

# Illuminating Disconnections in Old Dubai

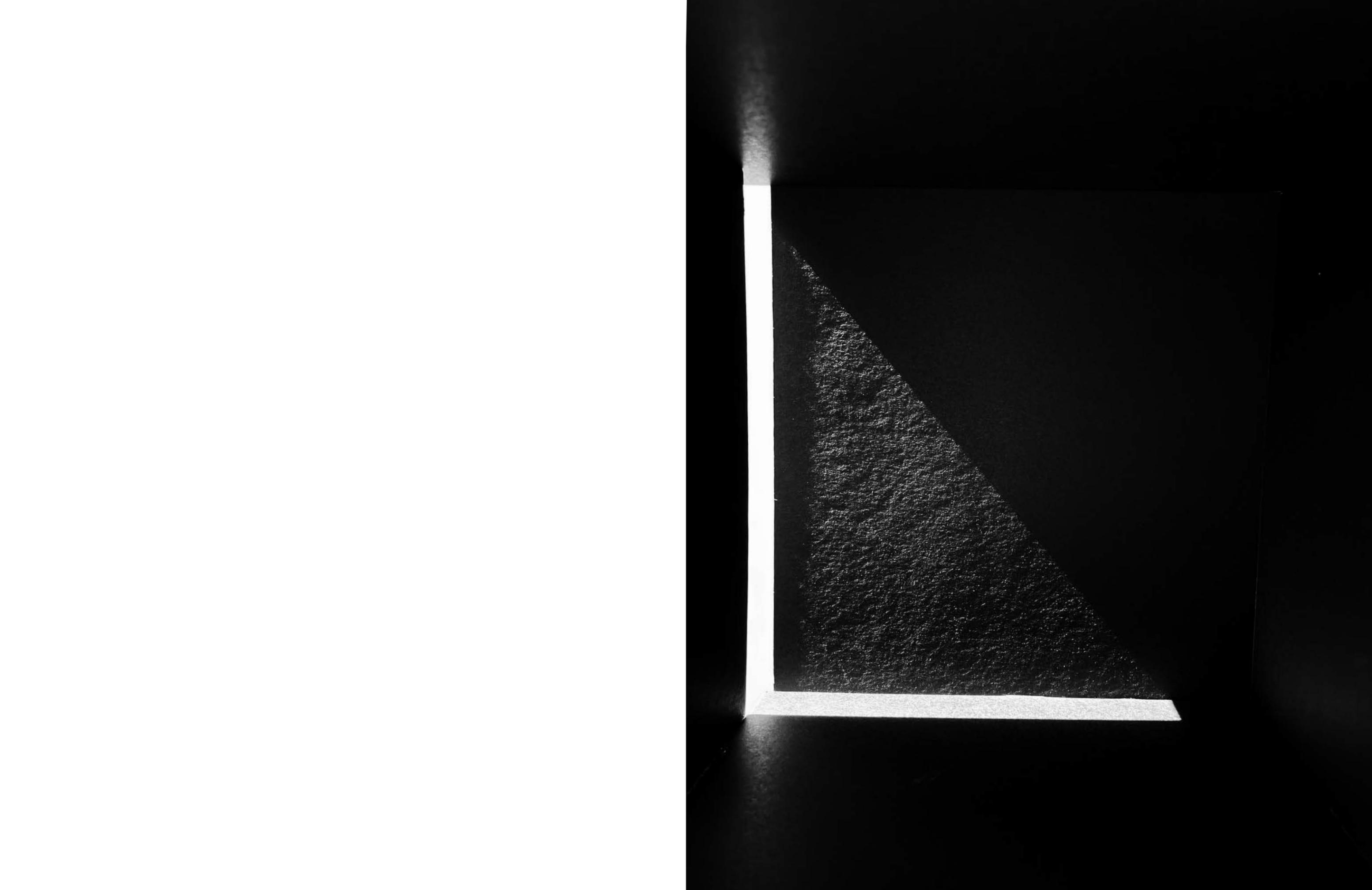
By  
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## ABSTRACT

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The thesis explores the intersection of four significant sites along the Dubai Creek in the United Arab Emirates: a historical district (Al Fahidi), a local cemetery, a new commercial development (Al Seef), and an existing ferry port servicing a dynamic market across the creek. Through an investigation of each site, this thesis addresses issues of identity, social status, and marginalization presented by each of the sites' users and programs. Design interventions and an overall site strategy aim to create a unified journey among the users.

The thesis begins by dissecting the four districts at the micro and macro scale through mapping, 'xray' sectional drawings, to evaluate the different building and urban layers and their roles in forming a common spatial experience in relation to light and users' movement in space. A series of physical models provide a closer investigation of materiality, structure, and the role of light to develop a deeper understanding of passage highlighting the importance of light and shadows in Dubai in the formation of dynamic and constantly changing spatial experiences.

Given the wide demographics and ethnicities in Dubai, spatial segregation, exclusion, and inclusion are often spatial issues. Yet, there are potential points of intersections and overlaps on site that can possibly merge users from the five districts in one space

A series of interventions within the site, highlighting minority groups, concepts of labour and trade histories aim to narrate Dubai's history. Careful selection of materiality and control of light and shadow choreograph and stitch the users' movement from the different districts to create a unified journey across the site.

Fundamentally this thesis asks: Can light, shadow, materiality and environmental conditions help conceal or disguise if only momentarily, one's class condition and identity in space?

01\_INTRODUCTION

## 1.1\_Introduction

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In fast-growing cities like Dubai, the issue of identity is increasingly complex and multi-dimensional. Historically, people were able to maintain a robust identity in their urban environment since everything was locally influenced, created and managed. However, this is not the case today, due to global trade, media, economic connections, and the free exchange of individuals' ideas. Several important concepts are raised when discussing the identity of a place in a rapidly growing city like Dubai: conservation of the urban heritage is one but also conservation of social connections among different demographic groups with the introduction of new programs and developments is also important.

Generally, when we think of urban heritage and conservation, we consider built artifacts, architectural and urban structures, and the landscape. This idea also can be enlarged to encompass the urban culture and lifestyles of the people and the uses of spaces or programs.<sup>1</sup>

Expanding ideas of conservation to encompass the social dynamics allows us to see that conservation is not limited to built spaces and landscapes but also maintaining social connections as new programs are introduced which often result in social gaps. In the case of the UAE and the presented context, this is often seen due to financial positions, social hierarchy, or religious beliefs.

Rapid change may be a character of most UAE cities, especially Abu-Dhabi, Dubai and Sharjah, therefore the difficulty of managing this staggering change remains a vital dilemma to be tackled. The thesis chosen site in old Dubai investigates the intersection of four different districts varying from historic functions, services and new developments. Each district's program and users raise issues of inclusion and exclusion that will be discussed in detail in chapter 02.

The thesis explores the question of identity in old Dubai through light models, 'x-ray' drawings, mappings and design development. A series of drawings and models aim to capture unseen conditions on the site that one may see at a specific moment in time. The drawings and models capture the passage of time and its implication on environmental conditions as well as modes of revealing and concealing through light and shadow variations. The drawings capture the relationship of the landscape to the urban fabric as well as the spaces in between such as courtyards and alleys.

## 1.2\_History

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The thesis focuses on old Dubai, once a small fishing village, but now a global landmark associated with extravagance.

In 1833, Dubai was a small fishing village. The population of Dubai was estimated to be around 10,000 inhabitants, concentrated in three residential districts: Deira, consisting of 1600 houses and 350 Souq shops, supported by a population composed of Arabs, and Persians.<sup>2</sup>

Dubai lies on a vicinity of 1500 square miles, which corresponds to 5% of the UAE. With the exception of the mountainous Hatta village, Dubai is a semi-desert, with an astonishing natural harbour, the Dubai Creek, called locally, the “Khor Dubai”. The Dubai Creek catalyzed the global trading movement and connected Dubai to the rest of the world making the creek a major trading hub boosting the country’s economy.<sup>3</sup>

Trading movement along with the discovery of oil shaped the country’s economy and status among the worlds. The United Arab Emirates was found on the 2nd of December 1971.<sup>4</sup> It is composed of seven emirates: Abu-Dhabi, the capital city, Dubai, Sharjah, Ajman, Um-Al Qaiween, Ras Al Khaima and Fujairah. Dubai is the second major city well-known for its shopping and tourist activities and has been during the last decade been a major tourist destination.<sup>5</sup> Before reaching this strategic place within the region, Dubai experienced a period of rapid development of large-scale projects. Buildings vary from high-rise tower blocks to 5-star hotels, to extremely extravagant shopping malls... Etc. However, new developments weakened the once strong and unique identity of the historical Dubai.

In order to satisfy the increasing need for leisure facilities and shopping areas that followed the discovery of oil, large areas had to be prepared for this purpose. As a result, bulldozers swept away urban areas, which usually comprised historical and heritage buildings including Al Fahidi. As a matter of fact, new developments such as Al Seef were introduced and replaced these historical relics. This resulted in social disconnections and gaps among other demographics occupying adjacent historic districts due to the introduction of new exclusive programs mainly used by upper-class demographics.

## ENDNOTES

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02\_IDENTIFYING DISCONNECTIONS

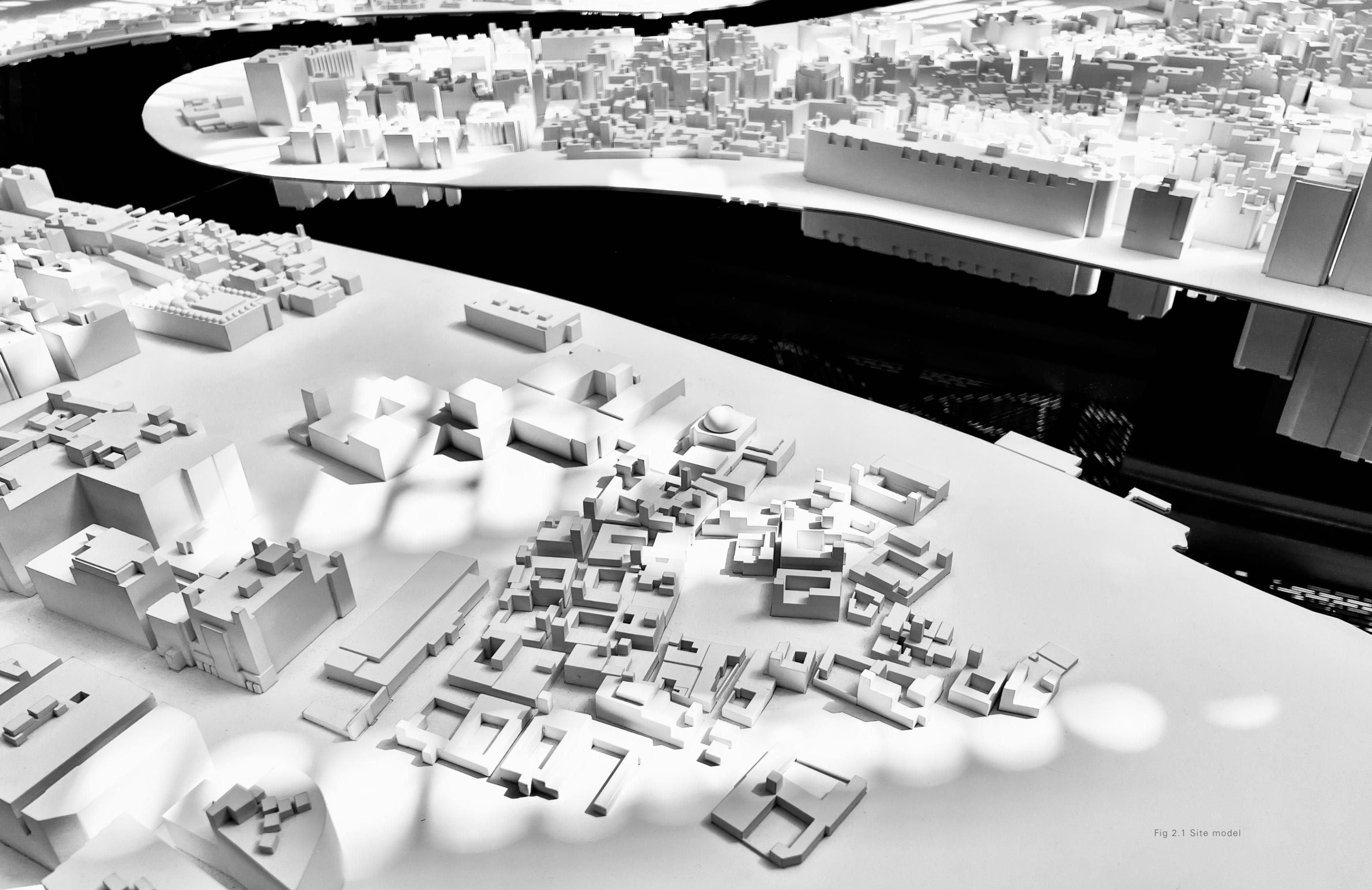


Fig 2.1 Site model



## 2.1\_Chosen Site

A single site in old Dubai with various functions and programs was selected to test how contemporary development might better stitch together distinct demographics and urban zoning patterns.

The site incorporates four different zones each in which appeals to a different demographic group. A historic neighbourhood (Al Fahidi), an existing cemetery, a new commercial development (Al Seef), and a ferry port, all intersect in one place along the Dubai Creek. Demographics on the site vary from, Emirati residents, tourists, migrant workers, to expats. The different zones with their respective demographic will be discussed in the upcoming sections.

Fig 2.2 Site Aerial View



Fig 2.3 Site Stitched Elevation

### Site Stitched Elevation

The stitched elevation reveals the distinct architectural character of each district and the in-between spaces, thresholds, junctures, and their relationship with the adjacent creek. Each district is unique on its own due to its historical significance, program, or materiality.

## 2.2\_AL FAHIDI HISTORY

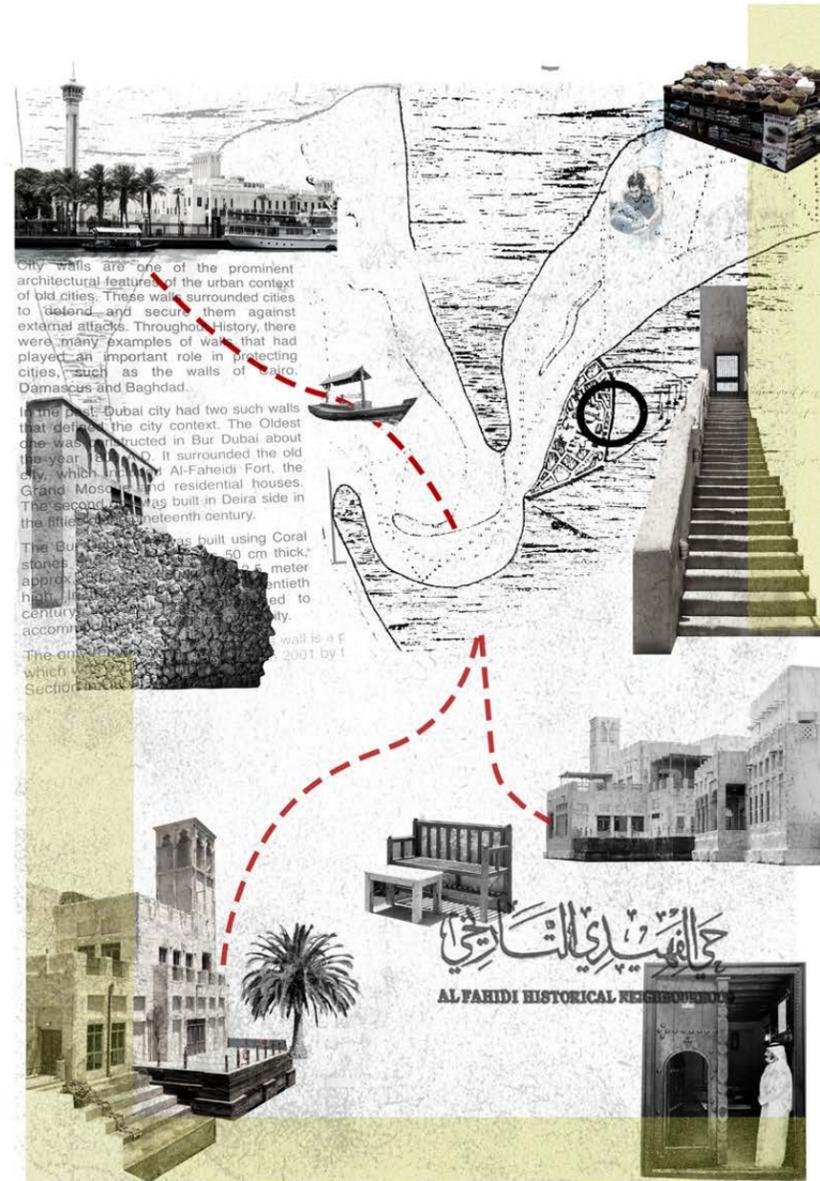


Fig 2.4 Site Psychogeographic Mapping

Al Fahidi area in Old Dubai is located on the eastern part of the creek, stretching 300 meters along the creek and extending 200m to the south.<sup>1</sup> This district, owing to its strategic location at Dubai Creek, played an important role in managing Dubai and organizing its commercial relations overseas in regard to trading.<sup>2</sup> This part of the town reflects a vital era of the historical architecture and concrete development of the town. A network of external narrow streets and alleyways form the idea of the external shaded circulation.

Al Fahidi is one of the few surviving areas of old Dubai. Heritage areas and buildings in Al Fahidi echo the 'spirit' of the Emirati culture. They express the collective attitudes and therefore the common patterns of life.



Fig 2.5 Al Fahidi Urban Axon

### Urban Layout

The layout of the quarter is compact, with winding pedestrian alleys serving the dwellings characterized by a unity of style. A network of external narrow streets and alleyways referred to as sikkas form the basis of the external shaded circulation to connect the entire district together. The alleys become not only circulation spaces but social and interactive spaces for the inhabitants of the community.<sup>3</sup>

Al Fahidi today is a major touristic attraction occupied by mainly thousands of tourists each year to learn about the history of Dubai and the creek.<sup>4</sup> Tours are often led by non-Emirati expats. The lack of local Emiratis' presence within the district due to its intense touristic programs leads to a major disconnection among tourists and locals.



Fig 2.6 City Wall Fragment



Fig 2.7 Al Fahidi Alley



Fig 2.8 Al Fahidi Alley 2



Fig 2.9 House in Al Fahidi



Fig 2.10 Sketch of a wind tower



Fig 2.11 Under the windtower



Fig 2.12 Section through a Merchant's House

### Traditional Merchant's House

One iconic feature of Al Fahidi is the wind-tower, also known locally as a 'barjil'. A wind-tower is usually located on top of the master bedroom and is the highest architectural element of the house. Only 25 wind-tower houses have survived out of the 200 dwellings originally built.<sup>5</sup> The wind-tower eases the harsh summer heat and humidity by catching the breeze and funneling it down to the rooms below. The four-sided towers catch the wind from every direction while thick walls provide good insulation for the home's entire interiors.

The 'x-ray' section studies a typical house in Al Fahidi. The section reveals the materials used, architectural character, environmental strategies, as well as the relationship between the interior and exterior spaces.

