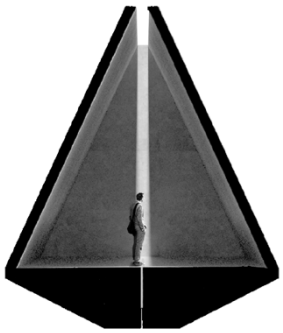


GSAPP M.ARCH PORTFOLIO

ALBERT MO

Selected Works 2022-2025

CONTENT

Pier 0

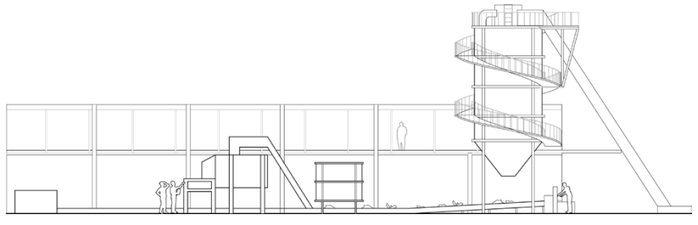
A Triage of Sorting Architectural Damages

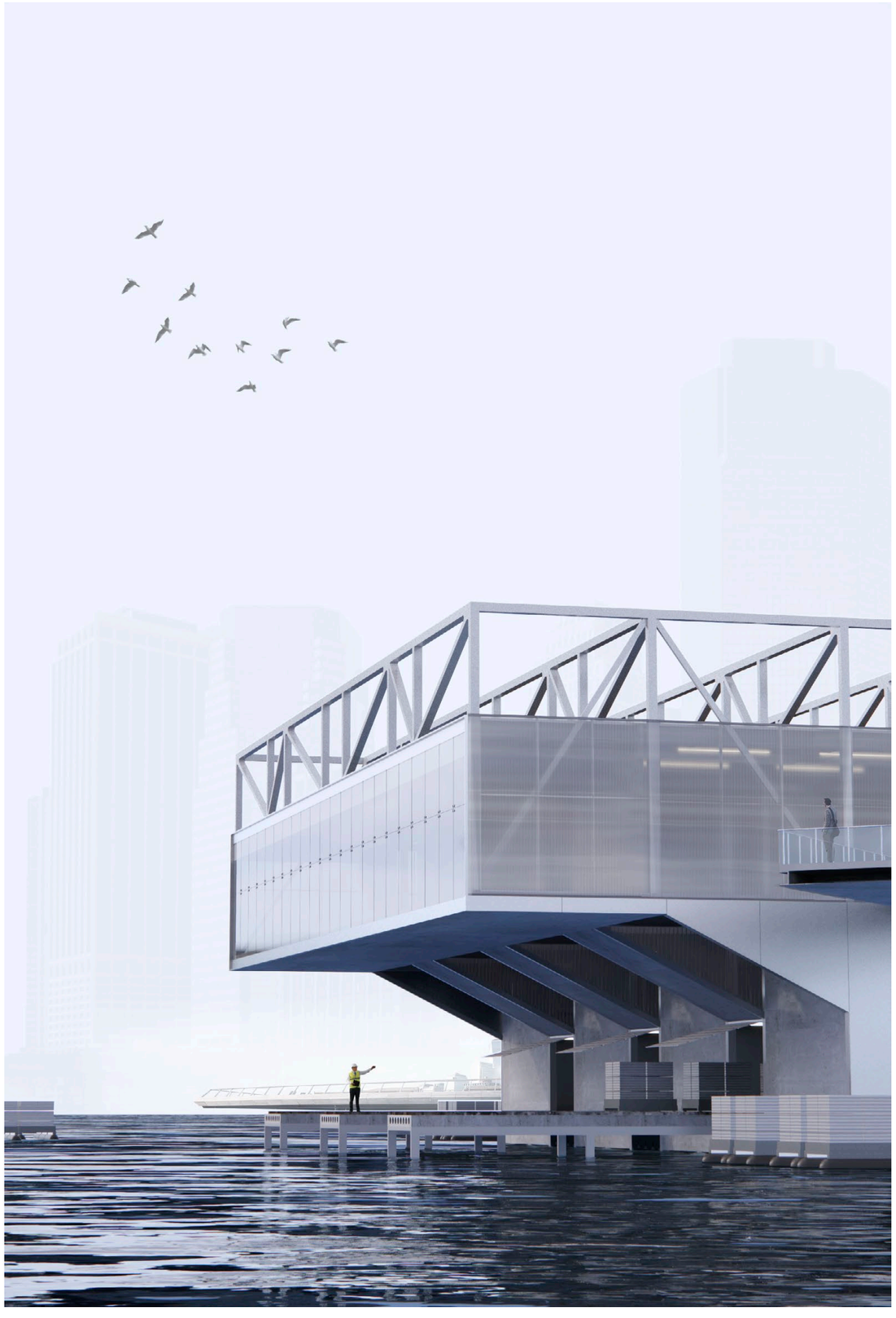
Project type	Individual work
Location	New York City, NY
Professor	Estaban de Backer
Date	2023

Pier 0 is a material sorting and recycling triage with an aim to facilitate the need of urban maintenance and simultaneously engage with the public to increase awareness of material consumption as a form of architectural damage.

In 2019, the global rate of consumption of materials was 100 billion tons and is projected to reach 175 billion tons by the year 2050. In NYC, construction and demolition accounts for more than 60% of the solid waste stream.

With this reality being considered, located at the end of Maiden Ln next to pier 15, this facility is designed with a linear layout that seems to be an extension of the street, so that it can introduce a stream of material from the city to be brought to this facility, where the front of the triage would be the unloading zone of the trucks to dispose material. In the end, materials after processing will be stored in containers and distributed to the loading docks , as well as to be exhibited as piles of shelves on the river as a visual evidence of material consumption.





Analyzing region...

Lower Manhattan...
South Seaport District

100 John St
Condition: Analyzing...

75 Wall St
Condition: Renovated

120 Wall St
Condition: To be renewed

161 Maiden Ln
Condition: Hazardous

161 Maiden Ln
Condition: Hazardous

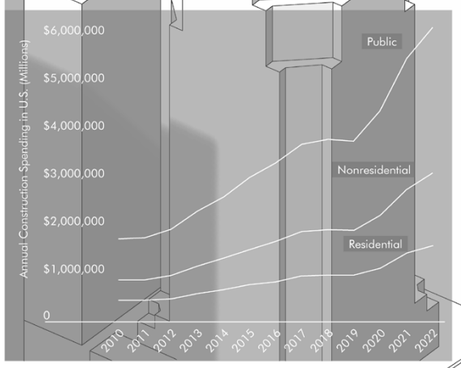
250 Water Street
Condition: To be developed

1 Fulton St
Condition: Preserved

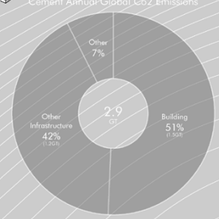
102 South St
Condition: To be developed

Shio
Condition: Preserved

Pier 0
Intervention required

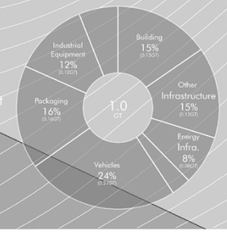


Cement Annual Global Co2 Emissions



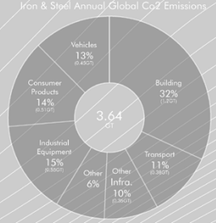
Built Environment
100%
(2.9GT)

Aluminum Annual Global Co2 Emissions

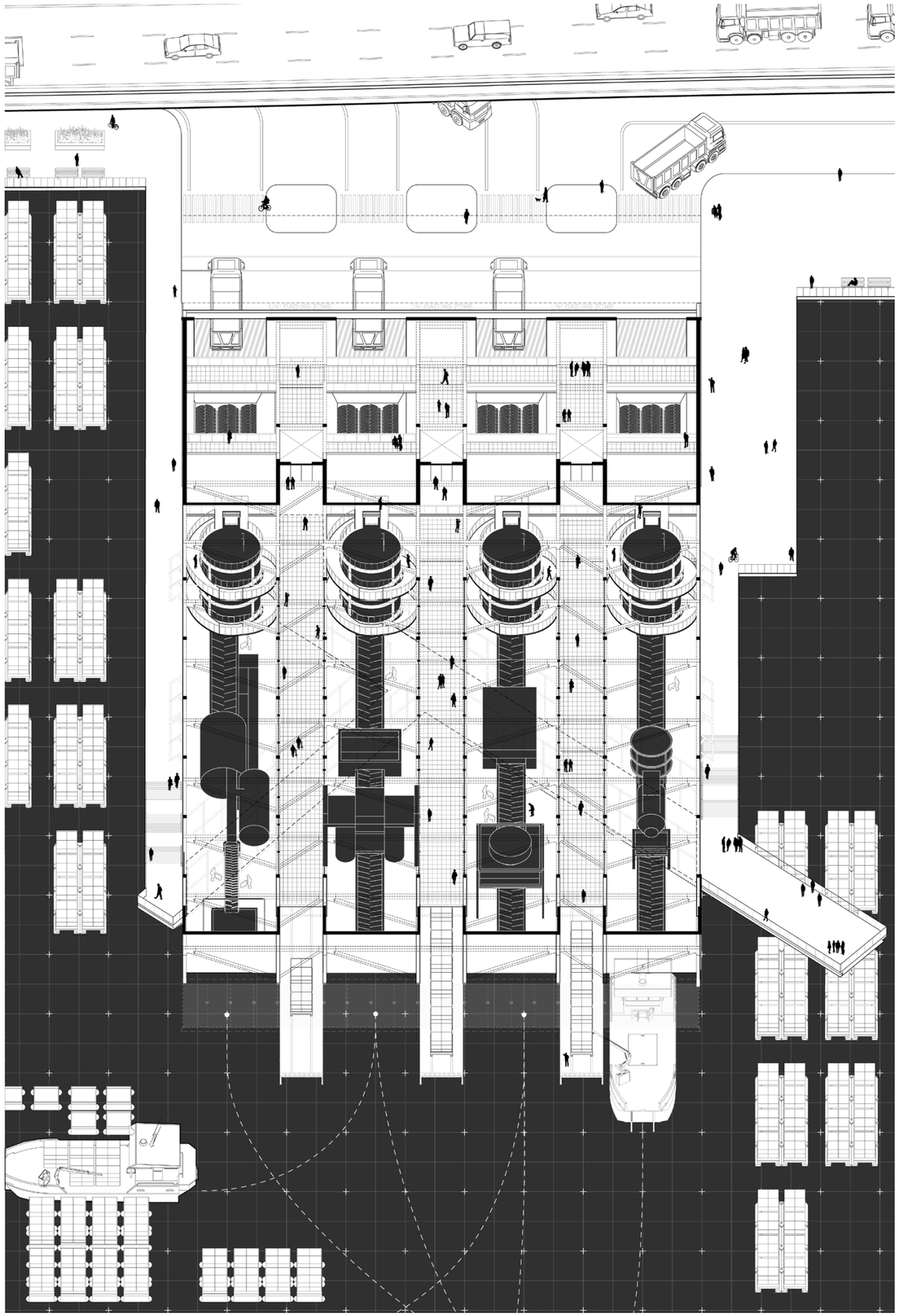


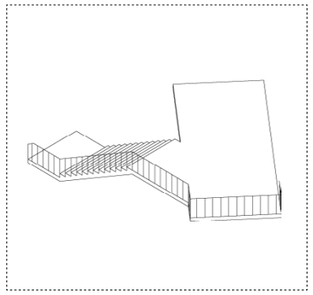
Built Environment
41%
(0.41GT)

Iron & Steel Annual Global Co2 Emissions



Built Environment
59%
(2.14GT)

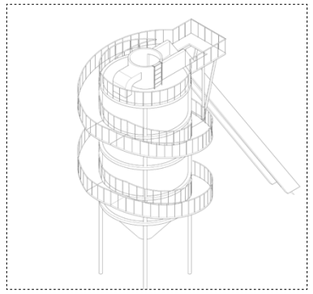




Observing deck

1. Pedestrian circulation

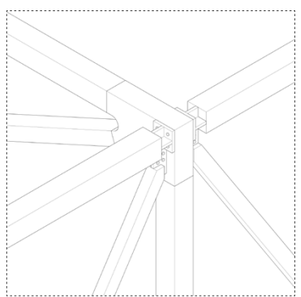
As the triage features a touring route as an additional program alongside the sorting process, pedestrain circulation is integrated throughout the facility to make it more civically oriented.



Material hopper

2. Sorting facilities

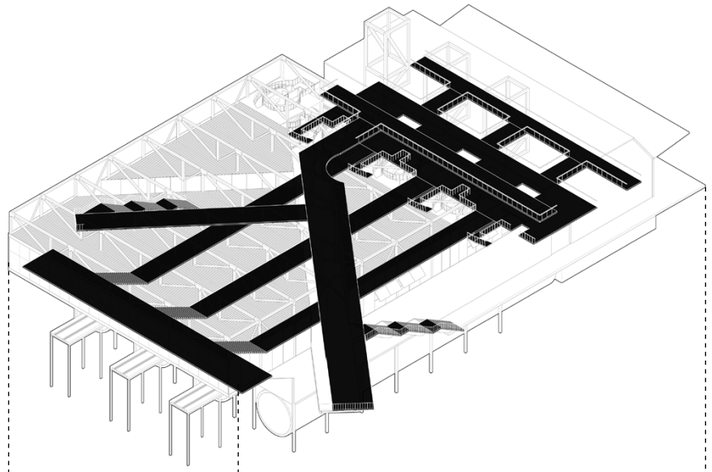
The main function of this traige is the capacity of construction material sorting, which would make it part of the uraban infrastructure that responsible for city maintenance.

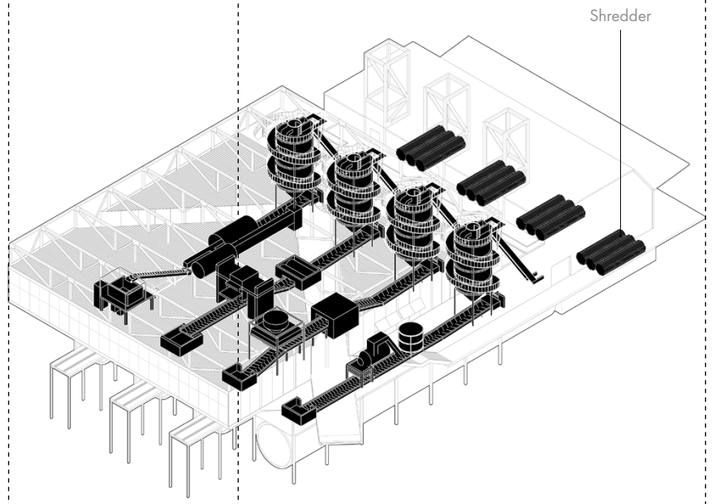


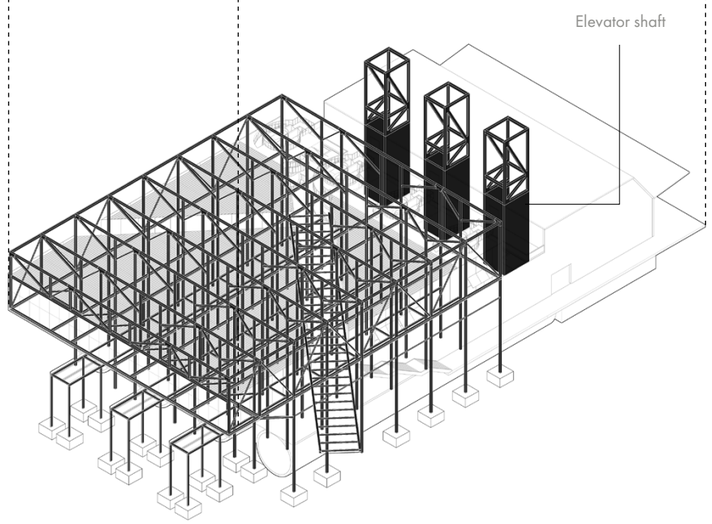
Structural junction

3. Primary structure

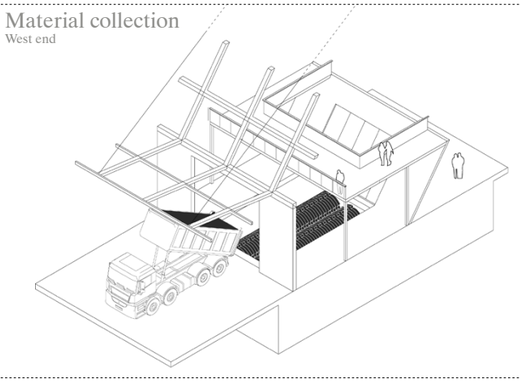
Steel frame system comprises most of the triage's structural components, in order to allow esay assembly and disassembly, which correspond back to the idea of maintenance.



