



HYBRID ARCHITECTURE WITHIN NAJD REGION, SAUDI ARABIA:

Environmental, Cultural, Structural, and Functional Juxtapositions

Bashair Almatani

# HYBRID ARCHITECTURE WITHIN NAJD REGION, SAUDI ARABIA

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Thesis submitted to the faculty of Virginia Polytechnic Institute and State University in

partial fulfillment of the requirements for the degree of

Master of Architecture

in

Architecture

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## ACADEMIC ABSTRACT

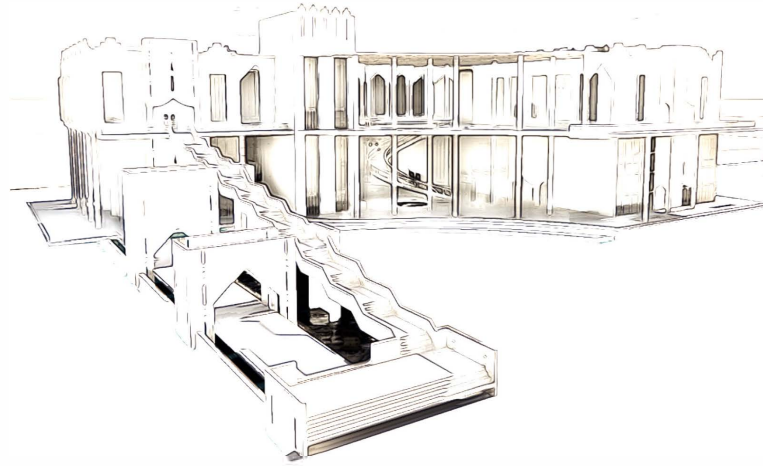
The thesis investigates the concept of hybrid architecture as a juxtaposition of multiple architectural factors, including environmental, cultural, structural, and functional ones. The work examines the Najd region of Saudi Arabia and its historical and contemporary contexts concerning functional utility, cultural frameworks, tectonic architectural elements, and site-based environmental forces. The thesis proposes that architectural hybridity can enhance the human experience.

The design project, a building combining a water purification facility with a cafe, exhibition hall, and other community functions, integrates traditional and contemporary cultural aesthetics by purposefully juxtaposing and relating: unlikely functions, temporally varied cultural forms, structural and ornamental tectonic elements, and contrasting environmental qualities.

## GENERAL AUDIENCE ABSTRACT

The thesis explores the idea of hybrid architecture, combining various factors such as environment, culture, structure, and function. Focused on the Najd region in Saudi Arabia, it analyzes historical and modern aspects related to functionality, cultural context, architectural elements, and environmental influences. The main argument suggests that blending different architectural elements can enrich the human experience.

In the design project, a facility merging water purification with a cafe, exhibition hall, and community spaces, traditional and contemporary cultural aesthetics are harmonized by purposefully juxtaposing and connecting: unexpected functions, culturally diverse forms across time, structural and decorative elements, and diverse environmental characteristics.



## ACKNOWLEDGEMENT

I would like to express my deepest gratitude:

To Hilary

for your time invested in reviewing my work and providing insightful feedback. Your expertise and constructive feedback have significantly enriched the quality of this work.

To Bill & Sharone

for your invaluable guidance and mentorship throughout the research process. I am honored to have had the opportunity to learn under your

guidance.

To my dad,

for your unwavering support, your encouragement has been instrumental in making this endeavor possible.

To my daughters,

for being the boon who made this journey enjoyable and fulfilling.

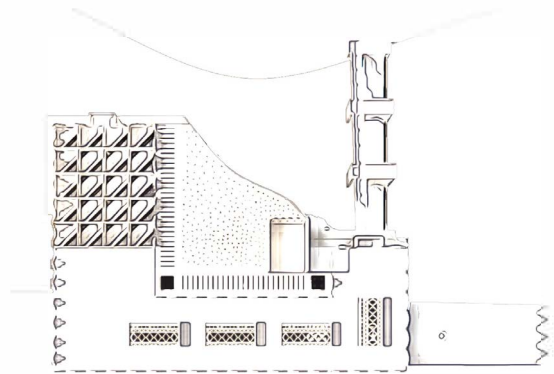
To my family,

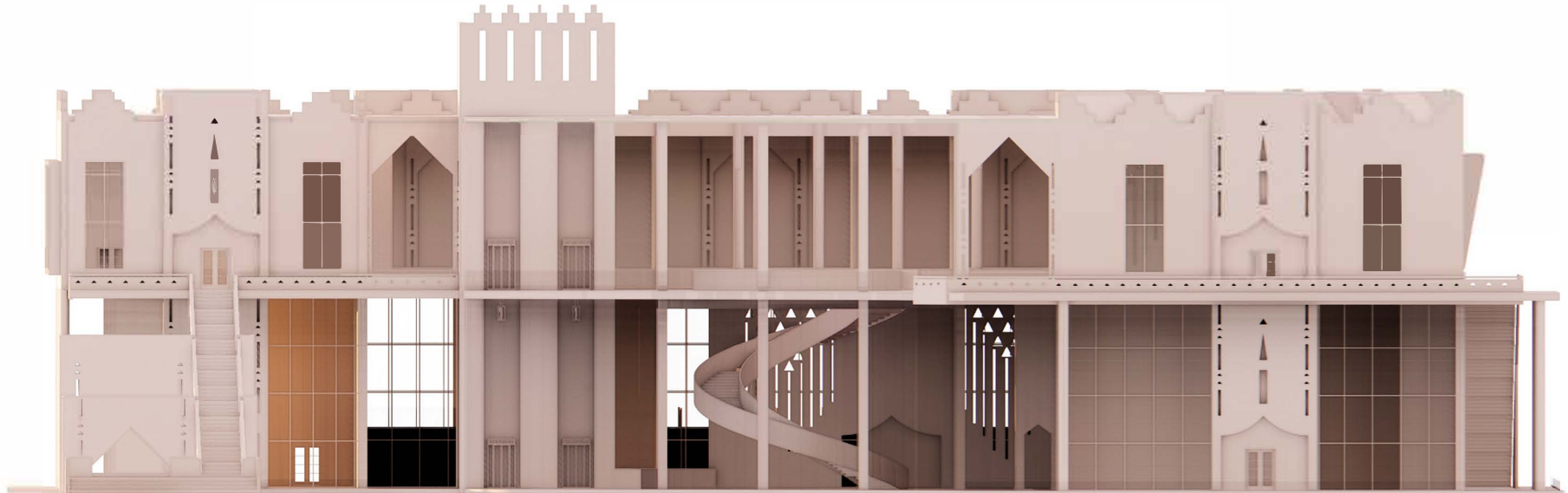
Your enduring love, support, and confidence in my capabilities have been a steadfast source of strength. Your consistent encouragement and understanding have served as my foundation during this demanding yet fulfilling journey.

To my friends

for the great memories and the good times, we had together.

Thank you all for being a part of this incredible journey.





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# 1.

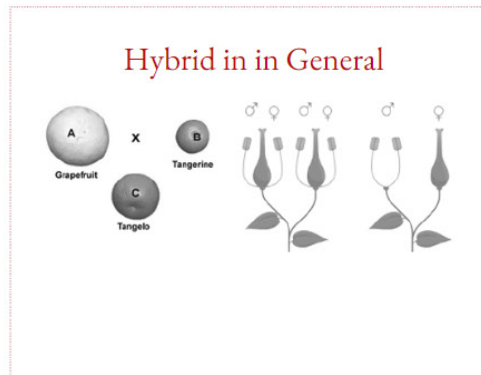
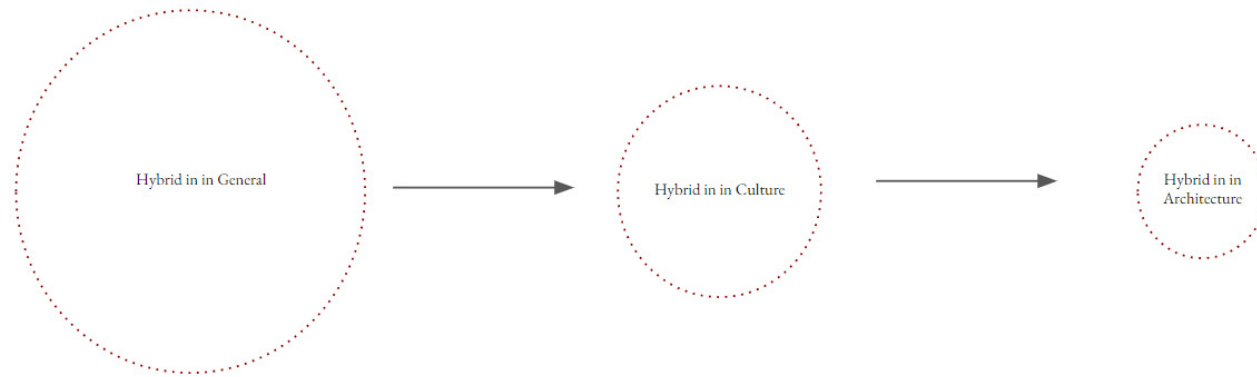
## PERSPECTIVE OF HYBRIDITY

What is “hybrid”? Indications by dictionary, culture, and architecture

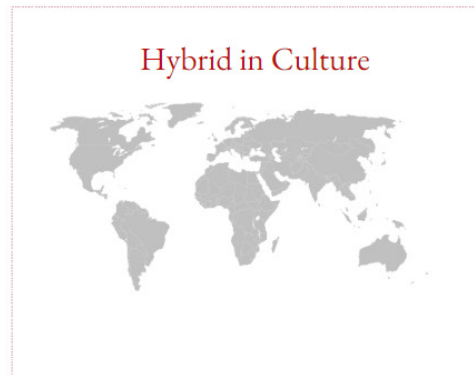
Hybrid Versus Mixed-use

Hybrid Conceptual Design

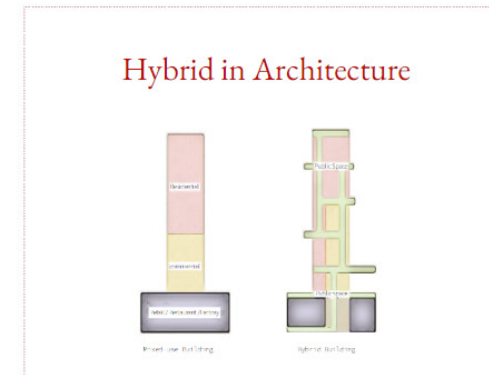
## WHAT IS “HYBRID”??: INDICATIONS BY DICTIONARY, CULTURE, AND ARCHITECTURE



The term originally related to a plant or animal created as a product of two different plant or animal species “Hybridity captures various ways in which identities are characterized by complexity or mixed-ness rather than simplicity or purity. It is a term that functions as a description of how things simply are, but it frequently appears to take on the characteristics of a prescription” (Huddart, 2020).



‘Hybridity’ commonly refers to ‘the creation of new transcultural forms within the contact zone produced by colonization’ (Ashcroft et al. 2003: 118) “in post-co-colonial work led by thinkers such as Homi Bhabha (1994), is foregrounded as resulting in fluid and transient forms of cultural mixing or syncretism” (Malik, 1970).



In the context of design, hybrid architecture in the context of design refers to integrating diverse architectural elements, styles, or functions to create a unified and innovative structure.

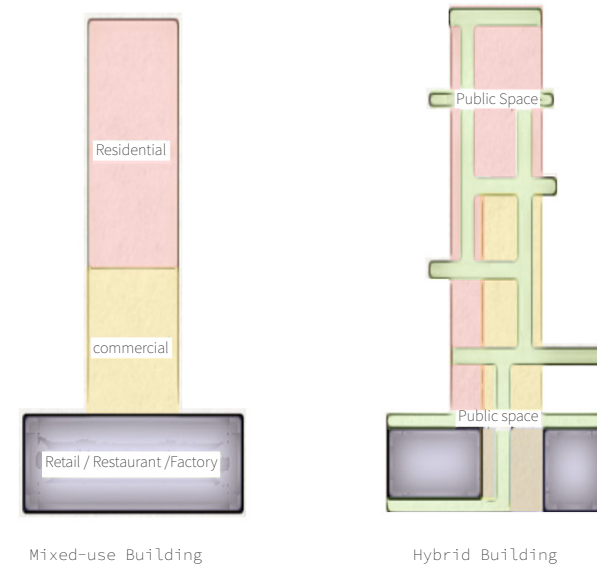
## MIXED-USE BUILDING VERSUS HYBRID BUILDING

The reasonable, formal definition of what constitutes a hybrid building in architecture is articulated in Steven Holl's book: "*This is Hybrid*"

He introduces hybrid typologies that can be created to determine a type of new urban space. (Alnaim

Holl asserts that hybrid buildings are not mixed-use buildings. Mixed-use buildings contain multiple functional spaces that are adjacent to but partitioned from each other, whereas Hybrid buildings are structured to create an unexpected mixing of functions.

“The hybrid building is a specimen of opportunity which has the mixed-use gene in its gene code.” (Steven Holl)



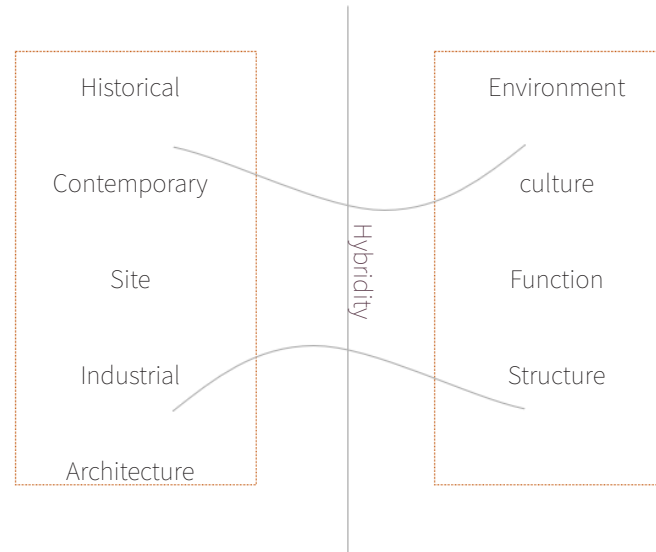
## HYBRID CONCEPTUAL DESIGN

The design intends to discover a new perspective on hybridity in architecture. The design project responds to this goal by emphasizing primarily the connection between four main factors:

### **Environment, culture, structure, and function.**

The building combines multiple entertainment, public uses, and industrial facilities that rely on a local water source a lake. The project serves the interest of Riyadh city residents and is also a tourist destination.

Inside a single structure and plaza, a variety of different living activities are offered to visitors, including drinking purified water following the treatment process housed in the building. Furthermore, the building combines hybrid materials, hybrid functions, hybrid use of space, and hybrid styles. where all these elements complement each other to produce a unified built which also environment relies on culturally rooted principles in support of hybridity.