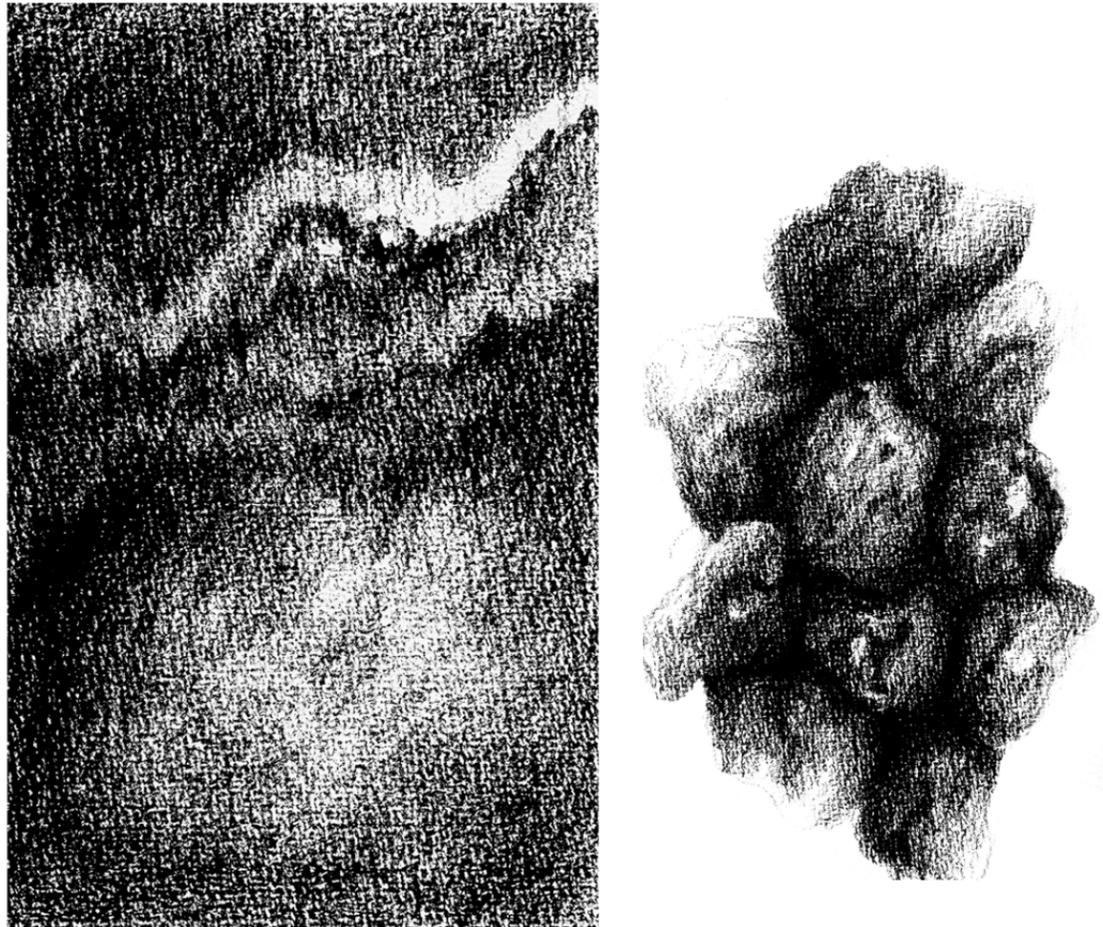


Fig 2.13 Graphite sketches of building materials

### Building Material

The main building material used by the local builders is coral stone, joined together and covered with plaster. The width of the walls varies between 40-60 cm so as to bear the load of two or three levels.<sup>6</sup> These walls are appropriate to the local climate, whereby building techniques keep the internal spaces cool and let the warm air escape through the small openings.<sup>7</sup>

The local builders used plaster for decoration as well as finishing work for internal and external surfaces.



Fig 2.14 Dubai fisherman in the late 1960s.

### Dubai Fishermen

The people of Dubai traditionally relied on fishing and pearl diving to eat and earn a living. Fishermen would fish in the nutrient-rich Gulf and they had a thorough understanding of the climate and the waters. In the summer, they headed out to sea as the water was calm. During the winter, however, the sea was violent, so they fished in the creeks along the coast where it was safer. Fish would also stay in shallow water during the winter, and head to cooler, deeper water in the summer.<sup>8</sup>

Fish were plentiful and included sardines, hammour (grouper), shrimp, barracuda, and stingrays. A dome-shaped fish trap called gargour was a popular tool for catching fish on the seabed. It had a one-way, funnel-like opening in which food was placed to attract fish.<sup>9</sup>



Fig 2.15 Boat builder in the late 1960s.

### Boat Builder

At the turn of the 20th century, Dubai had a thriving boat manufacturing industry. Approximately ten vessels were built every year. Today, boats are still assembled nearby Al Jadaf.<sup>10</sup>

Many different types of boats were made including jalboot, used for pearling, fishing, or sam'a, and shahoof, which carries cargo, and Dhow for human transportation. Boat builders used simple but effective tools such as the al mijdah - a spiral-shaped tool to drill nails into wood. The boats were made from materials such as teak wood from India, rope from Zanzibar, and sail canvas from Bahrain. Shark oil was often used to seal any cracks.<sup>11</sup>



Fig 2.16 Emirati Women in a Souk

### Emirati Women Crafts

Emirati women have always played an important role in Dubai's economy. They were employed in making baskets, carpets, textiles, pottery, and others focused on perfume making, using imported ingredients from places such as Pakistan and India, as well as the neighbouring emirate of Ras Al Khaimah.<sup>12</sup>

Often those items were made from their homes or in their courtyards in cases like pottery. Some of the crafted items were made for the household use and some were offered for sale at the market.<sup>13</sup>

## 2.3\_THE SOUK

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Fig 2.17 The souk on Feb 12, 2022

The souk is located in old Dubai on the southern side of the creek and is easily accessible by the ferry across the creek. Dubai's oldest souk flanks a central arcade canopied by an ornately carved wooden roof.

Historically, Emirati women spent time at the market buying or selling items they have made such as textiles, perfumes, baskets, etc. The souk was also an opportunity for women to exchange news and socialise.<sup>14</sup> Therefore, the souk has always been a symbol of social inclusivity despite gender, status, or financial level.

Today the souk offers items from gold, clothes, spices, dinnerware, and perfumes. It acts as a dynamic major inclusive space for local residents, expats and tourists of all financial levels. The souk's connectivity through the ferry terminal allows different groups from the districts to share the ferry and arrive at the souk simultaneously, where a dynamic social interaction between all social levels occurs.

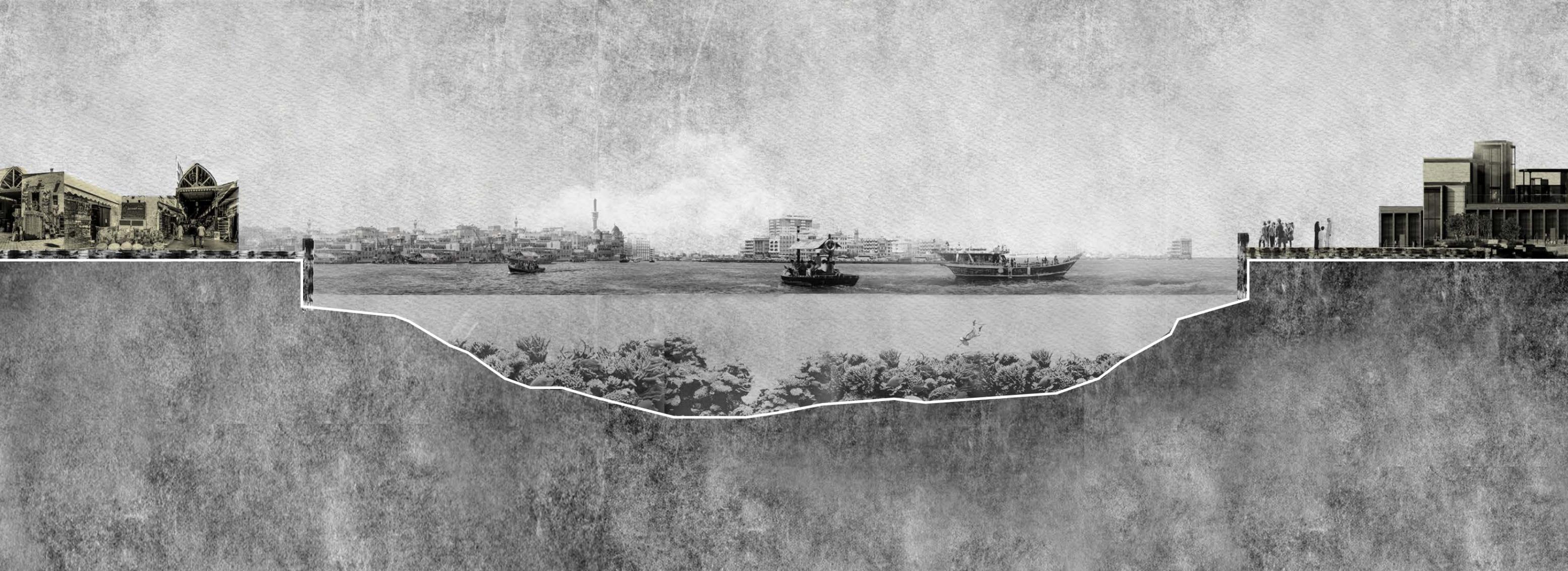


Fig 2.18 Creek - Market Section Facing West

## 2.4\_DUBAI CREEK - FERRY PORT

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The Dubai creek has played a vital role in supporting the inhabitants of Dubai historically. Fishing and pearling were the main two activities that shaped the UAE's economy. Moreover, the creek supported trading routes among nations making Dubai an international trading hub and gateway to the world.<sup>15</sup>

Today, the creek also acts as a major and inclusive aquatic method of transportation and a prime connection from the districts to the souk across the creek.



Fig 2.19 Al Seef

## 2.5\_AL SEEF

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Al Seef emerged in 2018 as a retail and food and beverage new development.<sup>16</sup> It is situated in the historic heart of Dubai, located along the Dubai Creek adjacent to the Al Fahidi Cultural Historical Neighborhood. The area has broken down the retail and food and beverage amenities into a series of standalone pavilions mimicking the layout of the historic neighbourhood of Al Fahidi fronting along the shores of the Creek.

The pavilions fully open out onto the promenade, blurring the distinction between internal and external spaces, but fail to blur out the social connection between the adjacent district due to its high-end programs. As seen in figure 2.19, the upper image depicts a high-end restaurant fully occupied by local Emiratis only. Most of Al Seef high-end food and beverage and retail target upper-class audiences resulting in a harsh disconnection between the demographics of the larger neighbourhood. This includes migrant workers, tourists, and middle-class expats occupying the adjacent districts and ferry terminal.

## 2.6\_AL RIGGA CEMETERY

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Fig 2.20 Al Rigga cemetery wall

Al Rigga Cemetery is a symbol of an ultimate exclusive space for Emirati citizens. The cemetery is restricted to the burial of local Emiratis only. In the case of a death of an expat, their bodies cannot be buried in Al Rigga cemetery. The cemetery highlights in this context that exclusion is not just limited to daily social practices and interactions but post-life as well.

The space is bounded by a three meters high wall and has limited access to family members only. No physical access is allowed within the cemetery zone to the public.

## 2.7\_HERITAGE WALL

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Records show that Dubai was a walled city in the early 1800s.<sup>17</sup> The old city wall was built in the turn of the 19th century, made of coral and gypsum this fortification wraps around the old town, old Grand Mosque and the famous Al Fahidi Fort. Al Fahidi Fort was built around the same time Dubai became a dependency. Only a fragment of the wall remains in a good shape in Al Fahidi district. (see image 2.6)

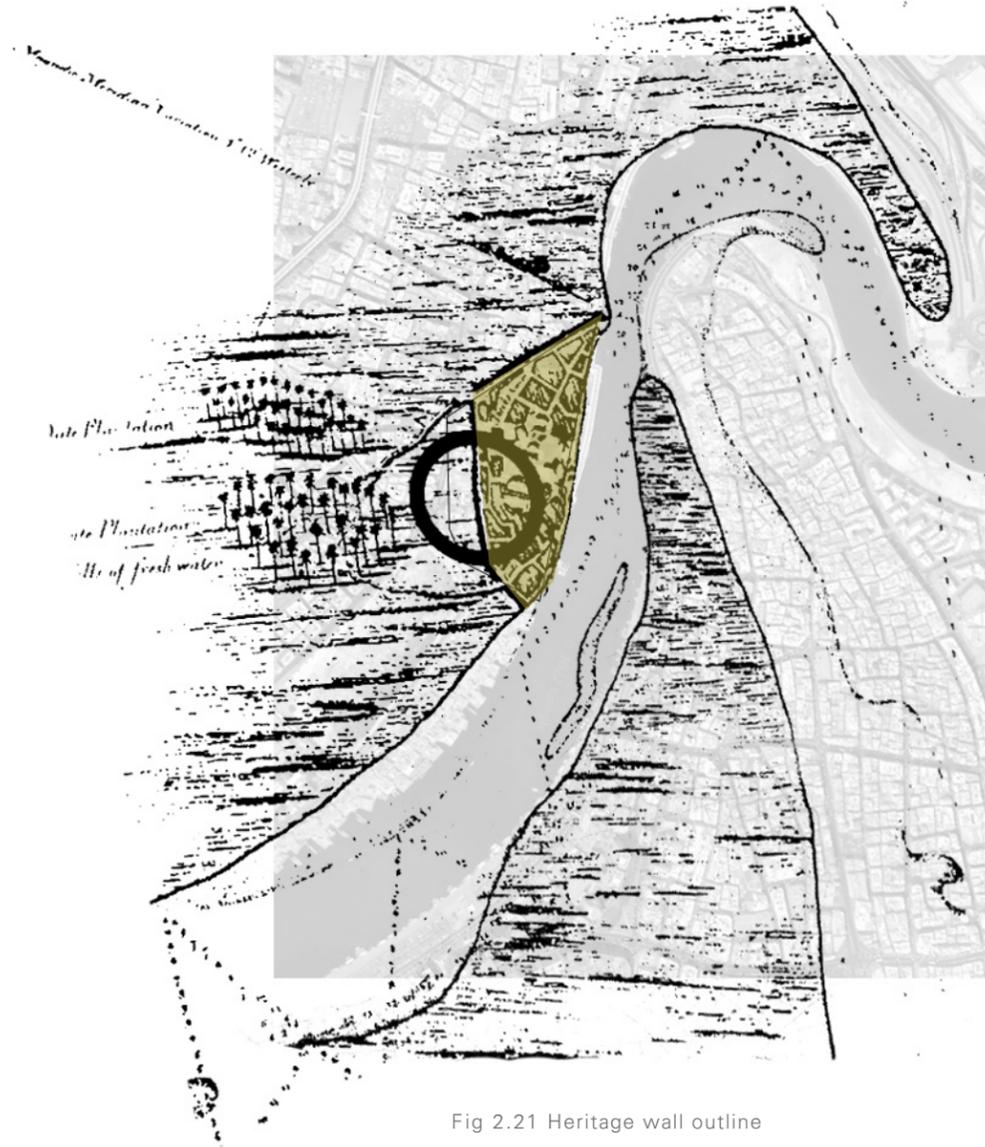


Fig 2.21 Heritage wall outline

## 2.8\_A THIRD CULTURE

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As hinted out in the last sections, each of the districts captured by the selected site operates for specific demographics. This section elaborates on some connections between urban space and demographic inclusion and exclusion in Dubai using my own status as part of a 'third culture'.

How do I fit on the site or which demographic group do I belong to? Am I a tourist? a local Emirati? An expat working in Dubai? The answer is none of the above but an individual of a Third Culture. I am Egyptian-born, Canadian-raised individual temporarily living in Dubai with my expat family. The term third culture is used by American sociologist Ruth Useem, who referred to the term in her studies of expatriates living in India.<sup>18</sup> Useem's focus is on families and children who had moved abroad for career purposes.<sup>19</sup>

The term "third culture" refers to the mixed identity that a child assumes, influenced both by their parent's culture and the culture in which they are actually raised. As of 2021, the UAE population including expats is 9.99 million. Local Emiratis account for only 11% or 1.15 million. On the other hand, the total expat population in UAE has now come to 8.84 million, which constitutes approximately 89% of the population.<sup>20</sup> Based on Useem's definition, expat families in Dubai that are part of the 89% by default their kids are considered to be part of the 'third culture'.

*"Third culture kids have a unique place in any society to which they belong. Theirs is a confusing and quite often debilitating condition. They are confronted with cultural walls or pitfalls at every turn. Unable to completely relate to their parent's culture and yet at the same time labelled as "different" from the mainstream culture they are encouraged to belong to, they are basically cut adrift and left to float in a sort of "twilight zone" state. They form a cultural hybrid, a blend of cultures that can be interesting, but also confusing and frustrating to them. This condition is exacerbated growing up in a country like Canada".<sup>21</sup>*

– Nick Voci, *The Vancouver Sun*, 22 Apr. 1994



- Inclusion
- Exclusion

Fig 2.22 Mapping zones of inclusion and exclusion

## 2.9\_DISCONNECTIONS

On this map highlighted in green, a space of inclusion that includes everyone. The market and the ferry port are ultimate examples of inclusion on the site. On the other hand, spaces highlighted in yellow often exclude one or more groups. With ultimate example is the cemetery where no one is allowed to take part in the space except Emiratis.

Scenarios of exclusion also exist on a smaller scale on this map reflecting economics, identity, or personal beliefs that are associated with religious buildings, government bodies, restaurants, or retail stores.

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Fig 2.14

Photograph, Dubai Fisherman, Al Shindagha Museum, Dubai, UAE

Fig 2.15

Photograph, Boat builder, Al Shindagha Museum, Dubai, UAE

Fig 2.16

Photograph, Emirati Women, Al Shindagha Museum, Dubai, UAE

03\_ILLUMINATING DISCONNECTIONS

### 3.1\_CASE STUDIES

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#### Igualada Cemetery by Enric Miralles and Carme Pinos

Enric Miralles and Carme Pinos re-interpreted the typology of the cemetery and re-considers those that were laid to rest, as well as their families.<sup>1</sup>

Miralles and Pinos conceptualized the poetic ideas of a cemetery for the visitors to begin to understand and accept the cycles of life as a timeline of past, present, and future.<sup>2</sup> This project mainly inspires the thesis through its materiality and surfacing choices to create linkages and connections through the landscape. The materials of the Igualada cemetery tie the project seamlessly back into the landscape. Miralles choice of earthy materials such as concrete, stone, and wood evoke the surrounding landscape and hills. The architecture no longer appears as a new design but has long been part of the site due to its careful choice of materiality and surfaces.

On the other hand, concepts of life and death can be seen in this project through the high contrast in light and shadow interaction with materiality. The sharp sunlight casts deep shadows across the cemetery creating dramatic contrasts across the sweeping forms.

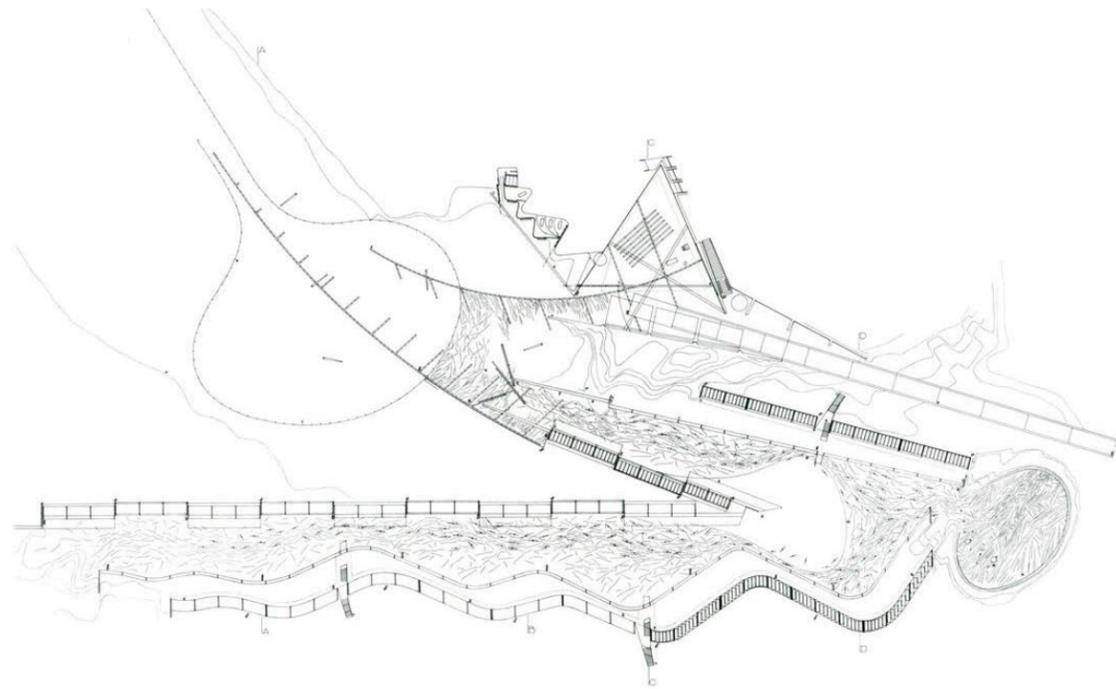


Fig 3.1 Igualada Cemetery By Enric Miralles

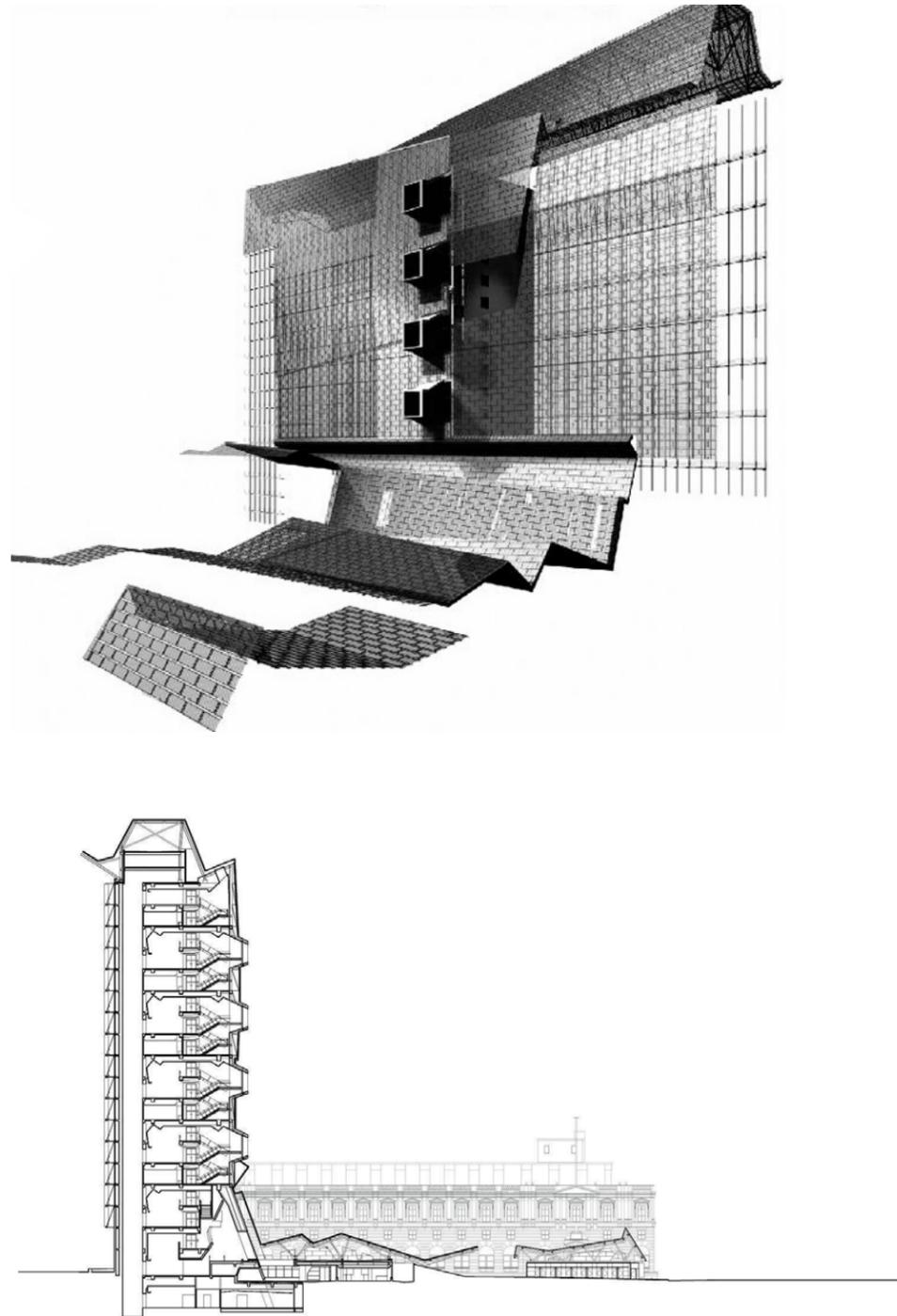


Fig 3.2 San Francisco Federal Building by Morphosis

### San Francisco Federal Building by Morphosis.

The San Francisco Federal Building by the architectural firm Morphosis, is located near the city's South of Market.<sup>3</sup>

