EMAN ADAM

SELECTED WORKS

2021

PORTFOLIO

2025

emanibrahem09@gmail.com

RESUME

EDUCATION

Sep.2023-Current
MSc in Architecture: Building Architecture
Politecnico di Milano

July.2024
Planning and design for the justcity
Delft university of technology (TU Delft)

Oct.2015 – Dec.2021
BSc Honours in Architecture
University of Khartoum- Faculty of Architecture
Grade: First Class - **Credits**: 233 Hours

HONOURS AND AWARDS

The Best Academic Performance Prize for 2017-2018
The Best Academic Performance Prize for 2018-2019
The Best Academic Performance Prize for 2019-2020

PROFESSIONAL REGISTRATION

Since AUG.2022
SUDAN ENGINEERING COUNCIL
Title: Graduate Engineer/ **Discipline**: Architecture

MANAGEMENT AND LEADERSHIP SKILLS

DEC.2021 – DEC.2022
Kectil Leadership Program- 2022 Colleague
Mutasim Nimir Center for Environmental Culture- Member
Black Females in Architecture- Member
New member at BFA non profit organization
Youth Lead Organization- Member
Workshop University Governance and Academic Leadership)

WORK EXPERIENCE

Nov.2021 – Apr.2023
Junior Architect
Otas Design and Consultants
Type: Full-time

Jun.2022 – Dec.2022
University Teaching Assistant
University of Khartoum- Faculty of Architecture
Type: Part-time

2017 – 2018
Trainee, Site training
Enmaa Engineering Consultants
Building: Sudan university for science and technology (New campus site)
Type: University required Training

VOLUNTEERING

2019 – 2020
Arabic Language Teacher
Education Without Boarders
Arabic Teacher for children in Al Geraif Reformatory

2019 – 2020
3D Modeling
University o Khartoum/ Faculty of Engineering
CESSCON- Civil engineering students conference

MAR.2020
Junior Architect, Drafter
Architects without Boarders
Rehabilitation of Albuluk hospital-Omdurman
(Measurement Drafting using Revit Software)

LANGUAGE SKILLS

MOTHER TONGUE(S): **Arabic**
OTHER LANGUAGE(S): **English**

COMMUNICATION AND INTERPERSONAL SKILLS

-Good searching Skills
-High team interaction ability and Communication
-Excellent Strategic Thinking

HOBBIES AND INTERESTS

-Sustainable Architectural Design Theories
-Documentary Films
-Brain and Human Mental Interaction

DIGITAL SKILLS

REVIT
ARCHICAD
AUTOCAD
LUMION
MICROSOFT OFFICE
PHOTOSHOP
ILLUSTRATOR
INDESIGN

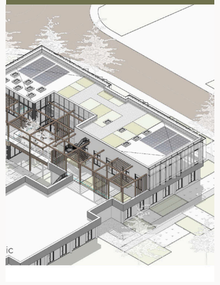
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3B TOWER
MADRID, SPAIN



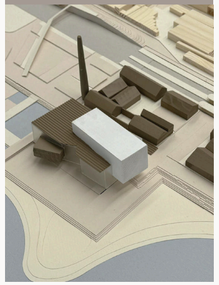
THE 3 BLOCKS TOWER
MSc Studio project,
Complex constructions.01

02
CINIFABRIQUE
MILAN, ITALY



VOCATIONAL CENTER EXTENSION
MSc Studio project,
Sustainable architecture construction studio

03
THE HOUSE OF MUSIC
NAPLES, ITALY



AUDITORIUM AND SCHOOL OF MUSIC
MSc Studio project,
Complex constructions.02
Graduation project

04
DESERT STUDIES
RESEARCH CENTER
DONGOLA, SUDAN



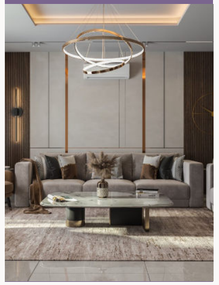
RESEARCH CENTER AND EDUCATIONAL FACILITY
BSc Studio project,
Thesis graduation project

05
MIXED USE BUILDING
KHARTOUM, SUDAN



MID-RISE RESIDENTIAL AND COMMERCIAL
Professional experience at OTAS design

06
INTERIOR DESIGN
KHARTOUM, SUDAN



PRIVATE VILLA INTERIOR DESIGN PROJECT
Professional experience at OTAS design

01

THE 3B TOWER

TALL BUILDING, MADRID, SPAIN

ARCHITECTURAL DESIGN STUDIO FOR COMPLEX CONSTRUCTIONS.1,MSc

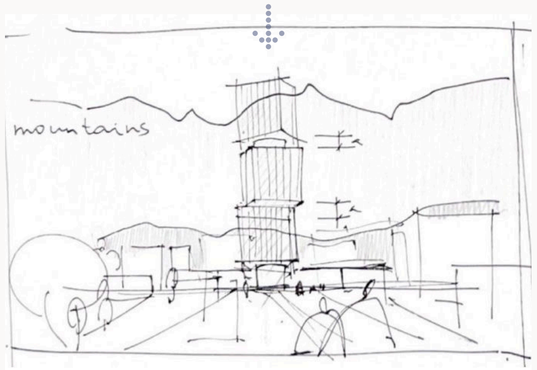
Theme: **Tall Building- Skyscraper**
Design Date: February-2024 to June-2024 (2nd Semester)
Proposed Location: Chamartin, North Madrid, Spain

Project Aim: Design a tall building for mixed uses of offices zones, residential and entertainment facilities with the tower and a podium which blends with the urban fabric in north Madrid.
Design Approach: A conceptual visualization was created in a form of three blocks tilted from each other to face different green axes around the site so as the building acts as a compas and developed the concept using revit mainly to reach a very complex yet reasonable design with the structural and technical aspect regarding the energy consumption and sustainability measures.

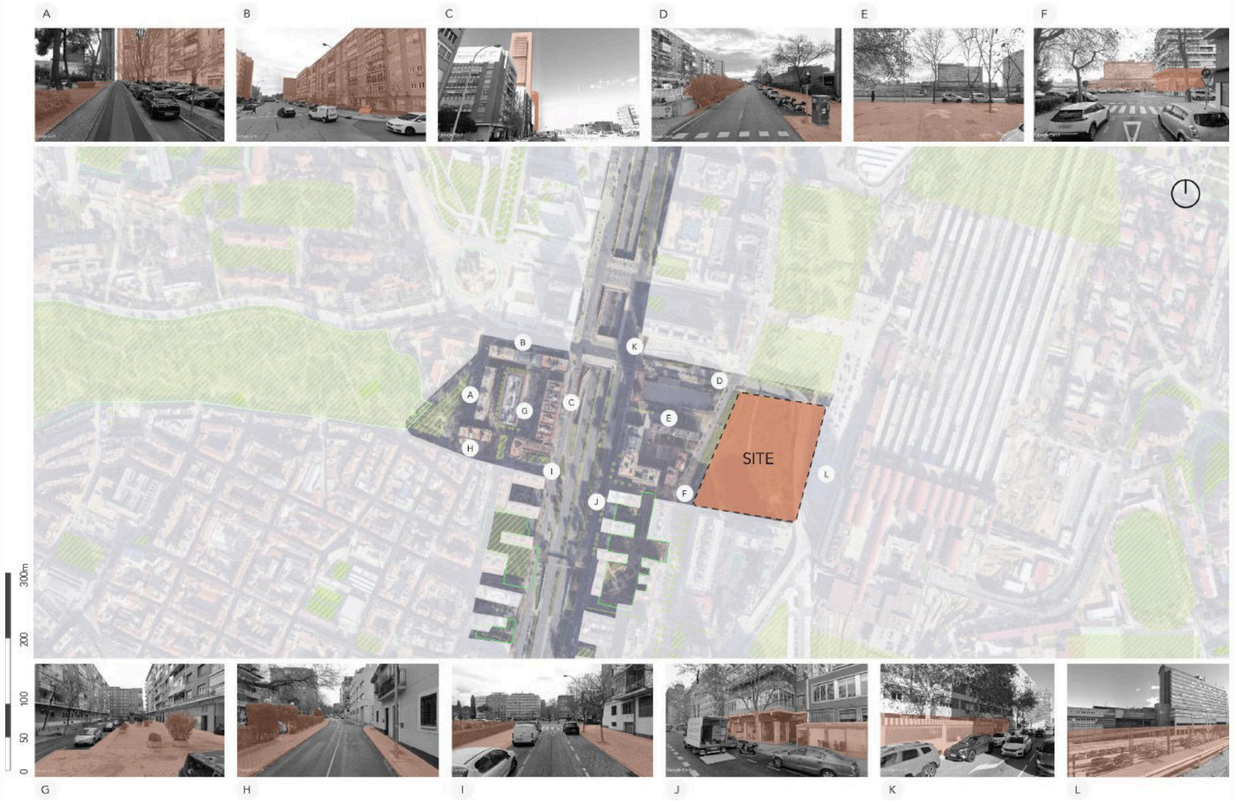
My contributiont to Group work: My primary contributions included researching the site's historical context, creating contour lines, and conceptualizing the design using three tilted blocks. In addition, I modeled the project in Revit, performed structural analysis and calculations, and contributed to developing the final plans and elevation drawings.

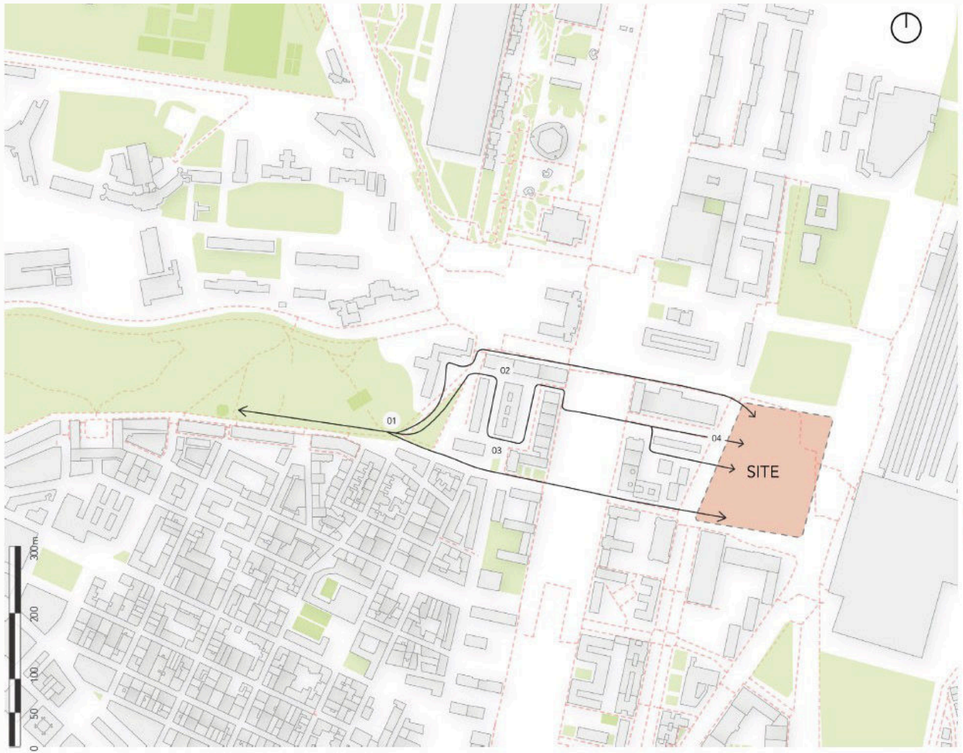
Softwares used: Qgis + Google Earth (Site contour lines) I Revit I Archicad I Lumion I Activehouse (energy model) I Synchro I I Photoshop I Illustrator I Indesign





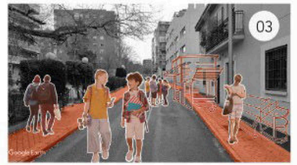
Nestled near Chamartin Train Station in Madrid, a new tower is set to redefine the city's skyline. With a unique concept of stacking blocks, this upcoming structure offers diverse views from each level. Designed as a mixed-use compound, it strategically bridges the gap between Madrid's old green corridor and its emerging counterpart, promising to become a dynamic hub in the green heart of the city.


A
B
C
D
E
F
SITE
G
H
I
J
K
L
300m
200
100
50
0


01
02
03
04
SITE
300m
200
100
50
0


01

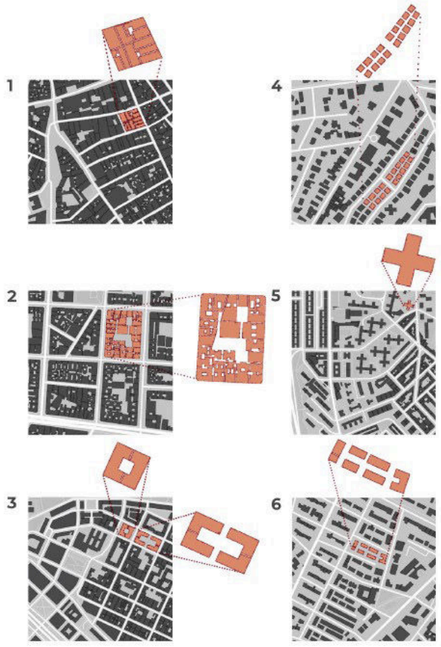

02


03

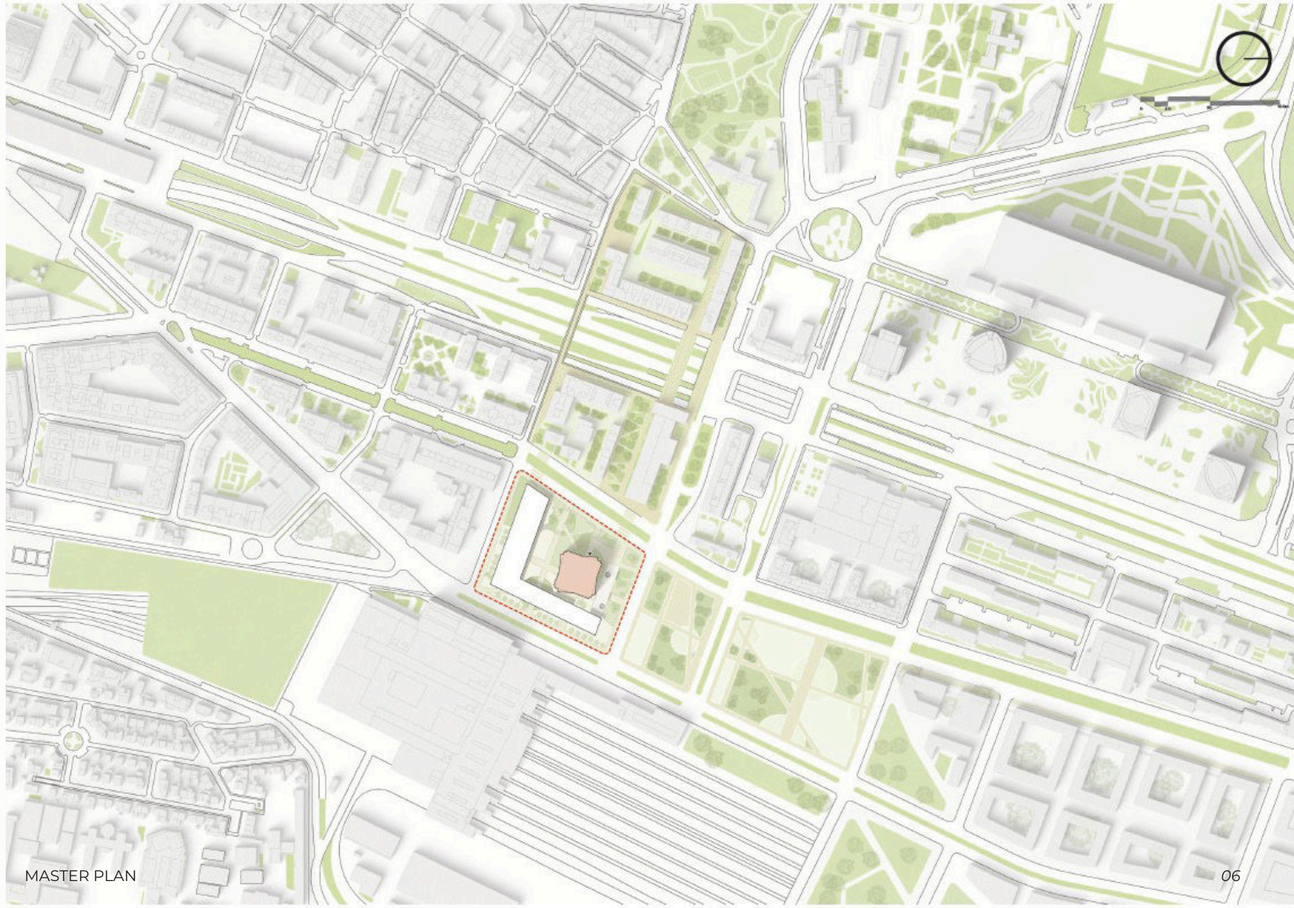

04

URBAN STUDIES FOR THE TYPOLOGY OF MADRID:



