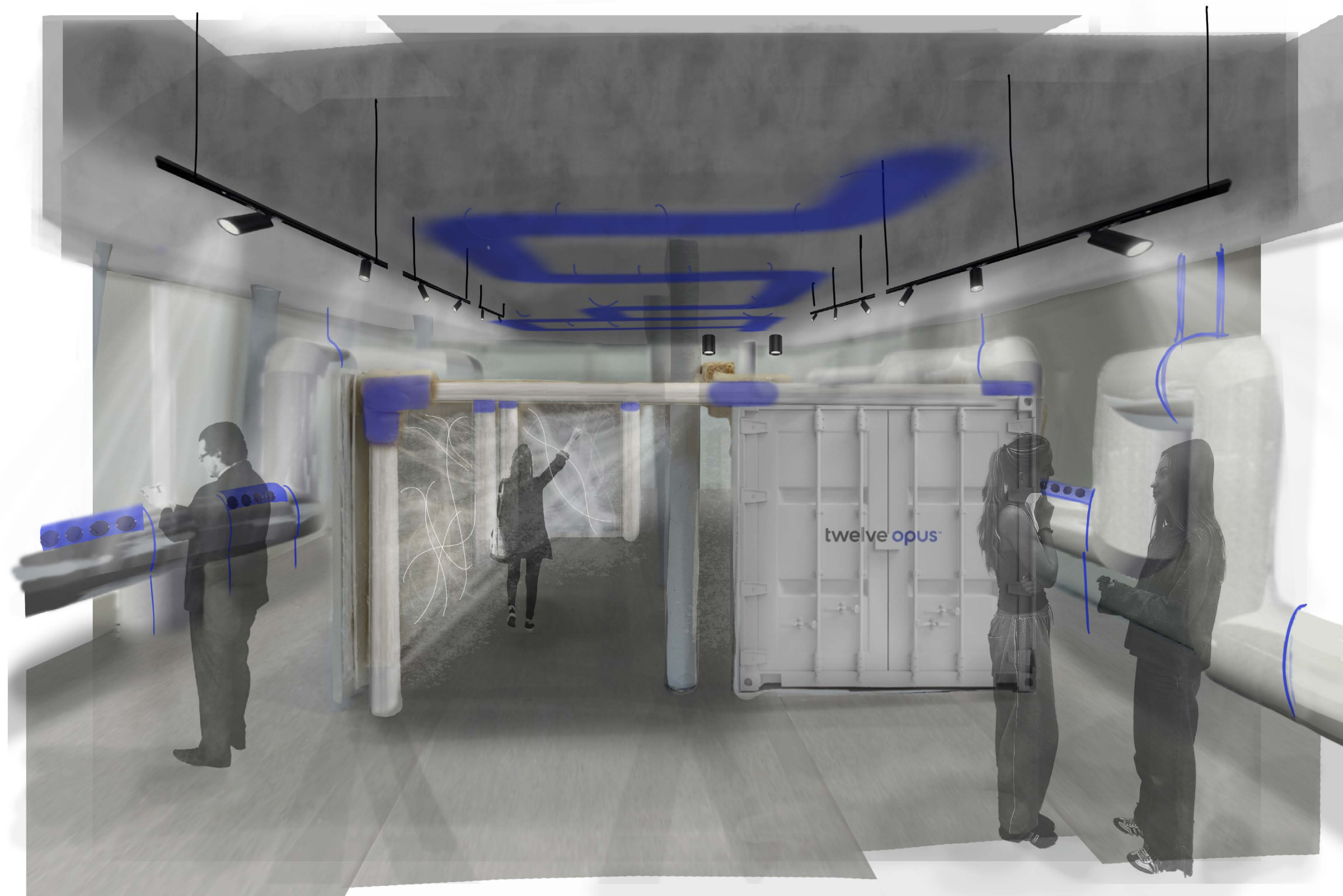


# RE-THINKING RETAIL: PANGAIA POP-UP STORE



**PANGAIA** **twelve**

"CARBON REINCARNATED"

**PANGAIA**

x **twelve**

SCIENCE

**CO2Made**

ELECTROCHEMISTRY

PROCESSES

A pop-up store designed for the brand PANGAIA whilst considering temporary design, material reuse, and brand assets in the design process. Where retail becomes an educational, climate-positive, and transparent experience. PANGAIA is a materials science company bringing problem-solving innovations to the world through premium lifestyle products and experiences.

This space is designed to increase awareness on their CO2-MADE MATERIALS in support to reduce causes to climate change. CO2-MADE MATERIALS was created in collaboration with the Carbon Transformation Company, TWELVE, where their breakthrough technology utilises and transforms CO2 into essential chemicals to substitute fossil carbon - the start of a journey to create a 100% fossil-fuel-free future.

From this partnership, THE LAB SUNGLASSES have become the world's first CO2 made sunglasses.

The purpose of this store is knowledge: to educate customers about the mission to create a climate-positive world with TWELVE's industrial electrochemical production technology called THE OPUS SYSTEM which performs CO2 electrolysis. In addition, customers are able to purchase the sunglasses after being guided through an interactive light exhibition explaining the environmental impacts of fossil fuel based production, and furthermore learning about how they were made. This concept is a movement towards a fossil-free future where every sale becomes a form of climate-conscious action, rather than a mere transaction.

This project is based within 59-61 Oldham Street, Manchester.



Customers can learn about CO2-MADE MATERIALS and how THE OPUS SYSTEM works to make THE LAB SUNGLASSES, whilst also being exposed to the brand's vision of accelerating an Earth Positive Future.

THE OPUS SYSTEM consists of; THE STACK which is the powerhouse of carbon transformation where electricity passes through, THE MEMBRANE ELECTRODE ASSEMBLY which is the catalyst for CO2 reduction, A LARGE CO2 TANK where pipes and valves supply co2 from the tank into the stack, A LARGE H2O TANK that holds water needed to supply the reaction, and AN ELECTRICAL INFRASTRUCTURE to apply a current into the stack.

### KEY RESEARCH



**HARMAY SHENZHEN**  
A beauty and lifestyle retailer. Complex piping systems are the central focus where galvanized steel pipes wrap around the store and transform into suggestively functional furniture.

This case study informs the pipes used in THE OPUS SYTEM and feeds into the industrial style of the technology.