*"When architecture engages social, cultural, political and ethical currents, it has the potential to transform the way we see the world and our place in it. It is from this intersection of broad societal currents that we approached the design for the new Federal Building in San Francisco."*<sup>4</sup>

*Morphosis (Thom Mayne) 2007*

This project inspired the thesis through its extended boundaries and engagement with the urban plaza. The project re-defines concepts of boundaries by creating an inviting space to engage the public with the building despite its privacy as a federal building. Morphosis has given this facility a strong plaza presence with the shading scrim which pulls away from the tower near its base unfolding to shelter the semi-submerged building like an irregularly crimped accordion.

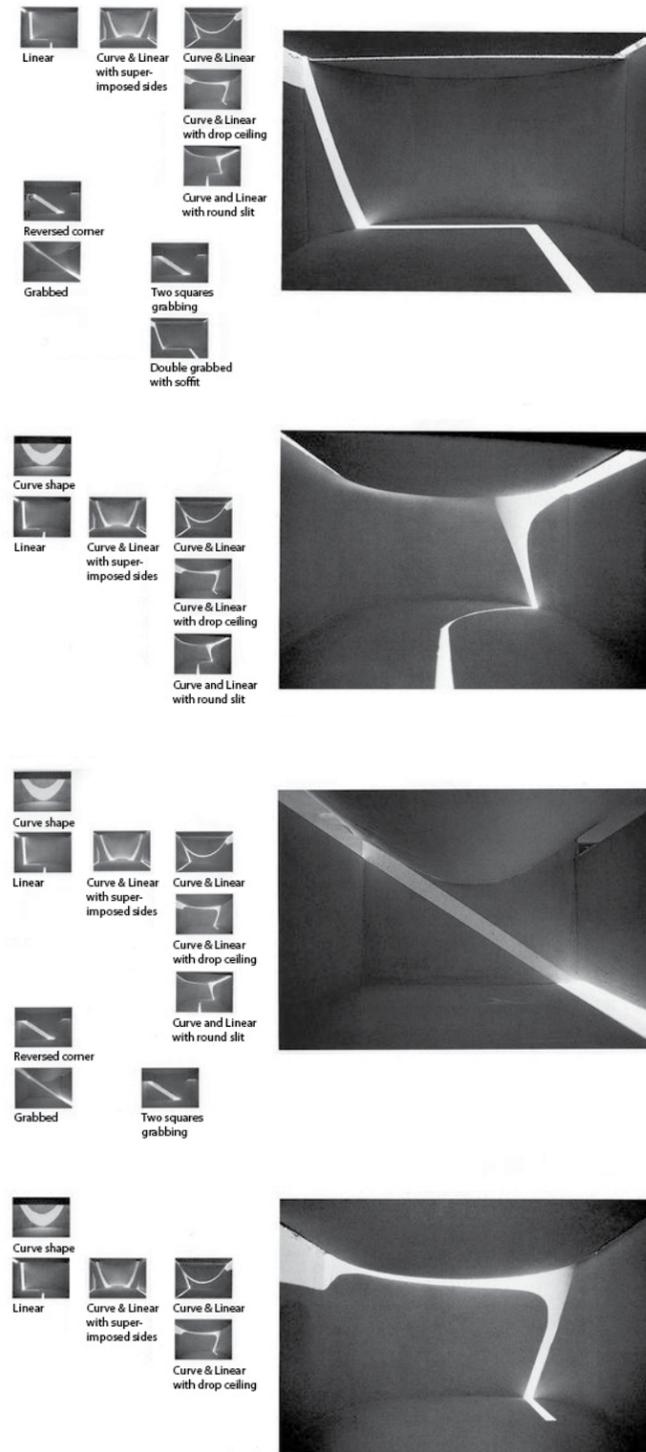


Fig 3.3 Steven Holl's light experiments

### Steven Holl's Light Experiments

Steven Holl's work is recognized for shaping space with light keeping in mind contextual sensitivity to catalyze unique qualities in every project.<sup>5</sup>

Steven Holl's light studies show a deeper understanding of an experience in relation to time, space, light and materials. The phenomena of daylight entering through a window, and therefore the color and reflection of materials on a wall and floor all have integral relationships.<sup>6</sup> The materials of architecture communicate through resonance and dissonance, much like instruments in pieces of music, producing thought and sense-provoking qualities within the experience of a space. With each project, Steven Holl is inspired to make inventive details and experiment with new materials.<sup>7</sup>

### 3.2\_IIIUMINATION STUDIES

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In this thesis, a series of light experiments inspired by the presented case studies were conducted to explore ways of illuminating disconnections. The series of models aim to study the relationship between light behaviours with materials as a surface and light receiver to reveal the importance of material qualities in correspondence to light. The purpose of this study was to explore how to make use of the light's expression and impact on space as seen in Holl's work.

The process of the light studies classified concepts and types of phenomenal light by material choices (Cardboard, Aluminum foil, and Maylar). The materials were chosen based on gradients of transparencies as seen on the site's materiality through stone, water, aluminum, and glass. The models studied the direct relationship between light and materiality through a consistent series of cuts allowing a consistent light penetration. This allowed the conclusion to be based on materiality characteristics as the only variant.

In response, the results are as follows: despite the sameness of the cuts through each model, the material dictated the light interaction to reveal the box differently in each scenario. The materials transformed the light to create different perceptions and characters of space due to texture, transparency, and light and shadow variations. The cardboard allowed the light to only reveal itself and interact where it falls directly on the surface, reflecting the geometry of the cut sharply, and muting the rest of the box. In the case of the foil, the material allowed the light to multiply throughout the box due to its high level of reflectivity. The result is a higher level of illumination than expected inside the box compared to the other two materials. The level of transparency in the choice of maylar was highlighted as light refracted throughout the box creating a blurriness effect throughout the space.

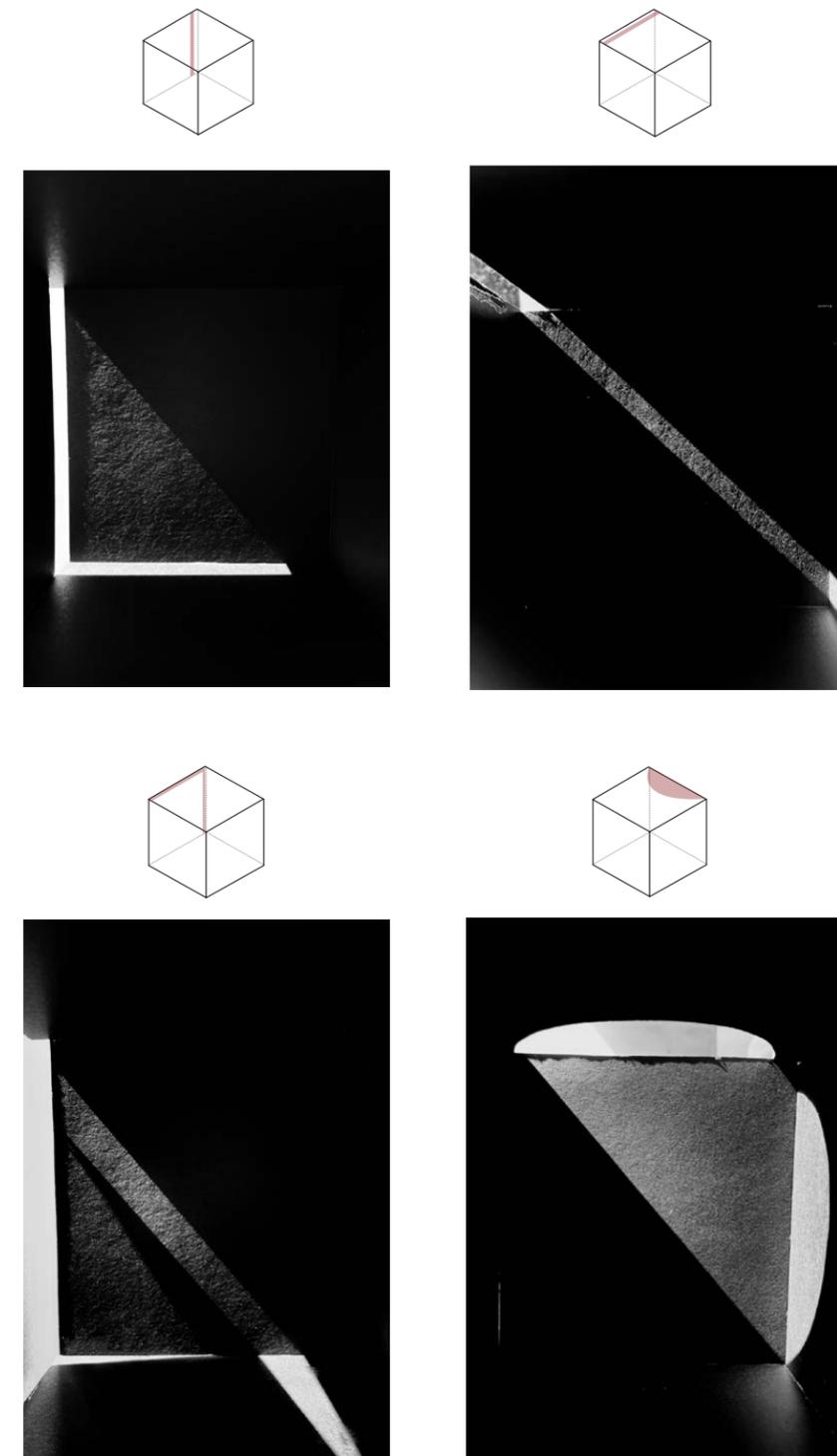


Fig 3.4 Carboard light studies

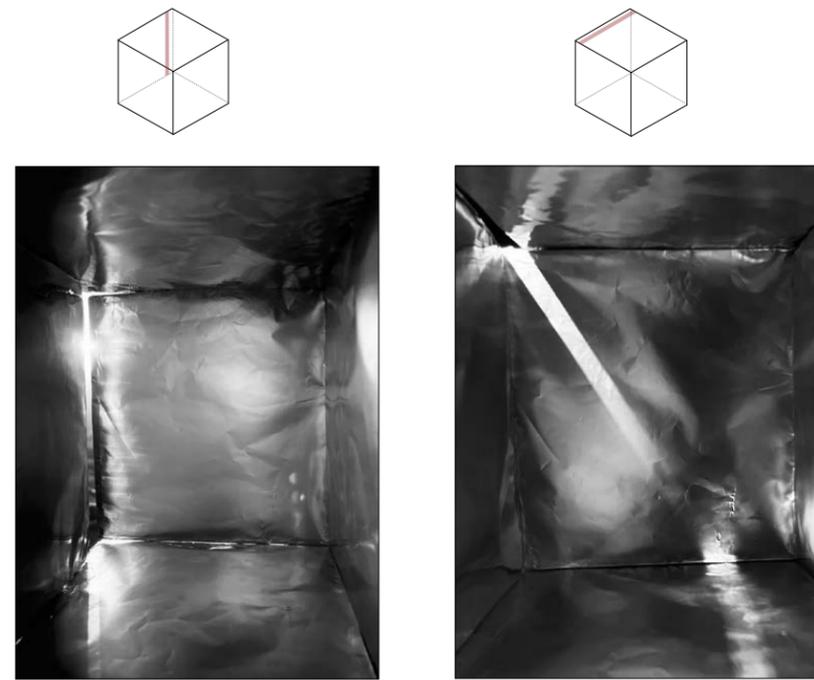


Fig 3.5 Aluminum Foil light studies

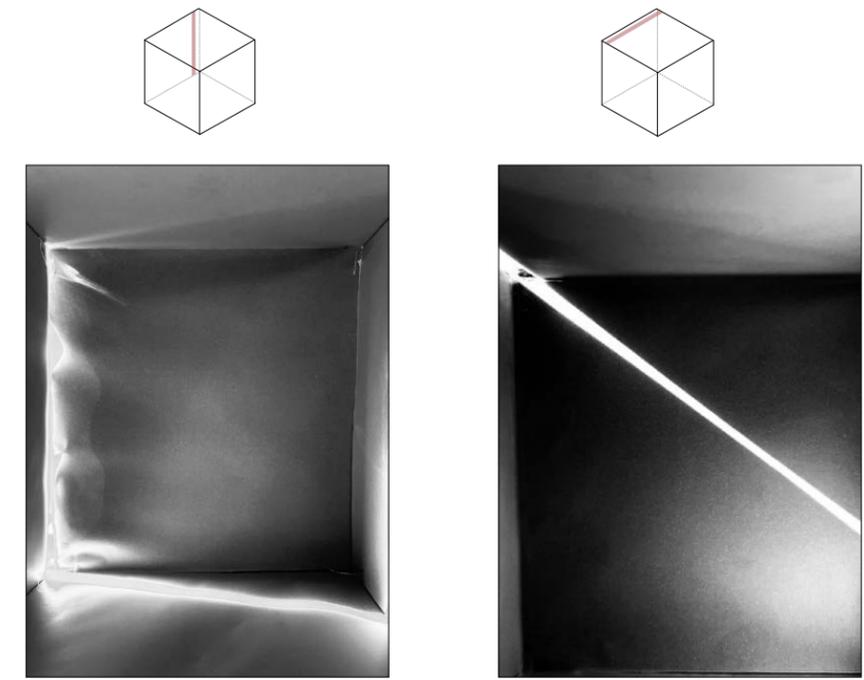
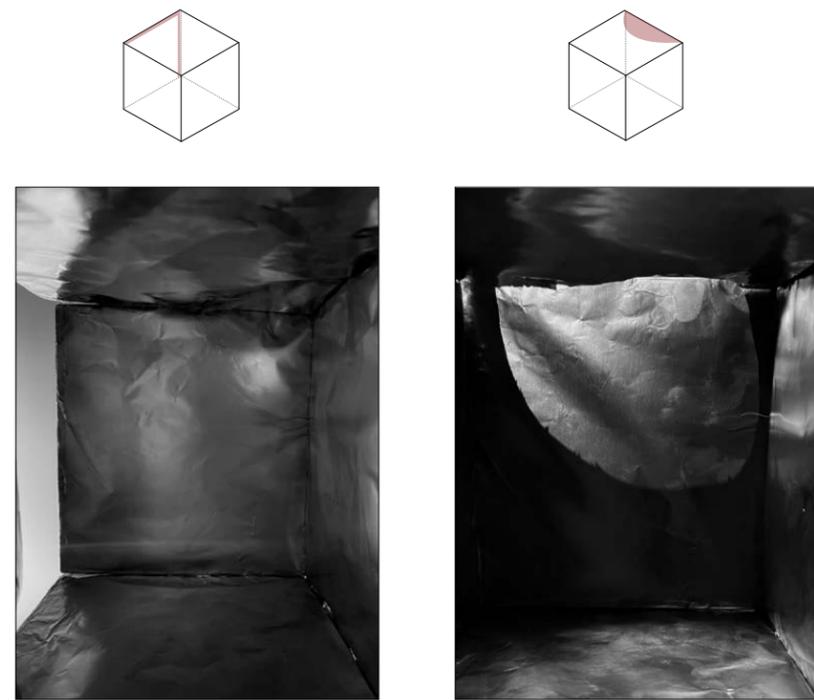


Fig 3.6 Maylar light studies



### Solid and Void Model

The following set of models pushed the models' exploration to investigate not only light interaction with materiality but also the influence of light and shadow on solids and voids. The change of lighting scenarios projected on the model allows us to perceive the arrangement differently in every scenario. The model pushed the thesis to consider the role of light and shadow in privacy scenarios and climatic control informed by solids and voids in relation to light and shadow.