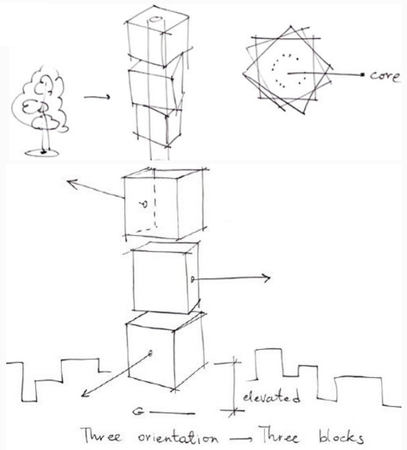


The building blocks typology in madrid as illustrated in the diagram showcases various urban layouts, including compact inner courtyards (1,2) linear block formation (4,6) and hybrid configurations (3,5). These typologies highlight the city's diverse architectural approaches, promoting eddicient land use, enhancing connectivity and integrating green spaces within the urban fabric.



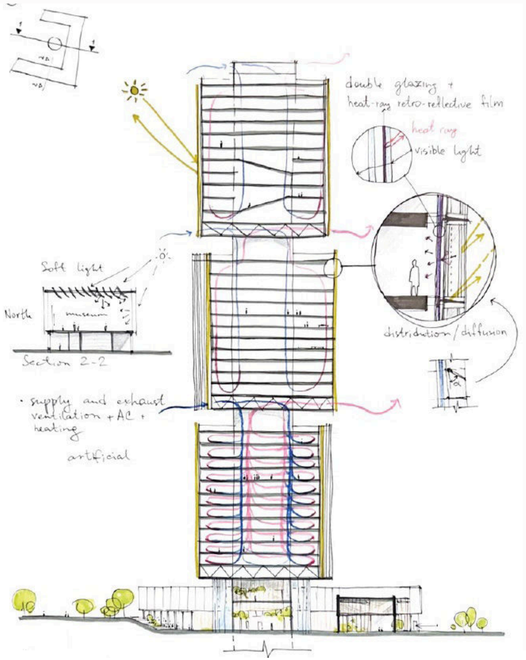
MASTER PLAN

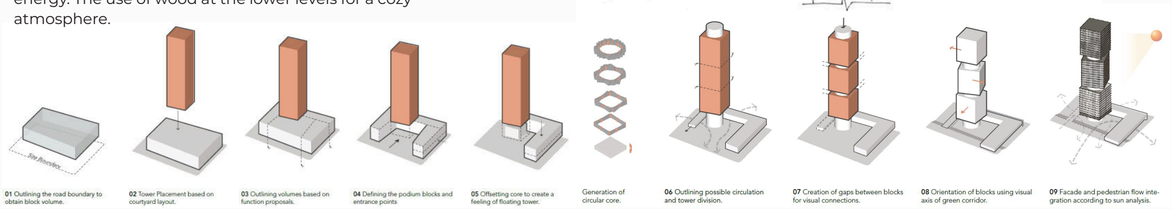
SHAPE FORMATION:



Architectural and Façade Proportion: The façade's 1x2 proportion inspired by Madrid's architecture, blending traditional and modern elements for aesthetic harmony.

Sustainable Design Features: We used active solar panels on the façade, which provide shading and energy. The use of wood at the lower levels for a cozy atmosphere.



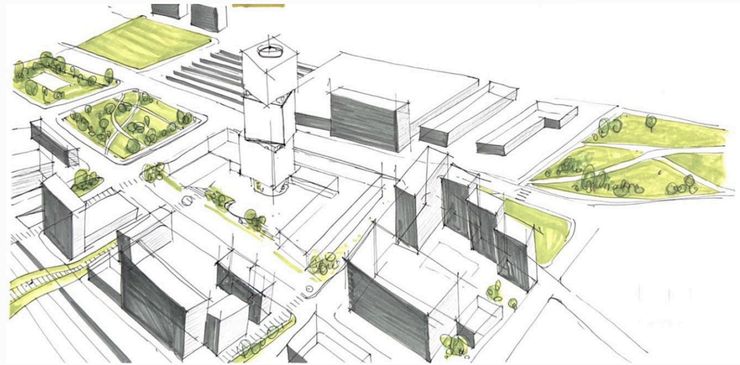


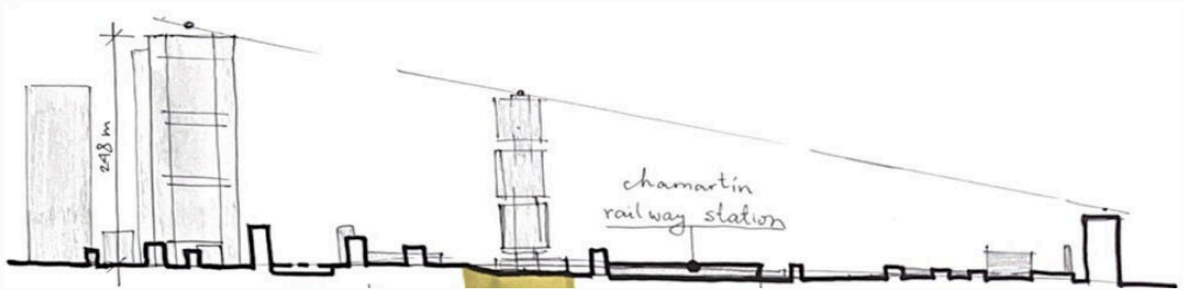
01 Outlining the road boundary to obtain block volume.
02 Tower Placement based on courtyard layout.
03 Outlining volumes based on function proposals.
04 Defining the podium blocks and entrance points
05 Offsetting core to create a feeling of floating tower.
Generation of circular core.
06 Outlining possible circulation and tower division.
07 Creation of gaps between blocks for visual connections.
08 Orientation of blocks using visual axis of green corridor.
09 Facade and pedestrian flow integration according to sun analysis.

URBAN STUDIES:

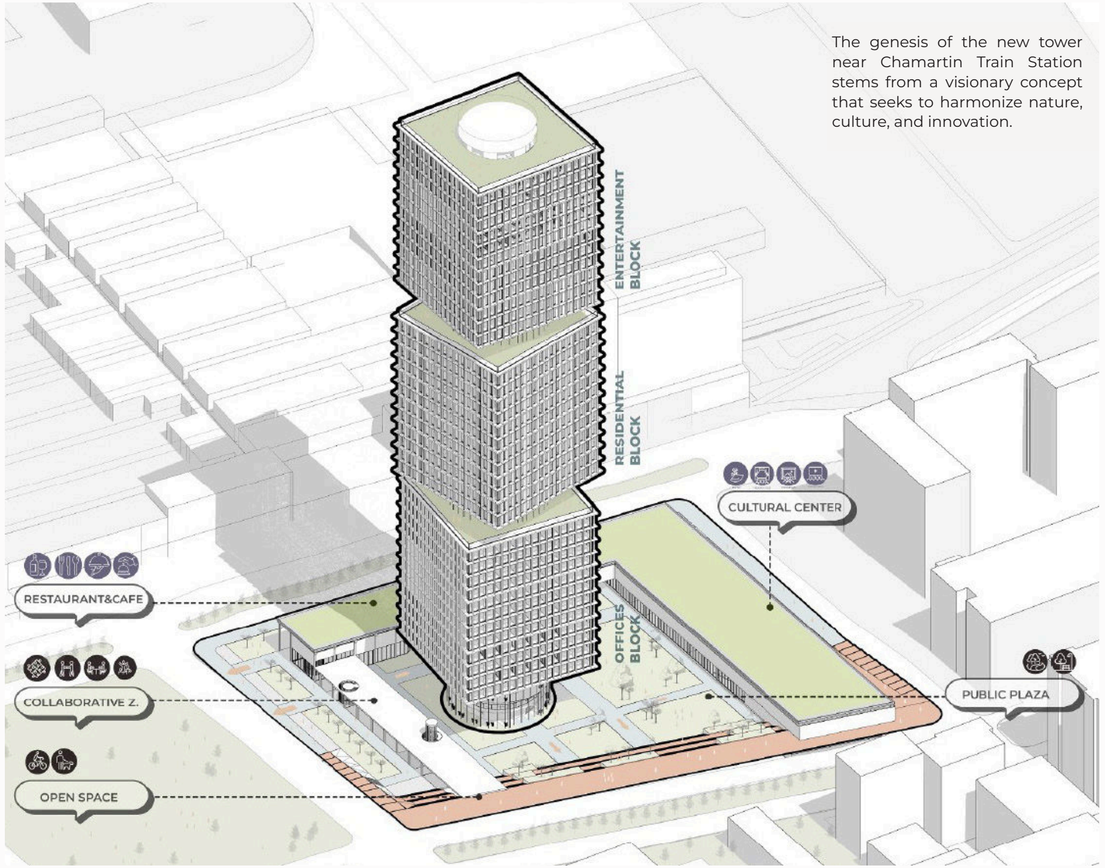
In the planning process, we meticulously analyzed the urban section and skyline of Chamartín to determine an optimal height for our project. The strategic height selection aims to integrate seamlessly into the urban fabric, contributing to a cohesive and visually appealing skyline.

We determined that a height of approximately 205 meters is appropriate for our design based on existing building heights and skyline distribution. We chose this height to complement the surrounding structures, maintain visual balance, and enhance aesthetic continuity from Madrid's gates.

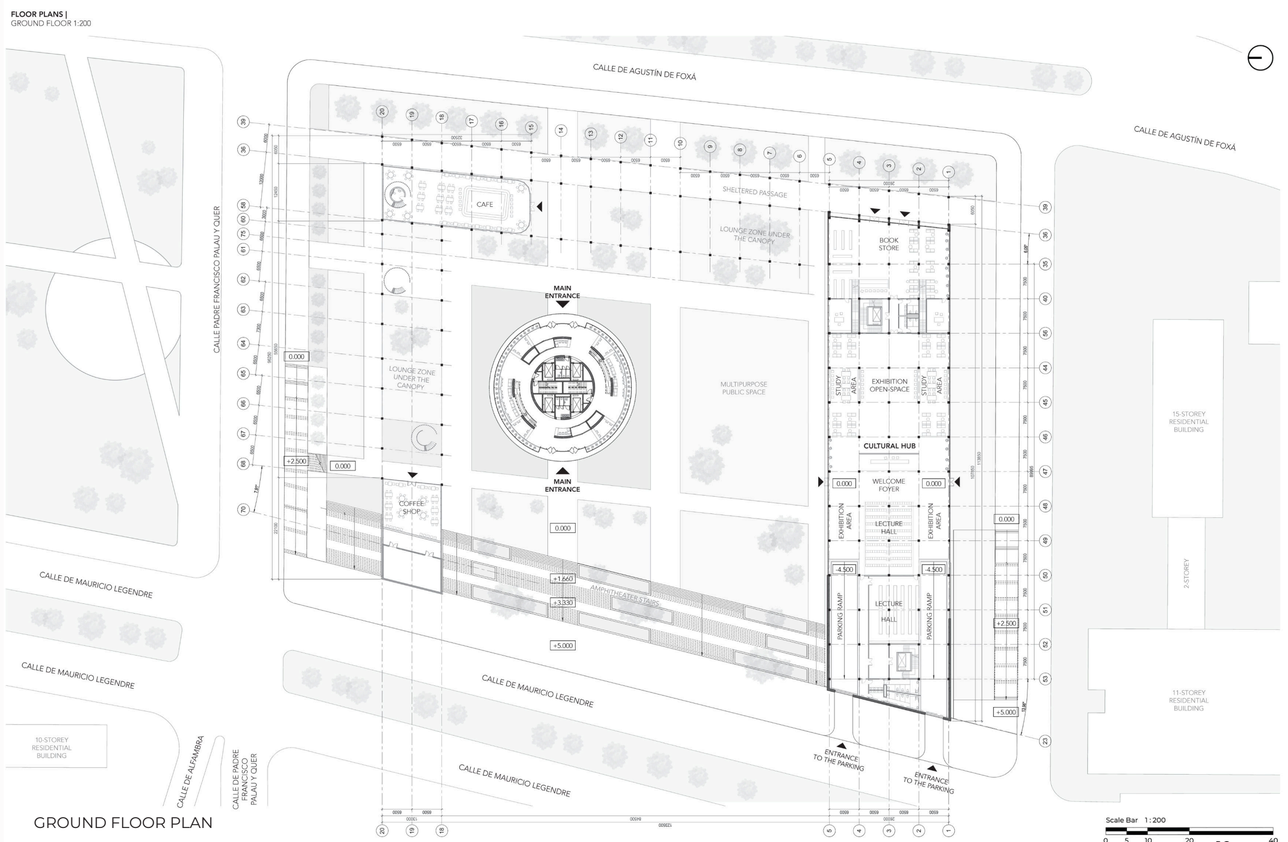




The genesis of the new tower near Chamartin Train Station stems from a visionary concept that seeks to harmonize nature, culture, and innovation.