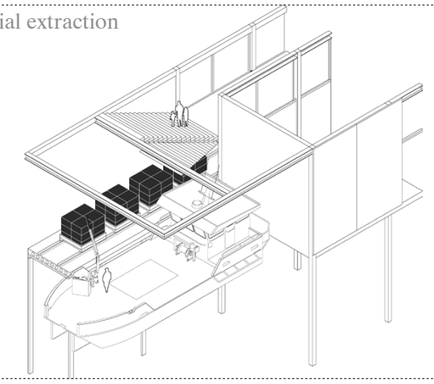




Material collection
West end



Material extraction
East end

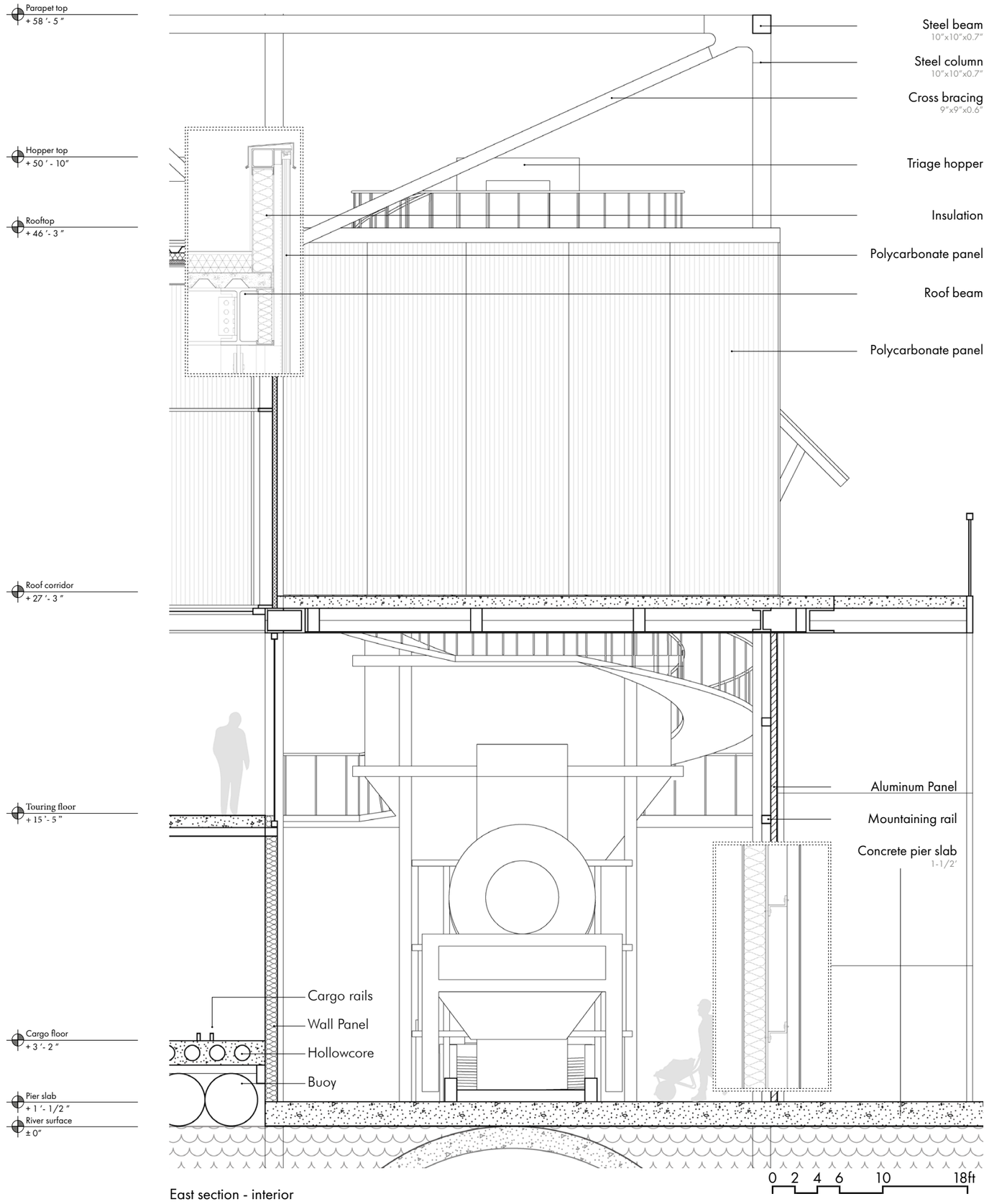


There will be four warehouses, symbolizing and managing different construction materials such as concrete, metal, glass and other aggregates with each of them going through their designated treatment to be sorted.

To further engage with the public and to increase awerness about material consumption as a damage, I am imaging the typology of a gallery that is integrated within the triage, with a set of touring circulation situated in parallel with the linear material processing lines, allowing the general public to witness the insight of this industrial operations as they go along like visiting a museum. Public engagement is also embedded at the dumping zone where not only trucks are disposing construction waste, but also pedestrians could be disposing domestic wasted products, and to actually track the process of them being recycled.

In terms of material definition, the material processing part would be constructed with steel frame structure, as the building reaches the end of its lifespan, the whole facility would be dismantled and itself could be recycled. And the unloading zone will remain onsite that stands as a remnant of the damage.

North elevation - Exterior



East section - interior

On the upper left there runs a indoor conditioned corridor for visitors to spectate the production process, starting from where the collected material waste is released from the hopper at the back, which then go through all the mechanical procedures right below visitors.
The exterior facade features an aluminum cladding rainscreen system composed of panels. This partially prefabricated construction method is both easily installed and cost-effective. The aluminum panels serve as a resilient shield against the elements for the building. Additionally, the unitized curtain wall system incorporates triple glazing, enhancing water reflectivity. It presents a modern display of industrial structure and showcases recycling processes to the public. The upper windows are designed to be partially operable, facilitating natural stack ventilation.

WATERSCAPE

The SSC and the New Hydro Infrastructures

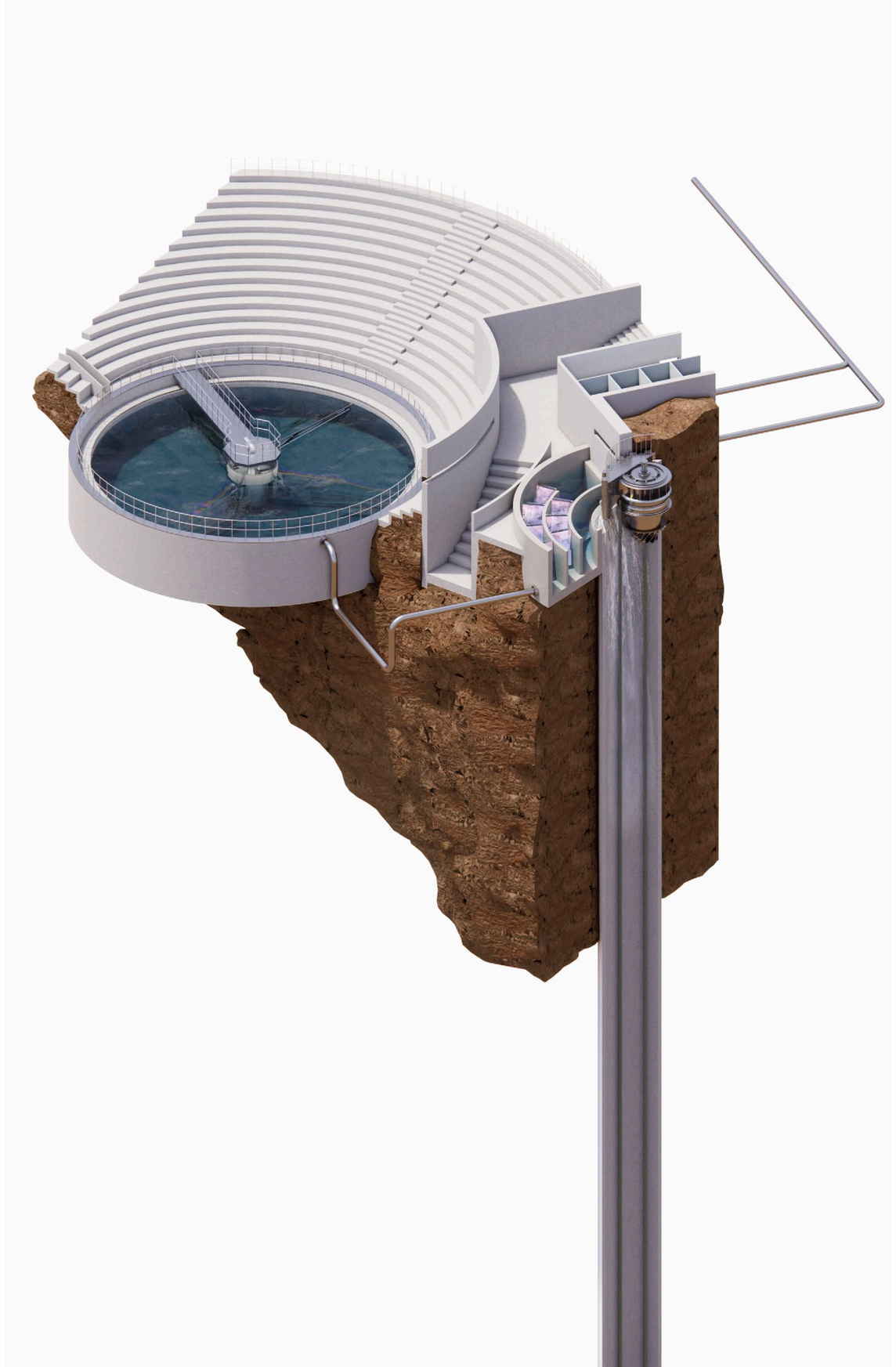
Project type	Group work
Location	Waxahachie, TX
Professor	Lindy Roy
Date	2024

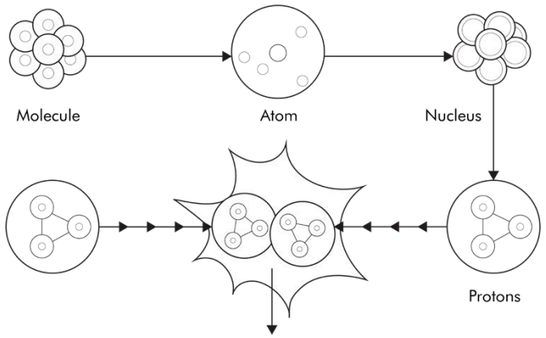
Project in collaboration with Eric Hu and Jiwon Kim

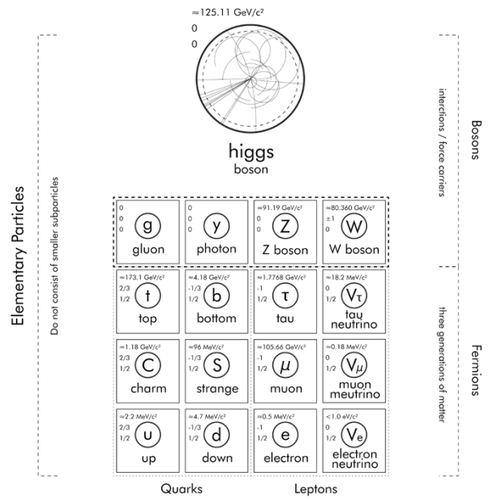
The Superconducting Super Collider was an ambitious megaproject that pitted human ambition against the natural world. Now left abandoned, the unfinished collider exists in a state of uncertainty and, more interestingly, at the intersection of a complex geostory between geology, ecology, hydrology, technology, humanity, and cosmology.

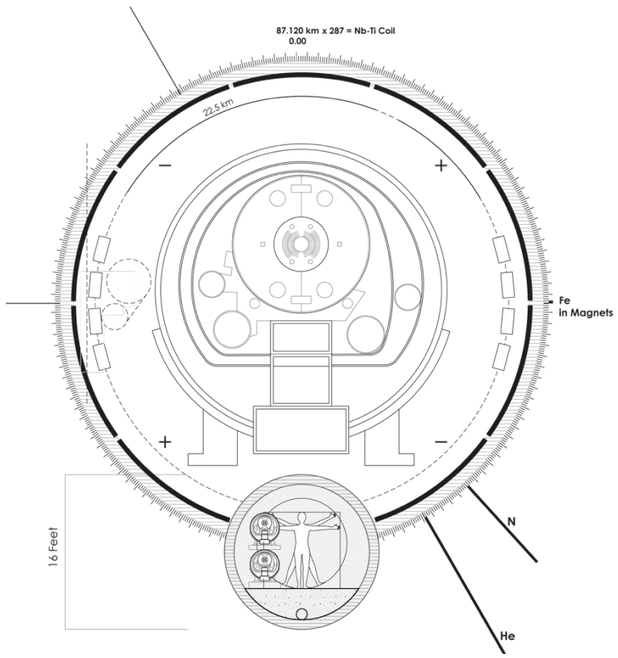
Our proposal taps into the SSC through the existing hydrology and ecology of the Trinity River Basin which experiences periodical floods and droughts. To handle these two paradoxical extreme conditions, our proposal utilizes the unfinished underground tunnel to intake and store water, while also facilitating the distribution and collection of water - sediment water, potable water, and wastewater .

By engaging the existing hydrology of the site with the geology underground, technology on the ground, and cognition above-ground, our proposal creates three distinctions of water - a riverine system for sediment water, wastewater treatment, and potable water treatment and set up redundancies to support the existing ecosystems and the population of Waxahachie.



