

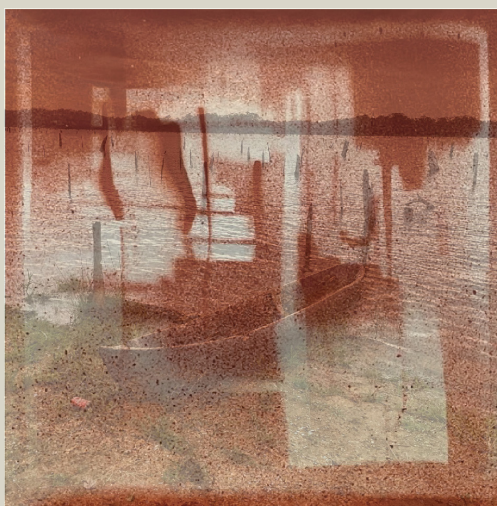
LIVING ARCHIVE

TRANSCALAR (DIS)ORDER OF TREE DEBRIS IN THE LAKE GATUN

Augusta Fiseryte
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TU Delft

Borders & Territories
Transient Liquidities along the New Silk Road
III

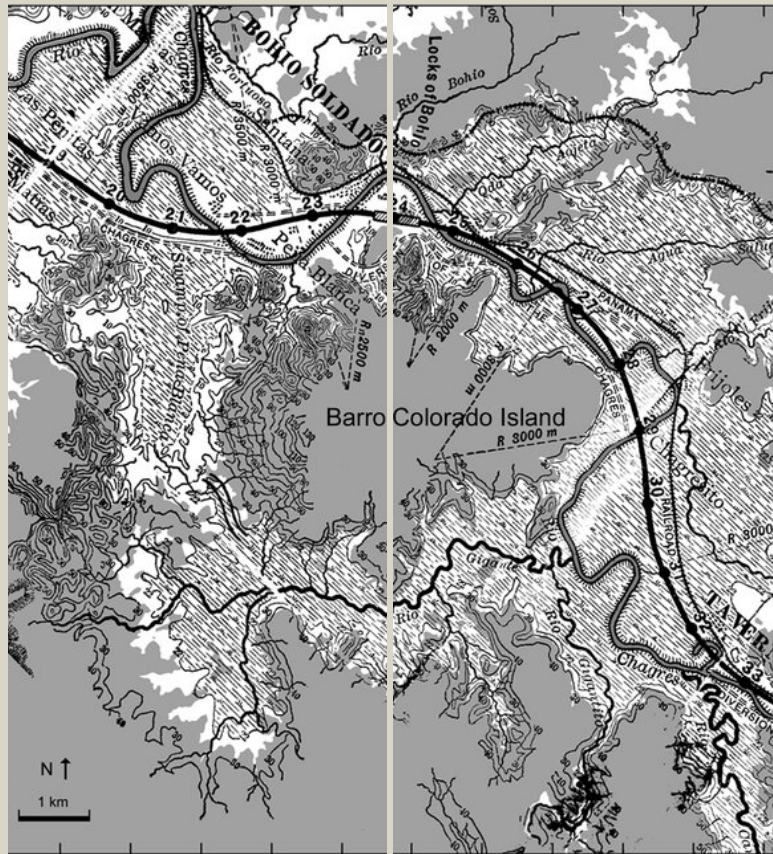


Mentors:
Negar Sanaan Bensi
Pierre Jennen
Oscar R.G. Rommens

2024



Barro Colorado Island
1:10000



Low Gatun water level in the past year unfolded tree trunk debris that emerged from the water's surface, informing about the past forest existence. Waterlogged timber remains a witness object of the past, which is absorbed and preserved in the water body that was flooded over a hundred years ago. As Carse revisits Panama Canal's environmental history at Gatun Lake, it becomes intriguing to revisit the matters of time and scale of the events that affected the pressure and change of waterlogged timber that is sunk in the lake. The view of the Lake creates a sense of sublime

and simultaneously undresses the fragility of the past that existed before the current body of water. The emergence of a gigantic creature of mankind, the Panama Canal, changed the morphology of the place, overlooking the outskirts. Although, Panama Canal demanded highly advanced machinery to create a physical division, nature adapted to the new conditions, as if previous ecology never existed. "Why did Panama's transit zone, a region with a long human history, appear more natural to many visitors and recent settlers during and after canal construction?"

Photograph of Gatun Lake, Panama



Historic archives of Barro Colorado Island



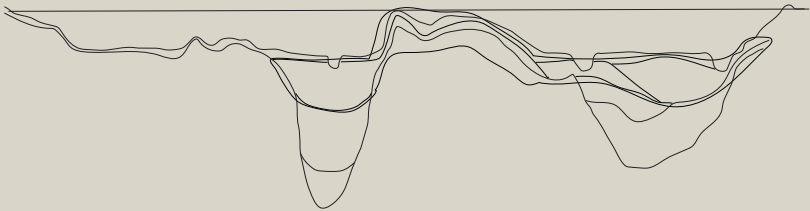
Barro Colorado Island is one of the examples of a Secondary Forest that grew after the Panama Canal Zone excavations and after the Lake Gatun flood. It is currently the most popular island for scientific investigations.

Satellite image of Barro Colorado Island



1:50000

Cross Section of Panama Canal



Topology highlighting Panama Canal zone and ship route trajectory



1:500000

The paper explores a multiscalar methodology to investigate the material and the aftermath of the material in a series and scales of events. This method employs the matters of time, space, and agency.

**CRITICAL
TRANSCALARITY**

Time, space, and agency are three fundamentals that are considered in the analysis and are sliced into three other main phases. Each phase is responsible for a certain cluster of scales. Time is divided into “Then”- as it unfolds the history of the event, “Now” is a current state/ norm, or it informs about the past, and “Tomorrow” is the intention, planning for the upcoming/ new. Space is divided into “Micro”- as the study of the material through a microscopic lens, “Meso” is seen as a naturalistic exploration without specialized

equipment or tools, and “Macro” is explored as a collection of data through a satellite lens and national or international database of the landscape. Agency measurement explores how human agency intervenes through matters of time and space by “Collecting” data, “Witnessing” data, and creating new proposed data.

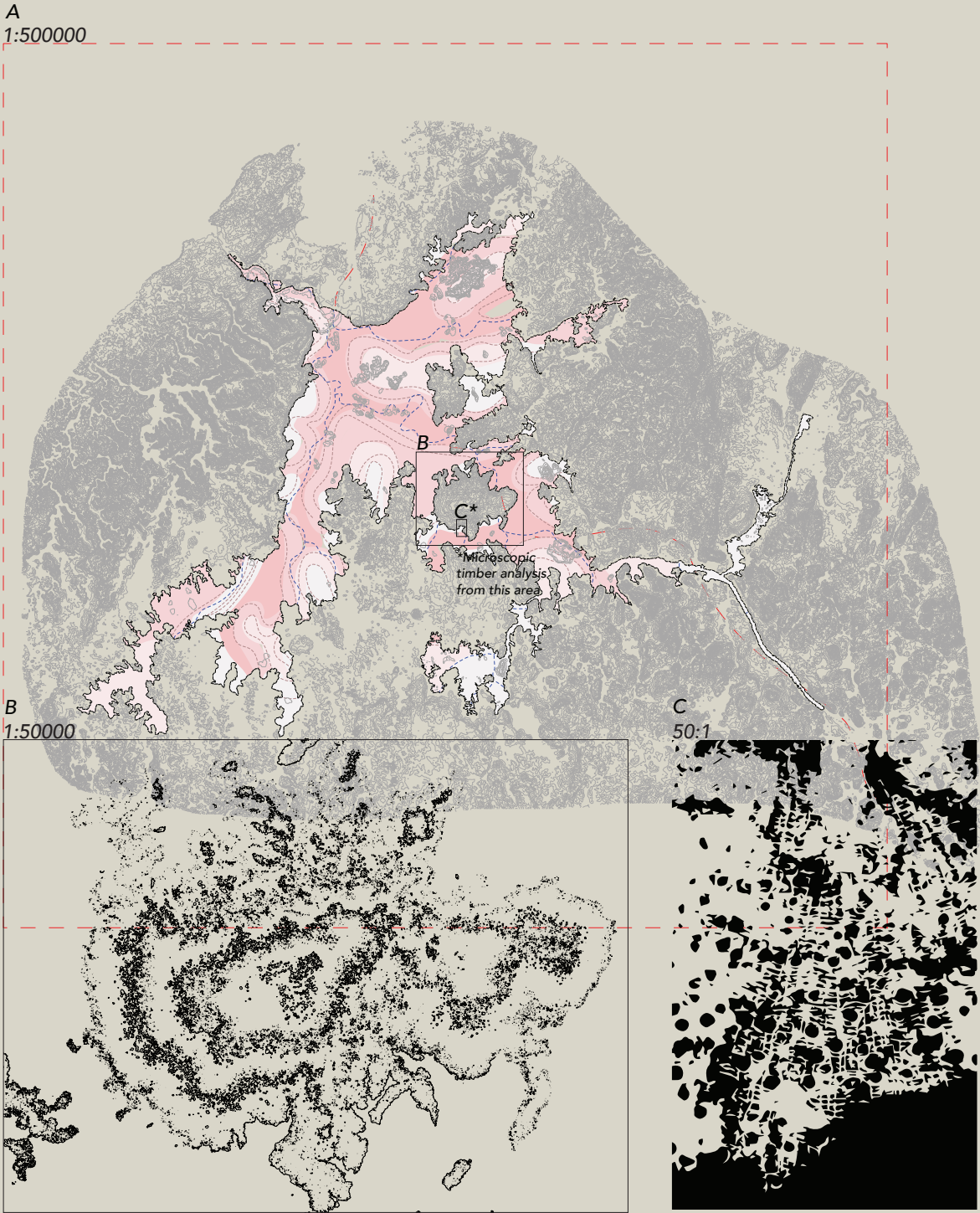
3rd SCALE

It addresses established Micro and Macro constructs and enhances the literacy of the site into a third, mediating scale.

One of the ways to understand such scale and its qualities could be discussed through our intersection of everyday life, ethics, and our relationship with the world, as Jane Bennett suggests in her book “The Enchantment of Modern Life”. She would argue that the material world would

maintain a sense of agency and vitality, which would lead us to further observations of the atmosphere and our experience in it. This kind of methodology of observation would involve using the unaided human senses such as vision, touch, smell, and sound - to perceive and understand objects, and environments in their ‘natural’ state and scale. It’s the kind of observation we engage in normally without specialized equipment or tools. Such an approach would rather be used in psychology, biology, ecology, anthropology, environmental science, and art.

It illustrates the third scale, a scale that is appropriate to experience the data of the environment.

