

# 悬崖上的房子

House on the Cliff

# House on the Cliff

Xueyan Zheng

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

MASTER OF ARCHITECTURE

---

Hans C. Rott

---

Steven R. Thompson

---

H. Scott Gartner

May, 2017  
Blacksburg, VA

Key words: drawing, perspective, color



# House on the Cliff

Xueyan Zheng

## Abstract

### The color study

Color is both physical and perceptual. We see color, we feel color, and we dream of color. For the color study, I constructed the perspective drawings of the house as graphic compositions with no materiality. The application of primary colors to the drawings transformed the walls, ceiling, and floor into colored planes, which are common elements of concrete painting and pure Euclidean space, as explored by de Stijl and Rietveld through the medium of architecture. Aesthetic pleasure, following on my own judgment, is the final determining intention.

### The program

Design of a house situated on an Appalachian cliff overlooking a lake 100 feet below. The program is intended to suit a young couple with the desire to escape urban life. The structure was designed with the natural environment serving as a guide: the horizontal layering of the stone wall of the mountain and its meeting with the water of the lake below. The cantilevered roof resting upon a four-foot thick concrete wall is a response to those natural elements; a palimpsest contrasted in its material presence to the dematerialized colored planes of the enclosure.

### The structure of the book

Design exploration and development form the first two chapters of the book. Initial design schemes, sketches of the entrance to the courtyard, stairs, windows, kitchen, bedrooms, bathrooms, wall structures, and photos of study models are included to document the underlying ideas and their gradual evolution.

I wish to express my gratitude to my committee:  
Hans for always having faith in me, sharpening my senses, for real food and real friendship.  
Steve for real conversations not only about architecture, but also about life and philosophy.  
Scott for insights into my project and inspirations from Thursday night lectures.

I wish to express my gratitude to Professor Rodriguez and Professor Weiner for unceasing encouragement,  
and to my friends and colleagues for their endless help and support.

I wish to express my gratitude to my best friend for helping me shape my approach to architecture , incisive critiques, and patience.

I wish to express my gratitude to my mom and step-father for their greatest and unconditional love.

Without all of you, I could not be who I am now.

