AMERICAN UNIVERSITY OF BEIRUT

CONTEMPORARY URBAN CENTERS THROUGH SPORTS AND RELIGION: RETROFITTING AL KHOR'S DESERT LANDSCAPE

by
ALI WAEL MUNZER

An Undergraduate Architecture Design Thesis
submitted in partial fulfillment of the requirements
for the degree of Bachelor of Architecture
to the Department of Architecture and Design
of the Maroun Semaan Faculty of Engineering and Architecture
at the American University of Beirut

Beirut, Lebanon
May 2021

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ALI WAEL MUNZER

Approved by:

Signature

Dr. Robert Saliba, Professor,
Department of Architecture and Design

_____

Thesis Advisor

Date of project presentation: May 12th, 2021

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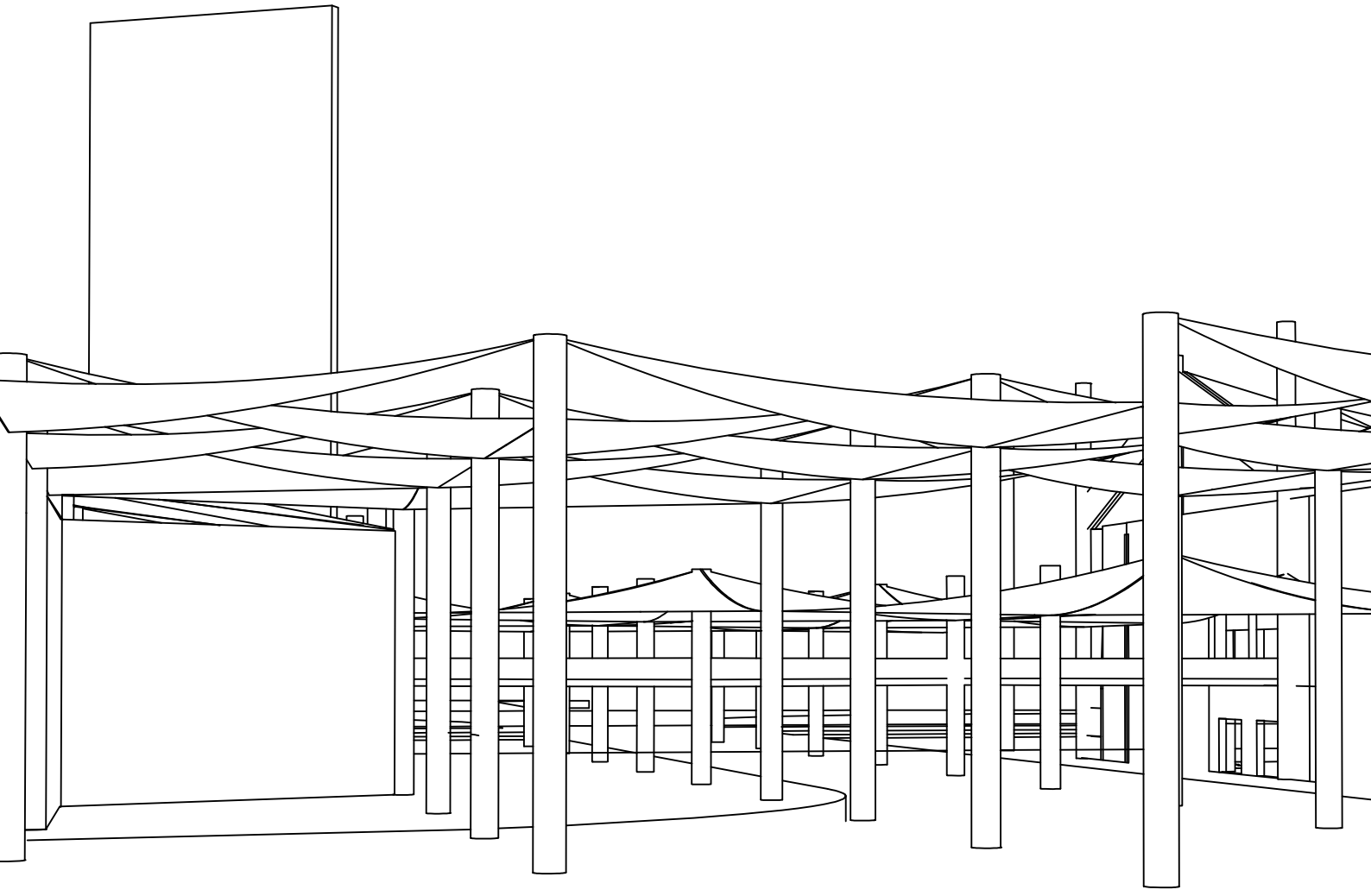
Contemporary Urban Centers Through Sports and Religion

Retrofitting Al Khor's Desert Landscape



American University of Beirut
Maroun Semaan Faculty of Engineering and Architecture
Department of Architecture and Design

FYP - 2020/2021

Ali Munzer

Advisor:

Robert Saliba

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Acknowledgments

I would like to thank Professor Robert Saliba for all his contributions and support all throughout the academic year. All his efforts are much appreciated.

Abstract

Sports and religion both operate as opiums where they have been historically known to distract people and prevent them from political activism. They share common social implications. They both indoctrinate and are strong forms of identification amongst the self and the many. Both typologies of sports and religion have evolved as congregational spaces that aim to gather and serve large amounts of people. When stadiums are not in proper use, especially as history has shown structures of mega-sporting events such as the Olympics, they become desolate structures that burden cities and are not optimized in terms of viability and feasibility. The investments made for such events are too immense not to be made use of after the tournament. Qatar is set to host a mega-sporting event in 2022; the FIFA World Cup and therefore provides an opportunity for experimentation. In this thesis I try and answer the following question: can the commonalities found between sports and religion, both metaphorically and spatially, be appropriately juxtaposed together to eliminate the current functional and infrastructural redundancy found in stadiums? What are its spatial consequences if any?

Introduction

Design Problematic

Sports and religion both operate as opiums where they have been historically known to distract people and prevent them from political activism.

They share common social implications. They both indoctrinate and are strong forms of identification amongst the self and the many.

Both typologies of sports and religion have evolved as congregational spaces that aim to gather and serve large amounts of people.

When stadiums are not in proper use, especially as history has shown structures of mega-sporting events such as the Olympics, they become desolate structures that burden cities and are not optimized in terms of viability and feasibility. The investments made for such events are too immense not to be made use of after the tournament.

Qatar is set to host a mega-sporting event in 2022; the FIFA World Cup.

Can the commonalities found between sports and religion, both metaphorically and spatially, be appropriately juxtaposed together to eliminate the current functional and infrastructural redundancy found in stadiums? What are its spatial consequences if any?

What is Sports:

Etymology of the word *sport*:

Derived from the Latin root *desporto*, meaning "**to carry away**"

The term sport had been used across the ages to refer to competitive and organized physical activities that aimed to distract people and move them away from the daily business of sustaining life or that produces economic gain.

Over centuries and centuries, sports and play have played a variety of roles in societies. Such examples can be found in Greek civilizations who honored their gods in rituals and celebrations through sports and game play:

1. To the Spartans, sports were means of helping young men refine the skills of war, which benefited the state.

2. In Athens, education and gymnastics helped one fully develop their physical and mental capacities; here, the intention was to aid in the perfection of the individual man.

Sport as defined in Ronald B. Woods' *Social Issues in Sports*, may be defined as "**institutionalized competitive** activity that involves **physical skill** and **specialized facilities or equipment** and is conducted according to an accepted set of rules in order to determine the winner."

Initial Investigations, Parallels and Intersections

Parallels and Intersections

Karl Marx (1843) on religion: "it is the opium of the people"

Russell Baker (1967): "it is sport that is the opiate of the masses"

Opium of the masses

Religion according to Marx robbed the people from political activism and masked class struggles.

It created illusions to help control and structure the masses.

Paul Hoch (1972) on sports: "Robs people of their power to make decisions and their creativity, and sets them in search of opiates in consumption and entertainment."

In sports we have the spectacle (defined by Oxford Languages as "an event or scene regarded in terms of its visual impact"). The spectacle is partially shaped by the fan and partially shapes the fan through consumerism, media and communication.

Fan/spectator ——— Consumerism, media, communication

NBA store in NYC

Martin Tyler: Sports commentator

Sports through media

Historical parallel: political agenda to keep people distracted from political involvement

Opiums as structure, control and order

Social implication of sports and religion: community building, identification and pride in culture

Indoctrination

One is born into a religion

One is born into a team (the support and affiliation of a team)

Baptisms in many cases occur not long after the child is born

Irrational Consumerism (part of opiums)

Distinct typologies of buildings and spaces with distinct rituals (worship and entertainment)

Places and spaces for practicing religion

Stadium and amphitheater for practicing sports spectatorship

Identity, togetherness and self-expression

Sports becomes a religion

Karl Marx (1843): religion is "the opium of the people."

Russell Baker (1967): "it is sport that is the opiate of the masses."

Today, both sports and religion are opiums. Religion according to Marx robbed the people from political activism and masked struggles between classes. It created illusions to help control and structure the masses. It is believed that sports does the same by robbing people of their power to make decisions and be creative through setting them in search of opiates in consumption and entertainment.

There are relevant parallels between sports and religion that contribute to our understanding of their correlation, influences on one another and influences on the city. Historically speaking as mentioned, there is a political agenda set to keep people distracted from political involvement. Socially, both act as community builders and contributors to identity and cultural pride (case study on next page).

In Sports:

Case study

Remaining Rooted in a Sea of Red: Agrarianism, Place Attachment, and Nebraska Cornhusker Football Fans

In Nebraska, the closest thing to a professional football, were the Huskers.
81,000+ seats have sold out non-stop since 1962. It is the longest streak of consecutive sellouts.

12th least populous state

Over 100 locations of supporters across the globe

BIRFing (Basking in Spite of Reflected Failure): fans strongly identify themselves with their teams and have been following their team for quite a while, and shall remain fans even in times of failure

Qualitative Study

Questionnaires and interviews were conducted between 1999 and 2002.

Questions were to fans in general and fans that belonged to alumni chapters from across the globe.

211 questionnaires collected

33 states

126 interviews completed

6 countries aside from the US

1. In general, the players on the Husker football team, are from rural Nebraska, giving it an historical connection to its agrarian lifestyle. This embodies the appreciation and respect for hard work
2. Agrarian principles they take pride in, are enacted in the team's efforts.
3. A connected feeling to Nebraska always remains no matter where the fan is.

Quantitative Study

136 Nebraskans in Nebraska were contacted through randomly generated phone lists

Majority of these people were not alumni: 120 people (88%), 12 alumni (9%), 4 had no information available (3%)

59 were female (44%)

55 were male (40%)

N/A 22 had no info. (16%)

47 questions asked

9.3 minutes average time

Table 1.1. A Comparison of Fans and Non-Fans on Perceptions of Similarities Between the Husker Football Team and the State of Nebraska

Fan Type	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
Fan	11 13.8%	37 46.3%	17 21.3%	12 15%	1 1.3%	2 2.5%
Non-Fan	1 2.4%	5 12.4%	8 19.9%	18 43.9%	3 7.1%	3 7.1%

Note: Percentages represent percentages within rows. χ^2 (5) = 21.34, $p < .001$

Table 1.2. A Comparison of Fans and Non-Fans on Perceptions of Whether a True Nebraskan is a Husker Fan

Fan Type	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't Know
Fan	23 28.8%	27 33.8%	12 15.0%	16 20.0%	1 1.3%	1 1.3%
Non-Fan	4 9.5%	6 14.3%	6 14.3%	17 40.5%	8 19.0%	1 2.4%

Note: Percentages represent percentages within rows. χ^2 (5) = 24.78, $p < .001$

Conclusion:

Approximately 64% of Nebraskans (80 people) agreed or strongly agreed with how they identify themselves as fans of the Husker football team. 31.7% disagreed or were neutral.

Identity and attachment to place are maintained by those outside of Nebraska by supporting their team.

In Nebraska, the closest thing to a professional football, were the Huskers. 81,000+ seats have sold out non-stop since 1962. It is the longest streak of consecutive sellouts. BIRFing (Basking in Spite of Reflected Failure): fans strongly identify themselves with their teams and have been following their team for quite a while and shall re¬main fans even in times of failure.

Two studies were done. A qualitative and a quantitative study.

Qualitative:

Questionnaires and interviews were conducted between 1999 and 2002. Questions were to fans in general and fans that belonged to alumni chapters from across the globe. In general, the players on the Husker football team, were from rural Nebraska; this gave it an historical connection to its agrarian lifestyle. It embodied the appreciation and respect for hard work. Agrarian principles were taken pride in, as they were enacted in the team's efforts. A connected feeling to Nebraska always remained no matter where the fan was.

Quantitative:

Nebraskans in Nebraska were contacted through randomly generated phone list. Most of these people were not alumni: 120 people (88%), 12 alumni (9%), 4 had no information available (3%). 59 were female (44%), 55 were male (40%) and 22 had no info (16%). 47 questions asked with an average time of 9.3 minutes.

Results:

Approximately 64% of Nebraskans (80 people) agreed or strongly agreed with how they identify themselves as fans of the Husker football team. 31.7% disagreed or were neutral. Identity and attachment to place was maintained by those outside of Nebraska by supporting their team.

Mosque Typologies

Two Main Mosque Types

Masjid Jami (collective mosque): large state-controlled mosque that serves as the center of community worship and is used for Friday prayer services

Small Mosques: operated privately by different groups within a society

Collective Mosques

Hypostyle Mosque

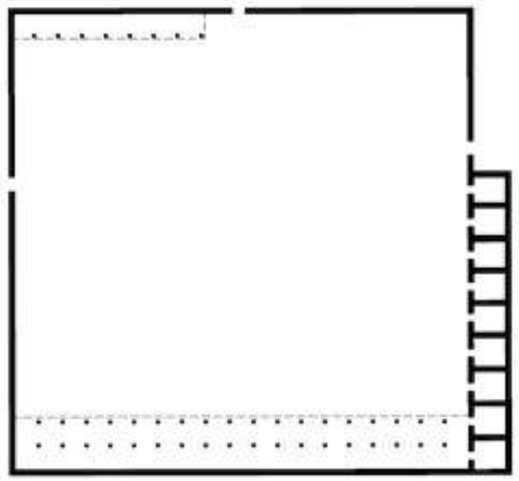
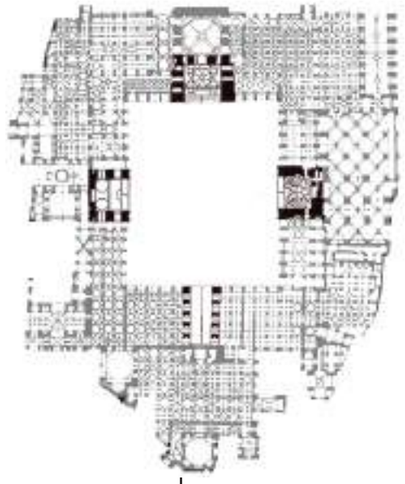


Diagram reconstruction of the Prohpet's house in Medina, Saudi Arabia

Forest of columns in the Great Mosque of Corboa, Spain's interior

Began forming in the 7th century AD
The Prophet Muhammad's house inspired the earliest type of mosque, as it was the first place of worship for Muslims
A hypostyle mosque's interior features a forest of columns, the main characteristic of the hypostyle type
Prayer takes place inside a covered hypostyle hall
The mosque contains a courtyard
The hypostyle was used in Islamic lands prior to the introduction of the four-iwan plan which came about in the 12th century AD
Examples: The Great Mosque of Cordoba, Al-Azhar Mosque Cairo, The Great Ummayad mosque of Aleppo

Four-Iwan Mosque

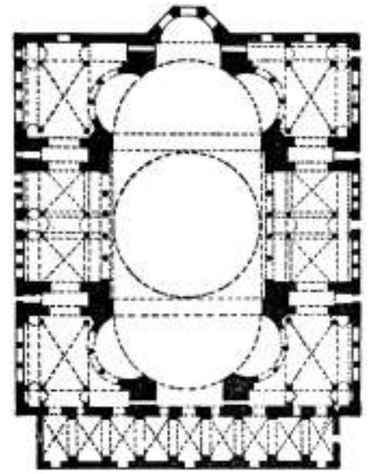


Plan of a four-iwan mosque in Isfahan, Iran

The Great Mosque of Isfahan, Iran courtyard featuring Iwans on all four sides

Began emerging in the 11th century AD
An iwan is a vaulted space that opens on one side to a courtyard; this element had already existed prior to Islamic Iran and was used in monumental and imperial architecture. It is strongly associated with Persian architecture and it was continued to be used during the Islamic period
11th century AD: hypostyle mosques in Iran were being converted into four-iwan mosques (4 iwans are incorporated into the architectural plan)
Like the hypostyle, the layout is arranged around a large central courtyard
Each wall of the courtyard is incorporated with a monumental vaulted hall (iwan)
Here we have a qibla iwan; the iwan is used as qibla and it is usually the largest iwan and most ornatley decorated
Examples: The Great Mosque of Isfahan, Al-Aqsa Mosque Jeursalem, Sultan Hassan Mosque, Cairo

Centrally-Planned Mosque



Plan of Haiga Sophia, centrally planned cathedral that inspired mosque typology

The Blue Mosque in Istanbul, Turkey

The four-iwan mosque did not dominate in the lands of the Ottoman Empire
Though the Ottoman Empire was founded in 1299 AD, it did not become a dominant force until the 15th century AD when it conquered Constantinople, the capital of the Byzantine Empire
Having been a Christian capital for over a thousand years, the land had a completely different heritage, architecturally and culturally, than Iran
Ottoman architects were strongly influenced by Haiga Sophia, which was the greatest Byzantine church of all, and featured a monumental central dome, high above a large nave
Examples: The Blue Mosque Istanbul, Selimiye II Mosque in Edirne, Yenii Jamii Mosque in Istanbul

Functional Distribution of Spaces within Stadiums

Schnitt Westtribüne

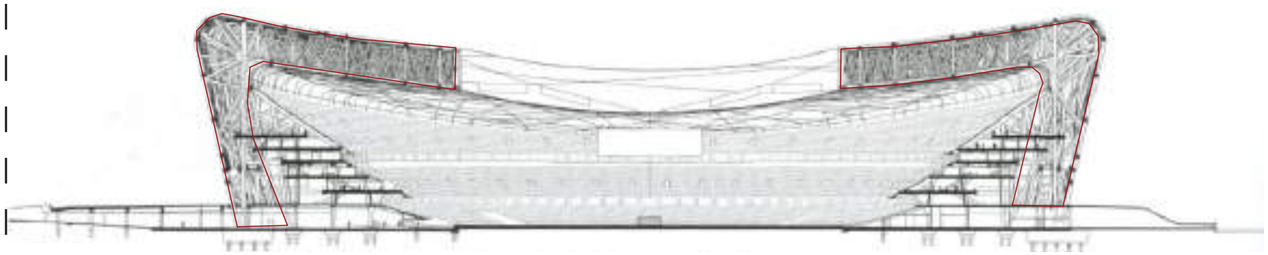
Allianz Arena
München-Fröttmaning, Germany
Herzog & de Meuron
Completed in 2006

Three themes were tackled in this project which made the project unique. The possibility of a changing illuminated body for the stadium; the stadium can therefore change in appearance (this affected the facade's design). Creating a procession-like arrival for fans set in a landscaped area (this affected the distribution) and finally having a crater-like interior.

These three concerns were tackled through the shell and the structural skeleton of the stadium.

Rooms, such as the VIP Lounges, Lobbies, Catering Zones, and so on, are embedded under the stands and covered by the stadium's envelope.

The interior as a crater was created by increasing the incline of the stands from the bottom to the top. This helped create a apecial density within the stadium.



National Stadium for the 2008 Olympic Games
Beijing, China
Herzog & de Meuron
Completed in 2007

Within the structure, people may get together in restaurants, bars, hotels and shops; furthermore, they may gather on the platforms (seen in section) and a crisscrossing of horizontal, vertical and diagonal access paths. What is uniqe is that the space, surrounding the interior of the stadium, is an all in one incorporation of façade, structure, decoration and public space. It links the city from outside and the stadium's interior.

