

Inhabiting the Hillside
A Multigenerational House

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and State University in partial fulfillment of the requirements for the
degree of Master of Architecture

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ABSTRACT

This project is a romantic exploration of a site and a way of life. It is a proposition for blended boundaries between inside and out, between hill and house, as well as a study of mobility concerning a steep slope. Set in Lebanon overlooking the Mediterranean Sea, the house is carved from the hill yet respects its topography. The hill becomes the communal spaces and rooms of the house. These uncovered spaces and stairways lead to small private spaces, separated by elevation as well as distance due to the accommodating hill. The Mediterranean climate is ideal, with its low rainfall, for outdoor living. The hill provides enough separation and privacy between each private room to function well for extended, multigenerational families. Each family has a similar viewing angle to the sea.



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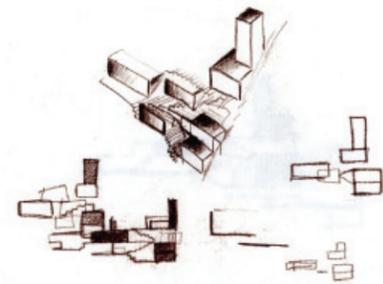
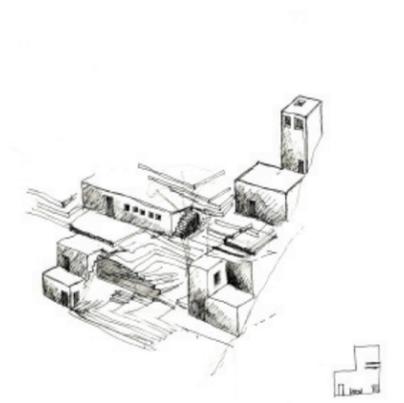


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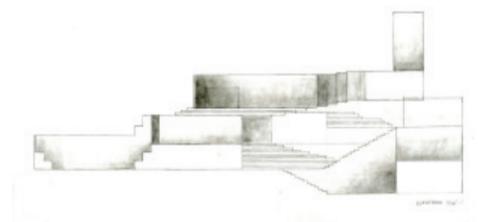
Introduction

This project is a romantic exploration of architecture. It is an investigation of how architecture can fit respectfully into the landscape of mountains and oceans and trees. A romantic constantly strives to attain a state of idealistic, poetic perfection. This proves elusive in architecture due to the pragmatic factors a building must address.

The idea of building with the slope versus in or on the slope becomes ideal in terms of recognizing terrain and view. Rather than being a singular, isolated structure capable of residing in any landscape, the house uses the hill to the point of being the hill. Stairs and patios are carved into the hill and become hallways and sitting rooms. The hill provides structure for the house, so the plan is free to meander up, down, and along the slope. The temperate Mediterranean climate allows for an open interaction with the landscape.

A consideration for the protection of spaces with respect to nature corresponds with the idea that a house is a smaller scale, more intimate version of a village, with its communal and private spaces becoming rooms in an enclosure instead of structures in the landscape.

The private spaces in this house fit into the stairways and patios such as small houses fit into a village plan. They serve as the pragmatic, necessarily enclosed spaces to protect from the elements and each has a similar view overlooking the sea. The hill allows for two degrees of separation, laterally and vertically, so these rooms are capable of a high degree of seclusion as well as community.



Inspiration

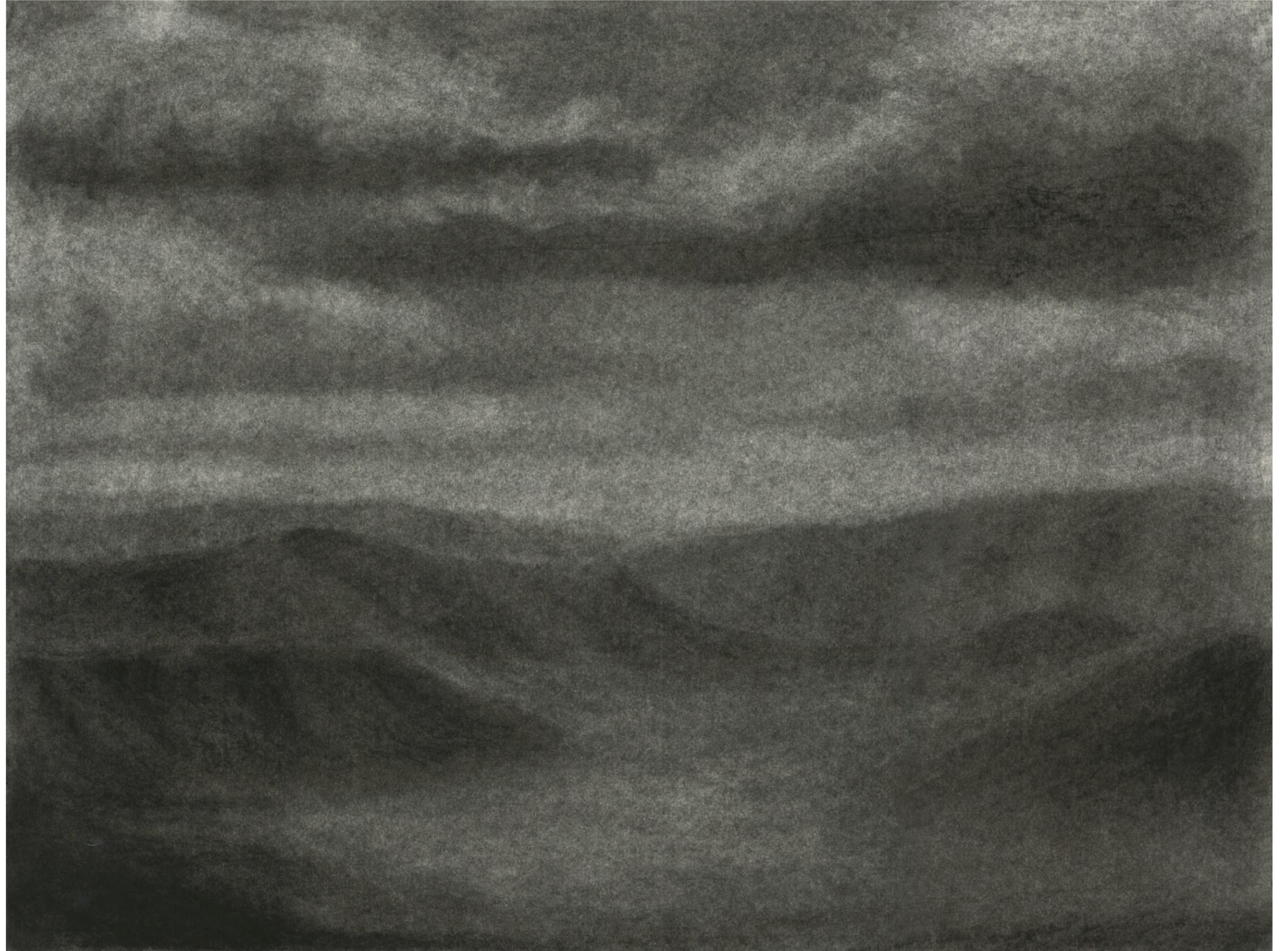
Inspiration for a sloping site came from a patio connected to a 19th century Ottoman stone house in Shemlan, Lebanon. The ebb and flow of the stair pauses to provide inhabitable spaces at ascending levels.





Concept Drawings

Charcoal drawing, valley and sky



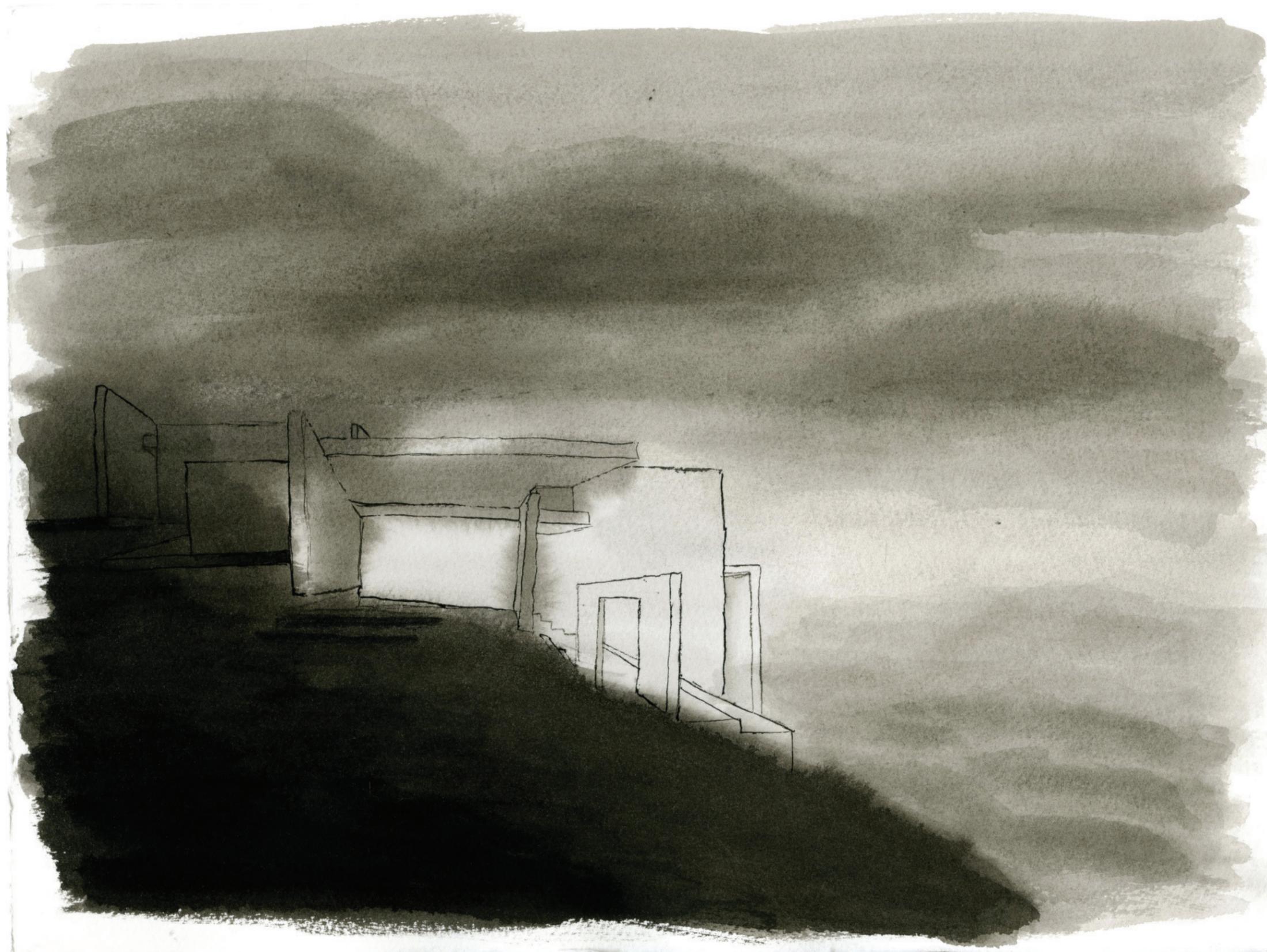
Watercolor, umbrella pines with mountains in background



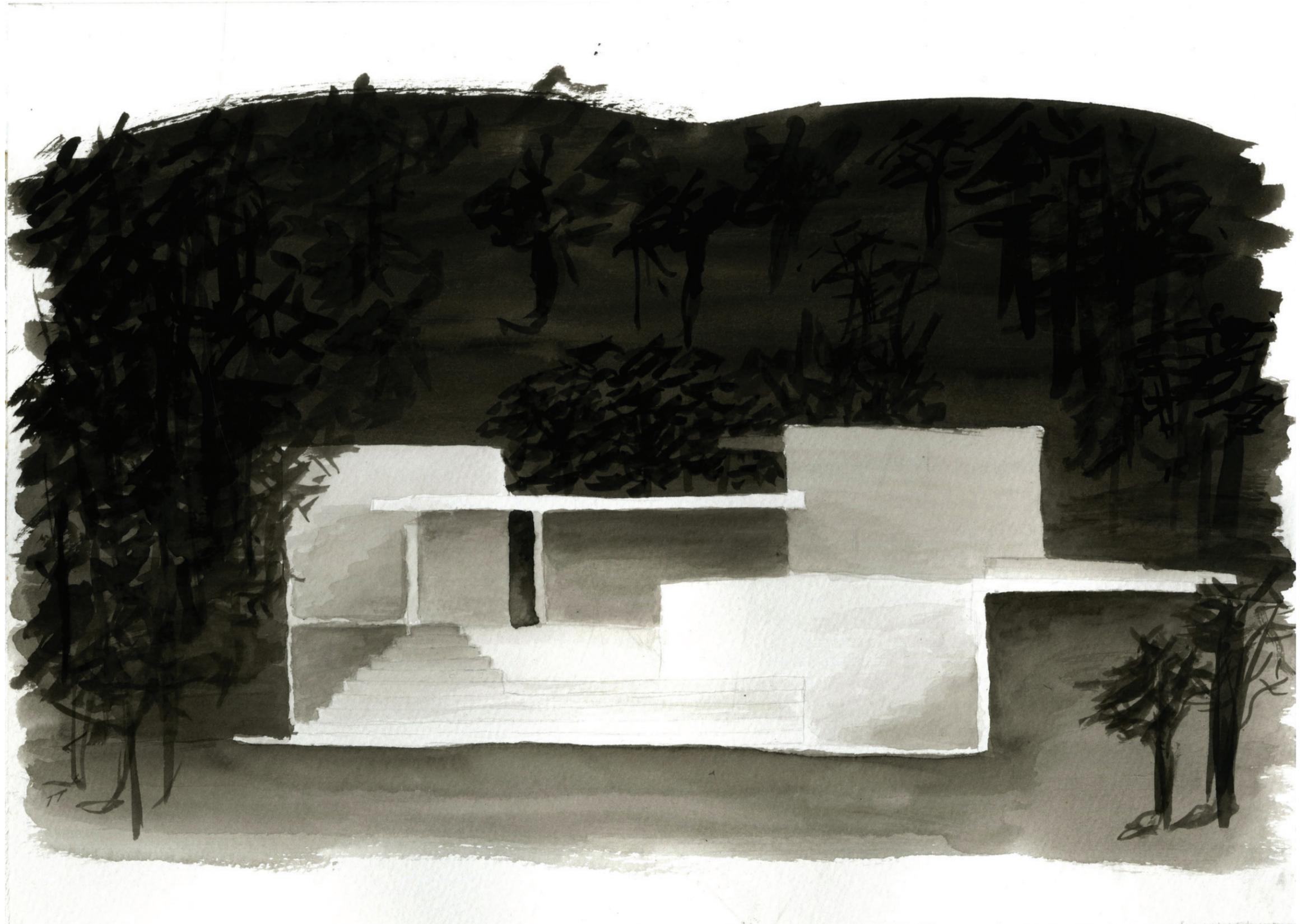
Watercolor, building with view



Watercolor, building on slope overlooking sea



Watercolor, building on slope amidst trees



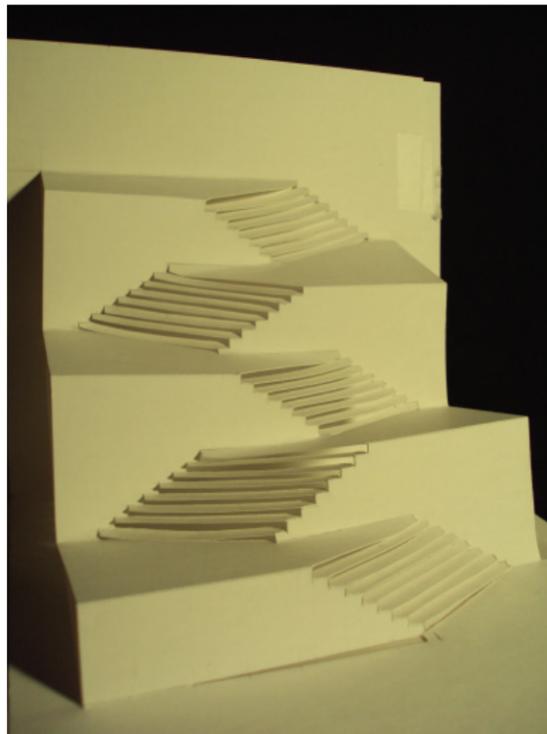
Chalk on dark paper, moonlit building overlooking sea

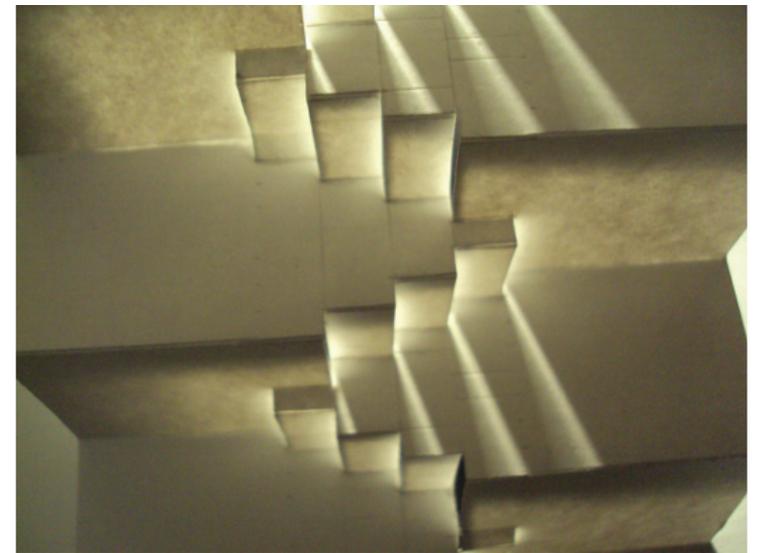
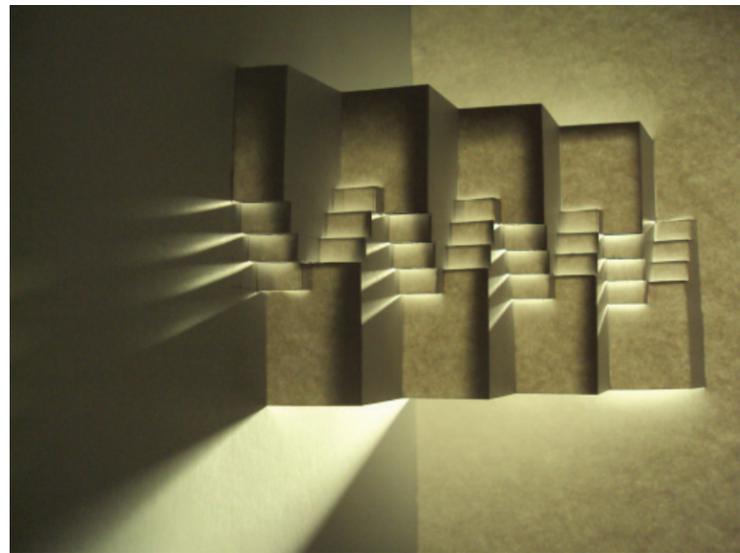