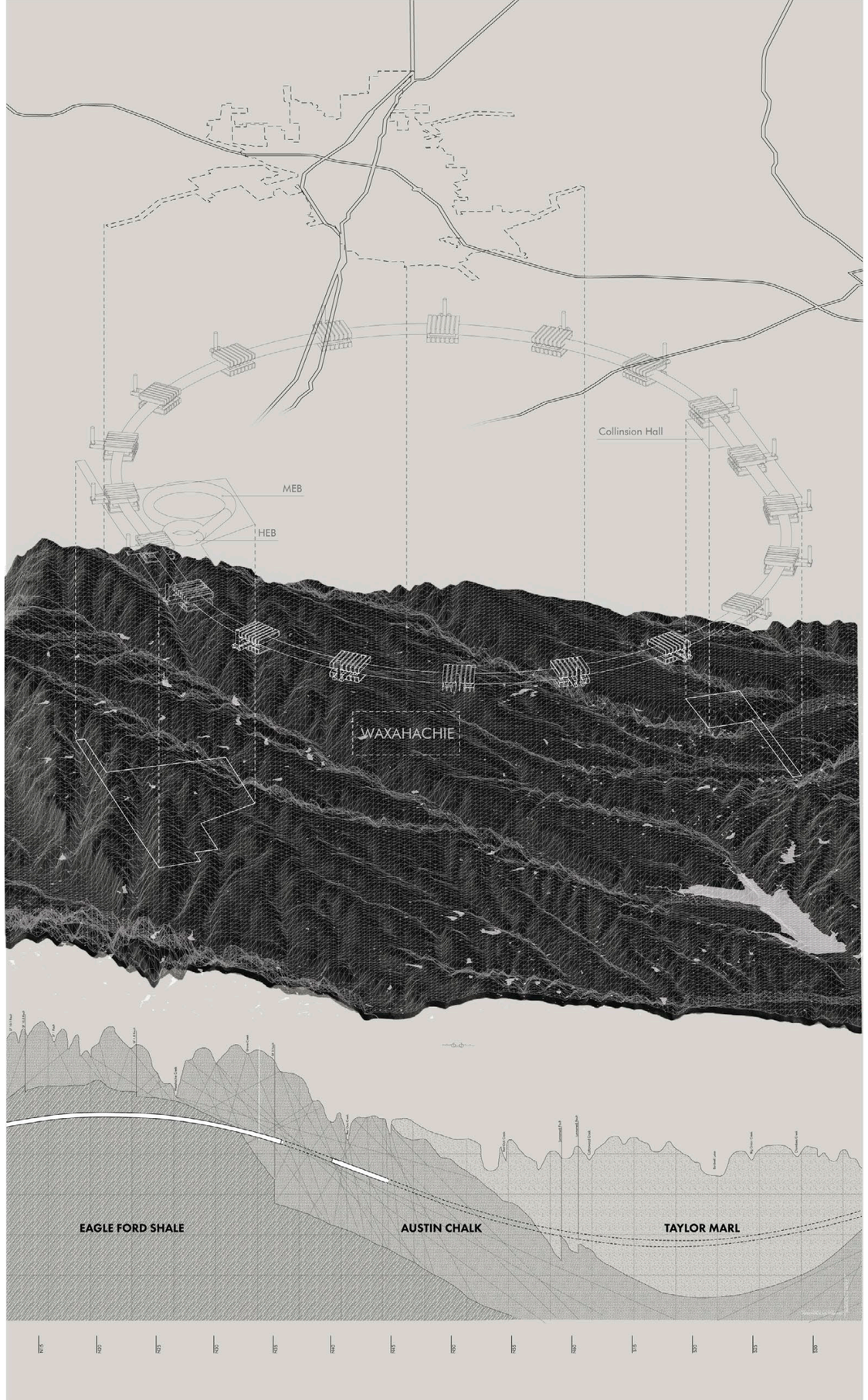


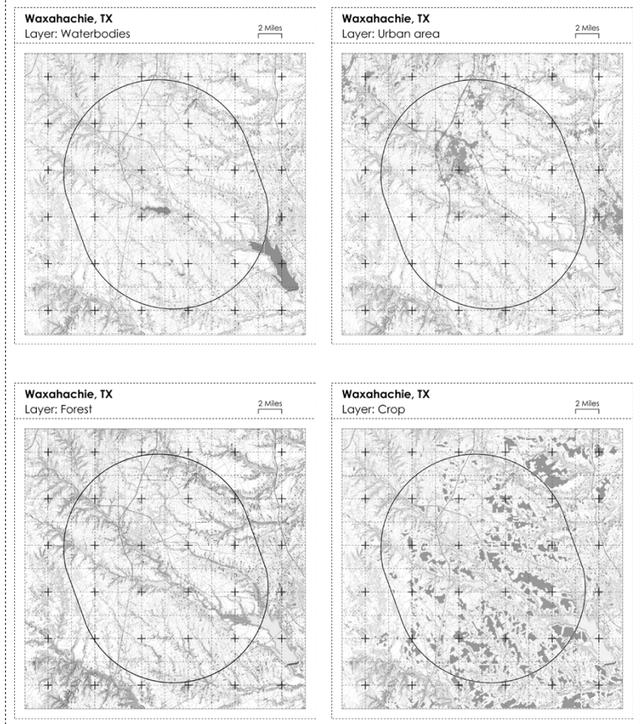




In search for the smallest particles exist in the physcial realm, scientists would inject particles into a collider that travels at the speed of light under the effect of strong magnetic fields. As particles collide, smaller particles would be exploded out.

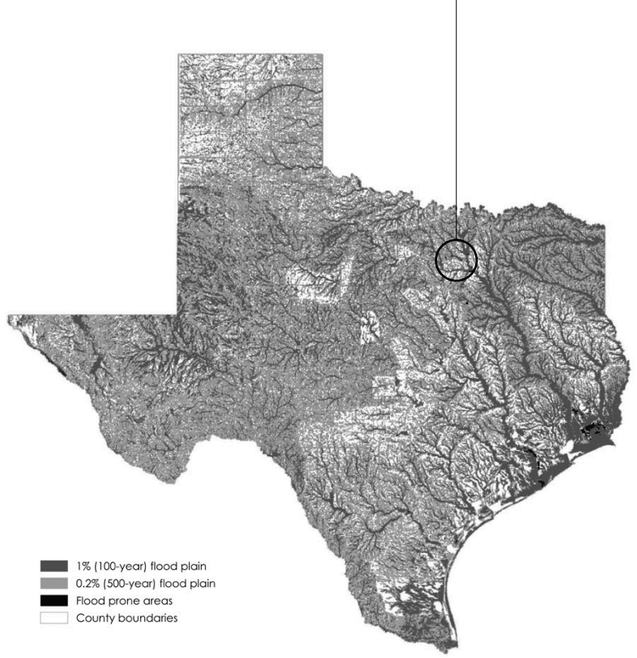
The Superconducting Super Collider





Dellas, Texas

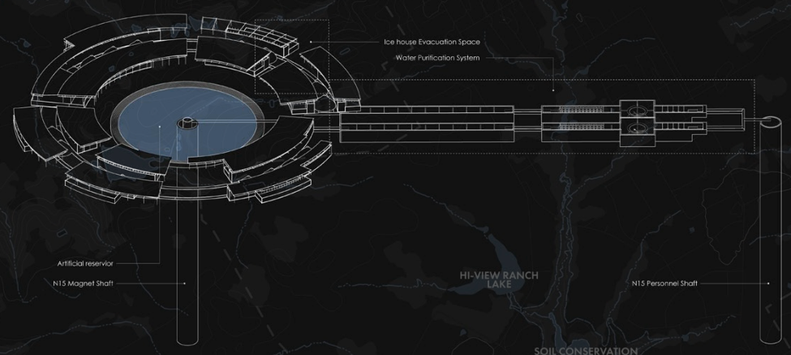
The different layers of geological information illustrate the interconnection between water and other local environmental characters. Floodplain forests are formed around openwater, which benefit cropland.



We examined our site through a larger geostory of the intersection of ecology, hydrology, geology, materiality, and technology. Our thought experiment, waterscapes, consider the increasingly critical role water plays in the trinity river basin in the future.

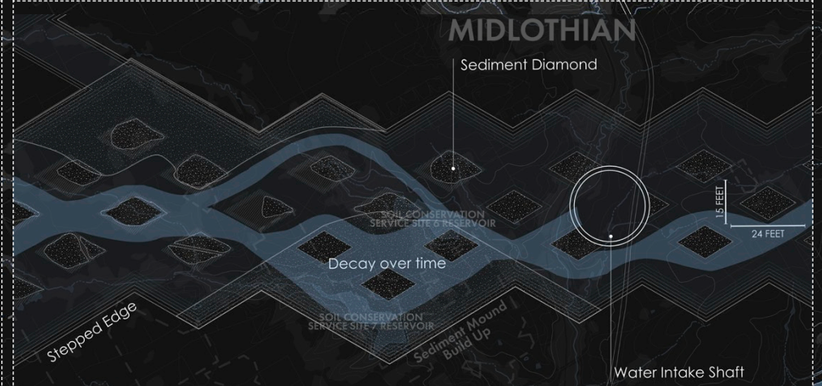
The Geo-story of Waxahachie

Waterscape N15 by Jiwon Kim - **Purification Center**



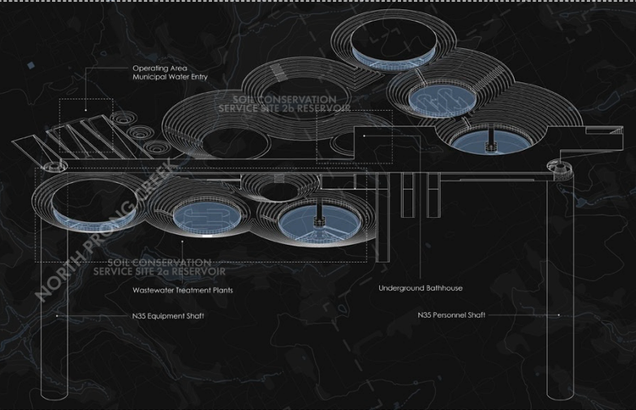
Located at the N15 shafts area, this program aims to provide a combination of portable water purification for the residents in both Waxahachie and Midlothian as well as an ice-house retreat space in the advent of extreme heat climate.

Waterscape N15 - N35 by Eric Hu - **SSC Riverine System**

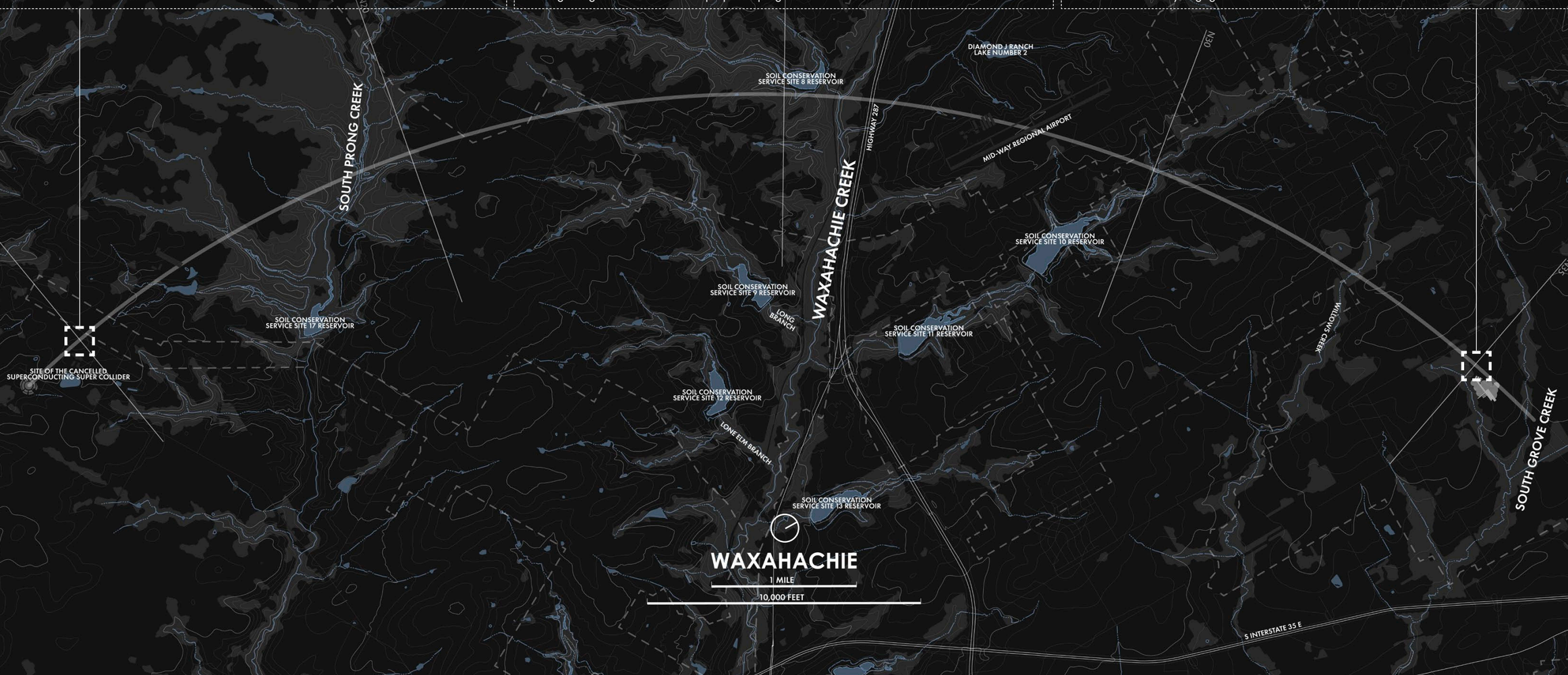


Connecting from N15 to N35, an artifcial riverine system designed to mitigate flood from exisiting waterbodies using diamond shaped soild block and a series of subtle ground interventions, meanwhile guiding water to flow to new proposed programs.

Waterscape N35 by Albert Mo - **Wastewater Treatment Center**



Located at the N35 shafts area, this program provides a redundant infrastructural program to enhance capacity for future wastewater treating demand, meanwhile intoducing a public program of bathhouse to directly engaged with the treated water.



Waste water treatment process

1.Minicipal sewege entry

2.Screening

Biogas digester (Methane tank)

Substance discharge

3.Primary clarifier

4.Aeration tank

5.Secondary clarifier

6.Disinfection tank

Anti-odor cap

Primary clarifier

Aeration tank

Secondary clarifier

Municipal sewage system

Private spa

Water tank

Public bath

Disinfection tank

198 ft

The SSC tunnel

Activated carbon cap

Skimmer

Scrapper arm

Effluent weir

Sludge discharge

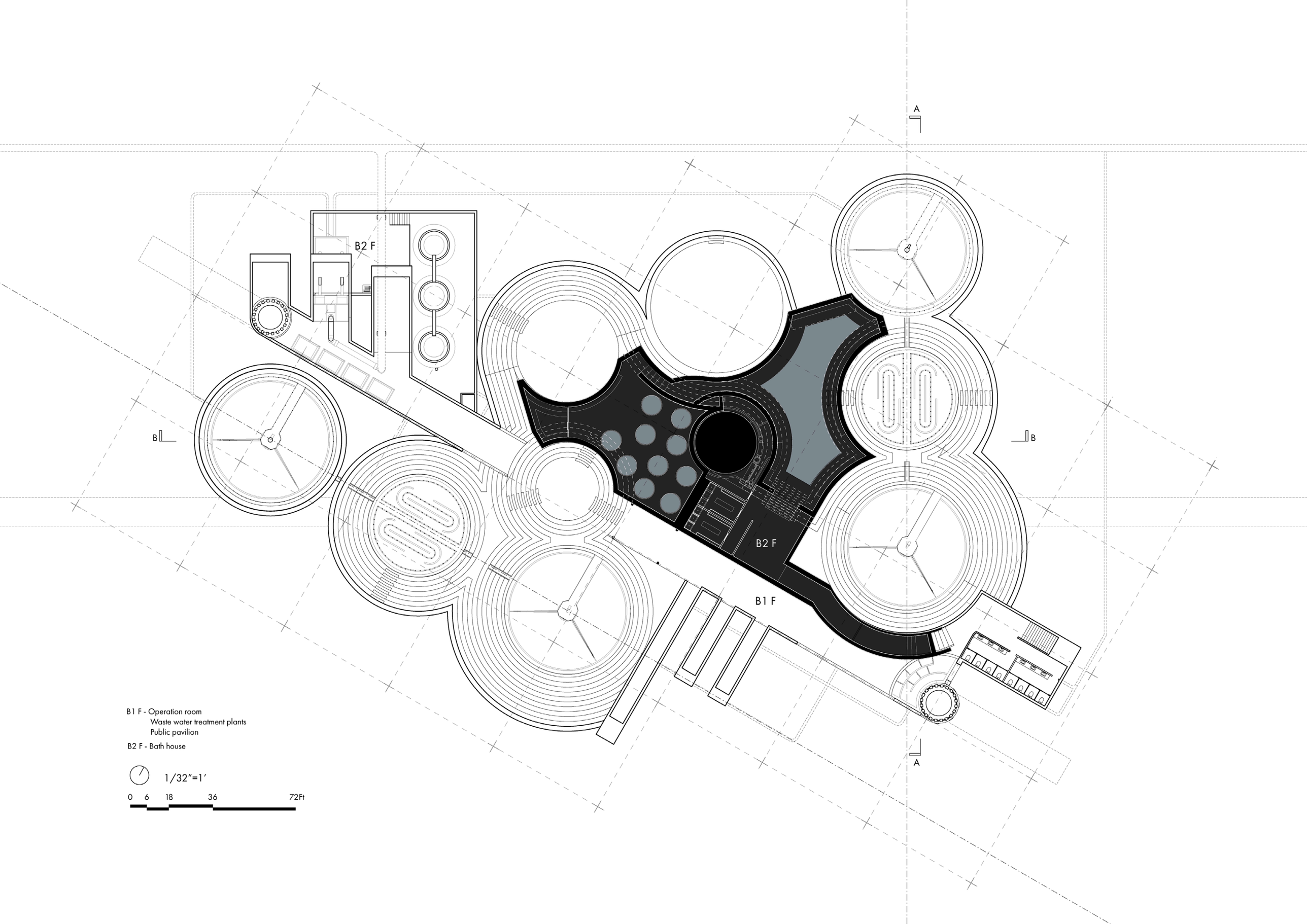
Generator

Hydrolic turbine

The SSC N35 shaft

This exploded drawing is trying to show the relationship between above ground and underground structures, as well as how water is distributed as it goes through the treatment processes. The top of the structure consists of a combination of public recreational landscape and actual wastewater treatment plants, and they are both designed as a series of amphitheater spaces that progressively step below ground.

