

Portfolio

Redefining Architecture : New Typology



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GSAPP Master of Science, Advanced Architectural Design

2023 - 2024



My design philosophy is to propose a new form by adding or multiplying creative values inside and outside of buildings. This creates a new type of architecture, and under various conditions, newly defined architecture leads to an unimaginable unique design and public values in the urban system. To me, this is called 'New Typology'.

The direction of the design set through various research is logical and powerful. The powerful and enjoyable spatial design born in this process has aesthetic values and becomes an organism in the city.

Concept, space, and structure, I believe that architecture can be completed only when these three things are grouped in the same context. My belief is that these integrated elements work in harmony to create my unique architecture, which is my design motto.

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Housing + Community Garden

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Museum + Political issues

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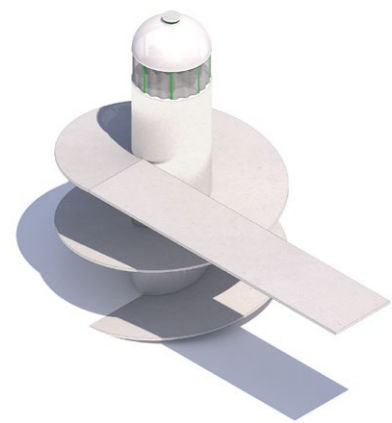
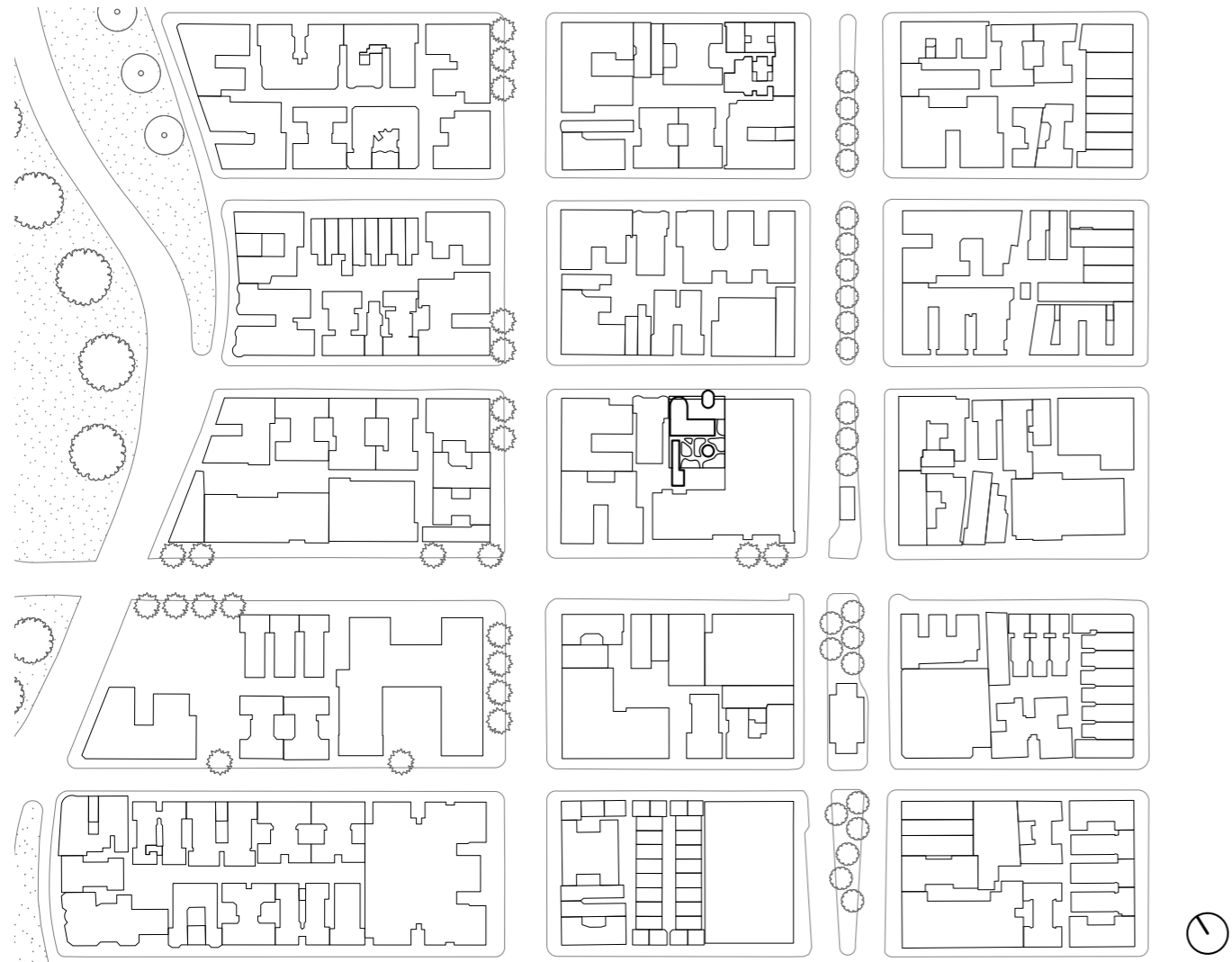
05. Seedbomb-Porous Nest



01. Casa Verde: Gardens for everyone

Year/School Spring 2024 / Columbia GSAPP
Tutor Hilary Sample
Location 250 W 97th St, New York, NY 10025
Type Housing, Community Garden,
Tool Rhino, Auto CAD, Vray, Photoshop, Illustrator
Role Individual Work

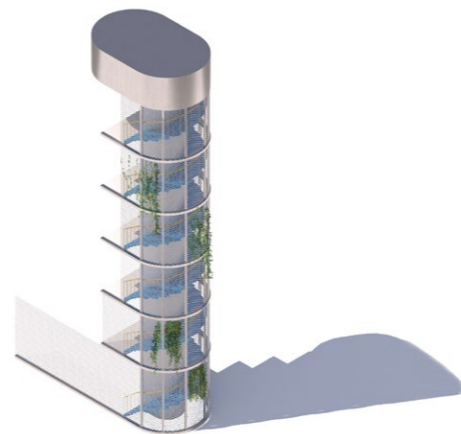
"How do the various objects and structures in 'Lotus Garden' contribute to the ecological and aesthetic cohesion of the garden space?"



Parking ramp incubator



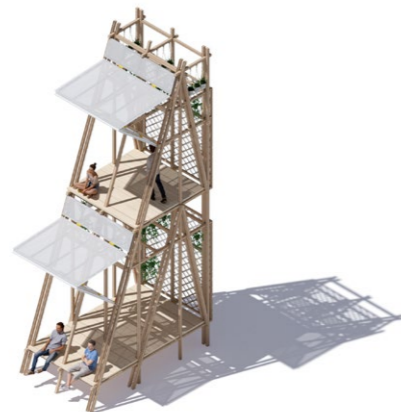
Detail: Incubator



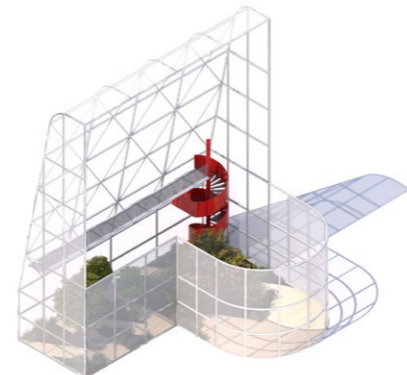
Plant climbing center: Core



*Community Shed
-Single-*



*Community Shed
-Double-*

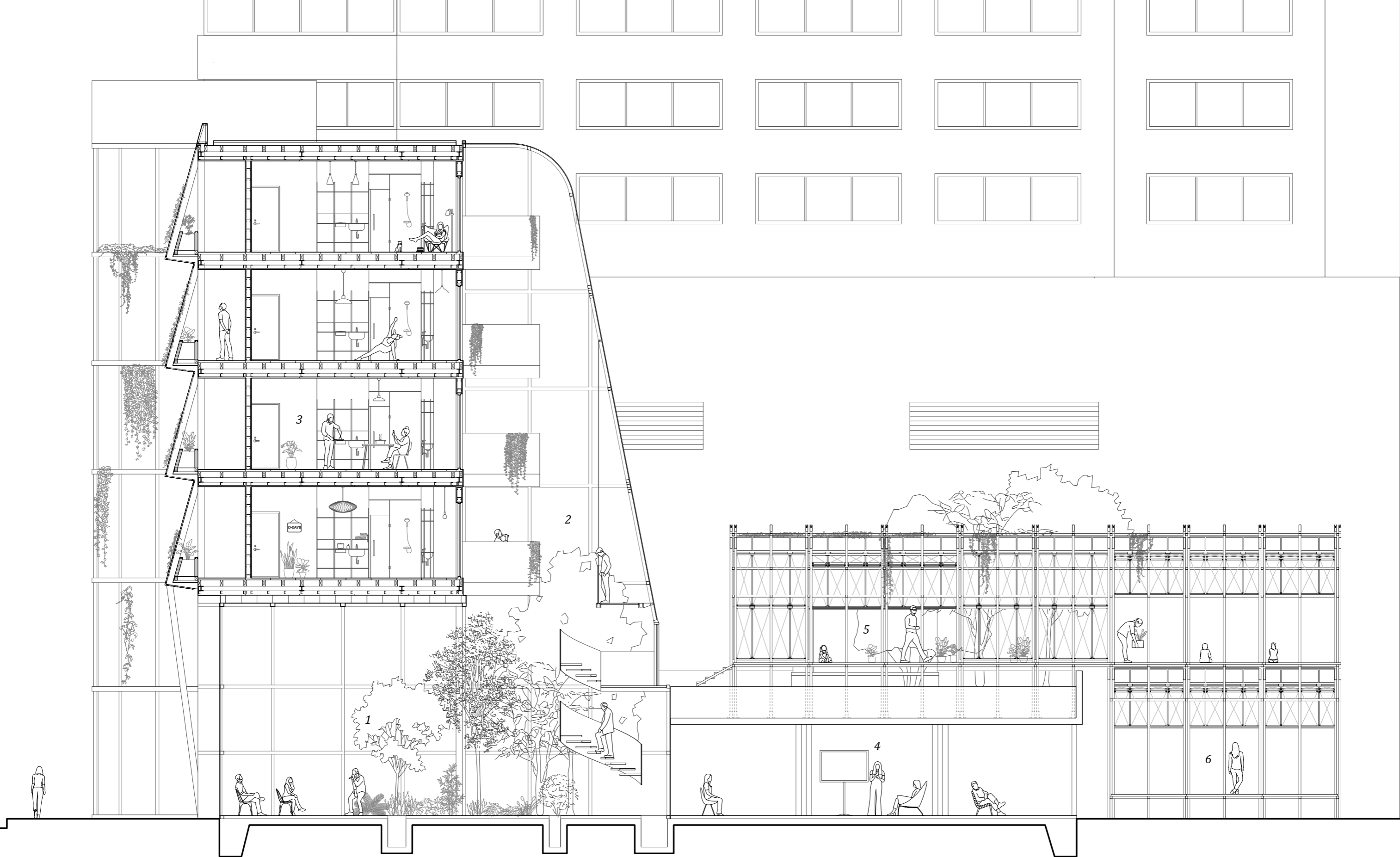


Greenhouse



New York's community gardens have been beloved urban public gardens since the 1970s. One such garden, Lotus Garden, was established where a condominium now stands, which was previously the site of three different theaters. The garden uses the first floor for parking and the second floor as the community garden, making it difficult for the elderly or those with disabilities to access.

