

THREE YEARS

A PORTFOLIO BY BEN DILLER-SCHATZ

YEAR ONE

Studio Projects

The Arc
Ecosystemic Education

Technology and Visual Studies

Anatomy of Vagelos
Details-19
Carbon Footprint of the MoMA

THE ARC

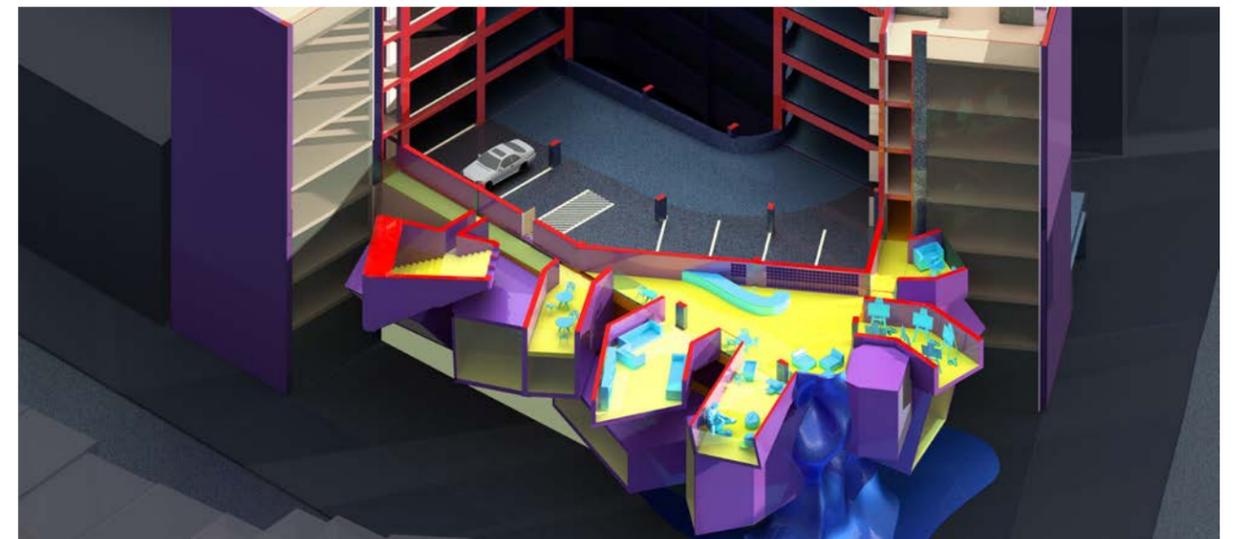
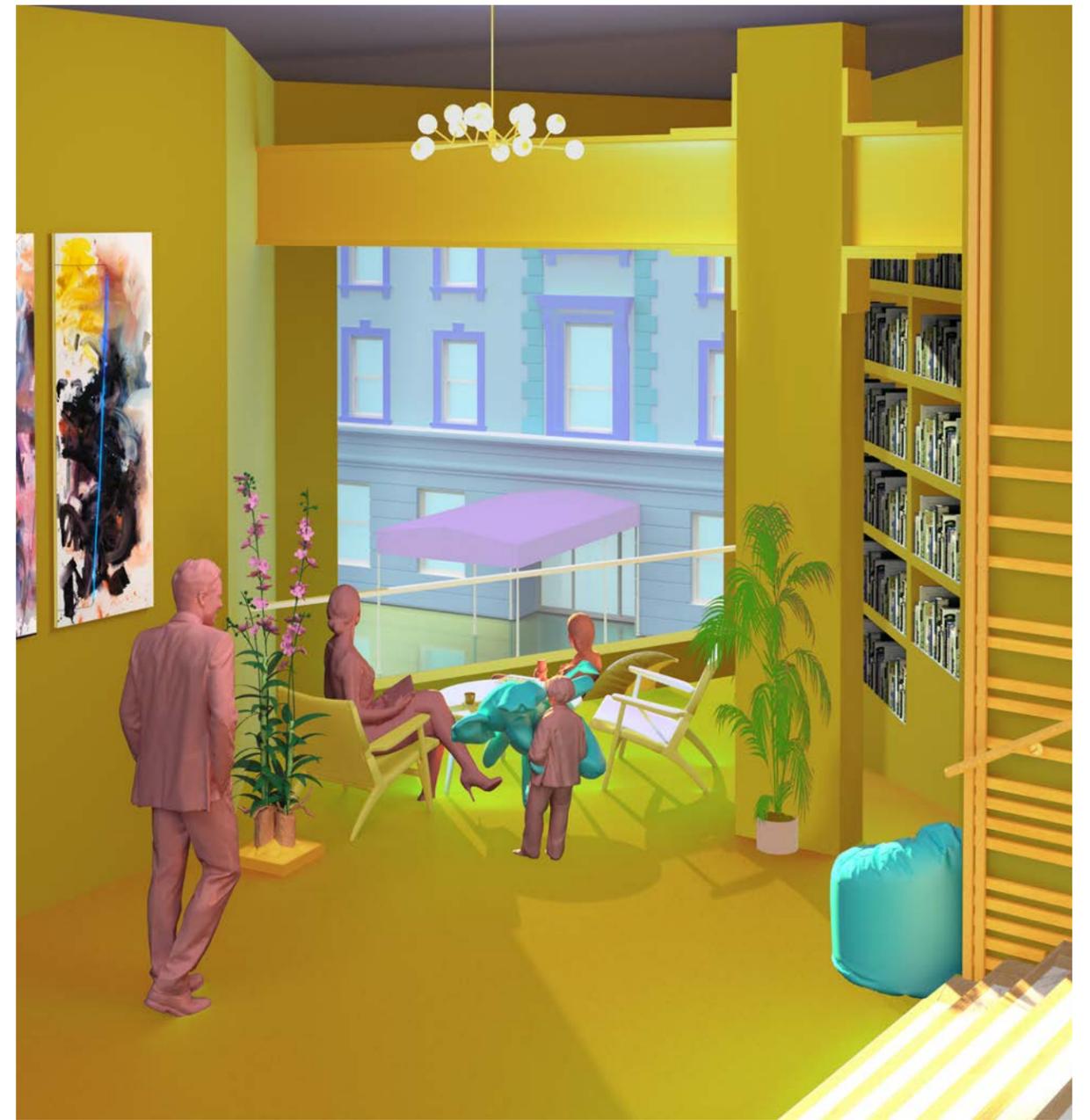
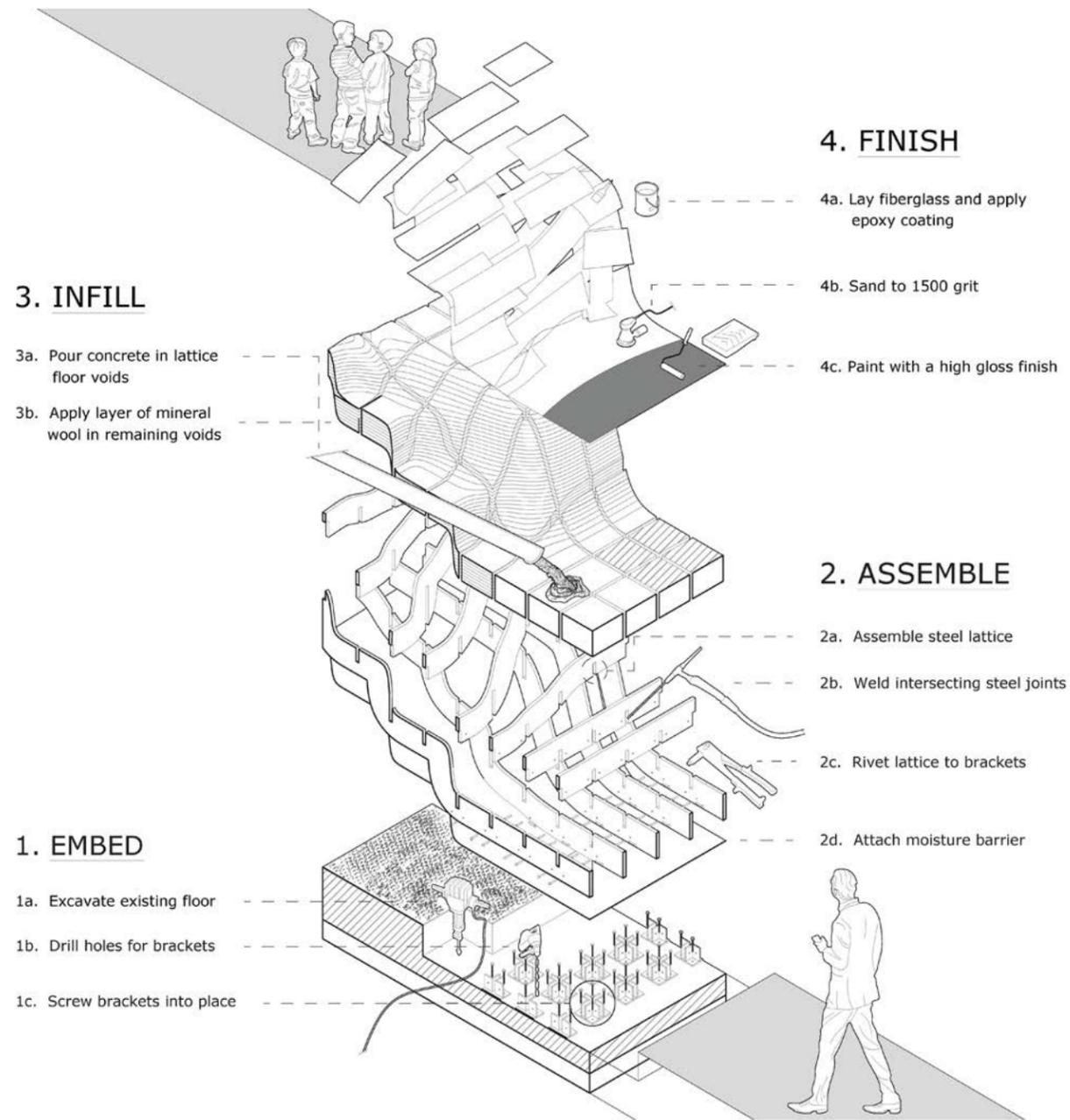
As more and more of our information is stored online physical book repositories become less and less necessary. What will be the function of a library in the digital age? The Arc dismantles the conventional public library program splaying its contents throughout the city. Instead of a concentrated space The Arc proposal advocates for more than a dozen small scale interventions spread along a linear pathway in Washington Heights. These small scale interventions engage communities at micro-community scale providing space for learning, leisure and after school activities and opportunities. Each mini-library site is unique: it is embedded in the fabric it grows from only serving the direct interests of its specific locality. Each intervention is community run and able to adapt to needs that change over time. This anti-hierarchical re-imagination of what public indoors space could provide to residents of New York City is an experiment in the adaptive reuse of existing urban infrastructure historically been unable to find common ground with its indigenous population.

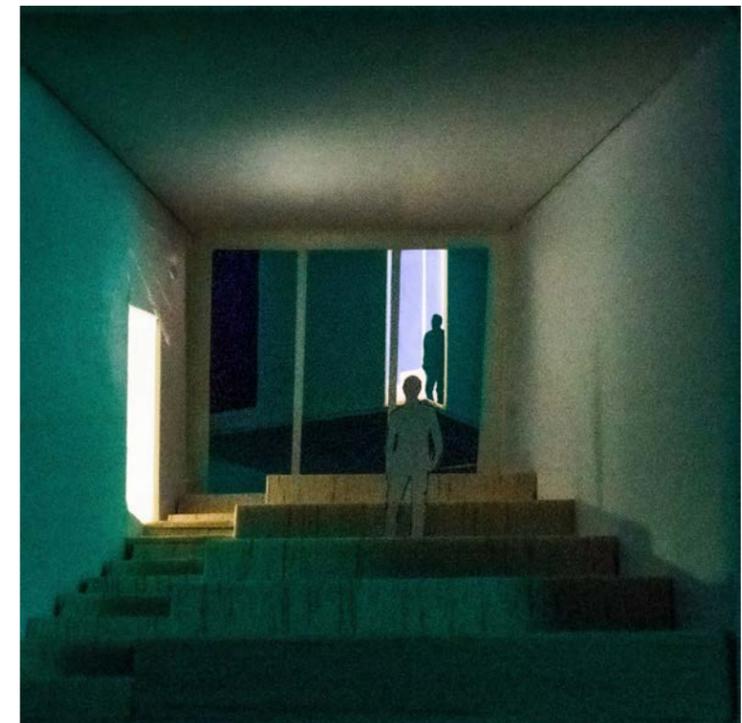
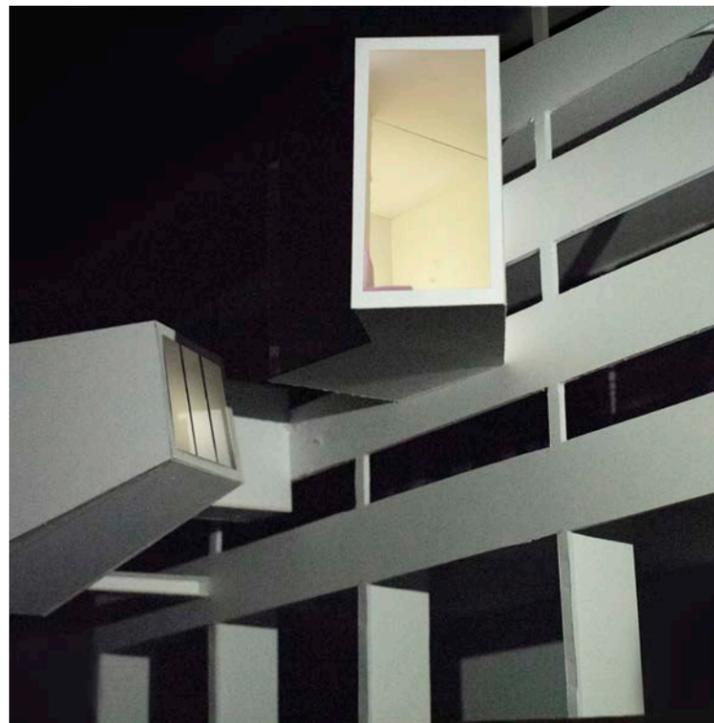
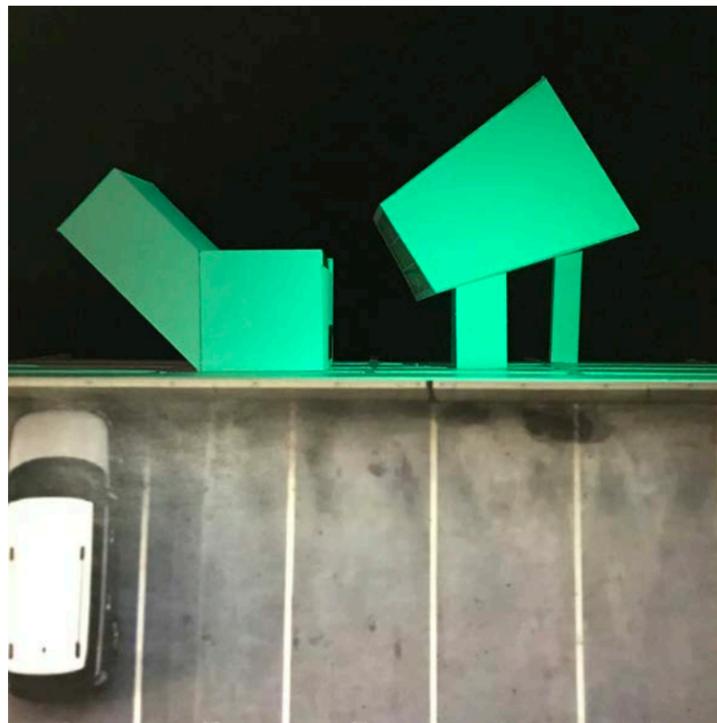
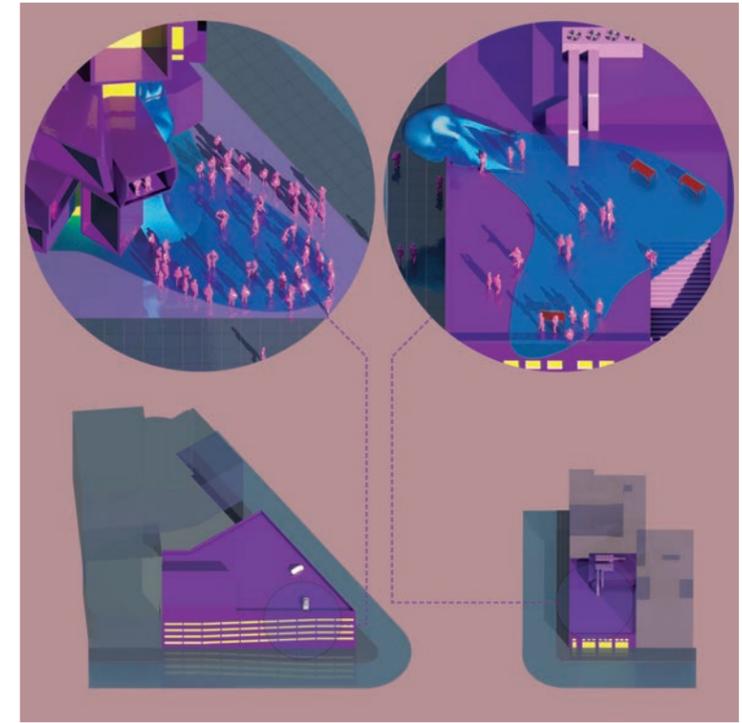
Typology: Decentralized libraries

Location: Washington Heights, New York City

Professor Jaffer Kolb
Core I, Fall 2019







ECO-SYSTEMIC EDUCATION

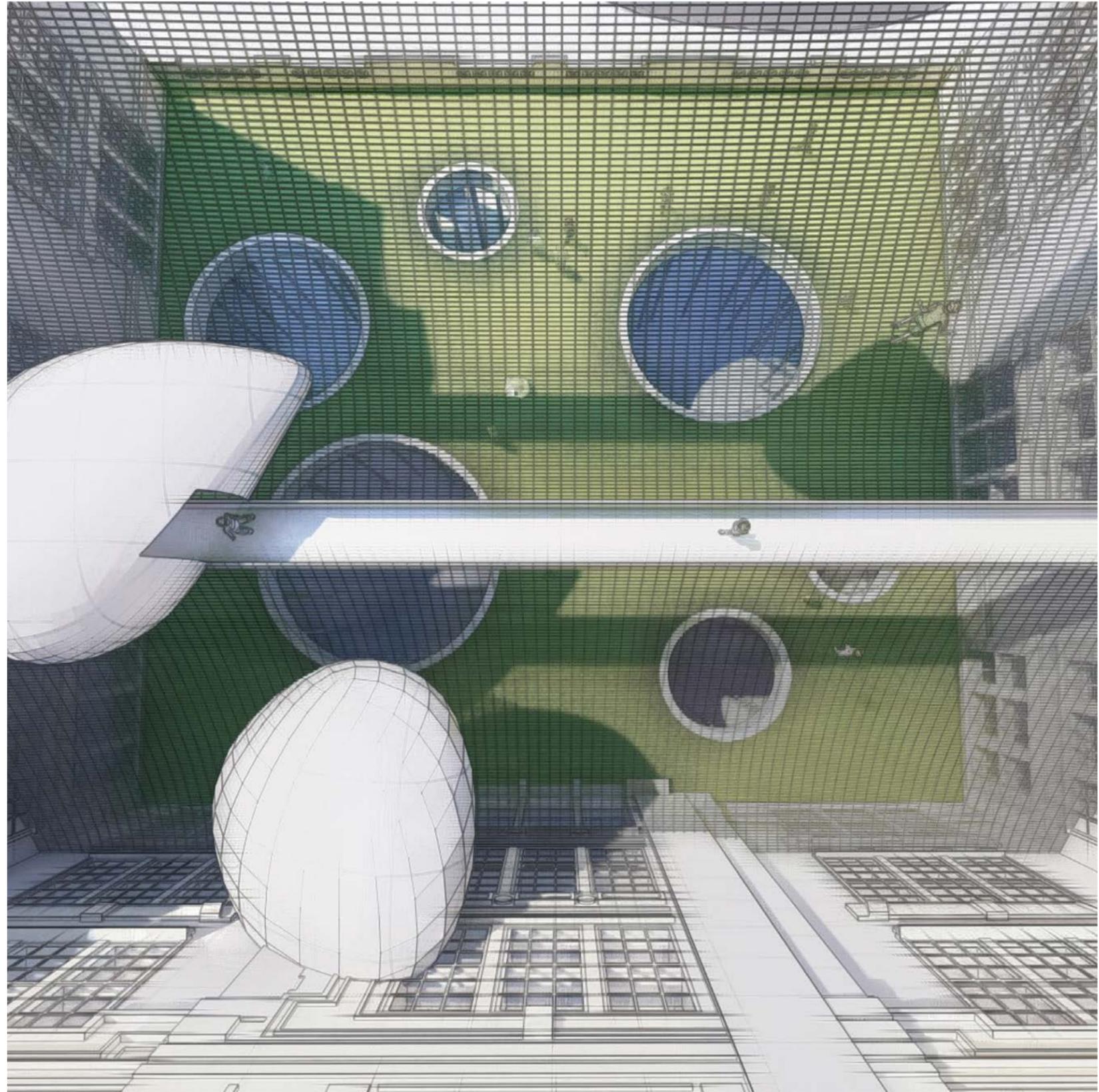
How could a child's education be enriched by his or her proximity to nature? This proposal for an adaptive reuse of Lower Manhattan's dilapidated P.S. 64 school house seeks to re-envision the H-Block plan as a series of idiosyncratic interventions inspired by natural settings. A dark, 'cave' like padded play space on the lowest level underneath the 'hills' features playful, elevated seating for community events and serves as the entryway to the K-8 building. A sprawling 'meadow' atop the library is a great place to eat lunch served in the adjacent cafeteria and a multi-story, suspended 'forest' adjacent to the science labs on the fourth and fifth floors is an ideal place to hold an ecology or dendrology class. The 'sky' observation decks are embedded in the existing, masonry rectilinear form and offer extraordinary views of the city during the day and the stars at night. The proposal contains spaces intended for the specific developmental needs of all age groups. For adults, the plan incorporates comfortable, light-bathed spaces for staff to work and thrive in.

