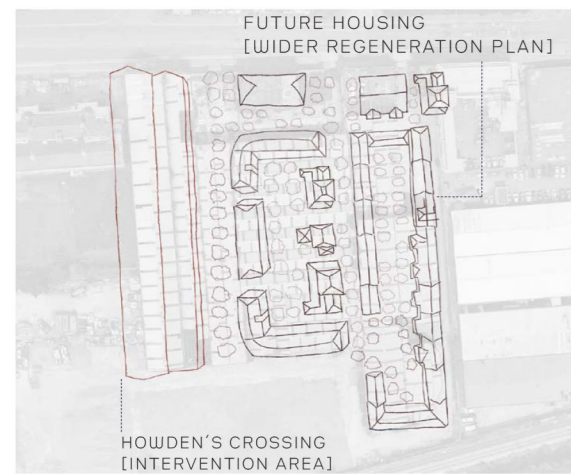




# HOWDEN'S CROSSING



Howden's Crossing was formerly Howden's Works, an industrial works building in Glasgow's manufacturing landscape, now derelict for the past 25 years. The proposal retains part of the site for new housing, while the remainder becomes Howden's Crossing.

## The Design Manifesto

Howden's Crossing transforms a neglected industrial site into a neighbourhood hub designed to connect existing and emerging residents through shared daily experience.

Responding to rapid residential growth within the Kingston neighbourhood of Glasgow. The project challenges housing-led regeneration that often overlooks the spaces and activities that enrich everyday life.

Instead, it proposes a mixed use environment structured around social, productive and leisure typologies, creating opportunities to learn, create, socialise and unwind within a single journey through the building.

Material strategy is driven by close reading of the site, seeking inspiration from its industrial past and finding ways to celebrate it in a renewed form.

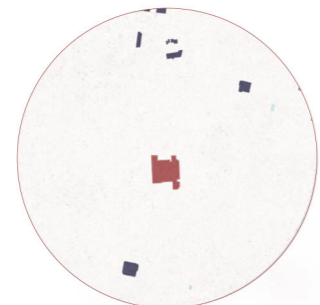
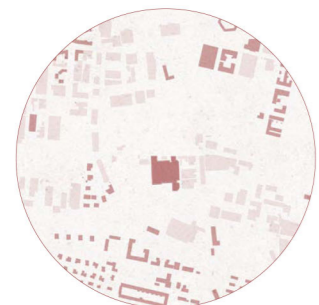
Existing terracotta brick is repurposed into scagliola flooring, while overgrown vegetation found on site is transformed into handmade paper features, embedding circular design principles throughout the project. Natural materials and climate-responsive internal gardens create an environment that feels immersed in nature while remaining enclosed and protected from Glasgow's climate, offering a richer and more restorative experience of everyday life.

## The Users

Howden's Works supports the diverse needs of the neighbourhood through flexible mixed-use spaces. Tara uses it as a quiet retreat from home, while Lochy runs a small business from the pavilions while caring for his son. Together, they show how the scheme accommodates different lifestyles while encouraging everyday connection between residents.



## Amenities gap: limited options to enhance residents' lifestyles

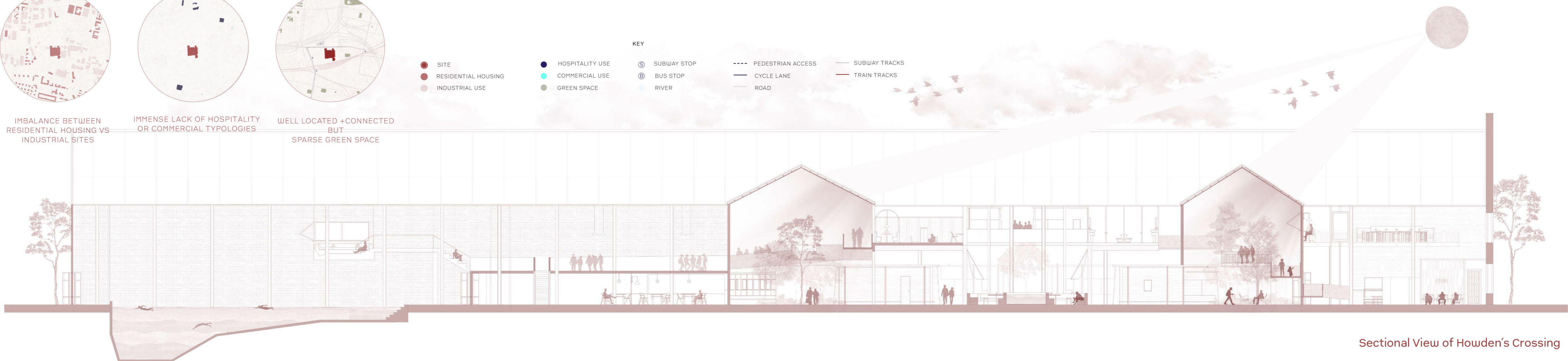


IMBALANCE BETWEEN RESIDENTIAL HOUSING VS INDUSTRIAL SITES

IMMENSE LACK OF HOSPITALITY OR COMMERCIAL TYPOLOGIES

WELL LOCATED +CONNECTED BUT SPARSE GREEN SPACE

KEY				
● SITE	● HOSPITALITY USE	Ⓢ SUBWAY STOP	--- PEDESTRIAN ACCESS	— SUBWAY TRACKS
● RESIDENTIAL HOUSING	● COMMERCIAL USE	Ⓟ BUS STOP	— CYCLE LANE	— TRAIN TRACKS
● INDUSTRIAL USE	● GREEN SPACE	— RIVER	— ROAD	



