Assembling the Arctic Symphony

Design booklet:
Assembling the Arctic Symphony

Graduation studio Explore Lab
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Introduction

“Assembling the Arctic Symphony” is a condensed design booklet, an exploration of the rhythmic harmony between time, nature, and architecture. This booklet is about a living structure in the Arctic landscape – a structure that evolves, adapts, and performs in a symphony of time.

The journey here is about recognizing architecture not as a static entity but as a dynamic process that grows with and within its environment. This booklet presents a design narrative where construction, decay, and rejuvenation become integral elements of a performance of architecture. The life of the structure evolves through cycles, much like the rhythmic changes in the Arctic landscape. Through design, we explore how this architecture responds to and interacts with natural processes like erosion, sedimentation, and the passage of time itself.

Drawing inspiration from Bruno Latour’s philosophy, the ‘assemblage’ of our Arctic symphony involves a network of human and non-human actors, each playing their part in shaping the narrative. From the workshop functioning as the metabolism of the structure to the dwelling units providing shelter and comfort, and the bridge, a symbol of transition and connection, each element tells its own story in this symphony.

I invite you to delve into the following pages to understand how architectural design can tune in to the rhythms of nature and time. In “Assembling the Arctic Symphony,” I hope you find a new perspective on the interconnectedness of architecture, landscape, and temporal cycles.

I hope my design becomes a key to unlocking a novel understanding of architectural design - an understanding that recognizes and respects the beauty of natural processes embraces the concept of time as an active participant in shaping space, and showcases the potential for harmony between the built and the natural world.

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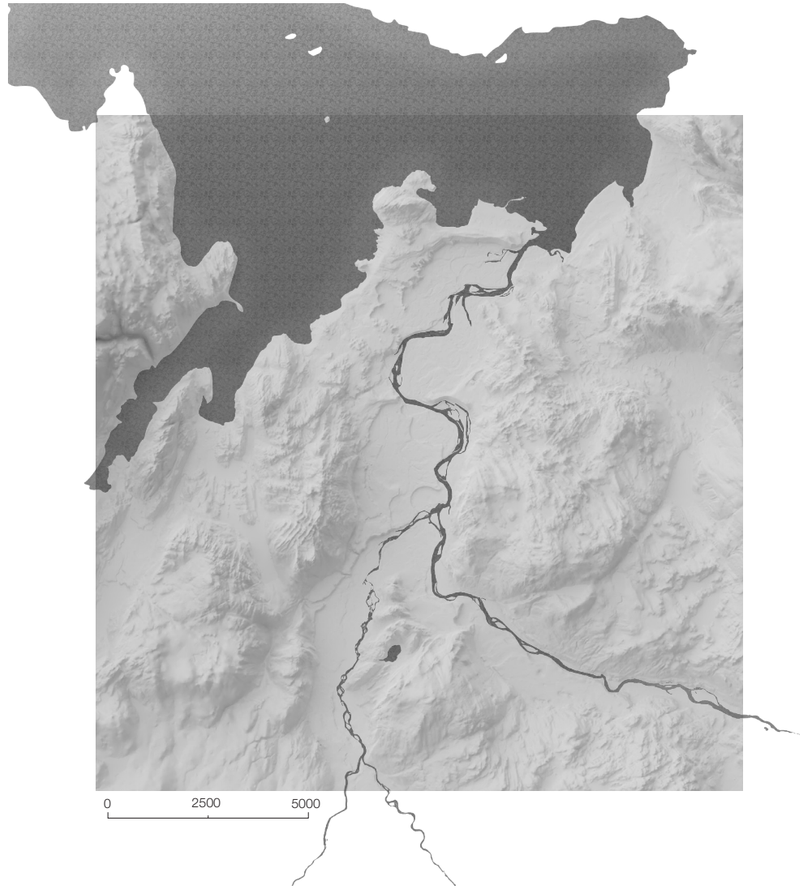
Alta

The expansive river basin that gathers and flows through the Alta Valley and into the fjord is known as the Kautokeino basin. Stretching as far as to the Finnish border, it is the lower portions of the basin that I selected for further analysis in my project. The two primary rivers that converge into the Alta River are Gammelbollo and Eibyelva. Gammelbollo has a more substantial water flow and is considerably more stable due to its dam, maintaining a relatively predictable flow year-round. Nonetheless, like all rivers, it is still influenced by natural precipitation throughout the seasons. Eibyelva, on the other hand, is a “wild” river, with flow patterns that vary dramatically depending on the season. During spring, when mountain snow melts, the river experiences a significant increase in volume, rendering its path highly unpredictable. However, this fluctuation diminishes as summer progresses. These two rivers converge at the point where the Alta Valley begins and continue flowing through the town of Alta before reaching the fjord.