Typology: K-8 Public School

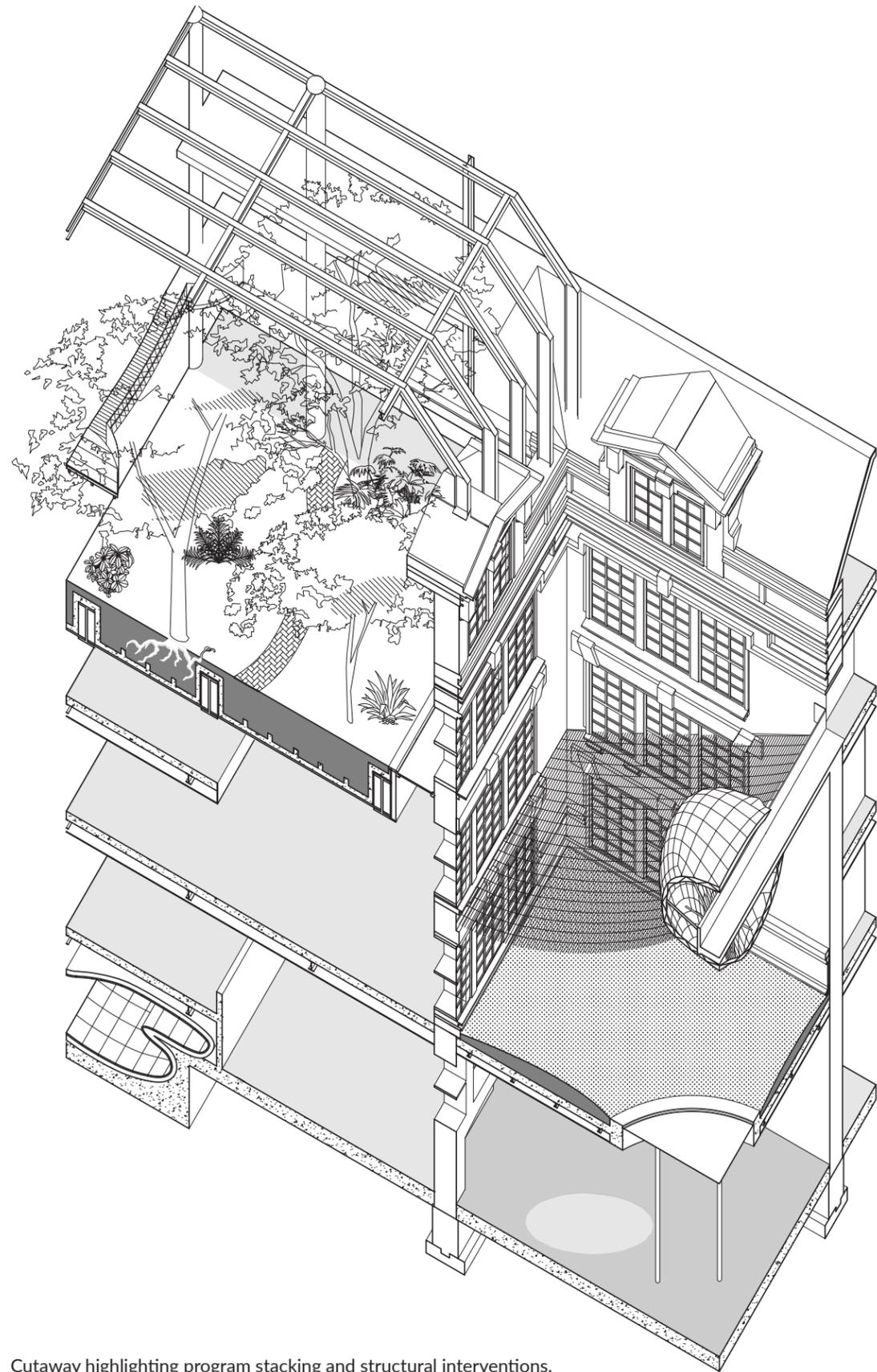
Location: Alphabet City, New York City

Professor Erica Goetz

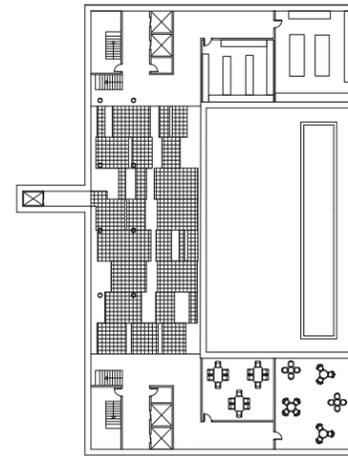
Core II, Spring 2020



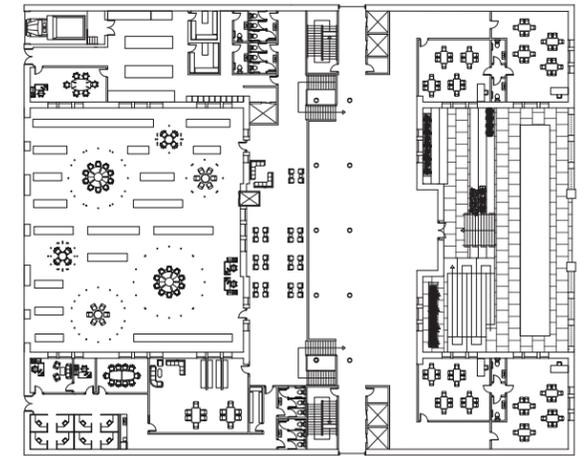




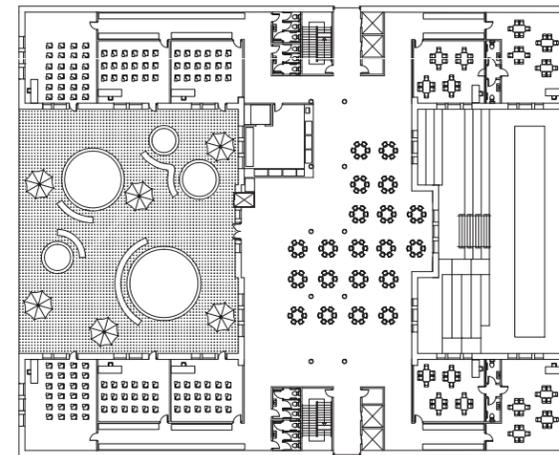
Cutaway highlighting program stacking and structural interventions.



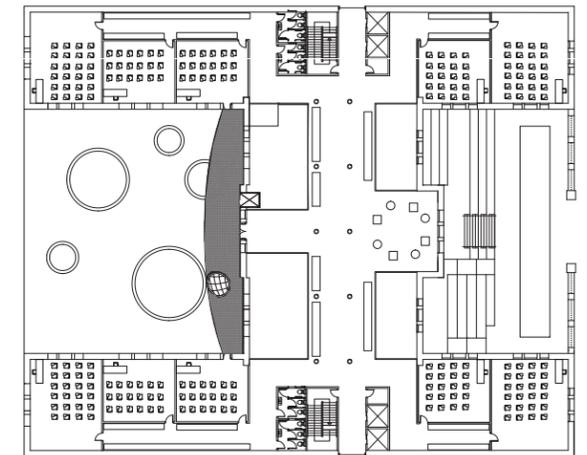
Basement Level (Caves)



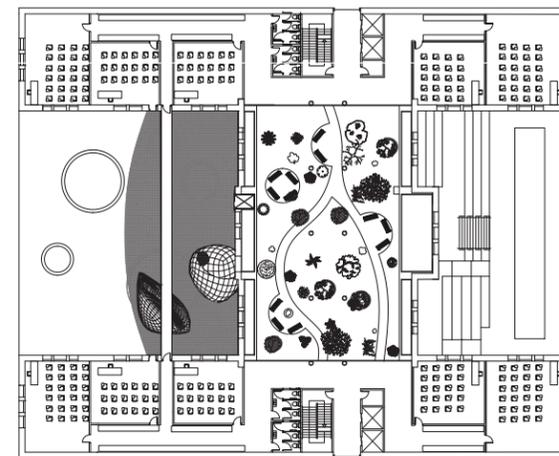
First Floor (Hills)



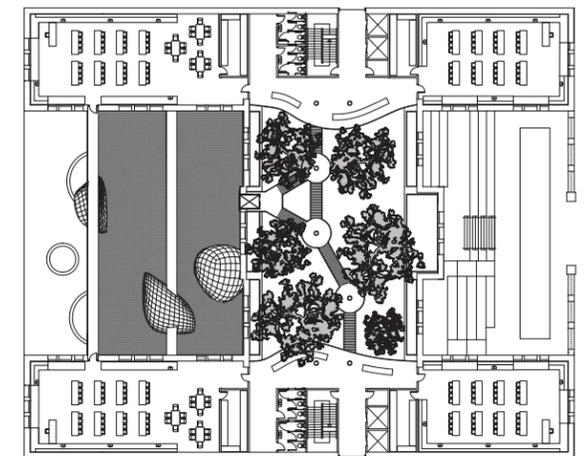
Second Floor (Meadow)



Third Floor



Fourth Floor (Forest, Sky)



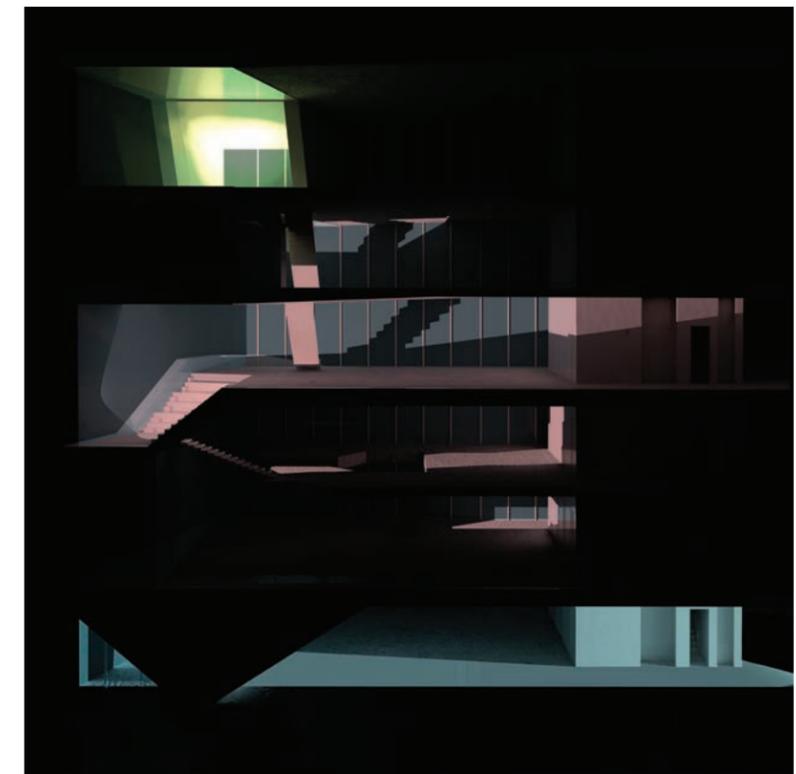
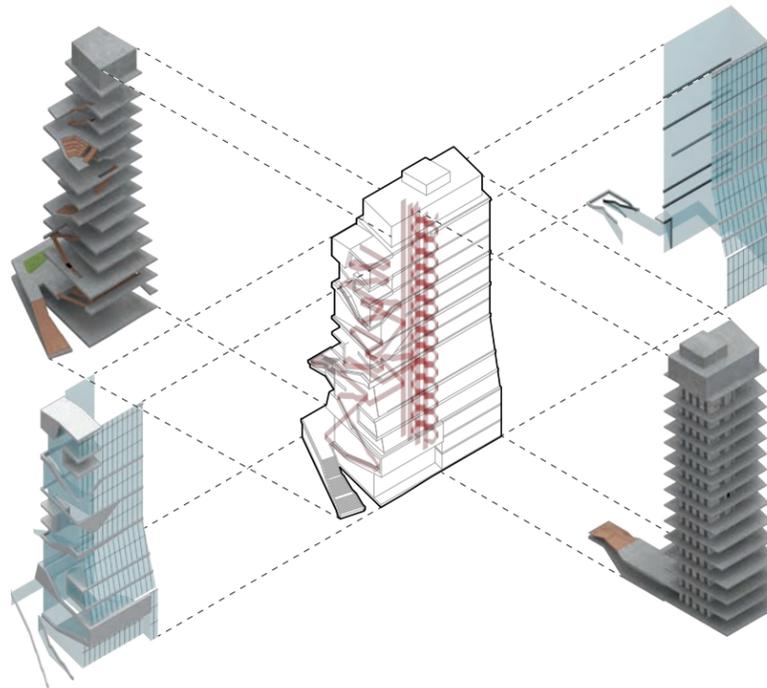
Fifth Floor (Forest, Sky)

ANATOMY OF VAGELOS

A close look at the Vagelos Education Center using a variety of media: digital animations, renders and a epoxy cast model. The intriguing, vertical passageway that weaves through the tower is subverted by the existence of a normative core circulation. The idiosyncratic spaces located on its south wing stand in relation to a generic office building in the north. Viewing spaces at its apex are at times rendered arbitrary by its likeness to those that lie below it.

Professor Bika Rebek

Architectural Drawing and Representation I, Fall 2019

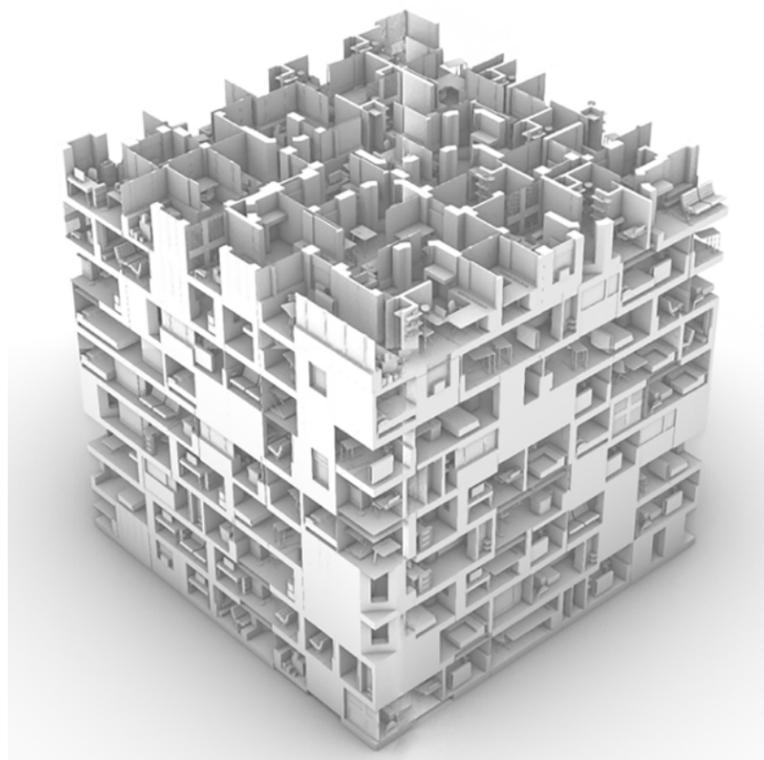
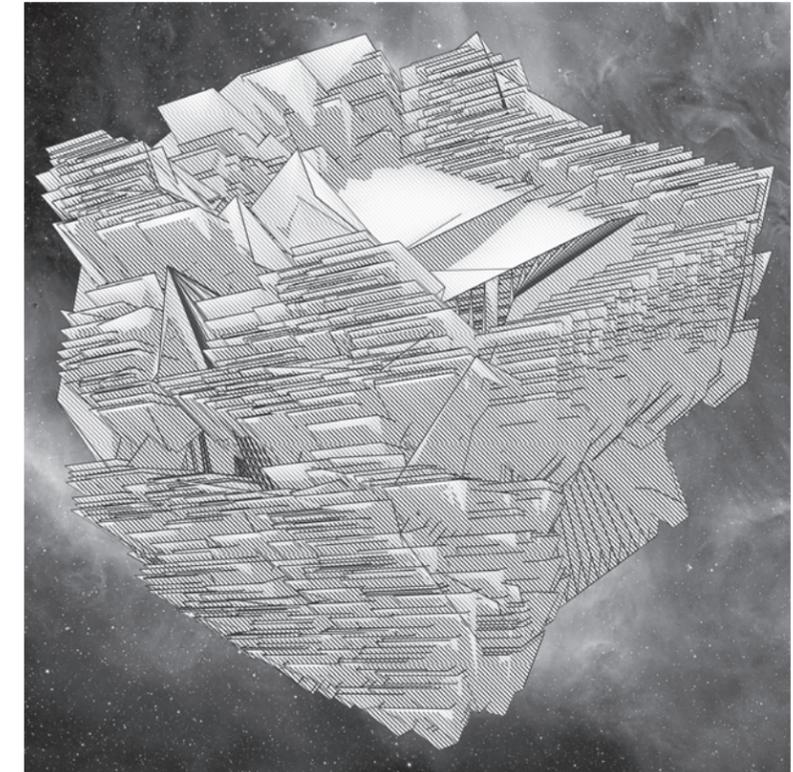
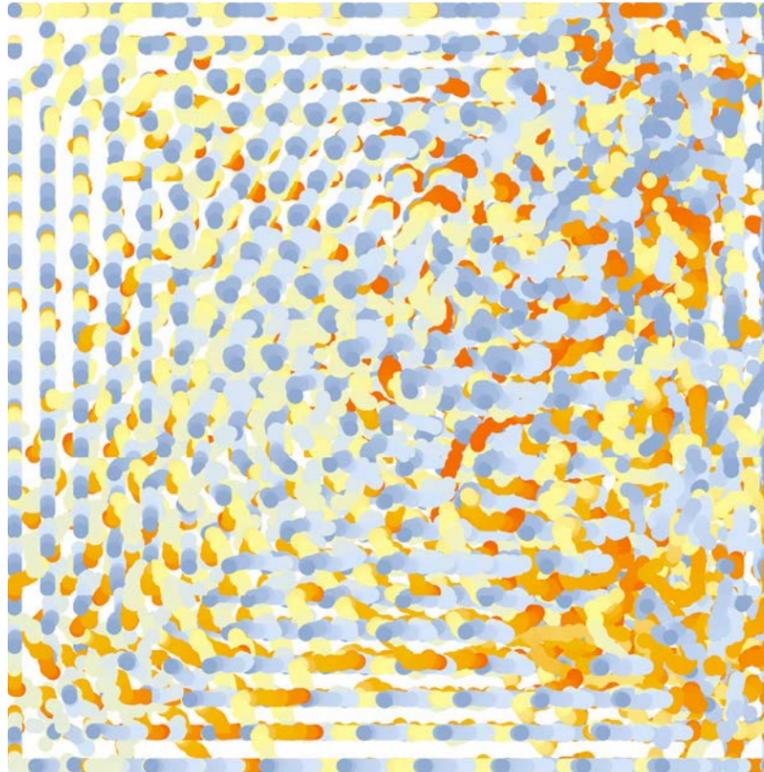


DETAILS-19

A series of explorations and visualizations. The projects contained in this section began as individual exercises. As social distancing became our reality in March 2020, the Details-19 collective was born. Together, we produced a body of collaborative work intended to interrogate architecture in a time where location and necessity of physical environments were questioned.

Partners: Adam Vosburgh, Adeline Chum, Aditi Sheyte, Andres Alvarez, Nikolas Bental, Bianca Lin, Camile Newton, Jules Kleitman, Meissane Kouassi and Zakios Meghrouni-Brown

Professor Dan Taeyoung
Arch Drawing and Representation II, Spring 2020



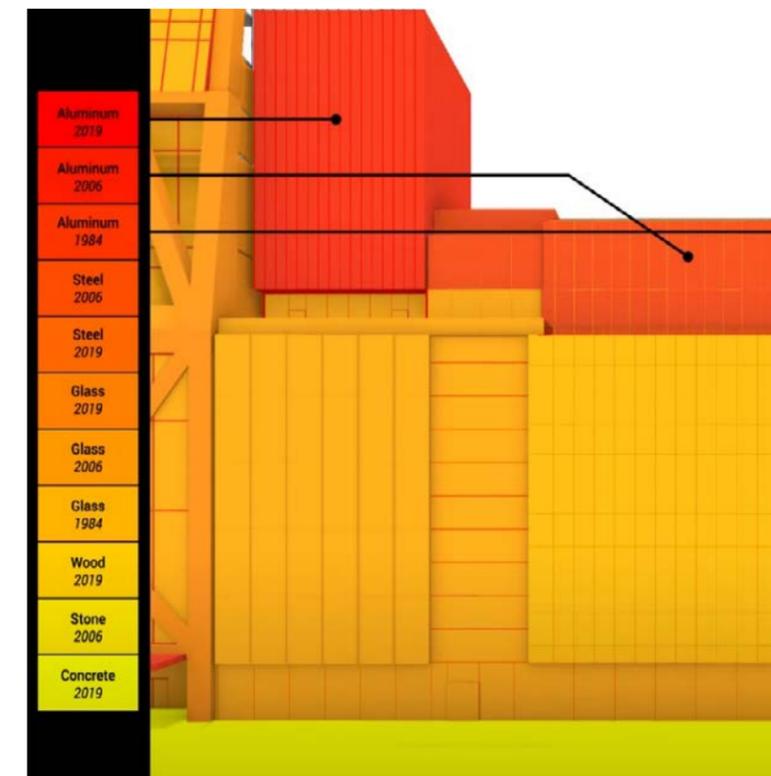
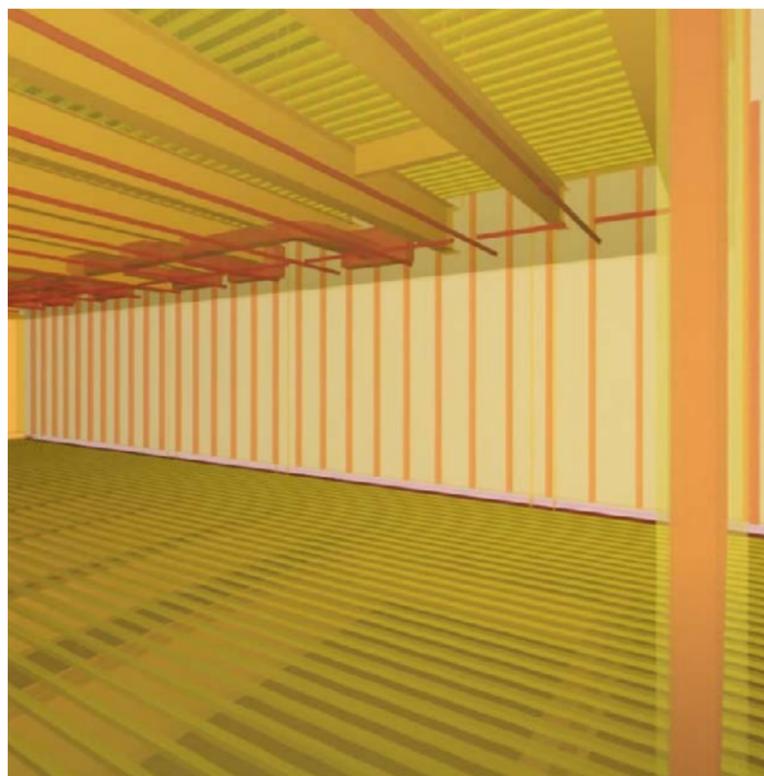
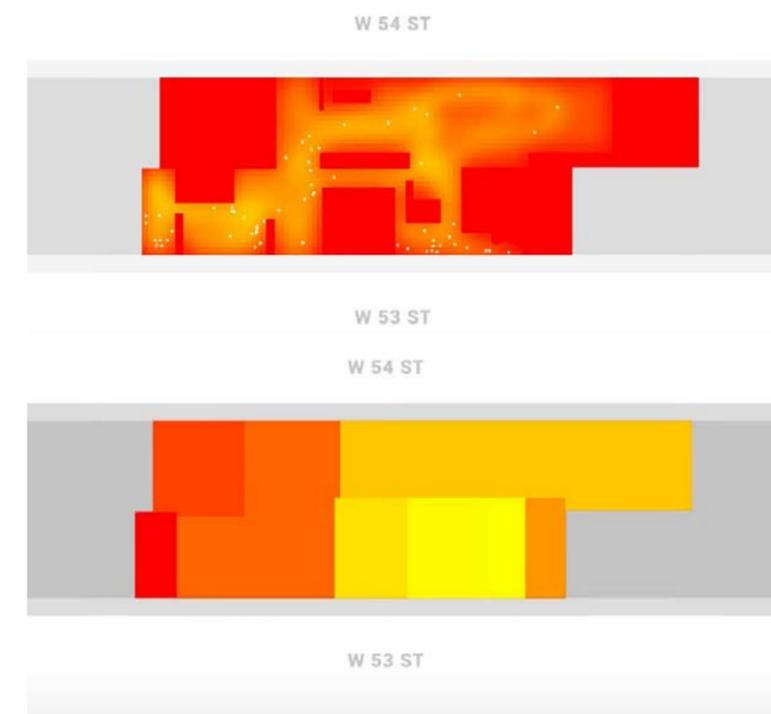
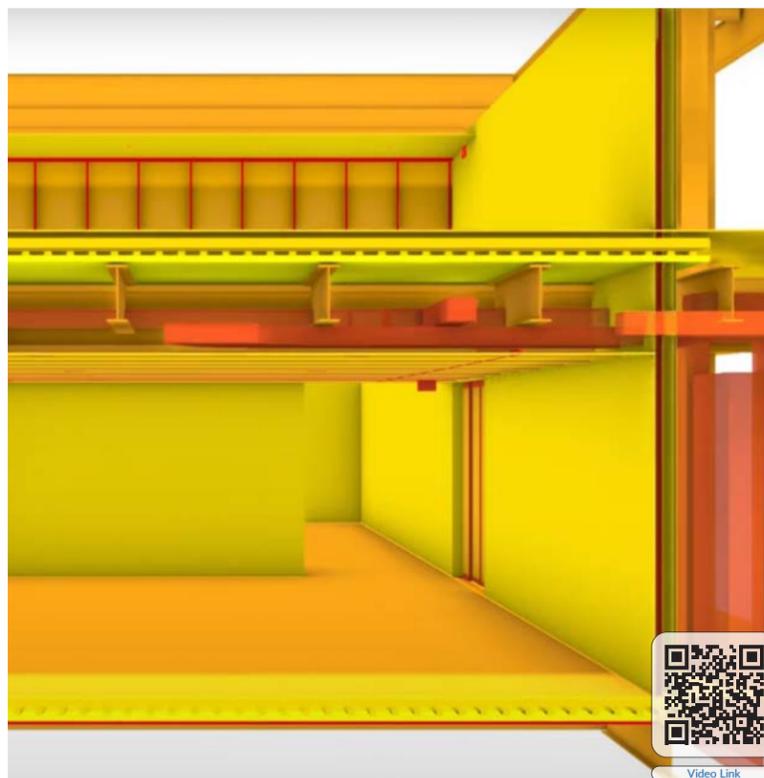
CARBON FOOTPRINT OF THE MOMA

Visualizations of the embodied carbon in the various materials used for the renovation of the Museum of Modern art by DS+R. This project was designed to be displayed in the 'Energy' exhibition for the grand reopening of the MoMA in November 2019.

