

METROPOLITAN HOUSE  
IN SAUDI ARABIA

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Thesis submitted to the faculty of  
Virginia Polytechnic Institute and  
State University in partial fulfillment  
of the requirements for the degree of

Master of Architecture

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# METROPOLITAN HOUSE

## IN SAUDI ARABIA

Mohammed Hakami

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### ABSTRACT

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Current metropolitan planning in Saudi Arabia has led to a specific housing type. In order to provide isolation the metropolitan housing design has become very close and confined. This confinement has made the metropolitan house lacking in the feeling of open space, gradual transition from the public to the private domains, and the connection with the natural environment.

In this study a non-conventional design of metropolitan housing is introduced. In this design are revealed the elements of the ideal metropolitan house that are absent in the typical design.

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## ACKNOWLEDGEMENTS

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Special Thanks to my parents and my family for their support and love.

Special thanks to my wife Khadijah and my daughter Shada whose unwavering patience and encouragement that have enabled me to finish this endeavor.

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# INTRODUCTION

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A Metropolis is a large urban area that is considered to be a major economic, political and cultural central hub for a certain region or country. The metropolis is a densely populated area. Most metropolitan areas in Saudi Arabia comprise grid planning which eventually contains a maze of packed houses. This kind of house distribution naturally results in a closed and confined metropolitan house design. A typical house distribution obviously follows a fixed type of space arrangement. With this kind of house distribution the natural elements of an integrated house have been gradually forgotten and excluded.

Through my life in a metropolitan area, I have observed the absence of several important elements in metropolitan housing. In 2007, I had the chance to design a house for a family of nine in Almadinah, Saudi Arabia: In this project I used an open space courtyard as an element of central life. In 2008, I applied an idea of a multi-level backyard in a house in Jeddah, Saudi Arabia. This multi leveling provides different experiences with each level. Recently, I had the



■ Typical Urban Grid Layout



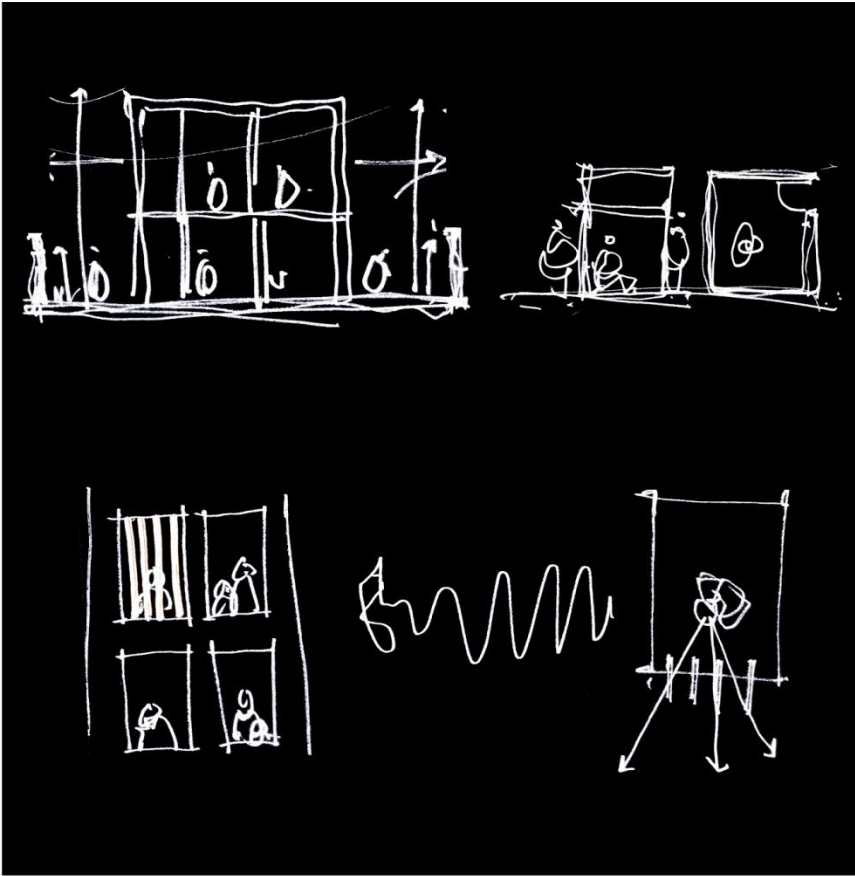
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# INTRODUCTION

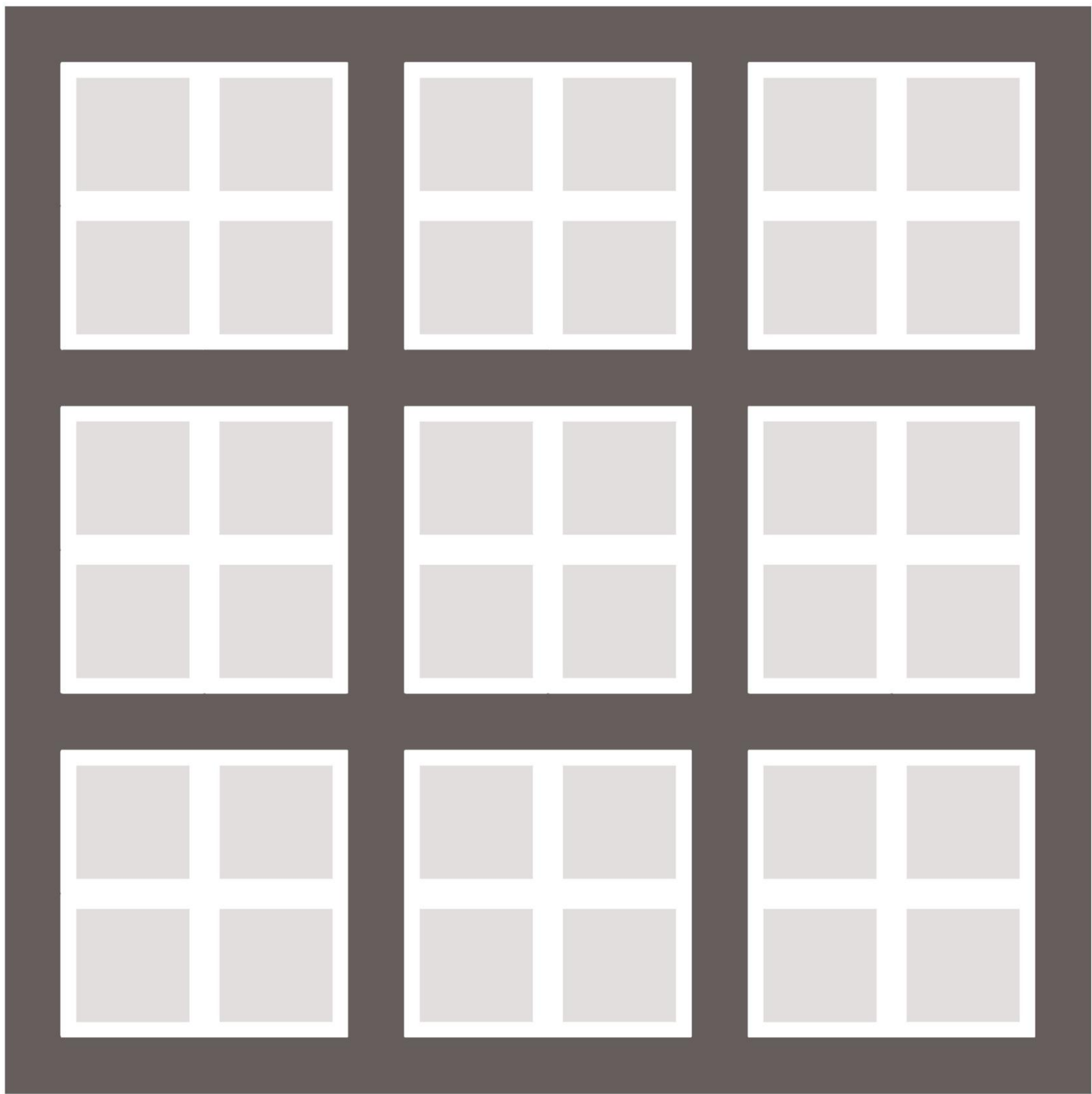
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the opportunity to design a house for my parents. At this point, I realized the usefulness of a gradual transition from the entrance to the central area of the metropolitan house. This gradual transition creates a sense of isolation between domains.

In this thesis project I have employed a collection of main ideas from my previous projects. I have reached a stage where I have developed a realization of the main elements of an ideal metropolitan house and how they should be combined. Those elements are: environmental isolation, the sequential entry, central open space and vertical transition. In this study the functions of those elements are presented and explained.

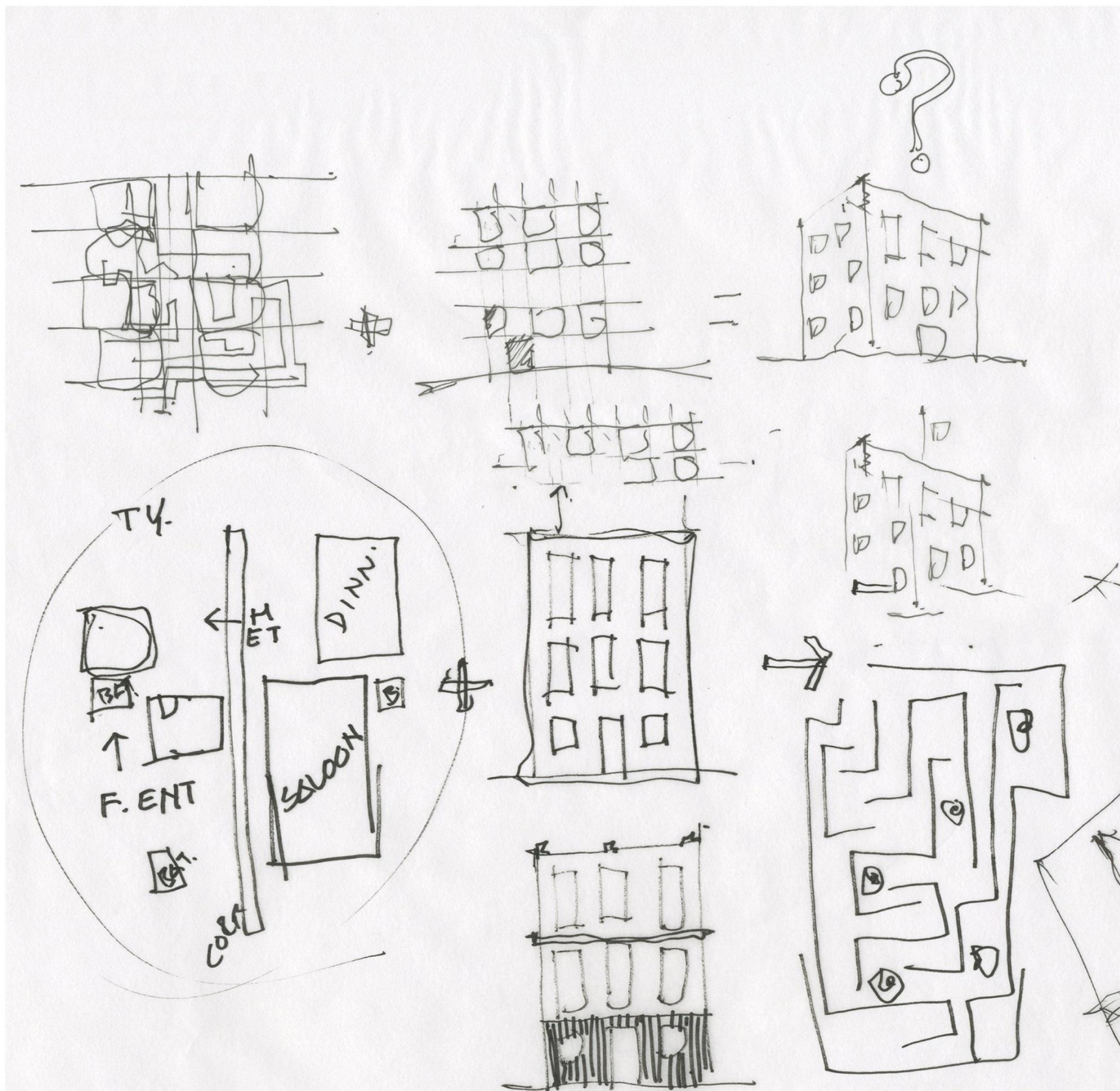


■ Metropolitan Life



■ Typical Urban Grid Pattern



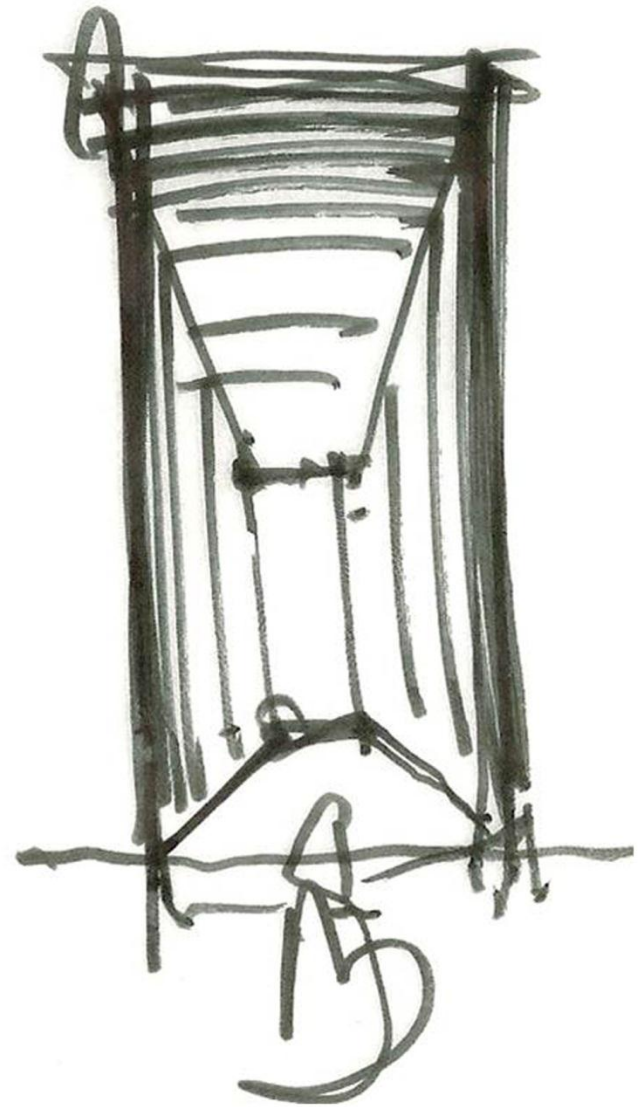


■ Typical House Space Arrangement

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## Review of Previous Projects