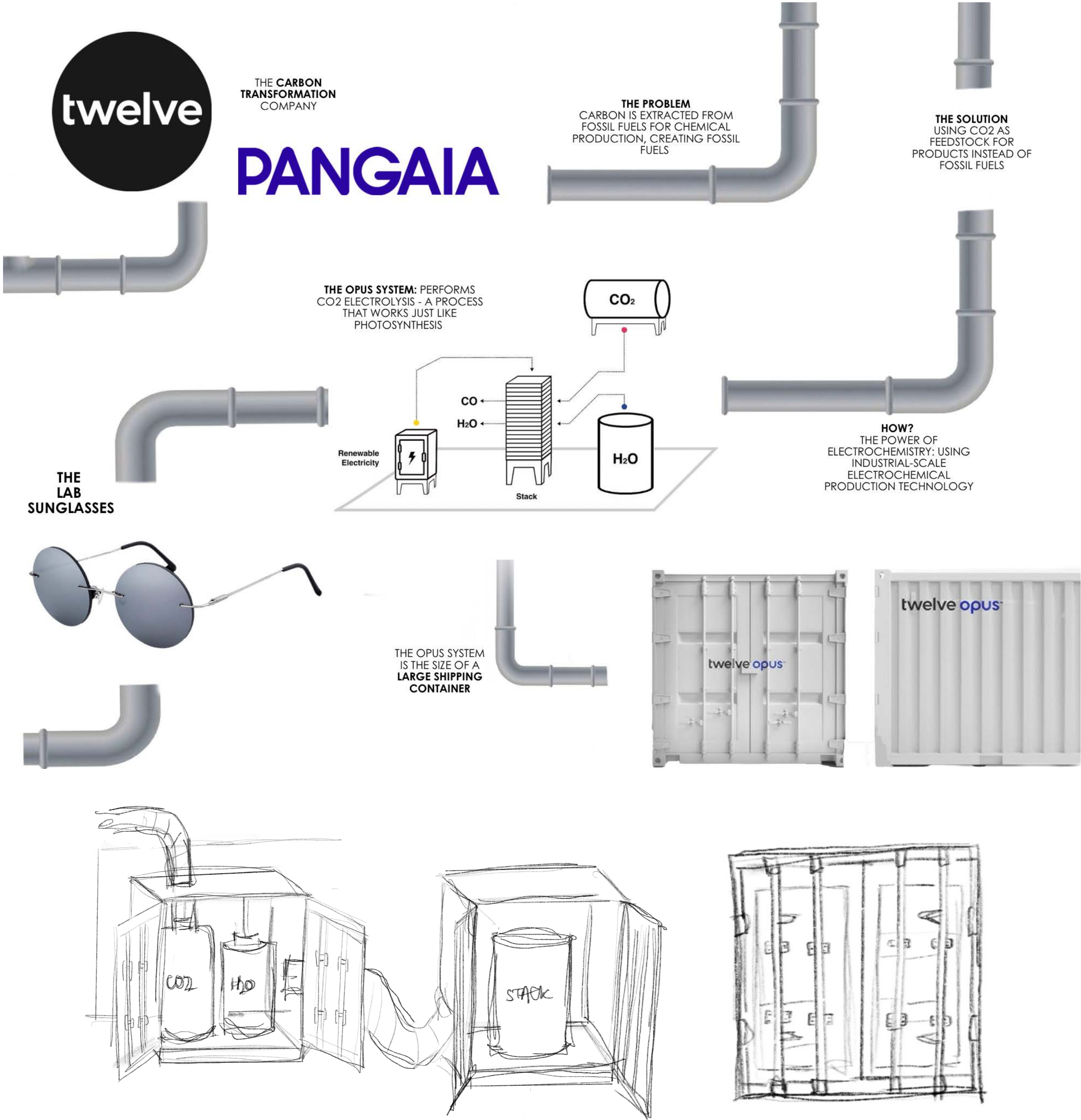
**SKULLCANDY EXHIBITION STAND**  
Using shipping containers as it refers to the size of industrial photosynthesis technology.



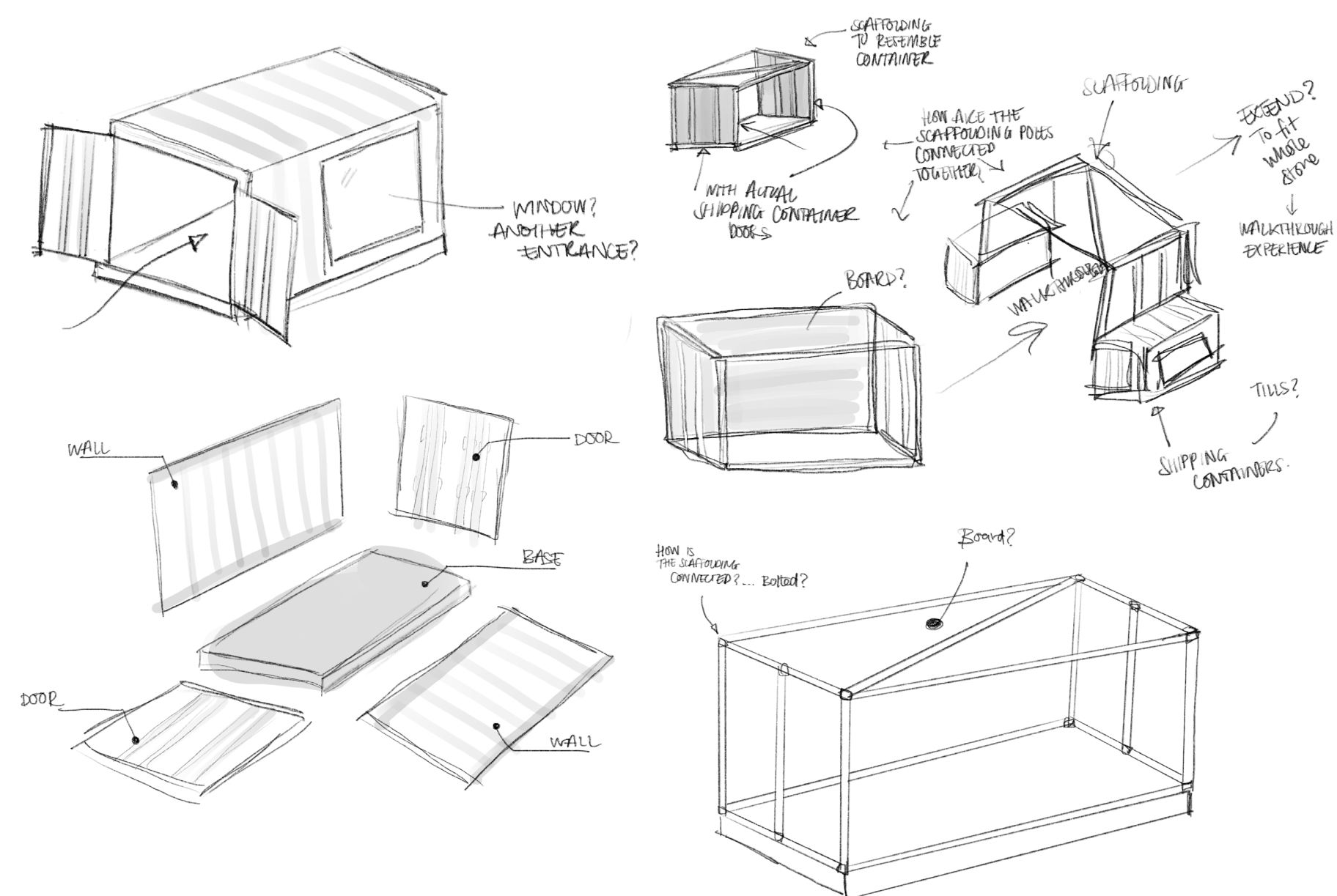
**POWER STATION CONFIGURATOR**  
Using scaffolding to mimic or support a shipping container.