Partners: Adeline Chum, Adam Vosburgh, with the input of the 'Footprint: Carbon and Design' class of fall 2019

Professor David Benjamin

Footprint: Carbon and Design, Fall 2019



YEAR TWO

Studio Projects

The Gradient
Fire and Stone

Technology and Visual Studies

Pillar of the Desert
The Land Development Tool
The Temple of Basketball

History and Theory

Sand to Villa to Line
Minimalism is an Illusion

THE GRADIENT

The gradient housing project explores what a sustainable community housing prototype could look like in the South Bronx. Gentrification often accompanies architectural interventions that improve quality of life. As such, this project is designed from the ground up with a “rent to own” model developed alongside HPD collaborators. Community run businesses are interlaced with housing: the site features a range of civic spaces, shops, cafes, offices and educational programs where residents can work locally. As the area generates value the residents become the recipients of that wealth through sweat equity.

A key component of the scheme is the figure-ground condition which shifts from tall buildings with large open spaces between them to a single story scale that packs so tightly together it fuses into an amalgam of community programs. This gradient allows for a variety of unique spaces that offer differing amenities, views and levels of privacy. All apartments feature an innovative double shell plan which provides residential spaces with significant acoustic dampening despite the proposal’s two-fold increased living density

Typology: Mixed-use collective housing

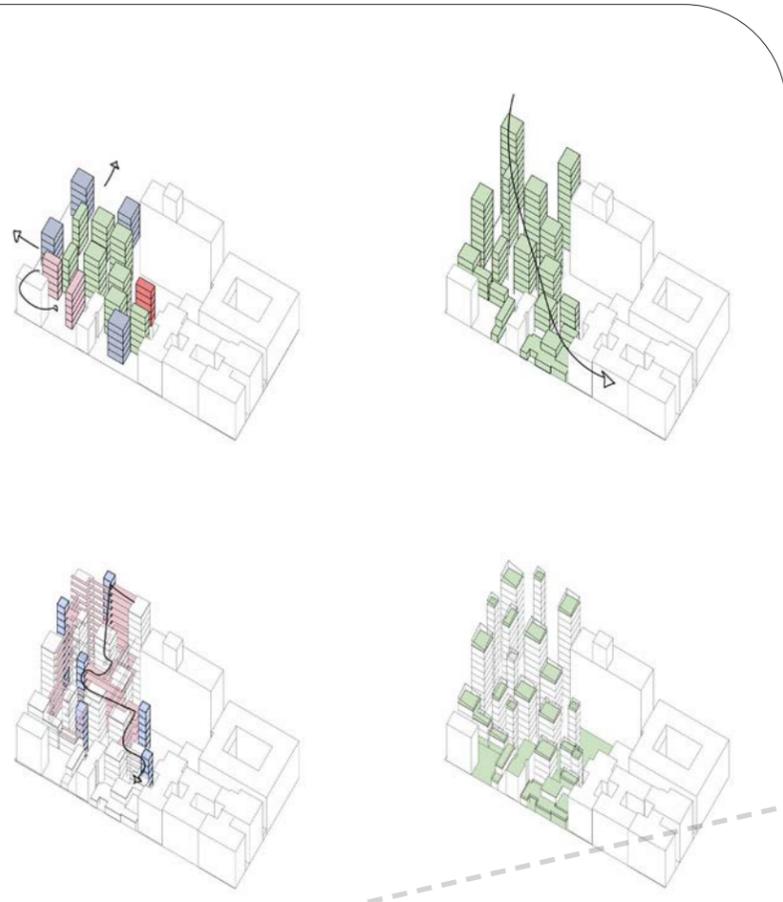
Location: Melrose, The Bronx, New York City

Partner: Jiageng Guo

Professor Hilary Sample

Core III, Fall 2020

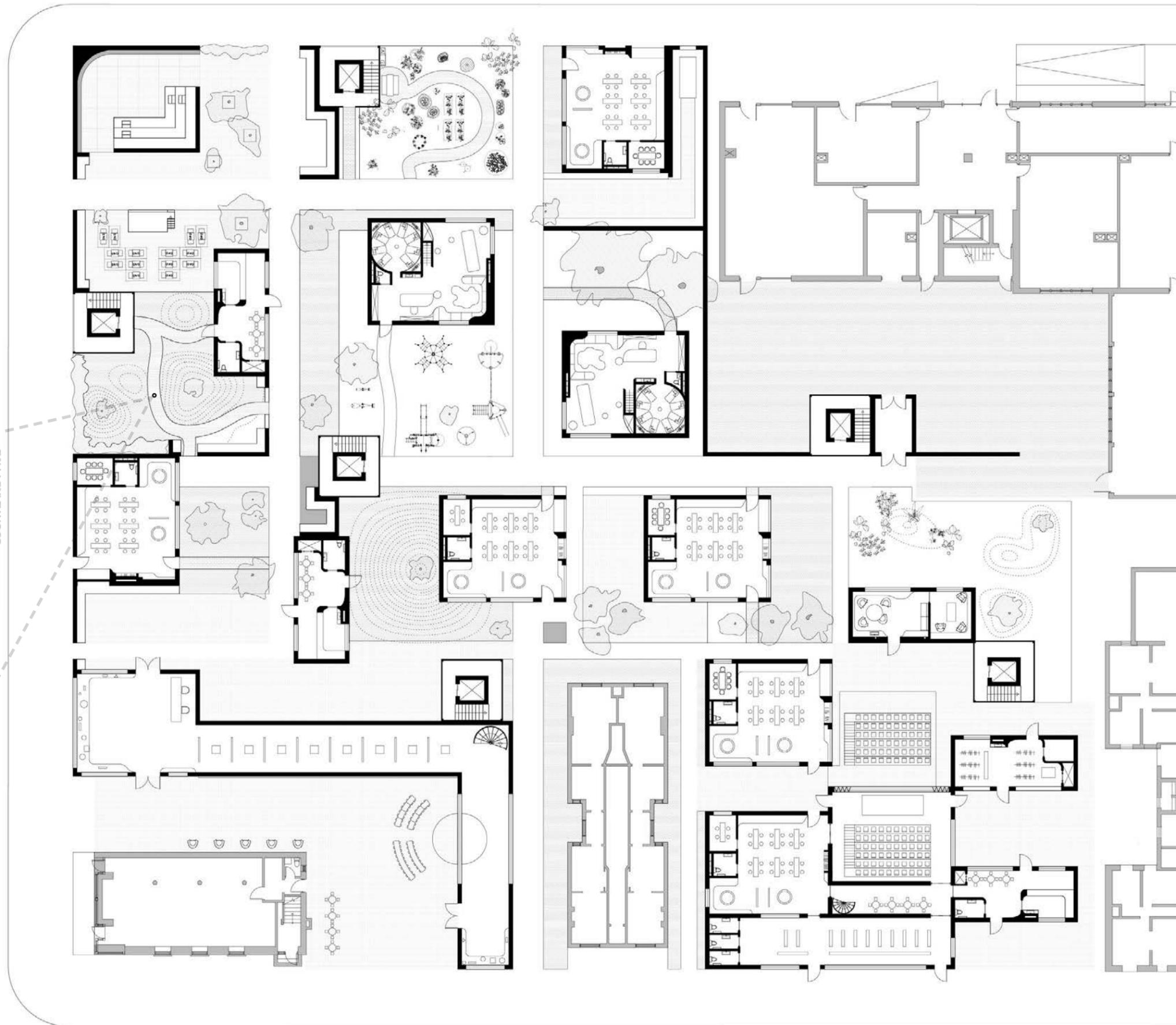


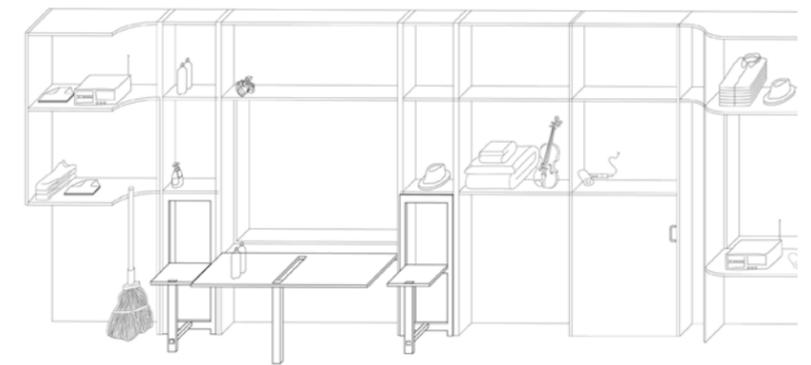
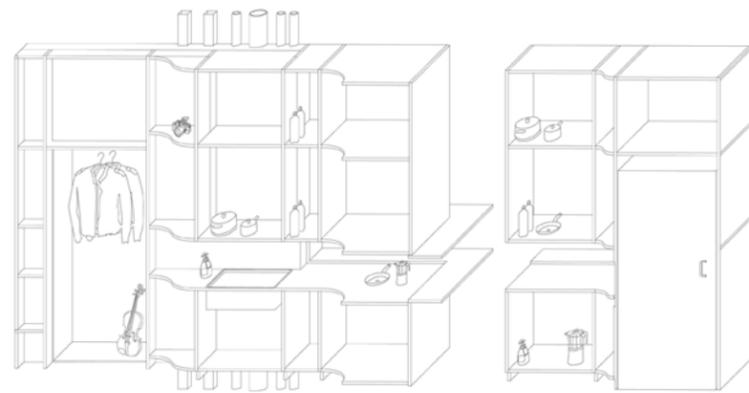


COURTLANDT AVE

E 152 ST

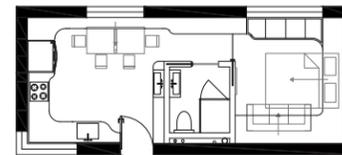
E 151 ST



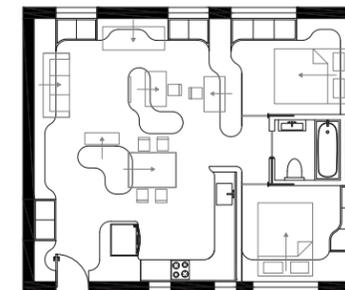




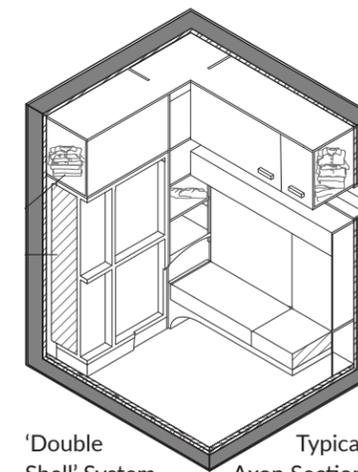
The first and third floors are distinct apartments with a half level between. This middle level can be configured as two extra bedrooms or as a separate, one bedroom apartment with a private entrance.



Small Size Unit: 350 sqft
One Bedroom



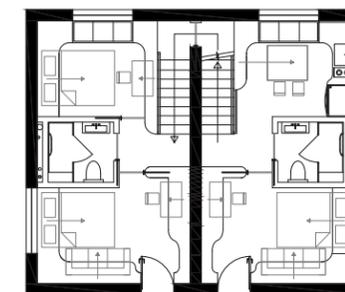
Medium Size Unit: 750 sqft
Two Bedrooms



'Double Shell' System
Typical Axon Section



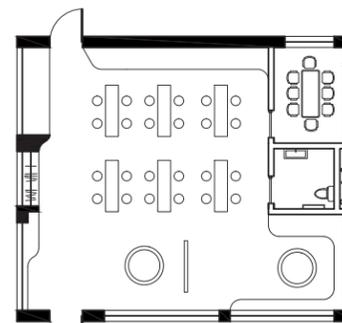
Large Size Unit: 1050 sqft
Main Floor of Apt A, 4 Bedrooms



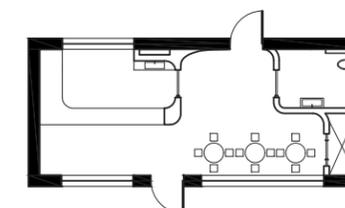
Large Size Units, Entwined Level
Extended Family / Studio Config.



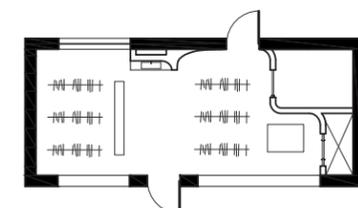
Large Size Unit: 1050 sqft
Main Floor of Apt B, 4 Bedrooms



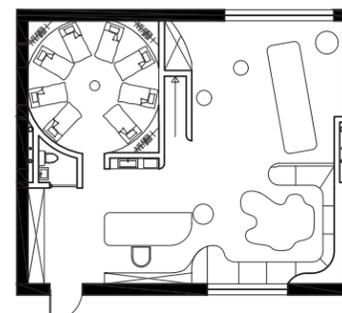
Commercial Module: 750 sqft
Office Configuration



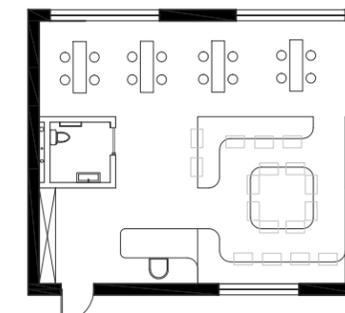
Commercial Module: 350 sqft
Cafe Configuration



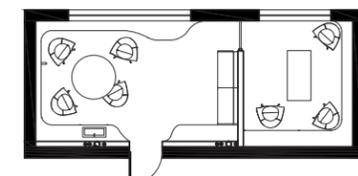
Commercial Module: 350 sqft
Retail Configuration



Education Module: 750 sqft
Pre-K Configuration



Education Module: 750 sqft
Open School House Configuration



Education Module: 350 sqft
Mother's Meetup Configuration

FIRE AND STONE

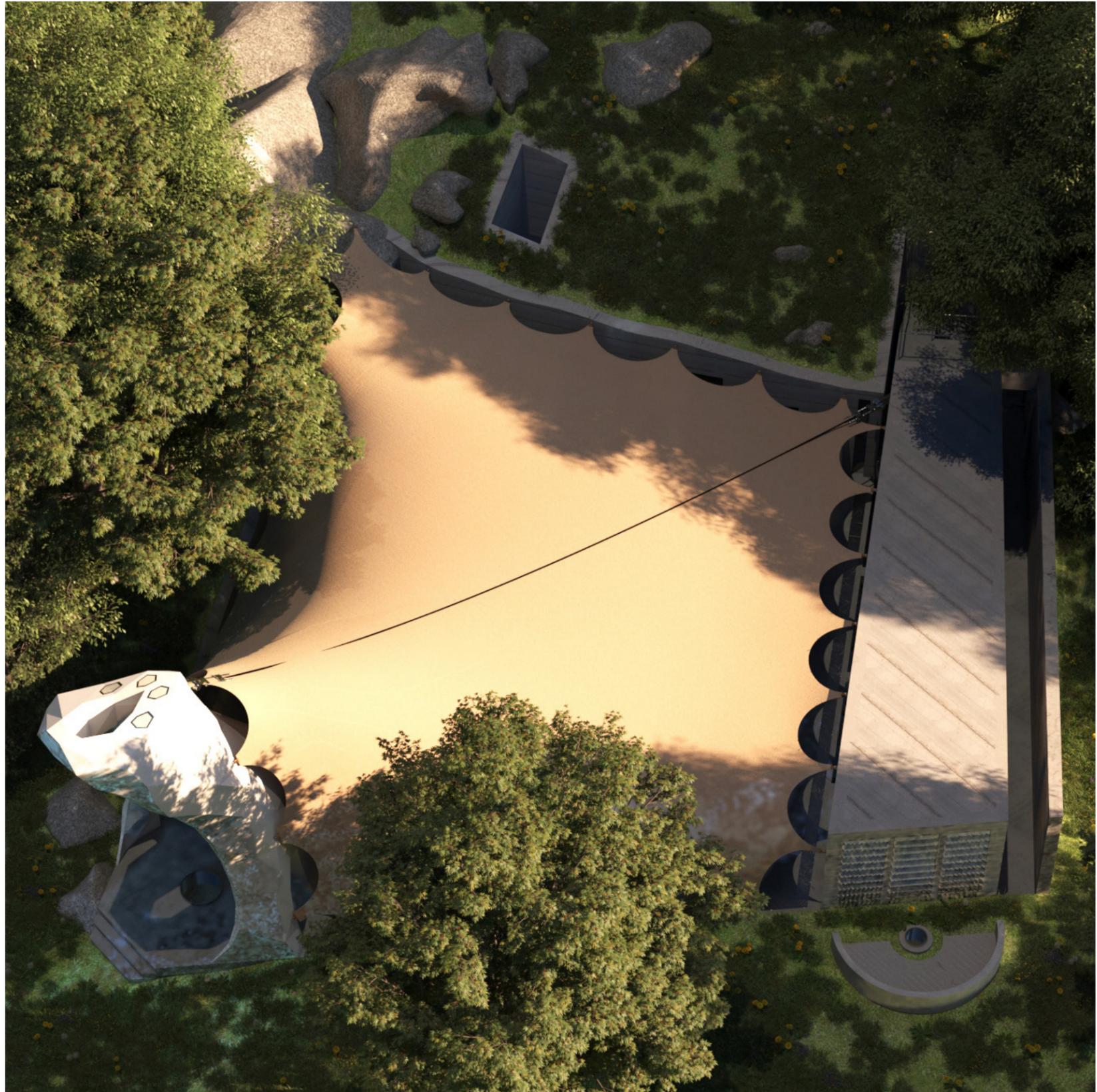
Split Rock is the focal point of the mountain accent in Mahwah; the historic homeland of the Lenape Ramapough Indians. Along the journey to its peak are dozens of enormous, overhanging boulders, carved and arranged with symbolic reference to sacred constellations or animals. These stones have served for centuries as fireplace backstops - redirecting heat to users and serving as outdoor meeting places. With the assistance of Two Clouds of the Ramapough Tribe, this site will serve as a place of mutual cultural exchange and understanding. The program is that of multiple thresholds: a series of portals which slowly acclimate visitors to the hallowed ground. The most distinguished of these portals is the western entrance, a 25 foot tall tower that envelops visitors and channels fire and smoke. Visitors must pass by these loci of fire and stone to access the rooms displaying the sacred artifacts. Fire and Stone is devised as a multi-layered western revival of ancient architectural iconography and traditions which offers multiple spaces for contemporary workshops that act as modern brokerages of culture and understanding with a nearby community that has historically been unable to find common ground with its indigenous population.