A new form of urban and public space may become possible because of this area between the inside and the outside. "The really novel feature of the project is clearly the transitional space between interior and exterior." This space becomes the driving force that invites people to interact with one another.

The façade and structure are identical; these structural elements mutually support one another which converge into a spatial grid-like formation. Integrated within it are the façades, stairs, bowl structure and roof.

Sports and Religions' Influences on One Another

<u>Religion and sport share a tendency to resist social change and to maintain the status quo that benefits both institutions..</u>

Religious practices in some cases, such as meditating, praying, participating in yoga or other physical practices may sometimes be considered as forms of sports, or spiritual sports.



"Eventually, churches realized that they could attract people to their doors by offering social occasions that involved sport. As a result, they constructed gymnasiums, sponsored basketball and softball teams, provided playing fields, and encouraged people to come for the sport and stay for the Sunday services."

Islam makes no prohibition against sport participation; historically, in fact, sport and games were part of the expected teachings given by parents to their children.


Sports brings the possibility of understanding different traditions and cultures, through friendly competitions between nations.


Nationalism helped develop sport in countries whose popular sports were strongly rooted in their culture.



Use of sport by athletes to promote religious beliefs. Athletes share their religious beliefs and influence people to follow their religious path.


<u>Shift from national to economic. Where can one gain the most from financially.</u>

The City through the Lens of Sport and Religion

Icons that belong to the city landscape:

Medieval Rome

Religious buildings and stadiums/ amphitheaters as icons.
Typical layout consisted of a temple with an agora around it. The amphitheater was also a part of the urban fabric of the city.

There exists a historical parallel between how religion and entertainment were used to shape urban form in terms of location and silhouette.

New York City in the Industrial and Commercial Revolutions

Skyscrapers and towers became the icon of the city.

Barcelona today

Sagrada Familia included within the urban fabric, whereas Camp Nou lays on its outskirts.

Both stadium and religious buildings are icons of the city.

Religion and their structures and sports and their structures have influenced the formation of cities. Today, these structures do not always serve their initial purpose. Sometimes, they become iconic architectural structures that are visited by many.

Religious structures as opposed to sports related structures may have a stronger sense of permanence. i.e. Mecca in Saudi Arabia. To further clarify, the demolition of a sports structure for example would never receive as much (if any) criticism and opposition as opposed to the suggested demolition of a religious structure; these spaces are sacred.

Both religion and sports operate on nationalistic and local levels:

Hajj pilgrimage in Mecca, Saudi Arabia

Adjacent infrastructure to the Beijing Olympic Stadium

Easter Mass in Rome

2018 World Cup Final in Russia

Beijing 2008 Olympic Stadium

2014 Champions League final fan zone in Lisbon

National:

In religions, just as in sports, there are specific times throughout a year where people engage in spiritual journeys and pilgrimages.

Tourism in both sports and religion plays an important role in the city as the amount of people increases during these specific periods, and hence consumerist spaces are highly activated. In sports for example, public spaces adapt to fans' needs, and designated fan zones are installed.

At a purely international level, the support of national teams becomes more of an ideological tool. Such events involved under this scale of spectacle include the Olympic Games and the World Cup. The stadium and the host city in this case act as facilitators. So they attempt to find the right balance between achieving their economic goals, helping fans achieve their desires and maintaining themselves for its local occupants.

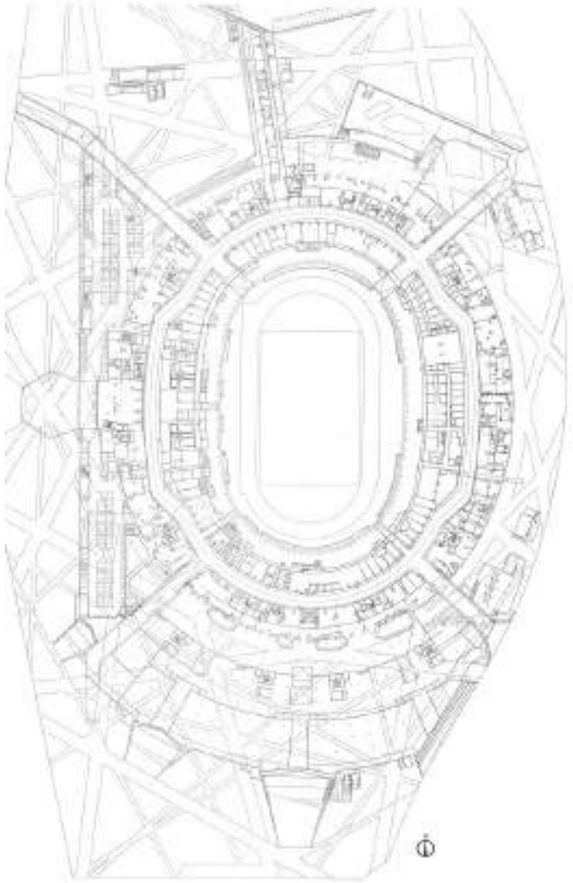
Local:

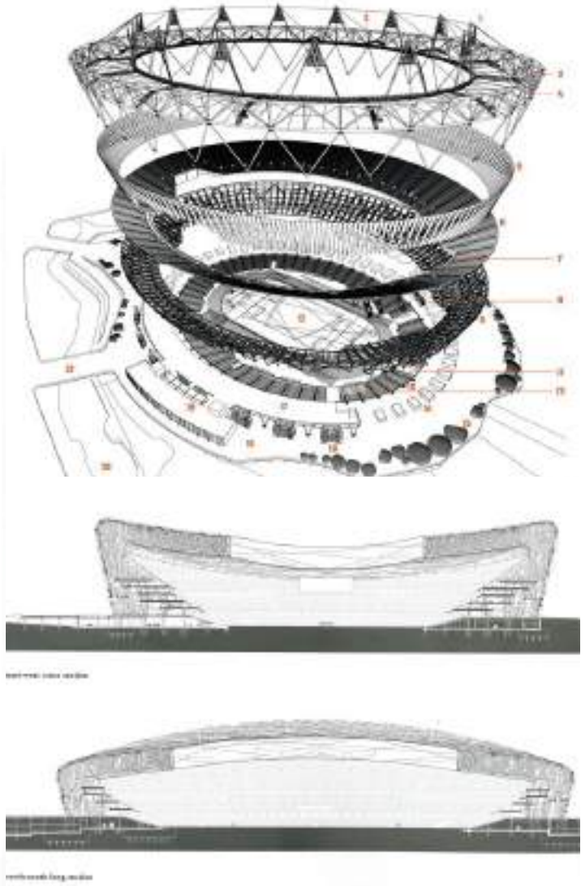
Each nation has multiple sets of sects and religions that are practiced by its people. Religion therefore operates on a strong and diverse local level.

Within each nation there exists a set of clubs, some of which may rise to international recognition. These clubs operate beyond their national borders; they now function at a global capitalist level as well as a strong local level where consumerism may be heavily driven.

Religious structures welcome the public on a daily basis, as prayers for example take place on a weekly/daily basis. Sports structures do the same as games and events may also take place on a weekly basis. These events schedule and regulate the time of use of these structures.

Olympic Movement





The Olympic Games a sporting event emerged from a religious festival that lasted a day, to a seven-day event that resonated across Greece and its colonies. The ancient Olympics were founded as a festival to honor Zeus the king of the Greek gods. The Games represented the culture that defined Greece as the undisputed leader of the Mediterranean as it only involved Greece and its colonies at that time. During these Games, religious ceremonies were never forgotten.

In 1896 the Olympic Games were revived by Baron Pierre de Coubertin, in what today is now as the modern Olympic Games.

95 percent of the cost of hosting the Olympic Games does not come from facilitating the sports event itself, but rather construction projects that cities hope to benefit from in terms of improving infrastructure and building world class sports facilities to accommodate for the games.

Three categories of Olympic legacies:

1. Creation of world-class facilities
2. National and international recognition of the city through extensive media exposure
3. Community benefits such as: local volunteerism, youth programs, job creation and training, and funding for community development projects

Sports has become a religion of its own.

Studies and Analysis

Qatar was selected as a point of interest considering its current development plans that have changed its urban landscape for the upcoming World Cup 2022. It is solely an Islamic country.

Doha, Qatar: A Sprawling Desert City

What was once a small, inconsequential fishing and pearling village (up until the mid-19th century), is now the capital of the independent state of Qatar since 1971. The first Al Thani Emir, Sheikh Mohammed Bin Thani, established his capital at Al Bida, which is now the port area of town.

Through the introduction of the University of Qatar and the National Museum of Qatar, brought education and culture to the city, and Doha's shape gradually began to change, one ring road at a time. The early construction of Doha Bay, that was carved out of reclaimed land gave a harbour to Doha's shrimp industry as well as a place of leisure to the city's inhabitants and a vantage point that architects have had the full opportunity to exploit fully in West Bay.

Since the beginning of the 21st century, Doha has undergone vast changes and has accelerated deeply within its own development. With the 2022 Fifa World Cup taking place in 2 years, its urban landscape has shifted towards shaping itself to accommodate for this mega-sporting event that would politically validate Qatar as an independent nation state.

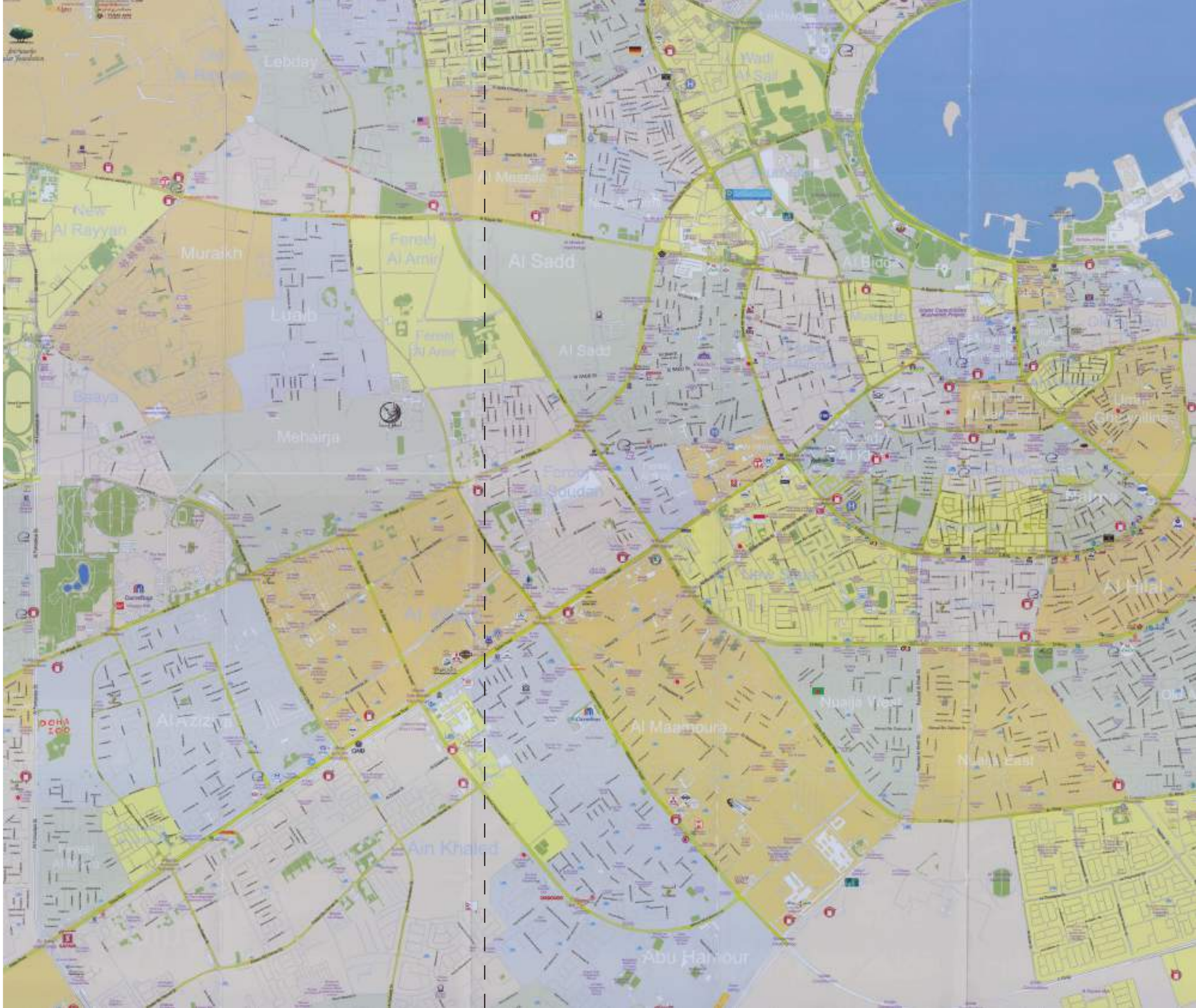
Map of Doha

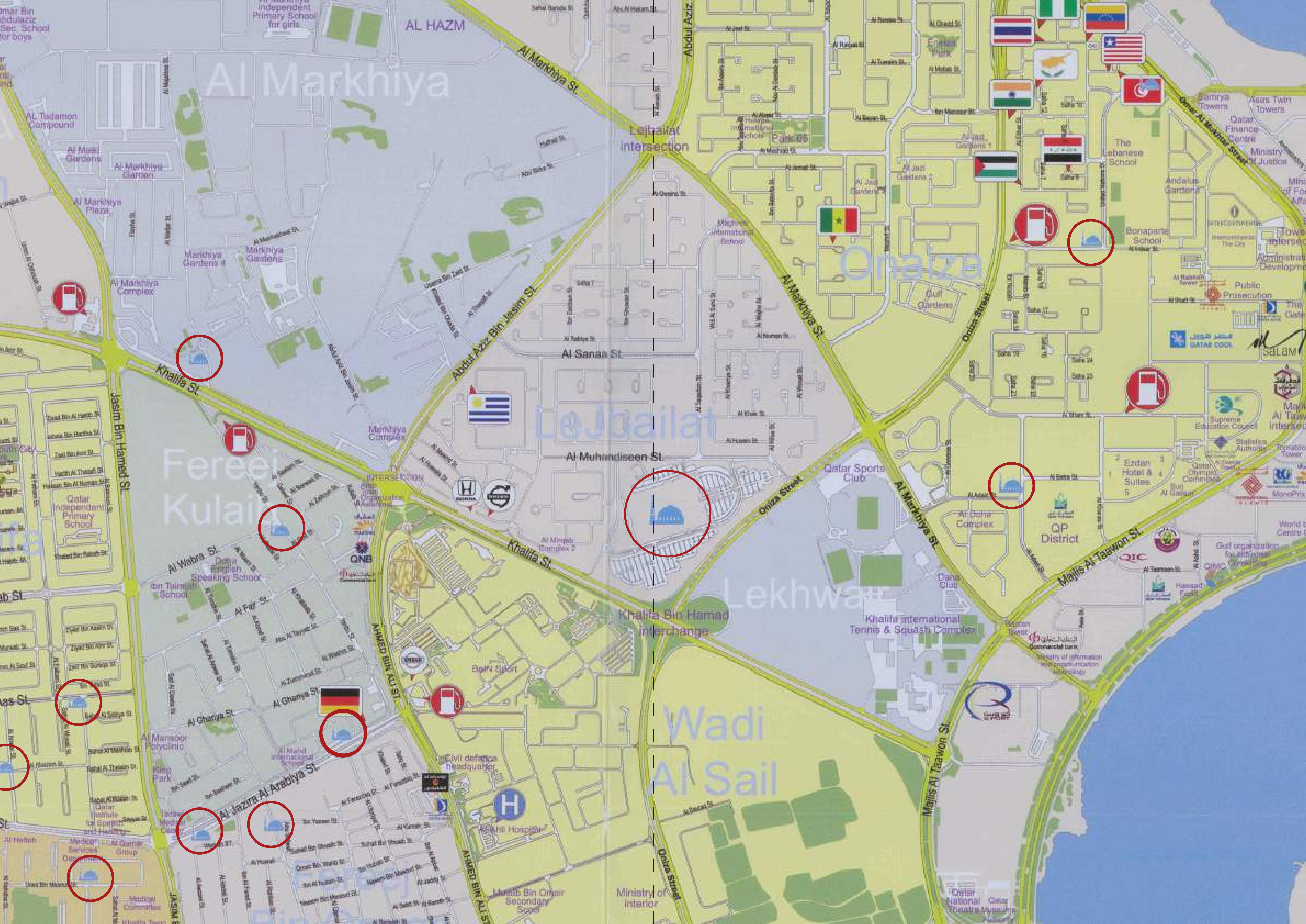
What were mainly highlighted in this map are:

- Intersections and Interchanges
- Petrol Stations
- Embassies
- Mosques

What is interesting is that all mosques that function from neighborhood to district to city levels were mapped on this map, showing how significant religion is to Qatar's people. Their scale and capture area can be identified by the size of the blue icons that represent mosques as well as their proximity from one another, those further away from each other being larger (highlighted on next page).

Shopping malls and sports related facilities can also be found here but were not prioritized, sports facilities being identified easier by green patches of land.





Al Markhiya
AL HAZM
Al Markhiya St.
Leibailat intersection
Abdul Aziz Bin Jasim St.
Al Sanaa St.
Al Muhandiseen St.
LeJbailat
Onaiza
Onaiza Street
Al Markhiya St.
Khalifa St.
Fereej Kulaib
Jasim Bin Hamed St.
AL Tadamon Compound
Al Meiki Gardens
Al Markhiya Garden
Al Markhiya Plaza
Markhiya Gardens 4
Markhiya Gardens
Al Markhiya Complex
Markhiya Complex
INTERSECTION
Al Wabra St.
Doha English Speaking School
Ibn Tain Jah School
Qatar Independent Primary School
Al Mansoor Polyclinic
Al Jazira Al Arabiya St.
Al Ghariya St.
AHMED BIN ALI ST.
BeIN Sport
Civil defence headquarter
Ahli Hospital
Khalifa Bin Hamad interchange
Lekhwair
Wadi Al Sail
Qatar Sports Club
Khalifa international Tennis & Squash Complex
Majlis Al Taawon St.
QP District
Al Doha Complex
Ezdan Hotel & Suites
Public Prosecution
Supreme Education Council
Statistics Authority
The Lebanese School
Bonaparte School
Andalus Gardens
Qatar Finance Centre
Ministry of Justice
Samriya Towers
Asas Twin Towers
Gulf Gardens
Park 85
Ministry of Interior
Musab Bin Omair Secondary School
Qatar National Theatre
QNB
QATAR COOL
QIC

Tourist Map of Doha

What are mainly highlighted in this map are:

- Intersections and Interchanges
- Petrol Stations
- Embassies
- World Cup stadiums
- Cultural sites
- The new metro lines

Here in the latest tourist map of Doha provided by a local company that deals with hospitality called Marhaba, mainly highlights the world class sporting facilities that are being prepared for the World Cup (highlighted on next page).

Shopping malls but were not prioritized.

Not all mosques were identified on this map nor were they given priority in terms of representation and scale.

World Cup Stadiums

None but one of the newly constructed/ renovated Stadiums can be found within proximity of the city's center, but one.

The stadiums are sprawling across newer districts that are currently growing or under development for the most part of it.

Capture Area of Local Sports Clubs

These sports complexes have two radii that operate at different levels:

1. The first as mentioned and shown, pertain to the complexes district areas, where the proximity of fans loyal to the club mainly live within this area.

2. The second set of radii are at city level. This is because of the existence of opposing fans that travel across the city when their team is playing away from home.

Sports Clubs

The sports clubs as well as their adjacent facilities are distributed across the city of Doha, each pertaining to its district area.

They are well embedded within the built up areas of the city

Largest Parks, Green and Public Spaces

These are mainly located across the Corniche strip as well as near cultural areas and centers such as the Museum of Islamic Arts, Souq Waqif and Katara Cultural Village, as well as new developing areas.

Religious Structures that Operate at City Level

Many can be found near the old part of the city as well as near the city center. The largest Friday mosque lies within near proximity of the city center.

