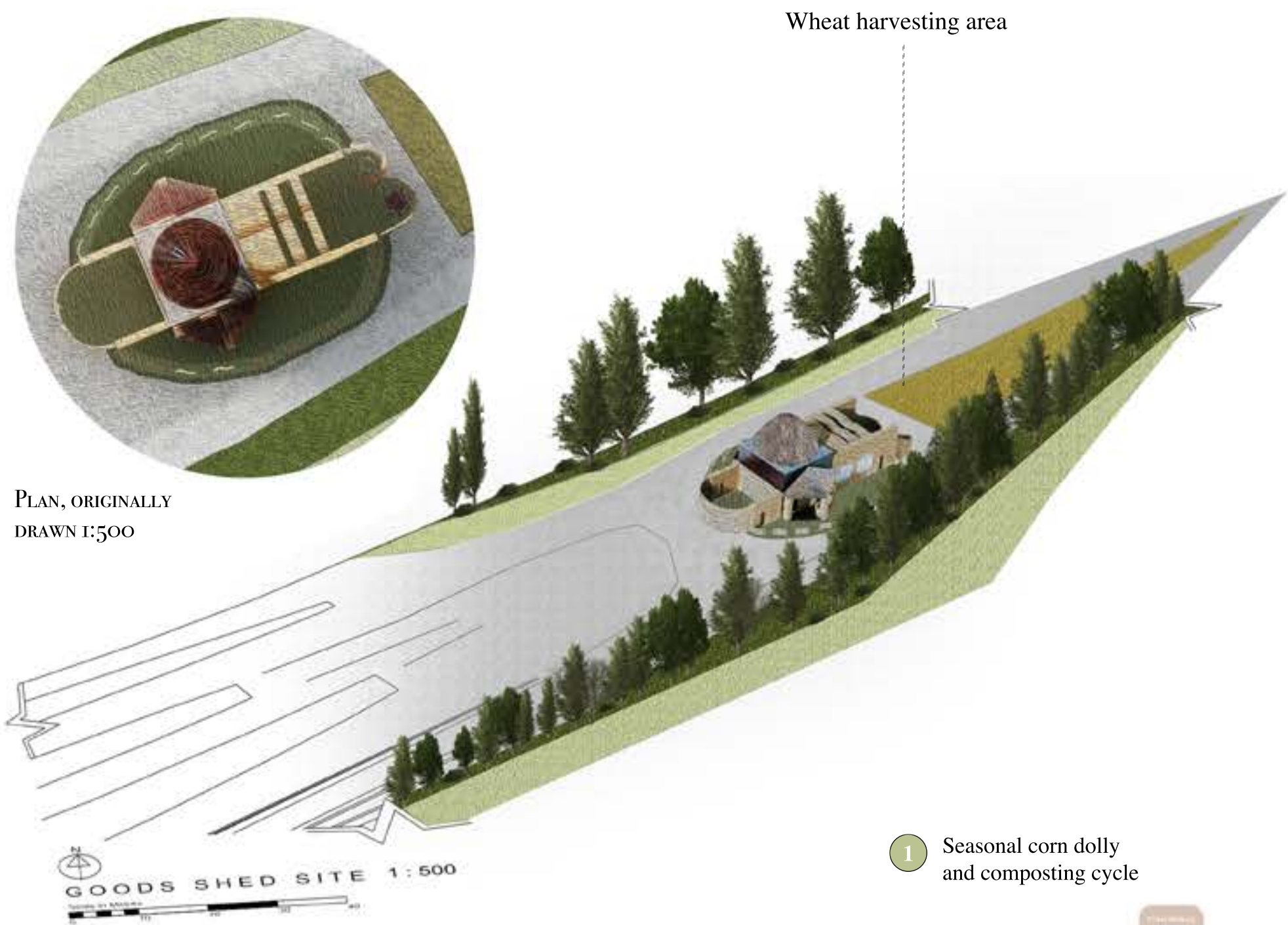


# THE MUSEUM OF SHIFTING GROUNDS & GRAINS

## About:

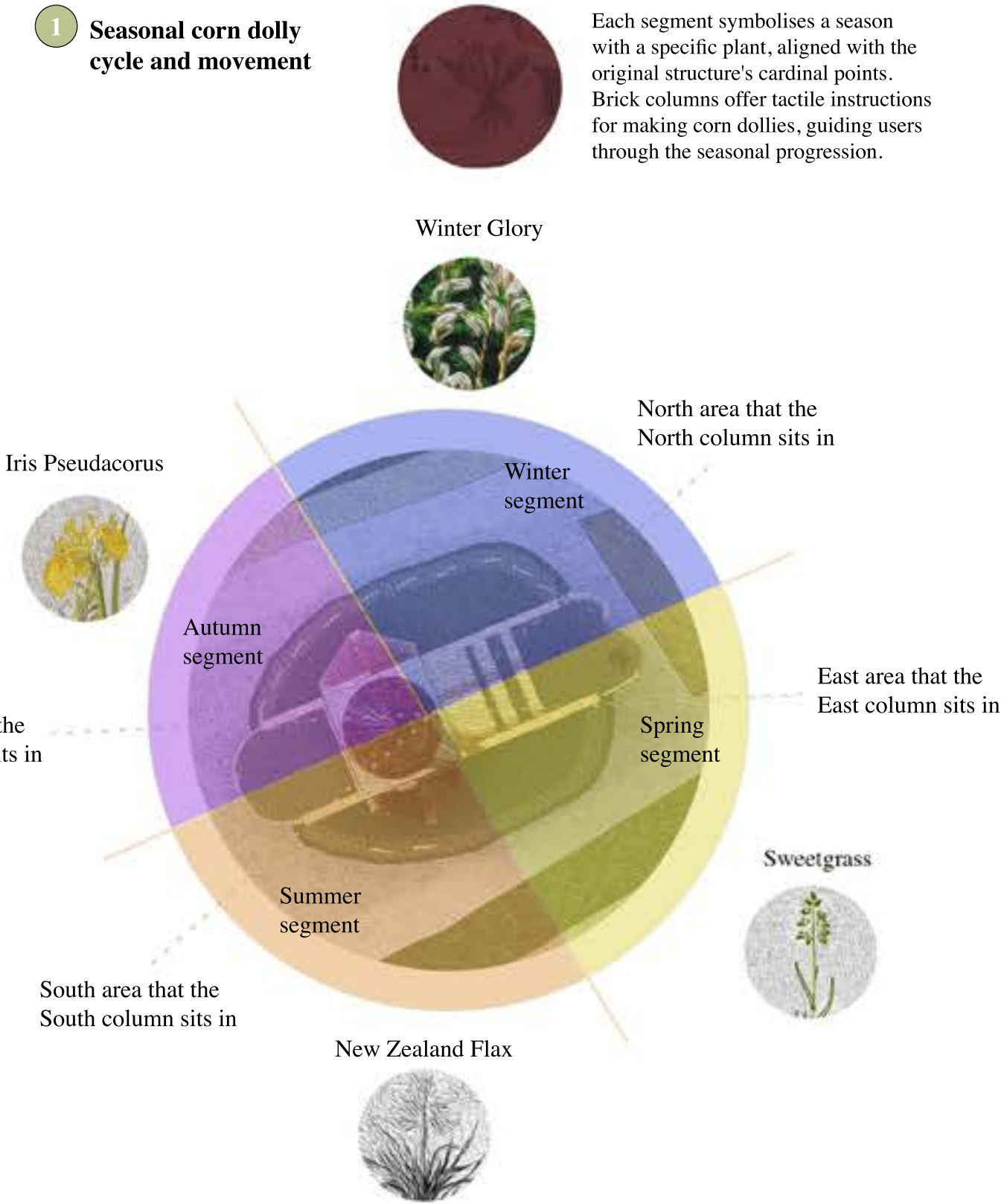
A living museum shaped by butterflies, ritual, and return. Corn dollies are made, displayed, then transformed into baked goods. Brick walls breathe. Seasons turn. Rammed chalk with seeds dissolves back into chalky soil. This is a space of memory and transformation, where nothing stays still, and everything shifts in rhythm with the seasons.



