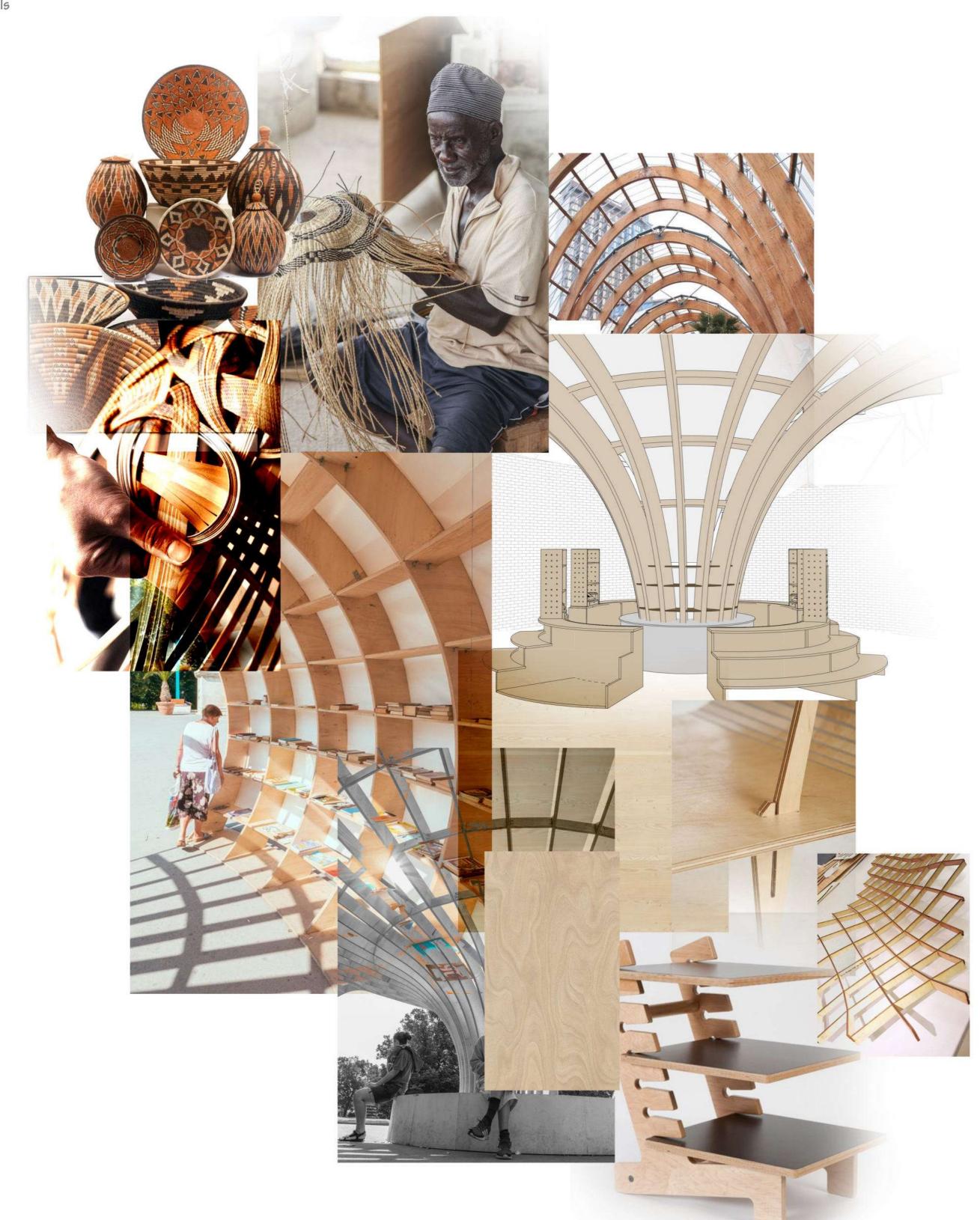


(Barker, 2021)

Stereotomic - Permanence - Multi-functional Plane 1. Engineered Glue laminated (Glulam) Canopies

Tectonic - Semi-temporal -Configurational 2. Market Stalls



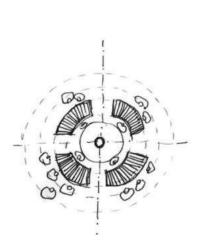




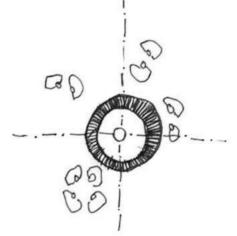
114 x 400 mm RSB Glue Laminated (glulum) r Grade 7 ribbed canopy fixed to new concrete floor surface finished with Sadolin Vanish



2.5 ltr Sadolin Outdoor Finsh applied in two coats with brush; Touch Dry: 4 - 6 hours, Re-coat: 16-24 hours



Trading activities TOWARDS canopy



Trading activities AWAY FROM canopy

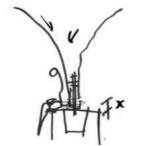




- Comparable to steel, withstands heavy loads and adverse weather. -Easily shaped, allowing for various design possibilities.
- -Often produced from renewable wood sources, with a lower environmental impact.
- -Despite strength, it is relatively lightweight, facilitating transportation and installation.
- Cons
- Higher compared to some other construction materials.
- Requires regular upkeep to protect against insects, fungi, and weathering.
- Generally less fire-resistant than materials like steel or concrete.
- May have limitations on span lengths
- without additional support.
- Large, high-quality glulam pieces may vary in availability, affecting design and construction



Canopy as shelter

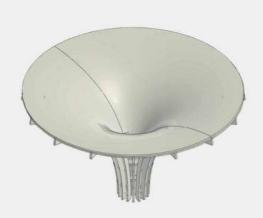


Canopy as water collector



Canopy as cultural production of oral traditions & exchange

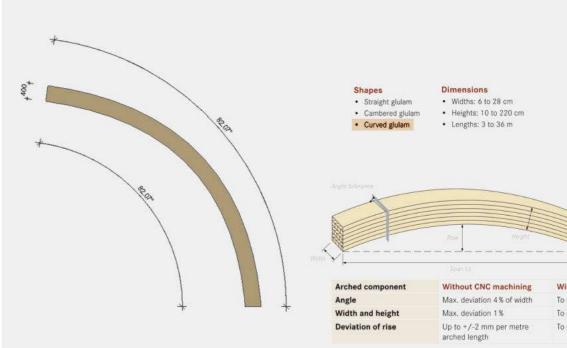
#### Canopy construction techniques



Canopy PTFE Water collecting

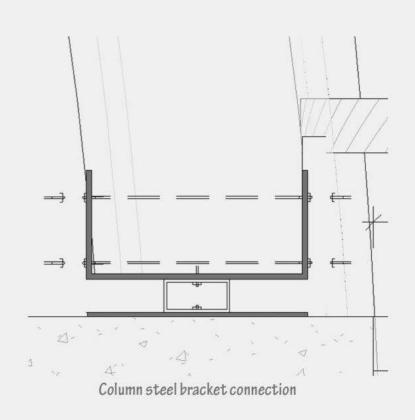
funnel membrane

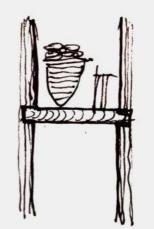
Engineered Glue Laminated (Glulum) canopy sub-structure



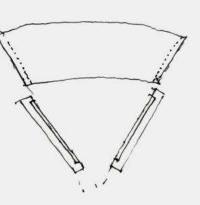
Curved column profile

Column quality



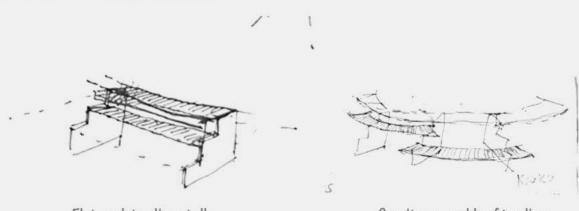


Section of display shelving sloting between glulum columns



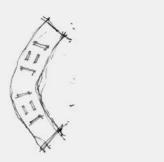
Plan view of shelves sloting between column