Charcoal drawing, preliminary section

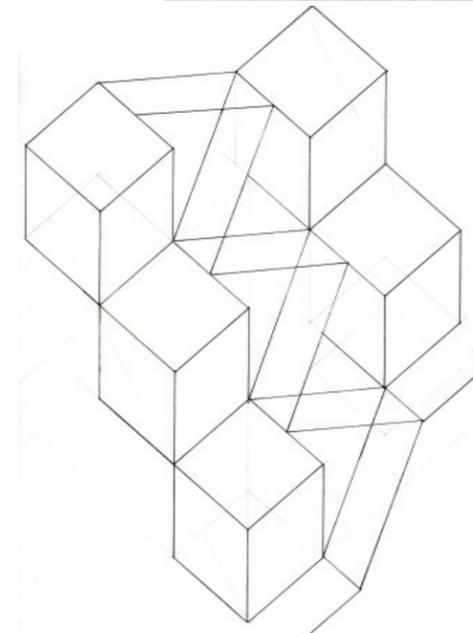
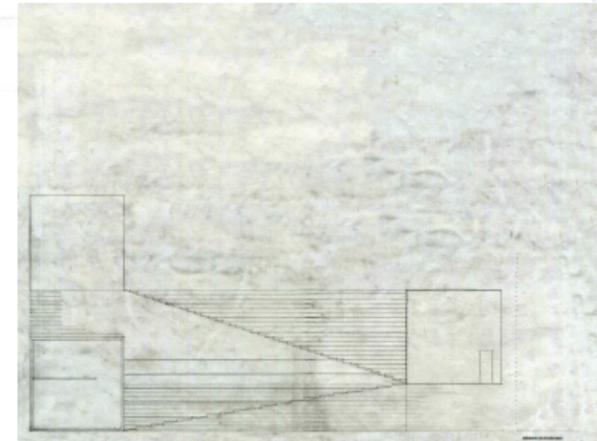
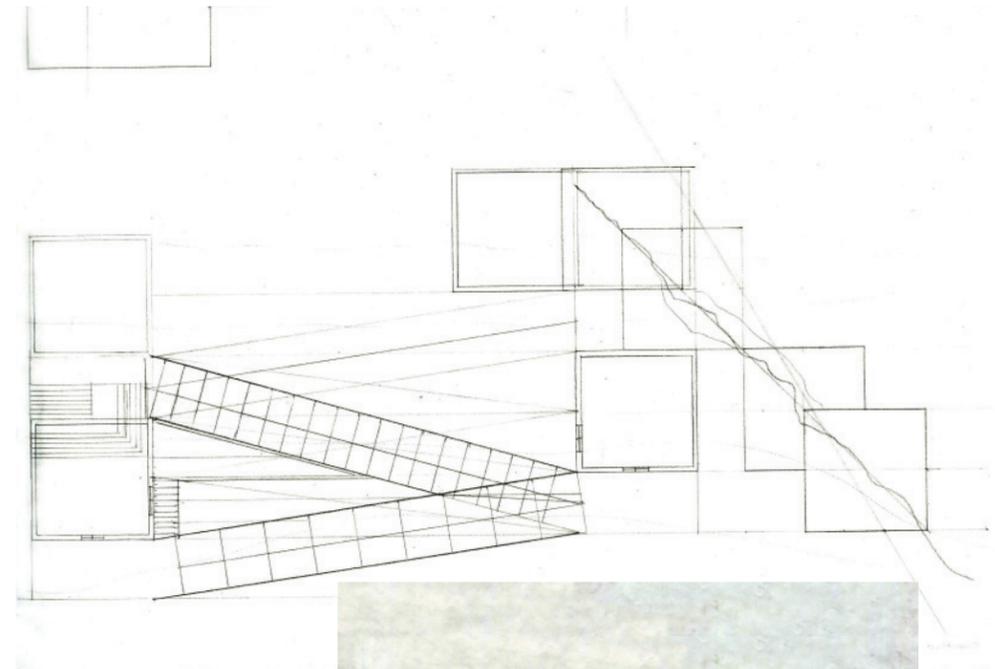
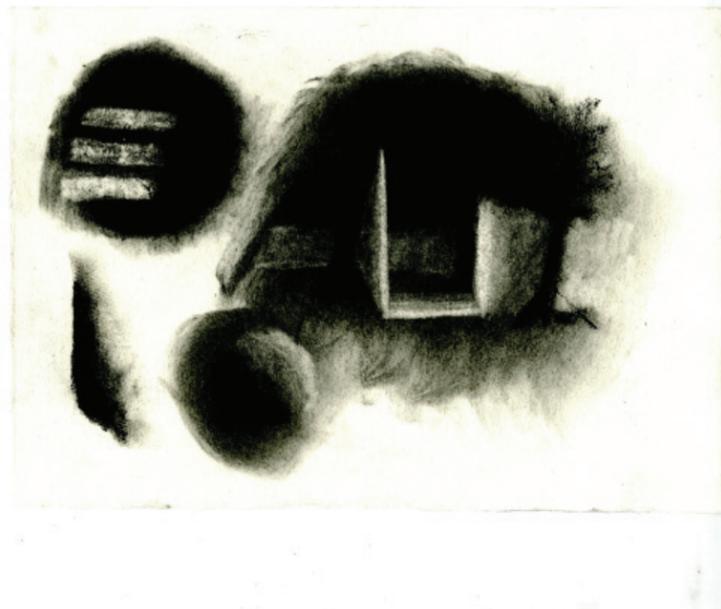


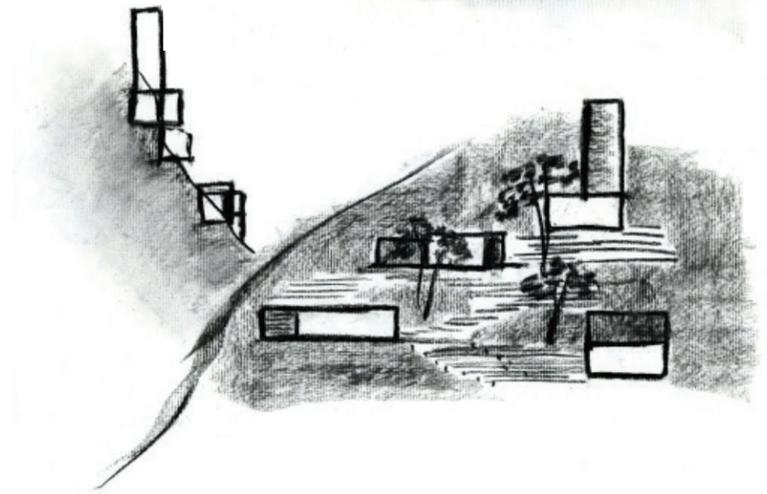
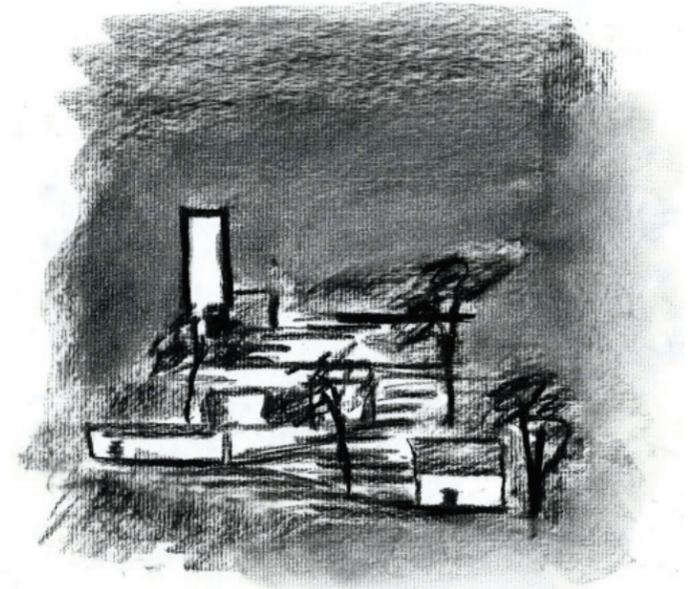
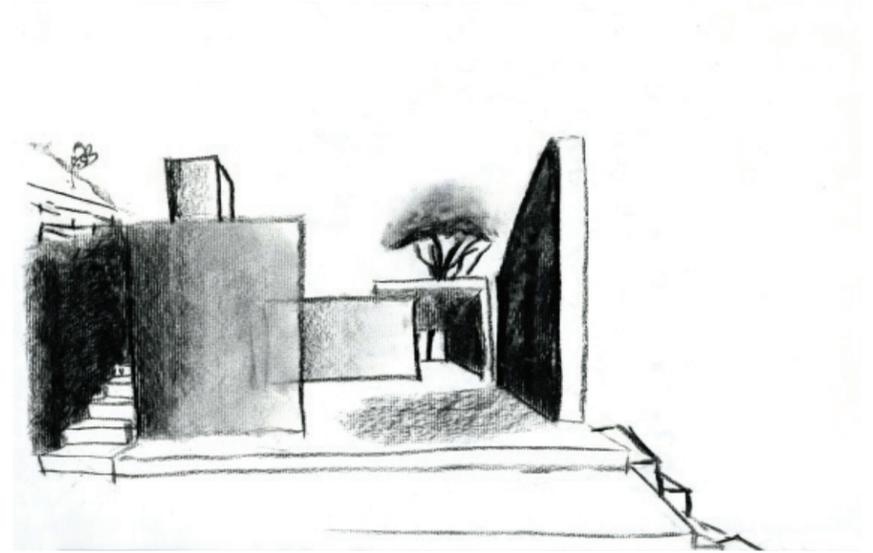
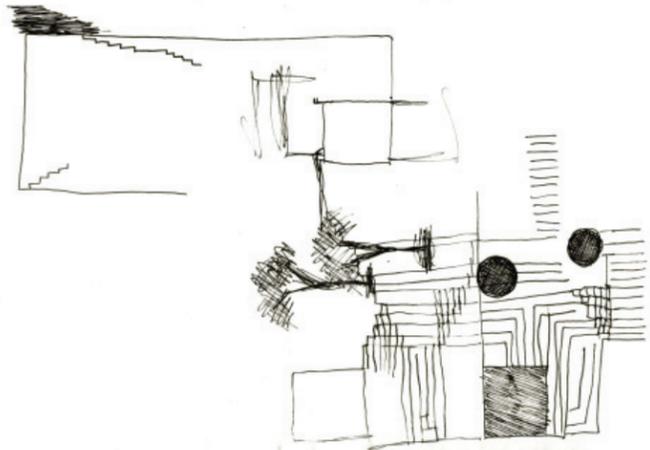
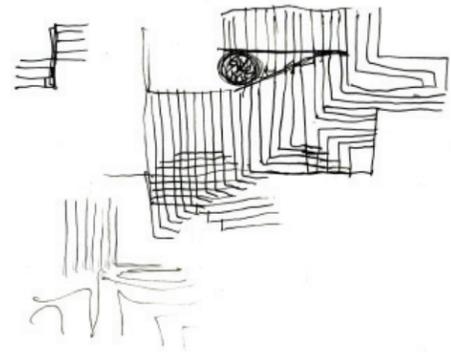
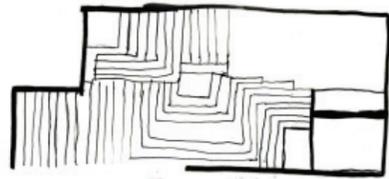
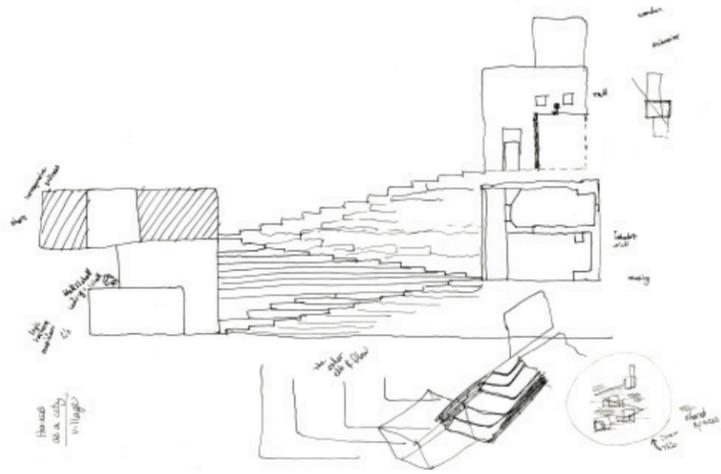
Bristol models demonstrate stairs ascending a 1:1 slope

