





I think through drawing, and through drawings I design. This curated work sample shows a variety of themes I took interes during my graduate studies at Columbia GSAPP- among them are experiential spatial speculations, subjective representaiton, integrated technologies, and conceptual explorations. During this period of academia I challenged myself to rethink the precedent of existing architecture and push concepts that could start a novel vision for the future built environment. I have absorbed and shaped my current design thinking through my talented graduate peers and bright professors. This work is a result of the lived creative environment in the last 3 years. All together, this portfolio reflects the way my design thinking formulates and comes to each bold drawing that tells the many fleeting thoughts behind it.

Hazel Villena

/STUDIOS/

3

TIMEKEEPER

core I / fall 2019

LENSES: SCHOOL OF LIGHT

core II / spring 2020

NODE 10451

core III / fall 2020

WATERSHED SPINES

adv VI / spring 2022

ARD: OPEN LAND MOSQUE

adv IV / spring 2021

BQE PERFORMING HUB

adv V / fall 2021

/EXTRA/

WEB PAVILLION

outside project / spring 2022

STACKABLES

transgeo / spring 2022

ORBITING

ultrareal / spring 2021

CLOUD

extra / fall 2020

Bronx Clusters: interlocking amenities

Housing Complex / Core III Fall 2020 / Critic: Galia Solomonoff

Collaboration with: Cohaul Guohao Chen

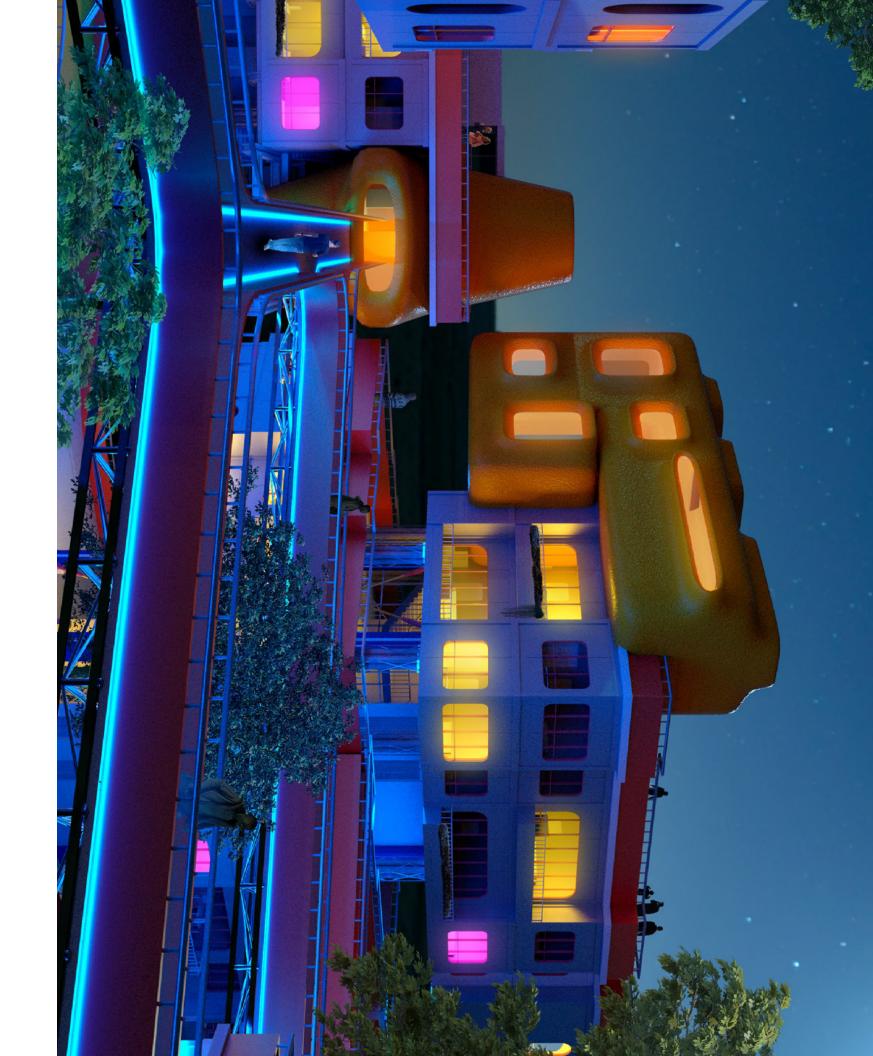
If an apartment building's amenity spaces are an afterthought during the design process, they're going to feel like afterthoughts in someone's life, too. As architects, we want to make a place where memories can be created, an innovatively executed communal space setting will enhance the living experience of the residents. And it will help the residents to form bondings. The energy of a building filled with residents that are happy and excited to meet people is unique and unmistakable. It is something that can be encouraged, with design. In an attempt to achieve so, we have created an urbanscape that has contrasting architectural language.

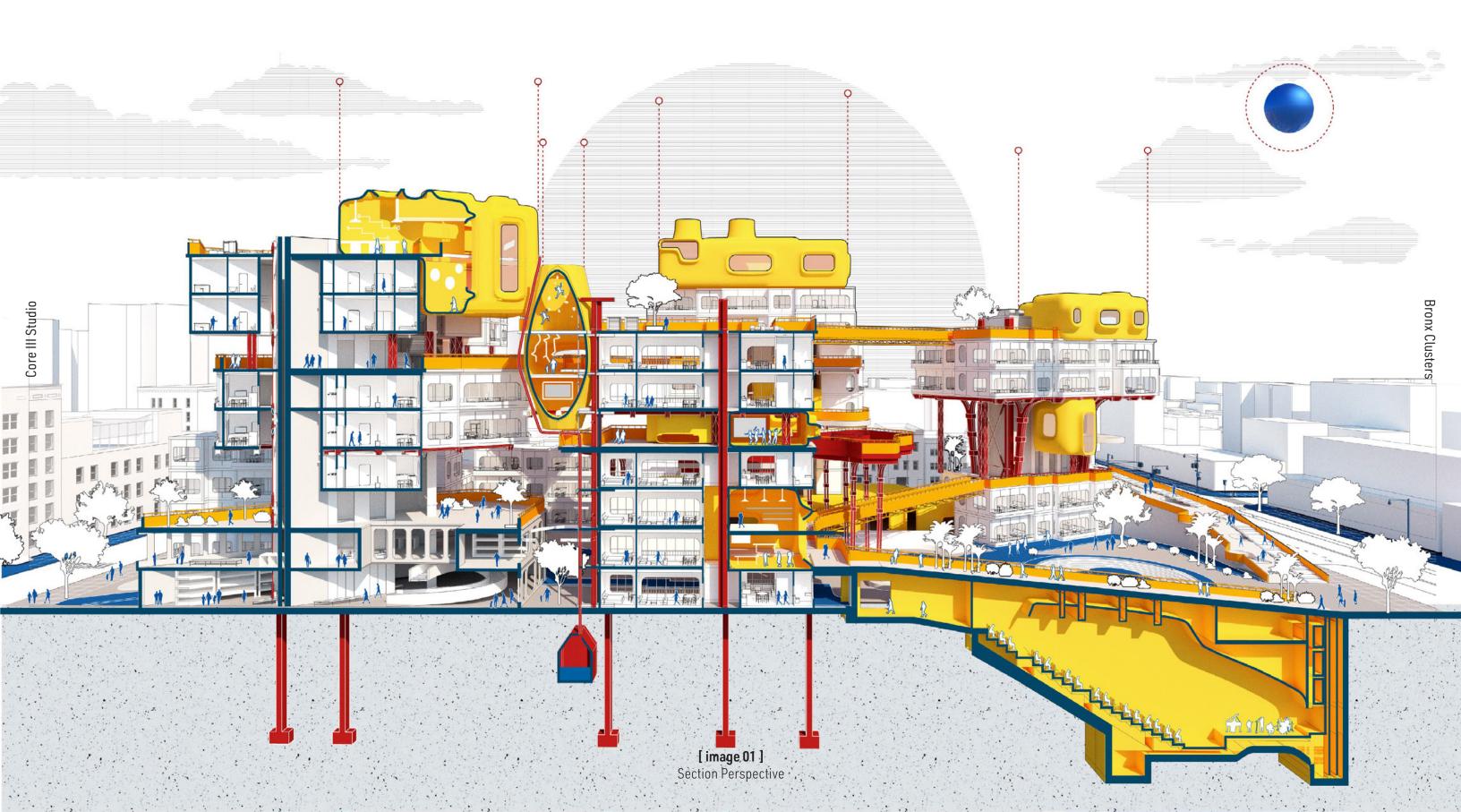
Unlike most of the apartment buildings, where they integrated all the amenity spaces at one spot. We are proposing to separate all the amenities at different locations. Each amenity space will be integrated with several housing units to form a cluster. For example a library combines with four 1B1B, two 2B1B and one 3B2B to become one cluster. And we have in total 12 clusters that are scattered on our site.

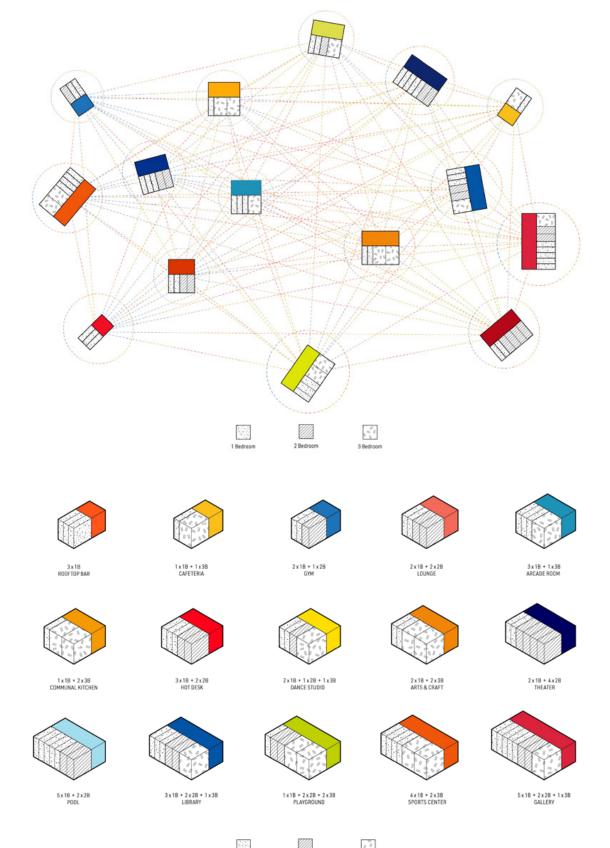
We are having 5 main housing buildings with 5 sets of cores. Each cluster will be wrapped around the core. From the ground floor plan, we are creating a communal garden that opens up

to the public. Additionally, an elevated park will be floating above at the center of the ground level garden, which will have connecting paths to different clusters. In order to have more outdoor communal spaces, we are creating vertical gaps in between the clusters, to create a mezzanine space which can be a sky garden or just an outdoor gathering space.

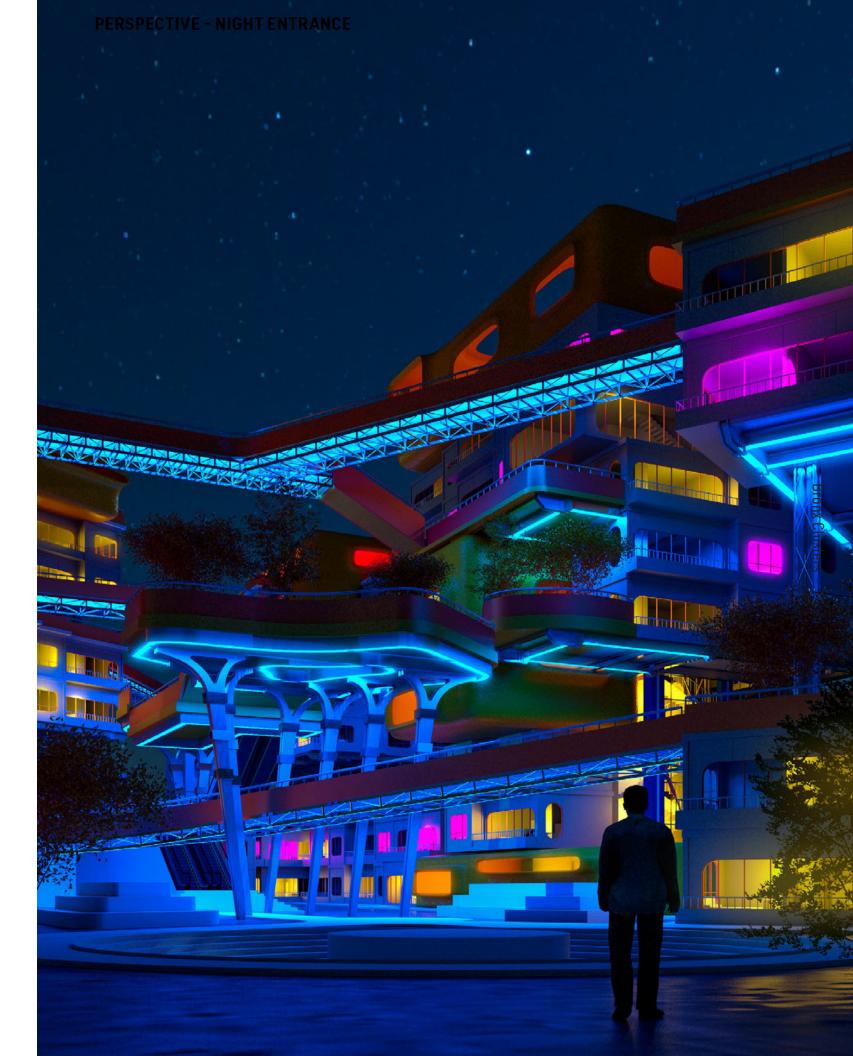
We're thoughtful when we choose the background for memorable moments. Common areas in the building are where all the fun stuff is going to happen, and they should be anything but common. The lounge, the rooftop, maybe even a game room — these are the places where memories are made. The amenity spaces should be the intersections where random encounters make for the stories worth sharing.