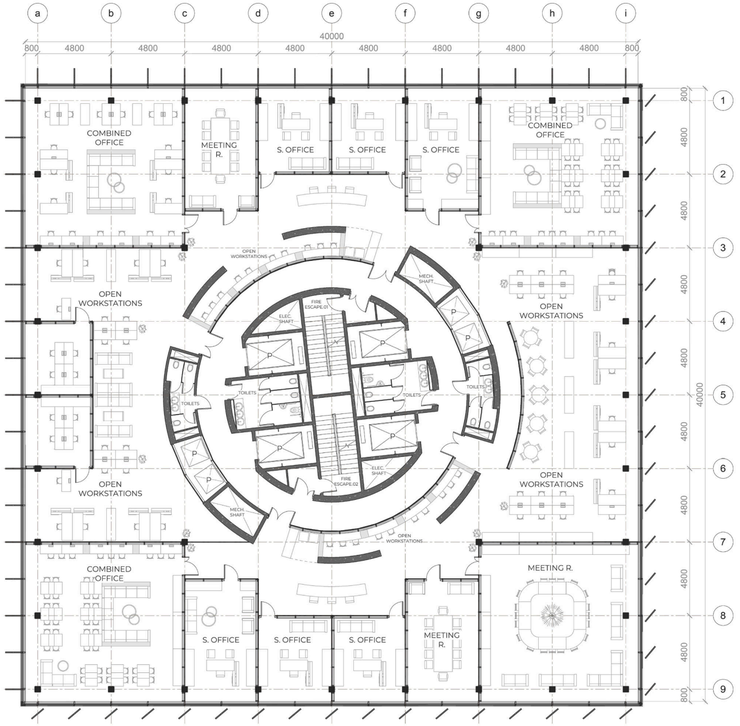


FLOOR PLANS |
GROUND FLOOR 1:200



GROUND FLOOR PLAN

FLOOR PLANS | OFFICE 5TH FLOOR 1:200



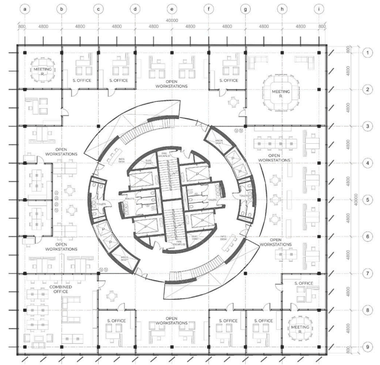
OFFICES TYPICAL PLAN

11.26°

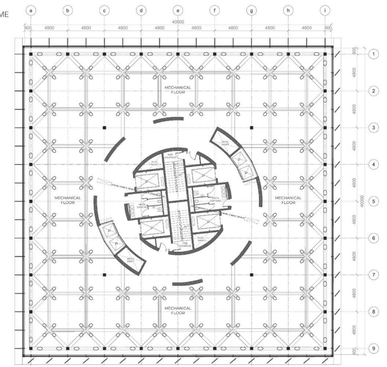
Scale Bar 1:200

0 1 2 5 10 20

FLOOR PLANS |
OFFICE 7TH FLOOR
1:400

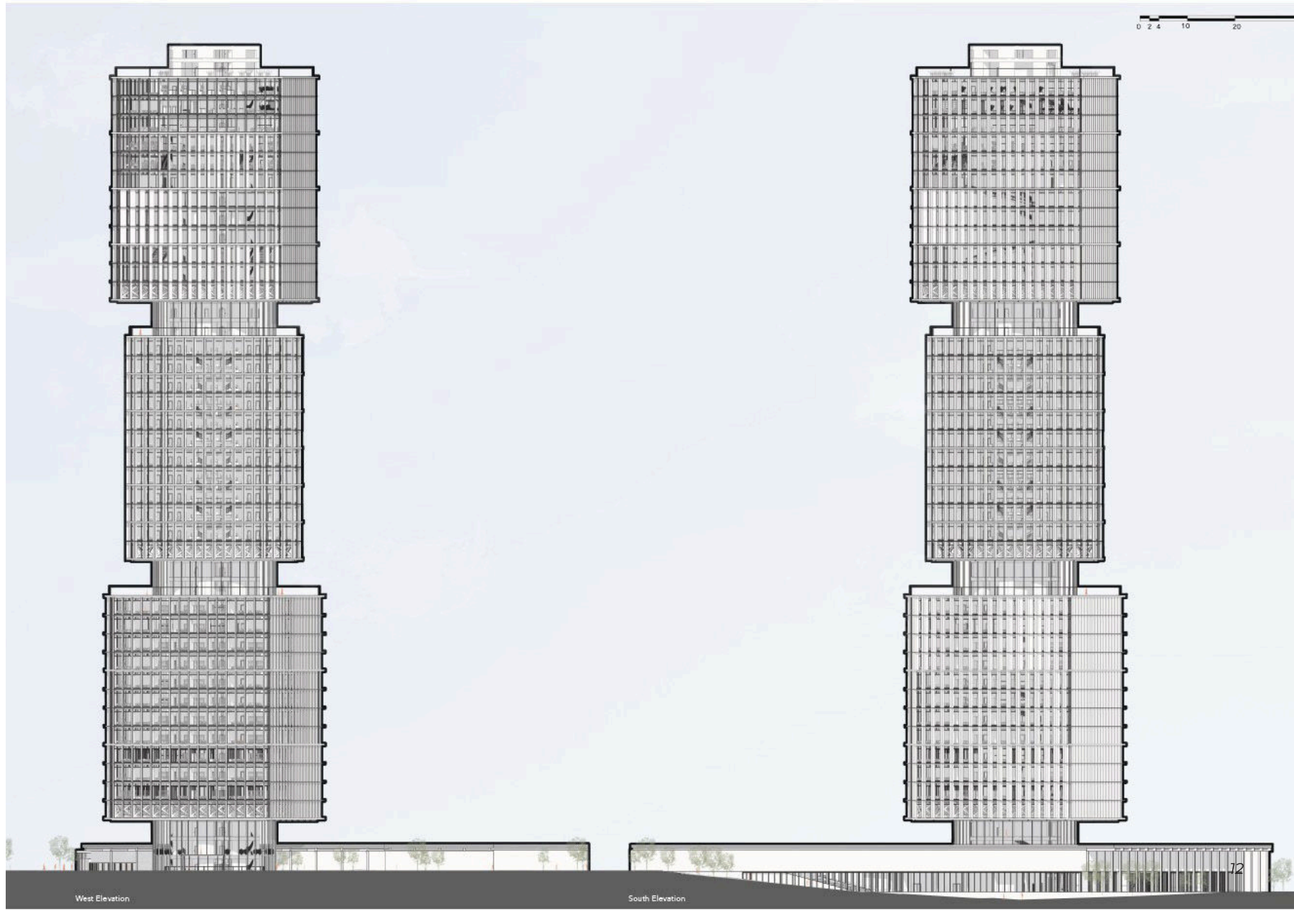


FLOOR PLANS |
OFFICE TRUSS FRAME
4TH FLOOR
1:400



Scale Bar 1:200

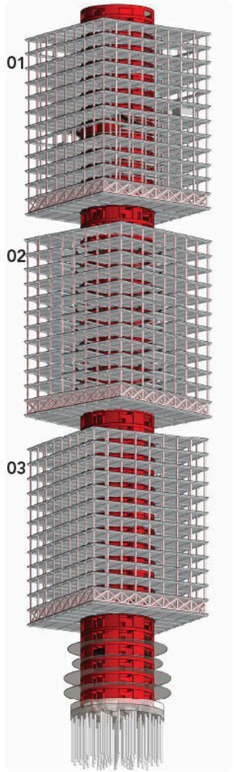
0 1 2 5 10 20



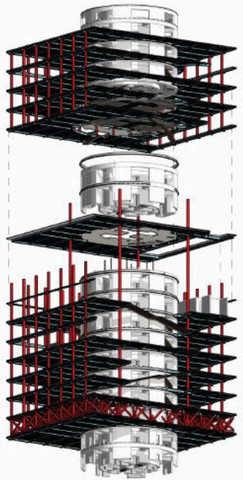
West Elevation

South Elevation

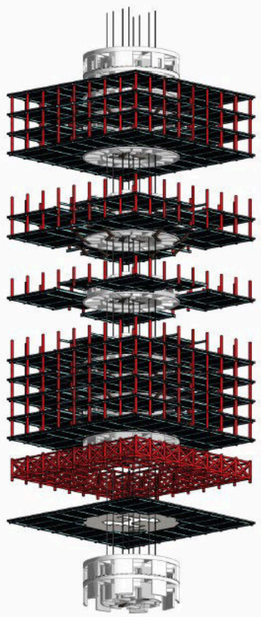
Exploded Axonometric



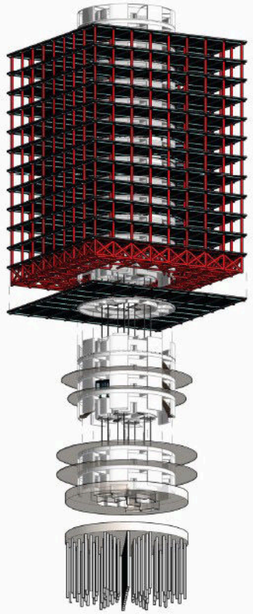
01 Entertainment Block



02 Residential Block



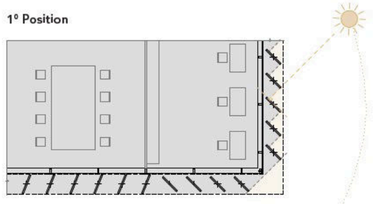
03 Office Block



Structural Concept:
The design features a central cylindrical concrete support that serves as the core structural element. Three independently tilted blocks are arranged around this central core, each supported by a unique substructure tailored to its orientation and load distribution. This innovative structural system ensures stability while creating a dynamic and visually striking architectural form.

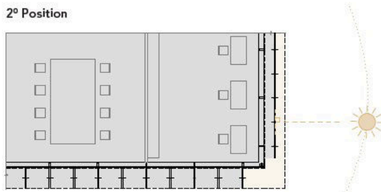
PARAMETRIC FACADE DESIGN:

1º Position



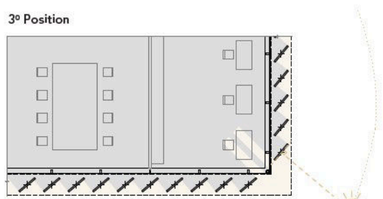
The panels are rotated perpendicular to the east facing sun to maximize energy collection.

2º Position



The panels are roated perpendicular to the south facing sun to maximize energy collection.

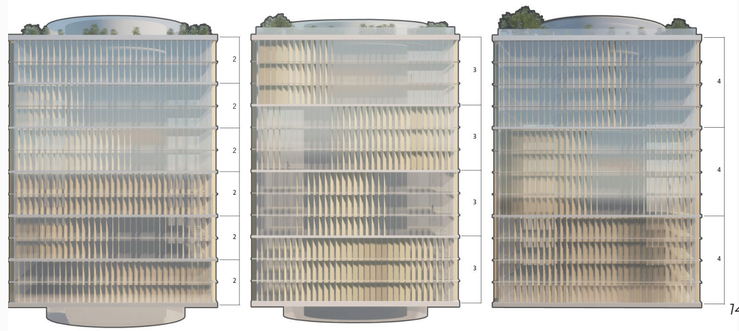
3º Position



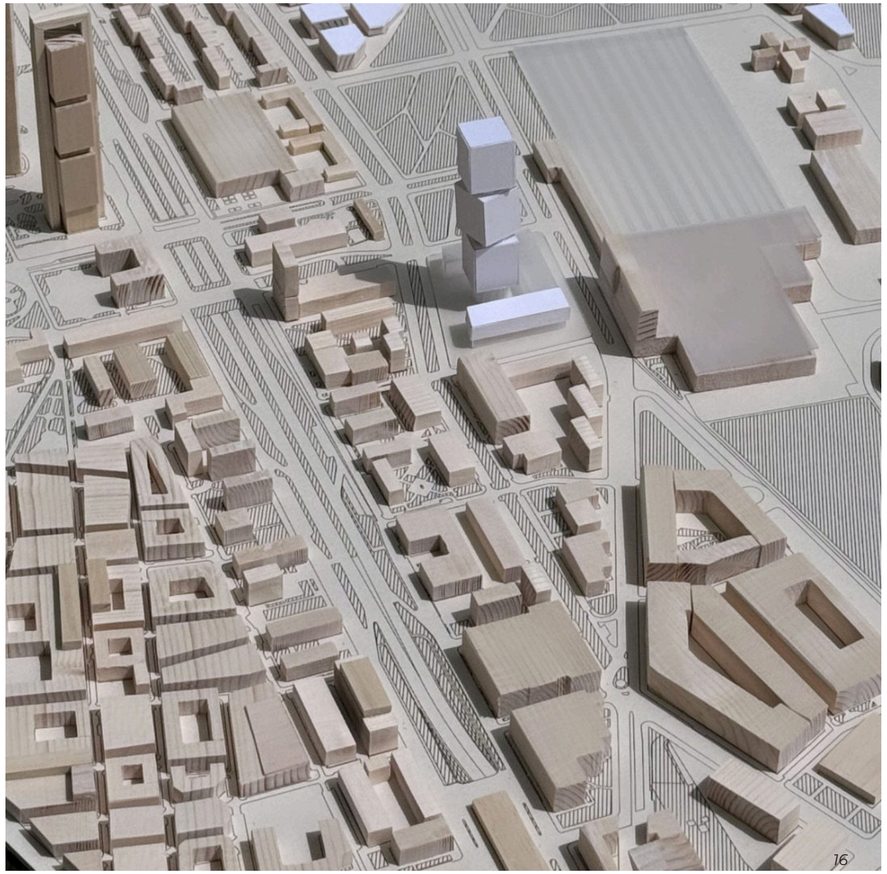
The panels are roated perpendicular to the west facing sun to maximize energy collection.



Residential block | Office block | Entertainment block







02

CINIFABRIQUE

Cinsello Balsamo, MILANO

Type: **Sustainable Architecture Construction Studio, MSc**
Theme: **Extension of an existing training center**
Design Date: September-2023 to January-2024 (1st Semester)
Proposed Location: Cinsello Balsamo, Milano, Italy

Project Aim: Design an extension for the existing vocational center using sustainable approach and low cost construction.
Design concept: presents a visionary design proposal for an additional building
adjacent to the existing structure, emphasizing the integration of functionality
and nature. The concept revolves around a central courtyard with a versatile
pergola system, fostering collaboration and providing a visual connection to
the outdoors. The structure is based on a robust steel grid and S-275 galvanized
steel, ensuring durability and adaptability for diverse laboratories.

My contributiont to Group work: Developed the technical details of the double facade and its connections, conducted structural calculations, and created 3D visualizations for the final submission
Softwares used: Qgis I Revit I Lumion I Photoshop I Illustrator I Indesign



01



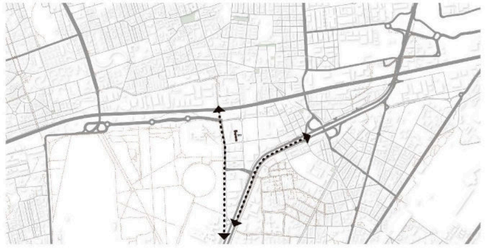
LAND USE
Surrounding land use could encompass a mix of commercial, residential, and potentially industrial zones.

02



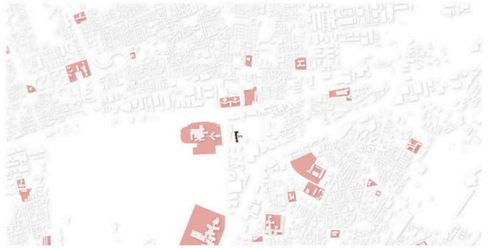
GREEN AREAS
Green spaces may include parks, gardens, or landscape areas, providing a refreshing contrast to the urban infrastructure.

03



ROAD NETWORK
The area is likely well-integrated into the city's broader road infrastructure, with a mix of main roads and smaller streets.

04



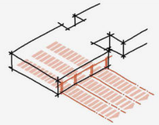
SCHOOL NETWORK
The educational landscape around is likely diverse, encompassing schools, and other eductaional institutions.

05

RESIDENTIAL AREAS
The composition of residential neighbourhoods may vary, including apartments, houses, or a combination of both.

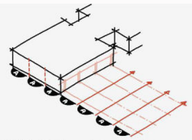
GENESIS OF THE BUILDING:

A visionary design proposal for an additional building adjacent to the existing structure, emphasizing the integration of functionality and nature. The concept revolves around a central courtyard with a versatile pergola system, fostering collaboration and providing a visual connection to the outdoors. The structure is based on a robust steel grid and S-275 galvanized steel, ensuring durability and adaptability for diverse laboratories.