Below the amphitheater landscape, a public bath house that can be accessed through the pavilion, would also utilize some of the treated water on site. The idea of this program is to allow people to directly engage with the hydro story in this facility.



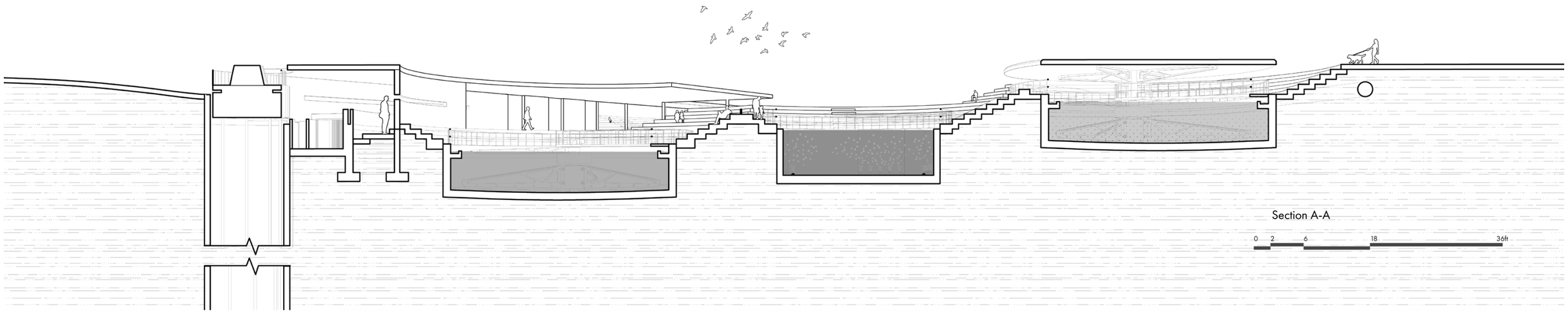
B1 F - Operation room
Waste water treatment plants
Public pavilion

B2 F - Bath house

1/32″=1′

0 6 18 36 72Ft

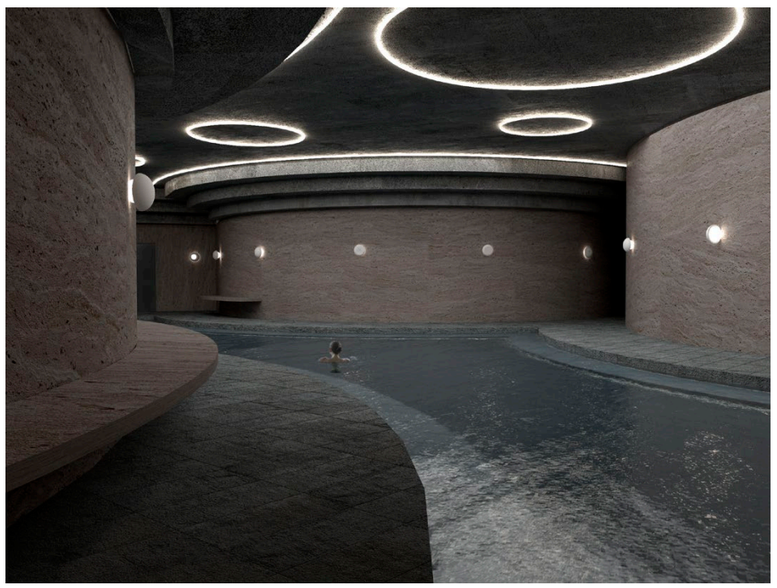
Section B-B



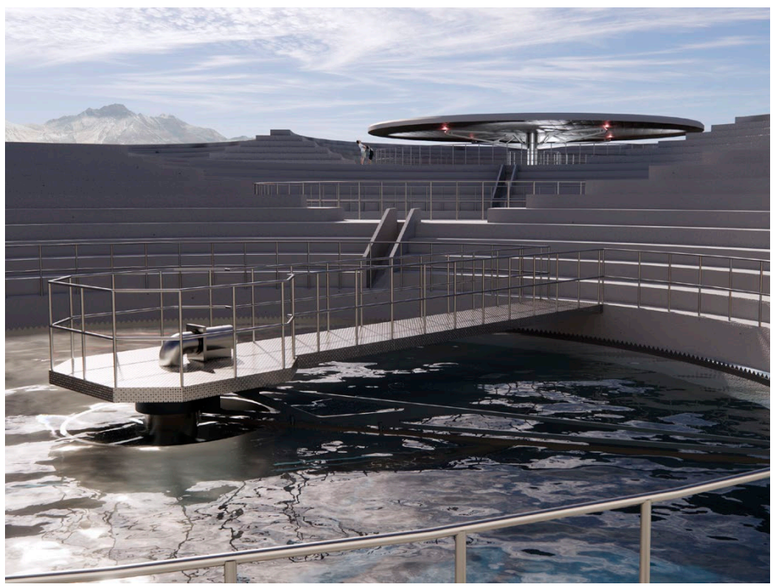
Section A-A

0 2 6 18 36ft

The artificial landscape forms by a series of amphitheaters is designed to populate a diverse range of public activities such as performances, exhibition and recreation. It is a culturally dynamic space aims to engage the population of Waxahachie with the infrastructure that supports their daily lives.



The public bathhouse submerges below the amphitheaters is a primary device that allow public to directly contact with the water that they used and eventually treated in this facility. This is a final chapter of the geo-hydro story where not only the water is being cleansed, but also the people.



Wastewater treatment plants are seamlessly integrated with the public landscape as a step-down formation so the treated water can flow from one clarifier to another with gravity, reducing the dependence of active energy consumption. In here, people can witness the slow process of wastewater purification.

Theatrical Living

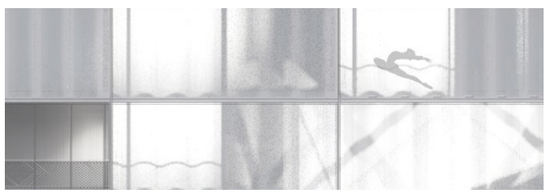
Reimagining daily life as a collective performance

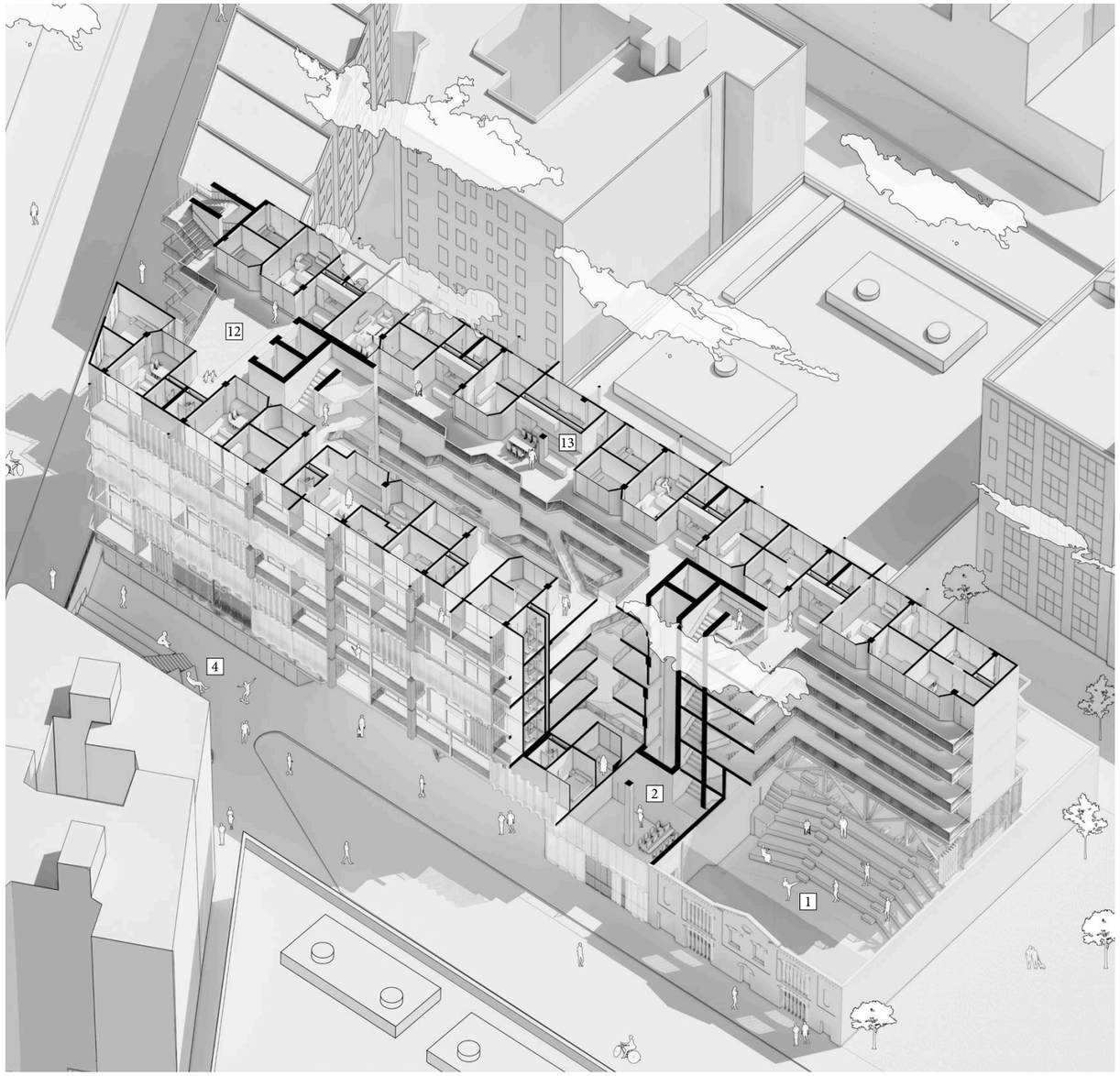
Project type	Group work
Location	New York City, NY
Professor	Eric Bunge
Date	2023

Project in collaboration with Shaoyu Chen

The aim of this project is to redefine the concept of housing by seamlessly integrating the dynamic elements of theater into the fabric of daily living in West Harlem. Rather than merely incorporating theaters as amenities, this project seeks to extract the fundamental attributes of the theatrical experience and weave them into the spatial and visual aspects of housing. The goal is to create a novel co-living experience where the everyday becomes a stage, and residents collectively engage in a shared performance within the communal spaces.

Housing, viewed through a theatrical lens, transforms into a captivating backdrop for the diverse daily activities of its residents. Instead of traditional performances like concerts or theater plays, the focus shifts to the pedestrian interactions along hallways, the ambient sounds and aromas of cooking, and the voices of neighbors engaged in various activities. These elements are curated to compose a large, ongoing play within the living space, where the community collectively perceives the diverse daily routines as performances.



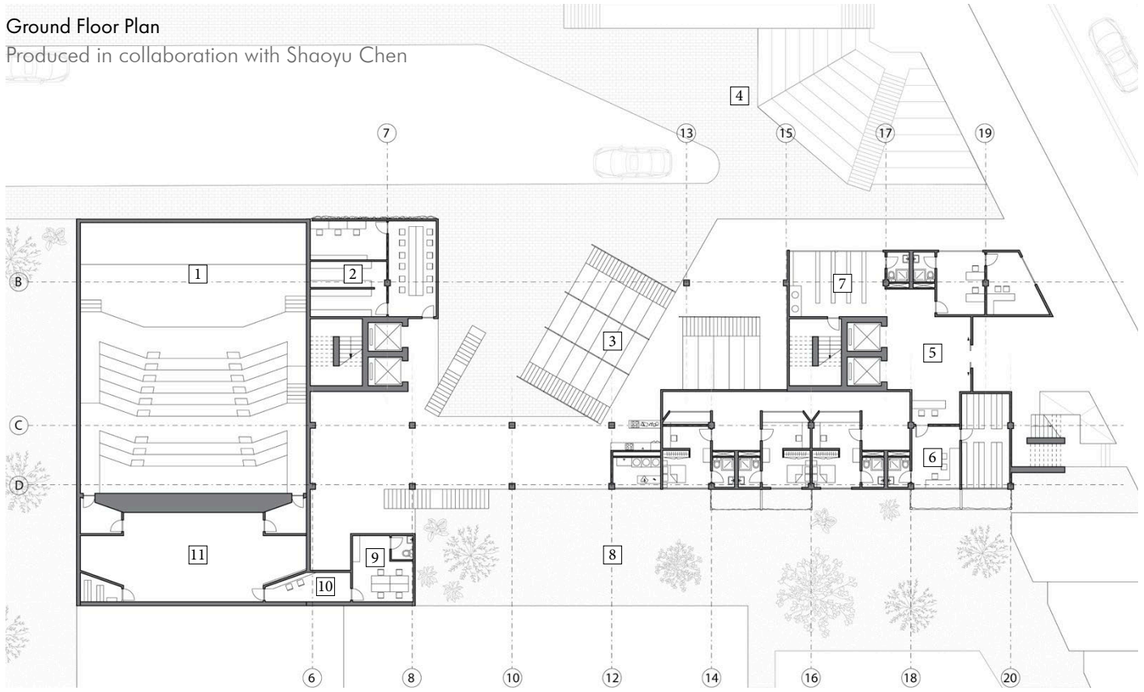


1. Classical theater
2. Back stage
3. Atrium Plaza
4. Outdoor stage
5. Apartment lobby
6. Apadtment office
7. Mail room
8. Backyard garden
9. Theater office
10. Box office
11. Theater foyer
12. Apartment terrace
13. Communal kitchen

A pre-existing warehouse is transformed into a classic theater as part of the adaptive reuse strategy, honoring its industrial heritage while incorporating modern functionality.
The housing units, strategically staggered for privacy yet fostering connectivity, create a sense of community among residents. Complemented by communal areas like gardens and co-working spaces, the project revitalizes the urban landscape, exemplifying the transformative potential of adaptive reuse and visionary design in fostering vibrant, inclusive communities.