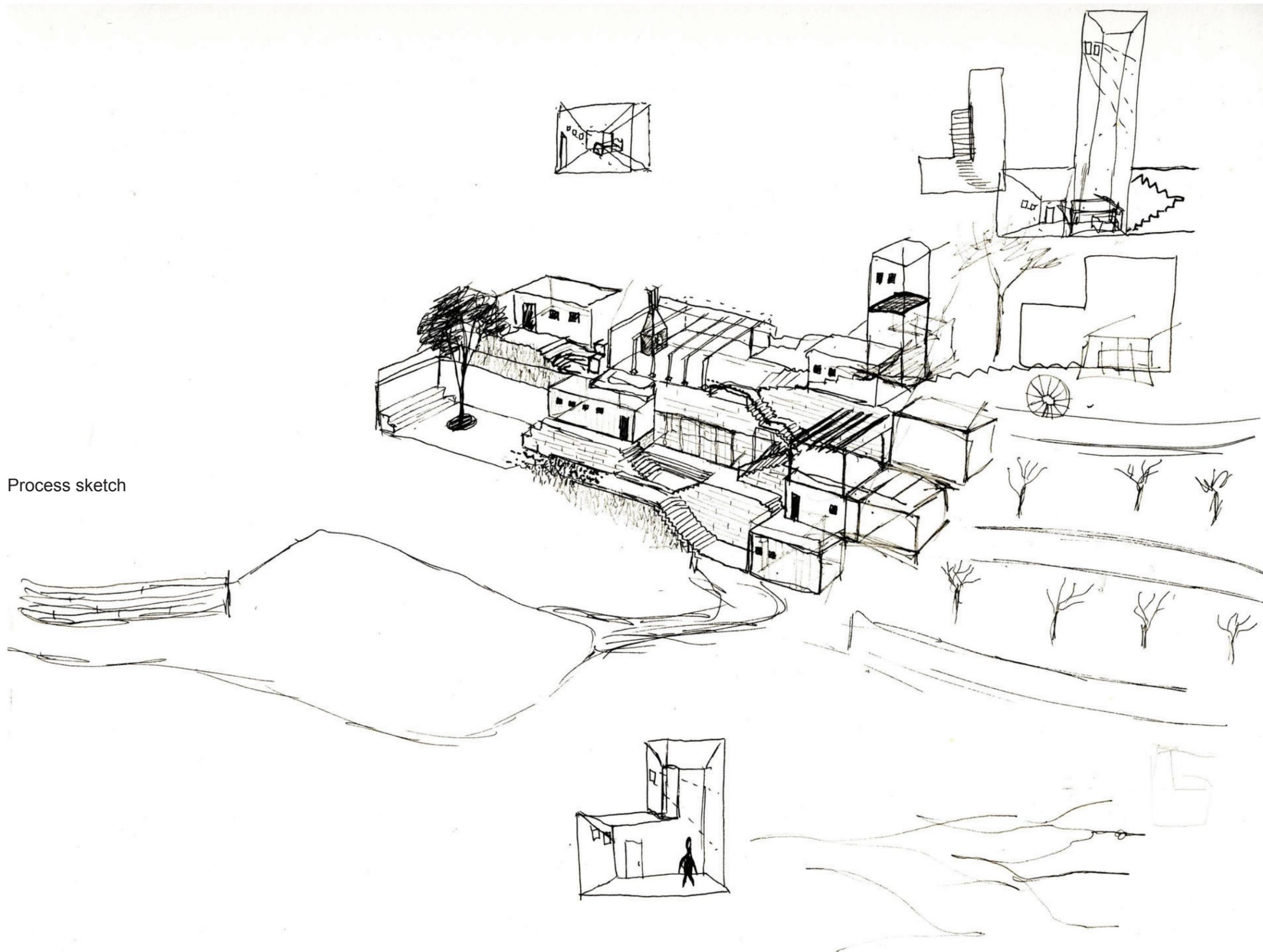




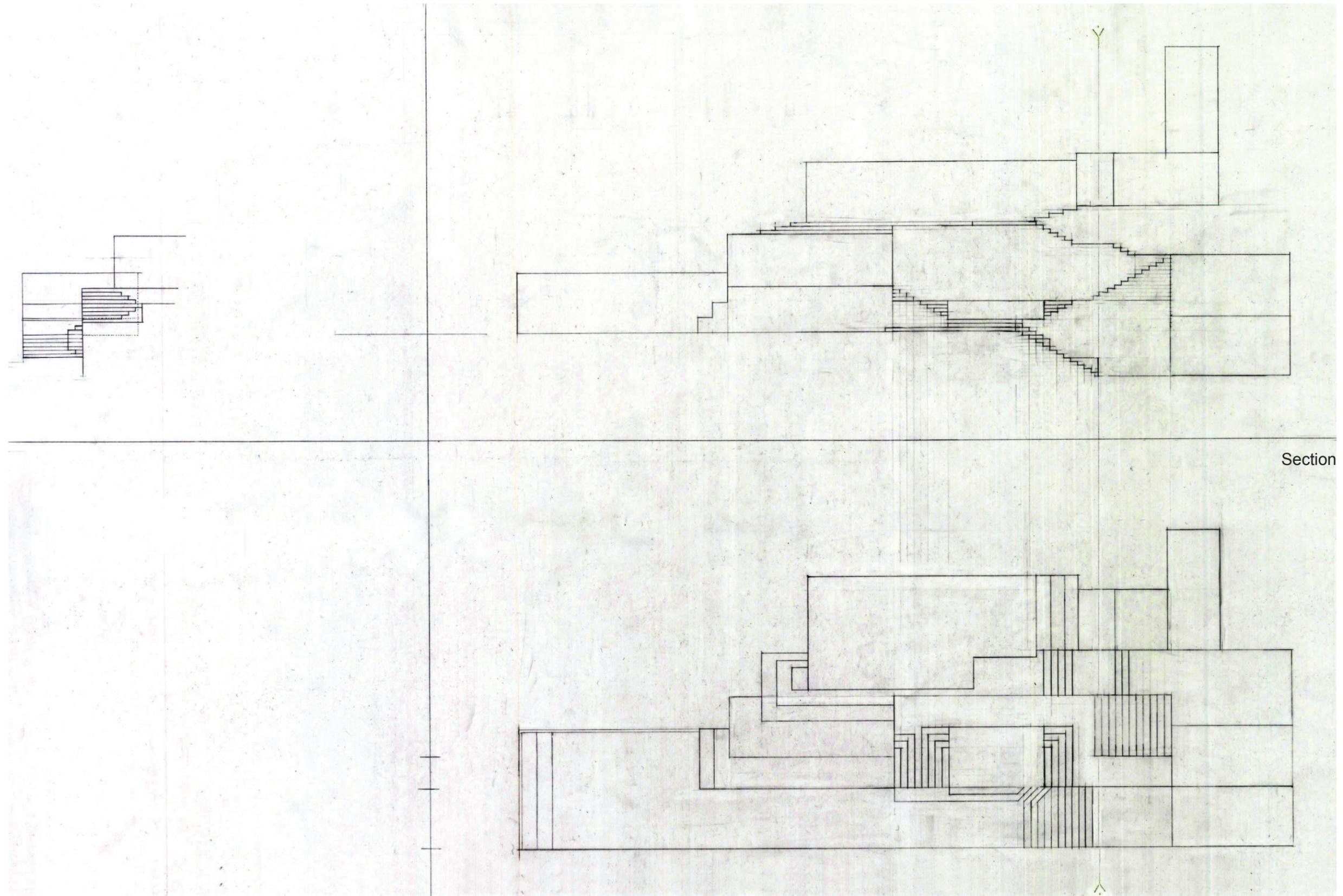
Development



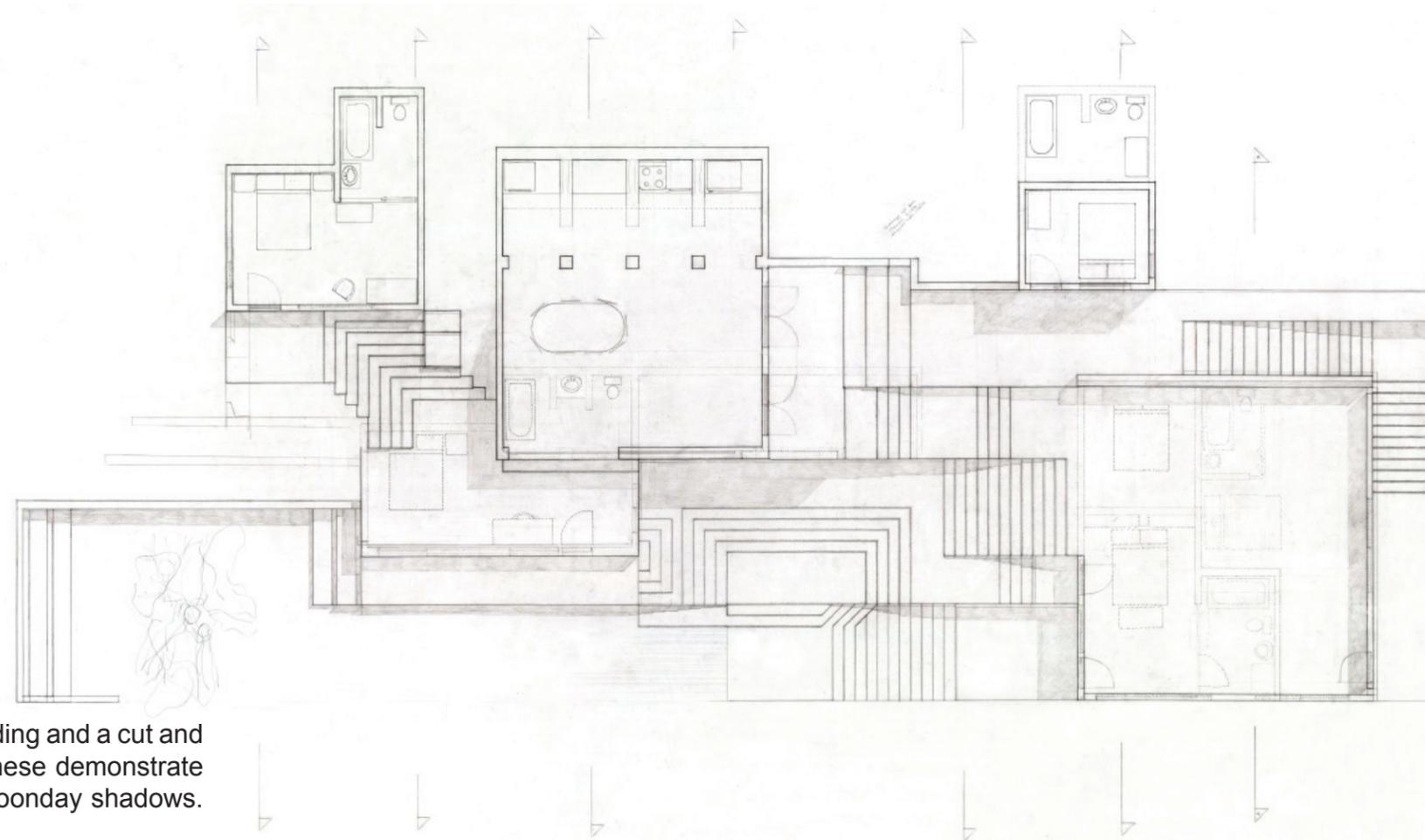




Process sketch

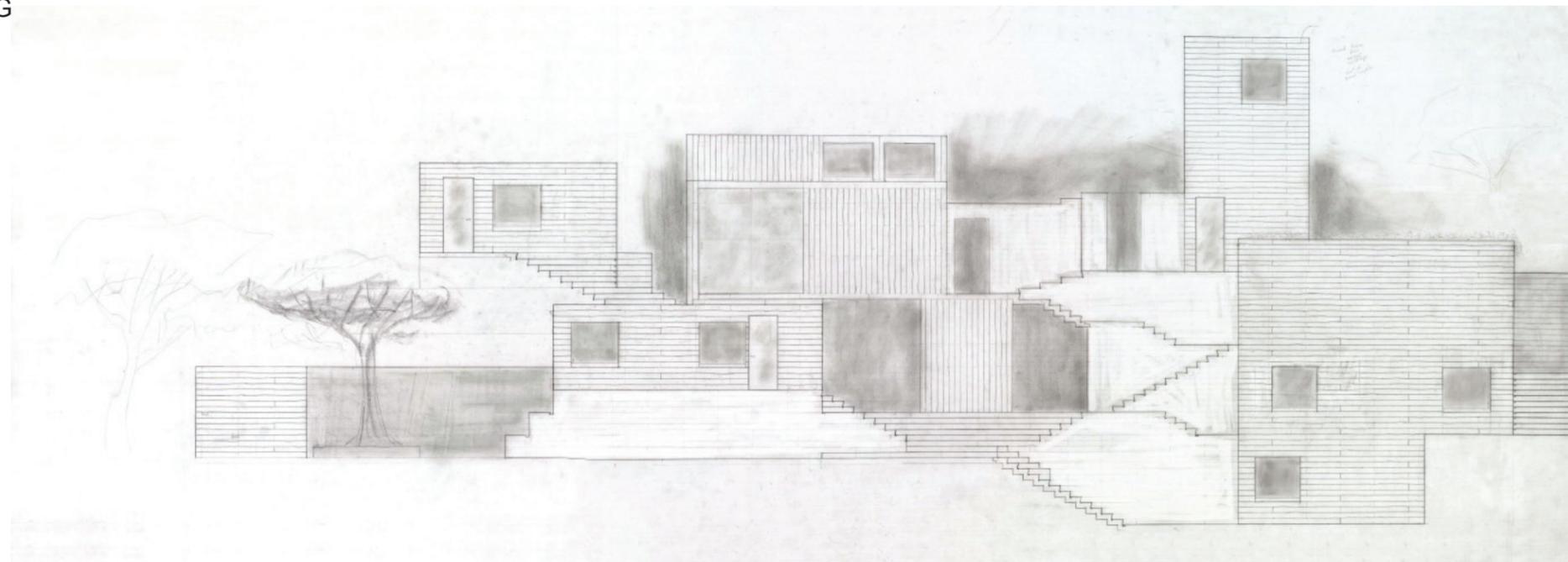


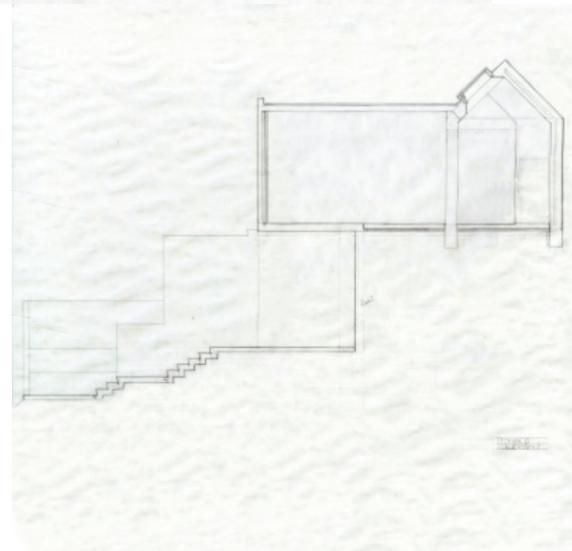
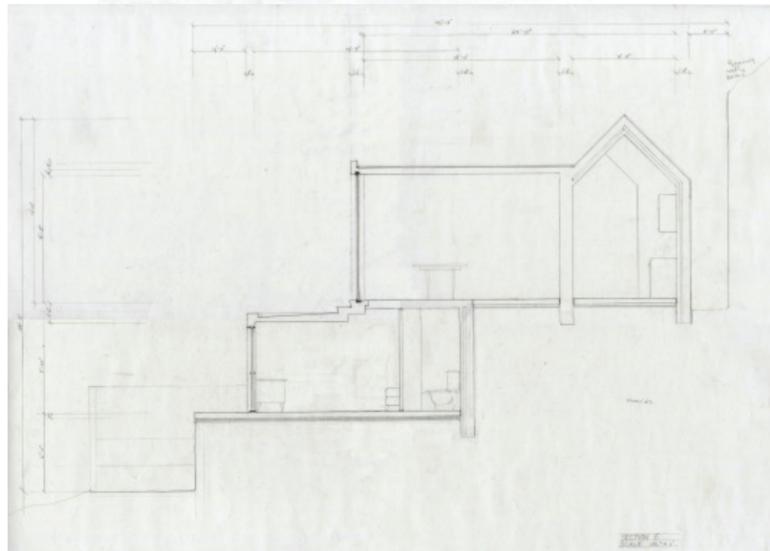
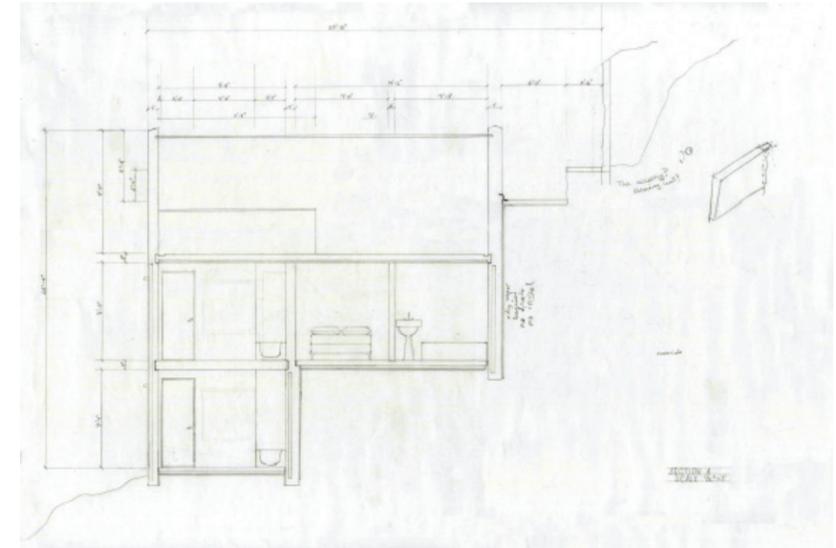
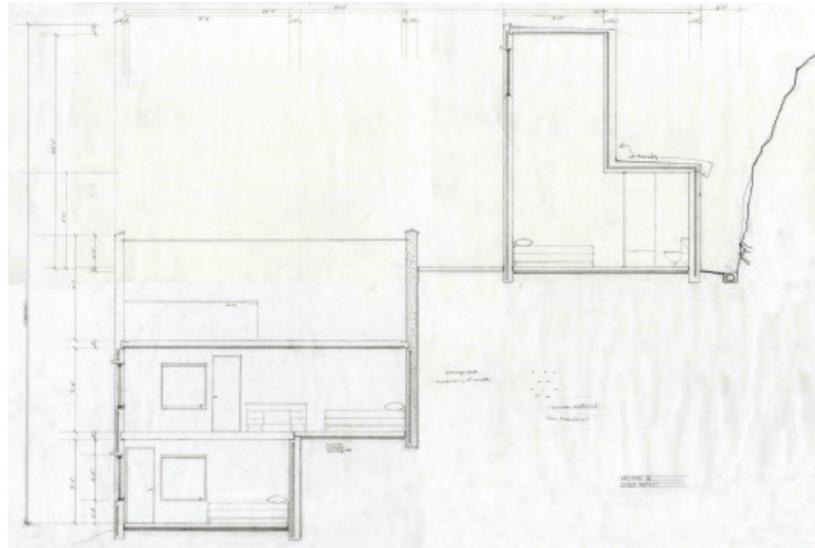
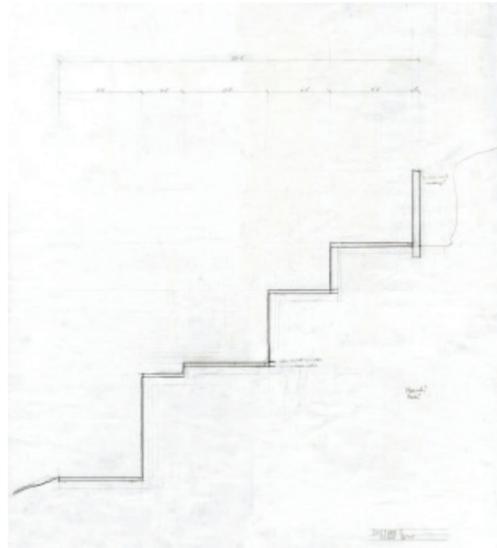
Section



The first iteration of drawings are of a concrete building and a cut and fill method where the building meets the slope. These demonstrate how the board-formed concrete looks and show noonday shadows.

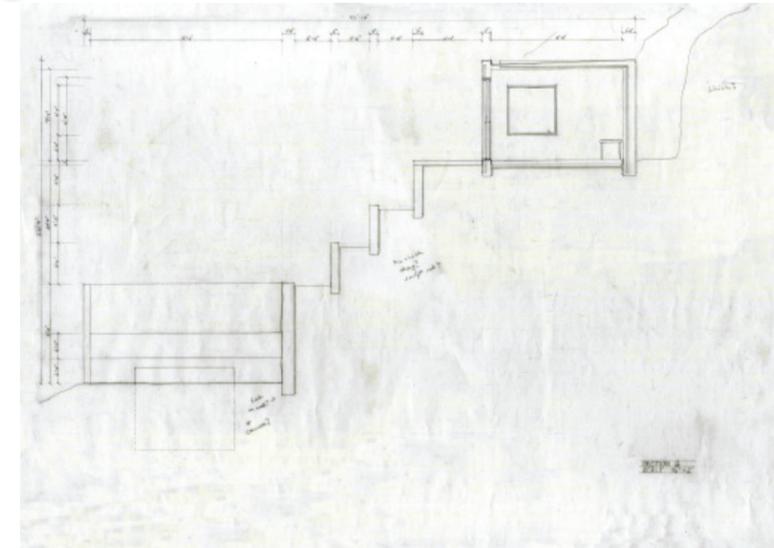
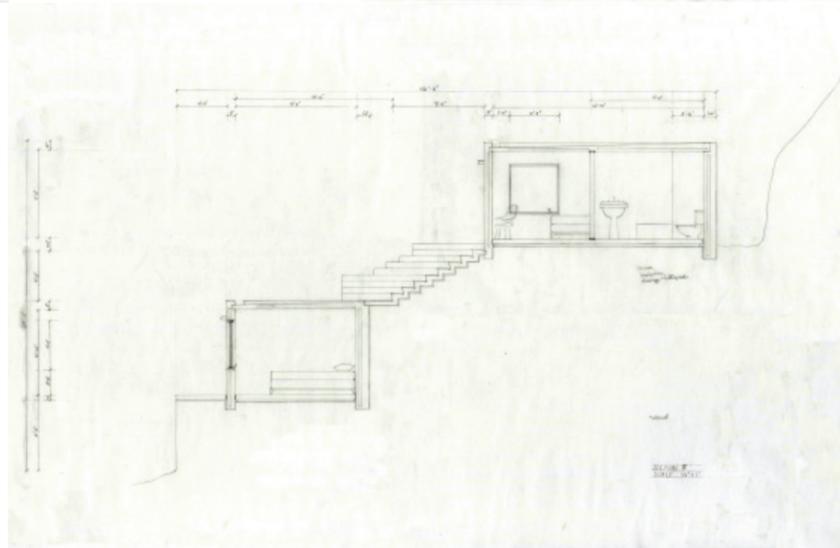
Sections are cut from right, A to G