Fig 3.7 Solid and void model \_1

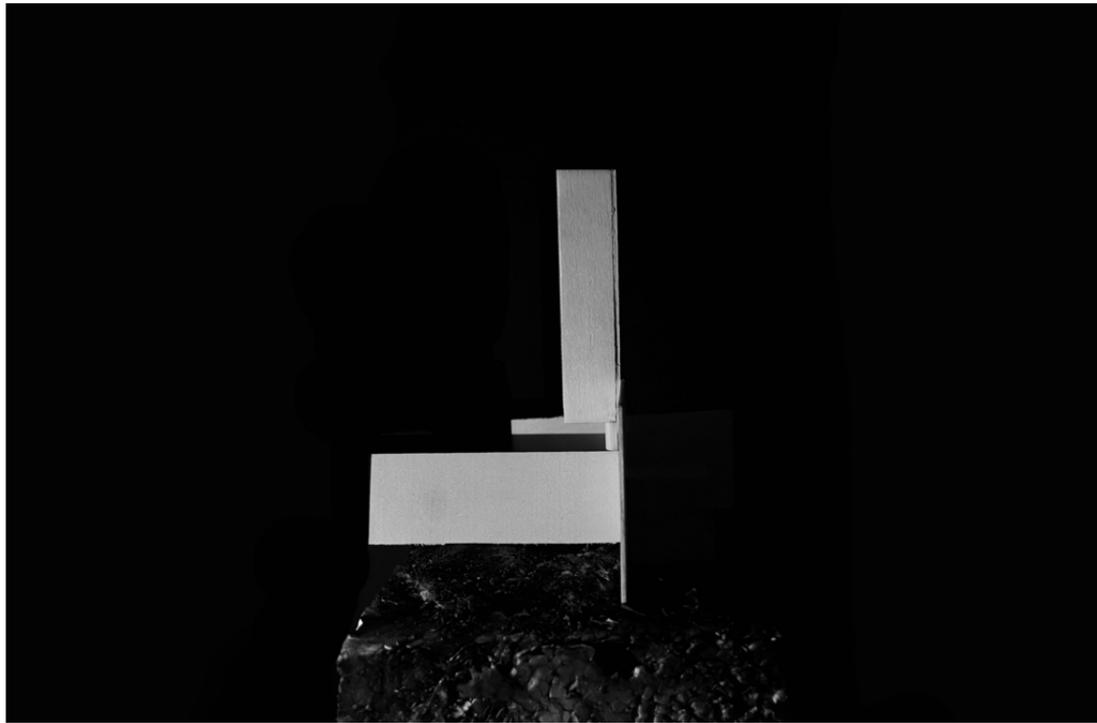


Fig 3.8 Solid and void model \_2

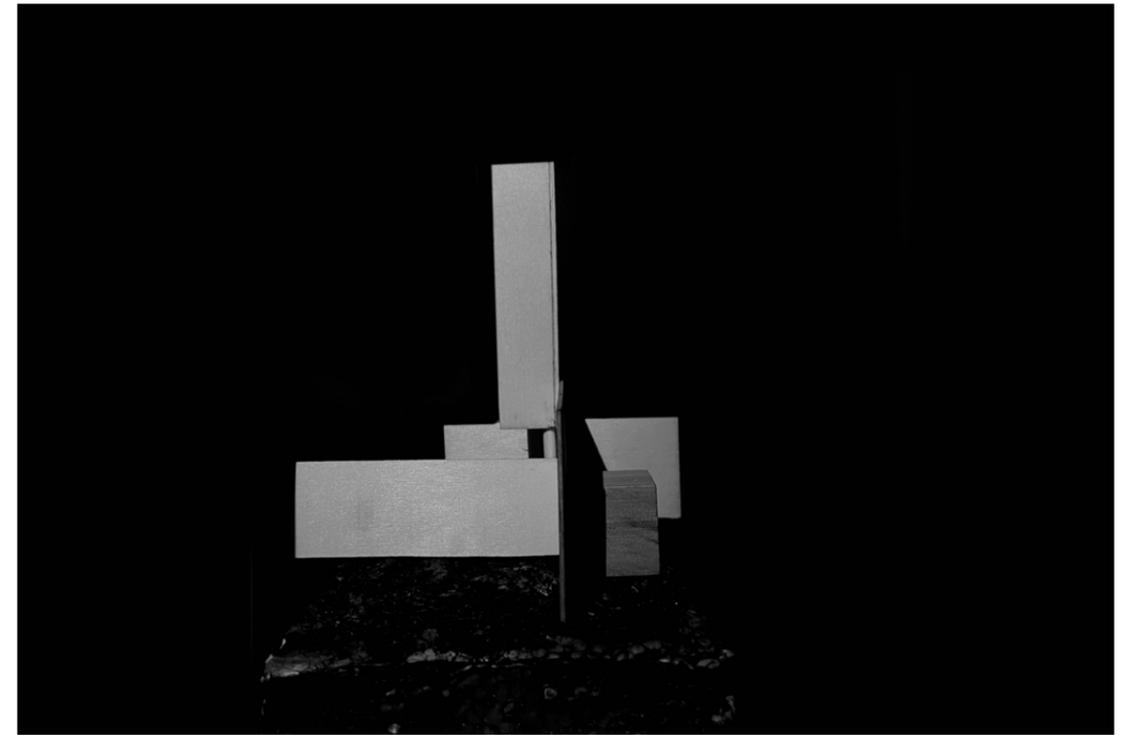


Fig 3.9 Solid and void model \_3

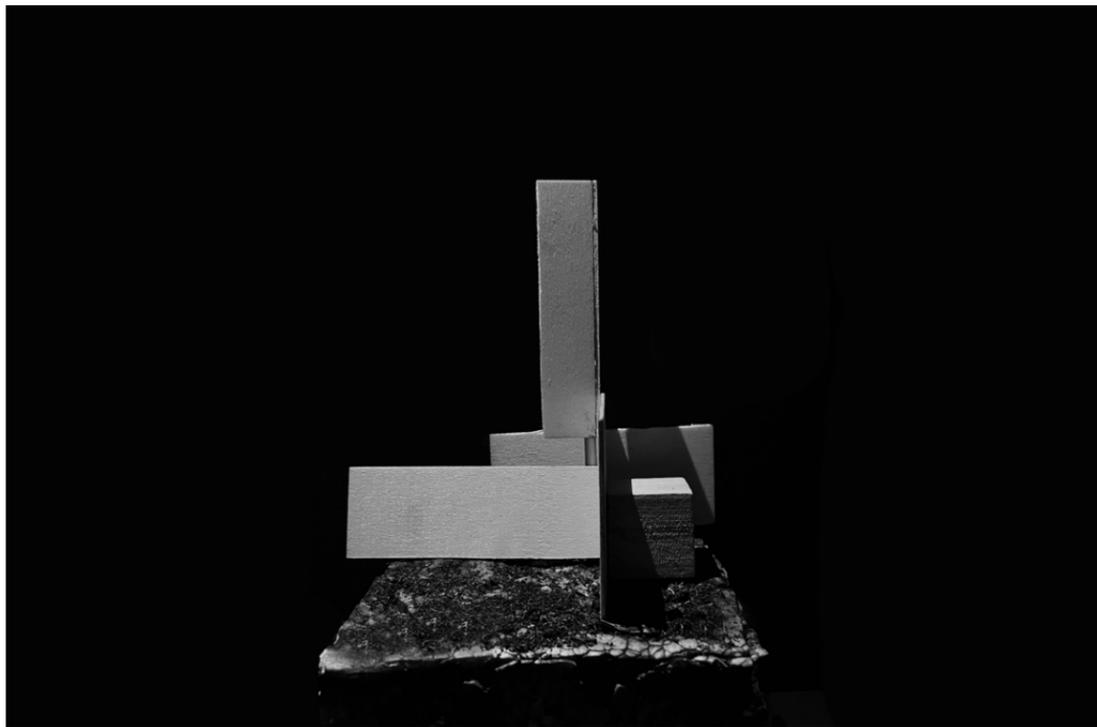


Fig 3.10 Solid and void model \_4

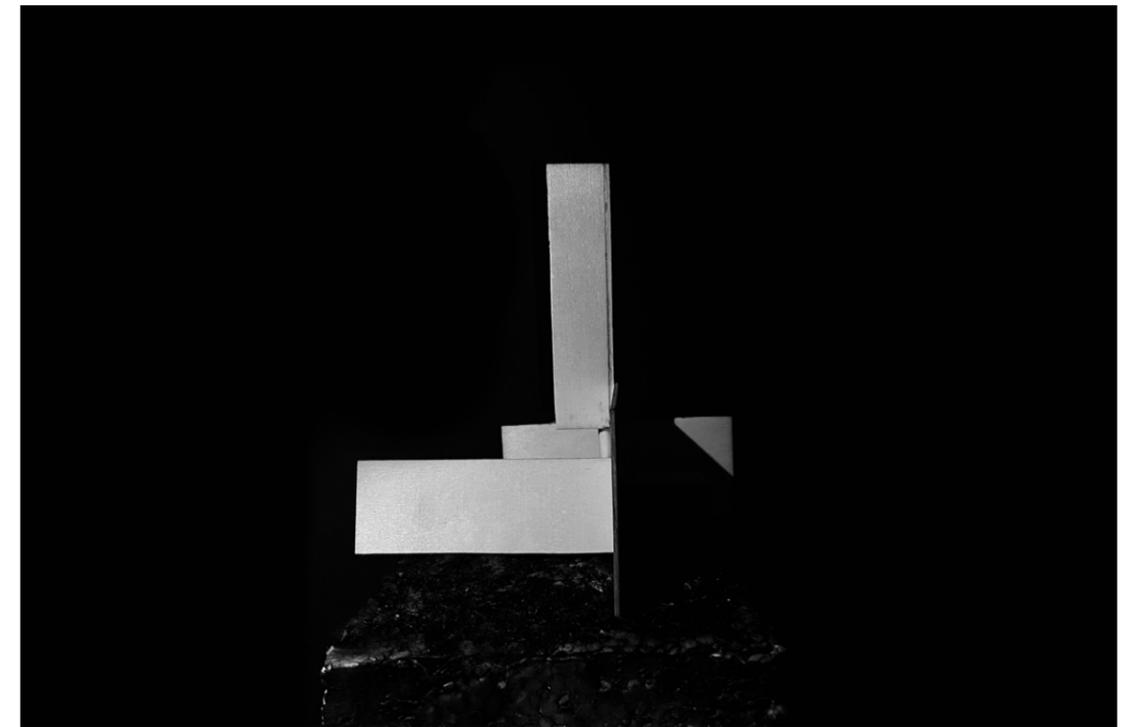


Fig 3.11 Solid and void model \_5

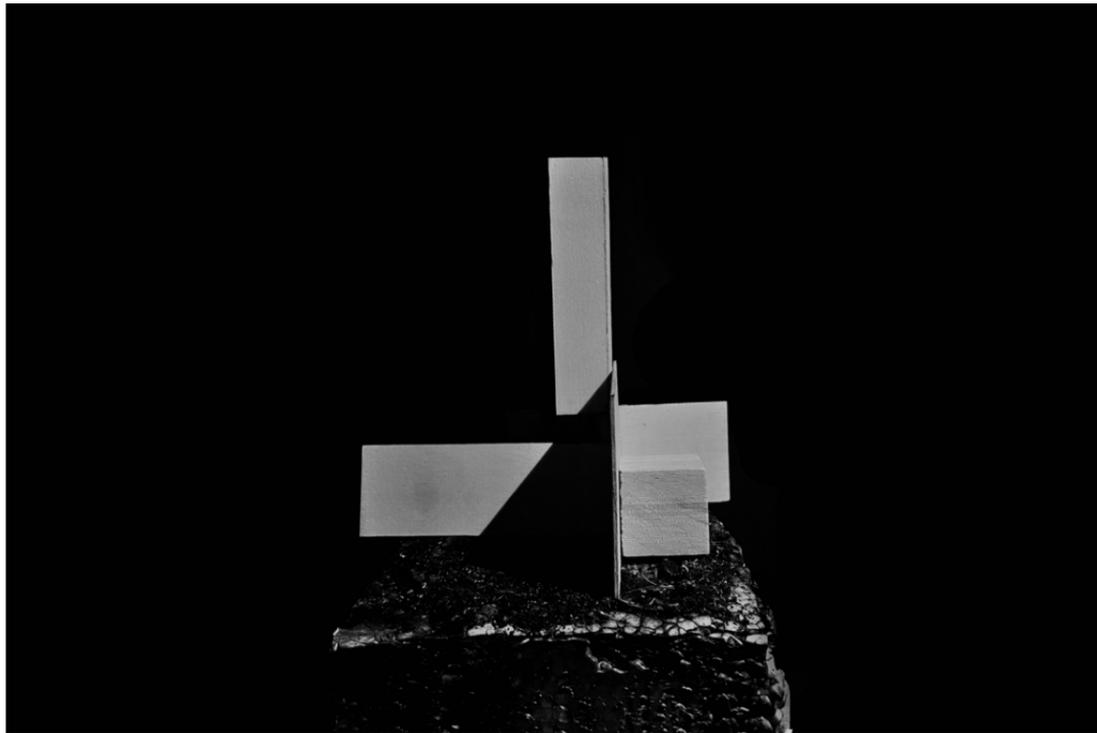


Fig 3.12 Solid and void model \_6

### 3.3\_SITE STRATEGY

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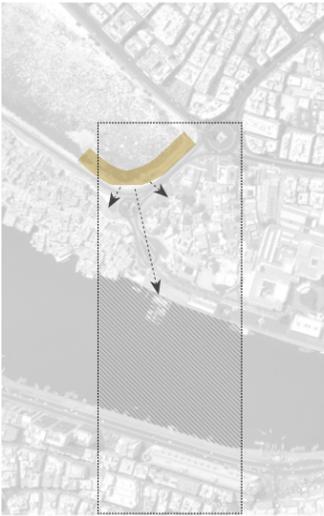


Fig 3.13 Site Diagram 1

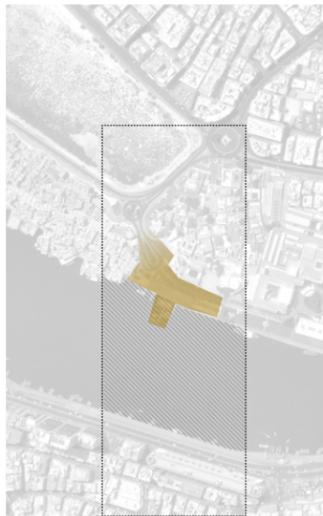


Fig 3.14 Site Diagram 2



Fig 3.15 Site Diagram 3

After exploring the site, learning from precedents, and conducting light studies, I began to consider multiple approaches to stitch the districts together through interventions and an overall site strategy as shown in the diagrams.

Since the thesis examines disconnections among the different districts, the thesis suggests intervening and puncturing through the entire site. The purpose is to stitch the districts together and create a journey of mutual connection starting from the ferry port where the disconnections are initiated upon the arrival of the users. This strategy follows and hybridizes diagrams 2 and 3.

### 3.4\_CONNECTION STRATEGY

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I continued to investigate ways of creating a dynamic social connection among users as presented in the souk and ferry port, where currently these connections start to break off as users start to arrive at the site from the ferry port splitting into different districts. The thesis suggests connectivity through program, materiality path, light and shadow which aim to extend boundaries.

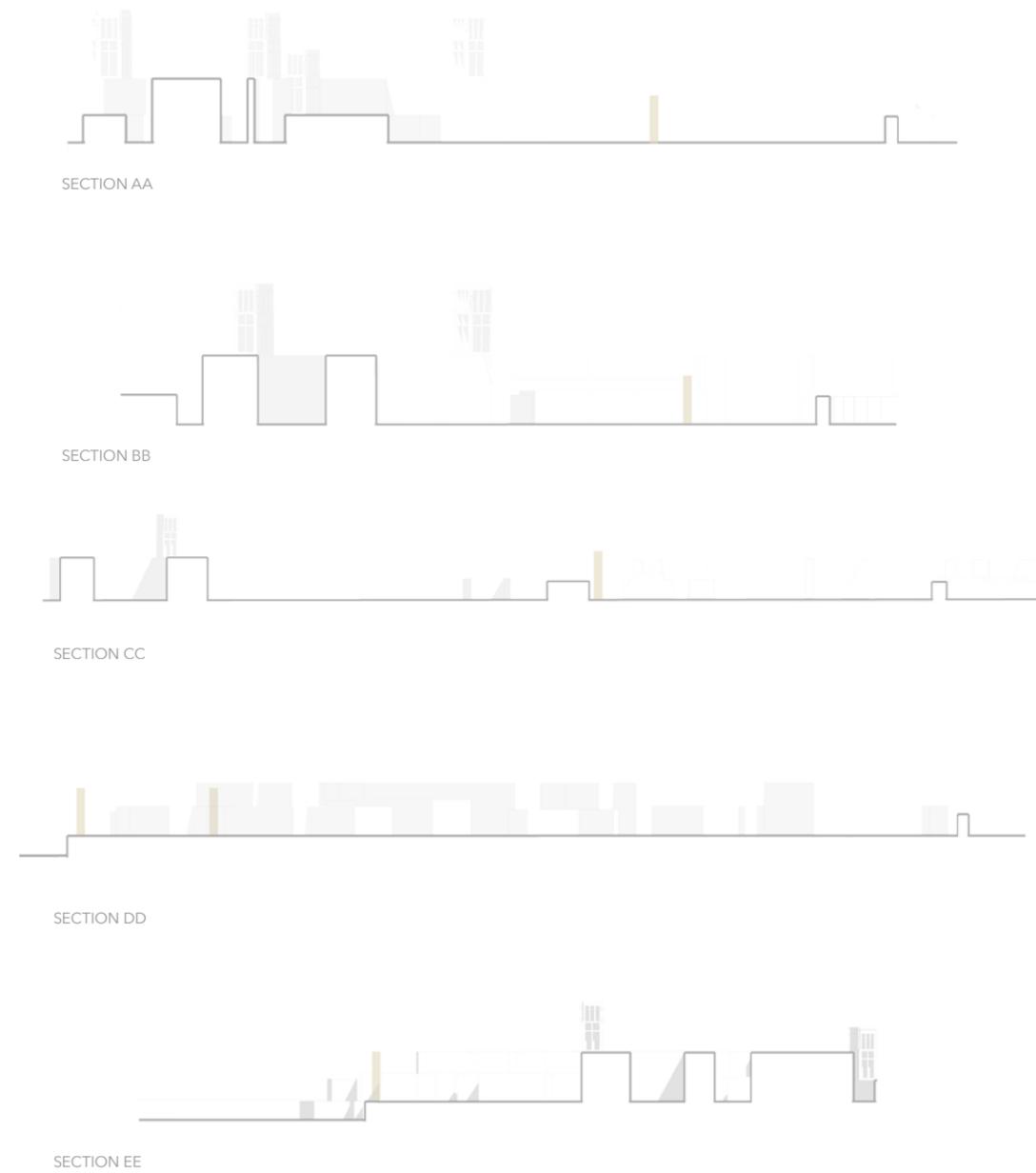
Several issues informed the connection strategy one of which is the program choice. The program choice across the site was critical to aid and heal disconnections among the districts caused by the extreme differences as introduced by Al Seef and the cemetery for example. The thesis aims to create unique programs with the goal of welcoming different demographics.

Materiality choice across the site as in landscape and built spaces aim to inform the user's movement. Whether the material itself directly creates visual links or the casted light and shadows from the material dictate the path of the users, chasing shaded spaces in extremely hot weather conditions.

Moreover, planning for secondary visual links through unique landmarks and extended boundaries will aim to blend spaces together, and lead to one another.



Fig 3.16 Connection Strategy Site Plan



The set of sections study the relationship between solid and void spaces on-site and their relationship and proximity to prominent features such as the heritage wall, cemetery wall and the creek. The sections start to suggest areas for intervening on the site complemented by wind and shadow studies that help inform the site's suggested path.

Fig 3.17 Connection Strategy Site Sections



Fig 3.18 Wind Movement

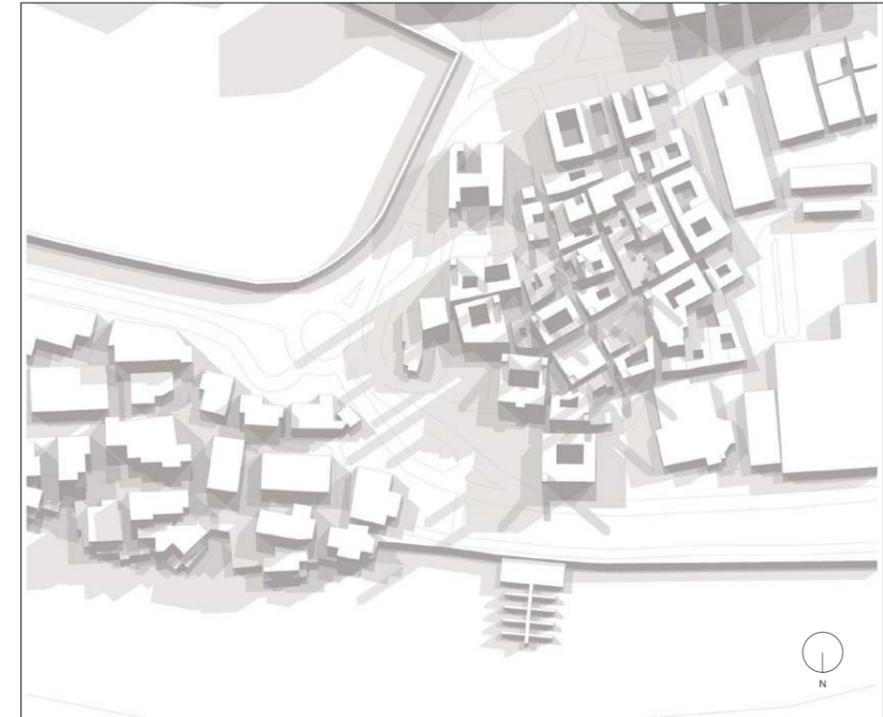


Fig 3.19 Winter Shadows 9am - 5pm



Fig 3.20 Summer Shadows 9am - 5pm

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4. David Leites, Project Manager. Post filed in Technology. "GSA Seeks New Ideas in San Francisco Design Challenge." GSA, March 12, 2018. <https://www.gsa.gov/blog/2017/09/18/gsa-seeks-new-ideas-in-san-francisco-design-challenge>.
5. Jang, Hyun-Ju, and Chan-II Park. "A Study on the Characteristics and Expression Methods of Phenomenal Light In Steven Holl's Architecture." *Korean Institute of Interior Design Journal* 22, no. 1 (2013): 143-153.
6. Ibid
7. Ibid

Fig 3.1 "Igalada Cemetery by Enric Miralles and Carme Pinos." Landezine. Accessed March 30, 2022. <https://landezine.com/cemetery-design-igualada/>.

Fig 3.2 "Government Goes Green: Two New Federal Buildings." *The Voice of the Architectural Profession in California*. Accessed March 30, 2022. <https://aiacalifornia.org/government-goes-green-two-new-federal-buildings/>.

Fig 3.3 Holl, Steven. "Phenomena and Idea 1." In *The Material Imagination*, pp. 47-56. Routledge, 2016.

04\_INTERVENTION

## 4.1\_PROGRAM STRATEGY

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Once a clear site strategy was developed, I considered how the program could further encourage interconnections across the four districts on site.