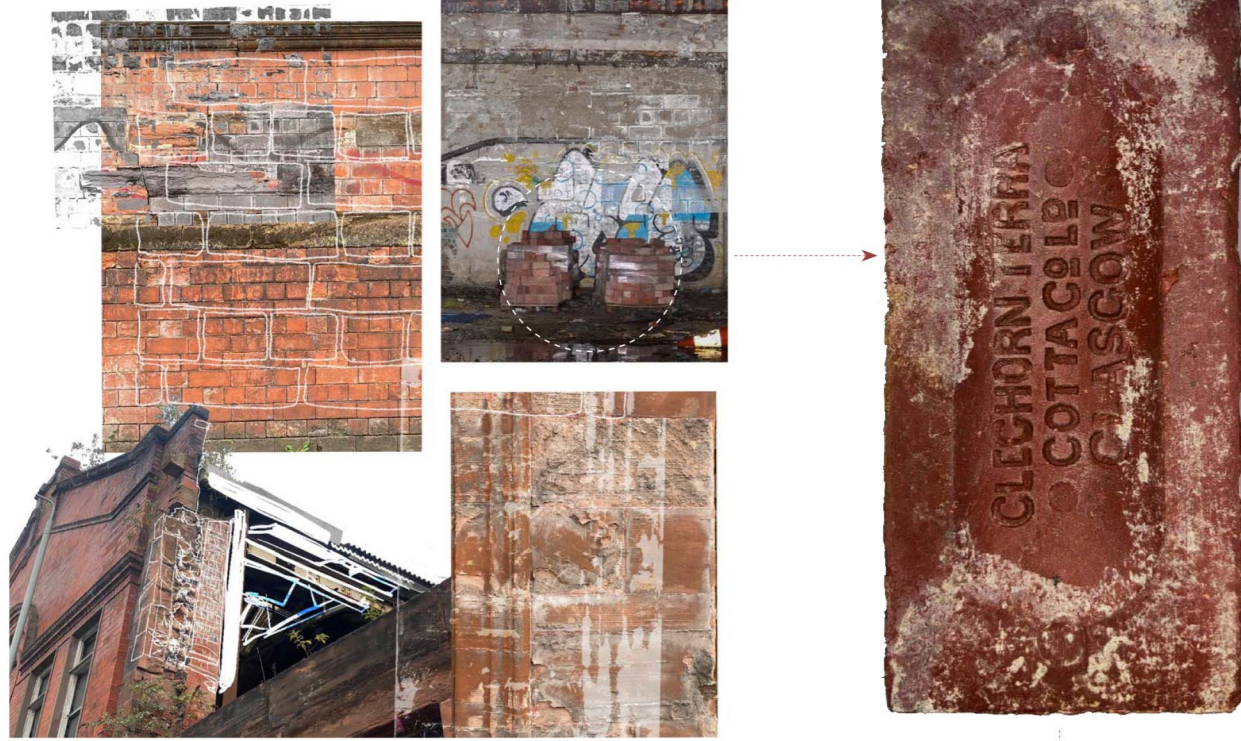
Sectional View of Howden's Crossing

# THE RE-PURPOSING OF THE SITES EXSISTING BRICK

## INVESTIGATING SUSTAINABLE MATERIAL PROCESS

### WHY BRICK RE-USE?

#### STUDYING THE SITES EXSISTNG MATERIALITY



### FORMER MATERIALITY INFORMING THE NEW

After site visits, a significant quantity of **abandoned Cleghorn Glasgow terracotta brick** was discovered, a material that felt both **rich in character** and unnecessarily wasted.

The terracotta brick became a **key material narrative** of the site, established as a **defining source of design inspiration**.

As the building is effectively an empty shell, this existing terracotta brickwork becomes central to its transformation, given a renewed purpose within the design. It maintains a **continuous dialogue with the site's history**, reinforcing a sustainable approach through **reuse and material retention**.

By working with materials rooted in the site's history and character, the design strengthens a **sense of belonging and identity for future residents**.



### SCAGLIOLA: MATERIAL INVESTIGATION

#### RECLAIMING MATERIAL THROUGH CRAFT

A traditional Italian method used to imitate marble is reinterpreted using the available terracotta supply, originally formed from gypsum plaster and animal glue.

#### Sustainable Material Approach:

Crushed terracotta brick is used as pigment and aggregate, reusing existing site material and reducing the need for new extraction. The plaster is replaced with a **lime-based binder**, made from processed limestone, reactivated with water to form a paste that binds aggregates together. It has **lower embodied carbon** and improved durability and breathability compared to gypsum.

**Casein glue** replaces animal glue, offering a **renewable, biodegradable** binding alternative derived from **natural proteins**.

#### The Making Process:



Crushing the brick      Making a fine powder      Mixing into binder

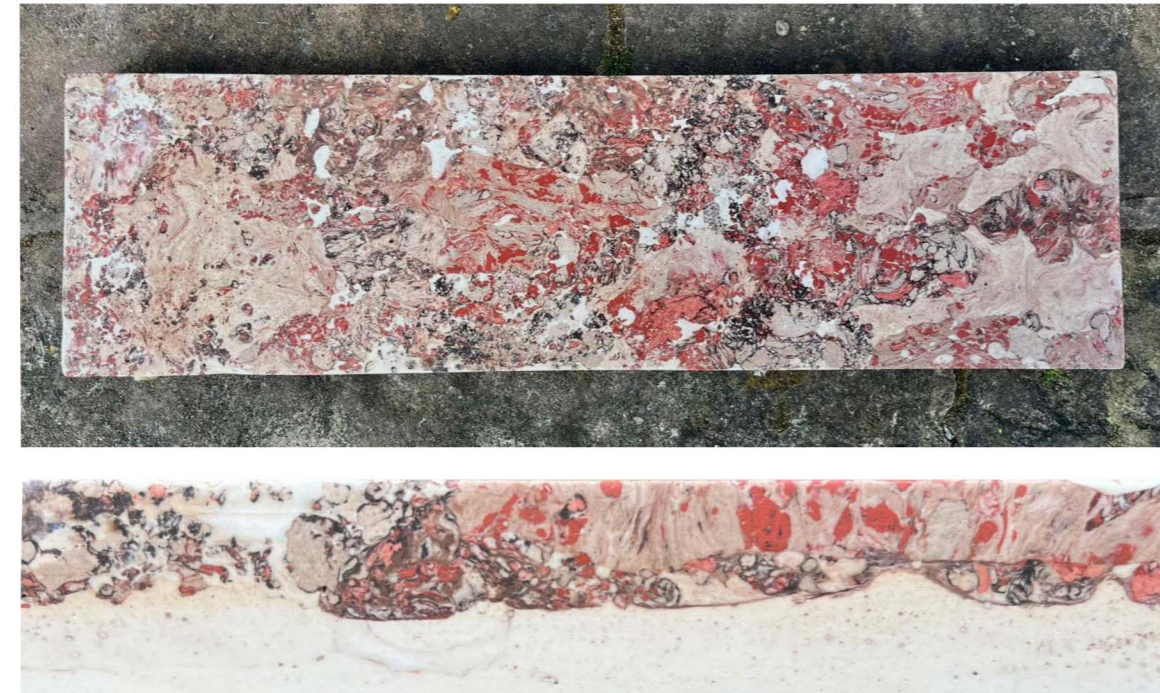


Lime based binder + Casein glue      Rolling into dough-like material      Adding Pigment



**Test Pieces**  
These experiments tested varying pigment intensities to define the final visual outcome.

The plaster is then pigmented at different levels, rolled together, sliced, and laid into a mould. It sets for 72 hours before sanding and polishing.