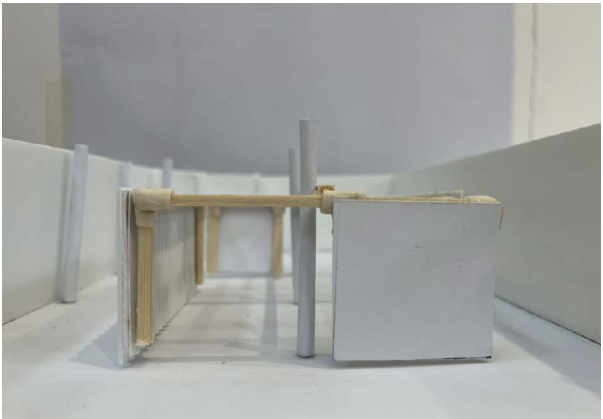
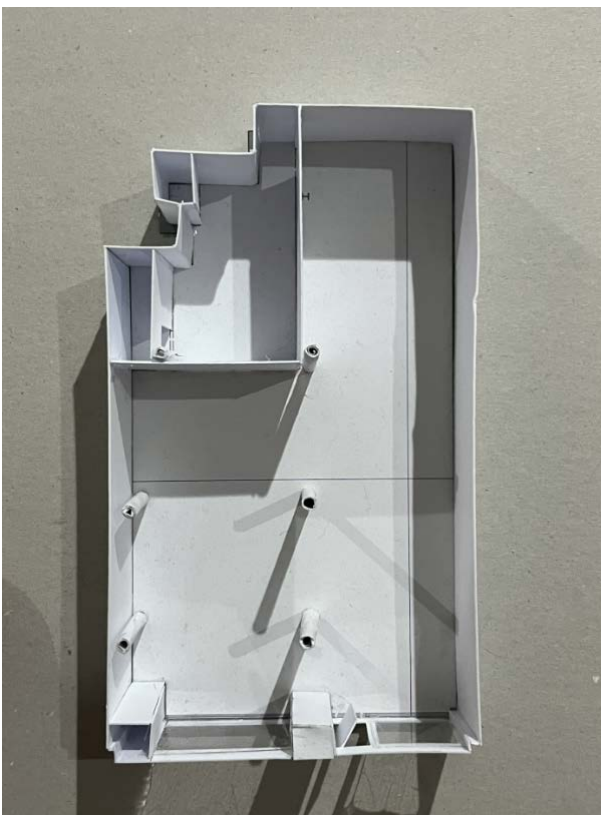
**TATE MODERN SOLID LIGHT EXHIBITION**  
Using light projections to depict each stage of the industrial photosynthesis



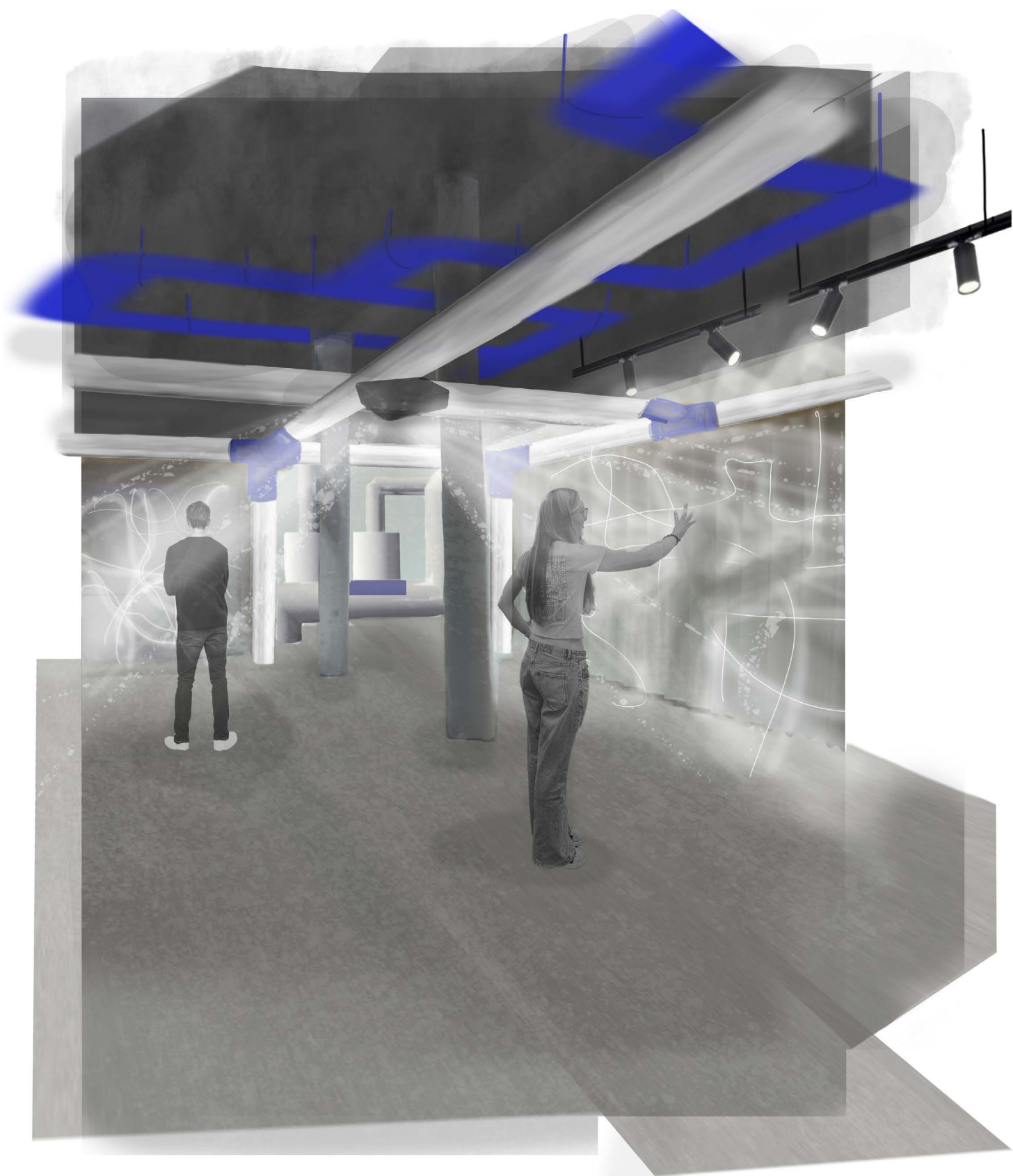




A development process experimenting with shipping containers, scaffolding and light. This led to deconstructing the container and using scaffolding to support the parts. The use of used shipping containers and scaffolding tubes reduces CO2 emissions associated with new materials and construction. It also feeds into the temporary design where it's easy to disassemble, move, or repurpose.



