

**rogers kiprono  
portfolio.**

Archicad, Rhino, grasshopper, Blender and Unreal Engine works

003

selected  
works

2024

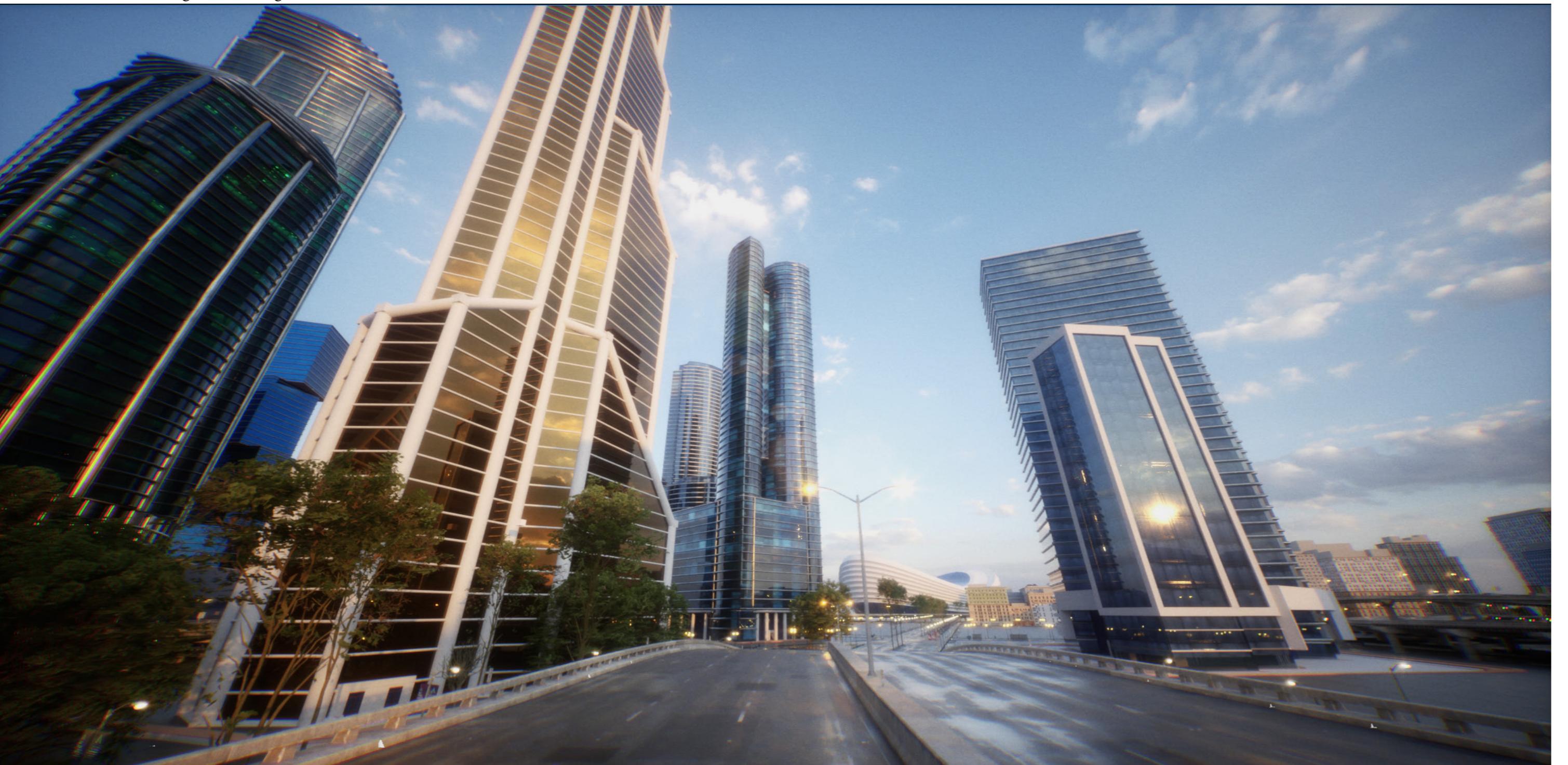
# KOECH ROGERS KIPRONO, GRADUATE ARCHITECT

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<b>Education</b>	
2017/09 - 2021/11:	Bachelor of Architectural Studies. Kenyatta University School of Engineering and Architecture
2022/09 - 2024/11:	Bachelor of Architecture. Kenyatta University School of Engineering and Architecture
<b>Languages</b>	English and Kiswahili
<b>Software skills</b>	
Building Information Modelling:	Archicad Revit
3d Modelling:	Rhino and Grasshopper Sketchup
Realtime Visualisation:	Unreal Engine Blender
Presentation:	Photoshop Indesign
<b>Soft skills</b>	
	Sketching and Drafting Model making Project management Virtual reality visualisation
<b>Experience</b>	
	Intern at MUTISO MENEZES INTERNATIONAL May 2024-date

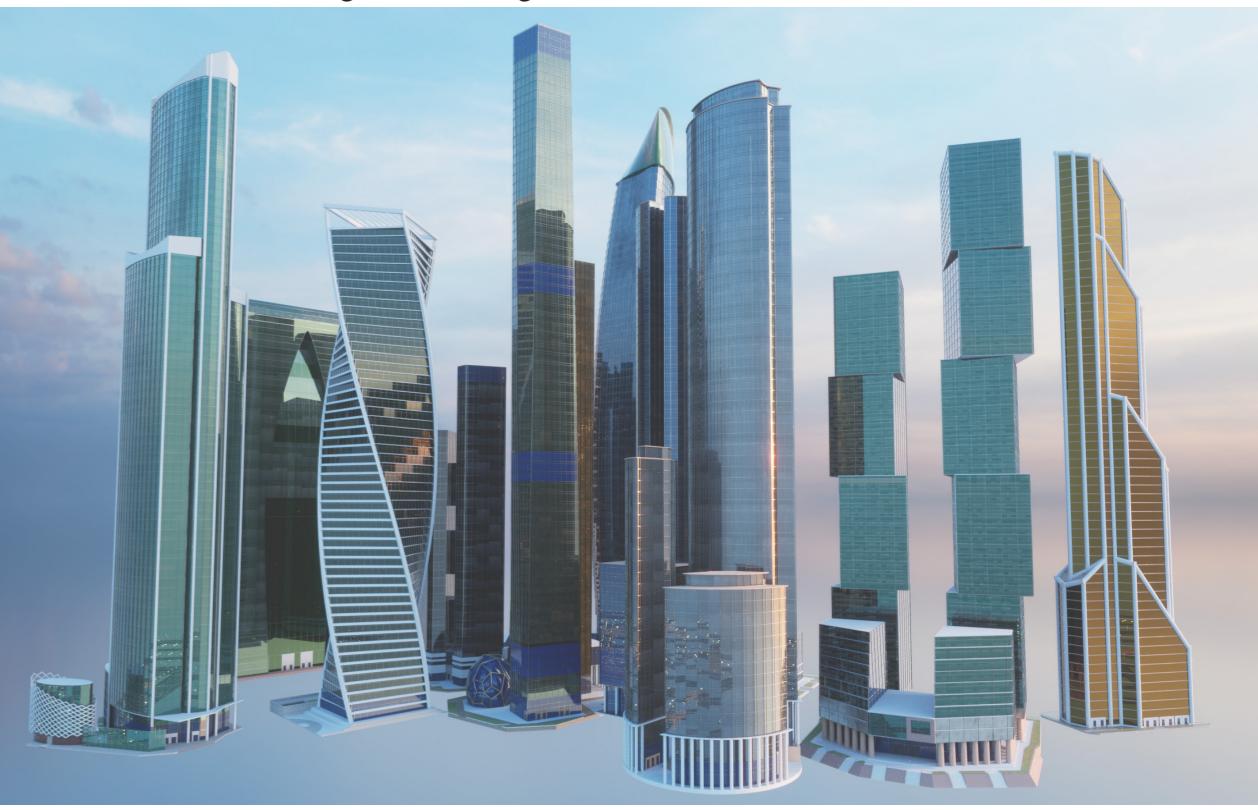
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3D Render: Created using Unreal Engine



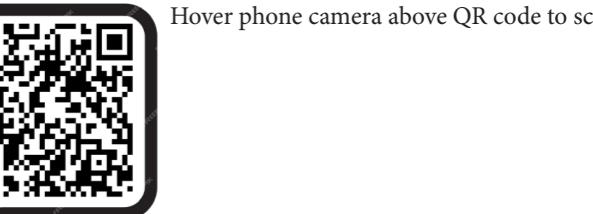
3D Render: Created using Unreal Engine



## “Parametric form design”

Video animation link: <https://www.youtube.com/watch?v=JG28xg5CDQY>

QR code to Video animation:



Hover phone camera above QR code to scan

Typology Parametric towers

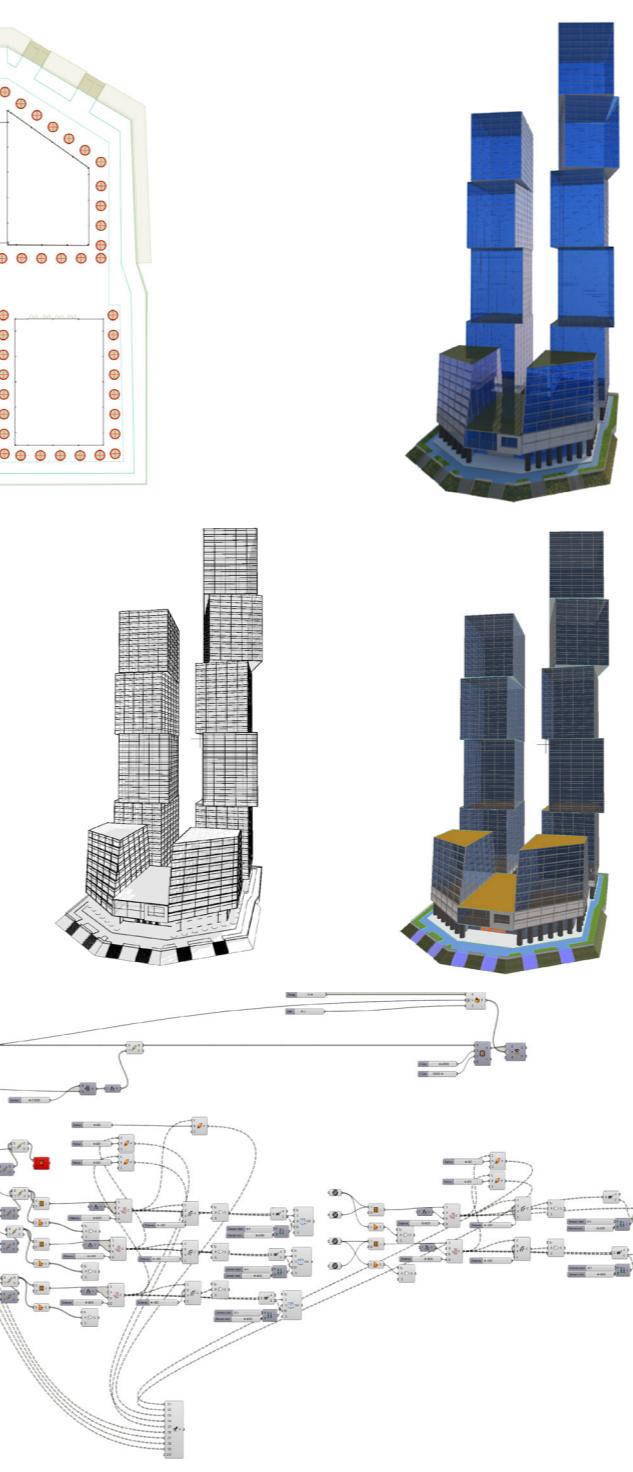
**Objectives** the objective is to showcase proficiency in parametric form development, inspired by the Moscow International Business Center. Leveraging ArchiCAD, Rhino, and Grasshopper plugins, the aim is to explore the center's architectural motifs and generate dynamic forms. Through this, the goal is to demonstrate the capability to translate inspiration into innovative design solutions.