## Table of Contents

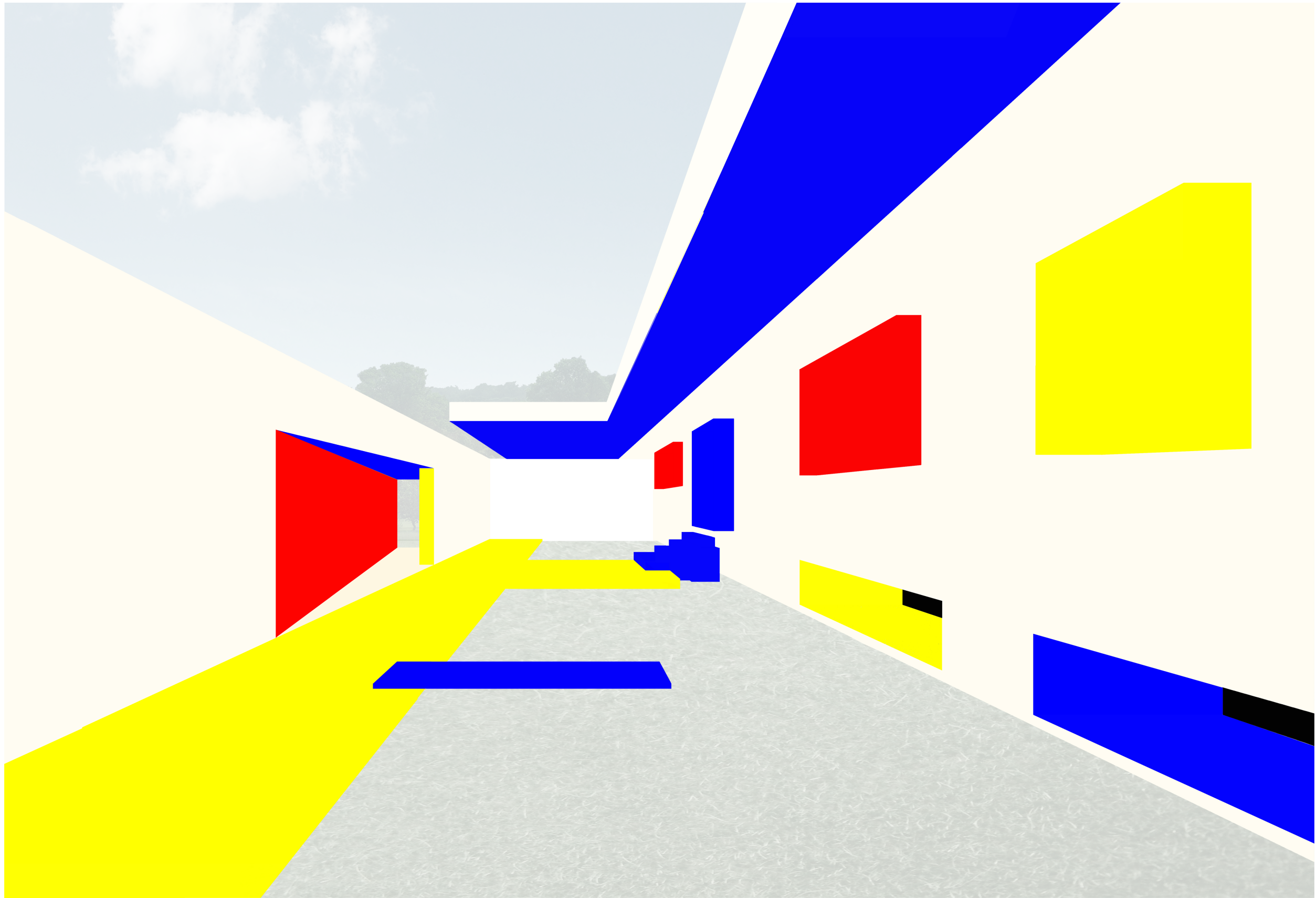
The Color Study

The Program

The Progress

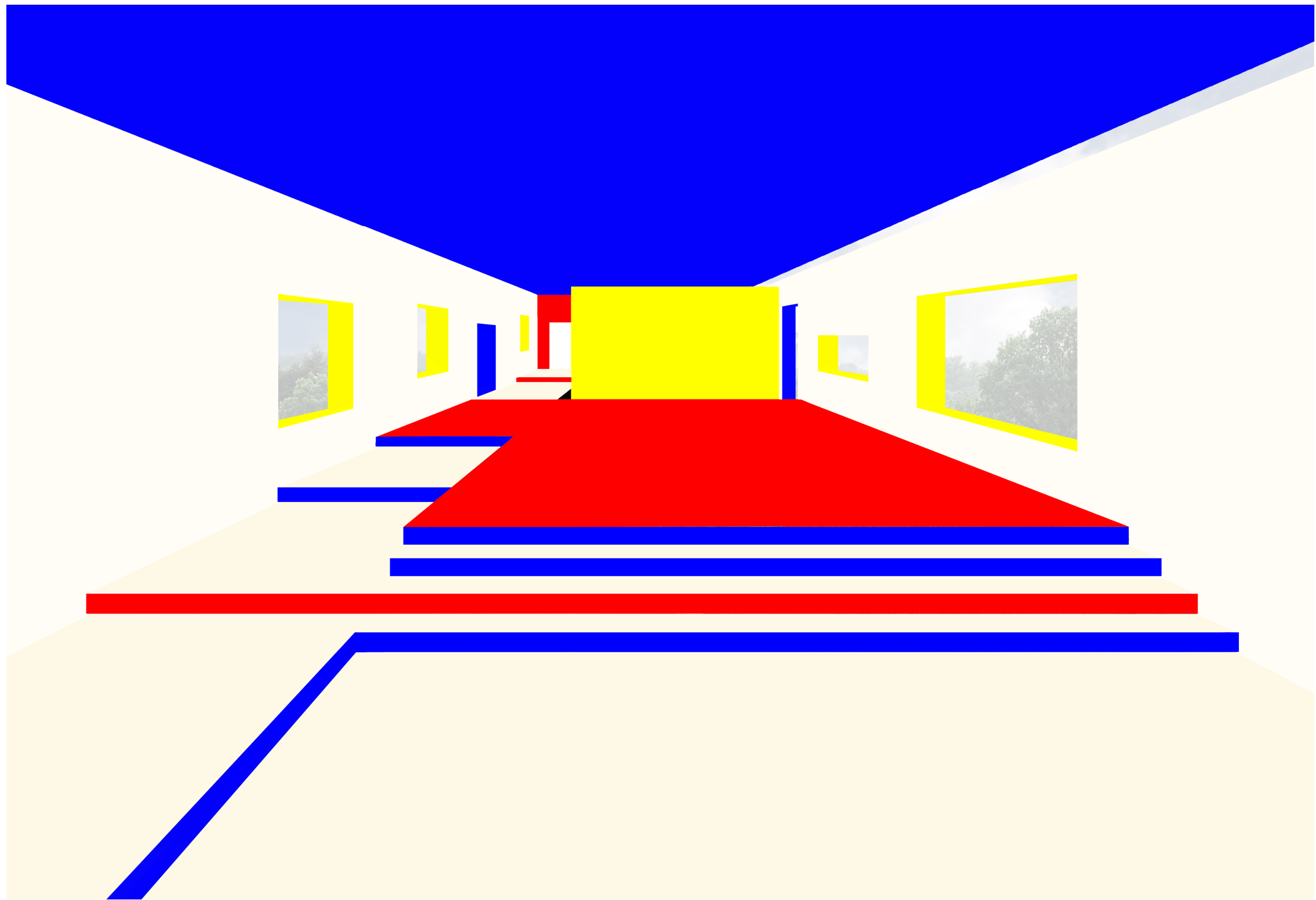
# 色彩研究

Color Study



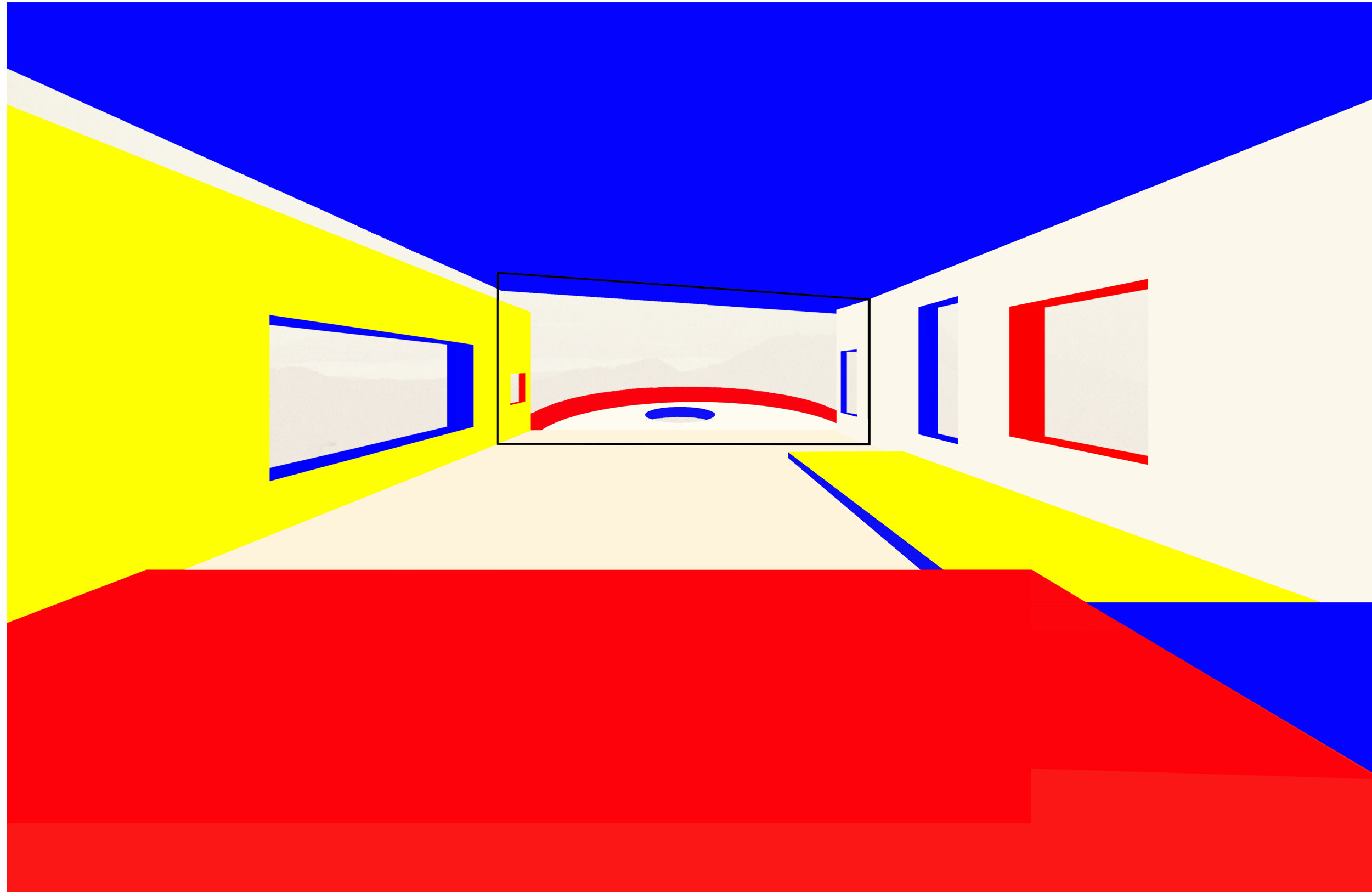
庭院透视色彩研究 1

Courtyard Perspective Color Study 1



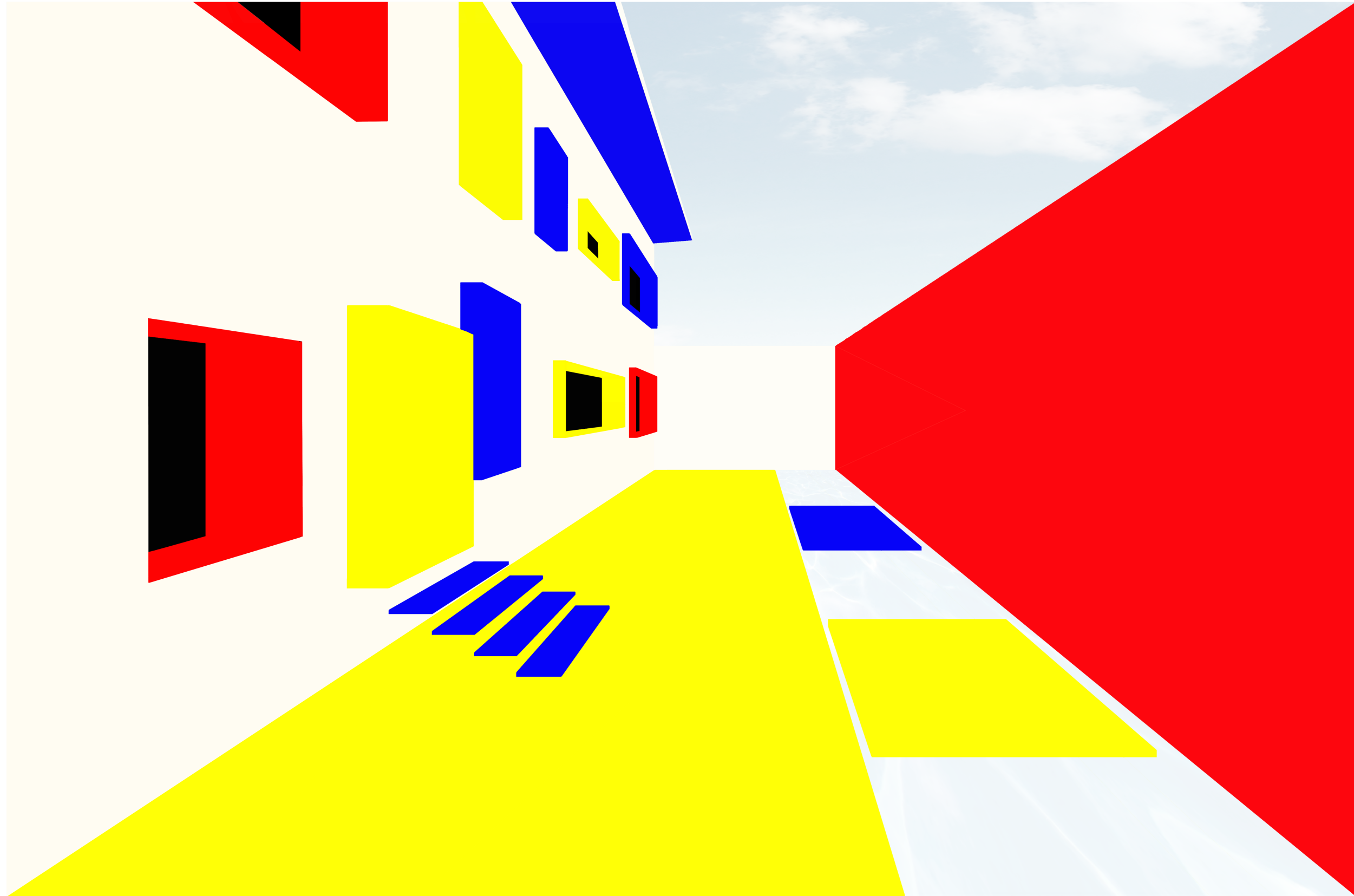