## Cycles and Transformations on the Site

Key:

- 1 Seasonal corn dolly and composting cycle
- 2 Wheat paper cycle
- 3 Transformation of the Corn Dolly Memory Cycle
- 4 Water Collection Cycle



### 1 Seasonal corn dolly and composting cycle



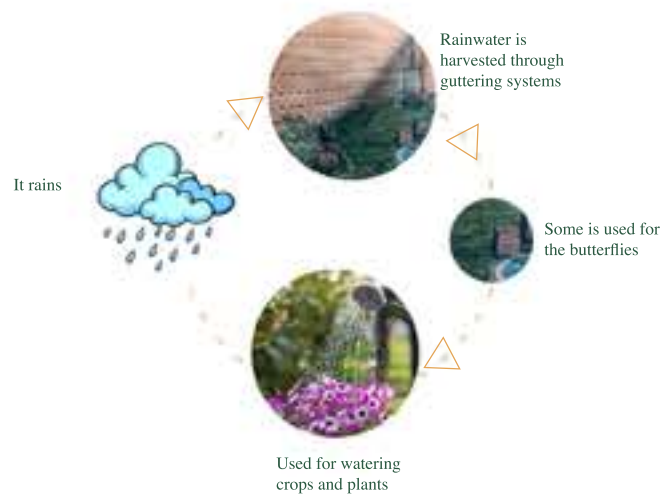
### 2 Wheat paper cycle



### 3 Transformation of the Corn Dolly Memory Cycle



### 4 Water Collection Cycle





# THE MUSEUM OF SHIFTING GROUNDS & GRAINS

## Key spaces

Compost station for seasonal corn dolly to be disposed



Fireplace and community outdoor seating



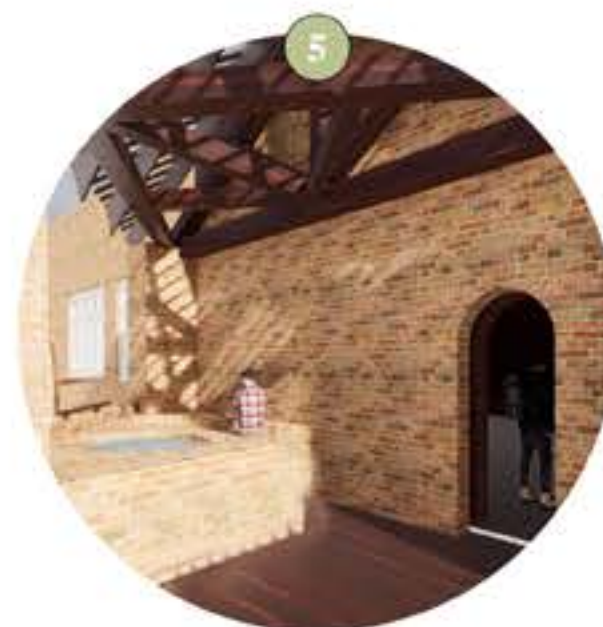
Corn dolly-making station with brick inscriptions