# 2.

## ENVIRONMENTAL HYBRIDITY

Location

Site Analysis: Selection and Conditions

Section Across the Wadi Hanifa Valley

Site plan

Floor Plans

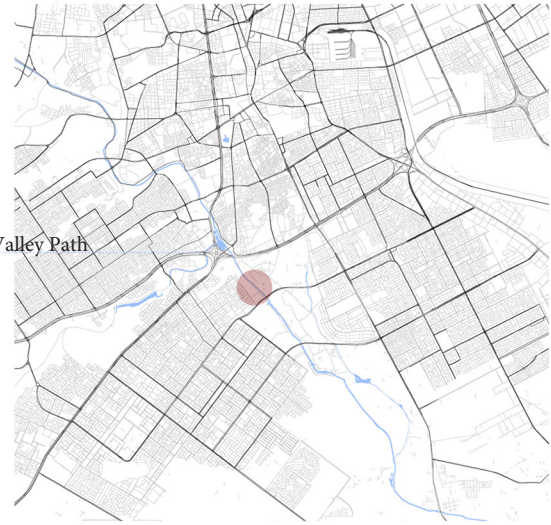
Sustainable strategies

Water and Land

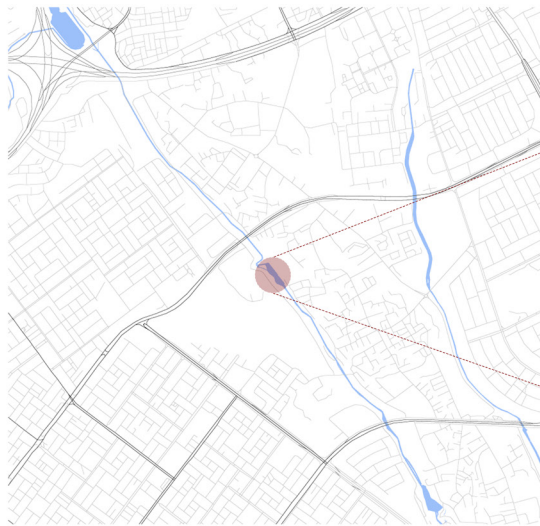
● Riyadh City, Central Region



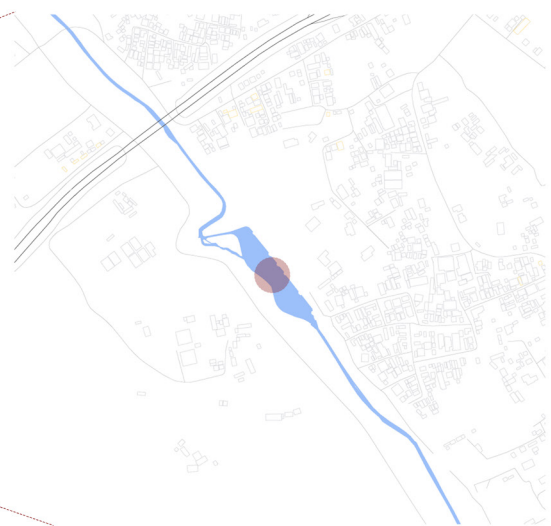
● Wadi Hanifa Valley Path



Wadi Hanifa, situated in the Najd region within the Riyadh Province of central Saudi Arabia, is a valley that spans 120 kilometers (75 miles) from the northwest to the southeast. It traverses through the city of Riyadh, the capital of Saudi Arabia.



Key Plan



Location Plan

Riyadh, Saudi Arabia

● Selected Site

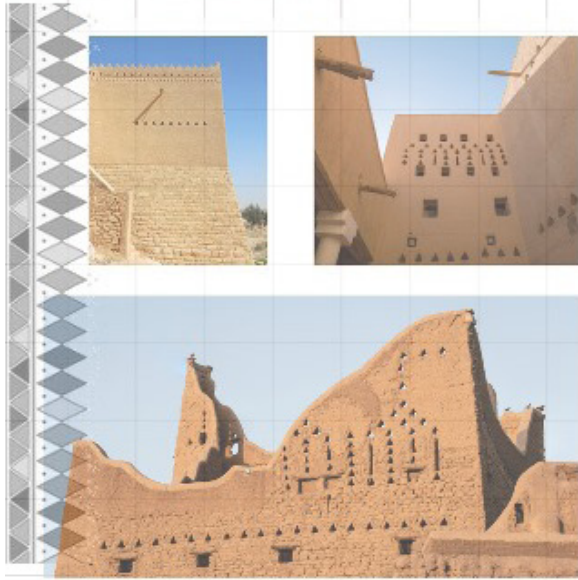


## SAUDI ARABIA INTANGIBLE CULTURAL HERITAGE

Riyadh is a bastion of Saudi Arabian culture, evident in the historic districts on the city's western side. The architectural elements, both inside and outside the buildings, as well as the overall structure and surroundings, are influenced by the geographical location in Najd. This location imparts a distinct character, embodying the colors and shapes inherent in Najdi Architecture. Presently, the area is undergoing extensive development and construction, with numerous tourism and residential projects seeking to emulate the region's architectural style.

SAUDI ARABIA INTANGIBLE CULTURAL HERITAGE

FUNCTION



The Saudi Vision 2030 aims to enhance the sustainability of its initiatives and harness natural resources. In Riyadh, water is primarily sourced from valleys, with the prominent Wadi Hanifa being a significant watercourse in the city.



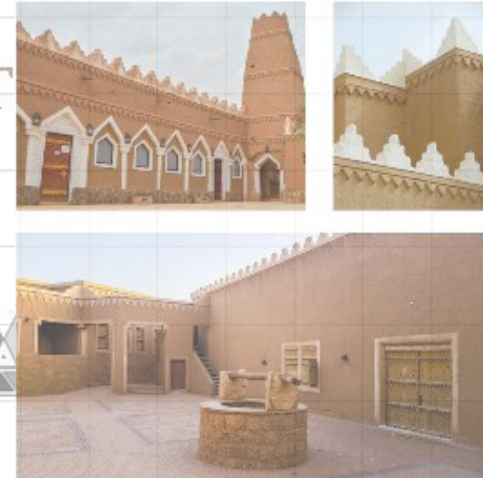
Much attention is given to embodying the cultural essence of the Najdi region, which visitors can discern through the architecture, culinary offerings, coffee culture, interior decoration color schemes, and traditional attire.

CULTURE



ENVIRONMENT

Saudi Arabia experiences a desert climate, with the central region being predominantly hot and dry during the summer and cool and dry in the winter. Riyadh's topography is defined by a mostly flat landscape, featuring gentle slopes. Positioned within the Najd Plateau, Riyadh is situated in a vast elevated area at the center of Saudi Arabia.



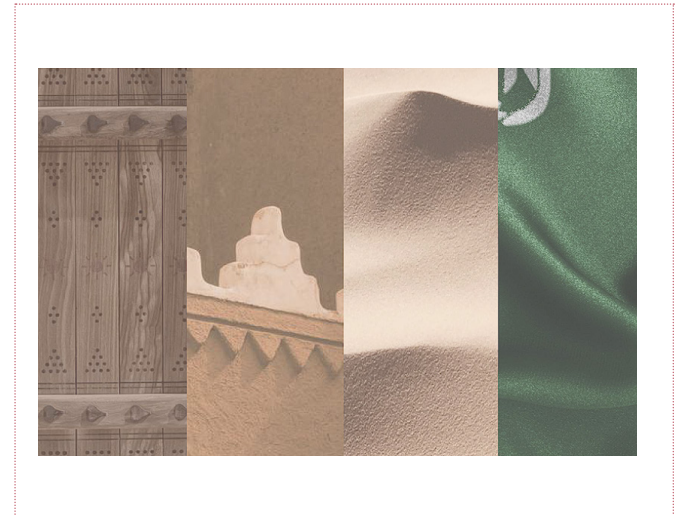
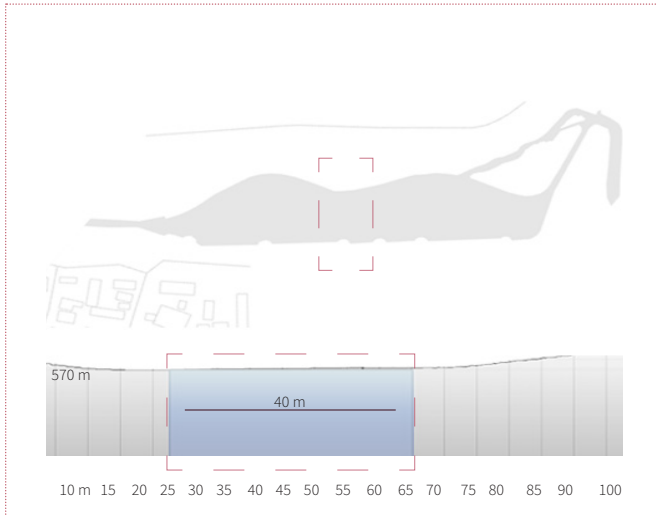
The triangle shape is widely recognized as a key architectural element in the Najdi region. From a structural standpoint, triangles offer robustness and steadiness. The diverse dimensions and symmetrical arrangements of equilateral and isosceles triangles contribute to effective weight distribution throughout the entire building.

STRUCTURE



## SITE SELECTION

The essence of the thesis is to give a new meaning to hybridity in architecture. Selecting the site depends on the relationship between various aspects of architecture relative to, Function, Community, and Culture.

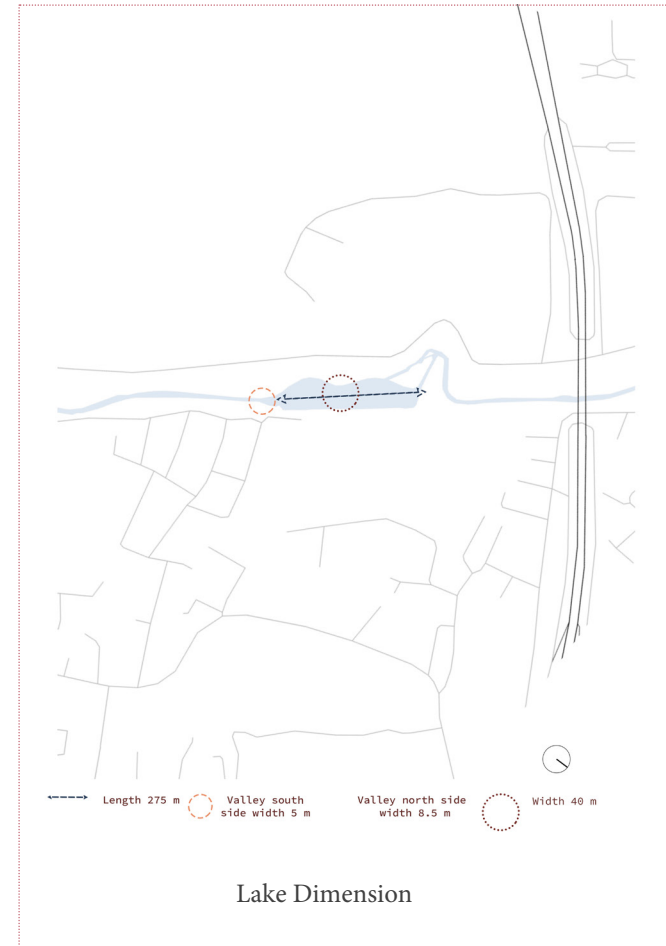


The industrial aspect depends on a facility's Drinking Water Treatment. The selected site covers a park that has a water source (lake) that can be taken advantage of to satisfy the functional aspect of the project.

The project includes the redesign of an abandoned park that misses the community's needs for public places and recreation places. The park covers both sides of the lake. The design intent is to create a community / industrial space building that can be a tourist destination and entertainment place for the city residents, where they can enjoy and have an impressive experience.

The cultural aspect is essential in the project, it mostly focuses on representing the culture and history of the central region in Saudi Arabia in the present. Elements of regional Art and Architecture are the majority to express the cultural aspect.

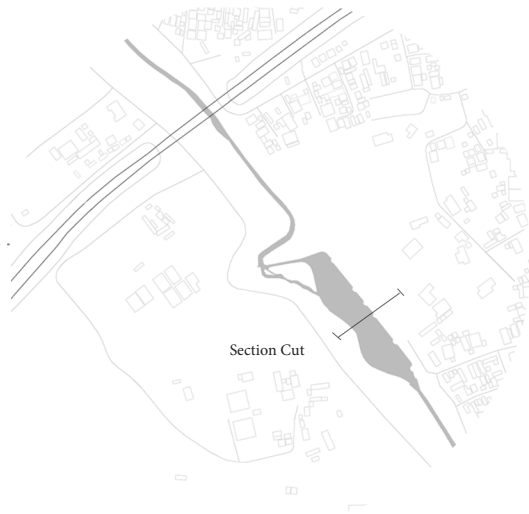
## SITE CONDITIONS



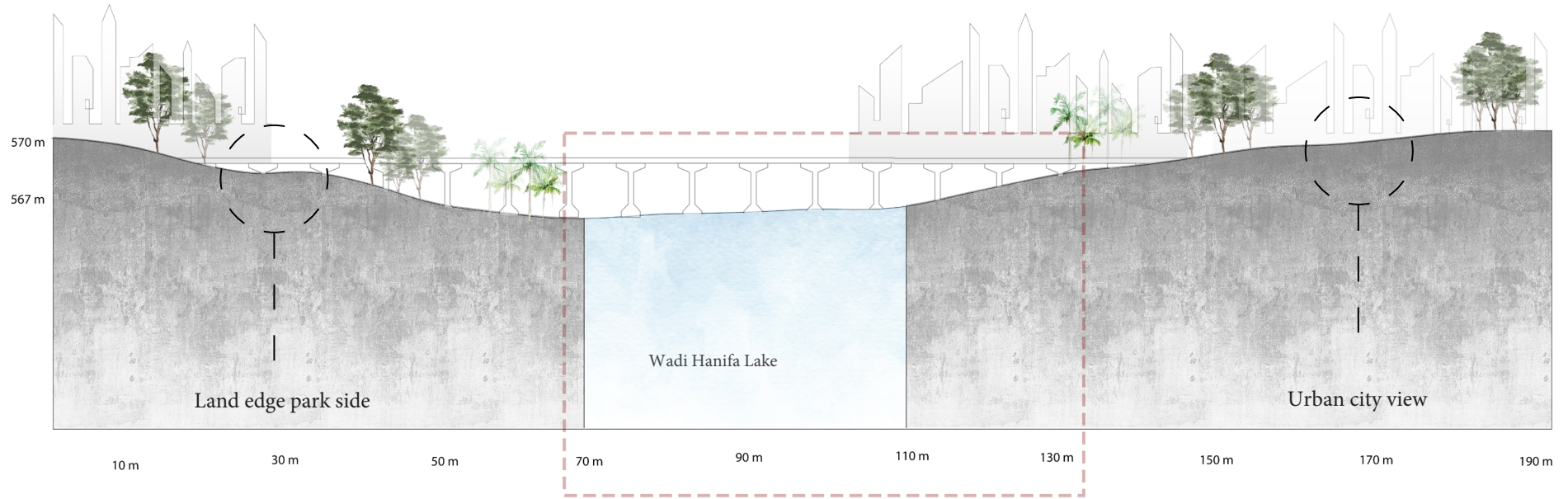
# A SECTION ACROSS THE WADI HANIFA VALLEY