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# Project 1

## AL Hamed Residence

Type : Residence

Year : 2007

Location : Almdinah, Saudi Arabia



■ Central Open Space

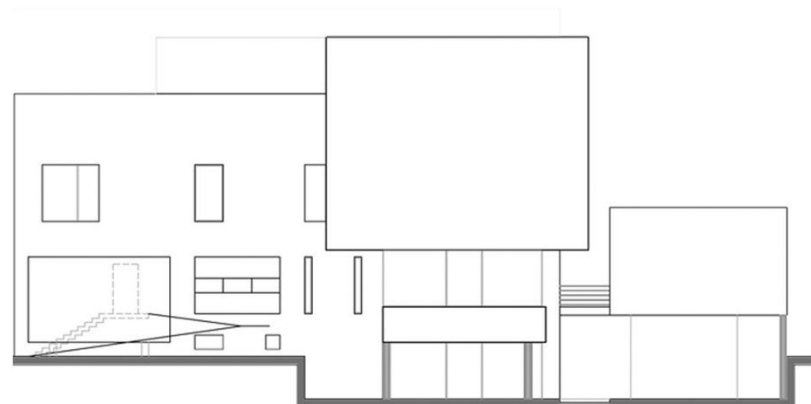
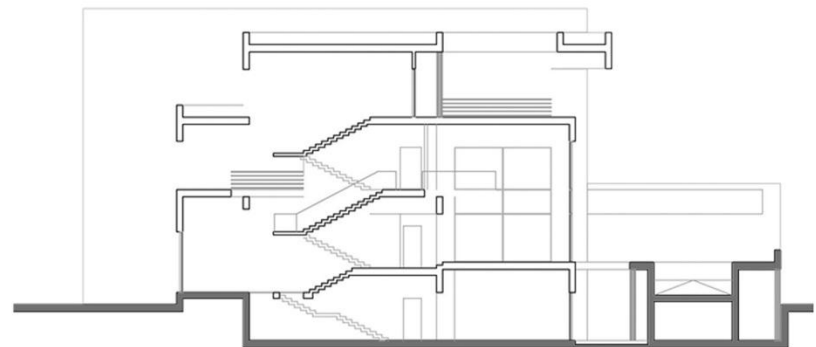
# Project 2

## M. Basmah Residence

Type : Residence

Year : 2008

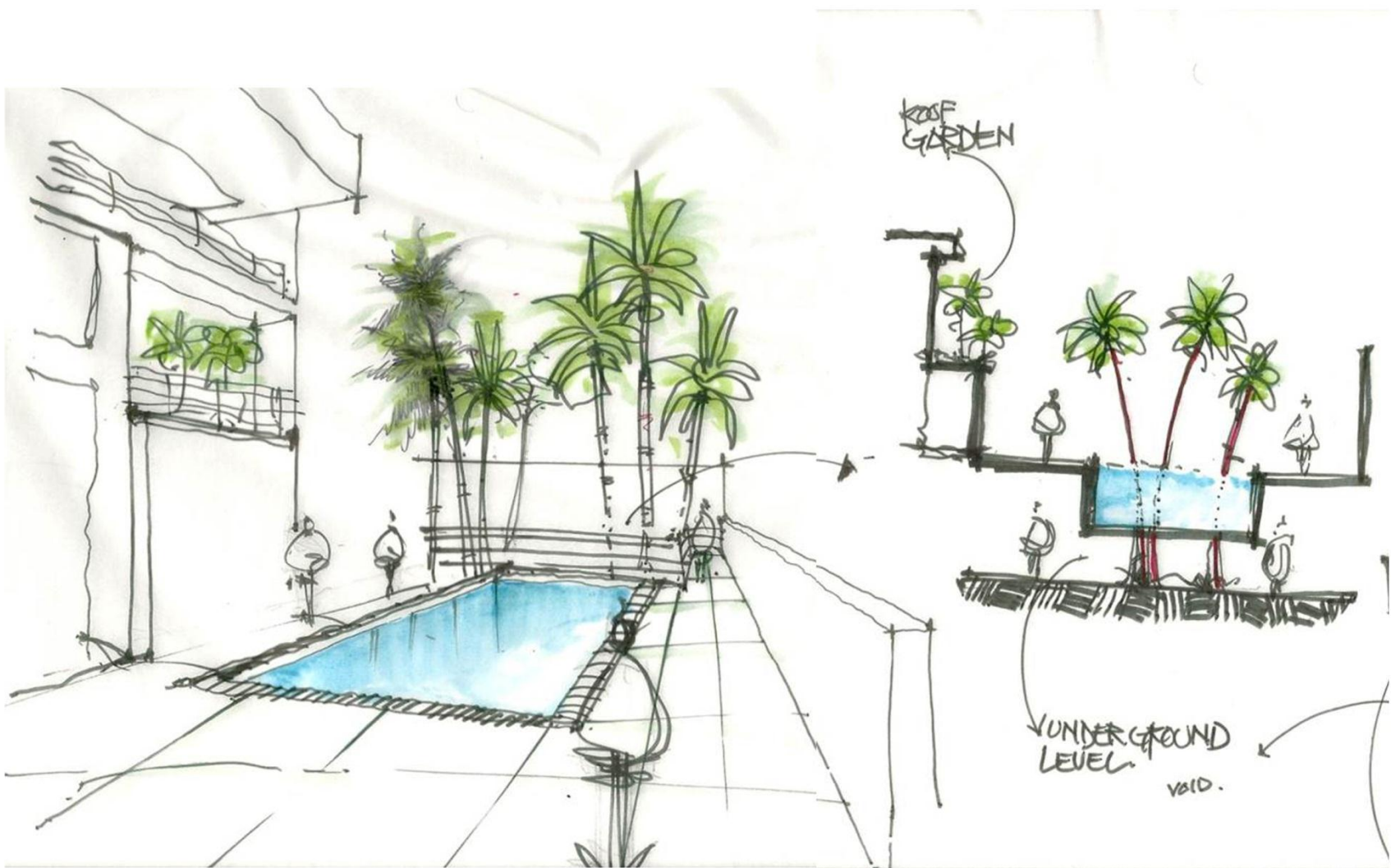
Location : Jeddah, Saudi Arabia





# Project 2

## M. Basmah Residence



### ■ Multi-level Garden



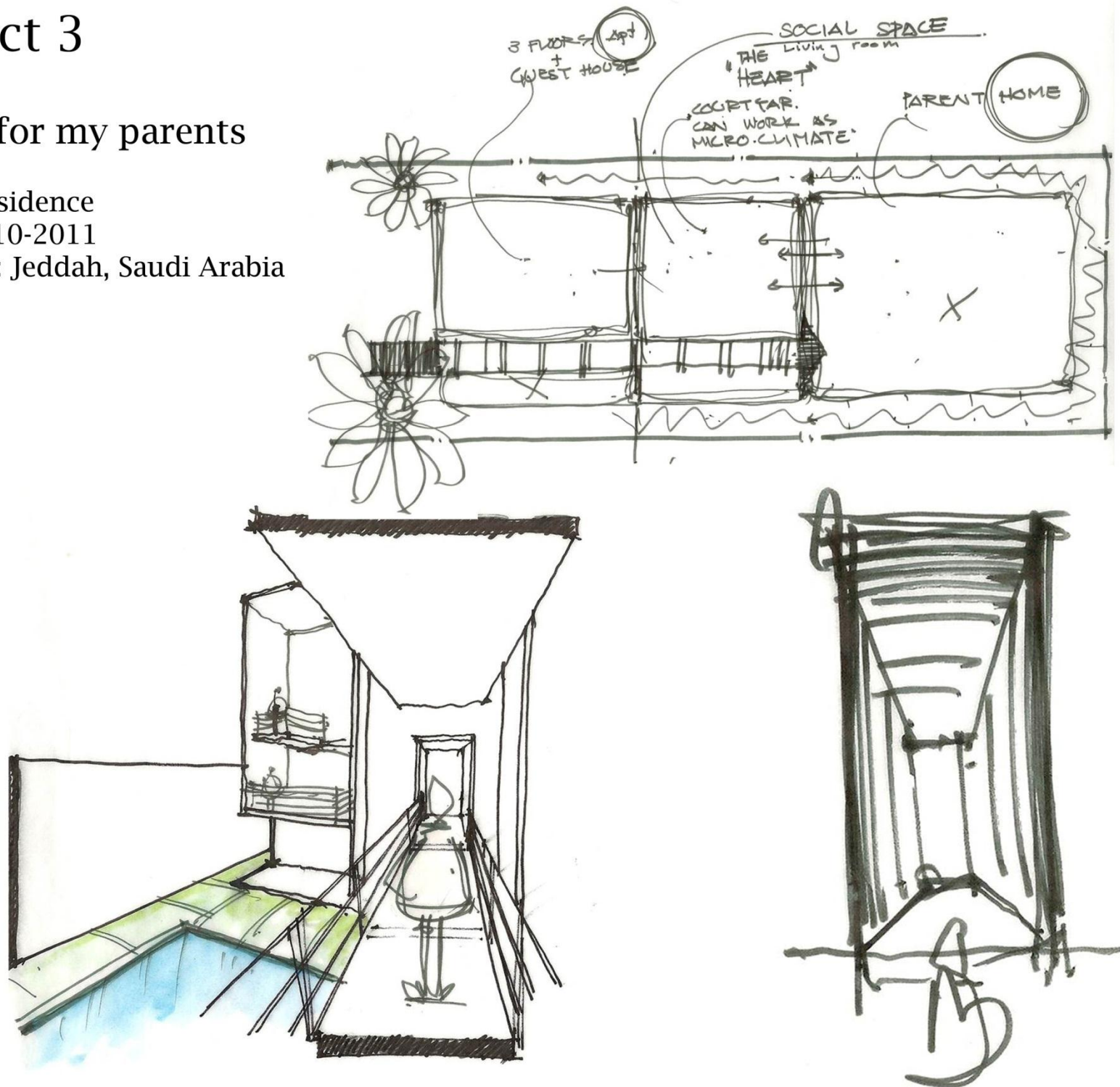
# Project 3

## House for my parents

Type : Residence

Year : 2010-2011

Location : Jeddah, Saudi Arabia



This house is subdivided into three equal parts. The first part is the guest apartments, the second part is the courtyard and the third part is the family house. The axial path from the street to the courtyard is gradually beginning with the first transition from the heat and noise of the street to the coolness, darkness and quietness of the narrow entrance.

# Project 3

## House For my Parents

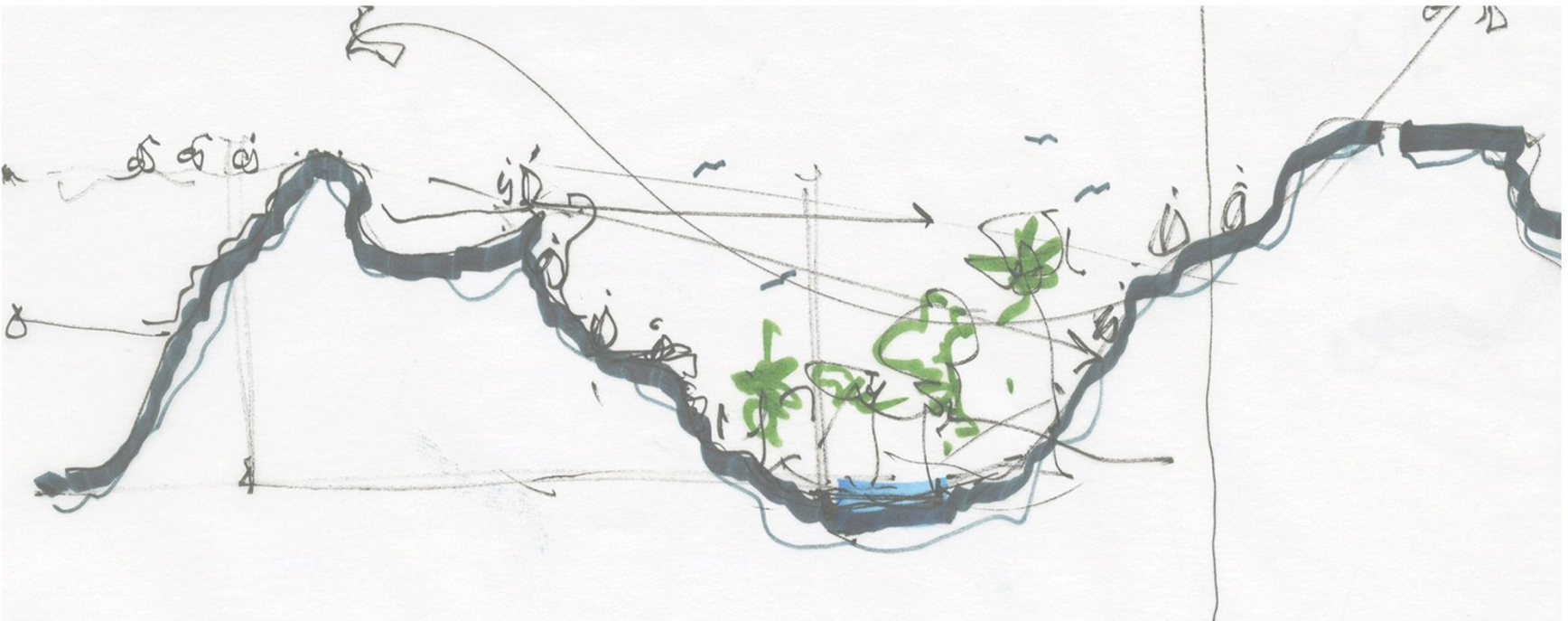


■ From the Entry to the Courtyard

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# THESIS PROJECT

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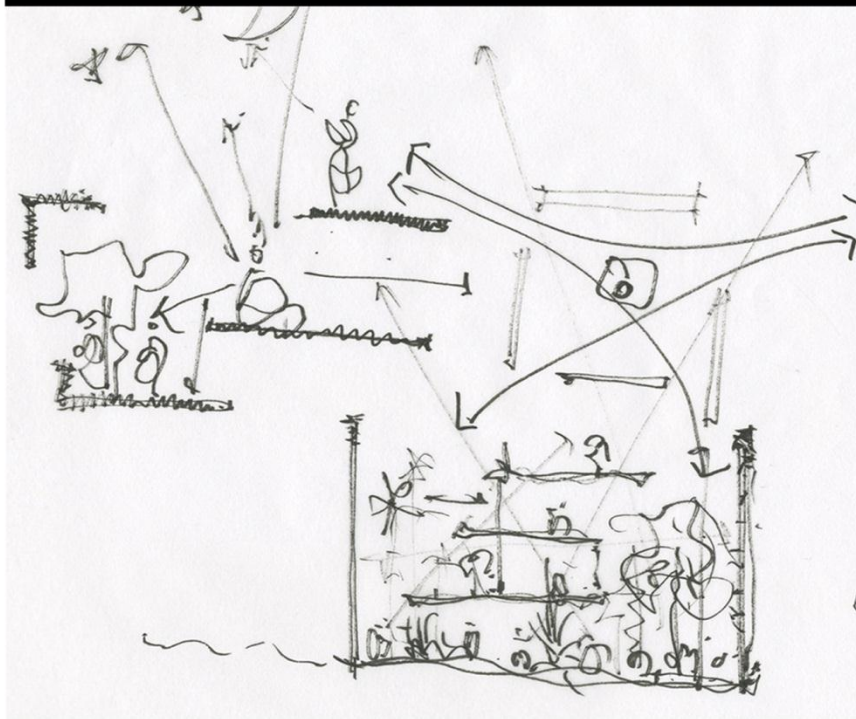
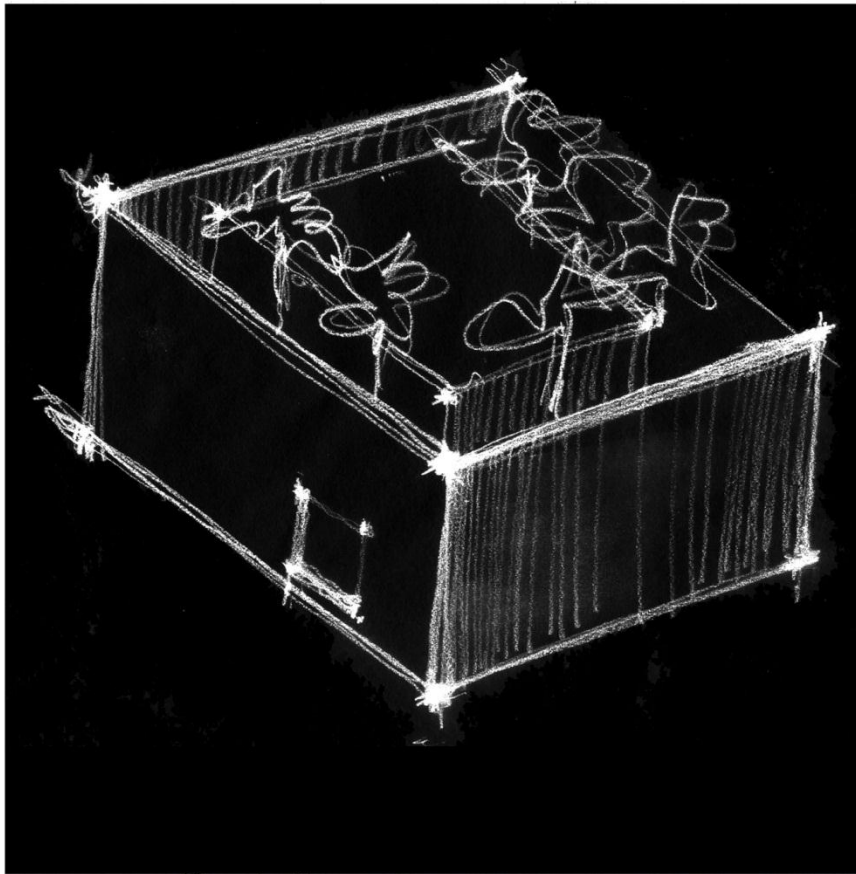
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## METROPOLITAN HOUSE

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In an ideal metropolitan house there are several interconnected elements that must be considered. The main idea of this project starts with the element of environmental isolation that provides the necessary microclimate inside the house. One of the essential elements is the gradual transition between the exterior environment and the central space of the house. Other important elements in this design are the open space of the centralized courtyard and the vertical transition. As a main concept of this project, those elements are combined through the open space of the courtyard in a way that makes the house an integrated part of the whole.

