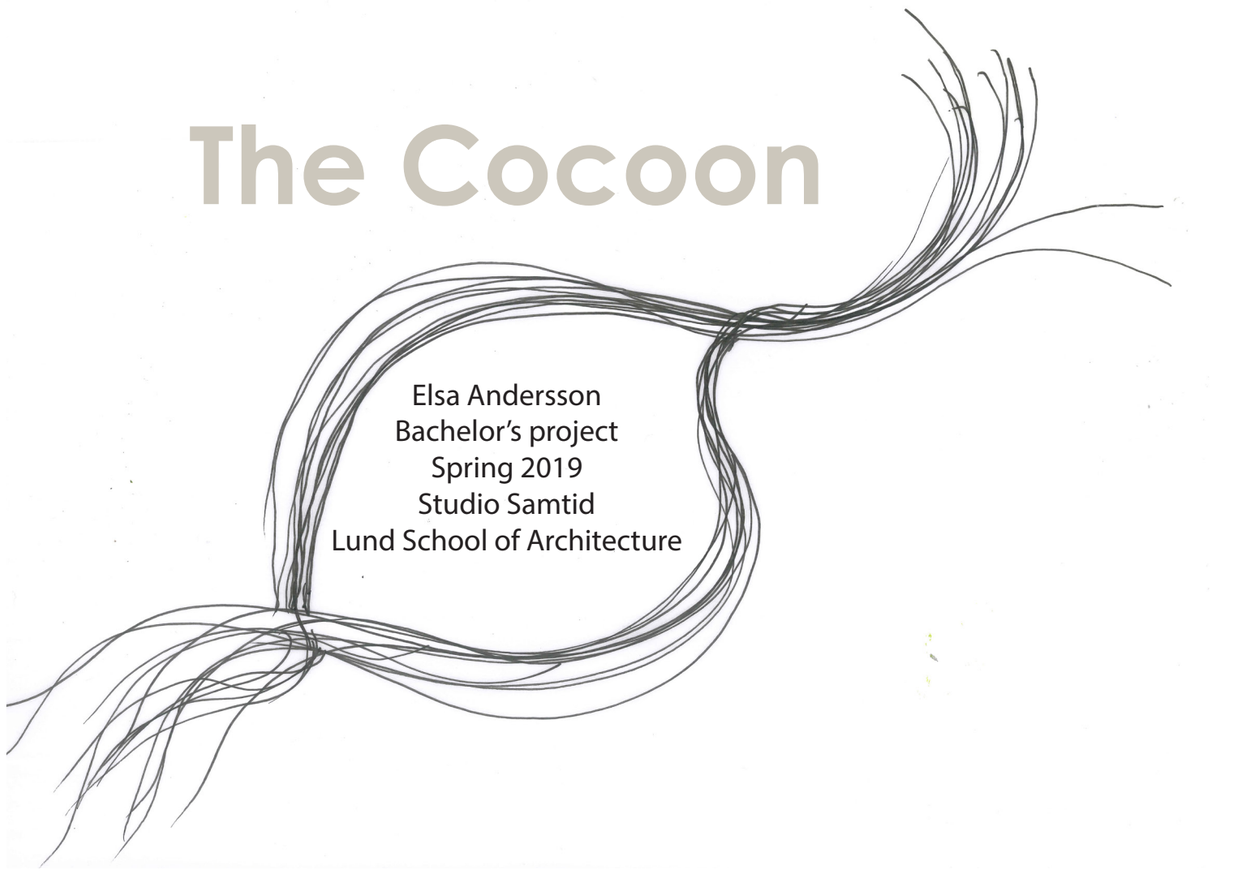
The Cocoon



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Bachelor's project
Spring 2019
Studio Samtid
Lund School of Architecture

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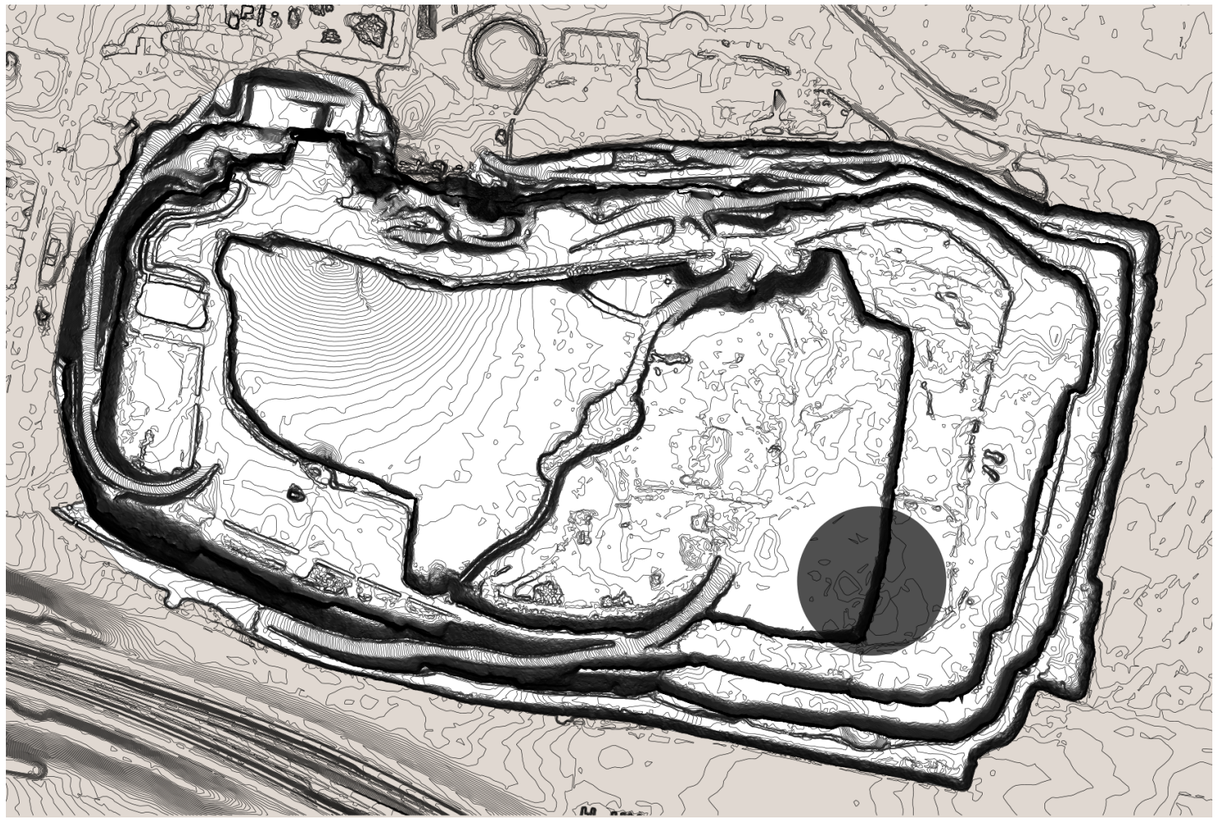
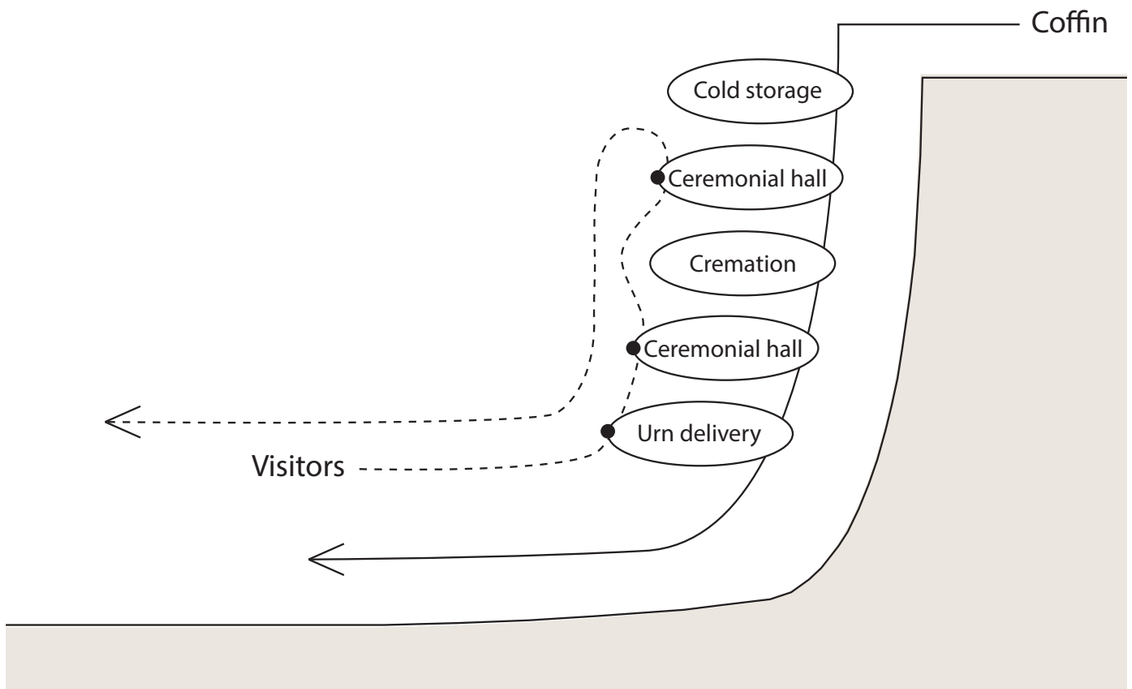
The Cocoon is a Bachelor's Project created in Studio Samtid at Lund School of Architecture. The assignment was to create a crematory in Limhamns Kalkbrott using the tools of Rhinoceros and Grasshopper to help explore and creating spaces. Spaces where people can say goodbye to their loved ones with the help of architecture.