Market stalls construction technique



Flat pack trading stalls

On-site assembly of trading stalls

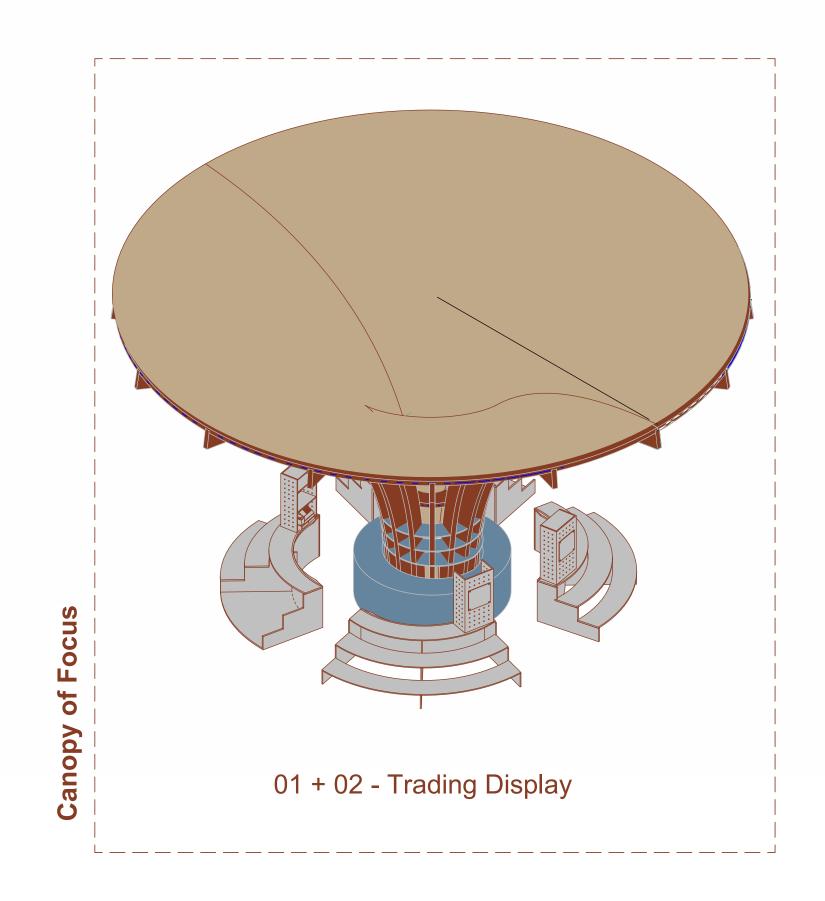


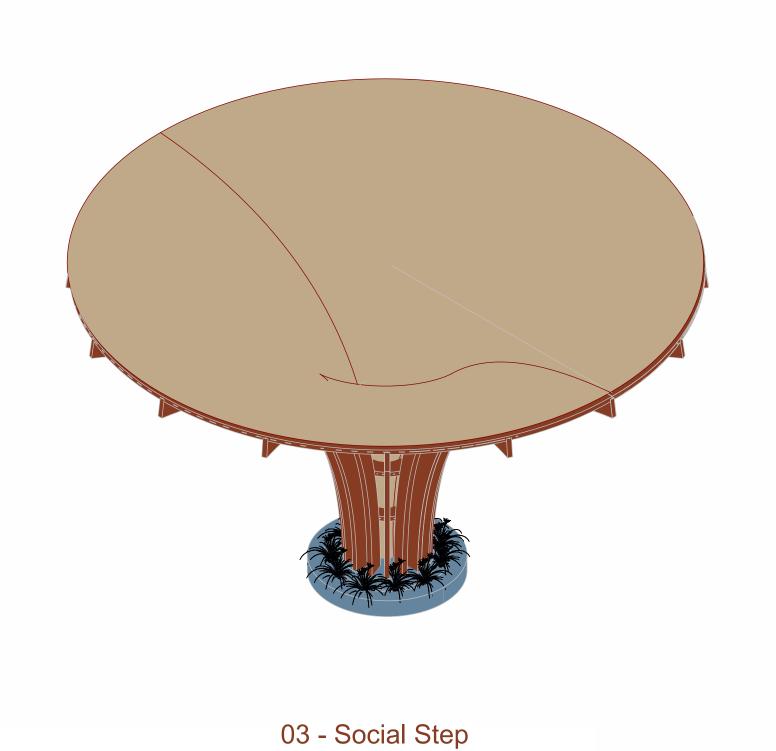
1. Shelving component

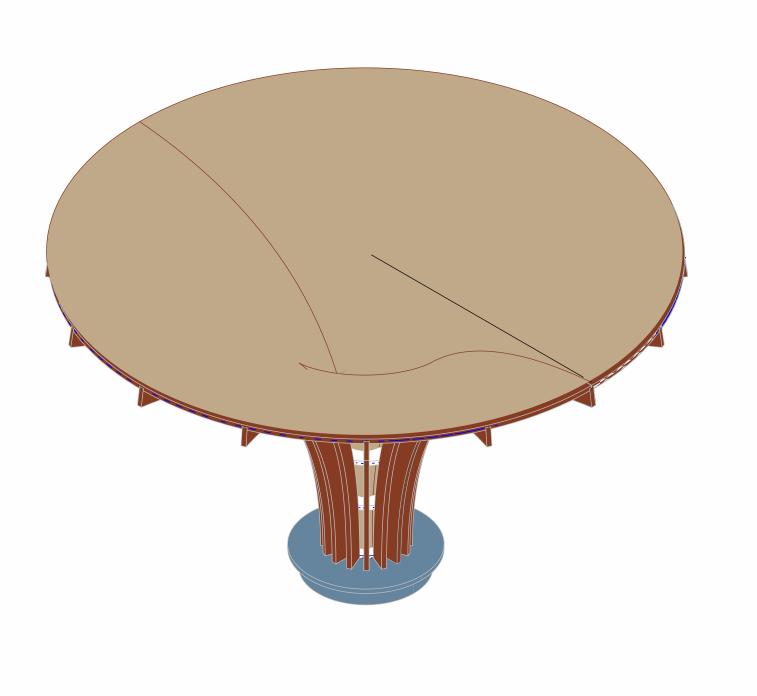


2. Structural framing 3. Placement of fruit & veg packaging boxes component

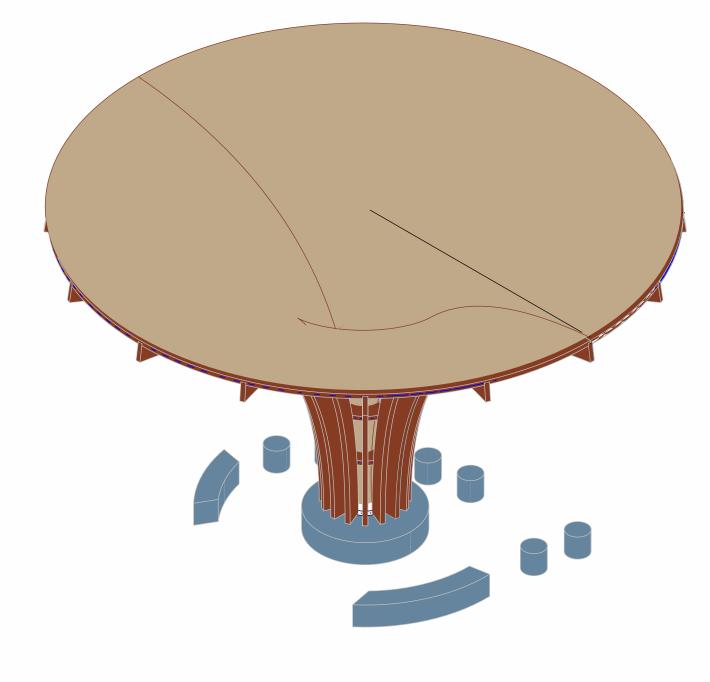


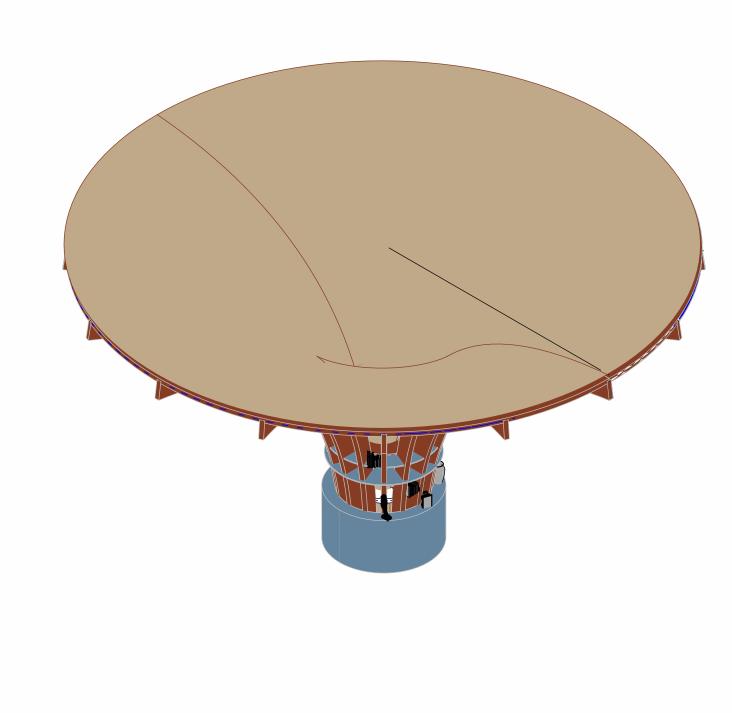






04 - Observational Seating





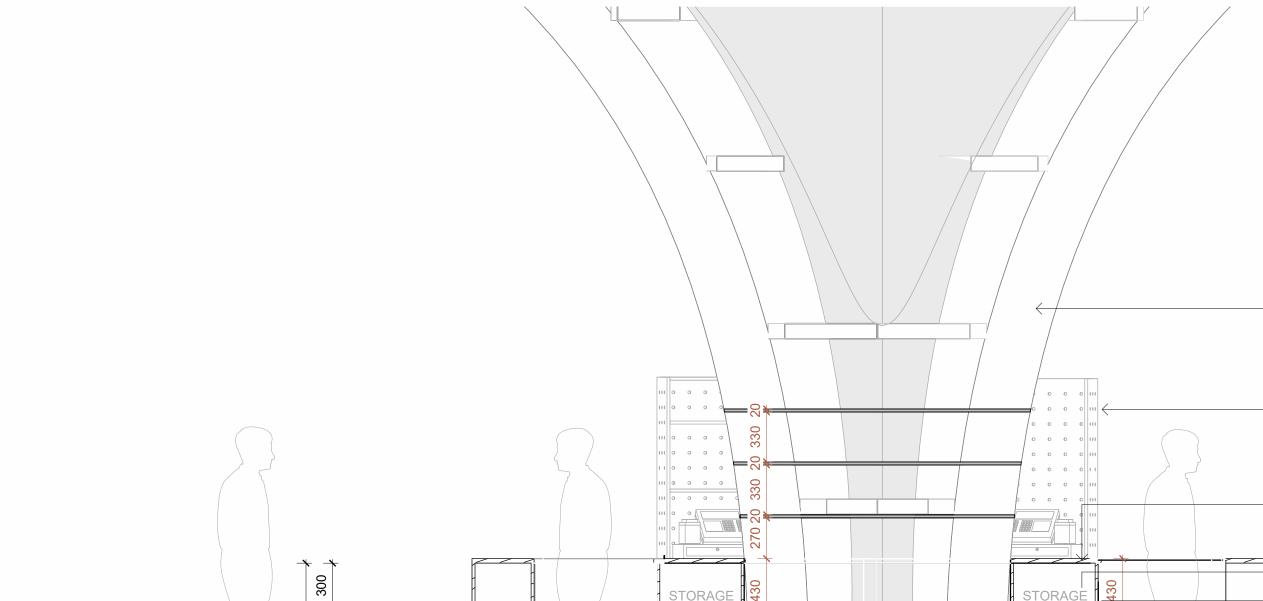
06 - Multi-functional Hub 06a - Exhibition Display 05 - Communal Seating

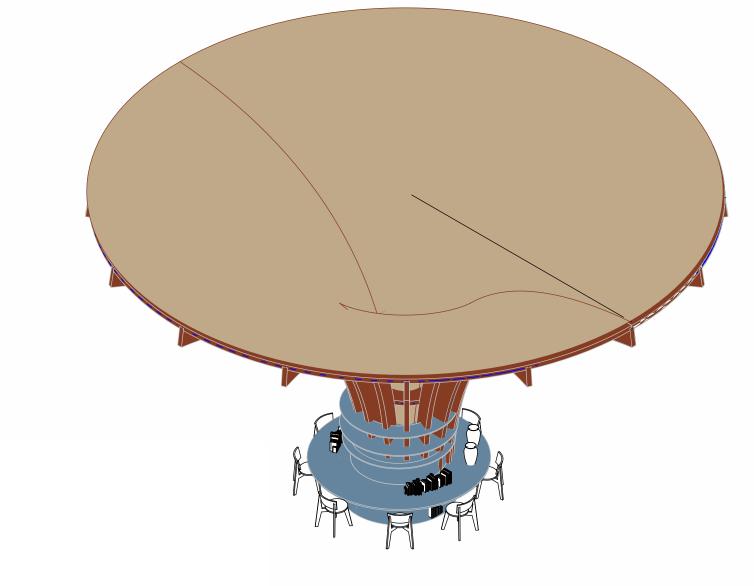
Reference Images





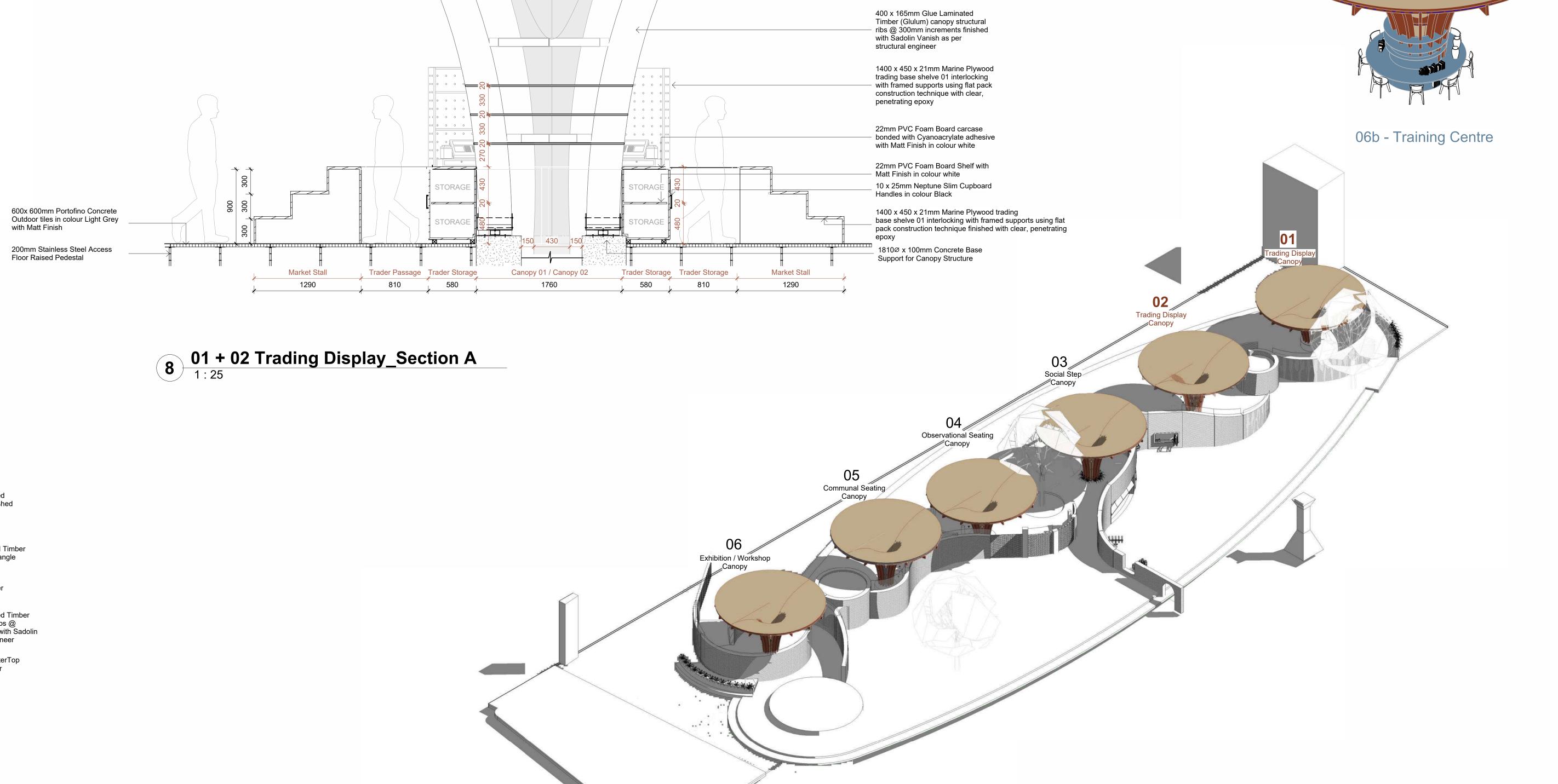




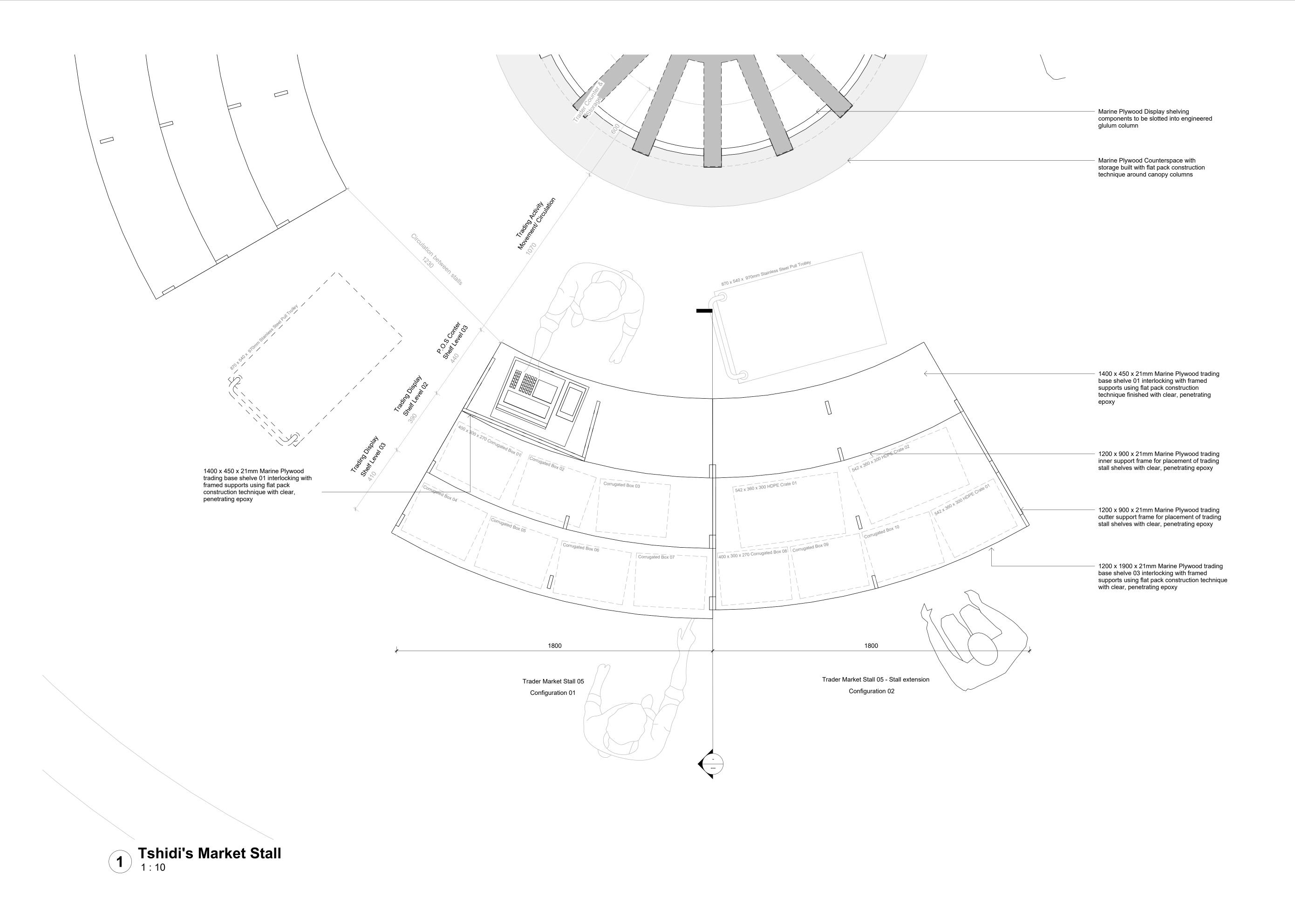


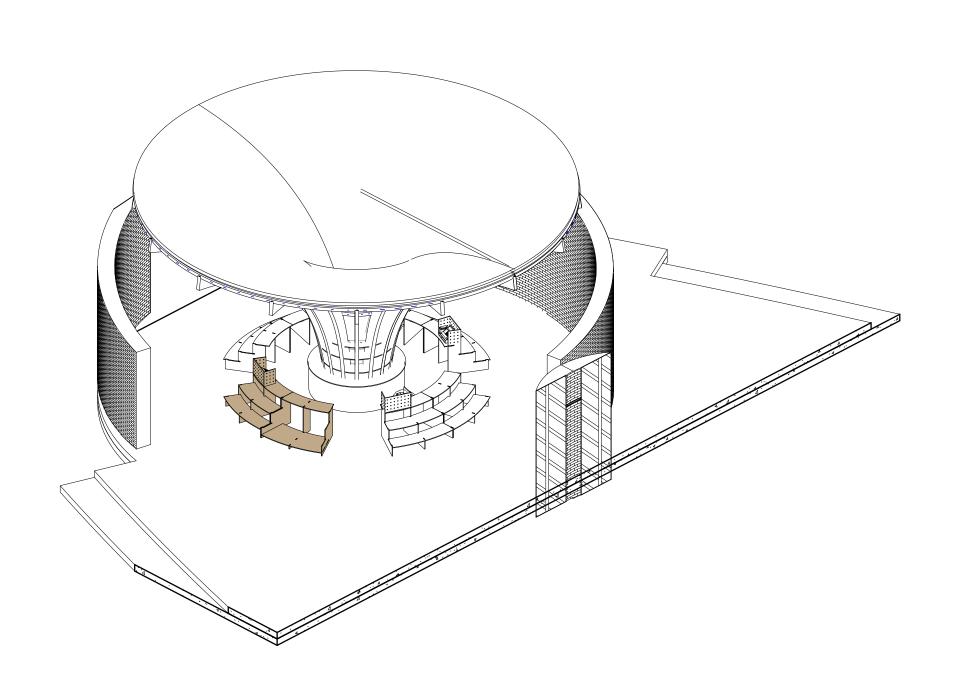
400 x 100mm Glue Laminated
Timber (Glulum) bracing finished with clear, penetrating epoxy 490 x 21mm Glue Laminated Timber
(Glulum) shelfing fixed onto angle
bracket support with black powdercoat finish \_ 570Ø Hollow Interior of Water collecting Canopy 400 x 165mm Glue Laminated Timber
(Glulum) canopy structural ribs @
300mm increments finished with Sadolin Vanish as per structural engineer 950Ø Marine Plywood CounterTop