Private and niche programs targeting wealthier users is a major reason causing disconnections among site users. In contrast, the ferry port terminal and the souk, successfully merge users ranging from construction workers to tourists, expats, and local Emiratis. In the case of the souk that is achieved through offering a wide spectrum of differently priced items from gold to spices. On the other hand, the ferry port acts as an inclusive and efficient aquatic transportation used by everyone on a daily basis.

The thesis investigates programs that are not associated directly with any demographic or financial niche. The proposed programs aim to address the site's history of labour and trade which are the foundation of Dubai. A landscape strategy and design will be proposed to inform the users' path and journey across the site

The programs suggested by the thesis include a re-design of the existing ferry port terminal acting as the main gateway of the site. An aroma gallery highlighting trades history of ingredients and women's craft. Last but not least, an observatory tower becomes the highest point on the site to celebrate the site as a whole and allow visual access to the entire site including the cemetery.

## 4.2\_GRAPHITE SKETCHES

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To develop a deeper understanding of light as a medium to study materiality, and circulation in relation to light and shadow, I started sketching with graphite as a medium. The sketching process enabled the thesis to investigate light and shadow as well as gradients, flow, overlap and connectivity. The following set of sketches begins to envision different interventions on site and how they may relate to each other through the different perspectival views.

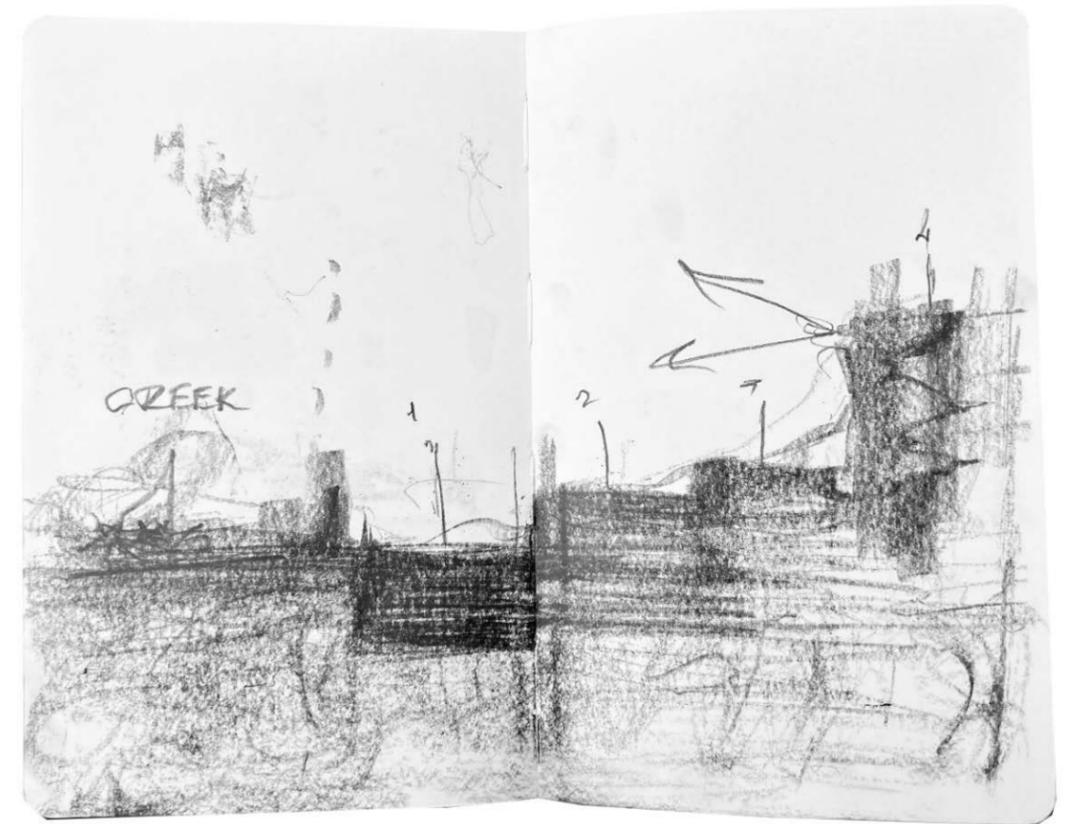


Fig 4.1 Graphite Sketch 1

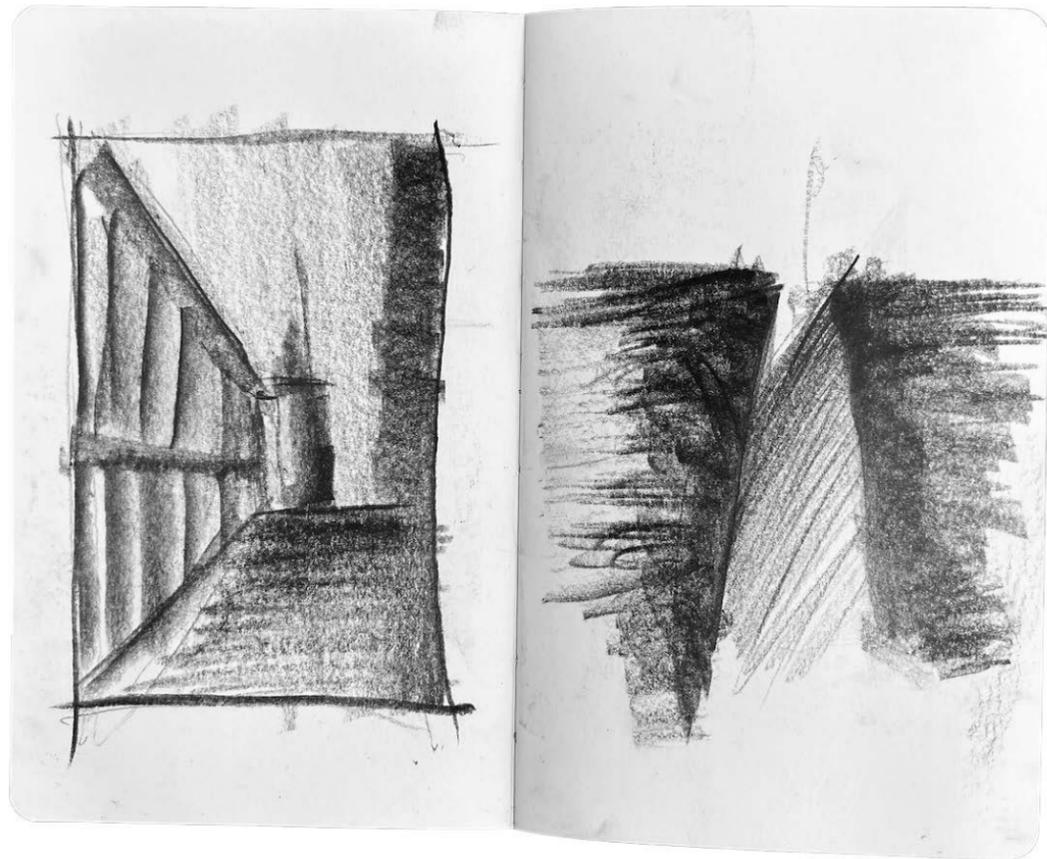


Fig 4.2 Graphite Sketch 2

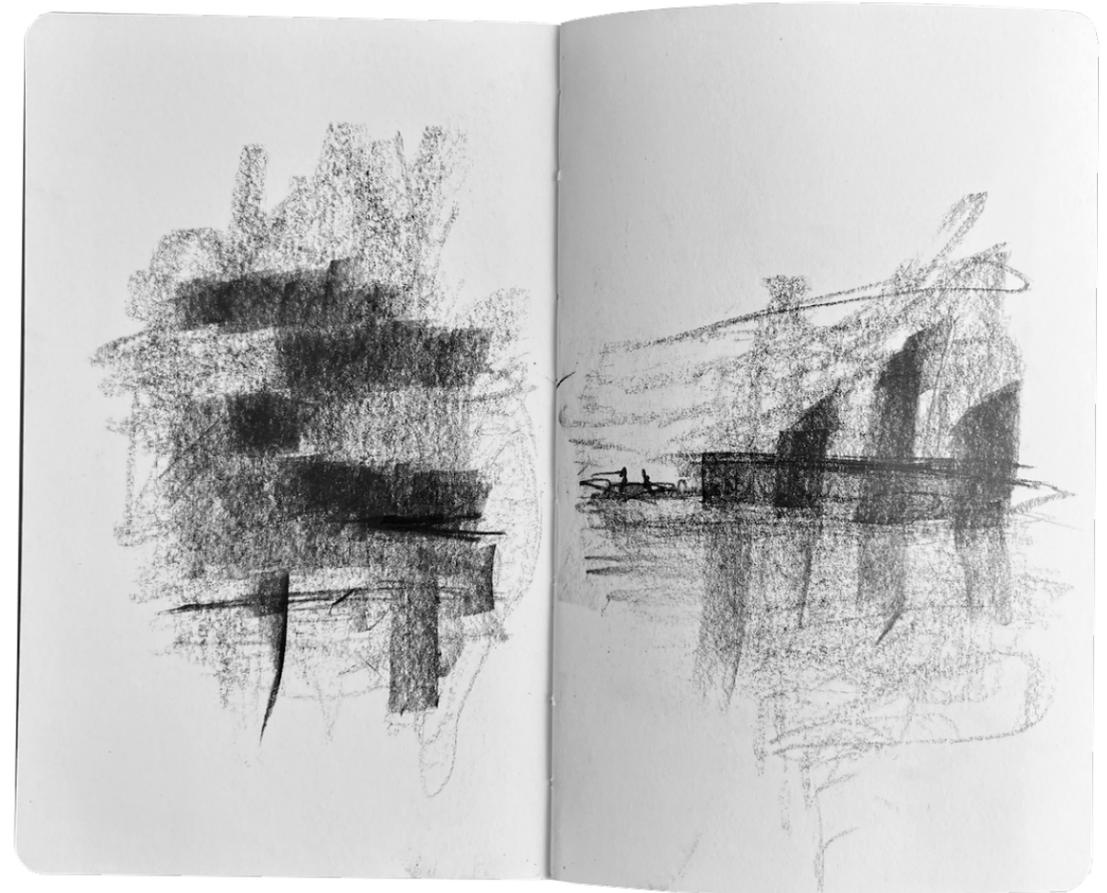


Fig 4.3 Graphite Sketch 3

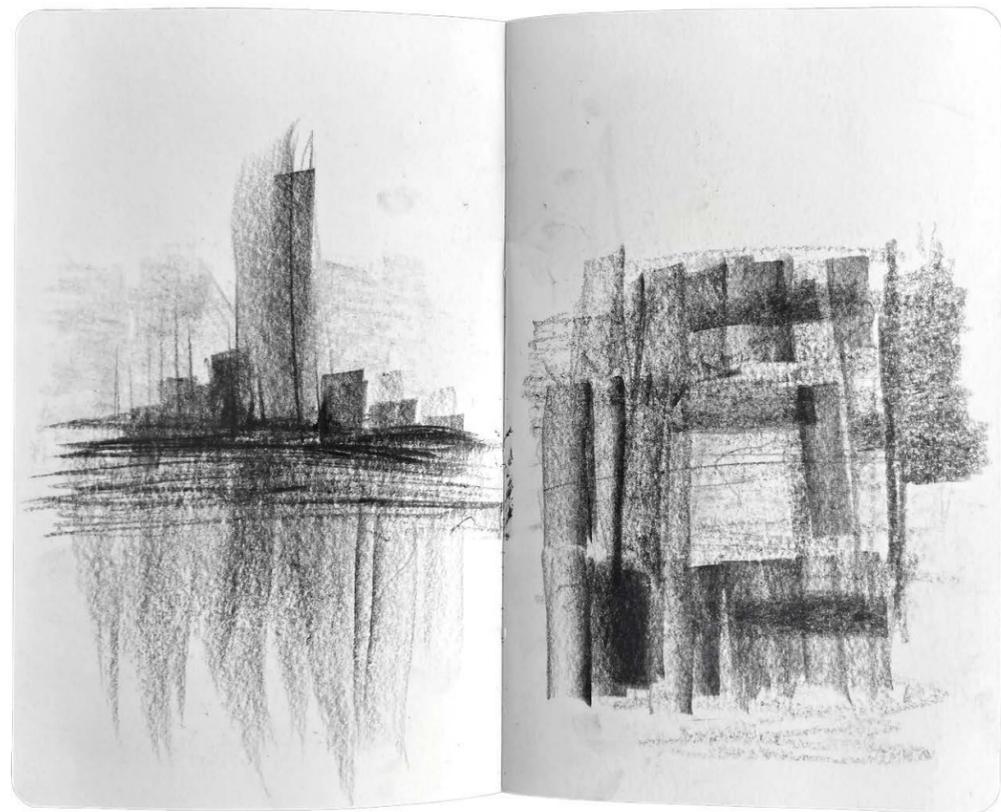


Fig 4.4 Graphite Sketch 4

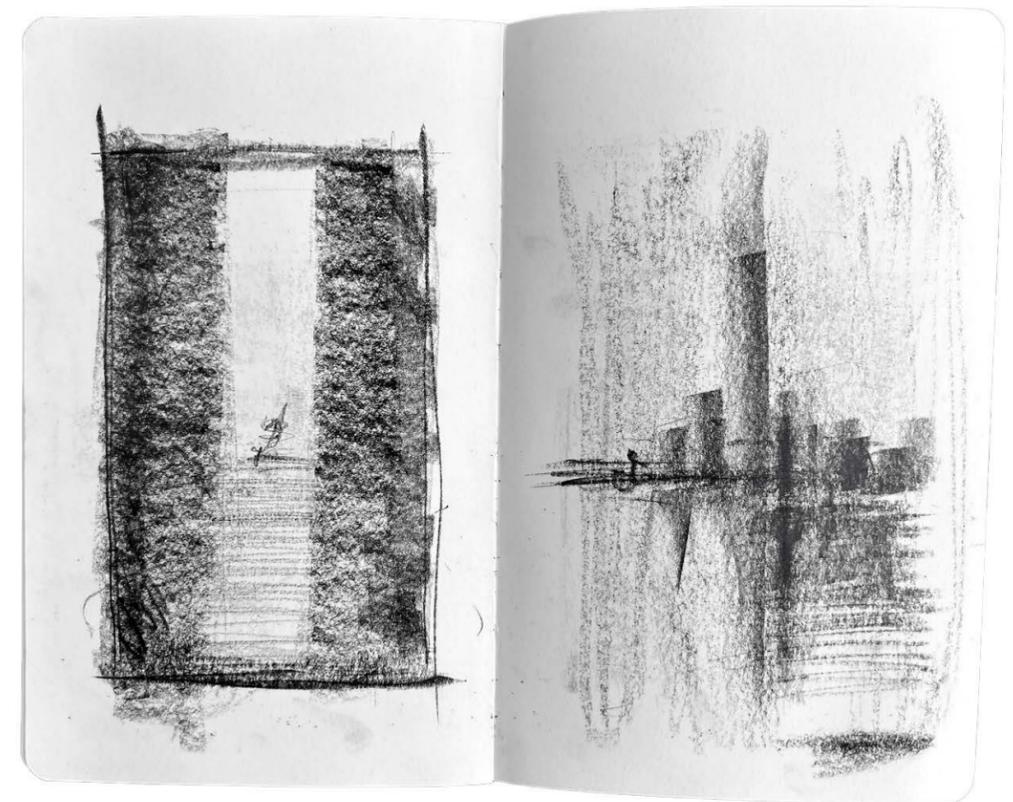


Fig 4.5 Graphite Sketch 5

### 4.3\_MATERIALITY AND CONSTRUCTION

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Building materials and practices are political in Dubai. Over recent years the construction sector in the Middle East has experienced rapid expansion, resulting in a migrant-based workforce that often experiences delayed payment and dangerous working conditions caused by extreme weather conditions and complex construction processes.<sup>1</sup> This thesis acknowledges the contextual environmental and working challenges faced by migrant construction workers. Therefore, the proposed designs aim to simplify the construction process and celebrate traditional building techniques through the use of locally available materials and ease of assembly.

Some of the proposed materials include sandstone, limestone, glass panels, sand, gravel, and porous masonry. The choice of material is informed by the contextual environmental challenges and inspired by the more historic urban palette.

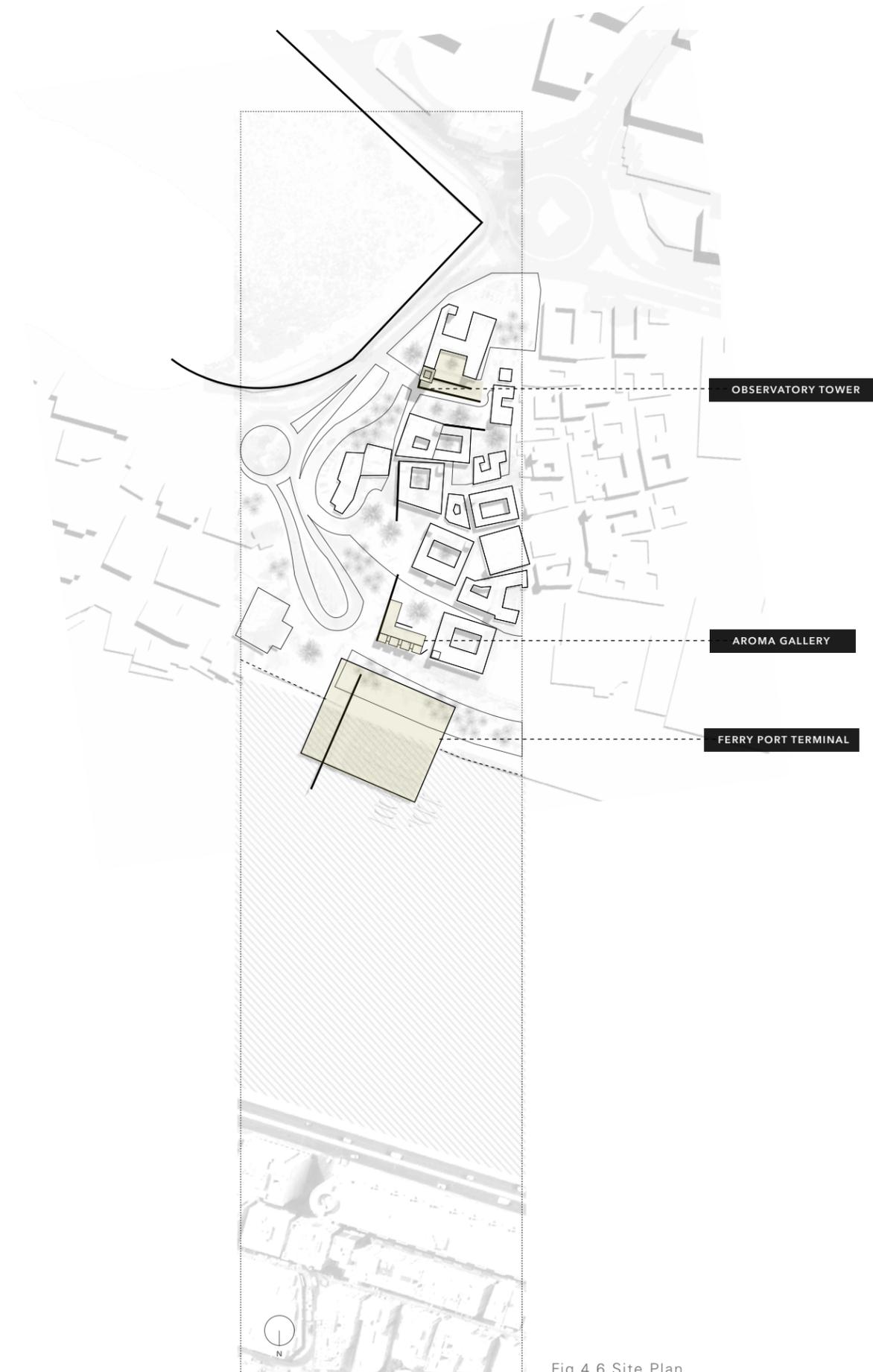


Fig 4.6 Site Plan

#### 4.4\_FERRY PORT TERMINAL

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Fig 4.7 Ferry Port

In the design process of the ferry port terminal, I gave consideration to the thousands of people transported to the souk across the creek every day. The ferry port terminal currently is composed of a stand-alone kiosk for tickets, with long queues of people lining up in the hot extreme weather waiting for the boats to arrive. The port is unshaded and constantly exposed to direct sunlight and heat.

A major ferry port terminal in old Dubai acting as a gateway to a historical district deserves care, attention and to be celebrated. Moreover, the re-design of the ferry terminal aims to maintain the solidarity of the different demographics that existed momentarily on the boat.

The design aims to achieve this through a major shading canopy acting as a landmark to the site entrance from the creek side, framing views of the site and pointing users to the rest of the site as a whole. The space aims to create a zone of reflection, gaze, and a shared resting point.