The landforms where Eibyelva meets Gammelbollo primarily consist of sediments from the last glaciers that once covered the fjord, as well as river sediments. The terrain here is relatively flat and fertile, allowing plants and animals to flourish. Dense forests envelop the lower valley, and numerous fish migrate up the rivers to spawn. This renders the area highly attractive to sport fishers and other nature enthusiasts. Since the land is so low in this portion of the landscape, the rivers meander widely across the lower regions, significantly altering the environment’s appearance within a few years. Only the mountains to the east and west serve as barriers that constrain the river along its course.

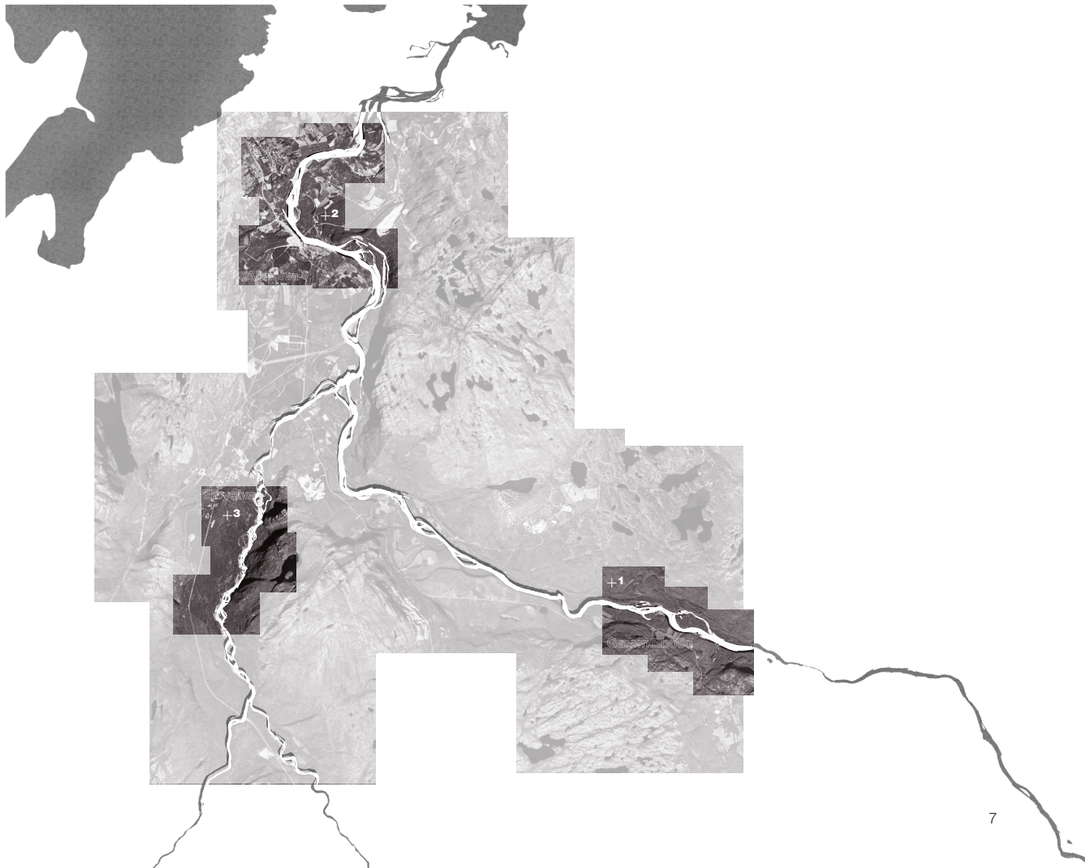


Eibyelva

In order to understand the movements within the landscape more, I chose to examine three distinct sections of the Kautokeino river basin. On the map these three sections are marked as +1; Gammelbollo, +2 Altaelva and 3+; Eibyelva. My objective was to identify unique characteristics aabout the different movements these three different sections has had through years. My hope was to gain valuable insights into the interplay between the river and its surroundings.

I was particularly drawn to the segment known as Eibyelva. This portion of the river showed the most significant and dynamic changes over time, making it a compelling area for further investigation. Its ever-evolving nature and complex interactions with the landscape captured my attention, ultimately leading me to select Eibyelva as the ideal location for my project.

This part of the river basin offers a wealth of opportunities.



