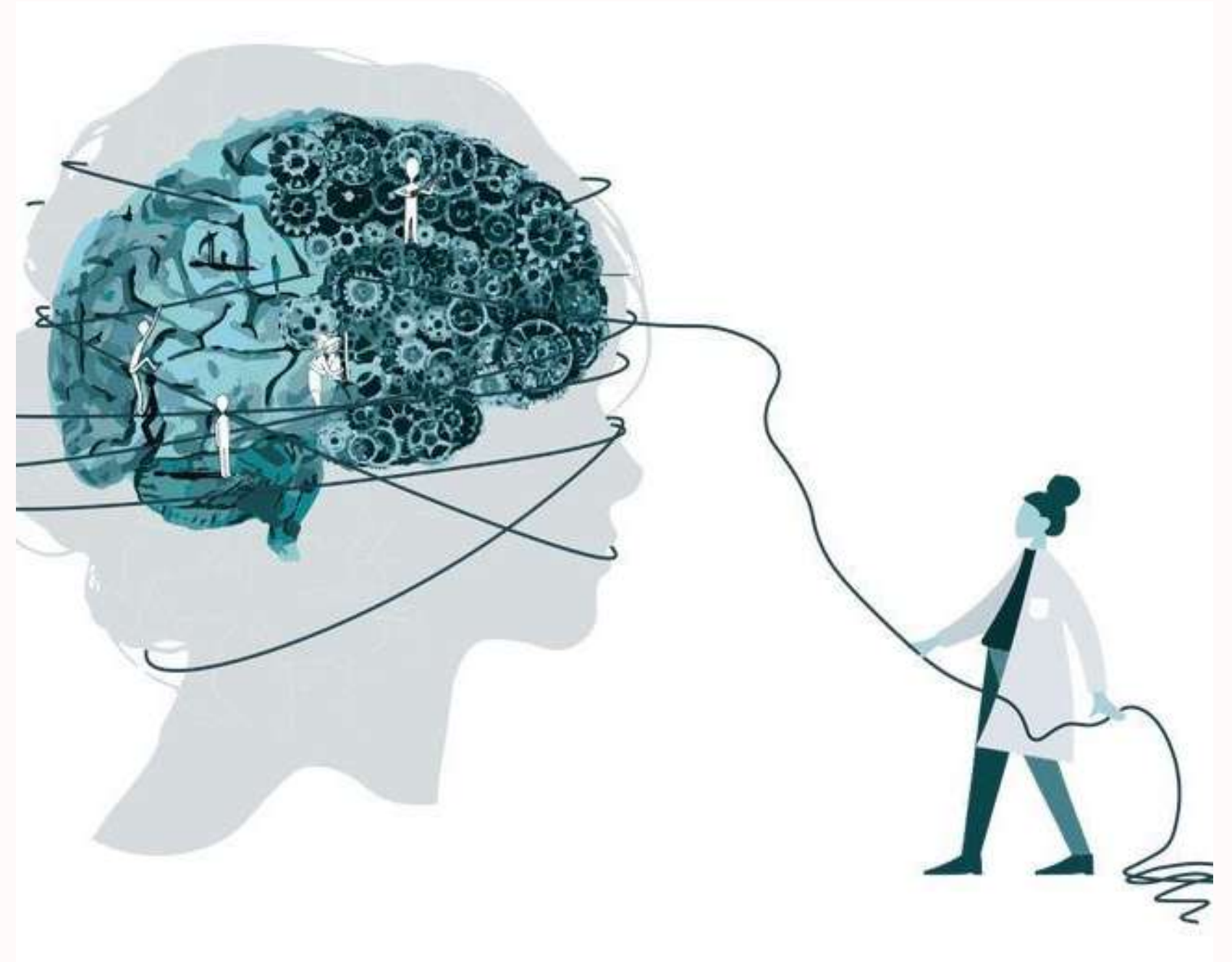


PSYCHOLOGICAL BALANCE CENTER

INTRODUCTION

In a fast-paced world full of digital stimuli and daily pressures, people often lose their natural connection with themselves, leading to accumulated mental and psychological fatigue.

The aim of this project is to create a dedicated space for restoring inner calm and mental balance through a sensory environment based on elements of nature, light, sound, and material.



The Mental Balance Restoration Center aims to provide an integrated therapeutic environment that supports the restoration of balance between the psychological, sensory, and physical aspects of the individual. This is achieved through carefully designed spaces that promote calmness, contemplation, and temporary detachment from daily life stressors. The center enhances mental health and overall well-being through spatial experiences rooted in nature, rhythm, and positive solitude, contributing to stress reduction and inner stability.

THE MAIN FUNCTIONS OF A PSYCHOLOGI CAL BALANCE CENTER



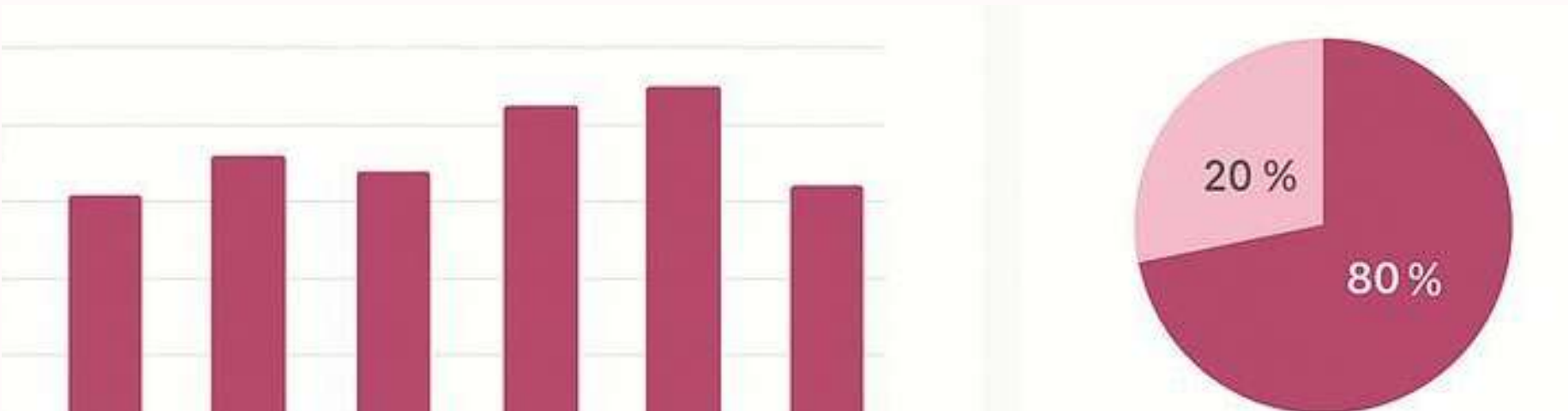
TARGETED GROUP

The Mental Balance Restoration Center targets individuals experiencing psychological stress, emotional exhaustion, or imbalance caused by modern life pressures, including students, professionals, and individuals seeking mental clarity, relaxation, and emotional recovery. The center also serves people interested in self-reflection, mindfulness, and preventive mental well-being practices.



SURVEY KEY FINDINGS

User Insights that Shaped the Design Concept



01 | Need for Restoration

45.6% weekly visits
17.5% daily visits
→ Strong demand for accessible relaxation environments that support regular mental recovery.

02 | Experience Preference

56.1% hybrid experience (calm + social)
31.6% prefer calm-only spaces
→ The design should balance solitude with controlled interaction.

03 | Main Psychological Needs

Calmness **(45%)**
Change of atmosphere **(38%)**
Privacy **(30%)**
Safety **(27%)**
Social interaction **(11%)**
→ Emotional comfort outweighs social engagement.

04 | Nature Importance

56.1% very important
35.1% important
→ Nature is a core restorative element in spatial experience.

05 | Comfort Drivers

Comfortable seating **(43%)**
Natural lighting **(35%)**
Calm colors **(35%)**
Open spaces **(34%)**
Natural materials **(23%)**
→ These elements define the sensory quality of the design.



ANIMAL-FRIENDLY SPACE SURVEY

01 | Stress Reduction & Animals

61% believe animals reduce stress

36.6% believe they help to some extent

→ Animals are strongly associated with emotional comfort and relaxation.

04 | Organization & Spatial Separation

47.6% believe animal integration depends on proper organization

66.7% prefer the animal zone to be separated from the main center

→ Spatial control and privacy are essential for user comfort.

02 | 01 | Preference for Quiet Animal Spaces

58.5% prefer a quiet cat area

40.5% chose cats as the preferred animal type

→ Calm animal-assisted environments were favored over highly active interaction.

05 | Overall Experience Preference

39% prefer a balanced experience

34.1% prefer a quiet cat-only room

19.5% prefer a center without animals

→ Users generally favored optional and controlled interaction rather than fully animal-centered spaces.

03 | Preferred Relaxation Activities

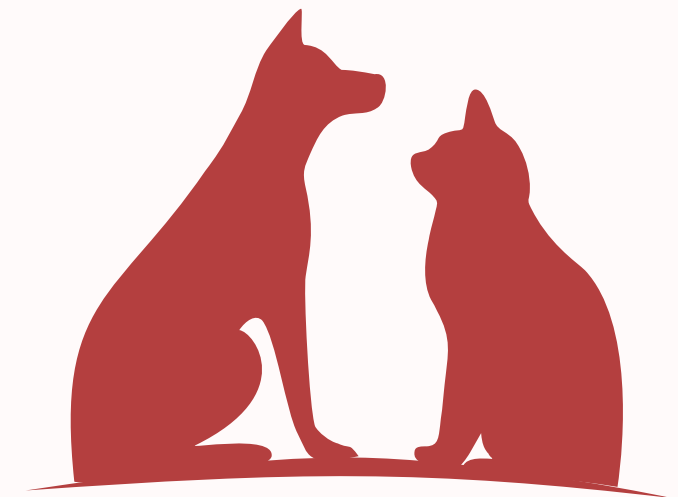
Walking in nature **(29%)**

Quiet seating areas **(25%)** Tea / coffee experience **(21%)**

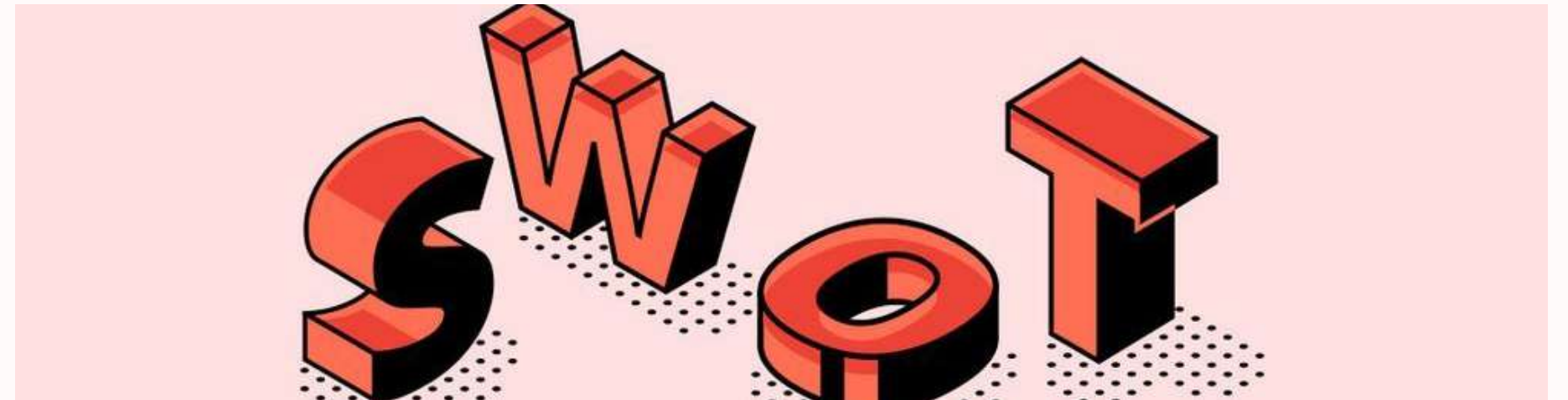
Interaction with pets **(19%)**

Group activities **(7%)**

→ Users showed stronger preference for peaceful and sensory-oriented experiences.