# INSIDE THE LIGHT EXHIBITION STRUCTURE



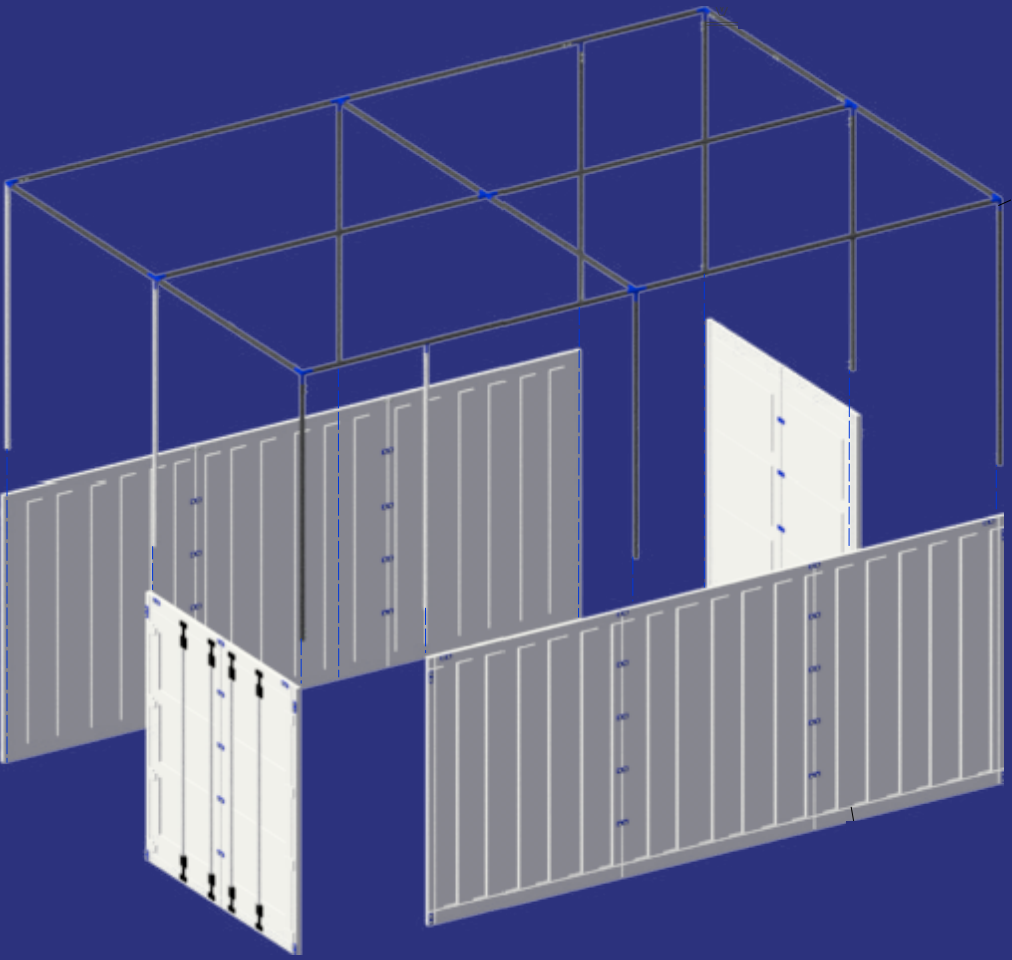
## THE FINAL DESIGN OF THE KEY COMPONENT.

A used shipping container is deconstructed to fit into the store and is supported by the scaffolding tubes.

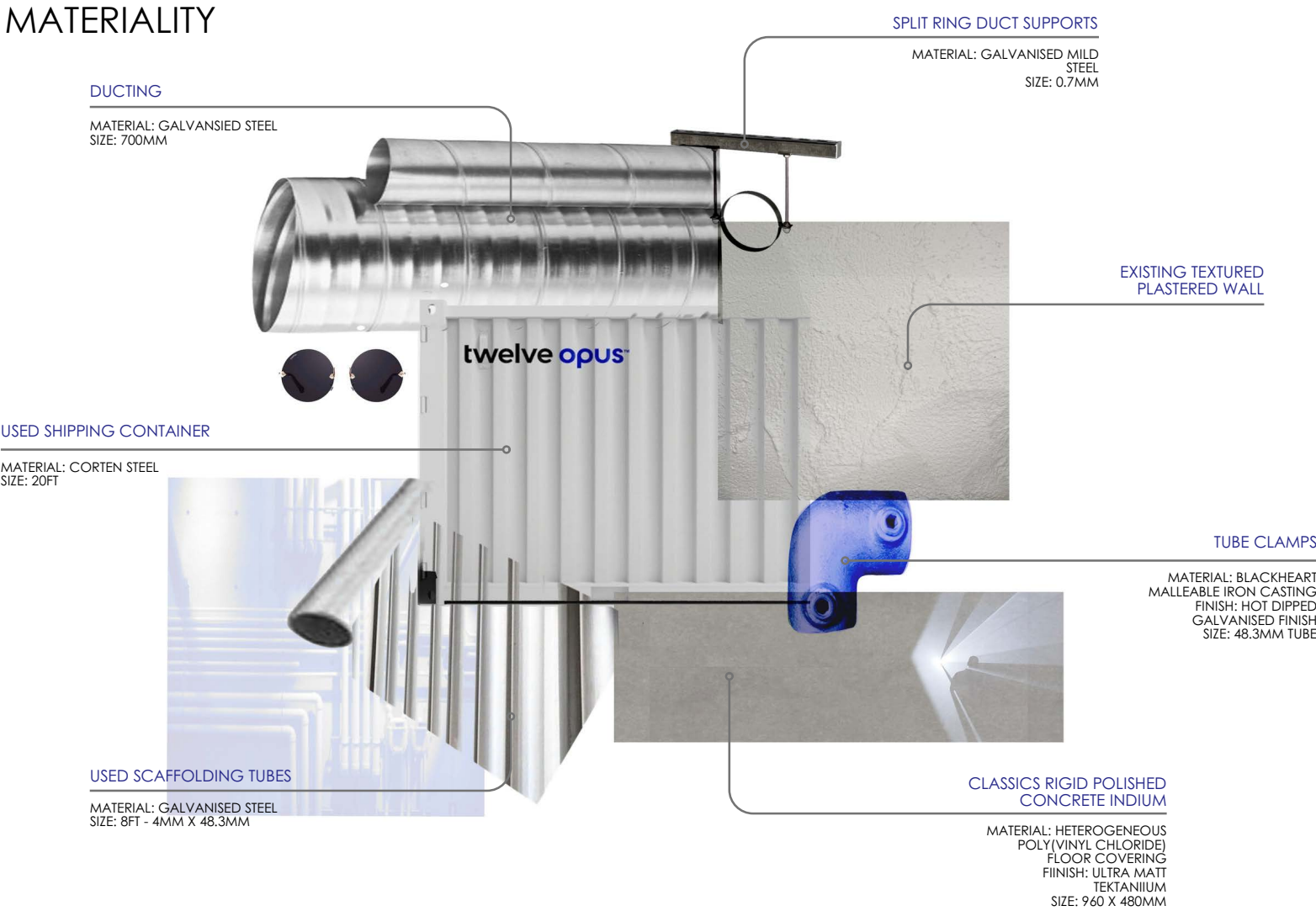
Customers can interact with the light which is projected onto the parts of the container. The projections depict each stage of the industrial photosynthesis.

