

# THE COMMON THREAD

HOW CAN DISCARDED MARITIME MATERIALS BRING PEOPLE TOGETHER ONCE AGAIN?

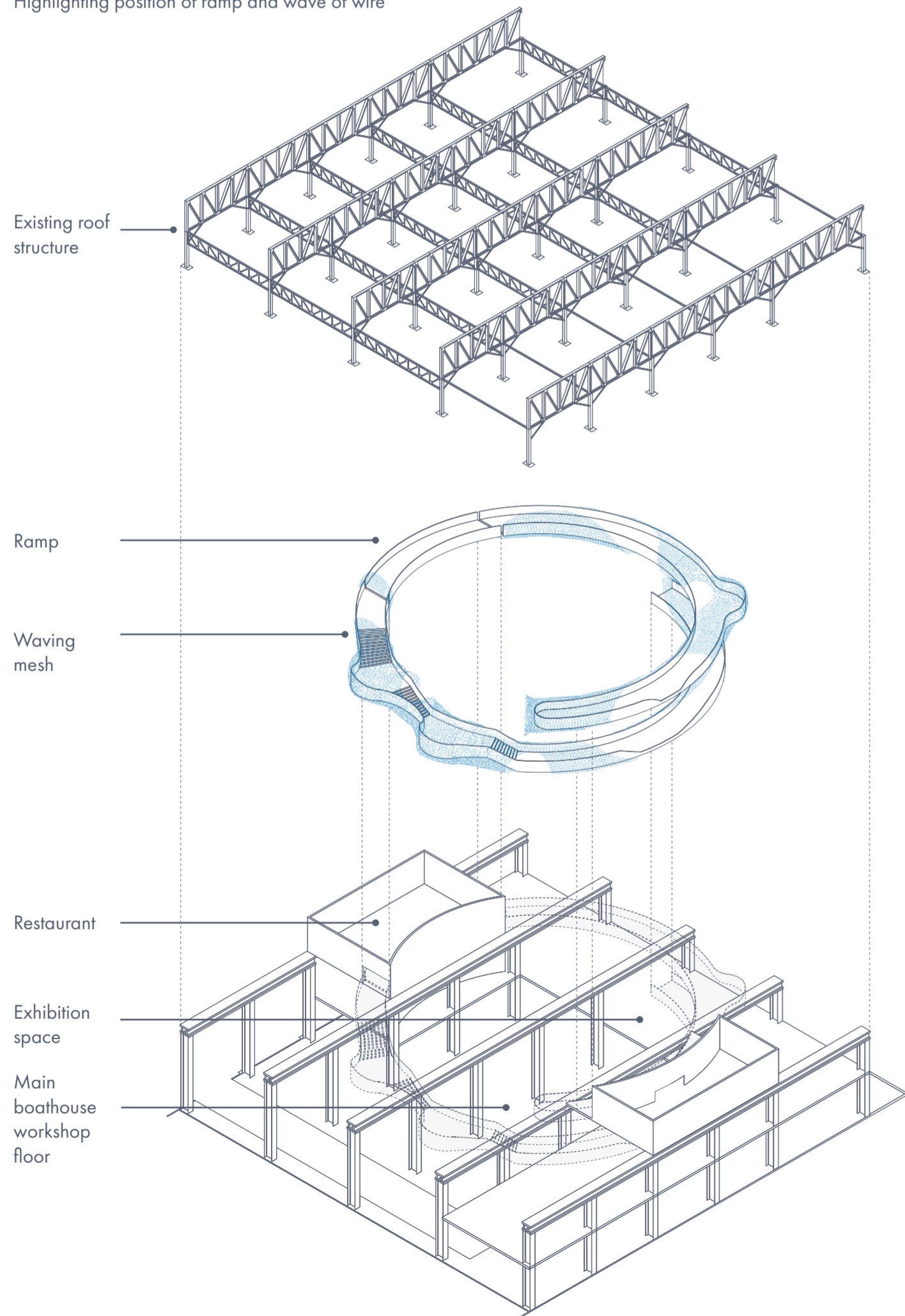
Boathouse 4 is a working heritage building within Portsmouth Historic Dockyard, South England, home to the restoration and preservation of historic vessels. The project introduces a raised walkway through the building, allowing visitors to experience the boats and restoration activities from a series of elevated viewpoints while maintaining the existing function of the boathouse.

Inspired by the close-knit nature of maritime communities, The Common Thread reimagines discarded maritime materials. Drawing on the forms and structures of fishing nets, boat building and industrial fabrication, the proposal combines a woven steel canopy with integrated seating to create spaces for observation, learning and gathering. Reclaimed materials are incorporated throughout the intervention, demonstrating how material reuse, construction logic and circular design can enhance both the environmental performance and human experience of interior space.

The project recognises that sustainability is not only about material reuse, but also about preserving cultural identity, supporting community connection and extending the stories embedded within materials, it celebrates both the craftsmanship preserved within Boathouse 4 and the potential for more circular approaches to material use.

## OVERALL BUILDING AXONOMETRIC

Highlighting position of ramp and wave of wire



## WHAT IS THE PROBLEM?

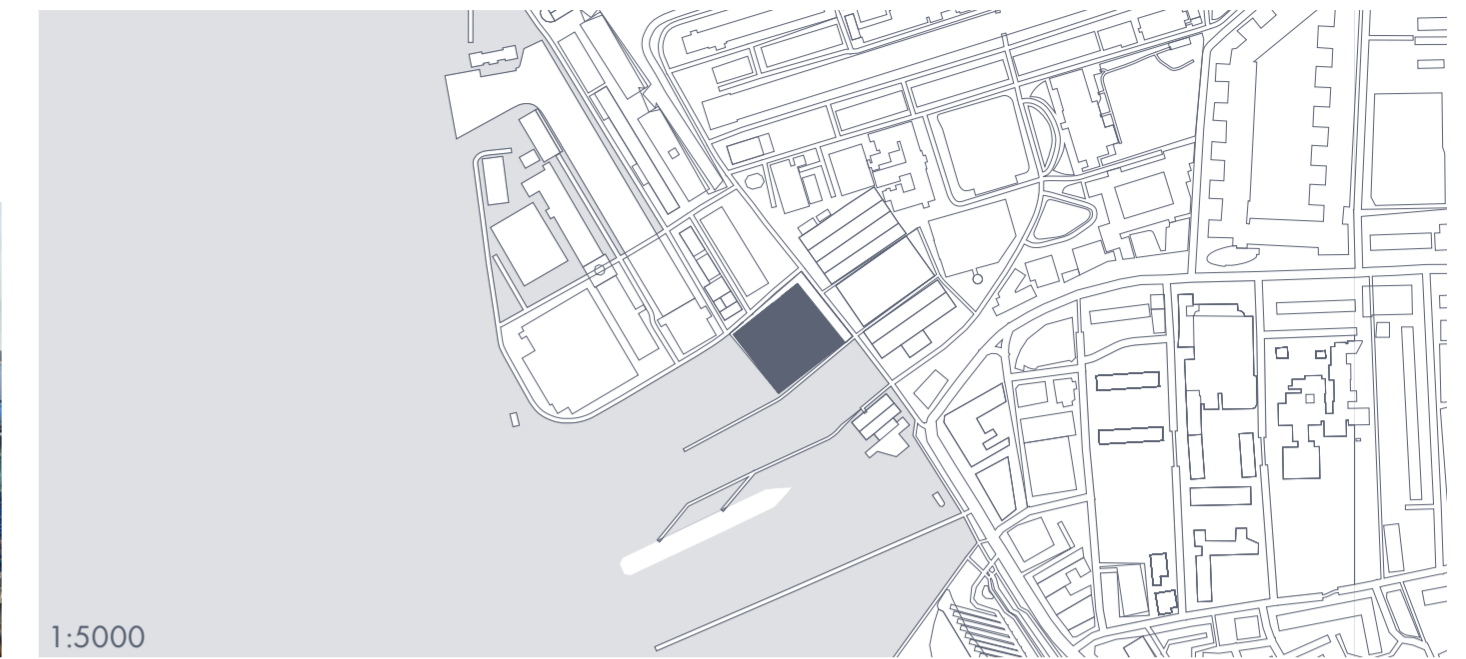
Abandoned, lost, or discarded fishing gear (ALDFG), often called "ghost gear," is one of the most lethal forms of marine pollution. Between 500,000 and 1 million tons of this gear enter the oceans annually, comprising roughly 10% of all global marine litter (WWF, 2025).