Lake View



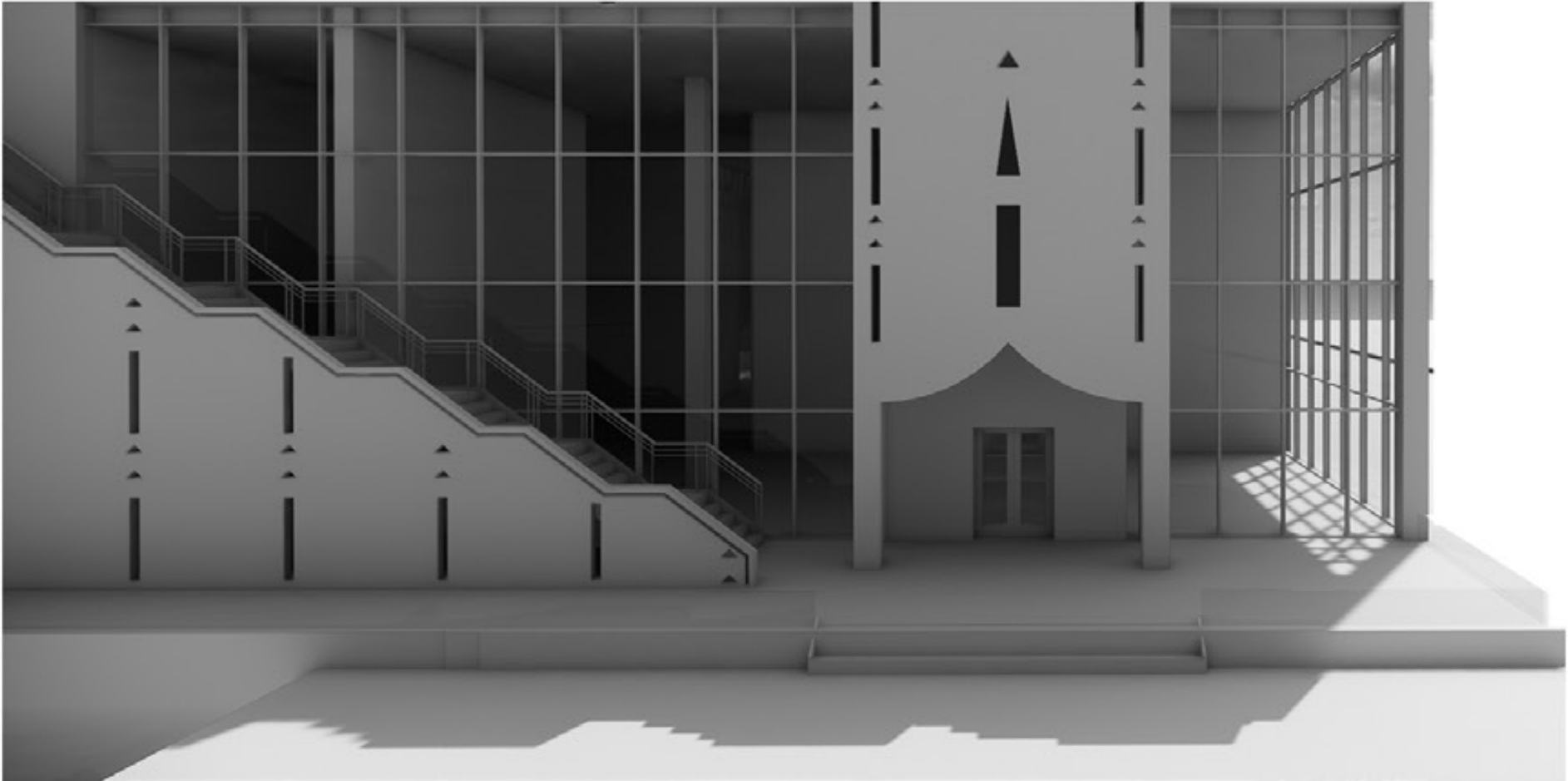
Park View



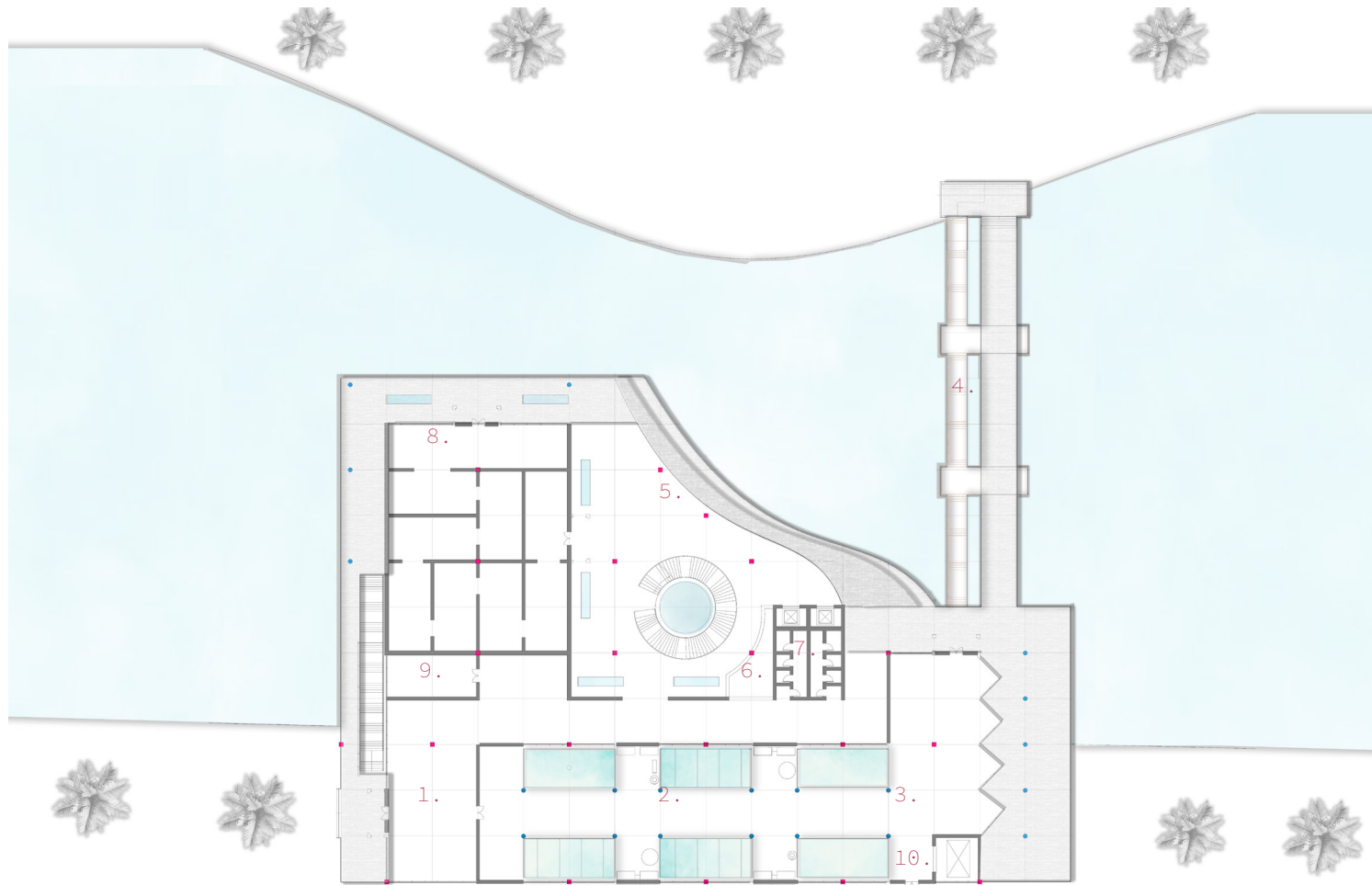
The primary conceptualization of hybridity, as developed in the thesis, revolves around the integration of a community center and a water treatment facility within a singular architectural structure. The overarching goal is to underscore and accentuate the essence of hybridity, where diverse functions coalesce to form a cohesive and multifaceted design. This approach not only combines essential community amenities but also serves as a symbolic representation of the synthesis between disparate elements, fostering a harmonious relationship between community engagement and sustainable water management.



SITE PLAN



The primary entrance to the building is situated on the side, with the parking area on one side and the scenic lake valley on the other side

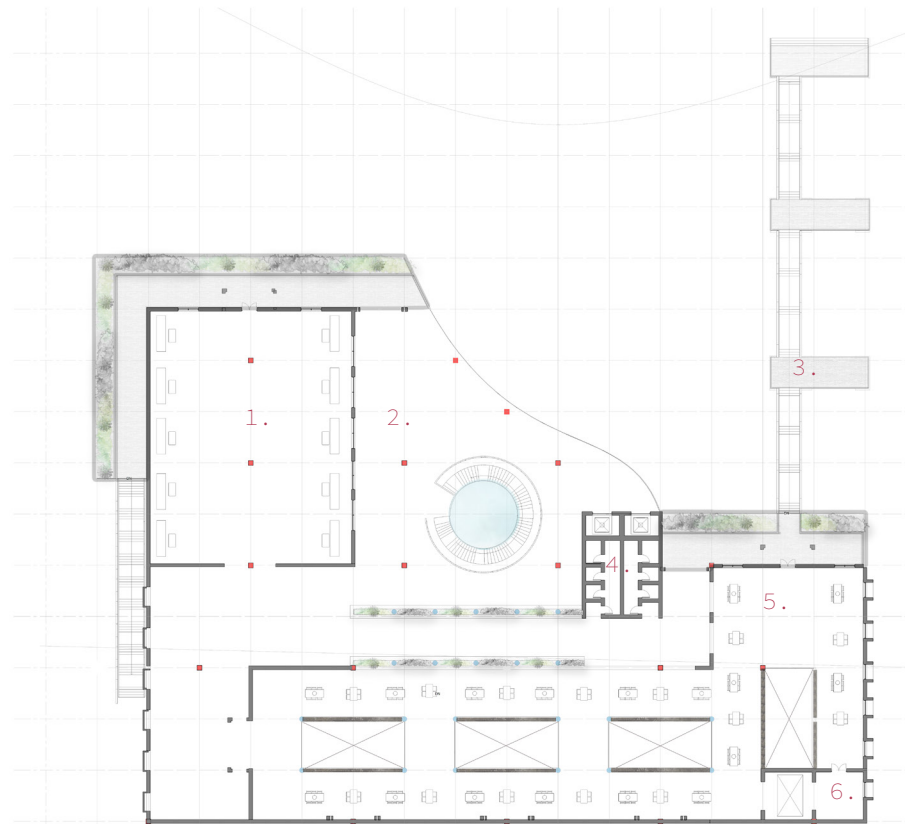


## GROUND LEVEL

1. LOBBY
2. WATER TREATMENT
3. STORE
4. PATHWAY
5. WATERFRONT
6. RECEPTION
7. W.C
8. 4D EXPERIENCE
9. CONTROL ROOM
10. SERVICE ELEVATOR

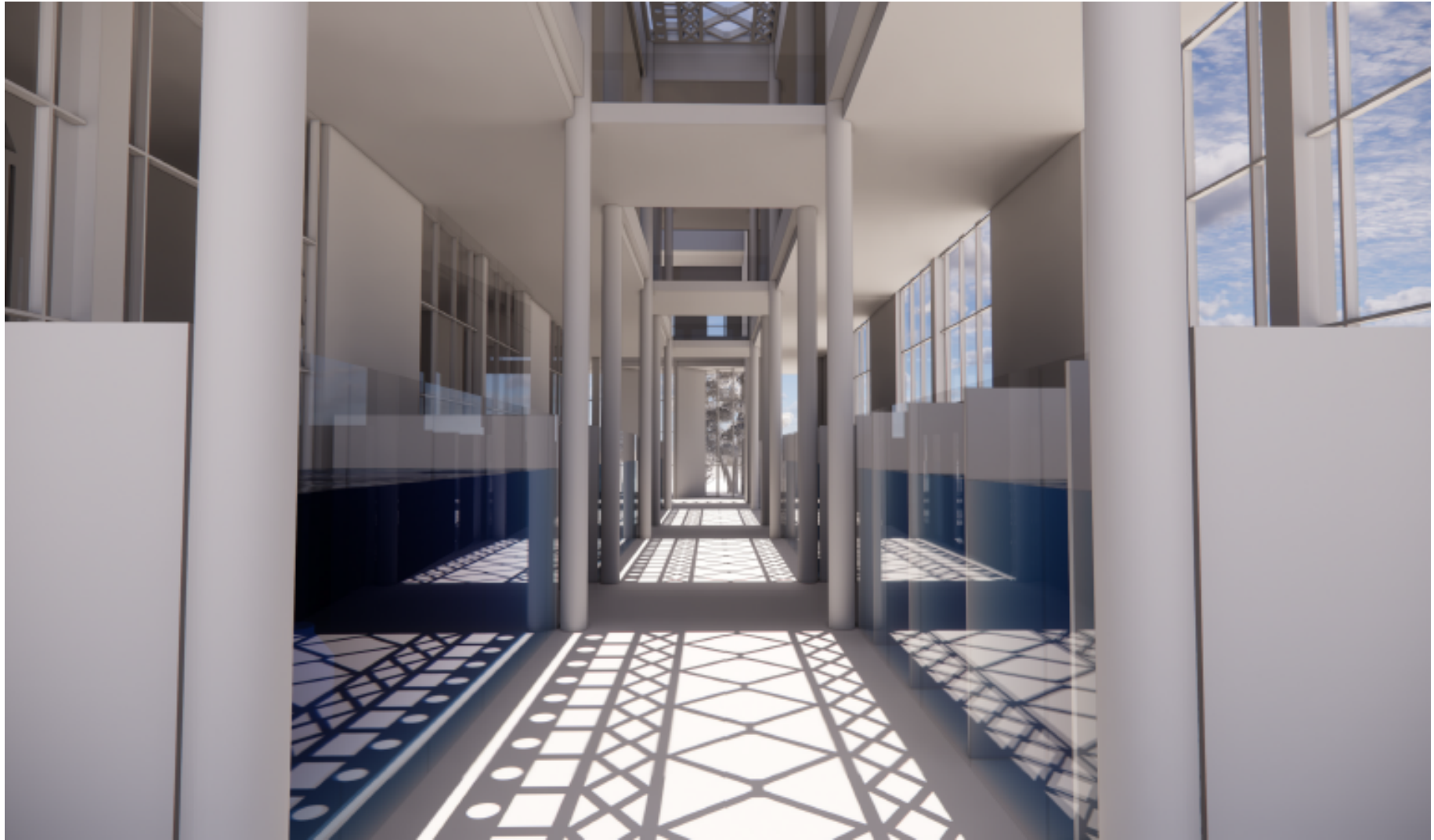


The building has a nice curved staircase at the center, and the plaza above has patterns with Najdi triangles patterns, which create a pretty shadow on the steps of the stairs.



## FIRST LEVEL

- 1. BAZAR / WORKSHOP
- 2. PLAZA
- 3. PATHWAY
- 4. W.C
- 5. CAFE
- 6. KITCHEN



## SUSTAINABLE STRATEGIES

The location experiences arid and high temperatures during the summer. Therefore, the design emphasis is on integrating multiple sustainable strategies to shield the building from southern solar exposure. The provided diagrams illustrate the application of solar panels on both the roof and walls, aiming to analyze the distribution of shadows and light accessibility during the hottest periods of the day.



10:30



11:30



12:30



1:30

### Case 1

The wall is positioned to the south, making it prone to receive the highest amount of sunlight. In order to optimize sunlight utilization, this south-facing wall incorporates stationary windows featuring rectangular openings in the upper section. This design choice aims to enhance shading on the southern side, consequently minimizing the amount of light entering.



## SUSTAINABLE STRATEGIES



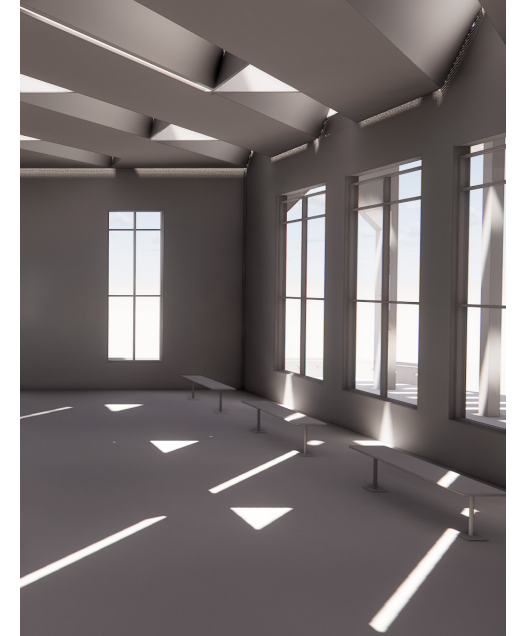
10:30



11:30



12:30



1:30

### Case 2

Implemented solar panels oriented at a 45-degree angle on the south-facing section of the roof serve the purpose of filtering sunlight during cooler hours and are partially closed during the hotter parts of the day.



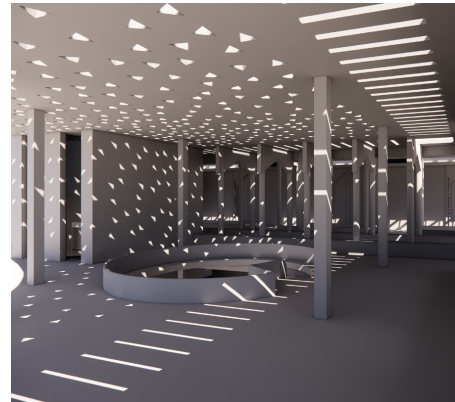
## SUSTAINABLE STRATEGIES



8:00



12:00



3:00



6:00

### Case 3

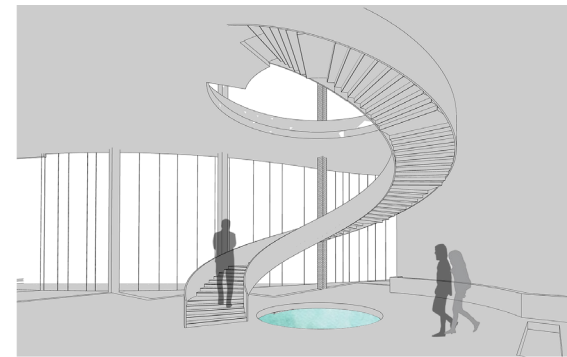
A trace is positioned on the rooftop plaza, essentially featuring small triangles, this placement strategically captures prominent architectural elements, generating a shaded space for outdoor activities.