**Learning Outcomes** the anticipated learning outcomes include a deeper understanding of parametric design principles and enhanced skills in ArchiCAD, Rhino, and Grasshopper. To develop expertise in analyzing complex architectural structures and translating them into responsive parametric models. Ultimately, the project aims to showcase the ability to apply advanced design techniques to real-world architectural challenges.

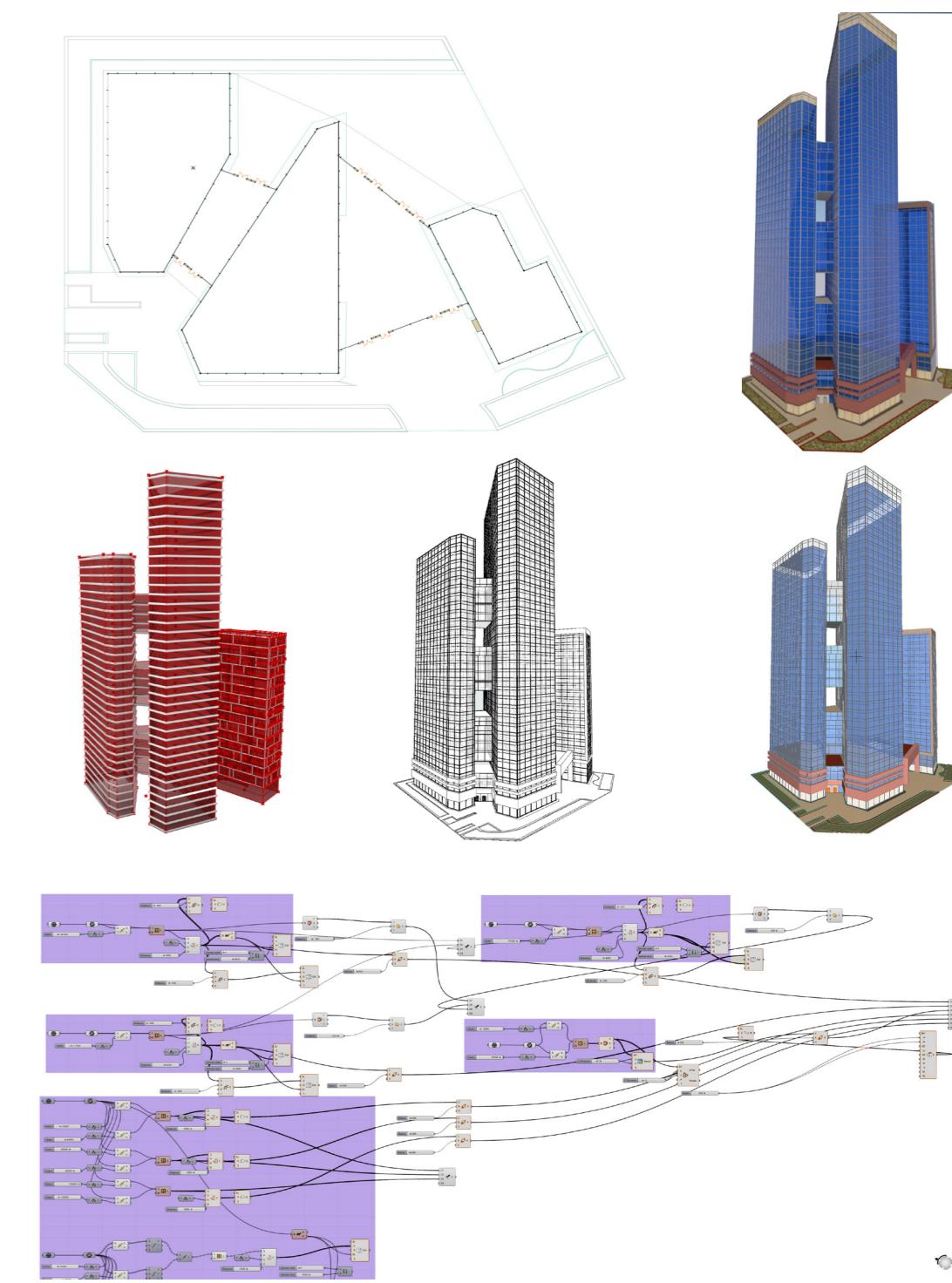
3D Render: Created using Unreal Engine



Archicad, Rhino and Grasshopper plug in pipeline



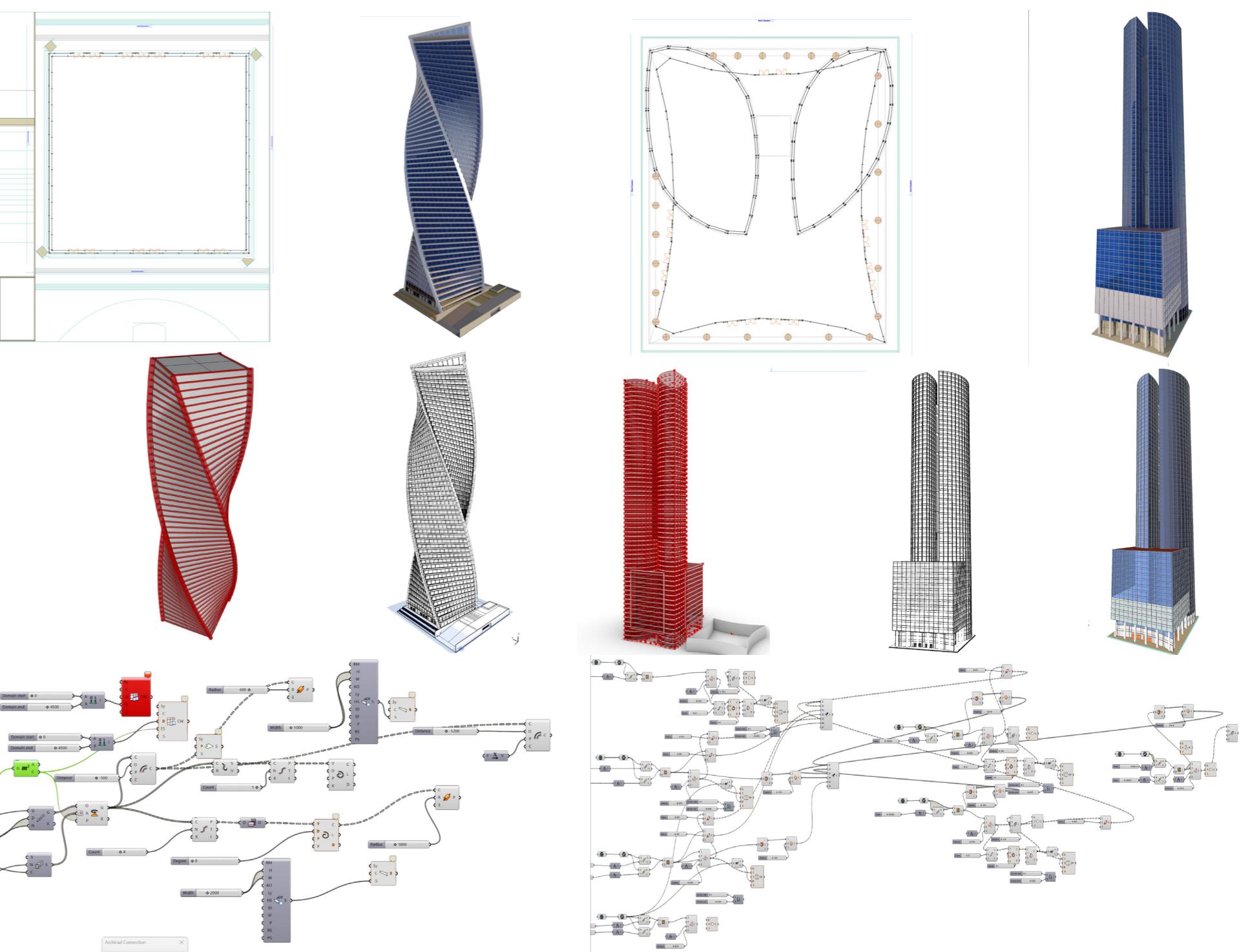
Archicad, Rhino and Grasshopper plug in pipeline



3D Render: Created using Unreal Engine



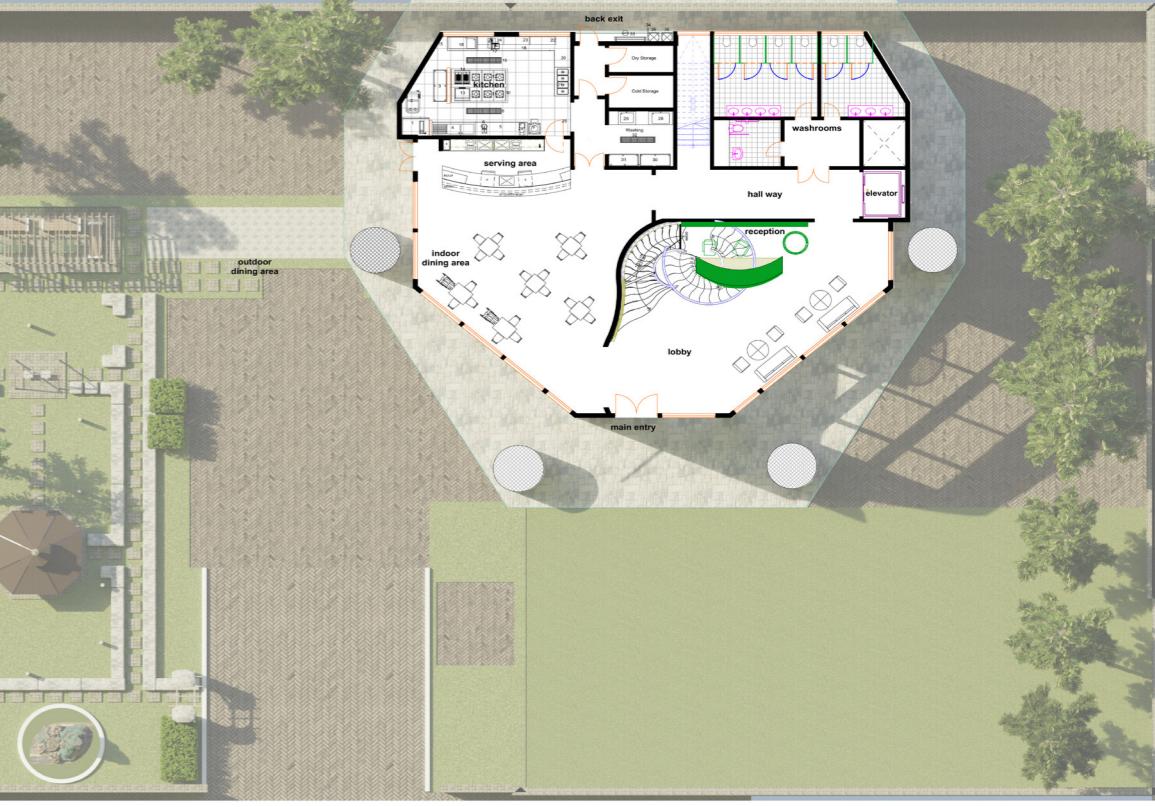
Archicad,Rhino and Grasshopper plug in pipeline



3D Render: Created using Blender



Site Plan: Created using Archicad and Photoshop



## "Jungle Lodge"

Virtual Tour link

<https://rk-sketch98.github.io/Lodge-Virtual-Tour-3/>

QR code to Video animation:



SCAN  
ME!

