Associations.

Harshvardhan Jhaveri Advance Architectural Design Portfolio

Preface

Associations represents the culmination of a year's work at Columbia University GSAPP, derived from the ideologies cultivated during my tenure and their subsequent influence on my architectural practice. It is premised on the belief that no thought exists in isolation; rather, our continual process of growth and our subconscious faculties continuously form associations, thereby informing our responses. The associative qualities inherent in spatial configurations serve as indicators of our cognitive processes, rendering them indispensable facets of life.

Associations underscores the significance of the interplay between various mediums for conveying thoughts, and subsequently, the diverse modes of communication they engender. These mediums, as evidenced in the portfolio, encompass both design and written text. While the projects may be perceived as individual propositions, they frequently interconnect, leveraging existing ideas to foster novel modes of thought.

Much like its predecessor, "Question?", the portfolio endeavors to scrutinize the multifaceted relationships that define "Architecture," seeking to discern the associations that underpin our understanding of architecture as a discipline. It aims to transcend the notion that architecture exists as a singular entity with superficial interactions with other disciplines. Instead, the argument stems from the notion that architecture does not respond to culture, politics, landscape, topology, but rather it in itself is the culmination of the interaction between these typologies.

Table of Contents

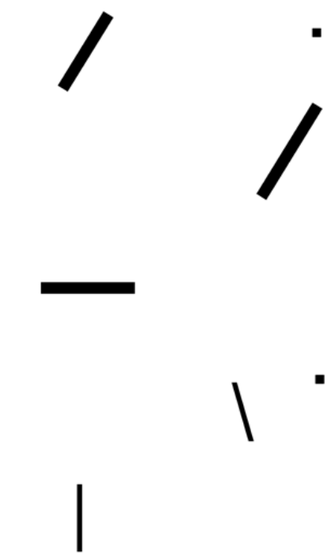
1.	Finding Levels	6
2.	Temporal Permenance	38
3.	Can Architecture Control Ecosystems?	48
4.	Arguments	56
5.	Transscalarities	62
6.	Decoding Jencks	68
7.	Layered	72
8.	Interdependence	80
9.	Public-Private Partnerships	88
10.	Exhale	96

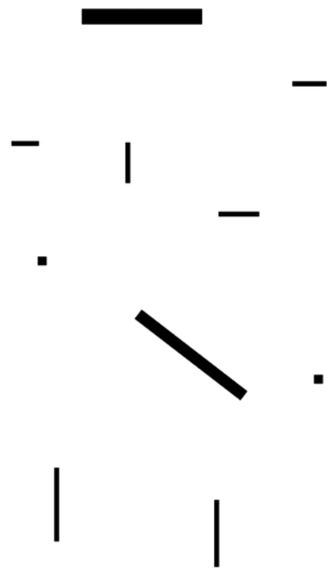
01
Finding Levels

Studio : Floating New York
Critic : Laurie Hawkinson
Semester : Spring 2024, Advanced Studio VI
Collaborators : Harshvardhan Jhaveri, Janhavi Hinge

How can Architecture embrace climate change? Cities on waterfronts face an increasingly daunting possibility of being affected by water, through riverine floods, coastal floods, and even surface floods. All of these possibilities, if not amplified by architecture, are at various degrees assisted by architecture. The increasingly hard shores, inaccesible water fronts and impervious grounds results in the amplification of these conditions.

The South Brooklyn Marine Terminal is a 73 Acre piece of land on the edge of the sunset park neighboruhood. The terminal, is edged to be a storage and assembly facility for the Wind Energy project handle by Empire Wind in New York. This lease however, ends in 10 years, with only the Operation and Maintanance facilities remaining. In doing so, multiple questions arise, what can be done to a site of this scale? How can socio-political as well as environmental issues be addressed through the site that is adjacent to the bustling industry city? Can architecture be more than just builtform and rather become a culmination of the interaction of different agents at various scales?





Overview

Finding Levels is a proposal that works on a transscalar level to challenge the current topology of architecture that exists at the South Brooklyn Marine Terminal. The proposal takes a stand on wanting to create a space that gives back more than it takes. It gives back the reclaimed land it sits on, and it gives back the agency of ownership back to a water-front starved community.

The project works two fold, the first, being an intervention at the larger scale of the site. Here, various analysis lead to the understanding of giving the sunset park community access to a waterfront that has long been gated off. By doing so, the project directly addresses the Socio-Economic barriers commonly associated with the lack of water front access in the city of New Yrok.

To do so, the proposal takes the radical step to “dissolve” the land, working on the philosophy that if the community can not go to the water front, then the waterfront can be brought back to the community. Understanding the interrelated process of architecture, addressing the issue of access, allows for the method in which this access can be given. The phased melting of the site allows for the creation of a Marshland that behaves like a sponge for a large part of sunset park and industry city. The site, beyond providing access, pushes to take the role of providing increased resiliency, both, to the community through equity and to the neighbourhood by its water management stratergies.

The second part of the project involves the creation of a public library. The Sunset park neighbourhood only consists of one public library, by providing a library at the edge of 39th street and 2nd Avenue, the design wishes to invite more of the community into the site, allowing for the mutation of the space into a space of temporality and permenance alike. The different levels created, both, through the topology and the building create different spaces for interaction, ranging from private to public spaces.

The intentionality of the linear form is to take advantage of the tension created between the fluid land topology and the percieved rigidity of Built form. By playing with this tension, the design utilises its levels to create a blend of different architectural experiences.

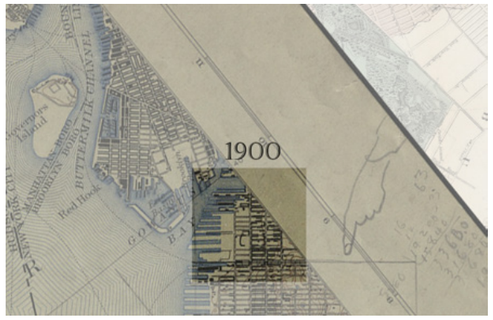
The proposal strives to harmoniously create a blend of Built form and Landscaoe to create a topology which is in constant flux and interaction with one another. The Architecture becomes a culmination of the interaction between Builtform, topology and landscape rather than being individual entities that compliment one another.

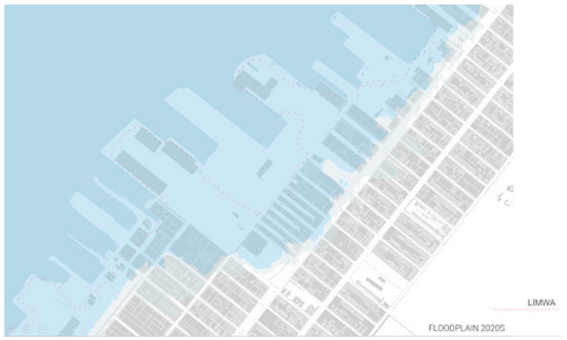
The History of the South Brooklyn Marine Terminal

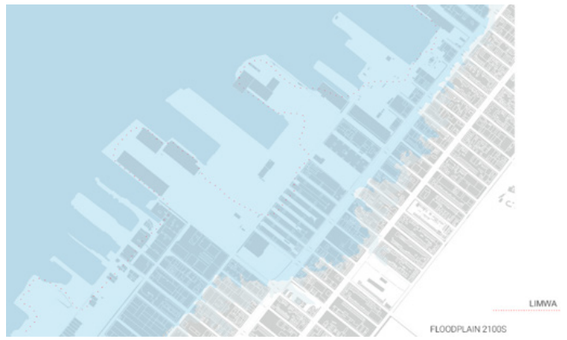
The History of the south brooklyn marine terminal is one of the reclamation of land, and gated access. .The terminal has long been an area of the sunset park neigbourhood that has been inaccessible to the community, being used for a large range of functions from a parking lot to a base during the World wars.

While more than 80% of New Yorks 5 boroughs are supposed to have access to a waterfront in less than 30 minutes of walking, the sunset park community, despite being right on the waterfront, do not have direct access to a waterfront. This is a result of gated areas or hardened edges.

Physical and Social barriers to waterfront access persist, particularly in lower income communities of color. These physical barriers include aging infrastructure, hardened shoreline design and a lack of funding.The social barriers are ingrained in our society and systemic processes for waterfront decision-making. This prevents waterfront access for all.

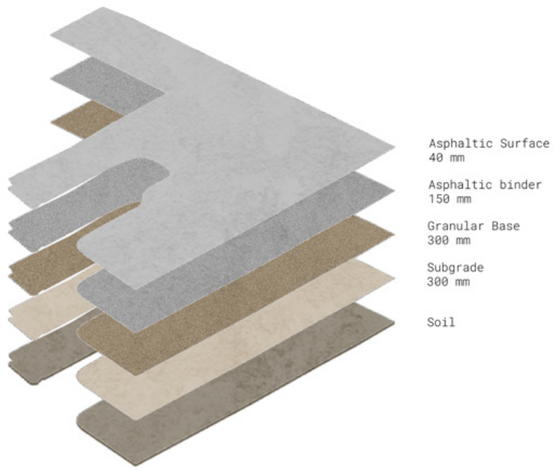




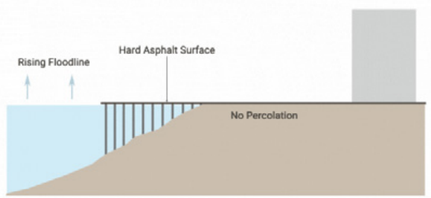


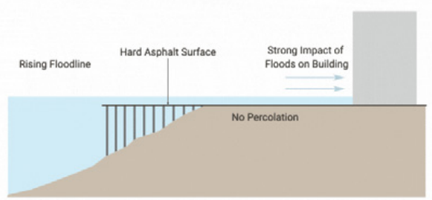
The study of the BFE and LiMWA highlights the effects of the 100 year flood that poses a threat to sunset park. The hardness of the asphalt that cover the reclaimed land acts as one of the main reasons for surface floods. The lack of any barriers means that the BFE, first wave that hits the shore would be one that directly affects the industry city.

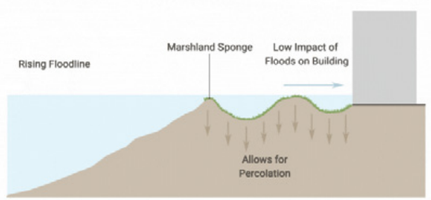
The proposal dissolves the land at various spots through the site to create a marshland, or wetland sponge. This sponge, provides access to the community while also acting as a barrier to the impact of the flood. By dissolving the land a more pervious, softer ecosystem is produced that betters the management of the water. Using the study of BFE, Mounds are created using the cut material at a height of 1.8 m to slow down the force of what may be a devastating wave.

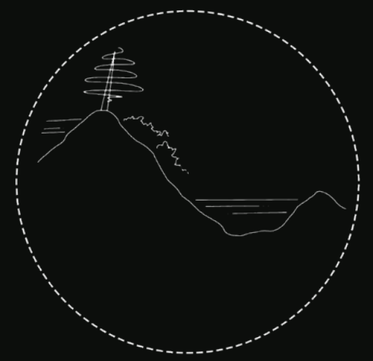


Layers of the site

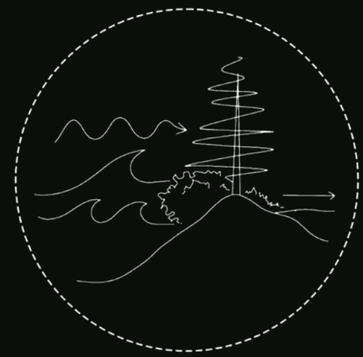




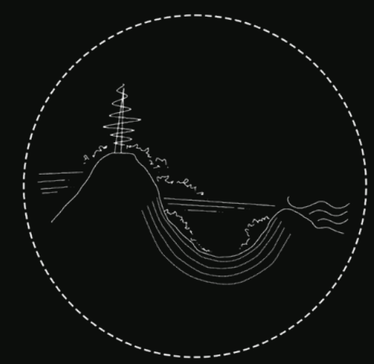




Mounds as physical barriers



Vegetation Bioshield



Permeability to create a sponge

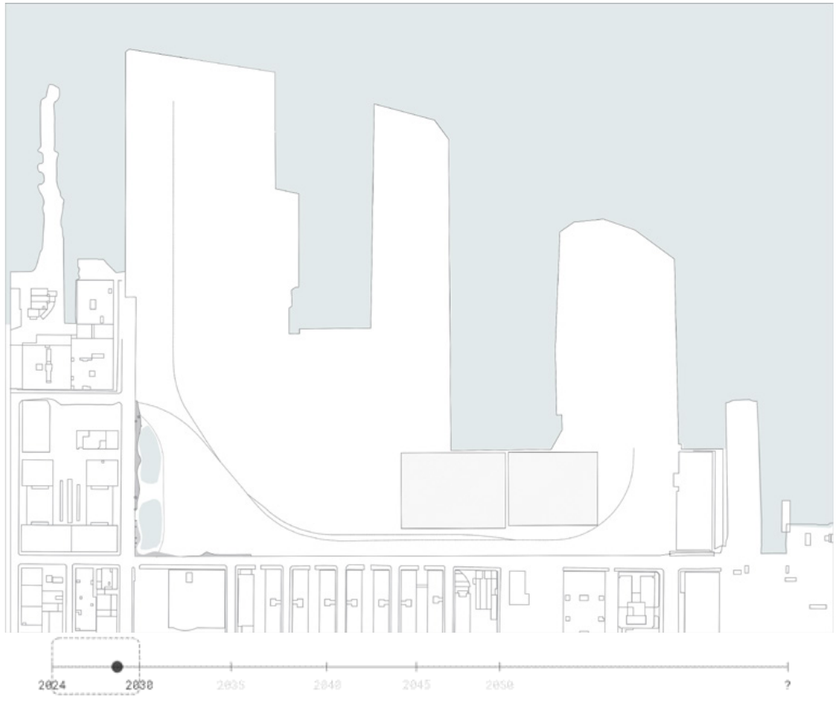
Development Phases. The now, The soon, The eventually.

The development of the site happens in phases. The “Now” phase ranges from 2024 to 2030, during this time, most of the site will be occupied for the assembly of the wind turbines. This period is used to create the first water ponds and develop the edge condition of the site.

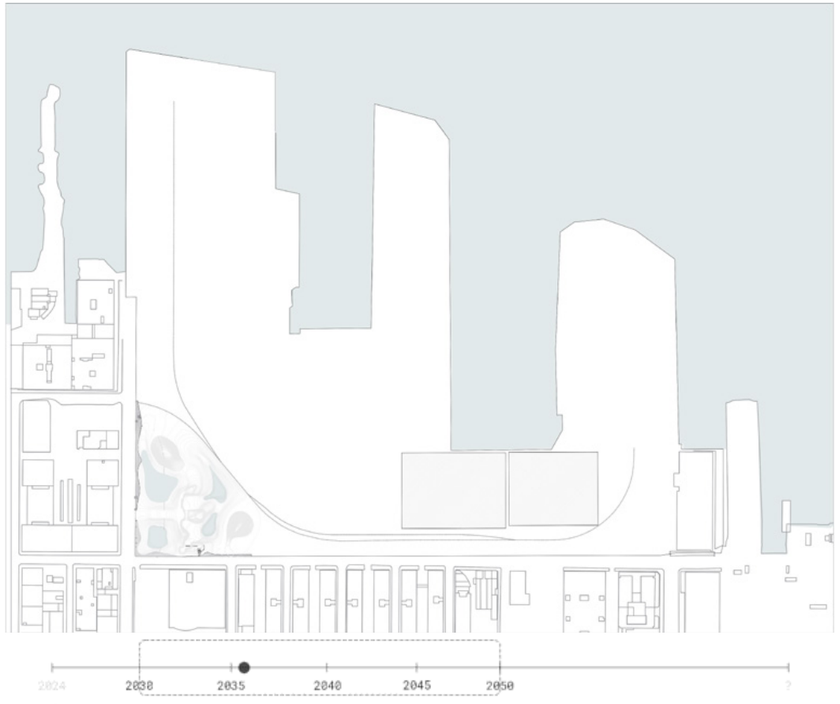
The next phase is the “soon,” this ranges from the 2030s to the 2050s. It is during this phase where most of the development on the site takes place. Cognisant of the fact that most of the land being dug up needs to be stored somewhere, the soon phase is also divided into smaller parts. The first phase is around 2036, 2 years after empire wind has moved ou. Here, the creation of the corner mounds and the preparation of the site for the building takes place.

From 2036 to 2042 is where the entire site is developed into a marshland along with the building of the library. The phases wise development allows for the continued functioning of the site and the creation of the allied rograms that are intended to come up.

The working of the topology along with the High and Low tide allow for a constant flux in the site where based on the tide, the site changes its form and hence the movement through the sit and finally the perception.



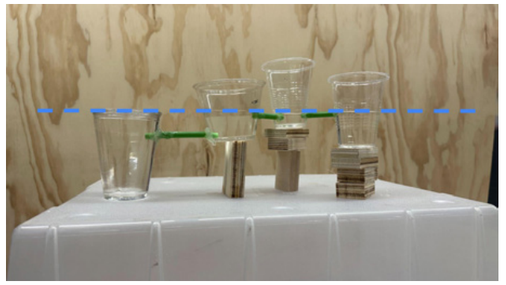
The Now

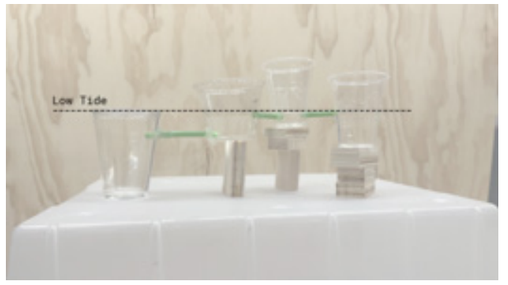


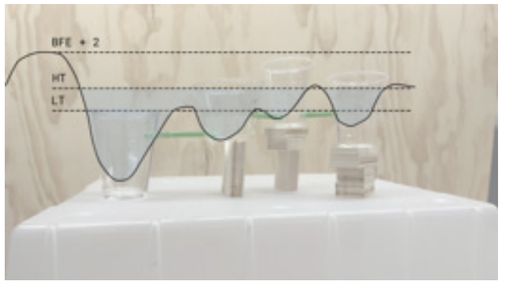
The Soon

The Soon (Low Tide)

The Soon (High Tide)

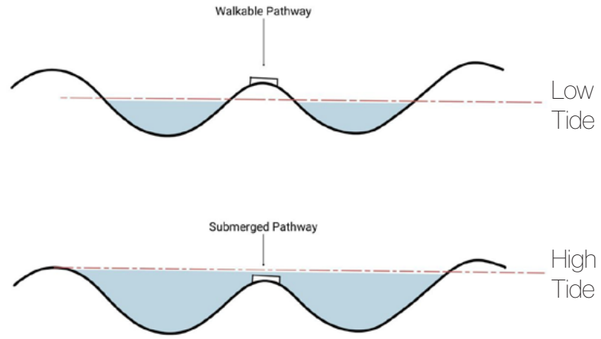




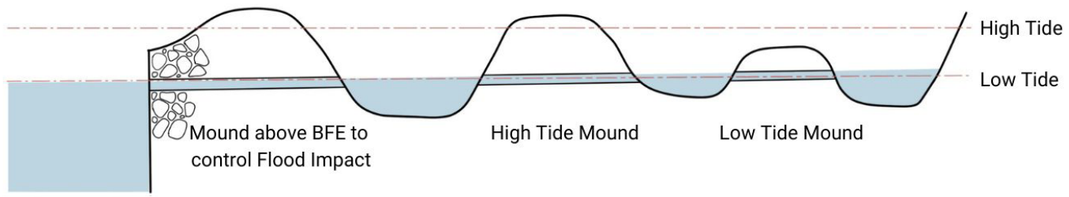


The plans shown above showcase a dichotomy of what happens during Low tide vs High tide, This difference is caused by the waterlevel at any given instance in the ponds. How is this possible? To understand this, we undertook a simple experiment to understand how water finds its level. By staggering cups at different levels, and using "inlets" in the form of pipes, it is observed that water always finds its position at the same level through out. This simple experiment was translated into the needs of the design, where using water channels the sea is directly conected to each of the Ponds on the site. This is possible by creating ponds deeper than the lowest low tide in the region and having inlet pipes running below the low tide line. By further manipulating the hieghts of the mounds, when the tide is high, multiple smaller ponds can merge to create a larger pond, creating a larger water ecosystem.

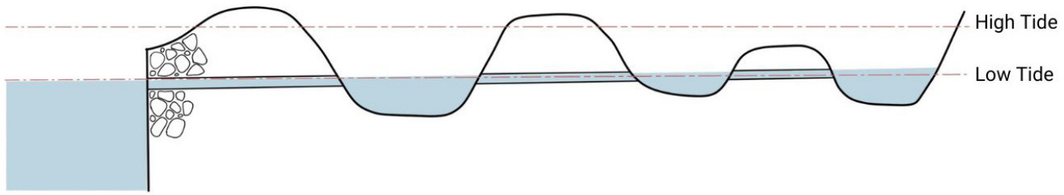
Beyond the use of underground pipesm some areas allow for above ground transfer of water. This creation of a tidal water inlet allows for the creation of completely new ecosystems



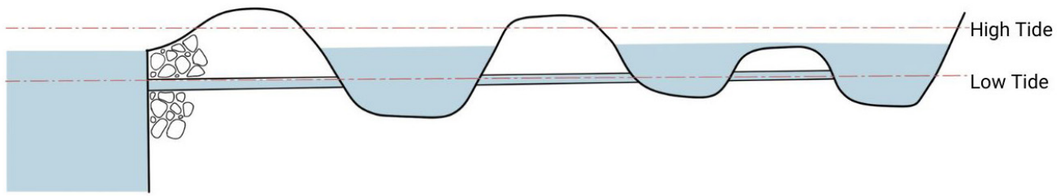
Embedded Water Channels under earth berms



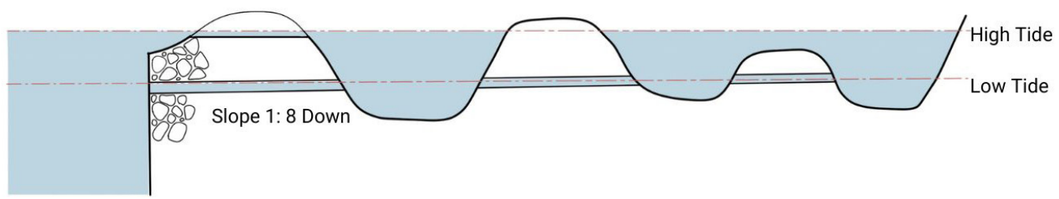
Embedded Water Channels during low tide



Embedded Water Channels during high tide



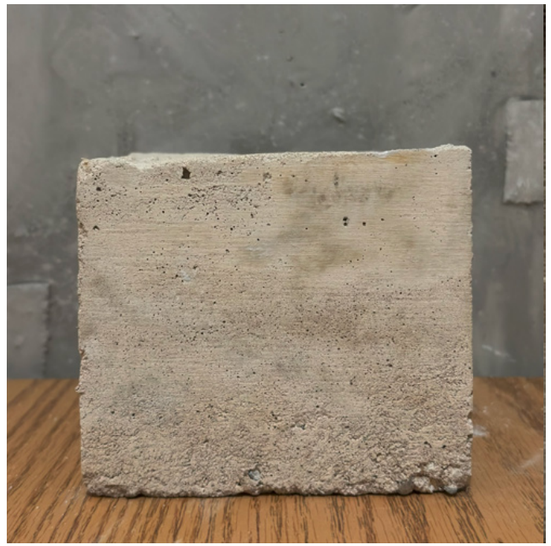
Above ground natural water channels during high tide



Material experiments to create porous blocks using excavated asphalt

The design proposes the excavation of a large chunk of land that currently sits on reclaimed land. Much of this land as seen above is asphalt. Understanding the limitations of asphalt in terms of its brittle nature meant that it could not be used for structural purposes, hence, we speculated the different use cases for the asphalt before deciding to create a block that can be used for pavement which continues to contribut to the larger goal of creating a sponge.