This allows customers to conceptually experience THE OPUS SYSTEM - TWELVE's technology to reduce CO2 emissions.

## THE LIGHT EXHIBITION STRUCTURE

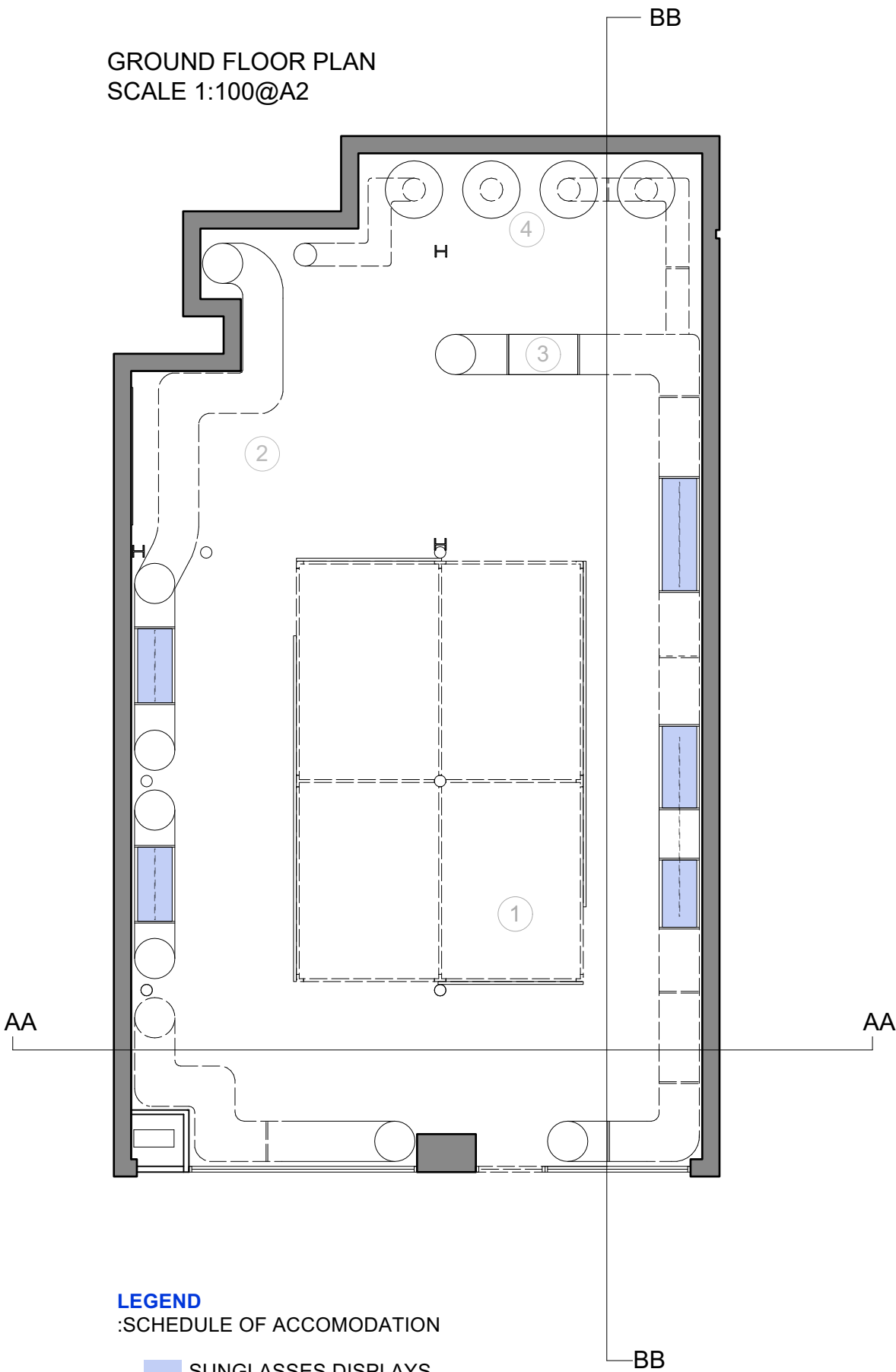


## MATERIALITY



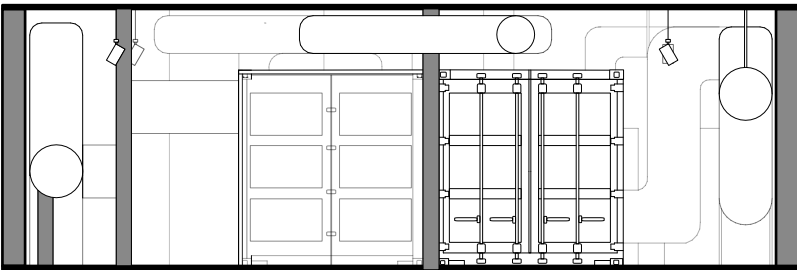


GROUND FLOOR PLAN  
SCALE 1:100@A2



LEGEND  
:SCHEDULE OF ACCOMODATION

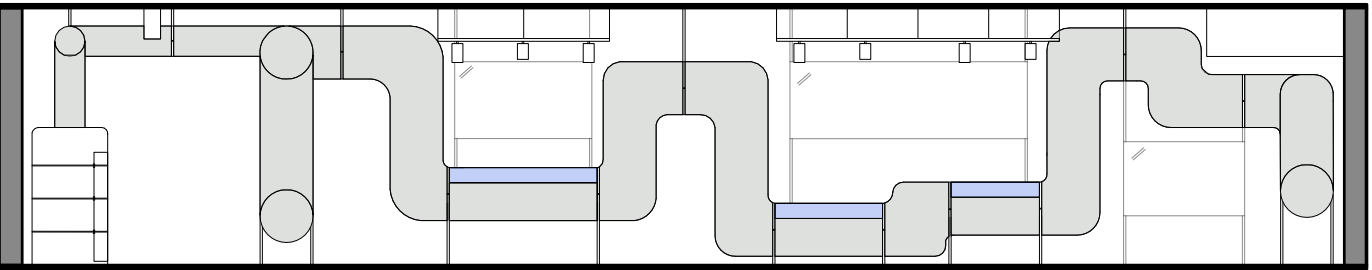
- SUNGLASSES DISPLAYS
- ① LIGHT EXHIBITION STRUCTURE
- ② 'TRY ON' AREA
- ③ INTEGRATED CASH DESK
- ④ TANK STORAGE CABINETS



