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*TO MY PARENTS  
SOUAD AND HUSSAIN*



*DIPLOMARBEIT*

# Baghdad Tigris Riverside Revival

*AUSGEFÜHRT ZUM ZWECKE DER ERLANGUNG DES  
AKADEMISCHEN GRADES EINES DIPLOM-INGENIEURS  
UNTER DER LEITUNG VON*

*O. UNIV. PROF. DIPL.-ING. WILLIAM ALSOP*

*E 253.4*

*INSTITUT FÜR ARCHITEKTUR UND ENTWERFEN  
ABTEILUNG HOCHBAU UND ENTWERFEN*

*EINGEREICHT AN DER TECHNISCHEN UNIVERSITÄT WIEN  
FAKULTÄT FÜR ARCHITEKTUR UND RAUMPLANUNG*

*VON*

*SAHRA AL-HILOU  
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WIEN AM, 7.1.2016

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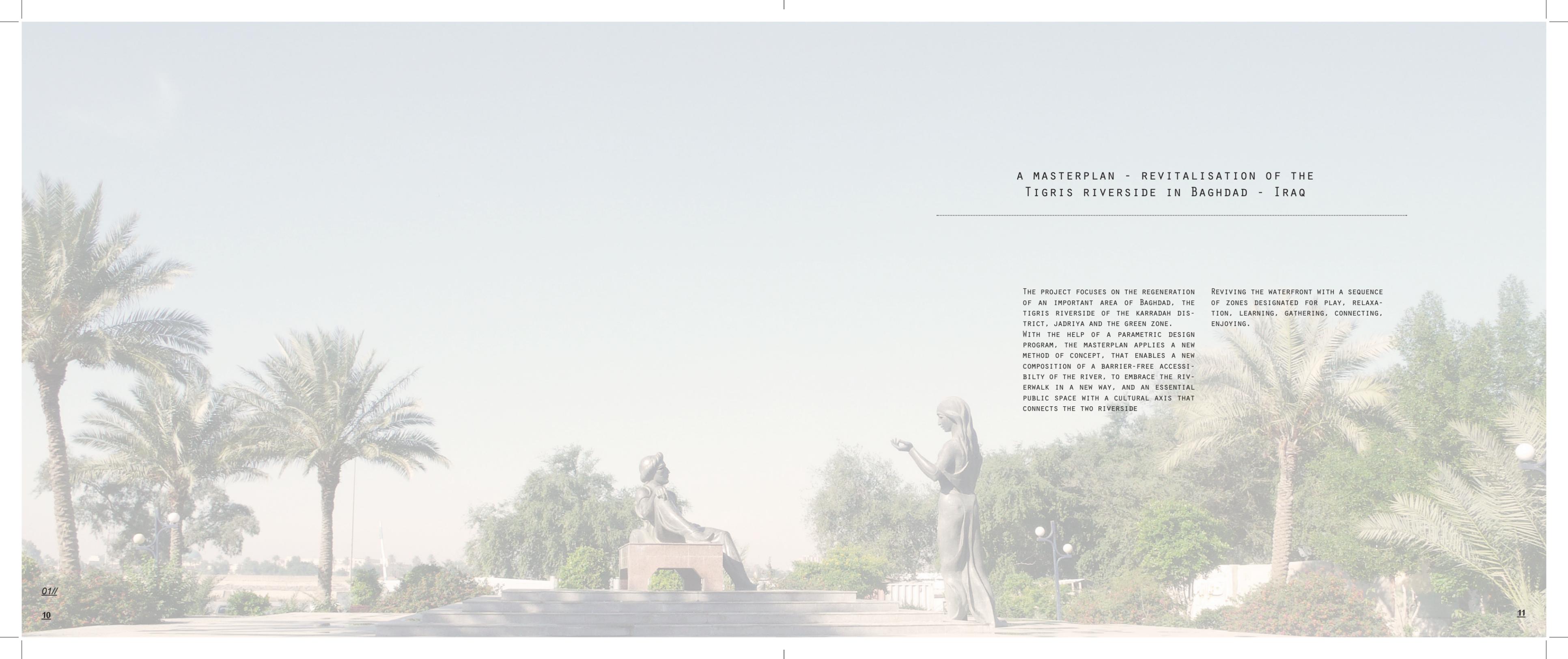
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# Content

# 01

*Introduction*

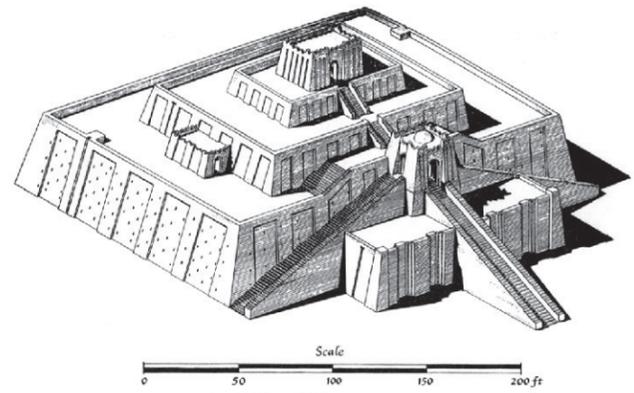


A MASTERPLAN - REVITALISATION OF THE  
TIGRIS RIVERSIDE IN BAGHDAD - IRAQ

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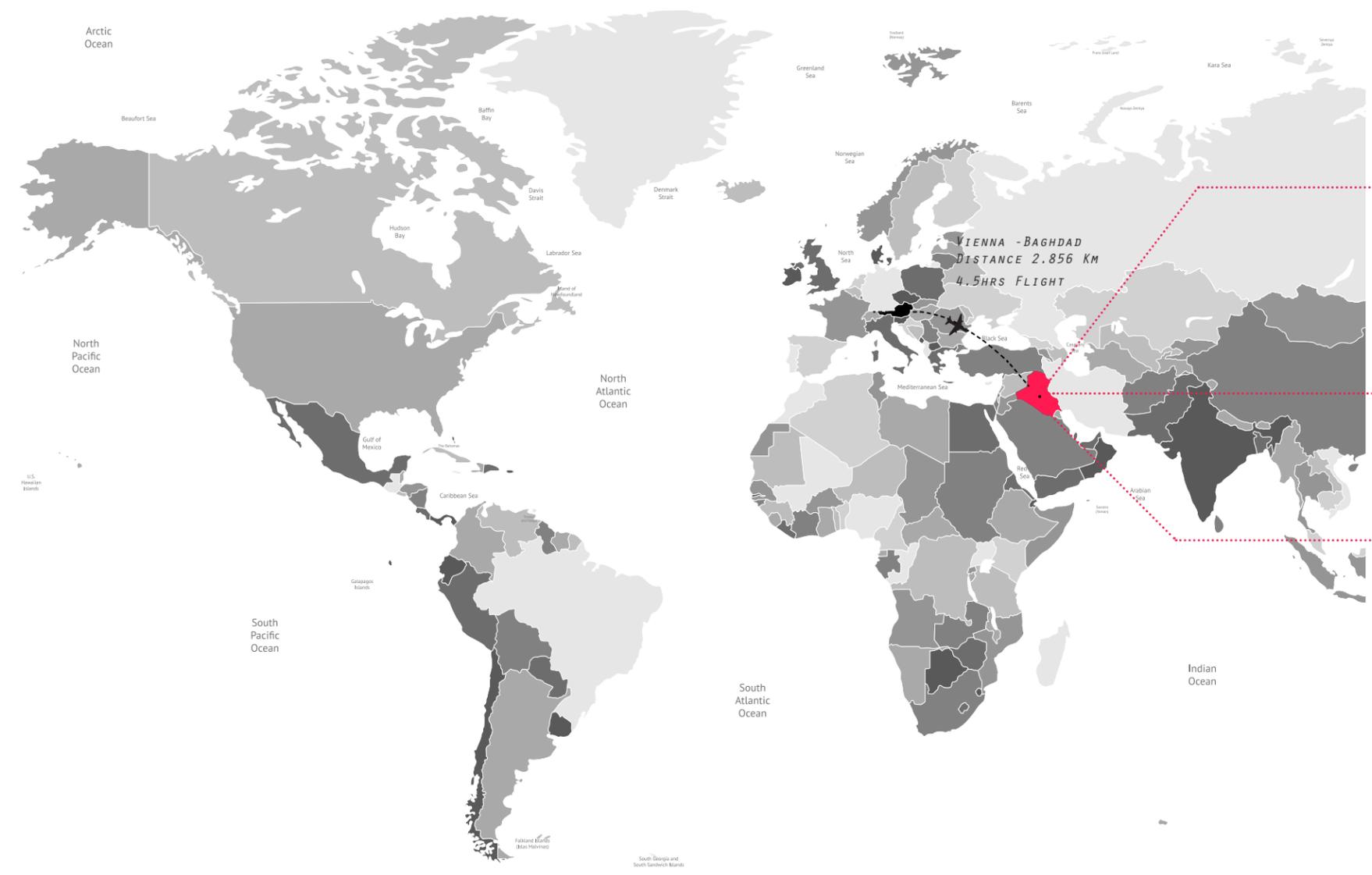
THE PROJECT FOCUSES ON THE REGENERATION OF AN IMPORTANT AREA OF BAGHDAD, THE TIGRIS RIVERSIDE OF THE KARRADAH DISTRICT, JADRIYA AND THE GREEN ZONE. WITH THE HELP OF A PARAMETRIC DESIGN PROGRAM, THE MASTERPLAN APPLIES A NEW METHOD OF CONCEPT, THAT ENABLES A NEW COMPOSITION OF A BARRIER-FREE ACCESSIBILITY OF THE RIVER, TO EMBRACE THE RIVERWALK IN A NEW WAY, AND AN ESSENTIAL PUBLIC SPACE WITH A CULTURAL AXIS THAT CONNECTS THE TWO RIVERSIDE

REVIVING THE WATERFRONT WITH A SEQUENCE OF ZONES DESIGNATED FOR PLAY, RELAXATION, LEARNING, GATHERING, CONNECTING, ENJOYING.



# 02

Overview



# IRAQ

 **COORDINATES** 33°20'00''N 44°26'00''E  
**CAPITAL:** BAGHDAD  
**19 PROVINCES - MUHAFAHDAT**

AREA: 437,072 KM<sup>2</sup>



37,056,169 Mio. (2015)

ARAB 75%-80%,  
 KURDISH 15%-20%,  
 TURKOMAN, ASSYRIAN, OR OTHER 5%

EUPHRATES AND TIGRIS TWO RIVERS THAT DEFINED MESOPOTAMIA, IRAQ, BOTH MOUTH IN SHATT AL-ARAB



OFFICAL: ARABIC, KURDISH  
 OTHER: TURKMEN, ASSYRIAN (NEO-ARAMAIC)



ISLAM: 95% MUSLIMS (65% SHIA'S 35% SUNNI'S)  
 CHRISTIANITY: 5% CHRISTIANS  
 JEWS:



NATURAL RESOURCES:  
 PETROLEUM,  
 NATURAL GAS,  
 PHOSPHATES,  
 SULFUR  
 WHITE CLAY



MOSTLY DESERT;  
 MILD TO COOL WINTERS 15-19°C,  
 HOT DRY CLOUDLESS SUMMERS 40°C ↑↑



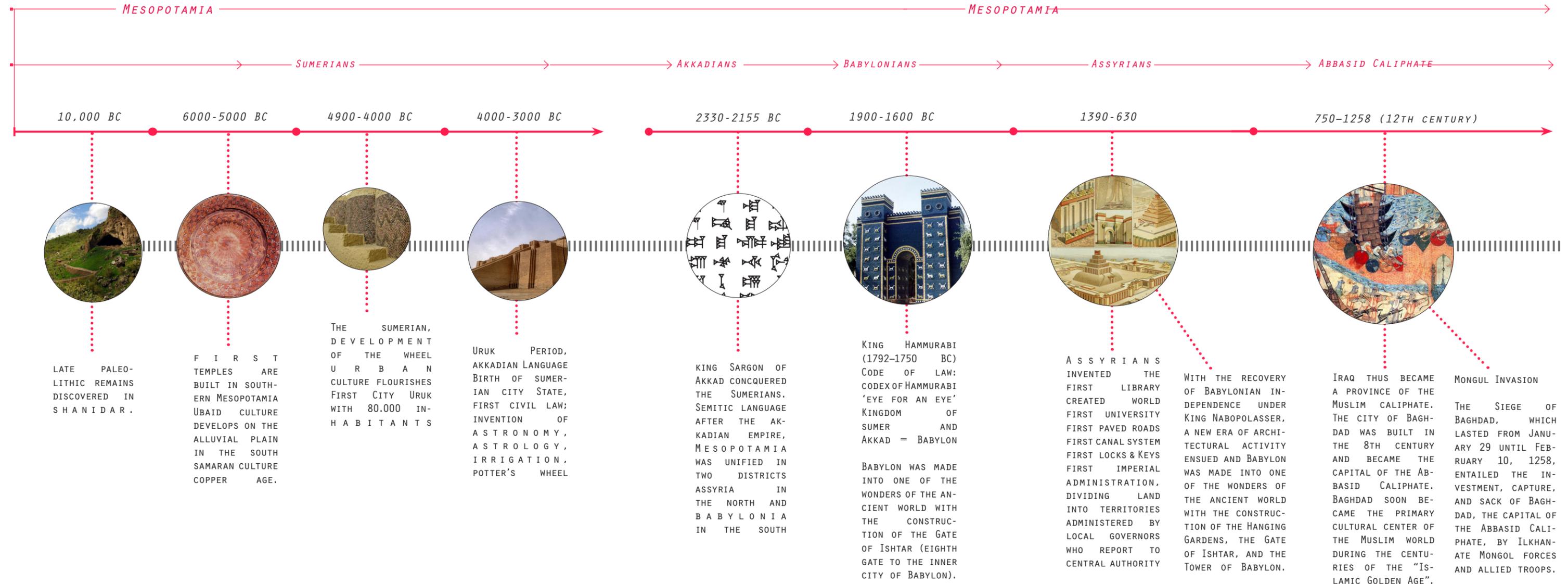
CURRENCY: IRAQI DINAR (IQD)  
 1 US\$ = 1,162.46 IQD  
 1 € = 1,253.26 IQD  
 GDP (PPP): TOTAL \$510.916 BILLION (37TH)

## 02.2 Historical Timeline

10,000 Years and Counting

THE NAME MESOPOTAMIA MEANS 'LAND BETWEEN THE RIVERS' THE LAND BETWEEN EUHRATES AND TGIRIS.

MESOPOTAMIA IS THE AREA OF THE EARLIEST DEVELOPMENTS OF THE NEOLITHIC REVOLUTION FROM AROUND 10,000 BC. IT HAS BEEN IDENTIFIED AS HAVING "INSPIRED SOME OF THE MOST IMPORTANT DEVELOPMENTS IN HUMAN HISTORY INCLUDING THE INVENTION OF THE WHEEL, THE PLANTING OF THE FIRST CEREAL CROPS AND THE DEVELOPMENT OF CURSIVE SCRIPT, MATHEMATICS, ASTRONOMY, AGRICULTURE AND MEDICINE. ALTHOUGH THE WORD "IRAQ" HAS ONLY BEEN USED FOR TWO THOUSAND YEARS. FOR MANY, IRAQ IS KNOWN AS THE "CRADLE OF CIVILIZATIONS," A NAME THAT IS PROUDLY HELD ON TO BY IRAQIS TO THIS DAY.



1534 - 1918

1917 - 1922

1932 - 1958

1958 - 1968

1979 - 2003

1980 - 1988

1990 - 1991

2003 - 2011

2013 - 2015

?



OTTOMAN RULE



BRITAIN SEIZES CONTROL, 'FALL OF BAGHDAD'. BRITAIN CREATES 'STATE OF IRAQ' WITH LEAGUE OF NATIONS APPROVAL.  
1921 KING FAISAL  
1922 GREAT IRAQI REVOLUTION - REBELLION AGAINST BRITISH RULE.



IRAQ BECOMES AN INDEPENDENT STATE. KINGDOM OF IRAQ WITH THE HASHEMITE KING FAISAL I.  
1939-1945 - WORLD WAR II. BRITAIN RE-OCCUPIES IRAQ.  
1958 THE MONARCHY IS OVERTHROWN IN A MILITARY COUP LED BY BRIG ABD-AL-KARIM QASIM AND COL ABD-AL-SALAM MUHAMMAD ARIF. IRAQ IS DECLARED A REPUBLIC.



PRIME MINISTER QASIM IS OUSTED IN A COUP LED BY THE ARAB SOCIALIST BAAH PARTY (ASBP). ARIF BECOMES PRESIDENT.



SADDAM HUSSAIN BECOMES PRESIDENT AND LEAD A DICTATORSHIP



IRAQ-IRAN WAR  
1ST GULF WAR  
IRAQ INVADES IRAN UNDER SADDAM, WITH THE SUPPORT OF THE USA. IRAQ WAS ALSO AIMING TO REPLACE IRAN AS THE DOMINANT PERSIAN GULF STATE.  
THE WAR FINALLY ENDED WITH A UNITED NATIONS BROKERED CEASEFIRE IN THE FORM OF UNITED NATIONS SECURITY COUNCIL RESOLUTION 598, WHICH WAS ACCEPTED BY BOTH SIDES



IRAQ INVADES KUWAIT. IN 1990 IRAQ ACCUSED KUWAIT OF STEALING IRAQI PETROLEUM THROUGH SLANT DRILLING.  
2ND GULF WAR  
OPERATION DESERT STORM



INVASION OF IRAQ  
ACCORDING TO U.S. PRESIDENT GEORGE W. BUSH AND BRITISH PRIME MINISTER TONY BLAIR, THE COALITION MISSION WAS "TO DISARM IRAQ OF WEAPONS OF MASS DESTRUCTION, TO END SADDAM HUSSEIN'S SUPPORT FOR TERRORISM, AND TO FREE THE IRAQI PEOPLE."



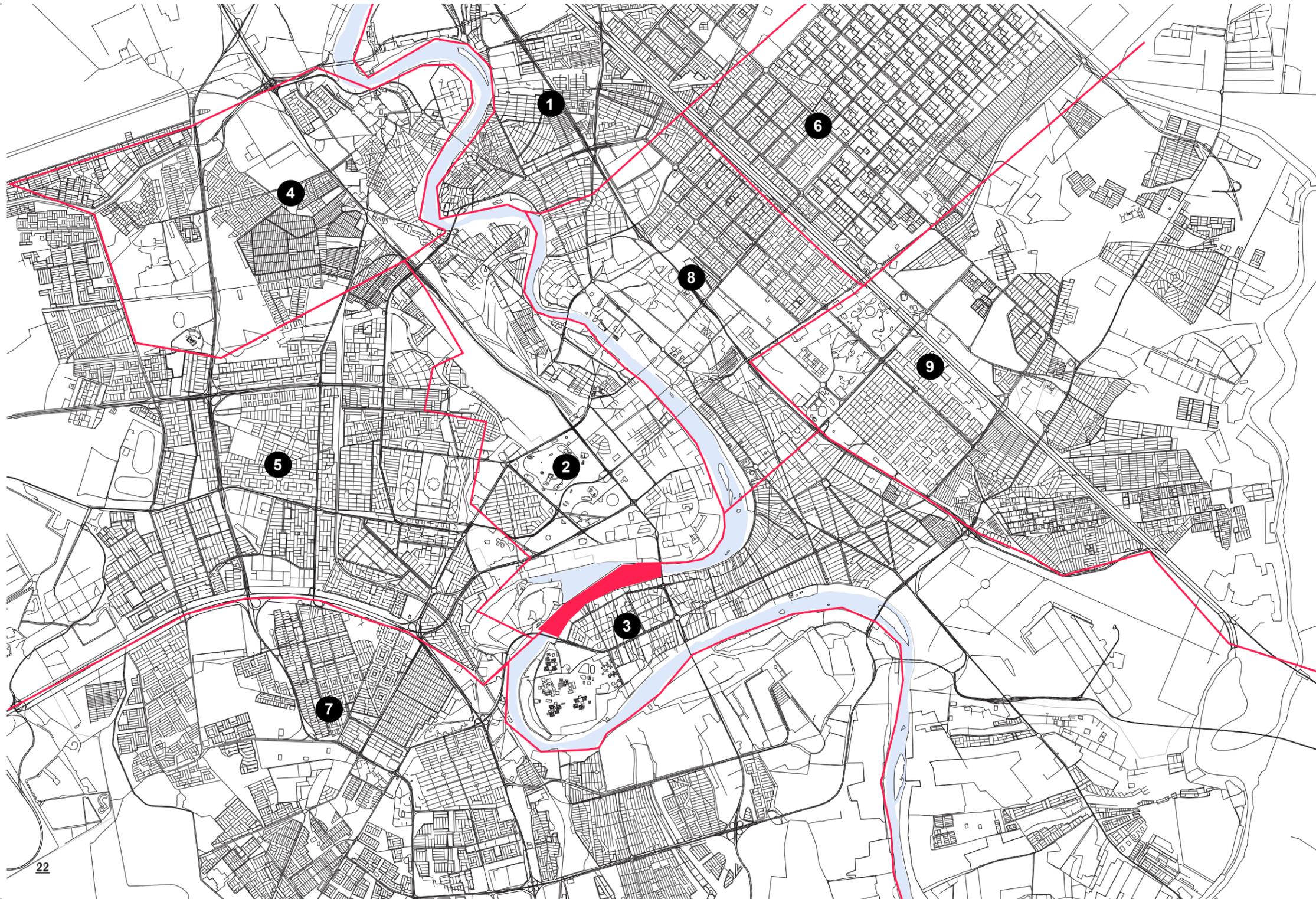
ONGOING CIVIL WARS AND THE ISIS 'DAESH' ENTER NORTHERN IRAQ AND TAKE OVER MOSUL... ETC. WHICH ALSO FORCED THE RESIGNATION OF THE PRIME MINISTER, NOURI AL-MALIKI

# 03

*Baghdad and the Tigris*

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# 03.1 Baghdad



BAGHDAD	CAPITAL CITY OF IRAQ
AREA	204.2 KM2 (78.8 SQ MI)
COORDINATES	33°20'00''N 44°26'00''E
POPULATION	(2015) 9,028,636 Mio
CURRENT MAYOR	ZEWRA ALWACH (2015)
FOUNDED BY ESTABLISHED	ABU JAFAR AL- MANSOUR 762 AD



### BAGHDAD'S DISTRICT

- 1 ADHAMIYAH
- 2 KARKH
- 3 KARRADAH
- 4 KADHIMIYAH
- 5 AL MANSOUR
- 6 SADR CITY
- 7 AL RASHEED
- 8 RUSAFA
- 9 TIS NISSAN ALSO CALLED NEW BAGHDAD

 PROJECT SITE

 DISTRICT BORDERS

BAGHDAD IS THE CAPITAL OF THE REPUBLIC OF IRAQ. THE POPULATION OF BAGHDAD, AS OF 2015, IS APPROXIMATELY 9,028,636 MAKING IT THE LARGEST CITY IN IRAQ,[1][2] THE SECOND LARGEST CITY IN THE ARAB WORLD (AFTER CAIRO, EGYPT), AND THE SECOND LARGEST CITY IN WESTERN ASIA (AFTER TEHRAN, IRAN). ACCORDING TO THE GOVERNMENT, WHICH IS PREPARING FOR A CENSUS, THE POPULATION OF THE COUNTRY HAS REACHED 37 MILLION. THE CITY OF BAGHDAD HAS 89 OFFICIAL NEIGHBOURHOODS WITHIN 9 DISTRICTS. AL-GHAZALIYA, AL-A'AMIRIYA, DORA, KARRADA, AL-JADRIYA, AL-HEBNA, ZAYOUNA, AL-SAYDIYA, AL-SA'ADOON ARE JUST A FEW TO NAME FROM THEM. BAGHDAD IS LOCATED ON A VAST PLAIN BISECTED BY THE RIVER TIGRIS.

THE TIGRIS SPLITS BAGHDAD IN HALF, WITH THE EASTERN HALF BEING CALLED 'RISAFI' AND THE WESTERN HALF KNOWN AS 'KARKH'. THE LAND ON WHICH THE CITY IS BUILT IS ALMOST ENTIRELY FLAT AND LOW-LYING, BEING OF ALLUVIAL ORIGIN DUE TO THE PERIODIC LARGE FLOODS WHICH HAVE OCCURRED ON THE RIVER. CULTURALLY, BAGHDAD HAS ALWAYS PLAYED A SIGNIFICANT ROLE IN THE BROADER ARAB CULTURAL SPHERE, CONTRIBUTING SEVERAL SIGNIFICANT WRITERS, POETS, MUSICIANS AND VISUAL ARTISTS.

*BAGHDAD - 'THE CITY OF PEACE'*

THE NAME BAGHDAD IS PRE-ISLAMIC. THE ETYMOLOGY OF THE NAME IS NOT CLEAR. IT IS NOT OF ARABIC ORIGIN; IT MAY BE A COMBINATION OF TWO PERSIAN WORDS, 'BAD' AND 'DAD', WHICH MEANS 'GOD'S GIFT'

BAGHDAD WAS FOUNDED ON THE WEST BANK OF THE TIGRIS BY AL-MANSUR, THE SECOND CALIPH OF THE ABBASID EMPIRE, IN 762 C.E. WHICH TOOK HIM 4 YEARS TO BUILD.

IT WAS BUILT IN A CIRCULAR FORM, IN THE PARTHIAN SASSANID TRADITION. IT HAD THREE CONCENTRIC WALLS WITH FOUR GATES OPENING TOWARD BASRA, SYRIA, KUFAN, AND KHORASAN. IT WAS SURROUNDED BY A DEEP MOAT AND HAD FOUR HIGHWAYS RADIATING OUT FROM THE FOUR GATES. THE CALIPH NAMED IT DAR ALSALAM, 'HOUSE OF PEACE', A NAME ALLUDING TO PARADISE BUT THE ANCIENT CITY NAME STILL REMAINED BAGHDAD.