Images taken of wasted fishing equipment in Portsmouth, images taken by author



## WHERE IS IT LOCATED?

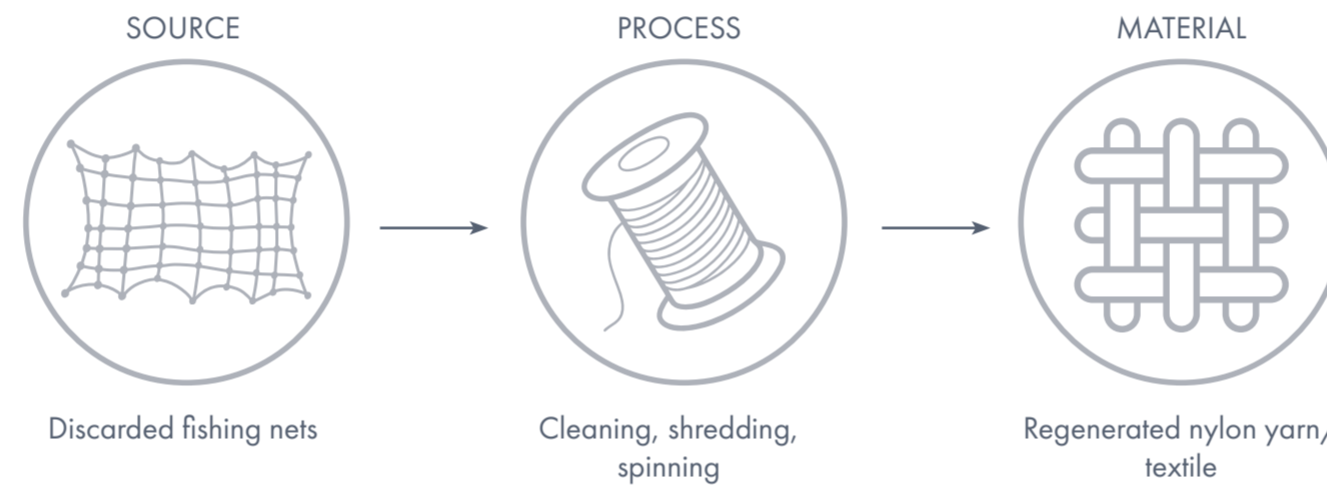
Located in the heart of Portsmouth's Historic Dockyard, Boathouse 4 sits directly next to the ocean.



## HOW ARE WE SOLVING IT?

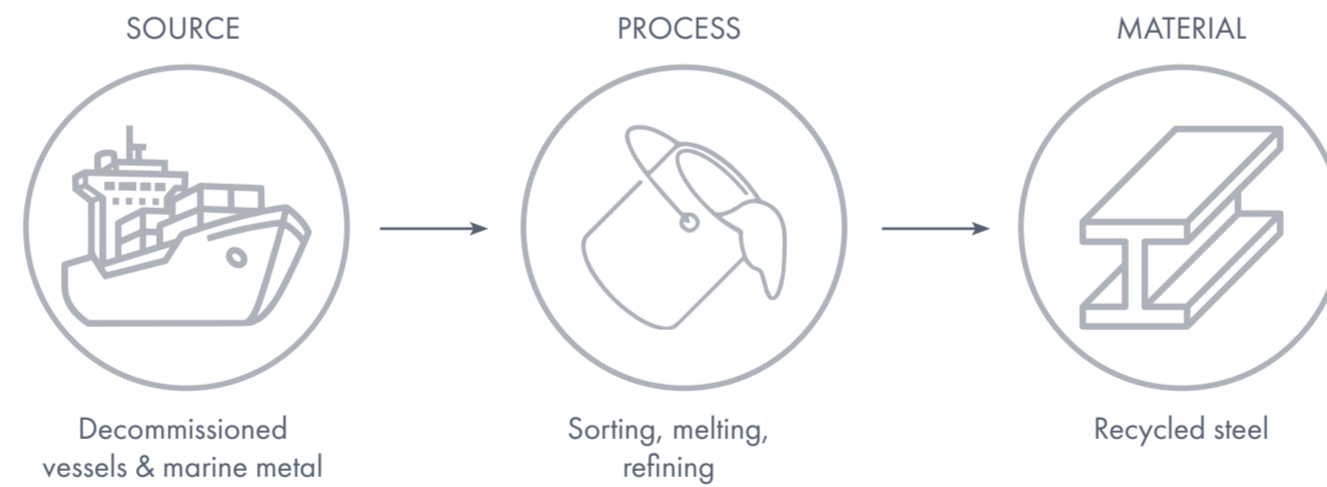
### FISHING NETS

NetPlus is a 100% recycled nylon material sourced entirely from discarded fishing nets, preventing ocean pollution by re-purposing harmful marine waste into premium consumer products.



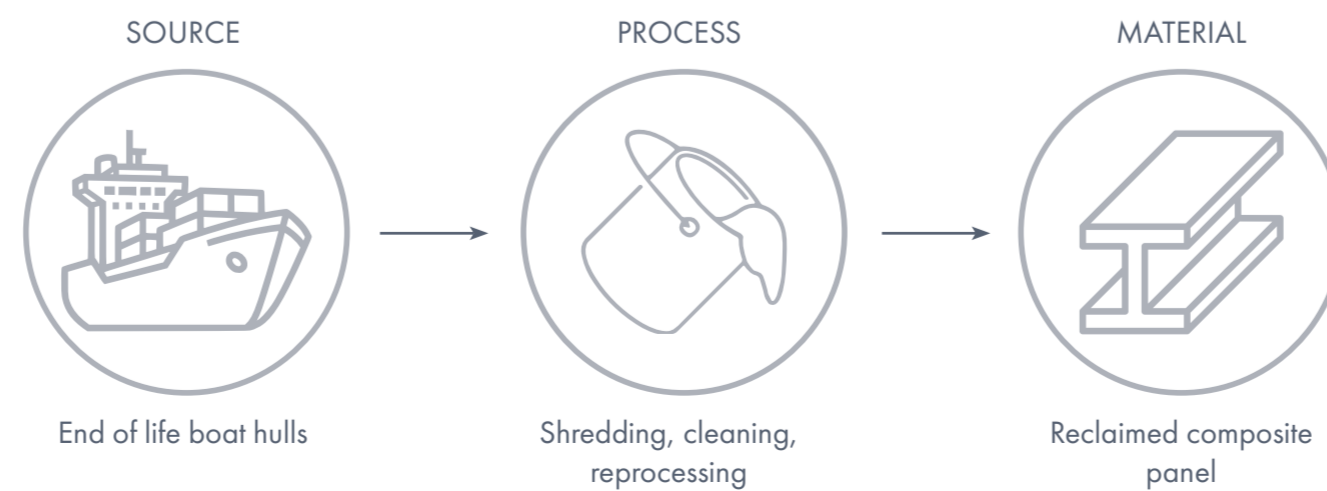
### DECOMMISSIONED VESSELS

Marine Metals specialises in the responsible dismantling of end-of-life vessels, recovering high-quality steel that can be reprocessed and reintroduced into new construction and manufacturing applications.