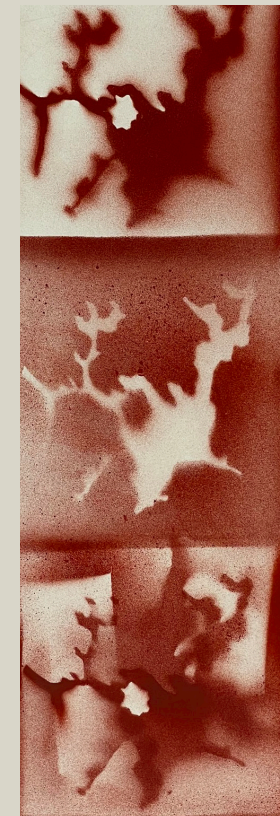
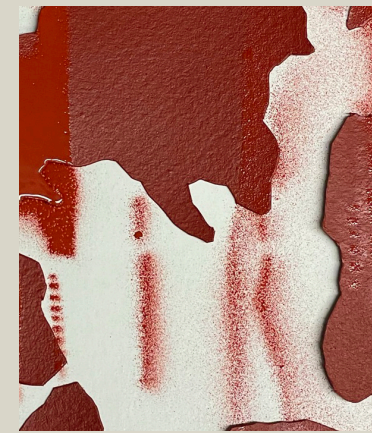




Photograph of Gatun Lake shoreline, Panama

Irene Kopelman, an artist known for her exploration of natural phenomena and scientific research through art, often delves into the idea of presenting objects without a defined context or reference point. Her work frequently involves drawing and representing elements from nature without specific scales or contextual clues, emphasizing the importance of the observer's point of reference in understanding the object or phenomenon. "Drawing inevitably prompts one to think about its different functions and forms: drawing as a medium, as a representation, as means of observation; as a way of relating landscape, to things, to knowledge."

While sketching tree objects from the Barro Colorado Island, located in Lake Gatun, Kopelman highlights the powerfulness of drawing as a method to research and analyze the object and the state of objectification. Such methodologies may vary between different specialists simply because they might have different points of interest that they aim to explore in the same piece of object. "Drawing can be a means to train the eye, to see - but not objectively per se. That's what distinguishes the artist from a scientific draftsman."



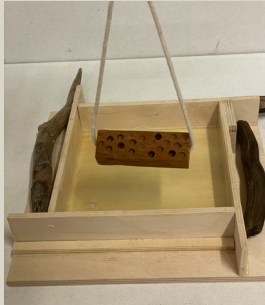
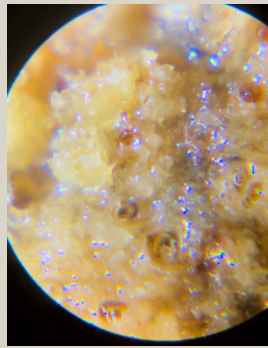
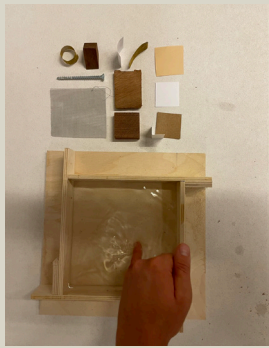
Human eye

Google maps (satellite)

Google maps (satellite)

Microscope

Learning the site through satellite lens, human eye lens and microscopic lens



Analysis of material entanglements: wood, water, salt

MODI OPERANDI EXERCISE II

One of the aims of multi-scalar methodology is to find persistent care and scrutiny in gathering things. This implies the careful gathering of the past or sincere experiencing of the present but with the notion of scale, which defines how deep it delves into the contextual matter. In Astrida Neimanis' "Bodies of Water: Posthuman Feminist Phenomenology," sensitivity is a crucial aspect linked to her exploration of the entanglements between bodies, water, and the environment through a posthuman feminist lens. Neimanis reiterates the sensitivity by emphasizing the interconnectedness and interdependence between human and non-human entities. Therefore, the overlay of the past and present, micro, meso, and macro can help us create a

more considerable and critical gathering of details that later informs and leads us to our present and future agency.

Waterlogged timber in this case becomes a material for our use, for space, structure, beauty, and trade. It becomes an example of a long-processed substance that is taken by humans and modified into new forms of life. Maybe long-lasting, high-quality furniture in this case is all we need?

*Overlaying scales
and matters of
time we can learn
to be more critical,
and evaluate our
contribution the
space.*

MANIFESTO

*Living Archive -
an extension to
Barro Colorado
Island for
Smithsonian
Institute
researchers.
A new visiting
space for local
communities*



Living Archive responds to
isolation

- 1. It frames a piece of Gatun Lake, bordering Barro Colorado Island's shore.
- 2. It challenges Barro Colorado Island's physical (surrounded by water) and functional (dedicated island for scientific purposes) isolation and allows its borders to be transgressed by visitors.
- 3. It responds to a social exclusivity, which has been inherited through the island's set of rules, regarding social status, gender, and literacy.
- 4. It connects scientific knowledge to an applied practice, through spatial experiences and interactions.

Living Archive responds to
scale

- 1. It addresses established Micro and Macro constructs and enhances the literacy of the site into a third, mediating scale.
- 2. It illustrates the third scale, a scale that is appropriate to experience the data of the environment.
- 3. It mediates between Micro and Macro worlds, through a structural assemblage of capillarity, density, and porosity.
- 4. It reacts to the microscopic significance of flora and reveals its operation to visitors.

5. It reveals the site's morphology through the curating of the materials and their interaction with fluctuating liquid and dry environments.

Living Archive responds to
place

- 1. It assembles a series of spaces that have a logic to reveal ecological conditions and non-remote sensing experiences.
- 2. It reveals the vertical and horizontal qualities of the surrounding embedded materialities.
- 3. It acts as a palimpsest, created through the sculpting of the land.
- 4. It responds to fluctuating lake tides, washing the Barro Colorado coast.
- 5. It creates a healing bridge between the surrounding ecology and a human being.

Living Archive responds to
time

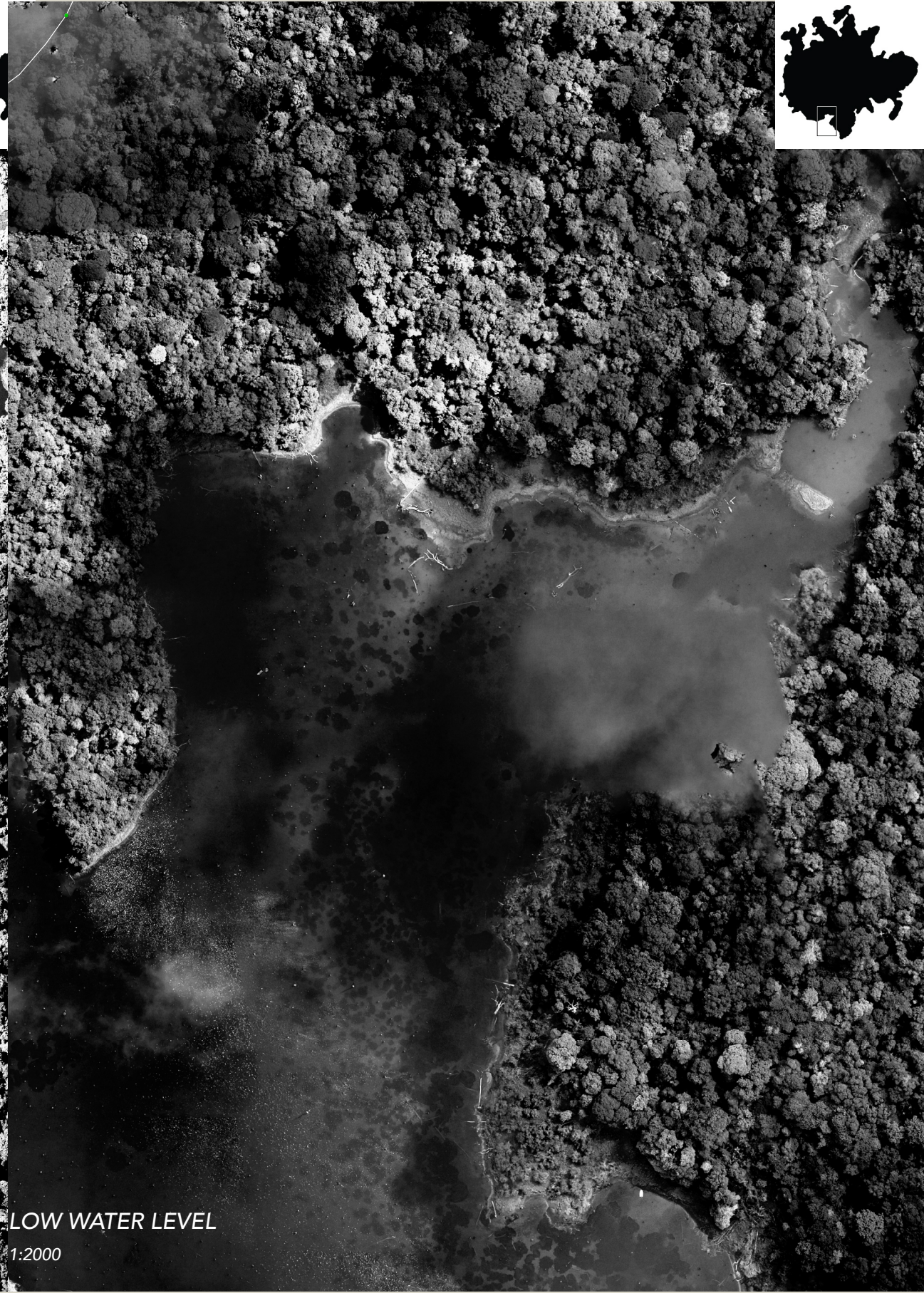
- 1. It invites visitors to stay for an extended time to stop and notice a change, and explore the qualities of the place.
- 2. It documents surrounding natural phenomena through time, by archiving its presence and the future.
- 3. It enhances the cyclicities and temporalities of the environment, appropriating its presence into a third scale.





