OUSSAMA HAZIM

ARCHITECTURAL PORTFOLIO

SELECTED WORKS

2015-2019

"Sometimes i wonder
if i was seeing the
same things through
my eyes that the rest
of the world was
seeing through theirs.
Maybe there was a
glitch in my brain."

-Stephenie Meyer

OUSSAMA HAZIM

born: 28-feb-1996
architect
Lebanese

CONTACT

hazim.oussama@gmail.com
[+961] 71-960697

PRACTICE EXPERIENCE

Rome Spain
parametric design workshop (internship) -03 july 2016
Sapienza Universita Di Roma
Lectures on parametric design simulation as well as environmental optimization and digital fabrication prototyping,then applying it on a case project

Tripoli Lebanon
rendering/drawing/site monitoring -05 june 2017
Soufi Construction And Trading Office

Debbieh Lebanon
digital fabrication workshop -17 april 2018
Beirut Arab University
Lectures on design simulation and digital fabrication prototyping,then executing our designs using cnc machine, robotic arm and other fabrication tools

ACADEMIC BACKGROUND

10 june 2014
Al Isalah Islamic High School
Tripoli Lebanon

bachelor degree -13 june 2019
Beirut Arab University
Tripoli Lebanon

COMPETITION PROJECTS

green park and gathering spaces -07 March 2018
UN Habitat Urban Planning
Abi samra-Tripoli Lebanon

art prison -15 April 2018
Young Architects
Italy- Favignana island

hospital and school -20 May 2018
Dar Al Eftaa
Akkar-Lebanon

LANGUAGES

SOFTWARE SKILLS

(IC3 certification) Office
Autocad
Sketchup
3ds max
Rhinoceros
Grasshopper
Revit
Lumion
Keyshot
Photoshop

ADDITIONAL INFO

Intrested In:

- Graphic design
- Psychology
- Photography
- New tech
- Art and illustration

self assesment
Skills and Potentials:

- Team work
- Leadership
- Work under pressure

Referees and Portfolio provided on request

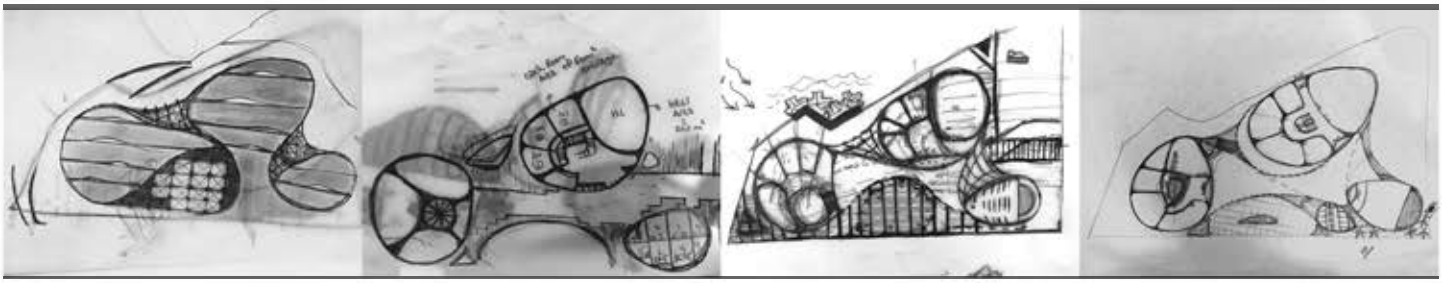
TRIPOLI KIDS SERVICE CENTRE

ACADEMIC WORK 2nd YEAR

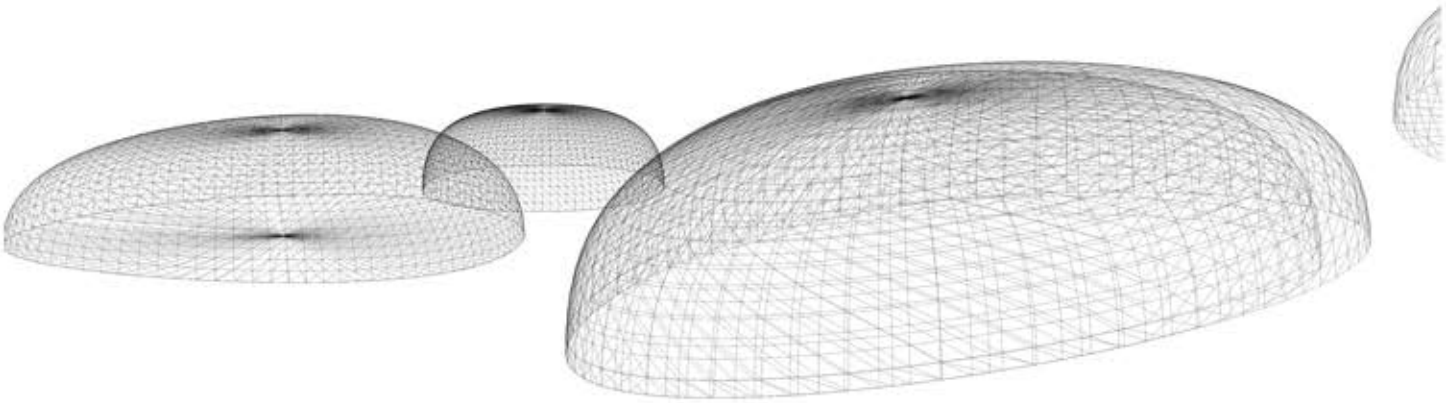
BOAT STATION

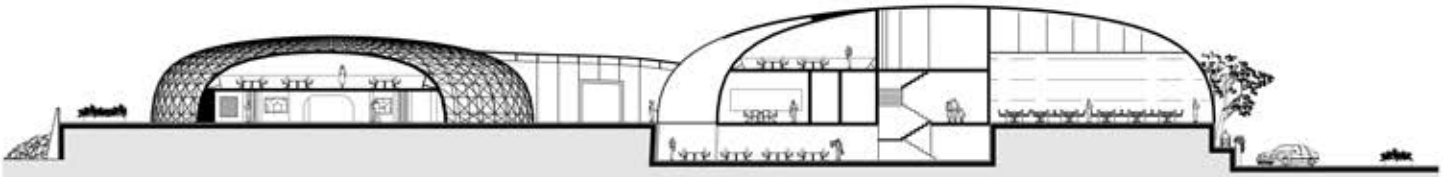
ACADEMIC WORK 2nd YEAR

GROUND FLOOR PLAN

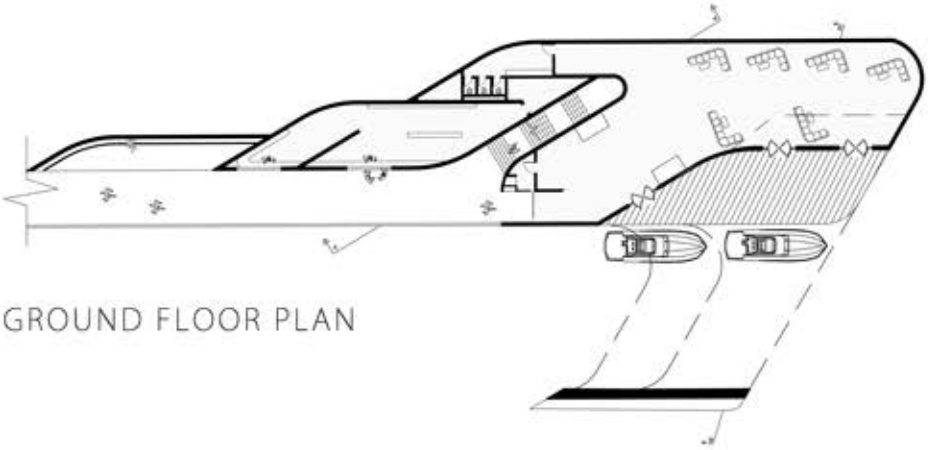


SKETCHES



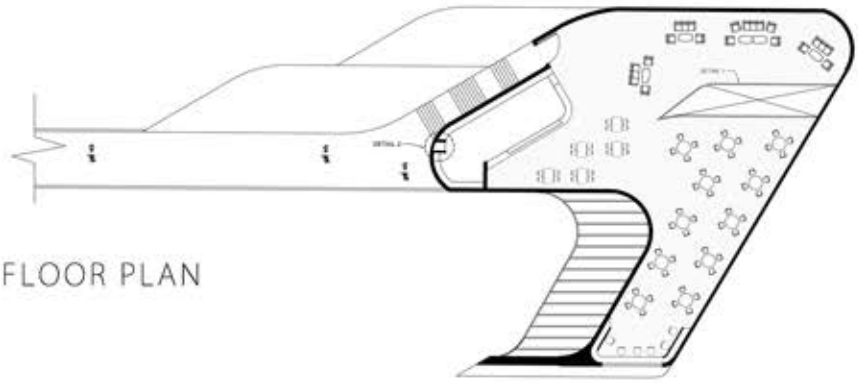


SECTION

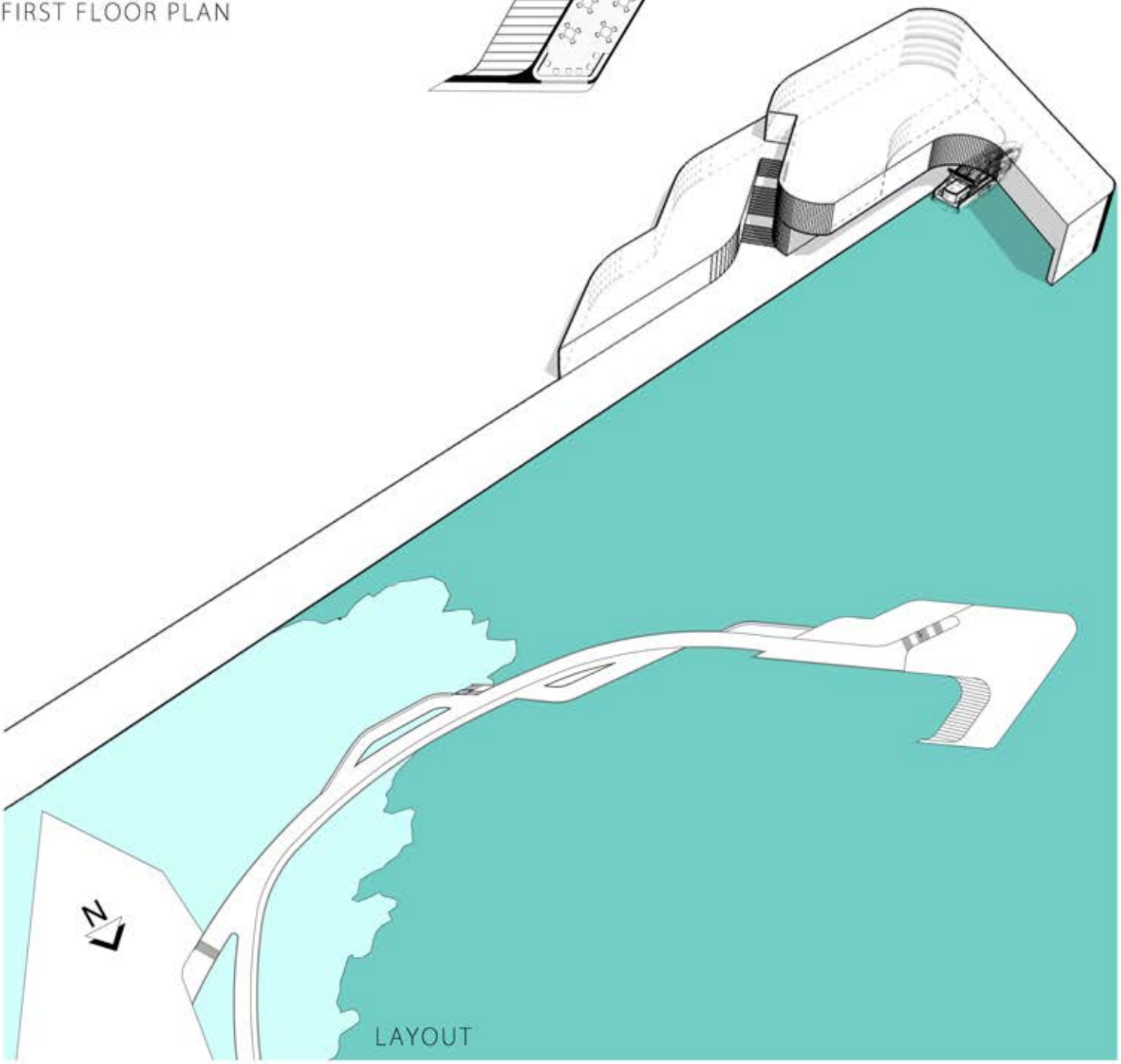


GROUND FLOOR PLAN

THE IDEA BEHIND THE PROJECT IS TO CREATE A DYNAMIC FORM THAT WOULD BREAK THROUGH WIND AND CREATE AN UNUSUAL EXPERIENCE FOR USERS WHO EITHER ATTEMP TO GET TO THE RESTAURANT OR TAKE A BOAT FROM THE SPECIFIED STATION BELOW, THE PATHWAY ALSO HAVE TWO GATHERING SPACES TO EITHER REST OR ENJOY THE VIEW OF THE SEA.



FIRST FLOOR PLAN



LAYOUT

MEMORIAL CULTURE CENTRE

ACADEMIC WORK 5th YEAR

ANALYSIS

CONCLUSIONS :

- NECESSITY TO FIND A TOURISTIC SITE TO ENHANCE THE TOURISM POTENTIAL OF THE AREA
- PRESERVING A COMMUNITY HEIRLOOM

CONCLUSIONS :

- THE REGION IS RICH IN HISTRORICAL BUILDINGS.
- HISTORICAL BUILDINGS ARE NOT JUST CASTLES BUT THERE IS MOSQUES , SCHOOLS , RESIDENTIAL BUILDINGS , KHANS AND SOUQS.