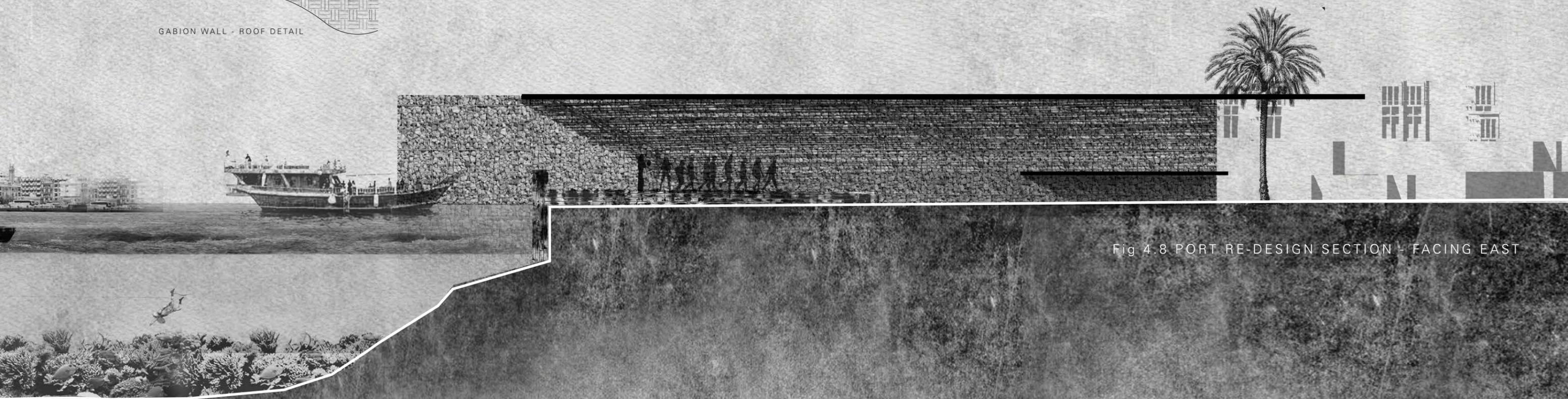
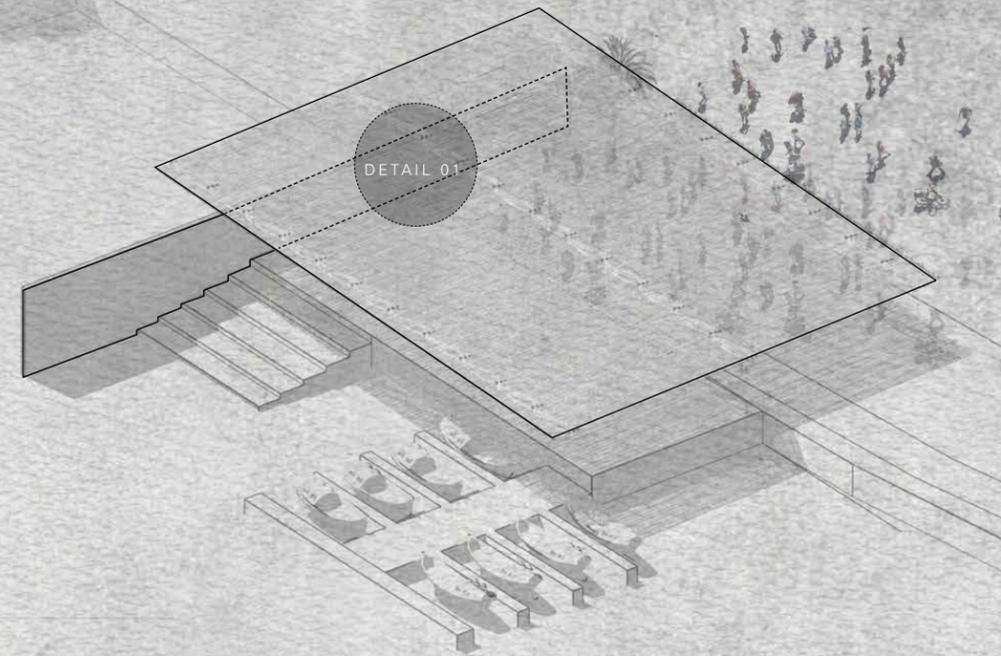
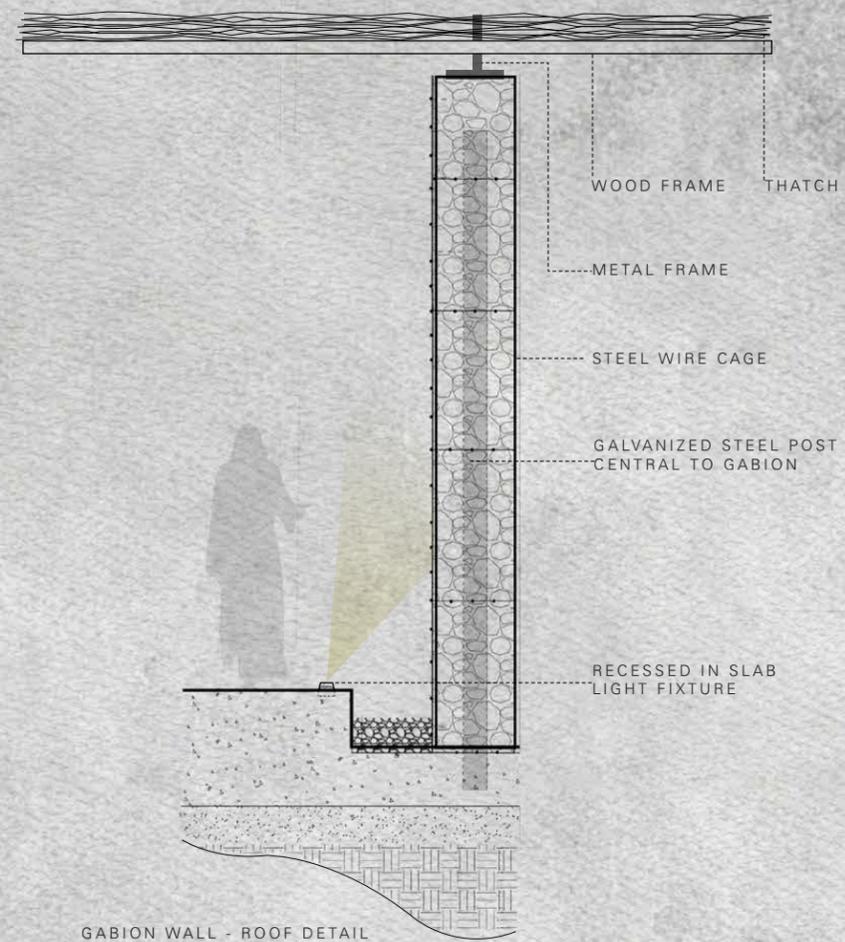
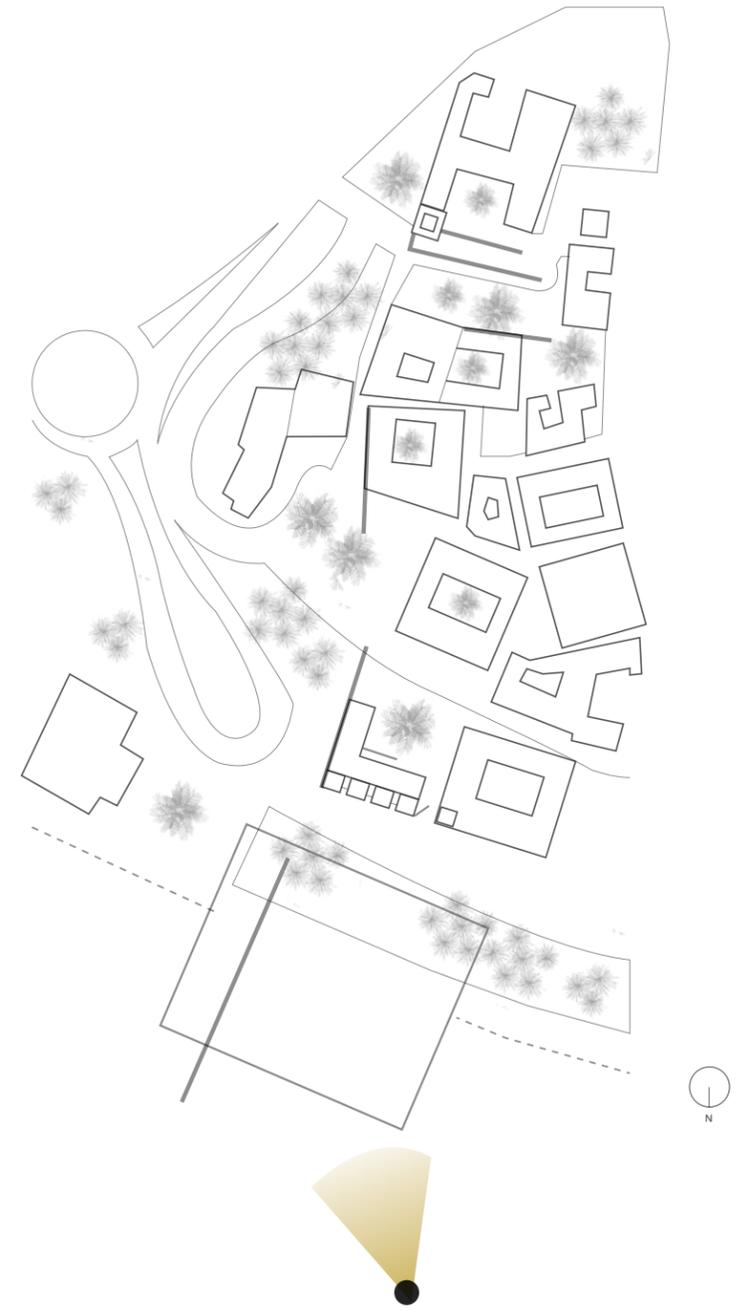


Fig 4.8 PORT RE-DESIGN SECTION - FACING EAST



Fig 4.9 APPROACHING FERRY TERMINAL FROM CREEK



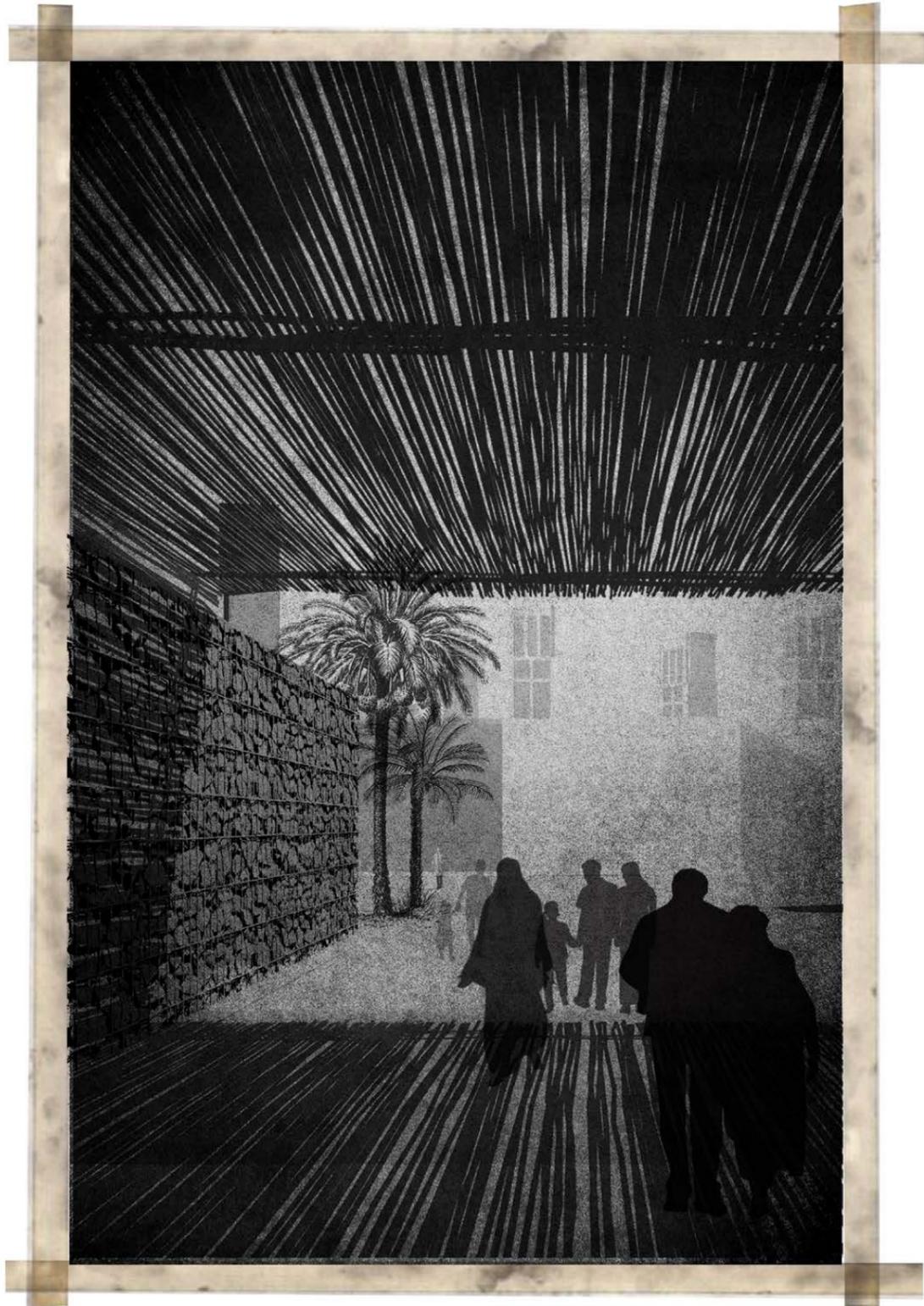
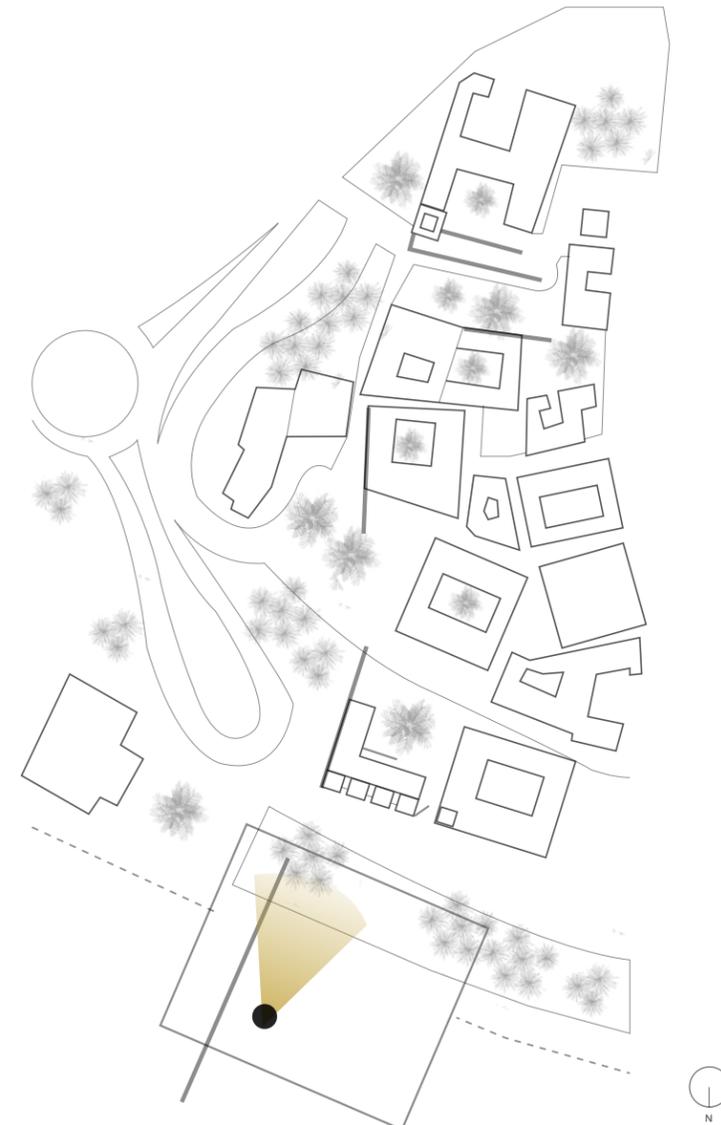


Fig 4.10 THE ARRIVAL AT FERRY TERMINAL



## 4.5\_AROMA GALLERY

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I chose to design an aroma gallery as a way of taking account of labour, trade, and Emirati women's crafts will be reflected through the aroma gallery to explore the unique fragrances of the region. Scent has long been an essential part of Emirati women's crafts hospitality.

The Aroma gallery explores Emirati culture via scent and the heritage that stems from its fabrication and use of traded oils and spices. Some of the major spices and ingredients that will be mainly used for the program are outlined here.

First, amber is an important ingredient in Emirati perfume making and, due to its distinctive scent, is used in its natural form as incense. It originally comes from sperm whales in the form of ambergris, which is a yellow-grey colored, wax-like mass-produced by the animal's digestive system. Once the whale expels the ambergris, it is found on seashores and collected.<sup>2</sup>

Second, roses are delicate, perennial flowers from which water and scented oil are extracted for various purposes. Roses, specifically used for perfuming, come from the Sarawat mountains in Taif, Kingdom of Saudi Arabia 2,000m above sea level. During the Roman period, roses were grown in the Middle East and exported to Europe by the Ottoman Empire.<sup>3</sup>

Third, Musk has a complex, addictive aroma that has always been a part of many Emirati perfume recipes. The earliest references of its use date as far back as the 6th century. Originally, it was extracted from the perineal glands of mature, male musk deers during mating season. It was also extracted from African civet cats and the resulting musk was called zibad (civet musk). It was a prized Emirati perfume ingredient even before it became highly regulated.<sup>4</sup>

Visitors will be invited to pause on their site journey at the aroma gallery to explore local scents and engage with local crafts. The local architecture of Al Fahidi and wind strategies formed by the iconic wind towers will act as catalysts for the aroma gallery and inform the building design.