室内透视色彩研究 1

Interior Perspective Color Study 1



室内透视色彩研究 2

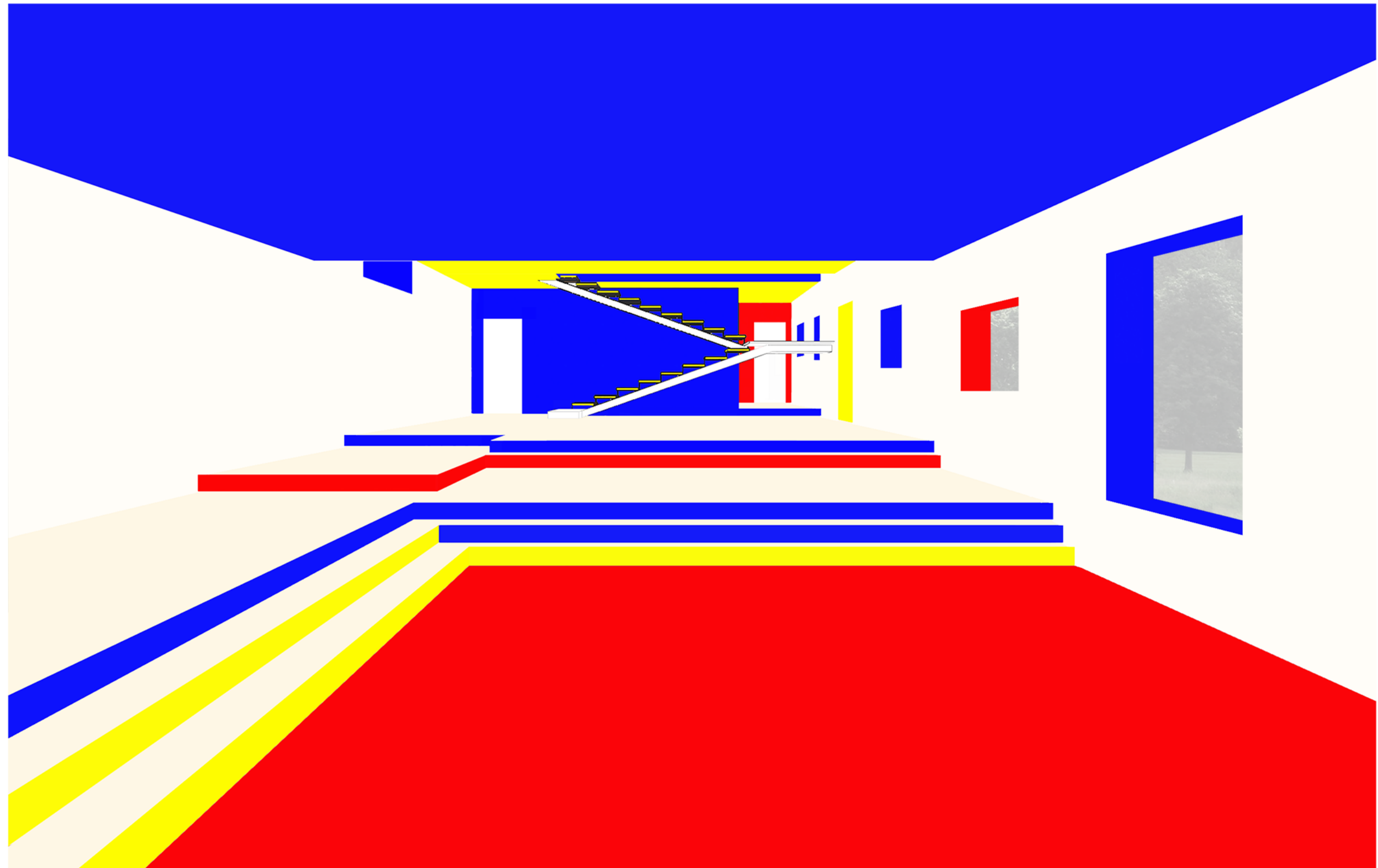
Interior Perspective Color Study 2



庭院透视色彩研究 2

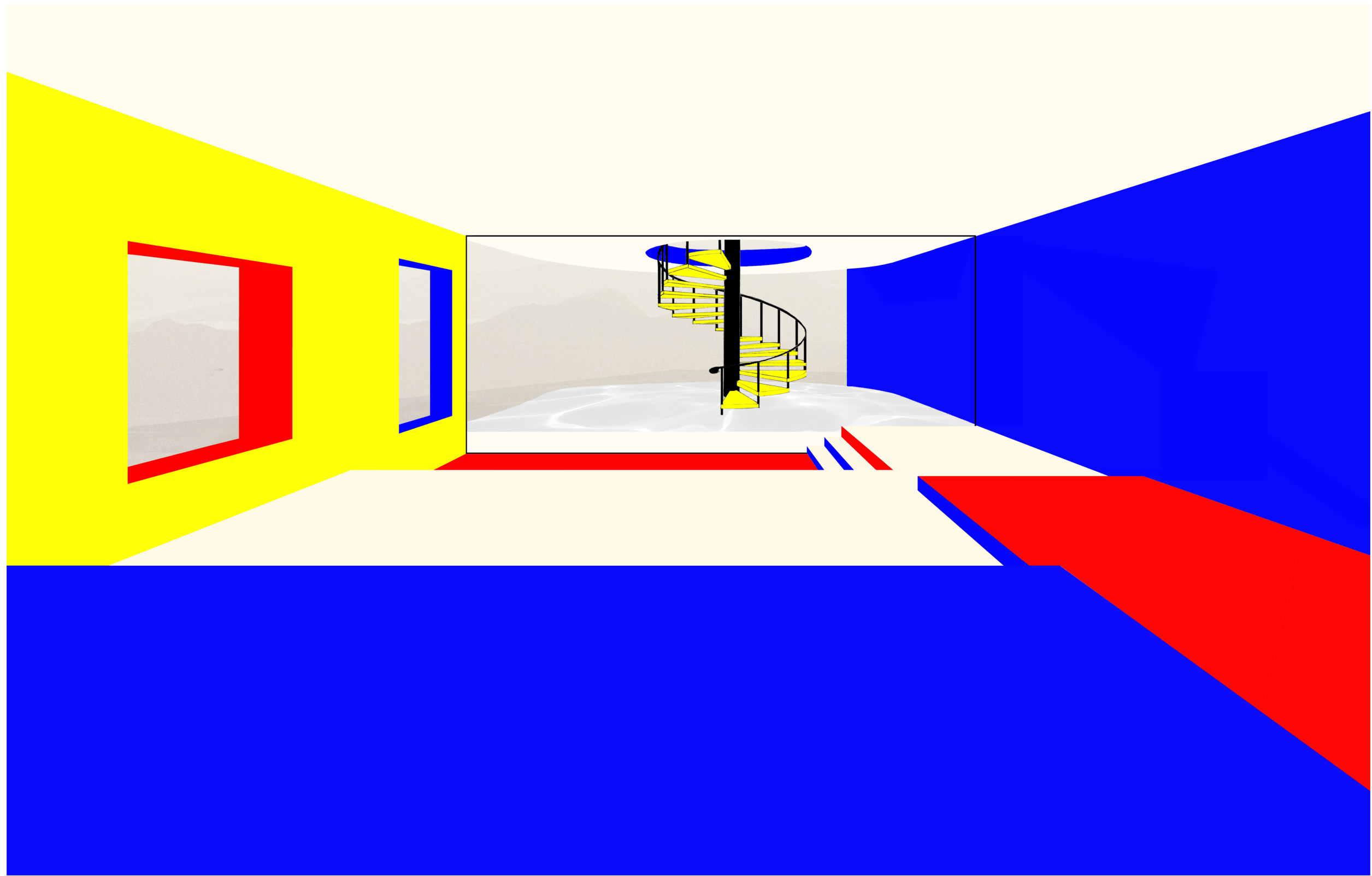
Courtyard Perspective Color Study 2





室内透视色彩研究 3

Interior Perspective Color Study 3