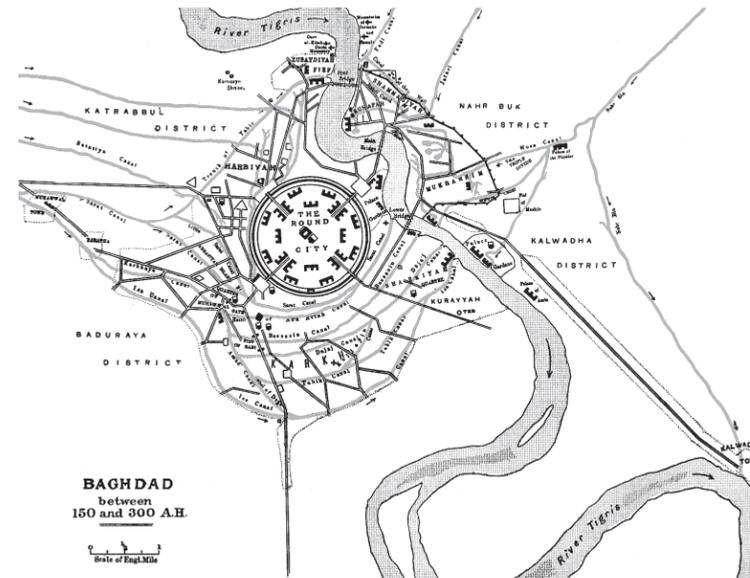
THE SITE FOR THE CITY WAS CHOSEN BECAUSE OF ITS STRATEGIC LOCATION IN THE MIDDLE OF MESOPOTAMIA. IT WAS A MEETING PLACE FOR CARAVAN ROUTES ON THE ROAD TO KHORASAN. IT HAD A SYSTEM OF CANALS THAT PROVIDED WATER FOR CULTIVATION AND COULD BE USED AS RAMPARTS FOR THE CITY.

IT ALSO HAD AN ADEQUATE WATER SUPPLY FOR THE PEOPLE OF THE CITY AND PROVIDED AN ENVIRONMENT MORE OR LESS FREE OF MALARIA. THE CITY WAS FIRST BUILT AS AN ADMINISTRATIVE CENTER, BUT IT GREW INTO A VERITABLE COSMOPOLIS OF THE MEDIEVAL WORLD.

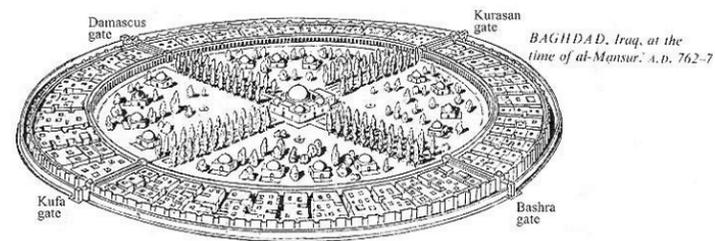
IT BECAME A CONGLOMERATE OF DISTRICTS ON BOTH BANKS OF THE TIGRIS THAT GAINED FAME AND IMPORTANCE SOCIALLY, ECONOMICALLY, AND CULTURALLY.

BAGHDAD REACHED ITS GOLDEN AGE DURING THE FOURTH AND SIXTH REIGNS OF HARUN AL-RASHID (786-809 C.E.) AND HIS SON ALMA'MUN (813-833 C.E.). IN THE NINTH CENTURY, BAGHDAD, WITH A POPULATION OF 300,000 TO 500,000, WAS LARGER THAN ANY OTHER MIDDLE EAST CITY EXCEPT ISTANBUL. THE POPULATION INCLUDED ARABS AND NON-ARABS, MUSLIMS AND NON-MUSLIMS WHO HAD COME TO BAGHDAD TO WORK, TO TRADE, AND TO STUDY. BAGHDAD BECAME AN INTERNATIONAL TRADE CENTER FOR TEXTILES, LEATHER, PAPER, AND OTHER GOODS FROM AREAS THAT RANGED FROM THE BALTIC TO CHINA. BAGHDAD ALSO BECAME A CENTER FOR SCIENTIFIC AND INTELLECTUAL ACHIEVEMENTS. THE FAMOUS BAYT AL-HIKMA ACADEMY, ESTABLISHED IN 830 C.E., HAD FACILITIES FOR THE TRANSLATION OF SCIENTIFIC AND PHILOSOPHICAL WORKS FROM GREEK, ARAMAIC, AND PERSIAN INTO ARABIC.

OTHER SEVERAL KEY ACADEMIC INSTITUTIONS (E.G. HOUSE OF WISDOM), GARNERED THE CITY A WORLDWIDE REPUTATION AS THE "CENTER OF LEARNING".



02// Baghdad, 762 AD



03// Baghdad, 762 AD



04// Al-Mustansariah University - Baghdad

## 03.2 Sightseeing

### WHAT TO SEE IN BAGHDAD ?



05// Baghdad 1932



06// Baghdadi Museum



07// Iraqi National Museum



08// Holy shrine of musa Kadhum as.



09// The Abbasid Palace



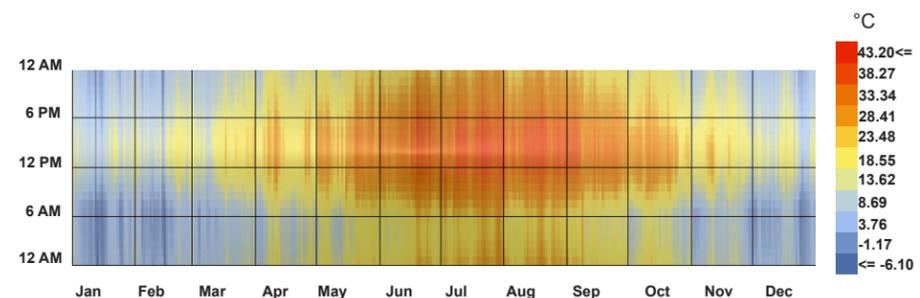
10// The Mustansariah university



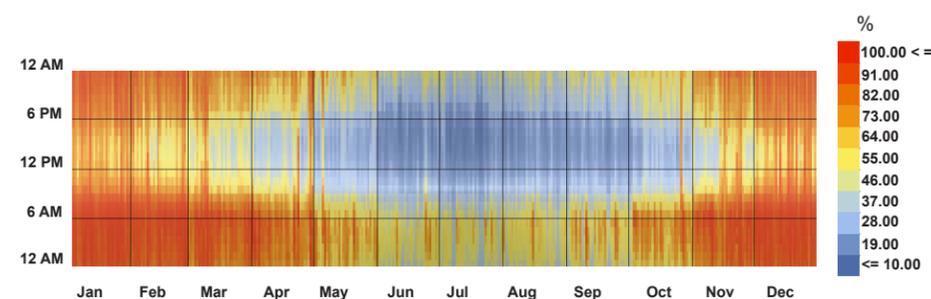
11// Khan Murjan



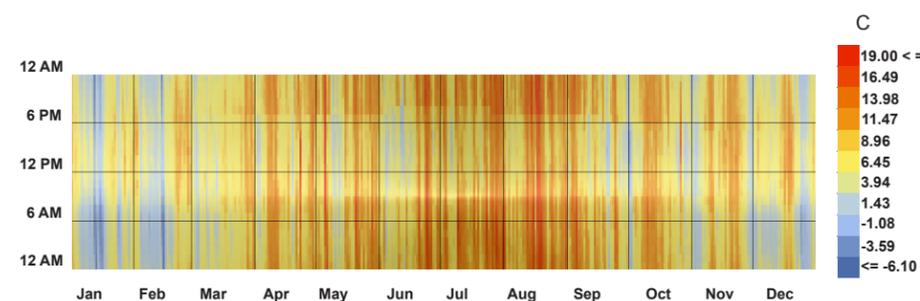
# 04.3 Climate



DRY BULB TEMPERATURE (C) - HOURLY  
BAGHDAD\_Iraq  
1 JAN 1:00 - 31 DEC 24:00



RELATIVE HUMIDITY (%) - HOURLY  
BAGHDAD\_Iraq  
1 JAN 1:00 - 31 DEC 24:00



DEW POINT TEMPERATURE (C) - HOURLY  
BAGHDAD\_Iraq  
1 JAN 1:00 - 31 DEC 24:00



13// public showers

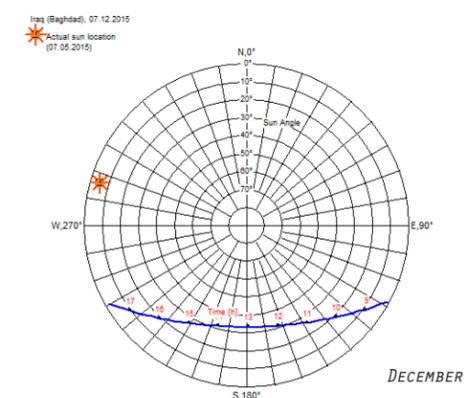
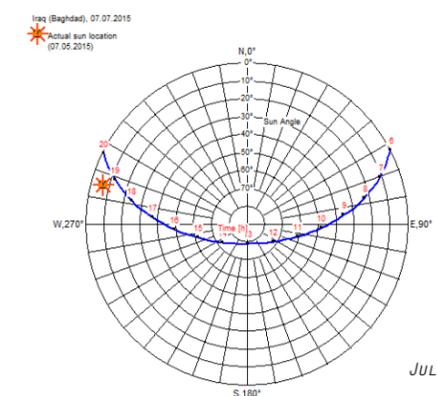
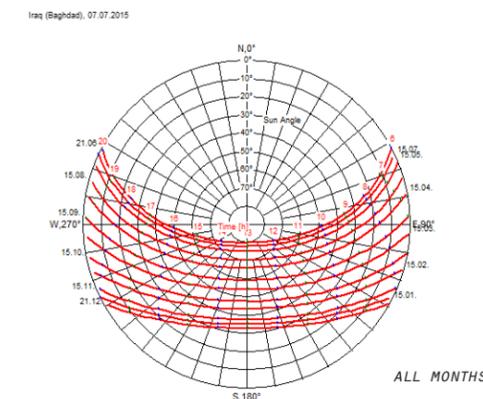


14// cooling off in the tigris

BAGHDAD IS IN TERMS OF MAXIMUM TEMPERATURES ONE OF THE HOTTEST CITIES IN THE WORLD. 50°C CAN EASILY BE REACHED. EVEN AT NIGHT TEMPERATURES IN SUMMER ARE RARELY BELOW 24°C. BECAUSE THE HUMIDITY IS VERY LOW (10%) DUE TO BAGHDAD'S DISTANCE FROM THE PERSIAN GULF, DUST STORMS FROM THE DESERTS CAN BE A NORMAL OCCURRENCE DURING SUMMER. THE LOW TEMPERATURES CAN BE CHILLY: THE AVERAGE JANUARY LOW IS 3.8°C HOWEVER IN WINTER IT IS RAINING SEASON WHERE PEOPLE ARE CONFRONTED WITH FLOODS.

WHAT'S THE BEST TIME TO TRAVEL TO BAGHDAD?

THE MONTHS MARCH, APRIL AND NOVEMBER HAVE A NICE AVERAGE TEMPERATURE. HOT SEASON IS IN APRIL, MAY, JUNE, JULY, AUGUST, SEPTEMBER AND OCTOBER. BAGHDAD HAS DRY PERIODS IN JANUARY, FEBRUARY, APRIL, MAY, JUNE, JULY, AUGUST, SEPTEMBER, OCTOBER, NOVEMBER AND DECEMBER. ON AVERAGE, THE WARMEST MONTH IS JULY. ON AVERAGE, THE COOLEST MONTH IS JANUARY.



SUMMER

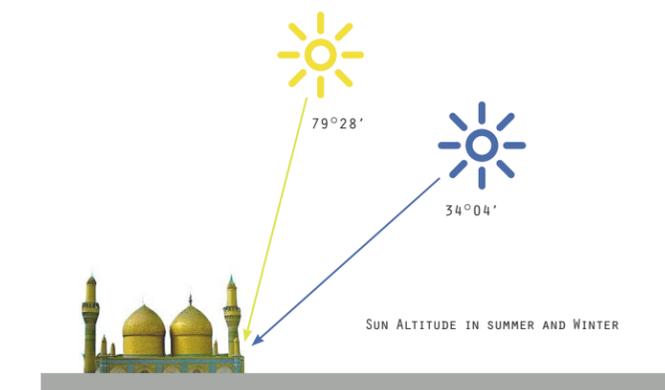
DURATION OF SUNSHINE DURING IN A DAY  
HIGHEST SUN'S ALTITUDE (UPPER CULMINATION POINT)  
LOWEST SUN'S ALTITUDE (LOWER CULMINATION POINT)

14.16 HRS  
79°28'  
-34°04'

WINTER

DURATION OF SUNSHINE IN A DAY  
HIGHEST SUN'S ALTITUDE (UPPER CULMINATION POINT)  
LOWEST SUN'S ALTITUDE (LOWER CULMINATION POINT)

10.02 HRS  
34°04'  
-79°16'





- REGIONS INFLUENCING THE FLOW OF THE TIGRIS AND EUHRATES
- FOREST AND GRAZING LAND
- IRRIGATED CROPS (SALINE SOILS)
- ALLUVIAL PLAINS POTENTIAL FOR IRRIGATION
- RAIN FED AGRICULTURE, GRAINS VEGETABLES AND FRUITS
- DRY LANDS MAINLY USED FOR PASTORIALISM
- HORTICULTURE
- MAIN DAMS

## 04.4 Vegetation



15// deserted land on hot summer days



16// palm orchard



17// dates

IRAQ MAINLY CONSISTS OF DESERT, BUT NEAR THE TWO MAJOR RIVERS (EUPHRATES AND TIGRIS) ARE FERTILE ALLUVIAL PLAINS, AS THE RIVERS CARRY ABOUT 60,000,000 M3 OF SILT.

THE MAJOR AGRICULTURAL CROPS CONSTITUTE: DATES, (CEREALS LIKE WHEAT, BARELY, MAIZE, LITTLE RICE, WHILE COTTON STOPPED NOW, AND OTHER INDUSTRIAL CROPS.

MANY VEGETABLES ARE GROWN BY INDIVIDUAL FARMERS, MOSTLY IN URBAN AREAS(2003-2007) LIKE TOMATOES, POTATOES, EGG-PLANT, CAULIFLOWER, CABBAGE, LETTUCE, MELON AND WATER

MELON, CUCUMBER, BEANS, OKRA, ONION, PEPPER, ETC.

THE MAIN FRUIT PLANTS ARE: APPLES, PEARS, PLUMS, FIGS, POMEGRANATES, APRICOT, ORANGES, LEMONS AND GRAPES AND OLIVES; ALSO A GOOD NUMBER OF PLANTS ARE GROWN FOR ORNAMENTAL, FORESTRY AND MEDICAL PURPOSES MOSTLY AT NINEVEH AND THE NORTH OF IRAQ .

AQUATIC VEGETATION IN THE MARSHY TRACT OF SOUTH IRAQ IS DOMINANT. IN THE NORTHERN MOUNTAINS HIGH ALTITUDE FLORA FORMS A DOMINANT FEATURE OF VEGETATION I.E. PASTURES AND FORAGES ARE FOUND EXTENSIVELY.

HOW BAGHDADI'S SPENT THEIR TIME?



18//



19//



20//



21//



22// going to amusement parks



23// semak masgouf is what the iraqis like to regulary.

03.3 Activities



24// markets filled with food



25// paintings



26// picnics or just sitting in the green



28//

THE AL MUTANABBI 'STREET OF BOOKS' IT IS THE HISTORIC CENTER OF BAGHDAD BOOKSELLING, A STREET FILLED WITH BOOKSTORES AND OUTDOOR BOOK STALLS. IT WAS NAMED AFTER THE 10TH-CENTURY CLASSICAL IRAQI POET AL-MUTANABBI. THIS STREET IS WELL ESTABLISHED FOR BOOKSELLING AND HAS OFTEN BEEN REFERRED TO AS THE HEART AND SOUL OF THE BAGHDAD LITERACY AND INTELLECTUAL COMMUNITY. THE IRAQIS LIKE TO READ AND BE TO BE UPDATED.

AMUSEMENTPARKS ARE OFTEN DESTINATION FOR FAMILIES AND GATHERING AND SPENINDG THEIR TIME AS A FAMILY.

EATING FISH IS VERY COMMON IN BAGHDAD. ESPECIALLY SEMAK MASGOUF.

SITTING IN THE GREENERY AND HAVE A PICNIC WITH FAMILY AND RELATIVES

GATHERING TO LITERATURE EVENTS



- REGIONS INFLUENCING THE FLOW OF THE TIGRIS AND EUPHRATES
- MAIN DAMS
- RIVER

## 03.3 The River - Tigris

(IN ARABIC: 'DIJLAH')

LENGTH	1,850 KM (1,150 MI)
COUNTRIES	TURKEY, SYRIA, IRAQ
TRIBUTARIES	
LEFT:	BATMAN, GARZAN, BOTAN, KHABUR, GREATER ZAB, LESSER ZAB, ADHAIM, CIZRE, DIYALA
RIGHT:	WADI THARTHAR
CITIES	DIYARBAKIR, MOSUL, BAGHDAD
SOURCE	LAKE HAZAR
ELEVATION COORDINATES	1,150 M (3,773 FT) 38°29'0''N 39°25'0''E
MOUTH	SHATT AL-ARAB
LOCATION	AL-QURNAH, BASRA GOVERNORATE, IRAQ
BASIN	375,000 KM <sup>2</sup> (144,788 SQ MI)
DISCHARGE FOR BAGHDAD	
AVERAGE	1,014 M <sup>3</sup> /S (35,809 CU FT/S)
MAX	2,779 M <sup>3</sup> /S (98,139 CU FT/S)
MIN	337 M <sup>3</sup> /S (11,901 CU FT/S)

THE RIVER ORIGINATING IN EASTERN TURKEY IN THE TAURUS MOUNTAINS, FLOWS ABOUT 25 KM SOUTHEAST OF THE CITY OF ELAZIG AND ABOUT 30 KM FROM THE HEADWATERS OF THE EUPHRATES. THE TIGRIS THEN FLOWS FOR 400 KM THROUGH TURKISH TERRITORY BEFORE BECOMING THE BORDER BETWEEN SYRIA AND TURKEY. THIS STRETCH OF 44 KM IS THE ONLY PART OF THE RIVER THAT IS LOCATED IN SYRIA. THE REMAINING 1418 KM ARE ENTIRELY WITHIN THE IRAQI BORDERS. THE TIGRIS CROSSES IRAQ AND BEFORE JOINING WITH THE EUPHRATES RIVER TO FORM THE SHATT AL-ARAB, THEN EMPTIES INTO THE PERSIAN GULF, ROUGHLY 150 KILOMETERS LATER. THE TIGRIS PROVIDES ALL THE MAIN TRIBUTARIES WITHIN IRAQ (GREATER ZAB, LESSER ZAB, ADHAIM AND DIYALA) WITH NO TRIBUTARIES SOURCED FROM THE EUPHRATES. THE ARID REGIONS ALONG THE WATERSHED ARE CHARACTERIZED BY THE EXISTENCE OF "WADIS" IN THE UPPER REACHED OF IRAQ. MORE THAN 90% OF IRAQ'S WATER DEPENDENT NEEDS ARE MET BY SURFACE WATER AND 80% OF THIS

WATER FLOW COMES FROM ITS THREE NEIGHBORING COUNTRIES. THE TIGRIS HAS LONG BEEN AN IMPORTANT TRANSPORT ROUTE IN A LARGELY DESERT COUNTRY. SHALLOW-DRAFT VESSELS CAN GO AS FAR AS BAGHDAD, BUT RAFTS ARE NEEDED FOR TRANSPORT UPSTREAM TO MOSUL. THE RIVER TODAY HAS BEEN DAMMED HEAVILY TO CREATE BOTH RESERVOIRS AND HYDROELECTRICITY. THE DAMS AND RESERVOIRS ALSO SERVE TO CONTROL THE FLOW OF THE RIVER, WHICH, IN THE PAST, FLOODED SEASONALLY.

HOWEVER, THE QUALITY OF THE WATER HAS BEEN HEAVILY POLLUTED BY THE WAR AND BY THE PEOPLE ITSELF. ACCORDING TO A STUDY IT IS UNSUITABLE FOR USE.



*REGULATION OF THE TIGRIS*

HISTORICALLY, THE TIGRIS AND EUHRATES HAVE BEEN VERY FLUC- TUATE IN FLOW RATE BETWEEN DRY YEARS AND WET YEARS. LAST FEW YEARS WERE DRY, BUT THERE ARE FLOODS IN THIS YEAR.

THE FLOW OF THE TIGRIS AND THE EUHRATES IS EXPECTED TO DE- CREASE FURTHER BY 2025, WITH THE EUHRATES DECLINING BY MORE THAN 50 PERCENT AND THE TIGRIS BY MORE THAN 25% THE EFFECTS OF WATER SCARCITY WILL VARY BY REGION, WITH SOME REGIONS SUFFERING MORE FROM RECURRENT DROUGHTS AND WATER SHORTAGES. HISTORICALLY, THE RIVERS PLAYED A CENTRAL ROLE IN SUSTAINING IRAQ AND CONTRIBUTED TO THE BIRTH AND DEVELOPMENT OF FLOUR- ISHING CIVILIZATIONS IN THE FERTILE CRESCENT. TRANSPORTA- TION FOR WOOD ETC.

IN THE LAST FEW YEARS, HOWEVER, WATER LEVELS IN IRAQ'S RIVERS HAVE RAPIDLY DECREASED TO LESS THAN A THIRD OF THEIR NORMAL CAPACITY.

THE WATER FROM BOTH RIVERS, TI- GRIS AND EUHRATES IS USED AS A MEANS OF PRESSURE DURING CON- FLOTS.

TURKEY SHARES THE WATERS OF THE TIGRIS RIVER WITH THE STATES OF SYRIA AND IRAQ. PARTICULARLY IRAQ RELIES ON THE WATER OF THE TIGRIS RIVER AND COULD ALMOST NOT HAVE ANY AGRICULTURE AND WATER SUPPLY OF URBAN CENTERS

WITHOUT THE WATER OF TIGRIS AND EUHRATES. THE FACT THAT THE STORAGE CAPACITY OF THE PRO- POSED ILISU DAM AND OTHER DAM PROJECTS IS LARGER (AT LEAST 21 CUBIC KILOMETERS) THAN THE AN- NUAL WATER FLOW OF THE TIGRIS (17 CUBIC KILOMETERS) FROM TUR- KEY TO IRAQ, EXPLAINS THE HIGH IMPACT OF THIS PROJECT.

THE TIGRIS COLLECTS 43% OF ITS FLOW IN TUR- KEY AND 57% OF ITS FLOW WITHIN IRAQ FROM LEFT BANK TRIBUTARIES INCLUDING THE GREATER ZAB, LESSER ZAB, AD- HAIM AND DIYALA RIVERS. USAGE OF TIGRIS WATER WITHIN IRAQ IN- CLUDES AGRICULTURAL IRRIGATION, AND MUNICIPAL WATER SUPPLY; THE TIGRIS ALSO HAS SEVERAL WATER STORAGE FACILITIES FOR FLOOD CONTROL AND POWER GENERATION WITHIN IRAQ.

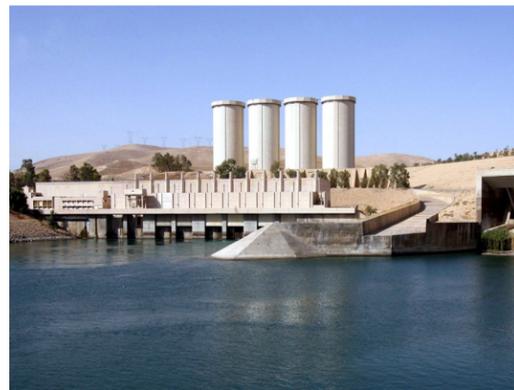
THE DAM IN MOSUL IS THE LARG- EST AND THE MOST IMPORTANT DAM IN IRAQ. FLOODING FROM THE DAM COULD SOW CHAOS FROM MOSUL ALL THE WAY TO BAGHDAD, MORE THAN 450KM AWAY.



28// Tigris 100km from its source in Diyarbakir, Turkey



29// Tigris in Hasankayef, Turkey



30// Mosul Dam



31// Boat Homes of rich jews on tigris river



32// Guffa

RIVER TRANSPORTATION

3 TYPES OF RIVER TRANSPORT

THE GUFFA, BELIEVED TO BE THE OLDEST VESSEL IN THE WORLD, WHICH IS A CARGO AND PASSENGER CARRYING BOAT. GUFFAS ARE NOT DESIGNED FOR THE SEA AND NEITHER FOR SPEED, BUT BECAUSE THE CIRCLE ENCOMPASSES THE LARGEST AREA FOR PERIMETER, THE DESIGN OF THE GUFFA FACILITATES THE CARRYING OF THE GREATEST POSSIBLE CARGO WITH THE MOST ECONOMICAL USE OF MATERIAL. THIS IS IMPORTANT BECAUSE IN SOME CASES, PARTICULARLY ON THE TIGRIS, THE GUFFA IS ABANDONED AFTER ONE LONG-RIVER VOYAGE. THE CONSTRUCTION IS A FRAME WITH WATERPROOF COVERING AND IS PROPELLED WITH A PADDLE. THE WOODEN STICKS ARE OF POMEGRANATE AND THE ONLY OTHER MATERIALS ARE TWINE, STRAW AND PITCH. THIS IS ALSO INTERESTING BECAUSE IT HAS NO WATERPROOF SKIN AS SUCH, THE PITCH, WHICH COMES FROM HIT ON THE EUPHRATES, BEING LAID ON SUFFICIENTLY LIBERALLY TO ACT AS A SKIN.

BITUMEN COATED REEDS - HELD TOGETHER WITH THE HELP OF IRON NAILS. HISTORICALLY IT WAS A WAR CANOE.

THE KELEK IS A TRADITIONAL VESSEL USED FOR DOWNSTREAM TRANSPORTATION ON THE TIGRIS. IT IS A RAFT MADE OF THE STRONGEST REED OR WOOD SUPPORTED BY INFLATED GOAT SKINS. KELEKS HAS THE CAPACITY TO CARRY HEAVY LOADS (UP TO 35 TONS), AND CAN TAKE AS LITTLE AS A FEW DAYS TO TRAVEL FROM MOSUL TO BAGHDAD. THE LOADED RAFTS FLOAT DOWN THE RIVER WITH THE CURRENT, AND ARE PARTICULARLY USEFUL IN PARTS OF THE RIVER WITH RAPIDS AND SHALLOWS BECAUSE, DESPITE THE LOSS OF SOME SKINS, THE RAFTS STILL KEPT AFLOAT.