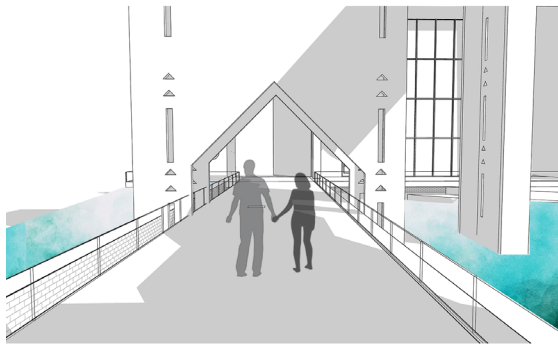
WATER & LAND



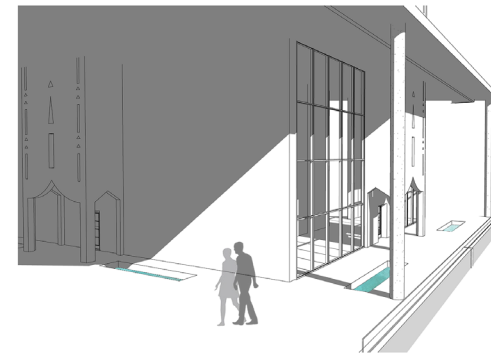
Water Facility



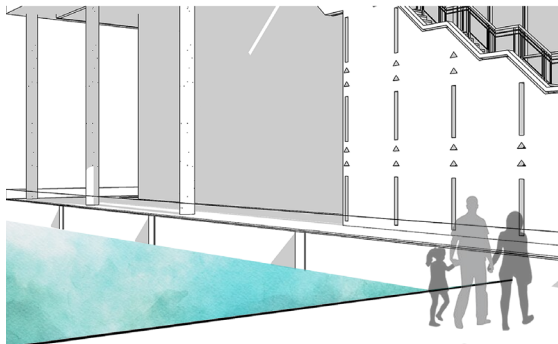
Exterior Floor Opening to Lake



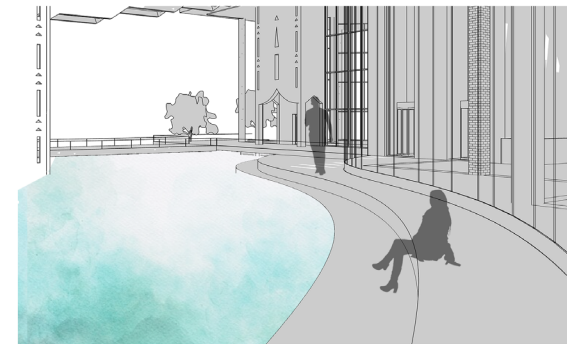
Bridge and Staircase



Interior Floor Opening



Entrance Stairs



Waterfront Steps

# 3.

## CULTURAL HYBRIDITY

This section reveals the main features of Najdi Architecture from historical and cultural aspects as a primary goal of the hybrid concept can apply to Najdi architecture by representing the use and the purpose in a modern approach. This meets the need of the project and keeps Najdi's architectural traits, not only as a referential shape, but the function as well.

Repetition elements in Najdi architecture

*Tarma*

Najdi pattern

Courtyard

*Furjat and shurft*

## Najdi Architecture between the historical and contemporary

HISTORICAL PURPOSE

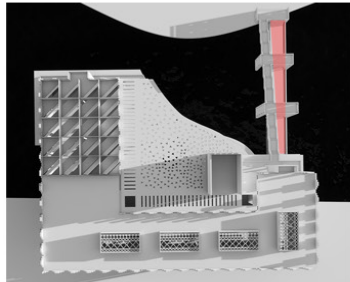
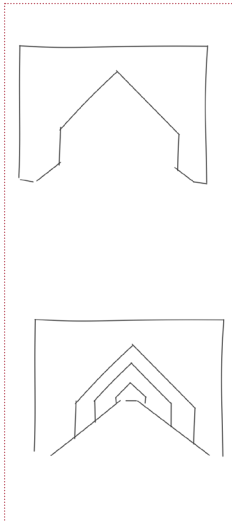
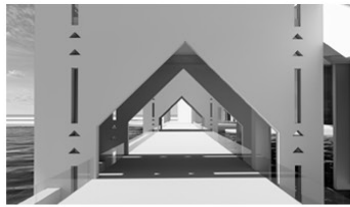


Adjust the form and/or the function

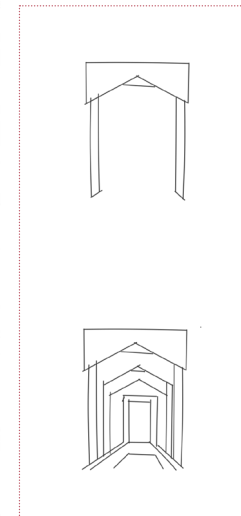
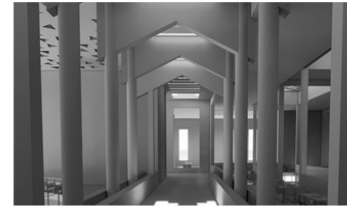


CONTEMPORARY PURPOSE

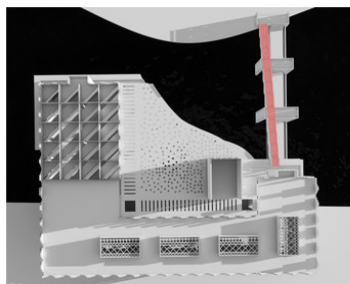
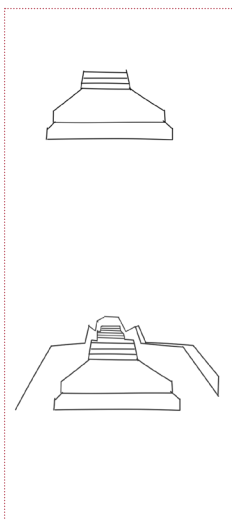
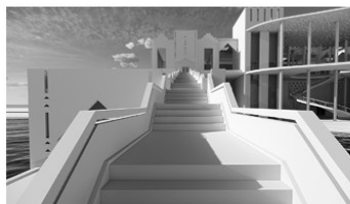
# REPETITION OF ELEMENTAL SHAPES IN NAJDI ARCHITECTURE



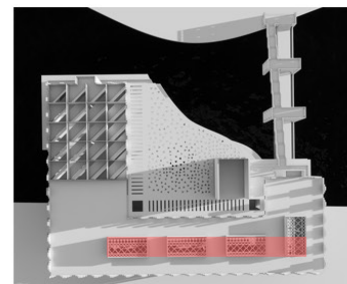
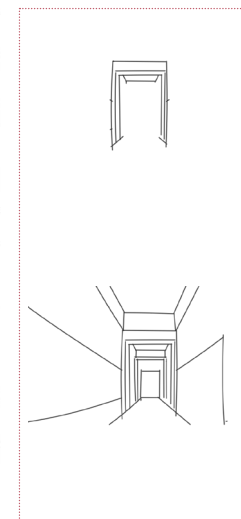
ARCHES



LOWER CEILING



STAIRS

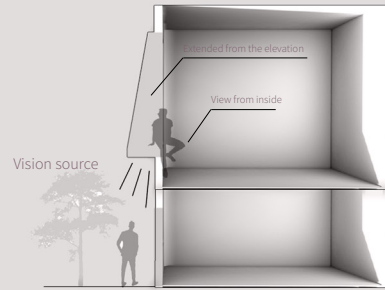


COLUMNS

# TARMA

## HISTORICAL PURPOSE

Tarma is an architectural Najdi element that was used in the past for female residents to watch shielded and silently from who is outside.



ELEVATION



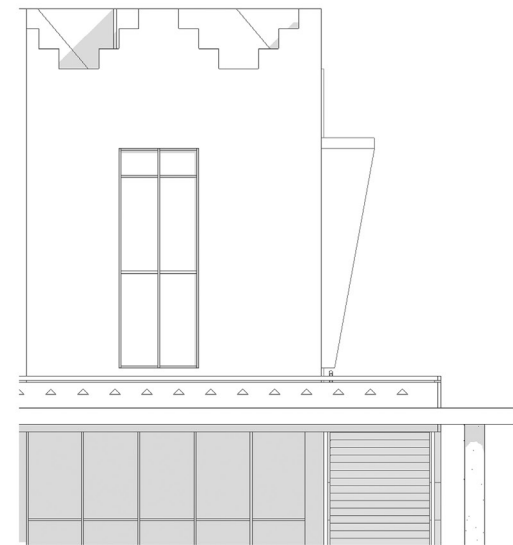
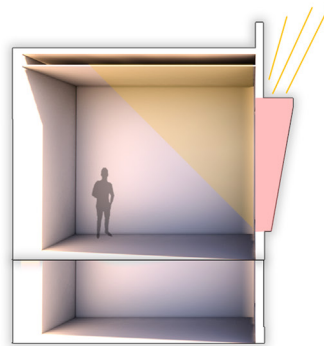
SECTION



↑  
Adjust the form and the function  
↓

## CONTEMPORARY PURPOSE

The light source for the elevation is oriented to not receive direct light from the sun.



# Najd PATTERN

## HISTORICAL PURPOSE

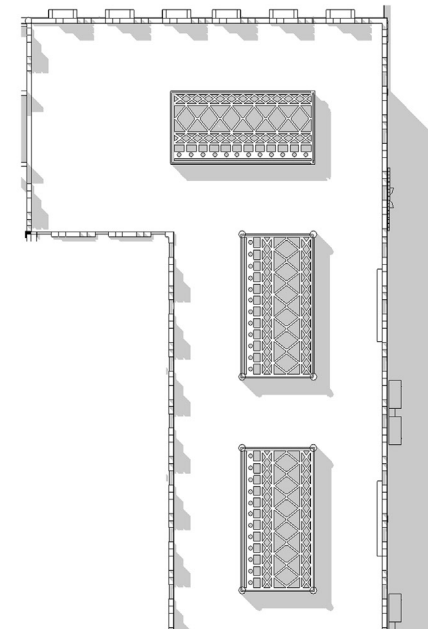
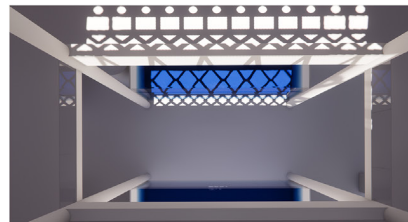
In Saudi Arabia, distinct patterns are employed for decorative purposes in various contexts, including clothing, interior, and exterior elements, with each region exhibiting its unique design. In Najdi Architecture, the prevalent decorative motif features shapes comprised of triangles and lozenges, notably observed in Najdi doors.



Adjust the function

## CONTEMPORARY PURPOSE

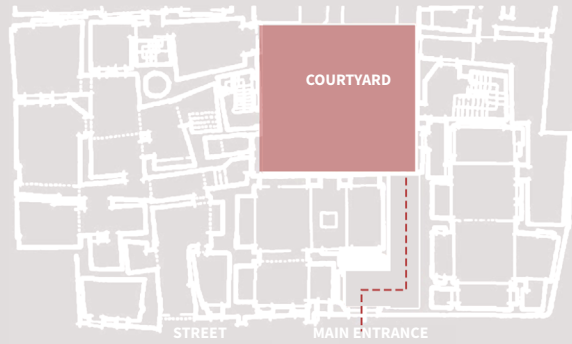
The architectural pattern is expressed by incorporating a sunshade that mirrors the same geometric shapes on the building's roof. captures the shadow's reflection on the walls and floor to evoke a sense of the building's location and regional identity.



# COURTYARD

## HISTORICAL PURPOSE

In Najdi architecture, regardless of the building's dimensions, a courtyard remains a pervasive element in each dwelling. Serving to create aligned perspectives and offering ventilation and natural light to interior spaces, the courtyard plays a crucial role.



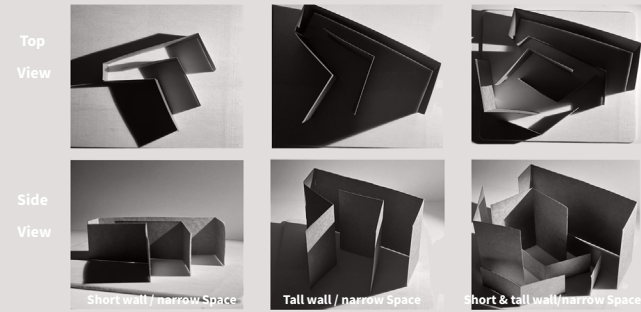
The narrow street layout serves as evidence underlining the significance of incorporating courtyard concepts, emphasizing the necessity for each building to possess an entrance space. This approach aims to evoke a feeling of spaciousness, ample light, and ventilation

Adjust the form

STREET DESIGN

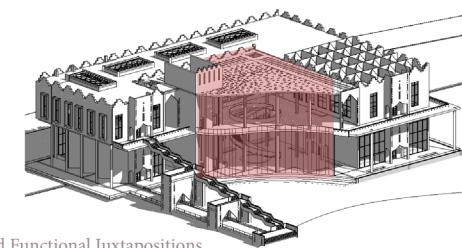
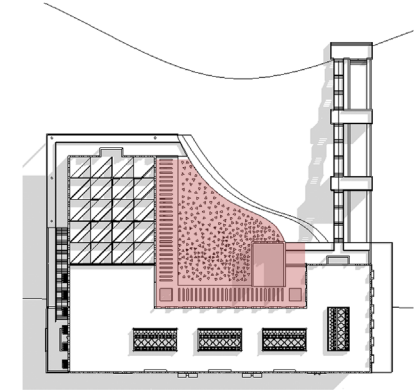
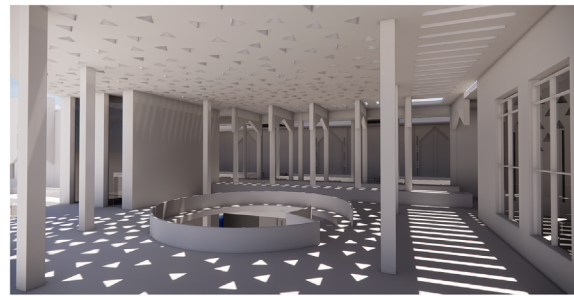


STUDY MODEL



## CONTEMPORARY PURPOSE

In the designed building, the courtyard presents its main function, providing views, ventilation, and light to the interior space. Additionally, the redesigned courtyard exists on the ground and upper level and is covered with a screen to filter the light access.



# FURJAT AND SHURFAT

## HISTORICAL PURPOSE

An architectural feature in Najdi architecture known as "Shurfat" derives its name from the Arabic words "Sharaf" or "Ashraf," signifying "to observe" or "to look." These elements are commonly found repetitively at the termination of a building or along its edges.

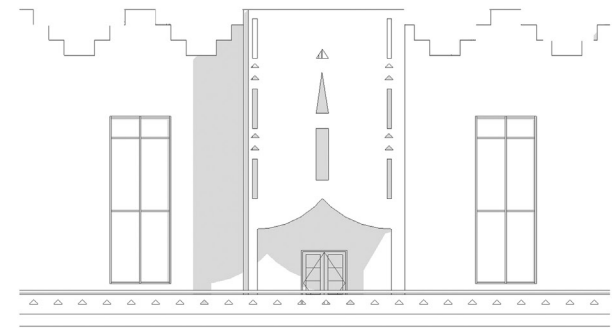
This architectural component known locally as Alfuraj (plural: Furjat) is a diminutive window or opening, typically adopting a triangular or rectangular form. The nomenclature is derived from its meaning and purpose, as "Furjah" translates to "an opening" in Arabic



Adjust the form and the function

## CONTEMPORARY PURPOSE

Both elements are used for decorative elements in the building while the traditional purpose was for observing and protection.