The living Structure

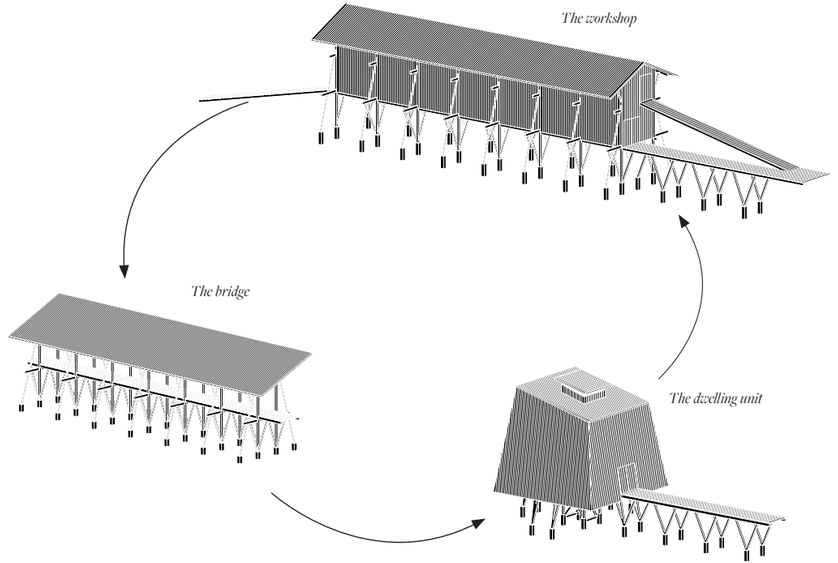
The dwelling unit, workshop, and bridge come together to form a living structure, much like the components of a living organism. Each part has its own distinct function, yet they complement and support one another, creating a cohesive and dynamic whole.

The dwelling unit provides shelter, warmth, and a sense of belonging for the inhabitants. It serves as a nurturing space where people can rest, socialize, and connect with one another. Like the cells of a living organism, dwelling units continually grow, adapt, and evolve, responding to the needs of their occupants and the ever-changing environment.

The workshop represents the metabolic center of the living structure, where raw materials are transformed into resources that can be used in the project, like wood and compressed earth blocks. This unit gets its energy from the river. Like the metabolism of an organism, the workshop plays an essential role in the overall health and well-being of the structure, maintaining a delicate balance between consumption and production, growth and decay.

The bridge is the connective tissue of the living structure and facilitates movement and communication between the dwelling units and the workshops, as well as the surrounding environment. It serves as a vital link, enabling the exchange of resources, ideas, and experiences. Like the circulatory system of an organism, the bridge ensures that the living structure remains connected, nourished, and engaged with its surroundings.

Together, the dwelling unit, workshop, and bridge create a living structure that is more than just the sum of its parts. It is an ever-evolving organism that adapts, grows, and responds to the dynamic world around it.



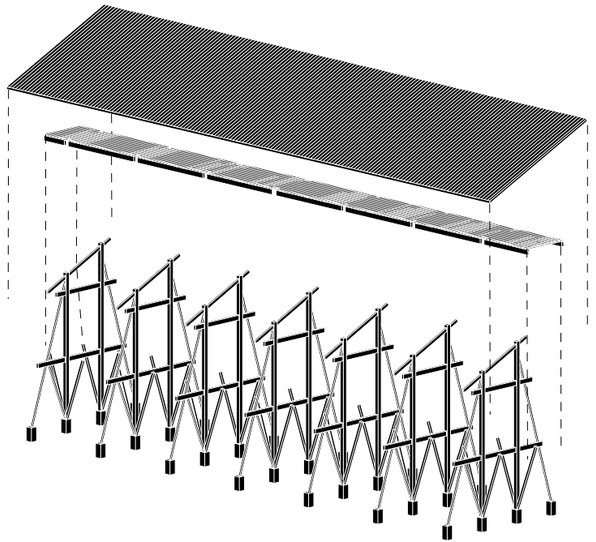
A symbol of connection and time

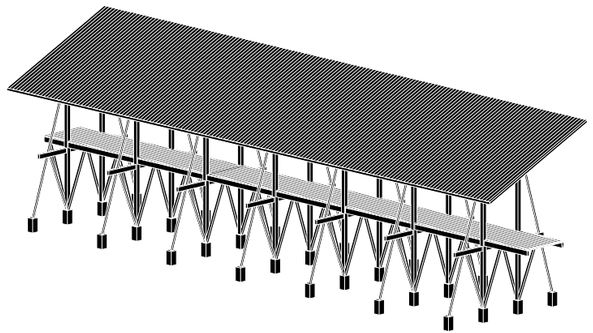
The bridge holds a unique and symbolic position. It not only connects the various functional elements of the project but also represents a deeper connection between humans and nature, as well as serving as a bridge through time.