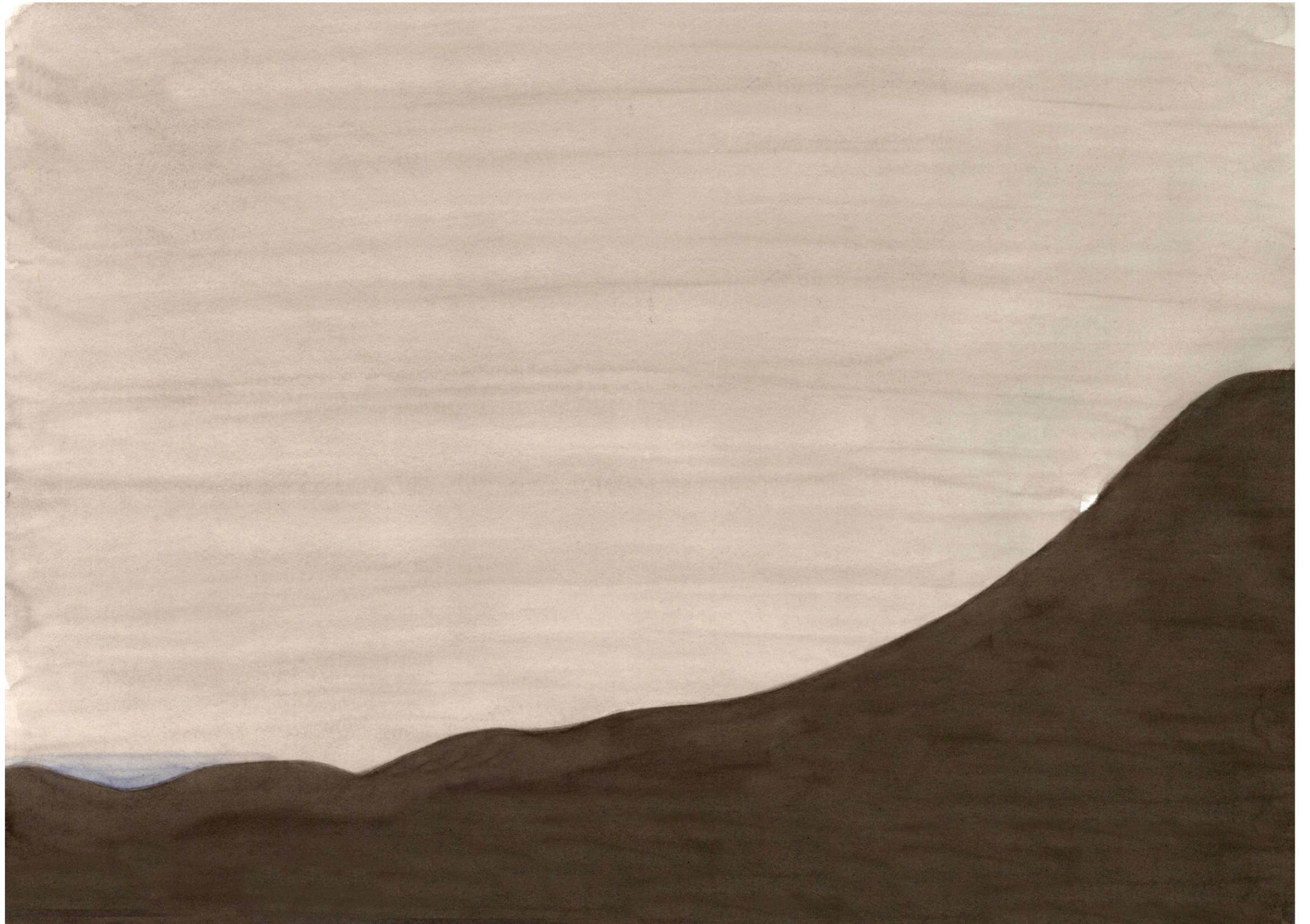
First iteration sections demonstrate scale with bathroom and bedroom fixtures.

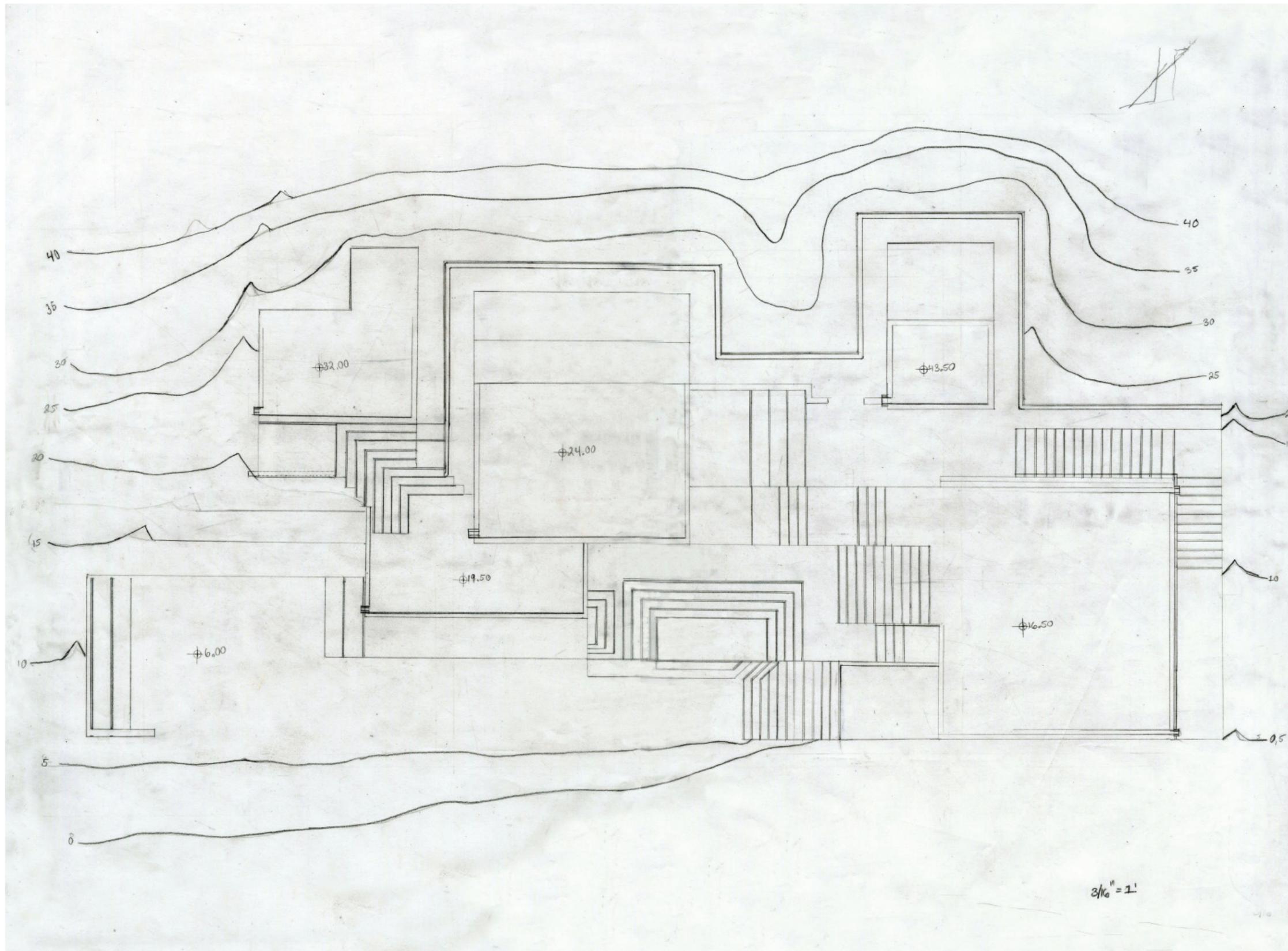
Counterclockwise from top right, Sections A, B, C, D, E, F, G

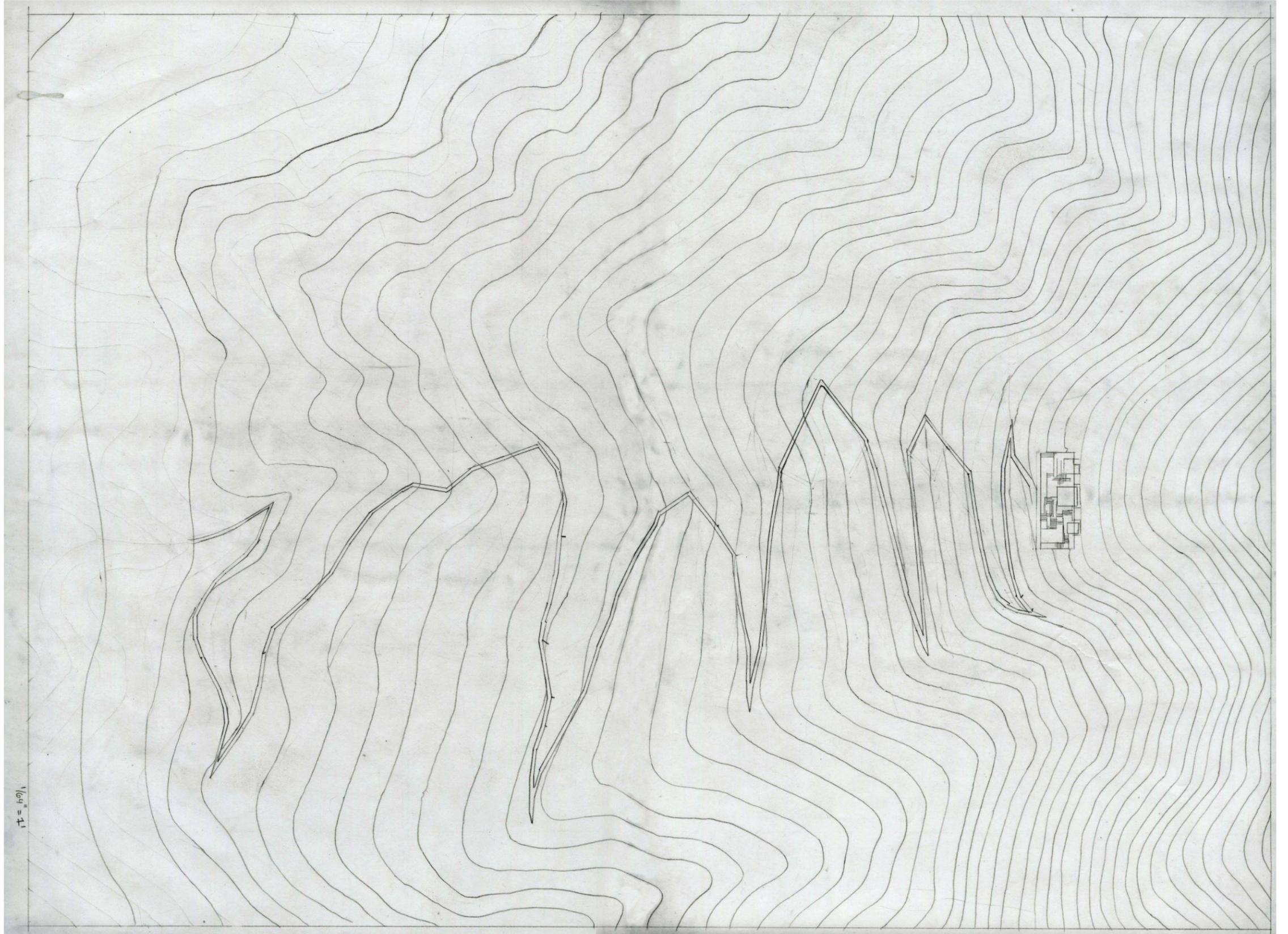


Siting

The building sits on the slope of a mountain ridge near Jounieh, Lebanon, facing West to the Mediterranean Sea. It is carved out of the monolithic bedrock with board formed pour-in-place reinforced concrete walls and ceilings which accommodate window and door fixtures.

