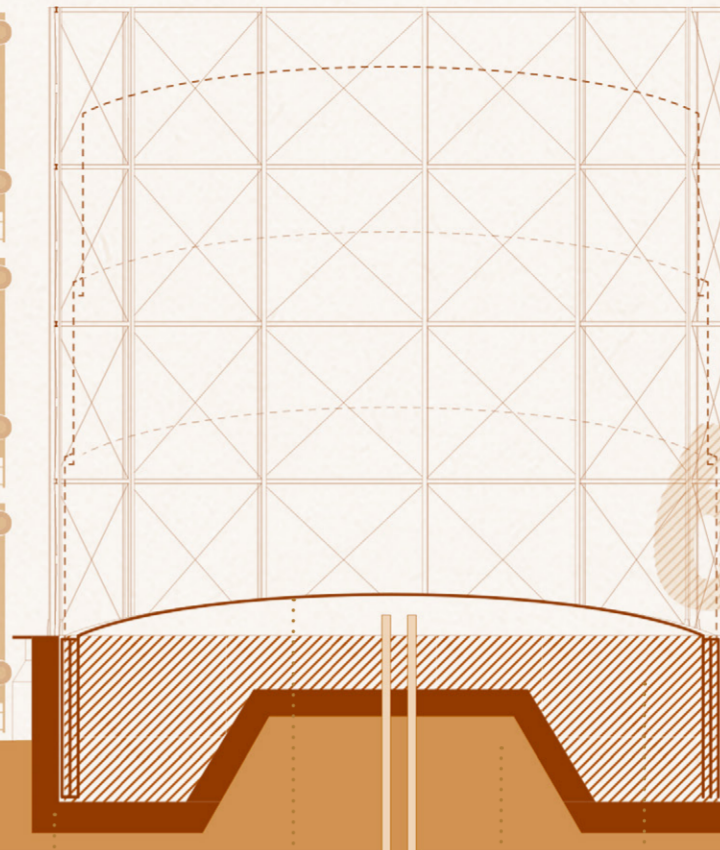




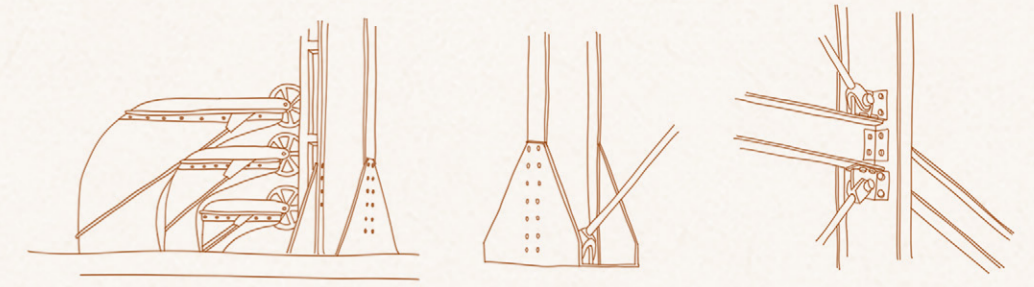
Surrey Water was mainly a timber dock. The still existing Deal Porter's way was the path deal porters would take carrying the timber down to warehouses.



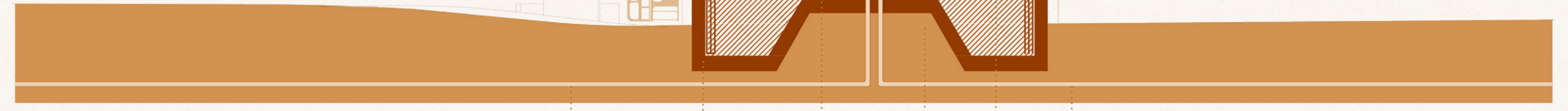
3 Double Deckers



A track system in the column-guided gasholder allowed lifts to rise as gas was pumped in.



6,000 bathtubs



Existing South-North Section

Gas Outlet Concrete Tank Gas holder Lifts Dumping Water Gas Inlet



Gas holders in London are concentrated in Flood Zone 3.



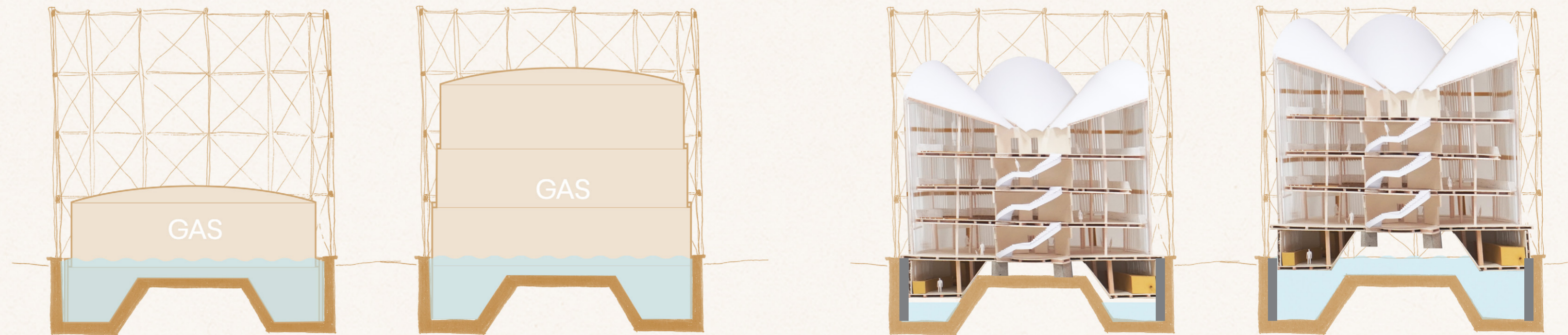
Map of Rotherhithe with old docklands overlay.



One of the few remnants of the old docklands is gasholder #3, that was once part of Surrey Consumers Gas Company.