This block would be porous in nature and be used as paving for the pathways constructed throughout the site. Multiple different experiments led to the succesful creation of the “porous block” which consists of Cement and asphalt aggregate mixed with water to create a block with holes in the middle to allow for the movement of water.

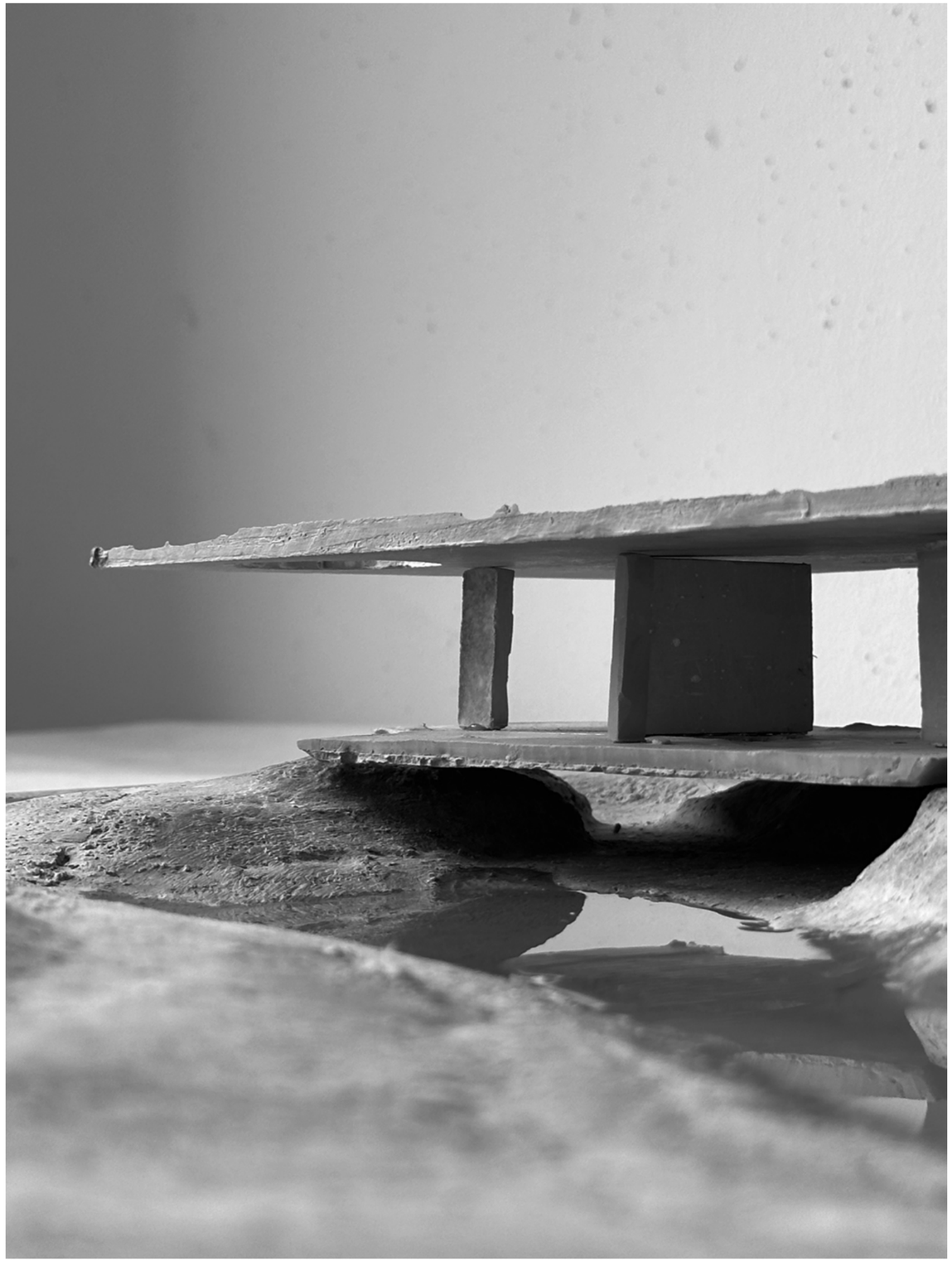


Traditional Concrete Block
Mixture : Cement+Sand+Course aggregate + water

Aerated Concrete Block
Mixture : Cement+Sand+Course aggregate + soap water

Asphalt Block
Mixture : Cement+Sand+Asphalt aggregate + Water

Porous Block
Mixture : Cement +Asphalt aggregate + Water



The Built-form

The building takes shape as a linear slab that rests on the mounds, giving the illusion that the only forms of structural support exist through the mound. This is possible through the use of PT slabs that also behave as load transfering members for the columns that rest on it.

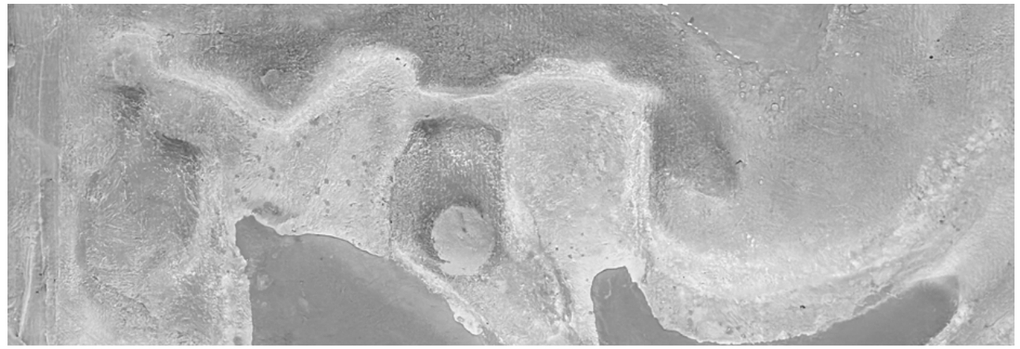
The columns take on the role of social condensors and tools to dictate movement and viewpoints. the erratic, yet strategic placement of the columns allow for the framing of views in addition to them following their structural duties of holding up the roof.

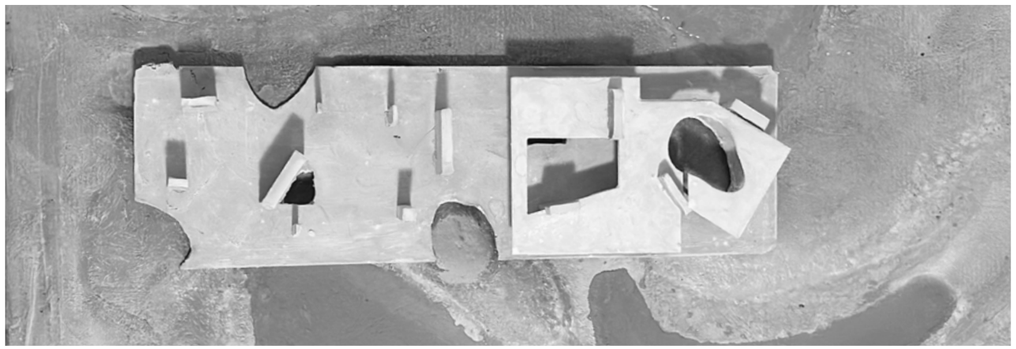
The Topology pierces through the slab at different locations to create courtyards at levels above the ground. This manipulation of the ground plane allows forthe creation of various thresholds through the builtform, playing with its levels.

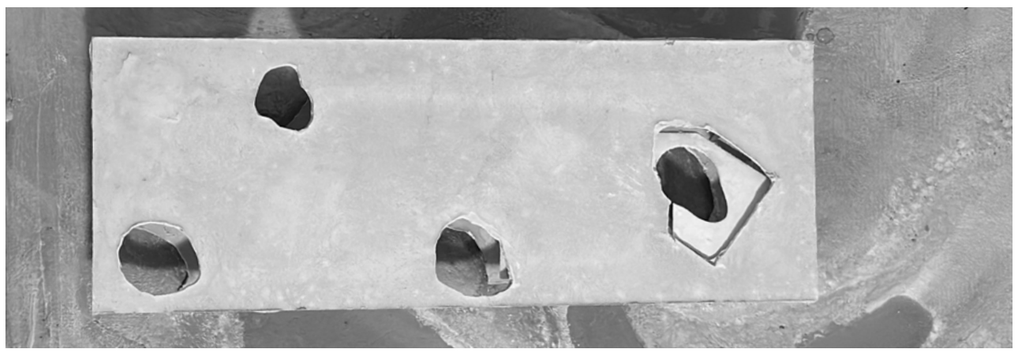
The Ground floor consists of the main library space. here, verious reading, working and browsing spaces are created.

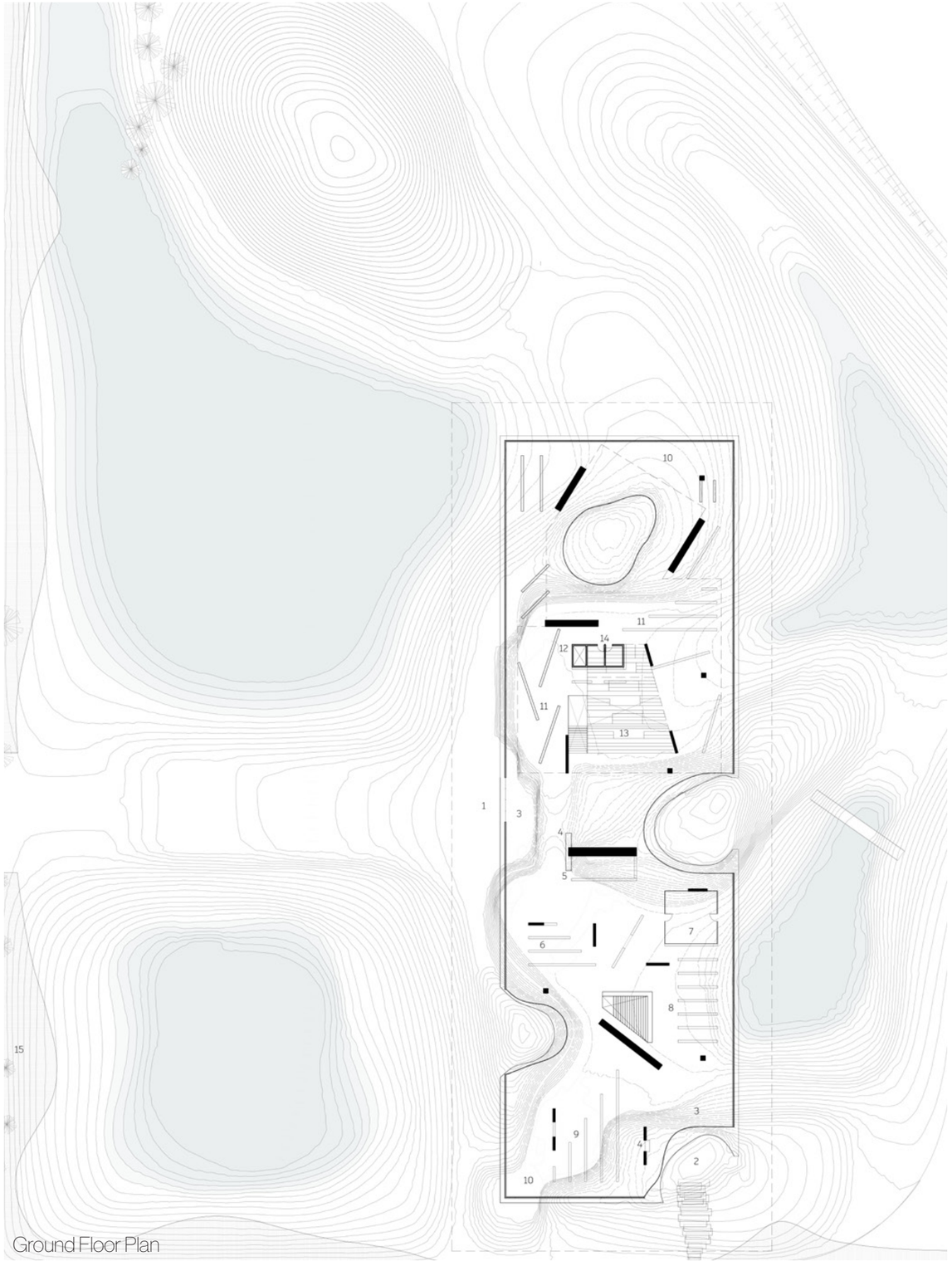
The Lower ground floor acts as a more temporal space, allowing for the possibility of floods, it only provides highly public spaces along with reading areas for the users of the library. Its openness allows for it to be used by people who do not wish to visit the library, This keeps the space active for longer.

Lastly the roof and mezzanine level creates a semi outdoor space that can overlook the entire site while also serving as semi private spaces.