The first element in the design to provide the required environmental isolation is an 18-meter-tall wall that surrounds 36 square meters. The effective function of this wall is evident in providing a sense of quietness, privacy and serenity. Another aspect is the adequate shading during most of daytime which leads to maintaining reasonable average temperature.



■ Life Within Open Box

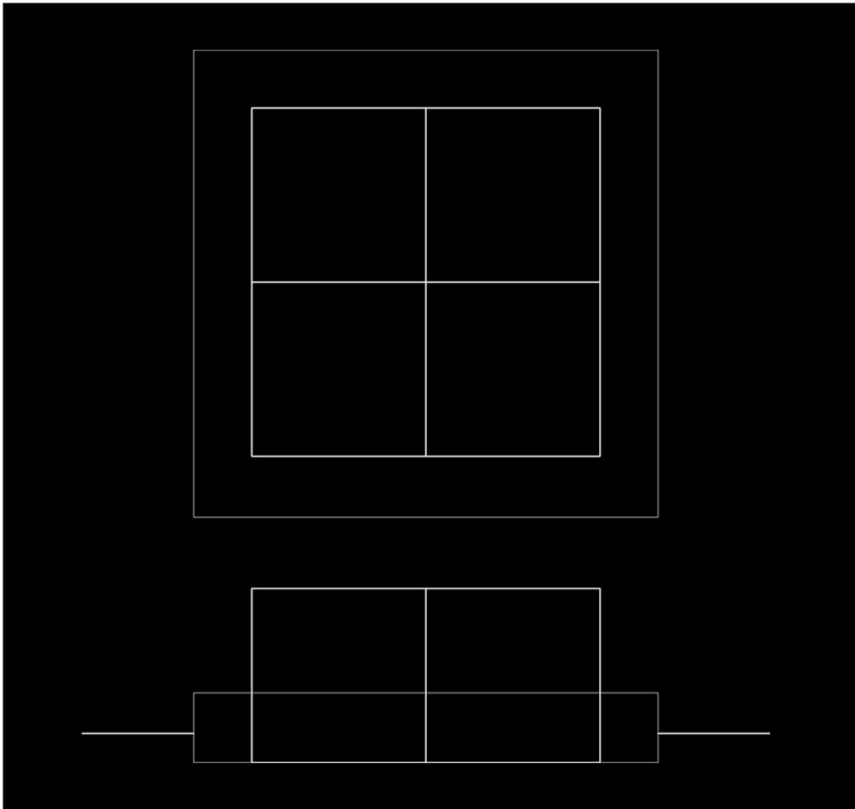
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## METROPOLITAN HOUSE

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The proposed design in this thesis starts with an entry level that is located between the first level which is the family zone and the third and fourth levels which are formal living space and a library, respectively. The entrance to the building is a sliding door which starts a sequential second phase. This phase starts with a bridge that leads to the heart of the house. In this part of the house is an enjoyable view of the trees extending from the courtyard and shading from the rising parts of the building. This second level is the connecting part of the other levels of the house.

The first plan level is the family zone and is subdivided into three parts: a living area, a courtyard and a bedroom zone. The living area is merged with the courtyard in a way that gives a feeling of free space. The central axis of the courtyard starts with a piano space accompanied by a fountain, and a swimming pool between palm trees. At the other end of this axis a colored tree is placed behind a tall wall.

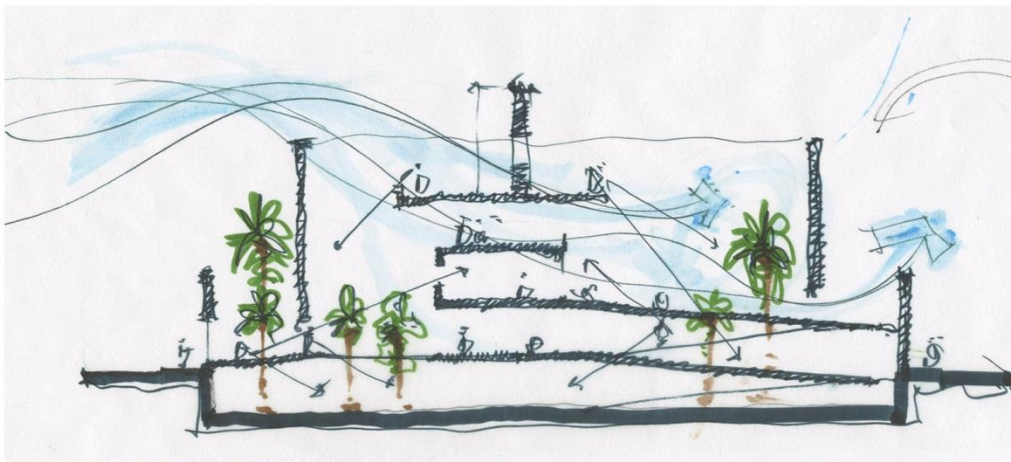
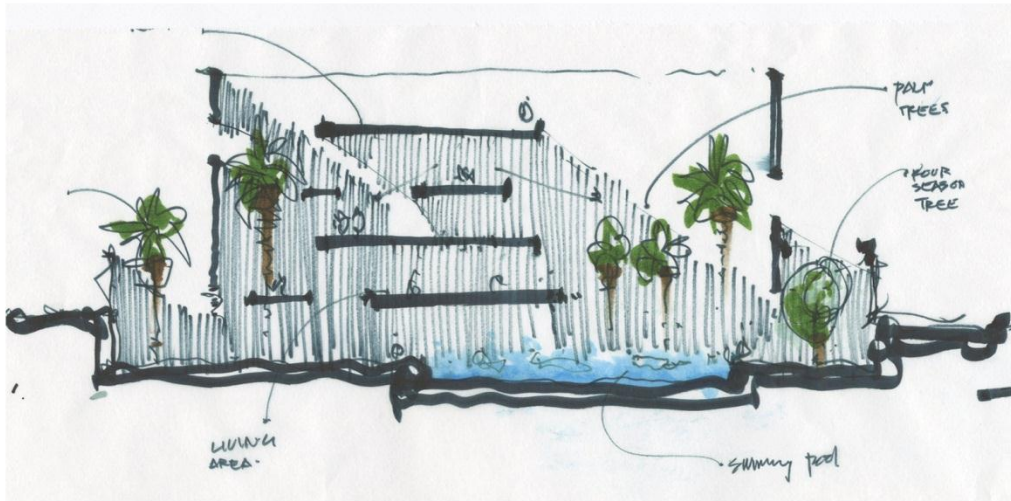




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## METROPOLITAN HOUSE

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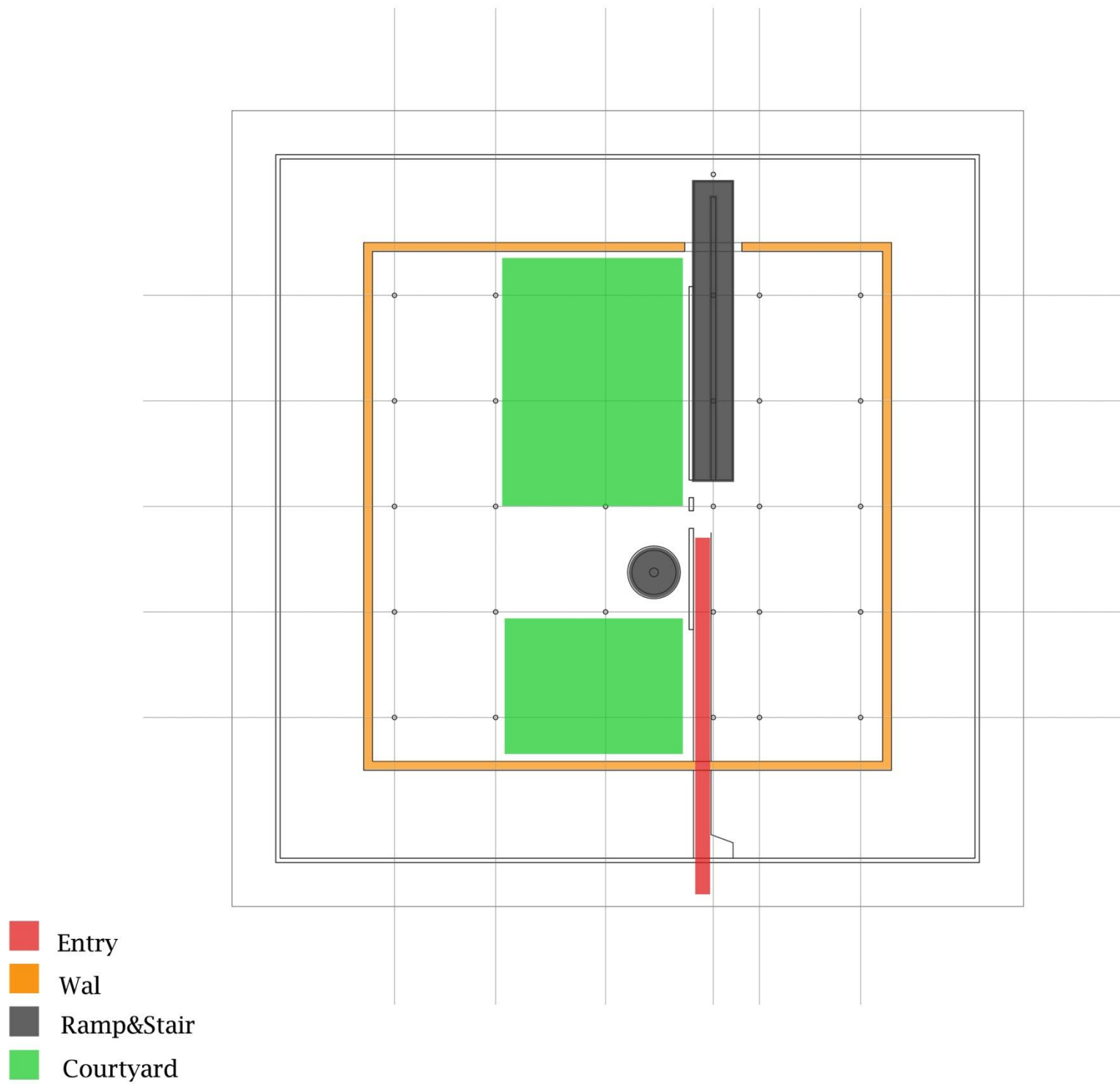
The third and fourth levels are raised by concrete columns and contained in glass box. In the third level there is an area of formal living and dining. This level is accessible through a ramp that is connected to the first level. The element that connects the vertical levels is a spiral stair inside a cylindrical structure. The surface of the cylinder is opened at one end and closed at the other to give the feeling of elevating through a tunnel. The fourth level is a library that contains a secret stairway to the roof. The risen glass box gives the feeling of floatation in the space that is surrounded by the four tall walls. Contemplation and spiritual reflection of time are felt through the natural scene of the sunlight and wall shading.