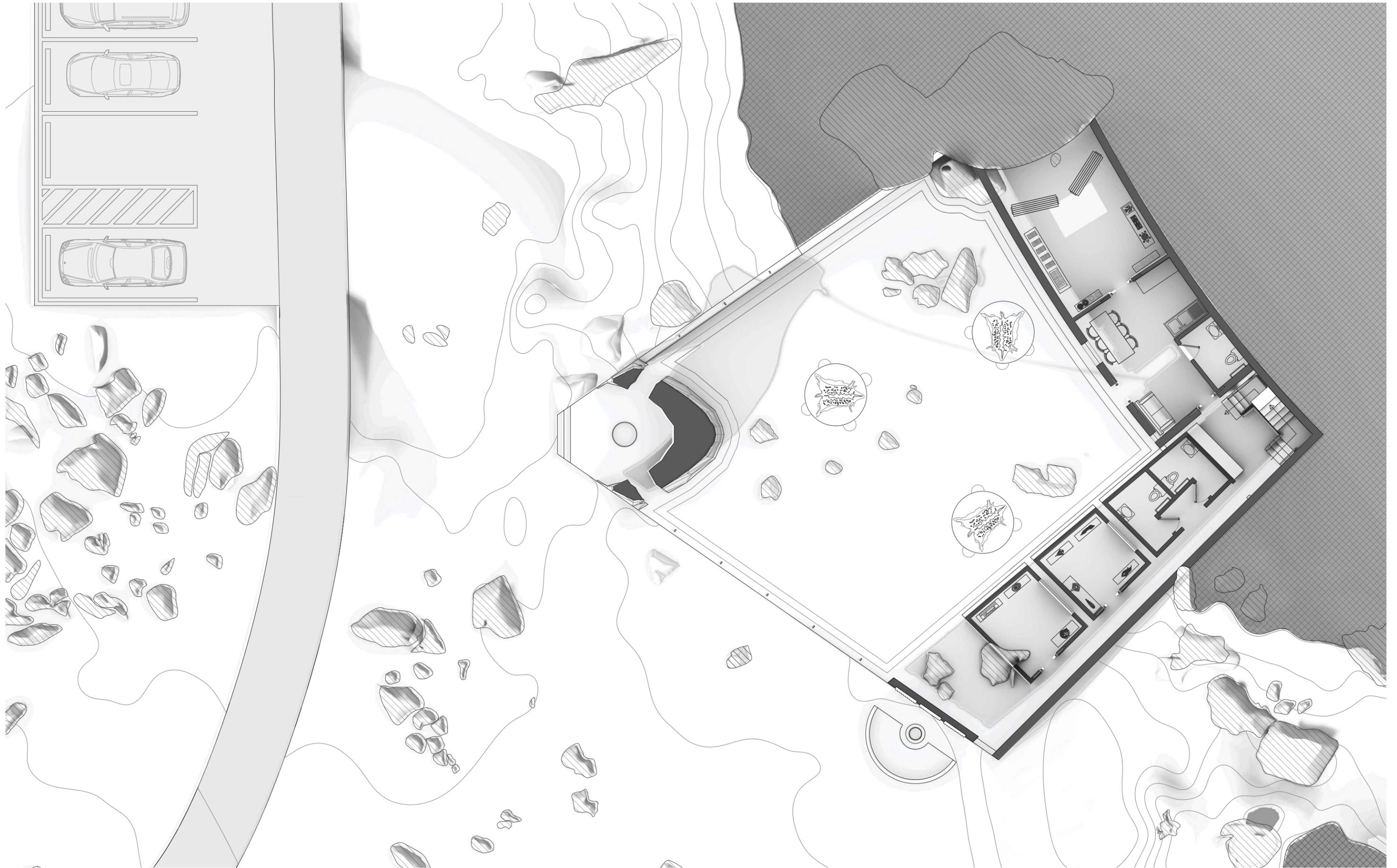
Typology: Gallery and community workshops

Location: Mahwah, New Jersey

Professor Robert Marino

Advanced IV, Spring 2021

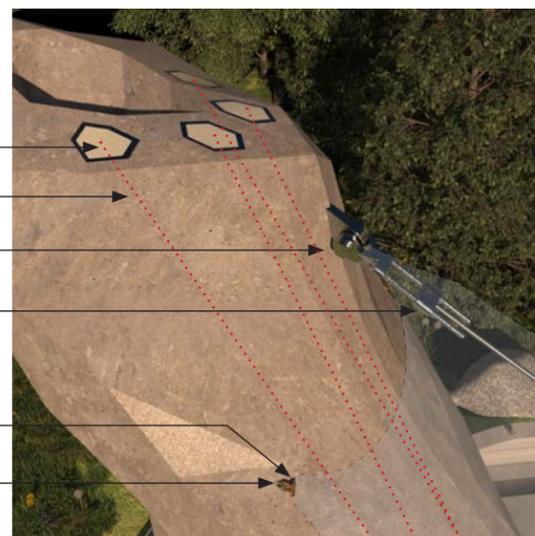




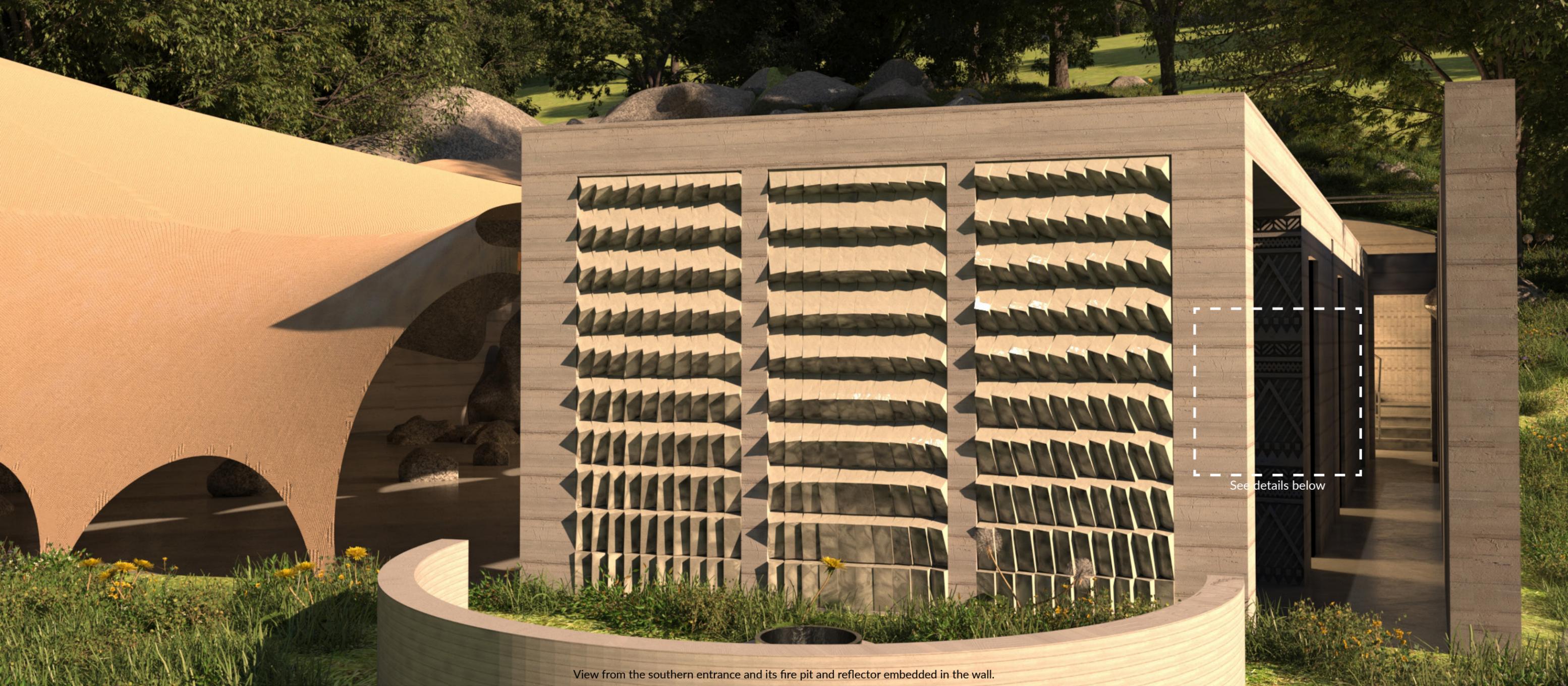


Cross section, showing the progression from main firepit threshold to the west (left) until the accent to Split Rock in the east (right).

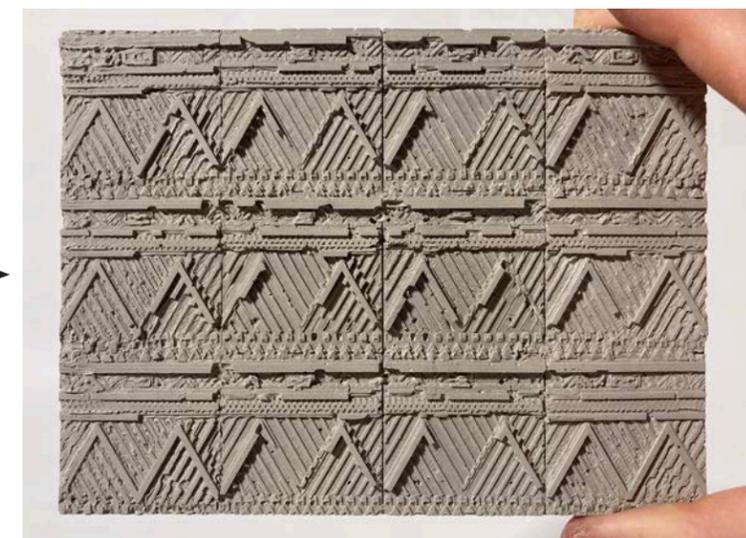
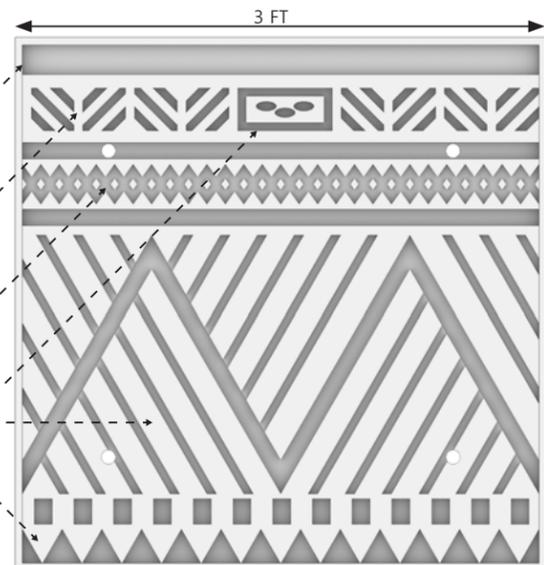
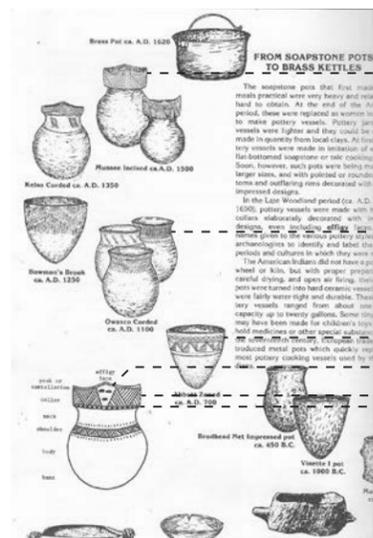
- Interlocking post-tension caps
- Post-tension cables (hidden)
- Embedded main cable connection
- Cable and tent can be dismantle during winter months
- Clasp secures tent to 'U' hooks
- Embedded 'U' tent hooks



Rockite and fabric models showing the interplay of compression structures with counterbalanced tensile members.



View from the southern entrance and its fire pit and reflector embedded in the wall.



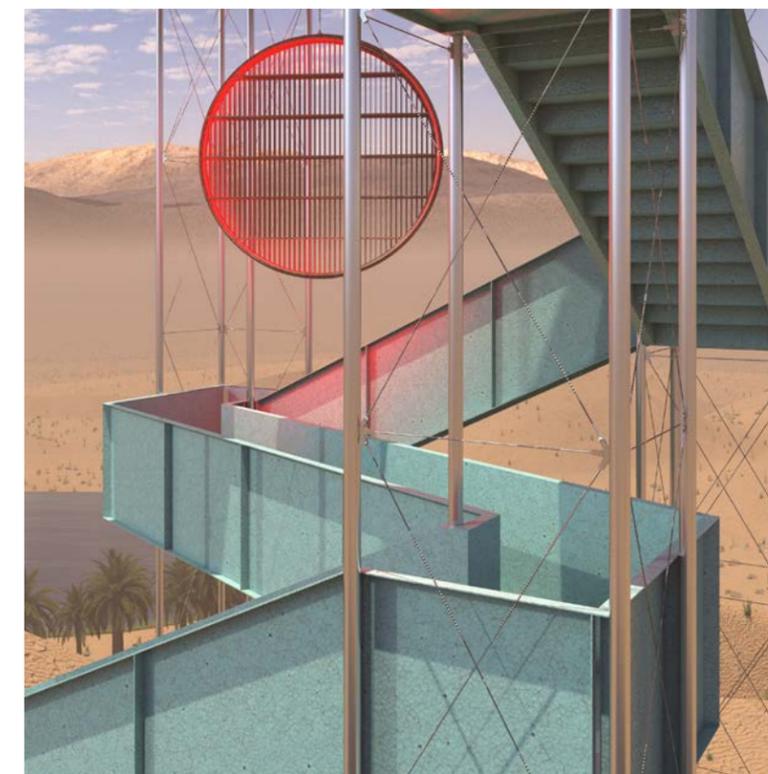
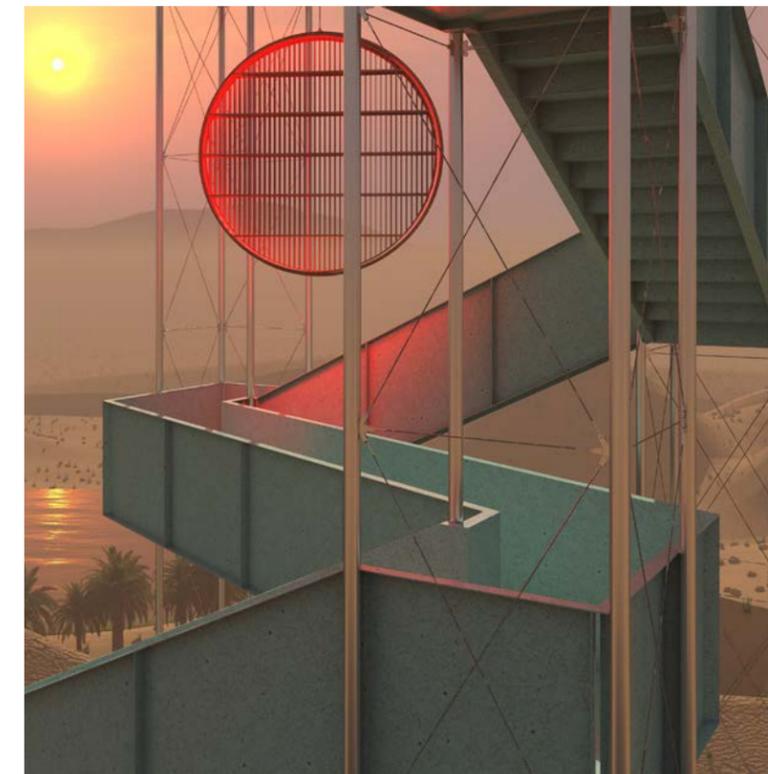
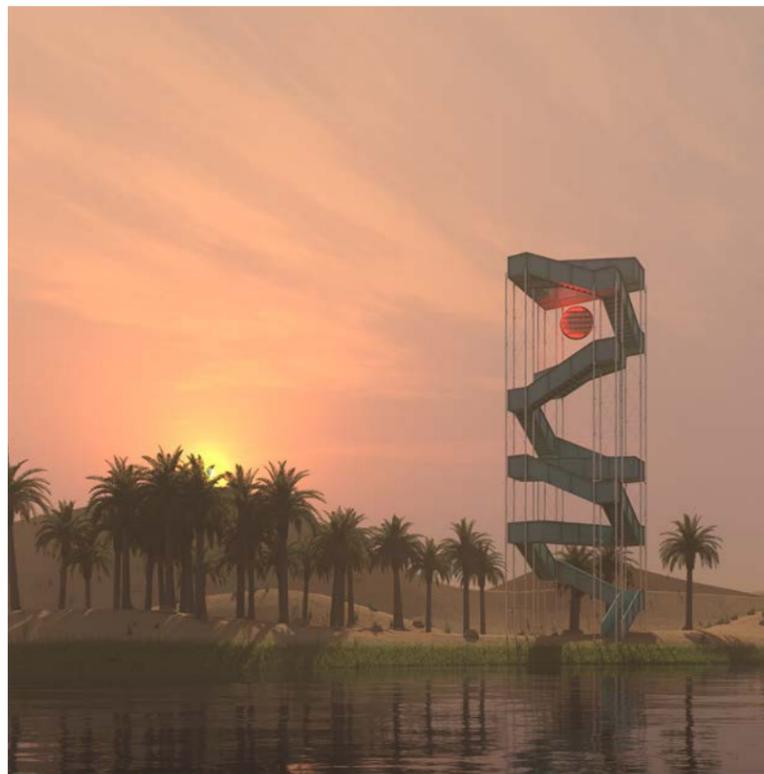
Concrete formworks are designed with iconography inspired by Lenape Indian pottery.

PILLAR OF THE DESERT

What is the line between the real, the ultrareal and the surreal? Pillar of the Desert is the culmination of a series of investigations of materials and forms and their digital representation. The resulting images utilize ray tracing only and have no post-processing effects whatsoever.

Partners: Adeline Chum, Henry Black and Asher McGothlin

Professors Joseph Brennan and Phillip Crupi
Techniques of the Ultrareal, Fall 2020

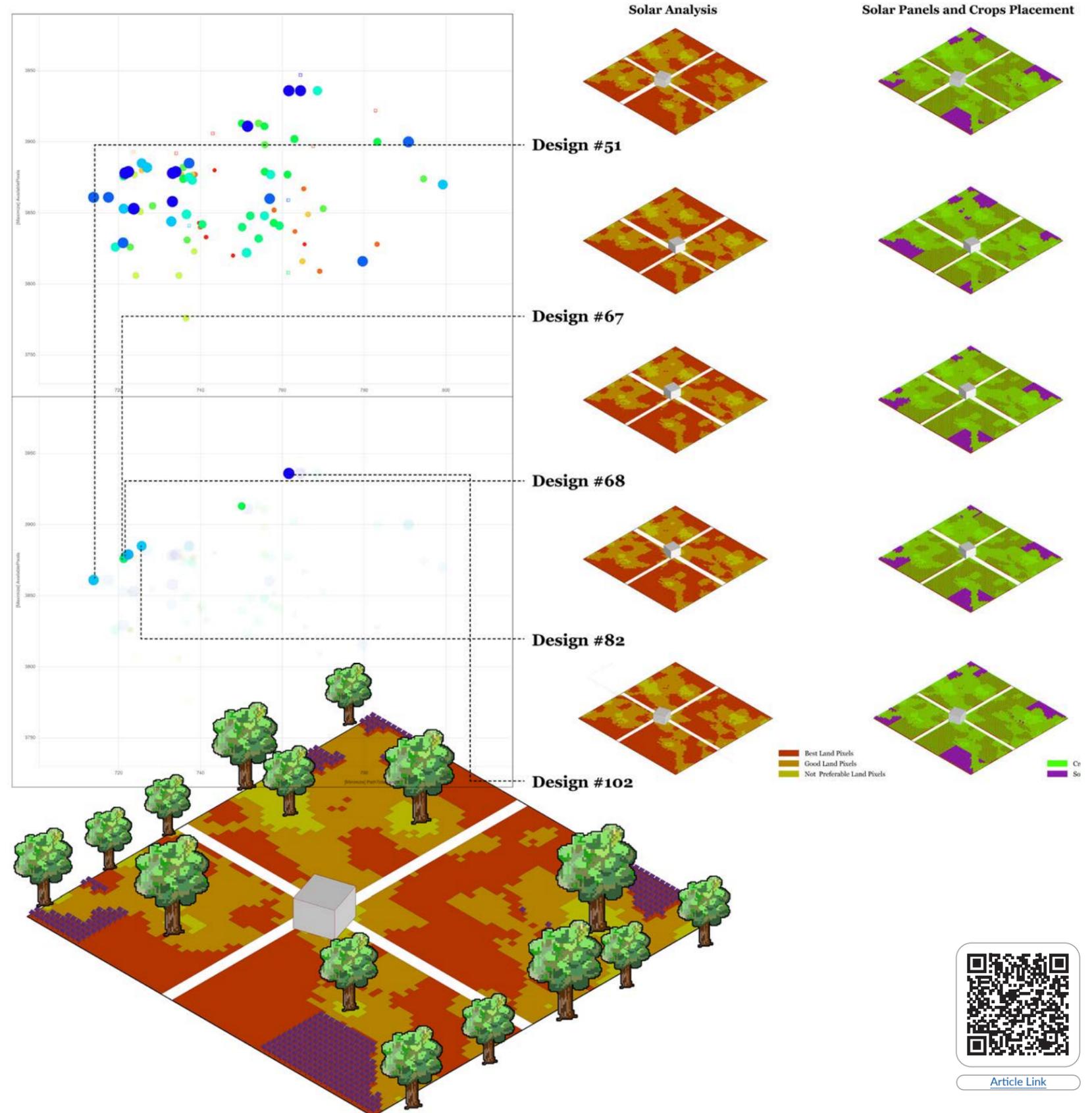


THE LAND DEVELOPMENT TOOL

The Land Development tool is a genetic algorithm powered by Discover that is capable of rural land planning, a close cousin of existing commercial products like Sidewalk Labs' Delve tool. The tool is given basic parameters pertaining to a plot of land the size of family that will be using it. It automatically allocates housing types to support the family size and designates the most advantageous areas to place photo-voltaic panels where 100% of the annual domestic electrical needs could be supported. The left over land is rated based on its access to sunlight and multiple scenarios are offered to the user to select from, for which he/she may choose what to do with remaining space. A built in functionality allows users to customize which crops could be planted on the land and estimates the proportion of the annual caloric needs of the family in relation to it. Excess food crops can be displayed at their local dollar value.

Partners: John Trujillo, Yuchen Qiu and Yong Yeob Kim

Professor Danil Nagy
Generative Design, Spring 2021



[Article Link](#)

THE TEMPLE OF BASKETBALL

The Temple of Basketball addresses the specific needs of a community in Melrose, Bronx. The design combines religious and sports programs as a mixed use community center. The pinnacle of this proposal is the top floor featuring a tournament size court bathed in sunlight. The community center makes use of pioneering CLT construction methods (that as of 2022, New York City has adopted as part of its building code). Its method of construction, sustainable materials and extensive passive heating and cooling solutions make this structure highly sustainable and low cost.

Partners: Adam Vosburgh, Jules Klietman and Camille Newton

Professors Sarrah Khan, Joe Hand, Amy Harrington, Chris Ashton and Catherine Chan

Architectural Technology III/IV, Fall 2020



Seasonal Natural Ventilation in Gym

Operable louvers and skylights enable natural ventilation in the gym for the majority of the year

Passive Shading

The southern facade is a terracotta rainscreen shaped in the zig-zag formation to help reduce the significant heat gain from the afternoon sun in the south and west directions.

Passive Shading

The western curtain wall facade includes shading louvers.