SWOT ANALYSIS



- **Strengths**

- Unique mental wellness concept
- Strong connection to Wadi Rum's nature
- Immersive healing experience
- Sustainable and eco-friendly design
- Strong architectural identity

- **Weaknesses**

- Harsh desert climate
- Relatively remote location
- High construction and maintenance costs
- Limited water and vegetation resources
- Serves a specific target group

- **Opportunities**

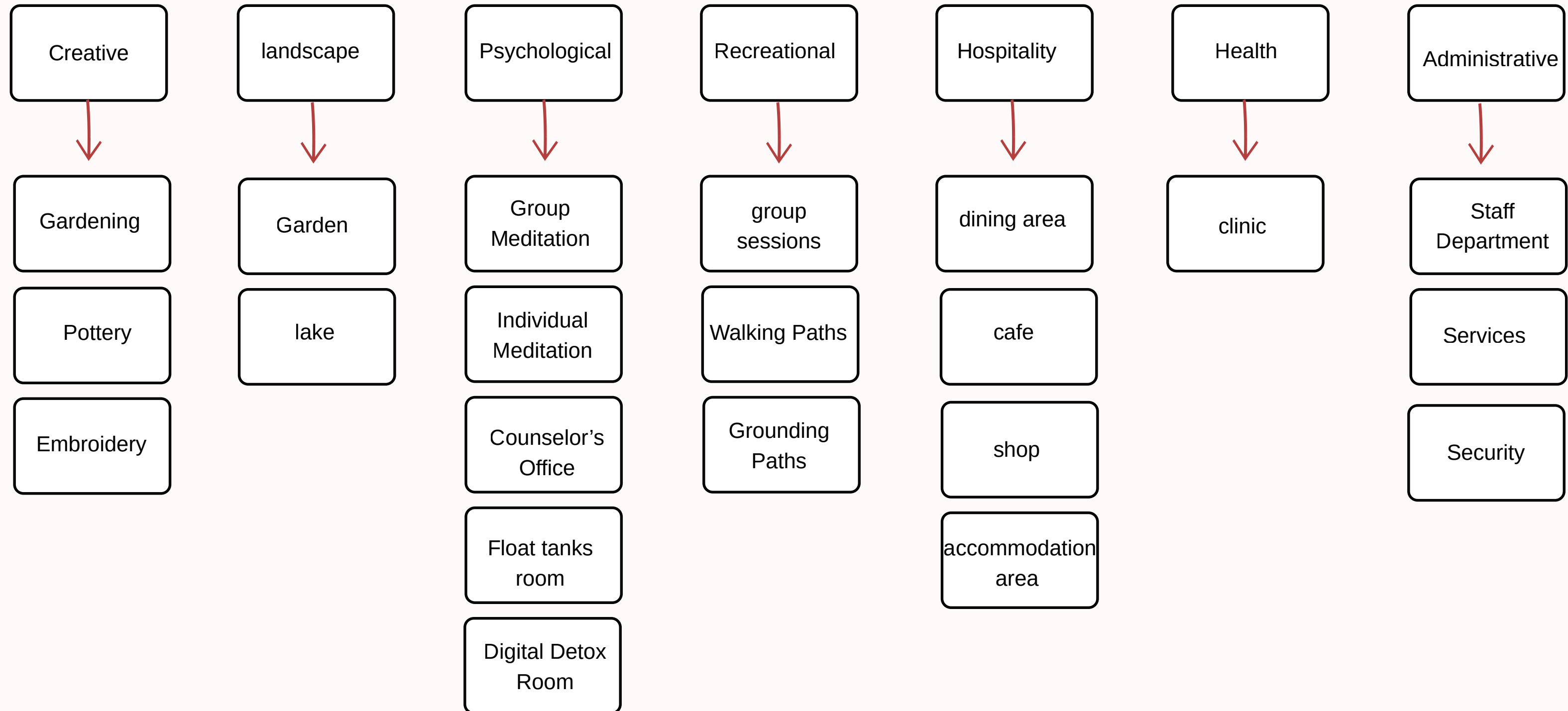
- Growing awareness of mental health
- * Rising wellness tourism trends
- * Potential to become a unique healing destination
- * Alignment with global sustainability goals
- * Attraction for visitors seeking peace and isolation

- **Threats**

- Climate change and extreme heat
- Environmental restrictions in protected areas
- Competition with luxury wellness resorts
- Economic and tourism fluctuations
- Risk of harming the natural environment

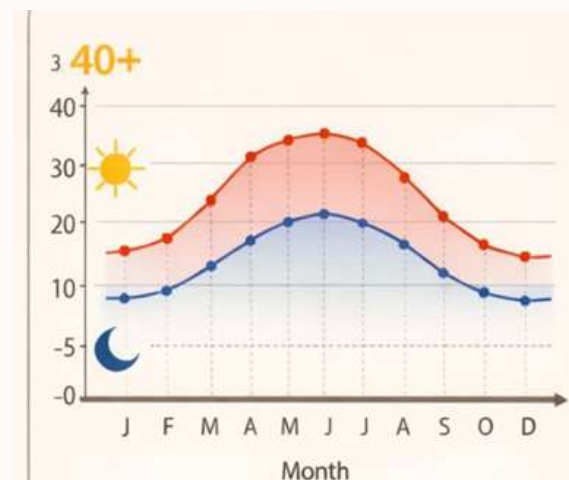
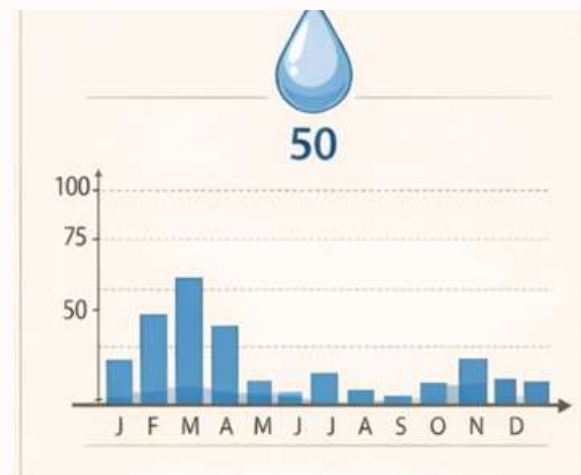


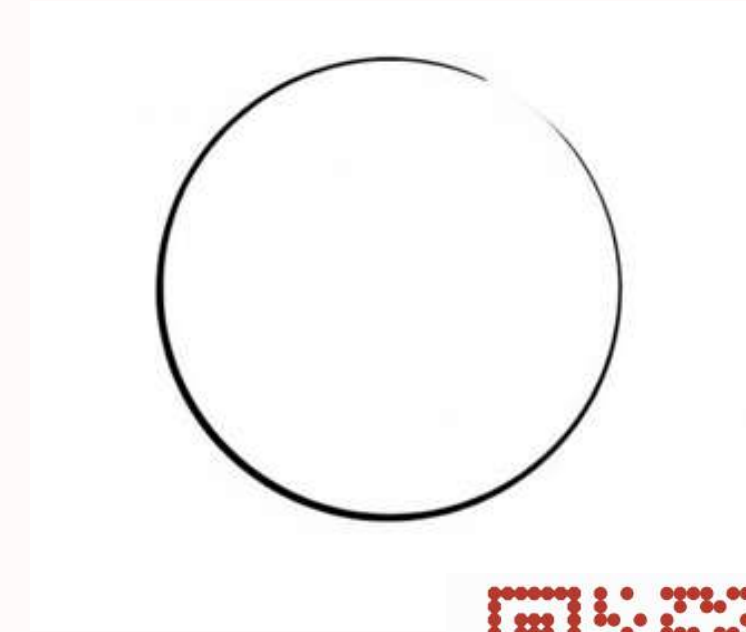
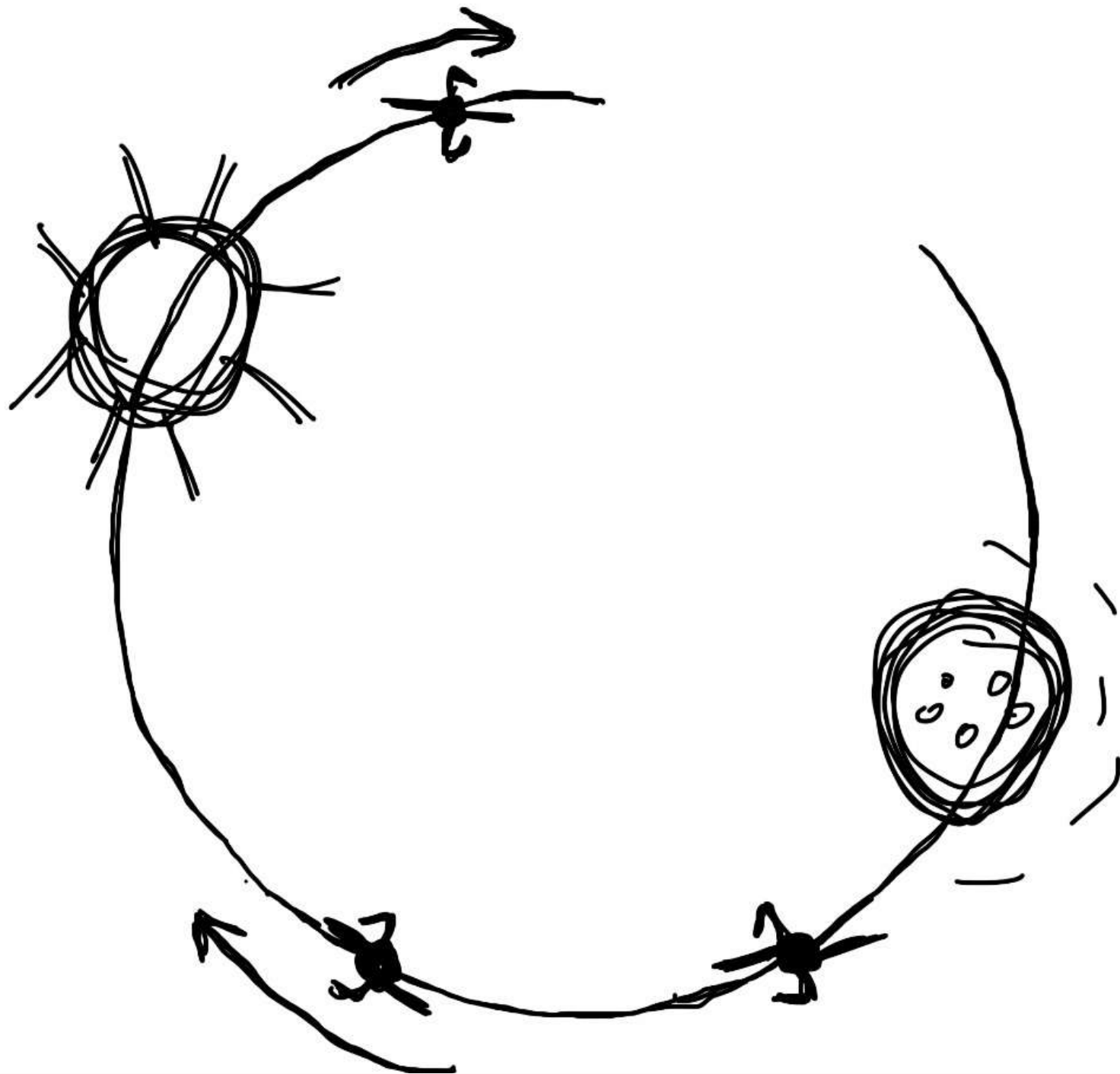
PROJECT HIERARCHY



SITE ANALYSIS

The site at 29°22'22"N, 35°21'04"E is located in the heart of Wadi Rum, Jordan, within a vast desert featuring rocky terrain and sand dunes. It is close to Rum Village and the Wadi Sabet Viewpoint, offering scenic value and relatively flat topography with surrounding rocky hills, which facilitates the layout of buildings.