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# METROPOLITAN HOUSE

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## Main Elements

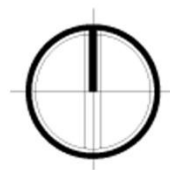
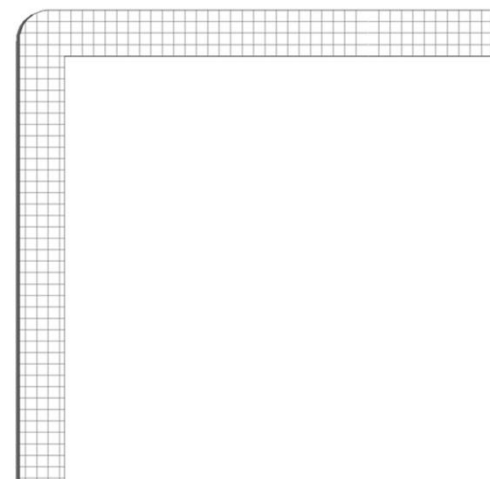
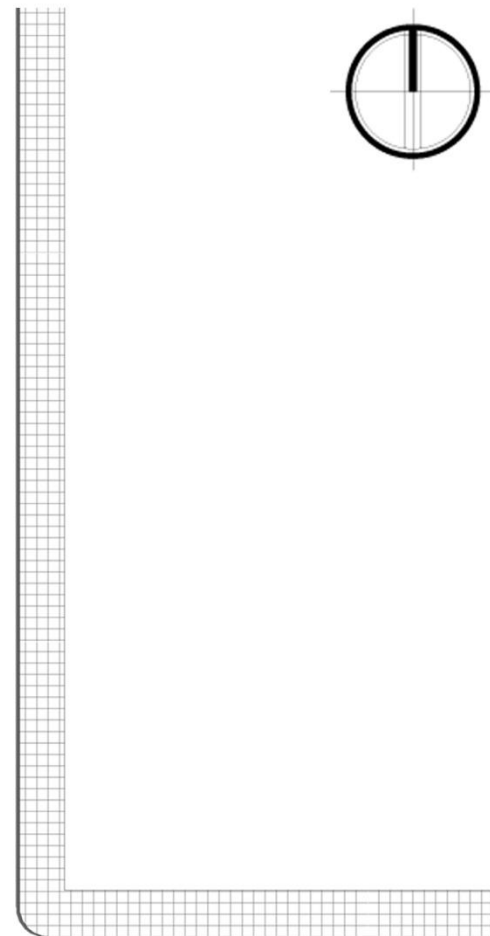
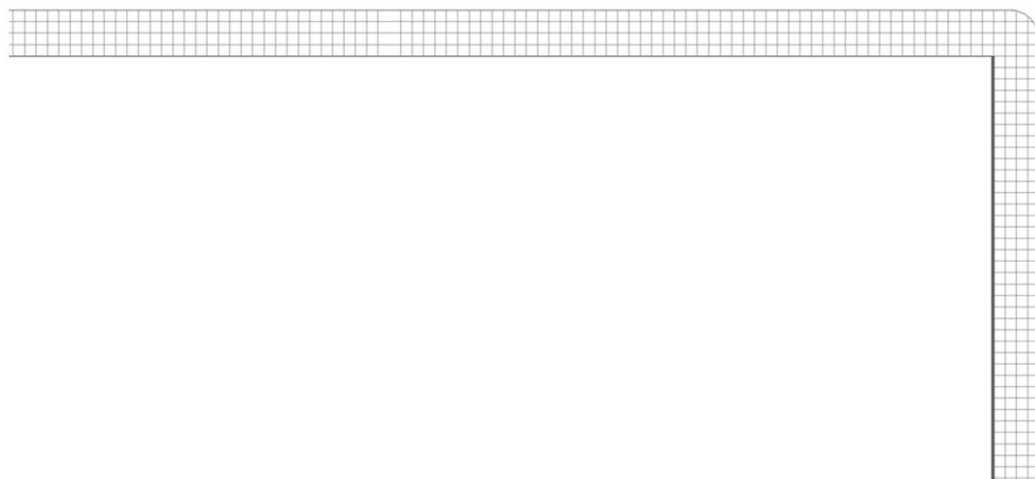
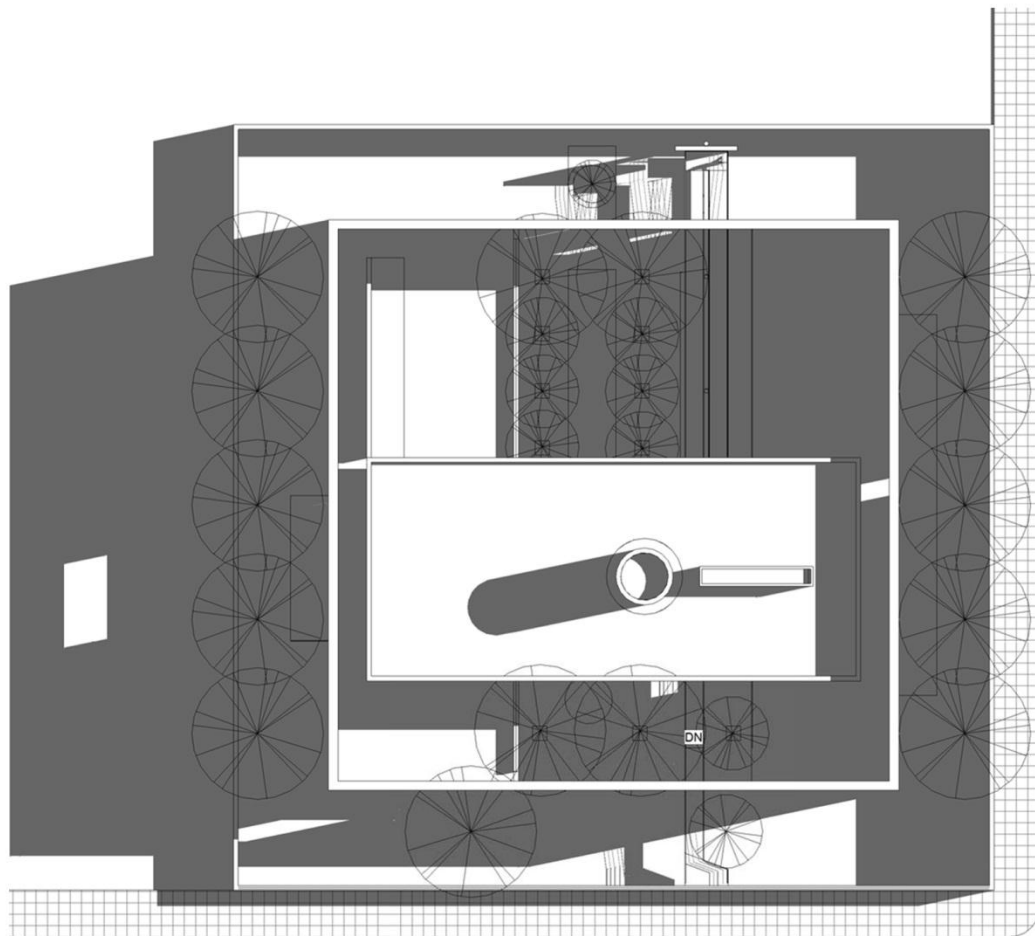


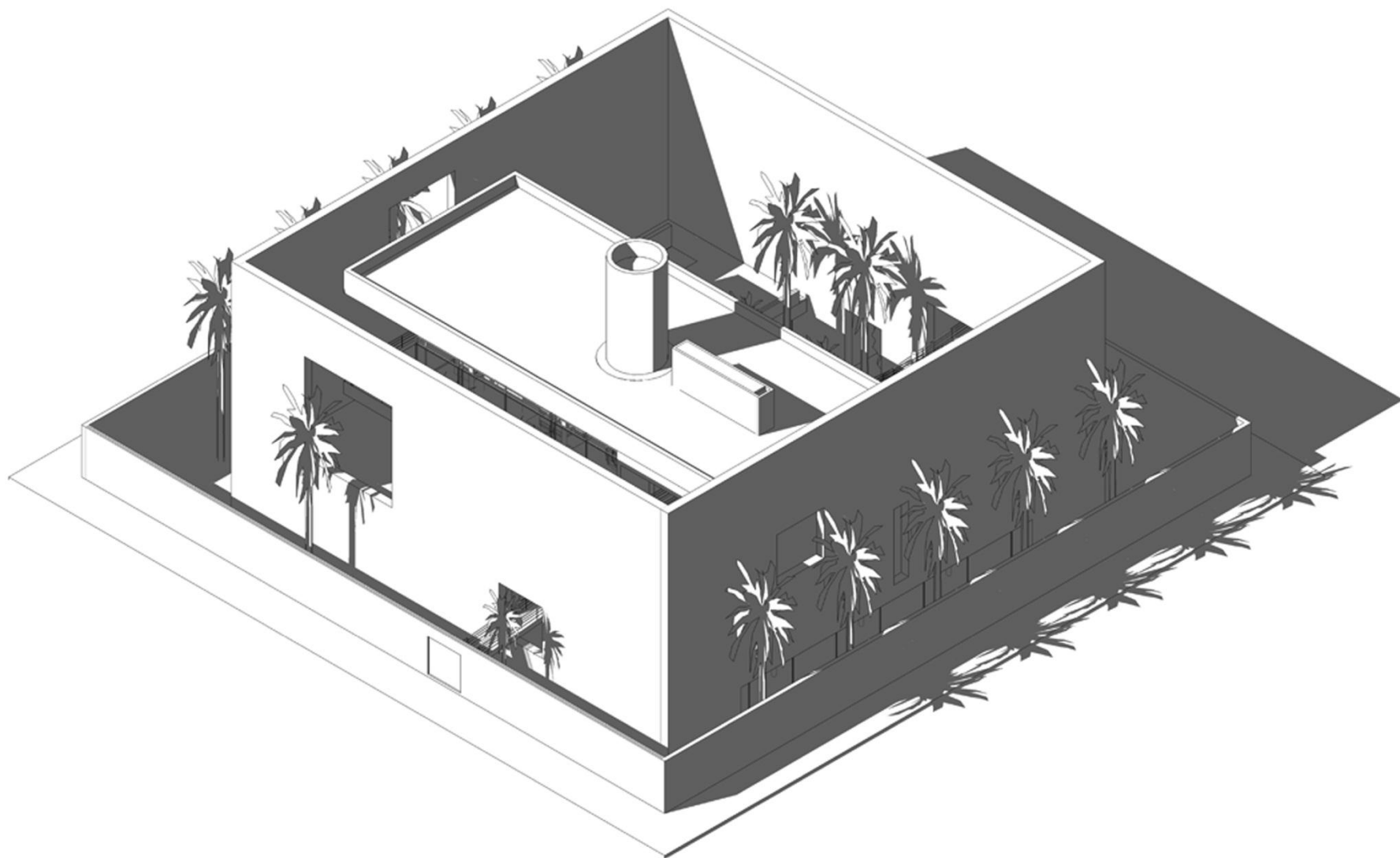
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SITE

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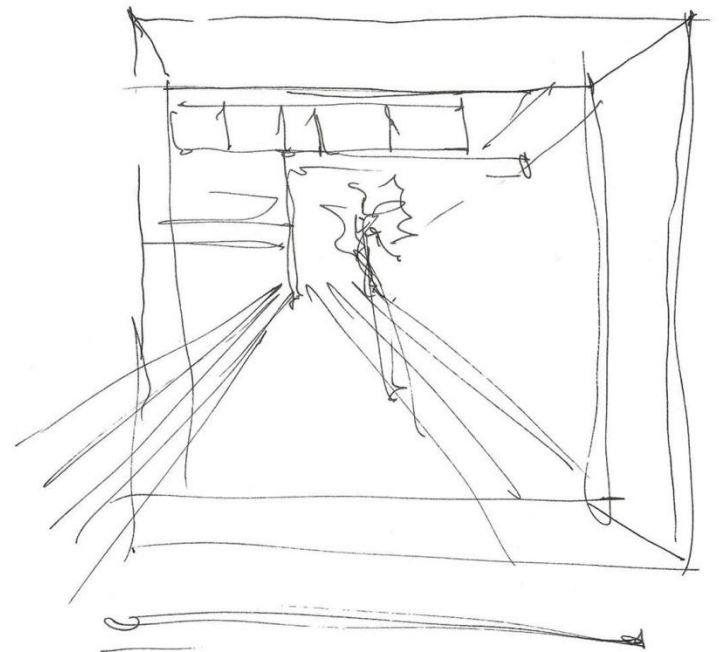


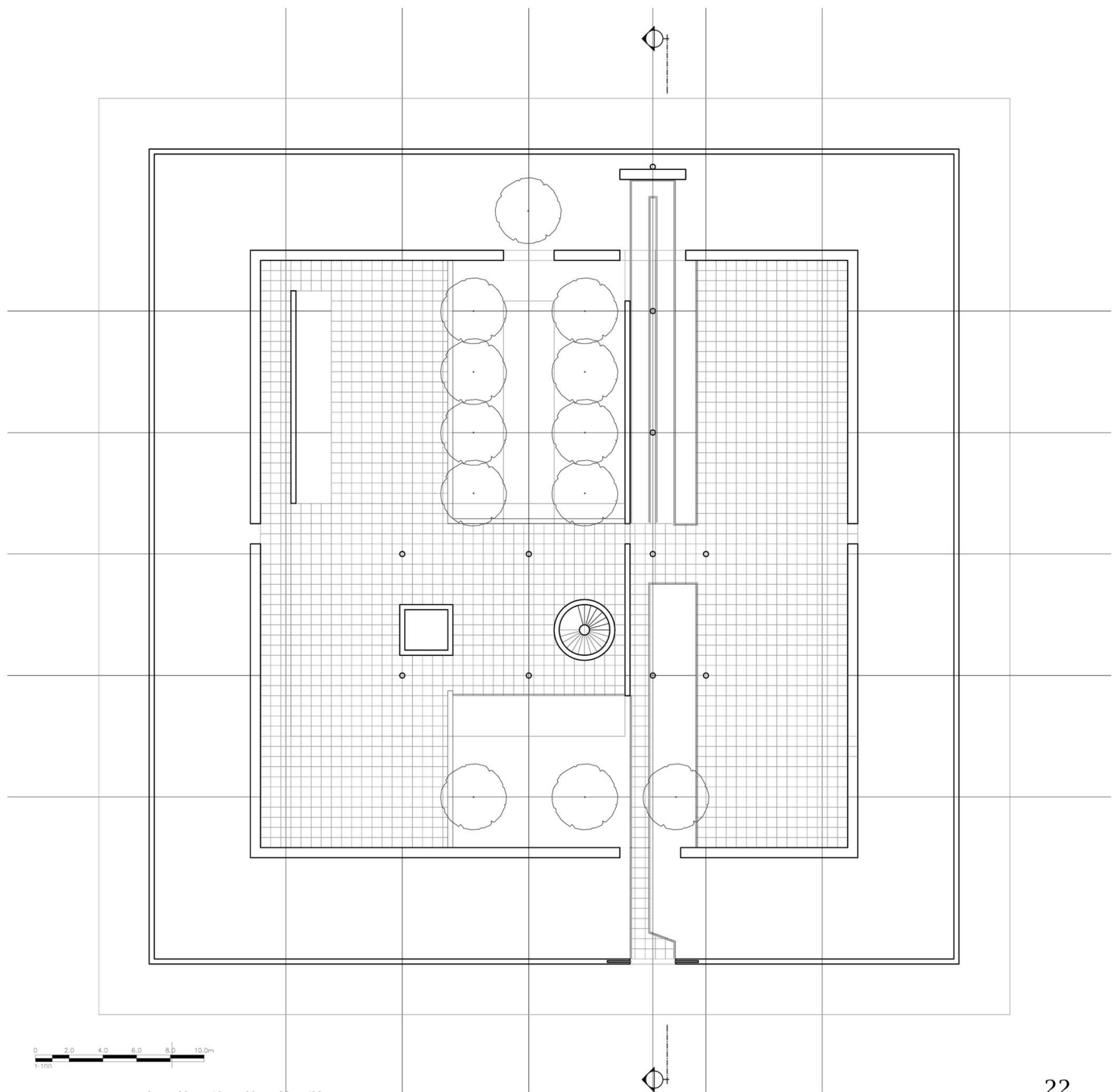


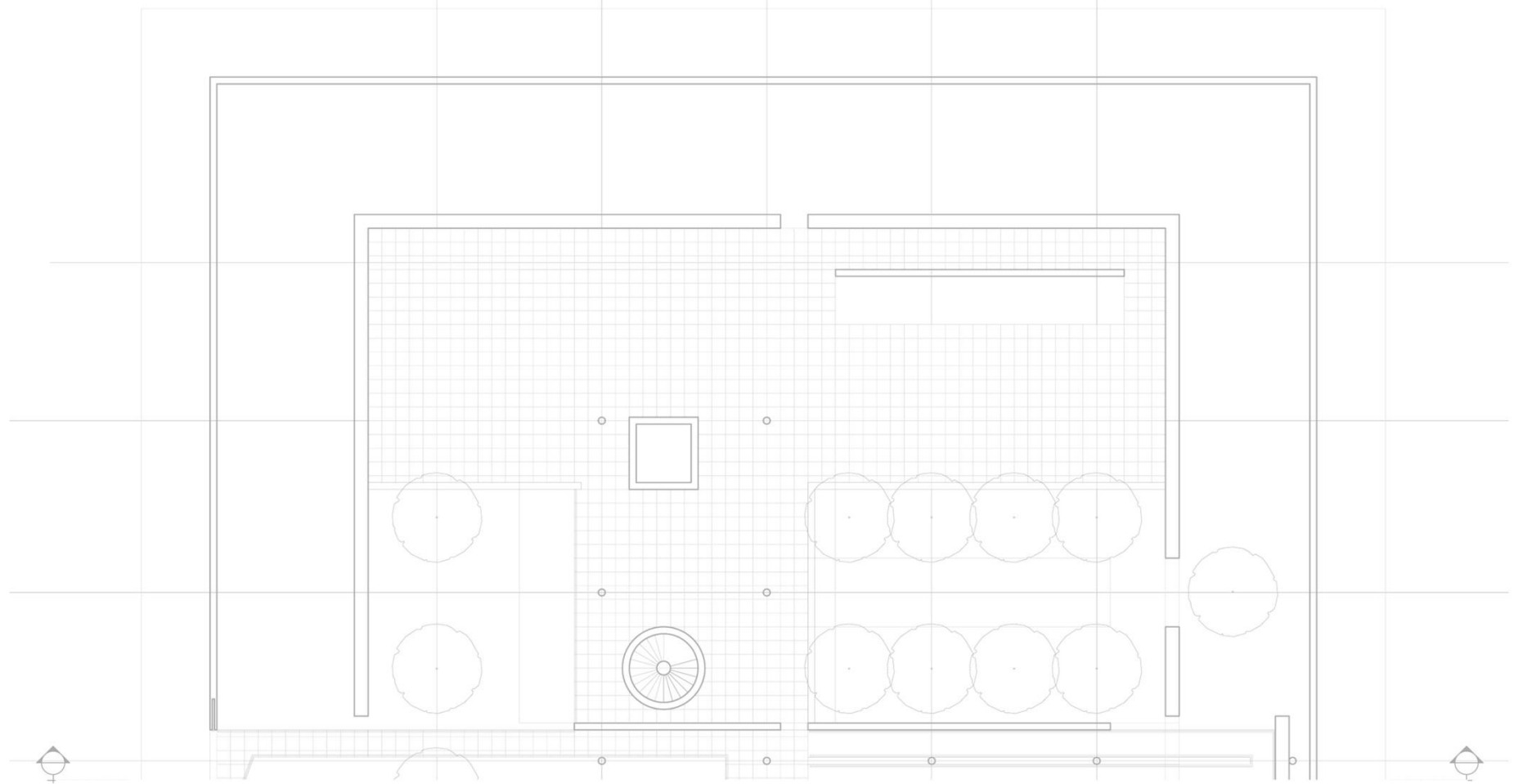
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# ENTRY LEVEL