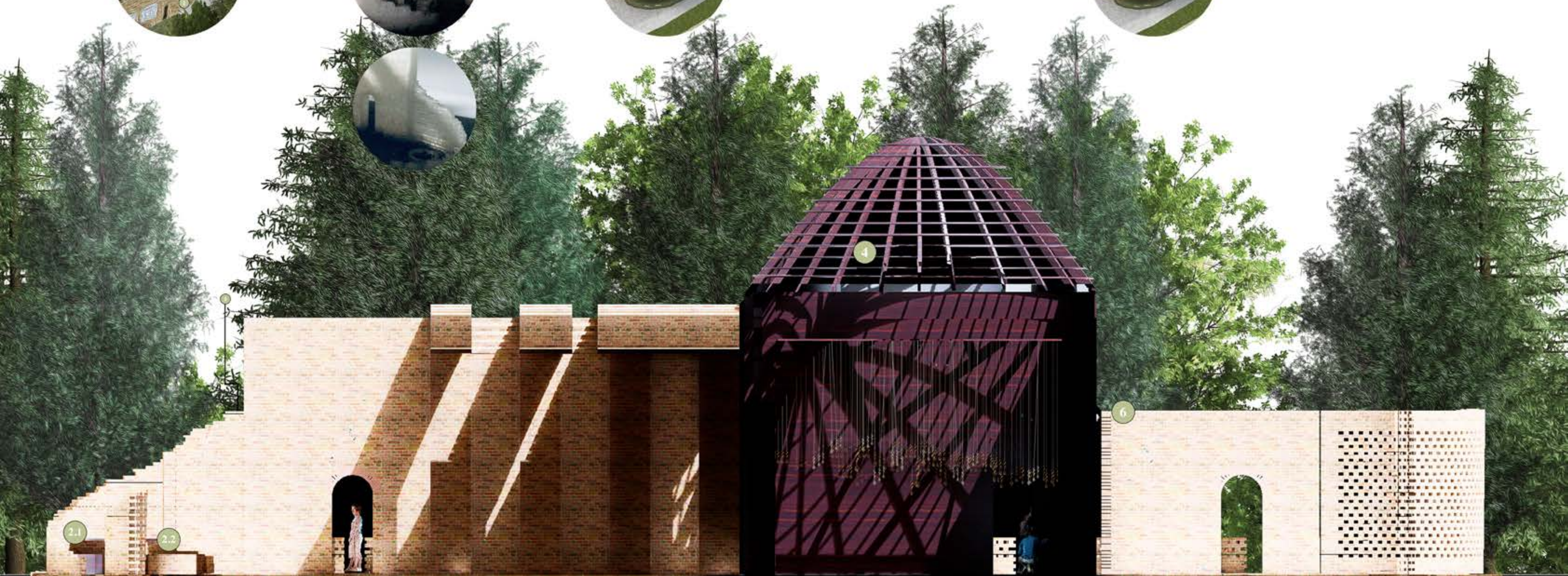
Display area for corn dollies within the shaking structure



Wheat paper making station



Water collection point





# THE MUSEUM OF SHIFTING GROUNDS & GRAINS

## Ecology and endangered butterflies

Butterflies are sensitive indicators of biodiversity and climate change. Since the 1970s, their population has declined by 80%. This project actively supports local conservation by utilising plants, materials, and structural forms. The Museum of Shifting Grounds and Grains creates an immersive space that seamlessly blends the indoors and outdoors, allowing humans and pollinators to exist side by side.



Name: Cowslip  
Supports: Duke of Burgundy  
Season flowering: Spring

Note: Propagation needed



Name: Primrose  
Supports: Duke of Burgundy  
Season flowering: Early Spring

Note: Shaded garden fringes



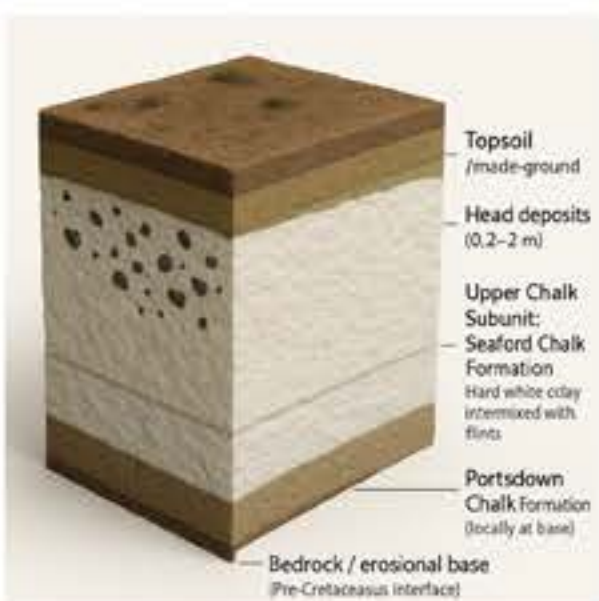
Name: Kidney Vetch  
Supports: Small Blue  
Season flowering: Summer