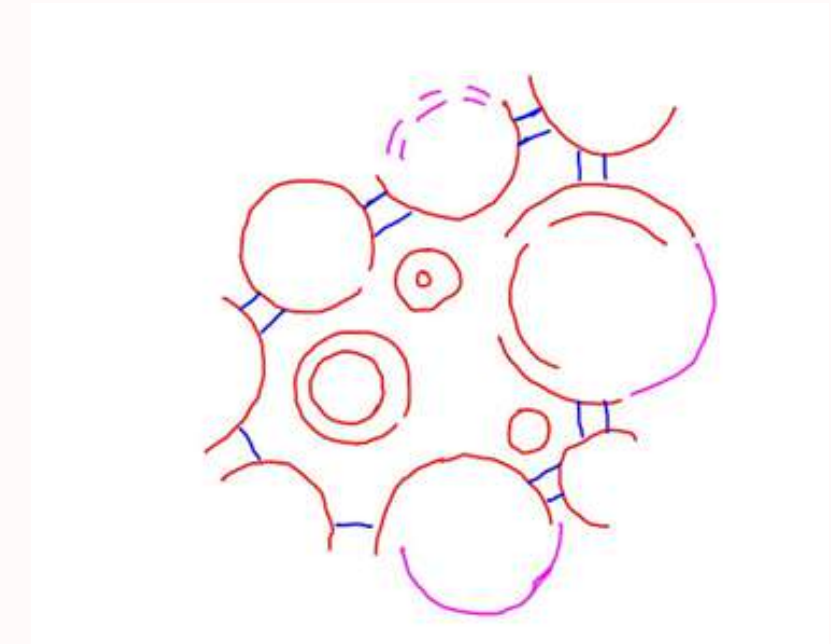


CONCEPT

This project draws inspiration from the cosmic duality of the sun and moon, using the day-night cycle as a natural system reflecting the balance between activity and calm, light and shadow, wakefulness and rest. The sun symbolizes energy and vitality, while the moon represents calm and inner reflection, together mirroring the natural flow between work and rest.



ARCHITECTURAL REFLECTION OF THE CONCEPT



The building was chosen because it aligns with the project's design concept, reflecting the sun and moon cycle as a dynamic cosmic system. The design relies on incomplete circular forms, expressing that psychological balance is not a fixed state but a dynamic process in which individuals fluctuate between harmony and disturbance according to their psychological and environmental conditions. These open forms allow light and shadow to flow, enhancing inner harmony and the experience of continual temporal movement.





MADAR

Mental Balance Restoration Center

CONCEPTUAL NAMING

The name “MADAR” was chosen to express the core essence of the project as a state of continuous movement rather than stability.

Derived from the concept of an orbit, the name reflects the idea of the human experience as an ongoing journey revolving between opposing states between stillness and disturbance, calm and intensity.

“MADAR” embodies the notion that individuals exist within a constant cycle, where balance is not a fixed condition, but a dynamic process of shifting, adapting, and returning.

Just as an orbit is never static or complete, the name captures the fluid nature of inner balance, representing a perpetual motion through contrasting psychological states.



MOOD BOARD

An interactive survey was conducted to identify the colors most psychologically comforting for the Wadi Rum environment. The results showed a preference for warm, natural, and calming colors. Based on this, colors inspired by nature were selected, with a focus on light terracotta tones to enhance psychological comfort and create a harmonious atmosphere within the building.





SPATIAL INSPIRATIONS



SUSTAINABILITY GOALS



15 LIFE ON LAND



The project focuses specifically on Sustainable Development Goal 15 (Life on Land), by reducing intervention in the sensitive desert environment, preserving biodiversity, and integrating the building with the natural context of Wadi Rum. This ensures the sustainability of the ecosystem while enhancing the users' experience, through:

Protecting wildlife

- Using low-level, environmentally friendly lighting (Dark Sky Design)
- Avoiding strong lighting that disrupts nocturnal life

Integrating with the environment

- Using local materials to enhance harmony with the site
- Adopting colors inspired by the desert environment
- Designing architecture that blends with nature rather than dominating it

Protecting vegetation cover

- Relying on native plants adapted to the desert environment
- Avoiding the introduction of invasive species
- Reducing water consumption and using sustainable irrigation solutions



GREYWATER TREATMENT SYSTEM

WELLNESS RETREAT – WADI RUM, JORDAN



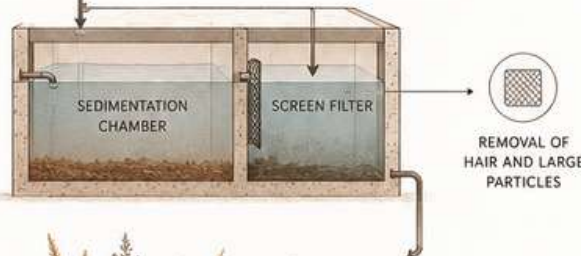
1 GREYWATER COLLECTION

Wastewater generated from sinks, showers, and wash basins.



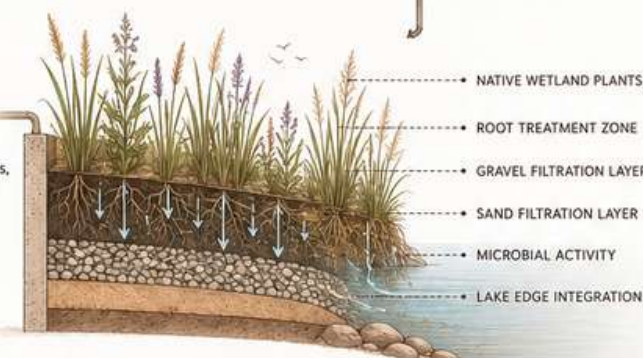
2 PRE-FILTRATION CHAMBER

Removes suspended solids and large contaminants before biological treatment.



3 CONSTRUCTED WETLAND EDGE

Natural treatment through plant roots, microorganisms, gravel, and sand filtration before entering the lake ecosystem.



4 TRANSITION ZONE

Additional natural purification before entering the main reflective lake.



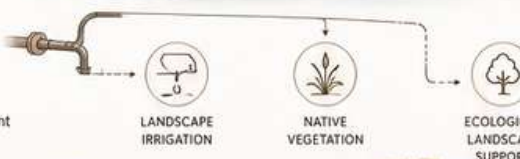
5 MAIN LAKE

Naturally treated water supports the lake ecosystem and enhances the therapeutic landscape experience.



6 WATER REUSE

Treated greywater is reused for irrigation and environmental enhancement throughout the site.



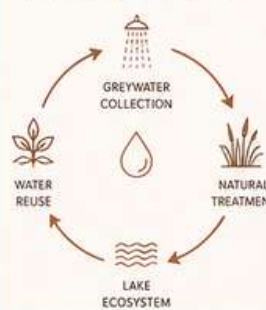
SYSTEM BENEFITS

- WATER CONSERVATION
- REDUCED FRESH WATER DEMAND
- LOW ENERGY CONSUMPTION
- SUSTAINABLE LANDSCAPE IRRIGATION
- INTEGRATED LAKE ECOSYSTEM
- ENVIRONMENTALLY FRIENDLY SOLUTION
- SUITABLE FOR DESERT ENVIRONMENTS

TECHNICAL NOTES

- System relies on natural biological processes.
- Native plants improve filtration efficiency.
- The wetland is integrated into the lake design.
- Low-maintenance treatment strategy.
- Supports the project's closed-loop water cycle.
- Reduces water consumption and environmental impact.

CLOSED-LOOP WATER CYCLE



NATURAL SOLUTIONS. HARMONY WITH THE LANDSCAPE.
SUSTAINABLE WELLNESS.



GREYWATER MANAGEMENT

Source:

- Sinks
- Showers
- Wash basins

Treatment:

- Simple pre-filtration
- Constructed Wetlands

Reuse:

- Landscape irrigation
- Support of the lake ecosystem

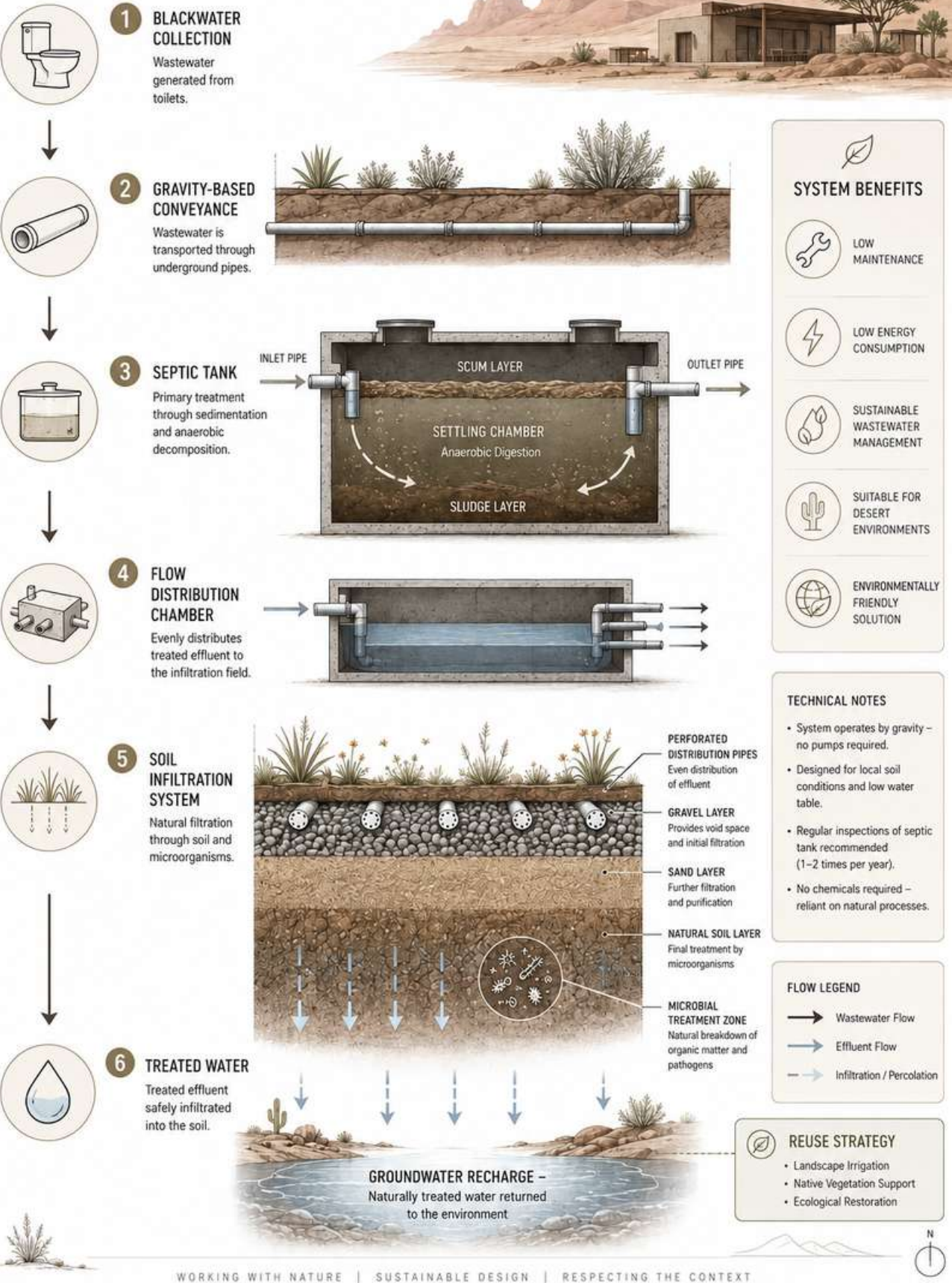
Greywater is naturally filtered through planted wetland zones before being reused for irrigation and landscape enhancement.



BLACKWATER TREATMENT SYSTEM

WELLNESS RETREAT – WADI RUM, JORDAN

NATURAL TREATMENT. RESPONSIBLE DESIGN. HARMONY WITH THE LANDSCAPE.



BLACKWATER MANAGEMENT

Source:

- Toilets

Treatment:

- Septic Tank
- Soil Infiltration System

Benefits:

- Low maintenance
- Low energy consumption
- Suitable for desert environments

Blackwater is treated through an underground septic tank followed by soil filtration, providing a sustainable wastewater solution.





SOLID WASTE MANAGEMENT

Organic Waste:

- Composting for landscape use

Recyclable Waste:

- Plastic
- Paper
- Glass
- Metal

General Waste:

- Municipal collection and disposal

The project follows a circular waste strategy by composting organic waste and separating recyclable materials to reduce environmental impact.