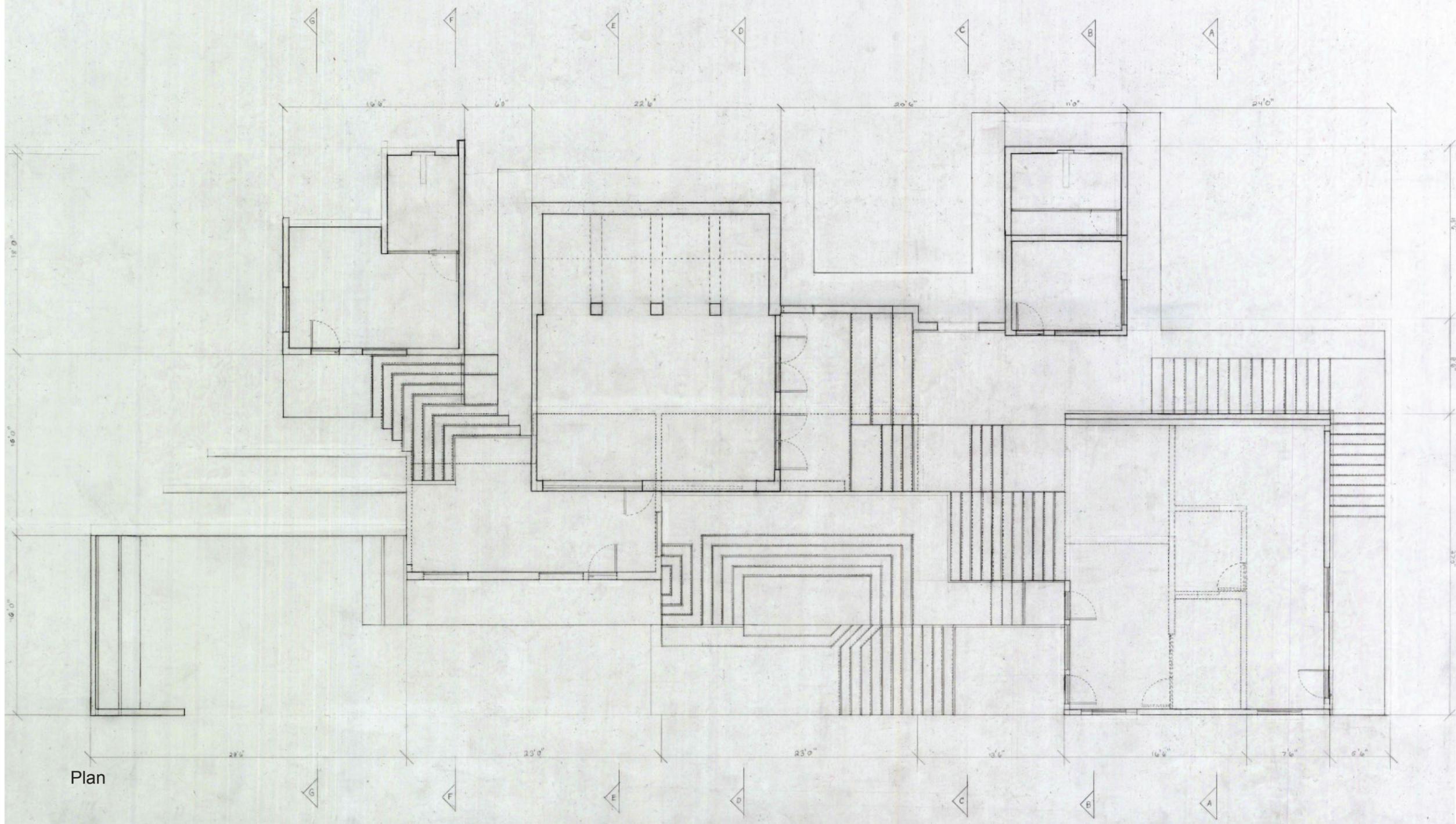


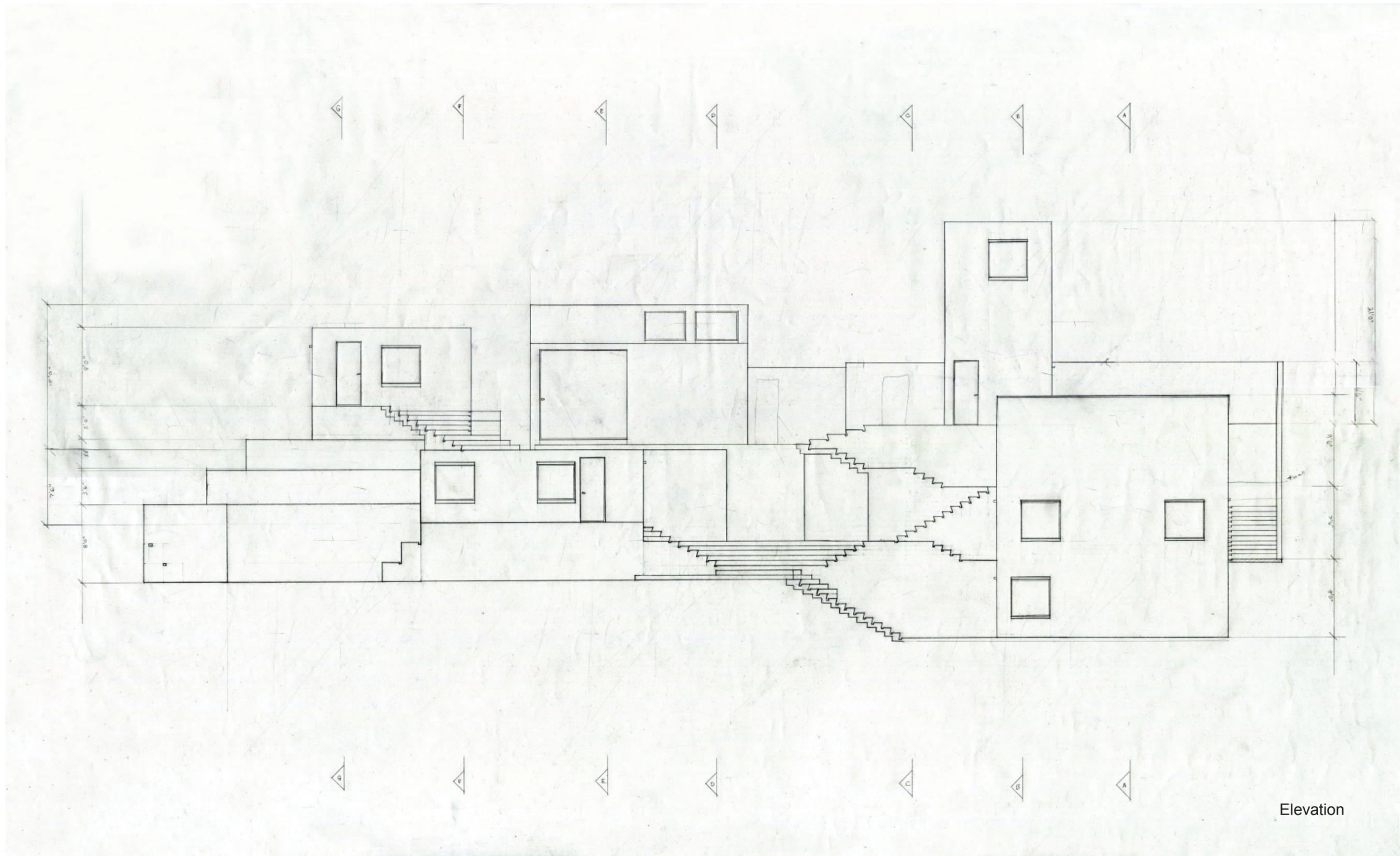




1:500

Building Design

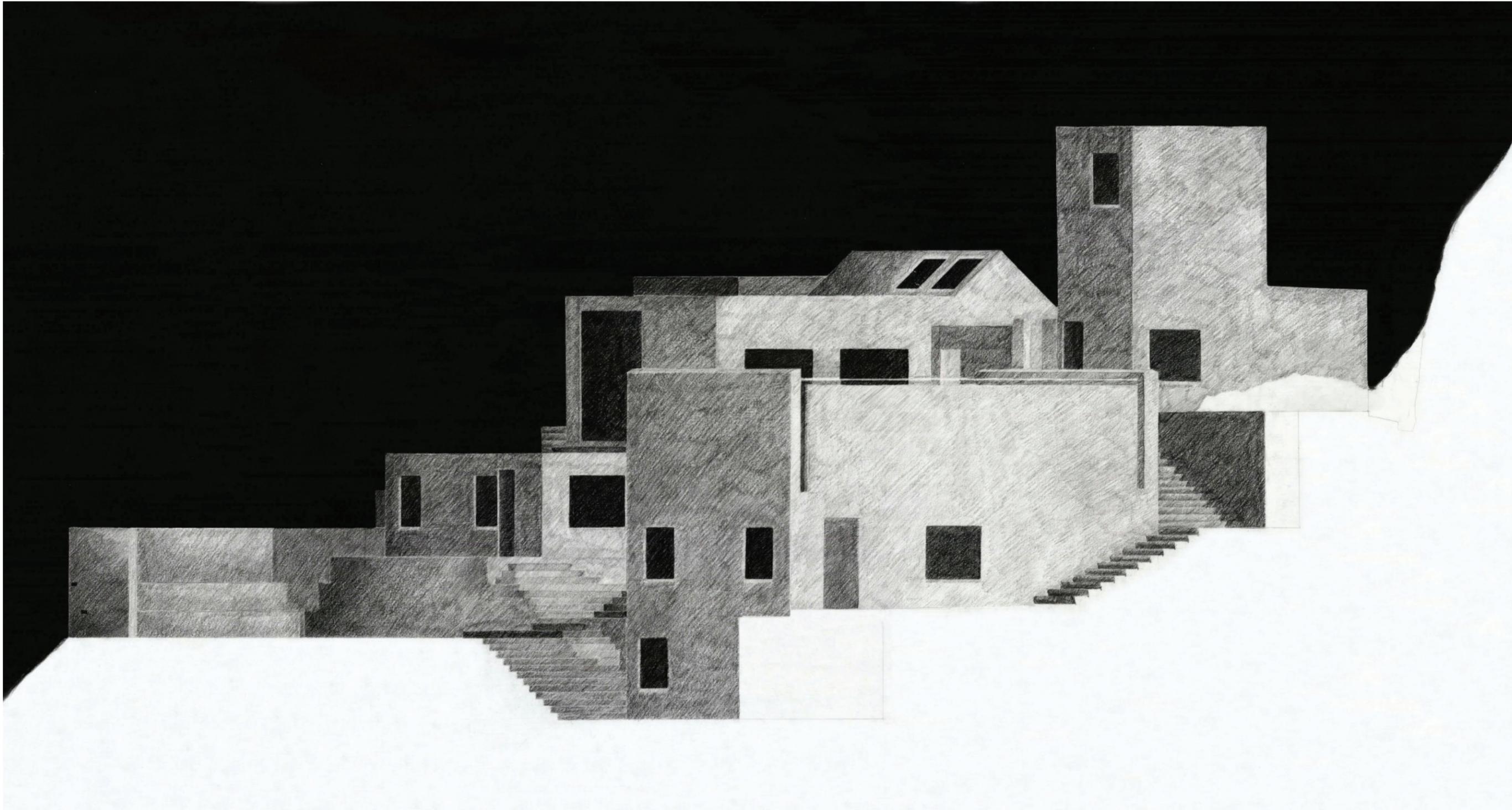


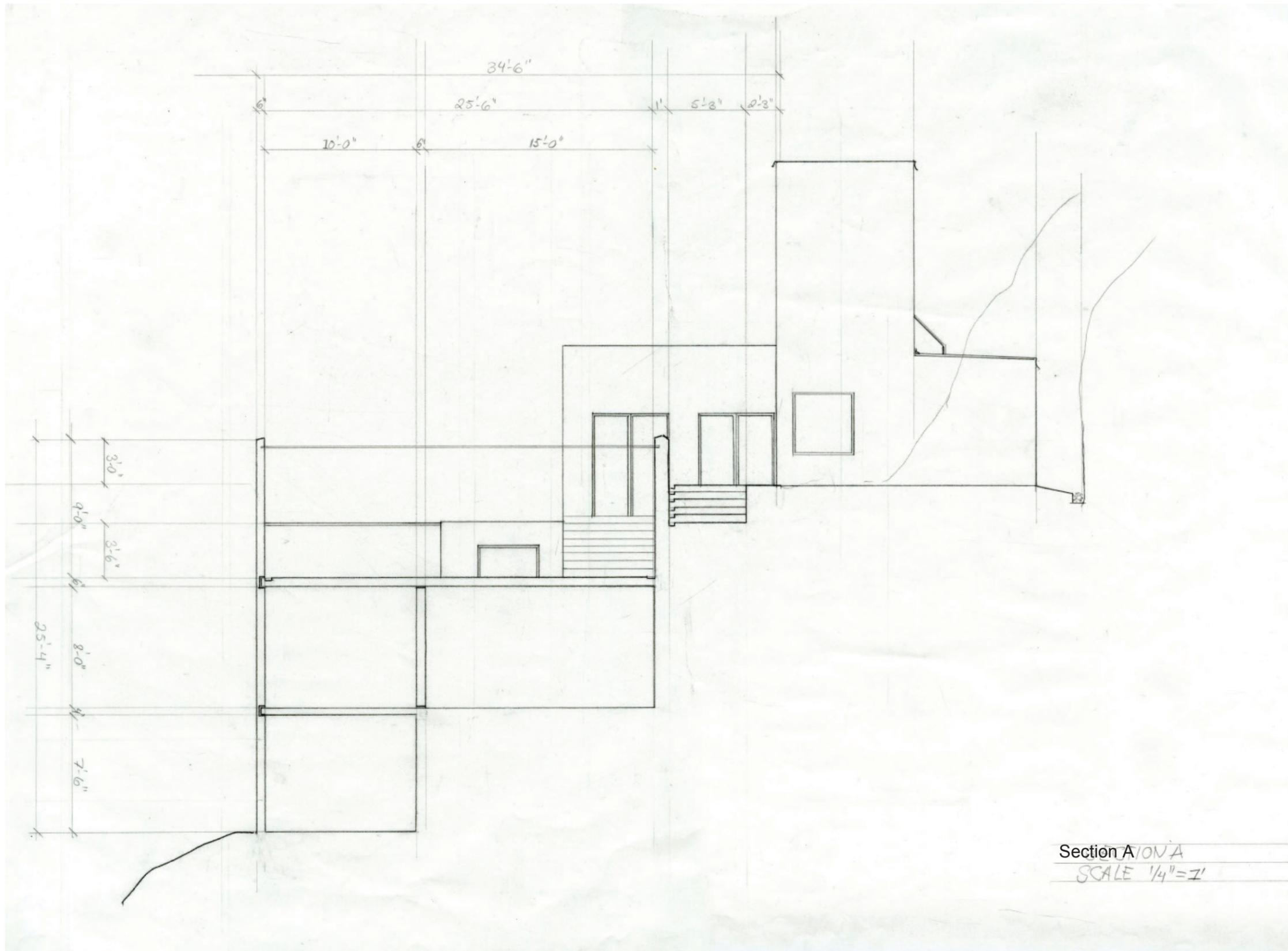


Elevation

Section Drawing Set

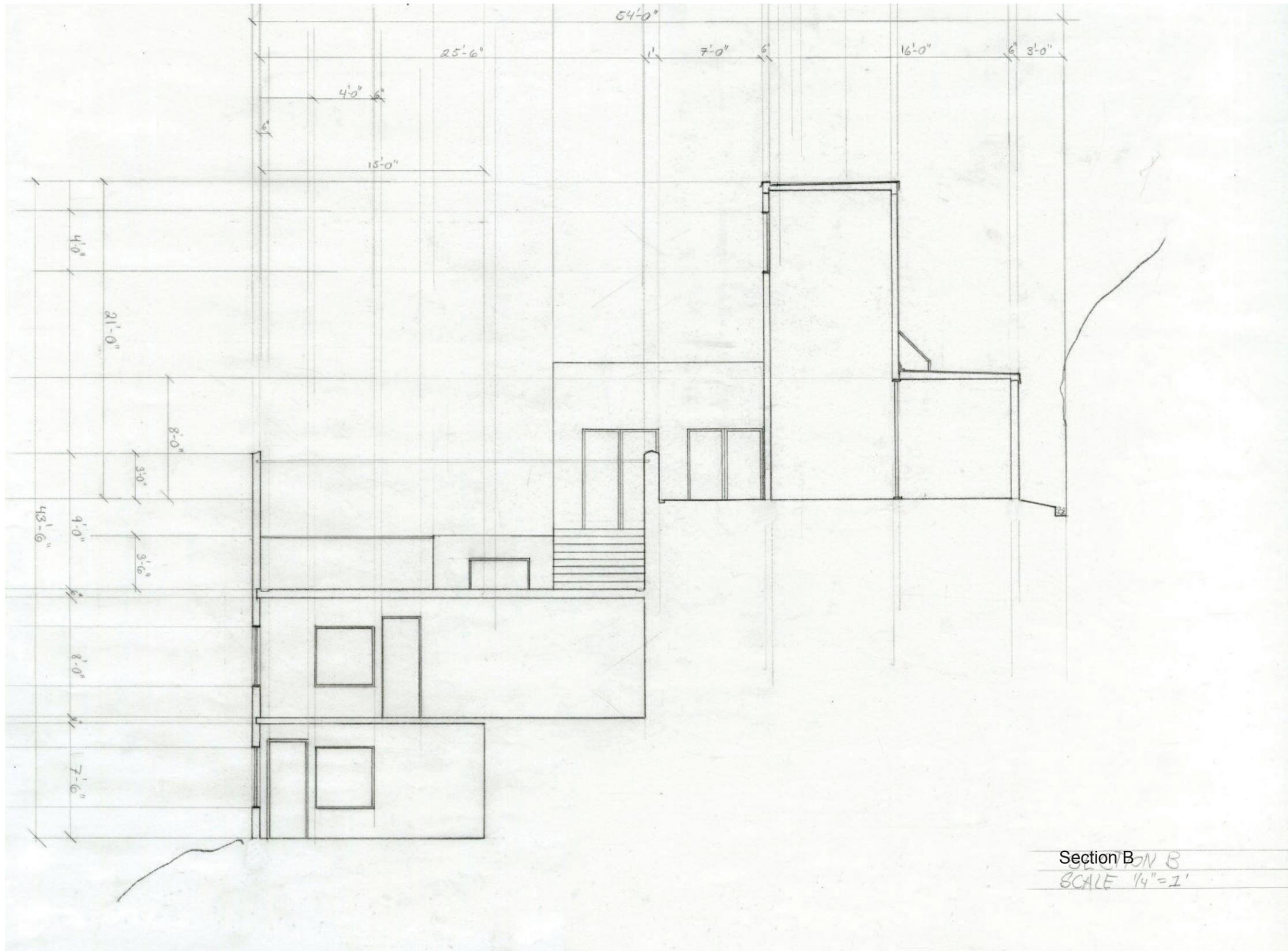
The following conté drawings are sections cut through the building. The sections are true in proportion while the projections are rotated 45 degrees from the viewing plane. Starting with a side elevation, each section is accompanied by a technical section showing dimensions and methods of constructing the spaces.

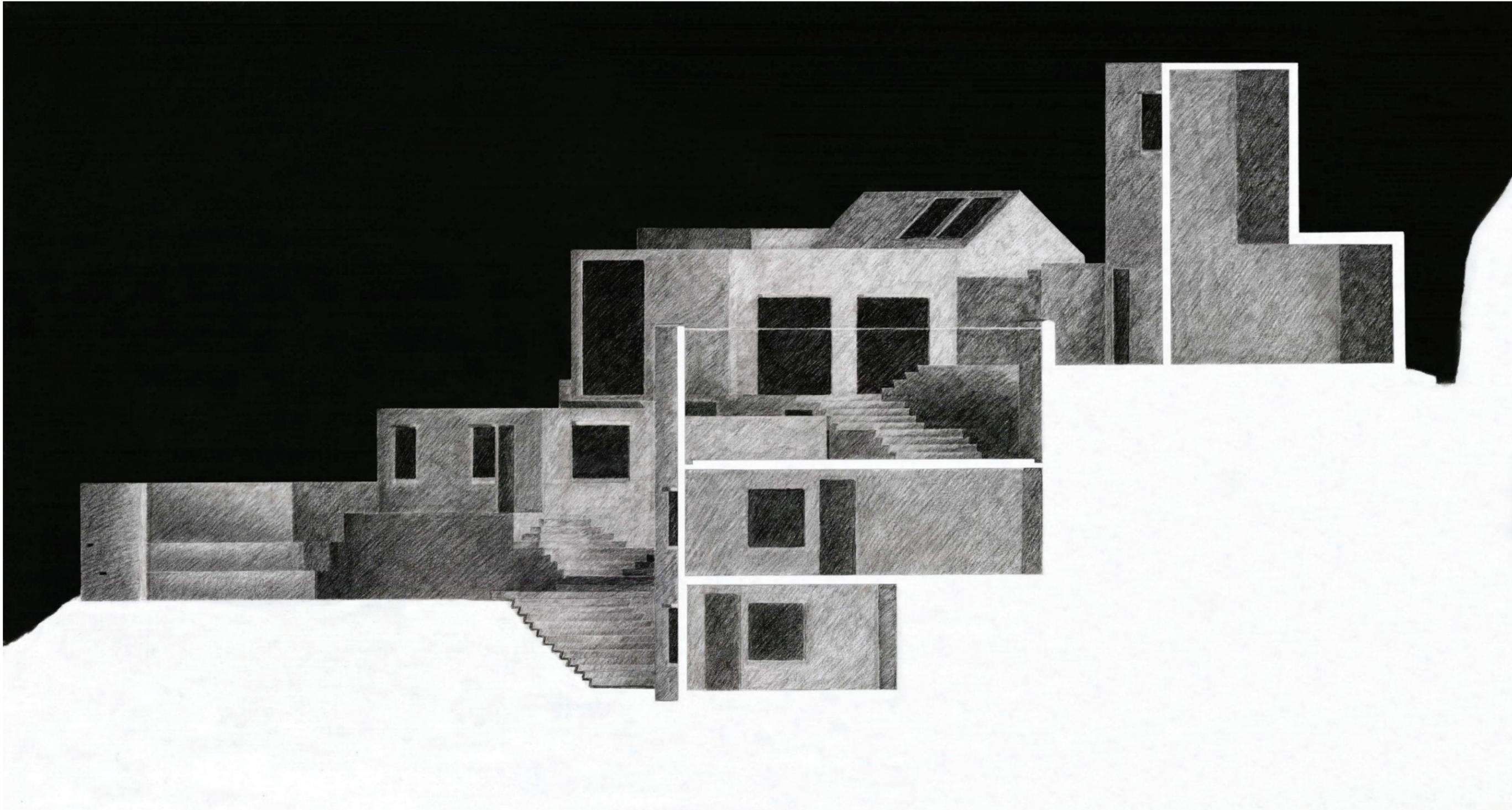


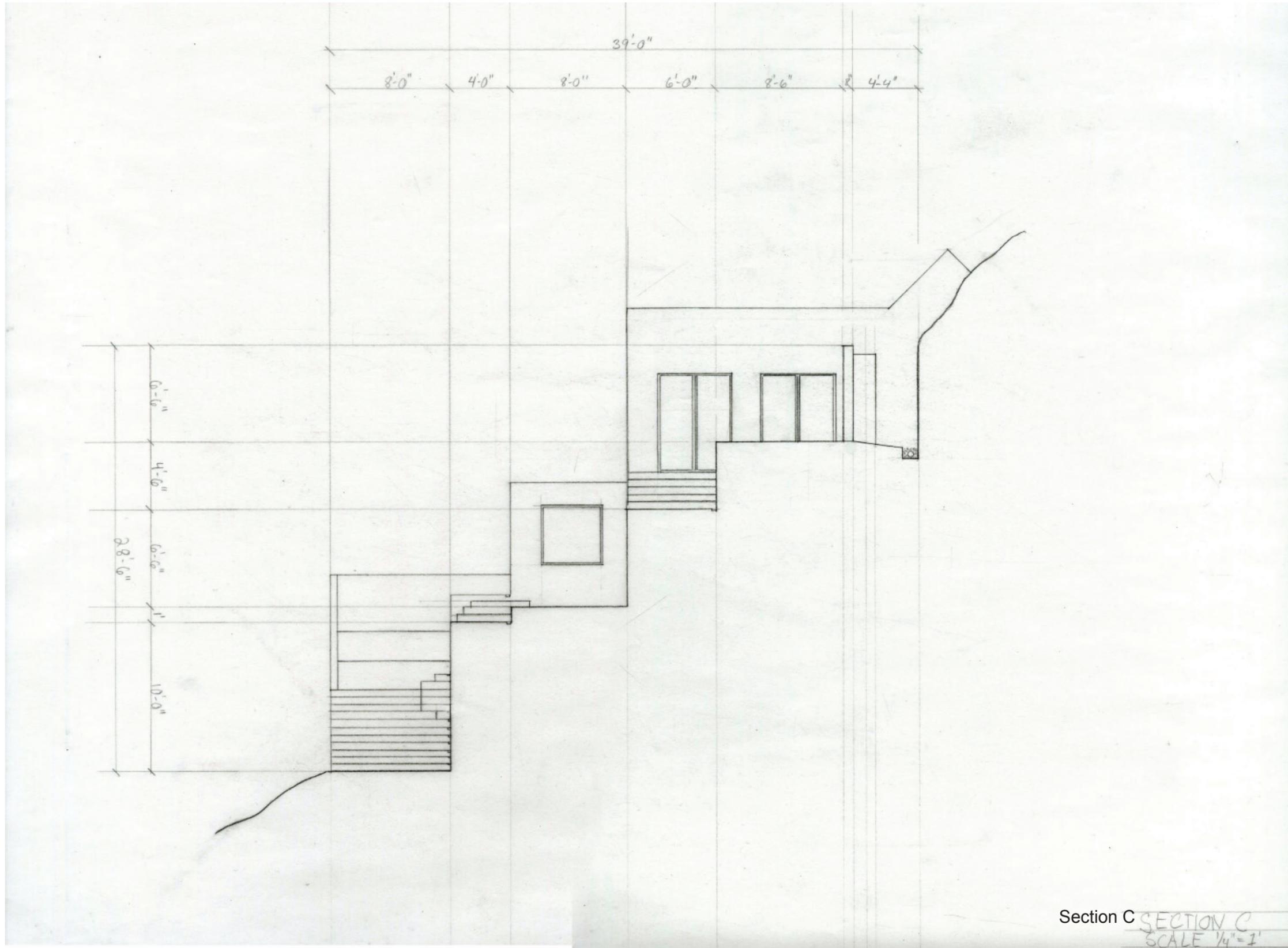


Section A10VA
 SCALE 1/4"=1'