The rest just like the sports facilities are well embedded within the existing fabric of the developed parts of the city.

Malls and Commercial Buildings that Operate at City Level

There is a decent amount of shopping complexes that operate at a city level.

They are scattered across the city.

Religious Structures Added

Malls Added

Complete Map

- Religious structures
- Parks, Green and Public Spaces
- Cultural Areas
- World Cup Stadiums
- Sports Clubs
- Shopping Malls

Design Matrix

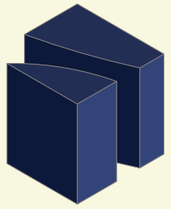
Design Matrix

The design matrix is based on themes that tackle or may tackle the desert landscape appropriately and also address key concepts relevant to the project's key ideas

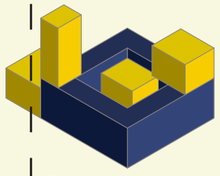
Formal themes

Desert Undulating Landscape

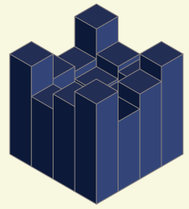
Introversion



Carving

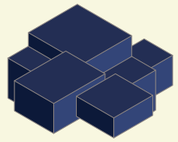


Typological Urbanism



Urban Implosion

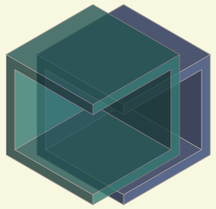
Volumetric Architecture



Formal Clustering

Functional themes

Hybridity



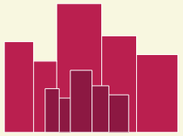
Multifunctional Spaces

Fragmentation/ Integration

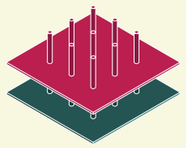
Functional CLustering

Climatic Design/ Integration

Distributive infrastructure



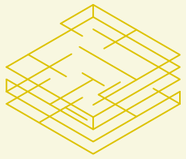
City Within a City



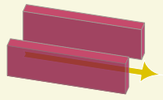
Infrastructure Informs Infrastructure

Circulation scheme

Fluid



Rigid



Linear

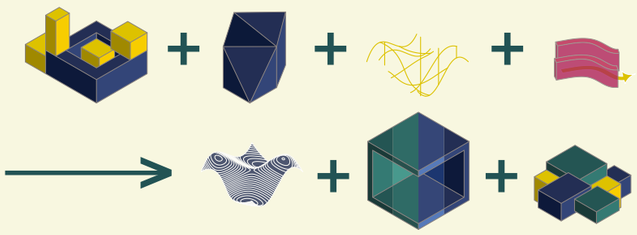
Organic

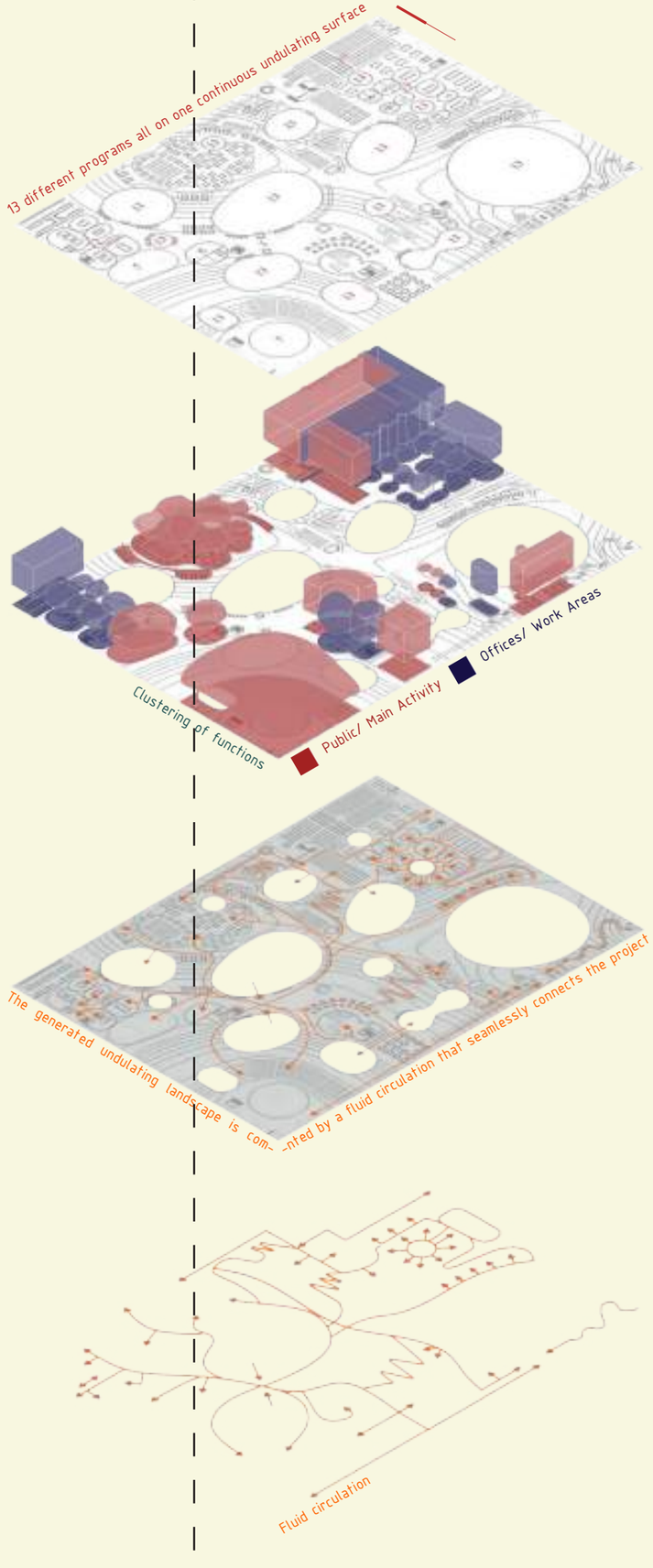
Rolex Learning Center

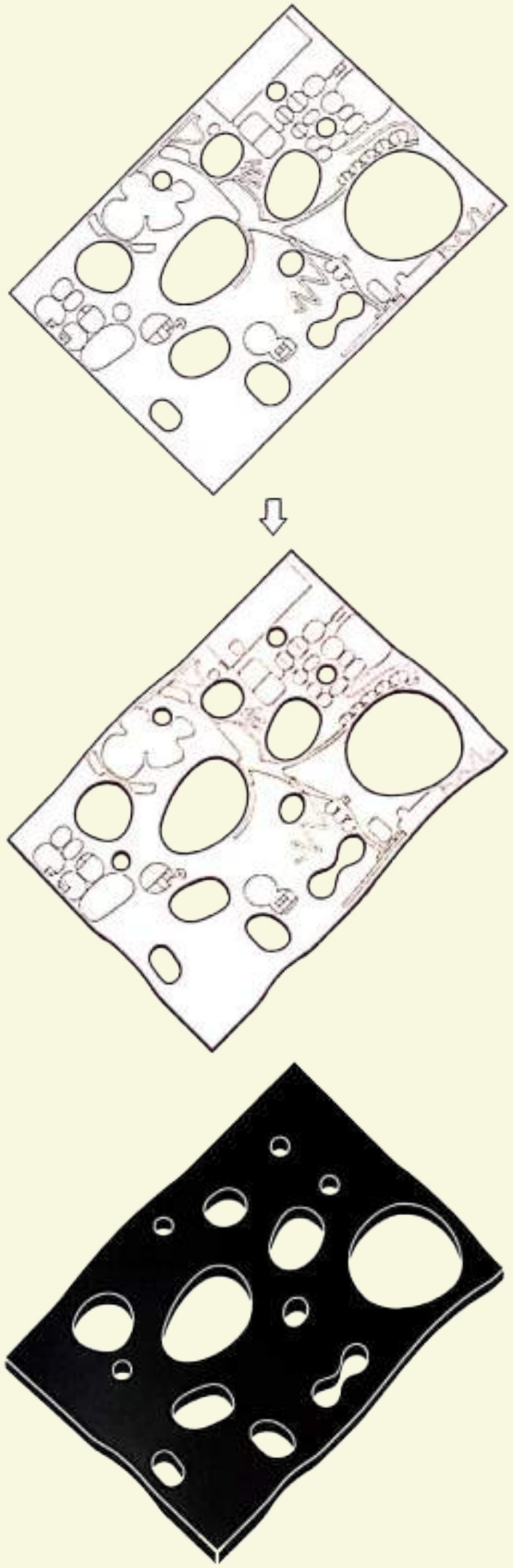
Architects: SANAA - Status: Completed in 2010 - Location: Lausanne, Switzerland - Site Area: 88,000 sqm - Built Area: 20,000 sqm

The Rolex Learning Center was built on the campus of EPFL (ecole polytechnique fédérale de lausanne). It is a multi-functional building that serves both students and the public. It contains a laboratory for learning, a library with 500,000 volumes and an international cultural hub. This is all contained within one fluid space that covers an area of 22,000 sqm. This fluid landscape-like scheme, resulted in a seamless network of services, libraries, educational facilities, social spaces, restaurants and cafes and finally outdoor spaces. The building is porous, as its gentle slopes and terraces, undulate around a series of internal “patios.” It also contains external “patios.”

Though the building plan is rectangularly orthogonal, it appears to be more organic in shape as its roof and floor undulate gently, always in parallel. The building touches the ground only lightly, which leaves an expanse of open space beneath that can draw people from all sides towards a central entrance.





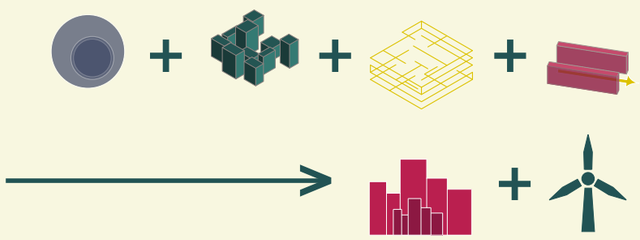


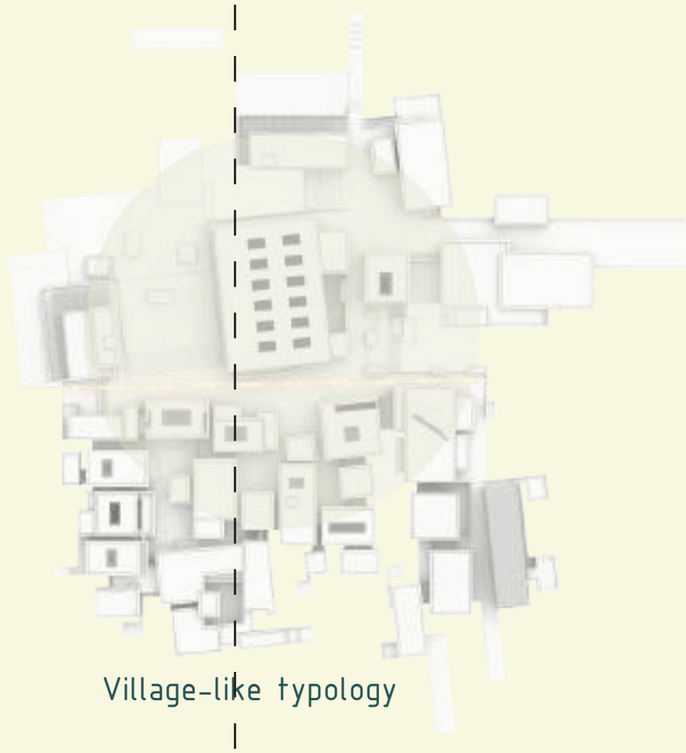
Louvre Abu Dhabi

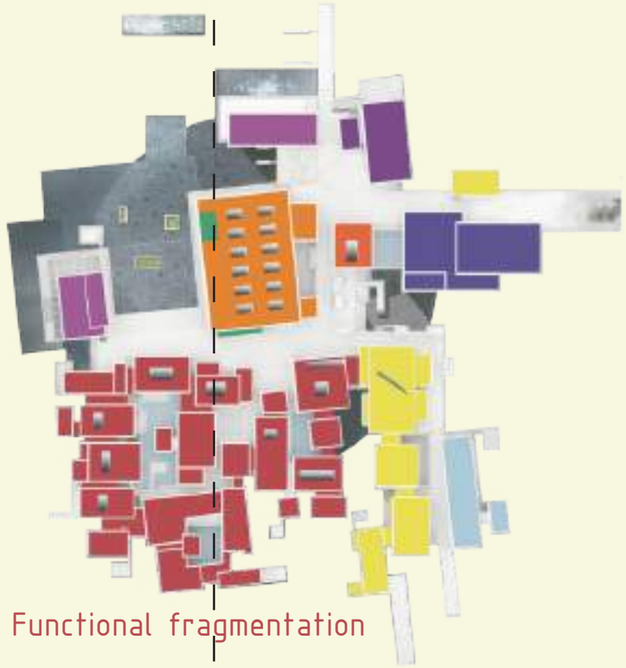
Architects: Ateliers Jean Nouvel - Status: Completed in 2017 - Location: Abu Dhabi, UAE - Built Area: 97,000 sqm

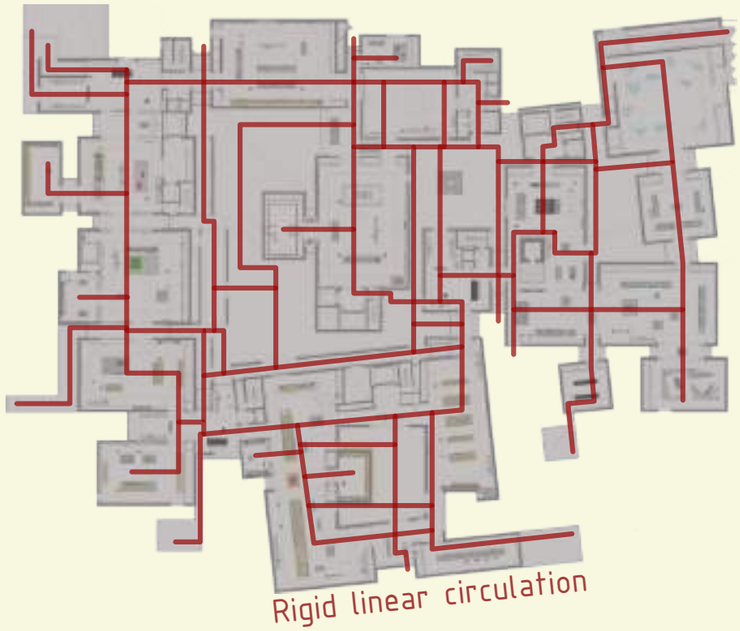
Louvre Abu Dhabi was constructed symbolically to being the heart of a new urban quarter for the UAE's capital city. Its design was inspired by the region's traditional architecture and the museum's distinct location where the Arabian sky and coast of Saadiyat Island meet along with the waters of the Arabian Gulf. The museum itself may be termed as a 'museum-city.'

A huge silvery dome appears to float above the museum-city. Inspired by the cupola, a distinctive feature found in Arabic architecture, the dome is a complex, geometric structure, composed of 7,850 stars. Across eight distinct layers, the stars are repeated at various sizes and angles; as a result, light filters through the perforations found within the dome which creates a 'rain of light'. The museum is surrounded by water, and visitors can arrive by land or sea.







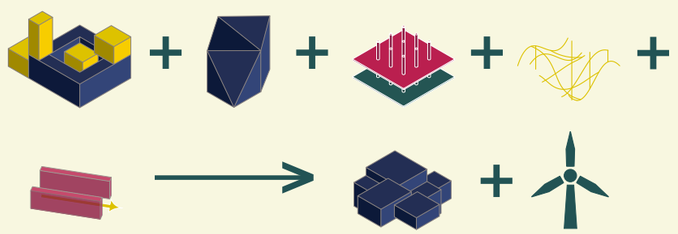


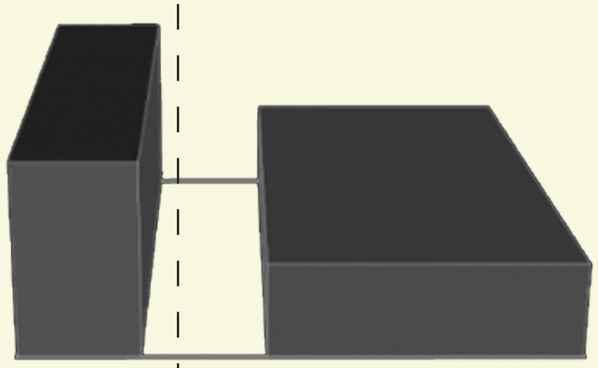
Mountain Dwellings

Architects: BIG - Status: Completed in 2007 - Location: Copenhagen, Denmark - Built Area: 8,000 sqm

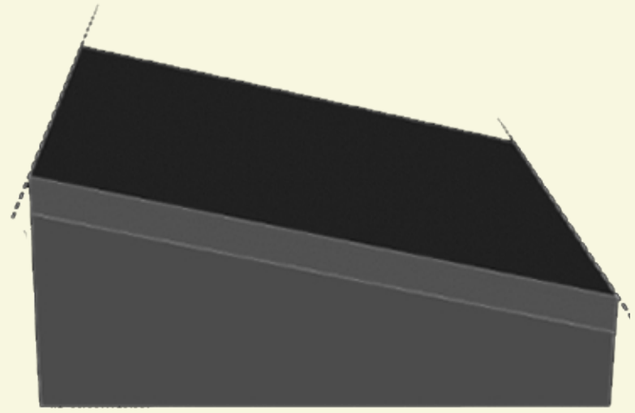
Mountain Dwellings is 2/3 parking and 1/3 housing (in terms of program at least). In this project, a symbolic relation was created between parking and housing as the parking served as the foundations to the housing units. A concrete hillside was created covered by a thin layer of housing that cascaded from the 11th floor down to the 1st.

The parking is connected to the street, and the houses are exposed to sunlight, fresh air and a view.