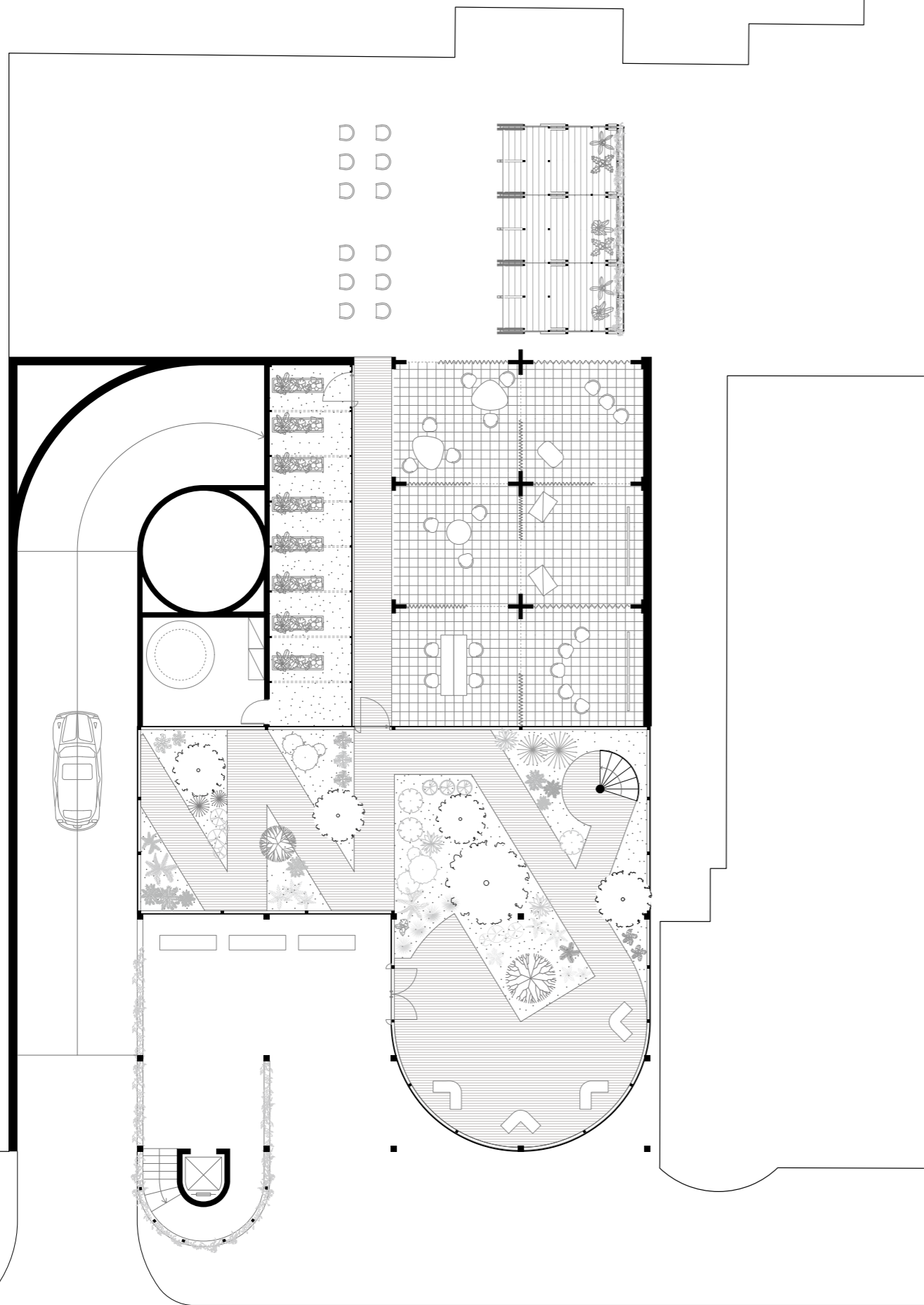
In Lotus Garden, various objects made elsewhere are installed among different types of plants. These objects include structures for plants and shelters for insects and birds, interacting with the garden's ecosystem in various ways. Using the characteristics of these objects, the site incorporates community gardens, performance spaces, and residential areas, linking these different programs through such objects to form a new network.



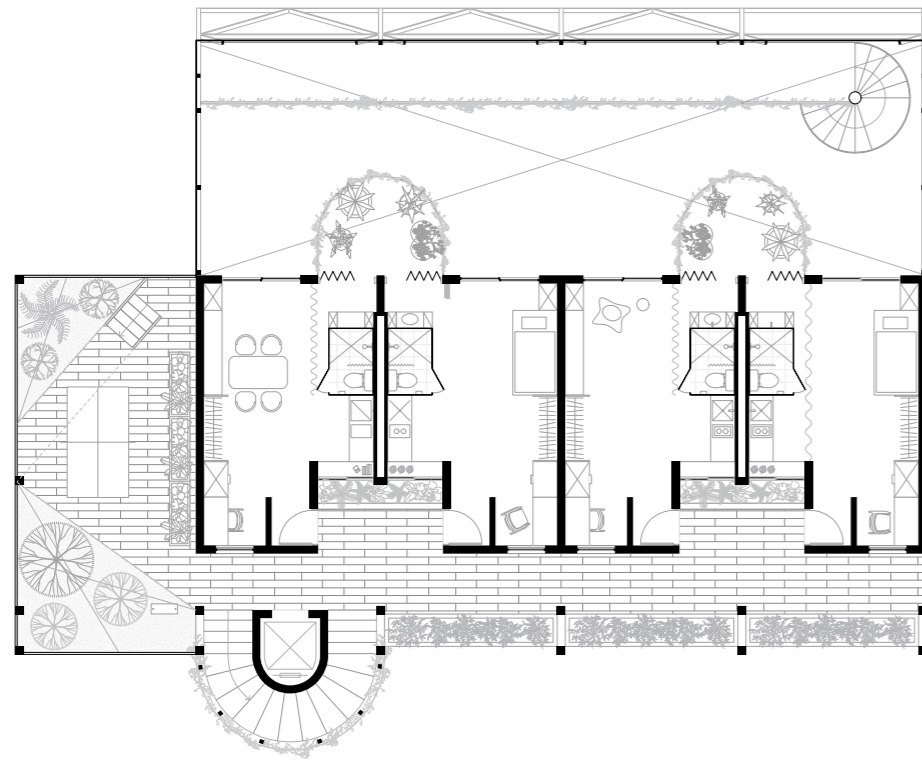
1 *Circular greenhouse stage*
 2 *Greenhouse*
 3 *Housing for gardeners*

4 *Performance training center*
 5 *Community shed*
 6 *Outdoor movie stand*

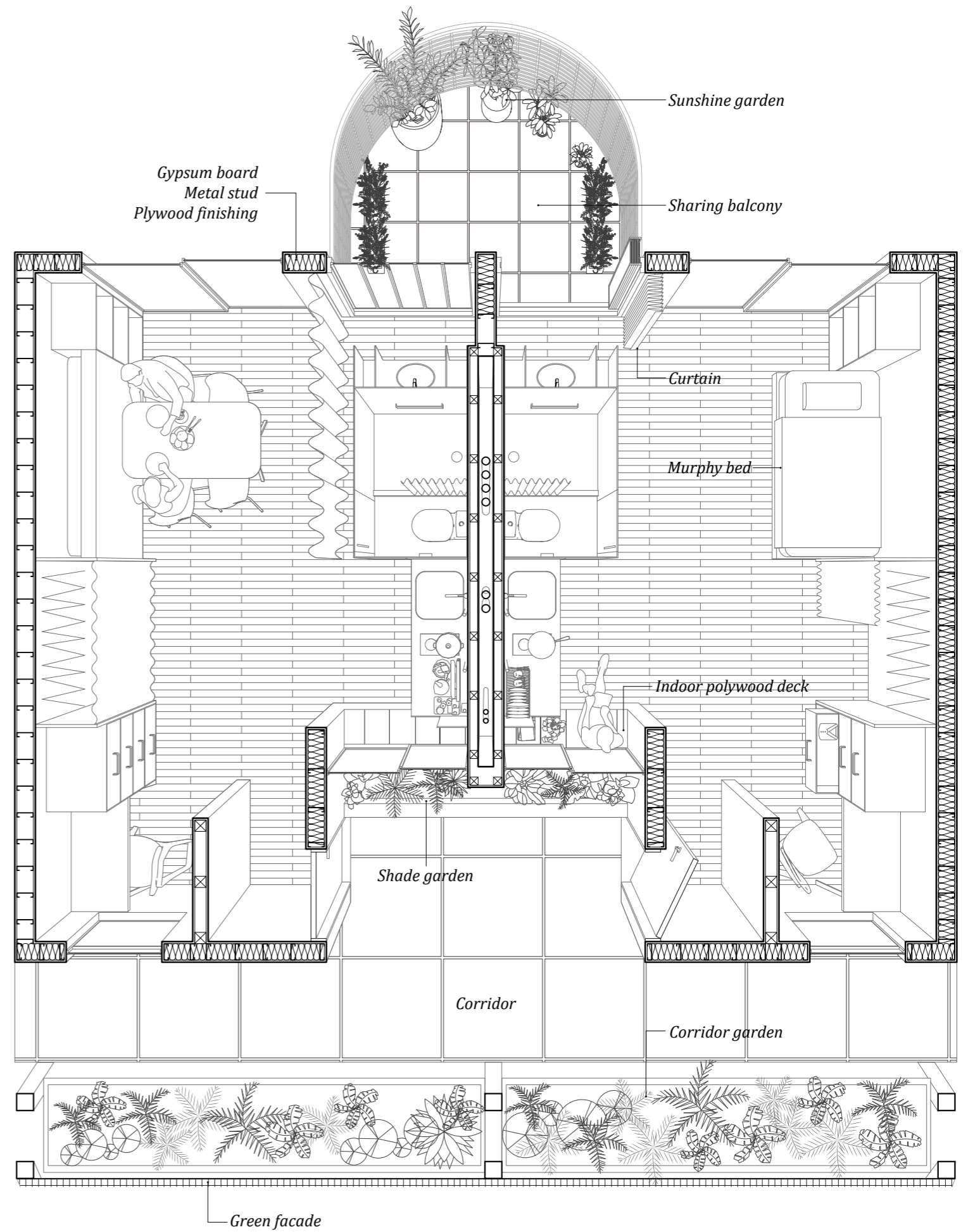
Each object interacts with others, thereby enhancing the significance of the traditional community garden. On the ground level, people can see a greenhouse at street level, as well as performances. Housing includes balconies shared with the greenhouse space, ensuring fresh air is always available. The parking lot under the garden area has been converted into a practice space for performers. Additionally, the wooden structures above the garden serve as a community platform where hanging plants can thrive.



At the building's entrance, three different materials are visible. The facade is made of fences, which are covered by climbing plants like English Ivy. The greenhouse, located behind the housing section, is visible from the entrance and serves as a platform for small performances. Residents use corridors that connect to the exterior, but their privacy is protected thanks to a mesh facade. Additionally, planters installed on the facade help greenify the building.



Sixteen units share the greenhouse and garden with the public. The housing area receives southern sunlight, while the corridor side faces north. To create a green facade and a hobby space for residents, a shade garden connected to the kitchen has been developed in the corridor. In contrast, the balcony is suitable for growing sunlight-friendly plants. Residents can share the balcony space, which fosters interaction through gardening.