Hover phone camera above QR code to scan

**Typology** Recreational Building

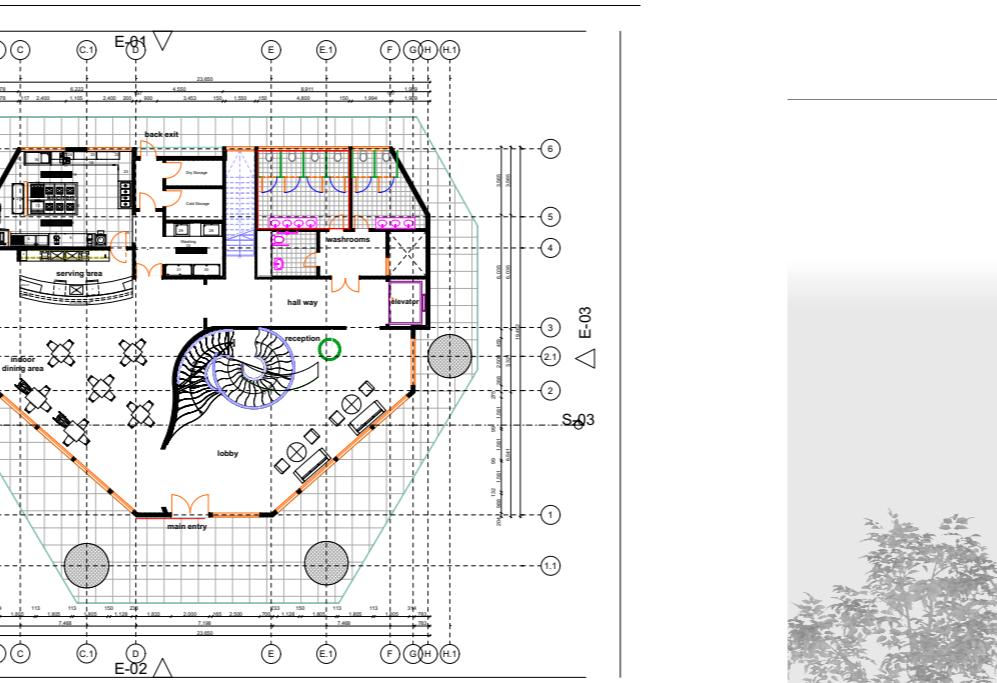
**Objectives** To showcase proficiency in designing organic architectural forms, inspired by natural elements and traditional construction materials like bamboo and wood. Using ArchiCAD, Rhino, and Grasshopper, the aim is to develop a unique lodge concept that harmonizes with its natural environment.

**Learning Outcomes** Understanding of Organic Design Principles, develop a deeper comprehension of organic design principles, focusing on fluid, natural forms that harmonize with the environment and gain insight into how these principles can be applied in real-world architectural projects, particularly in creating structures that mimic natural shapes.