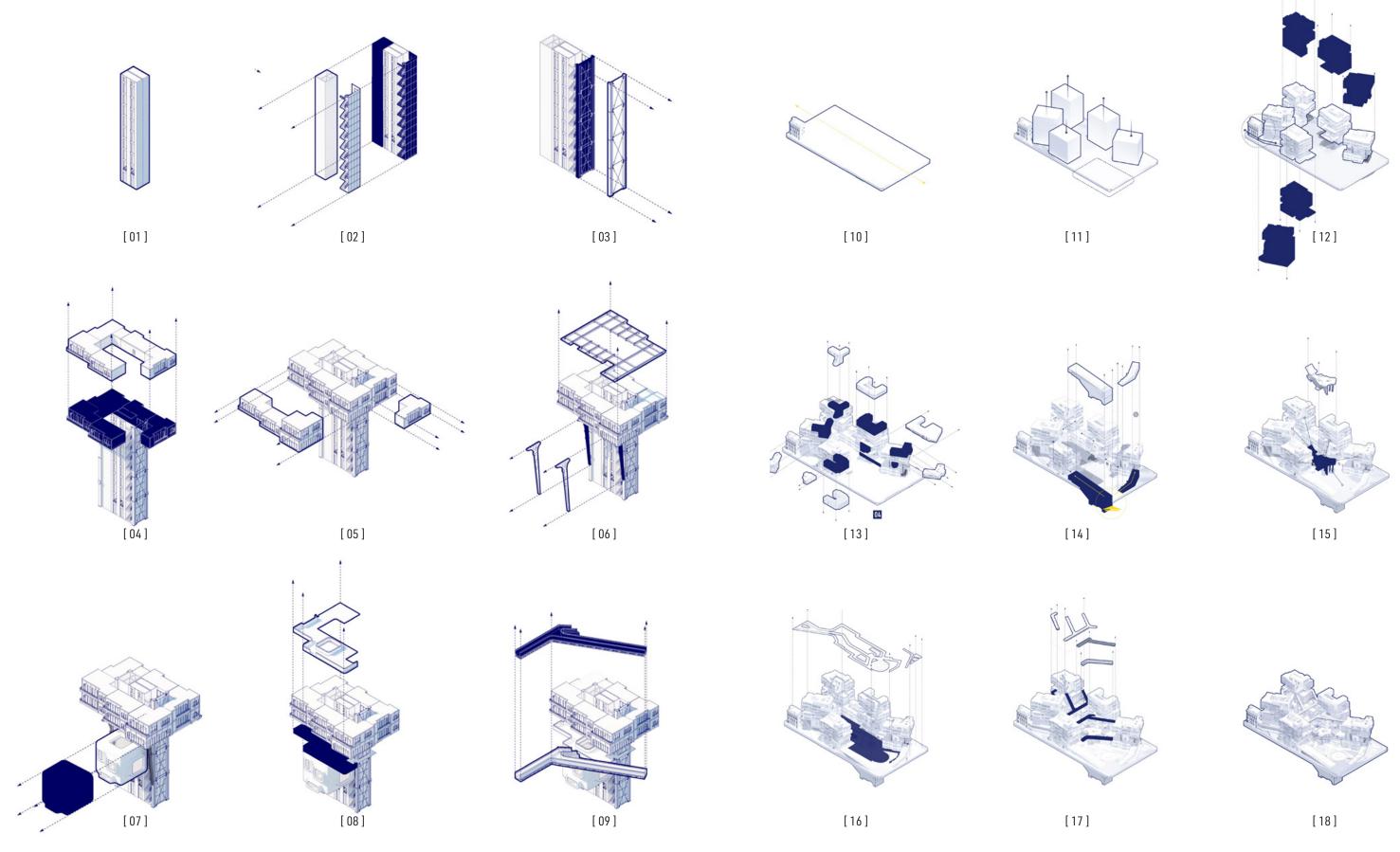






[image set 01]
Amenity to Housing Unit relationship study



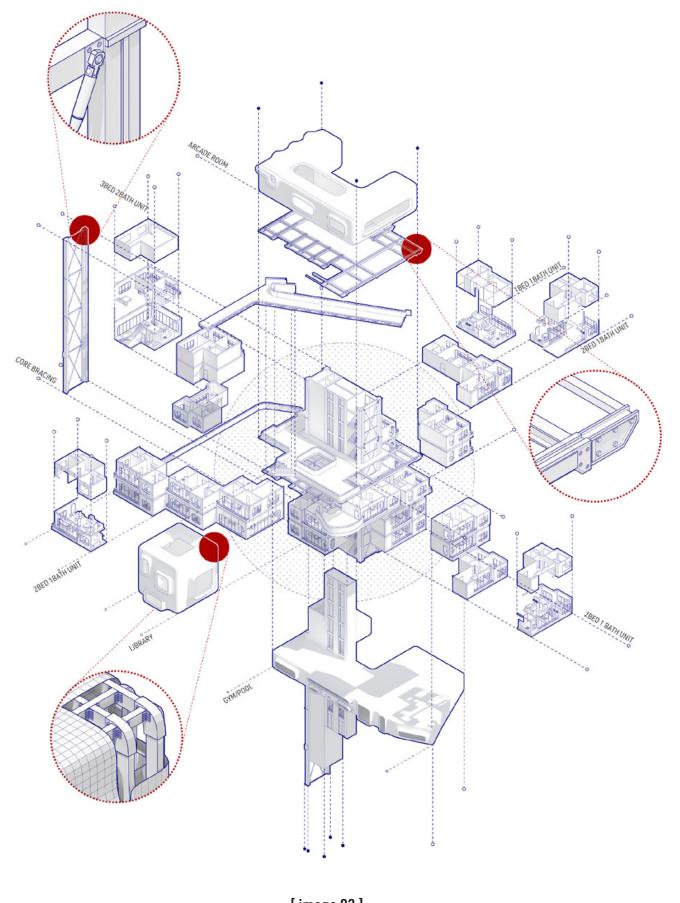


[image set 01]
Form Generating - from core to housing clusters

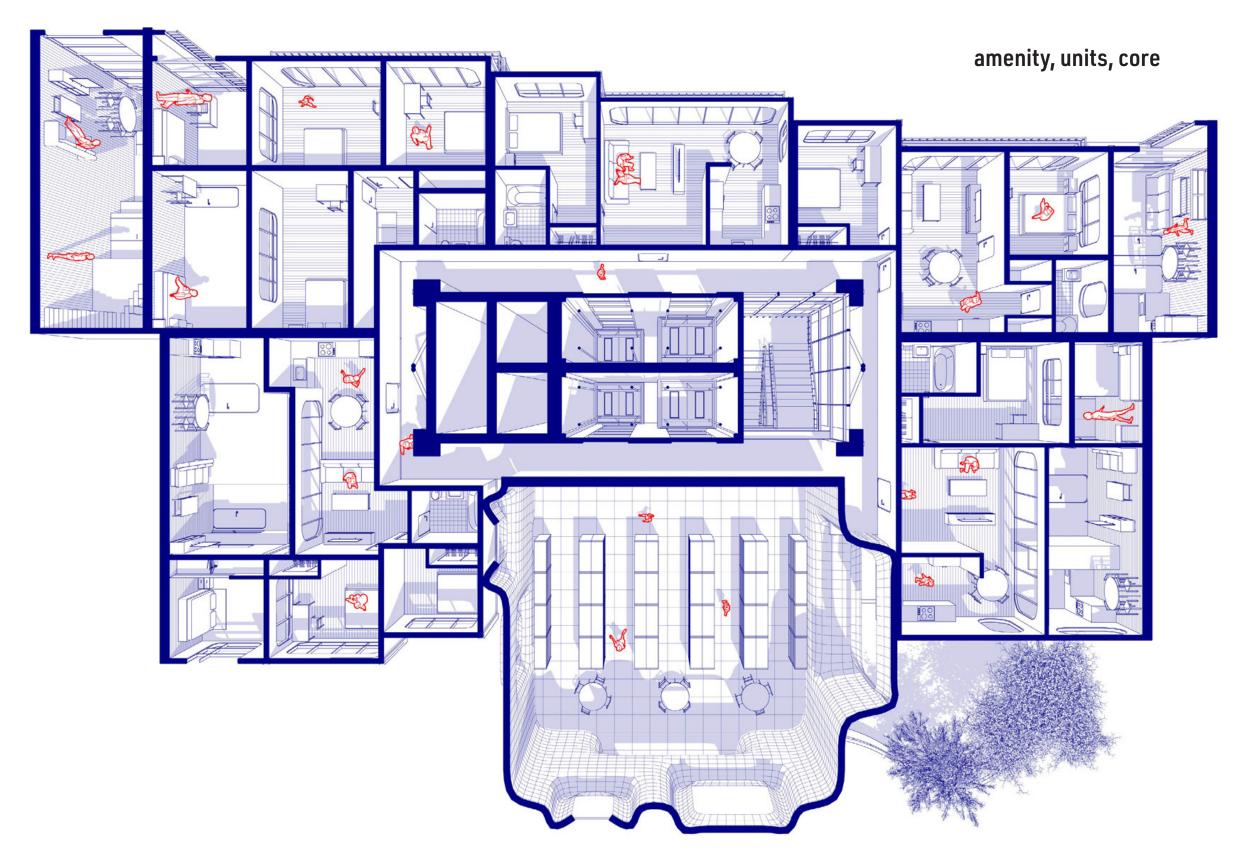


[image 01]
Housing Complex Isometric - Street Relationship

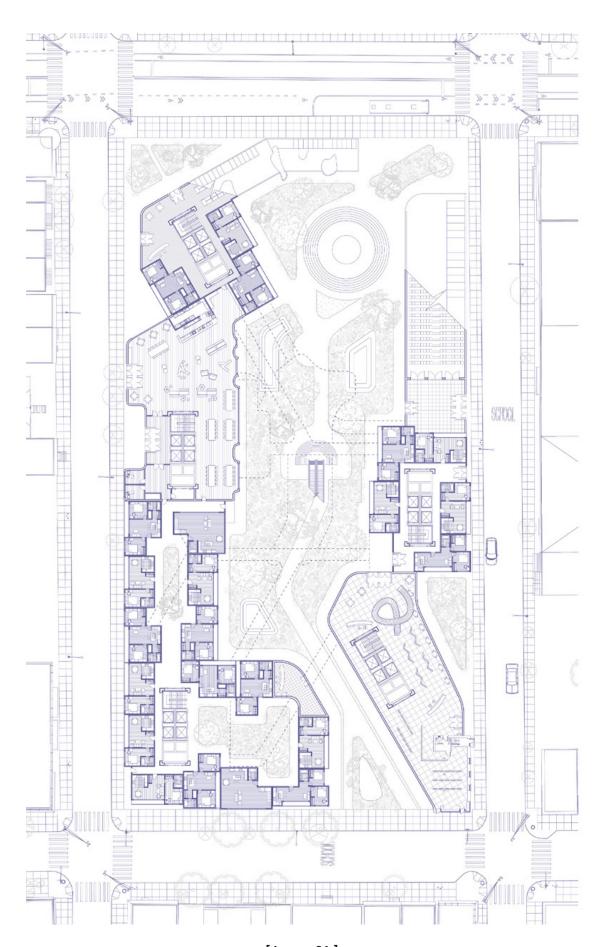




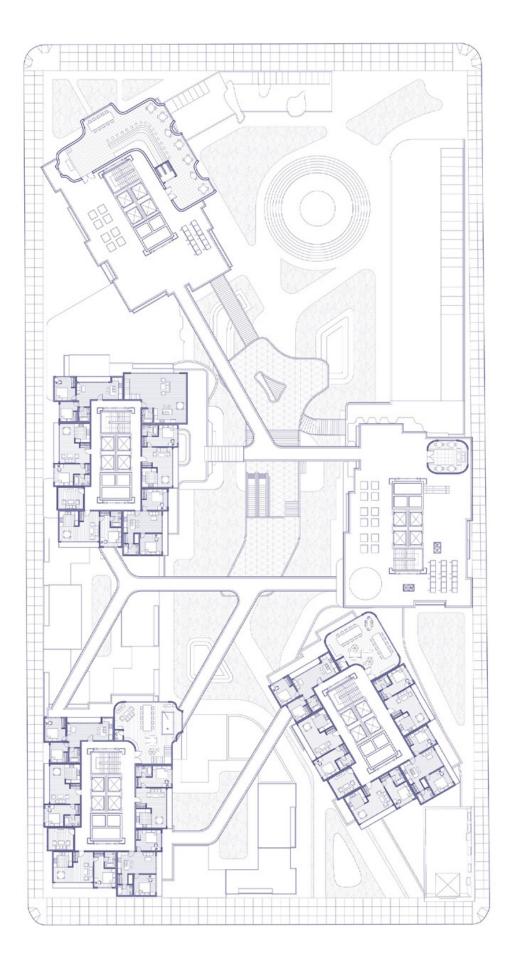
[image 02]
Exploded axonometric - Housing Cluster pieces



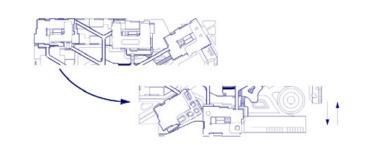
[image 01]
Perspective Plan - Typical Housing Cluster

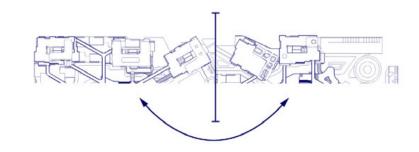


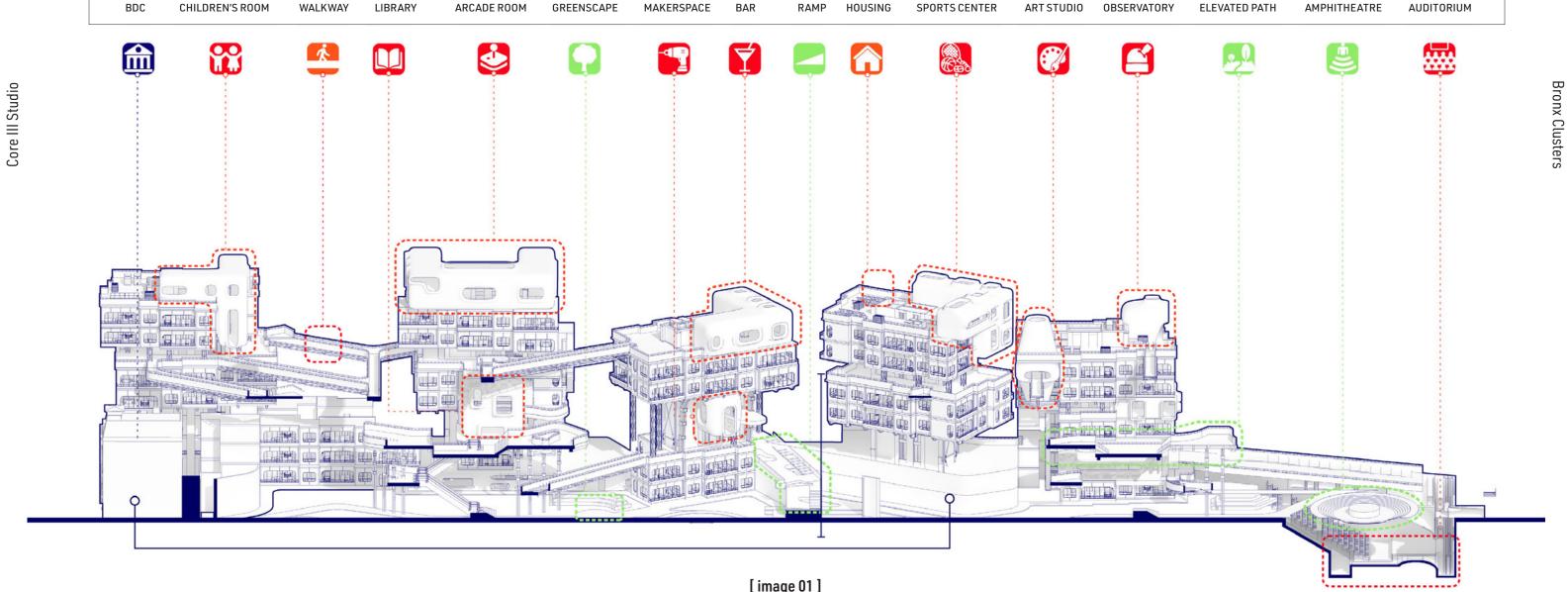
[image 01]
Plan - Housing Complex Ground level - Public Space



[image 02]
Plan - Housing Complex 3rd Level - Elevated Paths



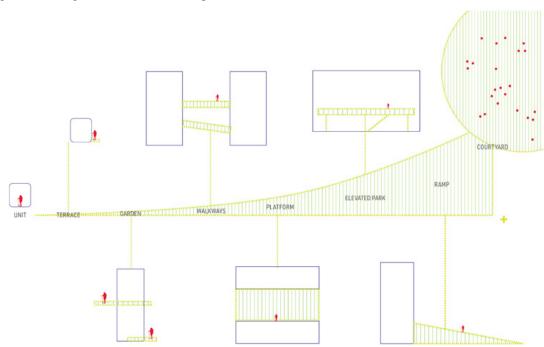




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[image 01]
Perspective - From Inside the Library





Lenses: a school for light

Education Center / Core II Spring 2020 / Critic: Karla Rothstein

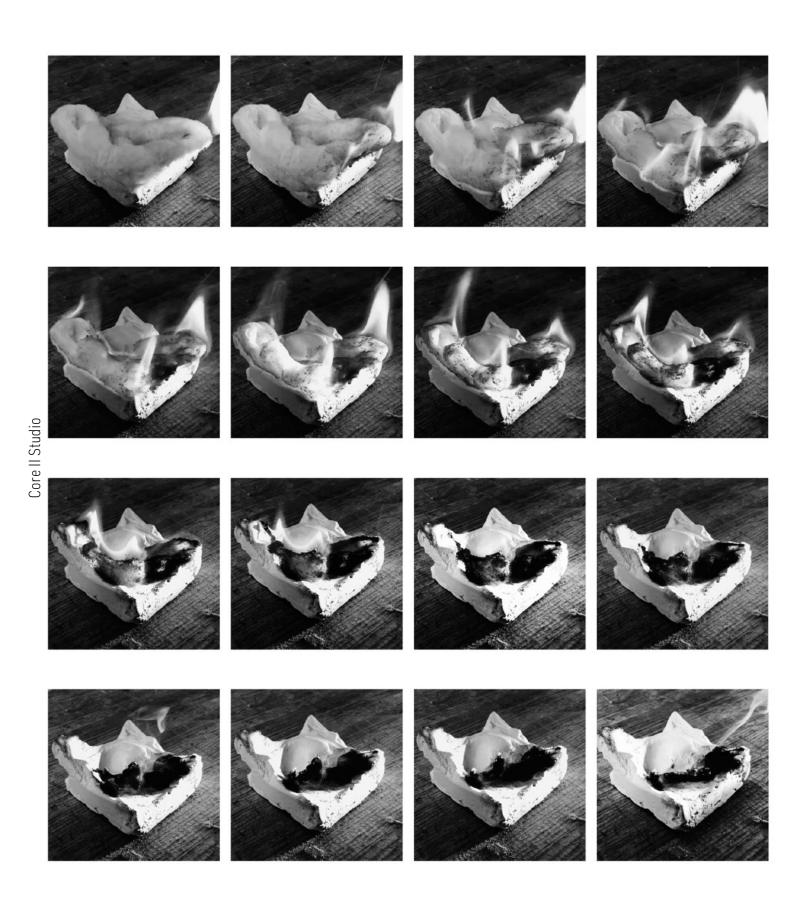
I became interested in the way light takes over different agents and through these filters, shapes the way people perceive spaces as. Thus, I started attempting to re-create different conditions in materiality in my first studies that I thought could be used to map the essence of light's ephemeral quality which were explored at first through cotton, rockite, paper, and acrylic. Shortly after, I started incorporating a set of layers in my relief drawing that ranged from clear, translucent and reflective. From there, the diffusion and propagation qualities of light through different densities or lenses, became a further target interest for this school project.

I have named my project Lenses, because of the intent for this school to be about these fleeting moments shaped by light throughout the day and seasons. The language incorporated through planes, apertures, and light-canon interventions take on the essence of the initial studies and map the always changing conditions inside and outside the school spaces. I wanted to give these interventions a purpose of when it was more adequate to portray a clear vs translucent vs reflective quality and from there start merging with the programmatic elements

and activities. Through this way, I intend for light to choreograph the spatial flows that people gravitate towards, enhancing the experience throughout mundane experiences and developing a language between the ephemeral and permanent.

The project is named Lenses after the study of light relationship to ephemerality and how it changes depending on the agent light diffuses or reflects through. The aim for the new proposal of the PS64 is to create a new language with a portion of the existent that gradually takes over the site and creates an always-changing experience in the school. Through interpolated programmatic spaces, elevated volumes, pocket interventions, and voids within voids, kids can get a different sense of interaction with the space through different lenses. These lenses may be shaped and created with the overlapping intervention of weather and light throughout the year, mapping the new elements on site in a new language. The school is meant to feel as a fleeting playscape, an agent to ephemerality and enabler for enriched school programmatic spaces.

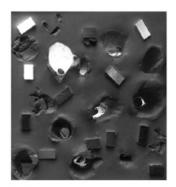


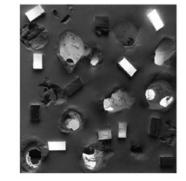


[image set 01]
Physical Models - Burning Materiality Study





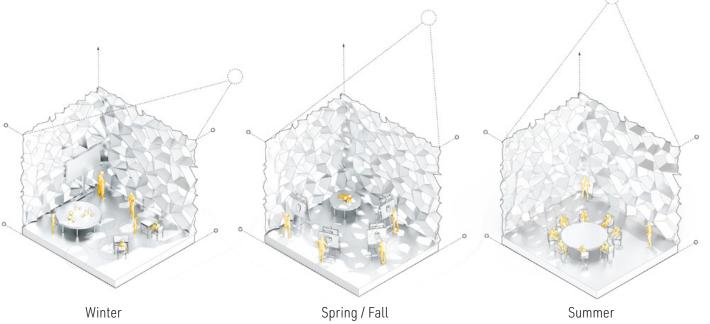




[image set 02]
Physical Models - Porous Light Studies





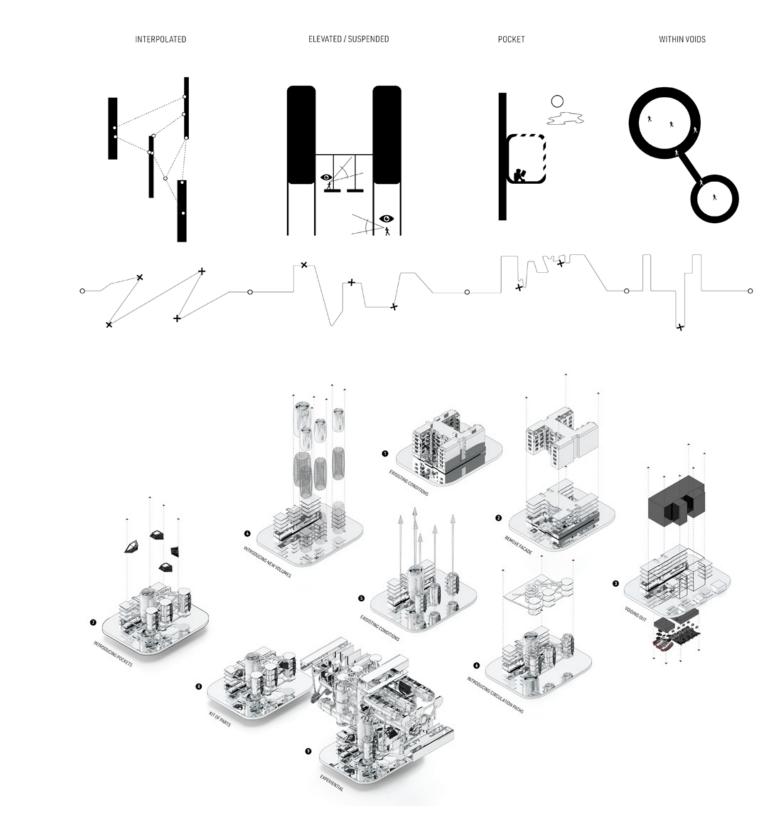




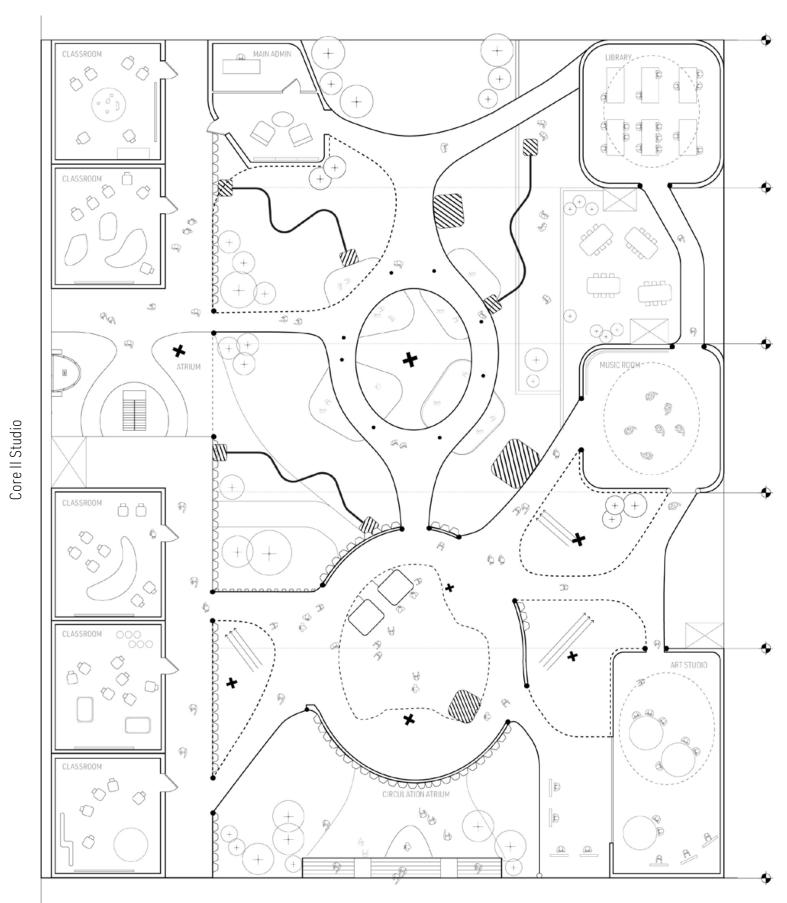
[image 02]
Section Perspective Zoom through transition spaces

[image 01]
Section Perspective - Public to Private

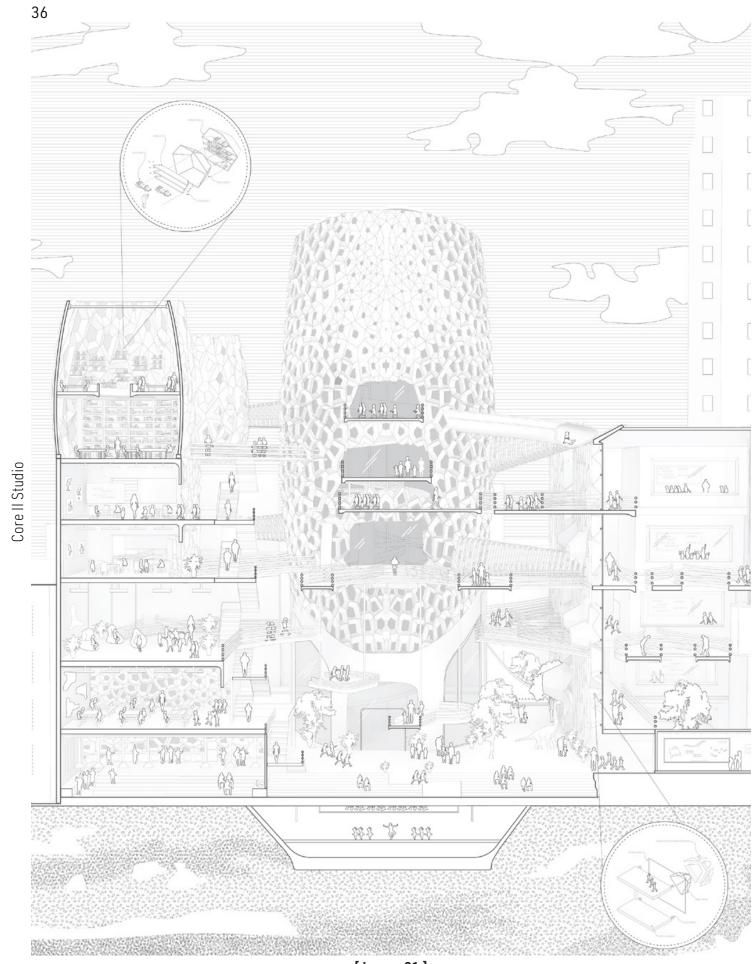
SPATIAL CONDITIONS KIT OF PARTS



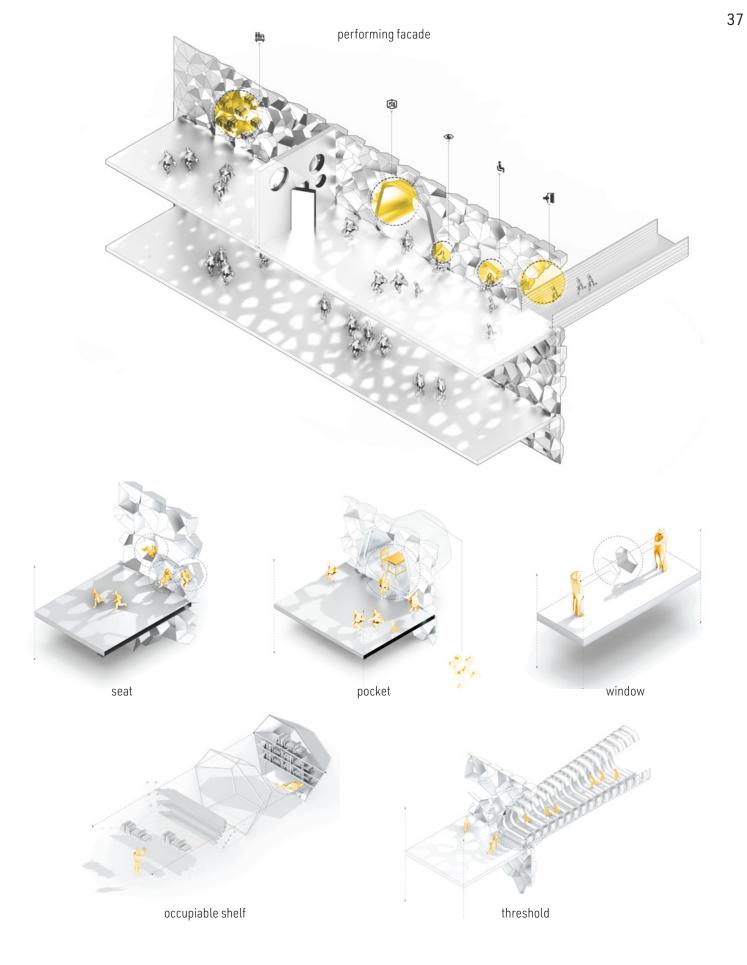
[image 02]
Spatial Condition Studies



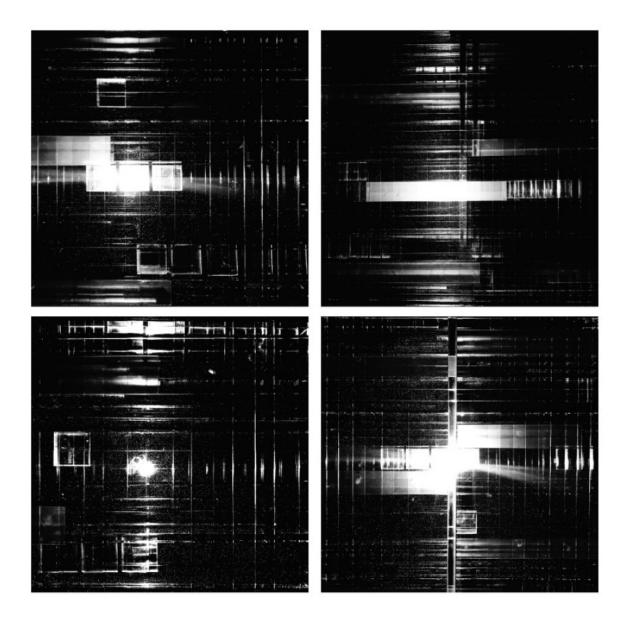
[image 01]
Plan - Existing to new through paths