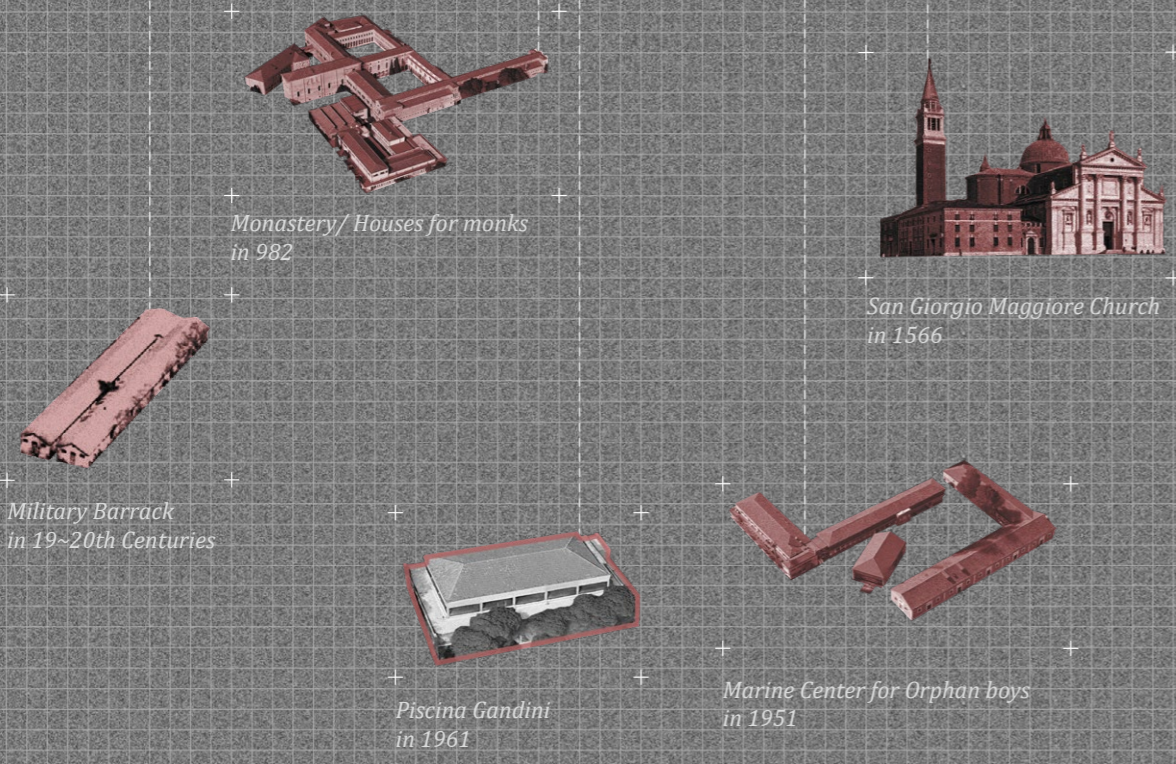
02. Museo of Water : Who owns the water?

Year/School	Fall 2023 / Columbia GSAPP
Tutor	Jorge Otero-Pailos, Mark Rakatansky
Location	San Giorgio Maggiore Island, Venice, Italy
Type	Museum
Tool	Rhino, Vray, Photoshop, Illustrator
Role	Individual Work, Adaptive Reuse

“ How to display when the water had been discriminated by the gender and social class? ”

“How each exhibiting space can be designed for each object? ”

San Giorgio Maggiore Island: the historical layers lop-siding to men



Monastery/ Houses for monks in 982

San Giorgio Maggiore Church in 1566

Military Barrack in 19~20th Centuries

Piscina Gandini in 1961

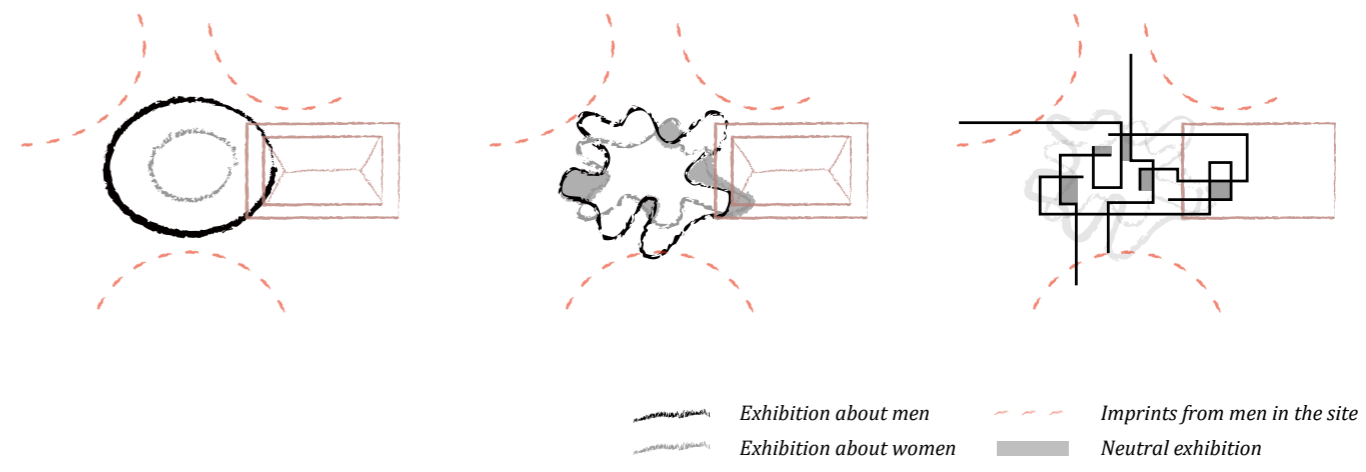
Marine Center for Orphan boys in 1951

Every building on the island was designed for only men. For example, the island had been a Monastery for several centuries, and a military center to train marines.

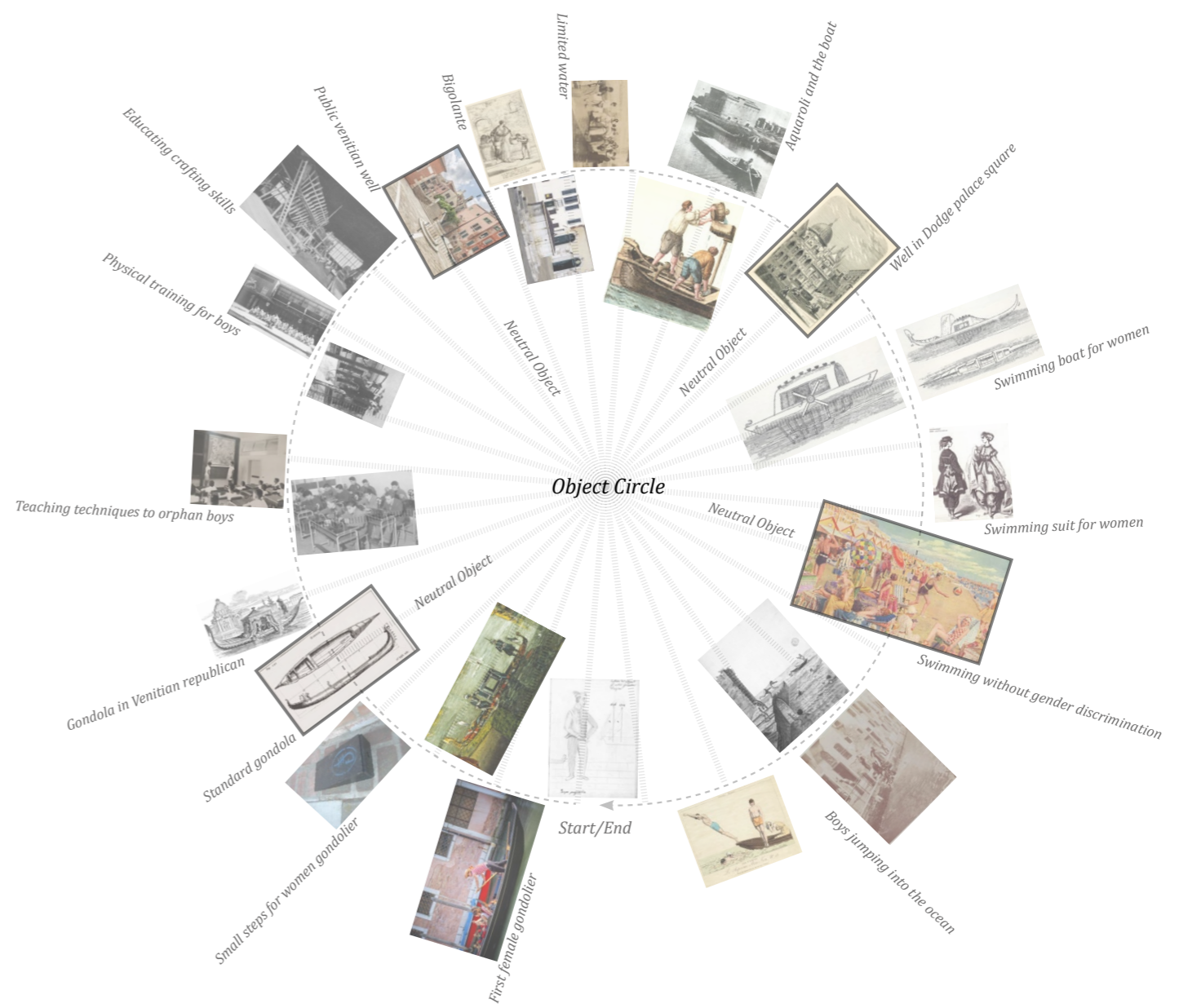
'Piscina Gandini', the first indoor swimming pool in Venice and project site, was built for the boys who needed to practice swimming as future marines.

- Buildings for men : Demolished
- Buildings for men : Existing
- Piscina Gandini

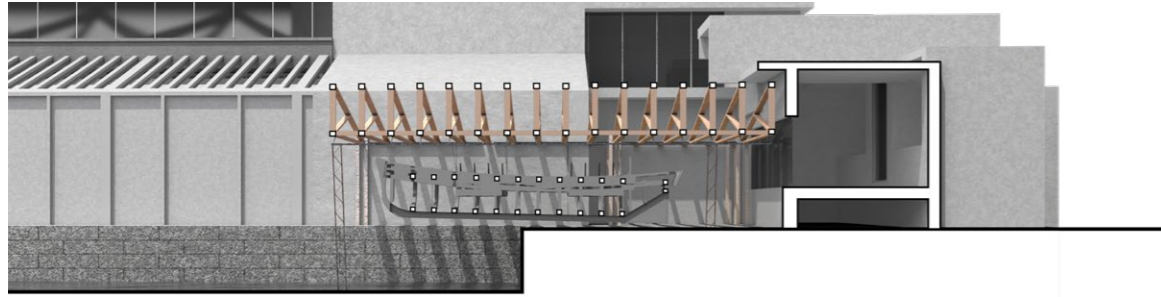
Interlocked design, not just linerly displayed



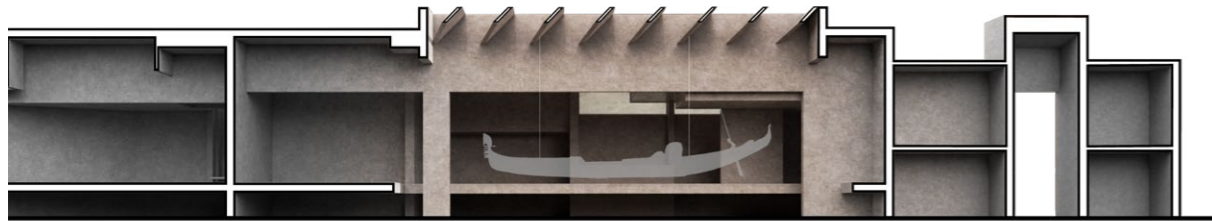
'Piscina Gandini' and 'San Giorgio Maggiore Island' are surrounded by historical layers only for men. I propose the notion, of 'interlocking', for the gender exhibition about water history, responding to the geopolitical logic as well. 'Interlocking' means that the exhibitions of women and men are not contrasted and displayed, but the two must be mixed, and when they are mixed, they can be a more equal position. Therefore, they get entangled with each other, and the in-between space is placed with a neutral exhibition.