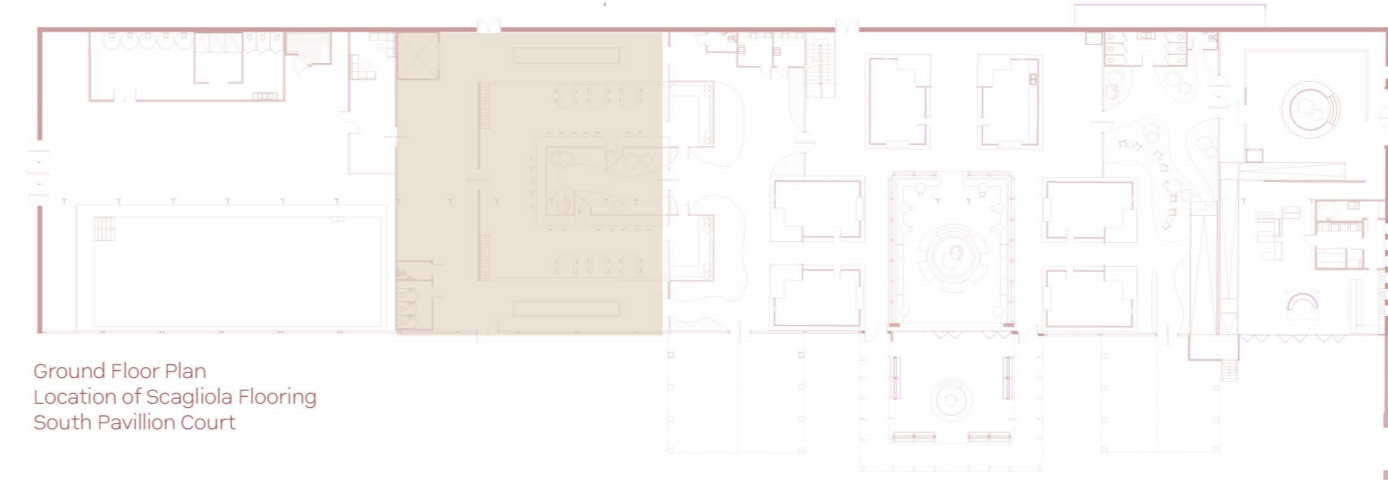
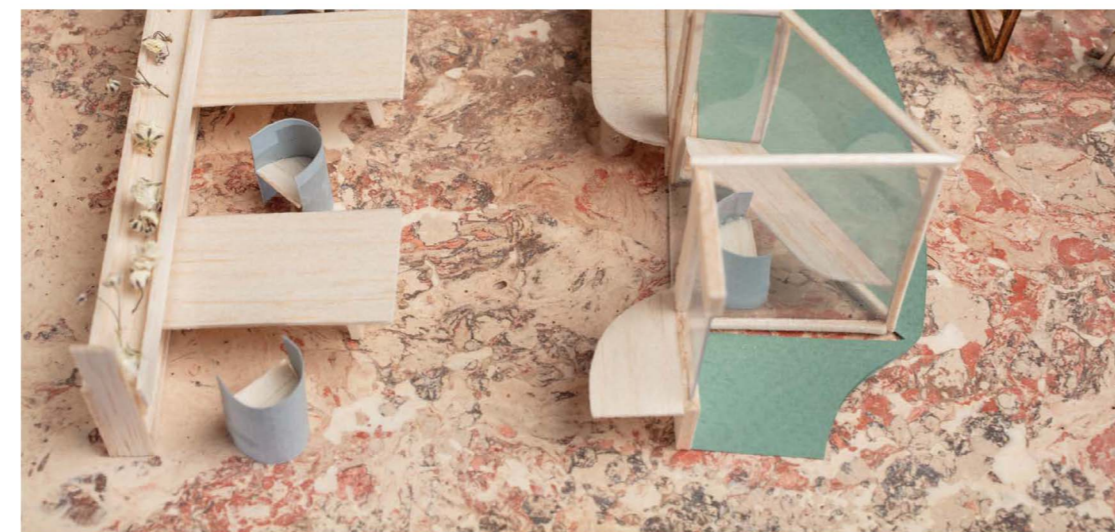


#### The Final Outcome:

The floor piece within the model represents how the system would be formed in a real application, using a poured and moulded flooring technique. The material is cast into panels, compacted to remove air voids, then left to cure before being sanded and polished to expose the terracotta aggregate within the surface.

As each batch is hand mixed and installed in situ, variations in pigment and aggregate density ensure no two areas of flooring are identical, creating a continuous surface of unique material expression across the building.

The physical model was essential in understanding the material process in a real-world context, clarifying how it would be constructed in reality. Both construction methodology and aesthetic qualities were refined through this process.



Ground Floor Plan  
Location of Scagliola Flooring  
South Pavilion Court

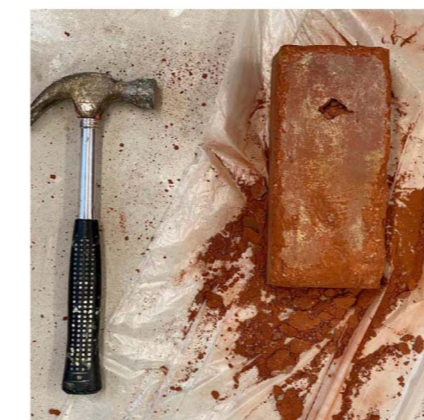
#### Effect on Human Interaction:

The scagliola flooring instantly draws attention, contrasting with the simpler surrounding materials to create a crafted focal point within the space. Its rich patterns and tactile qualities encourage residents to engage more closely with their surroundings, fostering curiosity and a deeper connection to the identity of the site.