As a physical structure, the bridge connects the different components of the Arctic Symphony project, such as the dwelling units, the workshop, and the landscape. It enables the flow of people, materials, and ideas throughout the project.

The bridge also serves as a symbol of the connection between humans and nature. By thoughtfully integrating the natural landscape and respecting the surrounding environment, the bridge facilitates a deeper understanding and appreciation for the balance between human intervention and the natural world. This relationship is emphasized by the ongoing adaptation and interaction with the environment, as it continuously evolves in response to the forces of time and nature.

The bridge also embraces the concept of time, as it connects the past, present, and future of the project. By acknowledging the ever-changing nature of the landscape and the structure itself, the bridge serves as a reminder of the constant transformation and cyclical rhythms that define our existence. As the bridge evolves, it carries with it the memories and stories of those who have interacted with it, creating a rich blanket of experiences that span across time.





Tempo

The oscillation of the moon
The pace of the sun
The rhythm of the waves crashing on the edge of the river
The swaying of trees in the wind
The chirping of insects at night
The meandering of the arctic rivers
The ebbs and flows of the fjord
The migration of fish in the river
The growth of plants and trees
The movements of reindeers herding across the plateau of Finnmark
The movement of the fjord
The sound of cracking ice
The slow-moving patterns and the appearance and disappearance of the northern lights

The dwelling units

The dwelling unit, workshop, and bridge come together to form a living structure, much like the components of a living organism. Each part has its own distinct function, yet they complement and support one another, creating a cohesive and dynamic whole.

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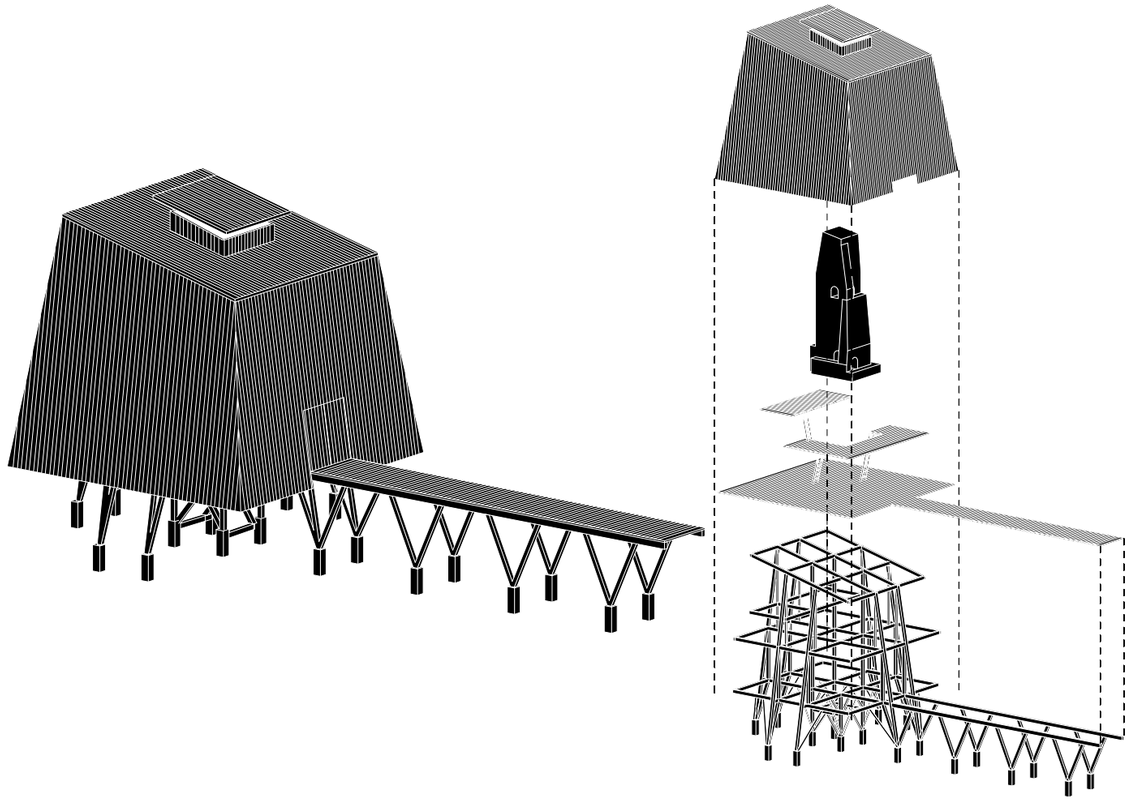
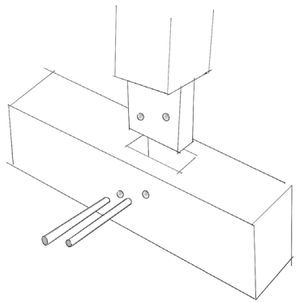
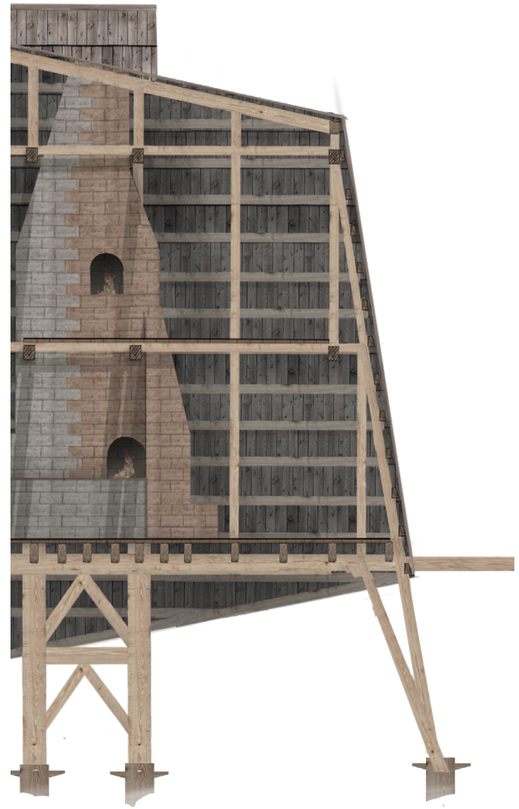


