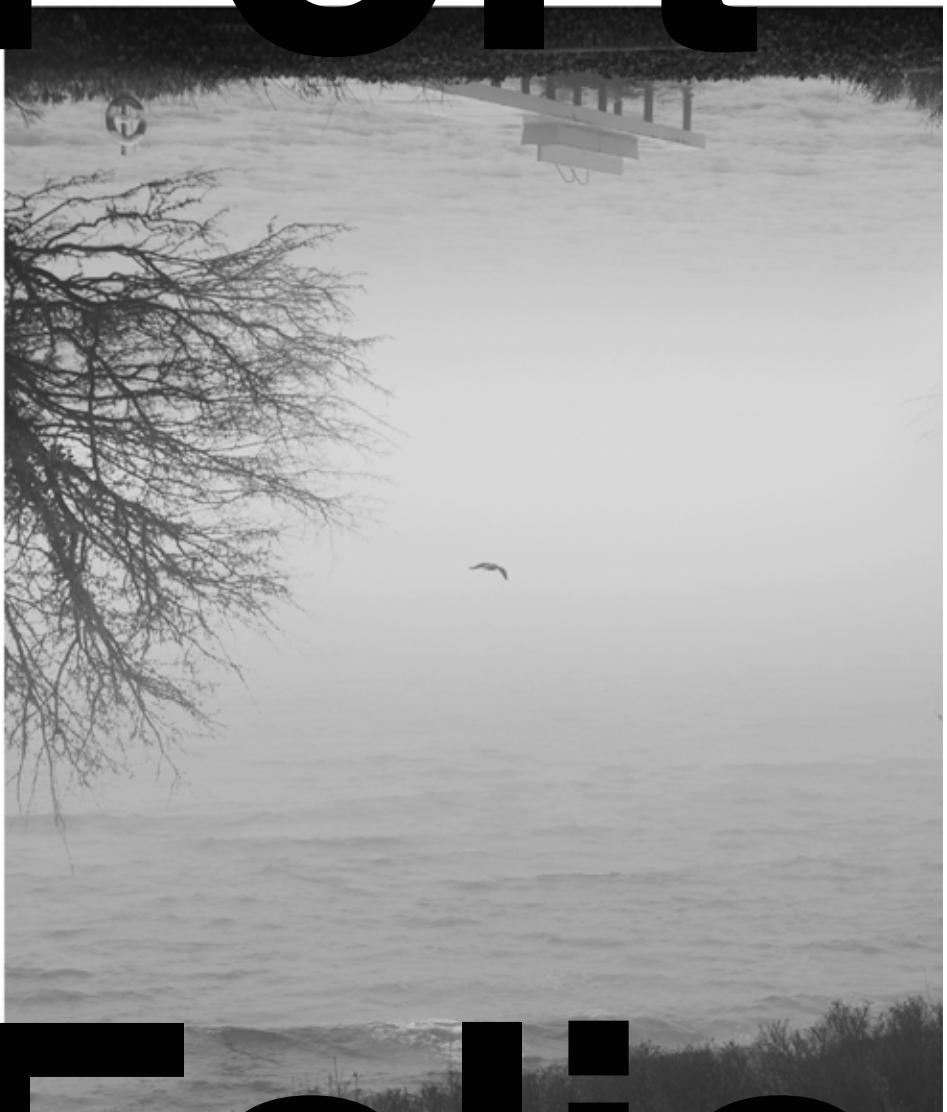


Port-



Folio

*Academic
works.*

Oliver Verner Klejs, Cand.polyt.Arch, Aalborg University, Denmark

2023-2024

About.

Oliver Verner Klejs



Skills & Interests

- Adobe suit** : **Photoshop**, Illustrator, **InDesign**
- Microsoft** : Word, Excel, PowerPoint
- Modeling** : **Rhino**, **Grasshopper**, **Ladybug/honeybee**, BSIM, Be18, Python, Revit
- Rendering** : **Vray** & Enscape for Rhino, Keyshot
- Fabrication** : **Laser Cutting**, CNC, KUKA, **3D Printing Plastic/Clay**, **Sketching**

Language: Danish - Fluent, English - Fluent, German - Intermediate, Korean - Beginner

Interests: Philosophy | **Parametric design/Computational design** | Photography |
Keeping up on new scientific discoveries especially involving mechanical engineering and
nature sciences.

Contact

Rendsburggade 28, 6. 4 • Aalborg, 9000, Denmark • oliverklejs@gmail.com • +45 20720211

Education

Aalborg University

Aalborg, Denmark

Bachelor of science (Bcs), Architecture and Design | 7-Point system: 8.95 |

GPA: 3.58 - Scale: 4.0

09/2020 - 06/2023

Master of science (Cand.polyt), Architecture | 7-Point system: 11.17 | GPA: 3.83 - Scale: 4.0
09/2023 - 06/2025

Seoul University

Seoul, South Korea

Exchange, Seoul National University, Architectural Engineering. | GPA: 3.86 - Scale: 4.0

09/2022 – 01/2023

HTX Learnmark Horsens

Horsens, Denmark

Higher Technological exam in Technology and Math

2015-2018

Short term exchange at Tacoma Community college

Experience

AalborgUniversity

Aalborg, Denmark

Student Teacher

04/2022 – 06/2022

- Guided and helped a class of 60 undergraduate student with projects and understanding of illustrative and modelling software.
- Facilitated environments where students felt safe to ask for help.

JESPER KLEJS - Tømrer & Entreprenør

Horsens, Denmark

Carpentry Laborer

10/2018 – 08/2020

- Managed oversight over subcontractors.
- Built architect drawn houses.
- Briefed subcontractors and employees on tasks to be done.
- Extensive knowledge of tools and building methods.
- Facilitated harmonious working relationships with colleagues to prevent conflicts.

VOLENTEER WORK

Create Debate

10/2022 – 08/2024

- Managed debate as mediator, between architects, engineers, and politicians.
- Helped organize and host two events with an attendance of 80.

Con-
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*Aca-
demic
works.*

Museum Jorn.....
page 6

A large Hybrid building.



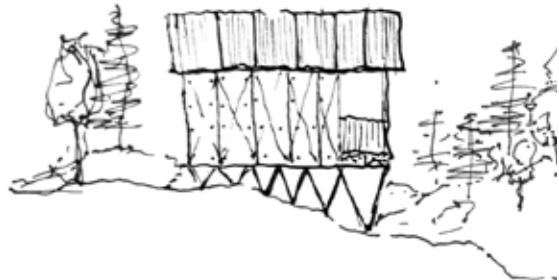
Drivhusene.....
page 16

An sustainable settlement.



Writers Retreat.....
page 26

A self sufficient cabin.

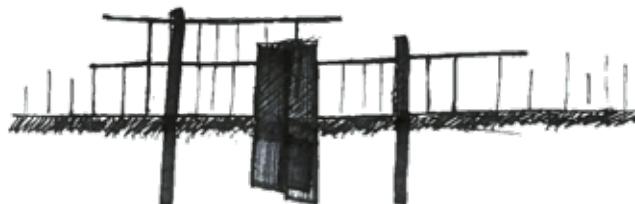


Extra.....
page 34

Robotic arm fabrication

Museum Jorn

A large Hybrid building.



Bachelor's Project, Architecture and design, Aalborg University, Designing a Large Hybrid Building, S23 Group Project

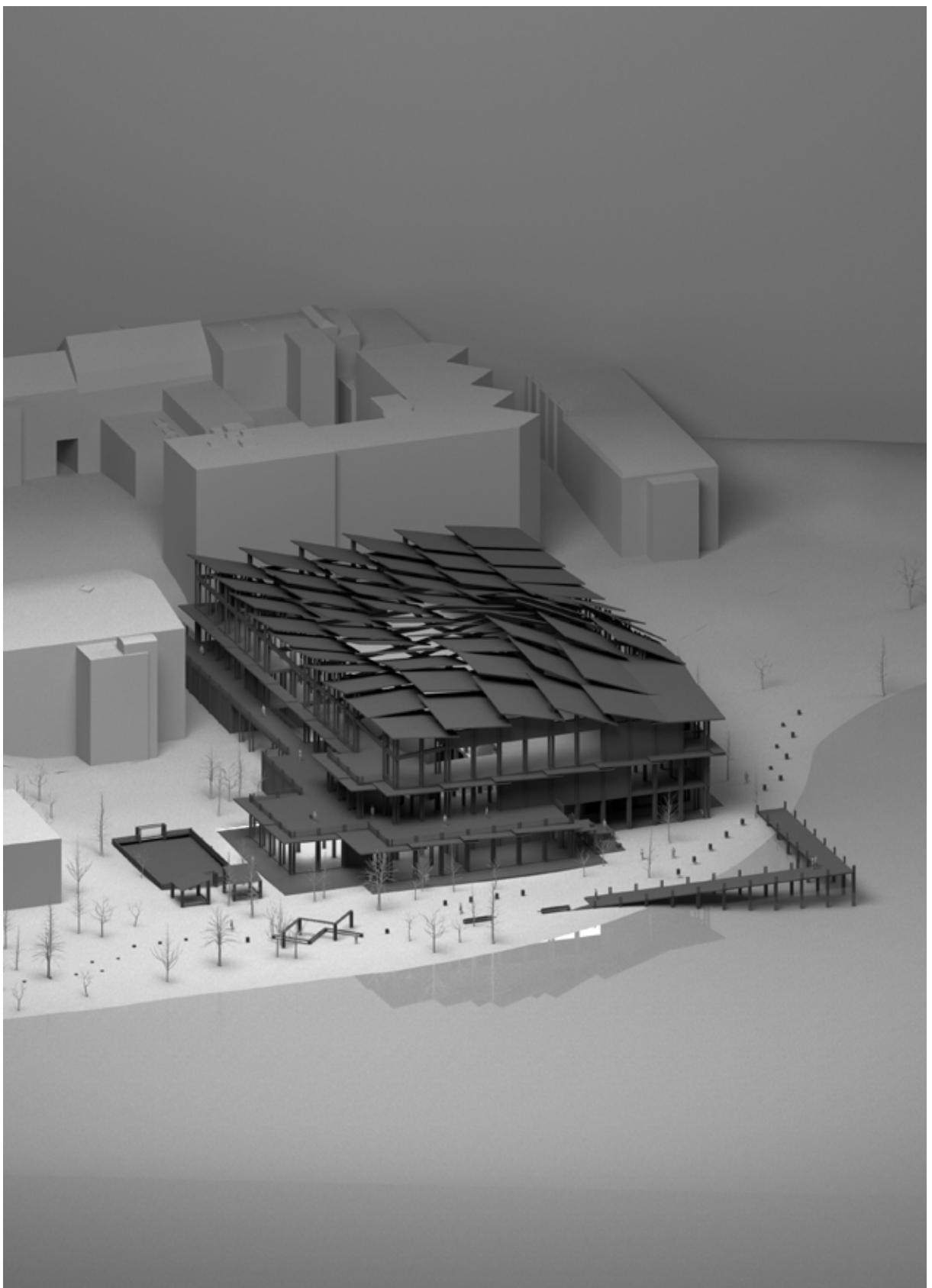
The modern urban landscape demands a diverse array of functions within its large buildings to effectively cater to the needs of its populace on a social scale. The concept of hybrid building typology aims to address these demands.

Situated in Silkeborg, Denmark, the project endeavors to create a new Museum Jorn that embodies the principles of hybrid building, drawing inspiration from the proposed plans for Søfronten by ArkiTema and Silkeborg Kommune.

To achieve these objectives on an urban scale, the design integrates the city center with the planned urban development on Søfronten, utilizing the building's volume to harmonize with Silkeborg's topology and road network, thus bridging height differences.

The architectural concept, influenced by Jorn's experimental art philosophy, challenges the conventional narrative of museum typology. This is achieved through a **dynamic arrangement of walls within a static column grid, reinforced by monoliths** to ensure structural stability.