Note: These seeds are used in their perforated brick chalk wall

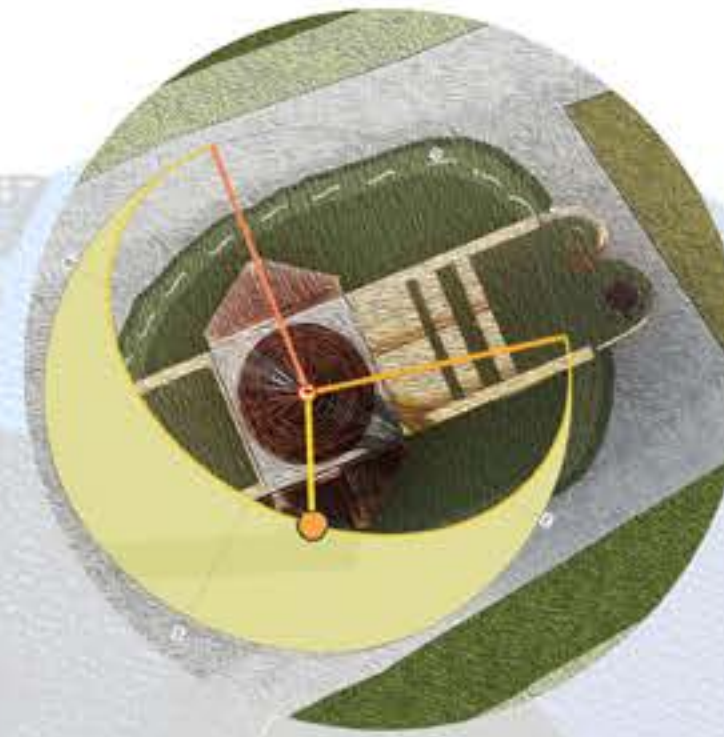


Name: Horseshoe Vetch  
Supports: Adonis Blue  
Season flowering: Late Spring

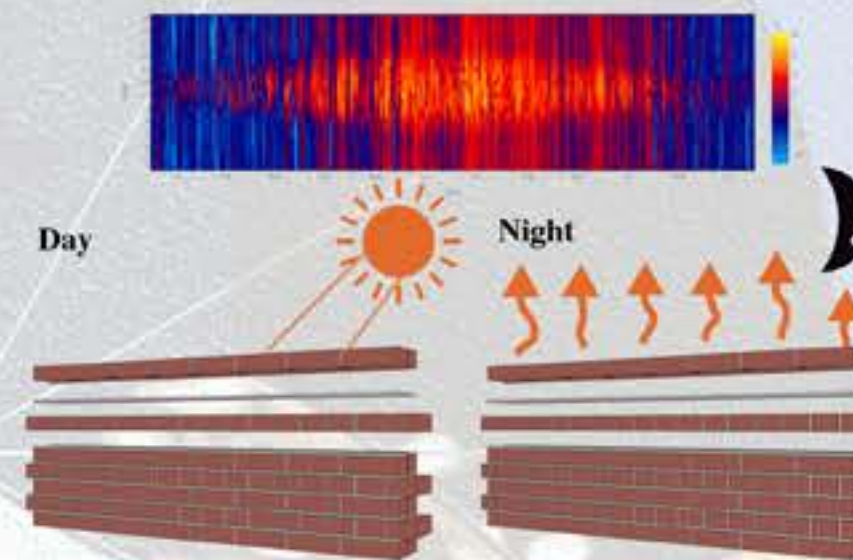
Note: Sunny paths



The soil layers in this area provide optimal conditions for all the butterflies depicted above to thrive.



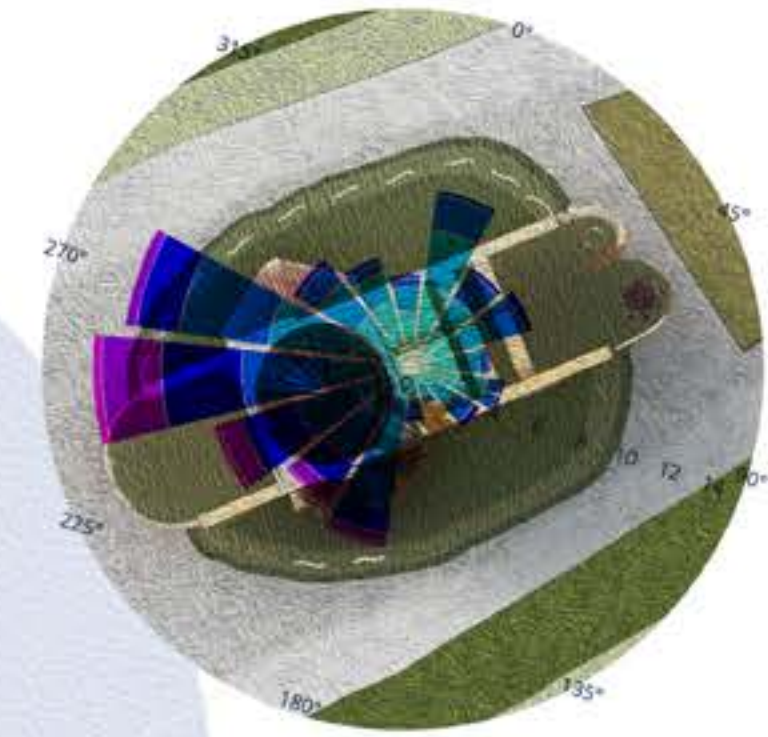
The path of the sun shows that adequate light will reach both the butterfly garden and the cocoon area. Butterflies require a combination of light and shade, as well as moderate warmth from the sun, to emerge.