THE TARADA IS A LARGE CANOE (UP TO 10 METERS LONG) WITH A POINTED PROW USED BY THE MARSH ARABS. IT IS TRADITIONALLY MADE FROM



33// Guffa



34// Tarada

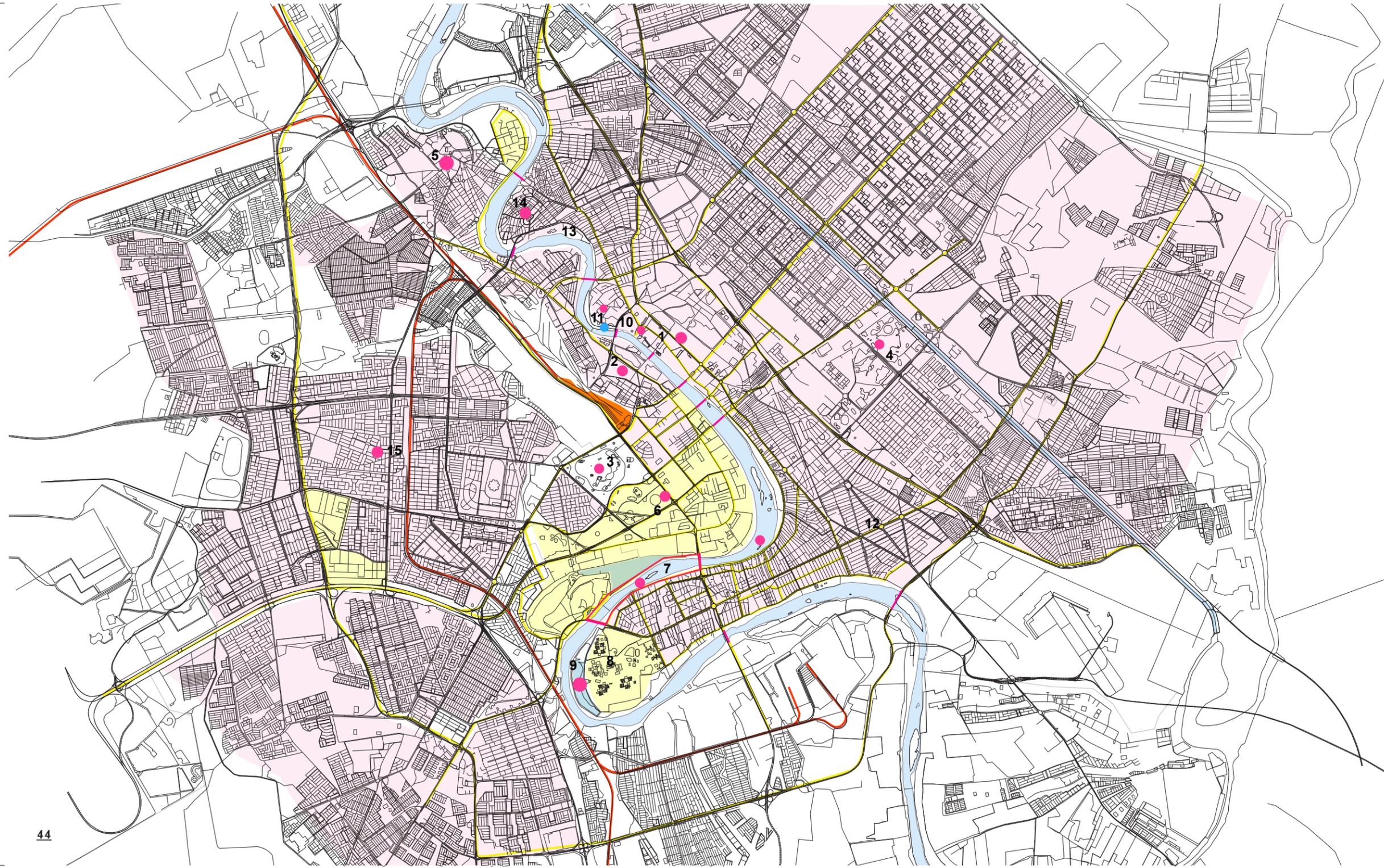


35// Kalak

# 04

*Analysis*

# 04.1 CITY DENSITY MAP OF BAGHDAD



- 1 RUSafa OLD SOUQS
- 2 KARKH OLD SOUQS
- 3 Zoo/ ZAWRA PARK
- 4 AMUSEMENT PARK 'LAND OF SINDBAND'
- 5 KADHIMIYAH HOLY SHRINE
- 6 GREENZONE WITH SEVERAL MONUMENTS AND PALACES
- 7 ABU NUMAS RIVERSIDE WALK (PROJECT SITE)
- 8 UNIVERSITY OF BAGHDAD
- 9 JADRIYA LAKE
- 10 MUSTANSARIYA
- 11 FERRY TERMINAL MUTANABBI
- 12 NATIONAL THEATER
- 13 ADHIMIYAH CORNICHE + AMUSEMENT PARK
- 14 ABU HANIFE MOSQUE
- 15 SEVERAL SHOPPING MALLS

### BUILT UP AREAS

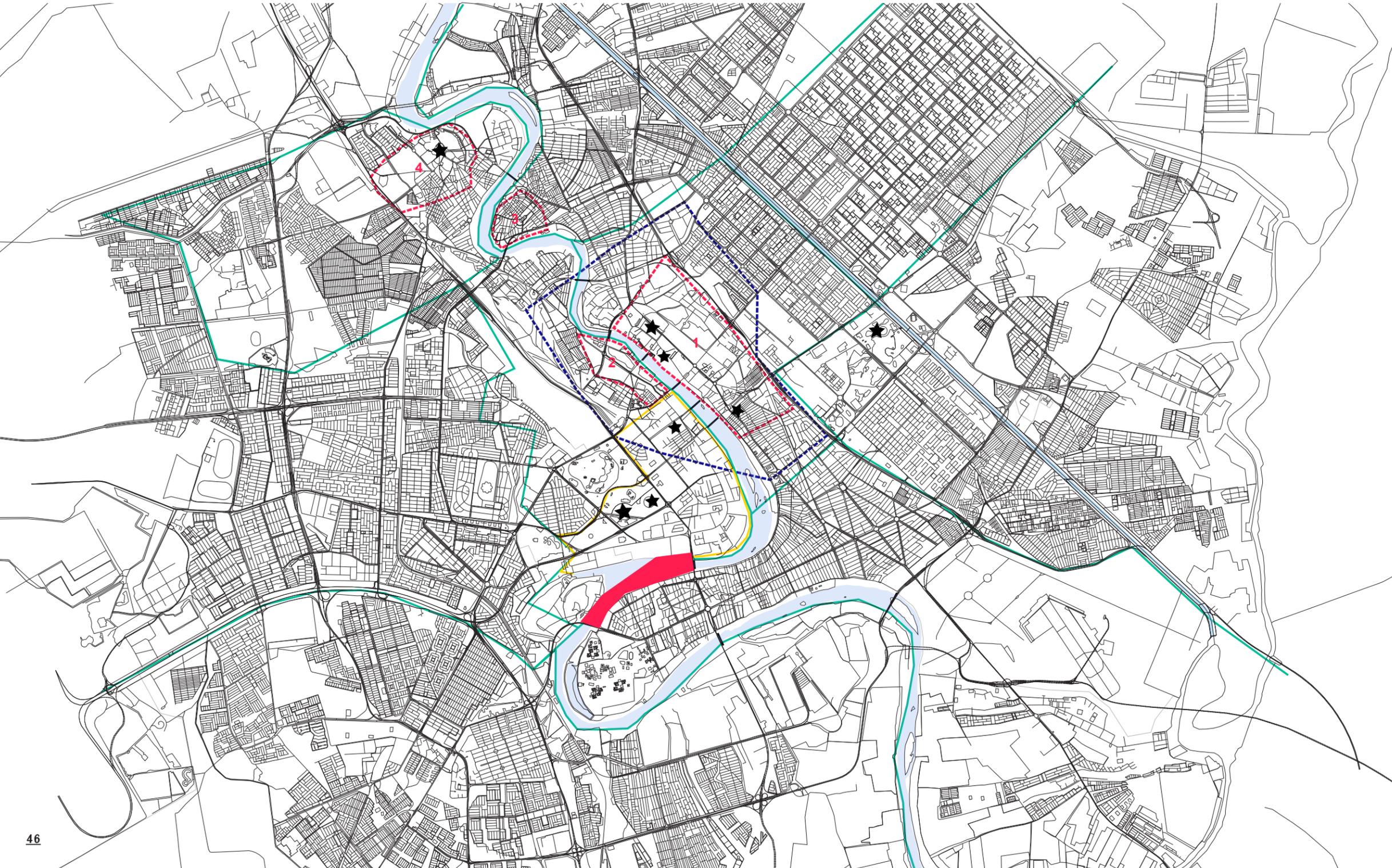
- DENSE AREA
- SPARE TO MODERATE

### TRANSPORTATION

- MAIN ROADS
- RAILROAD
- TRAINSTATION
- FERRY TERMINAL

### TOURIST ATTRACTIONS

- TOURIST ATTRACTIONS
- PROJECT SITE



..... CITY CENTER

..... HISTORIC TOWN

———— DISTRICTS

———— GREEN ZONE

★ ★ ★ LANDMARKS AND MONUMENTS

■ PROJECT SITE

- 1 RUSAFA
- 2 KARKH
- 3 ADHIMIYAH
- 4 KADHIMIYAH

URBAN HERITAGE IN BAGHDAD

ARCHITECTURALLY, THERE ARE DIFFERENT PATTERNS: TRADITIONAL PRE-1918 ONES OF VERNACULAR DESIGN WHICH DESTROYED URBAN HERITAGE; COLONIAL PATTERNS FROM THE 1920S BRITISH OCCUPATION, AND LATER MODERN TYPES. MOREOVER, THERE ARE ALSO DIFFERENT BUILDING TYPES SUCH AS: HOUSES, MOSQUES, TOMBS, COMMERCIAL STORAGE OR KHANS, TRADITIONAL MARKETS OR SUQS, PUBLIC HOT BATHS OR HAMMAMS, CHURCHES, SCHOOLS, SHOPS AND CAFES.

BAGHDAD POSSESSES DISTINCTIVE CULTURAL PATRIMONY, WHICH IS HISTORICALLY AND RELIGIOUSLY CONCENTRATED MOSTLY IN THE HEART OF THE CITY CENTRE ON BOTH SIDES OF THE TIGRIS RIVER IN THE AREA BETWEEN BAB AL-MUDTHAM BRIDGE IN THE NORTH AND AL-JUMHORIA TO THE SOUTH, AND BETWEEN GHAZI STREET TO THE EAST AND HAIFA STREET TO THE WEST, WITH A HIGH CONCENTRATION IN THE RUSAFA.

THE URBAN FABRIC OF THE TRADITIONAL AREAS CHARACTERISED BY THE OLD FABRIC IS GENERALLY ORGANIC AND COMPACT, NARROW FOOTPATHS AND LOWER SKYLINES (1-2 STORIES). IT IS ALSO DISTINGUISHED BY ITS FACADES, METHODS OF LAYOUT AND BUILDING MATERIALS. IT CONTAINS A LARGE NUMBER OF OLD BUILDINGS AND SMALL HOUSES. THE LAND USE OF THE TRADITIONAL AREAS IS RESIDENTIAL, COMMERCIAL, INDUSTRIAL, AND FOR PUBLIC SERVICES.

THE MODERN CITY OF BAGHDAD CONTAINS FOUR AREAS OF HISTORIC OR ARCHITECTURAL INTEREST: RUSAFA, KARKH, AADHAMIYA AND KADHIMIYA. IN ALL, THEY COVER SOME SIX SQUARE KILOMETRES AND CONSIST OF SEVENTY-FIVE TRADITIONAL NEIGHBOURHOODS.

THEY ARE SURROUNDED BY MODERN URBAN GROWTH, AND PHYSICALLY WELL-DEFINED BY THEIR CHARACTERISTIC URBAN FABRIC AND BY THE ROADS WHICH HAVE REPLACED THEIR OLD WALLS. THESE HISTORIC CORES ARE ESSENTIALLY THE URBAN EXPRESSION OF A PAST TRADITIONAL AGE (IHSAN FETHI, 1977).

URBAN HERITAGE IN BAGHDAD



36//



37//



38//



39//

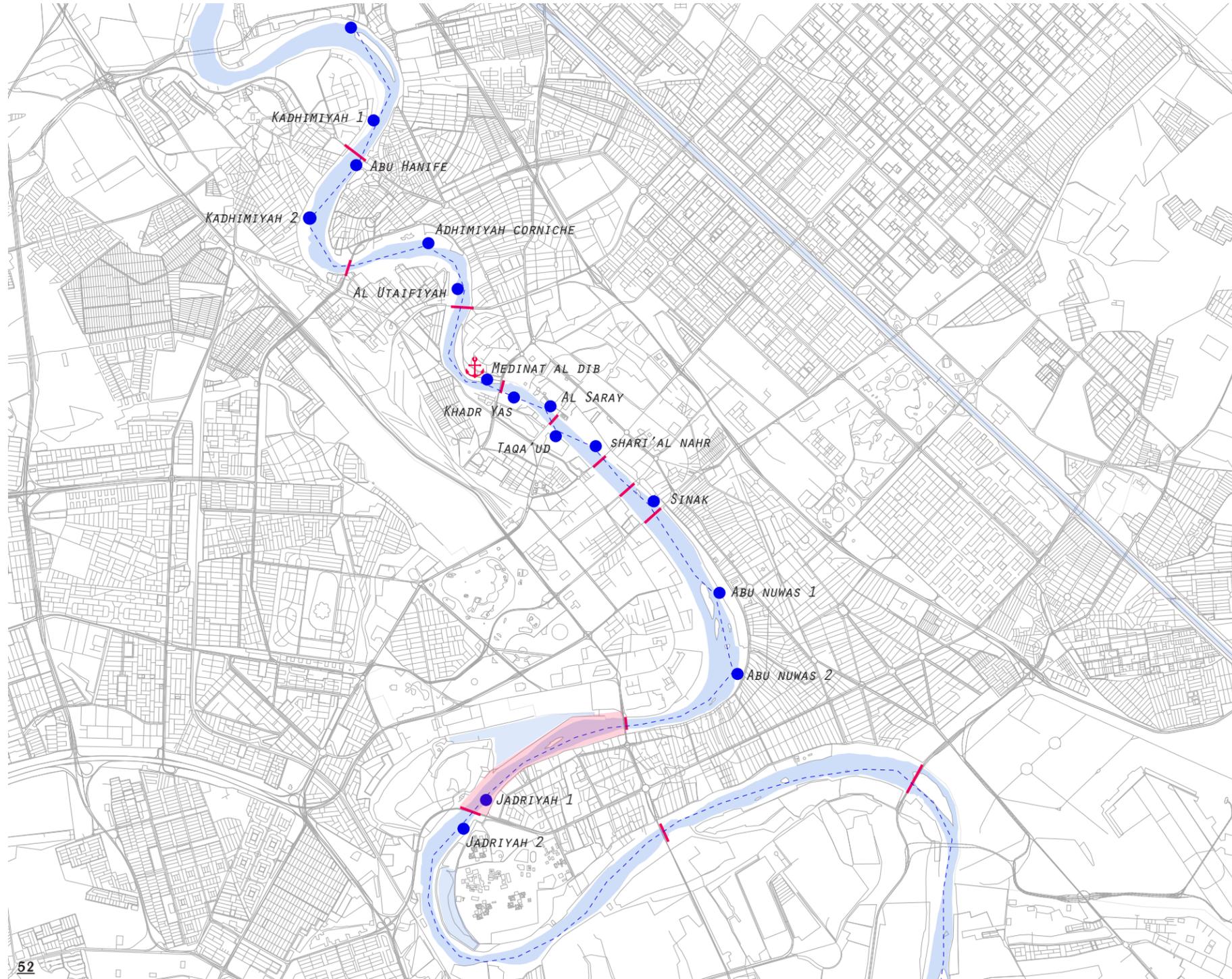
THE NATURAL ENVIRONMENT OF THE TIGRIS RIVER, WHERE THREE OF THE HISTORIC AREAS, RUSAFA, KARKH AND AADHAMIYA, ARE LOCATED, INCLUDES A NUMBER OF MONUMENTAL BUILDINGS, MOSQUES, AND TRADITIONAL MARKETS PLUS SOME PRIVATE HOUSING UNITS. THE RIVERFRONT IS CONTINUOUS BUT IS DIVIDED INTO SEPARATE AREAS OF VARIOUS ARCHITECTURAL FEATURES. HOWEVER, THESE HISTORIC AREAS HAVE FAILED TO INTEGRATE THE SCENE AT THE RIVERFRONT WITH THE GENERAL URBAN FABRIC IN THE CENTRE, BECAUSE OF THE LACK OF OPENNESS TOWARD THE RIVER. MANY PEOPLE PREFER TO RETURN TO THE HISTORIC AREAS TO ATTEND MOSQUES IN THE NEIGHBOURHOODS IN WHICH MANY OF THEM GREW UP. VARIOUS RELIGIOUS ACTIVITIES, ESPECIALLY RITUAL CEREMONIES,

ARE STILL ADHERED TO BY INHABITANTS. THE VITALITY OF FESTIVALS AND RITUALS IN THESE AREAS IS MAINLY ROOTED IN THE RELIGIOUS BELIEF OF THE SOCIETY.



UNIVERSITY STREET, JADRIYA NEAR PROJECT SITE





TIGRIS FERRY BOAT PLAN

-  BAGHDAD MARINE STATION
-  BOAT STOPS (WITH BOAT DOCKS)
-  FERRY/BOAT PATH
-  BRIDGES
-  PROJECT SITE

## 04.4 Tigris River ferry plan

THE TIGRIS RIVER OCCUPIES A SPECIAL PLACE IN THE HISTORY OF THE CITY OF BAGHDAD, WHERE THE RIVER IS CLOSELY LINKED TO THE URBAN FABRIC AND THE WATERFRONT IS ONE OF THE MOST IMPORTANT COMPONENTS OF THE NATURAL LANDSCAPE OF THIS FABRIC AND A POINT OF STABILITY WHICH GIVES THE CITY ITS DISTINCTIVE CHARACTER. THE RIVER IS BASICALLY THE CENTRAL NERVE OF THE CITY AND AN ESSENTIAL HUB OF BAGHDAD WHERE BOTH SIDES GROW ALMOST EQUALLY AROUND IT.

DOCKS AND BOATS AND FLOATING RESTAURANTS," HE SAID. A BOAT WORKER SAID FOUR LARGE PASSENGER VESSELS WERE IN OPERATION, BUT THERE WERE PLANS FOR MORE, INCLUDING ONE FOR WEDDINGS. AMER SAID 16 RIVERSIDE DOCKS HAD BEEN REHABILITATED.

"THIS IS ONLY THE BEGINNING... WE WILL CREATE A RIVER FULL OF



41// Ferry Terminal

ACTIVITIES ON THE RIVER



42// a ride on the river



43// rowing



44// swimming



45// praying and hoping



46// fishing



46// restaurants at the waterfront

04.5 ACTIVITIES AT THE RIVERFRONT



47// literature



48// painting



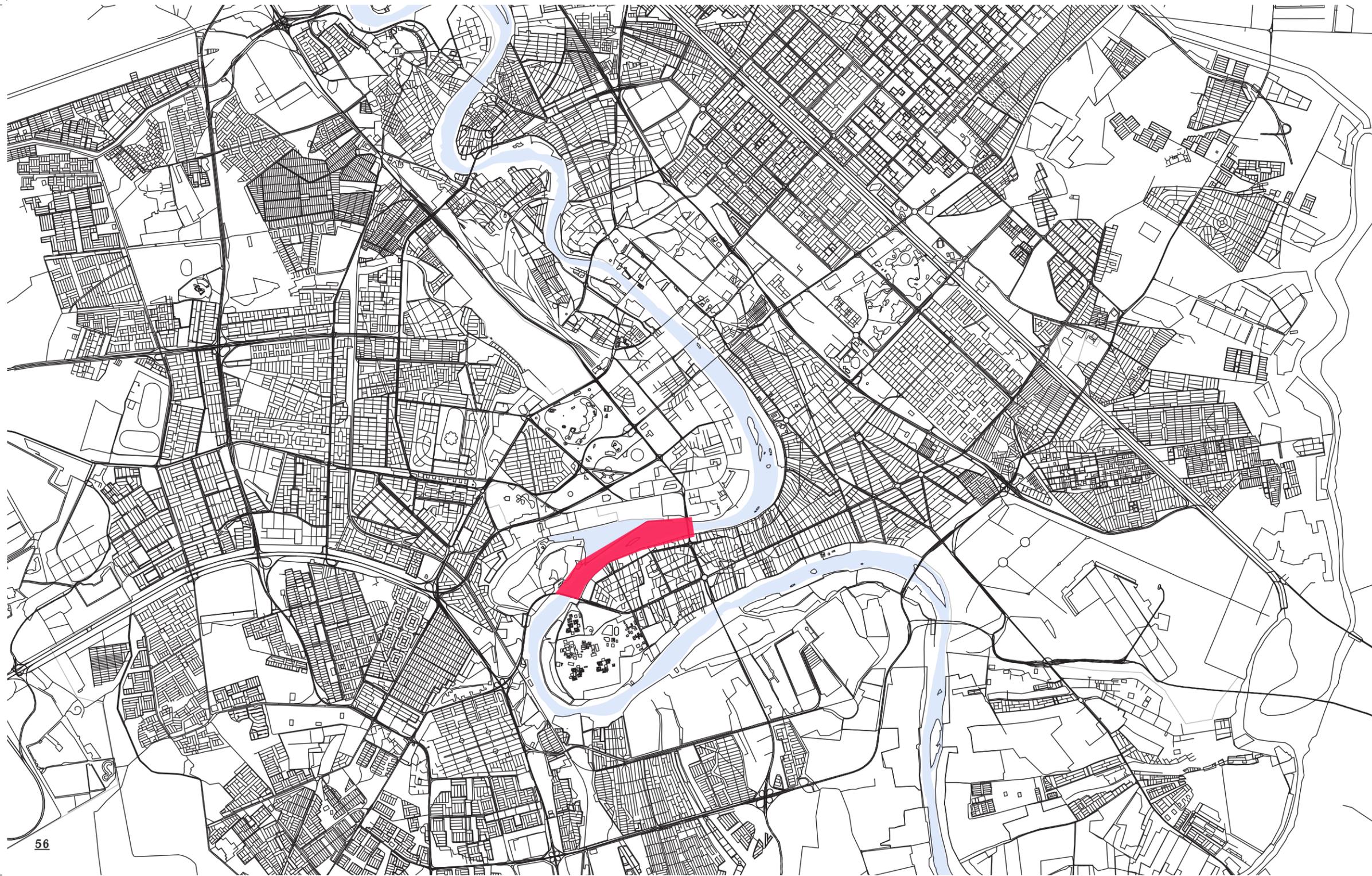
49// "City of peace" festivals



50//

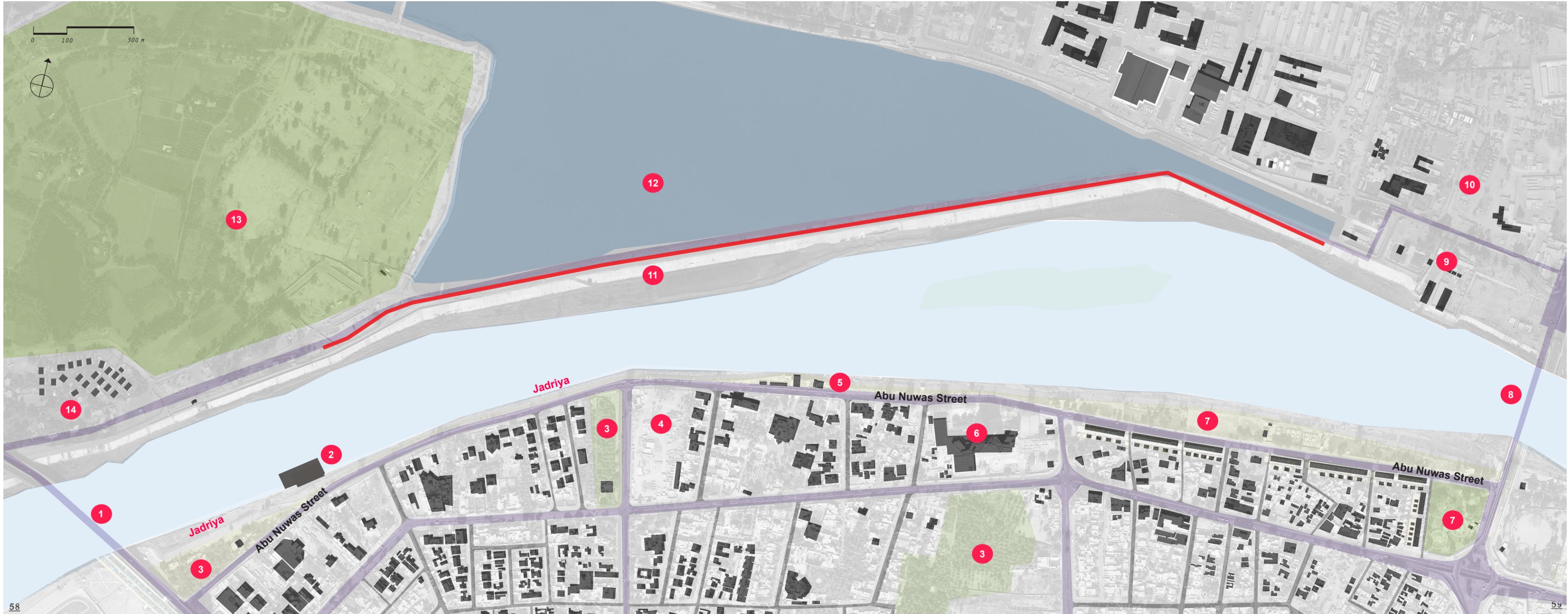
BACK AT THE TIMES THERE WERE GATHERINGS ON THE RIVER BANKS BOTH IN THE EVENINGS AND TO MAKE USE OF THE SHADE. THE CAFES LOCATED ON THE RIVER BANKS WERE MAIN AREAS FOR MEETING. IN THE AFTERNOON, PEOPLE AND FAMILIES USED TO BRING A NUMBER OF MATS AND LAY THEM ON THE GROUND, THEN SIT AND CHAT AND HAVE A PICNIC. THE RIVER BANKS WERE VERY GREEN. THE RIVER HAS BEEN USED TO SOOTHE THE HIGH TEMPERATURES IN SUMMER WHEN WOMEN USED TO THROW WATER ON THEIR BODIES. THERE HAS BEEN AN INCREASING DIFFICULTY IN ENVIRONMENTAL ADJUSTMENT TO BOTH THE COLD AND HOT WEATHER DUE TO THE USE OF MODERN AIR-CONDITIONING DEVICES IN HOMES. THERE IS DIFFICULTY IN REVIVING THE OLD WAY OF LIFE BECAUSE THE STANDARDS HAVE CHANGED AND THE REGION HAS LOST ITS ORIGINAL INHABITANTS. SUCH COLLECTIVE RITUAL ACTIVITIES CONVEY AN INTIMATE SENSE OF BELONGING TO THESE AREAS. NOW MANY IRAQIS ARE COMING BACK TO THE RIVERFRONT.