Through The Mist

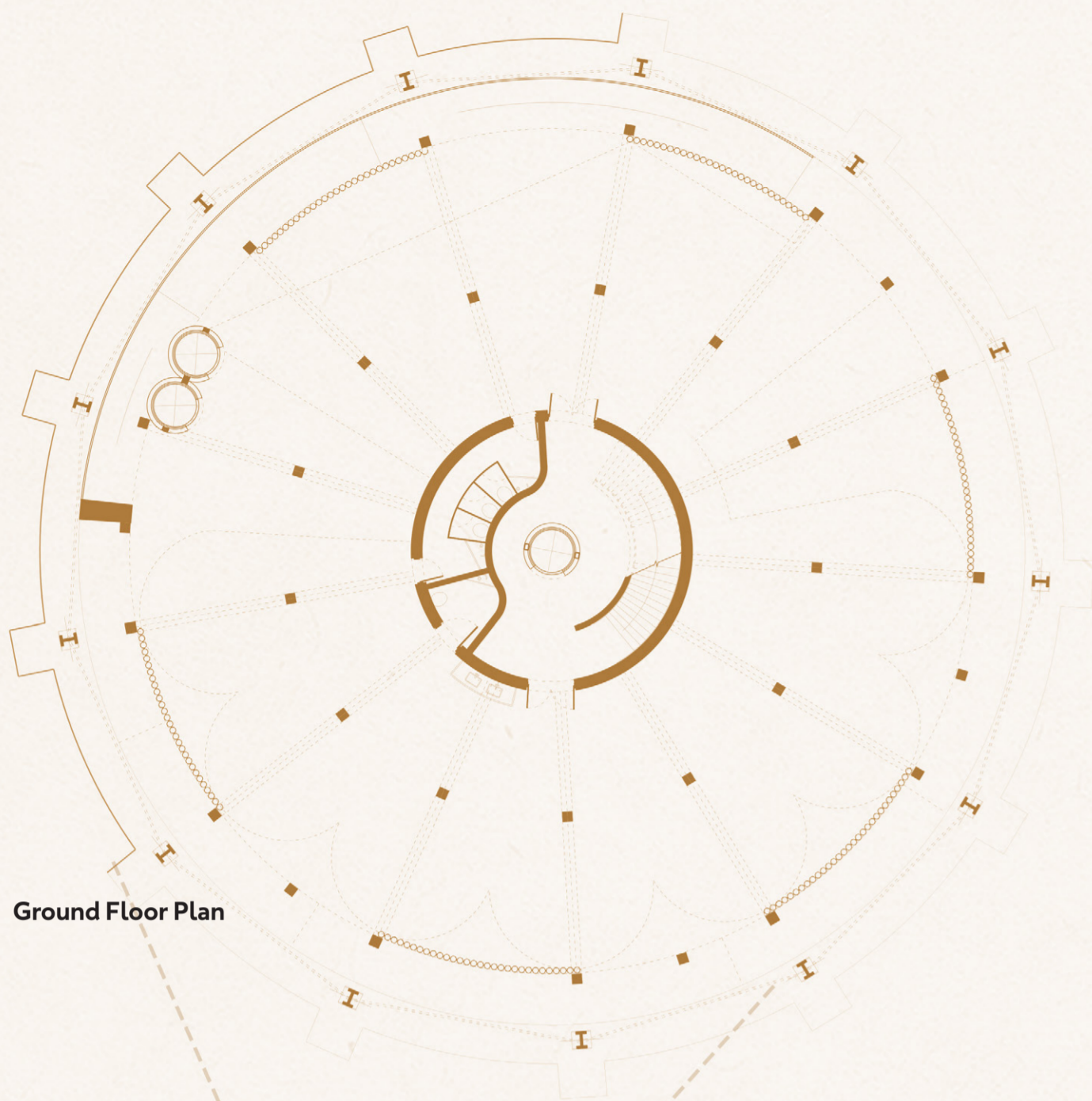
"Through the Mist" proposes a horticulture centre to rehabilitate Rotherhithe's derelict gas holder and its contaminated landscape. Centred around the theme of water, the project celebrates the history of the Docklands and provides sustainable water sourcing and conservation. The program addresses the lack of local food amenities in the area whilst promoting a new sustainable local food supply chain. The landscape expands the public realm and the existing underground tank is re-purposed to store and filter rain and flood water, also aiding the local drainage systems. Flood resistance is explored as the building floats with changes in the tank's water level, providing a safe space for the community and future-facing food production. Inside the building, natural light glimmers through the glass pipes façade, creating an environment suitable for plants to grow and for farmers to work. The hydroponic growing stations respond to spatial and light constraints found in its urban setting, proposing a flexible option for food production in our densifying cities. The project offers a sustainability-focused approach to re-imagine London's remaining gas holders and reinstates their often-forgotten relationship with water.