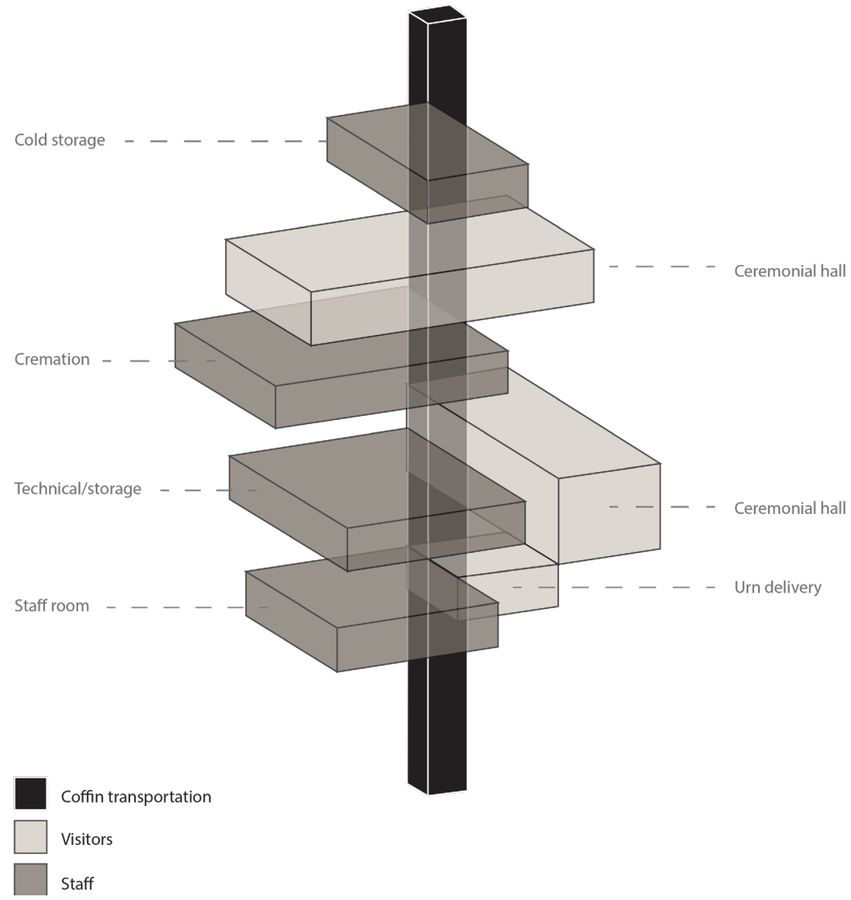


The site. Limhamns Kalkbrott is situated in the south west part of Malmö. It is 1300 meters long, 800 meters wide and 65 meters deep. The crematory is placed in the south east part of the quarry, in between two of its platforms.

The concept of the Cocoon is based on two main principles. The first one is the height between the platforms where the crematory is placed and using the height difference as a transportation path for the coffin. The building also uses the two platforms as a way to have separate entrances for the coffins and for the visitors. The coffins enter from the top level an the visitors enter from the bottom one and then the two meet inside the building. The level difference between the platforms is 20 meters and the height works as a divider of the different functions of the crematory. The floor plans are designed and placed in a way that gives the coffin a direct way through the building. Once the coffin goes down one level it never needs to go up again. For transportation the coffin uses an elevator that also works as the core of the building. Every room the coffin needs to enter is connected to the elevator.



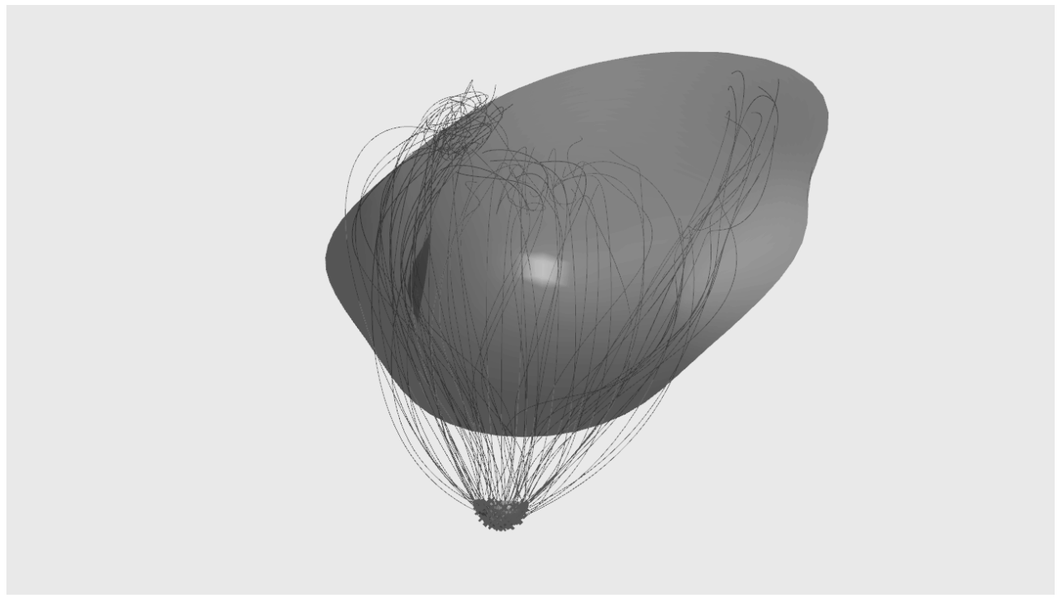
Sectional movement diagram
through the building