Construction

Old farm joinery and wooden pins are used to connect the wooden elements of the structure. In the construction of the Arctic Symphony, each wooden component is carefully crafted to fit seamlessly together using traditional joinery techniques.

This method of construction not only emphasizes the project's commitment to sustainability and harmony with the natural environment but also connects the structure to the history and the past. The old farm joinery and wooden pins evoke a sense of continuity, linking the Arctic Symphony to the rich heritage of traditional building techniques.





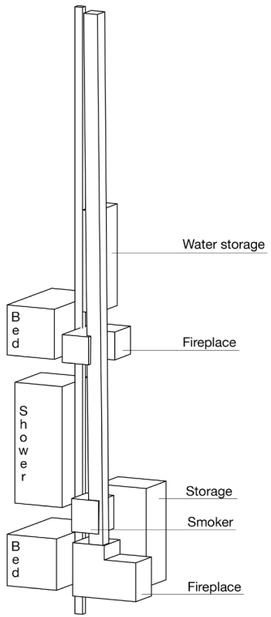
Program of the core

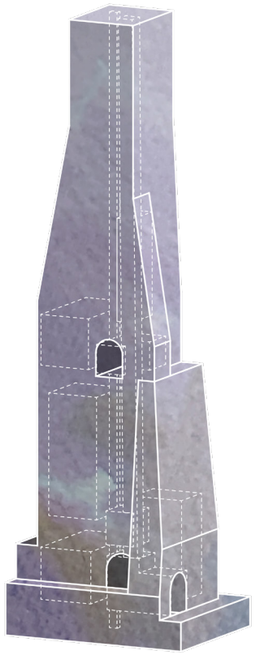
Within the dwelling units, you find the rammed earth core. It is the heart of the structure and gives life to the units. This robust heart, made from rammed earth, is a source of warmth and a hub for essential amenities.

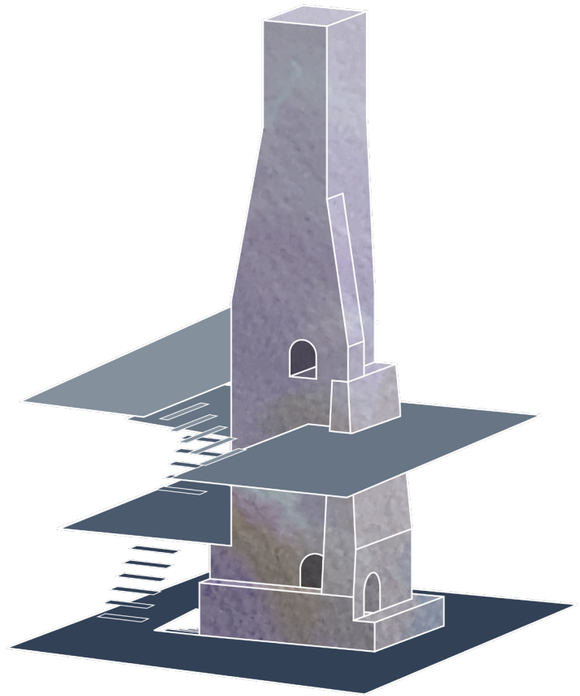
In the heart of winter, the core becomes a gathering point, its fireplace radiating warmth that permeates the entire space, creating a cozy retreat from the harsher exterior. This warmth fuels the core's function as the primary cooking area during winter and summer.