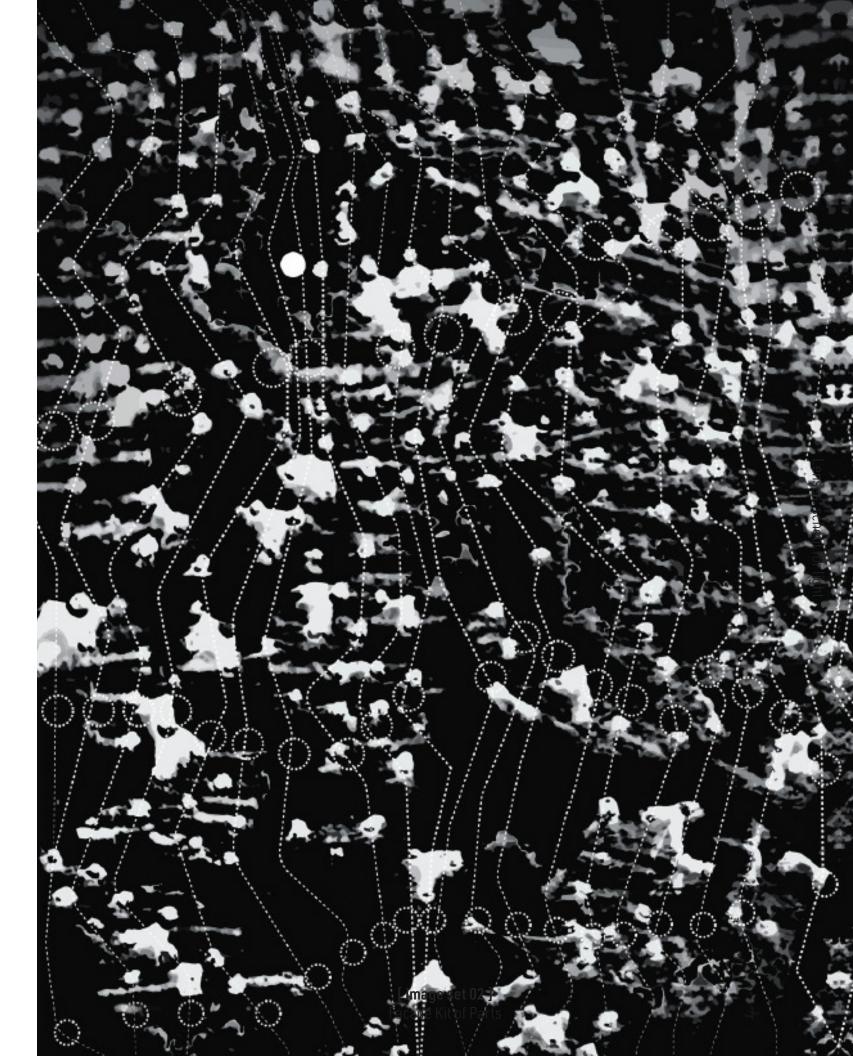
[image 01]
Section Perspective - Cutting Through Plaza and Classrooms

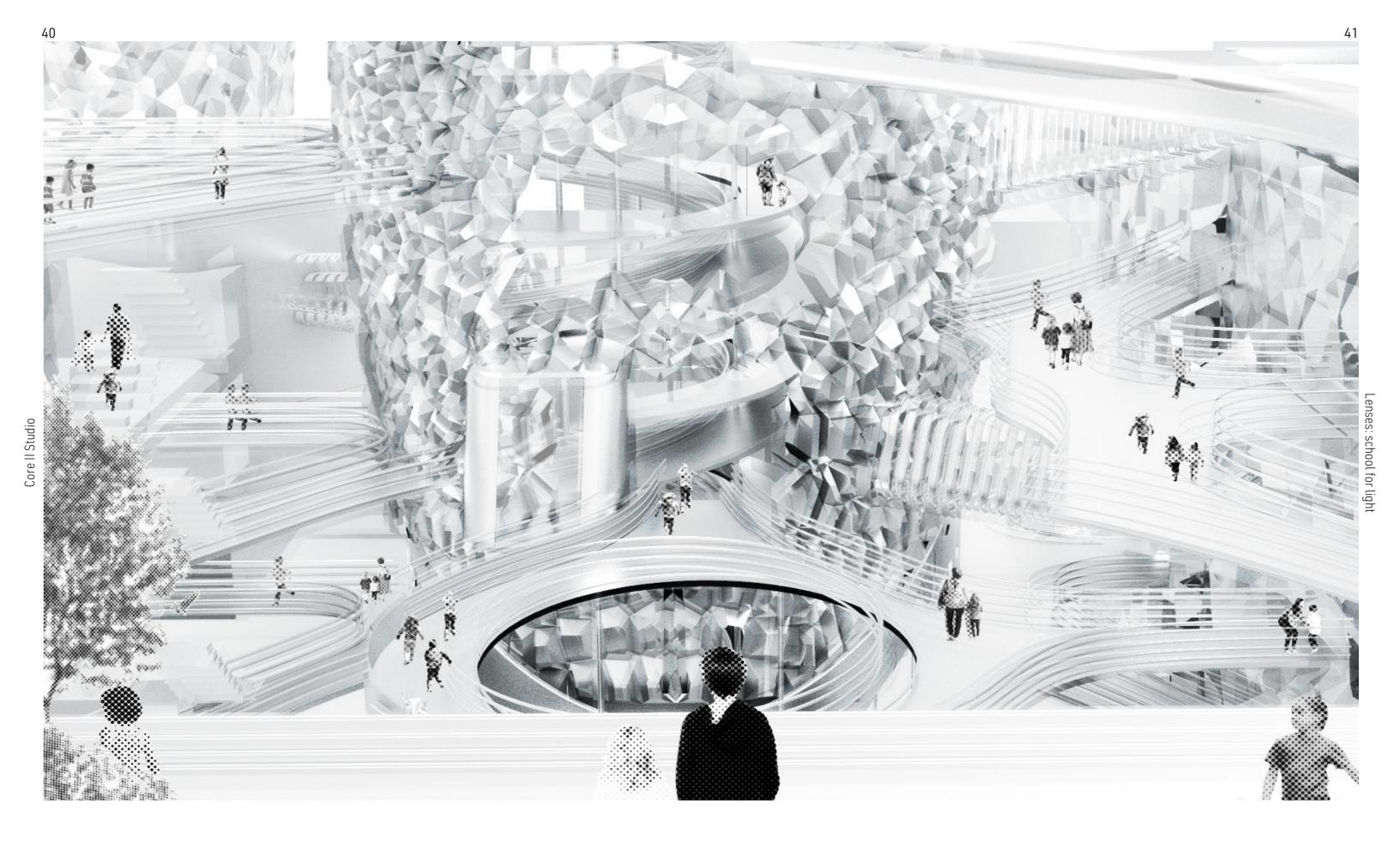


[image set 02]
Facade Kit of Parts



[image 01]
Physical Model - Light Study on Ephemerality





[image 01]
Perspective - Overlooking Connecting Pieces

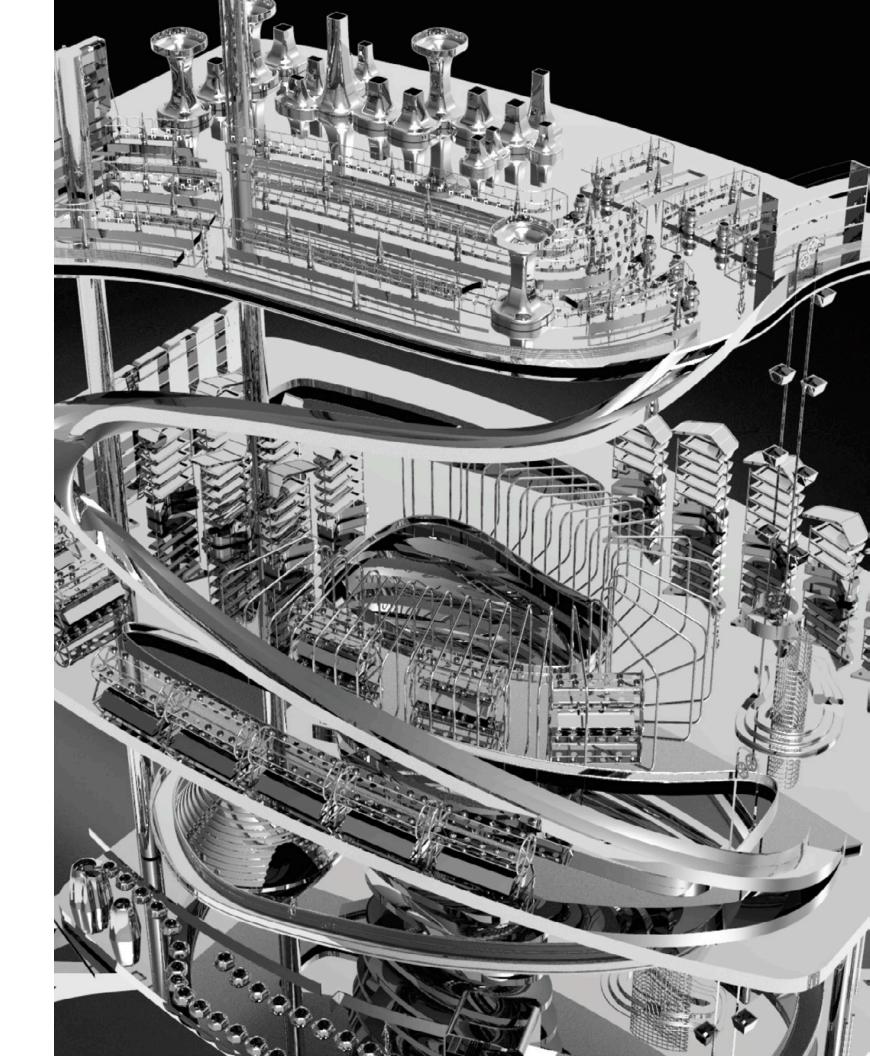
Timekeeper: floricultural heritage

Agricultural Public Space / Core I Fall 2019 / Critic: Lindsey Wikstrom

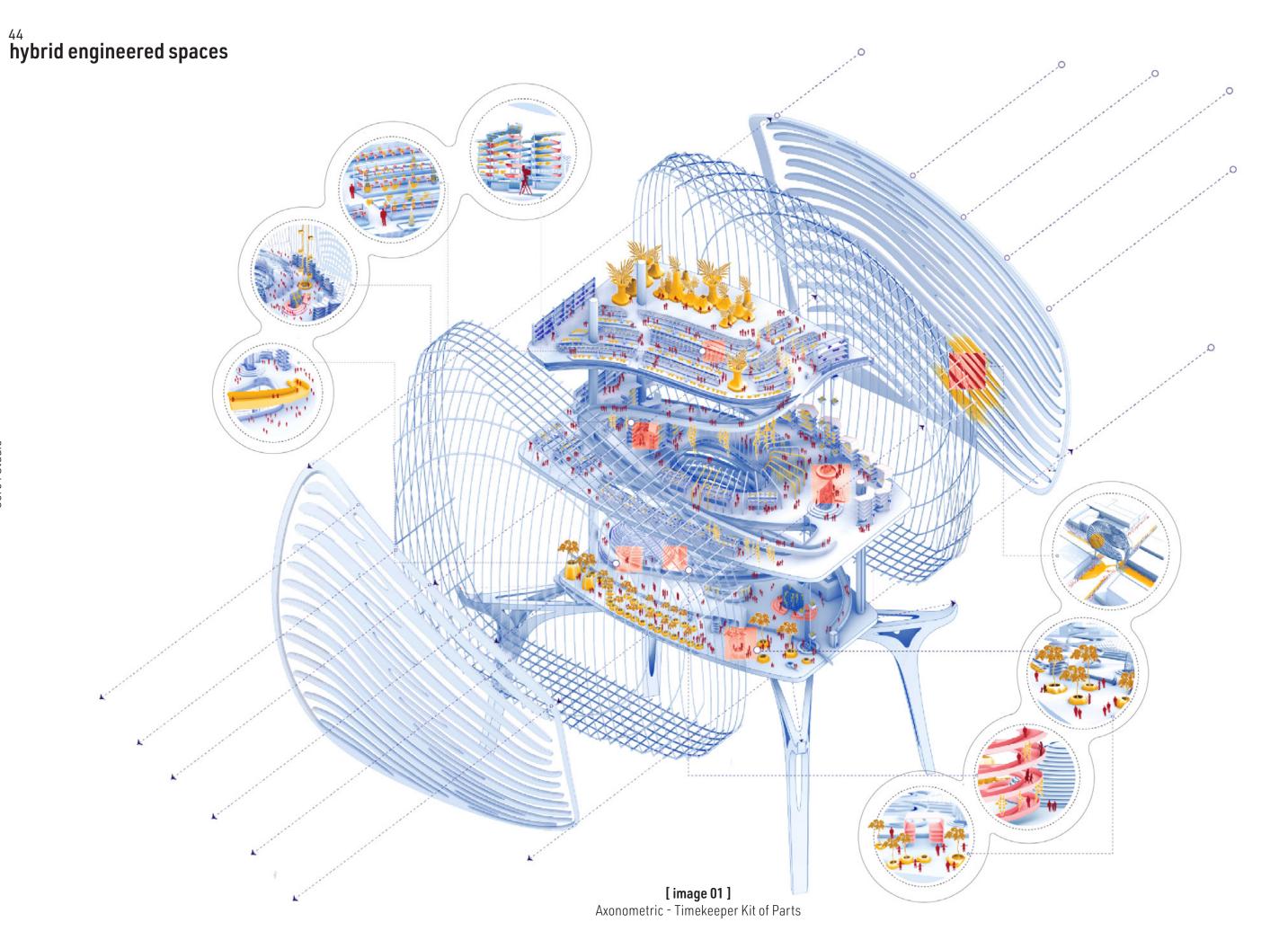
It is known that our biodiversity, especially our flora, has found itself endangered at increasing rates in the last 25 years, leaving us to question what to do as individuals to remotely be part of the help. In some way, most of us feel the need to manifest our desire for change, and often the first step to change is awareness.

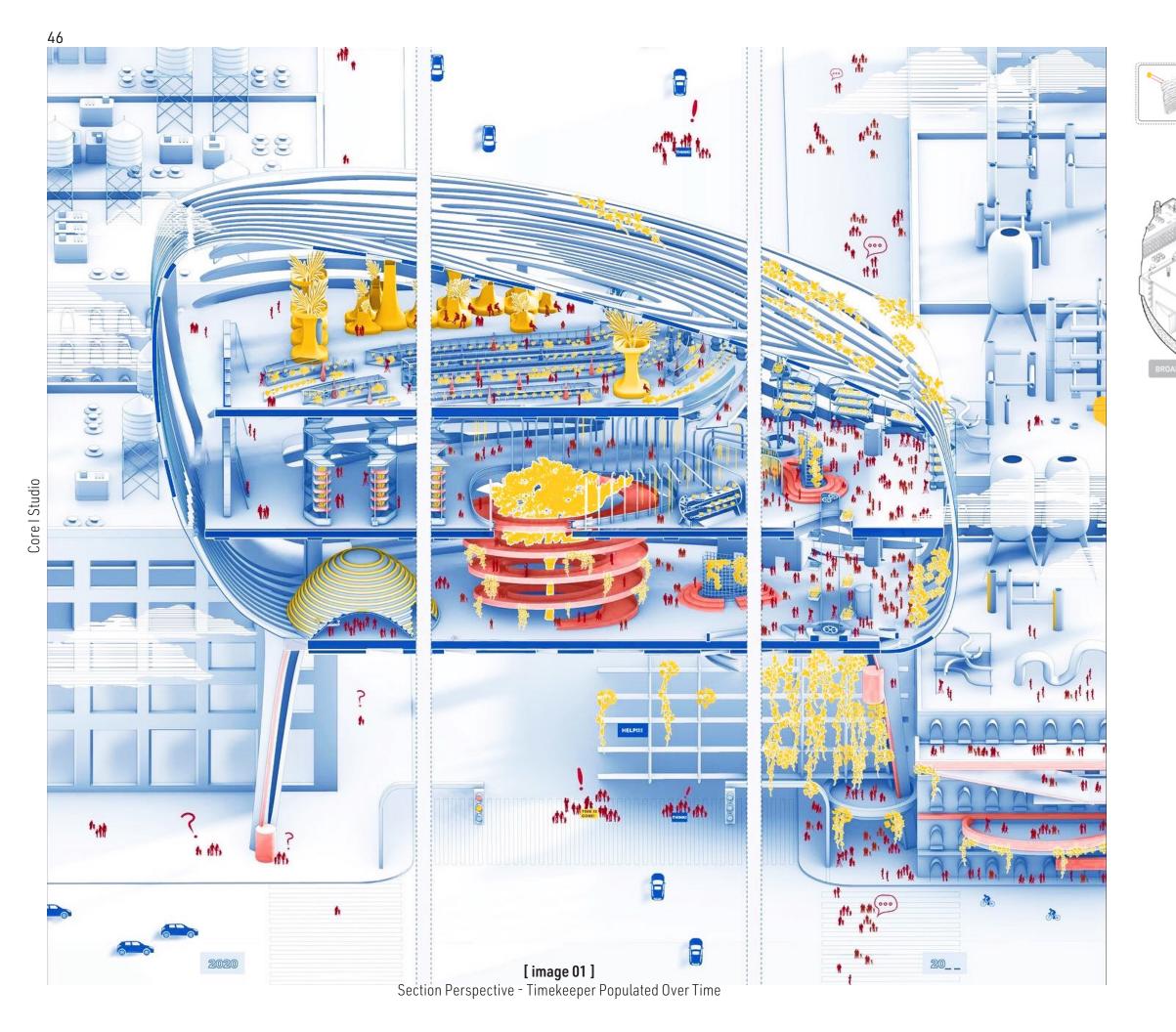
I have named my project The Timekeeper, because of its function serving as a co-op close loop agronomic center of the future, seeking to preserve what we might have lost by that time. This engineered mini-environment of its own is designed to be a kit of parts that sequentially takes care of nature and fosters horticultural practices, both from the past and emerging ones. The timekeeper hovers on the intersection of Grand and Broadway, targeting merging flows of people that come from primary Manhattan neighborhoods through this critical intersection. Both locals and tourists are intended to come together into the space to contribute to this mini-environment and foster the relevance of having a dedicated place that is only to cherish and take care of nature, in which both sides (humans and nature) come to a middle ground functioning reciprocally.

This safe haven appears as an intrusive object in the urban fabric of SoHo, creating both imposing and inviting effects on its passersbys, allowing them to be part of a much needed awareness revolution. The timekeeper is supported by 4 columns that reach each corner of the intersection, granting access through elevators that land at the first level. Here, from any corner, one can see this man-made mini-environment co-existing with the architecture that facilitates its growth and care through people. Circulation ramps wrap the growing produce and budding flowers, immersing people through the space as they experience the filtered light that comes through the skin onto the trees and finally the ground. All together becoming a reminder of what we once had, and was effortlessly beautiful, is now damaged.