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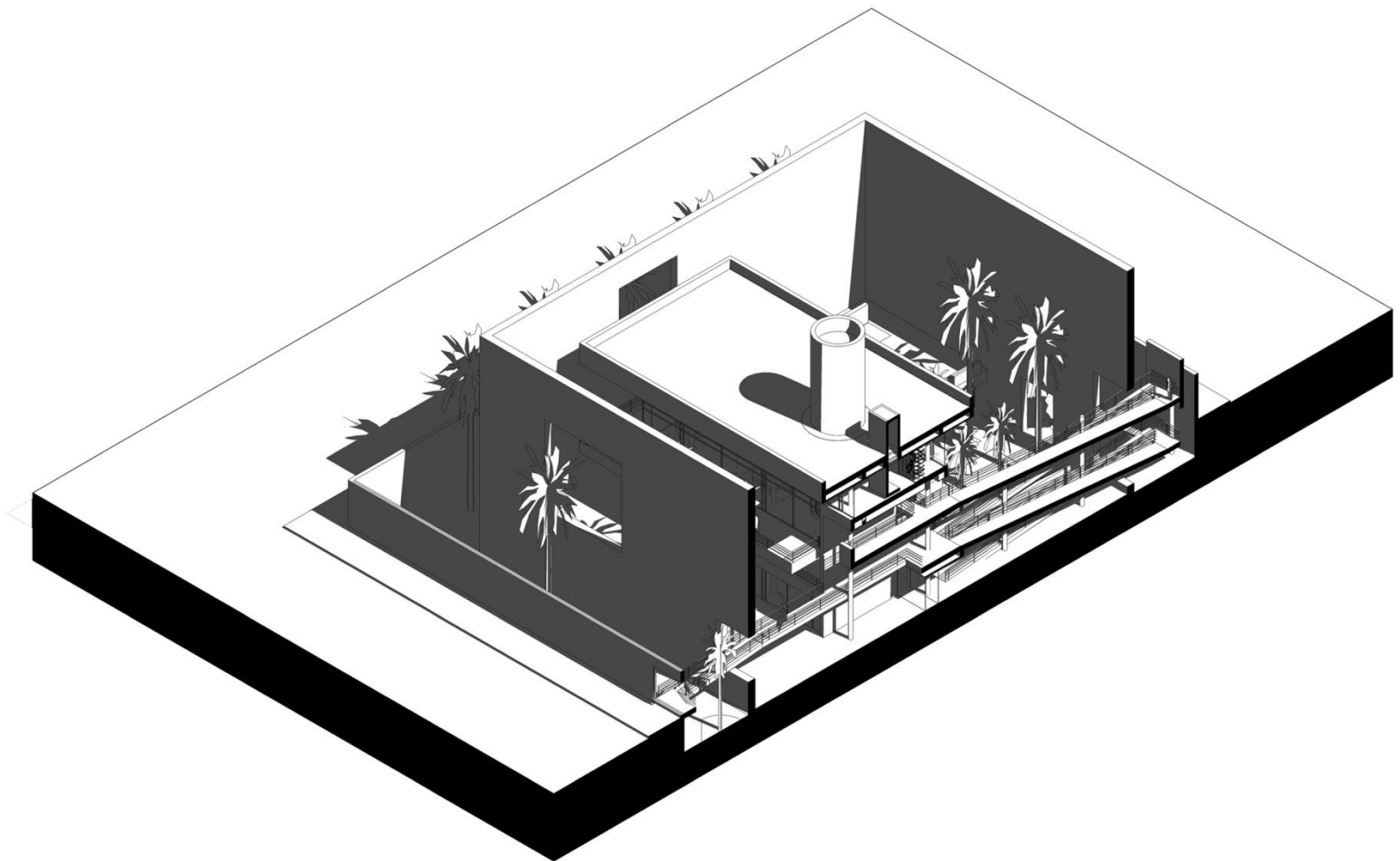
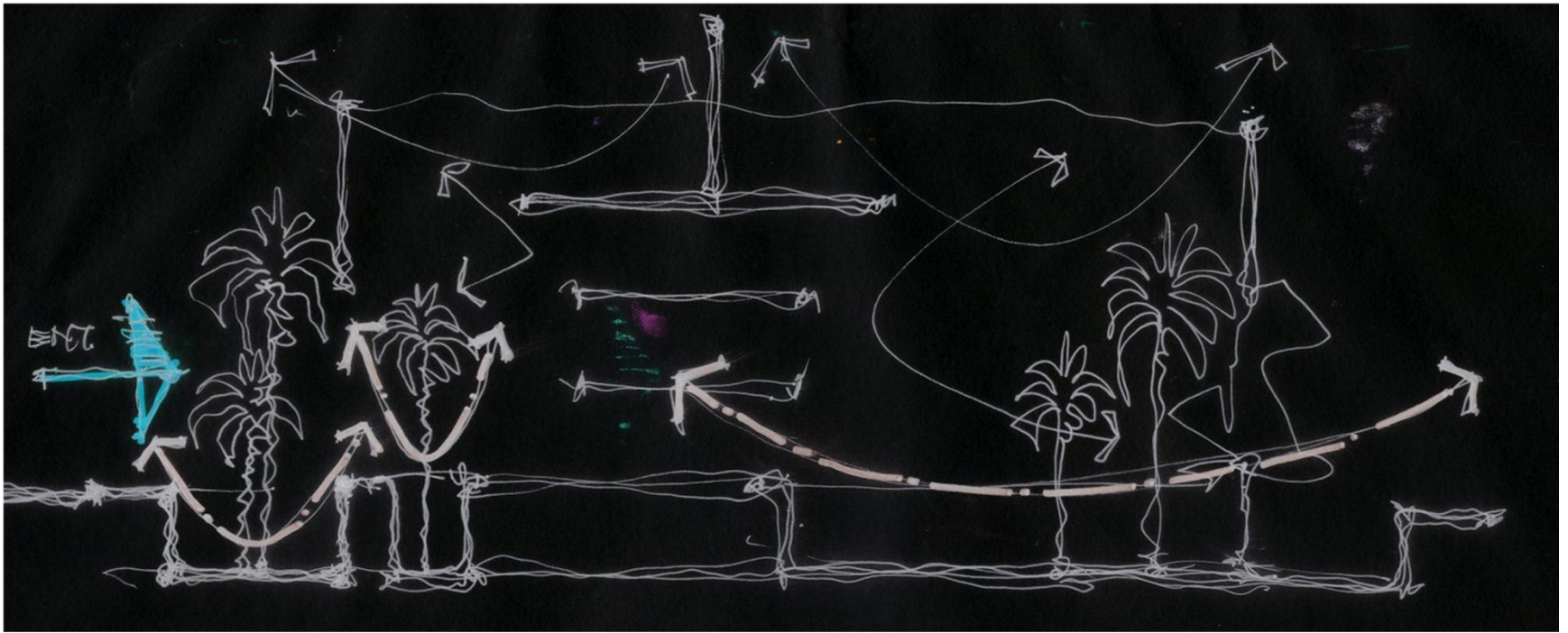




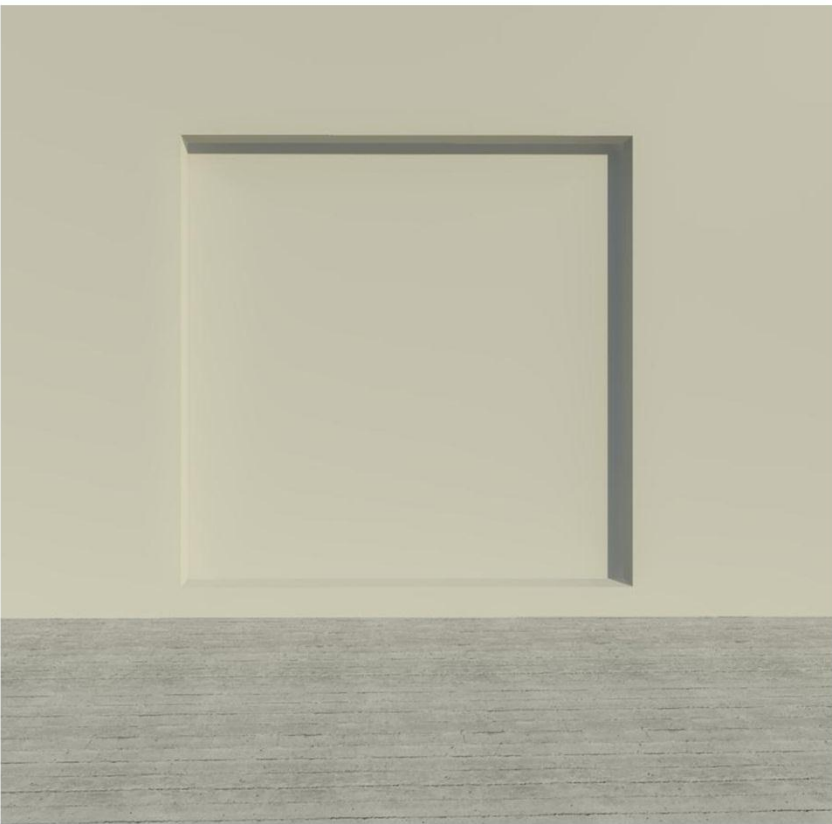


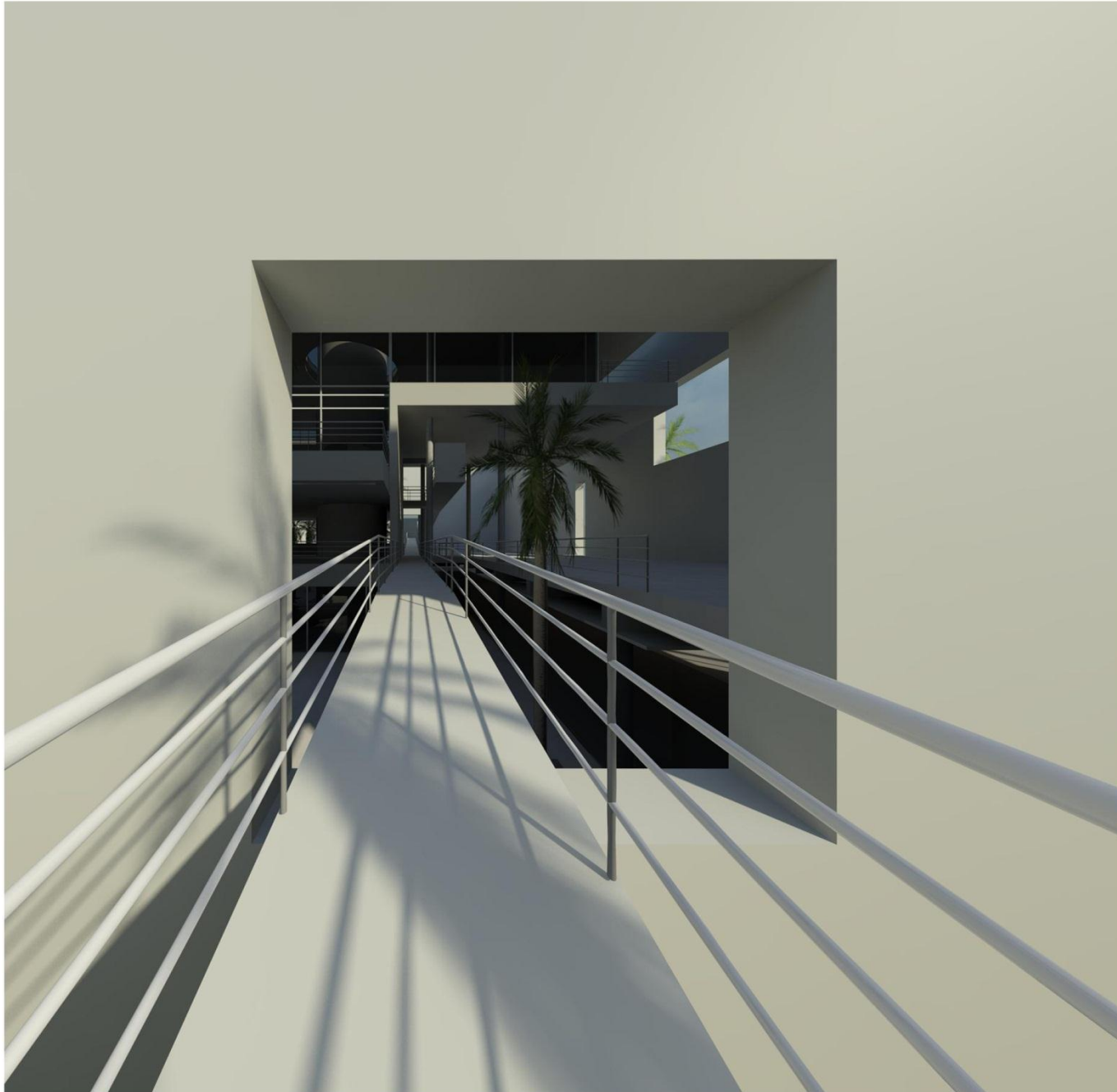
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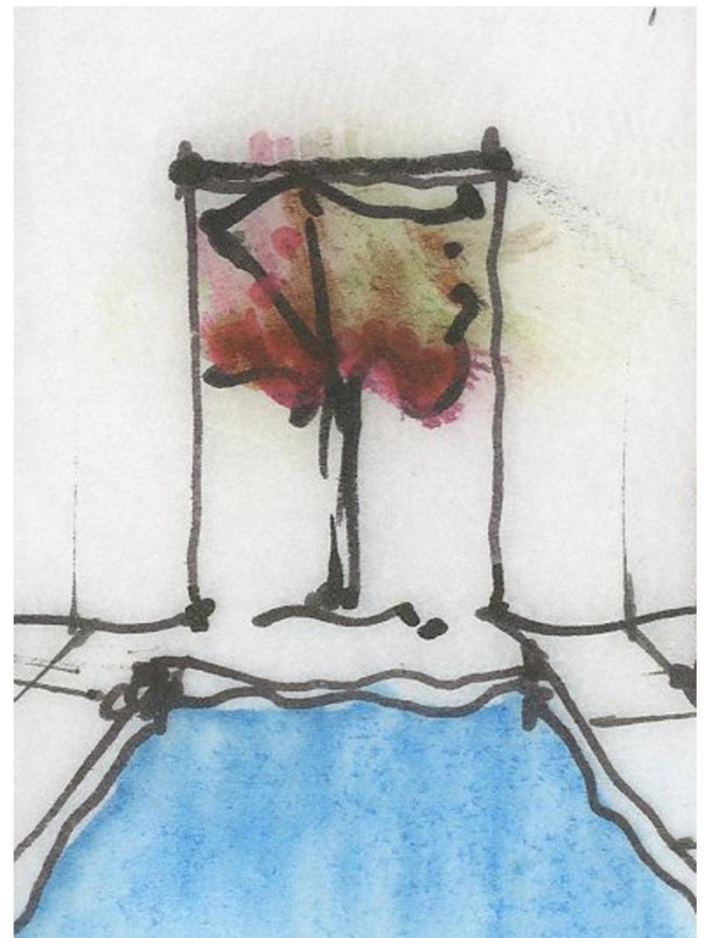