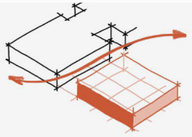
01 Grid Analysis from existing building





02 Grid development (new and old)

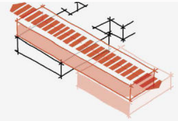




03 Main flow in relation to new volume

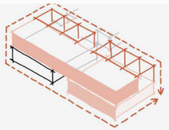


DEVELOPMENT & INNOVATION:



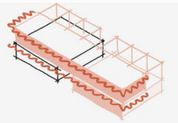
04 Connection between old and new volumes





05 Additional grid structure





06 Shading device joining both volumes

A double-skin perforated facade controls sun exposure and promotes natural ventilation, contributing to energy efficiency. The design's flexibility accommodates various laboratory needs, while green spaces on the roof enhance environmental sustainability. This proposal reflects the commitment to innovation, adaptability, and creating a harmonious blend of science and nature.

TECHNICAL AND CONSTRUCTION DETAILS:

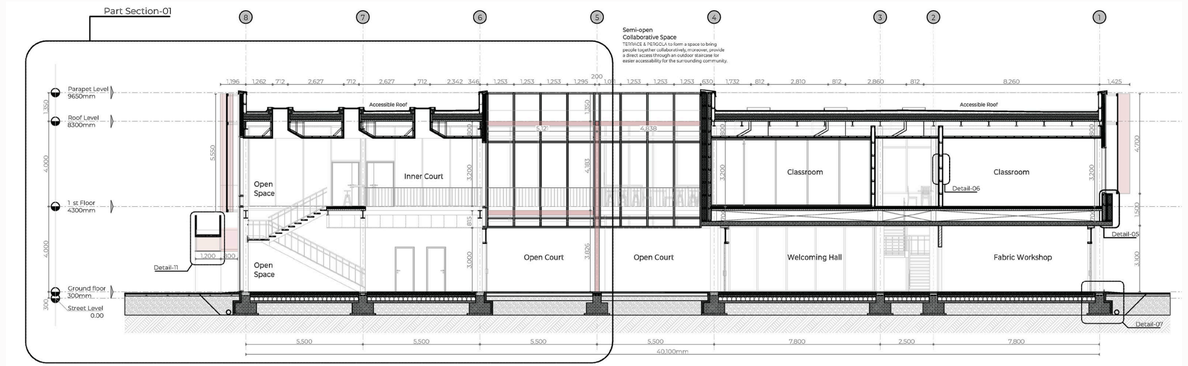
BUILDING FEATURES:

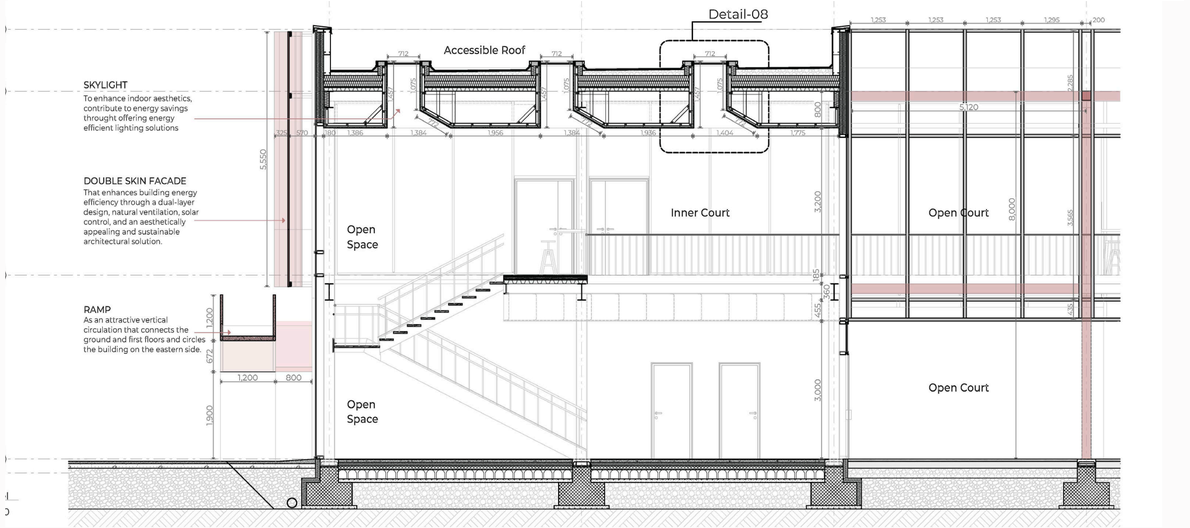
SKYLIGHT
To enhance indoor aesthetics, contribute to energy savings throught offering energy efficient lighting solutions.

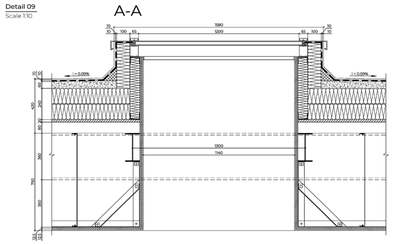
DOUBLE SKIN FACADE
That enhances building energy efficiency through a dual-layer design, natural ventilation, solar control, and an aesthetically apealing and sustainable architectural solution.

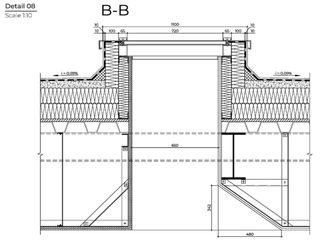
EXTERNAL RAMP
As an attractive vertical circulation that connects the ground and first floors and circles the building on the eastern side.

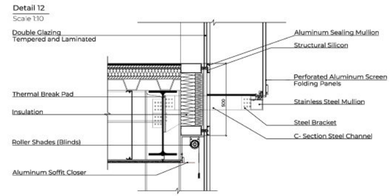


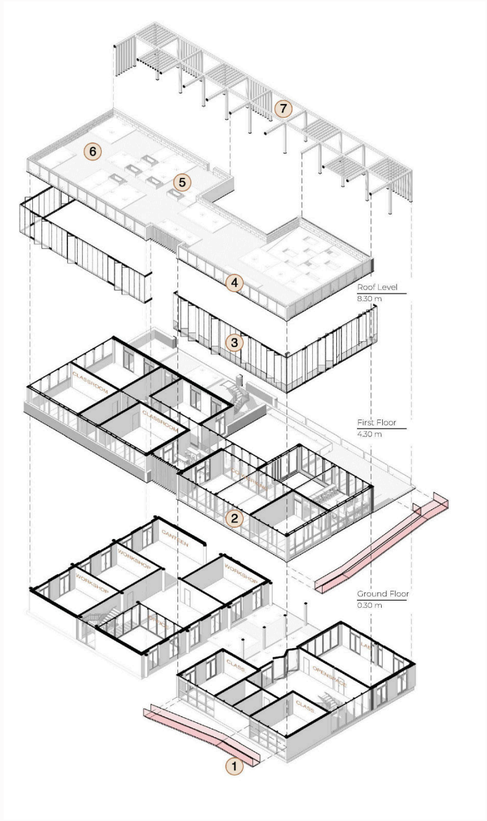











7
6
5
4
3
2
1
Roof Level
8.30 m
First Floor
4.30 m
Ground Floor
0.30 m




CINIFABRIQUE EXISTING

03

THE HOUSE OF MUSIC

NAPLES, ITALY

ARCHITECTURAL DESIGN STUDIO FOR COMPLEX CONSTRUCTIONS.2,MSc

Theme: **House of Music**
Design Date: September-2024 to Ongoing (1st & 2nd Semester)
Proposed Location: Napoli, Italy

Project Aim: Design a house of music to be the focal point in Naples industrial port in an abandoned site while revive the waterfront with an urban development plan aiming to preserve most of the existing buildings and establish a school for Music.
Design Approach: Strating with a deep research about the history and background of the industrial port ended with developing a master plan for the whole area and concepts related to innovative urban designs for the water front landscape.

My contributiont to Group work: My key contributions involved conducting in-depth research on the site's historical background, and developing the initial design concept. Additionally, I created a detailed 3D model of the project in Revit, carried out structural analysis and calculations, and played a significant role in producing the final architectural plans and elevation drawings.

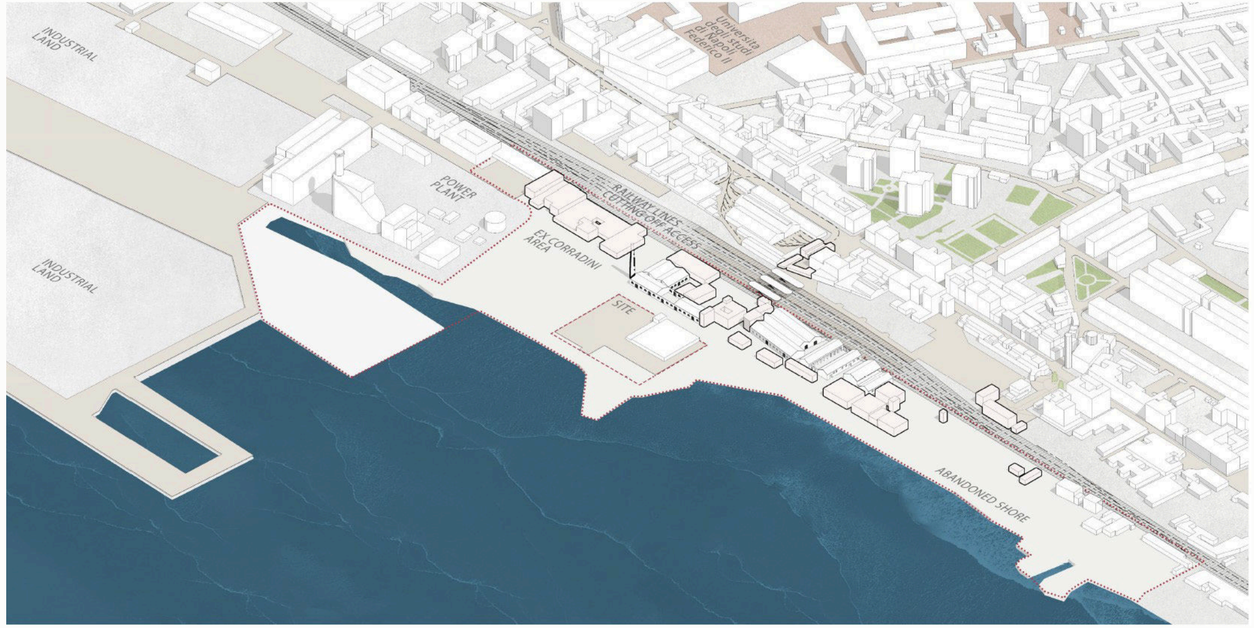
Softwares used: Google Earth I Revit I Lumion I Grasshopper I Activehouse (energy model) I Synchro I Photoshop I Illustrator I Indesign



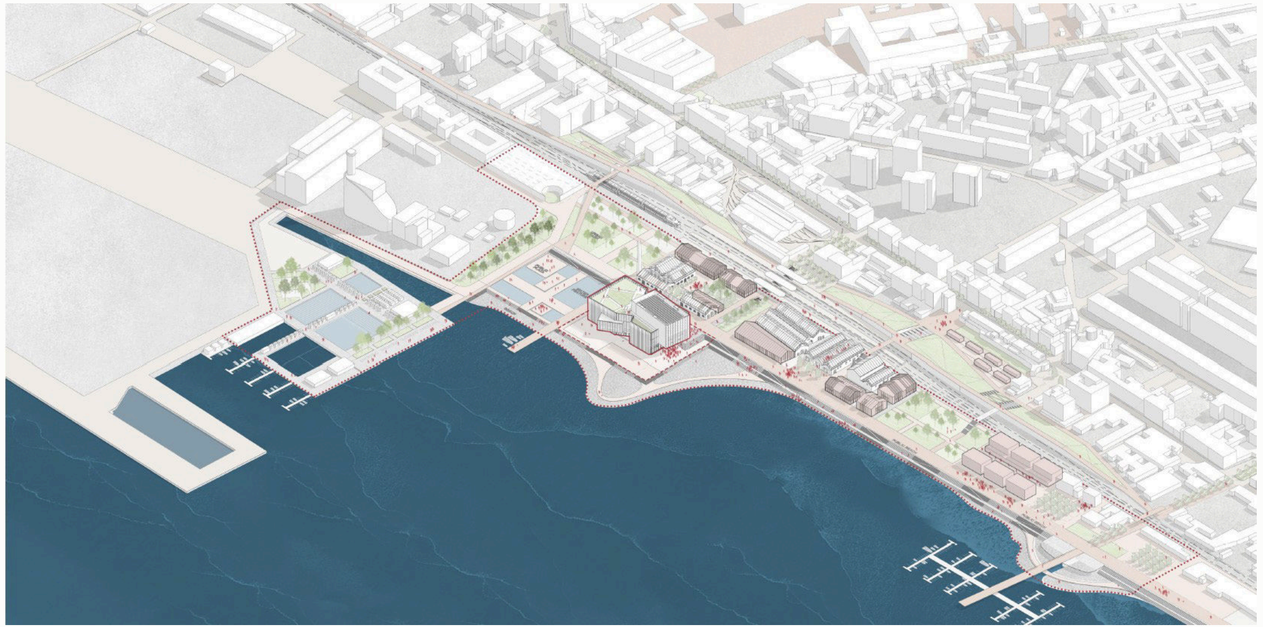
URBAN DEVELOPMENT STRATEGY

The project is situated in the eastern part of Naples, within the industrial port area, a district marked by abandoned and ruined buildings dating back to World War II. This expansive urban scale intervention seeks to revitalize the area by integrating contemporary architectural solutions while respecting its historical and industrial heritage. The design addresses the challenges of decay and neglect, transforming the site into a vibrant and functional space for the community.

The plan revitalizes the area by restoring historical buildings, demolishing deteriorated structures, and creating urban parks. It introduces sea platforms for tourism and establishes the House of Music on an existing platform, transforming it into a cultural hub. This balanced approach preserves heritage while fostering community engagement and modern development.