TimeKeeper

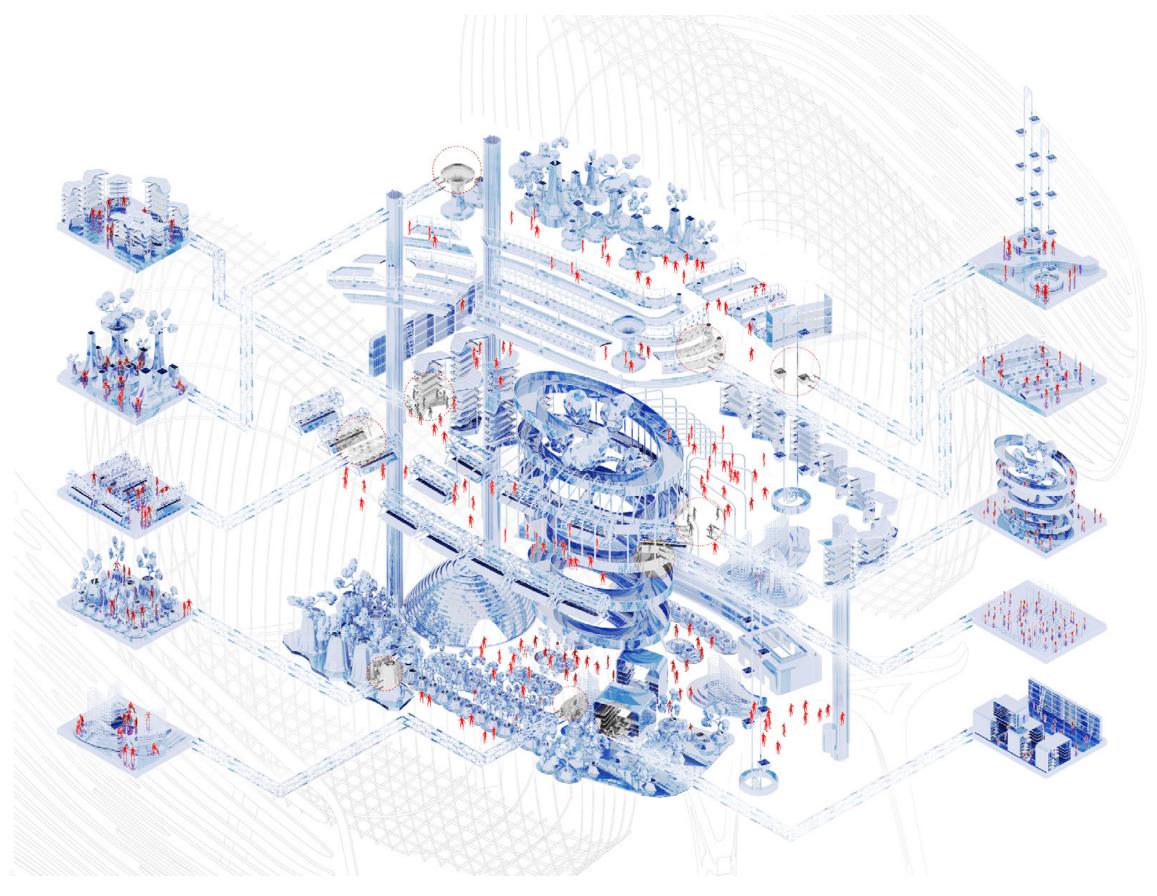








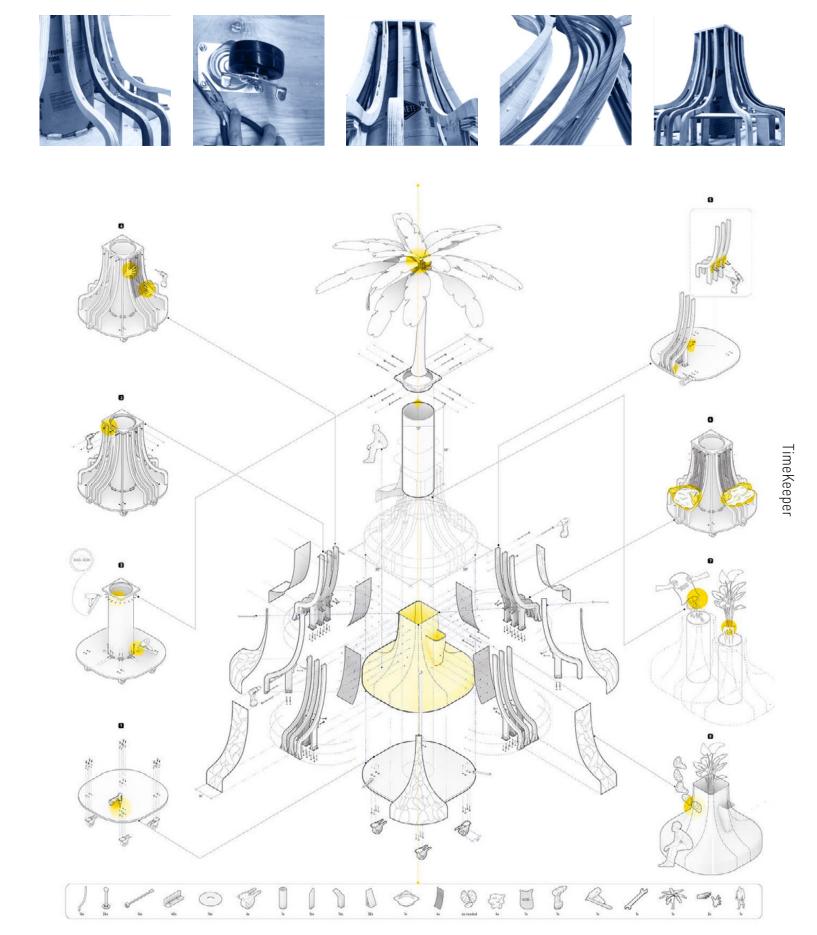
[image 02]
Perspective Plan - Hybrid Irrigation System for Plants



[image 01]
Perspective Plan - Housing Cluster



[image 01]
Seed Pod Being Used by GSAPP Alumni



[image 02]
Assembly Process and Drawing

Watershed Spines: reclaiming waikiki

Water Infrastructure / ADV VI Spring 2022 / Critic: Mario Gooden

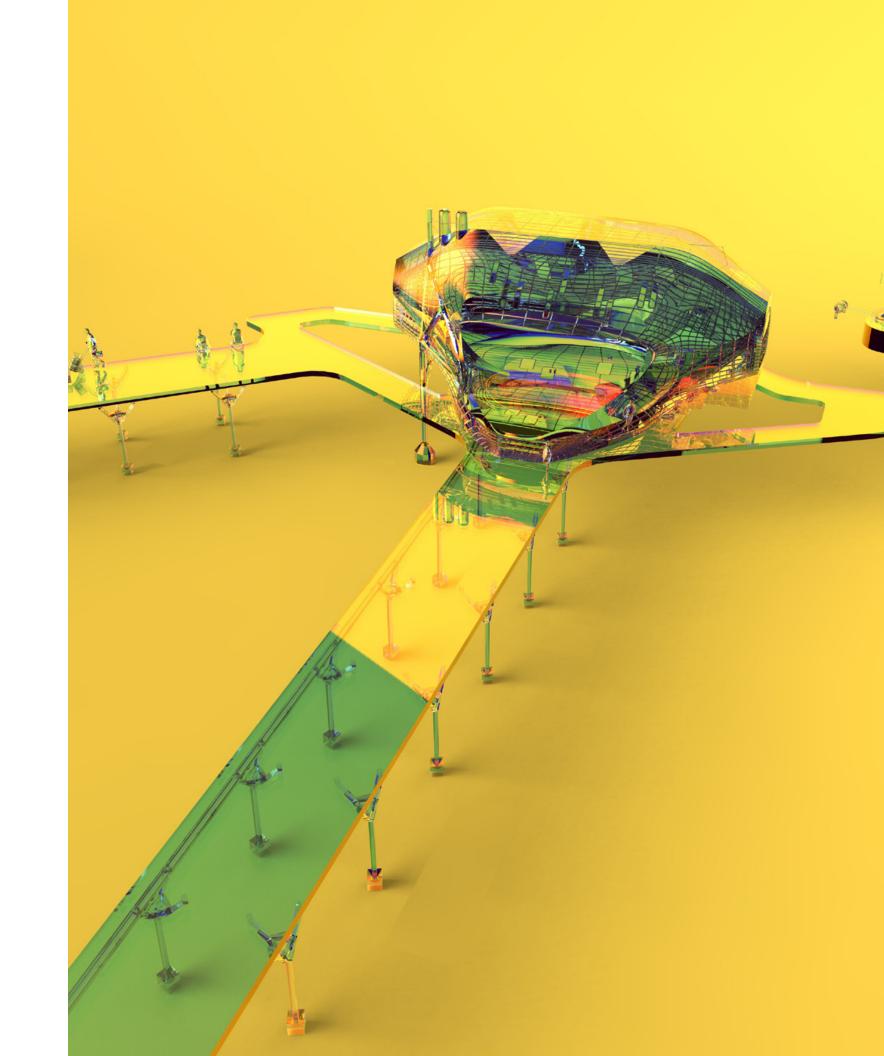
Throughout the years Waikiki has evolved to be a heavily urbanized area in Oahu. As elements of the natural Ahupua'a have been disrupted and segmented, there could still be a possibility to work with these existing man made disruptions and establish a system of interventions that revitalize this new Waikiki.

These interventions bridge and reclaim the presence of the watersheds as the origin of life and natural habitats in the newly urbanized Honolulu.

Implementing a network of interventions aided by manmade technology at different scales and sites will work primarily to physically bridge segmented areas, treat polluted water, and reclaim watershed land to bring back ecosystems as these move from inland to the ocean. This will result in a new hybrid infrastructure to redirect the watershed that crosses Waikiki . In the Ala Wai Canal there is a physical bridge that also serves as a water treatment plant, still

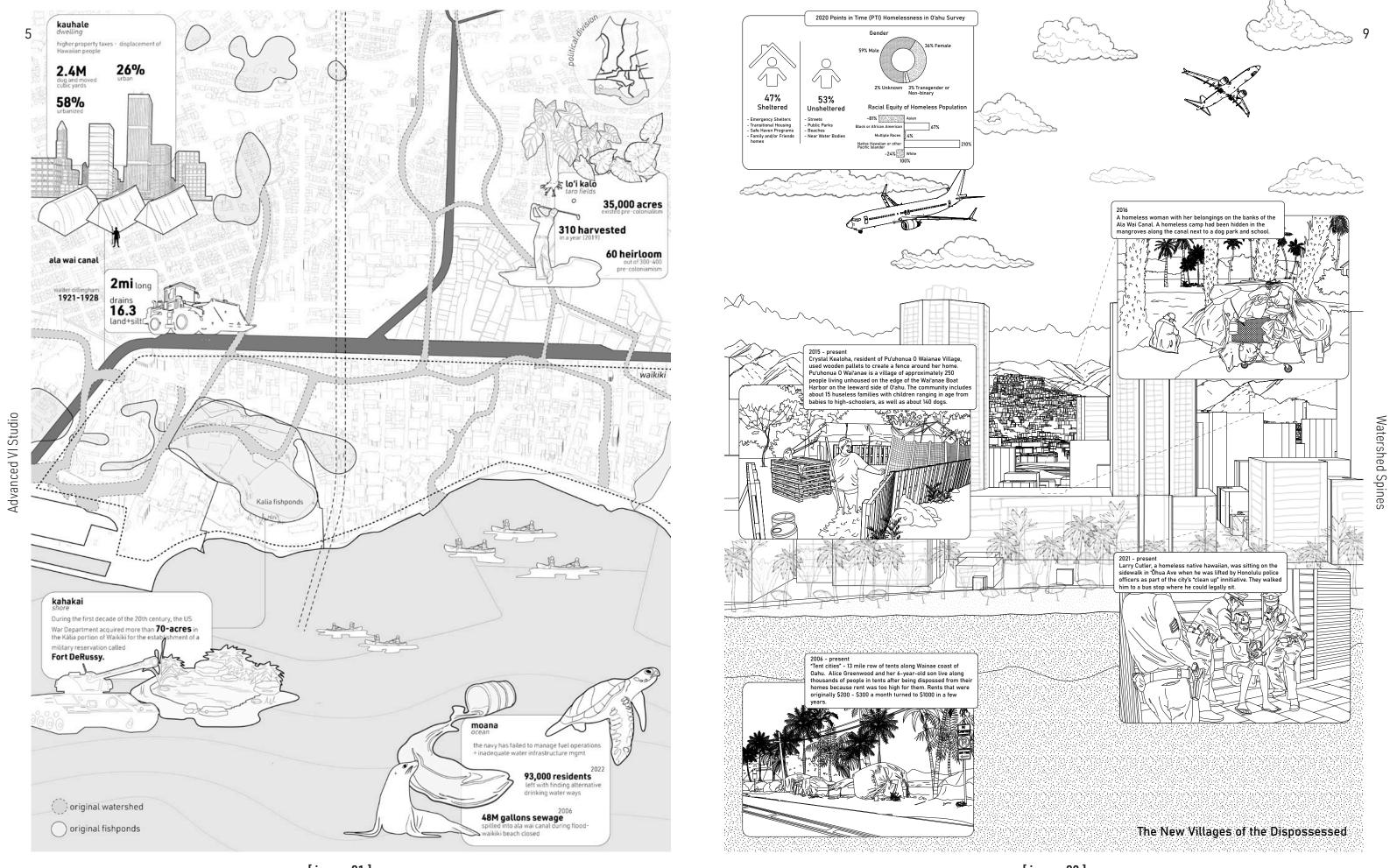
enabling circulation through its structure. Current urban blocks will be readjusted for water dispersion through them and become hybridized for ecological practices along these new water paths. Water continues its course towards the ocean after these water paths. Right before, it fills back the fishponds where Fort De Russy currently is located.

The bridge water treatment plant creates an interactive learning experience while it treats the canal's water. Communities around the canal gather on too and cross it under. This apparatus treats water through sedimentation, filtration and bio treatment. Exposed water systems and pipes create a raw piece of infrastructure necessary for the canal water, making it possible for food to be nurtured from this and bring natural life back through the urban blocks.





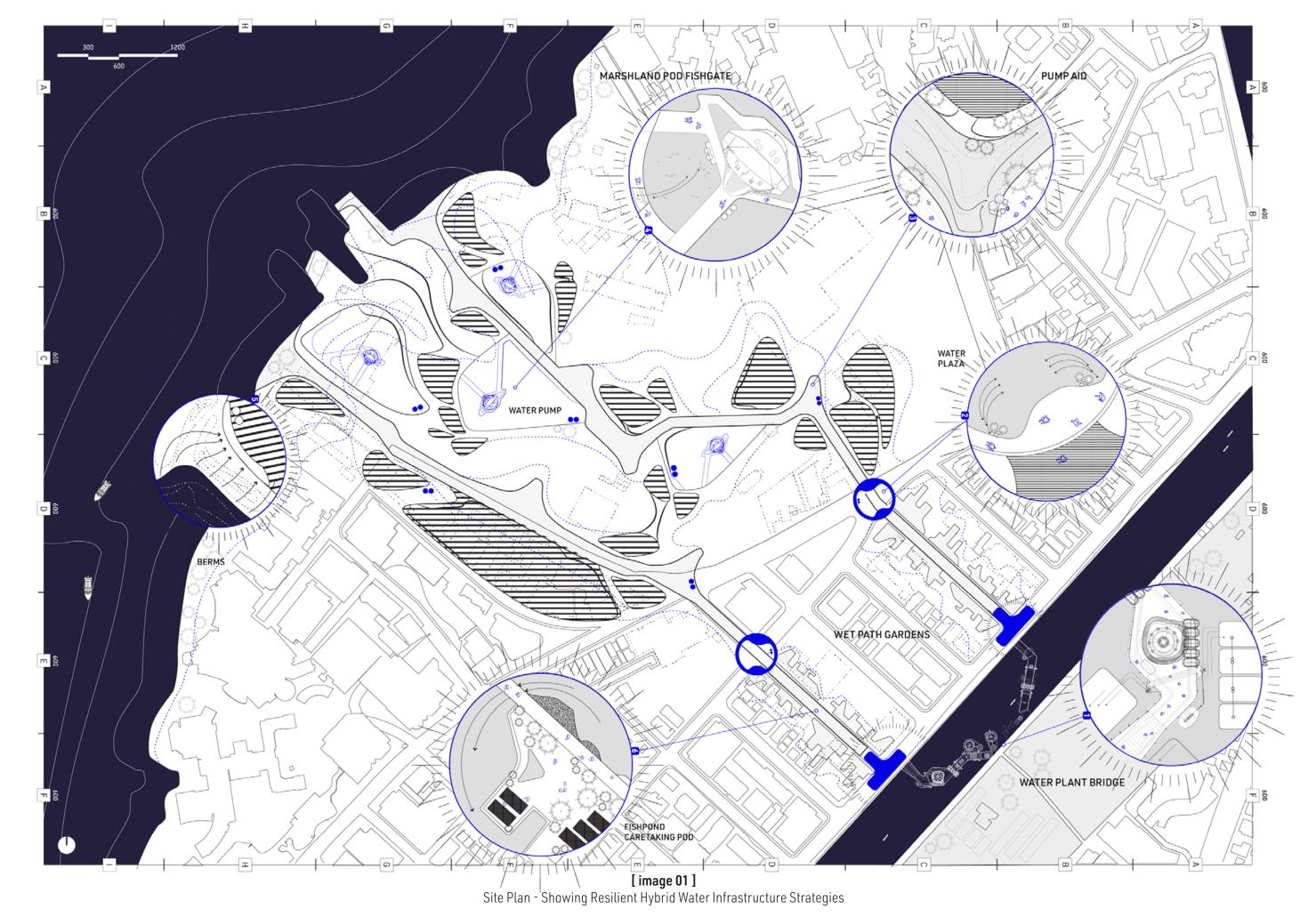
[image 01]
Military Base feeding off from Honolulu's natural ecosystem

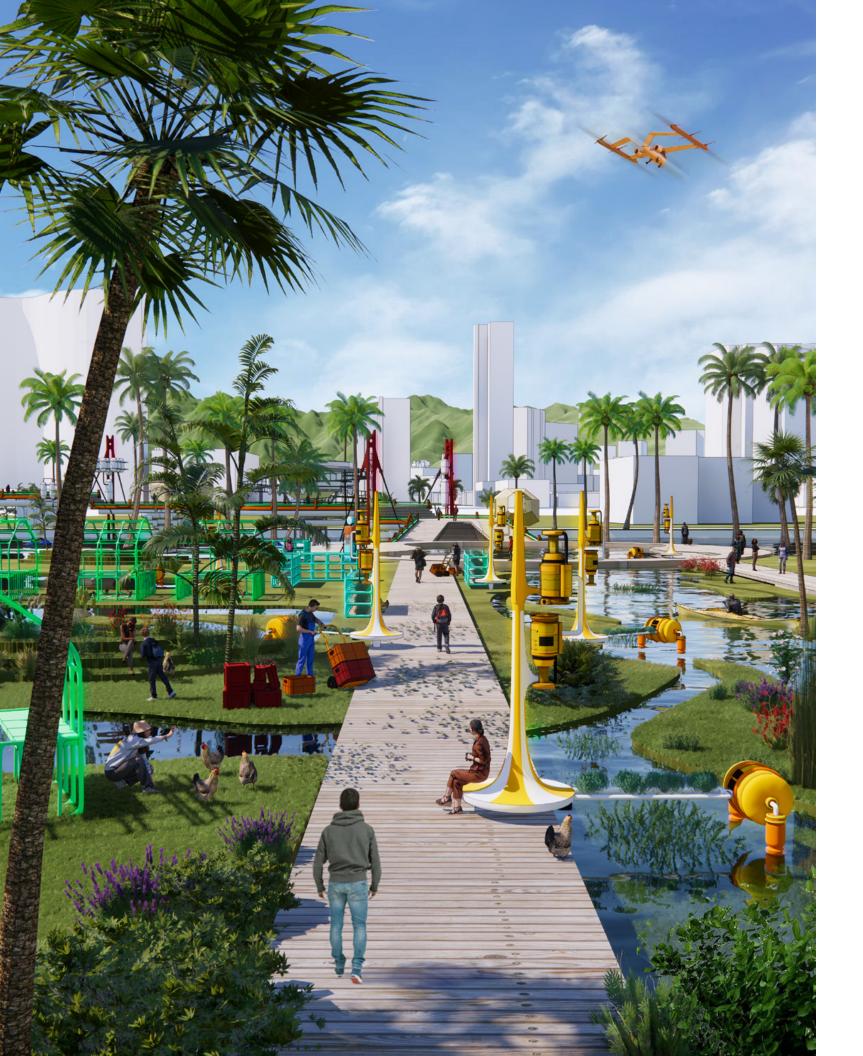


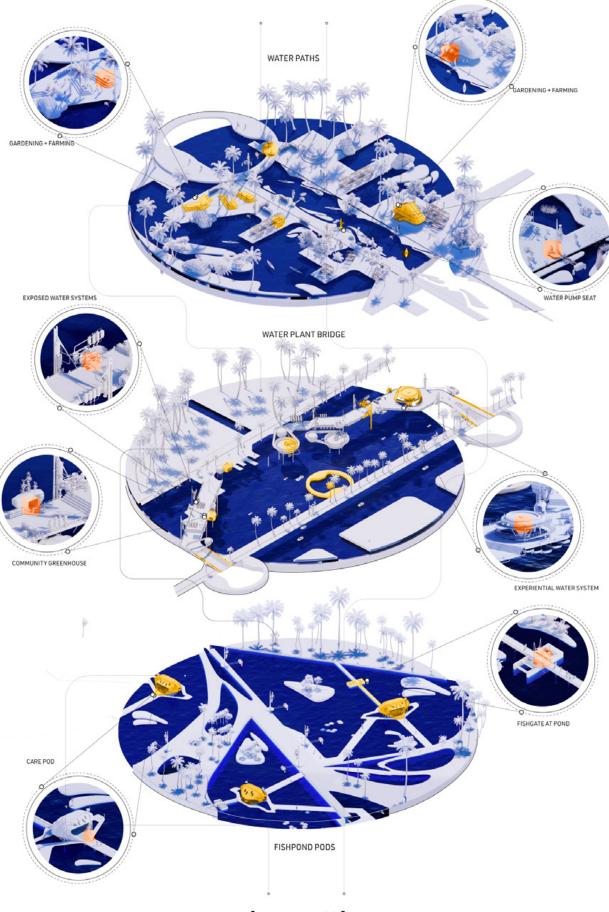
[image 01]
Elements of the Ahupua'a affected by urbanizaiton