## Light guiding system



The shaking space is quite dark, allowing warm lights to be placed inside. This creates a more inviting environment for butterflies and helps them navigate. As the butterflies enter the structure, the tunnels gradually become lighter. Like moths, butterflies naturally gravitate towards the light.

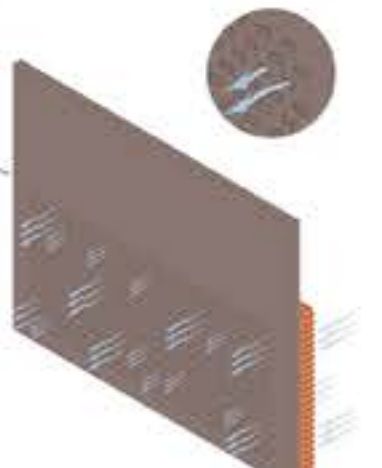


calm  
0.5 - 1.5 m/s  
1.5 - 3.3 m/s  
3.3 - 5.5 m/s  
5.5 - 7.9 m/s  
7.9 - 10.7 m/s  
10.7 - 13.8 m/s  
13.8 - 17.1 m/s  
17.1 - 20.7 m/s  
>20.7 m/s

The wind speeds are significantly higher on the south to southwest side of the structure. To address this, I have designed a curved perforated wall that employs two different techniques to mitigate the winds. This approach is crucial, as high winds can cause butterfly wings to be damaged.



The above illustration depicts the wind path that gently guides the butterflies through the structure.



This perforated wall designed to gently direct butterflies through the structure.