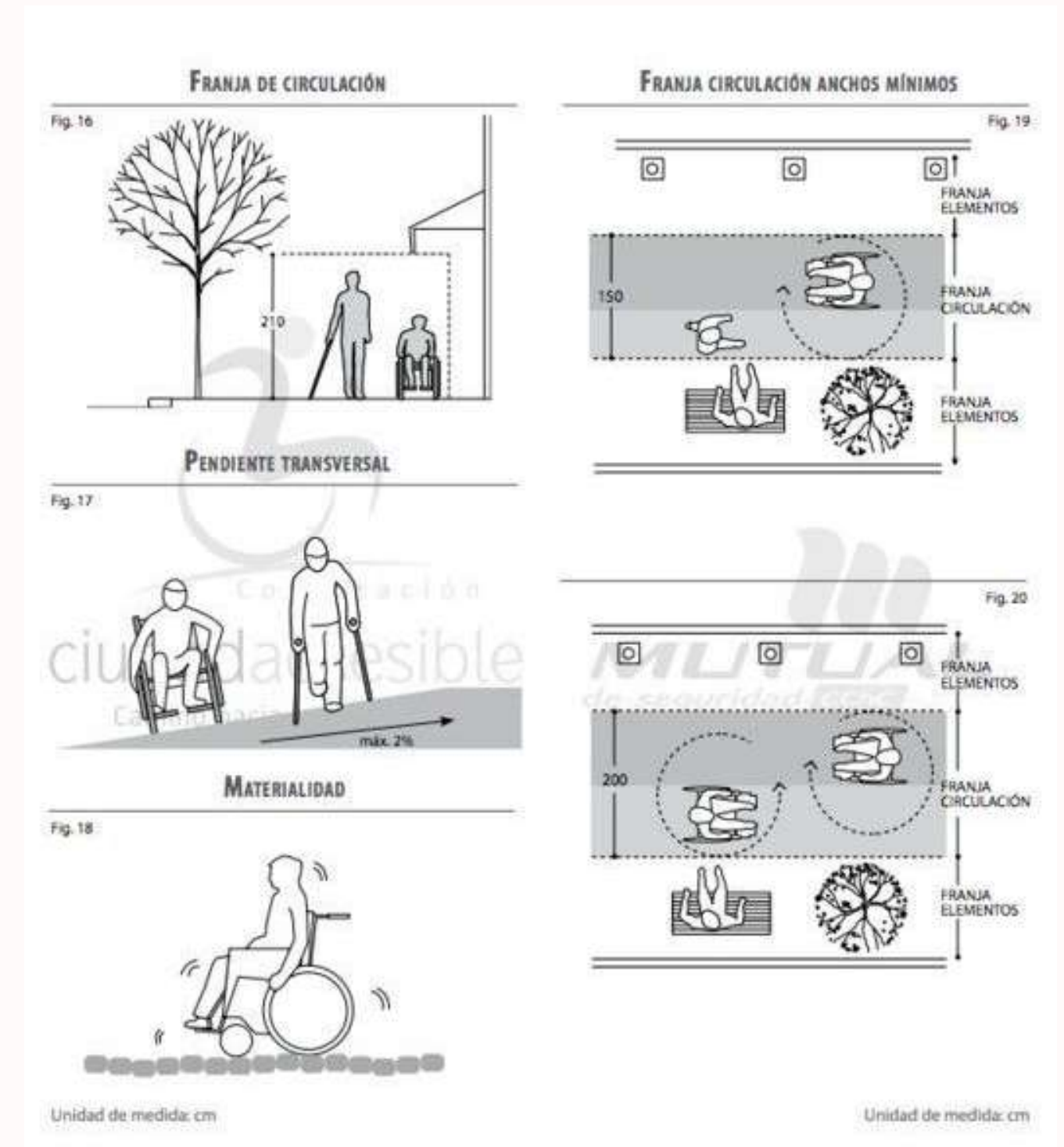


ADA COMPLIANCE

The project is designed according to ADA accessibility principles to ensure a comfortable, safe, and inclusive experience for all users. The design integrates barrier-free circulation with nature while maintaining psychological comfort and independence.

- Step-free entrances and accessible pathways
- Wheelchair-friendly design
- Gentle ramps with appropriate slopes
- Accessible restroom design
- Wide circulation spaces and adequate door clearances
- Clear wayfinding and intuitive movement
- Comfortable resting areas throughout the site
- Safe and accessible indoor and outdoor spaces

Accessibility in the project is not limited to physical movement, but also supports emotional comfort, independence, and a stress-free spatial experience.



WADI RUM DESIGN COMPLIANCE FRAMEWORK



Wadi Rum Design Compliance Framework

(Based on ASEZA Regulation No. 24 / 2001 & UNESCO Guidelines)

Height & Visual Integrity Control

Legal Basis: Protection of natural skyline and landscape integrity

Aqaba Special Economic Zone Authority

Design Response:

- Low-rise massing
- Buildings embedded in terrain
- No skyline disruption

Site & Zoning Control

Legal Basis: Development only in designated zones

Aqaba Special Economic Zone Authority

Design Response:

- Controlled site placement
- Clear zoning (public / semi-private / private)
- No expansion beyond defined footprint



Material & Color Regulation

Legal Basis: Environmental compatibility requirement

Aqaba Special Economic Zone Authority

Design Response:

- Earth-tone palette (sand / stone colors)
- Local natural materials
- No reflective or artificial finishes

Environmental Integration

Legal Basis: Protection of natural terrain & ecology
Ministry of Environment Jordan

Design Response:

- Minimal land disturbance
- Circulation follows natural contours
- Reduced ecological footprint

WADI RUM DESIGN COMPLIANCE FRAMEWORK



Heritage & Global Compliance

Legal Basis: World Heritage conservation requirements
UNESCO World Heritage Centre

Design Response:

- Context-sensitive architecture
- No visual dominance over landscape
- Preservation of cultural identity



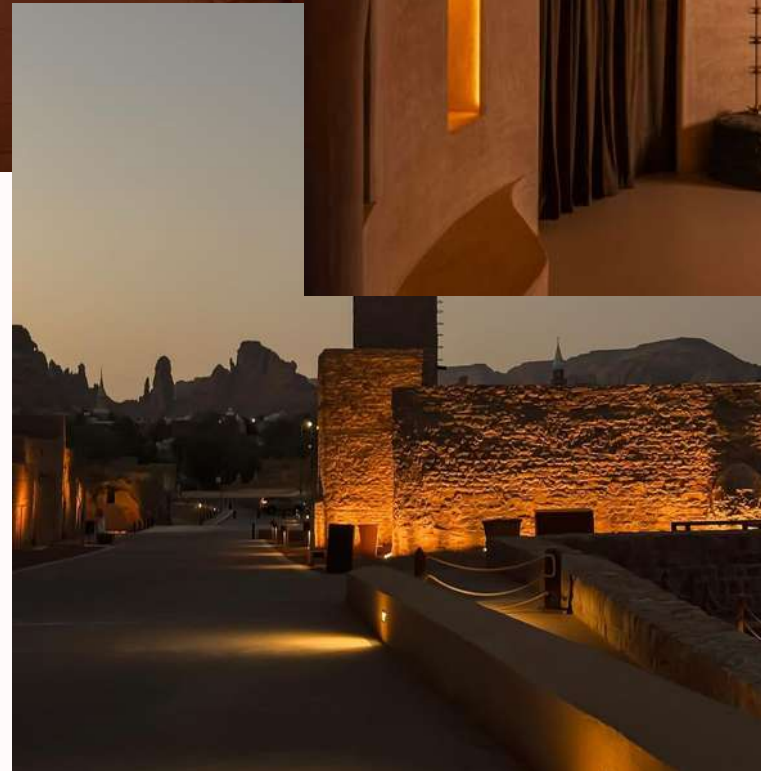
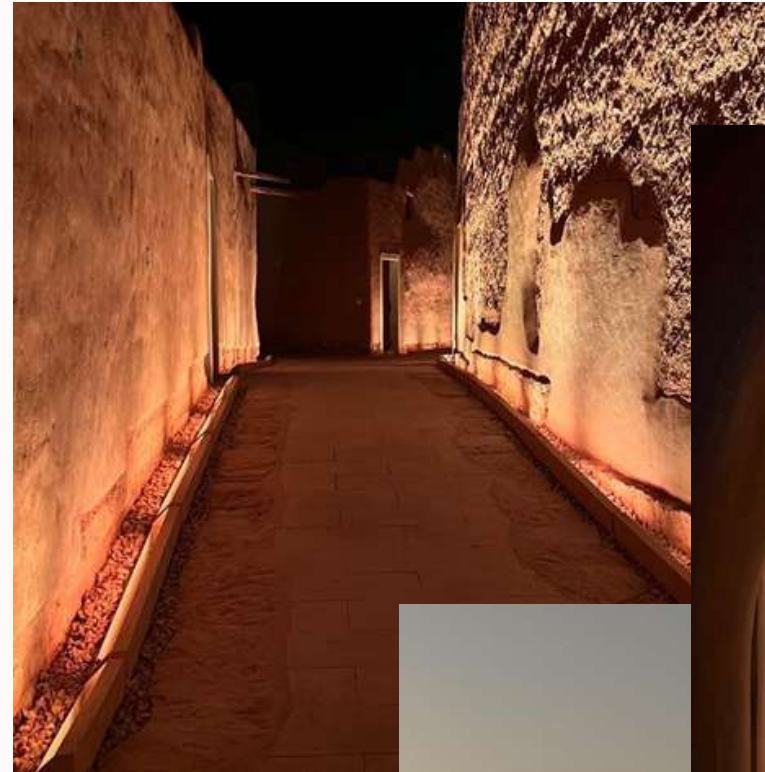
unesco
World Heritage Convention



LIGHTING STRATEGY

Key Intentions

- Reduce stress and sensory overstimulation.
- Create a peaceful and safe emotional environment.
- Support meditation, breathing exercises, and mental restoration.
- Minimize light pollution and preserve the dark desert atmosphere.



Soft Light for Psychological Comfort

The lighting design is kept soft, warm, and minimal to create a calming atmosphere that supports emotional healing and relaxation within Wadi Rum.

Applied Strategies

- Warm indirect lighting.
- Low-intensity ambient illumination.
- Controlled downward exterior lighting.
- Minimal night lighting to respect the natural landscape.



SOLAR ENERGY STRATEGY

Discreet Distributed System

The project uses a distributed solar system across back-of-house rooftops to generate energy while maintaining full visual separation from the visitor experience in Wadi Rum.

Energy Zones

- Curved staff roof (40m × 10m) as the main solar surface
- Secondary staff building roof for additional capacity
- All systems placed in service areas away from public zones