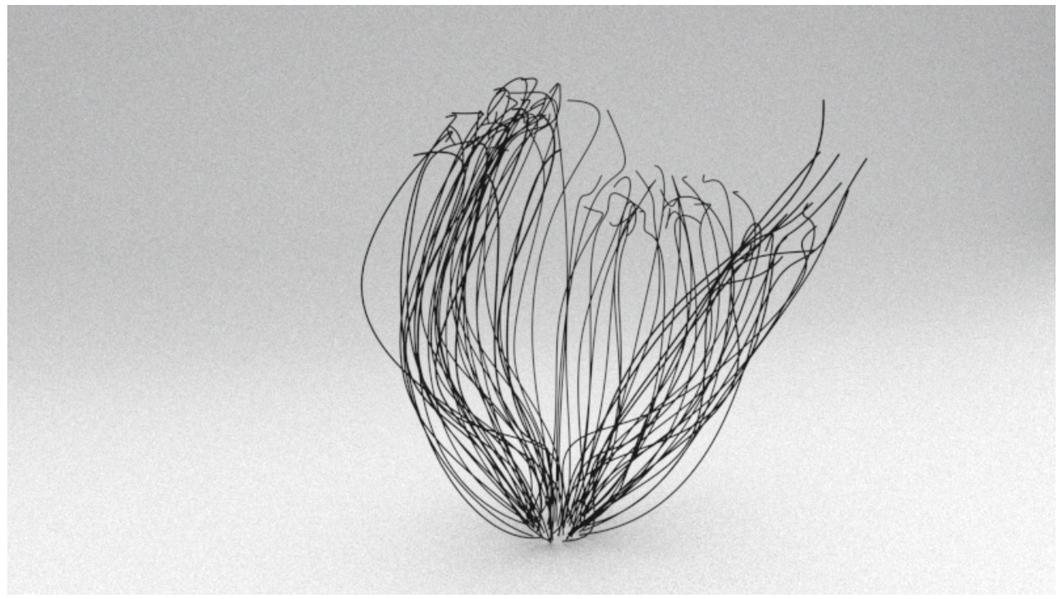


A diagrammatic axonomitry of the division
of the rooms between staff, visitors and
the coffin

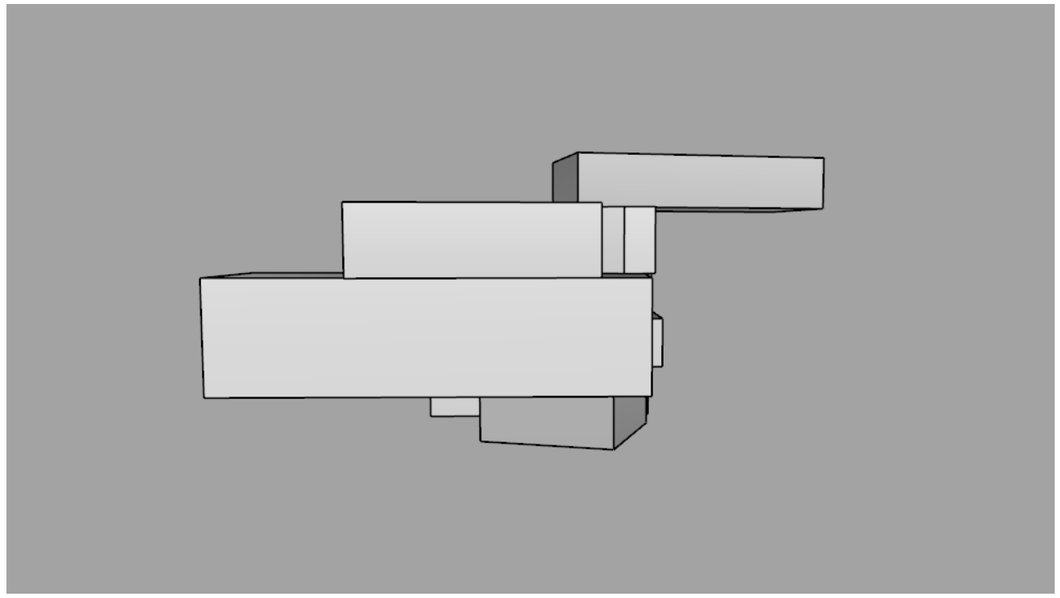
The second priciple of the building is the idea behind the shell that is wrapped around it. The shell of the builing is inspired by the growth on the site. The shell is made out of copper pipes that climb up from the ground, like the bushes it is surrended by, and wrap around the crematory. The shell creates a feeling of being inside a cocoon. A cocoon that helps the mourners continue on with their lives through the transformation of their loved ones.

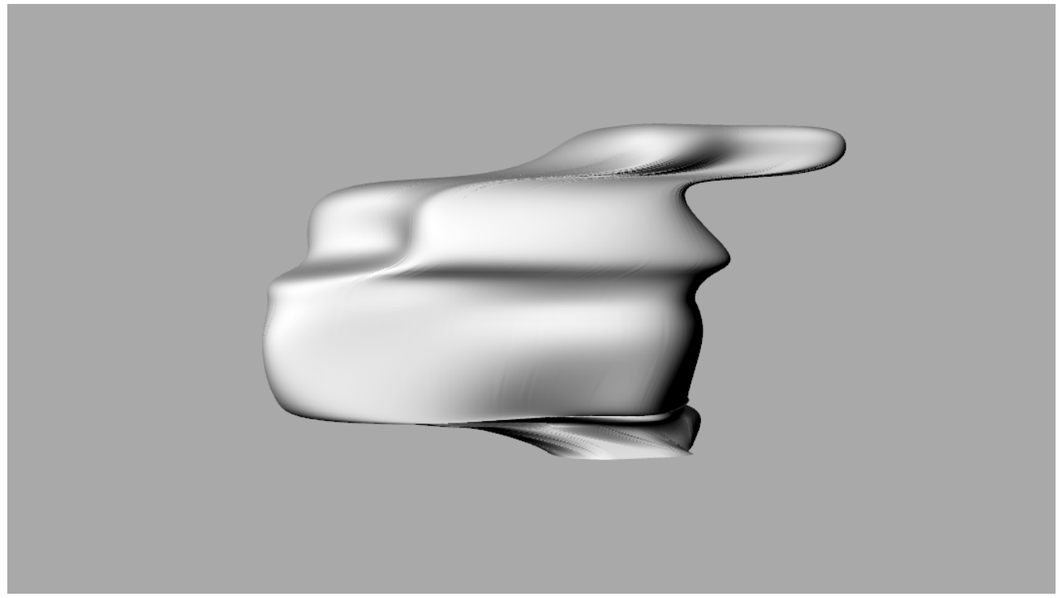
Pictures from the site



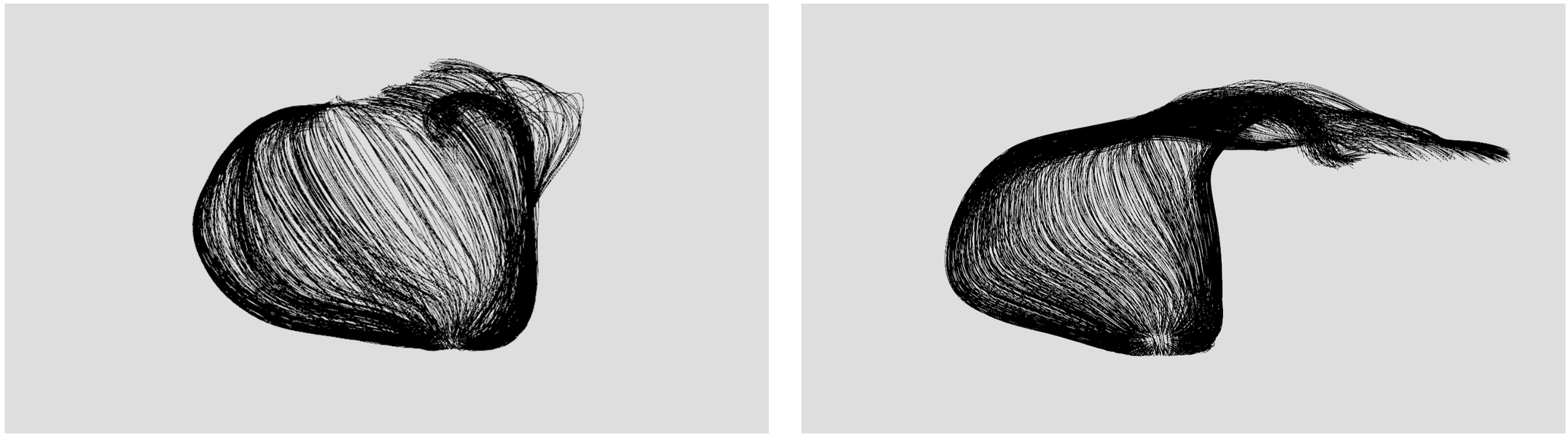


The script. The course started with a Grasshopper workshop where my aim was to, with the help of Grasshopper, create a shell of pipes that created its own shape by wrapping around a volume. The result of the spript and the volume the pipes are wrapped around are shown to the left. The bottom picture shows the same model, but without the volume inside of it.