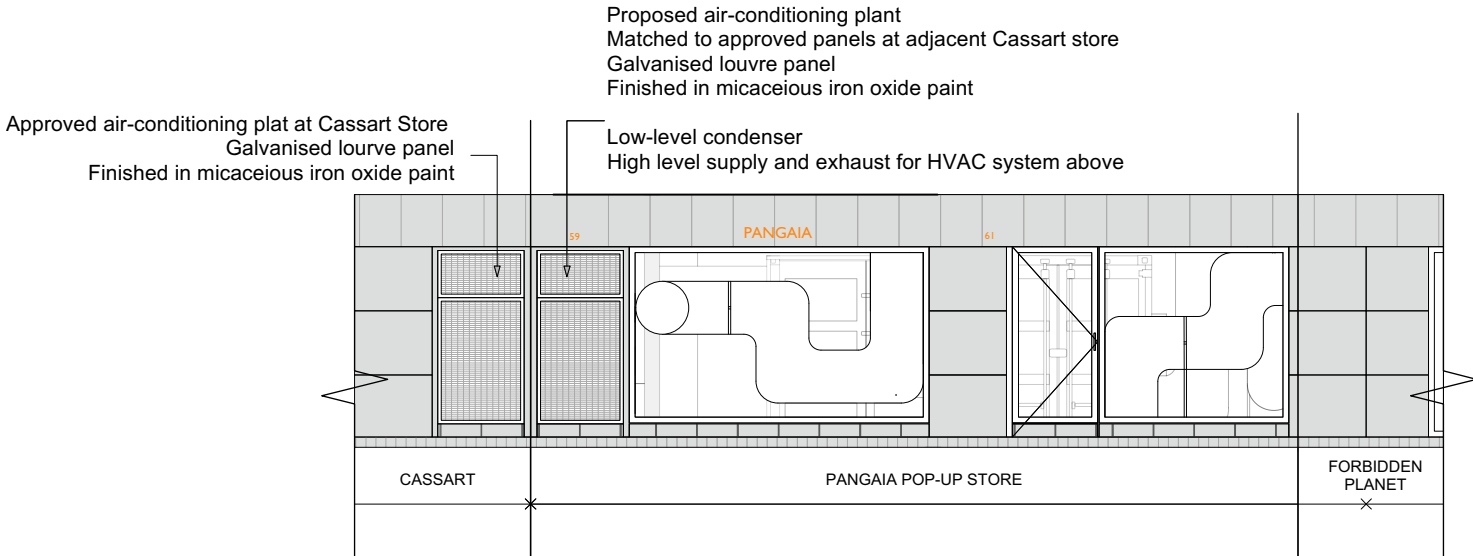
SECTION AA  
SCALE 1:100@A2

LEGEND

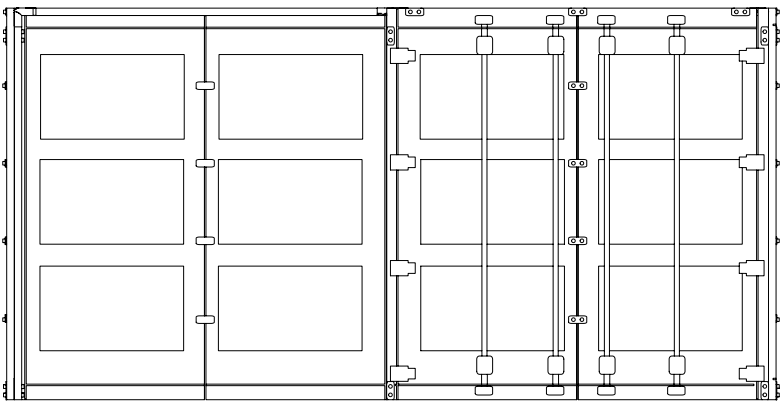
- SUNGLASSES DISPLAYS
- DUCTING PIPES
- MIRRORS