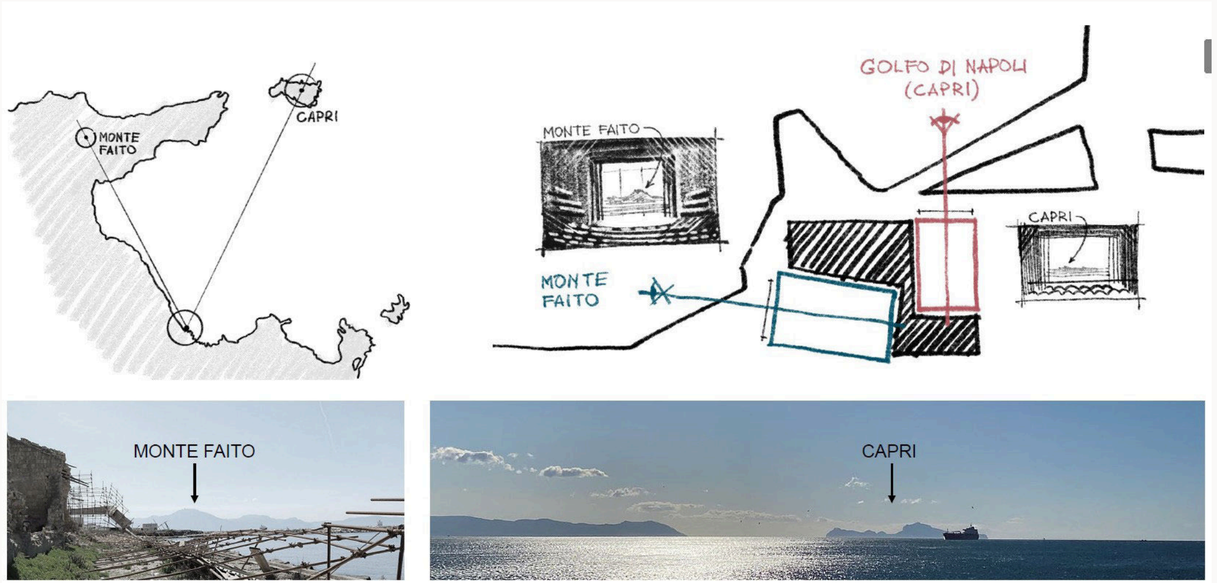
Before

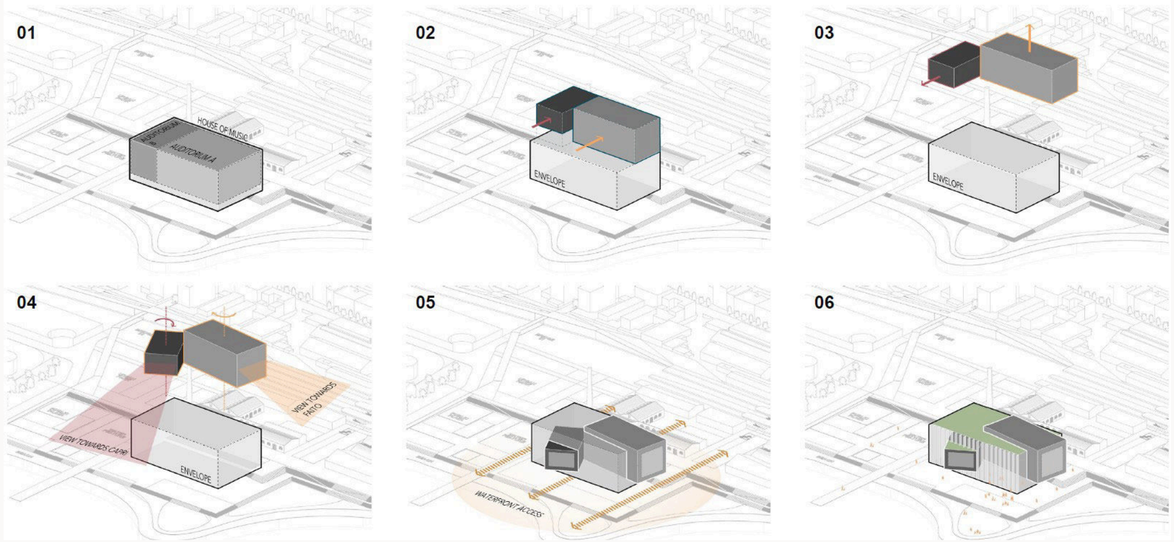


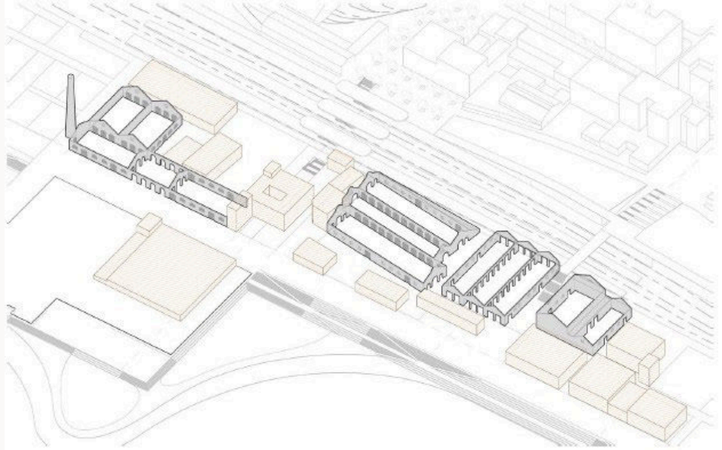
After

AUDITORIUM BUILDING CONCEPT:

The design concept revolves around two distinct blocks, each strategically oriented to frame key views—one tilted toward Mount Fatio and the other toward Capri, maximizing the panoramic vistas of the sea. A translucent volume is introduced to serve as a unifying element, acting as a 'container' that subtly defines the boundaries of the blocks while enhancing their visual interplay.



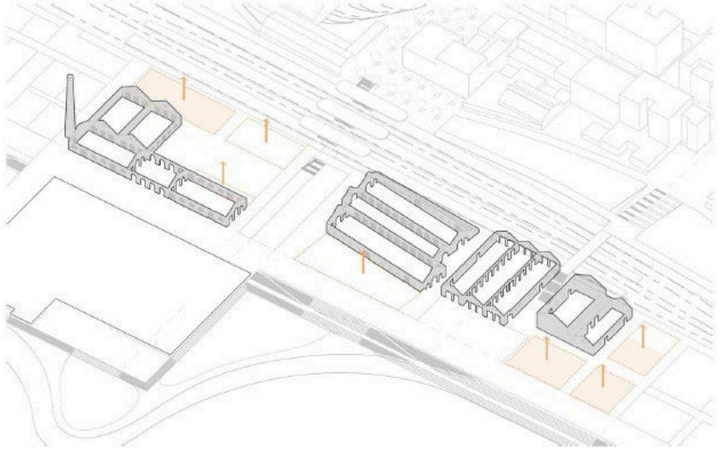




01

Preservation of existing buildings:

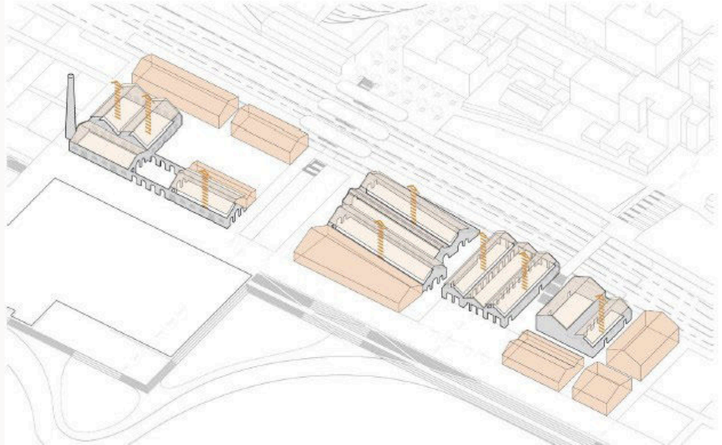
Keep existing buildings in good condition, protecting those with architectural or historical value. Demolish structures that are too damaged to repair.



02

Using historical layouts:

Use the locations and outlines of old buldings as a guide for the design and placement of new ones.



03

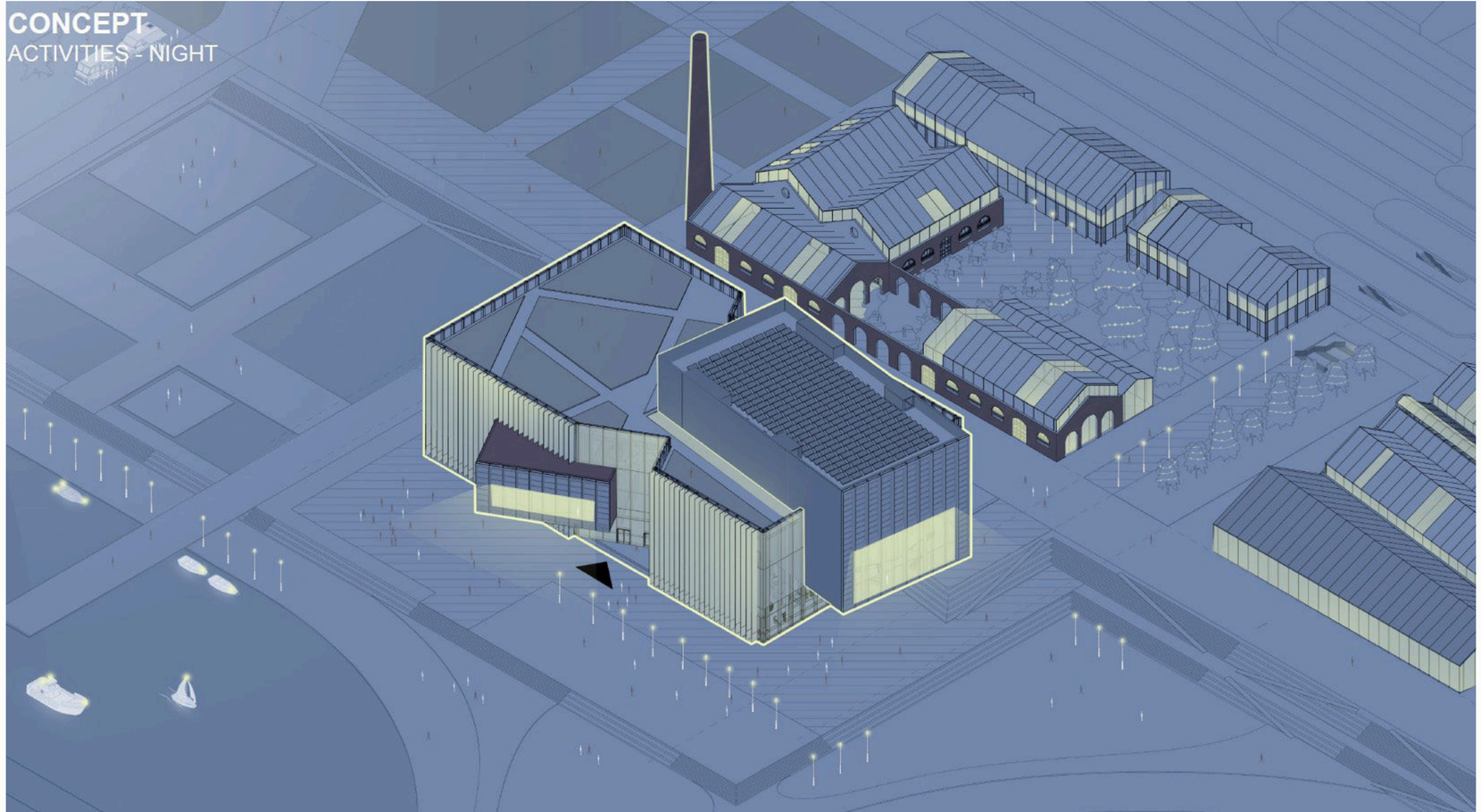
Matching architectural style:

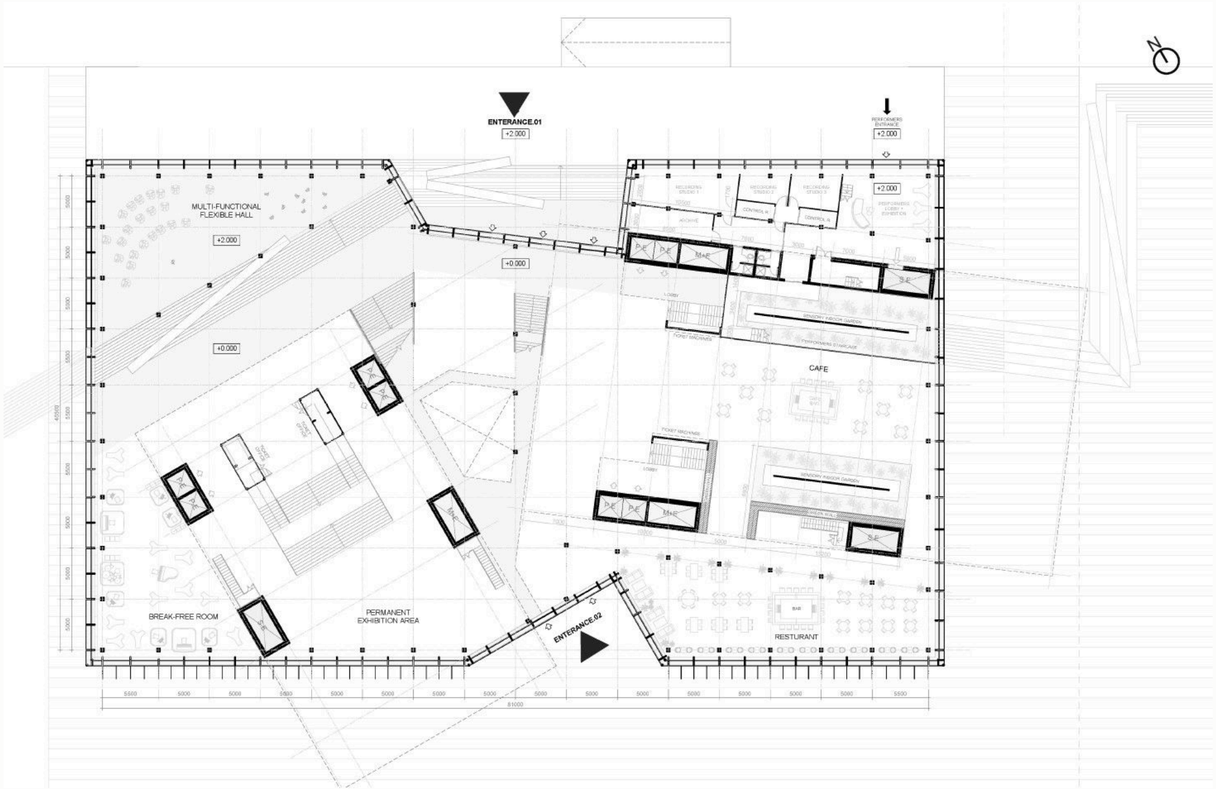
Build new blocks for the school of music in a style thaat fits with the existing buildings to maintain a unified look.



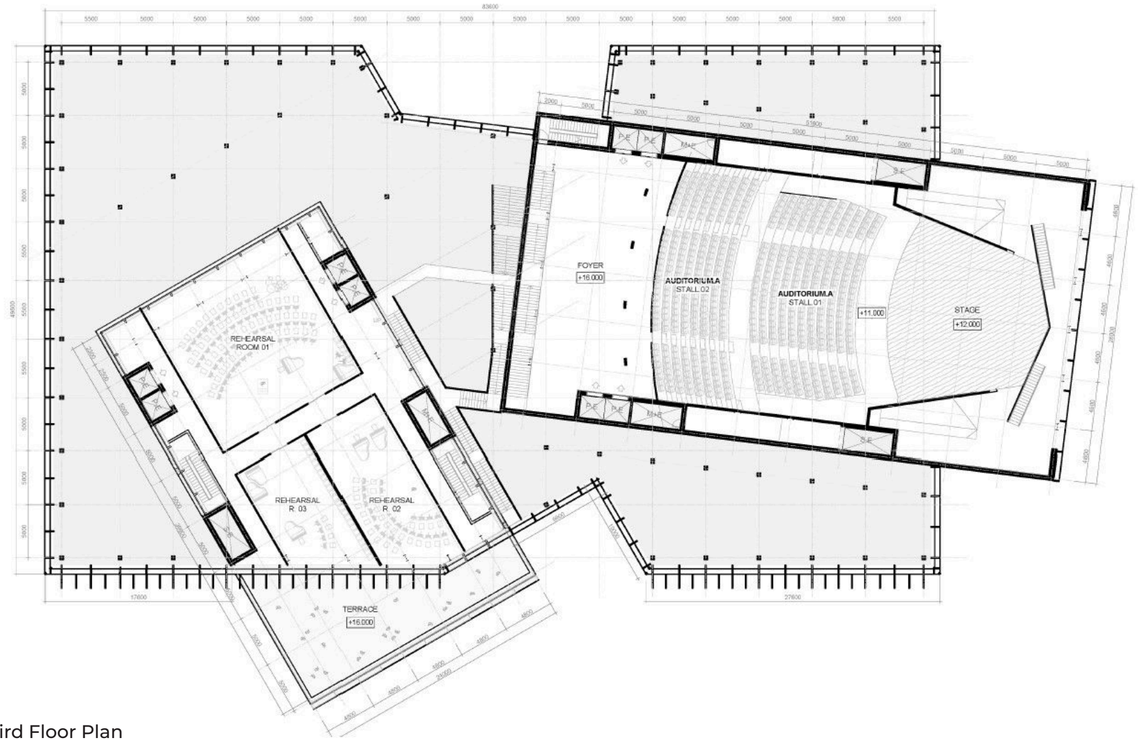
04

Polycarbonate and glass are used as the main materials for the new construction to clearly show the difference between old and new, while adding transparency to the design.

