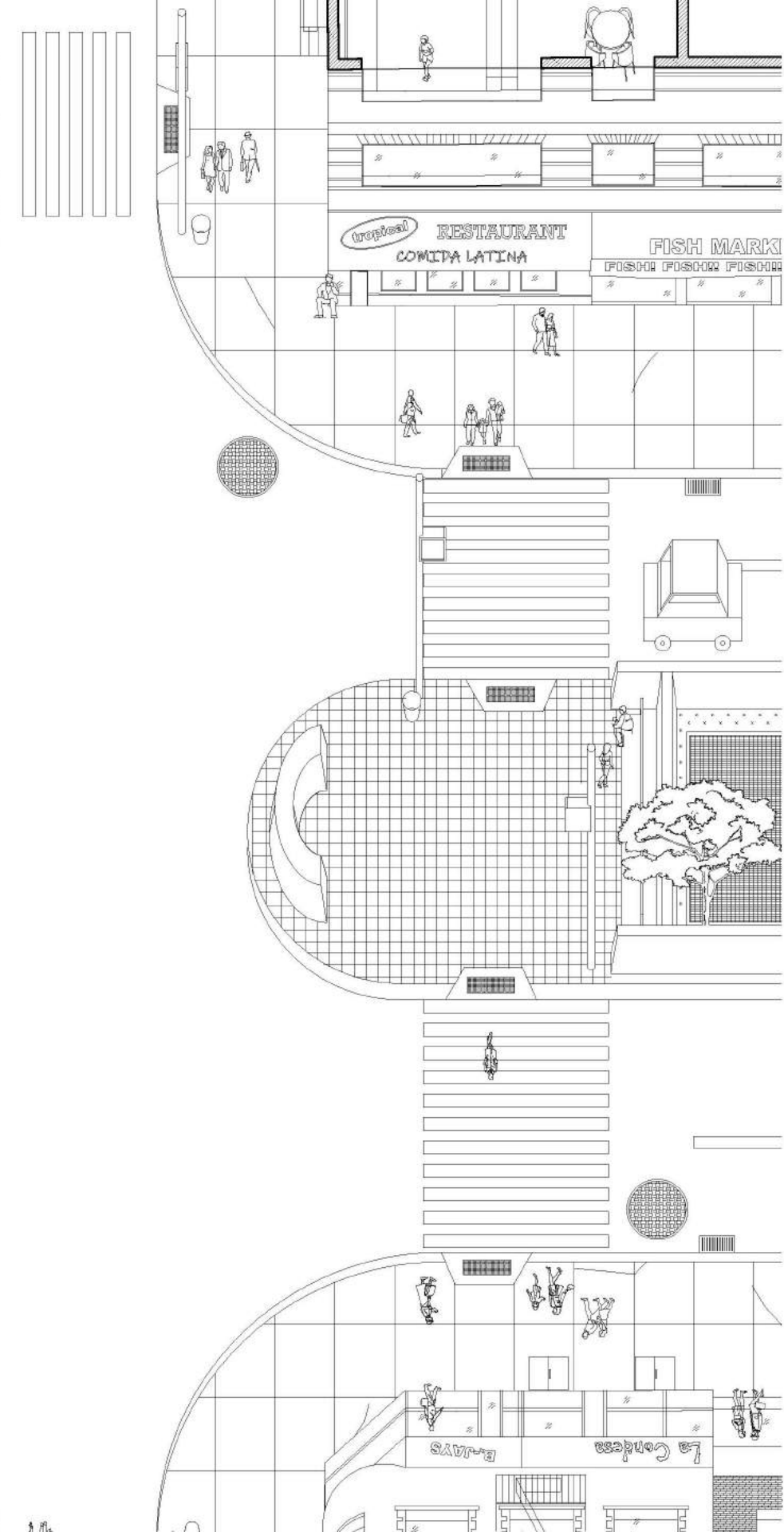
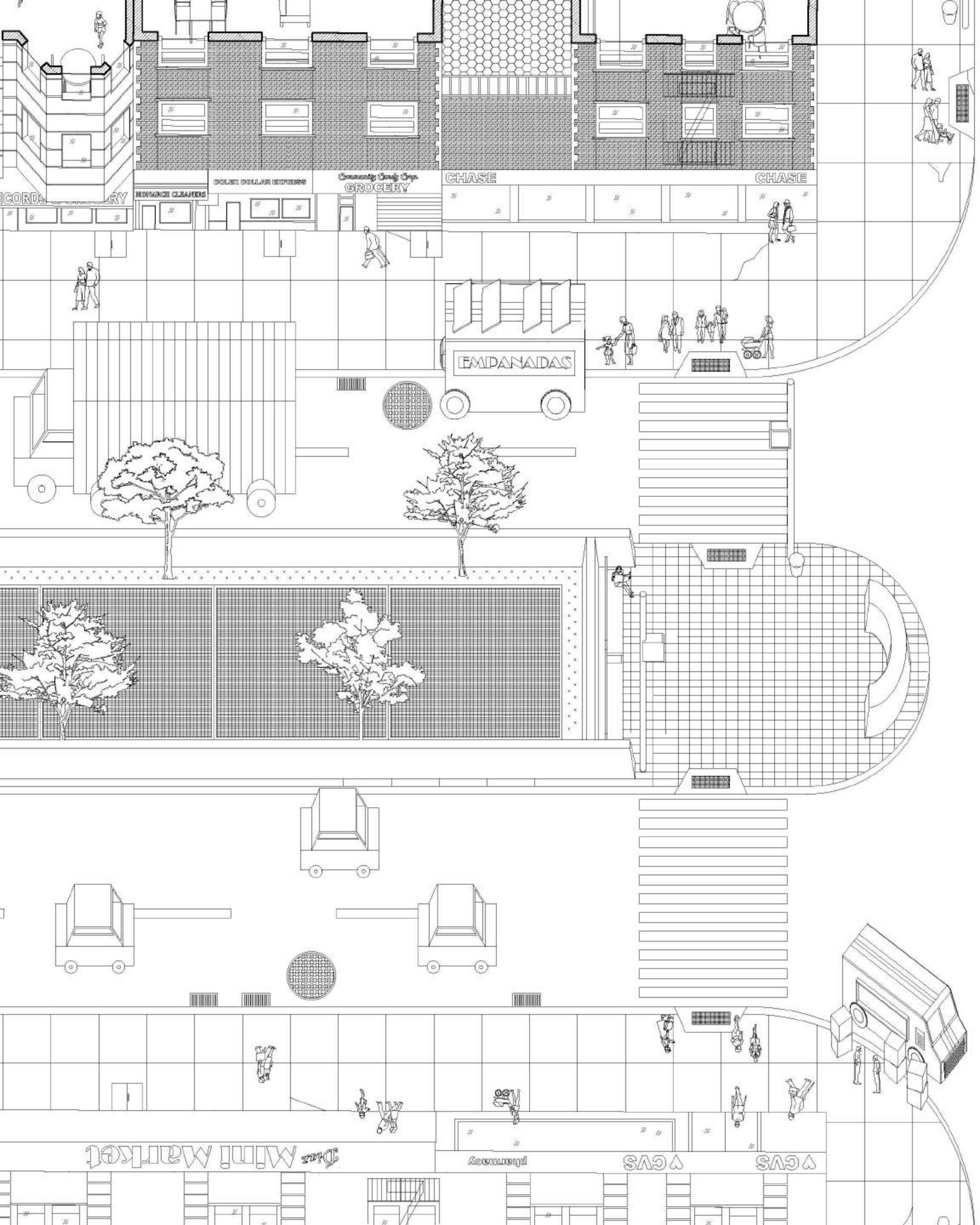
The elevated station is supported by a series of steel structure columns. At the station, the 1 train arrives in the middle of the track. Waiting platforms are on the perimeter of the elevated structure. Railings and streetlights are on each side of the waiting platform. Overall it is quite a unique experience on the subway system in Manhattan.



**INTERSECTION: PARK with PARK**  
**LOCATION: W136th - W138th**

These two medians are right across from the Montefiore Square Park on 136th street. This is also where Hamilton Place intersects with Broadway, forming a triangular park that sits in the middle of this residential neighborhood. With this median and its adjacency to the park, the intersection feels more spacious compared to the previous 2 intersection conditions. In the park, there are organic shapes of fenced up green spaces. Benches are scattered alongside the green areas and there are multiple garbage cans. This park is daily accessible, the curbs allow for wheelchair access and the park is quite flat.

With its adjacency to the median park, this intersection forms a very cozy synergy within the neighborhood. Elders and infants are often seen at both parks. Within the median, there are smaller patches of greenery, and the benches are places in between the poached grass. Although it seems very artificially controlled greenery, the interaction between local residents and the park seems to be a natural flow. Groups will form alongside the benches for gathering and chess playing.

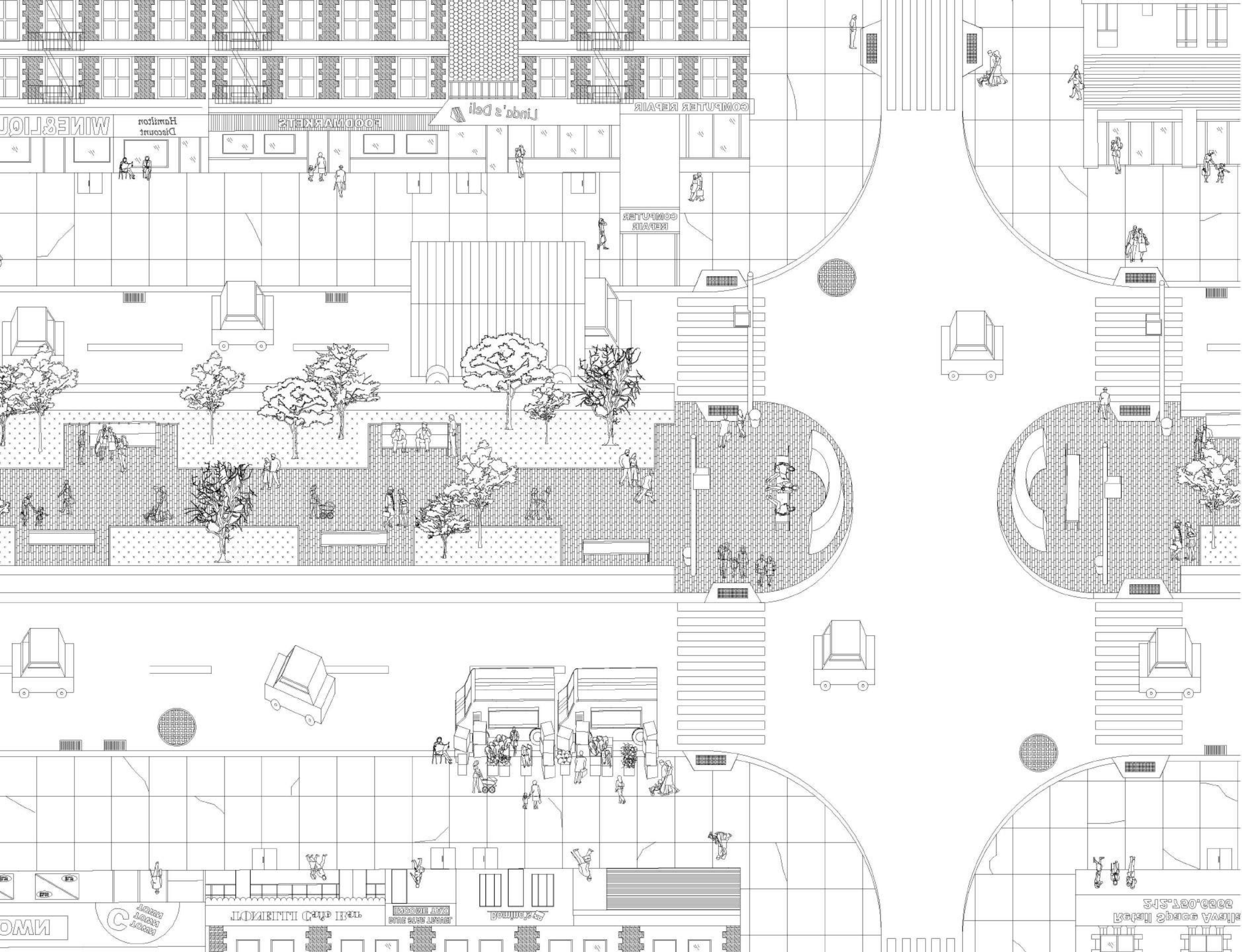


**INTERSECTION: MEDIANS**  
 LOCATION: W139th - W145th

On these 5 blocks, the medians have been used for the venting system for the subway underneath. At this point, due to the topographic change on Broadway, the subway submerges back underground to continue its journey up North. Within the median, there are very few street tree planters, some of them look rather lethargic. The large vent is covered by squared metal grates cover on top, and the perimeter of the vent is closed off by larger cement blocks, making the middle of the median inaccessible. At the tip of each median, there are still benches that allow for gathering, but few have actually been utilized because of the closed-off nature of these subway vents. On these blocks, the only use of these medians seems to just be for a middle point for crossing Broadway in the East-West direction.

Overall these five or so blocks seem rather dormant in terms of activities. The adjacent blocks are mostly your typical mixed use building in Manhattan, with commercial spaces at the ground floor and residential on top. But the commercial spaces are rather mid to large size supermarkets that make these blocks rather destination oriented.





**INTERSECTION: MEDIANS**  
 LOCATION: W127th - W135th  
 + W146th - W152nd

This is your typical median space with the median as a park that allows for regular gathering and the adjacent blocks as mixed use residential buildings. Within the median, there are curated patches of greenery with both bushes and trees. Benches are placed in between each patch of planter space. Activities such as gathering and chess playing can be seen often within these medians. In a sense the living room of each household in the nearby building bleeds out of their boundary and finds their way to the median park. It is a nice space to connect with the local community and a good opportunity to create exposure to the ground floor commercial space as the median is leveled with the nearby stores. Mom and Pop shop typologies are often found on these blocks with smaller and more one of a kind stores such as salons, nail salons, small deli, wine and liquor stores...etc.

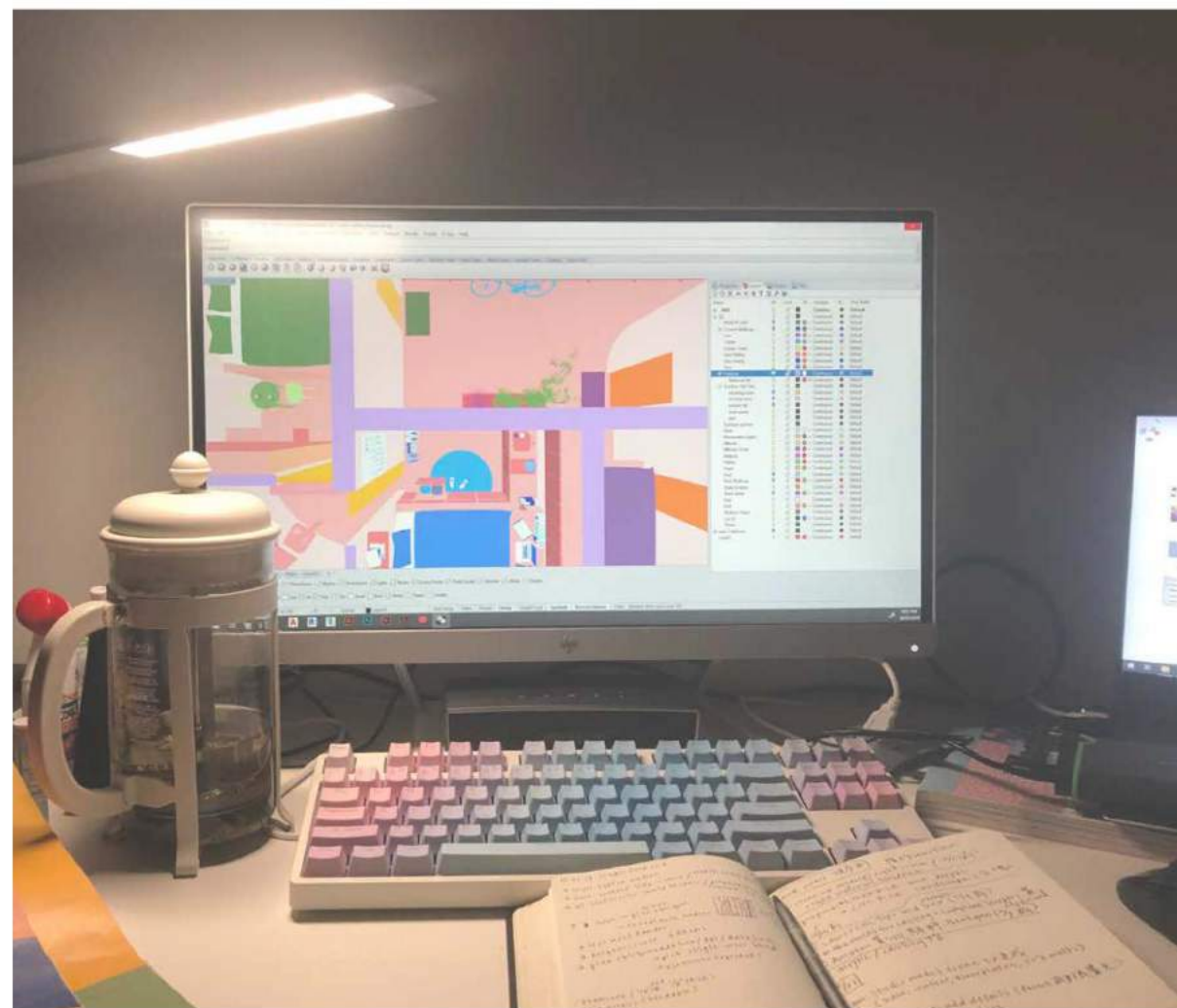
The ambience of these blocks suggest a cozy and quiet neighborhood. Families and couples are often seen on the streets. Small trucks with fresh groceries also appeared from time to time at the edge of the sidewalk for temporary fruit and veggie stands.

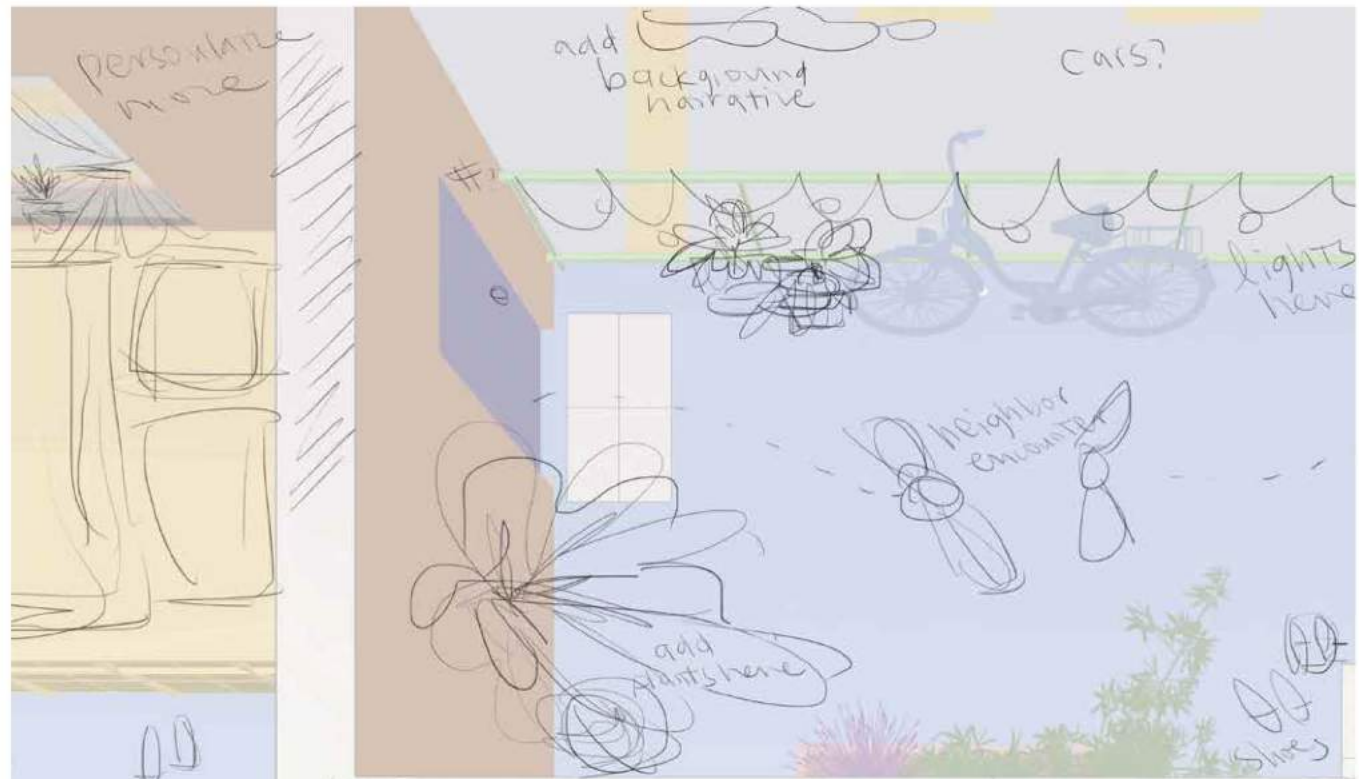
## **BROADWAY STORIES \_ 2.0**

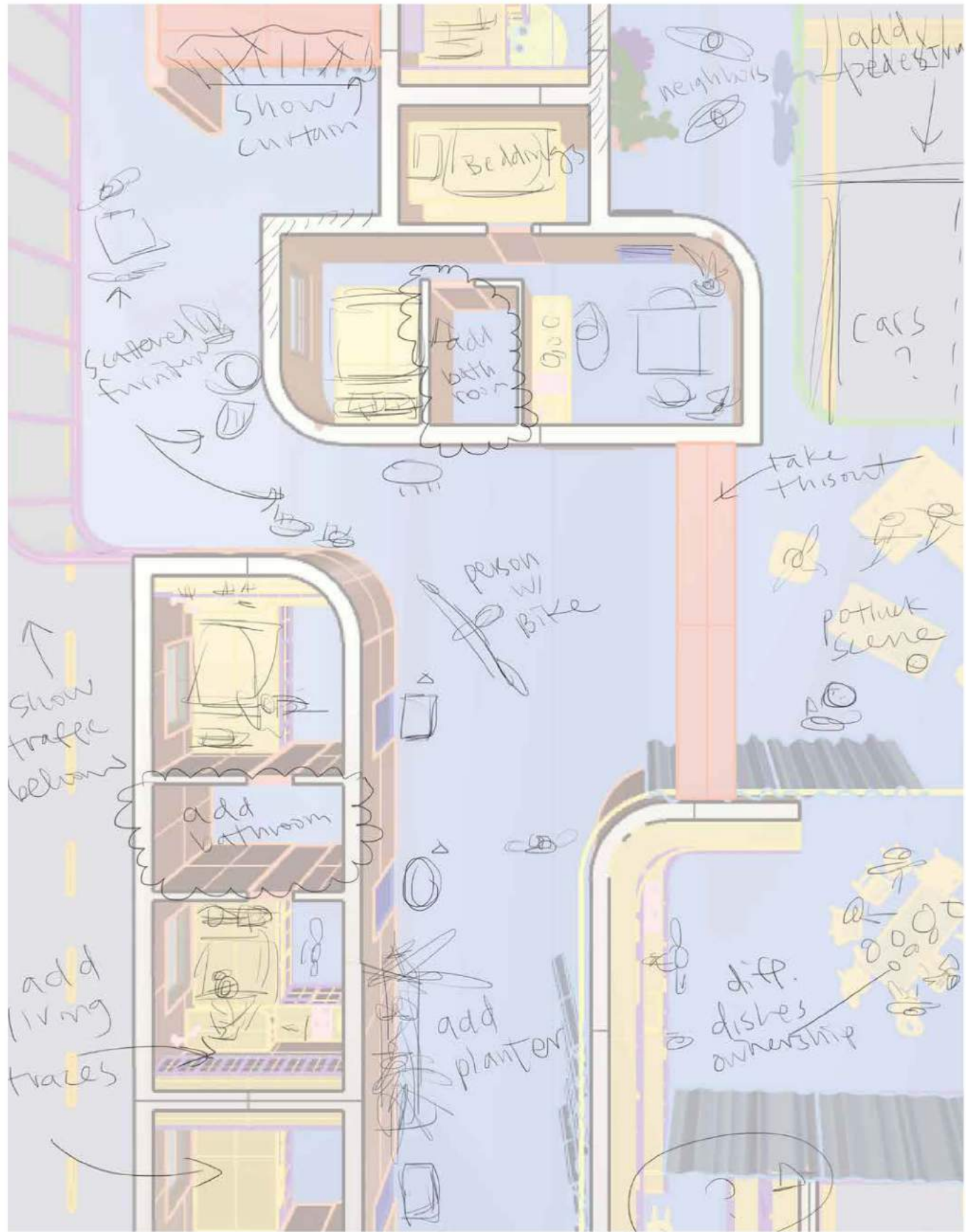
Understanding architecture in its networked condition is to understand the city as a complex whole, where public spaces are more than just spaces in between buildings, but also a part of the built realm where all these systems complete one another as a single entity. These drawings were drawn to represent spaces that can occur within the existing public space in raster color blocks and no black and white color or vectors.

The proposed intervention suggests harmonizing two groups in the area: the long term residents and the transient communities, often consisting of visiting professors and students of Columbia University. The proposed micro units take place at the median of Broadway, using a collective mentality, residents are able to obtain both personal space and shared space throughout the building, with the ground floor being a communal space utilized by the existing community as well.

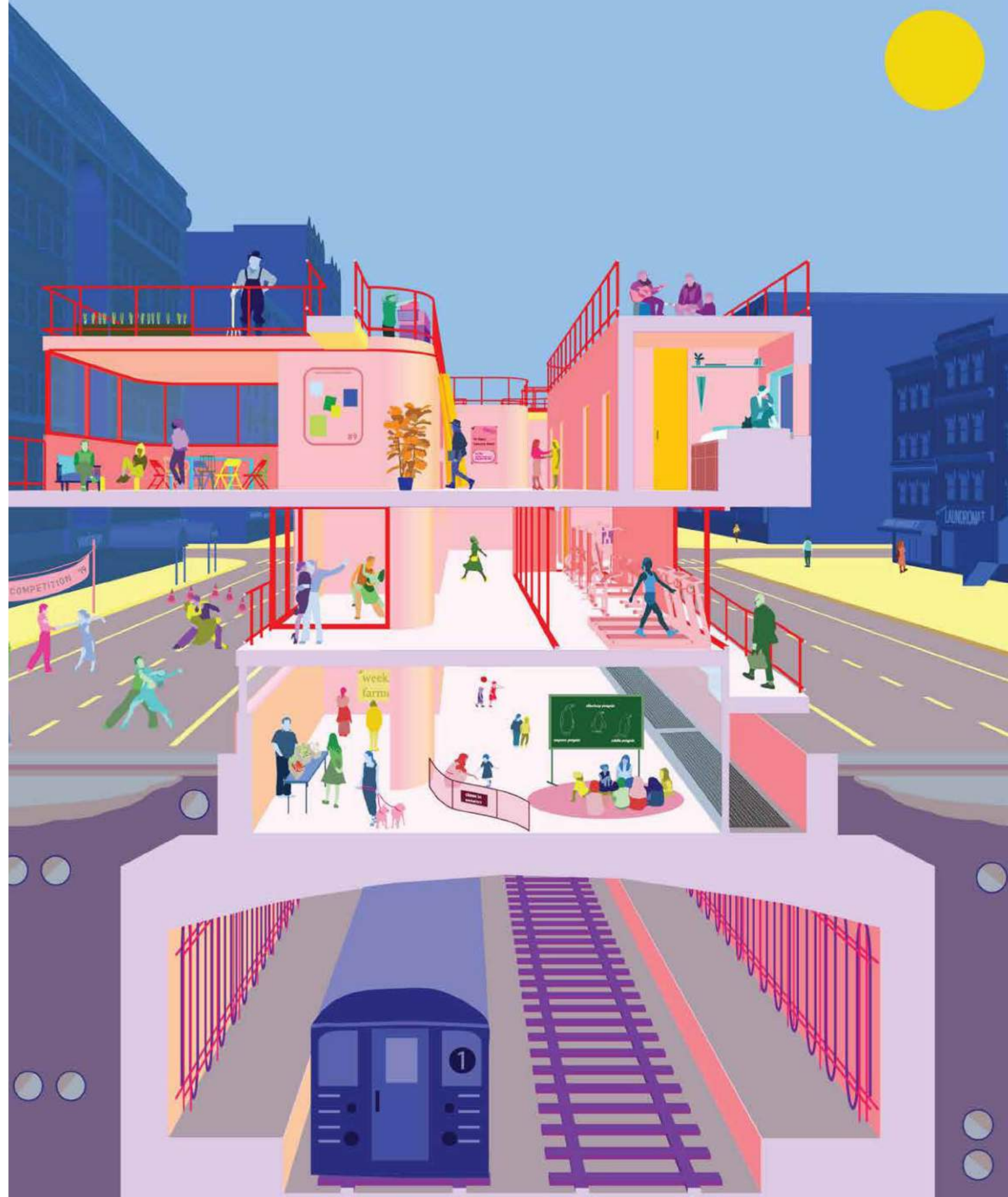
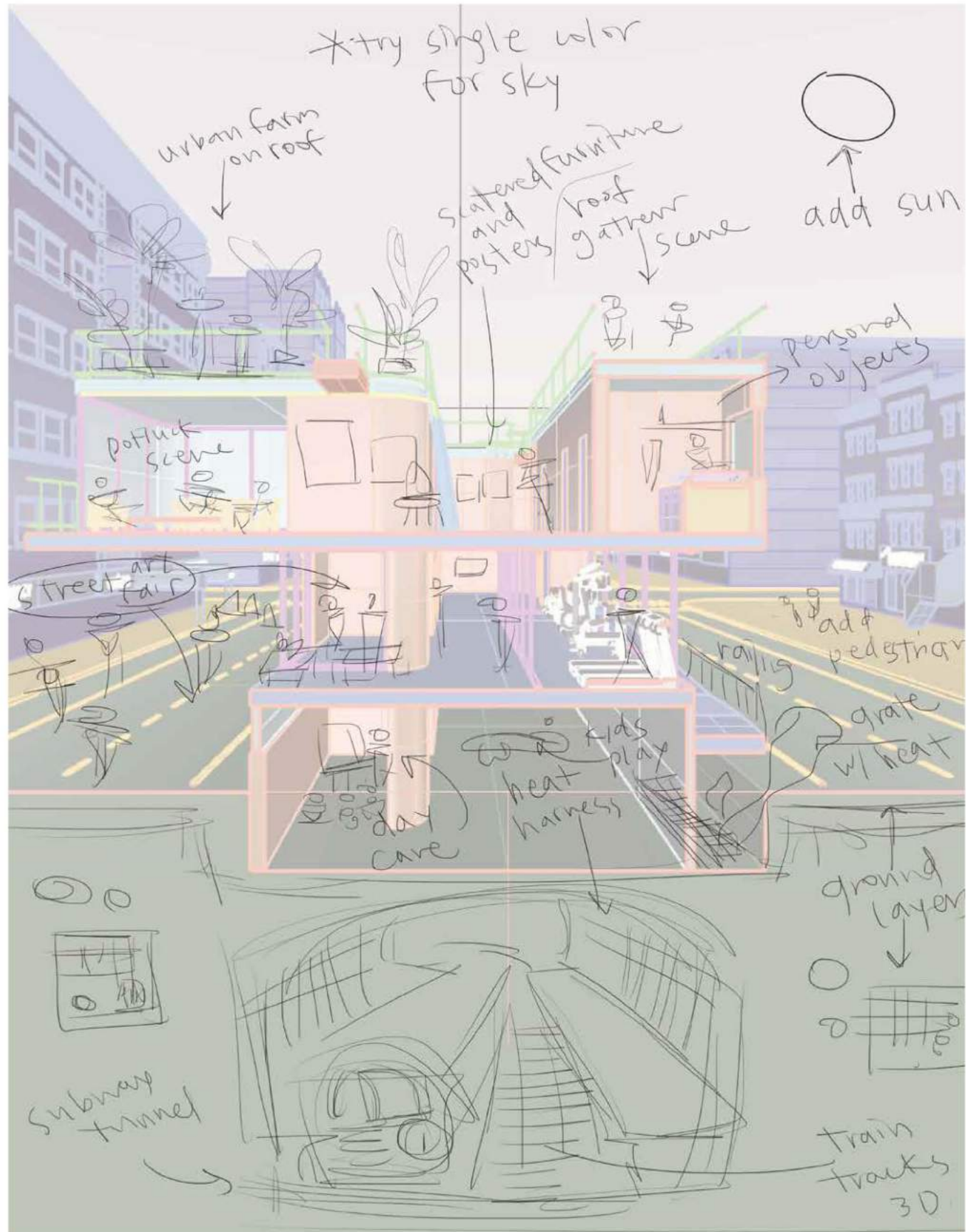
The photos above shows back ground situation when generating these drawings. The software used here is rhino with rigorous layer system. On the left are test prints to make sure the color settings are correct. On the right are notebooks and an external 1TB hard drive.