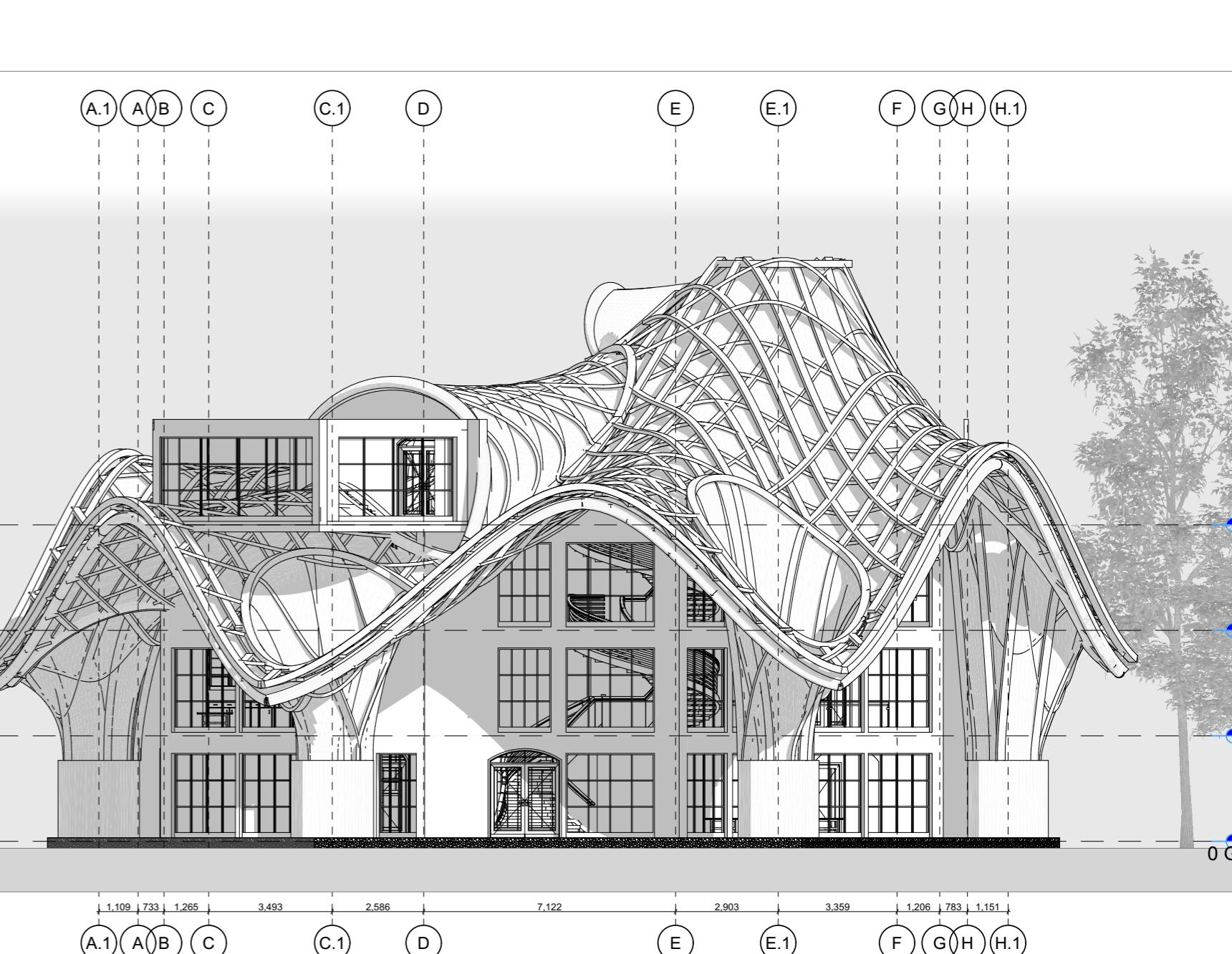
3D Render: Created using Blender



Floor plan: Created using Archicad

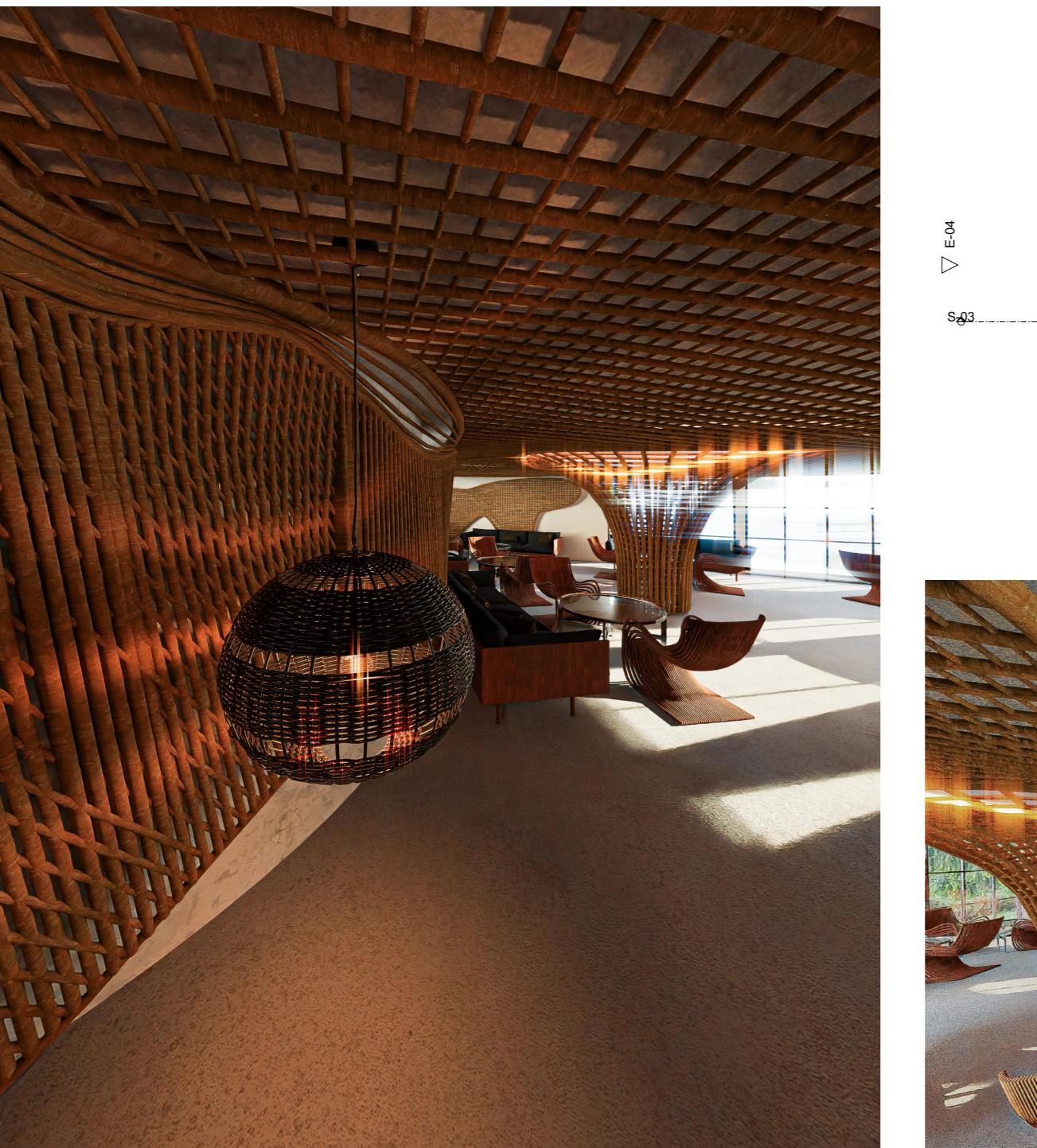


Elevation: Created using Archicad, Rhino and Grasshopper

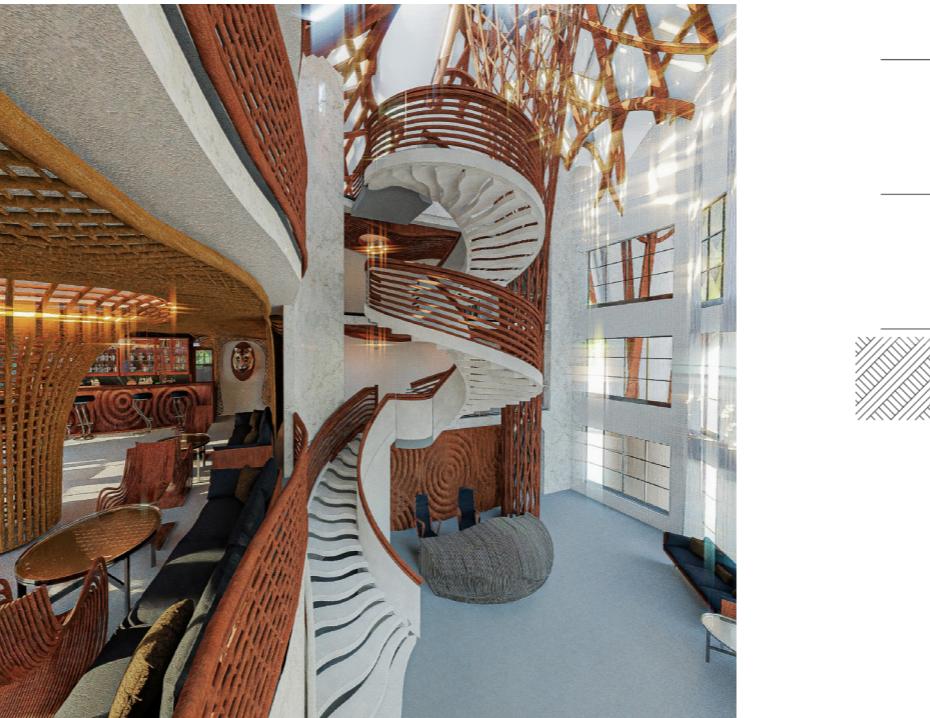
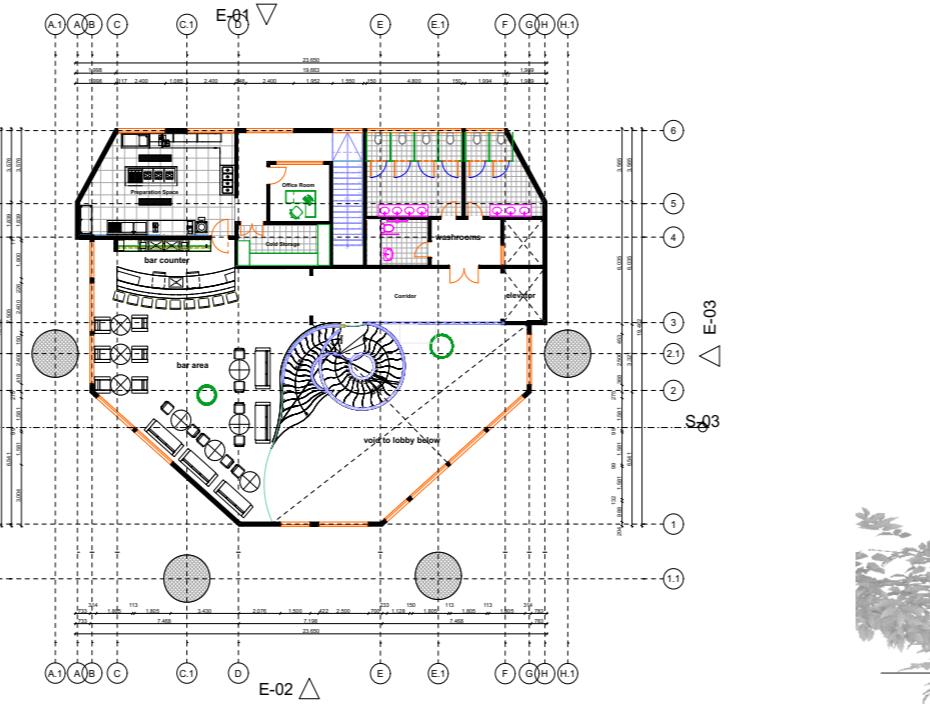