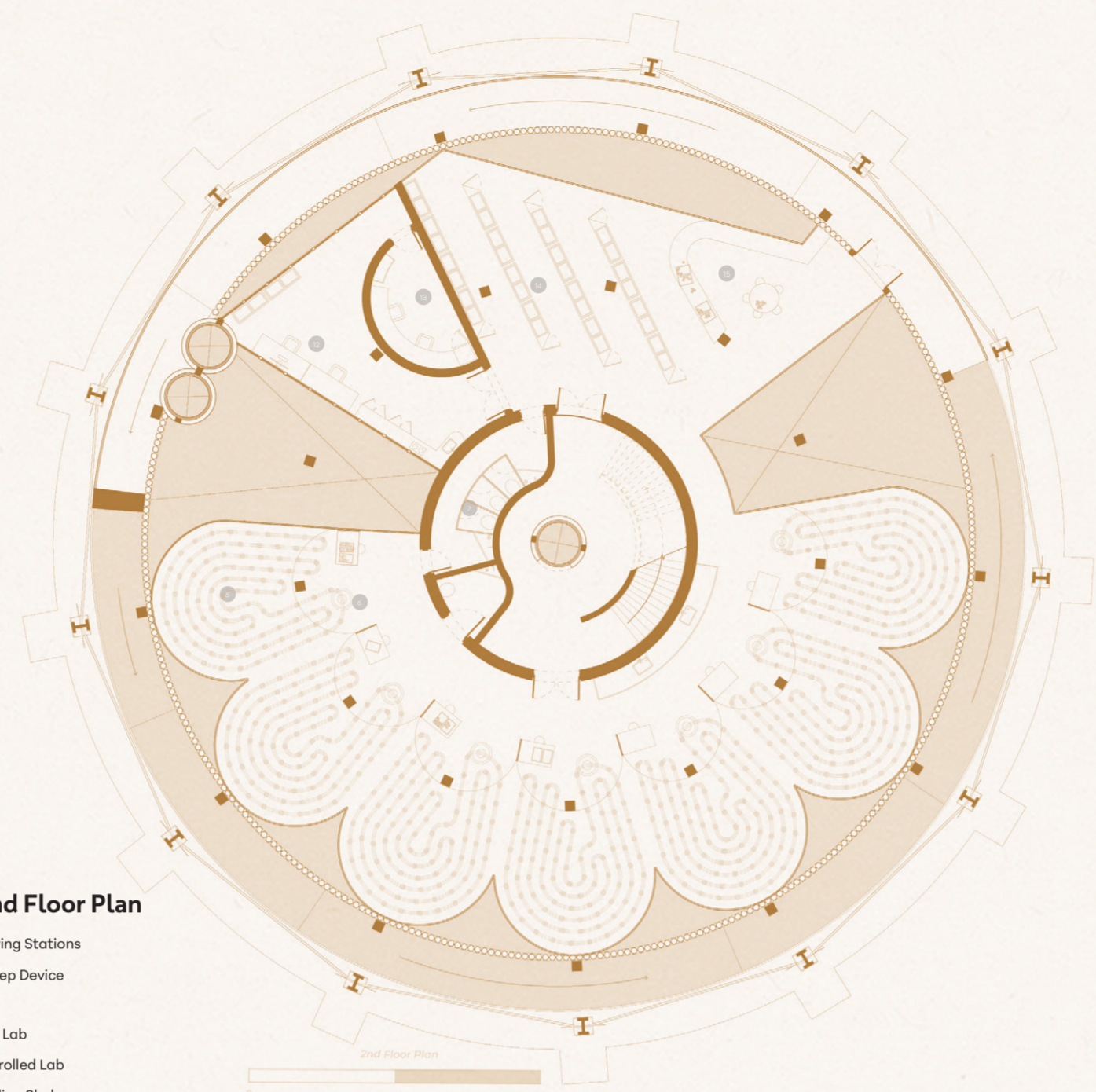
Gas holders used water as a seal in the joints between lifts to keep the gas inside.