### BRINGING SUSTAINABLE PRACTICE TO PHYSICAL PRESENTATION

#### FOCUSING ON THE USE OF REPURPOSED MATERIALS FOR THE FINAL MODEL

Wanting to echo the importance of material reuse and sustainability, I focused on constructing my model from repurposed and reused materials. It felt counterproductive to design a project centred on reuse without allowing that ethos to extend into its physical presentation.



Creating pigment for facade



Casting in Silicone Mould



Howden's Crossing Facade

# FROM OVERGROWTH TO PAPER

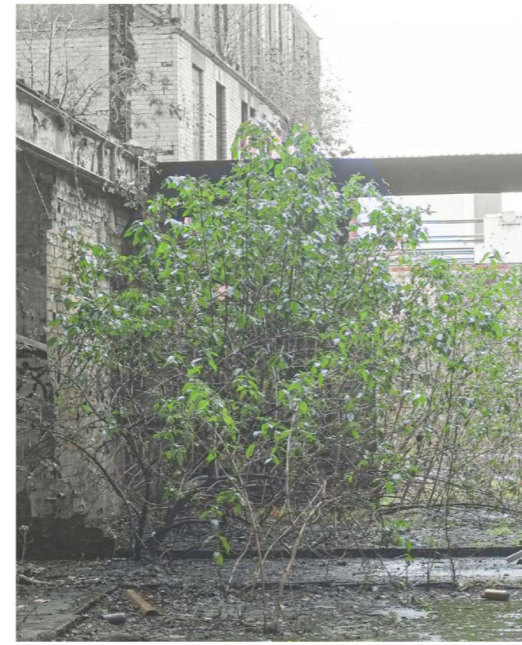
## REIMAGINING PLANT FIBRES AS MATERIALS

### PAPER MAKING EXPLORATION

#### CREATING A NATURAL BUILT INTERIOR

Since falling into disuse, the site has been gradually **reclaimed by overgrown vegetation**. Rather than removing these plants, this exploration **reimagines them as a new interior material**.

Inspired by **Japanese onchin lanterns**, site-sourced plant fibres are processed into **handmade paper**, creating a soft, warm material that diffuses light and complements the natural character of Howden's Crossing. This **circular process** allows the site's overlooked vegetation to be **celebrated in a new form**, reinterpreted through lighting features, shoji-style shading, and overhead canopy elements. Shading was introduced as a response to the strong daylight within the space, balancing light control with atmosphere and comfort.



Overgrown plants on site

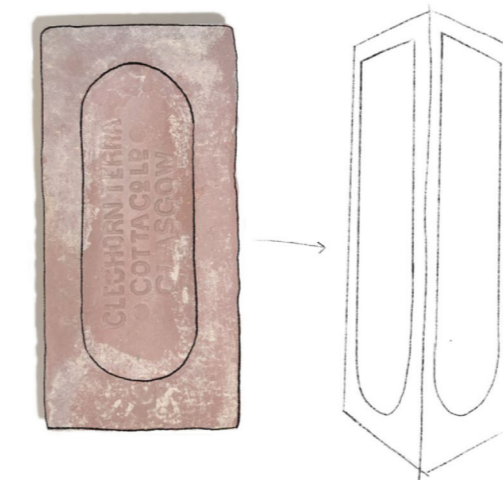


Experimenting with paper making, different thicknesses were developed to understand levels of light transmission and refine the desired atmospheric quality for the interior feature.

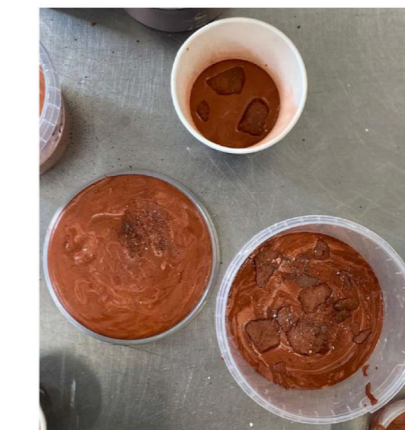


### HIDDEN FORMS LAMP COLLECTION

#### BESPOKE INTERIOR FEATURES IN DETAIL



TAKING FORM INSPIRATION FROM SHAPES FOUND WITHIN BRICKS ON SITE



CAST BASES MADE USING CRUSHED FRAGMENTS OF BRICK AND A LIME-BASED BINDER, OFFERING A LOWER-CARBON ALTERNATIVE.



ILLUMINATED IN EVENING TIME

### THE NORTH PAVILION COURT

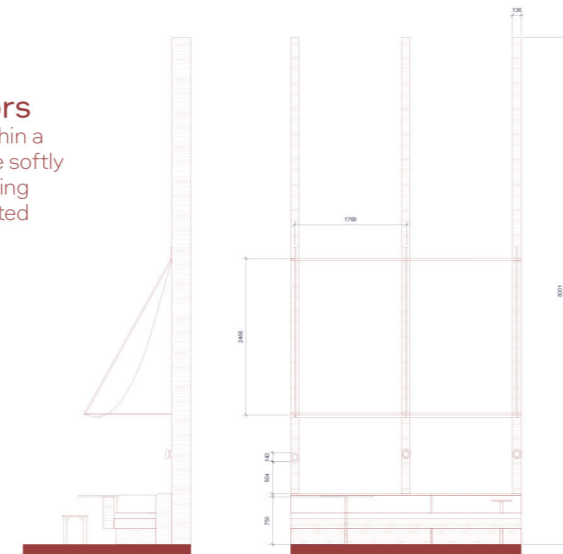
#### ENHANCING USER EXPERIENCE THROUGH PAPER



**Paper Used Within Bespoke Furniture Set**  
The North Pavilion Court is framed by a curated furniture collection that encourages communal seating and a calm, inviting atmosphere.

**Sliding Shade Doors**  
Using handmade paper within a birch frame, silhouettes are softly diffused, echoing the existing brick forms that once existed on site.

**Adjustable Paper Canopy**  
Provides light, warm diffused shade from the double height glazed structure.



### Paper Designed to Create Soft Light

The North Pavilion Court is a double-height glazed space for communal dining and conversation, where people gather and spend time together. A central botanical pond anchors the seating areas, with direct connection to the external courtyard.

The hand made Paper is used to soften and diffuse daylight, reducing glare and creating a calmer visual environment that supports comfort and longer occupation of the space.