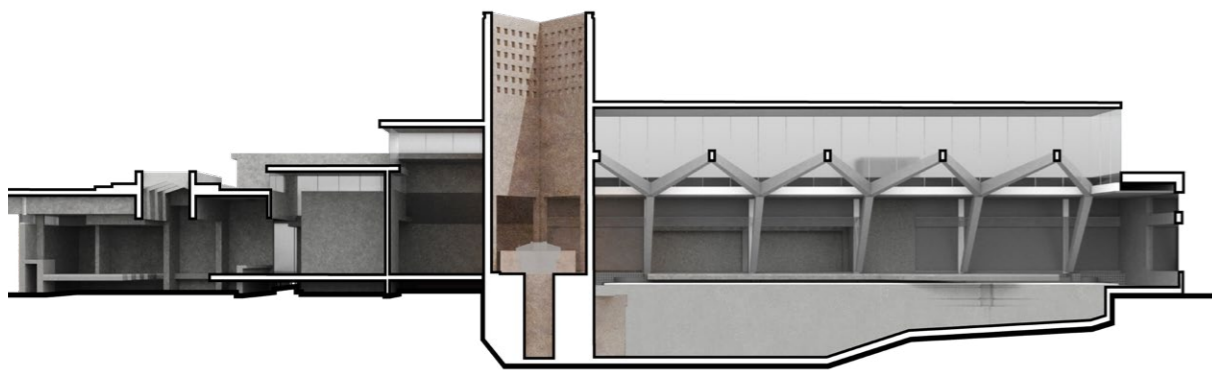
Differences in displaying objects between genders



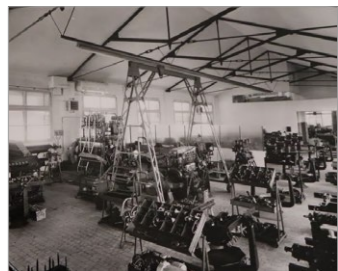
Men's Object : Crafting ship



Neutral Object : Gondola



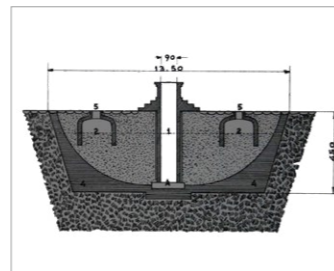
Women's Object : Venetian well



Crafting ship



Gondola



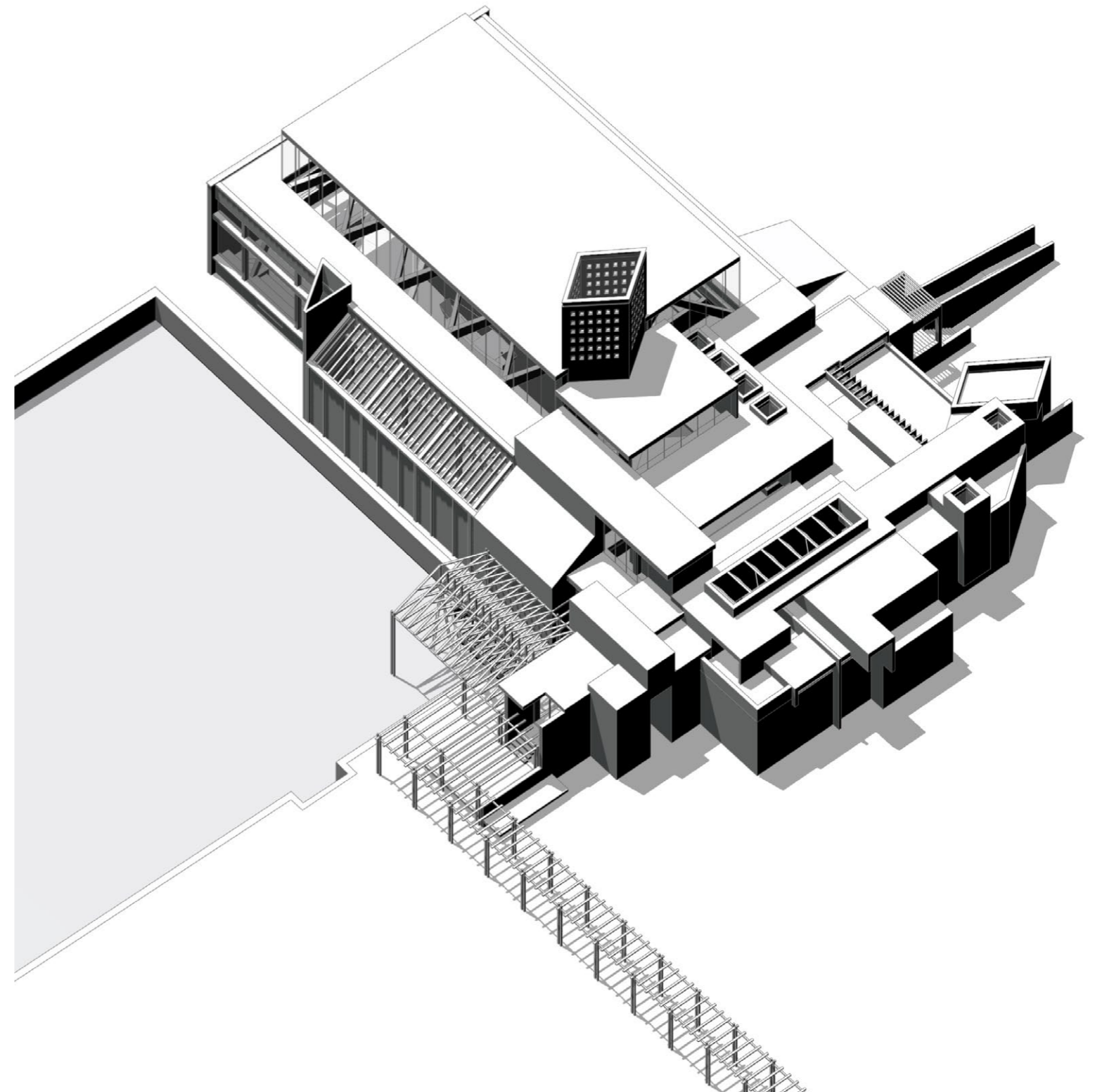
Venetian well

The spatial hierarchy that separates men and women is distinguished by the way they are displayed. Exhibits of men who went out to sea or freely lived outside are fixed with light structures like small trusses or steel structures, on the other hand, women's exhibits are limited like their history, so they were embedded in heavy structures.

"Exhibitions about gender cannot be discriminated"

"Each object has its value and needs its own space with its property"

"Spatial and structural interlocking enables the binding of different narratives into one"





Structure from Marine center

Clothes from marine center

Engine from marine center

Gondola

First woman gondolier statue

Boatman statue

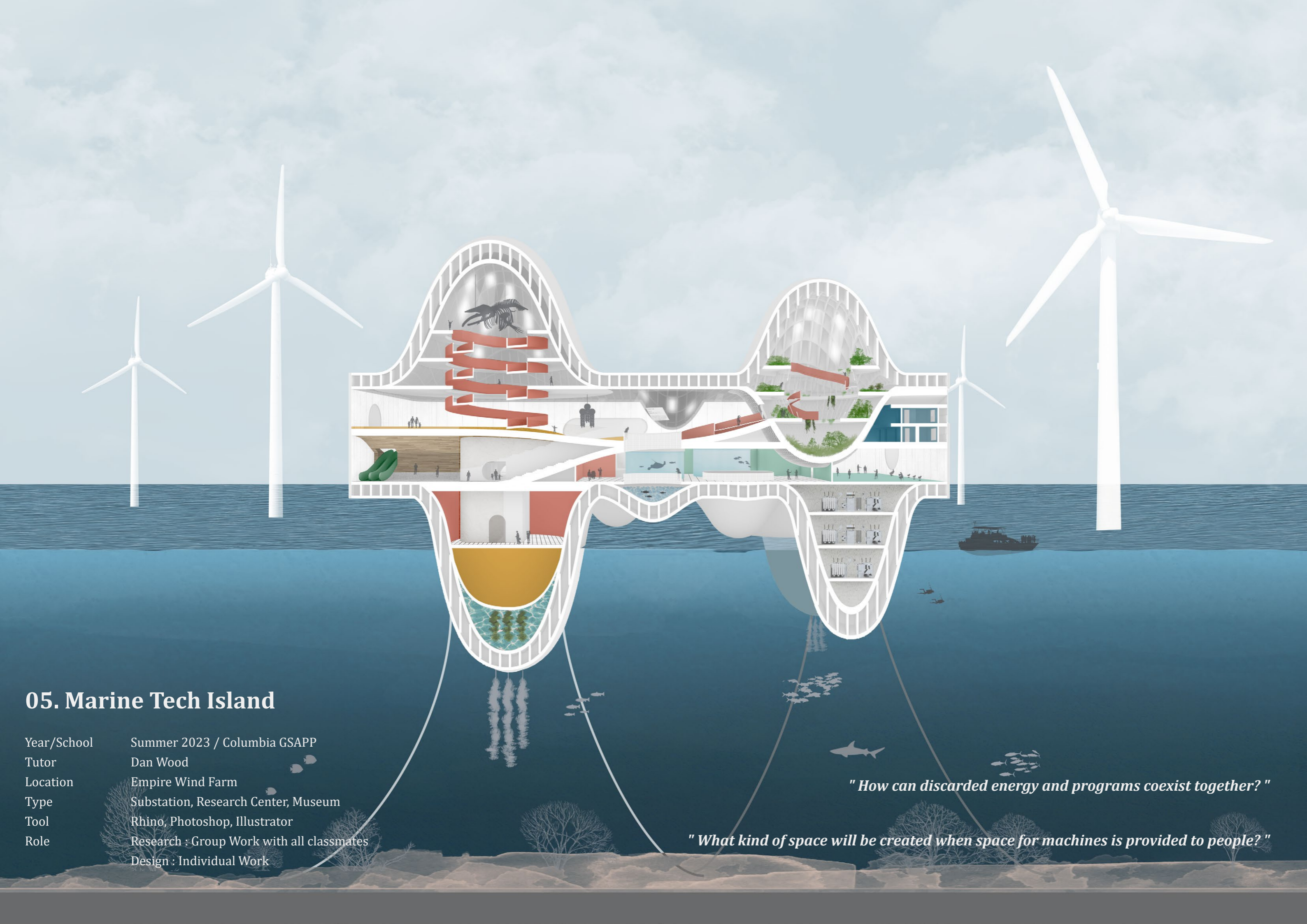
Black boatman statue

Neutral exhibition : Swimming

Seawater in the pool

Existing Swimming pool

- 1 Entrance
- 2 Main hall
- 3 Coat check
- 4 Gondola (men)
- 5 Gondola (women)
- 6 Education (men)
- 7 Freshwater (women)
- 8 Freshwater (neutral)
- 9 Swimming (men)
- 10 Swimming (women)