### BOAT HULLS

Conenor uses a patented mechanical process to grind down old composite ship hulls, blending the shredded fibreglass with polymers to manufacture heavy-duty building materials.

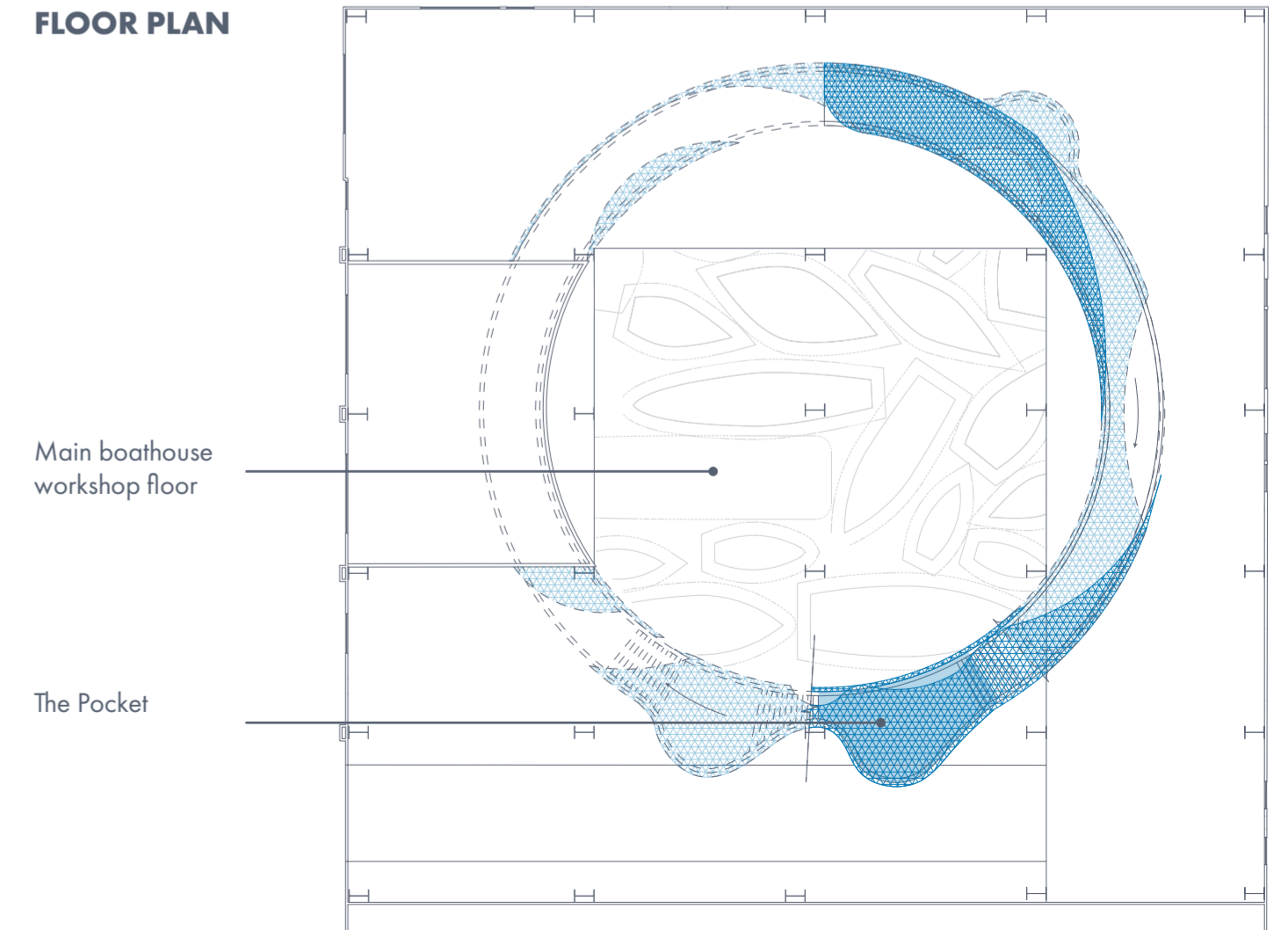


## CONCEPT

The concept draws inspiration from rope wrapped around a mooring post, a familiar feature of working waterfronts. Rather than replicating the rope itself, the project explores the idea of weaving as a means of connection, reflecting both the physical interlacing of maritime materials and the social bonds found within fishing communities. Influenced by the abundance of discarded ropes, nets and marine materials found around local docks, the woven steel structure reinterprets these maritime elements through a language that reflects the industrial character of Boathouse 4.