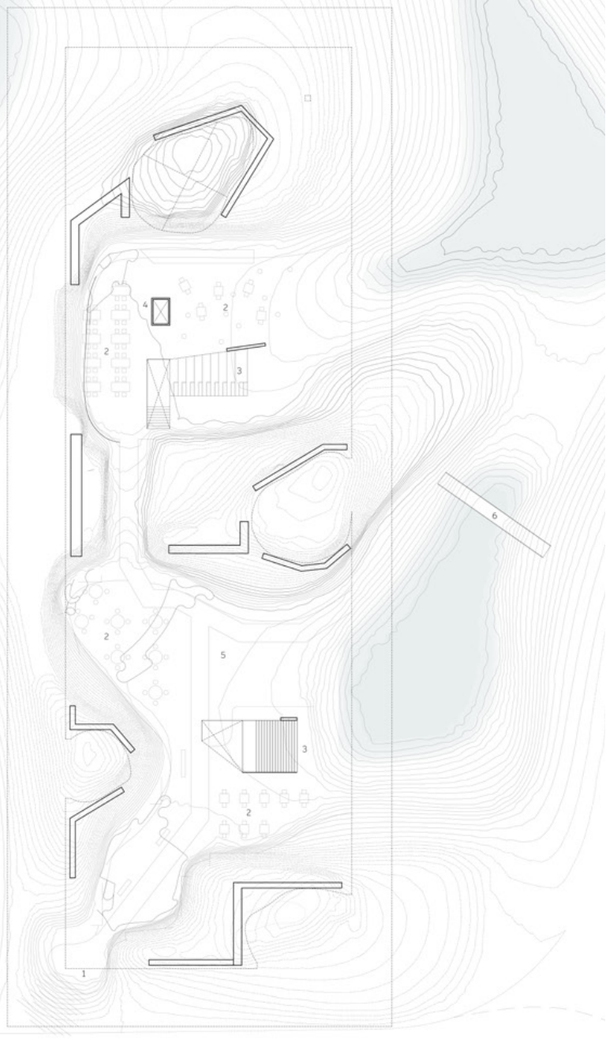




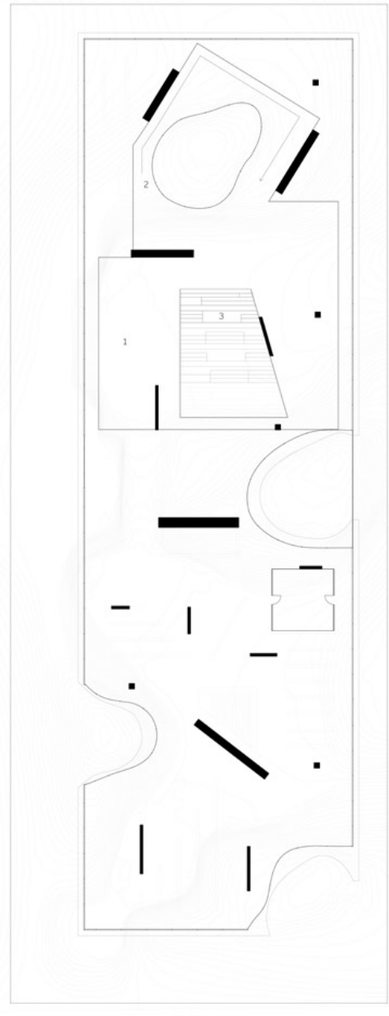




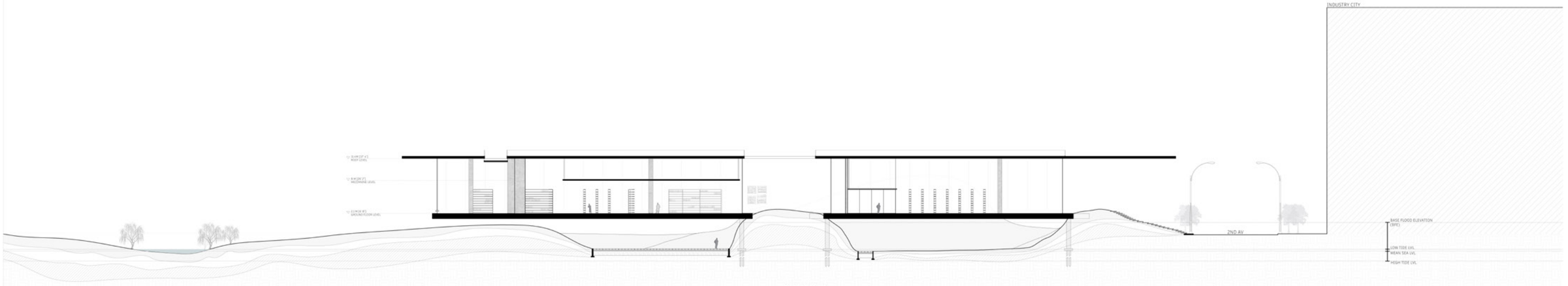
Ground Floor Plan



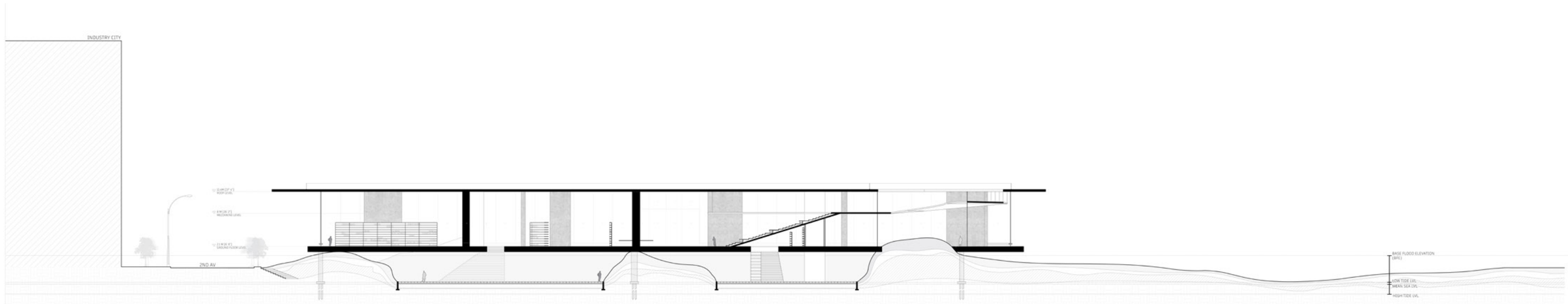
Lower Ground Floor Plan



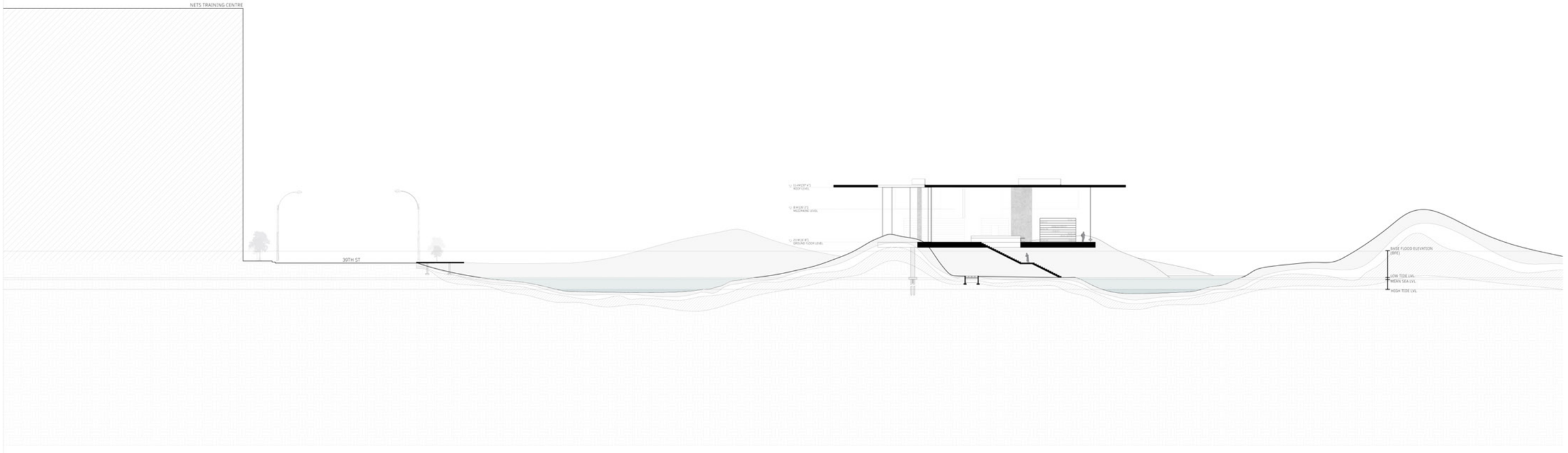
Mezzanine Plan

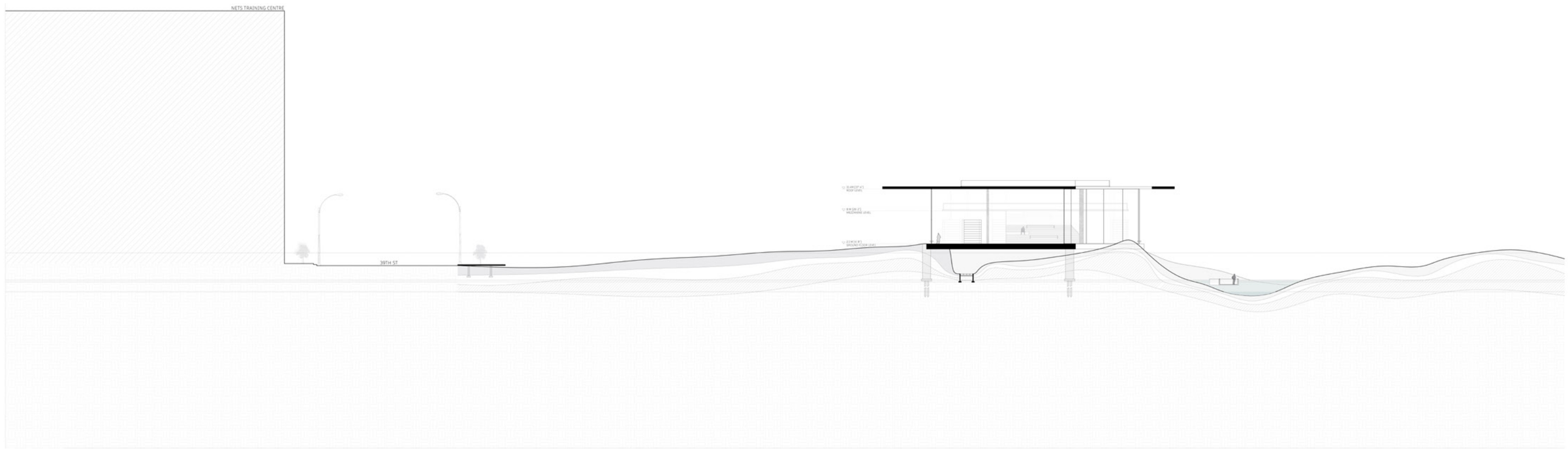


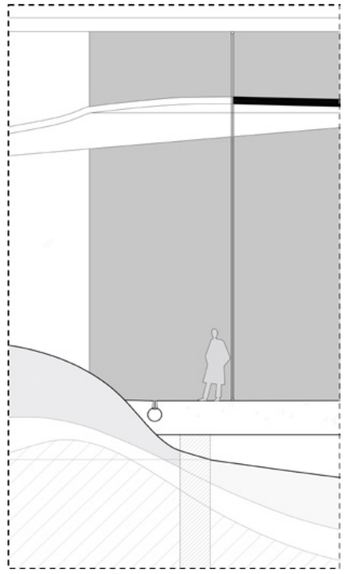
SECTION BB



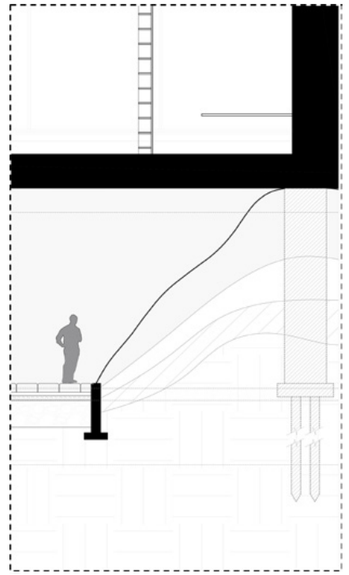
SECTION AA


NETS TRAINING CENTRE
39TH ST
BASE FLOOD ELEVATION (BFE)
LOW TIDE LVL
MEAN SEA LVL
HIGH TIDE LVL

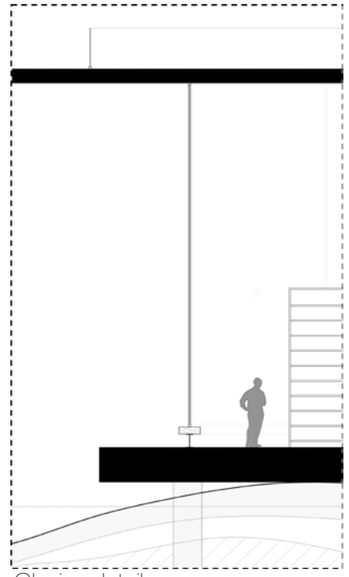

NETS TRAINING CENTRE
39TH ST



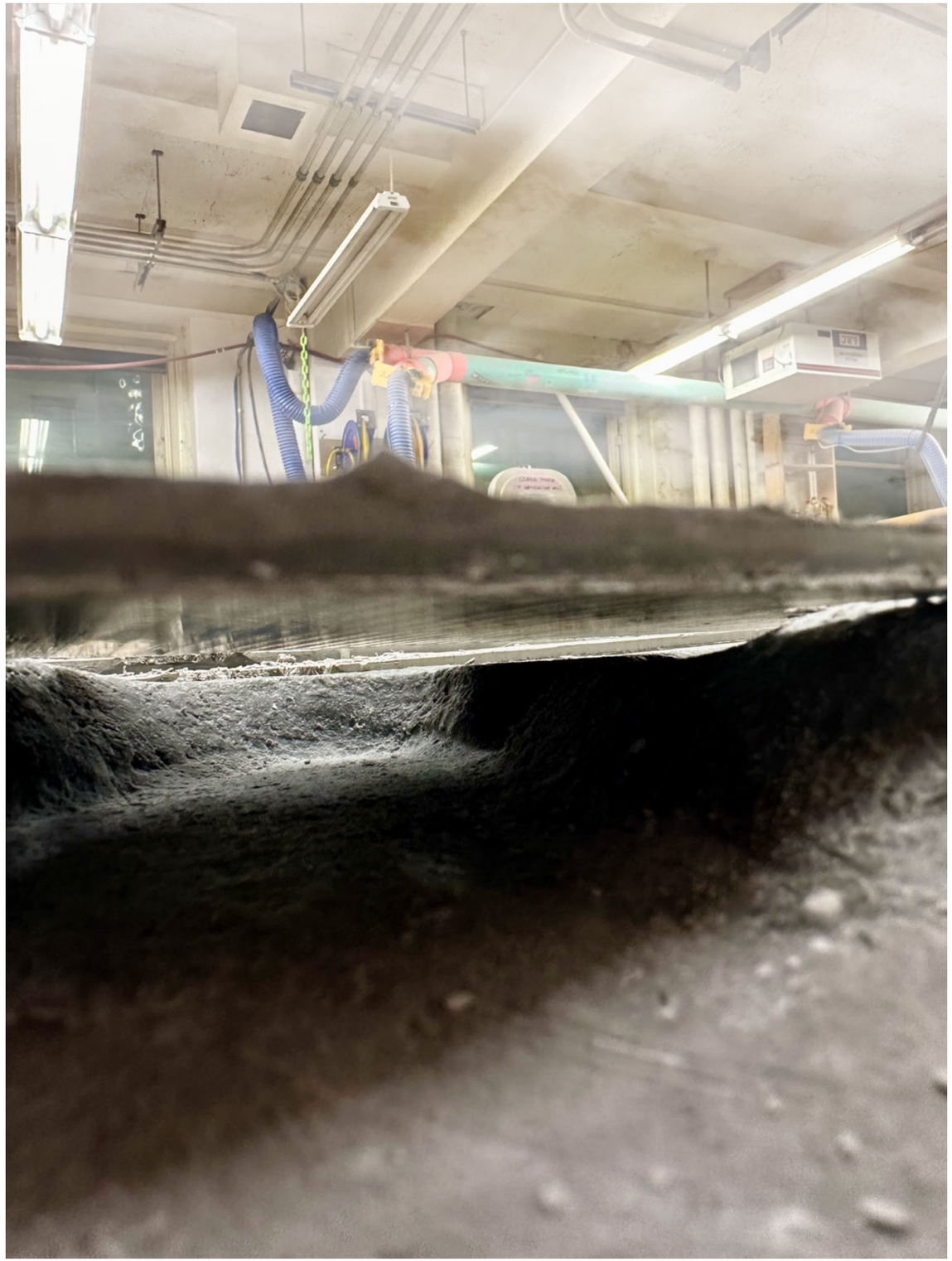
Courtyard Drains



Foundation detail



Glazing detail



02
Temporal Permenance

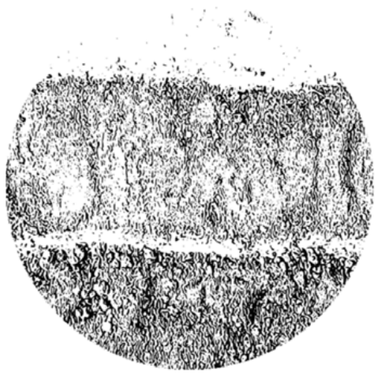
Studio : Maison Studio
Critic : Gordon Kipping
Semester : Fall 2023, Advanced Studio V

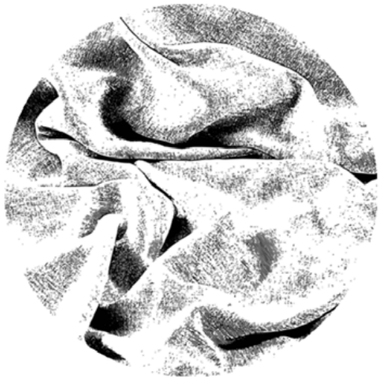
Permanence is often associated with physical longevity. In terms of materiality, concrete gives you a sence of permenance. The studio starts with analysing the Maison Domino as an important invention of its time, however, after 100+ years it aims at questioning todays sensebilities through the study of materials or technologies.

Wattle and Daub is a historical technique that presents a unique precedence, because unlike most contemporary architecture, it is almost intuitive in its making. This system that was used for thousands of years across most continents in the world, saw a rapid **decline in its usability** for “modern” buildings because of its **temporal nature**, where it needed constant maintainance, along with its lack of aspirational characteristics when compared to “rich” materials such as steel.

The Project seems to question this notion of wattle and daub being temporary by prompting to think about **permanence beyond physicality**, and investigating how a technique that has been passed through generations and has a sense of culture rooted in its creation is infact the real definition of Permanence. The design attempts to push the conventional notions of Natural architecture, **questioning conventional uses, its production as well as its form**.

The project, which in itself is an experiment uses the **concept of Shotcrete** and attempts to r**eplace cement by using “daub” or earth**, changing the conventional process of applying Daub and exploring thew **new technique of Bioshotcrete**. For the wattle, the design dissects what it is that really makes wattle, and by s**tuding lifecycles**, determines the use of Wood Offcuts as the main spine or the wattle. The final aspect of the projects deals with creating the curved facade system. T**he project shows how permanence in reality works in cycles, and its temporal nature shows that permanence goes beyond just the physical.**

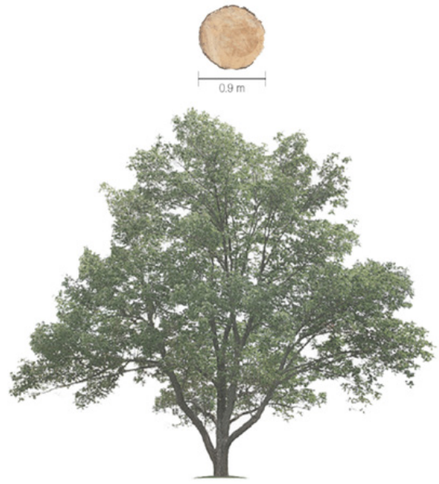




The research is divided between four materials, Timber, Soil, Fibre, Fabric for which various factors were studied. These avenues consisted of, the Life cycle, the production cycle, carbon footprint, thermal properties, its application as well as process of implimentation, its different use cases and their interrelations.

Black Cherry
New York

Longleaf Pine
Florida



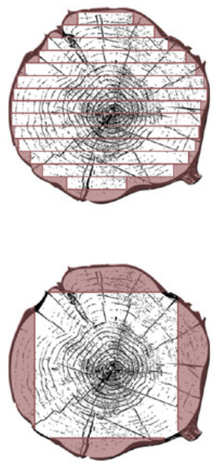
White Ash
New York

White Pine
New York

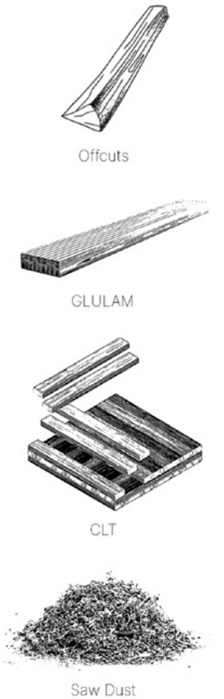
Processing of Lumber

The Life Cycle analysis led to the identification of 4 major Outputs of the lumber creation process. Offcuts were identified as a major material for the wattle, creating a holistic cycle of production and material acquisition

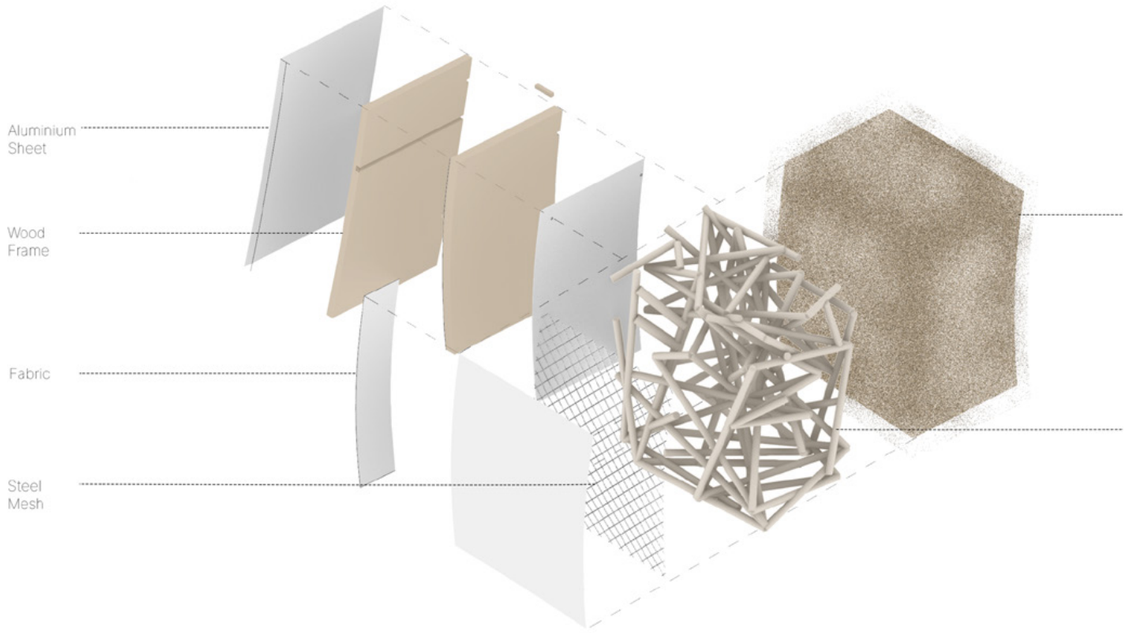
Raw Log



Planks Cut



Produce



Proportions

1. Layer 1 :
2 Units Water
1 Unit Clay

2. Layer 2,3:
1 Units Water
1 Unit Clay
1 Unit Sand

3. Layer 4:
1.5 Units Water
2 Unit Clay
3 Unit Sand

4. Layer 5,6,7,8,9 :
1.5 Units Water
2 Unit Clay
3 Unit Sand
0.4 Units Gypsum

5. Fibre Layer:
Corn Husk (Min 1 cm in length)

Process and methodology

A liquid layer of "barbotine" is applied. This layer helps in the adhesion of the following layers.

Next 2 Layers add a grainy texture to allow for better adhesion

The following layers are a thicker slurry that create the thickness and strength of the material.

Long fibres are added after every spray following layer 3. Long fibres act as "bridges" between different wattle layers allowing for adhering

Bio shotcrete is applied on both, front and back surfaces, creating still air pockets within, improving thermal capabilities

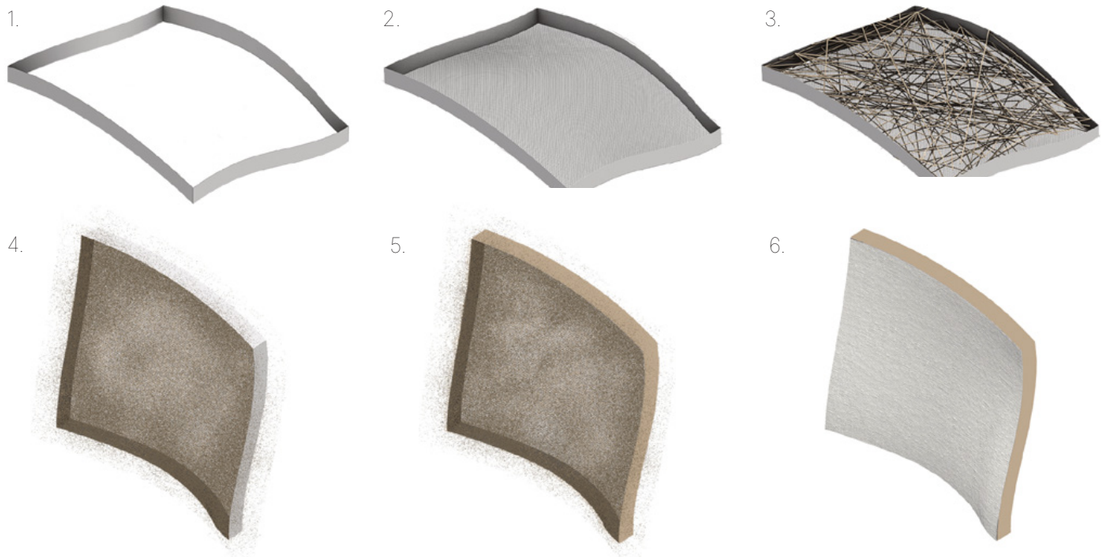
FRAME


Bamboo

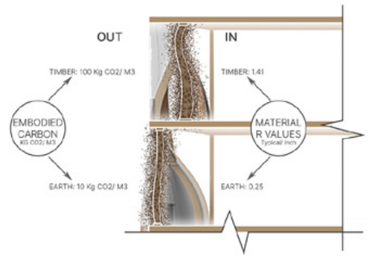
WATTLE

DAUB

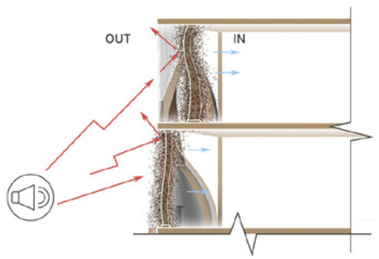
TECHNIQUE



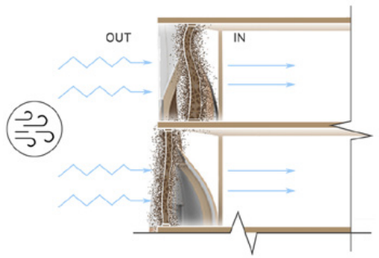
The creation of a new Wattle and Daub Panel: 1. Metal Frame; 2. Metal Grill; 3. Wood Offcuts + Natural Resins ; 4. Bioshotcrete ; 5. Wooden Frame ; 6. Fabric.