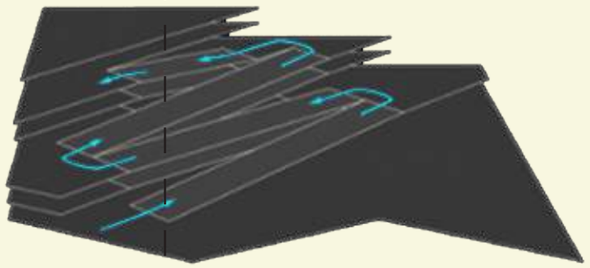




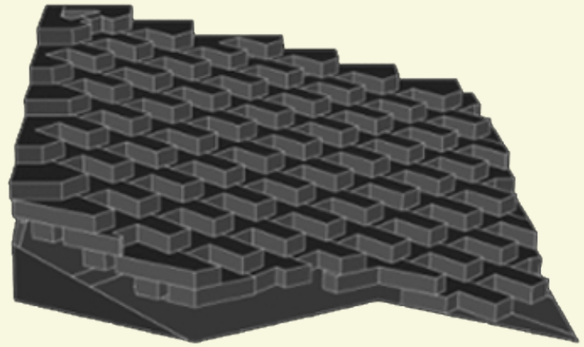
Functional hybridity of housing and parking



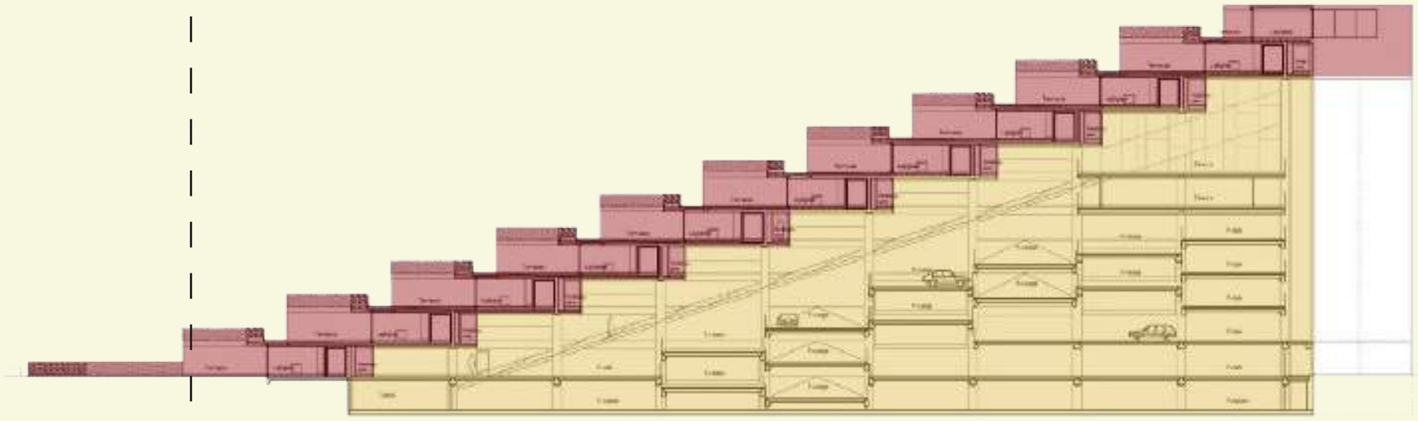
Parking infrastructure lays foundations for housing



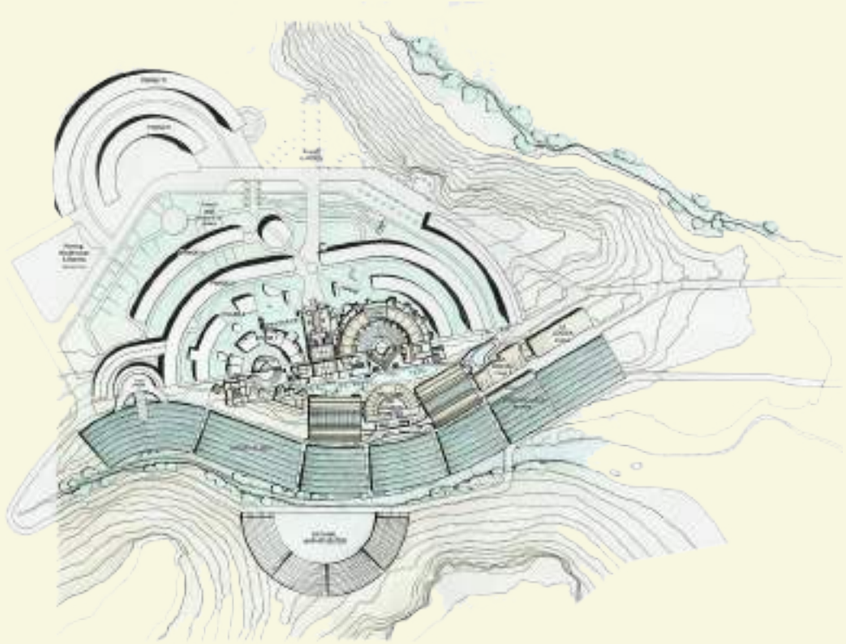
Fluid linear circulation



"Mountain Dwellings"



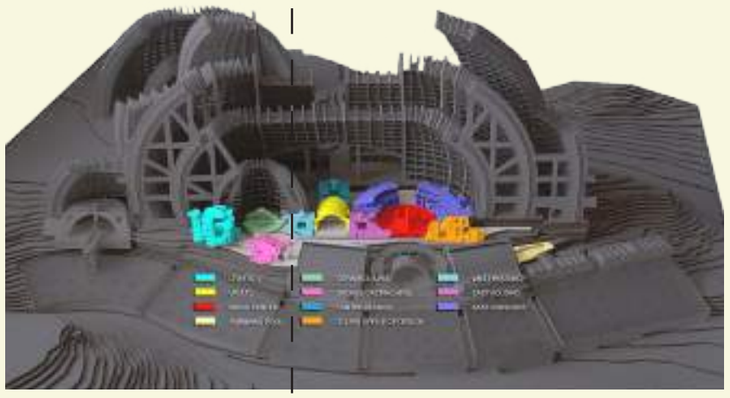
Arcosanti



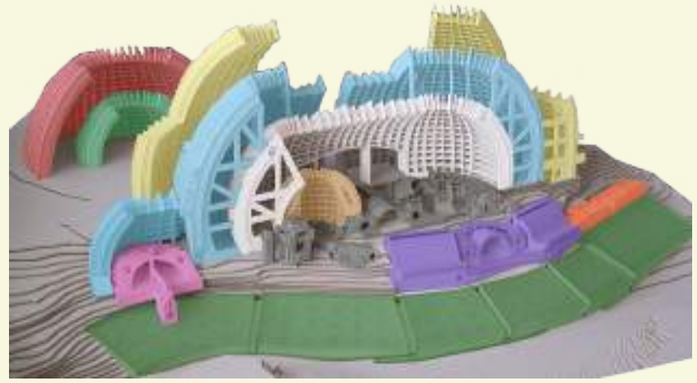
In 1970, Arcosanti, an experimental town in the high desert of Arizona began its construction, 70 miles north of metropolitan Phoenix. The project was envisioned as an experiment for living frugally and with a limited environmental footprint. Arcosanti is an attempt at a prototype arcology, which is the integration of architectural design with respect to ecology.

Arcosanti aims at creating an "**urban implosion.**" Cities are incredibly dense and rural areas are left untouched. This is the materialization of Soleri's theories of arcology. The structures in Arcosanti are designed to be multi-use. The project is very inward looking, and was designed in that sense. The project's intent is to thrive internally without any need for the outside. Housing units are incorporated within other buildings of different functions.

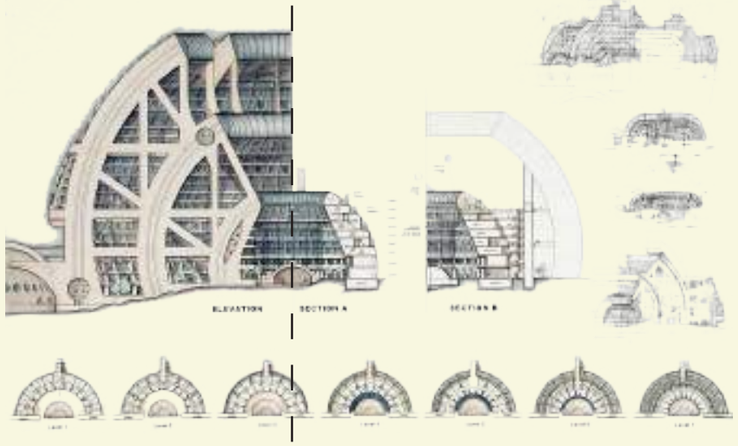
The buildings have a conceptual prominence as the buildings were "evocative of Grecian and Egyptian structures from the ancient world, or alluding to those seen in movies set in a time long, long ago in a galaxy far, far away. Cosanti's experimental architecture has a beguiling otherworldliness." The structures were built from the roof down. Many of the structures were built below ground level and surrounded by mounds of earth.



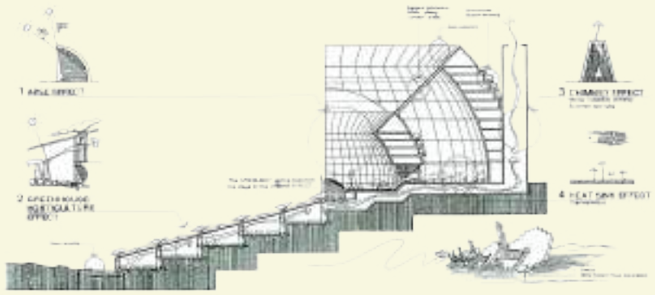
Current built structures



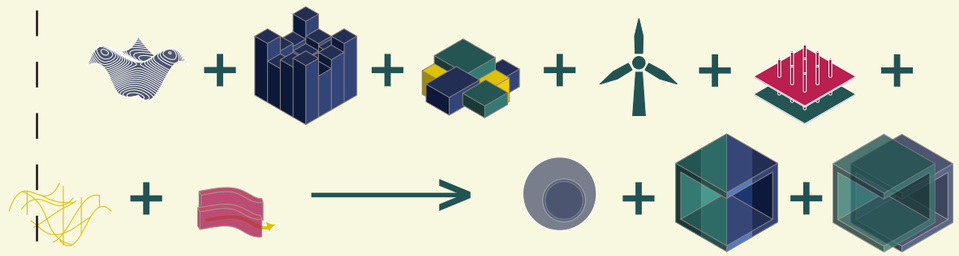
Vision for urban implosion



Inward looking scheme that incorporates multiple functions



Climatic integration for self sufficiency

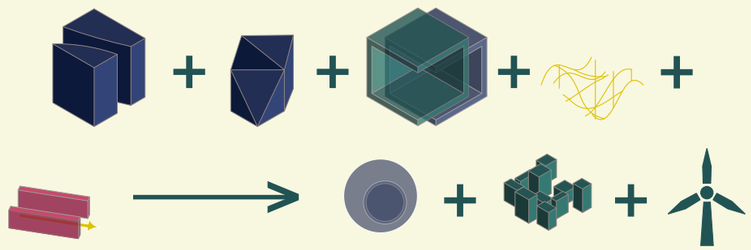


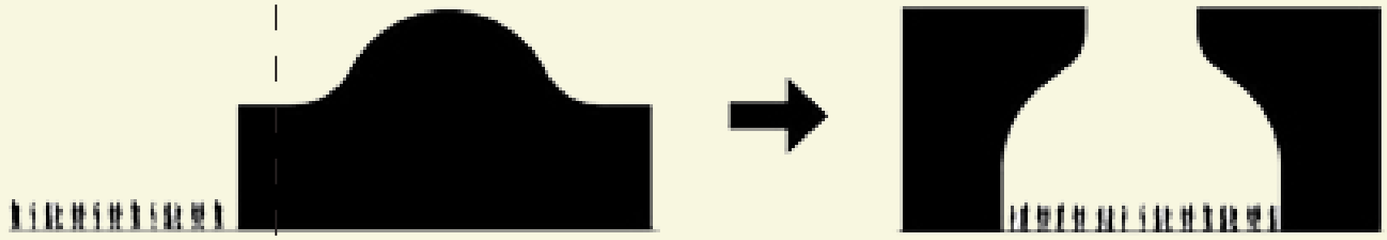
Cultural Center in Tirana

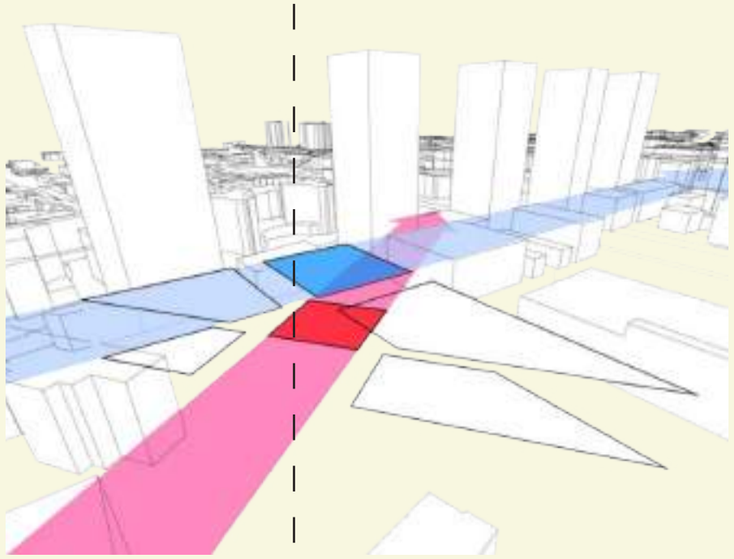
Architects: BIG - Status: Concept proposal - Location: Tirana, Albania - Built Area: 27,000 sqm

The project aimed at incorporating a mosque, an islamic center and a museum. Its goal was to serve not only the muslim community, but the general public as well. It considered two main axises: that of the grid of the city of Tirana and the orientation to Mecca. It centralized the mosque not as an object in space, but as a space carved out from other objects which create the heart of the project which is the most public space that is open to all.

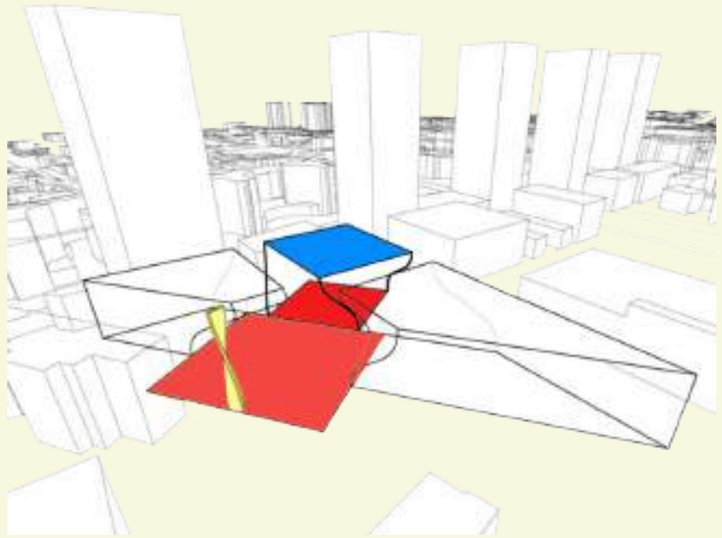
Despite only being a proposal some concepts of use may be derived from this project.







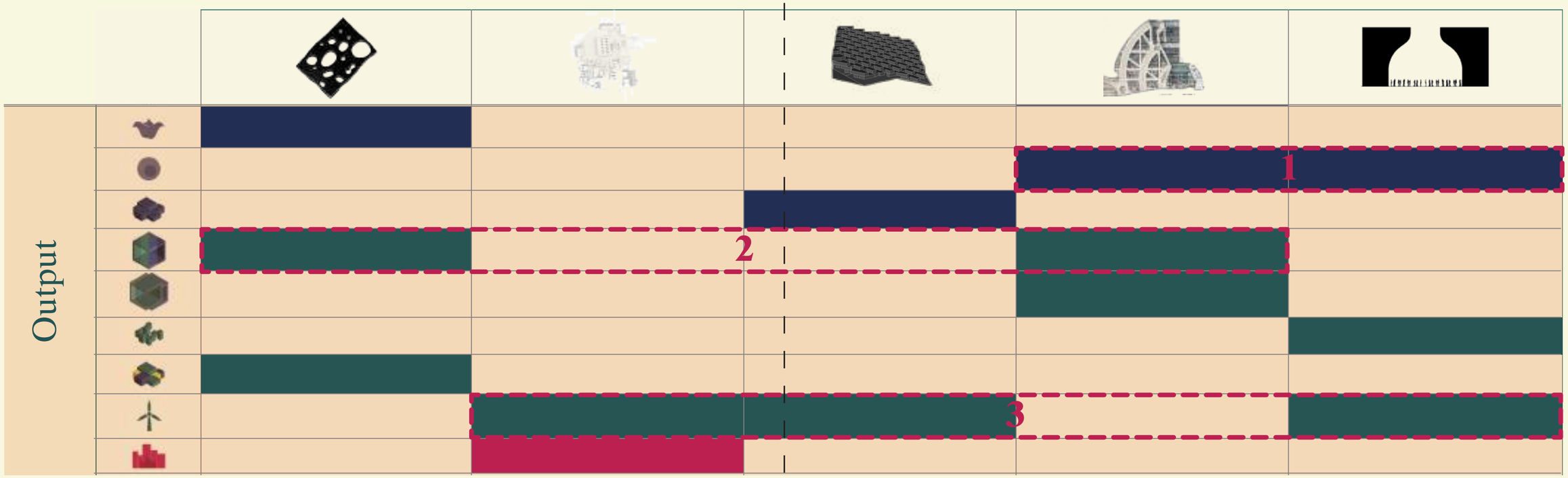
Integration of axises for program development



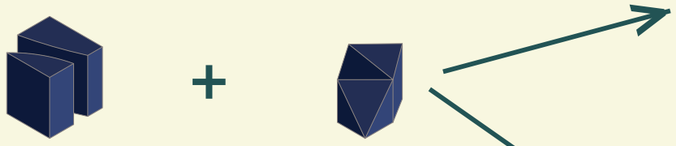
Plaza mosque generated at the center of the project

Input

Ouput



Inward looking/
introverted



Climatic design/
integration

Hybridity

Architectural Urbanism

Case Study on Architectural Urbanism

The Holy City and its Discontents by Deena Fakhro

Architectural urbanism may help solve problems of design and planning.

We take note that: “fundamental types are not fixed in their spatial and social meaning but transform and have over time a changing effect on the formation of the urban plan.”

A study of type and typology is conducted, which helps reveal the synergies between architecture and city.

Need: reduce infrastructural redundancy + create economically feasible solution

↓

Abstraction of formative diagrams

↓

Study of fundamental types through the analysis of their formative diagrams + relation to urban plan

↓

Typological analysis of specific types (projects of relevance)

↓

Comparative analysis of typologies

↓

Circulation + orientation

↓

Typological transformation + projection of city

↓

Overlaying

↓

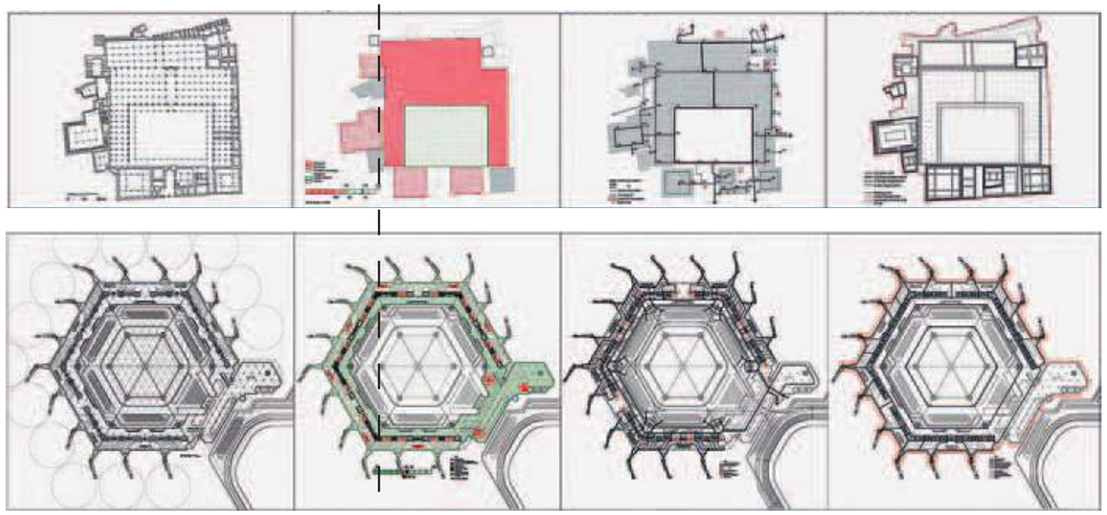
New spatial and organizational model

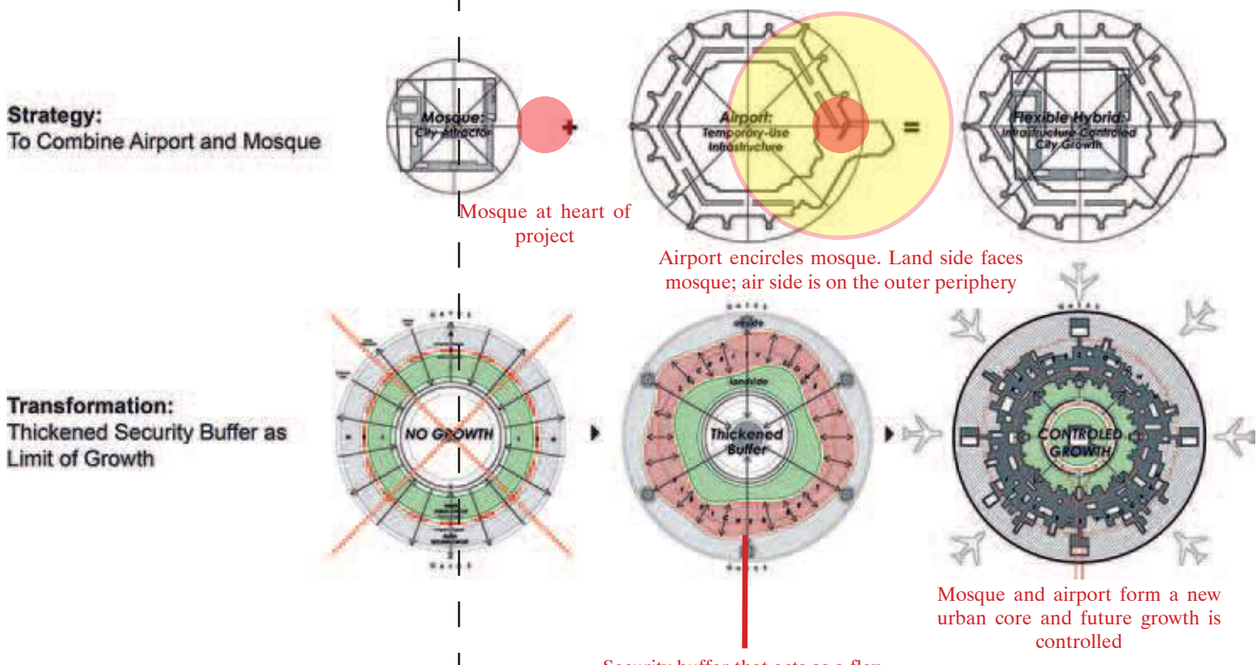
↓

Integration of multiple functions within the same space

↓

Architectural urbanism





Despite the spatial and programmatic differences in these projects, the availability of these organizational diagrams that are common to both types, Fakhro was able to apply a typological transformation on the airport by **overlaying** a mosque-school. The differences between the 2 projects helped inform the hybrid model to accommodate for the needs of both.