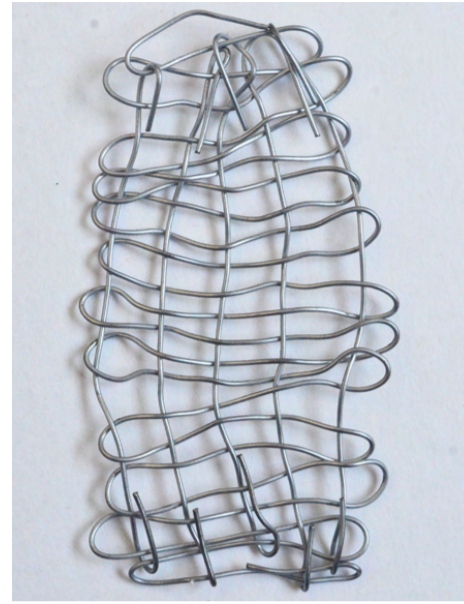


## FLOOR PLAN



**MATERIAL EXPLORATION**

**WEAVING**



Version 1

**KNITTING**



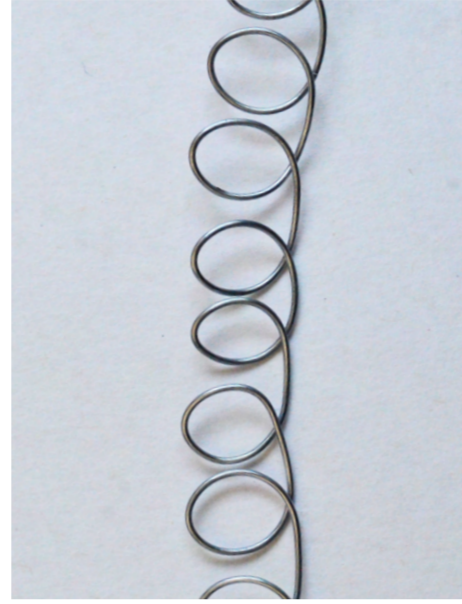
Version 1

**CROCHETING**



Version 1

**LOOPING**



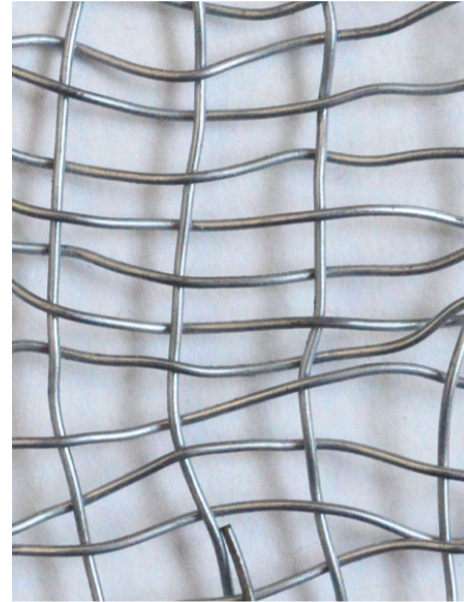
Version 1



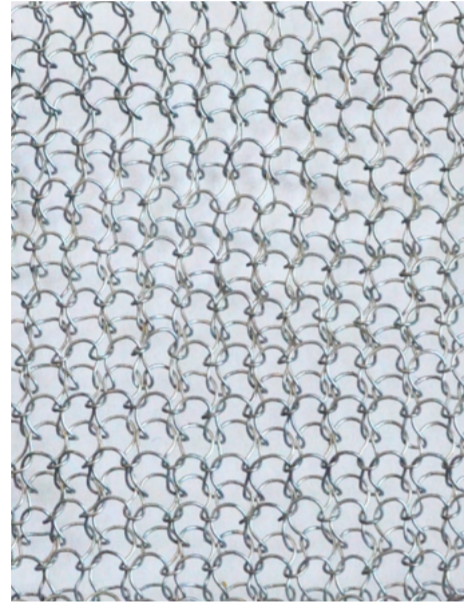
Version 4



Version 6



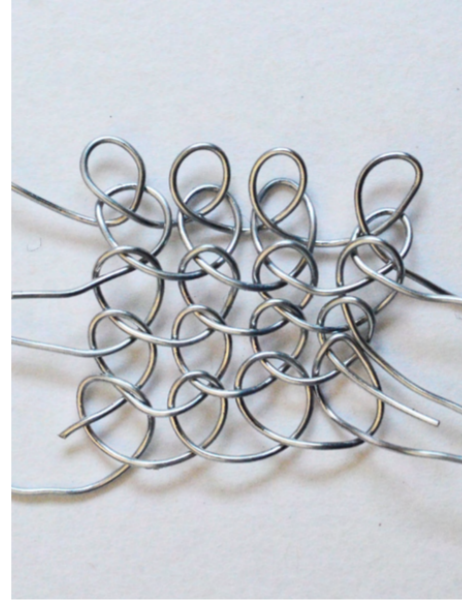
Version 1 - Close up



Version 1 - Close up



Version 2



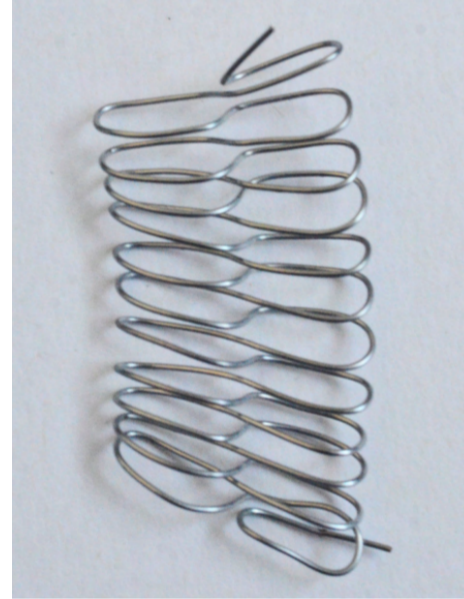
Version 2



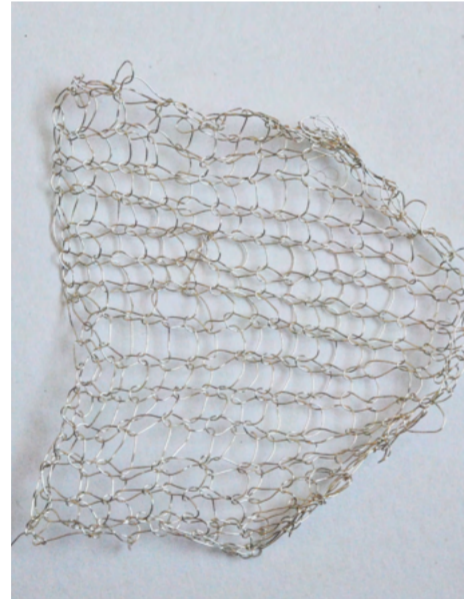
Version 4 - Close up



Version 6 - Close up



Version 2



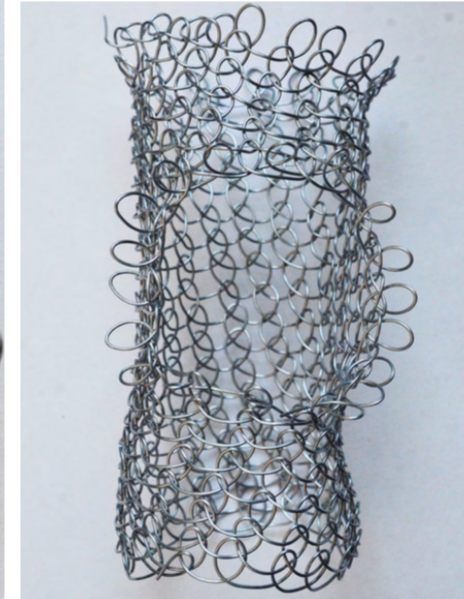
Version 2