Thin Film Photovoltaic Panels Inlaid in the Roof

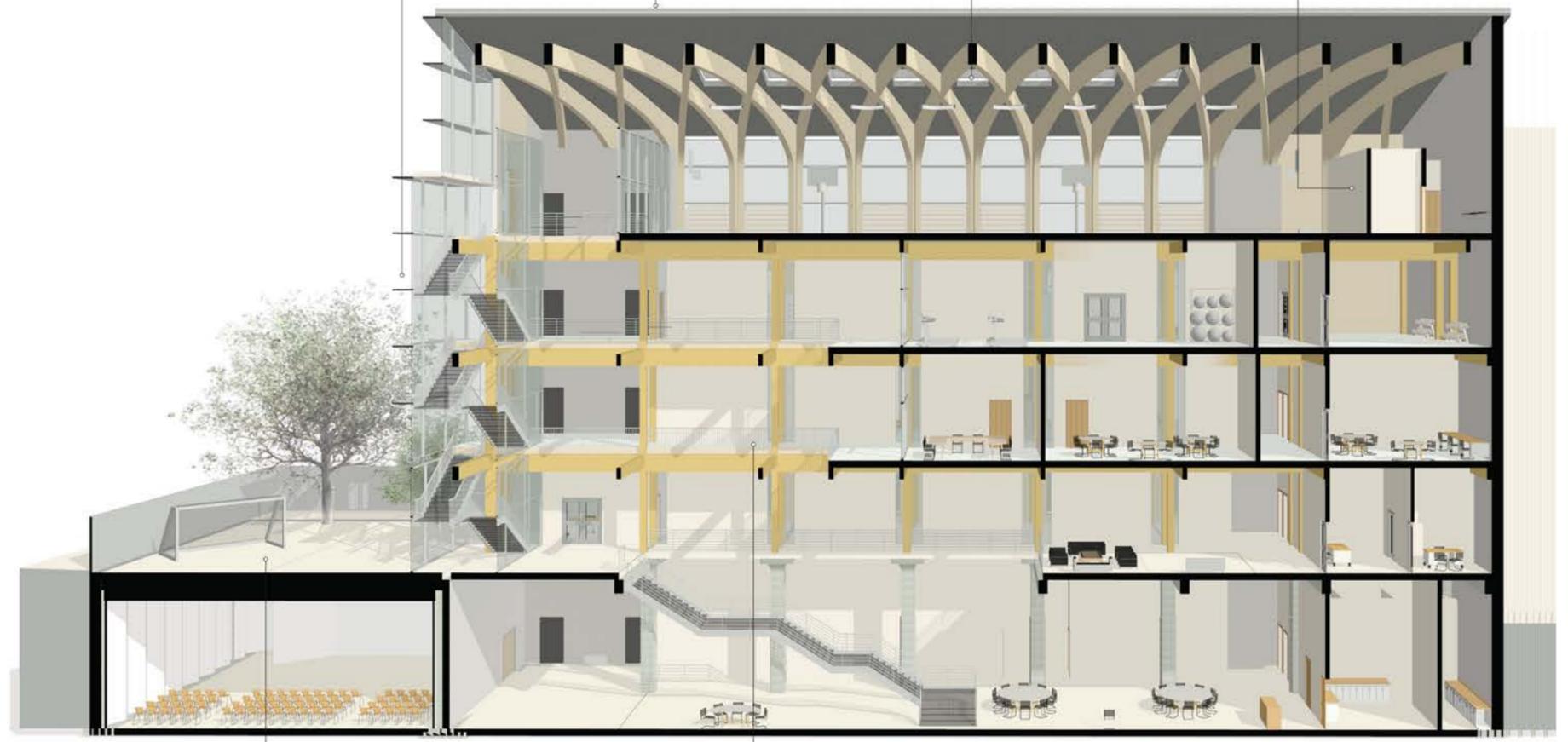
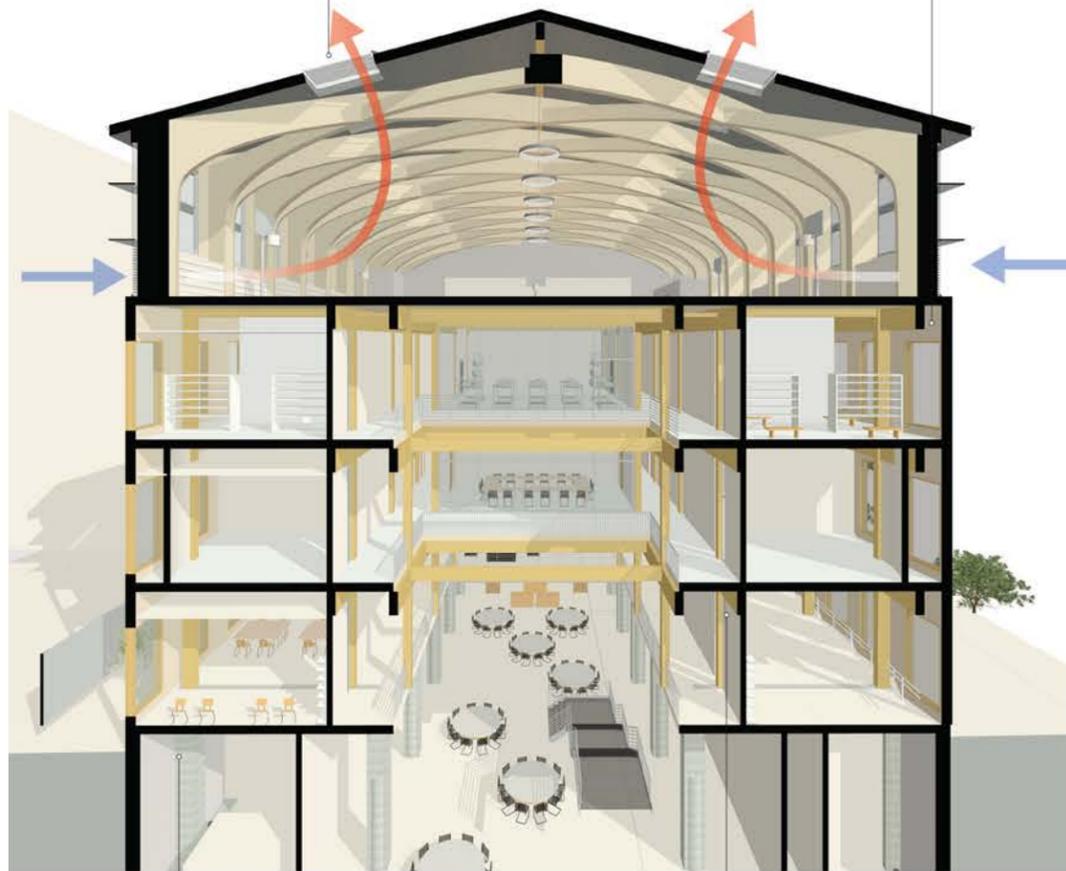
Solar power gained from roof PVs reduce the use of electricity and natural gas from the city grid.

Natural Daylighting (Skylights)

Ample natural daylight reduces electricity usage while improving overall wellbeing of the occupants.

Low-Flow Plumbing Fixtures

All fixtures (toilets, faucets, showers and water fountains) are low-flow to reduce over-use of water resources.



Fly Ash Concrete Cellar

The concrete cellar structure contains fly ash in the aggregate mix to lessen the carbon impact of the concrete used in the project.

CLT and Glulam Structure

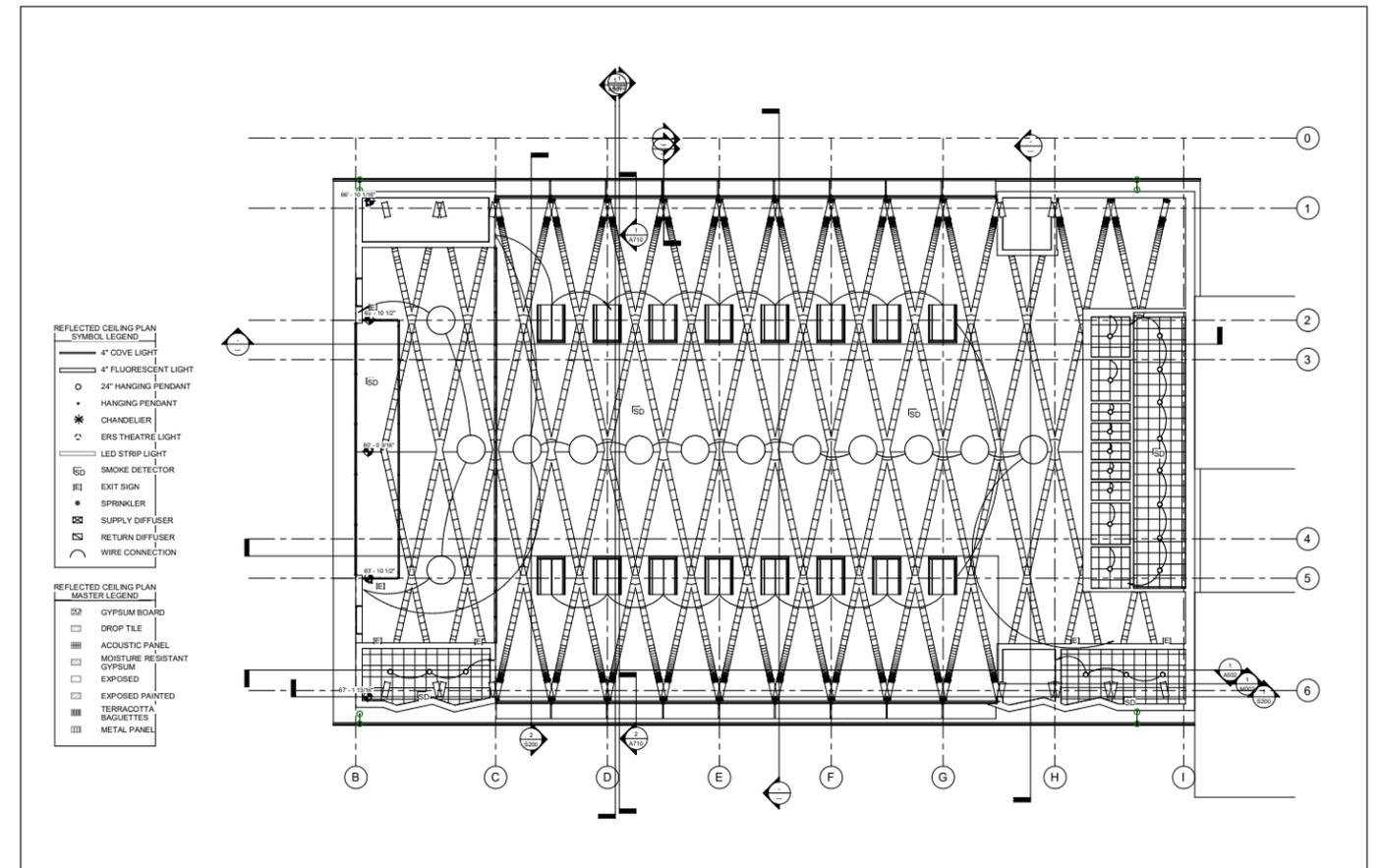
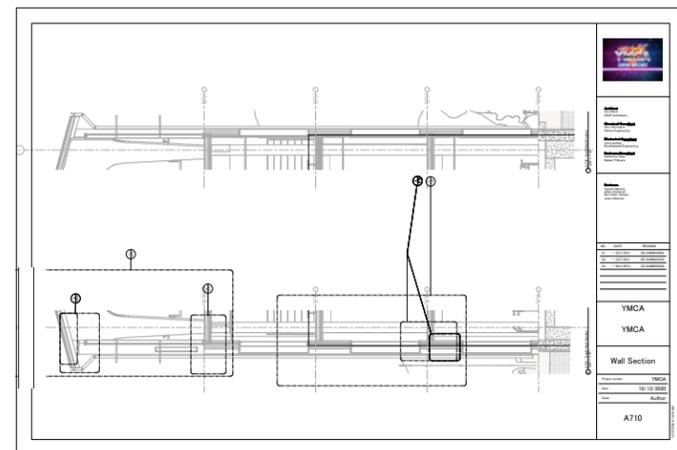
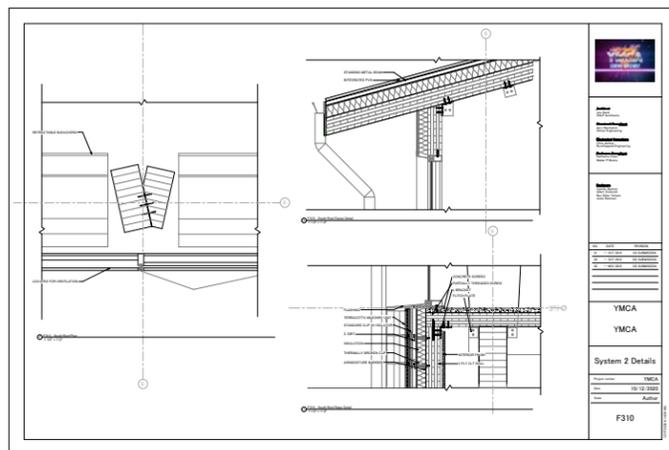
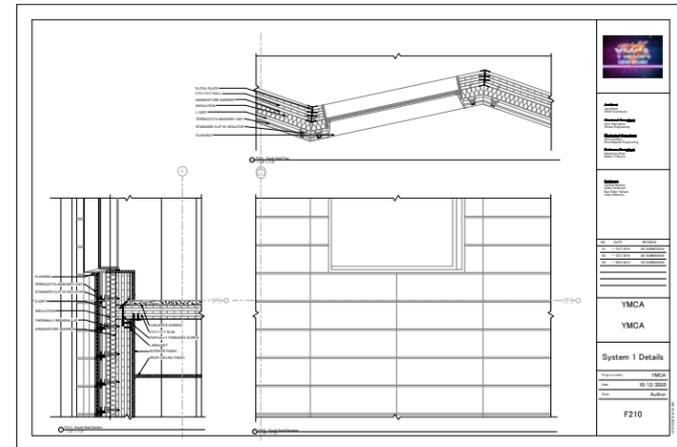
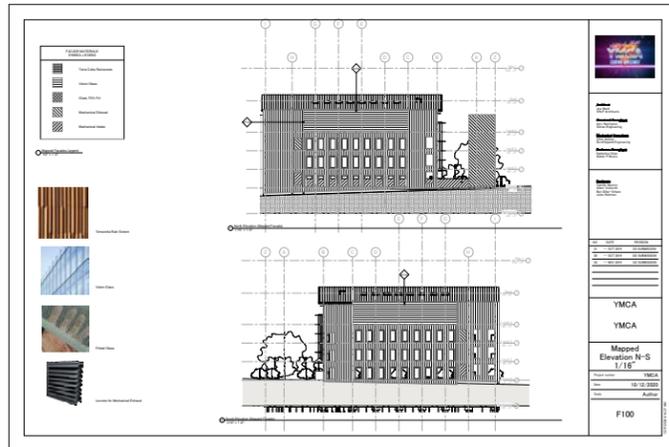
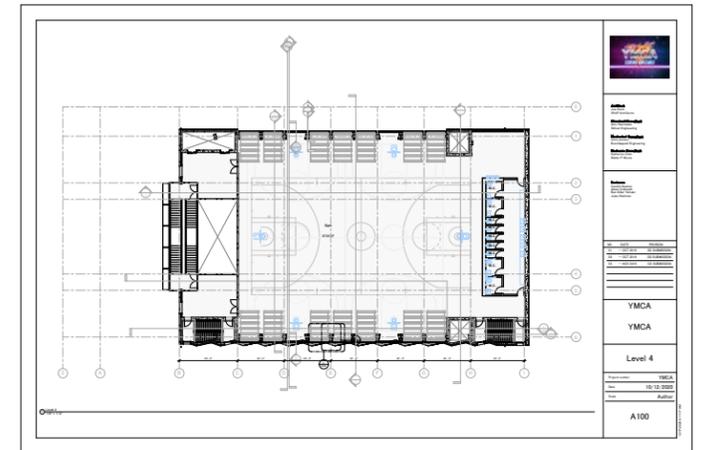
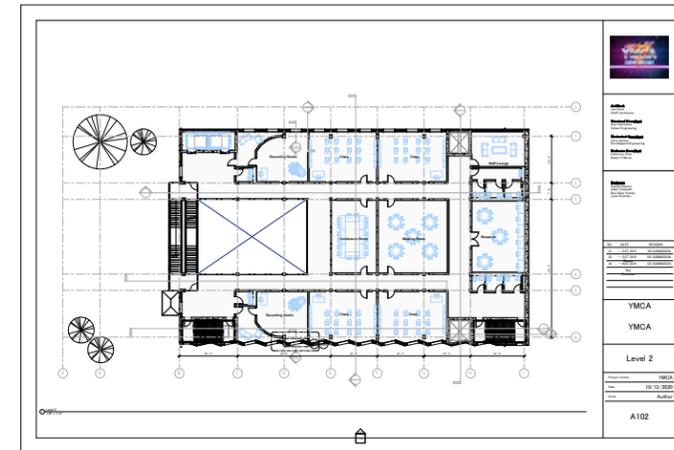
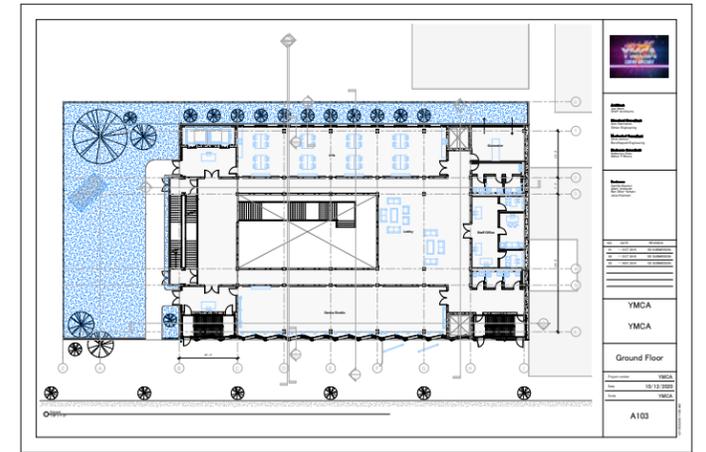
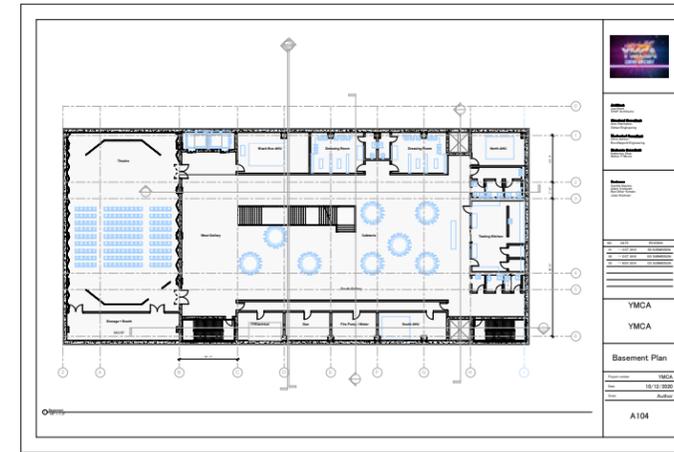
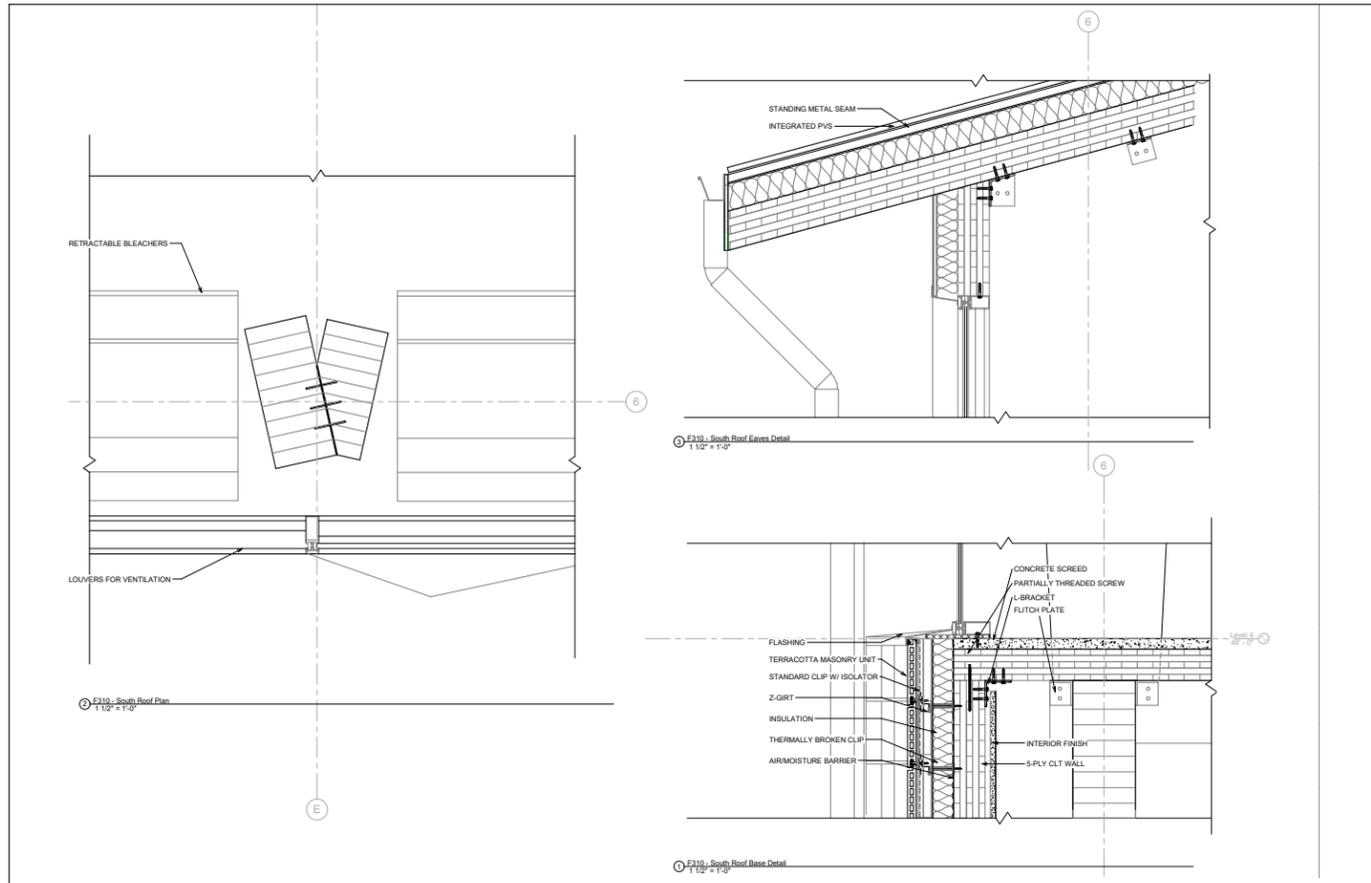
The majority of the structure (columns, beams, floor slabs and roof) are made of CLT or glulam resulting in drastically lower embodied energy for the project overall.

Native Landscape Garden

The side garden is planted with native species to promote longevity and reduce excessive watering

Daylight Deep Penetration

The west facing atrium brings light deep into the heart of the building - all the way to the cellar level. Smoke shutters installed at the first and third floor allow the wooden structure to attain fire safety.



SAND TO VILLA TO LINE

Excerpt from: 'Sand to Villa to Line'. [Full article link.](#)

Partners: John Trujillo and Faisal Alohali

Professor Yasser Elsheshtawy
Arab Modernisms, Spring 2021

On January 10th, 2021, the Saudi government announced The Line: a futuristic city in the northwestern region of Neom in the Arabian peninsula. Though very few technical details pertaining to the project have been published, the scope and ambition of the project, if completed, will mark an important milestone in the way Gulf urbanity contends with nature. In this section we will analyze The Line's graphic language to glean insight into intentions of the Saudi government. Whereas Gulf architecture has hitherto offered either the passive amelioration or active suppression of its harsh climate, this project will be novel in its establishment of a broad sense of environmental control. We will investigate The Line as an activating force for the entirety of the region it occupies: how will The Line interact, augment and bring the natural context it occupies into close alignment with the needs of the people who will live there?

The work at Neom is in large part designated for virgin land. There are sparse settlements throughout the region, as well as (mostly Bedouin) nomadic groups, that will be relocated. While the reclamation of untamed lands serves multiple purposes, that of projecting the Neom as capable of overcoming its extreme ruggedness and inhospitably is of greatest relevance to the

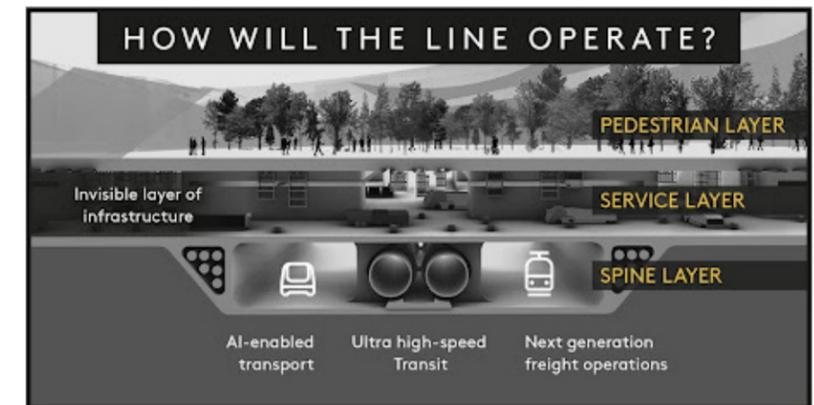
present argument. In the official government reveal of The Line, a computer graphic showcases it as an unrelenting force projecting through a variety of climatic conditions and literally slicing through mountain ranges.