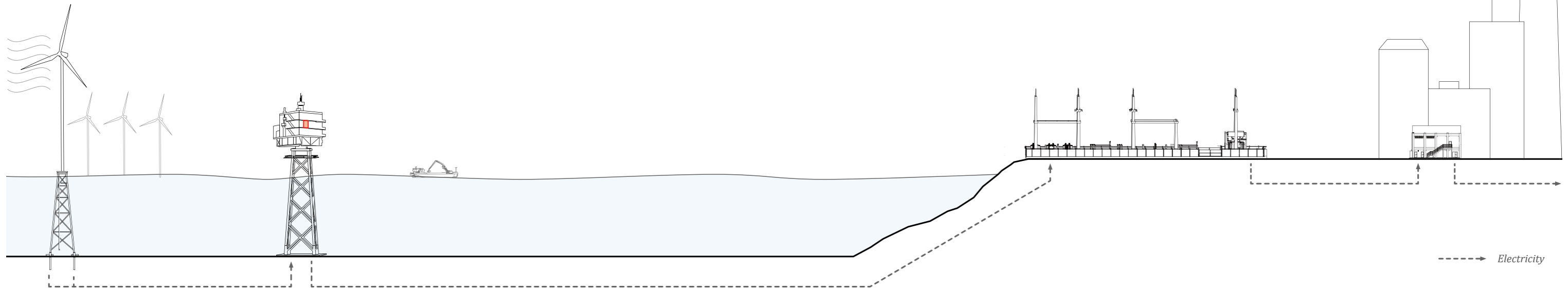
05. Marine Tech Island

Year/School Summer 2023 / Columbia GSAPP
Tutor Dan Wood
Location Empire Wind Farm
Type Substation, Research Center, Museum
Tool Rhino, Photoshop, Illustrator
Role Research : Group Work with all classmates
Design : Individual Work

" How can discarded energy and programs coexist together? "

" What kind of space will be created when space for machines is provided to people? "

What if the cultural space can be shared with the offshore substation?

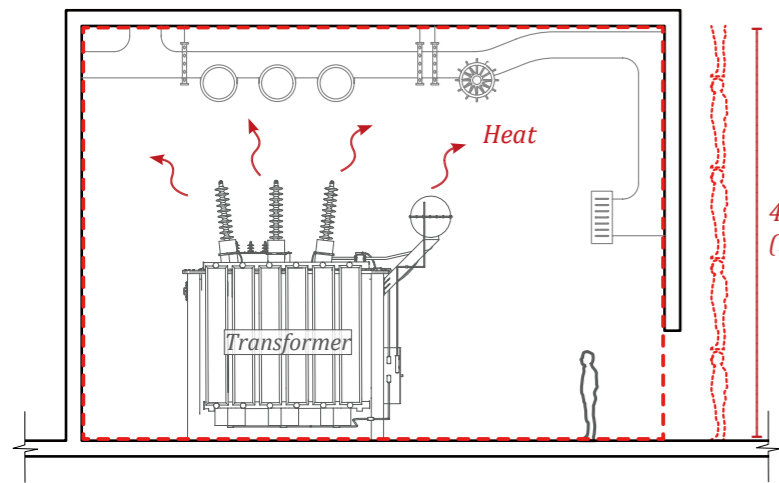


Windfarm
 H : 460ft
 - Generate the electricity from the strong offshore wind

Offshore Substation
 H : 98ft
 - Make high voltage to send the electricity to the land

Onshore Substation
 H : 65ft
 - Lessen the voltage for safely sending to the substation

Urban Substation
 H : 60ft
 - Distribute the electricity to the buildings



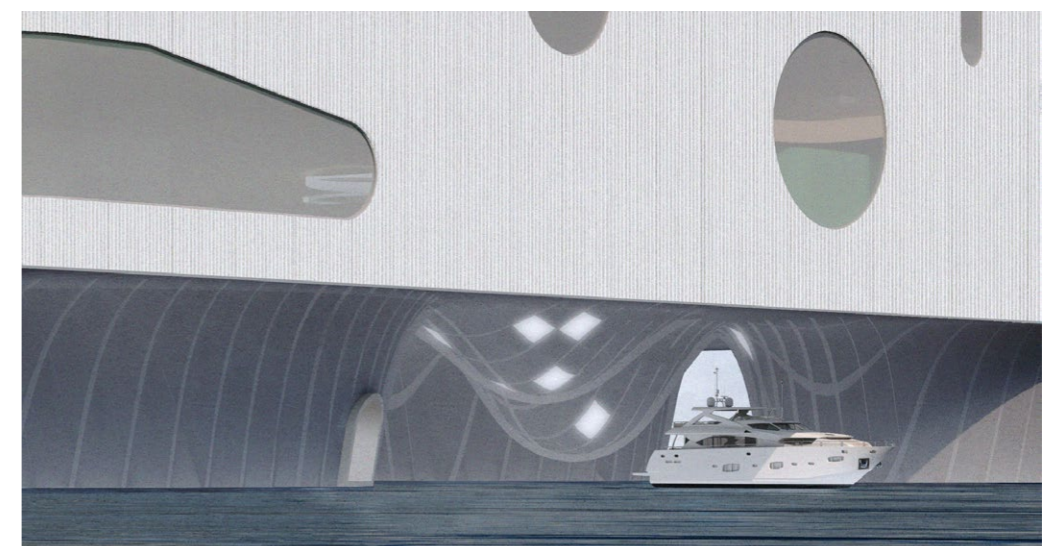
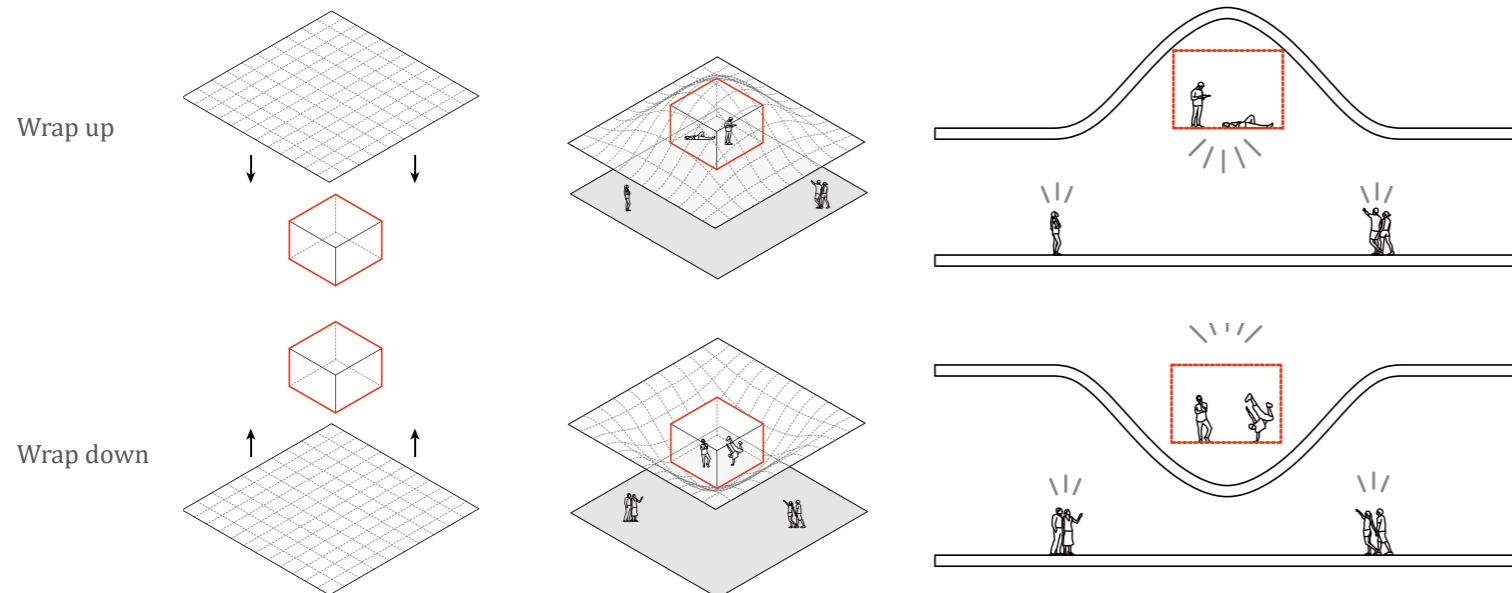
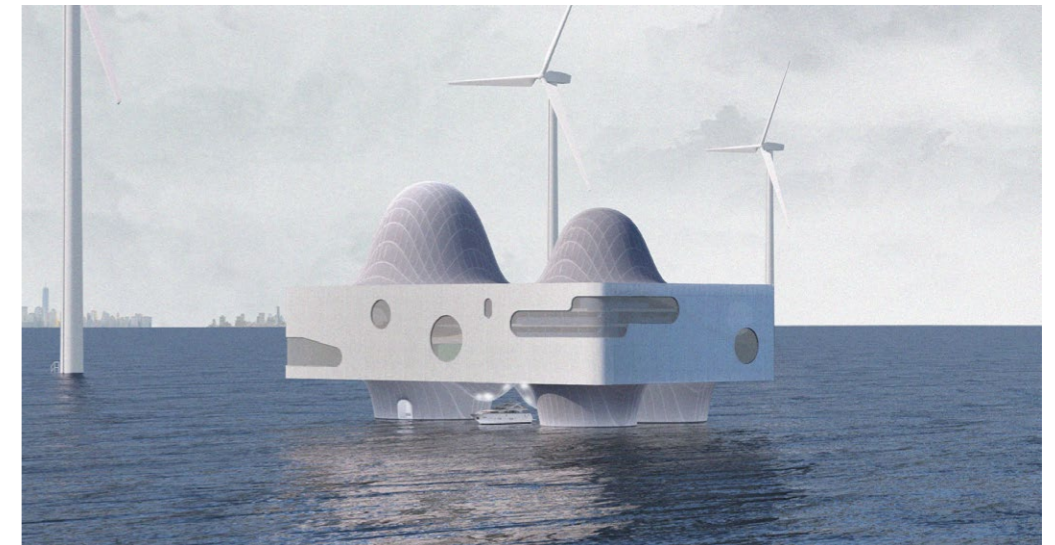
Mechanical room of the offshore substation