1855-1959

2024-2100's

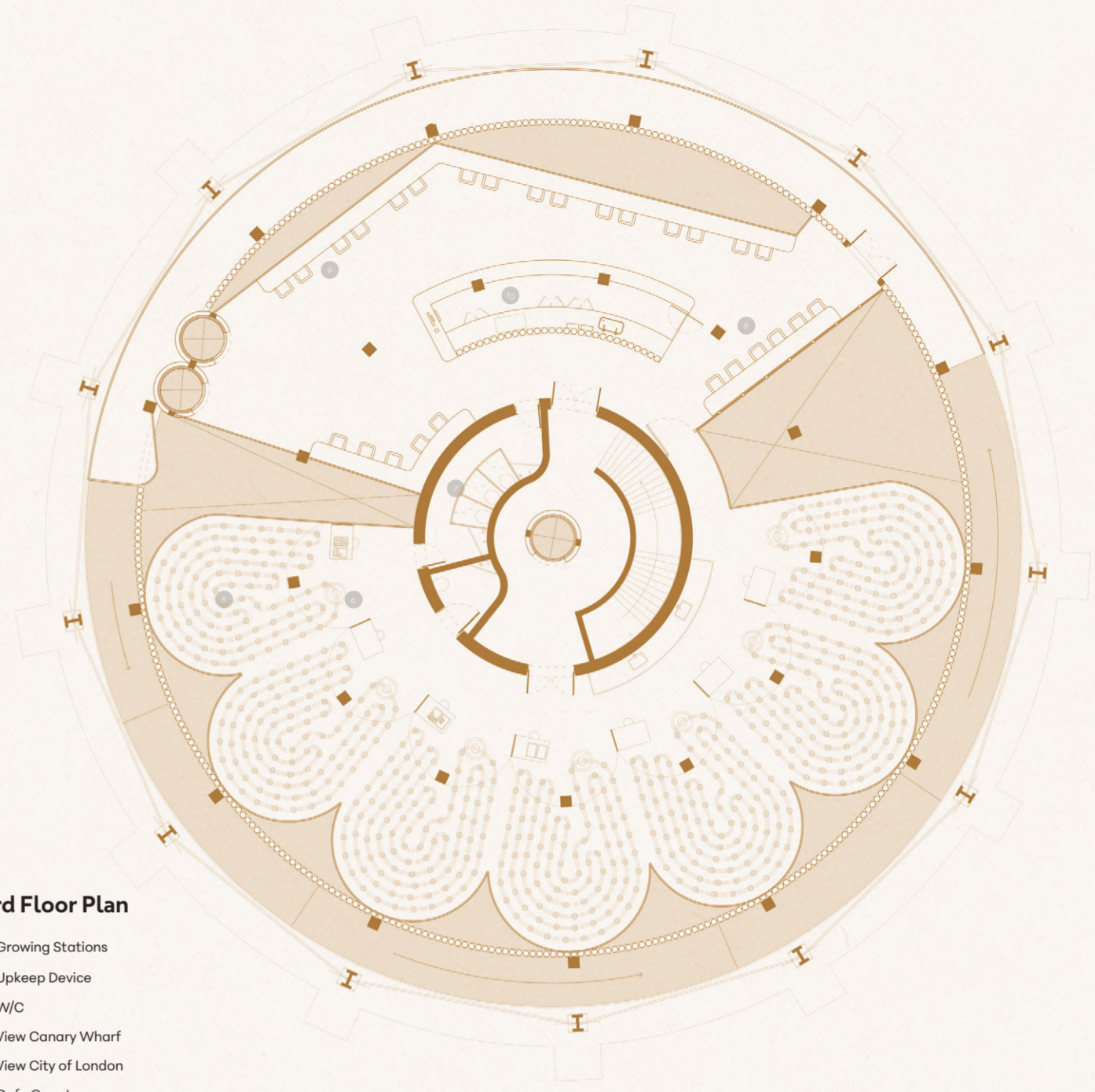


Ground Floor Plan



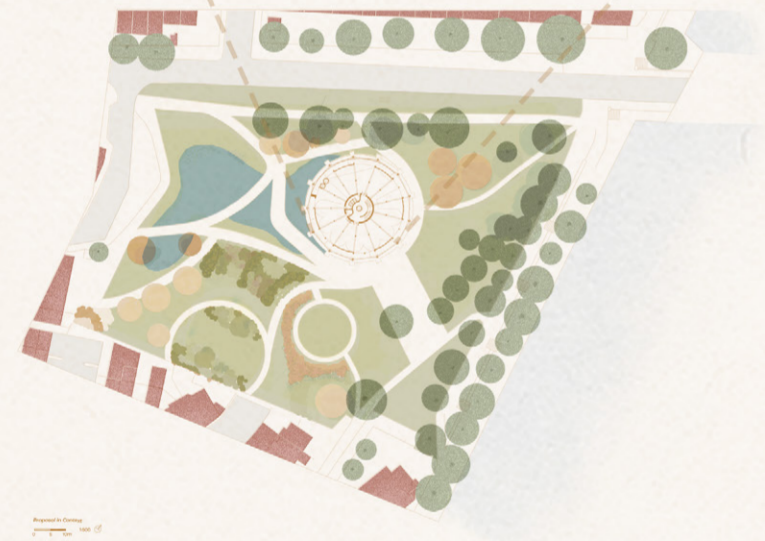
Second Floor Plan

- 1 Growing Stations
- 2 Upkeep Device
- 3 W/C
- 4 Plant Lab
- 5 Controlled Lab
- 6 Seedling Shelves
- 7 Work Benches



Third Floor Plan

- 1 Growing Stations
- 2 Upkeep Device
- 3 W/C
- 4 View Canary Wharf
- 5 View City of London
- 6 Cafe Counter



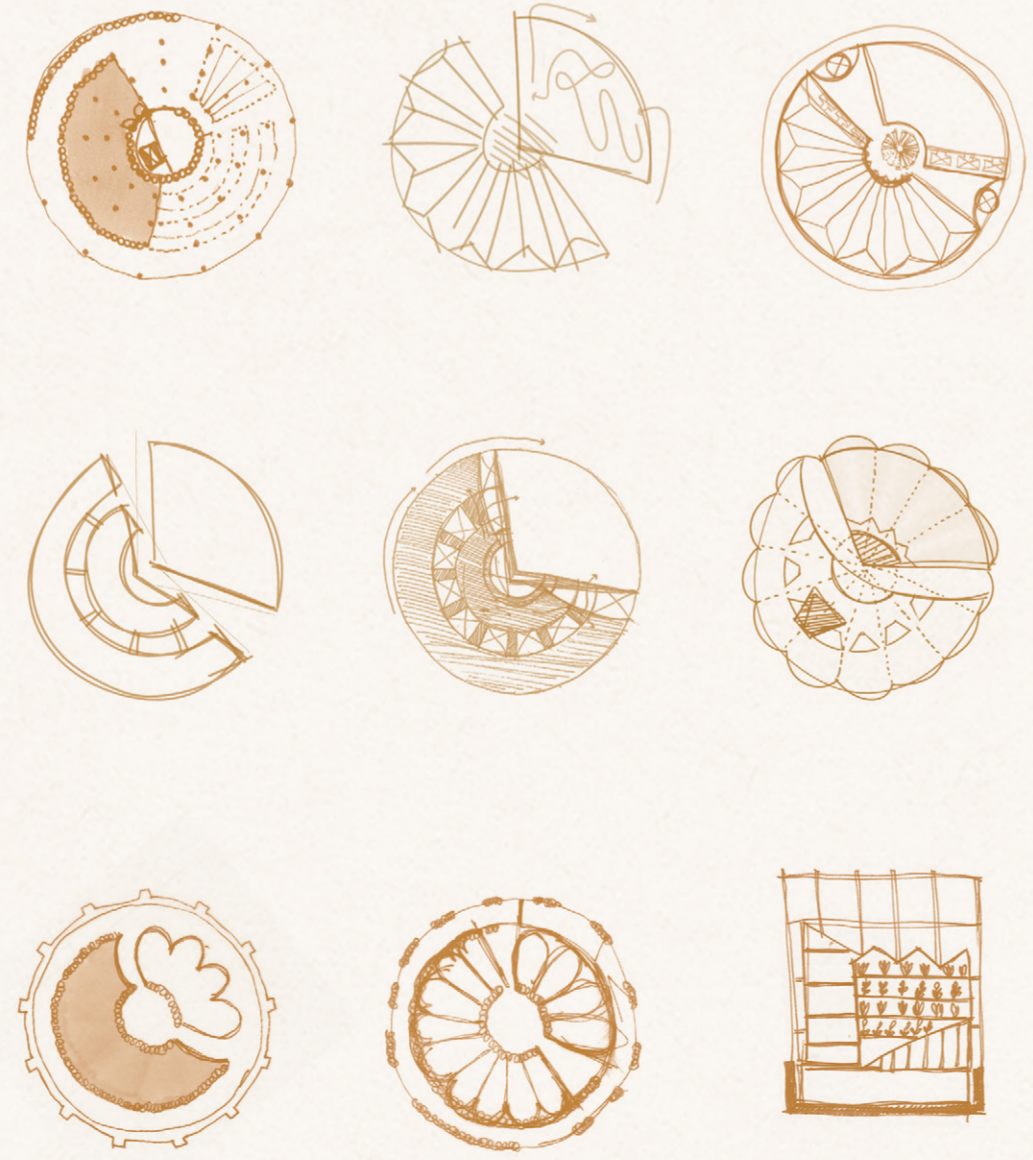
Spatial Layout

The ground floor is semi-open to blend in with the public realm and offers toilet facilities and a sheltered space. During the weekend the farmer's market takes place, the produce grown in the centre is sold and gardening workshops are held.