with undercounter storage for



Form of Shelter - Proposed Design Intervention Canopies

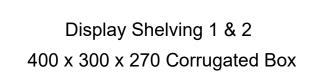




5 Tshidi's Market Stall\_3D View 01

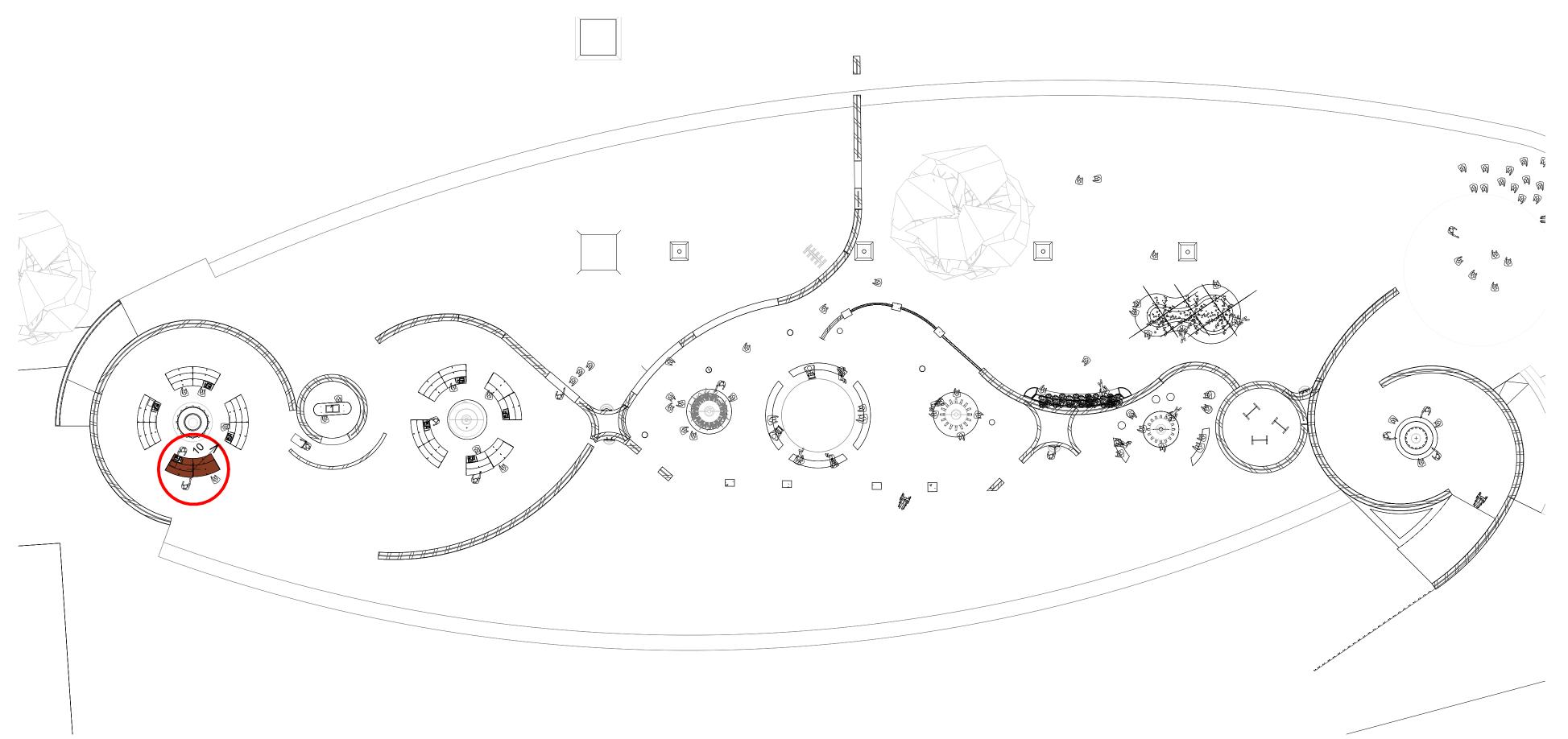


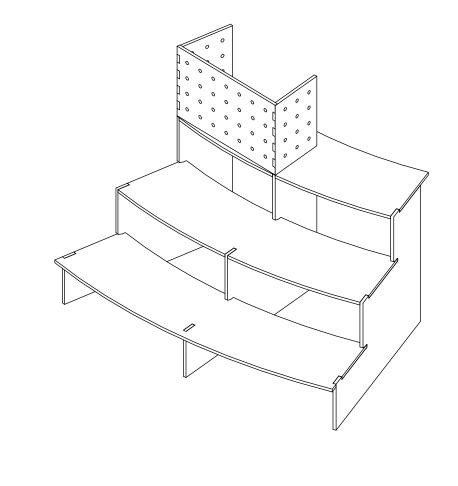




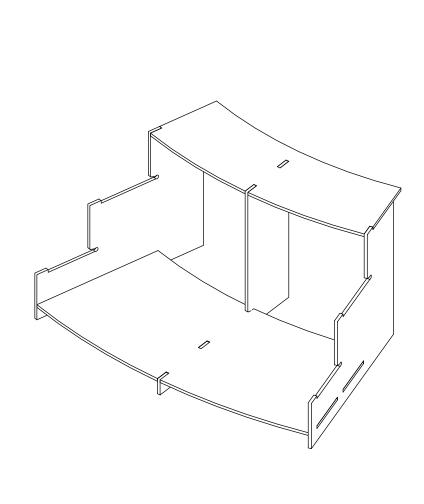


Display Base Shelving 542 x 360 x 300 HDPE Crate

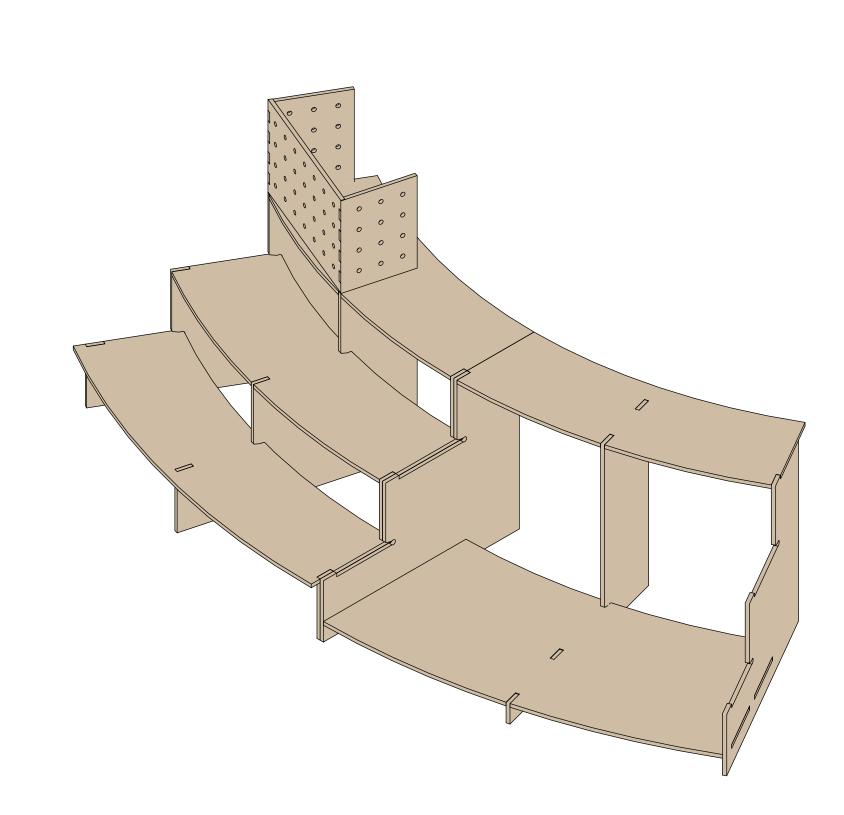




Market Stall\_Configuration 01



4 Market Stall\_Stall Extension



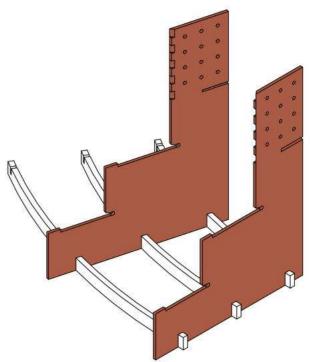
### **ON-SITE ASSEMBLY**

### 01. Constructing the base



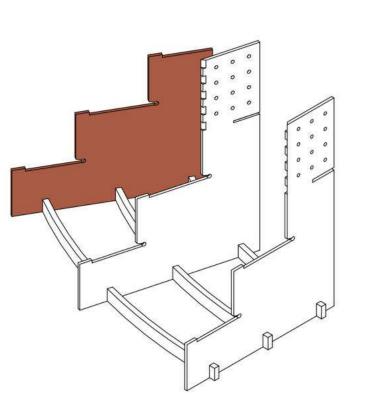
Trading stalls foundational compartments and shelves slot connection.

# 02. Attaching upright framed P.O.S supports



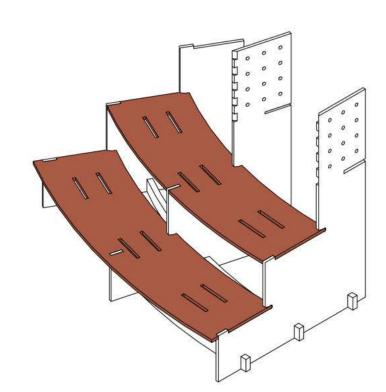
Slot the framed structural supports to the foundational components

## 03. Attaching additional upright framed support



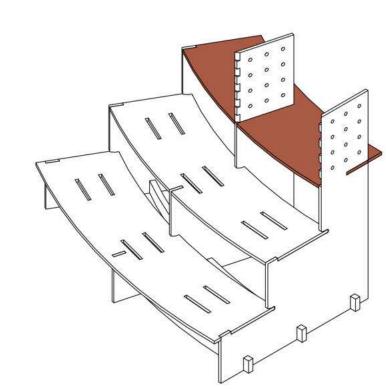
Trading stalls foundational compartments and shelves slot connection.

### 04. Attaching trading shelves



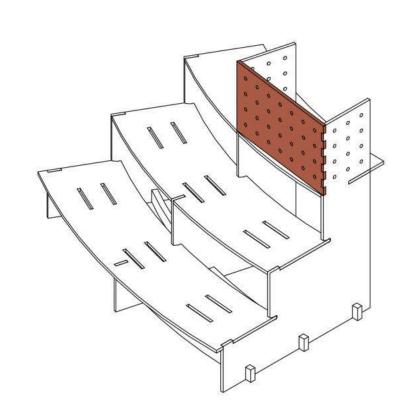
Trading stalls foundational compartments and shelves slot connection.

#### 05. Adding the countertop

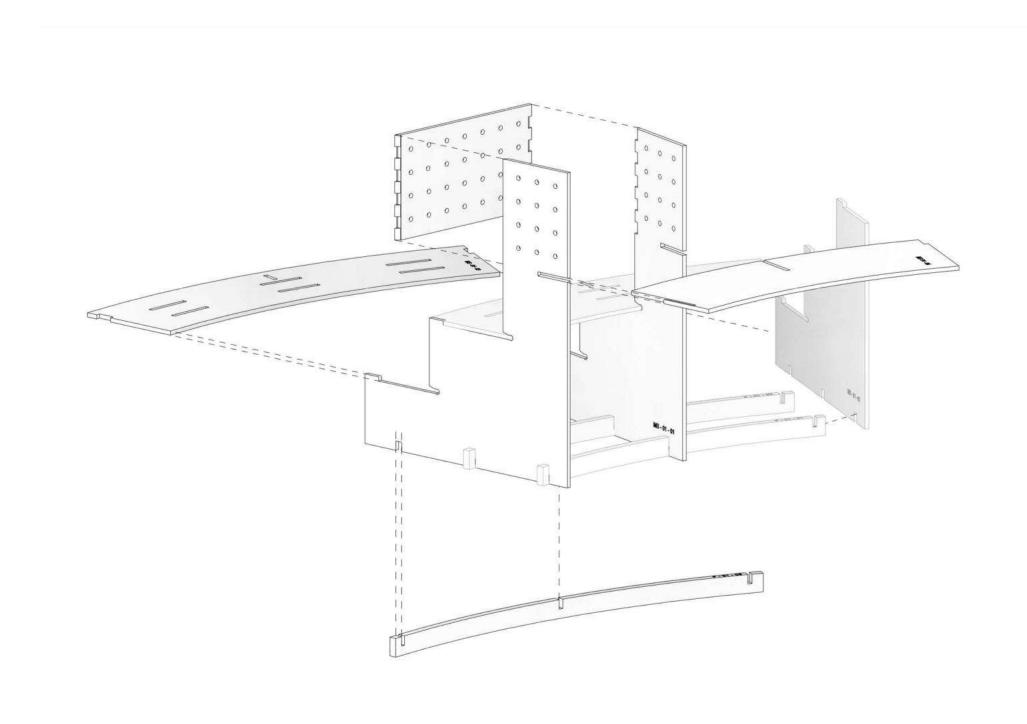


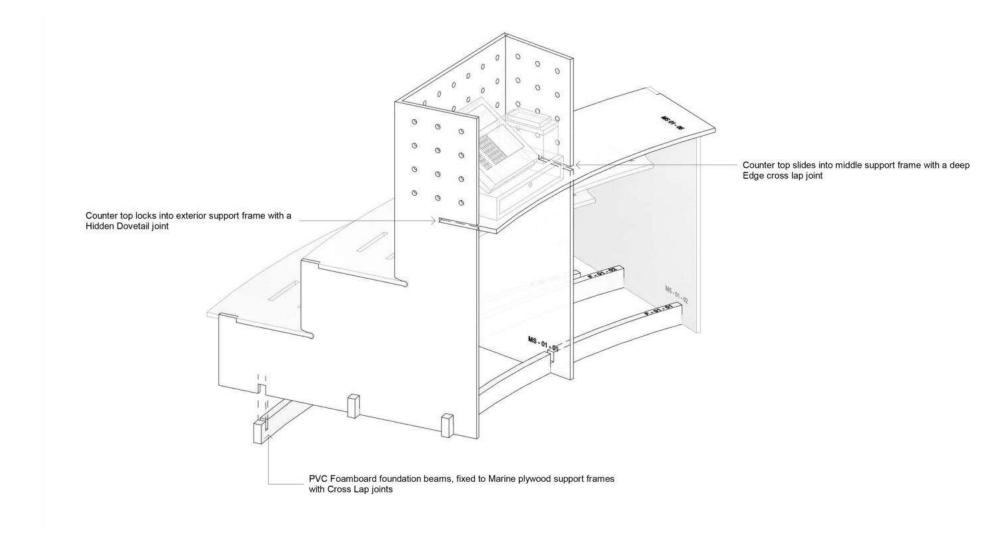
Contertop to be slotted into the P.O.S framed supports and interlocked with additional framed structure