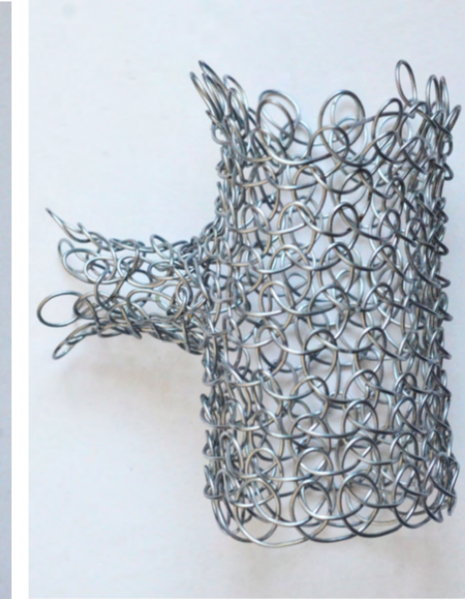
Version 2 - Close up



Version 3



Version 5

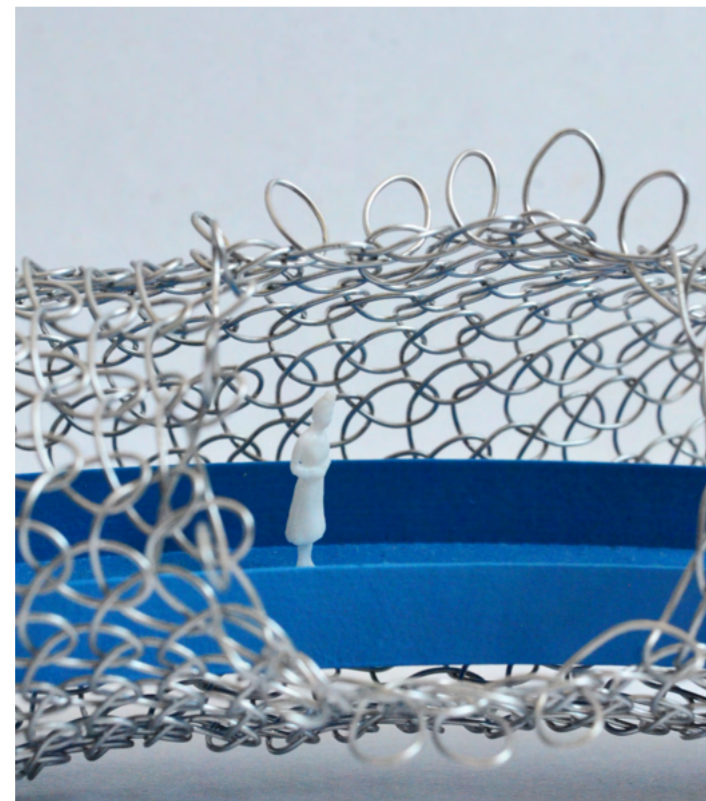


Version 7

**CONCEPT MODELS**



Looping: Version 4



Looping: Version 5



Looping: Version 6



Looping: Version 7

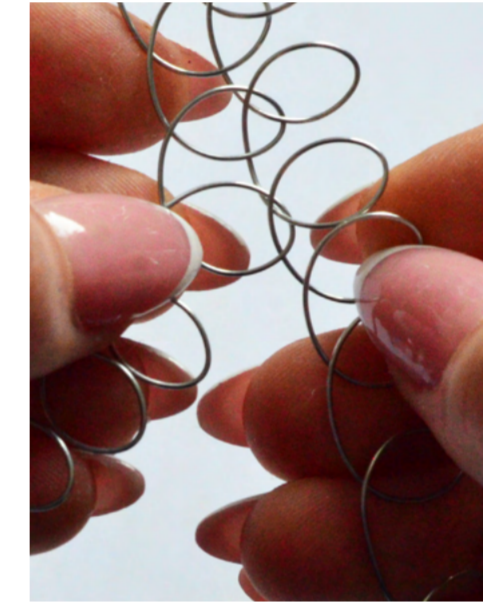
**METHOD INSPIRATION**

**RUTH ASAWA**

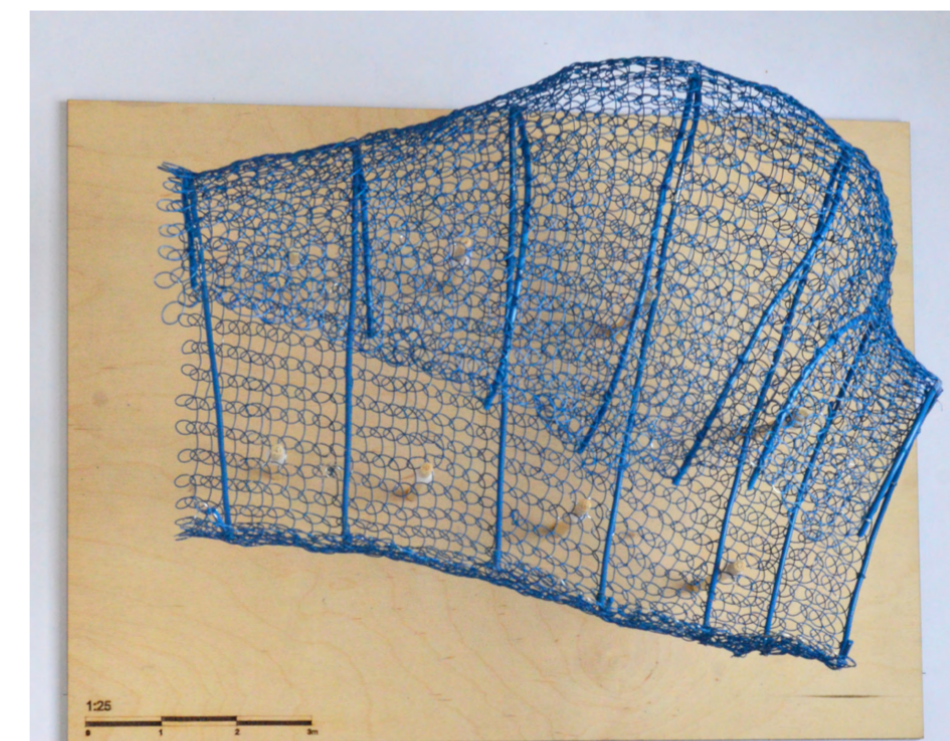
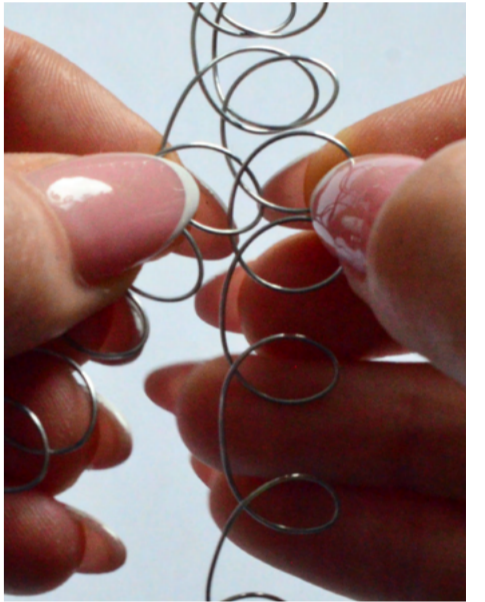
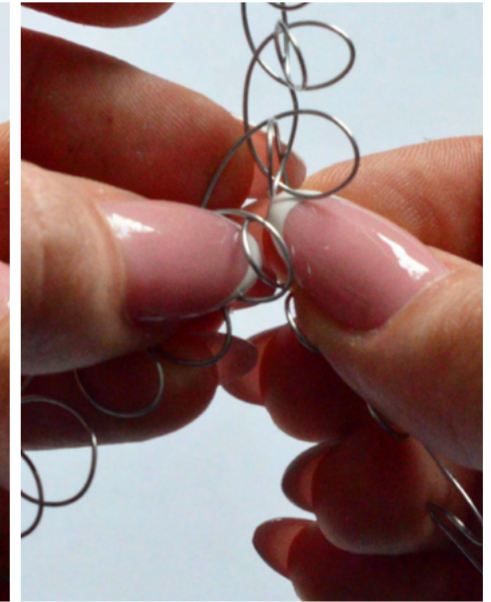
Ruth Asawa, 1926 - 2013, was a modernist artist known for her looped wire structures inspired by natural and organic forms. Central to her process is the transformation of utilitarian material into a conduit for new spatial experiences.