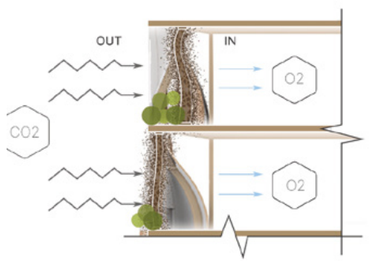
Embodied Carbon



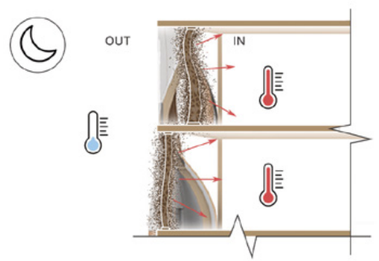
Sound Barrier



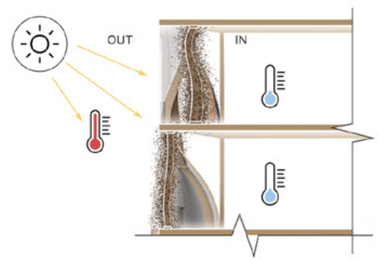
Wind Breaker



Air Purification

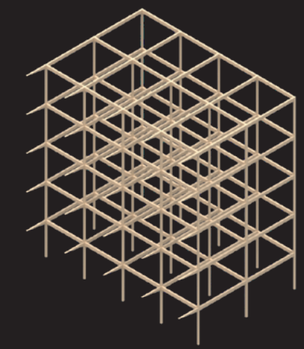


Thermal Mass

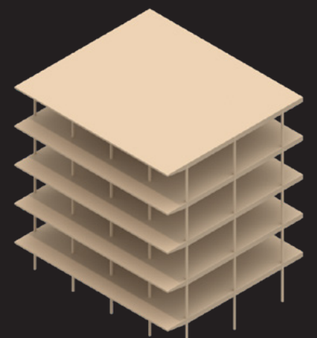


Temperature Regulation

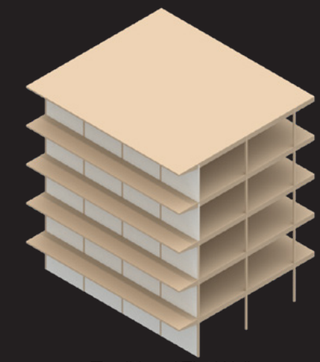
1. GLULAM Columns
0.15 x 0.15 M



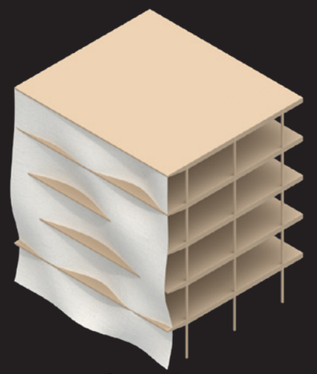
2. GLULAM Beams
0.15 x 0.3 M



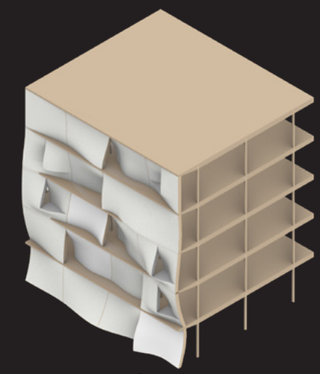
3. CLT Slabs
0.15 M



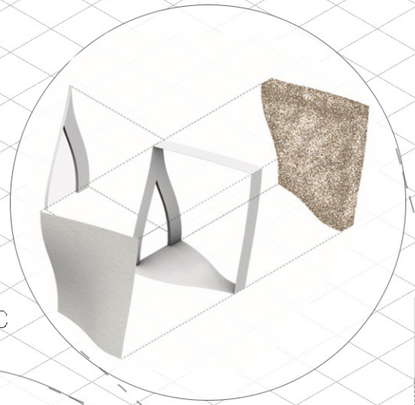
4. Traditional Flat Walls



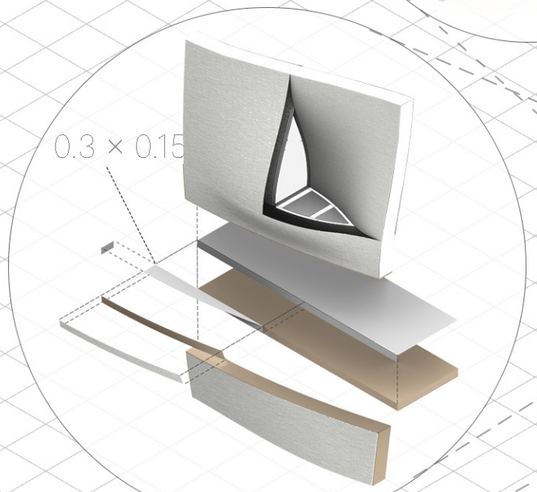
5. Curved Facade

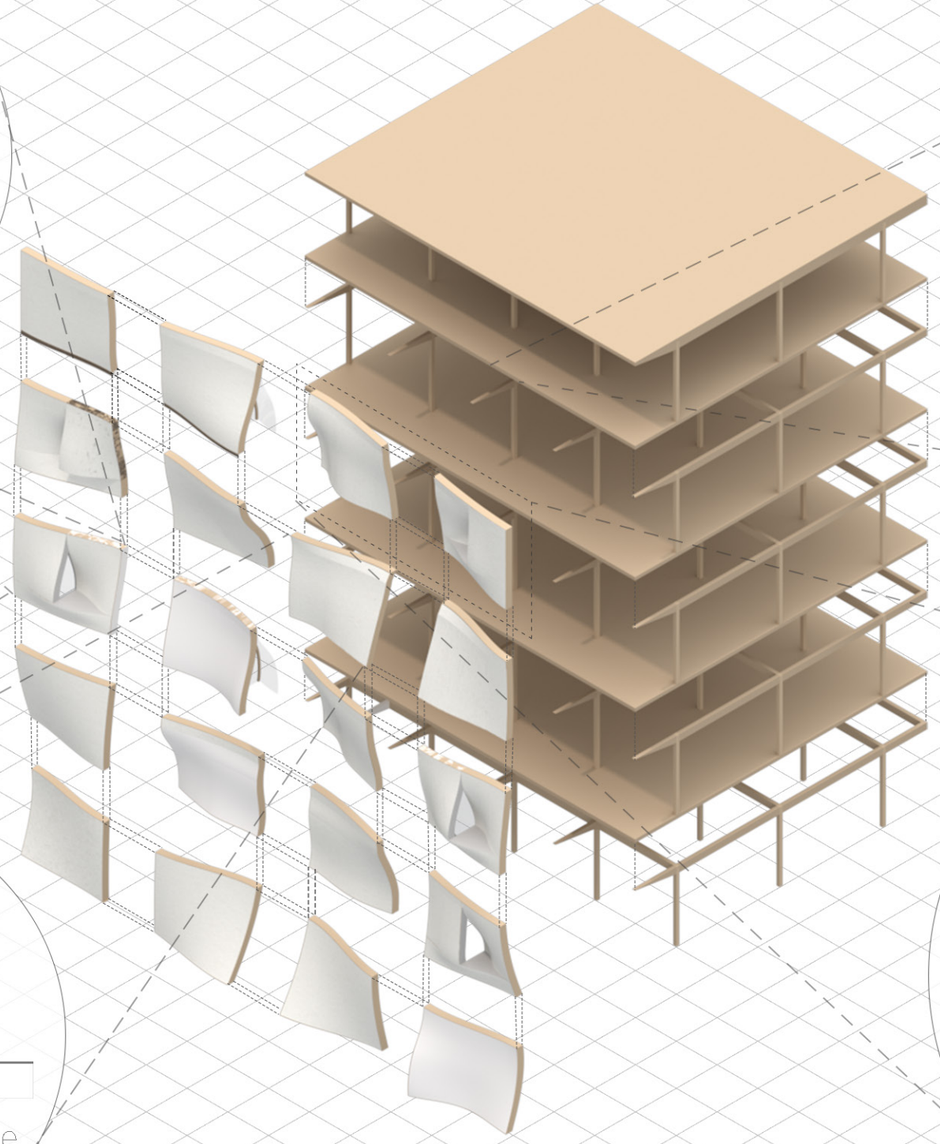


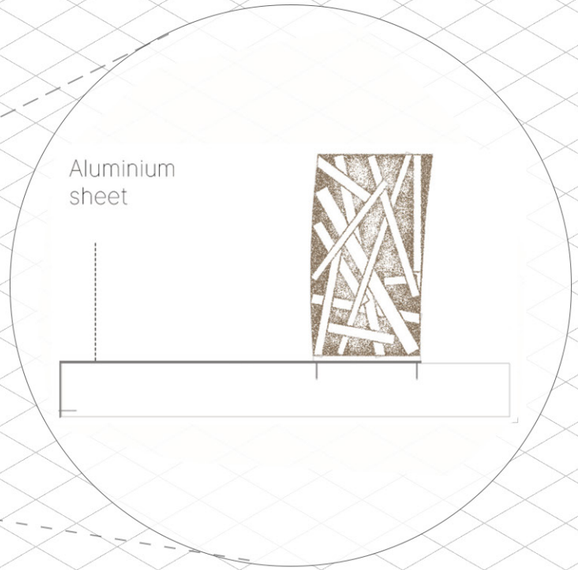
6. Openings



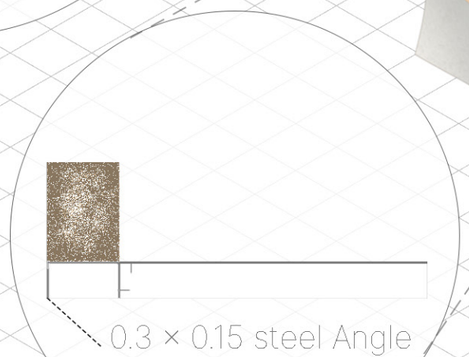
Window Detail
Exploded Axonometric



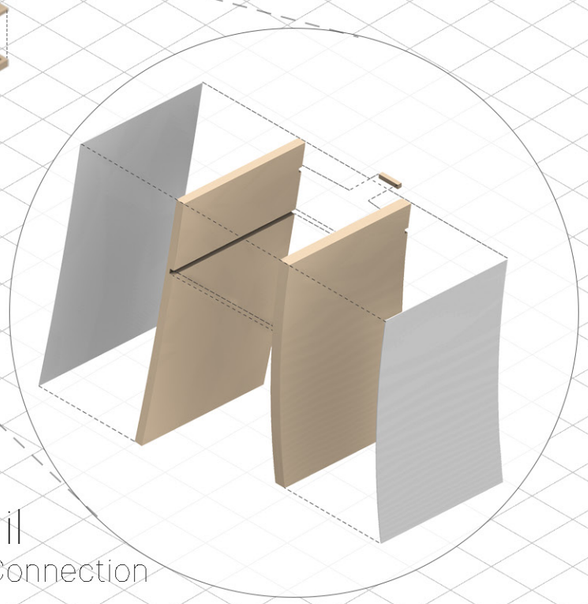




Detail B
Slab Waterproofing



Detail A
Panel to Slab Connection



Panel Detail
Panel to Panel Connection

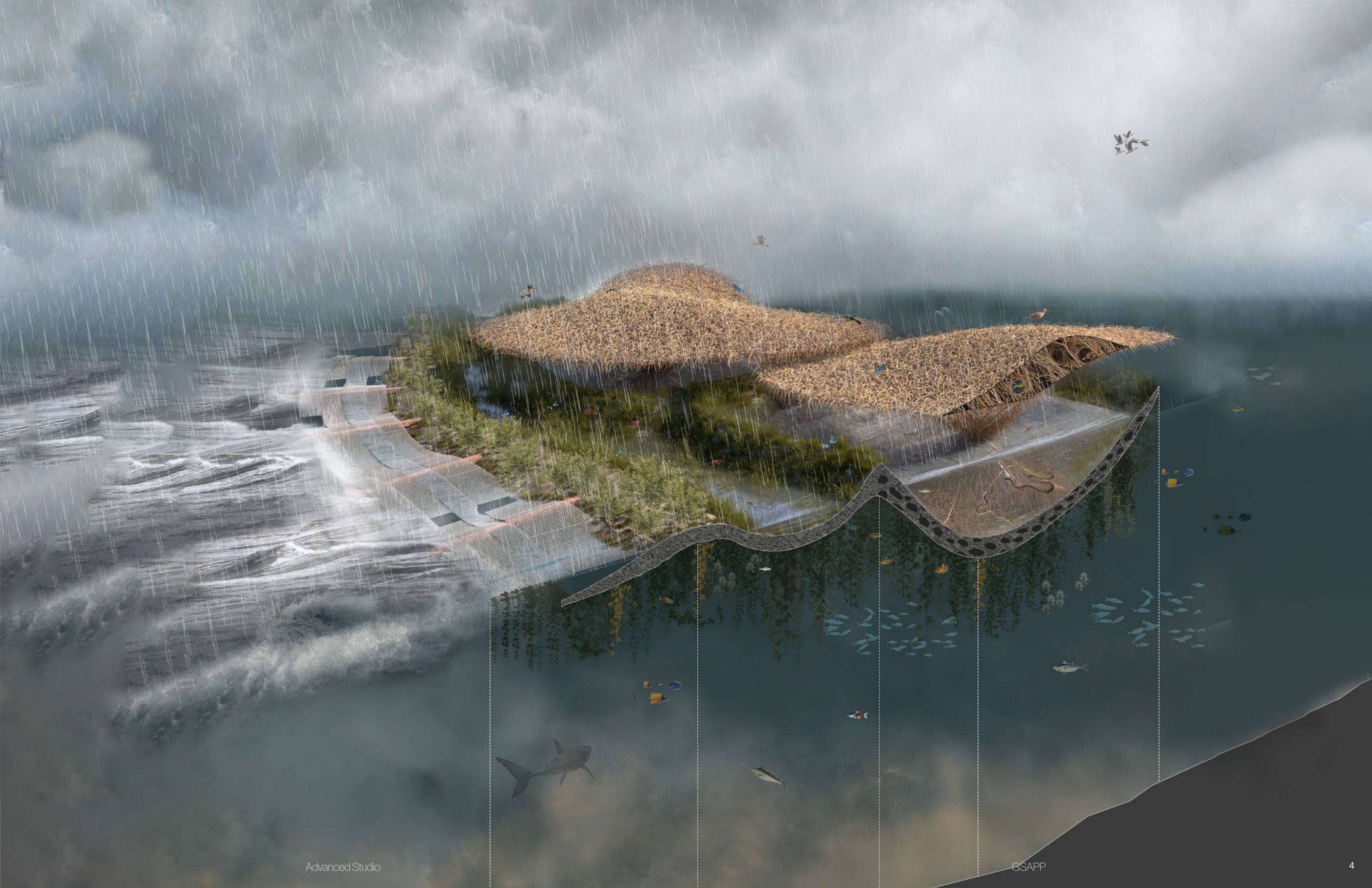
03
Can Architecture Control Ecosystems?

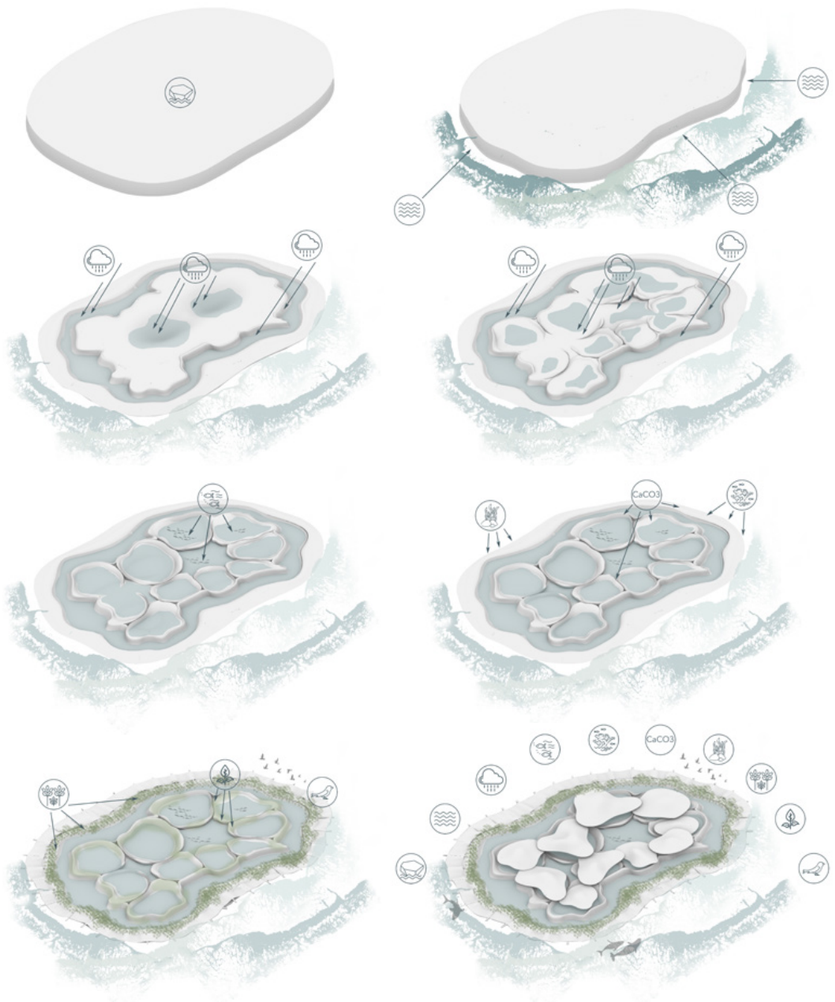
Studio : Untethered
Critic : Antonio Torres, Micheal Loverich (Bittertang Farm)
Semester : Summer 2023, Advanced Studio

“Nested” is an untethered Island of lakes. The island attempts to negotiate the agencies of of different ecosystems, primarily Freshwater, saltwater and Brackish, nesting them together to create a diverse, constantly interacting island. The concept of nested, revolves around the idea of having water inside water, or lakes inside an ocean, that stores freshwater harvested from the rain. By storing fresh water, the island triggers the formation of new ecosystems that depend on the different types of water available.

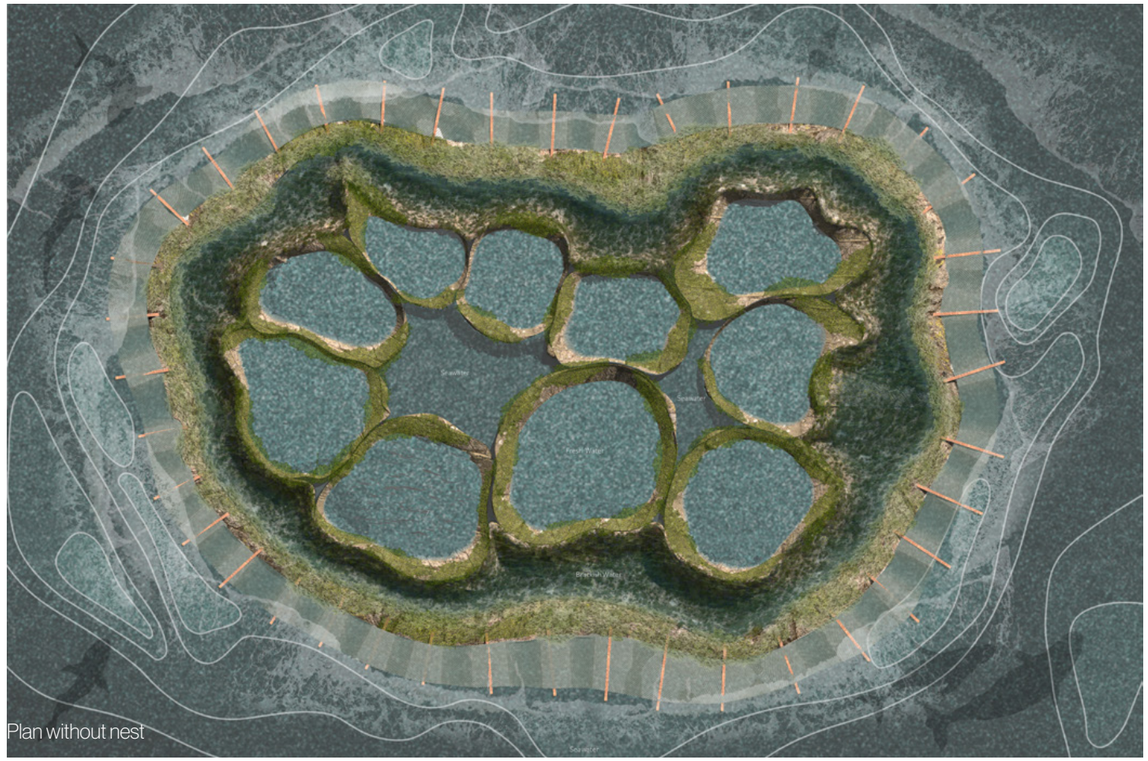
By controlling the movement of waterflow, the architectural topology of a seemingly natural island dictates how ecosystems are created, mutated and lastly how they evolve in a constant cycle of creation. The speculative island attempts of nurture the idea of boundaries as an important architectural element.

The project worked with different AI Engines to see how Artificial Intelligence can influence Design and therewith spaces. A constant reponse system between the designer and different tools was created that allowed for new forms to be explored. Using Technology, Tectonics and the Science of nature, a new Nested Ecology was created where the architecture was created to control the ecosystem but also created possibilities for the ecosystem to create the architecture.

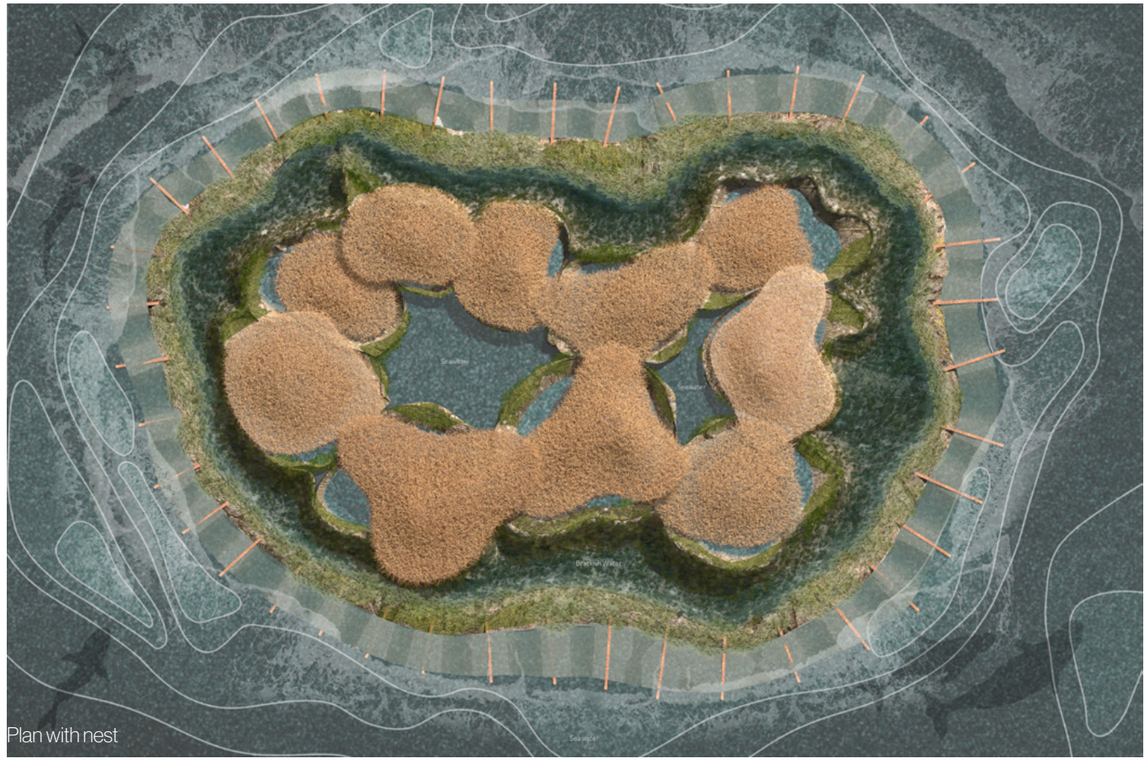




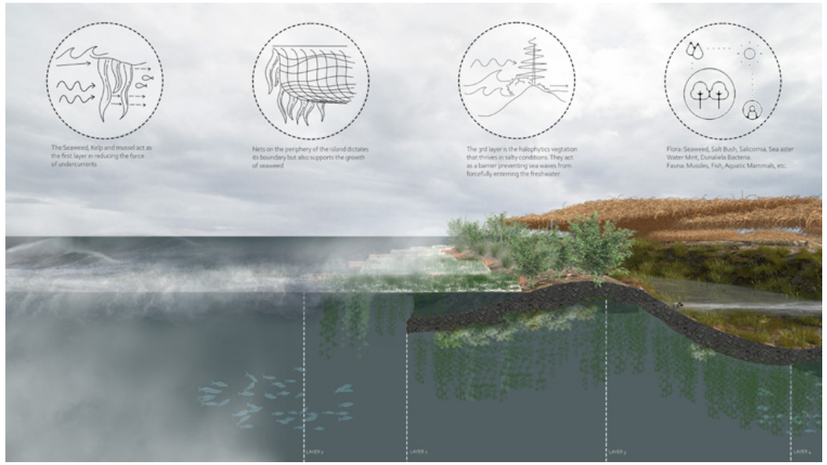
The creation of an Untethered Island: 1. Natural, floating Pumice island ; 2. Tidal waves and torrential rain deform the shape of the island ; 3. Creation of a ravine and the inland pools ; 4. Formation of inland fresh water lakes by rain ; 5. Evolution of the underwater ecology with salt and fresh water; 6. Calcification of the pumice stone through the growth of coral reefs ; 7. Evolution of flora and fauna; 8. Self-sustaining, Ecosystemic development of the island

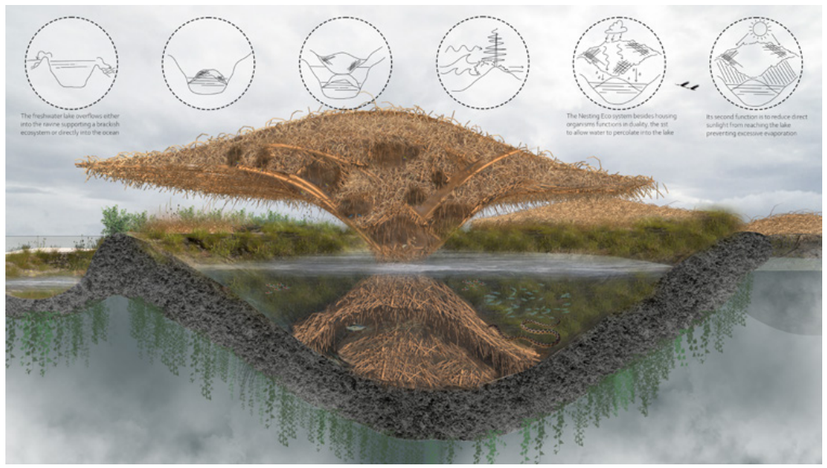


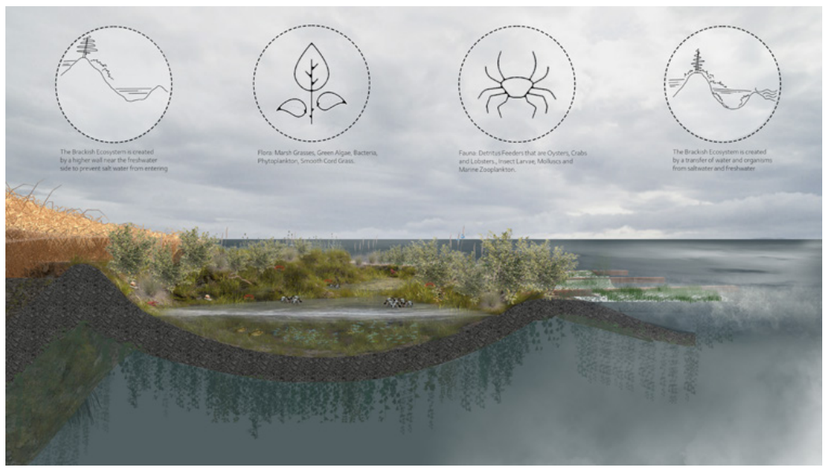
Plan without nest



Plan with nest







The Different Ecosystems. 1. The saltwater ecosystem ; 2. The Freshwater Ecosystem; 3. The Brackish Ecosystem.