The community users would go up via the external lifts or the ramp that wraps the building on the outside. The ramp features 360° views of London and the slow journey leads to a cafe located on the top floor.

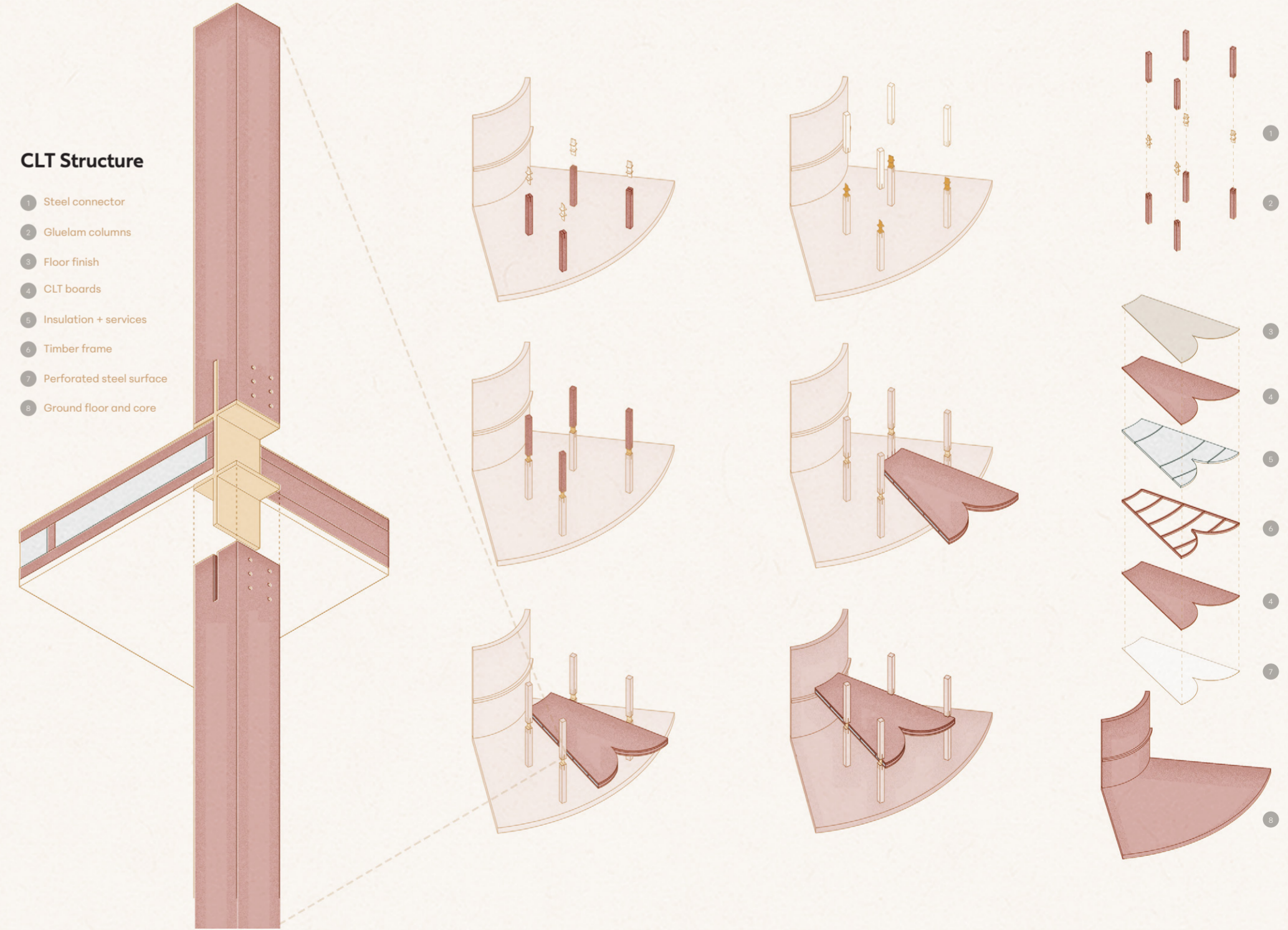
The upper floorplates have gaps between growing stations to allow for passive ventilation via stack effect, offering balanced temperature and humidity levels.