Site

The chosen site lies in Al Khor.

Al Khor is a 45 minute drive from the capital of Qatar, Doha as they are only 35 kilometers apart. The city is famous for its pearl diving and fishing which tempted traditional desert-dwellers to its coast. Due to the site's ability to bring cultures together, it was chosen as a venue to host games for the 2022 FIFA World Cup.

Al Bayt Stadium is currently at a 60,000 spectator capacity.

Its name Al Bayt comes from a giant tent structure that covers the entire stadium, that resembles the historical tent of nomadic Qataris, bayt al sha'ar.

A quote from Dr. Nasser Al Hajeri, the project director: "Reducing the capacity of the stadium will also benefit the local community in Al Khor area. Not only will a new capacity of nearly 32,000 seats be more suitable for post-FIFA World Cup events, but it will create space for facilities that will attract visitors to this coastal community."

Climatically speaking, the tent structure and its retractable roof system's ability to shade complements the stadium's cooling technologies, which helps maintain a comfortable temperature inside without using any extra power.

Parks and greenery form an integral part of the surrounding precinct's design plan, creating a 'green lung' for Al Khor. Park area surrounding the stadium will be equivalent to over 30 football pitches.

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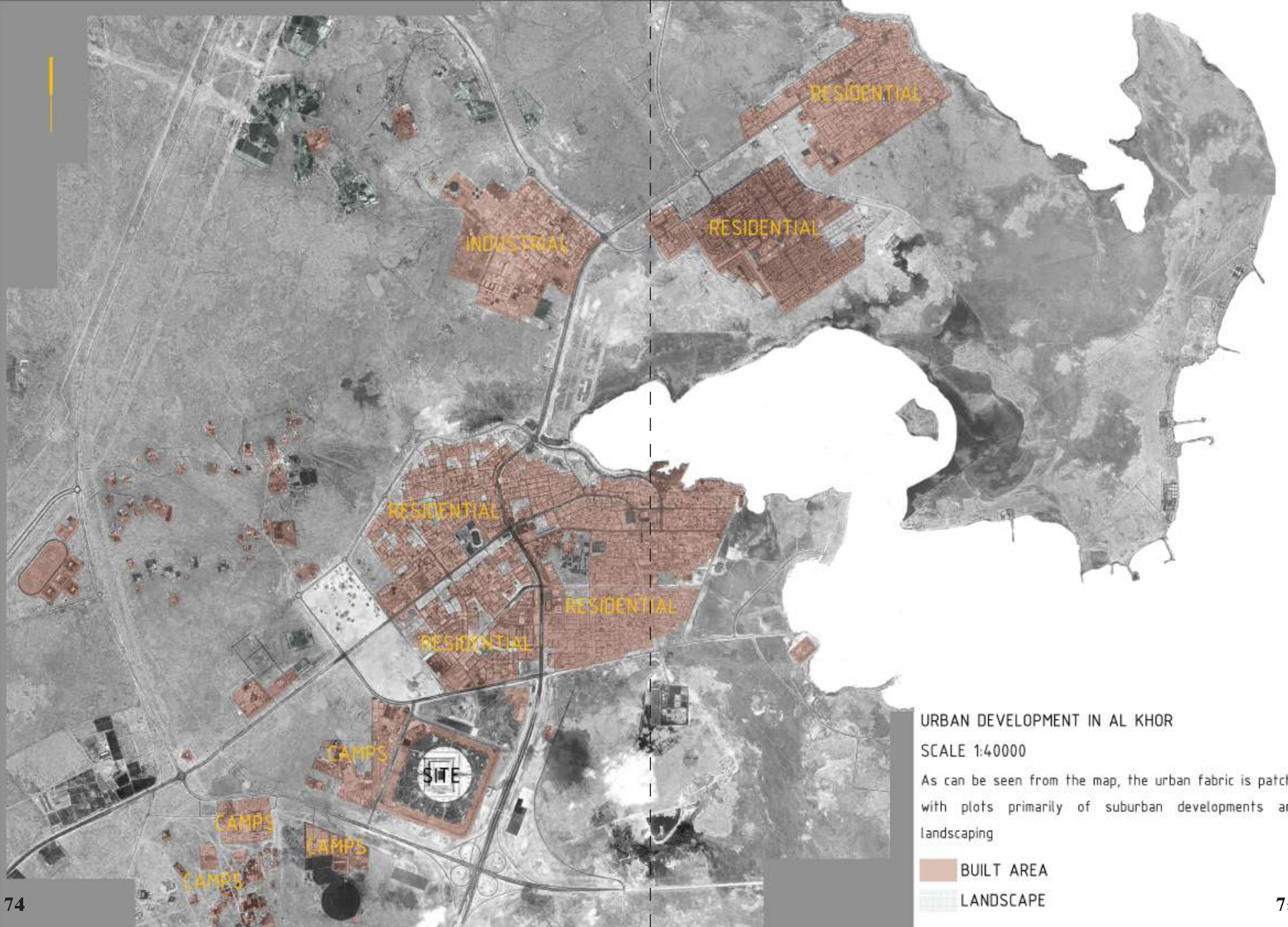
Urban and Site Analysis



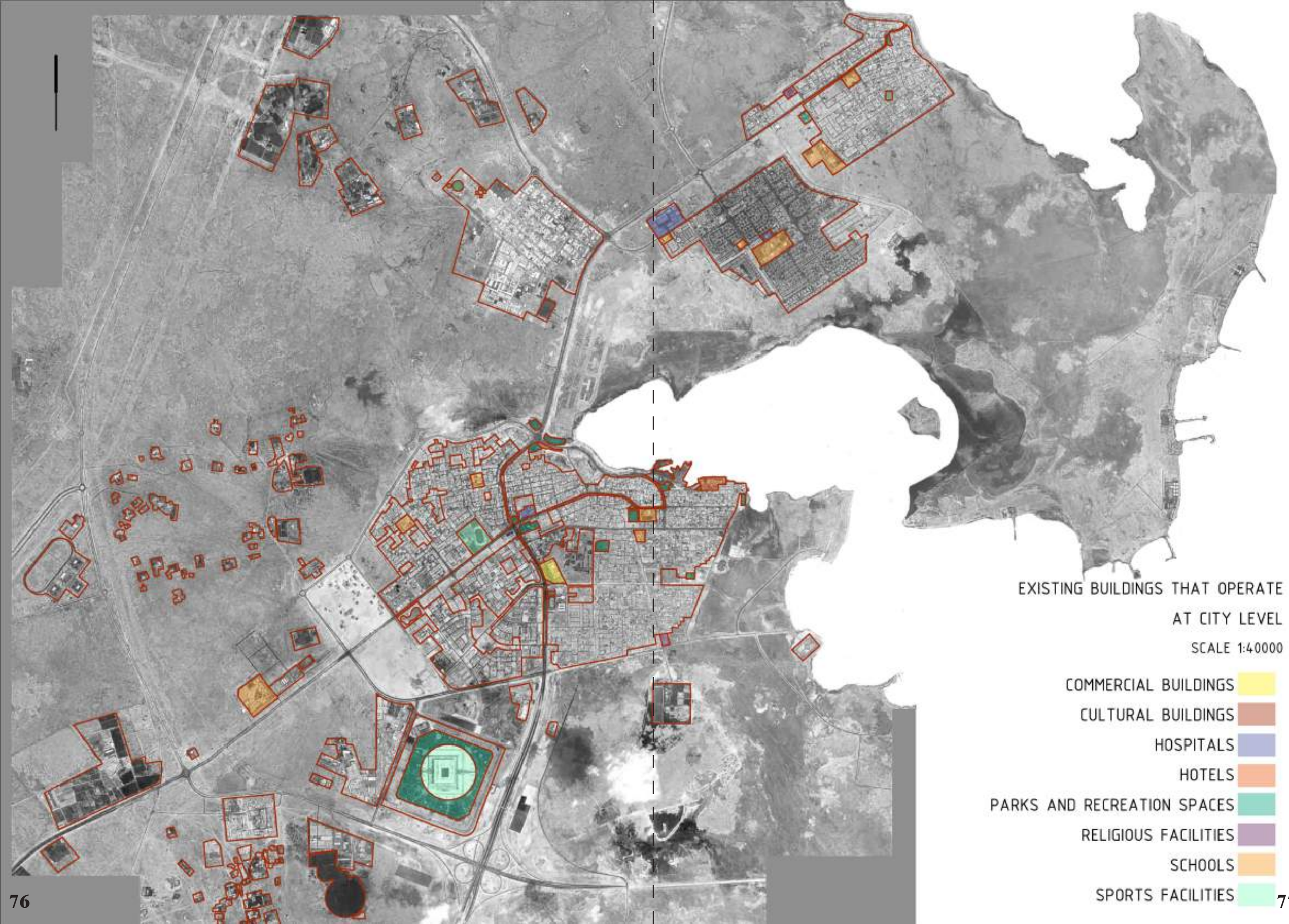
URBAN DEVELOPMENT IN AL KHOR

SCALE 1:40000

As can be seen from the map, the urban fabric is patchy with plots primarily of suburban developments and landscaping