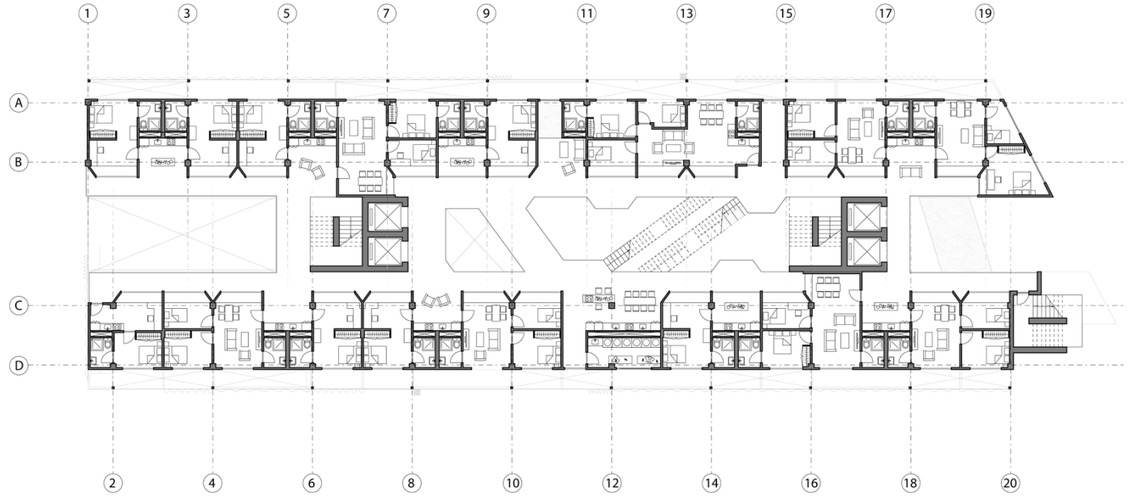
Ground Floor Plan

Produced in collaboration with Shaoyu Chen



0 16 32 40 48ft

Typical Floor Plan



Unit Types

1 bedroom
1 bathroom
323 ft²

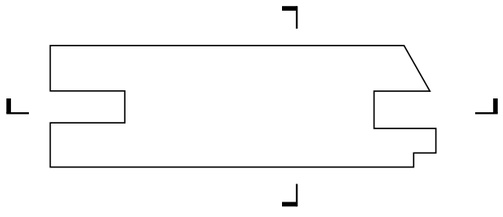
2 bedroom
1 bathroom
584 ft²

2 bedroom
2 bathroom
719 ft²

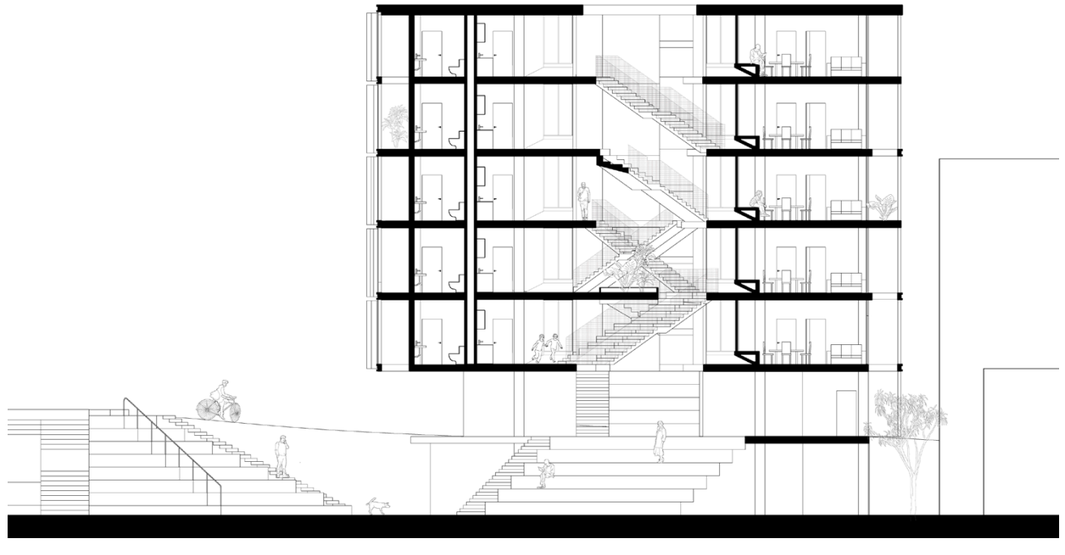
3 bedroom
2 bathroom
960 ft²

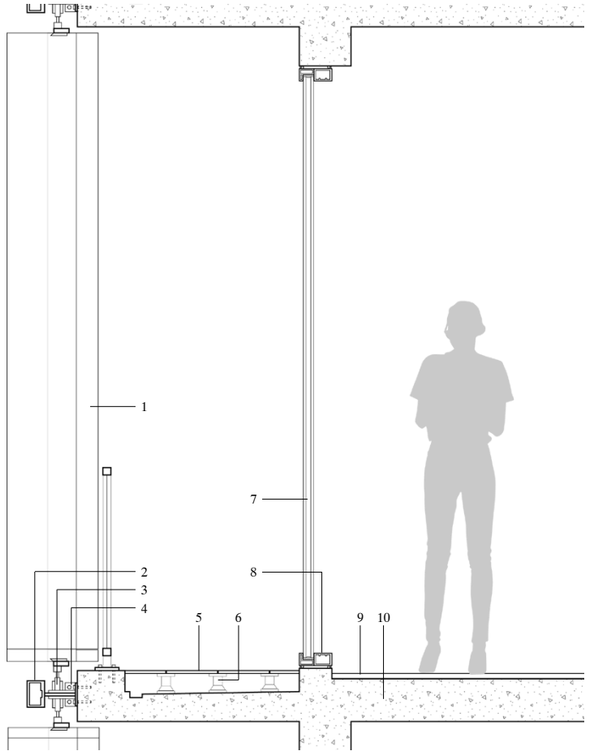
0 16 32 ft
8 24

Produced in collaboration with Shaoyu Chen



Performance spaces are curated directly and discreetly. As mentioned above, the most prominent performance space in the project is the classcial theater located in the pre-existing warehouse which is transformed as an adaptive reuse strategy. Additional performance spaces will be the atrium terrace and street terrace, both used as public plazas, but can be activated as stages for artists to perform or residents to be spectated casually. In there, a conversation between history and presence is initiated through the use of new theater in an old building, meanwhile echoing the history of art performance in West Harlem.





External Facade Section
1. Translucent curtain
2. Aluminum capping
3. Curtain rack
4. T - profile plate
5. Timber floor deck
6. Floor pedestal
7. Glazing
8. Aluminium profile
9. Concrete screed
10. Reinforced concrete

Central to the project is the imagination of the building's atrium into a captivating inverted street, reminiscent of bustling urban thoroughfares. This concept reimagines the traditional atrium as a dynamic public space where diverse activities unfold as spectacles, further tranforms the boundaries between performance and everyday life.

City 1.5

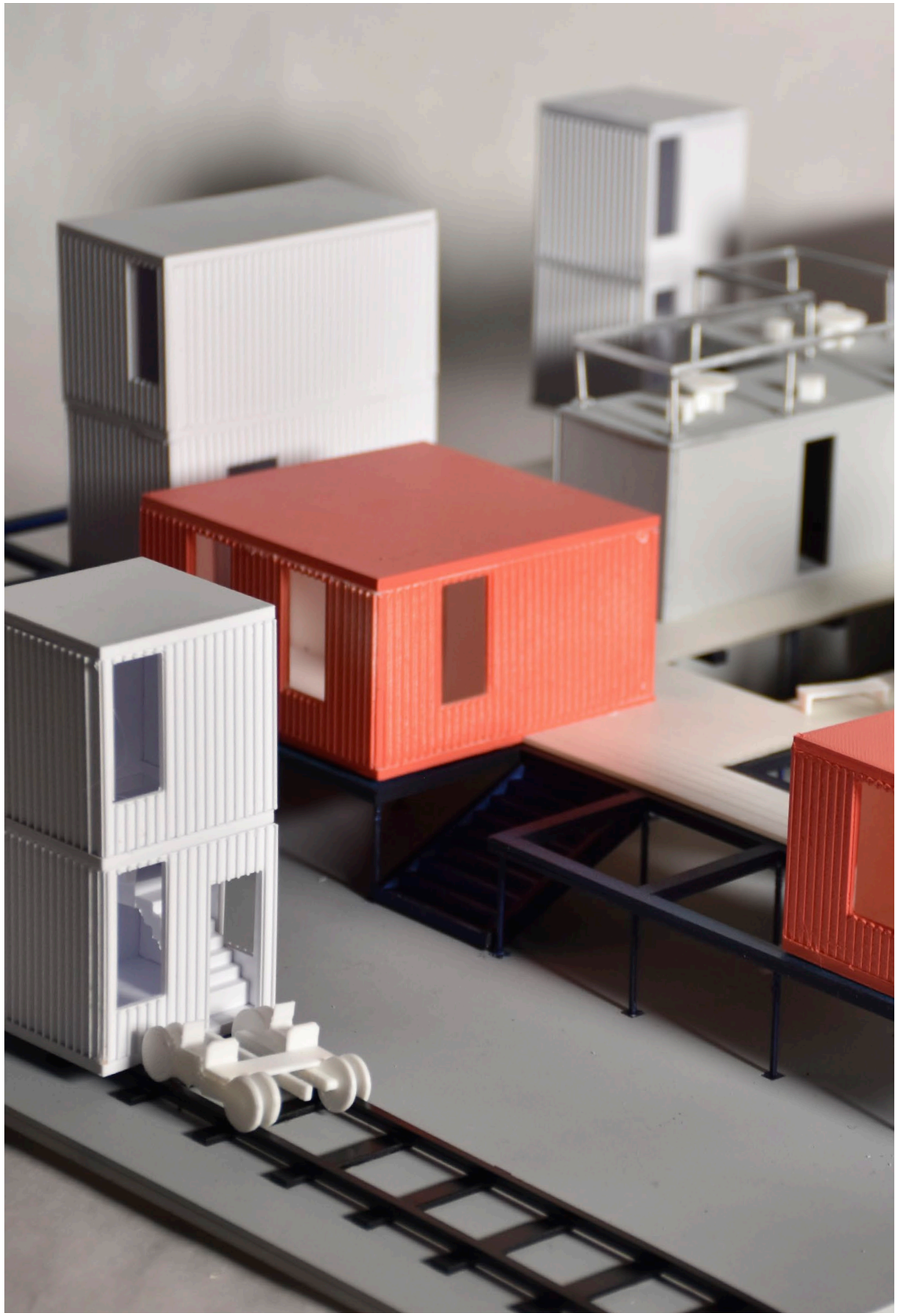
Refugee reception at Floyd Bennett Field

Project type	Group work
Location	New York City, NY
Professor	Haavard Brevik
Date	2024

Project in collaboration with Ji Hyun Nam and Joanna Cheung

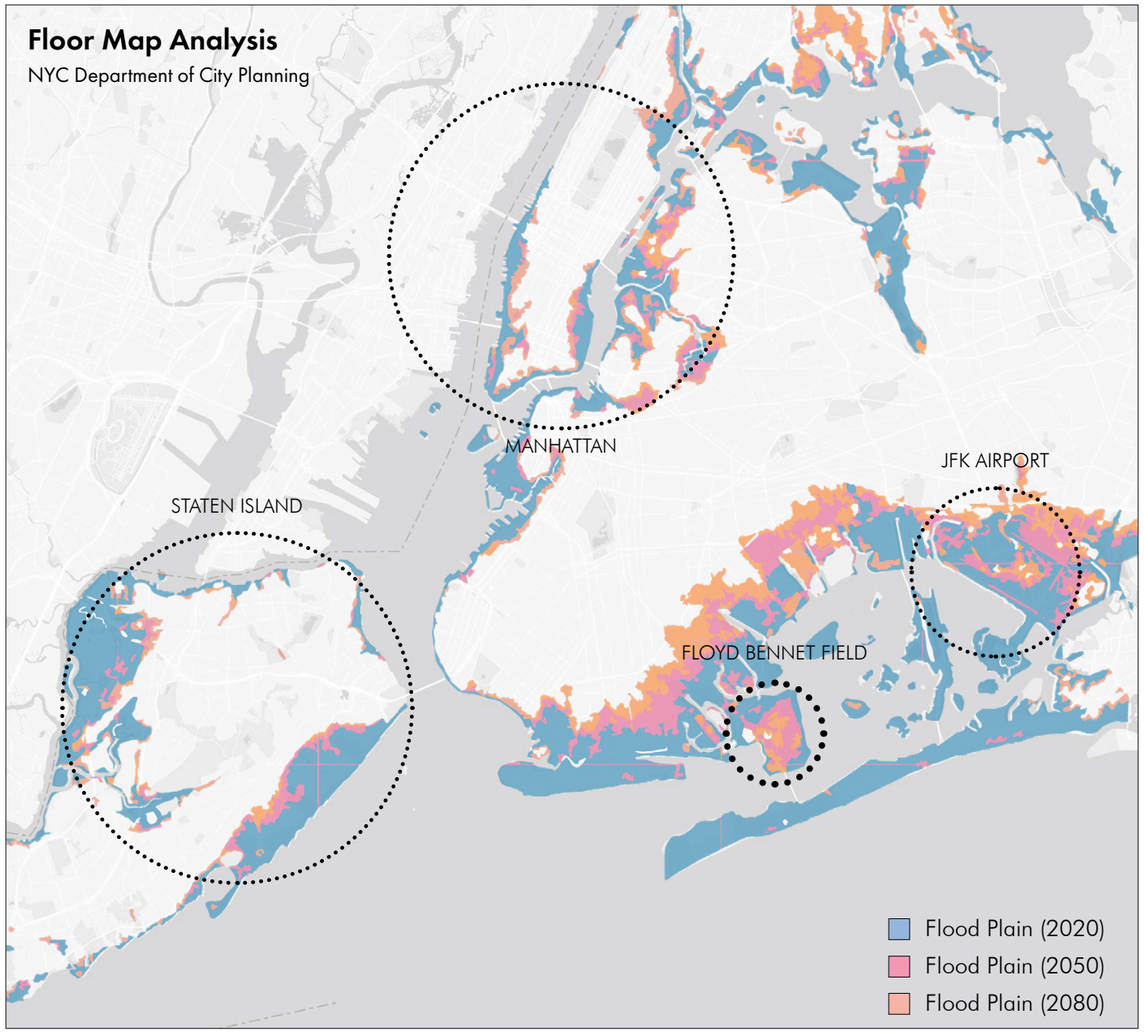
City 1.5 merges emergency reception solutions for displaced populations with the recreational revitalization of Floyd Bennett Field national park. Informed by our initial flood risk analysis, our design accommodates living requirements for incoming refugees while ensuring safety and sustainability. Comprising three communal Hubs, the project seamlessly integrates permanent public programs within a recreational park environment, fostering community interaction and repurposing underutilized spaces.

Housing accommodation is built on top of the former airport runways as a preliminary foundation with elevated platforms to offer flood-resistant housing equipped with prefabricated modular units tailored to various family sizes. By intertwining emergency response with community engagement and park revitalization, City 1.5 represents a holistic approach to addressing displacement while enhancing social cohesion and urban resilience.

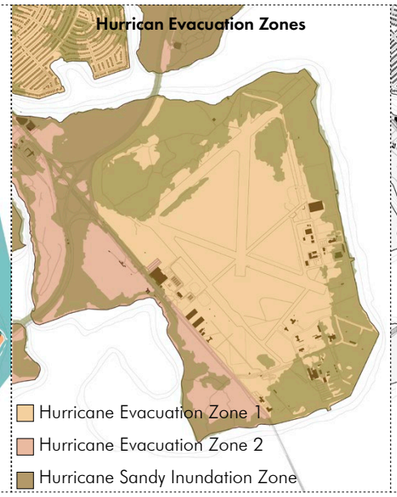


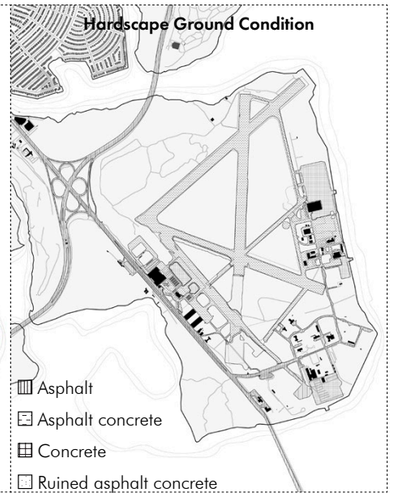
Floor Map Analysis

NYC Department of City Planning



Visualizing the date we collected from the nyc flood hazard mapper, we are able to observe the progressive flooding condition from the year of 2020 to 2080 in the future. The flood plain of 2020 covers most of the coastal area along the shoreline of southern new york city, including our site floyd bennett field and the jfk airpopt. Throughout the year from 2050 to 2080 the flood plain would dive deeper to inner land. Interestingly, the western portion of brookyln and the uptowen of mahattan would seemingly survive.