THERE ARE FESTIVALS SUCH AS THE 'BAGHDAD CITY OF PEACE CARNIVAL - ON THE WORLD PEACE DAY. OR SEVERAL LITERATURE EVENTS WITH A BOOK BAZAAR.



04.6 PROJECT AREA - THE TIGRIS RIVERSIDE ABU NUWAS - JADRIYA

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EASTBANK

- 1 JADRIYA BRIDGE (230M LONG OVER THE RIVER)
- 2 FLOATING RESTAURANT
- 3 PALM ORCHARDS
- 4 SITE OF A PLANNED CENTRAL BANK OF IRAQ
- 5 CAFE AND PARKING
- 6 HOTEL BABYLON (5 STAR HOTEL)
- 7 PARK / GARDEN



51// JADRIYA BRIDGE

WESTBANK

- 8 14TH JULY BRIDGE
- 9 US-CONTAINERS AND LEFTOVERS
- 10 US - EMBASSY (GREENZONE)
- 11 T-WALL
- 12 UM KHANZIRA LAKE
- 13 JAZIRAT UM KHANZAZIR - UM KHANAZIR ISLAND (AGRICULTURE)
- 14 HOLIDAY HOUSES



52// 14TH TAMUZ BRIDGE



53//



54//

THE PROJECT AREA IS SITUATED IN THE SOUTH OF BAGHDAD. HALF OF THE WESTBANK IS COMPLETELY CLOSED FOR THE PUBLIC WHO HAVE NO BADGE TO ENTER. T-WALLS ARE ALSO HERE INSTALLED ON THE RIVERSIDEFRONT. THE EASTBANK, ON THE OTHER SIDE IS OPEN FOR THE PUBLIC

THIS AREA IS CHARACTERIZED BY MAX 2-3 STORY RESIDENTIAL HOUSING. IT IS COMMONLY NOT VERY HIGH. THE HOTEL BABYLON WARWICK IS THE ONLY HIGH-RISE BUILDING IN THIS AREA.

THE AREA USED TO BE A TOURISTIC DESTINATION. NEAR THE JADRIYA LAKE THEY RECENTLY OPENED A TOURIST CENTER. PEOPLE STILL LIKE TO GO TO THE RIVER BUT THERE ARE NOT MANY ATTRACTIONS OR VARIETY.

ON THE PROJECT SITE A FLOATING RESTAURANT (PIC.54) IS ALSO RECENTLY BUILT. IT IS VERY BUSY AND ALWAYS BOOKED, OUT. HOWEVER THE ACCESS OF THIS SHIP IS DONE BY 2 RAMPS GOING DOWN, IN A SIMPLE STRUCTURE, WHICH IS ALSO AN INDICATION THAT THE RIVERBANKS ARE SEPERATED AND NOT INTEGRATED WITH THE STREET.

THIS PROBLEMS GOES ALL ALONG THE PROJECT SITE. IT IS HIGH AND STEEP. AND DOESNT HAVE PUBLIC

SPACES. A PROMENADE BY THE RIVER AS SUCH DOESNT EXIST. THE ABU NUWAS STREET IS MORE FOR CARS AS FOR PEDESTRIAN. ALSO THE PEDESTRIAN SIDEWAYS GETTING SMALLER, WHICH MAKES IT VERY UNSAFE TO WALK .

CHILDREN PLAYING ON THE RUINED STREET, WHERE THEY ARE SURROUNDED BY BULK TRASH AND GARBAGE. THEY DON'T HAVE MUCH GREEN SPACES OR PLAYGROUNDS TO PLAY ON. THE ONES THEY HAVE ARE POORLY EQUIPPED. ONE OR TWO SLINGS AND A SEE SAW AND THAT WAS IT.

NEAR THE 14TH OF JULY BRIDGE THE RIVERFRONT HAS UNTOUCHED LAND WHICH CAN BE USED VERY GOOD FOR RECREATIONAL. ONE BASKETBALL CAGE IS BEING PLACED THERE, SURROUNDED BY THE UNTOUCHED WILD NATURE WHICH PREVENTS THE ACCESS TO THE RIVER. THEY BUILD FENCES AROUND IT SO THAT THIS WILD NATURE KEPT ORGANIZED OUTSIDE OF THE BASKETBALL CAGE. BUT I ASSUME THAT IS INTENTIONAL, AS ON THE OPPOSITE SIDE THERE ARE GOVERMENTAL BUILDINGS AND THEY WANT TO KEEP UNWANTED OBSERVERS AWAY.





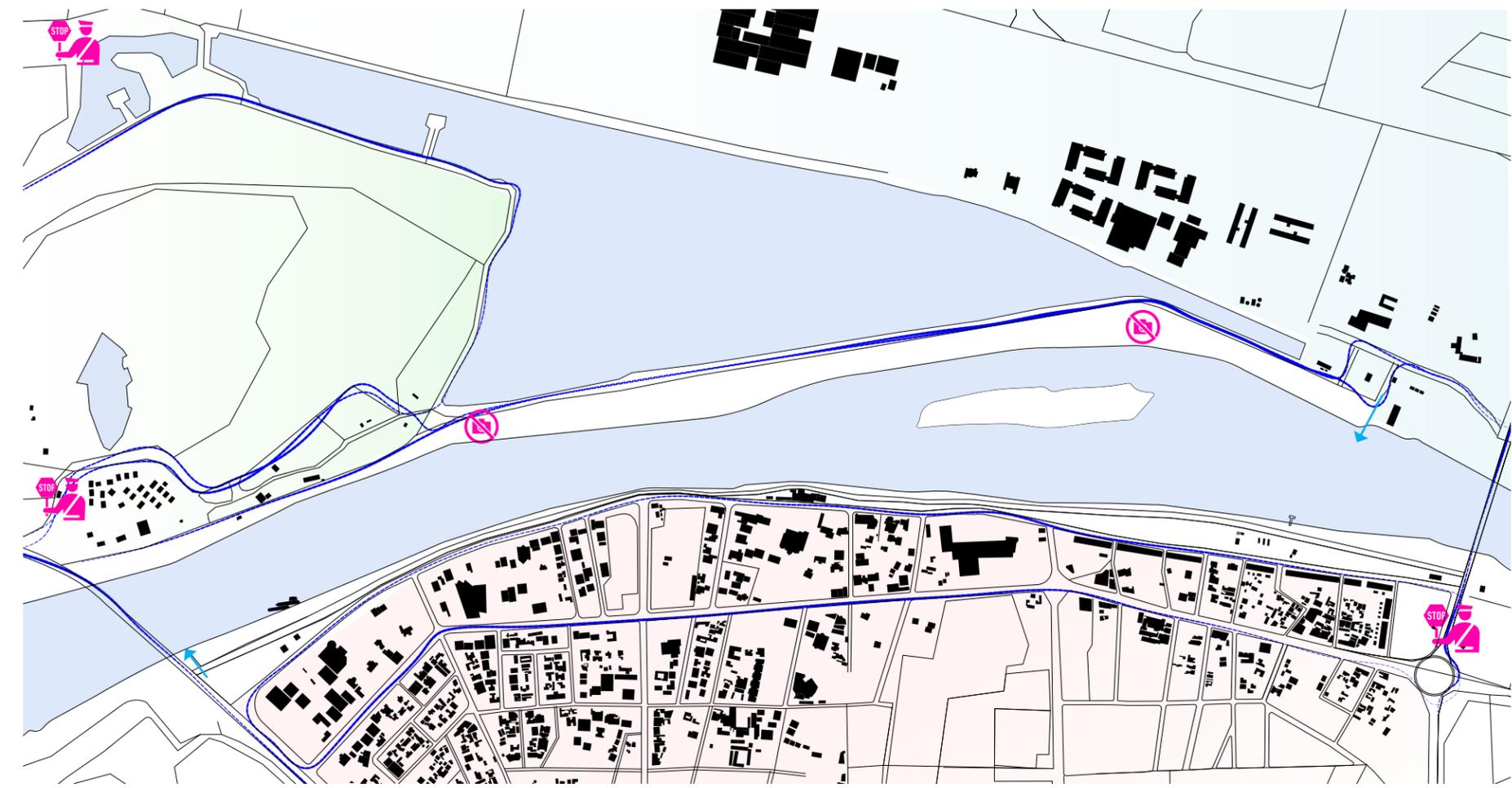
56// river police



57// Babylon Hotel



58// T- Walls on the westbank

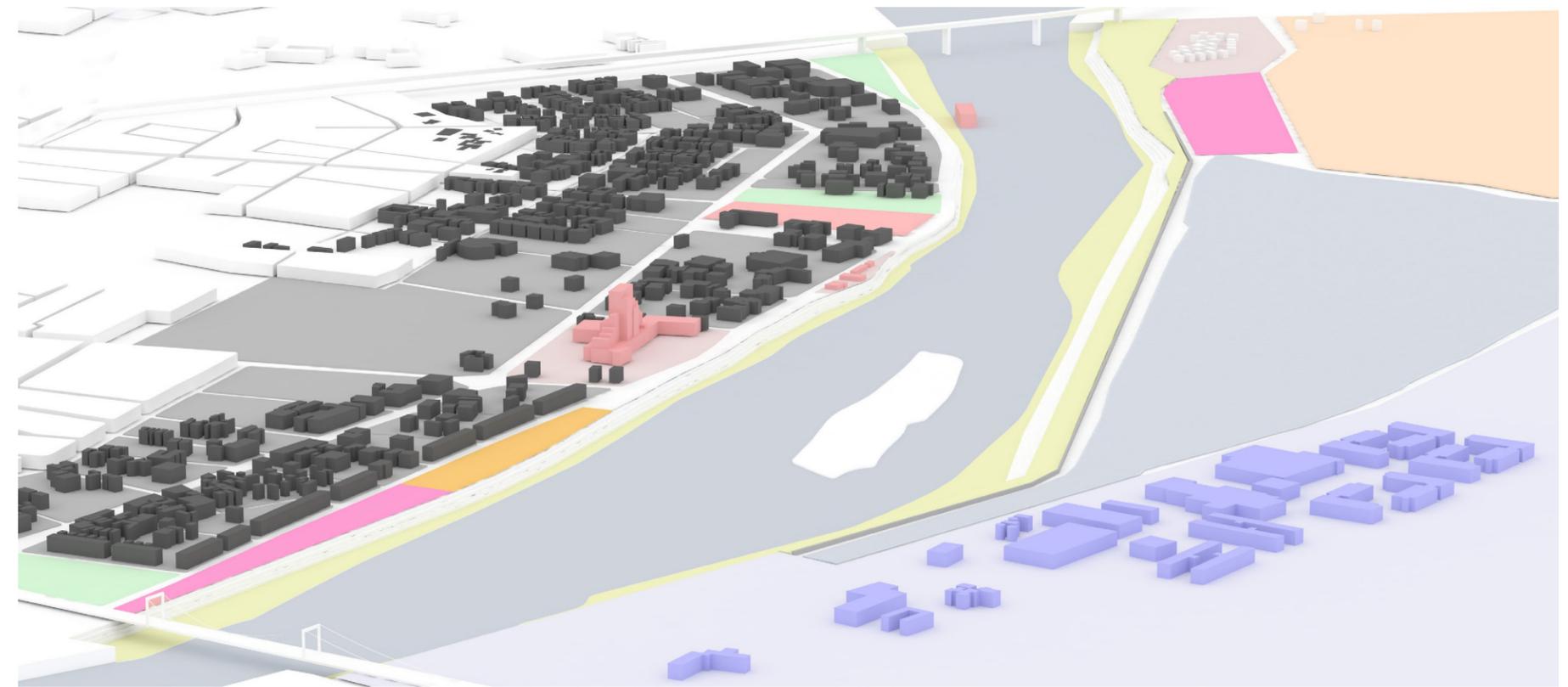


- PUBLIC
- GREENZONE (ENTRANCE ONLY WITH A BADGE)
- HALF PUBLIC DUE TO THE GREENZONE
- INFRASTRUCTURE, FOR ACCESS
- CHECK POINTS
- BOAT RELEASE
- NO PICTURES ALLOWED



59// Karradah, view from the Babylon hotel

## 04.6.2 LANDUSE



- RESIDENTIAL
- UNTAPPED SPACE
- HOSPITALITY
- GOVERNMENTAL
- UNUSED RIVERBANKS
- LEISURE ACTIVITY
- GREEN UNTAPPED



60// Karradah, view from the Babylon hotel on to the 14th July bridge

POTENTIAL SPACE FOR FURTHER INTERVENTIONS OF THE WATER-FRONT

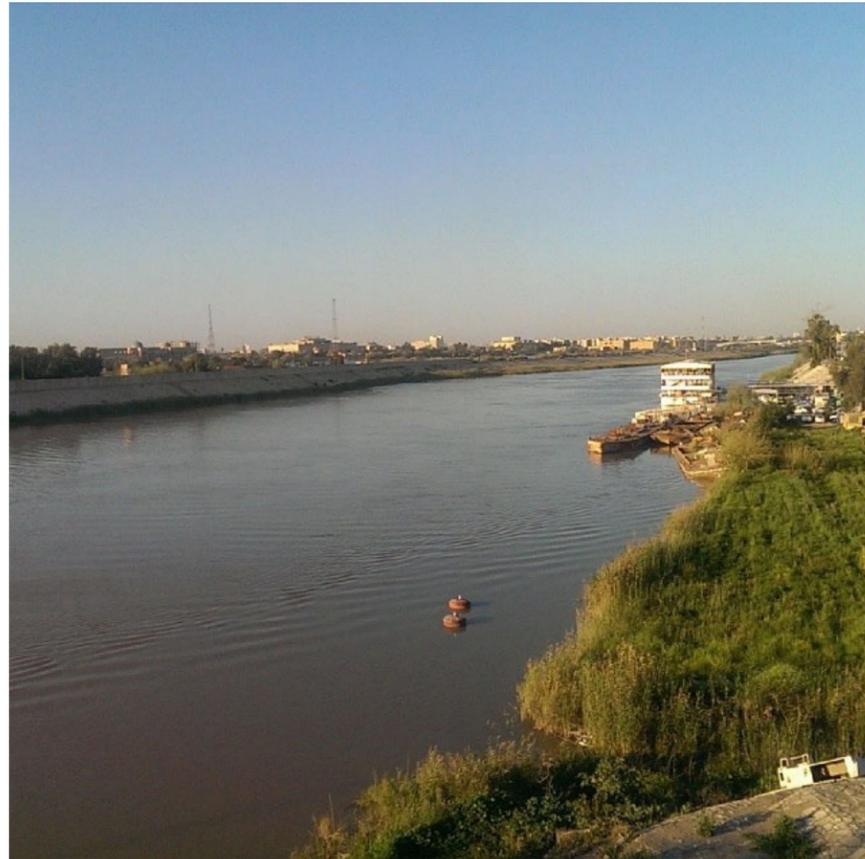


## 04.10 SITUATIONS AT THE RIVER FRONT

- POLLUTED RIVERBANKS,
- WEED GROWING
- NO CONNECTIVITY
- NO ACCESS TO THE WESTBANK
- NOT VERY WELCOMING TO JUST SIT AND RELAX
- NO PUBLIC SPACES
- COMPLETE UNUSED POTENTIAL SPACE
- NO SPACES FOR CHILDREN



61// polluted waterfronts and not nice sitting possibilities



62// left to the nature, and old shipwrecks, unused space



63//



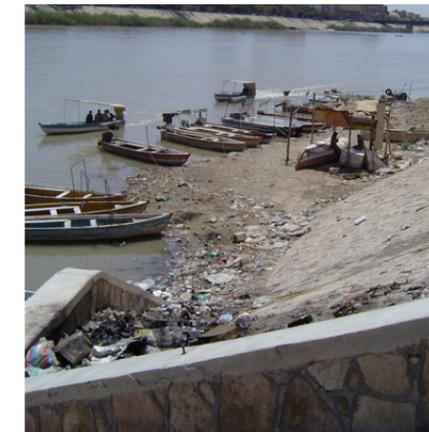
64// less of access and no integration with the river



65// temporary solutions for access, and docking systems



66// no proper docking system and boat stops



67// polluted waterfronts



68// not very welcoming



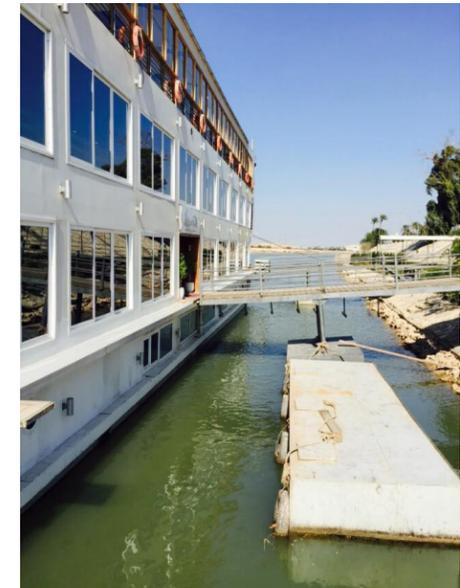
*69// polluted streets, and no playgrounds for children, no safety*



*70// unorganized traffic, not enough space for pedestrian sidewalks, also huge spaces which are unused*



*71// floating restaurant, which was built new. effort for bringing life back on the river*



*72// but still, not clever solutions*

CENTRAL BANK OF IRAQ - CBI HEADQUARTER ON PROJECT SITE

90 000 sqm (GIA)  
170M HEIGHT TOWER

RISING FROM THE SLOPING BANKS OF THE TIGRIS RIVER IN BAGHDAD, THE DESIGN FOR THE NEW HEADQUARTERS OF THE CENTRAL BANK OF IRAQ (CBI) CONVEYS THE CORE VALUES AT THE HEART OF THE INSTITUTION: SOLIDITY, STABILITY AND SUSTAINABILITY.



73// Zaha Hadid Architects



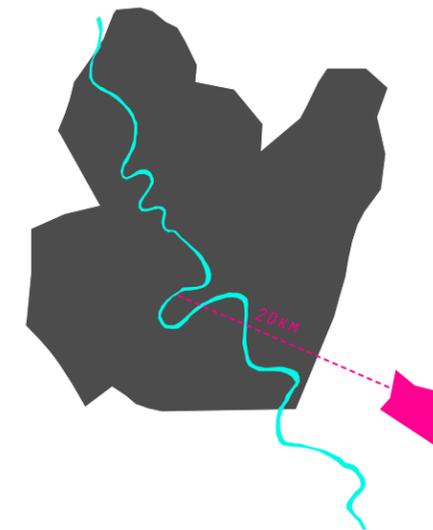
BISMAYA NEW CITY - NATIONAL HOUSING PROJECT



74// Bismaya Projects

04.11

PROJECTS PLANNED TO BE BUILT



PROJECT NAME	BISMAYAH NEW CITY PROJECT
DEVELOPER	NATIONAL INVESTMENT COMMISSION OF IRAQ (NIC)
DESIGN & CONSTRUCTION	HANWHA ENGINEERING & CONSTRUCTION CORPORATION
CONTRACT AMOUNT	USD 7.75 BILLION
PROJECT LOCATION	10 KM FROM THE CITY OF BAGHDAD
PROJECT DETAIL	- LAND DEVELOPMENT WORKS, AND - HOUSING CONSTRUCTION WORK (100,000 UNITS),

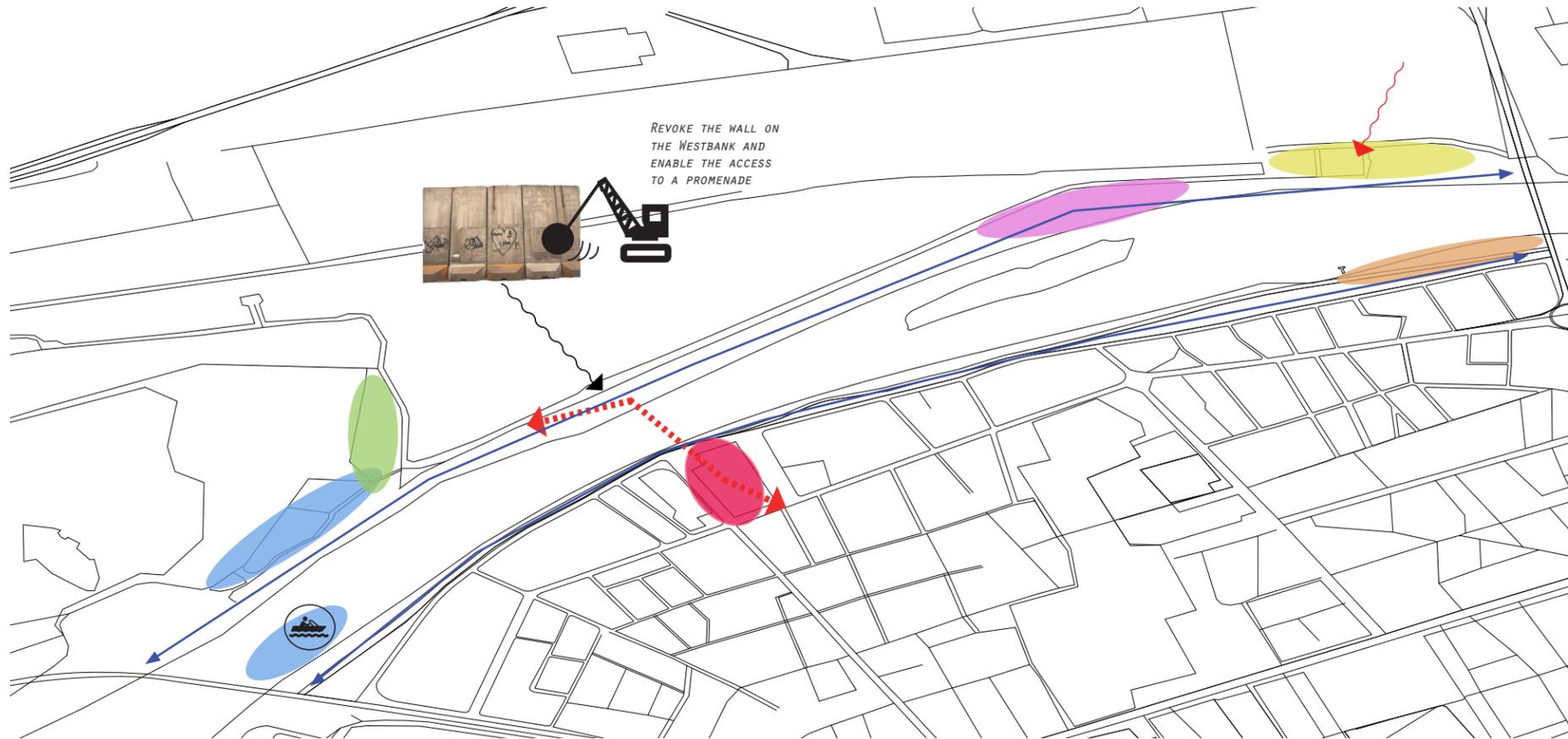
TARGET NUMBER OF POPULATION	600,000
TARGET NUMBER OF HOUSEHOLD	100,000
AREA SIZE	1,830HA

# 05

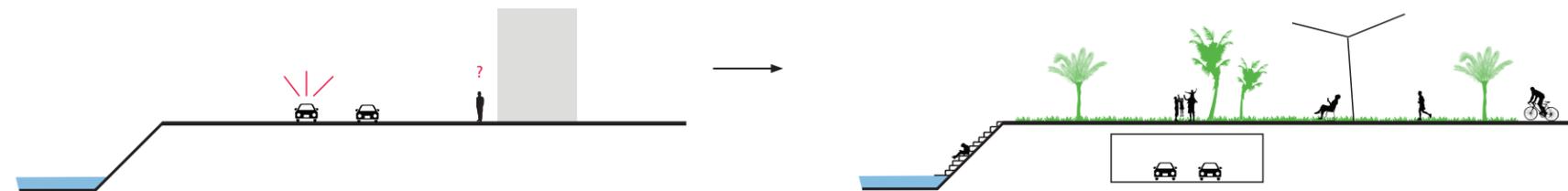
*Project Concept*

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WHAT DOES IT NEED TO REVIVE THE AREA?