Human Vision



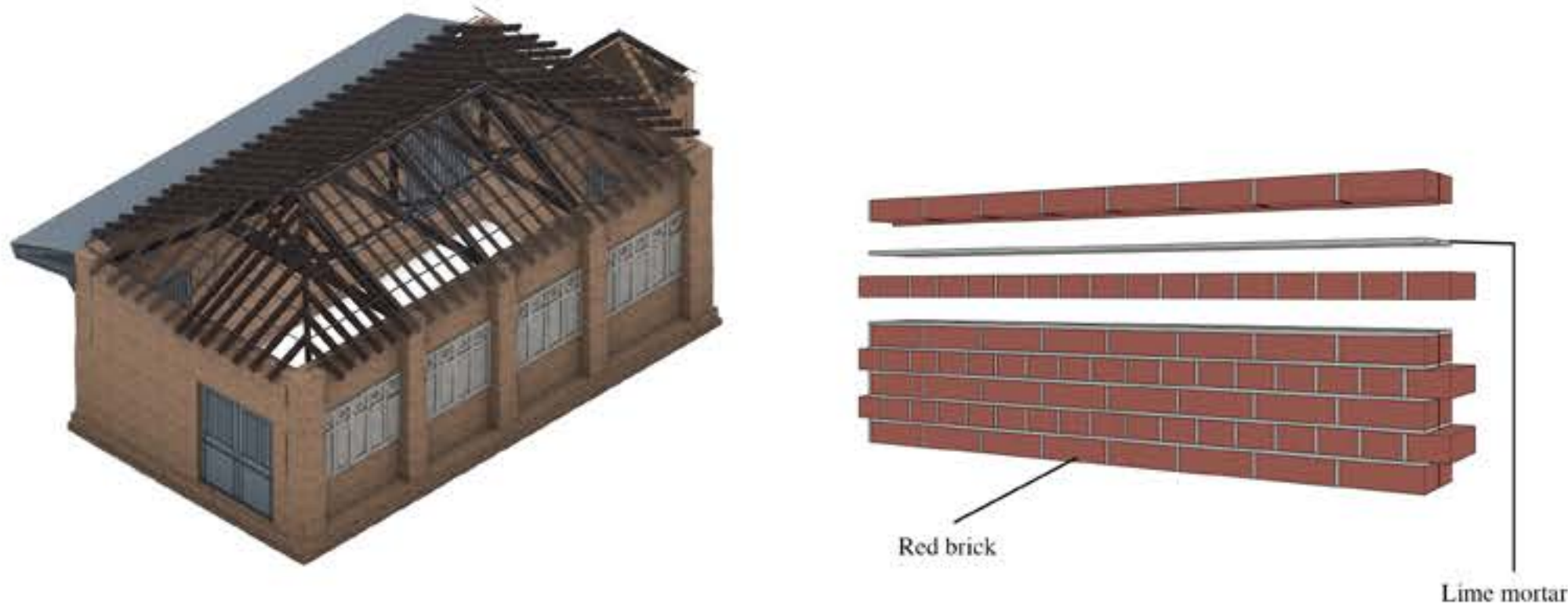
Butterfly Vision





# THE MUSEUM OF SHIFTING GROUNDS & GRAINS

## Materials



I have reused all of the bricks from the original site because they are built with lime mortar, which can be removed easily.

## Material Making Process

### Wheat paper



### Wheat Paper Making Station



## Material Tests

### Cob soil test

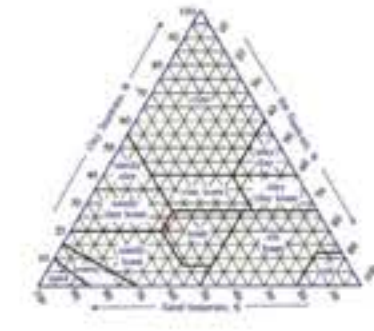
Percentages Required to Create Loam Soil:

- 1.28% clay
- 27.82% silt
- 12.82% sand

#### Silt soil results



#### Loam soil graph:



The additional amount needed to create Cob

- 22% clay
- 27.82% silt
- 50% sand

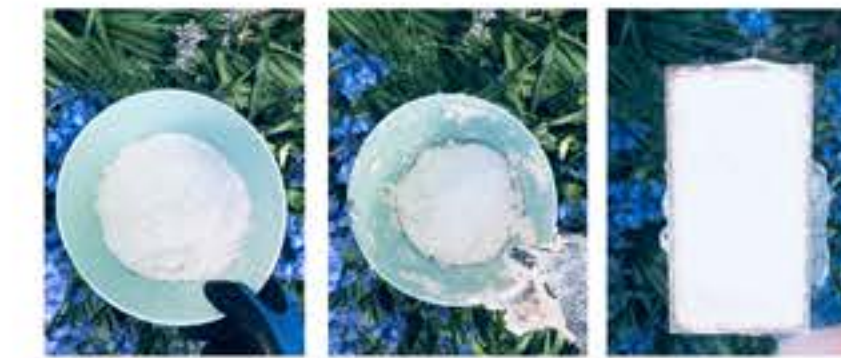


The perforated brick wall surrounding the structure contains rammed chalk embedded with seeds. This design allows the seeds to be dispersed while returning the chalk to the soil. I chose rammed chalk because butterflies prefer alkaline soil, and it dissolves easily. As the rainwater permeates the wall, it continually replenishes the ground with chalk, creating an ongoing source for seed dispersion around the structure.

## Cob Making Process



## Rammed Chalk with Seeds: Making Process



## Rammed Chalk, added Earth, Sand, Clay and Seeds: Making Process



## Final Materials and Tests



I have chosen to use rammed chalk with seeds embedded, returning the chalk to the alkaline soil in which these butterflies and caterpillars thrive.