HIGH WATER LEVEL

1:2000



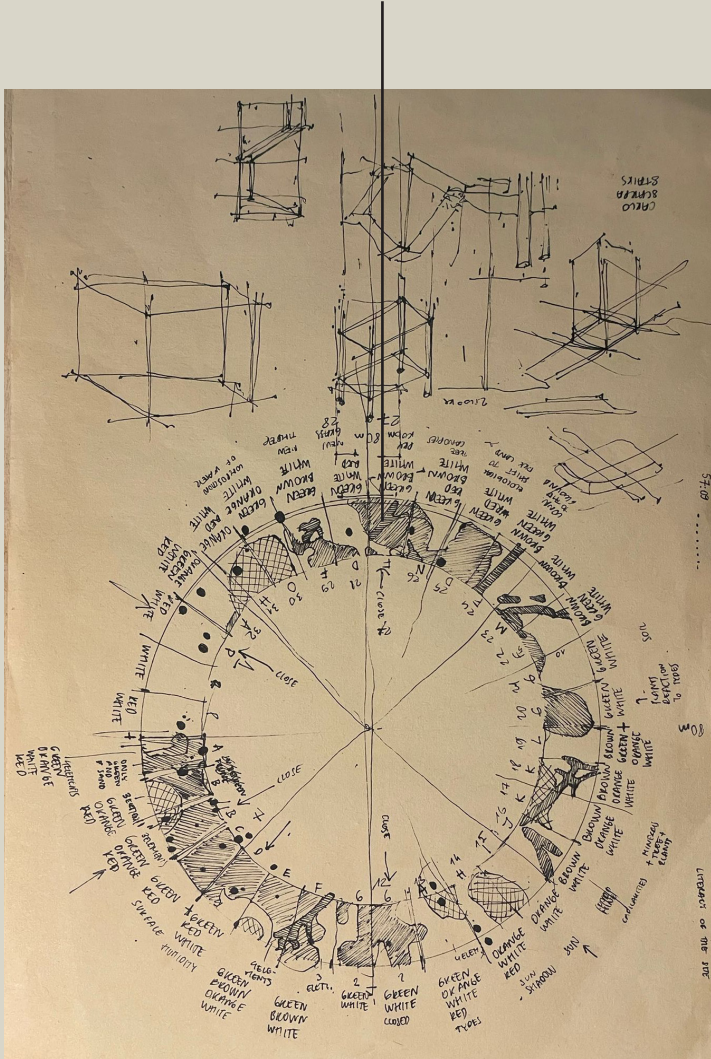
LOW WATER LEVEL

1:2000

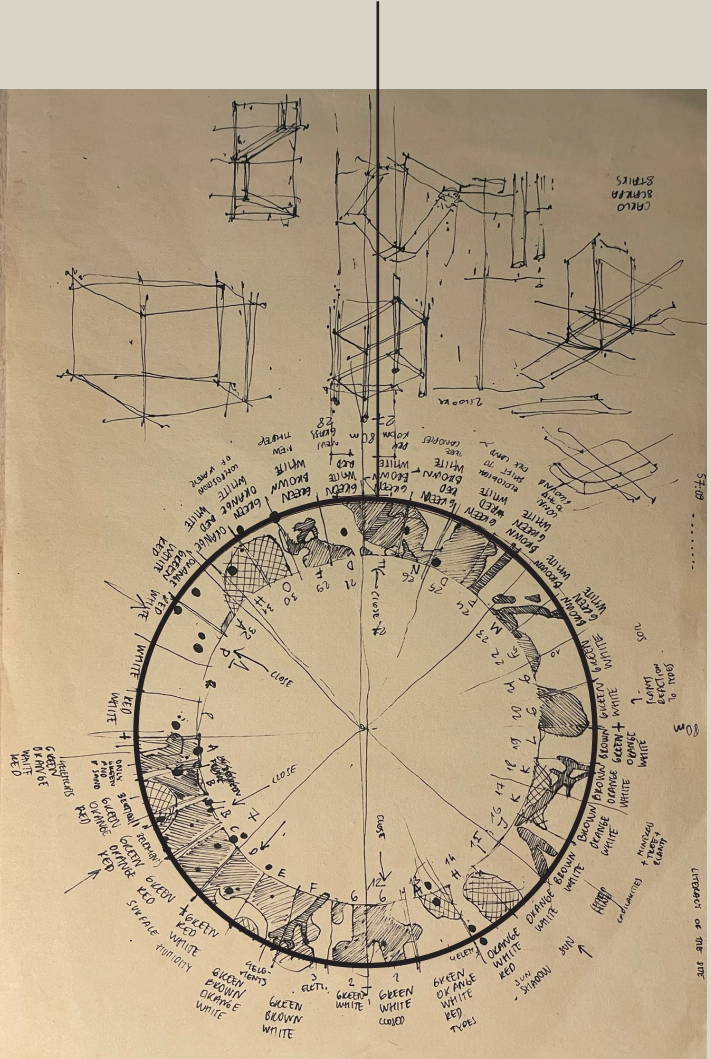


Focus area for Living
Archive development -
Gatun Lake condition

Analytical sketch introducing program based on the Gatun Lake site condition. Site flora that belongs inside the structure will be observed and connected with the architectural space.

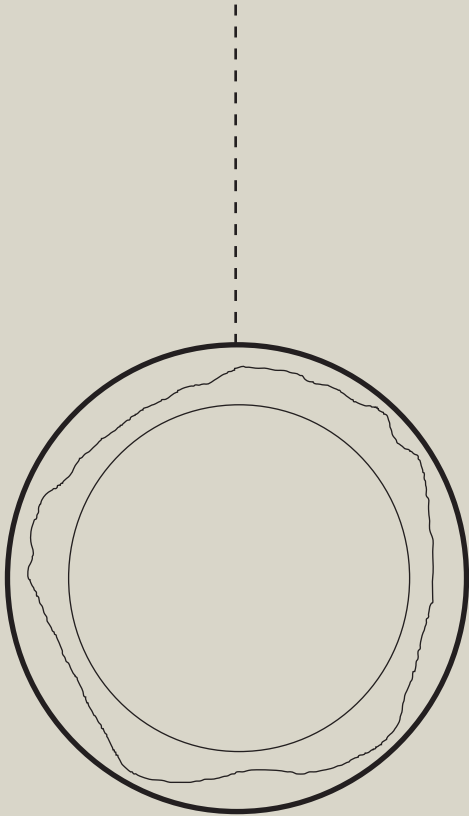


Highlight of the wall, which separates inside water system from the outside water. Wall protects inside system from salts, 'polluting' Panama Canal with the ocean water



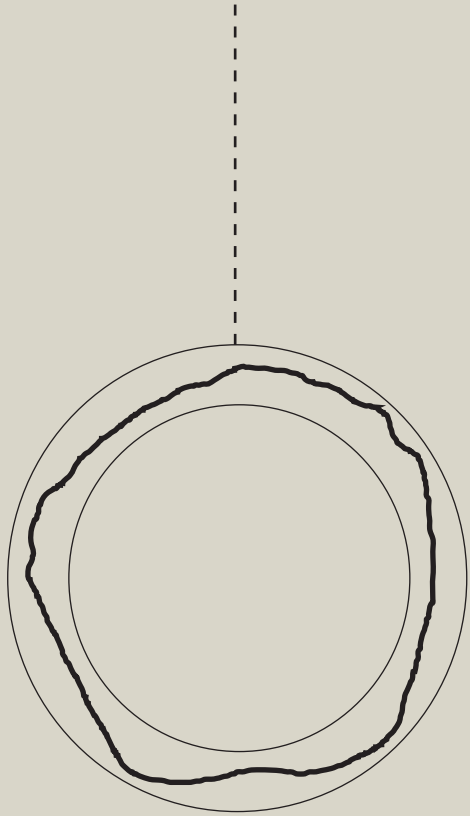
Macro agency

Water inside structure becomes more purified that the outside Gatun Lake and creates a separate ecosystem with nurtured flora and fauna



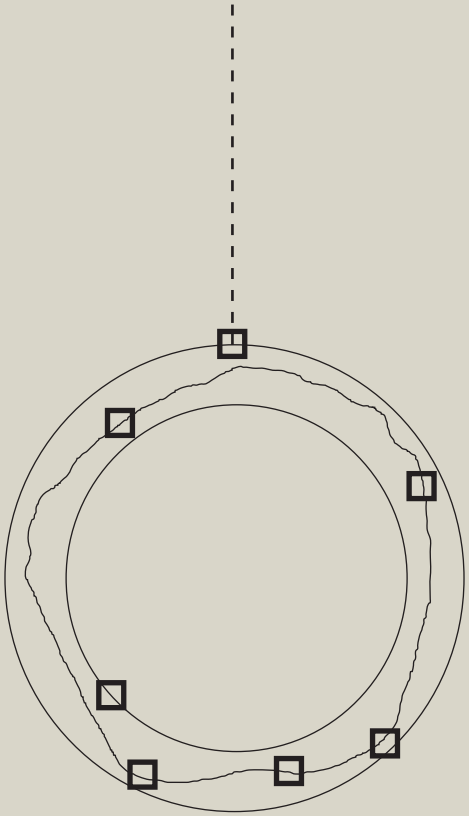
Meso agency

Mediating path inside structure, which provides access for a person to walk, experience the inside ecosystem of Gatun Lake and learn algae, trees and water animals personally



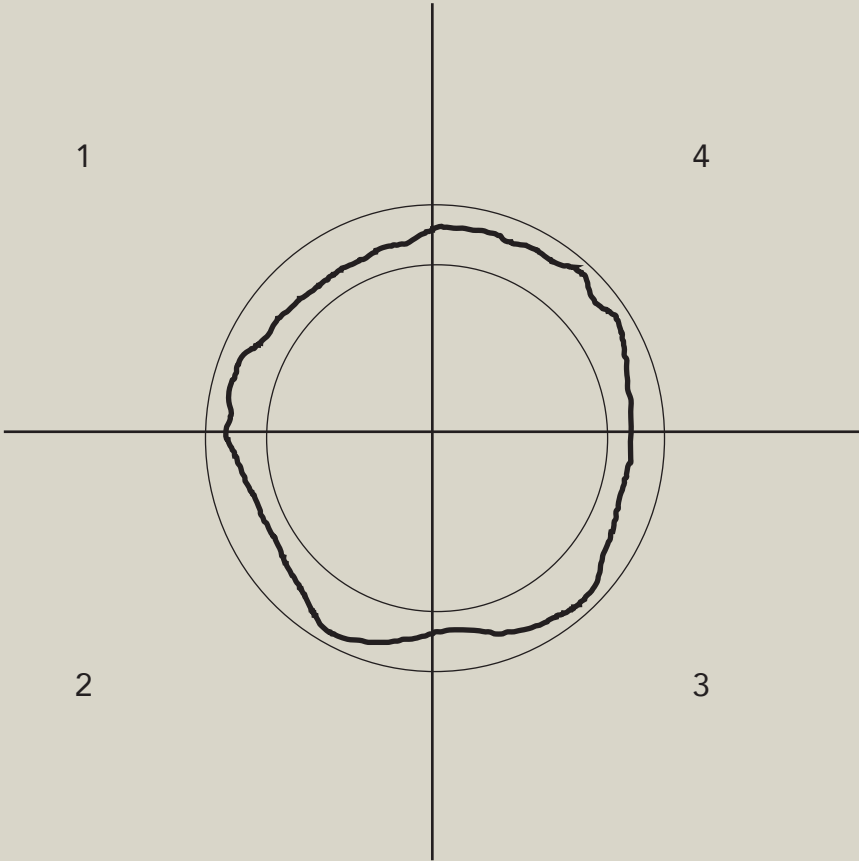
Micro agency

Material changes of the structure in contact with water and two separated water systems, the difference of water plants and difference of salination, accumulation of salts outside the structure