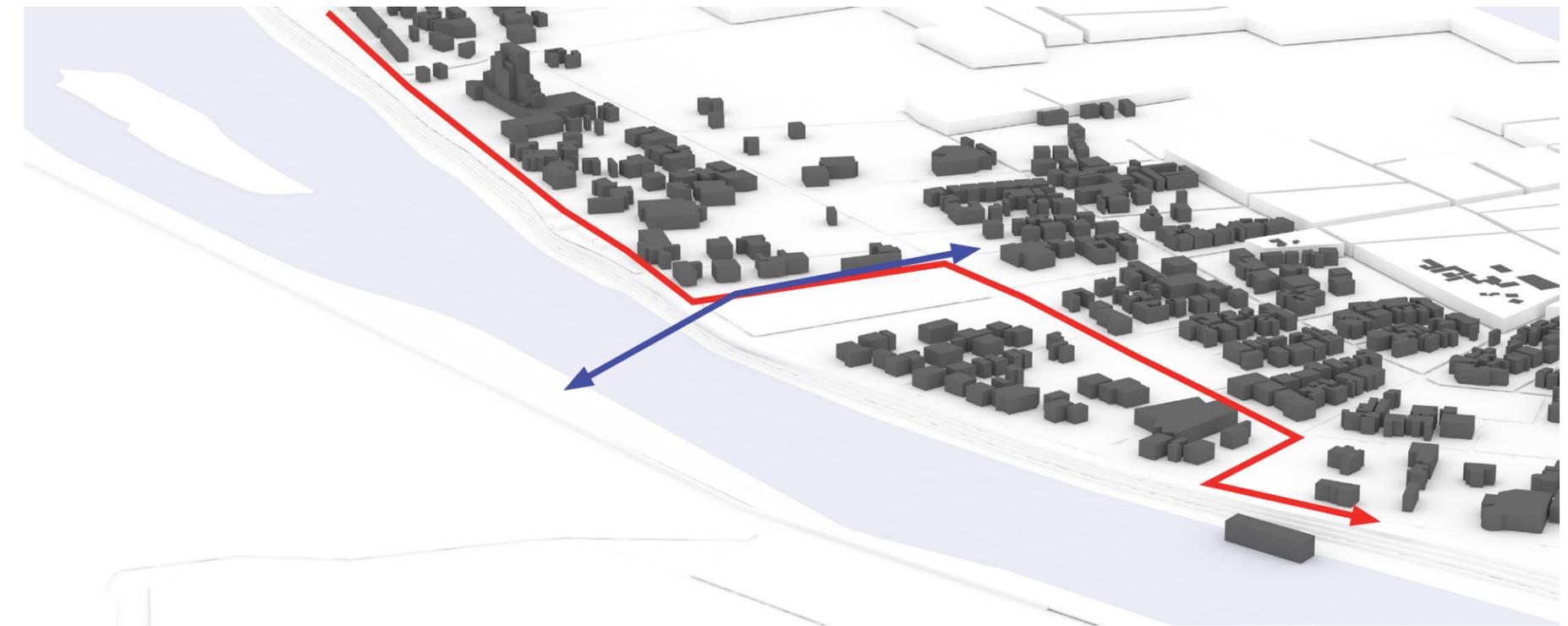


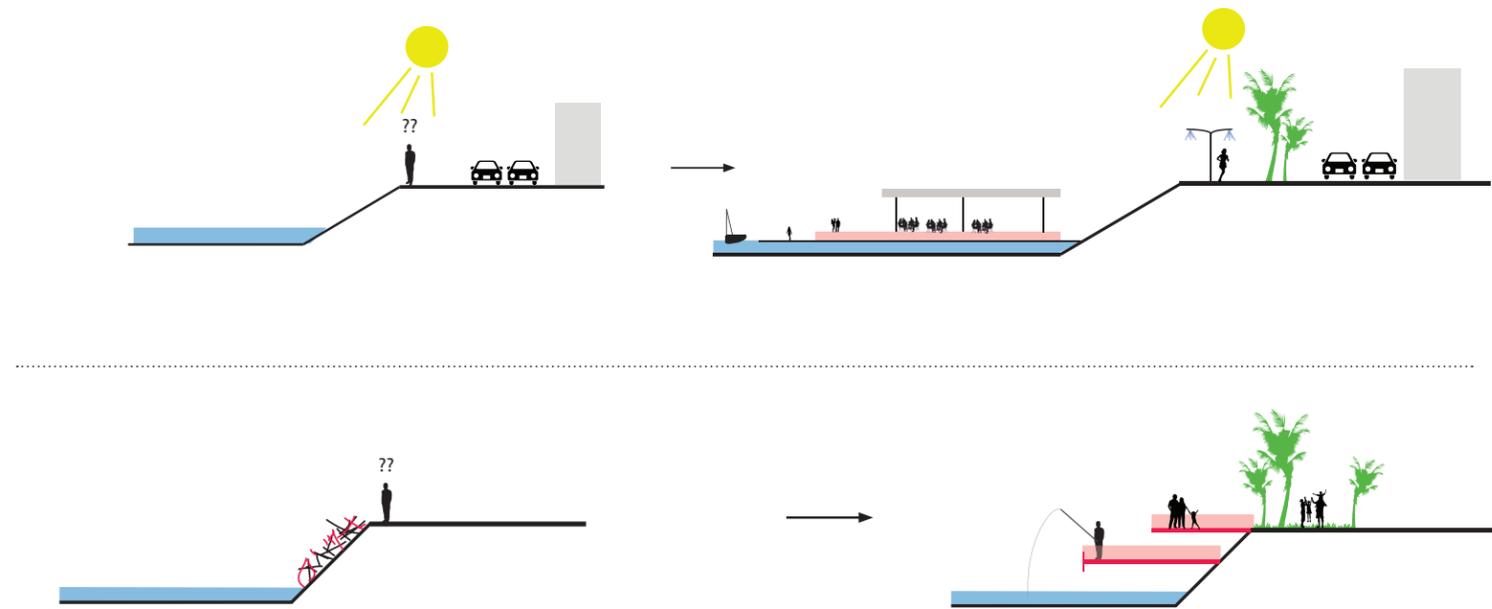
- 1 TIGRIS RIVERSIDE REQUIRES A DIRECTLY ACCESSIBLE PROMENADE ALL ALONG THE AREA
- 2 CONNECTING BOTH RIVERBANKS
- 3 TAKING ADVANTAGE OF POTENTIAL AREA
- 4 OFFERING DIFFERENT VIEWS
- 5 BOAT DOCKS AND BOAT TAXIS WITH A FERRY TERMINAL
- 6 INTEGRATING THE URBAN LIFE WITH THE RIVER
- 7 PUBLIC SPACE
- 8 SPACES FOR CHILDREN
- 9 REVIVE THE OLD ACTIVITIES AND ADD NEW FUNCTIONS
- 10 FISHING SPOT
- 11 GREEN SPACES
- 12 INVOLVING SUSTAINABILITY



1) CONNECTING THE TWO SIDES: BRIDGING.

2) CHOSING THE 'POTENTIAL' AREA FOR THE SOCIAL AXIS AND  
DETOUR THE TRAFFIC IN ORDER TO GAIN A BARRIERFREE ACCESS  
TO THE RIVER AND GAINING SPACE FOR THE 'SOCIAL AXIS'

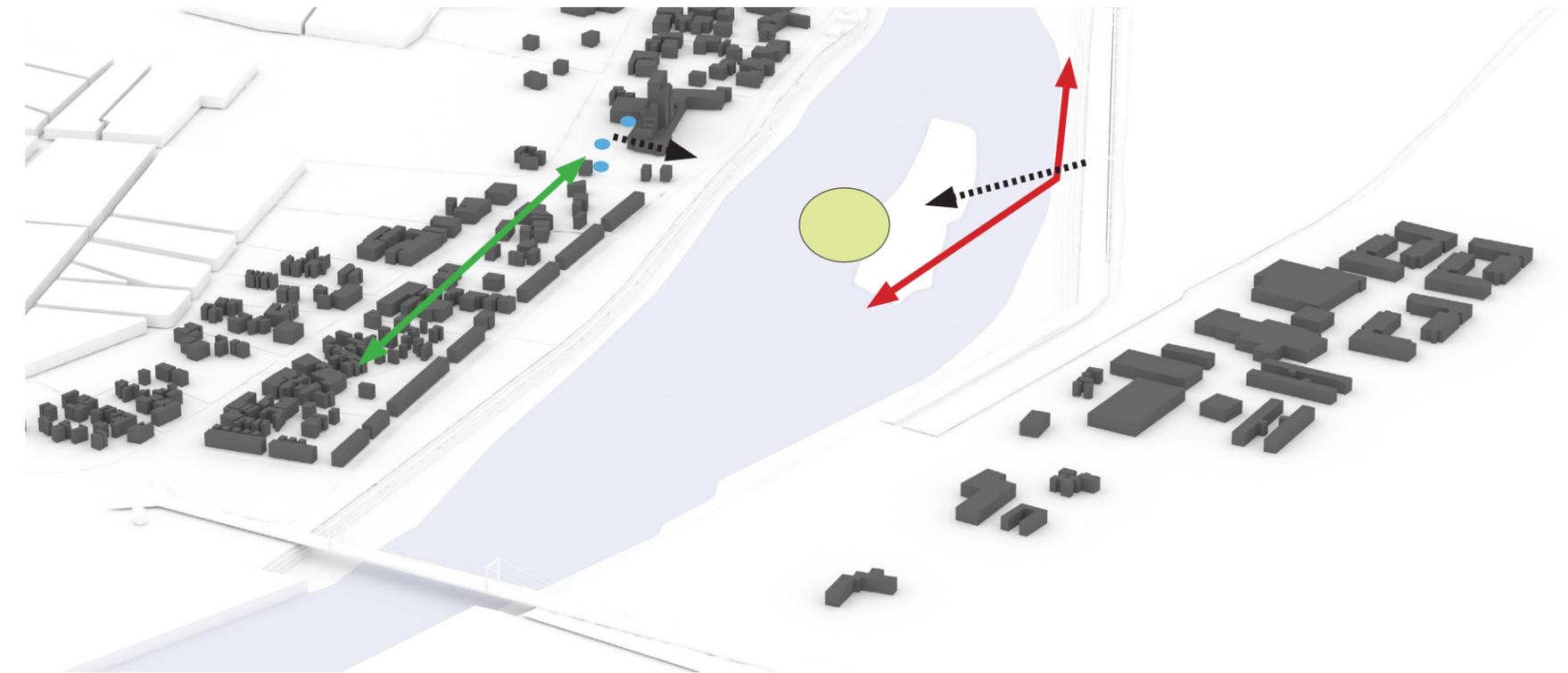




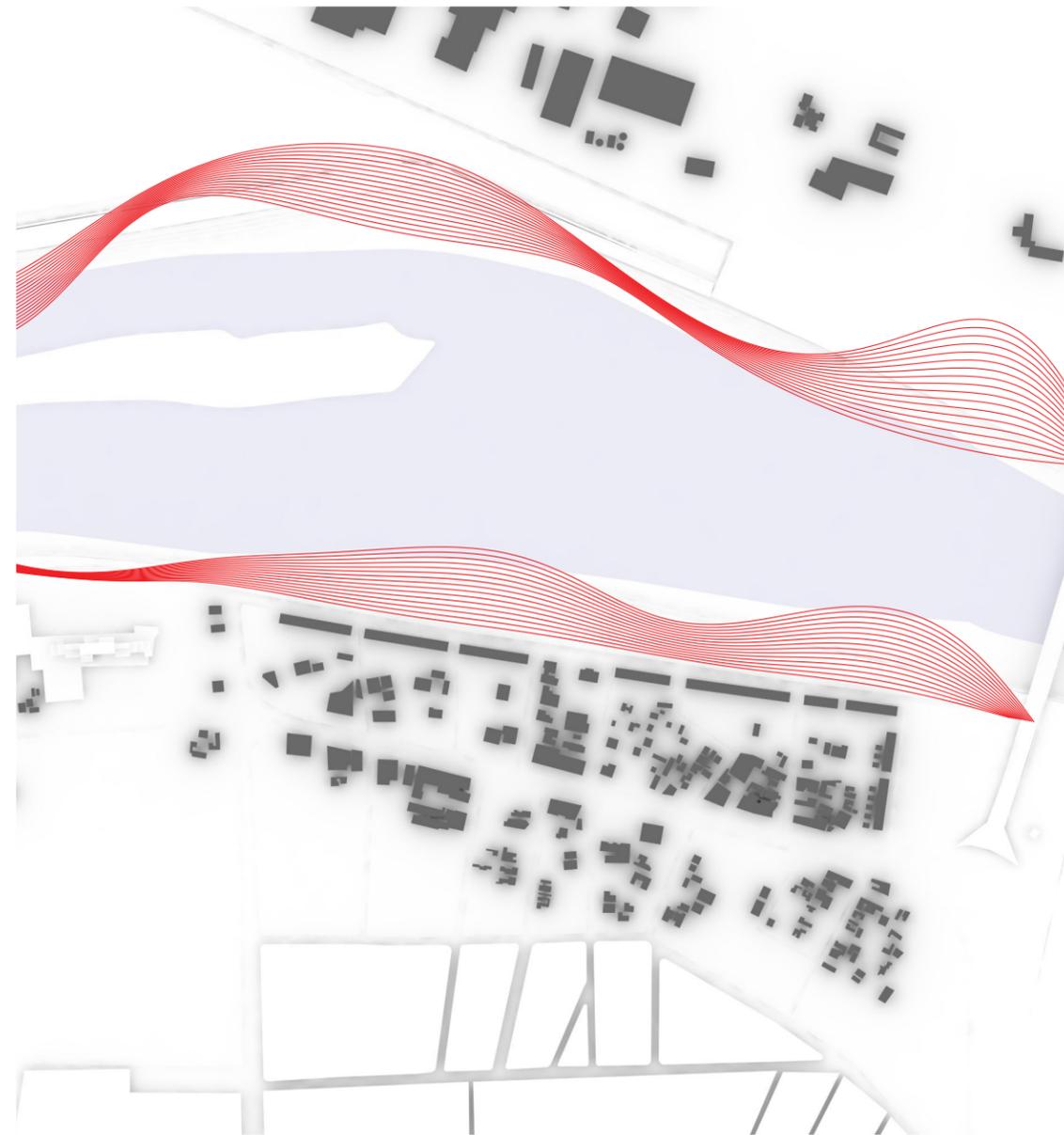
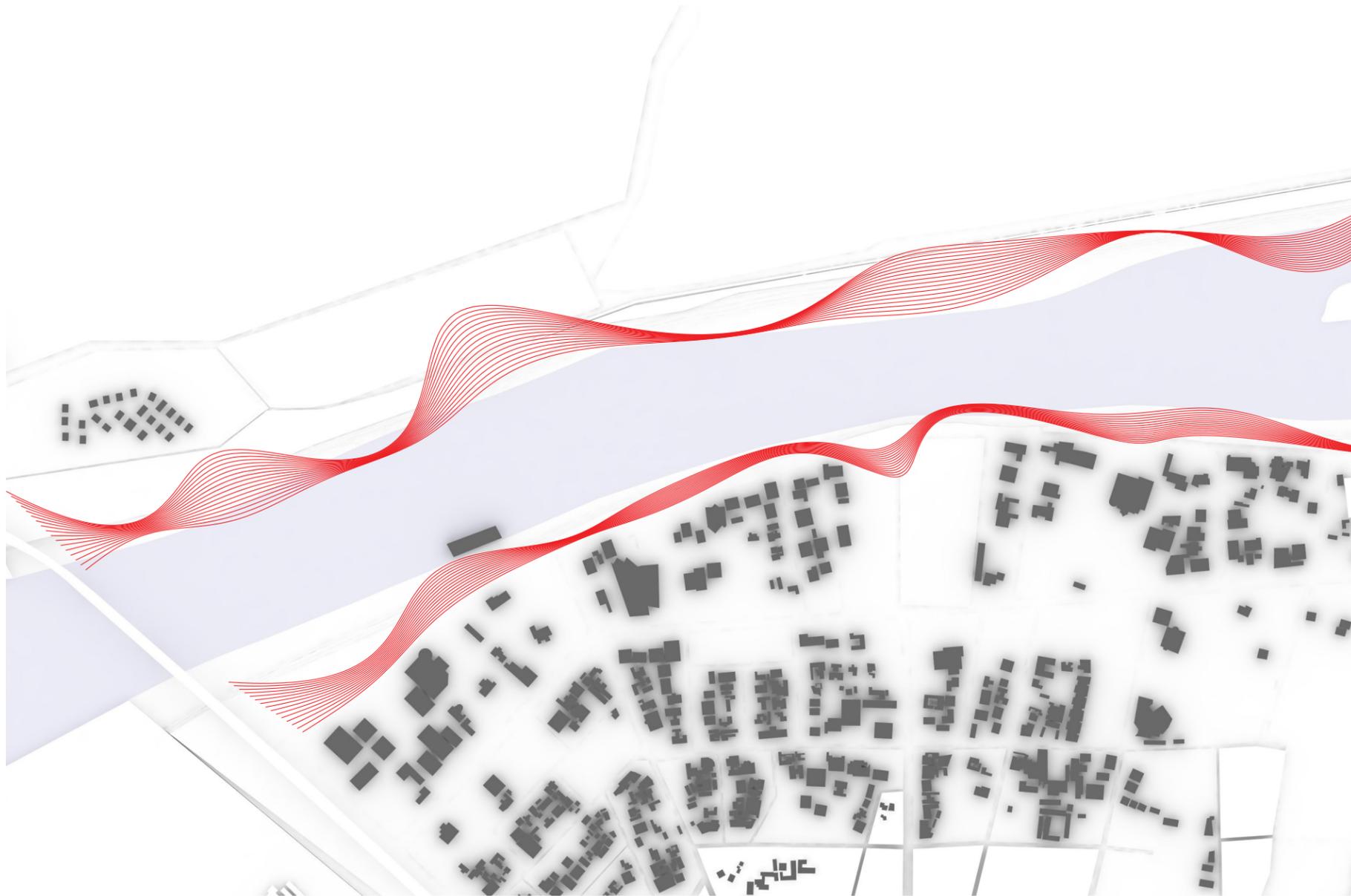
3) PUTTING SHADES ON SEVERAL SPOTS AND SETTING PUBLIC SHOEER SPOTS FOR COOLING DURING THE HOT SUMMER SEASON.

4) GETTING RID OF THE GARBAGE AND THE POLLUTED WATERFRONTS AND LET PEOPLE TO ENABLE FISHING SPOTS

5) ALSO BRING BACK LIFE ON THE RIVER BY RELOCATING FUNCTIONS ON TO THE RIVER. --> FLOATING CAFE ETC.



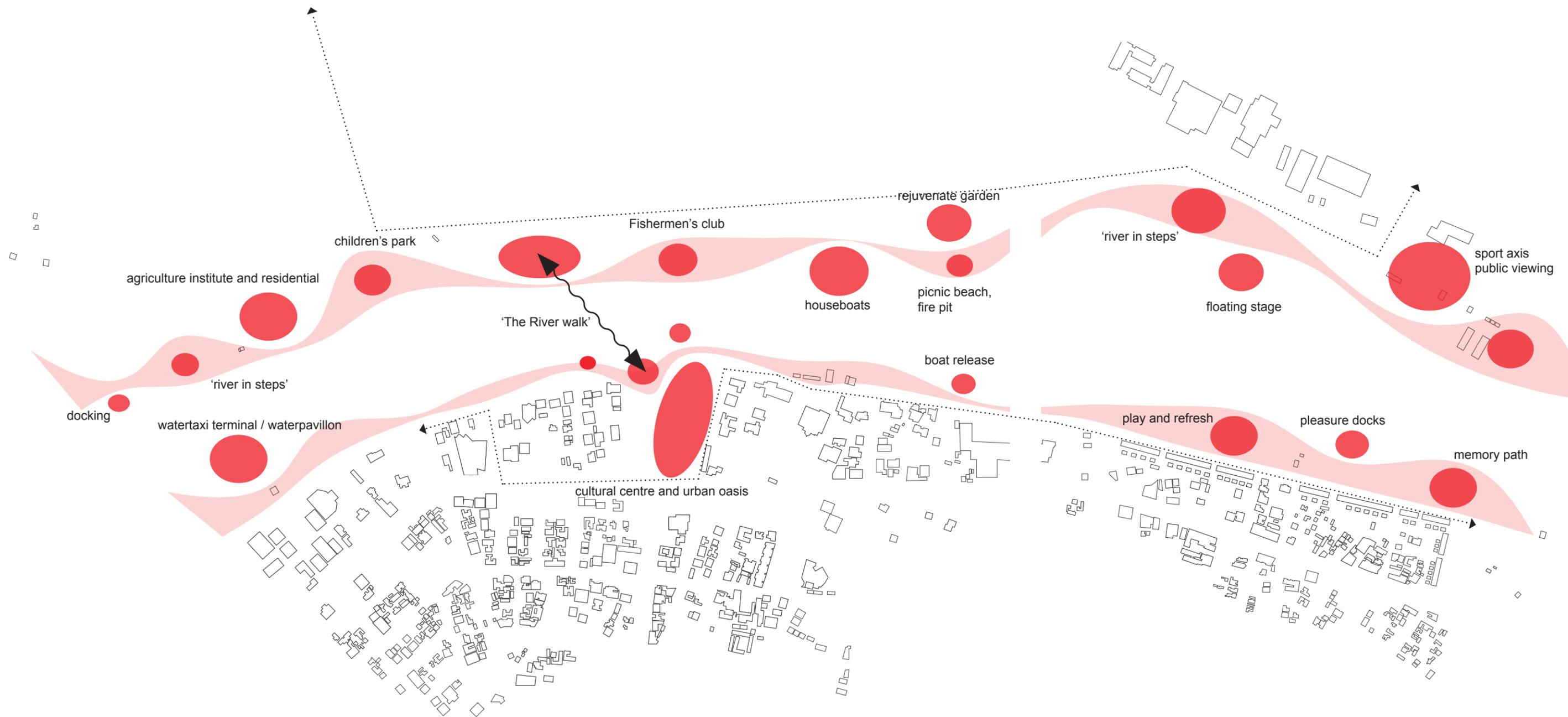




THE DESIGN OF THE NEW RIVERSIDE IS AN ANALOGY OF THE TIGRIS RIVER FLOW FROM THE NORTH TO THE SOUTH. THIS NEW WATERFRONT, A WAVELIKE FLOW, ENABLES MORE SPACE AND CREATES ALSO A NEW SHAPE OF THE TIGRIS.

AND THE SCENARIOS ON THE PROMENADE. IT ALSO ALLOWS A CONTINUED PROMENADE WALK WITHOUT ANY INTERRUPTIONS.

THIS WAVELIKE FLOW DEFINES THE OPEN SPACES

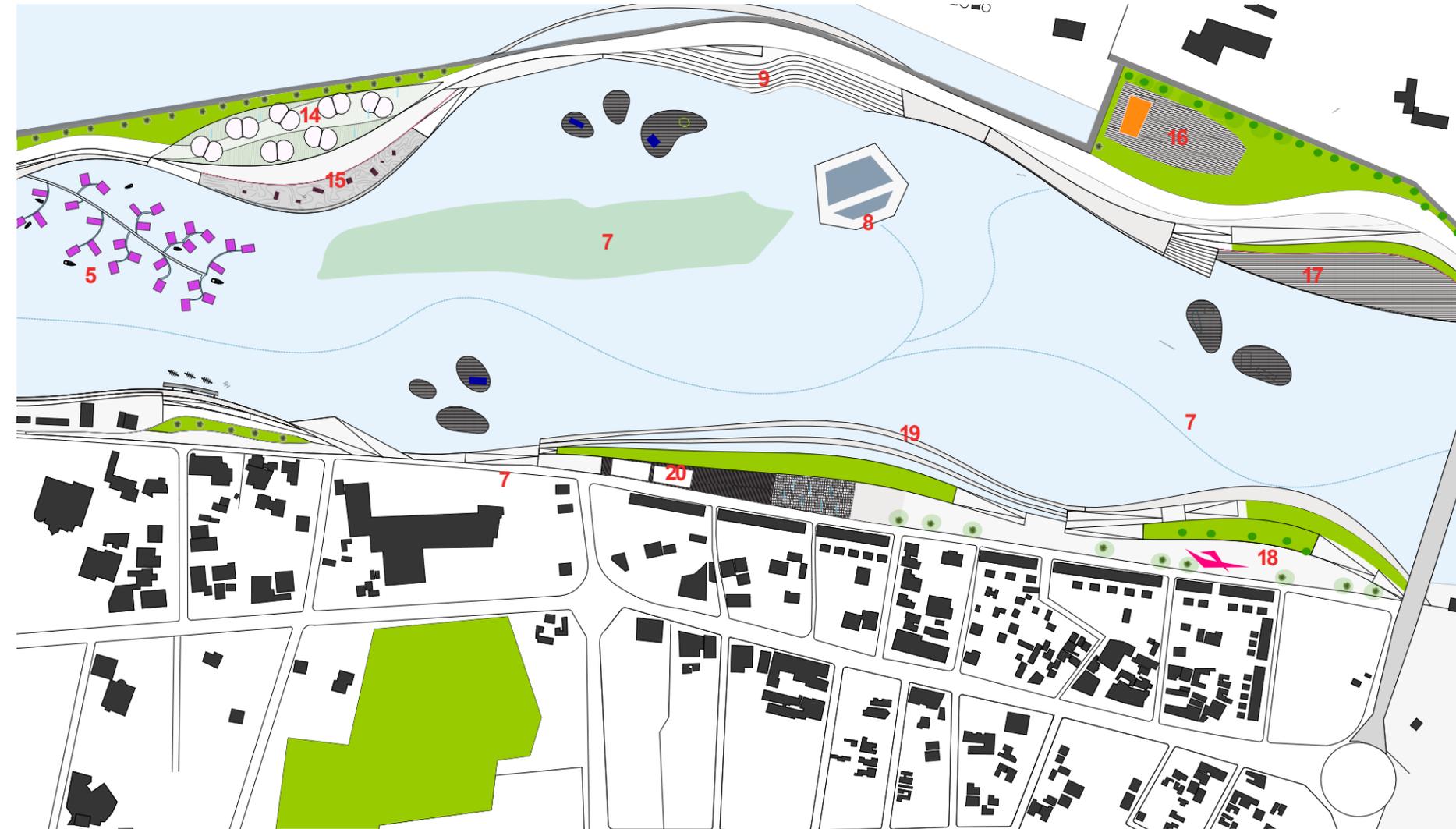


# 06

*Design*



# 06.1 Masterplan



CULTURAL AXIS

1 CULTURE CENTER: CINEMA, CAFE, EXHIBITION SPACE, LEARNING AND READING ROOM, CONTEMPORARY ART GALLERY

2 URBAN OASIS: SEVERAL RESTAURANTS, RETAIL, BOOKSTORE WITHIN A CAFE, DECKLEVEL TO THE OASIS, MEETING POINT. RELAX, COOLING SIT AND ENJOY THE NATURE ATMOSPHERE

3 THE RIVER WALK: CONNECTING THE THE TWO RIVERSIDES, ONLY FOR PEDESTRIAN. CONTAINS A CAFE, HAMMOCK GROVE, PALMGARDEN, POETRY ROOM, ACCESS BY RAMPS TO THE DECK FOR THE VIEW AND TO OBSERVE THE RIVERFRONT. ELEVATE PUBLIC HEALTH ACCESS TO GREEN SPACES AND ENCOURAGE PHYSICAL ACTIVITY.