4.5 Human
 (19~21 ft)

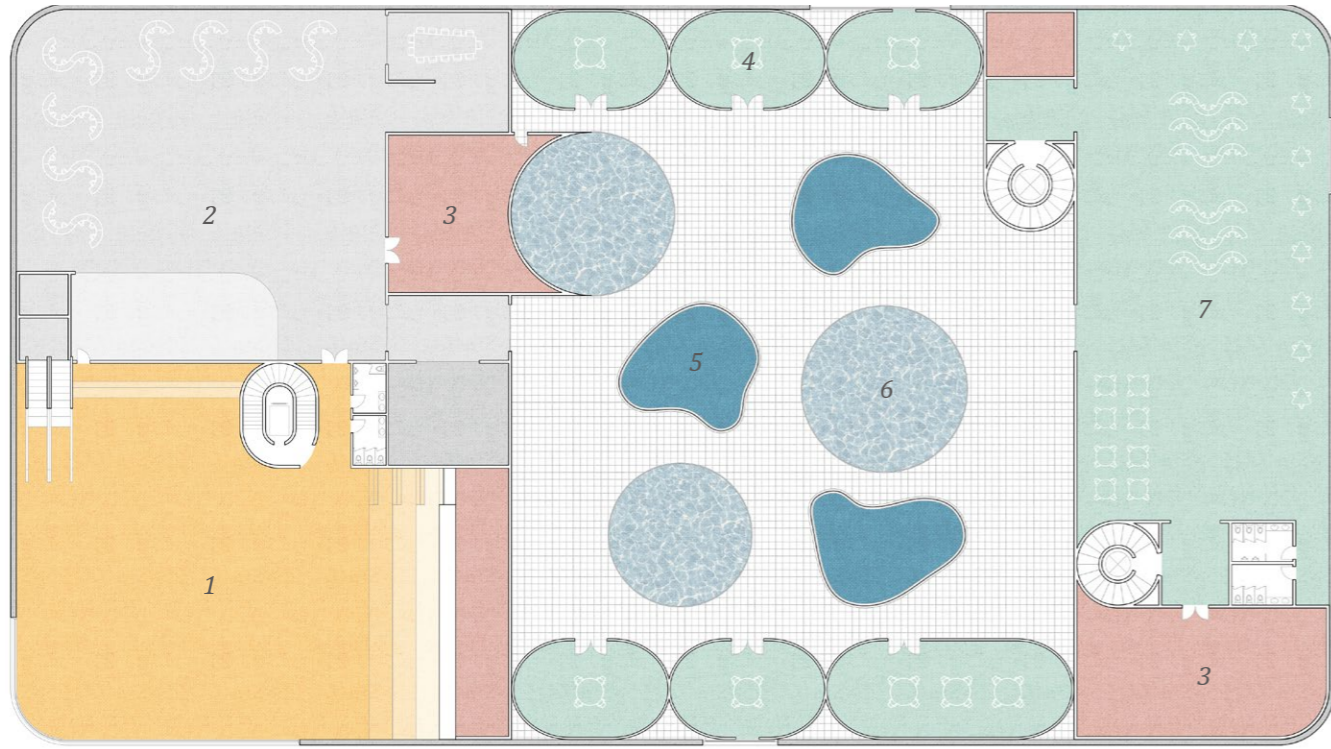
Marine-tech Island started from the idea that the space for mechanical devices transferred to the space for the public. Since the existing offshore substation is for machines, the available space is limited compared to the large scale, and it is difficult for the public to easily access it due to a lot of heat from the transformers.

Each program has a space created by wrapping a large space, and a huge scale of space is provided to people.

The curved shape creates space boundaries and serves as a knowledge cluster on the sea as an artificial island floating on the site.

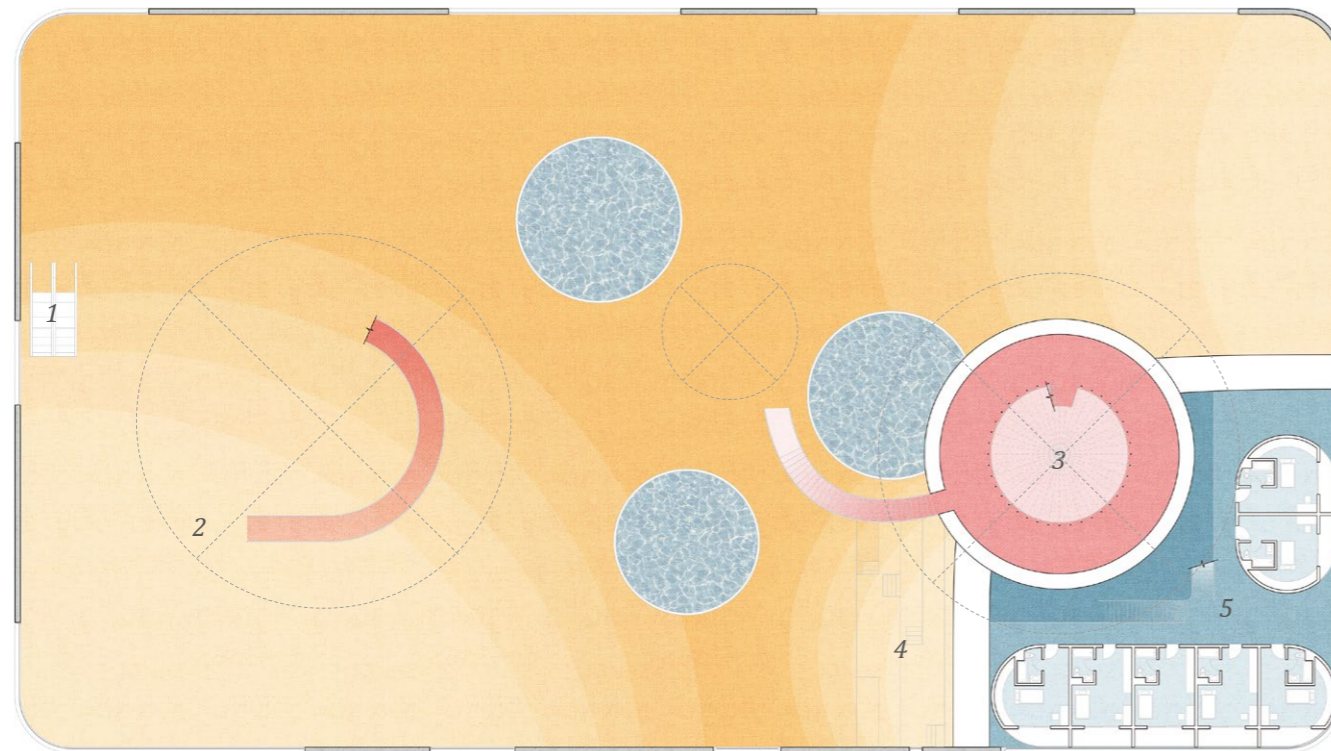
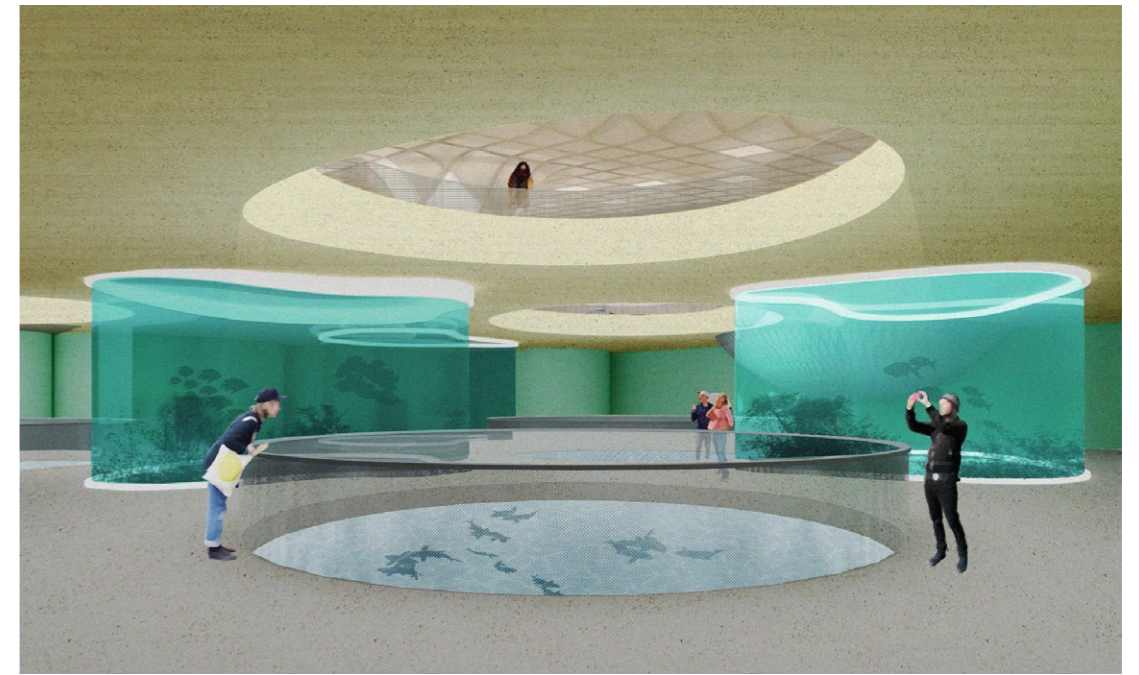