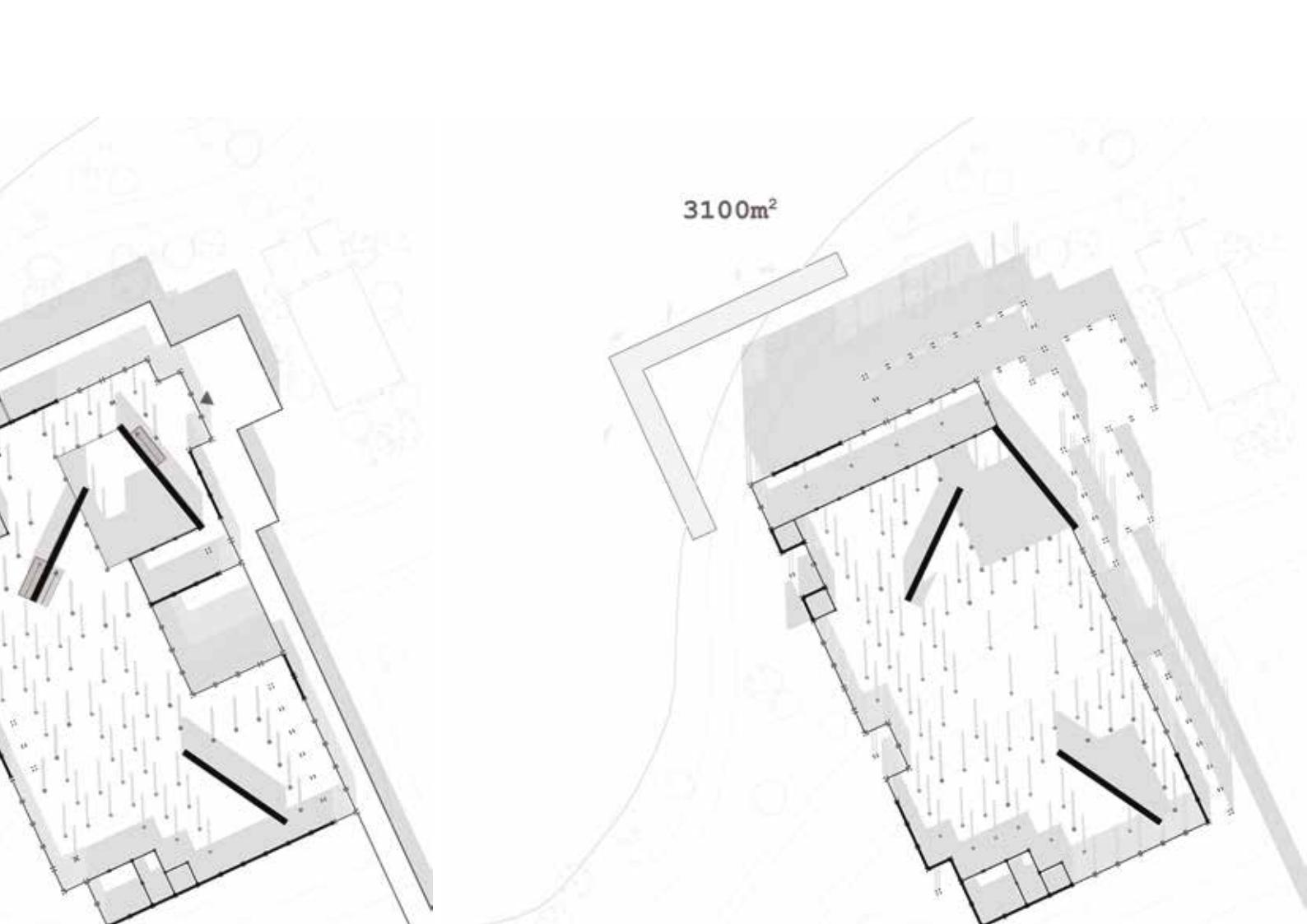
The envisioned modernized Museum JORN serves as a solution for a hybrid building that blurs the boundary between exterior and interior spaces, while embodying the experimental spirit of Asger Jorn. Positioned as a **visual spectacle on Søfronten, JORN symbolizes the fusion of art, architecture, and the city.**



Digital maquet model



Section Elevation S/W - N/E

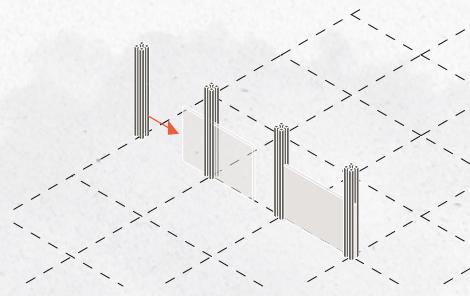


3100m²

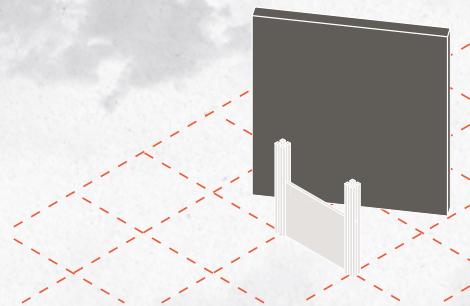
The site plan illustrates the building's footprint and its relationship to the surrounding urban context. The building is a complex, multi-story structure with a total area of 3100 square meters. It features a mix of light and dark gray shading, indicating different materials or functional zones. The building is oriented diagonally relative to the grid of the surrounding streets.



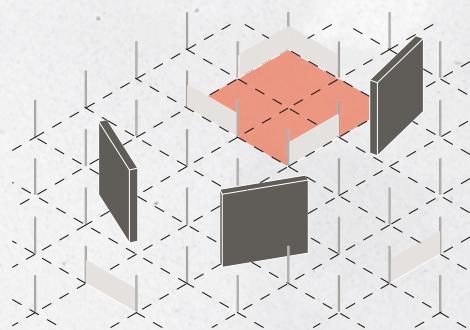
Section S/E - N/W



Moveable walls facilitated by columns



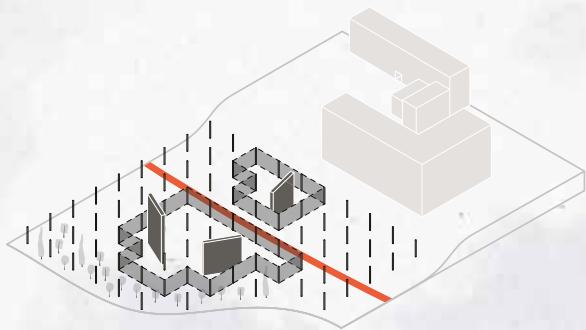
Grid contrasts the monolithic walls



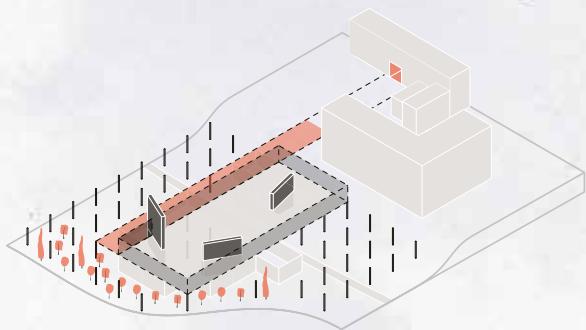
System repeats and space appears



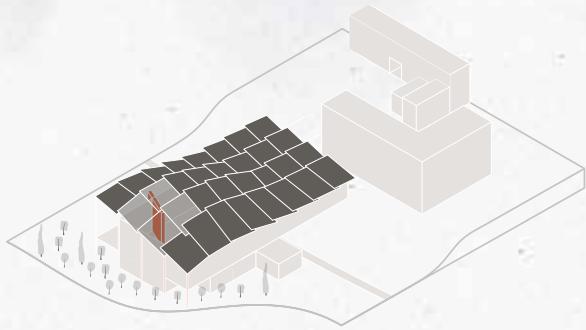
Elevation N/W



The buildings form is created by the column system



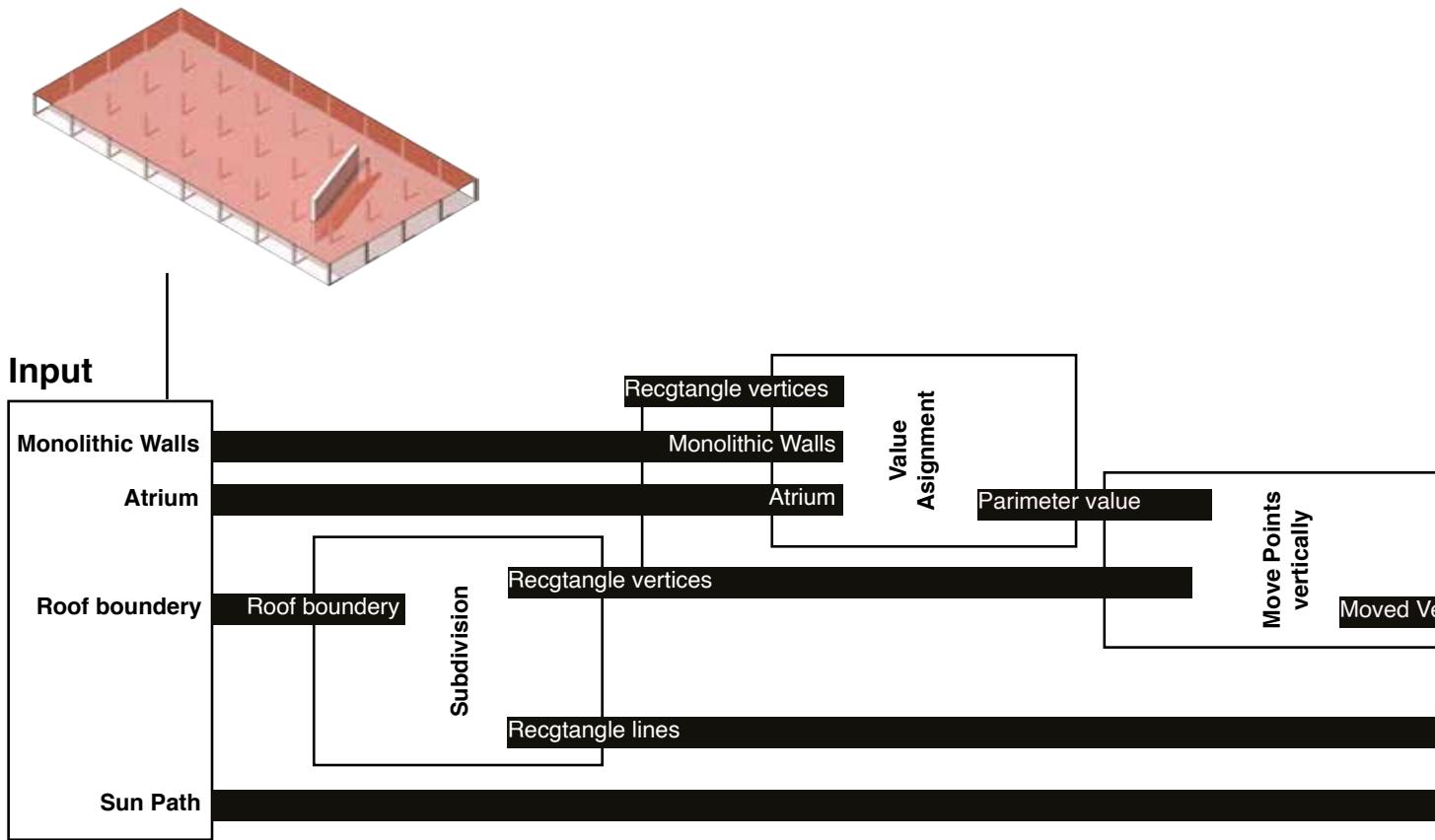
Connection to the city take shape by the column system