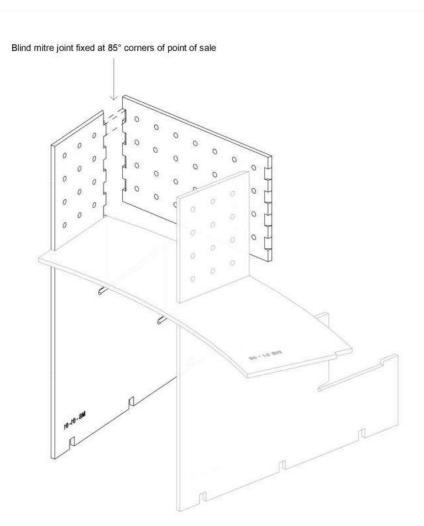
### 06.Adding P.O.S backing board

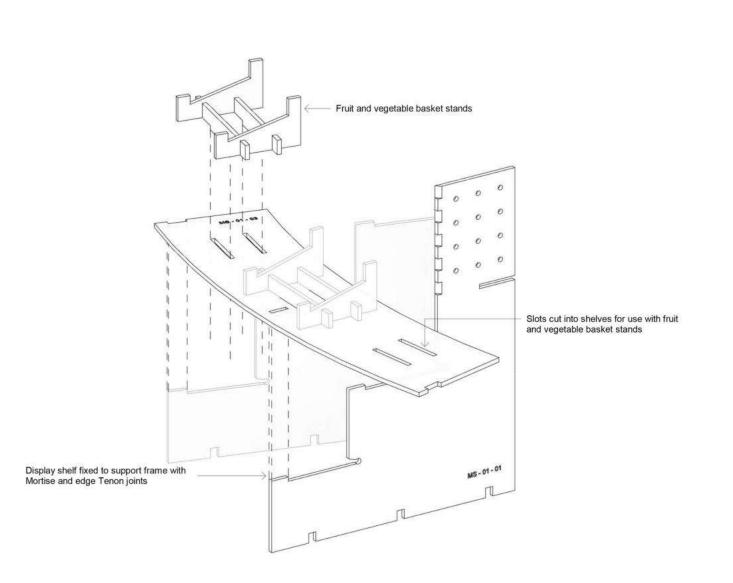


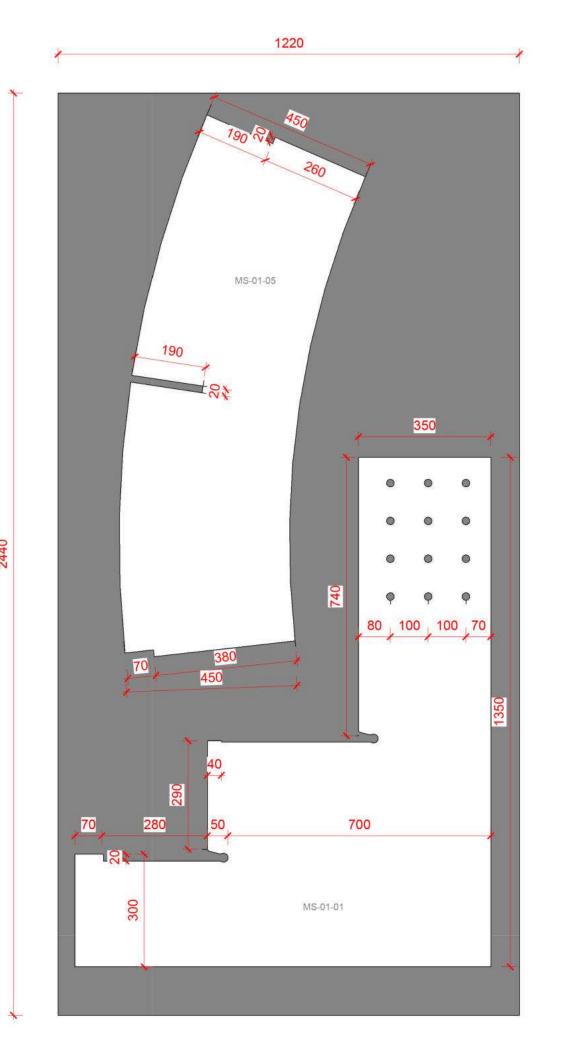
Attach loose pegboard backing board between the framed structural supports

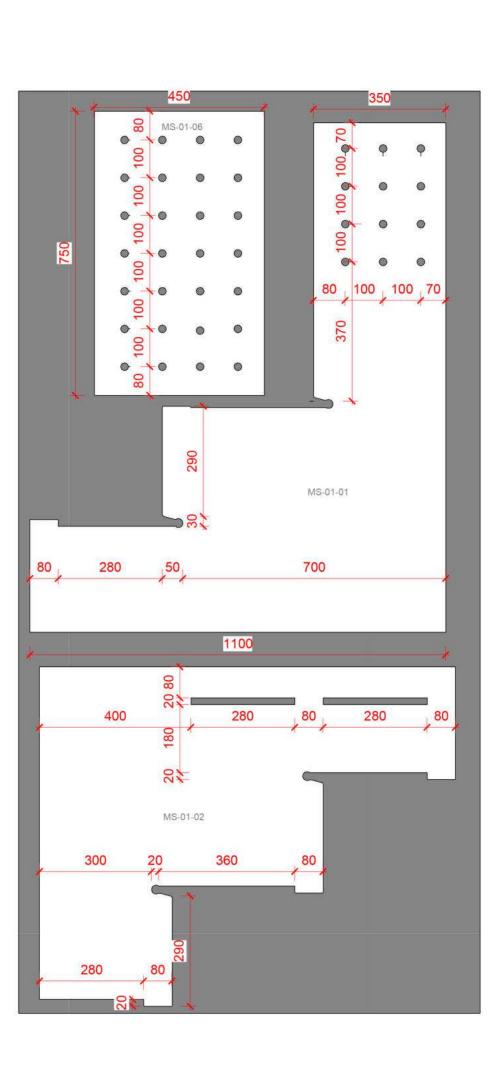


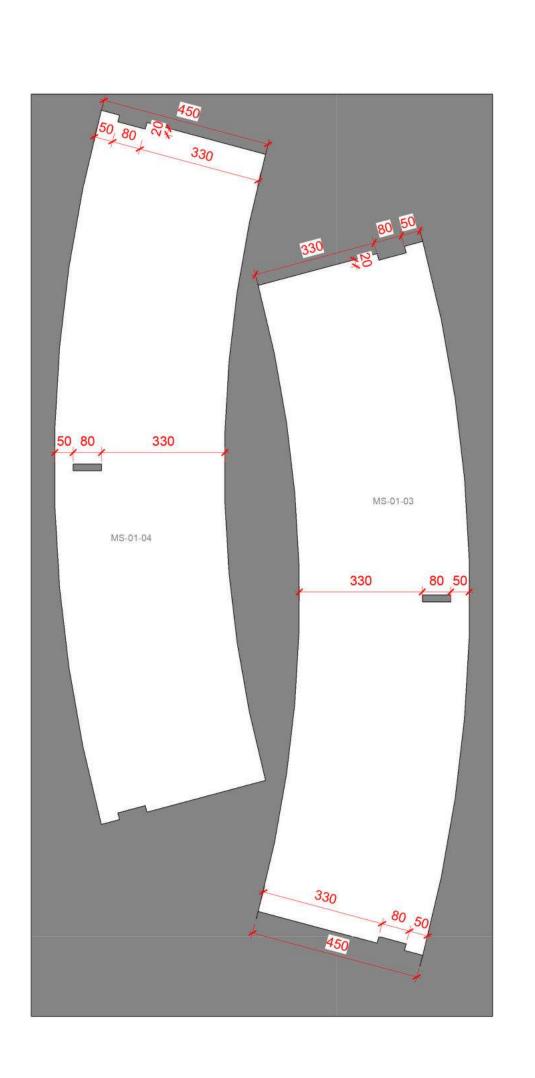












## 1 Mama Martha's Stall Kit of Parts

#### **Trading Market Stall Kit of Parts**

Naming Conventions

Market stall type - Stall number - Component piece
Foundation Base type- Stall number - Component piece

#### Market Stall Type 01 Infil Kit

Component name	Amount required per stall	Total Qty in interventoir
. MS - 01 - 01	1	8
2. MS - 01 - 02	1	8
3. MS - 01 - 03	1	8
I. MS - 01 - 04	1	8
5. MS - 01 - 05	1	8
6. MS - 01 - 06	1	8
		48

#### Market Stall Foundation Type 01 + 02 Kit

Component name	Amount required per stall	Total Qty in interventoin
1. FC - 01 - 01	3	24

#### Material Specification



21mm Marine Plywood Grade A-A finished with clear, penetrating expoxy, supplier: Silverton Houthandelaars

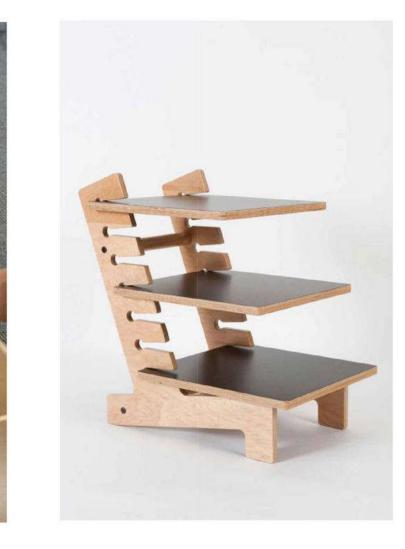


21mm Marine Plywood Grade A-A finished with clear, penetrating expoxy, supplier: Silverton Houthandelaars

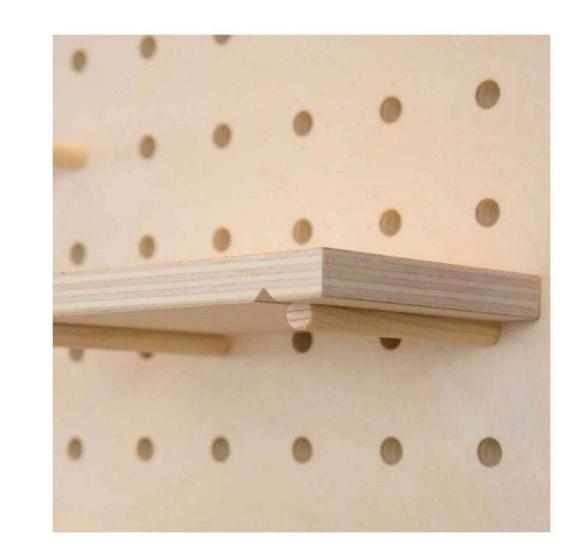
#### Reference Images



Trading stalls foundational compartments and shelves slot connection.

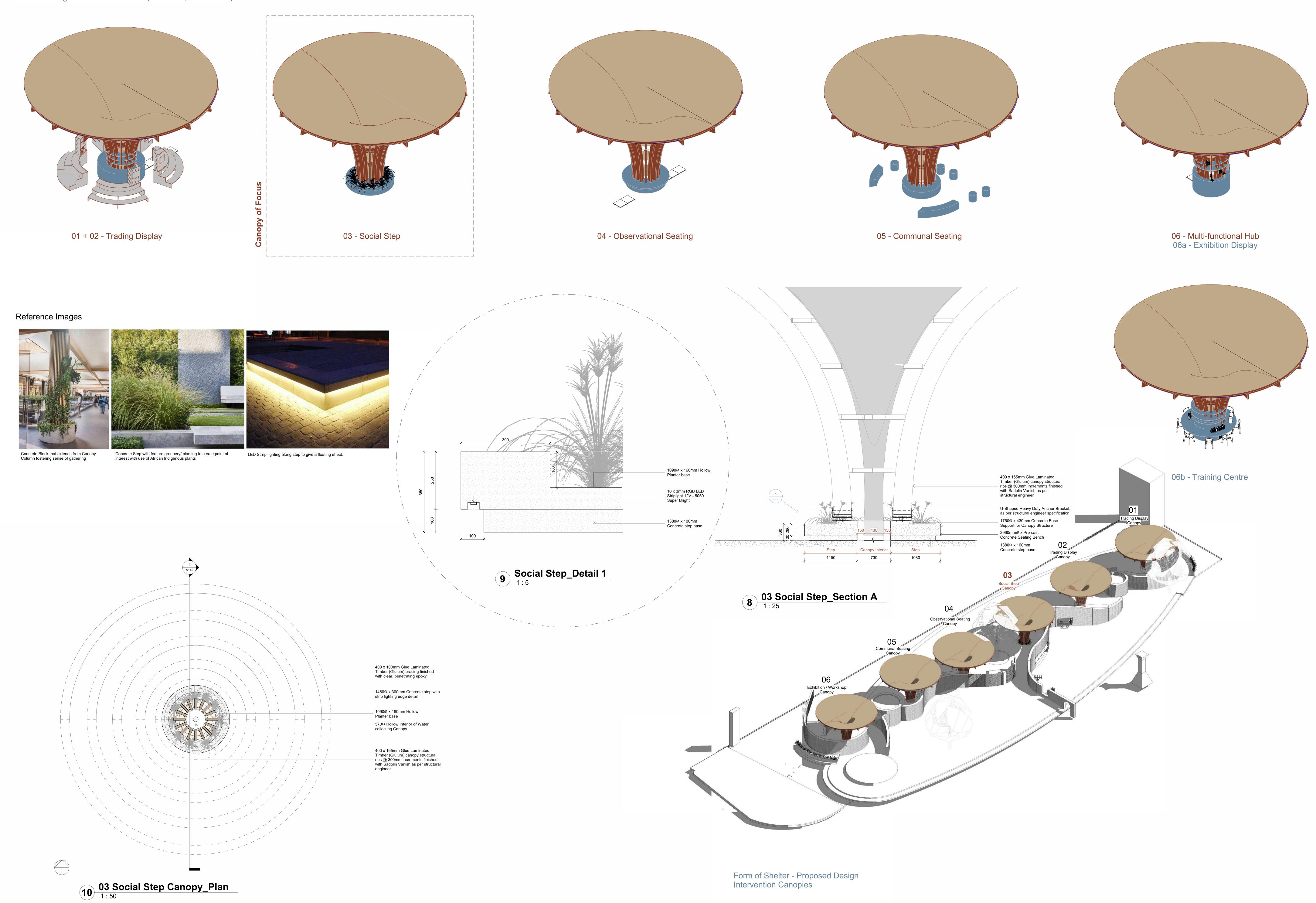


Slotting connection of display shelving with framed support.