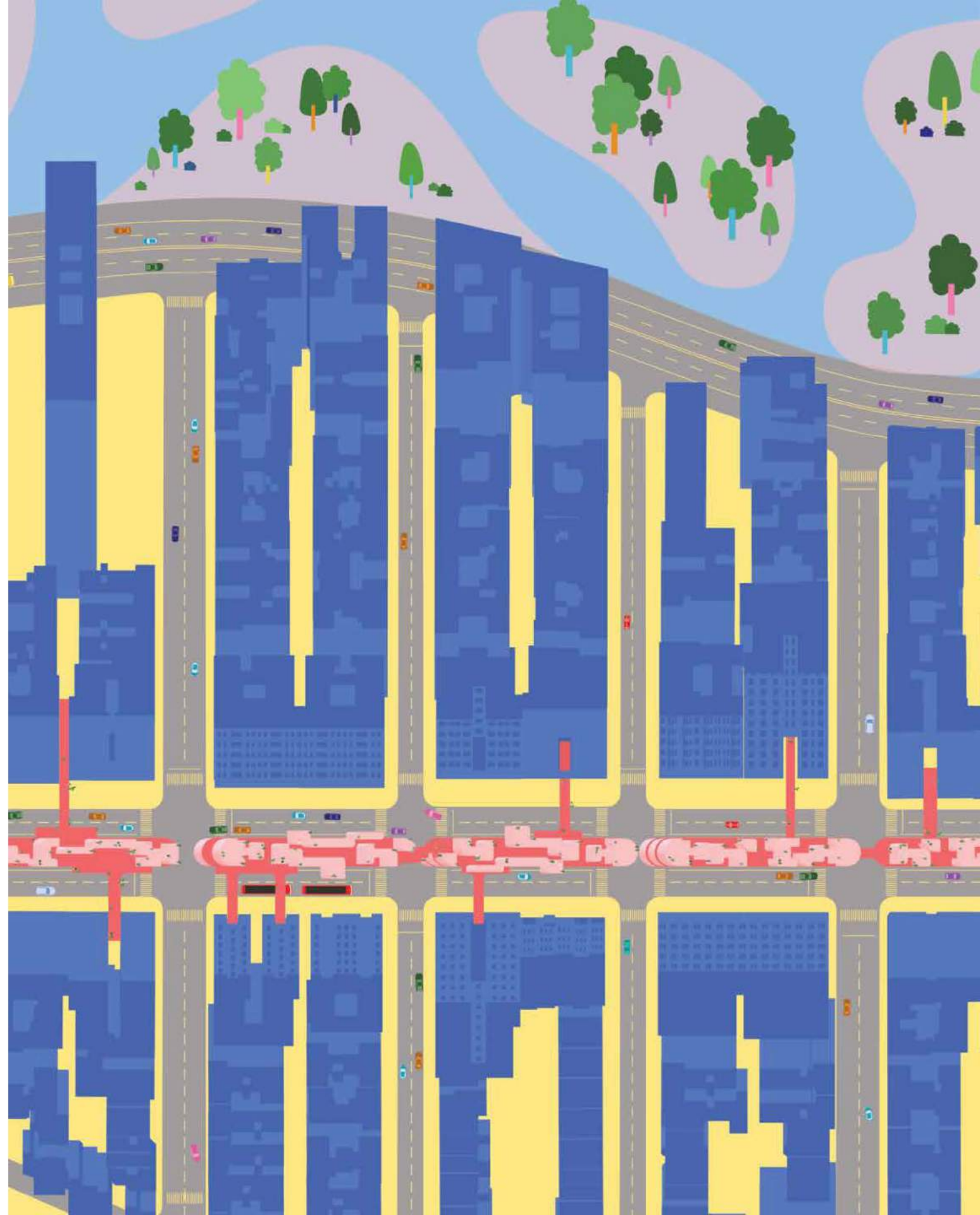
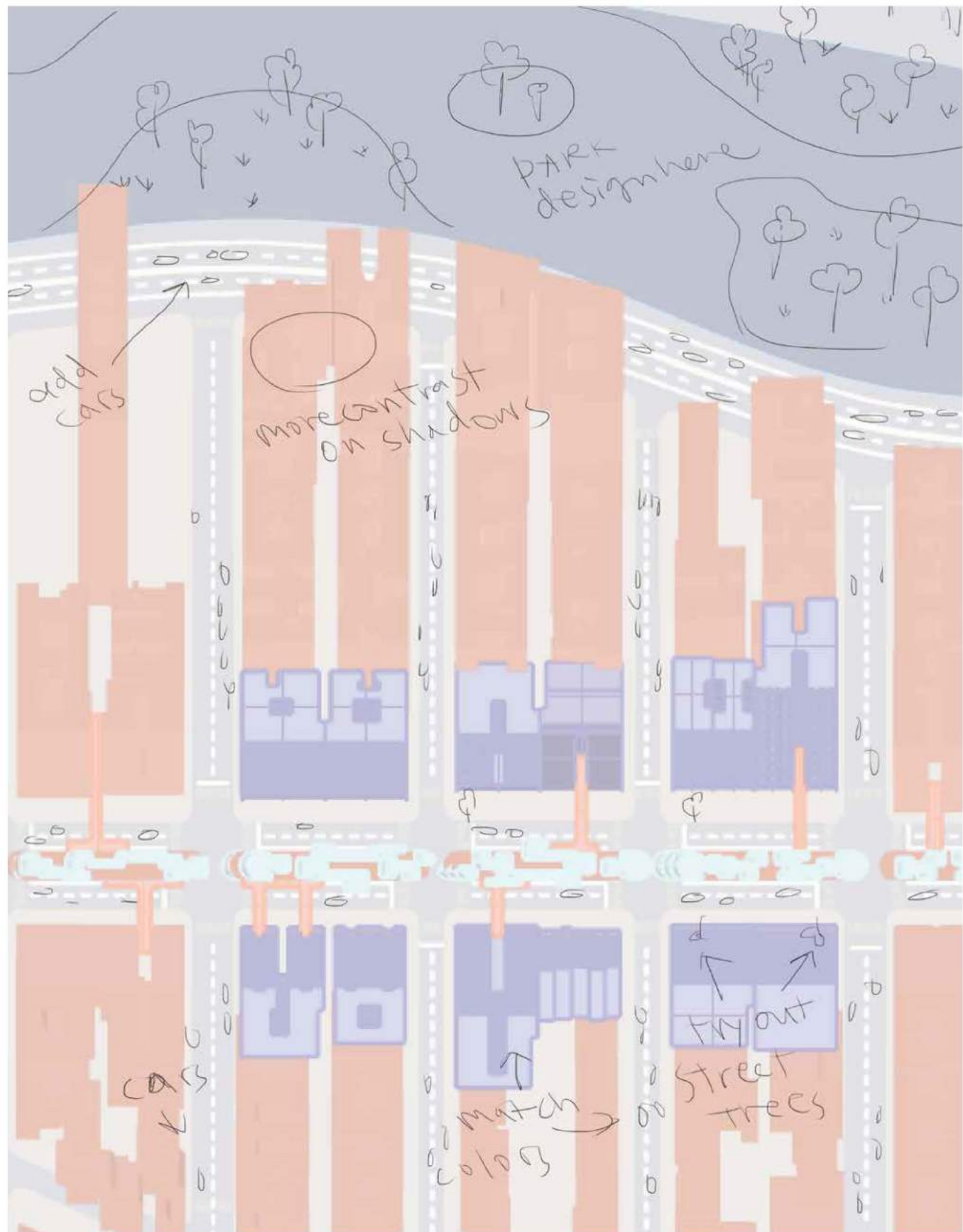


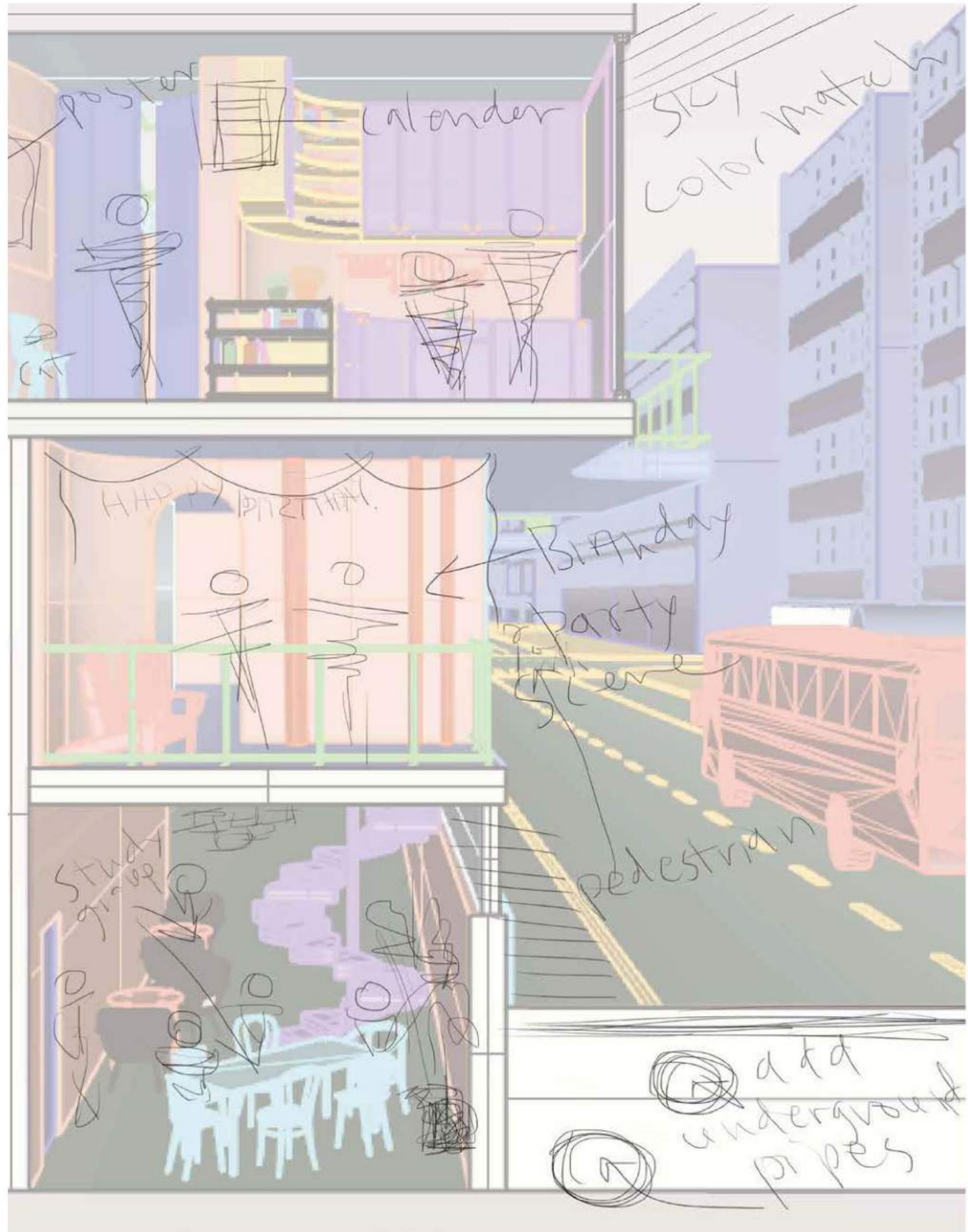




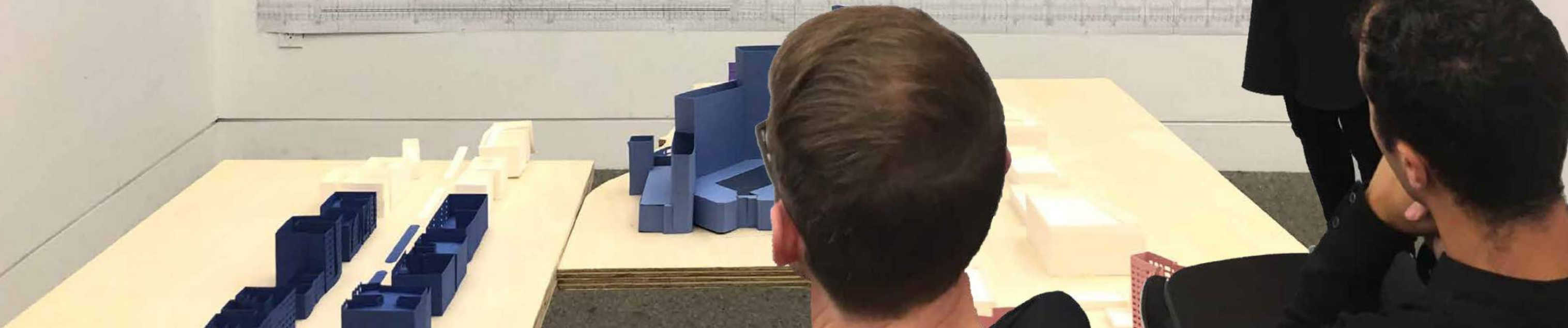












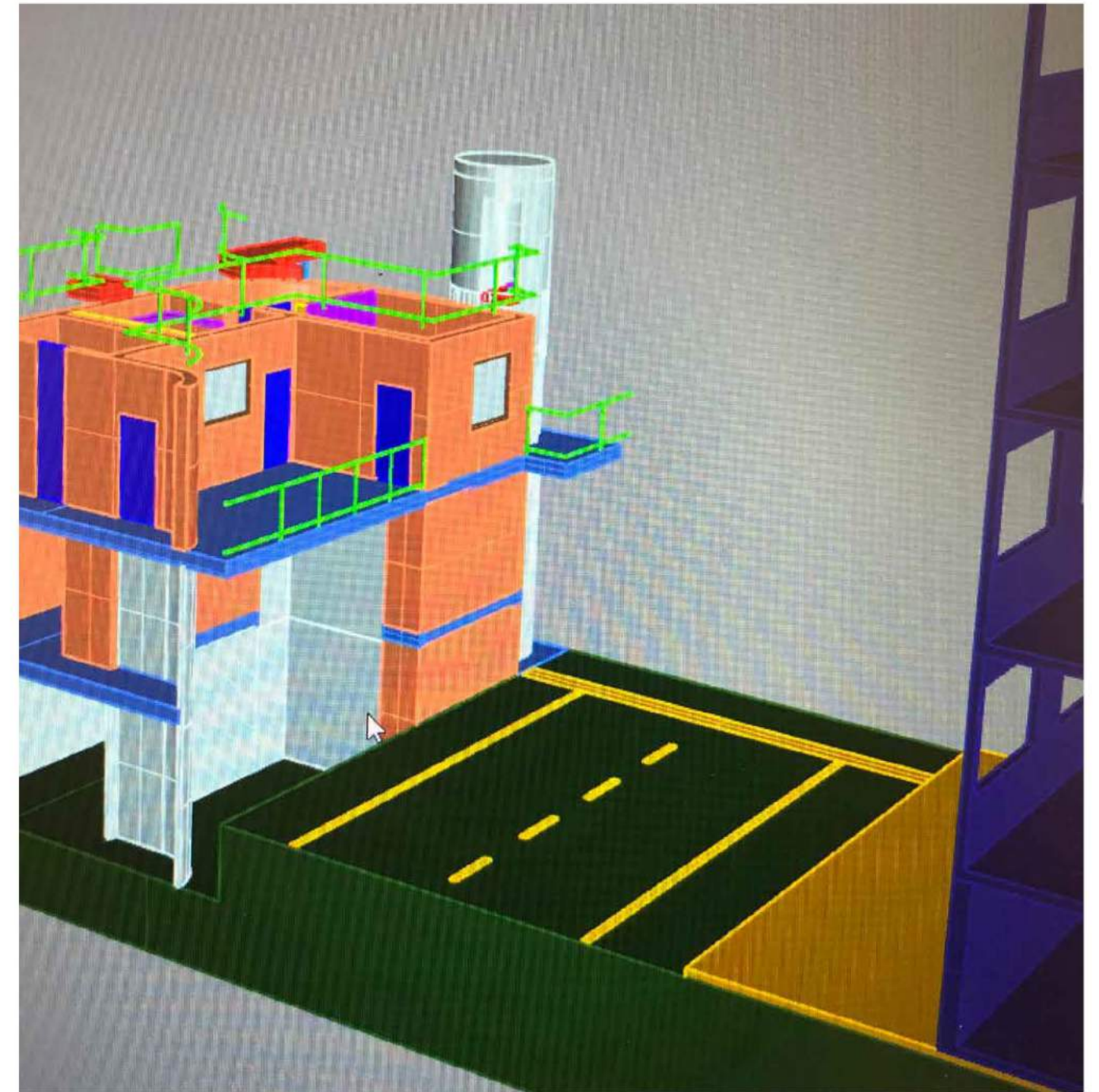
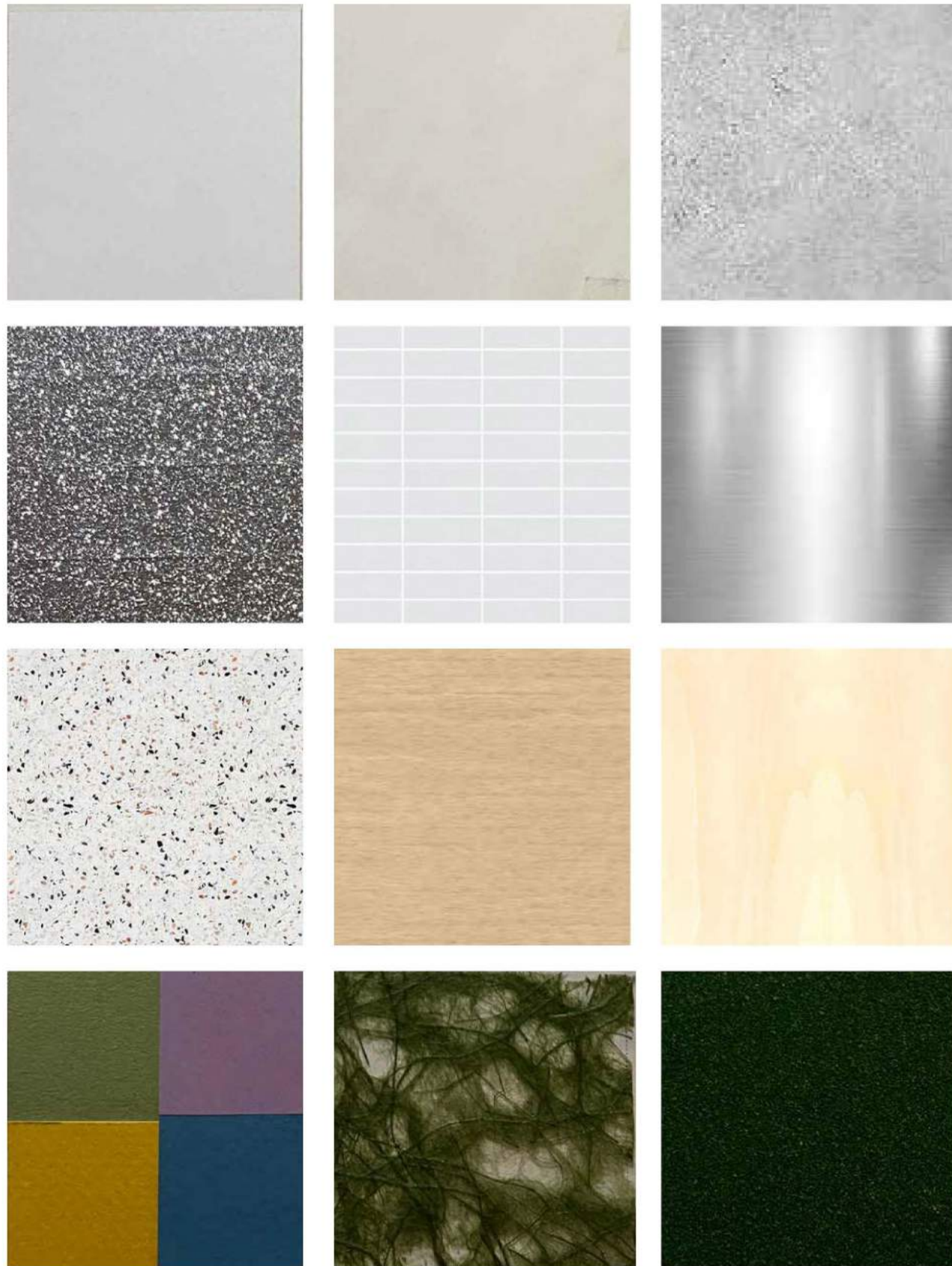
## **BROADWAY STORIES \_ 3.0**

The model photos narrates the possible interaction each user is able to experience from the smallest scale of a personal bubble to the largest scale connecting from the median micro housing to commercial and residential spaces on nearby blocks. The model is 100% handmade without using any laser cutter or machines. Furnitures and objects were made to represent the living condition in these petit units, and how they are able to connect with one another, forming another in-between within the in-between. Color scheme of the model follows the color drawings from previous drawings, each color represents an individual, demonstrating how this living mode is about sharing and connecting with your neighbors.

This mockup serves as a tool to understand the spatial reality of a small corner in the project and shows the possibility of an alternate reality. The 1:1 is supposed to be looked at 360 degrees, where the exterior wall is peeled layer by layer to represent how the heating system and studio wall works with one another.

Overall the project explores the possibilities of thresholds and voids on Broadway to bring together a sense of collective living space within the already dense cityscape.





The making of the section model, like most of my other physical models, started with a 3D Rhino file. Each component is modeled in the virtual space to its true size, whether it is the size of the piece in the physical model or the thickness of the material, every 1mm counts. In physical models, there are always human errors, so in order to account for that loss, I find it best to model my 3D model as accurately as possible to minimize the differences in real life. Above is a screenshot of my Rhino model before I assemble the section model. This model is scaled at  $\frac{1}{4}''=1'-0''$ . The materials selected are mostly surface printed textures to indicate the neutral palette of the space. Color crafting papers are also another dominant material palette in this model to indicate the concept of ownership. Since this proposal suggests a degree of private vs. public ownership, I wanted to exemplify that by using one color for one individual. Other materials such as transparent sheets, grass texture sheets, actual branches and silver cardboards are used to suggest the different texture one can encounter in daily domestic scenarios. On the left is a series of textures and materials used in the actual model. Each gives a different finish to the model and can suggest different programs, ownership and scenarios in the project.



This photo shows the overall picture of how the proposal works. Sort of like a diagrammatical model. The construction of this model is not the one from rhino since it is a more diagrammatic model that explains the thesis of this proposal. In this model, each unit is thought as a 10'x10'x10' cube that aggregates around the median site. Some units are larger to accommodate possible small family demographic groups on the site. Within the solid cubes, there are residential units and other shared amenities like a communal kitchen and study space. By aggregating the solid housing units, void spaces are formed. These void spaces then become the collective/shared space between each unit. This in-between left over space in the project allows for informal activities to occur. By elevating the housing units on the second floor, the ground floor is allowed to grow onto the existing streetscape for commercial space and collective programs for not only the residents in this micro housing, but also the local communities to utilize. In the construction of this photo, branches were used to create depth, by blurring out the foreground, suggesting a sense of nature in the surrounding of this site. In the background, there are also storefronts with awnings that mimic the typical store typologies in the area.



This photo brings the audience into the unit itself. Starting from the smallest scale of sharing: between two individuals. Within this proposal, each person, in this case - purple and yellow, has their own private unit space. Each space, as shown in the previous color block drawings, has their own bed, storage space, and a small kitchenette. In between the two units, at the filleted corner, there is a shared bathroom. The size of the bathroom is pretty standard, with one typical sink, a toilet and a bathtub with two towel racks. On the other side of the two units, is a shared balcony space that also serves as the entrance side to each private bed space. Here in the shared space, you can see Yellow is sharing their Netflix account and snacks with Purple. And they are using the table from Sky Blue from last time when they were here at their little balcony party. This photo is from the scaled Rhino model shown before. Details like the faucet and door knobs were added after the construction of the model as a final touch. The photo was shot with a DSLR 35mm lens with two light sources, one with a generic light bouncing off from the white back board, and another with a smaller light source with warmer tone light to suggest a hint of sunset on Broadway, a winding down Netflix night between Yellow and Purple.



After introducing the smallest form of sharing in the proposal. This is depicting the medium scale of share in the proposal in a sectional manner. On the top of the photo is a private unit owned by Purple. You can see their personal belongings like small plants, books, curtains and mattresses. You can also see Purple is sharing a balcony with Yellow since there is a yellow planter at the balcony. (The pink-ish colors in this model suggests the part of the project owned by the developer. Other colors suggest private ownership of the tenant. The developer here is thought to be either the government, or private developers and investors that will gain some sort of incentive from the state government if they agree to fund and build this project.) Below Purple's unit is a shared living space. There you can see multiple ownership coming together. This scene is depicting a potluck hosted by the community board, which is formed by the residents here 50% and nearby residents 50%. There are chairs from Orange, Purple, Blue, Yellow and Pink, and the food prepared by everyone placed on the table that is owned by Sky Blue and Blue. Yellow also kindly bought a curtain for everyone, since they are having a movie night to watch The Grand Budapest, and they don't want the sunset light to disturb the viewing.

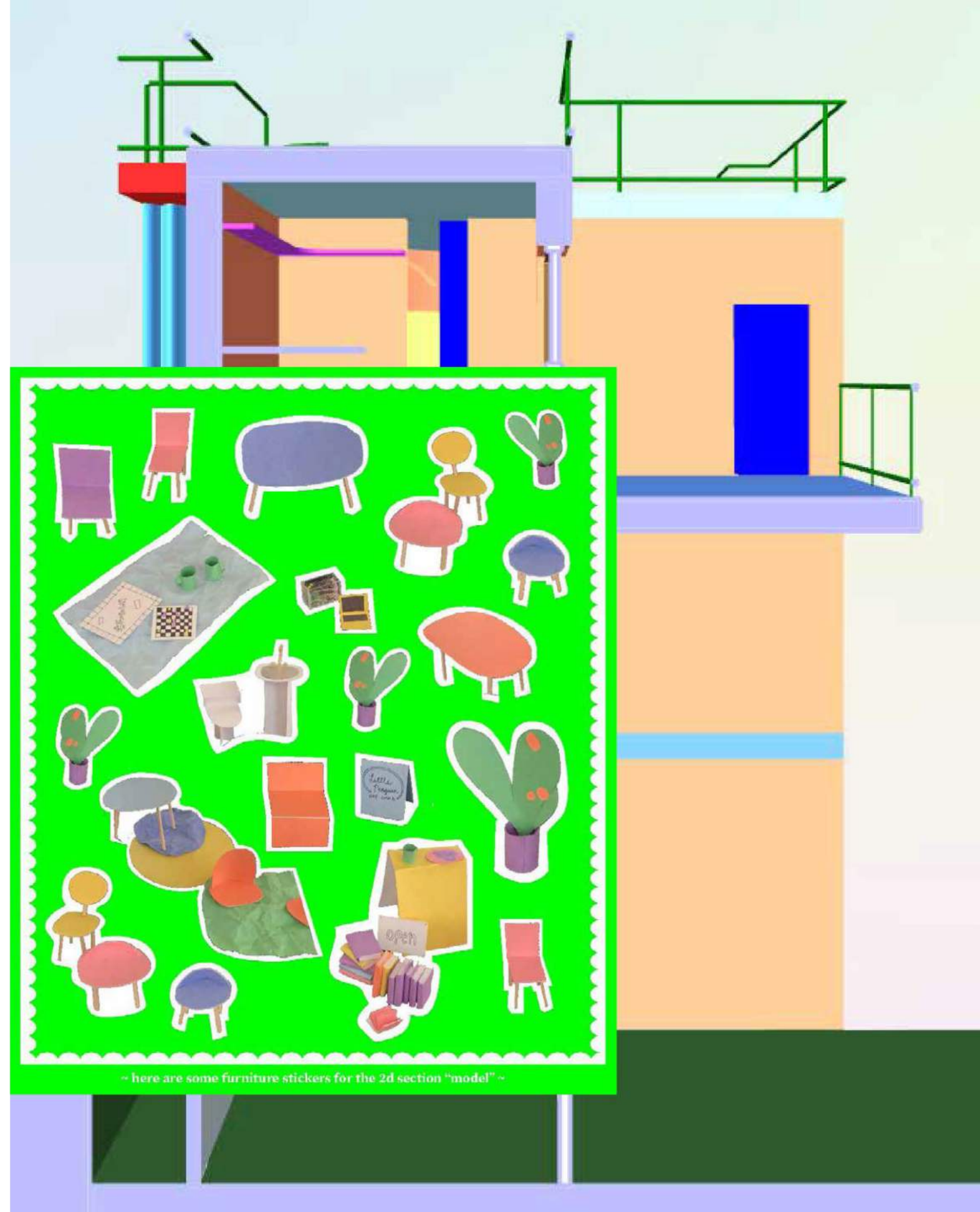


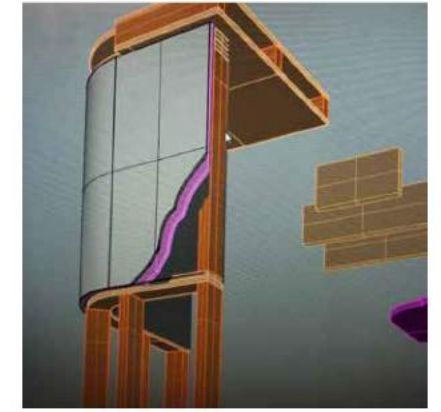
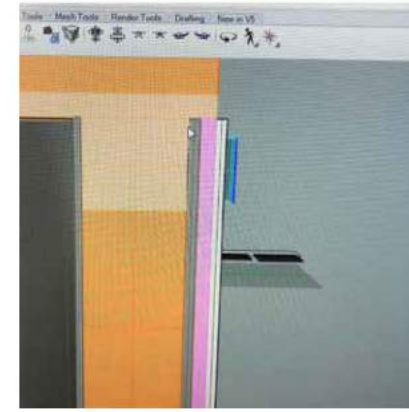
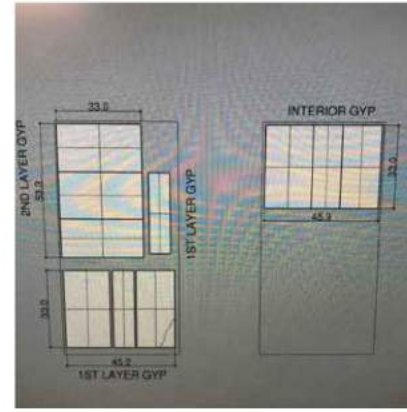
The last photo brings us further down the project, we are now at the ground floor and half basement part of the building with a view to the streetscapes. This photo suggests one version of the ground floor space that can transform into a daycare for both the building resident and nearby community to use. The day care could be owned by someone who is not living in this building. Since the owner is a long term resident in the neighborhood, it is more likely that they will need a non residential space. Here, the books and toys in this Little Penguin Day Care are an accumulation of donations from different people. There is immediate visual connection from the streets to the daycare in order to provide adequate surveillance into the space. The ground floor space mainly consists of cultural-related programs such as a gallery cafe shown here. The menu of this cafe is fairly simple since it is operated by a resident living nearby. The purpose of this cafe is to promote local artists and their works by showcasing them on the wall. This cafe is open to the public 7 days a week and is sponsored by an artist program from the government. This allows for the informal living space bleen into the building from adjacent streets, activating the median even more by hosting inviting programs within.