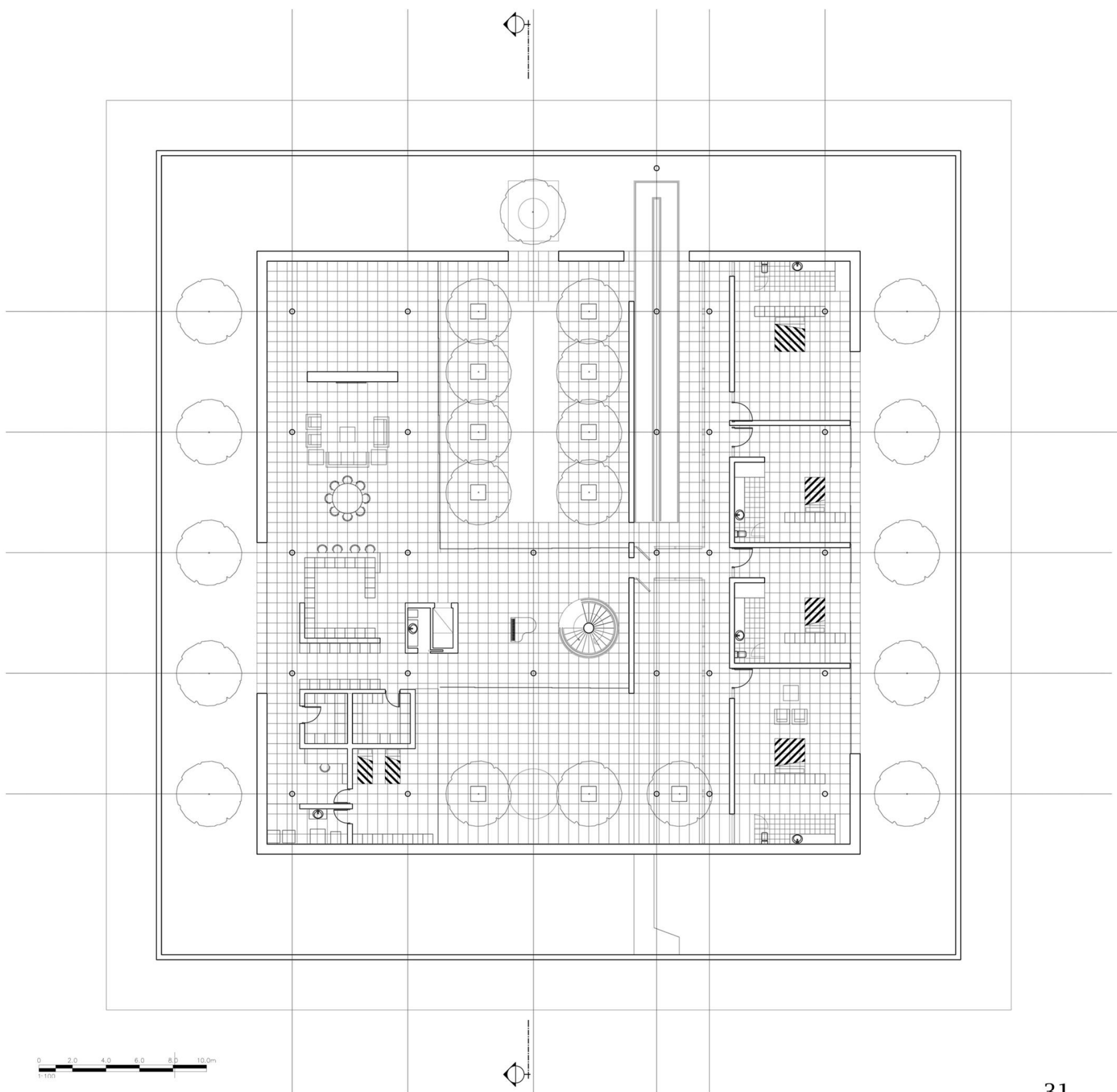


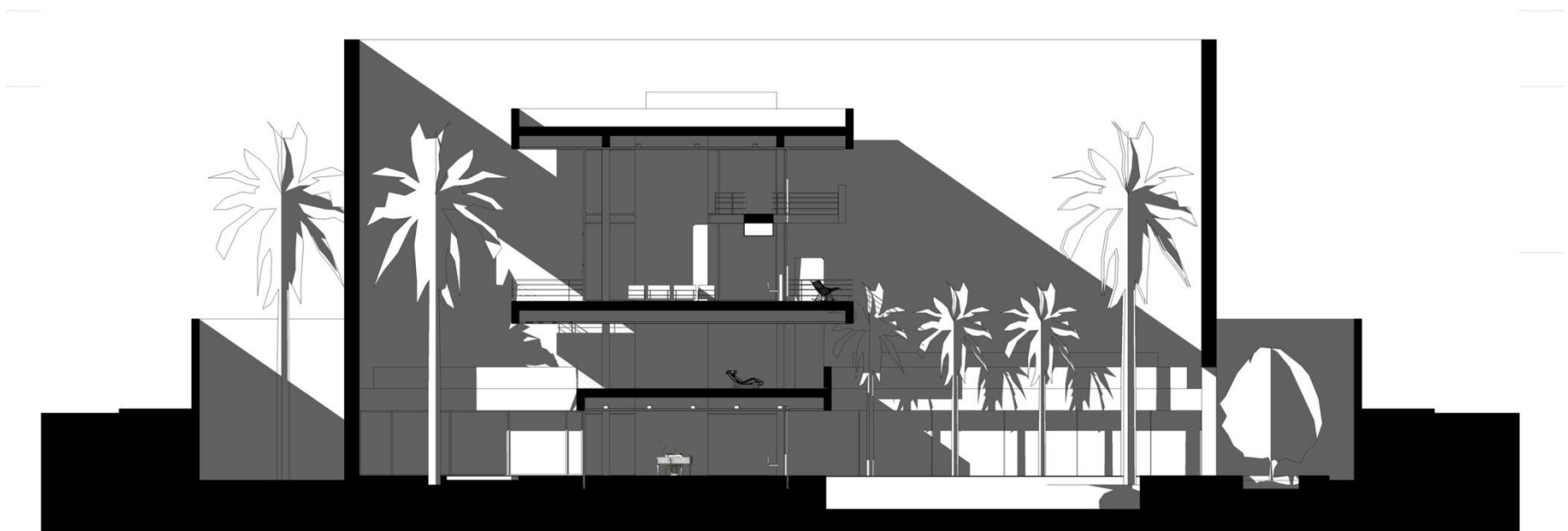
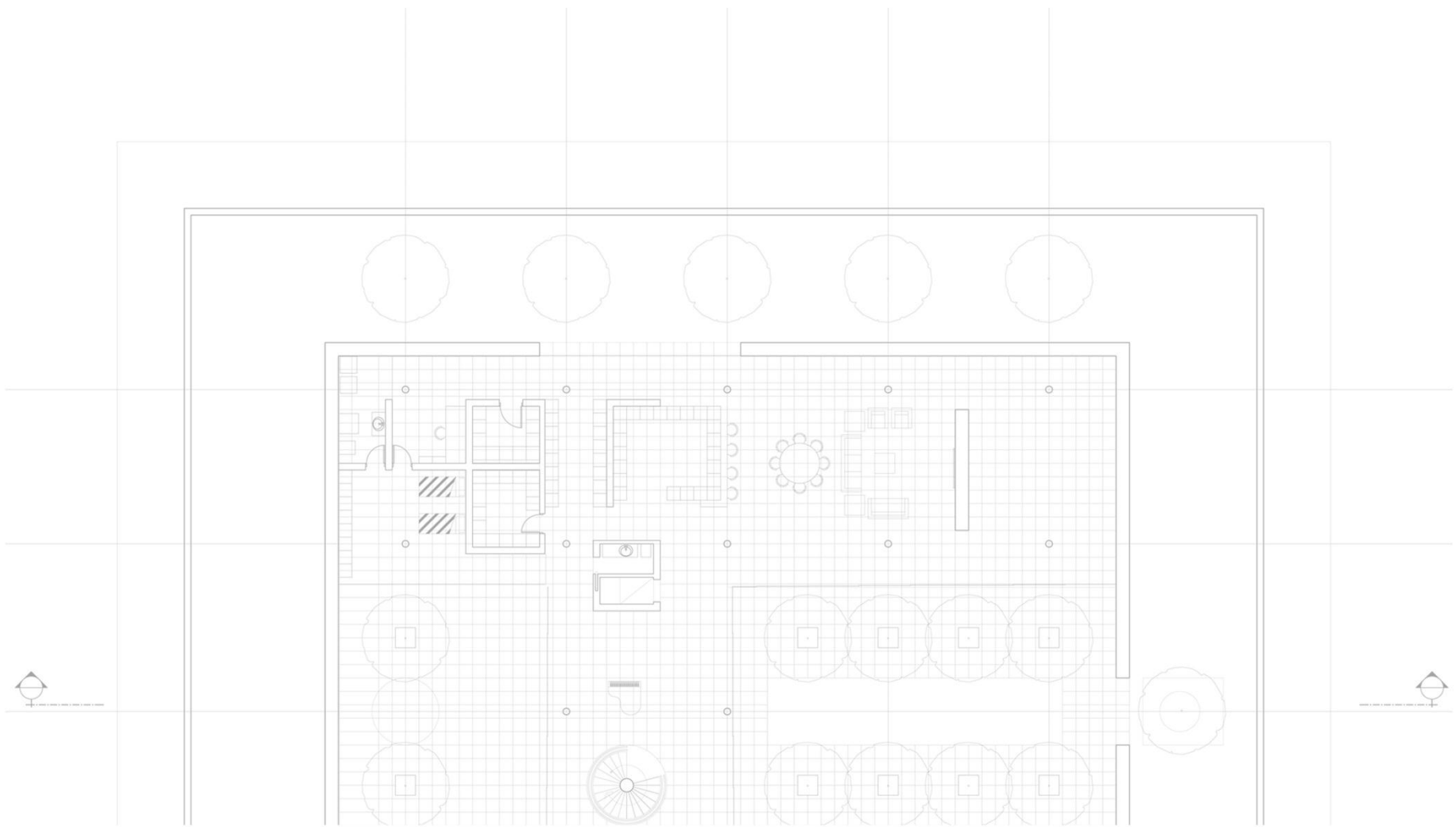
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# FIRST FLOOR

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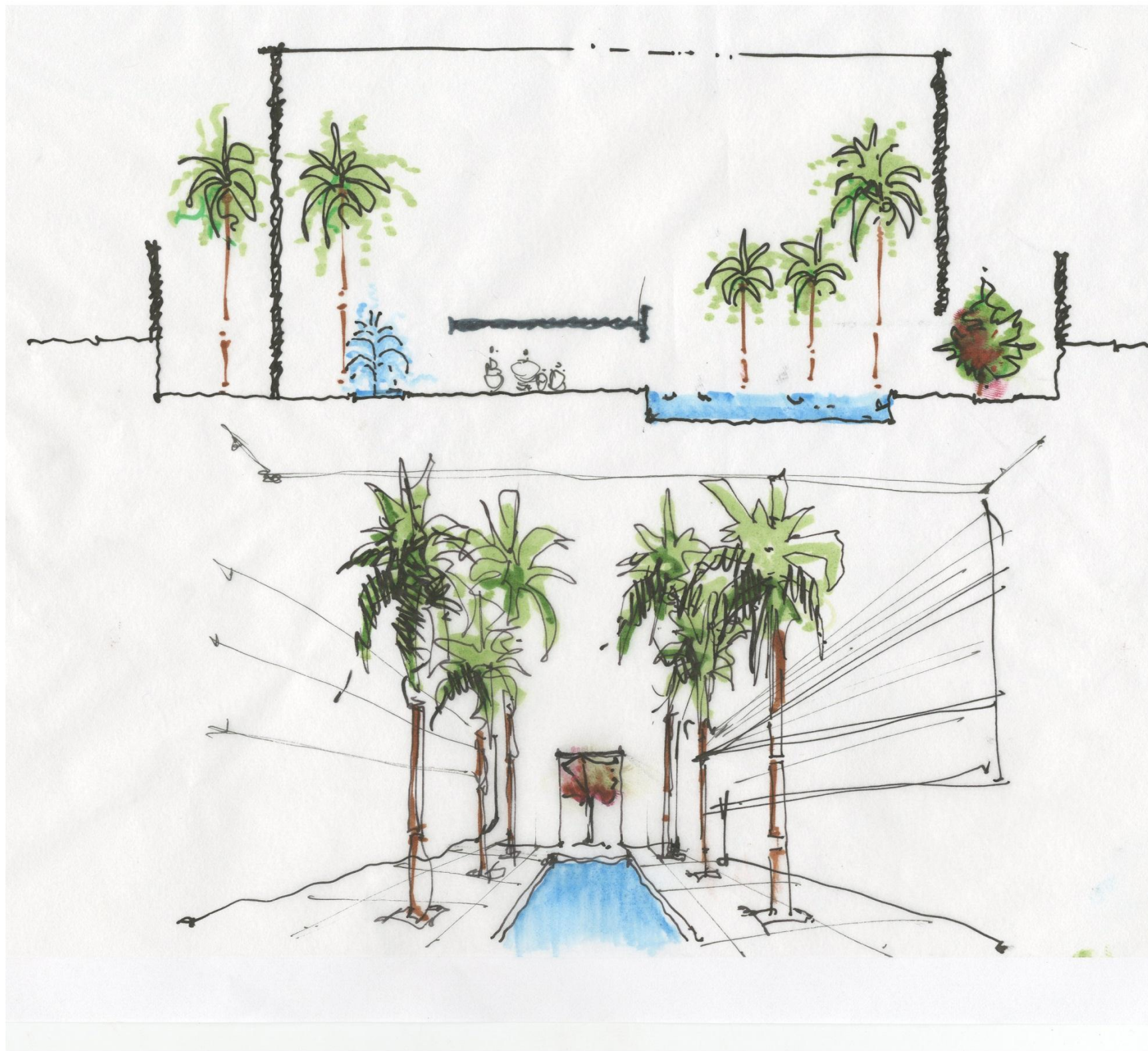