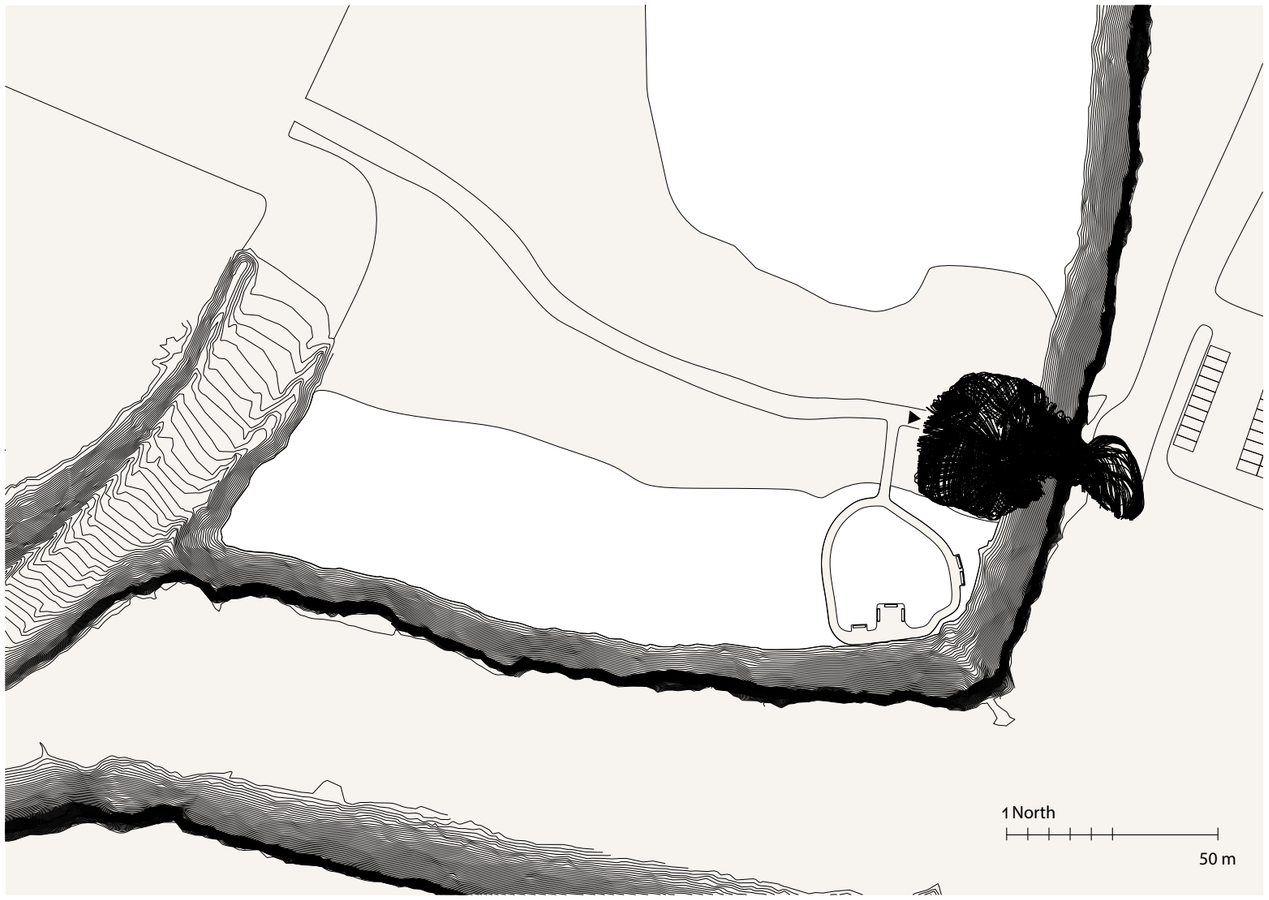


To create a similiar shell for the crematory the boxes representing the rooms in the builing, previously shown on page 7, where put together and used to get a volume for the script to wrap around. They were then remodeled into a more rounded shape to create a smoother path for the script, but also to create an inside without a boxy feeling.

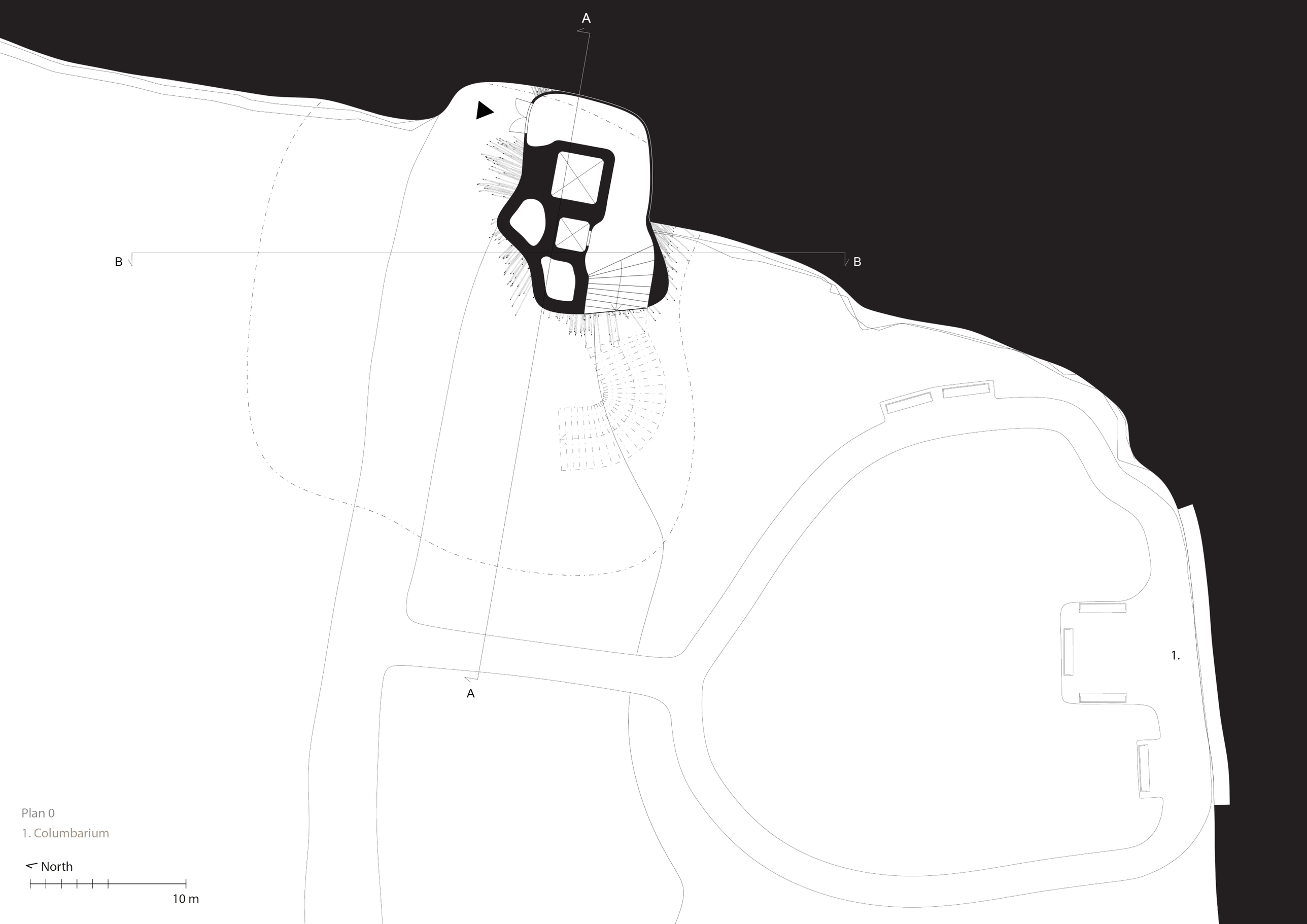


The shell. The two different shells that emerged from the Grasshopper script. These two shells later got merged into one, where the top part from the one to the right were added on to the on on the left.