The previous photos were composed using this setup. The backdrop consists of foam core boards as base, and a thicker museum board paper material as the background. The connection between the background and foreground is connected by slightly curving the background material, allowing the light to reflect off of the paper, creating a seamless backdrop. The light source is composed of two lights, one on the right with a more generic light to cast overall brightness onto the model, and the one bottom right is a more direct light source. Both lights were tested with different color filters and materiality to create a different ambience to the model. Lastly, in the middle is the model itself, (it is unfortunately destroyed during one of my moves across town). On the left you can see there are lots of movable parts of the model. Small furniture and objects allow for the traces of living. Indicating a sense of activity without the presence of human figures. Even the interior partition walls are movable in order to get a variety of compositions between photos. Various 'fake walls' are also modeled to create the context in the back of the final photos.

Try it out on the right with the furniture stickers and rhino model to composite different narratives within the project!





Lastly for this proposal, a one to one section model is built in order to understand how the curvature in the project works. In the previous page you can see the planning, purchasing and executing of the model in snippets. This 1-1 model also started in a virtual space with each component modeled at the exact dimension and thickness. After designing and modeling, we will know roughly how much material we need. Adjustments were also made along the way to accommodate human errors and machine errors (like when I broke the CNC drill bit here, and will have to buy a new sheet of plywood.) The environment of the shop and presentation of the model is also shown below. Quite often we see images on the right that are pristine and cleaned up. Every small error is cleaned up; every line is aligned and every imperfection is covered using the amazing tools of Photoshop and Lightroom. But we rarely see the before and during of a project of how it became what it is for the presentation. And these images and this book are here to document that. In the following projects, the thesis and the presentation of each project in this book is shown in a way that **celebrates the back of house program and the background work**, the hidden labor forces within my years at GSAPP and in the architecture profession in general.



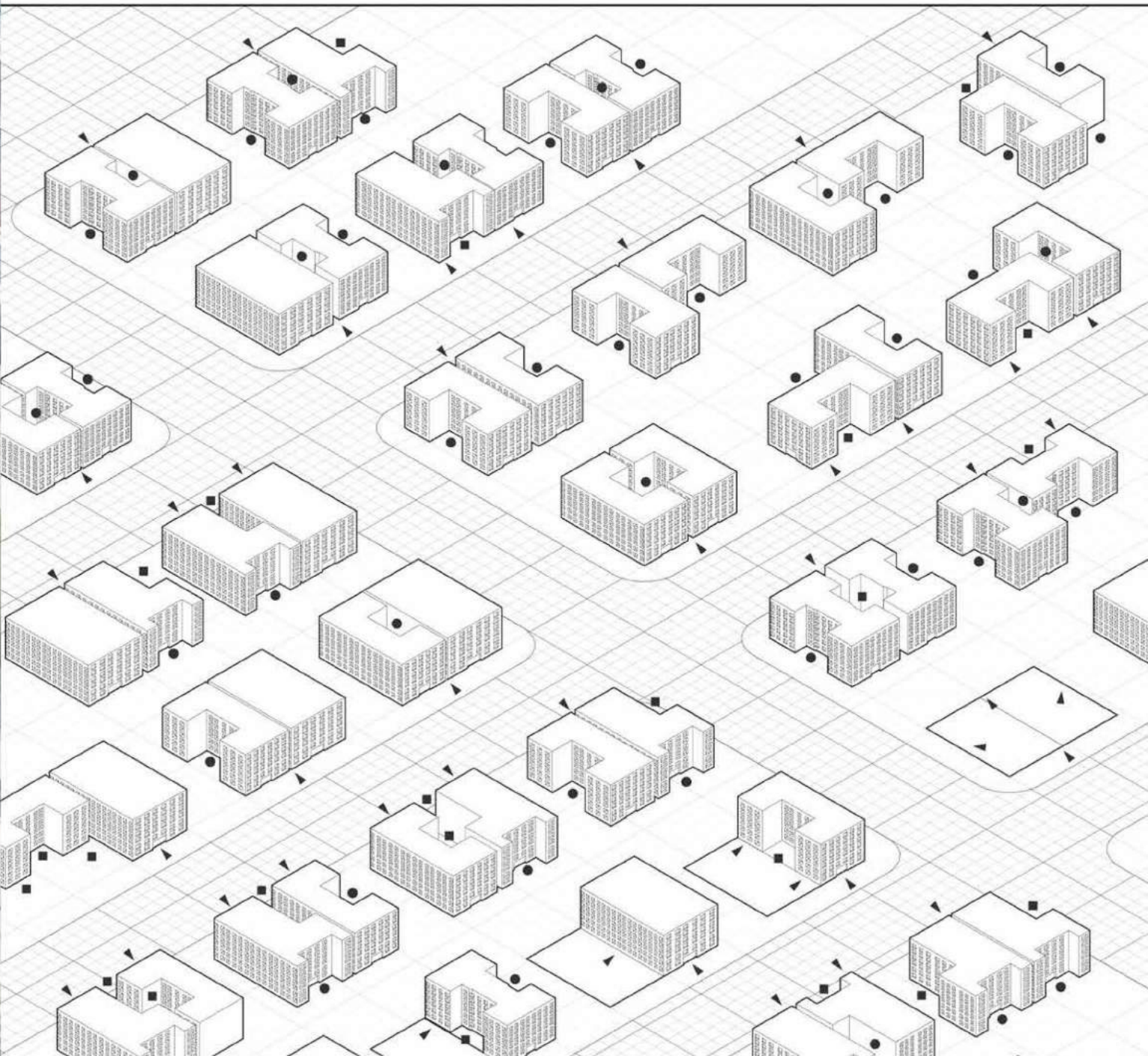
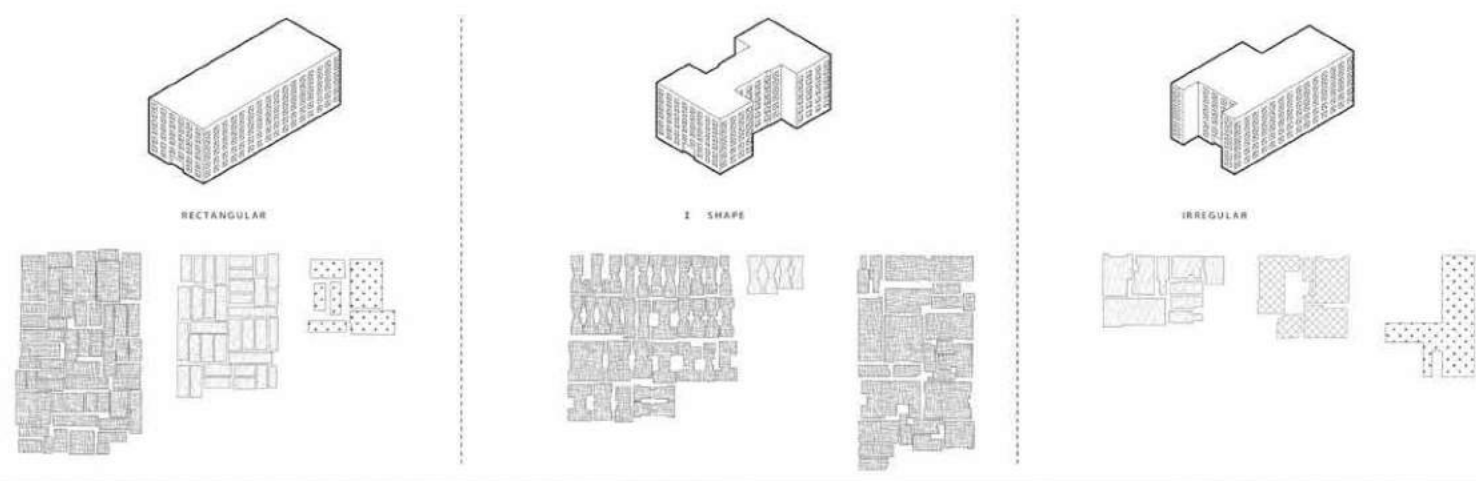
## P.S.6.4.

Situated in Alphabet City, the abandoned CBJ Snyder school once host P.S. 64. The building served as a public school from 1907 to 1977 and then housed a couple of different community organizations. The new design considered the historical value of the existing building by preserving the skin and major vertical structure elements. The plinth of the old building opened up the school to adjacent streetscape where visual connectivities are allowed but not physical ones in order to protect the students' safety. From the second floor up, with the new floors and partitions, the new K-8 school implements the self-learning education model. In which the students are able to select interest groups at a young age. The architecture allows for different configuration of the classrooms to form base on the size and time of the schedule and the will of students. Staggered floor plates within the wings also allowed for students in different interest groups to learn from each other and collaborate.

The theme of the studio is to repurpose readymades into something they are not. These experimental operations allow new typologies and new operation to be implement onto the existing building.

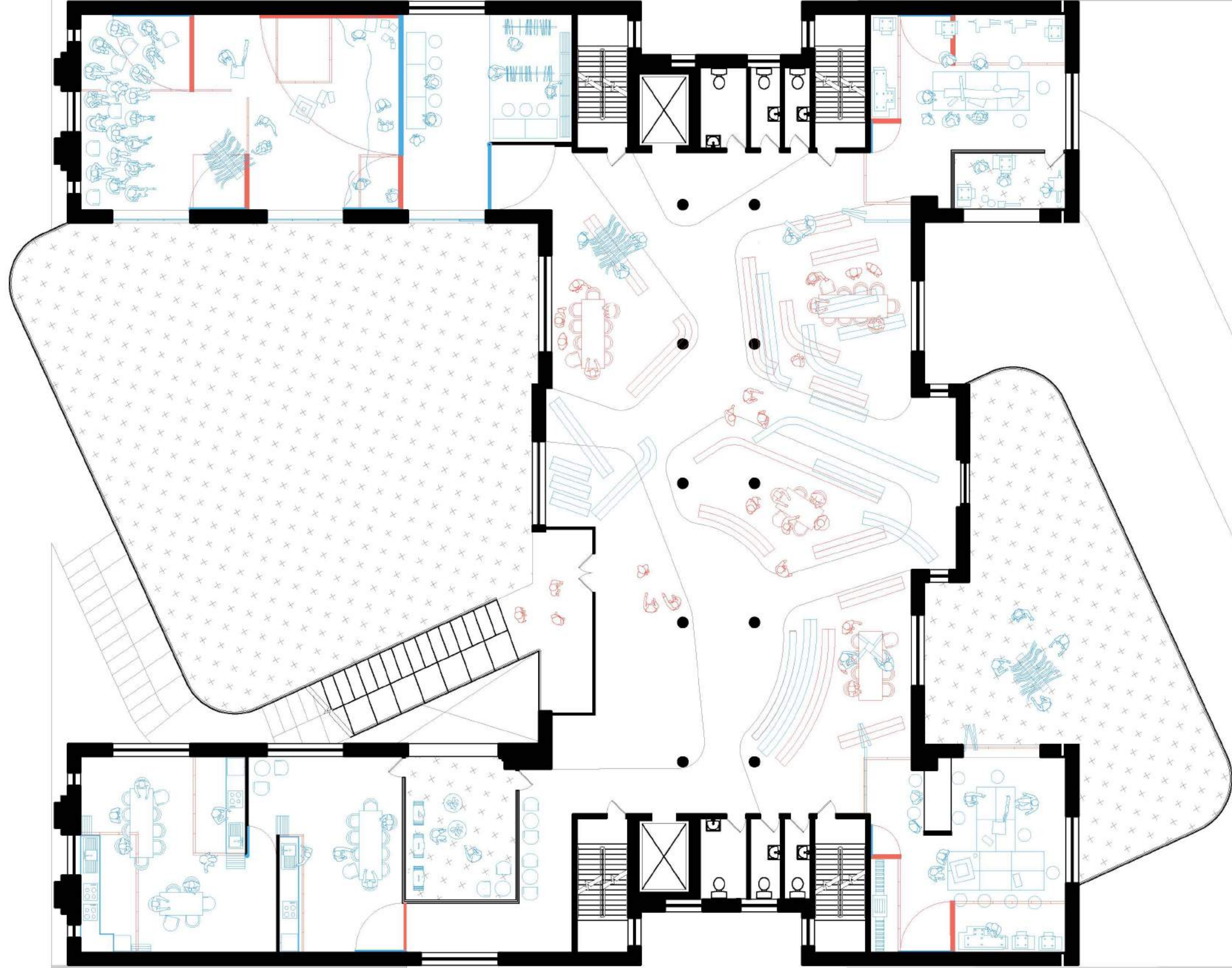


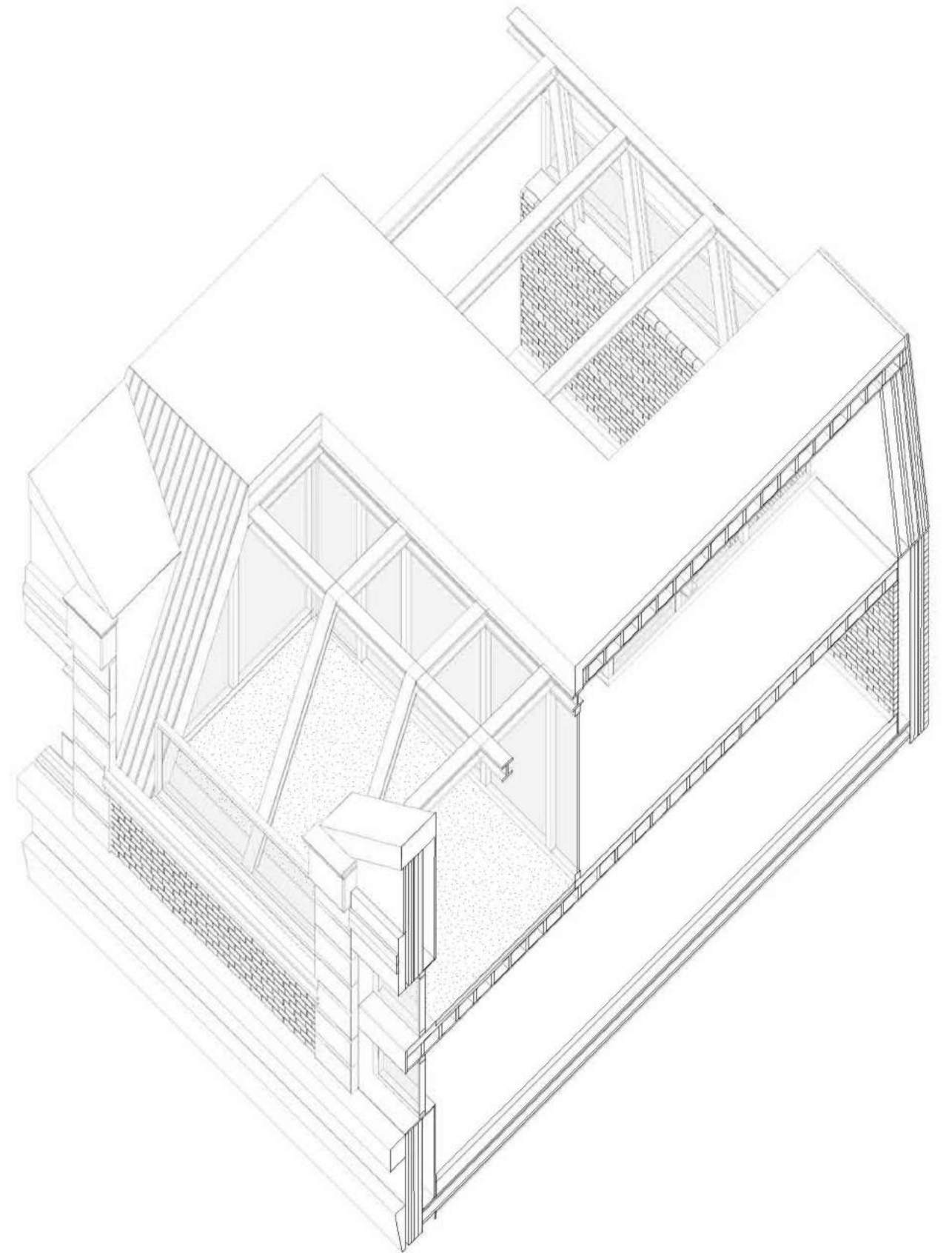
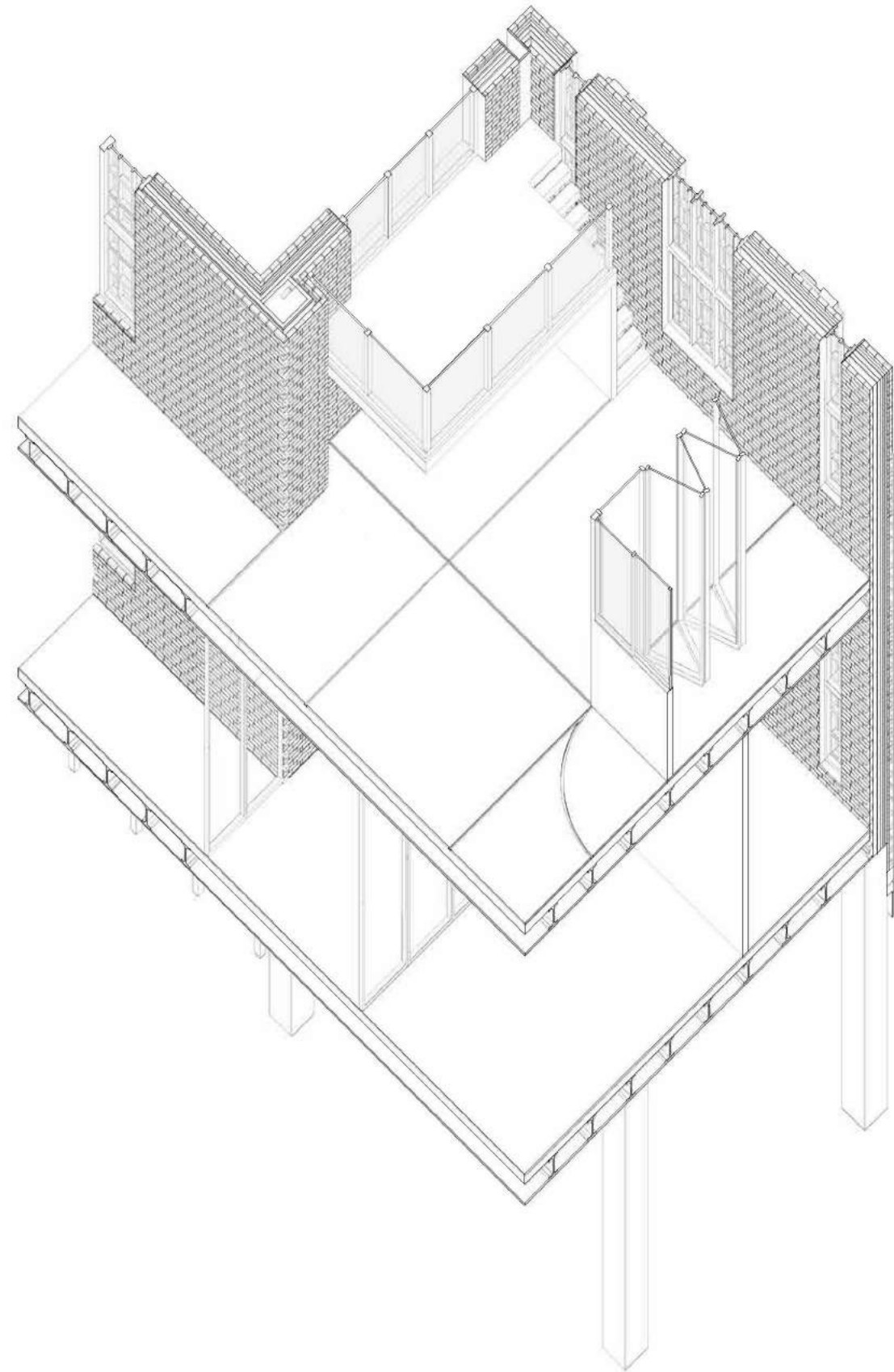


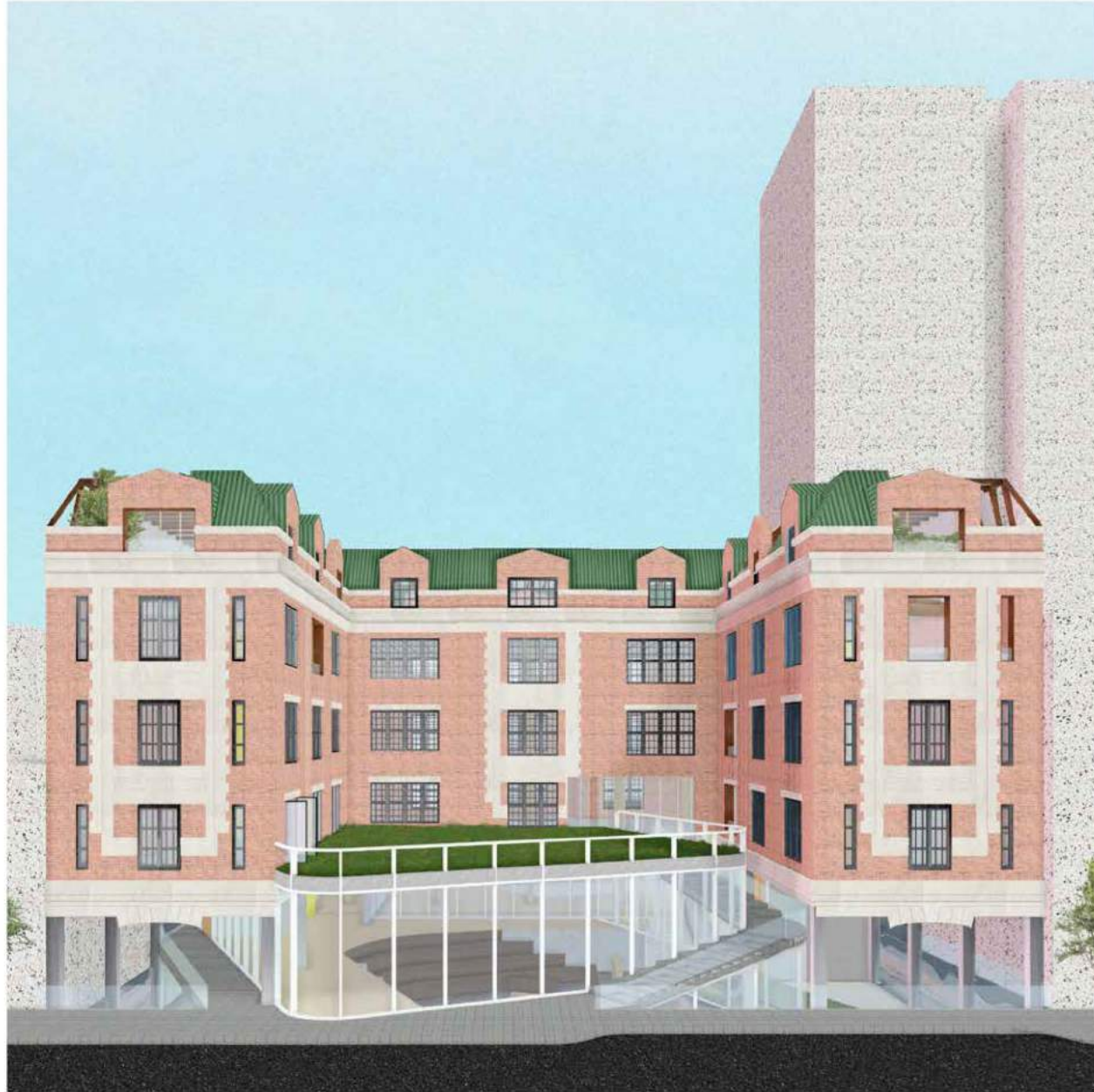




The plan here shows the possibility of how the partition system of this proposal allows for flexibilities at different wings of the building. The red vectors represent the building at its dormant stage, minimal activities will occur. The blue vectors represent the building at its most active stage. Activities such as cooking class, theater performance and woodshop working are able to occur at the same time by changing the partition system within each wing. Use the red and blue filter here to see each scenario.







This project delineated from your typical H typology of school buildings found in the city. By twisting the ground plinth, the street interface suddenly opens up to its immediate pedestrians. Allowing more visibility towards and inside the school. From the second floor up of this project, the school proposes an alternate way of learning. By focusing the curriculum on the activities and more hands-on classes, the school promotes and encourages its students to participate and collaborate rather than a textbook learner.

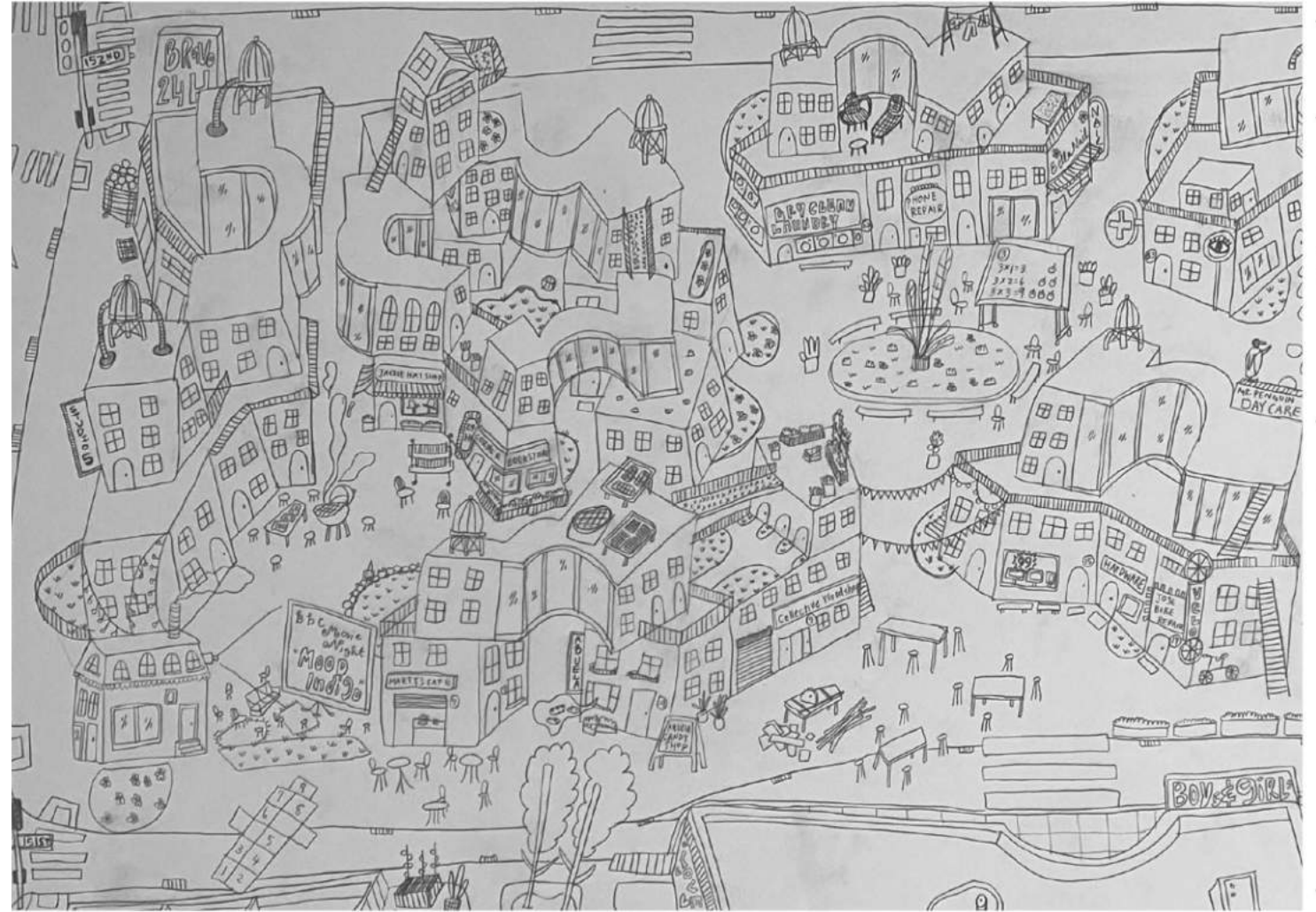


## SUPER CORE

Born from an ethnographic study of Melrose's edges, the Supercore subverts traditional real-estate tactics by re-imagining the relationship between shared and private programs. The Supercore folds the city into a co-living courtyard, while multiplying edges and thresholds, acting as an armature for the economic and social resiliency of its residents.

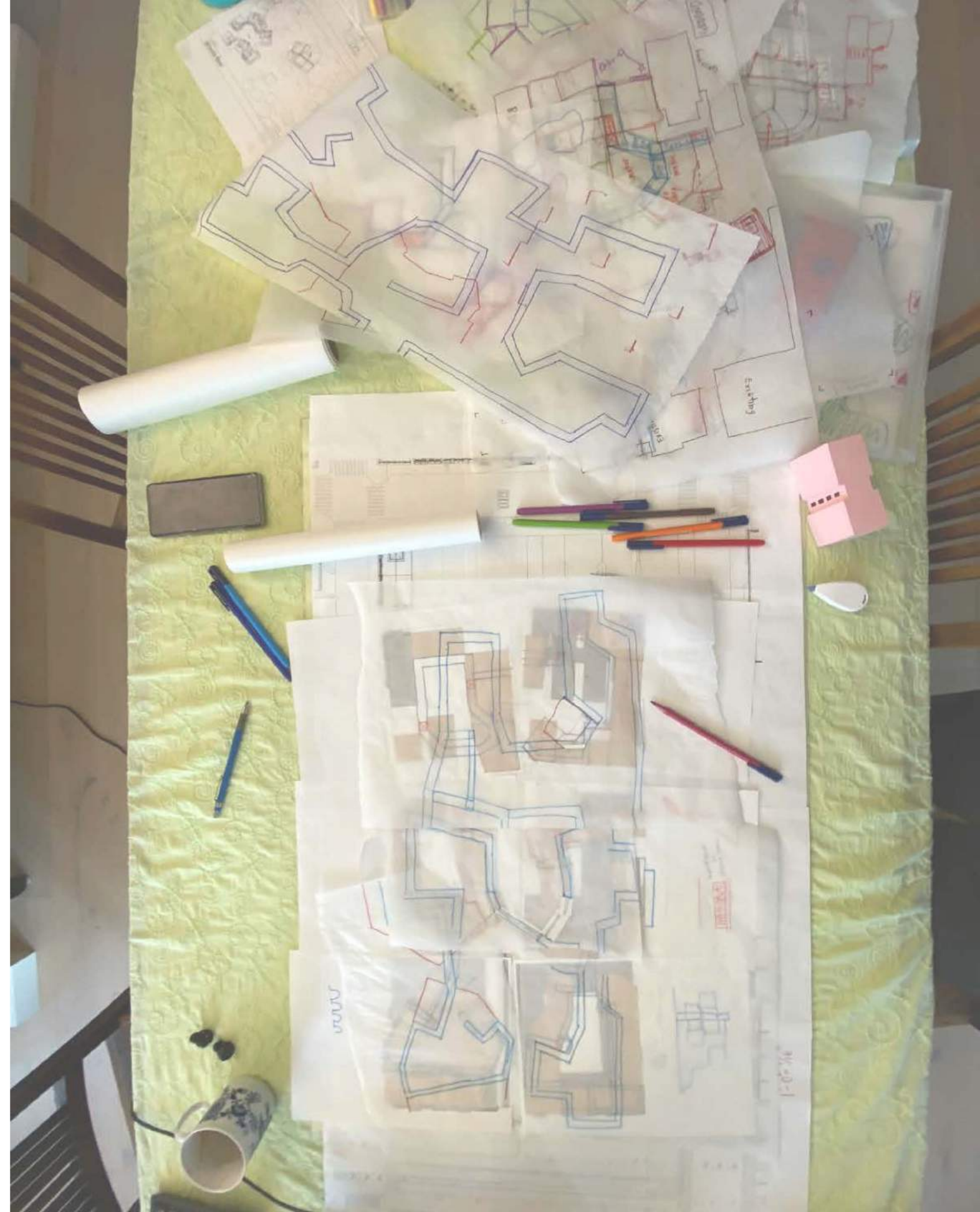
Our hypothesis is that thresholds become the device that allow people to feel part of different communities. They are spatial moments or events that make individuals subconsciously reframe their identity and redefine themselves. This redefinition allows negotiation with 'the other'. From small to large, private to public, personal to collective.

The photos above shows the preliminaray research on operations in approaching an adaptive reuse project. The theme of the studio is to repouorse readymades into something they are not. Objects that are found in hardware stores, gift stores, gorcery stores are put together to form various ofoperations that allows new typologies and new operation to be implement onto the existing building.