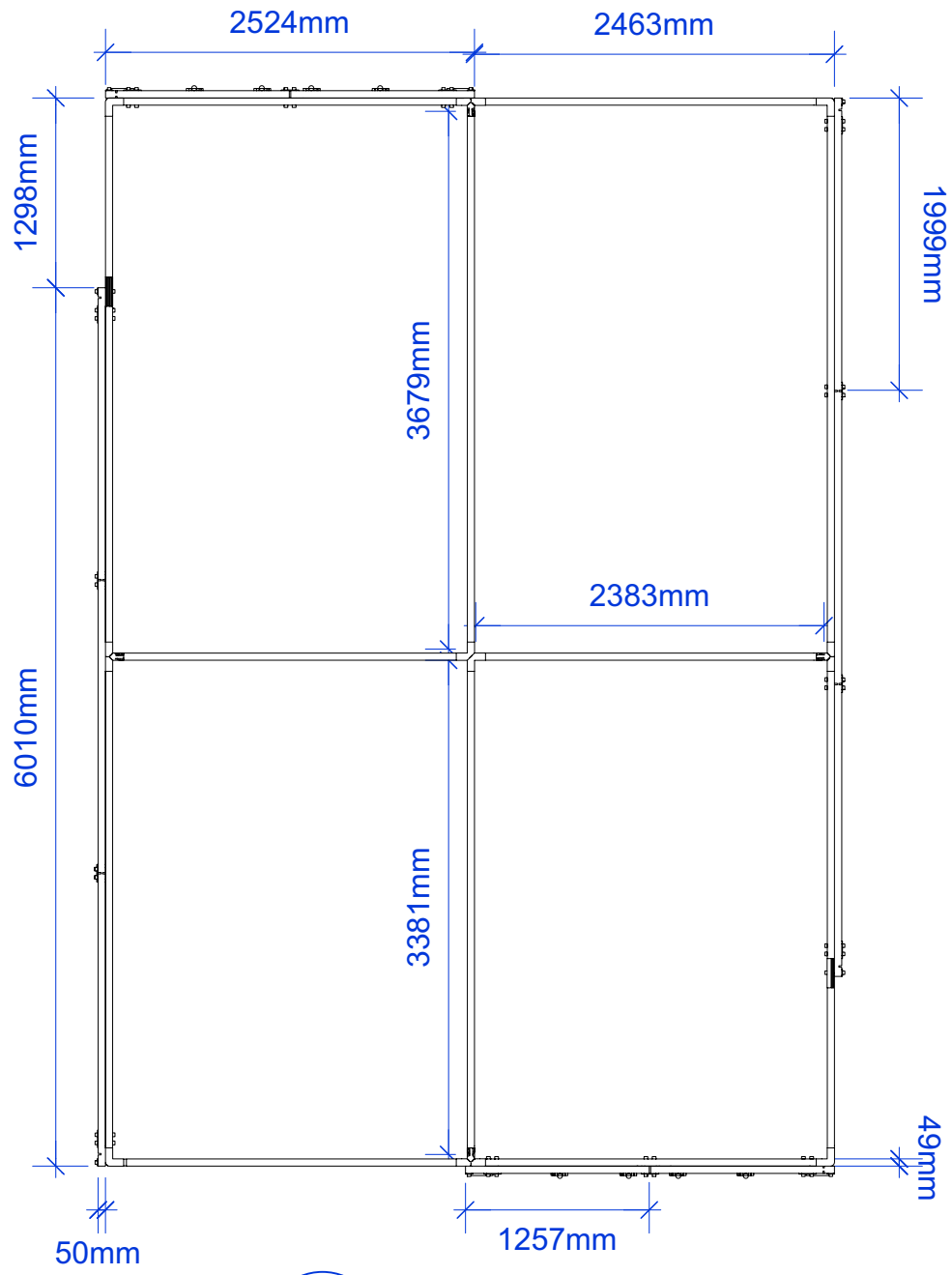
SECTION BB  
SCALE 1:100@A2



ELEVATION AA  
SCALE 1:100@A2



02 ELEVATION BB  
Scale: 1:50

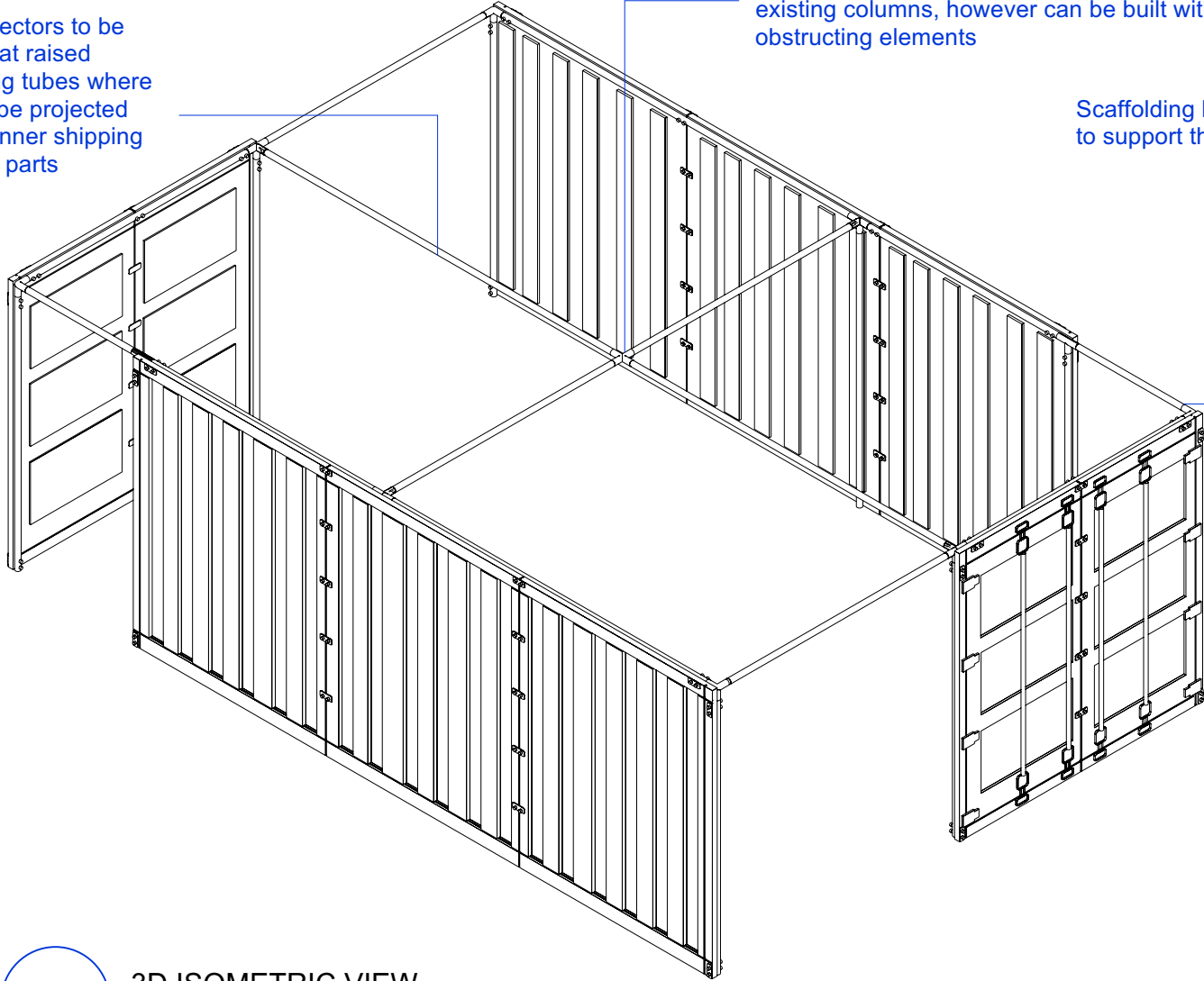


01 PLAN  
Scale: 1:50

Light projectors to be attached at raised scaffolding tubes where light can be projected onto the inner shipping container parts

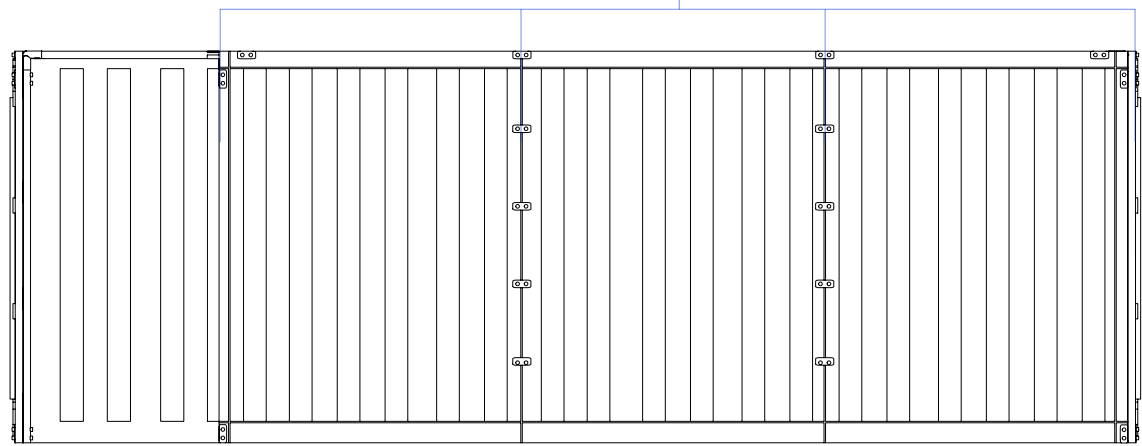
Scaffolding structure to be built considerate of 59-60 Oldham Street Manchester interior around existing columns, however can be built with no obstructing elements

Scaffolding built together to act as a frame to support the 4 parts of shipping container