Sleeping units are nestled within the core and benefit from the radiant heat of the fireplace, providing a cozy space for rest. A shower with water harvested from the roof and warmed by the fire adds another layer of function and comfort.

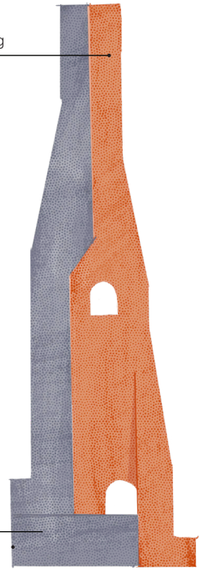
These features make the core an architectural centerpiece of the units, but it also serves as a symbol of survival and adaptability in a harsh yet beautiful landscape. Over time as the units deteriorate, the facade of the unites open up and allow water to start eroding the core away. Allowing the core to once again become a part of the river.







High clay content - perfect for firing



High sand content: perfect when not fired. High porosity gives high frost resistence and high compressive strength with minimum shrinkage

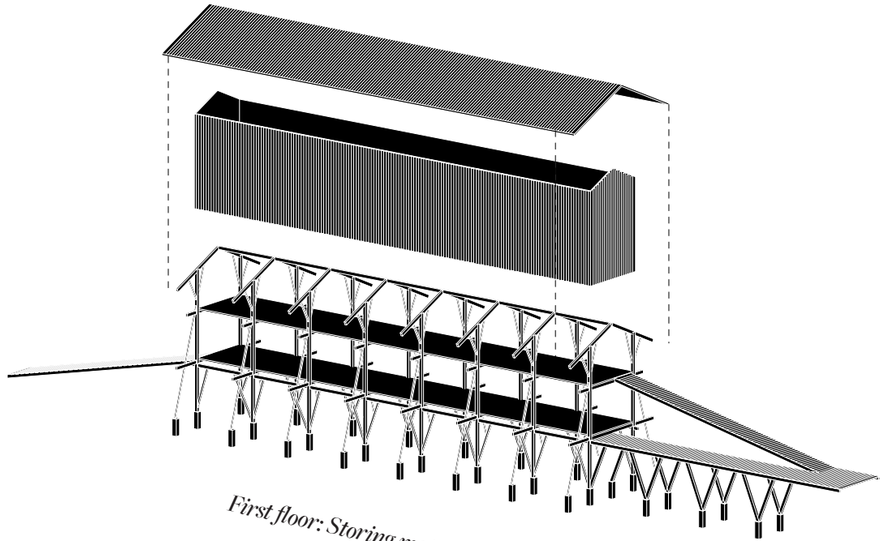
A Hub for processing materials

At every corner of the bridge lies a workshop for the continuation of the project. This space is crucial to processing and refining the natural materials used throughout the construction process. In this building, the raw materials, such as wood and earth, are transformed into valuable resources, ready to be incorporated into the various structures of the project.

The workshop functions as a place to process wood, shaping the timber into beams, columns, and planks. People learn from each other and carefully cut and form the wood, preparing it for use in traditional joinery techniques and wooden pin connections. The workshop is also responsible for the creation of compressed earth blocks. These blocks are made by compressing a mixture of earth, clay, and sand into different blocks.

The processed materials that are either drying or stored for later use are stored on the upper floor of the building. This allows for easy access when the materials are being used for the project.

In summary, the workshop serves as a vital center for processing and storing sustainable building materials for the Arctic Symphony project. It is here that the raw materials are transformed into valuable resources, ready to be used in the construction of the unique and environmentally conscious structures that make up the Arctic Symphony. The workshop, with its skilled craftspeople and efficient organization, exemplifies the project's dedication to sustainability, harmony with the natural environment, and the preservation of traditional building techniques.