Before diving into the design, we wanted to investigate more about the different interfaces we encounter in our daily lives in domestic scenarios. This drawing illustrates the snippets of encounters with thresholds we and my teammate experience in our daily routine. We realized within these thresholds, there is always the interface between two important programs: front of house and back of house. For example, in order to have an unobstructed view(threshold), there is the hidden task of maintenance of the exterior facade and window cleaning; in order to have a secured front door(threshold) there is the lobby concierge; in order to get to the subway, you also have to pass through a threshold that acts as the security interface. We also experimented with a series of floor plan iterations on how different thresholds exist in a domestic scenario, and what are the proximities between each 'threshold' we encounter, such as window, door, hallways...etc. The master site plan is then put into numerous iterations on how each edge of the site is able to fold inside and out. Tracing paper and color markers and small scale models were used in this process.







152 ND STREET

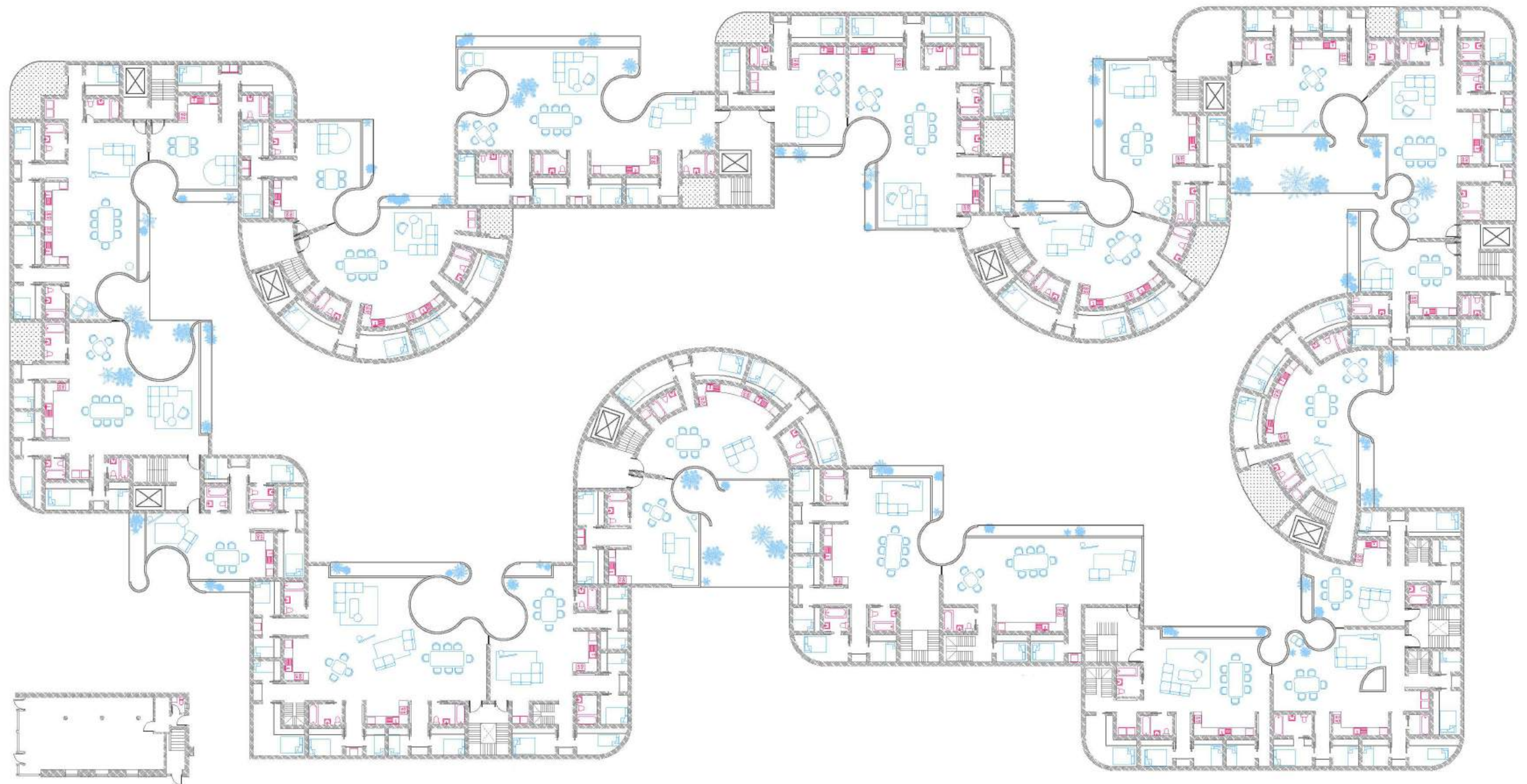
COURTLANDT AVE

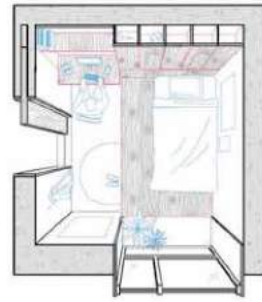
MELROSE AVE

151 ST STREET









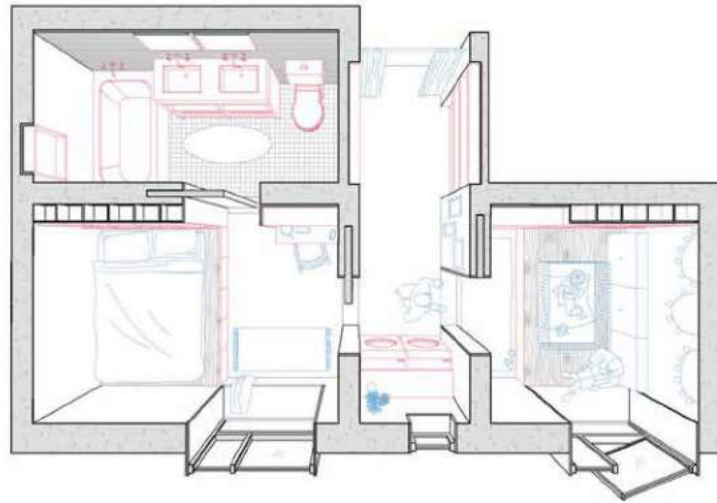
With the smallest space possible, a 10'x10'x10' cube is introduced as the smallest space in the project. This cube hosts a platform that is able to fit in a full or queen size mattress. Underneath are built in storage spaces. The headboard consists of tall closet space that provides more personal storage. On the side of the closet is a built-in deck and some open shelves. Next to the bed platform, on the other side of the room is a large window (threshold). The frame of the window is made extra deep to allow for personalization.

The other reason for thickening the threshold of the personal window is because it allows for the personal space to feel larger, sort of like an extension of the city to your own room. With the window as the immediate threshold interface to the exterior, the different colors represent different clusters that all share the same living space, which we will get to later in the proposal.

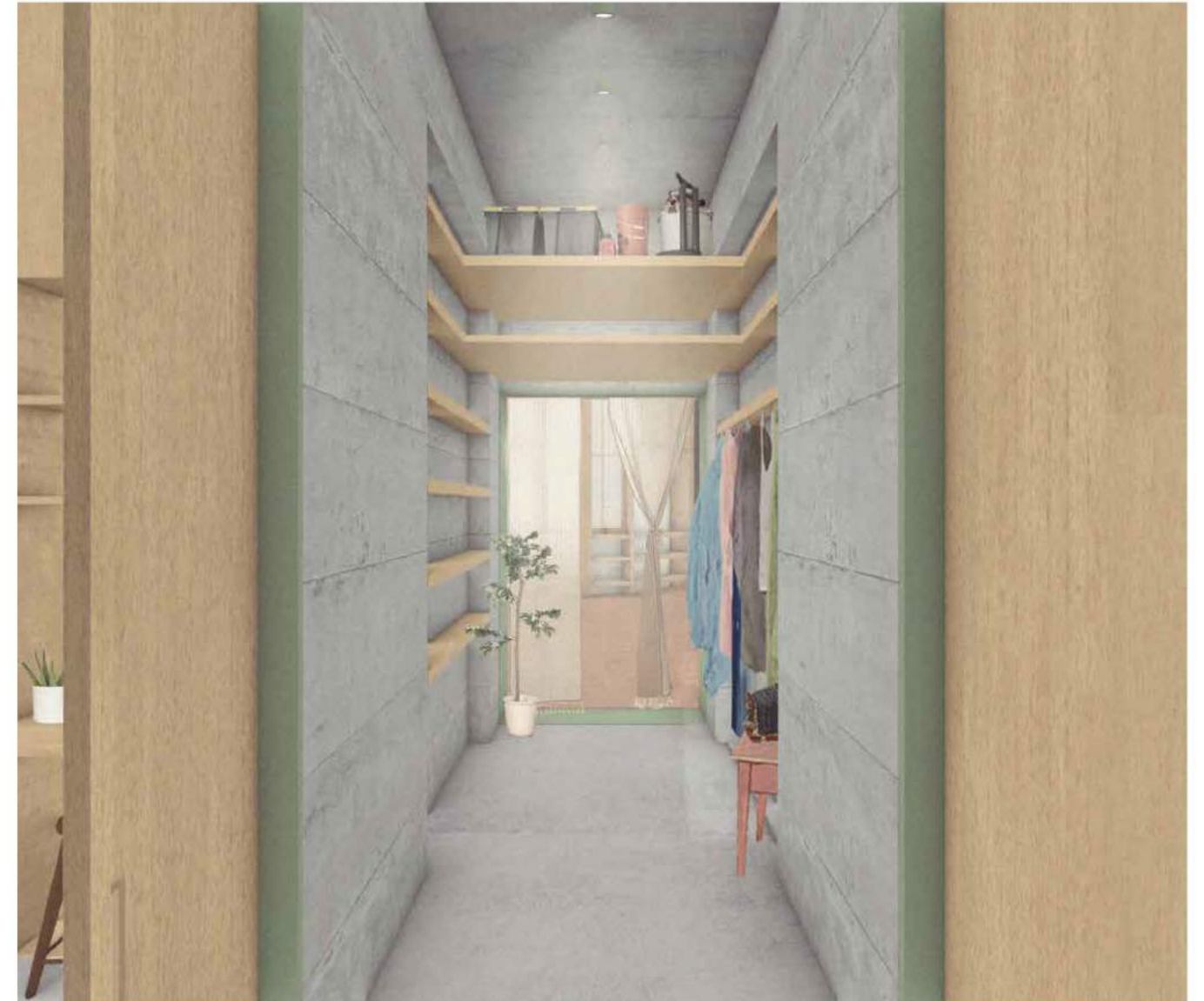


The EnSuite typology is an expansion of the single room type. This type allows for more privacy between couples or individuals who have more capital that want a more private space to themselves. It consists of similar millwork and layout as the personal room typology, with an addition of a standard bathroom.

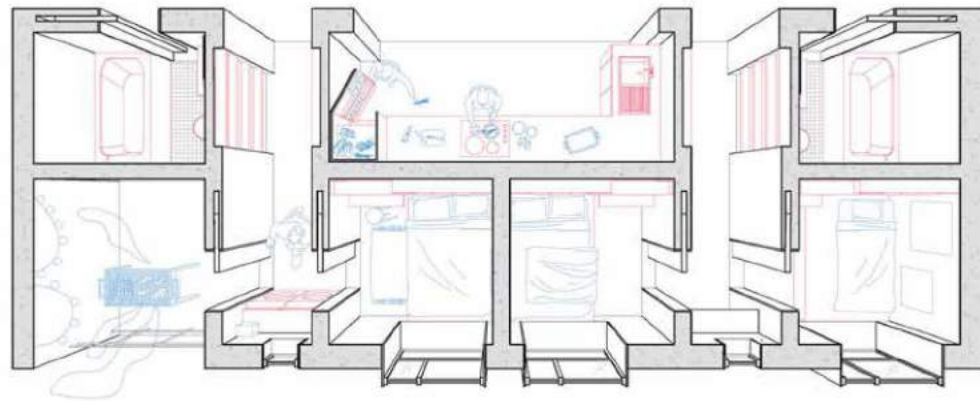
The door(threshold) in the EnSuite typology opens up to the single room typology across from the hallway. This also allows for the flexibility of a small family who wants their own privacy and cannot afford the whole unit. They can essentially rent out these two rooms to accommodate 3-4 people with their own bathroom.



With the small family demographic growing in the area, this combination of the EnSuite and Single room accommodates for family type flexibility in the neighborhood. In between the two rooms is a hallway that not only hosts the function of circulation, but is able to host washer and dryer functions placed at the end of the hallway.

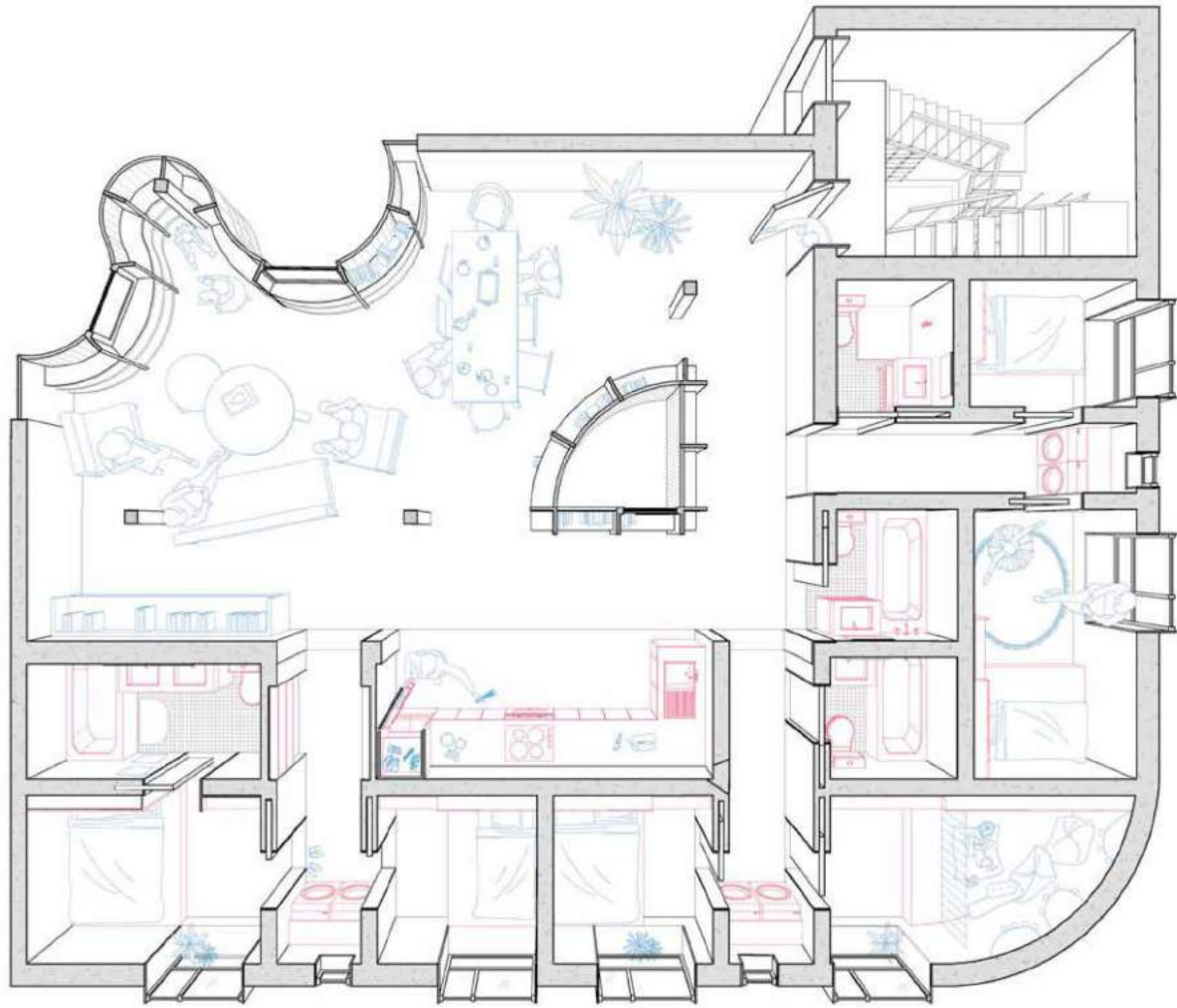


When you step out of your personal room, you encounter the first degree of sharing - the hallway, which can be shared by complete strangers or a small family. Behind you is where the washer dryer will sit, and in front of you are open shelves that can accommodate more personal storage. The hallway will lead you through the second degree of share - the kitchen and living room.



Adjacent to the hallway is the shared kitchen. Now this combination of rooms is able to host a family of 4-6 people. With 3Bed, 2 Bath, a balcony and a kitchen. This combination is the smallest 'cluster' in the proposal. This allows for a mid size family to live comfortably in the unit. This can also be one part of a larger cluster, where two or three of these type form a cluster that can be shared by a more transient group of residents.

The living space outside of each hallway has different sizes all over the site. But every cluster has the same size of kitchen, and they all have their own bathroom immediate to the living space. The living space has mill-work shelves that are customizable to accommodate the residents' needs.



This is a cluster. This cluster consists of 6 bedrooms, 4 bathrooms (one of which is an EnSuite), and three sets of laundry spaces with one kitchen and one large living space. This can either be shared by 6 sets of strangers or one large family. The possibilities here are endless. All the BOH programs here lie within the structural grid of the Super Core, with the usual program: bathroom, bedroom laundry and kitchen. The addition to a cluster BOH is the vertical circulation. In this typology, it is a set of stairs. With buildings higher than 4 stories, an ADA approved elevator will be provided.



After walking down the vertical circulation stairs of your cluster, a small lobby is provided to host community boards, general storage and mailboxes for the residents in this cluster. Through this lobby, the resident is able to access the last threshold into the most public program of the project - the ground floor community program. Your typical apartment amenities are hosted within the ground floor super core such as a clinic, a gym, administration. Ground floor super core also serves as spaces for local mom-and-pop shops, cultural spaces that connect you to the Bronx Documentary Center that was preserved on site, and overspill space for the nearby elementary school to host their after school program, and a theater.





FERTLANDT WORKSHOP

BRONX DOCUMENTARY CENTER



## Making Nature

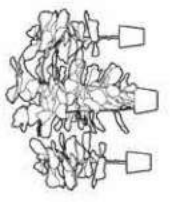
We have been re-examining the status of the Hudson Valley as a “natural” place. Our research focuses on the artificiality of nature and the systems behind it, specifically in water infrastructure and ecosystems. Systems like fish hatcheries and water reservoirs extract natural resources for population centers downstream while preserving the myth that we live alongside a healthy natural environment, stocking our bodies of water with fish and water like products in a grocery store.

Currently there are 12 fish hatcheries in NYS. Together they stock around 1 million lbs of fish each year into the 12 hundred locations in HV. The hatchery behaves like a factory, with fish as its product. After the deliberate SOP from sort, harvest, hatch and raise, the fish are being transferred to designated locations for stocking, much like products in a grocery store. The hatchery system’s operations are not expressed publicly, or even with any geographic proximity to the Hudson itself. We view them as facilities dedicated to the preservation of the myth that we live alongside a persistent, healthy natural environment.

We also focus on typologies of regulated water systems in the Lower Hudson Valley. Part of the Hudson Valley’s distinction as a r/urban geography is the extraction of its natural resources for population centers downstream. The dam was indiscriminately used to harness bodies of water, not only for reservoirs but also for industry and recreation. The sum total of the complexity of water management in the Hudson Valley invites us to compare its bodies of water to the fish inside them, part of a networked infrastructure of depletion and re-stocking governed by its man made geologies.



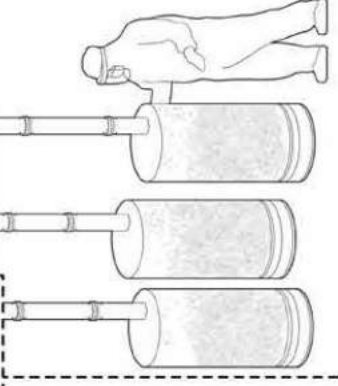
For example, Hudson Valley Fishways use the... on their fish farm to cultivate hemp plants... industries like textiles and paper rely on...



and gaseous waste from these processes are... for regenerative farming, as the borings (cut... from female fish) become fertilizers for soil...

### HATCH

Fertilized eggs are transferred to incubation jars, monitored by hatchery personnel regularly. Water is pumping constantly into the jars to ensure aeration and to prevent the eggs from sticking together.



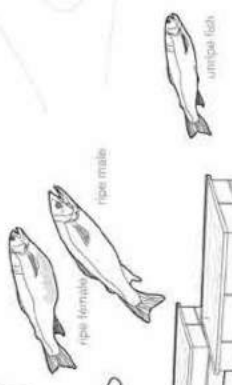
### HARVEST

will be extracted from mature fish tank, a personnel will manually stir prevent eggs sticking. Iminic acid is added to the mixture to maintain and to remove the s on egg roes.



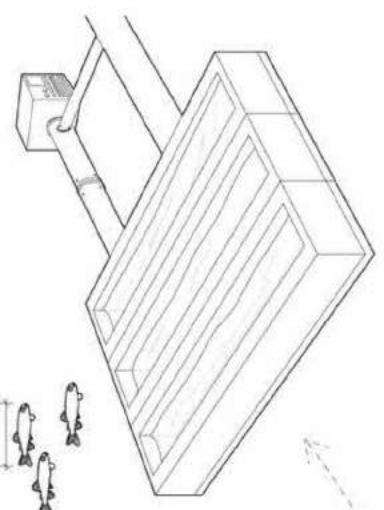
### SORT

All the fish caught will undergo sorting process to pick out mature/ripe fish for harvest. Unripe fish becomes brood stock, and will be raised in raceways until they mature for harvest.



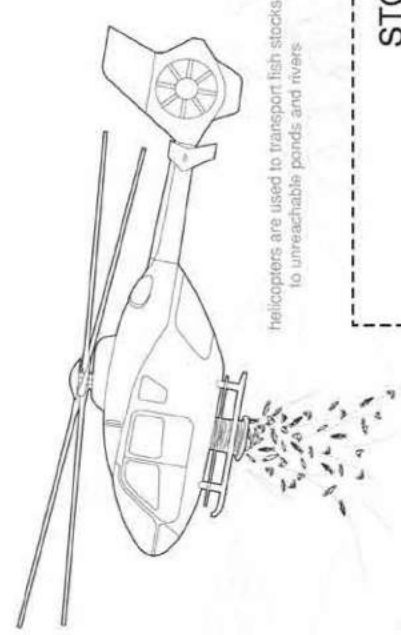
## How to Make a Fish THE CYCLE OF FISH HATCHERIES IN NYS

**RAISE**  
The eggs become small fry at around 10-15 days depending on the species.  
After 5-6 months, fry becomes fingerlings around 3 to 5 inches, they are then transferred into exterior raceways in the facility to grow with more space. The fish will be fed daily and monitored by facility personnel.



### STOCK

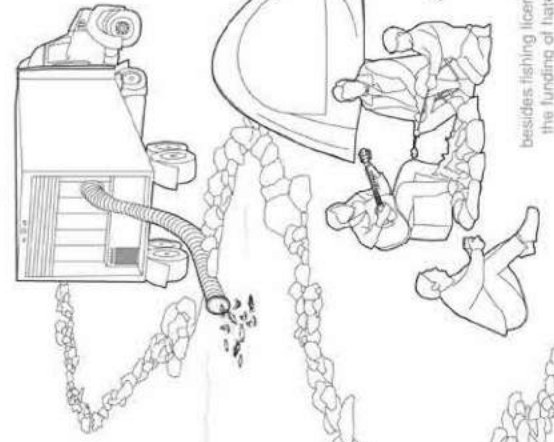
Each year DEC releases approximately 900,000 pounds of fish into more than 1,200 public streams, rivers, lakes and ponds across the state. These fish are stocked for two main purposes-- to enhance recreational fishing and to restore native species to waters they formerly occupied.



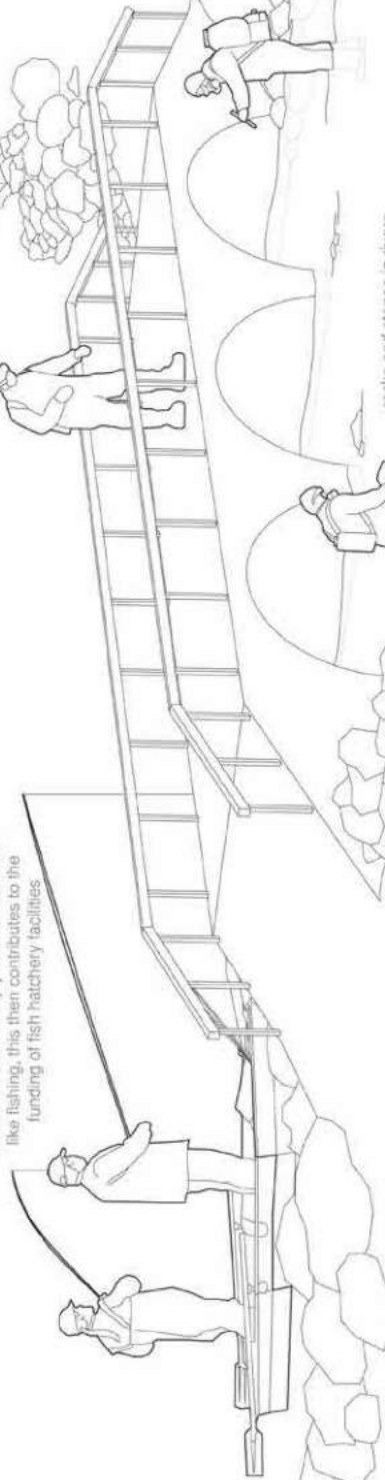
helicopters are used to transport fish stocks to unreachable ponds and rivers

### CAPTURE

Live trap nets are set around shore to capture adult fish. The capture field session varies from fish species, for example, Walleye field session will happen around late March or early April during their spawning season.



recreational activities  
visitors are able to enjoy outdoor activities like fishing, this then contributes to the funding of fish hatchery facilities

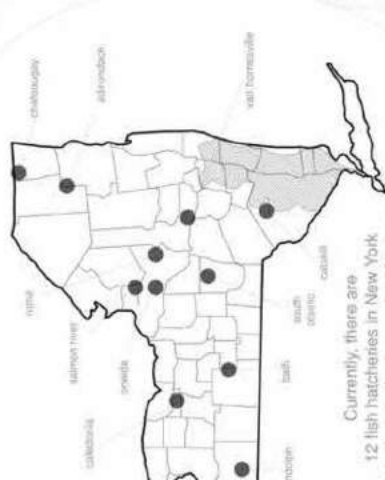


rocks and stones in rivers are also being placed strategically to provide a smooth upstream journey

### passibility field test

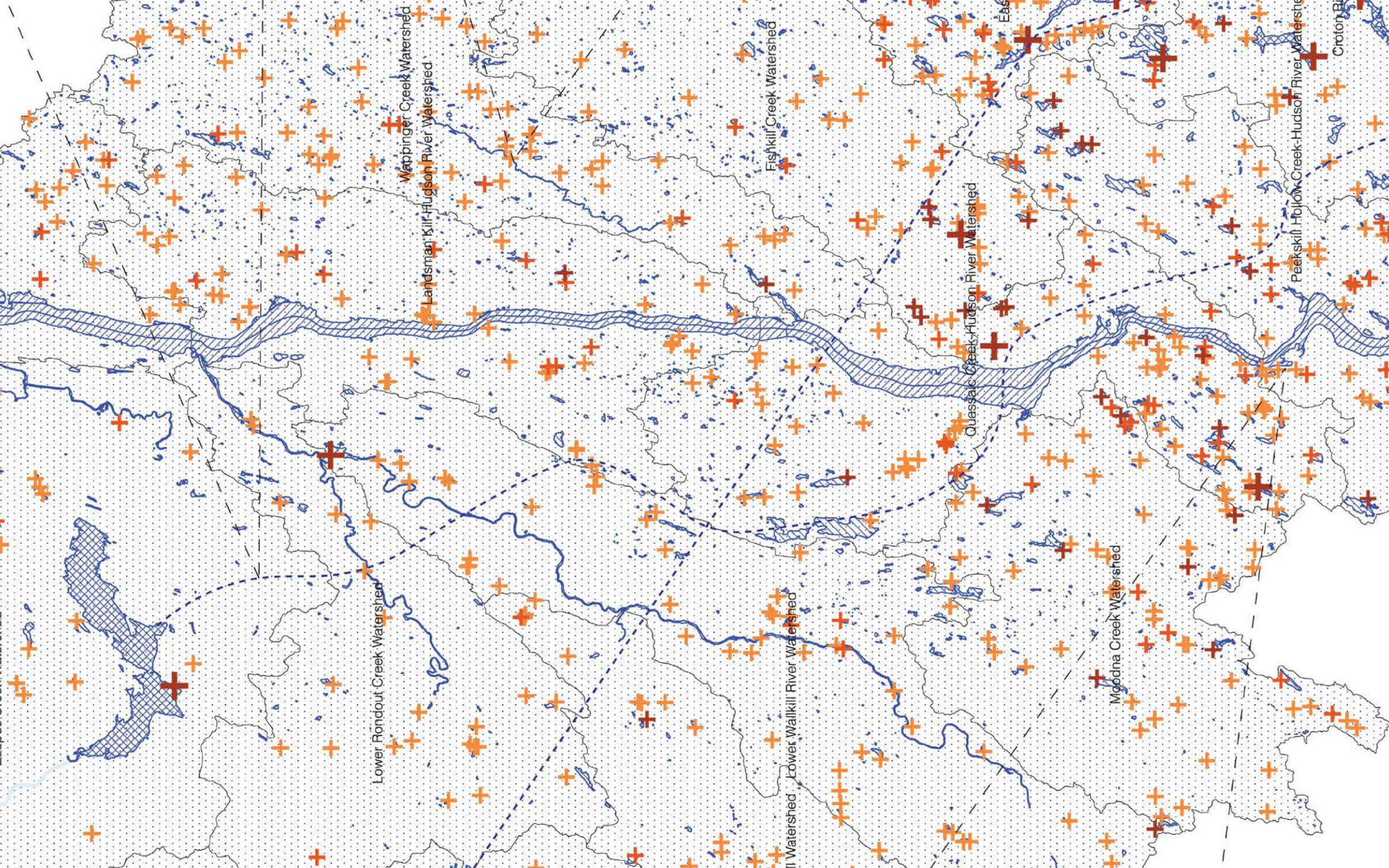
passibility test are conducted to ensure fish like salmon american eels are able to swim upstream easily without

### 12 Hatcheries, 1200 Rivers



Currently, there are 12 fish hatcheries in New York state that stocked around 1,200 rivers and pond in hudson valley area. Each of the hatchery specialized in one or two species of fish to stock all over NYS.

besides fishing license and entrance fees, the funding of hateries also come from federal government, fees to stock private ponds (stock permit)