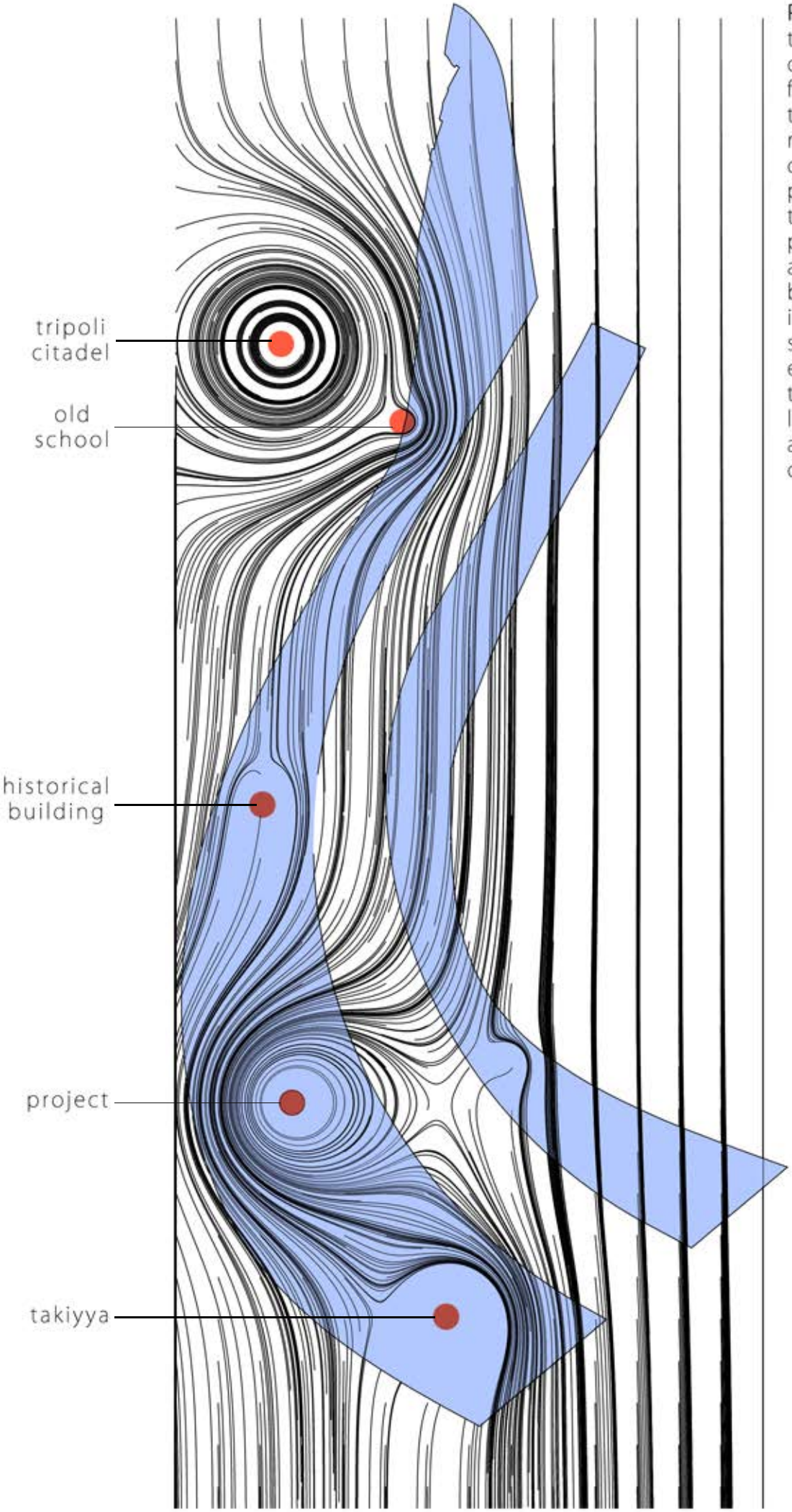
CONCLUSIONS :

TWO SEPARATE VEGETATED AREAS, IN BETWEEN BARREN AREA

- POTENTIAL O STRENGTHEN THE CONNECTION BETWEEN BOTH AREAS THROUGH VEGETATION
- SOME AREAS ARE PREPARED FOR VEGETATION BUT DO NOT HOLD ANY
- NO PRIVATE GARDENS, ONLY FEW ROOFTOP GARDENS AND SHOPKEEPER POTTED PLANTS BLURRED LINE BETWEEN PUBLIC AND PRIVATE
- RELIANCE ON RAINWATER FOR IRRIGATION
- INFORMAL KIOSKS IN PHYSICAL LOCATIONS OF SHADE
- PATH DEFINED BY TREES
- IN THE CENTRAL SPACE OF THE GARDEN, SOME BENCHES ARE NOT SEATED IN SHADE, SO THEY ARE NOT USED

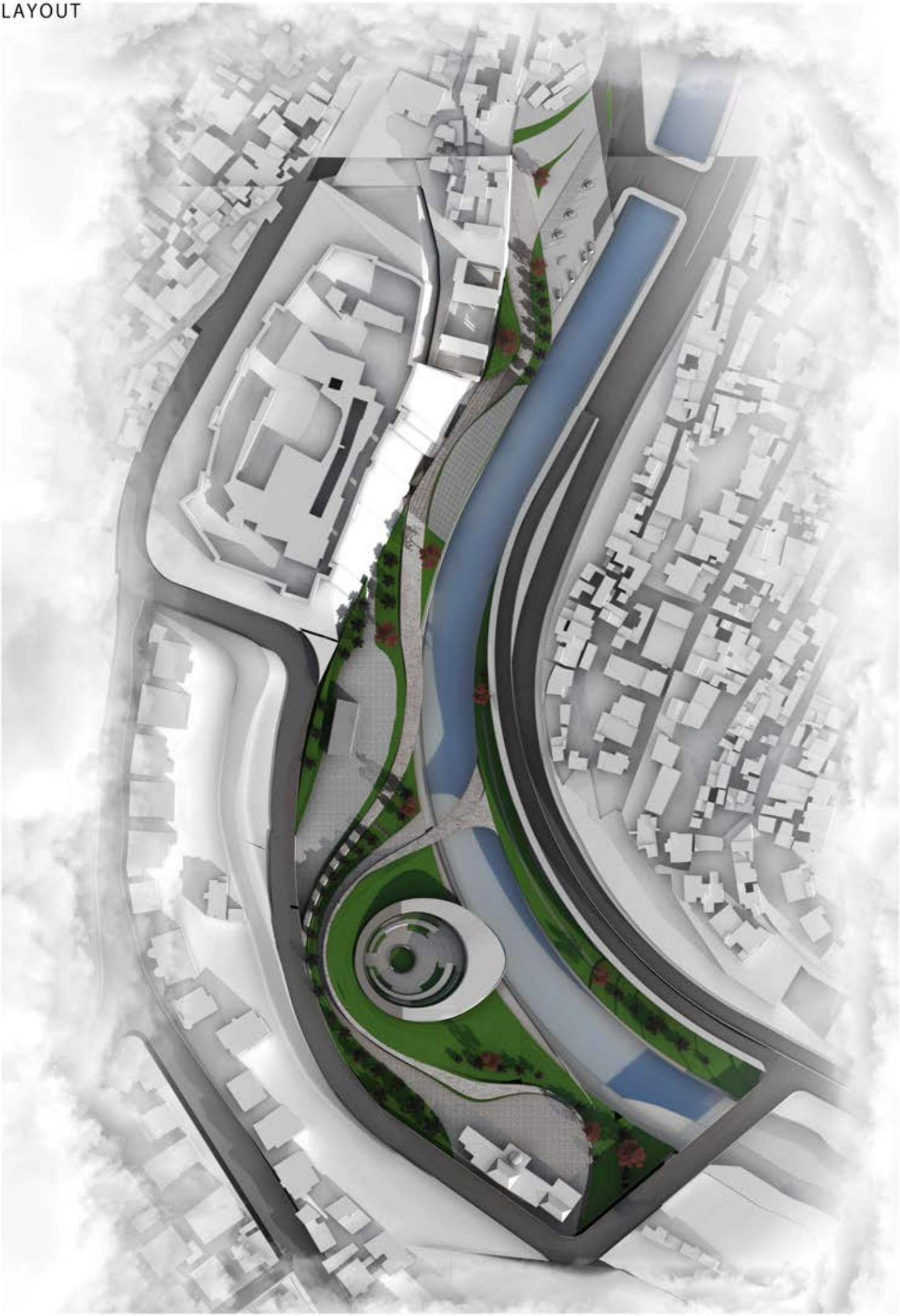
CONCLUSIONS :

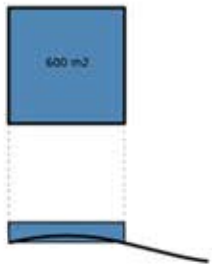
- MATERIAL IS GEWNG MORE AND MORE IMPORTED: COPPER, WOOD FOR FURNITURE AND TEXGLE FOR CARPETS.
- AS PRODUCGON IS MOVING TOWARDS MECHANIZED RATHER THAN MANUAL,THERE IS A DECLINE IN CRAYSMANSHIP.
- THE STREET IS TRANSFORMING FROM A PLACE OF SKILLED PRODUCGON TO A PLACE OF COMMERCIAL INTERACGON.



PROJECT LAYOUT:
the project grid is created on magnetic fields.
the red points represnts the force created on the project grid.
the power of each point is set according to the building impact and importance on the site.
each point either twist or push the lines of the grid according the users circulation.

LAYOUT

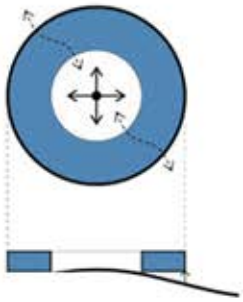




PROGRAM STRATEGY

The brief asks for a 600 m2
Besides that, this particular facility contains very diverse typologies that have to work together as an all integrated system but, because of each type specificities, they will also need some autonomy and privacy between functions.

We concluded that a block volume building would not be able to respond to such needs.

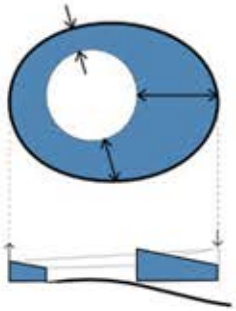


CIRCULAR BUILDING

The circular building band model permits a radial disposition. The functional distribution of the program allows taking full advantage of the landscape in all 360º.

The inner circumference volume subtraction of the of the patio void allows crossed ventilation, natural light and direct to exterior connection in all rooms.

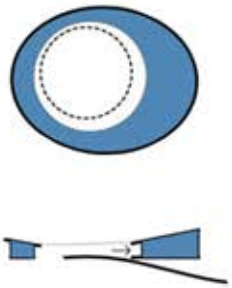
The building is also lifted from the ground, leaving the terrain topography untouched, reducing to almost zero the need for excavation or land filling. The natural flow of rain water and wind is also preserved.



VOLUME MORPHING

The shape, width and weight of the building is morphed according to the functional criteria plan distribution and the specific needs of each item/room.

Keeping the definition of a nuclear perfect circumference, the patio uses one of the most classic and regular geometric form to generate a natural arena stage naturally producing a gathering socialization space underlined by the concentric shape of the concave roof surface.

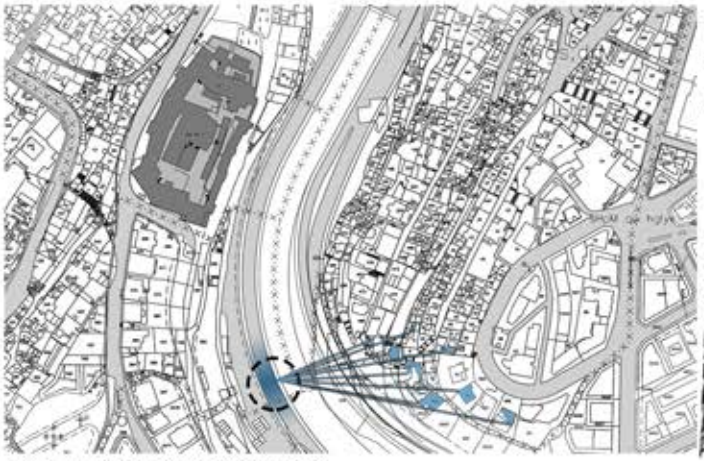


PERIMETER BUFFERS

Under the single continuous gesture of the large roof surface and according to program space and proportion optimization, two perimeter buffers are generated.

The inner perimeter is the main covered circulation and distribution path through service spaces. The outer one is mainly a more private and contemplative deck that permits a more reserved and private use and enjoy of the landscape.

Both perimeters widen according to shadowing / covering and/or circulation / program distributing needs along the radial axis.