Design Principles

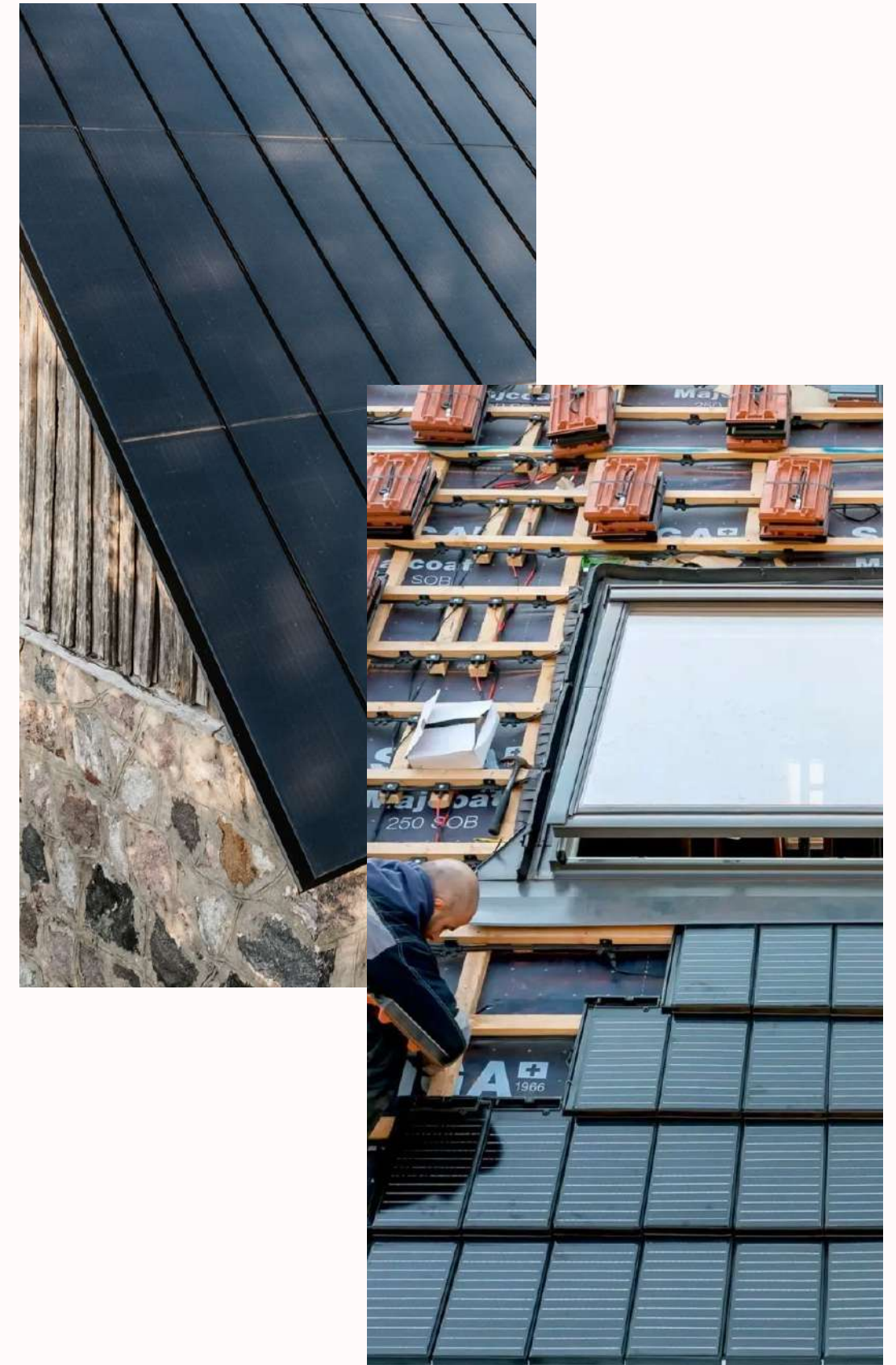
- Visual shielding through spatial separation and landscape elements
- Rooftop integration to preserve natural landscape quality
- Back-of-house areas act as the main energy layer

System Logic

Distributed system providing balanced energy production across multiple roofs.

Intent

- Energy operates as an invisible layer supporting the experience without affecting the landscape.