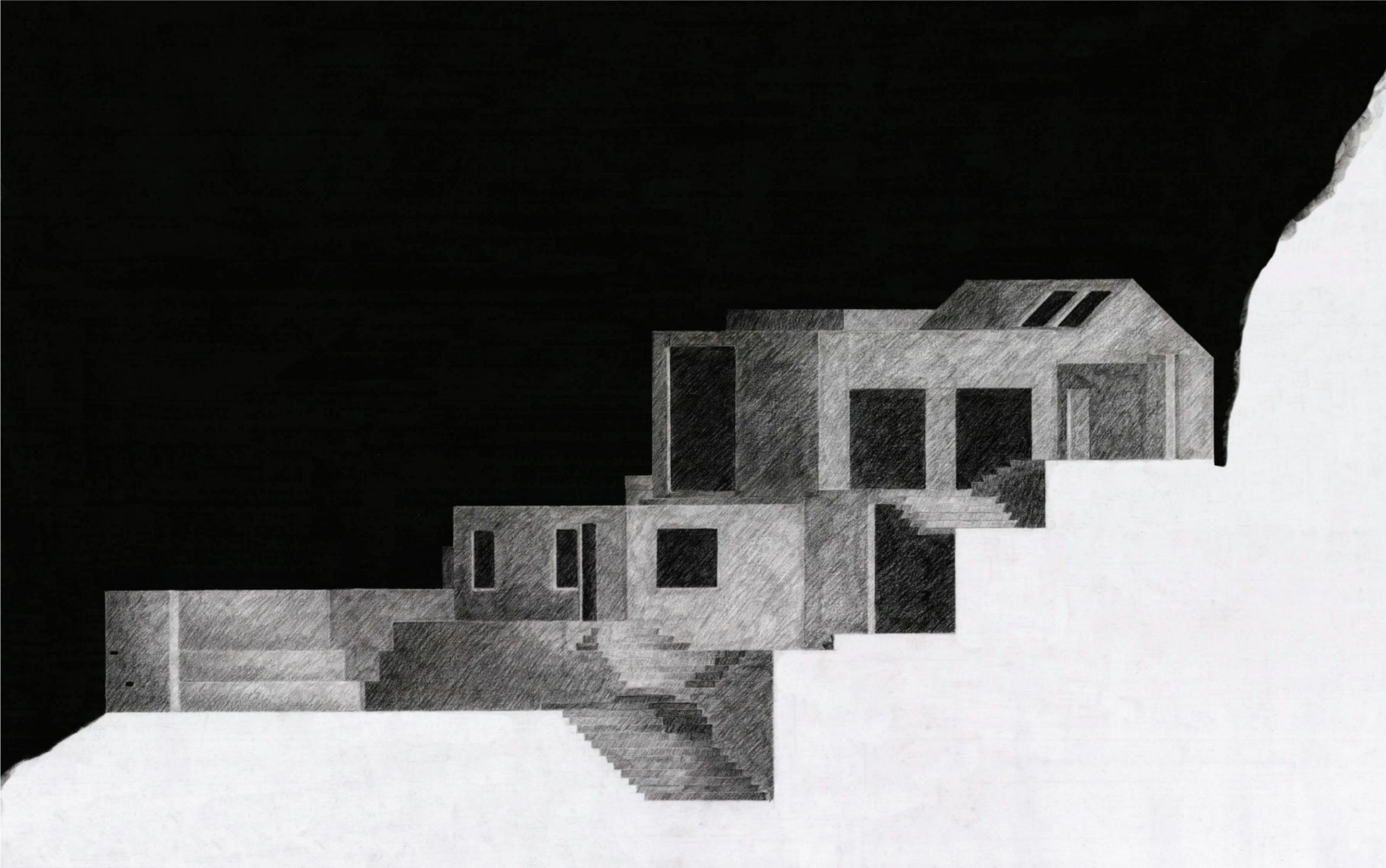


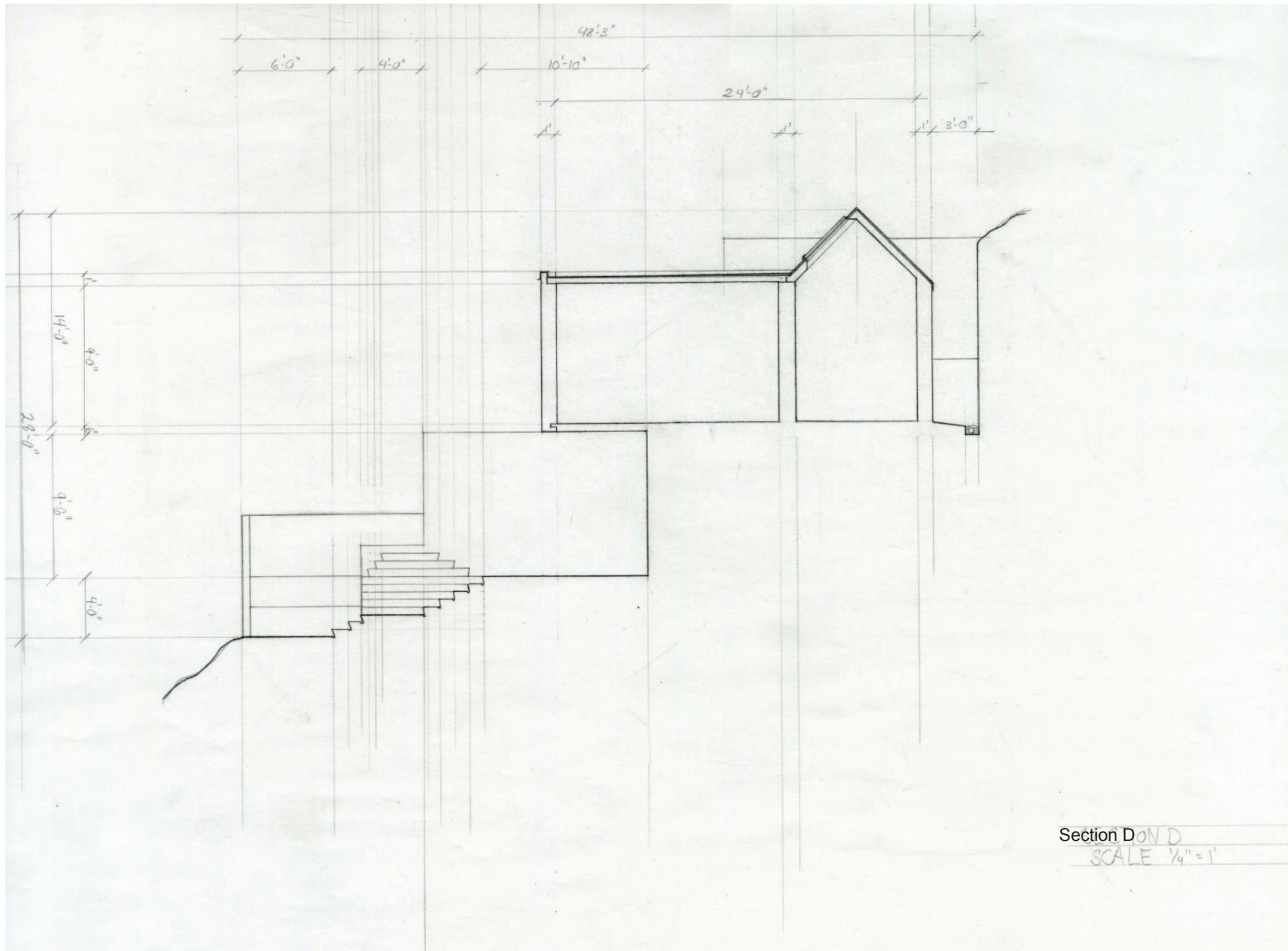


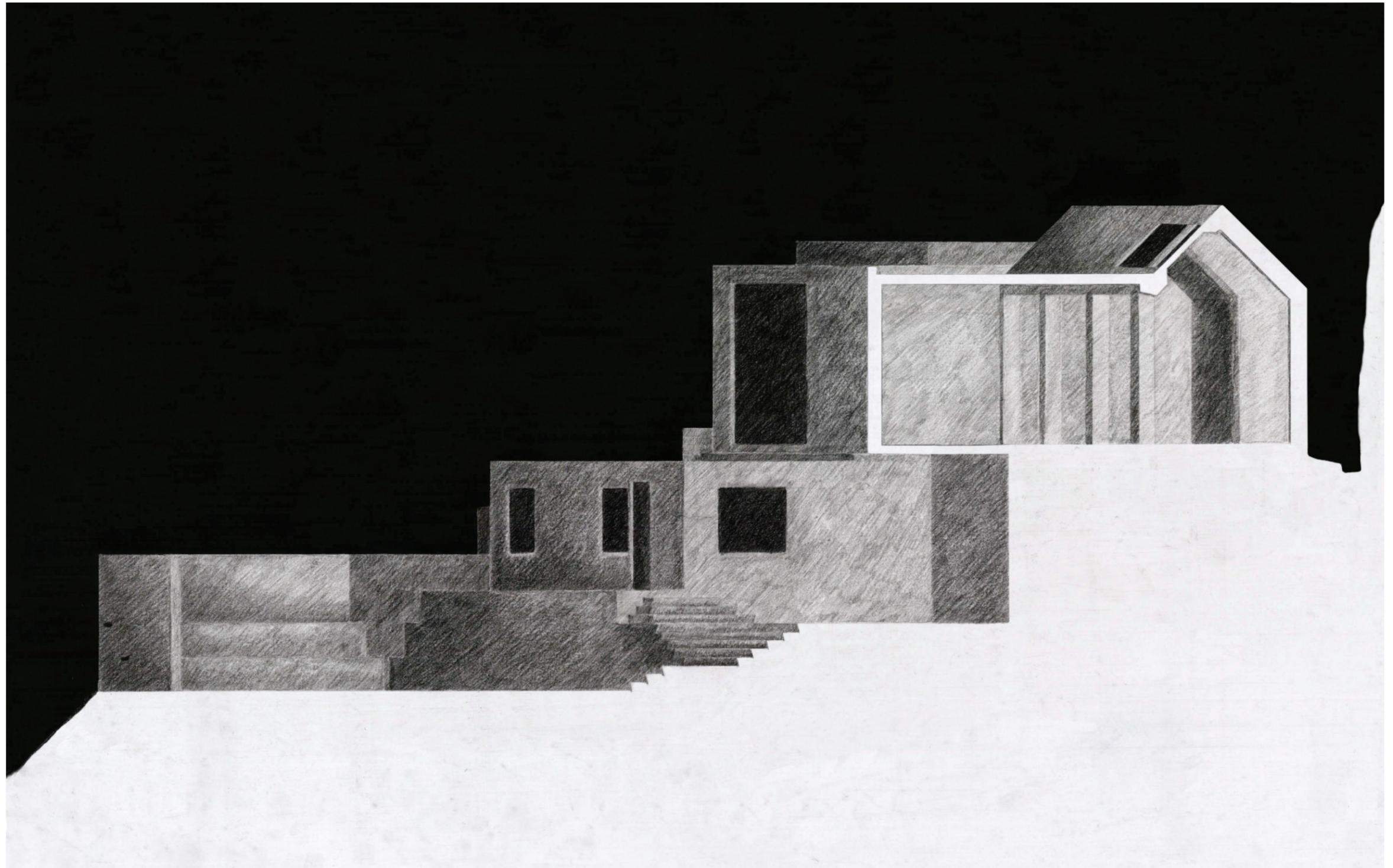


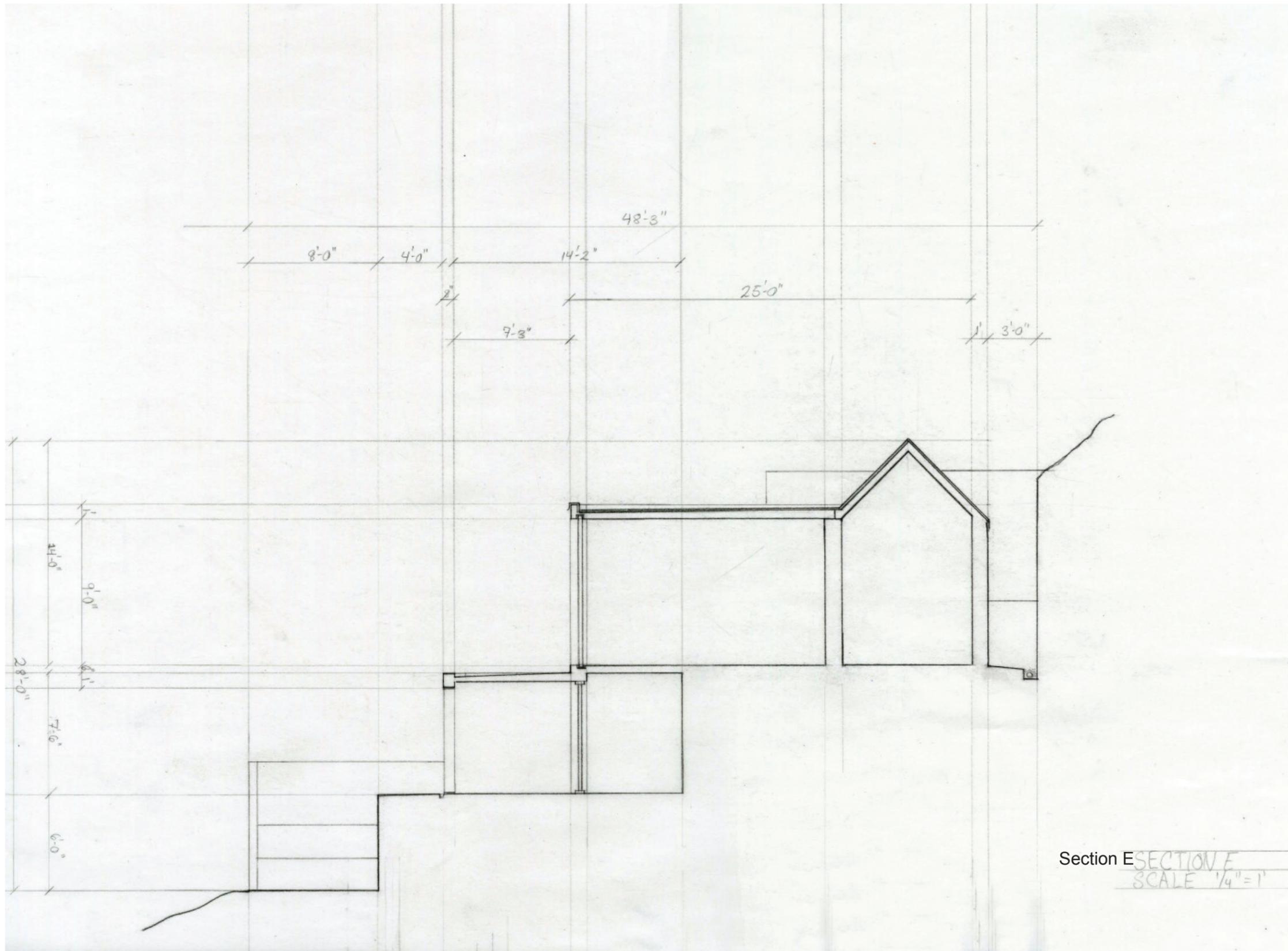


Section C SECTION C
SCALE 1/4"=1'

