The Mussel Club

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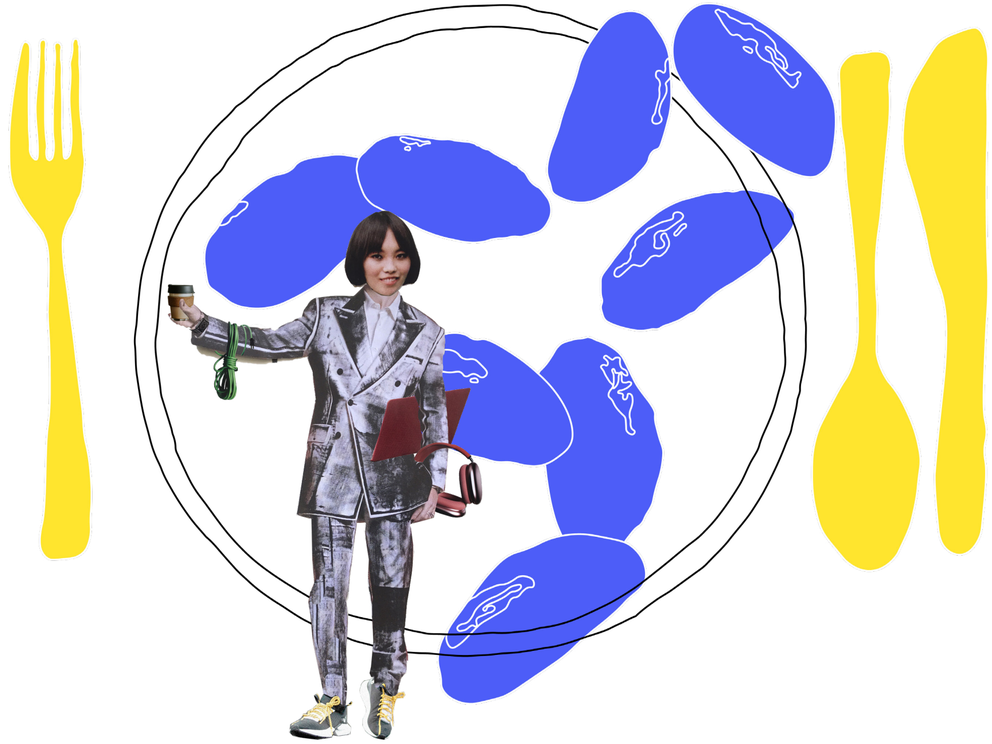
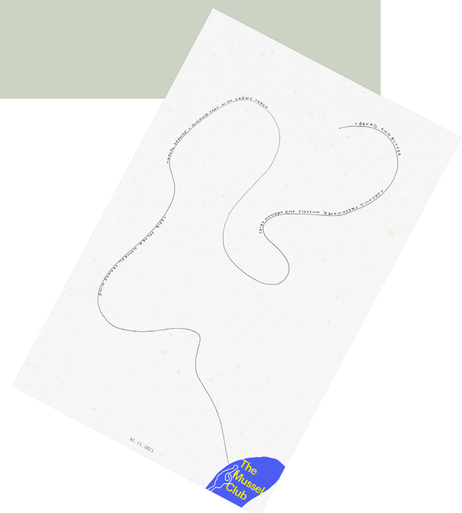
The Mussel Club is a prototype for a freshwater mussel farm that uses harvested rain water and mineral rich basalt rock to feed and grow mussels. This base function is interwoven into the fabric of the building, enabling its secondary programmes - a place for visitors to come dine and enjoy the harvest, but also a living space for people working on the project.



Character collage and flatlay - Rebecca the Agronomist

Character collage and flatlay - Aera the Digital Nomad

Supper Club collage and Menu



The materials used in the design are centred around creating habitable conditions for the mussels. Mussels need lots of minerals to thrive, which the basalt rock can provide. The use of basalt rock inspired the development of the rock ash tiles that envelope the pods.

To create the unique dome form I used an ancient modelling technique called lathe turning plaster which enabled me to make a mould to pour slip into, making hollow domes. This was done at 1:50 scale, but it can be replicated at 1:1. The domes would be made off site, formed and tiled, as well as given an interior fit out.

Images of the domes made through the lathe turning technique.

Images of the ash glaze tests.

Images of the lathe turning plaster plinths which the pods sit on.

Rock ash is a bi-product from the production and fitting of the basalt sheets that line the mussel pool. All ash naturally has the necessary chemical components that create a natural glaze when fired. Above are test samples of different applications methods and amounts of ash. The animated render shows how the pods are tiled. Each pod will require custom tiles according to their dimensions.

The plinths relate to the curve of the pod they support and are formed using the same technique as the domes. They are made from recycled concrete created during the excavation of the pool. This is to try reduce the environmental impact of construction.