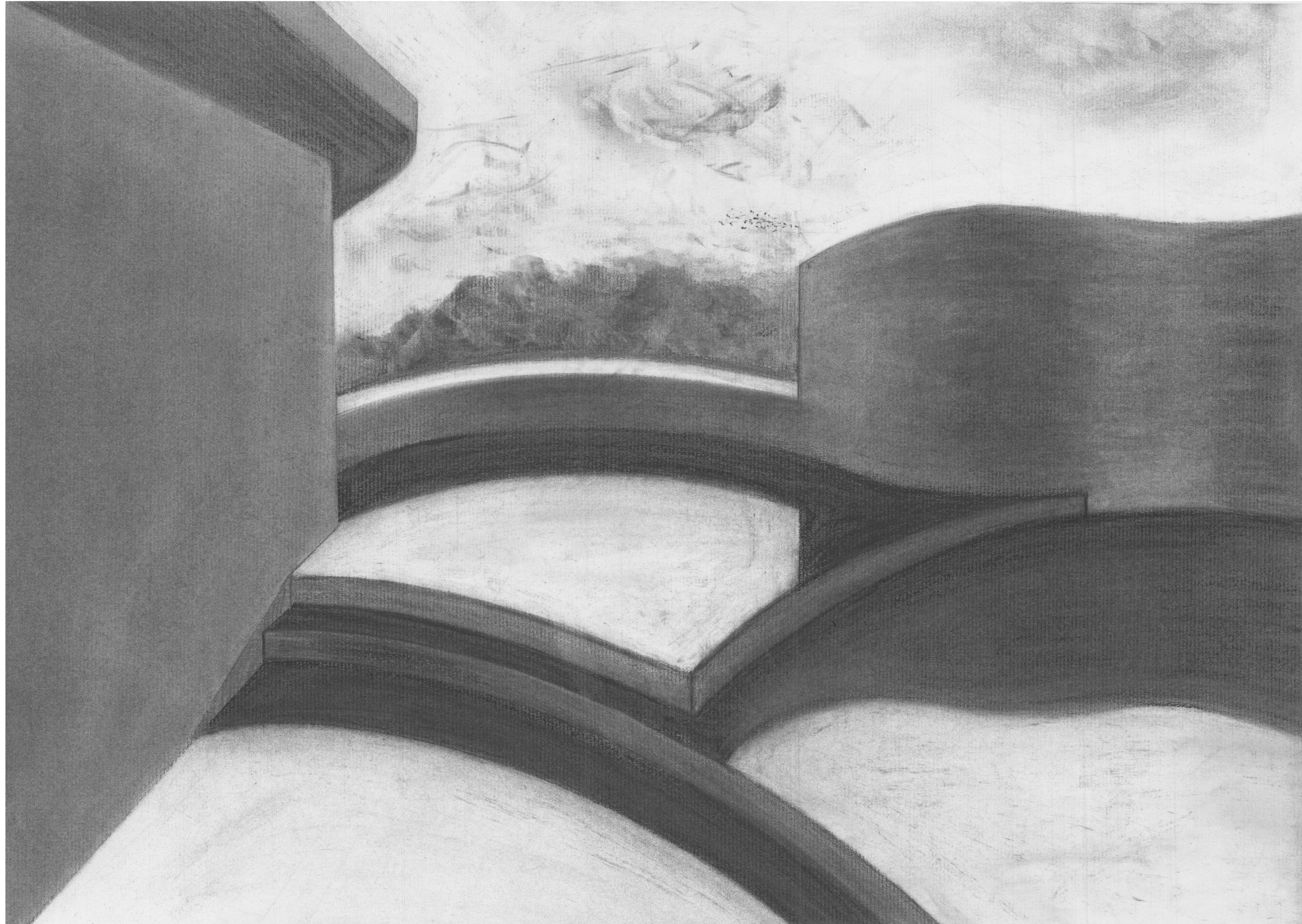


室内透视色彩研究 4

Interior Perspective Color Study 4

方案

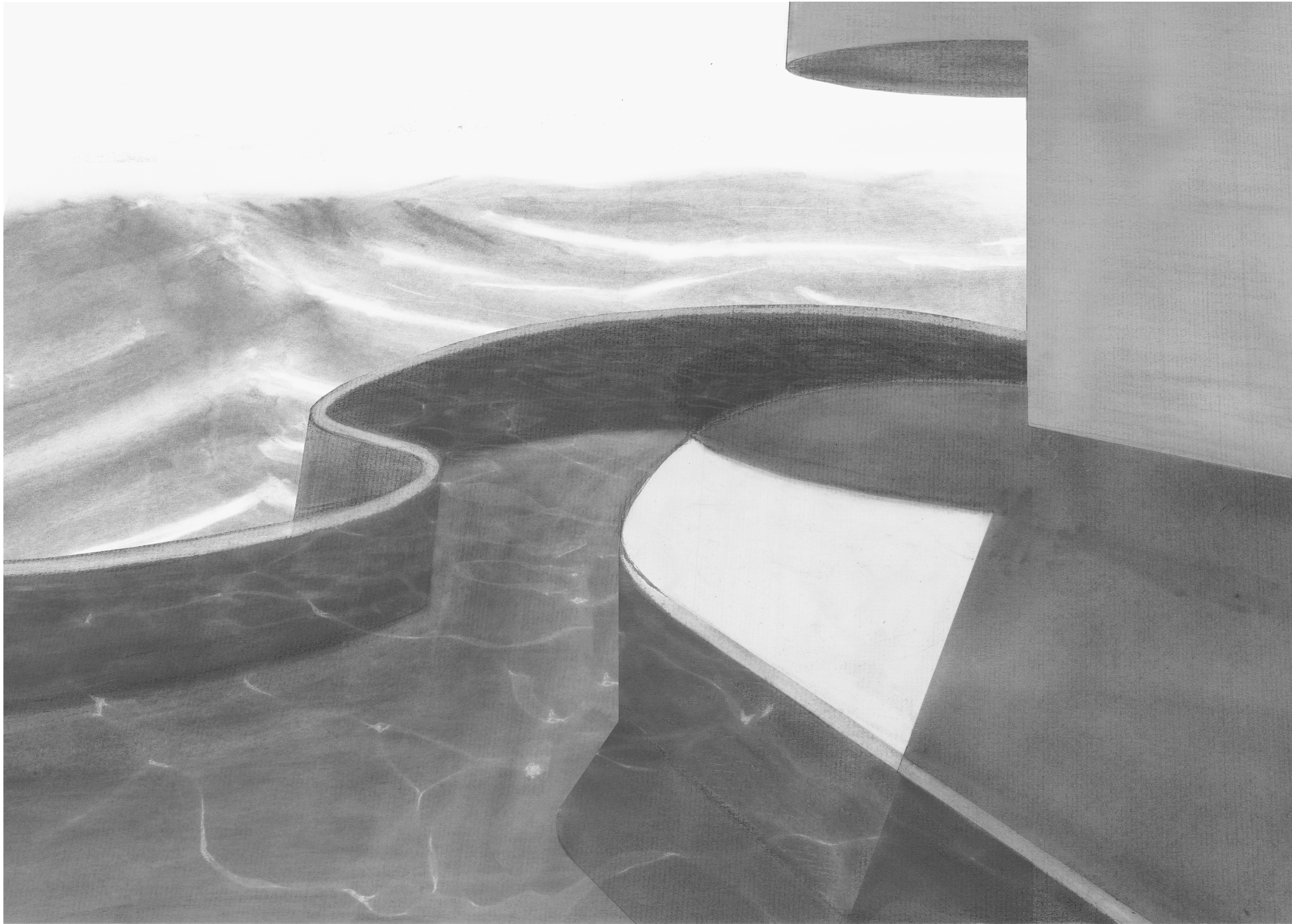
Program



庭院透视图 1

Courtyard Perspective 1

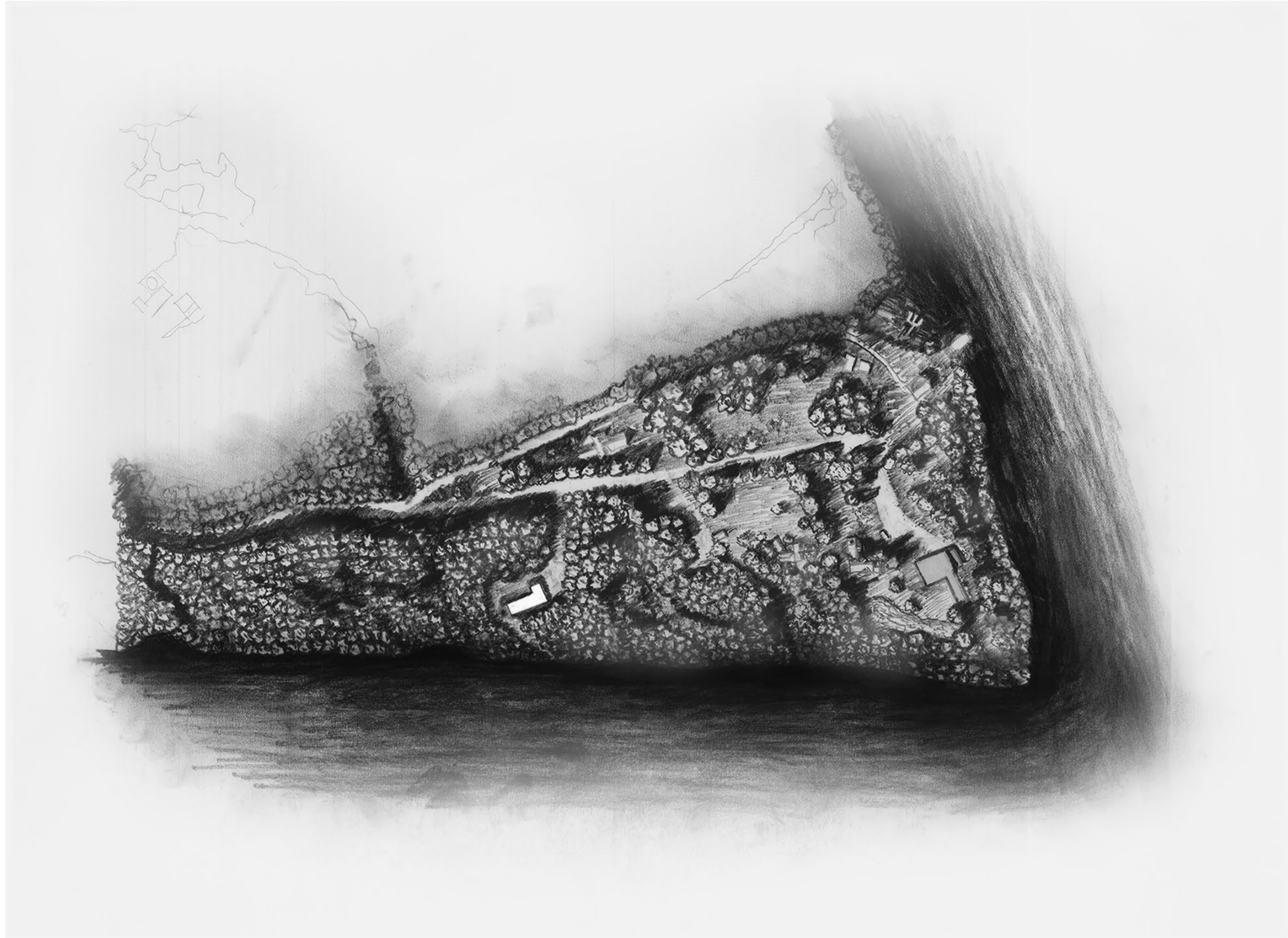




庭院透视图 2

Courtyard Perspective 2

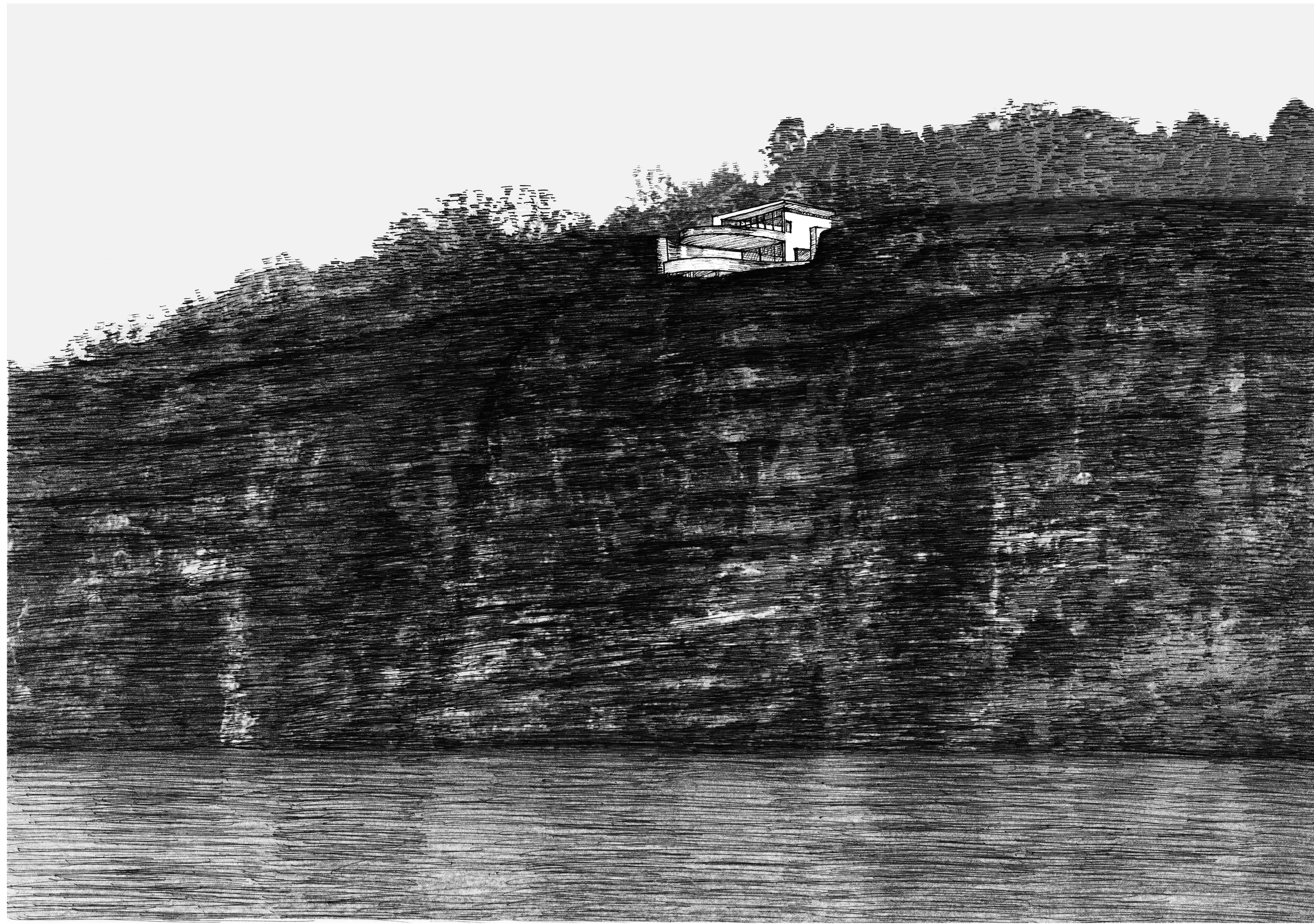