Conceptual Site Plan

Reception hubs + Housing complex

3-Water Rception

- Water sports
- Harbour bath
- Dock
- New york ferry

2-Sport Reception

- Indoor sports amenities
- Outdoor running track
- Outdoor basketball field

Housing Reception

1-Main Reception

- Welcoming area
- Arrival registration area
- Education center
- Clinic center
- Fabrication lab

Main Reception

- Welcoming area
- Arrival registration area
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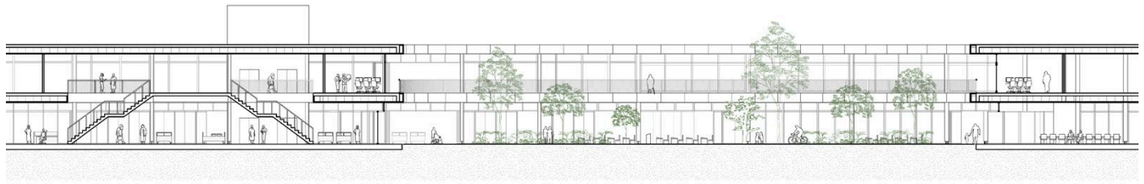
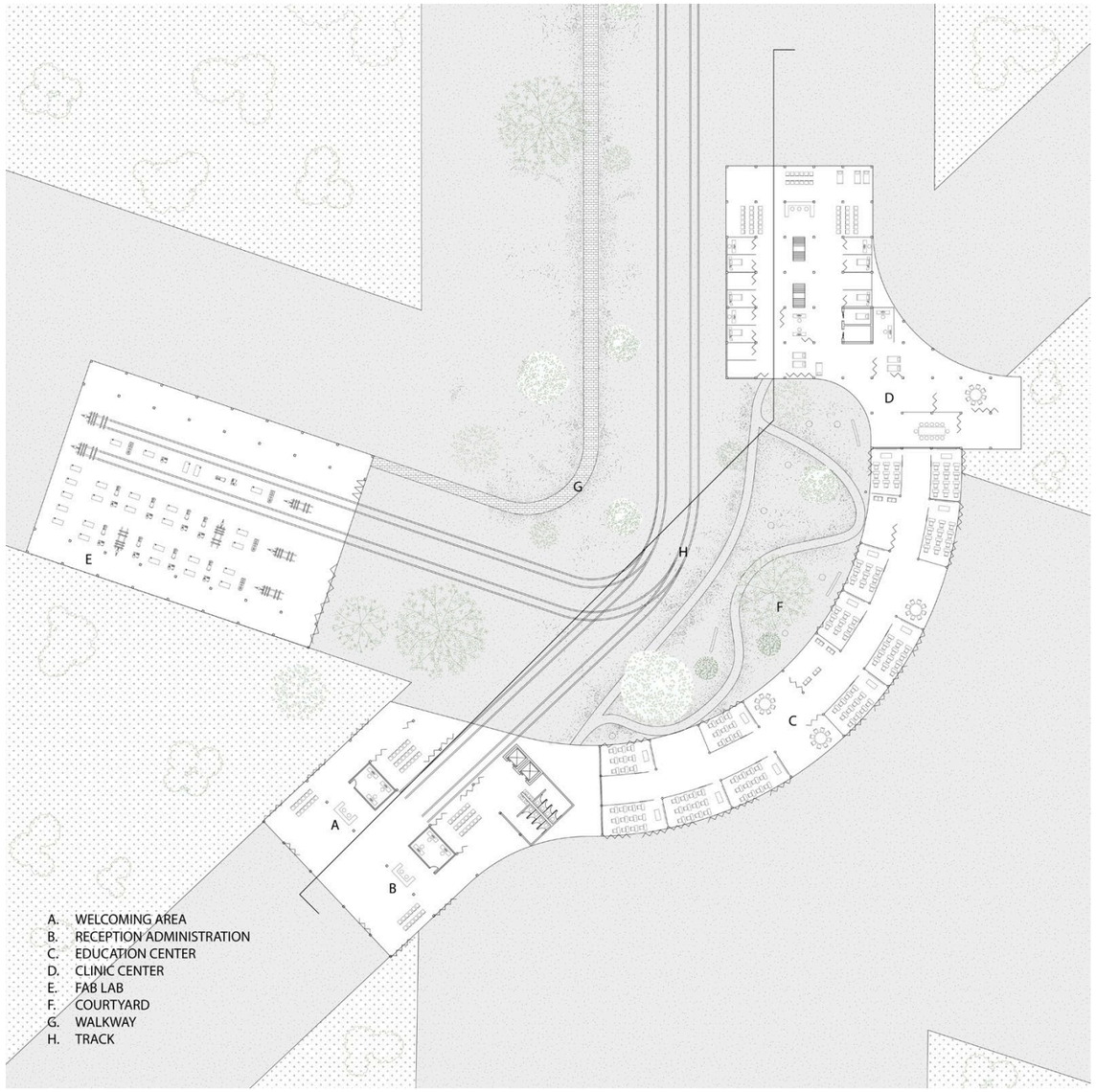
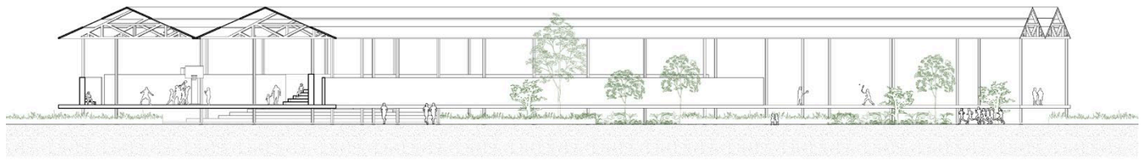




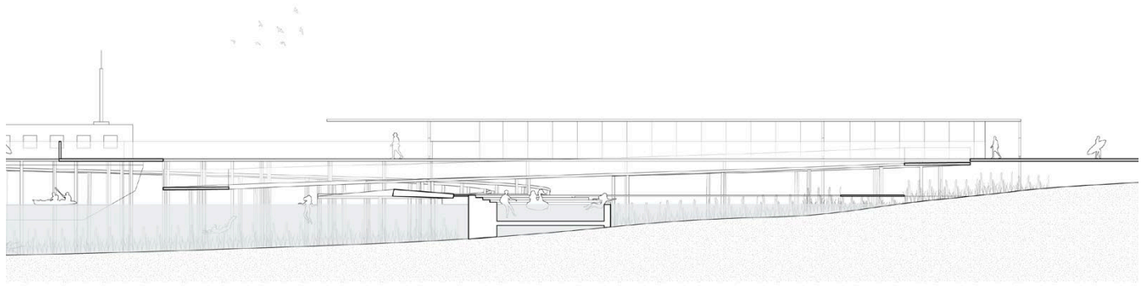
Main Reception

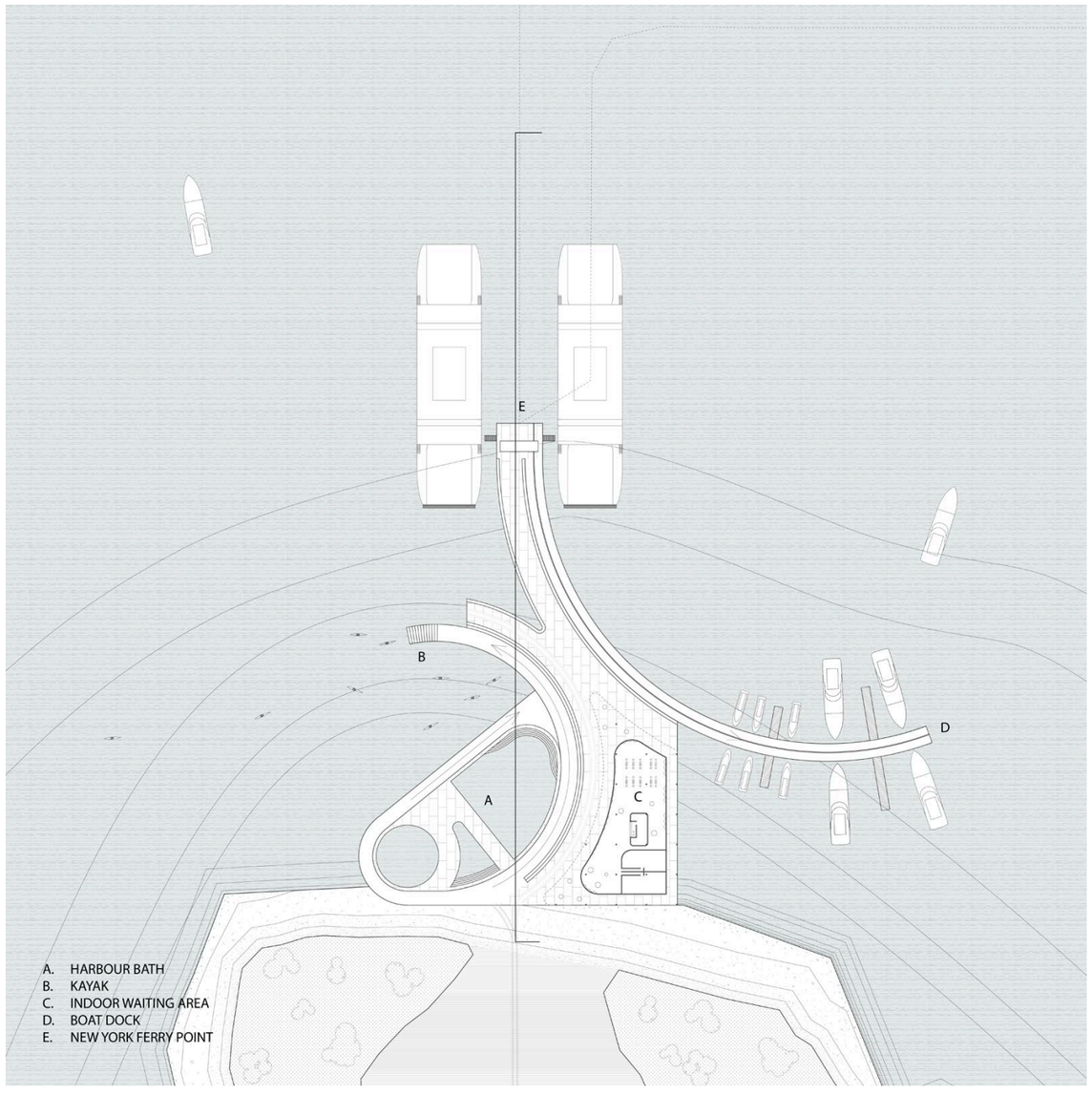
- Indoor sports amenities
- Outdoor running track
- Outdoor basketball field

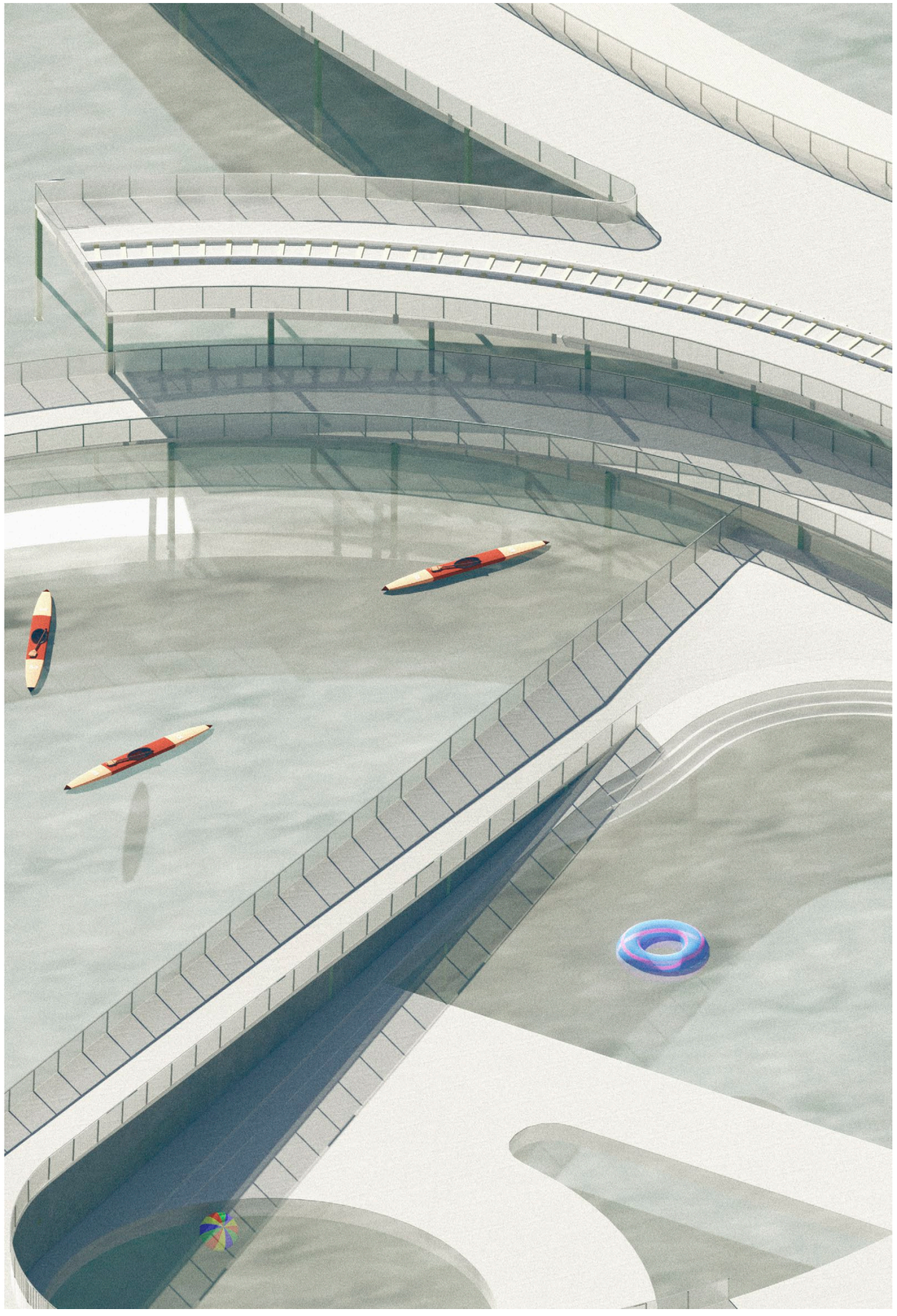


Main Reception

- Water sports
- Harbour bath
- Dock
- New york ferry

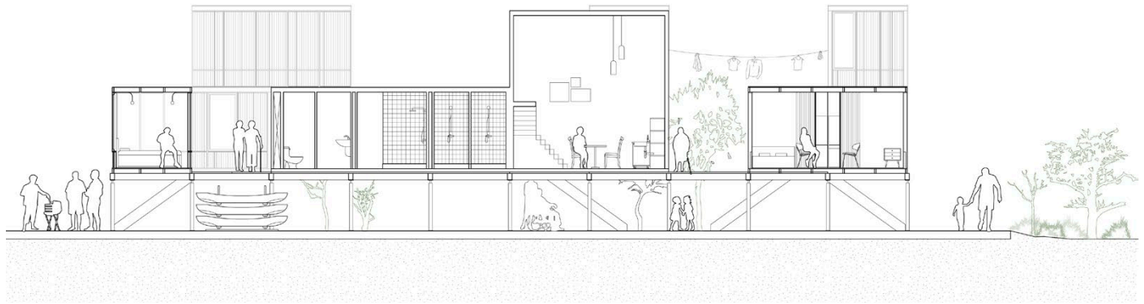


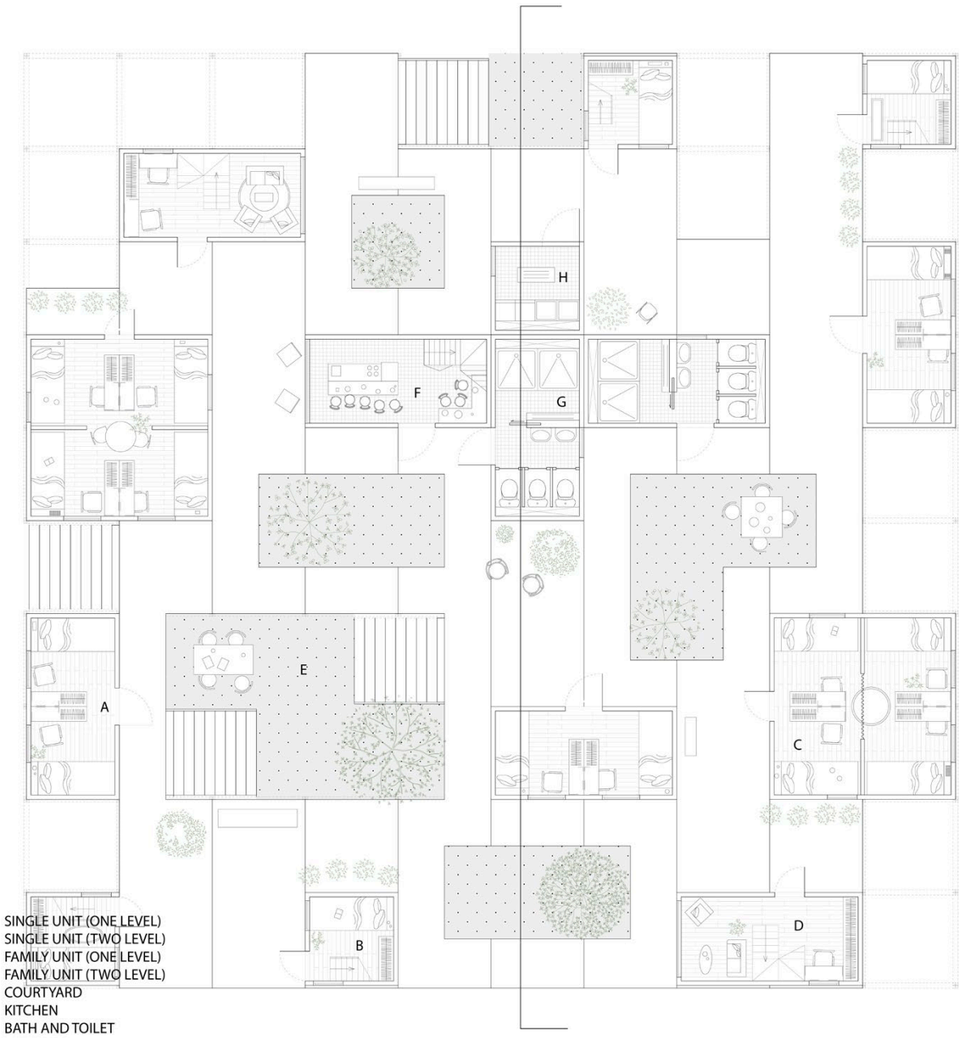




Housing Reception

- Pre-facbricated units
- Communal gardens
- Storage
- Farmer market





A. SINGLE UNIT (ONE LEVEL)
B. SINGLE UNIT (TWO LEVEL)
C. FAMILY UNIT (ONE LEVEL)
D. FAMILY UNIT (TWO LEVEL)
E. COURTYARD
F. KITCHEN
G. BATH AND TOILET
H. LAUNDRY