The result is a building that grows upp from the bottom of the quarry and creates spaces for the mourners and the coffin to meet and say goodby. Spaces where the mourners can look out over the open and peacefull quarry while feeling wrapped around by the shell of the cocoon.



Site plan

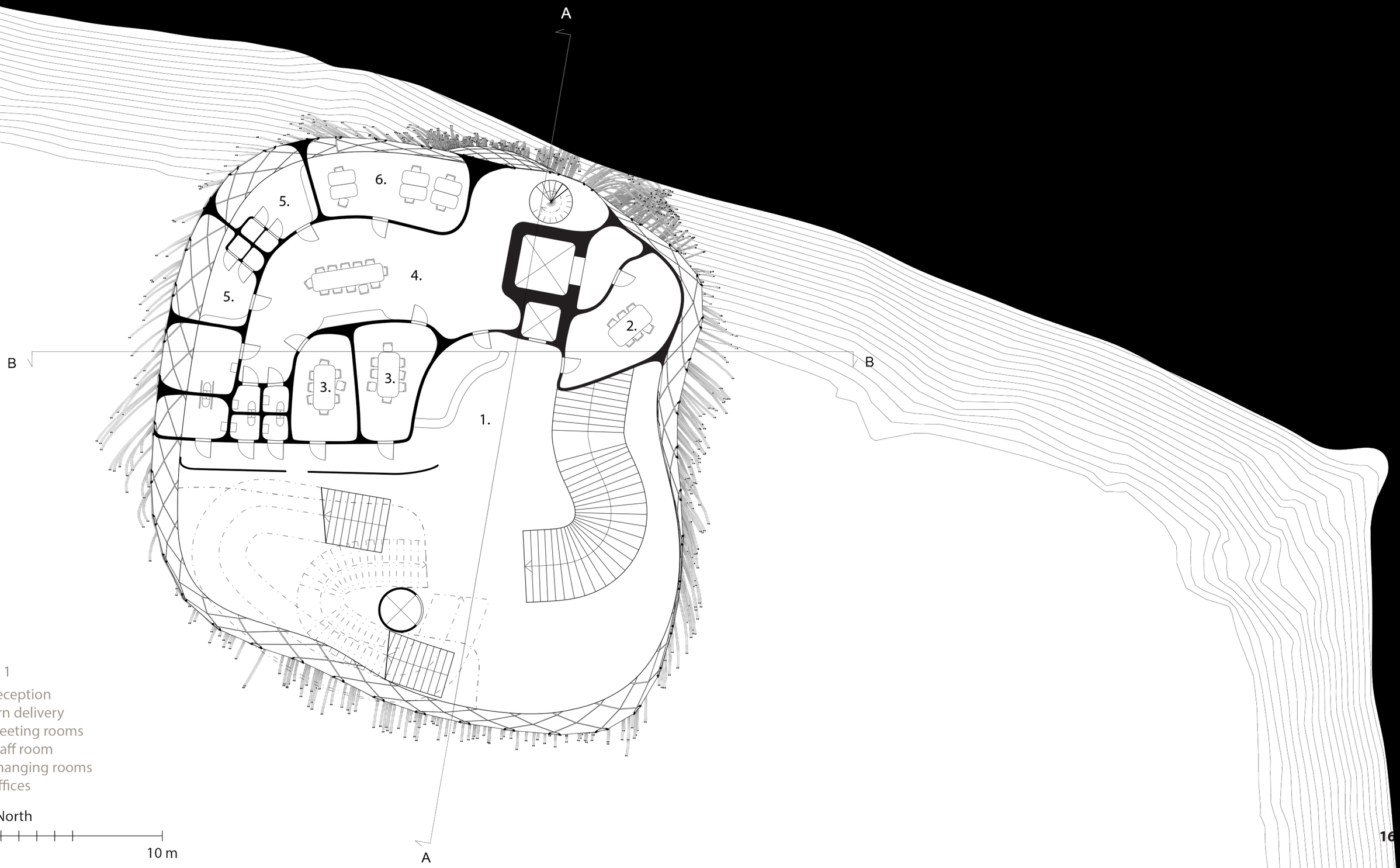


Plan 0

1. Columbarium

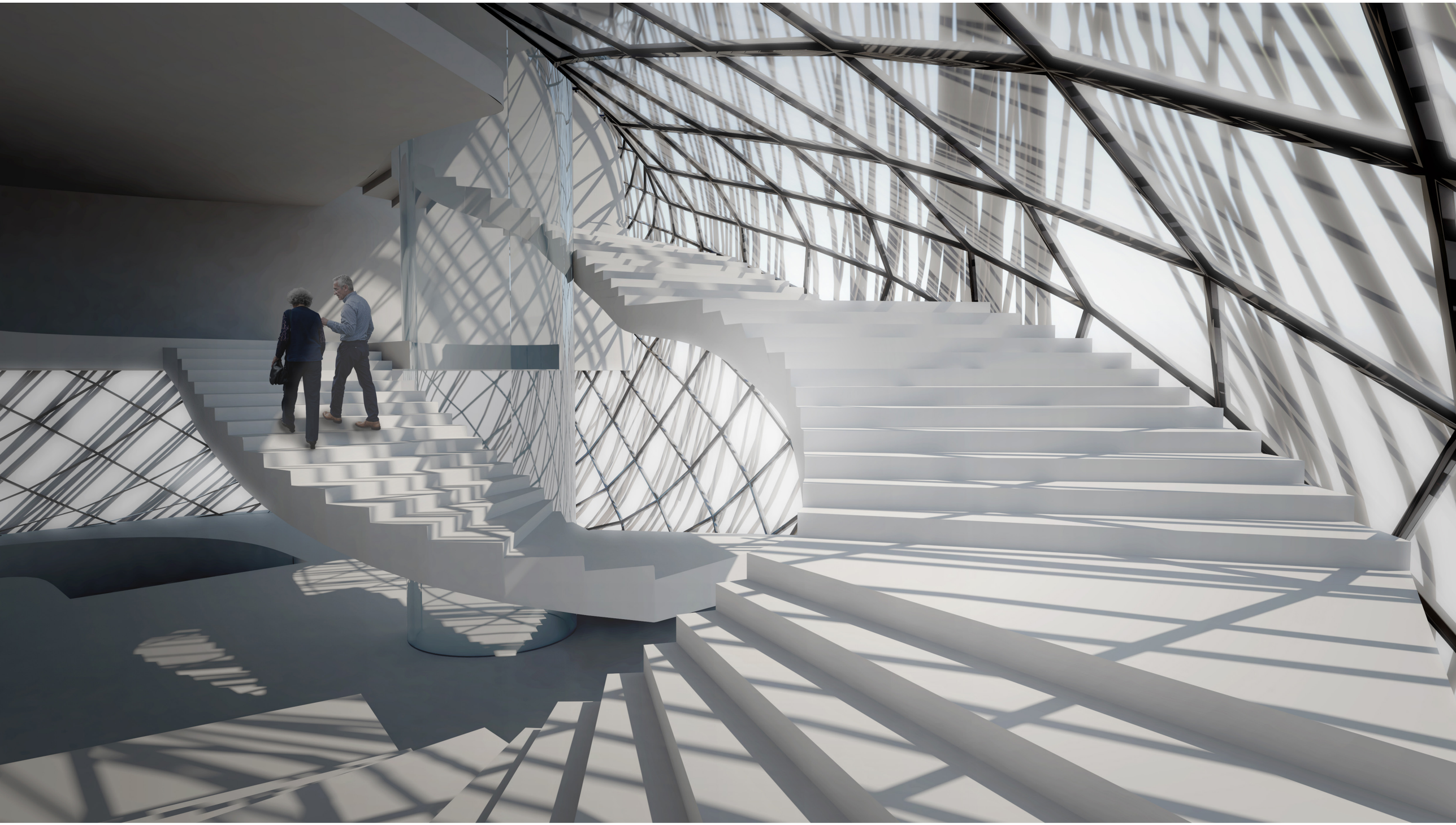
North

10 m