Section

The Section highlights the different architectural topographies that dictate the interaction between the ecosystems.

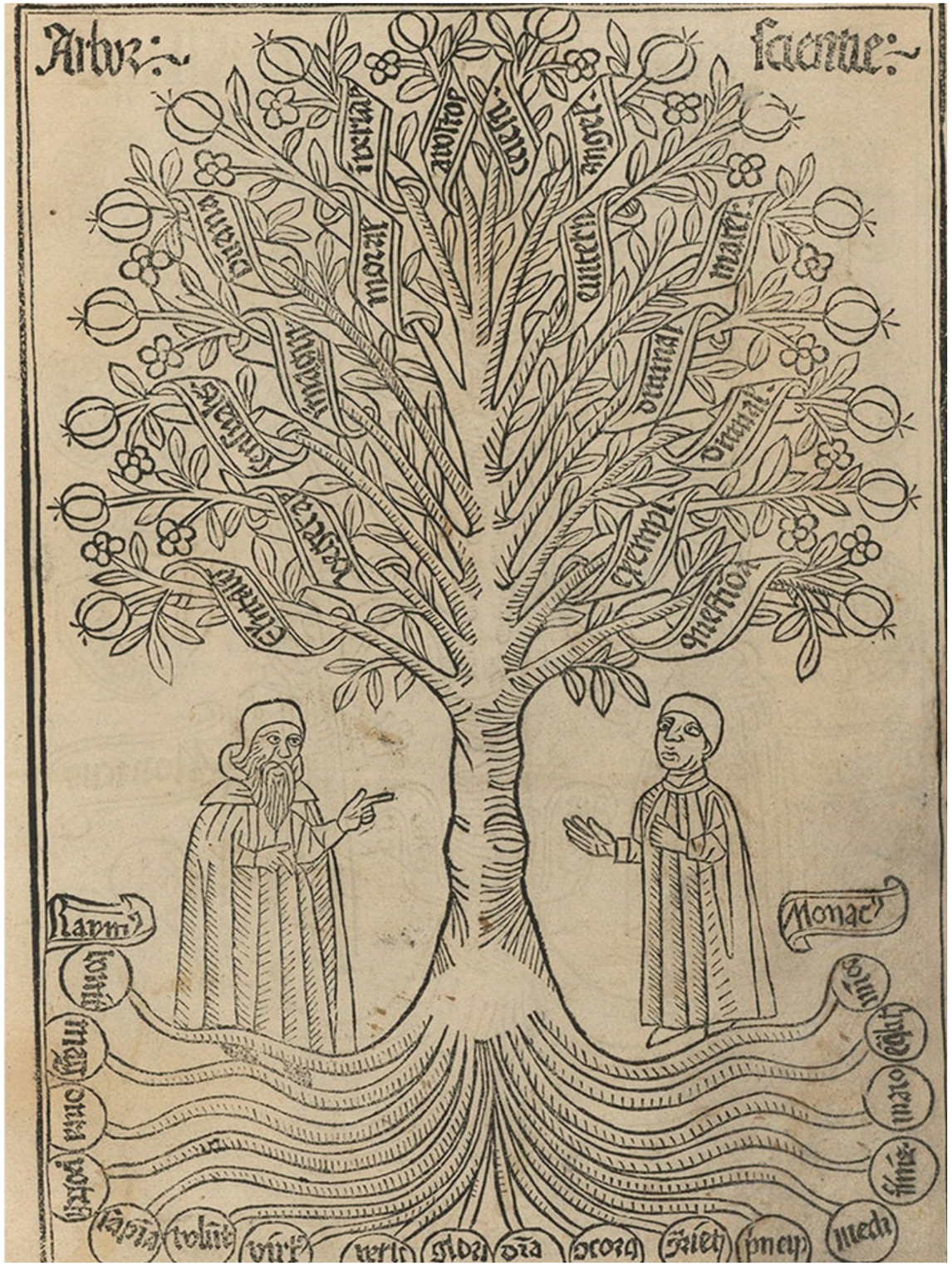
The views highlight the differenct spaces that exist on the island, from the underwater spaces that help control the effects of underwater currents, to the nested ecosystems that house different animal and bird species.

04
Arguments

Mentor : Oscar J. Oliver-Didier
Semester : Summer 2023, Arguments Lecture Series

Arguments is a lecture + workshop series that interrogated “the way architectural devices and architectural practices gain collective relevance, by participating in environmental, technological and representational alliances, solidarities, defiances, disputes and controversies.” Through the workshop, the notion of questioning is used as a tool to decode and critique the work of eight Architects and Artist that provoke thought.

The series acted as a catalyst in understanding what makes architecture and how by analysing the work from a lens beyond the “architect,” its interdisciplinary nature unfolds through the layers of culture, politics and ecosystems that truly form the experience that is architecture.



Shannon Mattern
Tree Thinking

Tree thinking is a concept that is widely studied, however in regions with lesser evidence of tree thinking, there are other thinking methods such as animal thinking. Do you believe that tree thinking is an individualistic endeavor? Is there a greater communication network between non-humans that helps in the creation and sustenance of ecologies?

Chip Lord
Ant Farm, Cadillac ranch

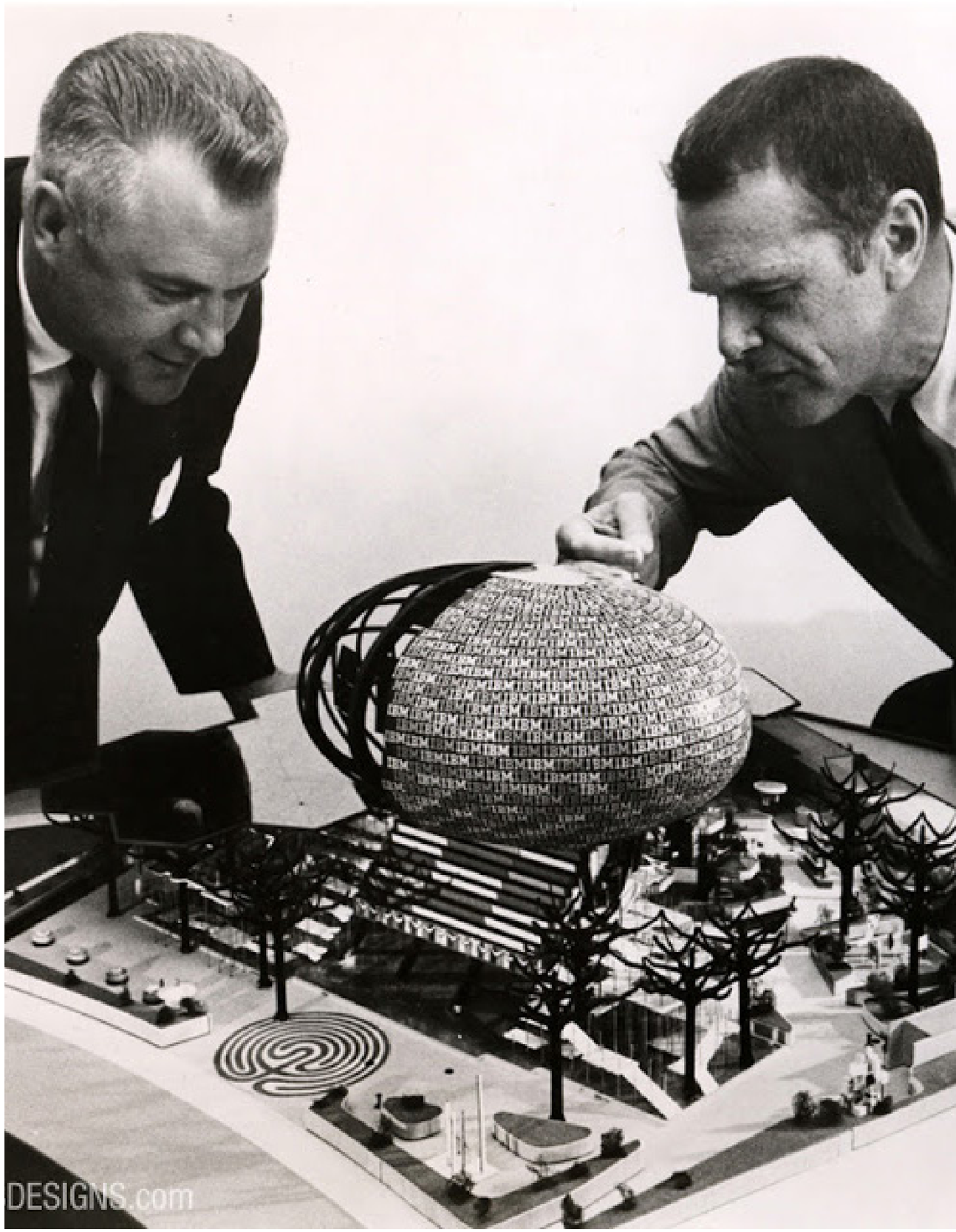
Doug Michels mentions that “a culture chooses its own icons.” Considering icons to be referred to as art in this context, how do you think art can influence a culture? Do you think art informs culture or does culture inform art?

05
Transscalarities

Mentor : Mahdi Sabbagh
Semester : Summer 2023, Transscalarities

Transscalarities: Arenas of design, queries the ways in which architectural devices of reference, which have shaped the discourse of the field over the last few decades, are characterized by their transitioning through spatial, material, and temporal scales.

The series provoked the need for an interrogation on the agency of architecture and its transcalar nature. The interelation between the different scales of being that make up the architecture along with the societal, ecological, bodily, or environmental enactments that form it prompted two dissective papers studying the IBM Pavilion and the Thermoheliodon through these lenses.



The IBM Pavilion by Ray and Charles Eames.

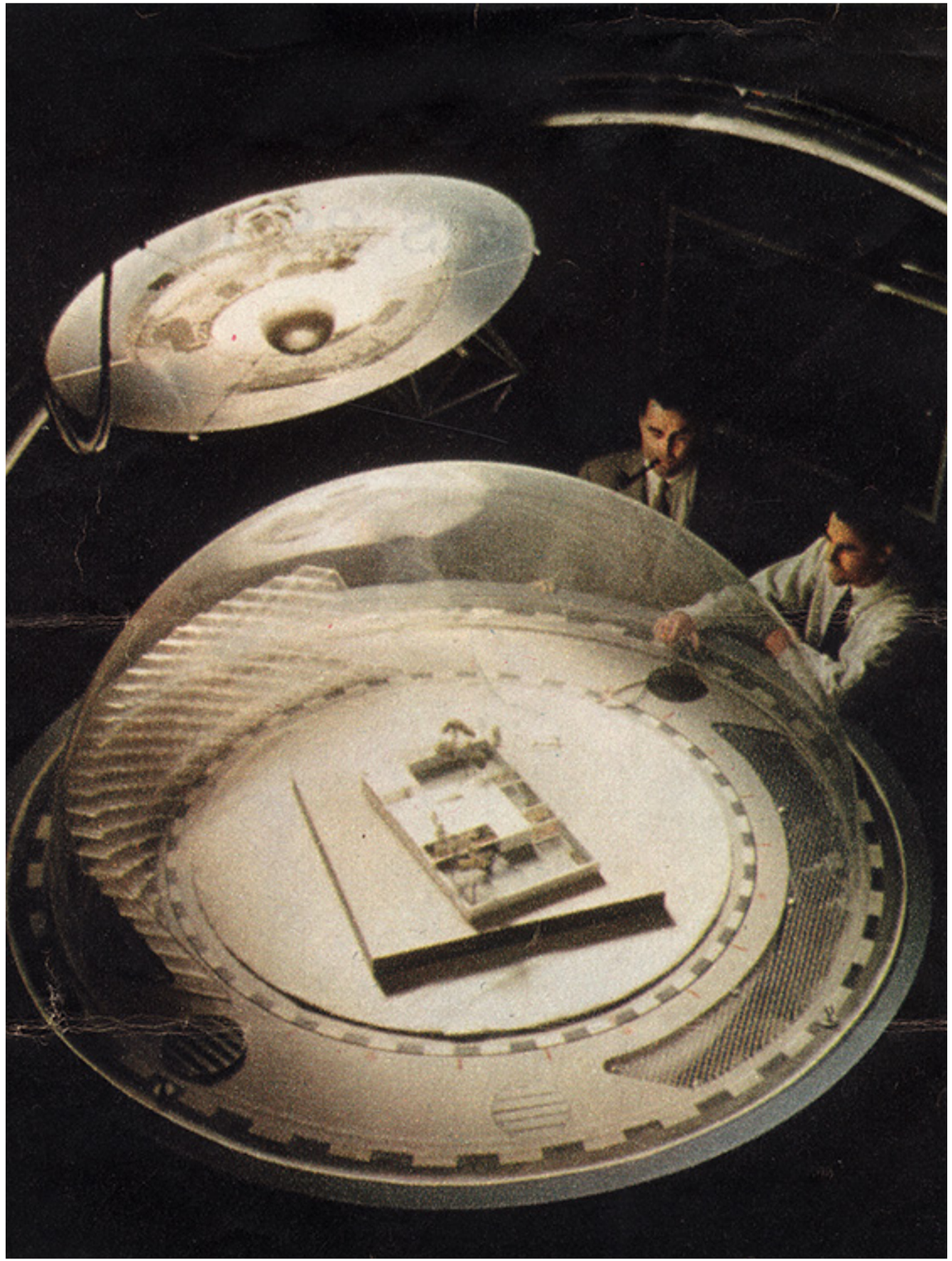
"Never delegate understanding."[1] Maybe it was this philosophy that led the Eames to go beyond the basic notion of architecture and let various influences inform their work. The Eames, throughout their designing lifetime, participated in the design of everything from furniture and toys to architecture and collaborated with many multinational companies such as Herman Miller and Kodak, but one of their biggest collaborations was with IBM for their 1964 World's Fair Pavilion.

The pavilion was their attempt at "demystifying computers"[2] and showcasing them as "tools that solve problems very much like humans, only faster and more efficiently."[3] The fair however, "was held during the cold war,"[4] a period of intense rivalry between the West and the Soviets, turning it into a battlefield of who was pioneering innovation in the world. It was because of this that IBM's decision to create a fair revolving around the dawn of a new age in technology was a favorable decision for the United States.

Despite the constant emphasis on the exhibition being a way to desensitize the public towards the idea of technology, there is no denying the capitalist agenda behind IBMs push towards helping people "adapt" to technology. Beyond wanting to demystify the computer, it was about showcasing the strength and futuristic ability of the company. It was almost like an attempt at synonymizing computers with IBM just like photocopying is with Xerox. This ideology can be seen reflected in the architecture, where the overhead ovoid consisted of the name "IBM engraved more than 3000 times."[5]

While the motives of IBMs exhibit can be debated, the architecture is one that raises questions. Ray and Charles Eames were known for their problem solving and "experiential approach towards design,"[6] and they took a similar approach towards the design of the pavilion. The pavilion guided the viewers through the exhibit like a narrative, from welcoming visitors into a man-made forest of tall steel columns that mimicked trees almost as if to "soften the transition"[7] from natural to unnatural, to going through interactive installations to "learn" about the workings of a computer, before finally being propelled upwards into the enclosed Ovoid through the "peoples wall" to watch the movie "Think"[8] that showcased the agency of computers in the forthcoming age of technology.

The journey however, seems to become a metaphoric representation of what the common man was afraid of, the design at the bodily scale, gives the visitors a false sense of control. It allows the users to have the freedom of interacting with the exhibits, before encasing them into a closed bubble that is inaccessible, much like the technology itself, forcing the users into staying, even if their will is to leave. By doing so, the design that is meant to be interactive and informative, fails to be democratic. The grandeur in the scale of the ovoid further contradicts the notions of a harmonic relation between natural and unnatural by towering above the "naturalized" pavilion, and out of reach from the public, symbolizing the overshadowing dominance of technology over nature. These arguments bring up the question of architecture's role and its responsibility at a transcalar level of its influence on products, ideologies, cultures and more. What are and should be the limitations of architecture? And does the use of a narrative justify architecture becoming an agent of imposition and restriction?



The Thermoheliodon

Ideologies shape architecture. Architecture is often a result of complex interactions that are ignored behind the facade of aesthetic beauty and universal appeasement. These interactions however, have always existed in the realm of design and space making, but it is the ideologies, methodologies, and frameworks behind the architecture that dictate the degree, power, and impact of these interactions and subsequently the architecture itself.

Historically, architecture always responded to its context and culture allowing it to retain a sense of uniqueness and specificity based on the region it was built in. However, post World War 2, architecture was stripped away from its context driven approach, and the effects of modernism forced its interaction to be shifted from regionalism to capitalism. This resulted in the prevalent trends of standardization and homogeneity found in "post-war suburban designs."[1] It was during this time in 1947 that Victor and Aladar Olgyay emigrated to America from Hungary.[2] Their interest in the intersection between climate and architecture, combined with their interdisciplinary approach to architecture steered them towards the study of Bioclimatic Architecture.[3]

Building on their study of solar control and shading devices, coupled with the lack of efficient methodologies to "measure temperatures in diverse structures under dynamic climatic conditions,"[4] the Olgyays created the Thermoheliodon. It was an "elaborate domed apparatus that included devices that simulated external environmental conditions."[5] The device's main idea was to help buildings adapt to regional architecture and gain thermal comfort through passive techniques, something that was already prevalent in vernacular techniques that were passed on through generations. This, however, could only be done by creating a framework that systematically helped in realizing the most optimum design solution while also working at the bodily scale by centering "human comfort".

Utilizing a bioclimatic approach, the Olgyays created a four-step framework including, climate data analysis, thermal comfort evaluation, development of climate and thermal responsive techniques, and a synthesized architectural response.[6] Despite creating an efficient methodology that would go on to influence the way sustainability was approached in architecture, the experiment was restricted by the technology of that era. Muddled with discrepancies such as the omission of humidity in the calculations, the failed expectation of the domed apparatus to successfully prevent any external influences, and the inability of scaling down thermal properties of materials that led to the project not yielding the desired output.[7]

Despite the difficulties with the device itself it is essential to recognize the insignificance of the model in comparison to the groundbreaking processes and methodologies developed to re-integrate sustainability, climate, context and materiality back into architecture. Through the experiment, the Olgyays initiated a powerful discourse on how architecture should be approached. Although the project was deemed a "failure" by critics,[8] the influence of the methodologies on architectural processes at a multiscalar level would argue otherwise, as evidenced by the creation of "environmental simulation softwares such as Ecotect"[9] and the paradigm shift in how sustainability is approached. It can be argued that the true value and success of the project never lied in the model itself, but rather the ideologies and methodologies that drove its creation. This perspective prompts the question of whether a project can truly be deemed a "failure" when its influence over time leads to numerous successes, subsequently, raising the broader question of how significant are processes and methodologies in evaluating a project's success or failure?

06
Decoding Jencks

Mentor : Mark Wigley
Semester : Fall 2023 , A History of Architectural Theory

The seminar builds on the idea of producing theory, and hypothises that every design has theory embedded into it. Through case studies and debates “architectural discourse will be understood as a wide array of interlocking institutions, each of which has its own multiple histories and unique effects. How and why these various institutions were put in place are established and then their historical transformations up until the present are traced to see which claims about architecture have been preserved and which have changed.”

The course craftily creates a basis of understanding How to read theory and this is put into practice through a 15 page essay dissecting a theory, in this case, Charles Jencks’ The language of post modern architecture. The essay attempts to discover what makes Charles’ theory along with the tools he uses to convince his readers of this theory. The essay purposefully refrains from reffering to outside context and only analyses what the writer provides directly through his writing.

Charles, a man considered to be the father of Postmodern Architecture, craftily uses various tools to convince the reader, in this case not only an architect of why Postmodernism is the path forward before prescribing the methodologies that restrictively create the “language” postmodern architecture.

Below is an excerpt from the larger essay.