Roof is formed over the monolithic walls



Elevation N/E

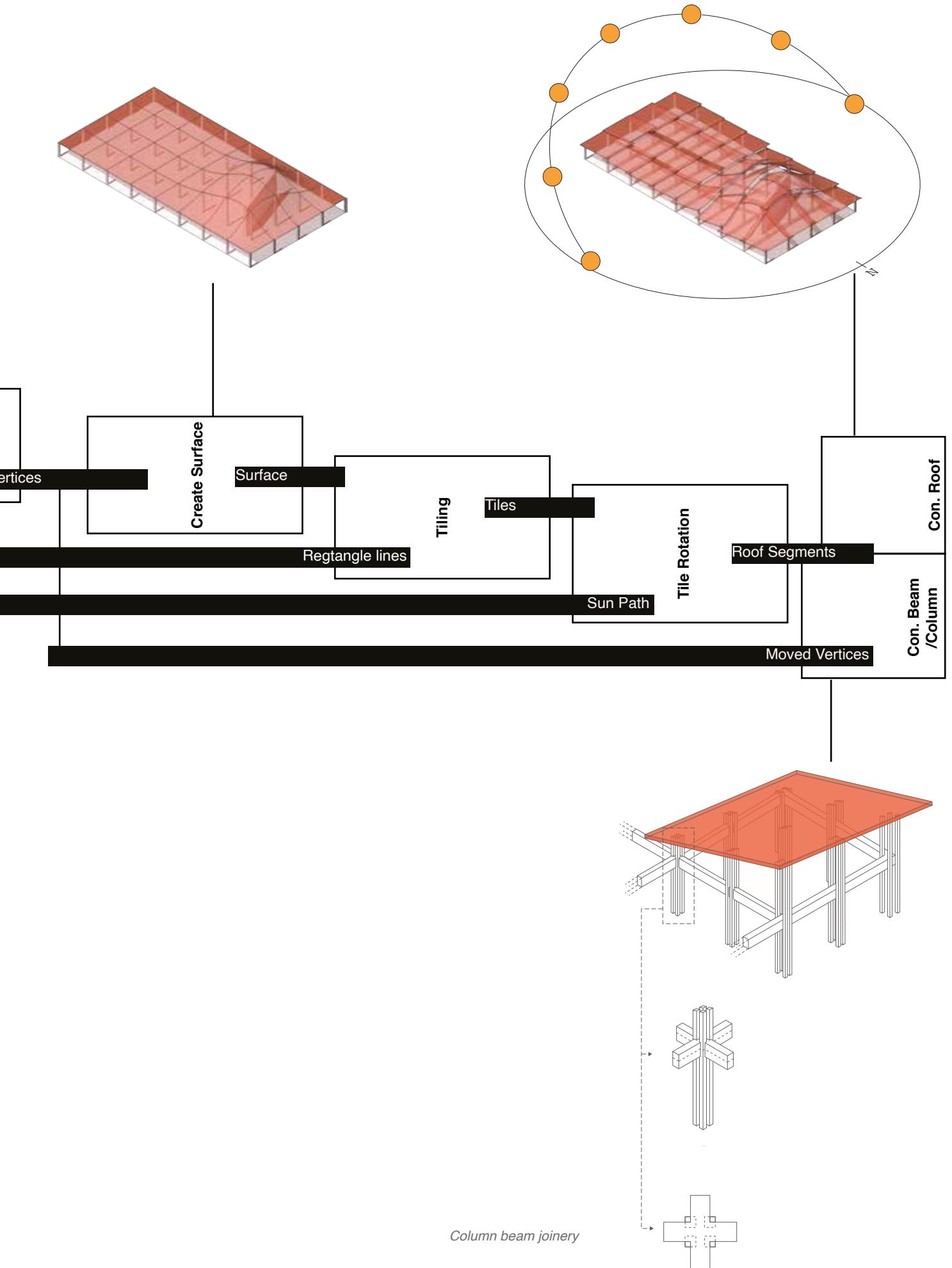


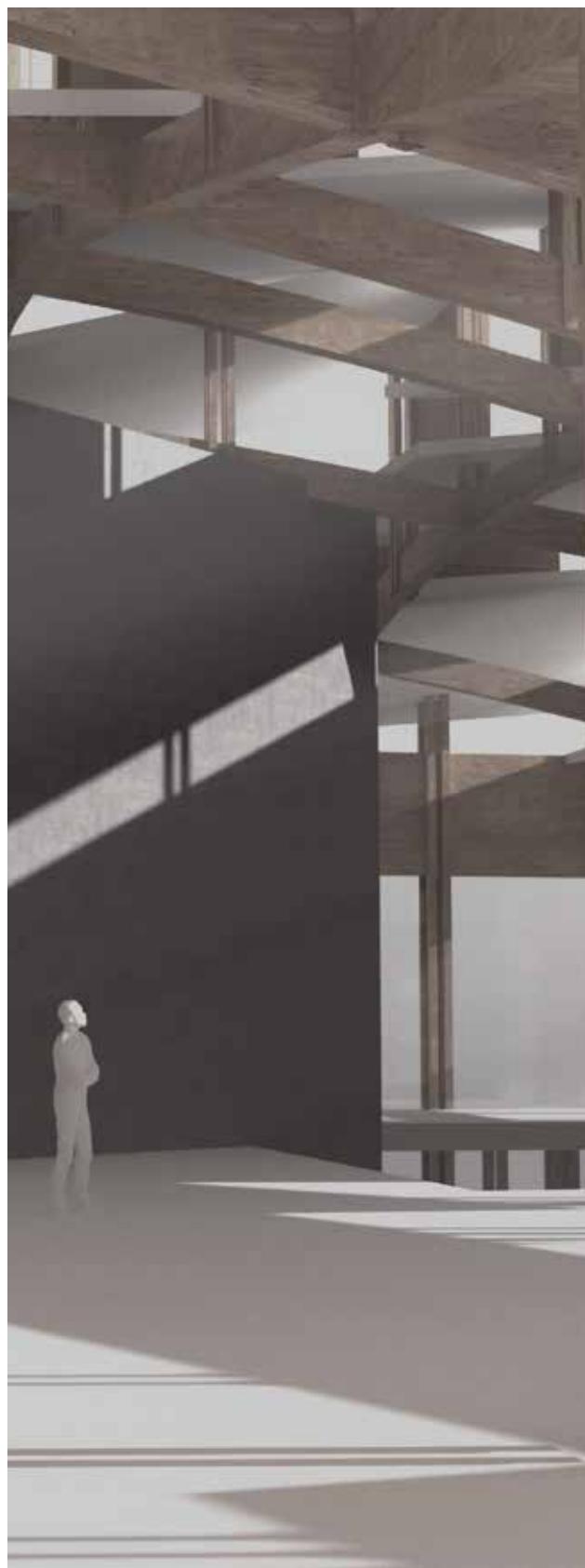
Parametric design with Rhino/Grasshopper

In the building, it is desired to exhibit a stage curtain on each floor. The stage curtains have a height of 10m, while the building's floors are 5m. The monoliths create atriums around themselves, on the ground floor and 1st floor respectively, facilitating the exhibition of the stage curtains. On the 2nd floor, the roof is designed so that the room's height is adjusted around the monolith, facilitated by the columns.

The roof is formed by the continuous columns in the building, which are extended where an increase in room height is desired. This divides the roof surface into segments. These open towards the north, with the purpose of utilizing daylight in the building and achieving the exhaust of hot air for displacement ventilation.

To promote the functionality of the columns, it is decided to further divide the roof segments. This follows the grid formed by the columns. This causes greater flexibility in the design of the roof, as well as a greater possibility of adapting the skylights as desired.





Light Render



Roof detail model



3. Museums Floor, Render

Drivhusene

An sustainable settlement.



Semester Project, Architecture and design, Aalborg University, Sustainable-Tectonic Architecture: Integrating, Social Sustainability and Climate Impact - F23 Group Project

The aim of the project is to develop a **sustainable residential settlement** on a roughly two-hectare plot located in Sorthøj, south of Aalborg, referred to as "Drivhusene."

This co-housing settlement, at a BP of 75%, seeks fosters a sense of community among participants through low-density typologies and the integration of three common houses with varied functions. The settlement follows a 35-degree southwest tilted grid, providing a clear structure despite various displacements and height variations. Facade orientation maximizes evening

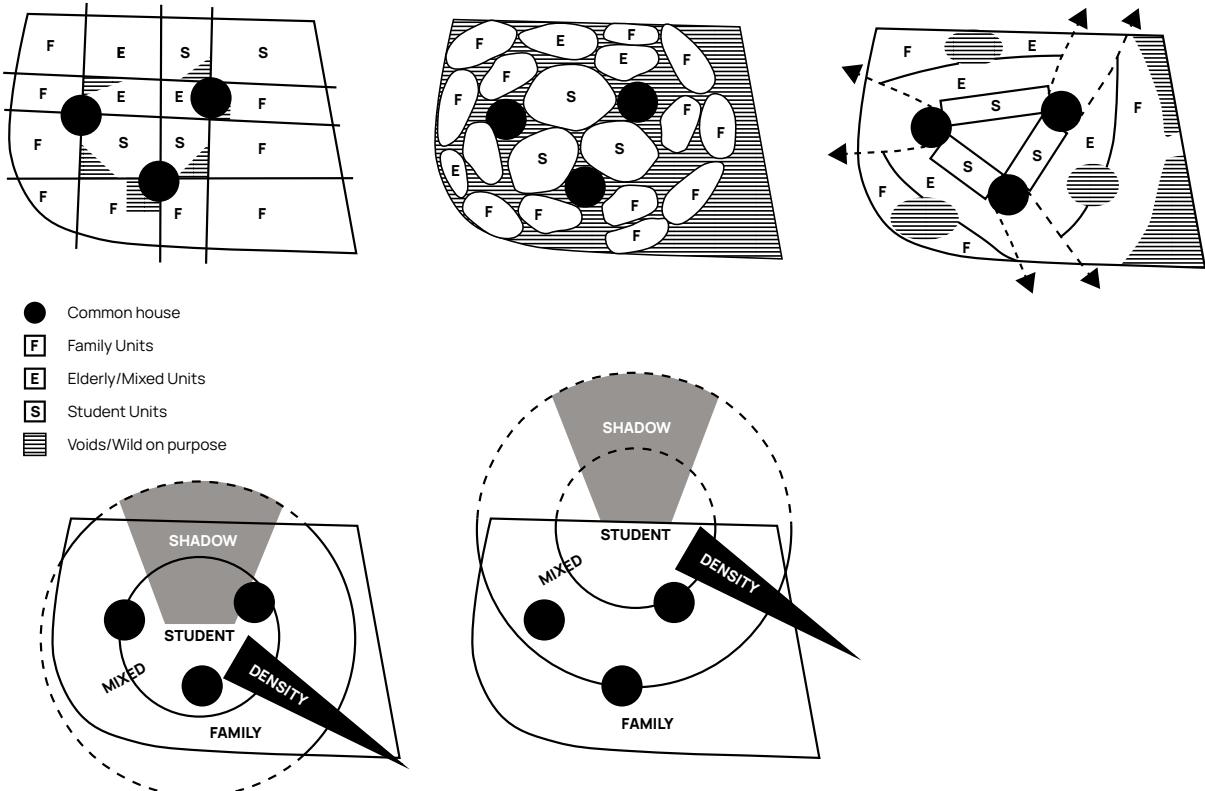
sun exposure while generating sufficient electricity through roof-mounted solar panels. Rowhouses, the primary typology, comprise four to six units resembling a traditional Scandinavian village, with burnt wood for social outdoor spaces and light wooden lamellas elsewhere.

Three common houses stand out among low-density units, fostering recognition and community. The settlement conforms to the mild topographical slope, with multiple access paths despite the main entry being to the east. CLT slabs form the structural system of rowhouses, with solar panels following the moss-covered roof shape.