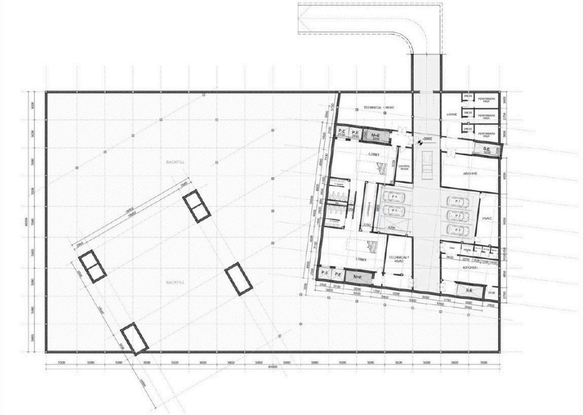

CONCEPT
ACTIVITIES - NIGHT



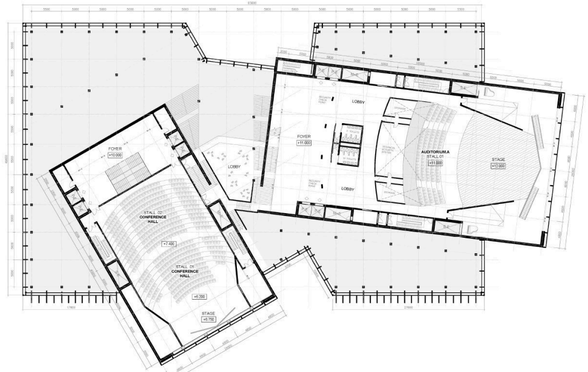
Ground Floor Plan



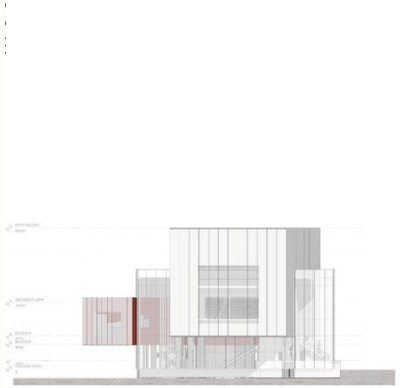
Third Floor Plan



Basement Floor Plan



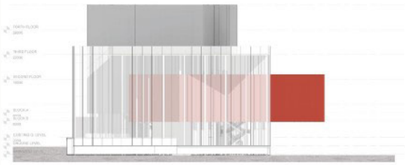
Second Floor Plan



EAST ELEVATION



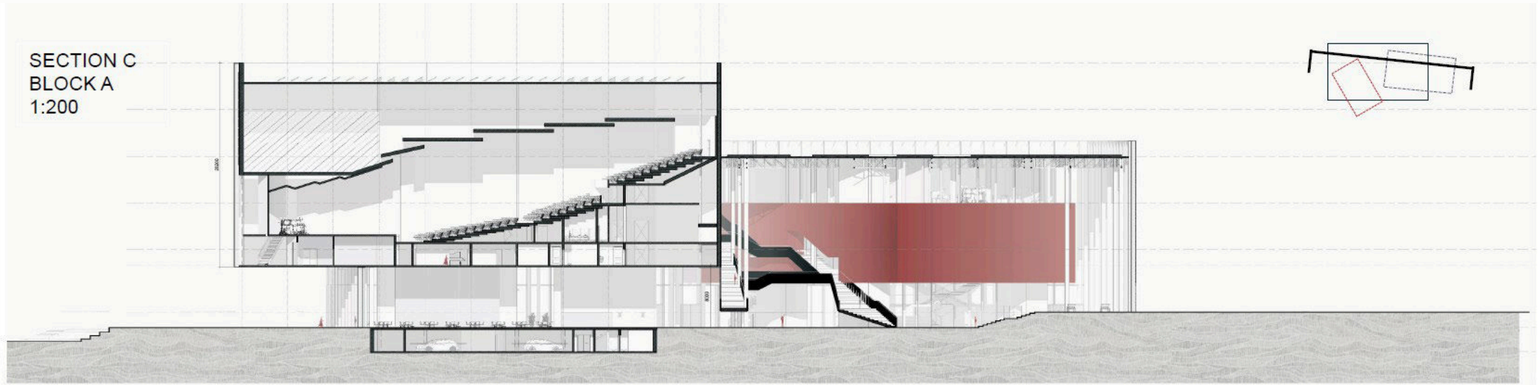
SOUTH ELEVATION



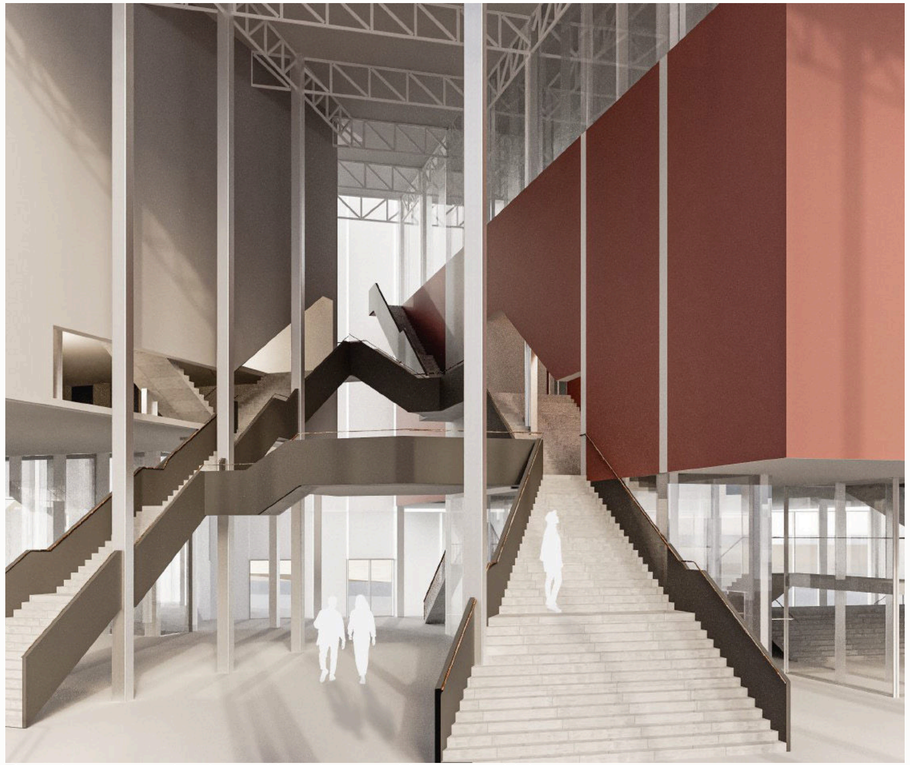
WEST ELEVATION



NORTH ELEVATION

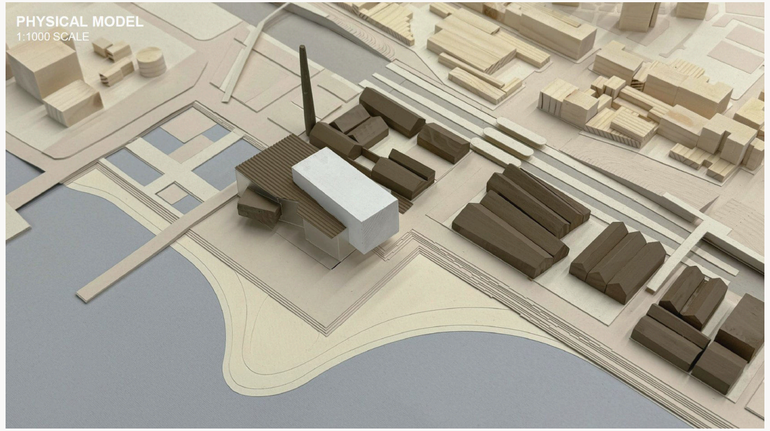


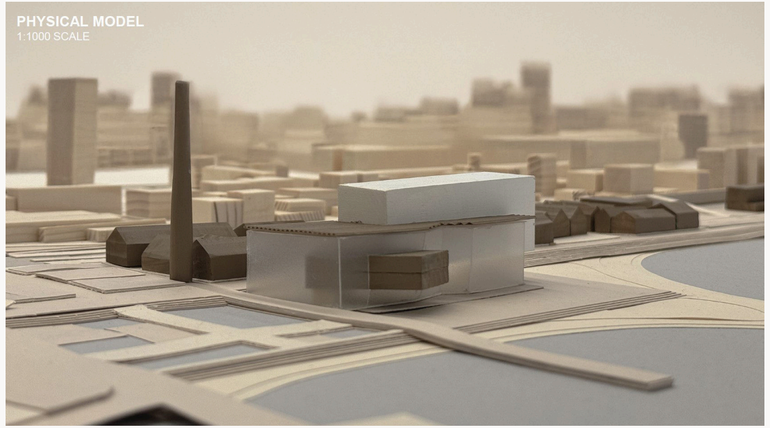




The staircase connecting the two blocks is a central feature, combining functionality with striking design. Its open, sculptural form enhances the spatial flow and creates a dynamic visual element within the interior.


PHYSICAL MODEL
1:1000 SCALE


PHYSICAL MODEL
1:1000 SCALE


PHYSICAL MODEL
1:1000 SCALE

04

DESERT STUDIES RESEARCH CENTER

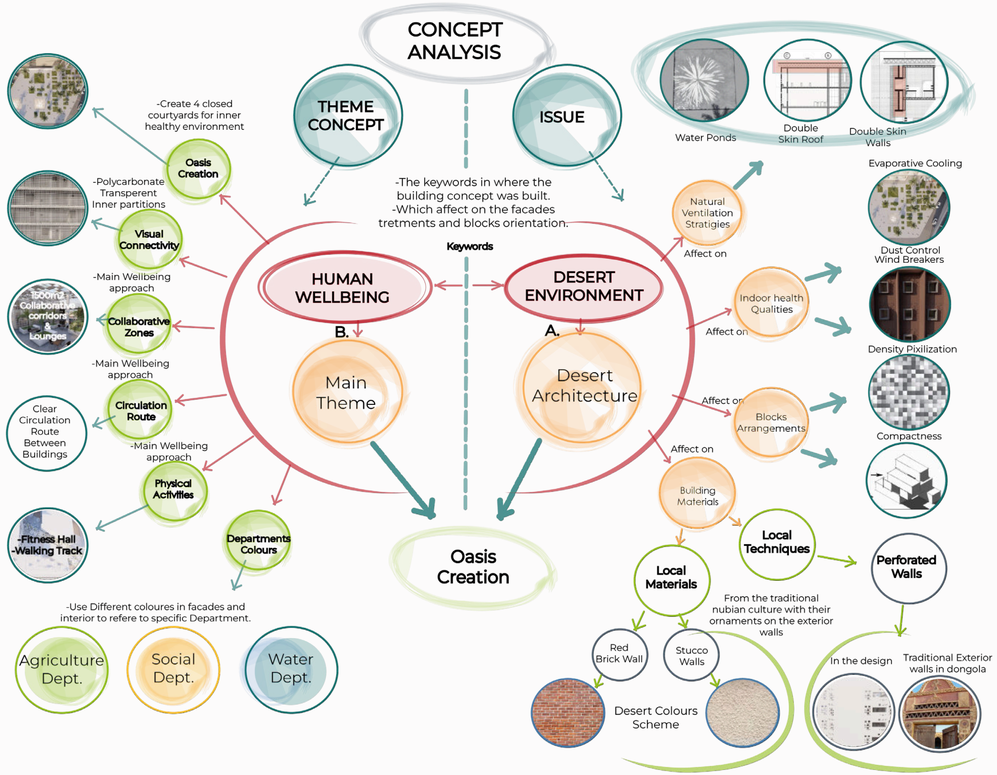
DONGOLA, SUDAN

Type: **Graduation Thesis Project- University of Khartoum, Faculty of Architecture**
: **Individual Work**
Theme: **Thinking of Employee Wellbeing**
Design Date: June-2021 to October-2021 (10th Semester)
Proposed Location: Dongola, Northern state, **Sudan**
Project Aim: Design a healthy and attractive environment for researches to be held, with wide collaborative areas to bring together students and researchers.
Design Approach: A thesis report was created as a result of scientific research into **desertification**, its consequences, and **desert architecture approaches.** I worked to create, develop, and refine the concept that was oriented toward serving the environment, besides demonstrate the drawings, schemes, renders.

Thesis Report: https://drive.google.com/file/d/19u8FoK0mJ8N9Lh2L-buUj4I-7YuRUr11l/view?usp=sharing

Softwares used: Archicad I Lumion I Photoshop I Illustrator I Indesign





Design concept diagram

1- Long, Slim three strips for the three departments to decrease sun radiation from the east and west sides.

2- Circulation Route Creation between the three strips for the connectivity and collaboration chances.

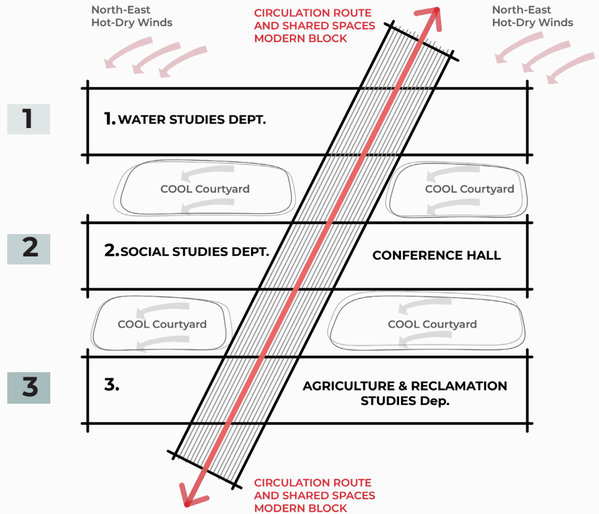
3- Tilting Circulation Route for better Nile view and ventilation benefits (Stack ventilation) as needed in the desert environments.

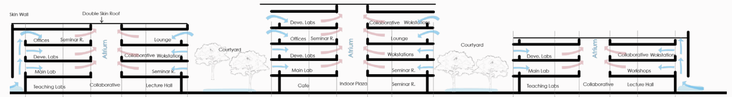
4- Design Modern block **for researchers workstations** and benefiting from the circulation route in connecting the departments.

5- Wide range of collaborative lounges, Atriums and **courtyards** in the interse tion of each two blocks for healthy indoor environment.

The building consists of three departments: **Agricultural reclamation, groundwater, and Social Studies** to benefit from most of the desert resources, improve the foundation of scientific research in the areas of need (Northern state/ Sudan) and help improve the national economy and re duce social conflicts.

Building users, Components, and areas were decided after I analysed case studies of local and international examples. **The selected site plays an essential role in the design as its part of the University of Dongola Campus which serves the targeted students.**





ABOUT THE PROJECT

In the Graduation thesis project, which runs for a semester and a half. I proposed Desert Studies Research Centre, “A design project thesis submitted to the Faculty of Architecture, as a partial fulfilment for the degree of Bachelor of Science in Architecture” inspired by the UNEP-2002 report where they mentioned that “Desertification is one of the major environmental problems in our time”. I chose to work under the theme Thinking of Employee Well-being.