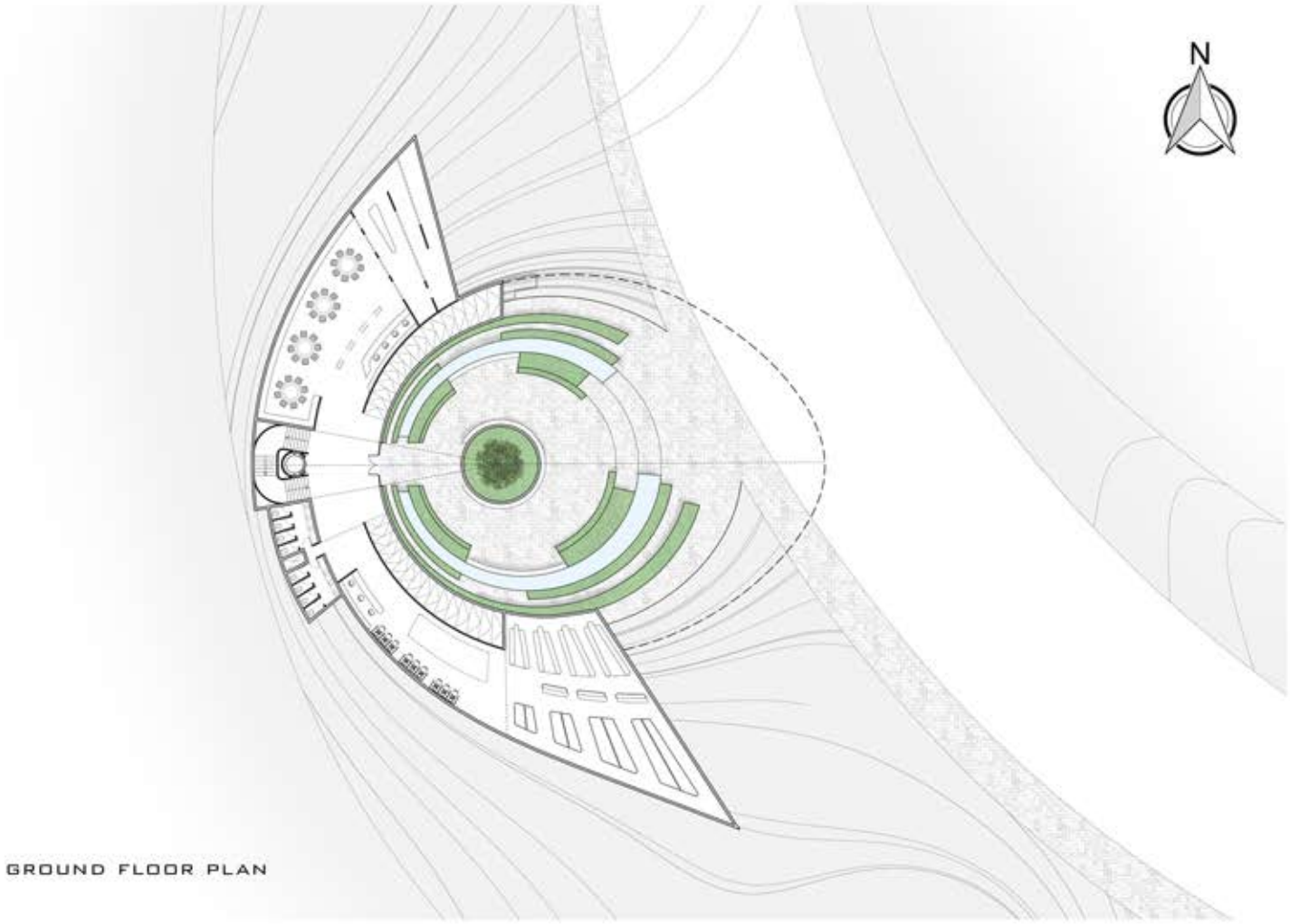
TO GREAT SUCH A CONNECTION BETWEEN THE SITE , AND ESPECIALLY THE PROJECT , A VISUAL CONNECTION WAS MADE FROM THE EXHIBITION AT A CERTAIN POINT THAT CAN REFLECT A GRAFFITI ART AT THE BUILDING OF EBREH.

IN THE EXHIBITION THE USER WILL INTERFACE WITH THE FRONT ELEVATIONS OF EBRE BUILDINGS , WICH HAS CREATED A PIECE OF ART IN SELECTED BUILDINGS

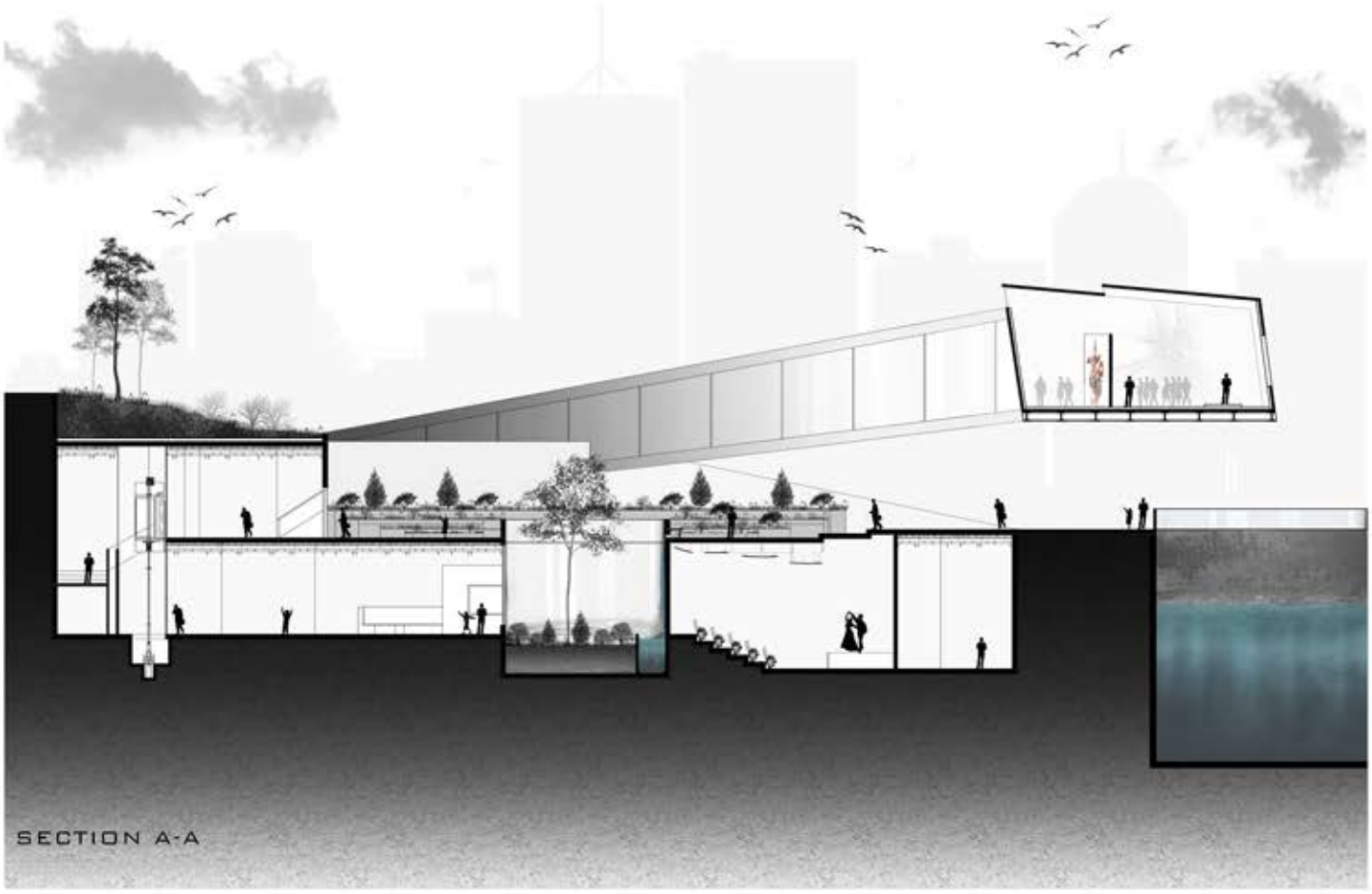
THE EXHIBITION POST THE ART OF ARABIC CALLIGRAPHY TRANSMITED IS SUCH A MODERN WAY TO COMBINE IT AT THE SAME TIME WITH THE URBAN CONTEXT TO CREATE SUCH AN ENVIRONEMENT THAT REFLECT THE CULTURE OF THE OLD CITY

EXHIBITION : POINT OF VIEW STUDY

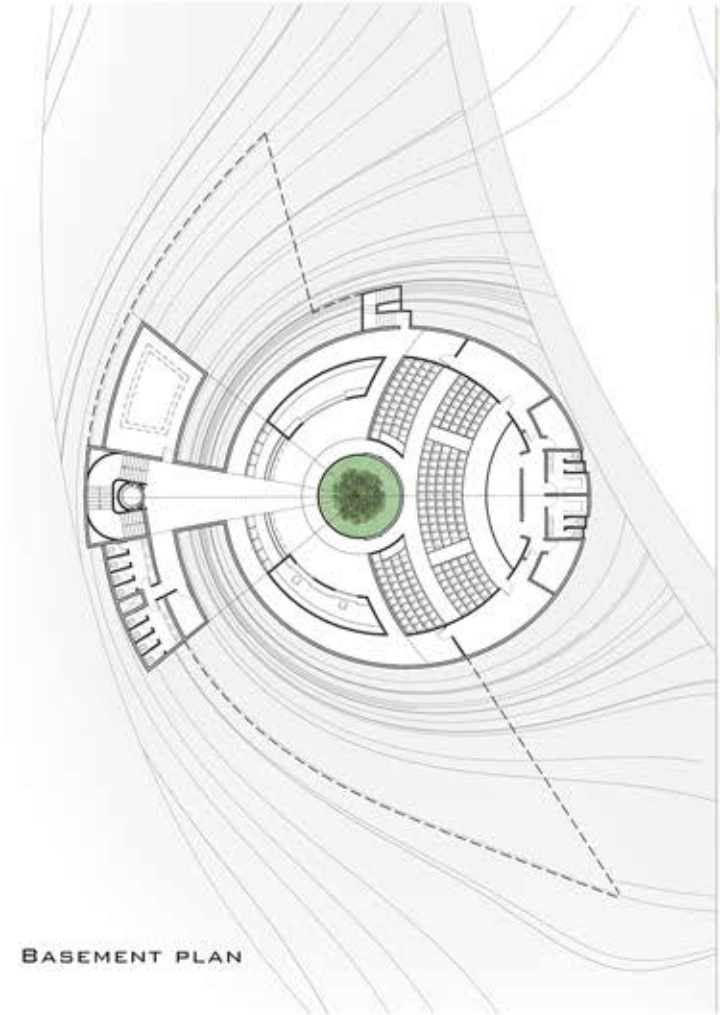
EXHIBITION

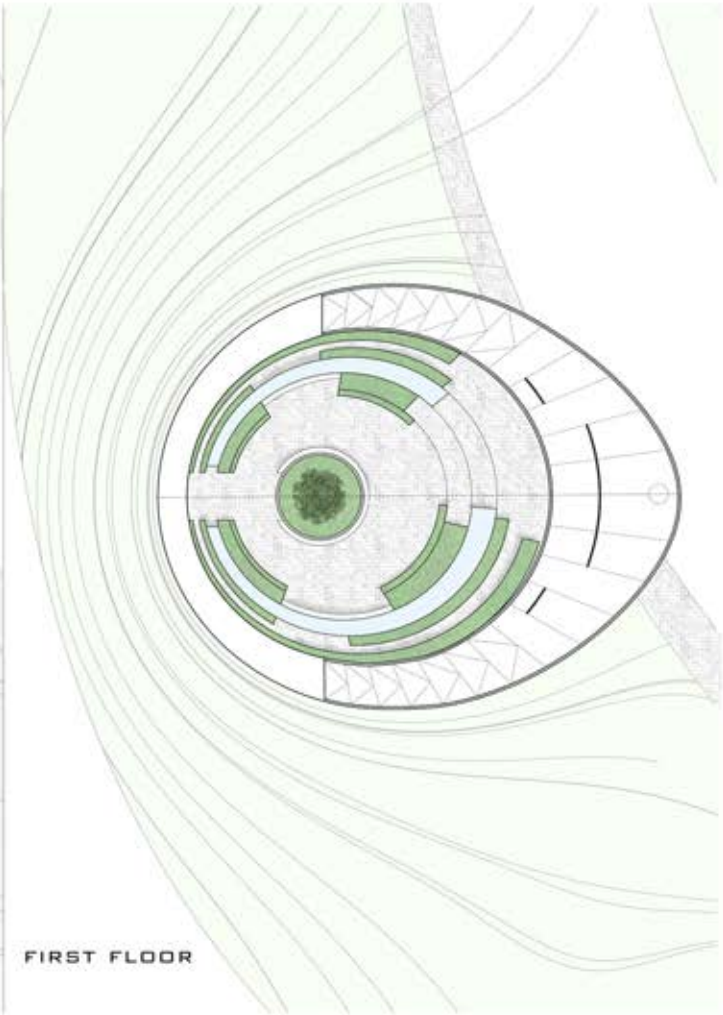


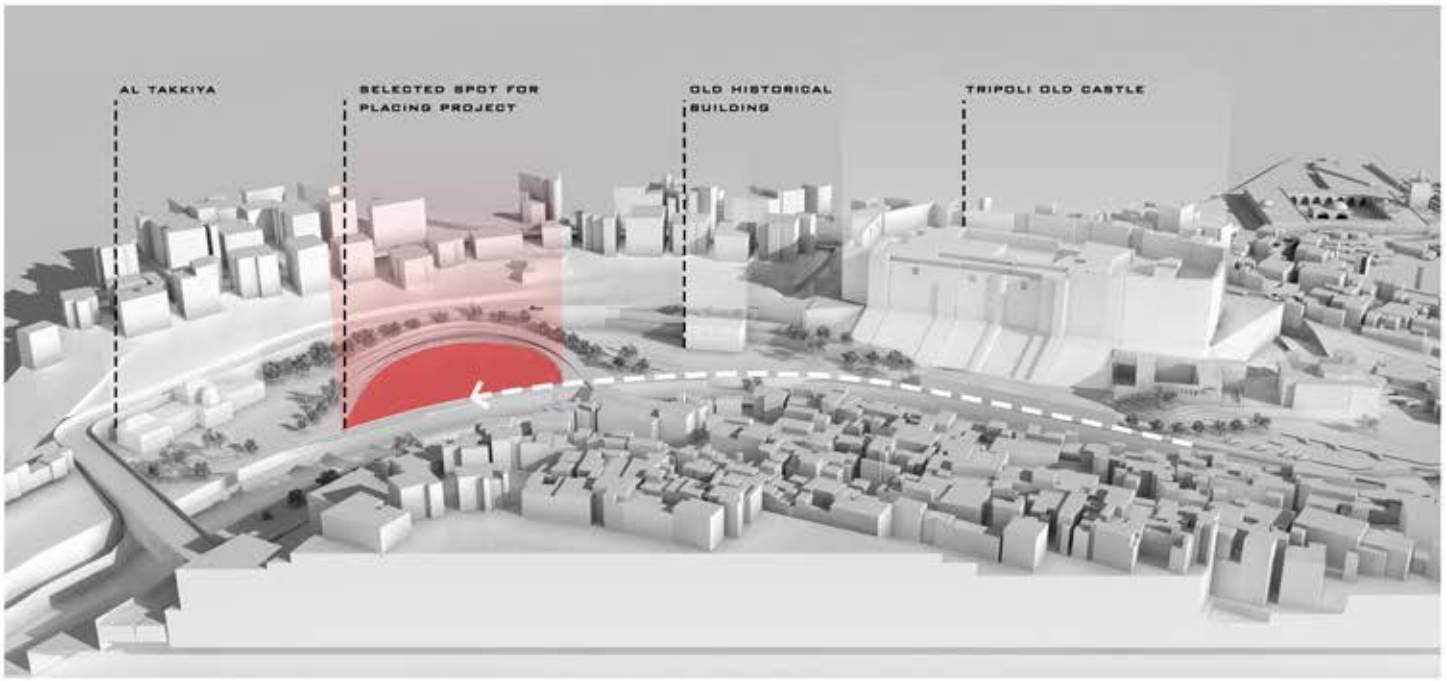
GROUND FLOOR PLAN



SECTION A-A


BASEMENT PLAN


FIRST FLOOR


AL TAKKIYA
SELECTED SPOT FOR PLACING PROJECT
OLD HISTORICAL BUILDING
TRIPOLI OLD CASTLE

3D VIEW 1

3D VIEW 2

3D VIEW 3

3D VIEW 4

SEED BANK

GRADUATION PROJECT

Security Threats

Man-made disasters, specially in the Middle East, can be as devastating to plant life as natural disasters. An obvious example would be the Syrian civil war. In fact, one of Iraq's vital seed banks was looted during fighting. The same story has been repeated in Syria.