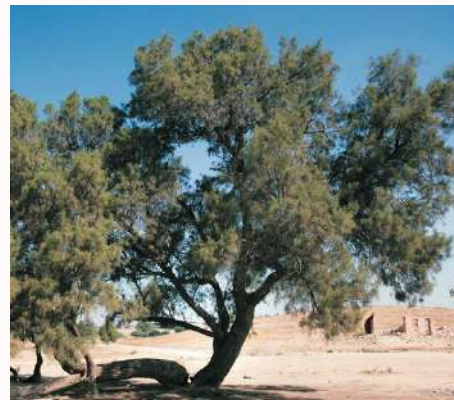
PLANT STRATEGY OF THE PROJECT

Shade Trees



Acacia raddiana
/ tortilis

Tamarix aphylla



Phoenix
dactylifera

Shrubs



Haloxylon shrub



Retama raetam

Cacti and Succulents

Aloe vera

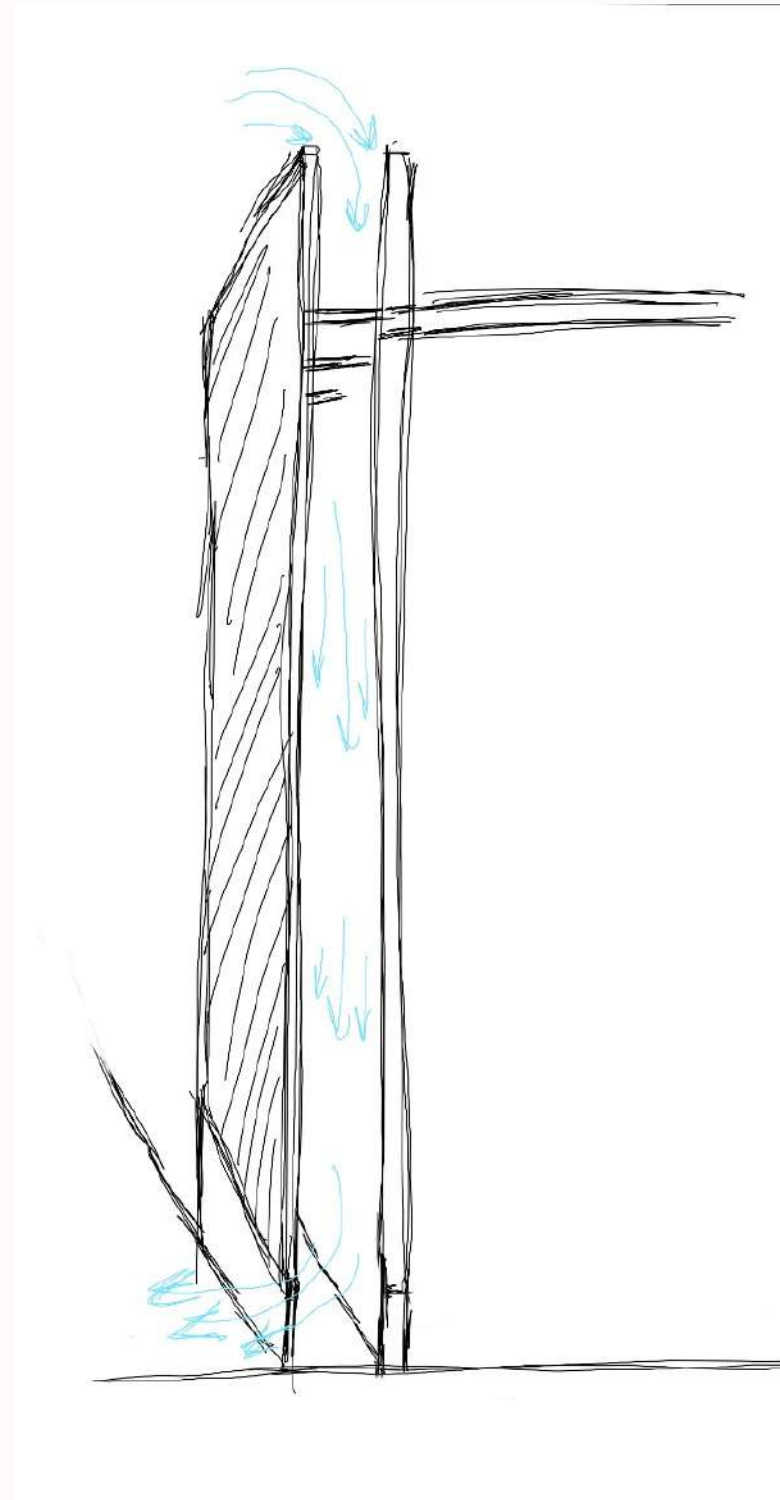


Opuntia ficus-
indica

Echinops spp



NATURALLY VENTILATED DOUBLE SKIN FAÇADE

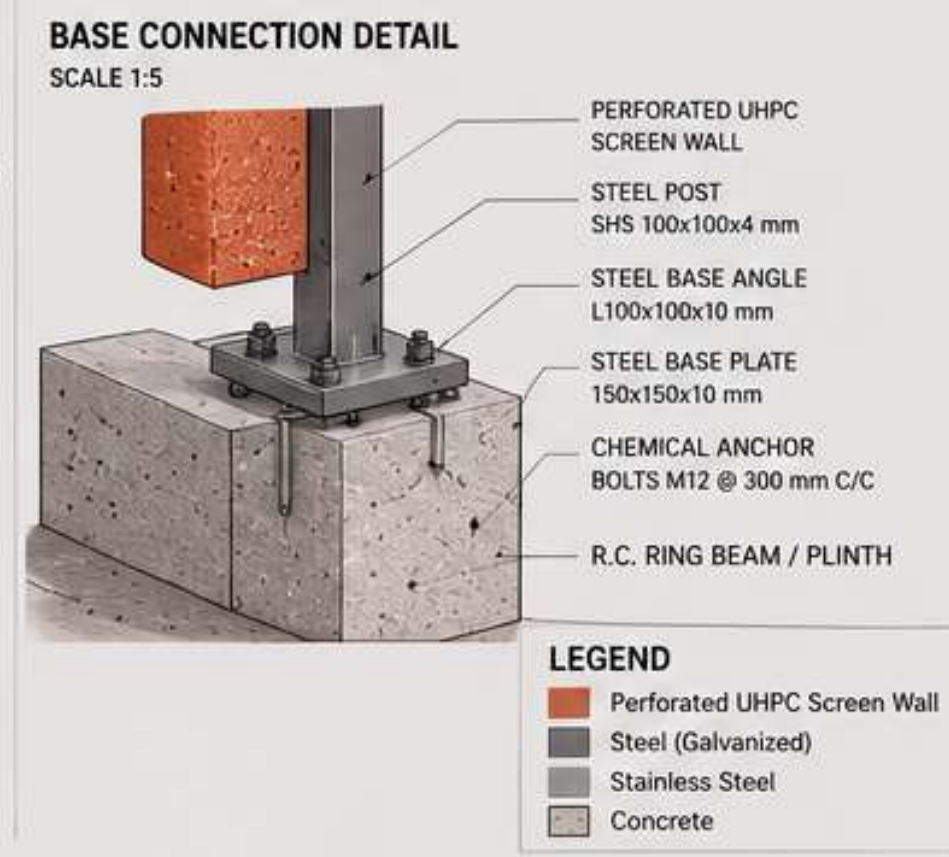
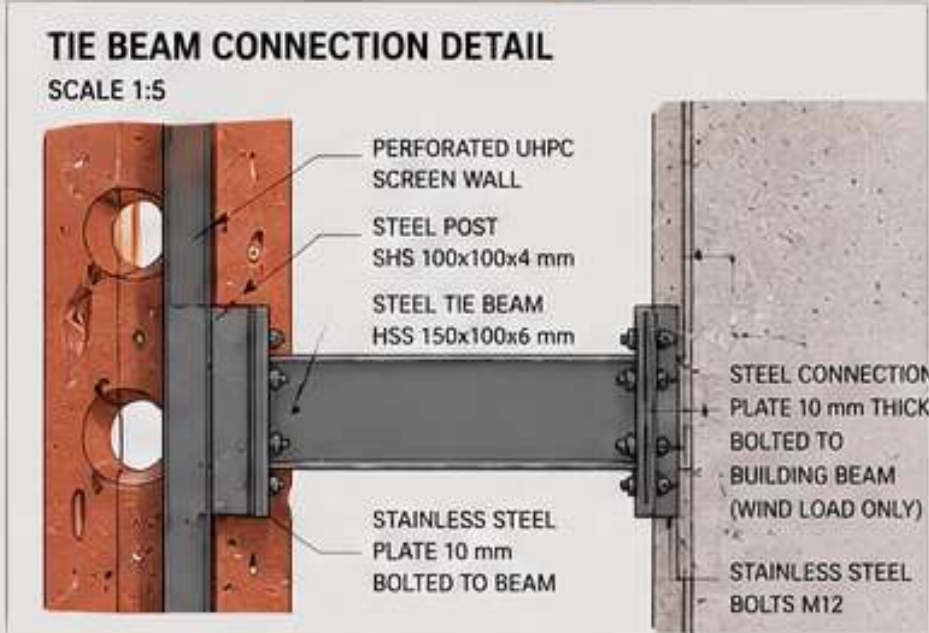
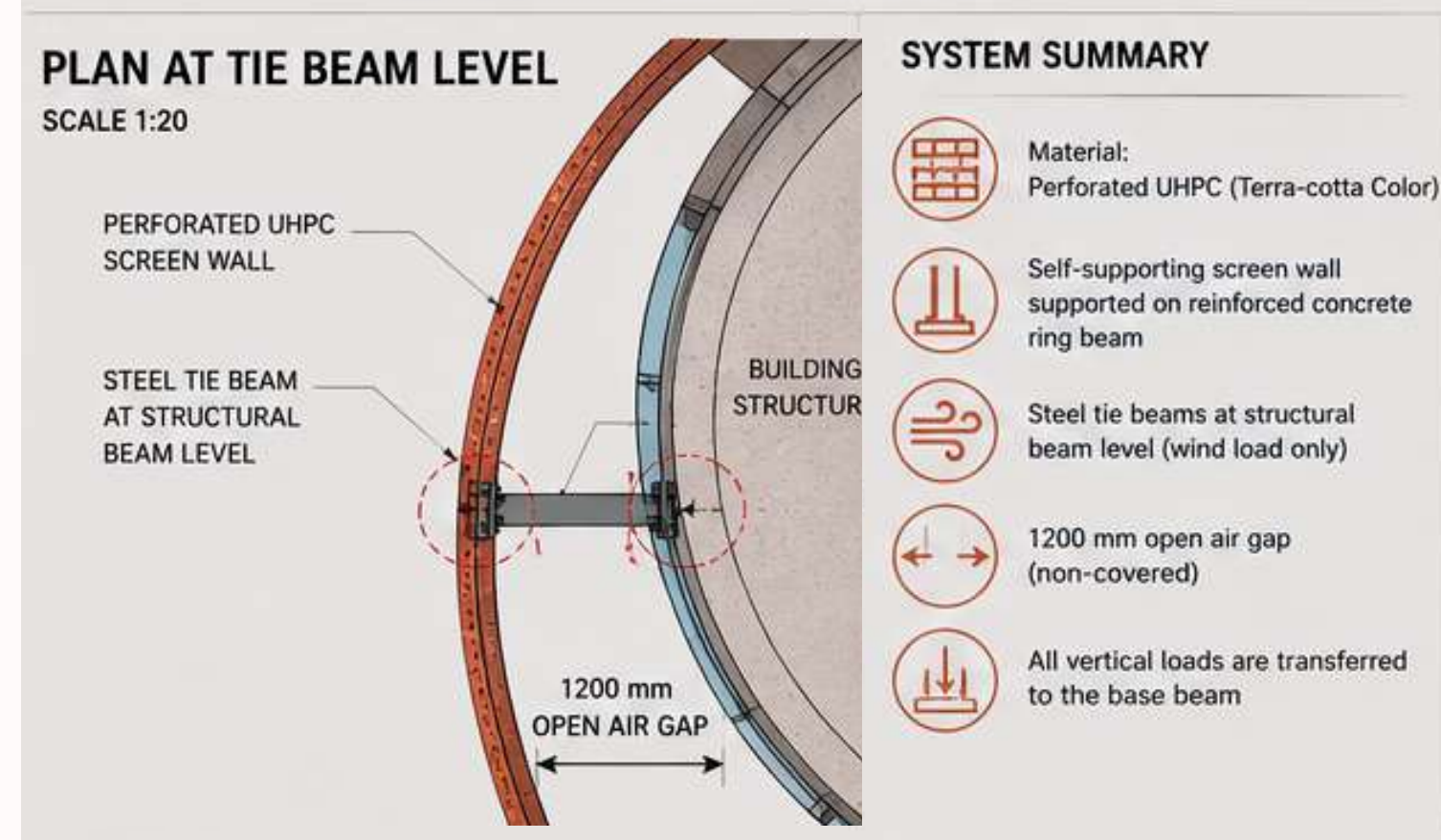
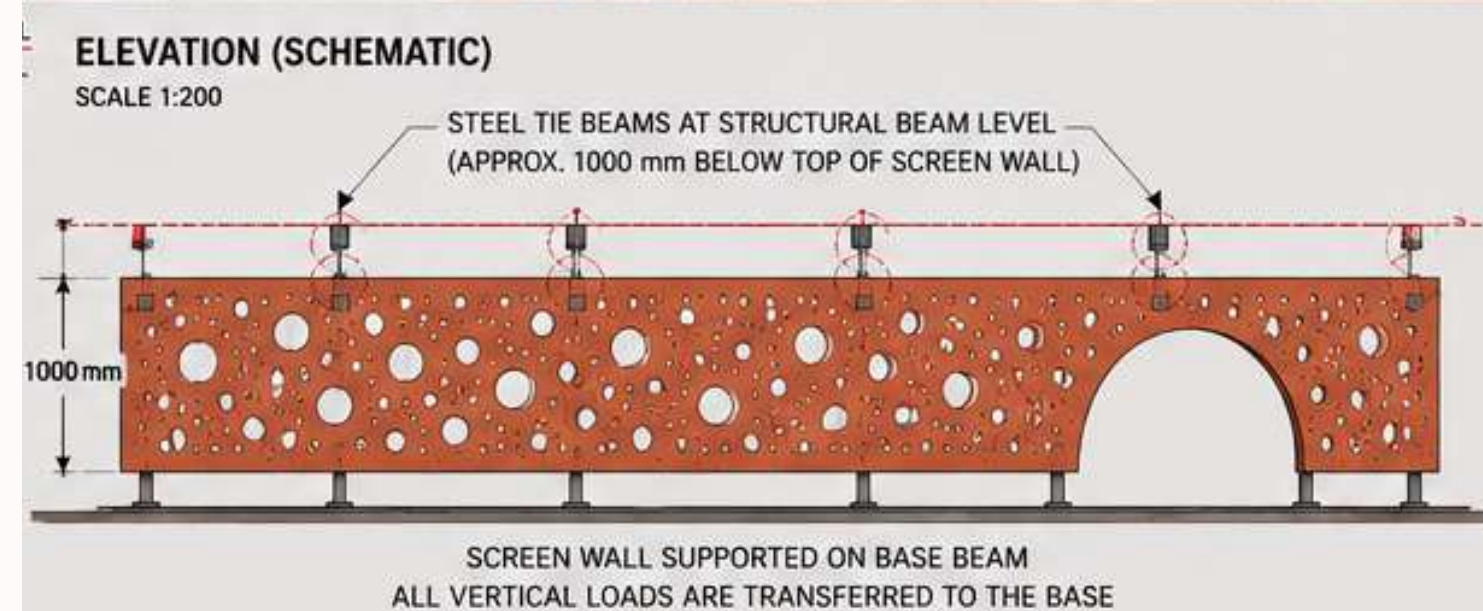
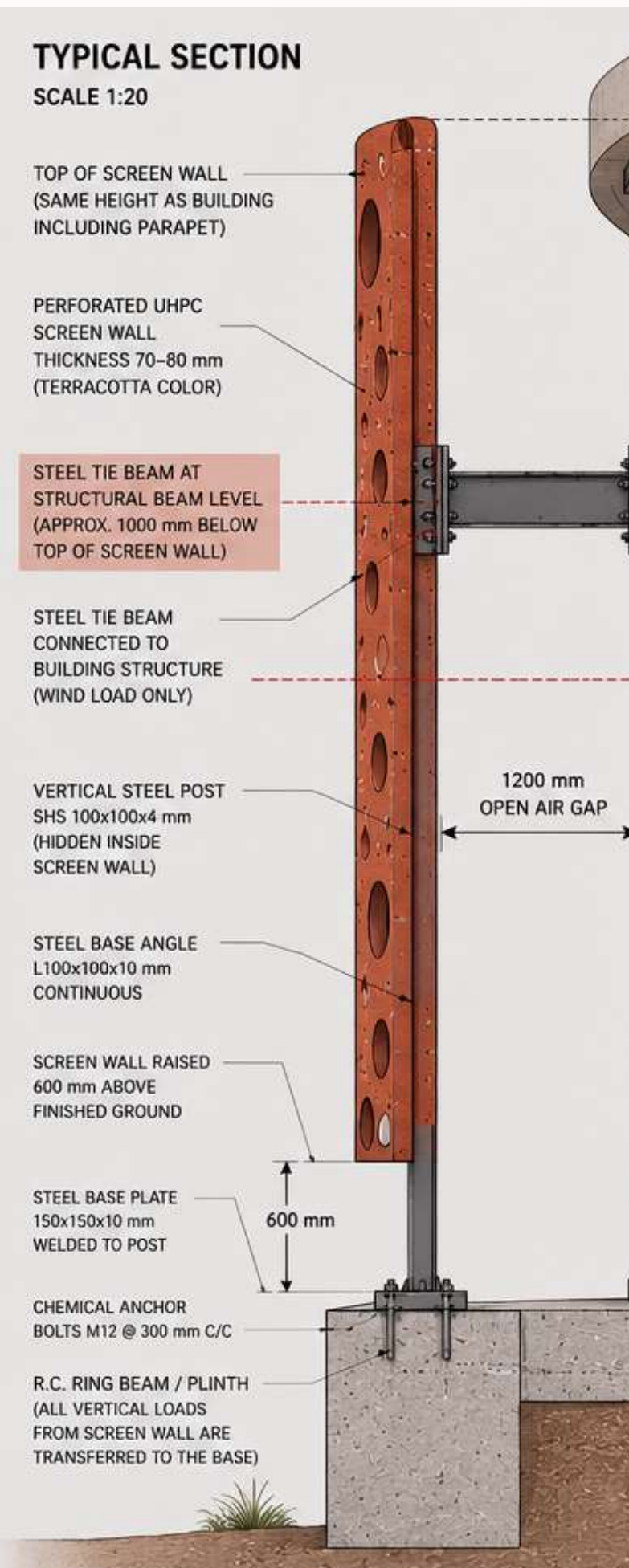


The double-skin façade on the northern elevation acts as a sustainable passive strategy, creating a buffer zone that improves natural ventilation, reduces heat gain, and enhances daylight quality while minimizing glare. This contributes to overall energy efficiency and indoor comfort.

The use of red brick is inspired by the natural context of Wadi Rum, allowing the building to blend with its surroundings while benefiting from the material's thermal performance and durability.

The brick screen is lifted above ground level to promote natural airflow through the cavity, enhancing passive ventilation. It is set 1.2 meters away from the main façade, creating a thermal buffer that reduces heat gain and improves overall environmental performance. This offset also establishes a transitional spatial layer, enriching the user's experience through light, shadow, and depth.





DOUBLE-SKIN FAÇADE STRUCTURE



HOLLOW CLAY BRICKS



Hollow clay bricks were selected as the primary façade material due to their reduced structural weight, improved thermal performance, and ability to maintain the visual identity of traditional brick within a sustainable design approach. This choice supports the passive environmental strategy of the project while responding to the desert context of Wadi Rum.

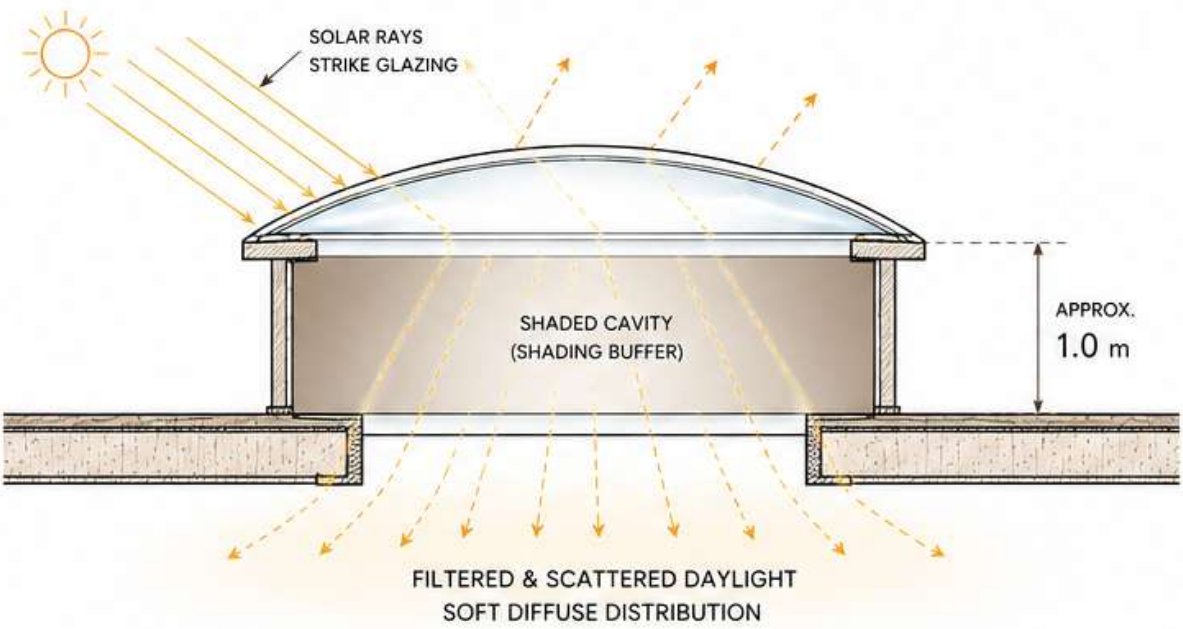


SKYLIGHT DESIGN STRATEGY

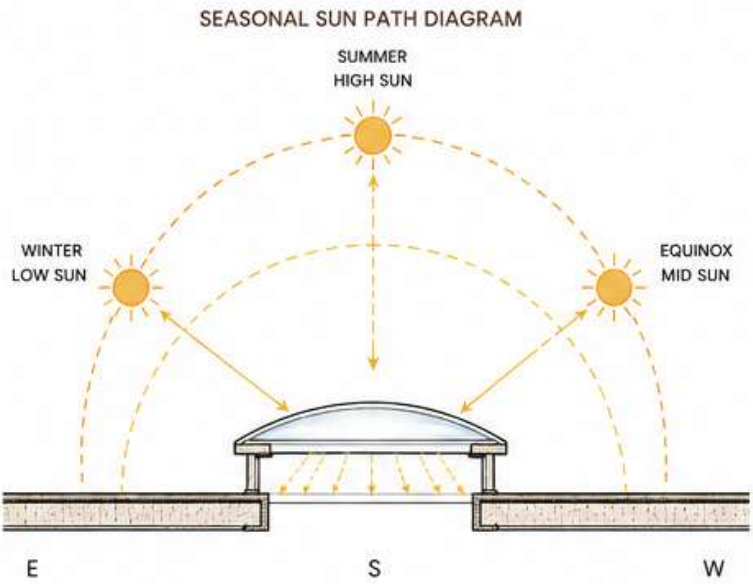
Environmental and Experiential Skylight Design Strategies