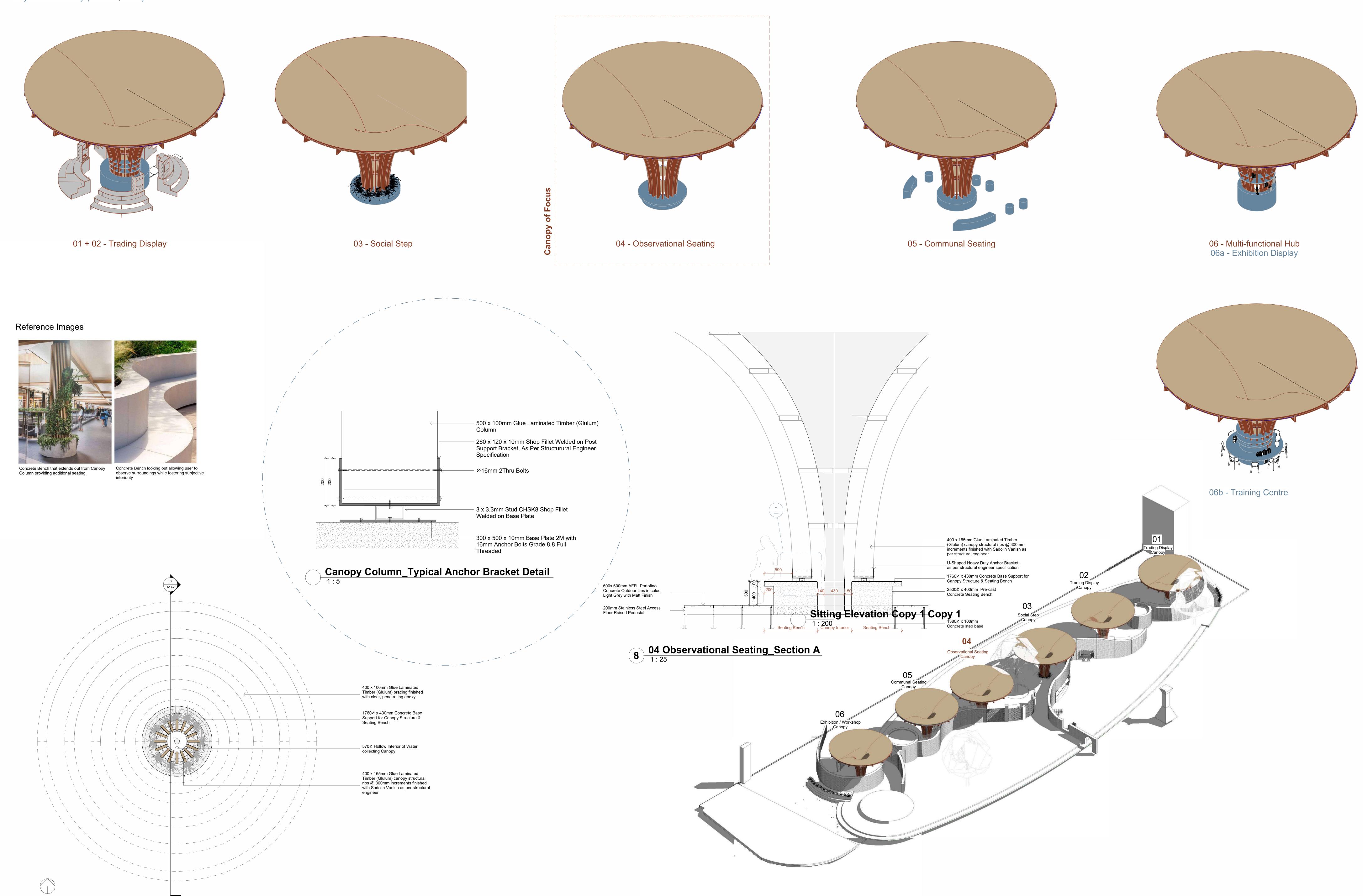
Point of sales: 21mm pedboard backing with 20ø peforation for trader signage and additional shelving display units.

Intervention Visitors- Social gathering points that take place within informal trading make-shift structures (Mokolane, 2023:53-56).



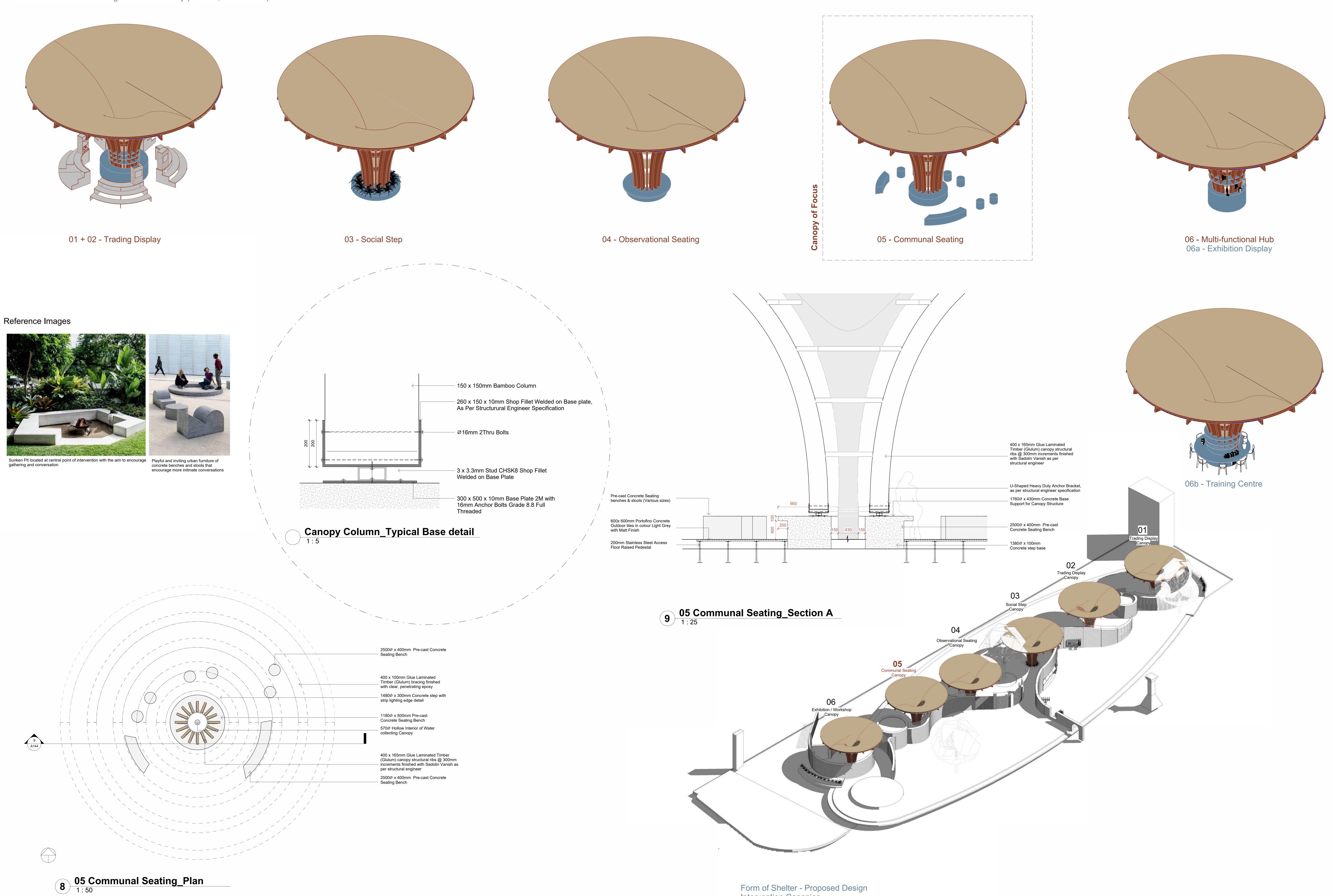
Intervention accomodating Visitors - Seating Area fostering subjective interiority (Sennett, 2016).

9 04 Observation Seating Canopy\_Section A

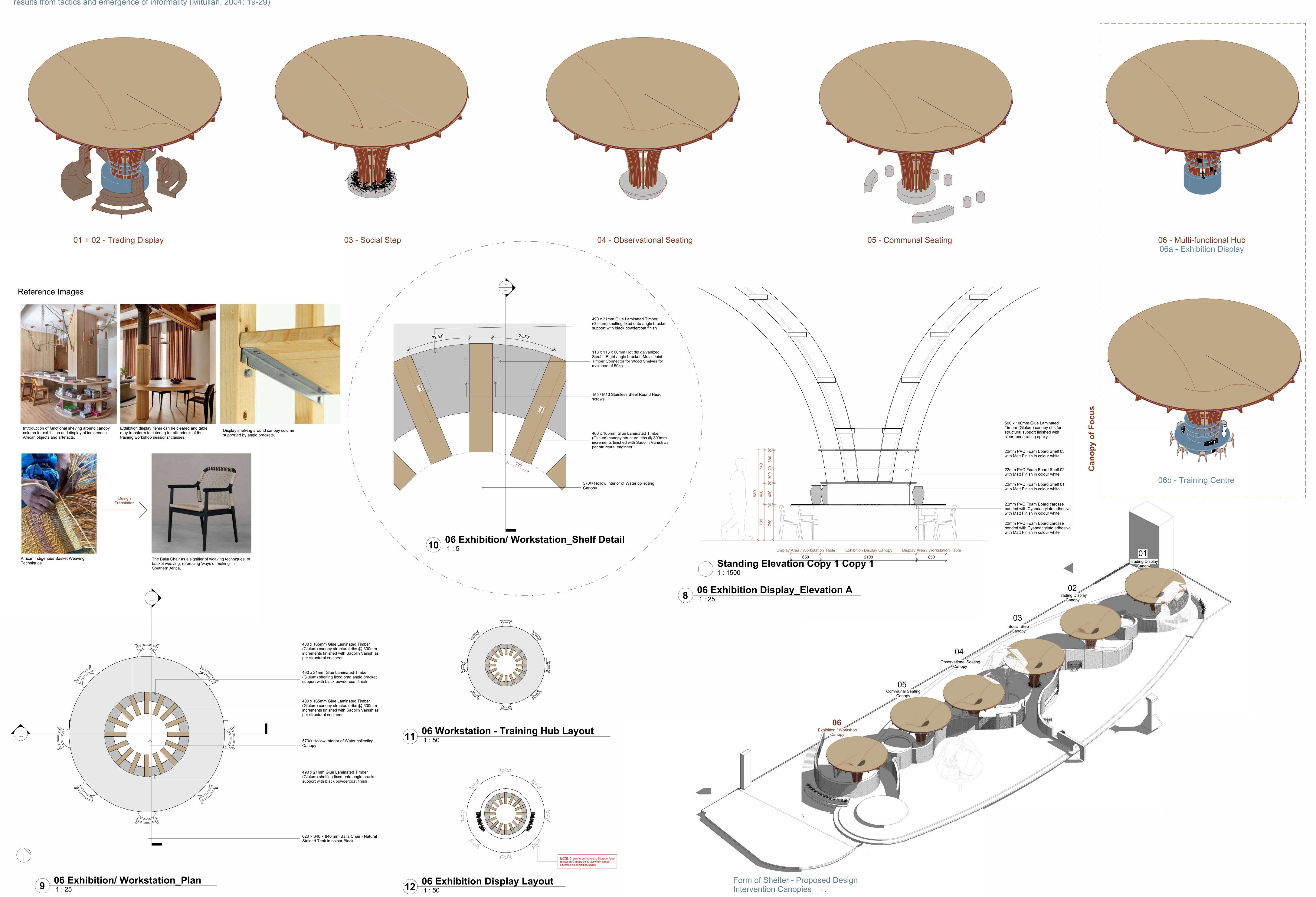


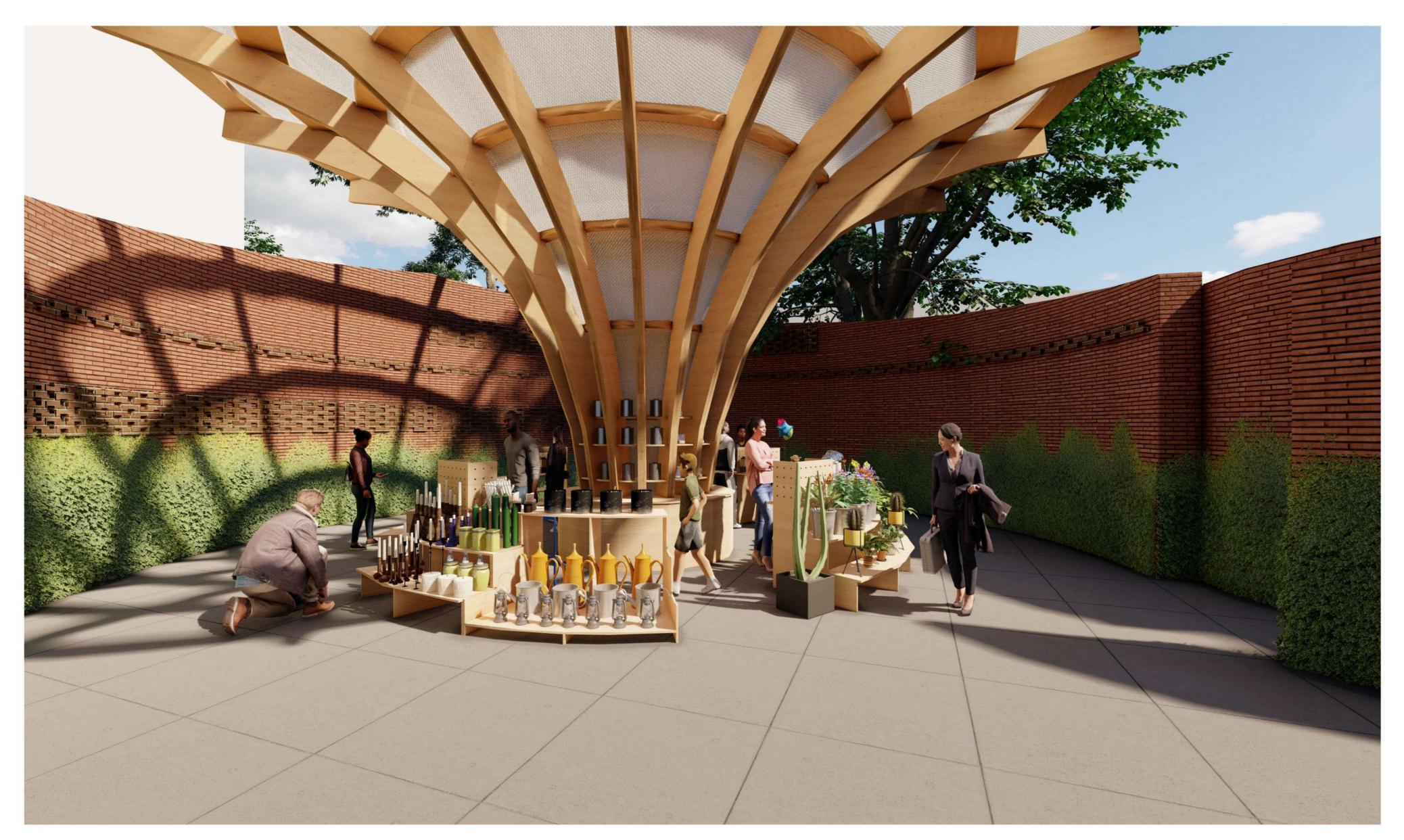
Form of Shelter - Proposed Design Intervention Canopies

Intervention Space of communing - Seating Area that foster social nature that results from tactics and emergence of informality (Mitullah, 2004: 19-29).