# 4.

## STRUCTURAL HYBRIDITY

Structural Hybridity

3D Model

Structural Beams & Walls

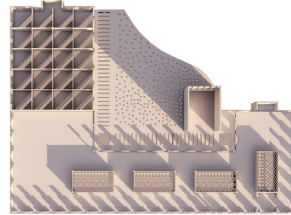
Columns Type

structural columns and decorated columns

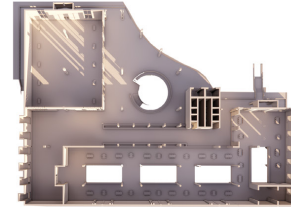
Site Section

Materials

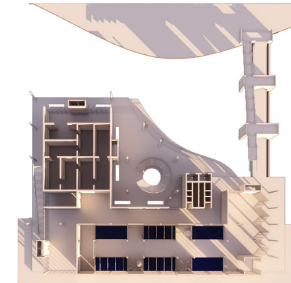
ROOF



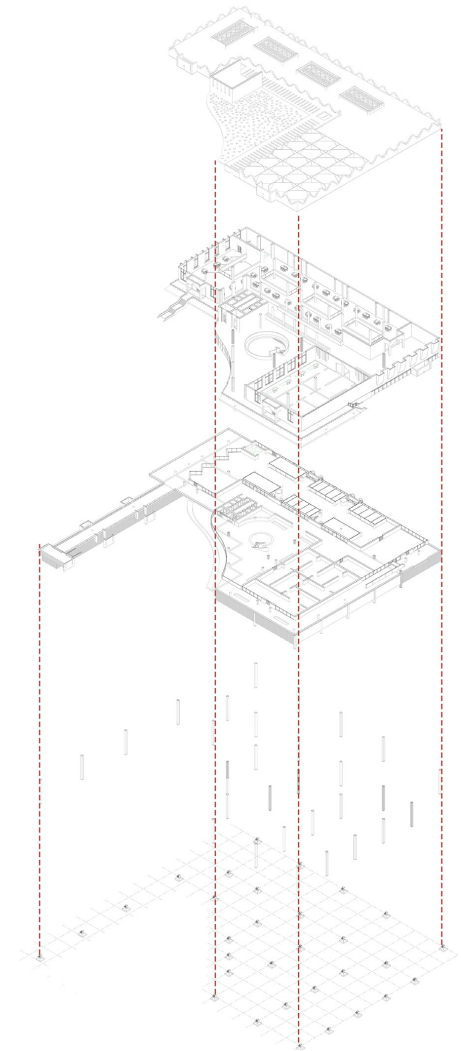
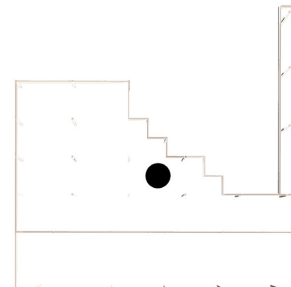
FIRST LEVEL



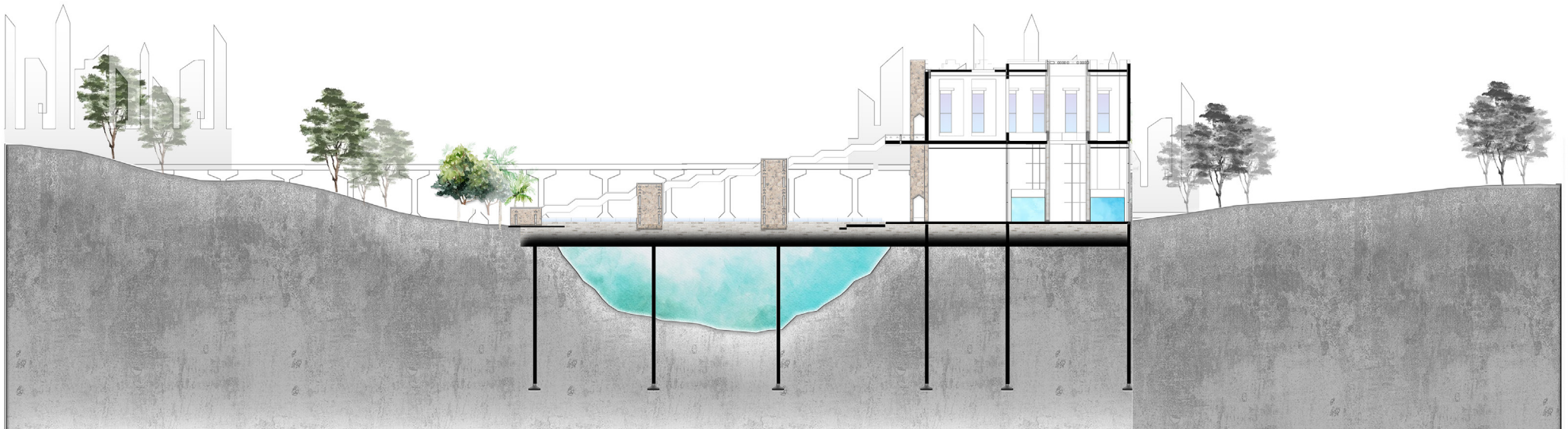
GROUND LEVEL



FOUNDATION

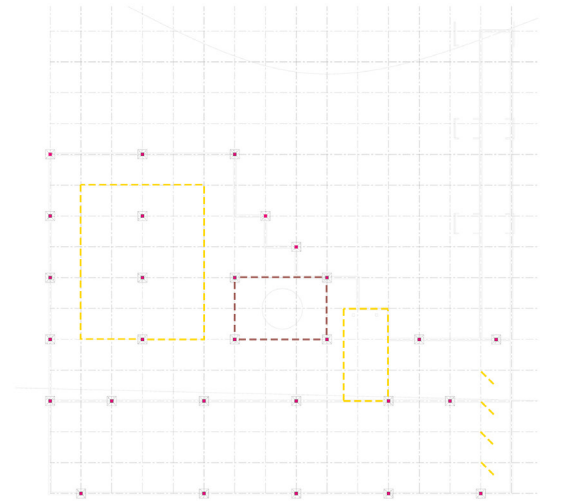
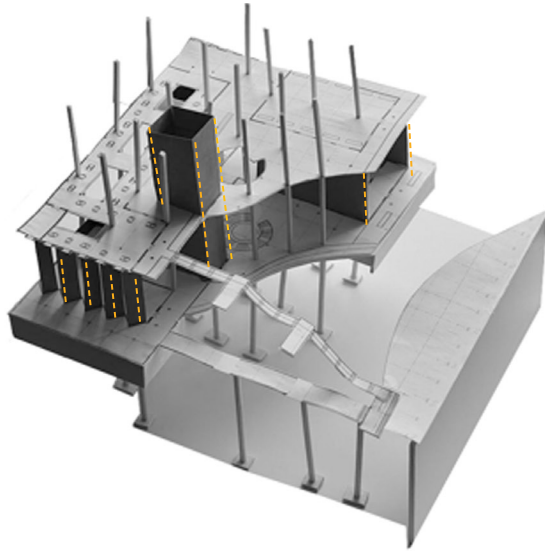


## SECTION ACROSS THE LAND SHOWS THE STRUCTURAL ELEMENTS



The sectional view of the site depicts the building along with structural columns extending into the ground and beneath the lake. Certain columns extend from the ground to the roof, while others provide support to the structural walls upholding the building.

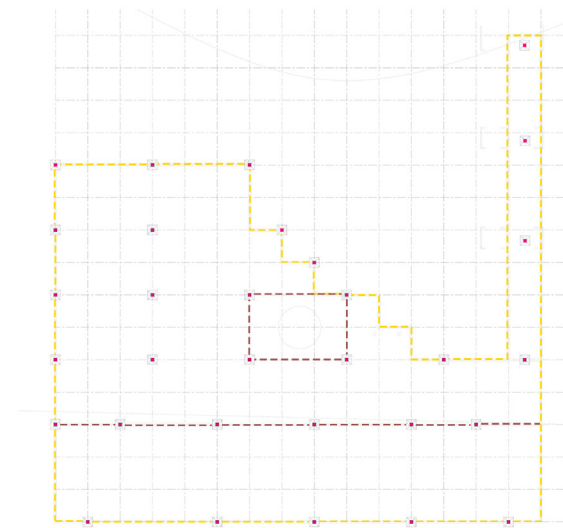
# GRID SYSTEM



GRID SYSTEM GROUND LEVEL



The water facility is placed on the land side, it is set on a concrete foundation and columns to support the heavy water tanks.

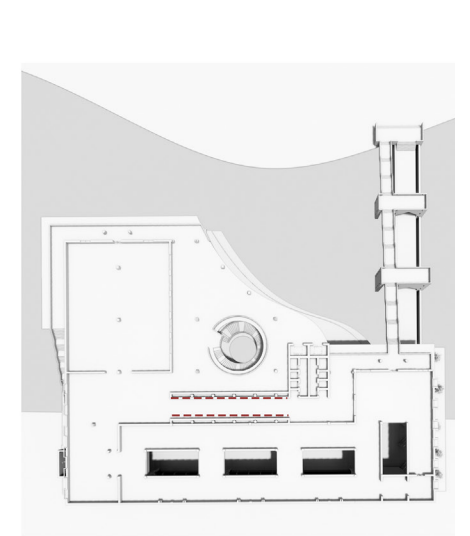
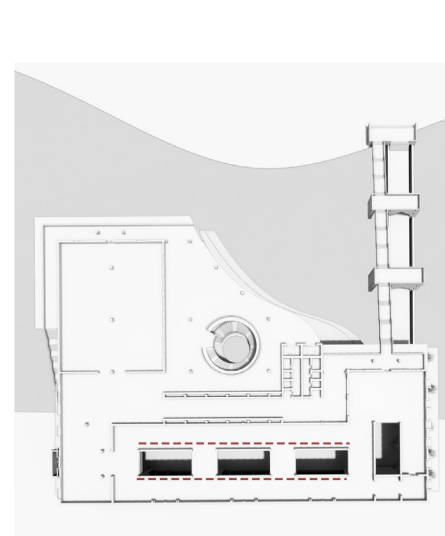
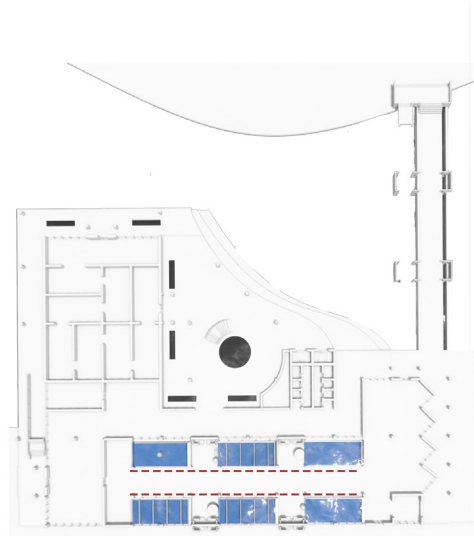
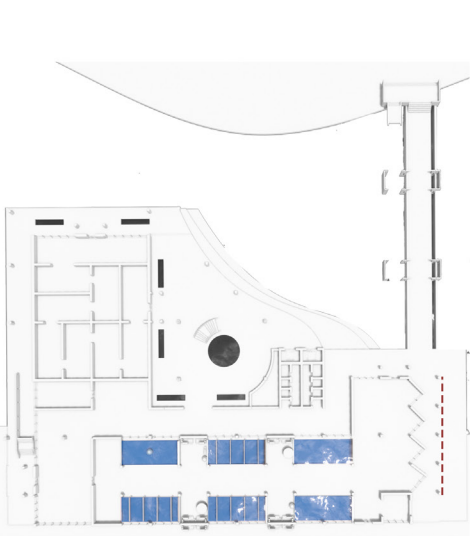
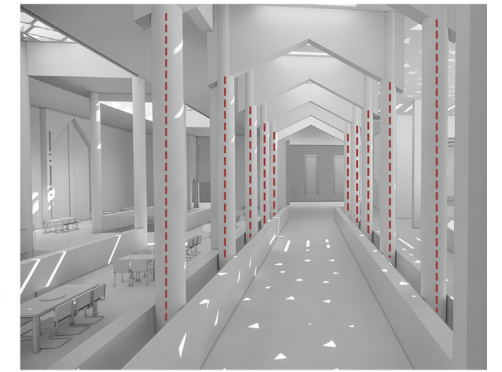
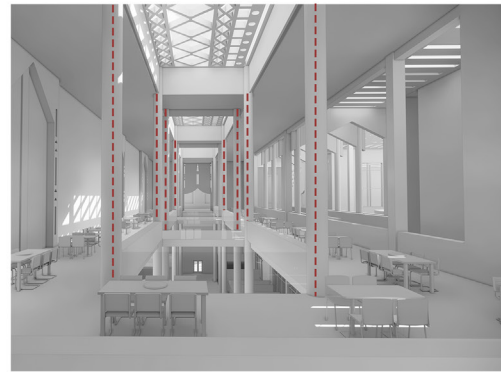
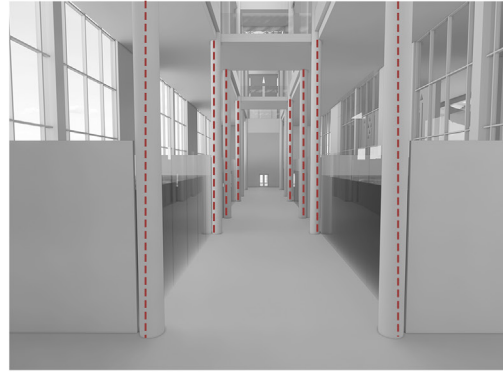
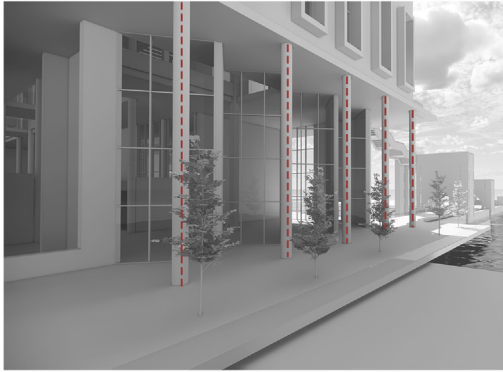


GRID SYSTEM UNDERGROUND



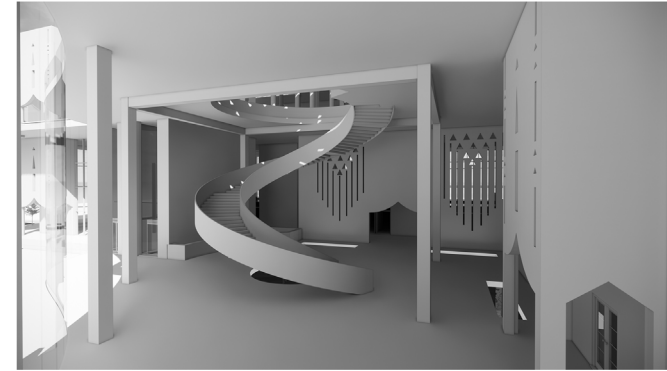
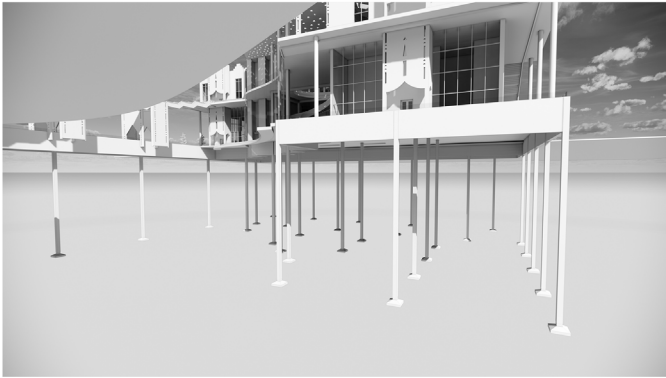
COLUMNS    
  STRUCTURE WALL    
  BEAM

## DECORATIVE COLUMNS

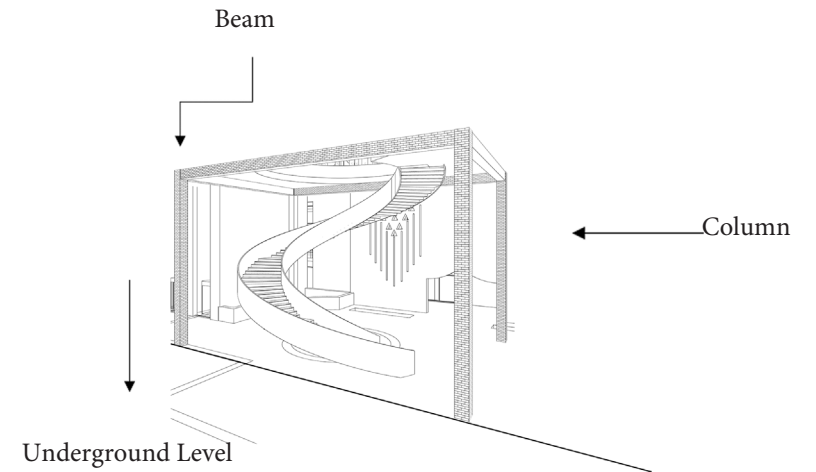
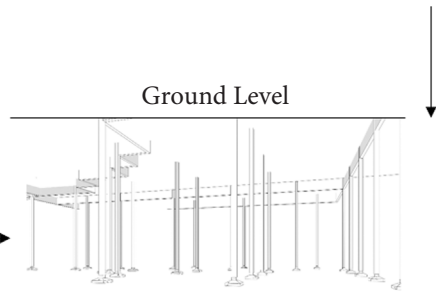


The diagrams illustrate where decorative columns are positioned in the building and the perspective from which they are viewed.