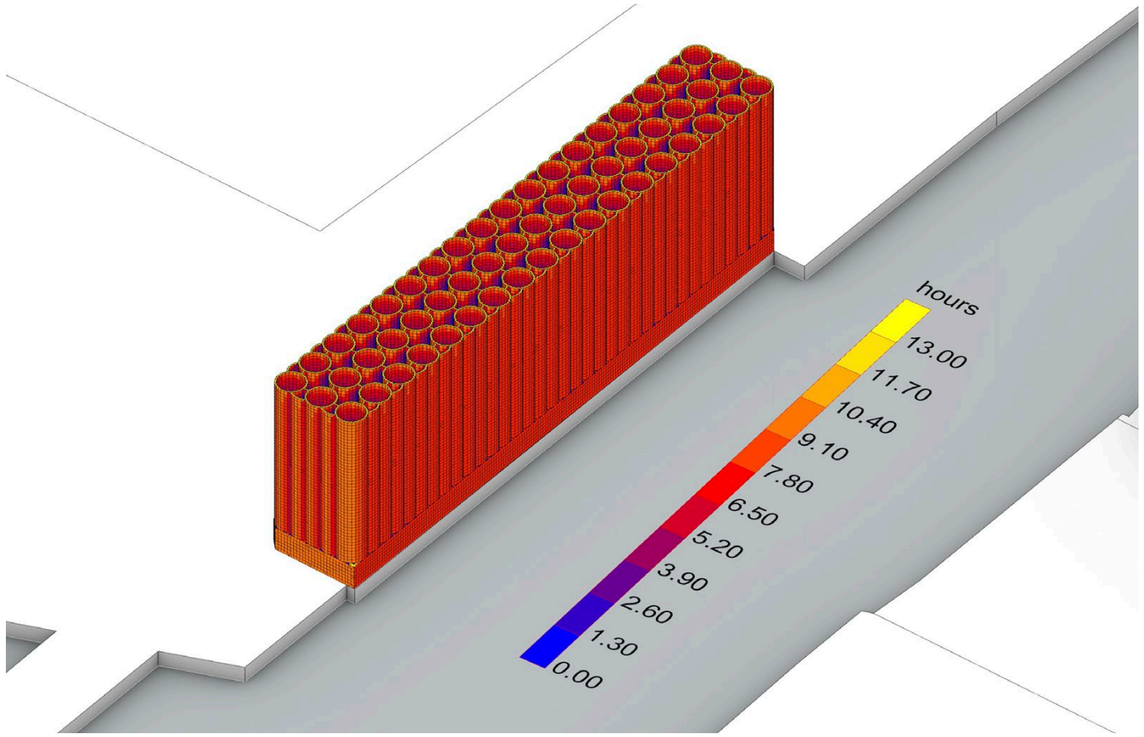
Liquid Oasis

Vertical Algae Farming in Red Hook Grain Terminal

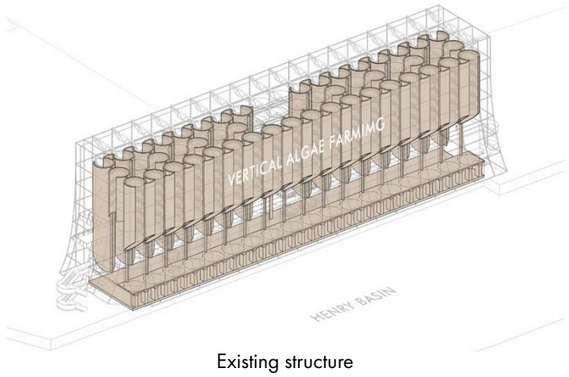
Project type	Individual work
Location	New York City, NY
Professor	Laurie Hawkinson
Date	2025

This project reimagines the Red Hook Grain Terminal as a vertical algae farming and research facility that supports a localized bioeconomy.

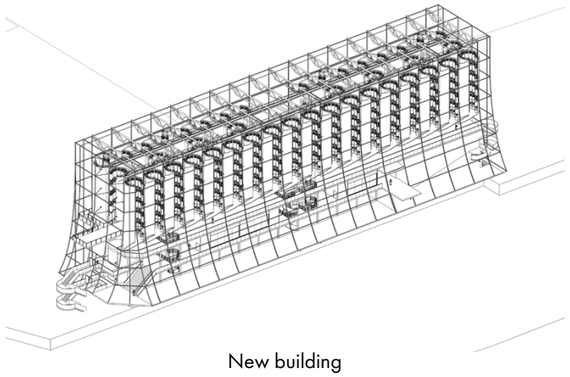
Capitalizing on the structure's unobstructed solar exposure and coastal setting, the design proposes cylindrical photobioreactors mounted on sun-facing silo walls to cultivate algae—an organism with vast commercial potential in biofuels, food, cosmetics, bioplastics, and textiles. The adaptive reuse strategy integrates algae farming with laboratory research, small-scale manufacturing, and public-facing programs like exhibitions and educational spaces. A rooftop crane and operable platforms enable harvesting and direct transport of algae to research labs and production areas, optimizing workflow. An ETFE greenhouse envelope maintains suitable climatic conditions and supports passive ventilation, while a water treatment system pumps from the adjacent Henry Basin. This intervention not only preserves the terminal's monumental architecture but activates it as a productive, sustainable, and educational hub for algae-driven innovation and community engagement.



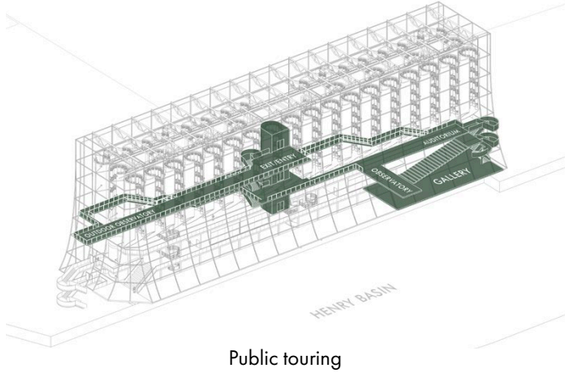
A sun hour study would show that almost all the faces of the terminal would have the maximum sun exposure, making the grain terminal a perfect structure for farming activities, corresponding back to its original purpose of food source storage.



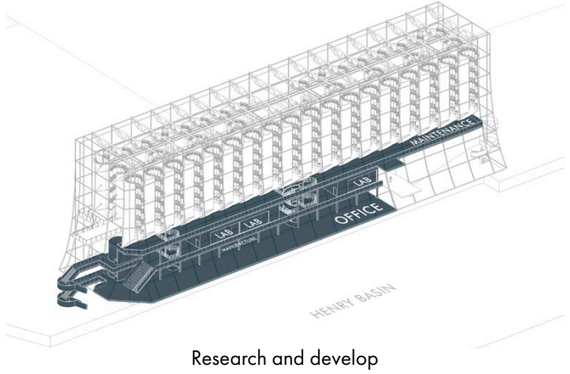
Existing structure



New building



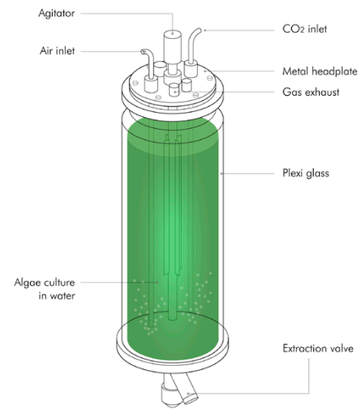
Public touring



Research and develop

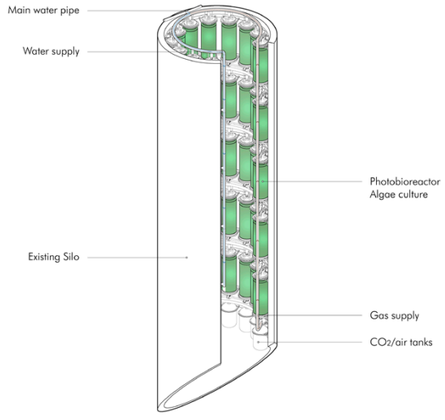
Photobioreactor

Algae is typically cultured in a device call photobioreactor. It is made of a plexiglass container with a agitator to stir the culture to keep it active, meanwhile constantly fed with CO2.



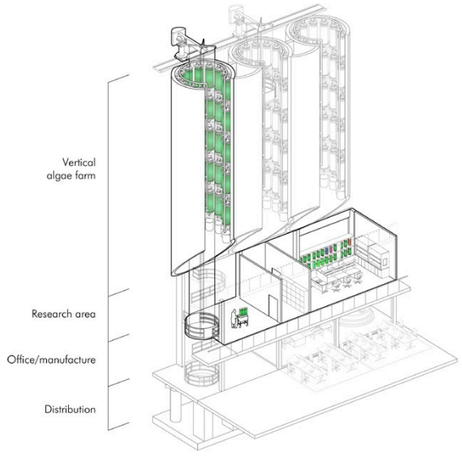
Photobioreactors in a silo

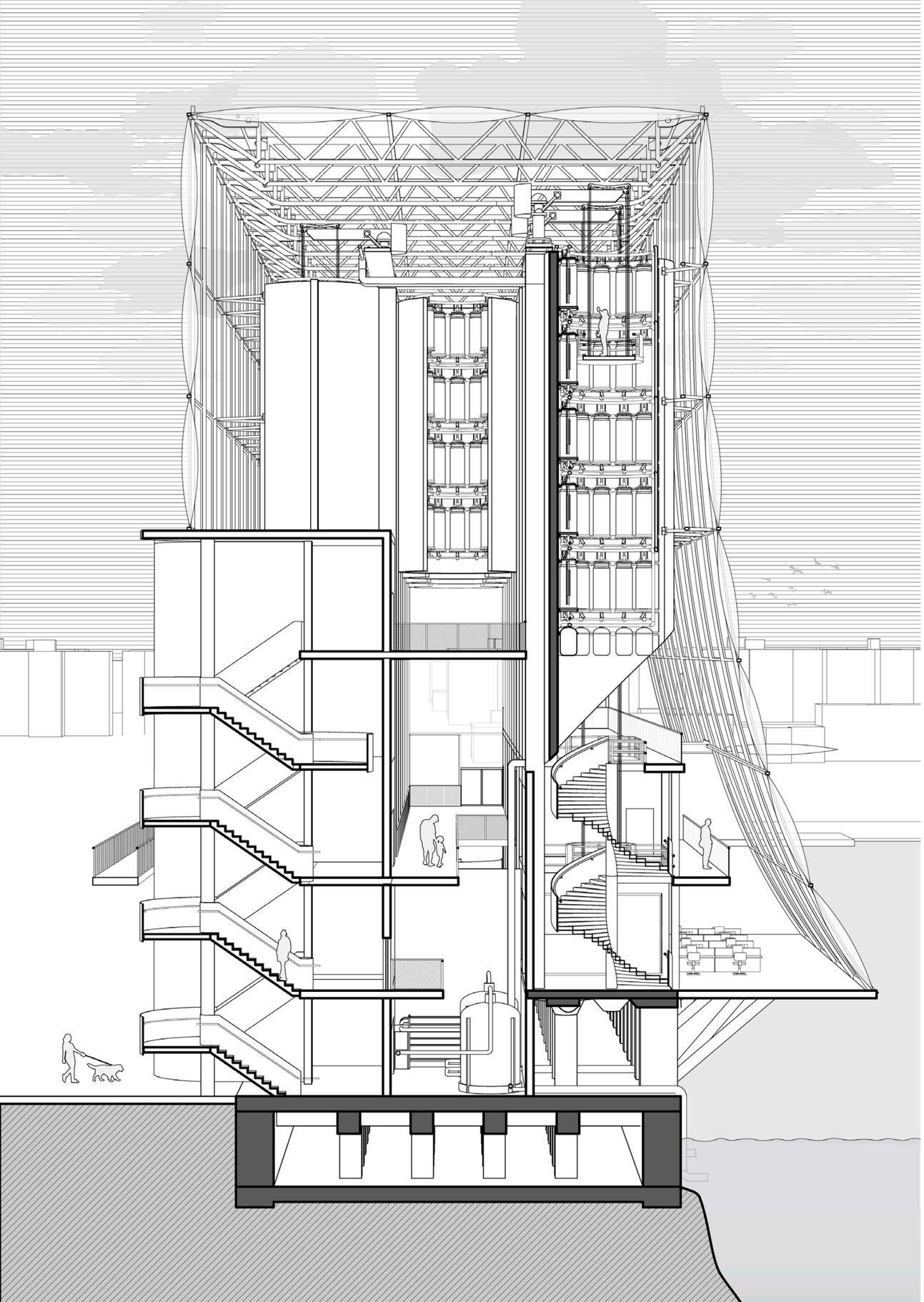
A quarter of the silo would be removed from the sun-facing side to allow photosythesis. Photobioreactors would be hung on the silo wall with brackets.