场地平面图

Site Plan

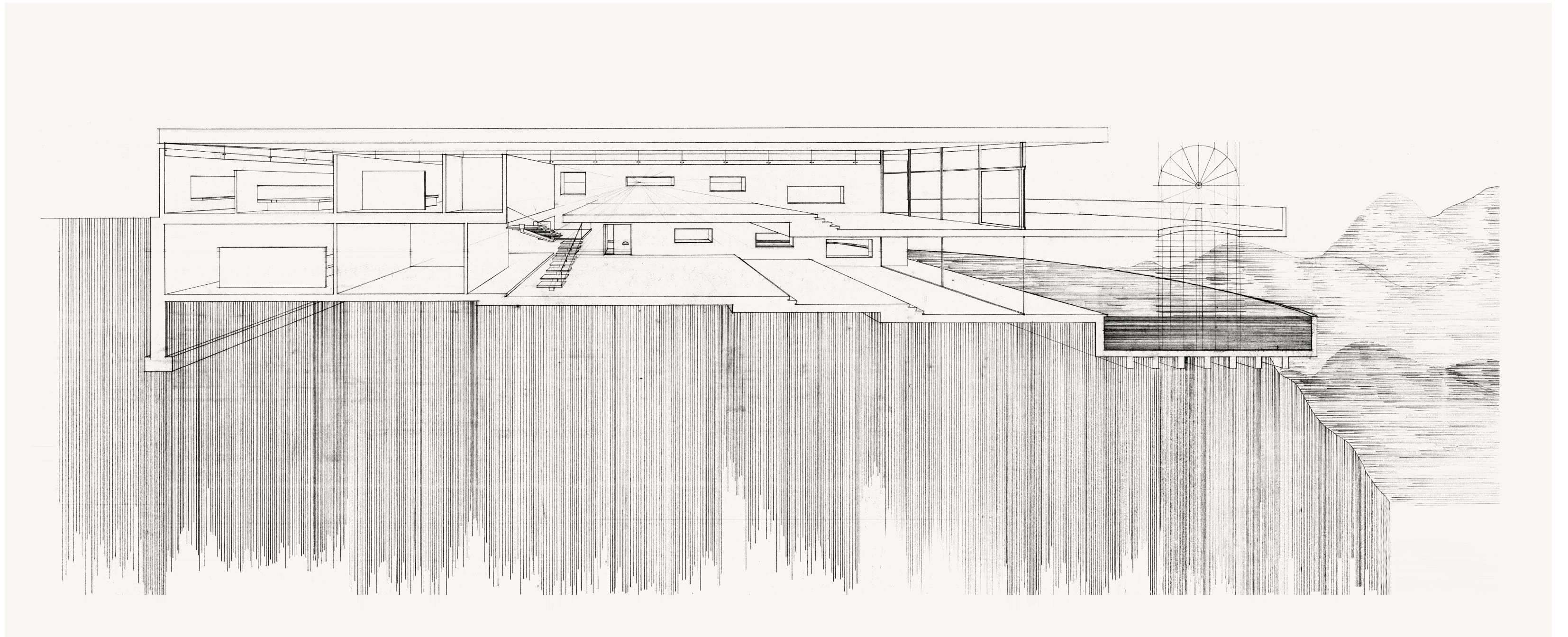




场地透视图

Site Perspective

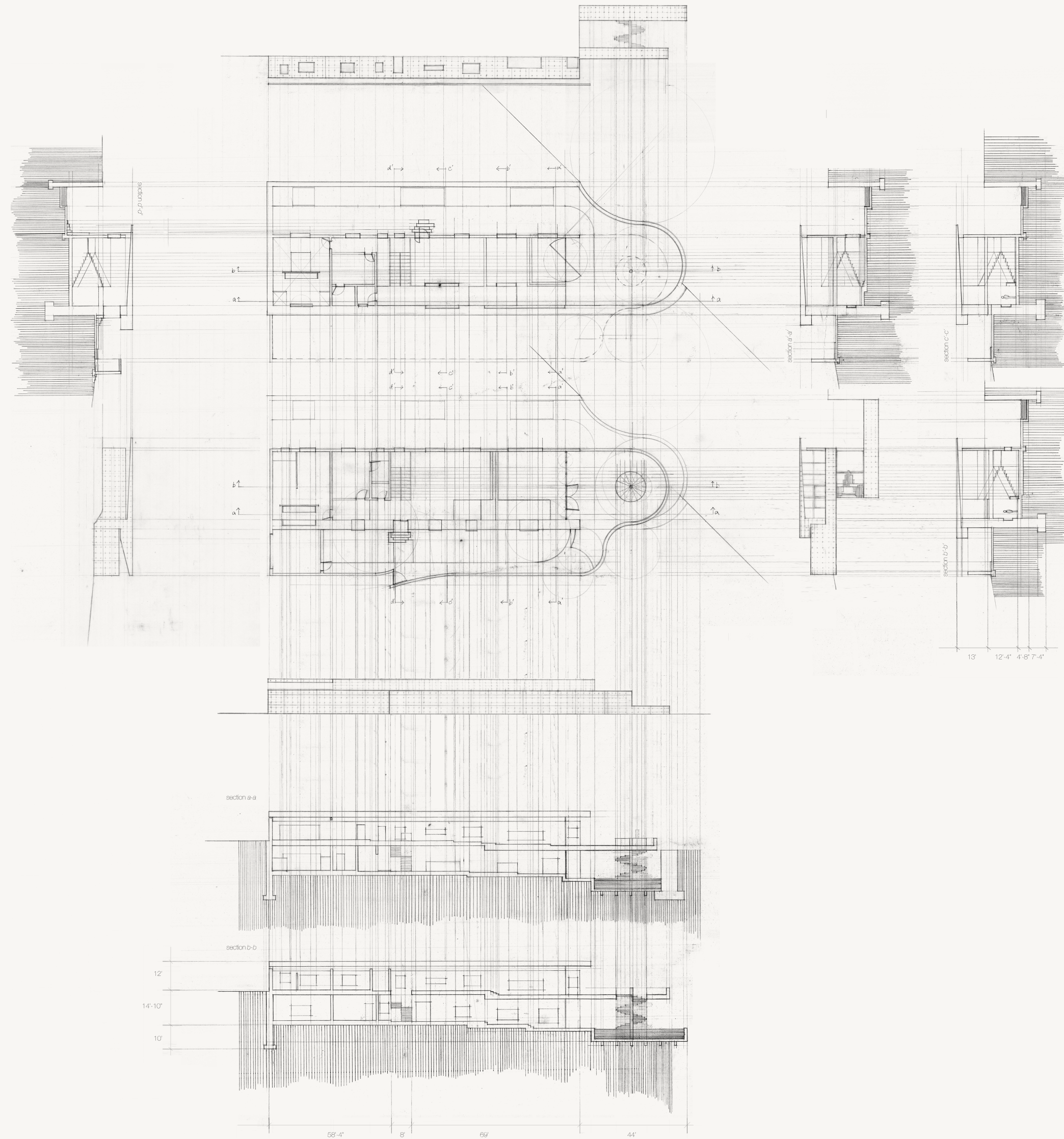




长向剖面透视图

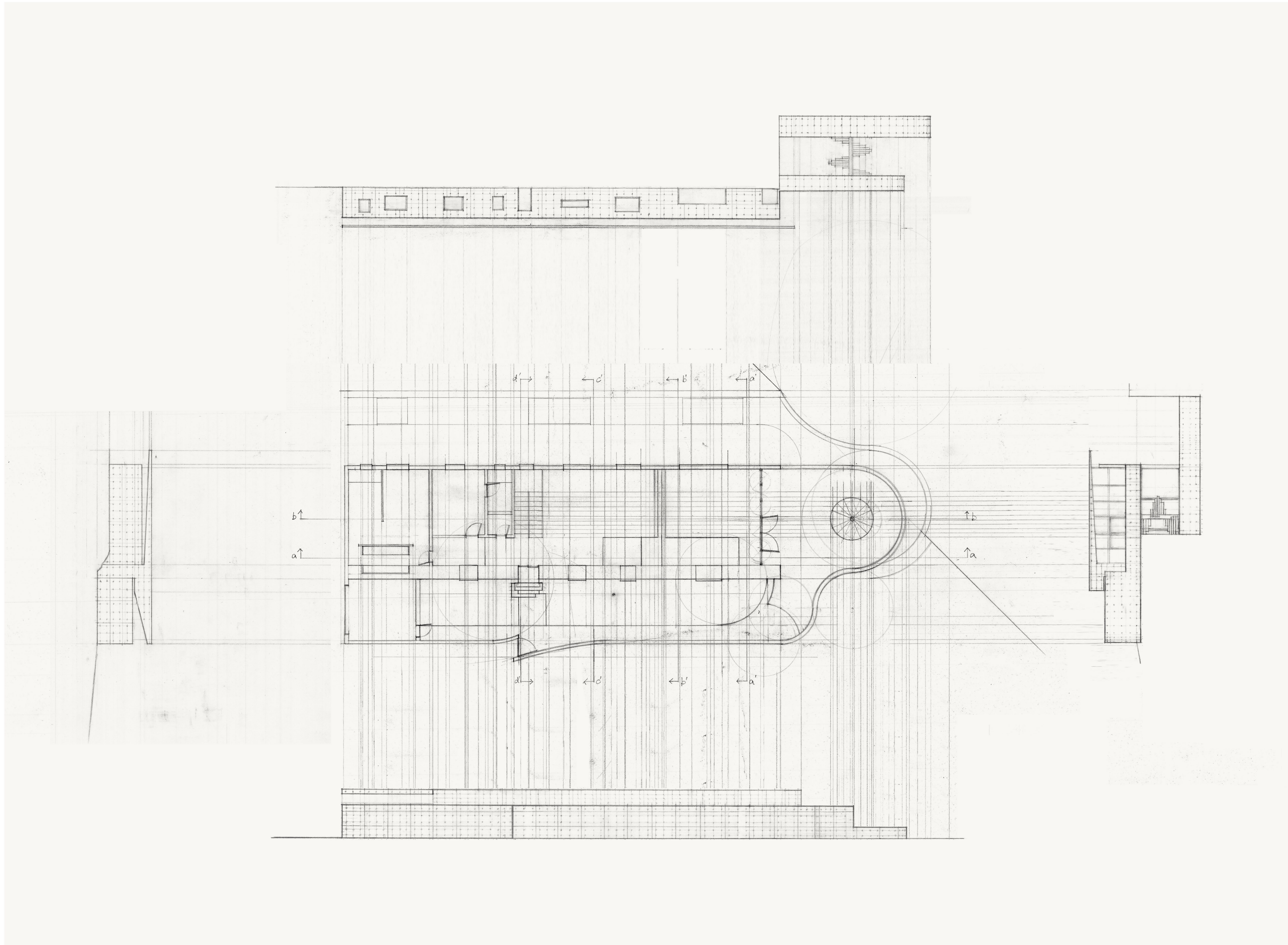
Long Section Perspective





平面、剖面、立面图  
Plan, Section, and Elevation

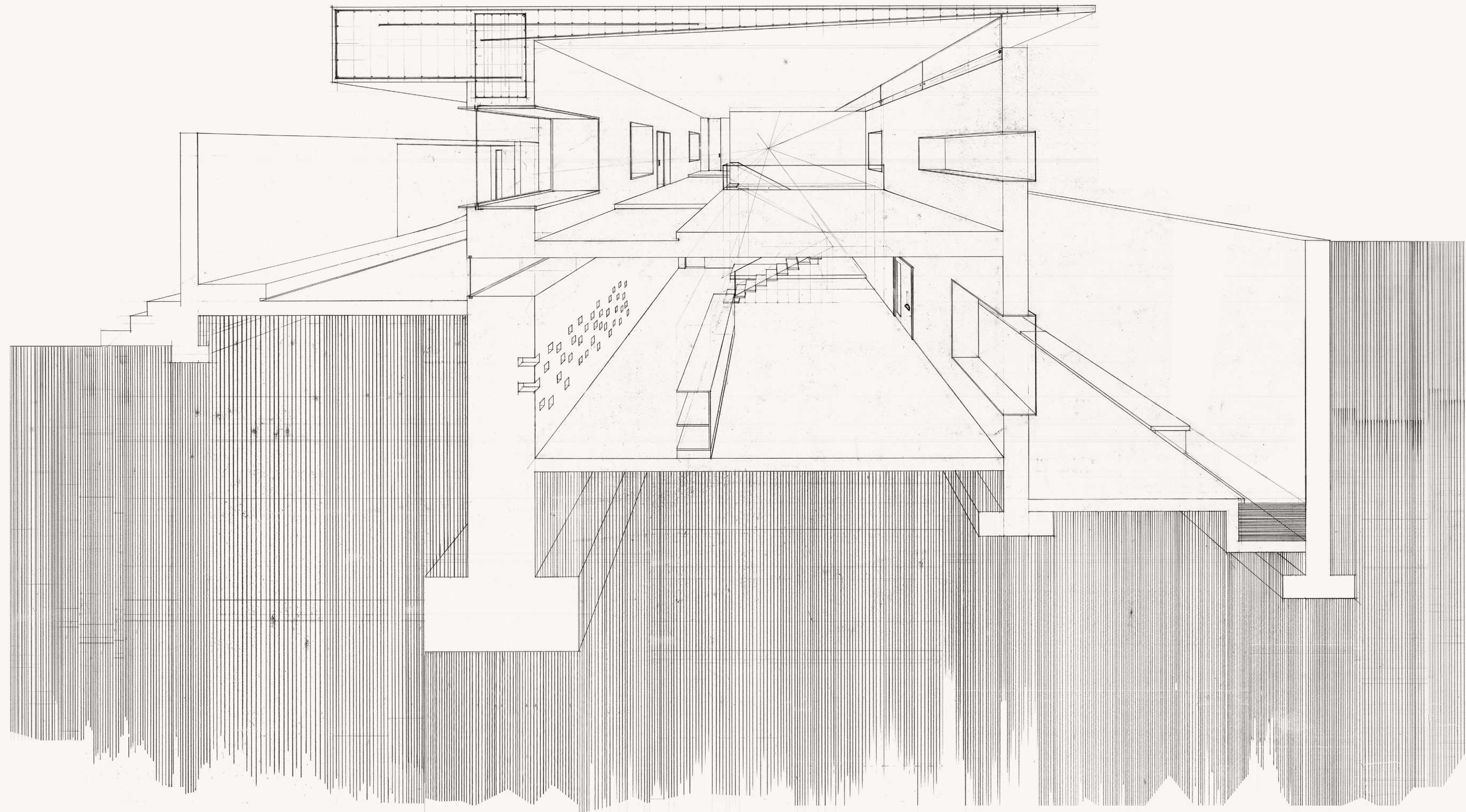