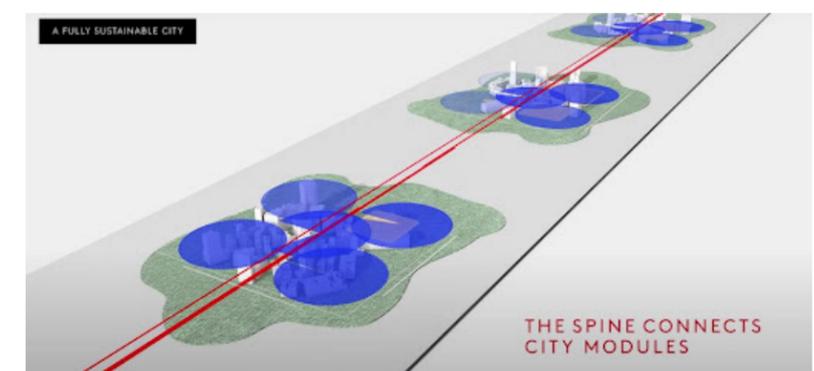
This indifference to geography yields a glimpse of the project's intentions; the project will not abide by any conventional urban or structural logic or subjugate itself to the terrain. This line across the desert is the basis for the project's spine: a multi-story infrastructure layer powered by artificial intelligence set beneath the ground level of the project.

The Line's main circulation happens here, concentrating most deliveries of goods and services into a single axis. Local distribution then delivers goods the final mile along a perpendicular axis. Splaying the city along an extended path serves to spread it in such a way that inhabitants could live in close proximity to any service point along the spine. This logic simplifies the last mile in the delivery of goods and thus precludes an extensive elaboration of ground-level streets which in turn allows for an extensive amount of green spaces instead.

The Line's relentless expanse serves as a bridge linking a variety of disparate geographic conditions together. This combined geographic condition allows the city to benefit from the varied local resources it passes through. Namely, The Line slices through four distinct climatic zones: Coastal, Coastal Desert, Mountain



and Upper Valley regions - each offering different basic resources that are shared and transported through the integrated infrastructural spine that runs through the project. For example, water from the coastal regions can be desalinated using energy collected by wind farms in the mountains and photovoltaics in the upper valley and then sent to where it is needed. The scale of the project facilitates accessibility to each of the resources needed across its length: regions that are poor in a particular resource share and divert supplies to where they are needed. This system closes The Line in on itself, rendering it a self-sustaining, carbon-neutral world in and of itself independent of whatever terrain through which it slices.



At present, the documentation for the Line does not clearly articulate what the green spaces that replace the streets will really look like but we can glean some information from them. Their graphic language, which consists of green blobs, represents

an ambition of abundant and interwoven greenery alongside and throughout built areas. Taken at face value, this constitutes the Line's novel urban logic which is distinguished from that of contemporary cities. Instead of a subdivision based on streets - specifically an activation via an urban grid - The Line's order will be conveyed through its interaction with a pervasive, constructed pseudo-natural environment. In this sense The Line's greenery through the desert is thus not just a topical, beautification of a city, instead its sheer volume constitutes a geo-engineering of Neom. This subjugation of the context entails an alignment of nature with its occupants.

Examining the language of the linear projection of the proposal through the desert we discover a sense of architectural nonchalance vis a vis the context can be understood as yet another attempt at the linear megaform in the Arab world. A notable parallel can be found in Le Corbusier's proposal for Algiers. Whereas the megaform in Algiers contended with an urban context as a form of domination, here the context is natural and therefore The Line demonstrates a domination of the environment instead. Likewise, the 'bigness' of the project, as defined by Koolhaas, becomes vastness that allows for anything to happen, resulting in vacuum the state fills furthering its control of the city's inhabitants and the context. No doubt that the autocratic Saudi regime would have practical benefit from a design which feeds movement through a single passageway, but beyond this, the geometry of The Line is so out of touch with anything human-scale it becomes a vessel that can subliminally substitute for a sort of nature in and of itself. An additional lens through which this project can be described is in its semblance of linear cities conceived by Arturo Soria y Mata in Spain or Waldimiro Acosta in Argentina: the pinnacle of the modernist desire to marry technological advancements - particularly in transportation - with a harmonious and democratic coexistence in nature. Although this modernist belief that the promise of technology would usher in a utopian future in the West was never truly attained, we suggest that perhaps this dream still persists in Saudi Arabia

as is evidenced by the language and spirit of this proposal.

The juxtaposition of a sophisticated city in a context as harsh as Neom elevates one final consideration. The reason why there has been little to no development in this region until now is quite simple: it is difficult to build and live in. The unfavorability of Neom, and indeed most of the hot and arid Arabian Peninsula, is subsequently rebuffed by the ingenuity of its people. Domination of nature and the greening of the desert establishes a symbol of power; this modus operandi can be found notably in Israel's Negev Desert, a close neighbor of Neom. The Line will not be just another city occupying the desolate Arabian desert, its tepid foothold facilitated by the life support system that is air conditioning. It goes beyond mere survival: it will be healthier, safer and easier to commute in than any other city. It does not represent a contemporary lifestyle, it represents a desirable place to live: a futuristic lifestyle unmatched by any other city. To this end, The Line draws upon our collective imagination of what futuristic cities look like and how they would exist in relation to harsh environments. Here, we suggest imagery from NASA's Stanford Torus as a close relative of The Line. The Stanford Torus is perhaps as distinct a city as anything that could be found on Earth: highly regulated, sustainable and with a local pseudo-nature simultaneously constructed by and for the city while its immediate bounds are characterized by an unforgiving sterility (Outer space as an analogy for the arid desert). The Stanford Torus is governed by advanced robotics and artificial intelligence that coordinate the delivery of services through a linear plan much like The Line's substructure spine. Furthermore, a future without cars, and one where greenery instead of streets surrounds man is central to both projects. The result of this similarity between the two projects constitutes a visual language that places The Line in relation to prior science-fiction city-scape imagery generating a subtle association of one with the other.

The space race of the 1960s and the ultimate landing on the Moon validated the primacy of American technology at the time. This image continues to be reinforced to some extent

by both governmental and private attempts to reach past the moon. The success of these attempts has coupled the proposals and marketing by NASA or private space exploration enterprises with an unrivaled and enduring cultural authority. By borrowing the visual or architectural language of such proposals, Neom enhances the image of its own project. In this regard, the mass, subconscious, cultural transferral or subversion of symbols is a well established theory of philosophy. For example, Nietzsche asserts in his 'On the Genealogy of Morality' that characteristics that could be defined as functional or beneficial become linked to a sign of good. Likewise, in his 'Archaeology of Knowledge', Michel Foucault explains a transferal of concepts between fields of scholarship: "There are ... homogeneous fields of enunciative regularities (they characterize a discursive formation), but these fields are different from one another. The movement from one field of enunciative regularities to another need not be accompanied by corresponding changes at all other levels of discourse." These two theories, taken together, contribute to our assertion that the authority of a desirable futuristic symbol (made possible by NASA) can be applied to the domain of The Line without a detectable change to the characteristics of the symbol. Thus, the perceived success and authority linked to the proposal by NASA becomes a proximate signifier for the success of The Line.



YEAR THREE

Studio Projects

Towards and Automated Algal Architecture
The Ketamine Oasis

Technology and Visual Studies

Dragon's Head
Broken, Unbroken
Displayed
Autocomplete Urbanity

TOWARD AN AUTOMATED ALGAL ARCHITECTURE

What if we could harness the potential of harmful algal blooms to catalyze a carbon negative building industry? This project calls for a one time investment in algae-harvesting and processing infrastructure to be built on Virginia Key, an island less than one mile from downtown Miami. The collection of wild, harmful algae can facilitate the production of bio-concrete and help build over four million square feet of low cost housing. The resulting facility would sequester an amount of carbon equal to removing 65,000 cars from our streets annually. The work for this project was made possible through research conducted by Professor Wil Srubar of the University of Colorado, Boulder and his associates who have published a method to manufacture bio-concrete using algae.

Typology: Carbon negative construction system

Location: Miami, Florida (initially, for the pilot)

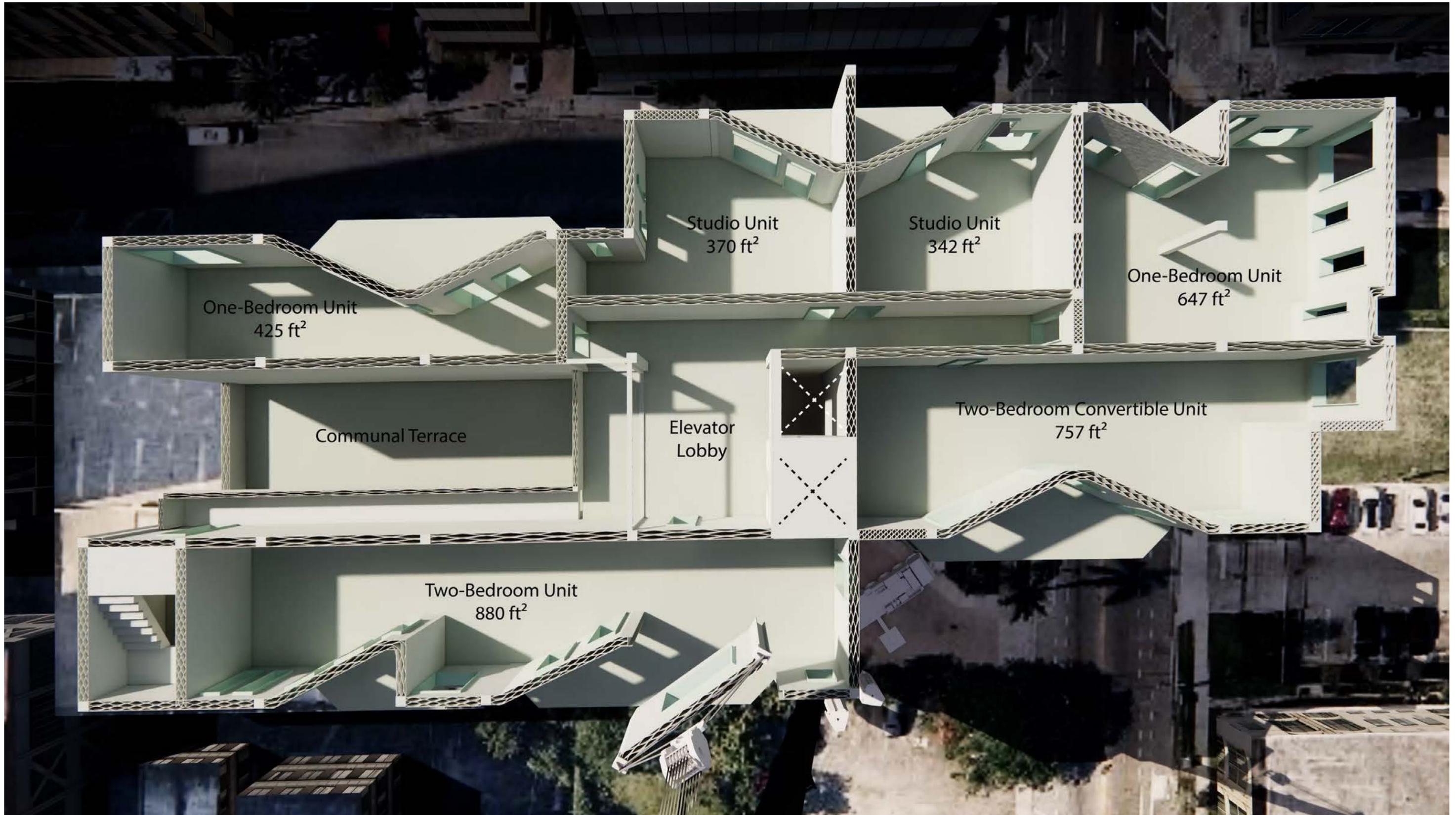
Professor David Benjamin

Advanced IV, Spring 2021



[Video Link](#)





Algal MICP Module vs. Traditional Concrete Wall Assembly



Construction Facts

7 units per 20ft module
Unit size 1 metric ton (1000 kg)

Amount per unit
CO₂ (kg) **-46**

% of Daily Value*

Embodied Energy -0.75GT -405%

Water Usage 5.32 L 5.4%

R-Value/Inch .64

Ingredients: Aggregate (Coarse: 45%, Fine: 30%), Algal Hydrogel (20%), 50% concentrated solution of Synechococcus sp. PCC 7002 Cyanobacteria in water (5%).

Health Risks: No risks are known at this time.

Environmental Impact: Water remediation (24,000 cubic feet), carbon dioxide scrubbing (46kg).

Estimated Life Cycle: 33-66 years

Recyclability: Can be crushed and reused as aggregate or used as starter for future LBM (living bio-material) manufacturing.

*The % Daily Value tells you how the environmental impact of a given unit of this material compare to an average American's daily uses and emissions. 37.5 kg of carbon is used for this average (as of 2019).

These averages must be reduced over time. Sustaining this rate will cause temperatures to increase by up to 5 degrees centigrade by 2100.

Construction Facts

13 units per 20ft module
Unit size 1 metric ton (1000 kg)

Amount per unit
CO₂ (kg) **180**

% of Daily Value*

Embodied Energy 1.69GT 914%

Water Usage 5148 L 5226%

R-Value/Inch .16

Ingredients: Aggregate (Coarse: 45%, Fine: 30%), Water (15%), Portland Cement (10%).

Health Risks: Silicosis caused by inhalation of cement particles can lead to some cancers and/or impaired lung or kidney function. Wear protective when mixing to prevent chemical burns. Heavy metals and radioactive particulates may be present in this material.

Environmental Impact: Pit mining, natural habitat destruction from sand dredging, top soil erosion.

Estimated Life Cycle: 50-100 years

Recyclability: Can be crushed and reused as aggregate.

*The % Daily Value tells you how the environmental impact of a given unit of this material compare to an average American's daily uses and emissions. 37.5 kg of carbon is used for this average (as of 2019).

These averages must be reduced over time. Sustaining this rate will cause temperatures to increase by up to 5 degrees centigrade by 2100.

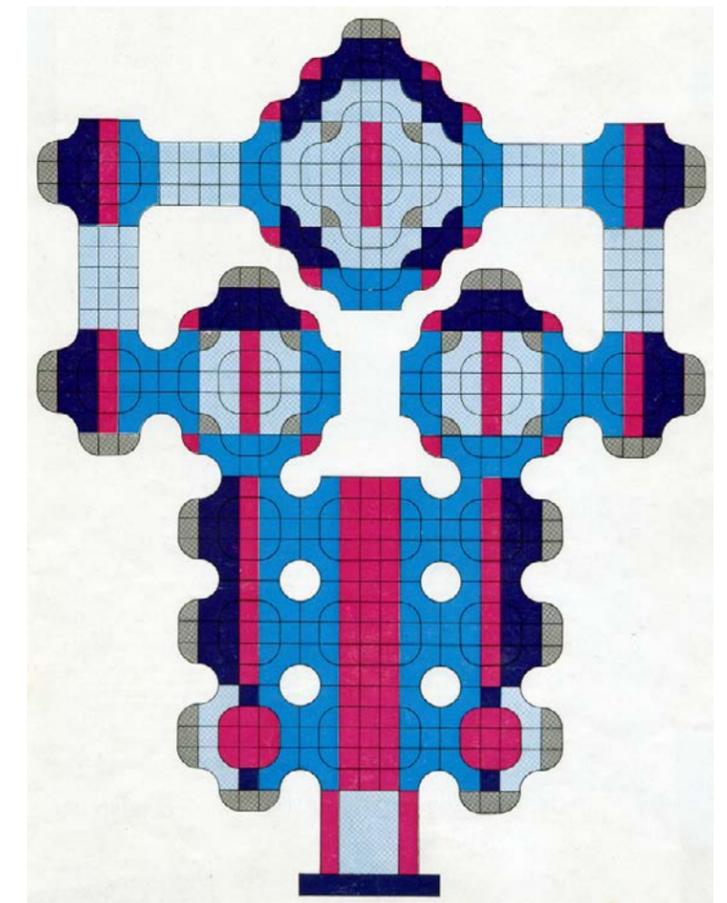
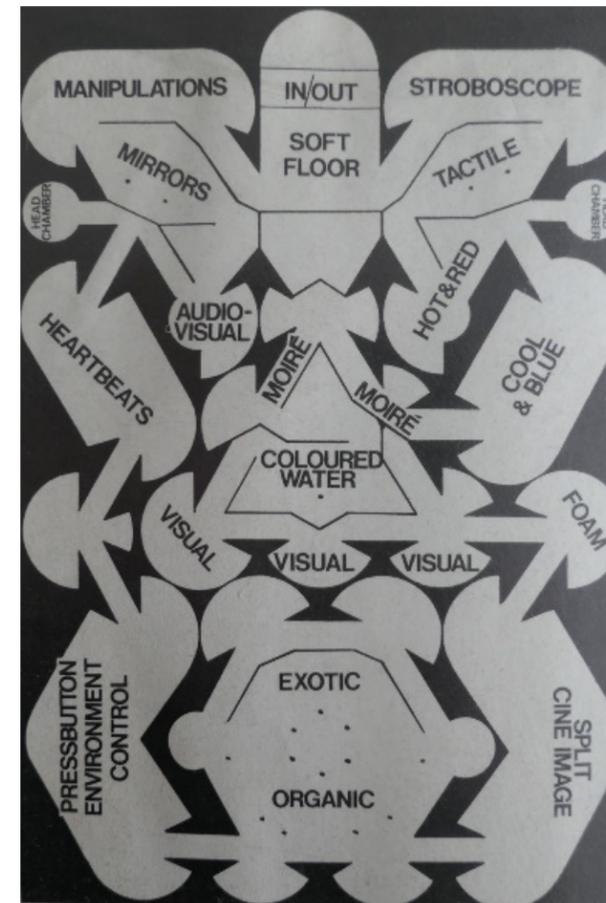
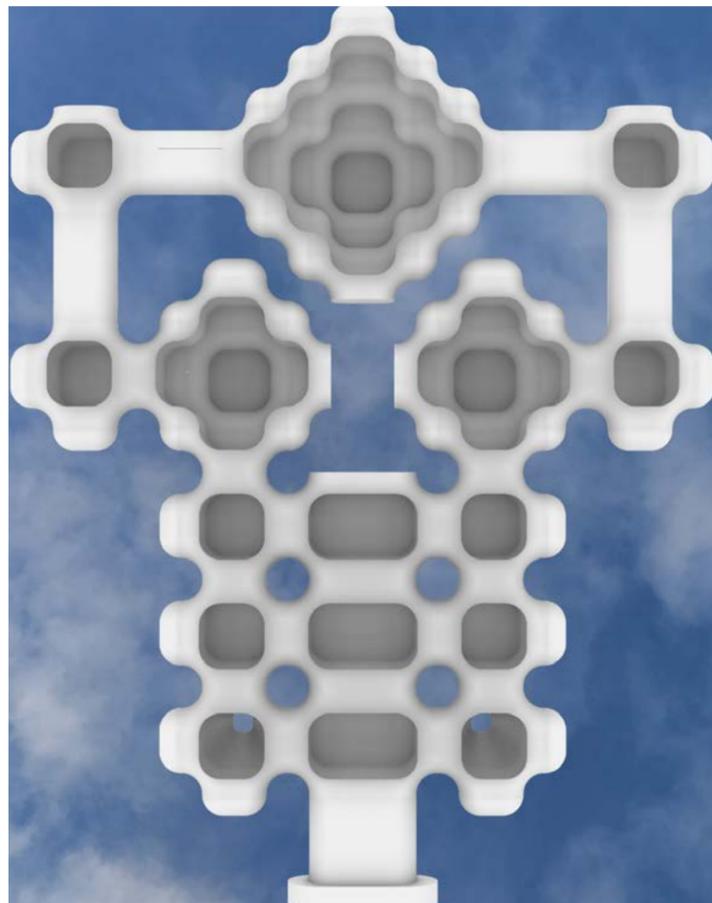
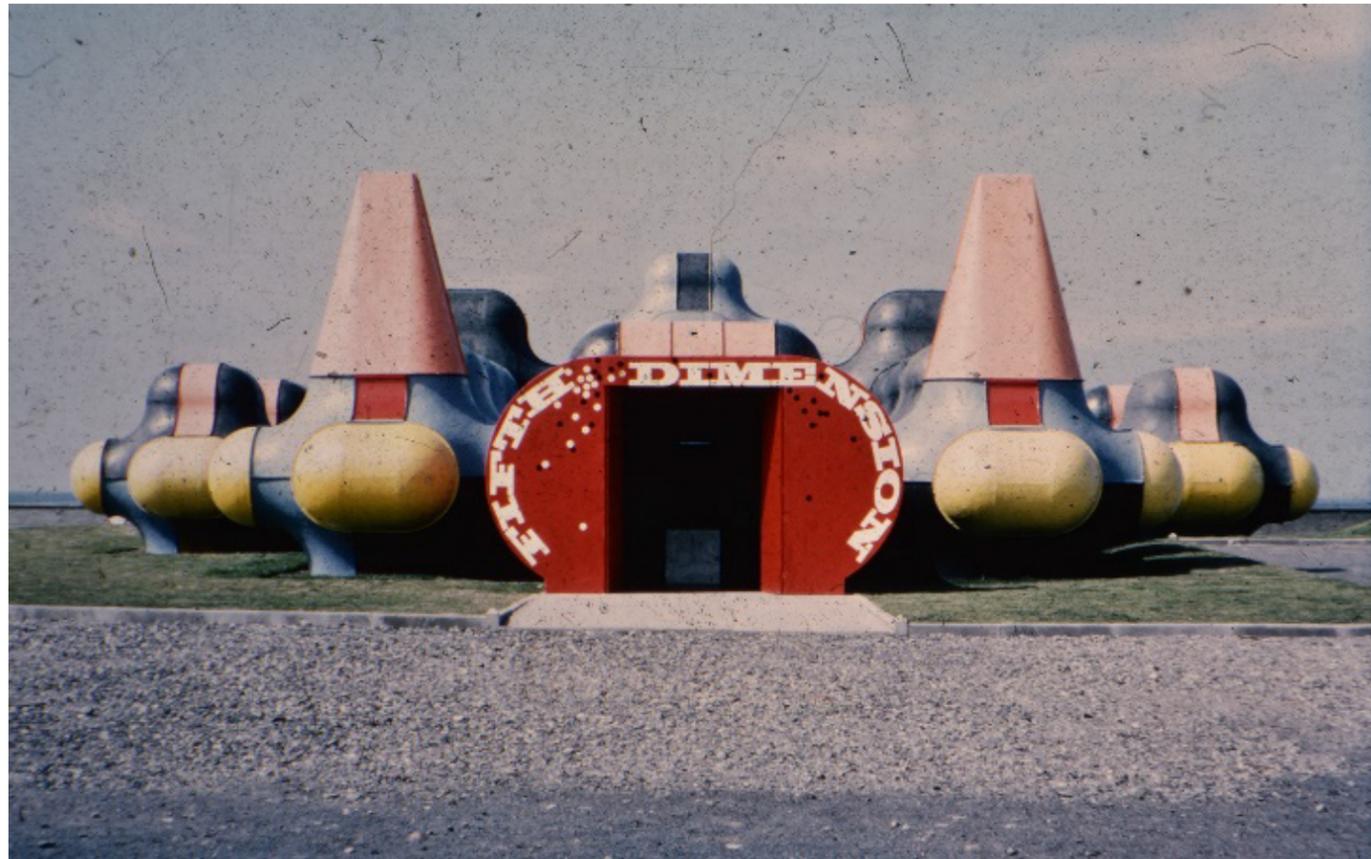
THE KETAMINE OASIS

Substances like ketamine demand a systemic architecture that delivers a safe product and a place that is tuned for its consumption, much like those that exist for the use of caffeine or alcohol. Infused with the purpose and aesthetics of the 1960's psychedelic movement, this research project follows the recent rebirth of MDMA and psilocybin assisted psychotherapy and their semi-recreational counterpart, the contemporary spa-clinic where wealthy 'patient-users' consume intravenous ketamine openly. The Ketamine Oasis completes the apparent trajectory of increasingly available semi-legal chemical modernity by establishing a unique, novel and necessary program: an enclosed block where guests can choose to trip with or without talk therapy, in groups or individually, while trained medical staff appropriately dose with the pharmaceutical of their choice and monitor their mental state and vitals. The Ketamine Oasis will serve as a place of refuge, therapy and recreation for individuals in the city that need it.