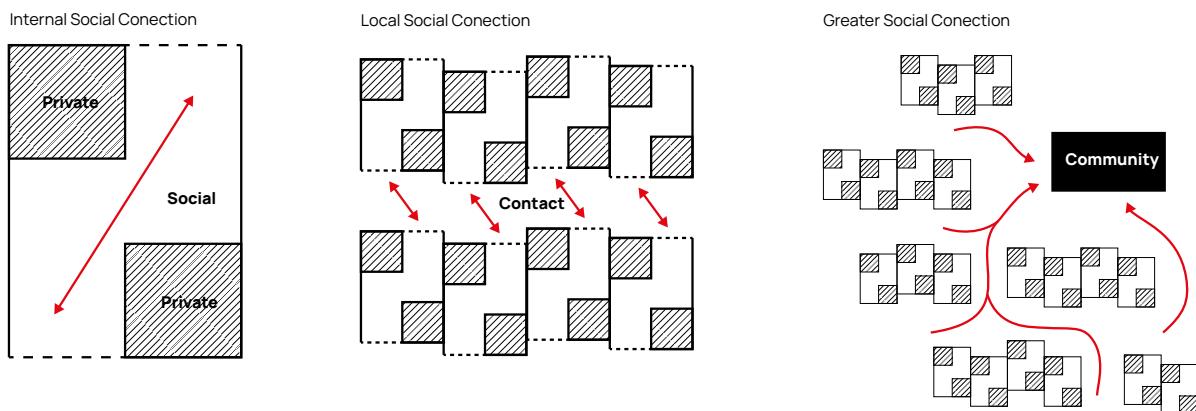


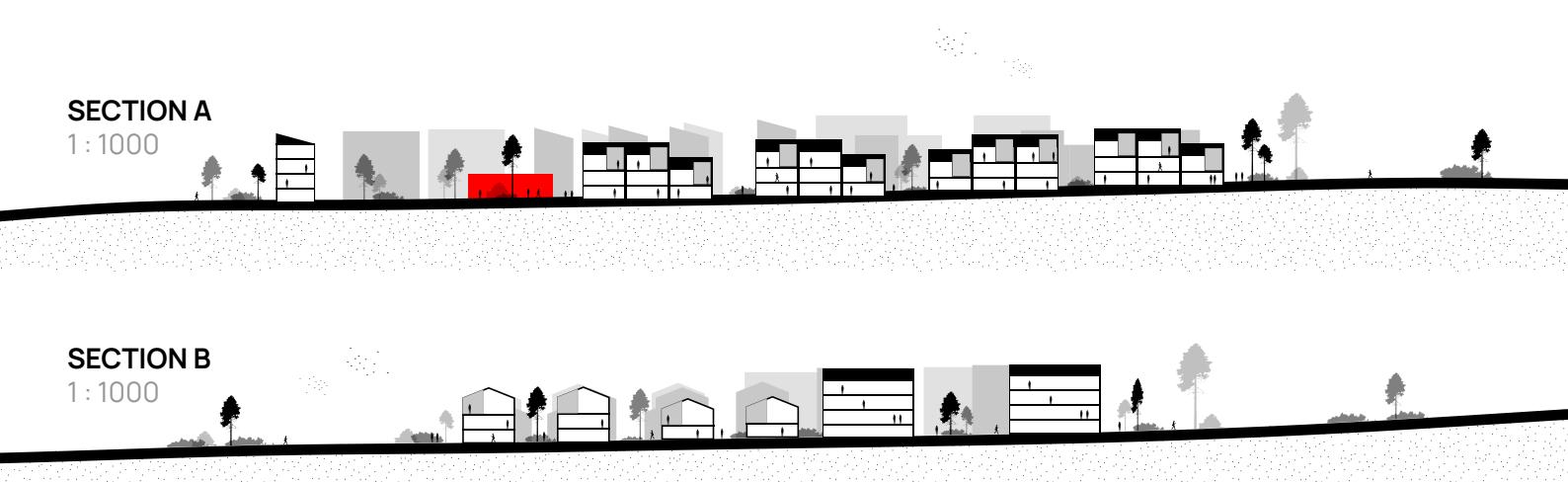
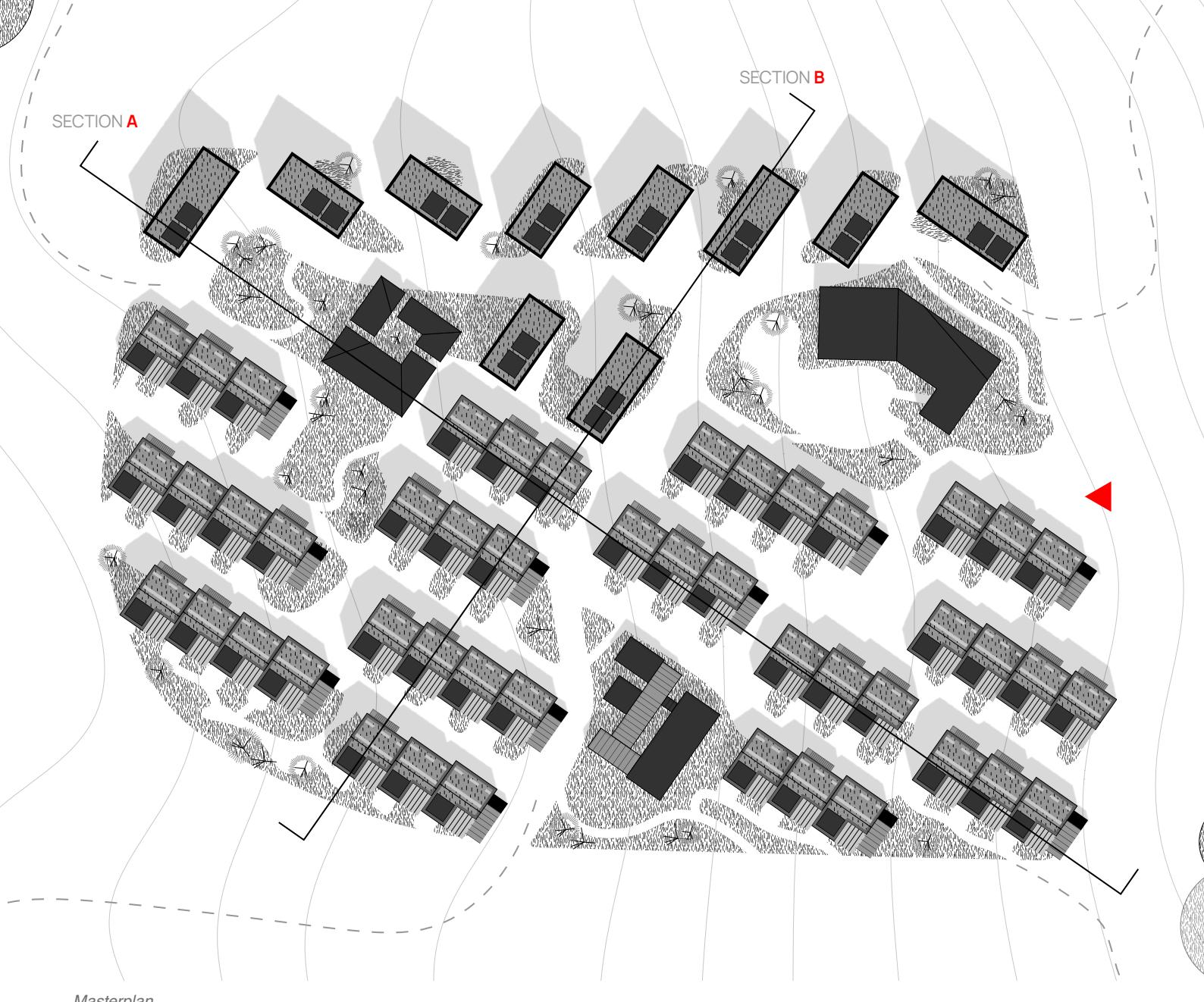
Rowhouse, Model

With a focus on social well-being, the zoning was designed to prioritize the interconnection and roles of the users within the settlement. The placement of the three common houses, voids/Wild on Purpose, and the density were also carefully considered.



Rowhouses connectivity on multiple scales, both visually and physically.