Lower Rondout Creek Watershed

Wappinger Creek Watershed  
Landsman Kill-Hudson River Watershed

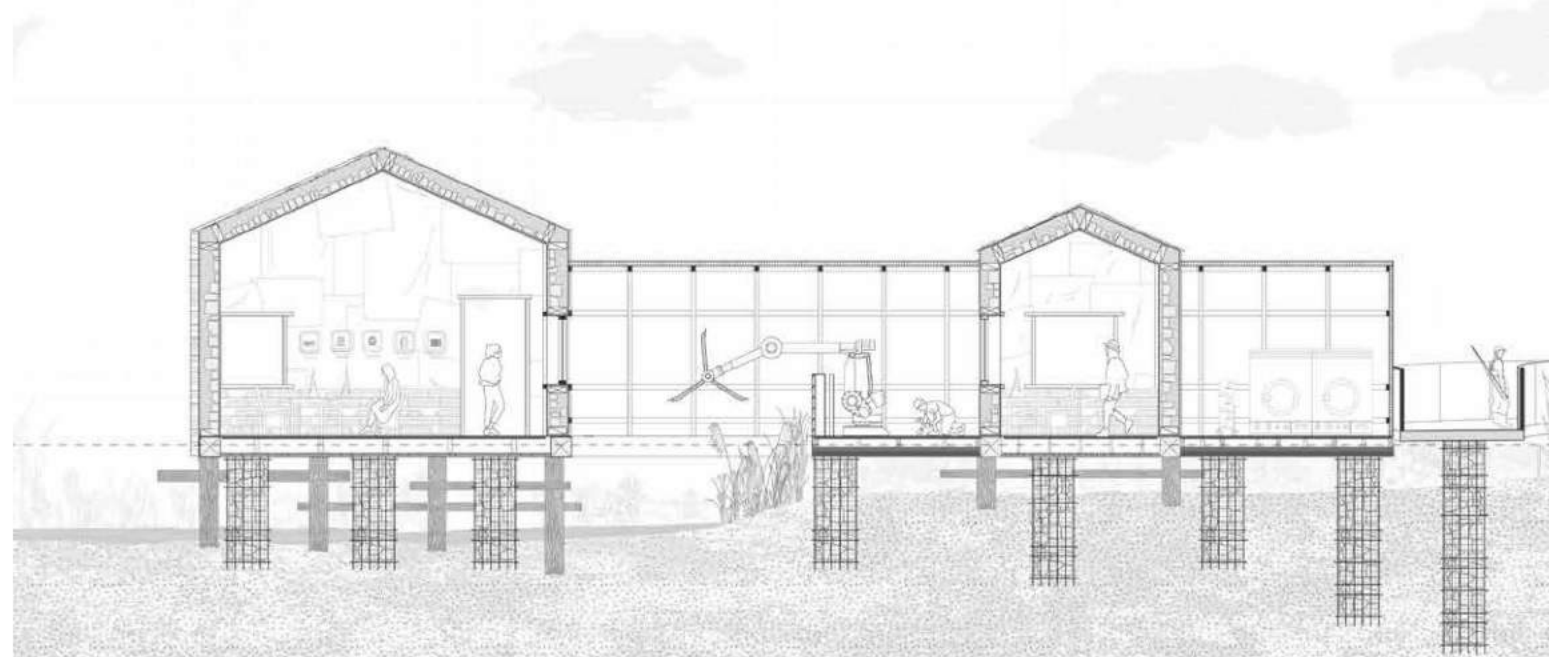
Fishkill Creek Watershed

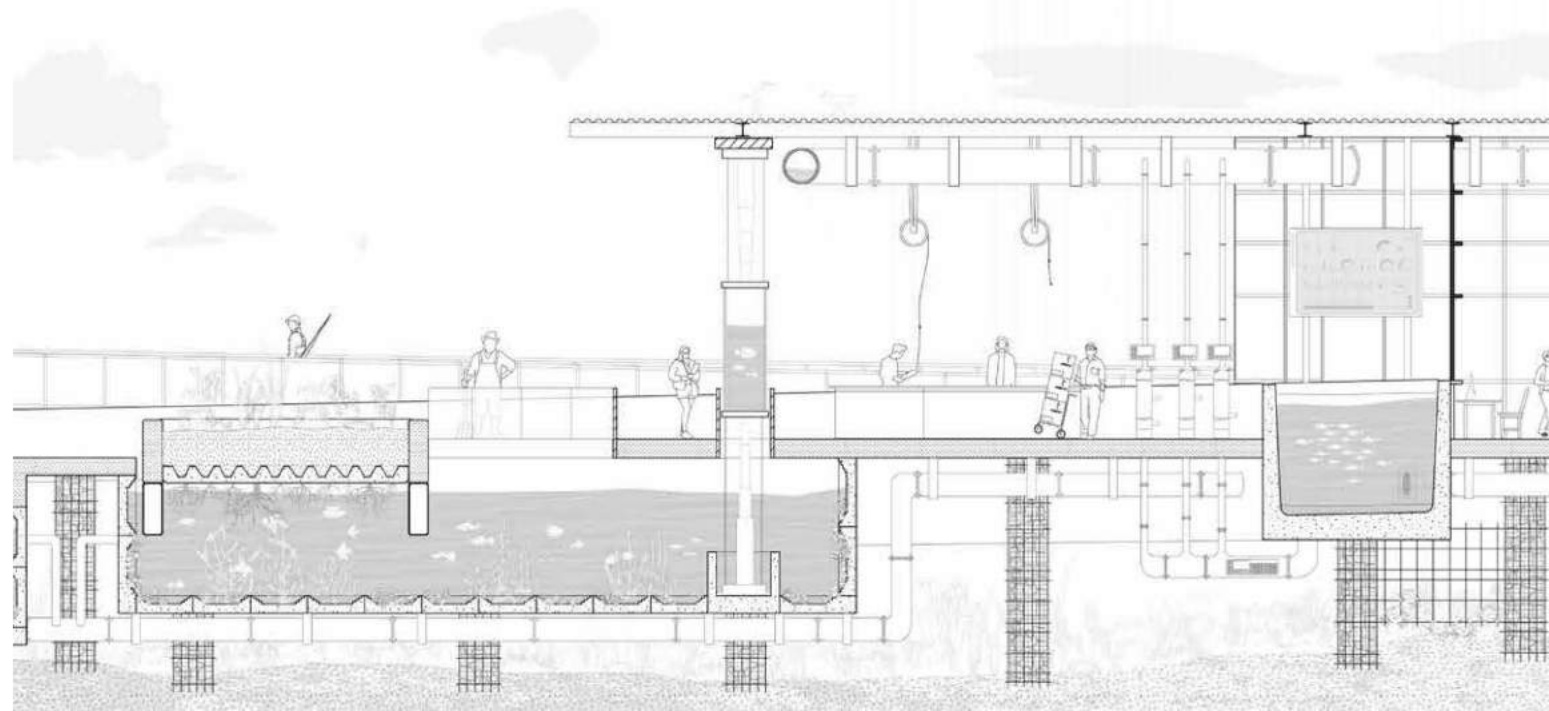
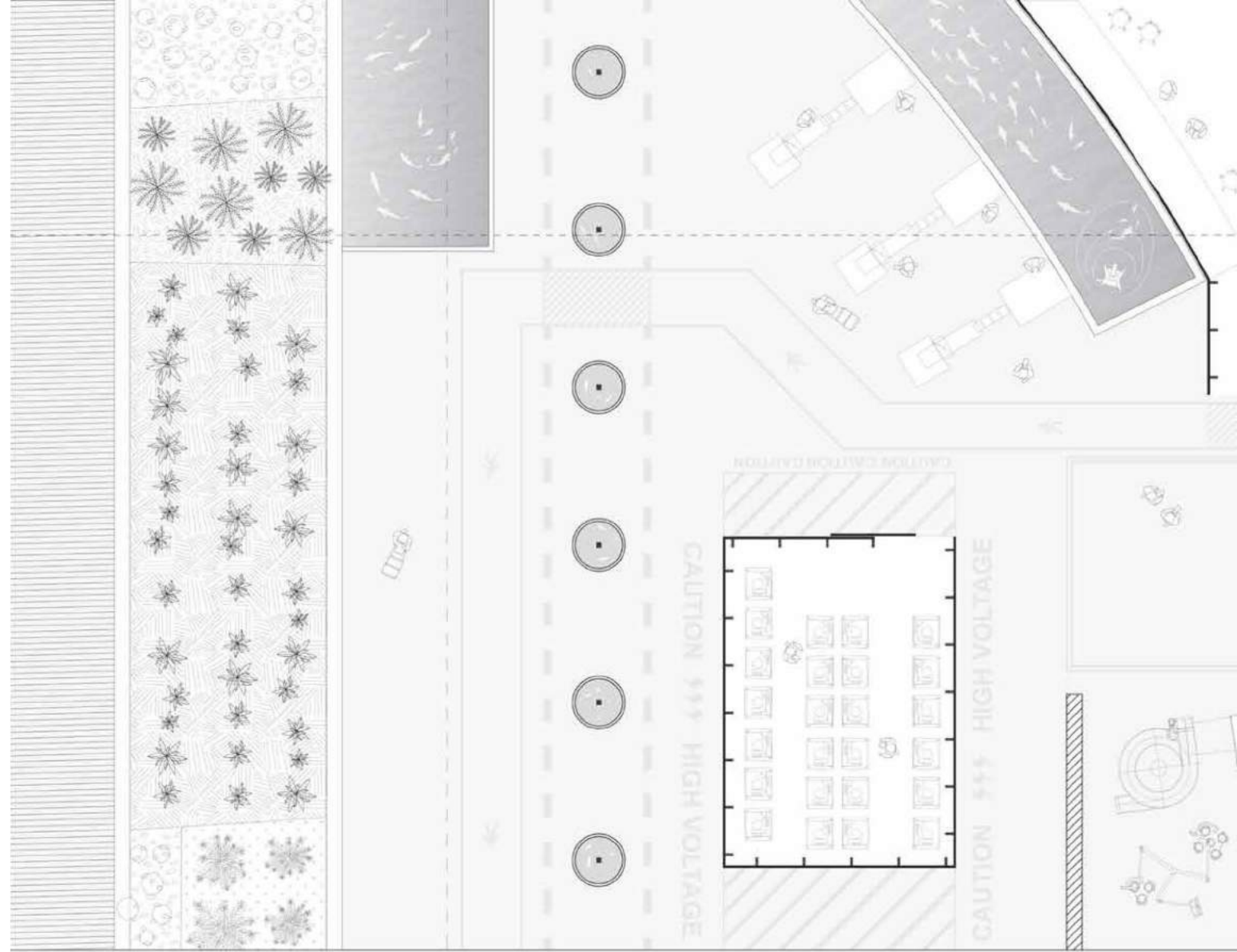
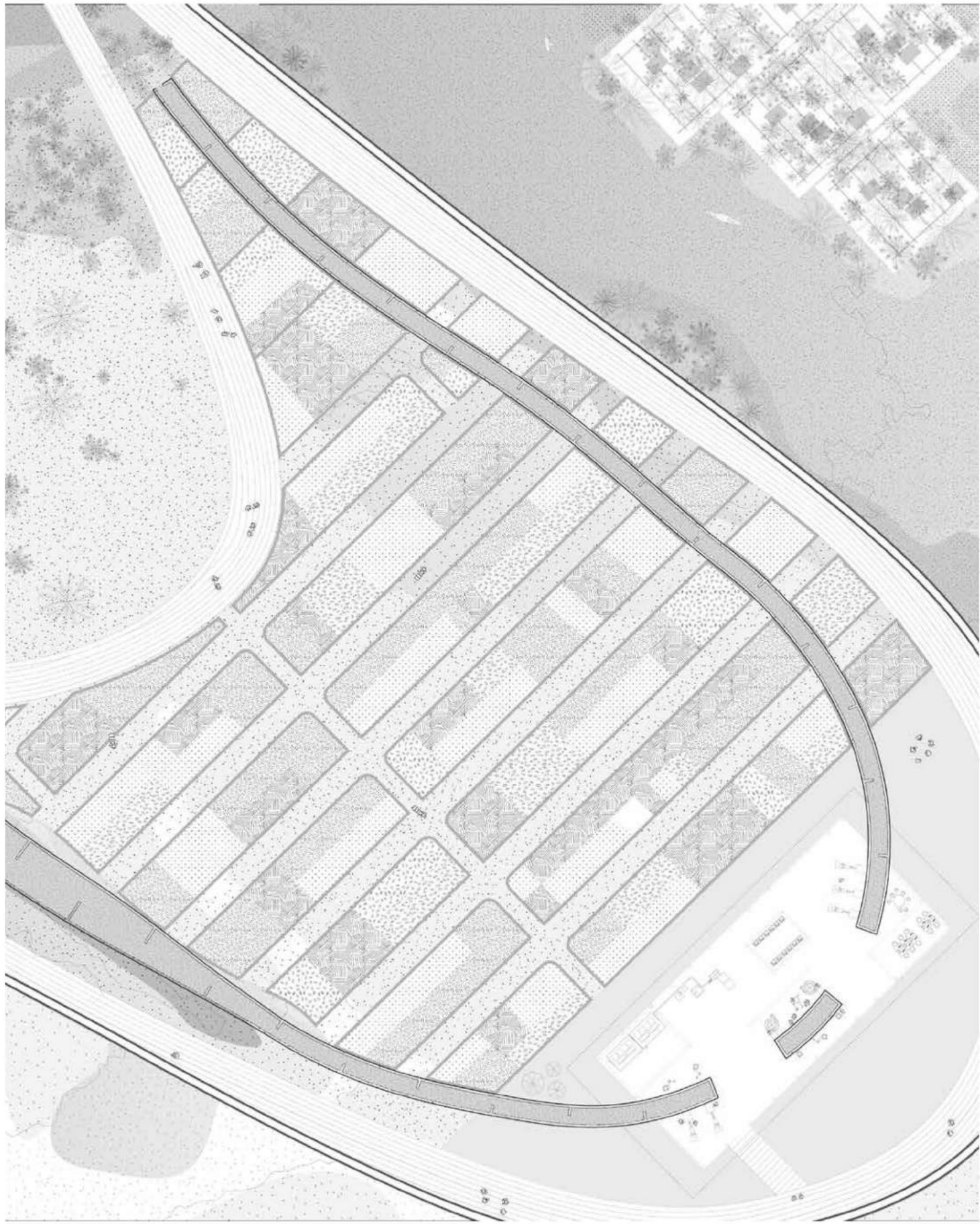
Quassaic Creek-Hudson River Watershed

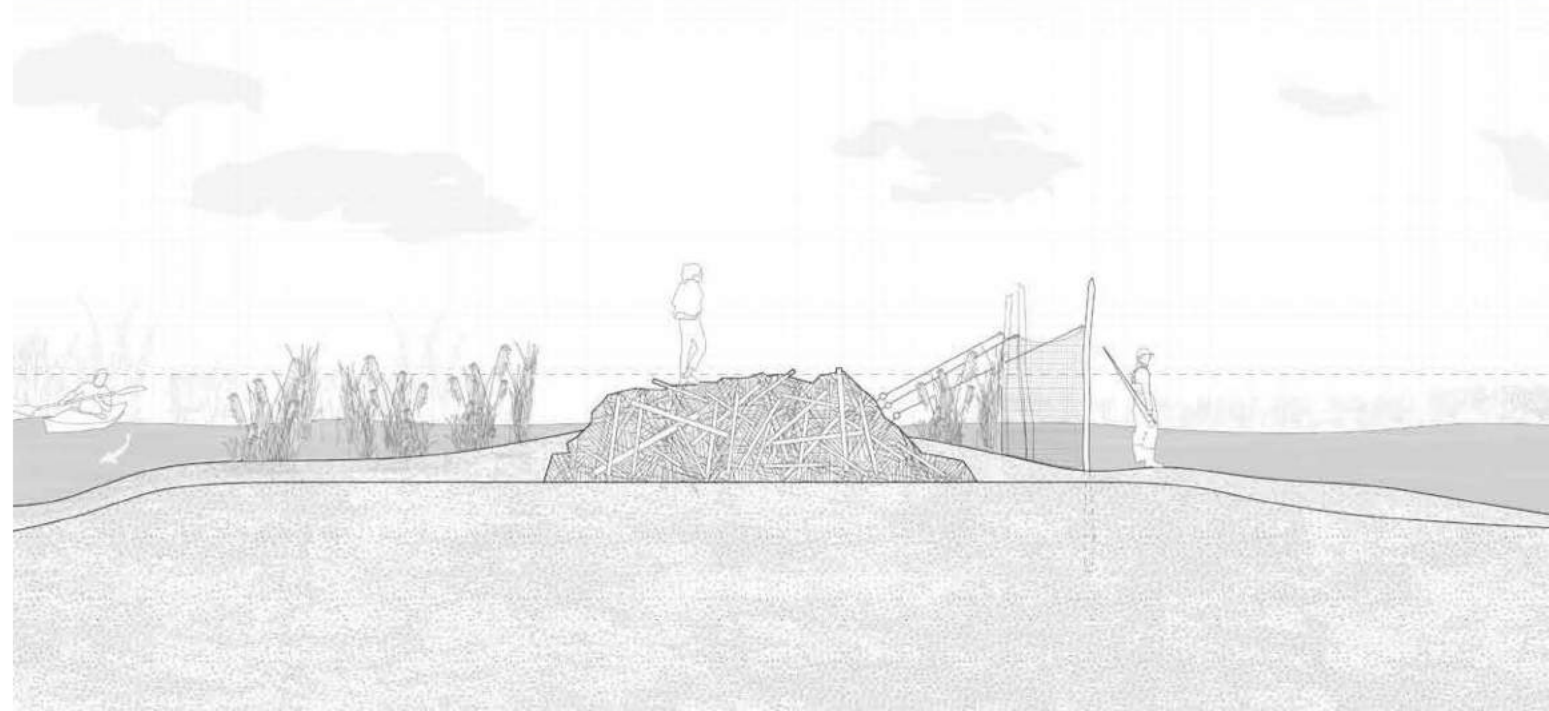
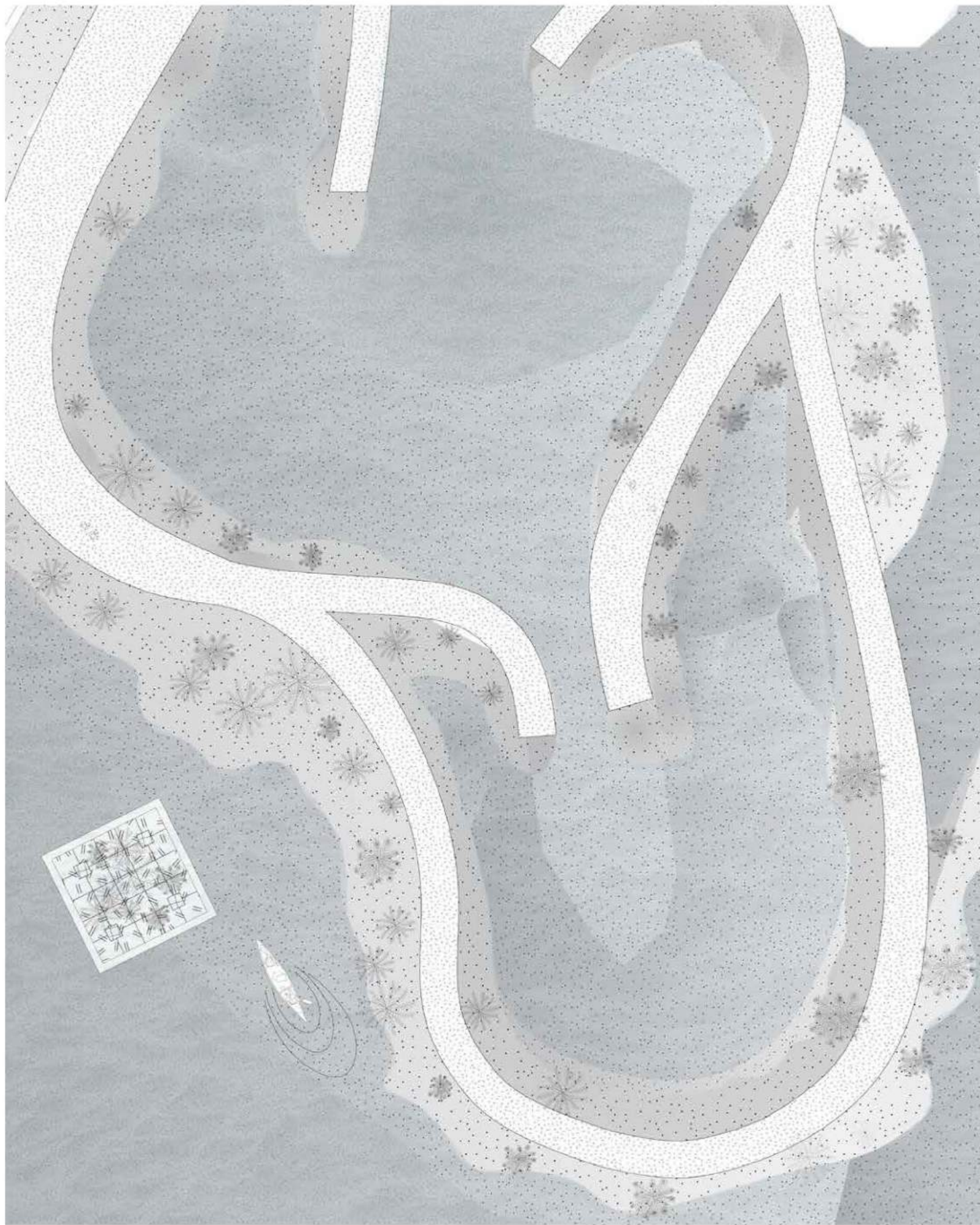
Moodna Creek Watershed

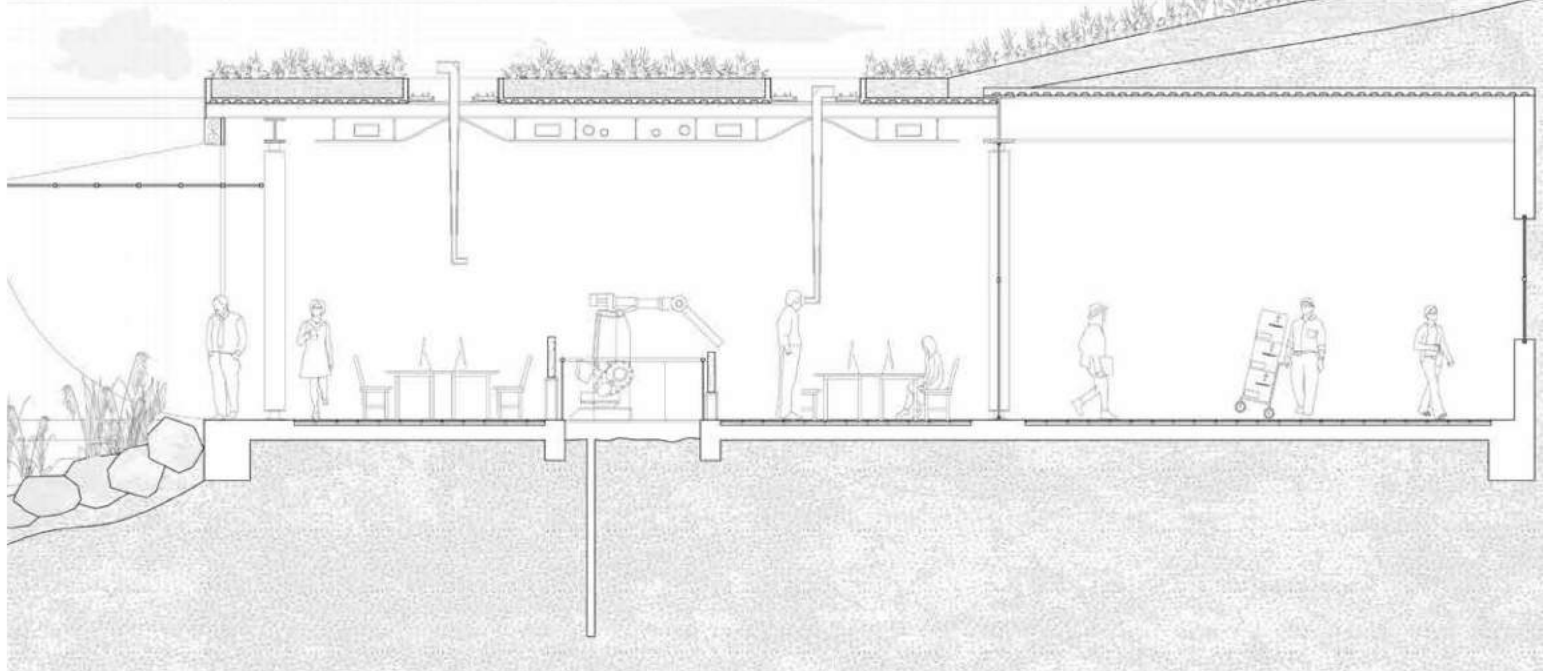
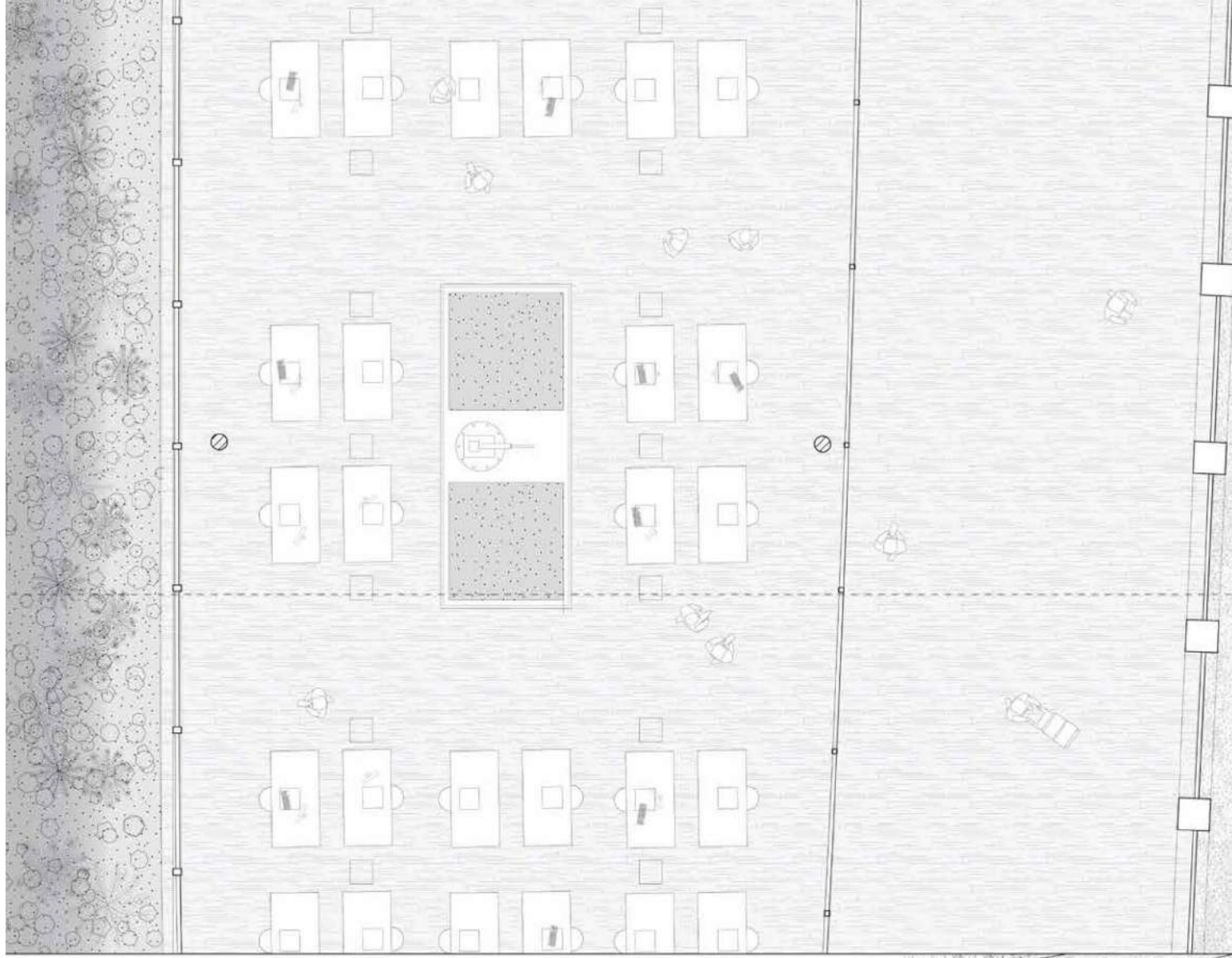
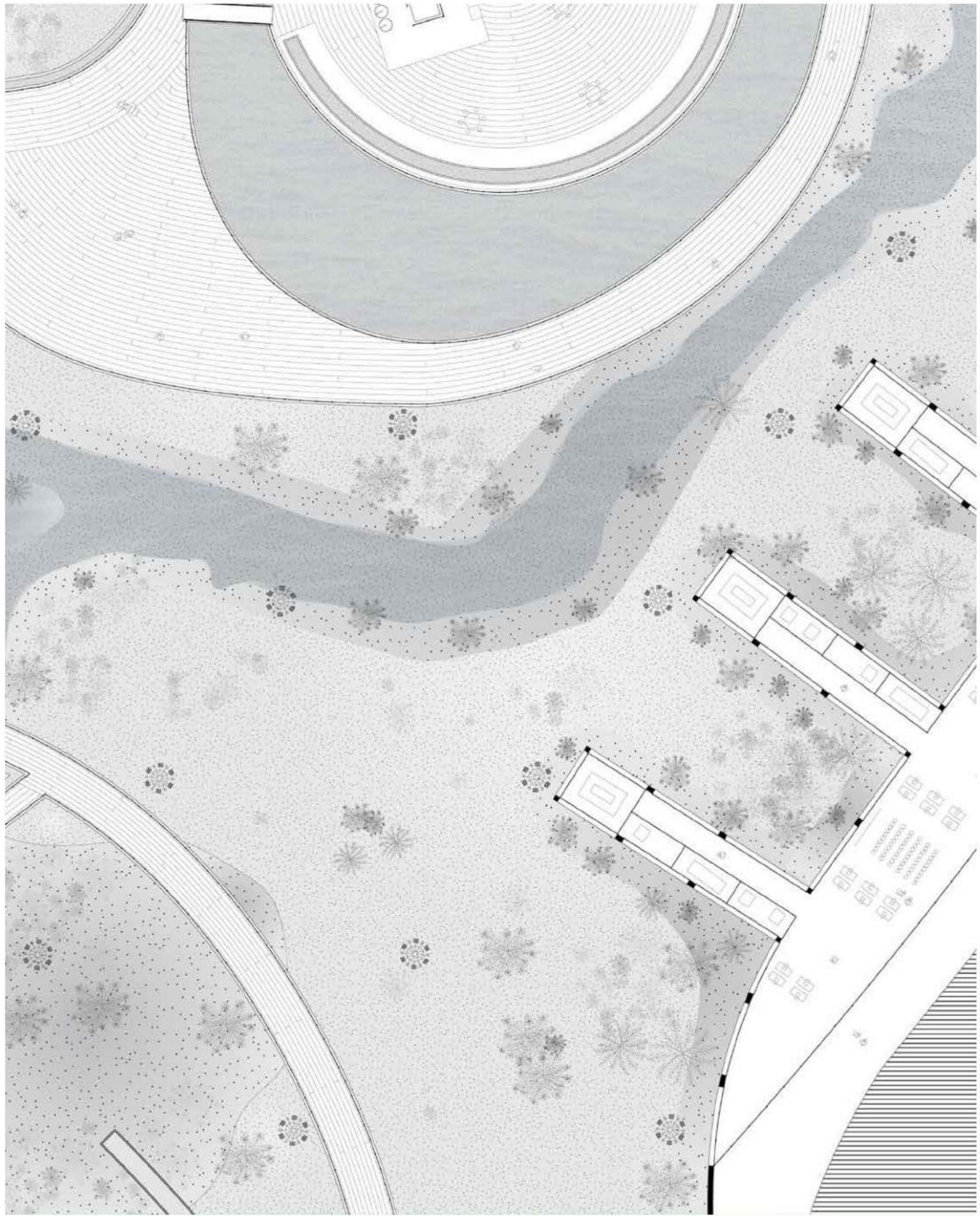
Peekskill Hollow-Creek-Hudson River Watershed

Croton R











Our analysis paints a picture of the waterways of Hudson valley as a sanctuary for human use and activity. The dichotomy of parallel reality also exists in related industries such as service and accommodation. Reimagining the excesses of the existing infrastructure has to grapple with the reality that the anthropocene is all encompassing, and that a full re-wilding may not be possible anymore. We're interested in investigating these hidden aspects of man made nature in this project through unfolding infrastructures and challenging the thin line between artificial and natural.

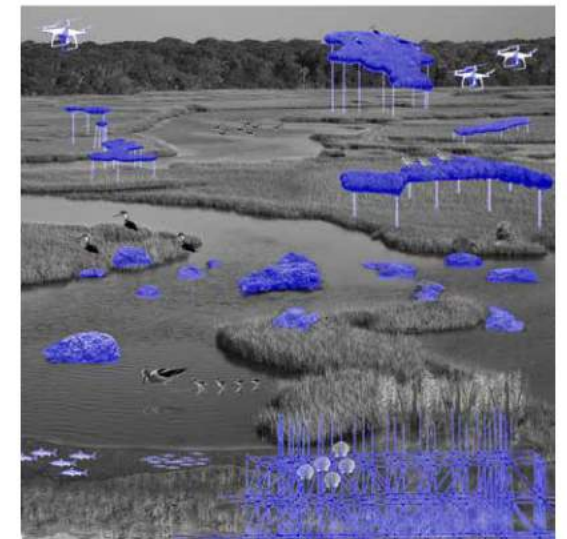
We would also like the R&D center to have the qualities of a close relationship with landscape, along with the confluence of human, local species, and the introduction of new technology; to reveal the artificiality of nature through education, and possible collaboration with Hudson school district; the R&D center can also reimagine new industries for the city of Hudson; and also fabricate a new constructed layer of landscape that tailors to the needs for the ecosystem.