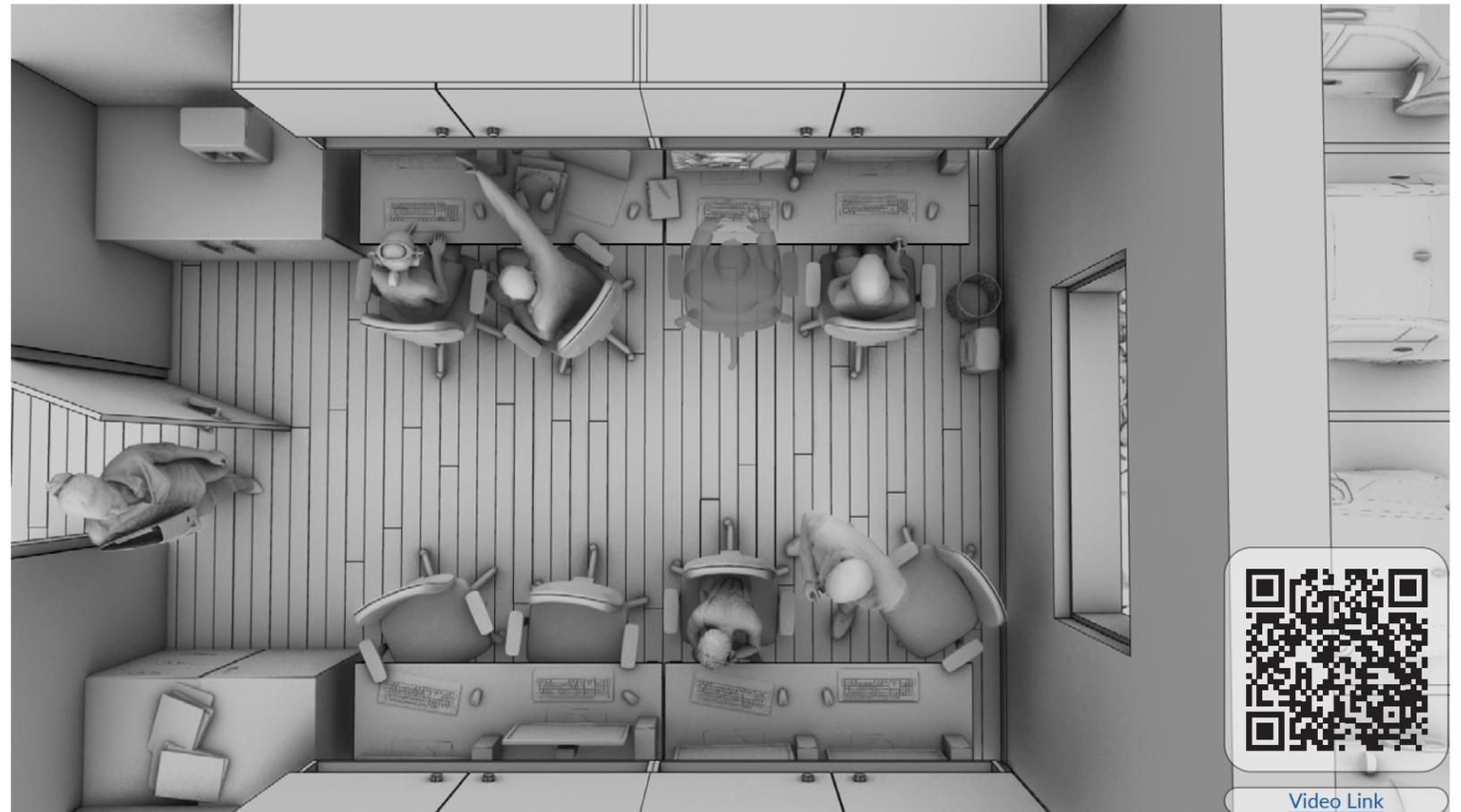
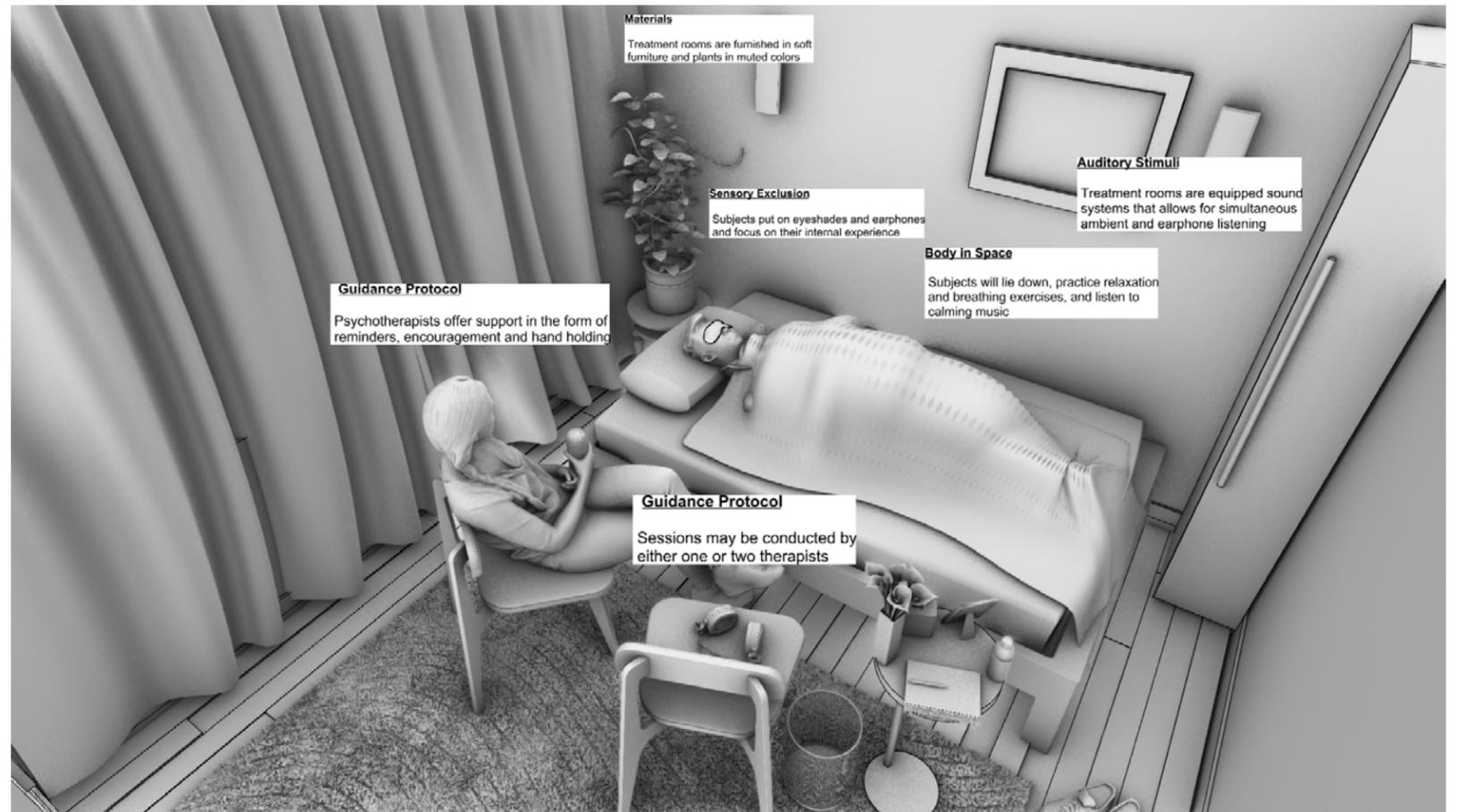
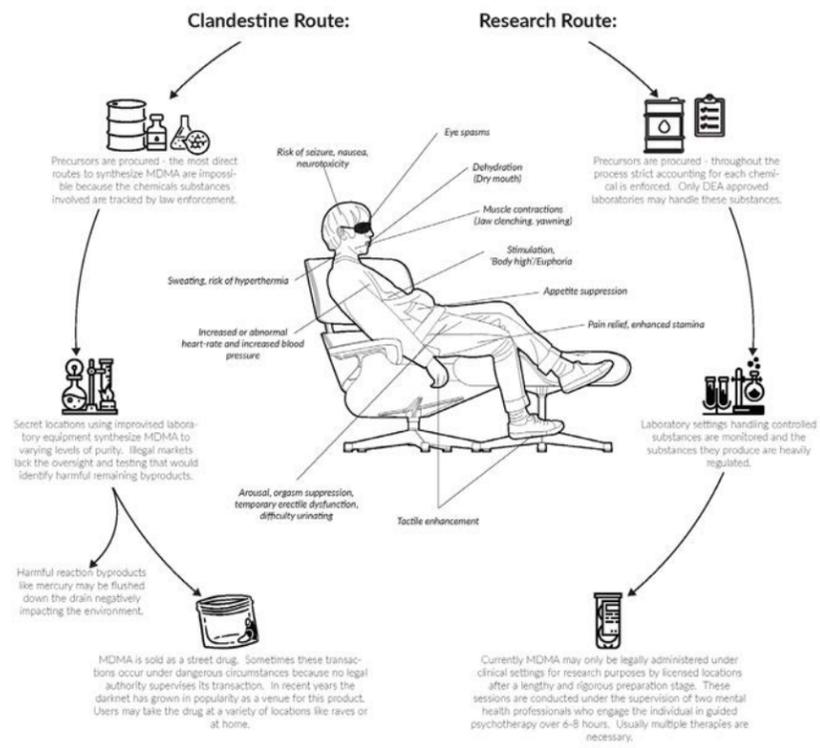
Typology: Therapeutic/Recreational Drug Administration Center
Location: Midtown, New York City

Professor Mark Wasuiata
Advanced IV, Spring 2021

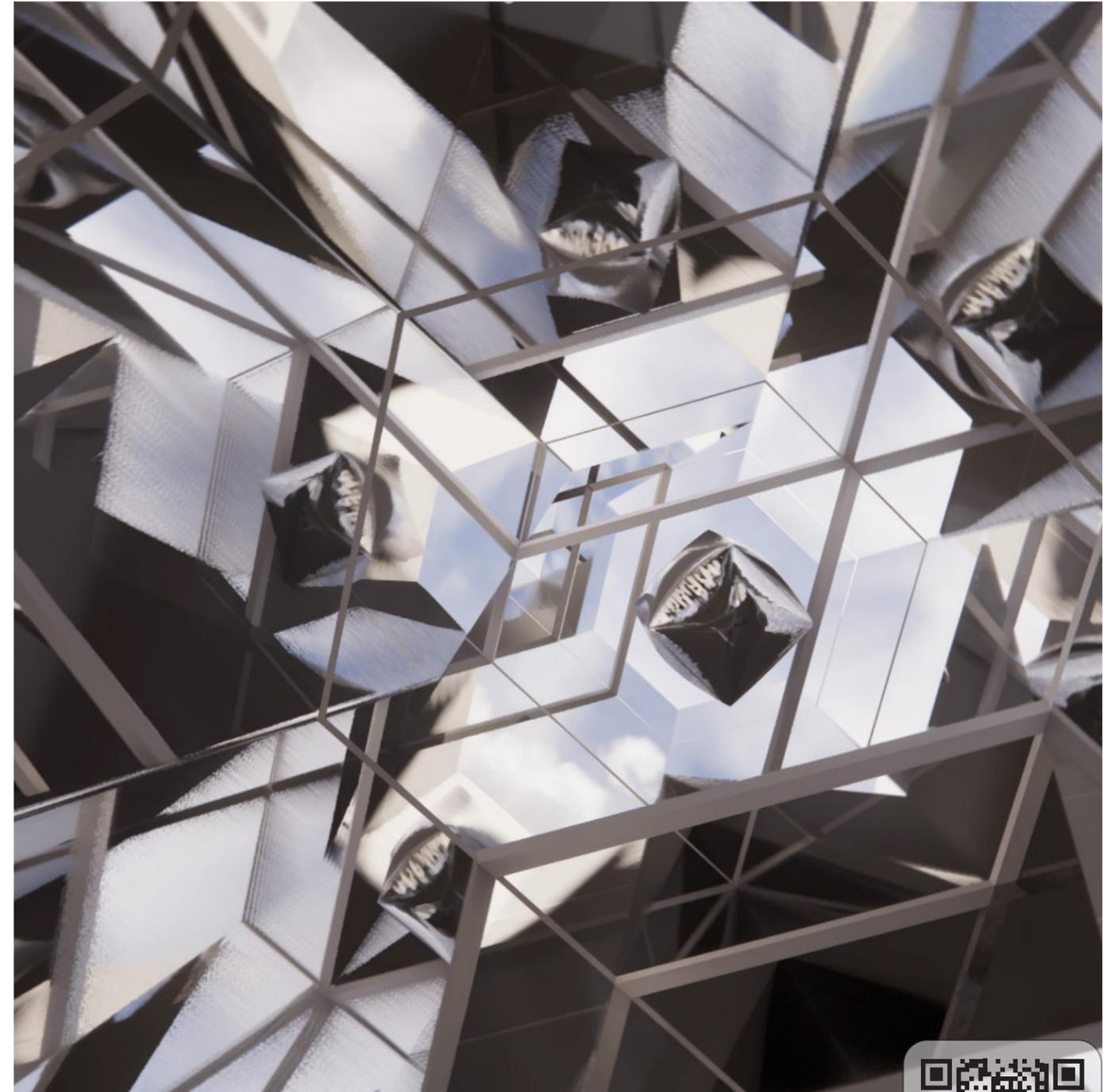
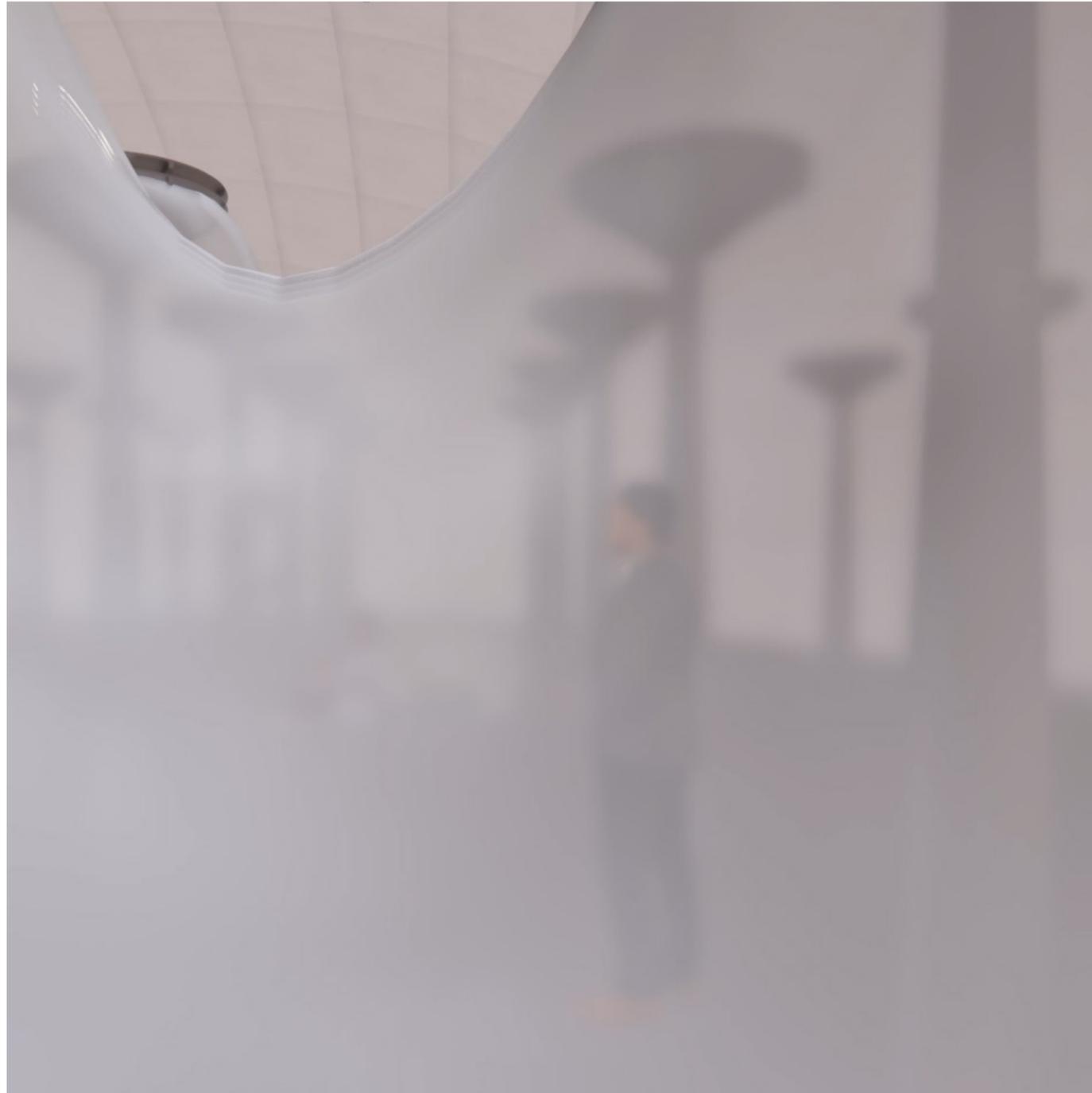




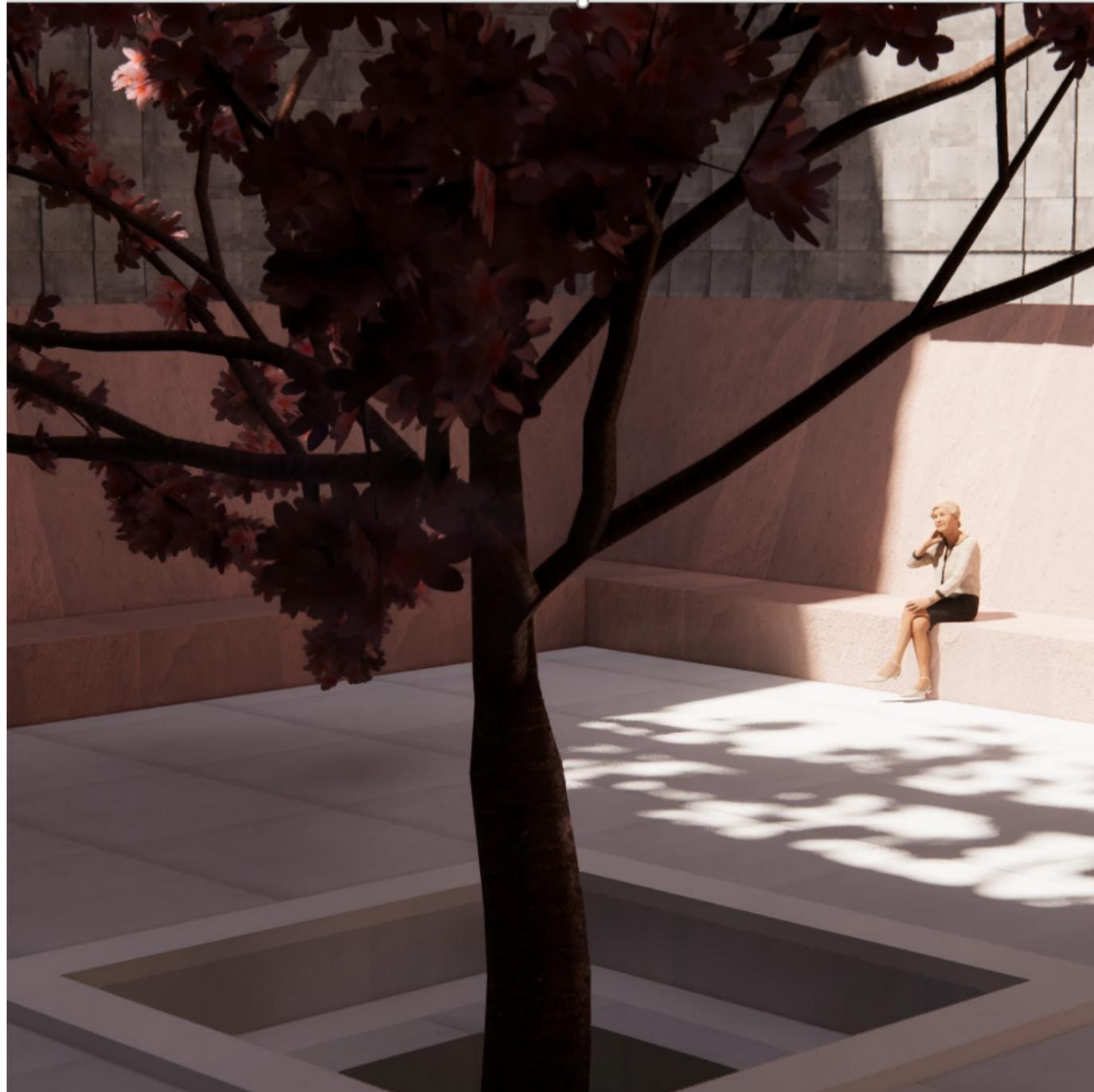
3,4-Methylenedioxyamphetamine



[Video Link](#)



[Video Link](#)



[Video Link](#)

DRAGON'S HEAD

Experimentation with the tessellation of a series of repeating tiles in 3D space. 18 interlocking pieces were cast in concrete using two silicone molds.