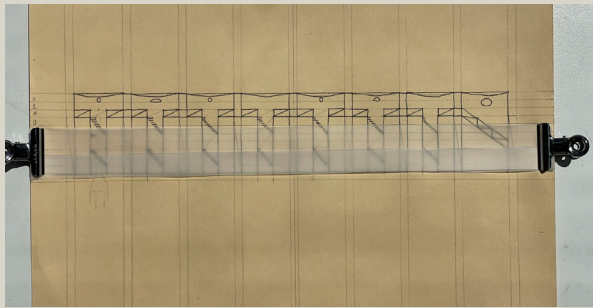
Walkway

Platform built in four
different levels



Section drawing representing
platform within the structure

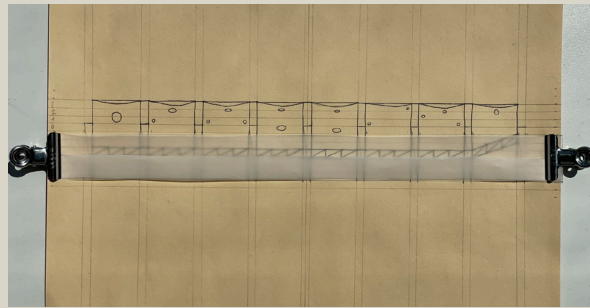
1



-6M

DRY

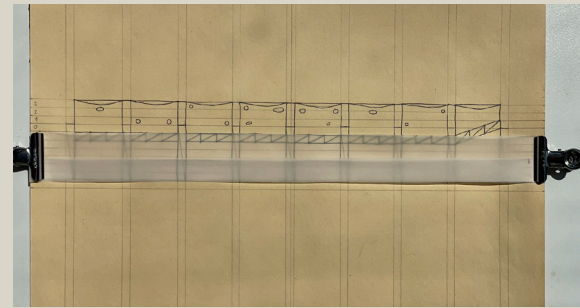
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-4M