**FINAL MODEL PROCESS**



Looping process



Required tools



Three layers to model



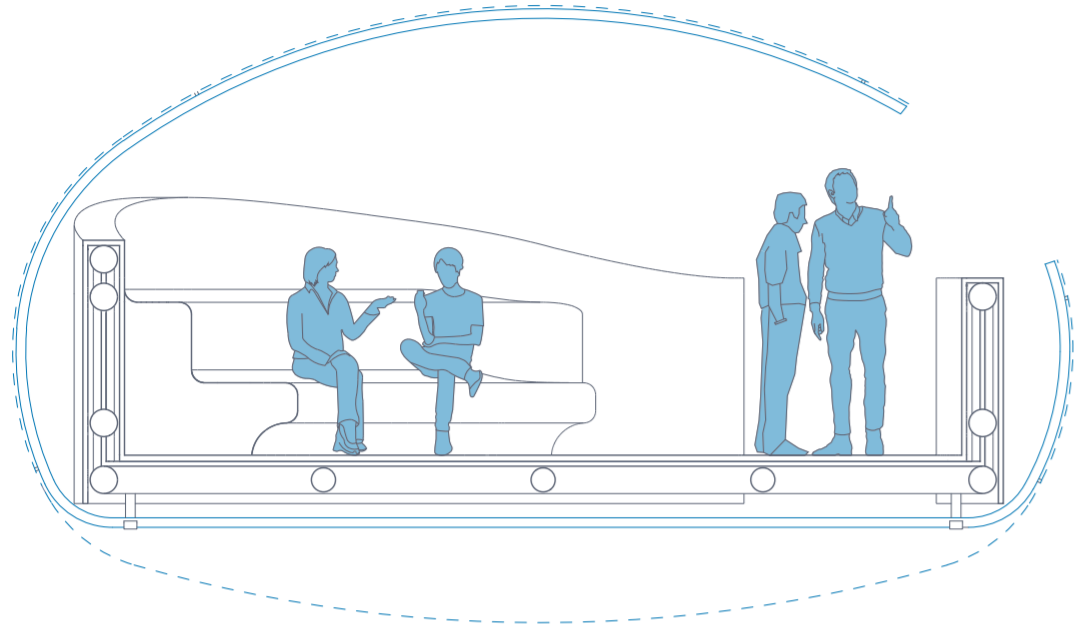
Close up of subframe

## THE POCKET

The pocket is one of three areas where the ramp opens out creating a space for people to slow down, reflect and embrace their surroundings. With seamless built in bench seating it offers a moment to step away from the ever-moving path of the common thread.

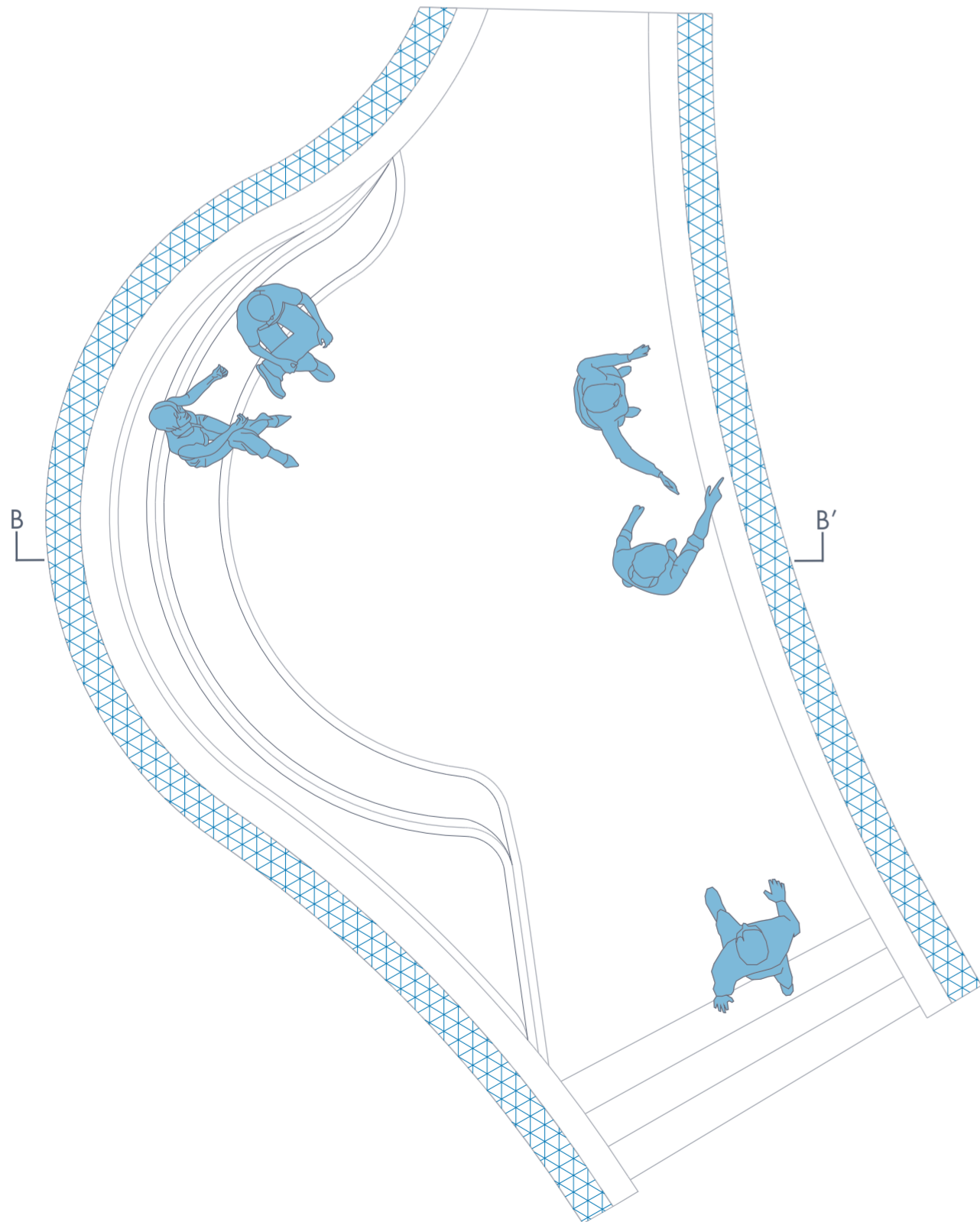
### POCKET SECTION B-B' 1:50

Highlighting cross-section of the pocket, showcasing relationship between subframe, cladding and wire