BUILT AREA

LANDSCAPE



EXISTING BUILDINGS THAT OPERATE

AT CITY LEVEL

SCALE 1:40000

COMMERCIAL BUILDINGS

CULTURAL BUILDINGS

HOSPITALS

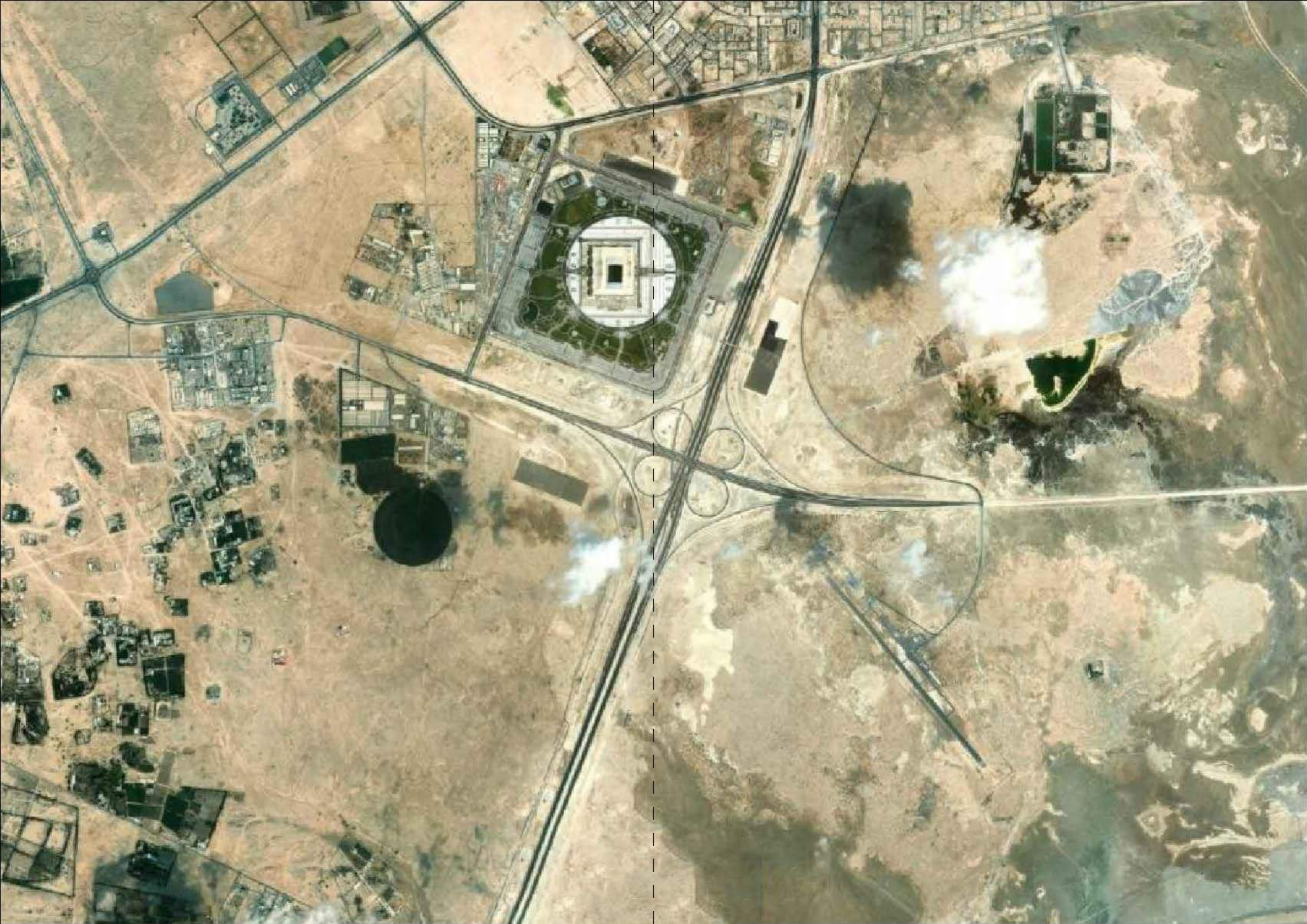
HOTELS

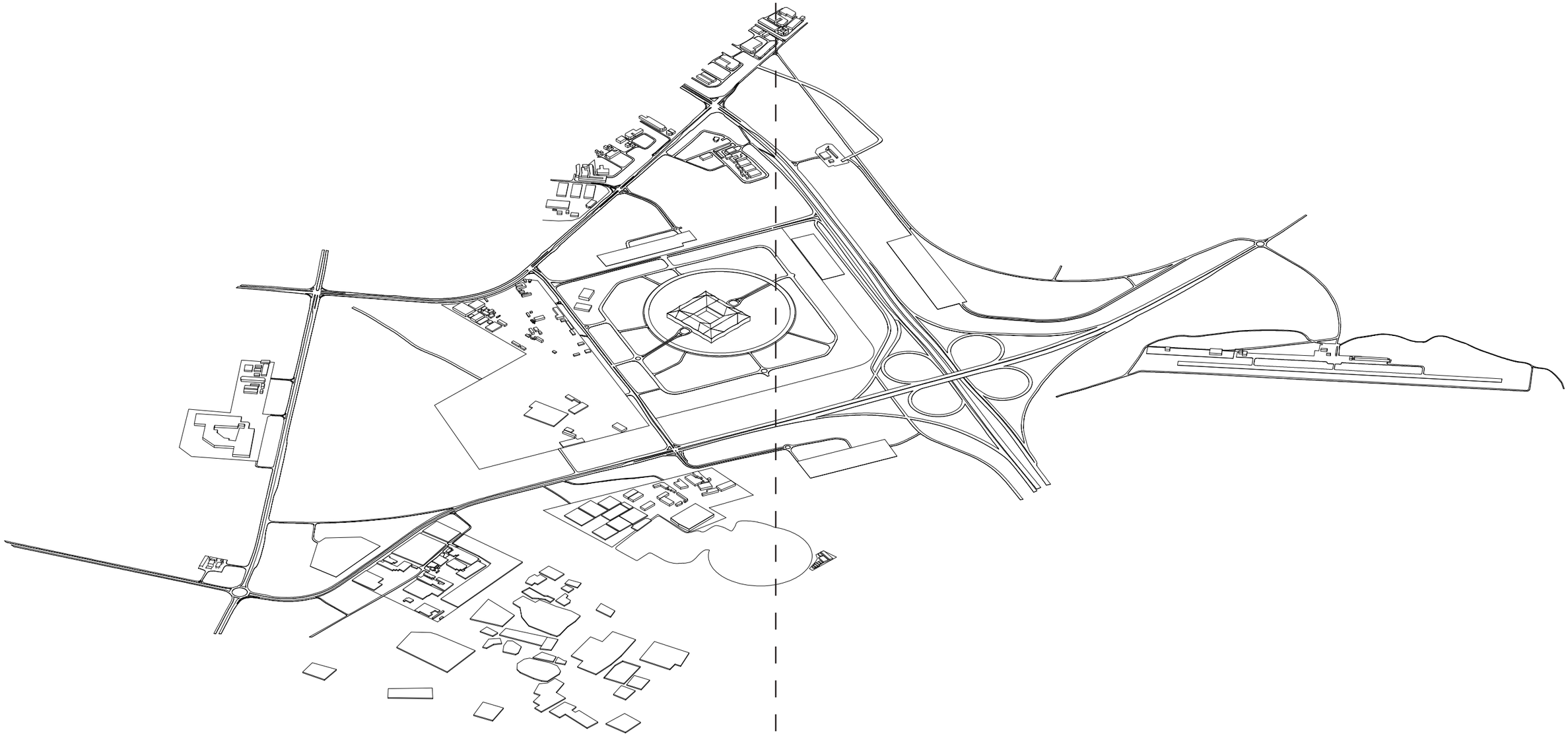
PARKS AND RECREATION SPACES

RELIGIOUS FACILITIES

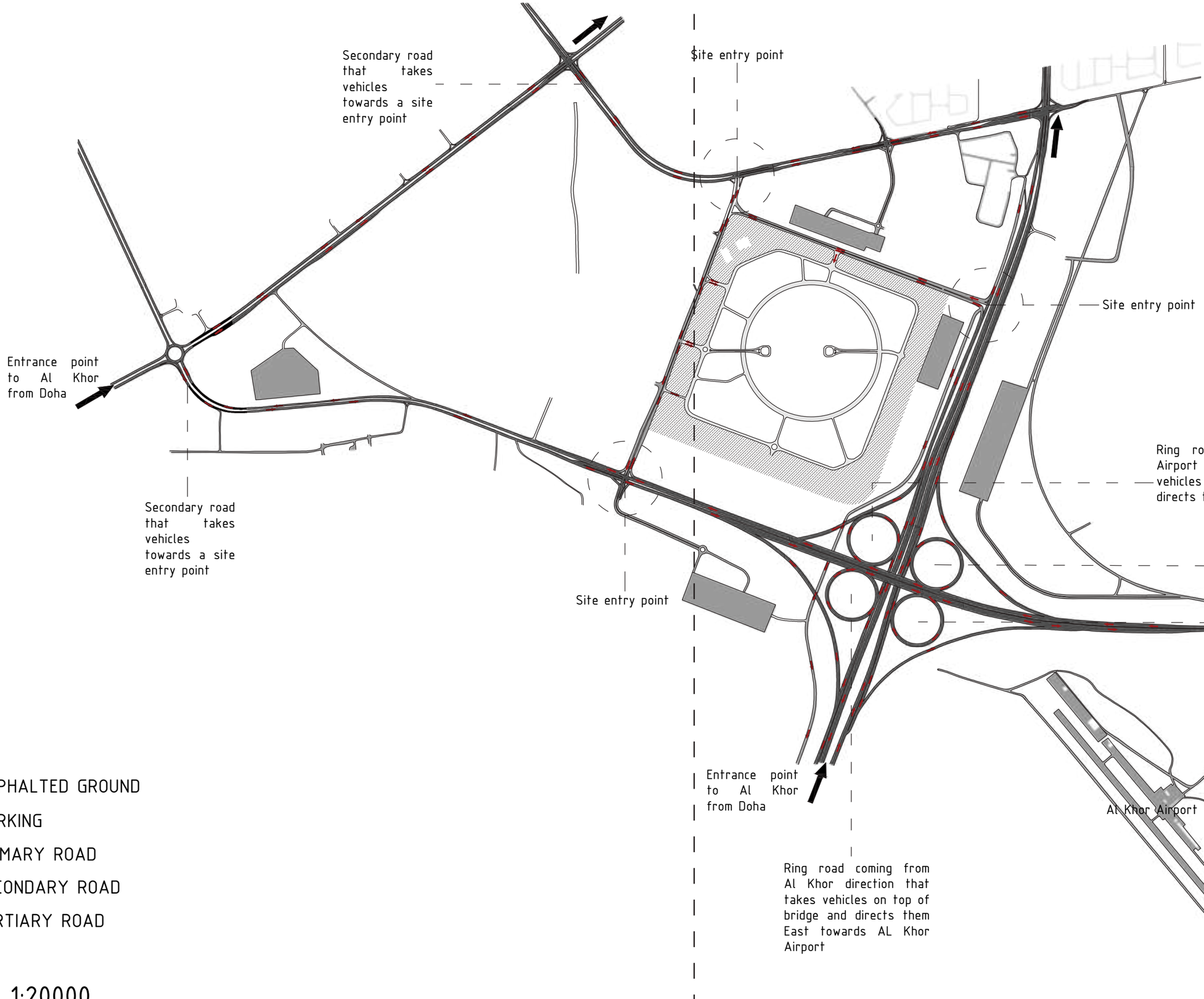
SCHOOLS

SPORTS FACILITIES





SOUTHWEST AXONOMETRIC



ASPHALTED GROUND

PARKING

PRIMARY ROAD

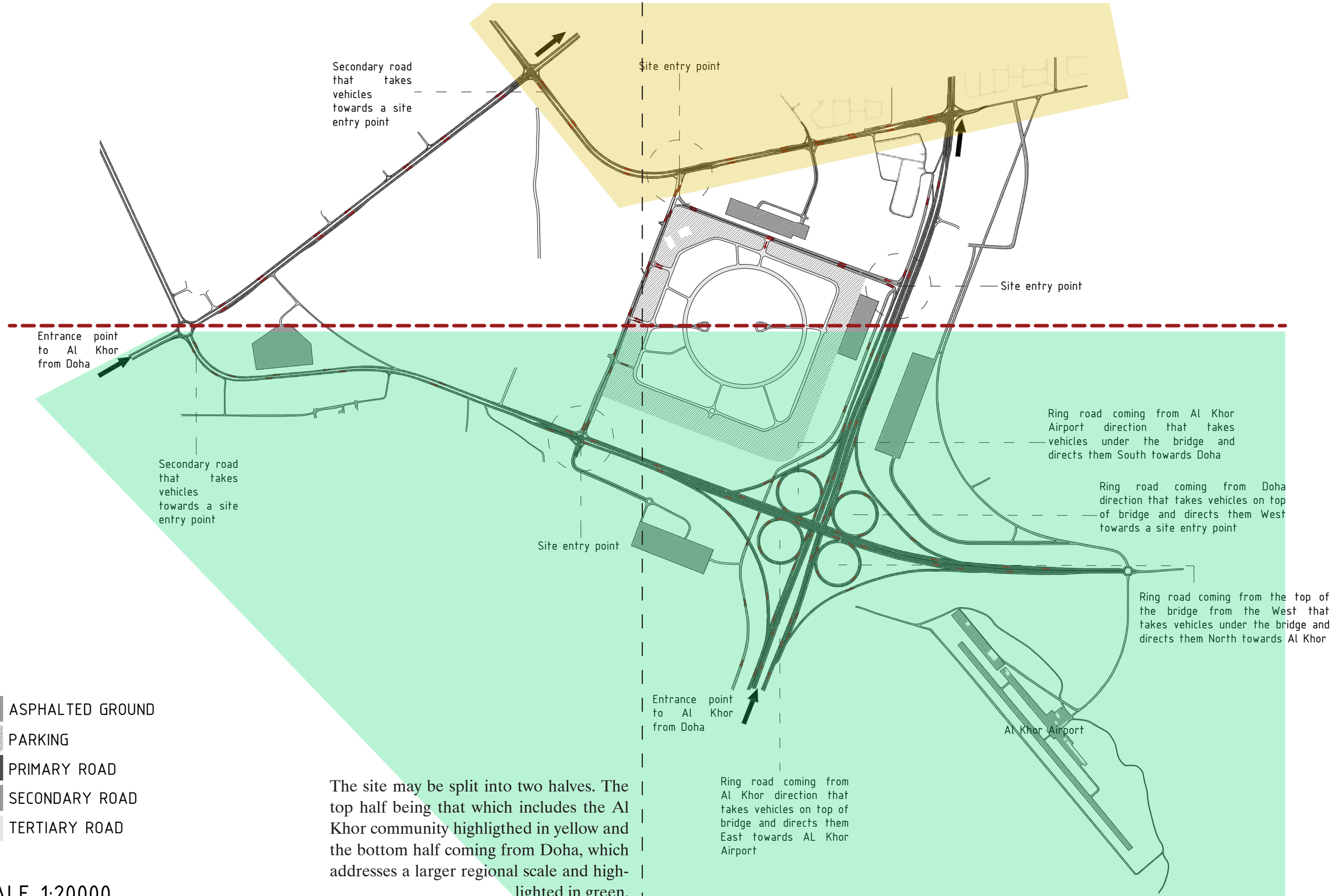
SECONDARY ROAD

TERTIARY ROAD

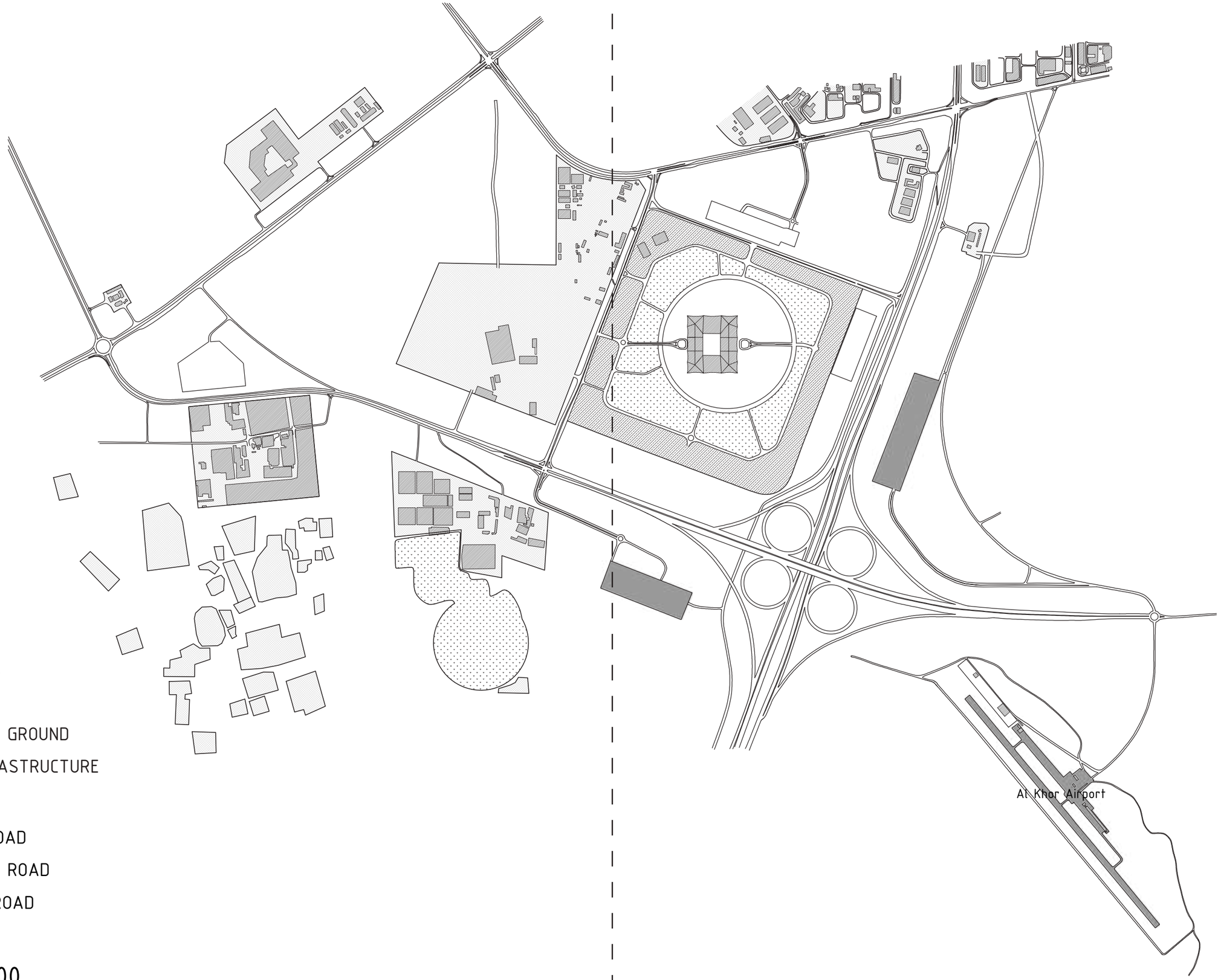
SCALE 1:20000

0 100 250 500 1000 2000

ROADS



The site may be split into two halves. The top half being that which includes the Al Khor community highligthed in yellow and the bottom half coming from Doha, which addresses a larger regional scale and highlighted in green.



BUILT AREA

BUILDINGS

ASPHALTED GROUND

GREEN INFRASTRUCTURE

PARKING

PRIMARY ROAD

SECONDARY ROAD

TERTIARY ROAD

SCALE 1:20000

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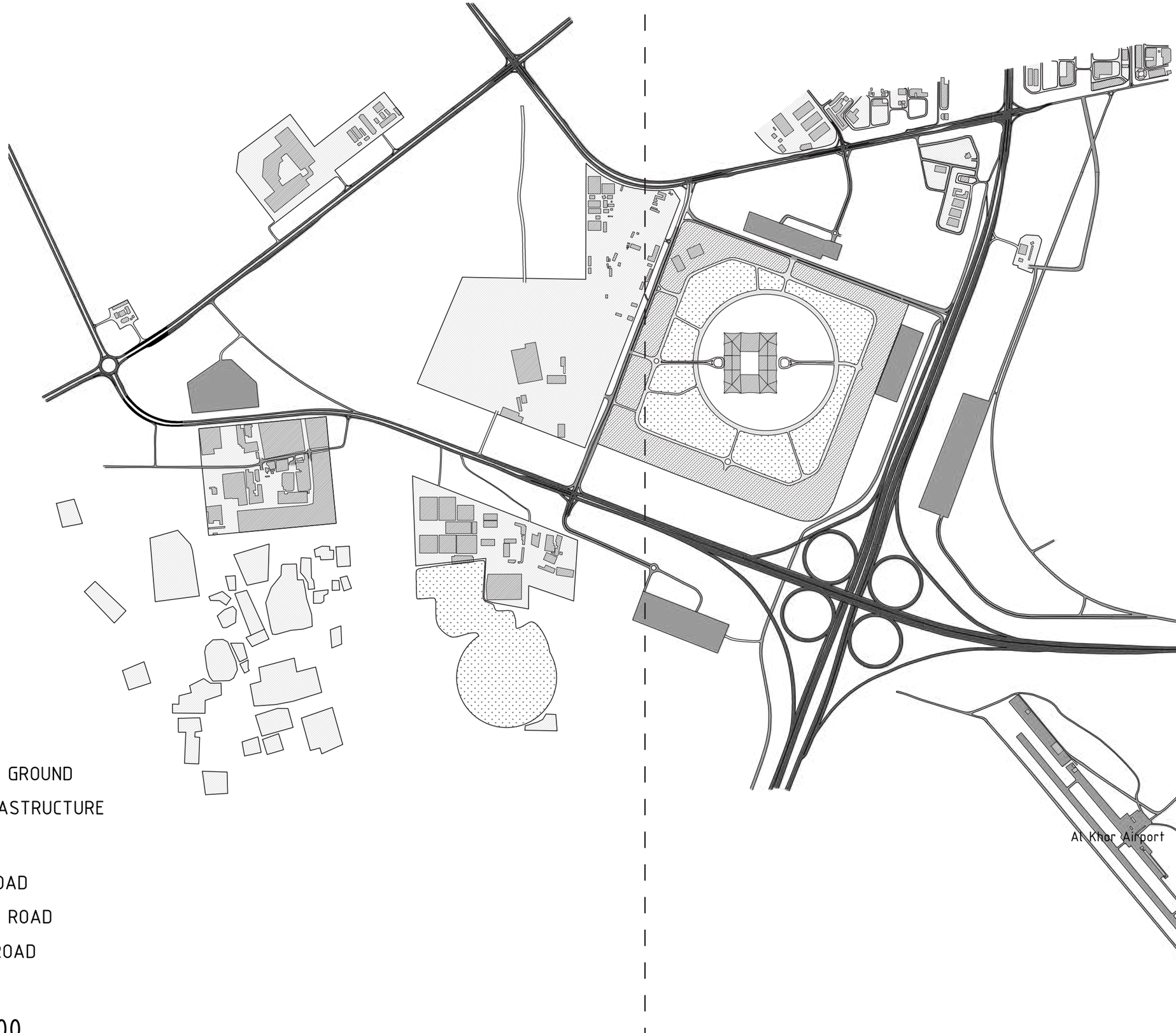
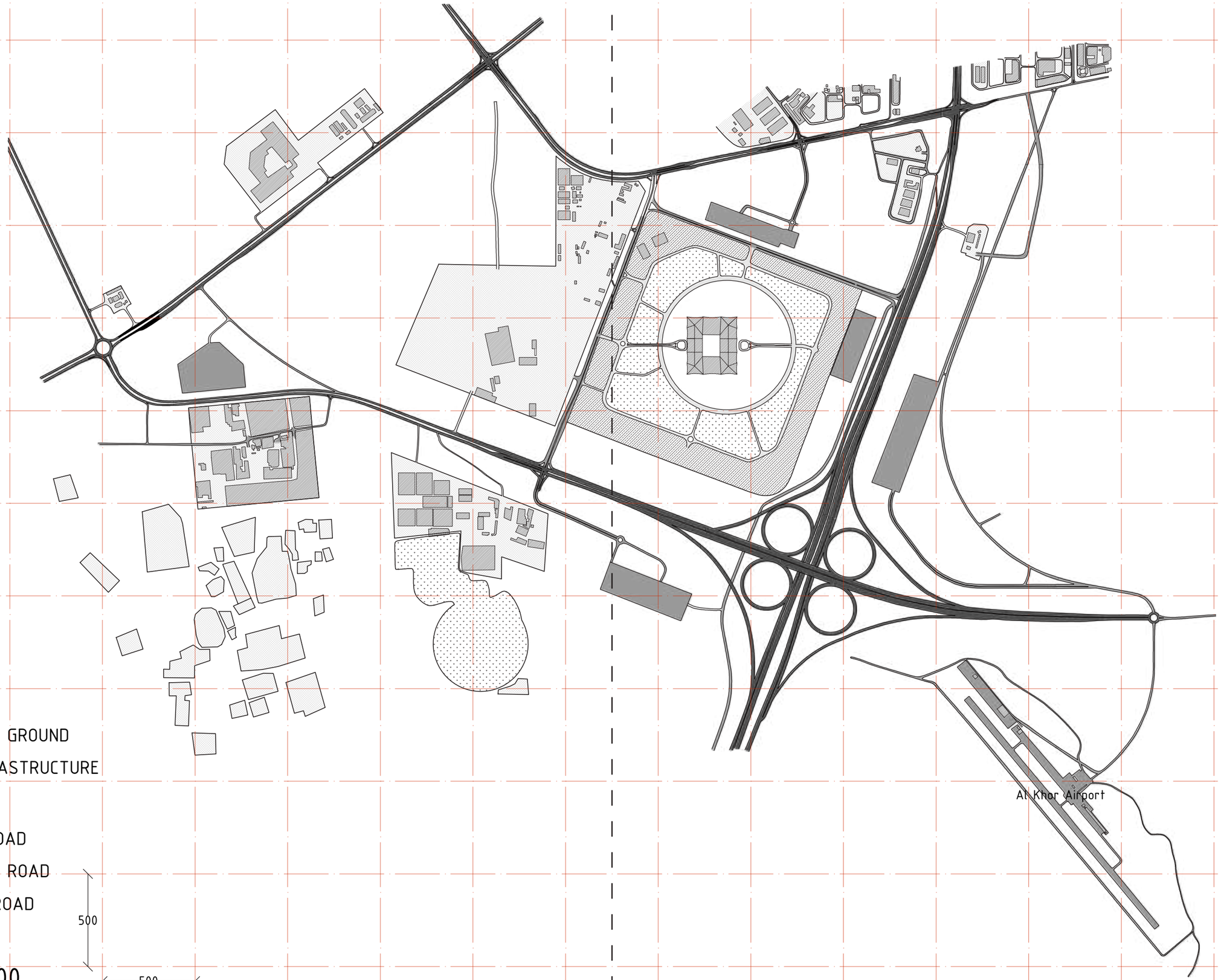


BUILT AREA
BUILDINGS
ASPHALTED GROUND
GREEN INFRASTRUCTURE
PARKING
PRIMARY ROAD
SECONDARY ROAD
TERTIARY ROAD

SCALE 1:20000

0 100 250 500 1000 2000

COMPOSITE MAP



BUILT AREA
BUILDINGS
ASPHALTED GROUND
GREEN INFRASTRUCTURE
PARKING
PRIMARY ROAD
SECONDARY ROAD
TERTIARY ROAD

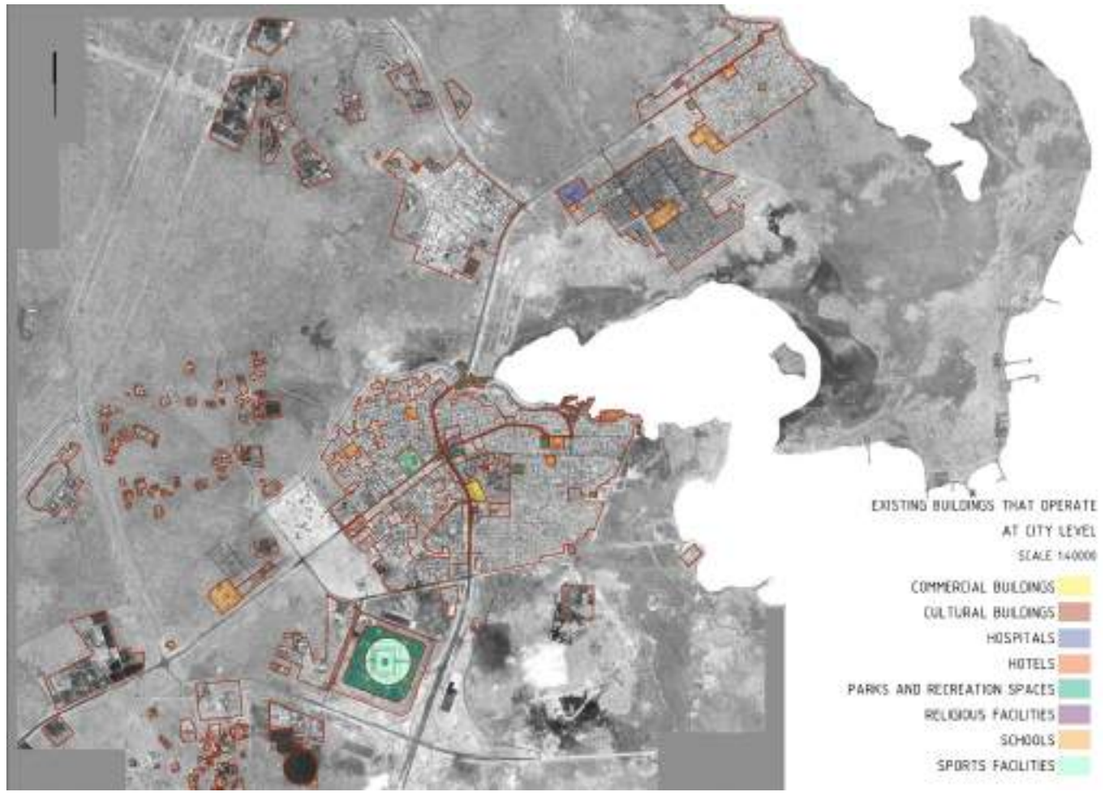
500
500

SCALE 1:20000

0 100 250 500 1000 2000

The aim is to create a contemporary urban center guided by functions of sports and religion through desert retrofitting.