WET

3

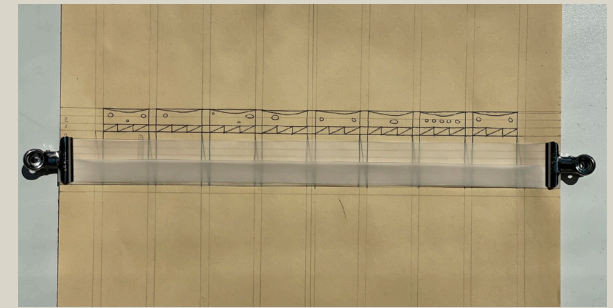


-2M

DRY

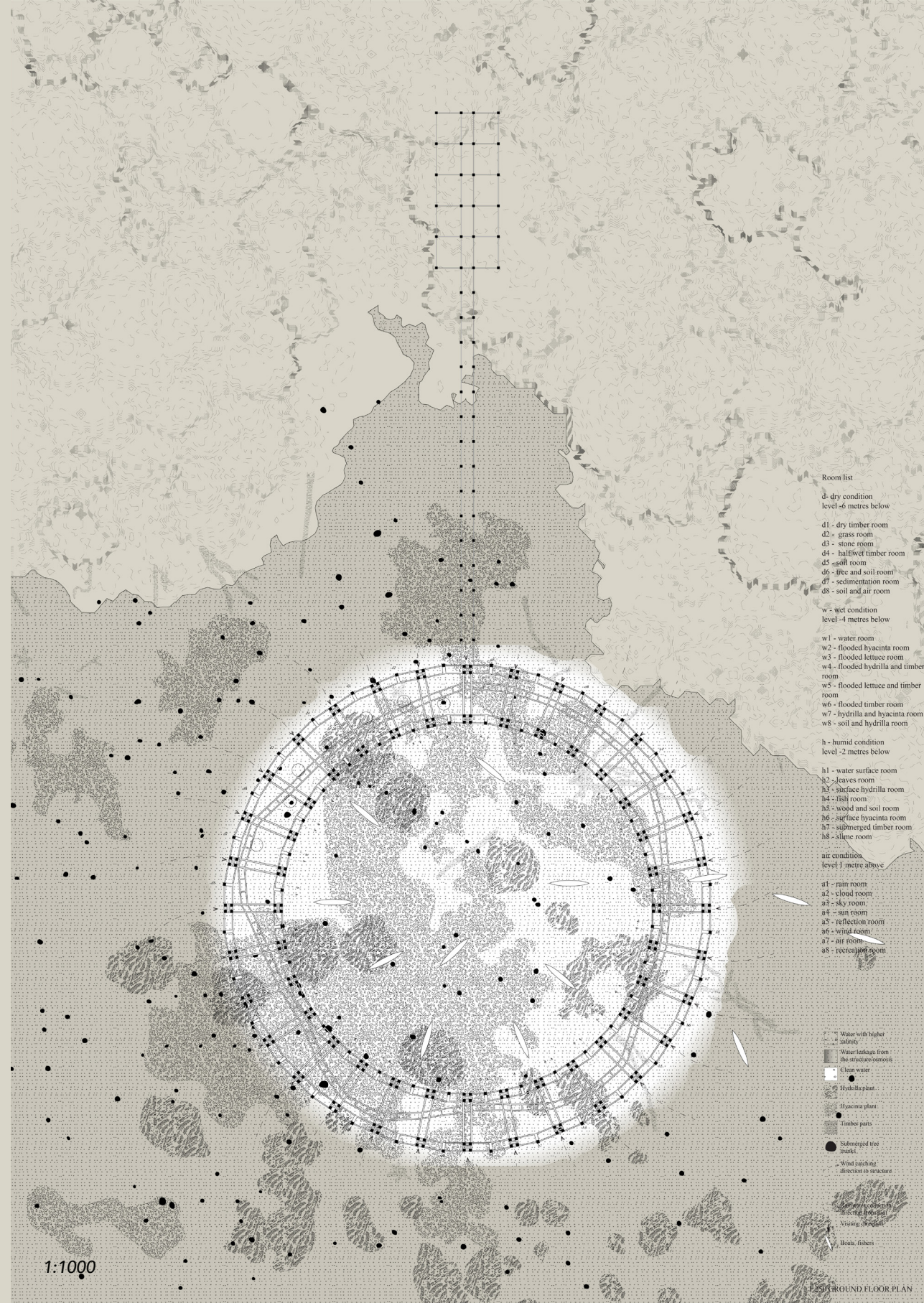
WET

4

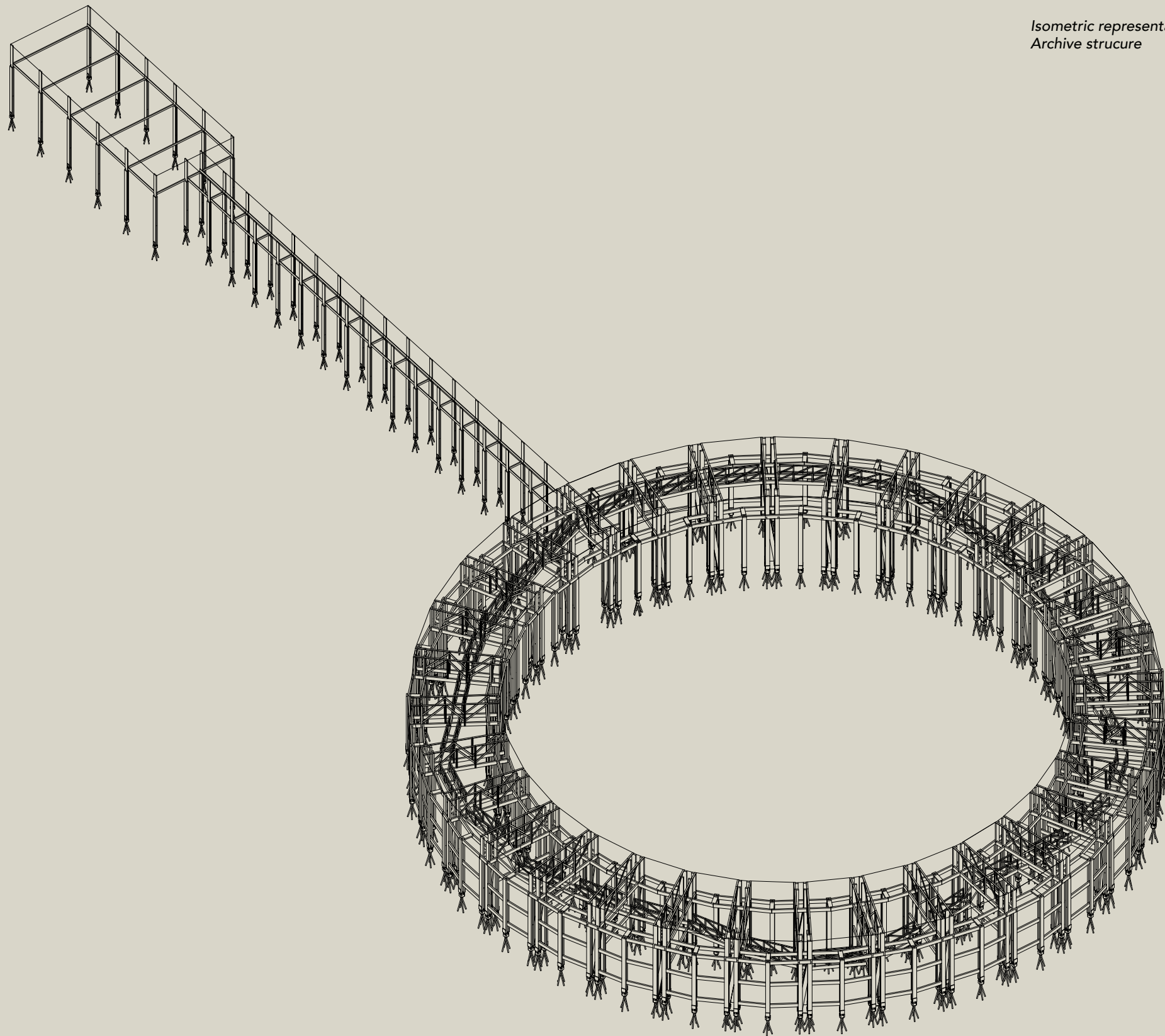


0M

DRY



*Isometric representation of the Living
Archive structure*



*Scale 1:250
Macro agency*

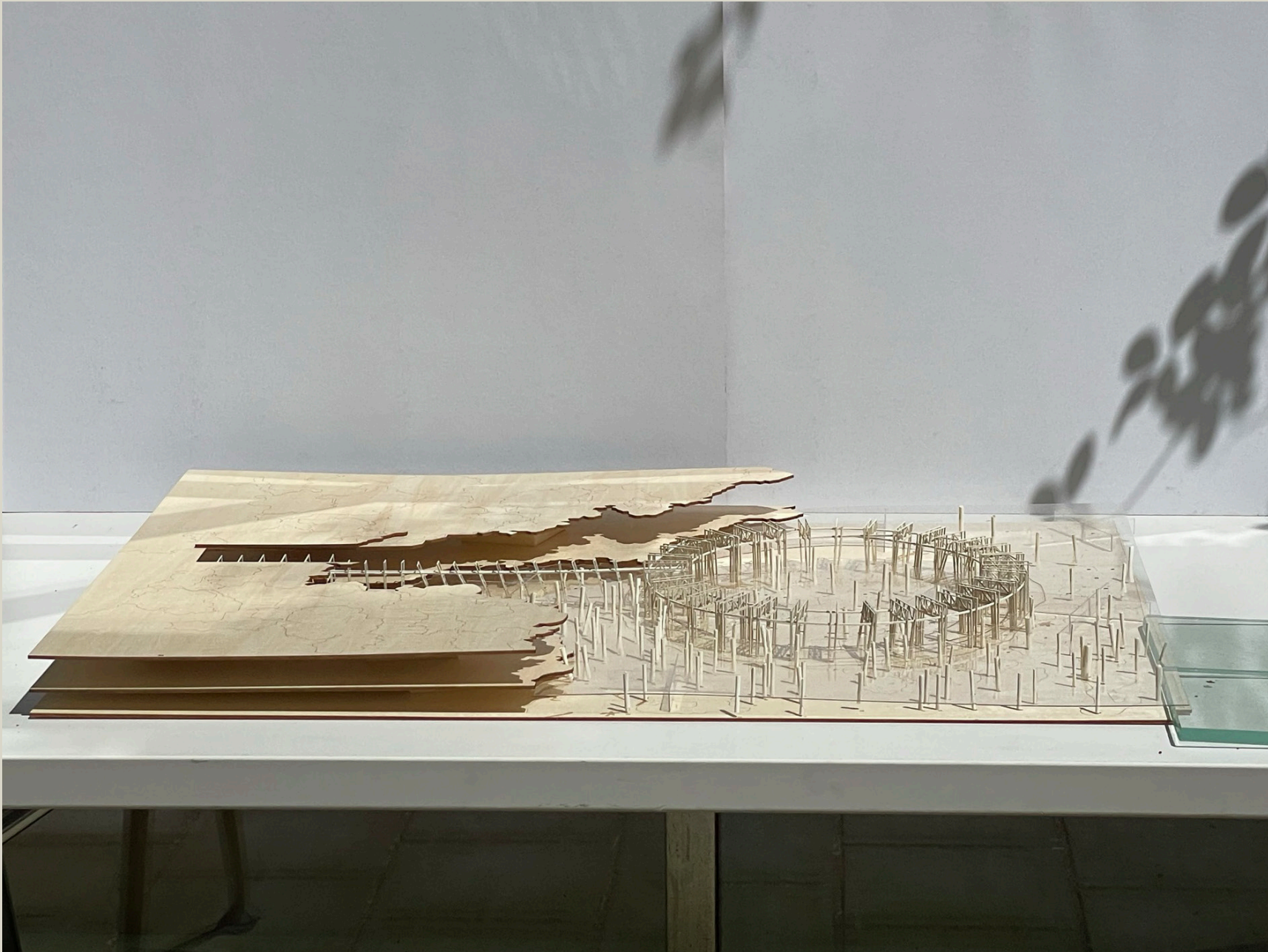
*Model representing architectural
typology and position in the landscape
context.*

*- Bridge connecting Barro Colorado land
to a Living Archive circle*

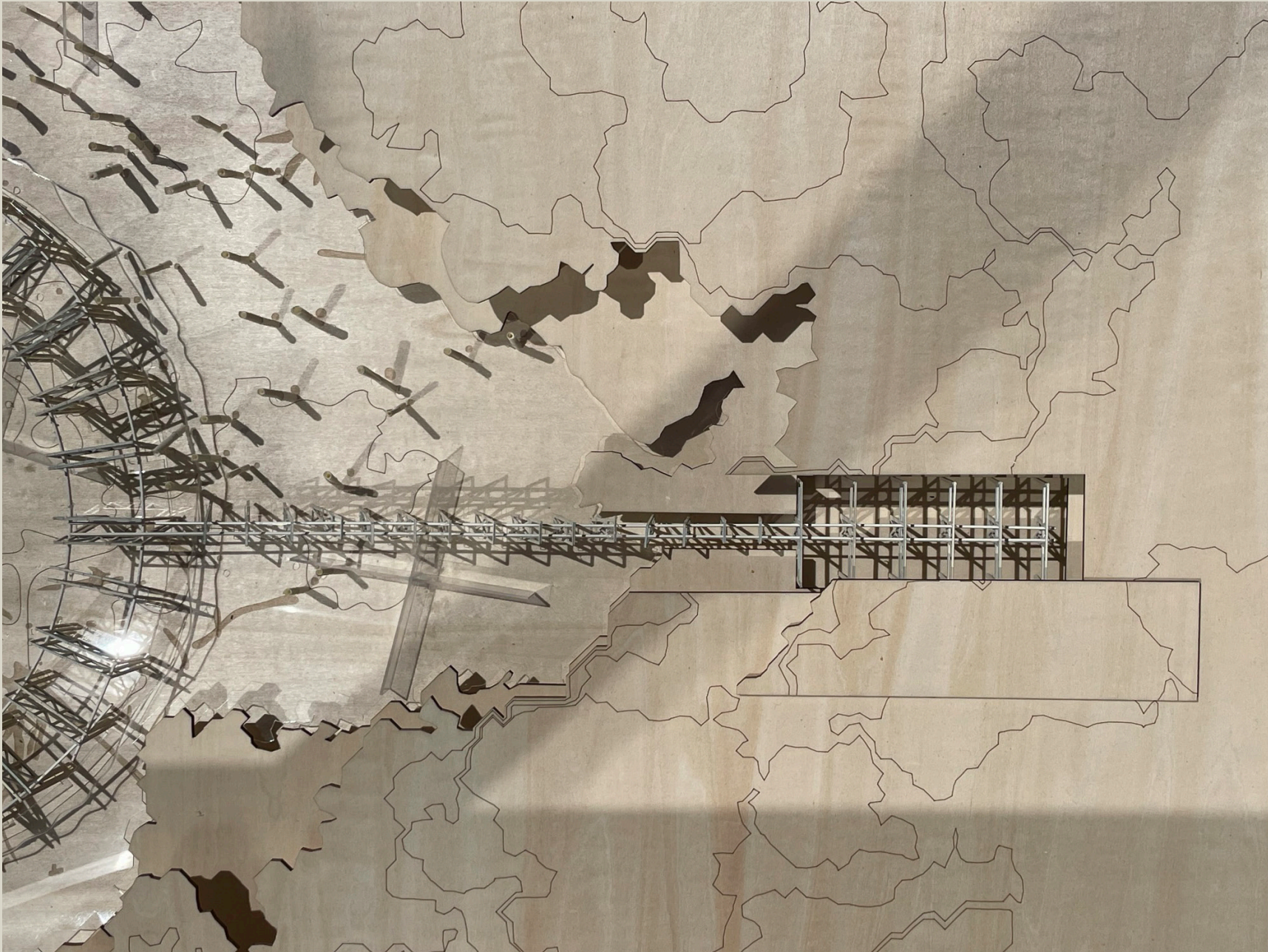
*- Circle separating sweet clean water
inside structure from salinated water of
Panama Canal*