RIVER ACTIVITIES

4 WATERTAXI/FERRY TERMINAL : TAKE THE WATERTAXI AND ENJOY THE RIVER WHICH TAKES YOU TO THE DIFFERENT STOPS ON THE RIVER.

OR RENT A BOAT

5 FLOATING HOUSEBOATS: RENTABLE HOUSEBOATS

6 BOAT LOUNGE UNDER THE BRIDGE: ACCESS ONLY FOR BOATS.

7 FLOATING PODS 'FURNITURE': SOME WITH A CAFE, SOME TO LAY AND RELAX

8 FLOATING STAGE: FOR CONCERTS OR VARIOUS OPENAIR EVENTS

9 RIVER IN STEPS: SIT AND WATCH THE CONCERT FROM THE RIVERFRONT

SOCIAL AXIS

10 AGRICULTURE INSTITUT: FOR SUSTAINABILITY STUDIES

11 RESIDENTIAL HOUSING: HOUSING UNITS, WITH KINDERGARTEN, COMMUNAL PARK, ALSO NEAR AN ORCHARD FOR GROWING VEGETABLES AND LOCAL FRUITS

12 CHILDREN'S PARK: CONTAINING 8 TENTS WITH DIFFERENT STATION OF PLAYFULLY GIVE THE KIDS A SENSE FOR THE NATURE AND INVOLVE THE KIDS TO EXPLORE THE SUSTAINABLE LIVING.

13 FISHERMEN'S CLUB WITH FISHING SPOTS DOWN BY THE RIVER AND A FISH RESTAURANT

14 REJUVENATE GARDEN

15 FIRE PIT WITH A PICNIC BEACH

16 SPORTS CLUB WITH A PUBLIC VIEWING SPACE

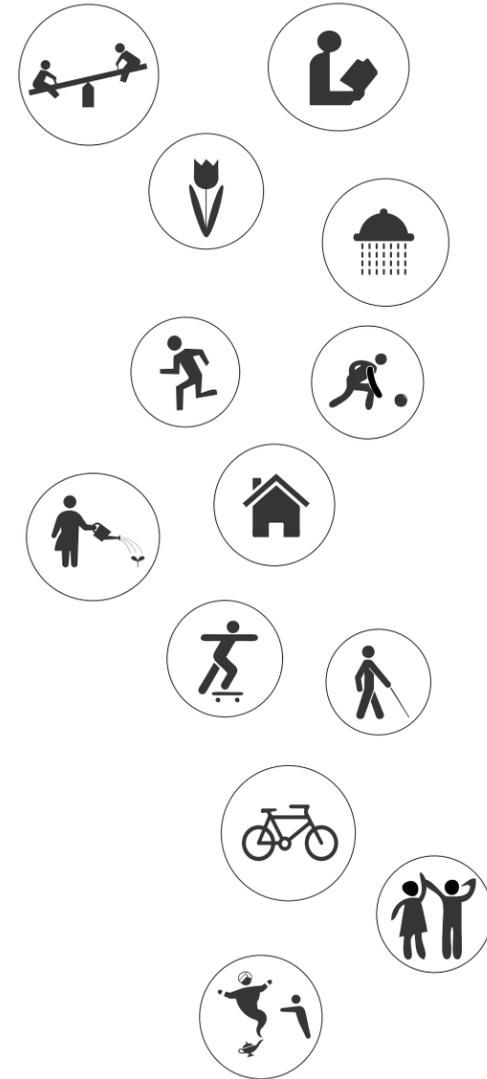
17 BOAT STOP

18 MEMORY PATH: WITH A MEMORY PAVILLION. REMEMBER THE GOOD OLD DAYS AND SHARE POEMS OF ABU NUWAS AND MUTANABBI ETC...

19 PLEASURE DOCKS FOR PEDESTRIANS  
SIT BY THE RIVER AND READ A BOOK. OR JUST COOLDOWN BY THE COOL AIR OF THE RIVER.

20 PLAY AND REFRESH: WITH WATERSPOTS TO TAKE A PUBLIC SHOWER, RECREATIONAL

21 A WALK THROUGH THE PALM ORCHARDS



PROMENADE WALK

ABU NUWAS PROMENADE  
WALK EASTBANK APROX.  
2614M

ABU NUWAS PROMENADE  
WALK WESTBANK APROX.  
2988M



~ 45 MIN

~ 50 MIN



~ 25 MIN

~ 30 MIN



~ 15 MIN

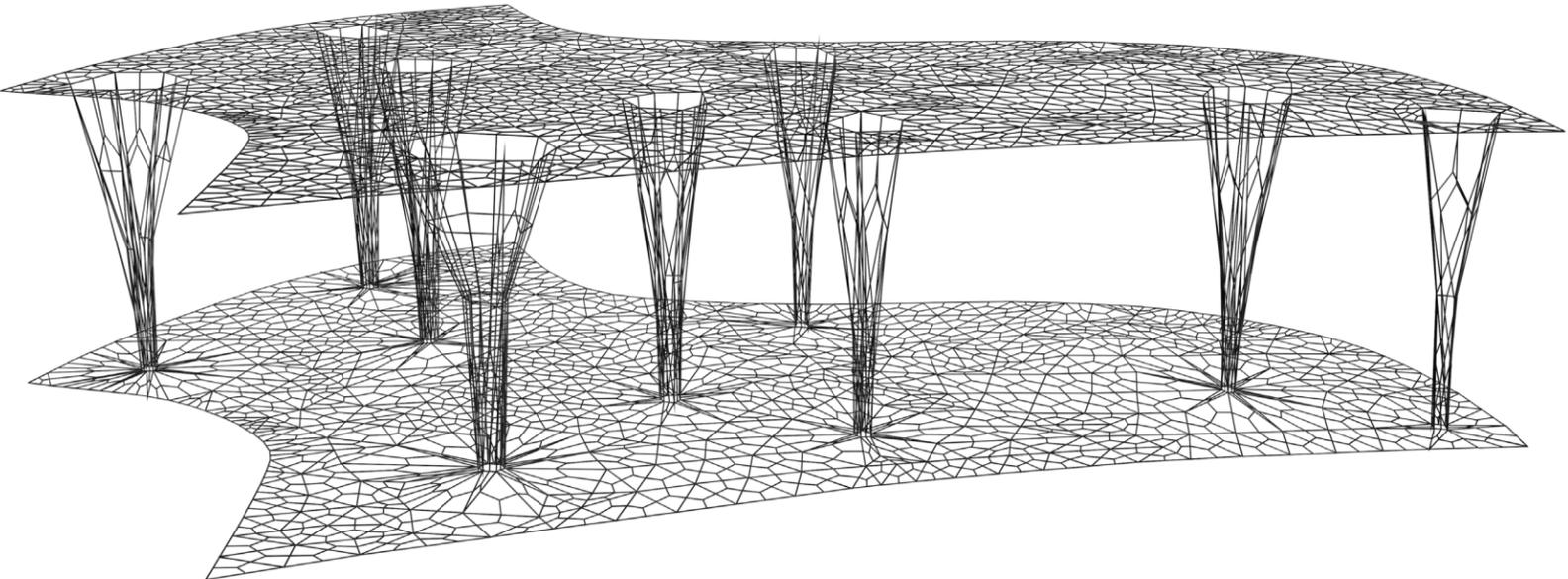
~ 18 MIN



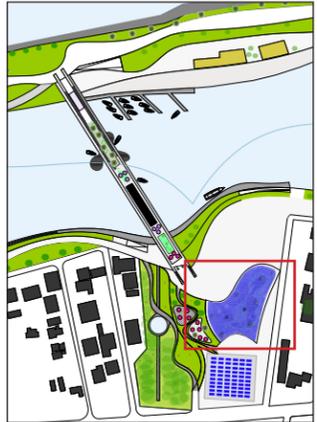
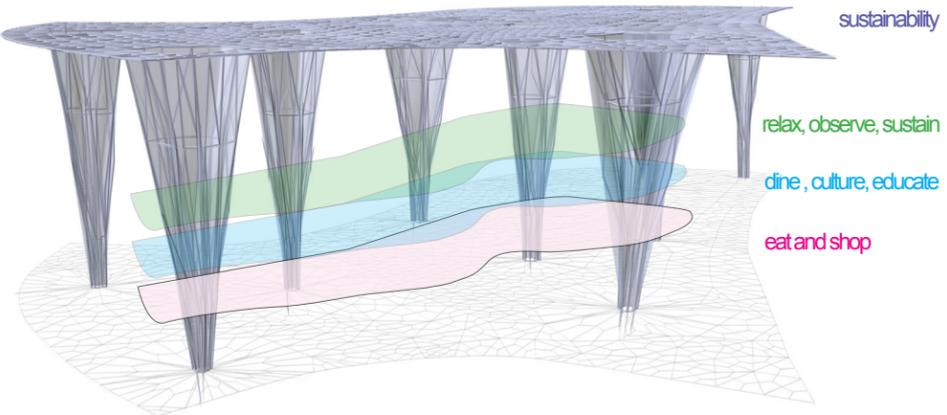
~ 12 MIN

~ 12 MIN

# 06.2 Urban Oasis



CONCEPT



THE URBAN OASIS SHOULD ENVISION A PROGRESSIVE ATTITUDE TOWARDS SUSTAINABILITY. THE 'CANOPY', IS MADE OUT OF A SURFACE, WHERE THE TREE STRUCTURE IS EXTRUDED FROM. IN ORDER TO CREATE A BIOCLIMATIC PASSIVE STRATEGY THE URBAN OASIS SHOULD ACTIVATE THE USE OF THE OUTDOOR SPACES THROUGHOUT THE HOT SUNNY DAYS. EARTH TUBES AND OTHER COOLING DEVICES TO NATURALLY COOL THE DAYTIME ARE INSTALLED OVER THE SPACE.

RELAXED ATMOSPHERE. THE DECKLEVEL IS COMPLETE AN OASIS WHERE YOU CAN RELAX AFTER DINNER OR JUST TO ENJOY THE GREENERY IN AN ARABIC WAY.

ITS A MEETING PLACE WHERE YOU CAN DINE AND READ A BOOK OR GO FOR SMALL SHOPPING IN A NATURAL

FLOORPLANS

- 1 RESTAURANT WITH OPEN KITCHEN
- 2 CULTURAL SNACKBAR
- 3 STORAGE
- 4 TOILETS
- 5 + 6 SHOPS
- 7 PICUP SHOP FOR PICNIC BASKET
- 8 LOUNGE
- 9 CAFÈ
- 10 TOILETS
- 11 JUICEBAR
- 12-16 RETAIL/SHOPS
- 17 SIT AND OBSERVE

GROUND FLOOR  
M 1:700



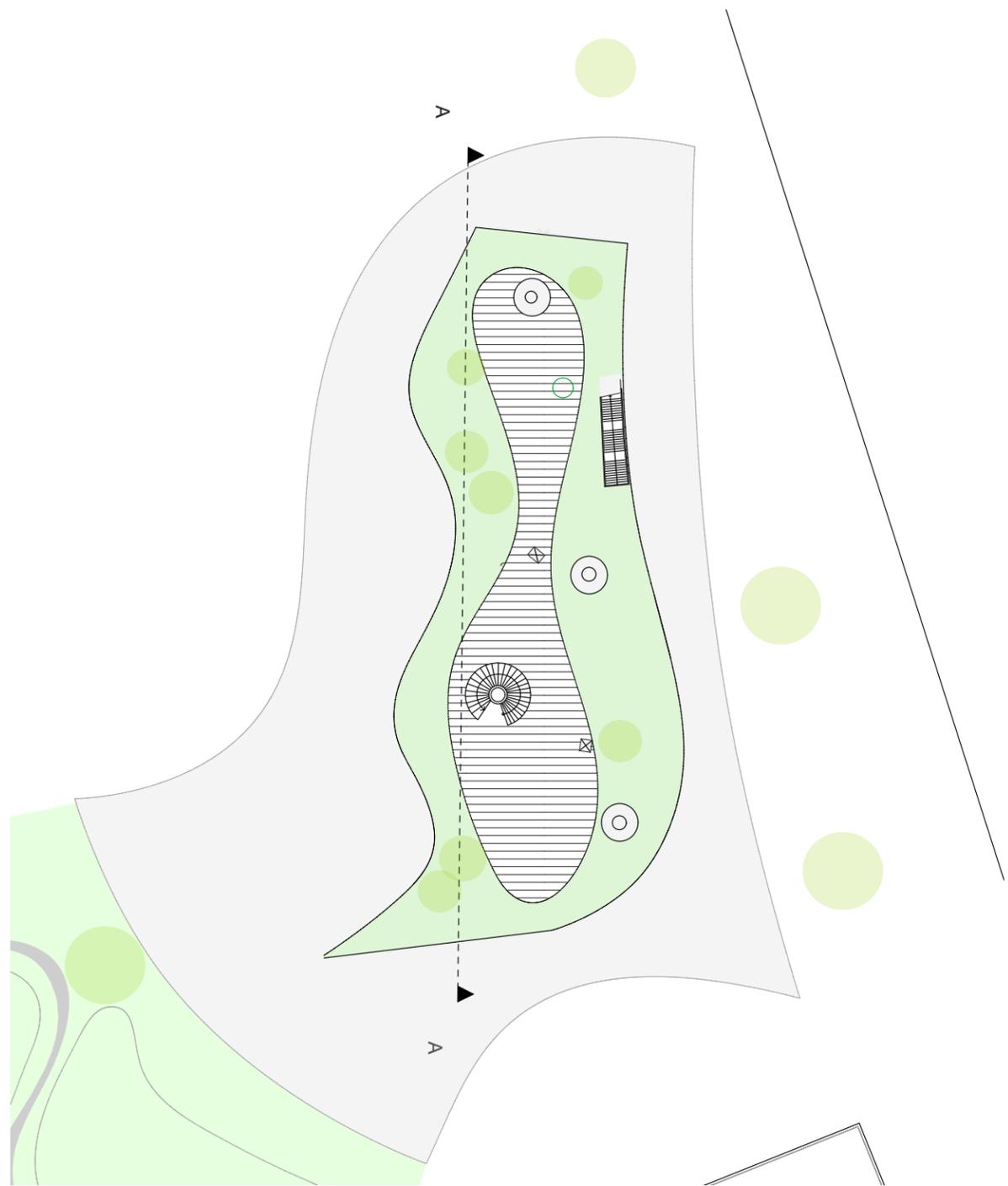
- 17 DINNER CLUB  
(RENTABLE FOR VARIOUS EVENTS)
- 19 RECEPTION/LOBBY - LOUNGE
- 20 BOOKSTORE WITHIN A CAFE
- 21 ACCESS TO THE OASIS
- 22 EXHIBITION SPACE
- 23 TOILETS AND STORGE

1ST FLOOR  
M 1:700



24 OASIS

DECKLEVEL  
M 1:700

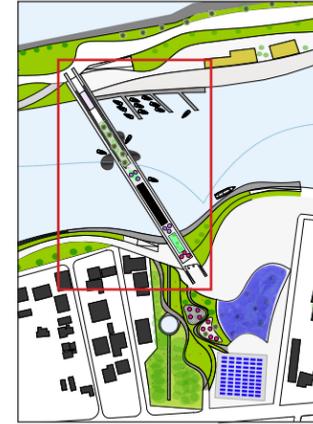
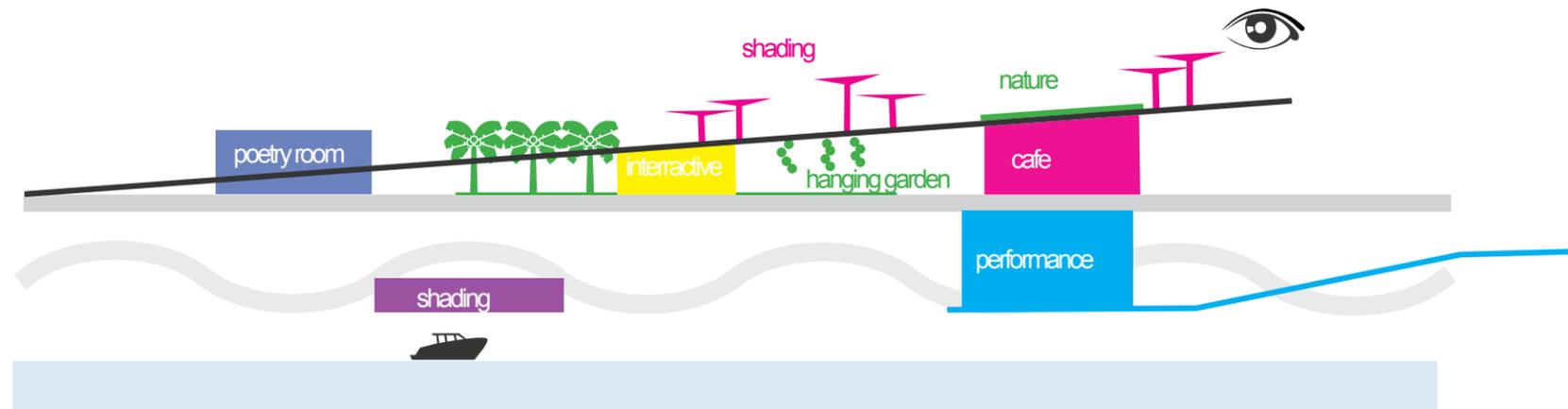


SECTION A



M 1:700

CONCEPT



## 06.3 'The river walk'

THE BRIDGE OFFERS VARIOUS PROGRAMS ABOVE THE RIVER.

IT IS A PLACE TO MEET AND GREET, TO RELAX AND LAY AND TO INTERACT. AND TO HAVE DIFFERENT VIEWS FOR OBSERVING THE WATERFRONTS. IT ALSO PROVIDES SHADES, FOR THE PEDESTRIAN AND ALSO FOR THE BOATS UNDERNEATH.

FROM THE EASTBANK THERE ARE RAMPS TO ACCESS THE BRIDGE. BETWEEN THESE RAMPS, UNDER THE BRIDGE THERE IS A OPEN AMPHITHEATER FOR PERFORMANCES. IT IS ALSO A COOLING SPACE FOR THE VISITORS WHO CAN SIT ON THE STEPS AND ENJOY THE PLAY.

ON THE BRIDGE THE RIVER WALK LEADS TO VARIOUS SPACES.

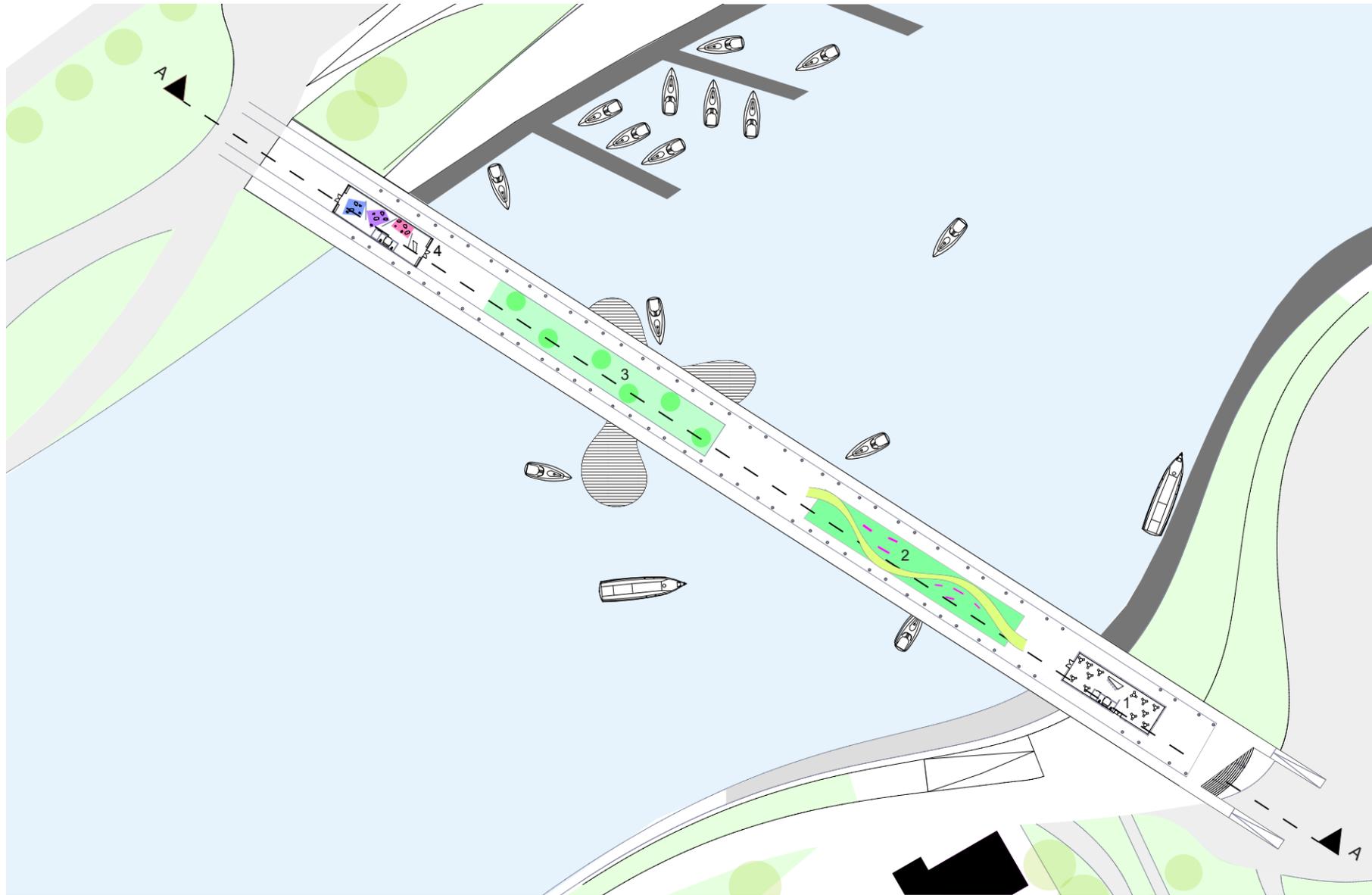
THE RIVER CAFE IS SITUATION ON THE FRONT, NEAR THE EASTBANK ACCESS.

UNDER THE HANGING GARDEN, IT WELCOMES THE IRAQIS TO LAY IN A HAMMOCK. THE ARABIAN ROOF FACADE LETS THE LIGHT SHINE THROUGH.

THE BRIDGE ALSO PROVIDES

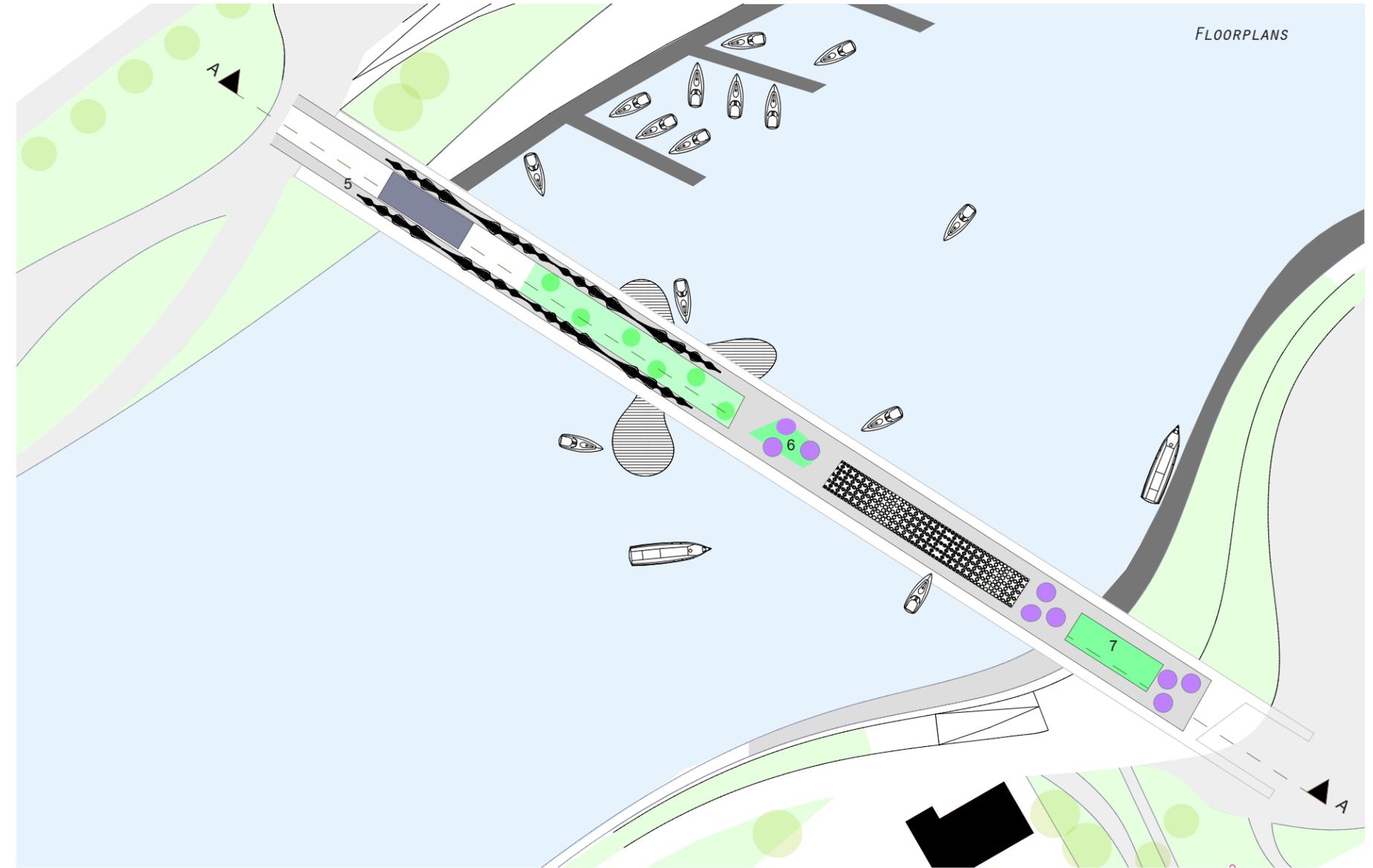
NATURAL SPACES WHERE THE IRAQIS CAN BE IN THE NATURE ON THE RIVER, TO GIVE ALSO A SENSE FOR THE NATURAL ENVIRONMENT. THE PALMS WITH THEIR BIG LEAVES PROVIDES SHADES AGAIN. THE POETRY ROOM IS A ROOM WHERE PEOPLE CAN MEET AND GATHER TO SHARE THEIR POEMS.