ELEVATION E-02

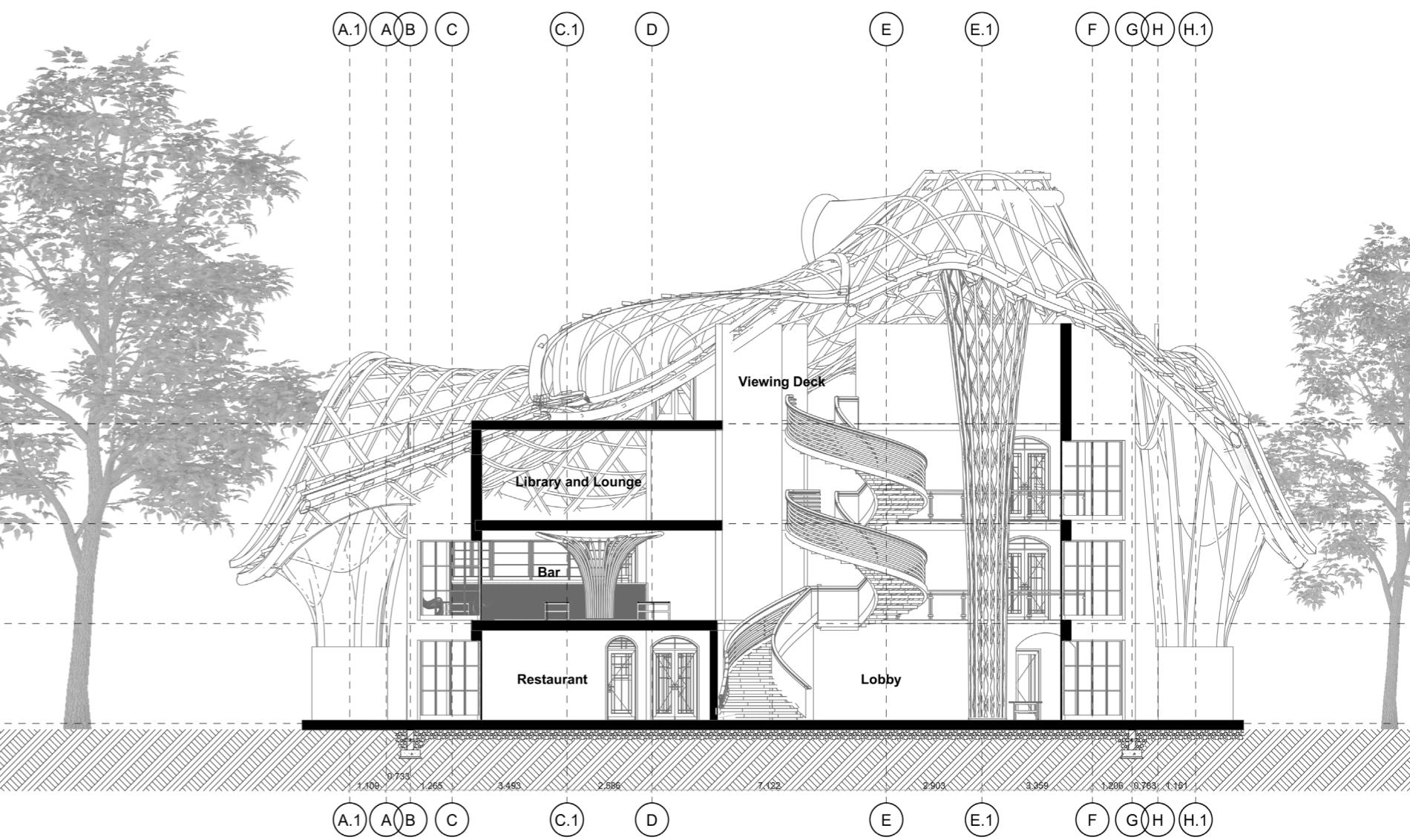
3D Render: Created using Blender



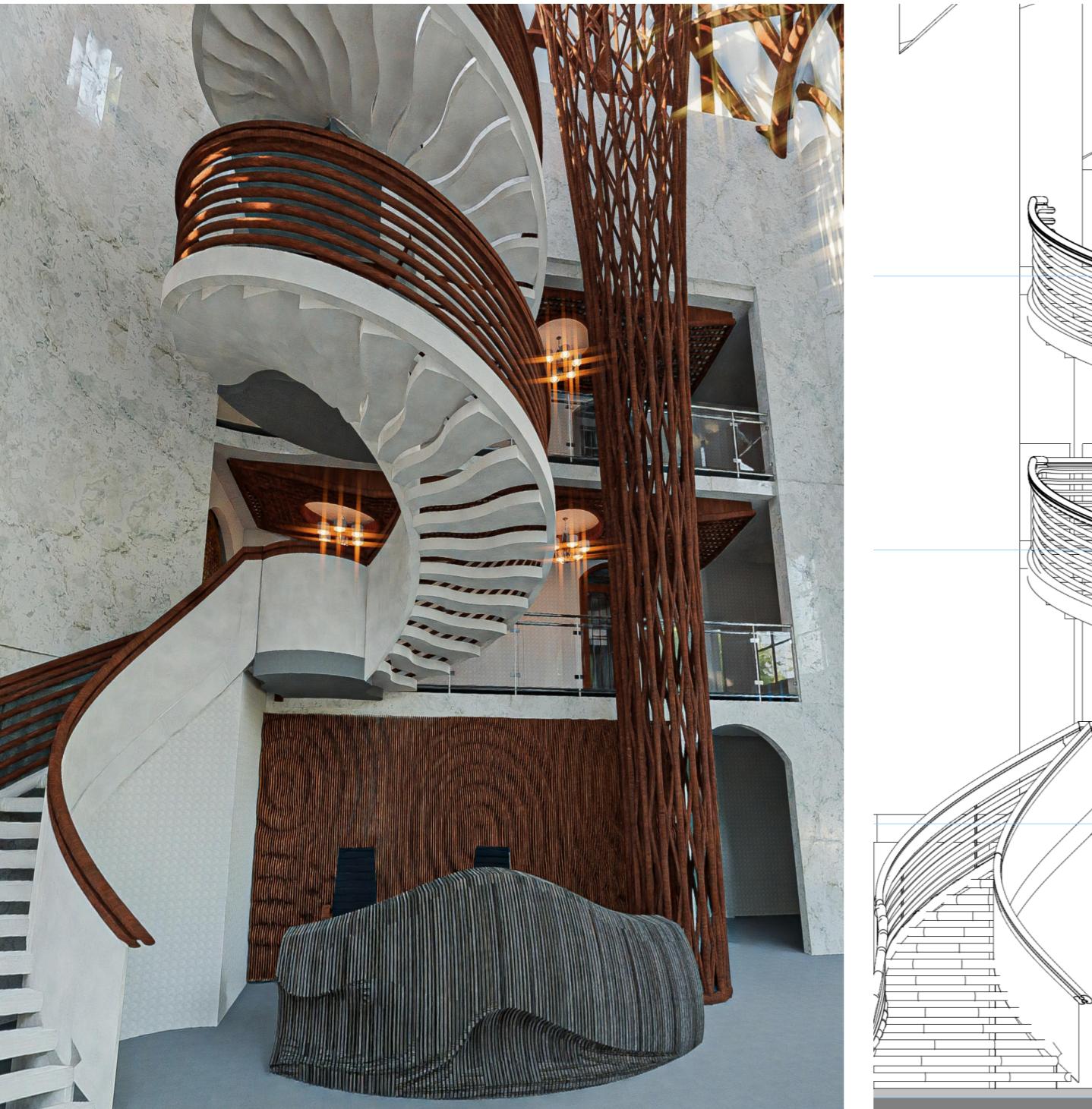
Floor plan: Created using Archicad



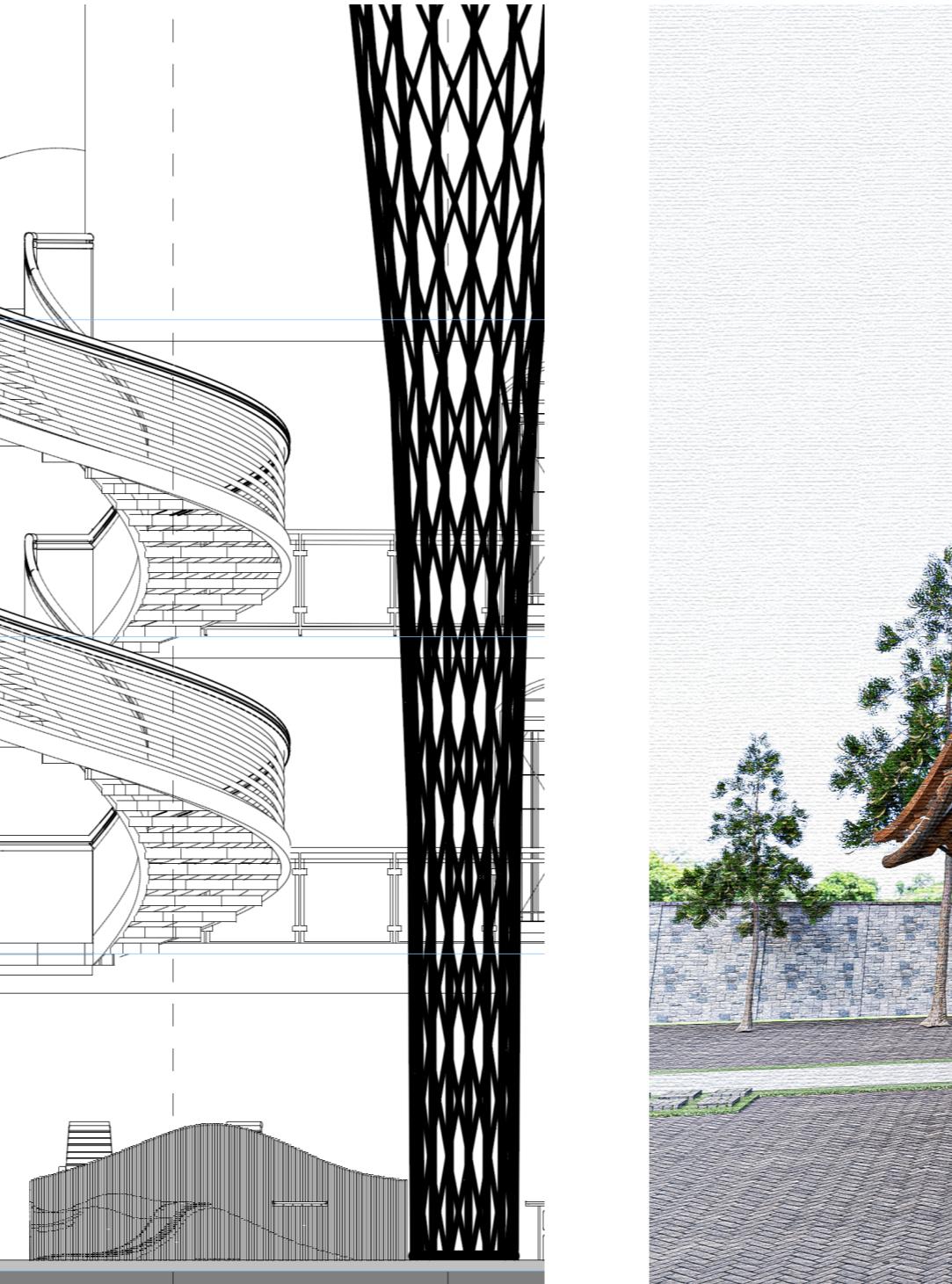
Section: Created using Archicad, Rhino and Grasshopper



3D Render: Created using Blender

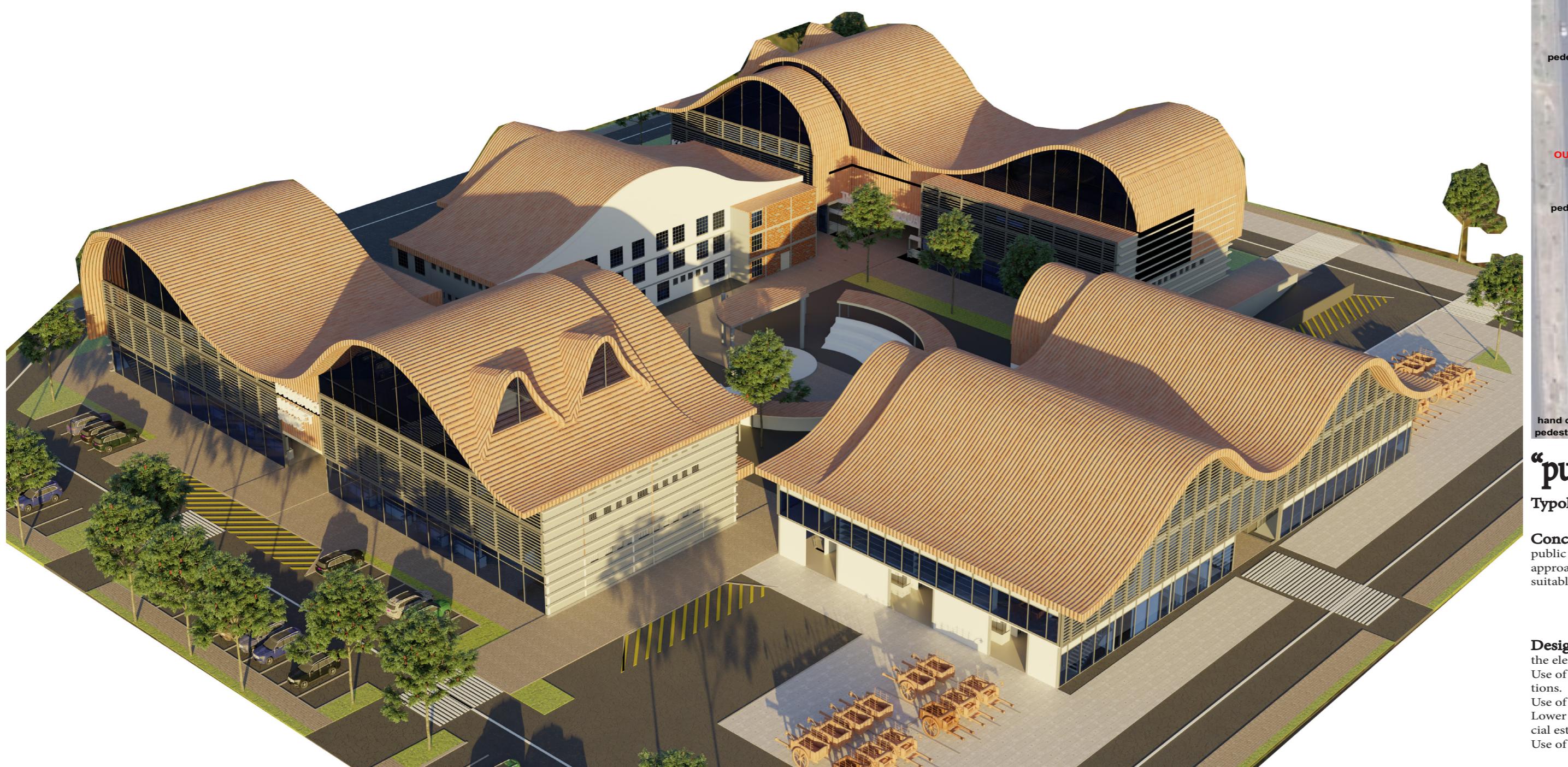


Section: Created using Archicad, Rhino and Grasshopper



3D Render: Created using Blender





## “public market design”

**Typology** Commercial Buildings

### Concept: Commerce Street Fusion.

public markets in kenya display conflict between space allocated for circulation and the ones for trading. To remedy this a design approach that aims to fuse the spaces for commerce and street, while both maintaining their autonomy and proper function is suitable.

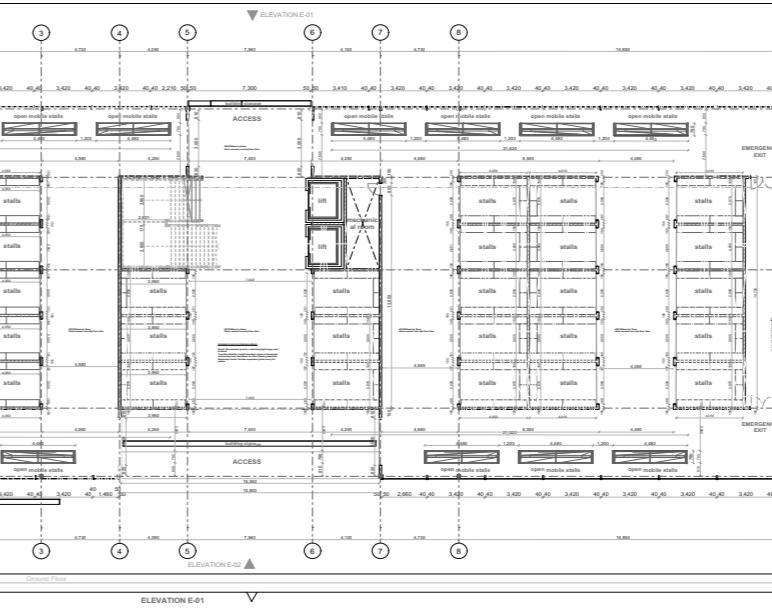
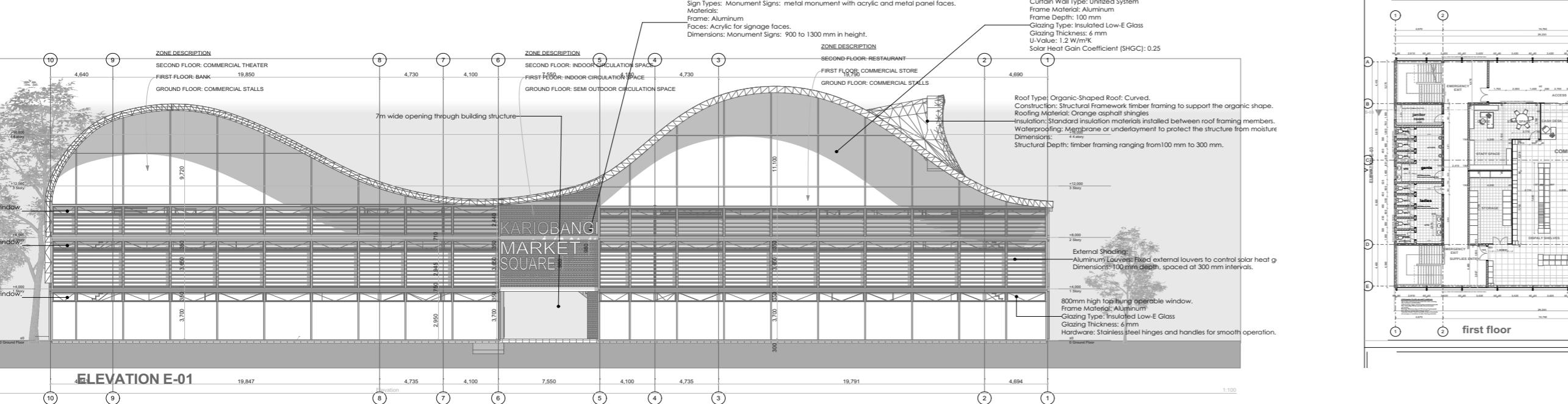
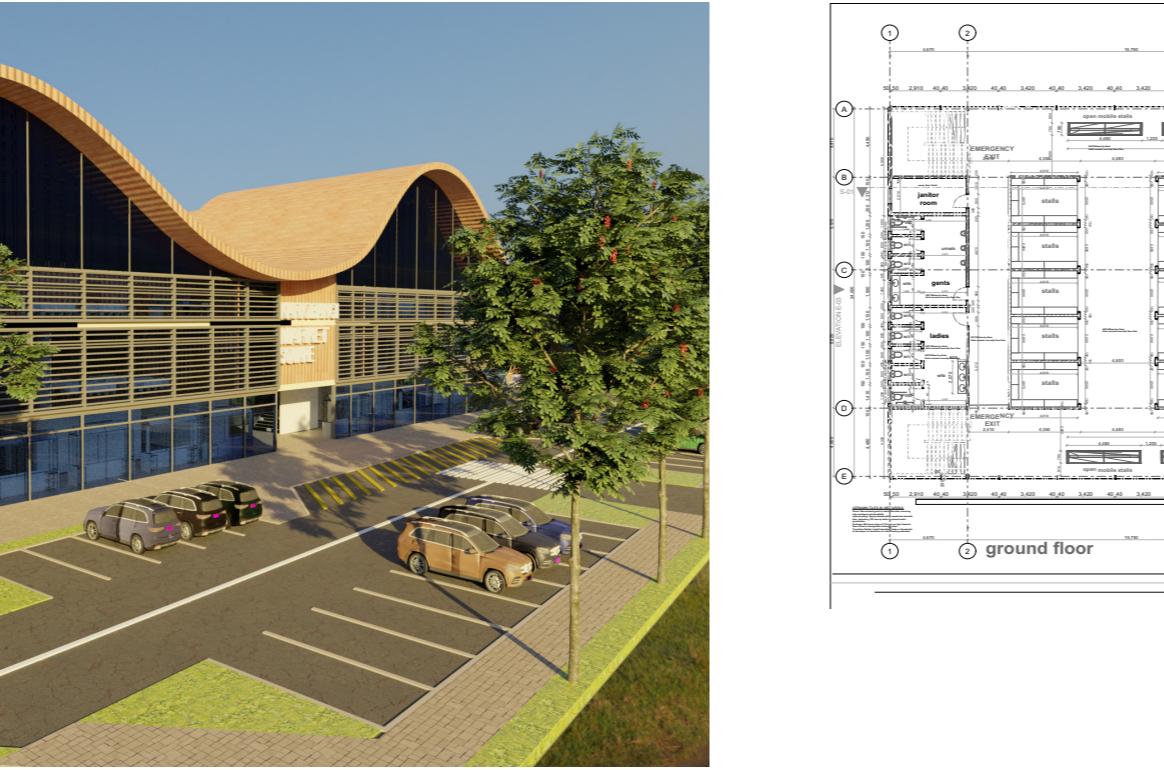
**Design Elements** To achieve proper fusion between the street and commercial spaces while both maintaining their integrity the elements below are applicable.