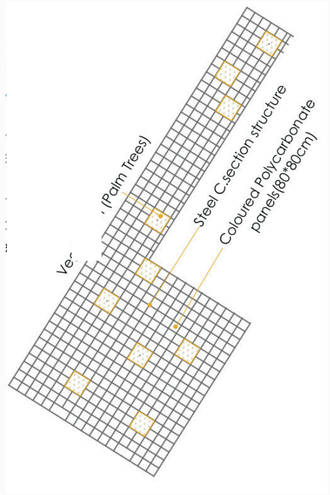


THESIS THEME:

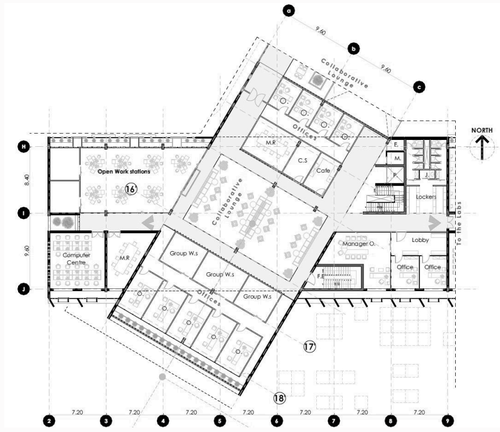
I explored creating an attractive environment with extremely wide collaborative areas to bring together students and researchers in workstations and specialized labs. I based my work on two main concepts: **the 7 principles of Human well-being and the desert environment Architecture**. The proposed site is located in an area affected by the desert sprawling in North Sudan. The Focus was on bringing vernacular and contemporary architecture by the means of materials, Heat reduction strategies, and hot-arid environment techniques .

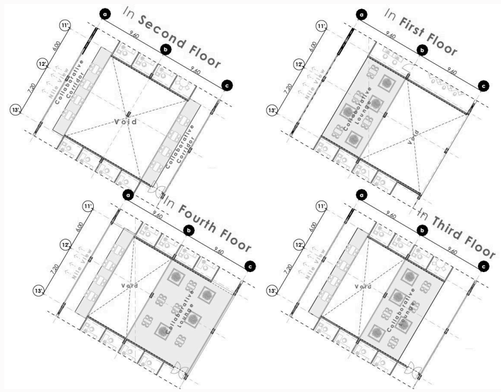
SHADING CANOPY DESIGN

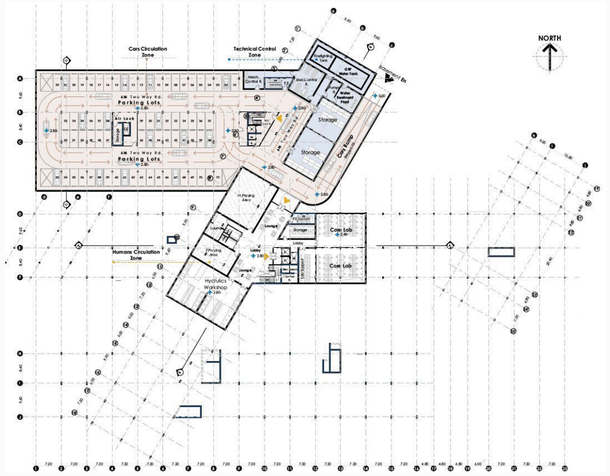
As shading is required in hot climates wide range of shading structure was used, 80*80cm cubes with 1.6* 1.6m wide opening for the vegetation(Palm trees). This created attractive circulation experience between vegetation coverage.

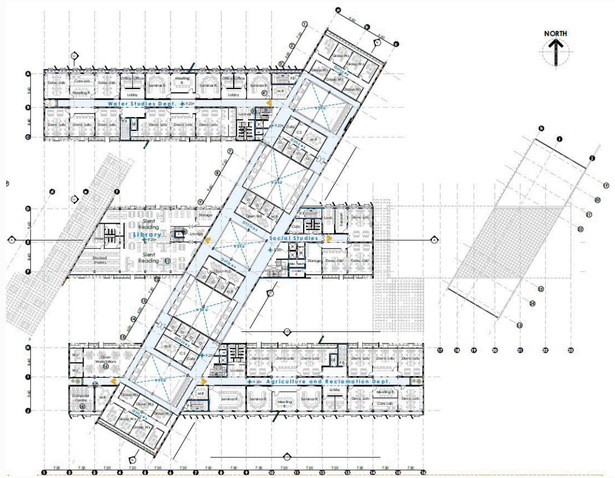






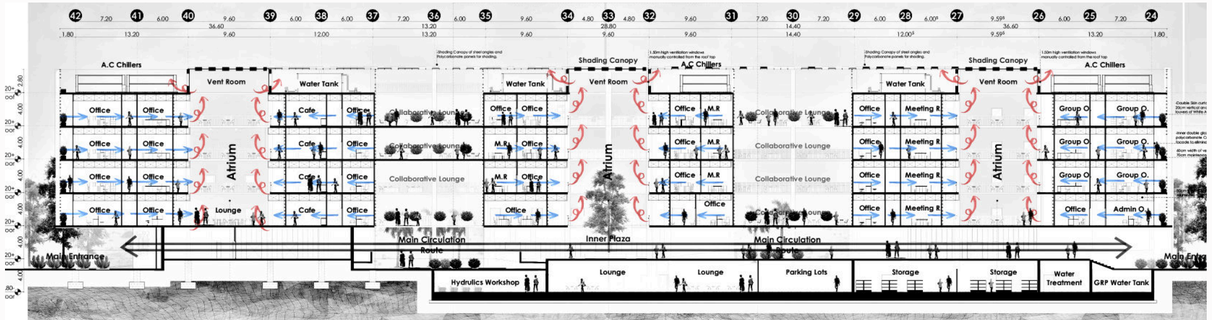


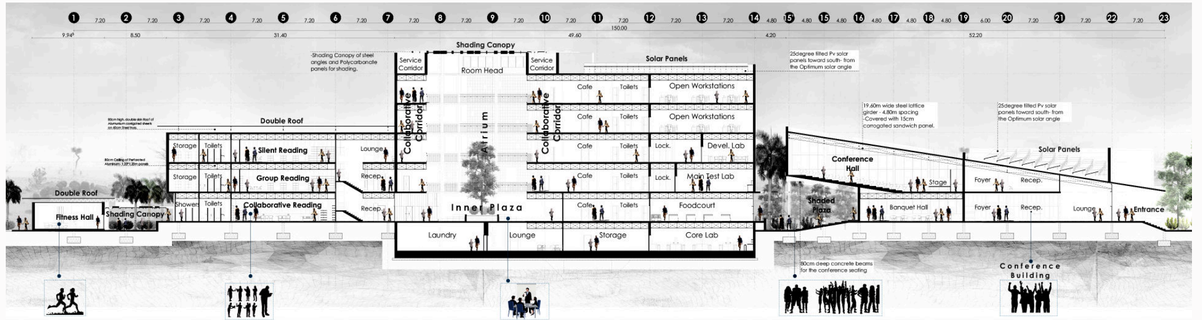

Cars Circulation Zone
Technical Control Zone
NORTH
Parking Lots
Storage
Civil Engr.
Humans Circulation Zone
Hydraulics Workshop
Core Lab
Core Lab


NORTH
Water Studies Dept.
Library
Soil Studies
Agriculture and Reclamation Dept.


NORTH
Water Studies Dept.
Soil Studies
Agriculture and Reclamation


NORTH
Water Studies Dept.
Soil Studies
Agriculture and Reclamation


A.C Chillers
Vent Room
Water Tank
Shading Canopy
Office
Cafe
Collaborative Lounge
Atrium
Lounge
Main Entrance
Main Circulation Route
Inner Plaza
Hydrulics Workshop
Parking Lots
Storage
Water Treatment
GRP Water Tank


Shading Canopy of sheet angles and Polycarbonate panels for shading.
Shading Canopy
Service Corridor
Room Head
Solar Panels
Double Roof
Storage
Toilets
Silent Reading
Group Reading
Collaborative Reading
Lounge
Recep.
Collaborative Corridor
Atrium
Cafe
Open Workstations
Devel. Lab
Main Test Lab
Foodcourt
Core Lab
Laundry
Storage
Fitness Hall
Shading Canopy
Inner Plaza
Conference Hall
Shaded Plaza
Banquet Hall
Foyer
Conference Building
Entrance

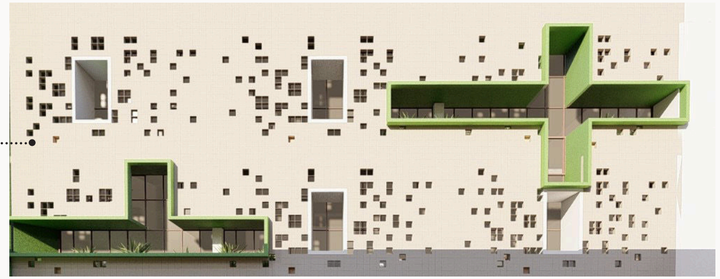
The inner elevations that face the courtyards, are coloured differently for **each department,** and colours are also used to provide comfort to users in order to support human wellbeing. Facades with Double skin are also used.
Sand stone was traditionaly known in the desert areas in old times with properties of **high thermal mass** suitable for cold nights and hot afternoons.



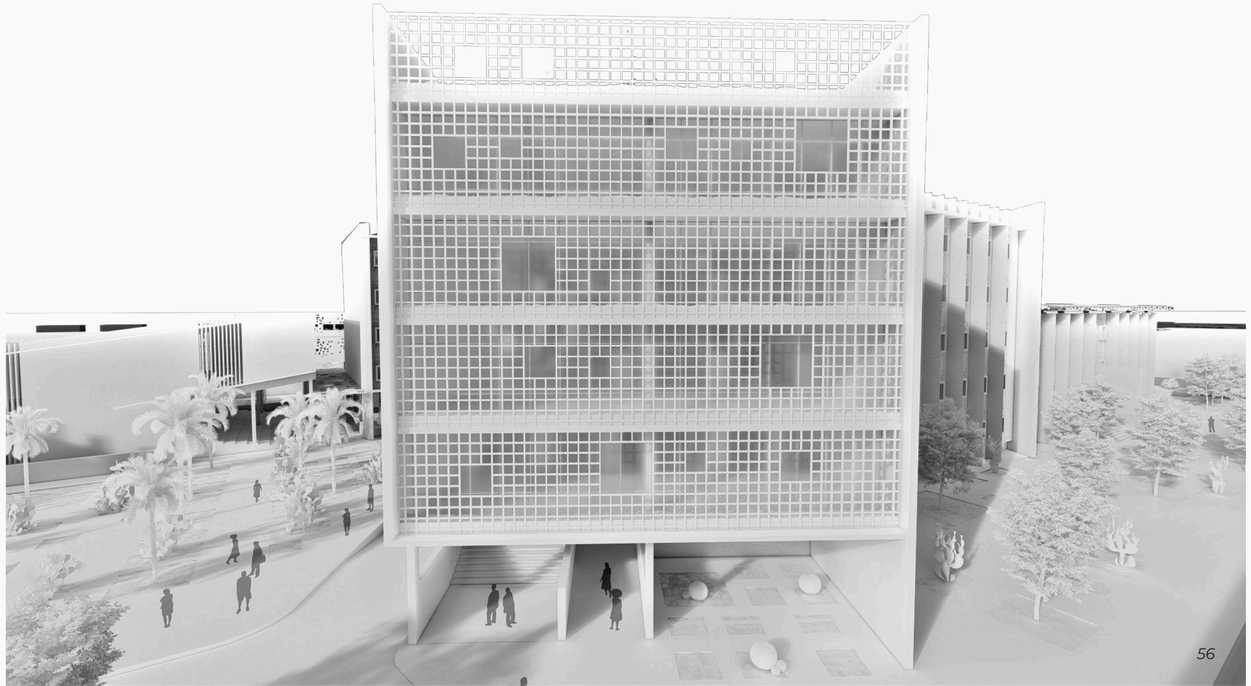
BLUE
WATER STUDIES DEPARTMENT



YELLOW
SOCIAL STUDIES DEPARTMENT



GREEN
AGRICULTURE AND RECLAMATION STUDIES DEPARTMENT



05

MIXED USE, MID-RISE BUILDING

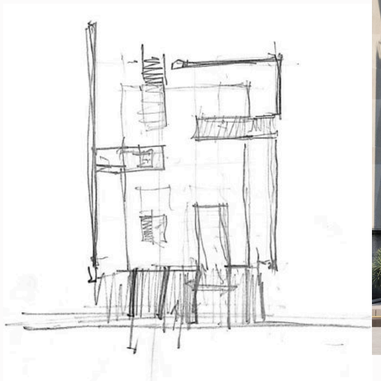
KHARTOUM, SUDAN

Type: MIXED USE MID-RISE (Commercial and Residential)
: PROFESSIONAL WORK
Design Ofice: OTAS Design and Consultants
Design Date: February-2023
Project Location: Khartoum, Sudan.
Project Aim: Designing a resilient and Sustainable building with pleasent facade because it locates in a vibrant neighbourhood.
Design Approach: The design starts with site visit and drawing the analysing the context, Furthermore, working on the apartments layouts, create, develop, and refine the plans and the 3D model.

ABOUT THE PROJECT

The building consists of 7 floors, Ground, Basement and Mezzanine floor with two modules, one with 4 apartments at each floor and the other contains 5 apartments per floor. Both the Ground and mezzanine floors are designed to be used as shops and other commercial spaces. The entire Basement floor is used to provide the residents with parking lots.

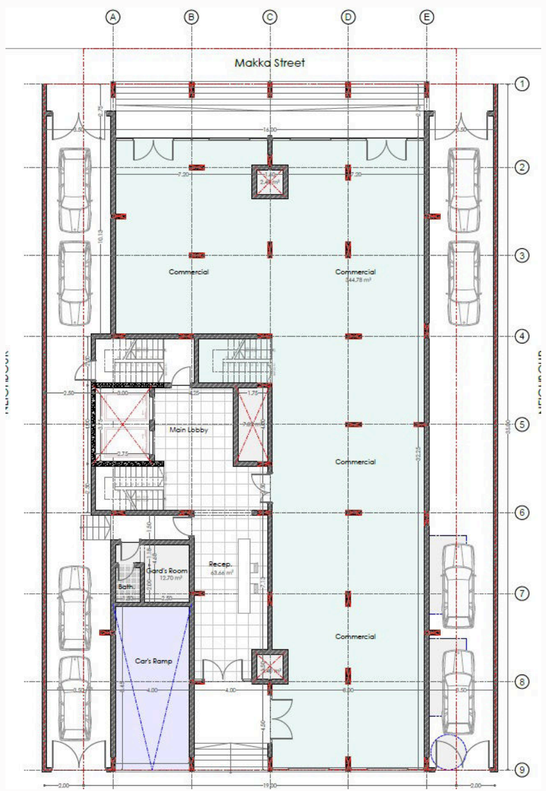
The challange:
The challenge was to provide wide spaces with natural ventilation and day light.