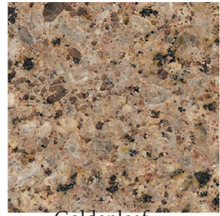
## STRUCTURAL COLUMNS



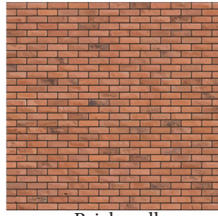
Structural columns underground continuously from the bottom to the top of the incorporated with the walls.



## MATERIALS



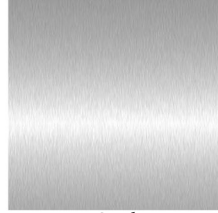
Goldenleaf



Brick wall



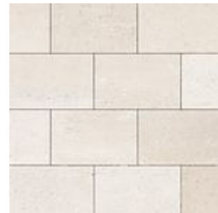
Structural columns



Steel



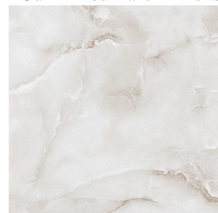
Stone



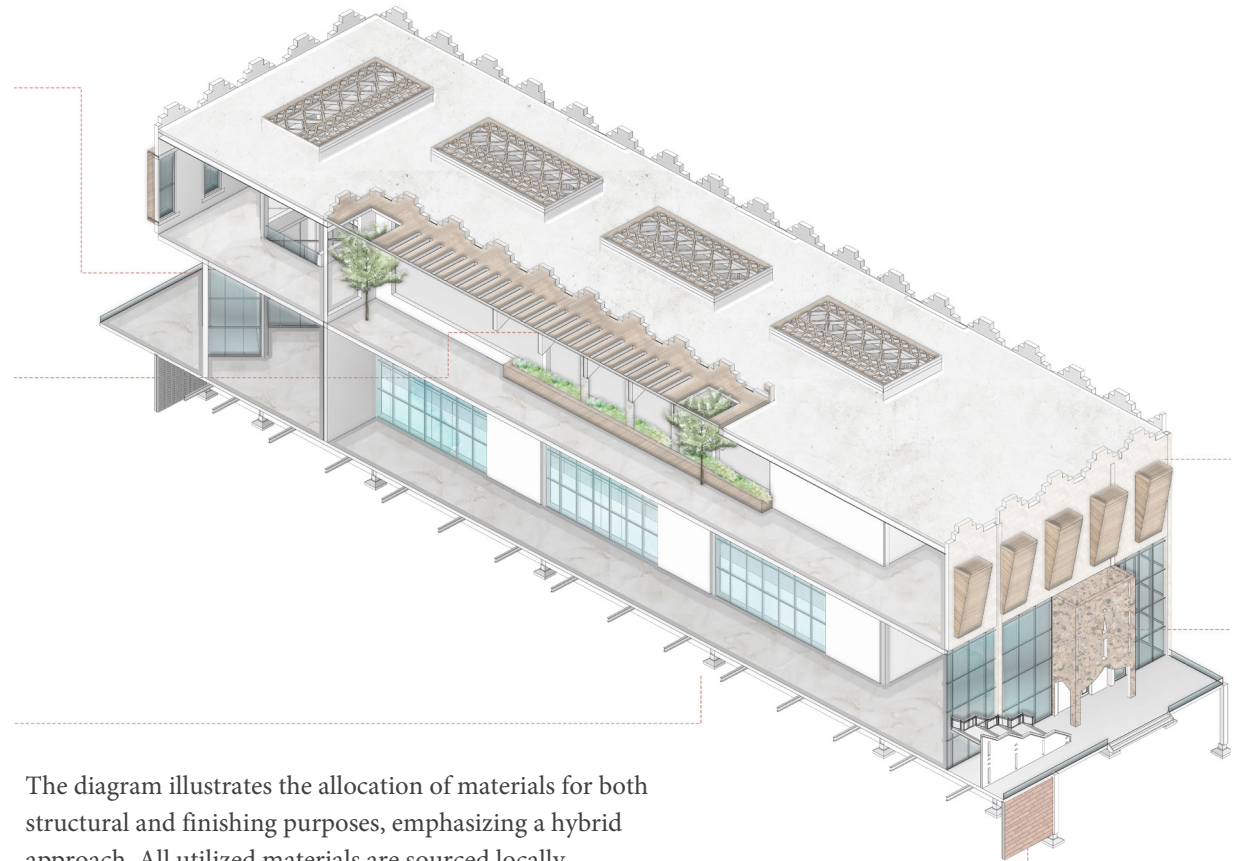
Sun Dried Earth Bricks



Wood



Marble



The diagram illustrates the allocation of materials for both structural and finishing purposes, emphasizing a hybrid approach. All utilized materials are sourced locally.

# 5.

## FUNCTIONS AND HYBRIDITY

The building is designed to serve various functions simultaneously and be a flexible space that serves the community. The target is entertainment and the industrial where the hybrid concept meets these two different uses.

Function diagram

Water treatment facility

Cafe

Water facility & cafe

4d experience

Multi-use space

4d experience & multi-use space

**Cafe**

The café plans to utilize water treated by the same facility and offer a variety of coffee selections from different regions within the Kingdom of Saudi Arabia.

**Water Treatment Facility**

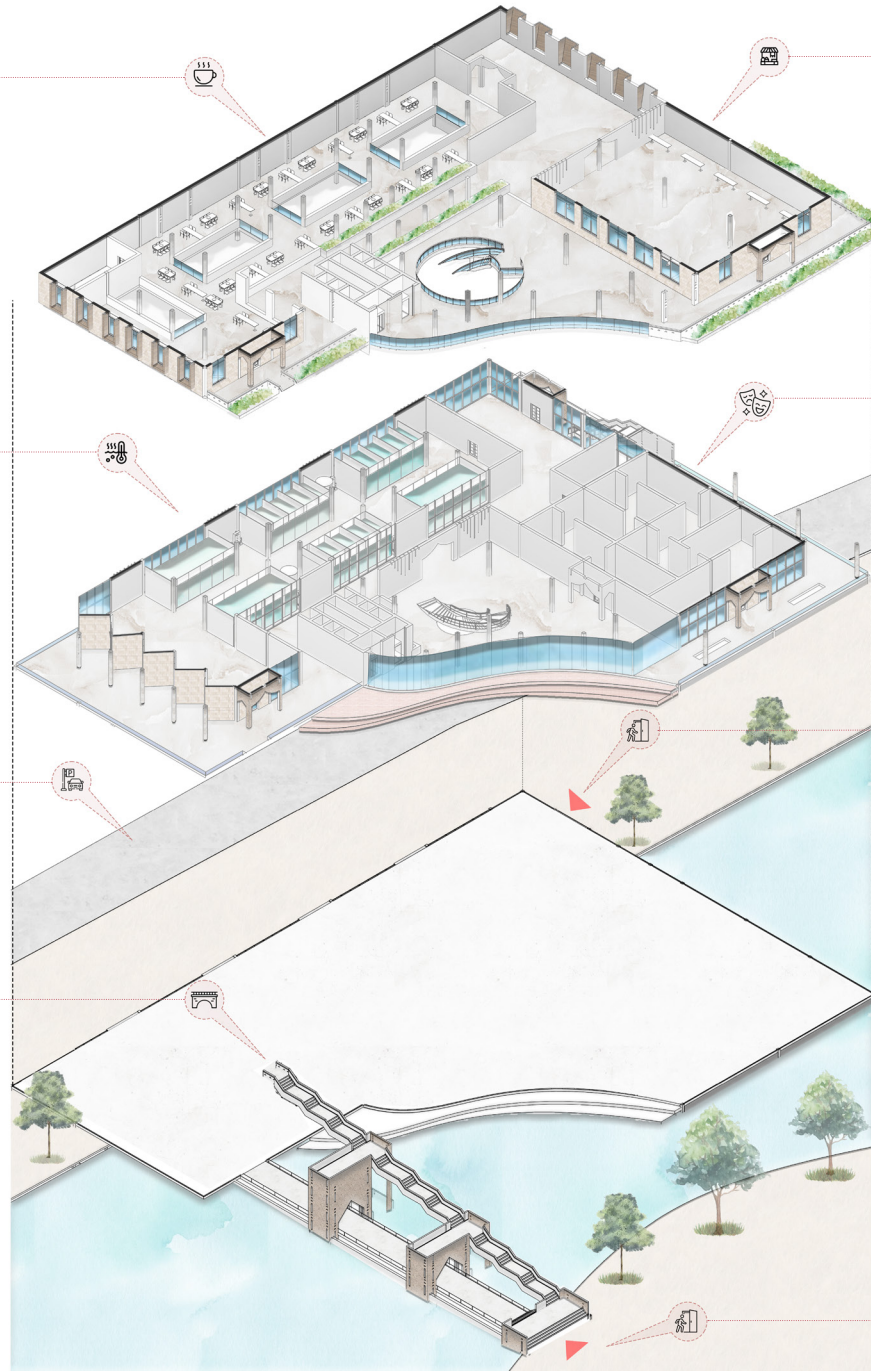
An industrial space used for water treatment, allows the visitors to take a tour to experience the water treatment process closely.

**Parking**

Parking lots behind the building.

**Connection Element**

The designed staircase and path linked the two sides of the lake and provided an aesthetically pleasing view of the lake.



**Multi -Use Room**

This space is flexible to use for multiple purposes and can be changed on a weekly basis (workshops / local market /bazaar, etc...)

**4D Experience**

A space designed for a 4D experience tour for the visitors( the space can be reequipped for new shows occasionally).

**Accessibility 1**

The main access to the building is where the vehicles can park and enter the main lobby for the building.

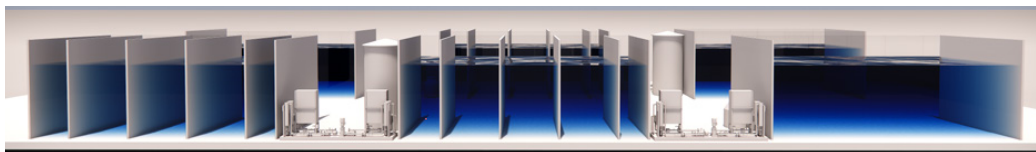
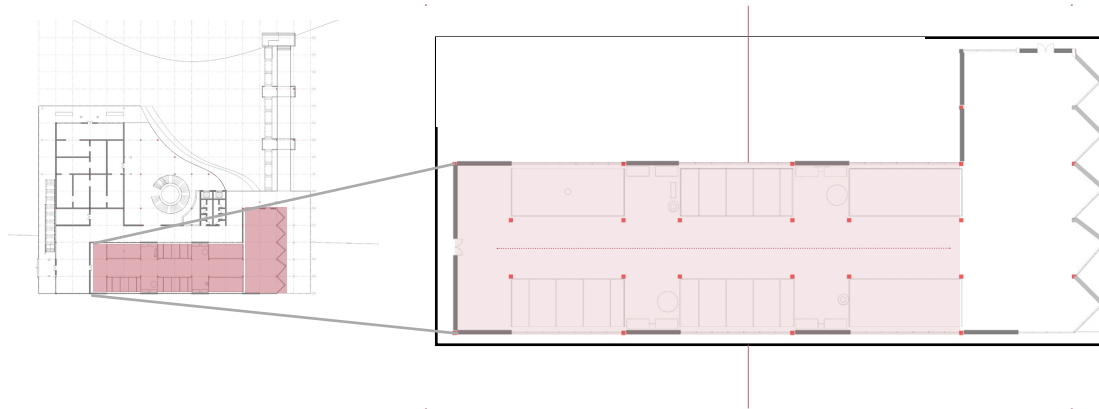
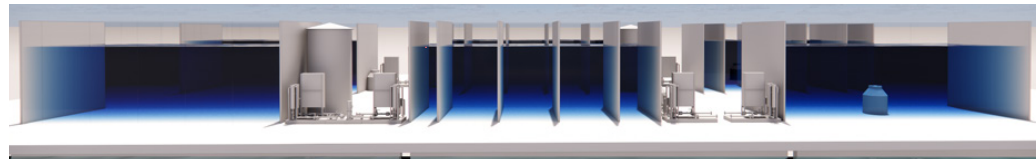
**Accessibility 2**

An entrance from the bridge on the other side of the lake.

## Water Treatment Facility

The water facility is where the main hybrid concept meets in the project and the building is meant to be combined functionally for entertainment and industrial purposes. Combining these two main purposes is the hybridity concept that the building has.

The water treatment facility is an industrial process where the visitors can have a tour to experience the water treatment stages closely moving from one part to another and ending with a water store where you can have fresh flavored water or mojito drink from the same treated water.



## Pre-treatment

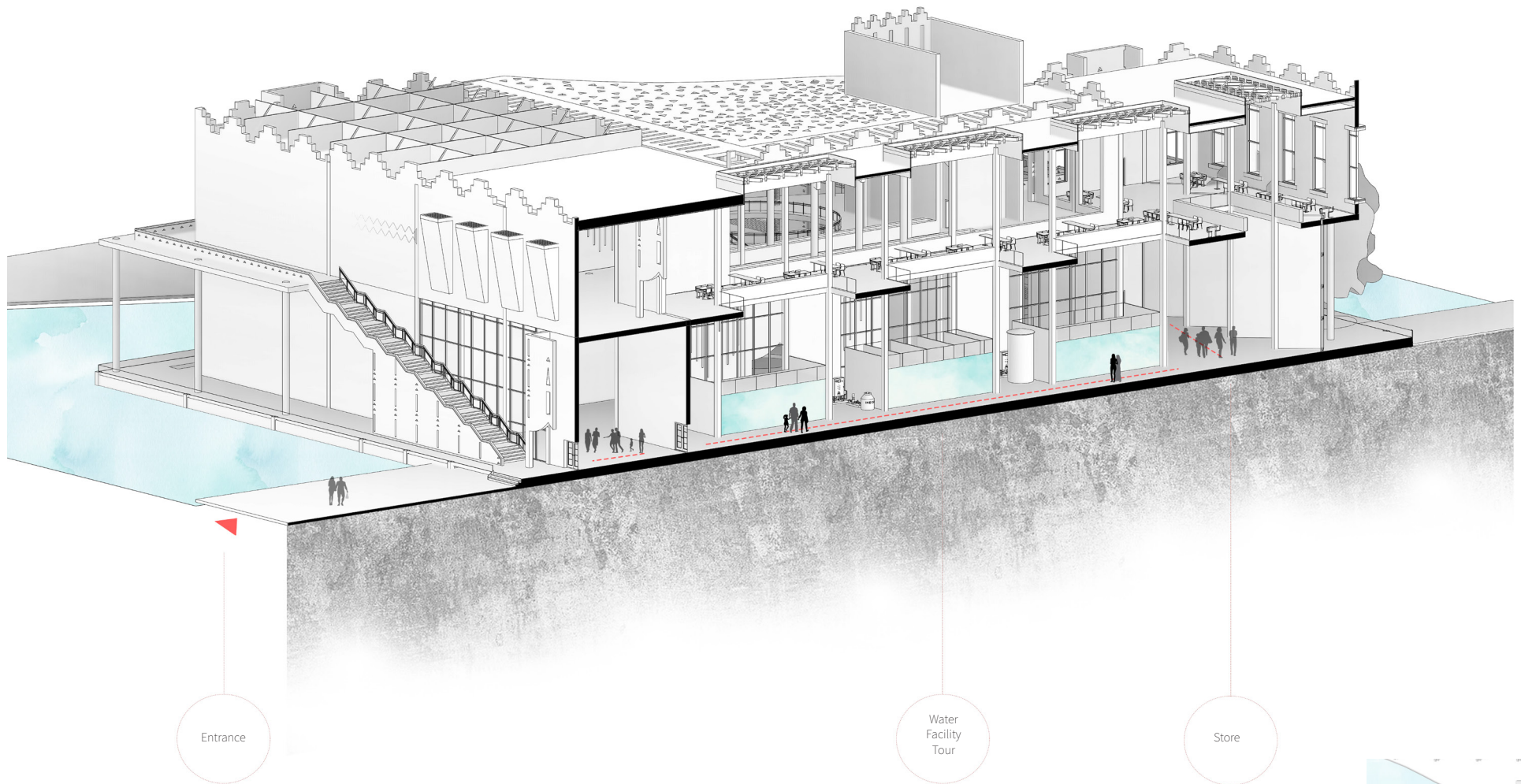
Cylindrical intake screens placed in the deep of the valley to avoid ingesting silt from the bottom of the floating materials from the surface. Vertical pumps draw the water from a well into the treatment plant.