Our proposal is a constructed habitat research and development center set in the tidal marsh North of Furgary, in Hudson, New York. Furgary represents a relationship with the water that is no longer possible given the river's current state of depletion. The Hudson waterfront turns from industrial operations, public park, and conservation areas depending on where you look, with its economic and environmental possibilities constantly in tension.

The campus consists of differing degrees of managed and unmanaged wetlands and water bodies, weaved together into a new "natural" landscape with different scales of intervention through both human and nonhuman interfaces.

We anticipated 4-6 feet of river rise in the next 50 years; by then, existing marsh will be inundated as the marsh returns to a bay. In the large site plan, we propose elevating the Amtrak line from the embankment to the Furgary bridge, muddying the dividing line made by past interventions. Future urban growth happens behind the floodplain to escape a volatile river. As the marsh is inundated, new marsh land will grow into the man-made infrastructure on the site provided by the floating marshes. The pontoons of the paths will be removed and sunk in the bay, and as a result the site will no longer be publicly accessible.

Overall, this proposal challenges the existing paradigm of the hidden infrastructure that reinforces our natural and artificial world. Instead, we chose to show them side by side, restaging the way in which our current world is constructed.



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Layers Channels Paths

Kind

Normal Opacity 100%

Lock Fill 100%

- OVERALL ADJUSTMENT
- ADDITION
- OBJECTS
- FIXTURES
- BACKGROUND

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*Crassostrea Virginica*  
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AMERICAN SHAD  
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MONITOR STATION H  
Camera 0  
Access granted  
Battery: 87%



MONITOR STATION H  
Camera 0  
Access granted  
Battery: 80%



36 % ↑ 38  
↓ 28



21 °C ↑ 22  
↓ 18

BLUE CRAB  
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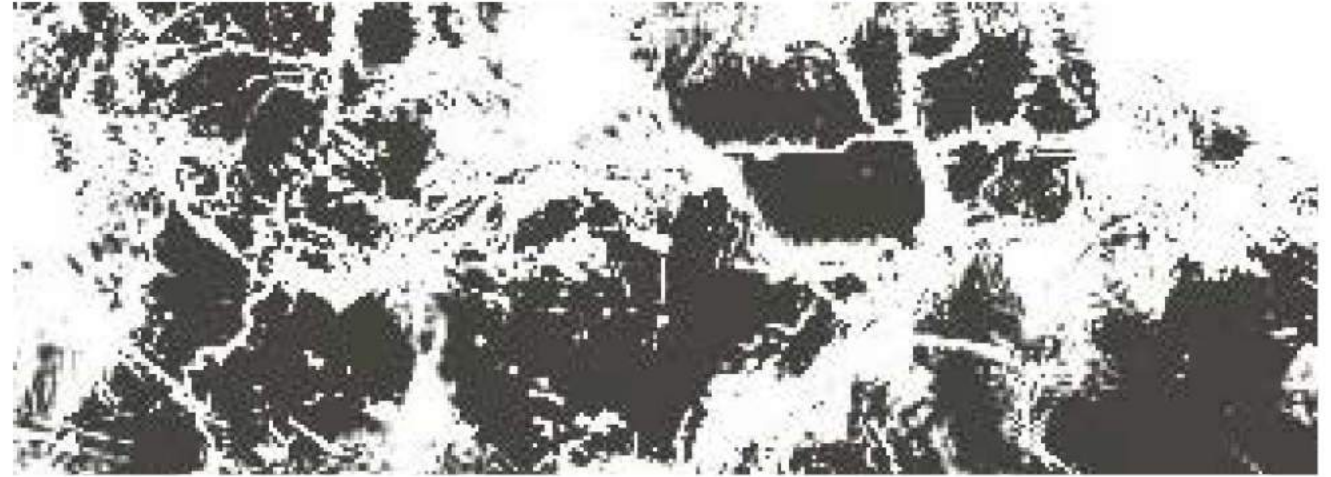
HD 2K **4K** 6K FPS60

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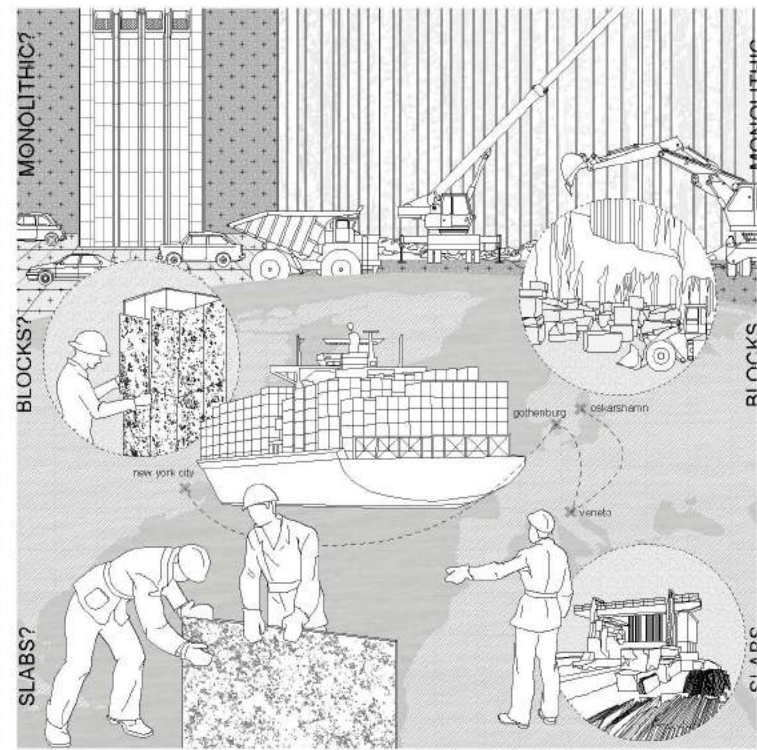
R1h30m

## **Granite Obstruction**

Granite is as ubiquitous as it is diverse, in its many uses; as rigid as it is signifiatory. We're compelled to look at its many instances at the infrastructural, the iconic, and the inglorious all together. We might see in this collection a material story that is driven by local supply, shifting demand and evolving labor practices. In it, we might begin to understand materiality as a property that is relational—tied as much to context and culture as to image, pattern, weight and durability. This studio investigates the material implications of granite as a social, cultural and historical system at large, and as a building block of New York City. (Studio brief by Ivi Diamantopoulou and Jaffer Kolb)

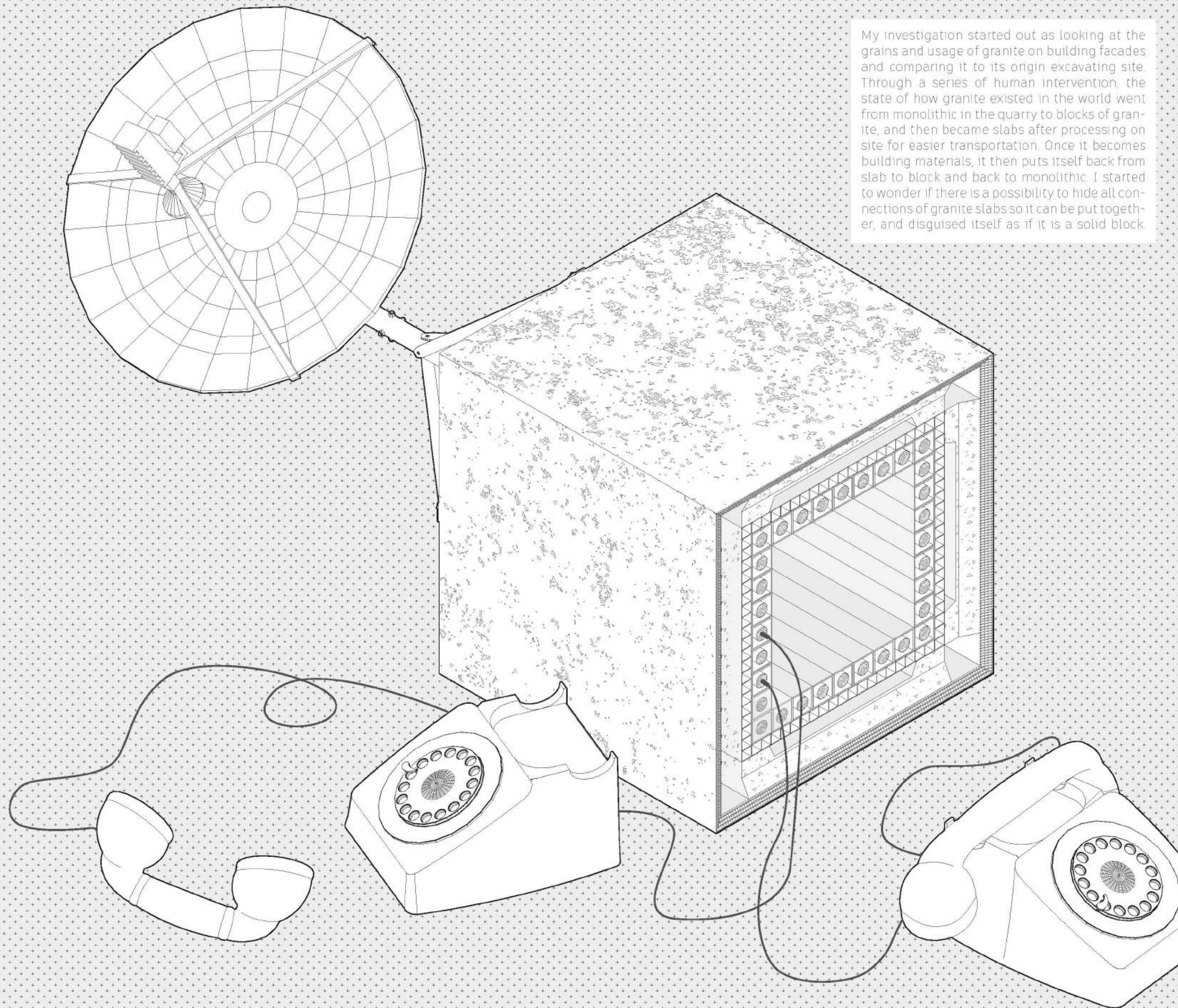


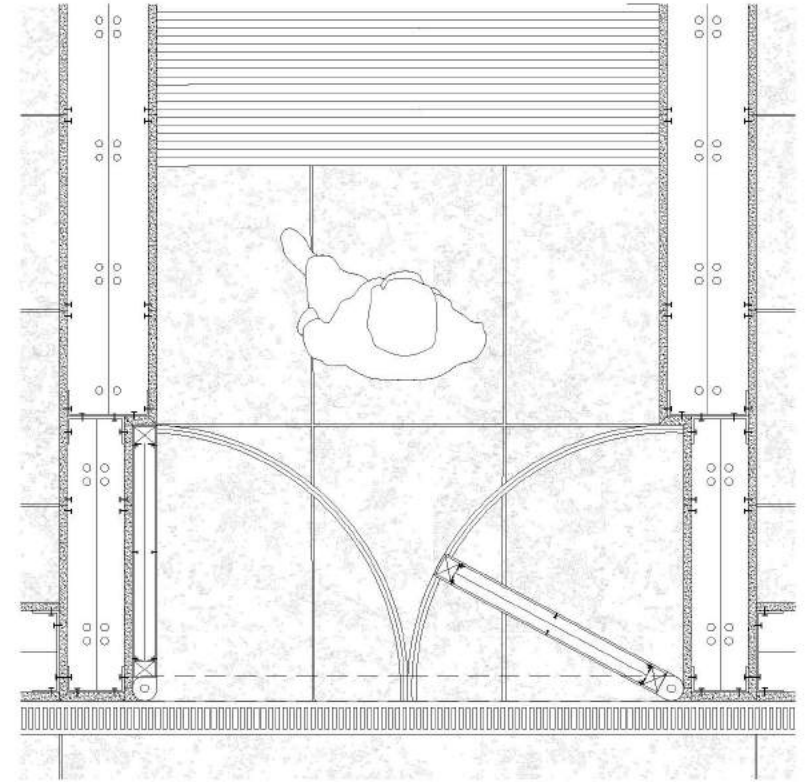
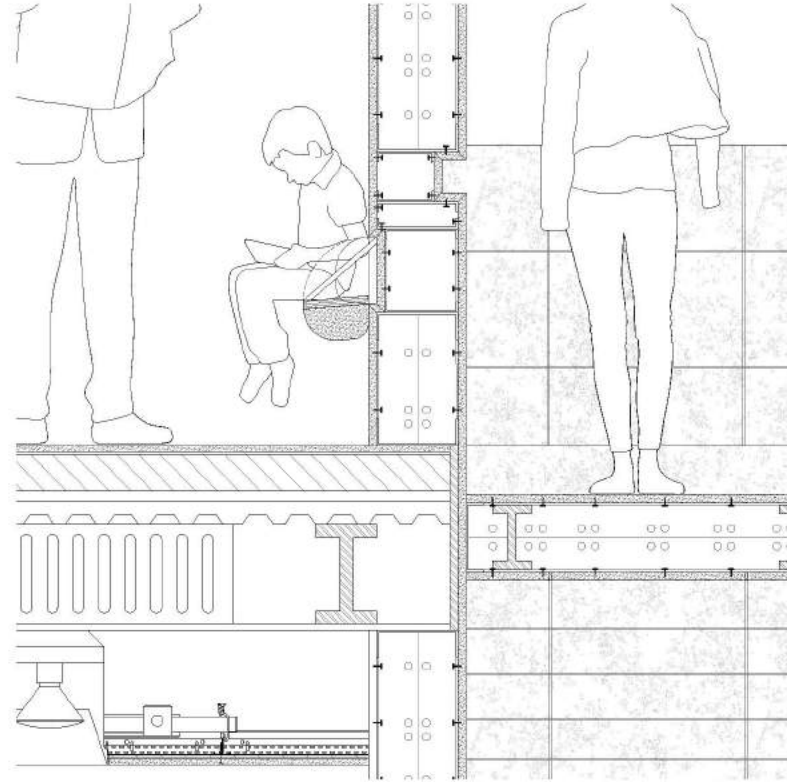
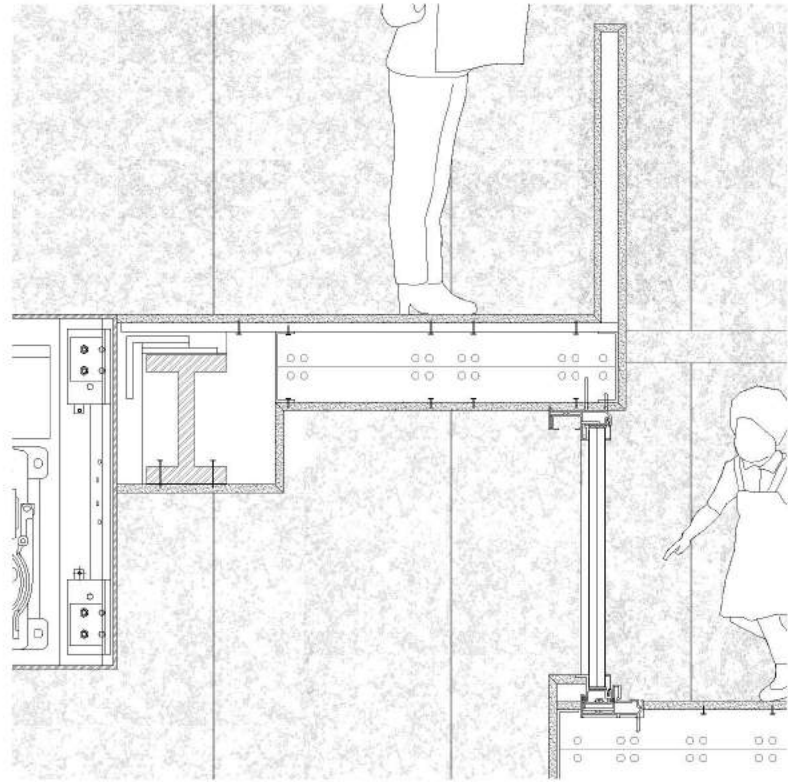
The research started with finding interesting granite examples in the city of New York. The building that drew my attention to was the longline building located on 33 Thomas Street in Tribeca. It was designed by John Carl Warnecke around 1965s and completed in 1974. It is a 550' tall, 29 floor windowless skyscraper that is specifically designed for machine occupancy. The average floor height is around 18' per floor and able to withhold 200-300 lbs of live load. It was formerly known as the At&t building that operates landlines, with large switch boards occupying each floor. From the outside, all the facade, the vents, and HVAC equipment are wrapped in a monochrome manner with precast concrete panels that are clad with granite panels on the outside. And because of its windowless nature, the building is like a solid dark block at night immersed in the NYC skyline. The cladding material is the fire treated swedish mahogany granite that is found in Oskarshamn in Sweden in the town of Flivik, so it is also sometimes called the Flivik granite.

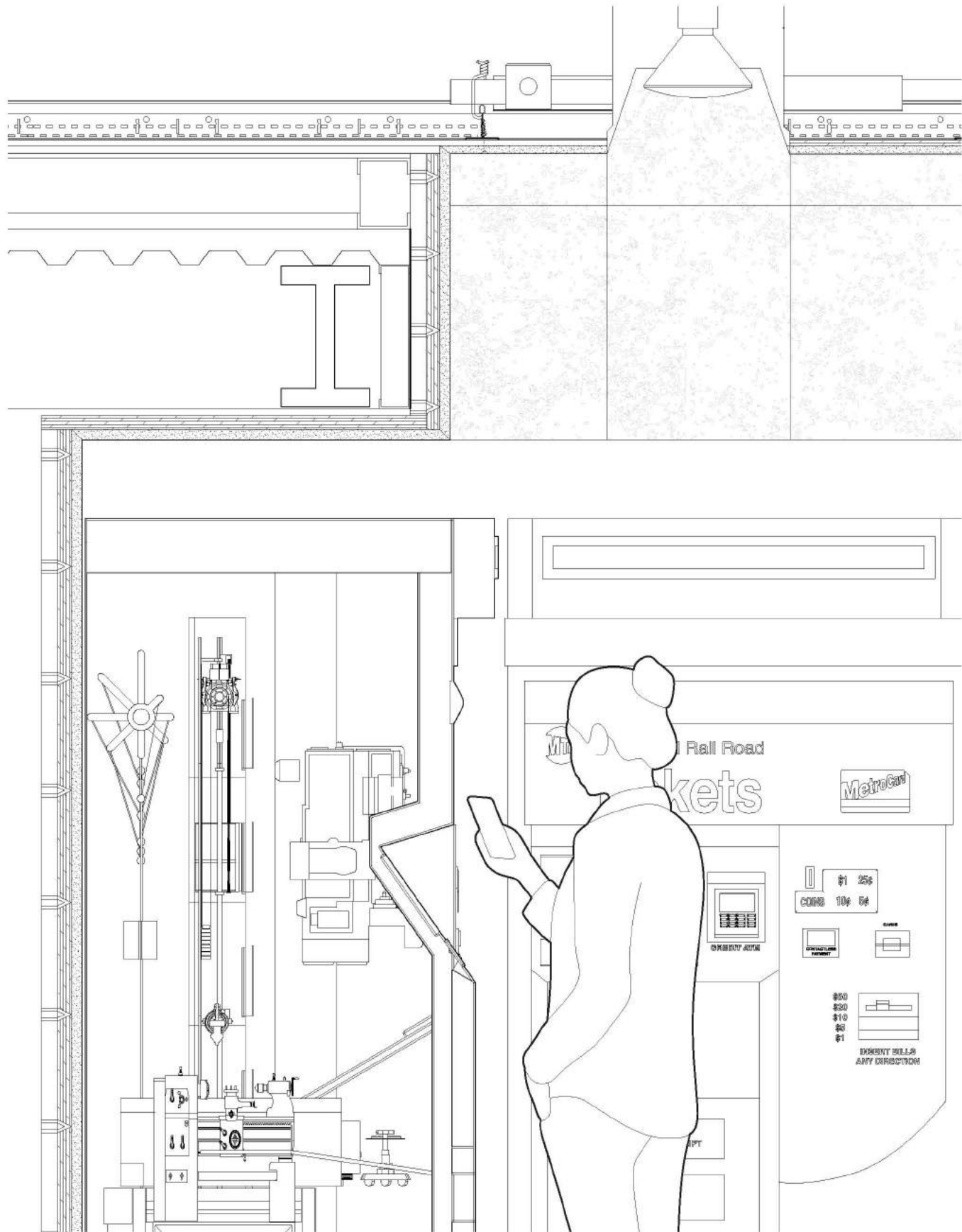


Oskarshamn, Sweden is known for its granite resources, but in the whole country, there are only around 1200 people working in the industry, with a turnover of 120 million euros. Most of the country is restricted to quarrying, and the processing is being done in other countries, this quarry for example, have their products shipped to italy to process into slabs. Sweden used to have a premium image 10-20 years ago, their main consumers were the Us and Japan, but the granite industry grew much faster in Brazil and india, so sweden made granite became more expensive in comparison, so they lost the market to others, so sweden granite became less and less relevant over the years.

My investigation started out as looking at the grains and usage of granite on building facades and comparing it to its origin excavating site. Through a series of human intervention, the state of how granite existed in the world went from monolithic in the quarry to blocks of granite, and then became slabs after processing on site for easier transportation. Once it becomes building materials, it then puts itself back from slab to block and back to monolithic. I started to wonder if there is a possibility to hide all connections of granite slabs so it can be put together, and disguised itself as if it is a solid block

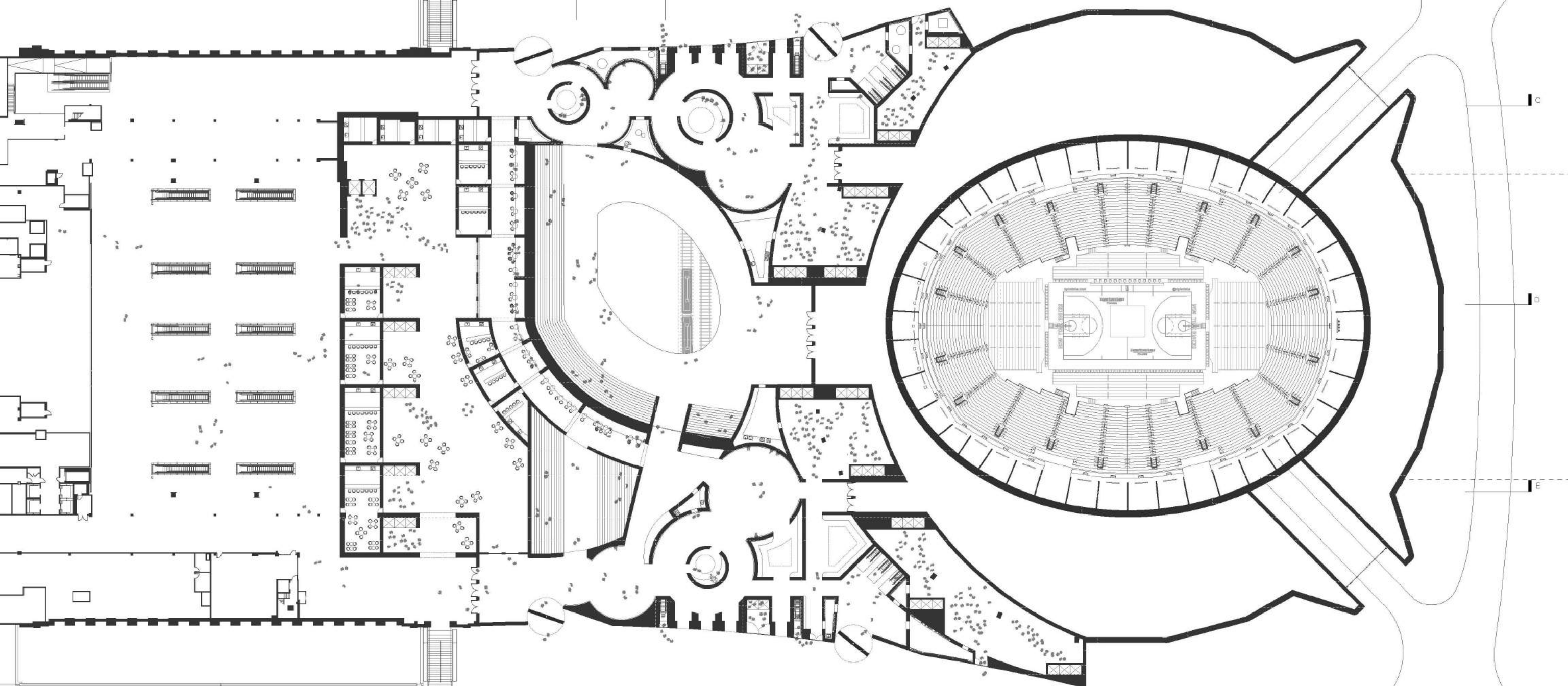




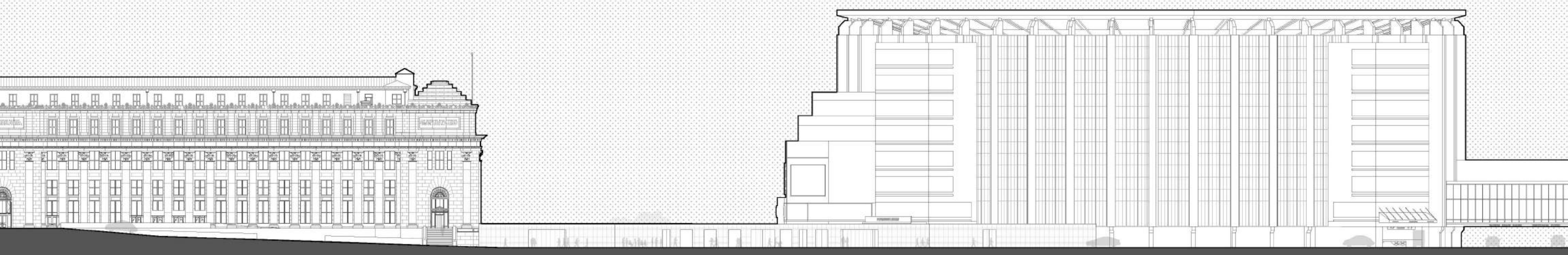


I was also interested in the details and behavior of a ticket machine in the train station context. As a device, it has an intricate interwoven interior with monolithic skin on the outside. Train stations can be and are essentially larger sorting machines that filter people, trains and circulation. Similar to how a ticket machine works, train stations tend to have the same operation when it comes to system vs. skin. A lot of the mechanical works and hidden operations are contained within a box, wrapped around with a thin sheet of stainless steel in a monochromatic way. Only a minimal interface is displayed on the outside of the machine, allowing for maximum efficiency and easy usage for its users. I see my project as a ticket machine-like device that latches on the two existing buildings.

People/Travelers are the food mass.  
 The new civic space in the center is the stomach.  
 Path/Hallways are the intestines.  
 Granite is the tissue and skin.



My initial investigation looked at granite through a series of human intervention. The state of how the materials existed in the world went from monolithic in the quarry to blocks of granite, and then became slabs after processing for easier transportation. Once it becomes building materials, it then puts itself back from slab to block and back to monolithic. I was drawn by this tension of the material and its finished product, and want to reinterpret this relationship through different scales.









This device is dependent on the existing buildings to move human mass around. Creating a symbiotic relationship that embraces the 4 existing entry points at the perimeter while absorbing human mass and supporting two existing buildings through fragmenting of the crowds by filtering different speeds of each traveler. While it operates as a device in plan, the exterior elevation is somewhat muted. The monolithic exterior acts as a podium that connects the datum lines between the two buildings. The expansive mass mimics the podium typology that granite usually serves in the city, and the intestines is what gives it operation within its mass.

Upon arrival, the immediate interface on both sides will allow people who are only going to spend 5 minutes at the station to access their tracks, both subway and trains. For travelers who have 30 mins or so, the larger heavier rotating door directs them to the usual access to the train station, and the fully opened one leads you further inside the 'intestines' to wander around, making the station as the destination. On the Moynihan side, the building blends itself within the stairs, opening up direct access underneath. The intersection between the paths creates interruptions and breathing space for the traveler's journey at the slower speed. Within the intestines the surfaces are all clad with the same logic with granite panels and flip down seatings. Stores are able to inhabit the mass to provide faster grab and go travel experiences for those who are in a rush. In the middle of the mass is the 'stomach' civic space for a longer time to linger around. It is a courtyard with stairs that latch onto the existing stair, and cracks open the station to reveal the tracks underneath. The facade of MSG becomes more domesticated within this courtyard, and can serve alternate purposes outdoors.



| Amtrak TRAIN INFORMATION |        |               |              |
|--------------------------|--------|---------------|--------------|
| Time                     | Number | Train         | TO           |
| 4:30                     | 85     | REGIONAL      | RICHMOND     |
| 4:36                     | 2170   | ACELA EXPRESS | BOSTON       |
| 4:55                     | 173    | REGIONAL      | WASHINGTON   |
| 4:58                     | 97     | SILVER METEOR | MIAMI        |
| 5:00                     | 148    | REGIONAL      | SPRINGFIELD  |
| 5:10                     | 92     | SILVER STAR   | PHILADELPHIA |
| 5:10                     | 2165   | ACELA EXPRESS | WASHINGTON   |

UNATTENDED BAGS WILL BE CONFISCATED  
AMTRAK POLICE THANKS FOR YOUR PATIENCE

## Ground Matter

What happens if we would look at architecture, and at the cities we build, as just temporary iterations of built form? Adaptive reuse would no longer be only defined as the repurposing of abandoned historic structures into a new building, but we would also understand that 'new building' as the potential site for new construction and new adaptation. This idea resonates with the idea of a 'circular building economy' establishing a shift in thinking away from perceiving buildings as monoliths of permanence, but to become the repository for materials that will one day be re-appropriated for other purposes. The conservation of land (by continuously re-activating the same site) and the building as a material bank, will be two important factors to be implemented, underscoring the fact that every building is a temporary answer for temporary need. (studio brief by Wonne Ickx)

We worked on the site of the former Coca-Cola bottling plant in Houston, Texas investigating the existing structures and the open space in between them. We explored different possibilities to incorporate a 10,000 m<sup>2</sup> "Incubator for Arts and Design" on the site, while leaving a maximum of possibilities open for future developments.

Our master plan shows how the series of these ground operations are spread across the site, beginning to eat into existing buildings to create new spatial conditions. Through the operations of excavation, perforation, stacking and routing on the site. We strategically penetrate existing structures, as a result, new spatial qualities are generated, and in a sense, the new landscape becomes part of the architecture, and the existing architecture becomes the new landscape.