[image 02]
Communities affected by urbanization

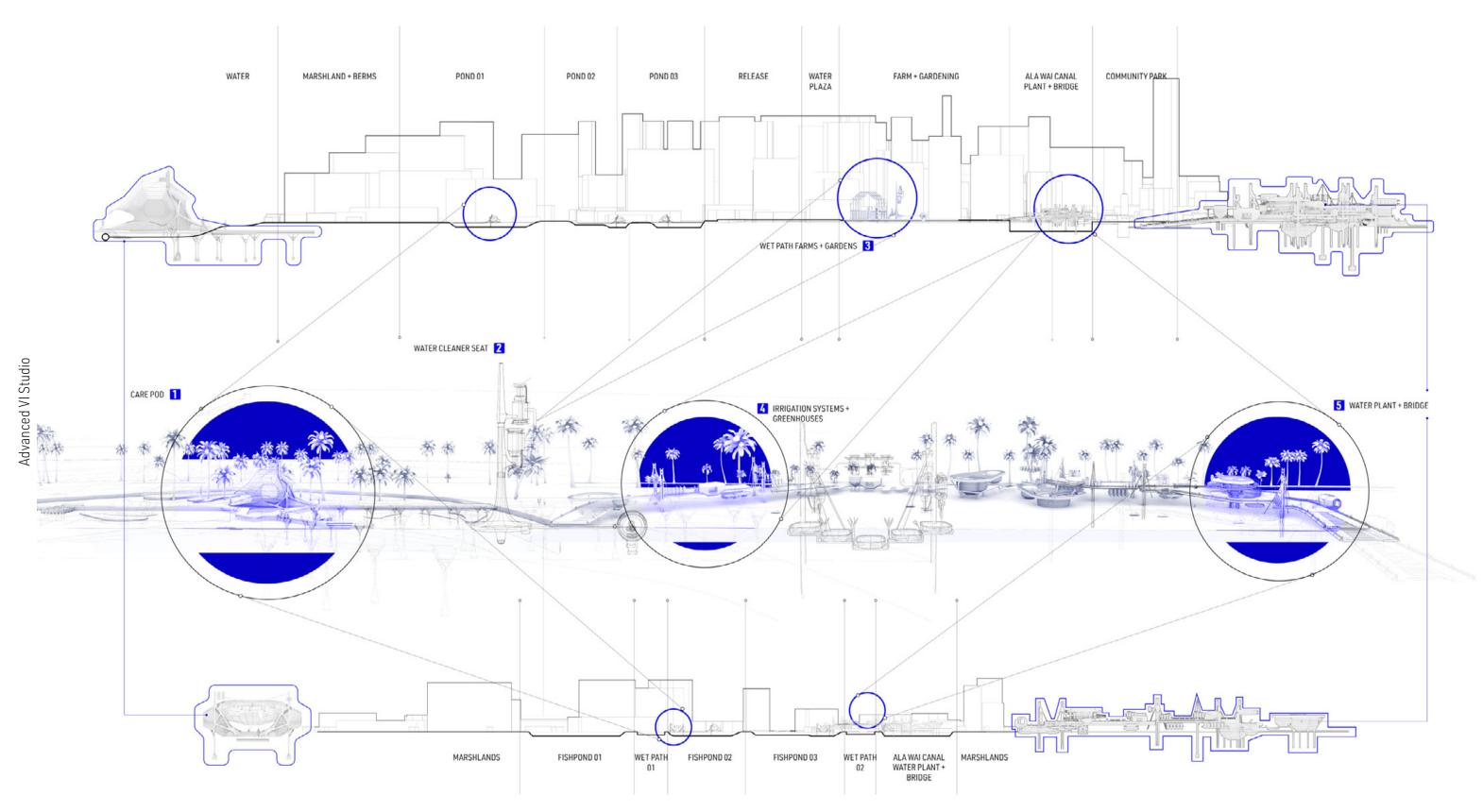
Advanced VI Studio



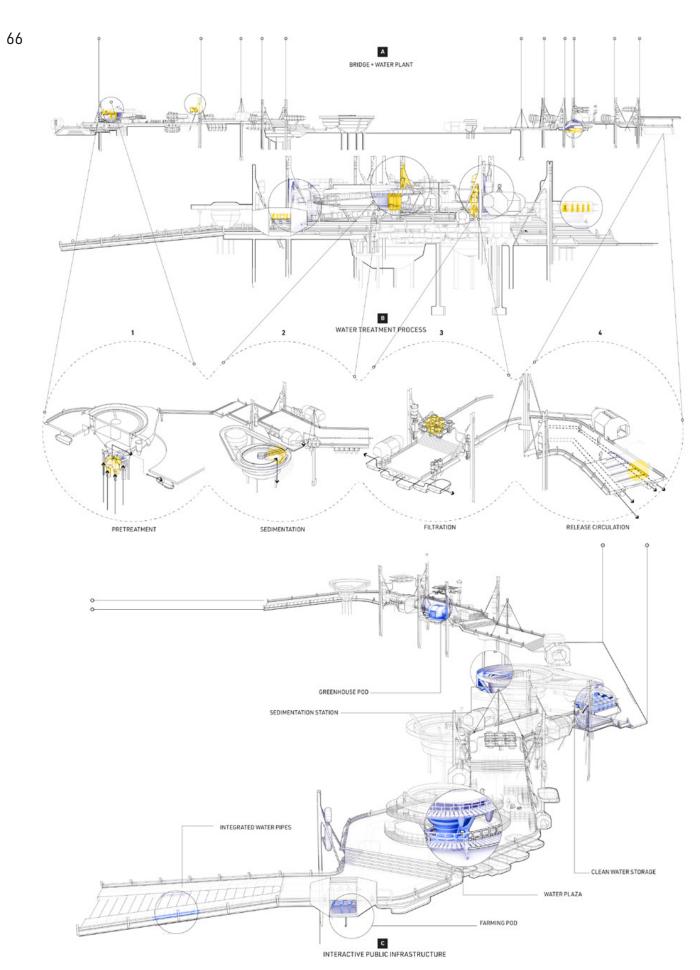




[image set 02]
Watershed Spine Components



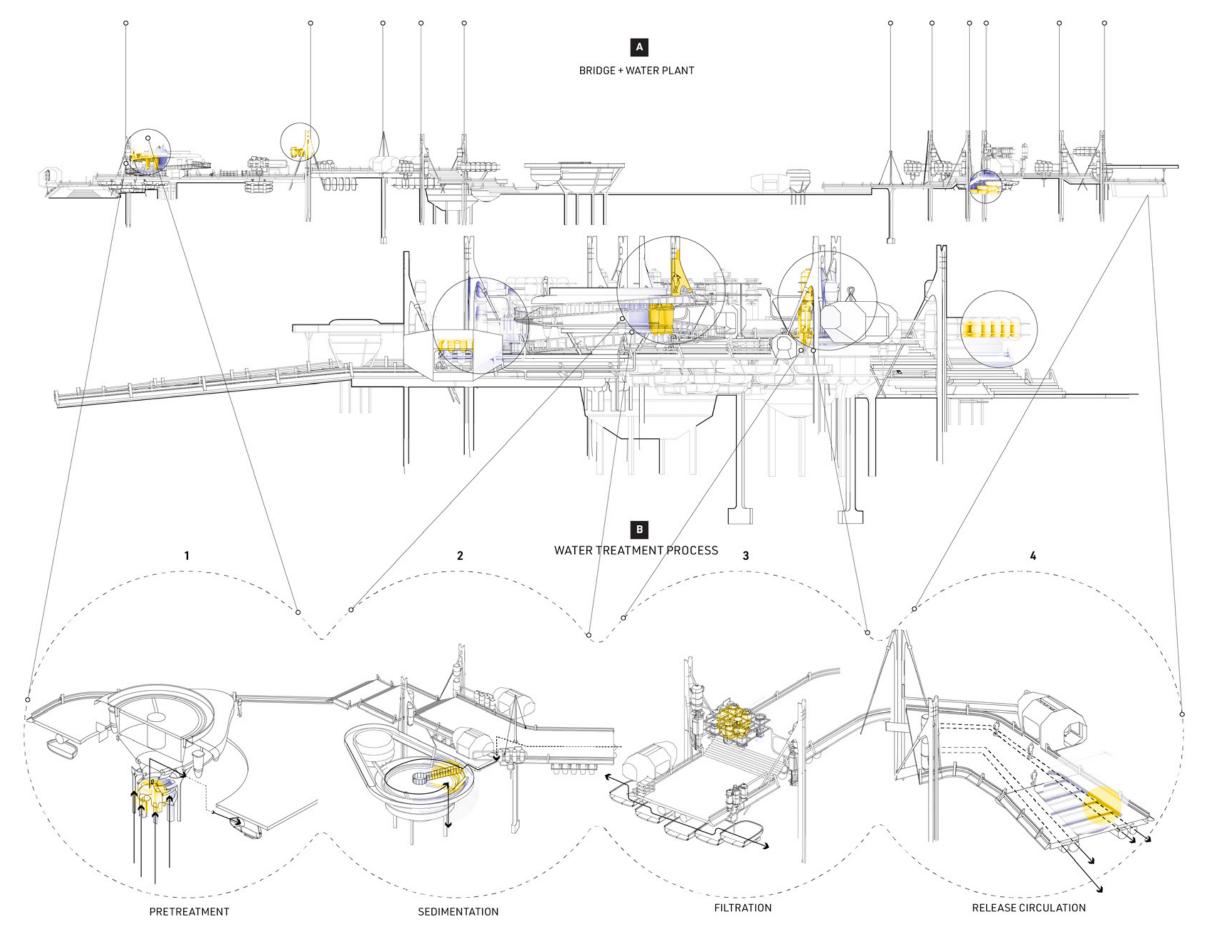
[image 01]
Site Section - Water System flowing from mechanic to natural



[image set 01]
Analytical Hybrid System of Water Treatment Plant Bridge

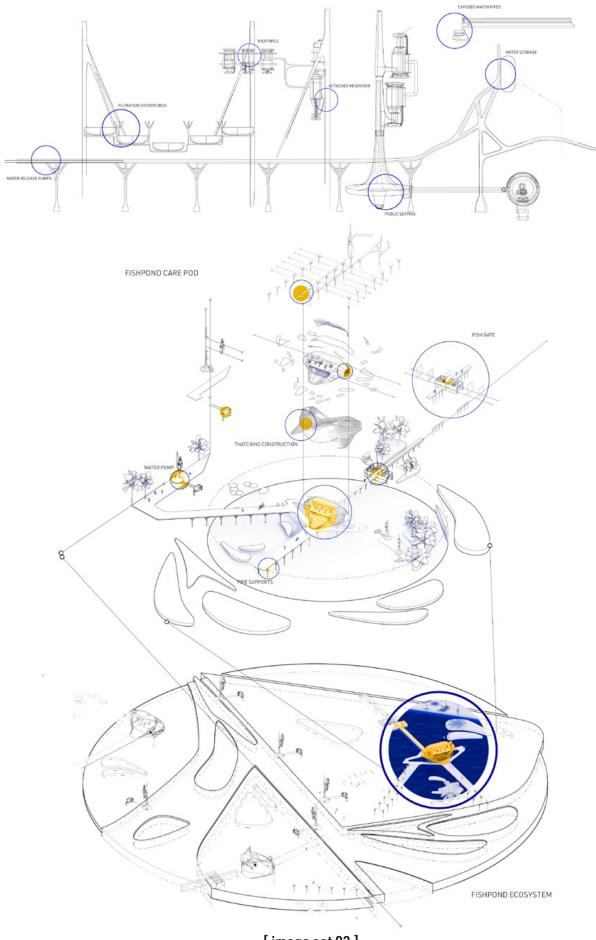


Advanced VI Studio



[image 01]
Implemented Water Systems that feed Watershed Spines





INTEGRATED INFRARSTRUCTURE

[image set 02]
Marshland Ecosystem and Care Pods

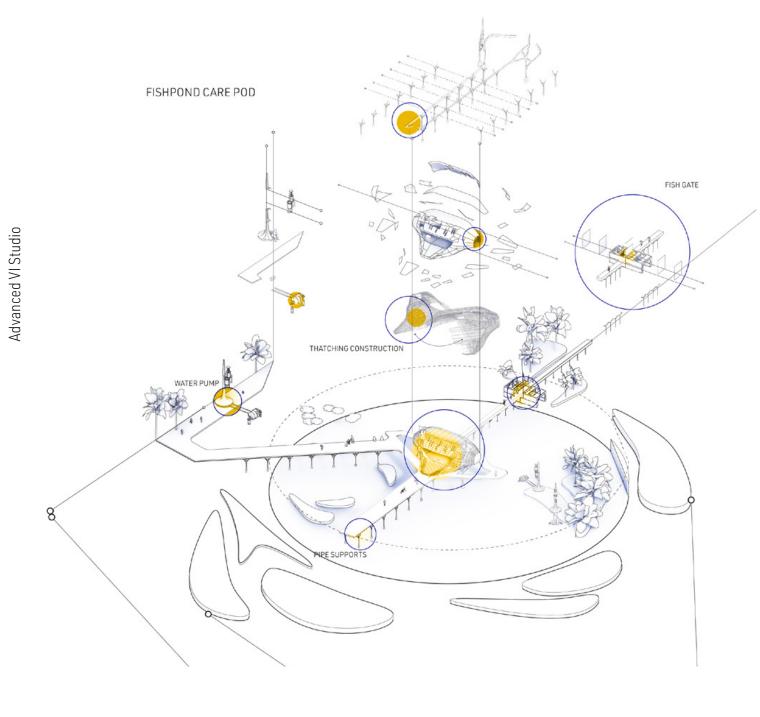
Advanced VI Studio

[image 01] Care Pod Night Time

INTEGRATED INFRARSTRUCTURE

Watershed Spines

74 resilient adjustable shelter



[image 01] Care Pod Anatomy

[image 02]
Caretakers conducting Hawaiian Aquaculture activties

Ard: Land Mosque

Worship Landscaping / ADV IV Spring 2021 / Critic: Ziad Jamaleddine

Collaboration with: Reem Makkawi

We looked at worship rituals and sufism in particular, which is a form of Islamic mysticism that emphasizes introspection and spiritual closeness with God. We found that the practices extend from the traditional five times a day prayer to the Friday group prayer and sermon, fasting but also regular periodic chanting ceremonies, nighttime zikr meditation rituals, and dancing.

There was an apparent opportunity to redesign the islamberg mosque as an outdoor landscape throughout the day, night and seasons.

We propose to replace the building that is most used, the mosque with a network of sacred spaces in the landscape, enriching their spiritual life and expanding these practices into the earth, ground, land, or ard.

These translate into 3 geographical fields for our interventions- JABAL (mountain), KAHF(cave), AND MAA (water) as we see in the middle of the diagram. The prayer spaces in those fields are unconventional spaces with the ability to host additional programs that enrich spiritual life, health of the land, and community activities. We see these typologies on the left.

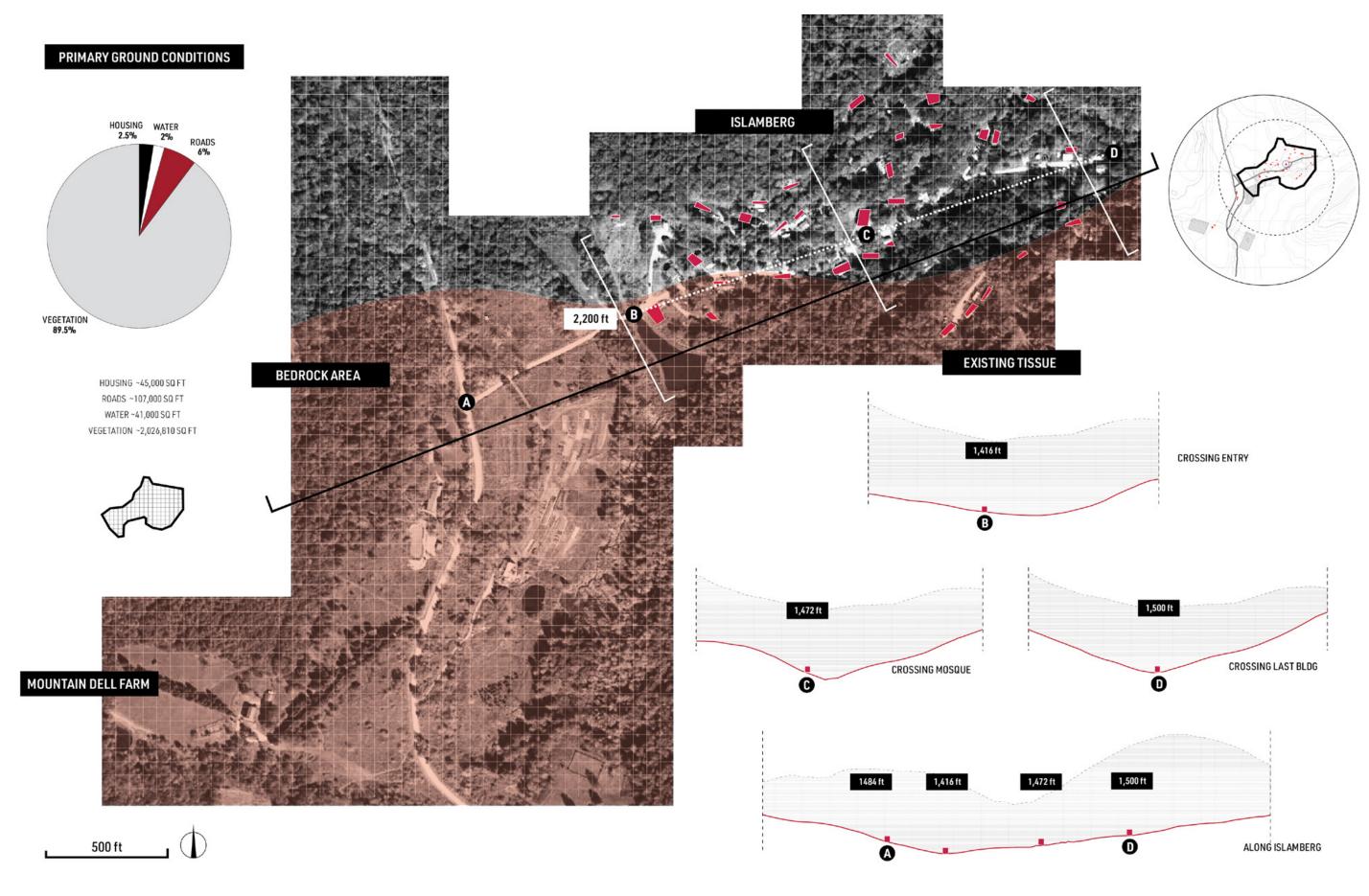
Together they create a network of 12 typologies that can be replicated and spread throughout Islamberg in order to accommodate the Islamberg population. Additionally, there are weaved programs in between the sacred spaces in order to strengthen each field as a network.

For these typologies, we wanted to look at them from a further point of view than just the contemplative space, understanding that there are other ways of mysticism in religious architecture. Following Sufi beliefs, We are approaching this sacred network of interventions through the default spiritual being directly addressed by land care and community health. As we see in this drawing representing what is important to our intervention.

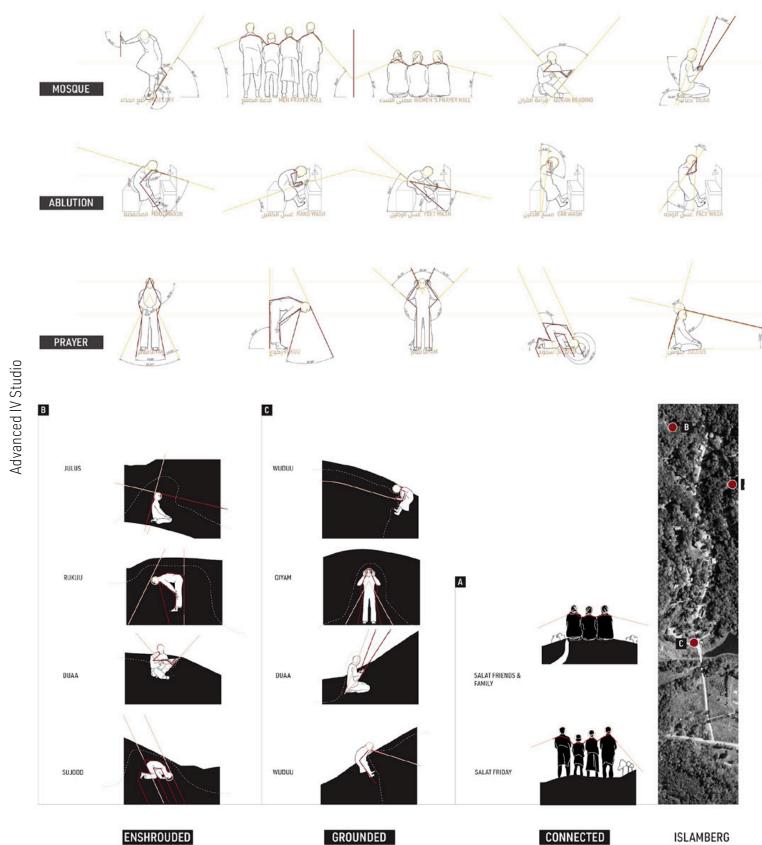
In addition to spirituality in prayer spaces, sufist practices include short recited prayers for everyday activities (like waking up and traveling) as a way to sanctify the mundane, and expanding their care towards their setting including animals and trees.