*- Position of structural poles in the lake's
bottom*

*-Relationship of the structure with water,
waterlogged tree trunks and plants*





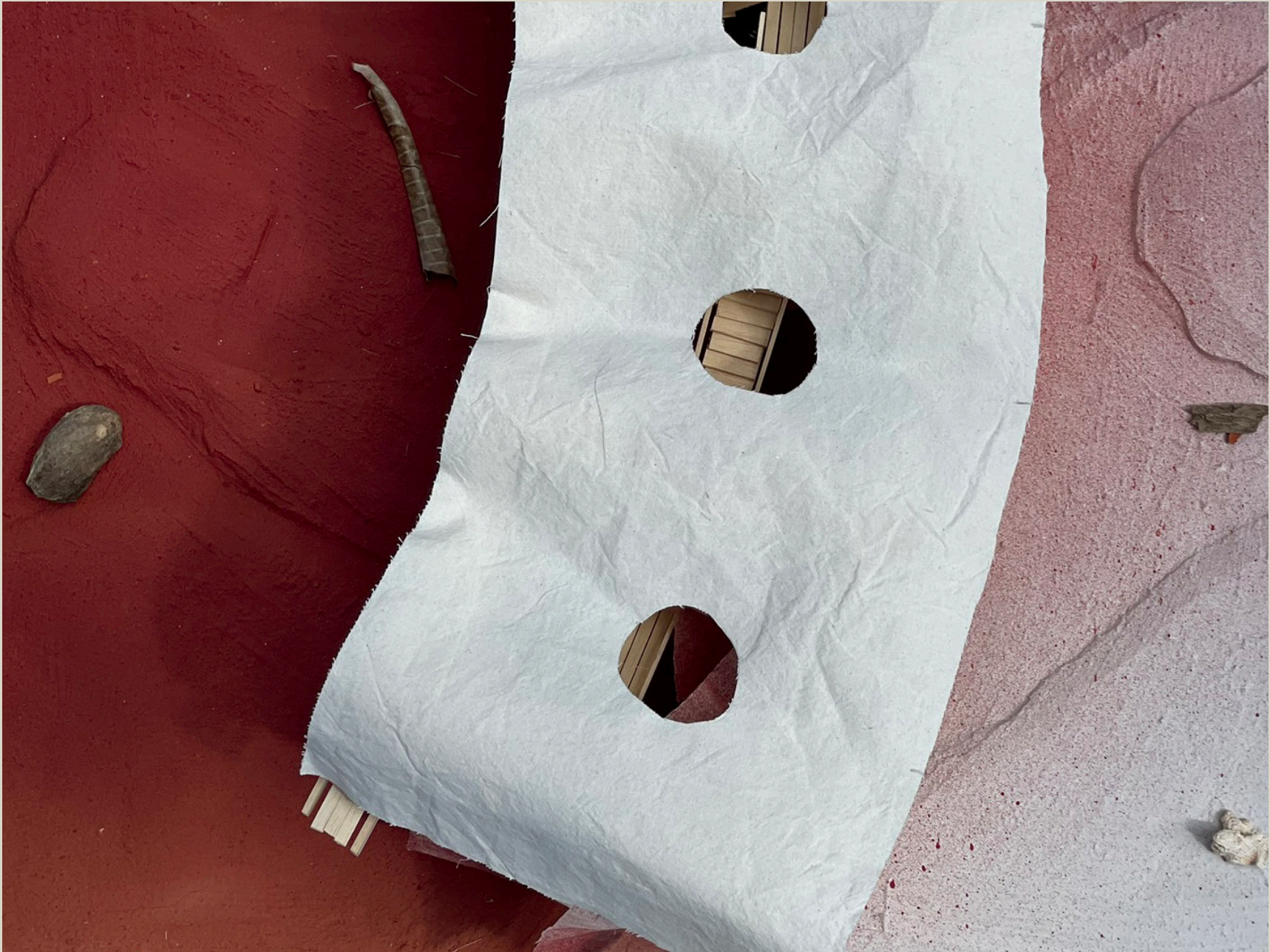


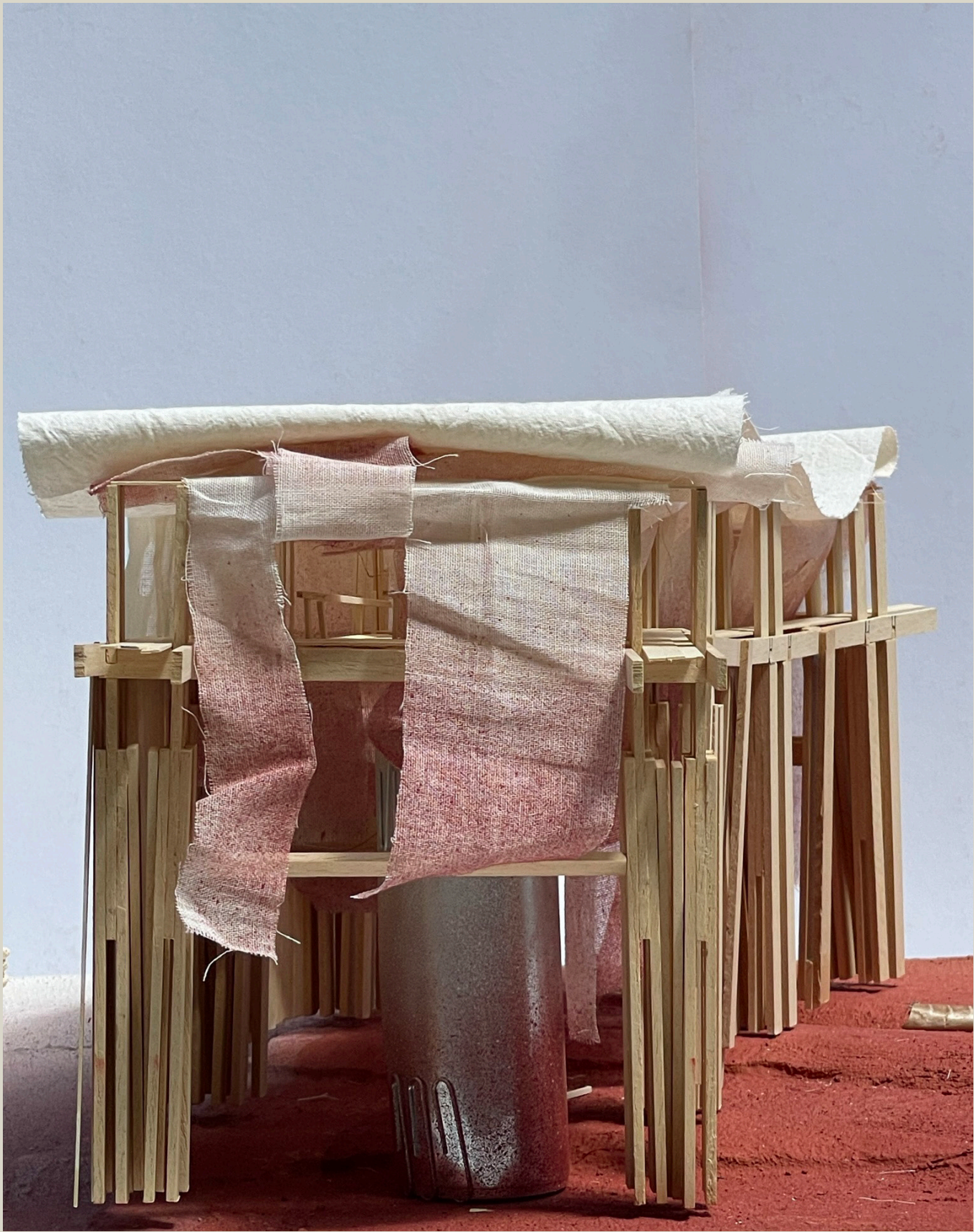
Scale 1:50
Meso agency

*Model representing structural
performance, circulation, materiality of
the architecture and the soil*

- *Representation of timber construction*
- *Application of structure's facade with
cotton textile*
- *Change of soil in sweet water system
versus salinated water*
- *Accumulation of salts on the outside
structure's facade*
- *Representation of the space for human
scale and navigation*
- *Lower bridge following to the dry room
reused from aluminum liquid container*

















*Scale 1:5
Micro agency*

*Model representing wood joint
performance, circularity and stability of
the structure*

- Representation of timber beam's
assemblage*
- Timber material performance in a humid
environment*
- Representation of minimal structural
entanglement with a possibility to
replace details*
- Micro scale performance which leads to
a Macro scale ecology*
- Representation of a structure that
combines structural stability and visual
case study through time*