Intervention Space of communing - Seating Area that foster social nature that results from tactics and emergence of informality (Mitullah, 2004: 19-29)





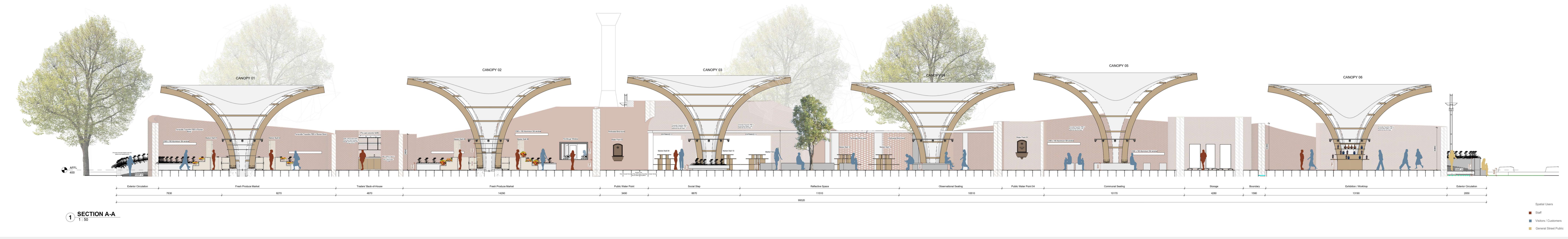
Interior perspective of main canopy of trading display and market stalls in Fresh Produce Market space.



Exterior view of approach onto Entrance 2 of the Local Arts & Crafts Market space

### RITUALS & SPATIAL PRACTICES

Spatial rituals contribute to the formation of a daily rhythm, influencing the way individuals move and occupy (Liggett & Perry, 2005:16-17) the entire intervention.



#### SPATIAL SCENARIO



Collaborator: Black Labone
Mission: Empower artists and to encourage exceptional work through collaboration

Day of the week: Thursday - Sessions are free to the public (every Thursday)

Regular events: Weekly concerts, discussions, slam poetry performances, live music, art exhibitions & Open-mic sessions
Time: 16:00 - 00:00

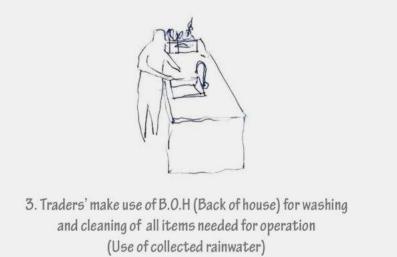
Model inhabitants use of space in intervention
Symbiotic relationship between State Theatre & intervention



Before 16:00 Fresh Producee Market - Market Trader









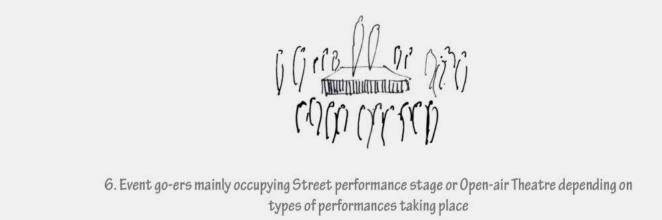
Before 18:00 (+ extends into night time)

Local Arts & Crafts Market - Market Visitors

Fresh Produce Market - Market Visitors









#### Water Reticulation Legend

Trate. I telledialien Legena		
+ + + + + + + + +	600 x 600 Galvinized Steel Access floor sub- structure forming regular grid layout	
	PVC pipe providing fresh water - Diameter of pipes to be verified by plumber on site to achieve adequate pressure of cold water supply	
	110mm dia. pvc sp laid to fall min. 1:80 for rain water collection to water filtration connection	
<b>G</b> -	110mm dia. pvc sp connection downpipe to water treatment plant	
R.E	Rodding Eye	
I.E	Inspection Eye	
	Stop Valve	
×	1200 mmx 1200mm access hatch as according to raised floor	
	2500 mmx 5000mmx 490mm water storage tank area/ positioning (Capacity = 2000L)	
	Water storange tank plumbing	

#### **Product Specifications:**



Plinth Water storage tank - 60L
Water Tank

Dimensions H 400mm x L 400mm x D
400 mm

Materials: 5mm minimum thickness
polypropylene



Booster Pump
Potable water

Dry run protection

Pumps from water treatment plant to water reticulation system



Feeder Pump
Rainwater collection

Dry run protection

Pumps water from rain water storage through the treatment plant



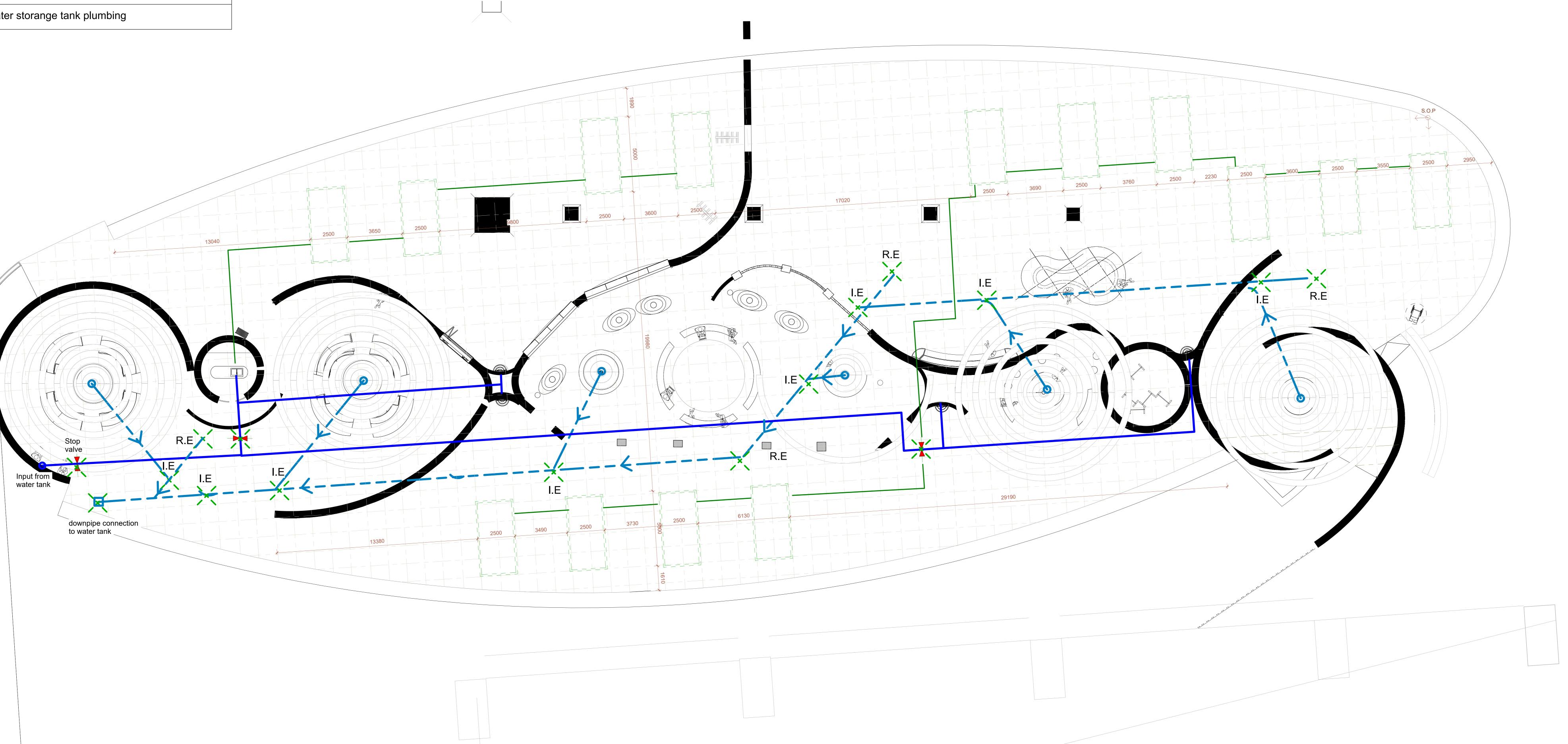
- Highest level of rain recorded in a day for Pretoria (2021): 50mm =37600L
- Wettest month: Jan 135mm=101520L
- Surface area of canopies = 752m2
- Volume of water formula calculation: Volume(L)=Depth of rainfall(mm) x Area(m2)
- Based on the info above tanks were determined as follows as well as the available space within the

plinth: 14 x 2000L tank=28000L Plinth tanks (Potable

Water calculations as per rainfall in area of Pretoria:

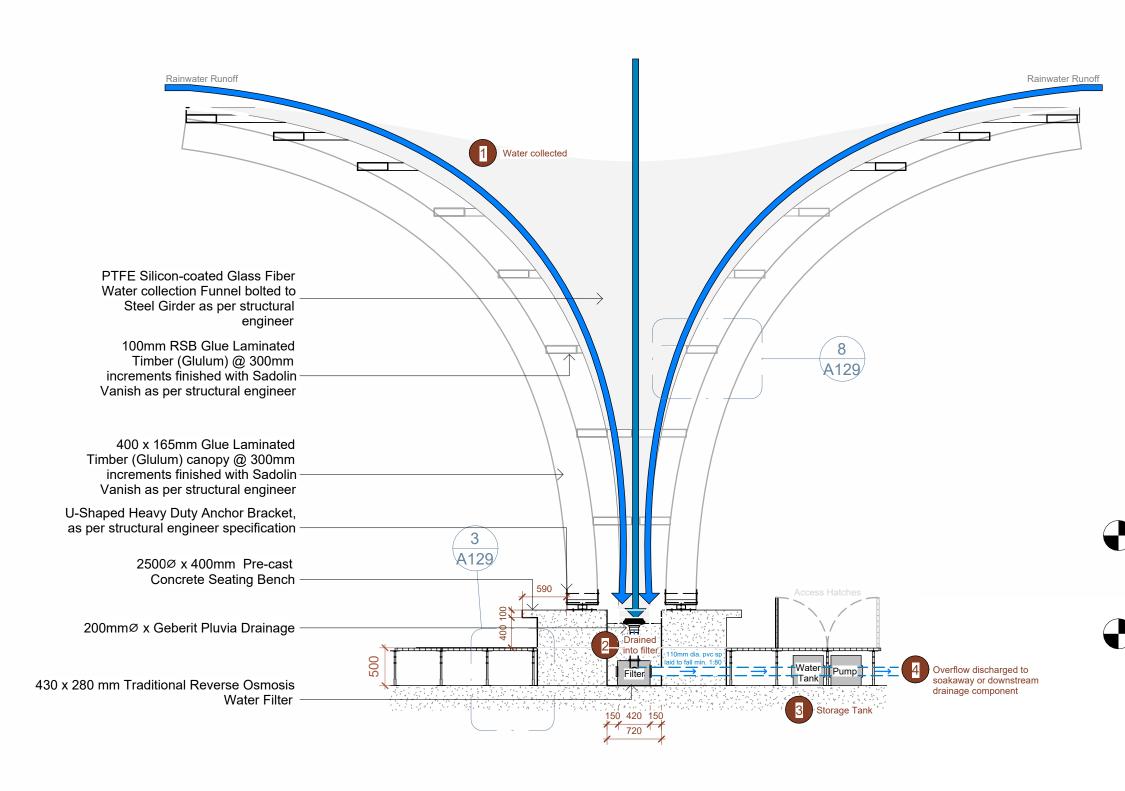
NOTE:
- Primary water source: Municality connection
- Secondary water source: Rainwater Harvesting.

water)



### RAINWATER HARVESTING

Intervention Circularity - Market Traders' source of water (Celebration of the Apies River)



04 Observational Seating Area



#### Reference Images



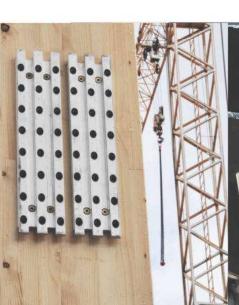
Structure of canopy with the use of Glue Laminated Timber (Glulum) as a material



Canopy Structural Components - Heavy-duty connector for mass timber construction up to 768 kN for vertical and ooverhead components



Galvanized Steel connectors for connection of Glulum bracing components

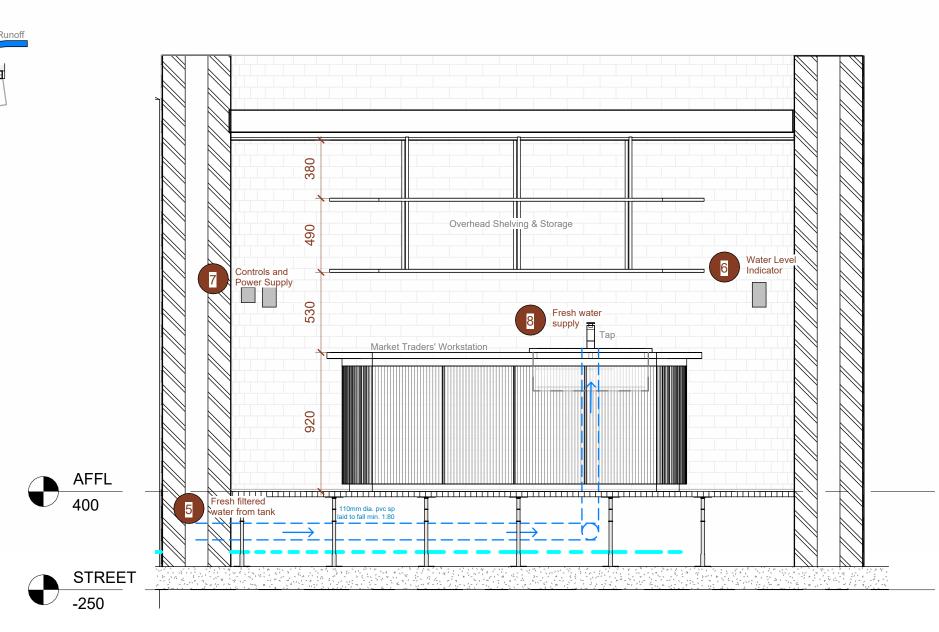


Zoomed-in view of timber

connector

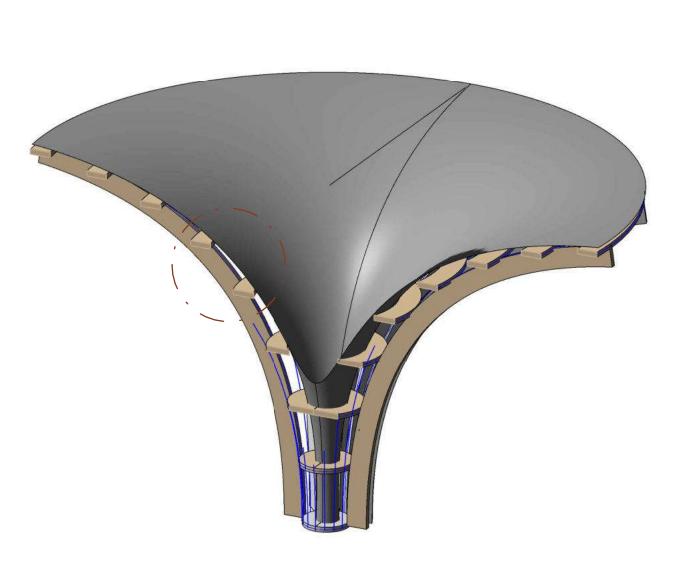


Heavy-duty connector for application on vertical glulum structural components



Traders' B.O.H (Back-of-House)