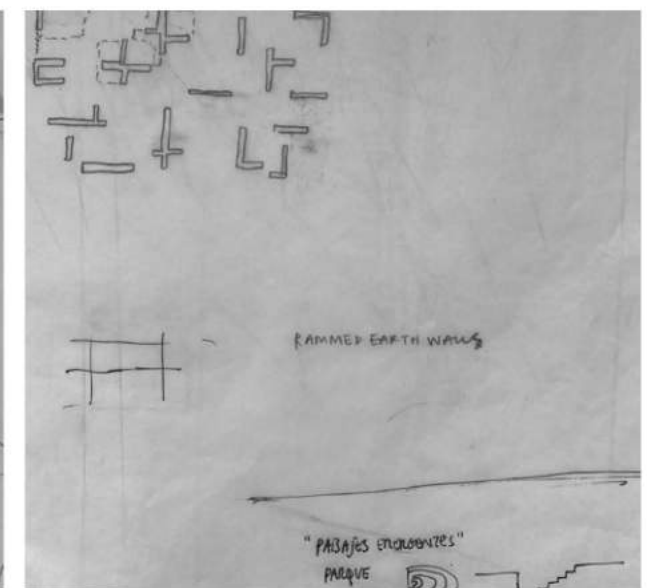
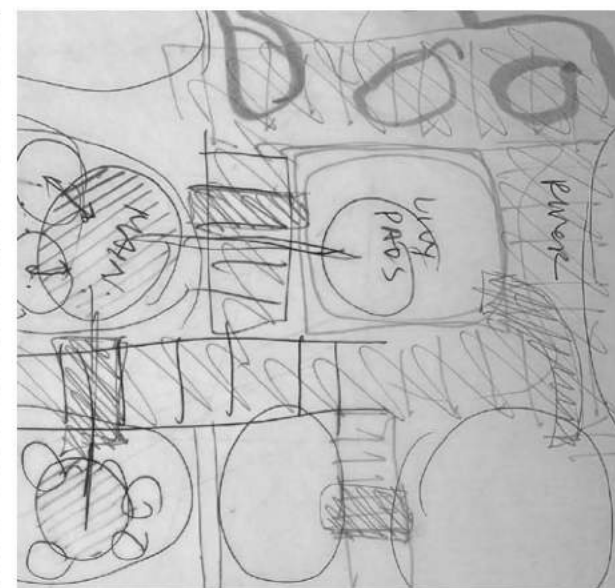
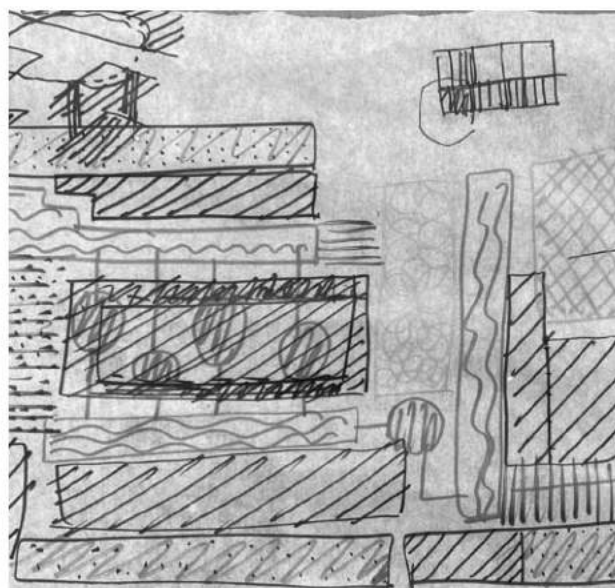
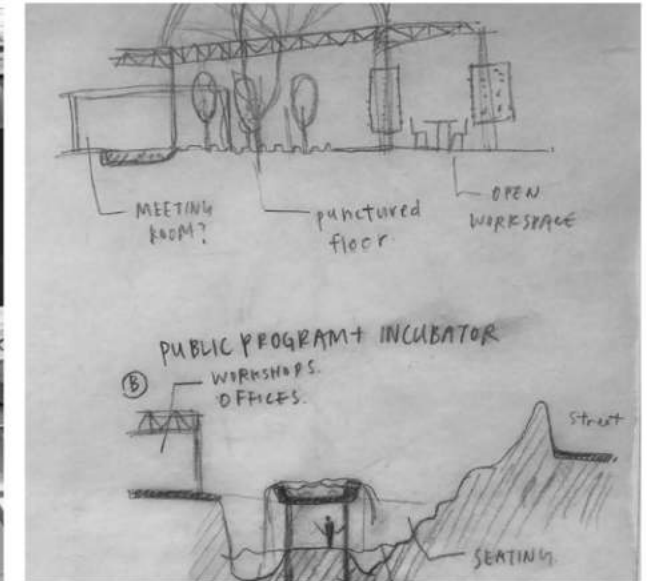
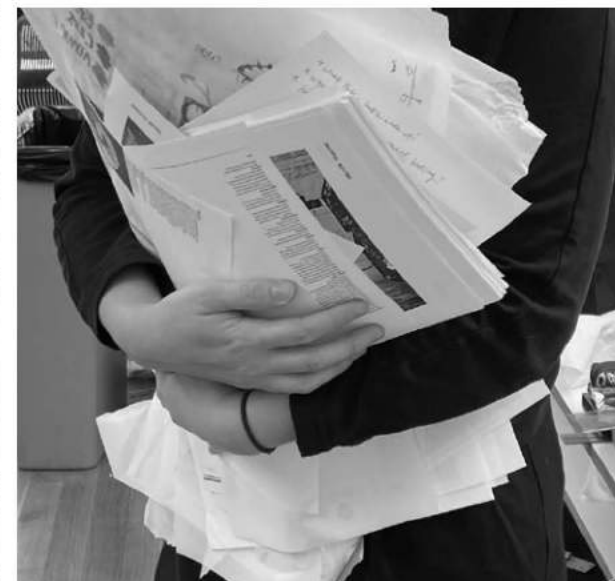
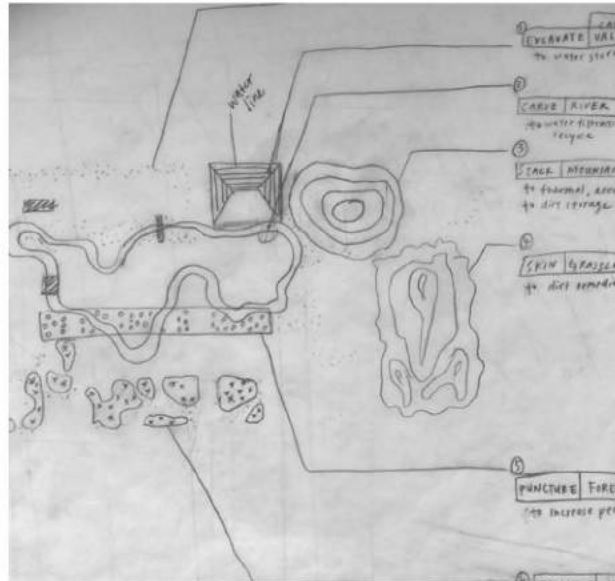
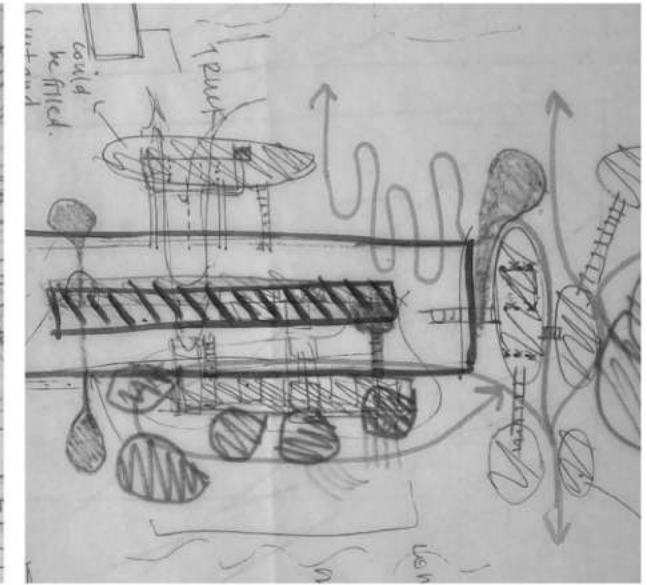
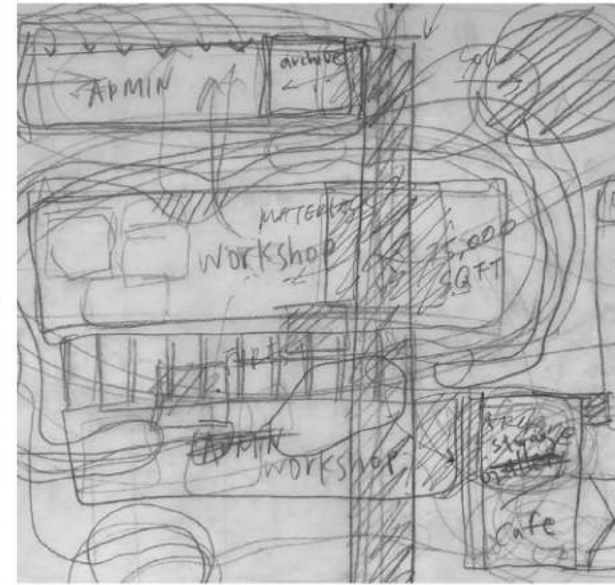
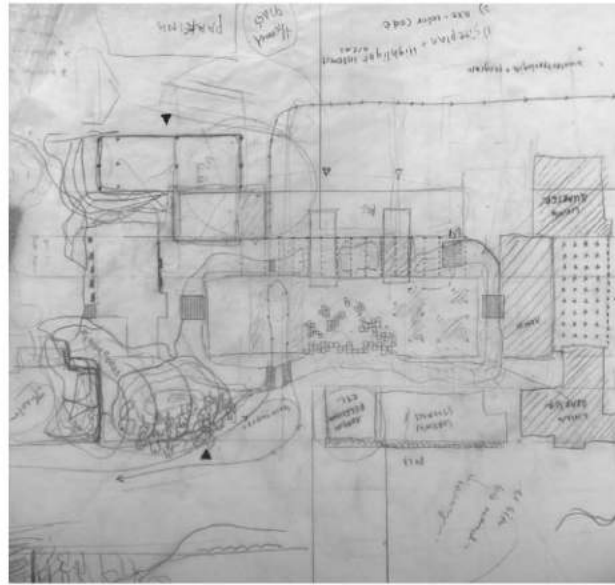


Our project thesis stems off of our research on the expansive impervious surfaces of Houston's cityscape, and its vulnerability towards natural disaster because of it. Past storms like Hurricane Harvey, have caused serious damage to the city due to this imperviousness.

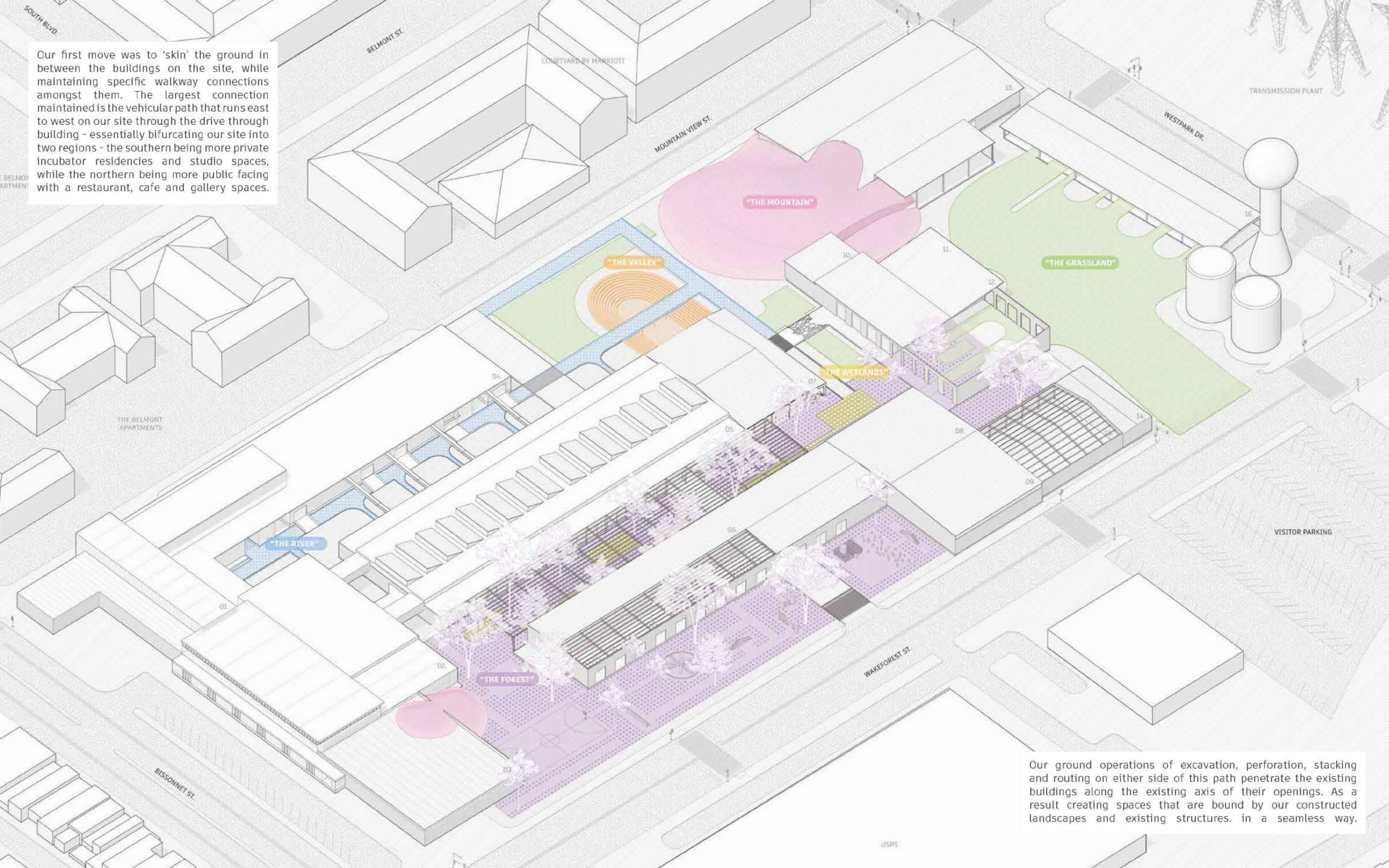
By looking closely at our existing site, it is apparent that most of the grounds consist of asphalt and concrete hardscapes. With the high risk of natural disasters hitting the city, it is inevitable that the site will be flooded again and again in the foreseeable future.

After the site visit, we believe that the current conditions of the buildings are actually well maintained. Our proposal alters the existing buildings as minimally as possible, focusing on the ground surface in between buildings to bring porosity to it through specific land operations.

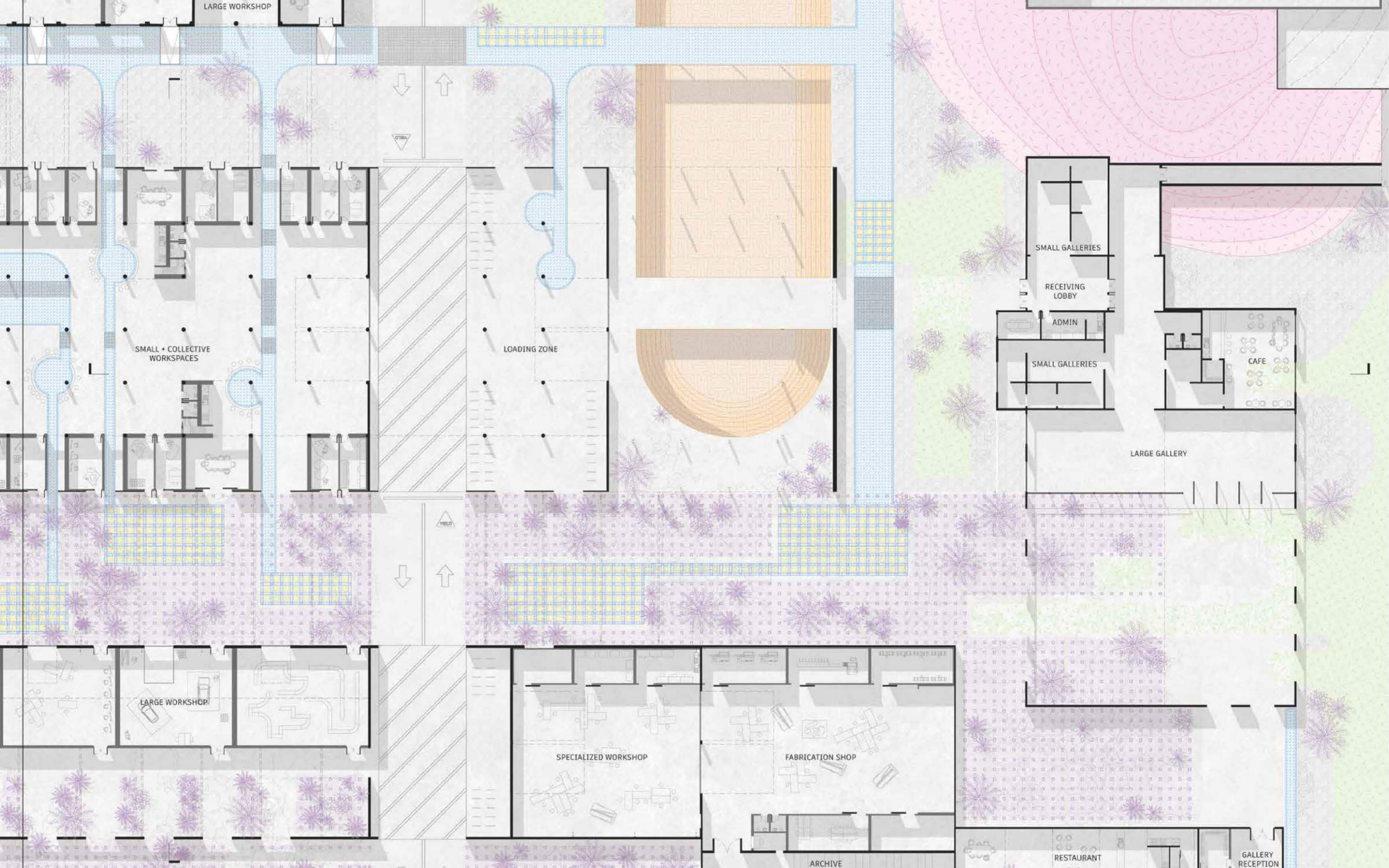
By intertwining the background task of climate mitigation with the process of creation, we hope this incubator inspires its users to generate designs that are responsive and responsible.



Our first move was to 'skin' the ground in between the buildings on the site, while maintaining specific walkway connections amongst them. The largest connection maintained is the vehicular path that runs east to west on our site through the drive through building - essentially bifurcating our site into two regions - the southern being more private incubator residencies and studio spaces, while the northern being more public facing with a restaurant, cafe and gallery spaces.



Our ground operations of excavation, perforation, stacking and routing on either side of this path penetrate the existing buildings along the existing axis of their openings. As a result creating spaces that are bound by our constructed landscapes and existing structures. in a seamless way.



LARGE WORKSHOP

SMALL + COLLECTIVE WORKSPACES

LOADING ZONE

SMALL GALLERIES

RECEIVING LOBBY

ADMIN

SMALL GALLERIES

CAFE

LARGE GALLERY

LARGE WORKSHOP

SPECIALIZED WORKSHOP

FABRICATION SHOP

ARCHIVE

RESTAURANT

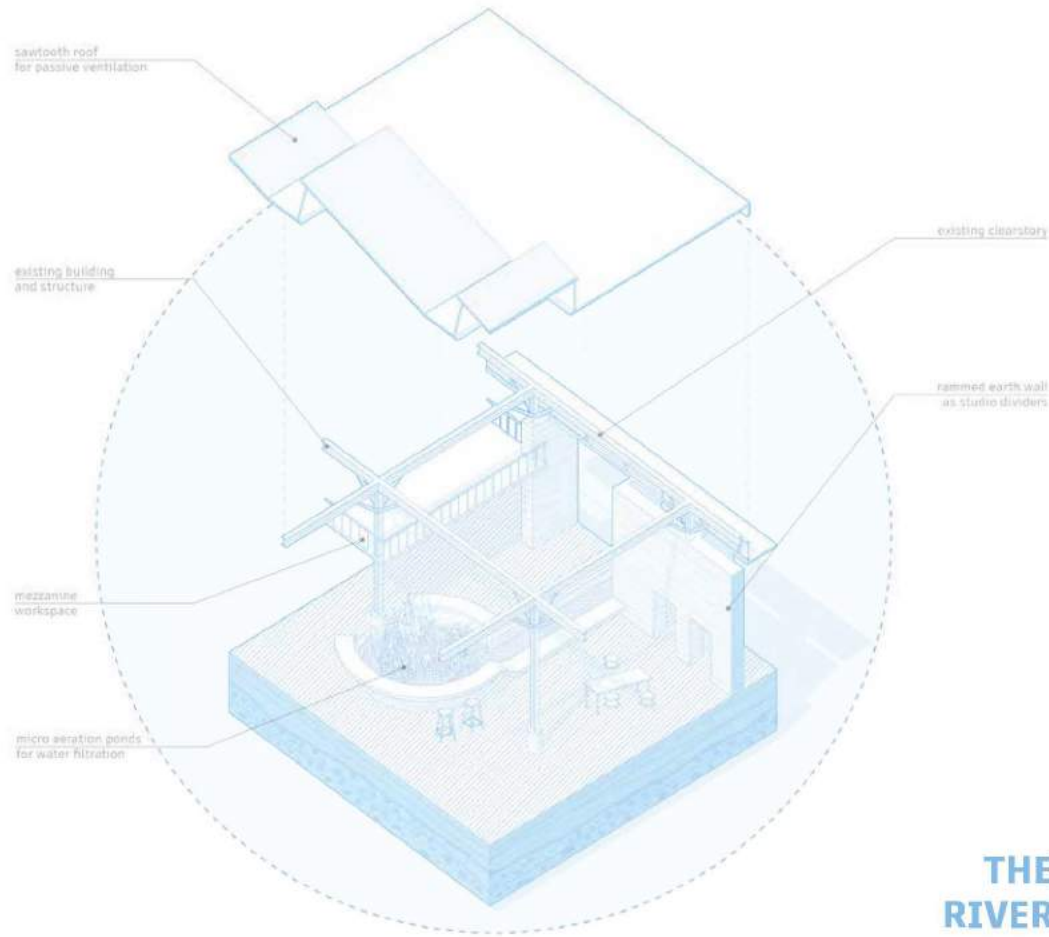
GALLERY RECEPTION

Water bodies carved out routes in and outside of the buildings in the main drive through building.

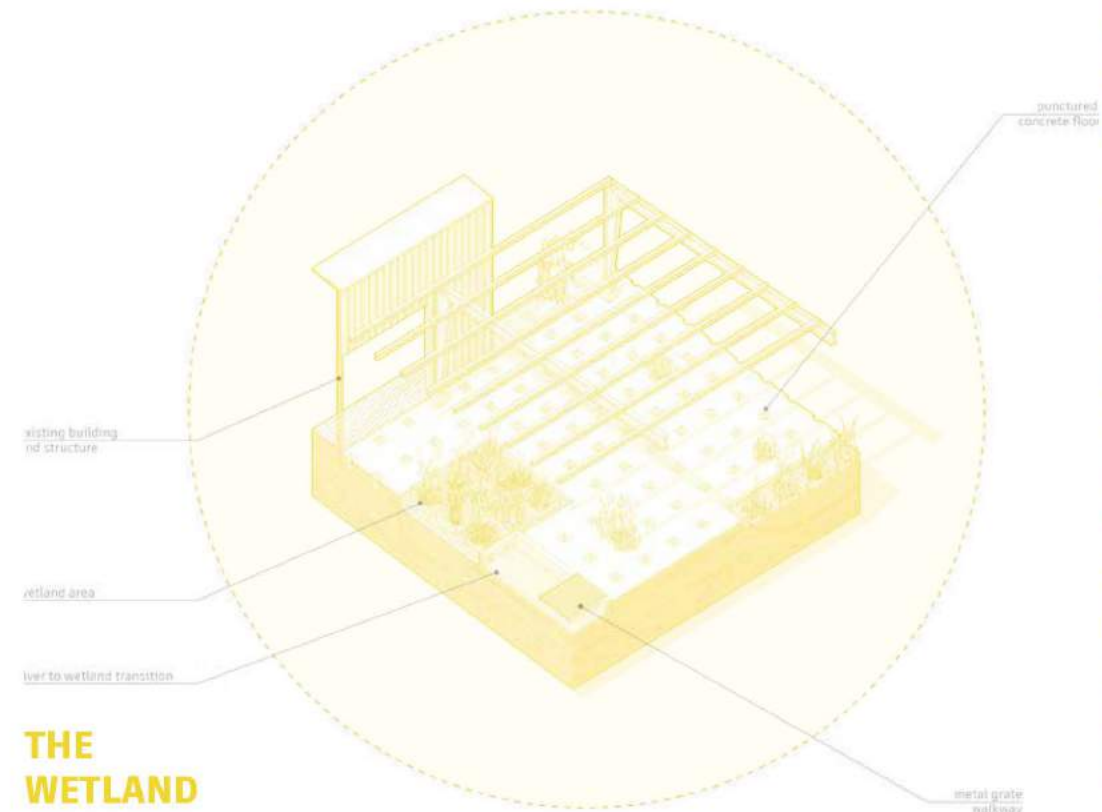
As the programmatic device, it provides the division between studio clusters, equipping each area with several small studios, two medium workspace and one large studio space. Supporting programs are also attached with each cluster with a communal kitchen, two bathrooms and a small storage space.

The channeled water body not only delineates studio spaces but also functions within a larger living machine system that recycles water in the incubator space.

The black water from the artist residencies will flow through tanks and aeration ponds that filter water into gray water to reuse and regenerate the site.



## THE RIVER

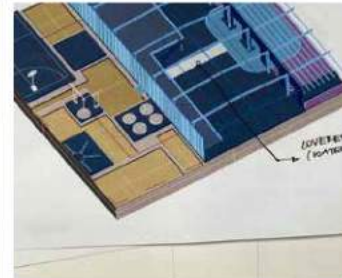


## THE WETLAND

We placed the new wetland patches as the intersection of forest and river, forming areas of wet and humid condition that help further filter the gray water used in the incubator, coming from both the studios and residences.

The introduced wetland is situated between the intersection of forest and river, forming patches just outside of the shared studio workspaces. With the existing structure above, the trees and plants planted here are able to grab onto the existing structure, providing a climate condition that is suitable for a hot Houston sunny day.

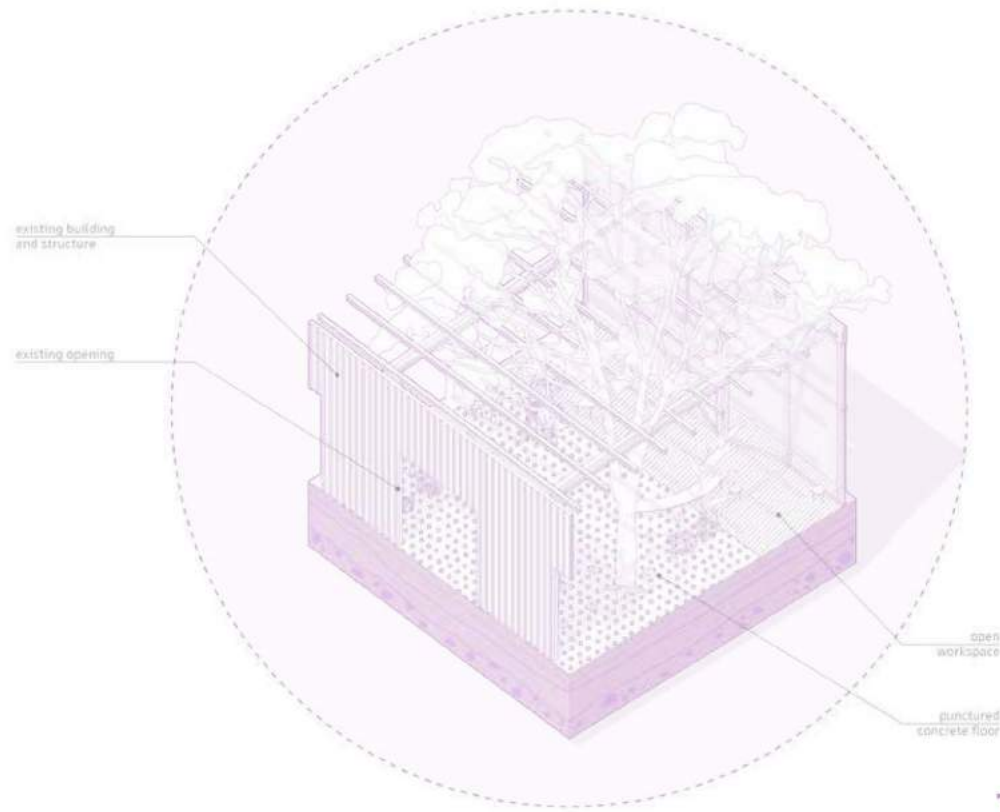
The direct connection of studio space and wetland can potentially ignite new ways of creating and incorporating creative process with the landscape and program. Thus blurring the line between landscape and architecture.



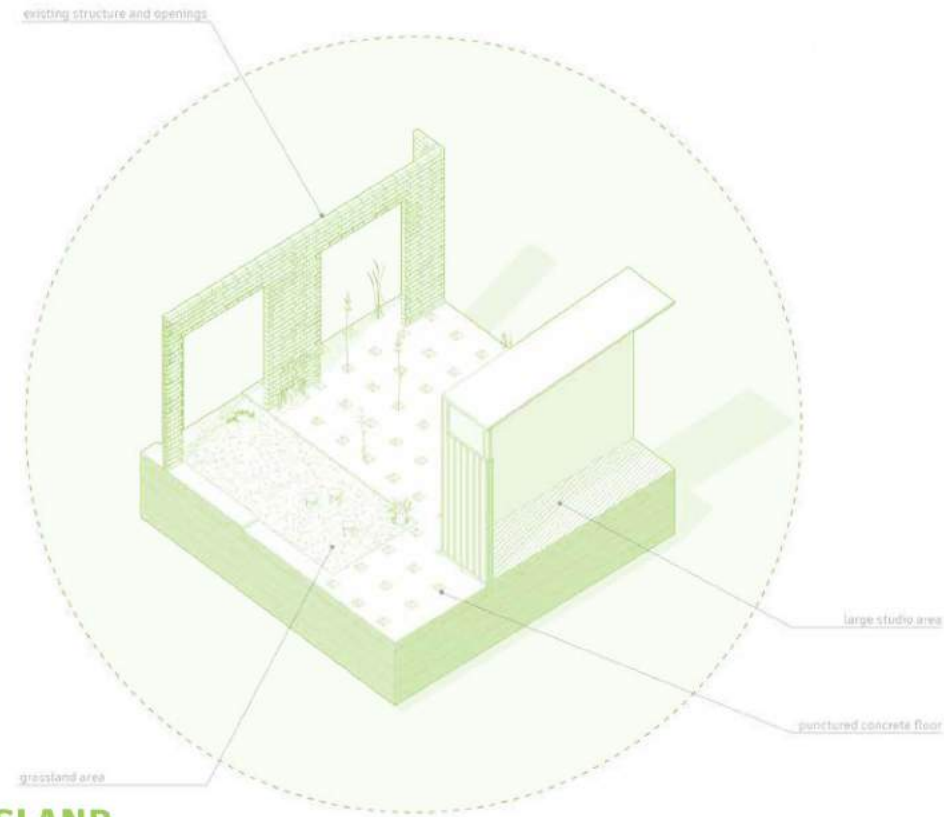
A large area of the site ground surface is treated with strategic perforation with a series of holes on the concrete and asphalt ground surfaces.

Perforating the existing concrete pads allows for planting fast growing trees that can not only provide a means for thermal comfort for outdoor occupation in hot and humid Houston days, but also allows for slow demolition of the existing concrete pad for more porosity.

In areas with forest typologies, there will be ample shading outside of the studio spaces. In this view for example, half of the roof of this shed is torn down to allow light into the other half, and to provide a semi-outdoor condition for the adjacent studio spaces. Existing facades are preserved to frame the space but not necessarily enclose them.