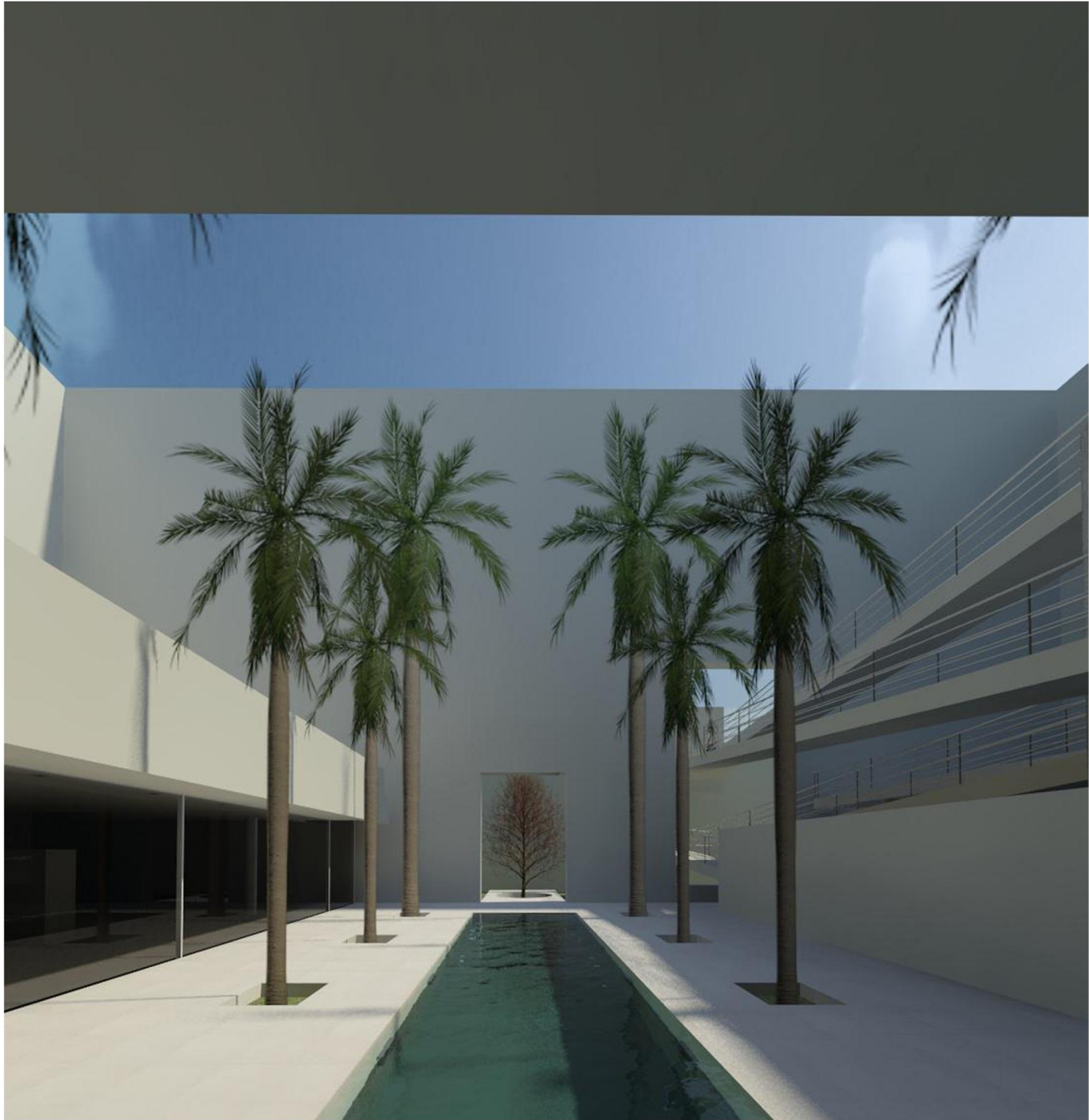




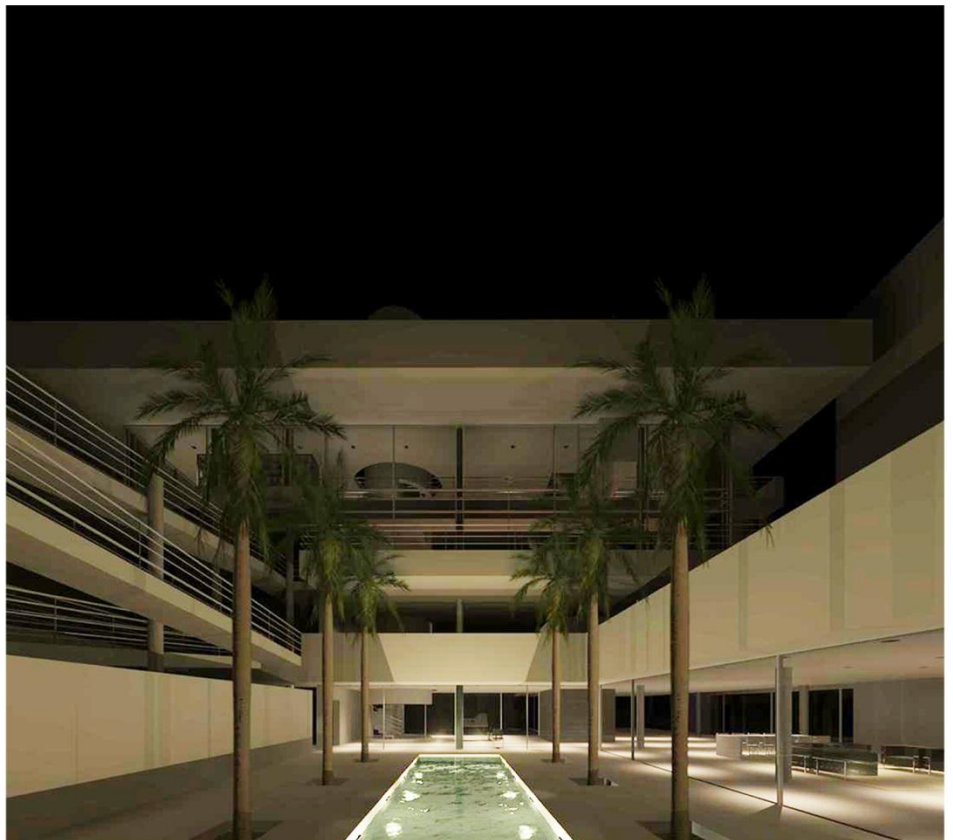
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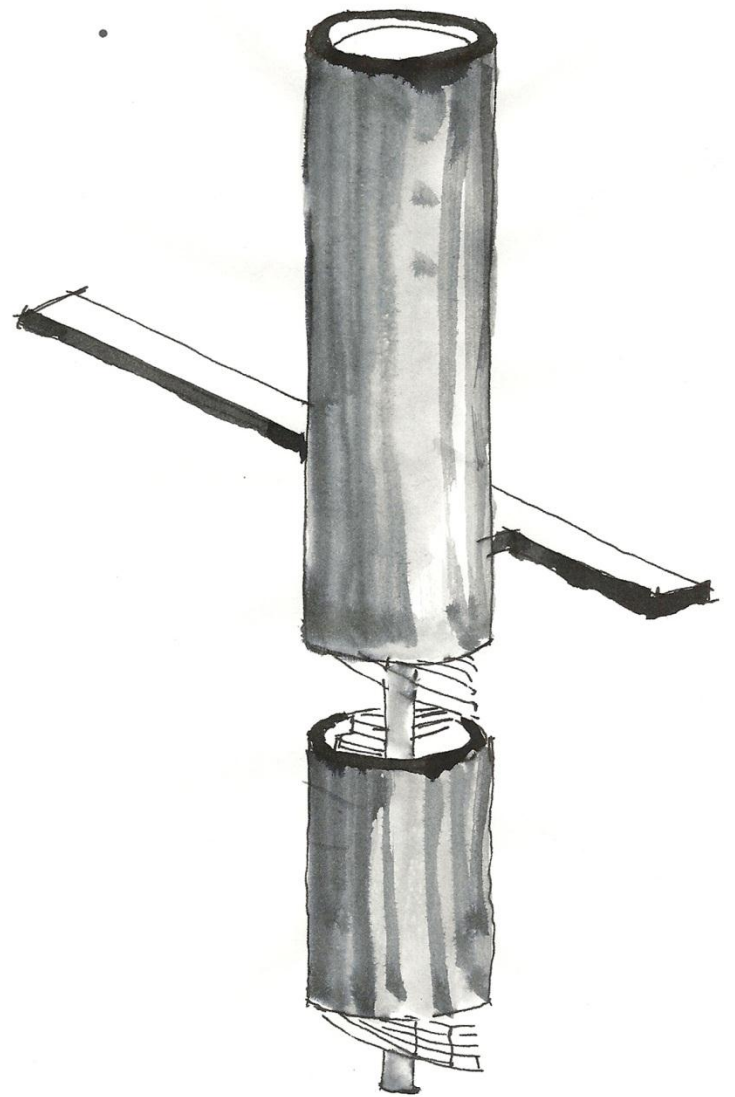


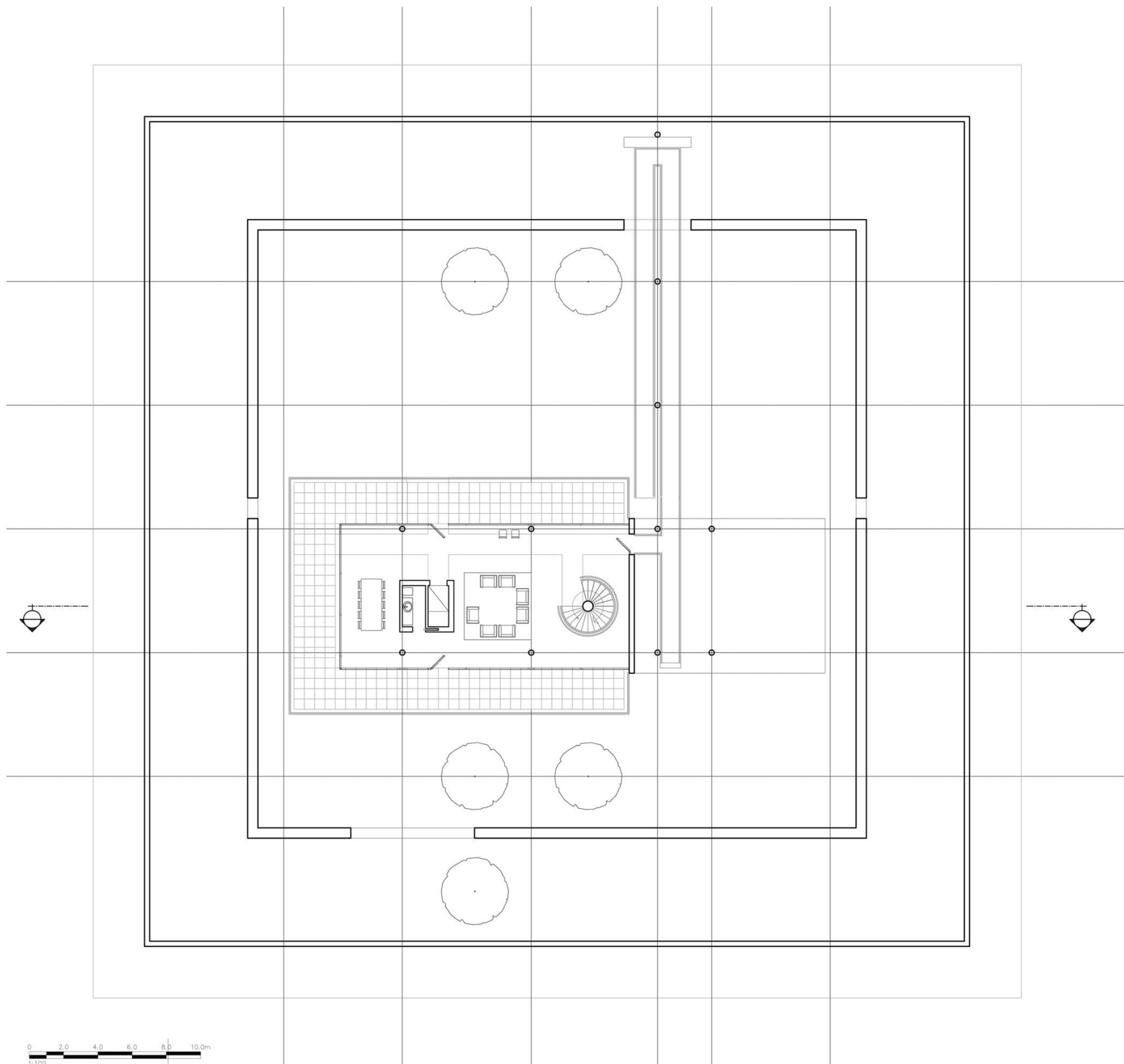


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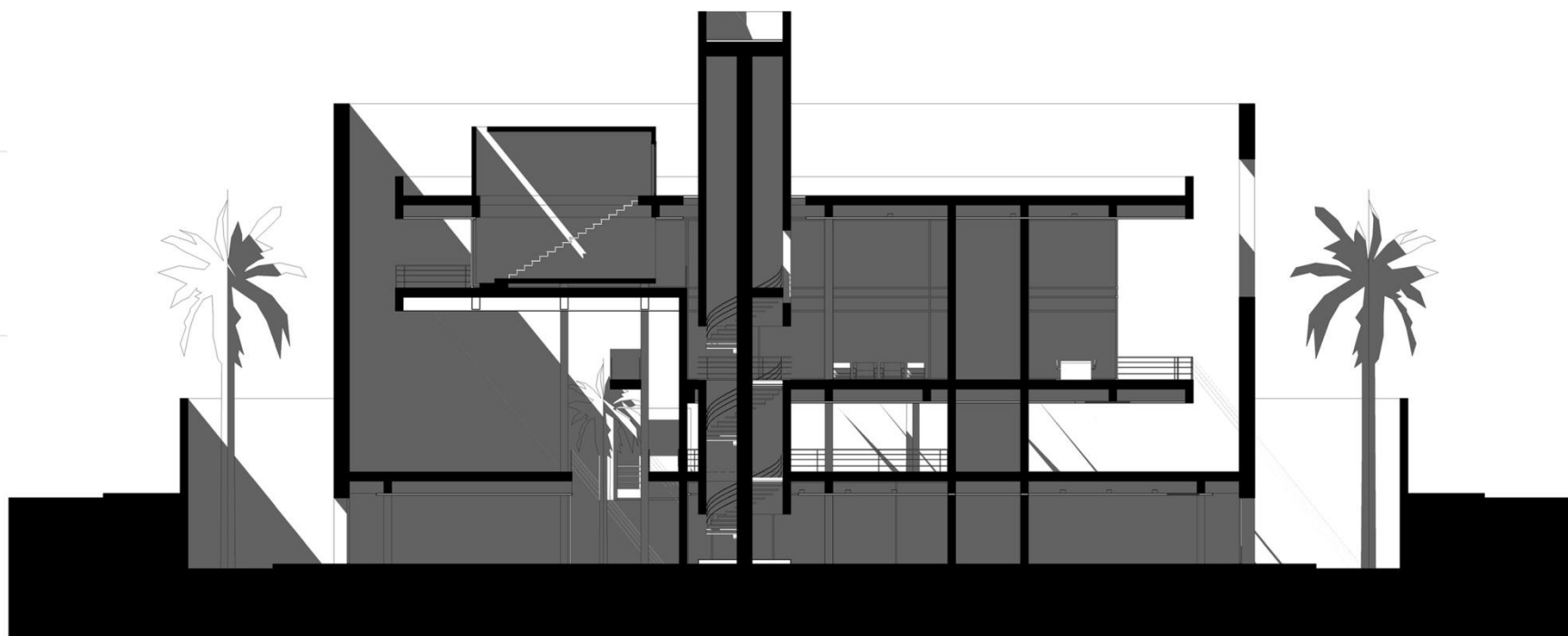
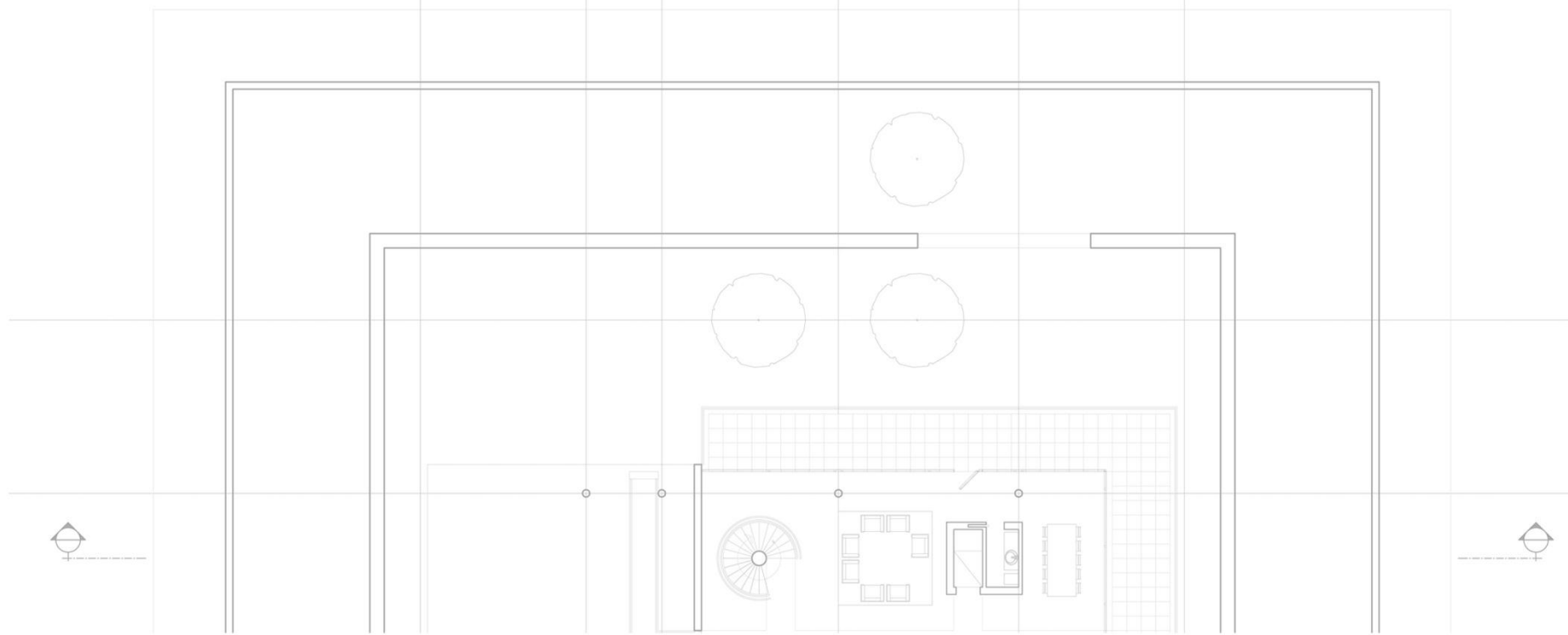
## THIRD & FOURTH LEVELS