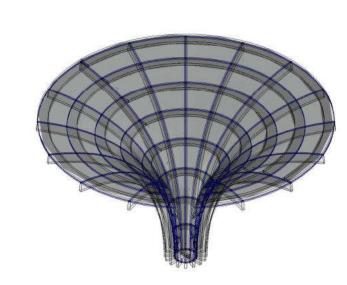




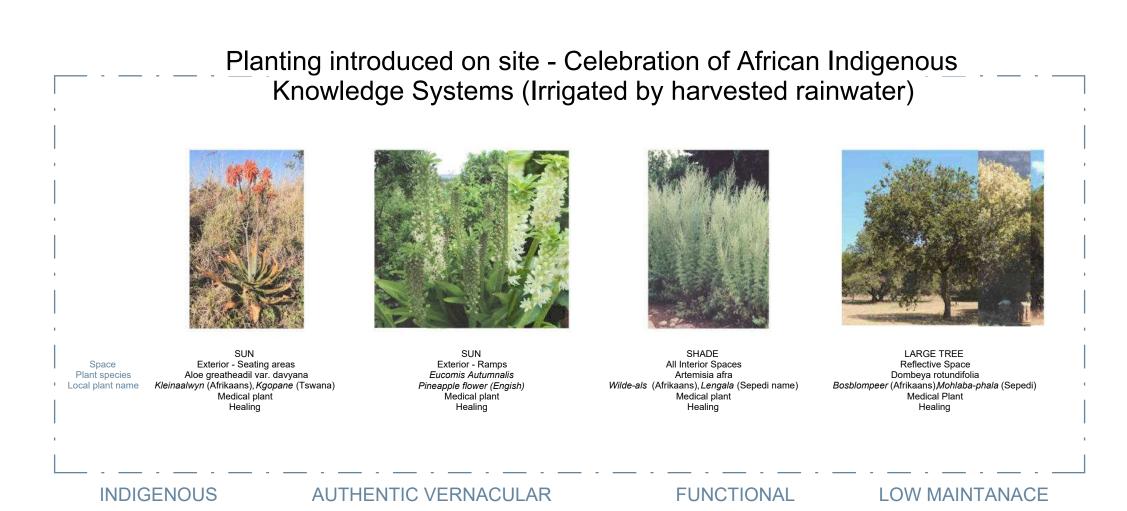
7 Typical Canopy\_Connections

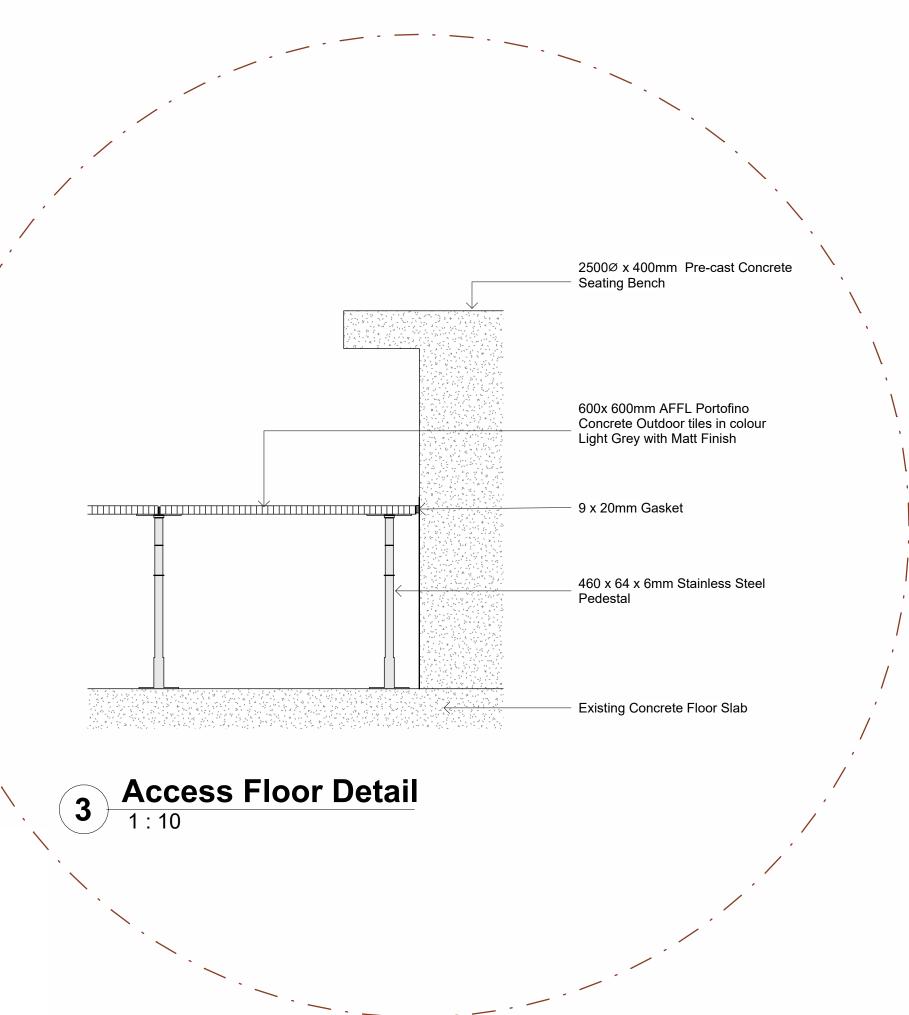


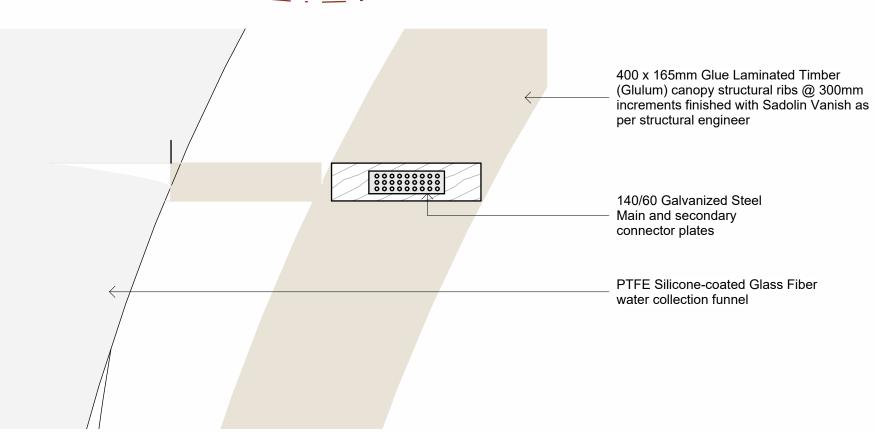
Typical Canopy\_Top View

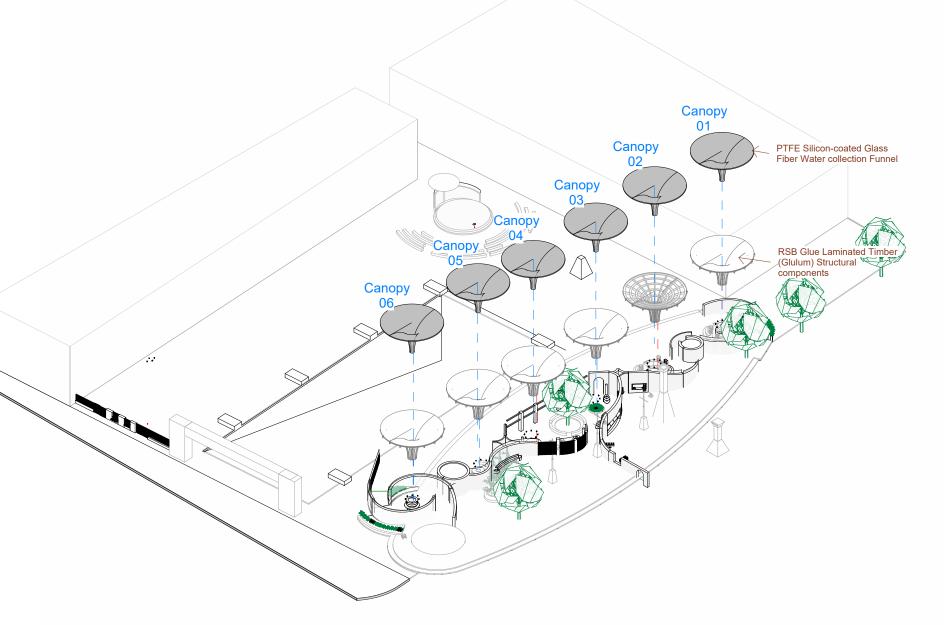


Typical Canopy\_Bottom View



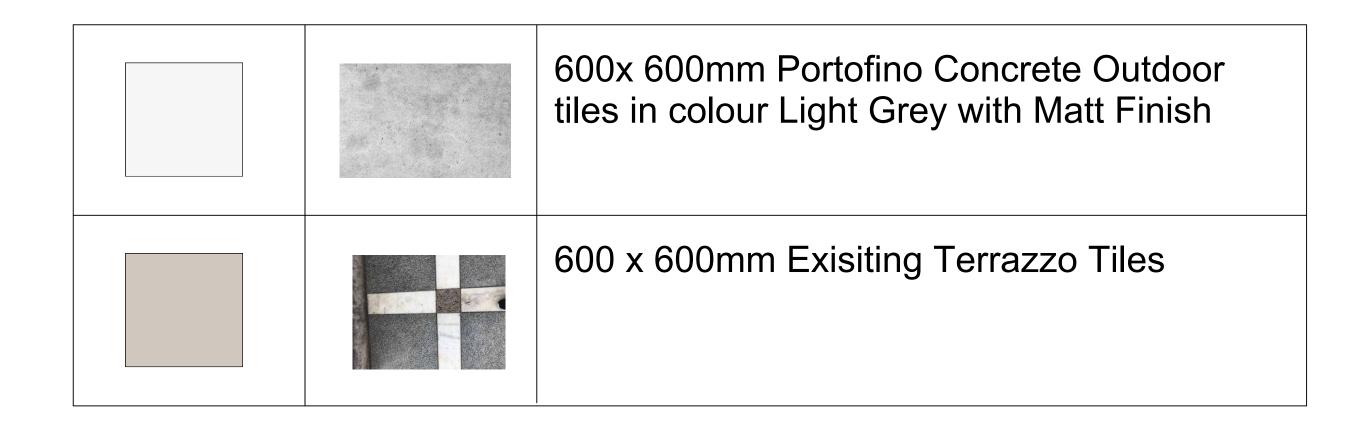


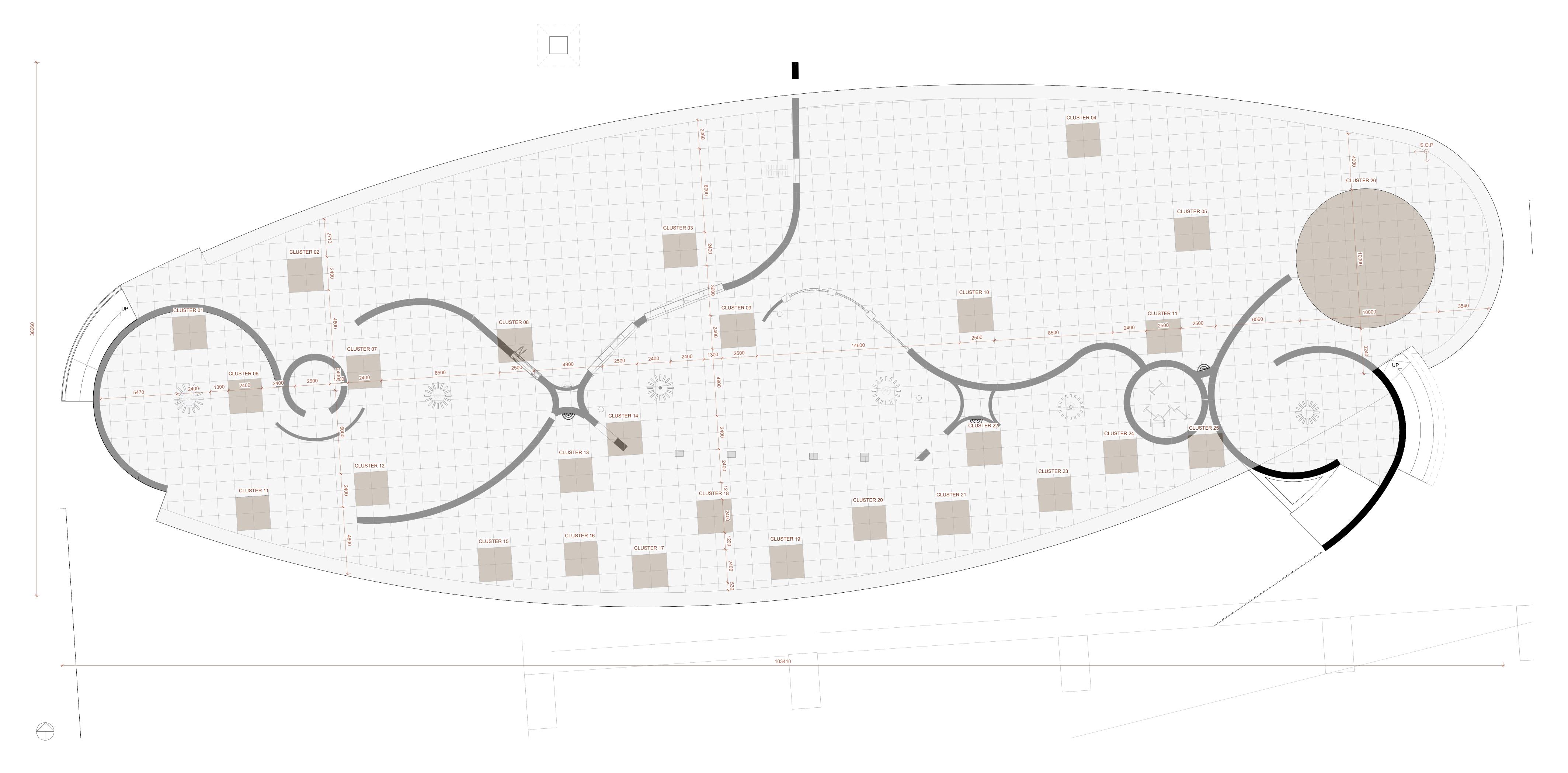






8 Canopy Bracing Detail
1:10

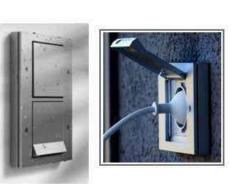




#### Electrical Reticulation Legend

50MM DIA. PVC SLEEVE FOR ELECTRICAL POWER
LED AMBIENT LIGHITNG
POWER SUPPLY CONNECTION
WALL MOUNTED SPOT LIGHT
FLOOR MOUNTED DOUBLE PLUG
DOUBLE 15 AMP PLUG @ 300mm ABOVE FFL TO BOTTOM OF PLUG
1200 MMX 1200MM ACCESS HATCH AS ACCORDING TO RAISED FLOOR
DISTRIBUTION BOARD

#### **Product Specifications:**



Wall mounted plugs:
Gira TX\_44 socket outlets.