The water process goes through 5 main stages, which are chemical coagulation, flocculation, sedimentation, filtration, and disinfection.

Estimated time for the entire process is approximately five hours, depending on how dirty the water is and how much there is. and how much chemicals are added.



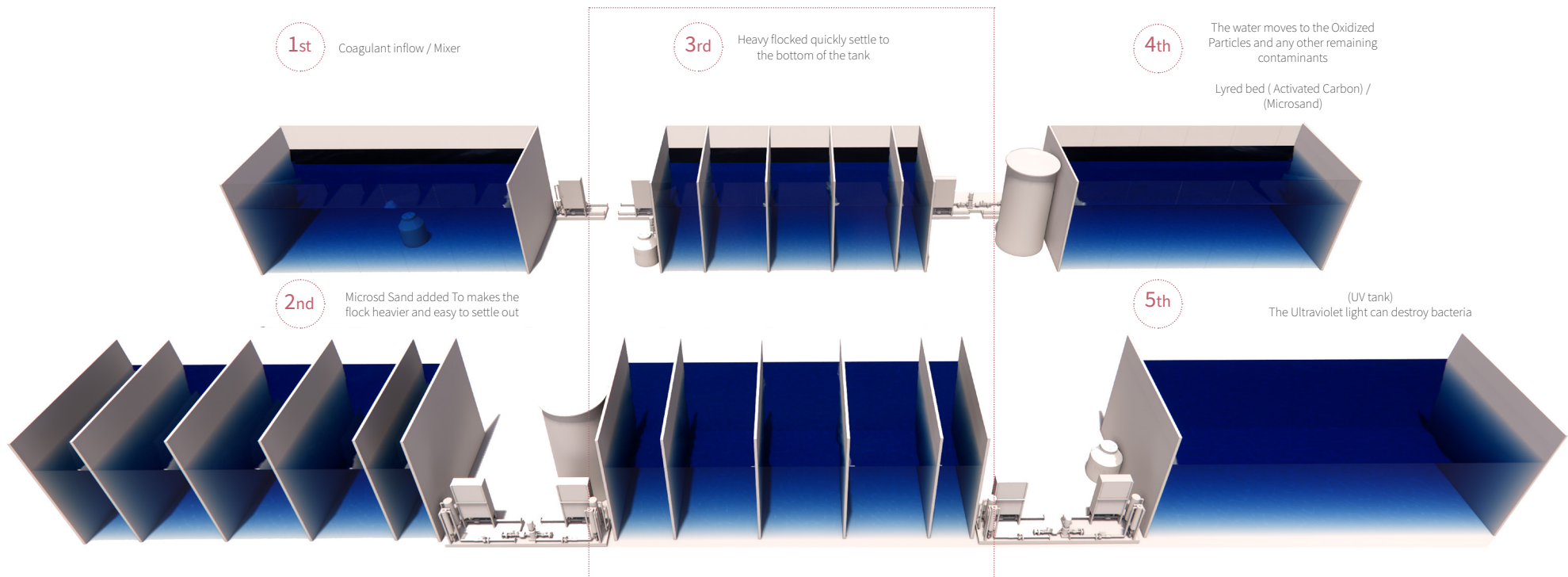
GROUND LEVEL - WATER TREATMENT



This space is designed to be the final destination for the visitors after they explore the water treatment process, where they end their tour in the store and they can taste bottled treated flavor water.



## WATER TREATMENT PROCESS



the Center of Disease Control CDC gives an overview of the water treatment process in its website :

### 1st Step Coagulation - 2 hours

In the coagulation process, water undergoes the addition of positively charged chemicals. These chemicals work by neutralizing the negative charge carried by impurities and other dissolved particles in the water.

### 2nd Step Coagulation - 15 min - 1 hour

Delicate agitation of the water is employed to create larger and denser particles known as flocs. Frequently, water treatment facilities introduce extra chemicals at this stage to aid in the formation of flocs from dissolved particles in the water.

### 3rd step Sedimentation - 1- 4 hours

Utilized for the separation of solids from the water, sedimentation involves the settling of flocs to the water's bottom due to their greater weight compared to water.

### 4th Step Filtration - Time : various

After the settling of flocs at the water's bottom, the water's upper clear portion undergoes filtration to isolate additional solids. In this filtration process, the clear water traverses various filters composed of diverse materials, such as sand, gravel, and charcoal, each with different pore sizes. These filters effectively eliminate dissolved particles and various contaminants, including dust, chemicals, parasites, bacteria, and viruses.

### 5th Step Disinfection - Time: Various

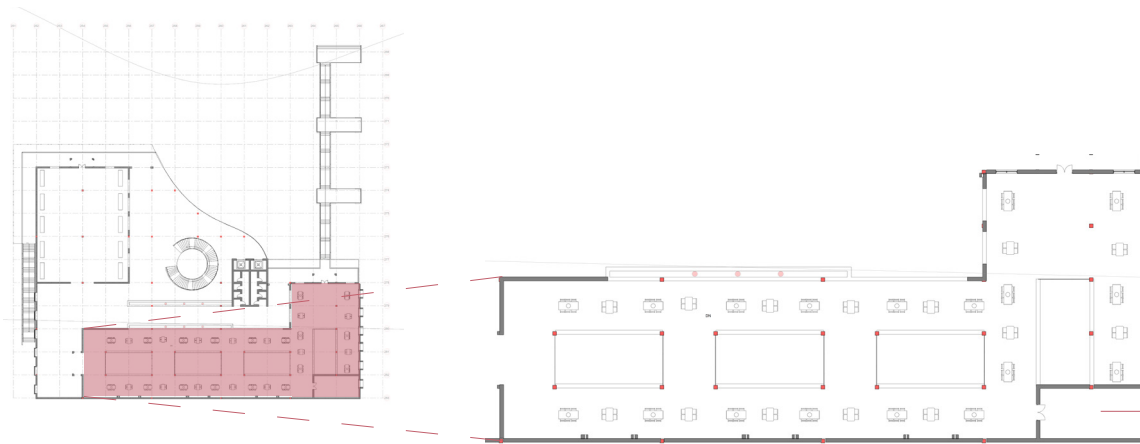
Following the filtration process, water treatment facilities might introduce one or more chemical disinfectants (like chlorine, chloramine, or chlorine dioxide) to eliminate any remaining parasites, bacteria, or viruses in the water.



The route for visitors within the water treatment facility includes sizable water tanks on either side and an overhead skylight that projects Najdi patterns onto the floor.

## CAFÉ

A café on the upper floor has openings that provide a view of the water treatment facility. The café proposes to use water treated from the same facility and provide different types of coffees from different regions in KSA.



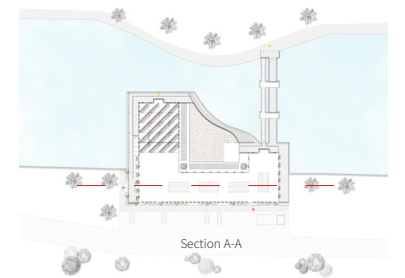
The service zone is comprised of an elevated storage area and kitchen positioned on the second floor. A vertical service conduit connects the café from the sub-entrance of the building.



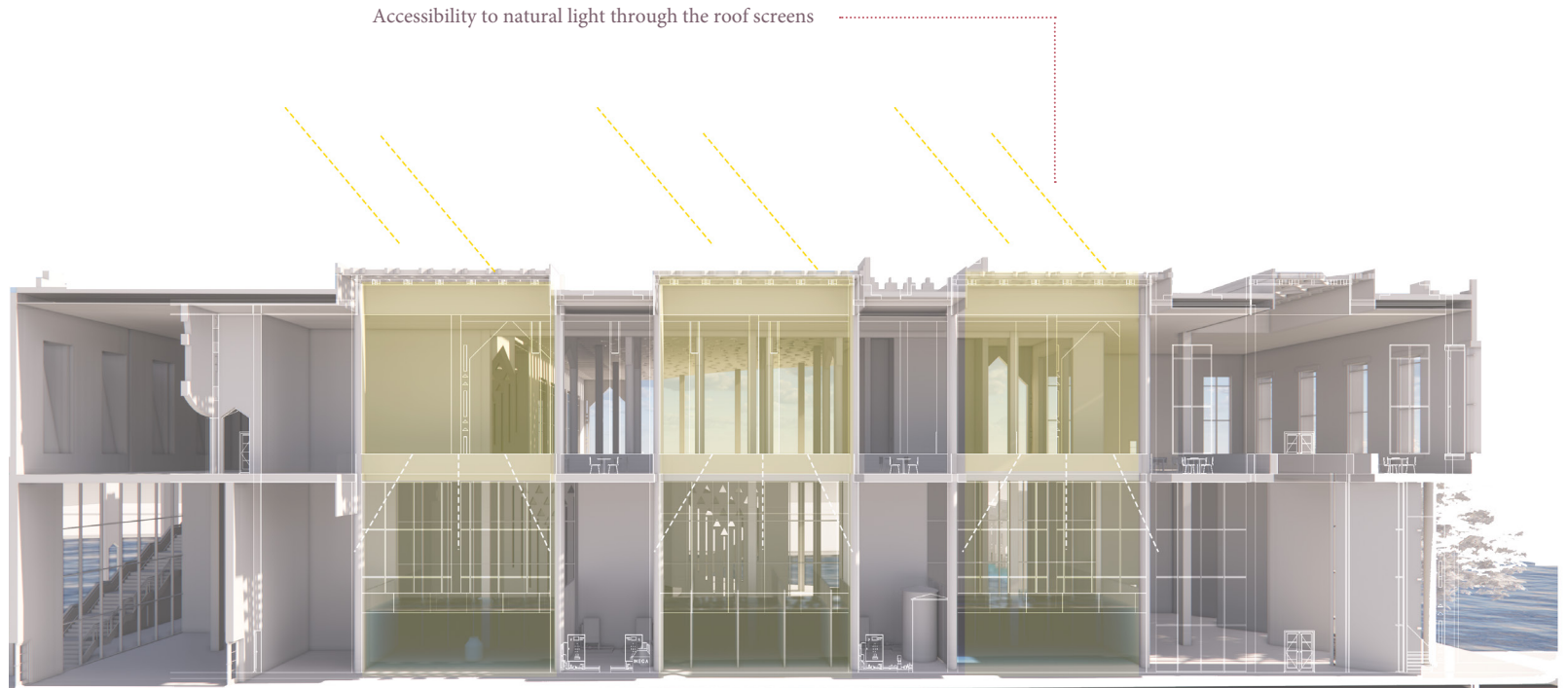
FIRST LEVEL - CAFE



A café area filled with natural light streaming in from both above and the sides, featuring open views overlooking the water facility



The café and water treatment facility exhibit dual functionality, revealing a sense of hybridity and interconnectedness facilitated by roof and floor apertures that allow for expansion of the views and sunlight access to the interior. to create a unique experience for the visitors



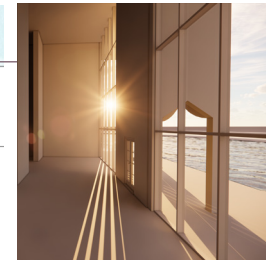
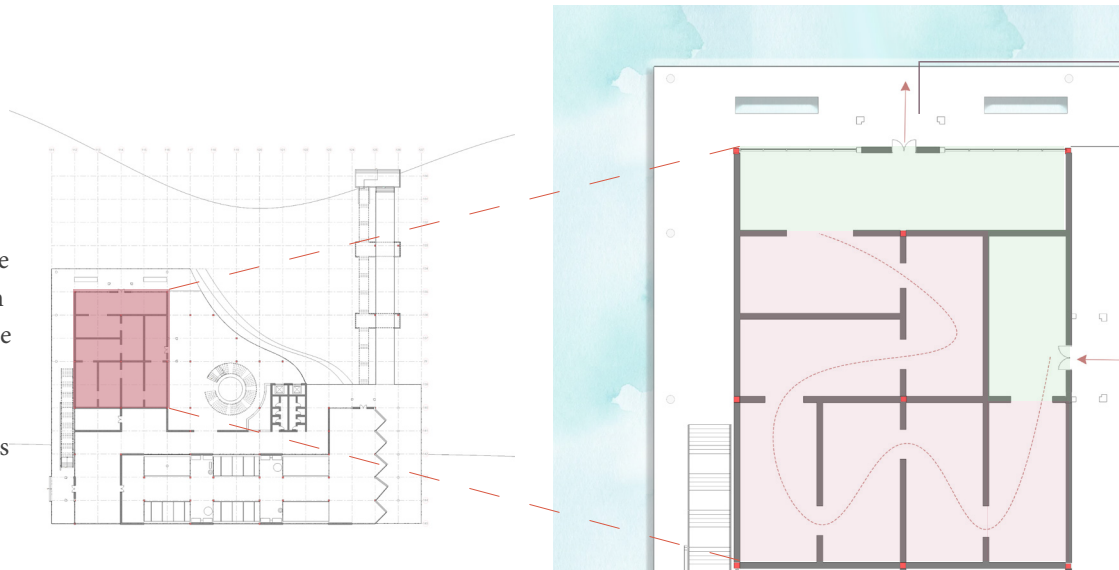
Accessibility to natural light through the roof screens

Accessibility to expand the vertical horizontal views through a floor opening



## 4D EXPERIENCE

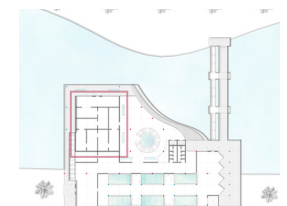
Effects can be creating an immersive 4D experience that carries guests on an unexpected show experience. The concept be created by designing an atmosphere that motivates all the five senses to feel and live the show's atmosphere, which is a great experience for the audience.



The entrance to the 4D experience from the main lobby is where visitors buy tickets and divide into groups to enter the 4D and space

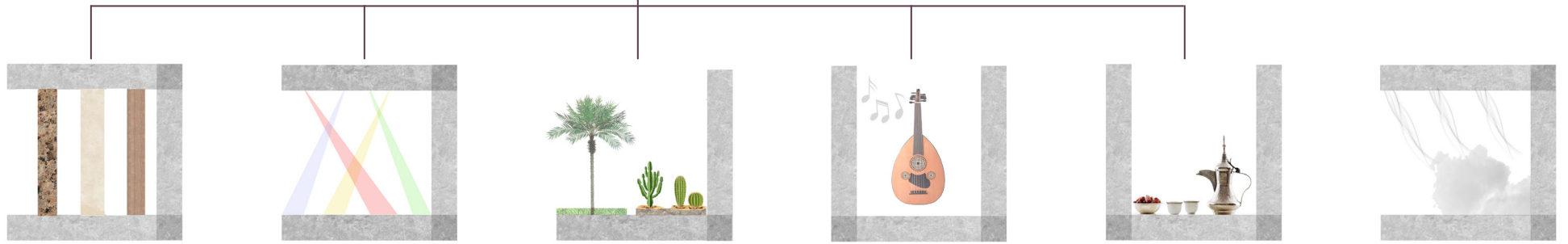


One room division to another might have material that has rough, soft, and liquid textures. As well as is an interactive walls.



GROUND LEVEL - 4D EXPERIENCE

Five Senses



T o u c h

Materials have rough, Soft, liquid textures. or it can be an interactive wall.