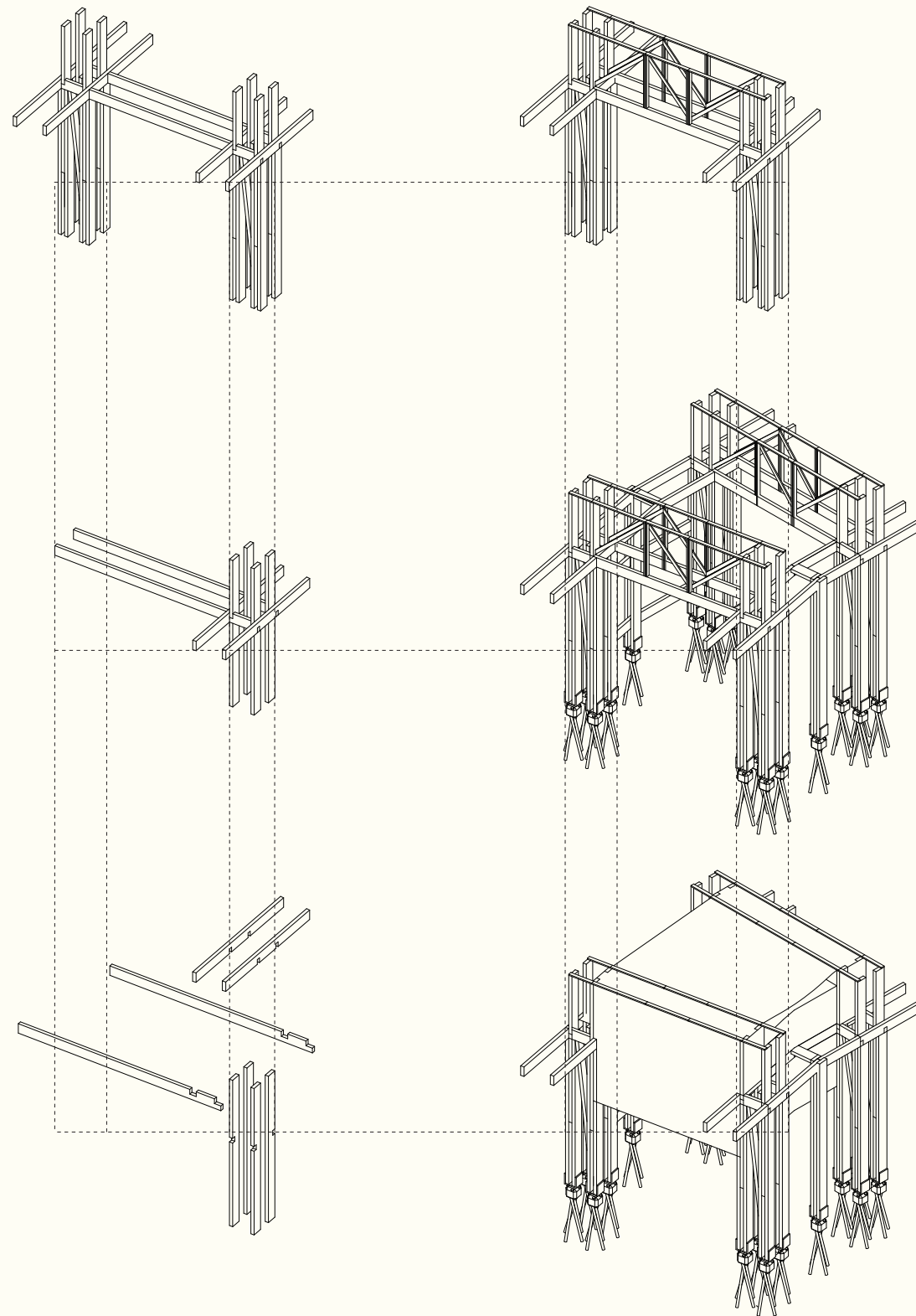


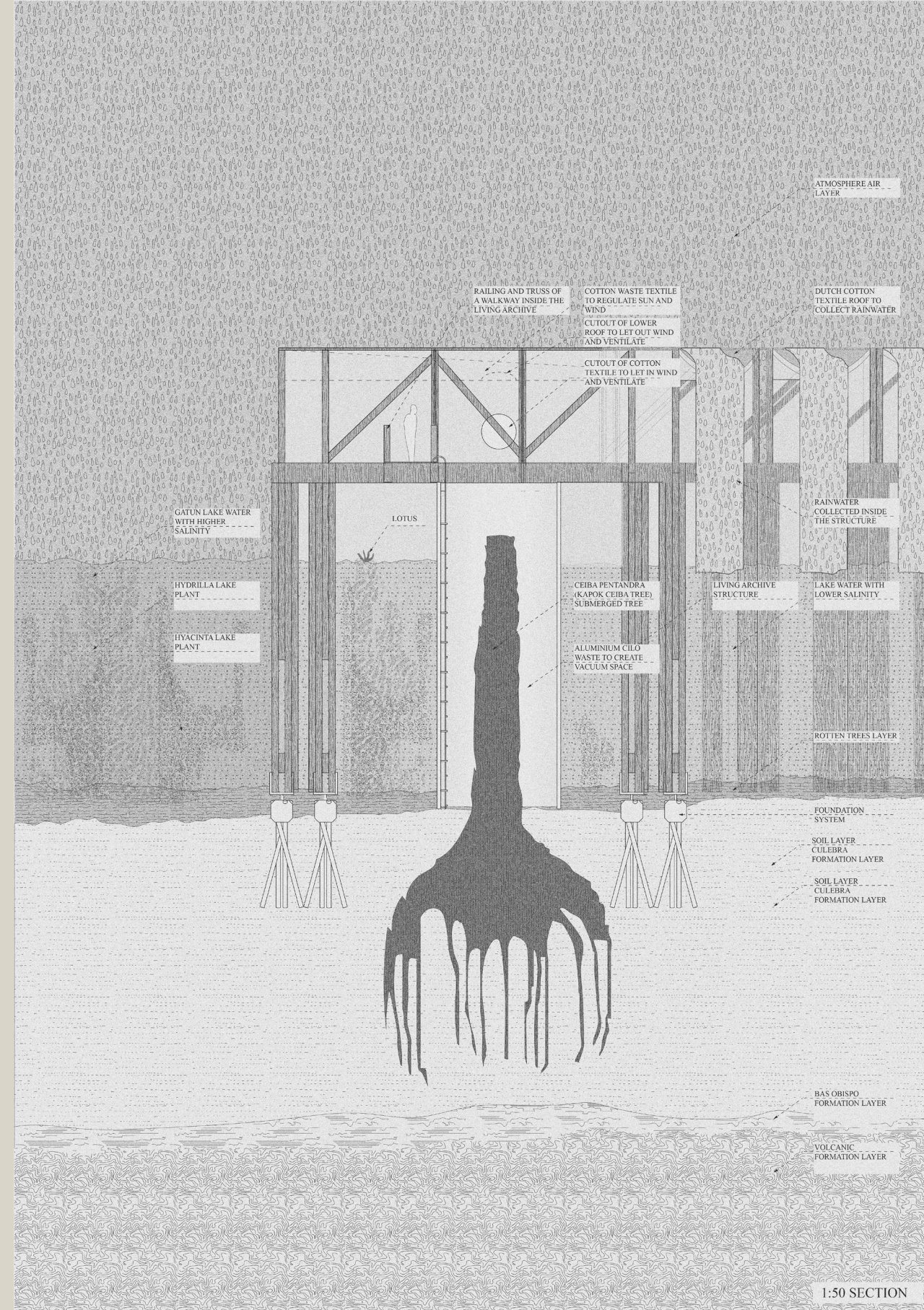


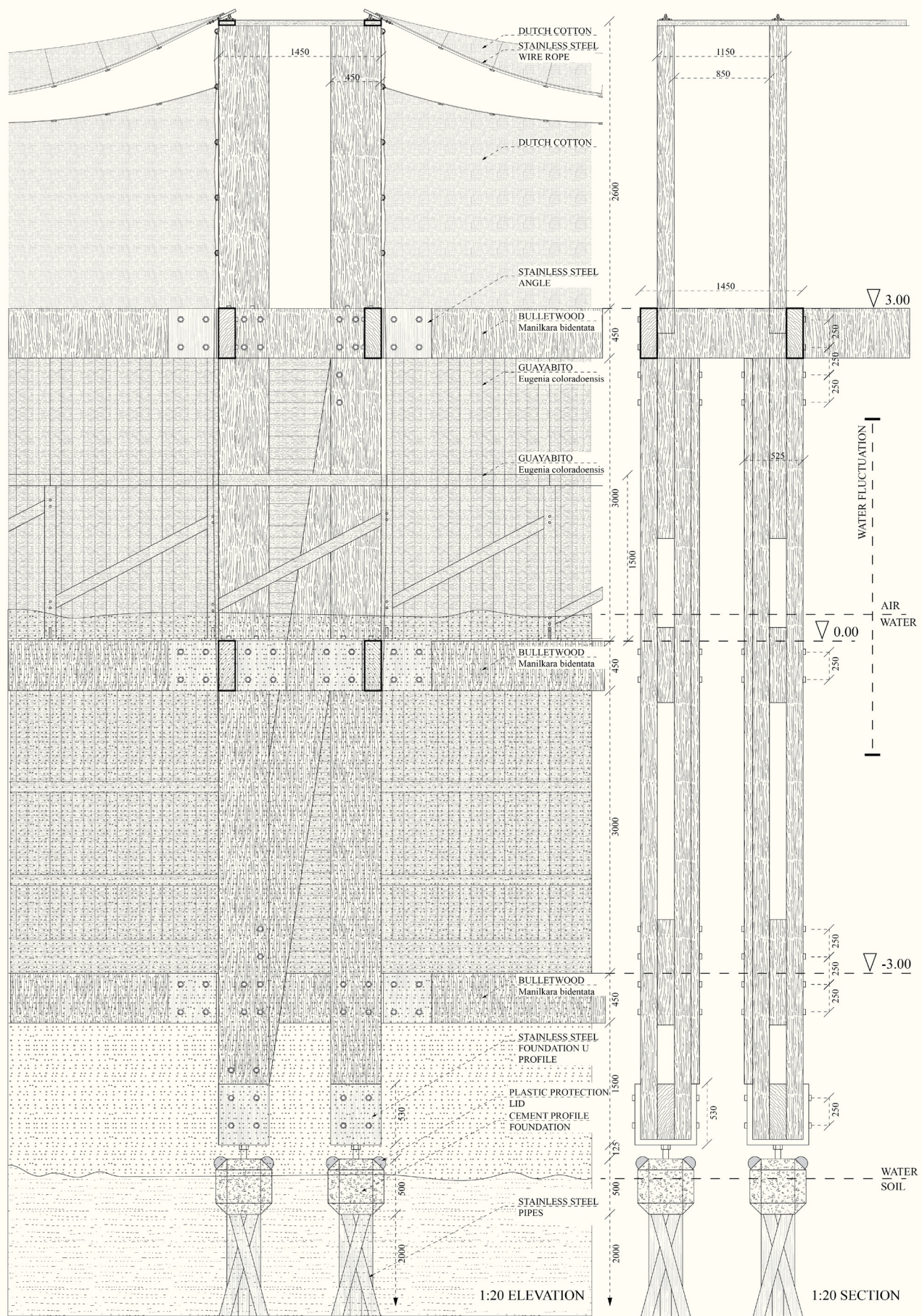


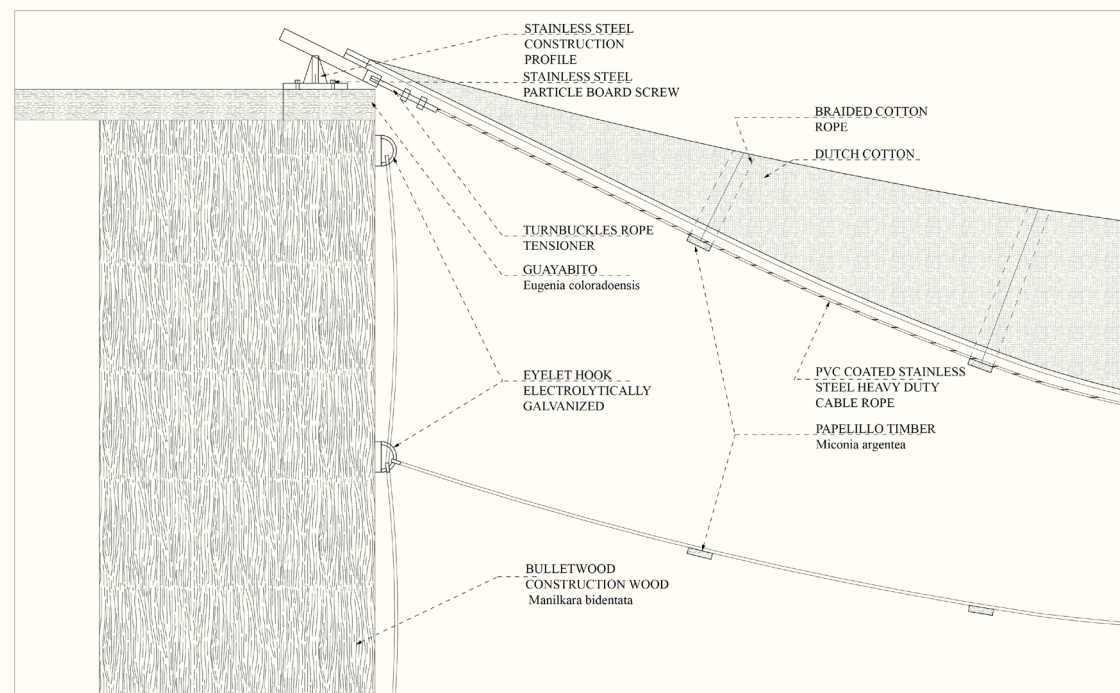


Technical Performance

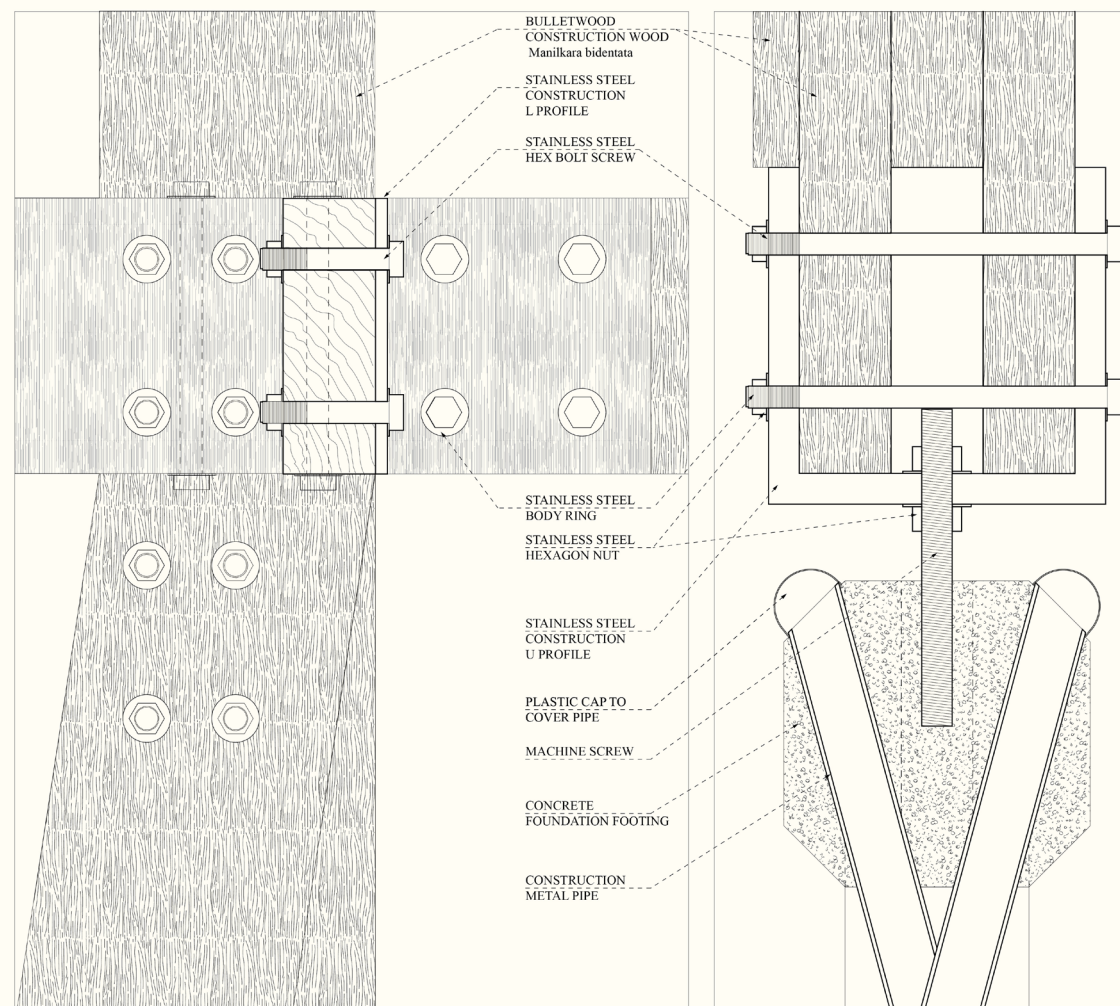








1:5 ROOF DETAIL