Population Growth

Indigenous people, in the Middle East, have used plants to cure sickness for centuries. One in every six wild plants is used for medicinal purposes. Who knows what diseases the right plant or herb could eradicate? Reviving this act again in Lebanon is cruel.

Natural Disasters

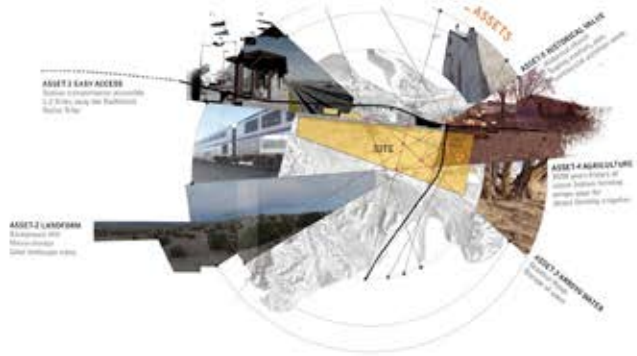
Natural disasters can wreak havoc on a region's ecosystem. After the 2004 tsunami destroyed rice paddies in Malaysia and Sri Lanka, international seed banks provided local farmers with varieties of rice to begin growing their crops again, in aim to serve that region.

In recent years, **governments from across the world have united to create a network of 'doomsday seed vaults'** in anticipation of a global catastrophe. The laboratory will use the seeds as part of a global effort to breed new crops capable of withstanding threats such as drought, climate change and diseases. **They are being delivered to Lebanon where they will be used for food security research.**

Now humanity's 'last resort' in the Middle East has gotten bigger, with **Lebanon receiving 70,000 new samples.** The new delivery contained more than 50 wild relatives of cultivated crops, including lentils, wheat and barley. The samples came from Britain's own doomsday vault - The Millennium Seed Bank at Kew, Sussex, which is the world's largest wild plant seed bank.

The last decades have witnessed countless, progressive, rapid advances in the field of Building Technology, which has a strong impact on the construction industry. Consequently, employing these techniques to support Sustainable Architecture has become a pivotal issue. Since architecture is a product of the available Technology Era, hence building technology could be a contributing factor to reinforce Sustainable Architecture, where it could promote raising the efficiency of the environmental performance of the architectural product. This paper introduces a methodological framework to support Sustainable Architecture through Building Technology in the Digital Era through an analytical study of the interactions between Building Technology and Sustainable Architecture. In addition, analyzing the influence of technological revolution in the Digital Era on axes of Building Technology implementation methods, construction systems, construction materials! from the sustainability perspective so as to conserve natural resources for future generations.

DESERT FARMING MOISTURIZER



3.1 Natural Topography

The narrow fertile coastal plain broken at several points by the foothills and peaks of the Lebanon Mountains. Lebanon's main cities, Beirut and Tripoli, are along this plain.

3.2 Subtracting Main Mass

When a void occurs, the space between two solids it is passive. When it occurs as a removal, or subtraction, from a solid, the void is active. Penetration of space can be regarded as empty space entering into a solid form

3.3 Shaping Circular Form

In elementary plane geometry, the power of a point is a real number h that reflects the relative distance of a given point from a given circle. Specifically, the power of a point P with respect to a circle C of radius R is defined by, where d is the distance between P and the center O of the circle.

3.4 Adding Main Mass

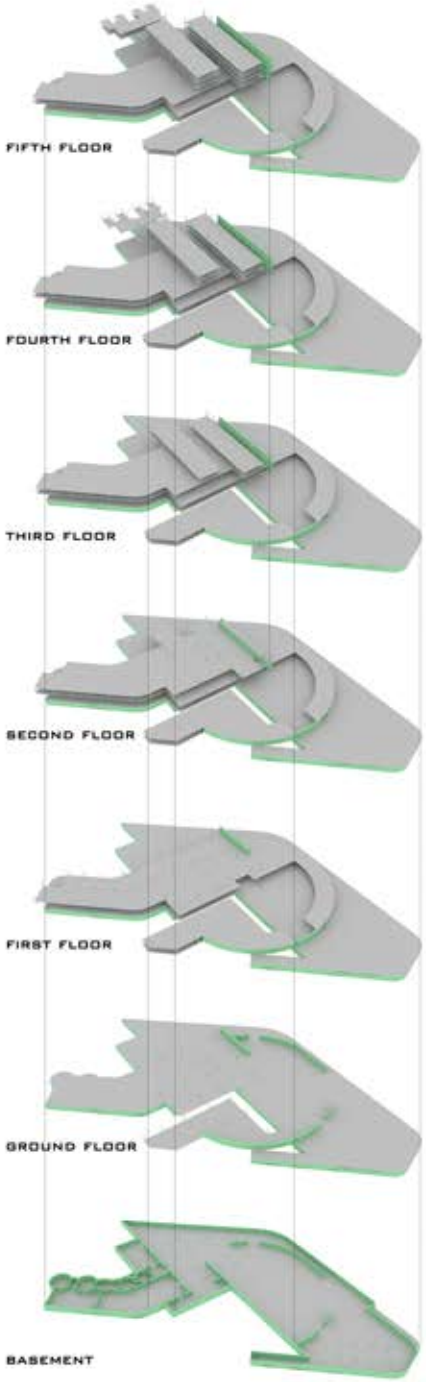
Extruding the secondary mass from the mountain in aim to respond to the landform; minimizing the extent of earthworks, including space for planting and vegetation to soften the view of large scale engineering structures and balance cuts into the land with fills, instead of using cuts or fills alone.

3.5 Creating Skylight

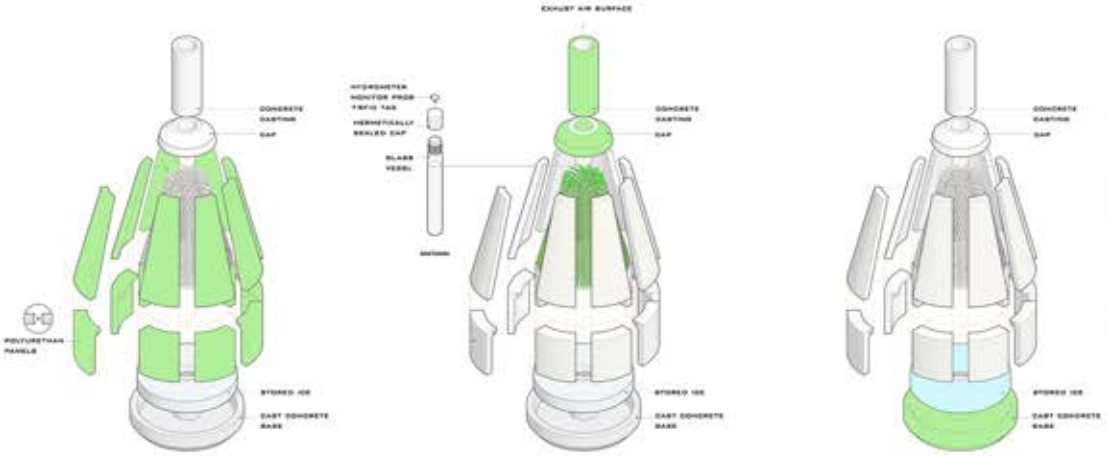
Making skylight greatly increase the energy efficiency of the project and reduce the energy bills by replacing inefficient plastic skylights with velux curb mount skylights(available as a fixed or opening unit).

3.6 Placing Helicopter Base

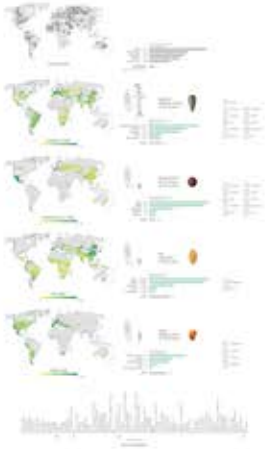
Placing the helicopter base above the seed bank in aim to provide shortest time and distance from outside grounds to the secure lockers. Furthermore, the base is standing on a well designed steel core structure.