ELEVATED CURVED SKYLIGHT

DAYLIGHTING STRATEGY

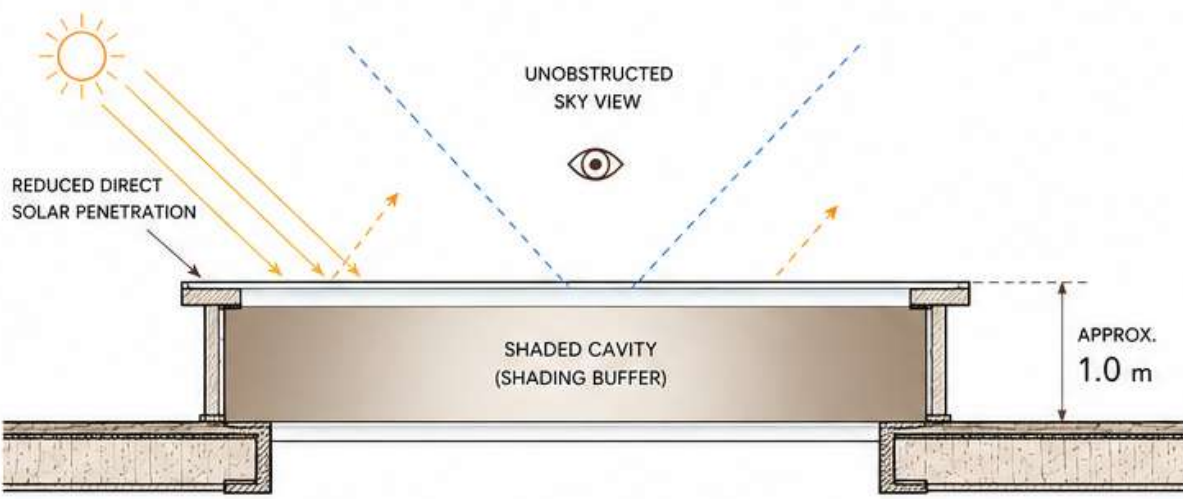


- SOFT DIFFUSE DAYLIGHT**
Curved glazing scatters sunlight for uniform illumination and reduced glare.
- SHADING BUFFER**
The elevated skylight creates a shaded cavity that blocks direct solar penetration.
- VISUAL COMFORT**
Diffuse daylight improves interior comfort and minimizes glare.
- REDUCED SOLAR HEAT GAIN**
Raised glazing limits overheating and excessive solar radiation.

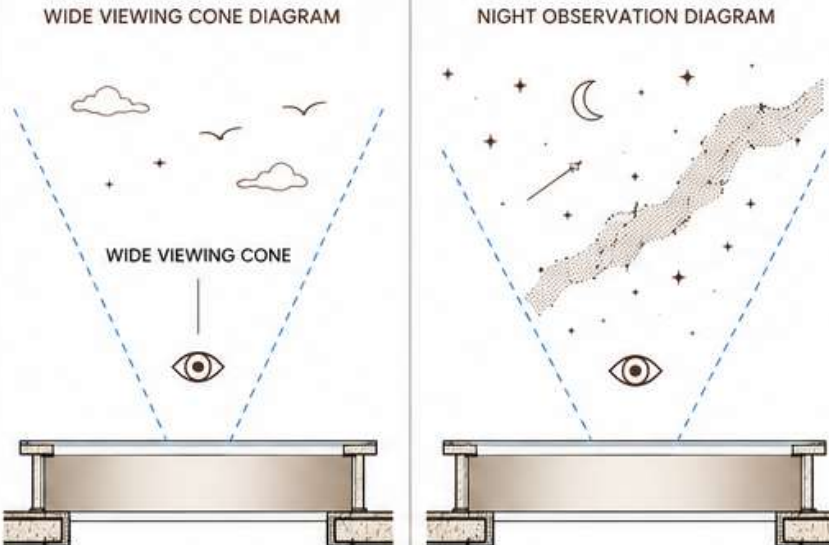


ELEVATED OBSERVATION SKYLIGHT

SKY VIEWING STRATEGY



- SKY CONNECTION**
Provides a direct visual connection to the desert sky.
- STAR OBSERVATION**
Frames views of stars and the Milky Way during nighttime.
- SHADING BUFFER**
The elevated configuration minimizes direct solar penetration.
- CONTEMPLATIVE EXPERIENCE**
Enhances meditation, reflection, and connection with nature.



SOLAR RAYS REFLECTED SOLAR RAYS FILTERED & SCATTERED DAYLIGHT DIFFUSE DAYLIGHT VIEWING DIRECTION SHADING BUFFER / SHADED CAVITY

DUAL SKYLIGHT SYSTEMS

Two distinct skylight strategies were employed: a curved skylight for daylight distribution and an observation skylight for visual connection to the night sky.



SANDSTONE WALKWAY

LIGHTWEIGHT • LOW IMPACT • IN HARMONY WITH WADI RUM

A simple and sustainable walkway system that minimizes ground disturbance, preserves natural sand movement, and blends with the surrounding landscape using local materials.

- MINIMAL IMPACT**
Low disturbance construction
- NATURAL FLOW**
Allows sand and water movement
- LOCAL MATERIALS**
Uses local sandstone and natural aggregates
- REVERSIBLE**
Can be removed without permanent impact

- 1 SANDSTONE PAVING**

 - Thickness: 50 – 60 mm
 - Local sandstone, natural surface
 - Non-slip and durable
 - Joints: 8 – 12 mm
- 2 COMPACTED GRAVEL BASE**

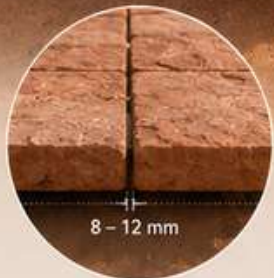
 - Thickness: 80 – 100 mm
 - Well-compacted crushed stone
 - Provides stability and drainage
 - Allows minor settlement
- 3 GEOTEXTILE LAYER**

 - Separates gravel from sand
 - Prevents mixing
 - Maintains base stability
 - Allows water infiltration
- 4 NATURAL WADI RUM SAND**

 - Existing ground left
 - Minimal disturbance
 - Allows natural sand movement and permeability

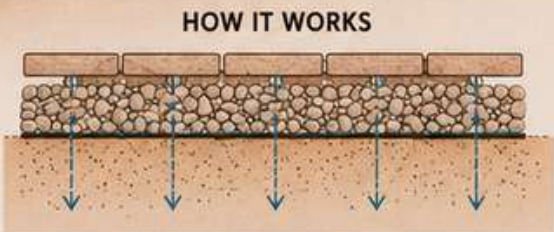


EDGE DETAIL
The walkway is lightly elevated above the desert while remaining reversible and non-invasive.



JOINT DETAIL
Small joints filled with sand allow natural movement and enhance flexibility and drainage.

- NOTES**
- Minimal excavation is required to level the surface.
 - No concrete foundations are used.
 - All materials are locally inspired and available.
 - The system can be easily removed or reinstalled with no permanent impact on the site.



Rainwater passes through the joints and gravel base, infiltrates the sand, and evaporates naturally. The system allows natural sand movement and does not block the desert's dynamics.

MINIMAL IMPACT • NATURAL MATERIALS • LONG TERM HARMONY
A walkway that belongs to the landscape, not imposed on it.

- SYSTEM BENEFITS**
- Respects natural landscape
 - Allows sand movement
 - Excellent permeability
 - Low embodied energy
 - Low maintenance
 - Reversible and adaptable
 - Sustainable design approach

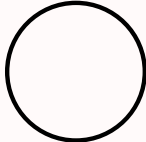
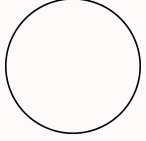
ELEVATED SANDSTONE WALKWAY

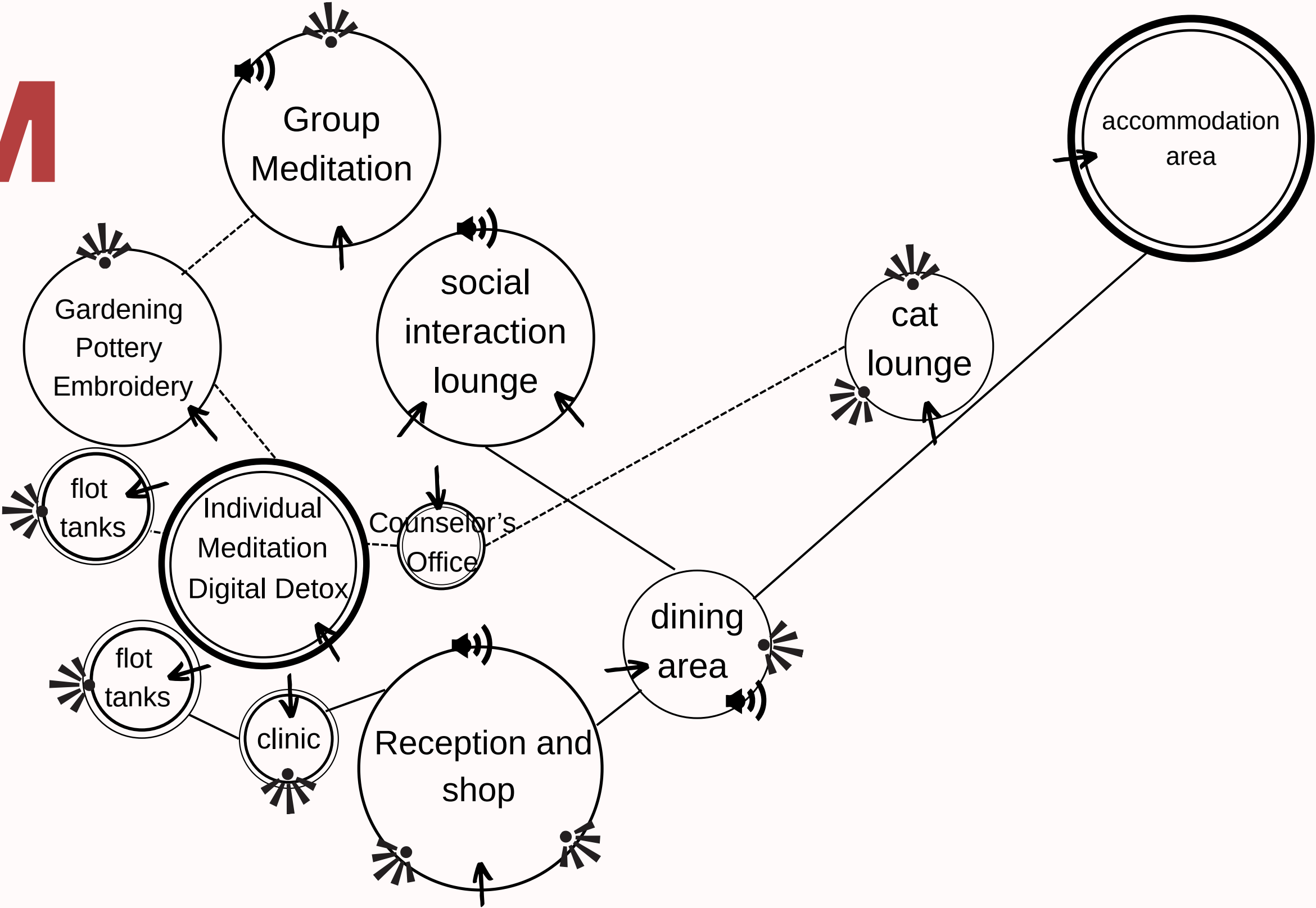
The walkway uses a low-impact construction system consisting of local sandstone paving placed over a compacted gravel base separated from the natural sand by a geotextile layer. This approach minimizes excavation, preserves natural sand movement, and allows the pathway to blend seamlessly with the Wadi Rum landscape while maintaining long-term durability.