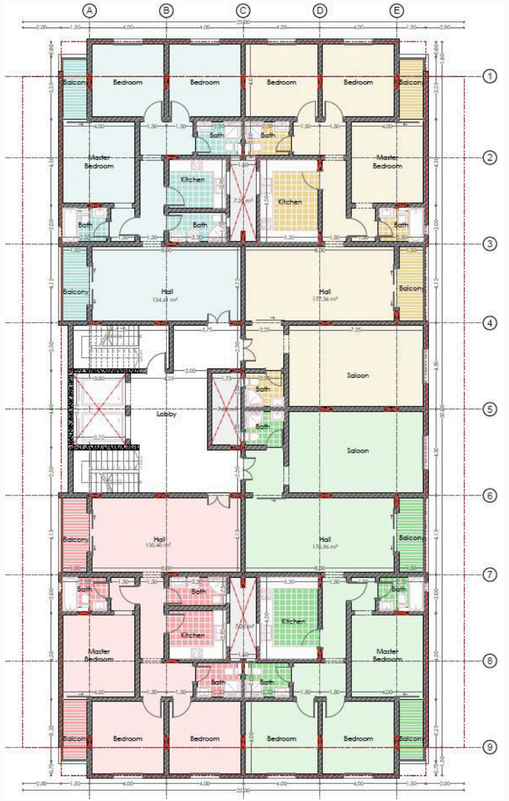




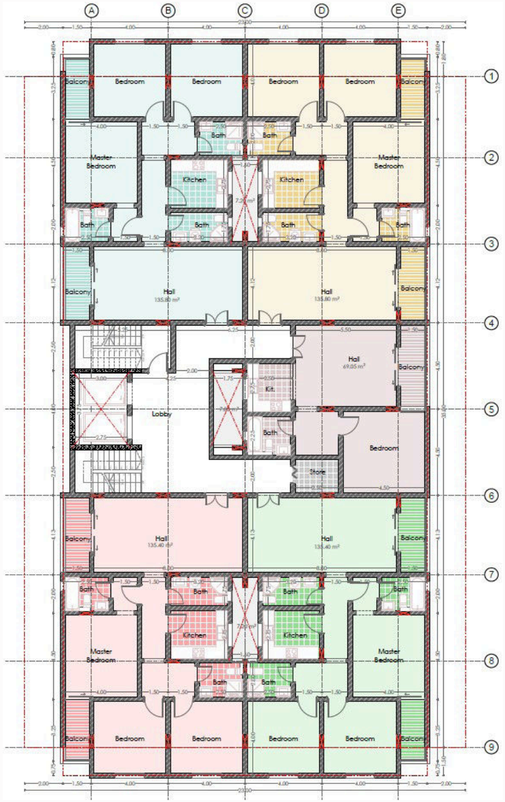
Basement Floor Plan by the author



Ground Floor Plan by the author



Typical-01 Floor Plan by the author



Typical-02 Floor Plan by the author

The new 3D design is based on modern style with the use of elegant stucco facade, long windows and a lot of grooving.



Nothern and Southern Facades 3D Visualization by the author

06

PRIVATE VILLA INTERIOR DESIGN

KHARTOUM, SUDAN

Type: Interior Design Project
: : PROFESSIONAL WORK
Design Office: OTAS Design and Concultants + ARCHSTUDIO DESIGN
Design Date: September-2022
Project Location: Al-Riyadh Neighbourhood, Khartoum, Sudan.
Project Aim: Design of a modern villa interior design consisting of 2 floors and a terrace.
Design Approach: The design was a result of collaboration between me an a senior architect, where I worked on the design and illistrations of the working drawing of the whole project and render process and accumulation the design in a brochure.

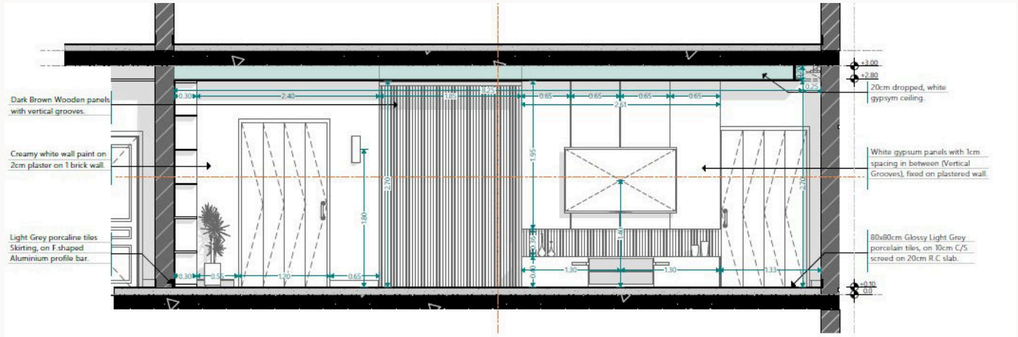
Softwares used: Archicad I Lumion I Indesign I Photoshop

Link to the design book: https://drive.google.com/file/d/1rBtEueIn3P-gux0Edql9hzHgA3aazNErL/view?usp=sharing

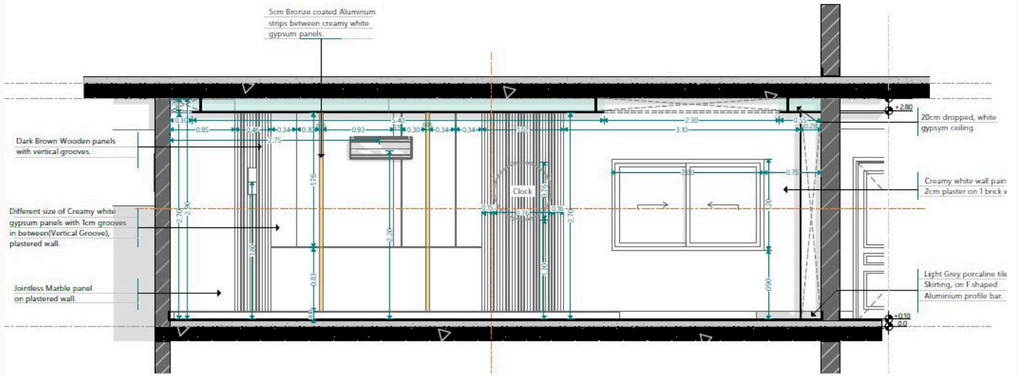






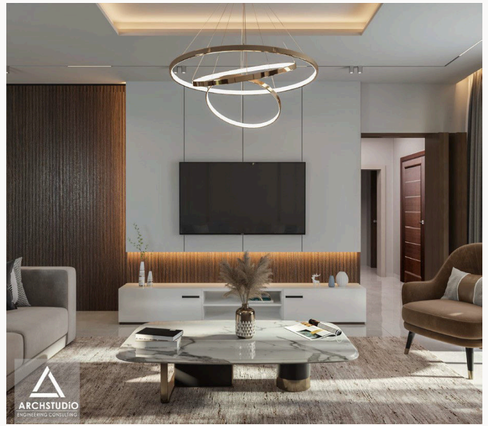


-Interior Elevation-02



Living Hall.01 Interior







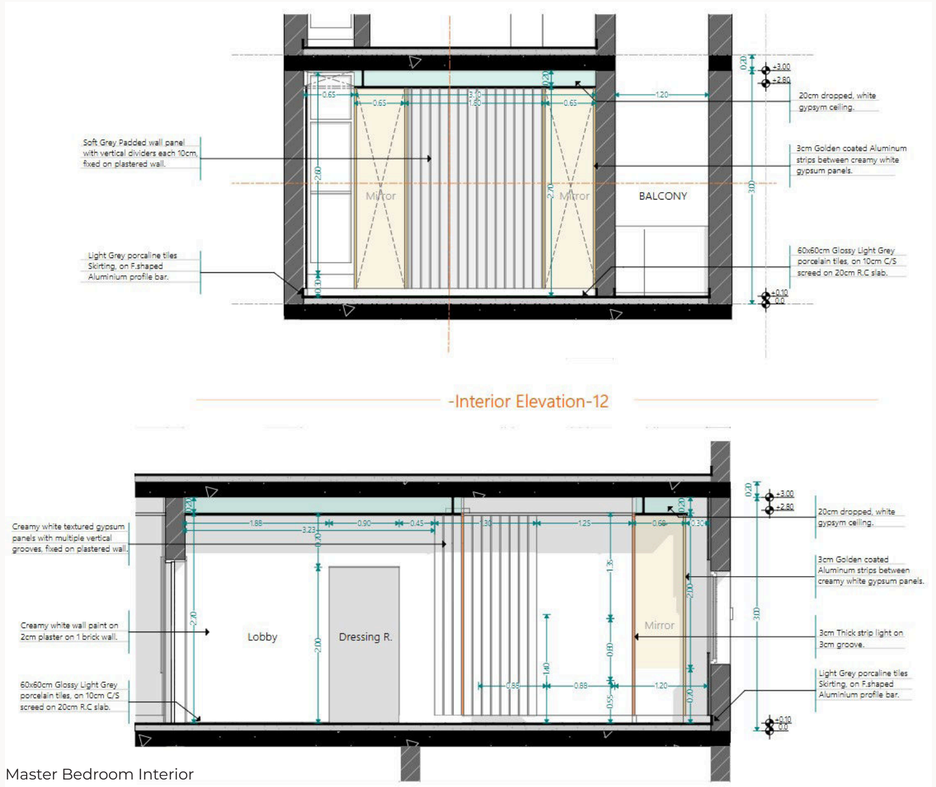




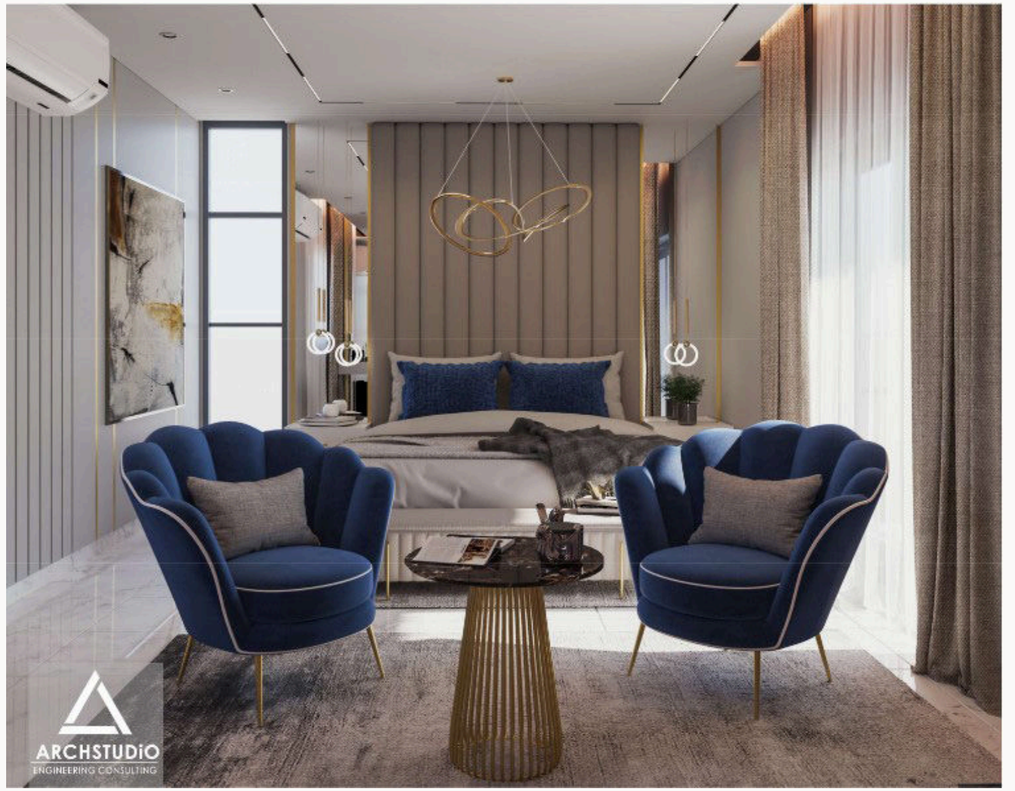




Living Hall.02 Interior

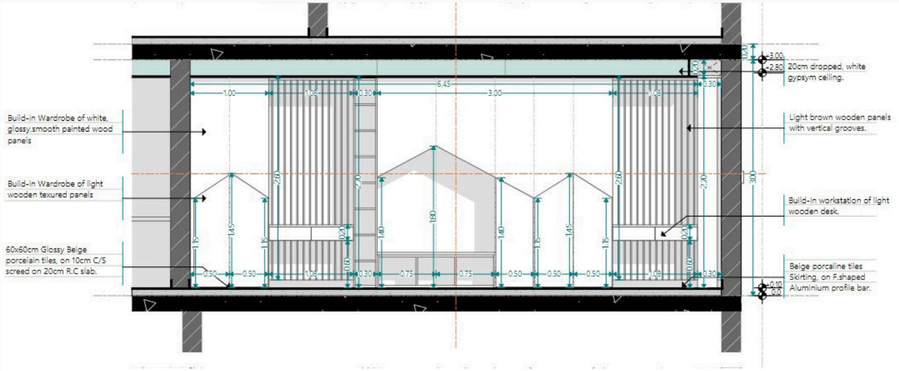


Master Bedroom Interior

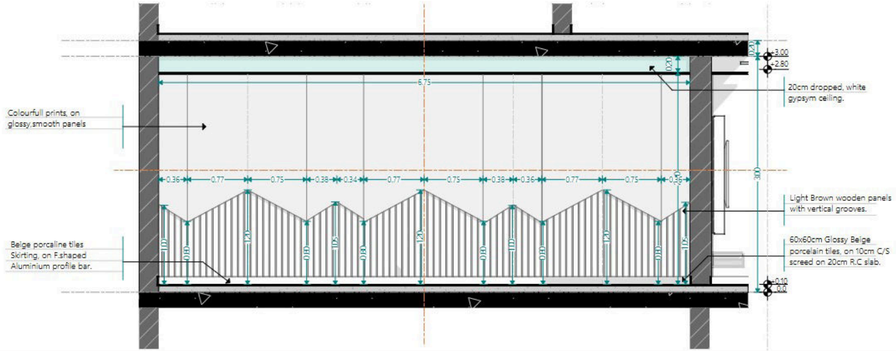






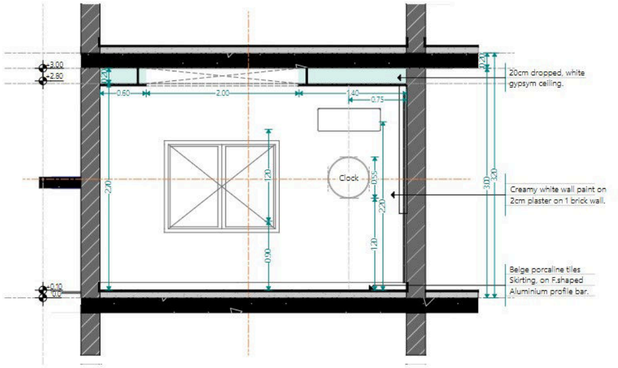


-Interior Elevation. 18

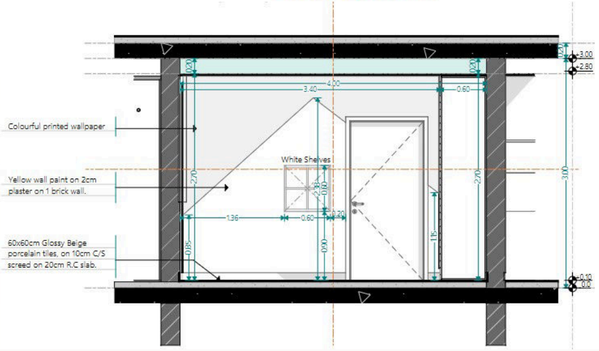








-Interior Elevation. 20



Children Bedroom Interior

PORTFOLIO

2021

2025

Thank you
Looking forward to hear from you