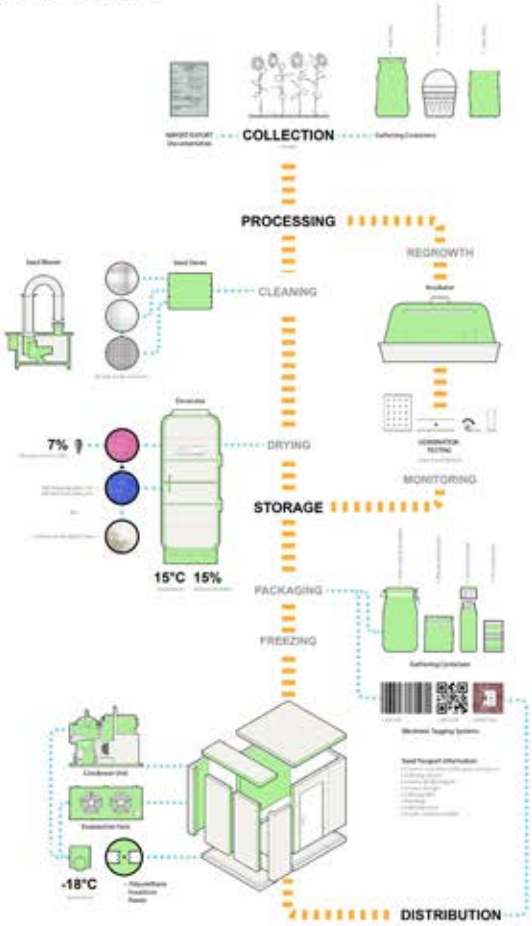
SEED BANK DETAIL



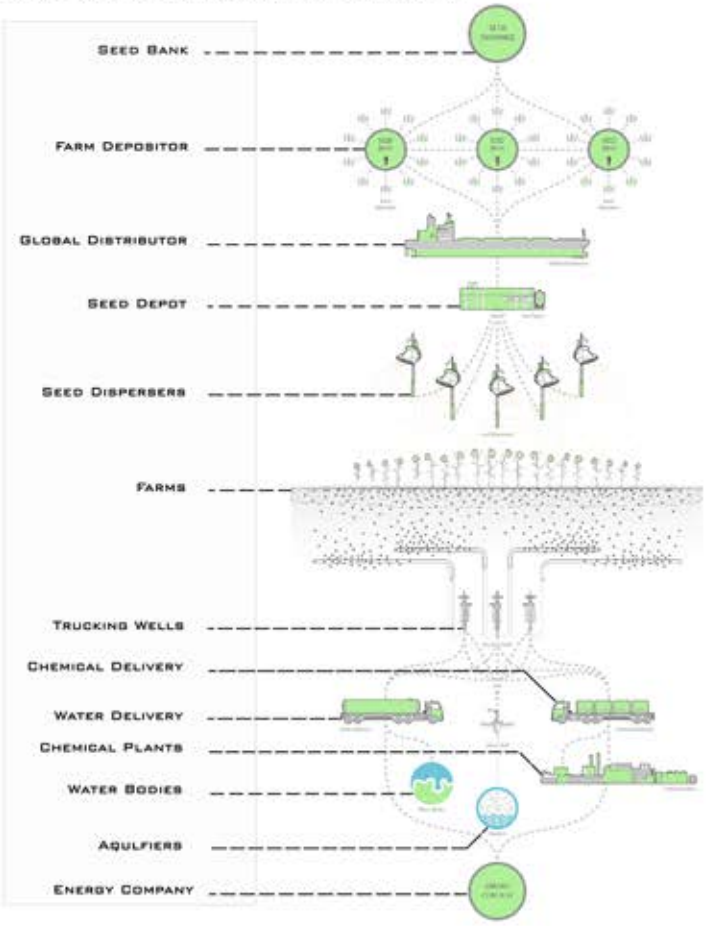
SEED SOURCES



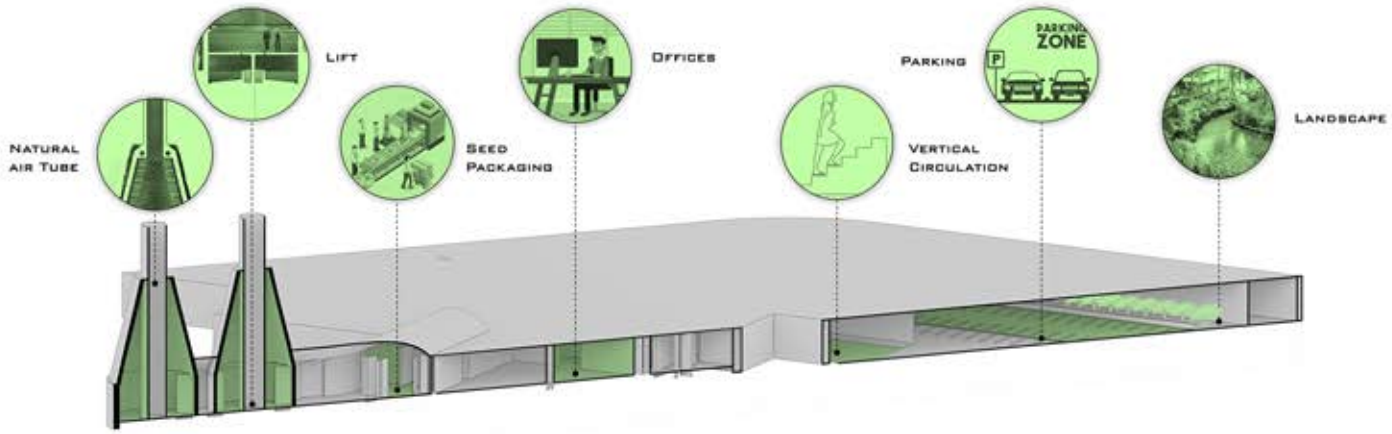
SEED BANK: PROCESSING



PROGRAM NETWORK: CONTAMINATION VS REMEDIATION

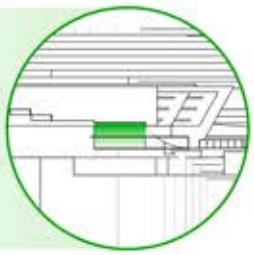


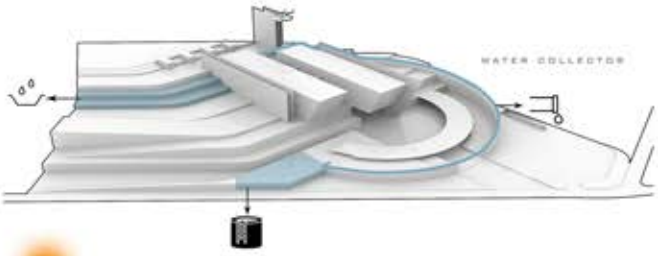
3D SECTION: FUNCTIONAL DISTRIBUTION



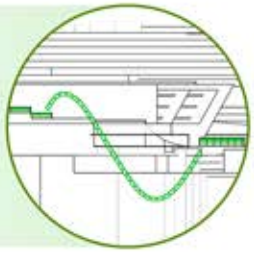
ENVIRONOMENTAL STUDIES

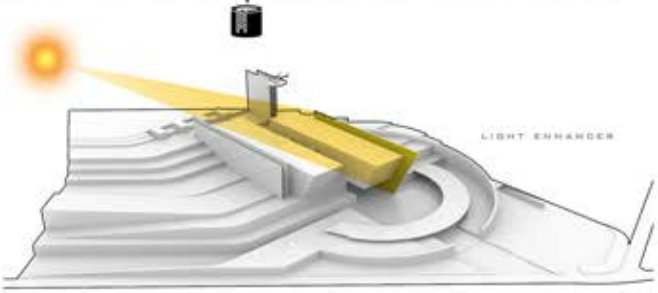
AeroFarms is the commercial leader in indoor farming. We grow without sun or soil in a fully-controlled indoor environment. We have optimized our patented aeroponic growing system for faster harvest cycles, predictable results, superior food safety and less environmental impact.



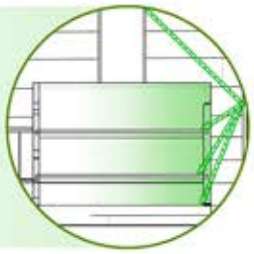


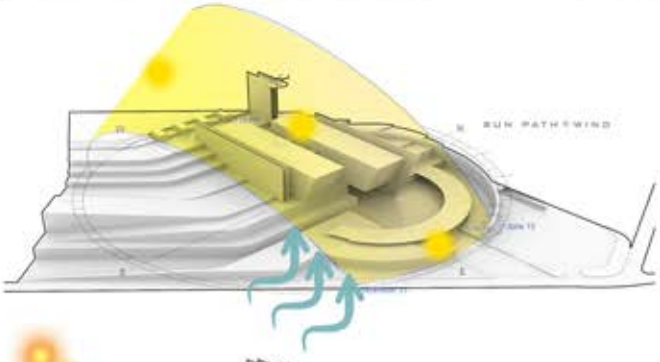
Rainwater tank (sometimes called a rain barrel in North America in reference to smaller tanks, or a water butt in the UK) is a water tank used to collect and store rain water runoff, typically from rooftops via pipes. Rainwater tanks are devices for collecting and maintaining harvested rain.





Solar Reflective Paint is a thin bituminous based aluminium protective paint of brushable consistency which dries to a silvery finish. The product is specifically designed for application over primed metal walls and roofs to reduce heatabsorption. Solar reflective paint can be applied to the inside of a building to keep it warm.

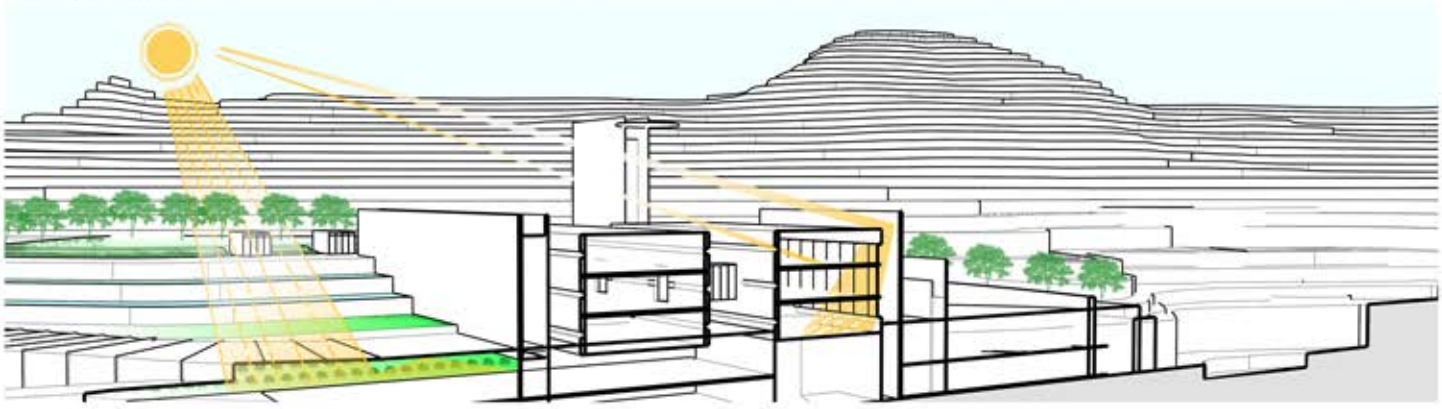




Natural ventilation is the process of supplying air to and removing air from an indoor space without using mechanical systems. It refers to the flow of external air to an indoor space as a result of pressure differences arising from natural forces. Thus, naturally ventilated buildings should be narrow.

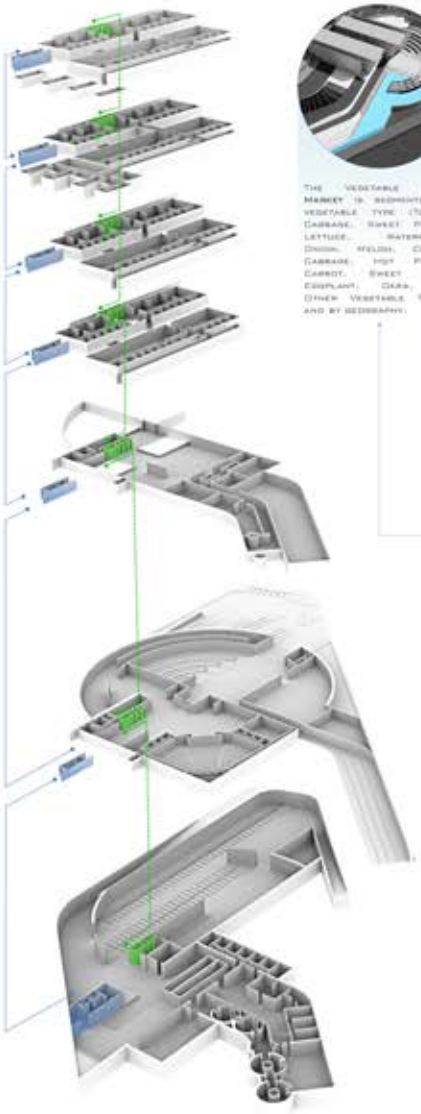
Internal Sun Shading Devices Limit the glare resulting from solar radiation. Usually are adjustable and allow occupants to regulate the amount of direct light entering their space. Most commonly these shading devices take the form of horizontal or vertical blinds attached above windows.

SECTION DIAGRAM

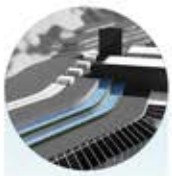


VERTICAL ACC

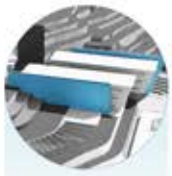
MASSES FUNCTIONALITY



The vegetable **Seeds Market** is dedicated to vegetable type (Tomato, Cabbage, Sweet Pepper, Lettuce, Watermelon, Onion, Melon, Chinese Cabbage, Hot Pepper, Carrot, Sweet Corn, Eggplant, Okra, and Other Vegetable Types), and by geography.



The wildlife water holes are an important habitat component for a variety of wildlife in Marjaayne. They provide drinking water for many species, including bats, wild birds and white-tailed deer and also serve as breeding habitat for many amphibians such as frogs and other.

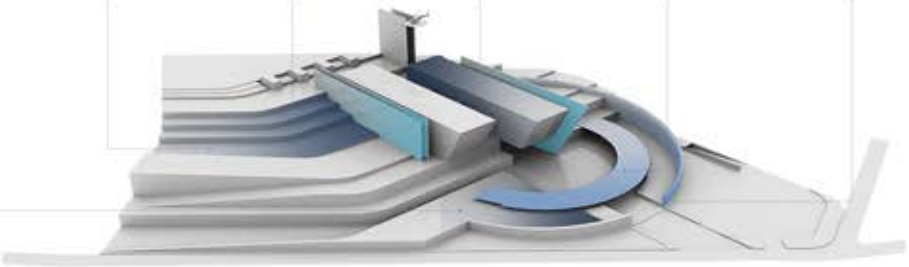


Precast wall has superior strength and known for its durability, it provides excellent protection and is very easy to install. Absolutely, installing this retaining wall has many environmental benefits i.e. reducing erosion and protecting areas from being saturated.

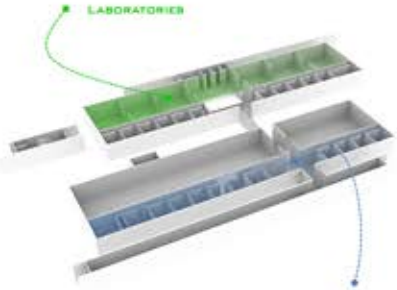
The rectangular shape of the experimental method is that it is a controlled environment which enables the scientist to measure precisely the effects of independent variables on dependent factors and independent variables, thus establishing cause and effect relationships.

Well-designed sun control and shading devices can dramatically reduce building peak heat gain and cooling requirements and improve the natural lighting quality of both building interiors and exteriors, depending on the amount and location of fenestration.

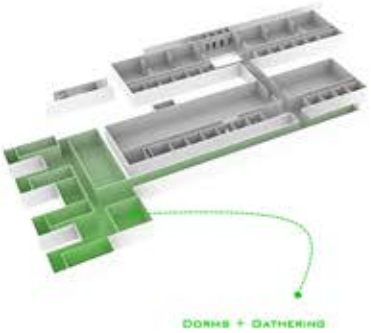
The water cycle advantages are that the earth's population doesn't have to produce any more water than what we already have because we use the same water. Provides water for our population, animals and plants. Infiltration help to remove water impurities.