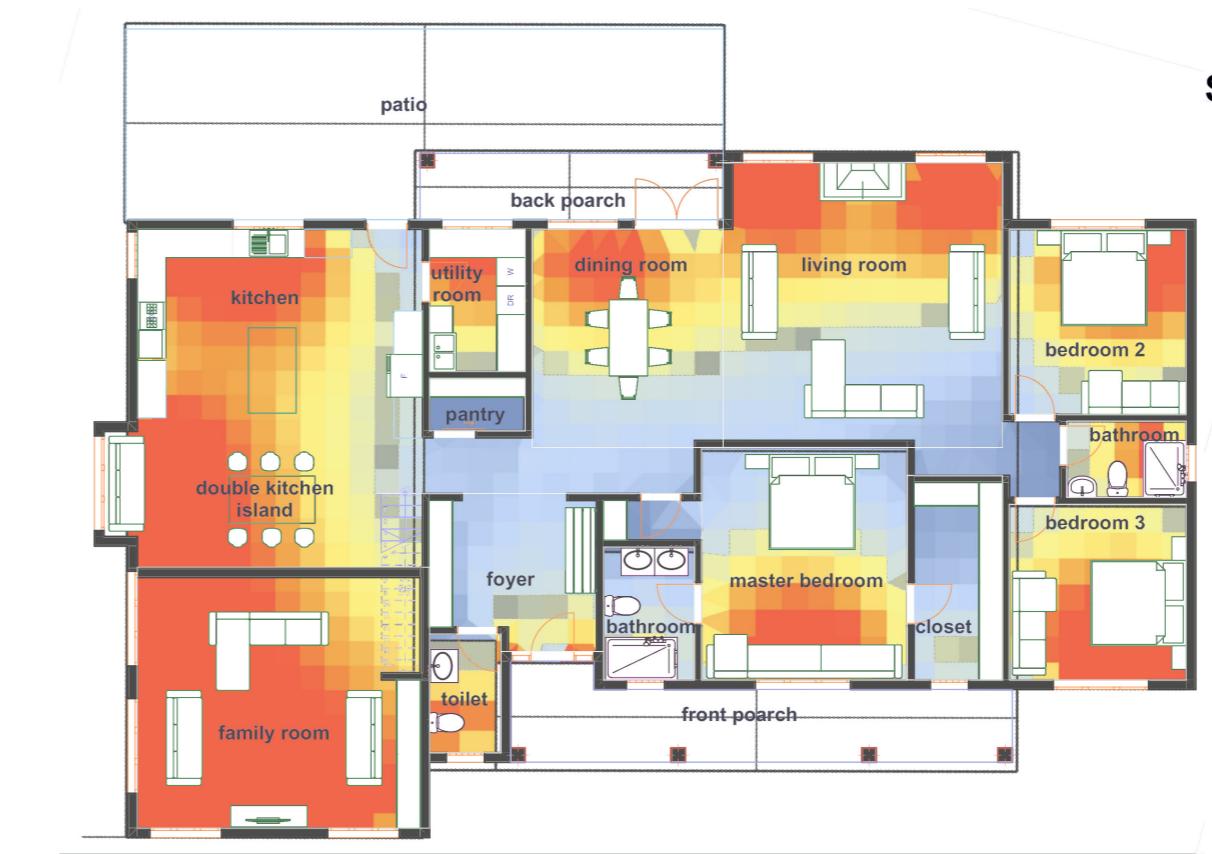
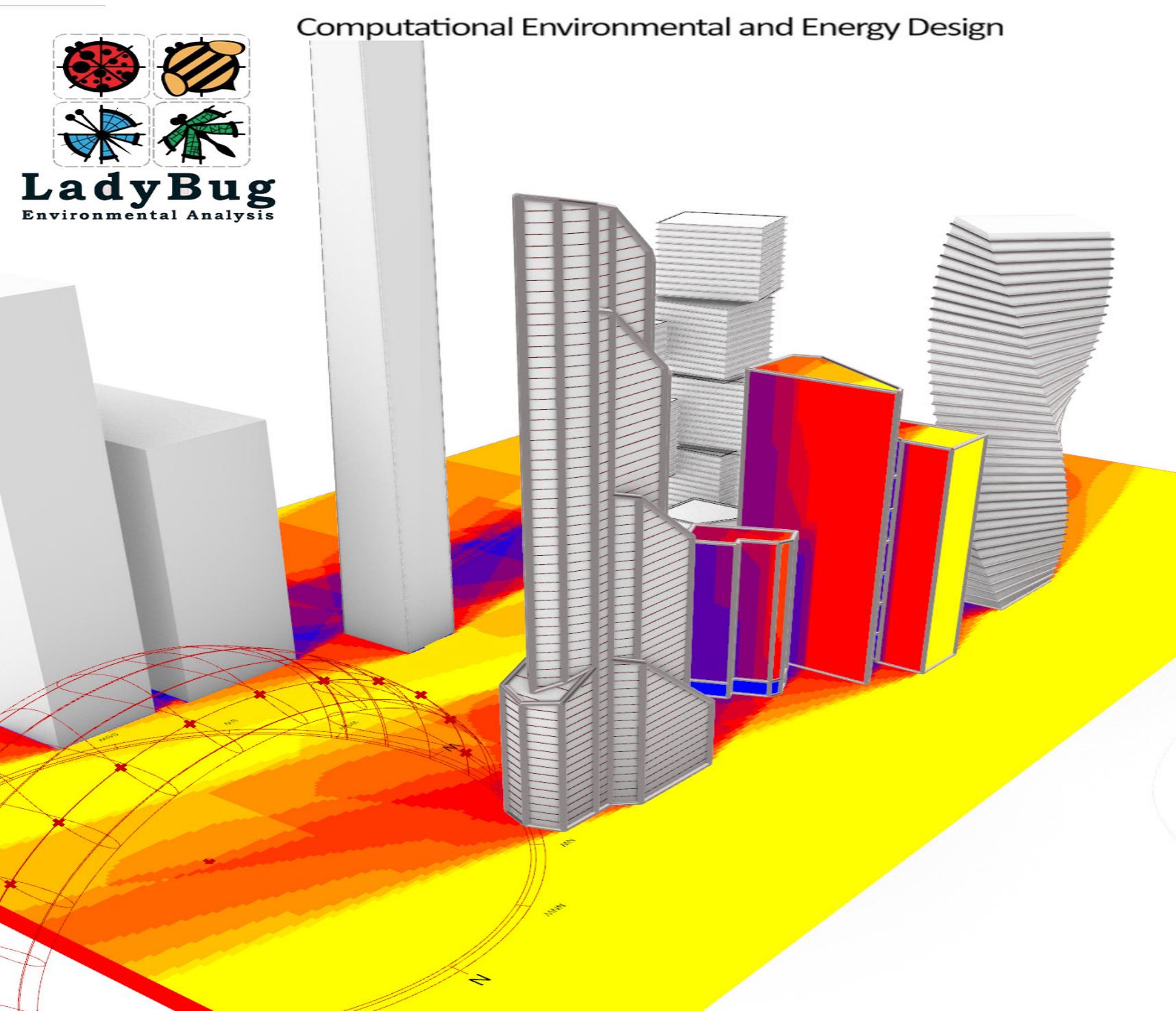
Use of grid to provide clear and organized layouts of streets for easier navigation by establishing regular intervals and intersections.

Use of low-rise structures organised in a spread out sprawl. Spread out sprawl allow for larger frontages.

Lower buildings create more open and accessible streetscape, making it easier for pedestrians to visually connect with commercial establishment from the street level.

Use of courtyard layout would form the backbone of the circulation merging all the elements together.