BUBBLE DIAGRAM

Legend:

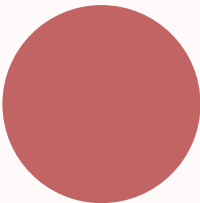
- North point 
- Noies source 
- Entrance 
- Natural light 
- private 
- pubblic 
- Service Facilities 
- Program Facilities 



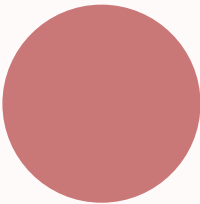
EMOTIONAL CONSTELLATION BUBBLE SYSTEM

Legend:

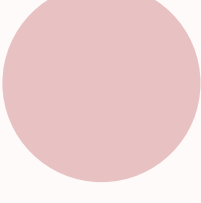
Intensity Zone



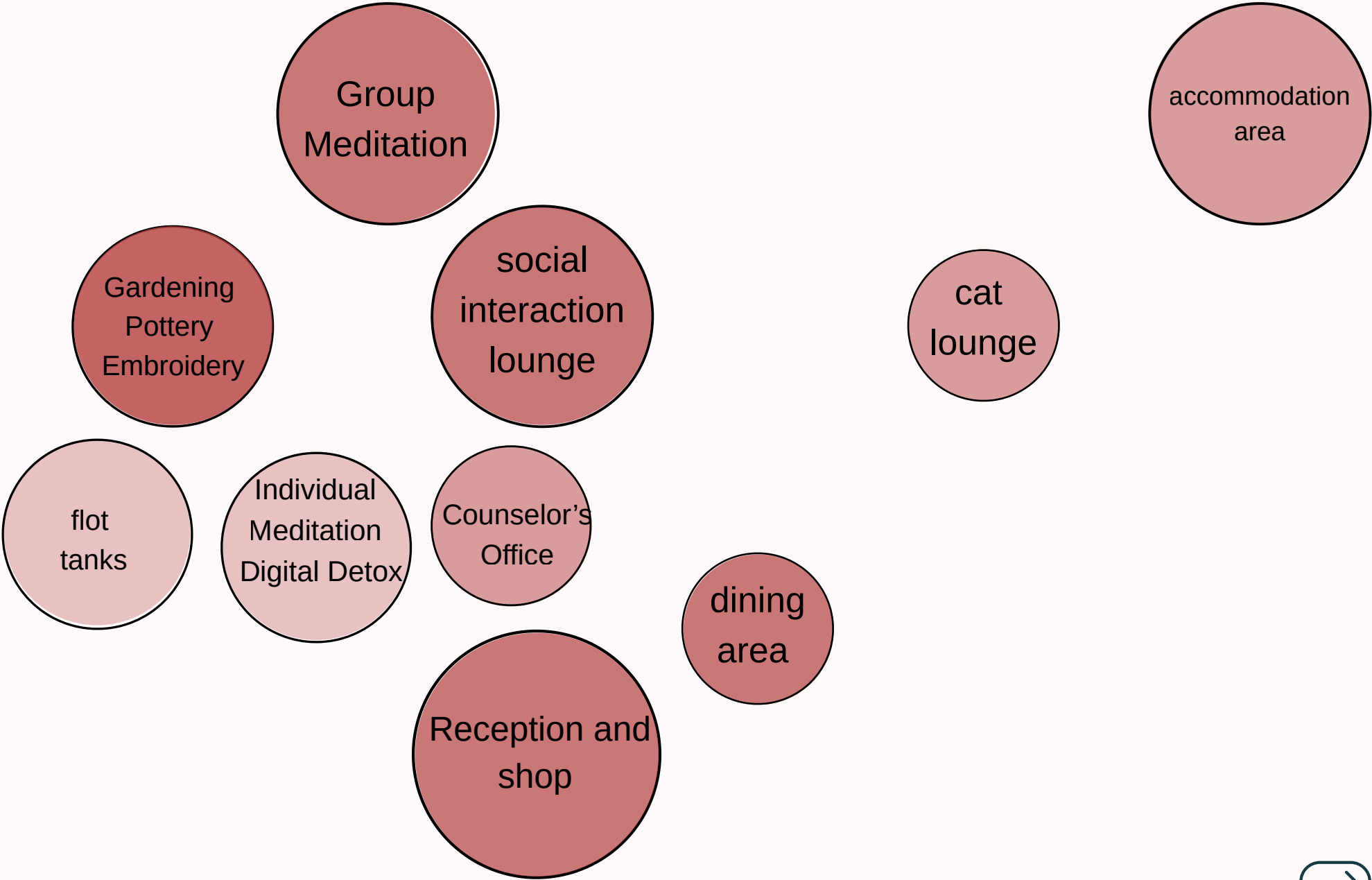
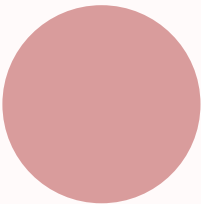
Dynamic Zone



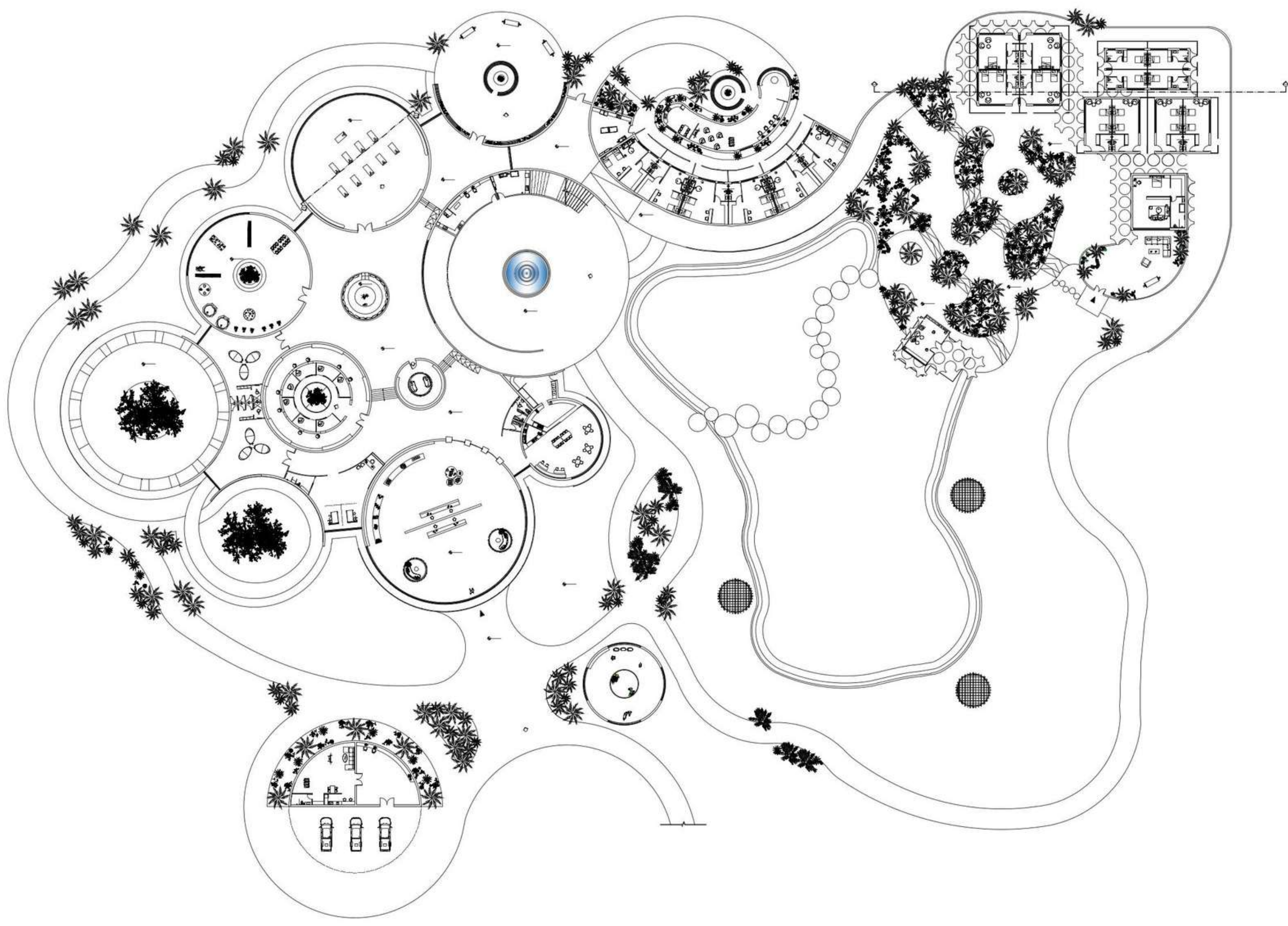
Neutral Zone



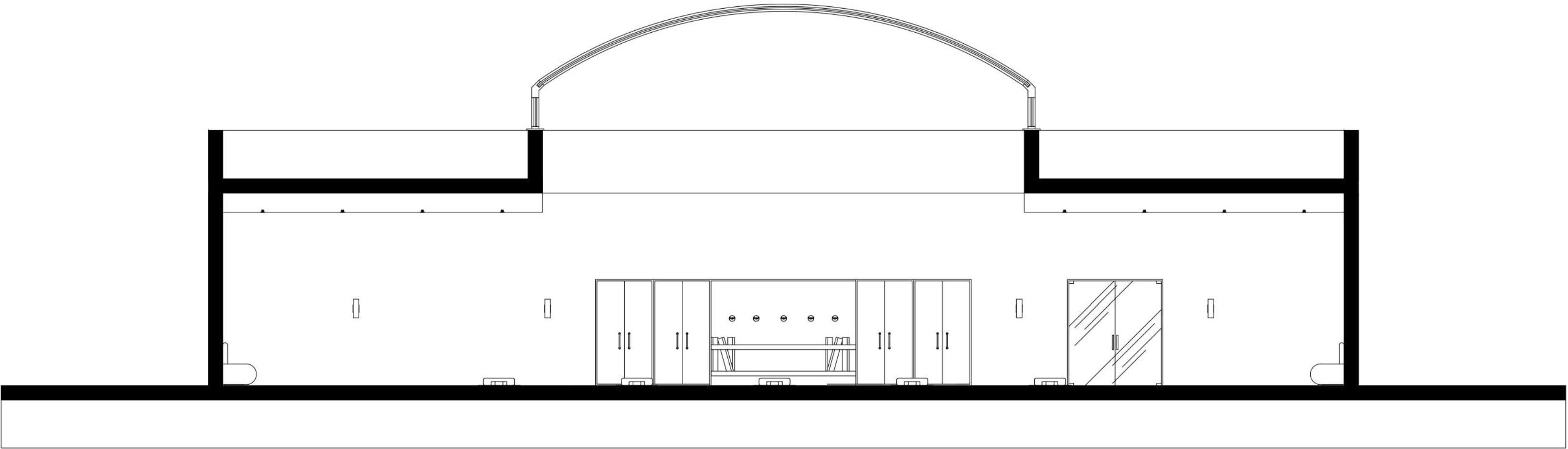
Tranquility Zone



GROUND FLOOR PLAN



SECTION A-A



SECTION B-B



3D SHOTS

.Certain visual elements within the renderings were generated using AI tools for presentation and visualization purposes only



















**THANK YOU
SO MUCH!**