Retrofitting refers to the process of modifying something after it has been manufactured. In buildings, they may respond differently according to the surrounding context.



Buildings Program

The site shall contain:

A **Masjid Jami** (collective mosque), which is usually a large state-controlled mosque that serves as the center of community worship and shall be used for Friday prayer services. It shall address the community.

A new **Stadium** reduced in size (as planned), to accommodate for the appropriate amount of people. It shall address the greater region.

In addition, a **cultural center** and set of **souks** shall be added.

Site Strategies

N

Qibla

A 25x25m GRID IS ADDED AS A SCALE REFERENCE FOR THE SITE

PARKING RING

LANDSCAPE RING

SITE

EVERY 10 MINUTES OF WALKING CAN COVER A DISTANCE OF 500 METERS (MARKED ON MAP)

THE SITE IS SPILT INTO 3 RINGS. IT IS ENGULFED BY A LANDSCAPE SCHEME FROM ALL AROUND, WHICH IS FURTHER ENGULFED BY A PARKING RING FROM THE OUTSIDE.

SITE

SCALE 1:4000

0 25 50 100 200 400

N

Qibla

INITIAL INFRASTRUCTURE LEADING TO STADIUM ENTRANCES ARE REMOVED, BUT THEIR AXIS IS MAINTAINED FOR DISTRIBUTION

BASED ON THE PREVIOUSLY PROVIDED ANALYSIS, THE SITE SHALL CONTAIN TWO MAIN AXES THAT SHALL GUIDE ITS DESIGN.

FROM THE ROAD MAP ANALYSIS, IT HAS BEEN ESTABLISHED THAT THE SITE SHALL BE SPLIT INTO TWO SEMI-CIRCLES; THE TOP HALF SHALL SERVE THE DIRECT COMMUNITY AND CONTAIN THE MASJID JAMI. THE BOTTOM HALF SHALL CONTAIN THE STADIUM AND ADDRESS THE SITE ON A GREATER REGIONAL LEVEL. BECAUSE THE MOSQUE IS PLACED IN THE TOP HALF, ITS QIBLA AXIS WAS PLACED ACCORDINGLY.

PRIMARY AXES

SCALE 1:4000

0 25 50 100 200 400

N

Qibla

THESE LINES INDICATE THE POSSIBLE ROAD PATHS THAT LEAD TO THE SITE FROM THE OUTSIDE

THE SITE MAY BE ACCESSED FROM ALL AROUND AS USERS MAY PARK ANYWHERE WITHIN THE PARKING RING AND THUS CUT ACROSS THE LANDSCAPE AND DIRECTLY REACH THE SITE

ACCESSIBILITY

ROADS AND ACCESS POINTS

SCALE 1:4000

0 25 50 100 200 400

PRIMARY ROAD

SECONDARY ROAD

TERTIARY ROAD

N

Qibla

4

1

2

3

MOSQUE ZONE

ACCEPTABLE RANGE FOR
STADIUM ORIENTATION

MAX ALLOWED AXIS

MAX ALLOWED AXIS

INDICATE ENTRANCE POINTS

STADIUM ZONE

LOCATION STRATEGIES

ZONES AND ENTRANCES

SCALE 1:4000

0 25 50 100 200 400

N

Qibla

THIS SIDE IS IDEAL FOR LANDSCAPING AS IT LIES ON THE NORTHWEST AND SOUTHWEST SIDE AND THEREFORE WON'T EXPERIENCE MUCH SUN EXPOSURE ESPECIALLY CONSIDERING THE COVER IT GETS FROM THE BUILDINGS ON THE EAST (MAXIMIZES PERMEABILITY TO THE SITE)

LANDSCAPE ZONE

SERVICE ZONE

CONSIDERING THAT THE MOSQUE AND STADIUM LIE ON THE NORTHEAST, SOUTHEAST SIDE AND IT THEY CONTAIN A MAIN ENTRANCE, A SERVICE ZONE THAT CONTAINS ADDITIONAL INFRASTRUCTURE FOR VEHICULAR AND PEDESTRIAN MOVEMENT IS APPROPRIATE (MAXIMIZES CONNECTIVITY TO THE SITE)

THE SITE IS FURTHER DISTINGUISHED BY A LANDSCAPE ZONE AND SERVICE ZONE WHICH SHALL SERVE AS DIFFERENT AGENTS FOR INCREASING THE PERMEABILITY OF THE SITE

ADDITIONAL ZONING

SCALE 1:4000

0 25 50 100 200 400

N

Qibla

THE ROADS WERE MODIFIED INTO PEDESTRIAN PATHS AS PEOPLE WILL NO LONGER REQUIRE TO ACCESS THE SITE BY CAR.

THESE ROADS WERE MAINTAINED AS TO INCREASE CONNECTIVITY. IT ALLOWS FOR USERS TO BE DIRECTLY DROPPED OFF ON SITE

ADDITIONAL SERVICE ROAD

PATHS WERE ADDED LINKING ALL ENTRANCE POINTS TO A CENTRAL COMMUNAL SPACE THAT SHALL DISTRIBUTE TO ALL OTHER FUNCTIONS

PATHS

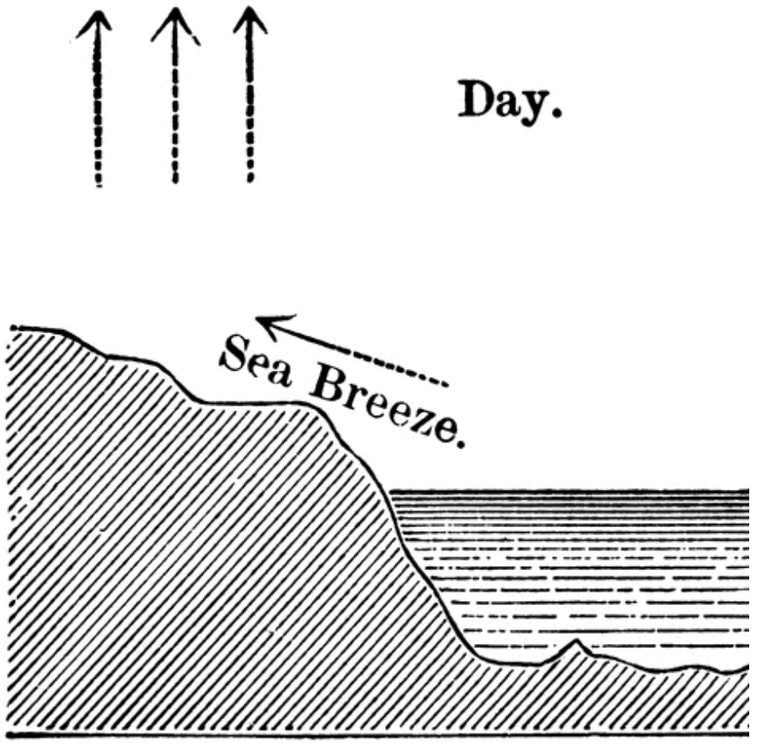
PEDESTRIAN AND VEHICULAR

SCALE 1:4000

0 25 50 100 200 400

Considerations for Site Permeability

“An oasis is an area made fertile by a source of freshwater in an otherwise dry and arid region. Oases (more than one oasis) are irrigated by natural springs or other underground water sources.” *National Geographic*



The site shall integrate water about its periphery (groundwater can be found within Al Khor as it is intersected by the Rus Formation which contains water). Water in this case shall act as a cooling agent, which shall compliment a stitched in landscape that increases the sites permeability with the existing landscape. It acts as a cooling agent as it relieves the land from the absorbed heat which creates a cooling current.

Water, landscaping and in between recreational spaces shall act as the stitching factor that brings the site and its surroundings together.

N

Qibla

BLUE - GREEN ZONE
(WATER AND LANDSCAPE)

GREEN - GRAY ZONE
(LANDSCAPE AND HARDSCAPE)

PERMEABILITY IS CREATED BY A STITCHING PROCESS THAT BINDS THE INITIAL LANDSCAPE RING WITH THE SITE, CREATING DYNAMIC AND FLUID PATCHES OF LANDSCAPE THAT LINKS TOWARDS PATHWAYS AND SERVICE ZONES

PROMENADE ADDED TO SERVE AS A CONTINUOUS PATH, CREATING A WALKWAY ACROSS THE WATER AND LANDSCAPE

REMAINING PATHWAYS ARE REINVENTED INTO RECREATIONAL PLATFORMS FOR LEISURE

GRAY ZONE
(HARDSCAPE)

PERMEABILITY

WATERSCAPE AND LANDSCAPE

SCALE 1:4000

0 25 50 100 200 400

N

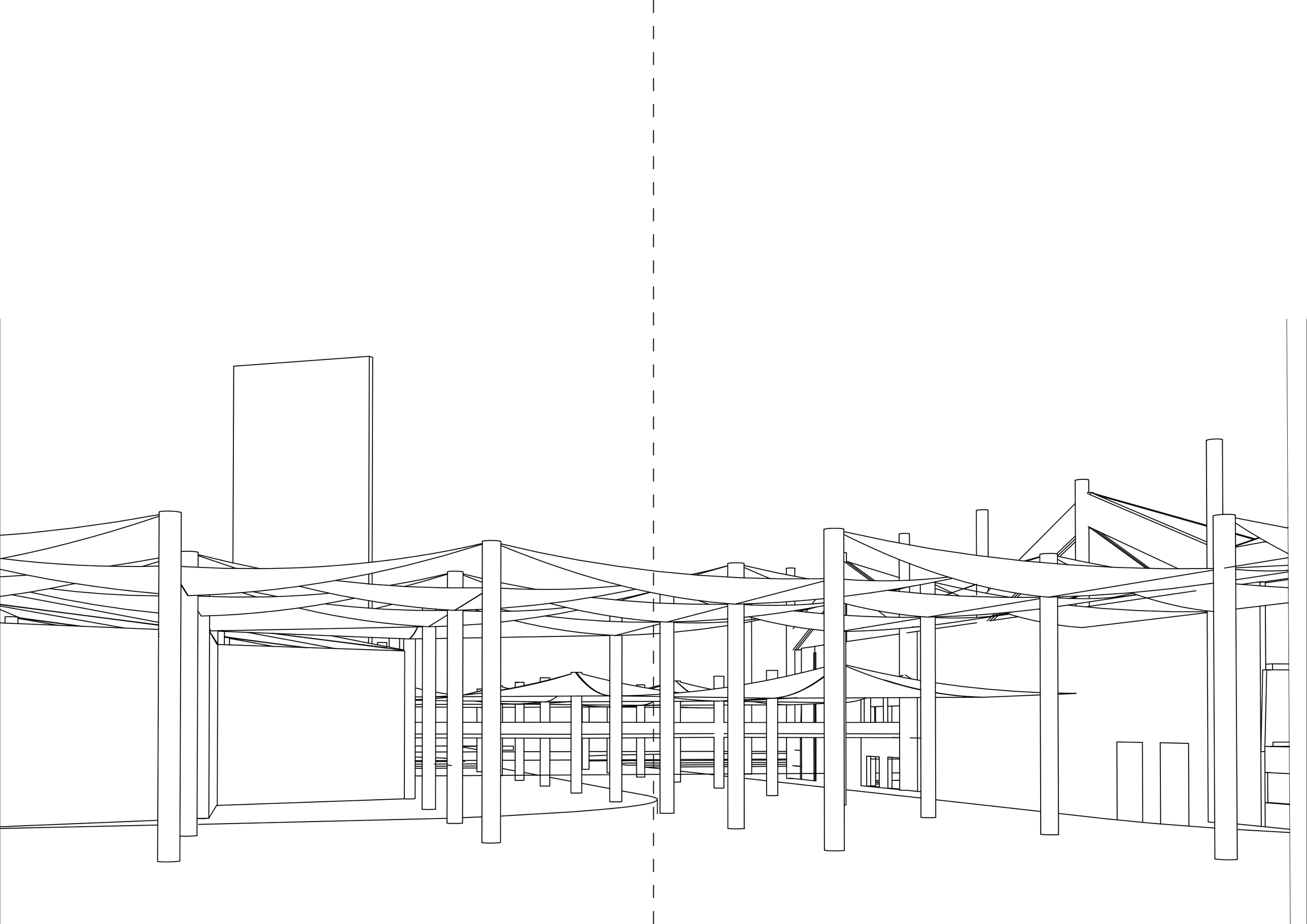
Qibla

MASS PLAN

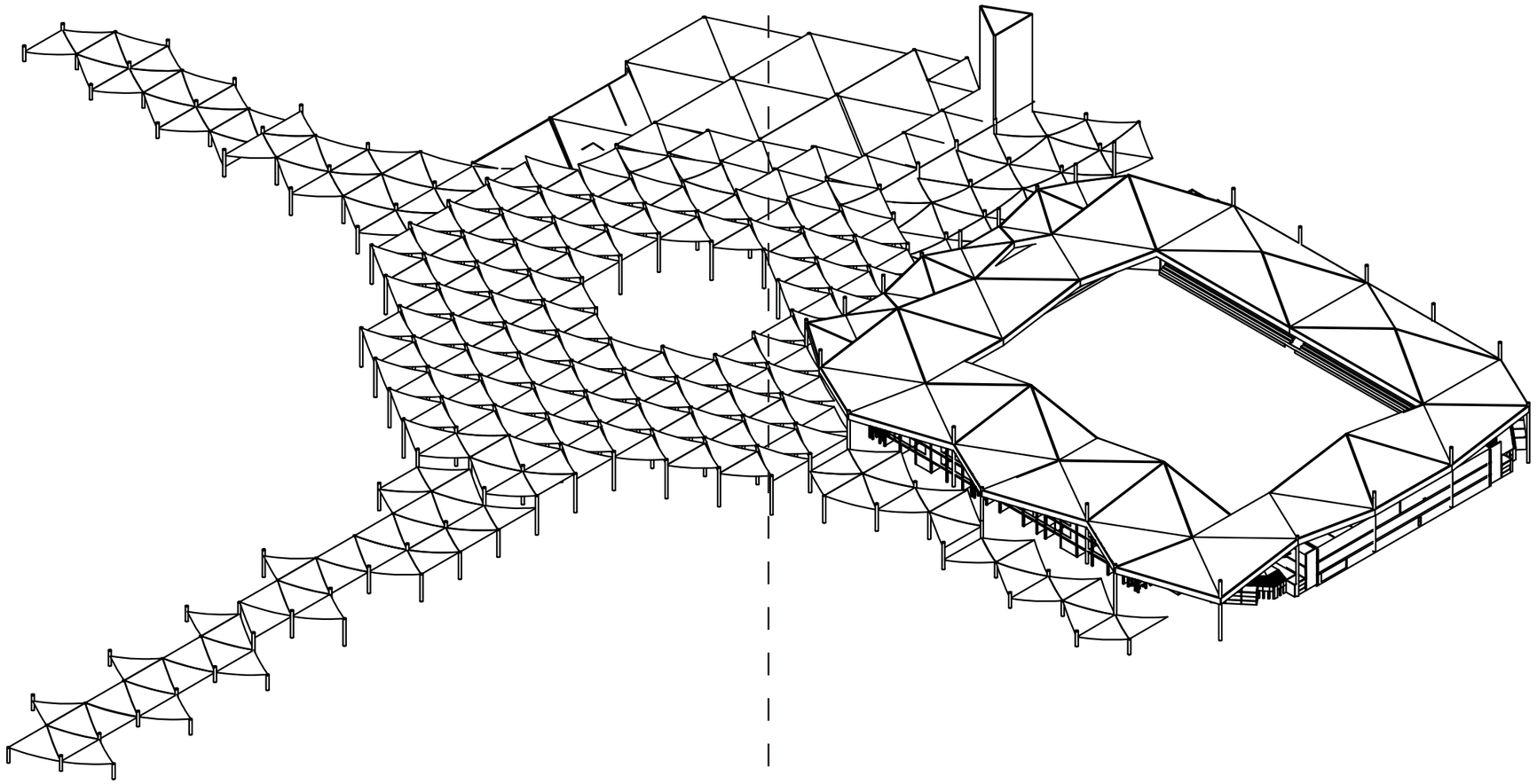
SCALE 1:4000

0 25 50 100 200 400

Urban Oasis



All structures are unified through a grid of tents that structures the site, provides shading and allows for ventilation.



SOUTHWEST AXONOMETRIC

N

Qibla

MASS PLAN

SCALE 1:1000

0 5 10 20 50 100

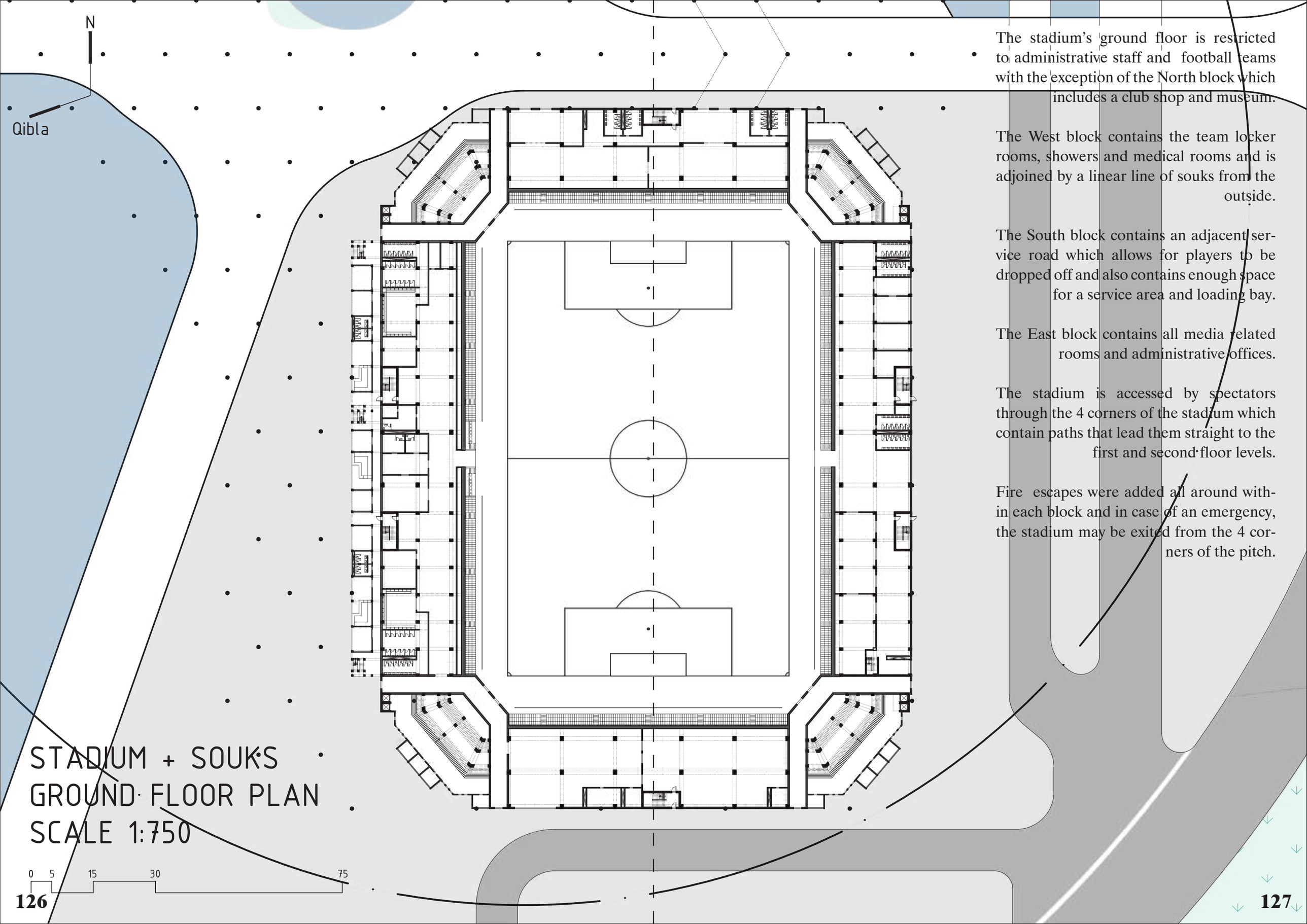
N

Qibla

MASS PLAN

SCALE 1:1000

0 5 10 20 50 100



The stadium's ground floor is restricted to administrative staff and football teams with the exception of the North block which includes a club shop and museum.