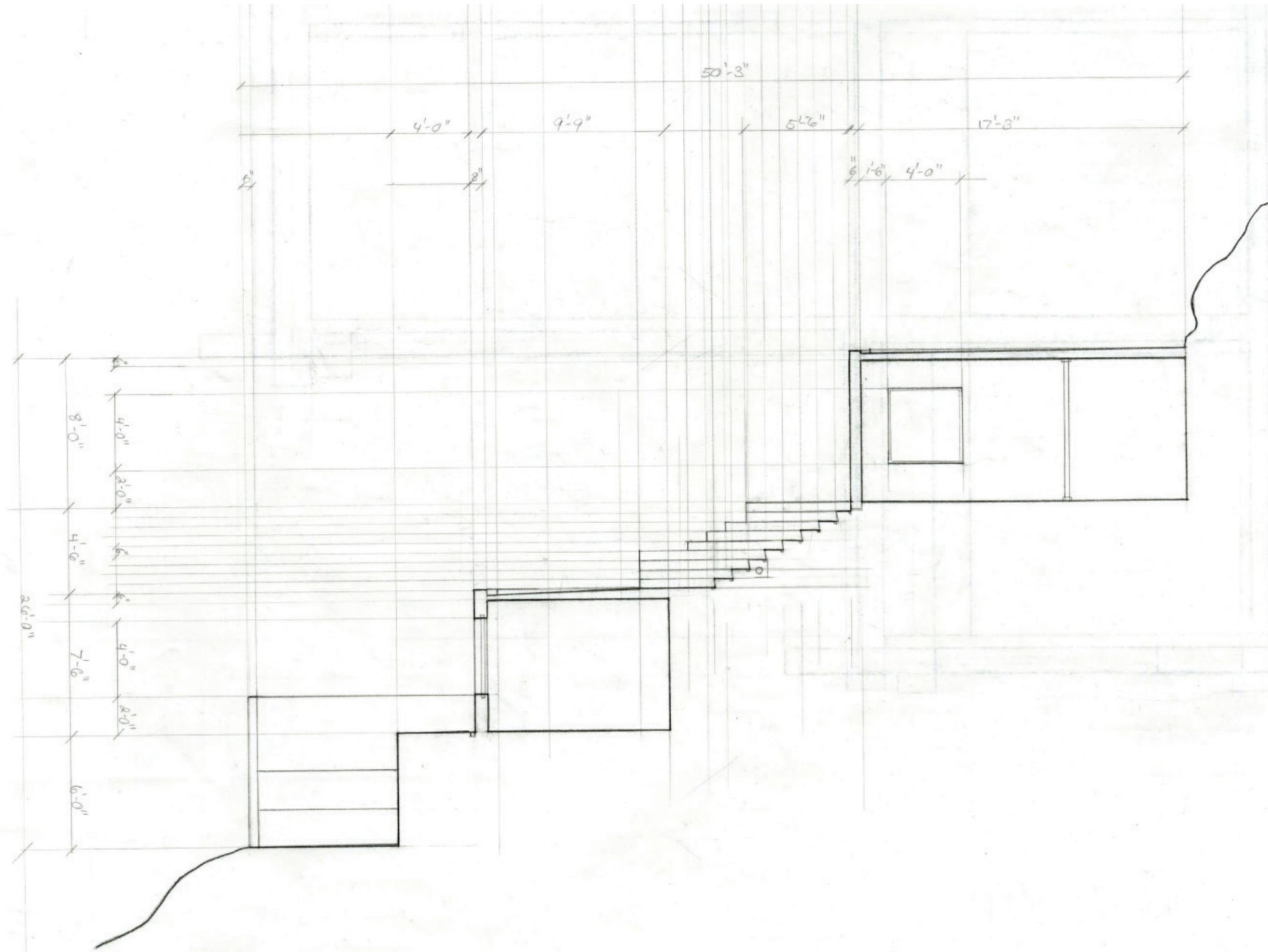






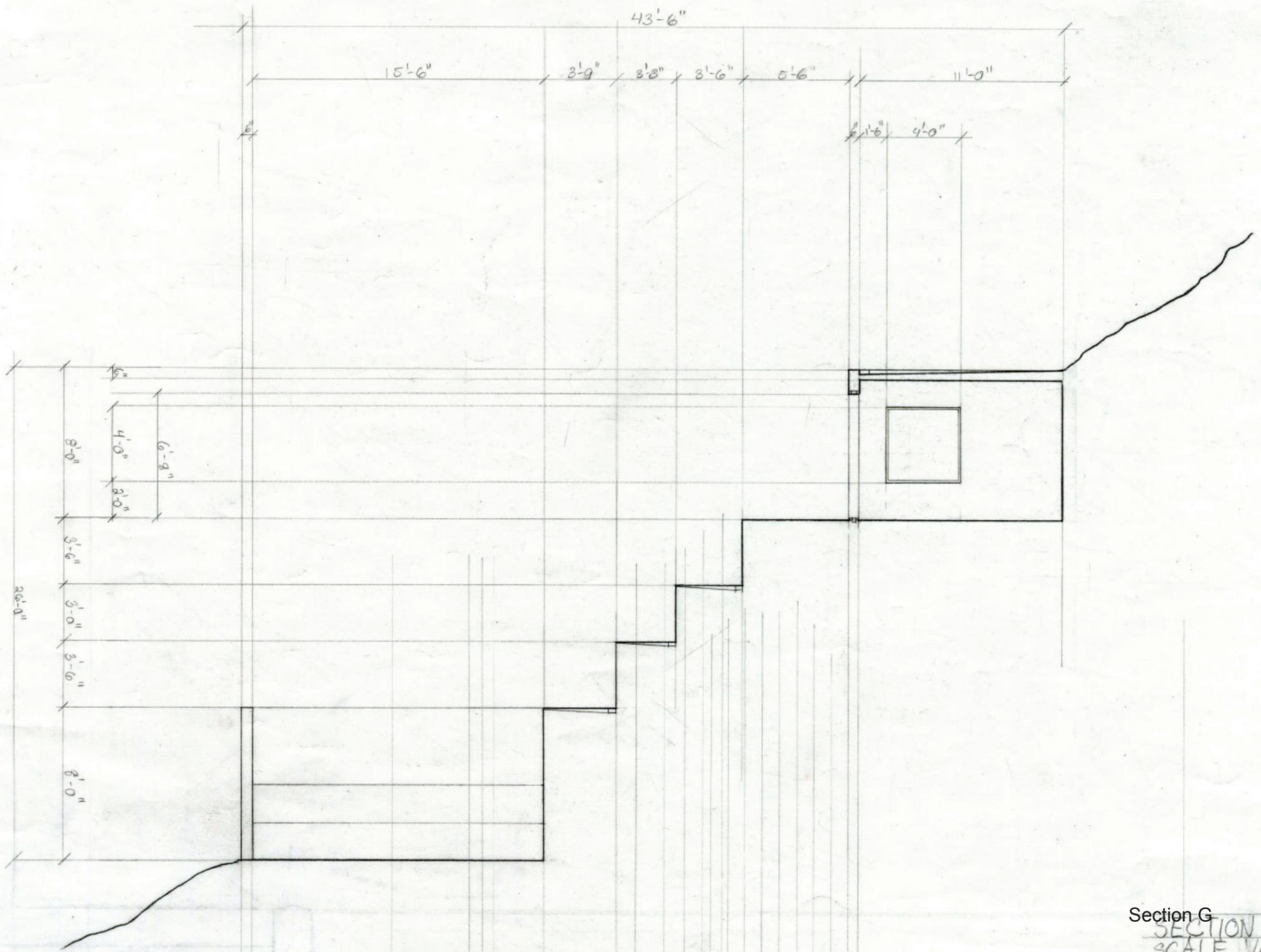






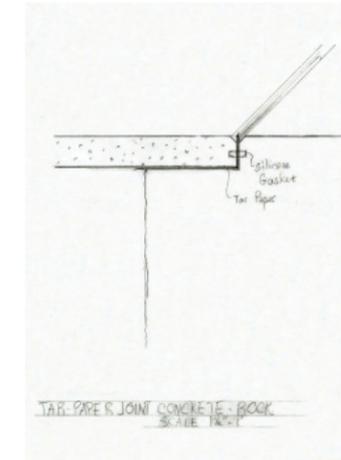
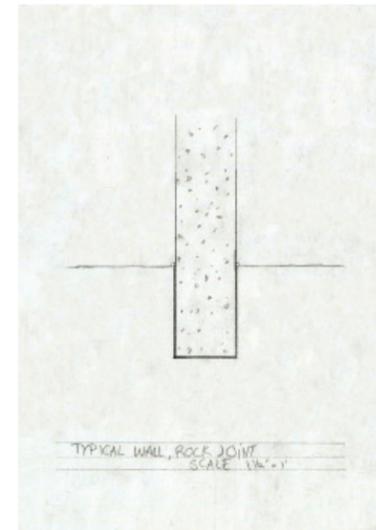
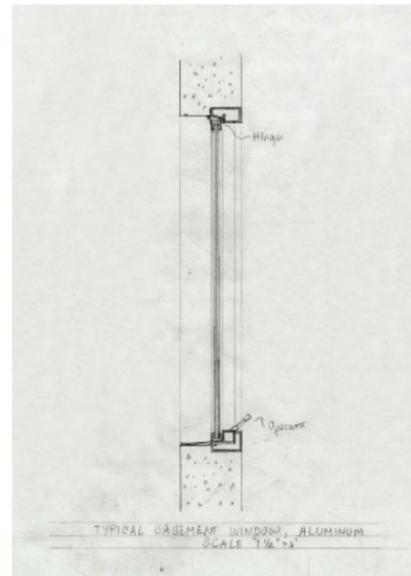
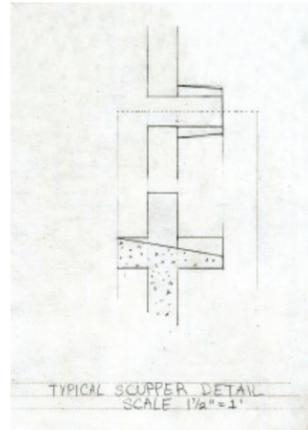
Section F
 SECTION F
 SCALE 1/8" = 1'



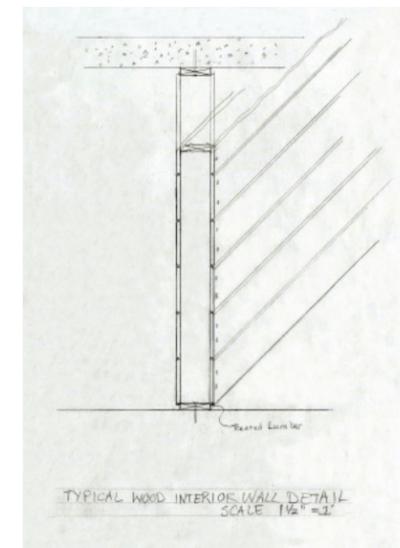
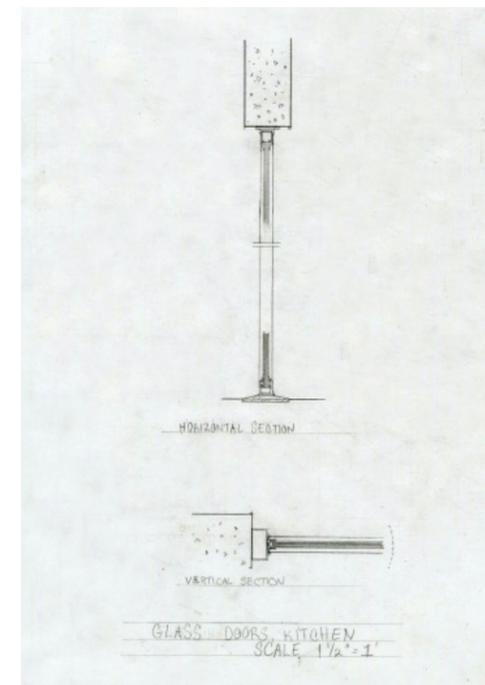
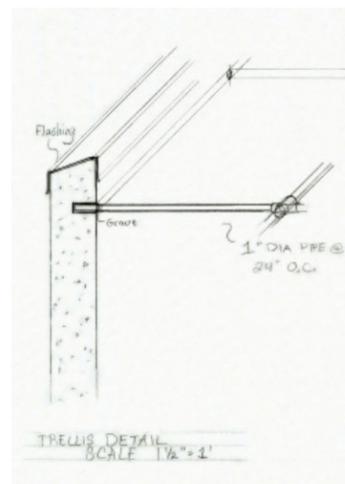
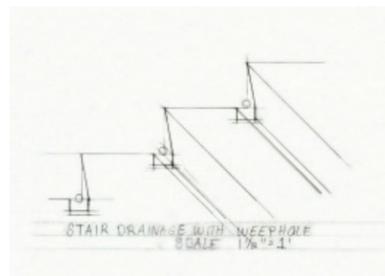


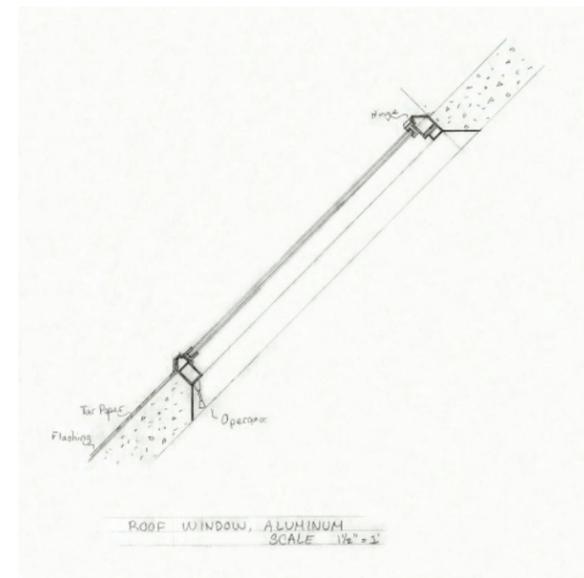
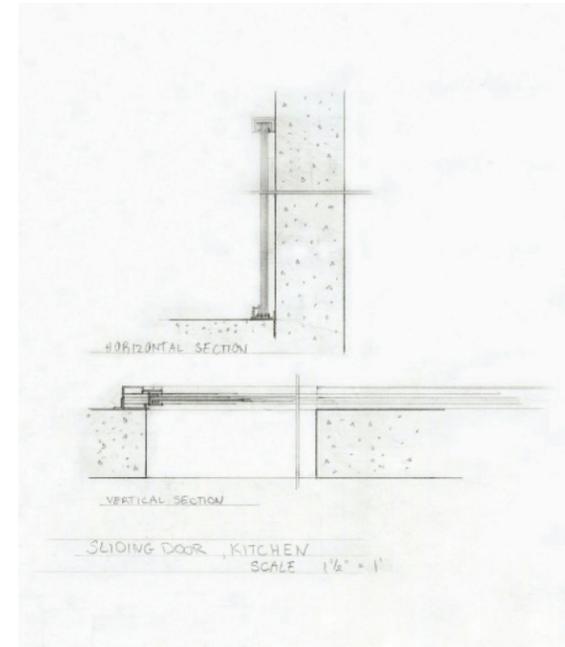
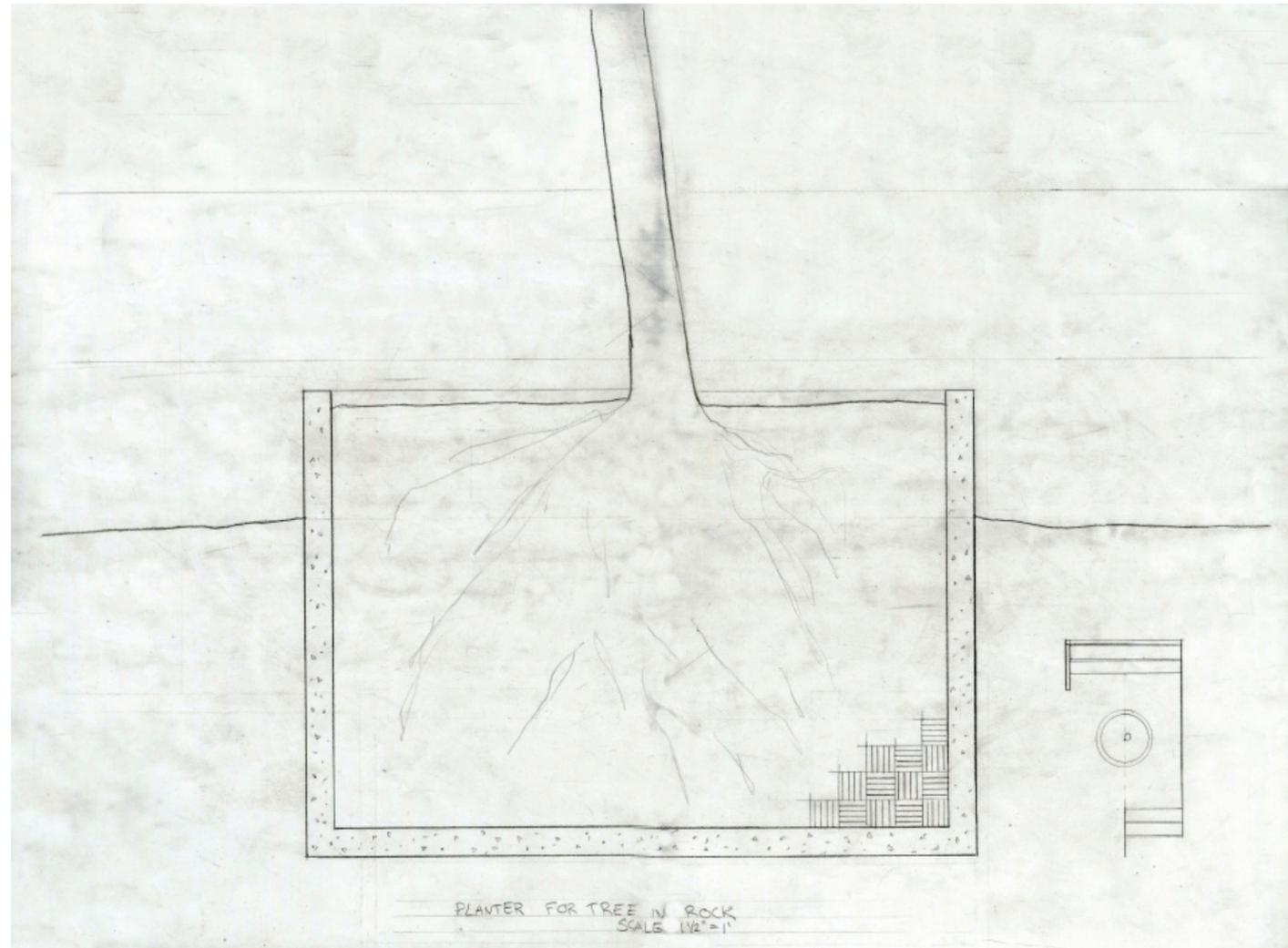


Detail Drawings



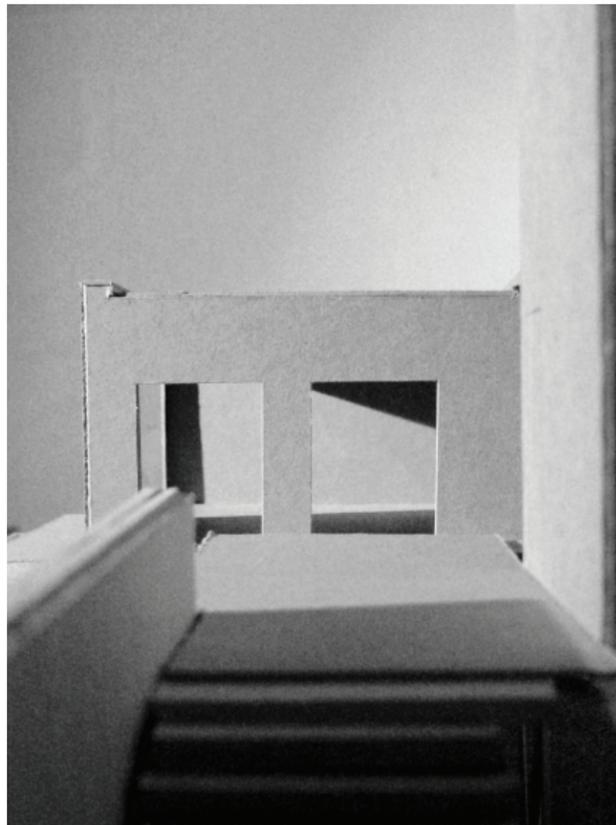
Drawn details further explain the building. Tar paper and silicone keep joints between rock and concrete waterproof. Weepholes drilled along the stairs control excess water and keep it moving down the slope. Scuppers provide a way for the water to gracefully keep moving. The walls in the protected private rooms are made of wood. The glass doors slide horizontally and the casement windows open out to invite the sea breeze in. All details drawn at 1/2" = 1'.