As light passes through, the plant fibres become visible, signalling an intentionally crafted, sustainable interior material approach.



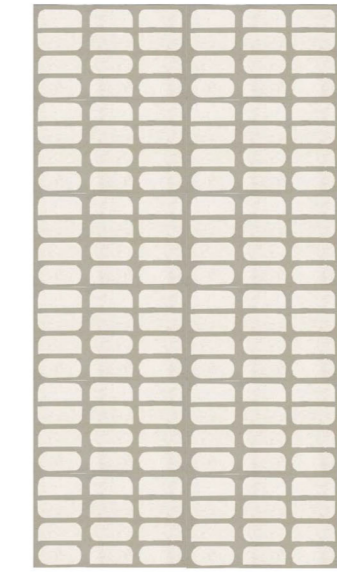
PAPER SURFACES EMBOSSED WITH BRICK TEXTURE



### Final Outcomes



STANDING LAMP



SLIDING DOOR SCREEN

### Product Concept

The Hidden Forms Lamp Collection is a series of lamp shades that reveal varied interior forms when illuminated, paired with bases cast from the site's existing brick.

The system extends into a shaded sliding door, where the lamp forms are combined to create a continuous patterned screen.

# NATURE-LED DESIGN SUPPORTING LOCAL COMMUNITY LIFE

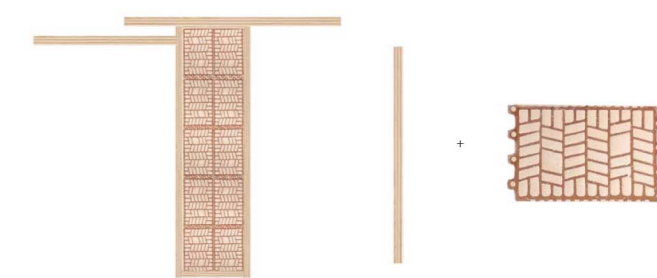
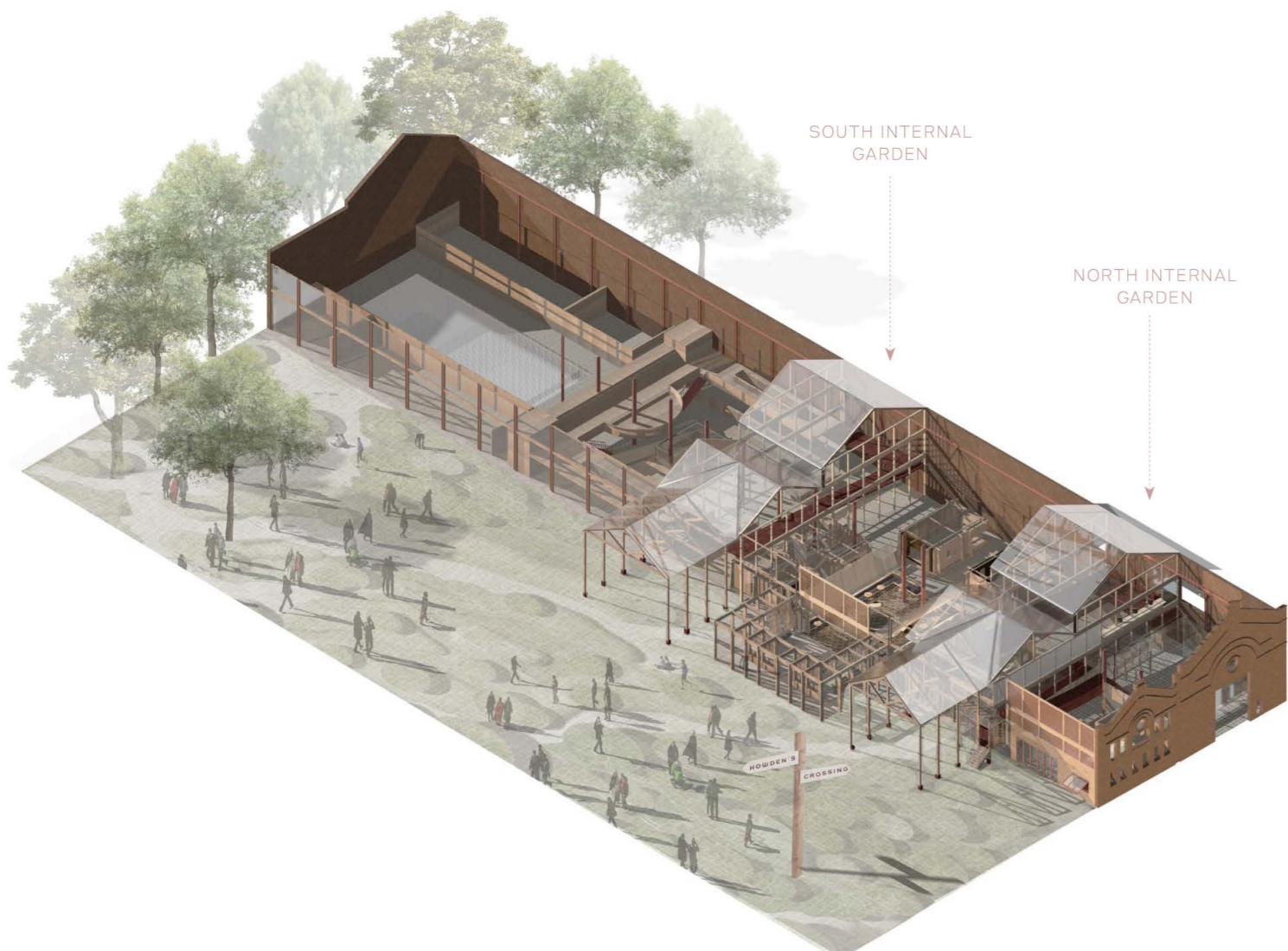
## EXPLORING KEY SPACES IN HOWDEN'S CROSSING

### INTERNAL GARDENS

HARMONISING CLIMATE, MATERIALITY, AND HUMAN EXPERIENCE

### STUDY FORUM

PRODUCTIVITY WITHIN NATURE



STUDY SILL + PARTITION WALL  
BIRCH PLY + RECLAIMED TERRACOTTA BRICK

### THE ROLE THE INTERNAL GARDENS

A RESPONSE TO GLASGOW'S LOCAL ENVIRONMENT

With its cool temperatures, frequent rainfall, and ever changing weather, Glasgow's climate can often limit opportunities to engage with nature throughout the year.