The West block contains the team locker rooms, showers and medical rooms and is adjoined by a linear line of souks from the outside.

The South block contains an adjacent service road which allows for players to be dropped off and also contains enough space for a service area and loading bay.

The East block contains all media related rooms and administrative offices.

The stadium is accessed by spectators through the 4 corners of the stadium which contain paths that lead them straight to the first and second floor levels.

Fire escapes were added all around within each block and in case of an emergency, the stadium may be exited from the 4 corners of the pitch.

STADIUM + SOUKS
GROUND FLOOR PLAN
SCALE 1:750

0 5 15 30 75

N

Qibla

The first floor gives access to the stands.

Retail kiosks and food stands are placed within each block.

Within the North block, a bridge links the stadium to the mosque to emphasize the joining of congregational spaces metaphorically and functionally.

In the West block, the souks become an extension from within the stadium's interior spaces and may serve spectators.

STADIUM + SOUKS
FIRST FLOOR PLAN
SCALE 1:750

0 5 15 30 75

N

Qibla

STADIUM + SOUKS
SECOND FLOOR PLAN
SCALE 1:750

0 5 15 30 75

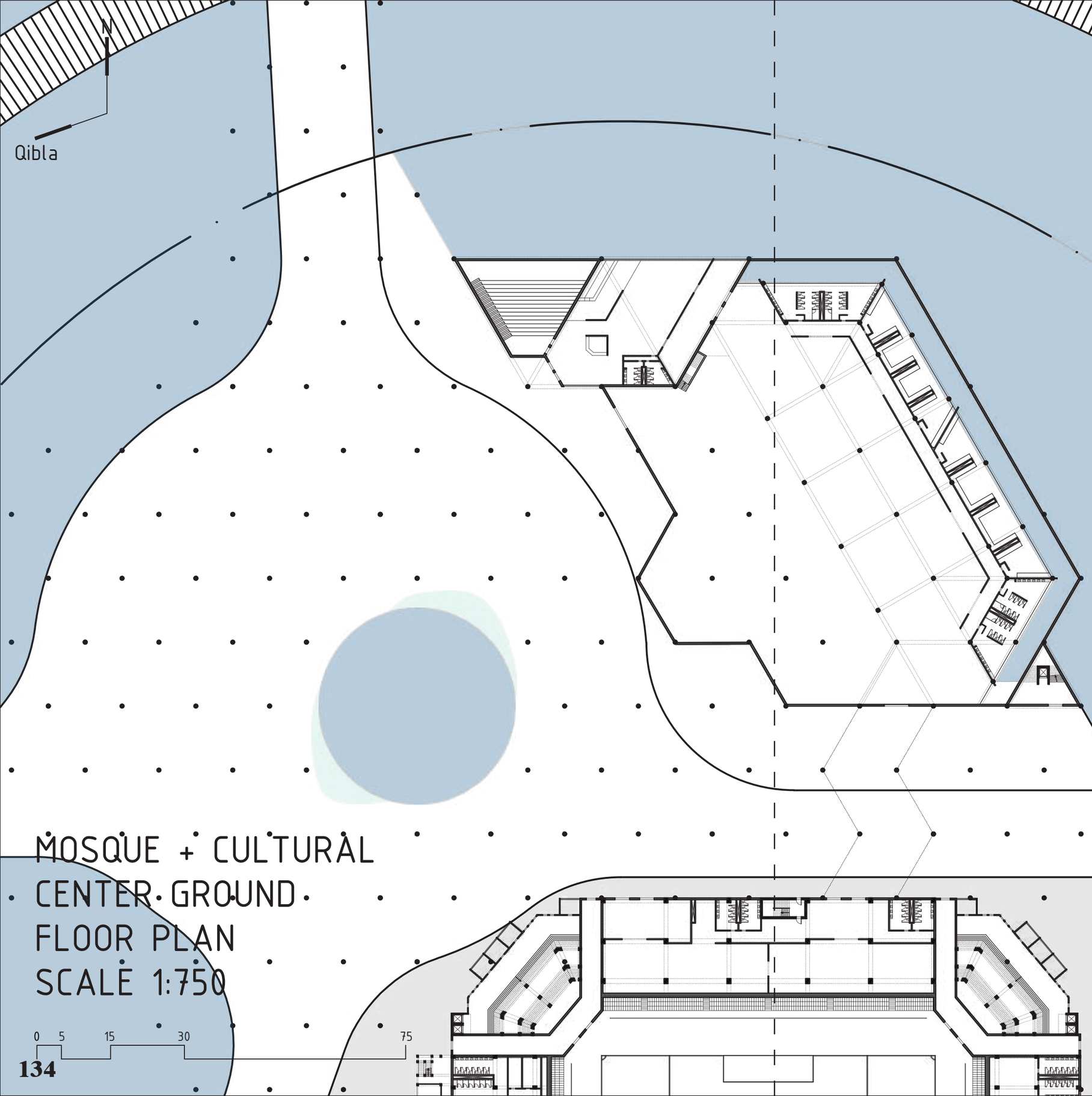
N

Qibla

MASS PLAN

SCALE 1:1000

0 5 10 20 50 100



On the far left as a cultural center that joins the mosque.

The cultural center includes an auditorium, a cafe, an exhibition space and a library that may be directly accessed from the mosque.

The mosque contains a ground floor and mezzanine level.

A qibla niche can be seen .

Water is allowed to seep into the building and adjoins the ablution areas to create a different experience.

The mosque is held by rows of columns.

Finally adjoining the mosque is the minaret at the bottom right which in a contemporary sense has been shifted from its symbolic significance to both a symbolic and functional significance.

On the first two levels its serves as circulation for the mosque, whereas the next 2 lead to broadcasting studios for the stadium.

The minaret becomes a broadcasting element for both mosque and stadium and stands tall as the project's icon.

MOSQUE + CULTURAL CENTER GROUND FLOOR PLAN
SCALE 1:750

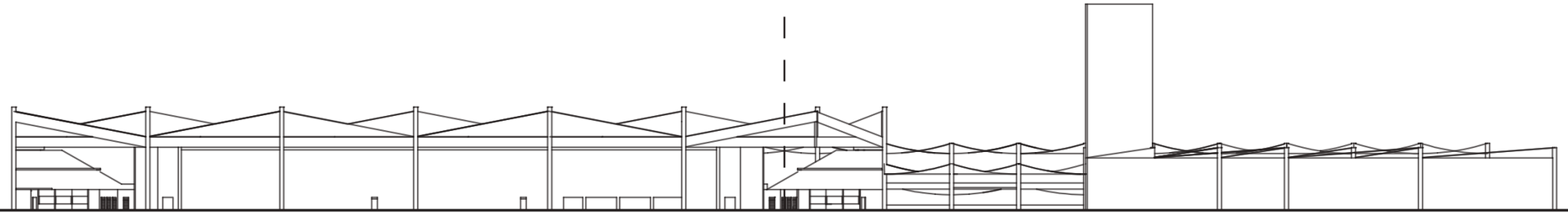
0 5 15 30 75

N

Qibla

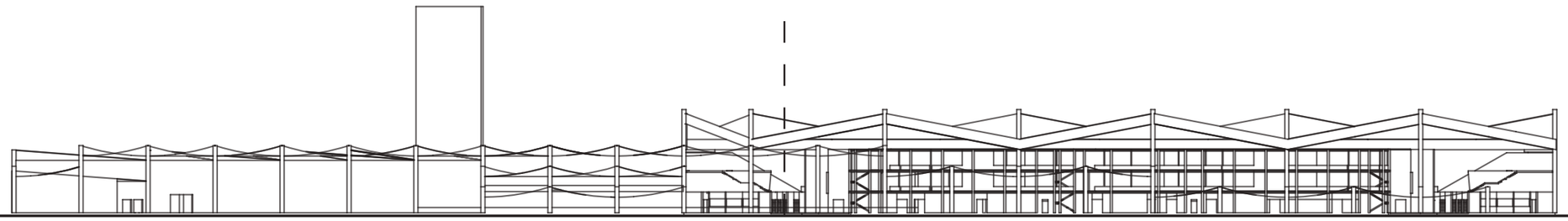
MOSQUE + CULTURAL
CENTER·FIRST FLOOR·
PLAN
SCALE 1:750

0 5 15 30 75



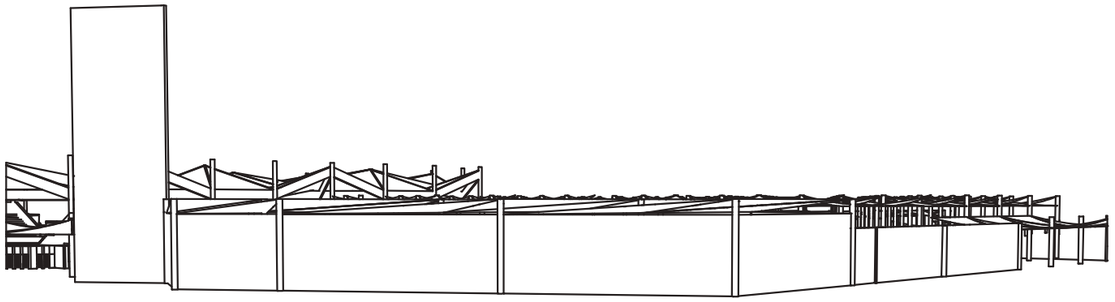
EAST ELEVATION

SCALE 1:1000

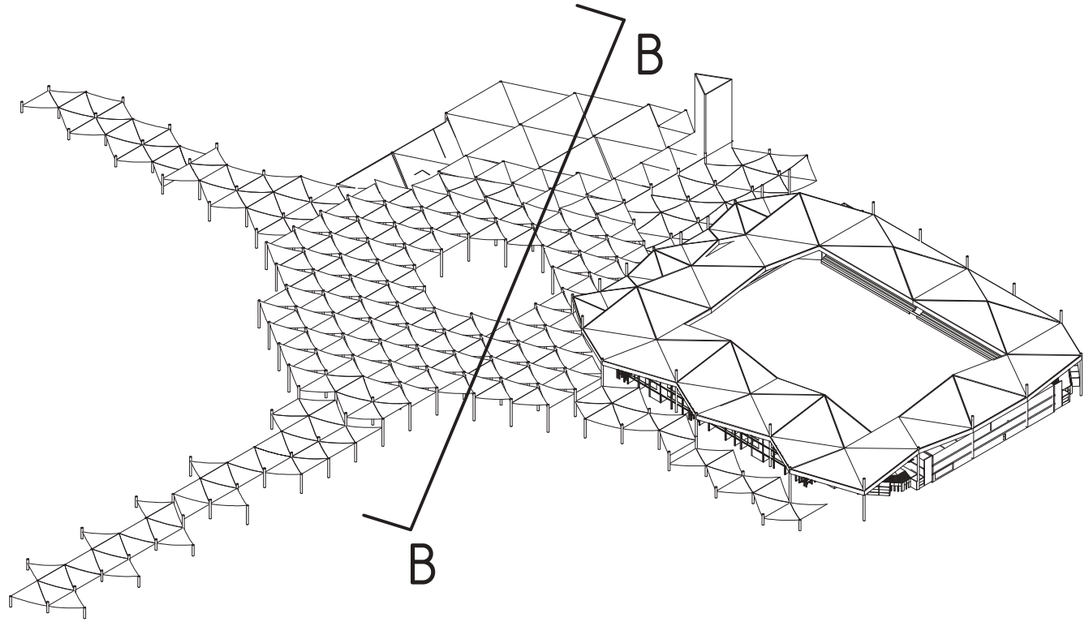


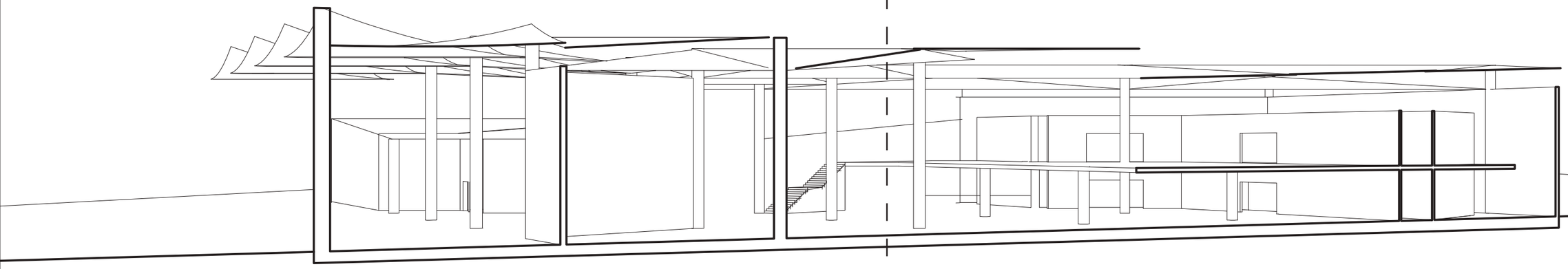
WEST ELEVATION

SCALE 1:1000



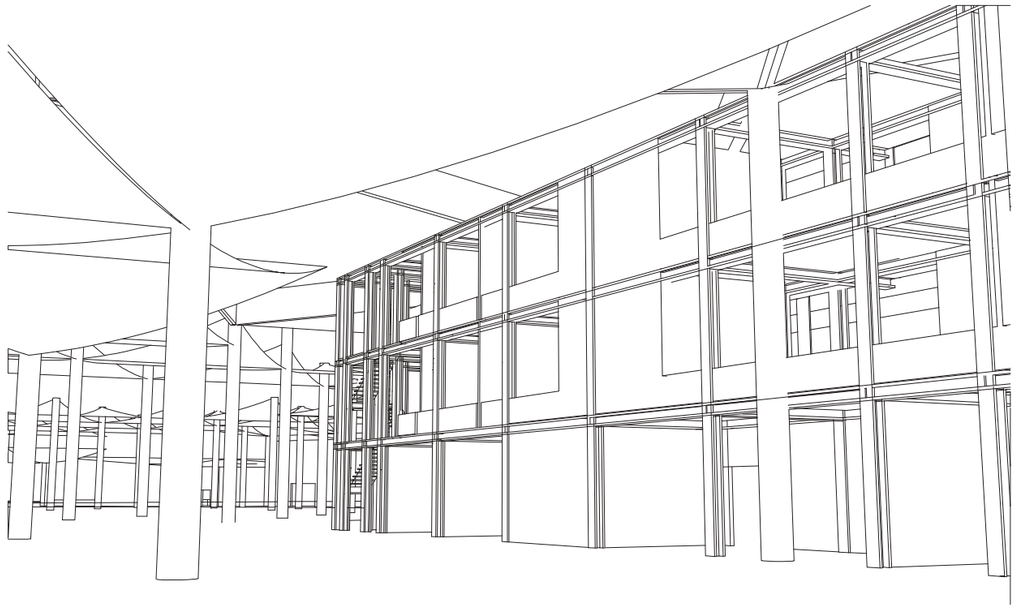
MOSQUE



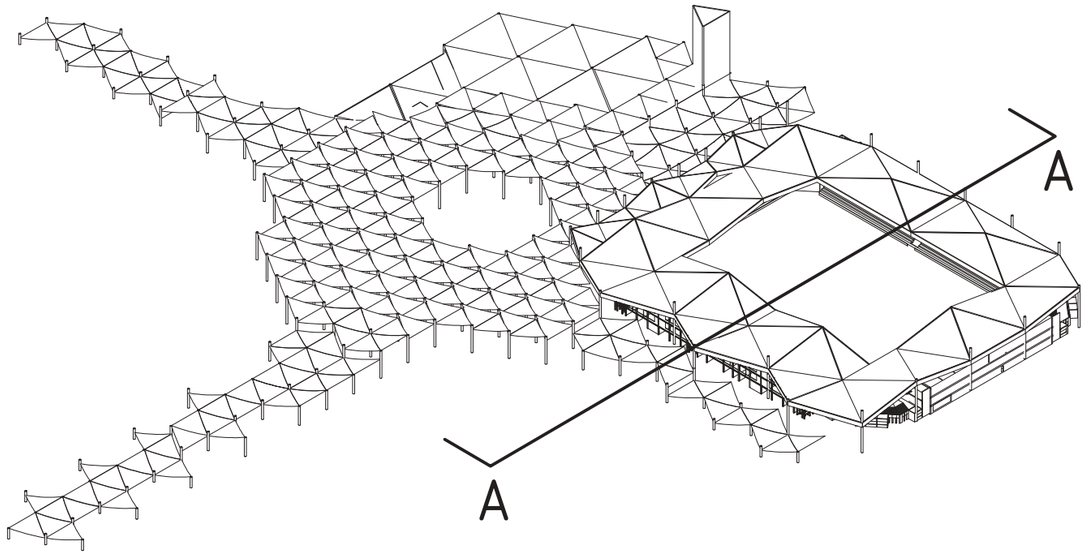


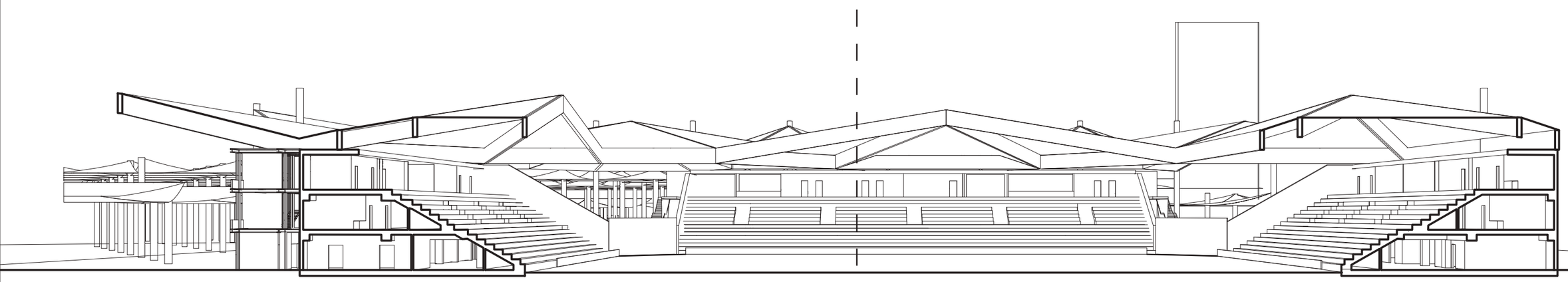
SECTION B-B

SCALE 1:750



SOUKS





SECTION A-A

SCALE 1:750

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