Entrance and Underpart of Marine-tech Island



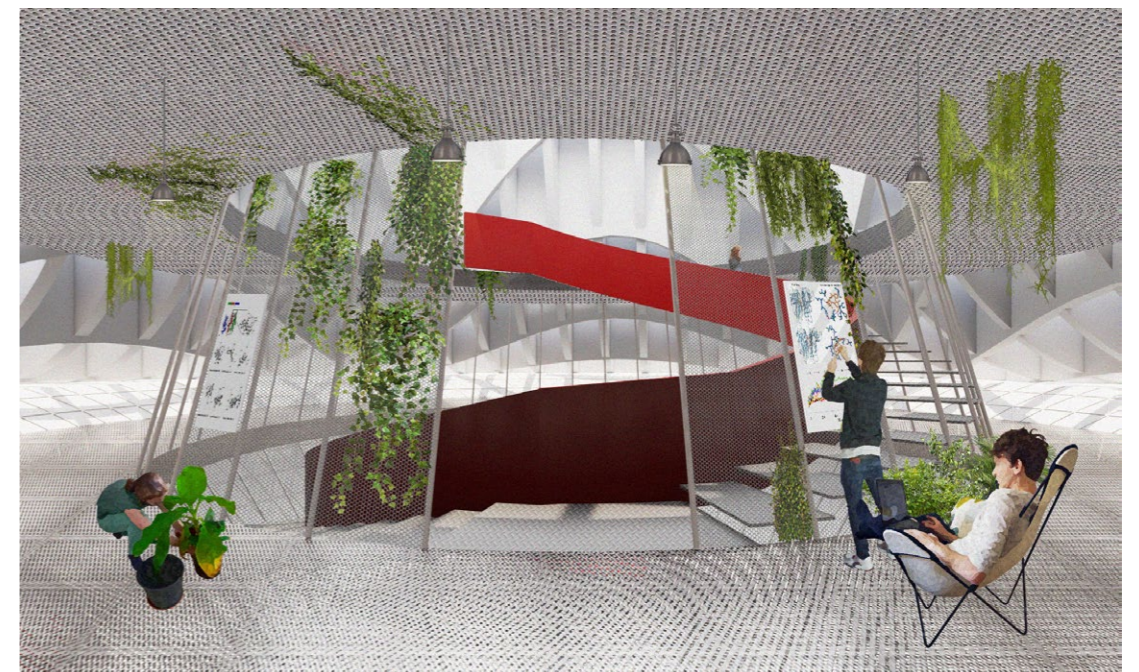
Second Floor Plan

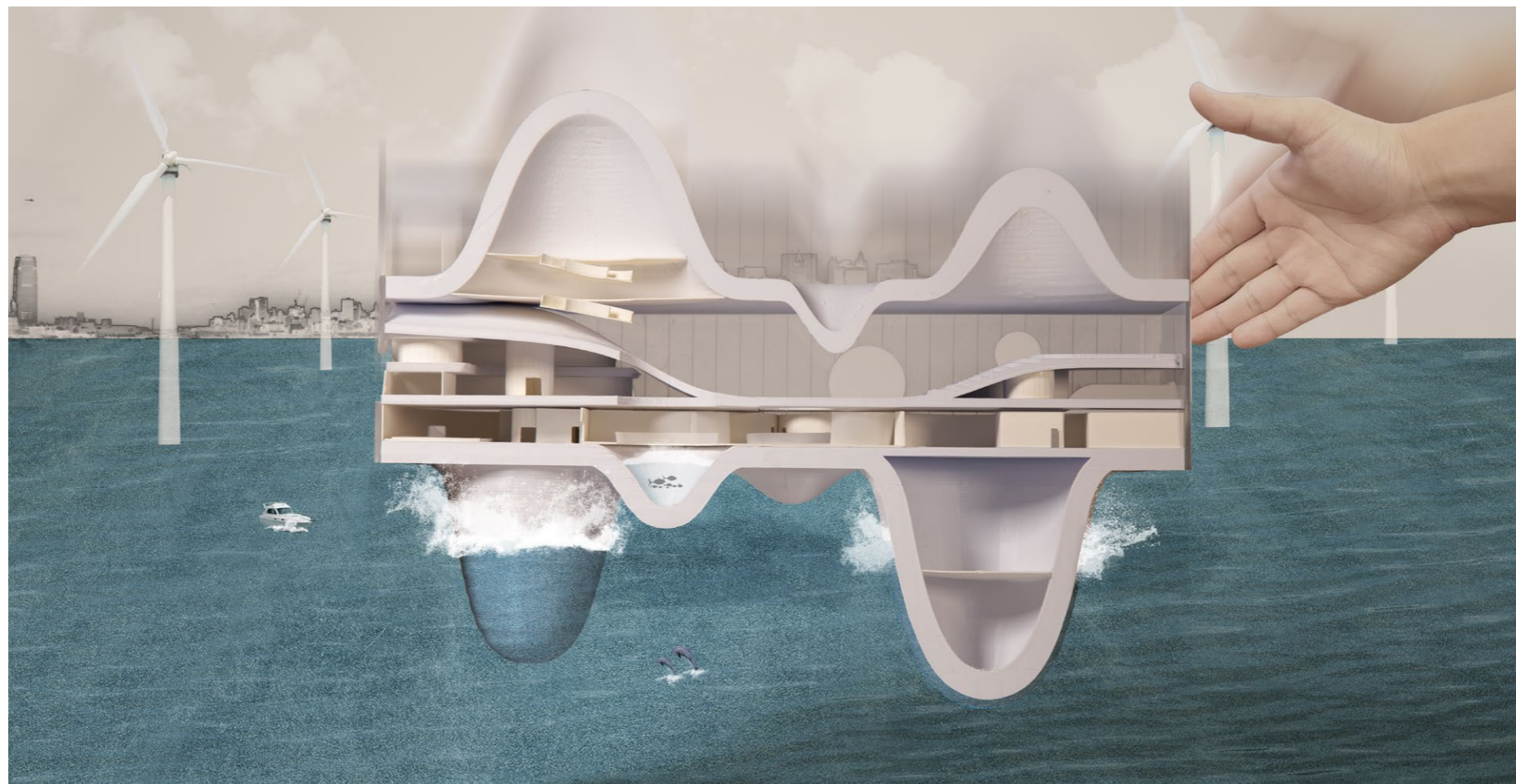
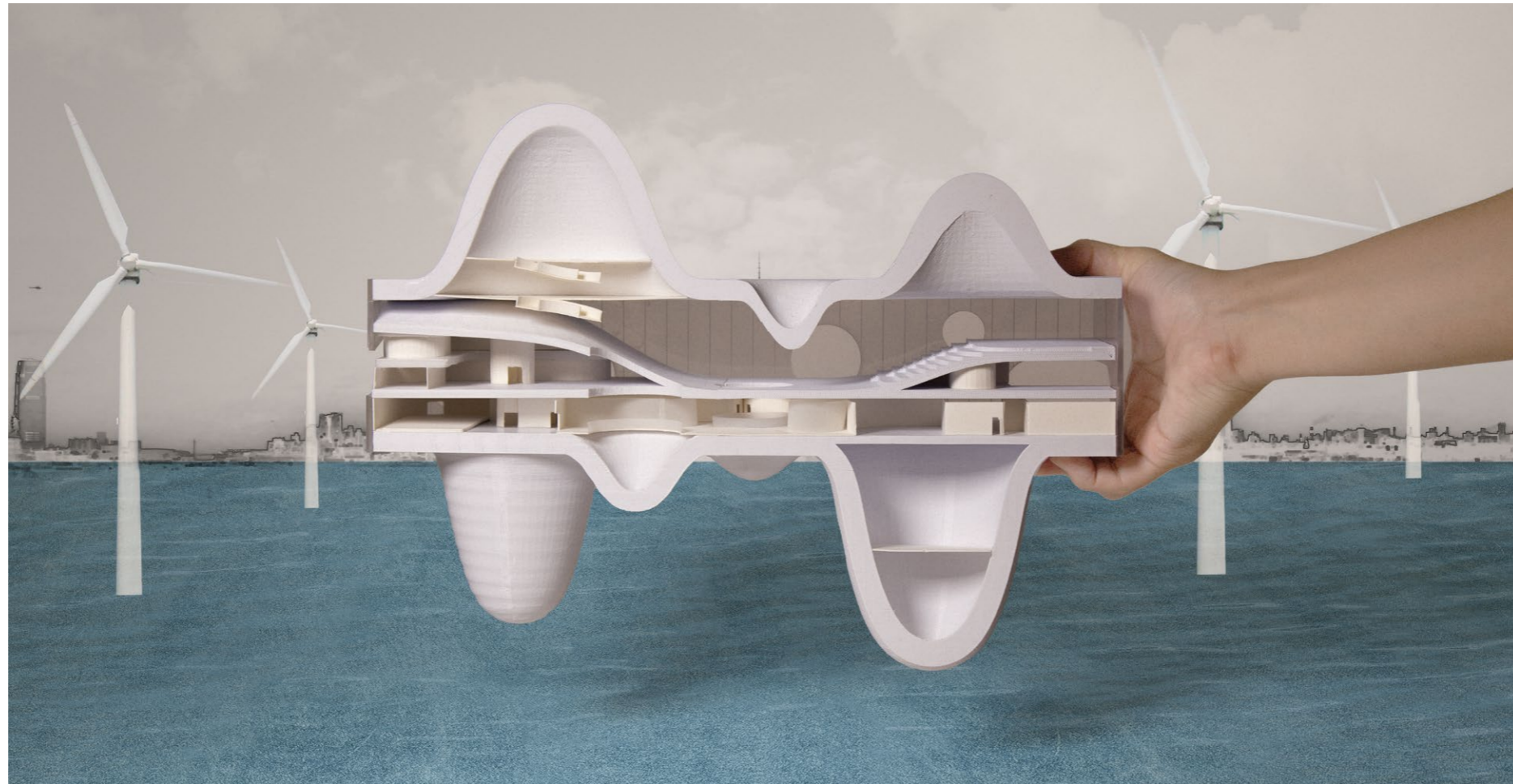
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|---|-----------------------|---|-----------------------|
| 1 | Maritime museum lobby | 5 | Aquarium |
| 2 | Museum office | 6 | Fish farm |
| 3 | Mechanical room | 7 | Marine ecological lab |
| 4 | Laboratory | | |



Third Floor Plan

- | | | | |
|---|-----------------------------------|---|--------------|
| 1 | Escalator | 4 | Open library |
| 2 | Ramp for deep-sea fish exhibition | 5 | Dormitory |
| 3 | Future green species exhibition | | |