Responding to this, and the neighbourhoods lack of accessible green space, the Internal Gardens create a botanical sanctuary integrated into daily life. Offering shelter, greenery, and spaces for gathering, the internal gardens encourage constant interaction and inhabitation through their restorative qualities.

### MATERIAL PALETTE

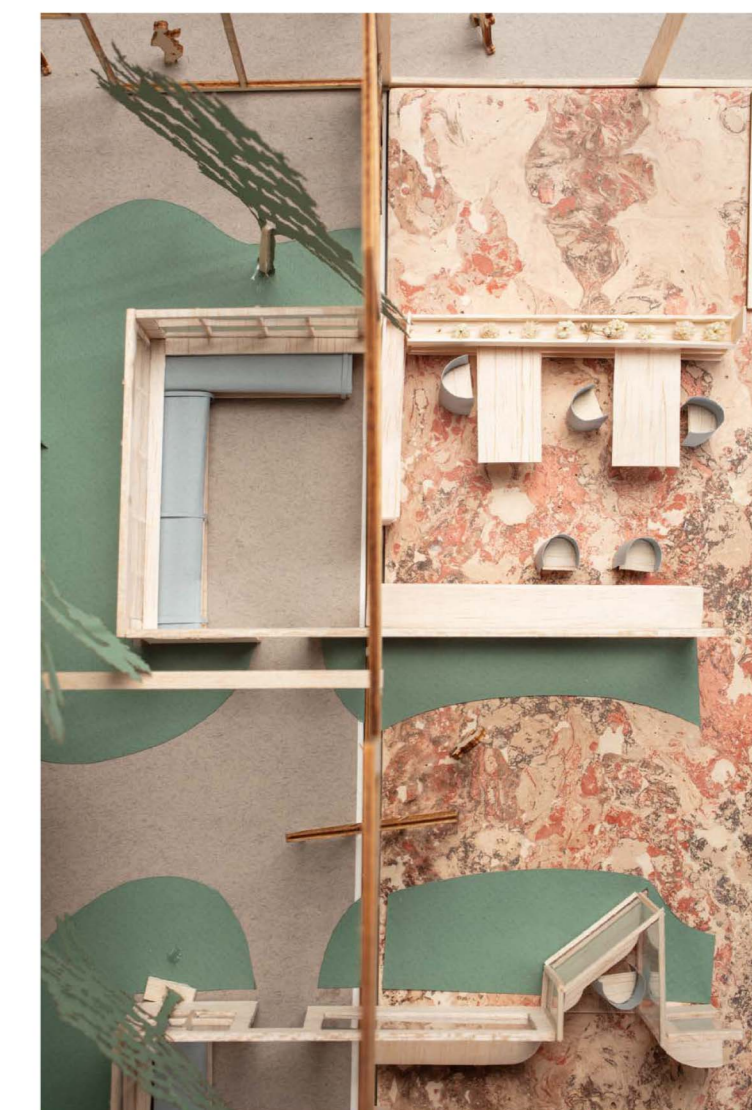
<b>BESPOKE CORK CLADDING</b> Brings warmth, softness for movement, and echoes the building's terracotta brick. Source: PureTree Cork Location: Cladded onto steel frame ramp	<b>BIRCH WOOD</b> Softens the industrial past, reflects light, and complements botanical features. Source: Fallen&Felled Location: Timber Framing for walls and doors	<b>PATTERNED GLASS</b> Patterned glass invites warm light, battling harsh winters. Pattern provides privacy, and diffuses movement behind. Source: Pilkington Location: Glazing within timber framing	<b>RECYCLED STONE PAVING</b> Made from on-site excavation and demolition materials, reducing waste and environmental impact. Source: Made on site Location: Floor pathways

### BOTANICAL LIST

<b>SCOTS PINE</b> Ideal for Scottish climate; low maintenance, improves air quality.	<b>ROWAN</b> Seasonal berries, wildlife-friendly.	<b>SILVER BIRCH</b> Elegant bark, light canopy.	<b>PAMPAS GRASS</b> Tall plumes, adds movement, year-round presence.	<b>VIBURNUM TINUS</b> Evergreen, winter flowers.

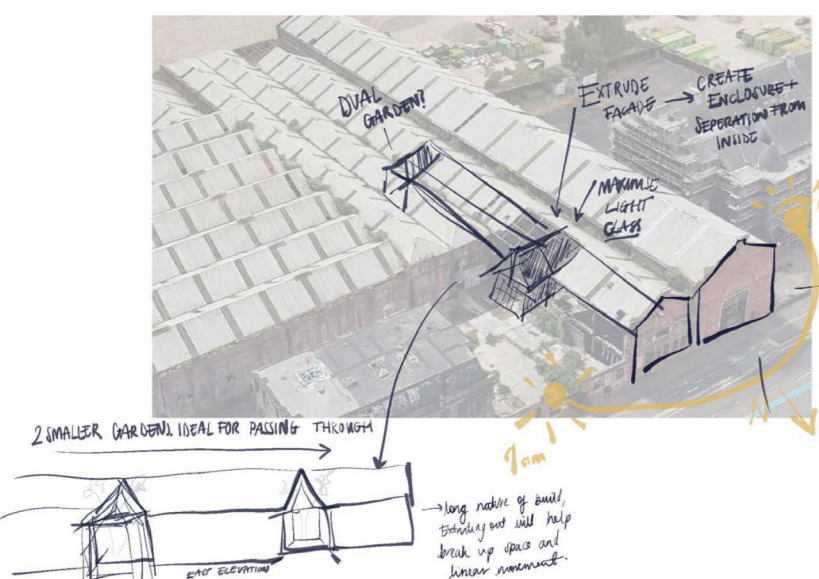
### DESIGNING FOR AN EXPERIENTIAL JOURNEY SUSTAINABLY BRINGING INCLUSIVITY TO CIRCULATION

The ramp is designed as an inclusive circulation route, allowing a range of users to experience movement through the garden. It functions beyond a simple pathway, integrating seating and viewpoints to encourage pause, observation, and engagement with the surrounding landscape.