Ard: Land mosque



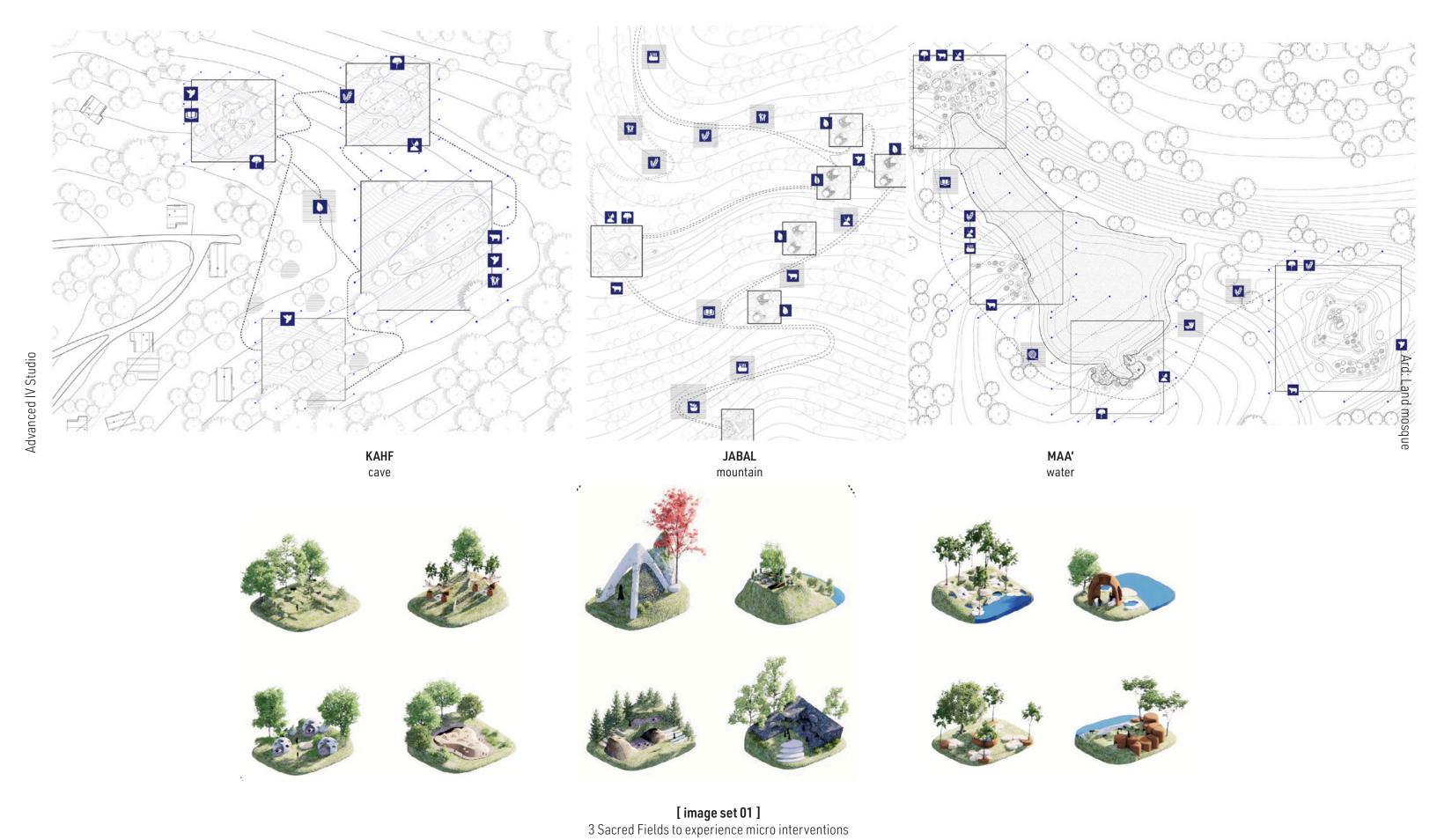
[image 01]
Redifining Topographical Conditions From the bold tissue

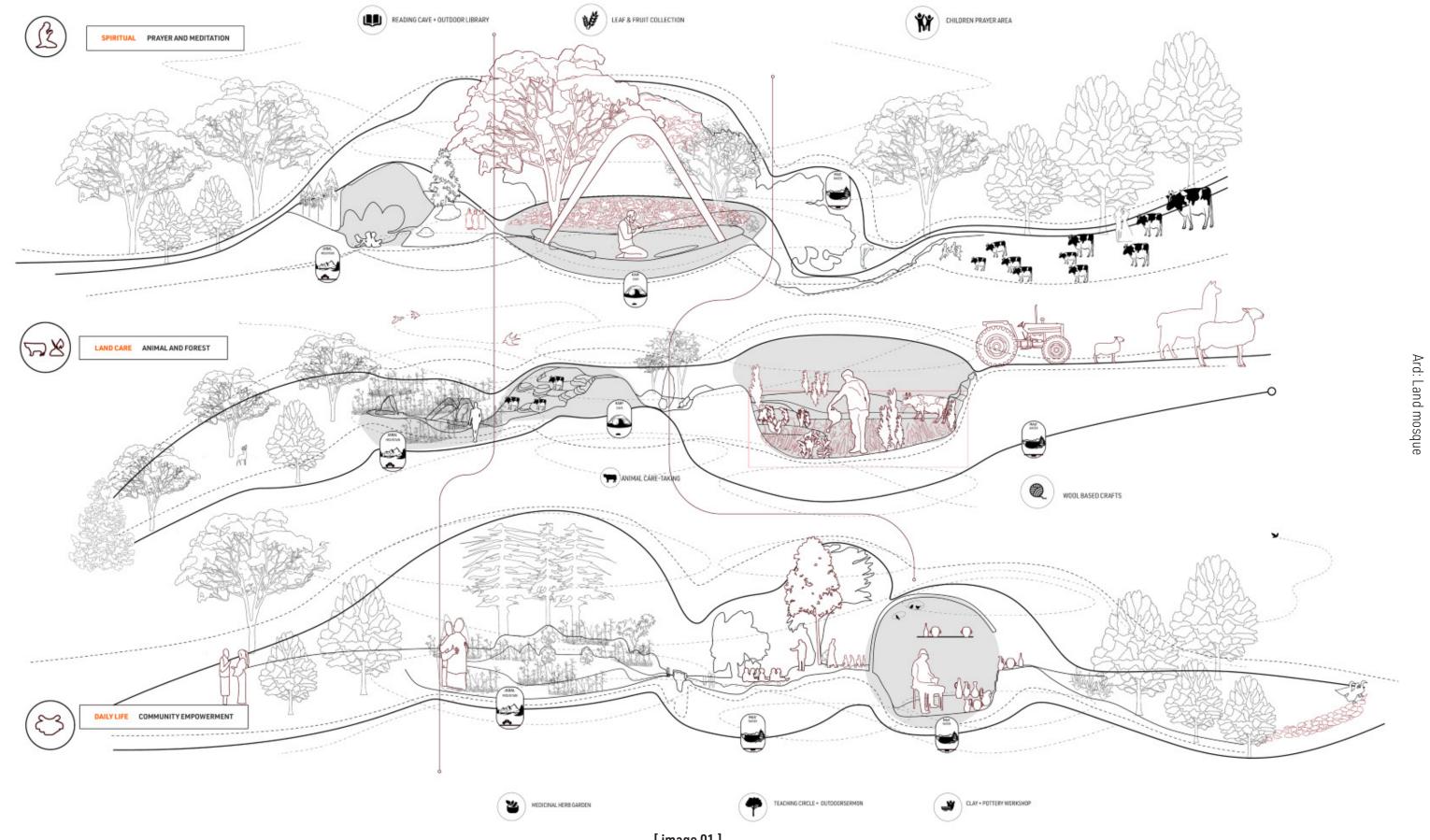


GROUNDED CONNECTED ISLAMBERG [image 01]
Worship Body Language Studies

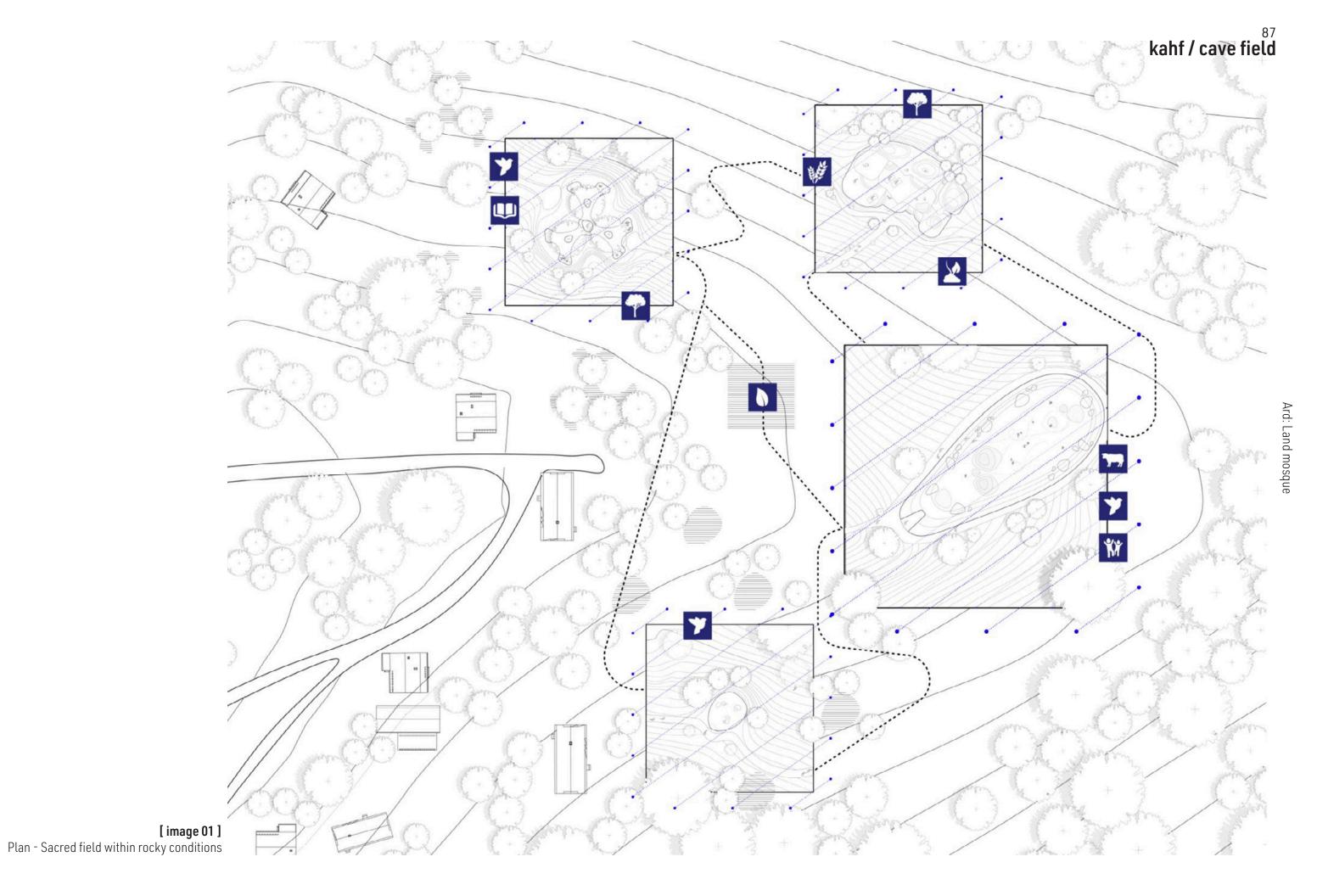
[image 02]
Ecosystem through Sacred Paths Proposal

micro intervening





[image 01]
Within Ard there are 3 sacred journeys



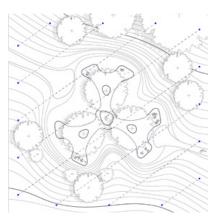
jabal / cave field

Individuals together_leaf & fruit collection

-Chipmunk and squirrel habitat -Fall leaves, magnolia tree, cherry blossoms, apple trees









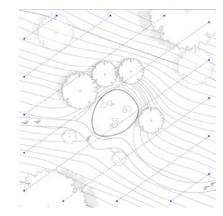


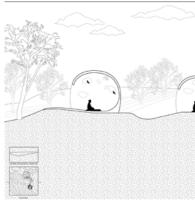


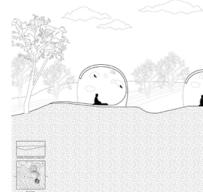


Multiple individuals_bird caves



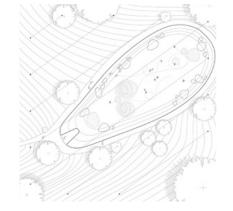


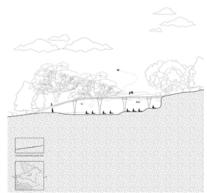












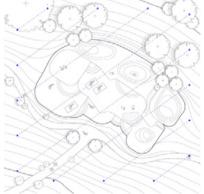


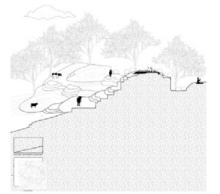
Individual alone_cattle grazing

-Cattle grazing (lamas, cows, sheep) Bluejay and cardinal Bird's nests (year-round) -Seeds and tree saplings planting



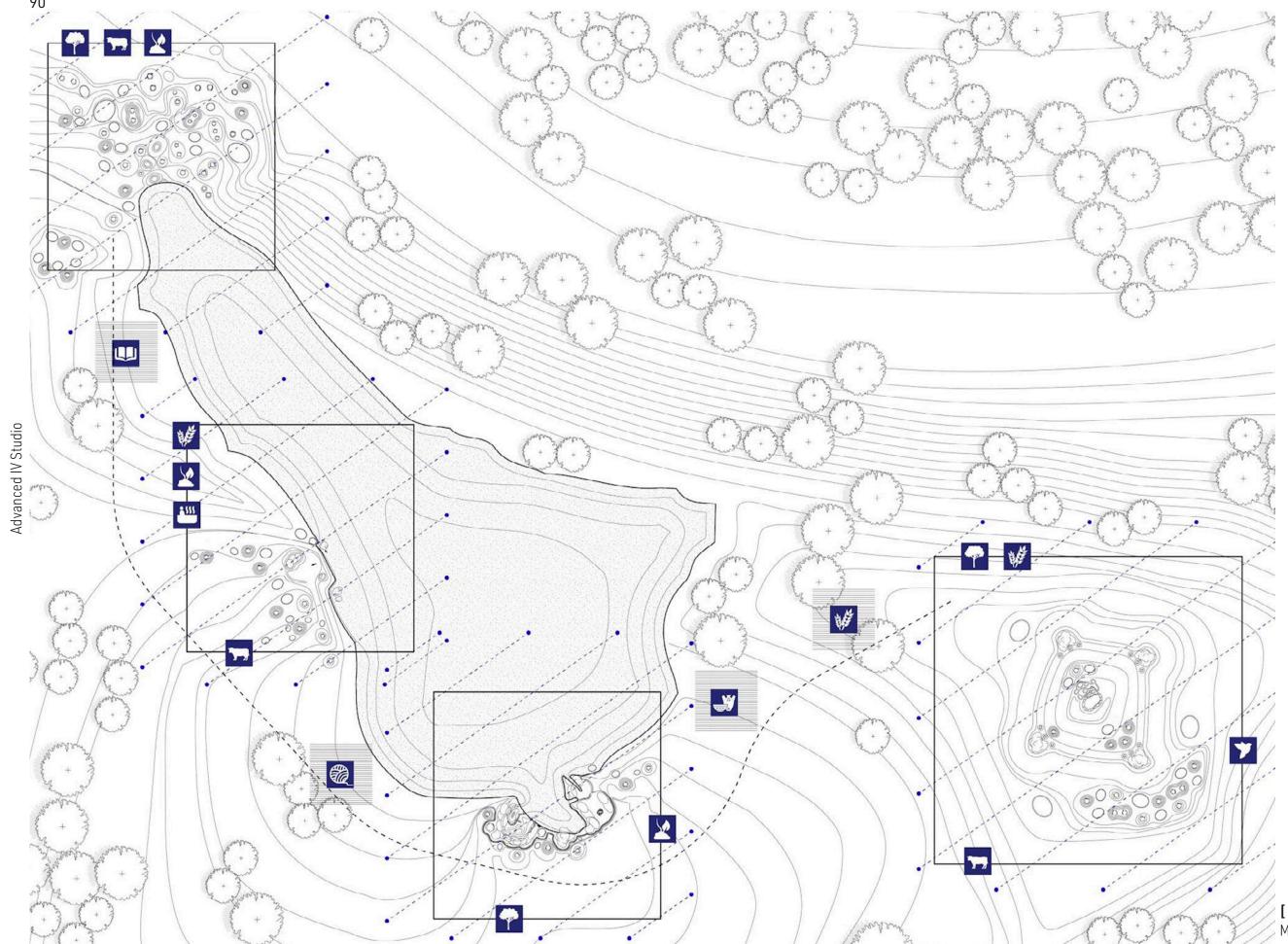












[image 01] Maa' / Water Sacred Field

Ard: Land mosque

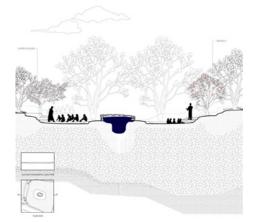
Group_outdoor sermon, teaching circles

-Duck, Geese, Herons (year-round)
Ablution (cleaning->shoe spot)
-Sabil (water drinking)







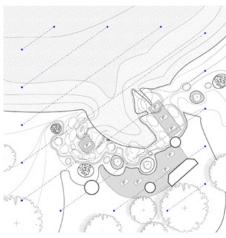


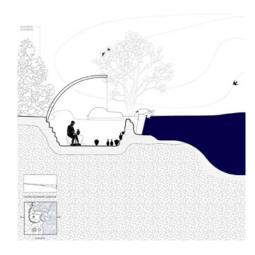
Individual alone_pottery

-Hot Springs Nenuphars + frogs Thrush + Kinglet Bird's habitat (pond birds, spring & fall migration)









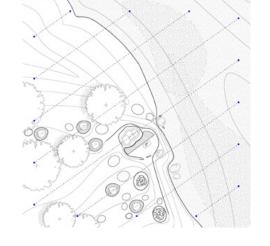


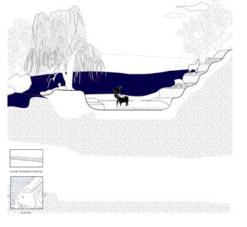


-Cormorant, Black hooded warbler Bird's nests (lake birds, year-round) -Western Bluebird and barn swallows (spring & fall migration)











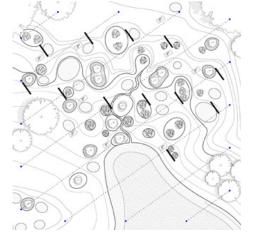
Multiple individuals_sacred field

Blue heron, Chipmunk and squirrel Virginia Thrush,-Cedar Waxwing (spring & fall migration)





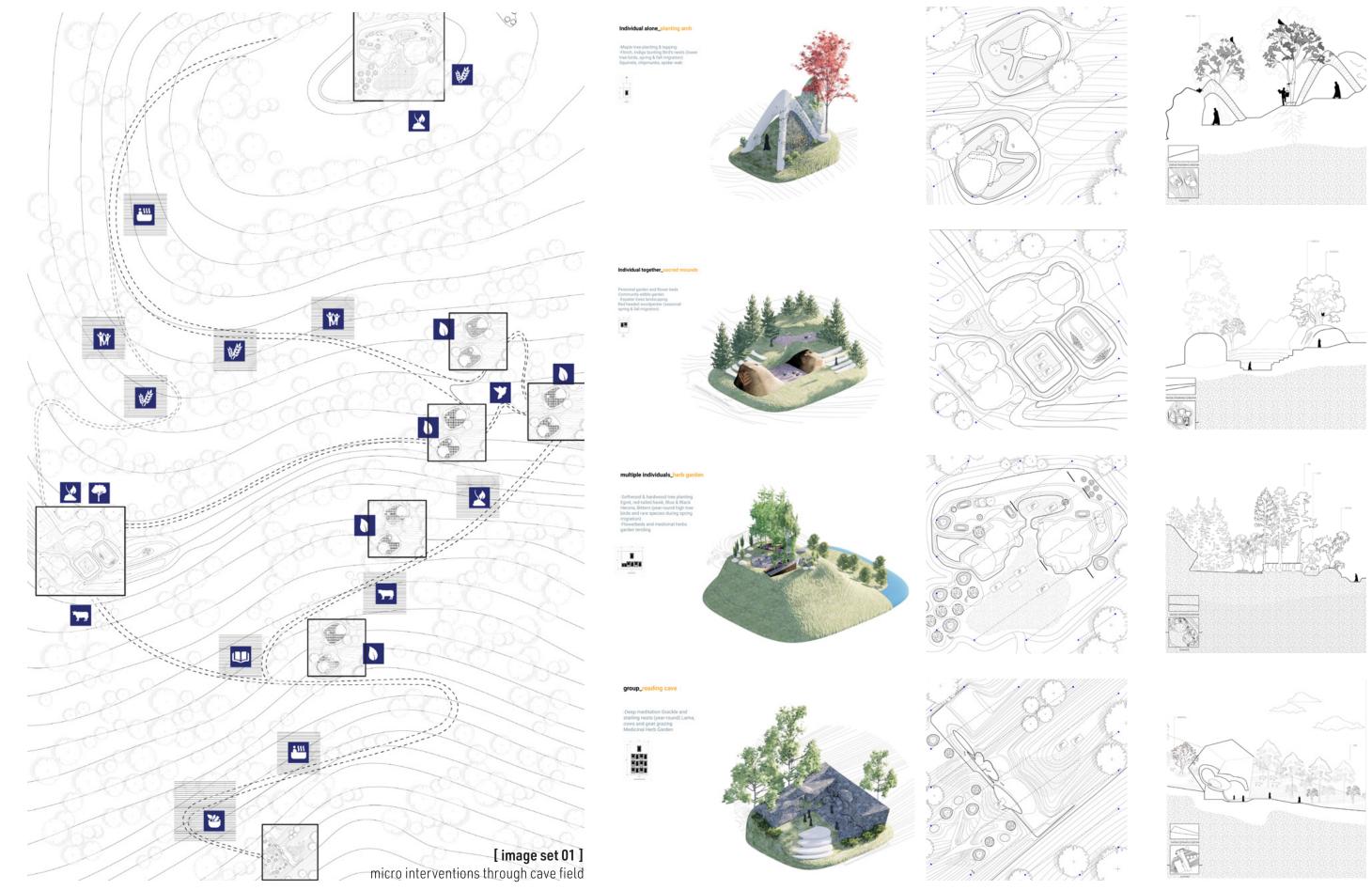






Advanced IV Studio

jabal / mountain field



BQE Arts: outdoor performing

Performing Arts Hub / ADV VI Fall 2021 / Critic: Laurie Hawkinson

I took a close interest in performing arts in the near surroundings of our site, and later found there had been an increase in the artist population in the last 10 years. In contrast, the number of performing art centers exclusively for such a community has not been able to keep up with the increase.