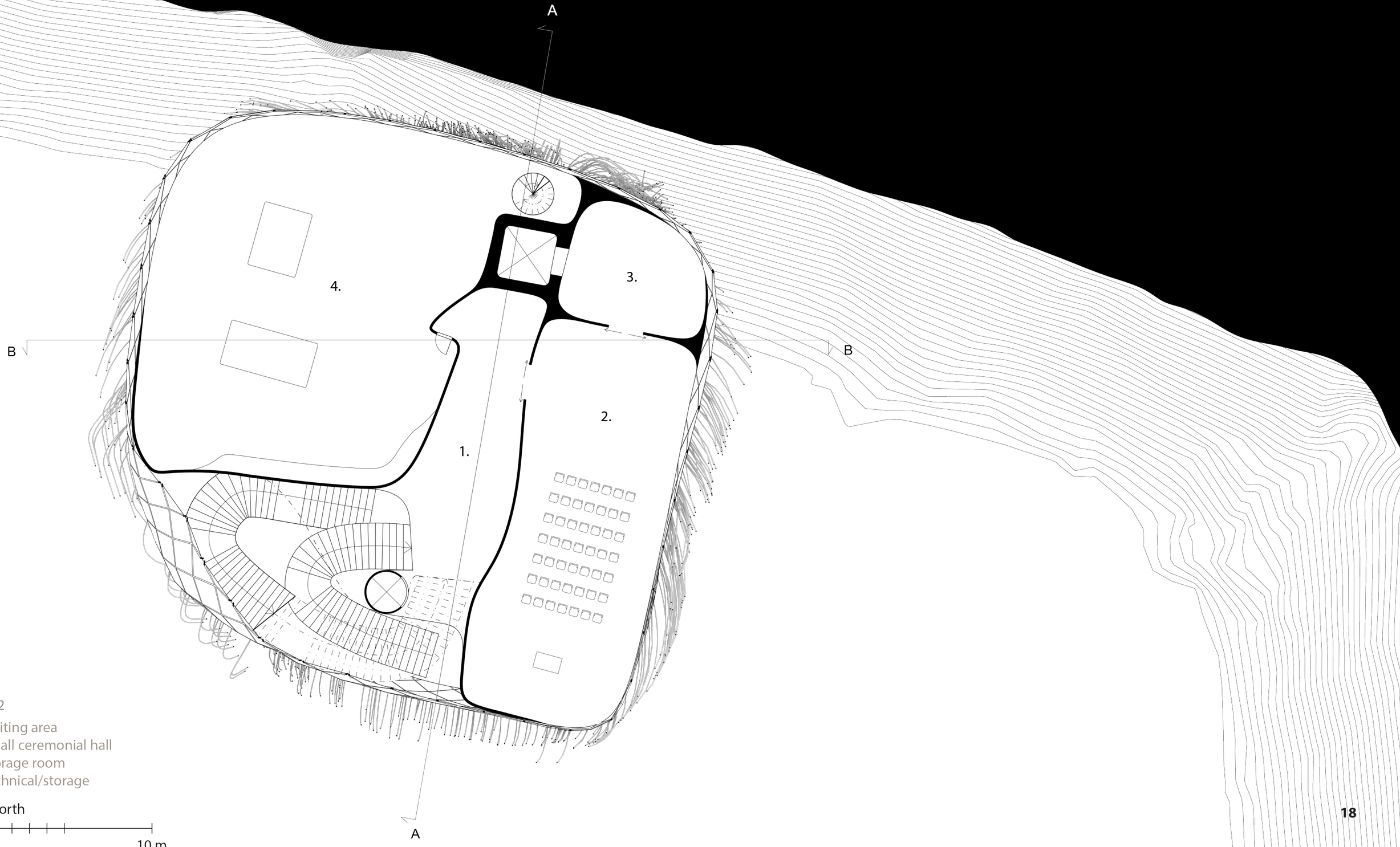


Plan 1

1. Reception
2. Urn delivery
3. Meeting rooms
4. Staff room
5. Changing rooms
6. Offices



View from the stairs between floor 1 and floor 3

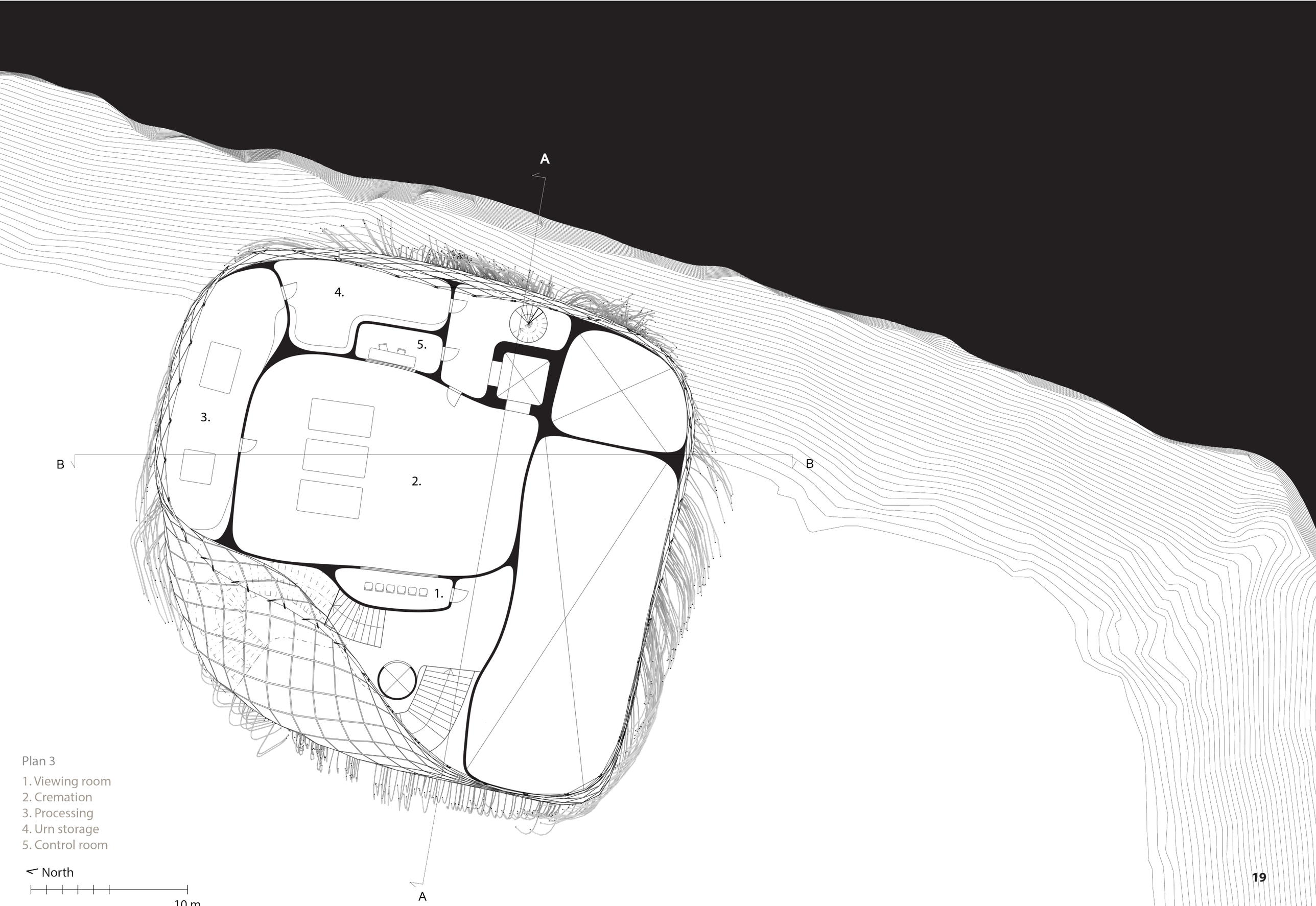


Plan 2

1. Waiting area
2. Small ceremonial hall
3. Storage room
4. Technical/storage

North

10 m



Plan 3

1. Viewing room
2. Cremation
3. Processing
4. Urn storage
5. Control room

North

10 m

A

B

B

4.