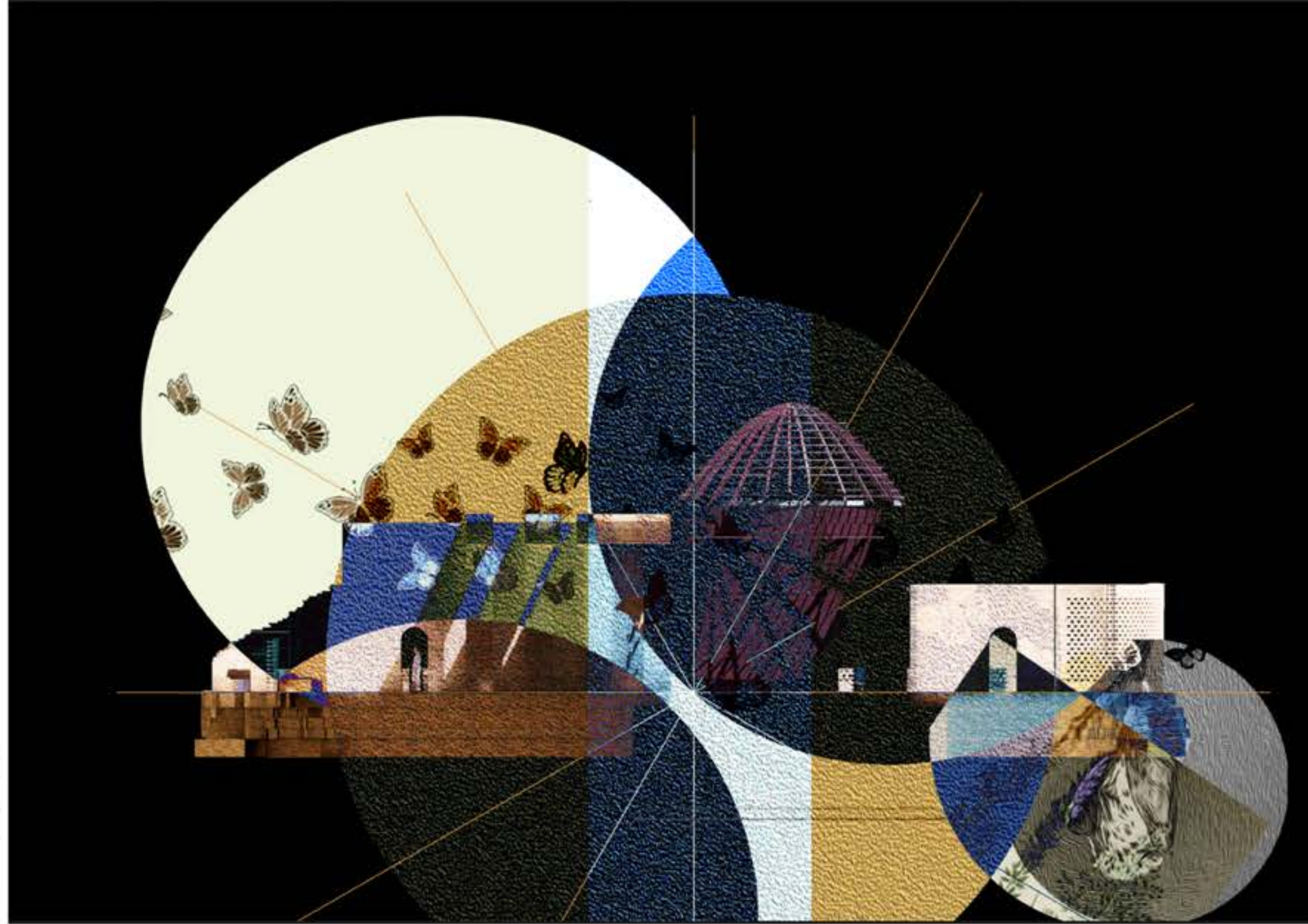
<https://www.youtube.com/shorts/iHAQS8J0OUc>  
<https://youtu.be/P1L4LDL4nXm?si=2DIFL5GBWCD0EIZ>

Life cycle for all three materials





THE MUSEUM OF SHIFTING GROUNDS & GRAINS



Spring isolators are strategically positioned in the substructure to facilitate movement in the corn dolly display area. This approach significantly enhances how people engage with the space. Users can subtly shake the butterflies out of the structure as needed, create captivating rustling sounds from the corn dollies overhead, and even prompt certain elements to drop for the wheat paper station.