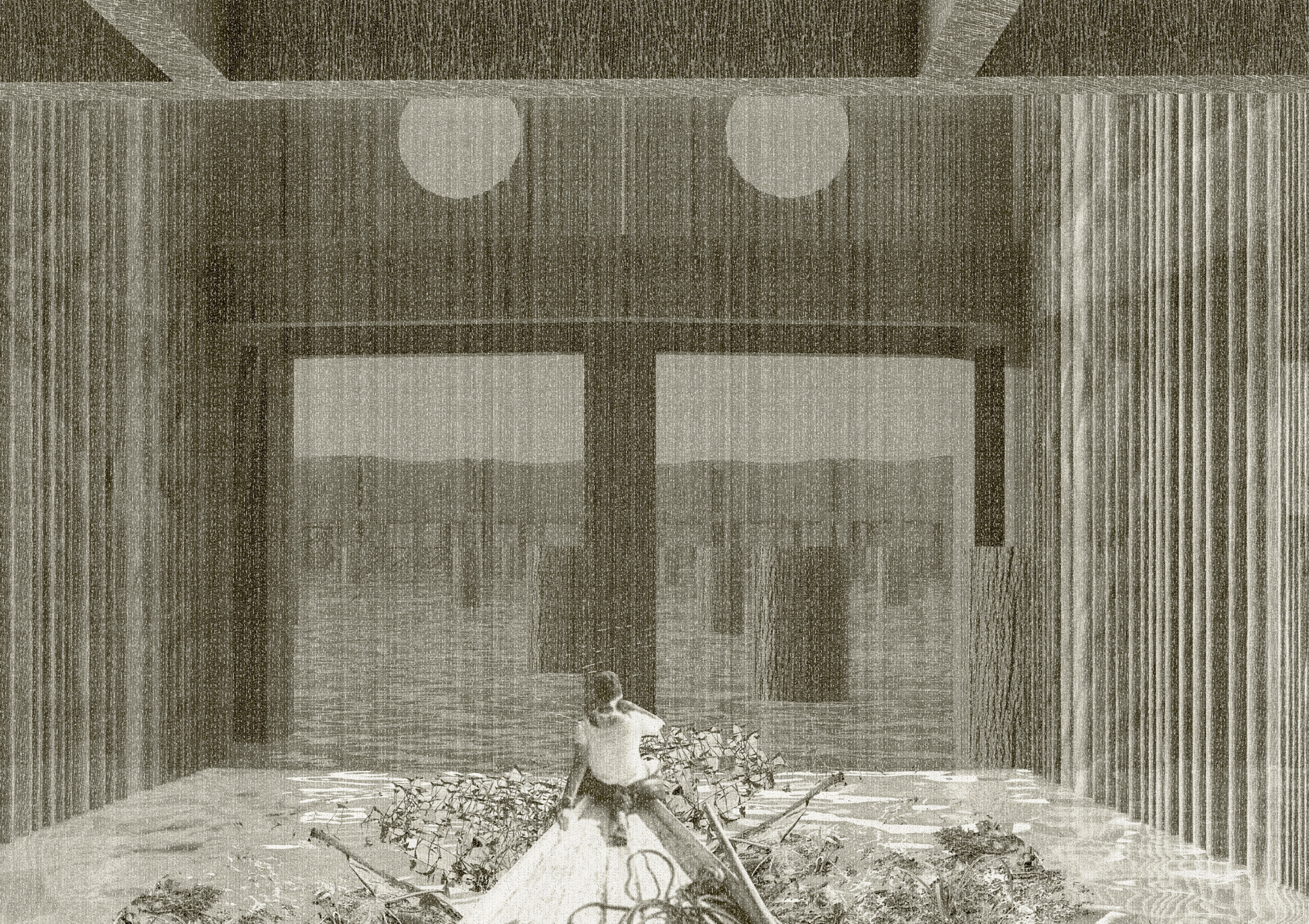
1:5 PLATFORM DETAIL

1:5 FOUNDATION DETAIL

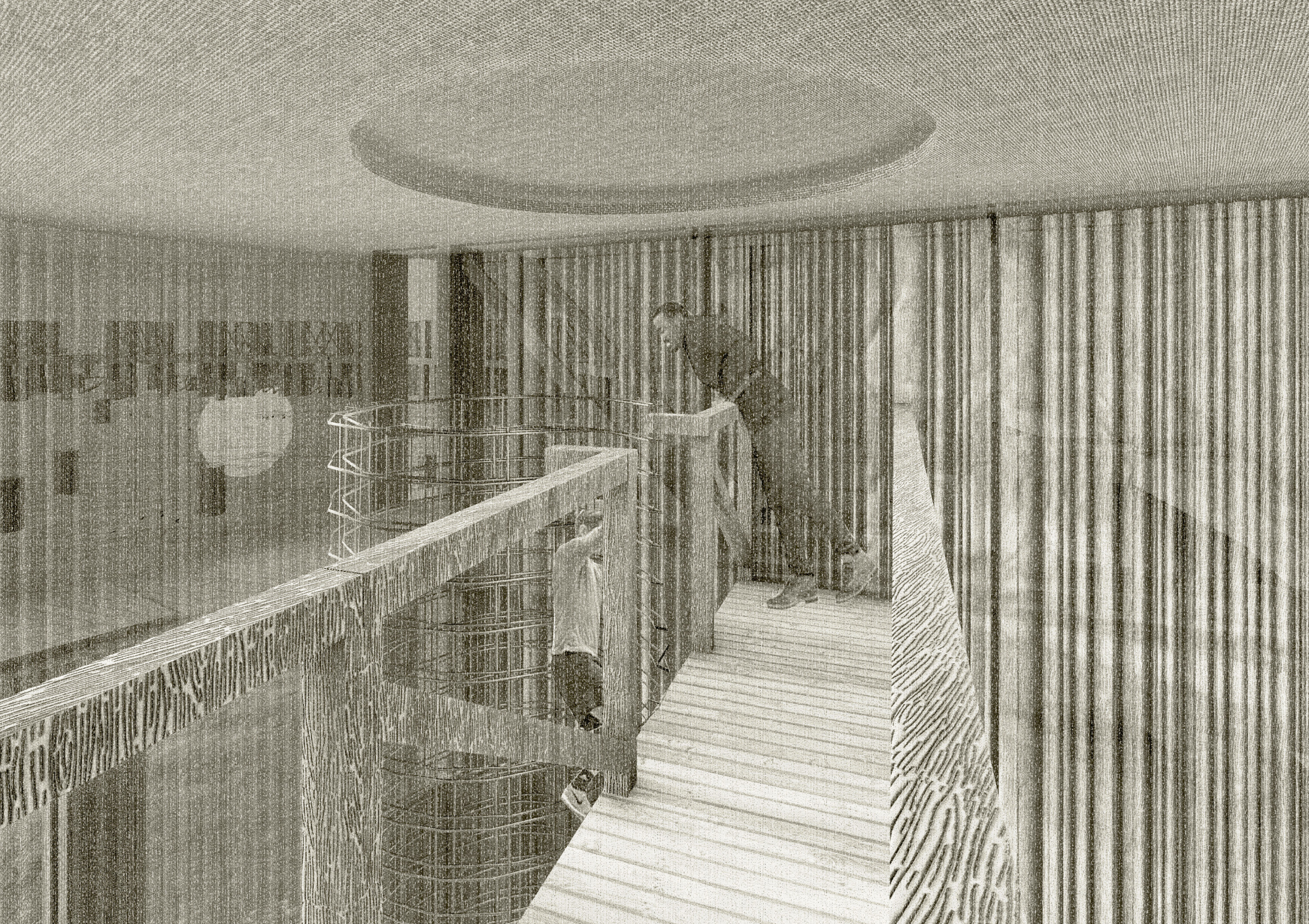
Living Atmospheres







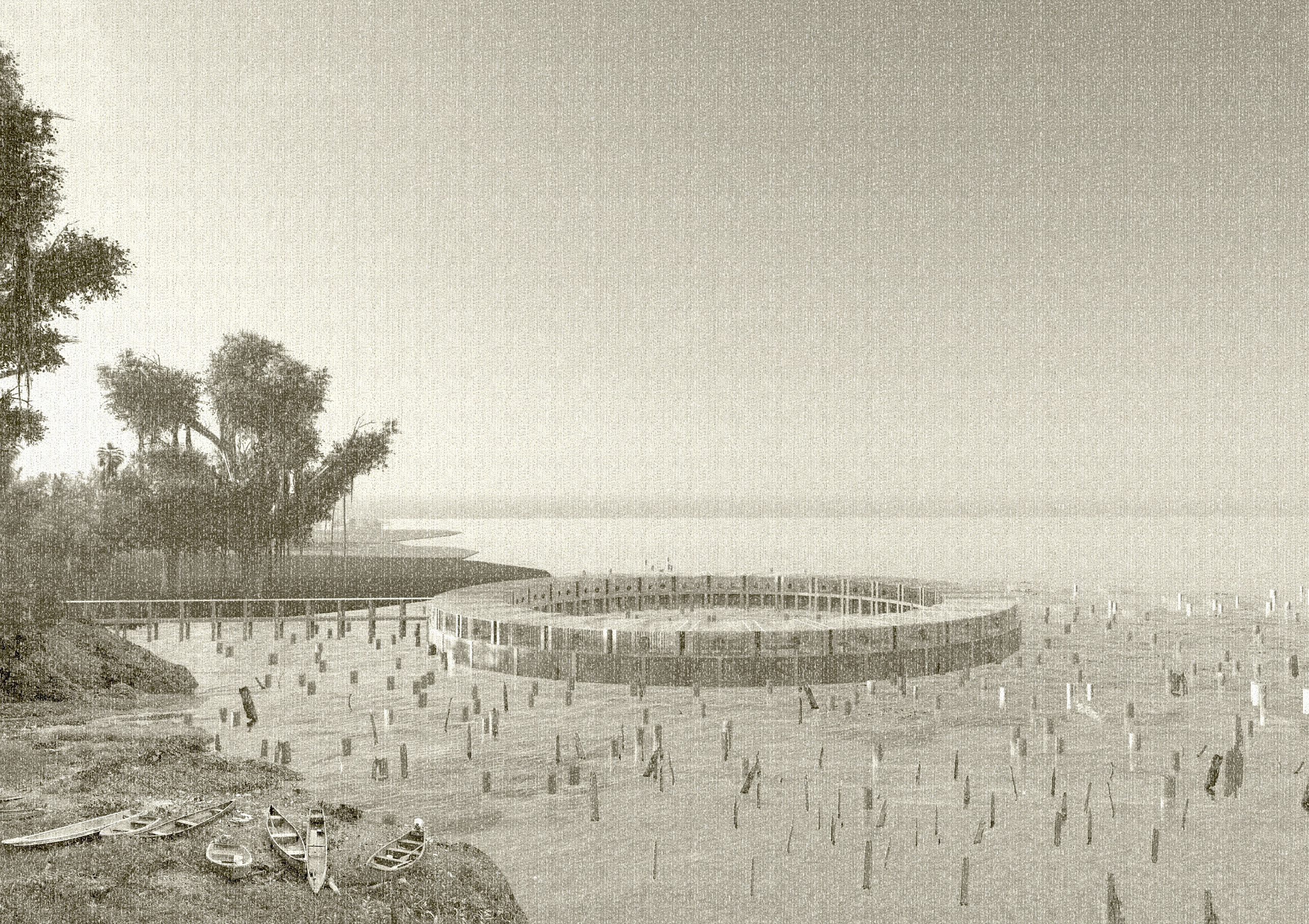














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