3.

2.

1.

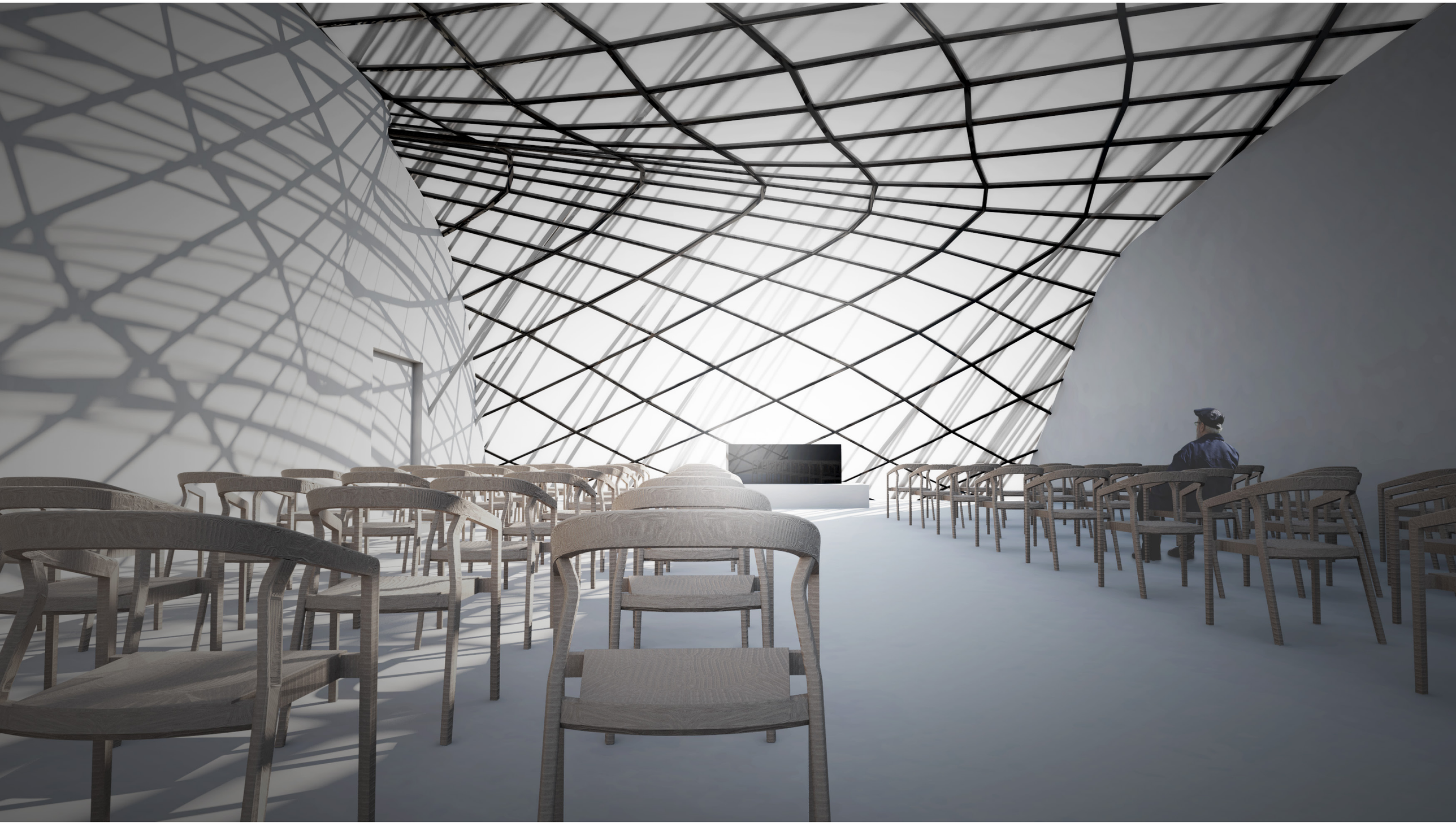
A

Plan 4

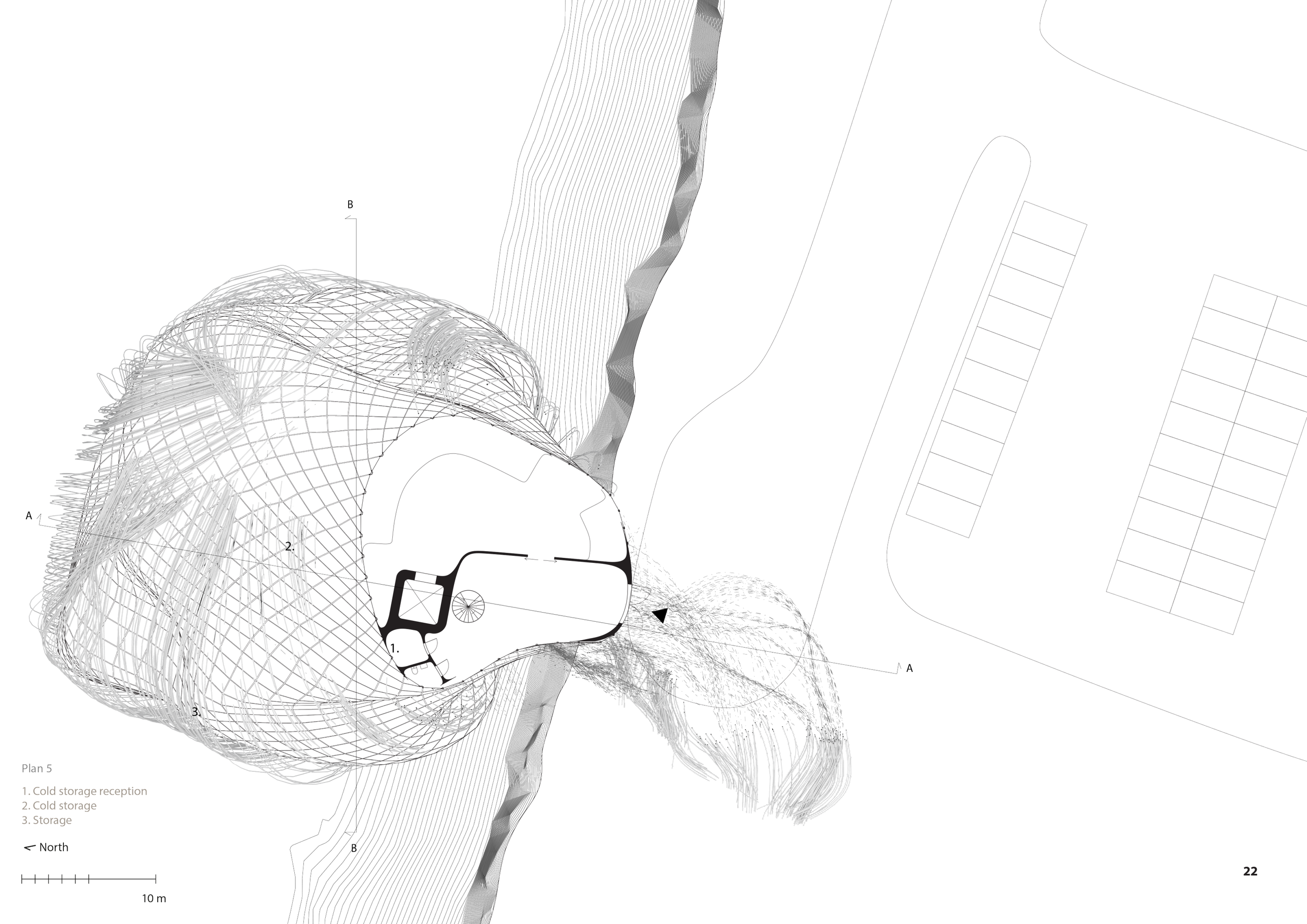
1. Waiting area
2. Large ceremonial hall
3. Storage room
4. Staff area