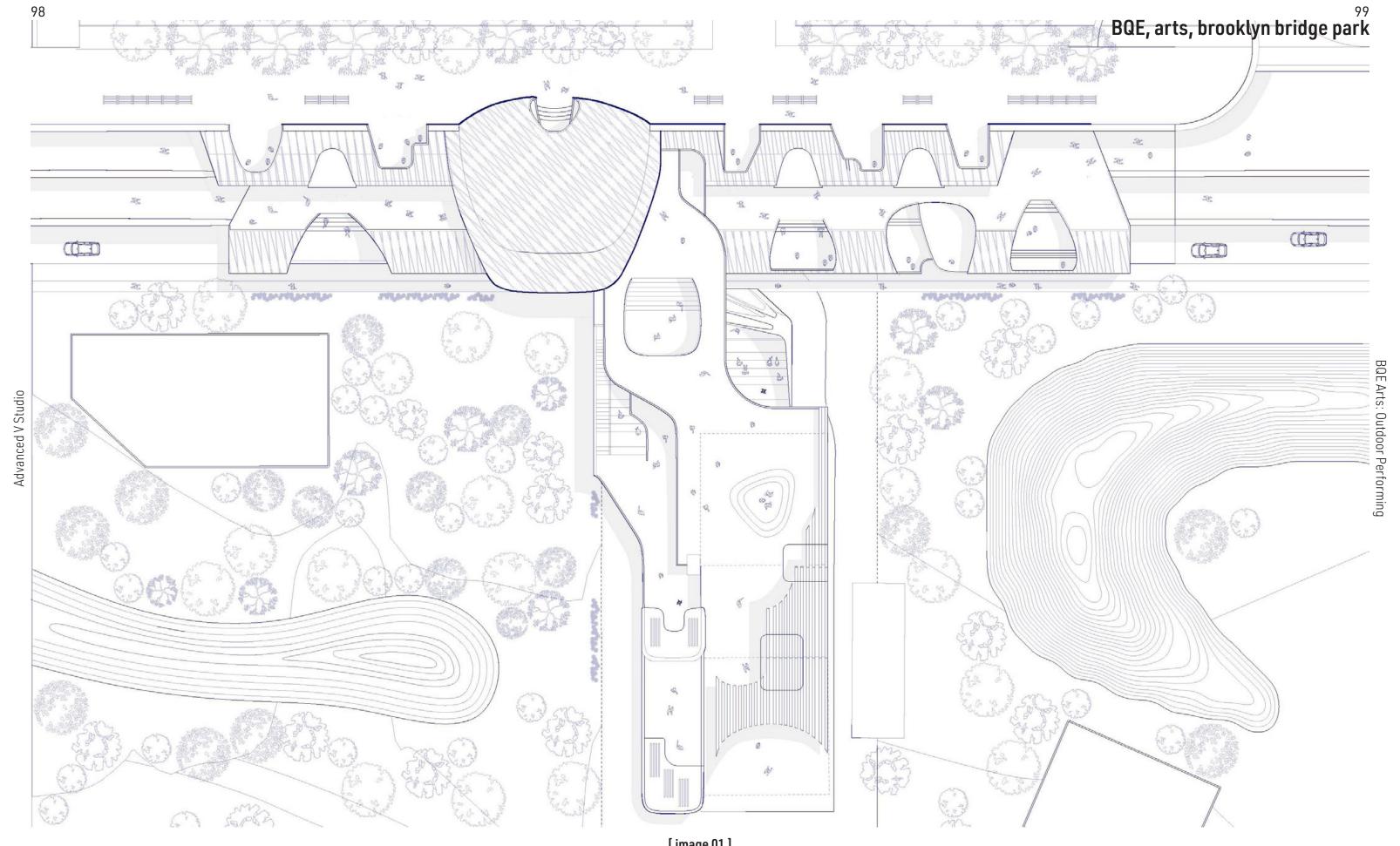
Zooming in, at least in the immediate brooklyn district shown, 32% of the performing arts population seeks practicing places in public performing arts centers after hours when the location's formal activities are done for the day. Others seek these spaces in the same manner at public schools, and theaters. Our site becomes an incredible opportunity to rethink the BQE and turn a portion of it into a space that does not usually fit within the "infrastructure" priority agenda.

The view plane established in this area preserving the view along the promenade, becomes an important language through my initial design components, as they seek to cascade down along the site, flowing with it. In my case, there is an existing mechanical building right in front of the BQE on pier 4. I take this as an opportunity to link onto it, shaping my into 4 main components.

I envision the BQE portion along Pier 4 to be repurposed to create a critical collective space for performing artists. Here they can occupy it throughout the day freely, overlapping each other, and creating a sense of community and ownership over it, rather than just waiting around for a main event at another facility to end in order to use it. In turn, the project seeks to link the BBP and the promenade while creating a dynamic set of spaces that flows around performing typologies.

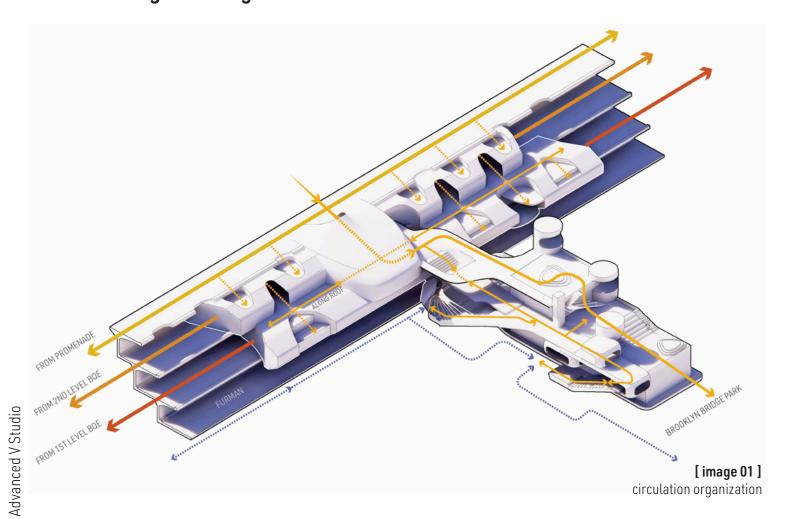
Some of the main gestures of the performing hub start with the existing mechanical building in front of the BQE, as mentioned as an opportunity to extend. Later a rupture in the BQE happens serving as the primary entry and connector of pieces. Along its sides, the spaces within BQE are filled with dance, drama, and music studios with pockets. A walkway bridges the gap between these 2 points and then space under it is created as well. Finally performing spaces cascade down the existing building reaching BBP.

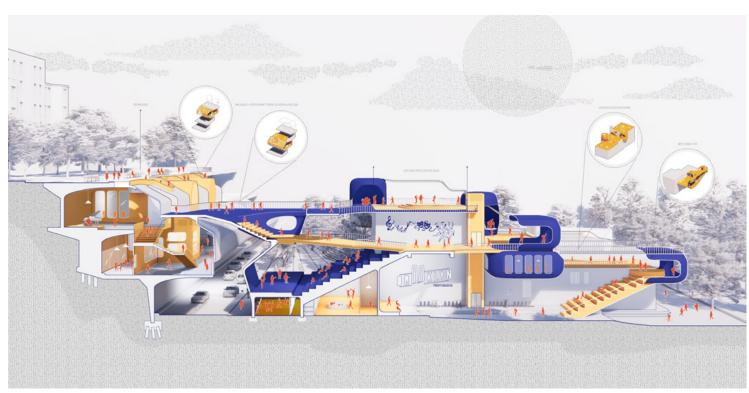




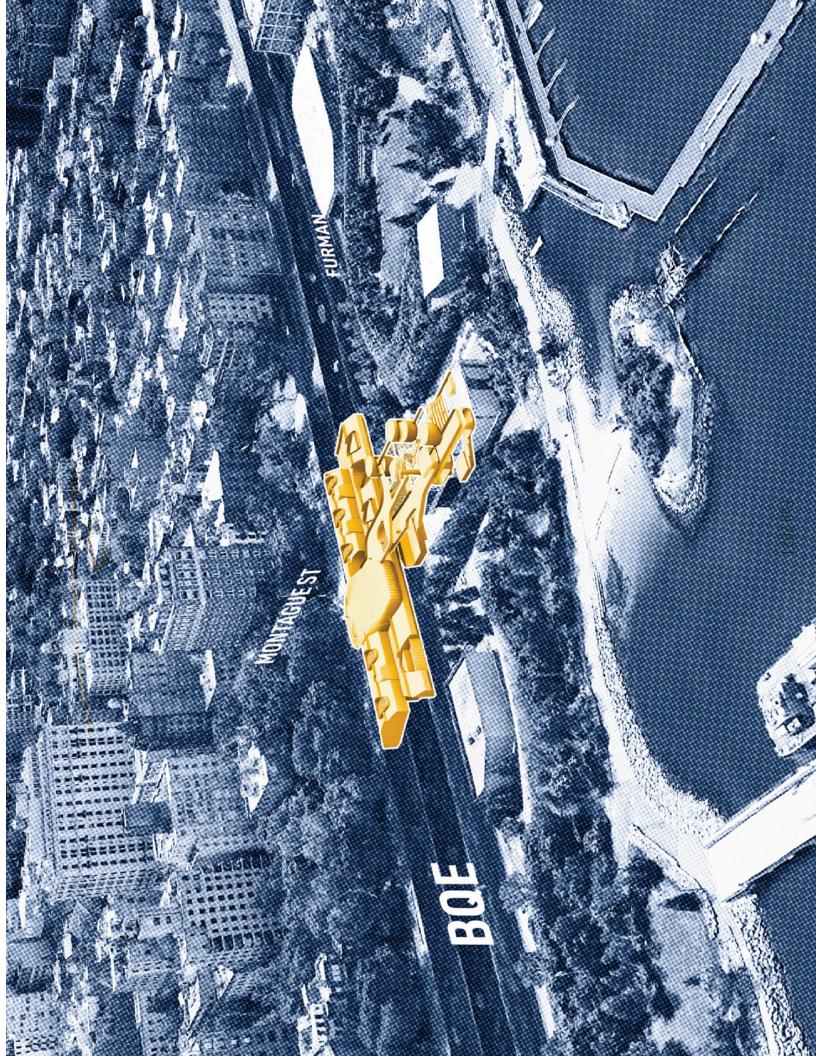
[image 01]
Site Plan - Bridging infrastructures

access through existing infrastructure

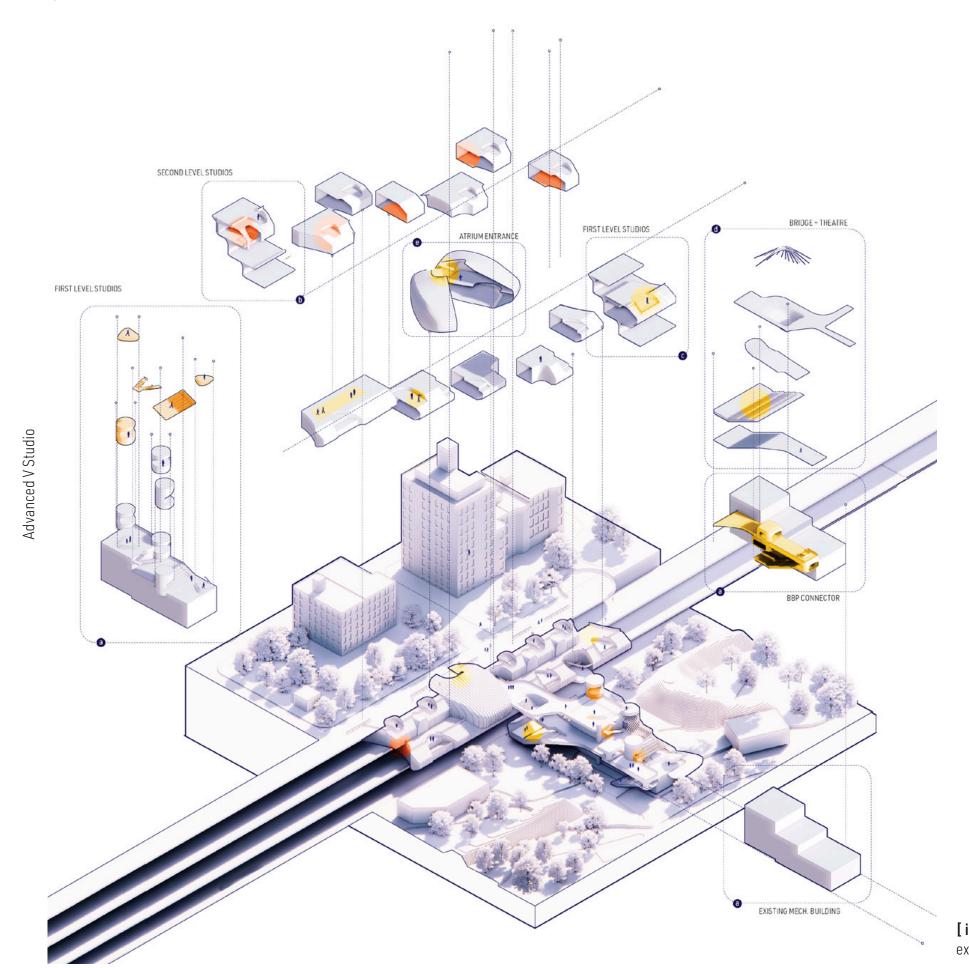


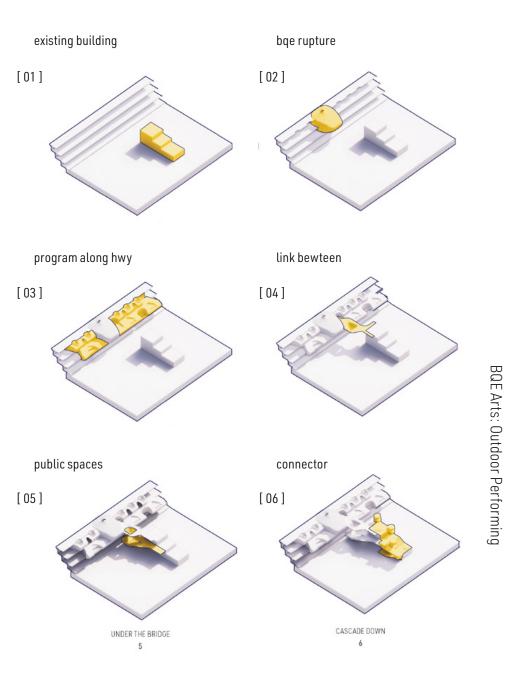


[image 01] section - from promenade to river



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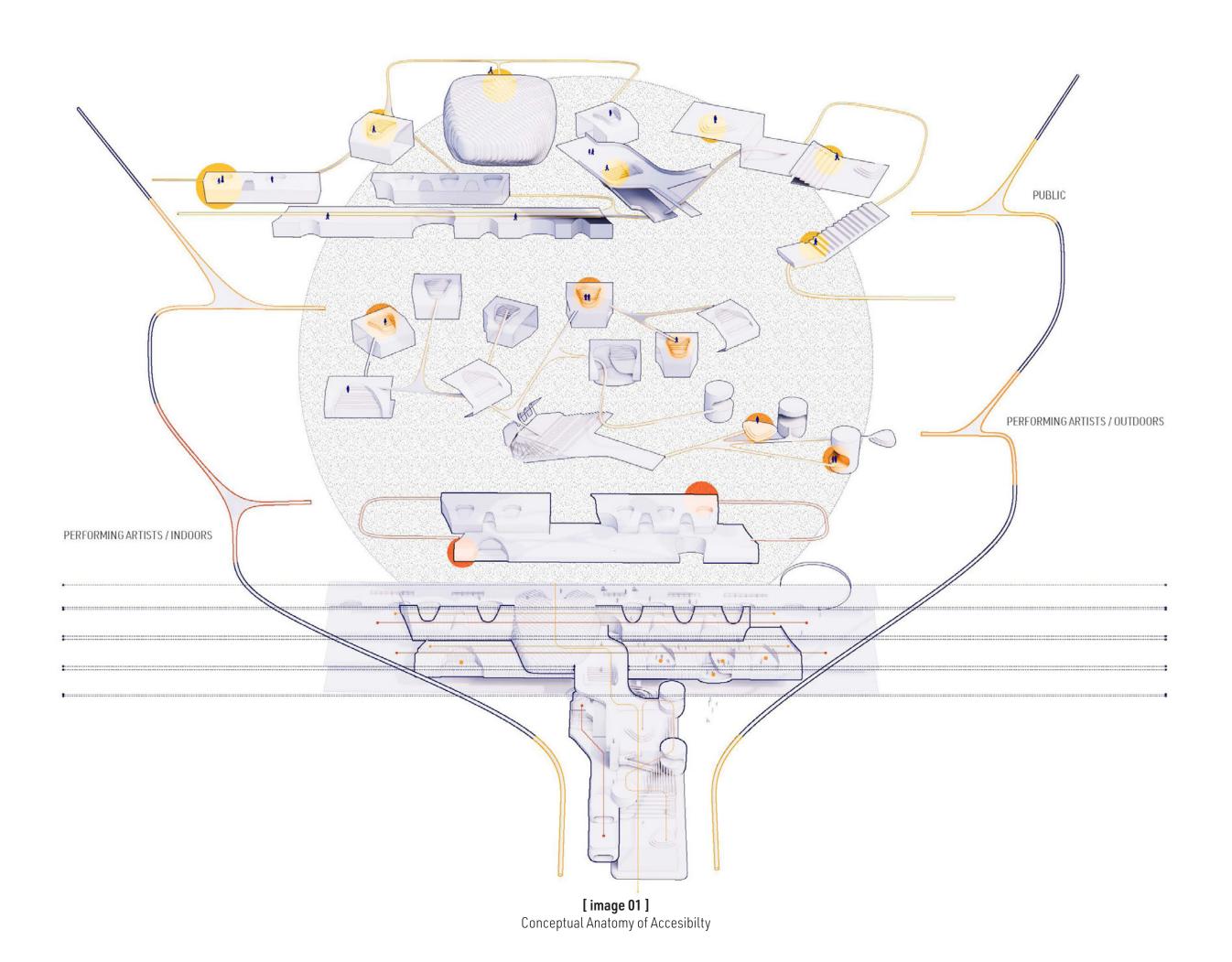
[image 01]
exploded axon - program pieces connected to existing infrastructure

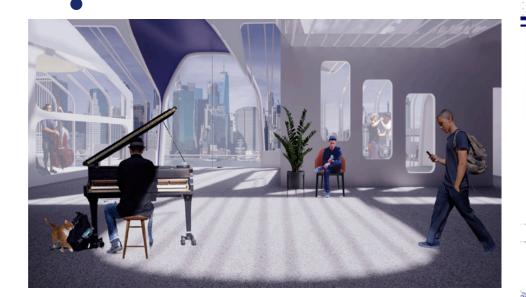


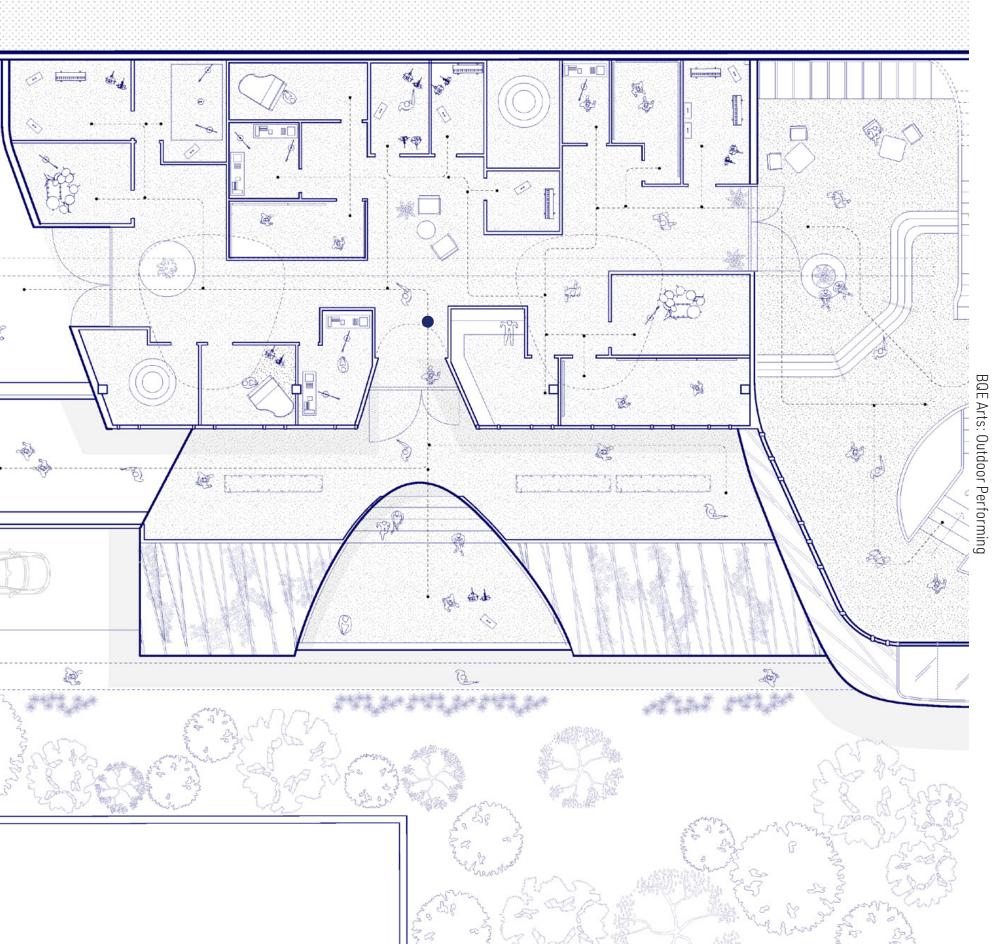
[image 01]
Perspective - Ground view towards Performing Studios