An excerpt from Decoding Jencks : The language of Post Modern Architecture

To understand the core of what he believes Post-Modern architecture consists of, in the form of **"multivalence"** as described further into the book, he first describes what he calls the **"Univalent form,"** a term used to explain an architecture created around one or a simplified few ideas. Charles Jencks takes a repetitive approach to effectively put across his points, most of the arguments presented start with dismissing countering or prevalent thoughts as being inefficient and ridiculing them before putting forth his, or the better way. In a similar style, he takes on the univalence of **Mies'** work, instantly putting him onto the pedestal of being **the most important figure in the modern movement.** This thought is reinforced by the choice of his language when referencing Mies, stating that he and his "disciples" managed to "fetishize" the impoverished "reduced style" of the glass and steel box architecture. By declaring war in the "battlefield," Jencks, consciously distances himself from other architects, both, those who are modernist but also certain postmodern architects. His reasoning from doing so can be explained further in the book when he mentions that the likes of the Venturis and the Smithsons aren't true postmodernists as they were trained in modernism. By distancing himself, he affords himself the opportunity to **reinforce his stronghold** on the creation of a new theory and movement.

He goes on to rhetorically ask if "I beam and plate glass" is appropriate for housing, not even allowing for a debate, suggesting that there is only one answer to the question and it is unequivocally no. His focus on **dismantling Mies**, and through him modernism is made evident when he calls the Chicago Civic Center a masterpiece of the modern movement that shows confusion in its communication, but does not even name its architect, rather calls him a "follower of Mies." This showcases Jencks' strategy in how he wishes to once again announce the **death of modern architecture, by announcing the death of Mies' works.**

The lack of its ability to communicate in the way in which he thinks is right seems to be one of the most important issues with Modern architecture. Considering the Chicago Civic Center as a building that does not communicate its most important civic function nor the meanings of the building's task, he almost distastefully asks how one can justify such an architecture. Before answering exactly why it is wrongly justified, it is that the only thing it serves is the technology and building material, hinting at the missing, important element of meaning, and as described earlier, a way of life.

Continuing his attacks on Mies as an ideology, he does acknowledge that Mies has his **own grammar towards architecture, prompting that there is a language that exists,** but a "universal language of confusion". Quite often, in his examples, Jencks acknowledges redeeming factors in the works of Modernists but swiftly dismisses them as unintentional, assertively mentioning that it is not what they intended, almost as though they have told him so.

The author uses many tools to his advantage in attempting to convince the reader of what he wants to put forth. He realizes that all of his audience may not be of an architectural background and hence uses **figurative language** to explain what he is trying to say. He uses Onomatopoeia such as, "Boom, Boom, Boom" to explain the death of modern architecture, suggesting the sound of the building being blasted. He also constantly harnesses the use of metaphors and similes in his work, an example of which can be seen when he compares -"modernism to the rigidness and darkness of military campaigns" but besides the auditory prompts, Through the book, Charles Jencks utilizes the visual stimulus to his advantage, where he **uses imagery** to explain and show exactly what he describes in his text, formulating a convincing argument to put forth. The use of imagery is so prevalent throughout the text that it can be argued that much of the theory and points that he puts forth can be majorly understood and found simply through the images.

Charles seems to use a **less complex lexicon,** increasing the universality of his book, once again hinting at inviting those outside the discourse of architecture, such as the arts and allied fields to take more of an interest in the evolution of architectural theory beyond the isolating and "meaningless" world of modernism.

Almost all of the points that he makes, whether Mies' use of glass and steel or **IM Pei's "hardly communicative museum"** in Syracuse, are supported by imagery. These Images act as a straightforward analysis as decoded by Charles Jencks. A sense of repetition can be found when reading both, the text as well as the subtext under the image, which often is a more elaborate and pointed description of what is swiftly mentioned in the main text. For example, He mentions the works of IM Pei, Philip Johnson, and SOM as having the **same erratic signification, always a striking form and a reduced image with unintended meanings.** While this is enough to give a simple overview of what he intends to say, an Image of IM Pei's museum can be found closely, this image is followed by a description of how it is "hardly communicative" but also adds why it is so, explaining that its lack of communicative properties as a museum, allow for it be mistaken as anything such as warehouses or museums. He further goes on to explain that by only focusing on the sculptural aspect of the building, the work is reduced in significance. He does the same with SOMs Bieneke Library. By breaking down his descriptions further than what is provided in the main text, Jencks opens up its understanding while narrowing down any scope of creative interpretation on the reader's part.

Furthering his persuasion of the death of Modern architecture, Jencks explains the defeating characteristics of modernism. The **unintentionality of meanings** in their forms, the **lack of multivalence in their values**, the **lack of identifying elements**, little to **no sense of place**, and its **failure to communicate** exactly what it is. He states that most of the work does not have the meaning that makes architecture what it is, and whatever meaning exists is unintentional and subconscious, making it less relevant, however, he does not highlight how one can control the unintended. He then shifts his gaze away from the traditional Modernist to "apologists" of the modern movement, Peter and Alison Smithson, stating that doing the unintentional is not only common in modernists but also those who "**see architecture as a language**." Continuing his Unapologetic assumptions of what architects intend, he states that the Smithsons are aware of the way in which architectural language depends on traditional symbolism, formalizing his own argument.

These reasons compel Charles Jencks to reject the notion of a universal language, focusing on traditionality and the local, arguing that if architecture is to provide for a sense of place, how can it do so in the same way universally? The problem with a universal language means that it would inherently become impersonal, an outstanding problem in modernism. The duality in Jencks' argument, however, is once again seen as after denouncing modernism as having too much repetition, he goes ahead to state that one of the problems he has with the Smithson's is their desire to "make it new" each time, which would of course, prevents the sense of repetition he prefers to avoid. This is where the challenge of clear communication through architecture stands, as is the case with spoken language, **the key to communication is in the use of the same language, and if there isn't a homogeneity found in the "language" of architecture, how can it then be intentionally made to communicate with its various users, especially in public architecture where Jencks mentions architecture to be the public art.** This confusion in defining its language prompts Jencks to state that the nature of architecture is "radically schizophrenic."

07
Layered

Mentor : Marta Heisel-Wisniewska
Semester : Fall 2023, Home is where the toxics are
Collaborators : Harshvardhan Jhaveri, Vaishnavi Chandra Kumar

Paints have a long history of creation and application, from being used for art to decorating walls, however, with time and its change in application, they have proved to be a source of various health hazards. Born from its role in the exposure of various toxics such as VOCs that lead to diseases such as cancer, the project explores the lifecycle of paints in an attempt at discovering the main sources of the release of these Toxics.

The study leads to the experimentation and creation of a new type of paint that uses natural ingredients as a method of eliminating the risk of exposure during the creation and application stage and then mimics the ideology of wallpapers as an easy, non toxic method of “peeling” away the paints without exposure.

The elective explores, experiments and exploits the possibility of what paints are and can be, allowing for the emergence of new methodoligies and processes for its creation.

The process of making paints

The process of creating the paints involved understanding its lifecycle and the components that make a paint, namely, Solvents, Binders, Pigments and Additives. The process of making a non-toxic involved taking all the components and replacing them with safe natural materials.

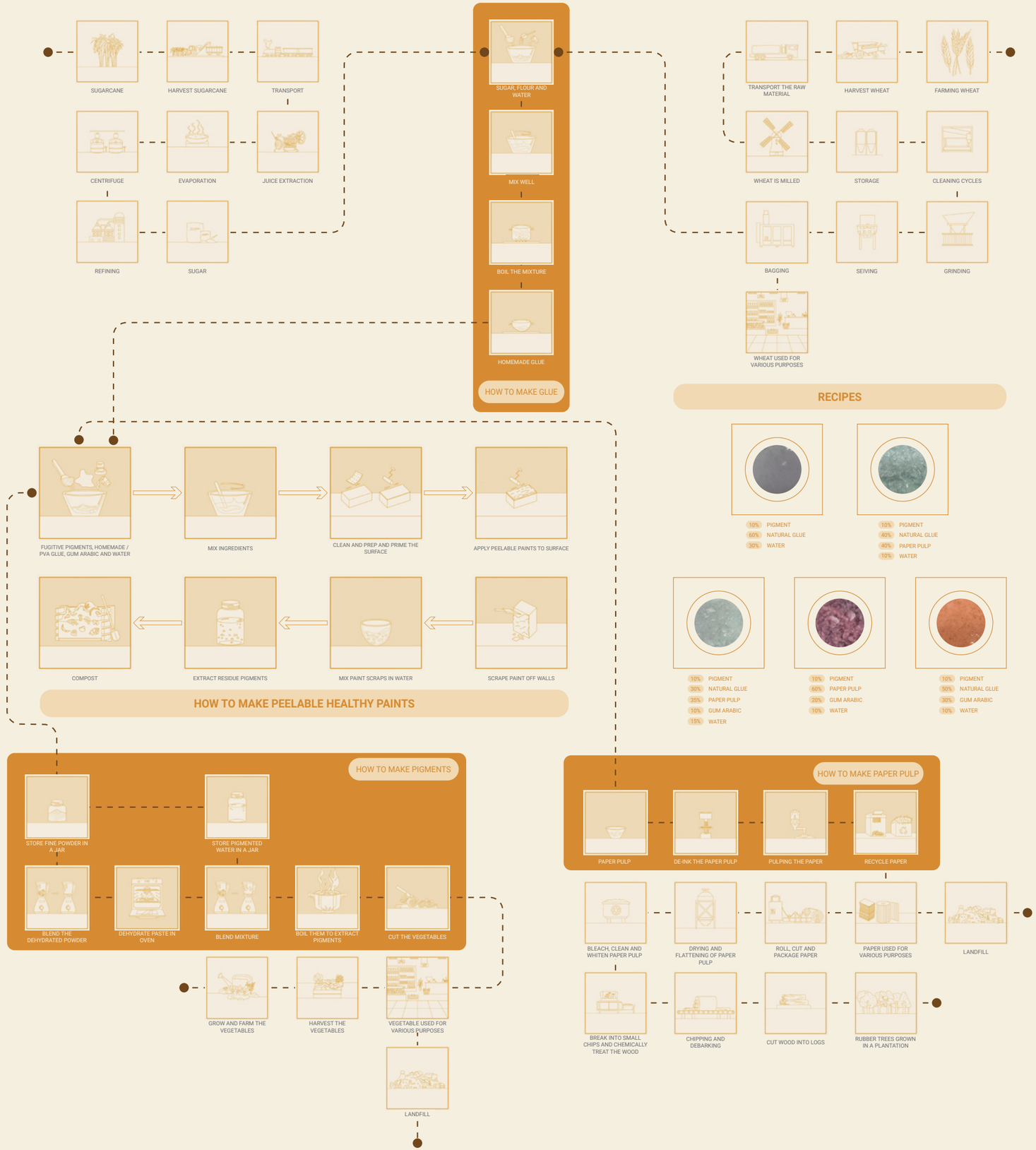
Natural Pigments were used in the form of:
Purple Cabbage
Beetroot
Berries

The Solvents were experimented with, using water and gum arabic as replacements to the traditional turpentine.

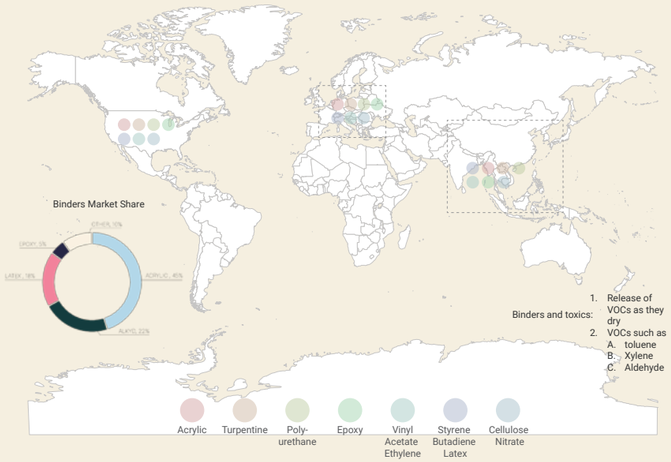
The binder, which usually takes the form of acrylic and epoxy is replaced with natural glue.

The final goal of making the paints peelable involved in adding an additive in the form of Paper pulp. Using the logic of using waste paper to create paper pulp and then back into new paper, paper pulp was added to the mixture which hardens to create a paste.

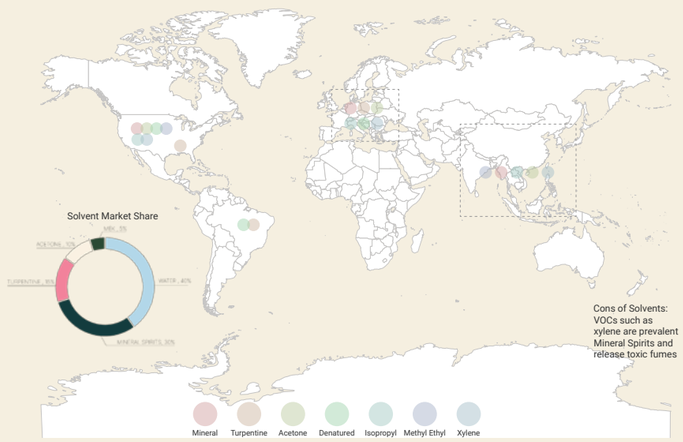
The panel on the right highlights the entire process of making a non toxic, “layered,” peelable paint.



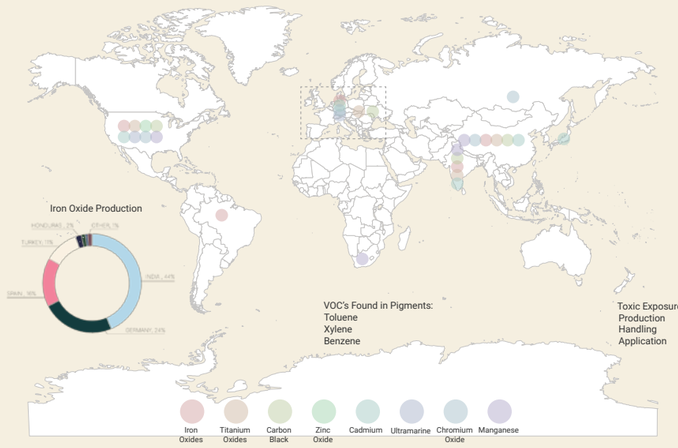
BINDERS PRODUCTION



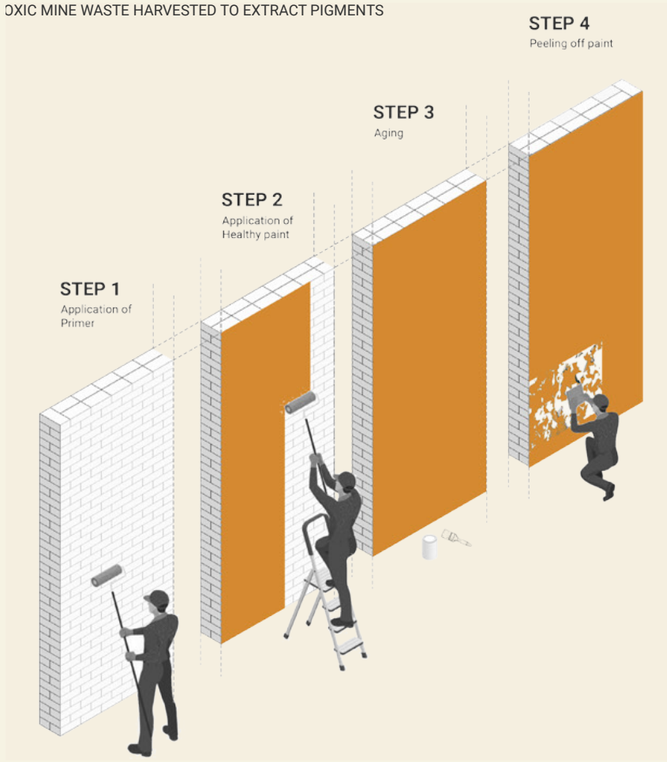
SOLVENTS PRODUCTION



PIGMENTS PRODUCTION



OXIC MINE WASTE HARVESTED TO EXTRACT PIGMENTS



SAMPLE 2 : LIMESTONE

SAMPLE 3 : BRICK

SAMPLE 4 : LIMESTONE

PIGMENTS

PAPER PULP

GLUE

PAINT


BERRIES
CABBAGE
BEETROOT
BERRIES LIQUID PIGMENTS
CABBAGE LIQUID PIGMENTS
BEETROOT LIQUID PIGMENTS
WHEAT PVA
WHOLE WHEAT PVA
BERRIES POWDER PIGMENTS
CABBAGE POWDER PIGMENTS
BEETROOT POWDER PIGMENTS
TOXIC MINE WASTE PIGMENT
BERRIES PIGMENT ON COTTON
CABBAGE PIGMENT ON COTTON
BEETROOT PIGMENT ON COTTON
PAPER PULP
NON-TOXIC PAINTS

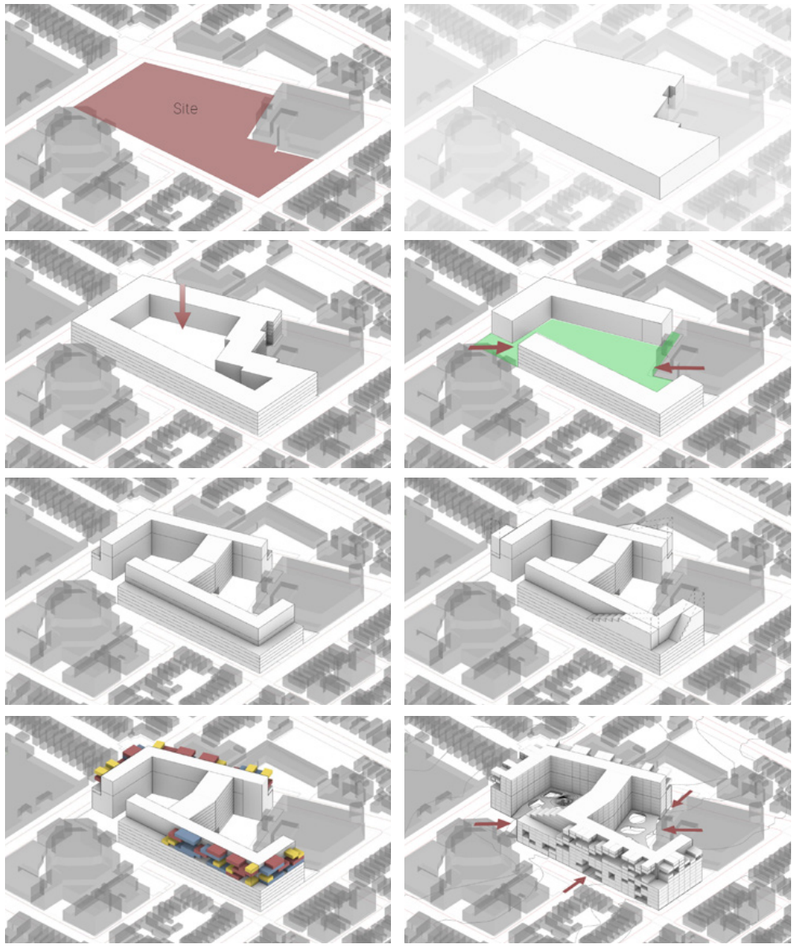
08
Interdependence

Critic : Eran Chen, Olivera Grk, Michael Unsicker
Semester : Fall 2023, Design For Development
Collaborators : Harshvardhan Jhaveri, Blake Sachs, Santiago Pinto

Design For Development was a course taught by the Founder of ODA, Professor Eran Chen, with Professor Olivera Grk, and Professor Michael Unsicker. The course centered around understanding the different parameters that govern design as well as development, opening up new possibilities of what can shape real estate and architecture in the contemporary world.

The course exposed the user to how one can look at zoning through a new lens, harnassing what would be considered to be restrictive and prescriptive and turn it into an advantage that allows for experiential design. The course took a Holistic approach to architecture, using real sites and real life constraints in the terms of zoning, budgeting, marketing, and design to create a proposal that utilises design as well as development tools in framing the experience of users and determining the projects feasibility. This multifaceted approach helped stress the importance of looking at architecture beyond the singular lens of design and emphasised on the role of different agencies in the creation of design.

The course showed how one can read and interpret zoning regulations and how different public/private partnerships work in order to make a project successful. The interpretation of old laws such as the Dormer rule, opened up new paradigms of design thinking, that brought the value of experience back into architecture.



The use of Zoning codes to influence design : 1. The Site; 2. Extrusion of the mass; 3. Creation of a void with double loaded corridoors; 4. Movement through the site defining openings; 5. Central appartment stacking connecting the two wings; 6. Applying the Dormer rule; 7. Reinterpretating the Dormer rule to gain more open and green spaces enhancing every apartments experience; 8. Final form with the a central public market and garden, offering a new form of retail space.