North

10 m



View from the large ceremonial hall on floor 3

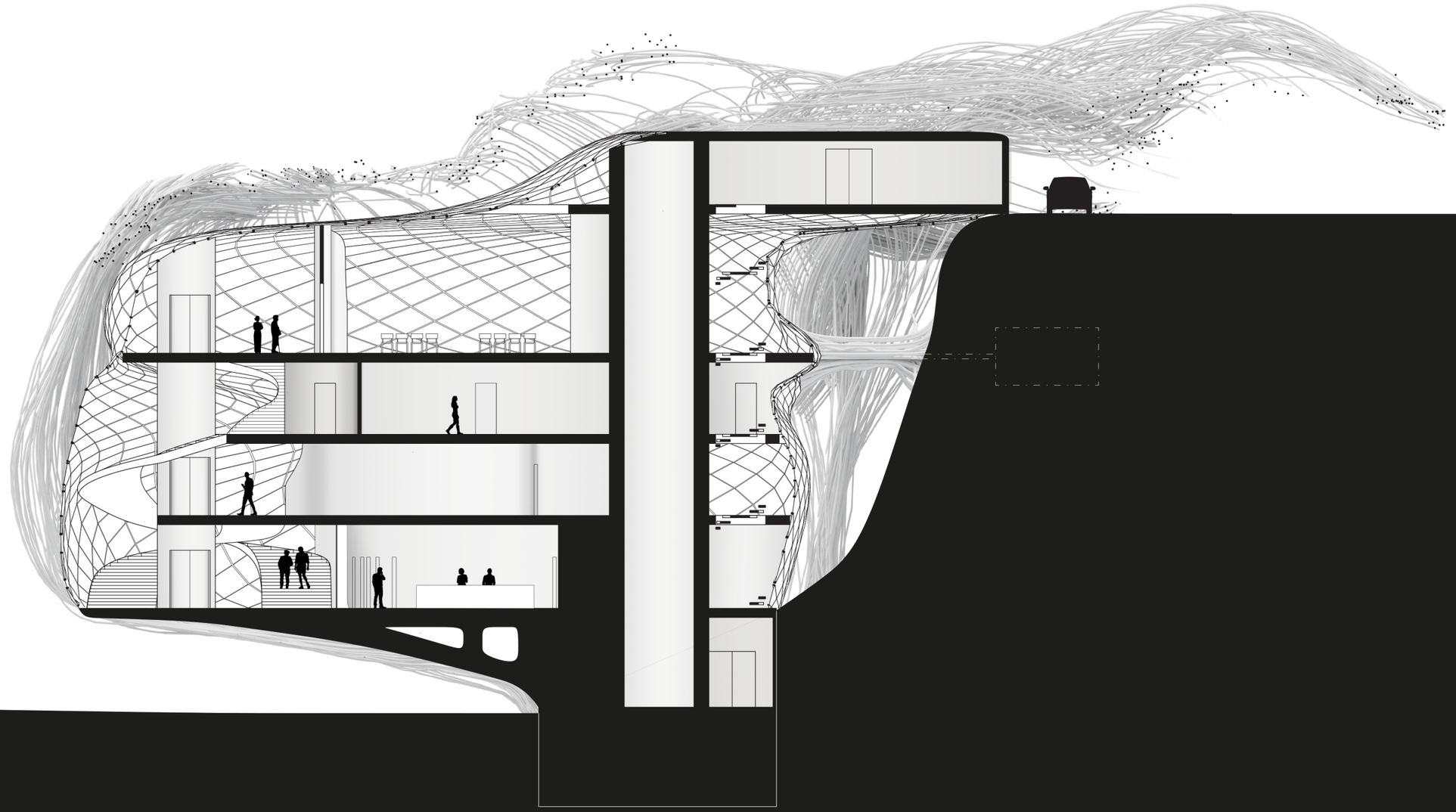


Plan 5

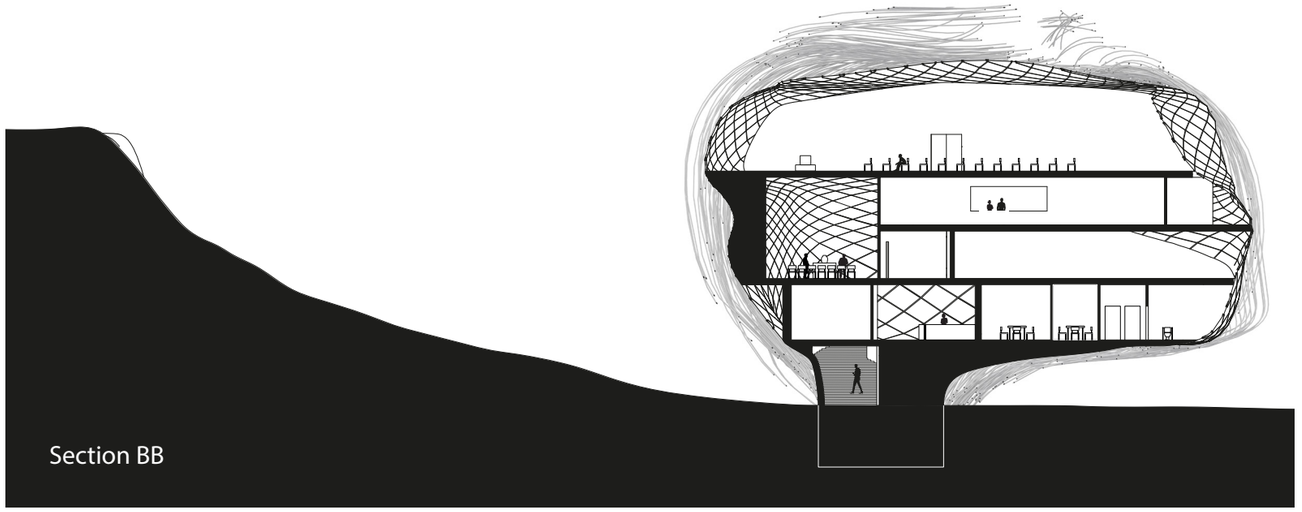
1. Cold storage reception
2. Cold storage
3. Storage

North

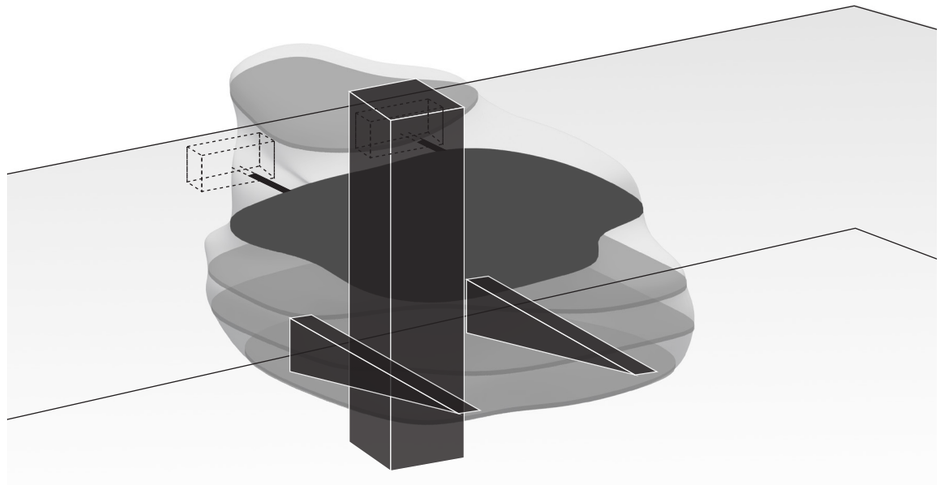
10 m



Section AA



Section BB



The construction of the building is based on three principles.

- The big elevator shaft which works as the core of the building
- The supporting consoles under the first floor
- Two big wires connected to the forth floor and in to the wall of the quarry to keep the building balanced

Reflection. This project has taught me a new way of approaching a project and its spacial expression. It's been really intressting to challange my own work proceedure and work in a way where the space doesn't necesserely have to be a result of the function, but where the functions can fill a space instead. And also learning how to work alternately with both space and function in a new way. A way I really wanna keep on exploring in the future.