平面、立面图

Plan and Elevation





短向剖面透视图

Short Section Perspective

## 前期分析

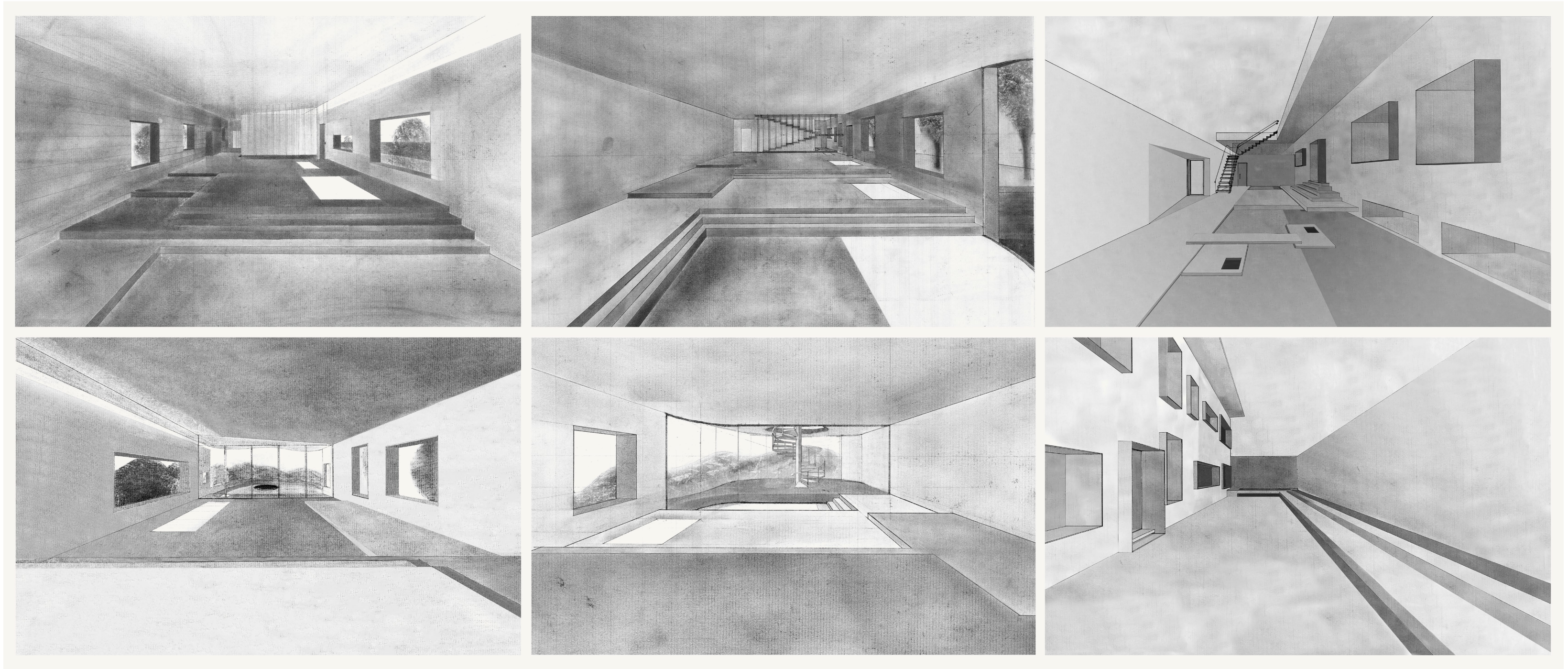
Process





初期设计模型照片  
Photos of Initial Design Model

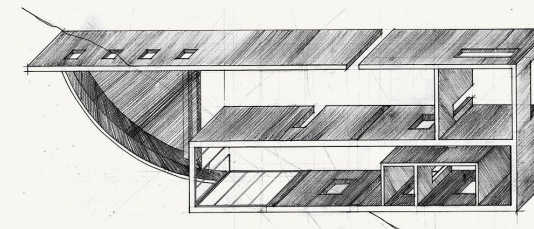
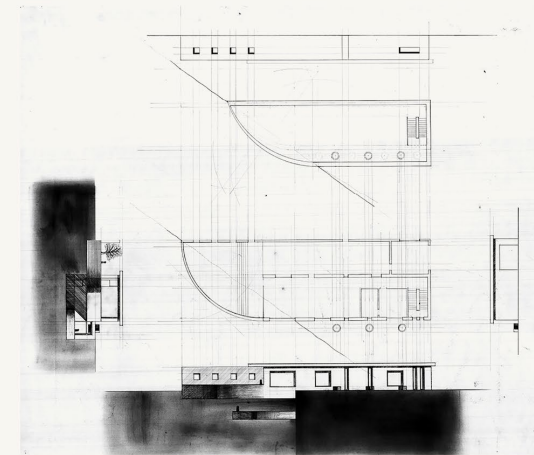
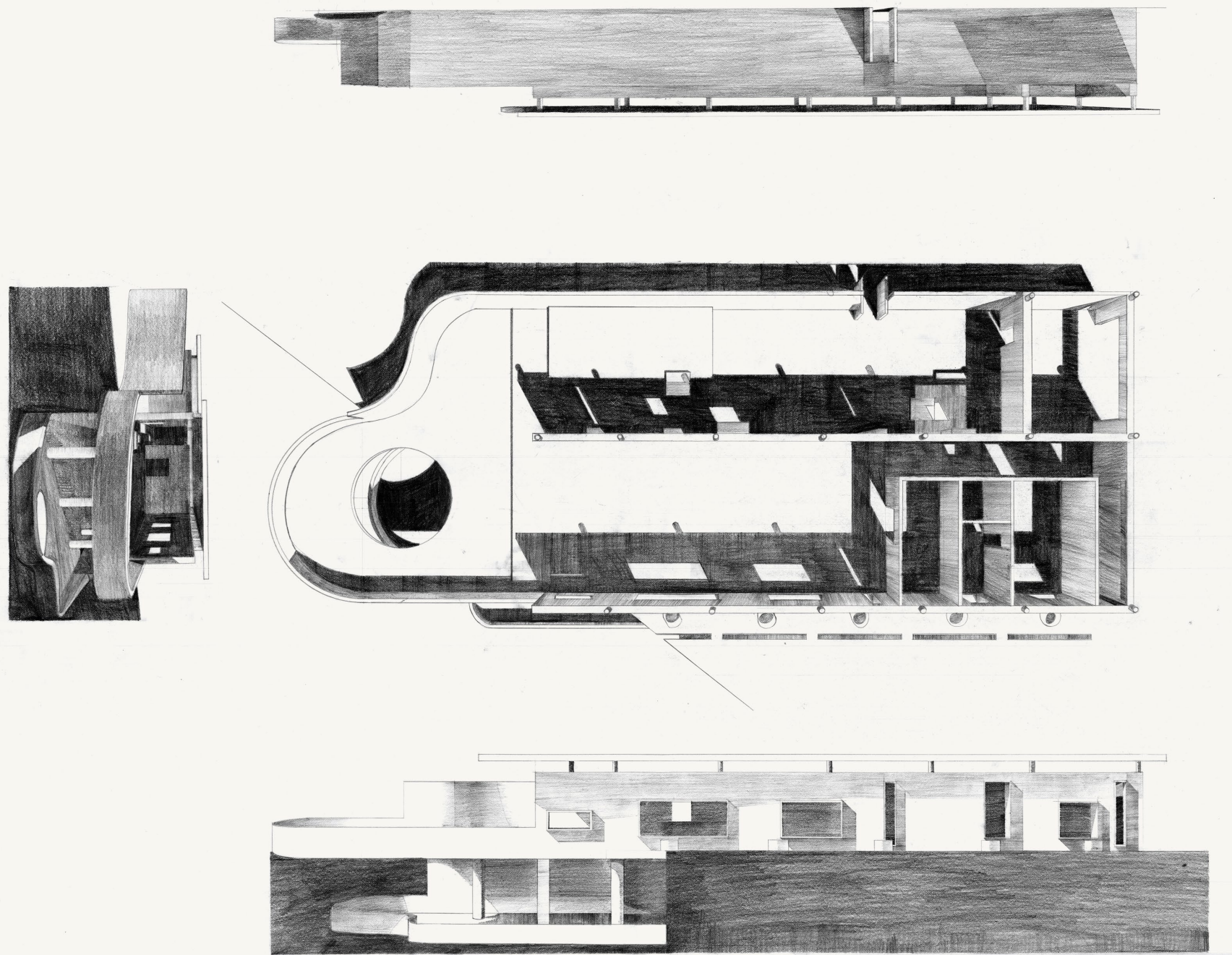