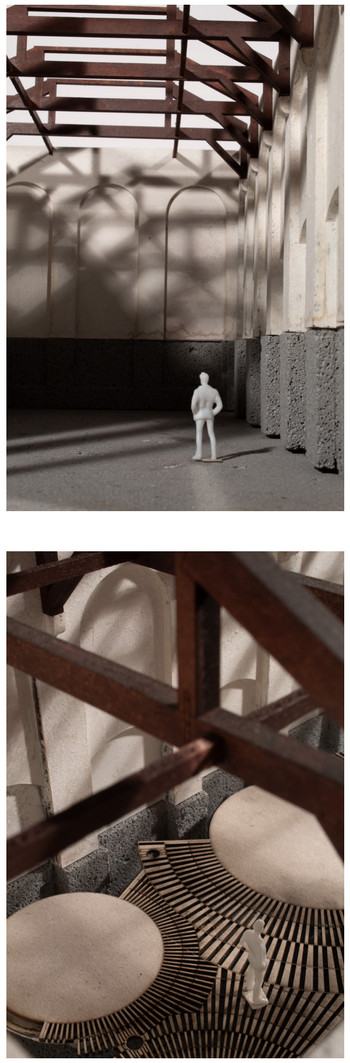
Experimenting with the ash glaze was a learning curve and new experience. Although the process is relatively simple it is also high risk however the outcome was extremely exciting.

Close up images of the ash glaze tests.

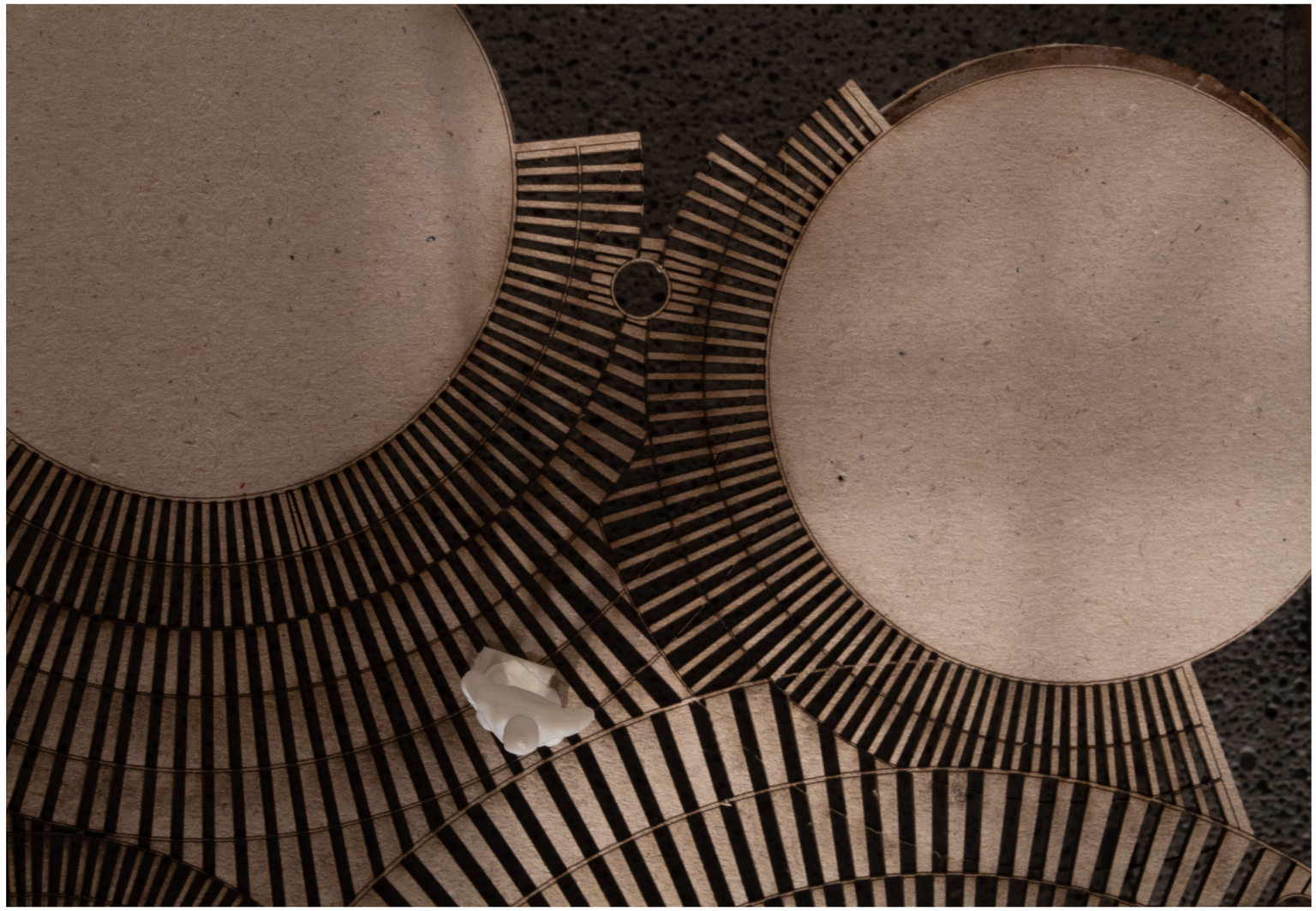
These images are taken from the 1:50 scale model. They demonstrate how the intervention works within the site, how the materials work together, and how light plays in the space. The strength of shadows and textures in the building interact with each other, culminating into a space packed with dynamic views and sensory experiences.

The basalt rock is an integral part of the design. It feeds the mussels by releasing minerals through small bubbles effervescing into the water. This also adds a sensory and acoustic dimension to the design.

The platform is designed to echo the tile formation of the pods, following the rings of the tiles out horizontally and merging with each other like the ring waves of a water droplet. The gridded pattern also creates entrancing shadows on the floor and water.



Images of the site in construction stages.



A video of the model working with water can be found by following this link -

https://www.youtube.com/watch?v=ZZxpFxwC_10




Images of the site with the final components fitted.





Image of the polythene roof.