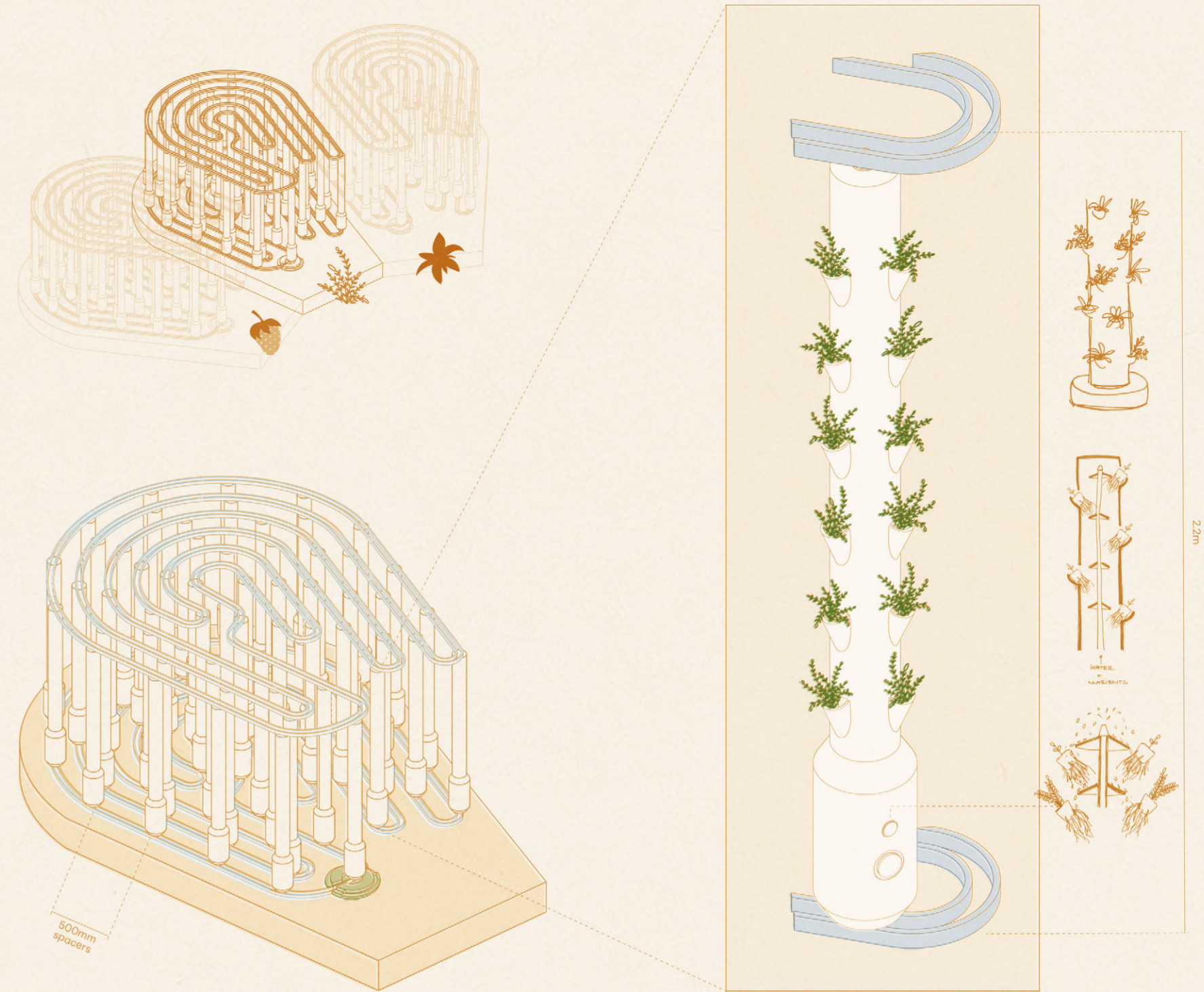
The structure is mainly cross laminated timber for ease of assembly/ disassembly. It is also lighter than other materials, helping with the buoyancy.



CLT Structure

- 1 Steel connector
- 2 Glulam columns
- 3 Floor finish
- 4 CLT boards
- 5 Insulation + services
- 6 Timber frame
- 7 Perforated steel surface
- 8 Ground floor and core