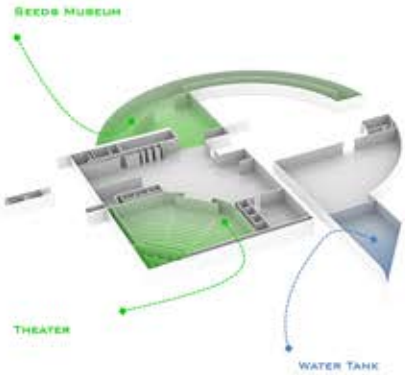
Typical Floor Zoning



3RD Floor Zoning

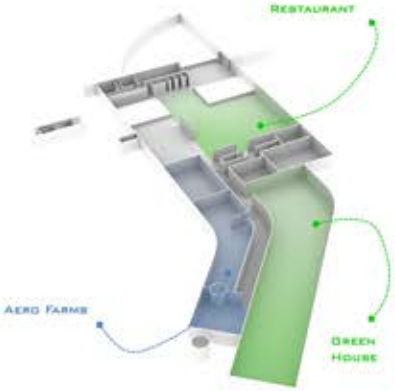


Main Accessibility



Basement Zoning

1ST Floor Zoning

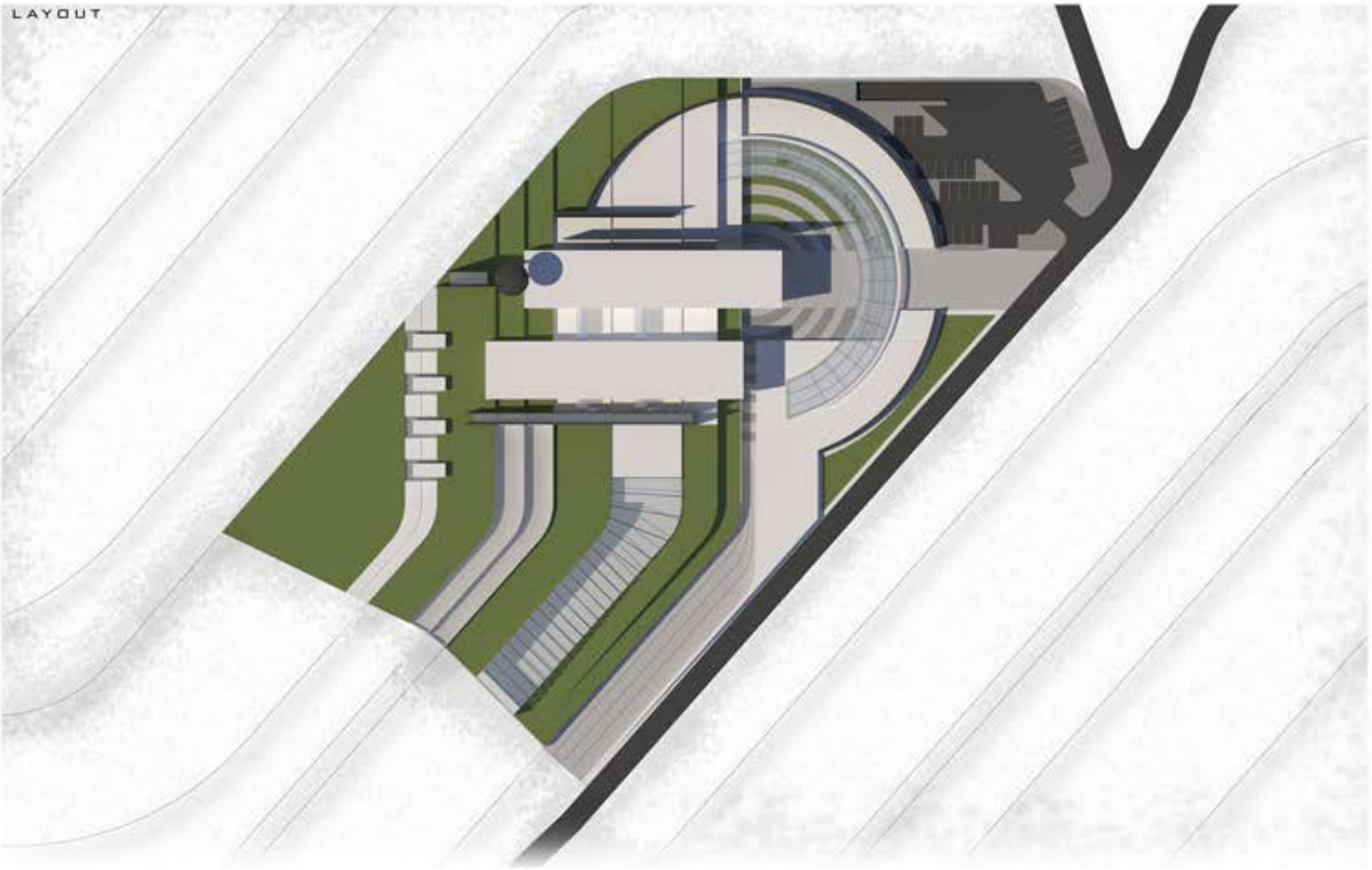


Ground Floor Zoning

Seeds Transportation

Main Departure

LAYOUT



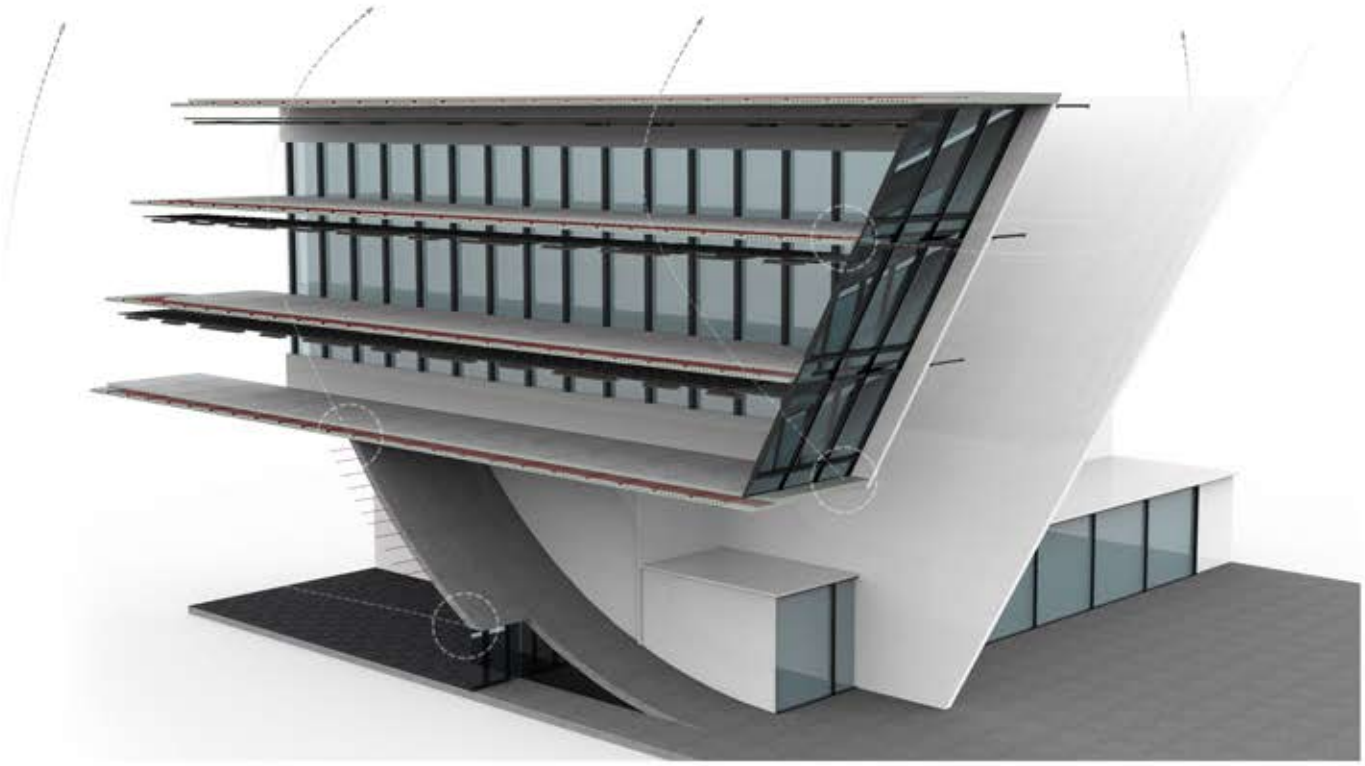
3D WALL SECTION DETAIL

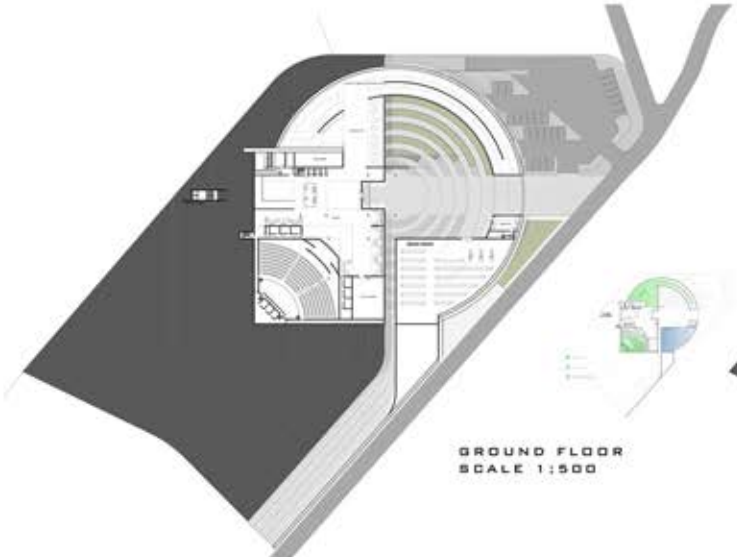
ENTRANCE DOOR

SLAB ENTANCE CONNECTION

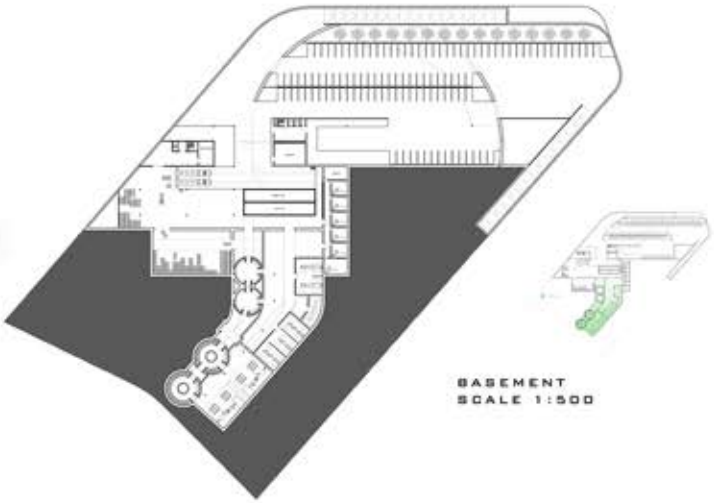
GLASS PANELS

SLAB LAYERS

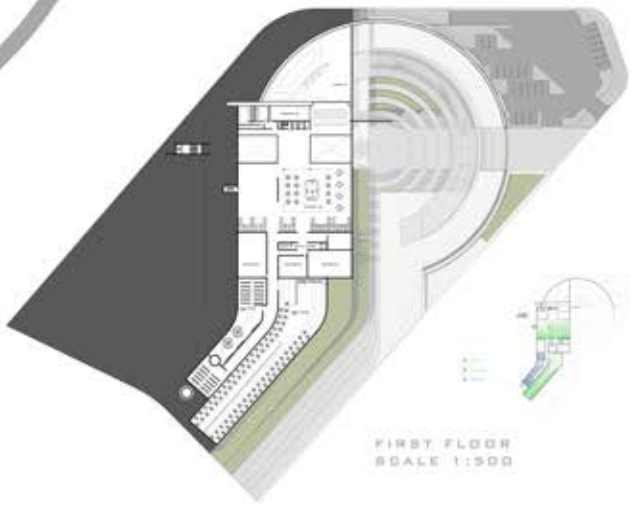




GROUND FLOOR
SCALE 1:500

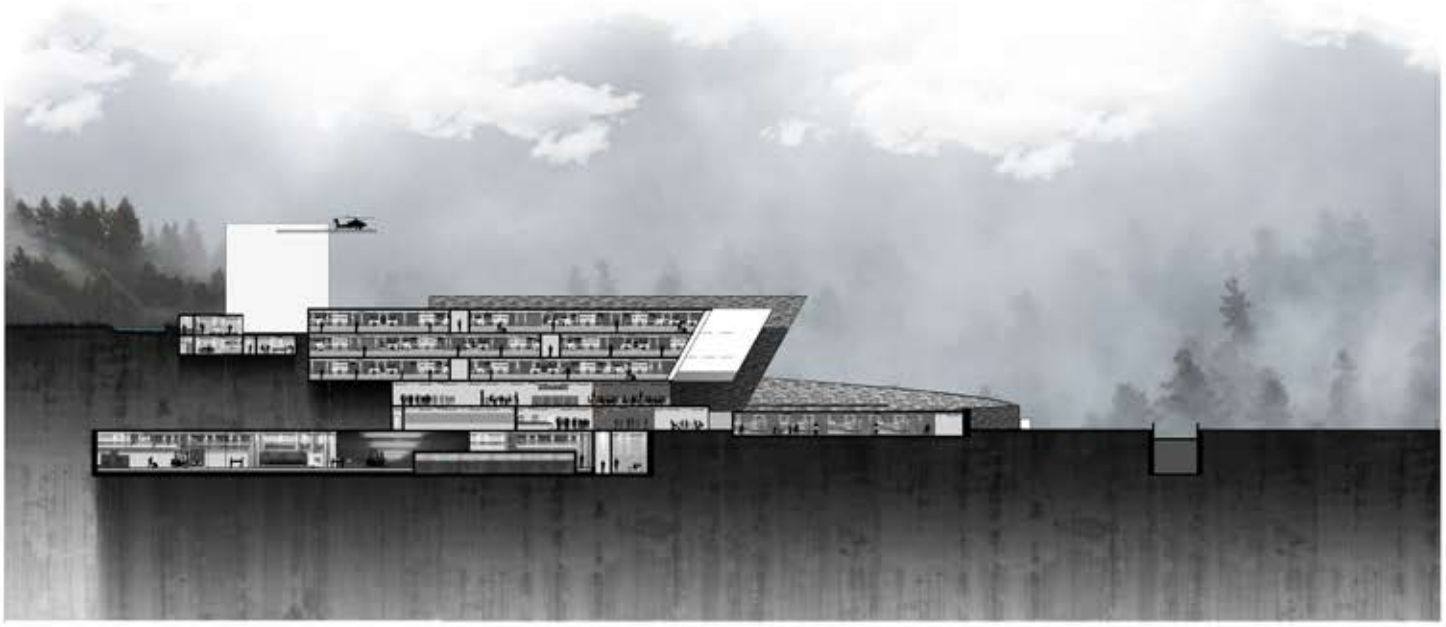


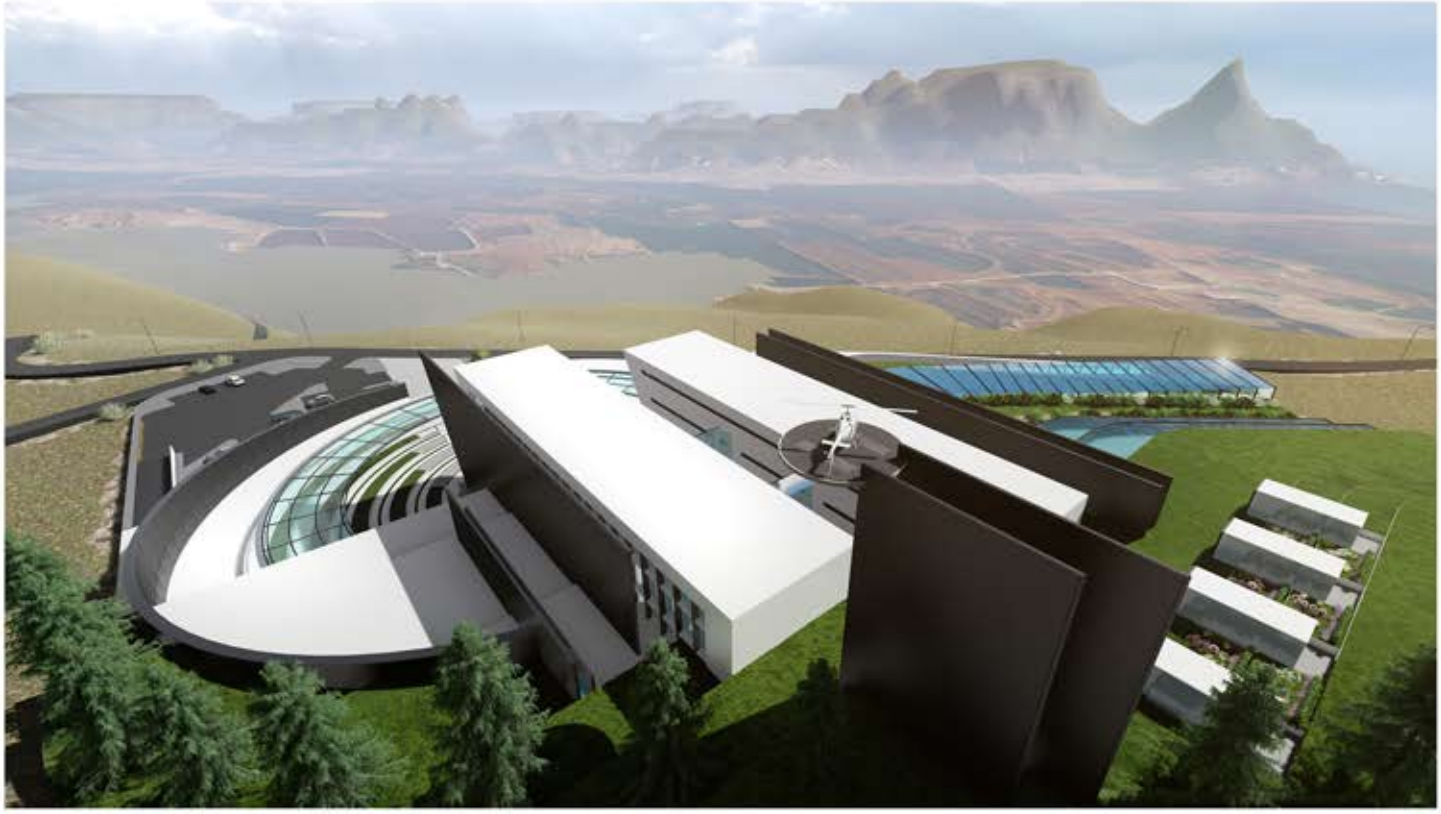
BASEMENT
SCALE 1:500



FIRST FLOOR
SCALE 1:500

SECOND FLOOR
SCALE 1:500





3D VIEW 1

3D VIEW 2

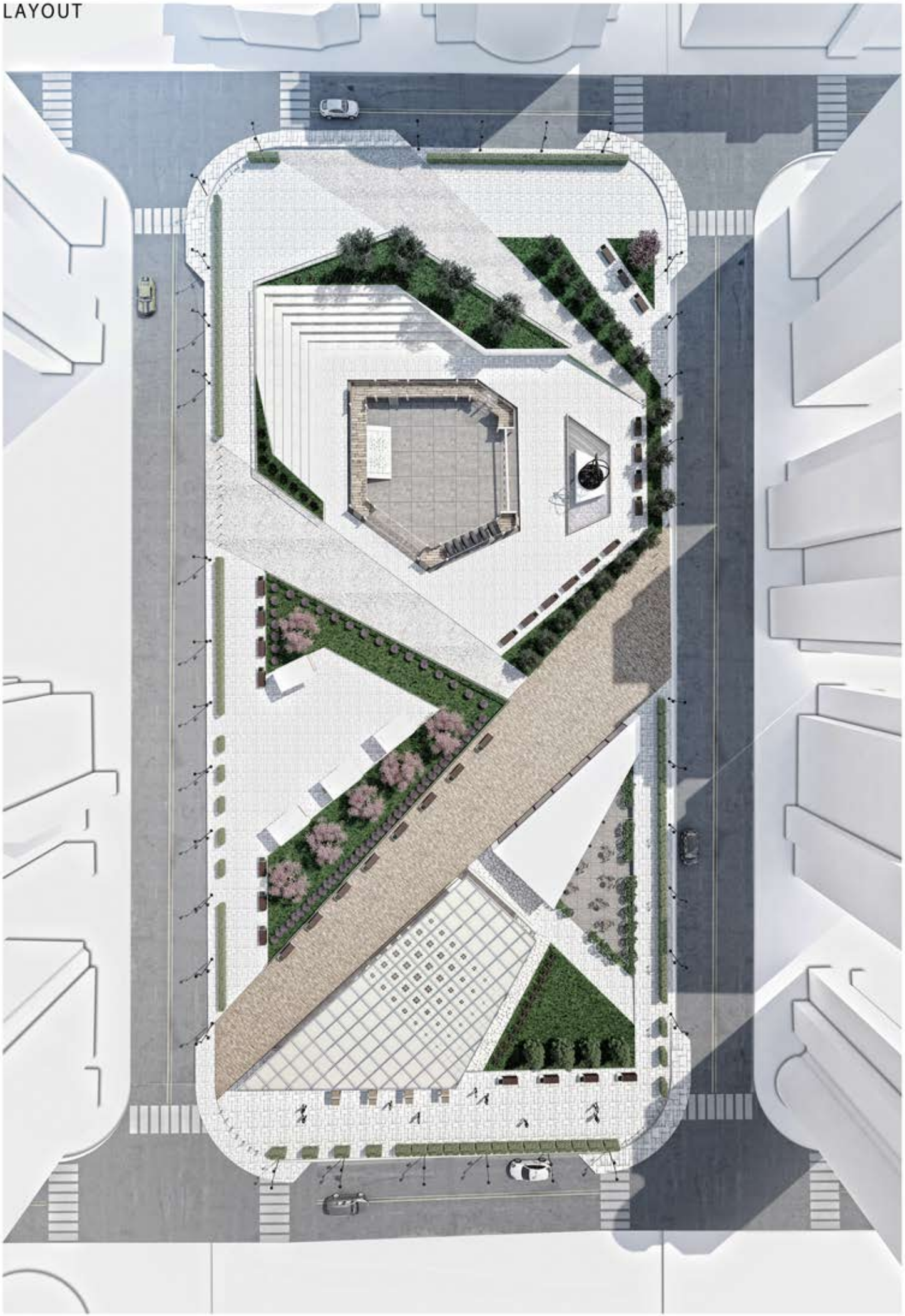
3D VIEW 3

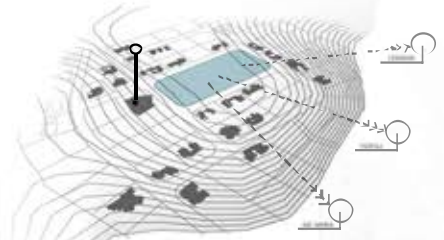
3D VIEW 4

ABI SAMRA PUBLIC SQUARE

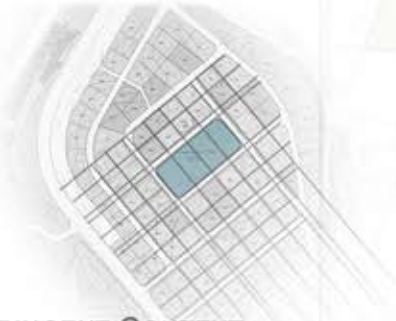
COMPETITION

LAYOUT





Sensory Analysis



Stringent Context

Vision

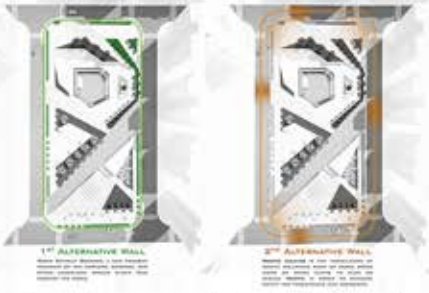
Site Location

Abi Samra is one of Tripoli's most notable neighborhoods extending from the Citadel of Raymond de Saint-Gilles downwards towards the Old City. Until the early 20th century, Abi Samra was known for its Schools, gardens and olive trees - hence the architectural richness of the neighborhood.