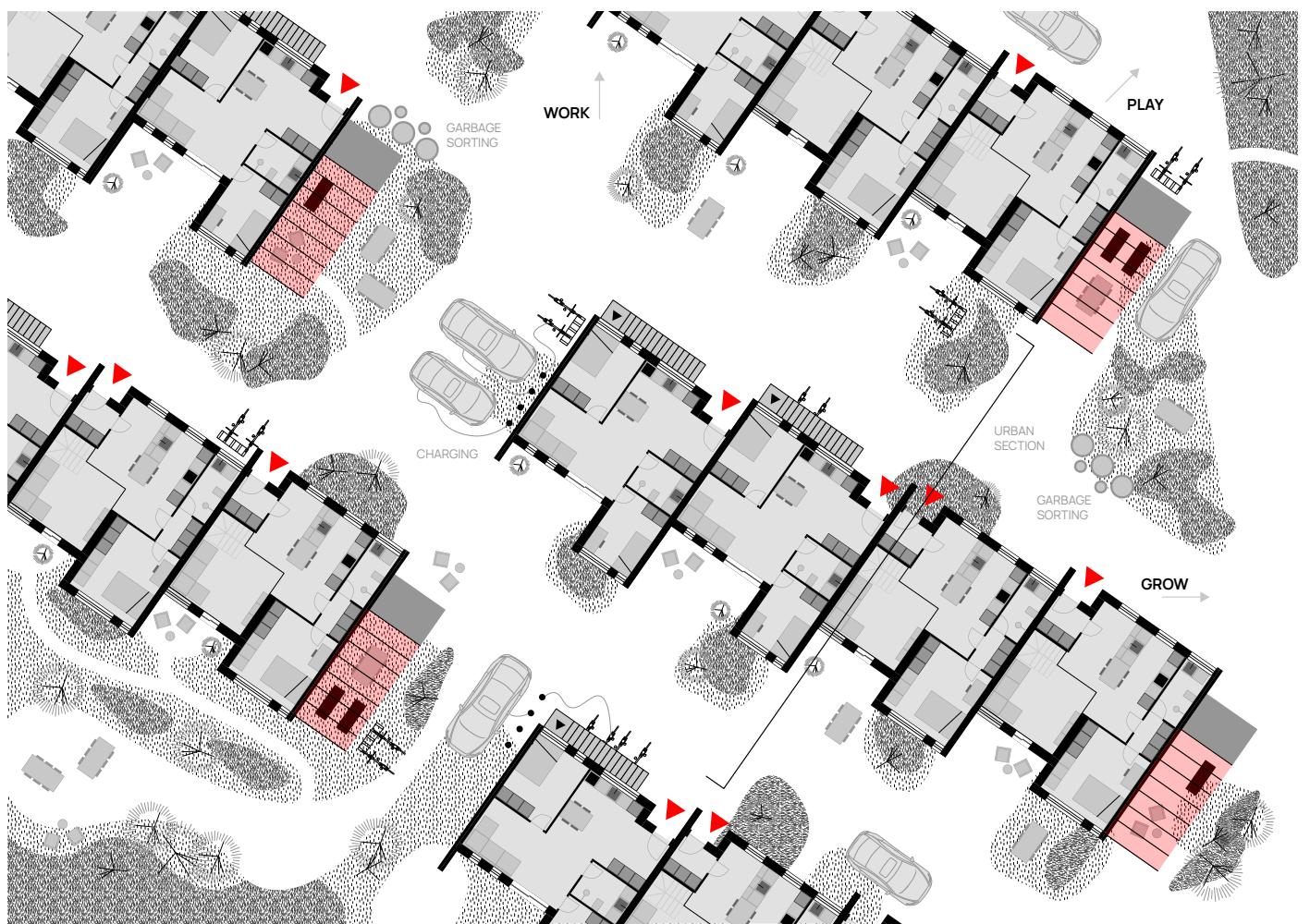




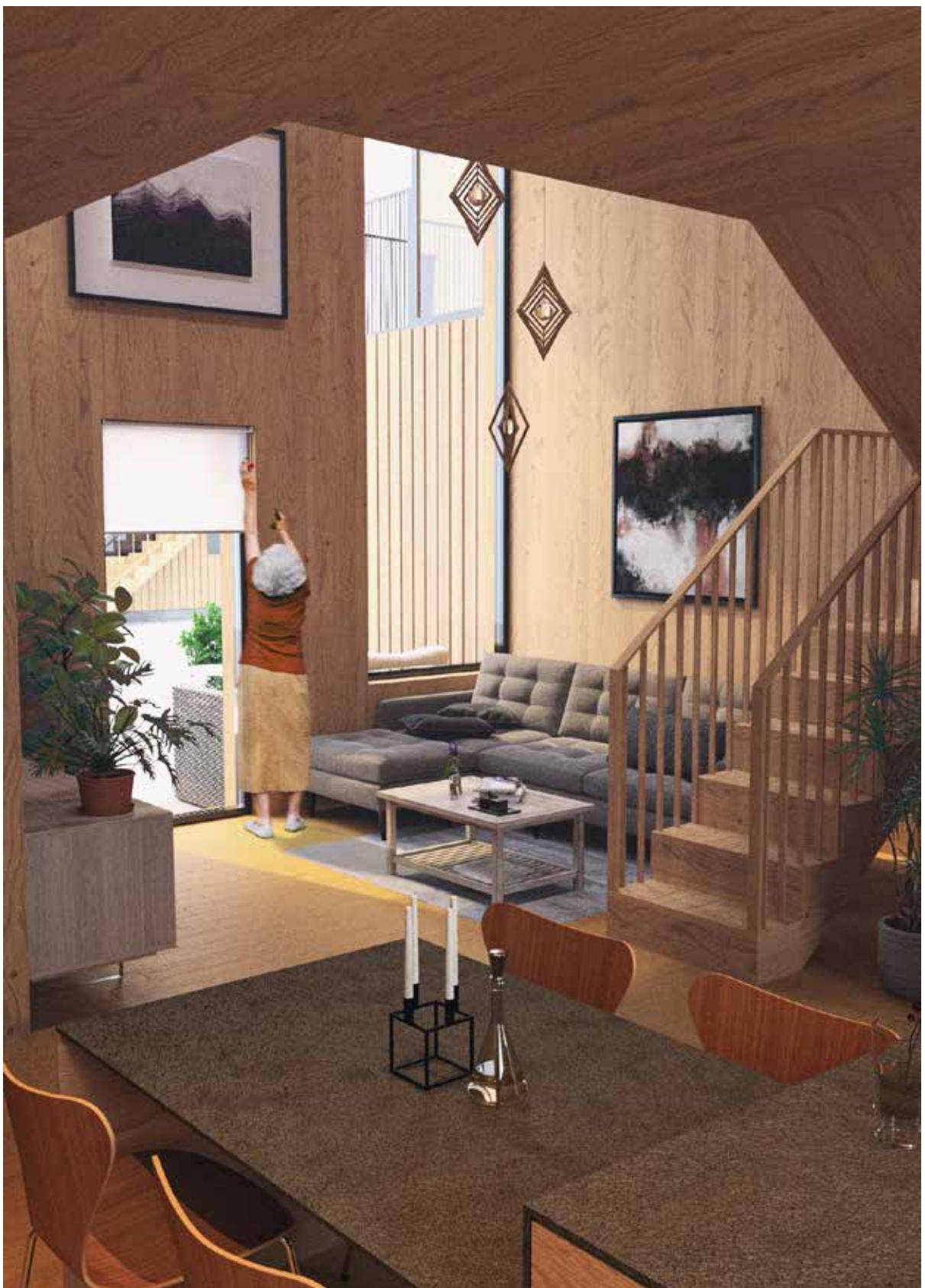
Sommer intersection, Render



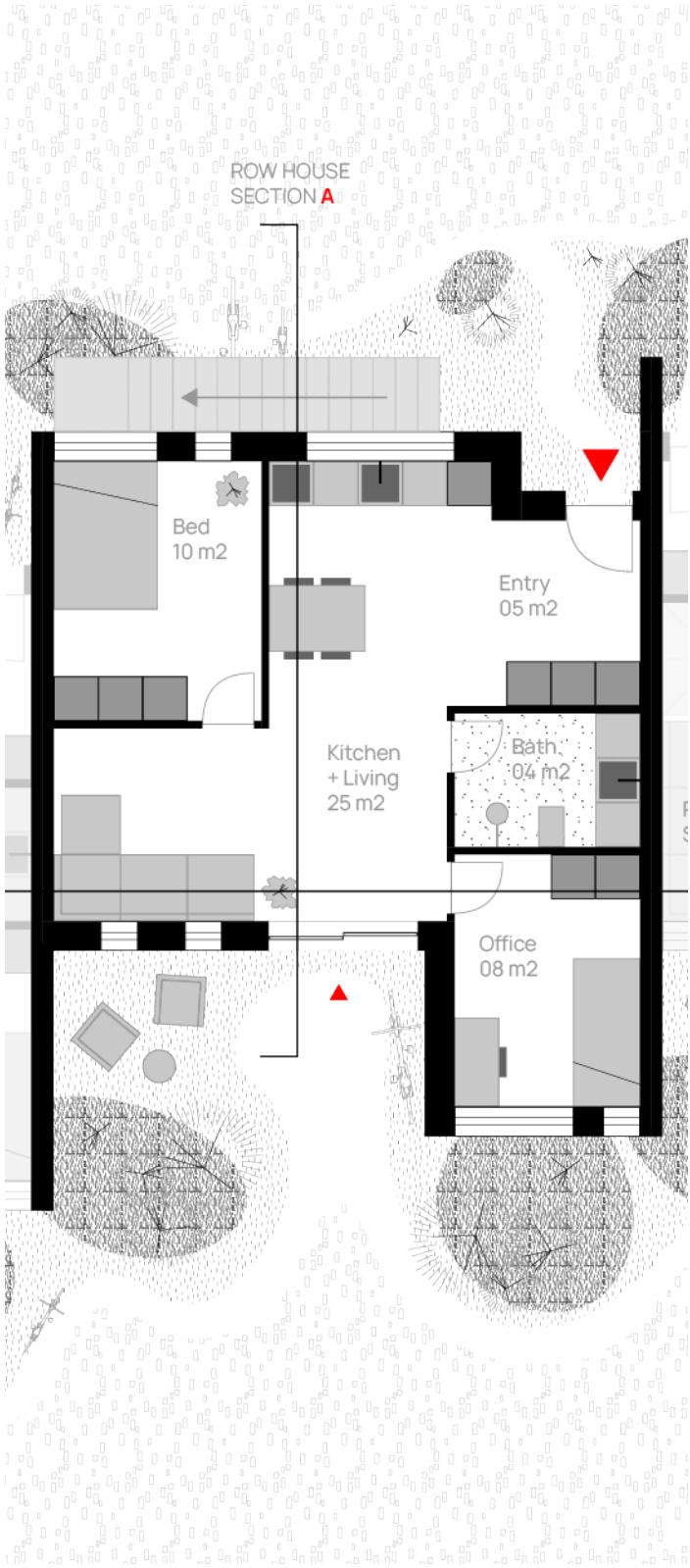
Winter intersection, Render



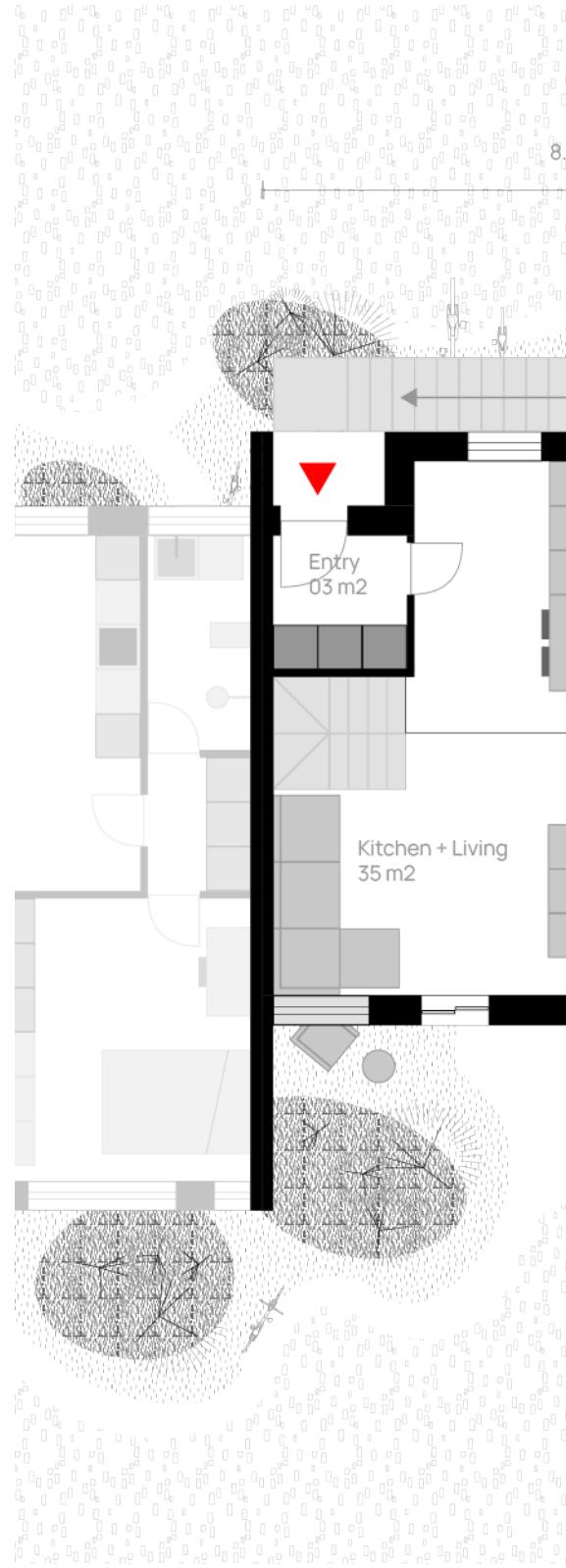
Neighborhood zoom-in, Plan



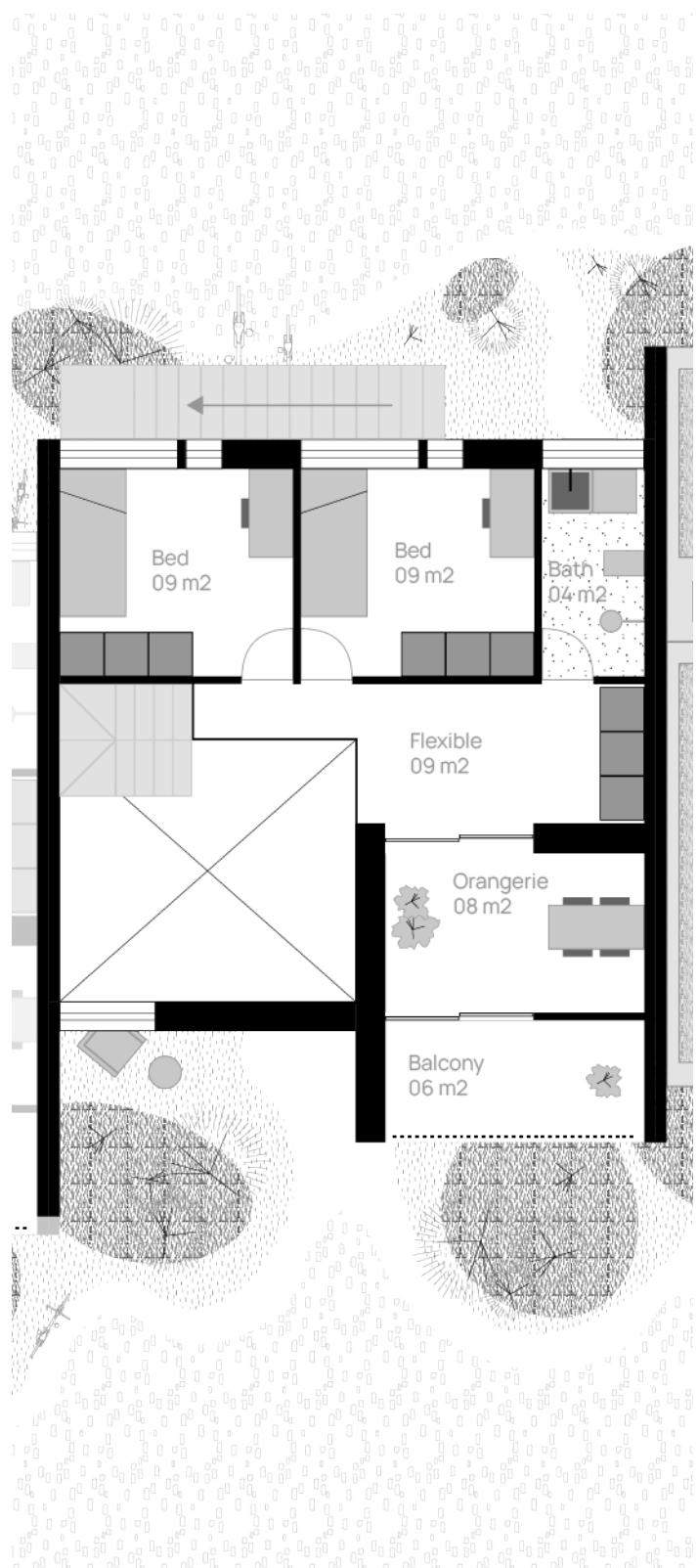
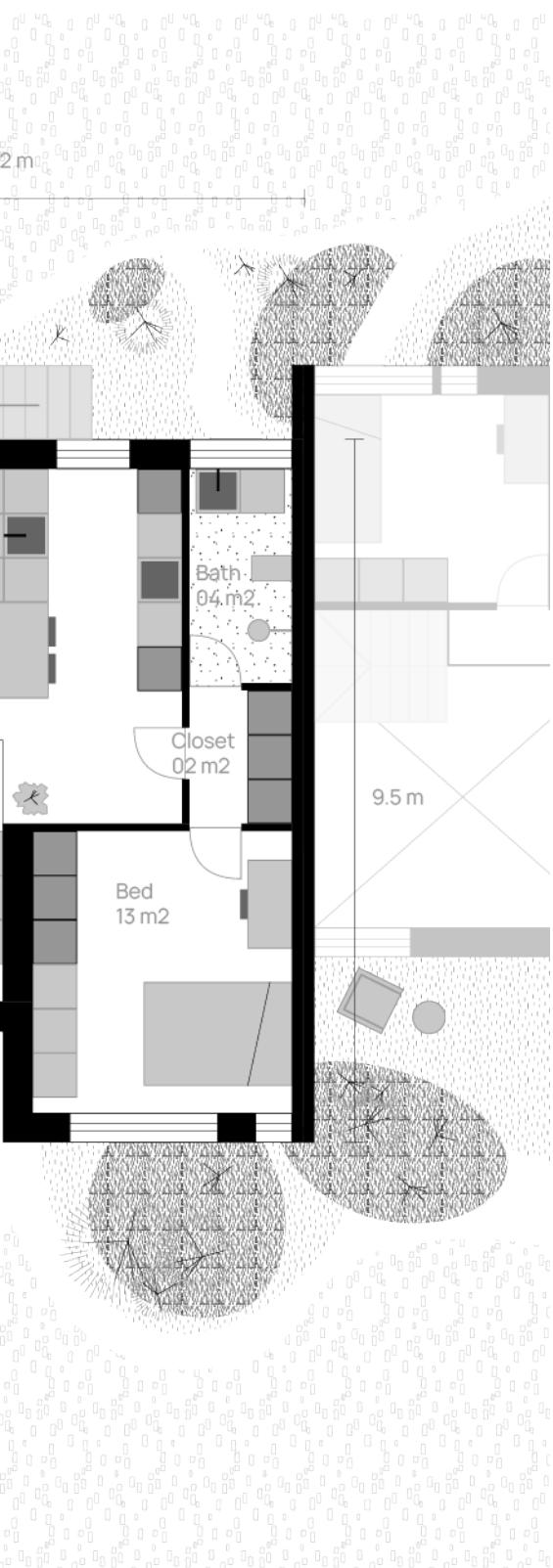
Indoor row-house, Render



Ground level apartment 1:100



1.st floor row-house 1:100



2.st floor row-house 1:100

Writers Retreat

A selfsufficient cabin.

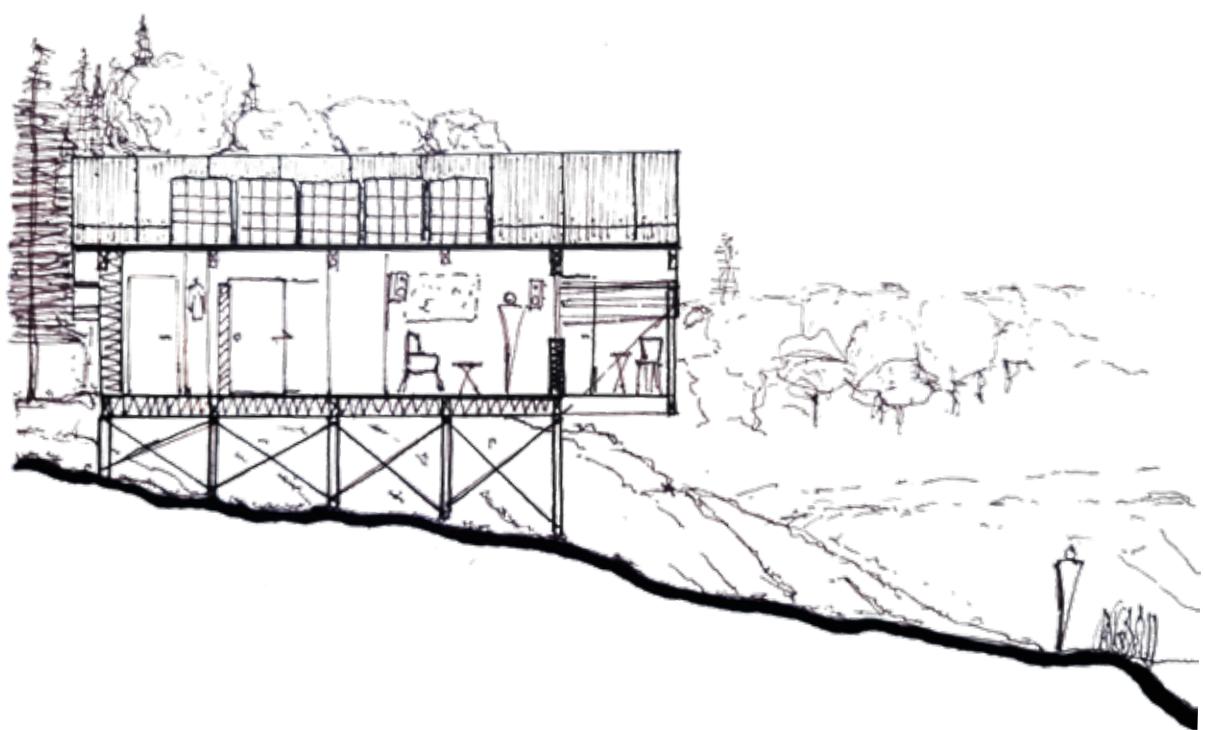


**MSC01 ARC - Architecture and design, Aalborg University,
Advanced Integrated Design I: Sustainable-tectonic Design with Integrating of
Structure, Site and Climate Conditions - F23
Solo Project**