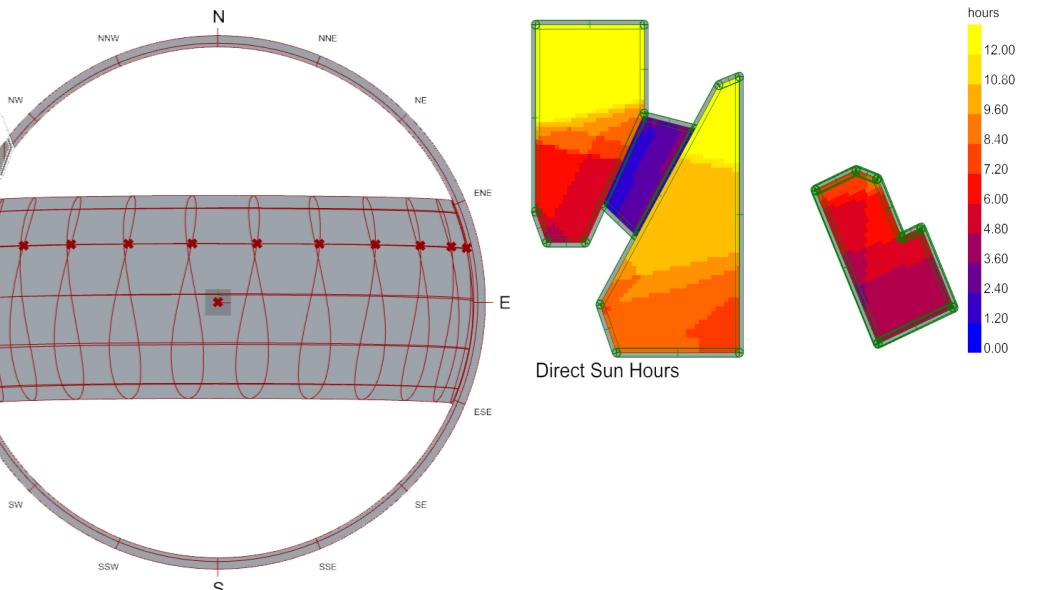
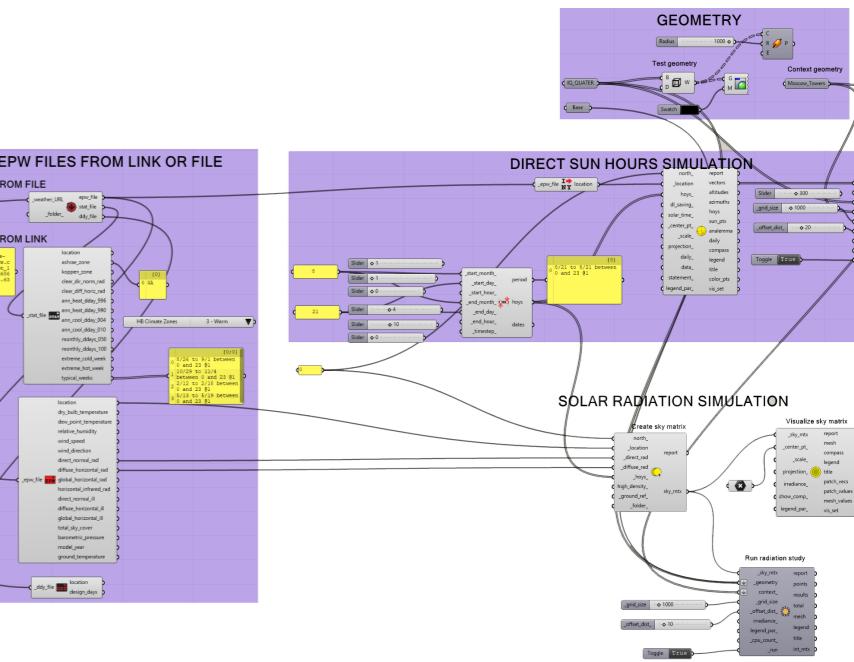
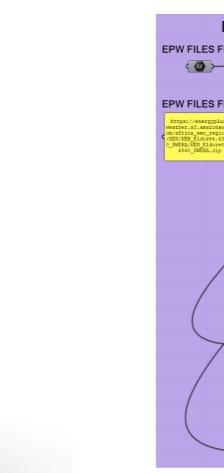
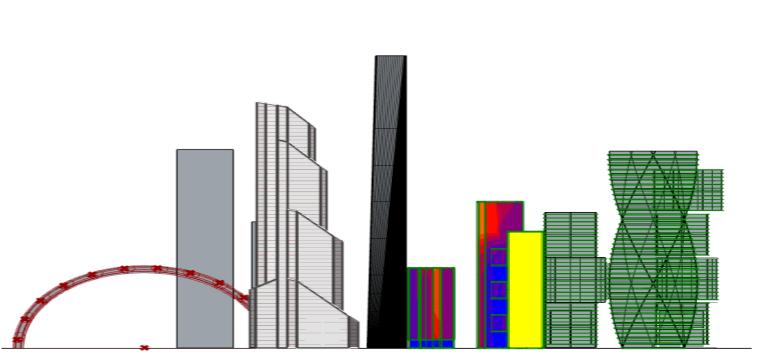
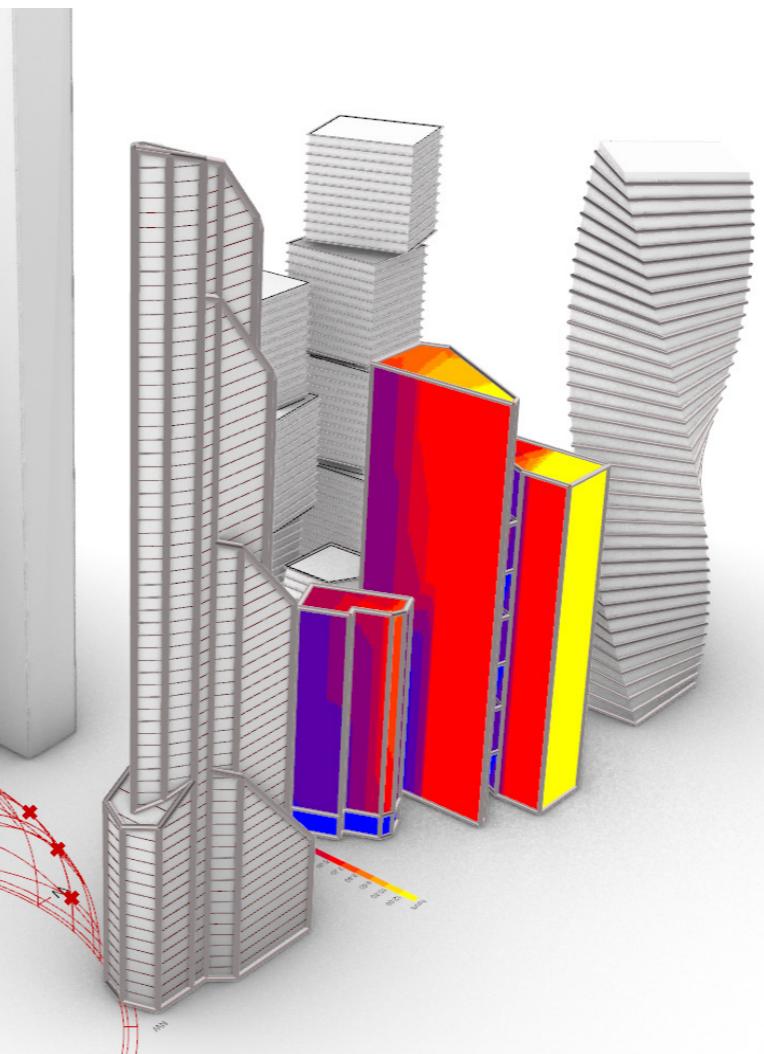
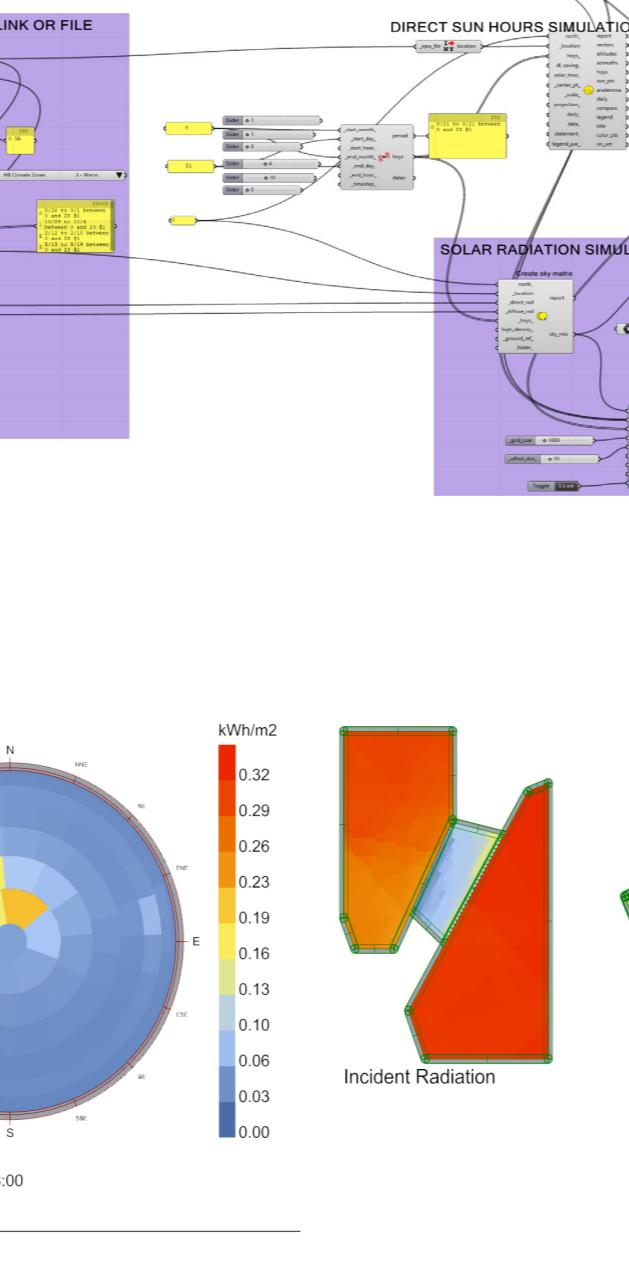
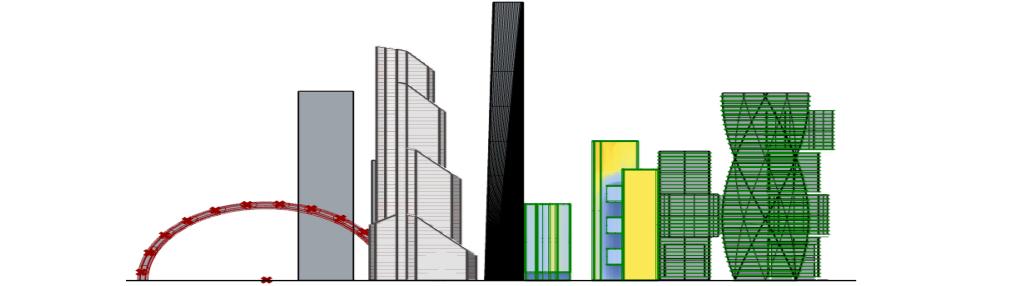
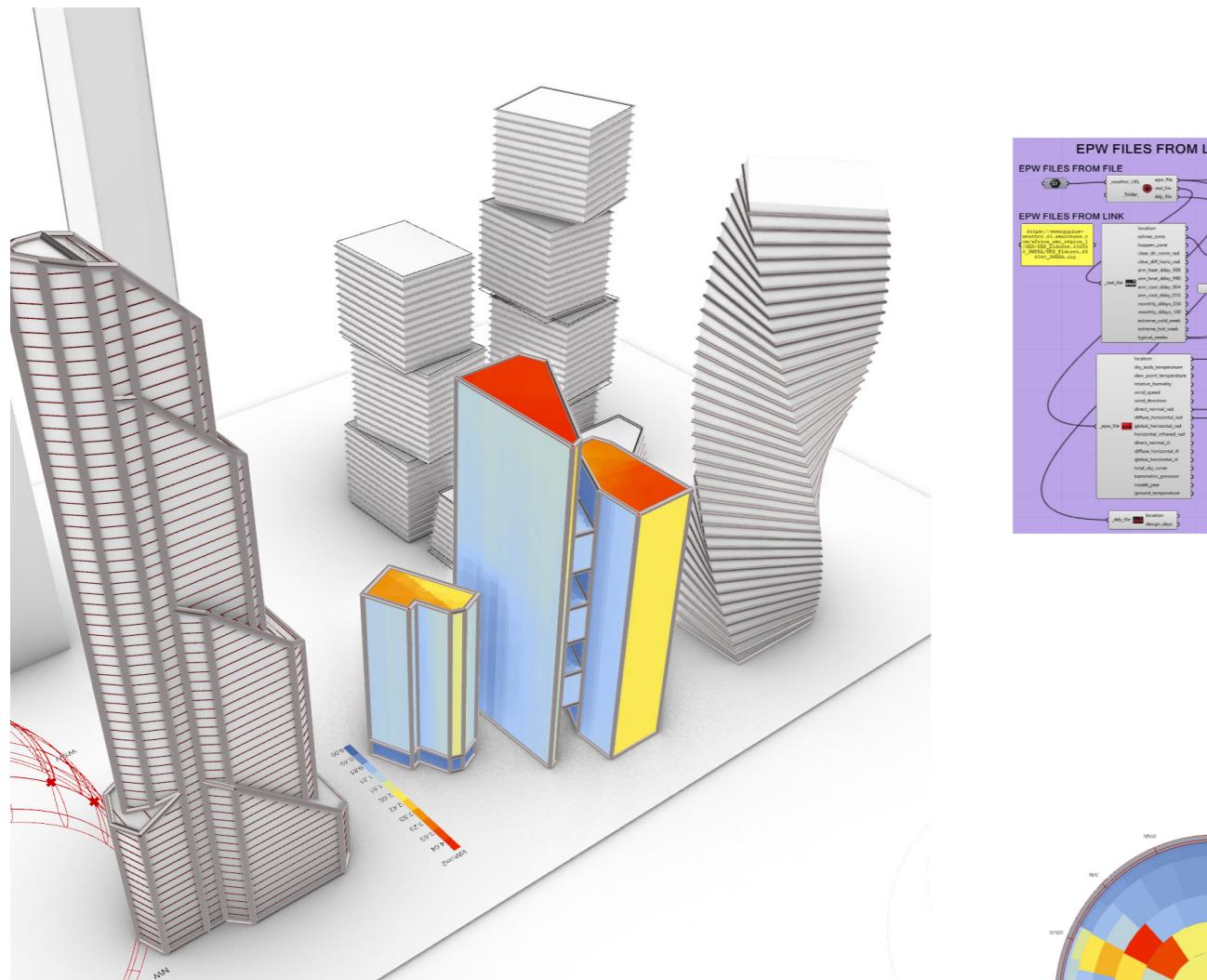
## “computational Environment and Energy Design”