Advanced V Studio

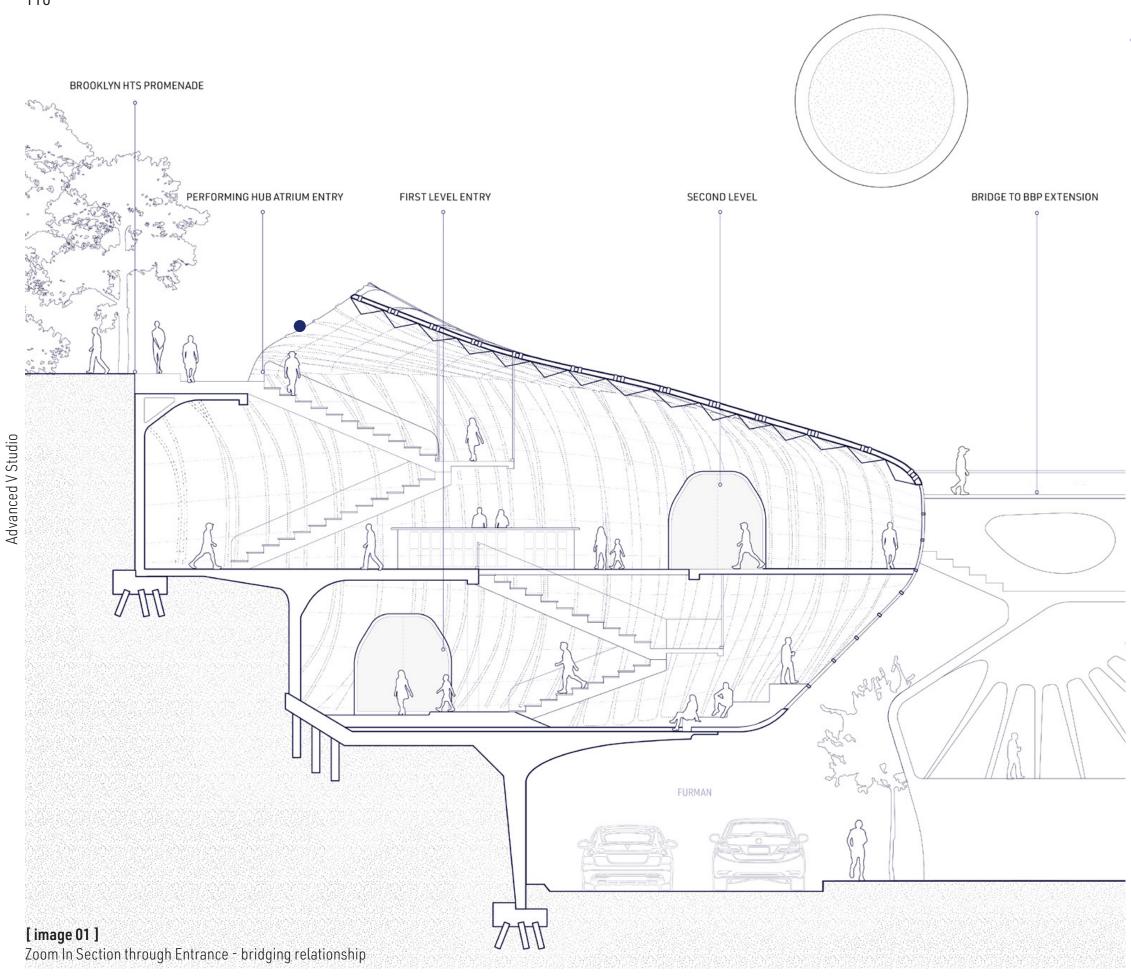
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[image 01]
Zoom In Plan - relationship between indoor and outdoor





WEB Pavillion

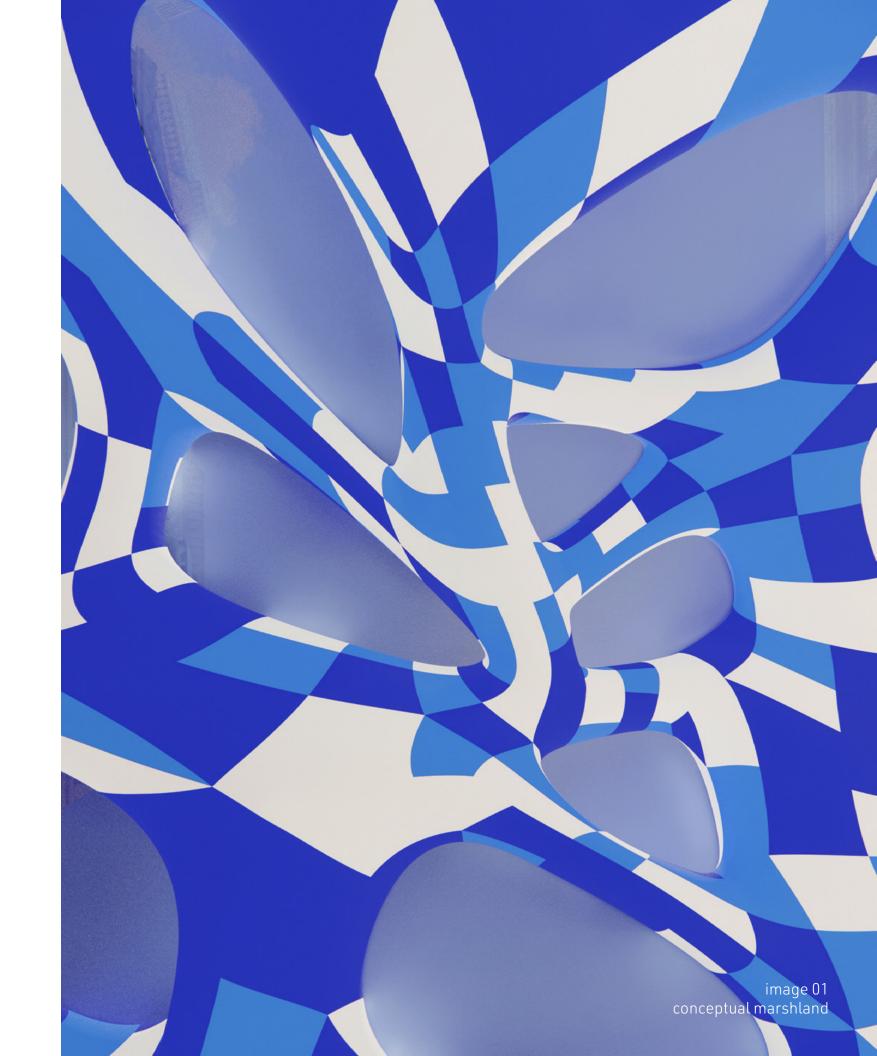
Built Pavillion Winner Proposal / Outside Project / Prof: Laurie Hawkinson, Galia Solomonoff

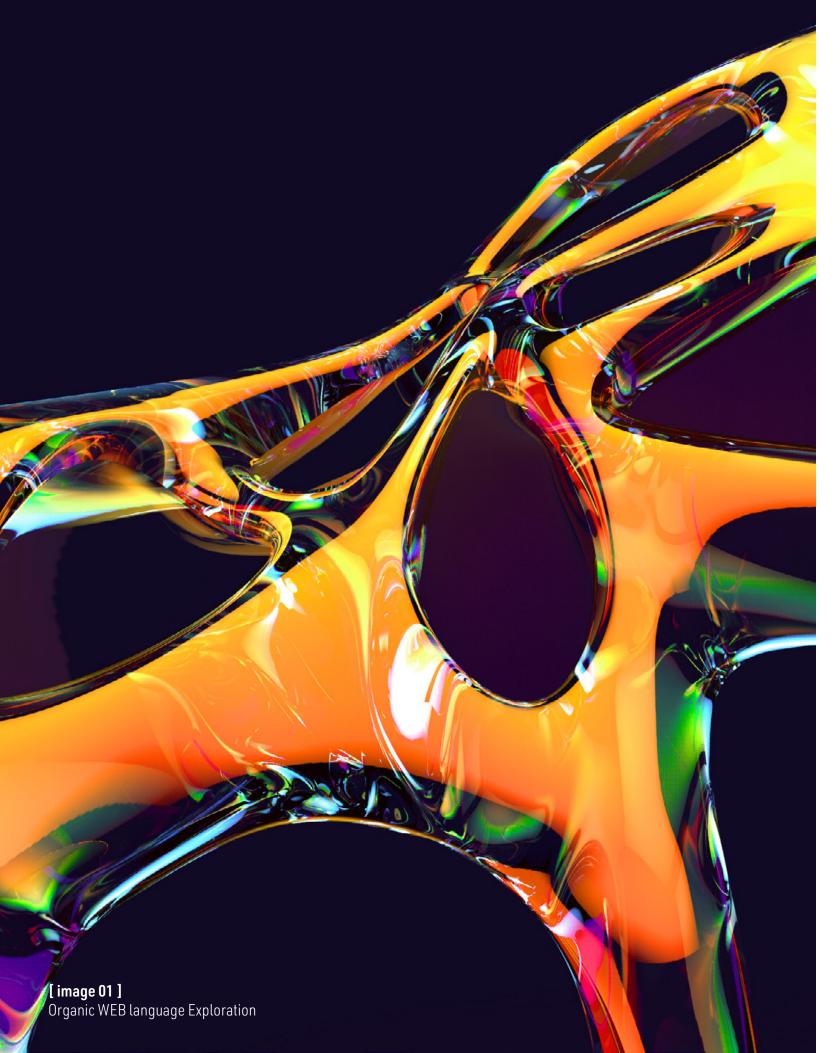
Designed and constructed by students in the Spring 2022 seminar "The Outside Project" led by faculty Laurie Hawkinson and Galia Solomonoff, WEB is a temporary project consisting of an inflatable pavilion and a collection of custom furniture installed at Columbia University's Avery Plaza. Massive yet buoyant, WEB touches ground at just seven points and frames entrances into the courtyard evoking a feeling of organic intrigue and uneasy uncertainty, questioning the solidity of architecture. Walking through it, WEB feels more like an organism than a building as 1010 patches of white and blue hues undulate to invite visitors to experience a myriad of different perspectives and interpretations.

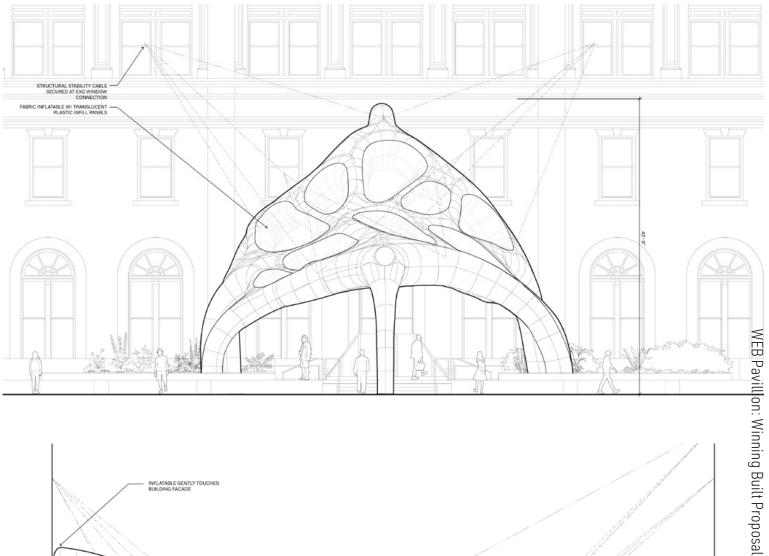
Anchored using a network of ropes and carabiners attached to steel beams in Avery and Fayerweather Halls and weighted ballasts in each of its seven feet, WEB sustains its voluptuous form with the help of four blowers, located in its two rear feet, constantly blowing air throughout the structure. The formal configuration elucidates a strong contrast between the campus's existing fabric and its new inflatable counterpart, a contrast best witnessed through an unassuming view from the library inside Avery Hall to the structure beyond.

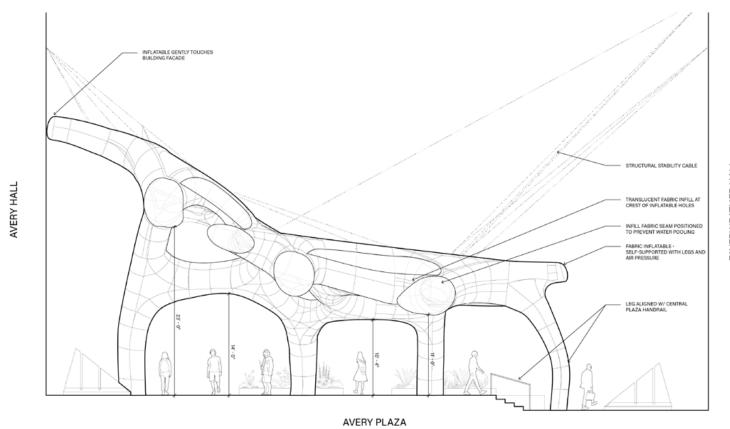
Patterned fabric highlights the four thresholds and grows contiguously across the surface as a viewer passes into the pavilion, the uniform distribution inevitably pulling one's attention with it. Looking up, one's gaze dances playfully from one translucent skylight to the next. The daylight shining through emitting a light blue glow changes the atmosphere within the interior and becomes an ephemeral record of WEB's footprint. At night, roles are reversed, LED's installed throughout the structure project light through the fabric making it an expression of exteriority. The intensity of light changes depending on what hue of blue it shines through and draws all attention to the surface of the WEB, inverting the introverted atmospheric qualities it takes on in the daytime.

WEB is an immersive installation that invites its participants to be introspective about architectural possibilities. Highly calibrated to squeeze experience out of its confined courtyard location it promises a unique and subjective sequence of possibility from each and every vantage point it offers.









[image set 02]
Elevations of WEB Pavillion







[image set 01] inflatable fabrication from 3D model





[image set 02]
Inflatable fully standing @ columbia avery plaza



Stackables: eclectic tiles

Cast concrete tiles / Transitional geometries Fall 2021 / Prof: Josh Jordan

Through intense iteration, the concept to make these tiles were that they could have a contrasting language when stacked in different faces. Intial drawings of geometrical language were done before casting in which soft (curved) edges start creating a realtionship with hard (orthogonal) edges. After these conceptual studies, they were broguth to be digitalized and made 3dimensional.

Once the first prototype was created digitally, the tile had to be tested through first batch of rockite casting. The complete process consists of creating a 3D file that is sent for 3D printing. This piece will serve as the negative for silicone mould casting. After the silicone mould is pured, the 3D piece is removed and then the mould is ready for rockite casting. Finally rockite is pured into the silicoine mould and silicone edges are cut to remove each of the tiles. The process repeated itself for each iteration.





Orbiting: spacecraft assembly

Conceptual Visualization / Ultrareal Spring 2021 / Prof: Phillip Crupi + Joseph Brennan

Collaboration with: Cohaul Chen, Chuqi Huang, Andrew Magnus

The ideation, modeling, and visualization of this project started with redifining technological elements used science fiction culture. As a team we studied movies, photographs, and drawings within the themes of technological speculations before sketching ideas on our conceptual spacecraft.

The spacecraft consists of different levels and starts developing as a thinner body from the ground until it bulks up in the main cabin area where several elements come together to speculate a spatial complex. The scene is thought of and set up in a very far away planet where after a crash it has been maintained and put together with scattered parts from former spaceships. Through these visualizations we hope the concept of an abandoned and orbiting object comes across.



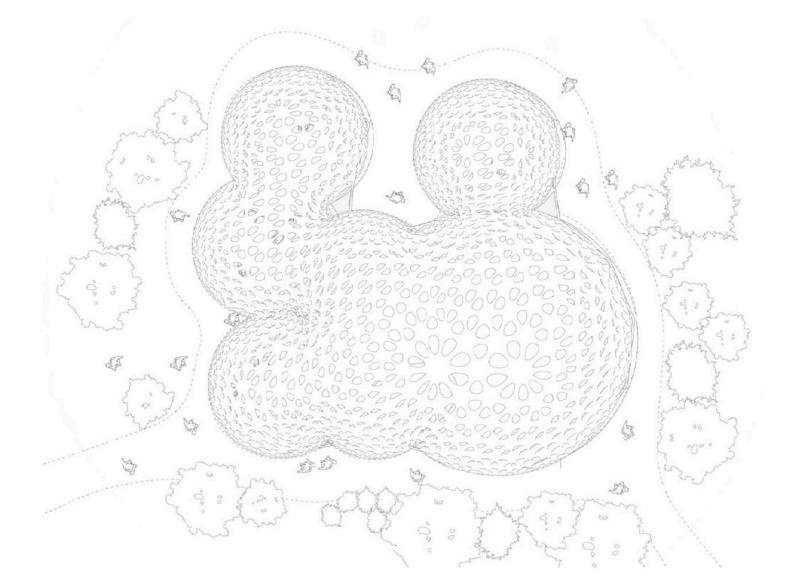


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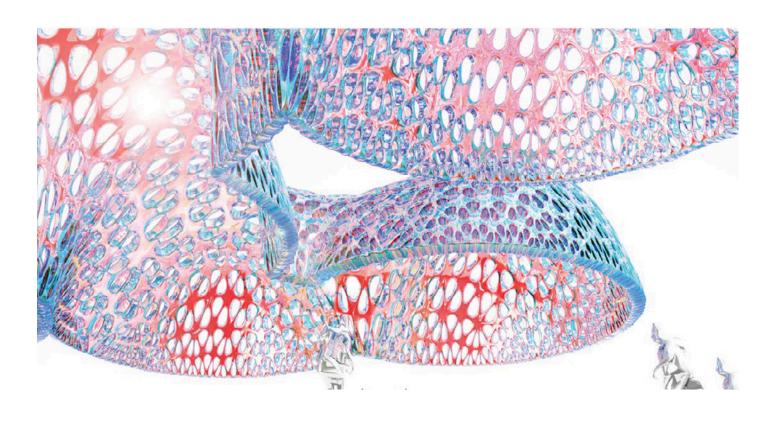
Cloud: generative shelter

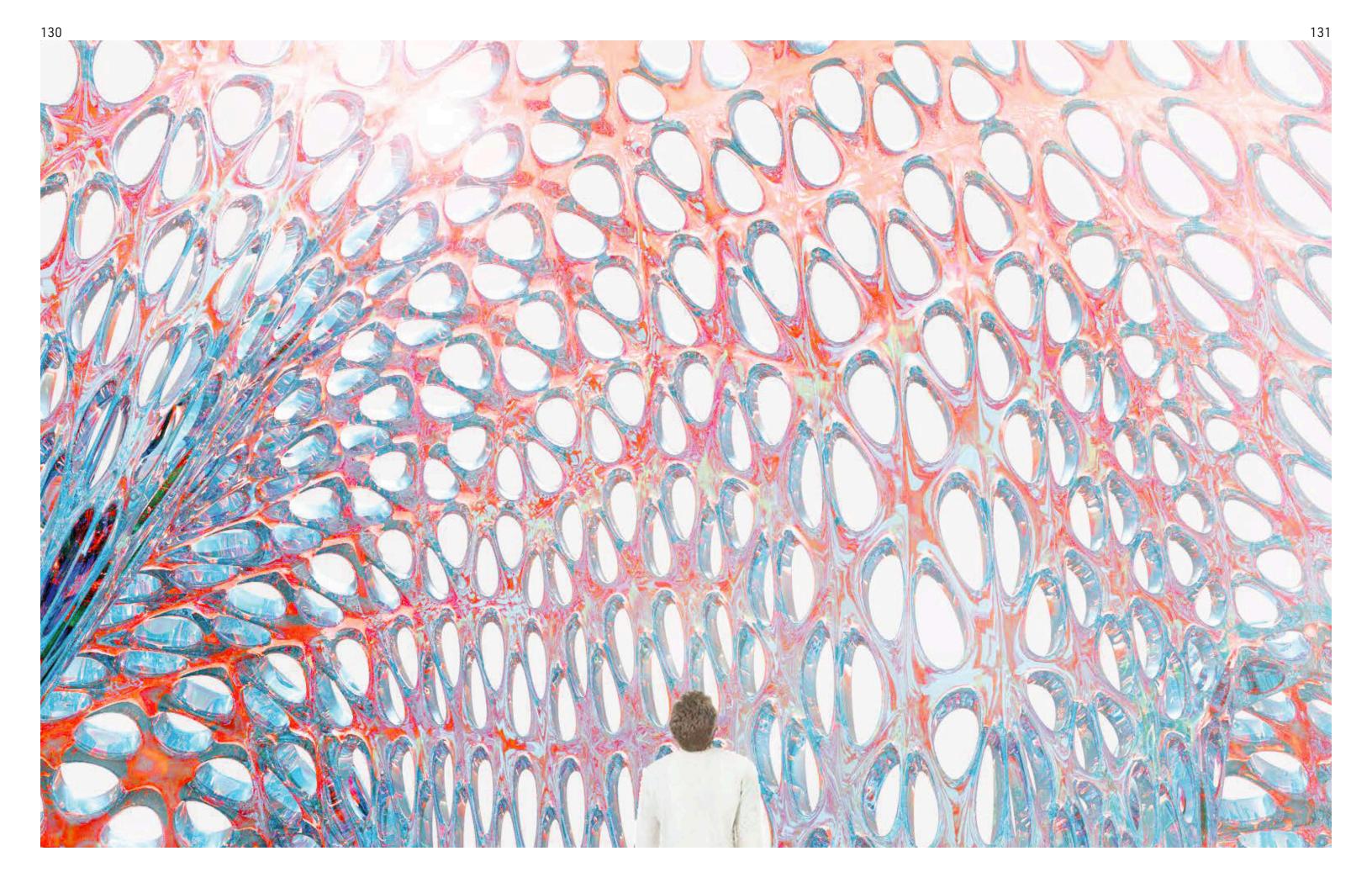
Form genetarive design / Extra Project Spring 2021

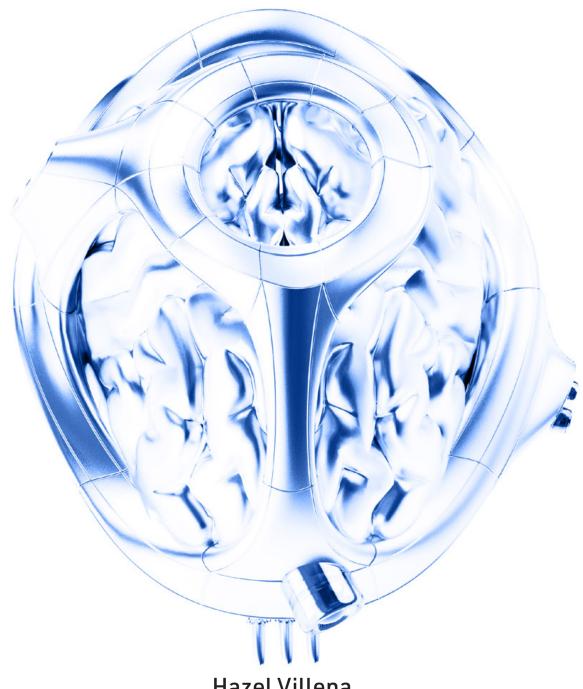
This study was conducted toward the end of the NYC lockdown in 2021. This conceptual project had in mind technology and art installation as the two identity components. The cloud pavillion looks into grasshopper scripting to keep reproducing volumes that bollean merge each other and create new spatial conditions. These reproductions come into a voronoi canopy that lets light shine through its many sheltered areas, displaying different light conditions from the colored overhead.











Hazel Villena MArch 2022