The retreat, **designed as a sustainable haven for writers**, offers a compact cabin with a spacious work area and terrace, powered by photovoltaics for year-round comfort.

It **prioritizes minimal energy consumption**. Designed to engage the senses and integrate with the landscape, it embodies sustainability and functionality, offering a serene retreat for creative inspiration.

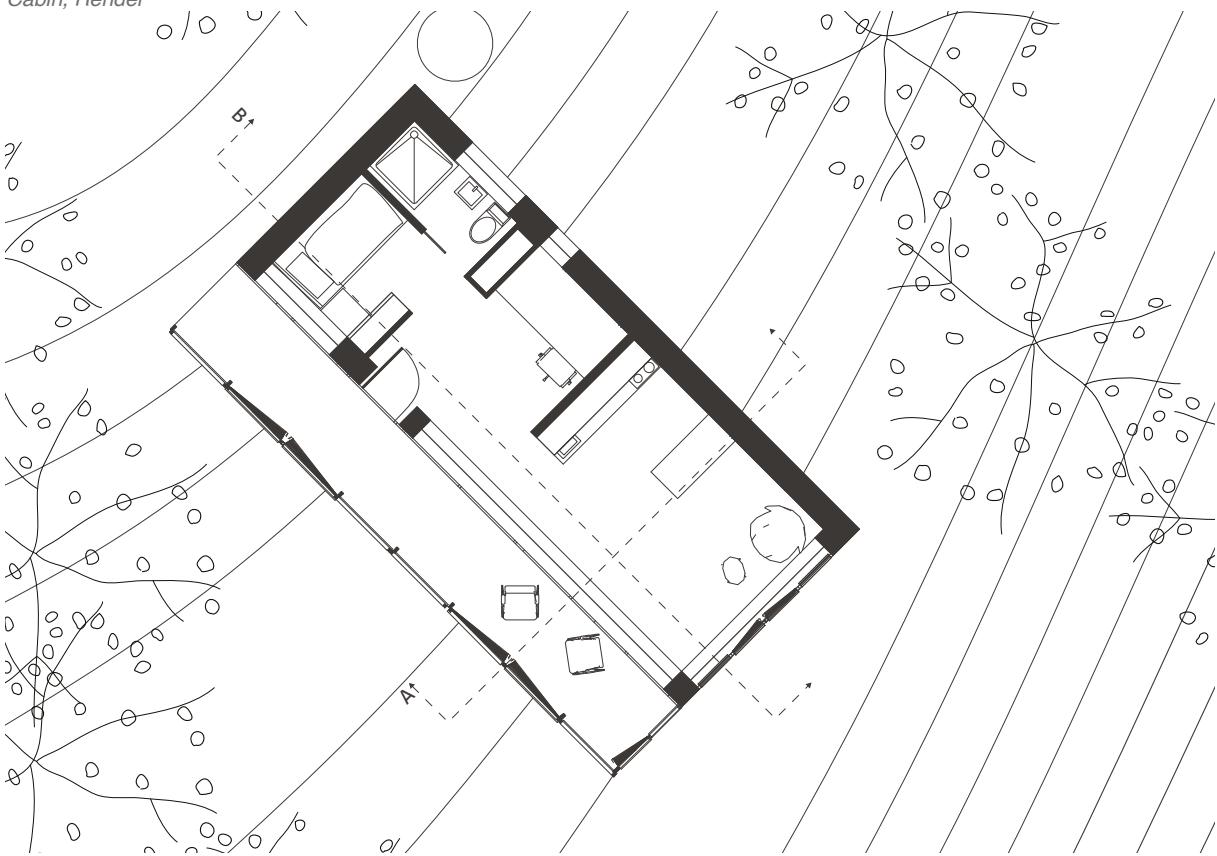
The cabin, resembling a small traditional longhouse, is elevated to interact with the forest surroundings, overlooking a pond with floating islands. Its minimal footprint on nature is emphasized by cantilevering over the hill, blending seamlessly among the trees. Guests approach on foot through vegetation, greeted by closed façades that open to the south, inviting light and controlled heat gain by moving the tactile shutters.