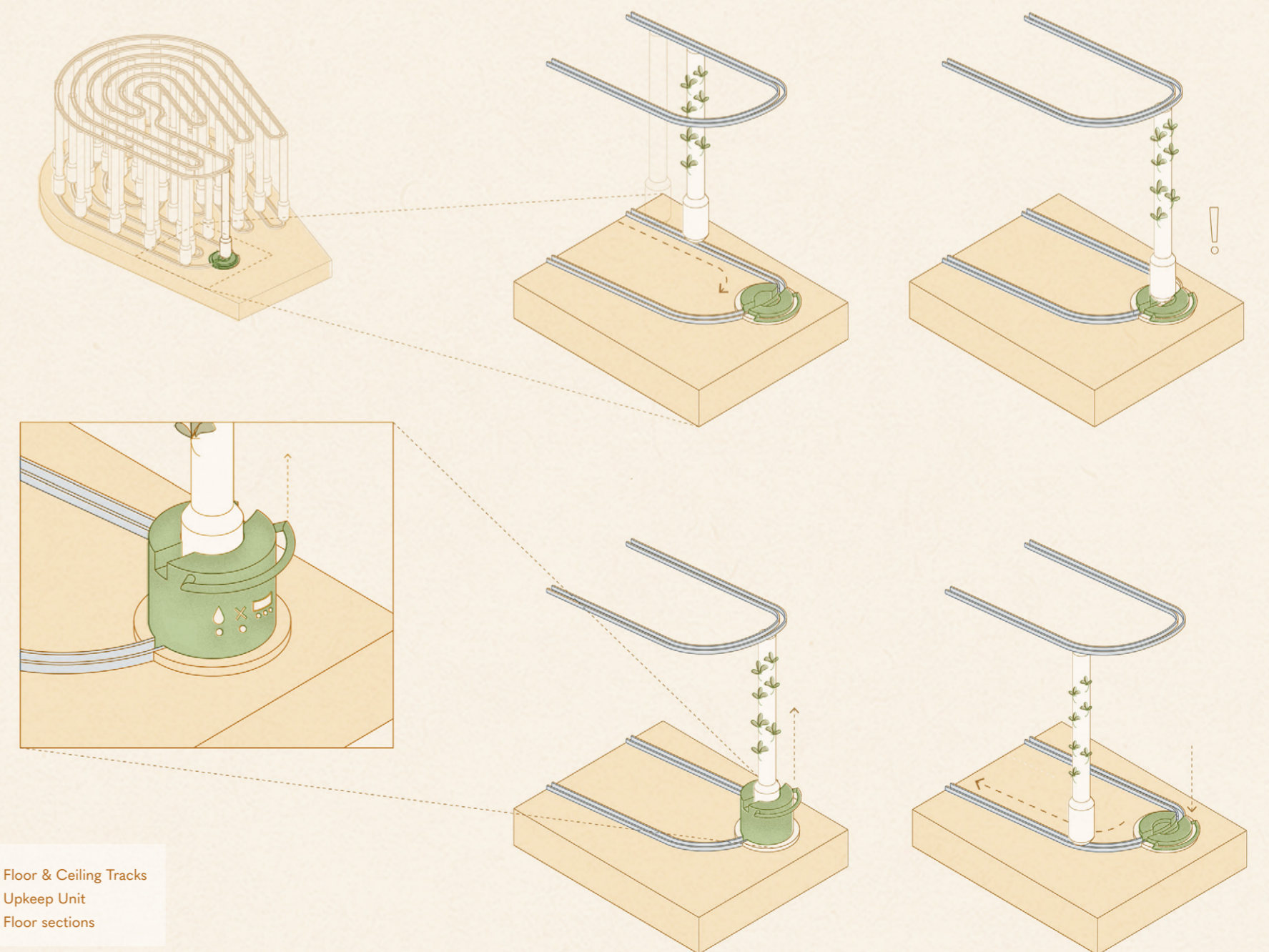
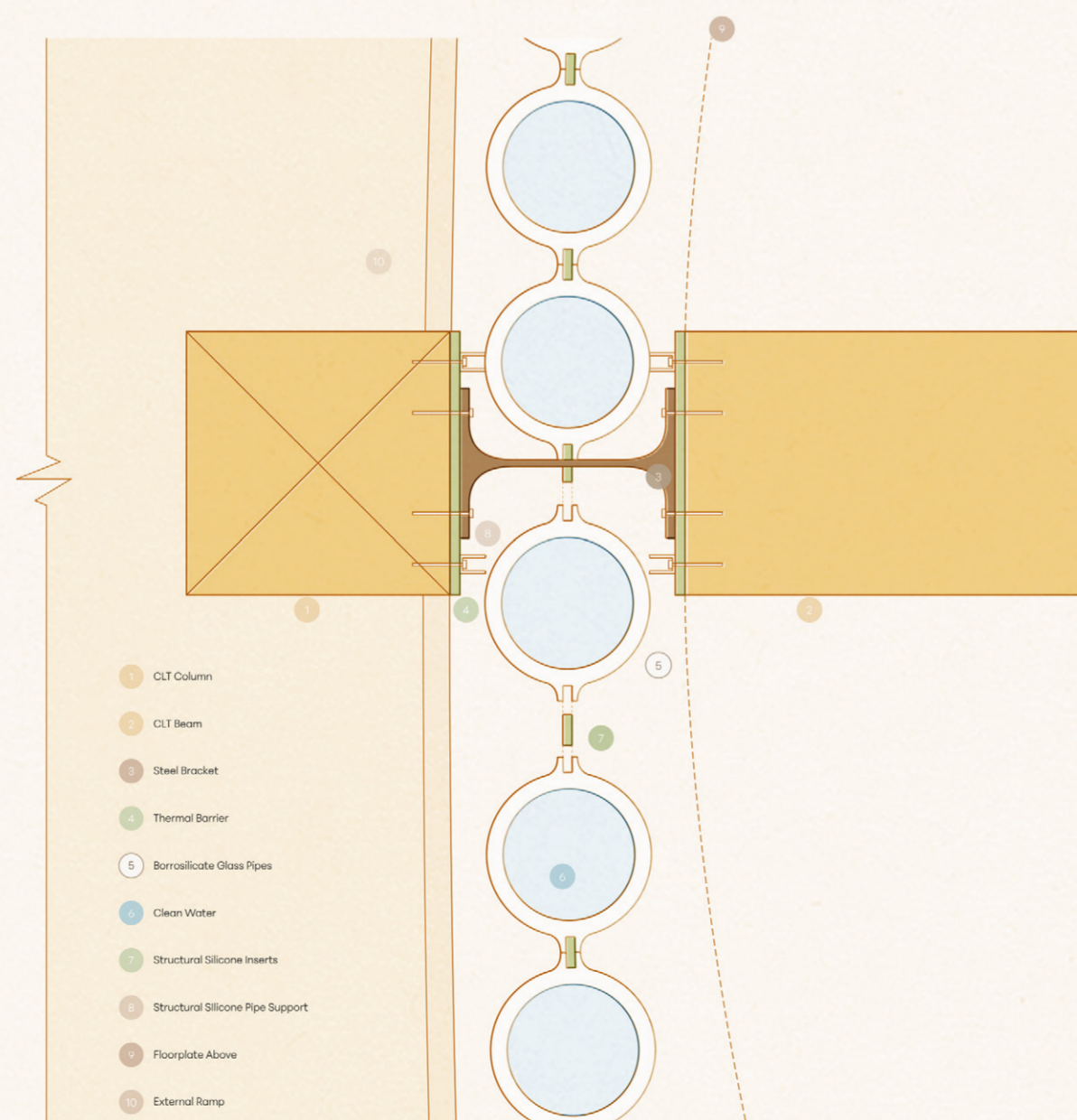


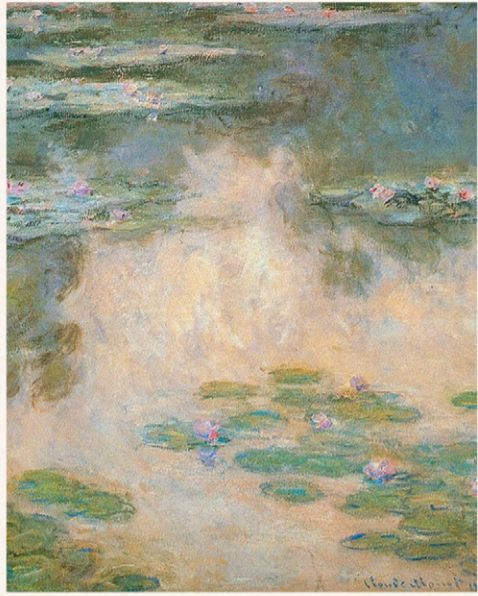
Interiority

The first interior step brings the user through a glass pipe façade that transports water up to the plants. They gleam differently with every weather creating an ephemeral experience that is in constant change. Water's thermal properties allow it to work as an insulator, protecting the building from becoming too hot or too cold. The water in the pipes comes from the underground tank, meaning it will always be at constant temperature in summer and winter.

The horticulture centre features 28 hydroponic growing stations and a track system for the towers. Their separate nature also allows for crops to be maintained and cared for according to seasonality. Each station can take up to 55 towers, each growing up to 18 plants.

The track system allows towers to be removed and replaced for flexibility. For maintenance the towers are simply pulled towards the upkeep unit which is then lifted and clicks into the water inlet and outlets. During the process the upkeep unit cleans inside the hydroponic towers replacing water and nutrients, whilst the farmer is in charge of trimming and caring for the crops above.