## THE FOREST

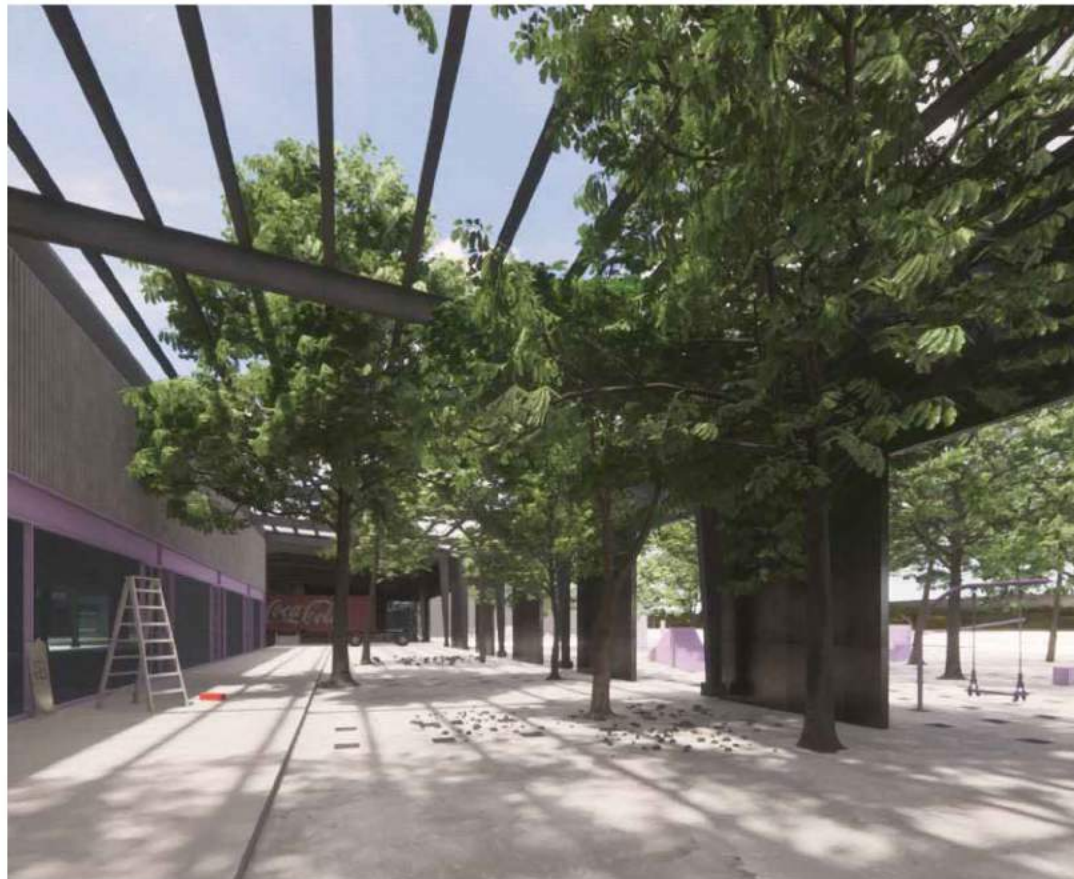
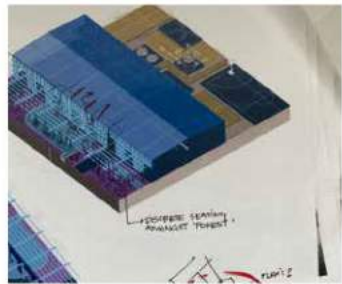


## THE GRASSLAND

On the North side of the incubator, a larger part of the ground surface is treated with skinning and exposing the soil underneath. This provides a large continuous permeable surface that is able to act like a sponge during heavy rainfall seasons.

Some of these grassland surfaces also crawl into existing building footprint areas to create new spatial qualities programmatically. For example, this space shown here is the front area of the main gallery space, by preserving the existing facade, this intersection of grassland and building skin provides a pause of the gallery experience.

Operationally, the grassland areas provide the opportunity to aerate soils on larger surfaces and are able to environmentally provide new habitats at an urban scale.

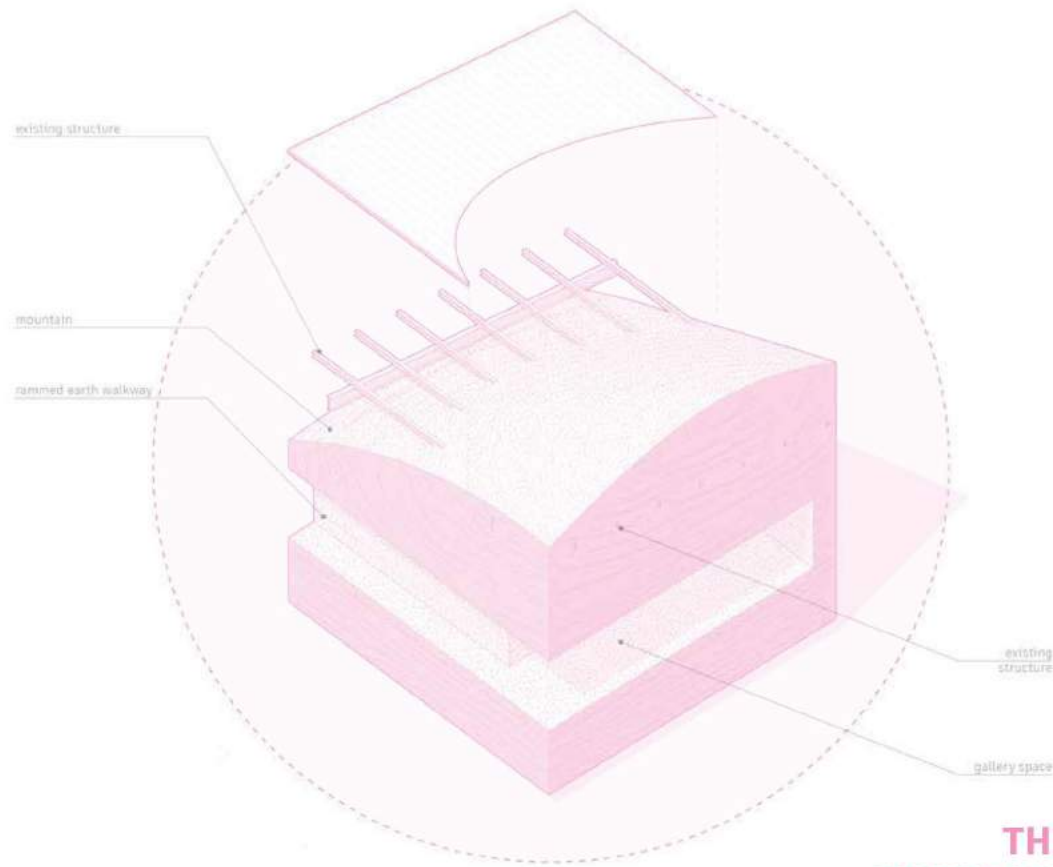




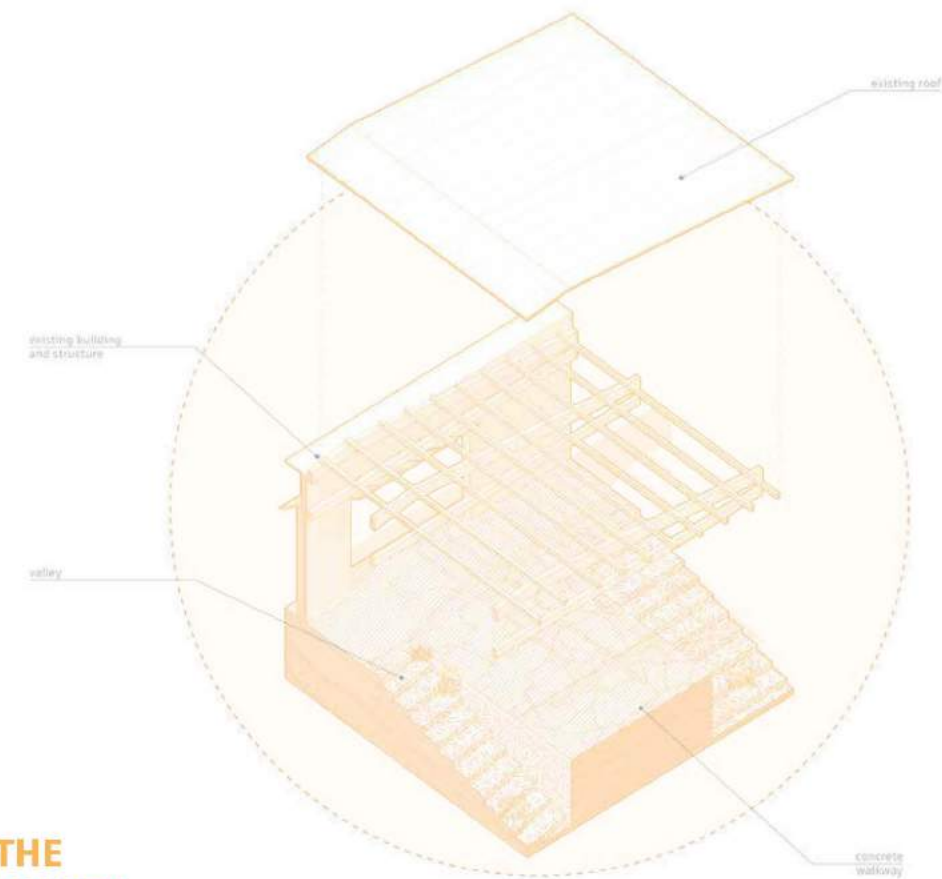
All the ground and soil removed from the other operations can be used for on site soil remediation.

Programmatically, this could formally allow for spaces that are more cave-like to host gallery spaces with spatial qualities that are darker and shorter. Within the shed, the mountain itself also forms an internal gallery that serves as the secondary room to the existing shed space. Walls within are formed by rammed earth partitions. At the exterior of the mountain, there is a carved walkway that connects this shed gallery with another masonry gallery building.

Operationally, this 'mountain' allows for in-situ soil remediation. Once soil here is being aerated, designers and artists are able to use these ground materials to generate new works.



## THE MOUNTAIN

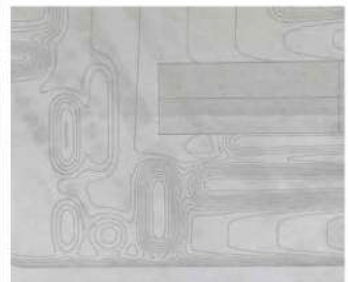
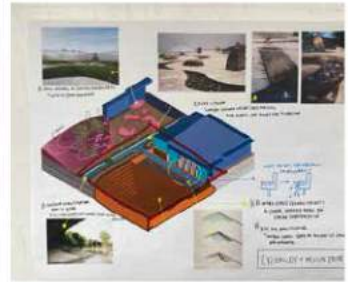
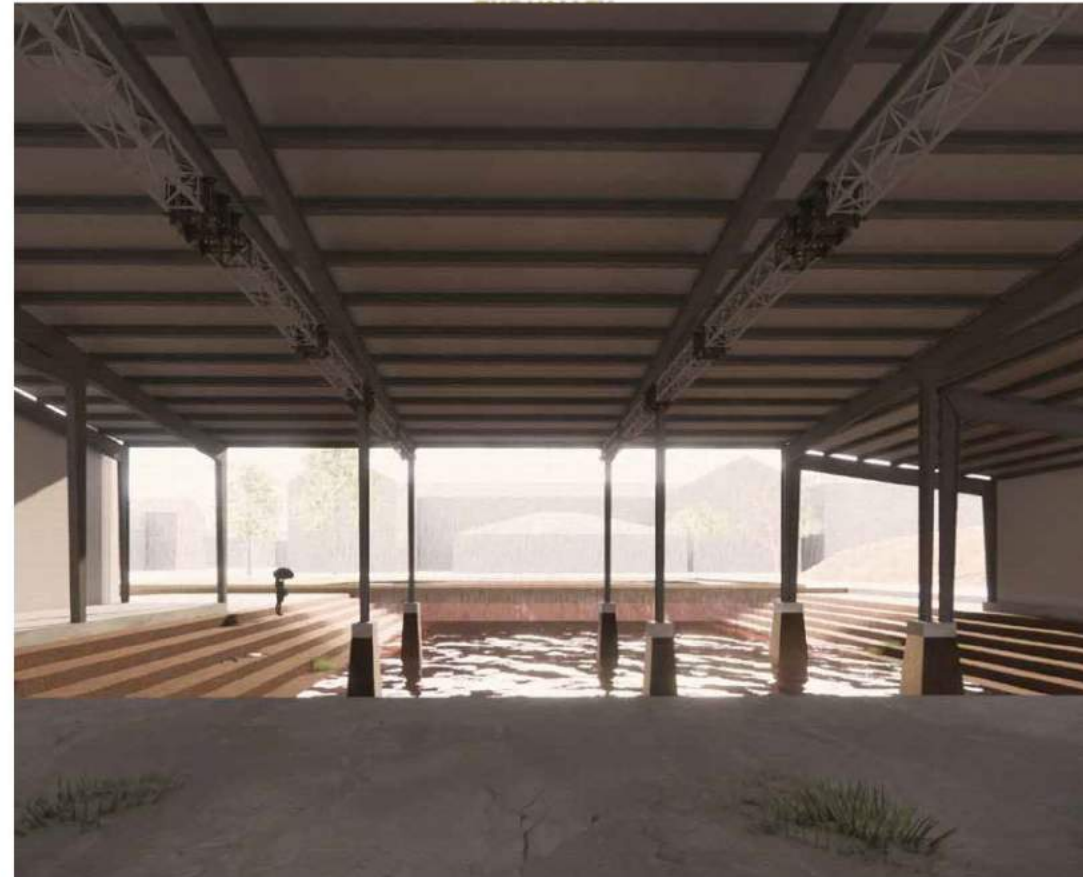
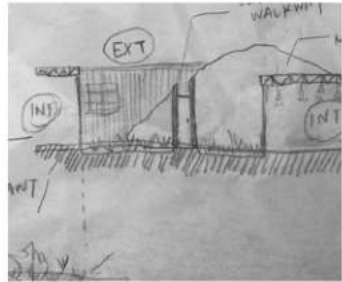


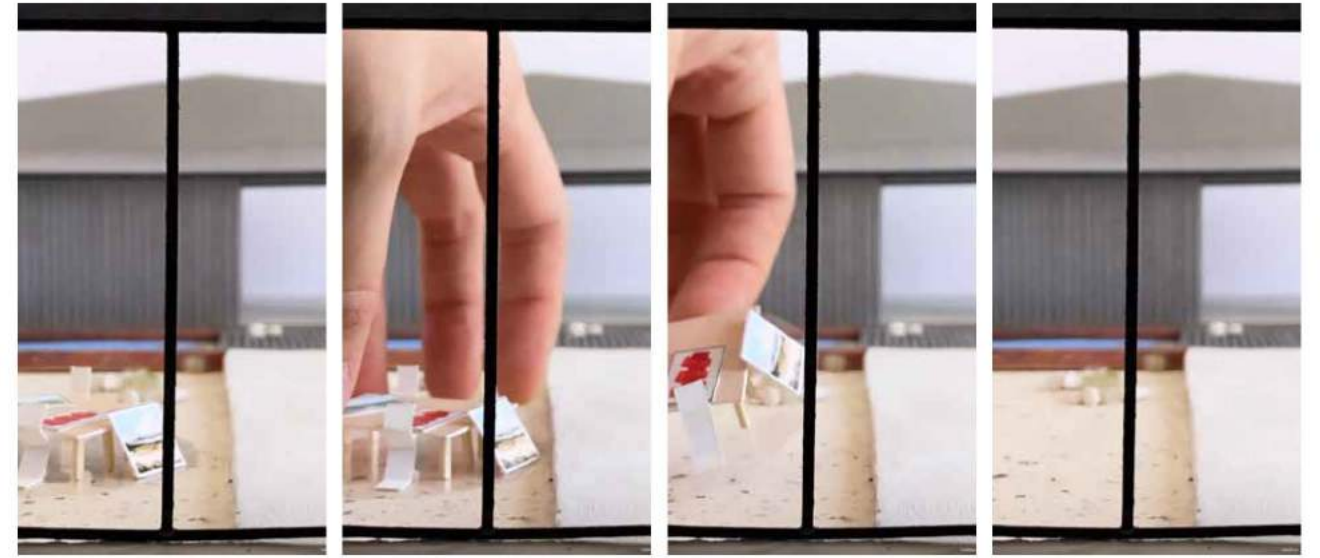
## THE VALLEY

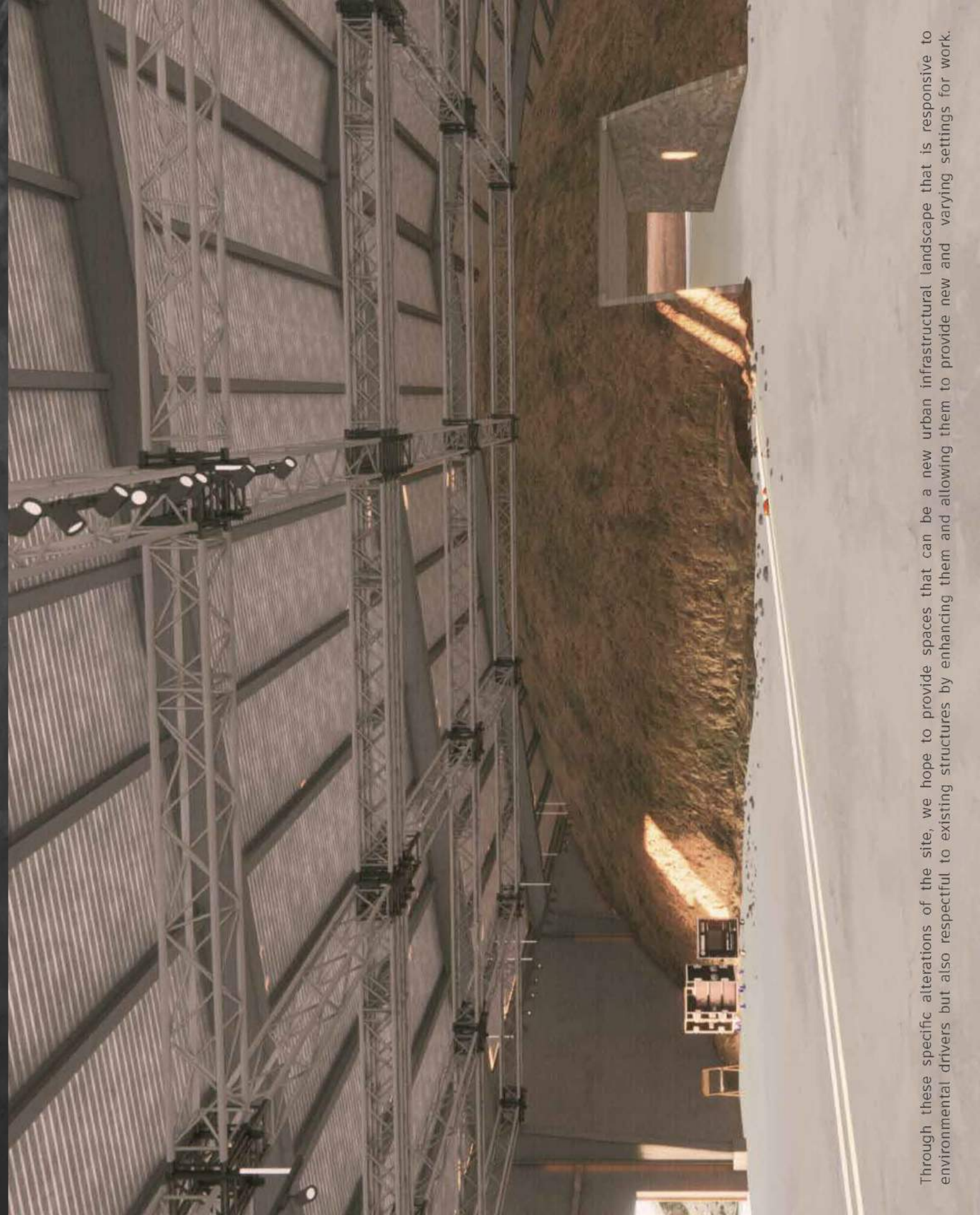
To respond to the extreme hurricane that happens every five years in Houston, a larger 'valley' typology is introduced to accommodate unforeseen climate disasters.

The valley is situated inside an existing shed space that is in between the studio spaces and gallery back of house administration. This transitional space allows for larger artworks or exhibitions for occupation.

Deep excavation on the site creates a programmatic opportunity for a public gathering space such as an amphitheater but also operationally, the valley serves as a water retention zone during periods of heavy rainfall and during storm season. The river also intersects with the valley to discharge its overflow into the valley if need be.





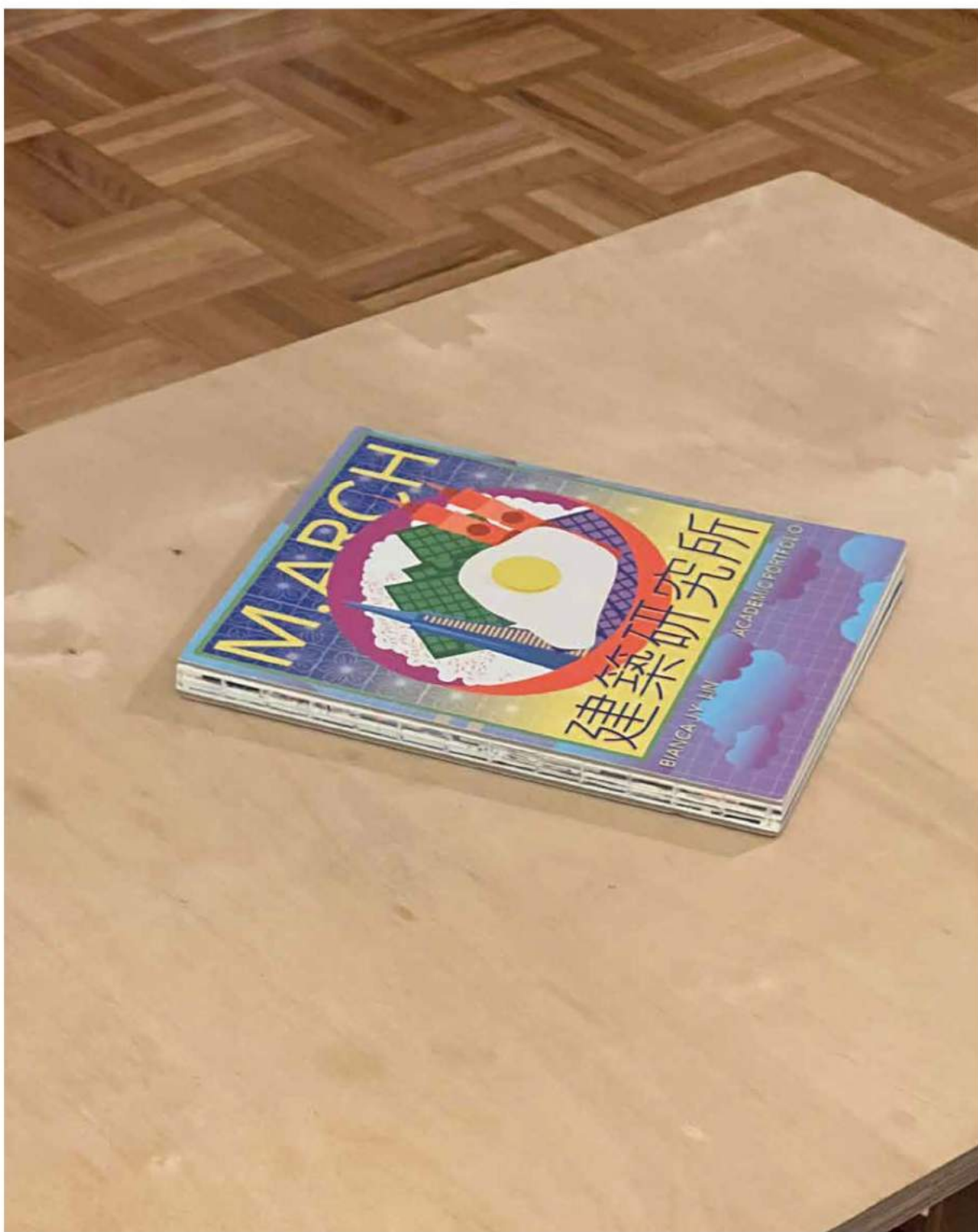


Through these specific alterations of the site, we hope to provide spaces that can be a new urban infrastructural landscape that is responsive to environmental drivers but also respectful to existing structures by enhancing them and allowing them to provide new and varying settings for work.

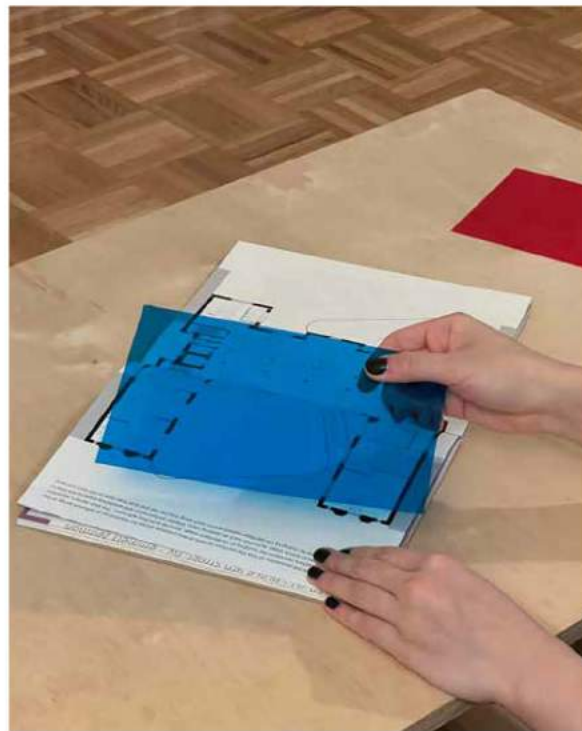
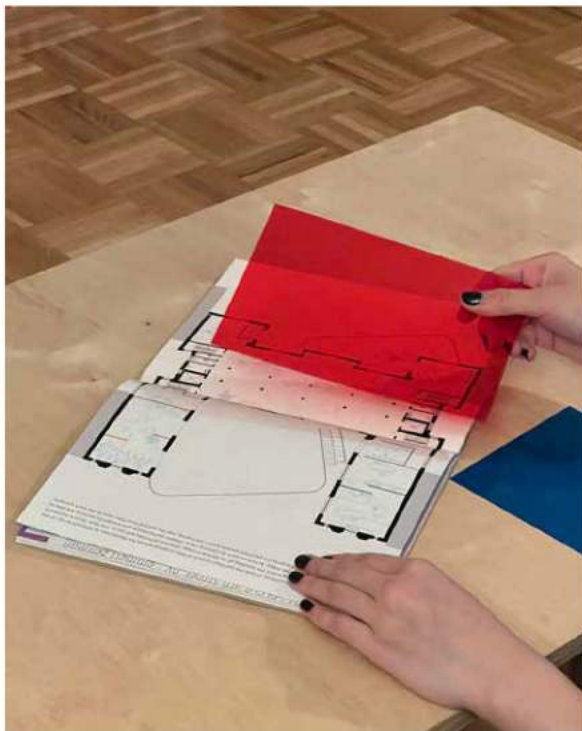
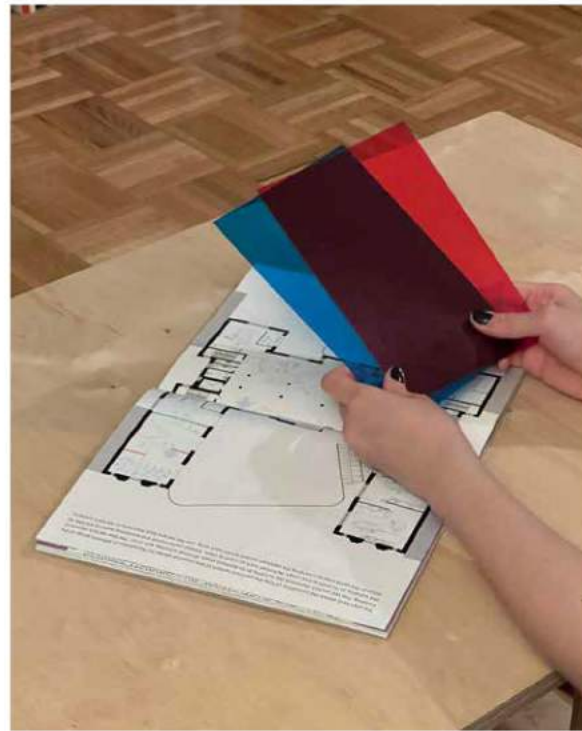
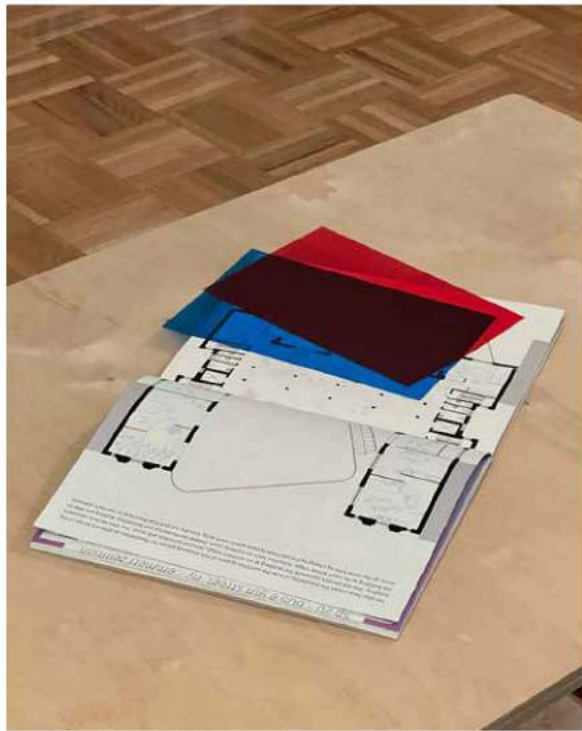


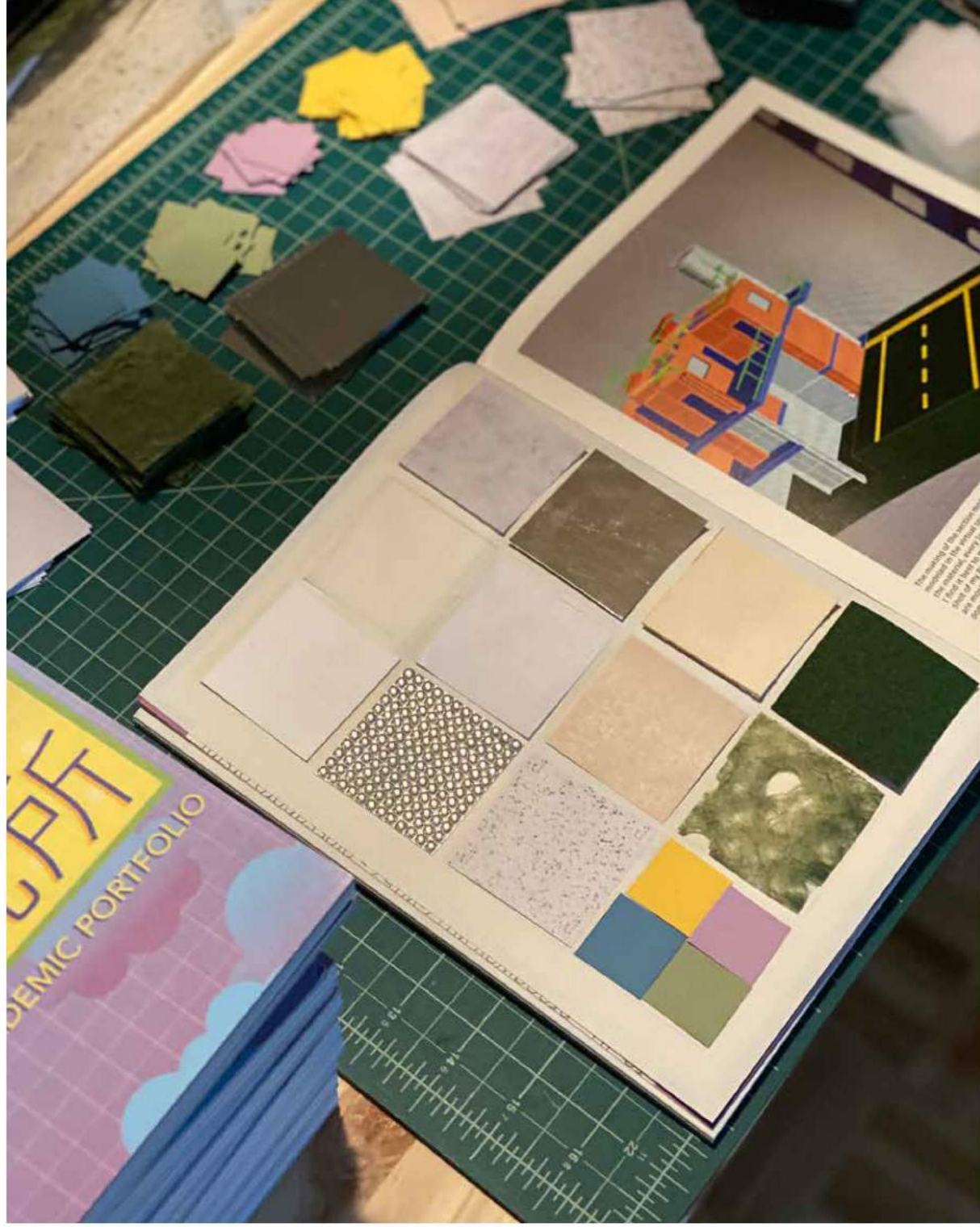
Ground Matter is thus a postindustrial landscape and a localized manifesto to tackle an urgent urban condition through the blurring of edges between built architecture and natural landscape that is operationally responsive and responsible but also programmatically provide settings of inspiration in the realm of art production.















GSAPP MMXXII