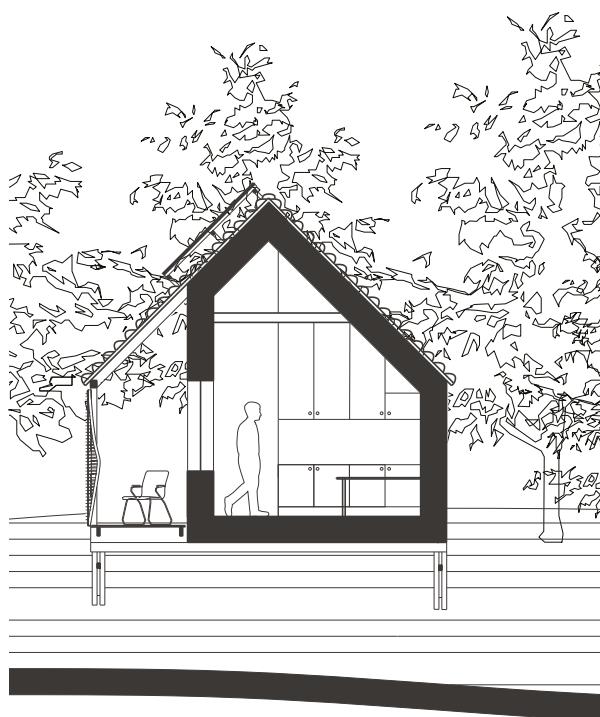
Cabin sketch



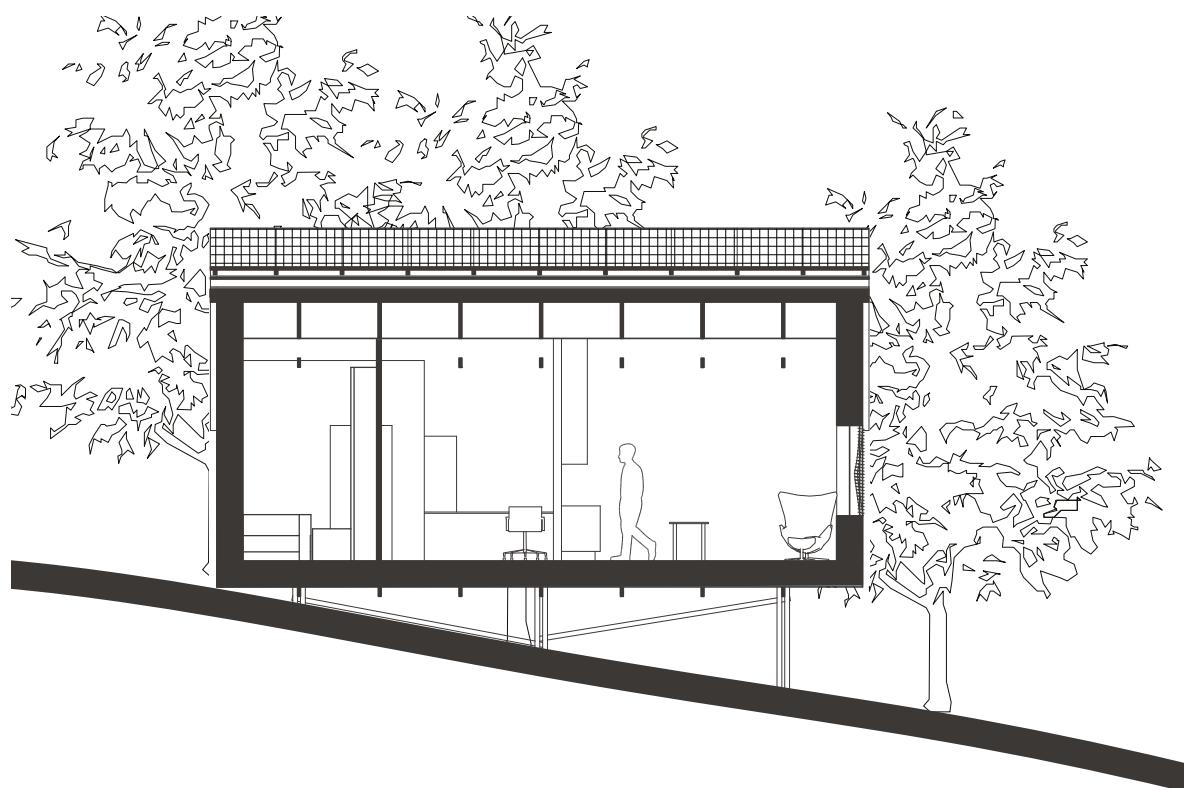
Cabin, Render



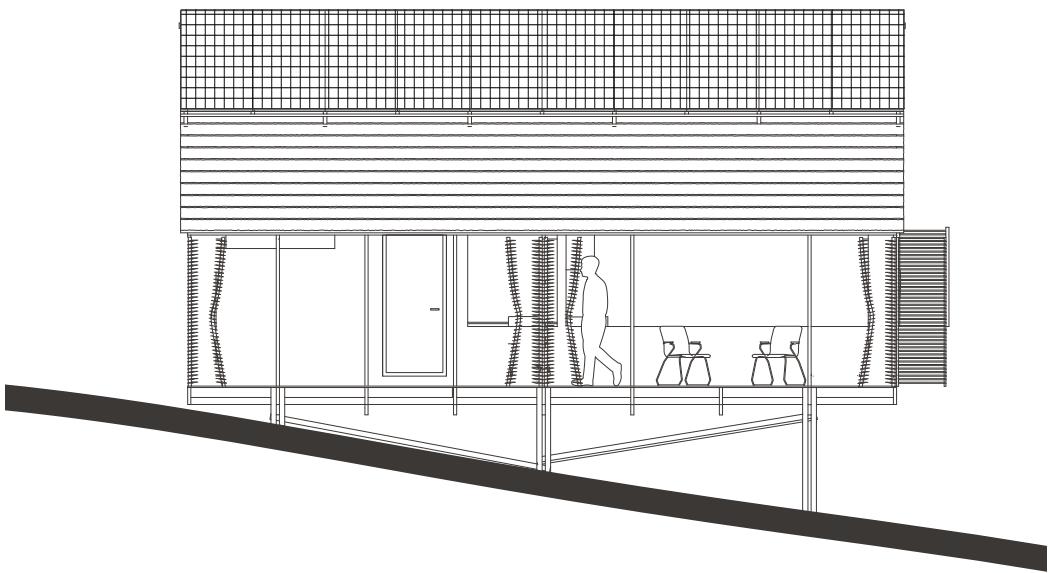
Plan 1:150



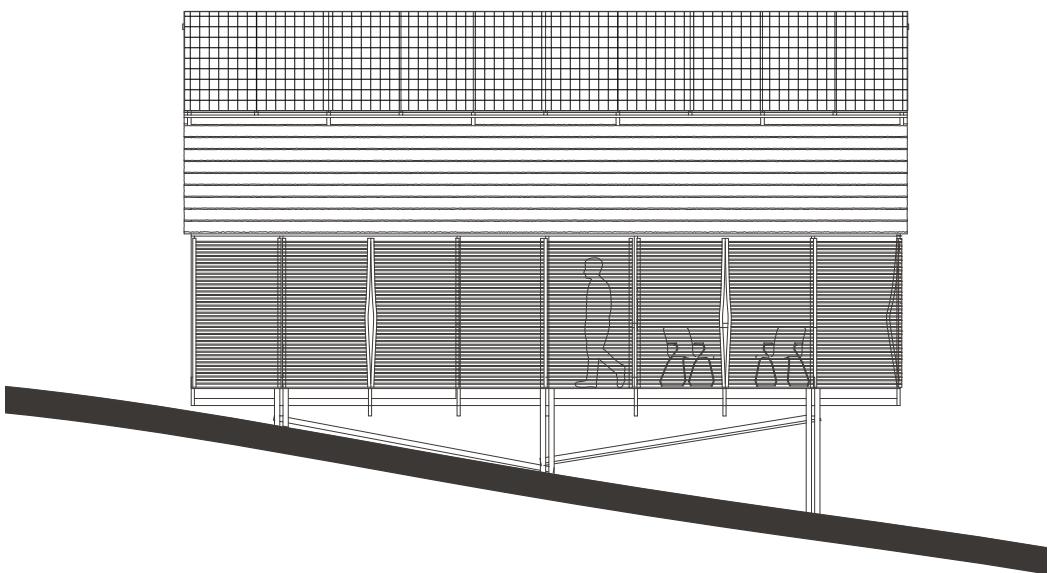
Section A 1:150



Section B 1:150

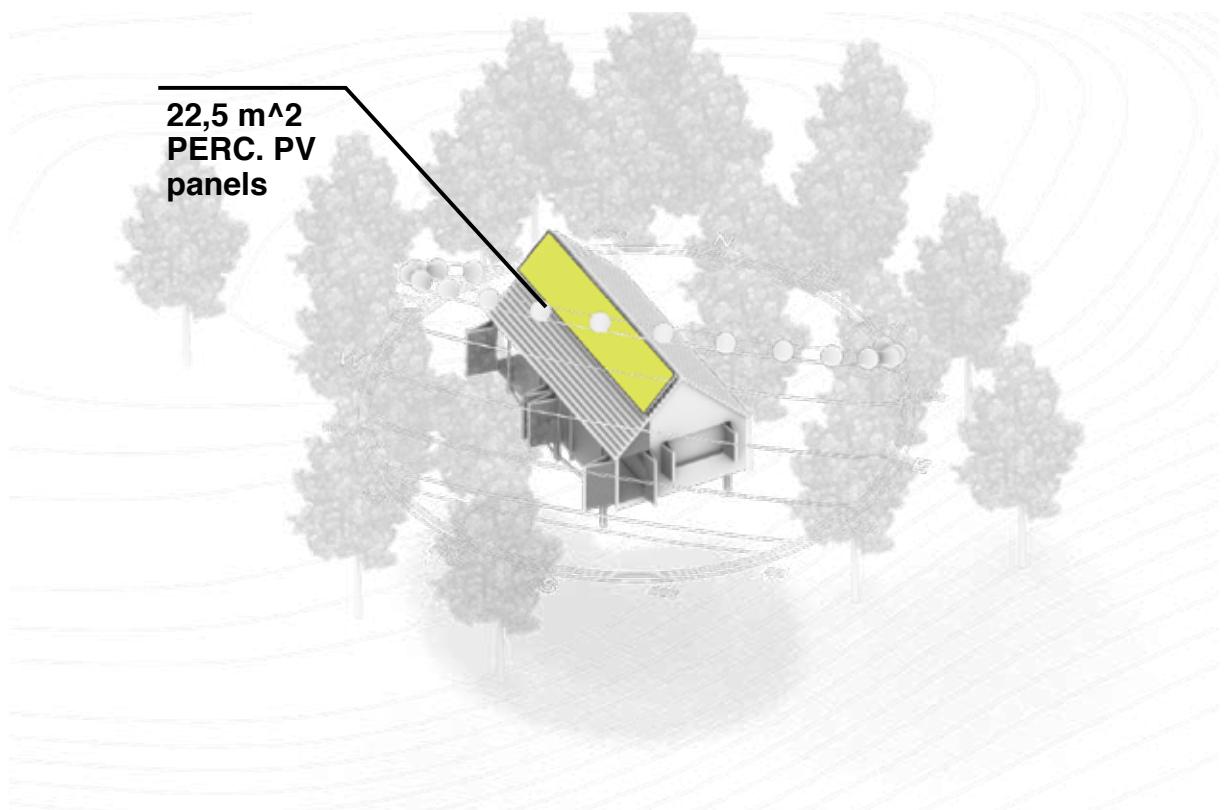


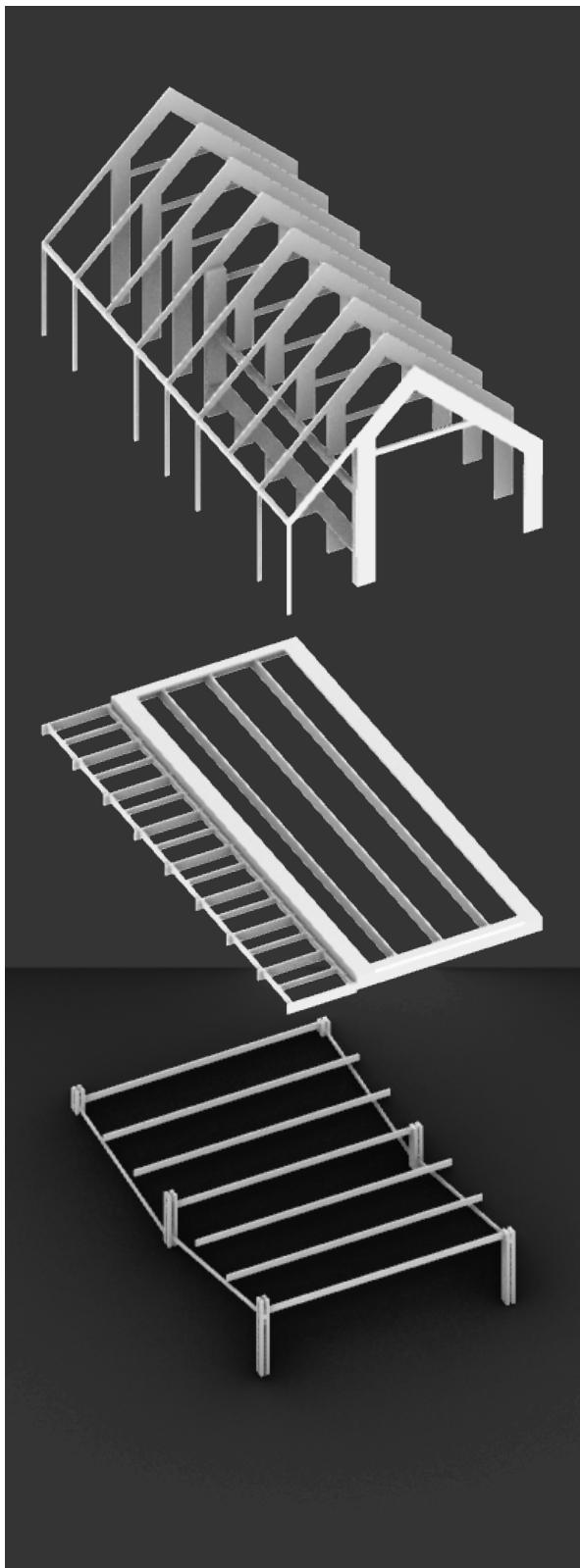
Cabin open



Cabin closed

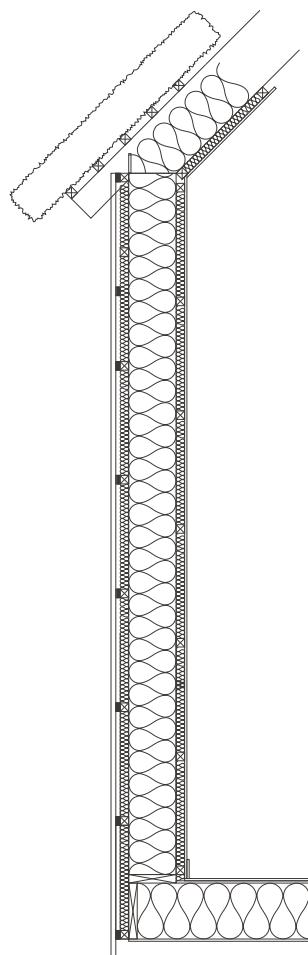
The shutters were designed using Grasshopper and implemented to emphasize the cabin as a dynamic entity that can be opened or closed, responding to the relationship between the environment and the resident.





Roof

1. Ealgrass
2. Counter batten 45mm
3. Roof underlay
4. Ventilation Cavity
5. Rafter 295mm +
Insulation 245mm
6. Vapor Barrier
7. Insolation +
counter batten 45mm
8. Board cladding pine



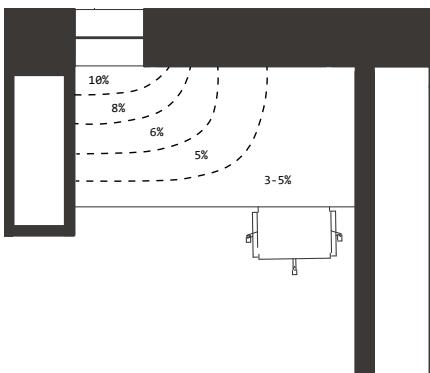
Wall

1. Facade boards
2. Ventilation batten 23mm
3. Wind barrier
4. Insolation +
Counter batten 45mm
5. Insolation +
Wood studs 245mm
6. Vapor Barrier
7. Insolation +
Counter batten 45mm
8. Board cladding pine

Floor

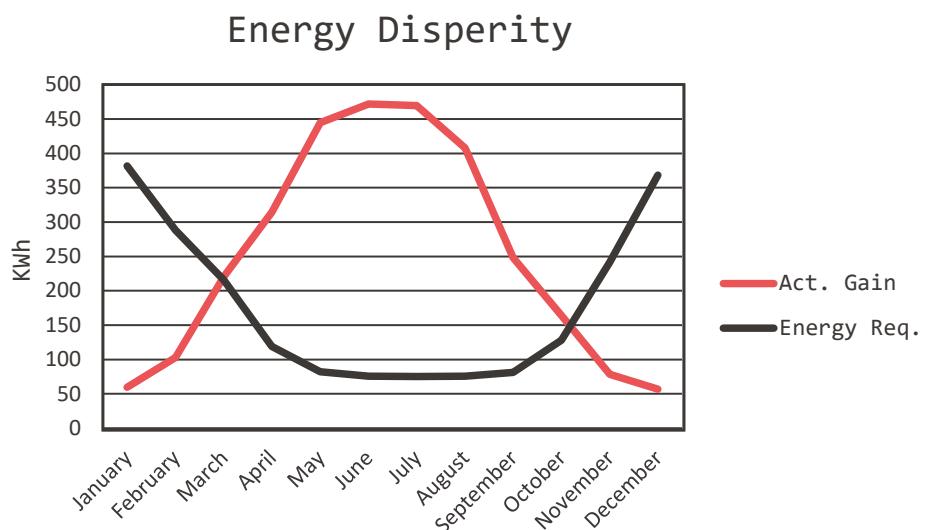
1. Flooring
2. Subfloor
3. Vapor barrier
4. Insolation +
Wood beams 295mm
5. Wood stits