Ginkgo tree

Indian Mustard



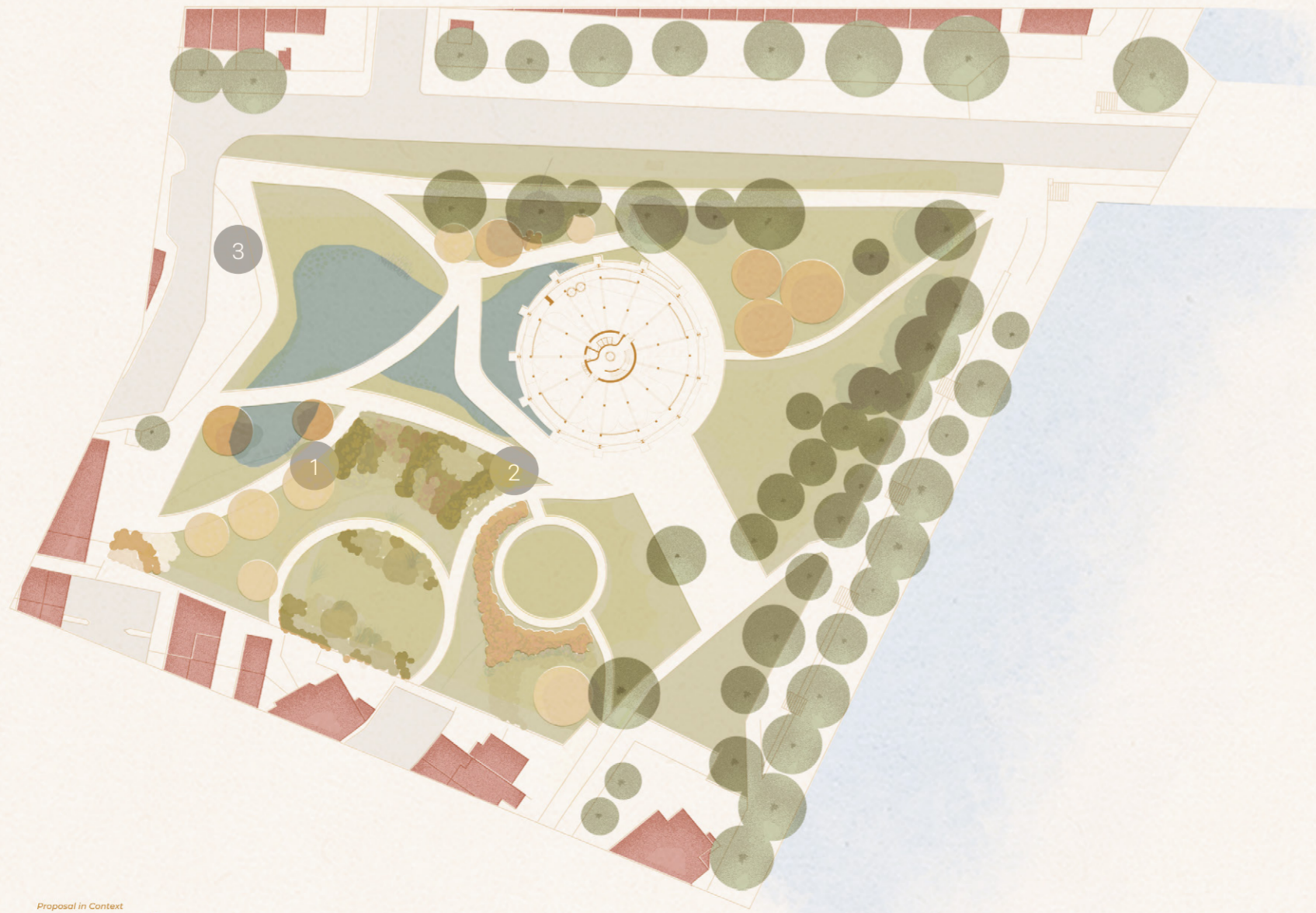
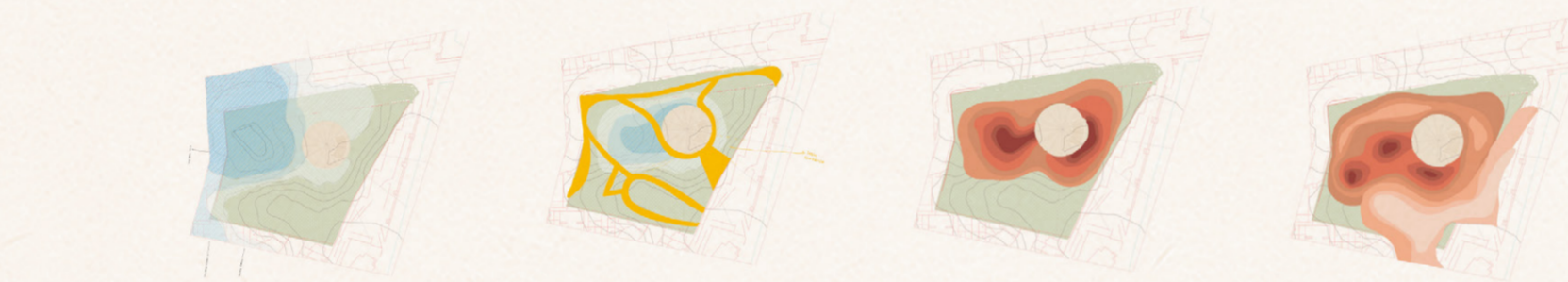
White Poplar

Red Clover

A New Landscape

The first step in changing the landscape was tackling the decontamination of the land. The coal burned to produce gas also produced tar, which is one of the very toxic substances present in most gasworks sites. By adding a layer of rubber over the contaminated land, it prevents further contamination of any new soil and plants. But the choice of plants can also naturally aid in decontaminating toxic substances from the soil. Particularly Maidenhair Trees (Ginkgos), Indian Mustard and White Poplars were distributed around the infilled gasholders on-site to prevent any contamination in the future.

A selection of paintings were used throughout the project as inspiration for the the project's atmosphere. It informed the façade system of the building and the landscape design. The design of the path network derives from the new topography that directs water into the tank. The circular paths frame short grassy mounds where the former gasholders #1 and #2 were located, keeping the heritage of the site visible and offering pockets of space for picnics and other leisure activities.





Third Floor



First Floor



Ground Floor



Underground filters and water management