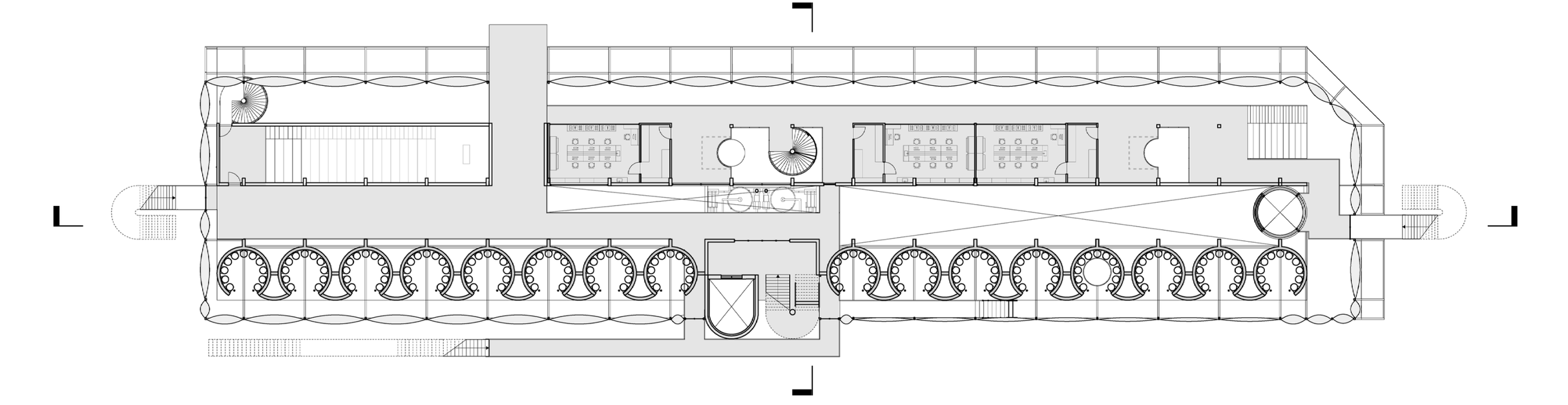


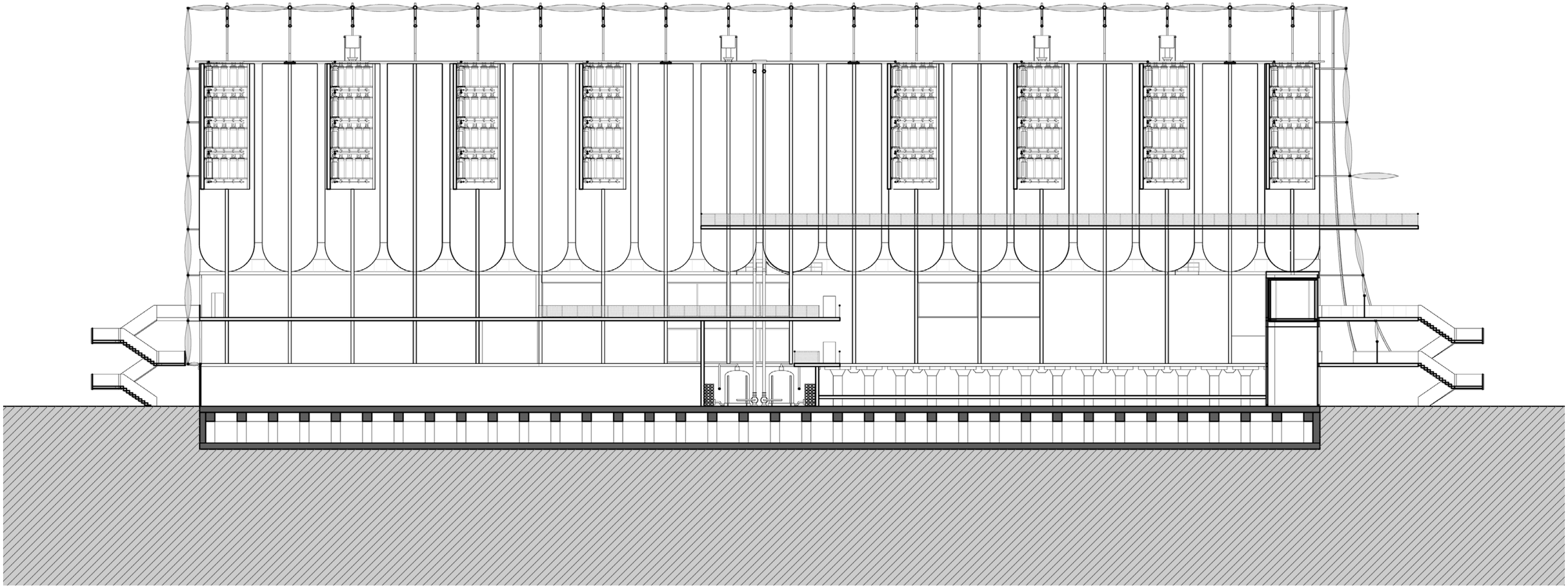
Research logistic

The algae culture tanks are situated right above a research area, where algae culture can be transported to efficiently with the use of a roof crane transport staff vertically.







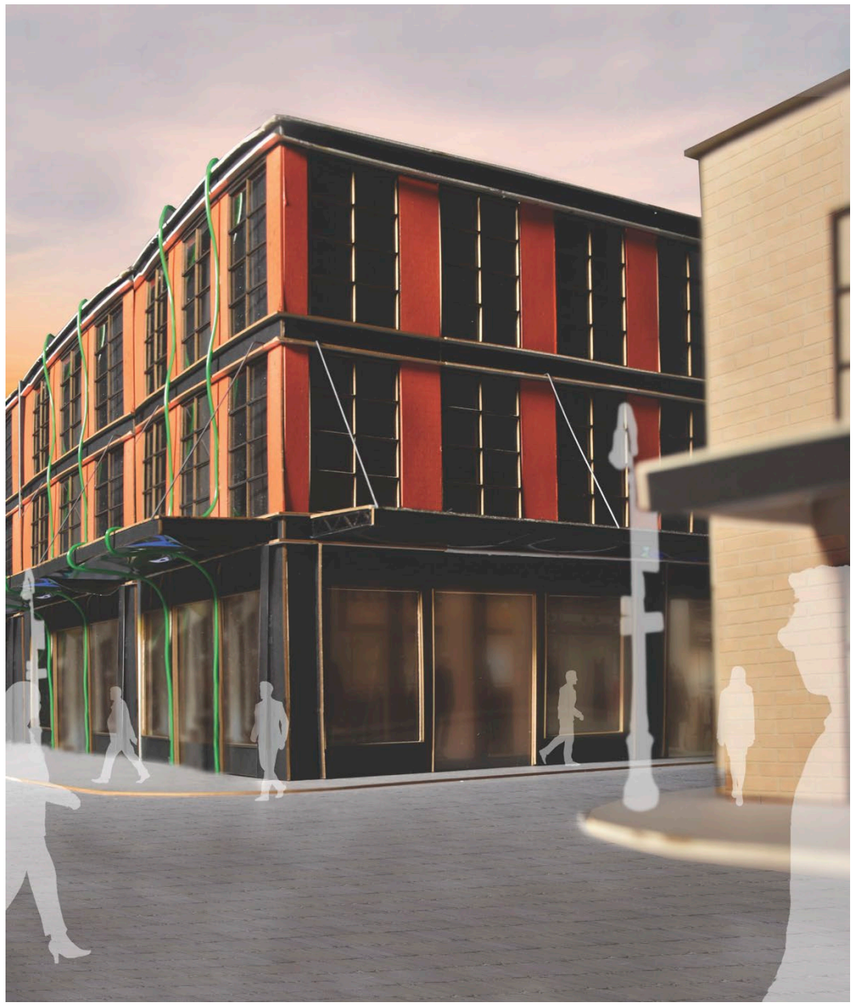


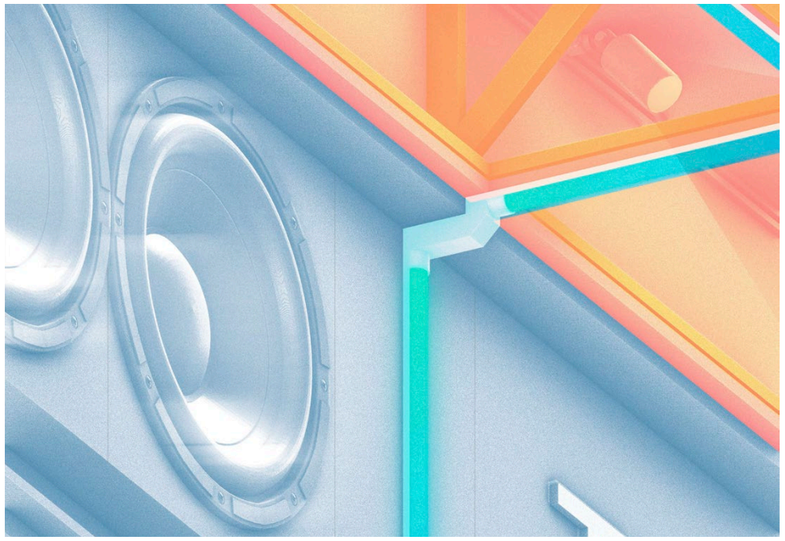
Urban Frequency

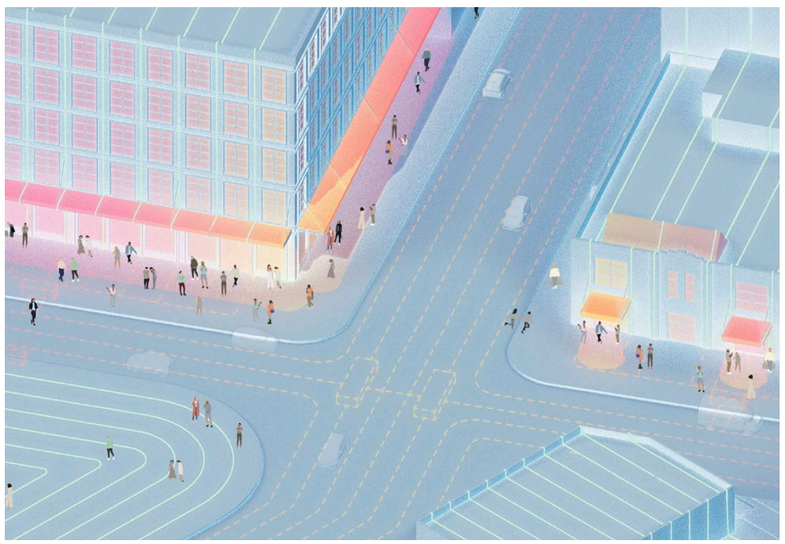
A Clubbing Intervention in Meatpacking District

Project type	Individual work
Location	New York City, U.S.
Supervisor	Amina Blacksher
Date	2022

Urban Frequency reimagines Manhattan's Meatpacking District as an open-air clubbing realm through a street-level intervention rather than a traditional architectural proposal. Rather than building anew, the project dissolves conventional spatial boundaries, embedding sound systems, lighting, and music interfaces subtly within existing storefronts. Sidewalks, alleys, and plazas transform into spontaneous dance floors, blurring the lines between nightlife, public space, and everyday urban life. By reprogramming the street into a site of rhythm and interaction, the intervention proposes a new typology of nightlife—immersive, decentralized, and fundamentally urban.





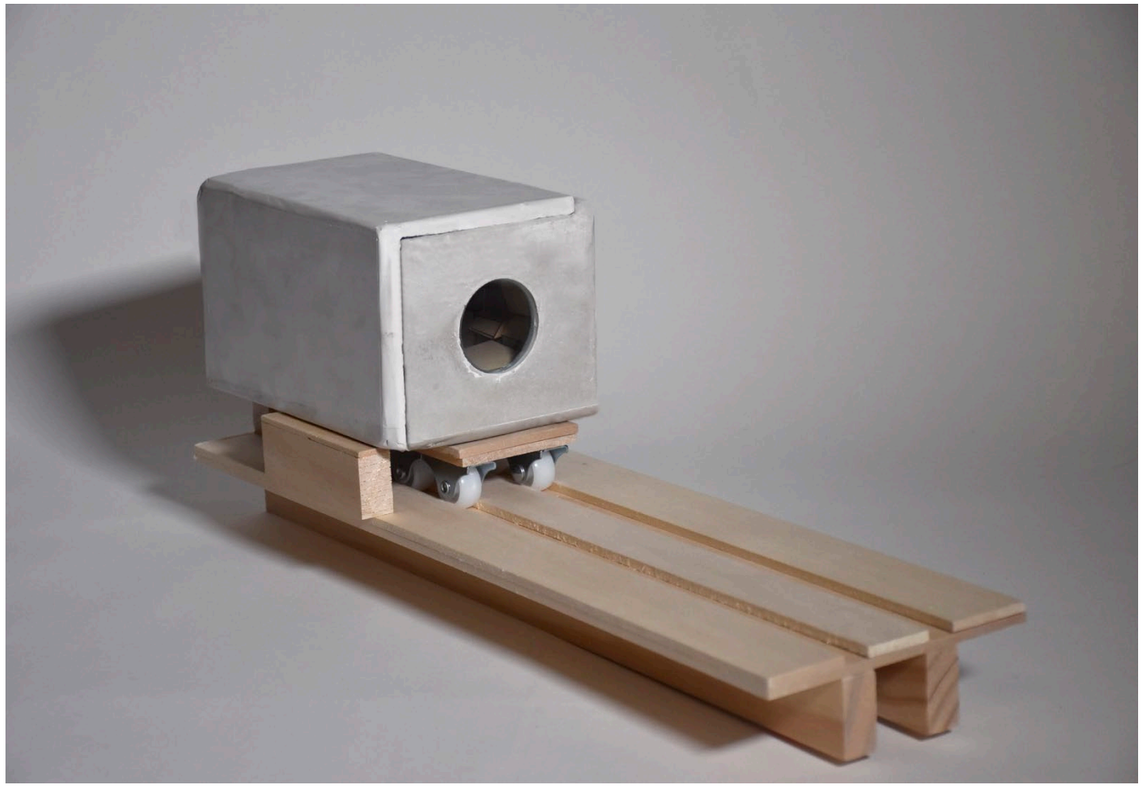


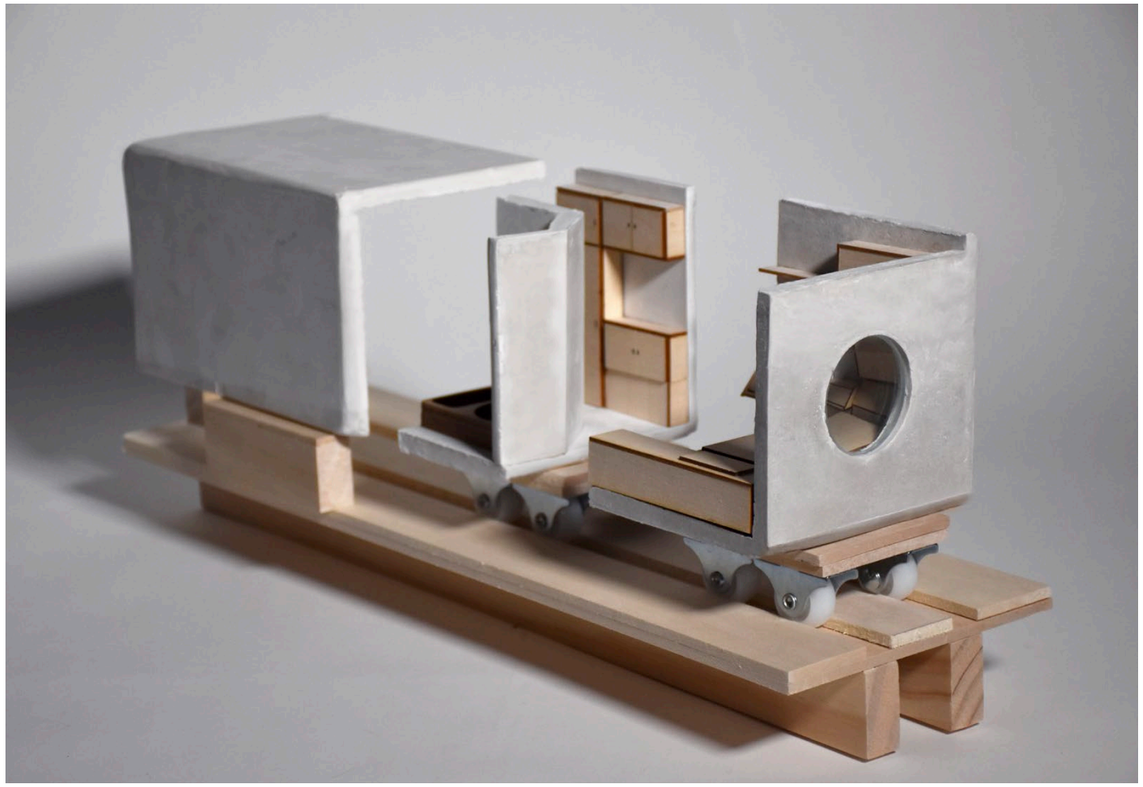
A Capsule

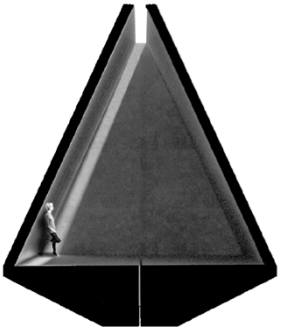
A Physical Model Built For Architecture Representation I

Project type	Individual work
Location	New York City, U.S.
Supervisor	Ray Wang
Date	2022

When thinking of the Nakagin Capsule Tower we can usually imagine the tower as a whole building, little do we fully conceive the ideaology of metabolism and the actual stories hidden behind these comfined unit. The two features I want to explore through this model are materiality and interior. The materiality is expressed by the contrast between cold and warm, which are essentially concrete and timber. Whereas the interior is demonstrated with a exploded way on a timber-made track which makes this model interactible.







THANK YOU

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