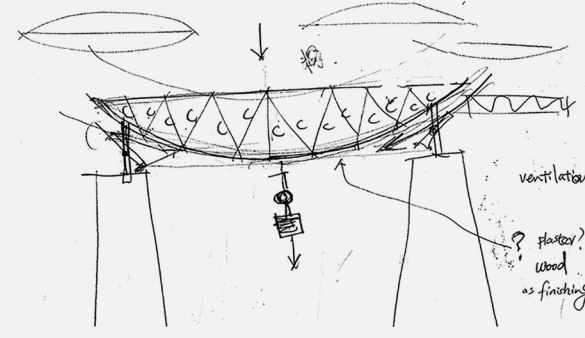
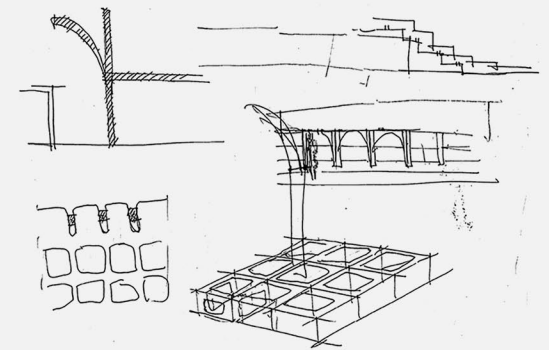
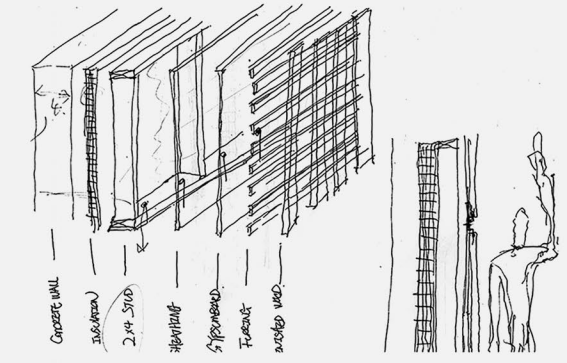
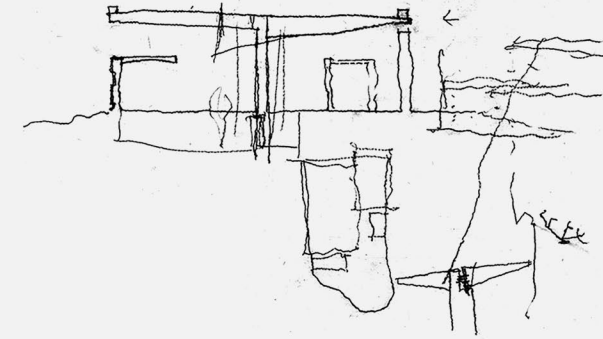
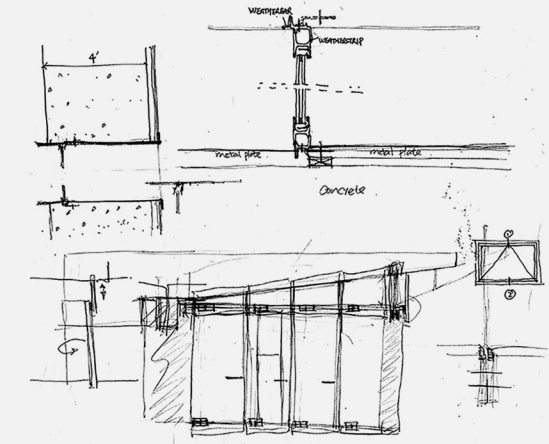
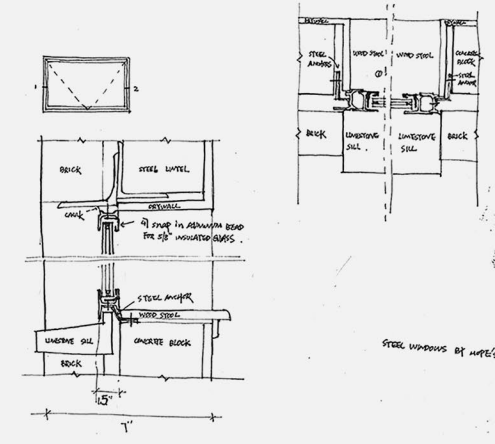
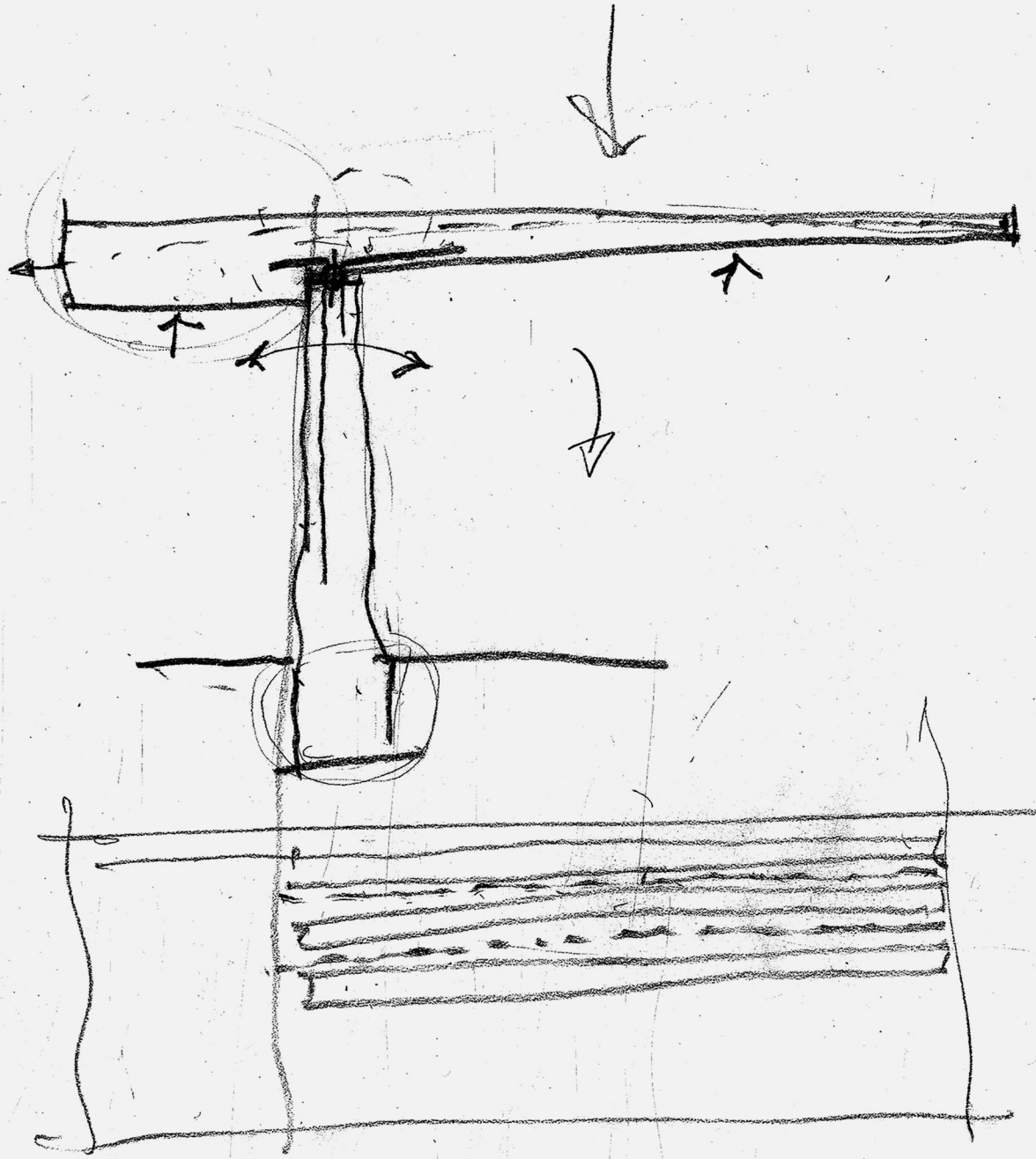
室内透视和庭院透视