6. Screw foundation

Daylight factor analysis of the desk, in honeybee, was conducted to determine the optimal window placement, allowing for adjustments in seating positioning to achieve the desired lighting levels.



Daylight factor analysis

Reflection: Calculations indicate that the cabin would require an exceptional battery with an unattainable capacity to maintain its charge. Alternative energy supply options are necessary in winter for optimal comfort.



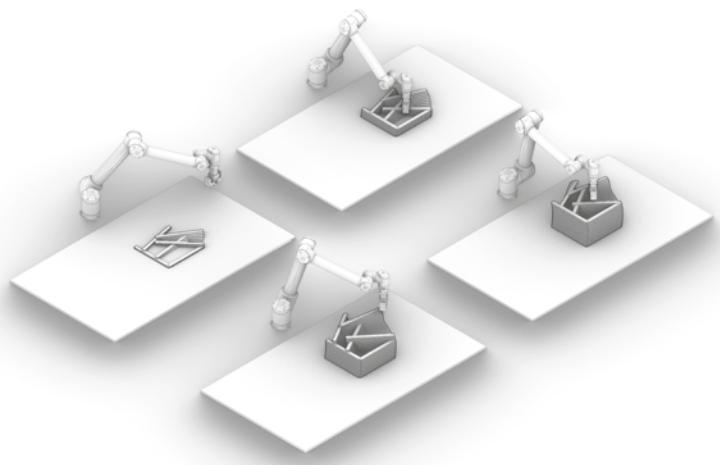
Extra Robotics



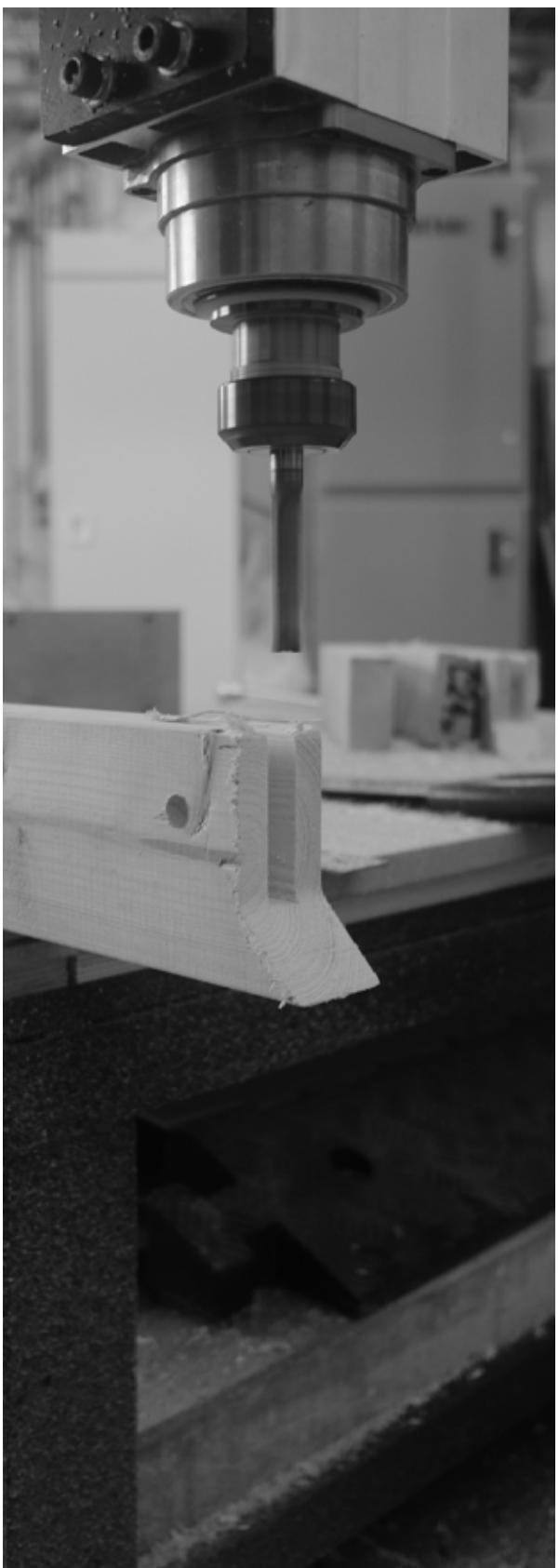
Workshop, Architecture and design, Aalborg University, S23

Throughout two workshops, **experimentation with robotic fabrication** and robotic-assisted human fabrication has led to a deeper understanding of the future of construction. Complex structures can be pre-programmed and assembled with the assistance of robots, thereby reducing the workload on site personnel.

During the workshops, specific tests were conducted on aspects such as **material stacking, and 5-axis CNC milling** to replicate 'Sashimono' (Japanese joinery).



Stacking, Illustration



Milling Process, Photo



Stacking product, Photo