Central Market and Public Garden

The Central market and public garden takes a new approach towards retail spaces, the space acts as an catalyst to activate the neighbourhood community and invites users into the space

Building Proposal

Development Program:	Gross SFQFT	% of Gross SQFT	Net SFQFT @85%	% of Net SQFT
Residential	545,591	77.16%	463,752	76.94%
Ammenities	30,648	4.33%	26,051	4.32%
Community Facility	11,250	1.59%	11,250	1.87%
Retail	119,610	16.92%	101,669	16.87%
Total	**707,099**	**100%**	**602,722**	**100%**

			Line Item Cost	Cost Per Gross SF	Cost Per Net SF	% Total Cost
Land Costs						
Contract Price (max)			$159,097,275	$225.00	$263.96	28.54%
Less : Demolition				$0.00	$0.00	0.00%
Less : Commissions				$0.00	$0.00	0.00%
Net land cost			**$159,097,275**	**$225.00**	**$263.96**	**28.54%**
"Hard" Construction Costs						
Environmental Remediation				$0.00	$0.00	0.00%
Contingency @	10%	(of hard costs)	$24,748,465	$35.00	$41.06	4.44%
Total Hard Costs			**$272,233,115**	**$385.00**	**$451.67**	**48.83%**
"Soft" Development Costs						
Marketing / Advertising				$0.00	$0.00	0.00%
Construction Loan Fees @	1.50%		$4,083,497	$5.78	$6.78	0.73%
Construction Period Interest			$57,849,537	$81.81	$95.98	10.38%
	100% Hard cost budget	$272,233,115				
	100% Hard cost financed (drawn)	$272,233,115				
	30 month construction period					
Permit conditions (Mitigation/ Exactions)				$0.00	-	0.00%
Development Fee @	3%		$9,800,392	$13.86	16.26	1.76%
Total Soft Costs			**$126,180,049**	**$178.45**	**$209.35**	**22.63%**
Total Development Costs			**$557,510,439**	**$788.45**	**$924.99**	**100.00%**

Development Costs

SQUARE FOOTAGE	SQ.FT	%
Residential Market Rate	436,473	62
Residential Subsidized	109,118	15
Ammenities	30,648	4
Retail	11,250	2
Community Facility	119,610	17
Total	707,099	100

TOTAL RESIDENTIAL UNITS	SQ.FT	UNITS	%
Studio			
1 Bed	500	423	40
2 Bed	675	264	25
3 Bed	1000	264	25
	1400	106	10

AVERAGE RENT PER SQFT	ANNUAL	MONTHLY
Residential Market Rate	$78.00	$6.50
Residential Subsidized	$31.86	$2.66
Retail	$120.00	$10.00
Community Facility	$48.00	$4.00

CONSTRUCTION LOAN	
Term	30
Rate	8.50%
Amount 100% Hard Costs	$272,233,115

SENIOR AND MEZZ LOAN	
Senior Loan:	
Term	7 Years
IO	24 Months
Amortization	30
Rate	5.50%
Mezz Loan	
Term	7 Years
Rate	8%

Unit Composition and Mezz Loan

Residential Market rate growth

Vacancy	1.50%	2.00%	2.50%	3%	3.50%	4.00%	4.50%
4.00%	39.98%	40.32%	40.65%	40.98%	41.31%	41.64%	41.96%
6.00%	39.30%	39.64%	39.98%	40.31%	40.65%	40.98%	41.31%
8.00%	38.61%	38.96%	39.30%	39.64%	39.98%	40.32%	40.65%
10%	37.91%	38.27%	38.62%	38.96%	39.31%	39.65%	39.99%
12.00%	37.21%	37.57%	37.93%	38.28%	38.63%	38.97%	39.32%
14.00%	36.50%	36.87%	37.23%	37.59%	37.94%	38.29%	38.64%
16.00%	35.79%	36.16%	36.53%	36.89%	37.25%	37.61%	37.96%

Commercial Market rate growth

Commercial vacancy	1.50%	2.00%	2.50%	3%	3.50%	4.00%	4.50%
4.00%	39.22%	39.43%	39.64%	39.85%	40.06%	40.28%	40.49%
6.00%	38.93%	39.14%	39.34%	39.55%	39.77%	39.98%	40.19%
8.00%	38.64%	38.85%	39.05%	39.26%	39.47%	39.68%	39.89%
10%	38.35%	38.55%	38.76%	38.96%	39.17%	39.38%	39.59%
12.00%	38.06%	38.26%	38.46%	38.67%	38.87%	39.08%	39.29%
14.00%	37.77%	37.97%	38.17%	38.37%	38.57%	38.78%	38.98%
16.00%	37.48%	37.67%	37.87%	38.07%	38.27%	38.47%	38.68%

Residential vacancy

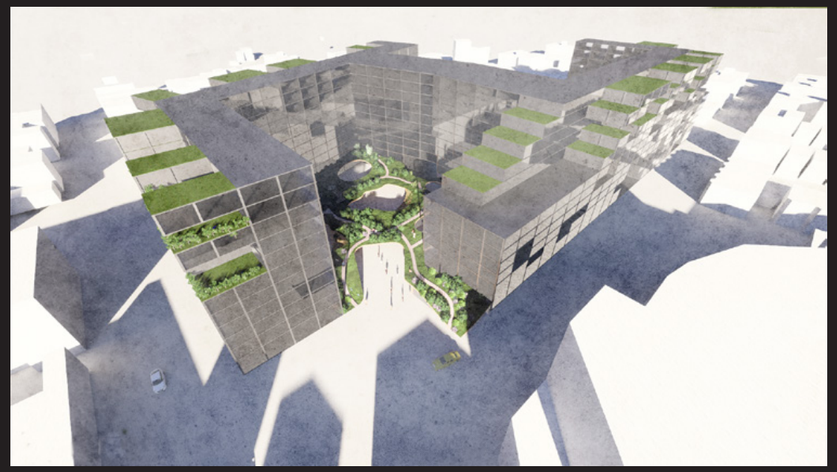
Commercial vacancy	4.00%	6.00%	8.00%	10%	12.00%	14.00%	16.00%
4.00%	41.84%	41.18%	40.52%	39.85%	39.17%	38.49%	37.80%
6.00%	41.56%	40.90%	40.23%	39.55%	38.87%	38.19%	37.50%
8.00%	41.27%	40.61%	39.94%	39.26%	38.58%	37.89%	37.19%
10%	40.98%	40.31%	39.64%	38.96%	38.28%	37.59%	36.89%
15.00%	40.26%	39.58%	38.90%	38.22%	37.53%	36.83%	36.12%
20.00%	39.52%	38.84%	38.16%	37.47%	36.77%	36.06%	35.35%
25.00%	38.78%	38.10%	37.40%	36.71%	36.00%	35.29%	34.57%

Equity

Starting Annual rent	$ (164,322,030)	$ (182,580,033)	$ (202,866,703)	$ (213,543,898)	$ (234,898,288)	$ (258,388,117)	$ (284,226,928)
57	3.82	3.44	3.10	2.94	2.68	2.43	2.21
63	3.96	3.57	3.21	3.05	2.77	2.52	2.29
70	4.11	3.70	3.33	3.17	2.88	2.62	2.38
78	4.28	3.85	3.47	3.30	3.00	2.72	2.48
86	4.45	4.01	3.61	3.43	3.11	2.83	2.57
94	4.64	4.17	3.76	3.57	3.24	2.95	2.68
104	4.84	4.36	3.92	3.73	3.39	3.08	2.80

Net Operating Income

Exit Cap Rate	$ 30,691,687	$ 32,307,039	$ 34,007,409	$35,797,273	$ 37,587,137	$ 39,466,493	$ 41,439,818
3.75%	$793,891,635	$835,675,406	$879,658,322	$925,956,128	$972,253,935	$1,020,866,631	$1,071,909,963
4.00%	$744,273,408	$783,445,693	$824,679,677	$868,083,870	$911,488,064	$957,062,467	$1,004,915,590
4.25%	$700,492,620	$737,360,652	$776,169,108	$817,020,113	$857,871,119	$900,764,675	$945,802,909
4.50%	$661,576,363	$696,396,171	$733,048,602	$771,630,107	$810,211,612	$850,722,193	$893,258,302
5.50%	$541,289,751	$569,778,686	$599,767,038	$631,333,724	$662,900,410	$696,045,431	$730,847,702
6.50%	$458,014,405	$482,120,426	$507,495,186	$534,205,459	$560,915,732	$588,961,518	$618,409,594
7.50%	$396,945,818	$417,837,703	$439,829,161	$462,978,064	$486,126,967	$510,433,316	$535,954,981



The Complex 1. Birds eye view ; 2. The green courtyard; 3. View of the building from the road

The final proposal looked at creating a design that adhered with zoning laws, fulfilled the complete FAR requirement and was feasible in its creation. Utilising that values taught through the course, the proposal was holistic in its approach.

The design successfully connected two corners of the big site while creating a unique experience through its courtyard. The Garden on the courtyard market provided a space for the community while enhancing the experience of the residents who looked onto a dense green forest rather than asphalt roads.

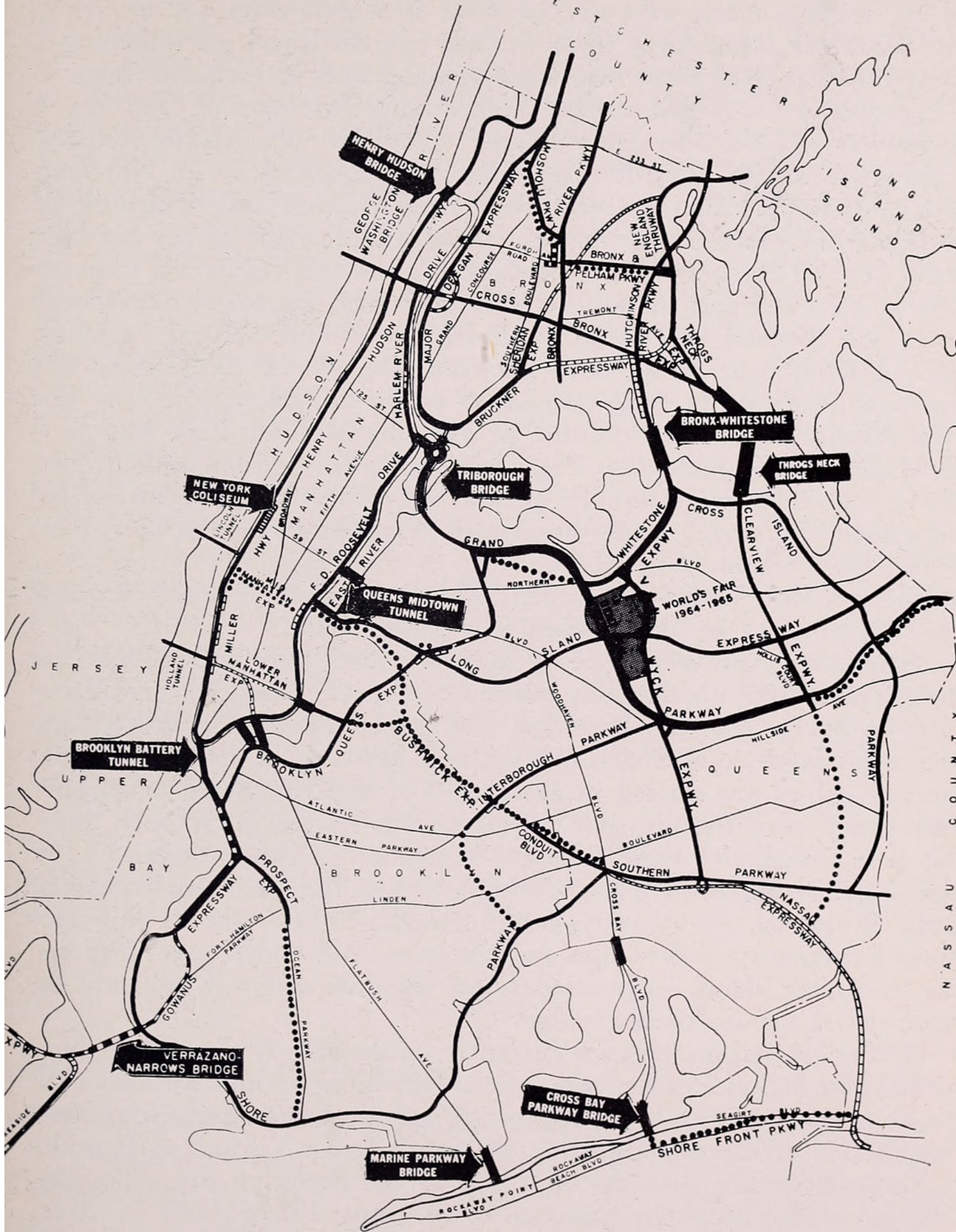
The final design attempted to create experiences for all users that interacted with the built and unbuilt forms on the site, with the community experiencing the public space, as well as residents having access to private balconies and green spaces.

09
Public-Private Partnerships

Critic : Mehul Patel
Semester : Fall 2023, Public-Private Partnerships
Collaborators : Harshvardhan Jhaveri, Allon Morgan, Michael Lau, Xiaoxiao Lyu

How is the public sector involved in real estate development? What are the motivations, powers and constraints of public agencies and how do they shape development? The course highlighted various teachings of public-private partnerships along with key agencies that play a role in the functioning of new york city such as community boards. Various key concepts such as eminent domain were understood through case studies for a holistic understanding of PPP

Taking the learnings further each team took on a real life RFP for the Javits Centre and brought forth a proposal highlighting the key steps required for submitting an RFP, including Cost analysis, community surveys and design. These aspects used the values of Public Private Partnerships to add value to the proposal and satisfy the needs of the Public RFP.



Age

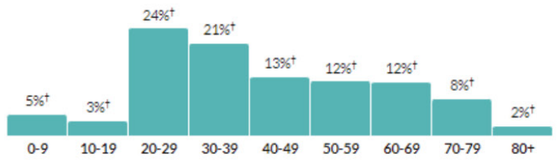
38.2

Median age

a little less than the figure in New York: 40

about the same as the figure in United States: 39

Population by age range



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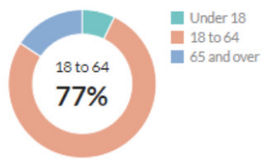
Population by age category



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Households

67,653

Number of households

New York: 7,774,308

United States: 129,870,930

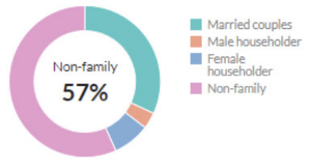
1.6

Persons per household

about two-thirds of the figure in New York: 2.5 †

about two-thirds of the figure in United States: 2.5 †

Population by household type



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Income

$119,080

Per capita income

more than double the amount in New York: $47,421

more than double the amount in United States: $41,804

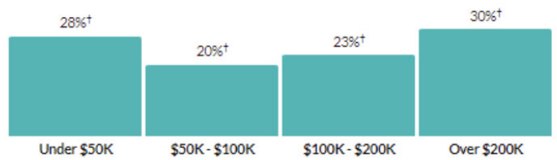
$110,114

Median household income

about 1.4 times the amount in New York: $79,557

about 1.5 times the amount in United States: $74,755

Household income



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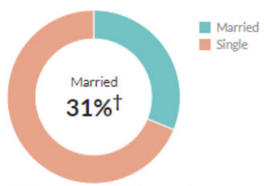
Marital status



* Universe: Population 15 years and over

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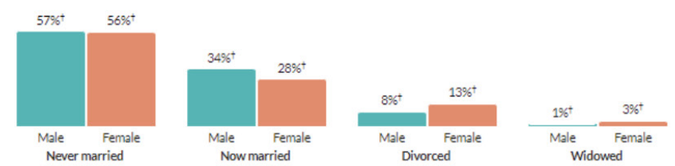
Marital status, by sex



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Units & Occupancy

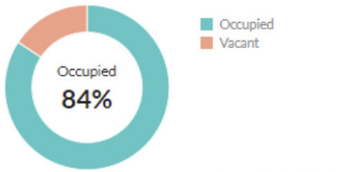
80,316

Number of housing units

New York: 8,585,784

United States: 143,772,900

Occupied vs. Vacant



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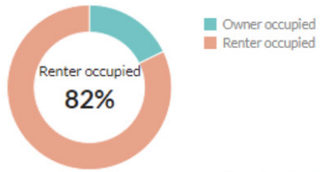
Ownership of occupied units



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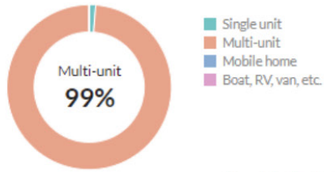
Types of structure



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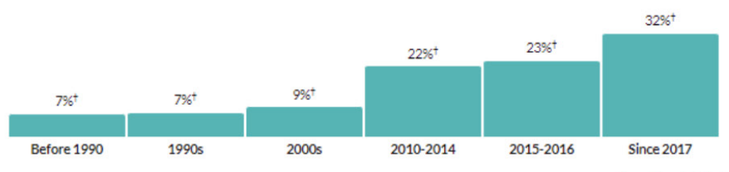
Year moved in, by percentage of population



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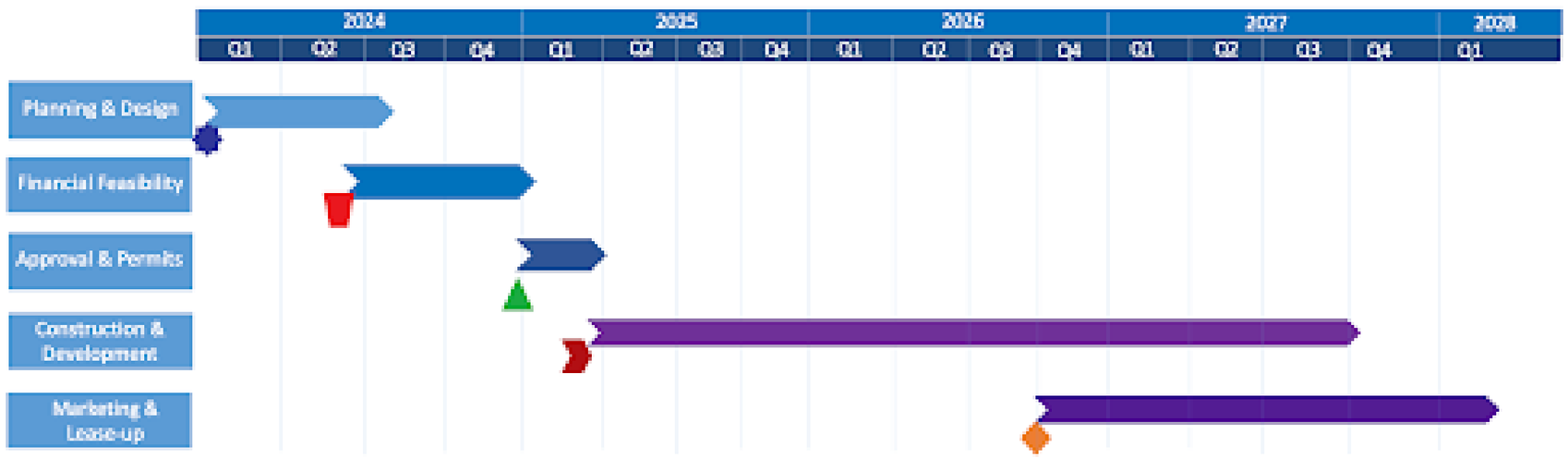
An indepth study of the community and district that the Javits Center lies in was done to understand the demographic along with what could be proposed for the programs beyond the RFP.

The younger and higher income neighbourhood suggested the input of greater public programs along with higher end residential units.

The project was then broken down into phases to check for the feasability and scheduling of the built proposal.

Public functions were integrated into the design itself, allowing for the us of PPP and hence the benefits that come with it.



	GSF	%	/GSF	TOTALS
Acquisition	52,363		($300.00)	**($15,708,900)**
Hard Costs				
Demo	68,072		($50.00)	($3,403,595)
Trade Cost Subtotal	1,256,712		($350.00)	($439,849,200)
Subtotal			($352.71)	($443,252,795)
General Conditions		8.50%	($29.98)	($37,676,488)
Insurance (CCIP)		9.50%	($36.36)	($45,688,282)
Subtotal			($419.04)	($526,617,564)
GMP Contingency		3.00%	($12.57)	($15,798,527)
Owner's Contingency		5.00%	($20.95)	($26,330,878)
Total			($452.57)	**($568,746,970)**

	GSF		/GSF	
Acquisition	52,363		($300)	($15,708,900)
Hard Costs	1,256,712		($453)	($568,746,970)
Soft Costs	1,256,712		($80)	($100,536,960)
Developer Fee	1,256,712	2.5%		($16,732,098)
Marketing	1,256,712		($10)	($12,567,120)
Financing	1,256,712		($25)	($31,417,800)
TDC			($593)	**($745,709,848)**
Basis				($745,709,848)
NOI				$47,545,040
Yield				**6.38%**
Construction Loan		60%		($341,248,182)
Debt Yield				13.93%

AFF INCOME

2023 HUD Income	$141,200	100% AMI, Family of Four
2 BR 100% FMR (2023)	$3,680	
Rent Burden	30%	

AMI	50%	80%	130%	TOTAL	AVG
UNIT MIX	32%	48%	20%	100%	**80%**

50% Income Limit $70,600

Unit	HH Size	Factor	HH Income	Monthly Gross	Utility	Monthly Net	# Units	Annual Income
Studio	1	0.7	$49,420	$1,236	($75.00)	$1,161	10	$143,300
1BR	1.5	0.75	$52,950	$1,324	($85.00)	$1,239	27	$405,721
2BR	3	0.9	$63,540	$1,589	($110.00)	$1,479	18	$318,031
3BR	4.5	1.04	$73,424	$1,836	($140.00)	$1,696	2	$42,803
							58	**$909,854**

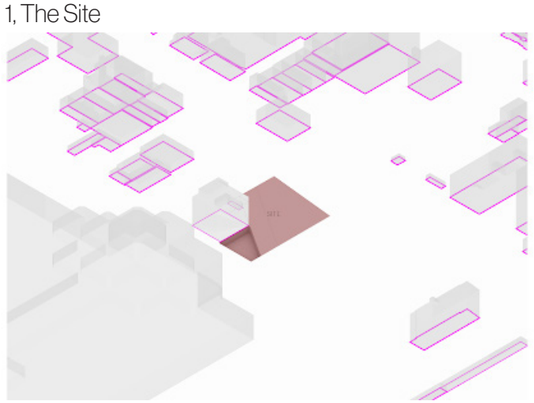
80% Income Limit $112,960

Unit	HH Size	Factor	HH Income	Monthly Gross	Utility	Monthly Net	# Units	
Studio	1	0.7	$79,072	$1,977	($75.00)	$1,902	15	$352,254
1BR	1.5	0.75	$84,720	$2,118	($85.00)	$2,033	41	$998,786
2BR	3	0.9	$101,664	$2,542	($110.00)	$2,432	27	$784,569
3BR	4.5	1.04	$117,478	$2,937	($140.00)	$2,797	3	$105,907
							86	**$2,241,516**

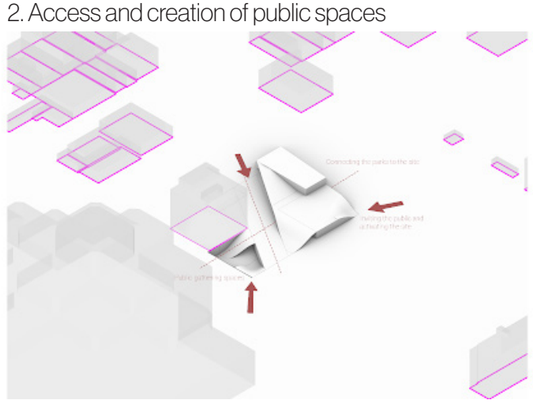
130% Income Limit $183,560

Unit	HH Size	Factor	HH Income	Monthly Gross	Utility	Monthly Net	# Units	
Studio	1	0.7	$128,492	$3,212	($75.00)	$3,137	6	$242,123
1BR	1.5	0.75	$137,670	$3,442	($85.00)	$3,357	17	$687,136
2BR	3	0.9	$165,204	$4,130	($110.00)	$4,020	11	$540,461
3BR	4.5	1.04	$190,902	$4,773	($140.00)	$4,633	1	$73,088
							37	**$1,542,809**
							181	**$4,694,178** **$33.29**