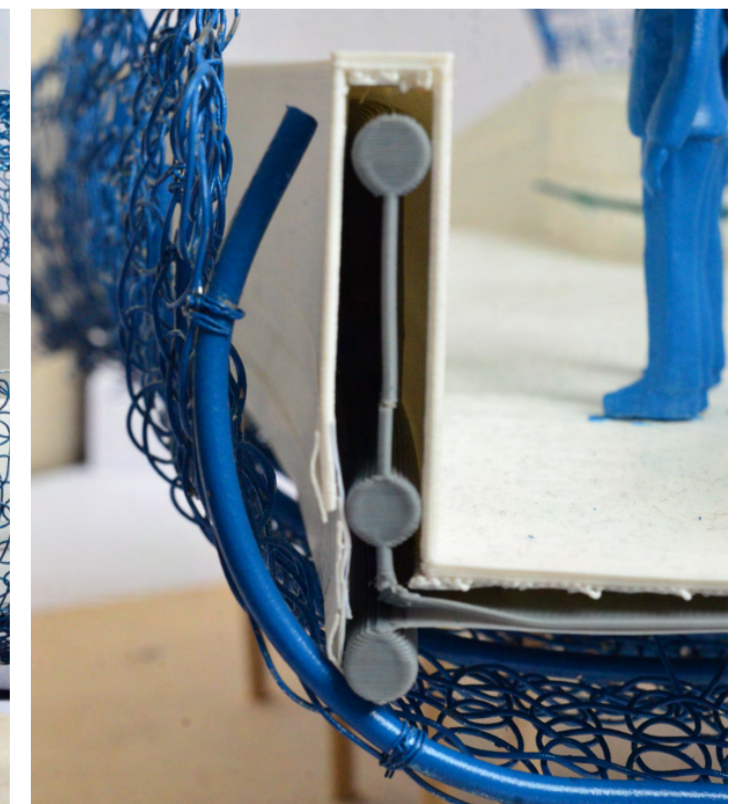
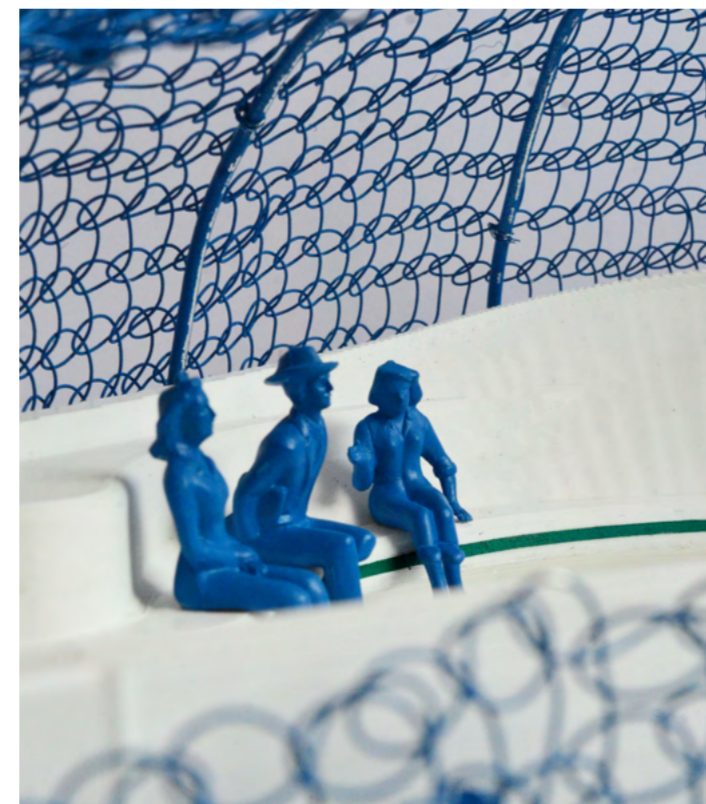


### POCKET FLOOR PLAN 1:50

Highlighting plan of the pocket, showcasing relationship between cladding and wire



## 1:25 MODEL



## WASTE MATERIALS

Three maritime waste streams, decommissioned vessels, fibreglass boat hulls and discarded fishing nets, are re-imagined as architectural resources, demonstrating how materials can remain in circulation beyond their original purpose

## DECOMMISSIONED VESSELS



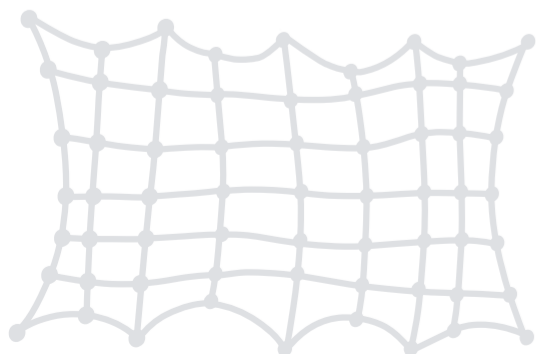
End-of-life vessels are dismantled and reprocessed into recycled steel components used throughout the canopy and supporting structure

## BOAT HULLS



Fibreglass boat hulls are re-purposed as recycled marine composite aggregate within the sculpted bench construction

## FISHING NETS

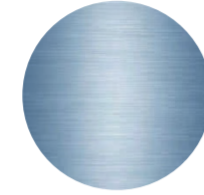


Discarded fishing nets are transformed into NetPlus, creating a durable tactile detail integrated into the seating design