Dimensions: H 157mm x W 110mm x D 16,3mm

IP 44 protection against splash water

Theft-proof

Materials: aluminium (lacquered)



LED Driver

10W LED Dimmable Driver

IP 20 rating

Input: 220 - 240v

Output: 12vDC

Amperage: 350mA



Floor mounted plugs:
Aluminium Module Floor Socket

Dimensions H 157mm x W 110mm x
D 60 mm

IP 44 protection against splash water

Theft-proof

Materials: aluminium (lacquered)



LED lighting
230v 4.8W 60 LEDs SMD per mete

Dimensions: H 7mm x W 11mm

IP 65 rating

Kelvin/Lumen: Warm White: 3000K / 390lm per meter

Materials: Silicone Covered Flexi Strip

Wattage: 230 V 4.8W/m



Wall mounted spot lights:
Aluminium

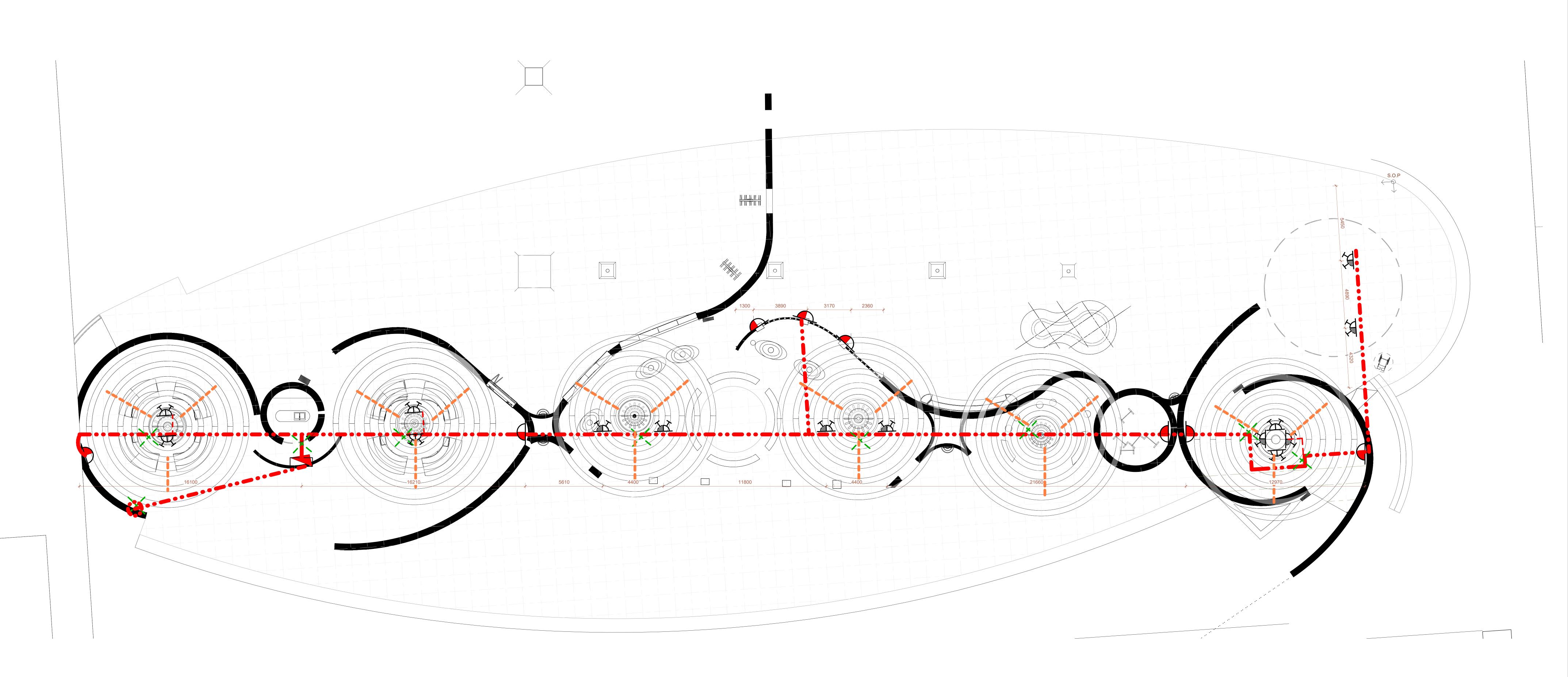
Dimensions H 10mm x W 10mm x
D 10 mm

IP 54 rating

Kelvin/Lumen: Warm White: 3000K / 310lm

Materials: Die Cast Aluminium

Wattage: 230V 6w

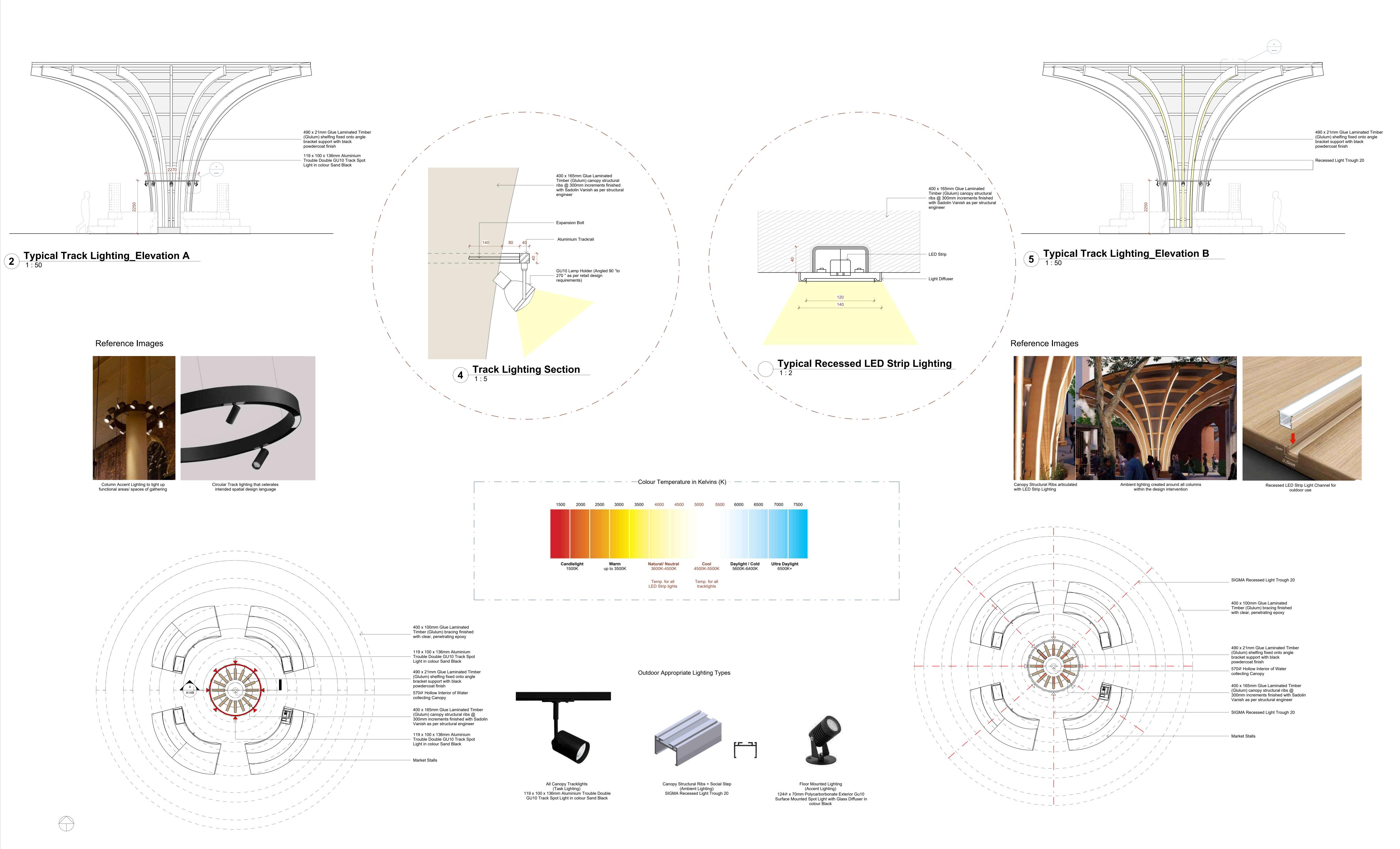






### LIGHTING DESIGN

Intervention Circularity - Market Traders' source of water (Celebration of the Apies River)





Exterior view of approach to entrance 2 and 3 from street interface.

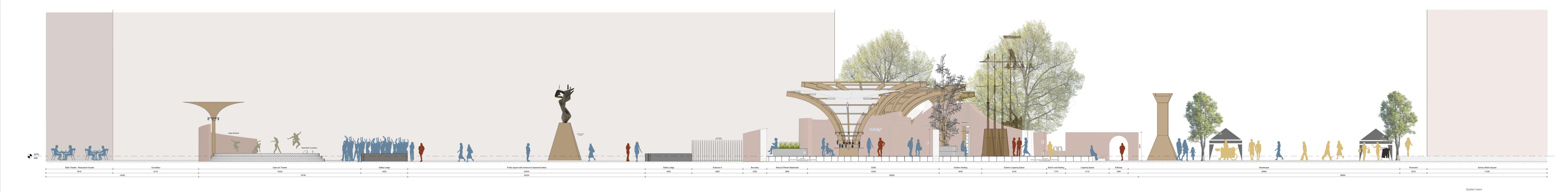


Interior view of gathering space of Local Arts & Craft Market: Trading activities transitioning from dat to night

### FORMAL VS INFORMAL

1 SECTION B-B

Fostering a symbiotic relationship between formal and informal infrastructure involves integrating the creative tactics of informal traders into the broader strategies of formal urban built form of the State Theatre (de Certeau, 1998:19)







Collaborator: South African State Thetre
Mission: Serves to fosters artistic expression, creativi-

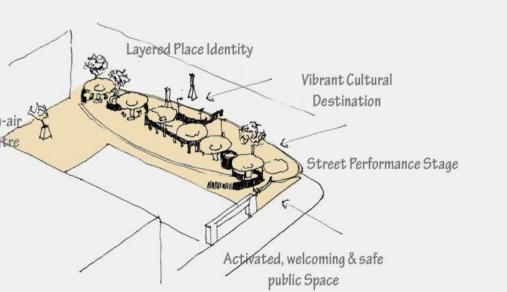
ty, and community engagement through diverse performances, exhibitions, and events. Day of the week: Saturday (Evening theatre productions) Regular events: Open-air theatre events/ performances

Time: 16:00 - 21:00

Model inhabitants use of space in intervention

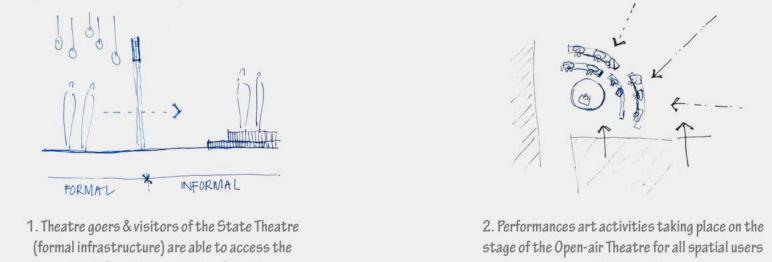
Symbiotic relationship between State Theatre & intervention



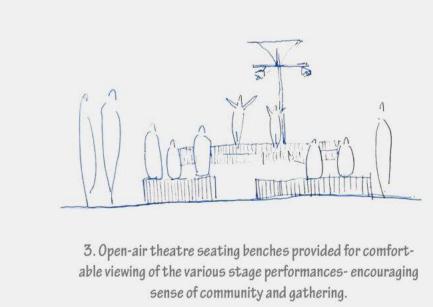


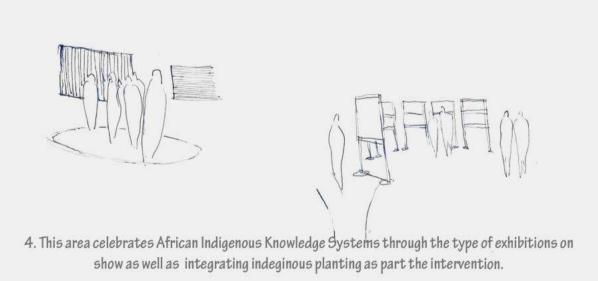
After 17:00 Open-aait theatre active

square from the restaurant facade.



to experience.

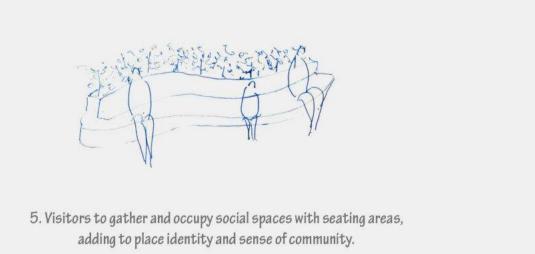




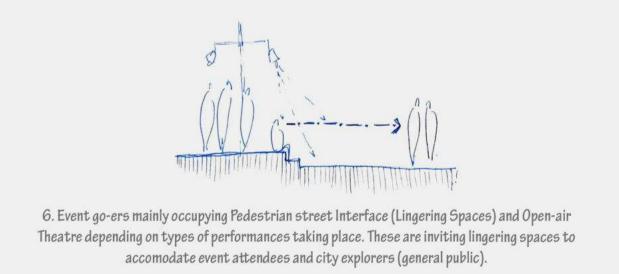
After 17:00 (+ extends into night time)

Approach into Exhibition space





After 17:00 (+ extends into night time)





Staff

Visitors / Customers

General Street Public

Artists & Performers