Interior and Courtyard Perspective



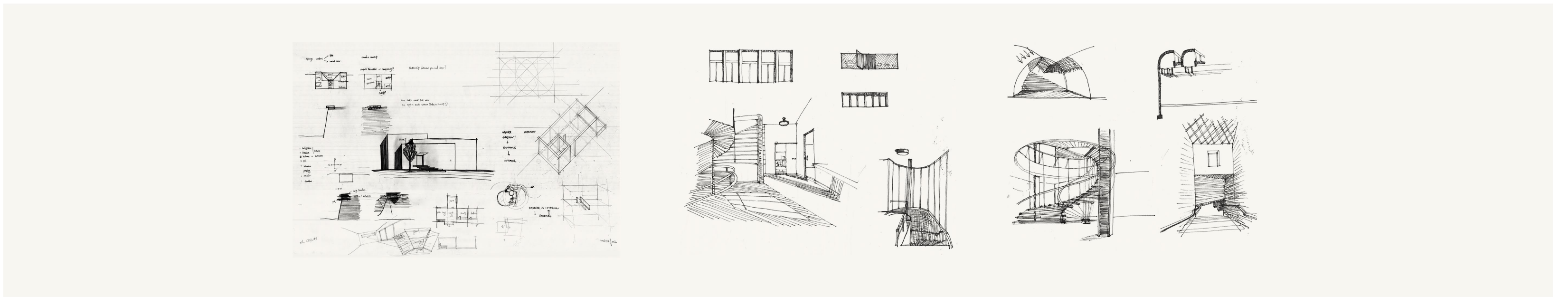
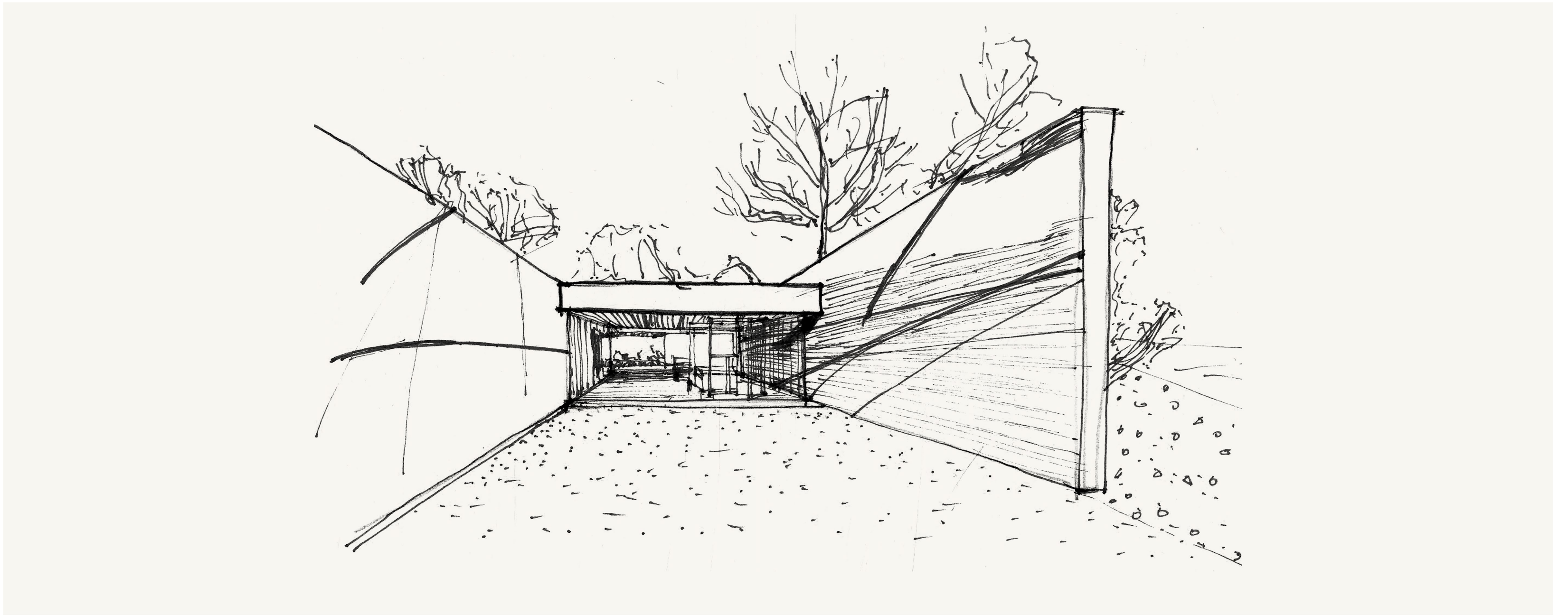


初期设计方案  
Initial Design Schemes



墙和屋顶结构的研究  
Studies of Wall and Roof Structures

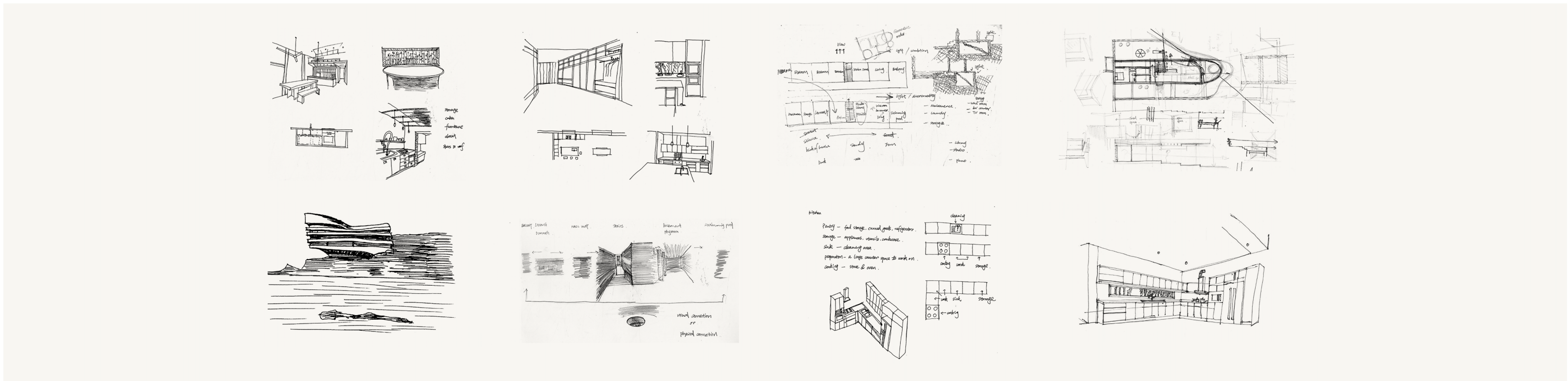




墙之间空间以及楼梯和窗户的研究

Studies of the Room Between Two Walls, Stairs, and Windows





庭院入口以及厨房、卧室、卫生间布局的研究

Studies of Courtyard Entrance, and Kitchen, Bedroom, and Bathroom Layouts

## List of Images

Courtyard Perspective Color Study 1, photoshop	2
Interior Perspective Color Study 1, photoshop	3
Interior Perspective Color Study 2, photoshop	4
Courtyard Perspective Color Study 2, photoshop	5
Interior Perspective Color Study 3, photoshop	6
Interior Perspective Color Study 4, photoshop	7
Courtyard Perspective 1, Graphite on Paper	9
Courtyard Perspective 2, Graphite on Paper	10
Site Plan, Graphite on Paper	11
Site Perspective, Pen on Paper	12
Long Section Perspective, Pencil on Paper	13
Plan, Section, and Elevation, Pencil on Paper	14
Plan and Elevation, Pencil on Paper	15
Short Section Perspective, Pencil on Paper	16
Photos of Initial Design Model, Photograph of Cardboard Model	18
Interior and Courtyard Perspective, Graphite on Paper	19
Initial Design Schemes, Graphite on Paper	20
Studies of Wall and Roof Structures, Pencil on Paper	21
Studies of the Room Between Two Walls, Stairs, and Windows, Pencil on Paper	22
Studies of Courtyard Entrance, and Kitchen, Bedroom, and Bathroom Layouts, Pen on Paper	23