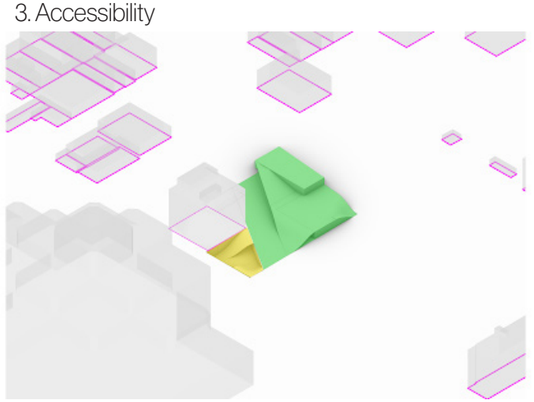
1, The Site



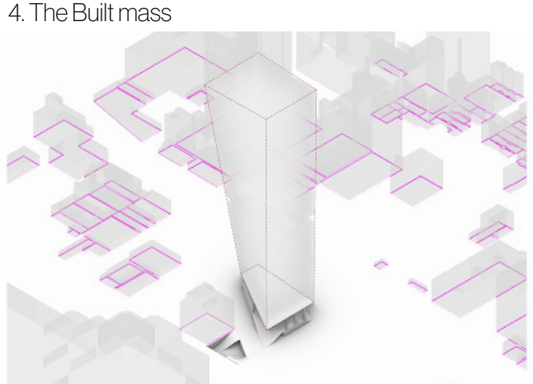
2. Access and creation of public spaces



3. Accessibility



4. The Built mass

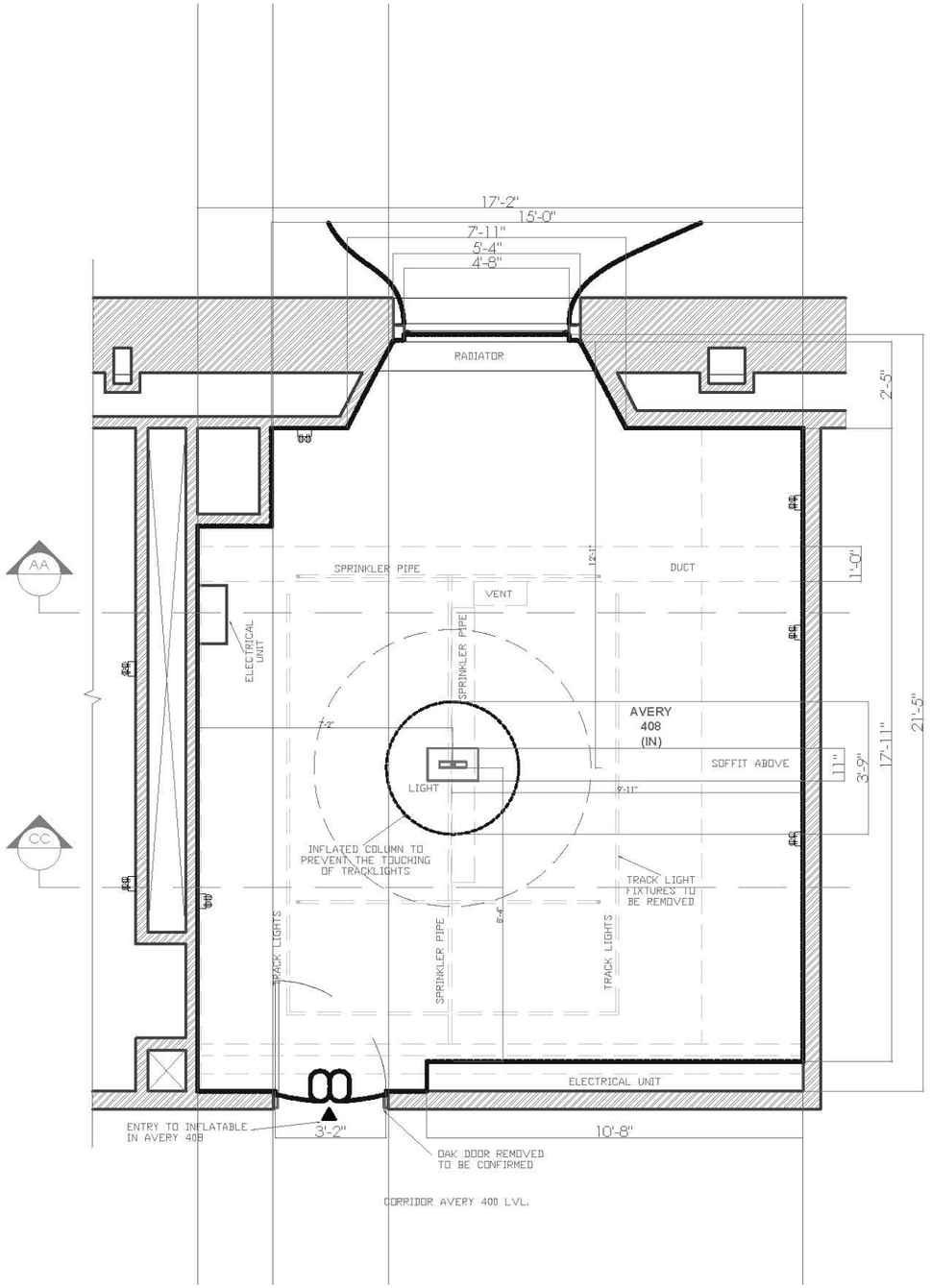


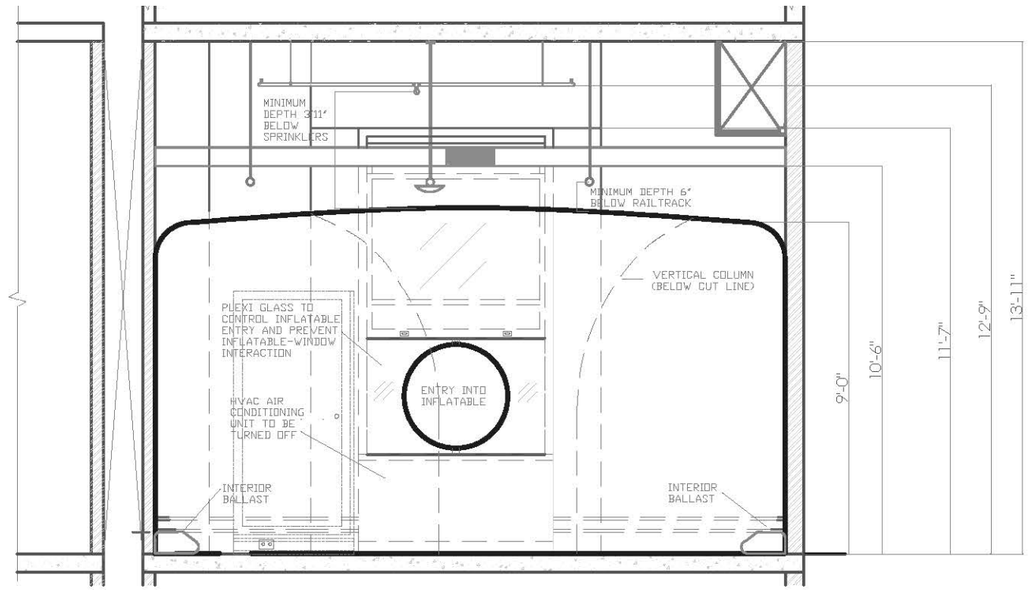
10
Exhale

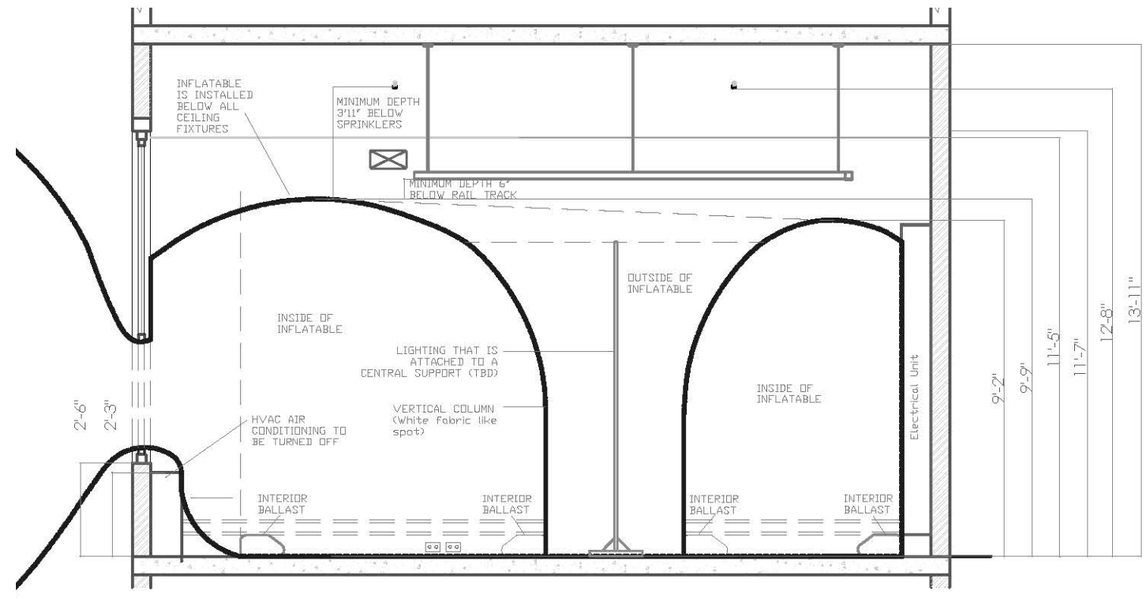
Critics : Laurie Hawkinson and Galia Solomonoff
TA: Haseeb Syed
Consultant: Hubert Chang
Manufacturer: Area Cubica
Semester : Spring 2024, Outside-In
Collaborators : Team DNA (Harshvardhan Jhaveri, Mariam Jacobs, Janhavi Hinge, Aashka Ajmera, Inbal, Aishwarya Garg) Team Cilly, Team Squiggle, Team Halo, Team Cloud

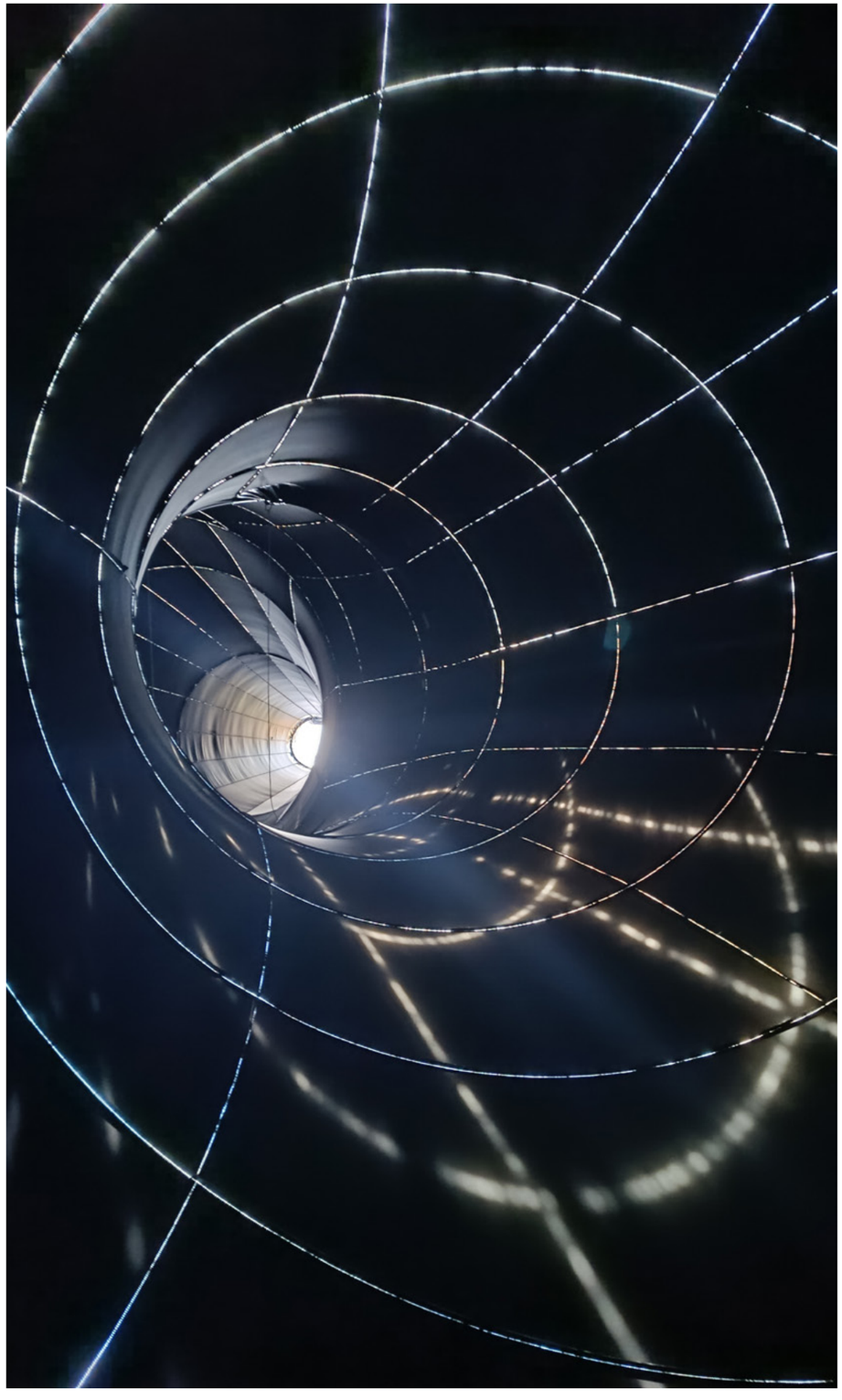
How can air craft spaces? Can architecture shift and manipulate perception? How does materiality dictate experiences? Exhale is an inflatable that uses its mass to curate different experiential spaces. An inflatable hovers in the sky creating spaces to gather underneath its silver, reflective glow before pushing into a room at Avery, where the experience flips along with its materiality, a dark room with guided light dictates the movement and perception in the room. The Inflatable will be installed this coming fall '24 at GSAPP.

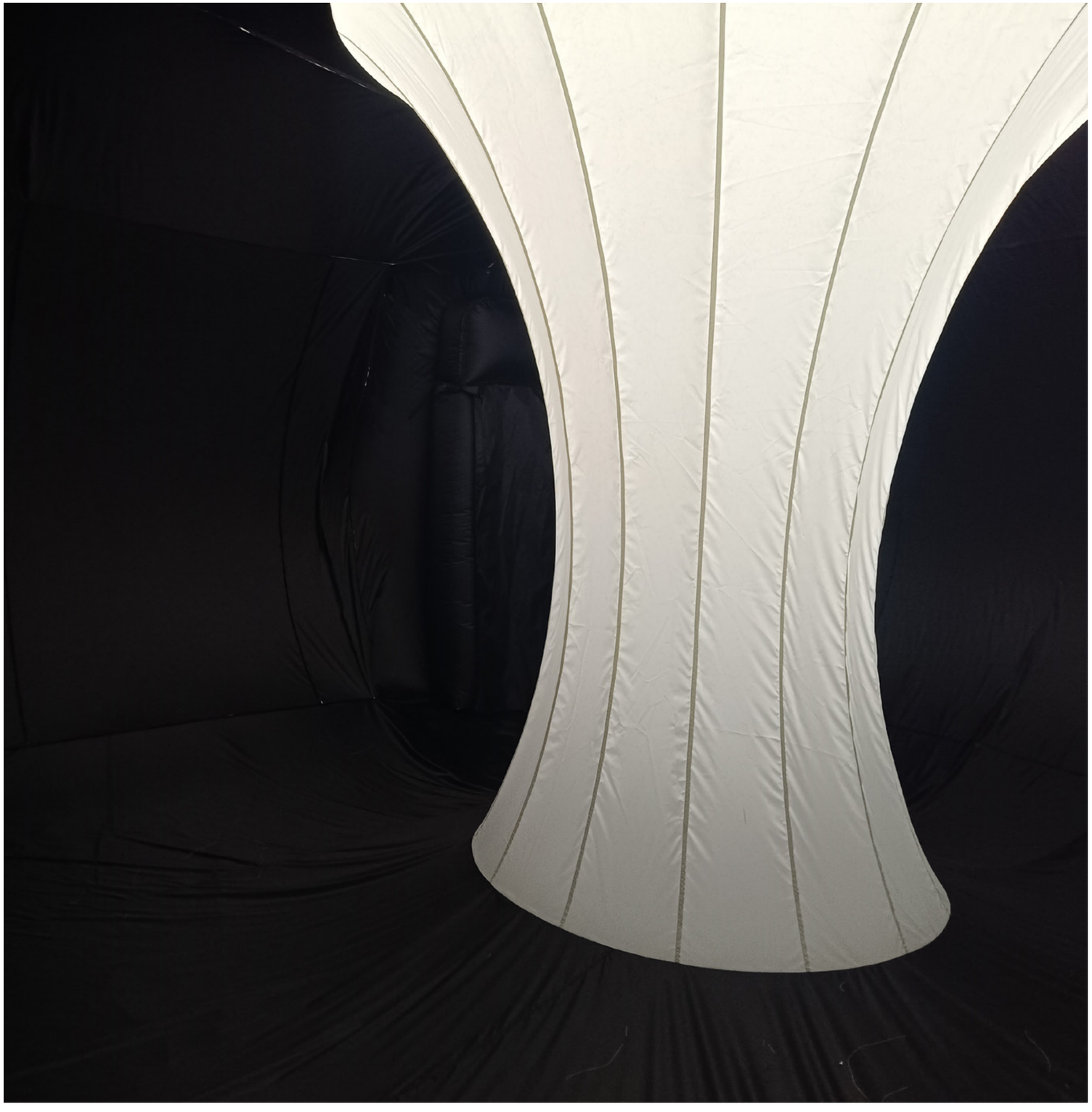
The design of the internal space followed a back an forth with the manufacturers to understand how the geometry of an inflatable can assist in the curative quality of an installation. The project is a culmination of weeks of design development, construction documents, lighting, budget constraints and material procurement, highlighting and simulating the workings of a real built project in the city of New York.

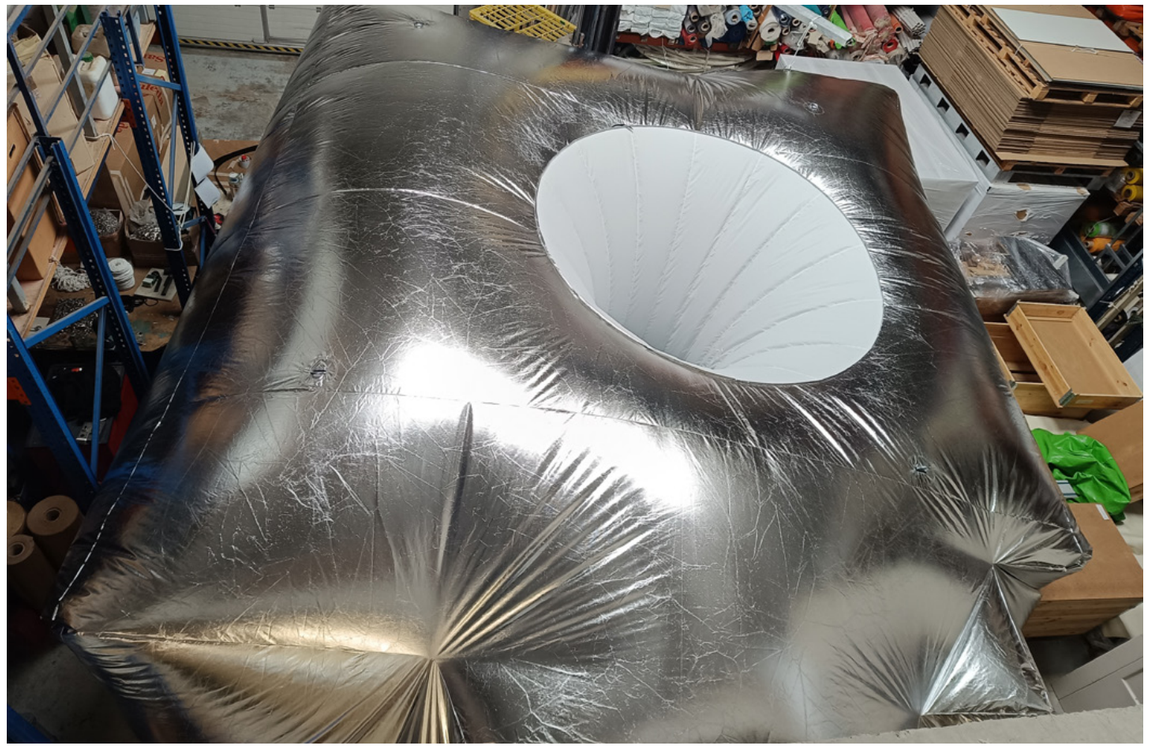

17'-2"
15'-0"
7'-11"
5'-4"
4'-8"
RADIATOR
2'-5"
AA
SPRINKLER PIPE
12"
DUCT
1'-0"
VENT
ELECTRICAL UNIT
SPRINKLER PIPE
AVERY
408
(IN)
7'-2"
SOFFIT ABOVE
11"
3'-9"
17'-11"
21'-5"
LIGHT
8'-11"
CC
INFLATED COLUMN TO PREVENT THE TOUCHING OF TRACKLIGHTS
TRACK LIGHT FIXTURES TO BE REMOVED
TRACK LIGHTS
SPRINKLER PIPE
8'-4"
TRACK LIGHTS
ELECTRICAL UNIT
ENTRY TO INFLATABLE IN AVERY 408
3'-2"
10'-8"
OAK DOOR REMOVED TO BE CONFIRMED
CORRIDOR AVERY 400 LVL.


MINIMUM DEPTH 3'11" BELOW SPRINKLERS
MINIMUM DEPTH 6' BELOW RAILTRACK
VERTICAL COLUMN (BELOW CUT LINE)
PLEXI GLASS TO CONTROL INFLATABLE ENTRY AND PREVENT INFLATABLE-WINDOW INTERACTION
ENTRY INTO INFLATABLE
HVAC AIR CONDITIONING UNIT TO BE TURNED OFF
INTERIOR BALLAST
INTERIOR BALLAST
9'-0"
10'-6"
11'-7"
12'-9"
13'-11"


INFLATABLE IS INSTALLED BELOW ALL CEILING FIXTURES
MINIMUM DEPTH 3'11" BELOW SPRINKLERS
MINIMUM DEPTH 6" BELOW RAIL TRACK
OUTSIDE OF INFLATABLE
INSIDE OF INFLATABLE
LIGHTING THAT IS ATTACHED TO A CENTRAL SUPPORT (TBD)
INSIDE OF INFLATABLE
2'-6"
2'-3"
HVAC AIR CONDITIONING TO BE TURNED OFF
VERTICAL COLUMN (White fabric like spot)
Electrical Unit
INTERIOR BALLAST
INTERIOR BALLAST
INTERIOR BALLAST
INTERIOR BALLAST
9'-2"
9'-9"
11'-5"
11'-7"
12'-8"
13'-11"








revalo

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