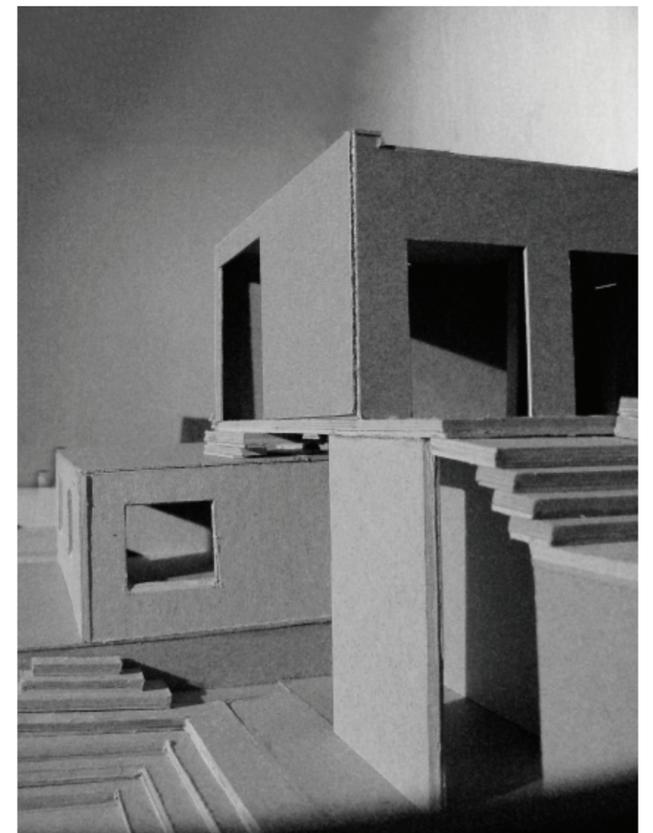
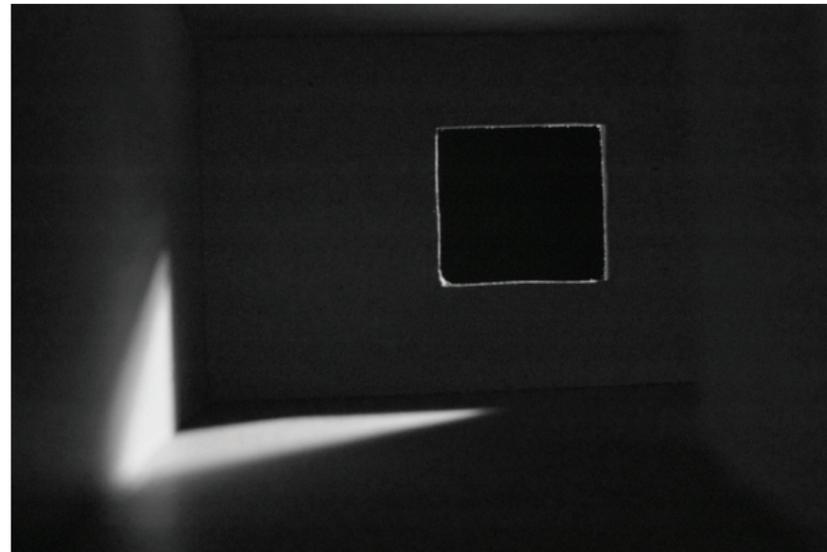
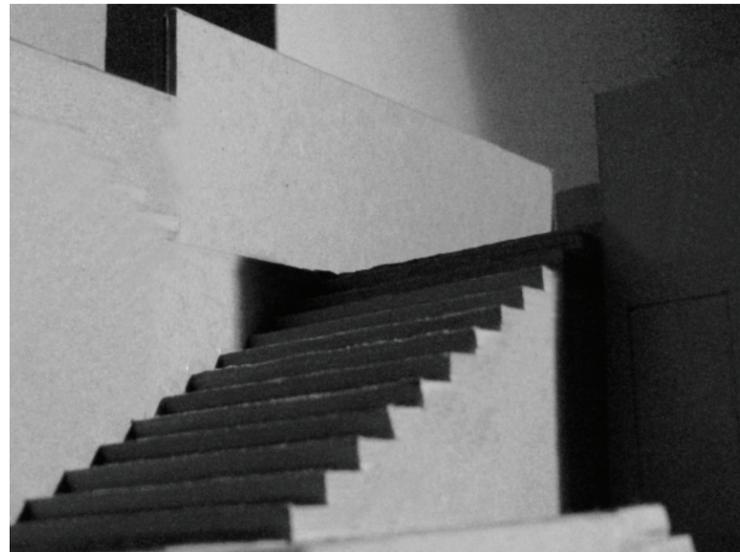




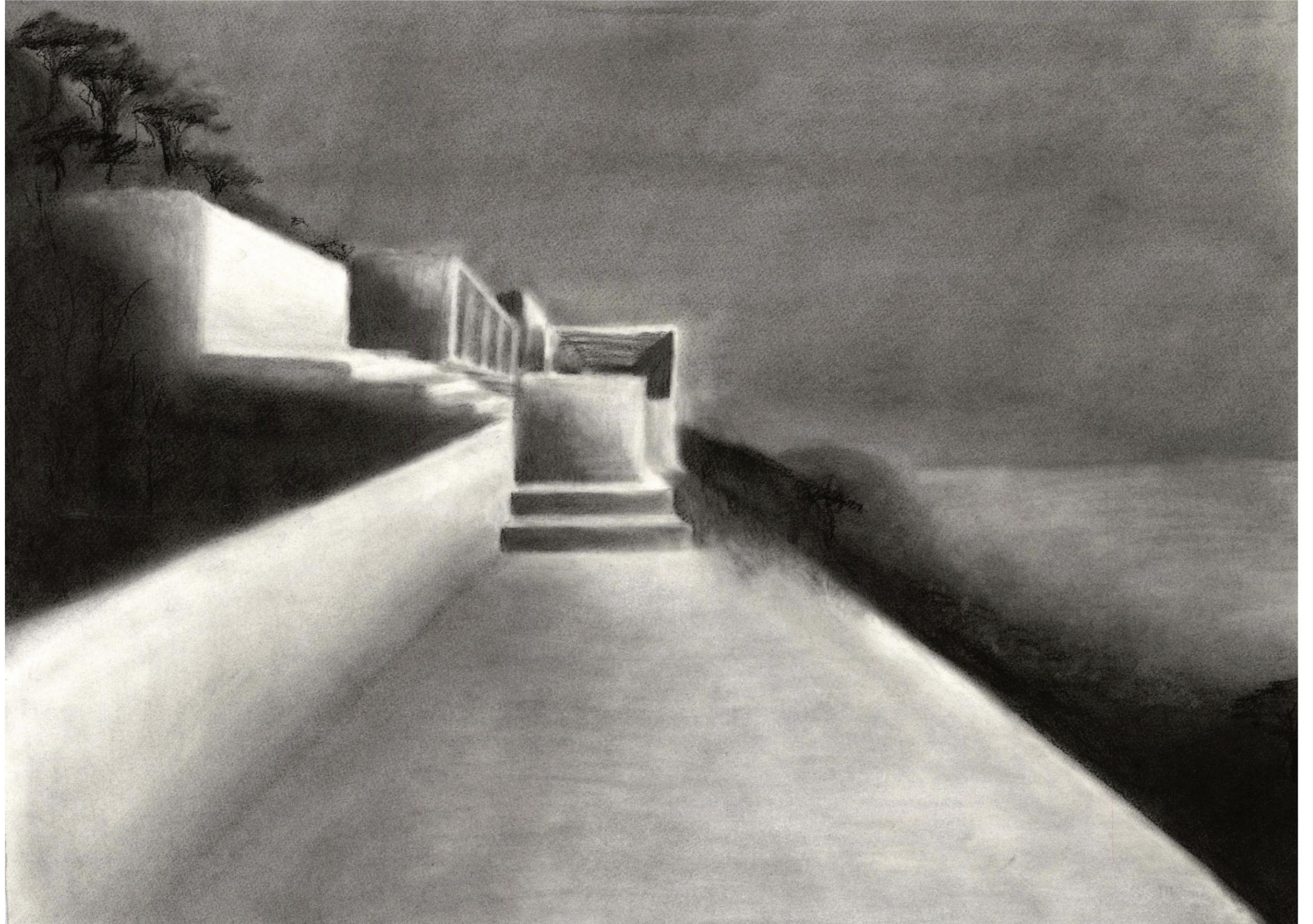
Models and Renderings

Chipboard model provides perspective and scale

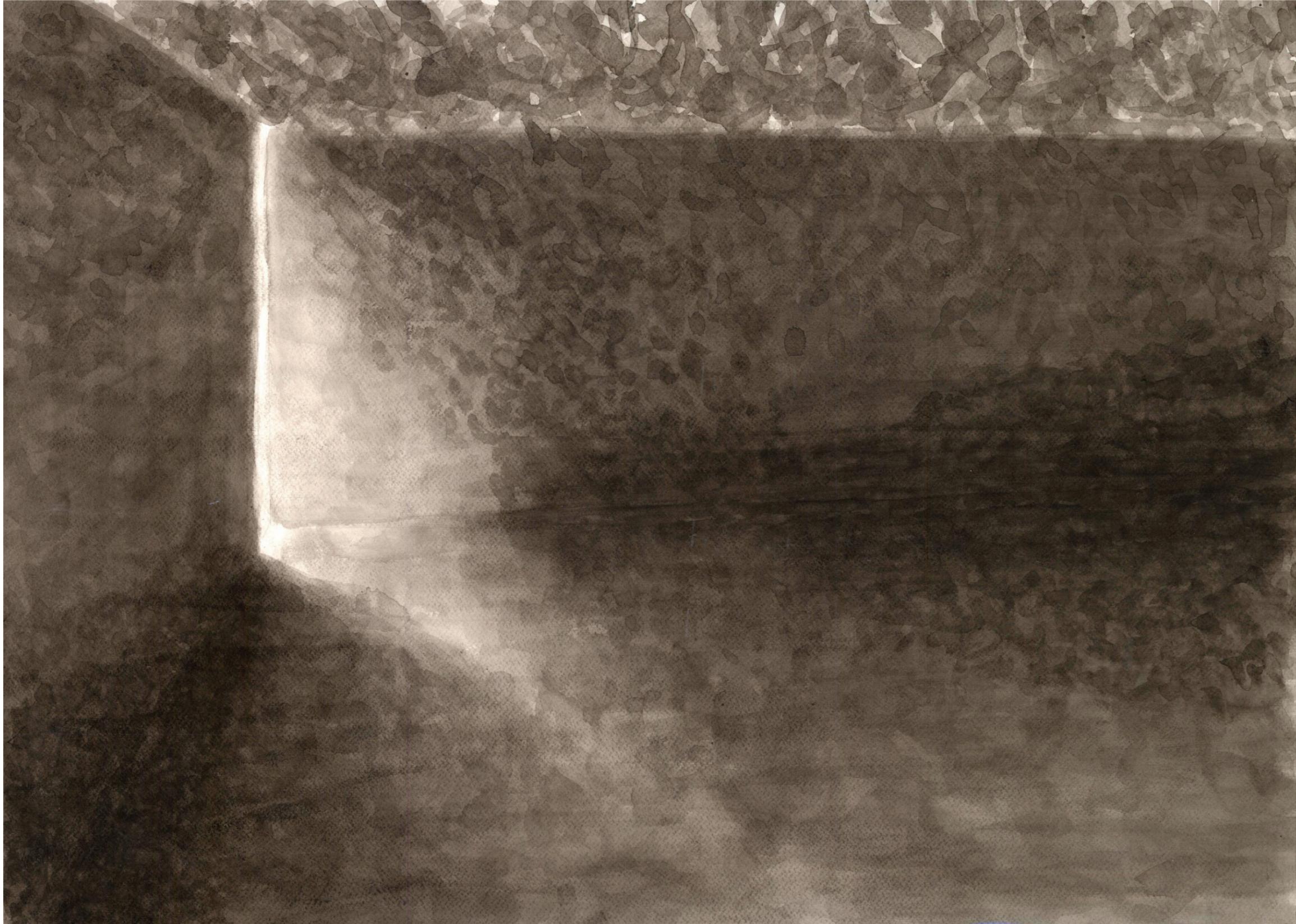




Charcoal drawing, view of sea from open air room



Watercolor, rendering of light ray between walls and vines composing a roof in an outdoor room



Oil pastel, trees growing in an open air room with view of sea



Watercolor vignette, stairs at different levels and view



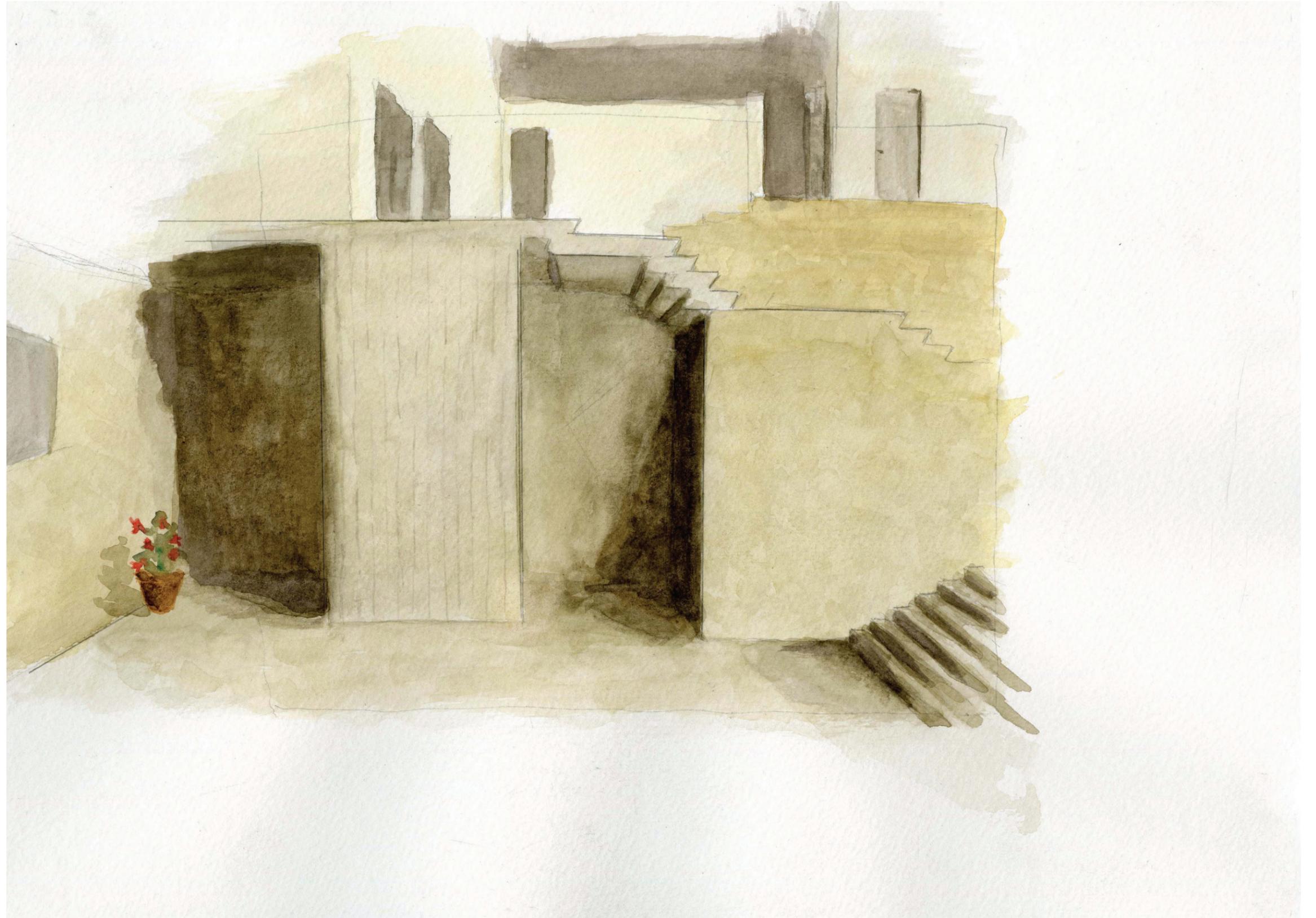
Watercolor vignette, trees growing in open air room wiith water stains at drainage scuppers



Watercolor vignette, vines as roof in outdoor room



Watercolor vignette, recessed space with access to stairs



Watercolor vignette, interior natural lighting with chair and blue shirt



Watercolor vignette, stairs with scupper, vine roof and drainage



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