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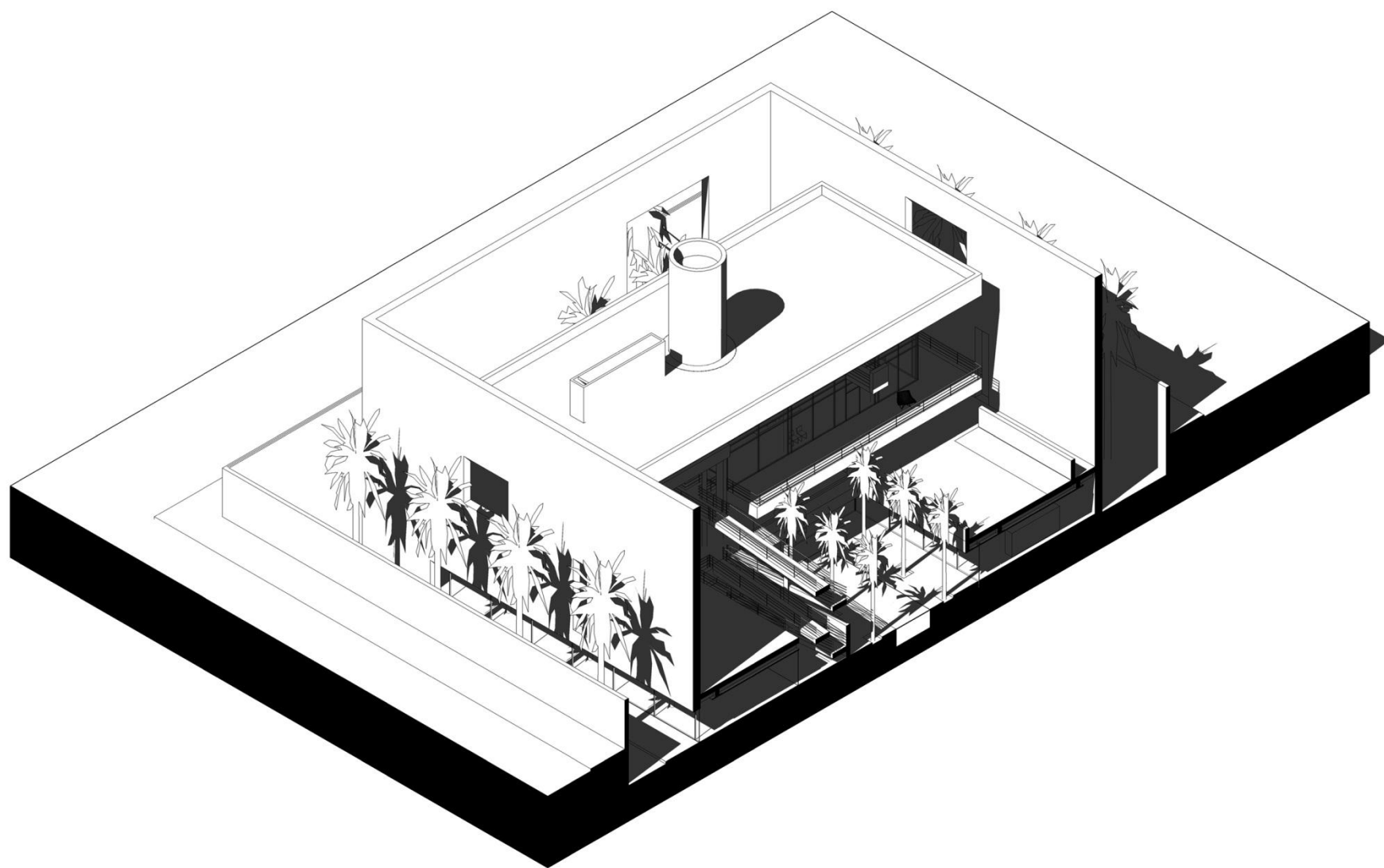


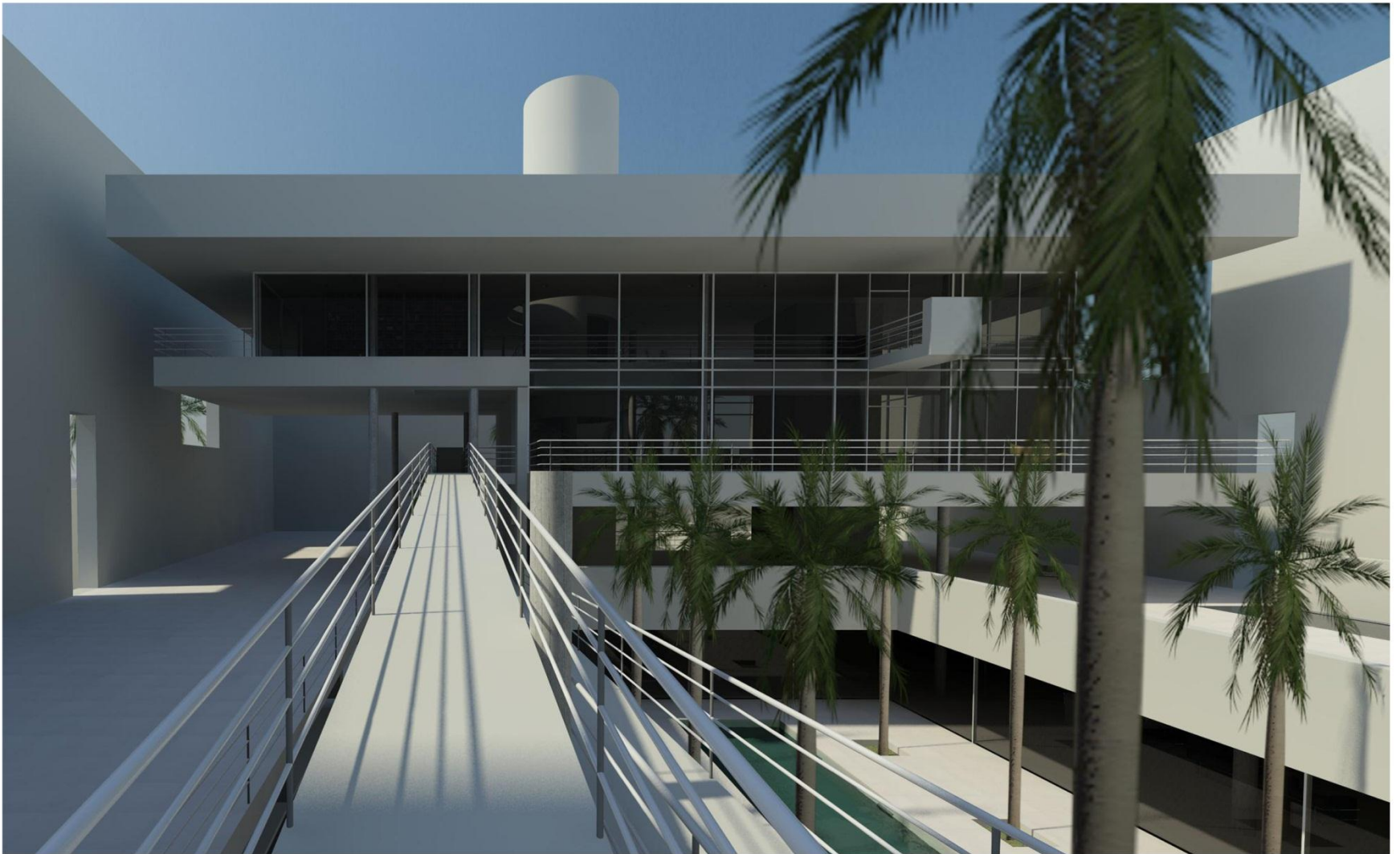


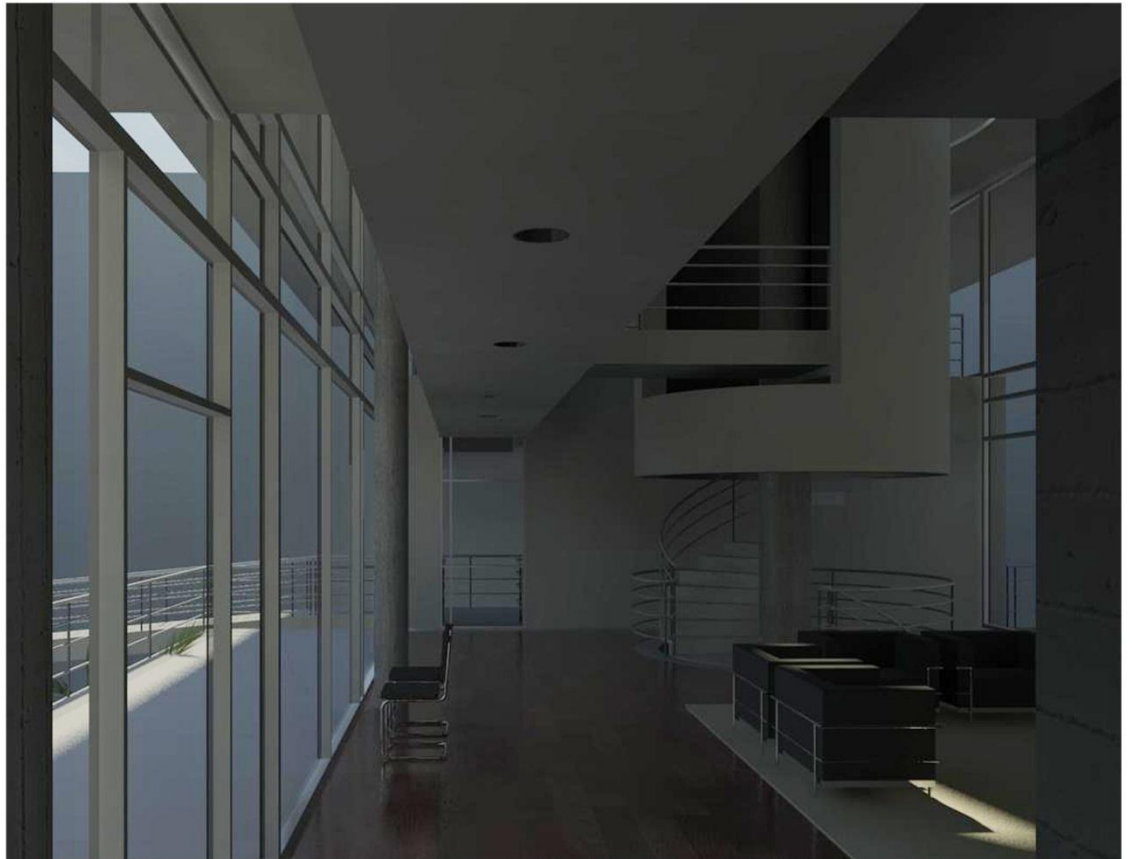








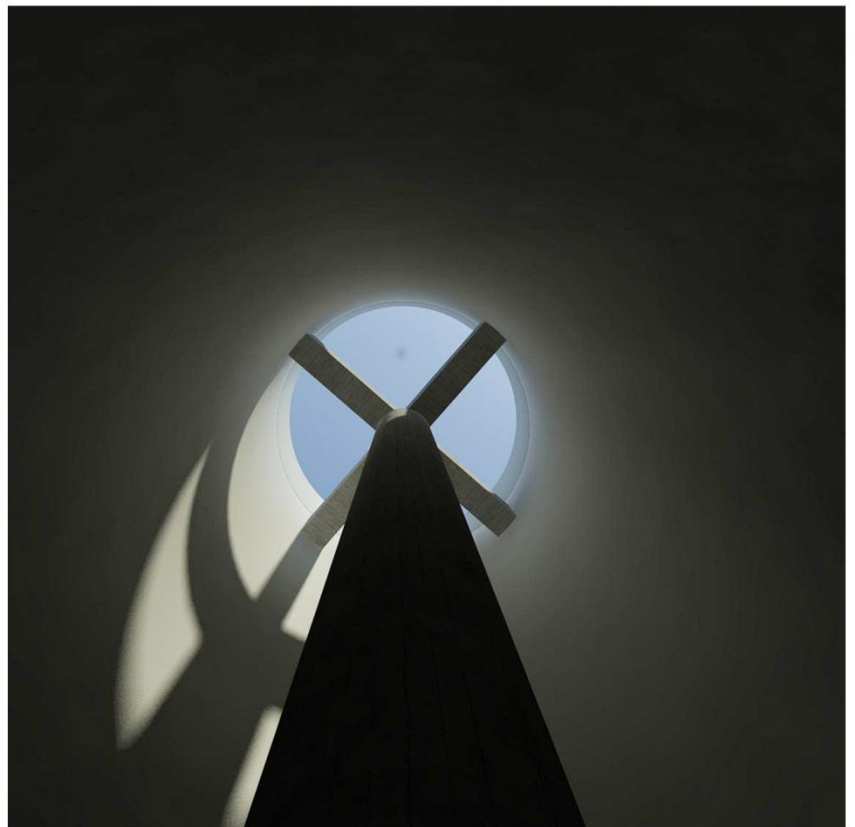




















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## GRAPHICS

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all graphics by the author  
unless otherwise noted.