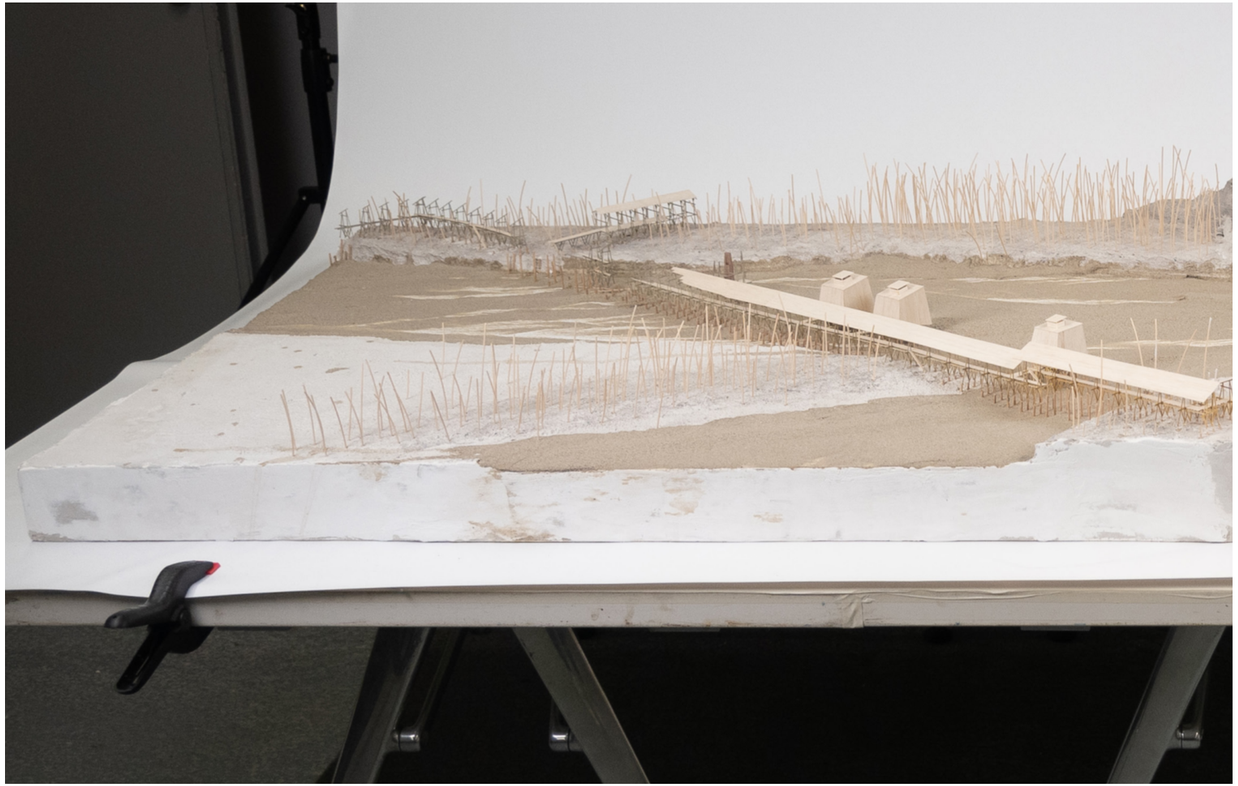


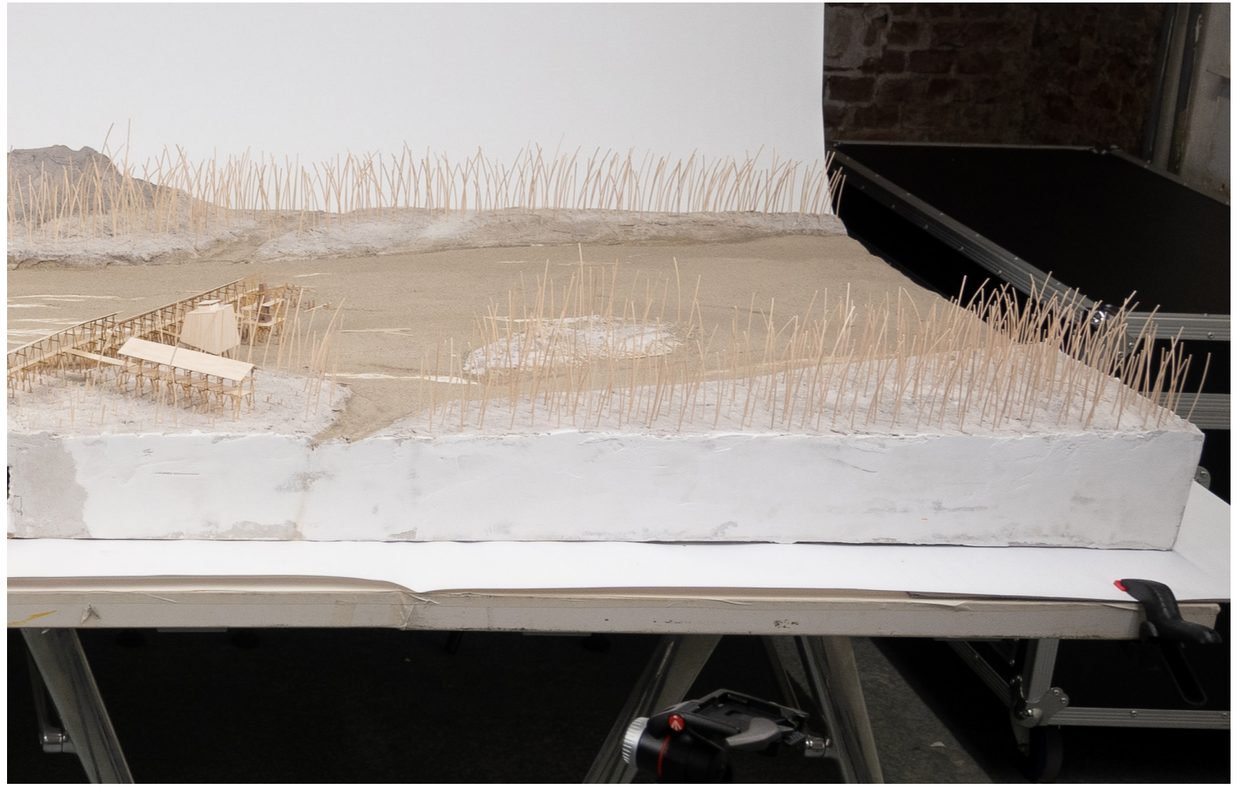
First floor: Storing materials

Ground floor: processing materials

Landscape model

This model, at a scale of 1:10,000, offers an insight into the Arctic landscape. It captures the terrain, the meandering river, and the lower parts of the mountains surrounding the fjord. However, it does not contain architectural elements, allowing the viewer to appreciate the beauty of the context.





Architectural model

Here, as an experiment, we see the architecture integrated with nature through this 1:200 scale model. This model narrates the story of the living structure, tracing its temporal transitions—the aged, weathered units from the past, showing the beautiful deterioration from time and elements. The newer units in production symbolize continuous growth, underlining the building's dynamic nature.

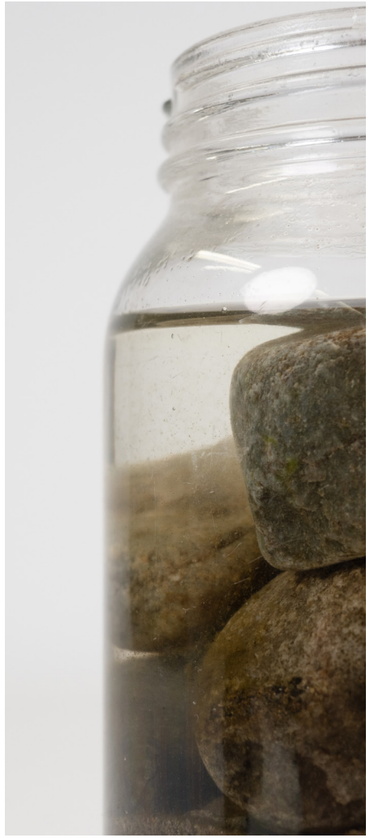
A highlight in this model is the detailed river landscape, made from an erosion experiment using sand and water to sculpt the terrain. The resulting patterns imbue a vibrant texture, underscoring the essence of the project: the harmony of change and constancy. This model is a frozen moment in our symphony of time and architecture.

Intimate Encounters

Here at the end I am showing a small collection of materials from the landscape. This collection serves as a magnifying glass into the components of the Arctic environment.

One jar shows a blend of earth and moss, mirrors the essence of the ground, still alive a year after it was collected from the forests around the river. It's a snapshot of the soil and the ground under the trees. The second, filled with water, sand, and river stones, captures a moment of the river.

Alongside these, a small collection of materials in small vials illustrates the diversity and textures of the area. From the soft silt of the river's edge to the rich layers of the forest floor, each vial holds a chapter of our Arctic Symphony. Each element collected serves as an intimate connection to the landscape.



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MSc Architecture