### Enhancing Surrounding Interiors

The internal gardens have a multi-functional role, enriching surrounding spaces through framed and revitalised views. They allow the landscape to be experienced without fully entering the space, offering shelter from the elements and enabling continuous day-to-night use. Designed for accessibility and flow, they create a clear connection between interior and exterior environments.



- + Climate Adaptability**  
Enclosed during winter to create warm, sheltered environments, while retractable roof windows and large sliding doors open the gardens to natural ventilation during warmer months.
- + Wellbeing & Community**  
Integrated seating, viewpoints, and pavilions support relaxation, gathering, and daily interaction, creating shared spaces that foster belonging and community identity.
- + Movement & Connectivity**  
Intentionally located at the north and south ends of Howden's Crossing, spanning the full width of the building along key routes, the gardens act as transitional thresholds for movement and inhabitation, as well as offering spaces to pause.
- + Celebrating Local Ecology**  
Native Scottish flora create a botanical landscape that reflects the character of the local environment.

### HOW DOES MATERIAL CHOICE EFFECT HUMAN INTERACTION?

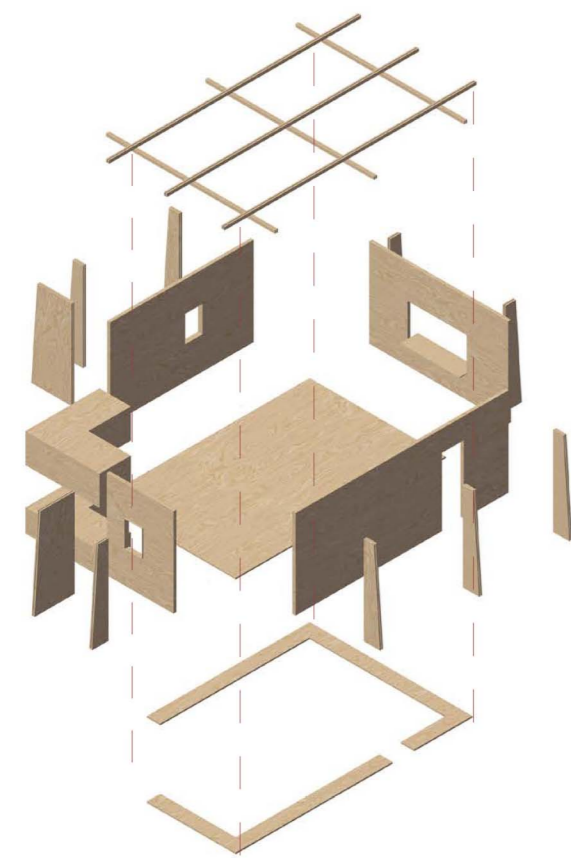
**Glazed Glass Roof**  
The glazed roof maximises daylight penetration, and with the north-south orientation ensures consistent natural light throughout the day. This reduces reliance on artificial lighting and energy use, while supporting circadian rhythm regulation, improving wellbeing, and providing natural warmth

**Scottish Botany**  
All planting is native to Scotland and selected to thrive naturally within the environment. The vegetation improves air quality, provides shading, and creates a strong sense of immersion in local nature.

**Cork Cladding**  
Soft, tactile surface, slip resistance, and natural cushioning underfoot, creating a comfortable and accessible transition space that enhances the sensory experience of movement through the environment.

# THE PAVILIONS OF HOWDEN'S CROSSING

## MODULARITY AS A STRATEGY FOR SUSTAINABLE DESIGN

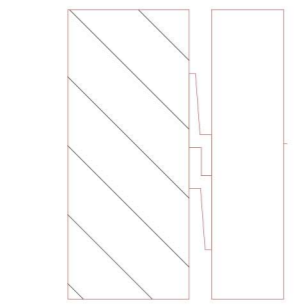


### CONSTRUCTION MATERIAL

#### PAVILION STRUCTURE



#### REMOVABLE CLAD PANELS



### Designing For Change

These 5m x 8m pavilions are designed for adaptability, with all joints enabling easy assembly and disassembly. They can operate as standalone units or be combined to form larger spaces, with removable feature panels allowing users to personalise and define identity. This flexibility makes them sustainable, as the same structure can adapt to changing uses over time, reducing the need for demolition or rebuild.

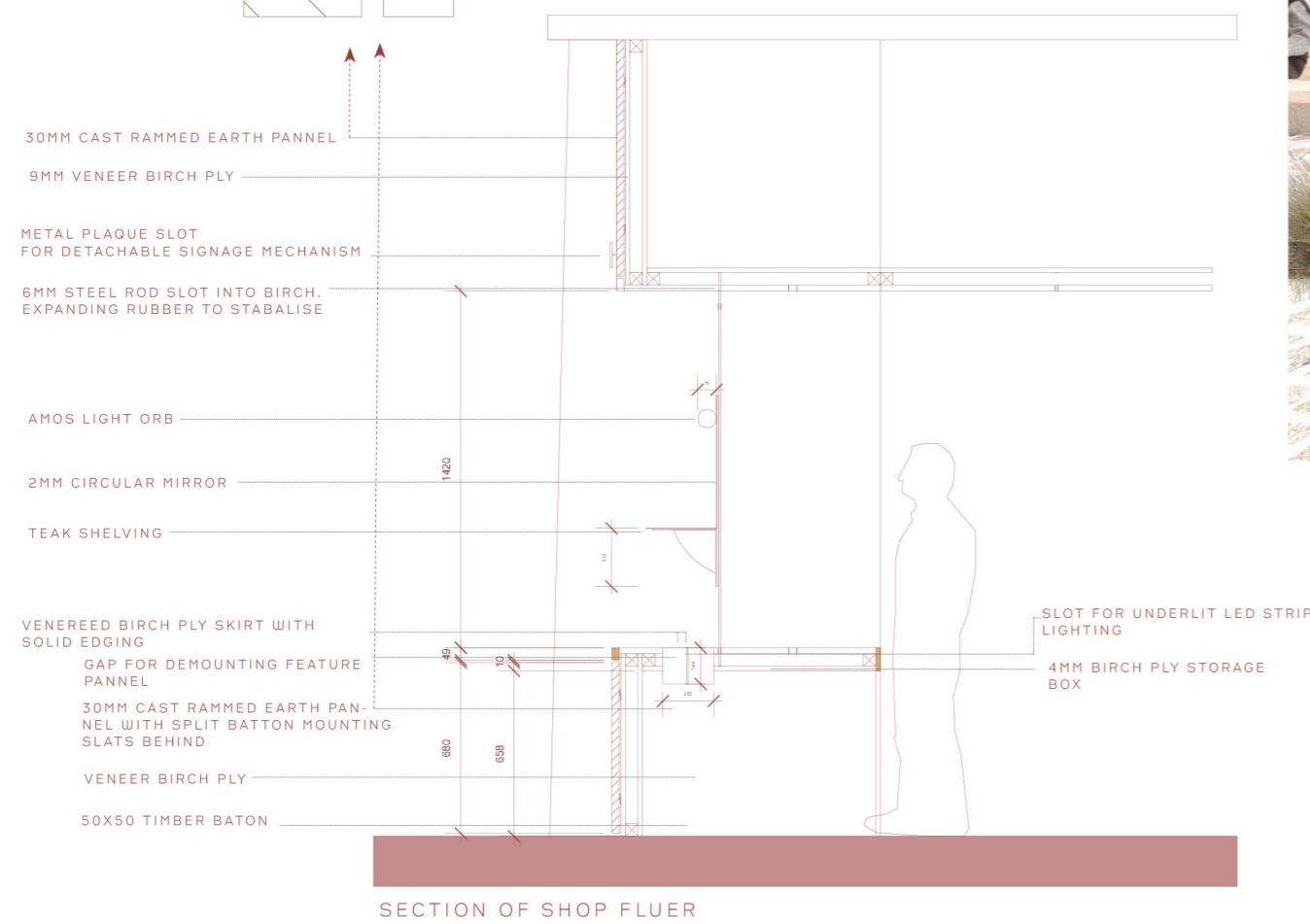
The modular system supports a café, bar, shop, or similar uses, encouraging local residents and small businesses to invest in Howden's Crossing.