S i g h t

The design of lighting significantly shapes the atmosphere of a scene and the overall experience of the audience.

S m e | |

It can be anything that motivates the smell sense, such as sand, grass, or flowers.

H e a r i n g

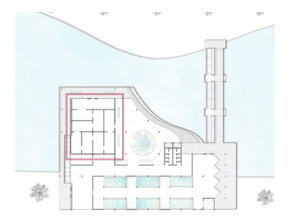
Sound effects and Acoustics, echoes, etc

T a s t e

Serving food in an unexpected way.

O t h e r E f f e c t s

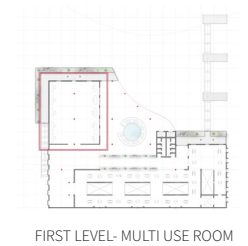
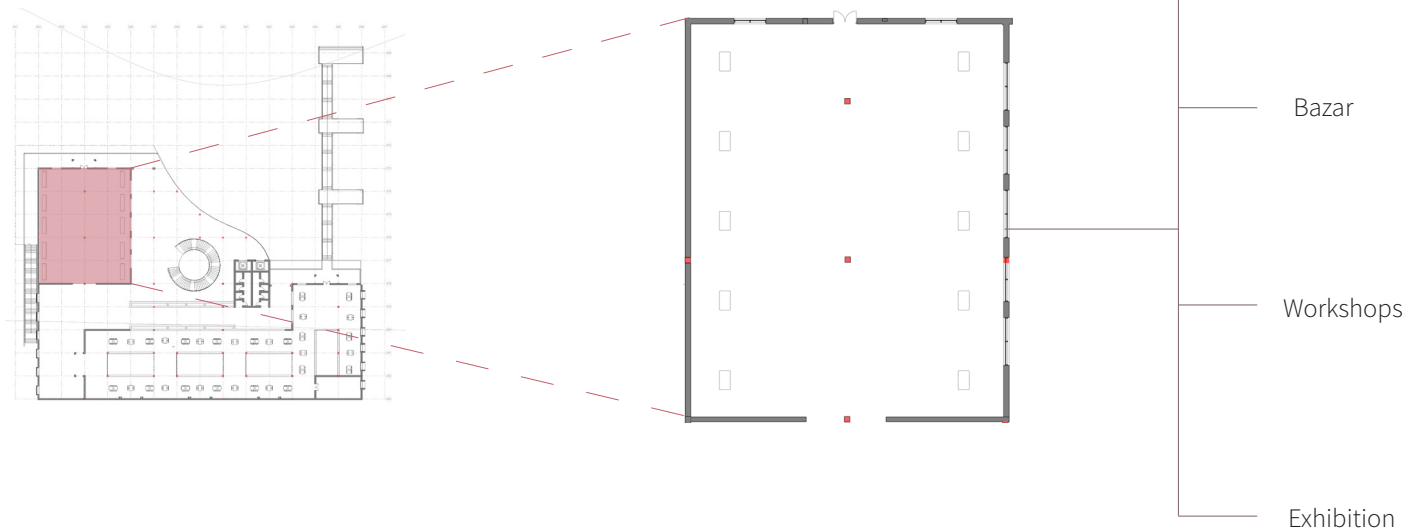
Create full experience by adding wind, smoke, water, etc .. that mimic the scene.



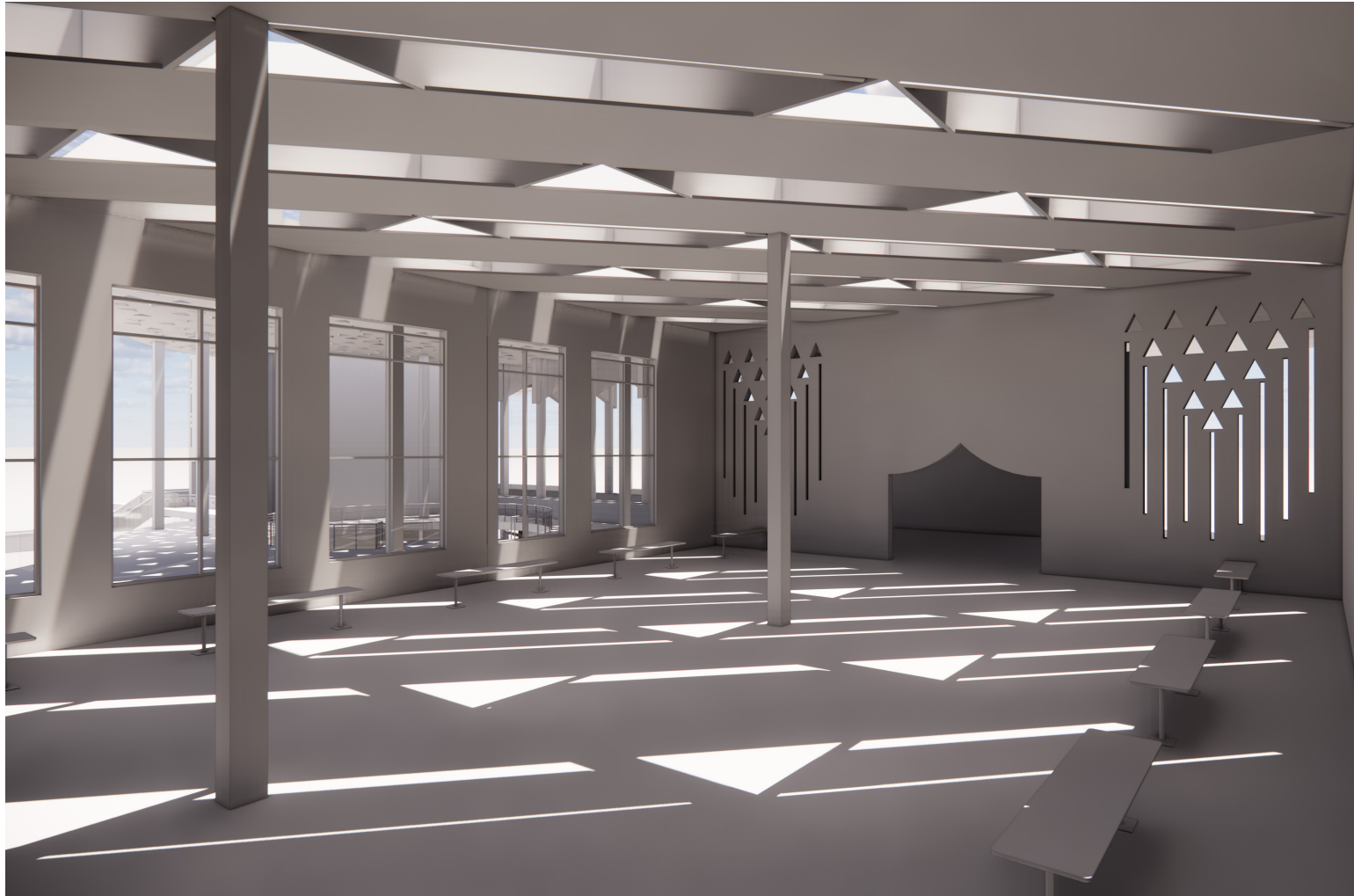
GROUND LEVEL - 4D EXPERIENCE

## MULTI- USE ROOM

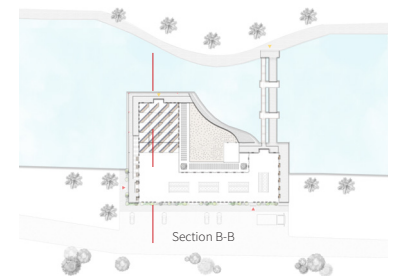
A space designed for various activities that visitors can initiate use. The space can be separated with partitions as needed.



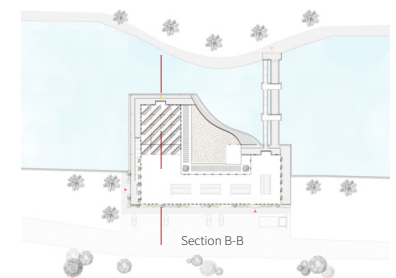
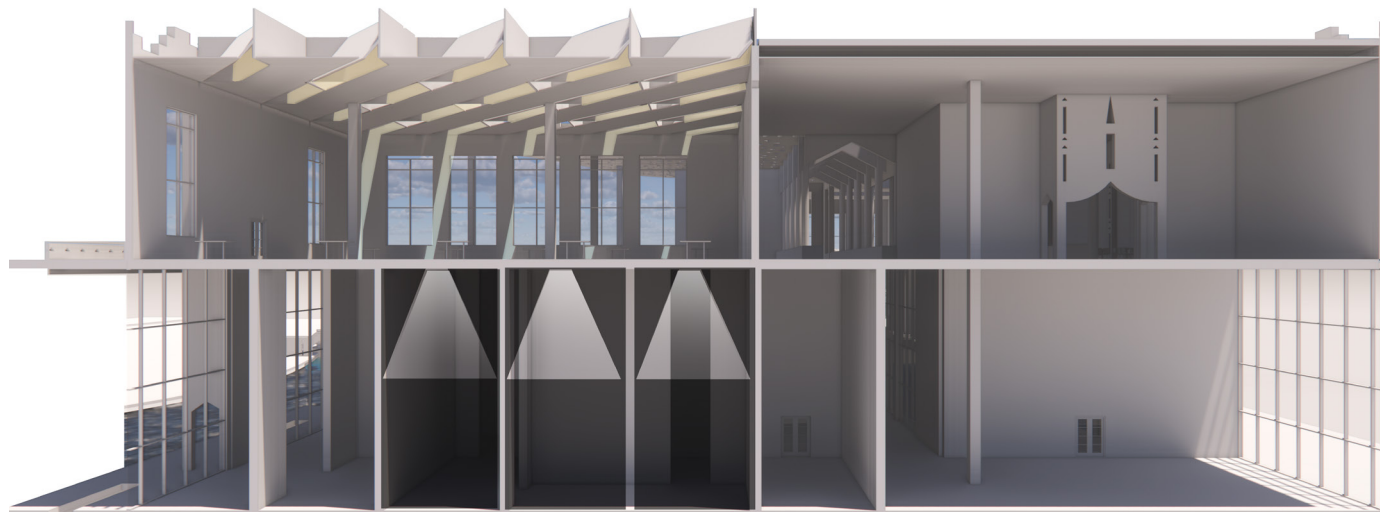
FIRST LEVEL- MULTI USE ROOM



The multifunctional space serves various purposes, with an open layout devoid of walls. However, movable partitions can be employed to provide privacy for specific enclosed activities as needed



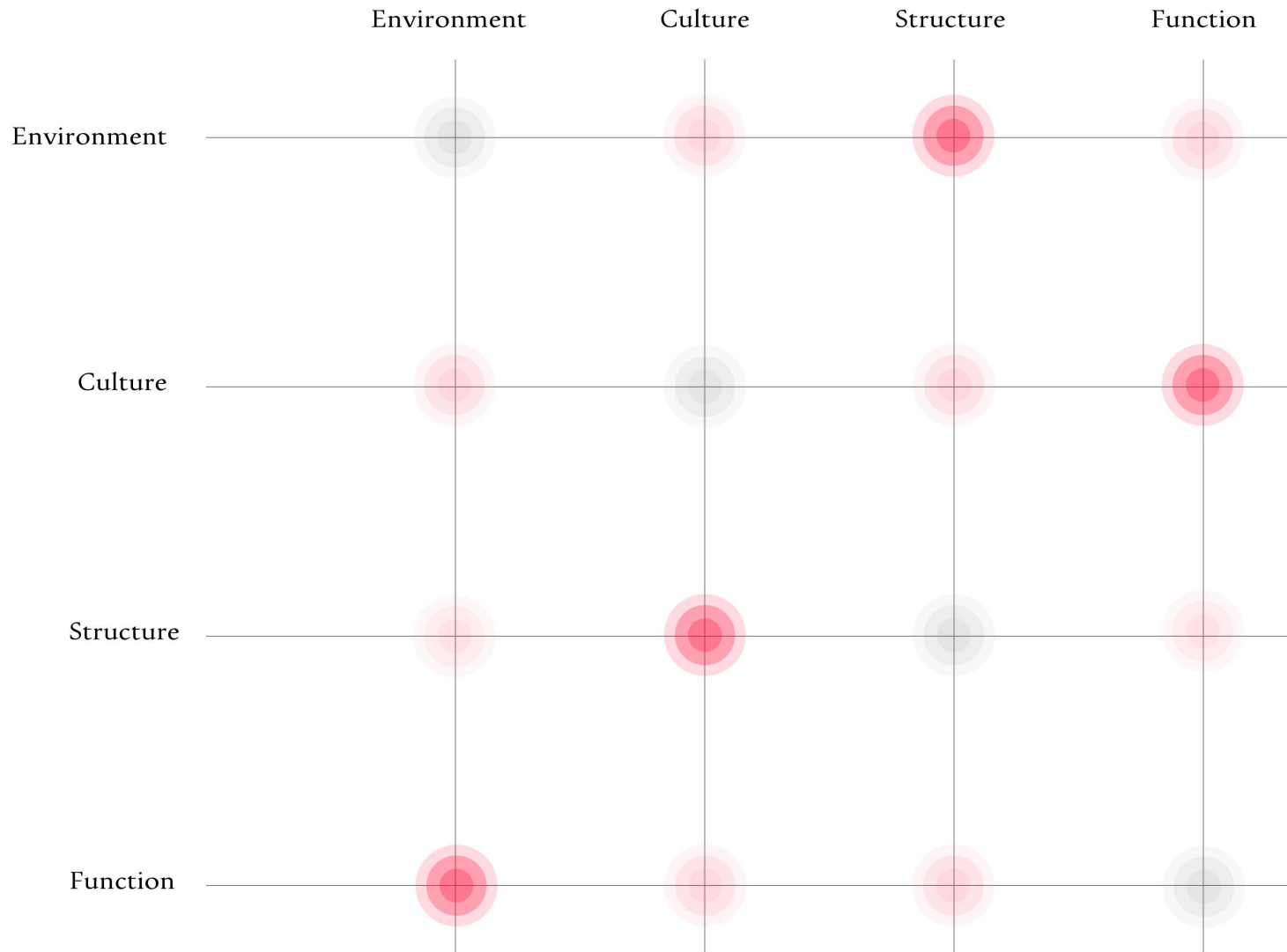
The two spaces have a similar function. The downstairs area can be used for activities and shows that need darkness, unlike the upper level where there is ample natural light. The two spaces are connected by exterior stairs which gives a sense of hybridity in bridging the two spaces and their two functions.



## CONCLUSION

In conclusion, the thesis focuses on exploring the concept of hybrid architecture in the Najd region of Saudi Arabia. The investigation considers various architectural factors such as environmental, cultural, structural, and functional aspects. The primary goal is to understand how the juxtaposition of these factors, both historically and in contemporary contexts, contributes to architectural hybridity. The chart on the right indicates the meeting points and the connection between the four aspects. Perhaps the most unexpected and compelling functional hybridity is the juxtaposition between a café and a water treatment facility. It is hoped that overlaps of function can provoke surprised excitement as well as thoughtful reflection in a patron.

Ultimately, these moments and studies of hybridity present a building that not only serves practical purposes but also enriches the human experience by blending diverse architectural elements and cultural influences.



Harmonizing architecture with its environment involves carefully choosing colors for finishing materials. This selection is not only based on aesthetics but also on creating a seamless visual integration that connects the built space with the natural surroundings. This approach emphasizes a commitment to both design excellence and cohesive alignment with the environment.

Incorporating community culture in design involves creating functional spaces that reflect values and preferences. By actively seeking input and understanding cultural nuances, a collaborative approach respects and integrates community identity, resulting in a design that meets practical needs and expresses local culture inclusively.

Integrating sustainability into the design involves incorporating environmentally friendly features. This includes energy-efficient technologies, eco-friendly materials, and practices that minimize the environmental impact. A holistic approach considers renewable energy sources and water conservation, promoting a design that aligns with the principles of environmental responsibility.

Prioritize water efficiency by integrating a water treatment facility. This facility not only promotes water conservation but also ensures responsible water use through advanced technologies. By emphasizing sustainable water management, the design aligns with broader environmental goals and reflects a commitment to responsible resource utilization.

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