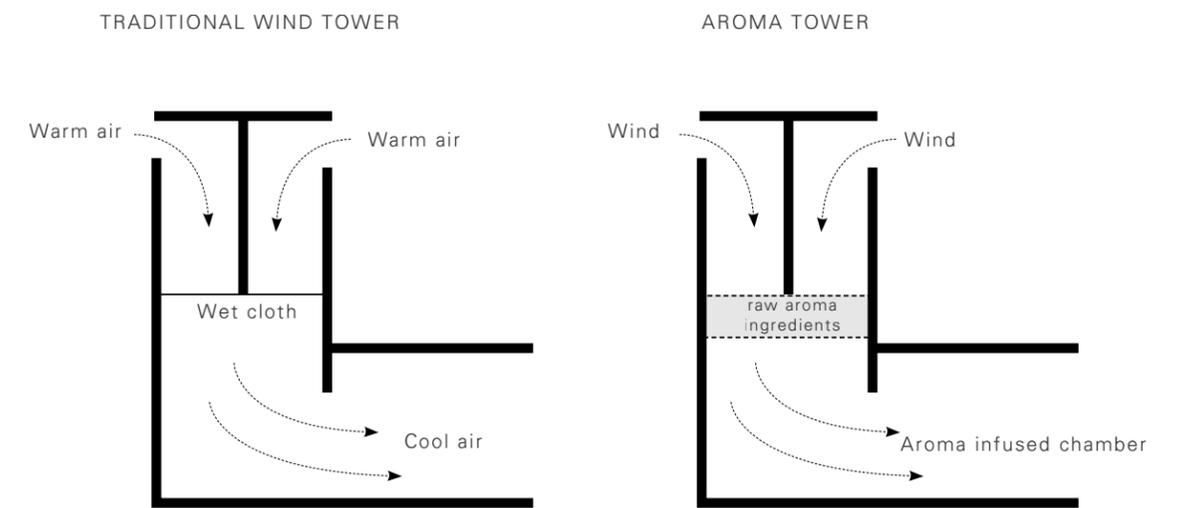


Fig 4.11 Traditional Wind Tower

Fig 4.12 Aroma Tower

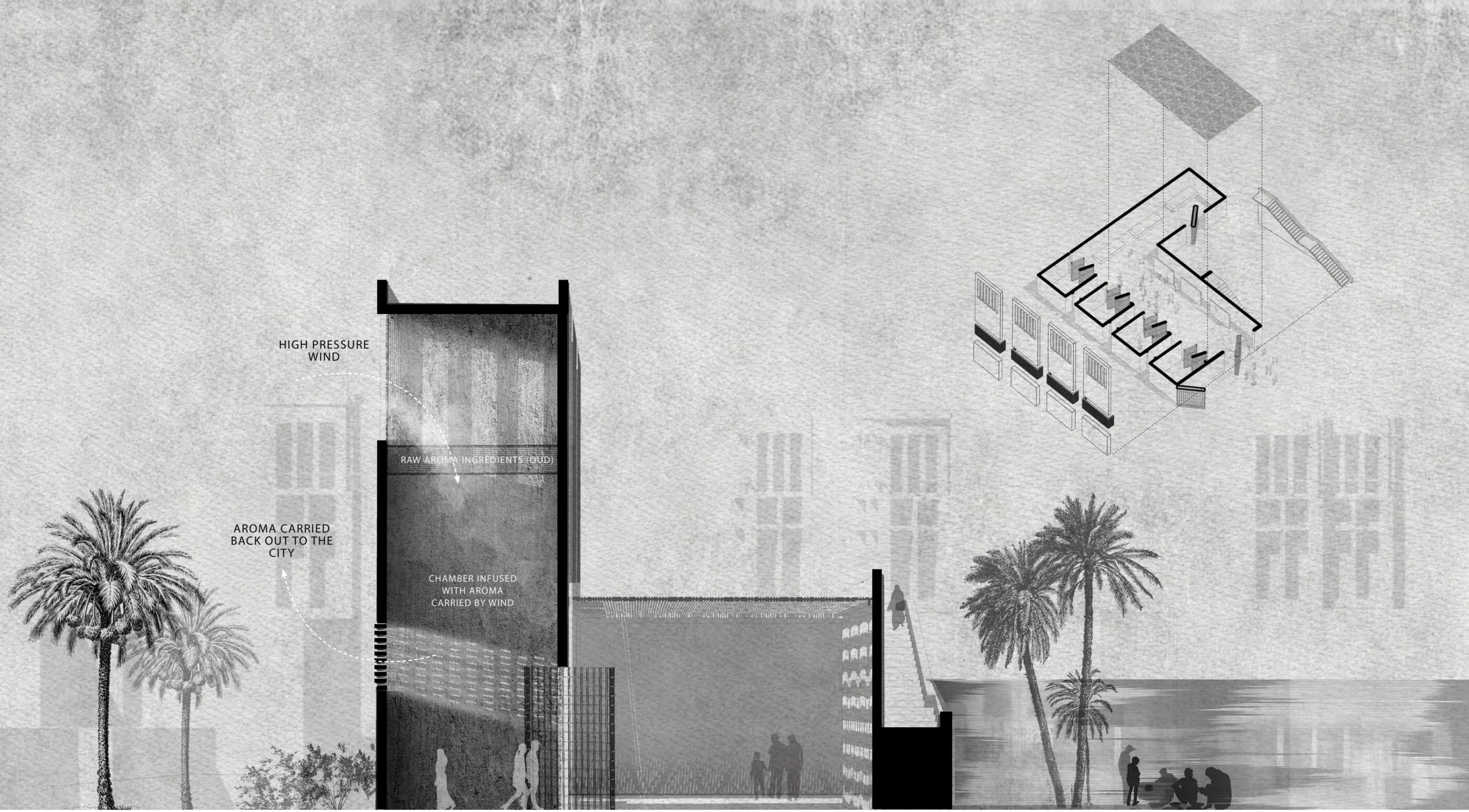
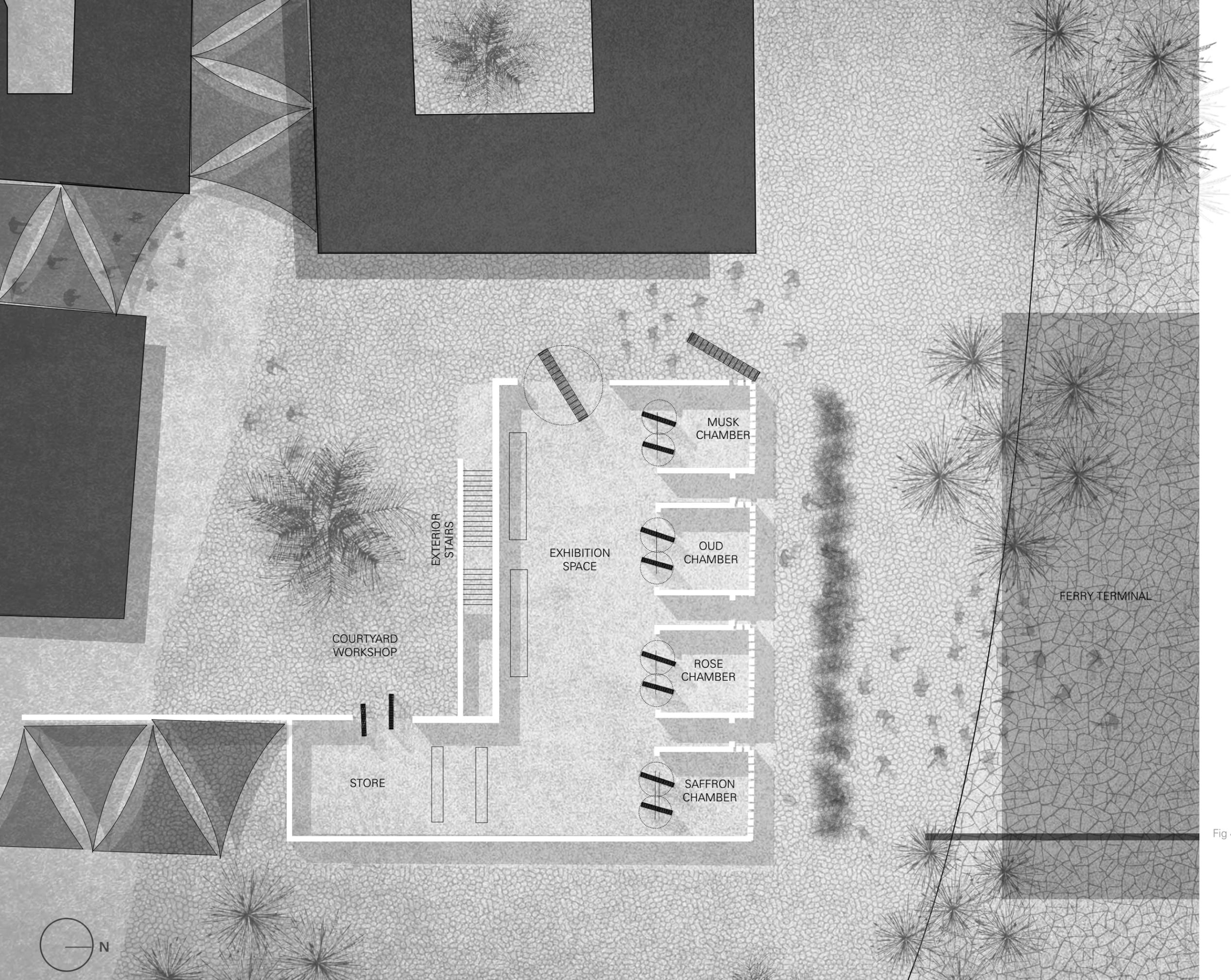


Fig 4.13 AROMA GALLERY SECTION - FACING EAST



COURTYARD  
WORKSHOP

EXTERIOR  
STAIRS

EXHIBITION  
SPACE

MUSK  
CHAMBER

OUD  
CHAMBER

ROSE  
CHAMBER

SAFFRON  
CHAMBER

STORE

FERRY TERMINAL



Fig 4.14 Aroma Gallery Plan

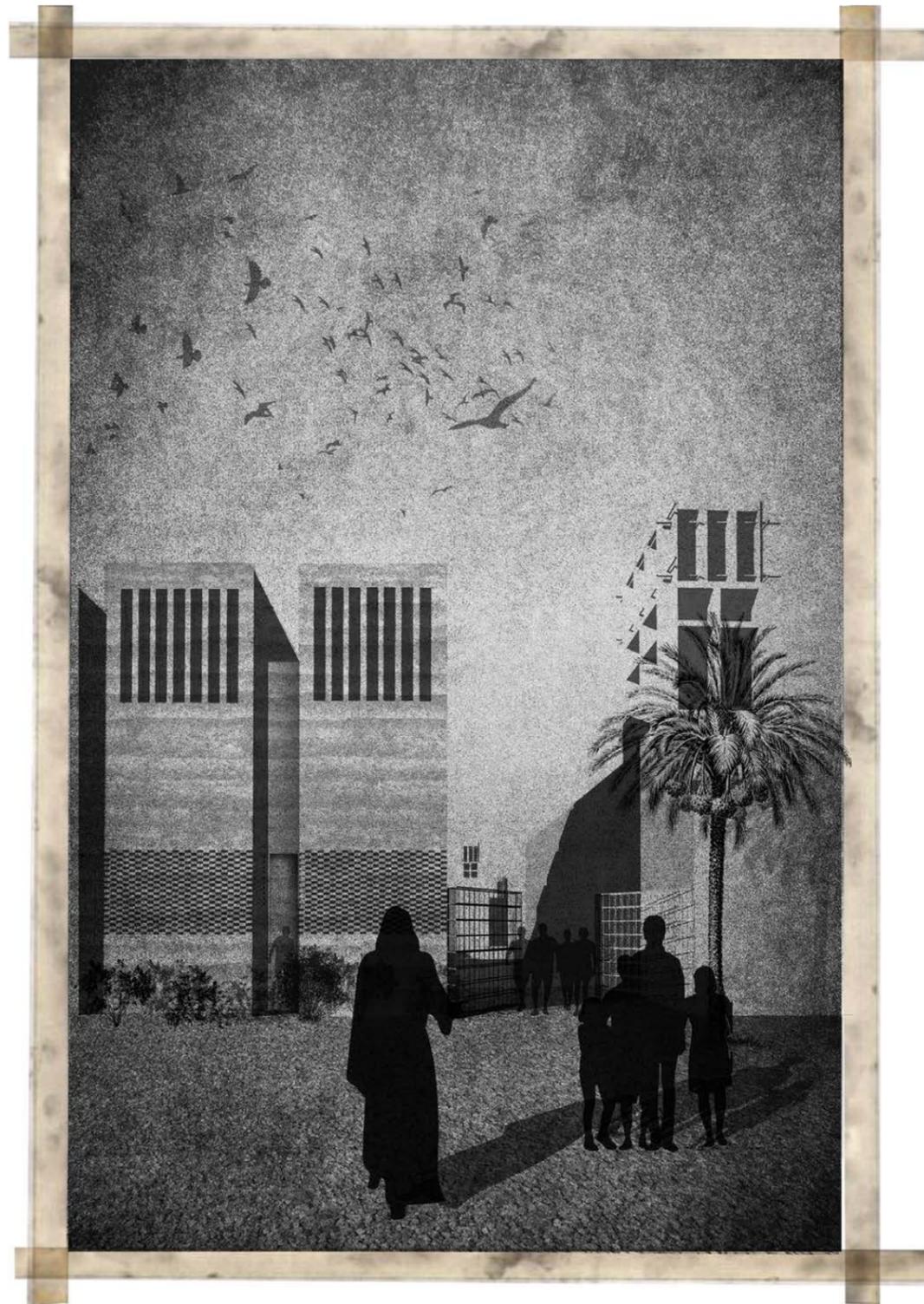
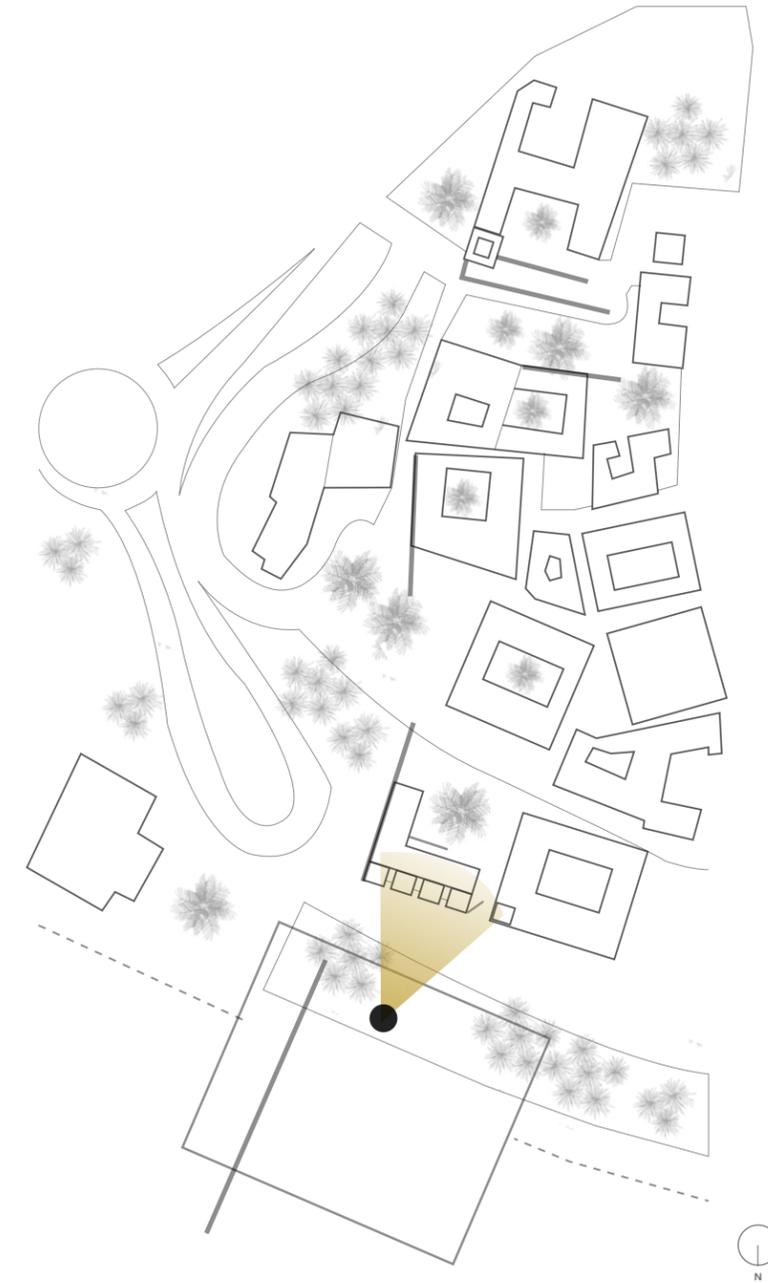


Fig 4.15 APPROACHING AROMA GALLERY



## 4.6\_OBSERVATORY TOWER

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The observatory tower will be the highest point on the site among the districts. Users can access the tower through a shared courtyard space allowing a mutual space to gather and observe the overall site including views of the physically inaccessible cemetery. Allowing views into the cemetery creates a sense of inclusion among the users while respecting the physical boundaries set by the cemetery.

While approaching the tower through the site journey, users will begin to gradually descend underground to enter the tower, symbolically shifting the users' attention to their proximity to the adjacent cemetery. The tower at night becomes a lighthouse and a guide for all different users across the entire site.



Fig 4.16 Heights Diagram



Fig 4.17 OBSERVATORY TOWER SECTION - FACING SOUTH

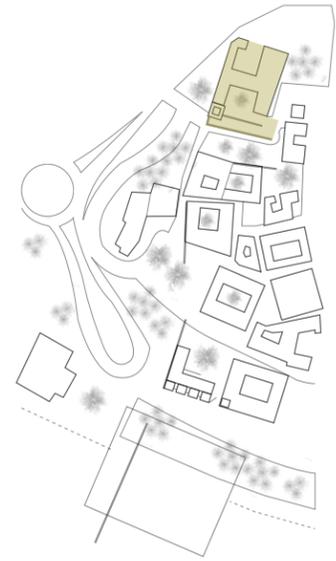


Fig 4.18 Observatory Tower Courtyard Design

Architecture and buildings might be seen as final destinations or targeted spaces. However, the thesis highlights the importance of spaces in between, circulation, and landscapes. Those are transitional spaces and are opportunities for resting points, shade, refuge, and exchange of conversation or inclusion of different groups. The thesis celebrates the architecture as well as the spaces in between as seen in the ferry port terminal as a major waiting point for different groups, alleys of al fahidi, and the courtyard as seen below the observatory tower. Our role as designers is to correlate the importance of public spaces and spaces in between to the proposed architecture and their implications as opportunities for social inclusion.

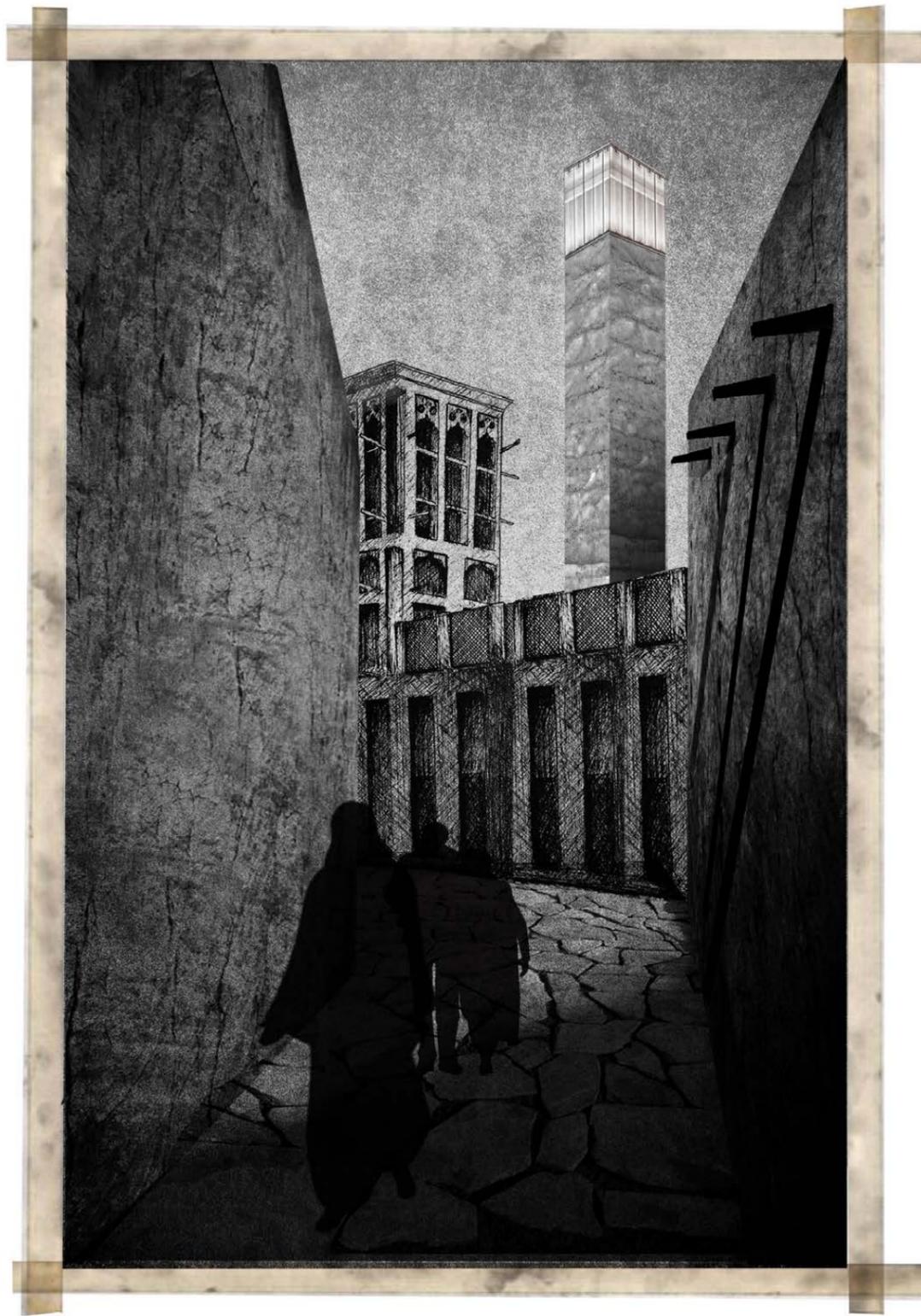
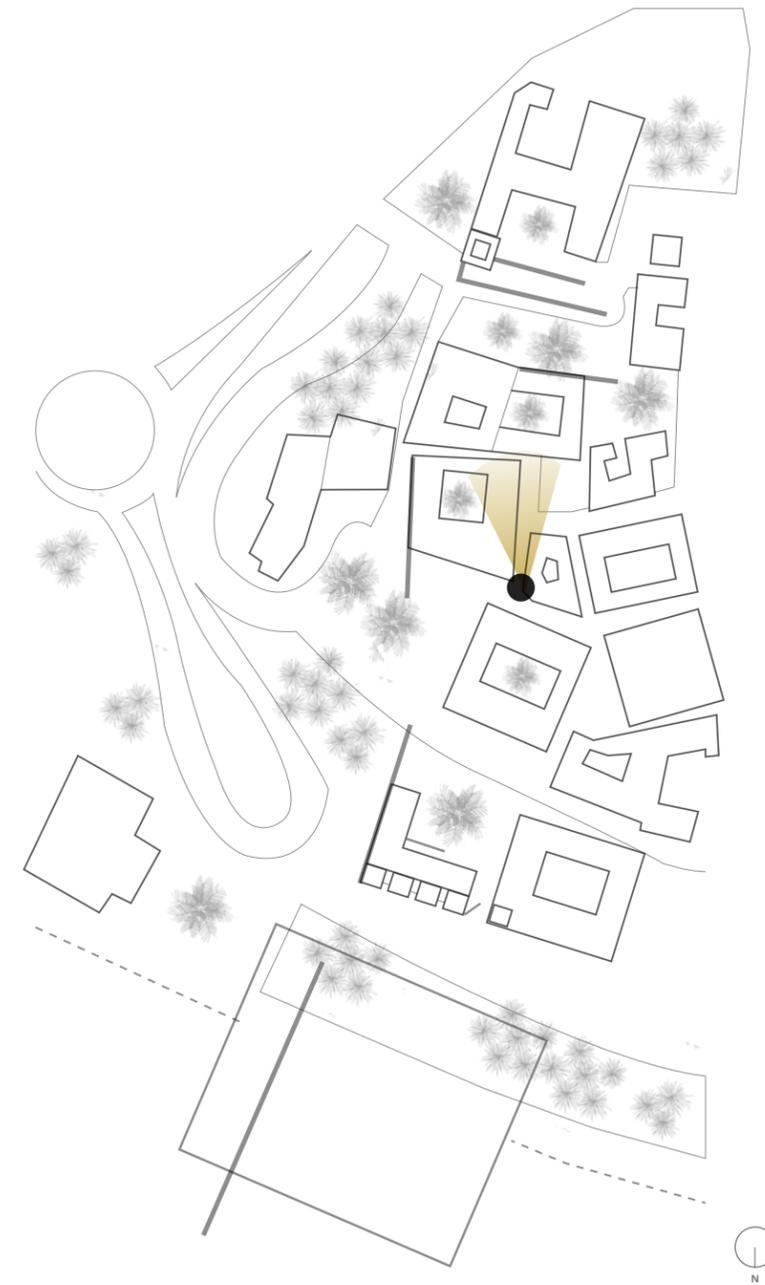