**Typology** Computational Simulations

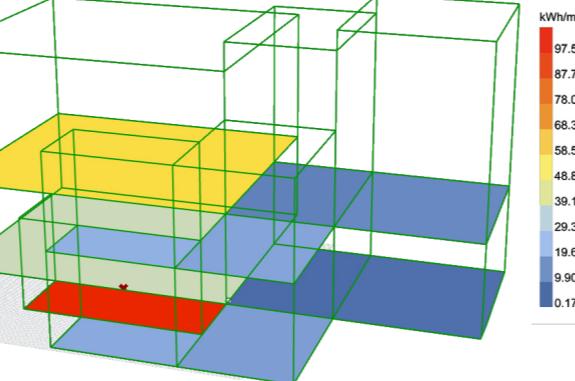
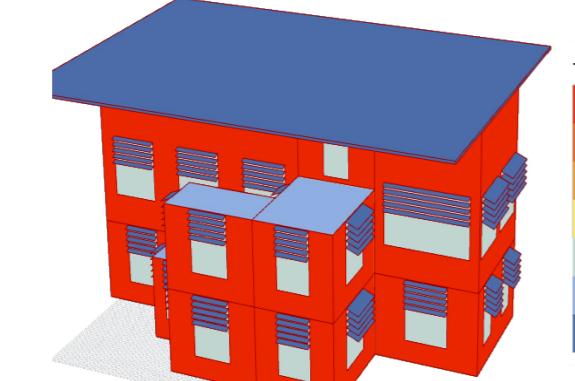
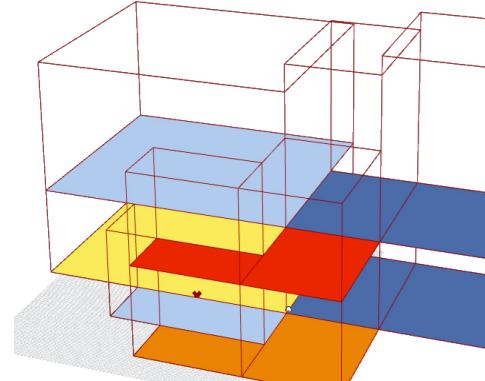
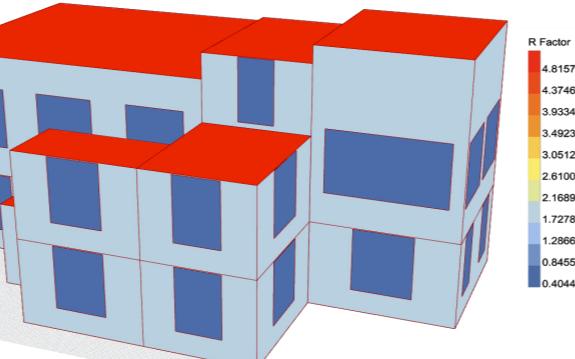
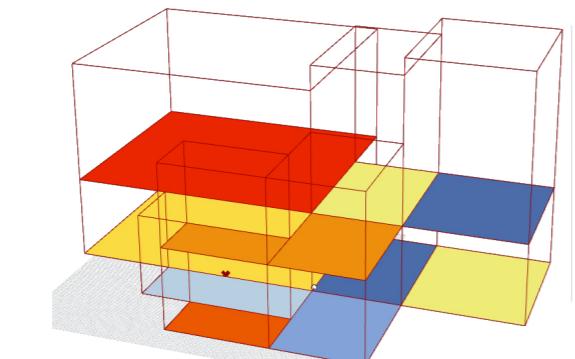
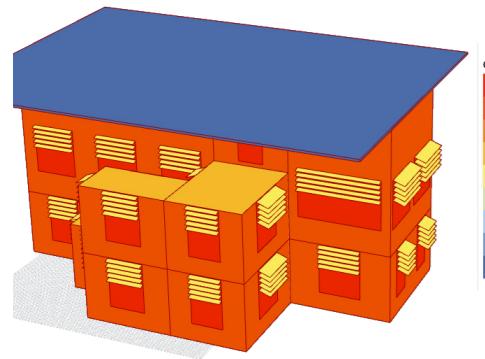
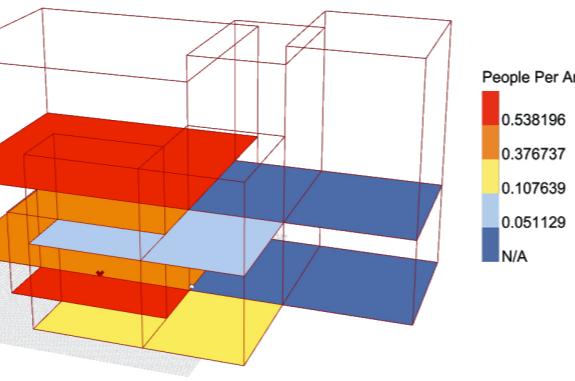
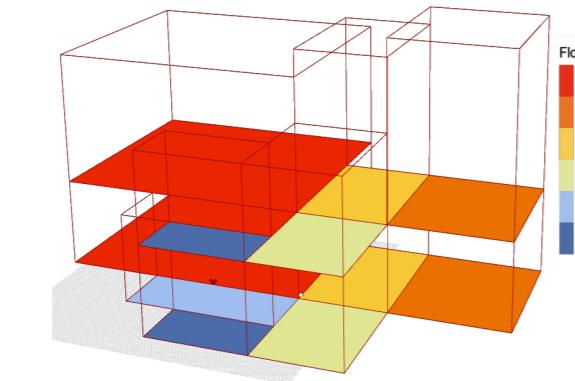
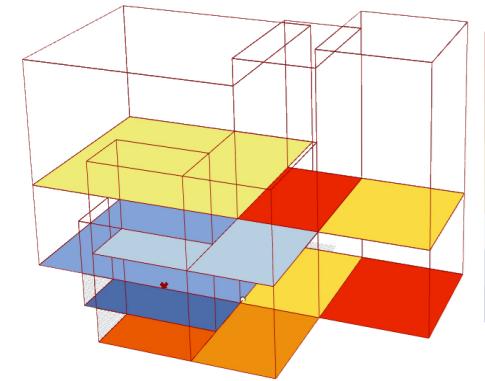
**Objectives** aims to delve into computational Environment and Energy Design using Rhino and Grasshopper with Ladybug plugins. The objective is to explore solar radiation, conduct direct sunlight analysis, and perform energy simulations. By utilizing these tools and techniques, the goal is to develop a comprehensive understanding of how computational methods can inform sustainable design decisions and optimize building performance.

**Learning Outcomes** Proficiency will be acquired in utilizing Rhino and Grasshopper with Ladybug plugins for environmental and energy analysis. Insights will be gained into conducting solar radiation studies and direct sunlight analysis to inform daylighting strategies. Furthermore, skills will be developed in performing energy simulations to assess building performance and optimize energy efficiency. Overall, this project aims to demonstrate the application of computational methods in achieving sustainable architectural design solutions.

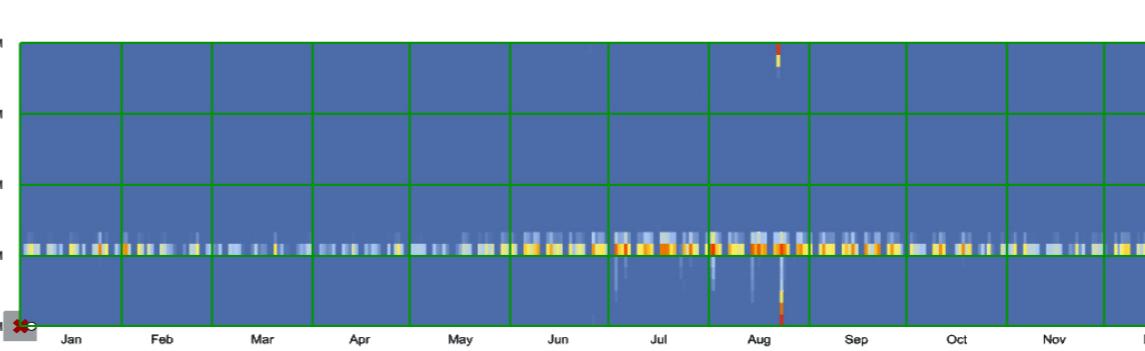
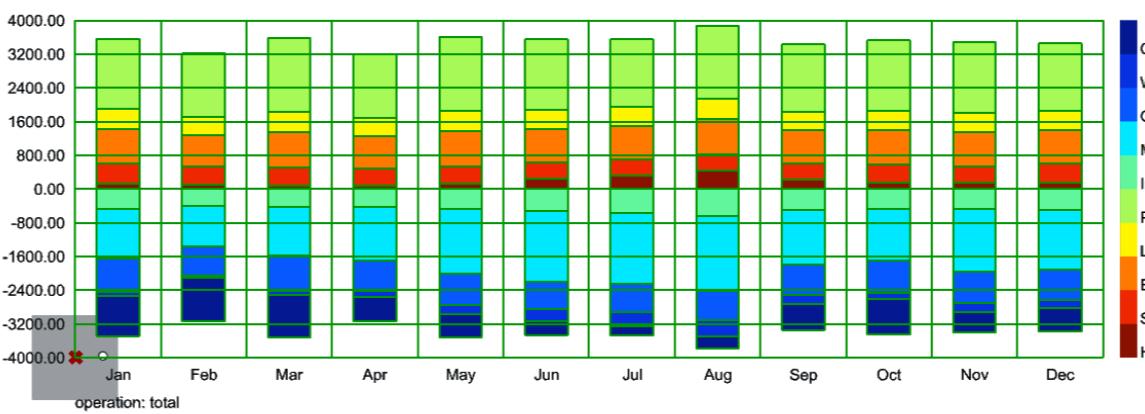
Solar Radiation Visualisation. Simulation using ladybug plugins and energy plus



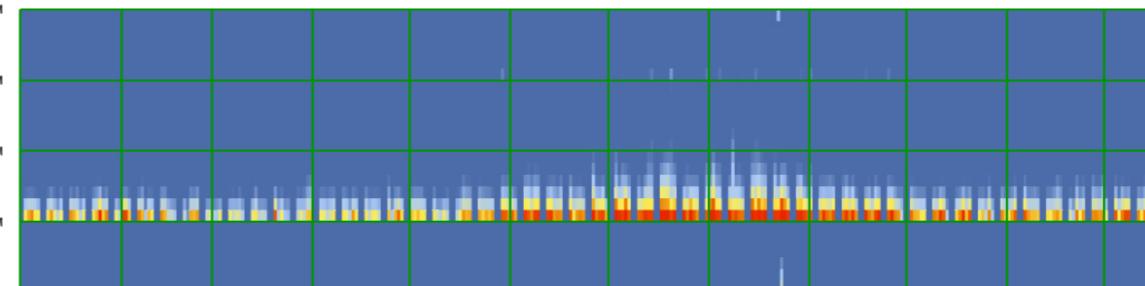
# “Energy Simulation”



Energy Simulation Results. Simulation using ladybug plugins and energy plus



Energy (kWh)  
1/1 to 12/31 between 0 and 23 @1  
type: Zone Ideal Loads Supply Air Total Heating Energy  
System: ROOM\_23\_ADB94D3B IDEAL LOADS AIR SYSTEM



Energy (kWh)  
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