Professor Joshua Jordan
Transitional Geometries, Fall 2021



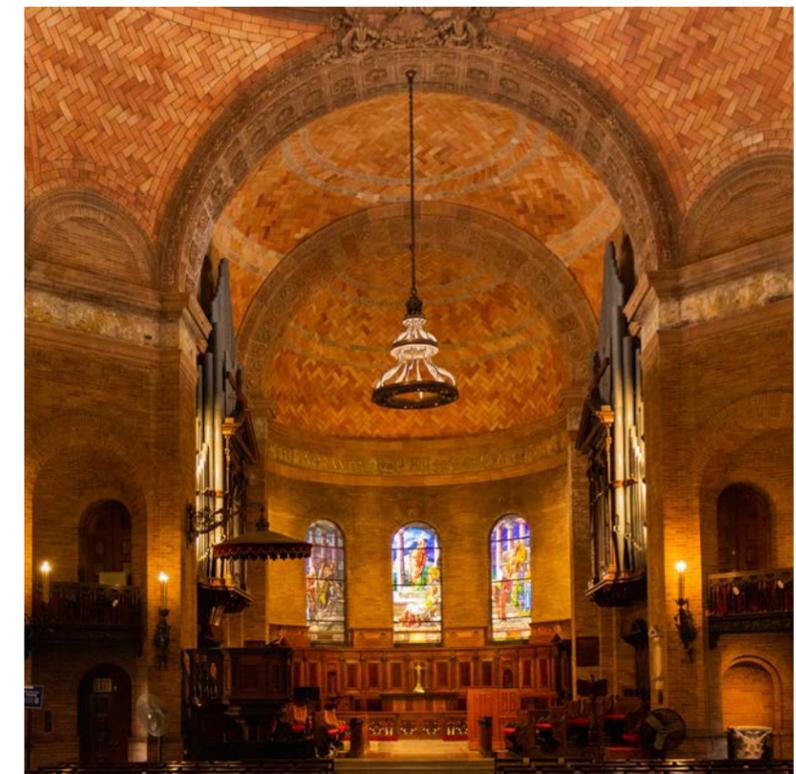
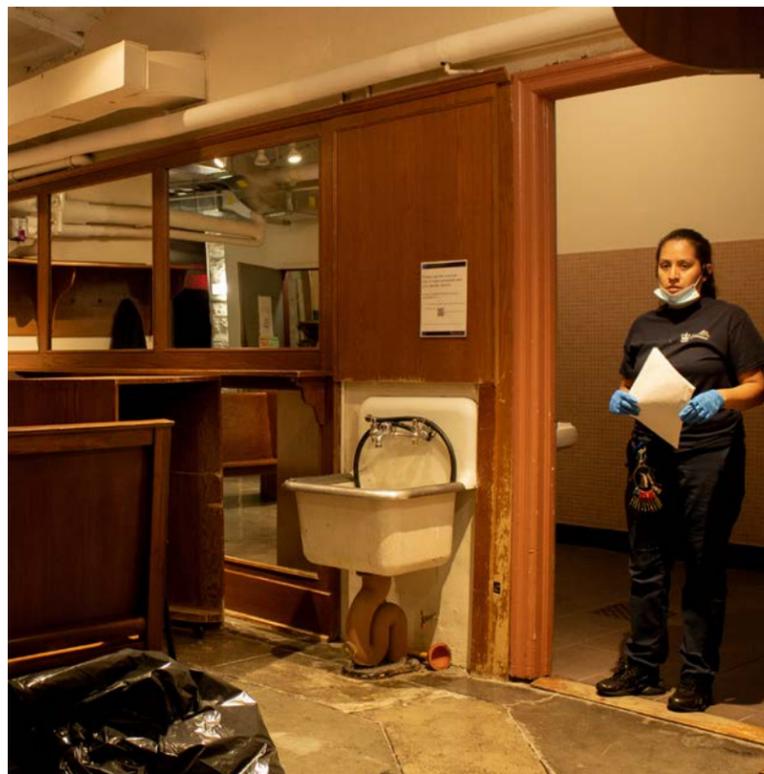
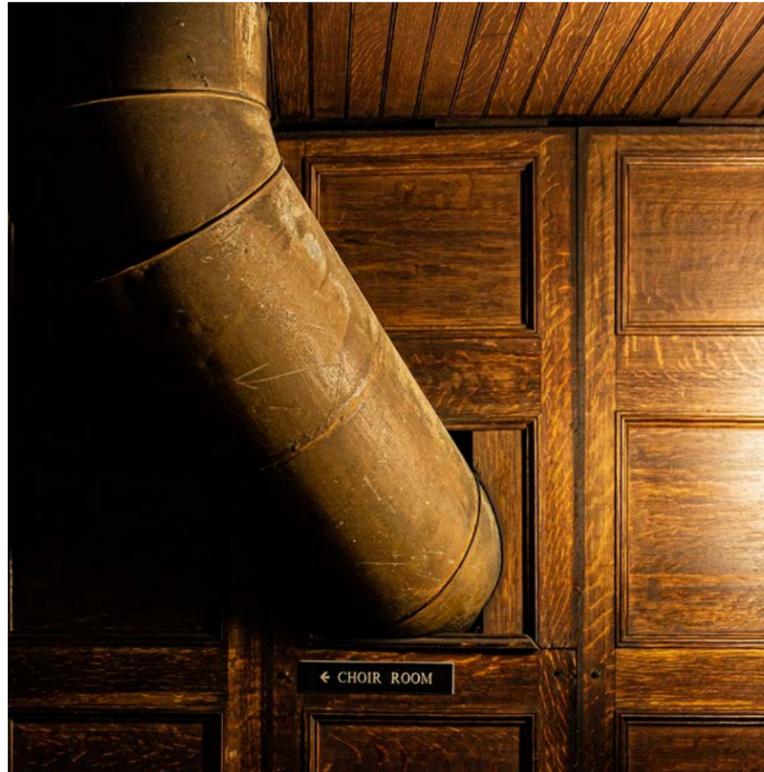


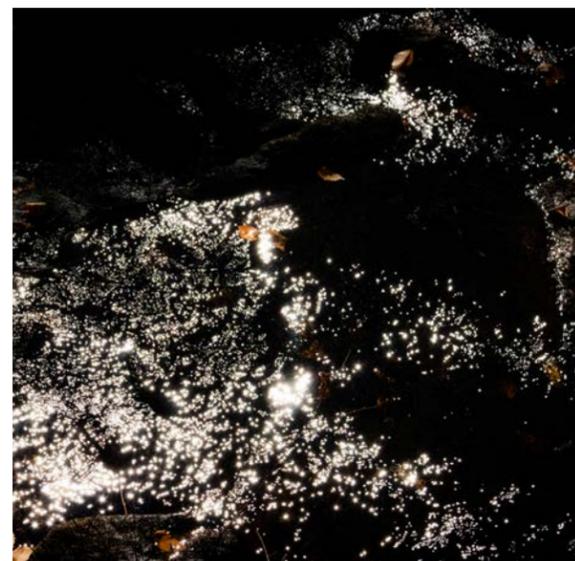
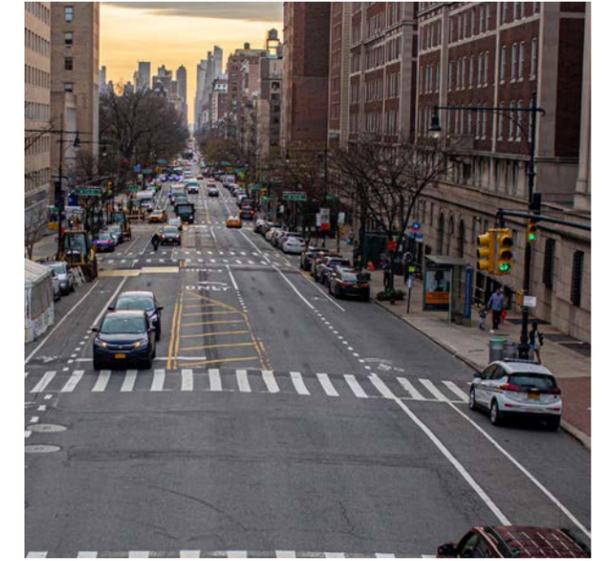
[Video Link](#)

BROKEN, UNBROKEN

Exercises in lighting, color composition, form finding and other areas, Broken, Unbroken is a catalogue of the beginnings of post-pandemic academia and social life in America.

Professor Michael Vahrenwald
Architectural Photography, Fall 2021



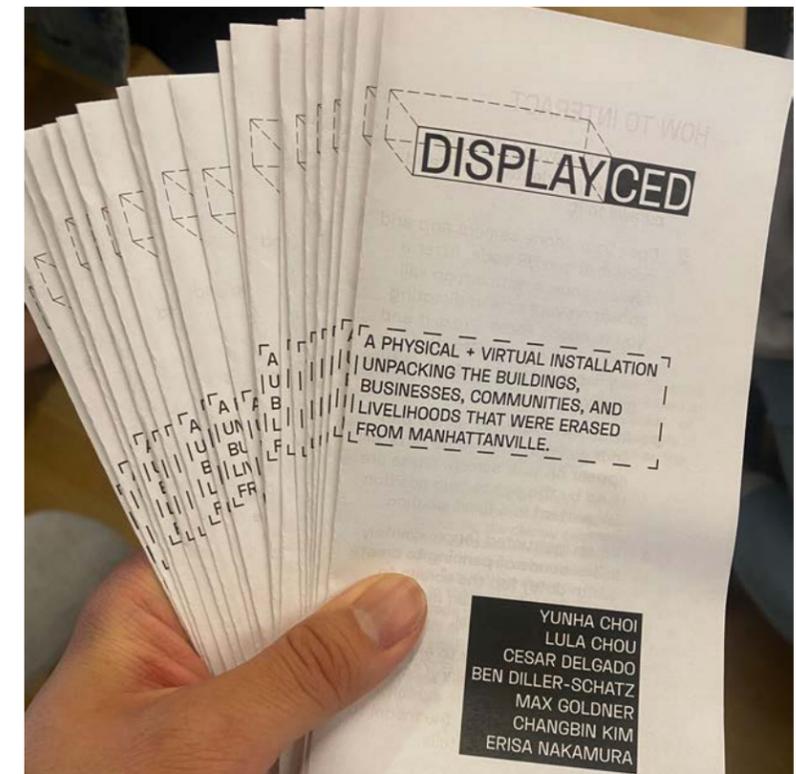
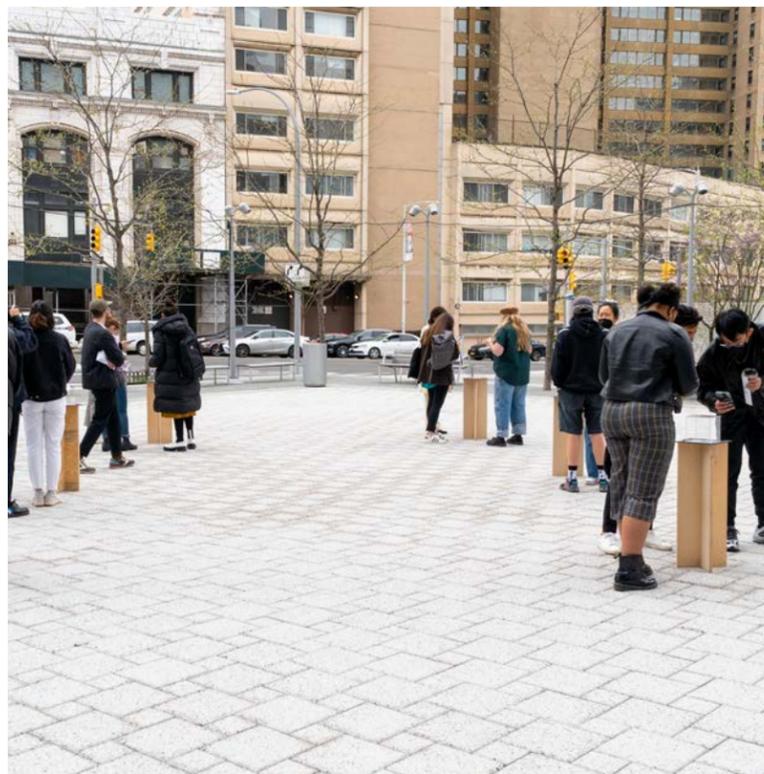


DISPLAYCED

DISPLAYCED puts Columbia's gentrification and displacement of the Manhattanville community on display literally. Asking what traces of Manhattanville's past remain and what was fully erased, the work contends with the numerous scales of displacement, from families to local businesses to entire community networks. In comparing multiple time periods, disputes, and phases of change, the DISPLAYCED also grapples with the many nuances that come with displacement at such a large scale: the discrepancies of settlements, the other various agents of change and exploitation, as well as the archives that remain lost. The work uses an empty display case as both a physical and virtual signifier. Physically, the display case suggests a curated museum space as well as the affect of sheer absence. Jarring and peculiar, visitors are encouraged to go up to these cases where they can scan a QR code to take them to an augmented reality on their phones, whereby they can see objects, buildings, and stories from various pieces of Manhattanville that no longer remain. While primarily clustered around the Manhattanville campus, some of these cases are dotted along the walk from Columbia's main campus, suggesting a longer tour that takes into consideration Columbia's ever-growing domain.

Partners: Max Goldner, Cesar Delgado, Changbin Kim, Erisa Nakamura, Lula Chou and Yunha Choi.

Professor Sharon Ayalon
If Buildings Could Talk, Spring 2020



APARTMENT BUILDING

Displaced: 2011
 Location: 619 W 125th St
 Compensation: Unknown (Eminent Domain)



619 W 125th St was one of many residential buildings demolished because of Columbia's Manhattanville expansion. While this specific address does not have a special or particular story, it highlights the little that is known in regards to Columbia's negotiations with the management and residents. We still do not have a body of data or archives detailing where all of these residents and families were relocated to, and the ways in which Columbia did or did not assist in that process.

DISPLAY CED



GAS STATION + CAR WASH

Displaced: 2011
 Location: 619 W 125th St
 Compensation: Unknown (Eminent Domain)



Columbia's push to displace the gas station and car-wash owned by Indian immigrant Gurnam Singh was an embattled one with substantial publicity. Columbia University became embattled in a case with the state and ultimately used eminent domain to clear Mr. Singh, who, when realizing that he might lose his gas stations at the time, had prompted him to go to the hospital for 18 days for exhaustion. Mr. Sprayregen of Tuck-It-Away Storage became an advocate for the family and collectively filed a lawsuit together, which in 2009 was overruled, beginning what many consider the start of gentrification.

DISPLAY CED



FLORIDITA RESTAURANT

Displaced: 2010
 Location: 2276 12th Ave
 Compensation: None



Founded in 1969, at one time the restaurant, which had been at its location for 34 years, was among a cluster of Cuban eateries in the area, an area home to many Cuban Americans. Yet in April 2010, it unexpectedly closed amidst confusion from its landlord, Columbia. The university said the restaurant must stay closed for six weeks to repair the floor. But Ramon Diaz, owner and nephew of Floridita's founder, insisted that Columbia did not provide options that would have allowed him to stay open while he leased and renovated a new location nearby. Ultimately, v moved to Washington Heights.

DISPLAY CED



SHEFFIELD FARMS

Displaced: 1938; 2009
 Location: 3229 Broadway
 Compensation: \$5.2 Million



Originally built in 1903, Sheffield Farms dairy's six-story building was later designed by Frank A. Rooke in 1909. It housed horses to deliver pasteurized milk until 1938. It was sold in 1942, and became used by a real estate company, insurance company, and warehouse. In 2005 it was on the National Register of Historic Places. In 2009, Columbia contracted with the building's owner to build her a new building uptown, and moved the stable's facade there in 2012. Columbia demolished the original building for the Jerome Greene Science Center.

DISPLAY CED



TUCK-IT-AWAY STORAGE

Displaced: 2004-2009
 Location: 646 W 131st St
 Compensation: \$34M



Nicholas Sprayregen, owner of Tuck-It-Away Storage, used to be the largest landowner in Manhattanville. Four of out five of his self-storage buildings became targets of forced sale under the power of eminent domain. Mr. Sprayregen became the face of opposition, and over a five-year fight that led him to the Supreme Court and spending over \$2 million personally on the case, the court ruled in his favor, ultimately receiving a \$34 Million settlement from Columbia University.

DISPLAY CED



STUDEBAKER FACTORY

Displaced: 1937 (Sold), Rented by Columbia in 1980s, Bought in 2000
 Location: 615 W 131st St
 Compensation: N/A



The Studebaker Factory, a former automobile finishing plant, might best be recognizable by its hefty freight elevator that remains as the spine of the building. Constructed in the 1920s and used until 1937, Studebaker then sold the building to the Borden Milk Company, which used it as a milk processing plant. Afterwards, it was home to various warehouses, including the American Museum of Natural History. Columbia began to rent it as office space in the 1980s, and later bought the property in 2000. It is one of the few remnants of the old Industrial West Harlem, and is now home to the finance department.

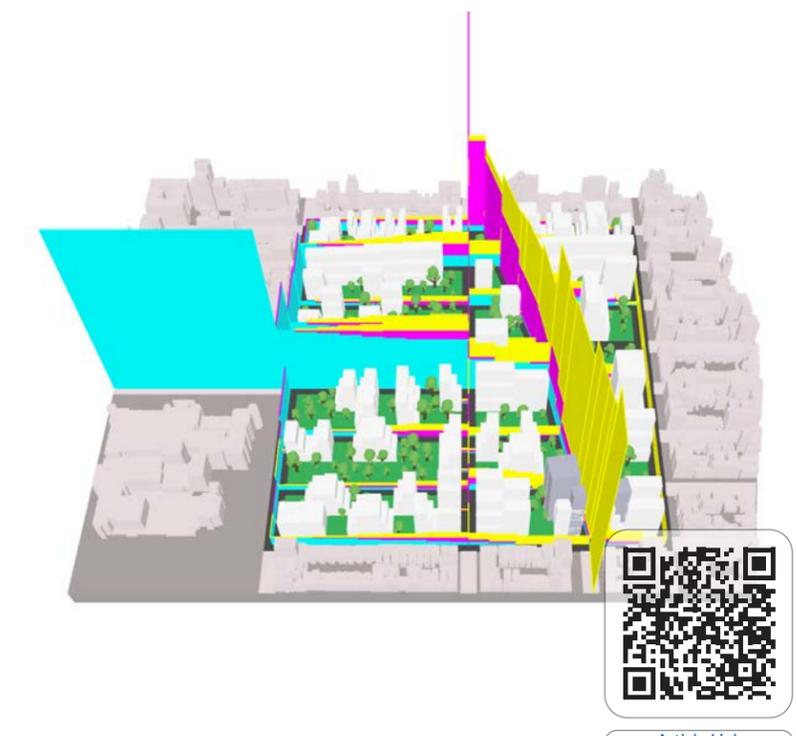
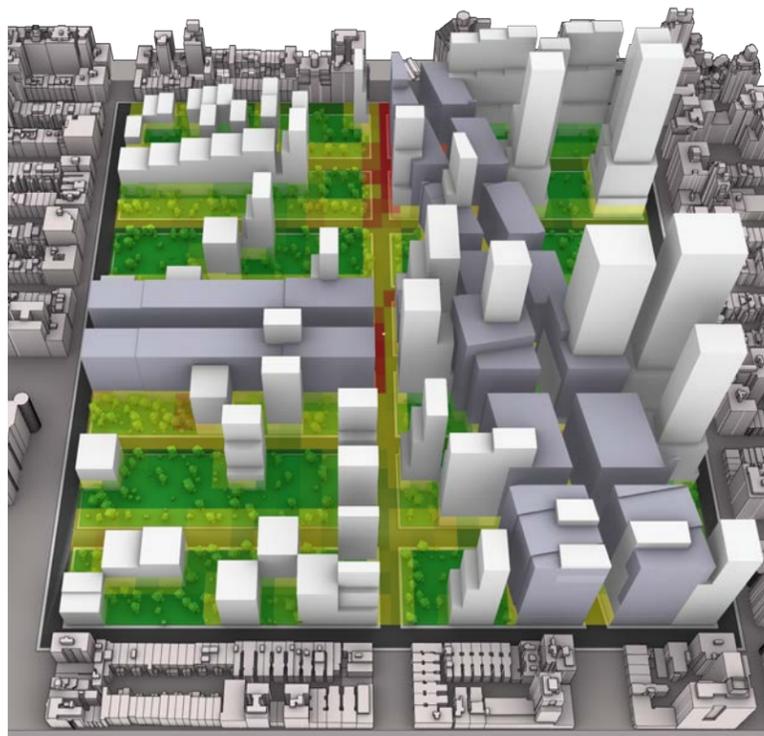
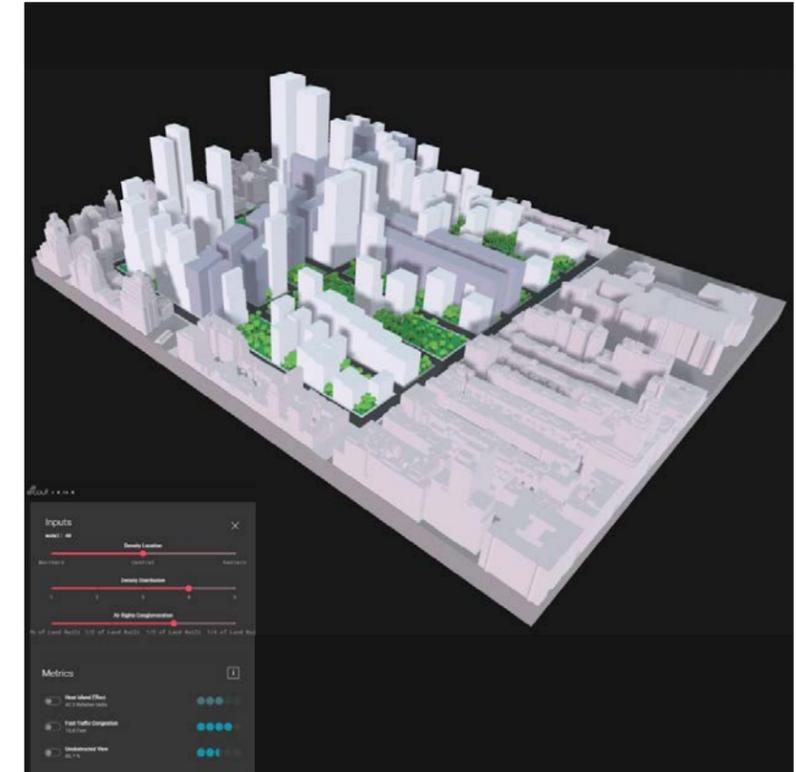
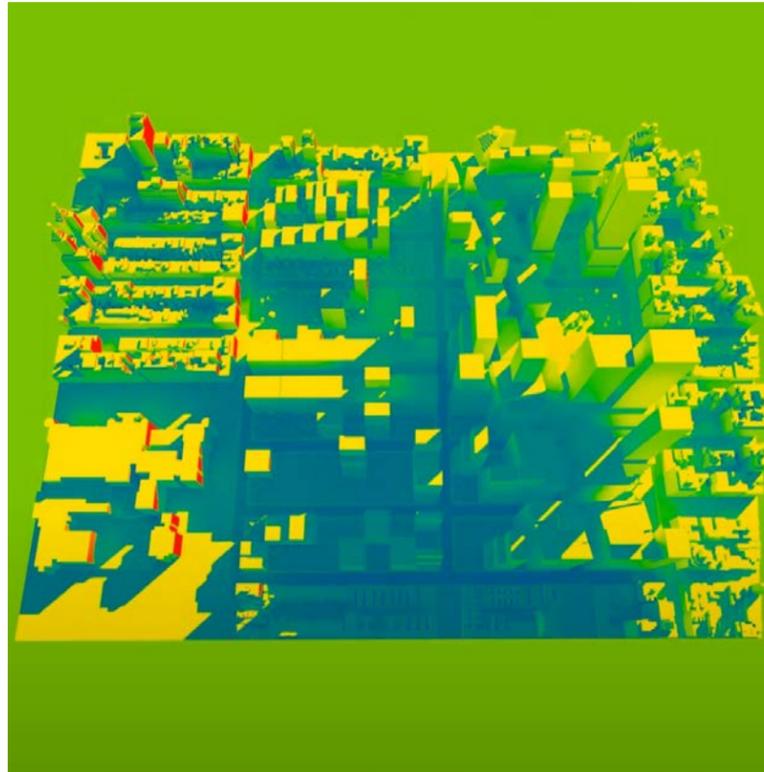
DISPLAY CED



AUTO-COMPLETE URBANITY

Auto-complete Urbanity is an all in one urban analysis and massing generation tool. The tool responds to user based objectives and provides intelligent massing of commercial and recreational programs that compliment residential master planning. The algorithm includes recursive elements that self-optimize over time, providing data-based insight in an instant. Portions of Auto-complete Urbanity were published with documentation intended for public use to github.

Professors Luc Wilson and Snoweria Zhang
X Information Modeling, Fall 2021



[Article Link](#)

WHAT'S NEXT?

A PORTFOLIO BY BEN DILLER-SCHATZ