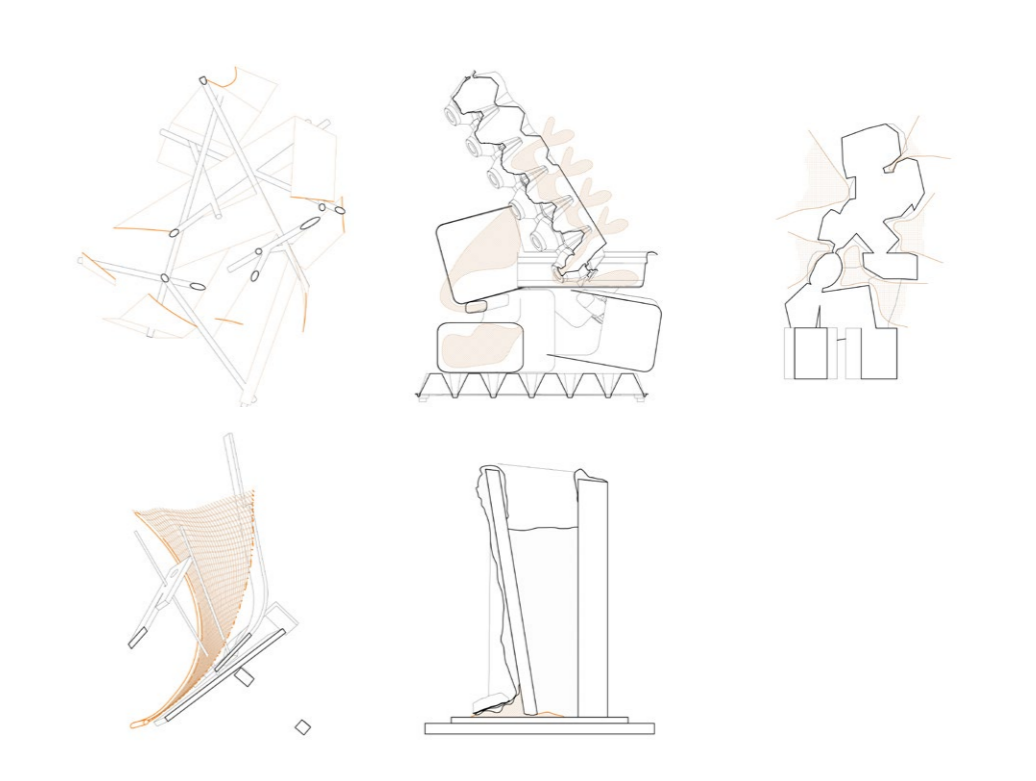


Physical Model
1:300
Museumboard, 3D printing, White film



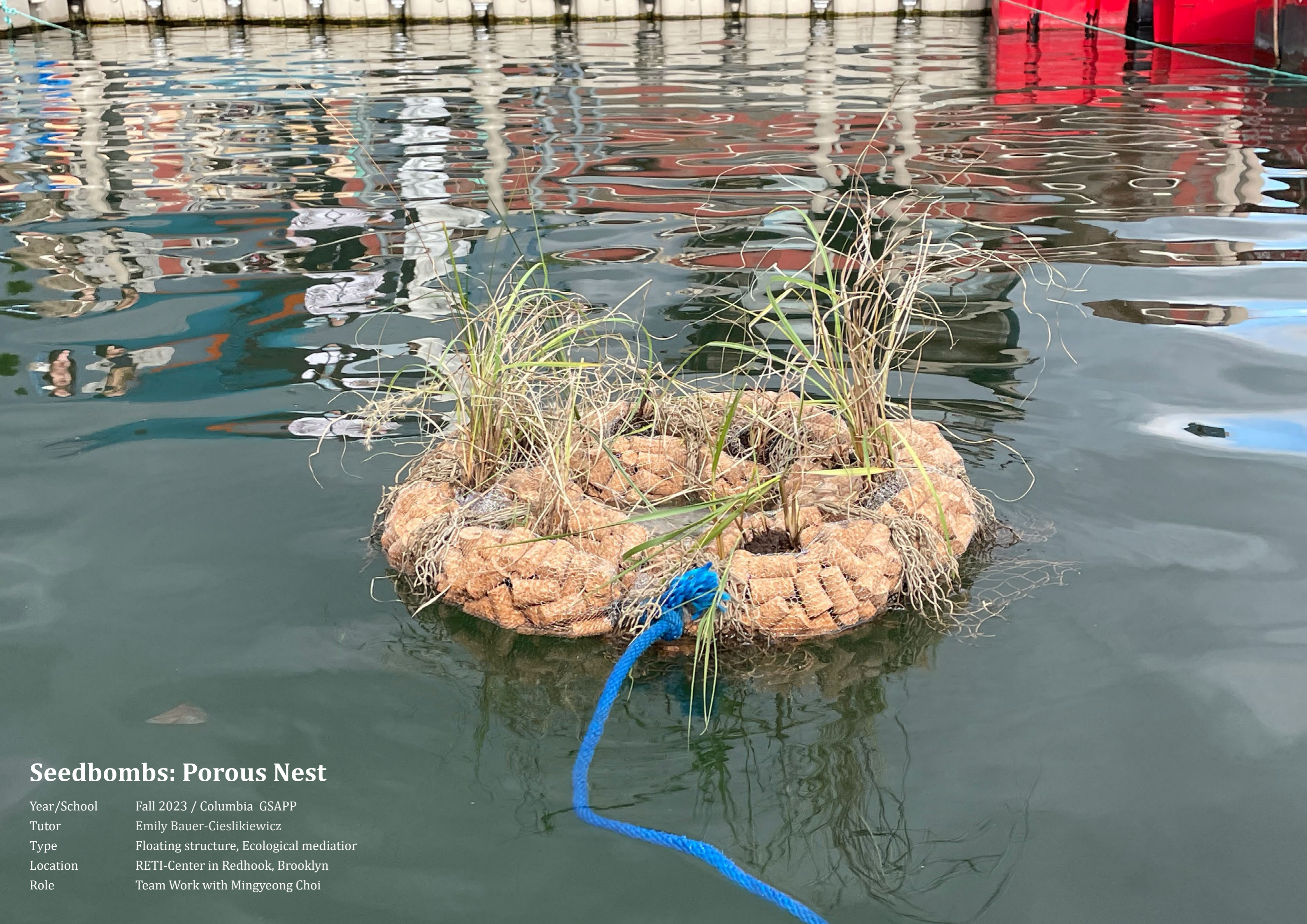
MAKE

Year/School Fall 2023 / Columbia GSAPP
Tutor Ada Tolla and Giuseppe Lignano
Type Artwork, Model-making, Recycle, Design intuition
Role Individual Work



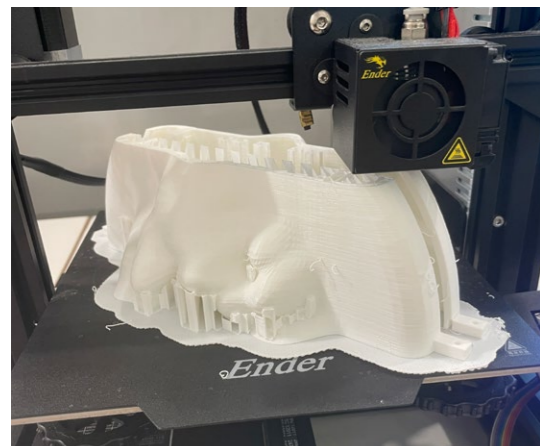
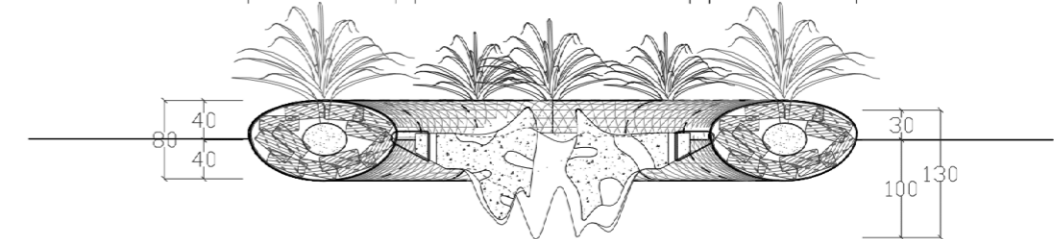
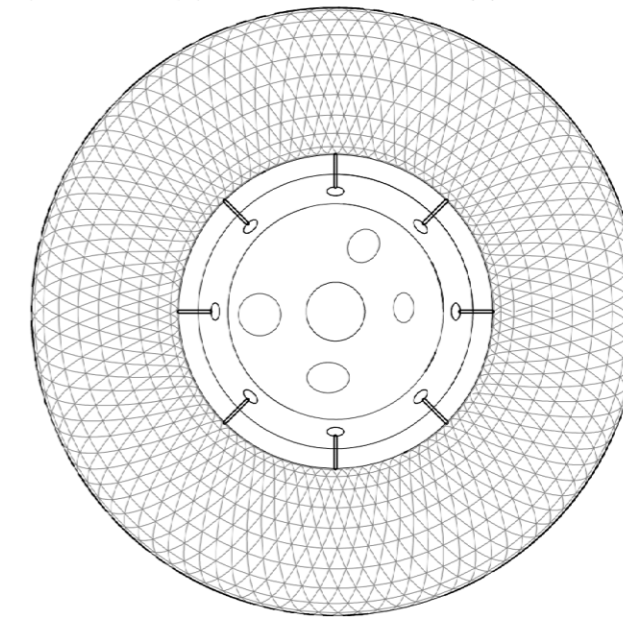
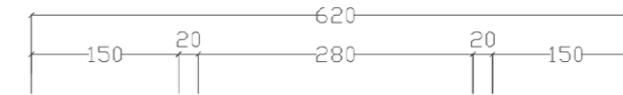
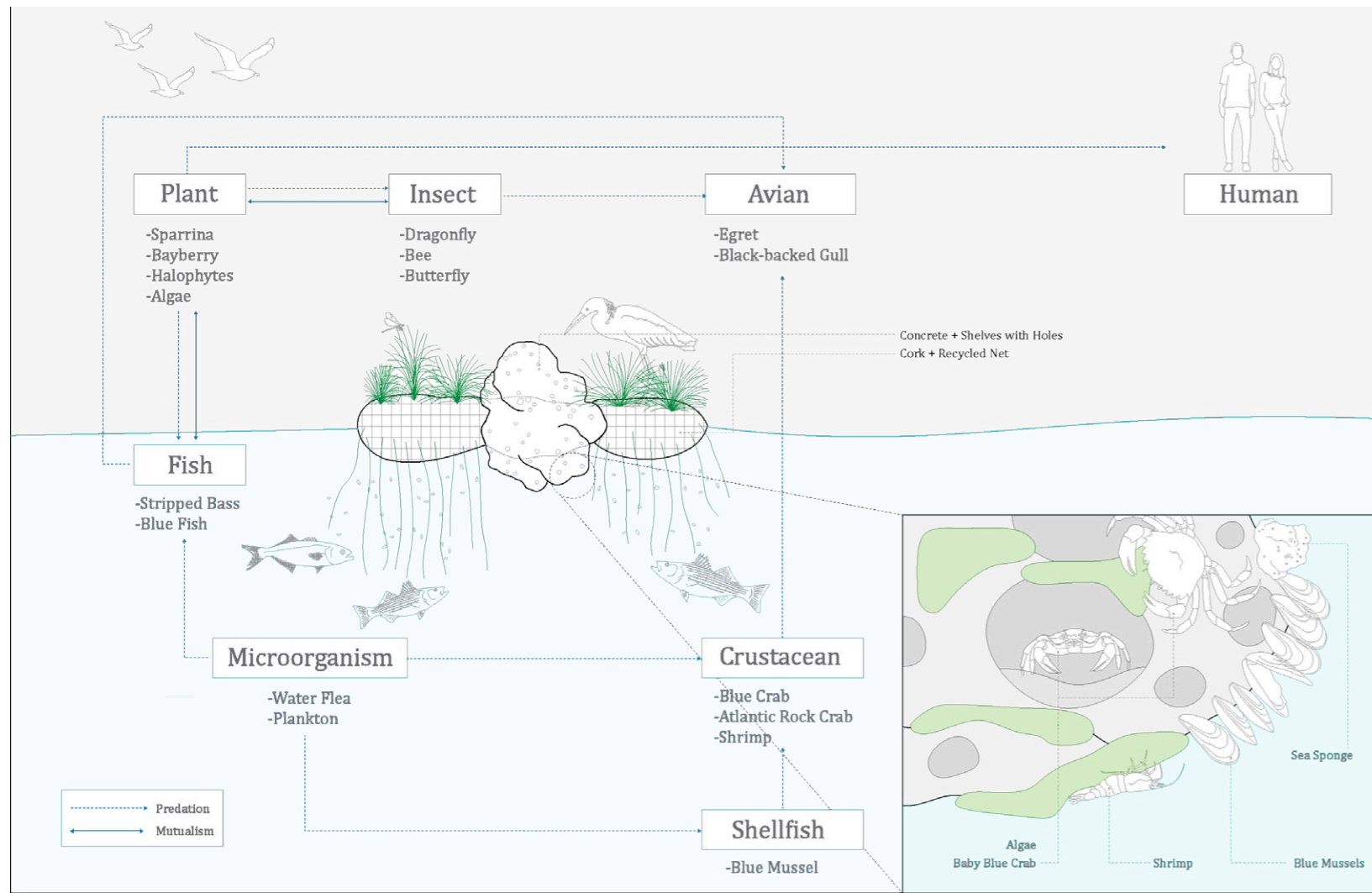
Possibilities of Recycled materials

Make is an exploration of experimental architecture. Through five models, each responding to a fundamental material, the aim is to delve into personal creativity, question norms, and push the boundaries of traditional design. It's an invitation to embrace the unconventional, celebrate the process of creation, and discover the extraordinary in the ordinary.



Seedbombs: Porous Nest

Year/School	Fall 2023 / Columbia GSAPP
Tutor	Emily Bauer-Cieslikiewicz
Type	Floating structure, Ecological mediator
Location	RETI-Center in Redhook, Brooklyn
Role	Team Work with Mingyeong Choi



The coexistence of concrete island

We propose a floating landscape for the RETI Center site, designed to support marine and terrestrial life simultaneously. The central porous structure, reminiscent of basalt, provides a habitat for marine organisms, including algae, sponges, fish, and shellfish.

Surrounding wings create a floating space for birds and plants. The upper tube, filled with cork and waste netting, fosters a symbiotic relationship between birds, plants, and insects. This interconnected system forms a virtuous cycle, enhancing marine water quality, providing food for local communities, and elevating the coastal area through thoughtful landscape design.

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