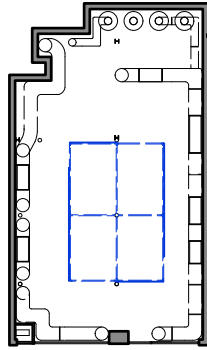
04 3D ISOMETRIC VIEW  
Scale: 1:50

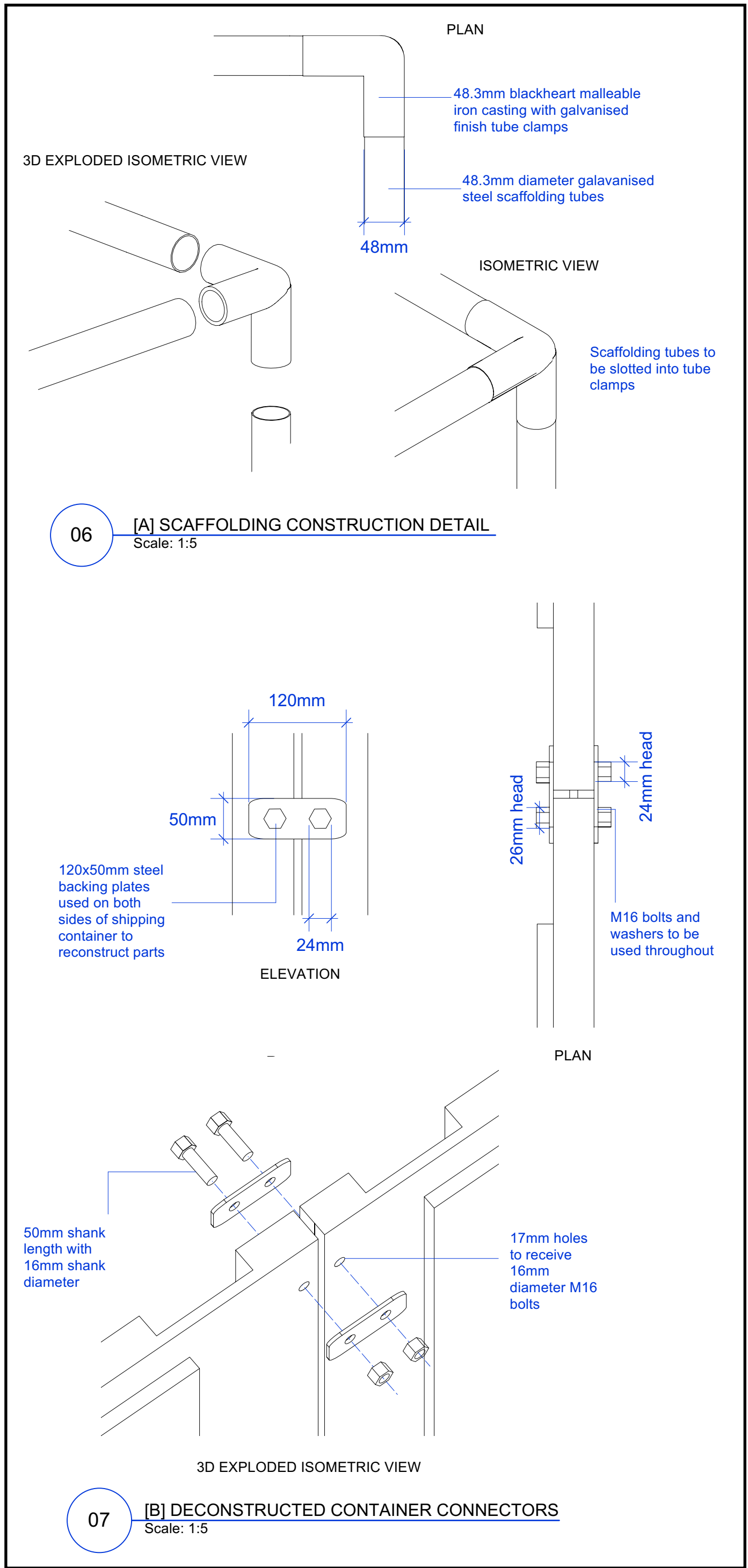
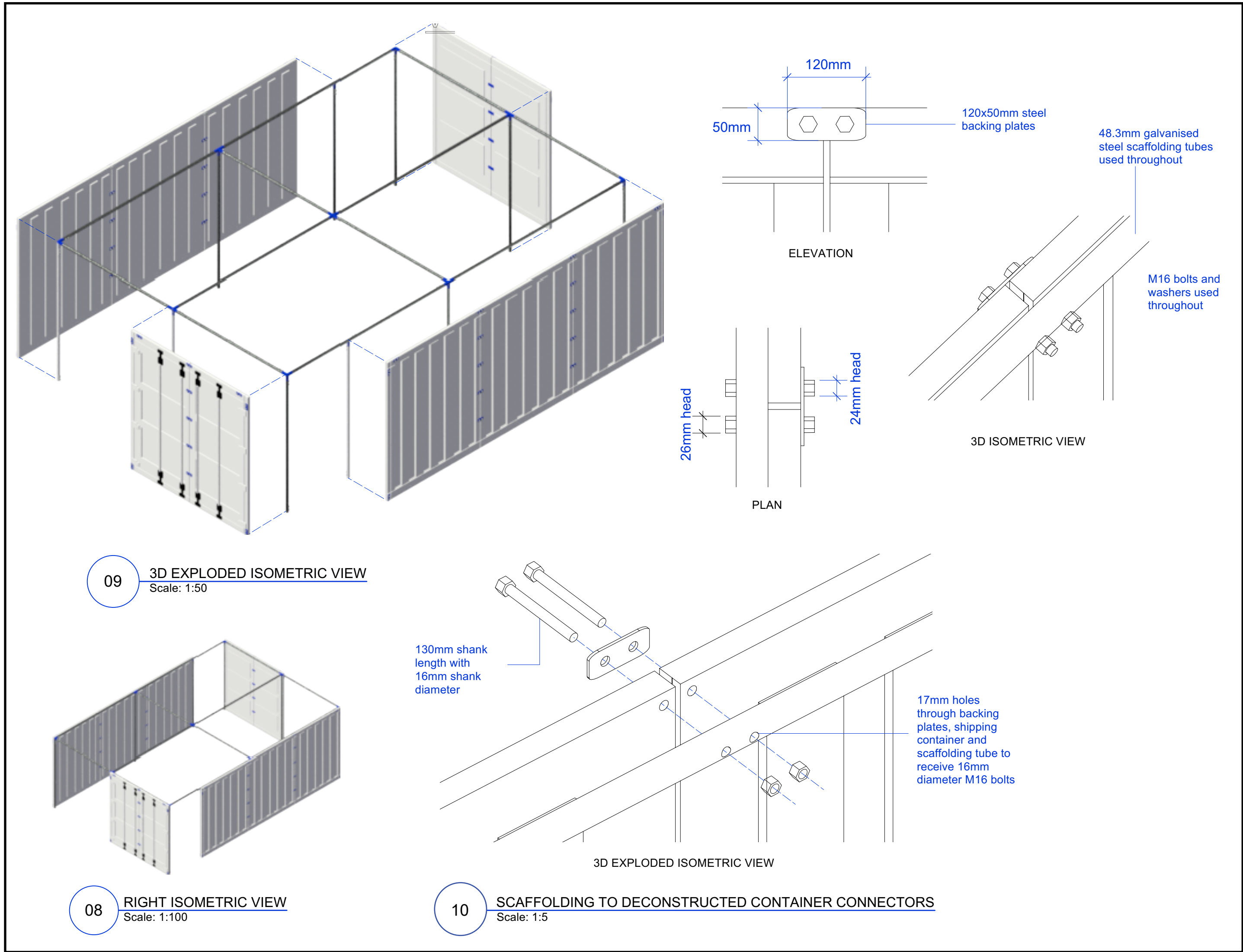
Deconstructed shipping container to fit through entrance then reconstructed into 4 parts



03 ELEVATION CC  
Scale: 1:50

KEY PLAN





# PANGAIA twelve