Constructed primarily from birch ply for a lightweight, flexible frame, the pavilion can be reconfigured and clad in sustainable materials such as cork or rammed earth.

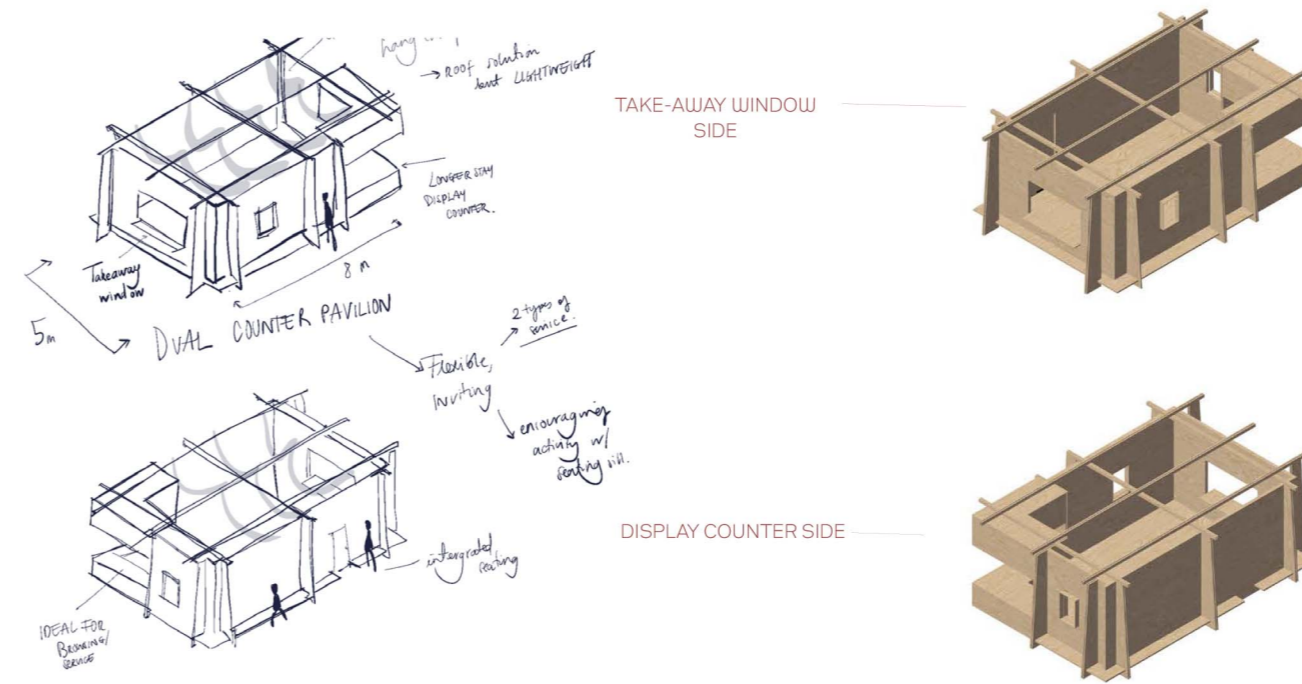
### Adaptable Construction

This detail shows how the pavilions are adapted through a split batten system, allowing panels to be easily changed by different users. This avoids material waste by keeping the timber structure intact while enabling reconfiguration over time.

Sustainable materials such as cork and rammed earth are used for the panels, supporting low-impact, replaceable finishes. Modularity drives the design, extending the pavilion's lifespan through flexibility and reuse.



Physical model showing sectional cut of a pavilion.



### How Does it Effect Users?

The intention of the pavilions is to **support local, small-scale enterprise** within Howden's Crossing by providing space for residents to run businesses and services for one another. This encourages **everyday interaction** between neighbours, strengthening familiarity and a **sense of local connection** through **routine social exchange**.

Drawing on **Jane Jacobs'** ideas of mixed-use "eyes on the street," the pavilions aim to keep the area active throughout the day, fostering **passive surveillance**, **perceived safety**, and a more **vibrant, continuously inhabited** neighbourhood.

The design offers a **dual experience**, with one end supporting a slower, dwell-based environment for display and **longer engagement**, and the other providing a **quicker, takeaway-style** service. This allows both operators and users to define the mode of interaction, enabling the space to **adapt to changing needs and patterns** of use over time.

### Pavilion Spatial Plan

Pavilions are strategically placed to form the north pavilion court and sit along the threshold between the north and south internal gardens.

This positioning allows them to flow into both spaces and serve people passing through.

The gaps between pavilions create internal streets, forming natural passageways.