FROM THE WESTBANK THE ROOFRAMP IS ACCESSIBLE. IT GIVES THE VIEW OF THE RIVER AND EVERYTHING AROUND. IT IS ALSO ON PROTECTED FROM THE DIRECT SUNLIGHT WITH CANOPIES AND TREES.



- 1 CAFE
- 2 SEMIRAMIS GARDEN WITH A HAMMOCK GROVE
- 3 PALMGARDEN
- 4 POETRYROOM

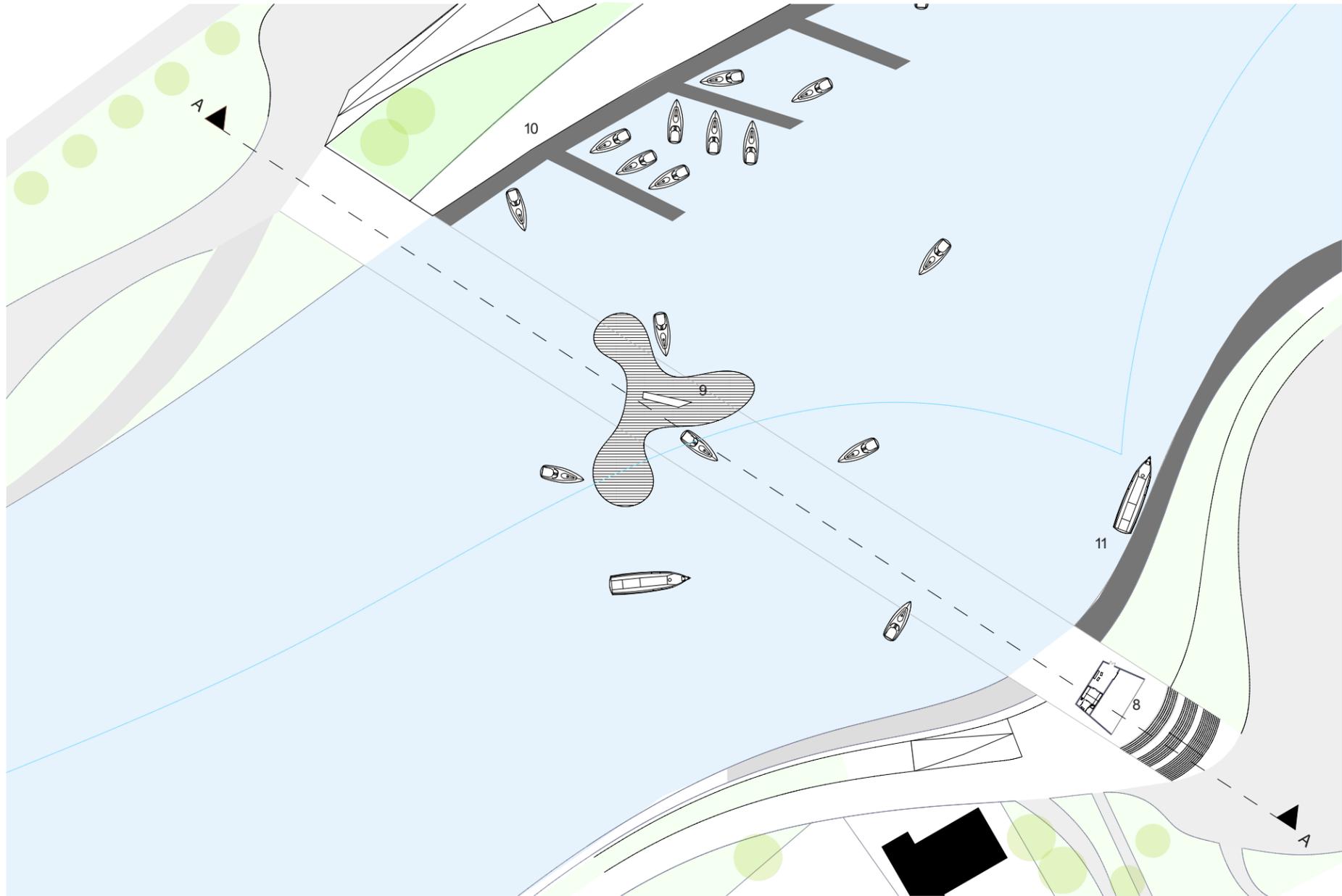
GROUND FLOOR  
M 1:1000



- 5 RAMP ACCES WITH SHADING
- 6 SIT AND RELAX SPOTS
- 7 GARDEN

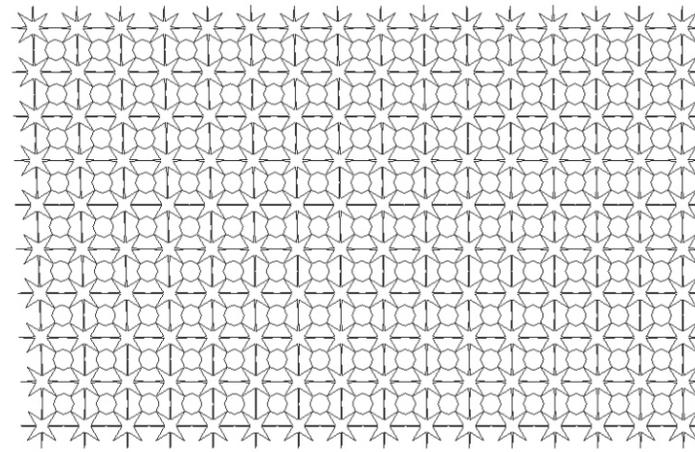
ROOFTOP  
M 1:1000





- 8 AMPHITHEATER
- 9 BOAT LOUNGE
- 10 BOAT DOCKING
- 11 TAXI STOP

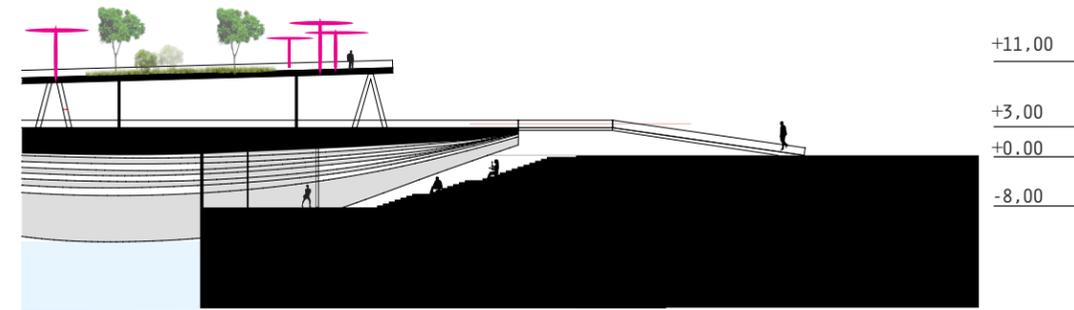
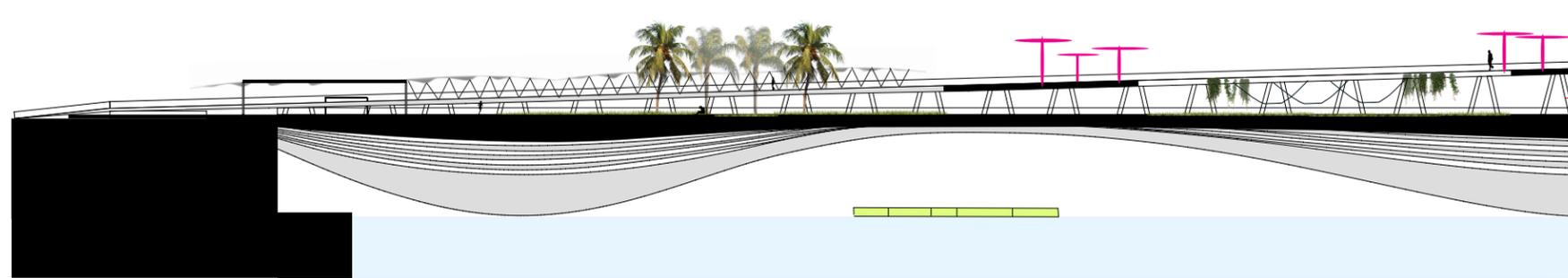

 UNDERGROUND  
 M 1:1000



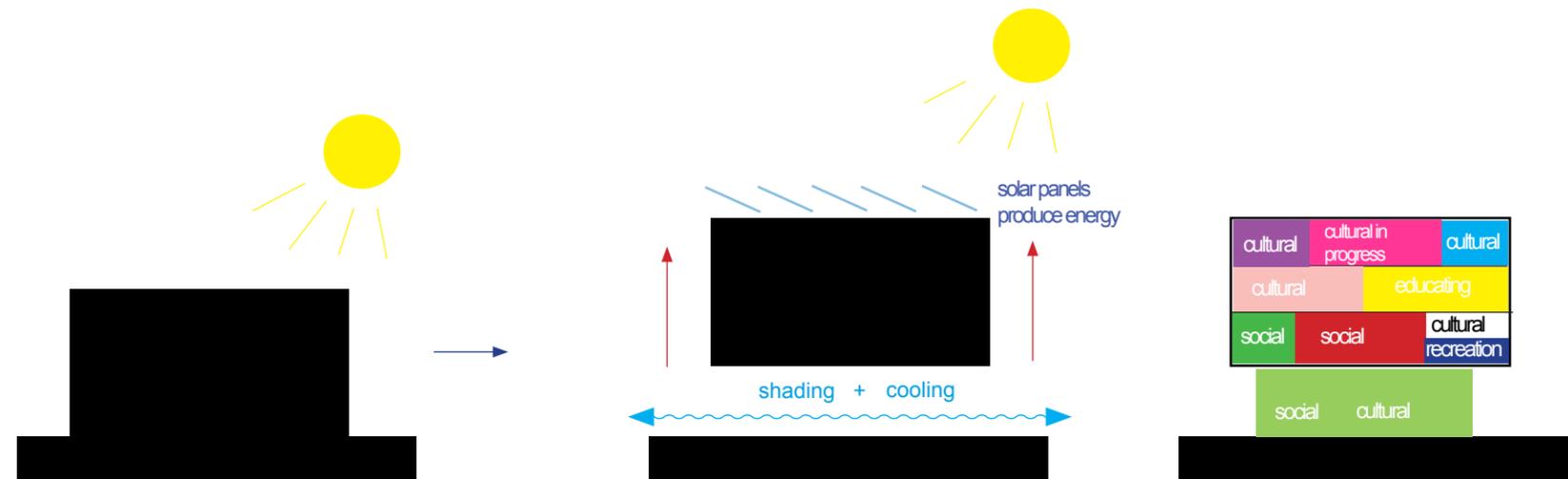
ARABIC ORNAMENTS

USED AS A SHADING AND FOR THE HANGING GARDEN

SECTION A  
M1:1000



## 06.4 Cultural Center



THE CULTURE CENTER IS A MIXED USED BUILDING. IT IS A SPACE WHERE THE CULTURE AND SOCIAL LIFE GET TOGETHER.

THE BUILDING STANDS ON 'LEGS' AND PROVIDES AN OPEN SPACE IN THE GROUND FLOOR. THE AIR CAN FLOW THROUGH AND THE WHOLE SPACE CAN BE USED IN THE HOT SUMMER DAYS, AS IT IS COMPLETELY SHADED. THIS SPACE IS FOR A SEASONAL ART-BAZAAR OR CAN BE USED FOR OTHER TEMPORARY EVENTS.

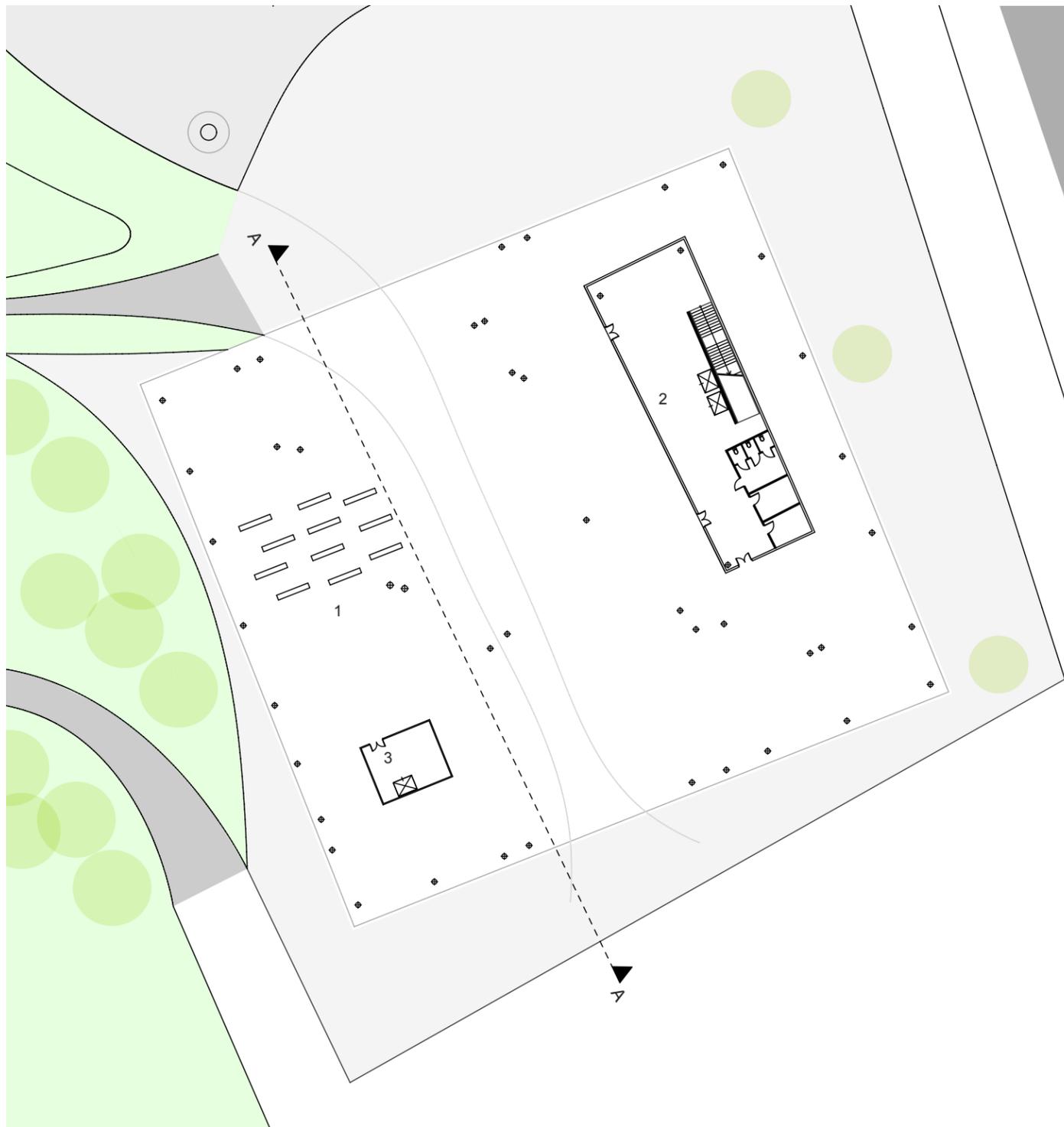
THE BUILDING CAN BE ACCESSED BY THE ENTRANCE HALLS. IN THE 1ST FLOOR A CINEMA, A CINECAFE AND WOMEN ONLY FITNESS CENTER IS SITUATED.

THE 2ND FLOOR HAS A MUSIC STORE WITH AN MUSIC ARCHIVE, A SNACKBAR FOR CINEMA GOERS AND A LOUNGE. IN THE 3RD FLOOR THERE WILL BE A LOCAL LIBRARY WITH A READING AND STUDY SPACE. THIS LIBRARY HAS ITS OWN ACCESS FROM THE GROUND FLOOR. AND A CONTEMPORARY ART

GALLERY

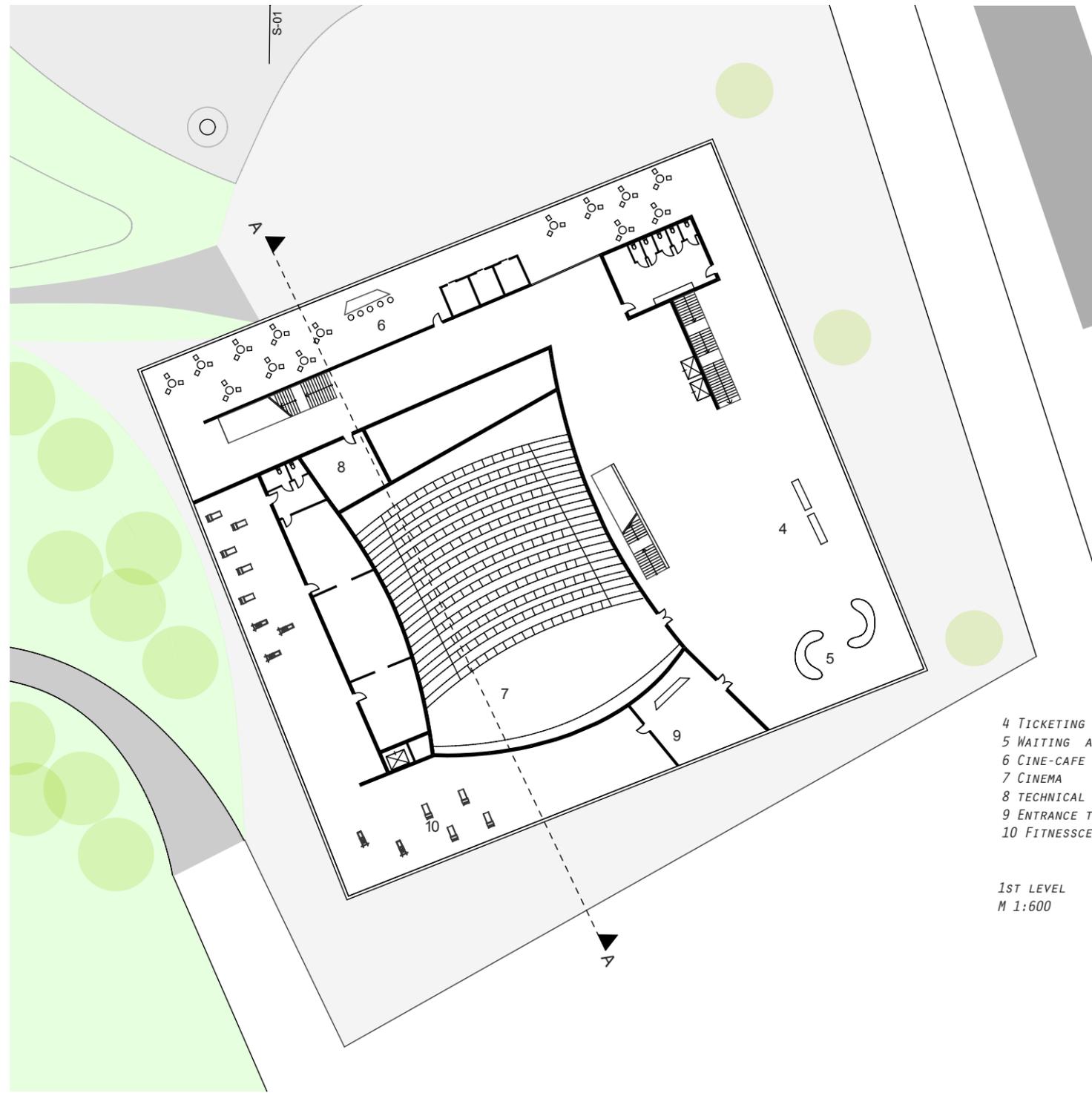
THE 4TH FLOOR HAS A WORKSHOP SPACE WITH A SHOWROOM, ATELIERS, A RENTABLE CULTURAL EVENTSPACE WITH MEETING ROOMS AND A SEMINAR SPACE. THE ROOFTOP IS COVERED WITH SOLAR PANELS TO PROVIDE THE BUILDING WITH POWER.

THE FACADE IS OUT OF STEEL A STRUCTURE WITH AN ARABIC ORNAMENTAL PATTERN.



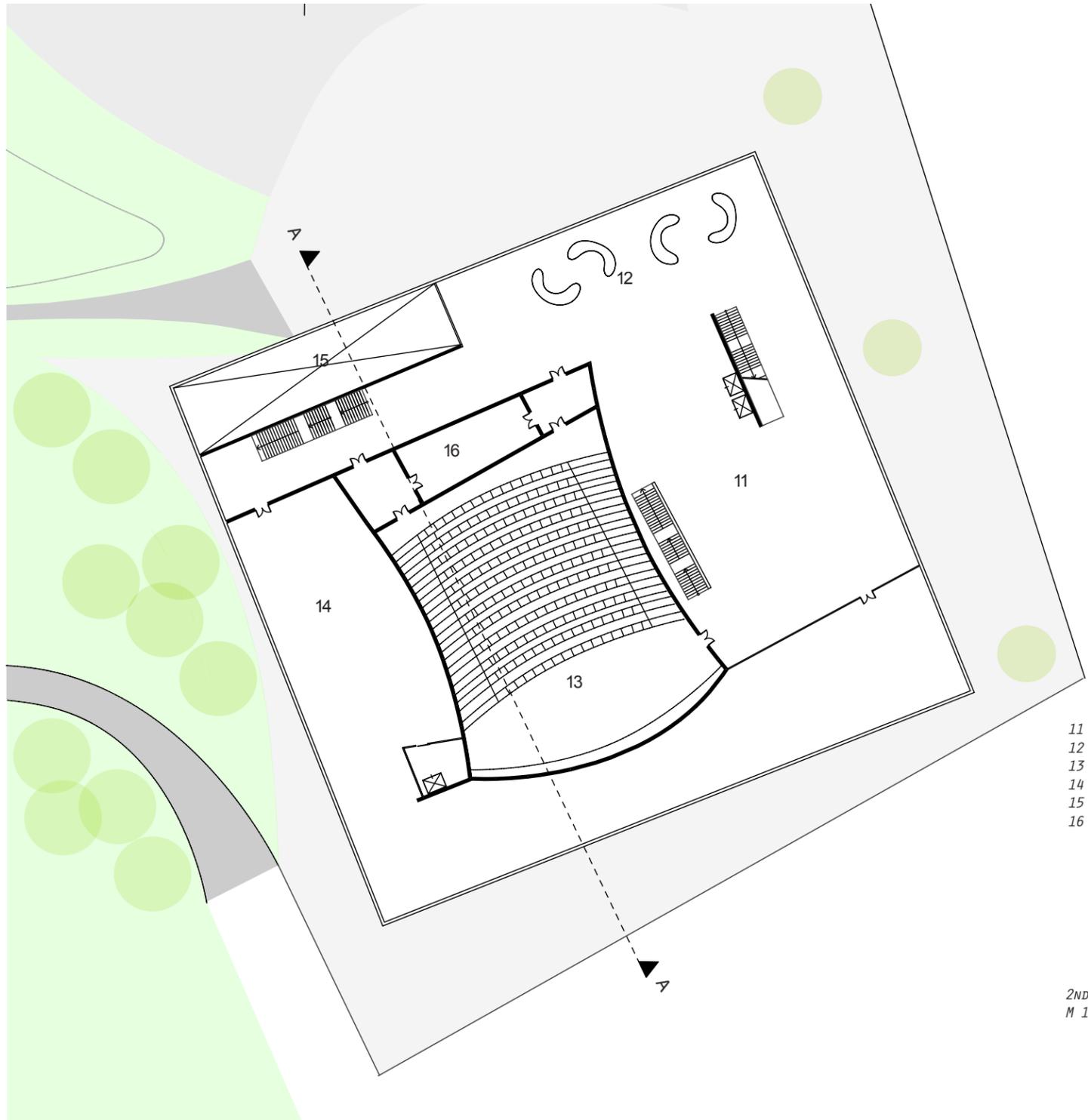
- 1 SEASONAL BAZAR SPACE AND FOR VARIOUS TEMPORARY OPEN EVENTS
- 2 ENTRANCE HALL
- 3 ACCESS TO THE 2ND FLOOR AND UP

GROUND FLOOR  
M 1:600



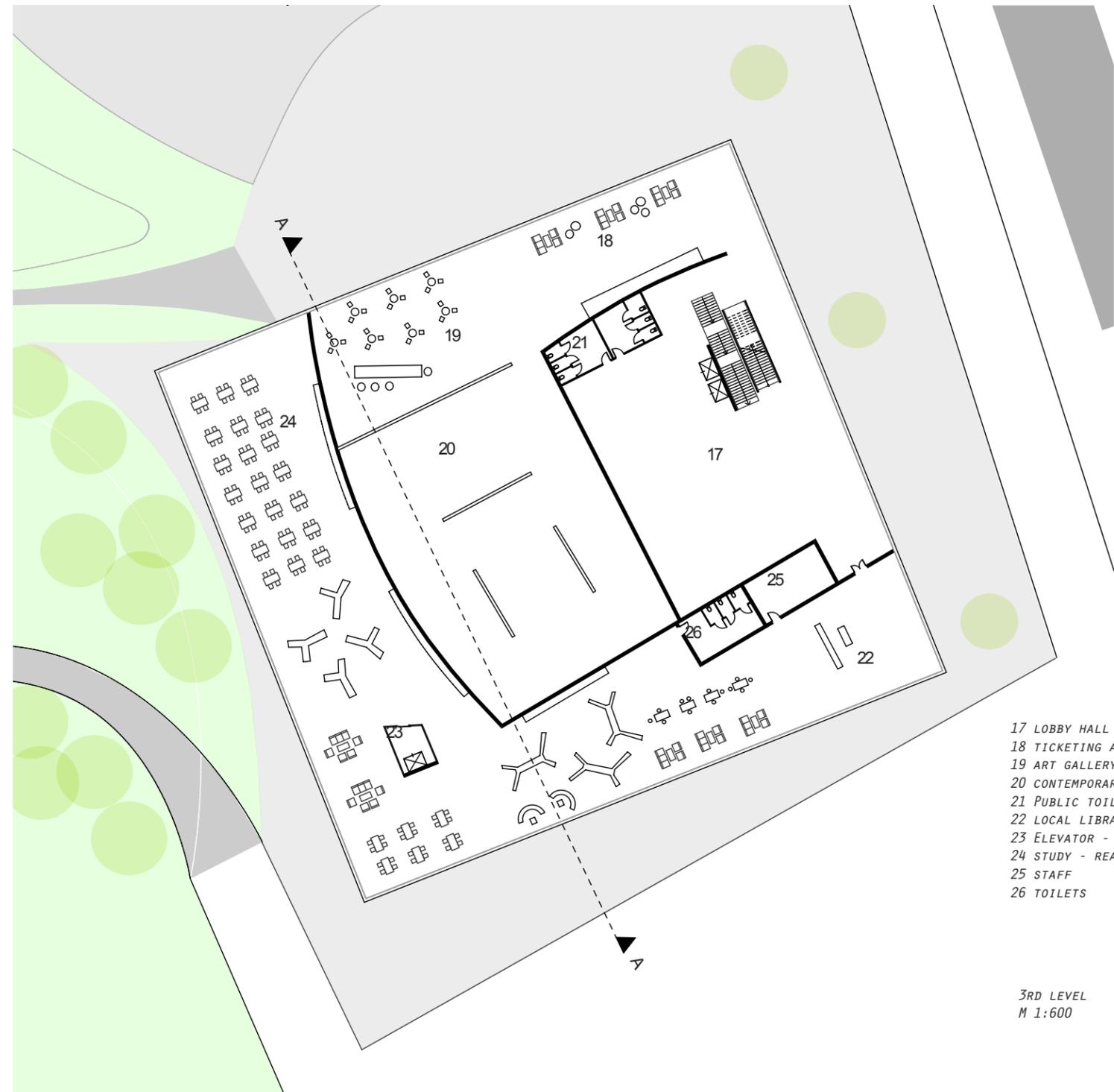
- 4 TICKETING
- 5 WAITING AREA
- 6 CINE-CAFE
- 7 CINEMA
- 8 TECHNICAL ROOM
- 9 ENTRANCE TO THE FITNESSCENTRE
- 10 FITNESSCENTRE FOR WOMEN