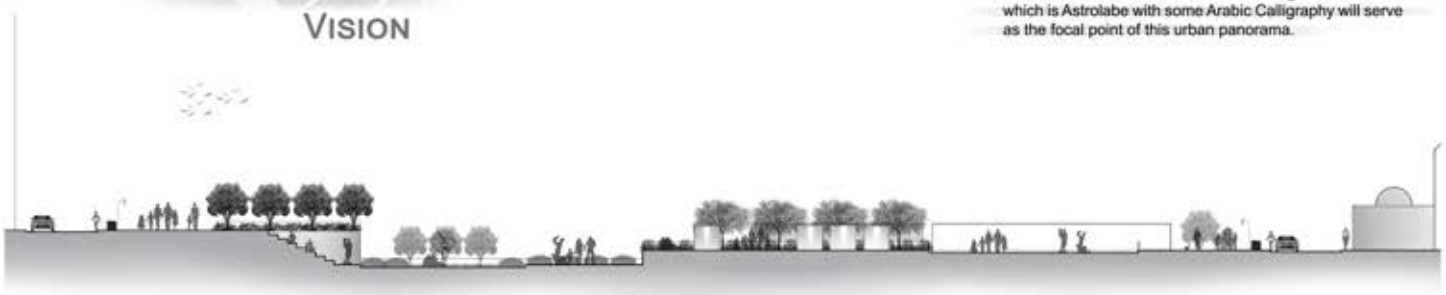
"too much control can lead to monotony"

Irresponsible planning can lead to urban inefficiency and, more dramatically, calamitous economic, social, and cultural disasters.

The characteristics that make an urban space "work" or "not work" are fluid and dependent on context – changing with reference to the needs and norms of its inhabitants, its political and geographical setting and its position within the society, and complex global network at large.



However, in some cases, the absence of stringent planning coupled with a sense of spontaneity can contribute to the invisible yet undeniably palpable "spirit" of a city. Following the development plan for the area around the project site, and the human density caused by residential, economical and religious buildings, the park will create a new visual and physical axis. It will guide the view from Masjid Al-Outour – to the Northern Western Street, which is located on lower level. And from the principle entrance of the residential area to the same target. A landmark which is Astrolabe with some Arabic Calligraphy will serve as the focal point of this urban panorama.