## CONSTRUCTION & MATERIALS



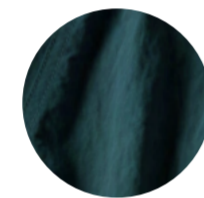
RECYCLED STEEL WOVEN MESH



100mm RECYCLED STEEL SUPPORT



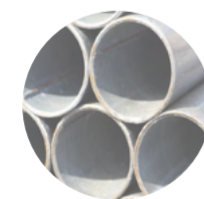
RECLAIMED MARINE COMPOSITE GFRG



NETPLUS FABRIC



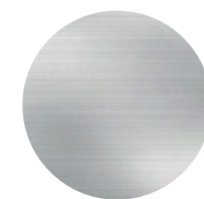
MARMOLEUM FLOORING



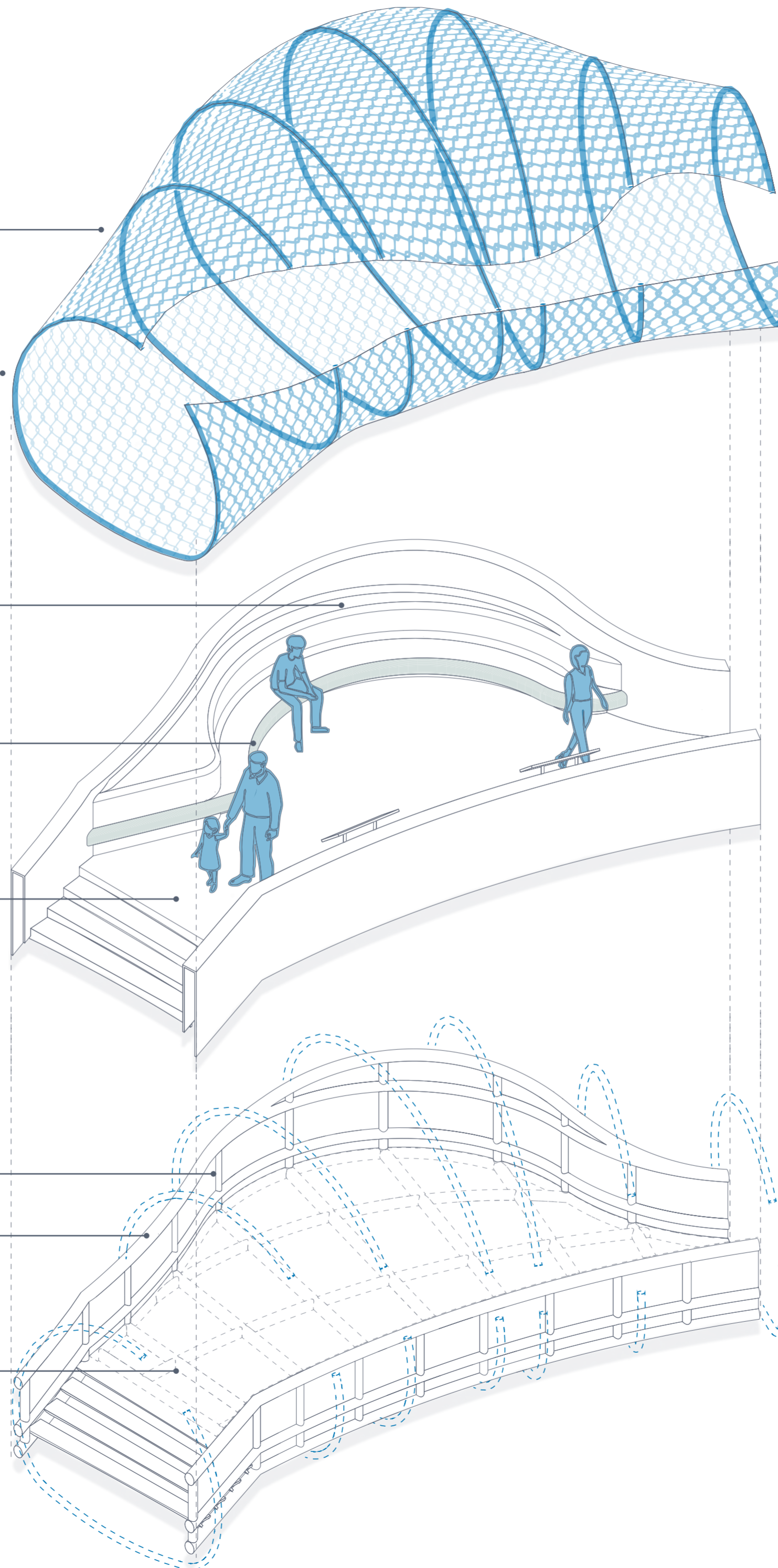
127mm RECYCLED STEEL TUBE



168mm RECYCLED STEEL TUBE



6mm RECYCLED STEEL SHEET



## FUTURE REUSE



### NEW STEEL PRODUCTS

Recycled into new structural steel products



### NEW COMPOSITE PRODUCTS

Reprocessed as aggregate or filler within future composite and construction materials



### NEW NYLON PRODUCTS

Recycled into new consumer and construction products

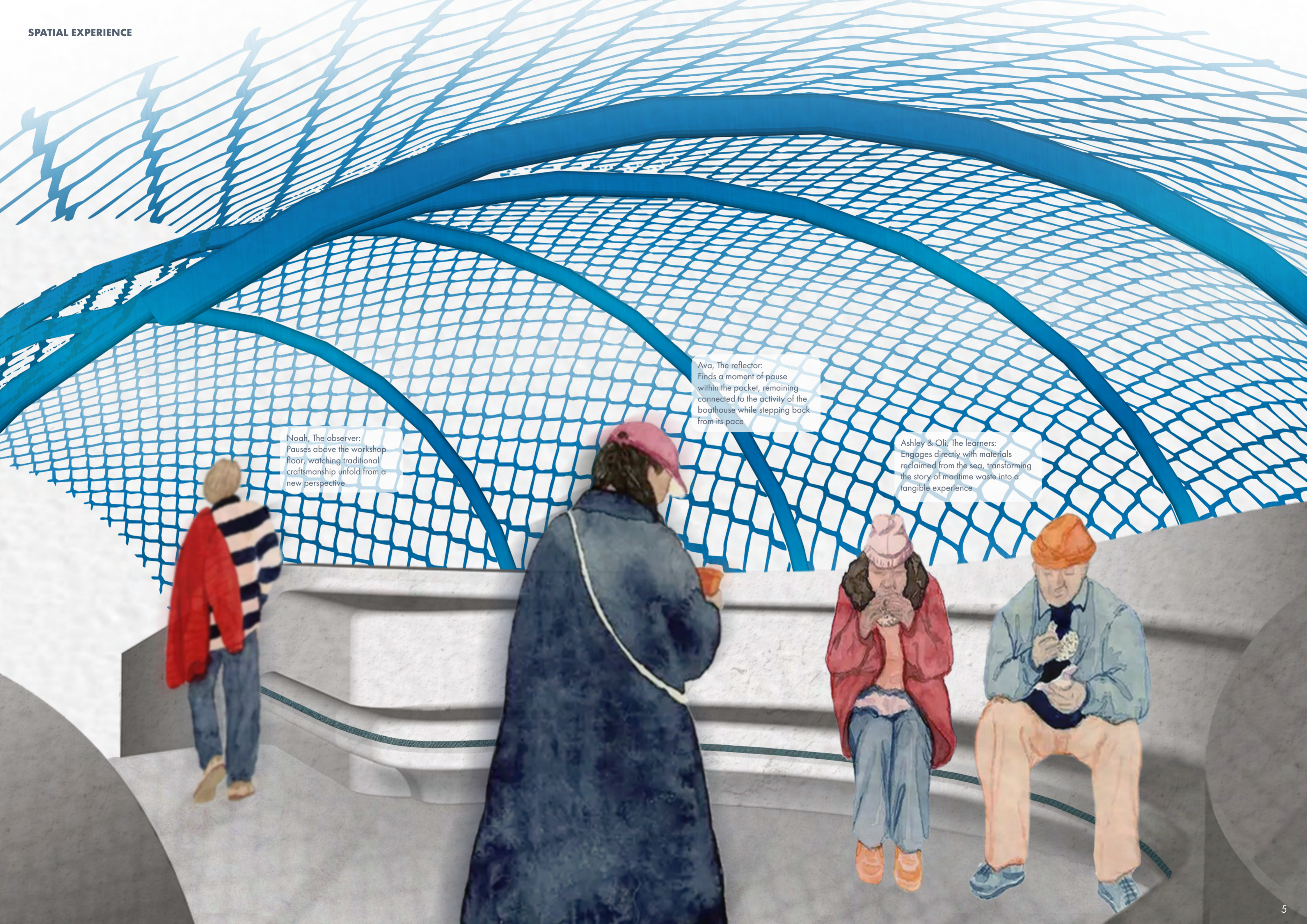


### RECOVERY & RECYCLING

Old, removed flooring can be ground down into a fine powder and used as filler in the production of new linoleum or other industrial products

## ENVIRONMENTAL IMPACT

By retaining the existing fabric of Boathouse 4 and prioritising reclaimed maritime materials, the proposal reduces demand for virgin resources while extending the lifespan of both building and material. Designed for future disassembly, each component can remain in circulation beyond its initial use.



Noah, The observer:  
Pauses above the workshop  
floor, watching traditional  
craftsmanship unfold from a  
new perspective

Ava, The reflector:  
Finds a moment of pause  
within the pocket, remaining  
connected to the activity of the  
boathouse while stepping back  
from its pace

Ashley & Oli, The learners:  
Engages directly with materials  
reclaimed from the sea, transforming  
the story of maritime waste into a  
tangible experience