1ST LEVEL  
M 1:600



- 11 LOBBY HALL
- 12 SNACK BAR AND SITTING LOUNGE
- 13 CINEMA
- 14 MUSIC STORE SPACE (1115M2)
- 15 VOID
- 16 TECHNICAL ROOM

2ND LEVEL  
M 1:600



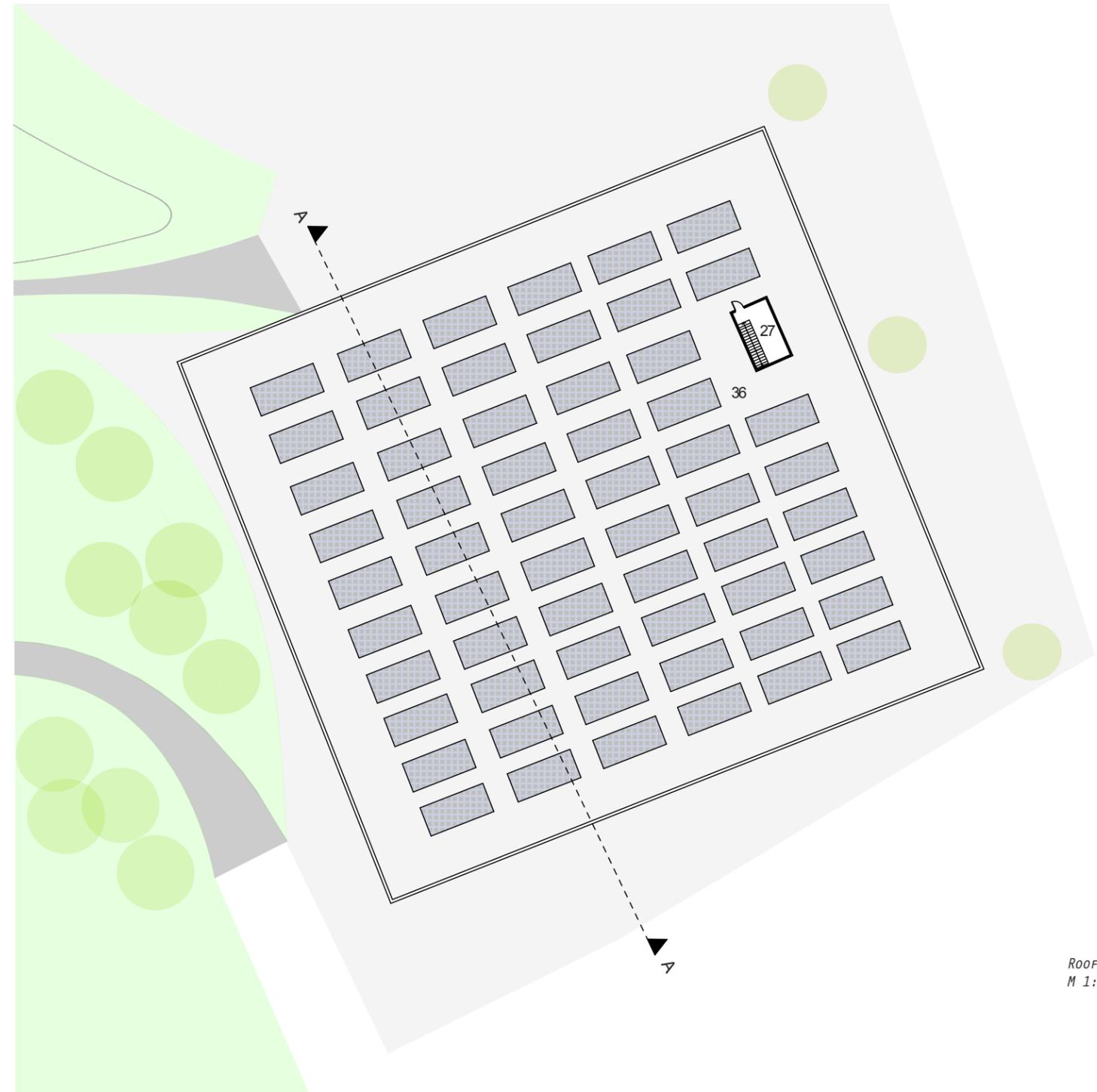
- 17 LOBBY HALL
- 18 TICKETING AND SITTING LOUNGE
- 19 ART GALLERY CAFE
- 20 CONTEMPORARY ART GALLERY
- 21 PUBLIC TOILETS
- 22 LOCAL LIBRARY - ENTRANCE SPACE
- 23 ELEVATOR - ACCESS RIGHT FROM THE GROUND FLOOR
- 24 STUDY - READING SPACE
- 25 STAFF
- 26 TOILETS

3RD LEVEL  
M 1:600



- 27 LOBBY
- 28 CULTURAL EVENTSPACE
- 29 SHOWROOM
- 30 TOILETS AND STORAGE
- 31 WORKSHOP SPACE
- 32 SCREENING ROOM
- 33 MEETING ROOMS AND ATELIERS
- 34 SEMINAR SPACE
- 35 ACCESS TO THE SOLAR PANELS

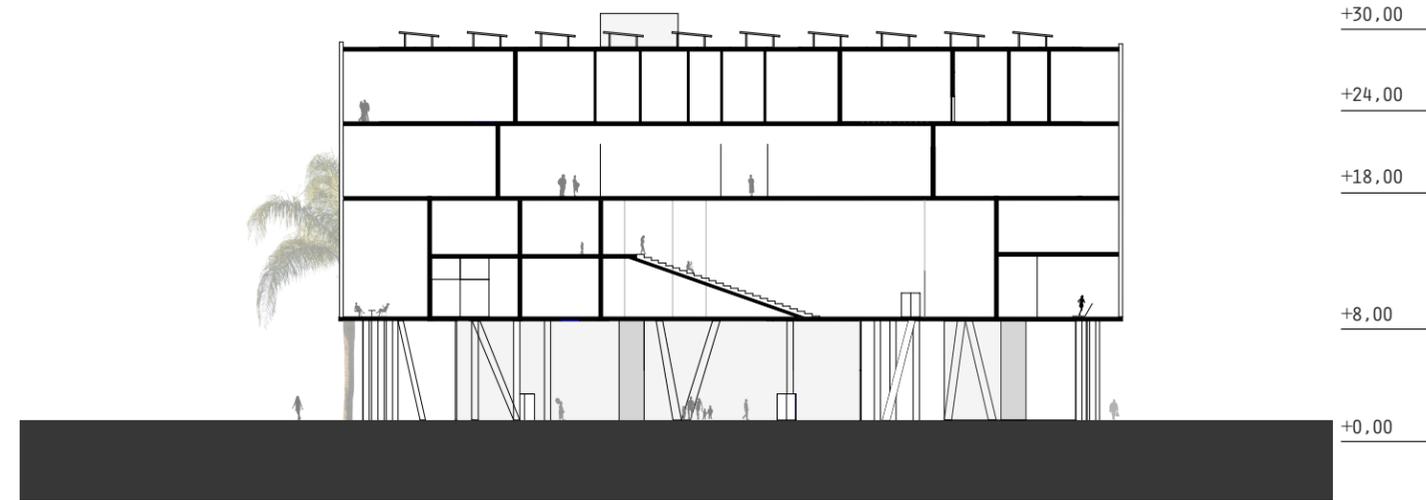
4TH LEVEL  
M 1:600



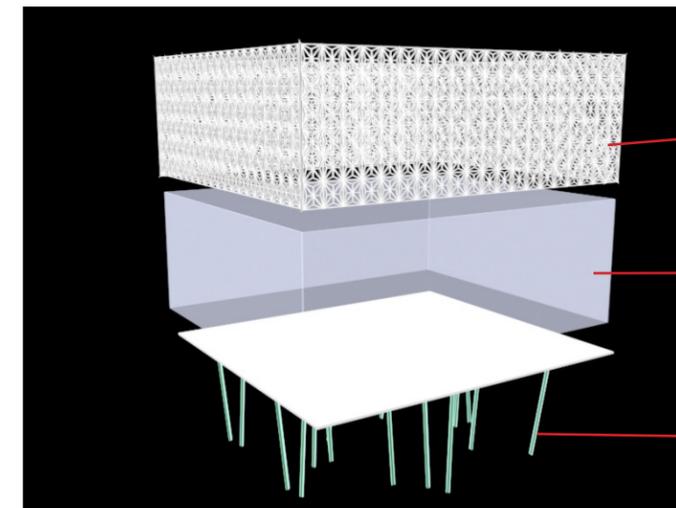
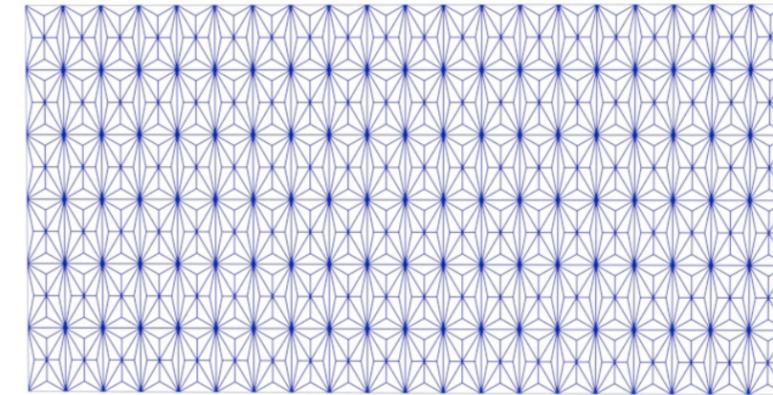
- 36 SOLARPANELS
- 37 ACCESS

ROOF  
M 1:600

SECTION A



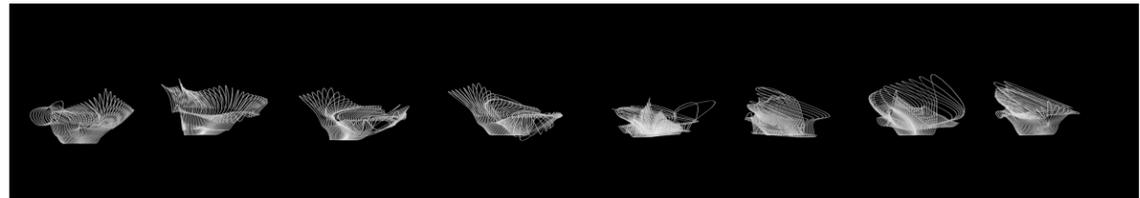
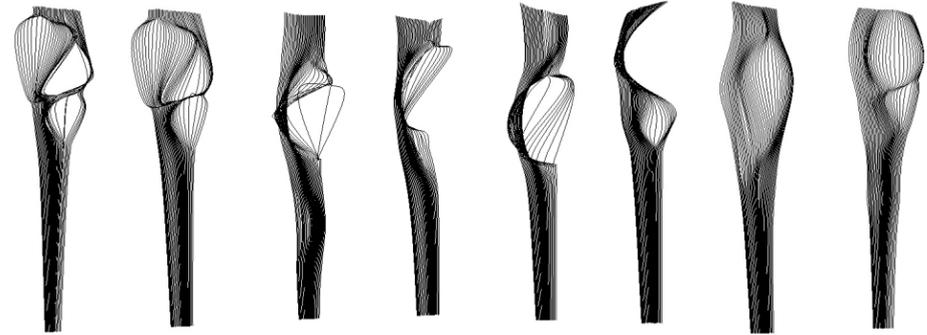
CULTURAL FACADE



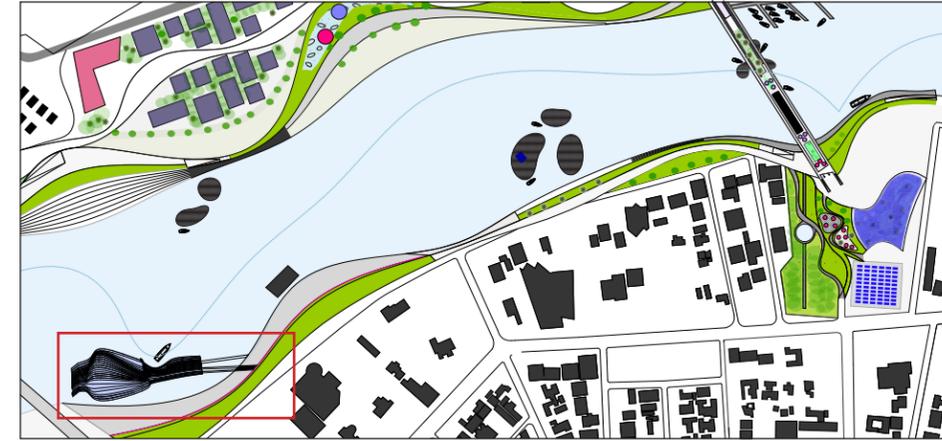
ARABIC ORNAMENT FACADE, STEEL STRUCTURE

GLASS FACADE

COLUMNS



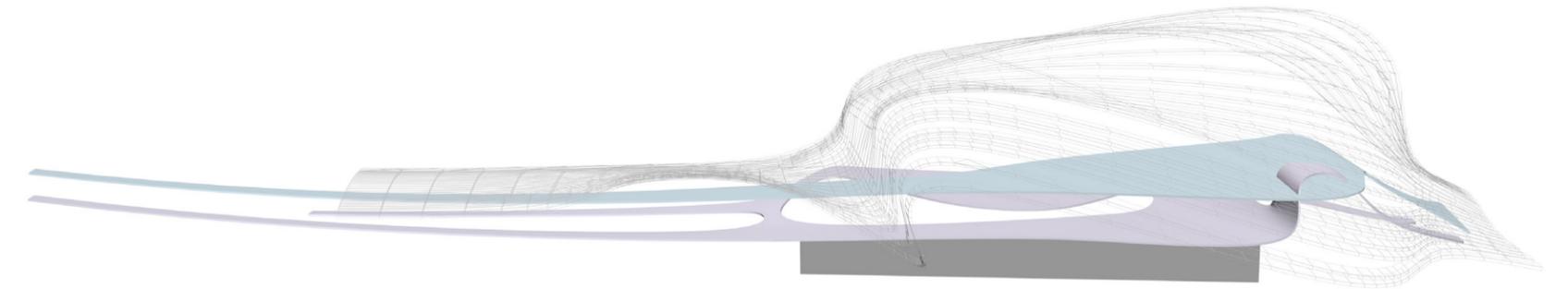
## 06.5 Waterpavillon



THE WATERPAVILLON IS NOT ONLY A PAVILLON BUT ALSO THE FERRY TERMINAL AND A STATION FOR WATERTAXIS.

THE SHAPE OF THE PAVILLON IS AN ANALOGY OF THE RIVER FLOW OF THE TIGRIS.

IT SITS COMPLETELY IN THE WATER AND CONNECTS THE RIVERFRONT WITH A RAMP.



## 06.5 Sustainability

### PASSIVE COOLING SYSTEMS

#### EARTH TUBES

EARTH TUBES ARE TUBES BURIED IN THE GROUND DEEP ENOUGH TO TAKE ADVANTAGE OF THE MORE EVEN YEAR ROUND TEMPERATURE AT DEPTH. AIR FROM OUTSIDE THE HOUSE IS RUN THROUGH THE EARTH TUBES TO HEAT OR COOL IT BEFORE IT IS INTRODUCED INTO THE HOUSE. IN THE SUMMER, THE EARTH IS COOLER THAN THE OUTSIDE AIR TEMPERATURE AND THE AIR WILL BE COOLED

AS IT GOES THROUGH THE TUBES, AND THE OPPOSITE IN THE WINTER. THIS IS A SIMPLE, ENERGY EFFICIENT MEANS OF PRE-HEATING OR PRE-COOLING AIR. I USE THE SAME SYSTEM BUT FOR THE PUBLIC SPACE AND DESIGNED IT IN A SHAPE OF A FLOWER, TO WORK WITH THE LANDSCAPE.



#### PHOTOVOLTAICS

BAGHDAD HAS 270 DAYS A YEAR SUNLIGHT. IT IS ALSO KNOWN THAT IN BAGHDAD THE ELECTRICITY IS NOT VERY ELABORATE AND THE CITIZEN DON'T GET THE REQUIRED ELECTRICITY, WHICH CAN BE A PROBLEM IN SUMMER, DUE TO THE HEAT.

THE ROOF OF THE CULTURAL CENTER IS COVERED WITH SOLAR PANELS WHICH USES THE METHOD OF PHOTOVOLTAICS, THAT CONVERTS SOLAR ENERGY INTO DIRECT CURRENT

# 07

*Visualization*

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AREA VIEW MASTERPLAN



SOCIAL AXIS: CULTURAL CENTER, URBAN OASIS AND THE RIVER WALK



WATERPAVILLON



THE RIVER WALK



THE RIVER WALK - RAMP



HAMMOCK GROVE



URBAN OASIS - ROOF GARDEN



PERSPECTIVE

*SPECIAL THANKS TO...*

*BABE AND MAME  
WALA MY DEAREAST PRECIOUS SISTER  
ALI AND MOHI.*

*PROF. ALSOP*

## REFERENCES

[HTTP://EN.WIKIPEDIA.ORG/WIKI/TIGRIS](http://en.wikipedia.org/wiki/Tigris)

[HTTPS://EN.WIKIPEDIA.ORG/WIKI/BAGHDAD](https://en.wikipedia.org/wiki/Baghdad)

[HTTPS://WWW.CIA.GOV/LIBRARY/PUBLICATIONS/THE-WORLD-FACTBOOK/GEOS/IZ.HTML](https://www.cia.gov/library/publications/the-world-factbook/geos/iz.html)

[HTTP://STUDY.COM/ACADEMY/LESSON/TIGRIS-RIVER-IN-HISTORY-FACTS-MAP-QUIZ.HTML](http://study.com/academy/lesson/tigris-river-in-history-facts-map-quiz.html) (TIGRIS FACTS)

[HTTP://WWW.IRAQ-BUSINESSNEWS.COM/2011/09/04/PLANS-FINALISED-FOR-100000-HOUSES-IN-BISMAYA/](http://www.iraq-businessnews.com/2011/09/04/plans-finalised-for-100000-houses-in-bismaya/)

CLIMATE SUNCHART: [HTTP://CGI.STADTKLIMA-STUTTGAERT.DE/MIRROR/SONNEINT.EXE](http://cgi.stadtlima-stuttgart.de/mirror/sonneint.exe)

[HTTP://CCSENET.ORG/JOURNAL/INDEX.PHP/JSD/ARTICLE/VIEW/24042](http://ccsenet.org/journal/index.php/jsd/article/view/24042)

01// MINE  
02// [HTTPS://EN.WIKIPEDIA.ORG/WIKI/ROUND\\_CITY\\_OF\\_BAGHDAD#/MEDIA/FILE: BAGHDAD\\_150\\_TO\\_300\\_AH.PNG](https://en.wikipedia.org/wiki/Round_City_of_Baghdad#/media/File:Baghdad_150_to_300_AH.png)  
03// [HTTP://FARM5.STATIC.FLICKR.COM/4057/4351231726\\_A22ABF3852\\_O.JPG](http://farm5.static.flickr.com/4057/4351231726_a22abf3852_o.jpg)  
04// [HTTPS://COMMONS.WIKIMEDIA.ORG/WIKI/FILE:MUSTANSIRIYA\\_UNIVERSITY\\_CPT.JPG](https://commons.wikimedia.org/wiki/File:Mustansiriya_University_CPT.jpg)  
05// [HTTPS://COMMONS.WIKIMEDIA.ORG/WIKI/FILE: BAGHDAD\\_LOC\\_13186.JPG](https://commons.wikimedia.org/wiki/File:Baghdad_Loc_13186.jpg)  
06// [HTTP://WWW.PANORAMIO.COM/USER/8734277?WITH\\_PHOTO\\_ID=122527977](http://www.panoramio.com/user/8734277?with_photo_id=122527977)  
07// [HTTP://SAVINGANTIQUITIES.ORG/DIANE-SIEBRANDT-ON-IRAQS-CULTURAL-HERITAGE-AND-CURRENT-PRESERVATION-EFFORTS/](http://savingantiquities.org/diane-siebrandt-on-iraqs-cultural-heritage-and-current-preservation-efforts/)  
08// [HTTP://IRAQHERITAGE.ORG/HOLY-SITES.PHP](http://iraqheritage.org/holy-sites.php)  
09// [HTTP://WWW.PANORAMIO.COM/USER/8734277?WITH\\_PHOTO\\_ID=122527977](http://www.panoramio.com/user/8734277?with_photo_id=122527977)  
10// [HTTP://WWW.PANORAMIO.COM/USER/8734277?WITH\\_PHOTO\\_ID=122527977](http://www.panoramio.com/user/8734277?with_photo_id=122527977)  
11// [HTTP://WWW.PANORAMIO.COM/USER/8734277?WITH\\_PHOTO\\_ID=122527977](http://www.panoramio.com/user/8734277?with_photo_id=122527977)  
12// ZIYAD MATTI PHOTOGRAPHY  
13// SHAKMAWK.COM  
14// [HTTP://MUSINGSONIRAQ.BLOGSPOT.CO.AT/2012/07/IRAQIS-TRY-TO-COOL-OFF-DURING-BAGHDAD.HTML](http://musingsoniraq.blogspot.co.at/2012/07/iraqis-try-to-cool-off-during-baghdad.html)  
15// MINE  
16// ZIYAD MATTI PHOTOGRAPHY  
17// [HTTP://THOUGHTSFROMBAGHDAD.BLOGSPOT.CO.AT/2006/05/DATE-PALMS.HTML](http://thoughtsfrombaghdad.blogspot.co.at/2006/05/date-palms.html)  
18// BIS 27// ZIYAD MATTI PHOTOGRAPHY  
28// [HTTPS://EN.WIKIPEDIA.ORG/WIKI/TIGRIS](https://en.wikipedia.org/wiki/Tigris)  
29// NATIONAL GEOGRAPHIC; PHOTOGRAPH BY JOHN WREFORD, DEMOTIX/CORBIS [HTTP://NEWS.NATIONALGEOGRAPHIC.COM/NEWS/2014/02/140221-TIGRIS-RIVER-DAM-HASANKEYF-TURKEY-IRAQ-WATER/](http://news.nationalgeographic.com/news/2014/02/140221-tigris-river-dam-hasankeyf-turkey-iraq-water/)  
30// [HTTP://WWW.BUSINESSINSIDER.COM/IRAQ-CAN-TURN-INTO-A-FAILED-STATE-IN-A-DAY-2014-7?IR=T](http://www.businessinsider.com/iraq-can-turn-into-a-failed-state-in-a-day-2014-7?IR=T)  
31// WWW.DELCAMPE.NET  
32// WWW.DELCAMPE.NET  
33// BIS 35// [HTTP://WWW.FERTILECRESCENTFOUNDATION.ORG/FLOTILLA-BOATS.HTML](http://www.fertilecrescentfoundation.org/flotilla-boats.html)  
36// CECILIA PIERI (FACEBOOK)  
37// FACEBOOK  
38// FACEBOOK  
39// MINE  
40// BIS 45// ZIYAD MATTI PHOTOGRAPHY  
46// [HTTP://WWW.GETTYIMAGES.AT/DETAIL/NACHRICHTENFOTO/AN-IRAQI-FISHERMAN-ROWS-UP-THE-RIVER-FOR-HIS-DAYS-WORK-NACH-RICTHENFOTO/2508799](http://www.gettyimages.at/detail/nachrichtenfoto/an-iraqi-fisherman-rows-up-the-river-for-his-days-work-nachrichtenfoto/2508799)  
47// BOS 49// ZIYAD MATTI PHOTOGRAPHY  
50//  
51// ZIYAD MATTI PHOTOGRAPHY  
52// PANORAMIO  
53// BIS 55// ZIYAD MATTI PHOTOGRAPHY  
56// BIS 58// GOOGLE MAPS  
59// BIS 60// ZIYAD MATTI PHOTOGRAPHY  
61// BAGHDAD\_1 FACEBOOK  
62// INSTAGRAM PHOTO  
63// + 64// ZIYAD MATTI PHOTOGRAPHY  
65// BIS 68// [HTTP://WWW.GETTYIMAGES.AT/DETAIL/NACHRICHTENFOTO/AN-IRAQI-FISHERMAN-ROWS-UP-THE-RIVER-FOR-HIS-DAYS-WORK-NACHRICHTENFOTO/2508799](http://www.gettyimages.at/detail/nachrichtenfoto/an-iraqi-fisherman-rows-up-the-river-for-his-days-work-nachrichtenfoto/2508799)  
69// ZIYAD MATTI PHOTOGRAPHY  
70// GOOGLE MAPS  
71// ZIYAD MATTI PHOTOGRAPHY  
72//