3D VIEW 1

3D VIEW 2

3D VIEW 3

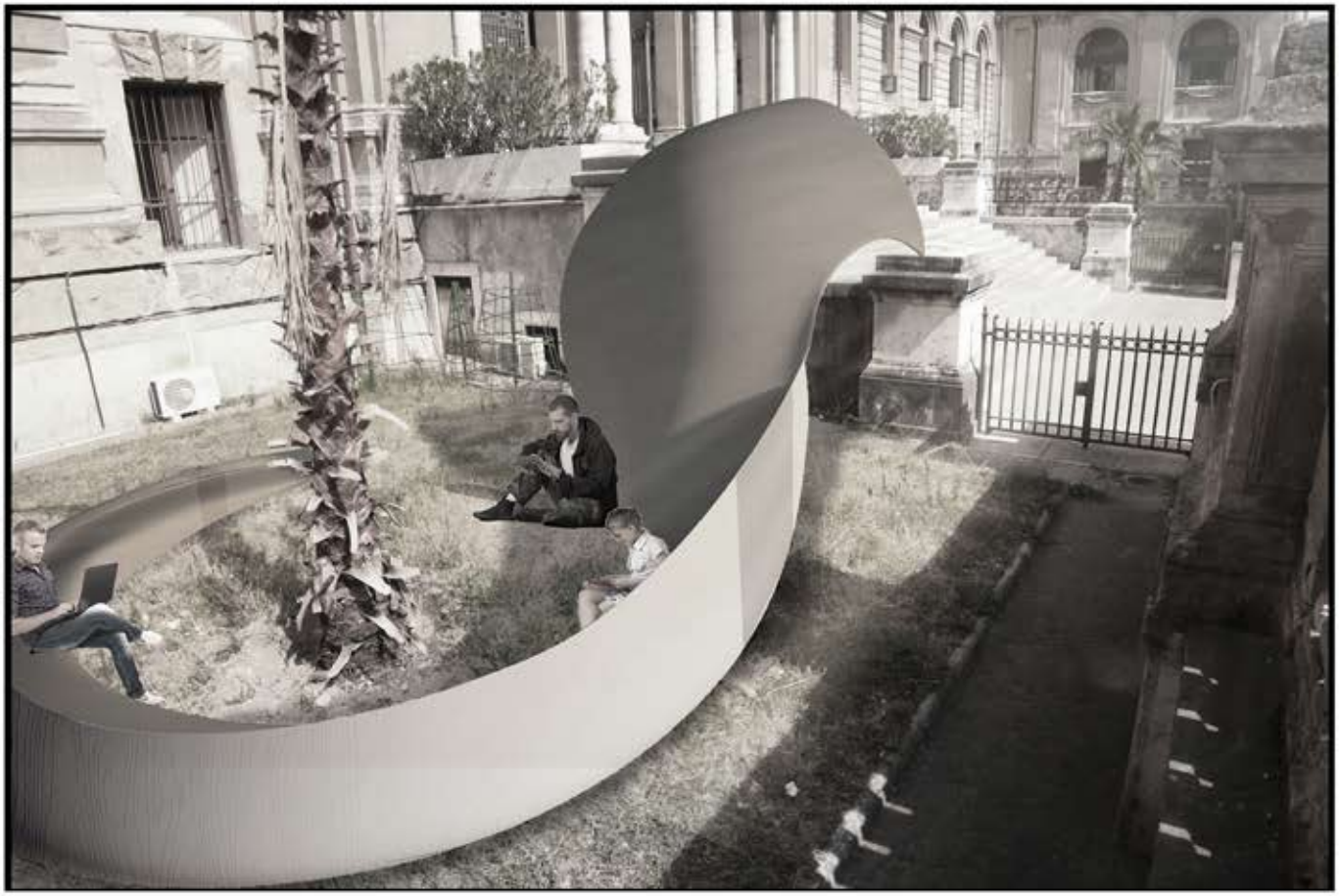
3D VIEW 4

ROME SUMMER SCHOOL

WROKSHOP

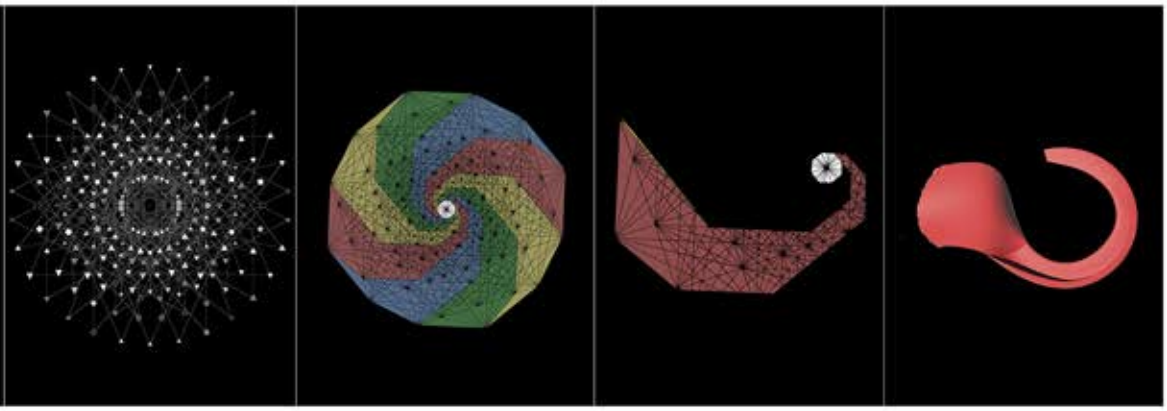
THE READING STATION

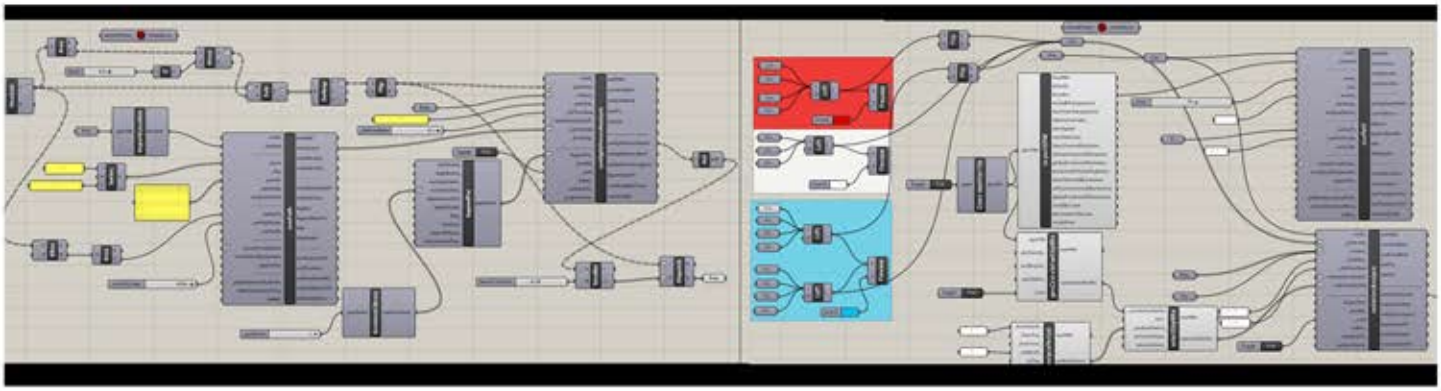
TRIALOGUE SUMMER SCHOOL
ROME 2016



"if you have a garden and a library you have everything you need."

Marcus Julius Cesir





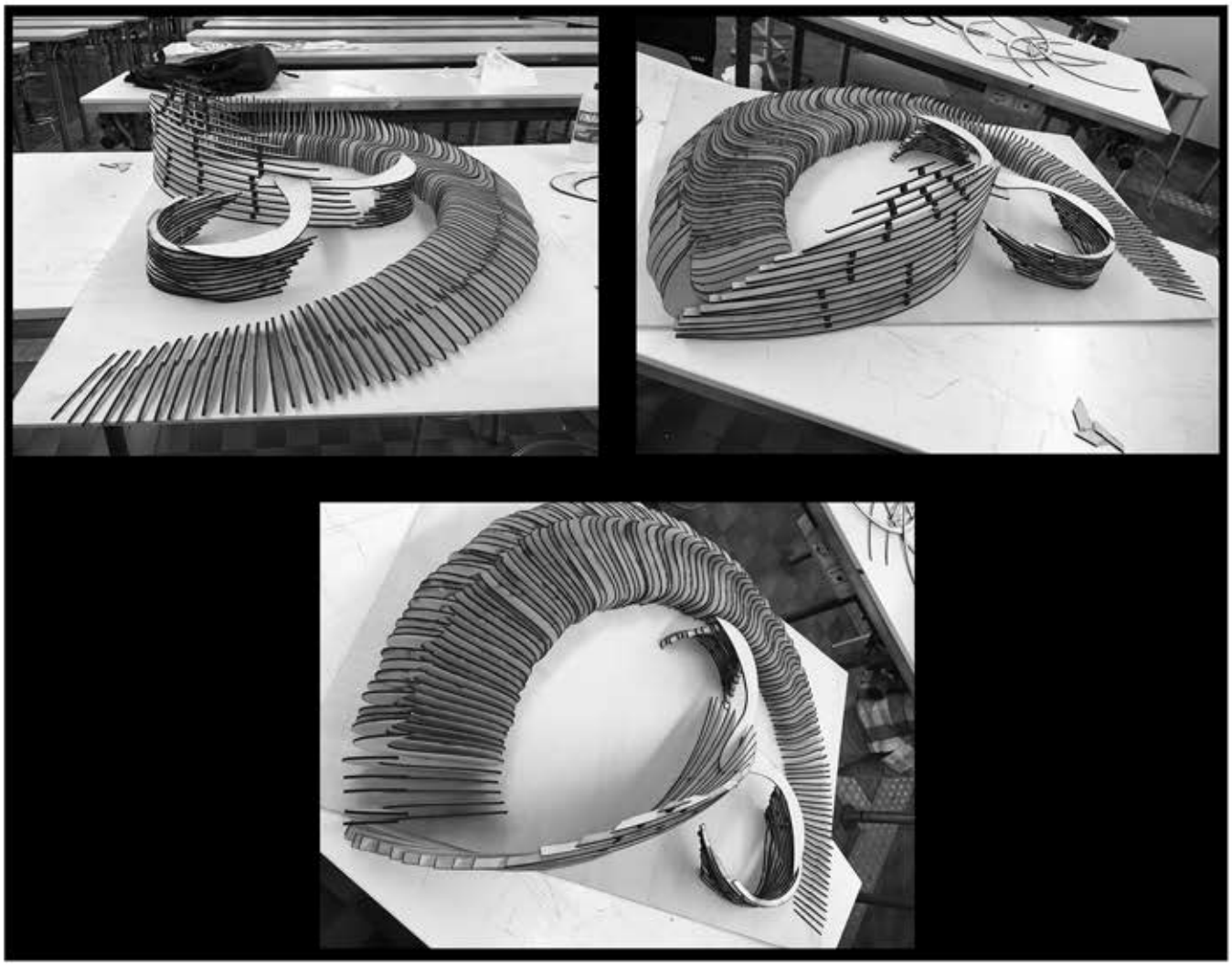
Group ( )

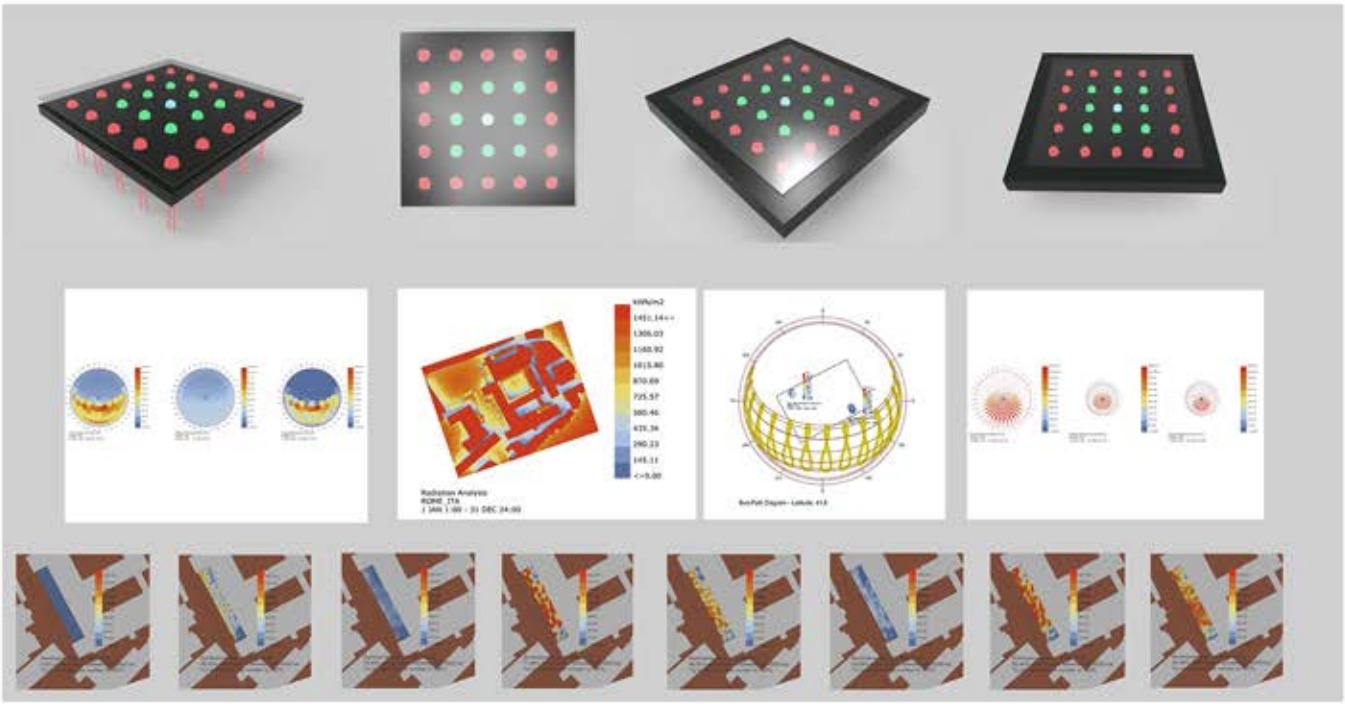
Algoritm

SAPIENZA
UNIVERSITÀ DI ROMA

THE READING STATION

TRIALOGUE SUMMER SCHOOL
ROME 2016





Group (H)

Algoritm

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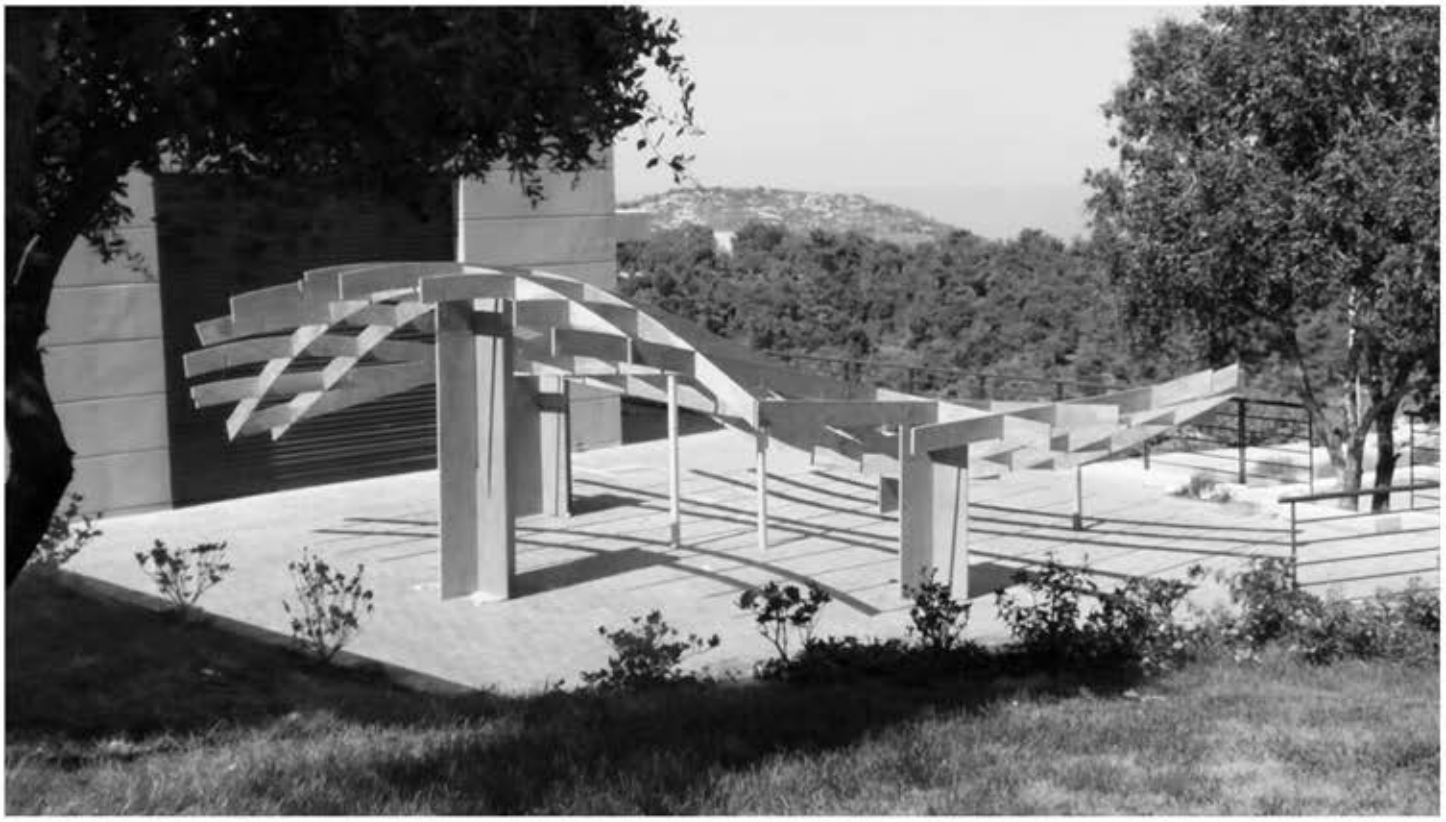
UNIVERSITÀ DI ROMA

DIGITAL FABRICATION

WORKSHOP



DOUBLE CURVED MESH FABRICATED USING WAFFLING METHOD USING CNC MACHINE.

CARVING VERTICAL UNITS USING ROBOTIC ARM TO WELD IN DIFFERENT ANGLE.