Fig 4.19 APPROACHING OBSERVATORY TOWER THROUGH ALLEYS



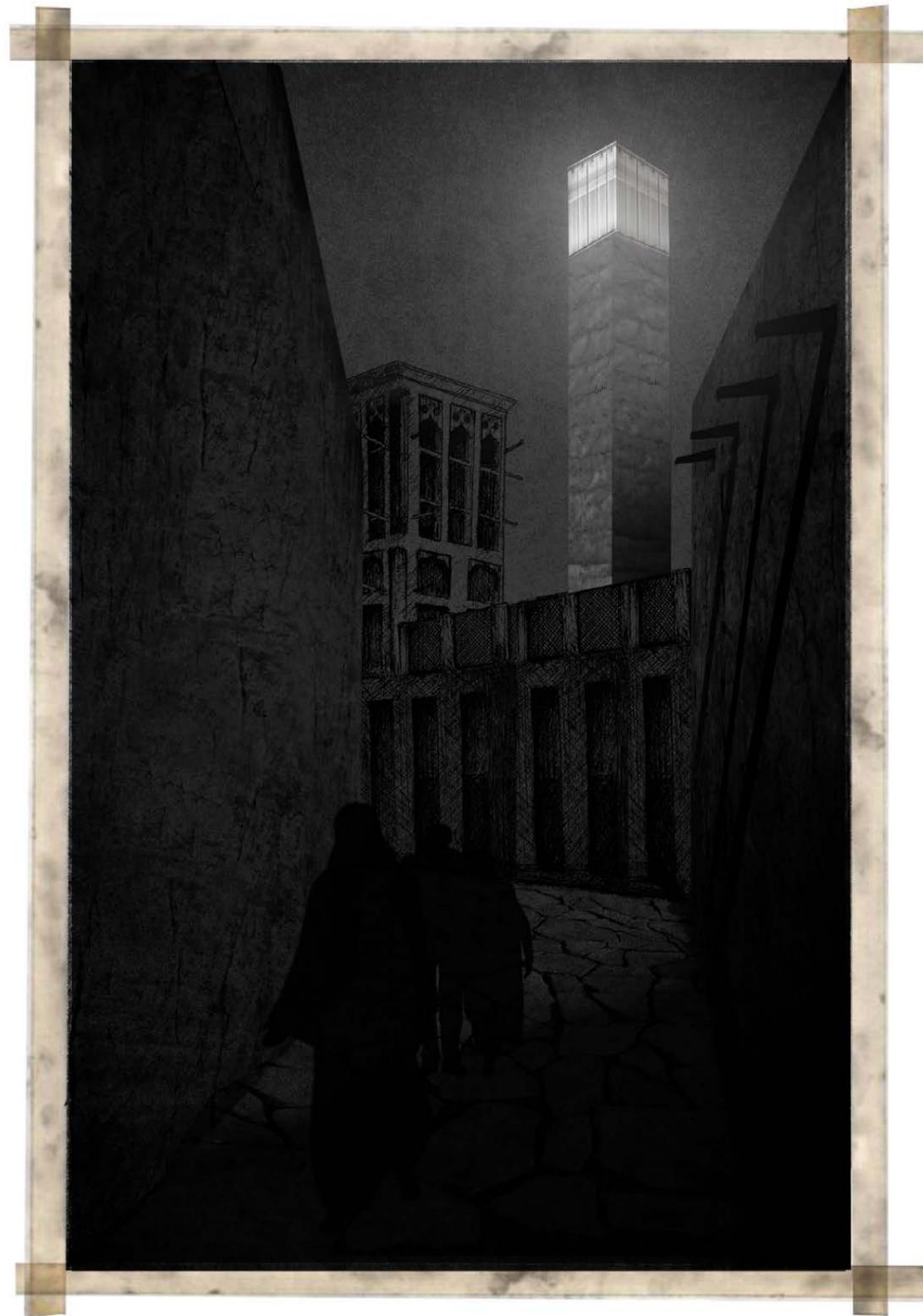
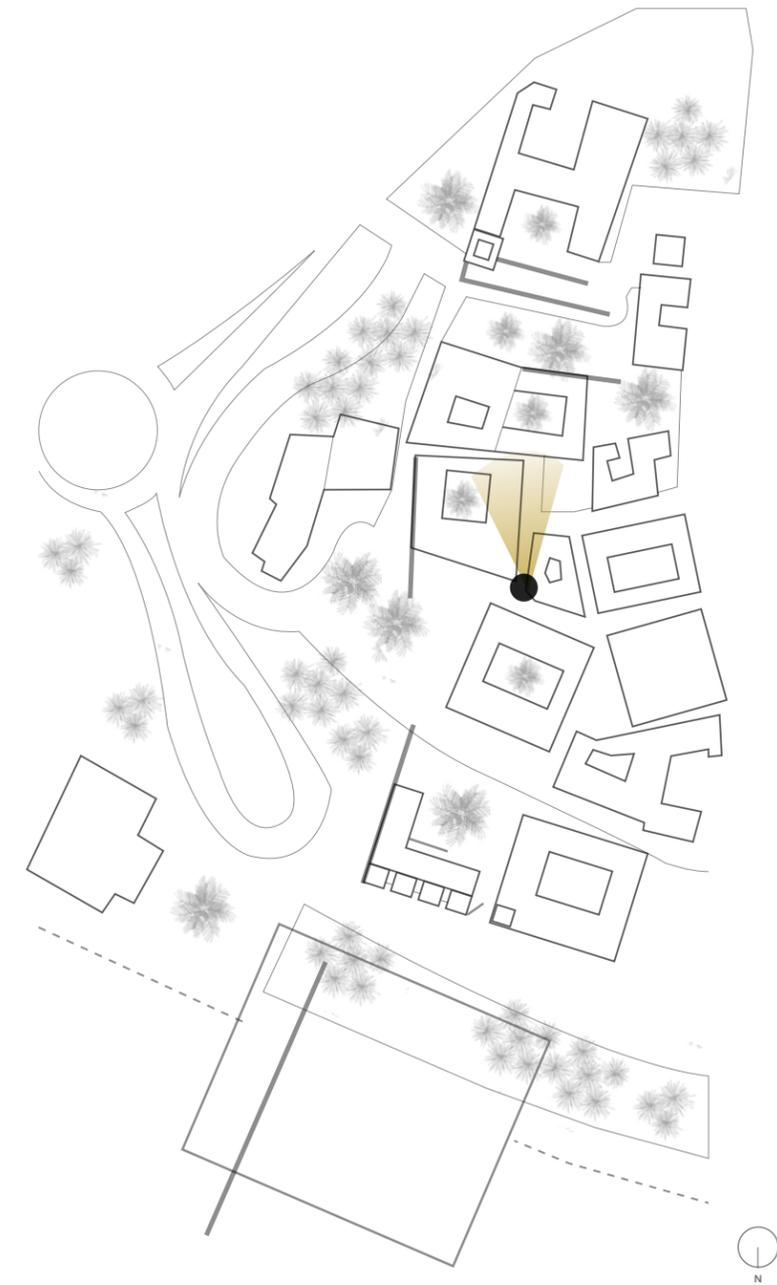


Fig 4.20 APPROACHING OBSERVATORY TOWER THROUGH ALLEYS



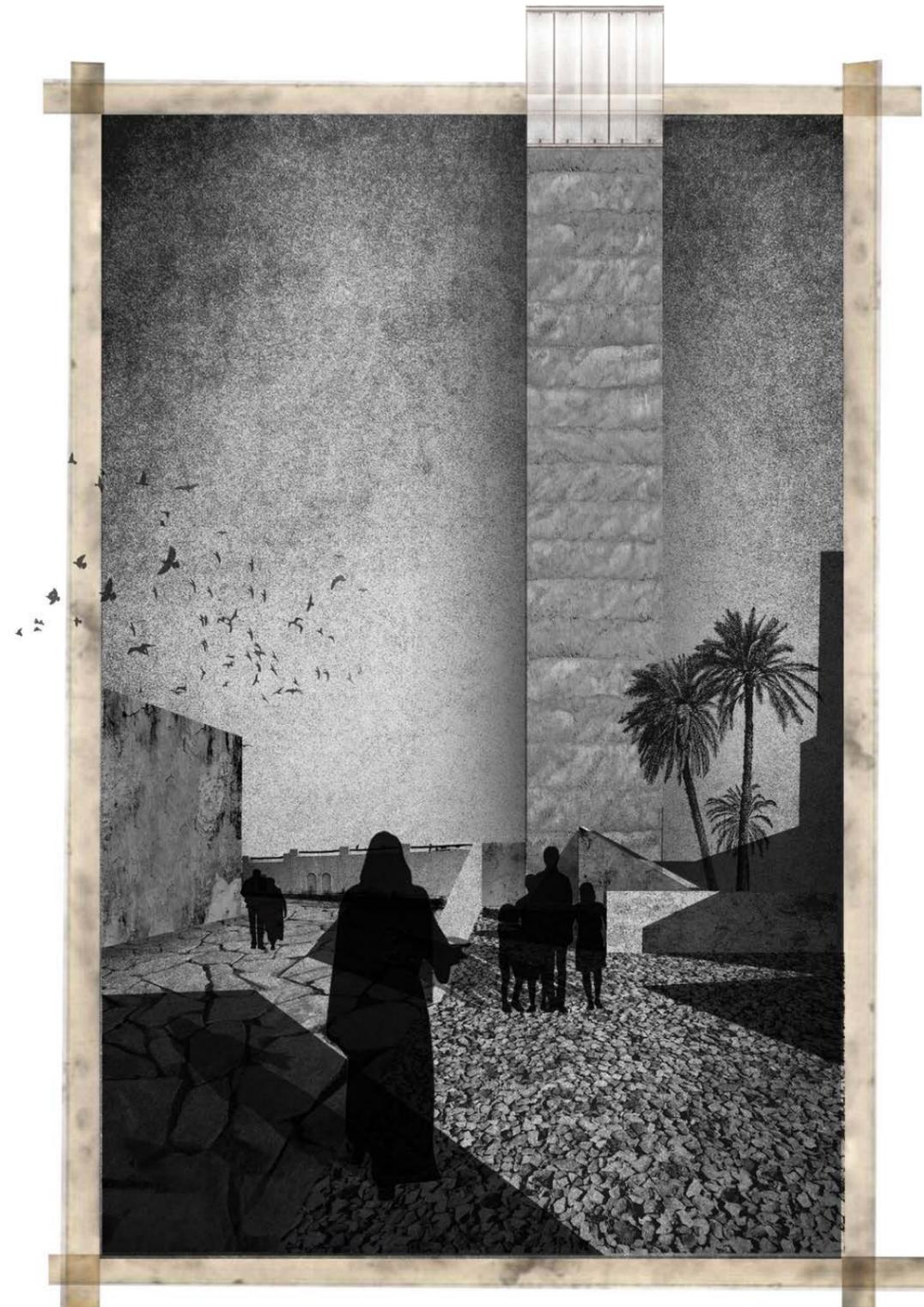


Fig 4.21 ENTERING THE OBSERVATORY TOWER

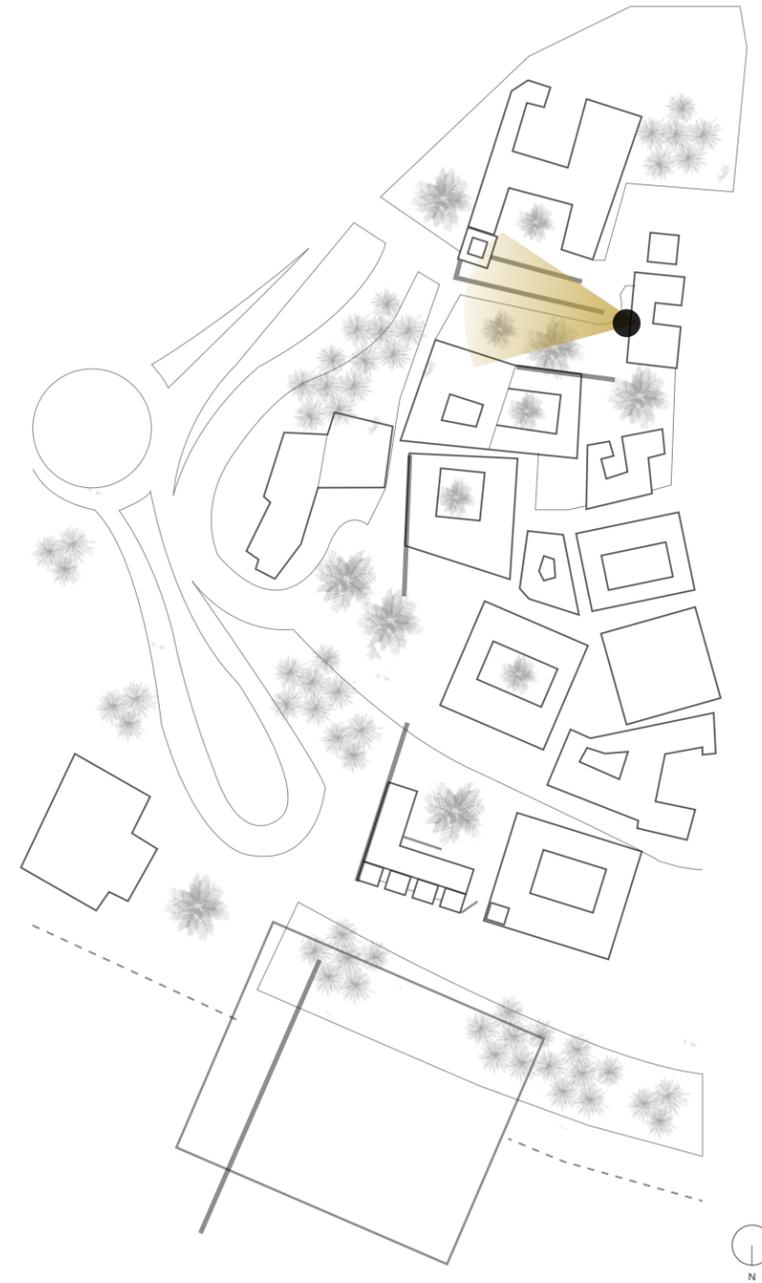




Fig 4.22 OVERALL SITE VIEW

## ENDNOTES

1. Acharya, Payel, Bethany Boggess, and Kai Zhang. "Assessing heat stress and health among construction workers in a changing climate: a review." *International journal of environmental research and public health* 15, no. 2 (2018): 247.
2. Wall text, Amber, Al Shindagha Museum, Dubai, UAE
3. Wall text, Rose, Al Shindagha Museum, Dubai, UAE
4. Wall text, Musk, Al Shindagha Museum, Dubai, UAE

05\_CONCLUSION & REFLECTION

## CONCLUSION

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Dubai is a globalised city that has undergone rapid development over the past three decades. As a result of this rapid development, the composition of the city is often incongruent and disconnected, a collage of old and new. Further, Dubai is home to a wide range of inhabitants with distinct cultural identities, including Emiratis, migrant workers, and expats. Within the city, each group is allocated distinct services and accommodations, reflecting an urban configuration that often lacks links and connections between different groups of people. In the thesis, one representative area of Old Dubai was selected to illustrate these physical and social disconnections. The selected area is currently a series of fragments with distinct identities that are designed to cater to selected populations.

The thesis establishes a strategy for making connections through these zones through the development of a series of design interventions along a designed route. A ferry terminal acts as a major gateway and shaded space for all groups of people to enter and exit the site through the creek. An aroma gallery highlighting local materiality, ingredients and crafts of Emirati women. The site is also celebrated with an observatory tower standing as the highest point on the site and landmark. The interventions collectively establish social connections through each zone through the design of exterior public spaces and buildings, through careful control of light, through the opening up of strategic views, and through the introduction of cooling breezes.

These collective experiences are most amplified in the thresholds. Sharing a shaded space on a hot day, appreciating the materiality of a touched surface, and enjoying a view to a wider expanse are to some degree universally meaningful. The design offers a linked sequence of shared experiences that start to make connections where previously there were few.

## DESIGN & DEFENSE REFLECTION

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An early intention for this thesis was to explore the role of light, shadow and materiality in the architectural atmosphere. My primary thesis interests early in September along with the site choice addressed far more critical issues that enriched the thesis question.

By end of April, the thesis addressed and raised multiple complex issues within the region, some were social, financial, environmental, architectural and political. Within the given time frame of my thesis year, I was able to touch upon most of the addressed issues to develop a framework and restrictions that can push the thesis forward from my own interests lens and through my personal experience and point of view.

Model making and drawing were my main two strengths and main exploration tools during the past eight months. The exploration process has proven to me the importance of making and learning from the process as well as the final product. It was critical to share my drawings and models with my advisors during the thesis, as they have opened my eyes to new ideas and concepts that I would not have paid attention to through just my own lens.

There is no doubt that multiple limitations have restricted the thesis pursuit. That was mostly related to access to specific information that is restricted to private use such as the cemetery for example or the financial stats and demographic of tourists which are constantly variant. However, I was able to pursue my thesis question and propose a design and conclusion based on my interests, personal experience on-site and given history and facts.

During the final defense, the final work was presented to Benjamin Gianni and Chris Romano. Tremendous meaningful feedback was provided on the design as well as the concepts presented. The majority of the feedback was related to the urban planning and organization of the spaces proposed contextually and in relation to material usage and articulation. Suggestions of moving some of the programs to the other districts were raised to create a dynamic circulation among multiple districts rather than focusing all of the new proposed programs in one place. This suggestion will break up the current proposal from a linear movement of circulation to a more dynamic interchanging circulation (see below diagrams). Moreover, an exchange of architectural language among the districts was recommended to amplify the concept of inclusion and suggest connectivity through the architecture. This suggestion will blur the obvious separation that's currently suggested by the districts, as seen at Al Seef which is extremely modern versus Al Fahidi which carries a historic vernacular architectural language.



Fig 5.1 Current configuration



Fig 5.2 Suggested configuration

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Wall text, Amber, Al Shindagha Museum, Dubai, UAE.

Wall text, Boat Builder, Al Shindagha Museum, Dubai, UAE

Wall text, Dubai Fisherman, Al Shindagha Museum, Dubai, UAE

Wall text, Emirati Women, Al Shindagha Museum, Dubai, UAE

Wall text, Musk, Al Shindagha Museum, Dubai, UAE

Wall text, Rose, Al Shindagha Museum, Dubai, UAE

## IMAGE SOURCES

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Fig 2.14

Photograph, Dubai Fisherman, Al Shindagha Museum, Dubai, UAE

Fig 2.15

Photograph, Boat builder, Al Shindagha Museum, Dubai, UAE

Fig 2.16

Photograph, Emirati Women, Al Shindagha Museum, Dubai, UAE

Fig 3.1 "Igalada Cemetery by Enric Miralles and Carme Pinos." Landezine. Accessed March 30, 2022. <https://landezine.com/cemetery-design-igalada/>.

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Fig 3.3 Holl, Steven. "Phenomena and Idea 1." In *The Material Imagination*, pp. 47-56. Routledge, 2016.